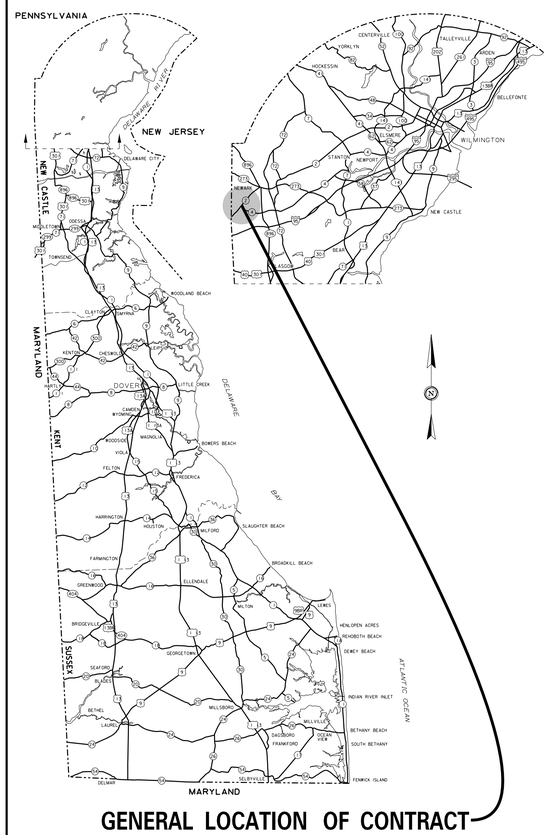

THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY UNITS

CONSTRUCTION PLANS FOR:

ELKTON ROAD,
MD LINE TO CASHO MILL ROAD

CONTRACT NUMBER: T201504401
FEDERAL AID PROJECT NUMBER: ESTP-N011(31)

COUNTY: NEW CASTLE **M.R. #: N011**

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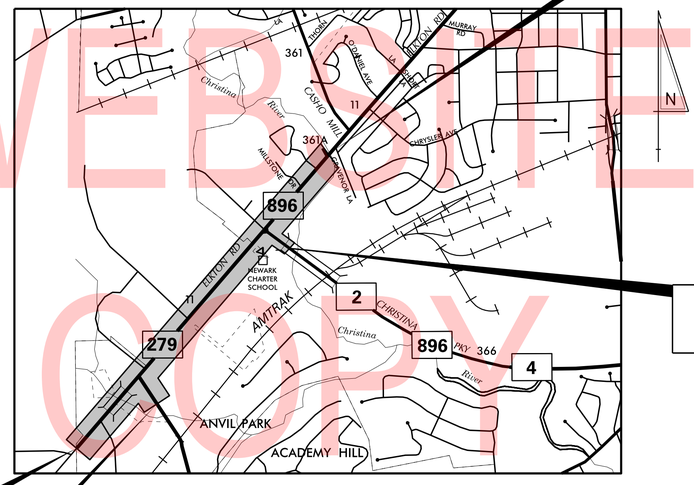

DESIGN DESIGNATION (DE RT. 4 TO CASHO MILL RD)			
FUNCTIONAL CLASS: PRINCIPAL ARTERIAL		D.H.V. PROJECTED: 2322	YEAR: 2040
TYPE OF CONSTRUCTION: ROADWAY WIDENING		DESIGN SPEED: 45 M.P.H.	
A.A.D.T. CURRENT: 27,709	YEAR: 2014	TRUCKS: 6 %	
A.A.D.T. PROJECTED: 36,000	YEAR: 2040	DIRECTION OF DISTRIBUTION: 60 %	

DESIGN DESIGNATION (DE RT. 4 TO MD STATE LINE)			
FUNCTIONAL CLASS: PRINCIPAL ARTERIAL		D.H.V. PROJECTED: 2588	YEAR: 2040
TYPE OF CONSTRUCTION: ROADWAY WIDENING		DESIGN SPEED: 55 M.P.H.	
A.A.D.T. CURRENT: 31,412	YEAR: 2014	TRUCKS: 6 %	
A.A.D.T. PROJECTED: 40000	YEAR: 2040	DIRECTION OF DISTRIBUTION: 60 %	

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE
INSIDE SHOULDERS	10'	4'	12/08/2017

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
T200404401	ELKTON ROAD, CASHO MILL ROAD TO DELAWARE AVENUE
81-011-03	ELKTON ROAD - OTT'S CHAPEL ROAD TO CASHO MILL ROAD
81-011-01	ELKTON ROAD, (DEL. RTE 2) MARYLAND LINE TO OTT'S CHAPEL RD.
78-103-03	ROUTE 4 - NEWARK CONNECTOR, SECTION 1
71-11-006	OTTS CHAPEL ROAD, ELKTON ROAD TO I-95
64-03-002	STATE ROUTE 2 (ELKTON ROAD) DELAWARE - MARYLAND LINE TO NEWARK
97-011-06	CASHO MILL ROAD AND ELKTON ROAD, SIDEWALKS

APPROVED FOR ADVERTISEMENT

DIRECTOR OF MAINTENANCE AND OPERATIONS — DATE: 08/29/2019

PREPARED BY
THE CONSULTING FIRM OF
JOHNSON, MIRMIRAN & THOMPSON
121 CONTINENTAL DR, SUITE 300
NEWARK, DE, 19713
(302) 266 – 9600

BRADLEY P. HERR, REGISTERED No. 13305 DELAWARE PROFESSIONAL ENGINEER
SEAL

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE COMPLIES WITH THE APPLICABLE STATE AND LOCAL REGULATIONS AND ORDINANCES.

RECOMMENDED — DATE: 07/31/2019

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

PLOTTED BY: LBERZINA DATE: 7/31/2019
FILE LOCATION: G:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TC.DGN [SHEET: TC01]

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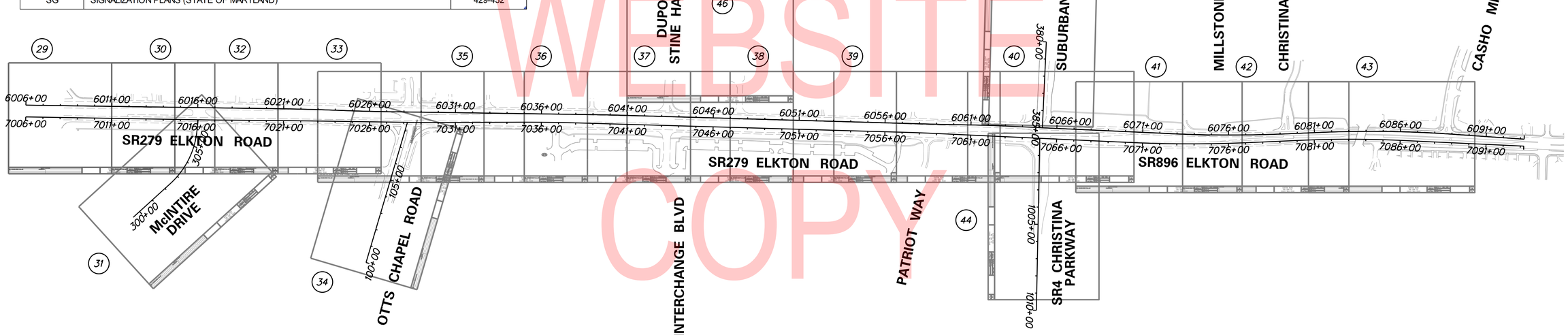

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\IS.DGN [SHEET: IS]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 300 600 900
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

PLAN SHEET INDEX

IS-01

SECTION	JMT
SHEET NO.	2

ADDENDUM PREPARED BY
JOHNSON, MIRMIRAN AND THOMPSON

11/15/2019
DATE

THIS SEAL APPLIES TO THE FOLLOWING SHEETS CHANGED UNDER ADDENDUM #1:
REPLACED PAGES 1 THRU 432

BRADLEY P. HERR
REGISTERED
No. 13305
DELAWARE
PROFESSIONAL ENGINEER
SEAL

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\AD.DGN [SHEET: AD01]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

ADDENDA AND REVISIONS

SECTION	JMT
SHEET NO.	3

EXISTING SYMBOLS

DRAINAGE

—∞—	DITCH OR STREAM CENTERLINE
—→—	DIRECTIONAL STREAM FLOW ARROW
C.B. / D.I.	DRAINAGE INLET
J.B.	DRAINAGE JUNCTION BOX
Ⓓ	DRAINAGE MANHOLE
SIZE/TYPE LABEL	DRAINAGE PIPE AND FLOW ARROW
	DRAINAGE PIPE HEADWALL
	RIPRAP - AREA FEATURE
	RIPRAP - LINEAR FEATURE

MANMADE ROADSIDE FEATURES

	BOLLARD - STEEL POLE
	BOLLARD - WOOD POST
(TYPE LABEL)	CURB
(TYPE LABEL)	CURB AND GUTTER
—x—	FENCE - CHAINLINK OR STRANDED
—o—	FENCE - STOCKADE OR SPLIT RAIL
F.P.	FLAG POLE
—n—	GUARDRAIL - STEEL BEAM
—o—	GUARDRAIL - WIRE ROPE
LAMP	LAMP AND POST - RESIDENTIAL
MB	MAILBOX
P.M.	PARKING METER AND POST
	PAVEMENT - FLEXIBLE
	PAVEMENT - RIGID
□	PILE - BRIDGE
○	PILLAR OR MISCELLANEOUS POST
	TRAFFIC SIGN AND POST
	TRAFFIC SIGN AND I-BEAM POST
	WALL - BRICK OR BLOCK
	WALL - STONE

NATURAL ROADSIDE FEATURES

	GRASS LAWN
	HEDGEROW OR THICKET
	MARSH BOUNDARY LINE
	TREE - CONIFEROUS
	TREE - DECIDUOUS
	TREE STUMP
	SHRUBBERY
— WL —	DELINEATED WETLAND BOUNDARY LINE
	WOODS LINE BOUNDARY
—·—·—OHW—·—·—	ORDINARY HIGH WATER BOUNDARY
—·— OHW/WL —·—	ORDINARY HIGH WATER/DELINEATED WETLAND BOUNDARY

SURVEY CONTROL & MONUMENTATION

B.M.	SURVEY BENCHMARK LOCATION
T.P.	SURVEY TIE POINT LOCATION
△	SURVEY TRAVERSE POINT
◎	POINT OF CURVATURE OR TANGENCY
◎	POINT OF INTERSECTING TANGENTS

RIGHT-OF-WAY SYMBOLS

C.M.	PROPERTY MARKER - CONCRETE MON.
I.P.	PROPERTY MARKER - IRON PIPE
100+00	HISTORIC RIGHT-OF-WAY BASELINE
	EXISTING RIGHT-OF-WAY
PL	EXISTING PROPERTY LINE
EASEMENT TYPE	EXISTING EASEMENT
DA	EXISTING DENIAL OF ACCESS
R/W-DA	EXISTING R/W & DENIAL OF ACCESS

UTILITY

	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
TV	CABLE TV DISTRIBUTION BOX
Ⓔ	ELECTRIC MANHOLE
EM	ELECTRIC METER
E	ELECTRIC TRANSFORMER
	POLE MOUNTED LUMINAIRE
Ⓖ	GAS MANHOLE
G.M.	GAS METER
G.V.	GAS VALVE
G.P.	GAS PUMP - SERVICE STATION
	RAILROAD TRACKS
Ⓢ	SANITARY SEWER MANHOLE
S.V.	SANITARY SEWER VALVE
VENT	SANITARY SEWER VENT OR CLEANOUT
S.D.F.	SEPTIC DRAIN FIELD
B	TELEPHONE BOOTH
Ⓣ	TELEPHONE MANHOLE
T	TELEPHONE TEST POINT
J.W.	TRAFFIC - CONDUIT JUNCTION WELL
◎	TRAFFIC - LIGHT POLE AND BASE
	TRAFFIC - PEDESTRIAN POLE & BASE
	TRAFFIC - SIGNAL CABINET & BASE
⊗	TRAFFIC - SIGNAL POLE AND BASE
U	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
F.H.	WATER - FIRE HYDRANT
W.M.	WATER METER
W.V.	WATER VALVE
WELL	WELL HEAD
?	MANHOLE - UNDETERMINED OWNER

UTILITY COMPANY FACILITIES

— CN-E —	CITY OF NEWARK - ELECTRIC
— CN-S —	CITY OF NEWARK - SEWER
— CN-W —	CITY OF NEWARK - WATER
—COM-C—	COMCAST - CABLE
—COM-C-OH—	COMCAST CABLE - OVERHEAD
—COM-FO—	COMCAST - FIBER OPTIC
— DP-E —	DELMARVA POWER - ELECTRIC

PROPOSED SYMBOLS

UTILITY COMPANY FACILITIES

— CN-E-OH —	CITY OF NEWARK POWER - OVERHEAD
— CN-E —	CITY OF NEWARK POWER - UNDERGROUND
— CN-S —	CITY OF NEWARK SEWER - UNDERGROUND
— CN-W —	CITY OF NEWARK WATER - UNDERGROUND
— COM-C —	COMCAST CABLE - UNDERGROUND
— DP-E-OH —	DELMARVA POWER - OVERHEAD
— DP-E —	DELMARVA POWER - UNDERGROUND
— DP-G —	DELMARVA POWER GAS - UNDERGROUND
— ESNG-G —	EASTERN SHORE NATURAL GAS
— SZ-W —	SUEZ WATER - WATER
— VER-C-OH —	VERIZON CABLE - OVERHEAD
— VER-C —	VERIZON CABLE - UNDERGROUND

TRAFFIC

— ITMS-CON —	ITMS CONDUIT
— SIG-CON —	SIGNAL CONDUIT
— DOT-E-DUCT —	LIGHTING CONDUIT
■	CONDUIT JUNCTION WELL
■	CONDUIT JUNCTION WELL
	LUMINAIRE
◎	LIGHTING POLE BASE
→	PAVEMENT MARKINGS
- - - -	PAVEMENT STRIPING
	TRAFFIC SIGN AND POST
	TRAFFIC SIGN AND I-BEAM POST

MISCELLANEOUS

	CCTV CAMERA

UTILITY COMPANY FACILITIES (CON'T)

— DP-E-OH —	DELMARVA POWER - ELECTRIC - OVERHEAD
— DP-G —	DELMARVA POWER - GAS
— ELK-G —	ELKTON - GAS
— ESNG-G —	EASTERN SHORE NATURAL GAS - GAS
— FT-C —	FIBERTECH - FIBER OPTIC - OVERHEAD
—GO-FO-OH—	GORE - FIBER OPTIC - OVERHEAD
—LVL3-FO—	LEVEL 3 - FIBER OPTIC
— SS-PRV —	SANITARY SEWER - PRIVATE
— SZ-W —	SUEZ WATER - WATER
—UNITI-FO—	UNITI - FIBER OPTIC - UNDERGROUND
-UNITI-FO-OH-	UNITI - FIBER OPTIC - OVERHEAD
—UNK (D)—	UNKNOWN - (QUALITY LEVEL D)
— VER-C —	VERIZON - CABLE
—VER-C-OH—	VERIZON CABLE - OVERHEAD
—VER-F-OH—	VERIZON FIBER - OVERHEAD
—VER-FO—	VERIZON FIBER OPTIC - UNDERGROUND
—WND-FO—	WINDSTREAM - FIBER OPTIC

CONSTRUCTION

	CONCRETE SAFETY BARRIER - PERMANENT
—BFS—	BIOFILTRATION SWALE
	BRICK PATTERNED SURFACE
	BUTT JOINT
100+00	CONSTRUCTION BASELINE
—CSF—	CONSTRUCTION SAFETY FENCE
	CURB, TYPE 1 & TYPE 3
	CURB, TYPE 2
	CURB & GUTTER, TYPE 1
	CURB & GUTTER, TYPE 2
	CURB & GUTTER, TYPE 3
	CURB & GUTTER, TYPE 4
— CZ —	CLEAR ZONE
■	DRAINAGE INLET
	DITCH
	FENCE - METAL
	FENCE - WOOD
	FLARED END SECTION
	GUARDRAIL, TYPE 1
	GUARDRAIL, TYPE 2
	GUARDRAIL, TYPE 3
	GUARDRAIL END ANCHORAGE
	GUARDRAIL END TREATMENT, TYPE 1
	GUARDRAIL END TREATMENT, TYPE 2
	GUARDRAIL END TREATMENT, TYPE 3
	IMPACT ATTENUATOR
■	JUNCTION BOX - DRAINAGE
— LO —	LATERAL OFFSET
- - - LOC - - -	LIMIT OF CONSTRUCTION
MB	MAILBOX
●	MANHOLE
	PAVEMENT PATCH
	PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH
	PIPE & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK - 4"
	P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.)
	UNDERDRAIN
©	UNDERDRAIN CLEANOUT
	UNDERDRAIN OUTLET

RIGHT-OF-WAY SYMBOLS

⊠	PROPOSED RIGHT-OF-WAY MONUMENT
— DA —	PROPOSED DENIAL OF ACCESS
— — PE — —	PROPOSED PERMANENT EASEMENT
— R/W —	PROPOSED RIGHT-OF-WAY
— R/W-DA —	PROPOSED R/W & DENIAL OF ACCESS
— RTE —	RIGHT TO ENTER
— — TCE — —	TEMPORARY CONSTRUCTION EASEMENT
100+00	PROPOSED RIGHT-OF-WAY BASELINE

PAVEMENT SECTION(S)

	PRE-CAST PCC PANELS
	PCC PAVEMENT
	OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	RECONSTRUCTED PAVEMENT - SEE TYPICAL SECTIONS AND PROJECT NOTES FOR MATERIALS AND DEPTHS

IDENTIFIERS

AB/O	ABANDON BY OTHERS
A/C	ADJUST BY CONTRACTOR
A/O	ADJUST BY OTHERS
AB/C	ABANDON BY CONTRACTOR
B	CONCRETE SAFETY BARRIER
C	CURB OR CURB & GUTTER
C/JB	CONVERT TO JUNCTION BOX
C/MH	CONVERT TO DRAINAGE MANHOLE
C/O	CURB OPENING
PC	PEDESTRIAN CONNECTION / TYPE
PC-N	PEDESTRIAN CONNECTION / TYPE - WITHOUT SIDEWALK SURFACE DETECTABLE WARNING SYSTEM
CSF	CONSTRUCTION SAFETY FENCE
DI	DRAINAGE INLET
DND	DO NOT DISTURB
ED	ENERGY DISSIPATOR
F	FENCE
FES	FLARED END SECTION
FF/C	FILL WITH FLOWABLE FILL
FS	FILTRATION STRUCTURE
GR	GUARDRAIL
JB	JUNCTION BOX
MH	MANHOLE
M	MONUMENT - RIGHT-OF-WAY
P	PIPE
RL/C	RELOCATE BY CONTRACTOR
RL/O	RELOCATE BY OTHERS
RM/C	REMOVE BY CONTRACTOR
RM/O	REMOVE BY OTHERS
RM/TC	REMOVE BY TRAFFIC CONTRACTOR
RR	RIPRAP
SES XXX	SAFETY END SECTION
UD	UNDERDRAIN / LENGTH
UDO	UNDERDRAIN OUTLET PIPE
UDC	UNDERDRAIN CLEANOUT

LANDSCAPING

LS	LANDSCAPE PLANTINGS
	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LG.DGN [SHEET: LG01]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

LEGEND

SECTION	JMT
SHEET NO.	4

GENERAL NOTES

1. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2016 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2018, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.

2. ELECTRONIC DESIGN DATA FILES THAT WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR, INCLUDE:

( )	NONE
(X)	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
(X)	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
(X)	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
(X)	DESIGN FILE, IN .DGN FILE FORMAT, THAT CONTAINS 3D FEATURE LINES FOR THE PROPOSED DESIGN. 3D FEATURE LINES ARE FOR THE PROPOSED TOP SURFACE ELEVATION ONLY.

NOTE: THE DOCUMENT ENTITLED "RELEASE FOR DELIVERY OF DOCUMENTS IN ELECTRONIC FORM TO A CONTRACTOR" MUST BE SIGNED BY ALL PARTIES PRIOR TO THE DELIVERY OF ANY ELECTRONIC PROJECT FILES.

NOTE: THERE MAY BE SOME AREAS OF THE PROJECT NOT INCLUDED IN THE ELECTRONIC DESIGN DATA FILE(S). IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE DESIGN DATA FILE AND DETERMINE THE LIMITS OF THE PROJECT INCLUDED.

3. PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR, INCLUDE:

(X)	CROSS SECTIONS
(X)	RIGHT-OF-WAY PLANS (WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR)

PROJECT NOTES

SECTION 100

1. ANY DAMAGE TO ITEMS NOTED TO BE RELOCATED OR RESET BY THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND/OR REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

2. THE CONTRACTOR WILL CONTACT THE DELAWARE TMC AT 302-659-4600 PRIOR TO ANY UNMANNED AIRCRAFT VEHICLE (UAV) FLIGHTS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE THE FOLLOWING INFORMATION: THE REGISTRATION NUMBER OF THE UAV, THE FLIGHT TIME, LOCATION OF THE FLIGHT, THE PILOT'S NAME AND THE PILOT'S CONTACT NUMBER DURING THE FLIGHT.

SECTION 200

3. THE CONTRACTOR SHALL REMOVE AND RESET ALL MAILBOXES TO MAINTAIN MAIL SERVICE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL RELOCATE MAILBOXES AS REQUIRED BY THE PROPOSED GEOMETRICS AND AS DIRECTED BY THE ENGINEER. WHEN RELOCATING MAILBOXES IN CURBED SECTIONS, THE FACE OF THE MAILBOX SHALL BE FLUSH WITH THE BACK EDGE OF CURB. WHEN RELOCATING MAILBOXES IN OPEN SECTIONS, THE FACE OF THE MAILBOX SHALL SET BACK 8 INCHES FROM THE EDGE OF THE PAVED SHOULDER. THE BOTTOM OF THE MAILBOX SHALL BE POSITIONED IN ACCORDANCE WITH THE LATEST VERSION OF THE UNITED STATES POSTAL SERVICE GUIDELINES. MAILBOXES LOCATED AT DRIVEWAY ENTRANCES SHALL BE PLACED ON THE FAR SIDE OF THE DRIVEWAY IN THE DIRECTION OF TRAVEL. POSTS BEING RESET IN CONCRETE SIDEWALK SHALL BE PLACED IN AN APPROPRIATE SIZE PVC SLEEVE. ACCEPTABLE POST SHALL BE 4 INCH X 4 INCH WOOD POST OR 4 INCH DIAMETER WOOD POST. FOR RELOCATING MULTIPLE MAILBOXES TOGETHER ALL POST SHALL BE SEPARATED BY A DISTANCE OF NO LESS THAN 3/4 OF THEIR FULL HEIGHT ABOVE THE GROUND. MULTIPLE MAILBOXES ATTACHED TO A SINGLE HORIZONTAL BOARD SHALL NOT BE LOCATED INSIDE THE CLEARZONE. EACH MAIL BOX SHALL BE PLACED ON AN INDIVIDUAL POST MEETING THE CRITERIA ABOVE. ALL MAILBOXES SHALL BE SET NOT TO IMPEDE THE MINIMUM PAR (PEDESTRIAN ACCESS ROUTE) WIDTH AS DETERMINED BY THE CURRENT EDITION OF THE PEDESTRIAN ACCESSIBILITY STANDARDS FOR FACILITIES IN THE PUBLIC RIGHT OF WAY. IF MAILBOXES ARE NOT SET IN ACCORDANCE WITH THE ABOVE DIRECTIONS, RESETTING OF THE MAILBOXES WILL BE AT THE COST OF THE CONTRACTOR. COST FOR ALL WORK AND MATERIALS SHALL BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.

4. ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   - CONCRETE HEADWALL
   - GUARDRAIL
   - DRAINAGE INLETS
   - PCC BARRIER
   - SILT/DEBRIS REMOVAL FROM EX. DI'S AND PIPES
   - DRAINAGE MANHOLES
   - POLE BASES
   - SIGN STRUCTURE FOUNDATIONS
   - IRON PINS/IRON PIPES
   - DECORATIVE POST BASES
   - BRIDGE COMPONENTS
   - FENCES
   - ABANDONED UTILITIES
   - DRAINAGE PIPE
   - JUNCTION BOXES
   - JUNCTION WELLS
   - CABINET FOUNDATIONS
   - BOLLARDS
   - CONCRETE MONUMENTS
   - CONCRETE BLOCK LANDSCAPING WALL

5. BORROW, TYPE C WHERE SHOWN ON THE PLANS FOR DRAINAGE PIPE TRENCHES AND UTILITY PIPE TRENCHES IS MEASURED FROM THE BOTTOM OF THE TRENCH TO THE BOTTOM OF THE "A" BORROW IF UNDER THE ROADWAY BOX OR TO THE BOTTOM OF THE 6" TOPSOIL LAYER IF OUTSIDE THE ROADWAY BOX.

SECTION 400

6. THE PAVEMENT SECTION FOR FLEXIBLE PAVEMENT RESIDENTIAL DRIVEWAYS SHALL BE 2" BITUMINOUS CONCRETE, TYPE "C" OVER 8" GRADED AGGREGATE BASE COURSE, TYPE "B", AND FOR COMMERCIAL DRIVEWAYS IT SHALL BE 2" BITUMINOUS CONCRETE, TYPE "C" OVER OVER 4" SUPERPAVE, TYPE "B" OVER 8" GRADED AGGREGATE BASE COURSE, TYPE "B", UNLESS OTHERWISE NOTED ON THE PLANS.

SECTION 500

7. PORTLAND CEMENT CONCRETE PAVEMENT SHOWN IN THE PLANS AS "FIBER REINFORCED" IS TO UTILIZE SYNTHETIC MACRO FIBERS FOR REINFORCEMENT. FIBER DOSAGE SHOULD BE PROVIDED AT 3LBS/CY UNLESS DIRECTED OTHERWISE BY THE ENGINEER. THE CONTRACTOR MUST SUBMIT DOCUMENTATION FROM THE MANUFACTURER SHOWING PROPOSED FIBER DOSAGE WILL MEET OR EXCEED THE SPECIFIED Fe3 VALUE PER ASTM C1609. ALL MACRO FIBERS ARE TO COMPLY WITH ASTM C1116 TYPE 3, MINIMUM 2 INCH LENGTH, ASPECT RATIO 50 TO 90. ALL COSTS ASSOCIATED WITH THE ADDITION OF FIBER REINFORCEMENT ARE INCIDENTAL TO ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12". ADDITIONAL PAYMENT WILL NOT BE PROVIDED FOR FIBER REINFORCEMENT UTILIZED IN CONCRETE NOT SPECIFIED ON THE PLANS.

8. PORTLAND CEMENT CONCRETE PAVEMENT JOINTS SHALL BE SAWCUT AND SEALED PER DELDOT STANDARD DETAIL P-1. PAYMENT IS INCIDENTAL TO ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12".

9. FOLLOWING THE PLACEMENT OF THE ASPHALT SURFACE COURSE, CRACK SEALING (ITEM 504001) SHALL BE APPLIED TO TRANSVERSE JOINTS AT PAVING LIMITS AND AT LONGITUDINAL JOINTS WHERE NEW ASPHALT IS PLACED ADJACENT TO EXISTING ASPHALT PAVEMENT AS DIRECTED BY THE ENGINEER.

SECTION 600

10. STATION AND ELEVATION DATA GIVEN FOR DRAINAGE STRUCTURES ARE TO BE APPLIED TO THE CENTER OF THE GRATE FOR INLETS, AND TO THE CENTER OF THE STRUCTURE FOR JUNCTION BOXES AND MANHOLES.

11. DRAINAGE INLET GRATES ADJACENT TO THE ROAD, WITHIN THE PROJECT LIMITS, WHICH ARE NOT TYPE 1 OR 4 SHALL BE REPLACED. THE ACTUAL LOCATIONS, THE NEED FOR ANY GRATE MODIFICATIONS OR FOR NEW FRAMES SHALL BE DETERMINED BY THE ENGINEER. ALL REPLACED GRATES/FRAMES SHALL BE DELIVERED TO THE NEAREST DISTRICT MAINTENANCE YARD WITH THE COST OF DELIVERY INCIDENTAL TO ITEM 602100 - REPLACE DRAINAGE INLET GRATE(S). FINAL PAYMENT FOR REPLACED GRATES/FRAMES SHALL NOT BE MADE UNTIL RECEIPT OF DELIVERED MATERIALS IS PRODUCED, SIGNED BY A DELDOT MAINTENANCE YARD SUPERVISOR.

SECTION 700

12. IN AREAS WHERE PROPOSED CURB MEETS EXISTING CURB AND THE TWO CURB TYPES ARE NOT SIMILAR, THE PROPOSED CURB SHALL BE TRANSITIONED IN 10 LINEAR FEET, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK, INCLUDING SAW CUTTING EXISTING CURB SHALL BE INCIDENTAL TO THE PROPOSED CURB ITEM.

13. WHERE PROPOSED CONCRETE SIDEWALK IS CONSTRUCTED TO MEET EXISTING SIDEWALK, THE EXISTING SIDEWALK SHALL BE SAWCUT AT THE TIE-IN POINT OR MEET THE NEAREST EXISTING SIDEWALK JOINT. ALL SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM 762001 - SAWCUTTING, CONCRETE, FULL DEPTH.

14. PORTLAND CEMENT CONCRETE CHANNELIZING ISLANDS THAT ARE LESS THAN 75 SQ FT MAY BE POURED MONOLITHICALLY, OR AS DIRECTED BY THE ENGINEER.

15. THE CITY OF NEWARK DEPARTMENT OF PUBLIC WORKS SHALL SUPPLY AND THE STATE'S CONTRACTOR SHALL INSTALL NEW SELF SEALING MANHOLE FRAMES AND COVERS ON ALL CITY SEWER MANHOLES THAT ARE NOT BEING RELOCATED, WITHIN THE PROJECT LIMITS IN ACCORDANCE WITH THE CITY'S STANDARD SPECIFICATIONS. THE EXISTING MANHOLE FRAMES AND COVERS THAT ARE REMOVED SHALL BECOME THE PROPERTY OF THE STATE'S CONTRACTOR. PAYMENT SHALL BE INCIDENTAL TO ITEM 711500 - ADJUST AND REPAIR EXISTING SANITARY MANHOLE.

16. ALL PAVED AREAS TO BE RECONSTRUCTED OR WIDENED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO TIE INTO THE EXISTING PAVEMENT.

SECTION 900

17. THIS PROJECT IS COVERED UNDER AN NPDES GENERAL PERMIT FOR CONSTRUCTION. UNDER THE GENERAL PERMIT, COMPLIANCE WITH DELDOT'S APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS WILL CONSTITUTE COMPLIANCE WITH THE NPDES INDUSTRIAL PERMITTING REQUIREMENTS FOR THIS CONSTRUCTION PROJECT. A COPY OF THE NPDES GENERAL PERMIT AND NOI IS KEPT ON FILE IN EACH OF THE CONSTRUCTION OFFICES AND THE DEPARTMENT'S STORMWATER SECTION. A COPY OF THE GENERAL PERMIT OR THE NOI CAN BE OBTAINED UPON REQUEST FROM EITHER THE DEPARTMENT'S STORMWATER ENGINEER OR THE APPROPRIATE CONSTRUCTION ENGINEER.

MISCELLANEOUS

18. THE CONTRACTOR SHALL NOTIFY DART FIRST STATE AT DOT_DETOURS@DELAWARE.GOV AT LEAST 14 DAYS PRIOR TO THE START OF ANY DETOURS OR CONSTRUCTION, AND DOT_DTC_PROJECTDEVELOPMENT@DELAWARE.GOV AT SUCH TIME THE FACILITY IS COMPLETED AND OPERABLE FOR TRANSIT OPERATIONS. FOR EMERGENCY DETOUR INFORMATION ONLY, PLEASE CONTACT DTC'S CHIEF SCHEDULER AT 302-576-6019.

19. REFER TO THE CONSTRUCTION PLAN SHEETS FOR THE LOCATION OF THE CLEAR ZONE AREA LIMITS.

20. WORK IN MARYLAND TO BE CONSTRUCTED IN ACCORDANCE WITH MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION (MD SHA) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JULY 2018, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT. WORK TO BE PAID UNDER DELDOT ITEM 801500 - MAINTENANCE OF TRAFFIC, ALL INCLUSIVE.

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PN.DGN [SHEET: PN01]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

NOTES

PN-01

SECTION	JMT
SHEET NO.	5

	SHT: 1	SHT: 2	SHT: 3	SHT: 4	SHT: 5	SHT: 6	SHT: 7	SHT: 8	SHT: 9	SHT: 10	SHT: 11	SHT: 12	SHT: 13	SHT: 14	SHT: 15	SHT: 16	SHT: 17	SHT: 18	
	STA. 7009+00	STA. 7012+00	STA.299+50	STA. 7018+00	STA. 7024+00	STA. 102+00	STA.7030+50	STA. 7036+00	STA. 7042+00	STA. 7048+00	STA. 7054+00	STA. 7061+00	STA. 7068+00	STA. 7074+00	STA. 7081+00	STA. 1002+00	STA. 380+00	STINE	PROJECT
	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	HASKELL	TOTALS
	STA. 7012+00	STA. 7018+00	STA. 304+50	STA. 7024+00	STA. 7030+50	STA. 106+00	STA. 7036+00	STA. 7042+00	STA. 7048+00	STA. 7054+00	STA. 7061+00	STA. 7068+00	STA. 7074+00	STA. 7081+00	STA. 7084+00	STA. 1004+50	STA. 384+50	INTERIOR	
EXCAVATION - ITEM 202000 (CY) [NEED = '-' / EXCESS = '+']																			
EX01 : FROM CROSS SECTIONS / MODELS (+)	2589	7089	328	5473	8081	671	5011	5779	2103	2087	3954	9045	3300	5119	1911	1806	1107	0	65453
EX02 : BITUMINOUS PAVEMENT REMOVED IN FILL SECTIONS (+)	3	4	0	0	6	0	1	19	267	519	100	61	0	0	0	0	0	0	980
EX03 : TOPSOIL REMOVED UNDER FILL SECTIONS (+)	118	467	35	310	581	0	731	862	907	1138	1181	946	950	990	437	91	25	0	9769
EX04 : TOPSOIL PLACED IN CUT SECTIONS (+) *- Calculated in EX01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EX05 : ROOT MAT REMOVED IN CUT SECTIONS (-)	0	0	0	216	62	55	0	0	0	495	115	39	4	41	3	12	0	0	1042
EX06 : CURB AND/OR CURB AND GUTTER EXCAVATION (-)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EX07 : UNDERDRAIN EXCAVATION (-)	48	145	0	184	215	37	170	192	128	145	167	218	128	162	39	62	12	0	2052
EX08 : ROCK EXCAVATION (-)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EX09 : REMOVAL OF PCC PAVEMENT, CURBS, SIDEWALK, ETC. (-)	216	497	22	413	1371	112	431	511	521	440	564	1058	436	1320	454	761	48	0	9175
EXTOTAL : TOTAL EXCAVATION	2446	6918	341	4970	7020	467	5142	5957	2628	2664	4389	8737	3682	4586	1852	1062	1072	0	63933
STORMWATER MANAGEMENT EXCAVATION - ITEM 910009/910010 (CY) [NEED = '-' / EXCESS = '+']																			
SWEX01 : FROM CROSS SECTIONS / MODELS (+)	268	135	0	642	400	0	223	0	0	342	0	0	0	0	0	0	0	0	2010
SWEX02 : TOPSOIL REMOVED UNDER FILL SECTIONS (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWEX03 : TOPSOIL PLACED IN CUT SECTIONS (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWEX04 : ROOT MAT REMOVED (-)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWEX05 : ROCK EXCAVATION (-)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWEXTOTAL : TOTAL STORMWATER MANAGEMENT POND EXCAVATION	268	135	0	642	400	0	223	0	0	342	0	0	0	0	0	0	0	0	2010
EXCAVATION AVAILABLE FOR EMBANKMENT (CY) [NEED = '-' / EXCESS = '+']																			
EXTOTAL : TOTAL EXCAVATION (+) [ITEM 202000]	2446	6918	341	4970	7020	467	5142	5957	2628	2664	4389	8737	3682	4586	1852	1062	1072	0	63933
SWEXTOTAL : TOTAL STORMWATER MANAGEMENT EXCAV (+) [ITEM 910009/910010]	268	135	0	642	400	0	223	0	0	342	0	0	0	0	0	0	0	0	2010
AVEX01 : EXCAVATION AND BACKFILLING FOR STRUCTURES (+) [ITEM 207000]	0	673	0	773	1010	18	428	255	387	233	861	1150	315	497	320	0	0	0	6920
AVEX02 : EXCAVATION FOR PIPE TRENCHES (+) [Item 601XXX]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVEX03 : CHANNEL EXCAVATION (+) [ITEM 203000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVEX04 : POLE BASES EXCAVATION (+) [ITEM 834XXX]	161	0	0	0	9	3	0	0	0	0	1	14	0	0	0	1	0	0	189
AVEX05 : EXCAVATION FROM CURBS AND/OR CURB AND GUTTER (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVEX06 : EXCAVATION FROM UNDERDRAINS (+) [ITEM 70900X]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVEX07 : MISCELLANEOUS EXCAVATIONS (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVEX08 : TOPSOIL REMOVED IN CUT AND/OR FILL SECTIONS (-)	466	1068	115	1013	1046	0	1244	1559	1252	1485	1884	1471	1292	1246	621	206	59	0	16027
AVEX09 : TOPSOIL REMOVED IN CUT AND/OR FILL SECTIONS FOR STORMWATER MANAGEMENT PONDS (-)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVEX10: UNSUITABLE MATERIALS (-)	1223	3459	170.5	2485	3510	233.5	2571	2978.5	1314	1332	2194.5	4368.5	1841	2293	926	531	536	0	31966.5
AVEXTOTAL : TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT	1186	3199	55.5	2887	3883	254.5	1978	1674.5	449	422	1172.5	4061.5	864	1544	625	326	477	0	25058.5
EMBANKMENT AND BORROW, TYPE 'F' REQUIRED (CY) [NEED = '-' / EXCESS = '+']																			
EMRF01 : FROM CROSS SECTIONS / MODEL (+) [EMBANKMENT REQUIRED BELOW SUBGRADE OR CAPPING]	283	673	11	1461	1369	303	1653	1468	2279	3538	3783	1868	2854	2712	1075	1997	5	0	22583
EMRF02 : TOPSOIL REMOVED UNDER FILL (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMRF03 : ROOT MAT REMOVED UNDER FILL (+)	0	0	0	460	109	0	0	0	0	127	424	260	97	368	152	369	0	0	2366
EMRF04 : UNSUITABLE MATERIAL REMOVED UNDER FILL (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMRF05 : PCC REMOVED UNDER FILL (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMRF06 : BITUMINOUS PAVEMENT REMOVED UNDER FILL (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMRF07 : TOPSOIL TO BE PLACED IN FILL (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EMRF08 : SUBTOTAL OF EMBANKMENT AND BORROW, TYPE 'F' REQUIRED	283	673	11	1921	1478	303	1653	1468	2279	3665	4207	2128	2951	3080	1227	2366	5	0	24949
EMRF09 : COMPACTION FACTOR APPLIED TO THE SUBTOTAL (%)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
EMRFTOTAL : TOTAL EMBANKMENT AND BORROW, TYPE 'F' REQUIRED	339.6	807.6	13.2	2305.2	1773.6	363.6	1983.6	1761.6	2734.8	4398	5048.4	2553.6	3541.2	3696	1472.4	2839.2	6	0	35637.6
TOPSOIL SUMMARY (CY) [NEED = '-' / EXCESS = '+']																			
TOP01 : TOPSOIL SALVAGED FROM CUT SECTIONS (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOP02 : TOPSOIL SALVAGED FROM FILL/CUT SECTIONS (+) (SEE AVEX08)	349.5	801	86.25	759.75	784.5	0	933	1169.25	939	1113.75	1413	1103.25	969	934.5	465.75	154.5	44.25	0	12020.25
TOP03 : TOPSOIL SALVAGED FROM STORMWATER MANAGEMENT PONDS (+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOP04 : TOPSOIL REQUIRED (-)	548	878	156	911	1112	198	940	1217	948	1139	1421	1382	1047	1032	425	360	74	61	13849
TOPTOTAL : TOTAL TOPSOIL	-198.5	-77	-69.75	-151.25	-327.5	-198	-7	-47.75	-9	-25.25	-8	-278.75	-78	-97.5	40.75	-205.5	-29.75	-61	-1828.75
MATERIAL BALANCE (CY) [NEED = '-' / EXCESS = '+']																			
BORROW, TYPE 'A'	-364	-1901	0	-593	-829	0	-1608	-1613	-2497	-3663	-2298	0	0	0	0	0	0	0	-15366
BORROW, TYPE 'B'	0	0	0	-684	-1330	-119	0	0	0	0	-213	-2579	-1890	-1469	-506	-425	0	0	-9215
BORROW, TYPE 'C'	-955	-238	0	-117	-272	-9	-157	-73	-96	-42	-420	-454	-147	-175	-4	0	0	0	-3159
BORROW, TYPE 'F'	846.4	2391.4	42.3	581.8	2109.4	-109.1	-5.6	-87.1	-2285.8	-3976	-3875.9	1507.9	-2677.2	-2152	-847.4	-2513.2	471	0	-10579.1
TOPSOIL	-198.5	-77	-69.75	-151.25	-327.5	-198	-7	-47.75	-9	-25.25	-8	-278.75	-78	-97.5	40.75	-205.5	-29.75	-61	-1828.75
UNSUITABLE MATERIAL	1223	3459	170.5	2485	3510	233.5	2571	2978.5	1314	1332	2194.5	4368.5	1841	2293	926	531	536	0	31966.5

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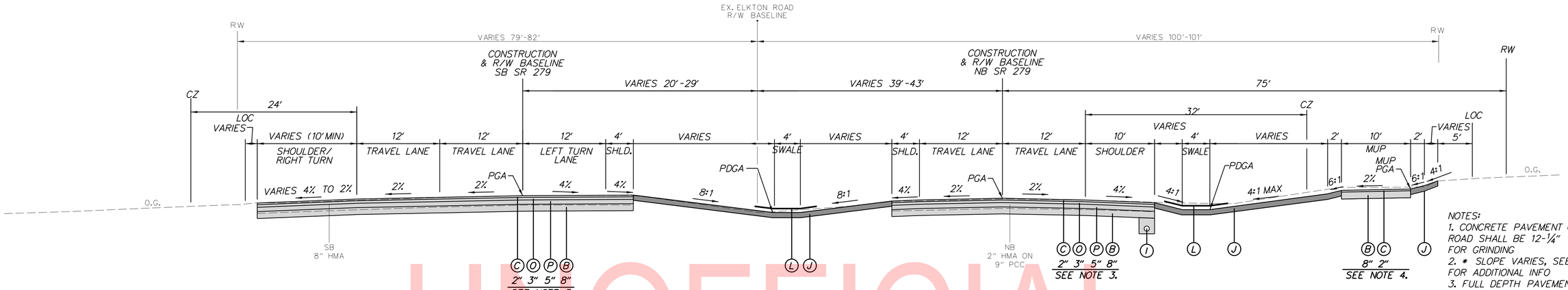
PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PN.DGN [SHEET: PN02]

ADDENDA / REVISIONS					
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	NOT TO SCALE	ELKTON ROAD MD LINE TO CASHO MILL ROAD	CONTRACT T201504401 · COUNTY NEW CASTLE · BRIDGE NO. 1-322 1-322P 1-323 1-323P · DESIGNED BY: LB · CHECKED BY: BPH · NOTES · PN-02 · SECTION JMT · SHEET NO. 6



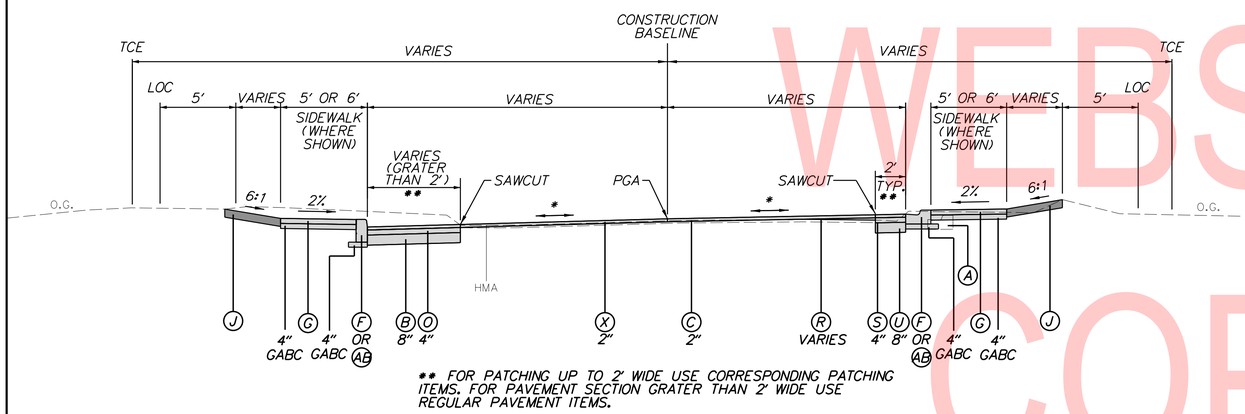
NOTES:
1. CONCRETE PAVEMENT ON ELKTON ROAD SHALL BE 12-¼" TO ACCOUNT FOR GRINDING
2. * SLOPE VARIES, SEE GG SHEETS FOR ADDITIONAL INFO
3. FULL DEPTH PAVEMENT IN STATE OF MARYLAND CONSISTS OF 2"-12.5MM PG 64S-22, LEVEL 2, 8"-19.0MM PG 64-S-22, LEVEL 2 (2 - 4" LIFTS) AND 6" GRADED AGGREGATE BASE
4. MULTI-USE PATH PAVEMENT IN STATE OF MARYLAND CONSISTS OF 2"-12.5MM PG 64S-22, LEVEL 2 AND 6" GRADED AGGREGATE BASE

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

SR 279 ELKTON ROAD

SB SR 279 STATION 6009+86 TO STATION 6010+87
NB SR 279 STATION 7009+07 TO STATION 7009+86

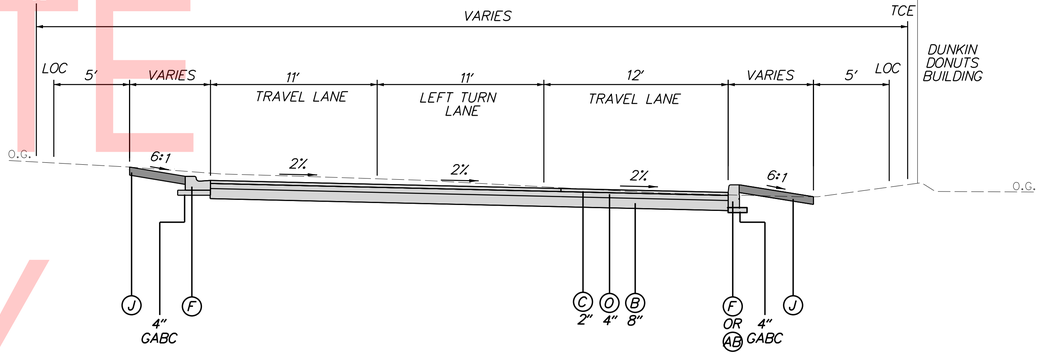
UNOFFICIAL WEBSITE COPY



** FOR PATCHING UP TO 2' WIDE USE CORRESPONDING PATCHING ITEMS. FOR PAVEMENT SECTION GRATER THAN 2' WIDE USE REGULAR PAVEMENT ITEMS.

ENTRANCE DETAIL

STA. 7037+00 RT, STA. 7043+25 RT, STA. 7056+75 RT, STA. 7058+50 RT
STA. 6047+00 LT, STA. 6073+00 LT, STA. 6075+50 LT, STA. 6079+50 LT



DUNKIN DONUTS ENTRANCE

STA. 6016+00 LT

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-01

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

NOT TO SCALE

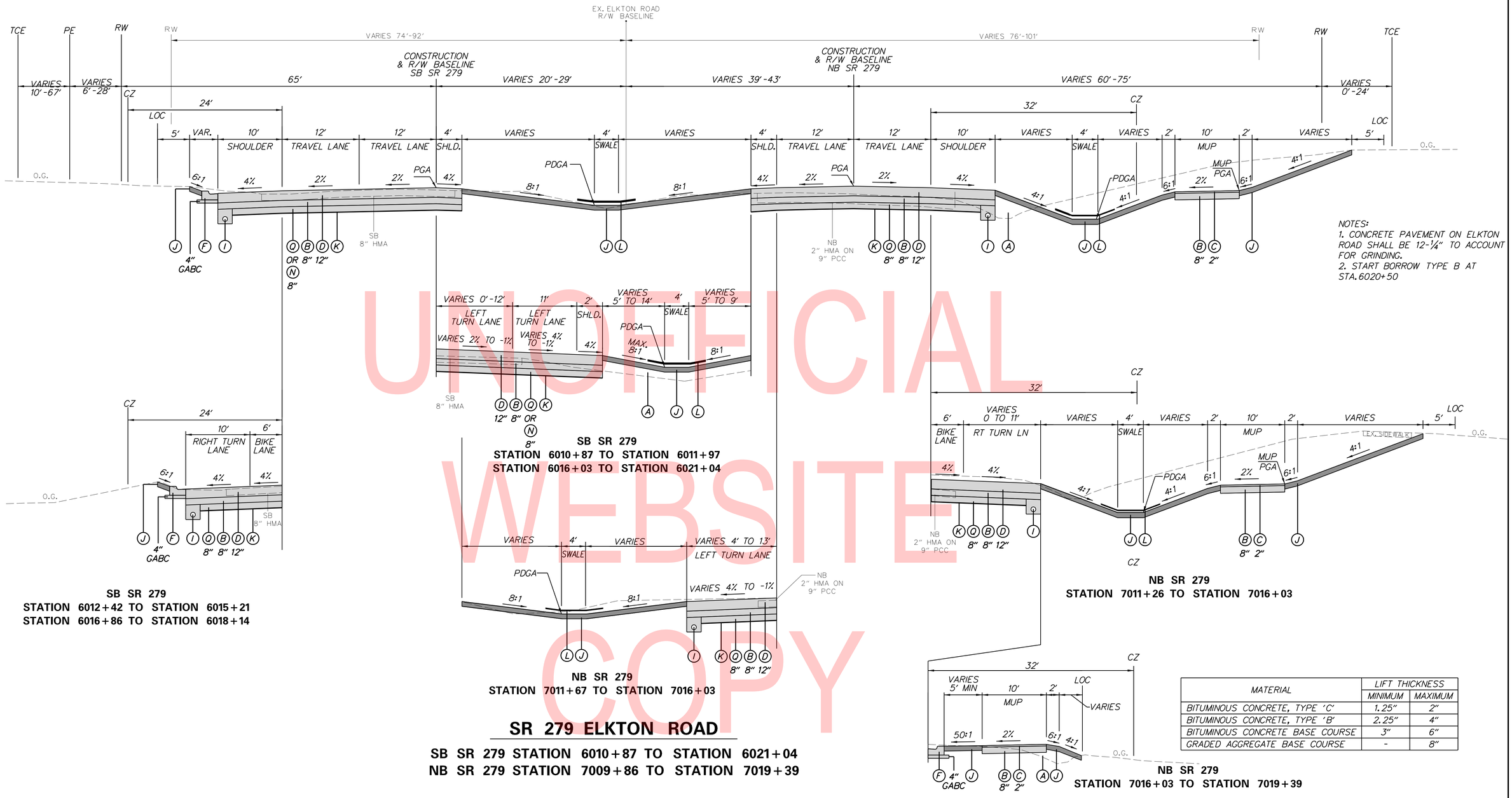
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

TYPICAL SECTIONS

SECTION	SHEET NO.
JMT	7

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS01]



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SR 279 ELKTON ROAD

SB SR 279 STATION 6010+87 TO STATION 6021+04
NB SR 279 STATION 7009+86 TO STATION 7019+39

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-02

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

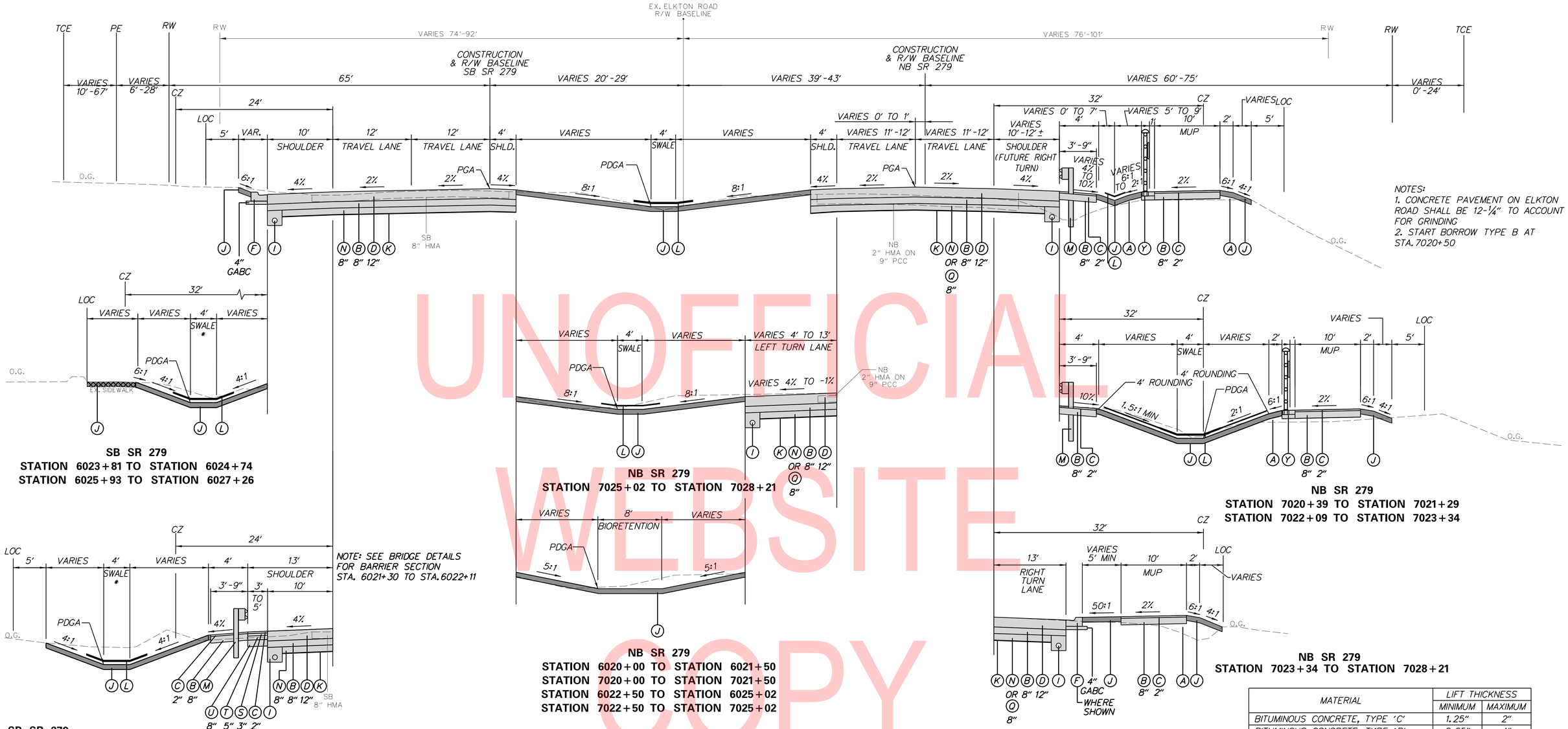
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

TYPICAL SECTIONS

SECTION	SHEET NO.
JMT	8

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS02]



SB SR 279
STATION 6023+81 TO STATION 6024+74
STATION 6025+93 TO STATION 6027+26

NOTE: SEE BRIDGE DETAILS FOR BARRIER SECTION STA. 6021+30 TO STA. 6022+11

SB SR 279
STATION 6022+11 TO STATION 6023+81

*BIOFILTRATION SWALES ARE IN THE FOLLOWING LOCATIONS:
NB STATION 6022+80 TO STATION 6024+74

NB SR 279
STATION 7025+02 TO STATION 7028+21

NB SR 279
STATION 6020+00 TO STATION 6021+50
STATION 7020+00 TO STATION 7021+50
STATION 6022+50 TO STATION 6025+02
STATION 7022+50 TO STATION 7025+02

NB SR 279
STATION 7020+39 TO STATION 7021+29
STATION 7022+09 TO STATION 7023+34

NB SR 279
STATION 7023+34 TO STATION 7028+21

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

SR 279 ELKTON ROAD

SB SR 279 STATION 6021+04 TO STATION 6028+31
NB SR 279 STATION 7019+39 TO STATION 7028+21

UNOFFICIAL WEBSITE COPY

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-03

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

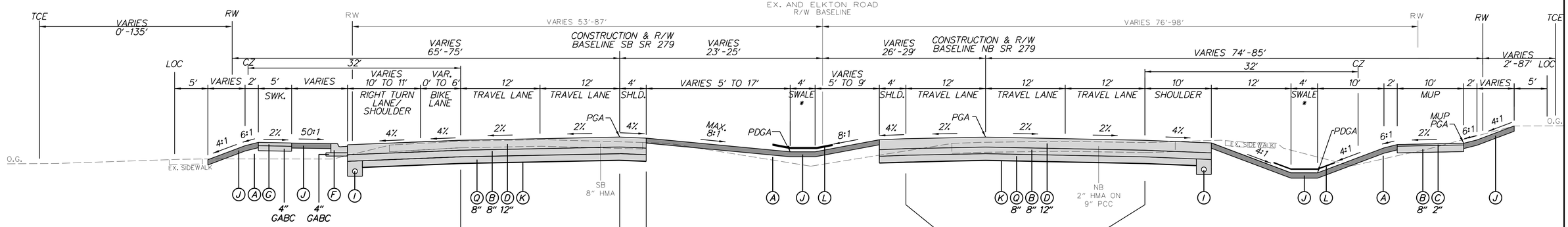
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

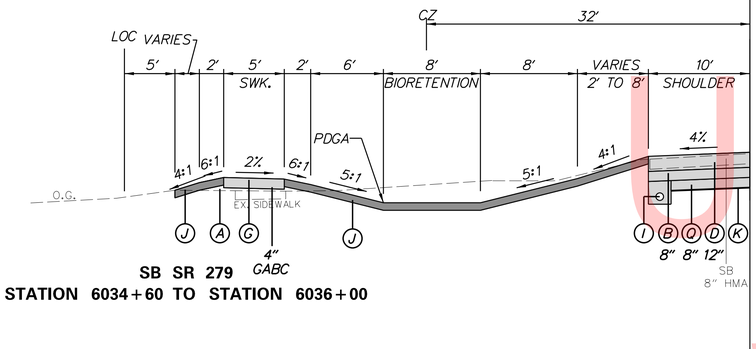
CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

TYPICAL SECTIONS

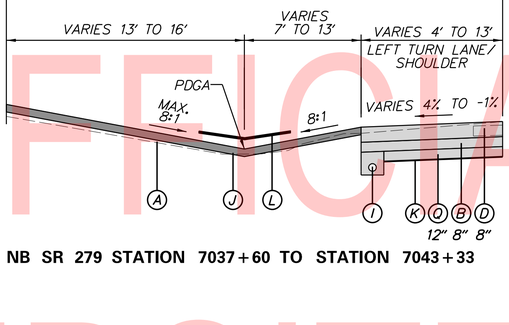
SECTION	JMT
SHEET NO.	9

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NJDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS03]

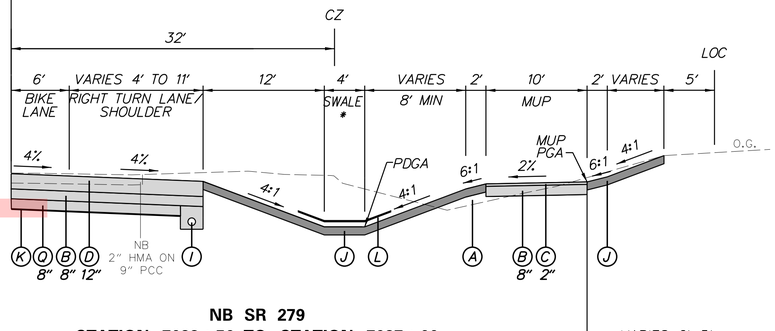




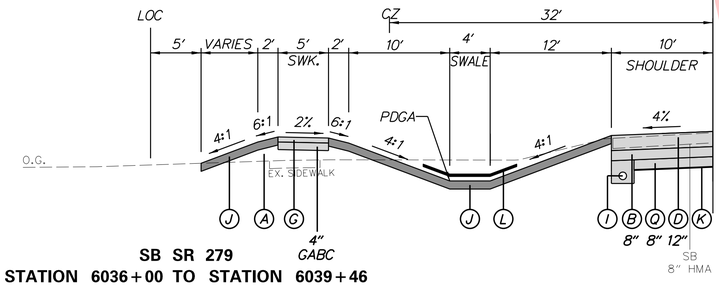
SB SR 279
STATION 6034+60 TO STATION 6036+00



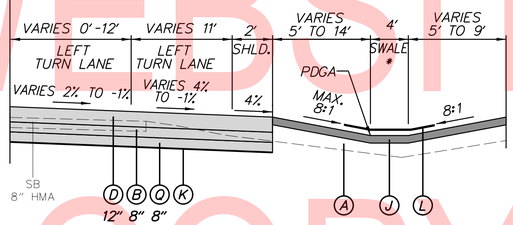
NB SR 279 STATION 7037+60 TO STATION 7043+33



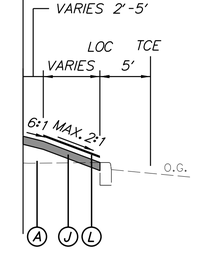
NB SR 279
STATION 7033+56 TO STATION 7037+00



SB SR 279
STATION 6036+00 TO STATION 6039+46



SB SR 279
STATION 6028+31 TO STATION 6035+87



NB SR 279
STATION 7038+48 TO STATION 7043+33

*BIOFILTRATION SWALES ARE LOCATED IN THE FOLLOWING LOCATIONS:
NB STATION 7030+02 TO STATION 7037+60 (MEDIAN)
NB STATION 7040+30 TO STATION 7042+05

NOTES:
1. CONCRETE PAVEMENT ON ELKTON ROAD NB SHALL BE 12-¼" BEFORE FINAL GRINDING
2. USE EROSION CONTROL BLANKET MULCH FOR ENTIRE 2:1 SLOPES OR STEEPER.

SR 279 ELKTON ROAD

SB SR 279 STATION 6028+31 TO STATION 6043+33
NB SR 279 STATION 7028+31 TO STATION 7043+33

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-04

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

TYPICAL SECTIONS

SECTION: JMT
SHEET NO.: 10

PLOTTED BY: LBERZINA DATE: 11/15/2019
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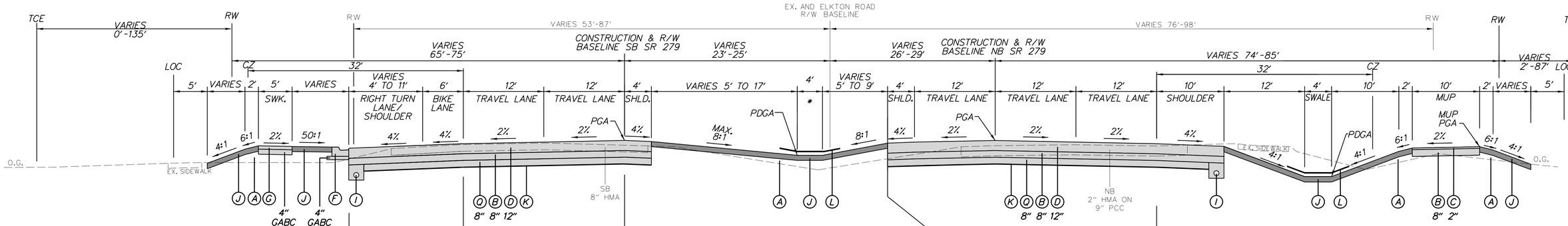
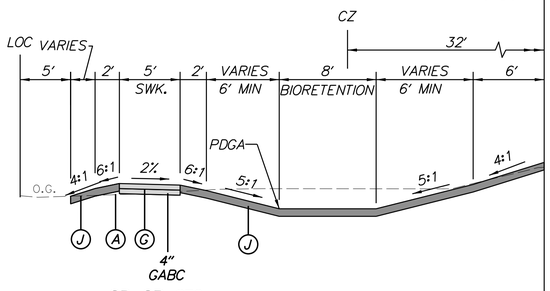
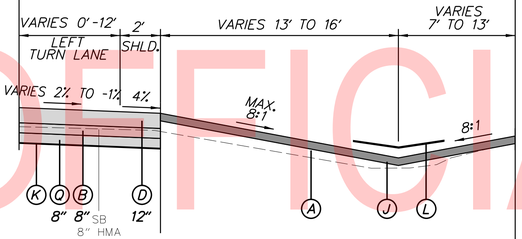
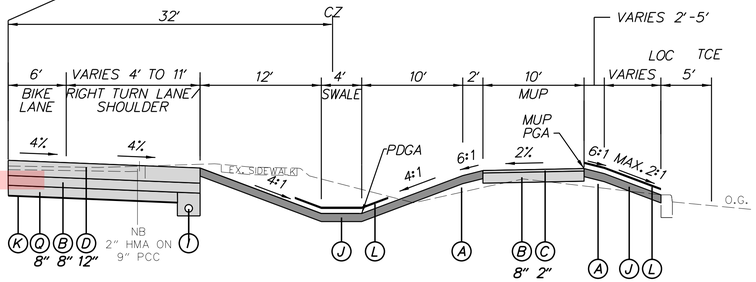




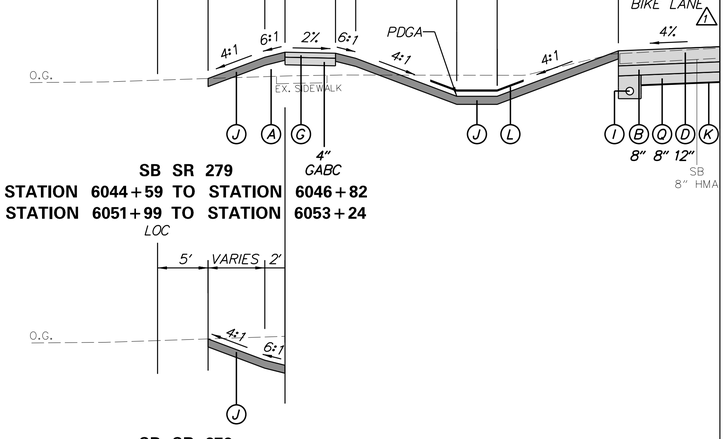
SB SR 279
STATION 6049+11 TO STATION 6051+00



NB SR 279 STATION 6043+33 TO STATION 6050+15
SB SR 279 STATION 7043+33 TO STATION 7050+15

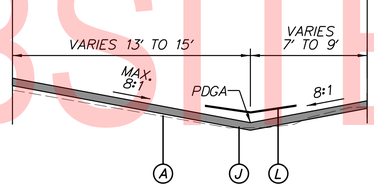


NB SR 279
STATION 7052+59 TO STATION 7059+12



SB SR 279
STATION 6044+59 TO STATION 6046+82
STATION 6051+99 TO STATION 6053+24

SB SR 279
STATION 6056+46 TO STATION 6060+24



SB SR 279 STATION 6050+15 TO STATION 6053+26
NB SR 279 STATION 7050+15 TO STATION 7053+26

*BIOFILTRATION SWALES ARE IN THE FOLLOWING LOCATIONS:
SB STATION 6051+99 TO STATION 6053+24
SB STATION 6059+03 TO STATION 6060+24
NB STATION 7053+26 TO STATION 6054+90 (MEDIAN)
NB STATION 7053+73 TO STATION 7055+26

NOTES:

1. CONCRETE PAVEMENT ON ELKTON ROAD SHALL BE 12-¼" BEFORE FINAL GRINDING
2. USE EROSION CONTROL BLANKET MULCH FOR ENTIRE 2:1 SLOPES OR STEEPER.

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

SR 279 ELKTON ROAD

SB SR 279 STATION 6043+33 TO STATION 6060+24
NB SR 279 STATION 7043+33 TO STATION 7059+12

LEGEND

(A) ITEM 209006 - BORROW, TYPE F
(B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
(C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
(D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
(E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
(F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
(G) ITEM 705001 - P.C.C. SIDEWALK, 4"
(H) ITEM 705005 - P.C.C. SIDEWALK, 8"
(I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
(J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
(K) ITEM 708002 - GEOTEXTILES, SEPARATION
(L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
(M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
(N) ITEM 209002 - BORROW, TYPE B
(O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
(P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
(Q) ITEM 209001 - BORROW, TYPE A
(R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
(S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
(T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
(U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
(V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
(W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
(X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
(Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
(Z) ITEM 727000 - CHAIN LINK FENCE
(AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
(AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-05

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

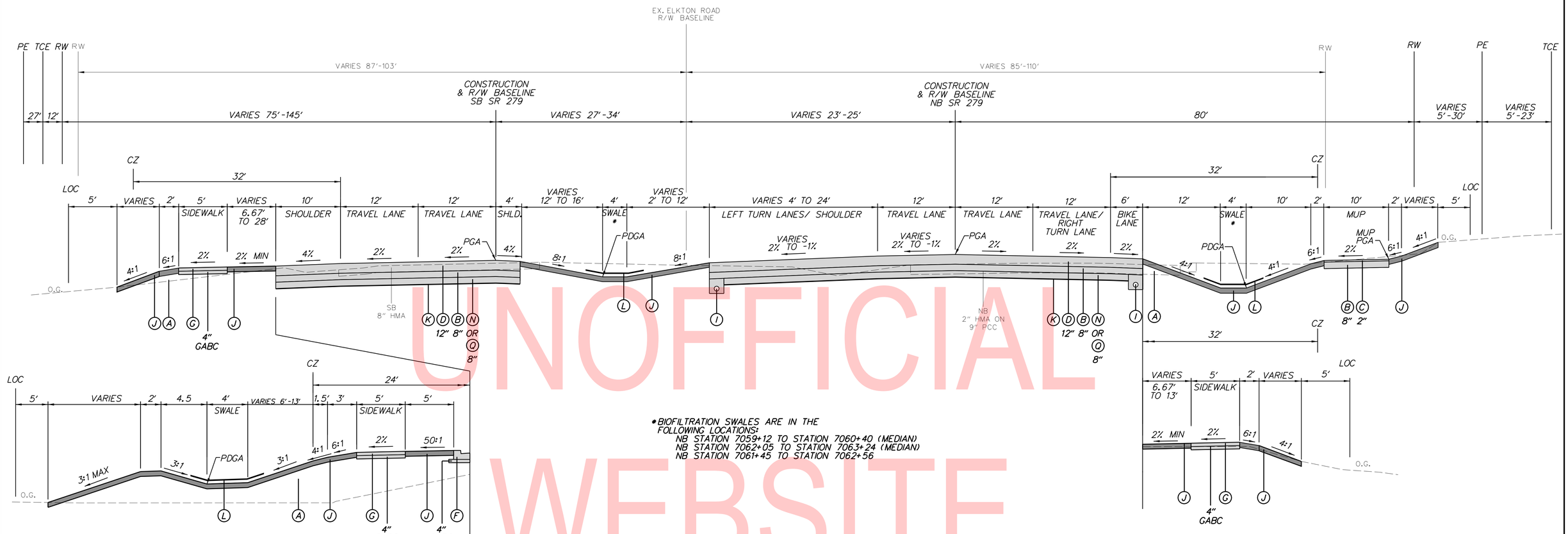
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

TYPICAL SECTIONS

SECTION JMT
SHEET NO. 11

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS05]



*BIOFILTRATION SWALES ARE IN THE FOLLOWING LOCATIONS:
NB STATION 7059+12 TO STATION 7060+40 (MEDIAN)
NB STATION 7062+05 TO STATION 7063+24 (MEDIAN)
NB STATION 7061+45 TO STATION 7062+56

SB SR 279
STATION 6061+73 TO STATION 6063+00

SB SR 279
STATION 6063+00 TO STATION 6065+15

NB SR 279
STATION 7059+12 TO STATION 7061+45
STATION 7062+56 TO STATION 7064+92

NOTES:

1. CONCRETE PAVEMENT ON ELKTON ROAD SHALL BE 12-¼" TO ACCOUNT FOR GRINDING
2. START BORROW TYPE B AT STA. 6060+50 AND STA. 7060+50

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

UNOFFICIAL WEBSITE COPY

SR 279 ELKTON ROAD

SB SR 279 STATION 6060+24 TO STATION 6065+15
NB SR 279 STATION 7059+12 TO STATION 7064+92

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-06

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

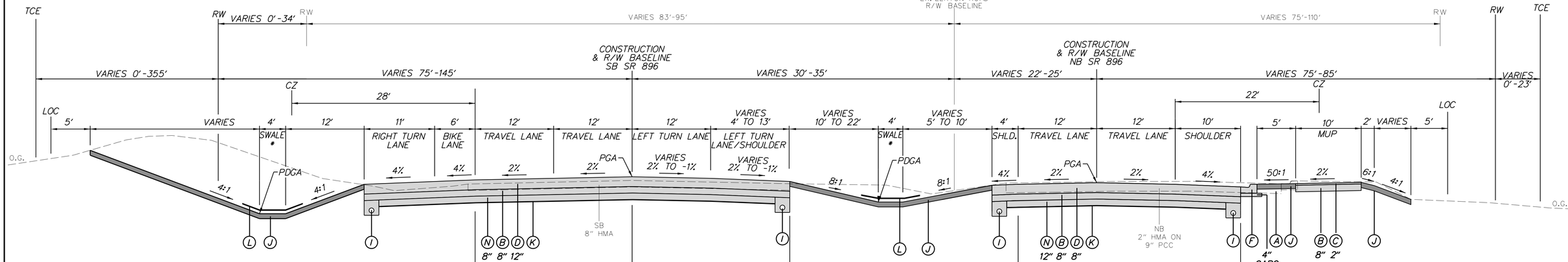
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

TYPICAL SECTIONS

SECTION	JMT
SHEET NO.	12

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS06]



SB SR 896
STATION 6070+02 TO STATION 6074+02

SIDEWALK – SB SR 896
STATION 6068+18 TO STATION 6070+95

NB SR 896 STATION 7076+81 TO STATION 7079+57
SB SR 896 STATION 6076+74 TO STATION 6079+54

NB SR 279
STATION 7071+38 TO STATION 7079+43

SB SR 896
STATION 6074+02 TO STATION 6075+34

NOTES:

1. CONCRETE PAVEMENT ON ELKTON ROAD SHALL BE 12-¼" TO ACCOUNT FOR GRINDING

**BIOFILTRATION SWALES ARE IN THE FOLLOWING LOCATIONS:*
SB STATION 6066+85 TO STATION 6068+15
SB STATION 6071+41 TO STATION 6072+61
NB STATION 7067+04 TO STATION 7068+10 (MEDIAN)
NB STATION 7071+43 TO STATION 7072+43 (MEDIAN)
NB STATION 7074+92 TO STATION 7076+42 (MEDIAN)

SR 896 ELKTON ROAD

SB SR 896 STATION 6065+15 TO STATION 6075+34
NB SR 896 STATION 7064+92 TO STATION 7079+56

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

UNOFFICIAL WEBSITE COPY

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-07

ADDENDA / REVISIONS					
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)			

NOT TO SCALE

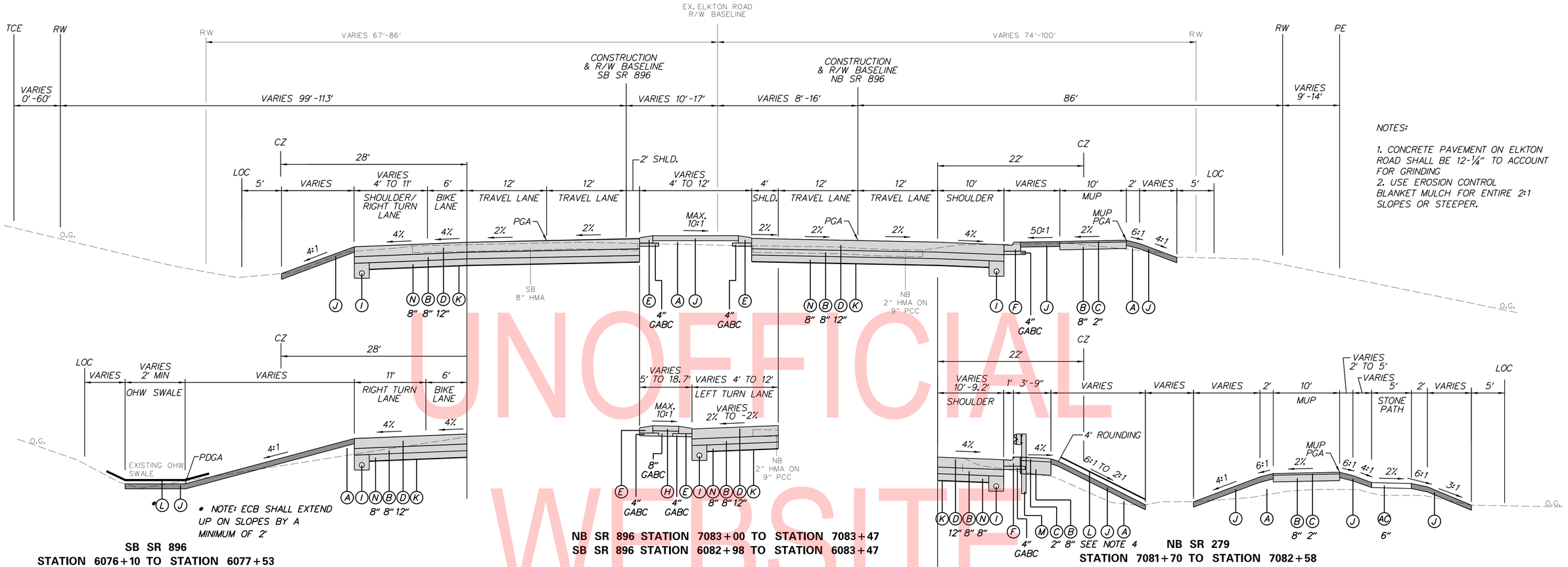
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

TYPICAL SECTIONS

SECTION
JMT
SHEET NO.
13

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NODE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS07]



NOTES:

1. CONCRETE PAVEMENT ON ELKTON ROAD SHALL BE 12-¼" TO ACCOUNT FOR GRINDING
2. USE EROSION CONTROL BLANKET MULCH FOR ENTIRE 2:1 SLOPES OR STEEPER.

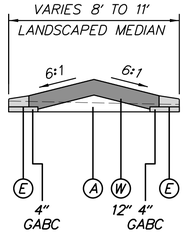
SB SR 896
STATION 6076+10 TO STATION 6077+53

* NOTE: ECB SHALL EXTEND UP ON SLOPES BY A MINIMUM OF 2'

NB SR 896 STATION 7083+00 TO STATION 7083+47
SB SR 896 STATION 6082+98 TO STATION 6083+47

NB SR 279
STATION 7081+70 TO STATION 7082+58

LANDSCAPED MEDIAN



NB SR 896 STATION 7079+54 TO STATION 7083+00
SB SR 896 STATION 6079+54 TO STATION 6083+00

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

SR 896 ELKTON ROAD

SB SR 896 STATION 6075+34 TO STATION 6083+47
NB SR 896 STATION 7079+50 TO STATION 7083+00

NB SR 279
STATION 7082+58 TO STATION 7083+33

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-08

ADDENDA / REVISIONS					
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	NOT TO SCALE	ELKTON ROAD MD LINE TO CASHO MILL ROAD	CONTRACT T201504401
					COUNTY NEW CASTLE

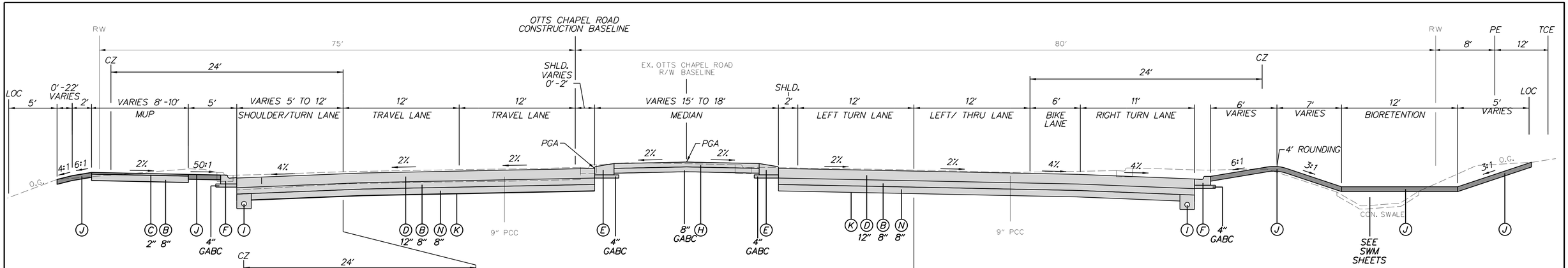
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

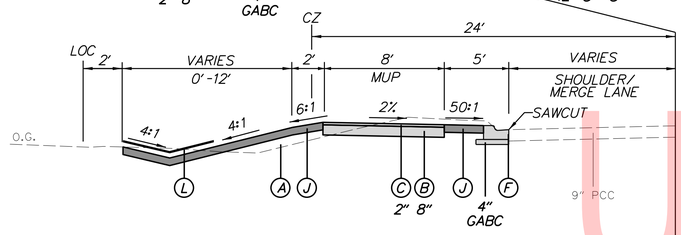
TYPICAL SECTIONS

SECTION	JMT
SHEET NO.	14

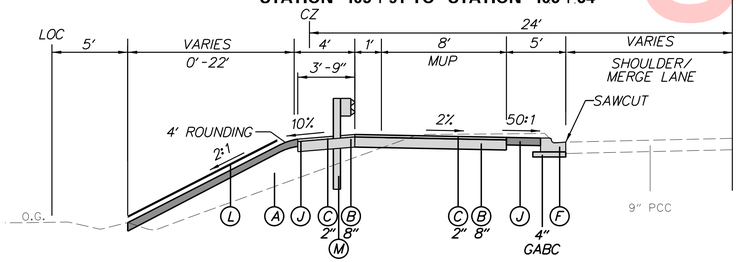
UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS08]

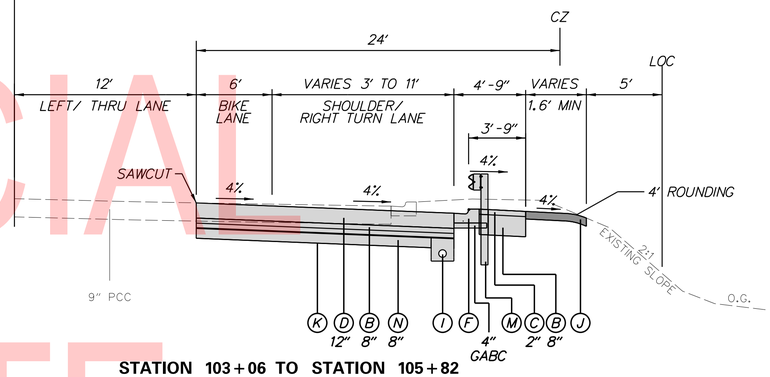




STATION 105+91 TO STATION 106+64

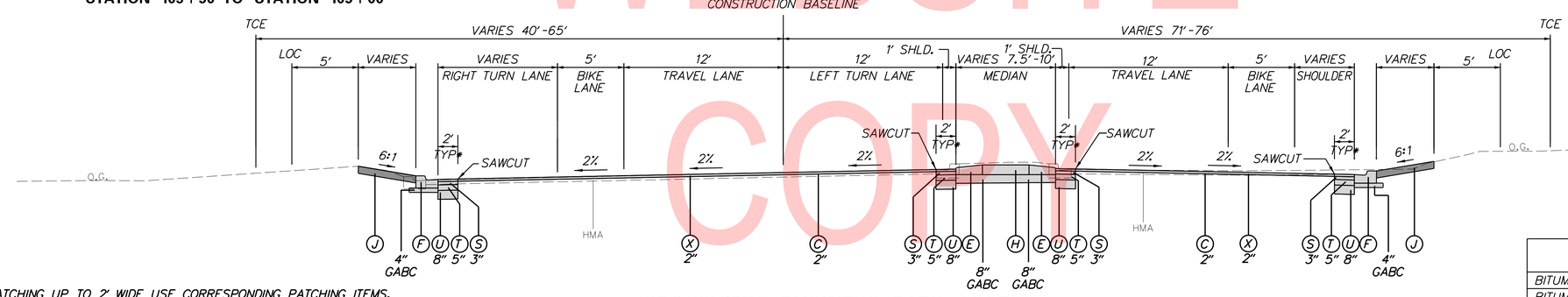


STATION 103+50 TO STATION 105+00



STATION 103+06 TO STATION 105+82

OTTS CHAPEL ROAD
STA 103+06 TO STA 108+50



*FOR PATCHING UP TO 2' WIDE USE CORRESPONDING PATCHING ITEMS.
FOR PAVEMENT SECTION GRATER THAN 2' WIDE USE REGULAR PAVEMENT ITEMS.

CROSSVIEW BUSINESS PARK ACCESS
STA 400+50 TO STA 401+10

NOTES:

1. CONCRETE PAVEMENT ON ELKTON ROAD SHALL BE 12-¼" TO ACCOUNT FOR GRINDING
2. USE EROSION CONTROL BLANKET MULCH FOR ENTIRE 2:1 SLOPES OR STEEPER.

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-09

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

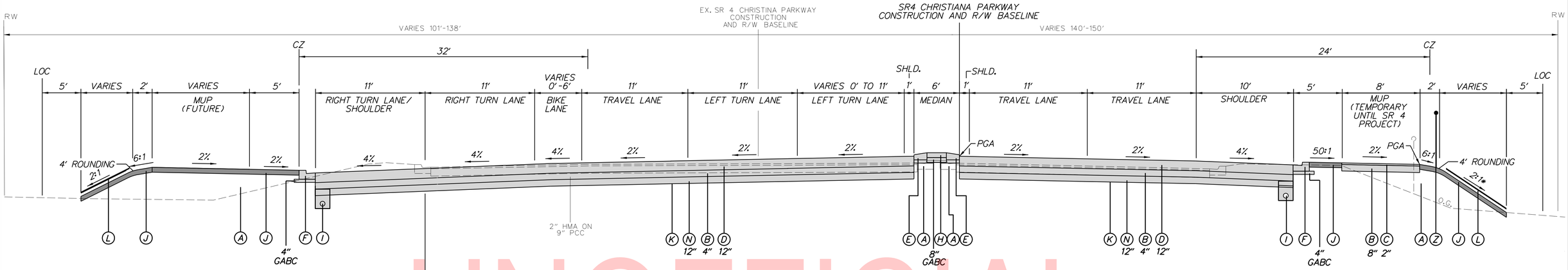
CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

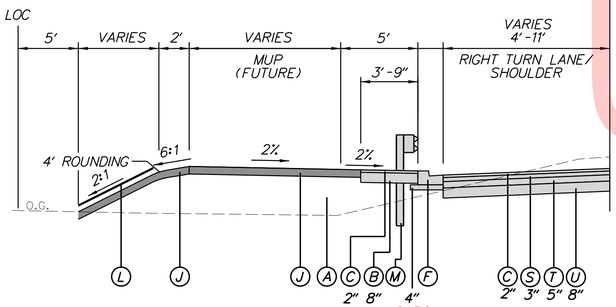
TYPICAL SECTIONS

SECTION	JMT
SHEET NO.	15

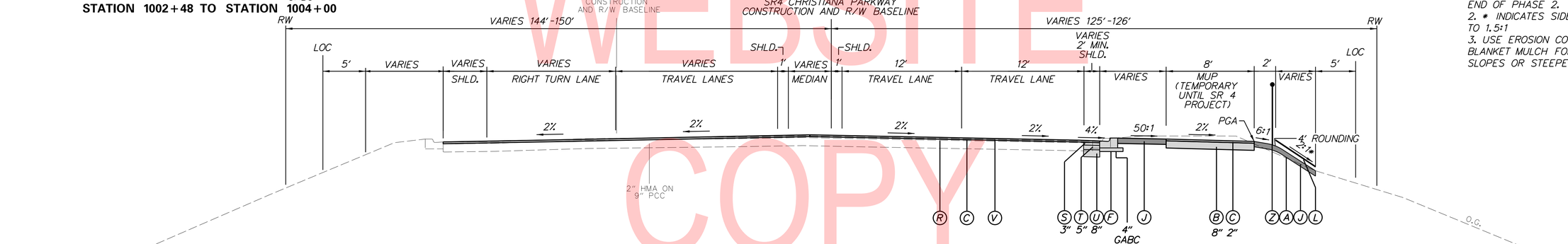
UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS09]





STATION 1002+48 TO STATION 1004+00



STATION 1004+00 TO STATION 1004+50

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

NOTES:

1. CONCRETE PAVEMENT ON ELKTON ROAD NB SHALL BE 12-¼" TO ACCOUNT FOR GRINDING AT THE END OF PHASE 2.
2. * INDICATES SIDE SLOPE VARIES TO 1.5:1
3. USE EROSION CONTROL BLANKET MULCH FOR ENTIRE 2:1 SLOPES OR STEEPER.

UNOFFICIAL WEBSITE COPY

SR4 CHRISTINA PARKWAY
STA 1000+50 TO STA 1004+00

SR4 CHRISTINA PARKWAY
STA 1004+00 TO STA 1004+50

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 4010.37 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 4010.30 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 4010.31 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-10

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

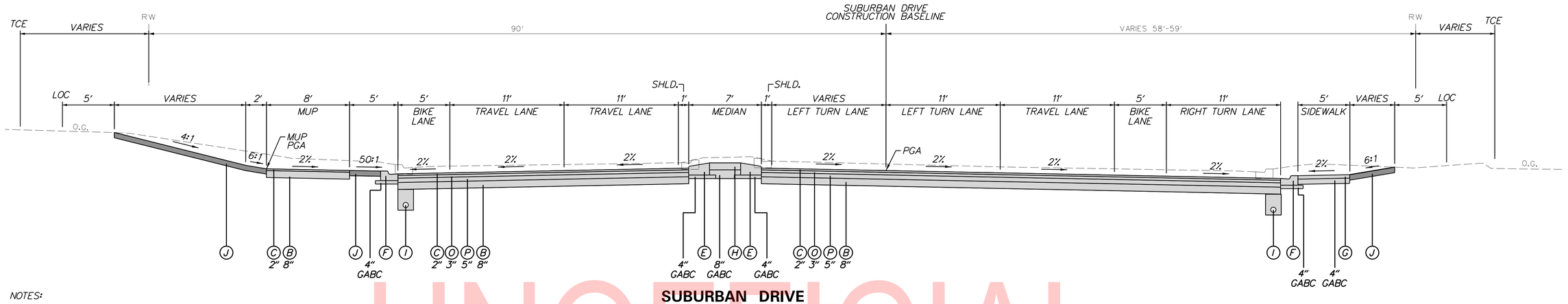
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

TYPICAL SECTIONS

SECTION	JMT
SHEET NO.	16

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS10]



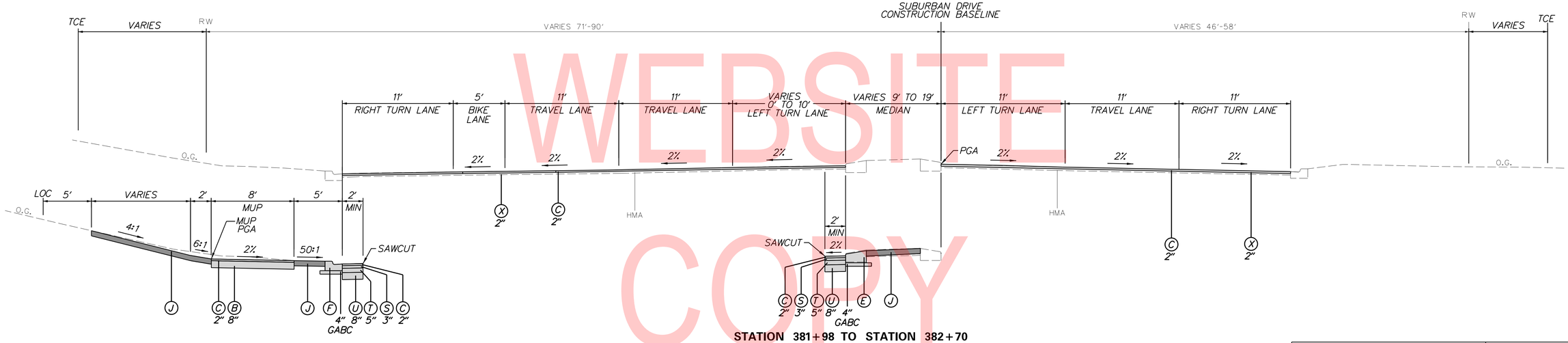
NOTES:

1. CONCRETE PAVEMENT ON ELKTON ROAD NB SHALL BE 12-¼" TO ACCOUNT FOR GRINDING AT THE END OF PHASE 2.

SUBURBAN DRIVE

STA 382+50 RT TO STA 384+21 RT
STA 382+70 LT TO STA 384+69 LT

UNOFFICIAL WEBSITE COPY



STATION 382+17 TO STATION 382+70

STATION 381+98 TO STATION 382+70

SUBURBAN DRIVE

STA 380+25 RT TO 385+50 RT
STA 380+25 LT TO 382+70 LT

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-11

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

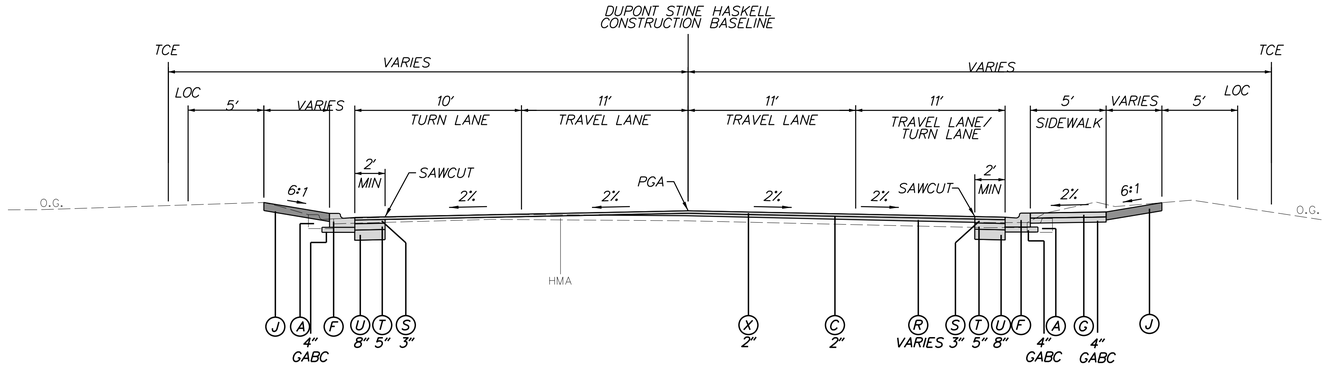
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

TYPICAL SECTIONS

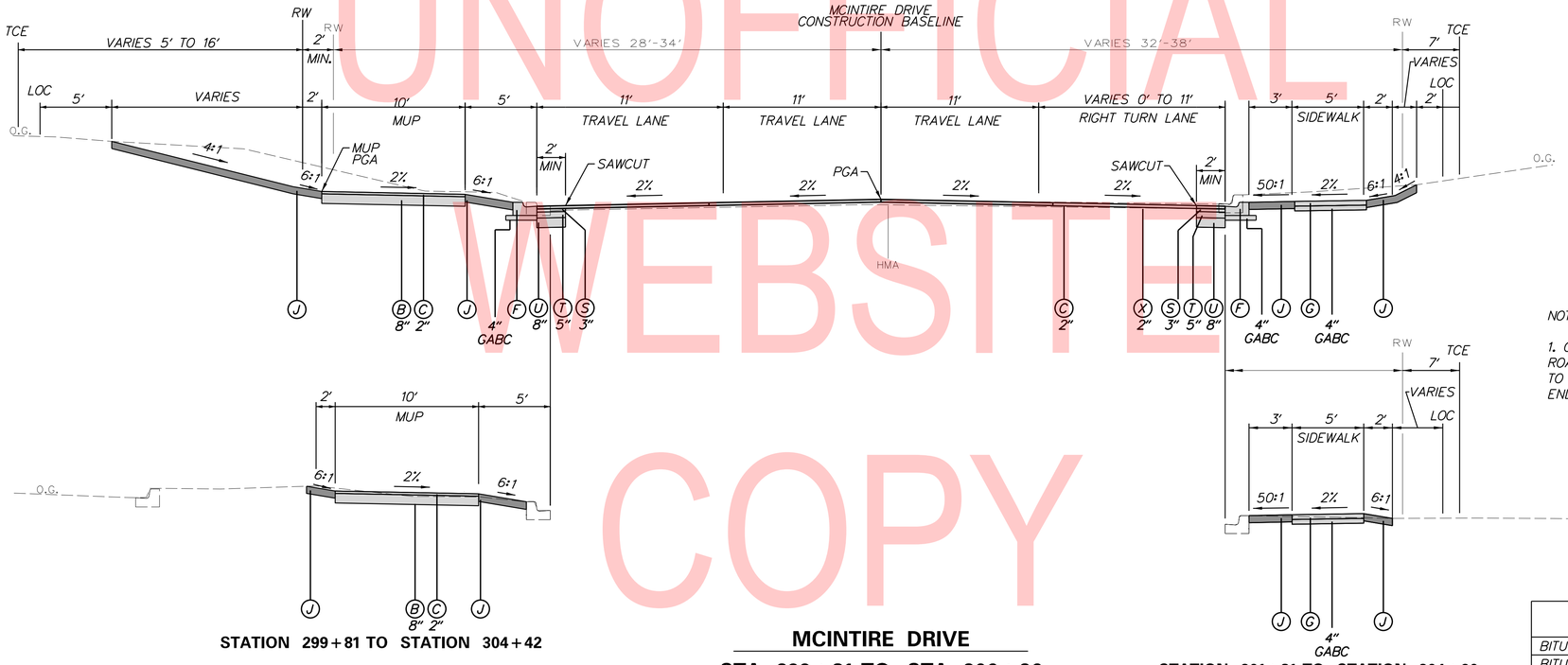
SECTION	JMT
SHEET NO.	17

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS11]



DUPONT STINE HASKELL

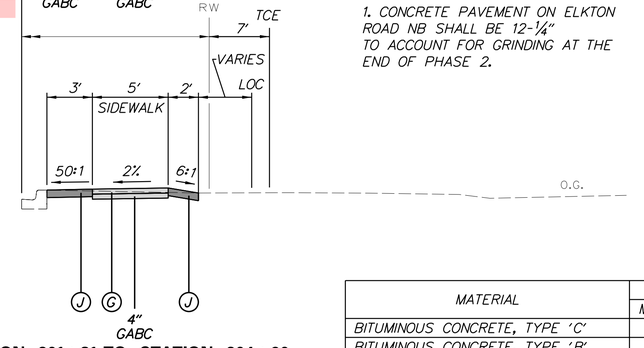
STA 600+60 TO STA 601+75



STATION 299+81 TO STATION 304+42

MCINTIRE DRIVE

STA 299+81 TO STA 306+36



STATION 301+81 TO STATION 304+90

NOTES:

1. CONCRETE PAVEMENT ON ELKTON ROAD NB SHALL BE 12-¼" TO ACCOUNT FOR GRINDING AT THE END OF PHASE 2.

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 401005 - SUPERPAVE, TYPE C, PG 64-22 (CARBONATE STONE)
- (D) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12" OR ITEM 501503 - PRECAST CONCRETE PAVEMENT (AS SHOWN IN CP SHEETS)
- (E) ITEM 701014 - PORTLAND CEMENT CONCRETE CURB, TYPE 2
- (F) ITEM 701021 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-4
- (G) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (H) ITEM 705005 - P.C.C. SIDEWALK, 8"
- (I) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"
- (J) ITEM 908004 - TOPSOIL, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (K) ITEM 708002 - GEOTEXTILES, SEPARATION
- (L) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (M) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (N) ITEM 209002 - BORROW, TYPE B
- (O) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (P) ITEM 401021 - SUPERPAVE, TYPE BCBC, PG 64-22
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 401037 - SUPERPAVE, TYPE B, PG 64-22, WEDGE
- (S) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22, PATCHING
- (T) ITEM 401031 - SUPERPAVE, BCBC, PG 64-22, PATCHING
- (U) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (V) ITEM 760011 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, TAPER CUT
- (W) ITEM 908005 - TOPSOIL, 12" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (X) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (Y) ITEM 626010 - ALUMINUM PEDESTRIAN RAILING (SEE CONST. DETAILS)
- (Z) ITEM 727000 - CHAIN LINK FENCE
- (AB) ITEM 701012 - P.C.C. CURB, TYPE 1-6
- (AC) ITEM 302005 - DELAWARE NO.57 STONE

TS-12

ADDENDA / REVISIONS			
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

TYPICAL SECTIONS

SECTION
JMT
SHEET NO.
18

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NODE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS.DGN [SHEET: TS12]

CIRCULAR CURVE NO. (1)			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30302)	7016+74.45	603135.0290	551834.1394
PI (30303)	7017+21.51	603170.5807	551864.9740
CC (30304)		611005.4351	542759.7330
PT (30305)	7017+68.57	603206.3729	551895.5292
RADIUS:	12012.00		
DELTA:	0° 26' 56.1988" LT		
DEGREE OF CURVATURE(ARC):	0° 28' 37.1562"		
LENGTH:	94.12		
TANGENT:	47.06		
CHORD:	94.12		
MIDDLE ORDINATE:	0.09		
EXTERNAL:	0.09		
TANGENT DIRECTION:	N 40° 56' 08.6064" E		
RADIAL DIRECTION:	S 49° 03' 51.3936" E		
CHORD DIRECTION:	N 40° 42' 40.5070" E		
RADIAL DIRECTION:	S 49° 30' 47.5924" E		
TANGENT DIRECTION:	N 40° 29' 12.4076" E		

CIRCULAR CURVE NO. (2)			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30306)	7020+99.18	603457.8153	552110.1810
PI (30307)	7021+40.25	603489.0526	552136.8477
CC (30308)		593718.7266	563518.5179
PT (30309)	7021+81.32	603520.1433	552163.6850
RADIUS:	15000.00		
DELTA:	0° 18' 49.5488" RT		
DEGREE OF CURVATURE(ARC):	0° 22' 55.0987"		
LENGTH:	82.14		
TANGENT:	41.07		
CHORD:	82.14		
MIDDLE ORDINATE:	0.06		
EXTERNAL:	0.06		
TANGENT DIRECTION:	N 40° 29' 12.4076" E		
RADIAL DIRECTION:	S 49° 30' 47.5924" E		
CHORD DIRECTION:	N 40° 38' 37.1820" E		
RADIAL DIRECTION:	S 49° 11' 58.0435" E		
TANGENT DIRECTION:	N 40° 48' 01.9565" E		

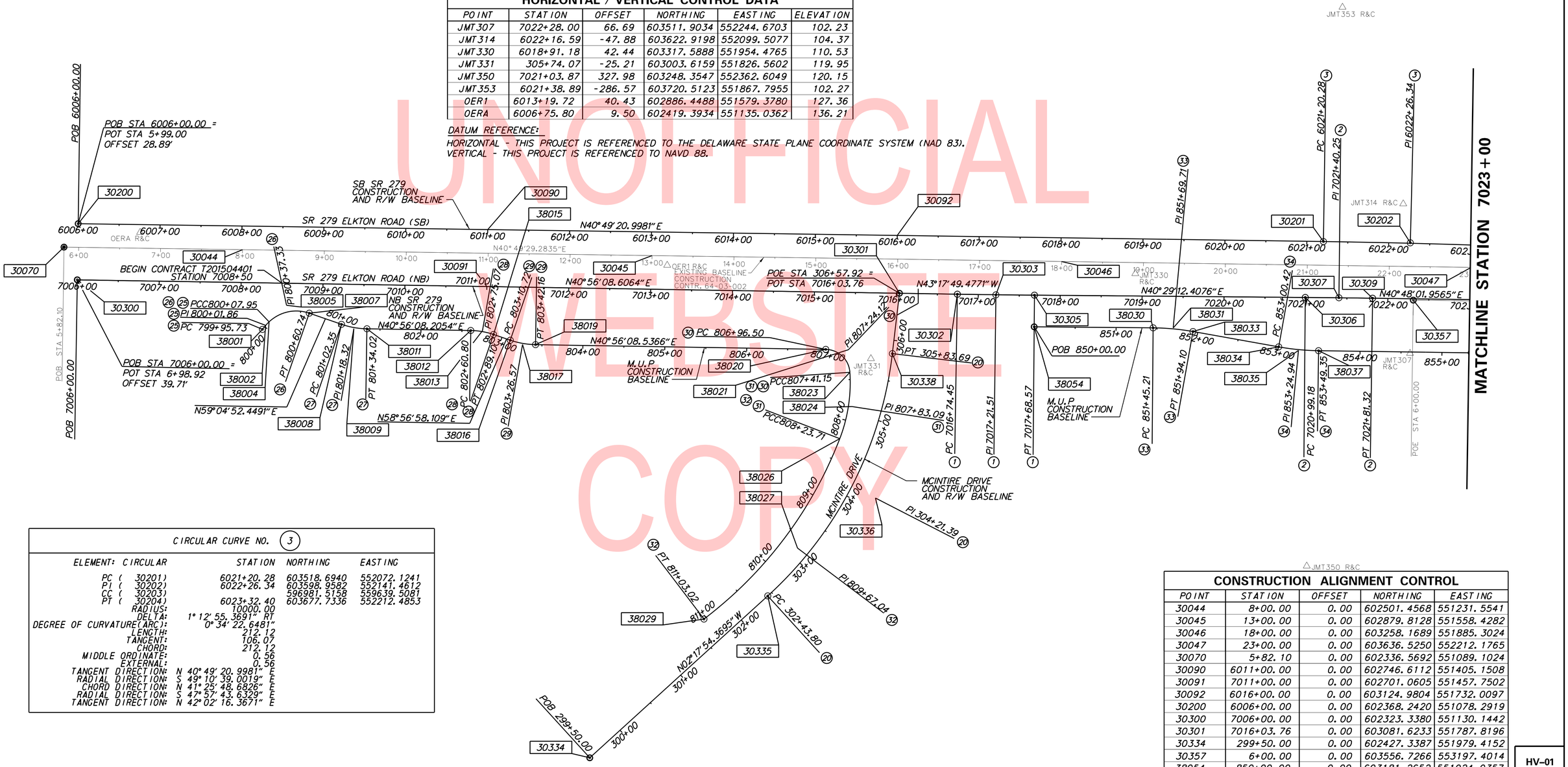
CIRCULAR CURVE NO. (20)			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30335)	302+43.80	602720.9037	551967.6325
PI (30336)	304+21.39	602898.3497	551960.5103
CC (30337)		602701.8541	551493.0146
PT (30338)	305+83.69	603027.6002	551838.7233
RADIUS:	475.00		
DELTA:	40° 59' 55.1076" LT		
DEGREE OF CURVATURE(ARC):	12° 03' 44.1697"		
LENGTH:	339.89		
TANGENT:	177.59		
CHORD:	332.69		
MIDDLE ORDINATE:	30.08		
EXTERNAL:	32.11		
TANGENT DIRECTION:	N 02° 17' 54.3695" W		
RADIAL DIRECTION:	N 87° 42' 05.6305" E		
CHORD DIRECTION:	N 22° 47' 51.9233" W		
RADIAL DIRECTION:	N 46° 42' 10.5229" E		
TANGENT DIRECTION:	N 43° 17' 49.4771" W		

NOTE:
SEE SHEET HV02 FOR ADDITIONAL CURVE TABLES.

HORIZONTAL / VERTICAL CONTROL DATA

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
JMT307	7022+28.00	66.69	603511.9034	552244.6703	102.23
JMT314	6022+16.59	-47.88	603622.9198	552099.5077	104.37
JMT330	6018+91.18	42.44	603317.5888	551954.4765	110.53
JMT331	305+74.07	-25.21	603003.6159	551826.5602	119.95
JMT350	7021+03.87	327.98	603248.3547	552362.6049	120.15
JMT353	6021+38.89	-286.57	603720.5123	551867.7955	102.27
OER1	6013+19.72	40.43	602886.4488	551579.3780	127.36
OERA	6006+75.80	9.50	602419.3934	551135.0362	136.21

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83).
VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.



CIRCULAR CURVE NO. (3)			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30201)	6021+20.28	603518.6940	552072.1241
PI (30202)	6022+26.34	603598.9582	552141.4612
CC (30203)		596981.5158	559639.5081
PT (30204)	6023+32.40	603677.7336	552212.4853
RADIUS:	10000.00		
DELTA:	1° 12' 55.3691" RT		
DEGREE OF CURVATURE(ARC):	0° 34' 22.6481"		
LENGTH:	212.12		
TANGENT:	106.07		
CHORD:	212.12		
MIDDLE ORDINATE:	0.56		
EXTERNAL:	0.56		
TANGENT DIRECTION:	N 40° 49' 20.9981" E		
RADIAL DIRECTION:	S 49° 10' 39.0019" E		
CHORD DIRECTION:	N 41° 25' 48.6826" E		
RADIAL DIRECTION:	S 47° 57' 43.6329" E		
TANGENT DIRECTION:	N 42° 02' 16.3671" E		

JMT350 R&C

CONSTRUCTION ALIGNMENT CONTROL

POINT	STATION	OFFSET	NORTHING	EASTING
30044	8+00.00	0.00	602501.4568	551231.5541
30045	13+00.00	0.00	602879.8128	551558.4282
30046	18+00.00	0.00	603258.1689	551885.3024
30047	23+00.00	0.00	603636.5250	552212.1765
30070	5+82.10	0.00	602336.5692	551089.1024
30090	6011+00.00	0.00	602746.6112	551405.1508
30091	7011+00.00	0.00	602701.0605	551457.7502
30092	6016+00.00	0.00	603124.9804	551732.0097
30200	6006+00.00	0.00	602368.2420	551078.2919
30300	7006+00.00	0.00	602323.3380	551130.1442
30301	7016+03.76	0.00	603081.6233	551787.8196
30334	299+50.00	0.00	602427.3387	551979.4152
30357	6+00.00	0.00	603556.7266	553197.4014
38054	850+00.00	0.00	603181.2652	551924.9357

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\HV.DGN [SHEET: HV01]

ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

SCALE
0 60 120 180
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

HORIZONTAL AND
VERTICAL CONTROL

HV-01
SECTION JMT
SHEET NO. 19

CIRCULAR CURVE NO. 25

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38001)	799+95.73	602457.6309	551321.7730
PI (38002)	800+01.86	602463.5778	551320.3182
CC (38003)		602473.8686	551388.1488
PT (38004)	800+07.95	602469.6885	551319.9437
RADIUS:	68.33		
DELTA:	10° 14' 21.1952" RT		
DEGREE OF CURVATURE(ARC):	83° 50' 52.4084"		
LENGTH:	12.21		
TANGENT:	6.12		
CHORD:	12.20		
MIDDLE ORDINATE:	0.27		
EXTERNAL:	0.27		
TANGENT DIRECTION:	N 13° 44' 47.1952" W		
RADIAL DIRECTION:	N 76° 15' 12.8048" E		
CHORD DIRECTION:	N 8° 37' 36.2831" W		
RADIAL DIRECTION:	N 86° 29' 34.6290" E		
TANGENT DIRECTION:	N 3° 30' 25.3710" W		

CIRCULAR CURVE NO. 26

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38004)	800+07.95	602469.6886	55131+.9437
PI (38005)	800+37.33	602499.0139	551318.1465
CC (38006)		602472.6452	551368.1865
PT (38007)	800+60.74	602514.1102	551343.3518
RADIUS:	48.33		
DELTA:	62° 35' 17.8201" RT		
DEGREE OF CURVATURE(ARC):	118° 32' 35.0659"		
LENGTH:	52.80		
TANGENT:	29.38		
CHORD:	50.21		
MIDDLE ORDINATE:	7.03		
EXTERNAL:	8.23		
TANGENT DIRECTION:	N 3° 30' 25.3710" W		
RADIAL DIRECTION:	N 86° 29' 34.6290" E		
CHORD DIRECTION:	N 27° 47' 13.5390" E		
RADIAL DIRECTION:	S 30° 55' 07.5509" E		
TANGENT DIRECTION:	N 59° 04' 52.4491" E		

CIRCULAR CURVE NO. 27

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38008)	801+02.35	602535.4869	551379.0432
PI (38009)	801+18.32	602543.6920	551392.7427
CC (38010)		602621.2766	551327.6610
PT (38011)	801+34.02	602555.7556	551403.2056
RADIUS:	100.00		
DELTA:	18° 08' 44.2437" LT		
DEGREE OF CURVATURE(ARC):	57° 17' 44.8062"		
LENGTH:	31.67		
TANGENT:	15.97		
CHORD:	31.54		
MIDDLE ORDINATE:	1.25		
EXTERNAL:	1.27		
TANGENT DIRECTION:	N 59° 04' 52.4491" E		
RADIAL DIRECTION:	S 30° 55' 07.5509" E		
CHORD DIRECTION:	N 50° 00' 30.3272" E		
RADIAL DIRECTION:	S 49° 03' 51.7946" E		
TANGENT DIRECTION:	N 40° 56' 08.2054" E		

CIRCULAR CURVE NO. 28

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38012)	802+60.80	602651.5334	551486.2753
PI (38013)	802.75.07	602662.3104	551495.6223
CC (38014)		602592.5645	551554.2654
PT (38015)	802.89.10	602669.6686	551507.8440
RADIUS:	90.00		
DELTA:	18° 00' 49.9036" RT		
DEGREE OF CURVATURE(ARC):	63° 39' 43.1181"		
LENGTH:	28.30		
TANGENT:	14.27		
CHORD:	28.18		
MIDDLE ORDINATE:	1.11		
EXTERNAL:	1.12		
TANGENT DIRECTION:	N 40° 56' 08.2054" E		
RADIAL DIRECTION:	S 49° 03' 51.7946" E		
CHORD DIRECTION:	N 49° 56' 33.1572" E		
RADIAL DIRECTION:	S 31° 03' 01.8910" E		
TANGENT DIRECTION:	N 58° 56' 58.1090" E		

CIRCULAR CURVE NO. 29

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38016)	803+10.72	602680.8218	551526.3689
PI (38017)	803+26.57	602688.9975	551539.9485
CC (38018)		602766.4930	551474.7896
PT (38019)	803+42.16	602700.9719	551550.3341
RADIUS:	100.00		
DELTA:	18° 00' 49.5724" LT		
DEGREE OF CURVATURE(ARC):	57° 17' 44.8062"		
LENGTH:	31.44		
TANGENT:	15.85		
CHORD:	31.31		
MIDDLE ORDINATE:	1.23		
EXTERNAL:	1.25		
TANGENT DIRECTION:	N 58° 56' 58.1090" E		
RADIAL DIRECTION:	S 31° 03' 01.8910" E		
CHORD DIRECTION:	N 49° 56' 33.3228" E		
RADIAL DIRECTION:	S 49° 03' 51.4634" E		
TANGENT DIRECTION:	N 40° 56' 08.5366" E		

CIRCULAR CURVE NO. 30

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38020)	806+96.50	602968.6563	551782.5017
PI (38021)	807+24.12	602989.5253	551800.6018
CC (38022)		602948.9999	551805.1651
PT (38023)	807+41.15	602973.2040	551822.8896
RADIUS:	30.00		
DELTA:	85° 16' 46.0754" RT		
DEGREE OF CURVATURE(ARC):	190° 59' 09.3542"		
LENGTH:	44.65		
TANGENT:	27.62		
CHORD:	40.64		
MIDDLE ORDINATE:	7.93		
EXTERNAL:	10.78		
TANGENT DIRECTION:	N 40° 56' 08.5366" E		
RADIAL DIRECTION:	S 49° 03' 51.4634" E		
CHORD DIRECTION:	N 83° 34' 31.5743" E		
RADIAL DIRECTION:	S 36° 12' 54.6120" W		
TANGENT DIRECTION:	N 53° 47' 05.3880" E		

CIRCULAR CURVE NO. 31

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38023)	807+41.15	602973.2040	551822.8896
PI (38024)	807+83.09	602948.4256	551856.7263
CC (38025)		602819.9113	551710.6340
PT (38026)	808+23.71	602911.7058	551876.9883
RADIUS:	190.00		
DELTA:	24° 53' 41.4471" RT		
DEGREE OF CURVATURE(ARC):	30° 09' 20.4243"		
LENGTH:	82.55		
TANGENT:	41.94		
CHORD:	81.91		
MIDDLE ORDINATE:	4.47		
EXTERNAL:	4.57		
TANGENT DIRECTION:	S 53° 47' 05.3880" E		
RADIAL DIRECTION:	S 36° 12' 54.6120" W		
CHORD DIRECTION:	S 41° 20' 14.6645" E		
RADIAL DIRECTION:	S 61° 06' 36.0591" W		
TANGENT DIRECTION:	S 28° 53' 23.9409" E		

CIRCULAR CURVE NO. 32

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38026)	808+23.71	602911.7058	551876.9883
PI (38027)	809+67.04	602786.2144	551946.2347
CC (38028)		602667.7255	551434.8360
PT (38029)	811+03.02	602643.0566	551939.2331
RADIUS:	505.00		
DELTA:	31° 41' 23.8695" RT		
DEGREE OF CURVATURE(ARC):	11° 20' 44.5161"		
LENGTH:	279.31		
TANGENT:	143.33		
CHORD:	275.77		
MIDDLE ORDINATE:	19.19		
EXTERNAL:	19.95		
TANGENT DIRECTION:	S 28° 53' 23.9409" E		
RADIAL DIRECTION:	S 61° 06' 36.0591" W		
CHORD DIRECTION:	S 13° 02' 42.0062" E		
RADIAL DIRECTION:	N 87° 12' 00.0715" W		
TANGENT DIRECTION:	S 2° 47' 59.9285" W		

CIRCULAR CURVE NO. 33

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38030)	851+45.21	603291.7036	552019.2149
PI (38031)	851+69.71	603310.3406	552035.1250
CC (38032)		603103.4145	552239.7760
PT (38033)	851+94.10	603326.0437	552053.9367
RADIUS:	290.00		
DELTA:	9° 39' 35.4066" RT		
DEGREE OF CURVATURE(ARC):	19° 45' 25.7953"		
LENGTH:	48.89		
TANGENT:	24.50		
CHORD:	48.83		
MIDDLE ORDINATE:	1.03		
EXTERNAL:	1.03		
TANGENT DIRECTION:	N 40° 29' 12.4260" E		
RADIAL DIRECTION:	S 49° 30' 47.5740" E		
CHORD DIRECTION:	N 45° 19' 00.1294" E		
RADIAL DIRECTION:	S 39° 51' 12.1673" E		
TANGENT DIRECTION:	N 50° 08' 47.8327" E		

CIRCULAR CURVE NO. 34

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38034)	853+00.42	603394.1749	552135.5556
PI (38035)	853+24.94	603409.8895	552154.3811
CC (38036)		603624.4809	551943.3081
PT (38037)	853+49.35	603428.4526	552170.4047
RADIUS:	300.00		
DELTA:	9° 20' 45.8762" LT		
DEGREE OF CURVATURE(ARC):	19° 05' 54.9354"		
LENGTH:	48.94		
TANGENT:	24.52		
CHORD:	48.88		
MIDDLE ORDINATE:	1.00		
EXTERNAL:	1.00		
TANGENT DIRECTION:	N 50° 08' 47.8327" E		
RADIAL DIRECTION:	S 39° 51' 12.1673" E		
CHORD DIRECTION:	N 45° 28' 24.8946" E		
RADIAL DIRECTION:	S 49° 11' 58.0435" E		
TANGENT DIRECTION:	N 40° 48' 01.9565" E		

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\HV.DGN [SHEET: HV02]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

HORIZONTAL AND VERTICAL CONTROL

HV-02

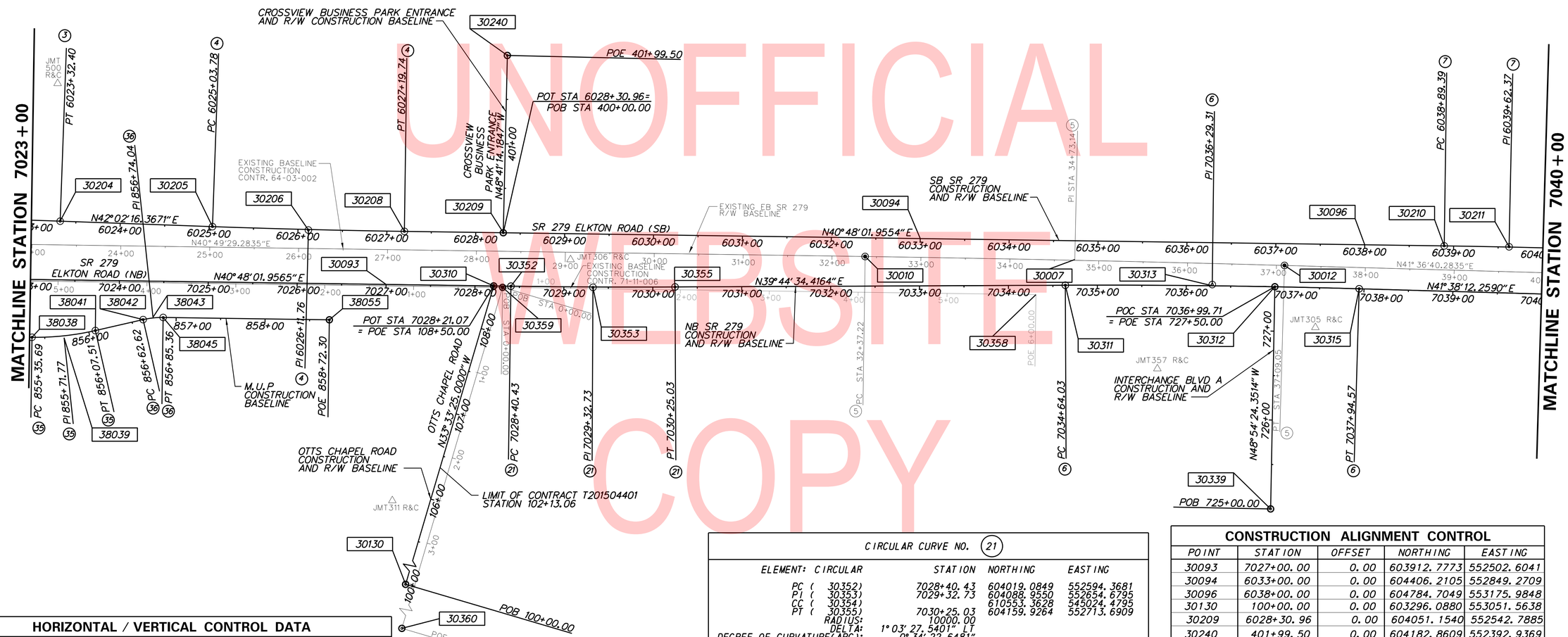
SECTION	SHEET NO.
JMT	20

CIRCULAR CURVE NO. 4			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30205)	6025+03.78	603805.0192	552327.2463
PI (30206)	6026+11.76	603885.2179	552399.5535
CC (30207)		610501.2370	544900.2235
PT (30208)	6027+19.74	603966.9592	552470.1121
RADIUS:	10000.00		
DELTA:	1° 14' 14.4118" LT		
DEGREE OF CURVATURE(ARC):	0° 34' 22.6481"		
LENGTH:	215.96		
TANGENT:	107.98		
CHORD:	215.95		
MIDDLE ORDINATE:	0.58		
EXTERNAL:	0.58		
TANGENT DIRECTION:	N 42° 02' 16.3671" E		
RADIAL DIRECTION:	S 47° 57' 43.6329" E		
CHORD DIRECTION:	N 41° 25' 09.1612" E		
RADIAL DIRECTION:	S 49° 11' 58.0446" E		
TANGENT DIRECTION:	N 40° 48' 01.9554" E		

CIRCULAR CURVE NO. 5			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30010)	32+37.22	604345.7308	552824.8824
PI (30007)	34+73.14	604524.2546	552979.1149
CC (30011)		581871.5212	578838.7315
PT (30012)	37+09.05	604700.6448	553135.7831
RADIUS:	34377.47		
DELTA:	0° 47' 11.0000" RT		
DEGREE OF CURVATURE(ARC):	0° 10' 00.0000"		
LENGTH:	471.83		
TANGENT:	235.92		
CHORD:	471.83		
MIDDLE ORDINATE:	0.81		
EXTERNAL:	0.81		
TANGENT DIRECTION:	N 40° 49' 29.2835" E		
RADIAL DIRECTION:	S 49° 10' 30.7165" E		
CHORD DIRECTION:	N 41° 13' 04.7835" E		
RADIAL DIRECTION:	S 48° 23' 19.7165" E		
TANGENT DIRECTION:	N 41° 36' 40.2835" E		

CIRCULAR CURVE NO. 6			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30311)	7034+64.03	604497.4812	552994.3614
PI (30313)	7036+29.31	604624.5717	553100.0348
CC (30314)		598104.0448	560683.5728
PT (30315)	7037+94.57	604748.1006	553209.8506
RADIUS:	10000.00		
DELTA:	1° 53' 37.8426" RT		
DEGREE OF CURVATURE(ARC):	0° 34' 22.6481"		
LENGTH:	330.54		
TANGENT:	165.28		
CHORD:	330.52		
MIDDLE ORDINATE:	1.37		
EXTERNAL:	1.37		
TANGENT DIRECTION:	N 39° 44' 34.4164" E		
RADIAL DIRECTION:	S 50° 15' 25.5836" E		
CHORD DIRECTION:	N 40° 41' 23.3377" E		
RADIAL DIRECTION:	S 48° 21' 47.7410" E		
TANGENT DIRECTION:	N 41° 38' 12.2590" E		

NOTE:
SEE SHEET HV04 FOR ADDITIONAL CURVE TABLES.



HORIZONTAL / VERTICAL CONTROL DATA					
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
JMT305	7037+46.33	44.78	604682.3775	553211.5011	118.58
JMT306	6029+07.01	29.15	604089.6759	552614.5519	108.87
JMT311	102+79.19	48.89	603761.9044	552693.3710	106.81
JMT357	725+92.36	-116.63	604516.3843	553132.8084	101.26
JMT500	6023+24.17	-154.76	603775.1555	552091.9530	117.88

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/2011).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

CIRCULAR CURVE NO. 21			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30352)	7028+40.43	604019.0849	552594.3681
PI (30353)	7029+32.73	604088.9550	552654.6795
CC (30354)		610553.3628	545024.4795
PT (30355)	7030+25.03	604159.9264	552713.6909
RADIUS:	10000.00		
DELTA:	1° 03' 27.5401" LT		
DEGREE OF CURVATURE(ARC):	0° 34' 22.6481"		
LENGTH:	184.59		
TANGENT:	92.30		
CHORD:	184.59		
MIDDLE ORDINATE:	0.43		
EXTERNAL:	0.43		
TANGENT DIRECTION:	N 40° 48' 01.9565" E		
RADIAL DIRECTION:	S 49° 11' 58.0435" E		
CHORD DIRECTION:	N 40° 16' 18.1864" E		
RADIAL DIRECTION:	S 50° 15' 25.5836" E		
TANGENT DIRECTION:	N 39° 44' 34.4164" E		

CONSTRUCTION ALIGNMENT CONTROL				
POINT	STATION	OFFSET	NORTHING	EASTING
30093	7027+00.00	0.00	603912.7773	552502.6041
30094	6033+00.00	0.00	604406.2105	552849.2709
30096	6038+00.00	0.00	604784.7049	553175.9848
30130	100+00.00	0.00	603296.0880	553051.5638
30209	6028+30.96	0.00	604051.1540	552542.7885
30240	401+99.50	0.00	604182.8609	552392.9369
30310	7028+21.07	0.00	604004.4243	552581.7131
30312	7036+99.71	0.00	604676.9076	553147.1628
30339	725+00.00	0.00	604512.5860	553335.5731
30358	6+00.00	0.00	604465.3298	552981.2638
30359	0+00.00	0.00	604011.0282	553589.3326
30360	15+31.47	0.00	602734.7978	553435.8764
38055	858+72.30	0.00	603838.3433	552492.0748

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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 60 120 180
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

HORIZONTAL AND VERTICAL CONTROL

HV-03

SECTION	SHEET NO.
JMT	21

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\HV.DGN [SHEET: HV03]

CIRCULAR CURVE NO. 7

ELEMENT: CIRCULAR		STATION	NORTHING	EASTING
PC (30210)		6038+89.39	604852.3757	553234.3978
PI (30211)		6039+62.37	604907.6155	553282.0804
CC (30212)			598318.0979	560804.2864
PT (30213)		6040+35.34	604962.1535	553330.5641
RADIUS:	10000.00			
DELTA:	0° 50' 10.3000" RT			
DEGREE OF CURVATURE(ARC):	0° 34' 22.6481"			
LENGTH:	145.94			
TANGENT:	72.97			
CHORD:	145.94			
MIDDLE ORDINATE:	0.27			
EXTERNAL:	0.27			
TANGENT DIRECTION:	N 40° 48' 01.9554" E			
RADIAL DIRECTION:	S 49° 11' 58.0446" E			
CHORD DIRECTION:	N 41° 13' 07.1054" E			
RADIAL DIRECTION:	S 48° 21' 47.7446" E			
TANGENT DIRECTION:	N 41° 38' 12.2554" E			

CIRCULAR CURVE NO. 35

ELEMENT: CIRCULAR		STATION	NORTHING	EASTING
PC (38038)		855+35.69	603569.5040	552292.1593
PI (38039)		855+71.77	603596.8179	552315.7365
CC (38040)			603765.5323	552065.0627
PT (38041)		856+07.51	603628.9435	552332.1647
RADIUS:	300.00			
DELTA:	13° 42' 59.6037" LT			
DEGREE OF CURVATURE(ARC):	19° 05' 54.9354"			
LENGTH:	71.82			
TANGENT:	36.08			
CHORD:	71.65			
MIDDLE ORDINATE:	2.15			
EXTERNAL:	2.16			
TANGENT DIRECTION:	N 40° 48' 01.9565" E			
RADIAL DIRECTION:	S 49° 11' 58.0435" E			
CHORD DIRECTION:	N 33° 56' 32.1546" E			
RADIAL DIRECTION:	S 62° 54' 57.6472" E			
TANGENT DIRECTION:	N 27° 05' 02.3528" E			

CIRCULAR CURVE NO. 36

ELEMENT: CIRCULAR		STATION	NORTHING	EASTING
PC (38042)		856+62.62	603678.0123	552357.2572
PI (38043)		856+74.04	603688.1854	552362.4594
CC (38044)			603634.7591	552441.8395
PT (38045)		856+85.36	603696.8348	552369.9255
RADIUS:	95.00			
DELTA:	13° 42' 59.6253" LT			
DEGREE OF CURVATURE(ARC):	60° 18' 40.8487"			
LENGTH:	22.74			
TANGENT:	11.43			
CHORD:	22.69			
MIDDLE ORDINATE:	0.68			
EXTERNAL:	0.68			
TANGENT DIRECTION:	N 27° 05' 02.3528" E			
RADIAL DIRECTION:	S 62° 54' 57.6472" E			
CHORD DIRECTION:	N 33° 56' 32.1655" E			
RADIAL DIRECTION:	S 49° 11' 58.0219" E			
TANGENT DIRECTION:	N 40° 48' 01.9781" E			

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\HV.DGN [SHEET: HV04]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT: T201504401
COUNTY: NEW CASTLE
BRIDGE NO.: 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

HORIZONTAL AND VERTICAL CONTROL

HV-04
SECTION: JMT
SHEET NO.: 22

HORIZONTAL / VERTICAL CONTROL DATA

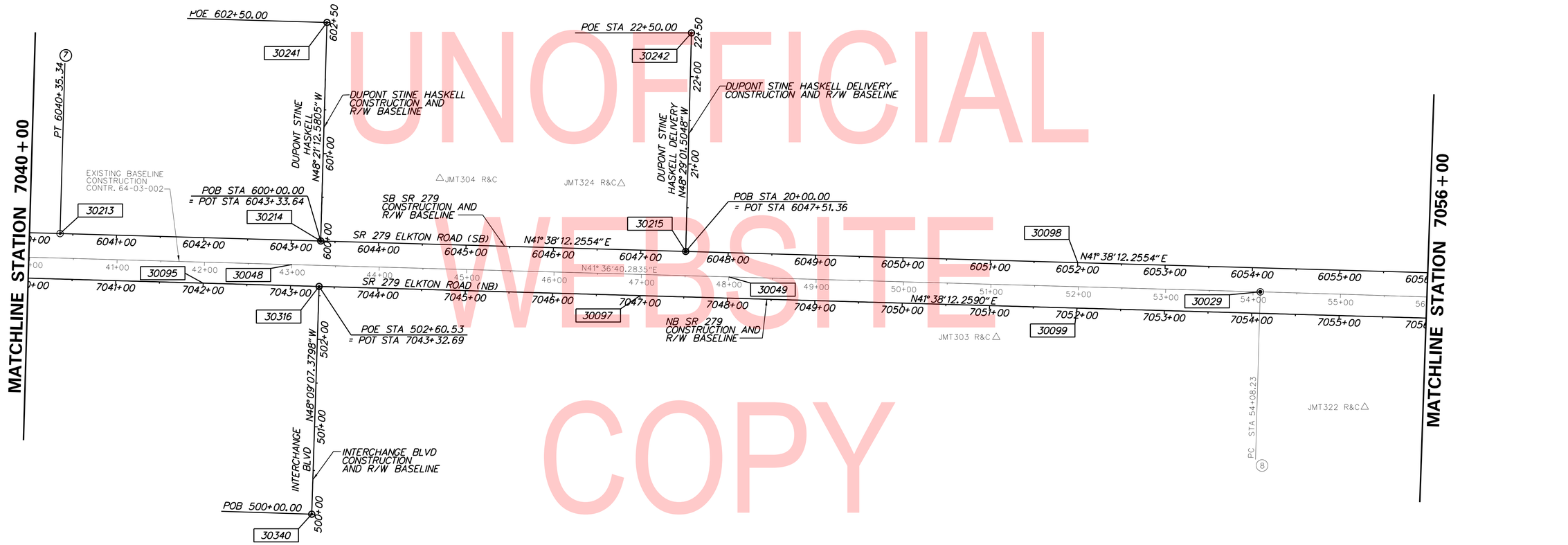
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
JMT303	7051+08.68	36.05	605706.2828	554109.8968	109.00
JMT304	6044+67.85	-75.67	605335.6750	553561.3769	113.73
JMT322	7055+32.30	103.81	605977.8591	554441.9944	106.22
JMT324	6046+75.41	-75.21	605490.4958	553699.6159	111.53

CONSTRUCTION ALIGNMENT CONTROL

POINT	STATION	OFFSET	NORTHING	EASTING
30048	43+00.00	0.00	605142.4769	553528.2143
30049	48+00.00	0.00	605516.3111	553860.2505
30095	7042+00.00	0.00	605051.1098	553479.2224
30097	7047+00.00	0.00	605424.7969	553811.4261
30098	6052+00.00	0.00	605832.5894	554104.3719
30099	7052+00.00	0.00	605798.4830	554143.6289
30214	6043+33.64	0.00	605185.0931	553528.7550
30215	6047+51.36	0.00	605497.2872	553806.2919
30241	602+50.00	0.00	605351.2264	553341.9402
30242	22+50.00	0.00	605662.9953	553619.0999
30316	7043+32.69	0.00	605150.2773	553567.3797
30340	500+00.00	0.00	604976.4647	553761.4513

CIRCULAR CURVE NO. (8)

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30029)	54+08.23	605971.0681	554264.1614
PI (30014)	57+04.99	606192.9442	554461.2297
CC (30030)		583141.9444	579967.1098
PT (30031)	60+01.73	606411.3852	554662.0990
RADIUS:	34377.47		
DELTA:	0° 59'21.0000" RT		
DEGREE OF CURVATURE(ARC):	0° 10'00.0000"		
LENGTH:	593.50		
TANGENT:	296.76		
CHORD:	593.49		
MIDDLE ORDINATE:	1.28		
EXTERNAL:	1.28		
TANGENT DIRECTION:	N 41° 36'40.2835" E		
RADIAL DIRECTION:	S 48° 23'19.7165" E		
CHORD DIRECTION:	N 42° 06'20.7835" E		
RADIAL DIRECTION:	S 47° 23'58.7165" E		
TANGENT DIRECTION:	N 42° 36'01.2835" E		



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DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/2011).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 60 120 180
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

HORIZONTAL AND VERTICAL CONTROL

	HV-05
SECTION	JMT
SHEET NO.	23

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\HV.DGN [SHEET: HV05]

CIRCULAR CURVE NO. (22)

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30344)	750+66.12	606016.8151	554586.7346
PI (30343)	751+24.17	606071.2383	554566.5443
CC (30345)		605947.2507	554399.2225
PT (30346)	751+79.11	606106.3954	554520.3545
RADIUS:	200.00		
DELTA:	32° 22' 10.1789" LT		
DEGREE OF CURVATURE(ARC):	28° 38' 52.4031"		
LENGTH:	112.99		
TANGENT:	58.05		
CHORD:	111.49		
MIDDLE ORDINATE:	7.93		
EXTERNAL:	8.25		
TANGENT DIRECTION:	N 20° 21' 15.0065" W		
RADIAL DIRECTION:	N 69° 38' 44.9935" E		
CHORD DIRECTION:	N 36° 32' 20.0959" W		
RADIAL DIRECTION:	N 37° 16' 34.8146" E		
TANGENT DIRECTION:	N 52° 43' 25.1854" W		

CIRCULAR CURVE NO. (23)

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30348)	700+00.00	606132.4269	554714.4476
PI (30347)	700+35.04	606163.1585	554697.6095
CC (30356)		606032.3228	554531.7451
PT (30351)	700+69.43	606186.6903	554671.6440
RADIUS:	208.33		
DELTA:	19° 05' 46.40" LT		
DEGREE OF CURVATURE(ARC):	27° 30' 09.09"		
LENGTH:	69.43		
TANGENT:	35.04		
CHORD:	69.11		
MIDDLE ORDINATE:	2.89		
EXTERNAL:	2.93		
TANGENT DIRECTION:	N 28° 43' 07.1839" W		
RADIAL DIRECTION:	N 61° 16' 52.8159" E		
CHORD DIRECTION:	N 38° 16' 00.3835" W		
RADIAL DIRECTION:	N 42° 11' 06.4169" E		
TANGENT DIRECTION:	N 47° 48' 53.5832" W		

CIRCULAR CURVE NO. (24)

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30238)	2000+54.05	607461.1264	555525.1736
PI (30245)	2001+03.38	607456.8304	555476.0295
CC (30256)		607530.5553	555519.1044
PT (30246)	2001+39.91	607501.7517	555455.6413
RADIUS:	69.69		
DELTA:	70° 35' 03.4138" RT		
DEGREE OF CURVATURE(ARC):	82° 12' 39.0717"		
LENGTH:	85.86		
TANGENT:	49.33		
CHORD:	80.53		
MIDDLE ORDINATE:	12.81		
EXTERNAL:	15.69		
TANGENT DIRECTION:	S 85° 00' 14.8928" W		
RADIAL DIRECTION:	N 04° 59' 45.1072" W		
CHORD DIRECTION:	N 59° 42' 13.4003" W		
RADIAL DIRECTION:	N 65° 35' 18.3067" E		
TANGENT DIRECTION:	N 24° 24' 41.6933" W		

NOTE: SEE SHEET HV-07 FOR ADDITIONAL CURVE TABLES.

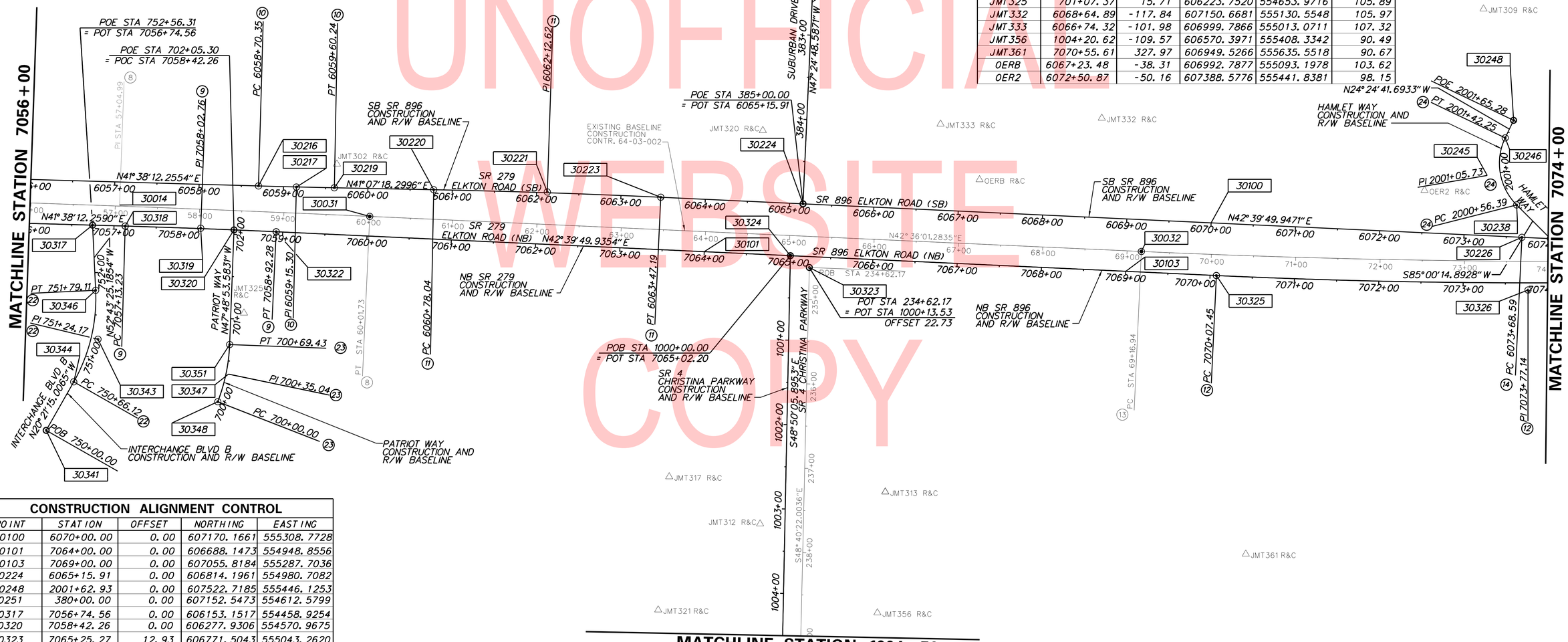
DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

HORIZONTAL / VERTICAL CONTROL DATA

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
JMT302	6059+62.68	-28.20	606421.4256	554589.5360	105.45
JMT309	6073+13.10	-267.68	607580.1843	555322.1664	102.69
JMT312	1003+17.88	31.56	606531.6797	555238.2906	104.57
JMT313	1002+77.18	-116.00	606669.5807	555304.6546	96.88
JMT317	1002+64.40	140.08	606485.0769	555126.2818	96.94
JMT320	380+84.58	-54.47	606833.5410	554883.6242	104.71
JMT321	1004+22.67	150.06	606373.7275	555238.7052	94.24
JMT325	701+07.37	15.71	606223.7520	554653.9716	105.89
JMT332	6068+64.89	-117.84	607150.6681	555130.5548	105.97
JMT333	6066+74.32	-101.98	606999.7866	555013.0711	107.32
JMT356	1004+20.62	-109.57	606570.3971	555408.3342	90.49
JMT361	7070+55.61	327.97	606949.5266	555635.5518	90.67
OERB	6067+23.48	-38.31	606992.7877	555093.1978	103.62
OER2	6072+50.87	-50.16	607388.5776	555441.8381	98.15



CONSTRUCTION ALIGNMENT CONTROL

POINT	STATION	OFFSET	NORTHING	EASTING
30100	6070+00.00	0.00	607170.1661	555308.7728
30101	7064+00.00	0.00	606688.1473	554948.8556
30103	7069+00.00	0.00	607055.8184	555287.7036
30224	6065+15.91	0.00	606814.1961	554980.7082
30248	2001+62.93	0.00	607522.7185	555446.1253
30251	380+00.00	0.00	607152.5473	554612.5799
30317	7056+74.56	0.00	606153.1517	554458.9254
30320	7058+42.26	0.00	606277.9306	554570.9675
30323	7065+25.27	12.93	606771.5043	555043.2620
30324	7065+02.20	0.00	606763.2973	555018.1143
30341	750+00.00	0.00	605954.8242	554609.7324

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 60 120 180 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

HORIZONTAL AND VERTICAL CONTROL

HV-06

SECTION	SHEET NO.
JMT	24

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\1406659_007_ELKTON_RD_CASHO_MILL\CADD\HV.DGN [SHEET: HV06]

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CIRCULAR CURVE NO. 9

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30318)	7057+13.23	606182.0577	554484.6225
PI (30319)	7058+02.76	606248.9692	554544.1061
CC (30321)		599545.9749	561949.3763
PT (30322)	7058+92.28	606314.8037	554604.7796
RADIUS:	9988.00		
DELTA:	1° 01' 37.6764" RT		
DEGREE OF CURVATURE(ARC):	0° 34' 25.1262"		
LENGTH:	179.05		
TANGENT:	89.53		
CHORD:	179.05		
MIDDLE ORDINATE:	0.40		
EXTERNAL:	0.40		
TANGENT DIRECTION:	N 41° 38' 12.2590" E		
RADIAL DIRECTION:	S 48° 21' 47.7410" E		
CHORD DIRECTION:	N 42° 09' 01.0972" E		
RADIAL DIRECTION:	S 47° 20' 10.0646" E		
TANGENT DIRECTION:	N 42° 39' 49.9354" E		

CIRCULAR CURVE NO. 10

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30216)	6058+70.35	606333.5937	554549.7591
PI (30217)	6059+15.30	606367.1817	554579.6185
CC (30218)		612927.6493	547076.0368
PT (30219)	6059+60.24	606401.0367	554609.1747
RADIUS:	10000.00		
DELTA:	0° 30' 53.9557" LT		
DEGREE OF CURVATURE(ARC):	0° 34' 22.6481"		
LENGTH:	89.88		
TANGENT:	44.94		
CHORD:	89.88		
MIDDLE ORDINATE:	0.10		
EXTERNAL:	0.10		
TANGENT DIRECTION:	N 41° 38' 12.2554" E		
RADIAL DIRECTION:	S 48° 21' 47.7446" E		
CHORD DIRECTION:	N 41° 22' 45.2775" E		
RADIAL DIRECTION:	S 48° 52' 41.7004" E		
TANGENT DIRECTION:	N 41° 07' 18.2996" E		

CIRCULAR CURVE NO. 11

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30220)	6060+78.04	606489.7777	554686.6478
PI (30221)	6062+12.62	606591.1616	554775.1584
CC (30222)		599913.1652	562219.7857
PT (30223)	6063+47.19	606690.1268	554866.3653
RADIUS:	10000.00		
DELTA:	1° 32' 31.6475" RT		
DEGREE OF CURVATURE(ARC):	0° 34' 22.6481"		
LENGTH:	269.15		
TANGENT:	134.58		
CHORD:	269.14		
MIDDLE ORDINATE:	0.91		
EXTERNAL:	0.91		
TANGENT DIRECTION:	N 41° 07' 18.2996" E		
RADIAL DIRECTION:	S 48° 52' 41.7004" E		
CHORD DIRECTION:	N 41° 53' 34.1234" E		
RADIAL DIRECTION:	S 47° 20' 10.0529" E		
TANGENT DIRECTION:	N 42° 39' 49.9471" E		

CIRCULAR CURVE NO. 12

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30325)	7070+07.45	607134.8317	555360.5228
PI (30326)	7073+77.14	607406.6825	555611.0623
CC (30327)		612590.2855	549441.0191
PT (30328)	7077+46.32	607700.3524	555835.6304
RADIUS:	8050.00		
DELTA:	5° 15' 31.9491" LT		
DEGREE OF CURVATURE(ARC):	0° 42' 42.2957"		
LENGTH:	738.87		
TANGENT:	369.69		
CHORD:	738.61		
MIDDLE ORDINATE:	8.48		
EXTERNAL:	8.48		
TANGENT DIRECTION:	N 42° 39' 49.9354" E		
RADIAL DIRECTION:	S 47° 20' 10.0646" E		
CHORD DIRECTION:	N 40° 02' 03.9608" E		
RADIAL DIRECTION:	S 52° 35' 42.0137" E		
TANGENT DIRECTION:	N 37° 24' 17.9863" E		

CIRCULAR CURVE NO. 13

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30032)	69+16.94	607085.0647	555621.5869
PI (30017)	74+36.74	607467.6863	555633.4299
CC (30033)		614841.5473	546846.5809
PT (30034)	79+55.83	607880.5910	555949.1869
RADIUS:	11459.16		
DELTA:	5° 11'40.0000" LT		
DEGREE OF CURVATURE(ARC):	0° 29'59.9994"		
LENGTH:	1038.89		
TANGENT:	519.80		
CHORD:	1038.53		
MIDDLE ORDINATE:	11.77		
EXTERNAL:	11.78		
TANGENT DIRECTION:	N 42° 36'01.2835" E		
RADIAL DIRECTION:	S 47° 00'58.7165" E		
CHORD DIRECTION:	N 40° 00'11.2835" E		
RADIAL DIRECTION:	S 52° 35'38.7165" E		
TANGENT DIRECTION:	N 37° 24'21.2835" E		

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\HV.DGN [SHEET: HV07]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

HORIZONTAL AND VERTICAL CONTROL

	HV-07
SECTION	JMT
SHEET NO.	25

HORIZONTAL / VERTICAL CONTROL DATA

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
JMT300	7081+81.21	17.74	608033.2986	556115.3651	100.65
JMT301	6087+71.49	-29.71	608542.1189	556430.6174	101.94
JMT310	6075+77.84	-30.69	607619.7124	555671.5627	101.34
JMT315	7083+35.88	56.98	608126.7906	556243.6058	91.66
JMT316	6083+44.16	-57.24	608236.4282	556127.0163	95.92
JMT318	6081+87.94	-99.53	608139.6028	555995.2084	98.17
JMT319	6079+06.43	-304.95	608042.2576	555661.2616	99.82
JMT351	7081+95.10	240.36	607903.8727	556297.0080	94.27
JMT352	6082+75.01	-367.64	608376.7619	555841.1235	97.20

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

CONSTRUCTION ALIGNMENT CONTROL

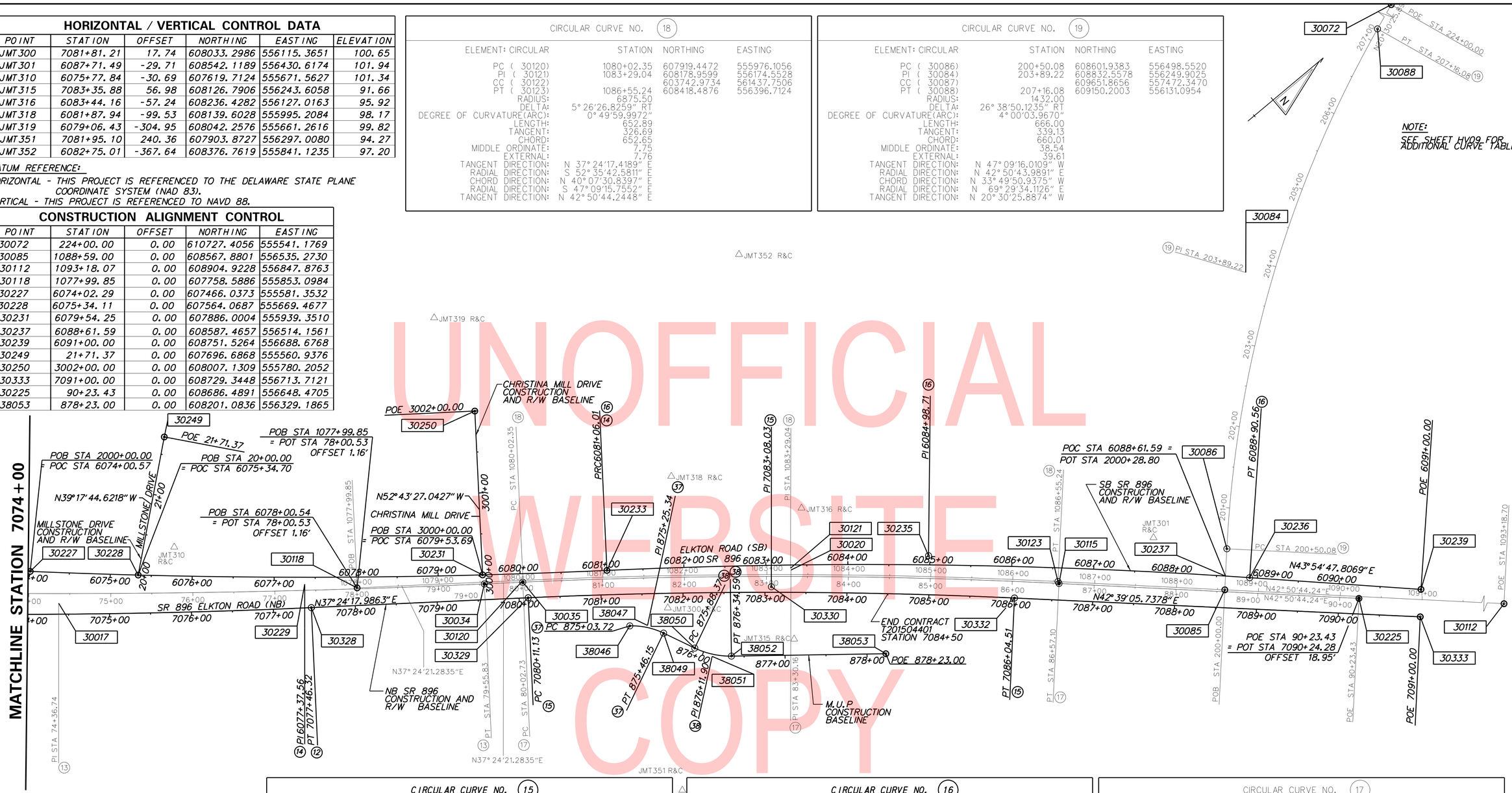
POINT	STATION	OFFSET	NORTHING	EASTING
30072	224+00.00	0.00	610727.4056	555541.1769
30085	1088+59.00	0.00	608567.8801	556535.2730
30112	1093+18.07	0.00	608904.9228	556847.8763
30118	1077+99.85	0.00	607758.5886	555853.0984
30227	6074+02.29	0.00	607466.0373	555581.3532
30228	6075+34.11	0.00	607564.0687	555669.4677
30231	6079+54.25	0.00	607886.0004	555939.3510
30237	6088+61.59	0.00	608587.4657	556514.1561
30239	6091+00.00	0.00	608751.5264	556688.6768
30249	21+71.37	0.00	607696.6868	555560.9376
30250	3002+00.00	0.00	608007.1309	555780.2052
30333	7091+00.00	0.00	608729.3448	556713.7121
30225	90+23.43	0.00	608201.0836	556329.1865
38053	878+23.00	0.00	608201.0836	556329.1865

CIRCULAR CURVE NO. 18

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30120)	1080+02.35	607919.4472	555976.1056
PI (30121)	1083+29.04	608178.9599	556174.5528
CC (30122)		603742.9734	561437.7506
PT (30123)	1086+55.24	608418.4876	556396.7124
RADIUS:	6875.50		
DELTA:	5° 26'26.8259" RT		
DEGREE OF CURVATURE(ARC):	0° 49'59.9972"		
LENGTH:	652.89		
TANGENT:	326.69		
CHORD:	652.65		
MIDDLE ORDINATE:	7.75		
EXTERNAL:	7.76		
TANGENT DIRECTION:	N 37° 24'17.4189" E		
RADIAL DIRECTION:	S 52° 35'42.5811" E		
CHORD DIRECTION:	N 40° 07'30.8397" E		
RADIAL DIRECTION:	S 47° 09'15.7552" E		
TANGENT DIRECTION:	N 42° 50'44.2448" E		

CIRCULAR CURVE NO. 19

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30086)	200+50.08	608601.9383	556498.5520
PI (30084)	203+89.22	608832.5578	556249.9025
CC (30087)		609651.8656	557472.3470
PT (30088)	207+16.08	609150.2003	556131.0954
RADIUS:	1432.00		
DELTA:	26° 38'50.1235" RT		
DEGREE OF CURVATURE(ARC):	4° 00'03.9670"		
LENGTH:	666.00		
TANGENT:	339.13		
CHORD:	660.01		
MIDDLE ORDINATE:	38.54		
EXTERNAL:	39.61		
TANGENT DIRECTION:	N 47° 09'16.0109" W		
RADIAL DIRECTION:	N 42° 50'43.9891" E		
CHORD DIRECTION:	N 33° 49'50.9375" W		
RADIAL DIRECTION:	N 69° 29'34.1126" E		
TANGENT DIRECTION:	N 20° 30'25.8874" W		



CIRCULAR CURVE NO. 15

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30329)	7080+11.13	607910.7102	555996.4902
PI (30330)	7083+08.03	608146.5527	556176.8381
CC (30331)		603974.4659	561143.9538
PT (30332)	7086+04.51	608364.9157	556377.9963
RADIUS:	6480.00		
DELTA:	5° 14' 47.7515" RT		
DEGREE OF CURVATURE(ARC):	0° 53' 03.0989"		
LENGTH:	593.38		
TANGENT:	296.90		
CHORD:	593.17		
MIDDLE ORDINATE:	6.79		
EXTERNAL:	6.80		
TANGENT DIRECTION:	N 37° 24' 17.9863" E		
RADIAL DIRECTION:	S 52° 35' 42.0137" E		
CHORD DIRECTION:	N 40° 01' 41.8620" E		
RADIAL DIRECTION:	S 47° 20' 54.2622" E		
TANGENT DIRECTION:	N 42° 39' 05.7378" E		

CIRCULAR CURVE NO. 16

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PRC (30233)	6081+06.01	608005.7115	556032.6307
PI (30235)	6084+98.71	608317.7515	556271.0522
CC (30234)		603826.8150	561501.8640
PT (30236)	6088+90.56	608600.6491	556543.4170
RADIUS:	6883.00		
DELTA:	6° 31' 50.8486" RT		
DEGREE OF CURVATURE(ARC):	0° 49' 56.7283"		
LENGTH:	784.55		
TANGENT:	392.70		
CHORD:	784.13		
MIDDLE ORDINATE:	11.18		
EXTERNAL:	11.19		
TANGENT DIRECTION:	N 37° 22' 56.9583" E		
RADIAL DIRECTION:	S 52° 37' 03.0417" E		
CHORD DIRECTION:	N 40° 38' 52.3826" E		
RADIAL DIRECTION:	S 46° 05' 12.1931" E		
TANGENT DIRECTION:	N 43° 54' 47.8069" E		

CIRCULAR CURVE NO. 17

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30035)	80+02.73	607917.8462	555977.6767
PI (30020)	83+30.16	608177.9415	556176.5771
CC (30036)		603741.2700	561439.2434
PT (30115)	86+57.10	608417.9582	556399.2942
RADIUS:	6875.50		
DELTA:	5° 27'11.0000" RT		
DEGREE OF CURVATURE(ARC):	0° 49'59.9972"		
LENGTH:	654.37		
TANGENT:	327.43		
CHORD:	654.12		
MIDDLE ORDINATE:	7.78		
EXTERNAL:	7.79		
TANGENT DIRECTION:	N 37° 24'21.2835" E		
RADIAL DIRECTION:	S 52° 35'38.7165" E		
CHORD DIRECTION:	N 40° 07'56.7835" E		
RADIAL DIRECTION:	S 47° 08'27.7165" E		
TANGENT DIRECTION:	N 42° 51'32.2835" E		

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NOTE:
SEE SHEET HV09 FOR ADDITIONAL CURVE TABLES.

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 60 120 180
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

HORIZONTAL AND VERTICAL CONTROL

HV-08

SECTION	SHEET NO.
JMT	26

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\HV.DGN [SHEET: HV08]

CIRCULAR CURVE NO. (14)

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (30226)	6073+68.59	607441.2063	555558.5653
PI (30229)	6077+37.56	607712.5266	555808.6159
CC (30230)		612862.7756	549675.8290
PRC (30233)	6081+06.01	608005.7115	556032.6307
RADIUS:	8000.00		
DELTA:	5° 16' 52.9888" LT		
DEGREE OF CURVATURE(ARC):	0° 42' 58.3101"		
LENGTH:	737.42		
TANGENT:	368.97		
CHORD:	737.16		
MIDDLE ORDINATE:	8.50		
EXTERNAL:	8.50		
TANGENT DIRECTION:	N 42° 39' 49.9471" E		
RADIAL DIRECTION:	S 47° 20' 10.0529" E		
CHORD DIRECTION:	N 40° 01' 23.4527" E		
RADIAL DIRECTION:	S 52° 37' 03.0417" E		
TANGENT DIRECTION:	N 37° 22' 56.9583" E		

CIRCULAR CURVE NO. (37)

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38046)	875+03.72	607983.6625	556102.4148
PI (38047)	875+25.34	608000.5585	556115.8971
CC (38048)		607927.5276	556172.7631
PT (38049)	875+46.15	608009.4885	556135.5823
RADIUS:	90.00		
DELTA:	27° 00' 38.4685" RT		
DEGREE OF CURVATURE(ARC):	63° 39' 43.1181"		
LENGTH:	42.43		
TANGENT:	21.62		
CHORD:	42.04		
MIDDLE ORDINATE:	2.49		
EXTERNAL:	2.56		
TANGENT DIRECTION:	N 38° 35' 17.9782" E		
RADIAL DIRECTION:	S 51° 24' 42.0218" E		
CHORD DIRECTION:	N 52° 05' 37.2125" E		
RADIAL DIRECTION:	S 24° 24' 03.5533" E		
TANGENT DIRECTION:	N 65° 35' 56.4467" E		

CIRCULAR CURVE NO. (38)

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (38050)	8875+88.37	608026.9332	556174.0371
PI (38051)	876+11.90	608036.6530	556195.4633
CC (38054)		608118.0009	556132.7251
PT (38052)	876+34.59	608054.9066	556210.3080
RADIUS:	100.00		
DELTA:	26° 28' 45.4143" LT		
DEGREE OF CURVATURE(ARC):	57° 17' 44.8062"		
LENGTH:	46.22		
TANGENT:	23.53		
CHORD:	45.80		
MIDDLE ORDINATE:	2.66		
EXTERNAL:	2.73		
TANGENT DIRECTION:	N 65° 35' 56.4467" E		
RADIAL DIRECTION:	S 24° 24' 03.5533" E		
CHORD DIRECTION:	N 52° 21' 33.7395" E		
RADIAL DIRECTION:	S 50° 52' 48.9676" E		
TANGENT DIRECTION:	N 39° 07' 11.0324" E		

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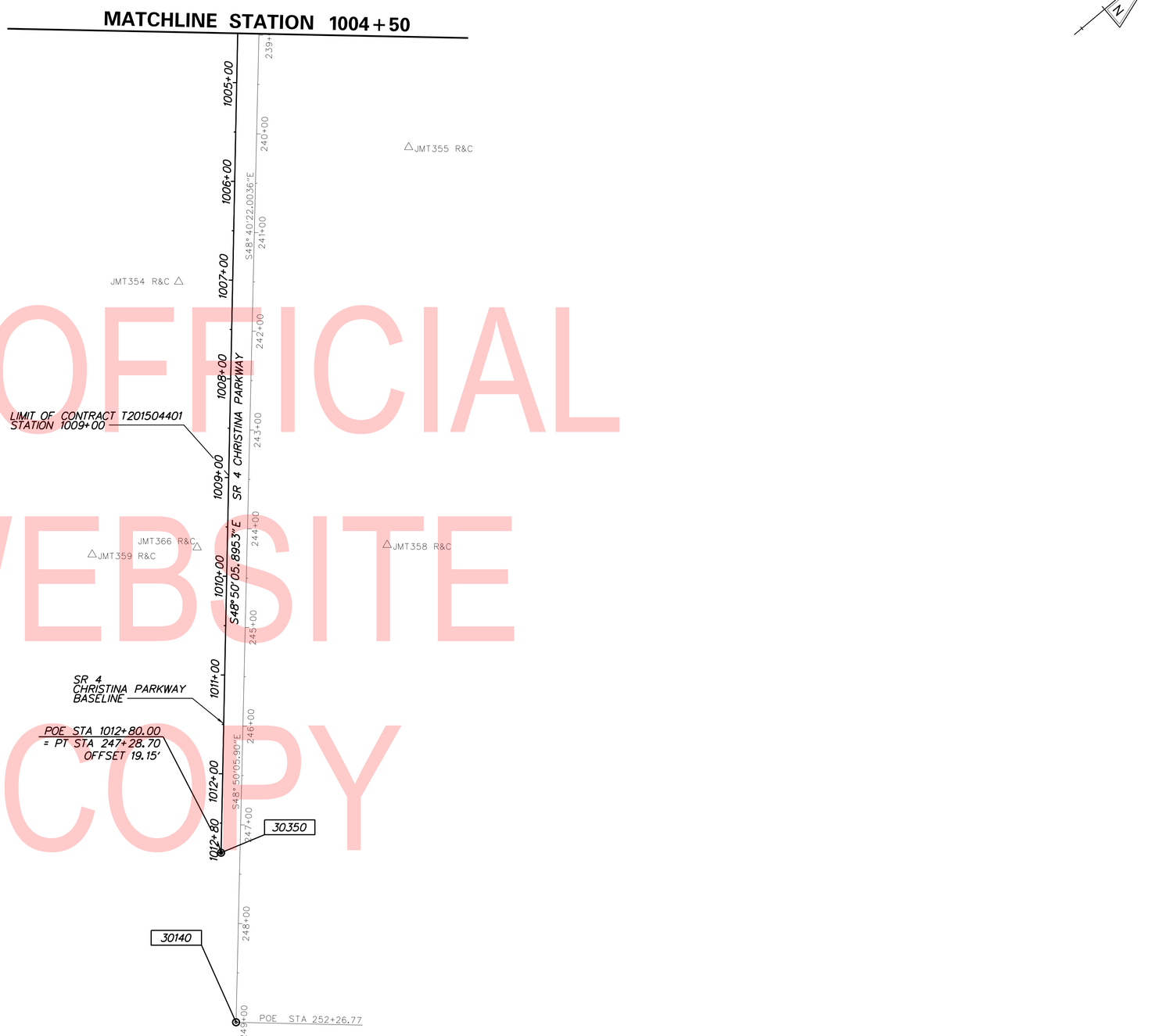
HV-09

ADDENDA / REVISIONS						
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	NOT TO SCALE	ELKTON ROAD MD LINE TO CASHO MILL ROAD	CONTRACT T201504401 COUNTY NEW CASTLE	BRIDGE NO. 1-322 1-322P 1-323 1-323P DESIGNED BY: LB CHECKED BY: BPH	HORIZONTAL AND VERTICAL CONTROL	SECTION JMT SHEET NO. 27

CONSTRUCTION ALIGNMENT CONTROL				
POINT	STATION	OFFSET	NORTHING	EASTING
30140	252+26.77	0.00	605822.0210	556123.0012
30350	1012+80.00	0.00	605920.7628	555981.7198

HORIZONTAL / VERTICAL CONTROL DATA					
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
JMT354	1007+02.76	56.90	606259.5540	555511.1800	90.21
JMT355	1005+61.75	-173.57	606525.5374	555556.5330	90.44
JMT358	1009+65.22	-159.84	606249.8577	555851.1245	90.88
JMT359	1009+80.47	138.64	606014.8143	555666.4652	89.20
JMT360	1010+15.95	539.28	605690.2439	555429.3961	88.52
JMT366	1009+71.09	32.40	606100.9472	555729.3358	127.30



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DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/2011).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\HV.DGN [SHEET: HV10]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 60 120 180
FEET

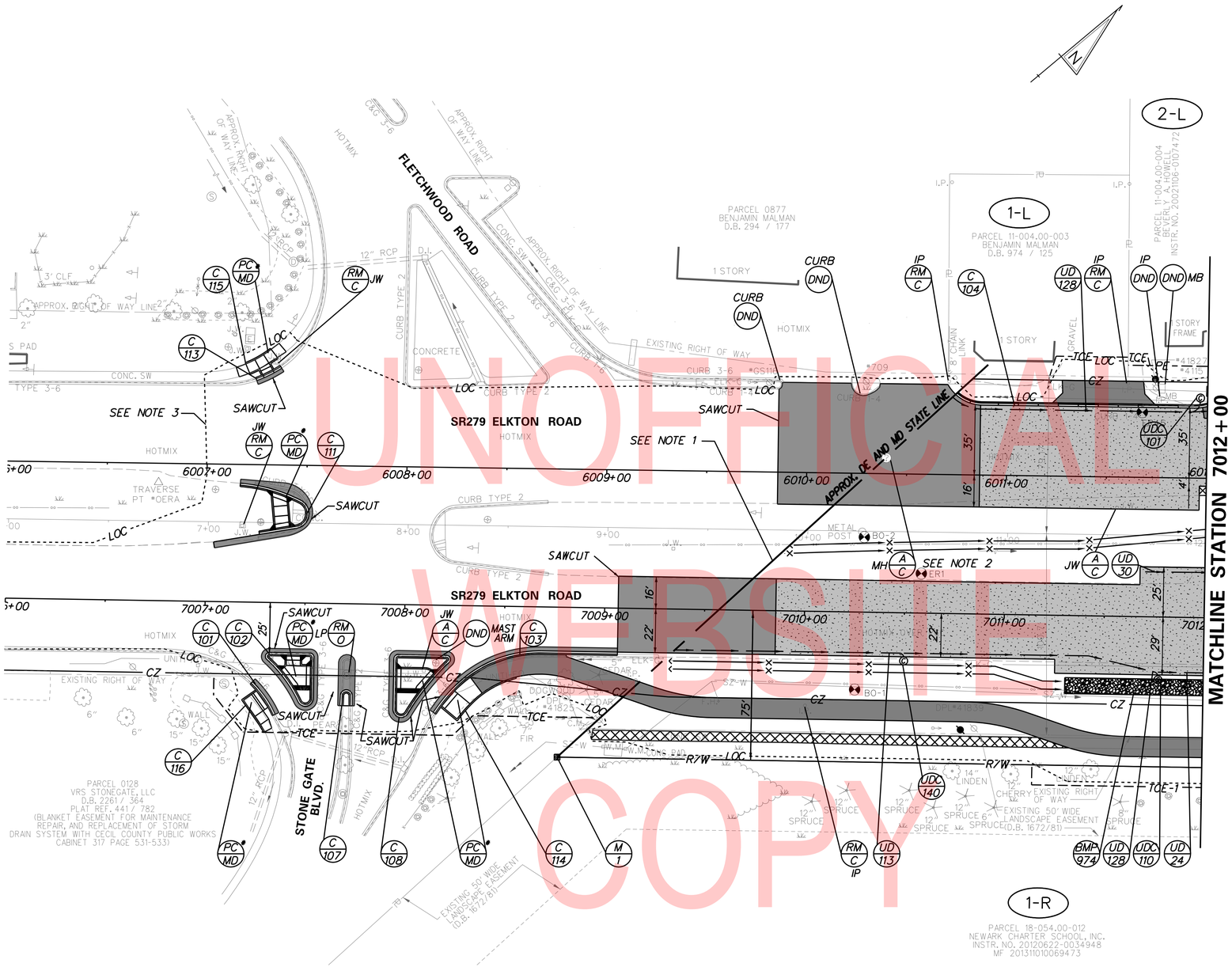
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

HORIZONTAL AND VERTICAL CONTROL

	HV-10
SECTION	JMT
SHEET NO.	28

NOTES:
1. CONSTRUCTION WORK IN THE STATE OF MARYLAND TO BE COORDINATED WITH STATE HIGHWAY ADMINISTRATION.
2. EXISTING MANHOLE IS OVER MASON-DIXON STONE MONUMENT THAT SHALL NOT BE DISTURBED.
3. LIMIT OF CONSTRUCTION EXTENDS TO IRON HILL ROAD AND WORK IS SHOWN IN CONSTRUCTION PHASING PLANS.
4. CURB DEPRESSED FROM 6011+23 TO 6011+74 LT.



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CURB SCHEDULE		
NO.	ITEM DESCRIPTION / TYPE	LENGTH
*101	MSHA CURB, OR CURB & GUTTER	20'
*102	MSHA CURB, OR CURB & GUTTER	87'
*103	MSHA CURB, OR CURB & GUTTER	104'
104	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	128'
*107	MSHA CURB, OR CURB & GUTTER	20'
*108	MSHA CURB, OR CURB & GUTTER	102'
*111	MSHA CURB, OR CURB & GUTTER	70'
*113	MSHA CURB, OR CURB & GUTTER	14'
*114	P.C.C. CURB, TYPE 1-8	37'
*115	P.C.C. CURB, TYPE 1-8	15'
*116	P.C.C. CURB, TYPE 1-8	25'

*SEE SHEETS DT-12 AND DT-13 AND MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS PERTAINING TO CURBS AND PEDESTRIAN CURB RAMPS AND STATE OF MARYLAND SIGNALIZATION PLANS.

RIGHT-OF-WAY MONUMENT SCHEDULE					
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-1	CAPPED REBAR	7008+77.36	75.00	602483.7285	551368.5331

DELDOT SWM FACILITY SCHEDULE		
NO.	TYPE / DESCRIPTION	LOCATION
974	INFILTRATION TRENCH	STA. 7011+31 RT. TO 7014+31 RT.

UNDERDRAIN CLEANOUT		
NO.	STATION	OFFSET
101	6011+96.52	40.07 LT
110	7011+77.37	31.45 RT
140	7010+49.97	24.06 RT

ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 — 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

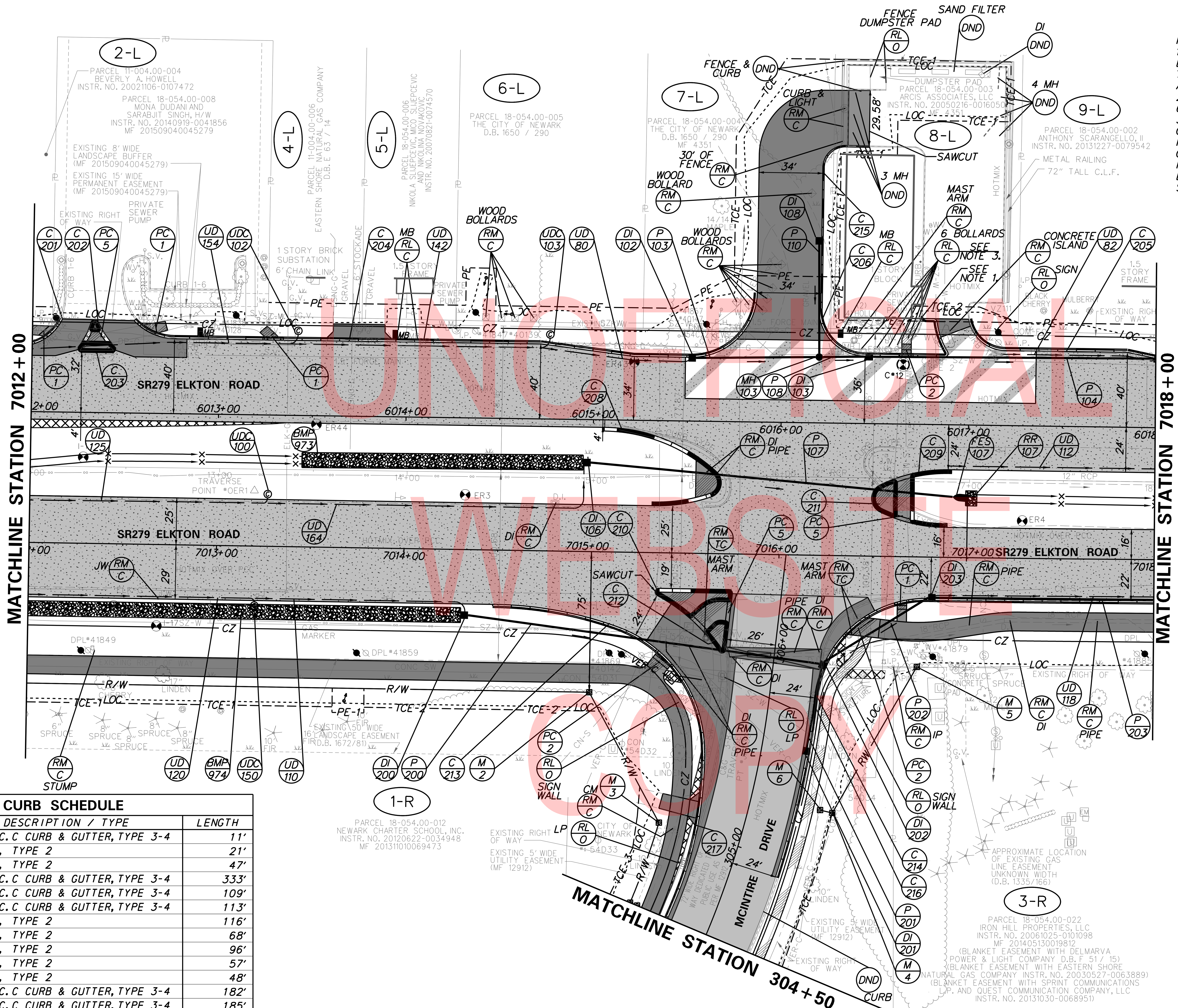
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

CONSTRUCTION PLAN

CP-01
SECTION JMT
SHEET NO. 29

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP01]



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NOTES:
1. CONTRACTOR SHALL NOT DISTURB THE BUILDING WALL. PROPOSED SIDEWALK SHALL TIE INTO THE EXISTING SIDEWALK RUNNING ALONG THE FRONT OF THE BUILDING.
2. CURB DEPRESSED FROM 6013+57 TO 6013+92 LT
3. NEW LOCATION OF BOLLARDS SHALL BE COORDINATED WITH THE PROPERTY OWNER. RELOCATED BOLLARDS SHALL BE OUTSIDE OF THE CLEAR ZONE AND SHALL NOT INTERFERE WITH THE UTILITIES. WORK TO BE PAID UNDER ITEM 720557 - BOLLARD, STEEL.

UNDERDRAIN CLEANOUT

NO.	STATION	OFFSET
100	7013+26.86	27.84 LT
102	6013+41.91	45.10 LT
103	6014+76.30	45.07 LT
150	7013+20.60	31.69 RT

RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
107	R-4	8′	6′	14″

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
*107	6:1 SAFETY ES	0.0070	N/A

*SEE STANDARD CONSTRUCTION DETAIL D-1.

MANHOLE SCHEDULE

NO.	STATION	OFFSET	TYPE/SIZE	T.G. EL.	INV. EL.
103	6016+19.86	35.12 LT	48″ x 30″	118.42	114.39

ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
12	6016+64.67	-31.74	4.5″ ASPHALT OVER 2″+ CONCRETE

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-2	CAPPED REBAR	305+70.15	-95.54	602954.0977	551776.4933
M-3	CAPPED REBAR	305+00.00	-44.00	602937.8652	551853.6526
M-4	CAPPED REBAR	305+29.00	44.00	603012.0205	551909.1369
M-5	CAPPED REBAR	306+06.71	76.22	603096.6611	551878.4472
M-6	CAPPED REBAR	305+29.00	37.29	603008.0116	551903.7586

DELDOT SWM FACILITY SCHEDULE

NO.	TYPE / DESCRIPTION	LOCATION
973	INFILTRATION TRENCH	STA. 6013+45 RT. TO 6014+95 RT.

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
103	15″ RCP	III	65	0.0300	116.70	114.75
104	15″ RCP	IV	151	0.0230	113.47	110.00
107	18″ RCP	III	195	0.0070	117.00	115.59
108	15″ RCP	III	24	0.0030	114.39	113.67
110	15″ RCP	III	59	0.0050	114.88	114.59
200	18″ RCP	III	190	0.0240	119.50	114.95
201	15″ RCP	III	44	0.0190	115.78	114.95
202	18″ RCP	III	65	0.0230	114.85	113.35
203	18″ RCP	III	233	0.0270	113.15	106.84

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
102	6015+52.13	33.92 LT	34″ x 24″	4	120.50	116.70
103	6016+46.59	35.92 LT	34″ x 24″	4	117.58	113.47
106	6014+96.82	22.92 RT	48″ x 48″	2	122.50	117.00
108	6016+19.42	97.14 LT	34″ x 24″	4	117.80	114.88
200	7014+32.73	34.99 RT	48″ x 48″	2	124.00	119.50
201	305+56.57	23.92 RT	48″ x 30″	4	119.20	115.78
202	306+01.68	26.58 RT	48″ x 48″	4	118.78	114.85
203	7016+81.86	21.91 RT	48″ x 48″	4	117.02	113.15

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
201	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	11′
*202	P.C.C. CURB, TYPE 2	21′
*203	P.C.C. CURB, TYPE 2	47′
204	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	333′
205	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	109′
206	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	113′
208	P.C.C. CURB, TYPE 2	116′
*209	P.C.C. CURB, TYPE 2	68′
*210	P.C.C. CURB, TYPE 2	96′
*211	P.C.C. CURB, TYPE 2	57′
*212	P.C.C. CURB, TYPE 2	48′
**213	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	182′
**214	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	185′
215	P.C.C. CURB, TYPE 1-6	107′
216	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-8	98′
217	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-8	53′

*THE COST FOR CONSTRUCTING THIS CURB IS INCIDENTAL TO ITEM 702000 - TRIANGULAR CHANNELIZING ISLANDS. LENGTH SHOWN IS FOR ESTIMATING PURPOSES ONLY.

** CURB LENGTH FOR PEDESTRIAN CONNECTION LIMITS IS EXCLUDED FROM THIS QUANTITY.

ADDENDA / REVISIONS

1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

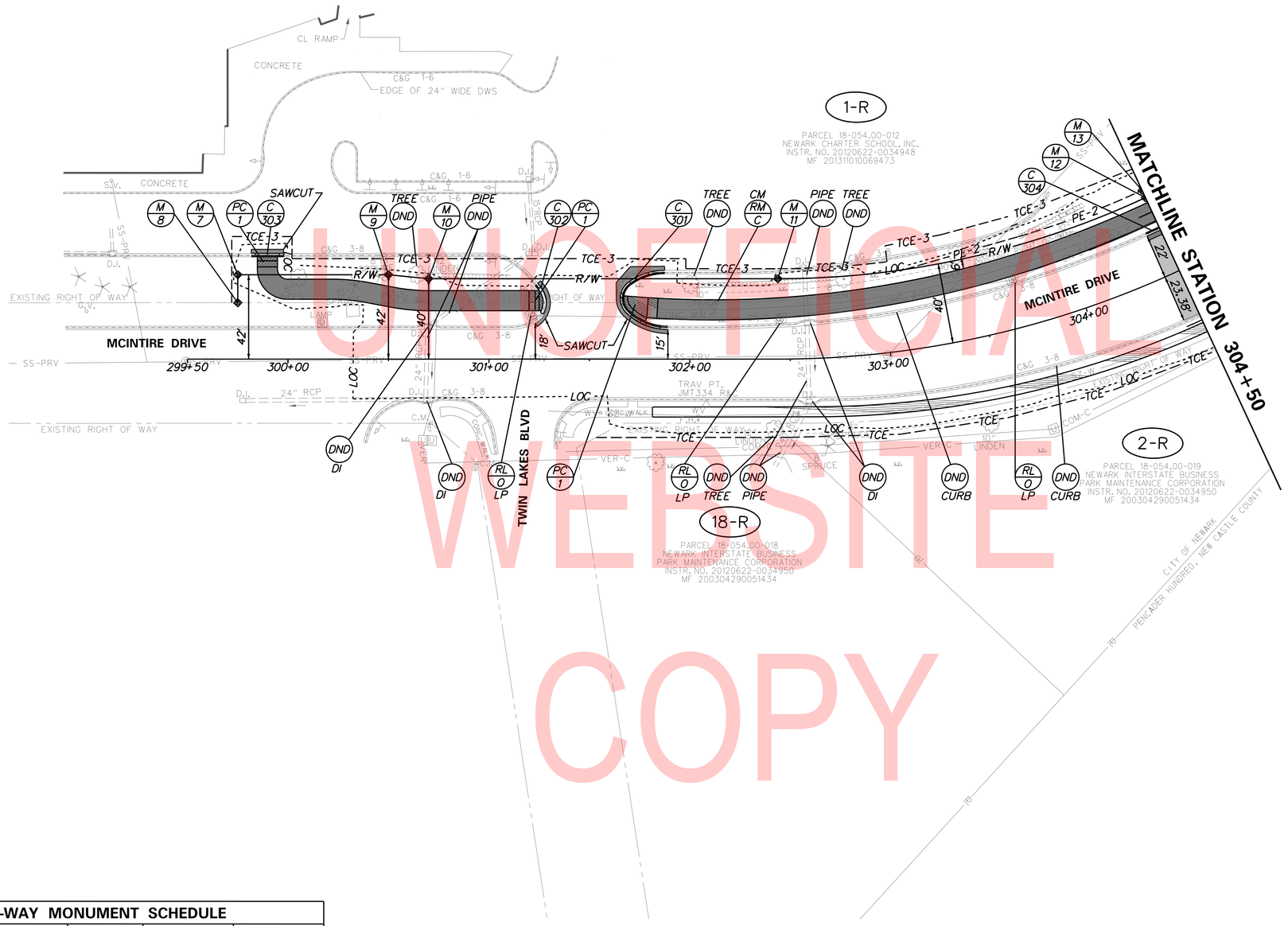
CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

CONSTRUCTION PLAN

CP-02

SECTION JMT

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP02]



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RIGHT–OF–WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-7	CAPPED REBAR	299+75.00	-42.00	602450.6342	551936.4464
M-8	CAPPED REBAR	299+75.00	-28.06	602451.1934	551950.3777
M-9	CAPPED REBAR	300+50.00	-42.00	602525.5739	551933.4385
M-10	CAPPED REBAR	300+70.00	-40.00	602545.6380	551934.6348
M-11	CONCRETE	302+43.80	-40.00	602719.2982	551927.6647
M-12	CAPPED REBAR	304+50.00	-40.00	602900.4936	551880.0124
M-13	CAPPED REBAR	304+50.00	-44.00	602898.6670	551876.4538

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
301	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-8	37'
302	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-8	3
303	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-8	4
304	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-8	8'

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB	CHECKED BY: BPH	

CONSTRUCTION PLAN

CP-03

SECTION	JMT
SHEET NO.	31

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP03]

GUARDRAIL SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH
401	END TREATMENT, ATTENUATOR TYPE 1	7019+48.08	RT 24.03′	50′
402	GALVANIZED STEEL GUARDRAIL, TYPE 1-31	7019+98.04	RT 22.00′	137.5′
#403	BARRIER CONNECTION, APPROACH TYPE 1-31	7021+35.59	RT 22.00′	19.75′
#404	BARRIER CONNECTION, EXIT TYPE 31	7022+00.23	RT 21.47′	11.5′
405	GALVANIZED STEEL GUARDRAIL, TYPE 1-31	7023+00.23	RT 21.79′	100′
406	END ANCHORAGE, TYPE 31	7023+12.73	RT 22.00′	12.5′
#407	BARRIER CONNECTION, APPROACH TYPE 1-31	6022+11.84	LT 36.77′	19.75′
408	GALVANIZED STEEL GUARDRAIL, TYPE 1-31	6022+31.52	LT 37.00′	100′
409	END TREATMENT, ATTENUATOR TYPE 1	6023+31.15	LT 37.00′	50′

LENGTH GIVEN FROM THE END/BEGINNING OF PARAPET TO BEGINNING/END OF TYPE 1-31 GUARDRAIL SECTION.

BARRIER SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
401	PCC SAFETY BARRIER, SINGLE FACE, 42″	34′
402	PCC SAFETY BARRIER, SINGLE FACE, 42″	82′

UNDERDRAIN CLEANOUT

NO.	STATION	OFFSET
155	6018+20.87	26.67 RT

CURB SCHEDULE

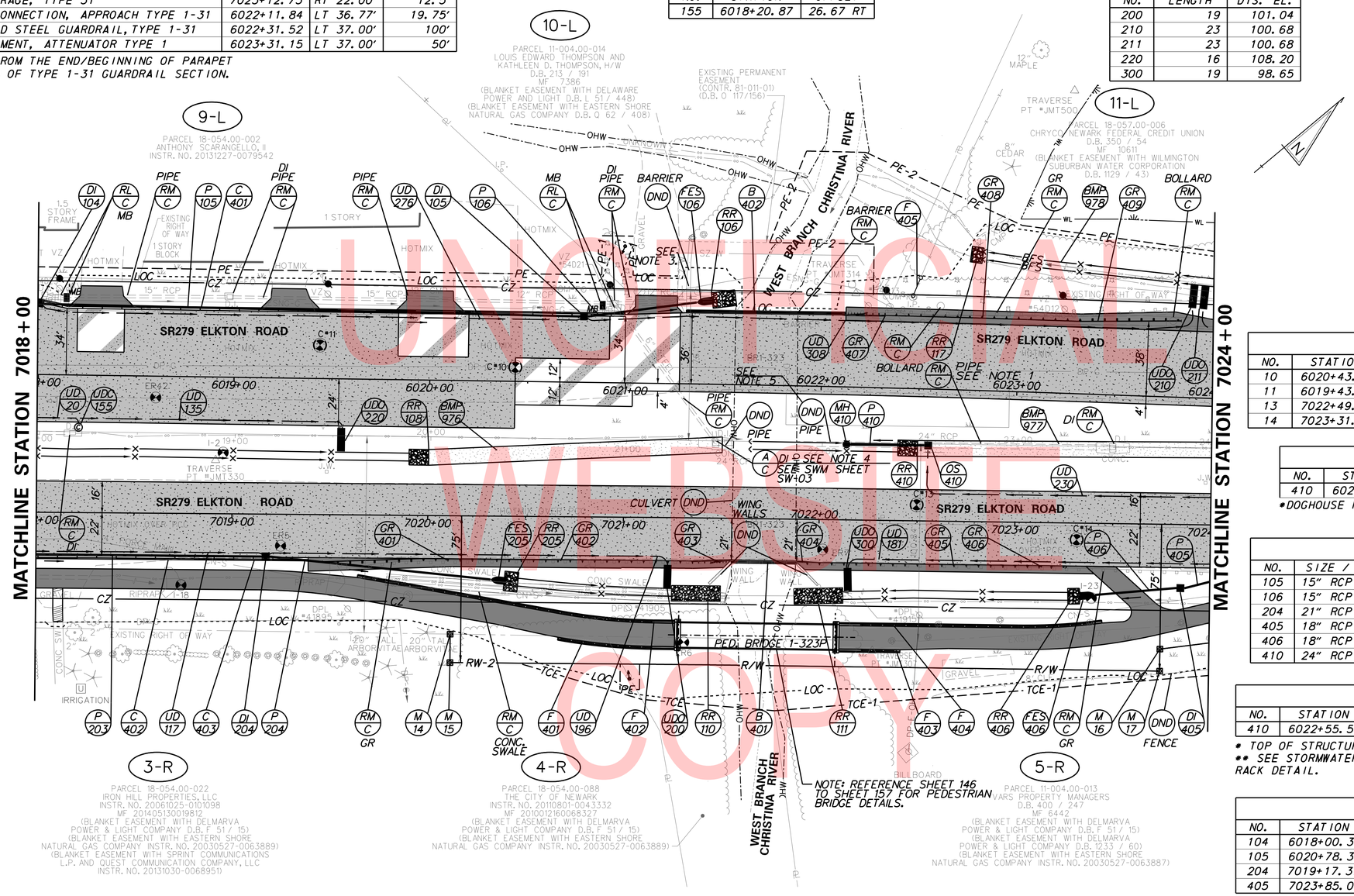
NO.	ITEM DESCRIPTION / TYPE	LENGTH
401	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	301′
402	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	68′
403	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-2	72′

UNDERDRAIN OUTLETS

NO.	LENGTH	DIS. EL.
200	19	101.04
210	23	100.68
211	23	100.68
220	16	108.20
300	19	98.65

NOTES:

1. REMOVE APPROXIMATELY 136 FEET OF EXISTING PIPE. REMAINING PORTION WILL TIE IN WITH MANHOLE.
2. CONTRACTOR SHALL REMOVE SECTION OF EXISTING BARRIER BEFORE PLACING PROPOSED DRAINAGE. UPON DRAINAGE COMPLETION CONTRACTOR SHALL RESTORE BARRIER SECTION. WORK TO BE INCIDENTAL TO PIPE ITEM.
3. REPAIR DRAINAGE INLET WALL AFTER REMOVING 6″ STEEL PIPE. PAYMENT INCIDENTAL TO ITEM 602130.
4. CLEAN REMAINING PIPE. WORK PAID UNDER ITEM 601000.



RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
106	R-4	8′	12′	14″
108	R-4	8′	10′	14″
110	R-5	8′	25′	18″
111	R-5	8′	25′	18″
117	R-4	8′	6′	14″
205	R-4	10′	7′	14″
406	R-4	8′	6′	14″
410	R-4	8′	10′	14″

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
#106	6:1 SAFETY ES	0.0260	N/A
#205	6:1 SAFETY ES	0.0150	N/A
#406	6:1 SAFETY ES	0.0050	N/A

#SEE STANDARD CONSTRUCTION DETAIL D-1.

ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
10	6020+43.64	-7.25	8.5″ ASPHALT OVER 5″+ SELECT STONE
11	6019+43.65	-17.06	9.25″ ASPHALT OVER 3″+ SELECT STONE
13	7022+49.72	-8.17	1″ ASPHALT OVER 10″ CONCRETE
14	7023+31.71	8.50	0.75″ ASPHALT OVER ASPHALT

MANHOLE SCHEDULE

NO.	STATION	OFFSET	TYPE/SIZE	T.G. EL.	INV. EL.
410	6022+13.65	29.37 RT	48″ x 48″	103.46	97.00

#DOGHOUSE MANHOLE BOX. CONTRACTOR SHALL VERIFY EXISTING INVERT.

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
105	15″ RCP	III	275	0.0230	109.80	103.48
106	15″ RCP	III	56	0.0260	103.28	101.85
204	21″ RCP	IV	114	0.0150	106.64	104.93
405	18″ RCP	IV	38	0.0060	100.21	99.98
406	18″ RCP	IV	42	0.0050	99.98	99.77
410	24″ RCP	III	39	0.0050	98.25	98.05

OUTLET STRUCTURE SCHEDULE **

NO.	STATION	OFFSET	BOX SIZE	T.S. EL.*	INV. EL.
410	6022+55.51	28.82 RT	48″ x 48″	104.08	98.25

* TOP OF STRUCTURE ELEVATION
** SEE STORMWATER MANAGEMENT PLANS AND DETAILS FOR TRASH RACK DETAIL.

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
104	6018+00.35	36.68 LT	48″ x 30″	4	113.05	109.80
105	6020+78.30	33.92 LT	48″ x 30″	4	107.28	103.28
204	7019+17.37	21.92 RT	48″ x 48″	4	110.31	106.64
405	7023+85.05	32.48 RT	34″ x 24″	2	102.61	99.98

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-14	CAPPED REBAR	7020+12.00	60.50	603352.2335	552099.5885
M-15	CAPPED REBAR	7020+12.00	75.00	603342.8160	552110.6202
M-16	CAPPED REBAR	7023+75.00	63.75	603624.9366	552338.6873
M-17	CAPPED REBAR	7023+75.00	75.00	603617.7489	552347.0142

FENCE SCHEDULE

NO.	QTY.	DESCRIPTION	NOTES
401	48 LF	ALUMINUM PED. RAILING, 4 FT. HIGH (ITEM 626010)	STA. 853+01, 1.5′ RT. TO STA. 853+49, 1.5′ RT.
402	150 LF	ALUMINUM PED. RAILING, 4 FT. HIGH (ITEM 626010)	STA. 851+97, 11.5′ LT. TO STA. 853+49, 11.5′ LT.
403	18 LF	ALUMINUM PED. RAILING, 4 FT. HIGH (ITEM 626010)	STA. 854+55, 1.5′ RT. TO STA. 854+73, 1.5′ RT.
404	120 LF	ALUMINUM PED. RAILING, 4 FT. HIGH (ITEM 626010)	STA. 854+55, 11.5′ LT. TO STA. 855+76, 11.5′ LT.
405	12 LF	CHAIN LINK FENCE, 6 FT. HIGH (ITEM 727000)	STA. 6022+46, 48.8′ LT. TO STA. 6022+50, 57.7′ LT.

DELDOT SWM FACILITY SCHEDULE

NO.	TYPE / DESCRIPTION	LOCATION
976	BIORETENTION	STA. 6020+00 RT. TO 6021+50 RT.
977	BIORETENTION	STA. 6022+50 RT. TO 6025+05 RT.
978	BIOFILTRATION SWALE	STA. 6022+79 LT. TO 6024+71 LT.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP04]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB	CHECKED BY: BPH	

CONSTRUCTION PLAN

CP-04

SECTION JMT

SHEET NO. 32

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
111	18" RCP	III	156	0.0070	105.10	104.05
115	18" RCP	III	106	0.0090	102.43	101.49
117	15" RCP	III	21	0.0810	108.07	106.36
122	18" RCP	IV	104	0.0170	107.87	106.09
123	21" RCP	V	72	0.0050	106.09	105.73
124	24" RCP	III	67	0.0050	105.73	105.40
126	15" RCP	III	299	0.0140	111.33	107.16
127	18" RCP	III	65	0.0260	107.76	106.07
128	24" RCP	III	72	0.0050	105.40	105.04
129	24" RCP	III	31	0.0050	104.94	104.78

DELDOT SWM FACILITY SCHEDULE

NO.	TYPE / DESCRIPTION	LOCATION
975	BIORETENTION	STA. 106+00 RT. TO 107+92 RT.
980	BIOFILTRATION SWALE	STA. 6030+02 RT. TO 6033+00 RT.

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
211	8" HDPE		19	0.0050	103.12	103.02
214	15" RCP	V	28	0.0050	102.89	102.75
215	18" RCP	V	93	0.0074	102.75	102.06
216	15" RCP	IV	96	0.0080	102.88	102.12
217	18" RCP	IV	27	0.0080	101.92	101.71
218	24" RCP	V	28	0.0040	101.51	101.40
219	24" RCP	IV	17	0.0065	101.40	101.29
220	24" RCP	III	21	0.0025	101.25	101.20
401	18" RCP	IV	49	0.0160	103.35	102.57
402	18" RCP	IV	119	0.0070	102.57	101.74
403	18" RCP	IV	84	0.0070	101.64	101.05
404	18" RCP	III	87	0.0050	100.85	100.41

RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
112	R-4	8'	14'	14"
116	R-4	8'	6'	14"
129	R-4	13'	13'	14"
409	R-4	8'	10'	14"

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
*112	6:1 SAFETY ES	0.0070	N/A
*115	6:1 SAFETY ES	0.0090	N/A
*116	6:1 SAFETY ES	0.0090	N/A
117	15" RCP	0.0810	YES
129	24" RCP	0.0050	NO

*SEE STANDARD CONSTRUCTION DETAIL D-1.

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
501	P.C.C CURB, TYPE 1-6	61'
502	P.C.C CURB, TYPE 1-6	78'
**503	P.C.C CURB, TYPE 1-6	68'
**504	P.C.C CURB, TYPE 1-6	72'
**505	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	64'
**506	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	498'
*507	P.C.C. CURB, TYPE 2	24'
*508	P.C.C. CURB, TYPE 2	46'
509	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	154'
510	P.C.C. CURB, TYPE 2	104'
*511	P.C.C. CURB, TYPE 2	48'
512	P.C.C CURB, TYPE 1-6	163'
*513	P.C.C. CURB, TYPE 2	24'
*514	P.C.C. CURB, TYPE 2	46'
515	P.C.C. CURB, TYPE 2	81'
*516	P.C.C. CURB, TYPE 2	113'
*517	P.C.C. CURB, TYPE 2	31'
*518	P.C.C. CURB, TYPE 2	66'
*519	P.C.C. CURB, TYPE 2	79'
*520	P.C.C. CURB, TYPE 2	39'
**521	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	301'
522	P.C.C. CURB, TYPE 2	364'

*THE COST FOR CONSTRUCTING THIS CURB IS INCIDENTAL TO ITEM 702000 - TRIANGULAR CHANNELIZING ISLANDS. LENGTH SHOWN IS FOR ESTIMATING PURPOSES ONLY.

OUTLET STRUCTURE SCHEDULE **

NO.	STATION	OFFSET	BOX SIZE	T.S. EL.*	INV. EL.
219	106+06.80	80.21 RT	48" x 48"	105.75	101.25

* TOP OF STRUCTURE ELEVATION
** SEE STORMWATER MANAGEMENT PLANS AND DETAILS FOR TRASH RACK DETAIL.

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
110	400+74.40	56.68 RT	34" x 24"	4	108.27	105.10
122	6029+99.19	40.92 LT	48" x 30"	4	109.55	106.09
123	6029+99.81	34.14 RT	48" X 30"	2	110.10	105.73
127	7029+98.12	45.58 RT	48" X 48"	2	109.82	105.40
*210	106+38.04	57.50 LT	18" PVC D.I.	2	104.25	103.12
213	106+69.10	35.92 LT	34" x 24"	4	105.77	102.89
214	106+38.01	35.92 LT	34" x 24"	1	105.71	102.75
215	107+67.25	65.73 RT	48" x 30"	4	106.24	102.88
216	106+68.28	60.92 RT	48" x 30"	4	105.29	101.92
217	106+38.22	60.92 RT	48" x 48"	1	105.23	101.51
218	106+06.89	60.92 RT	48" x 48"	4	105.31	101.40
400	107+77.43	30.17 RT	48" x 30"	4	106.68	103.35
401	107+80.29	82.75 RT	66" x 66"	4	105.81	102.57
402	7026+02.88	22.92 RT	48" x 30"	4	104.97	101.64
403	7025+15.93	22.92 RT	48" x 30"	4	104.43	100.85
404	7024+25.62	22.92 RT	48" x 48"	1	104.24	100.21

* SEE CONSTRUCTION DETAIL. INLET TO BE PAID UNDER ITEM 602013.

UNDERDRAIN CLEANOUT

NO.	STATION	OFFSET
120	6025+49.76	38.09 LT
160	7026+09.13	27.21 LT
161	7024+61.97	18.20 LT

ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
8	6029+93.65	-32.54	4" ASPHALT OVER 2"+ CRUSHER RUN
9	6026+18.35	-32.36	3.25" ASPHALT OVER 2" SELECT STONE

MANHOLE SCHEDULE

NO.	STATION	OFFSET	TYPE/SIZE	T.G. EL.	INV. EL.
128	7029+24.52	56.95 RT	48" x 48"	108.90	104.94

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-18	CAPPED REBAR	7024+02.12	60.00	603647.9890	552353.3019
M-19	CAPPED REBAR	7027+01.33	60.00	603874.5774	552548.8915
M-20	CAPPED REBAR	7029+05.79	85.00	604013.5782	552701.6171
M-21	CAPPED REBAR	6025+03.78	-65.00	603848.5426	552278.9688
M-22	CONCRETE	6027+19.74	-65.00	604009.4329	552420.9087
M-23	CAPPED REBAR	6029+63.00	-65.00	604193.5781	552579.8615
M-24	CAPPED REBAR	6029+63.00	-63.00	604192.2712	552581.3755
M-25	CAPPED REBAR	6029+93.51	-63.00	604215.3666	552601.3113
M-26	CAPPED REBAR	6029+93.50	-80.00	604226.4647	552588.4336
M-27	CAPPED REBAR	6030+09.00	-80.00	604238.2010	552598.5643
M-28	CAPPED REBAR	6030+09.00	-53.63	604220.9698	552618.5265
M-29	CONCRETE	7030+25.03	85.00	604105.5826	552779.0494

NOTES:
1. TRENCH WILL BE RECONSTRUCTED WITH HOT-MIX AS INTERIM CONDITION AND PERMANENTLY RECONSTRUCTED WITH P.C.C. PAVEMENT.
2. CONTRACTOR SHALL OBTAIN TEST HOLE TO VERIFY POSSIBLE CONFLICT WITH CN-S LINE PRIOR TO INSTALING PIPE P-128.

** CURB LENGTH FOR PEDESTRIAN CONNECTION LIMITS IS EXCLUDED FROM THIS QUANTITY.

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ADDENDA / REVISIONS	
REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

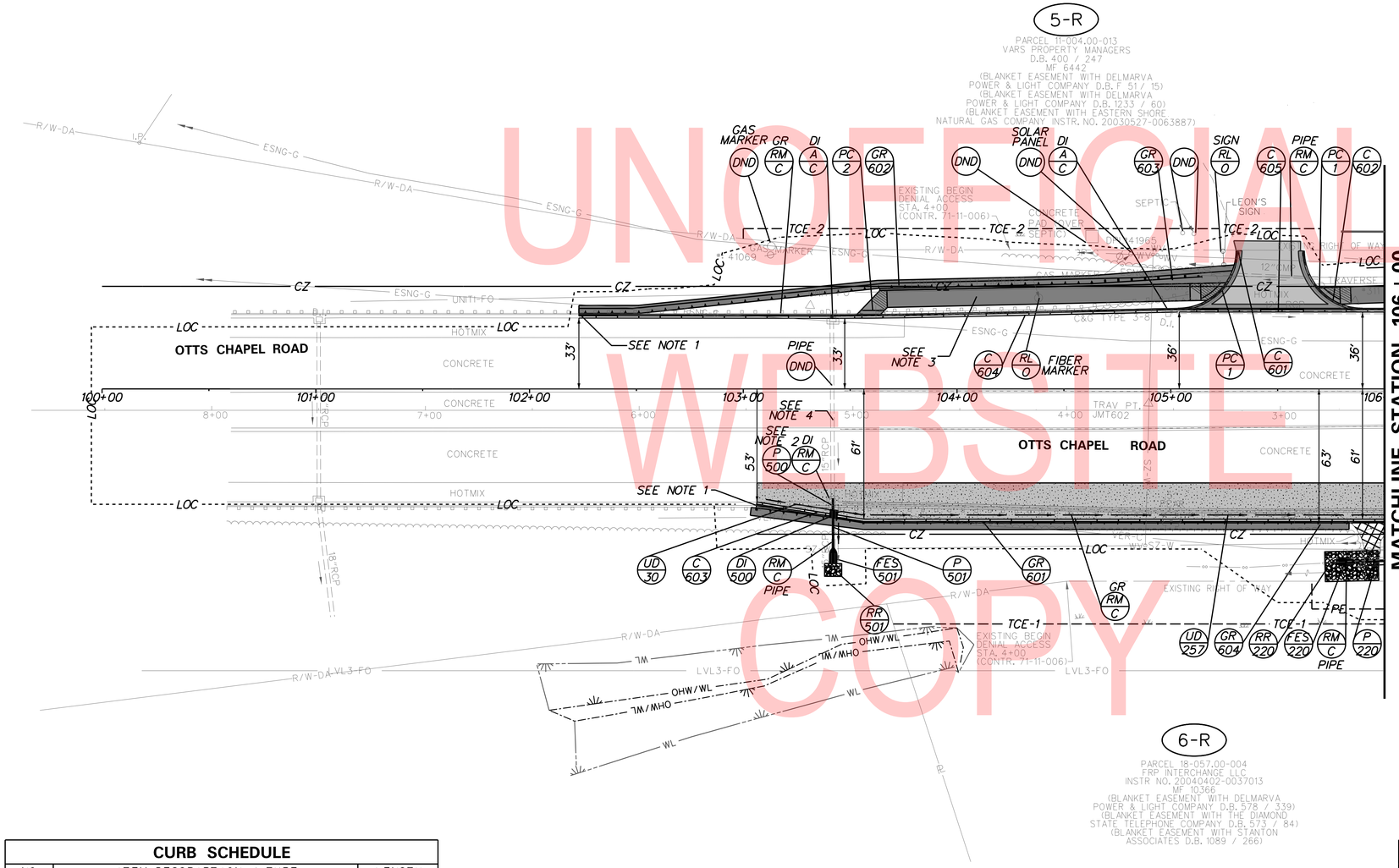
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PLAN

CP-05	
SECTION	JMT
SHEET NO.	33

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP05]



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NOTES:

1. TRANSITION PROPOSED GUARDRAIL TYPE 1-31 TO EXISTING GUARDRAIL PER DELDOT STANDARD DETAIL B-7. COST INCIDENTAL TO ITEM 720021
2. CONTRACTOR SHALL FIELD VERIFY INVERTS AND EXTEND RCP FROM THE FIRST STRUCTURALLY INTACT JOINT. CONTRACTOR SHALL POUR A CONCRETE COLLAR AROUND NEW JOINT. PAYMENT SHALL BE INCIDENTAL TO PROPOSED PIPE.
3. CONTRACTOR SHALL PERFORM ALL EXCAVATION FROM ROAD SIDE BETWEEN STATION 102+00 OFFSET LEFT TO STA 105+50 OFFSET LEFT TO AVOID DAMAGE TO PRIVATE SEPTIC SYSTEM. ANY DAMAGE TO THE PRIVATE SEPTIC SYSTEM AND THE COSTS RELATED TO REPAIRS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
4. CLEAN EXISTING DRAINAGE PIPE. WORK PAID UNDER ITEM 601000.

RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
*220	R-4	14'	25'	14"
501	R-4	8'	6'	14"

* SEE STORMWATER MANAGEMENT PLANS FOR EMERGENCY SPILLWAY DETAIL.

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
220	24" RCP	0.0025	NO
501	15" RCP	0.0070	NO

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
*500	15" RCP	III	6	0.0050	105.44	105.41
501	15" RCP	III	16	0.0070	104.11	104.00

*CONTRACTOR SHALL VERIFY AND MATCH EXISTING PIPE INVERT.

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
*500	103+42.26	58.62 RT	48" x 48"	4	110.22	104.11

*DOGHOUSE INLET BOX. SEE STANDARD CONSTRUCTION DETAIL D-5.

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
601	P.C.C CURB, TYPE 1-2	30'
602	P.C.C CURB, TYPE 1-2	29'
603	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	295'
604	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	268'
605	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-2	96'

NOTE: CURB DEPRESSED FROM 105+03 TO 105+90 LT

GUARDRAIL SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH
601	GALVANIZED STEEL GUARDRAIL, TYPE 1-31	103+03.70	RT 55.40'	* 253.125'
602	GALVANIZED STEEL GUARDRAIL, TYPE 1-31	103+63.09	LT 47.03'	* 240.625'
603	END TREATMENT, ATTENUATOR, TYPE 1	104+63.06	LT 49.82'	50'
604	END ANCHORAGE, TYPE 31	105+68.92	RT 62.00'	12.5'

* - ITEM INCLUDES TRANSITION SECTION, SEE NOTE 1.

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

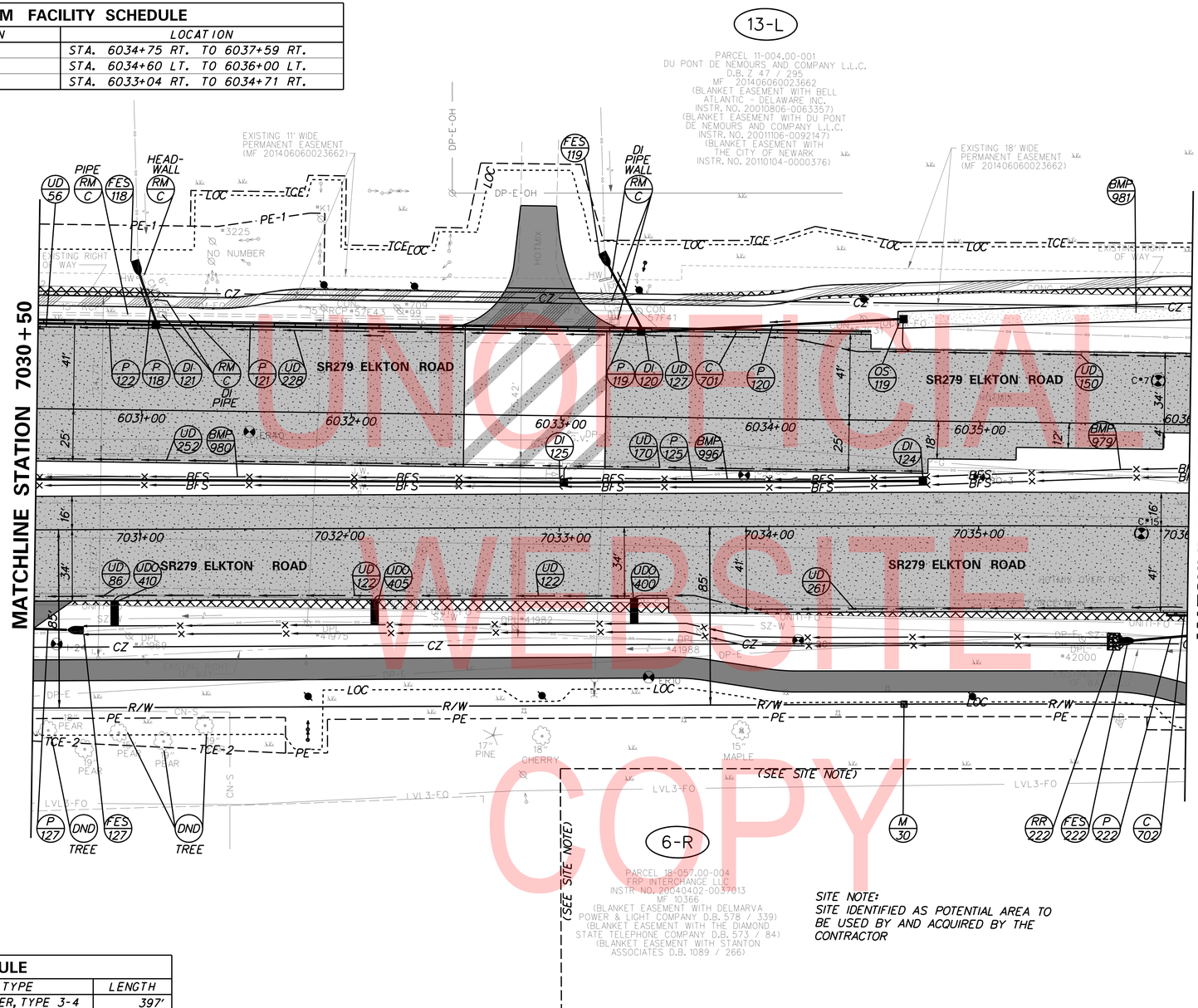
CONSTRUCTION PLAN

CP-06
SECTION JMT
SHEET NO. 34

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP06]

RIGHT-OF-WAY MONUMENT SCHEDULE					
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-30	CONCRETE	7034+64.03	85.00	604443.1389	553059.7213

DELDOT SWM FACILITY SCHEDULE		
NO.	TYPE / DESCRIPTION	LOCATION
979	BIOFILTRATION SWALE	STA. 6034+75 RT. TO 6037+59 RT.
981	BIORETENTION	STA. 6034+60 LT. TO 6036+00 LT.
996	BIOFILTRATION SWALE	STA. 6033+04 RT. TO 6034+71 RT.



SITE NOTE:
SITE IDENTIFIED AS POTENTIAL AREA TO BE USED BY AND ACQUIRED BY THE CONTRACTOR

CURB SCHEDULE		
NO.	ITEM DESCRIPTION / TYPE	LENGTH
701	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	397'
702	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	11'

NOTE: CURB DEPRESSED FROM 6032+42 TO 6033+37 LT

DRAINAGE INLET SCHEDULE						
NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
120	6033+37.63	40.92 LT	48" x 30"	4	114.41	109.58
121	6031+06.16	40.92 LT	48" x 30"	4	111.09	107.87
124	6034+73.00	28.59 RT	34" x 24"	2	116.85	112.87
125	6033+01.79	31.72 RT	34" x 24"	2	114.26	111.33

FLARED END SECTION SCHEDULE			
NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
118	15" RCP	0.0300	YES
119	15" RCP	0.0050	YES
*127	6:1 SAFETY ES	0.0260	N/A
*222	6:1 SAFETY ES	0.0050	N/A

*SEE STANDARD CONSTRUCTION DETAIL D-1.

RIPRAP STABILIZATION SCHEDULE				
NO.	TYPE	W	L	D
222	R-4	8'	6'	14"

UNDERDRAIN OUTLETS		
NO.	LENGTH	DIS. EL.
400	16	111.65
405	16	109.94
410	18	108.21

DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
118	15" RCP	III	25	0.0300	108.62	107.87
119	15" RCP	III	35	0.0050	109.81	109.64
120	18" RCP	III	122	0.0050	110.50	109.89
121	18" RCP	IV	229	0.0075	109.58	107.87
125	15" RCP	III	168	0.0080	112.87	111.53
222	15" RCP	V	62	0.0050	114.94	114.63

ROADWAY CORE SCHEDULE			
NO.	STATION	OFFSET	DESCRIPTION
7	6035+84.60	-20.76	9" ASPHALT OVER 4"+ CRUSHER RUN
15	7035+77.68	3.46	0.75" ASPHALT OVER 8.25" CONCRETE OVER 4"+ SELECT STONE

OUTLET STRUCTURE SCHEDULE **					
NO.	STATION	OFFSET	BOX SIZE	T.S. EL.*	INV. EL.
119	6034+62.65	48.41 LT	48" x 48"	115.85	110.50

* TOP OF STRUCTURE ELEVATION
** SEE STORMWATER MANAGEMENT PLANS AND DETAILS FOR TRASH RACK DETAIL.

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ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

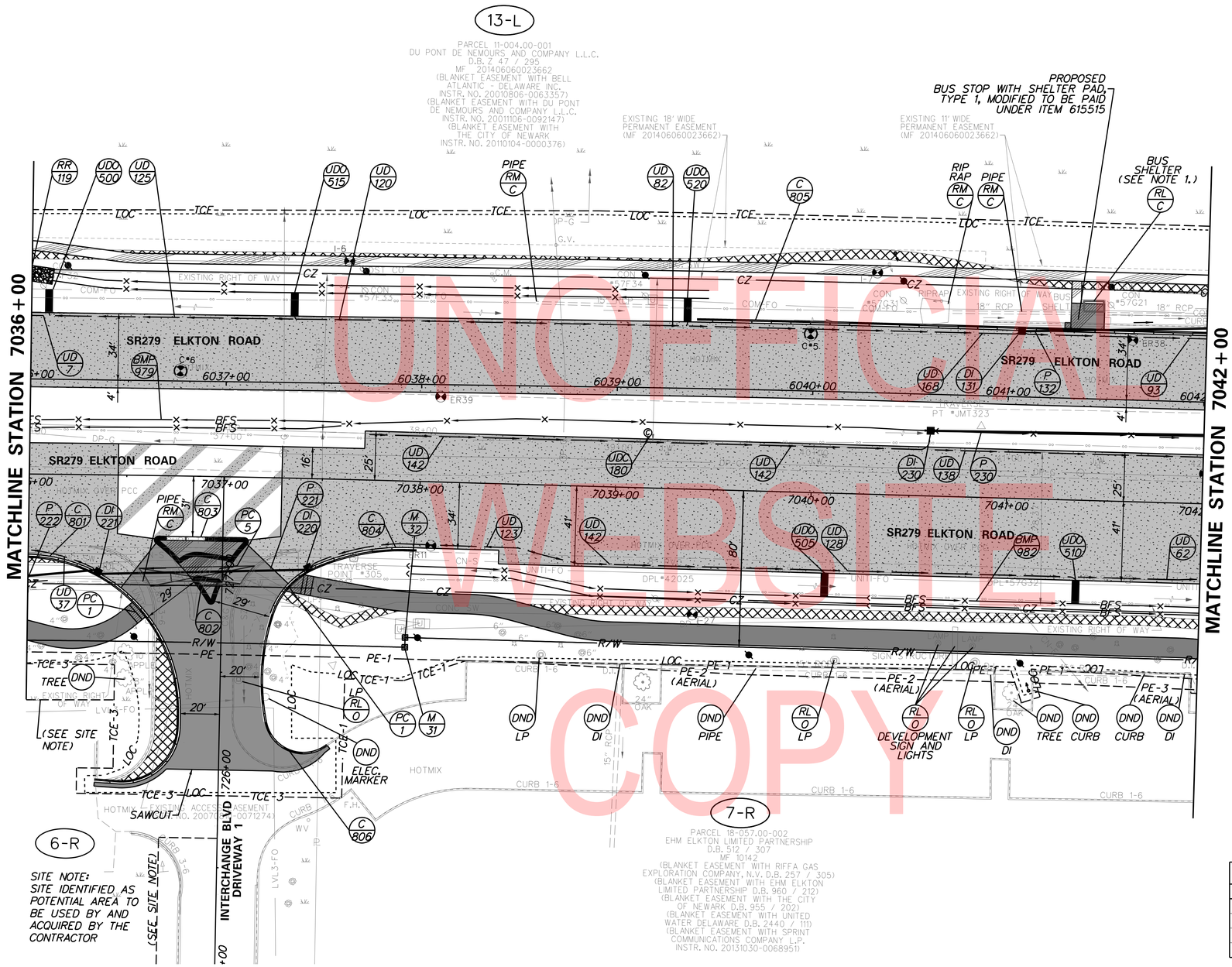
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

CONSTRUCTION PLAN

CP-07
SECTION JMT
SHEET NO. 35

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP07]



SITE NOTE:
SITE IDENTIFIED AS POTENTIAL AREA TO BE USED BY AND ACQUIRED BY THE CONTRACTOR

NOTES:
1. BUS SHELTER RELOCATION TO BE PAID UNDER ITEM 615515 - RIDE SHELTER INSTALLATION.

UNDERDRAIN OUTLETS		
NO.	LENGTH	DIS. EL.
500	16	115.39
505	16	116.28
510	16	115.00
515	16	116.37
520	16	116.56

UNDERDRAIN CLEANOUT		
NO.	STATION	OFFSET
180	7039+15.72	28.26 LT

RIPRAP STABILIZATION SCHEDULE				
NO.	TYPE	W	L	D
119	R-4	8'	10'	14"

CURB SCHEDULE		
NO.	ITEM DESCRIPTION / TYPE	LENGTH
**801	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	180'
*802	P.C.C. CURB, TYPE 2	45'
*803	P.C.C. CURB, TYPE 2	110'
**804	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	73'
805	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	261'
806	INTEGRAL P.C.C CURB & GUTTER, TYPE 1-6	97'

*THE COST FOR CONSTRUCTING THIS CURB IS INCIDENTAL TO ITEM 702000 - TRIANGULAR CHANNELIZING ISLANDS. LENGTH SHOWN IS FOR ESTIMATING PURPOSES ONLY.
** CURB LENGTH FOR PEDESTRIAN CONNECTION LIMITS IS EXCLUDED FROM THIS QUANTITY.

DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
132	15" RCP	IV	144	0.0100	115.20	113.76
221	15" RCP	V	105	0.0050	115.46	114.94
230	15" RCP	III	202	0.0080	115.09	113.47

DRAINAGE INLET SCHEDULE						
NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
131	6041+06.00	33.92 LT	34" x 24"	4	118.40	115.20
220	727+03.97	44.10 RT	48" x 48"	4	119.34	115.46
221	726+99.86	63.67 LT	48" x 48"	4	117.84	114.94
230	6040+60.82	18.62 RT	34" x 24"	2	118.40	115.09

RIGHT-OF-WAY MONUMENT SCHEDULE					
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-31	CONCRETE	7037+94.57	85.00	604691.6293	553273.3799
M-32	CONCRETE	7037+94.57	80.00	604694.9513	553269.6430

DELDOT SWM FACILITY SCHEDULE		
NO.	TYPE / DESCRIPTION	LOCATION
982	BIOFILTRATION SWALE	STA. 7040+30 RT. TO 7042+05 RT.

ROADWAY CORE SCHEDULE			
NO.	STATION	OFFSET	DESCRIPTION
5	6039+98.25	-29.23	6" ASPHALT OVER 3"+ STONE MIX
6	6036+76.59	-5.22	8.5" ASPHALT OVER 3"+ CRUSHER RUN

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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	CONSTRUCTION PLAN
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

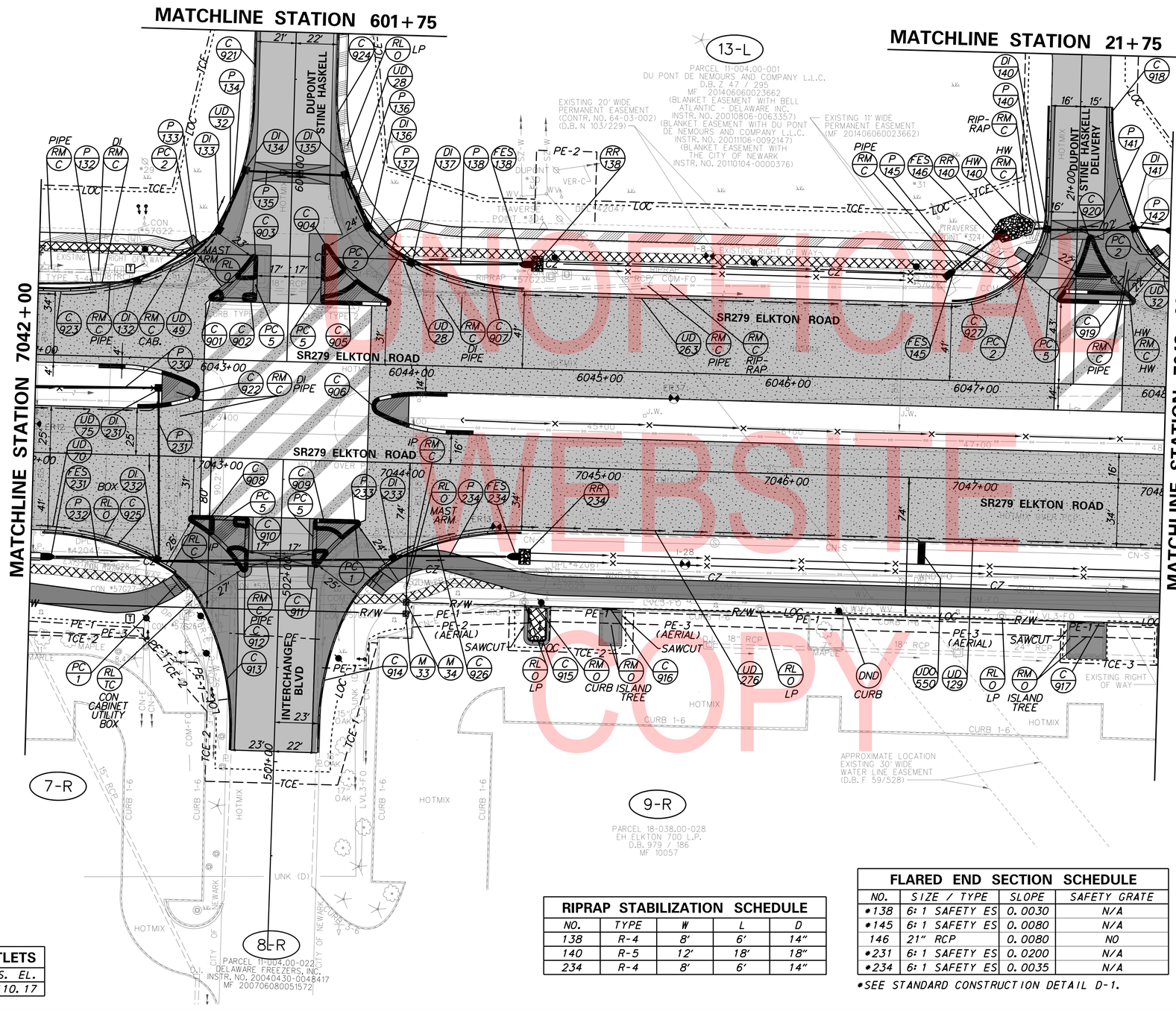
CP-08
SECTION JMT
SHEET NO. 36

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP08]

RIGHT-OF-WAY MONUMENT SCHEDULE					
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-33	CAPPED REBAR	7044+00.00	80.00	605147.4329	553671.8941
M-34	CAPPED REBAR	7044+00.00	74.00	605151.4193	553667.4099

HEADWALL SCHEDULE			
NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
140	19"X30" ERCP	0.0000	NO

• SEE CONSTRUCTION DETAIL



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CURB SCHEDULE		
NO.	ITEM DESCRIPTION / TYPE	LENGTH
*901	P.C.C. CURB, TYPE 2	23'
*902	P.C.C. CURB, TYPE 2	22'
*903	P.C.C. CURB, TYPE 2	42'
*904	P.C.C. CURB, TYPE 2	54'
*905	P.C.C. CURB, TYPE 2	86'
906	P.C.C. CURB, TYPE 2	102'
***907	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	76'
*908	P.C.C. CURB, TYPE 2	41'
*909	P.C.C. CURB, TYPE 2	61'
*910	P.C.C. CURB, TYPE 2	26'
*911	P.C.C. CURB, TYPE 2	31'
*912	P.C.C. CURB, TYPE 2	41'
***913	P.C.C. CURB, TYPE 1-6	91'
***914	P.C.C. CURB, TYPE 1-6	95'
**915	P.C.C. CURB, TYPE 1-6	45'
**916	P.C.C. CURB, TYPE 1-6	10'
**917	P.C.C. CURB, TYPE 1-6	19'
***918	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	86'
*919	P.C.C. CURB, TYPE 2	91'
*920	P.C.C. CURB, TYPE 2	69'
***921	P.C.C. CURB, TYPE 1-6	125'
922	P.C.C. CURB, TYPE 2	102'
***923	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	85'
***924	P.C.C. CURB, TYPE 1-6	117'
***925	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	75'
***926	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	76'
***926	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	131'

*THE COST FOR CONSTRUCTING THIS CURB IS INCIDENTAL TO ITEM 702000 - TRIANGULAR CHANNELIZING ISLANDS. LENGTH SHOWN IS FOR ESTIMATING PURPOSES ONLY.
** THIS WORK IS DONE BY OTHERS DURING ADVANCED UTILITY RELOCATION.
*** CURB LENGTH FOR PEDESTRIAN CONNECTION LIMITS IS EXCLUDED FROM THIS QUANTITY.

DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
133	15" RCP	IV	48	0.0120	113.72	113.15
134	15" RCP	III	31	0.0150	113.15	112.69
135	18" RCP	III	50	0.0090	112.49	112.05
136	18" RCP	III	28	0.0030	111.95	111.87
137	18" RCP	IV	27	0.0030	111.87	111.80
138	18" RCP	IV	56	0.0030	111.80	111.65
140	19"X30" ERCP	III	6	0.0120	108.94	108.87
141	19"X30" ERCP	III	43	0.0037	108.87	108.71
142	19"X30" ERCP	III	16	0.0037	108.71	108.65
145	21" RCP	III	24	0.0080	109.88	109.69
231	18" RCP	IV	88	0.0050	113.47	113.03
232	15" RCP	III	53	0.0200	114.09	113.03
233	14"X23" ERCP	IV	122	0.0050	112.83	112.22
234	18" RCP	V	58	0.0035	112.09	111.88

DRAINAGE INLET SCHEDULE						
NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
132	600+40.69	80.82 LT	48" x 30"	4	116.80	113.72
133	600+69.81	38.75 LT	48" x 30"	4	116.06	113.15
134	601+01.36	25.80 LT	48" x 30"	4	115.87	112.49
135	601+00.65	29.15 RT	48" x 30"	4	115.23	111.95
136	600+73.35	42.03 RT	48" x 48"	4	115.12	111.87
137	600+54.60	64.57 RT	48" x 48"	4	115.07	111.80
140	20+81.96	16.26 LT	48" x 48"	4	112.20	108.87
141	20+83.51	30.18 RT	66" x 30"	4	112.20	108.71
231	6042+66.02	15.89 RT	48" x 30"	2	116.69	113.47
232	502+05.21	65.36 LT	48" x 48"	4	116.39	112.83
233	502+10.06	60.11 RT	48" x 48"	4	115.26	112.09

RIPRAP STABILIZATION SCHEDULE				
NO.	TYPE	W	L	D
138	R-4	8'	6'	14"
140	R-5	12'	18'	18"
234	R-4	8'	6'	14"

FLARED END SECTION SCHEDULE			
NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
*138	6:1 SAFETY ES	0.0030	N/A
*145	6:1 SAFETY ES	0.0080	N/A
146	21" RCP	0.0080	NO
*231	6:1 SAFETY ES	0.0200	N/A
*234	6:1 SAFETY ES	0.0035	N/A

*SEE STANDARD CONSTRUCTION DETAIL D-1.

UNDERDRAIN OUTLETS		
NO.	LENGTH	DIS. EL.
550	16	110.17

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

CONSTRUCTION PLAN

CP-09
SECTION JMT
SHEET NO. 37

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP09]

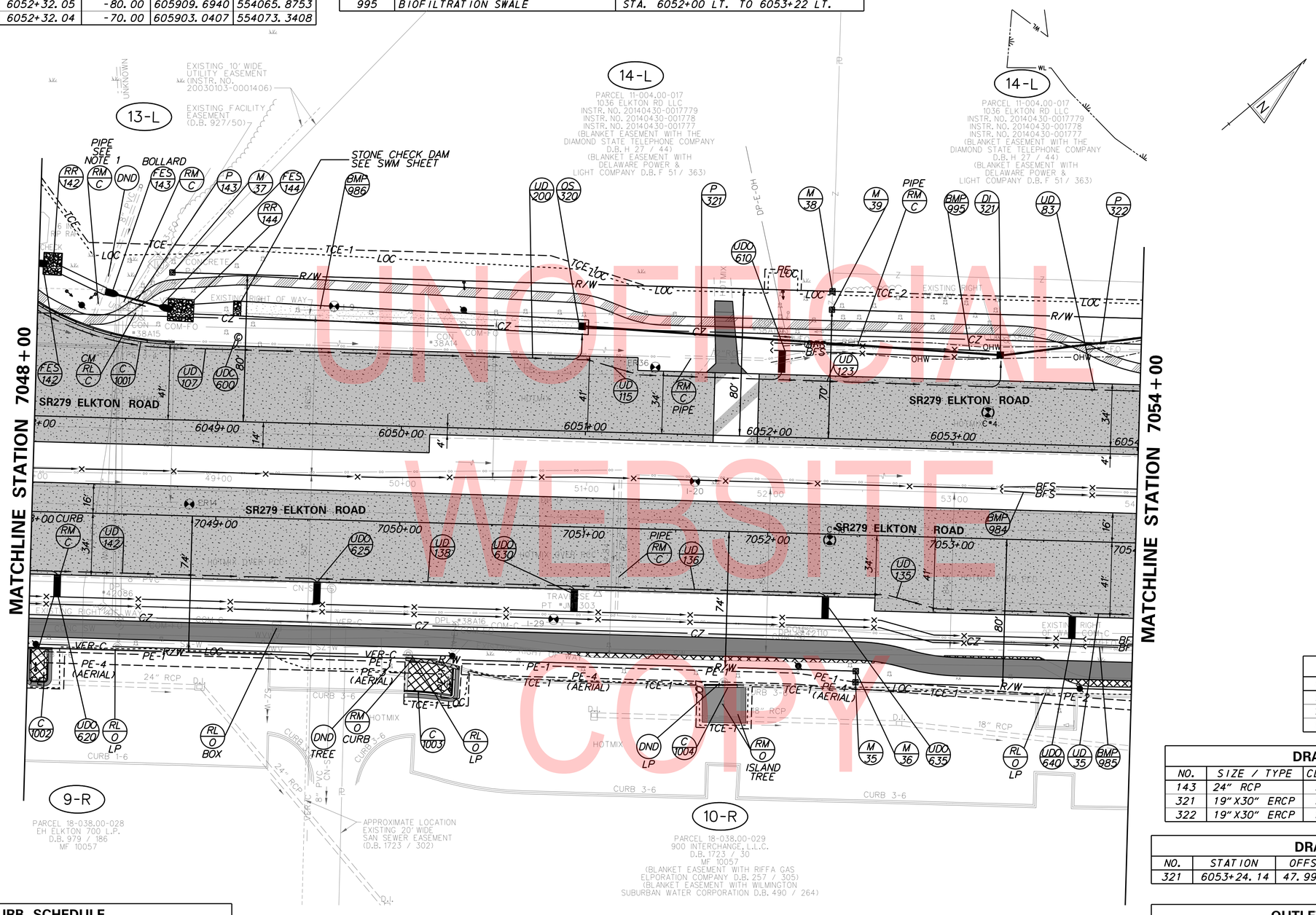
RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-35	CAPPED REBAR	7052+50.00	80.00	605782.6993	554236.6388
M-36	CAPPED REBAR	7052+50.00	74.00	605786.6857	554232.1546
M-37	CAPPED REBAR	6048+73.18	-80.00	605641.4831	553827.4388
M-38	CAPPED REBAR	6052+32.05	-80.00	605909.6940	554065.8753
M-39	CAPPED REBAR	6052+32.04	-70.00	605903.0407	554073.3408

DELDOT SWM FACILITY SCHEDULE

NO.	TYPE / DESCRIPTION	LOCATION
984	BIOFILTRATION SWALE	STA. 6053+26 RT. TO 6054+90 RT.
985	BIOFILTRATION SWALE	STA. 7053+73 RT. TO 7055+25 RT.
986	BIORETENTION	STA. 6048+74 LT. TO 6051+00 LT.
995	BIOFILTRATION SWALE	STA. 6052+00 LT. TO 6053+22 LT.

NOTE:
1. REMOVE APPROXIMATELY 24 FEET OF EXISTING PIPE TO TIE IN WITH PROPOSED DITCH.



UNDERDRAIN OUTLETS

NO.	LENGTH	DIS. EL.
610	20	107.14
620	18	109.36
625	18	108.65
630	18	107.95
635	18	107.27
640	18	106.32

UNDERDRAIN CLEANOUT

NO.	STATION	OFFSET
600	6049+10.01	45.86 LT

RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
142	R-4	10'	12'	14"
144	R-4	12'	14'	14"

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
142	19"x30" ERCP	0.0037	NO
143	24" RCP	0.0030	NO
144	24" RCP	0.0030	NO

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
143	24" RCP	III	26	0.0030	108.42	108.35
321	19"X30" ERCP	III	225	0.0050	104.75	103.55
322	19"X30" ERCP	III	92	0.0060	103.55	103.00

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
321	6053+24.14	47.99 LT	48" x 48"	2	106.86	103.55

OUTLET STRUCTURE SCHEDULE **

NO.	STATION	OFFSET	BOX SIZE	T.S. EL.*	INV. EL.
320	6050+96.62	57.08 LT	48" x 48"	109.25	104.75

* TOP OF STRUCTURE ELEVATION
** SEE STORMWATER MANAGEMENT PLANS AND DETAILS FOR TRASH RACK DETAIL.

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
1001	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	79'
**1002	P.C.C CURB, TYPE 1-6	45'
**1003	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-6	43'
**1004	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-6	22'

** THIS WORK IS DONE BY OTHERS DURING ADVANCED UTILITY RELOCATION.

ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
4	6053+18.36	-16.62	8.75" ASPHALT OVER 3"+ CRUSHER RUN
16	7052+33.77	3.19	0.75" ASPHALT OVER 8" CONCRETE OVER 11"+ SELECT STONE

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ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 — 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PLAN

CP-10
SECTION JMT
SHEET NO. 38

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP10]

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-40	CONCRETE	7057+13.23	80.00	606128.9053	554544.4123
M-41	CONCRETE	7058+92.28	80.00	606260.5849	554663.6039
M-42	CONCRETE	6058+70.35	-70.00	606380.0988	554497.4401
M-43	CONCRETE	6059+60.24	-70.00	606447.0755	554556.4449
M-44	CONCRETE	6060+78.04	-70.00	606535.8158	554633.9174

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
244	18" RCP	III	254	0.0080	102.83	100.80
256	15" RCP	III	281	0.0330	102.00	92.62
325	42" RCP	III	58	0.0050	99.53	99.24
331	18" RCP	III	32	0.0050	104.68	104.53
341	15" RCP	III	138	0.0056	103.22	102.45

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
**1101	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	176'
*1102	P.C.C. CURB, TYPE 2	105'
**1103	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	210'
*1104	P.C.C. CURB, TYPE 2	126'
**1105	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	80'
*1107	P.C.C. CURB, TYPE 2	76'
*1108	P.C.C. CURB, TYPE 2	57'
**1109	P.C.C CURB, TYPE 1-6	80'
**1110	P.C.C CURB, TYPE 1-6	77'

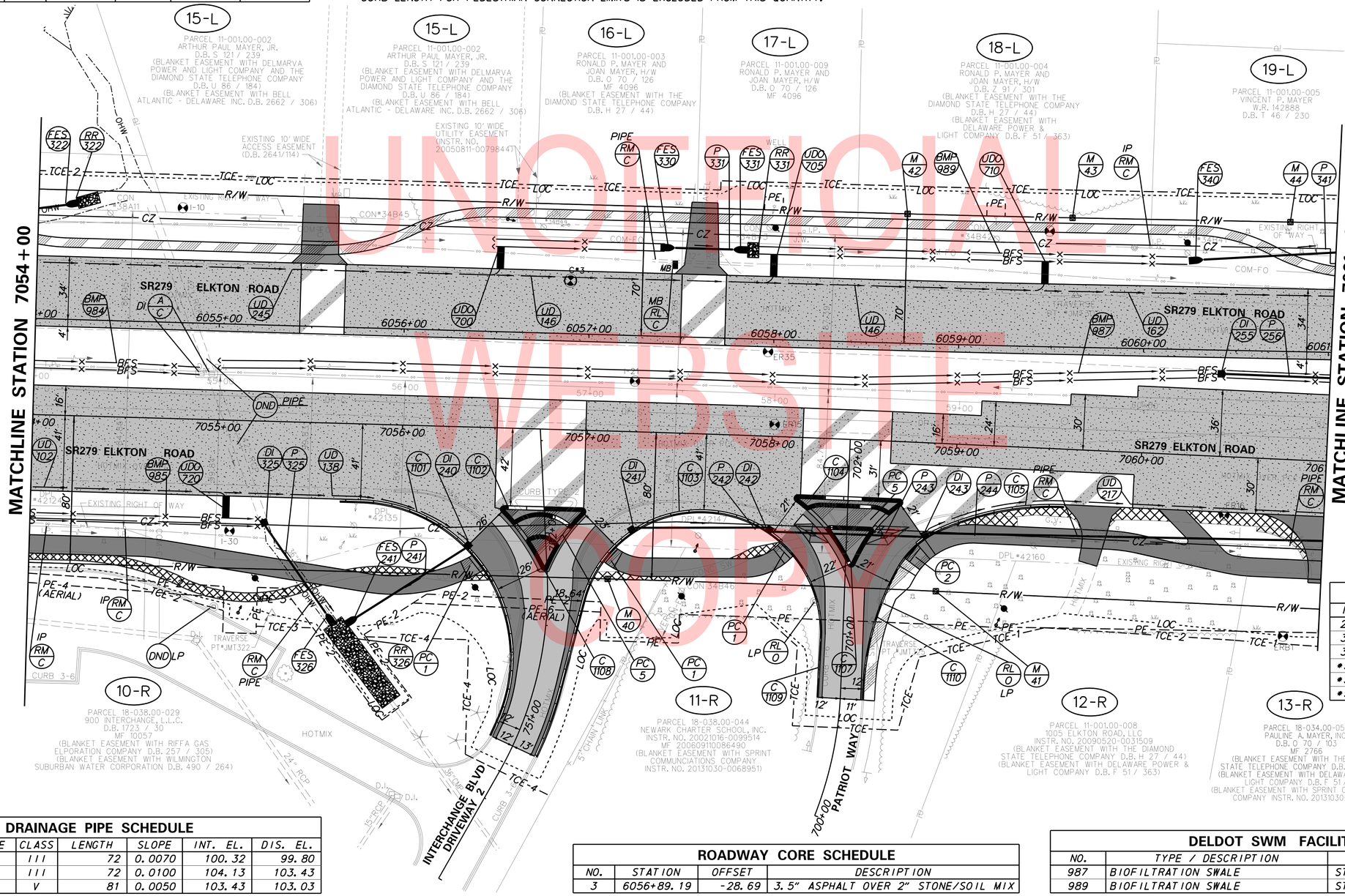
*THE COST FOR CONSTRUCTING THIS CURB IS INCIDENTAL TO ITEM 702000 - TRIANGULAR CHANNELIZING ISLANDS. LENGTH SHOWN IS FOR ESTIMATING PURPOSES ONLY.

** CURB LENGTH FOR PEDESTRIAN CONNECTION LIMITS IS EXCLUDED FROM THIS QUANTITY.

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
240	751+95.02	42.26 LT	48" x 48"	4	106.97	100.32
241	751+99.32	46.92 RT	48" x 48"	4	107.71	104.13
242	701+54.66	41.99 LT	48" x 48"	4	106.63	103.43
243	701+54.98	42.47 RT	48" x 48"	4	106.40	102.83
255	6060+42.27	12.78 RT	34" x 24"	2	105.65	102.00
*325	7055+26.71	54.90 RT	66" x 48"	2	105.52	99.53

*DOGHOUSE INLET BOX. SEE STANDARD CONSTRUCTION DETAIL D-5. CONTRACTOR SHALL VERIFY EXISTING PIPE INVERT AND REMOVE FLARED END SECTION.



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UNDERDRAIN OUTLETS

NO.	LENGTH	DIS. EL.
700	20	105.15
705	20	104.41
710	20	103.68
720	18	105.65

RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
322	R-4	6'	12'	14"
326	R-5	12'	53'	18"
331	R-4	8'	6'	14"

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
241	15" RCP	0.0070	NO
326	42" RCP	0.0050	NO
322	19x30" ERCP	0.0060	NO
*330	6:1 SAFETY ES	0.0050	N/A
*331	6:1 SAFETY ES	0.0050	N/A
*340	6:1 SAFETY ES	0.0056	N/A

*SEE STANDARD CONSTRUCTION DETAIL D-1.

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
241	15" RCP	III	72	0.0070	100.32	99.80
242	15" RCP	III	72	0.0100	104.13	103.43
243	18" RCP	V	81	0.0050	103.43	103.03

ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
3	6056+89.19	-28.69	3.5" ASPHALT OVER 2" STONE/SOIL MIX

DELDOT SWM FACILITY SCHEDULE

NO.	TYPE / DESCRIPTION	LOCATION
987	BIOFILTRATION SWALE	STA. 6059+10 RT. TO 6060+40 RT.
989	BIOFILTRATION SWALE	STA. 6059+04 LT. TO 6060+24 LT.

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

CONSTRUCTION PLAN

CP-11

SECTION JMT

SHEET NO. 39

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP11]

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
*+256	6063+27.65	14.80 RT	84" x 84"	2	104.76	92.42
263	6067+02.32	38.27 RT	34" x 24"	2	103.32	100.36
271	7067+02.34	21.92 RT	48" x 30"	4	103.71	100.09
272	1000+32.46	147.04 LT	48" x 48"	4	103.37	99.64
273	1000+51.99	104.83 LT	48" x 48"	4	102.79	99.00
274	1000+89.63	80.08 LT	48" x 48"	4	102.18	98.38
275	1001+42.22	68.57 LT	48" x 30"	1	101.90	98.02
276	1000+49.92	70.93 RT	48" x 30"	4	103.71	98.69
277	1000+89.46	43.19 RT	48" x 30"	4	103.05	98.04
278	1001+42.22	33.19 RT	48" x 30"	1	102.79	97.23

*DOGHOUSE INLET BOX. SEE STANDARD CONSTRUCTION DETAIL D-5.
+ SEE CONSTRUCTION DETAIL. INLET TO BE PAID UNDER ITEM 602013.

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
151	383+49.67	38.65 RT	48" x 30"	4	104.94	101.80
152	384+14.52	55.50 RT	48" x 30"	1	103.67	100.64
153	384+43.50	79.06 RT	66" x 66"	4	104.00	98.90
154	384+60.33	121.45 RT	48" x 48"	4	104.39	98.48
*+155	6063+05.90	33.92 LT	84" X 84"	4	104.88	92.66
161	383+51.19	47.26 LT	48" x 30"	4	105.53	101.56
162	384+14.47	62.03 LT	48" x 30"	4	103.61	100.40
163	384+49.18	103.98 LT	48" x 48"	1	102.98	99.78
164	384+47.39	48.17 LT	48" x 48"	4	103.83	99.52
165	384+48.77	28.17 RT	48" x 48"	4	104.09	99.14
166	384+43.04	14.00 LT	48" x 48"	4	104.62	99.36
244	7061+41.10	41.99 RT	34" x 24"	2	103.98	100.60
245	7062+58.20	42.05 RT	48" x 48"	2	103.40	99.83

*DOGHOUSE INLET BOX. SEE STANDARD CONSTRUCTION DETAIL D-5.
+ SEE CONSTRUCTION DETAIL. INLET TO BE PAID UNDER ITEM 602013.
** CURB LENGTH FOR PEDESTRIAN CONNECTION LIMITS IS EXCLUDED FROM THIS QUANTITY.

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
151	15" RCP	III	71	0.0320	104.30	102.00
152	15" RCP	IV	64	0.0180	101.80	100.64
153	15" RCP	IV	35	0.0100	100.64	100.29
154	21" RCP	III	43	0.0050	98.90	98.68
155	21" RCP	III	86	0.0050	98.48	98.05
*156	54" RCP	III	13	0.0040	92.79	92.74
160	15" RCP	III	68	0.0300	103.81	101.76
161	18" RCP	III	61	0.0200	101.56	100.34
162	18" RCP	III	11	0.0055	100.40	100.34
163	18" RCP	IV	59	0.0050	100.07	99.78
164	18" RCP	IV	52	0.0050	99.78	99.52
165	18" RCP	III	32	0.0050	99.52	99.36
166	18" RCP	III	48	0.0050	99.14	98.90

*CONTRACTOR SHALL VERIFY AND MATCH EXISTING PIPE INVERT.

NOTES:

1. TRENCH WILL BE RECONSTRUCTED WITH HOT-MIX AS INTERIM CONDITION AND PERMANENTLY RECONSTRUCTED WITH P.C.C. PAVEMENT.
2. CONTRACTOR SHALL FIELD VERIFY INVERTS AND EXTEND RCP FROM THE FIRST STRUCTURALLY INTACT JOINT. CONTRACTOR SHALL POUR A CONCRETE COLLAR AROUND NEW JOINT. PAYMENT SHALL BE INCIDENTAL TO PROPOSED PIPE.
3. SEE CP-13 FOR MONUMENT SCHEDULE.
4. CLEAN EXISTING PIPE. WORK TO BE PAID UNDER ITEM 601001.

HEADWALL SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
156	54" RCP	0.0000	NO

* SEE CONSTRUCTION DETAIL

RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
163	R-4	8'	10'	14"
246	R-4	8'	6'	14"
279	R-5	8'	23'	18"
341	R-4	8'	6'	14"
342	R-5	12'	6'	18"

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
163	18" RCP	0.0050	YES
246	18" RCP	0.0100	NO
279	24" RCP	0.0100	NO
341	15" RCP	0.0056	NO

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
**1201	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	372'
1202	P.C.C. CURB, TYPE 2	94'
*1203	P.C.C. CURB, TYPE 2	45'
*1204	P.C.C. CURB, TYPE 2	24'
*1205	P.C.C. CURB, TYPE 2	54'
1206	P.C.C. CURB, TYPE 2	84'
**1207	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	214'
*1208	P.C.C. CURB, TYPE 2	34'
*1209	P.C.C. CURB, TYPE 2	37'
*1210	P.C.C. CURB, TYPE 2	50'
1211	P.C.C. CURB, TYPE 2	232'
*1212	P.C.C. CURB, TYPE 2	52'
*1213	P.C.C. CURB, TYPE 2	62'
*1214	P.C.C. CURB, TYPE 2	89'
*1215	P.C.C. CURB, TYPE 2	35'
**1216	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	199'
1217	P.C.C. CURB, TYPE 2	237'
**1218	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	318'
*1219	P.C.C. CURB, TYPE 2	39'
*1220	P.C.C. CURB, TYPE 2	78'

*THE COST FOR CONSTRUCTING THIS CURB IS INCIDENTAL TO ITEM 702000 - TRIANGULAR CHANNELIZING ISLANDS. LENGTH SHOWN IS FOR ESTIMATING PURPOSES ONLY.

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
167	18" RCP	III	30	0.0140	100.14	99.72
168	18" RCP	III	41	0.0055	99.36	99.14
245	18" RCP	III	113	0.0050	100.60	100.03
246	18" RCP	III	79	0.0100	99.83	99.04
270	18" RCP	V	43	0.0040	100.36	100.19
271	15" RCP	III	132	0.0050	100.95	100.29
272	18" RCP	III	50	0.0050	100.09	99.84
273	18" RCP	III	44	0.0100	99.64	99.20
274	18" RCP	III	42	0.0100	99.00	98.58
275	18" RCP	III	51	0.0050	98.38	98.12
276	15" RCP	III	37	0.0100	98.49	98.12
277	15" RCP	III	45	0.0100	98.69	98.24
278	15" RCP	III	51	0.0120	98.04	97.43
279	24" RCP	III	27	0.0100	97.23	96.96
280	24" RCP	IV	98	0.0060	98.02	97.43
315	15" RCP	III	36	0.0100	97.79	97.43

UNDERDRAIN OUTLETS

NO.	LENGTH	DIS. EL.
810	18	100.13

DELDOT SWM FACILITY SCHEDULE

NO.	TYPE / DESCRIPTION	LOCATION
988	BIOFILTRATION SWALE	STA. 6062+06 RT. TO 6063+26 RT.
990	BIOFILTRATION SWALE	STA. 6067+04 RT. TO 6068+09 RT.
991	BIOFILTRATION SWALE	STA. 7061+44 RT. TO 7062+56 RT.
992	BIOFILTRATION SWALE	STA. 6066+85 LT. TO 6068+15 LT.

FENCE SCHEDULE

NO.	QTY.	DESCRIPTION	NOTES
1201	22 LF	CHAIN LINK FENCE, 6 FT. HIGH (ITEM 727000)	STA. 1001+54, 47' RT. TO STA. 1001+75, 47' RT.

MANHOLE SCHEDULE

NO.	STATION	OFFSET	TYPE/SIZE	T.G. EL.	INV. EL.
162	384+14.84	48.08 RT	48" x 48"	103.95	100.14

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PLAN

	CP-12
SECTION	JMT
SHEET NO.	40

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP12]

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
1301	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	602'
**1304	P.C.C CURB, TYPE 1-6	64'
**1305	P.C.C CURB, TYPE 1-6	58'
1306	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	23'
1307	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	42'

** CURB LENGTH FOR PEDESTRIAN CONNECTION LIMITS IS EXCLUDED FROM THIS QUANTITY.

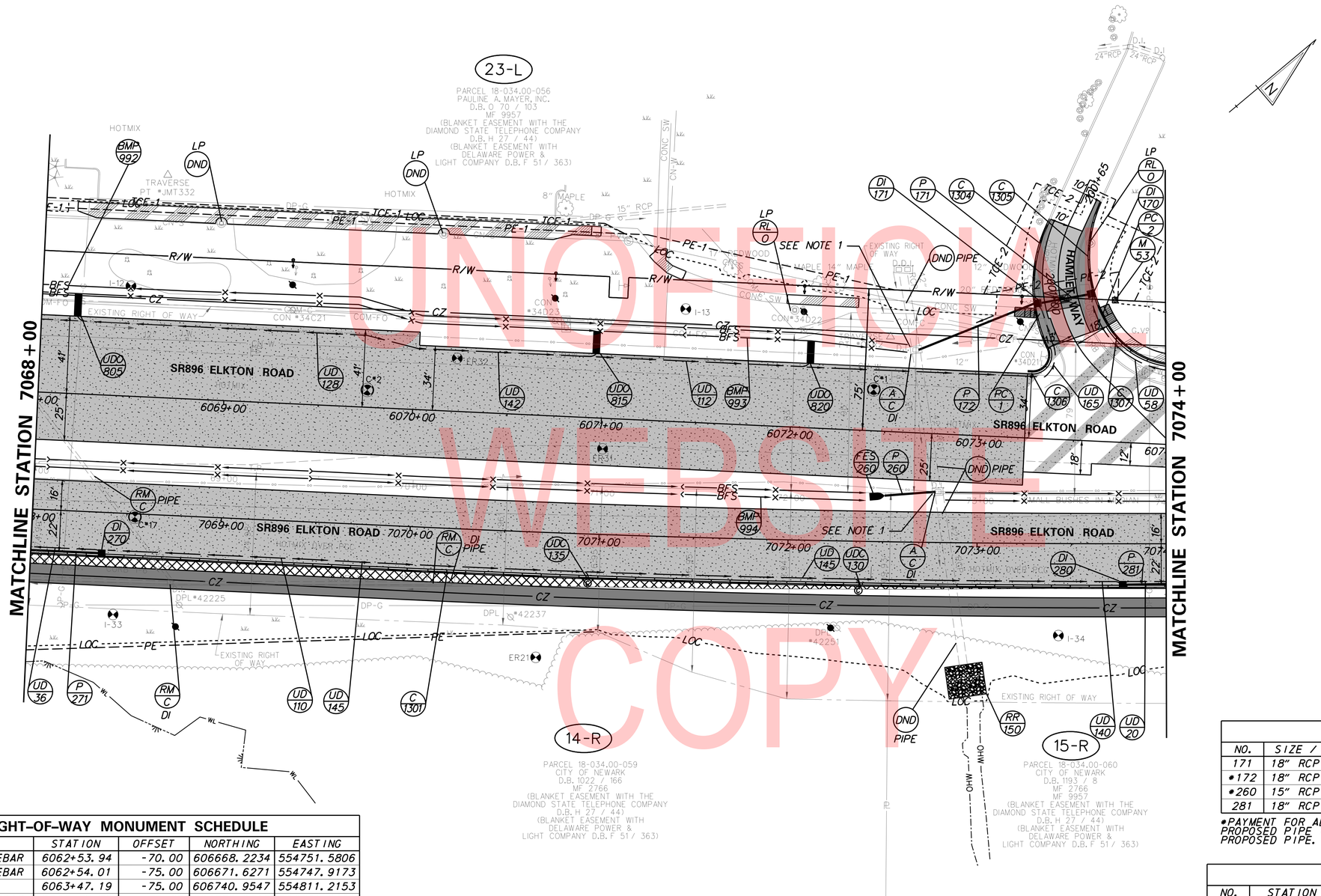
ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
1	6072+43.26	-21.82	5" ASPHALT OVER 3"+ CRUSHER RUN
2	6069+75.61	-9.16	9" ASPHALT OVER 4" CRUSHER RUN
17	7068+54.24	1.62	0.75" ASPHALT OVER 9.25" CONCRETE OVER 6"+ SELECT MIX

DELDOT SWM FACILITY SCHEDULE

NO.	TYPE / DESCRIPTION	LOCATION
993	BIOFILTRATION SWALE	STA. 6071+41 LT. TO 6072+61 LT.
994	BIOFILTRATION SWALE	STA. 6071+44 RT. TO 6072+44 RT.

NOTES:
1. COST TO INSTALL PIPE TO EXISTING D.I. IS INCIDENTAL TO PIPE BEING INSTALLED.



UNDERDRAIN OUTLETS

NO.	LENGTH	DIS. EL.
805	18	100.73
815	16	100.93
820	16	100.36

UNDERDRAIN CLEANOUT

NO.	STATION	OFFSET
130	7072+37.64	26.00 RT
135	7070+94.78	25.97 RT

RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
150	R-5	22'	17'	18"

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
*260	6:1 SAFETY ES	0.1200	N/A

*SEE STANDARD CONSTRUCTION DETAIL D-1.

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
171	18" RCP	III	26	0.0050	98.52	98.39
*172	18" RCP	III	66	0.0100	95.33	94.67
*260	15" RCP	III	27	0.1200	101.56	98.32
281	18" RCP	III	264	0.0100	98.94	96.30

*PAYMENT FOR ALL MATERIALS AND WORK REQUIRED TO INSTALL AND SEAL PROPOSED PIPE IN EXISTING INLET SHALL BE INCIDENTAL TO THE PROPOSED PIPE.

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
170	2000+98.98	17.71 RT	34" x 24"	4	102.18	98.52
171	2000+98+87	13.32 LT	48" x 48"	4	102.21	95.33
270	7068+37.56	21.92 RT	34" x 24"	4	104.37	100.95
280	7073+77.09	21.92 RT	48" x 30"	4	102.79	98.94

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-45	CAPPED REBAR	6062+53.94	-70.00	606668.2234	554751.5806
M-46	CAPPED REBAR	6062+54.01	-75.00	606671.6271	554747.9173
M-47	CONCRETE	6063+47.19	-75.00	606740.9547	554811.2153
M-48	CAPPED REBAR	6063+82.00	-75.00	606766.5519	554834.8059
M-49	CAPPED REBAR	6064+68.47	-145.00	606877.5786	554841.9350
M-50	CAPPED REBAR	6065+86.47	-145.00	606964.3490	554921.9032
M-51	CAPPED REBAR	6066+45.00	-75.00	606959.9469	555013.0400
M-52	CONCRETE	7063+30.53	80.00	606582.8490	554960.6046
M-53	CONCRETE	6073+68.59	-75.00	607492.0330	555503.4142

NOTE: MONUMENTS M-45 THROUGH M-52 ARE SHOWN ON SHEET CP-12.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP13]

ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

CONSTRUCTION PLAN

CP-13
SECTION JMT
SHEET NO. 41

RIGHT–OF–WAY MONUMENT SCHEDULE

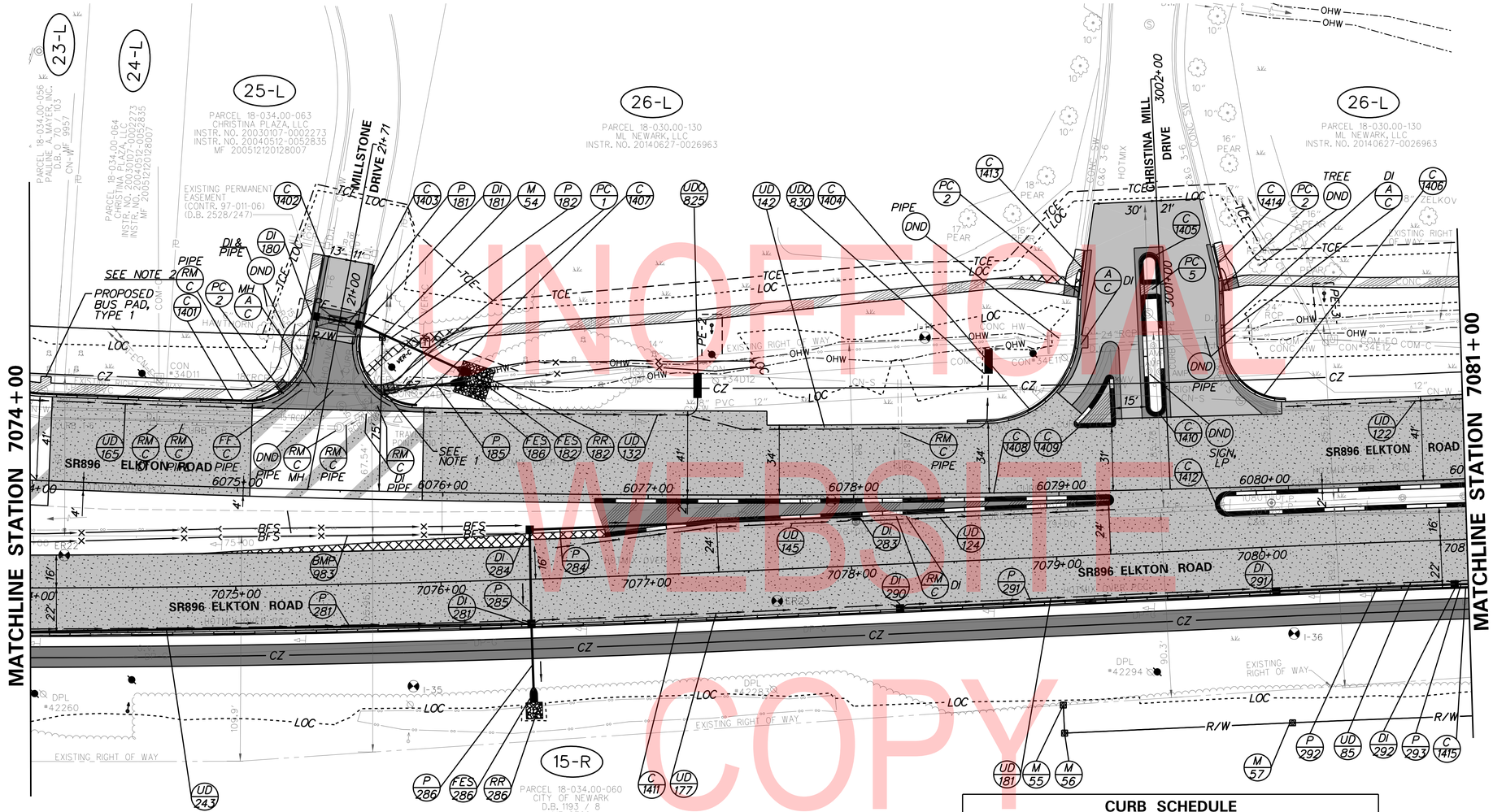
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-54	CONCRETE	6075+68.95	-75.00	607639.6503	555636.0795
M-55	CAPPED REBAR	7079+00.00	72.30	607778.5128	555986.4191
M-56	CAPPED REBAR	7079+00.00	86.00	607770.1924	555997.2999
M-57	CAPPED REBAR	7080+11.13	86.00	607858.4698	556064.8052

DELDOT SWM FACILITY SCHEDULE

NO.	TYPE / DESCRIPTION	LOCATION
983	BIOFILTRATION SWALE	STA. 6074+91 RT. TO 6076+41 RT.

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY INVERTS AND EXTEND RCP FROM THE FIRST STRUCTURALLY INTACT JOINT. CONTRACTOR SHALL POUR A CONCRETE COLLAR AROUND NEW JOINT. PAYMENT SHALL BE INCIDENTAL TO PROPOSED PIPE.
2. CONTRACTOR TO REMOVE APPROXIMATELY 24' OF EXISTING PIPE AND FILL WITH FLOWABLE FILL. PAYMENT TO BE UNDER THE RESPECTIVE PAY ITEMS.



DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
181	18" RCP	III	19	0.0250	97.97	97.51
182	18" RCP	III	52	0.0080	97.31	96.89
*185	18" RCP	III	34	0.0055	97.10	96.91
284	15" RCP	III	156	0.0050	97.84	97.06
285	18" RCP	III	43	0.0130	96.86	96.30
286	21" RCP	III	31	0.0300	96.10	95.17
291	15" RCP	V	181	0.0050	98.44	97.53
292	15" RCP	III	84	0.0050	97.53	97.11
293	18" RCP	III	173	0.0050	97.11	96.24

*CONTRACTOR SHALL VERIFY AND MATCH EXISTING PIPE INVERT.

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
180	20+83.59	12.92 RT	48" x 30"	4	101.72	97.97
181	20+83.57	10.92 LT	48" x 30"	4	101.28	97.31
281	7076+43.35	21.92 RT	48" x 30"	4	101.67	96.10
283	7078+03.46	23.17 LT	34" x 24"	4	101.45	97.84
284	6076+42.54	17.45 RT	48" x 30"	2	101.18	96.86
290	7078+22.76	21.92 RT	34" x 24"	4	101.24	98.44
291	7080+06.13	21.92 RT	34" x 24"	4	100.79	97.53
292	7080+93.30	21.92 RT	48" x 30"	4	100.58	97.11

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
**1401	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	141'
1402	P.C.C CURB, TYPE 1-6	49'
1403	P.C.C CURB, TYPE 1-6	35'
**1404	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	95'
1405	P.C.C. CURB, TYPE 2	45'
**1406	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	71'
**1407	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	43'
1408	P.C.C. CURB, TYPE 2	504'
*1409	P.C.C. CURB, TYPE 2	77'
1410	P.C.C. CURB, TYPE 2	153'
1411	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	701'
1412	P.C.C. CURB, TYPE 2	250'
**1413	INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-6	18'
**1414	INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-6	18'
1415	INTEGRAL P.C.C. CURB & GUTTER, TYPE 3-6	5'

** CURB LENGTH FOR PEDESTRIAN CONNECTION LIMITS IS EXCLUDED FROM THIS QUANTITY.

UNDERDRAIN OUTLETS

NO.	LENGTH	DIS. EL.
825	24	96.00
830	40	95.12

RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
182	R-4	16'	16'	14"
286	R-4	8'	8'	14"

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
182	18" RCP	0.0080	NO
186	18" RCP	0.0055	NO
286	21" RCP	0.0300	NO

*THE COST FOR CONSTRUCTING THIS CURB IS INCIDENTAL TO ITEM 702000 - TRIANGULAR CHANNELIZING ISLANDS. LENGTH SHOWN IS FOR ESTIMATING PURPOSES ONLY.

CP-14

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PLAN

SECTION	JMT
SHEET NO.	42

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP14]

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CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
1501	P.C.C. CURB, TYPE 2	250'
1502	P.C.C CURB, TYPE 1-8	62'
1503	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-2	120'
1504	P.C.C. CURB, TYPE 2	248'
1506	P.C.C CURB, TYPE 1-6	18'
1508	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	114'
1509	INTEGRAL P.C.C CURB & GUTTER, TYPE 1-6	158'

GUARDRAIL SCHEDULE

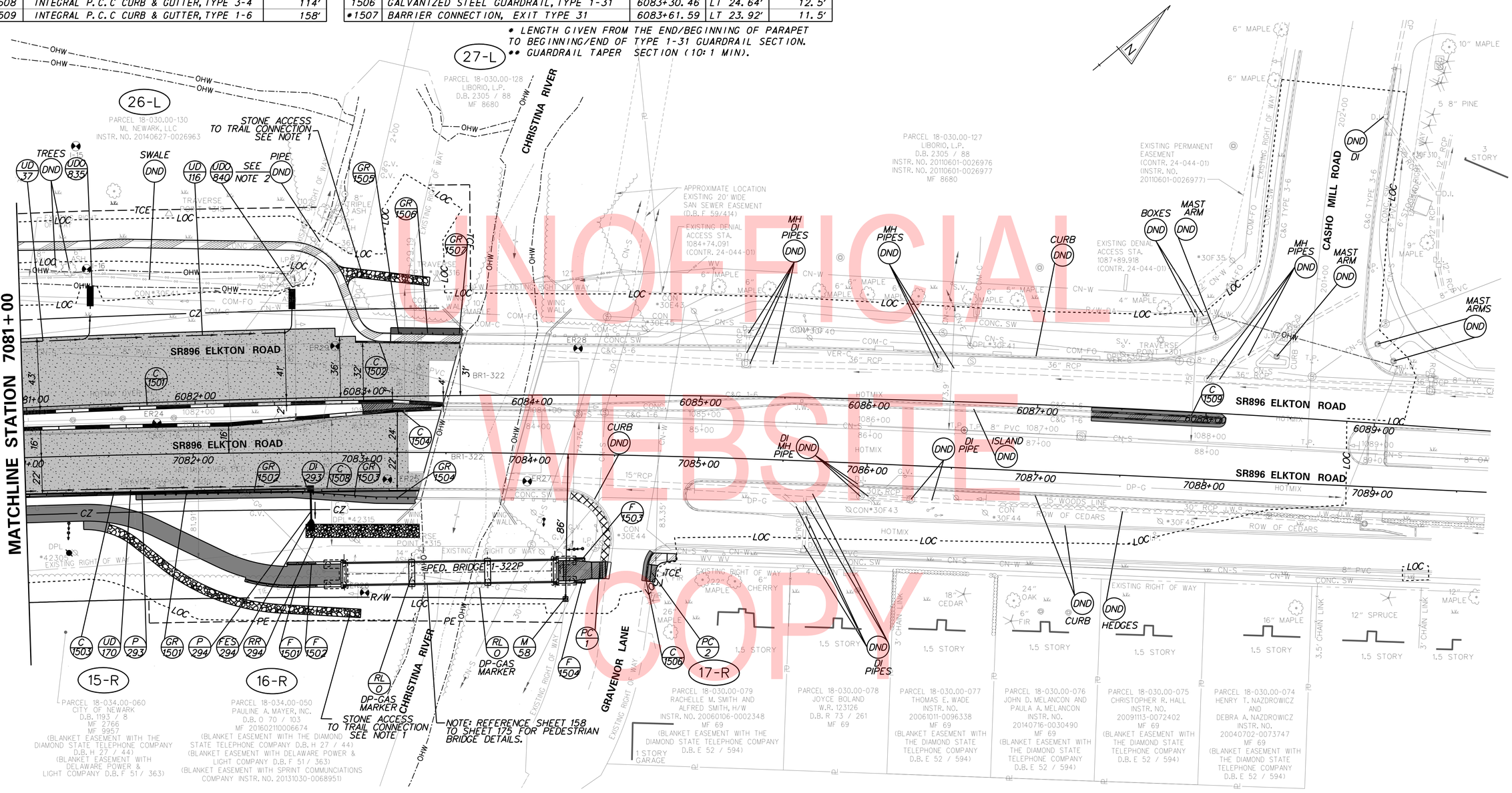
NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH
1501	END TREATMENT, ATTENUATOR TYPE 1	7081+70.64	RT 23.00'	50'
1502	GALVANIZED STEEL GUARDRAIL, TYPE 1-31	7082+20.80	RT 23.00'	37.5'
**1503	GALVANIZED STEEL GUARDRAIL, TYPE 1-31	7082+58.43	RT 22.96'	50'
*1504	BARRIER CONNECTION, APPROACH TYPE 2-31	7083+08.49	RT 26.56'	24.4375'
1505	END ANCHORAGE, TYPE 31	6083+20.91	LT 25.53'	12.5'
1506	GALVANIZED STEEL GUARDRAIL, TYPE 1-31	6083+30.46	LT 24.64'	12.5'
*1507	BARRIER CONNECTION, EXIT TYPE 31	6083+61.59	LT 23.92'	11.5'

* LENGTH GIVEN FROM THE END/BEGINNING OF PARAPET TO BEGINNING/END OF TYPE 1-31 GUARDRAIL SECTION.
** GUARDRAIL TAPER SECTION (10:1 MIN).

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
M-58	CAPPED REBAR	7084+22.49	86.00	608172.8586	556321.4299

NOTES:
1. 0.5' DEPTH x 5' WIDTH STONE TO BE PAID UNDER ITEM NO. 302005 DELAWARE NO. 57 STONE. TRANSITION LAST 10' OF PROPOSED TRAIL TO THE EXISTING TRAIL SMOOTHLY.
2. CLEAN EXISTING DRAINAGE PIPE. WORK TO BE PAID UNDER ITEM 601001.



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FENCE SCHEDULE

NO.	QTY.	DESCRIPTION	NOTES
1501	42 LF	ALUMINUM PED. RAILING, 4 FT. HIGH (ITEM 626010)	STA. 876+07, 1.5' RT. TO STA. 876+49, 1.5' RT.
1502	18 LF	ALUMINUM PED. RAILING, 4 FT. HIGH (ITEM 626010)	STA. 876+31, 11.5' LT. TO STA. 876+49, 11.5' LT.
1503	6 LF	ALUMINUM PED. RAILING, 4 FT. HIGH (ITEM 626010)	STA. 878+02, 11.5' LT. TO STA. 878+08, 11.5' LT.
1504	6 LF	ALUMINUM PED. RAILING, 4 FT. HIGH (ITEM 626010)	STA. 878+02, 1.5' RT. TO STA. 878+08, 1.5' RT.

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
294	21" RCP	III	18	0.0100	96.24	96.06

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
293	7082+69.59	21.82 RT	48" x 30"	4	100.16	96.24

RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
294	R-5	8'	75'	18"

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
294	21" RCP	0.0100	NO

UNDERDRAIN OUTLETS

NO.	LENGTH	DIS. EL.
835	35	94.67
840	30	94.66

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

CONSTRUCTION PLAN

CP-15

SECTION	SHEET NO.
JMT	43

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP15]

CURB SCHEDULE

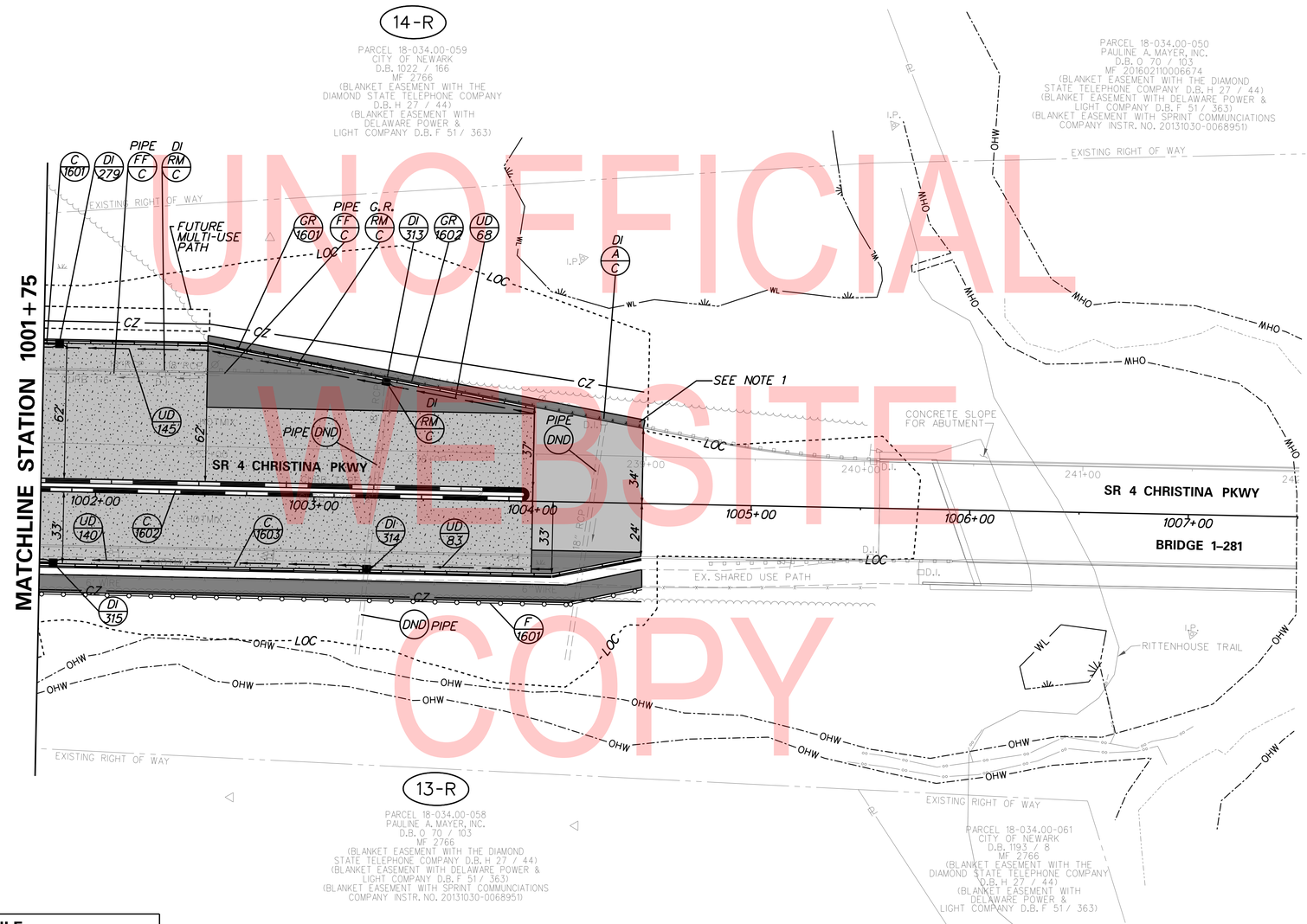
NO.	ITEM DESCRIPTION / TYPE	LENGTH
1601	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	228'
1602	P.C.C. CURB, TYPE 2	450'
1603	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	276'

GUARDRAIL SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH
1601	END ANCHORAGE, TYPE 31	1002+50.96	LT 68.86'	12.5'
1602	GALVANIZED STEEL GUARDRAIL, TYPE 1-31	1002+63.27	LT 66.73'	* 190.625'

* - ITEM INCLUDES TRANSITION SECTION, SEE NOTE 1.

NOTES:
1. TRANSITION PROPOSED GUARDRAIL TYPE 1-31 TO EXISTING GUARDRAIL PER DELDOT STANDARD DETAIL B-7. COST INCIDENTAL TO ITEM 720021.



DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
279	1001+81.18	67.92 LT	34" x 24"	4	101.97	98.49
*313	1003+32.07	53.75 RT	48" X 30"	4	104.26	99.94
*314	1003+24.61	39.92 RT	48" x 30"	4	104.49	93.69
315	1001+81.23	32.92 RT	48" X 30"	4	102.91	97.79

*DOGHOUSE INLET BOX. SEE STANDARD CONSTRUCTION DETAIL D-5.

FENCE SCHEDULE

NO.	QTY.	DESCRIPTION	NOTES
1601	276 LF	CHAIN LINK FENCE, 6 FT. HIGH (ITEM 727000)	STA. 1001+75, 47' RT. TO STA. 104+51, 39' RT.

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP16]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

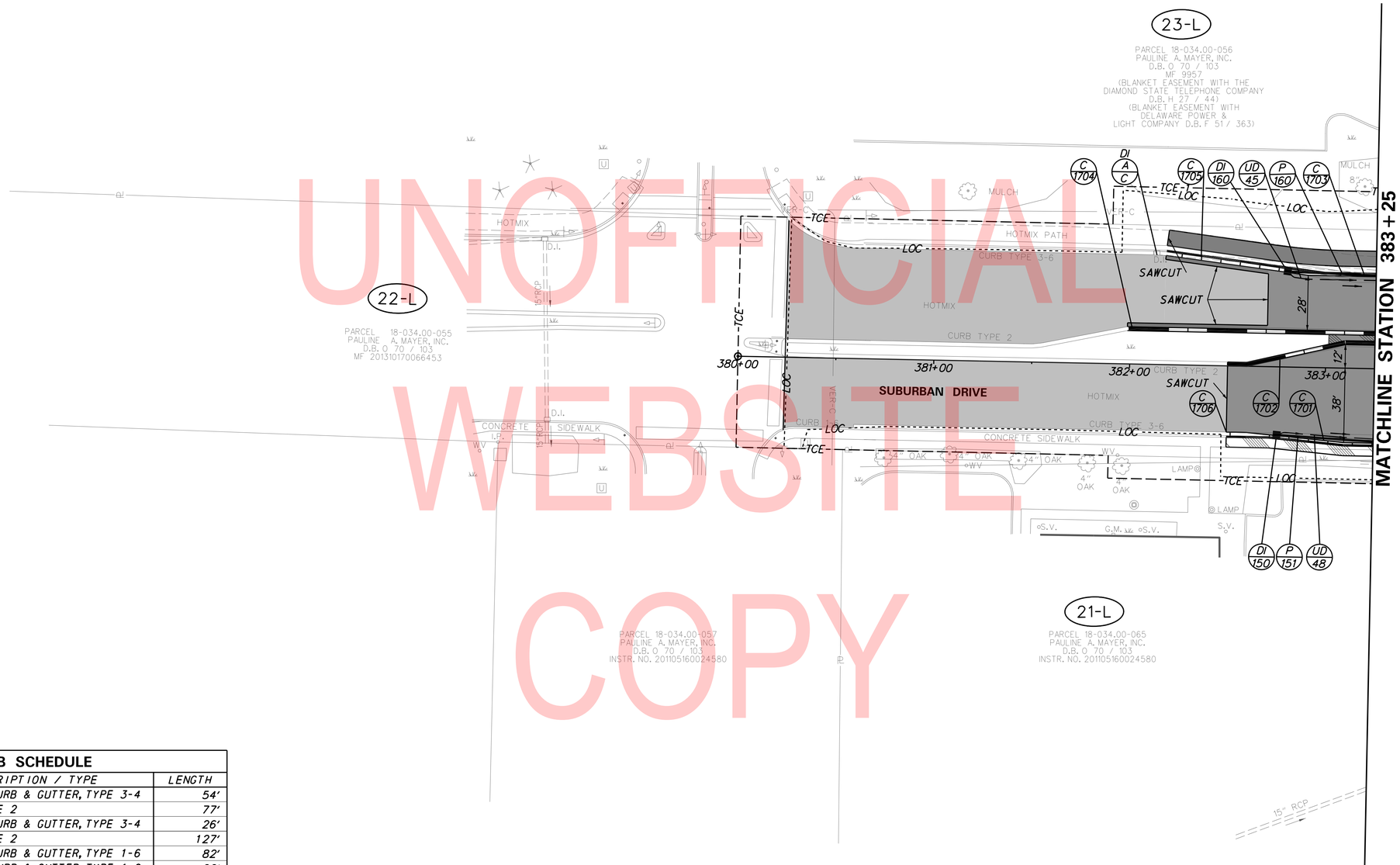
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PLAN

CP-16

SECTION	JMT
SHEET NO.	44



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CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
1701	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	54'
1702	P.C.C. CURB, TYPE 2	77'
1703	INTEGRAL P.C.C CURB & GUTTER, TYPE 3-4	26'
1704	P.C.C. CURB, TYPE 2	127'
1705	INTEGRAL P.C.C CURB & GUTTER, TYPE 1-6	82'
1706	INTEGRAL P.C.C CURB & GUTTER, TYPE 1-6	22'

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
150	382+75.65	35.02 RT	34" x 24"	4	107.46	104.30
160	382+79.76	48.17 LT	48" x 30"	4	107.56	103.81

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PLAN

CP-17
SECTION
JMT
SHEET NO.
45

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP17]

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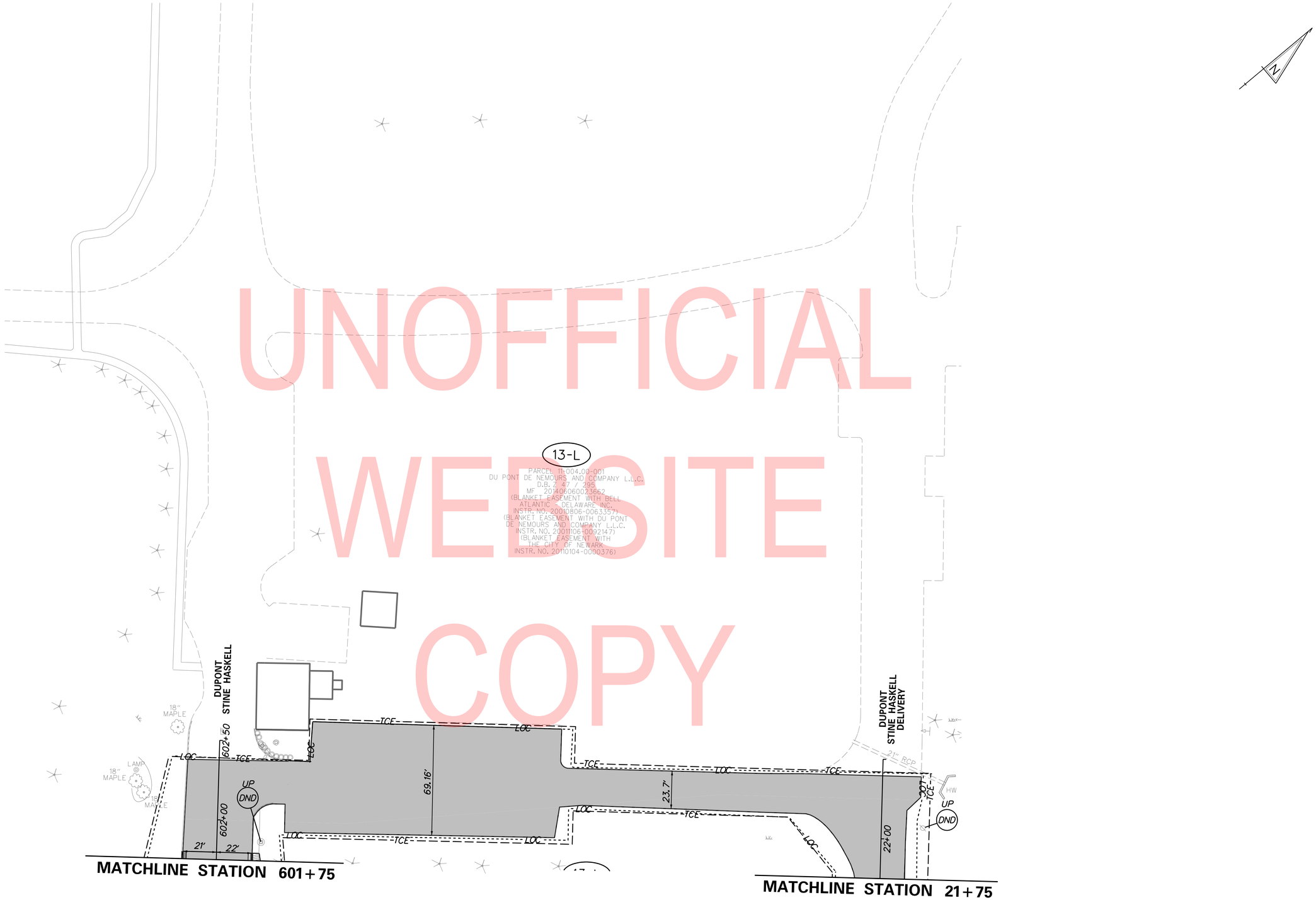

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CP.DGN [SHEET: CP18]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

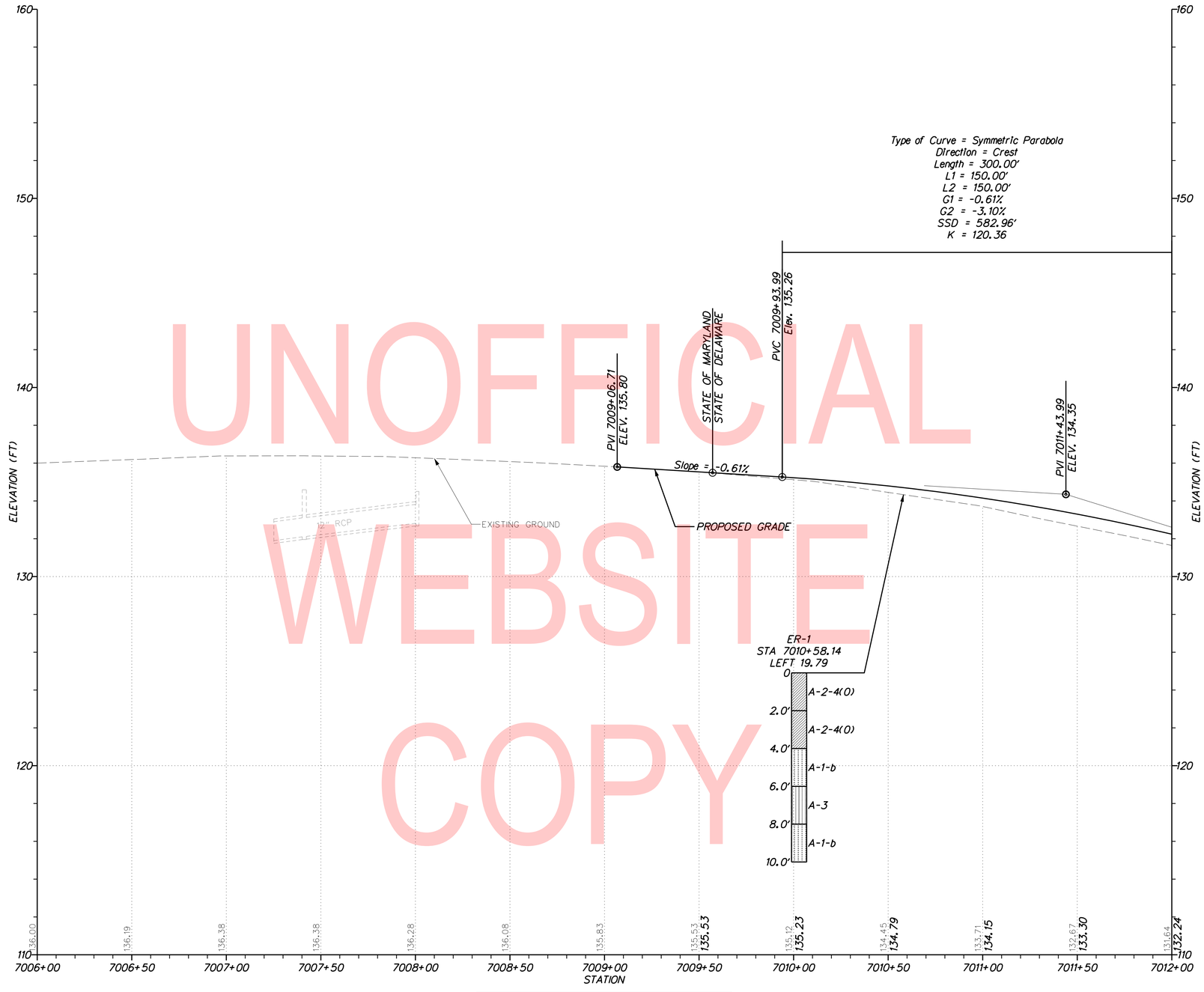
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PLAN

CP-18	
SECTION	JMT
SHEET NO.	46



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NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

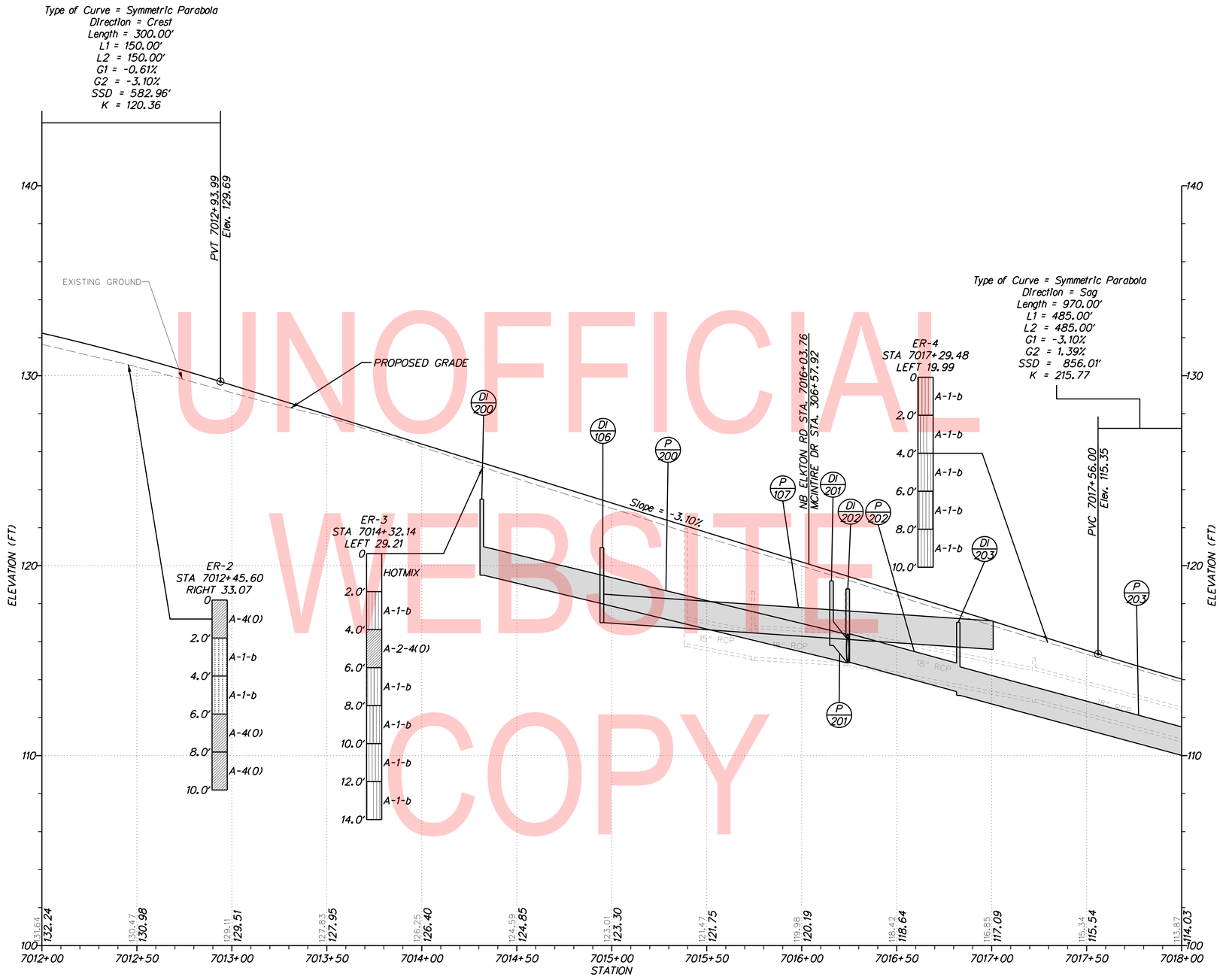
PROFILES

VERTICAL SCALE FEET 0 3 6 9

PF-01

SECTION	SHEET NO.
JMT	47

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF01]



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NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-02

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

PROFILES

SECTION	JMT
SHEET NO.	48

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF02]

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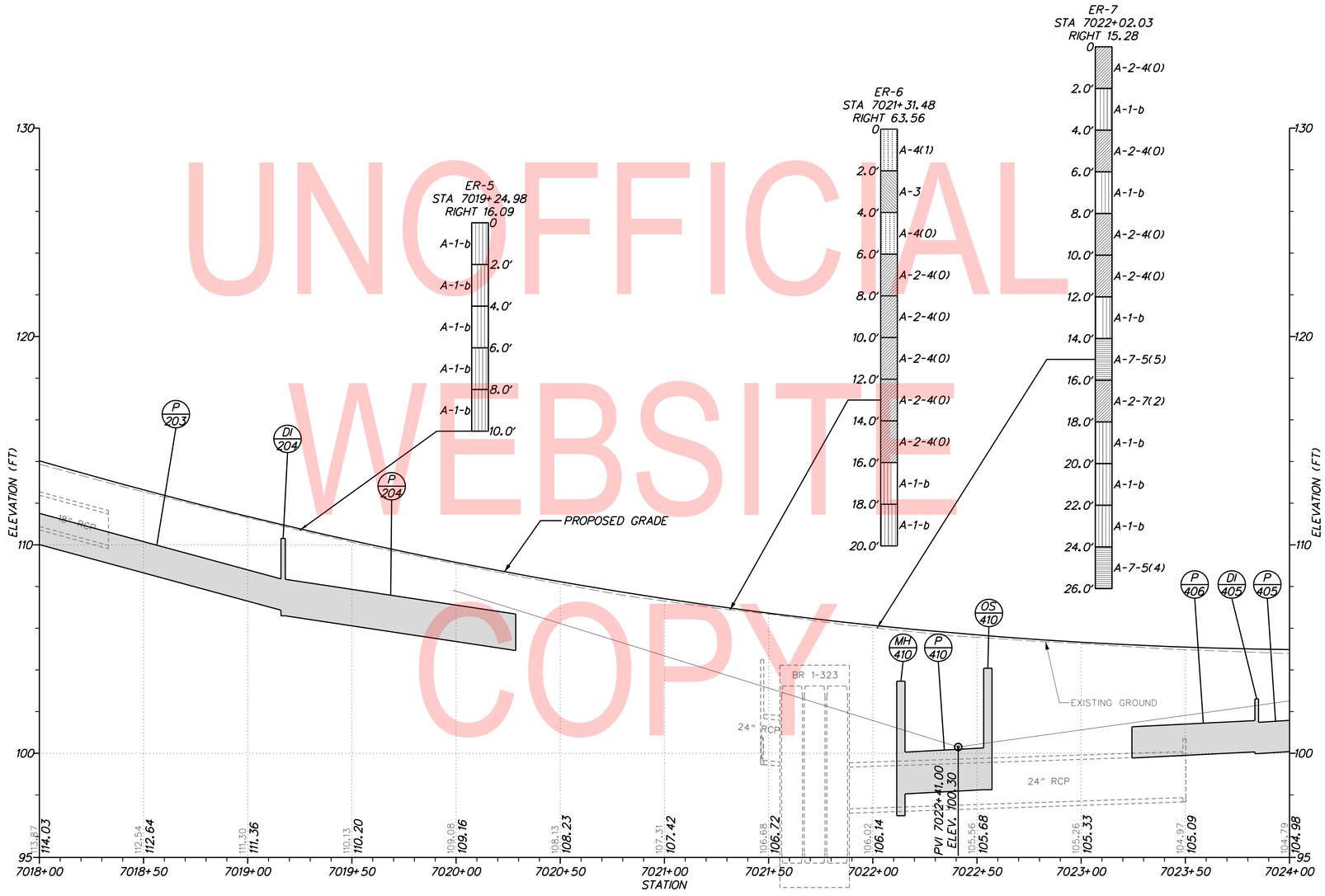

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VERTICAL SCALE FEET 0 3 6 9

PF-03

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	SHEET NO.
JMT	49

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF03]

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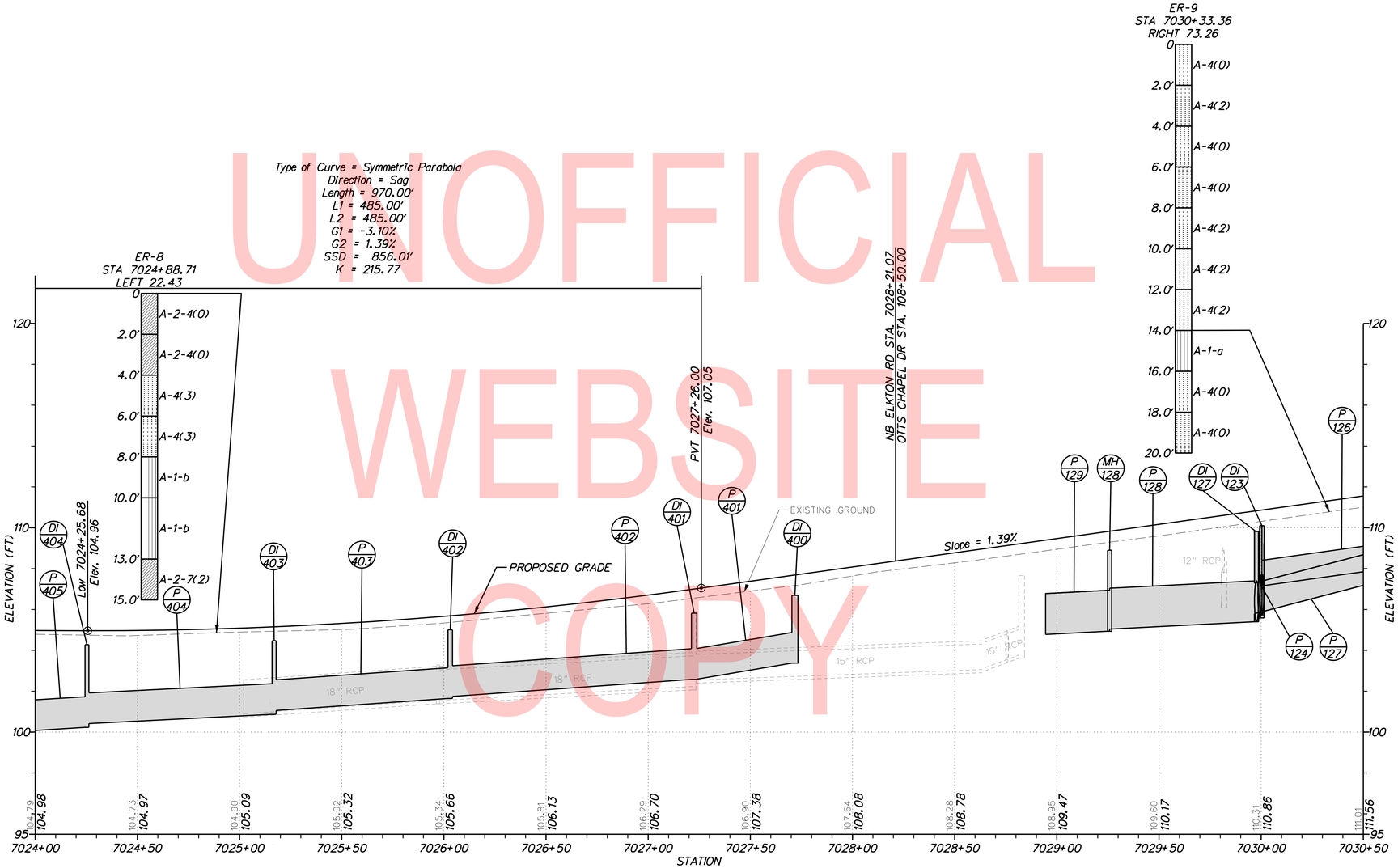

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NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

VERTICAL SCALE FEET 0 3 6 9

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	SHEET NO.
JMT	50

PF-04

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF04]

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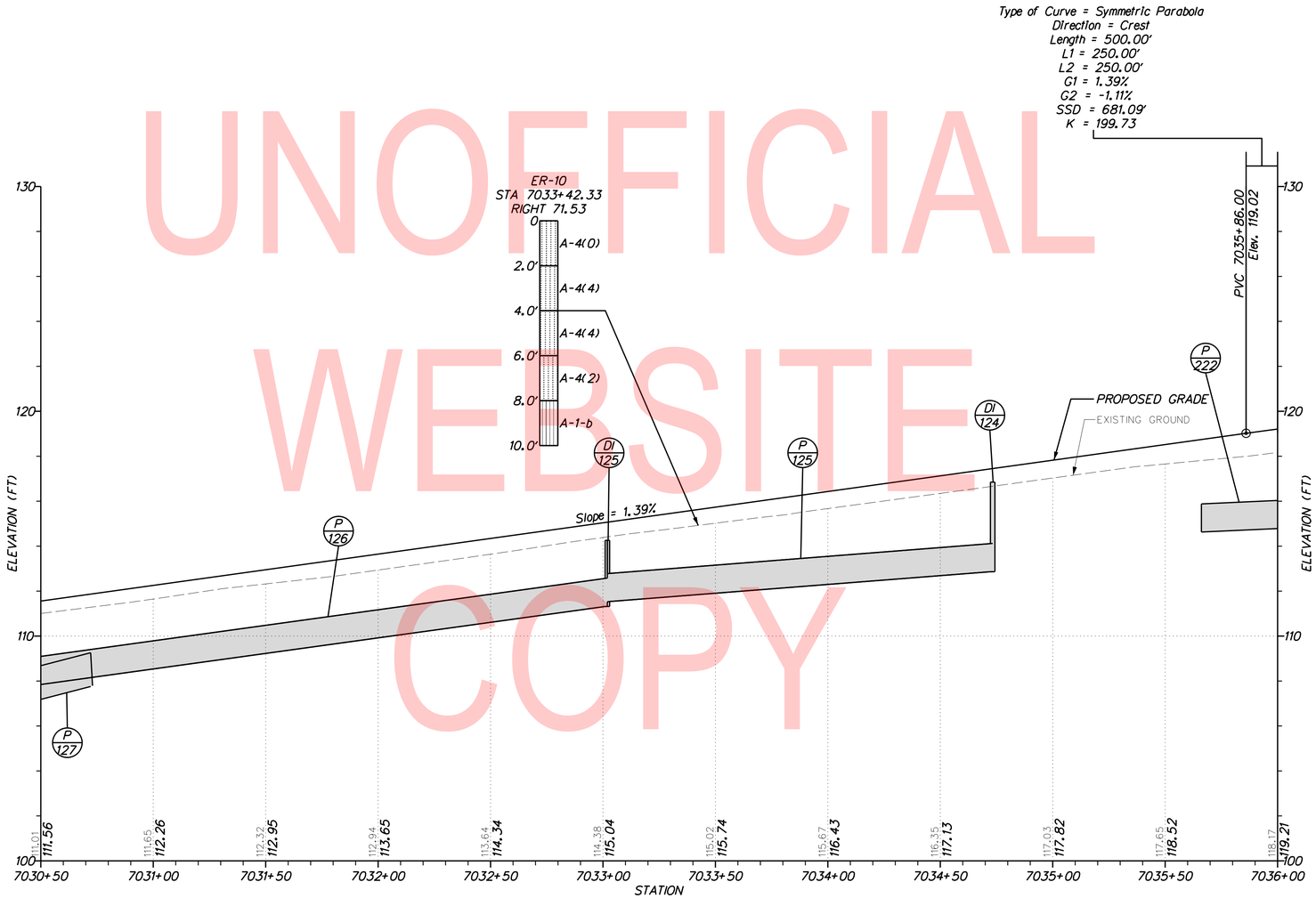

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NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-05

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	
JMT	
SHEET NO.	
51	

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF05]

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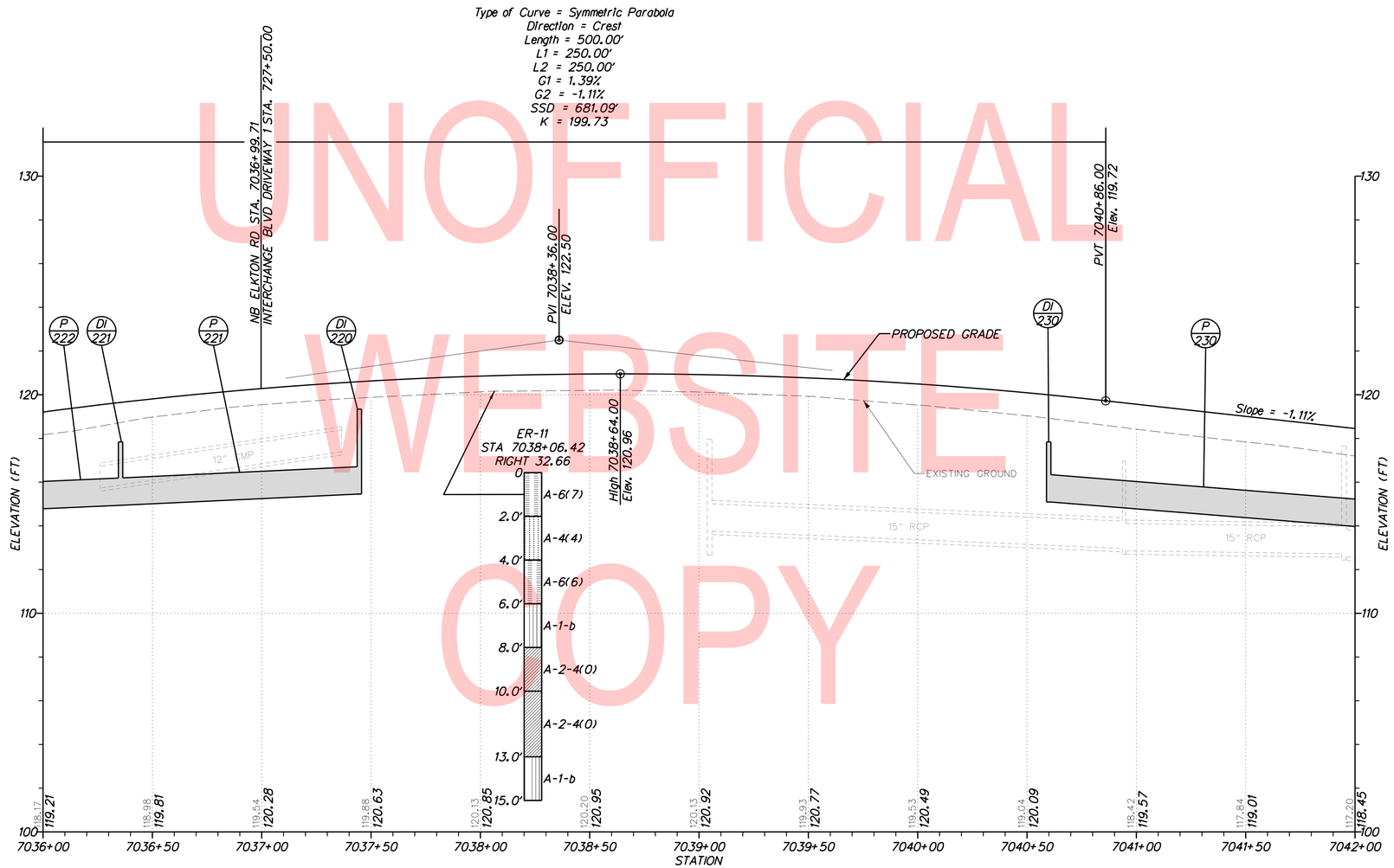

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NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-06

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

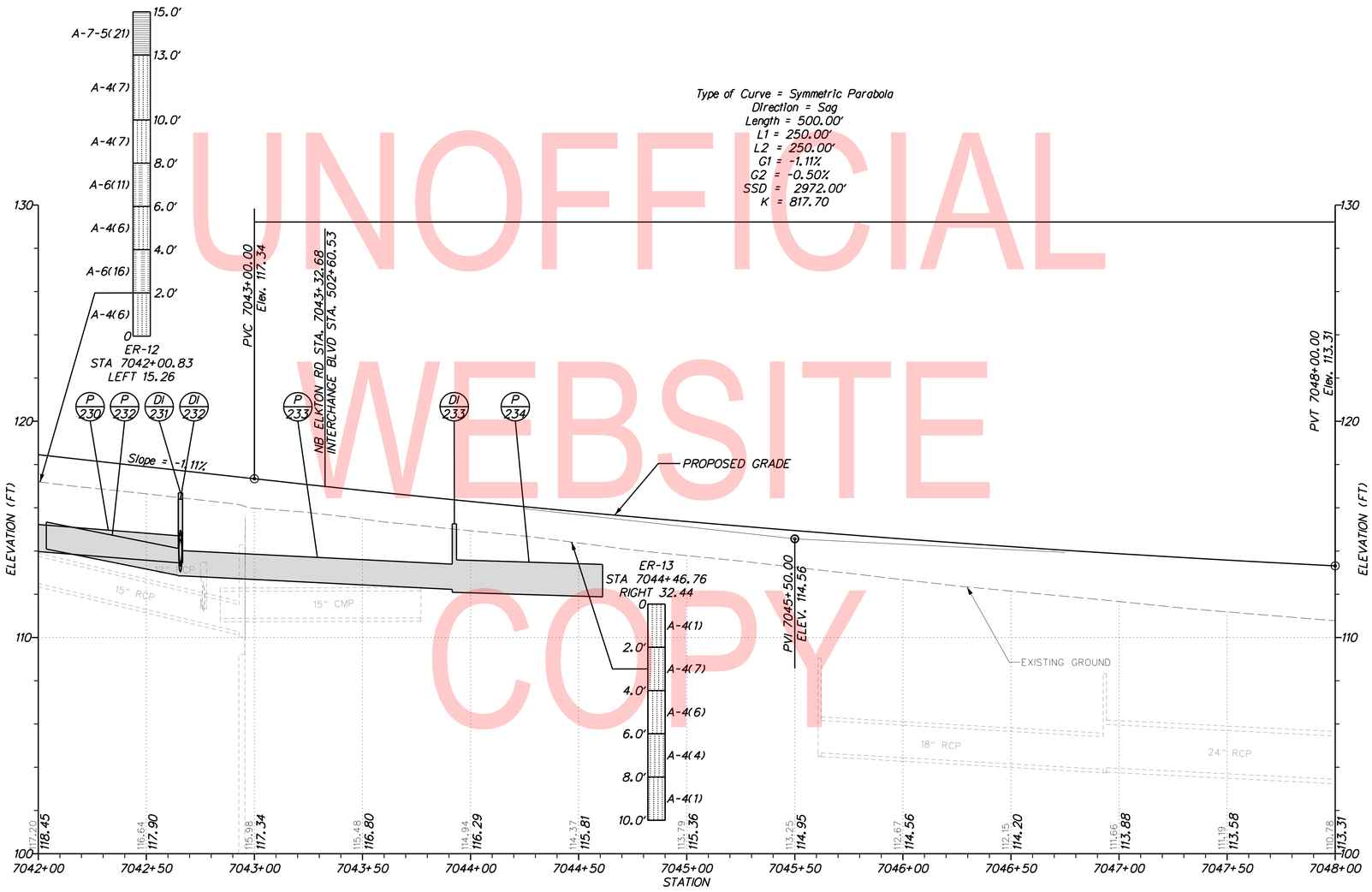
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

PROFILES

SECTION	JMT
SHEET NO.	52

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF06]



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NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

VERTICAL SCALE FEET 0 3 6 9

PF-07

SECTION JMT

SHEET NO. 53

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF07]

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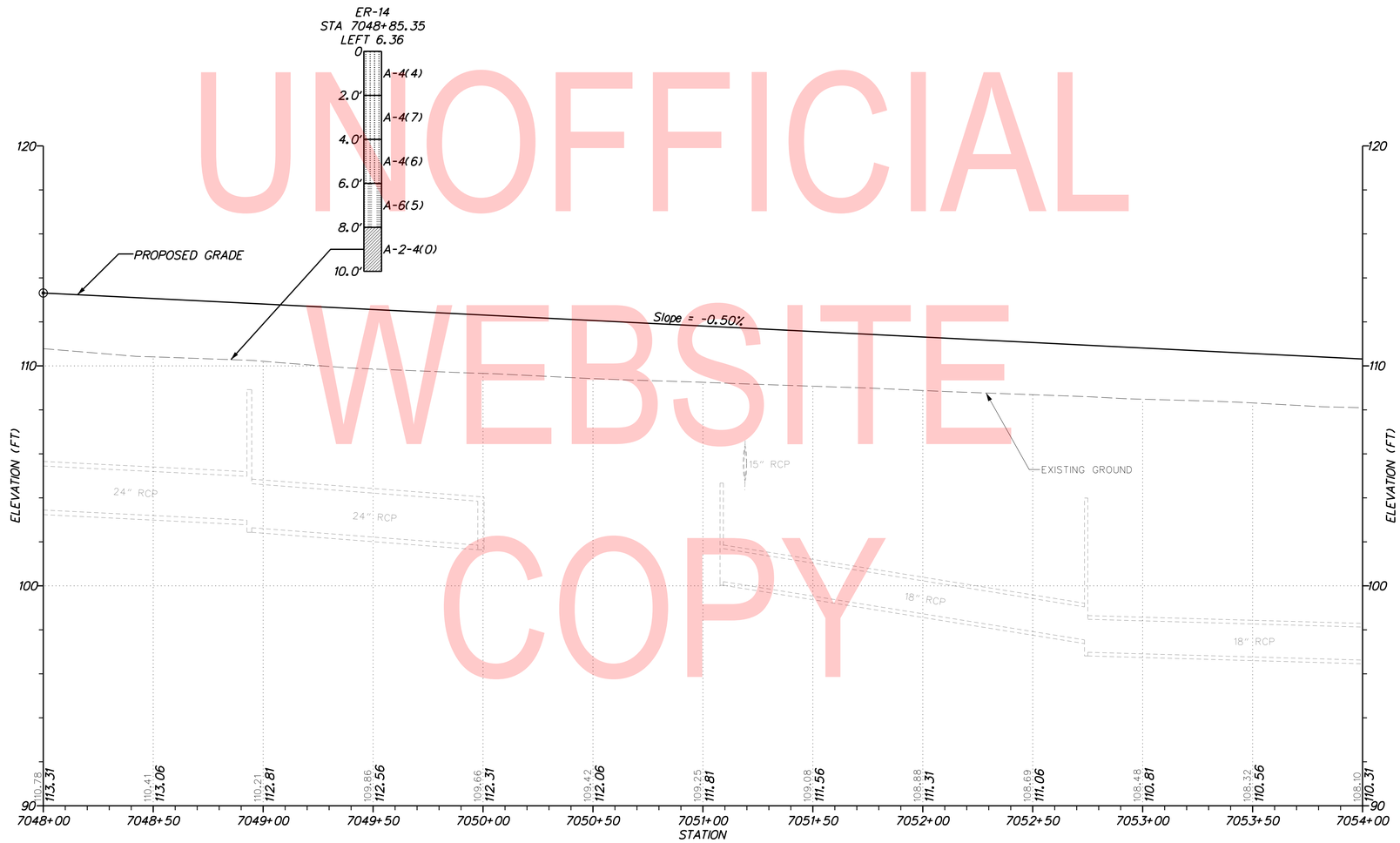

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NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-08

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

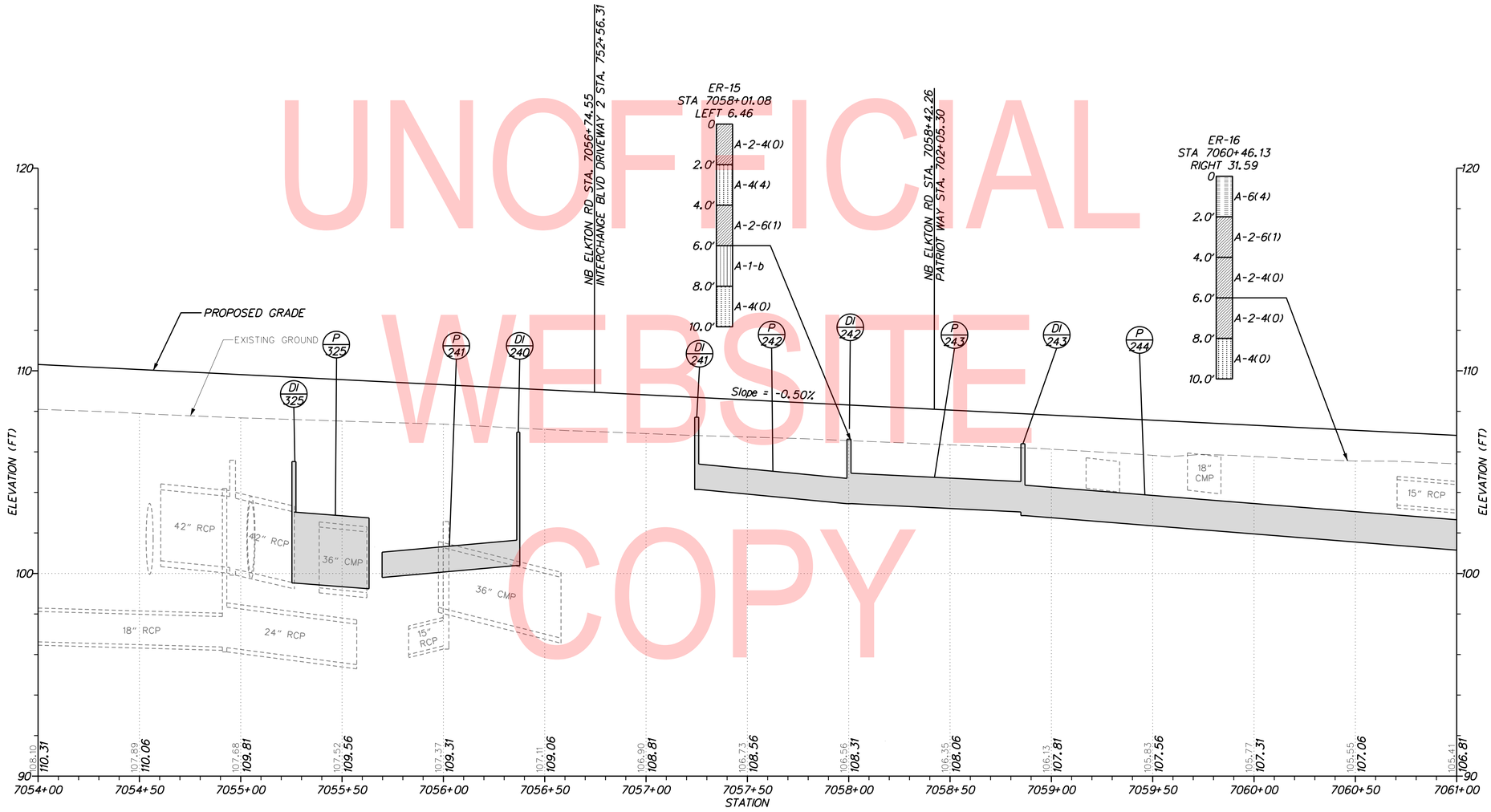
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	SHEET NO.
JMT	54

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF08]



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VERTICAL SCALE FEET 0 3 6 9

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

PF-09

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

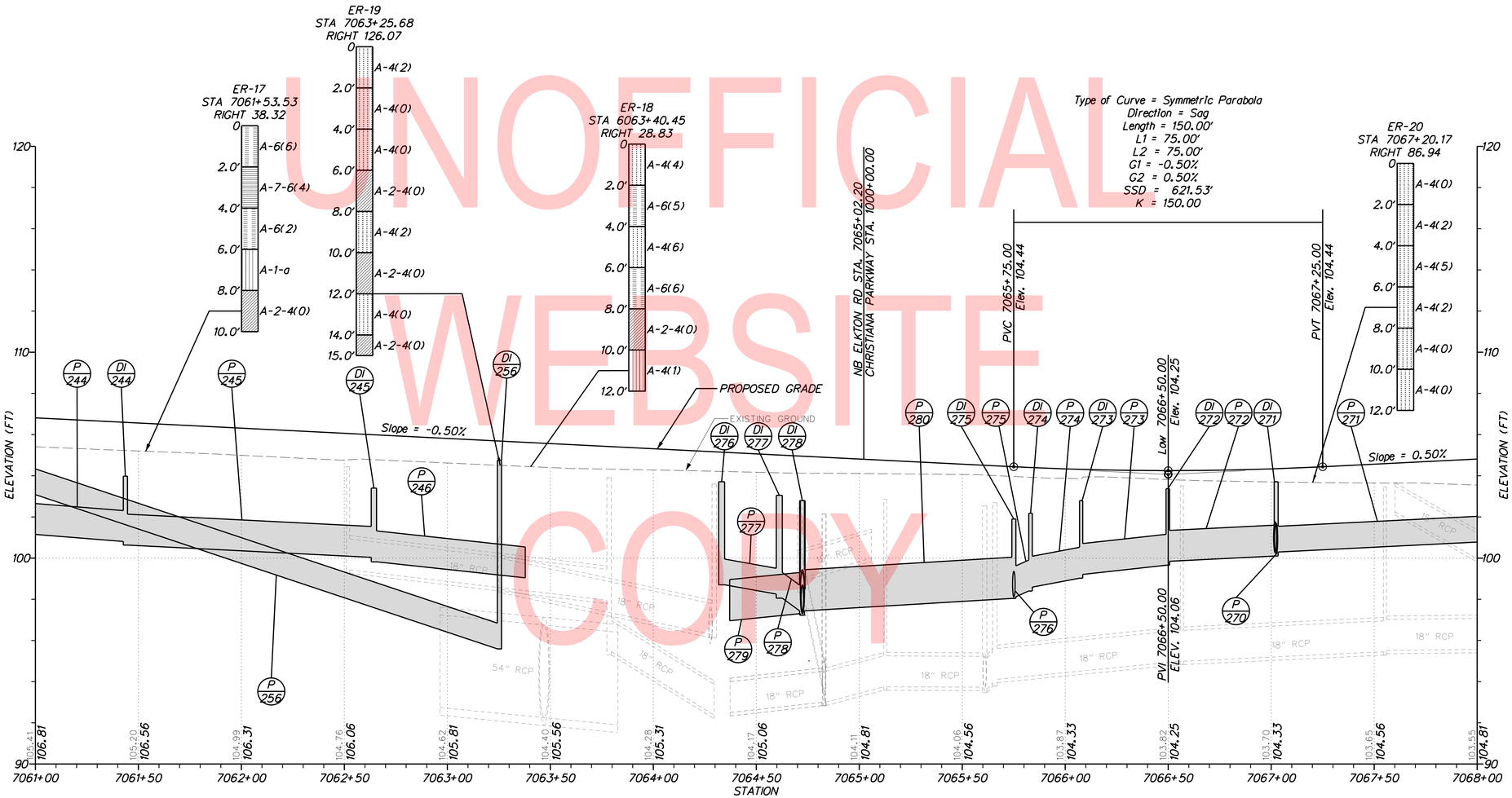
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

PROFILES

SECTION JMT
SHEET NO. 55

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF09]



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NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-10

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

PROFILES

SECTION	JMT
SHEET NO.	56

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF10]

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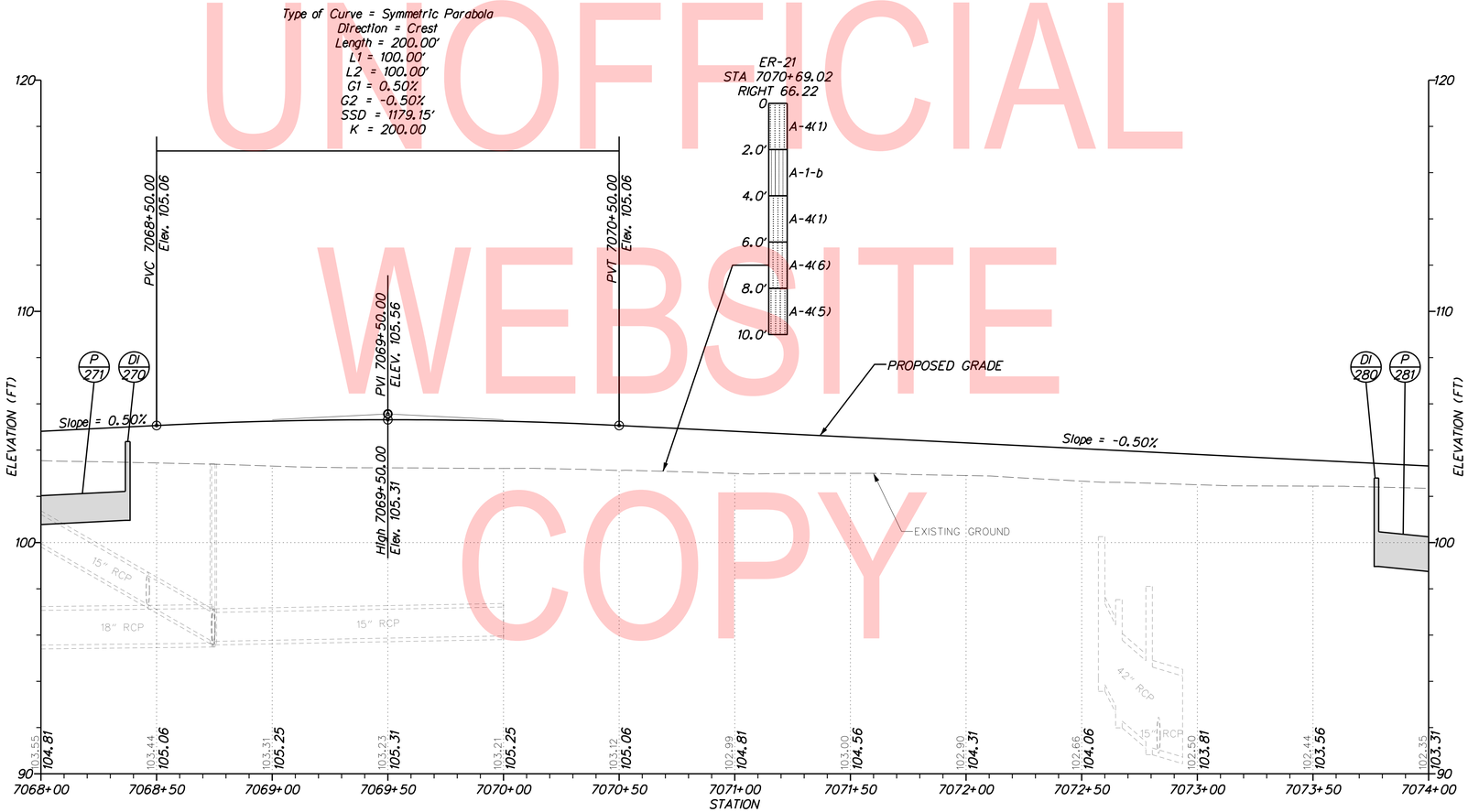

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VERTICAL SCALE FEET 0 3 6 9

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

PF-11

SECTION	JMT
SHEET NO.	57

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF11]

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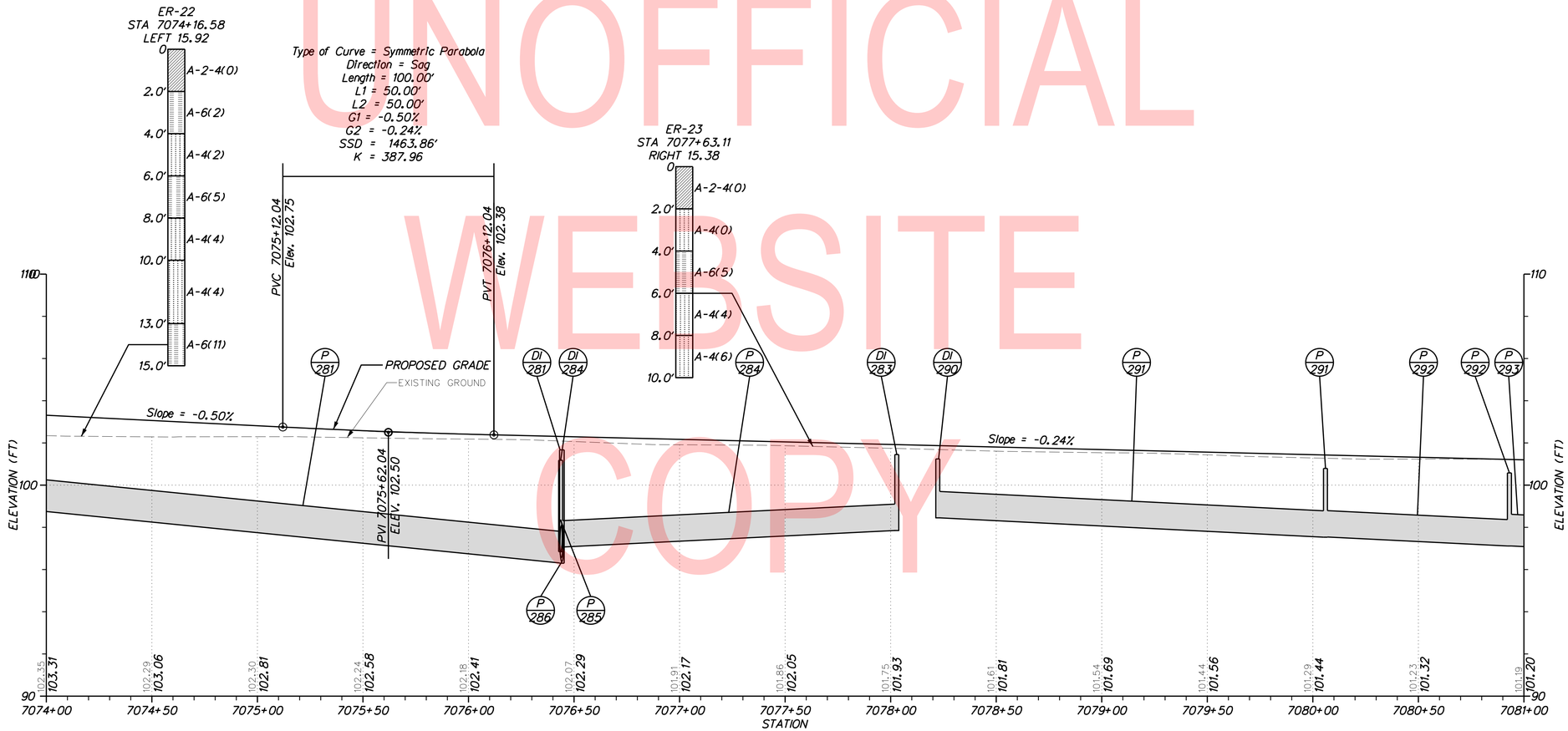

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VERTICAL SCALE FEET 0 3 6 9

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

PF-12

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

PROFILES

SECTION	JMT
SHEET NO.	58

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF12]

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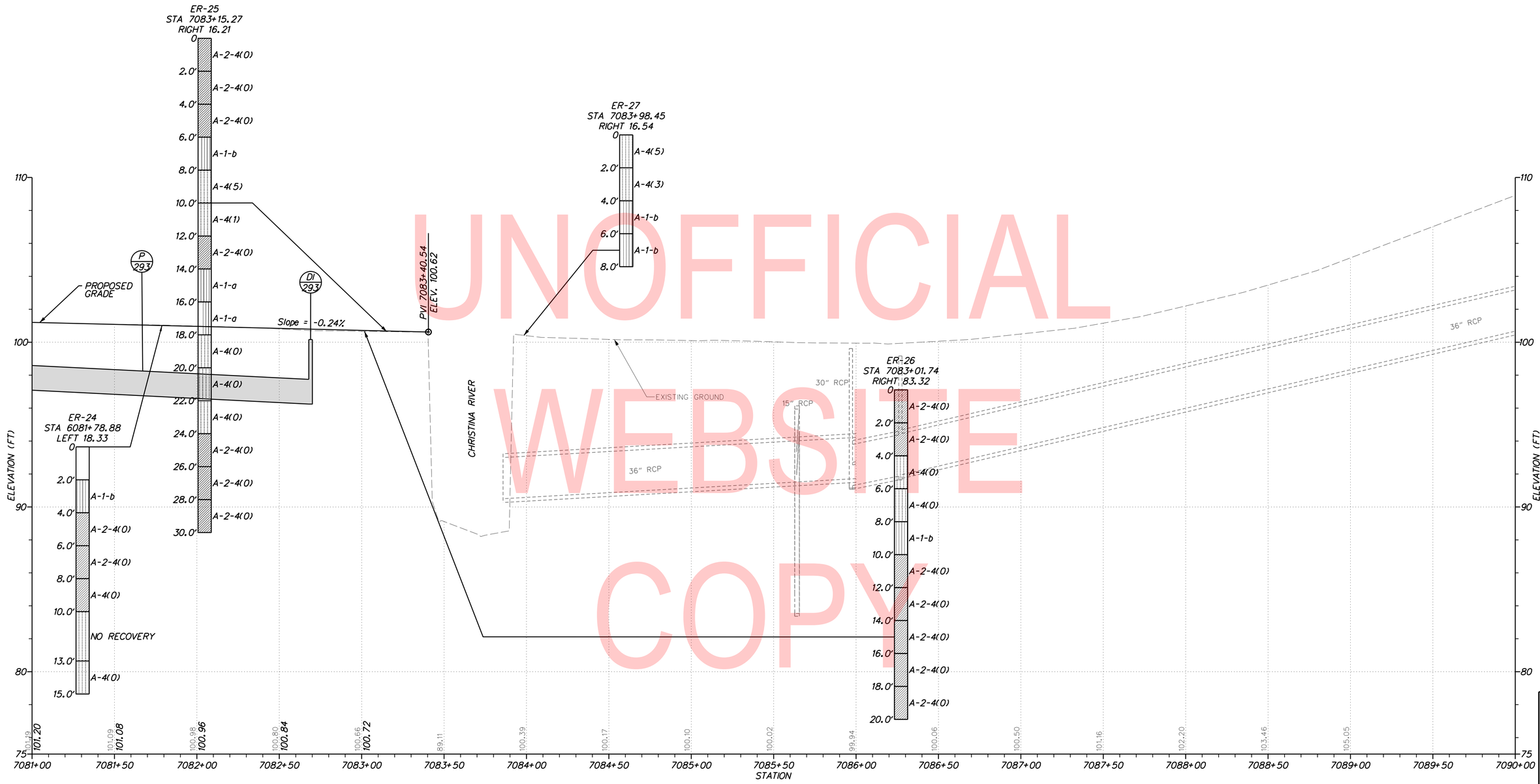

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NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-13

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

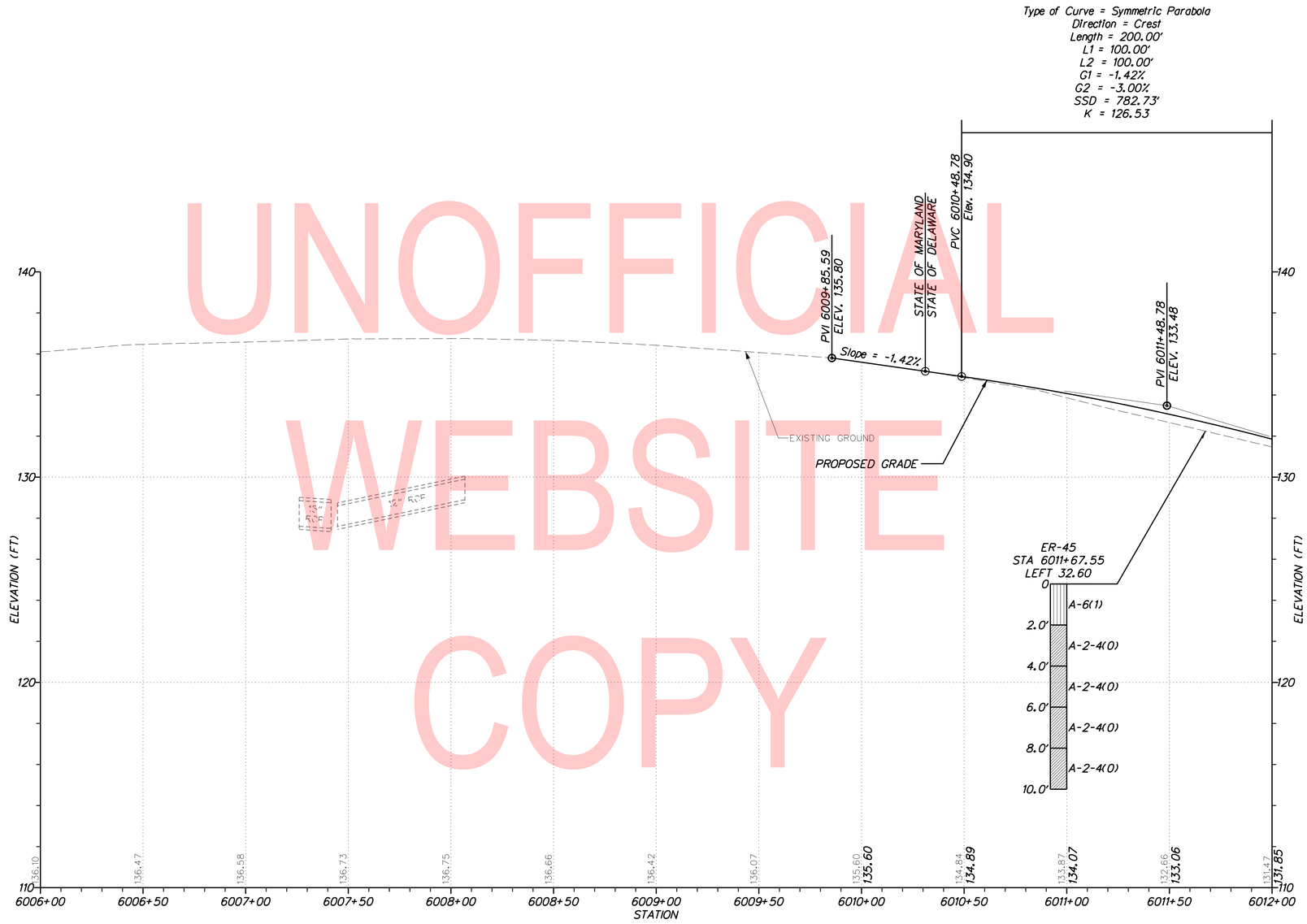
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	
JMT	
SHEET NO.	
59	

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF13]

UNOFFICIAL WEBSITE COPY



BL – SB Elkton Road

VERTICAL SCALE FEET 0 3 6 9

PF–14

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

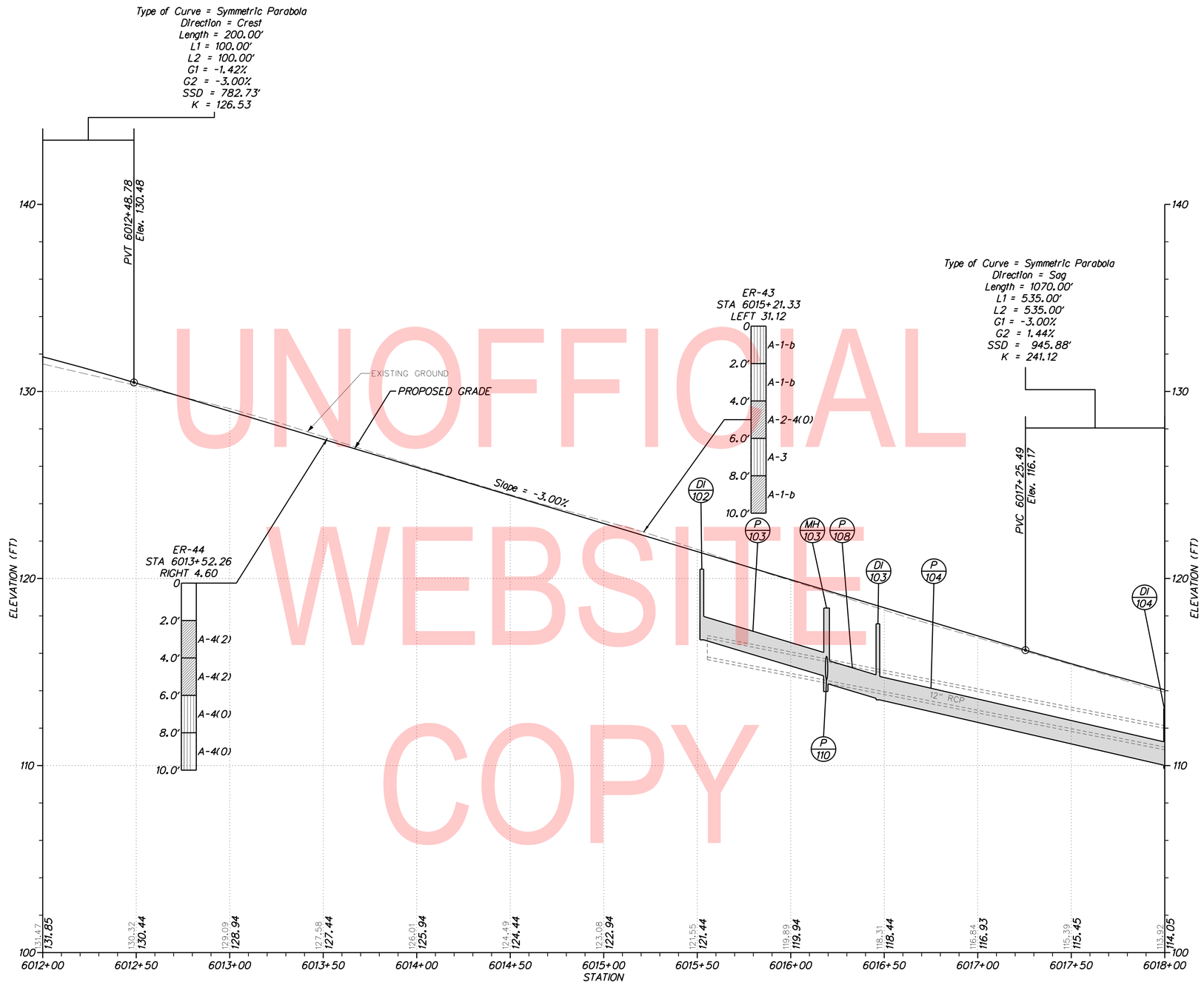
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

PROFILES

SECTION JMT

SHEET NO. 60

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF14]



BL – SB Elkton Road

UNOFFICIAL WEBSITE COPY

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-15

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

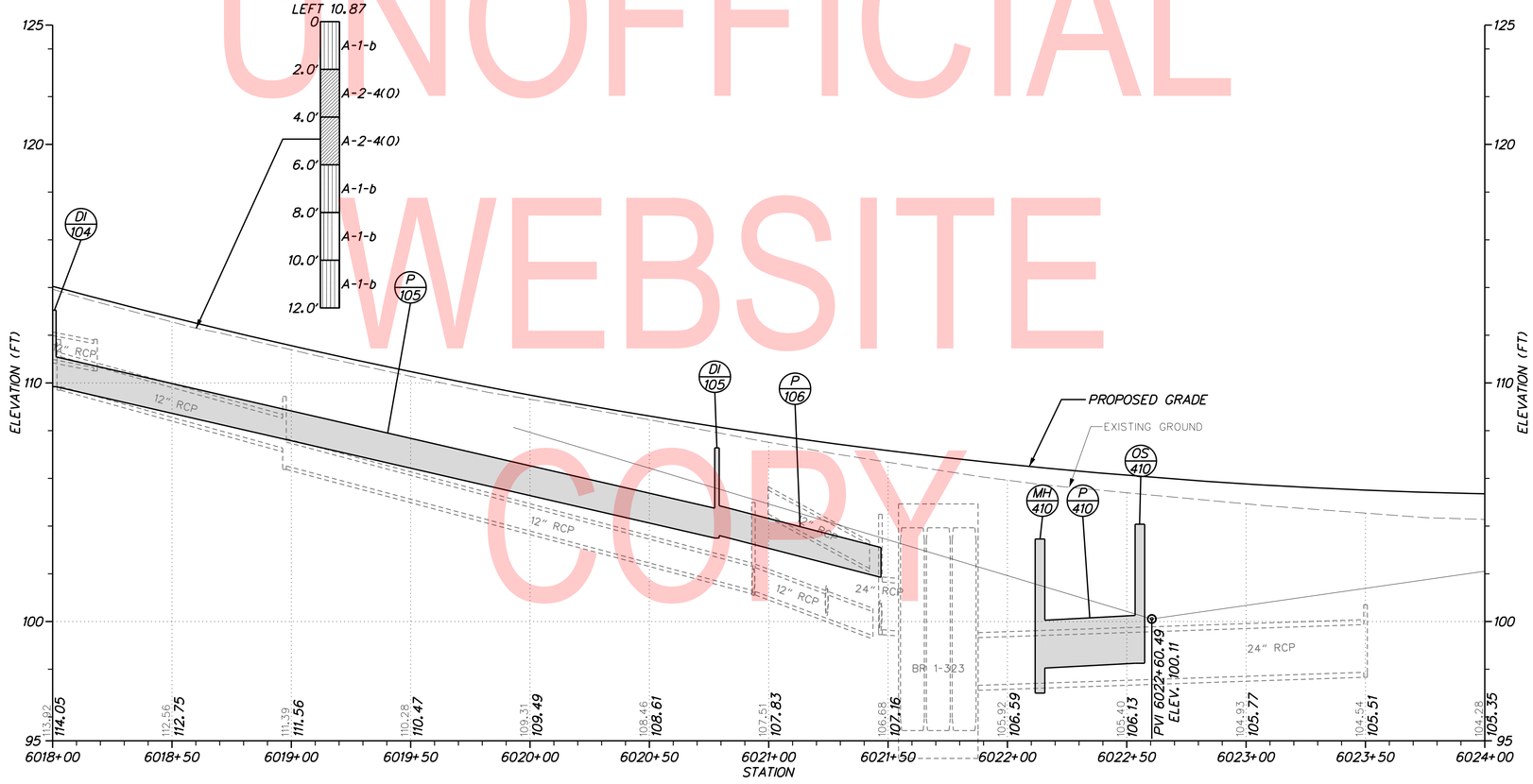
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION JMT
SHEET NO. 61

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140639_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF15]

UNOFFICIAL WEBSITE COPY



BL – SB Elkton Road

VERTICAL SCALE FEET 0 3 6 9

PF-16

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

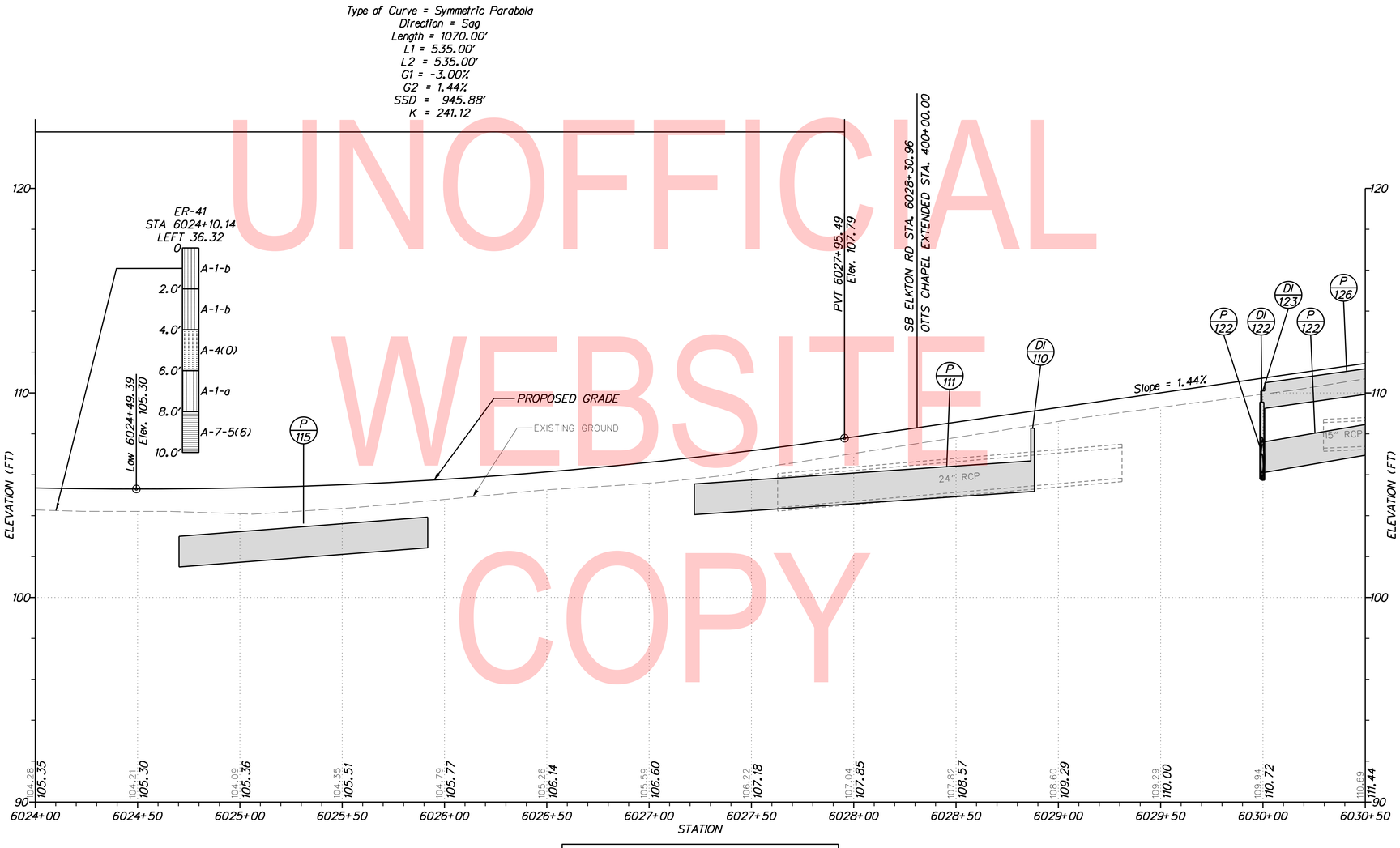
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	
JMT	
SHEET NO.	
62	

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF16]

UNOFFICIAL
WEBSITE
COPY



BL – SB Elkton Road

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-17

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

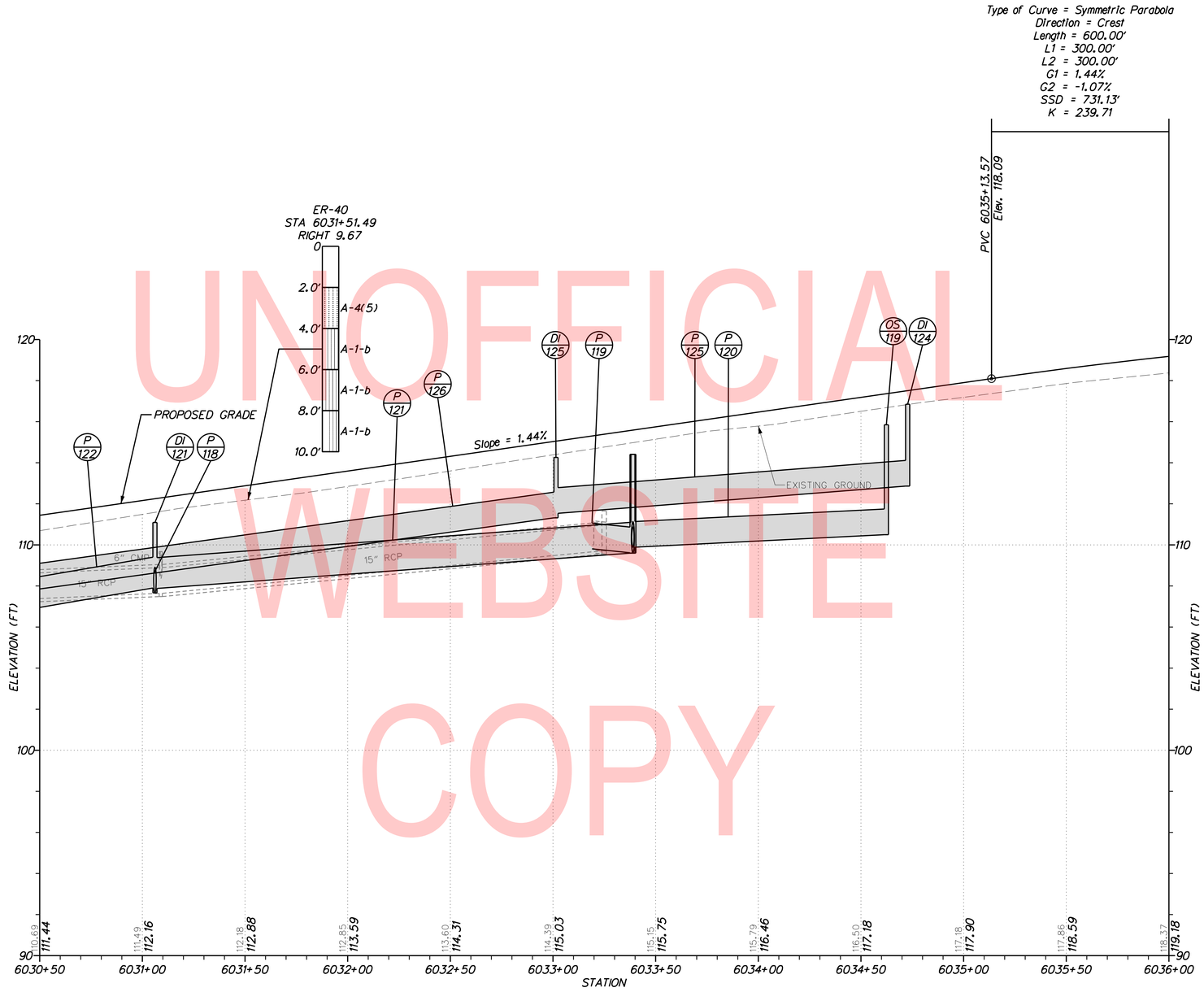
PROFILES

SECTION JMT

SHEET NO. 63

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF17]

UNOFFICIAL WEBSITE COPY



BL – SB Elkton Road

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-18

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

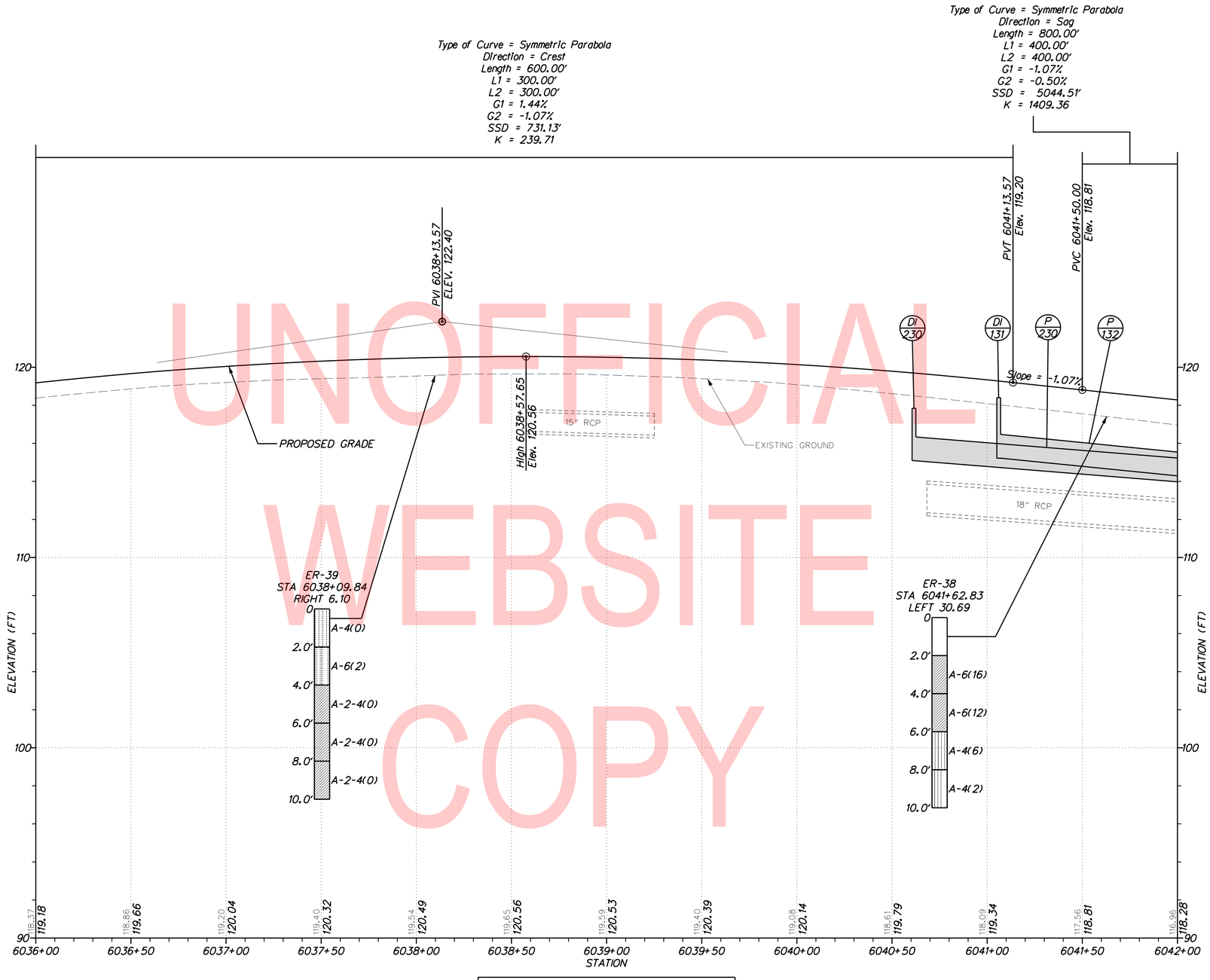
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

PROFILES

SECTION	JMT
SHEET NO.	64

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF18]



BL – SB Elkton Road

UNOFFICIAL WEBSITE COPY

VERTICAL SCALE FEET 0 3 6 9

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

PROFILES

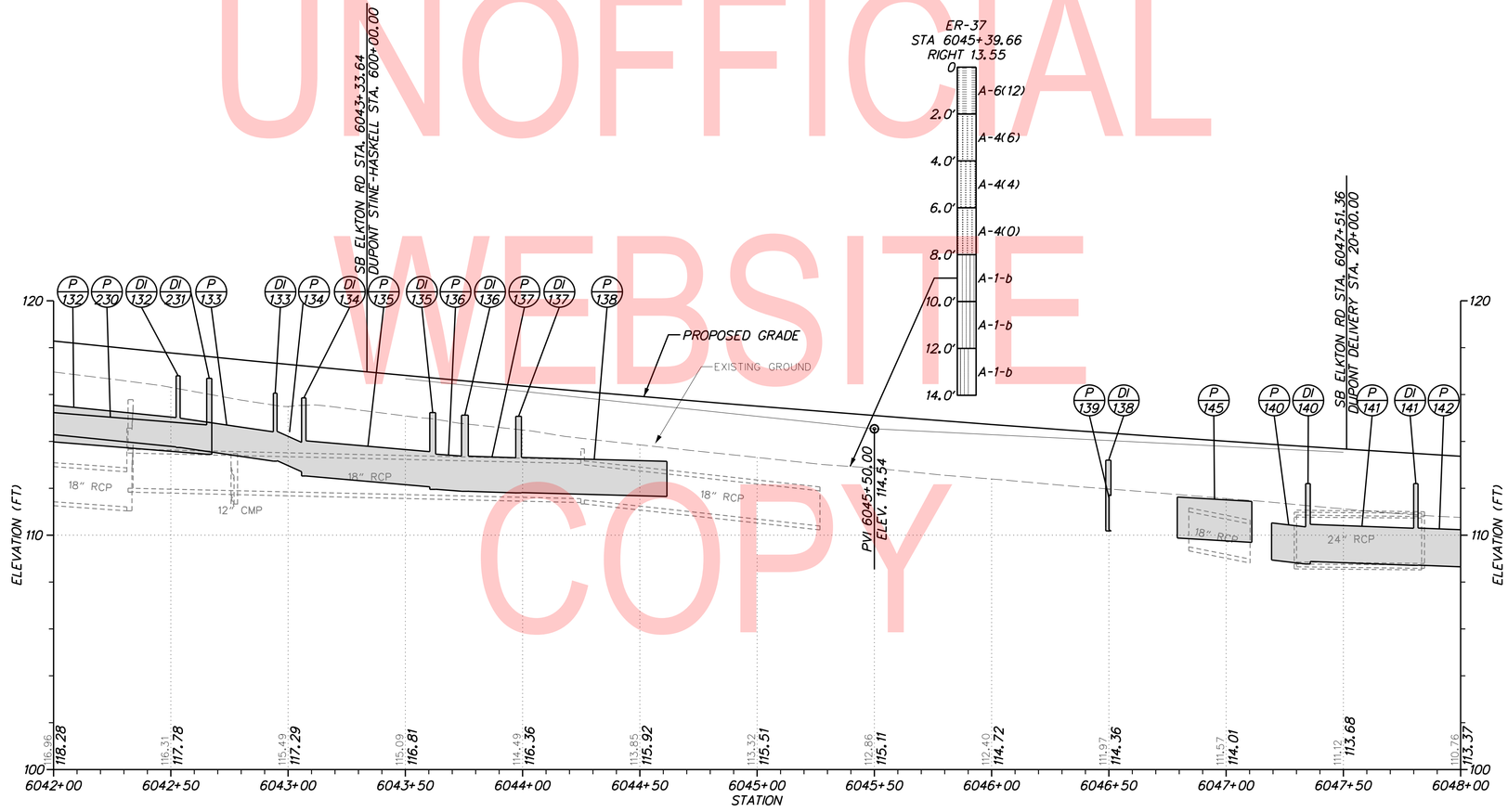
PF-19

SECTION JMT

SHEET NO. 65

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF19]

UNOFFICIAL WEBSITE COPY



BL – SB Elkton Road

VERTICAL SCALE FEET 0 3 6 9

PF-20

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

PROFILES

SECTION JMT

SHEET NO. 66

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF20]

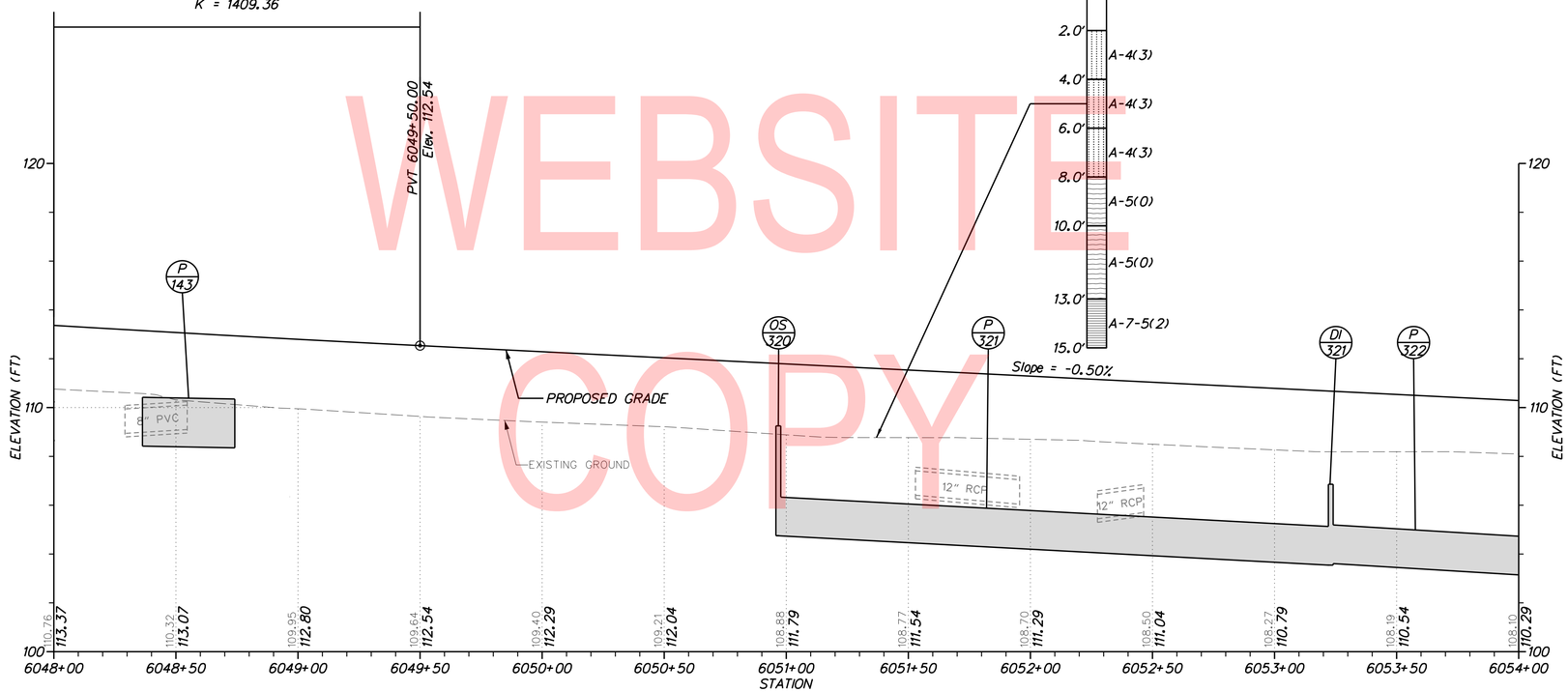
UNOFFICIAL WEBSITE COPY

Type of Curve = Symmetric Parabola
Direction = Sag
Length = 800.00'
L1 = 400.00'
L2 = 400.00'
G1 = -1.07%
G2 = -0.50%
SSD = 5044.51'
K = 1409.36

PVT 6049+50.00
Elev. 112.54

ER-36
STA 6051+36.96
LEFT 35.96

0	
2.0'	A-4(3)
4.0'	A-4(3)
6.0'	A-4(3)
8.0'	A-5(0)
10.0'	A-5(0)
13.0'	A-7-5(2)
15.0'	



BL – SB Elkton Road

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-21

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

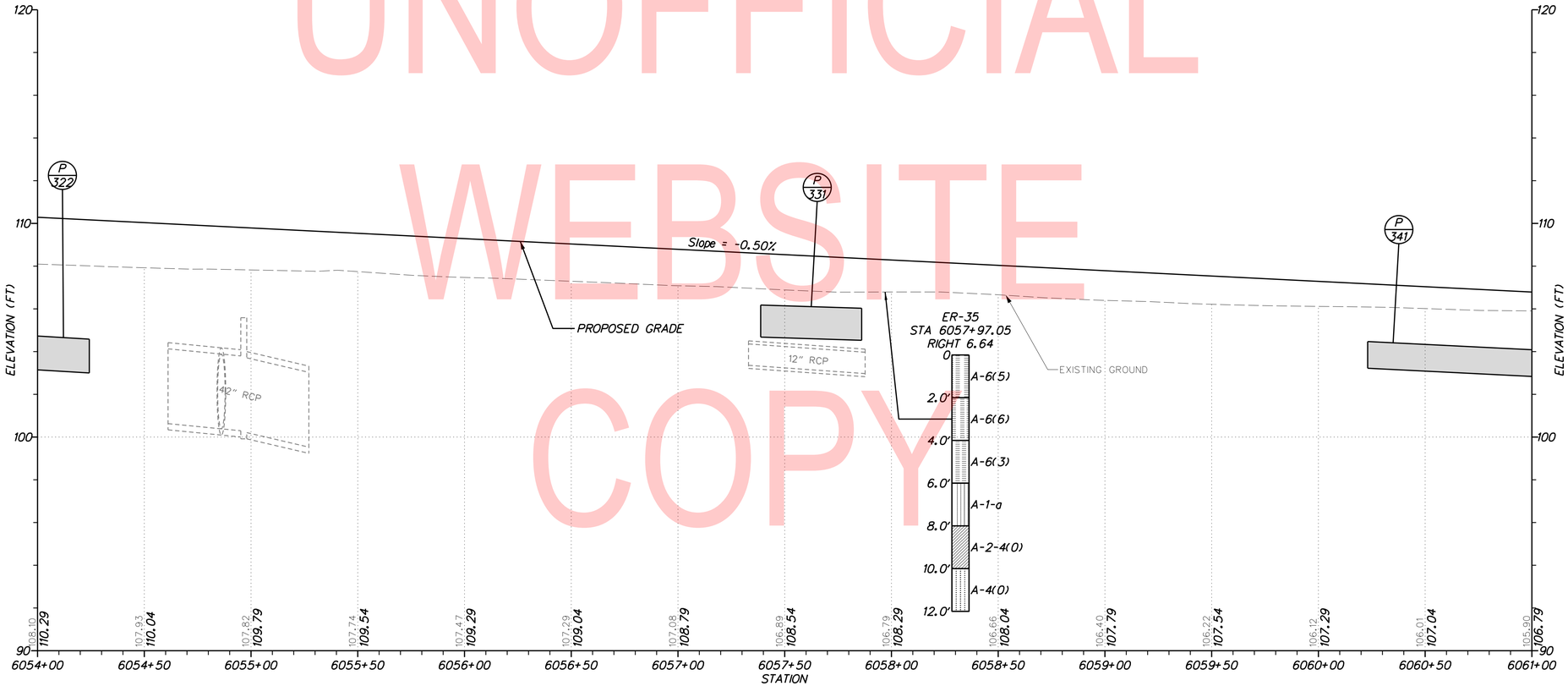
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

PROFILES

SECTION	JMT
SHEET NO.	67

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF21]

UNOFFICIAL WEBSITE COPY



BL – SB Elkton Road

VERTICAL SCALE FEET 0 3 6 9

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

PF-22

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

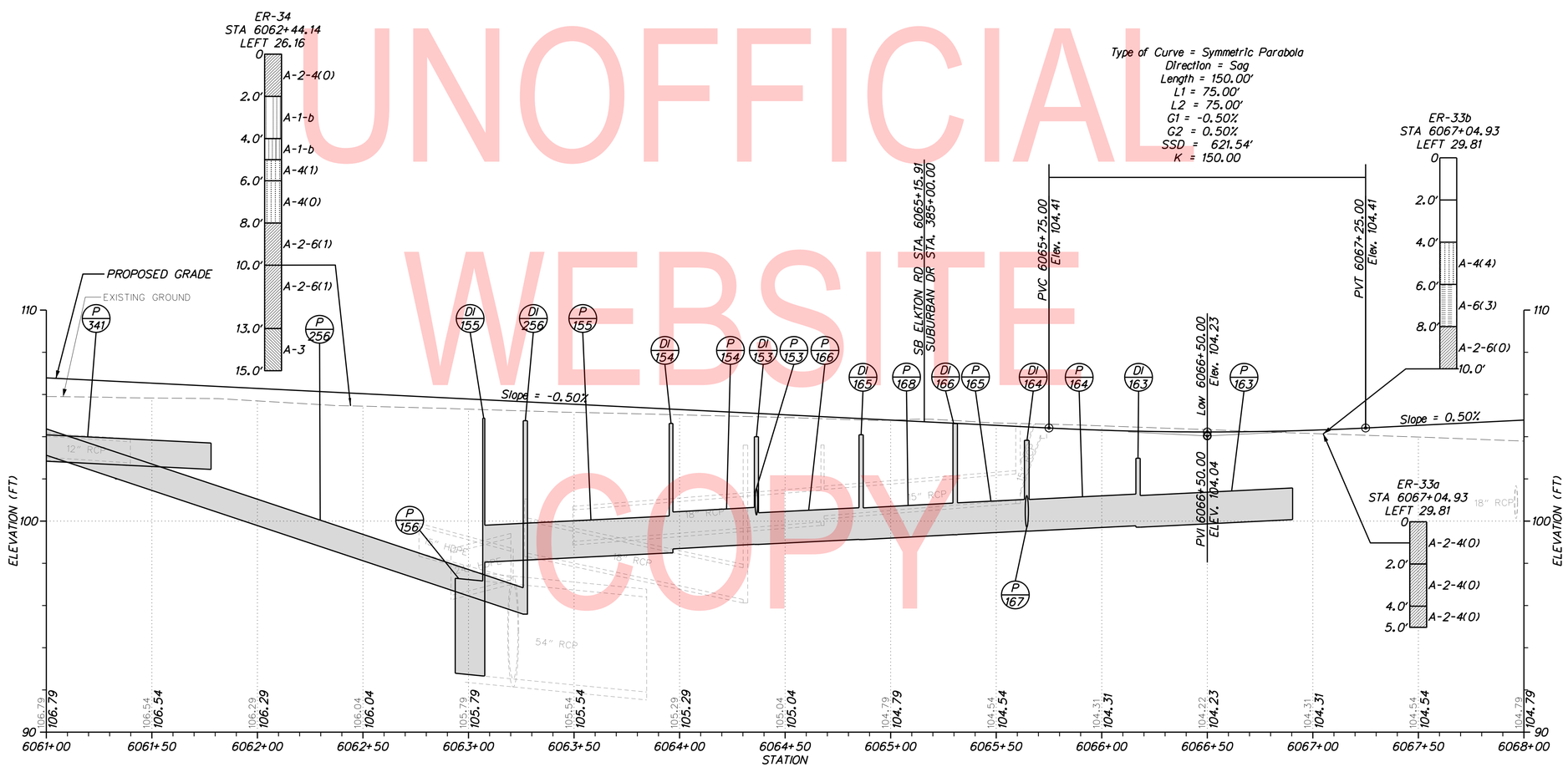
CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

PROFILES

SECTION	JMT
SHEET NO.	68

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF22]

UNOFFICIAL WEBSITE COPY



BL – SB Elkton Road

VERTICAL SCALE FEET 0 3 6 9

PF-23

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

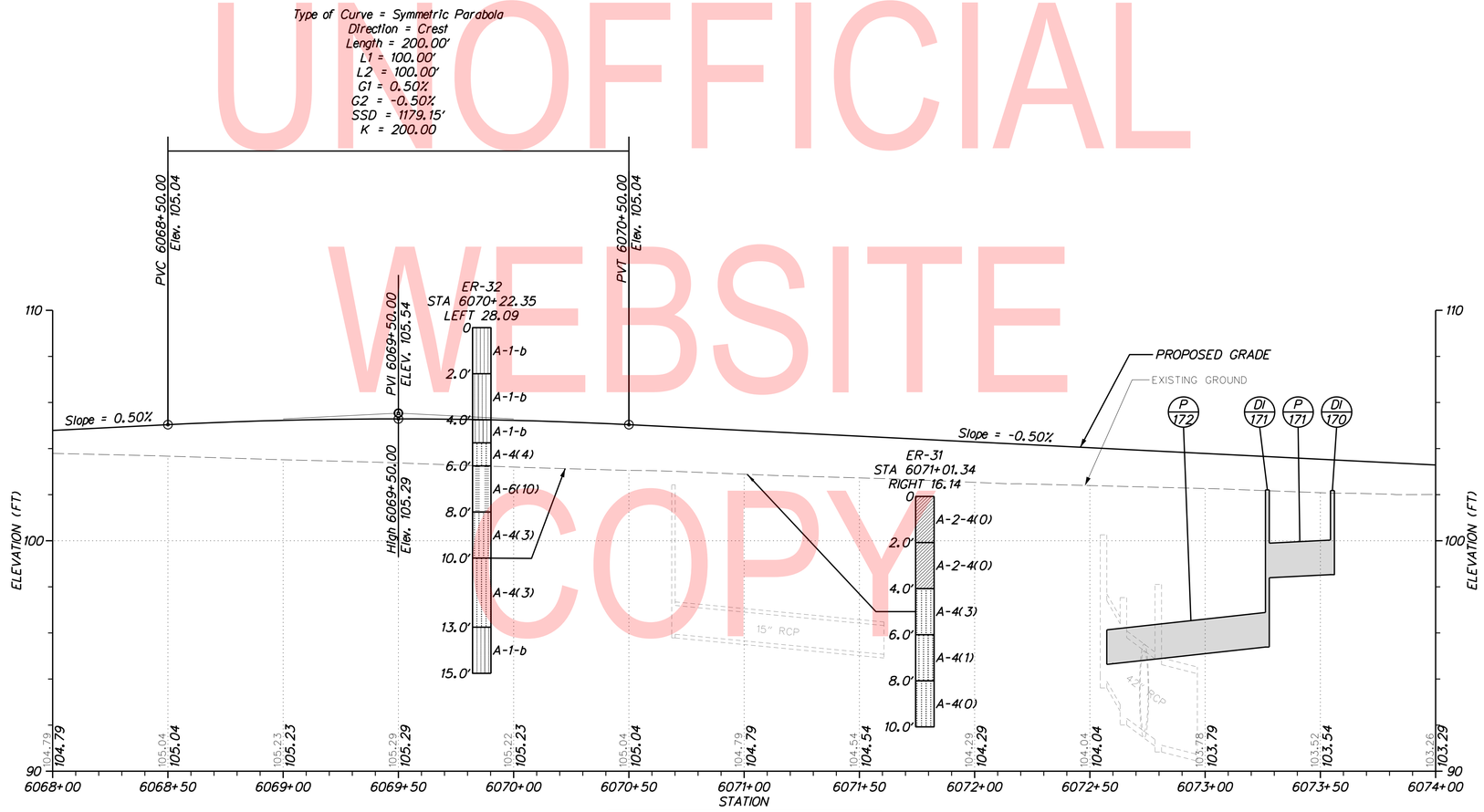
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION
JMT
SHEET NO.
69

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF23]

UNOFFICIAL WEBSITE COPY



BL – SB Elkton Road

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-24

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

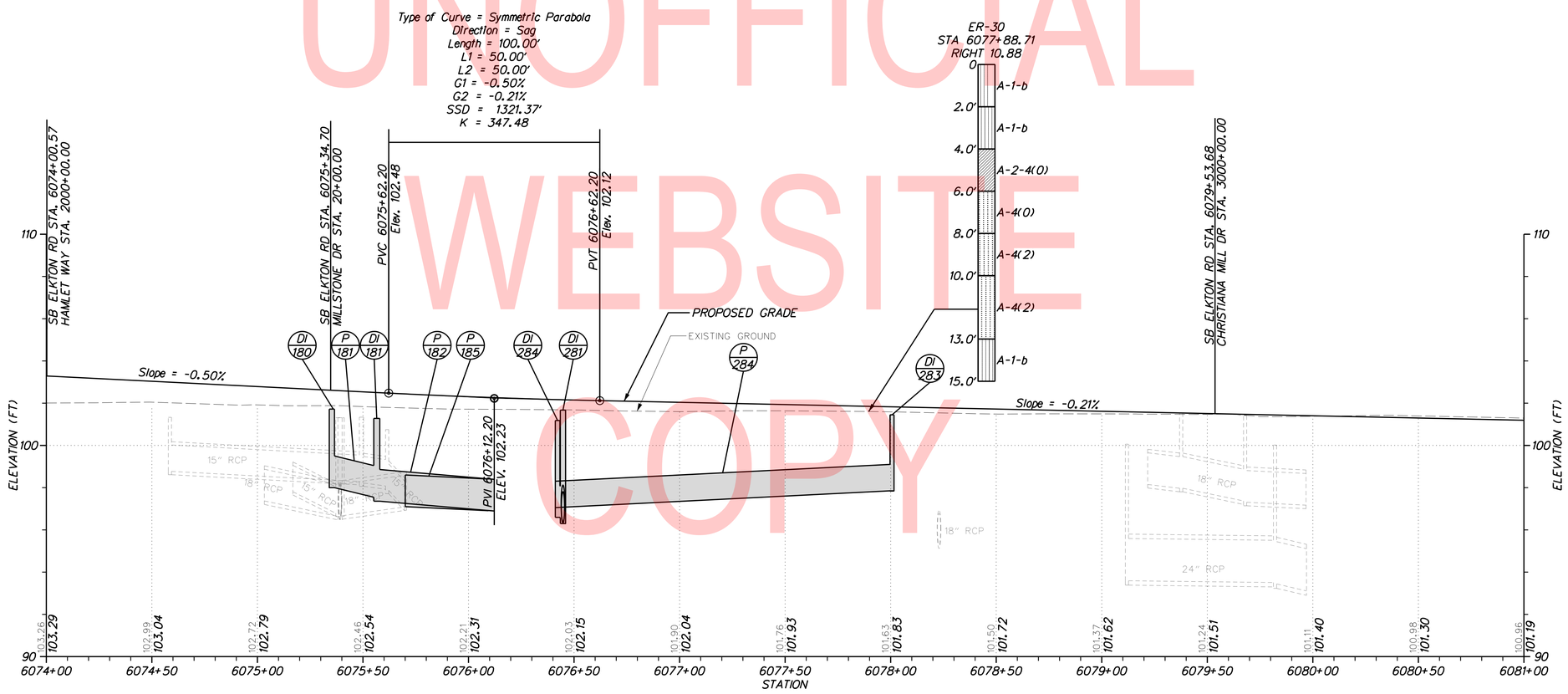
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	SHEET NO.
JMT	70

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF24]

UNOFFICIAL WEBSITE COPY



BL – SB Elkton Road

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-25

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	
JMT	
SHEET NO.	
71	

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF25]

UNOFFICIAL WEBSITE COPY

BL – SB Elkton Road

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

PF-26

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

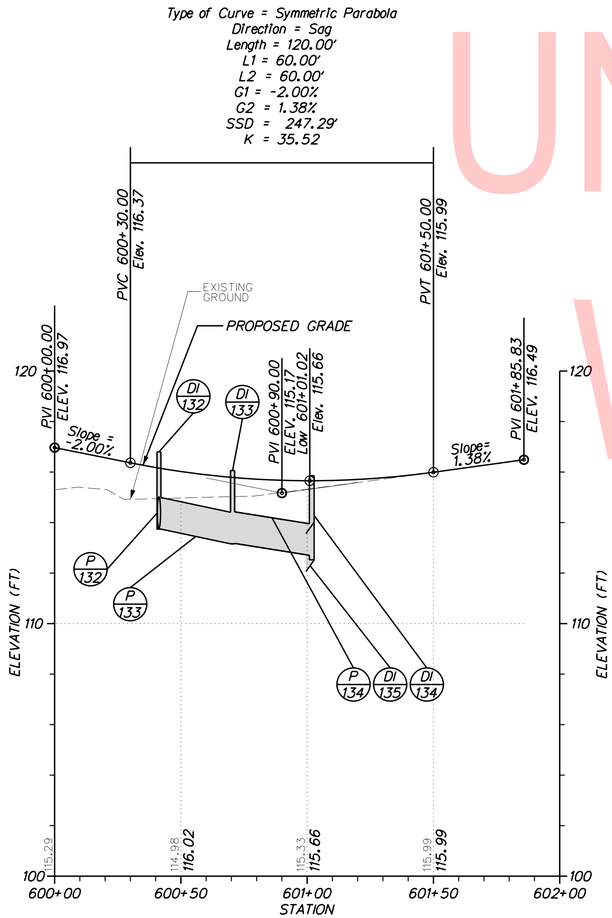
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

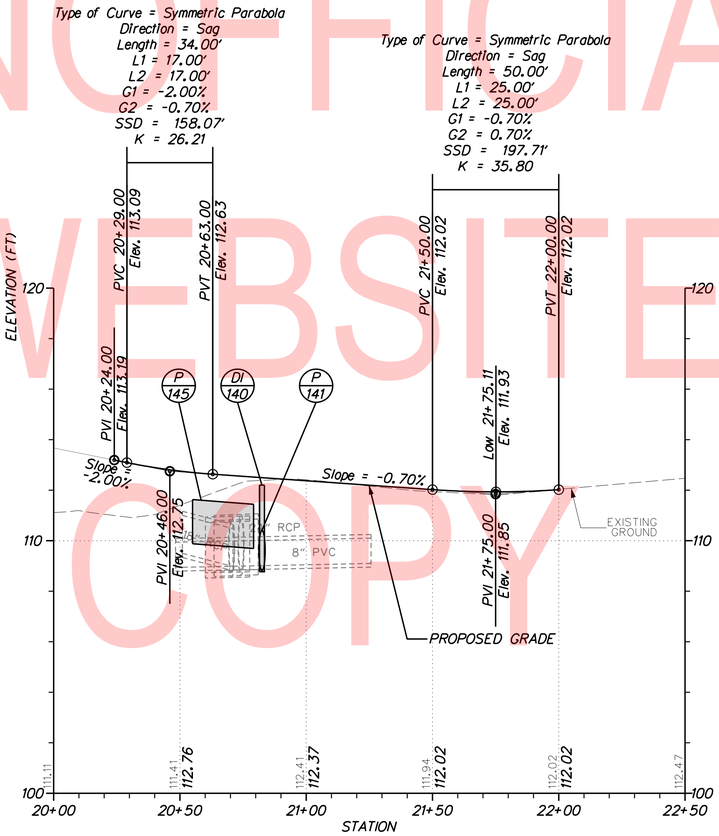
SECTION: JMT
SHEET NO.: 72

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF26]

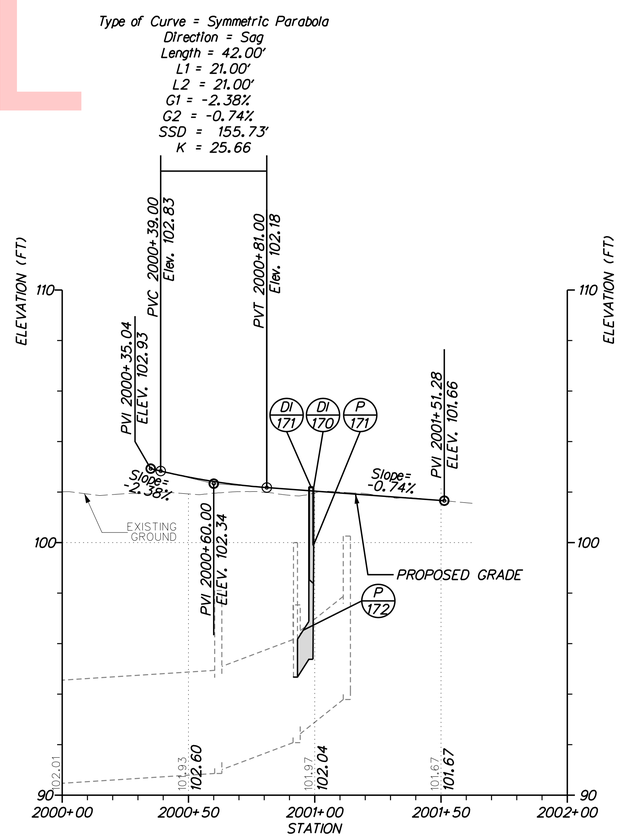
UNOFFICIAL WEBSITE COPY



BL – Dupont



BL – Dupont Delivery



BL – Hamlet Way

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-27

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

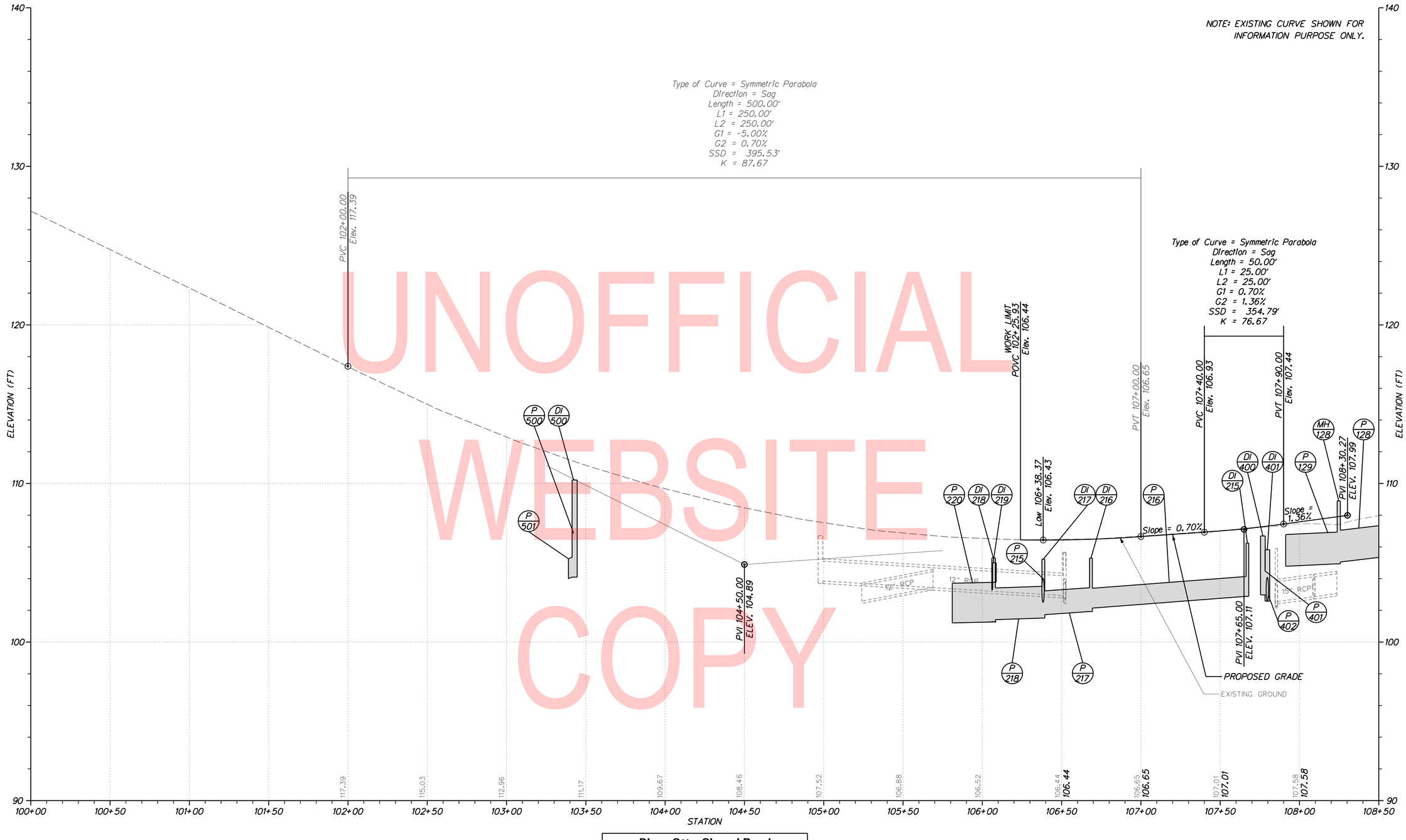
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	JMT
SHEET NO.	73

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF27]



UNOFFICIAL WEBSITE COPY

BL – Otts Chapel Road

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-28

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

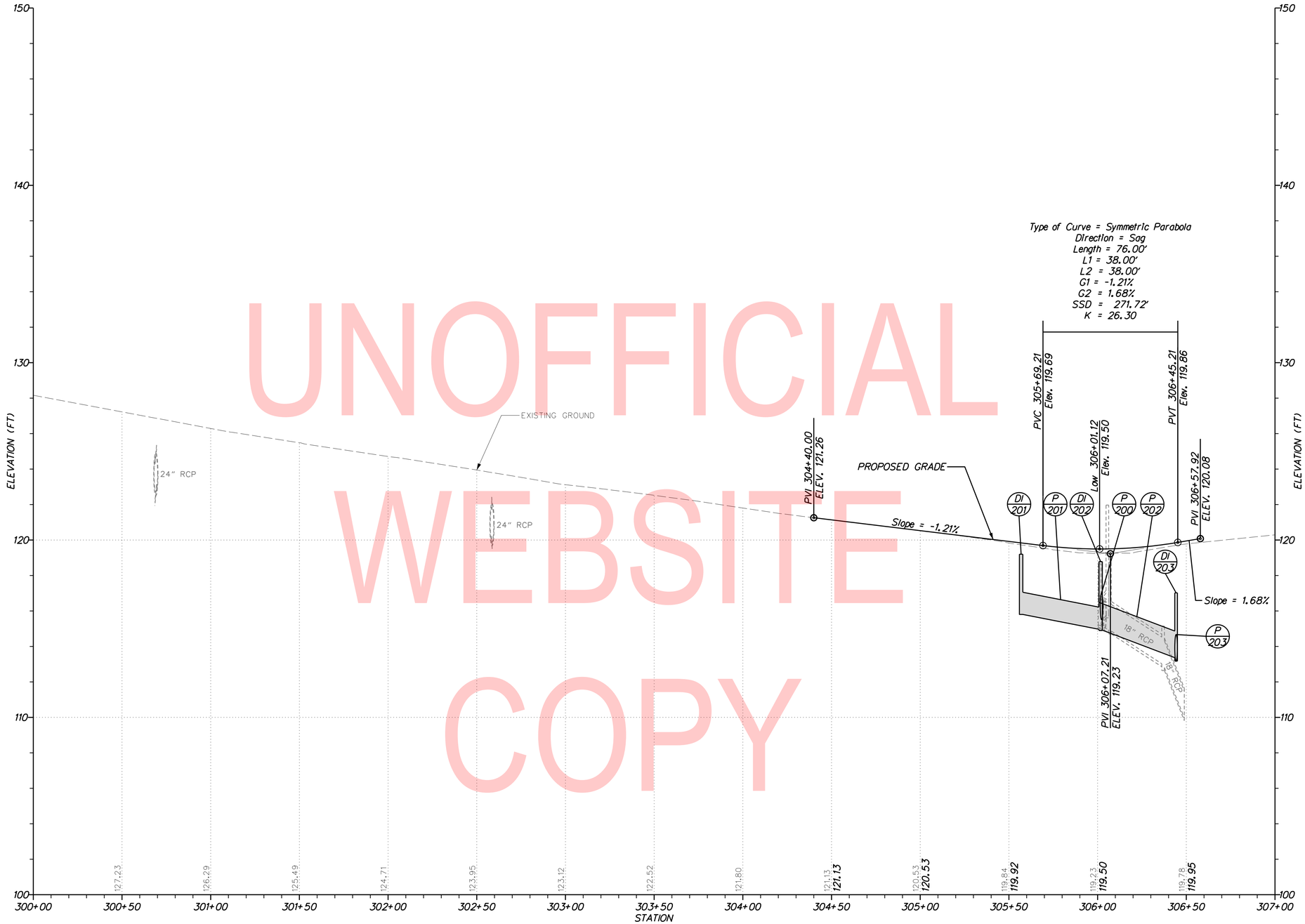
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

PROFILES

SECTION	JMT
SHEET NO.	74

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF28]



BL – McIntire Drive

UNOFFICIAL WEBSITE COPY

VERTICAL SCALE FEET 0 3 6 9

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

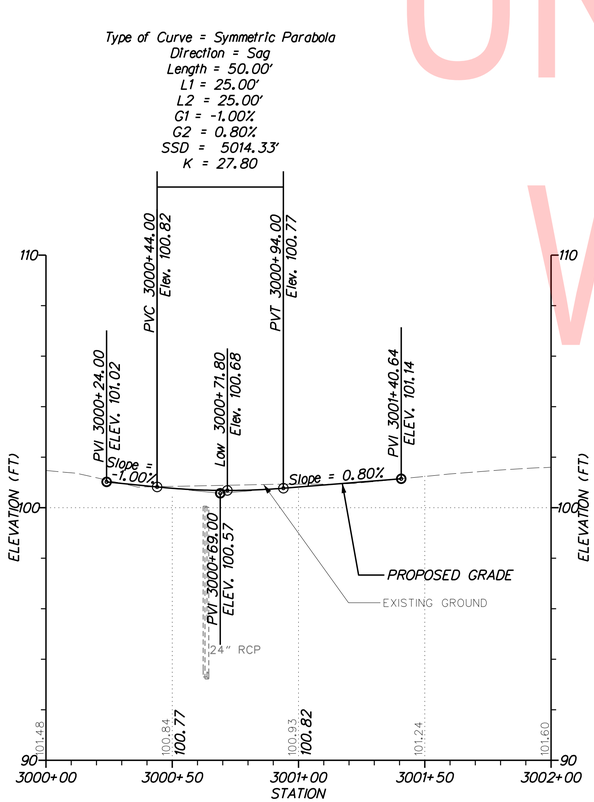
PROFILES

PF-29

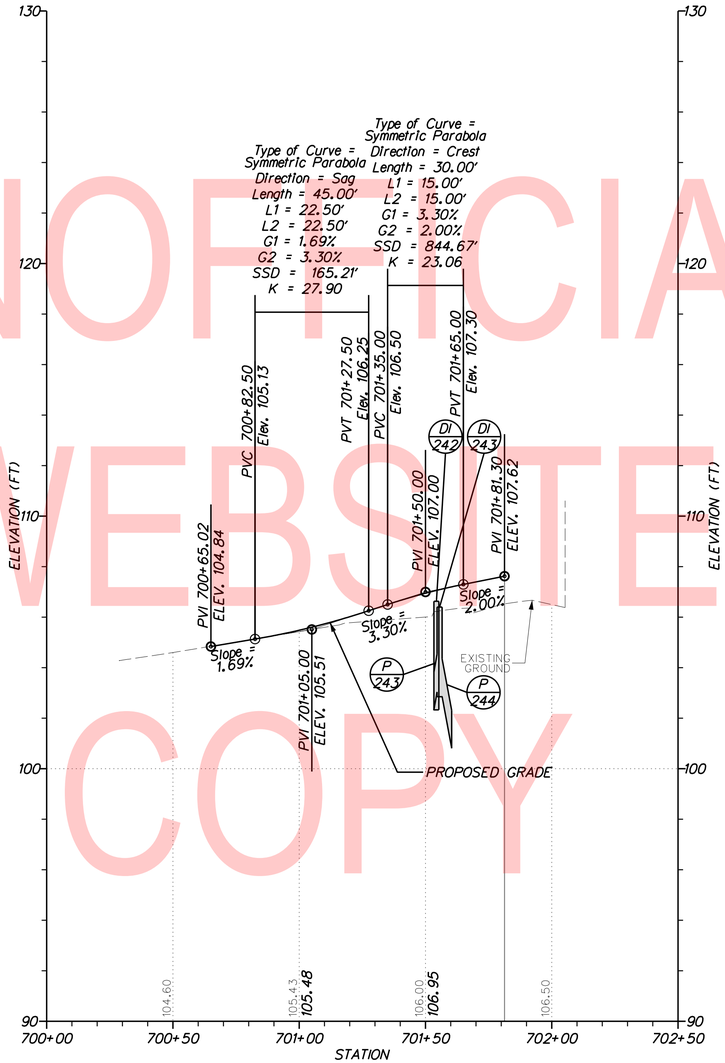
SECTION	JMT
SHEET NO.	75

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF29]

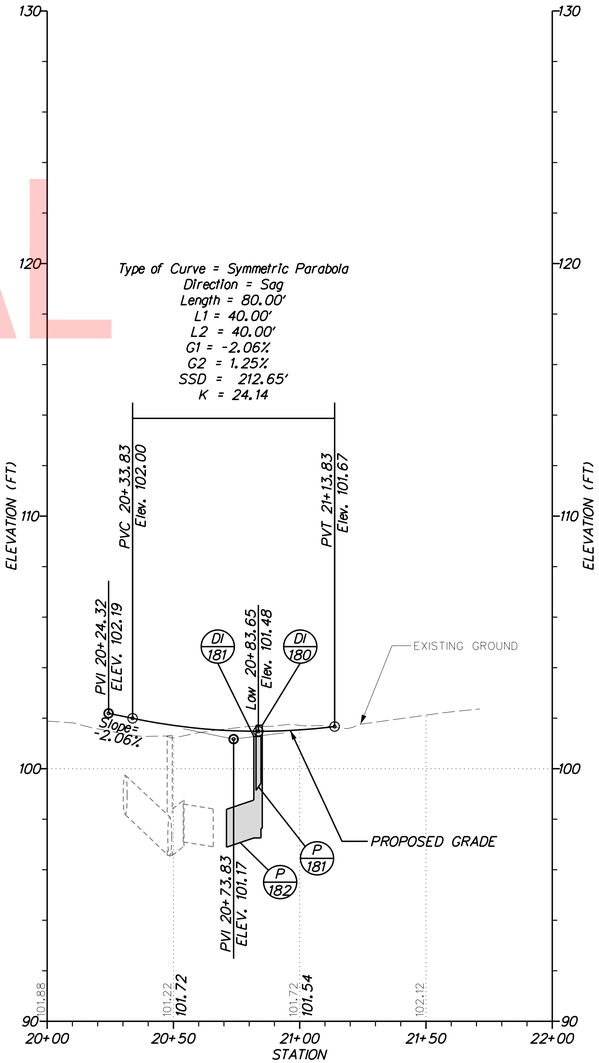
UNOFFICIAL WEBSITE COPY



BL – Christina Mill Drive



BL – Patriot Way



BL – Millstone Drive

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-30

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

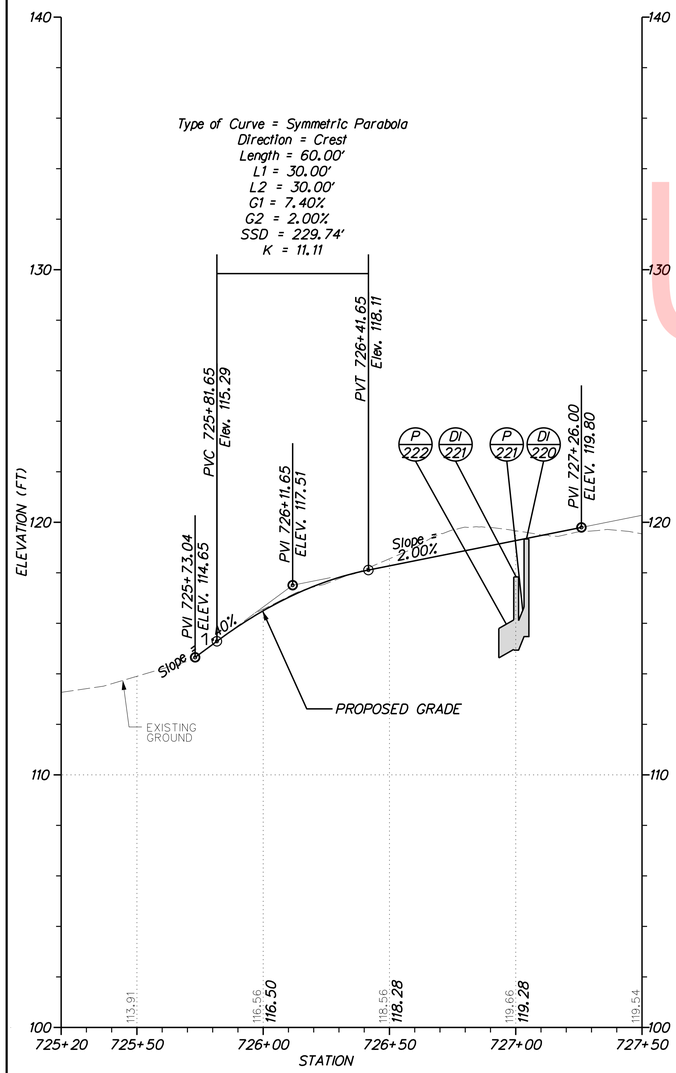
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

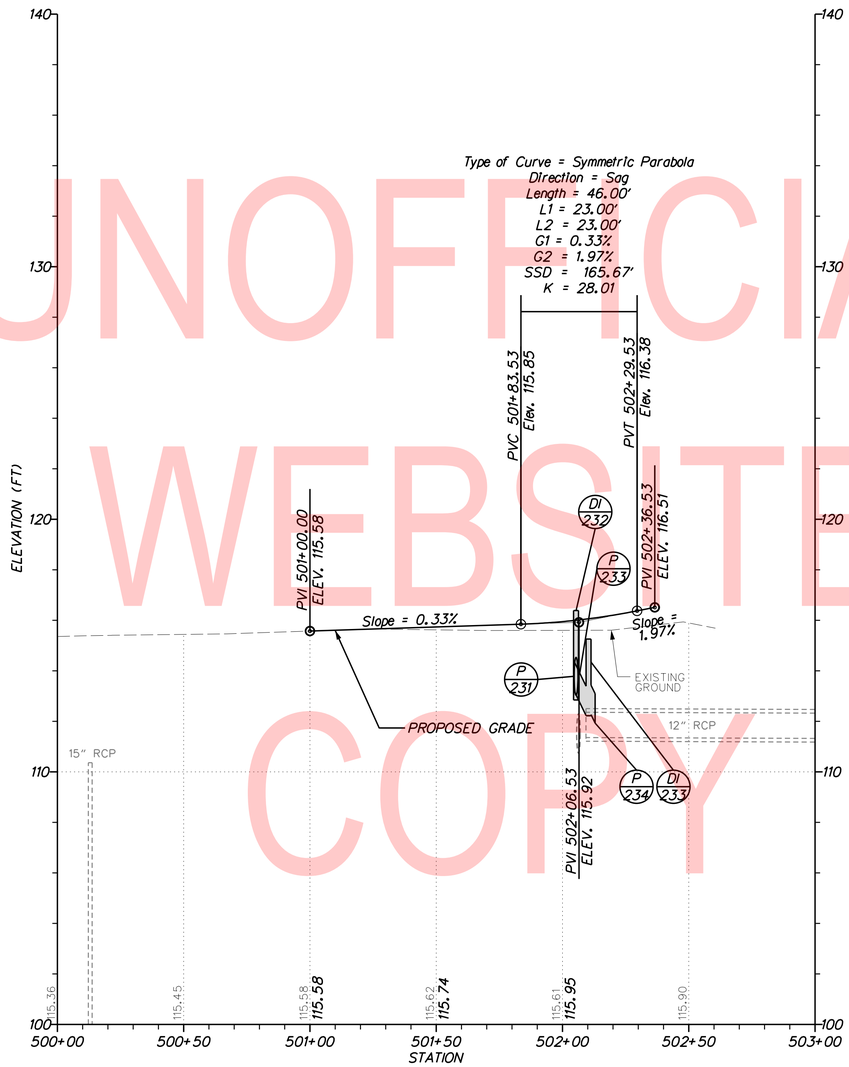
SECTION
JMT
SHEET NO.
76

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF30]

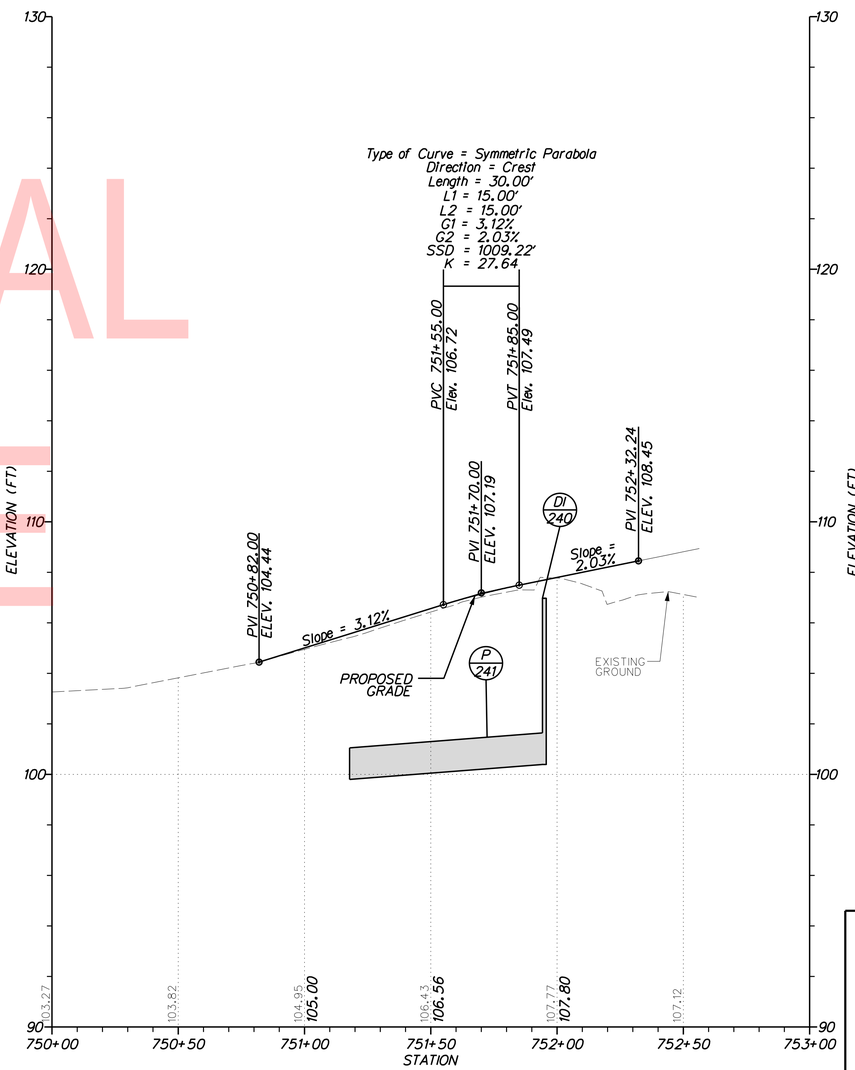
UNOFFICIAL WEBSITE COPY



BL– Interchange Blvd Driveway 1



BL – Interchange Blvd



BL – Interchange Blvd Driveway 2

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-31

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

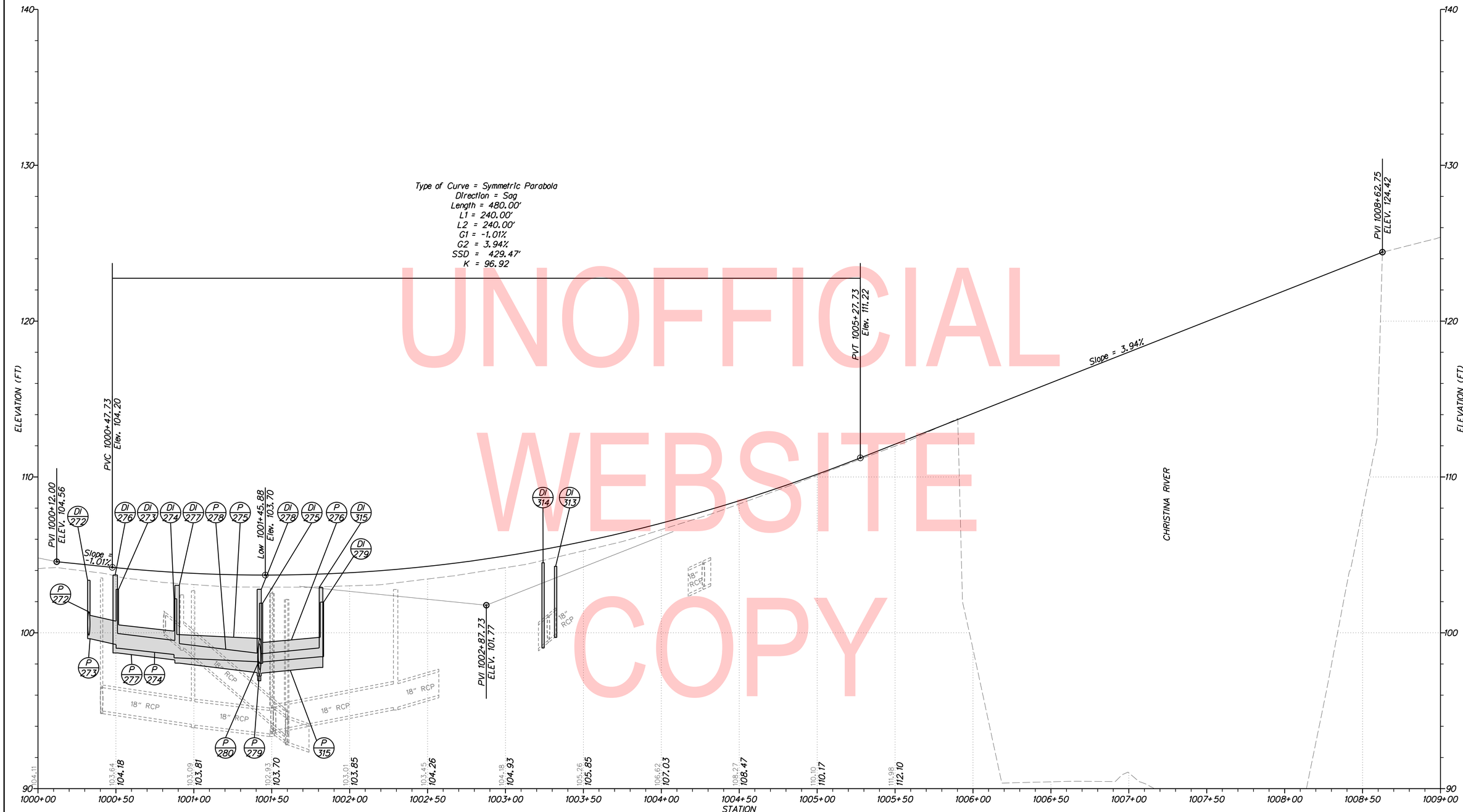
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	JMT
SHEET NO.	77

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF31]

UNOFFICIAL WEBSITE COPY



BL – SR 4

VERTICAL SCALE FEET 0 3 6 9

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

PF-32

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

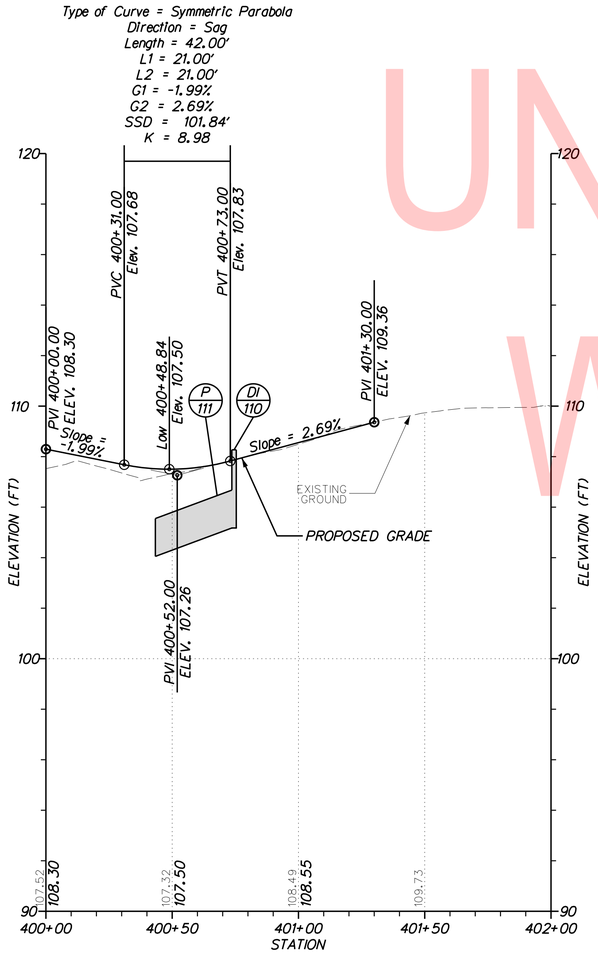
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

PROFILES

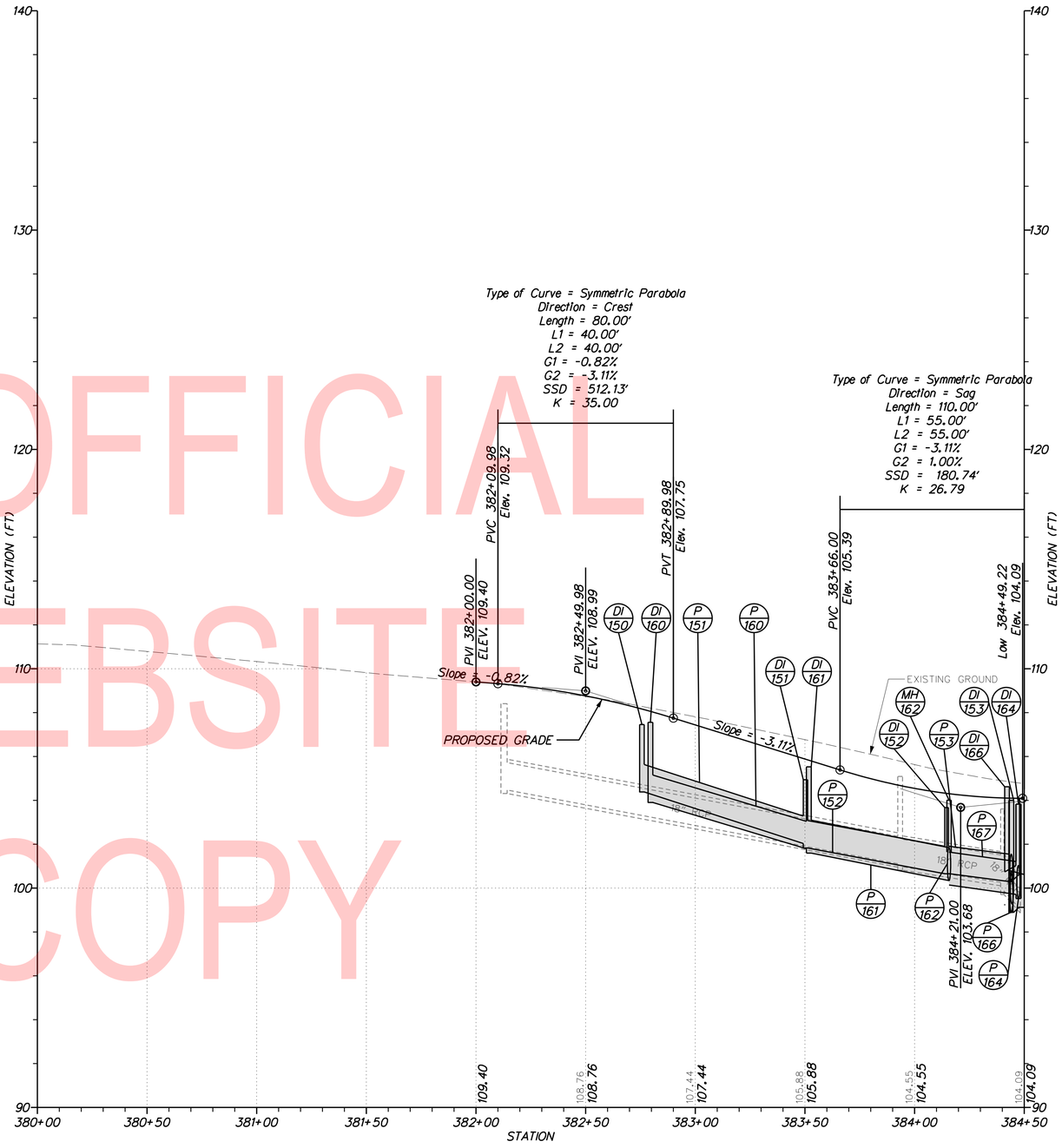
SECTION: JMT
SHEET NO.: 78

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF32]

UNOFFICIAL WEBSITE COPY



BL – Crossview Business Park Entrance



BL – Suburban Blvd

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-33

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

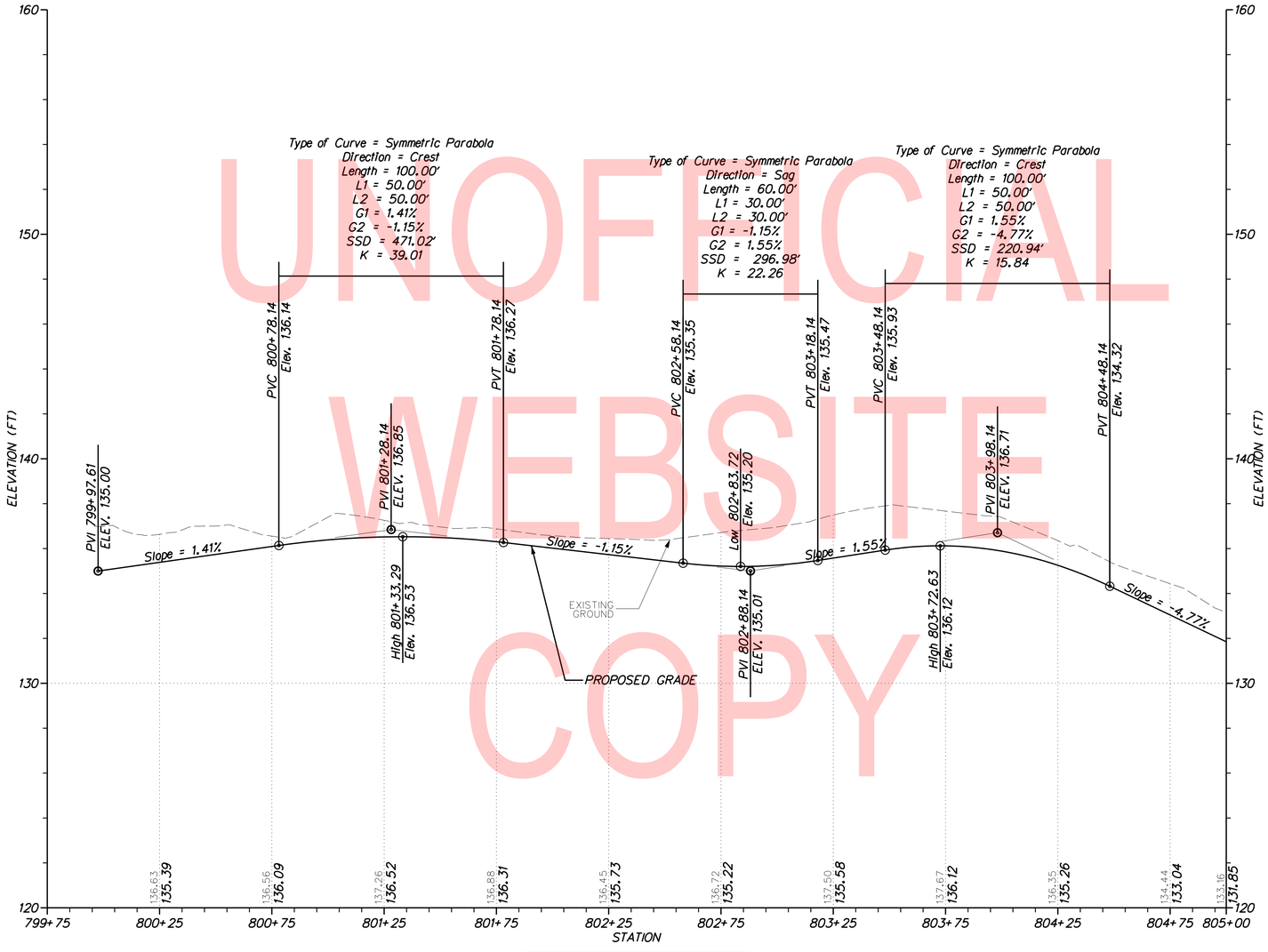
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

PROFILES

SECTION	JMT
SHEET NO.	79

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF33]



MUP – MD to NCHS

UNOFICIAL WEBSITE COPY

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-34

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

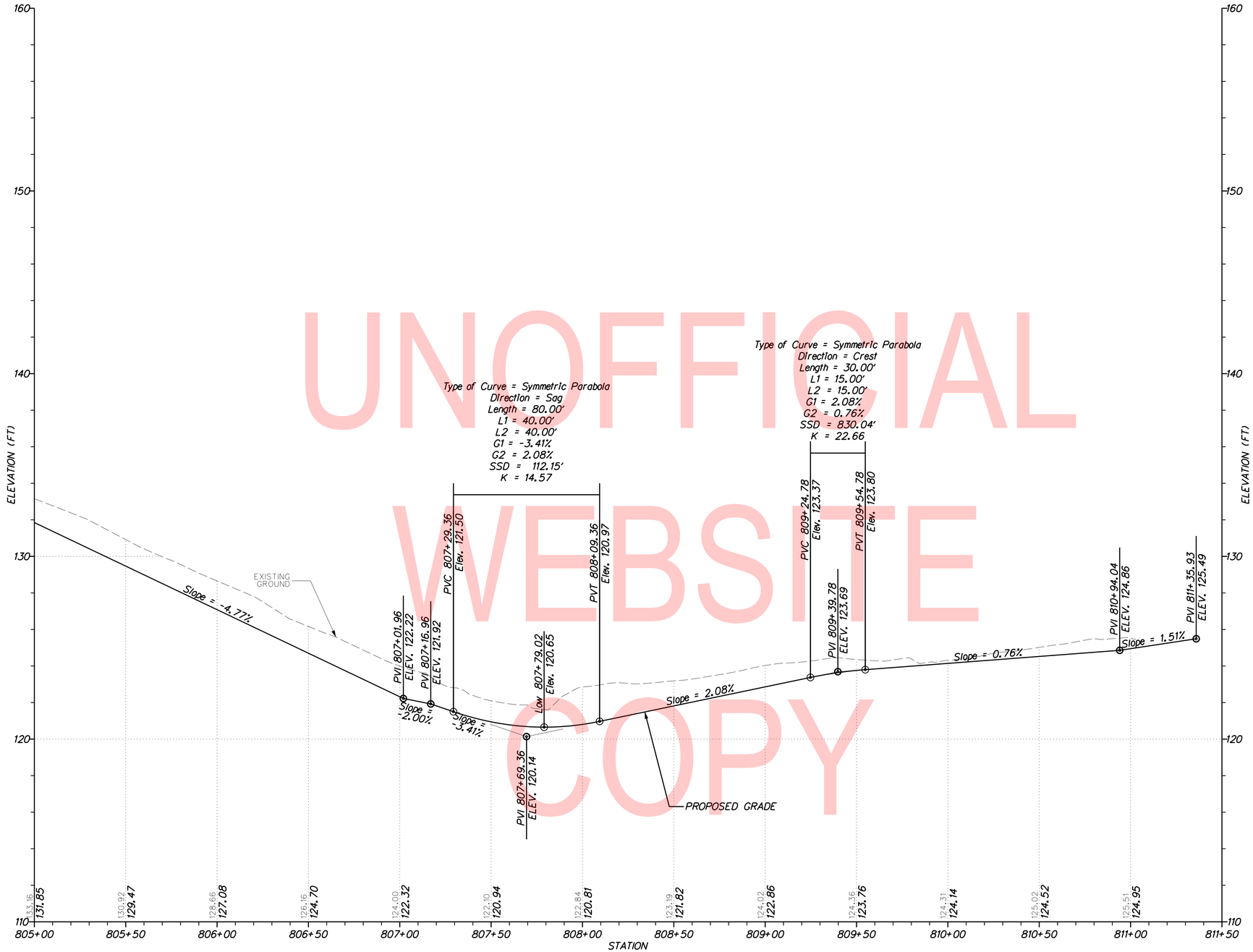
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION: JMT
SHEET NO.: 80

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF34]

UNOFFICIAL
WEBSITE
COPY



MUP – MD to NCHS

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-35

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

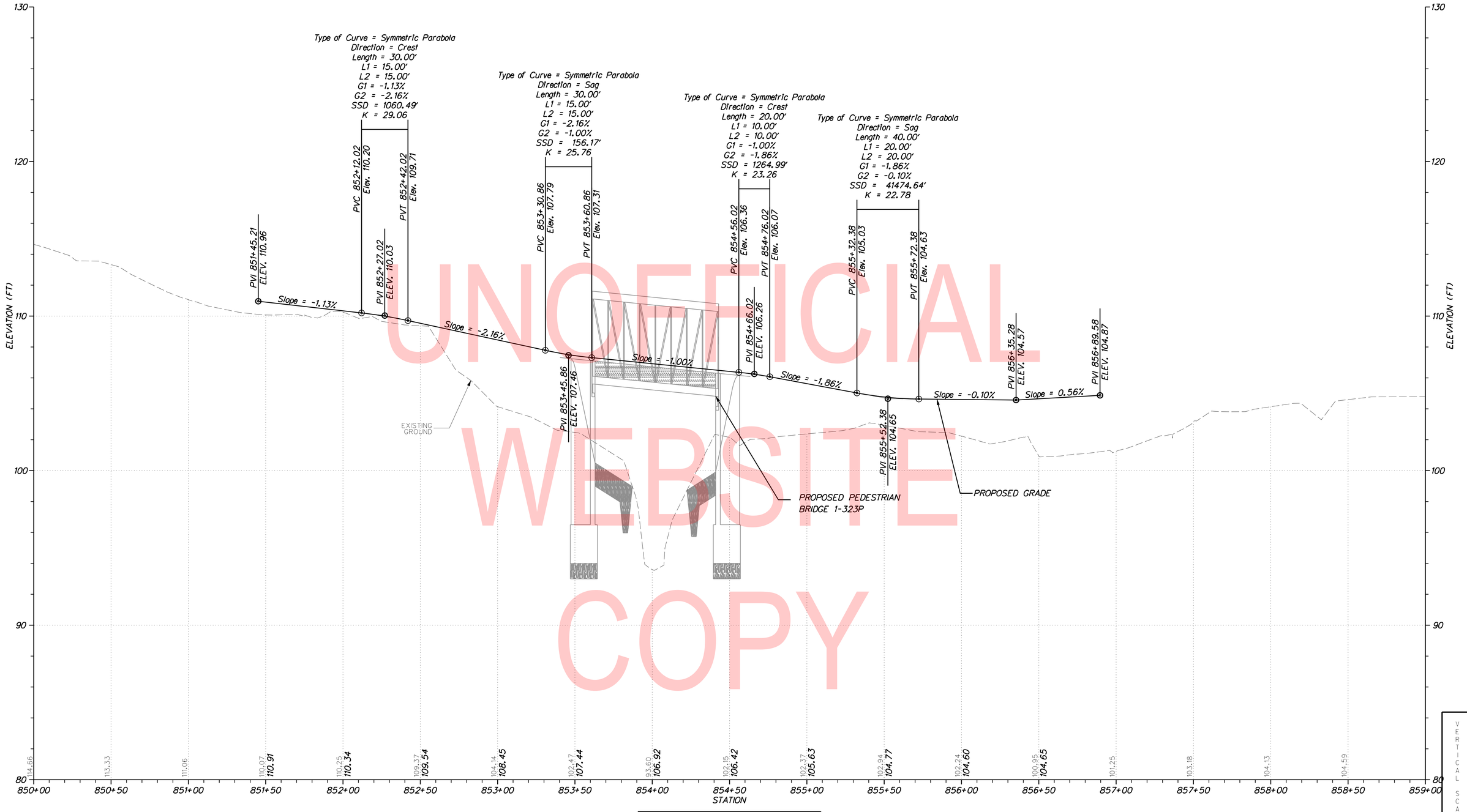
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

PROFILES

SECTION	JMT
SHEET NO.	81

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF35]



BL – Ped Bridge 1–323P

UNOFFICIAL WEBSITE COPY

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-36

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

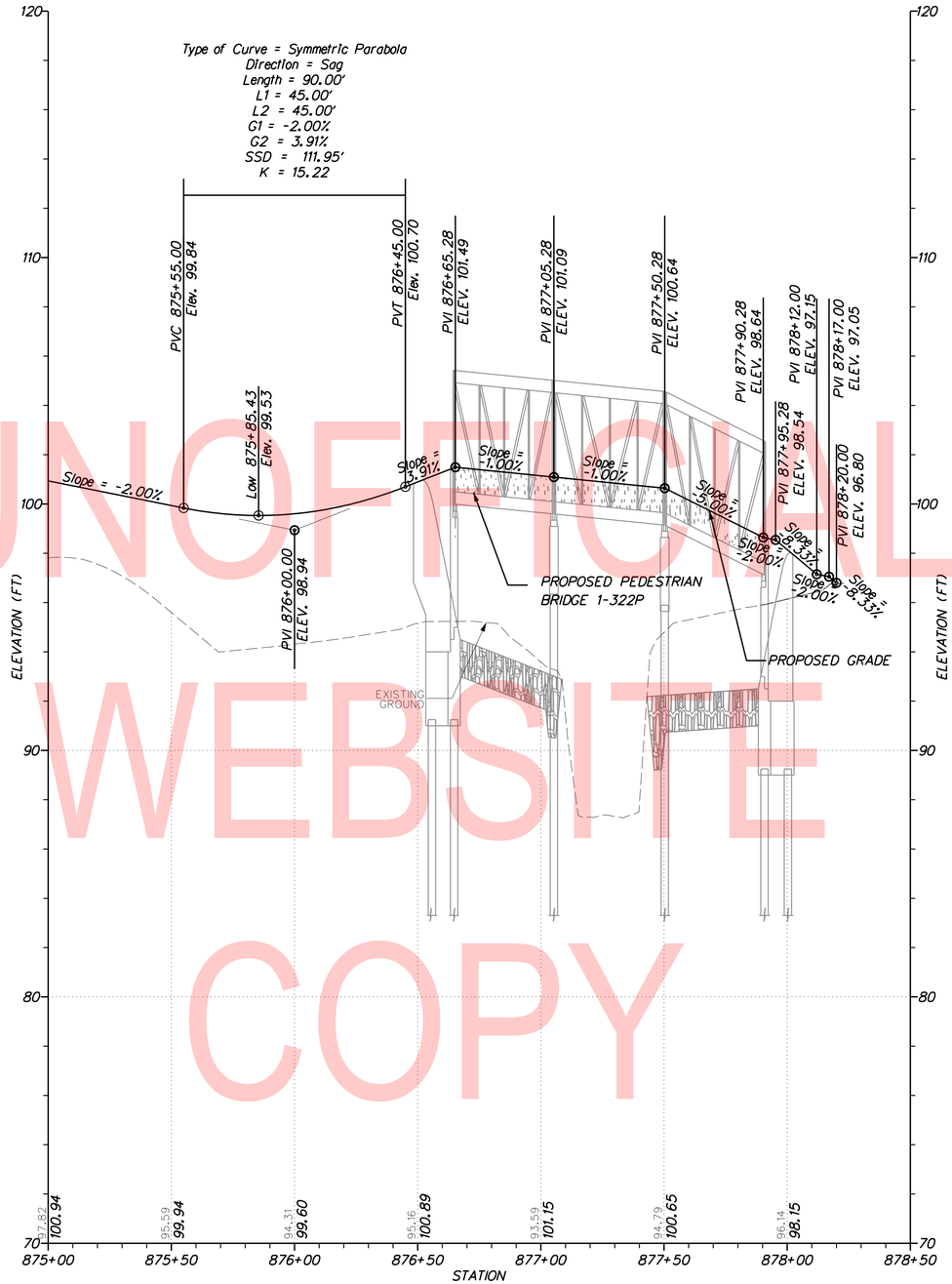
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

PROFILES

SECTION	JMT
SHEET NO.	82

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF36]



BL – Ped Bridge 1-322P

UNOFFICIAL WEBSITE COPY

NOTE: THE BORING DATA PROVIDED ON THE PROFILE SHEETS INDICATES THE SOIL CONDITION ONLY AT THE SPECIFIC LOCATION EACH BORING WAS PERFORMED AND ONLY TO THE DEPTH PENETRATED.

VERTICAL SCALE FEET 0 3 6 9

PF-37

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

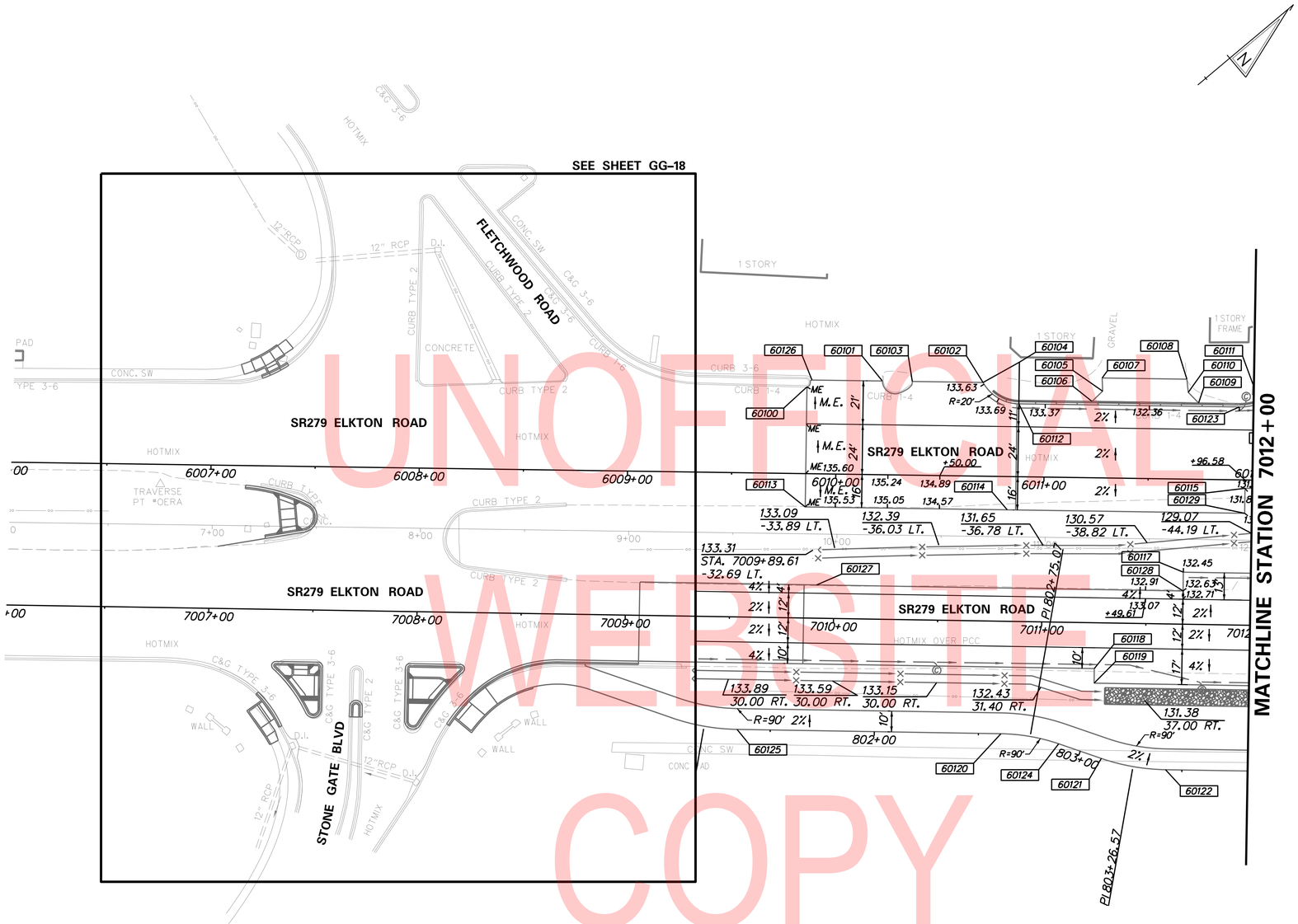
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PROFILES

SECTION	
JMT	
SHEET NO.	
83	

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PF.DGN [SHEET: PF37]



UNOFFICIAL WEBSITE COPY

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
60100	6009+85.59	-41.67	602687.2699	551298.8232
60101	6010+21.73	-45.00	602716.7980	551319.9306
60102	6010+70.10	-45.00	602753.4012	551351.5507
60103	6010+36.10	-45.00	602727.6743	551329.3262
60104	6010+87.42	-55.00	602773.0455	551355.3060
60105	6011+27.54	-41.67	602794.6934	551391.6176
60106	6011+22.54	-36.67	602787.6409	551392.1329
60107	6011+27.24	-48.00	602798.6060	551386.6370
60108	6011+67.93	-48.00	602829.3926	551413.2324
60109	6011+73.69	-36.67	602826.3519	551425.5739
60110	6011+68.69	-41.67	602825.8370	551418.5214
60111	6011+99.71	-46.00	602852.1334	551435.5224
60112	6010+87.42	-35.00	602759.9711	551370.4408
60113	6009+85.59	16.00	602649.5702	551342.4641
60114	6010+82.58	16.00	602722.9672	551405.8690
60115	6011+96.58	4.00	602817.0800	551471.3119
60117	7011+67.61	-25.00	602768.5186	551483.1649
60118	7011+25.61	22.00	602705.9950	551491.1519
60119	7011+25.61	29.00	602701.4084	551496.4401
60120	7010+81.27	54.00	602651.5334	551486.2753
60121	7011+29.67	65.10	602680.8218	551526.3689
60122	7011+60.60	70.00	602700.9719	551550.3341
60123	6011+93.30	-35.00	602840.0918	551439.6541
60124	7011+09.11	58.41	602669.6686	551507.8440
60125	7009+54.56	54.00	602555.8051	551403.2486
60126	6009+87.96	-45.00	602691.2417	551297.8535
60127	7009+91.61	-16.00	602629.6634	551374.6466
60128	7011+67.61	-16.00	602762.6217	551489.9639
60129	6011+96.58	16.00	602809.2354	551480.3928

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG01]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

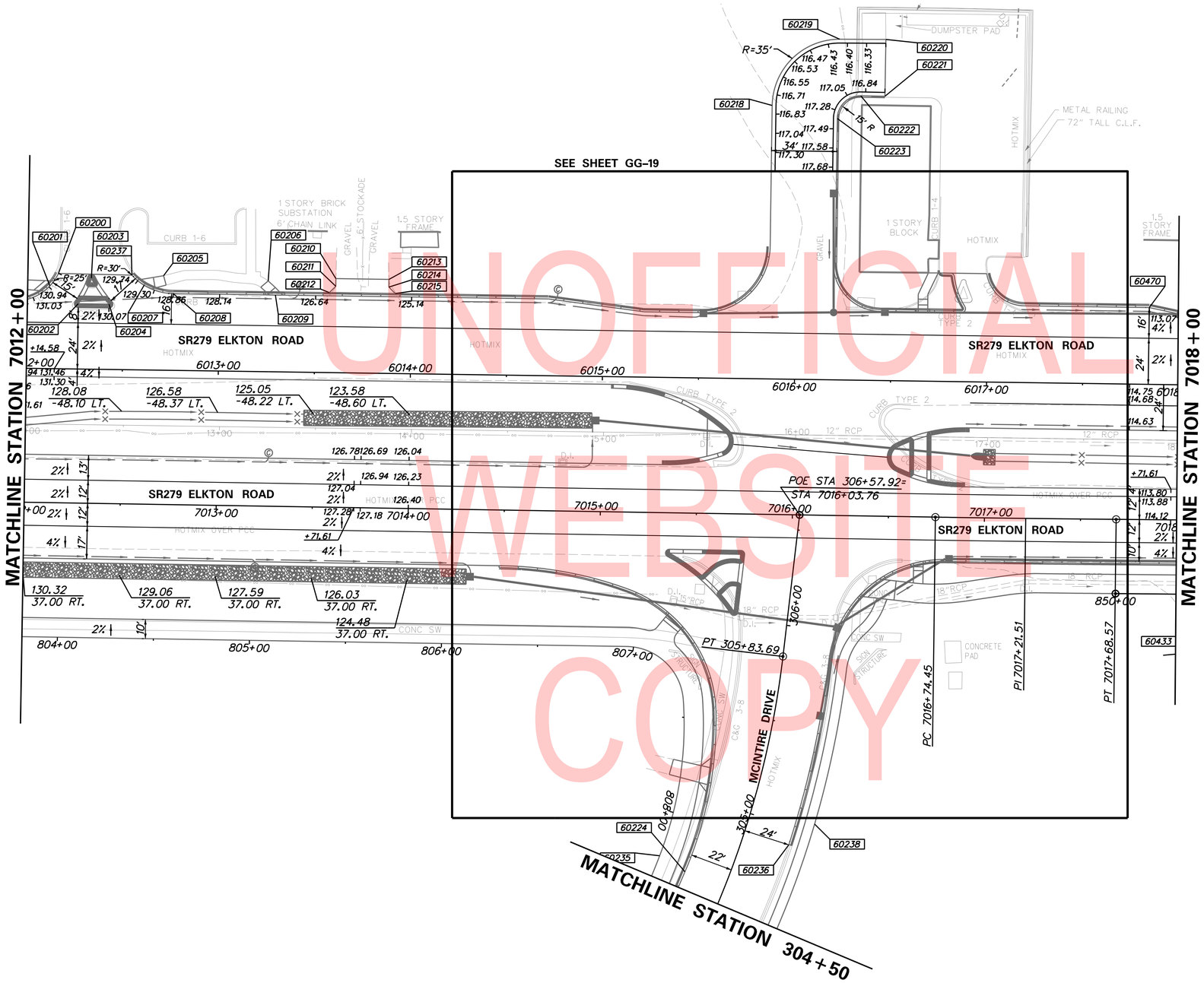
SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

GRADES AND GEOMETRICS

	GG-01
SECTION	JMT
SHEET NO.	84



UNOFFICIAL WEBSITE COPY

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
60200	6012+16.05	-49.65	602866.8937	551443.4427
60201	6012+11.70	-43.08	602859.2986	551445.5710
60202	6012+26.62	-34.00	602864.6530	551462.1930
60203	6012+33.26	-47.49	602878.4991	551456.3270
60204	6012+42.60	-34.00	602876.7470	551472.6406
60205	6012+70.82	-49.20	602908.0462	551479.5881
60206	6013+25.29	-47.30	602948.0184	551516.6332
60207	6012+60.77	-44.13	602897.1218	551476.8547
60208	6012+75.96	-40.00	602905.9171	551489.9108
60209	6013+29.16	-40.00	602946.1772	551524.6899
60210	6013+60.54	-49.00	602975.8018	551538.3884
60211	6013+60.54	-45.00	602973.1870	551541.4153
60212	6013+57.20	-41.67	602968.4855	551541.7588
60213	6013+88.18	-49.00	602996.7185	551556.4575
60214	6013+88.18	-45.00	602994.1036	551559.4844
60215	6013+91.51	-41.67	602994.4470	551564.1860
60218	6015+86.34	-142.41	603207.7371	551615.3105
60219	6016+20.98	-177.41	603256.8282	551611.4699
60220	6016+45.06	-177.66	603275.2159	551627.0255
60221	6016+44.95	-148.08	603255.7981	551649.3389
60222	6016+32.38	-148.12	603246.3150	551641.0864
60223	6016+20.34	-136.12	603229.3556	551642.2941
60224	306+59.24	-22.12	602916.4557	551891.8182
60235	304+62.33	-37.42	602911.7058	551876.9883
60236	304+90.66	24.00	602966.8423	551915.8411
60237	6012+54.29	-49.25	603895.5678	551468.7409
60238	305+04.14	33.67	602984.0964	551916.1943
60470	6017+84.17	-40.00	603290.4972	551822.1350

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CG.DGN [SHEET: GG02]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

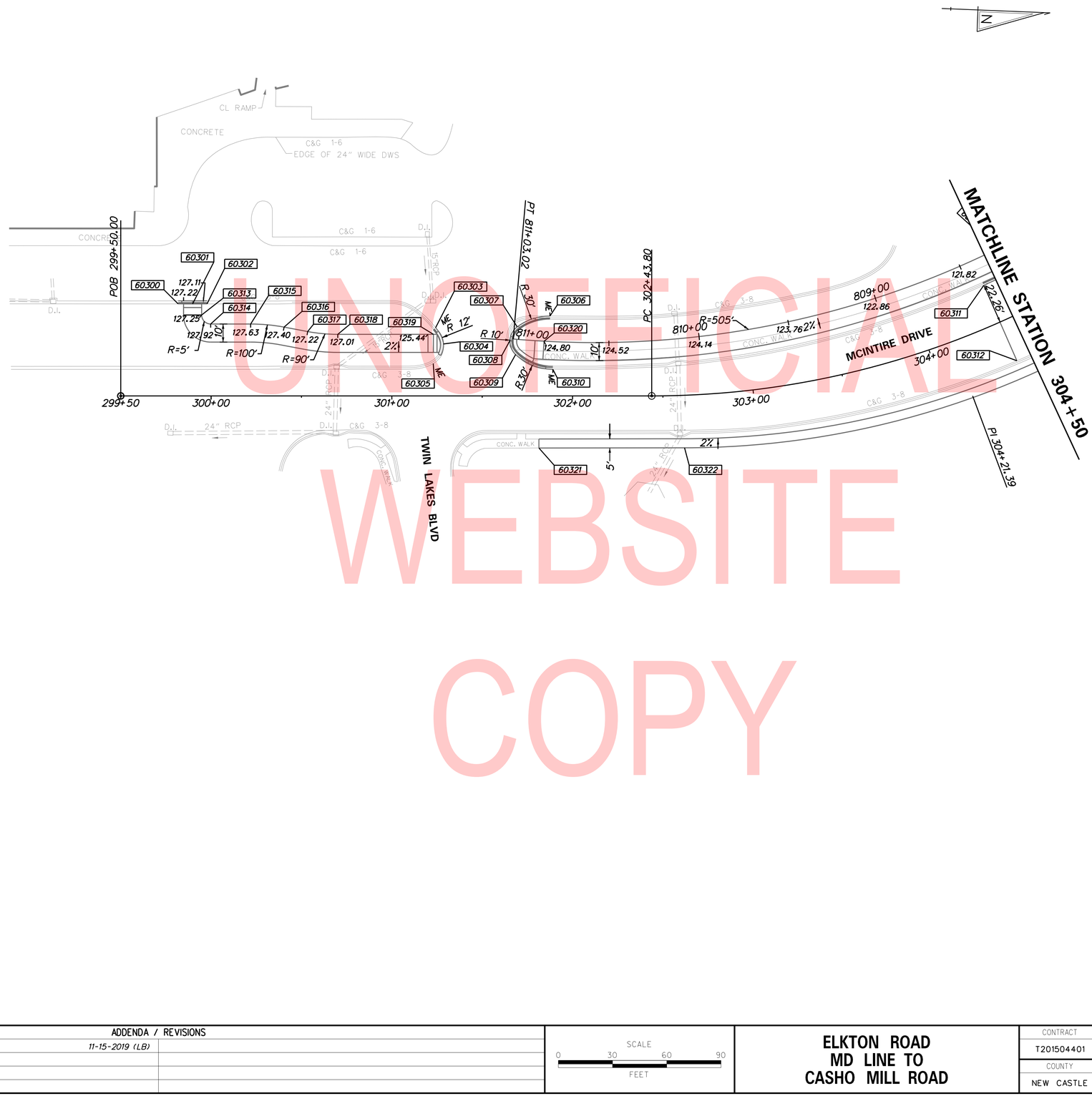
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

GRADES AND GEOMETRICS

GG-02
SECTION JMT
SHEET NO. 85



UNOFFICIAL WEBSITE COPY

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
60300	299+81.75	-50.94	602457.0236	551927.2401
60301	299+89.75	-50.90	602465.0203	551926.9636
60302	299+97.75	-50.93	602473.0113	551926.6107
60303	301+24.23	-37.73	602599.9148	551934.7263
60304	301+28.56	-28.73	602604.6076	551943.5463
60305	301+22.93	-17.92	602599.4128	551954.5788
60306	301+87.50	-44.18	602662.8719	551925.7469
60307	301+69.39	-38.19	602645.0191	551932.4596
60308	301+65.40	-30.75	602641.3329	551940.0476
60309	301+68.52	-22.92	602644.7622	551947.7551
60310	301+89.10	-14.73	602665.6582	551955.1129
60311	304+42.34	-22.26	602902.0756	551899.0781
60312	304+42.10	23.37	602922.0294	551940.1160
60313	299+94.75	-44.80	602470.2608	551932.8568
60314	299+99.75	-39.80	602475.4573	551937.6522
60315	300+21.89	-39.80	602497.5744	551936.7645
60316	300+40.36	-38.08	602516.1005	551937.7432
60317	300+53.44	-35.62	602529.2664	551939.6747
60318	300+70.08	-34.07	602545.9535	551940.5550
60319	301+23.01	-34.08	602598.8394	551938.4243
60320	301+84.23	-30.24	602660.1673	551939.8042
60321	301+81.37	28.84	602659.6749	551998.9533
60322	302+60.92	29.06	602740.2040	551995.6158

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG03]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

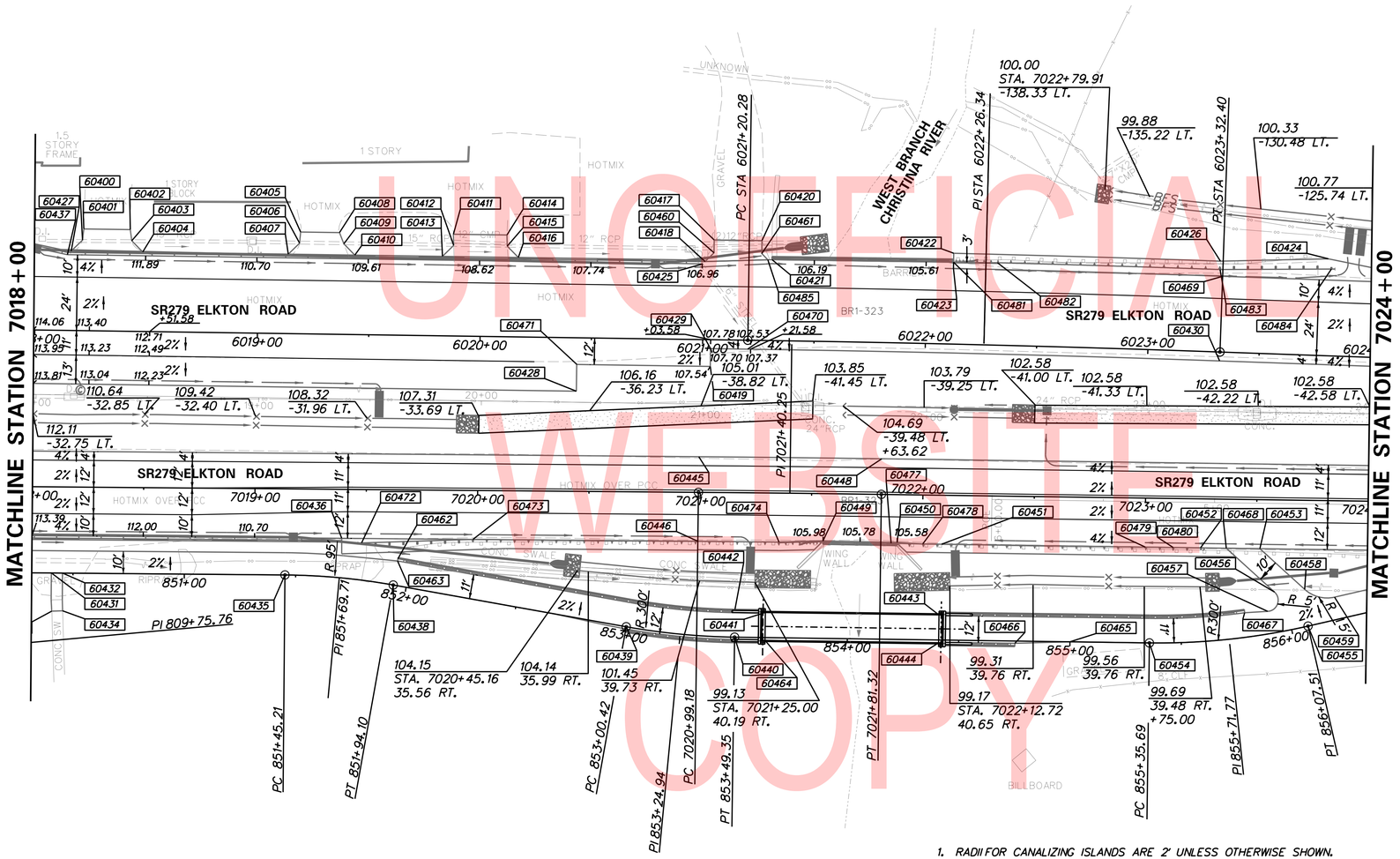
CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

GRADES AND GEOMETRICS

GG-03

SECTION	SHEET NO.
JMT	86

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
60400	6018+20.84	-40.67	603318.6802	551845.5999
60401	6018+21.34	-45.69	603322.3446	551842.1276
60402	6018+42.22	-45.67	603338.1346	551855.7985
60403	6018+42.97	-40.67	603335.4299	551860.0694
60404	6018+47.97	-35.69	603335.9609	551867.1033
60405	6019+18.73	-45.67	603396.0301	551905.8123
60406	6019+18.35	-40.67	603392.4757	551909.3491
60407	6019+13.35	-35.67	603385.4232	551909.8645
60408	6019+36.21	-45.67	603409.2538	551917.2357
60409	6019+38.22	-40.67	603407.5089	551922.3357
60410	6019+43.22	-35.67	603408.0237	551929.3882



UNOFFICIAL WEBSITE COPY

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
60411	6019+87.38	-45.67	603447.9808	551950.6905
60412	6019+87.58	-40.67	603444.8625	551954.6041
60413	6019+82.58	-35.67	603437.8100	551955.1194
60414	6020+11.42	-45.67	603466.1739	551966.4069
60415	6020+11.62	-40.67	603463.0501	551970.3156
60416	6020+16.67	-35.67	603463.6069	551977.4045
60417	6021+04.54	-44.77	603536.0545	552027.9610
60418	6021+00.59	-35.04	603526.7038	552032.7339
60419	6021+03.58	12.00	603498.2120	552070.2879
60420	6021+25.95	-44.77	603552.2718	552041.9705
60421	6021+30.60	-36.32	603550.2745	552051.4137
60422	6022+11.83	-40.77	603614.6338	552101.6819
60423	6022+11.83	-34.00	603610.1609	552106.7649
60424	6023+79.60	-43.53	603741.9372	552211.7671
60425	6020+99.54	-34.00	603525.2311	552032.8415
60426	6023+31.15	-40.77	603704.1019	552181.3639
60427	6018+15.84	-35.67	603311.6277	551846.1153
60428	6020+43.58	24.00	603444.9630	552040.1457
60429	6021+03.61	4.01	603503.4590	552064.2672
60430	6023+32.40	4.00	603675.0551	552215.4561
60431	850+40.28	0.00	603211.9022	551951.0899
60432	850+45.28	0.00	603215.7050	551954.3363
60433	850+40.58	17.14	603201.0009	551964.3175
60434	850+45.48	16.94	603204.8569	551967.3473
60435	851+45.21	0.00	603291.7036	552019.2149
60436	7019+39.13	22.00	603321.8047	552022.9974
60437	6018+14.17	-34.00	603309.2771	551846.2870
60438	851+94.10	0.00	603326.0437	552053.9367
60439	853+00.42	0.00	603394.1749	552135.5556
60440	853+49.35	0.00	603428.4526	552170.4047
60441	853+63.02	-11.25	603446.1488	552170.8184
60442	853+49.35	-12.50	603436.6205	552160.9424
60443	854+41.02	-11.25	603505.1938	552221.7856
60444	854+41.02	1.25	603497.0260	552231.2480
60445	7020+99.18	-16.00	603468.2036	552098.0121
60446	7020+99.19	22.00	603443.5444	552126.9228
60448	7021+81.32	-16.00	603530.5982	552151.5732
60449	7021+55.36	21.32	603486.5729	552162.9044
60450	7021+88.73	21.47	603511.7237	552184.7746
60451	7022+08.72	22.00	603526.5093	552198.2426
60452	7023+25.00	22.00	603614.5311	552274.2224
60453	7023+51.68	22.00	603634.7250	552291.6537
60454	855+35.69	0.00	603569.5040	552292.1593
60455	856+07.51	0.00	603628.9435	552332.1647
60456	855+95.53	-18.05	603627.2424	552310.7725
60457	855+90.75	-10.03	603619.3018	552315.4590
60458	856+09.72	-16.43	603638.3968	552318.5488
60459	856+22.03	-10.00	603646.4295	552329.8749
60460	6021+04.54	-39.00	603532.2834	552032.3264
60461	6021+25.95	-39.00	603548.5007	552046.3359
60462	851+94.10	-12.00	603335.2559	552046.2468
60463	851+94.10	-11.00	603334.4882	552046.8876
60464	853+63.02	1.25	603437.9810	552180.2808
60465	855+00.00	0.00	603542.4899	552268.8409
60466	854+75.25	1.00	603523.1011	552253.4257
60467	855+80.08	-11.00	603611.0096	552309.2833
60468	7023+36.56	22.00	603623.2840	552281.7779
60469	6023+32.40	-34.00	603700.5007	552187.2334
60470	6021+20.28	4.00	603516.0791	552075.1510
60471	6020+43.67	12.00	603452.8808	552031.1280
60472	7019+48.08	24.00	603327.3164	552030.3302
60473	7019+98.04	22.00	603366.6113	552061.2480
60474	7021+35.59	22.00	603471.1589	552150.5565
60477	7021+86.00	21.87	603509.3925	552183.2986
60478	7022+00.23	22.00	603520.0803	552192.6931
60479	7023+00.23	22.00	603595.7792	552258.0359
60480	7023+12.73	22.00	603605.2415	552266.2037
60481	6022+11.84	-36.77	603612.0020	552104.6934
60482	6022+31.52	-37.00	603626.9669	552117.5836
60483	6023+31.15	-37.00	603701.5773	552184.1649
60484	6023+81.11	-39.00	603740.0211	552216.1348
60485	6021+28.71	-36.24	603548.7854	552050.2336

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

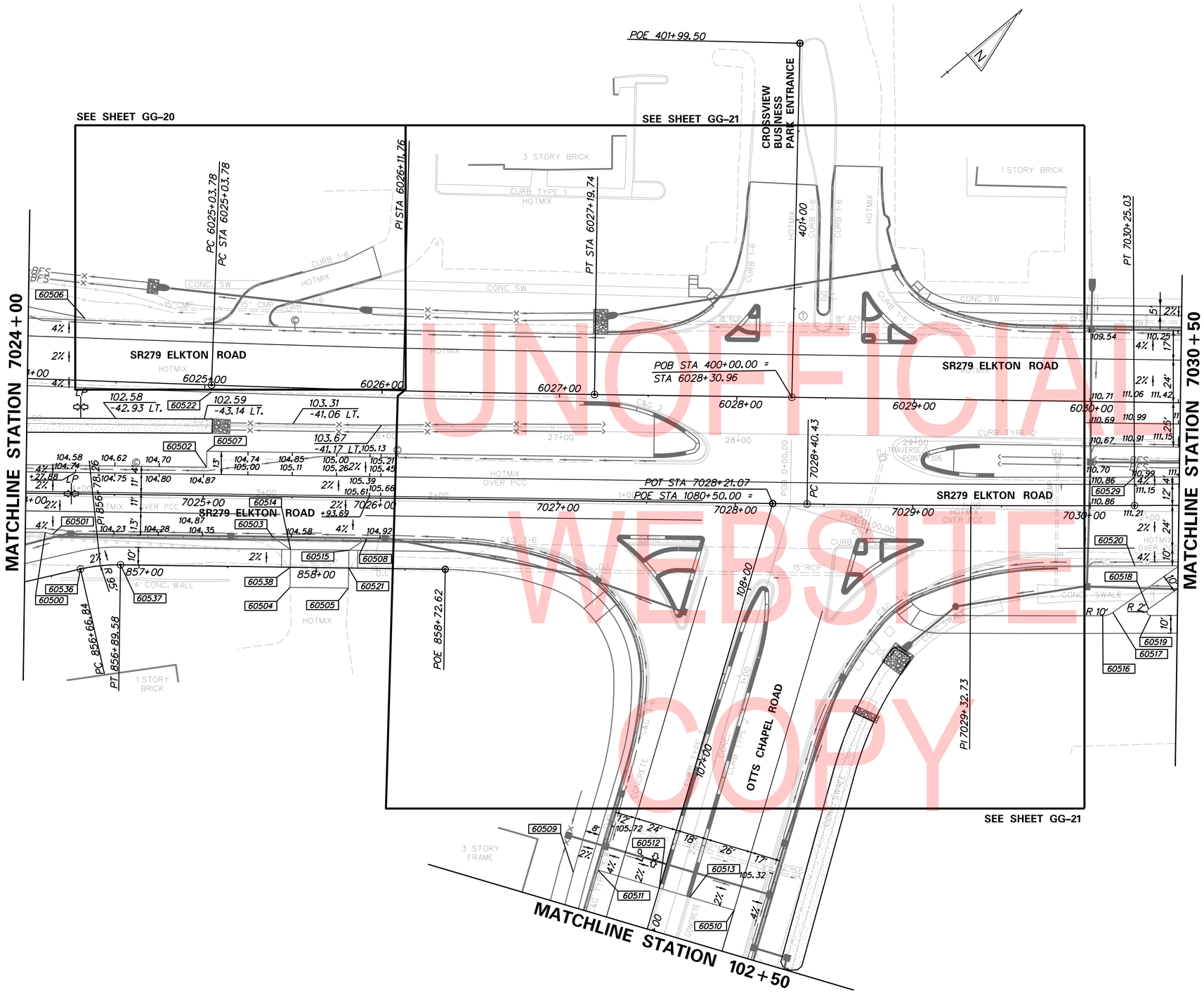
GRADES AND GEOMETRICS

GG-04

SECTION JMT

SHEET NO. 87

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG04]



UNOFFICIAL WEBSITE COPY

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
60506	6024+31.11	-35.00	603774.4786	552252.5856
60500	7024+11.30	22.00	603679.8590	552330.6130
60501	7024+15.47	23.00	603682.3596	552334.0926
60502	7025+01.67	-16.00	603773.0989	552360.8982
60503	7025+39.69	23.00	603776.3962	552415.2644
60504	7025+49.69	51.00	603765.6701	552442.9943
60505	7025+82.55	51.00	603790.5453	552464.4664
60507	7025+01.69	-25.00	603778.9944	552354.0980
60508	7025+92.55	23.00	603816.4112	552449.8050
60509	106+18.92	-49.00	603784.7734	552668.6100
60510	106+24.07	44.00	603840.4702	552743.2663
60511	106+24.07	-36.00	603796.2489	552676.5993
60512	106+24.07	0.00	603816.1485	552706.5994
60513	106+24.07	18.00	603826.0983	552721.5995
60514	7025+49.69	29.67	603779.6099	552426.8452
60515	7025+82.55	29.67	603804.4851	552448.3173
60516	7030+06.92	62.00	604106.2836	552749.6989
60517	7030+12.61	60.20	604111.8399	552751.9850
60518	7030+32.68	58.34	604128.5074	552763.4450
60519	7030+33.80	62.00	604127.0335	552766.9735
60520	7030+25.03	34.00	604138.1887	552739.8342
60521	7025+82.55	39.67	603797.9508	552455.8872
60529	7030+25.03	-16.00	604170.1559	552701.3882
60536	7024+31.41	42.38	603681.7671	552359.1773
60537	7024+53.94	39.67	603700.5896	552371.8456
60538	7025+49.69	39.67	603773.0756	552434.4151

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG05]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

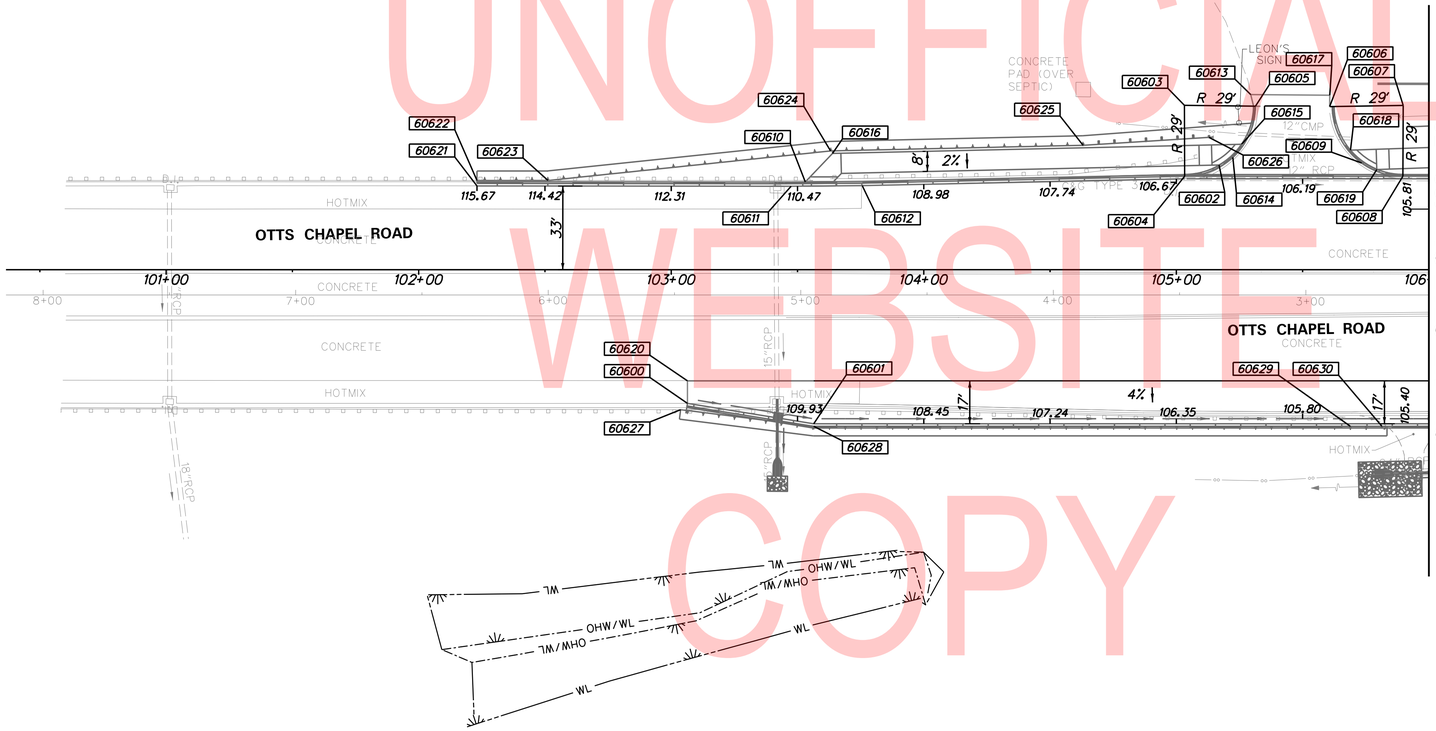
SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

GRADES AND GEOMETRICS

GG-05
SECTION JMT
SHEET NO. 88



UNOFFICIAL WEBSITE COPY

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
60600	103+06.42	52.91	603580.6813	552926.2782
60601	103+56.42	61.00	603626.8210	552905.3831
60602	105+16.92	-41.48	603703.9260	552731.2607
60603	105+03.19	-65.11	603679.4240	552719.1577
60604	105+03.28	-37.00	603695.0374	552742.5348
60605	105+31.30	-64.77	603703.0384	552703.9061
60606	105+60.70	-64.60	603727.6304	552687.7904
60607	105+89.81	-65.05	603751.6422	552671.3284
60608	105+89.70	-37.00	603767.0556	552694.7637
60609	105+73.35	-42.27	603750.5205	552699.4103
60610	103+53.06	-34.76	603571.0918	552827.4407
60611	103+47.45	-33.04	603567.3699	552831.9745
60612	103+75.62	-33.31	603590.6923	552816.1743
60613	105+29.46	-69.36	603698.9661	552701.1021
60614	105+22.37	-44.50	603706.8014	552725.7358
60615	105+25.82	-49.68	603706.8078	552719.5073
60616	103+63.86	-46.05	603573.8477	552812.0604
60617	105+60.72	-69.08	603725.1709	552684.0449
60618	105+68.94	-47.35	603744.0294	552697.6137
60619	105+79.36	-39.69	603756.9474	552698.2379
60620	103+06.42	44.00	603575.7571	552918.8546
60621	102+23.07	-33.18	603463.6402	552900.6121
60622	102+23.07	-35.33	603462.4520	552898.8164
60623	102+51.20	-35.33	603485.8887	552883.2685
60624	103+63.09	-47.03	603572.6617	552811.6675
60625	104+63.06	-49.28	603654.7351	552754.5365
60626	105+12.96	-52.40	603694.5957	552724.3515
60627	103+03.70	55.40	603579.7987	552929.8572
60628	103+56.42	62.00	603627.3737	552906.2164
60629	105+68.92	62.00	603804.4578	552788.7537
60630	105+81.42	62.00	603814.8745	552781.8442

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG06]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

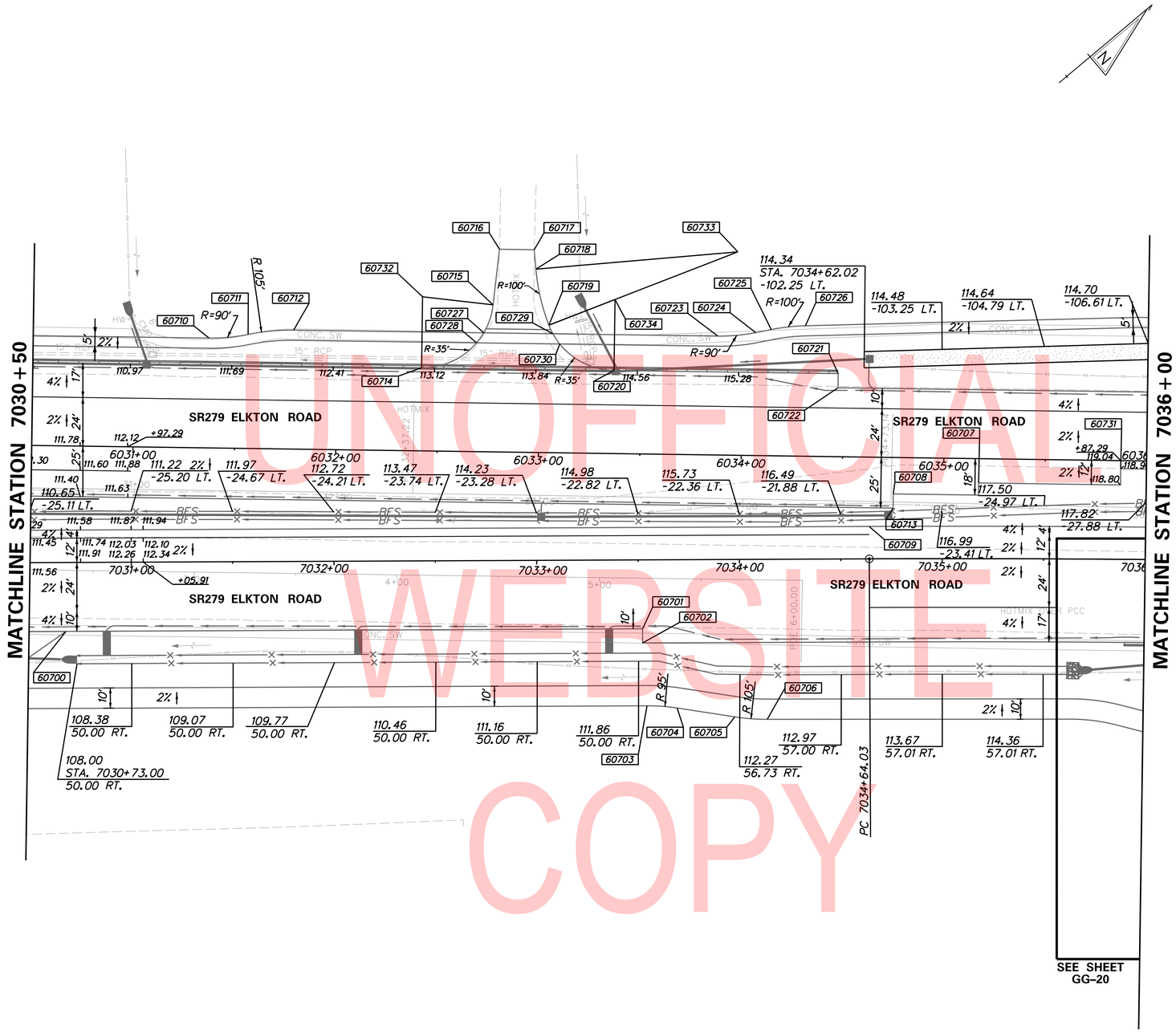
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

GRADES AND GEOMETRICS

GG-06

SECTION	JMT
SHEET NO.	89



UNOFFICIAL WEBSITE COPY

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
60700	7030+67.63	34.00	604167.9441	552767.0697
60701	7033+52.03	34.00	604389.6252	552948.8990
60702	7033+52.03	41.00	604385.1498	552954.2814
60703	7033+54.08	72.00	604366.9079	552979.4295
60704	7033+68.93	73.17	604377.5789	552989.8217
60705	7033+97.35	77.67	604396.5567	553011.4527
60706	7034+13.36	78.96	604408.0436	553022.6822
60707	6035+17.29	12.00	604562.8551	553000.3378
60708	6034+75.29	18.00	604527.1410	552977.4357
60709	7034+64.03	-16.00	604507.7107	552982.0587
60710	6031+36.73	-54.17	604318.0082	552701.5798
60711	6031+55.95	-56.24	604333.9171	552712.5686
60712	6031+78.38	-58.67	604352.4774	552725.3888
60713	6034+75.29	25.00	604522.5670	552982.7346
60714	6032+41.77	-41.00	604388.9249	552780.1881
60715	6032+76.60	-72.52	604435.8824	552779.0863
60716	6032+79.35	-100.00	604455.9207	552760.0781
60717	6032+96.51	-100.00	604468.9106	552771.2909
60718	6032+97.47	-90.41	604463.3710	552779.1759
60719	6033+04.26	-62.88	604450.5249	552804.4540
60720	6033+36.71	-41.00	604460.7898	552842.2214
60721	6034+05.29	-41.00	604512.7040	552887.0334
60722	6034+47.29	-34.00	604539.9235	552919.7763
60723	6033+87.60	-58.67	604510.8599	552862.1035
60724	6034+06.29	-60.63	604526.2857	552872.8284
60725	6034+13.95	-62.25	604533.1474	552876.6035
60726	6034+30.35	-64.35	604547.2649	552886.0131
60727	6032+72.18	-58.67	604423.4862	552786.6831
60728	6032+68.72	-53.67	604417.6014	552788.2085
60729	6033+06.30	-58.67	604449.3163	552808.9795
60730	6033+09.76	-53.67	604448.6668	552815.0240
60731	6035+87.29	4.00	604621.0717	553040.0218
60732	6032+41.77	-76.00	604411.7949	552753.6935
60733	6033+96.97	-100.36	604545.1961	552836.6621
60734	6033+36.71	-76.00	604483.6598	552815.7268

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG07]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

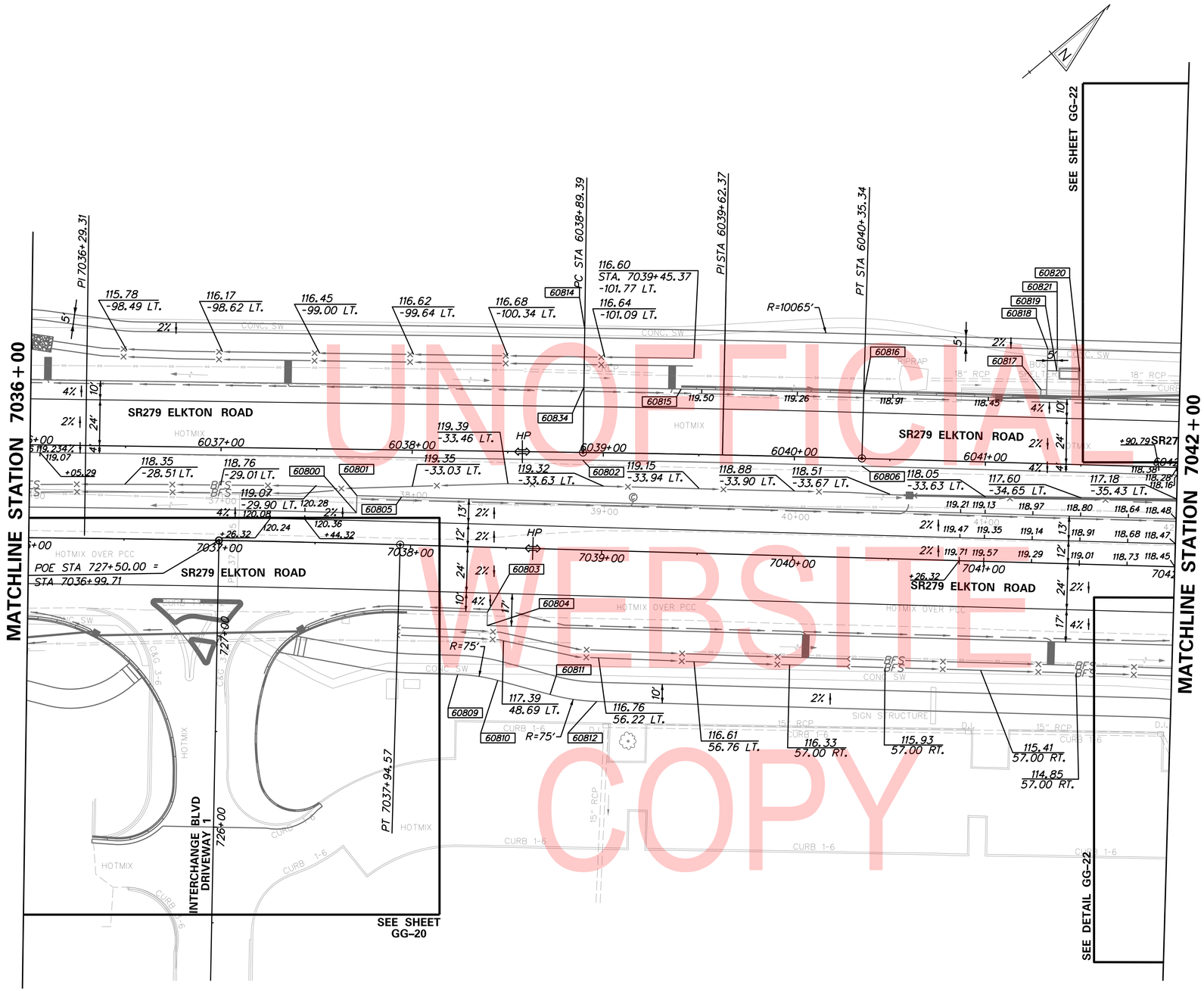
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

GRADES AND GEOMETRICS

GG-07

SECTION	SHEET NO.
JMT	90



COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
60800	7037+71.26	-16.00	604741.2673	553182.4039
60801	7037+71.26	-25.00	604747.2341	553175.6604
60802	6038+89.30	4.00	604849.6903	553237.3638
60803	7038+41.20	34.00	604760.3654	553266.2466
60804	7038+41.20	41.00	604755.7146	553271.4782
60805	7037+94.57	-25.00	604764.7107	553191.1663
60806	6040+35.42	4.00	604959.5561	553333.6072
60809	7038+26.62	67.00	604727.5391	553281.2186
60810	7038+47.62	69.49	604741.5869	553297.0326
60811	7038+75.18	76.10	604757.7909	553320.2894
60812	7038+99.69	79.00	604774.1793	553338.7385
60814	6038+89.30	-65.00	604894.7769	553185.1316
60815	6039+40.12	-34.00	604913.0344	553242.0137
60816	6040+35.42	-34.00	604984.7433	553305.1534
60817	6041+27.95	-38.67	605057.0590	553363.1972
60818	6041+30.95	-60.00	605073.4751	553349.2465
60819	6041+35.95	-48.67	605069.6821	553361.0387
60820	6041+47.95	-48.67	605078.6505	553369.0116
60821	6041+35.95	-60.00	605077.2120	553352.5685
60834	6038+89.30	-34.00	604874.5206	553208.5982

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
5. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG08]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

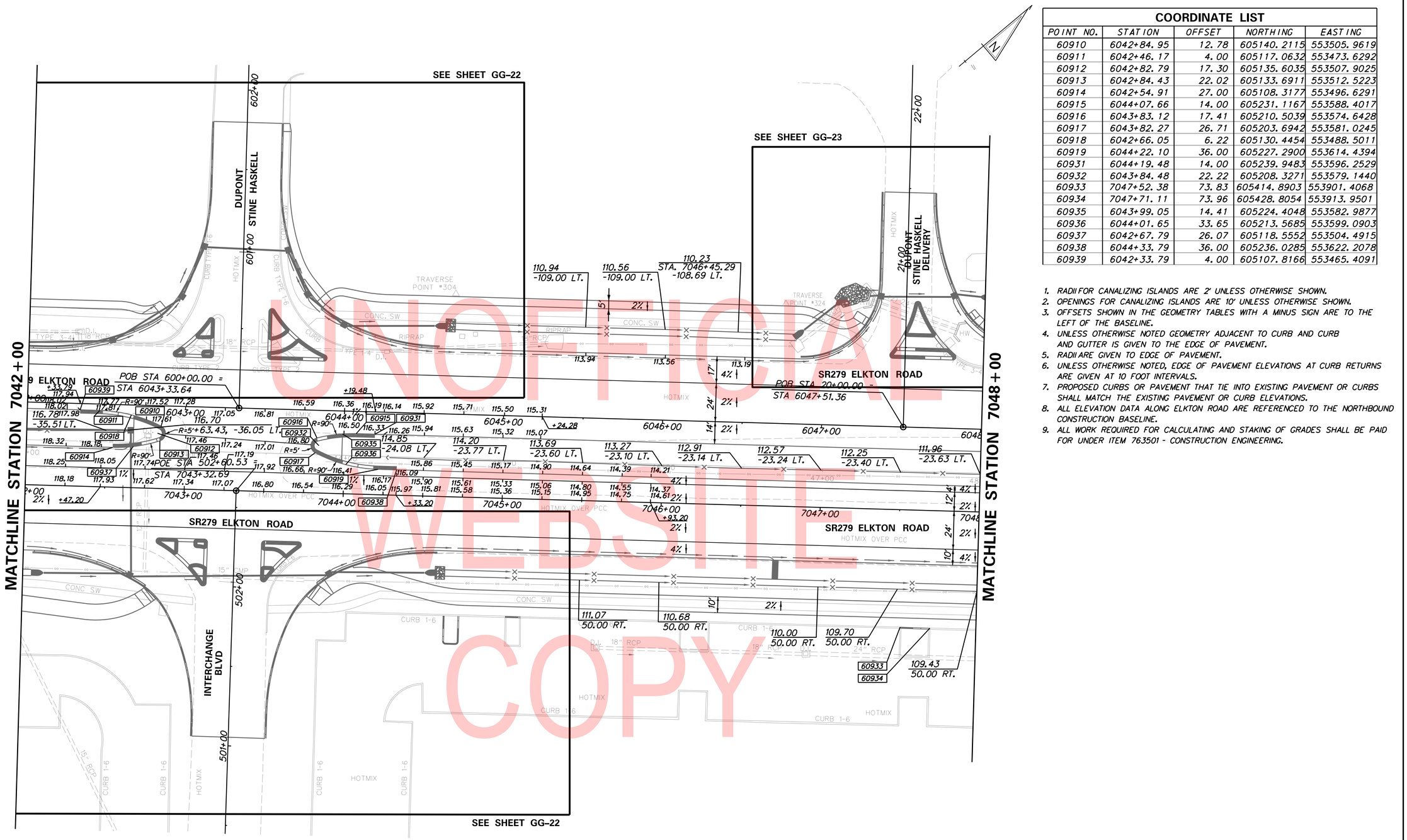
SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

GRADES AND GEOMETRICS

	GG-08
SECTION	JMT
SHEET NO.	91



COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
60910	6042+84.95	12.78	605140.2115	553505.9619
60911	6042+46.17	4.00	605117.0632	553473.6292
60912	6042+82.79	17.30	605135.6035	553507.9025
60913	6042+84.43	22.02	605133.6911	553512.5223
60914	6042+54.91	27.00	605108.3177	553496.6291
60915	6044+07.66	14.00	605231.1167	553588.4017
60916	6043+83.12	17.41	605210.5039	553574.6428
60917	6043+82.27	26.71	605203.6942	553581.0245
60918	6042+66.05	6.22	605130.4454	553488.5011
60919	6044+22.10	36.00	605227.2900	553614.4394
60931	6044+19.48	14.00	605239.9483	553596.2529
60932	6043+84.48	22.22	605208.3271	553579.1440
60933	7047+52.38	73.83	605414.8903	553901.4068
60934	7047+71.11	73.96	605428.8054	553913.9501
60935	6043+99.05	14.41	605224.4048	553582.9877
60936	6044+01.65	33.65	605213.5685	553599.0903
60937	6042+67.79	26.07	605118.5552	553504.4915
60938	6044+33.79	36.00	605236.0285	553622.2078
60939	6042+33.79	4.00	605107.8166	553465.4091

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5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
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9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG09]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

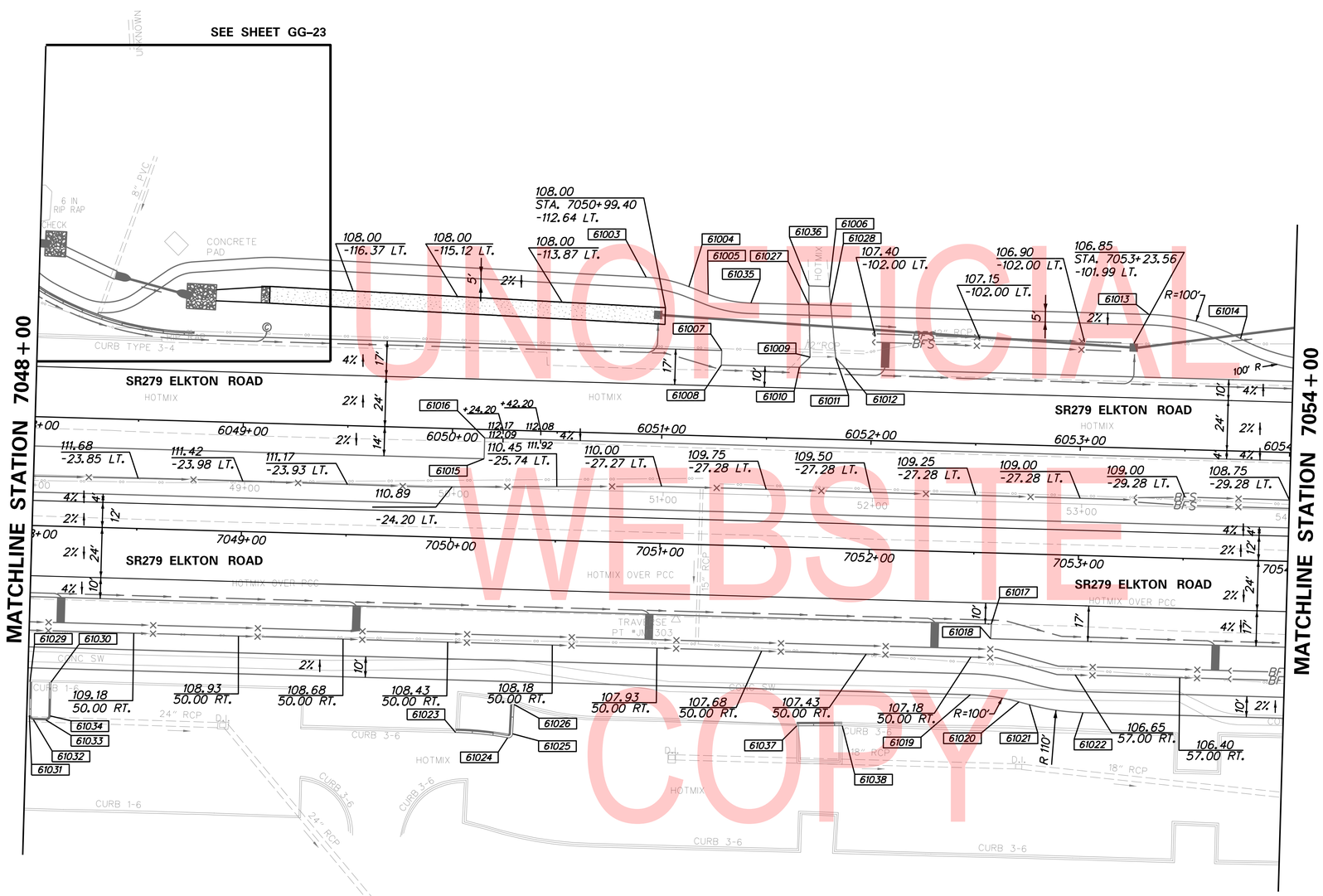
SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

GRADES AND GEOMETRICS

	GG-09
SECTION	JMT
SHEET NO.	92



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COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
61003	6050+90.35	-74.88	605800.3930	553975.5557
61004	6051+10.90	-71.00	605813.1699	553992.1072
61005	6051+20.26	-67.60	605817.9099	554000.8697
61006	6051+77.90	-73.00	605864.5720	554035.1285
61007	6051+27.48	-41.00	605805.6301	554025.5465
61008	6051+27.48	-34.00	605800.9793	554030.7781
61009	6051+69.76	-39.00	605835.9037	554055.1355
61010	6051+64.76	-34.00	605828.8448	554055.5503
61011	6051+81.96	-39.00	605845.0171	554063.2372
61012	6051+86.96	-34.00	605845.4319	554070.2961
61013	6053+30.89	-64.00	605972.9371	554143.5061
61014	6053+75.01	-53.74	605999.0927	554180.4814
61015	6050+15.48	14.00	605685.3821	553992.2386
61016	6050+15.48	4.00	605692.0262	553984.7649
61017	7052+59.31	34.00	605820.2210	554208.4464
61018	7052+59.20	41.00	605815.4884	554213.6053
61019	7052+50.25	68.00	605790.8607	554227.8382
61020	7052+73.59	70.76	605806.4652	554245.4036
61021	7052+78.60	71.96	605809.4141	554249.6355
61022	7053+04.27	75.00	605826.5791	554268.9575
61023	7050+04.98	93.04	605590.9143	554083.5981
61024	7050+29.94	94.85	605608.3627	554101.5270
61025	7050+32.24	92.92	605611.3659	554101.6127
61026	7050+32.56	78.90	605620.9239	554091.3448
61027	6051+68.46	-64.00	605851.5368	554035.5825
61028	6051+78.89	-64.00	605859.3358	554042.5158
61029	7048+01.11	74.61	605450.7897	553934.3662
61030	7048+11.11	74.56	605458.2956	553940.9740
61031	7048+01.24	90.69	605440.2075	553946.4699
61032	7048+03.24	92.67	605440.3811	553949.2781
61033	7048+09.24	92.69	605444.8568	553953.2746
61034	7048+11.24	90.67	605447.6946	553953.0992
61035	6051+40.74	-64.00	605830.8192	554017.1648
61036	6051+68.23	-73.00	605857.3487	554028.7071
61037	6051+67.83	85.20	605717.8316	554185.9306
61038	6051+84.52	84.56	605734.4703	554199.8677

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG10]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

GRADES AND GEOMETRICS

GG-10

SECTION	JMT
SHEET NO.	93

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61100	6055+43.62	-66.03	606133.2720	554283.3248
61101	6055+62.91	-66.02	606147.6850	554296.1534
61102	6055+38.19	-34.00	606107.9364	554303.6596
61103	6055+68.42	-34.00	606130.5266	554323.7420
61104	6057+53.66	-73.00	606294.8843	554417.6713
61105	6057+67.71	-73.00	606305.3781	554427.0002
61106	6057+45.62	-34.00	606262.9574	554441.4715
61107	6057+74.21	-34.00	606284.3247	554460.4668
61108	6060+25.66	-67.00	606494.3862	554601.7307
61109	6060+70.55	-56.36	606521.2038	554639.2697
61110	6058+70.35	-34.00	606356.1835	554524.3485
61111	6059+60.24	-34.00	606423.3972	554583.5620
61112	6060+78.04	-34.00	606512.1382	554661.0351
61113	6058+70.35	-67.00	606378.1089	554499.6852
61114	6059+60.24	-67.00	606445.1000	554558.7027
61115	7059+96.47	-36.00	606415.8139	554648.9144
61116	6060+78.04	4.00	606487.1471	554689.6610
61117	7058+92.28	-16.00	606325.6468	554593.0141
61119	7054+57.99	75.00	605941.4669	554371.0916
61120	7054+71.23	75.88	605950.7773	554380.5464

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61121	7059+96.47	-30.00	606411.7477	554653.3265
61122	7059+60.47	-24.00	606381.2092	554633.3415
61123	7059+12.47	-16.00	606340.4912	554606.6948
61130	7060+63.25	54.00	606403.9267	554760.3512
61131	7060+52.62	53.37	606396.5391	554752.6865
61132	7060+46.92	50.69	606394.1593	554746.8536
61133	7060+26.61	45.21	606382.9439	554729.0569
61134	7060+24.89	48.63	606379.3584	554730.4039
61135	7060+45.90	62.48	606385.4209	554754.8333
61136	7060+63.25	64.00	606397.1498	554767.7046
61137	7060+93.06	66.00	606417.7117	554789.3745
61138	7060+93.06	64.00	606419.0671	554787.9038
61140	7060+63.06	30.00	606420.0485	554742.5713
61141	7057+13.23	-16.00	606192.6865	554472.6630
61142	6054+16.92	-44.00	606023.9404	554215.6079
61143	6055+43.19	-39.00	606114.9953	554303.2448
61144	6055+43.27	-44.00	606118.3760	554299.5601
61145	6055+63.32	-44.38	606133.6096	554312.5969
61146	6055+63.42	-39.00	606130.1118	554316.6832
61147	6056+01.19	-55.50	606169.3043	554329.4475

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61148	6056+47.75	-67.00	606211.7420	554351.7869
61149	6057+50.62	-39.00	606270.0162	554441.0567
61150	6057+69.21	-39.00	606283.9098	554453.4079
61151	6057+53.13	-67.00	606290.4958	554421.7981
61152	6057+67.97	-67.00	606301.5896	554431.6604
61153	7060+92.45	54.00	606425.3984	554780.1396
61154	7060+93.06	60.00	606421.7779	554784.9624
61155	6058+70.35	4.00	606330.9347	554552.7474
61156	6059+60.24	4.00	606398.4061	554612.1880
61157	7059+12.47	-24.00	606345.9128	554600.8121
61158	7059+60.47	-30.00	606385.2754	554628.9294
61159	7060+25.11	30.00	606392.1486	554716.8585

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG11]

ADDENDA / REVISIONS	
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

GRADES AND GEOMETRICS

GG-11
SECTION: JMT
SHEET NO.: 94

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
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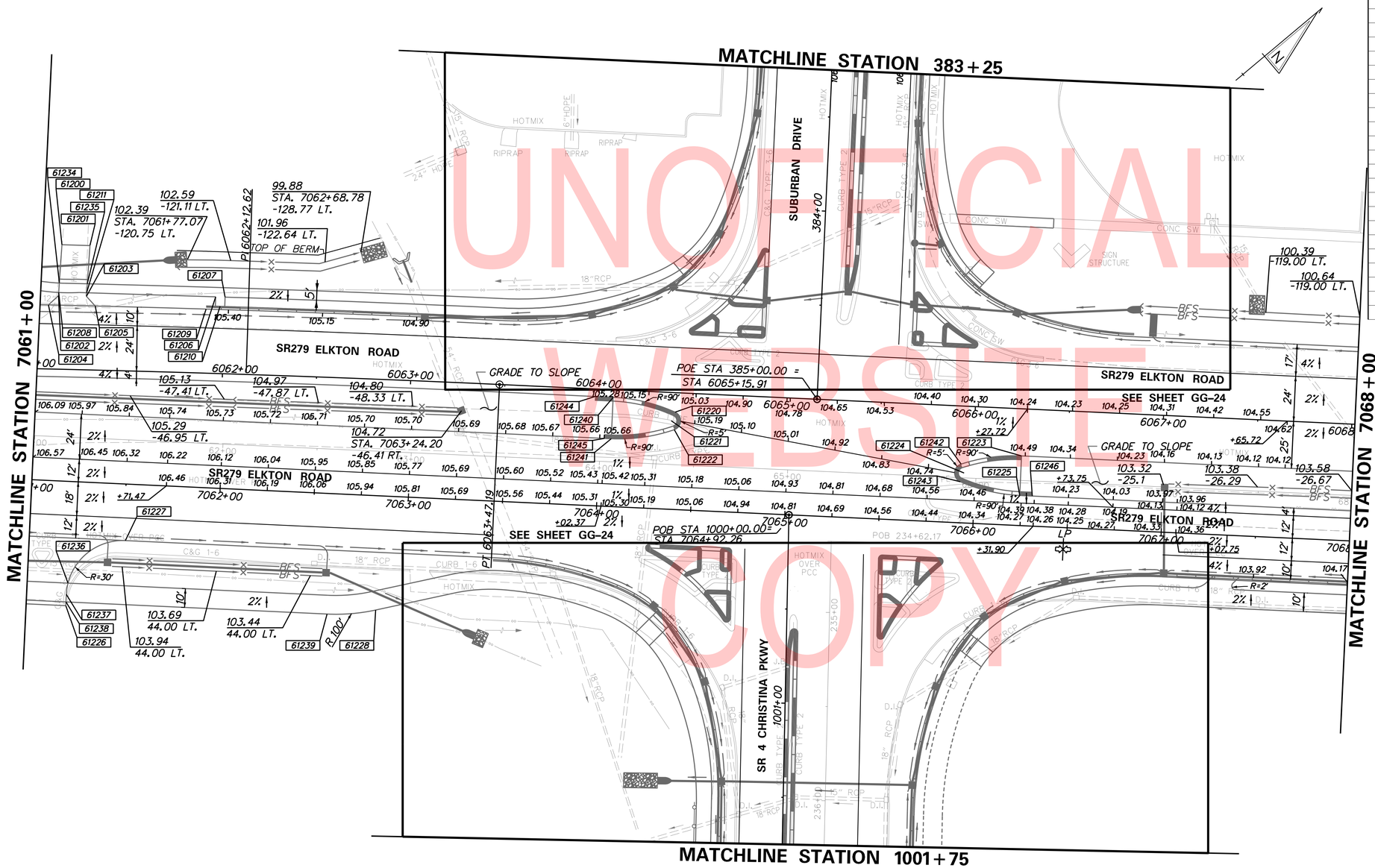
COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
61200	6061+13.29	-66.11	606559.9437	554660.2287
61201	6061+28.04	-66.06	606571.0547	554670.0798
61202	6061+12.08	-39.00	606541.1365	554679.7912
61203	6061+26.84	-39.00	606552.2557	554689.5800
61204	6061+06.87	-34.00	606533.9077	554680.0958
61205	6061+31.61	-34.00	606552.5351	554696.4937
61206	6061+95.12	-40.67	606604.6299	554733.8465
61207	6062+00.10	-40.67	606608.3569	554737.1796
61208	6061+12.16	-40.71	606542.3226	554678.5575
61209	6061+90.28	-34.00	606596.5622	554735.5783
61210	6061+97.62	-35.67	606603.1639	554739.2428
61211	6061+26.93	-40.93	606553.5988	554688.1872
61220	6064+40.95	10.35	606752.0606	554937.5230
61221	6064+39.11	15.00	606747.5544	554939.6897
61222	6064+40.95	19.65	606745.7620	554944.3574
61223	6066+25.72	25.00	606877.9988	555073.5073
61224	6065+95.64	35.50	606848.7646	555060.8439
61225	6066+25.72	46.00	606863.7672	555088.9495
61226	7061+21.06	66.00	606438.3013	554808.3500
61227	7061+51.06	30.00	606484.7586	554802.2085
61228	7062+85.42	60.66	606562.7883	554915.8136
61234	6061+12.39	-45.82	606545.8662	554674.8715
61235	6061+27.14	-45.67	606556.8878	554684.7762
61236	7061+21.66	54.00	606446.8794	554799.9366
61237	7061+21.06	60.00	606442.3675	554803.9379
61238	7061+21.06	64.00	606439.6567	554806.8793
61239	7062+59.79	64.00	606541.6725	554900.8977
61240	6064+07.74	4.00	606731.9423	554910.3424
61241	6064+07.74	26.00	606717.0330	554926.5199
61242	6065+93.87	30.82	606850.6328	555056.2060
61243	6065+93.87	40.18	606844.2943	555063.0836
61244	6063+98.11	4.00	606724.8600	554903.8154
61245	6064+04.11	26.00	606714.3628	554924.0591
61246	6066+32.38	46.00	606868.6686	555093.4666



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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG12]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

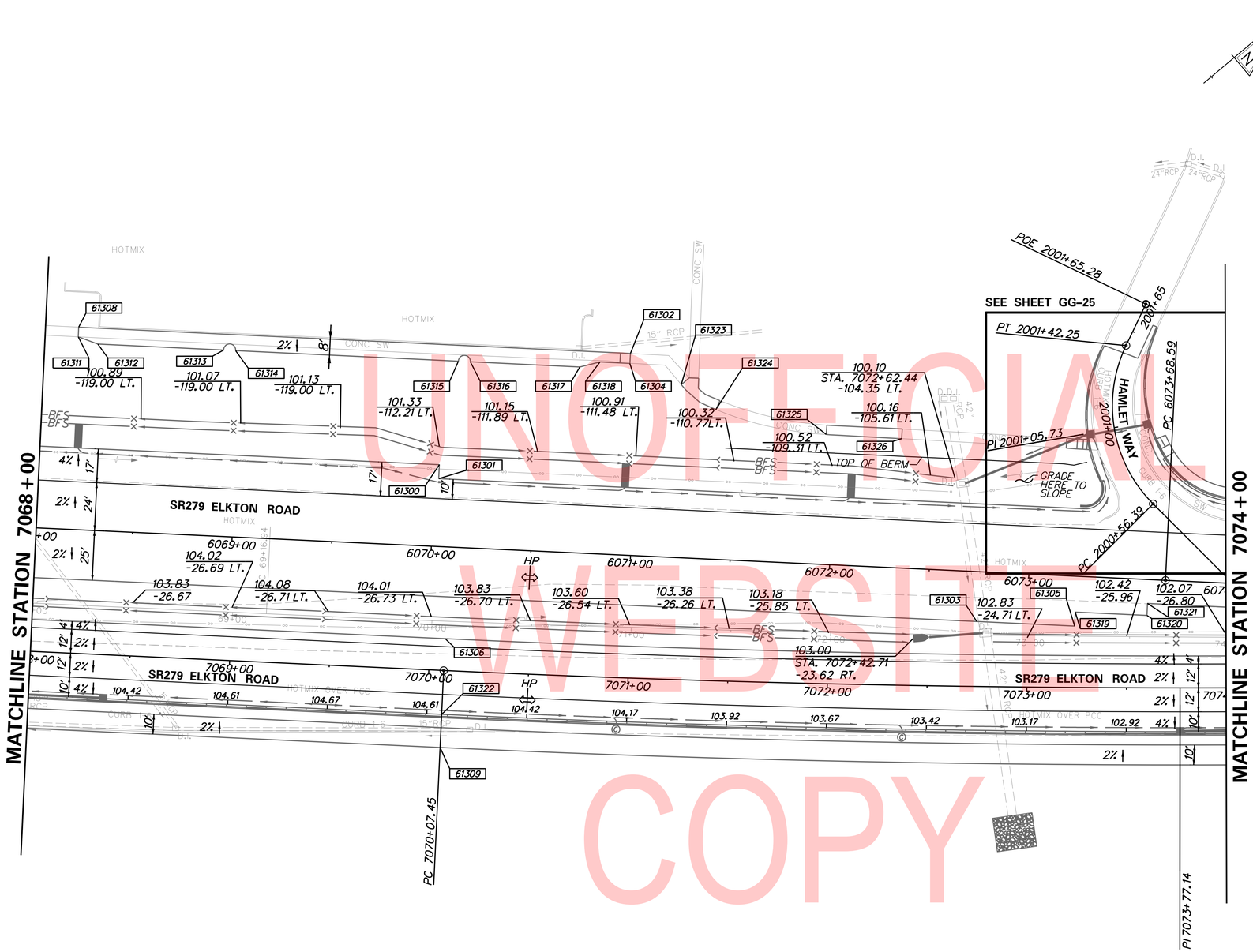
SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

GRADES AND GEOMETRICS

GG-12
SECTION JMT
SHEET NO. 95



UNOFFICIAL WEBSITE COPY

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
61300	6070+02.11	-41.00	607199.5030	555280.0535
61301	6070+02.11	-34.00	607194.7591	555285.2009
61302	6070+95.24	-101.19	607308.7804	555298.9092
61303	6072+75.00	25.00	607355.4428	555513.5228
61304	6070+95.21	-96.19	607305.3681	555302.5639
61305	6073+24.11	25.00	607391.5552	555546.8042
61306	7070+07.45	-16.00	607145.6749	555348.7574
61308	6068+18.25	-101.51	607105.3107	555110.9522
61309	7070+07.45	38.67	607108.6275	555388.9561
61311	6068+18.24	-96.64	607102.0065	555114.5297
61312	6068+28.24	-93.50	607107.2290	555123.6139
61313	6068+91.40	-93.44	607153.6320	555166.4706
61314	6068+97.39	-93.43	607158.0296	555170.5322
61315	6070+09.26	-93.31	607240.2089	555246.4311
61316	6070+15.25	-93.30	607244.6147	555250.5003
61317	6070+70.24	-93.25	607285.0055	555287.8043
61318	6070+80.24	-96.23	607294.3871	555292.3852
61319	6073+24.11	18.00	607396.2990	555541.6568
61320	6073+60.11	18.00	607422.7713	555566.0539
61321	6073+60.11	12.00	607426.8375	555561.6418
61322	7070+07.45	22.00	607119.9224	555376.7004
61323	6071+21.47	-86.80	607318.3114	555327.2664
61324	6071+39.38	-75.12	607323.5673	555347.9923
61325	6071+95.25	-65.17	607357.9049	555393.1752
61326	6072+33.15	-64.83	607385.5460	555419.1008

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2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG13]

GG-13

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

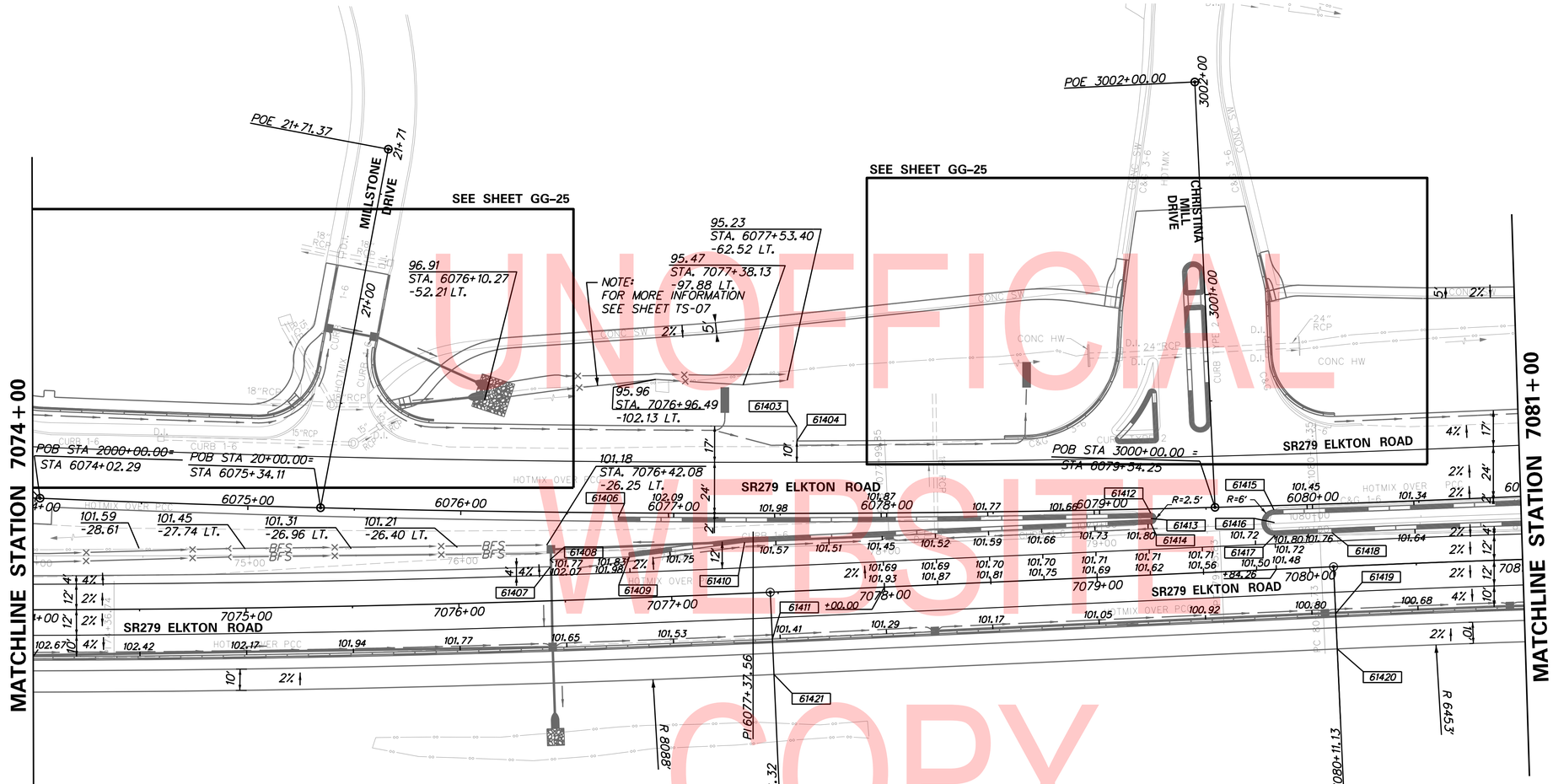
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

GRADES AND GEOMETRICS

SECTION	SHEET NO.
JMT	96



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COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61403	6077+57.92	-40.82	607759.9728	555784.0120
61404	6077+57.92	-34.00	607755.5983	555789.2483
61406	6076+73.96	2.00	607668.3529	555762.6981
61407	6076+42.41	25.63	607628.9789	555760.0849
61408	6076+42.27	22.34	607631.0150	555757.4916
61409	7076+80.85	-19.26	607660.3362	555780.4462
61410	7077+35.33	-24.00	607706.2315	555809.9039
61411	7077+46.32	22.00	607686.9886	555853.1064
61412	6079+23.98	2.00	607861.0883	555922.0381
61413	6079+23.98	4.50	607859.5257	555923.9895
61414	6079+24.03	7.00	607858.0071	555925.9754
61415	6079+81.90	2.00	607906.4394	555958.0846
61416	6079+81.99	7.96	607902.8204	555962.8171
61417	6079+81.93	13.91	607899.0834	555967.4573
61418	7080+11.13	-16.00	607920.4293	555983.7805
61419	7080+11.13	22.00	607897.3464	556013.9662
61420	7080+11.13	38.67	607887.2224	556027.2056
61421	7077+46.32	38.67	607676.8645	555866.3458

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GG-14

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

GRADES AND GEOMETRICS

SECTION JMT

SHEET NO. 97

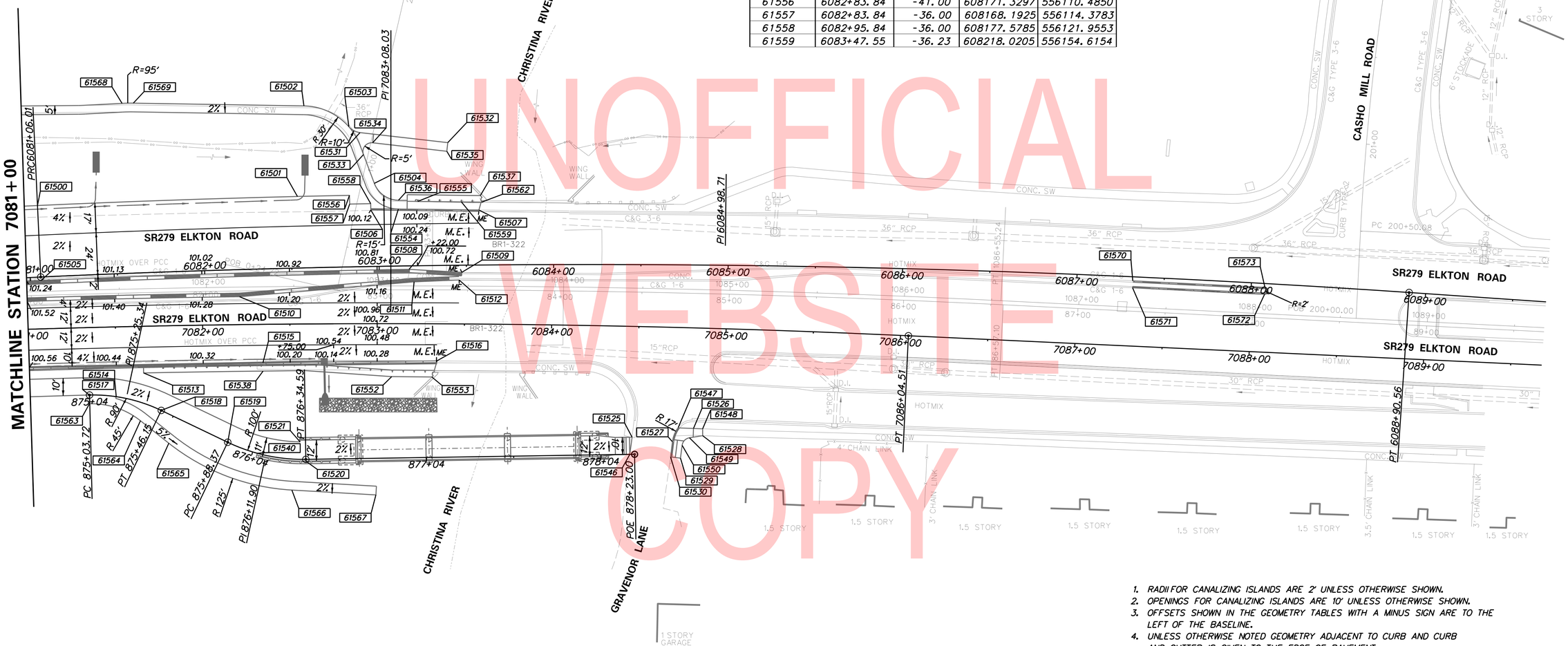
PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG14]

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61500	6081+06. 01	-41. 00	608030. 6040	556000. 0521
61501	6082+54. 21	-41. 00	608148. 0814	556091. 8333
61502	6082+59. 09	-92. 78	608184. 2590	556054. 4614
61503	6082+84. 26	-80. 30	608196. 3204	556080. 1472
61504	6082+98. 09	-47. 61	608186. 6369	556114. 3503
61505	6081+06. 01	2. 00	608004. 4976	556034. 2202
61506	6082+95. 84	-32. 32	608175. 2639	556124. 8175
61507	6083+57. 48	-31. 51	608222. 7269	556164. 5986
61508	6083+17. 12	2. 00	608170. 2010	556164. 9036
61509	6083+47. 33	4. 12	608192. 2394	556185. 6563
61510	7082+21. 36	-16. 00	608085. 7343	556114. 4917
61511	6083+19. 94	9. 20	608167. 8408	556172. 2716
61512	6083+45. 76	8. 46	608188. 2756	556188. 0143
61513	7081+65. 60	26. 77	608015. 5182	556112. 6454
61514	875+49. 07	0. 00	607994. 7901	556112. 9654

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61515	7082+34. 36	22. 00	608071. 7069	556152. 1224
61516	7083+34. 33	21. 23	608148. 7284	556215. 3408
61517	7081+34. 01	38. 67	607983. 5434	556102. 3198
61518	875+46. 15	0. 00	608009. 4884	556135. 5820
61519	875+88. 37	0. 00	608026. 9332	556174. 0371
61520	876+34. 59	1. 00	608054. 2756	556211. 0839
61521	876+31. 10	-10. 00	608058. 8140	556200. 5256
61525	878+21. 74	-9. 83	608206. 3079	556320. 7606
61526	7084+82. 86	57. 62	608236. 4434	556339. 5243
61527	7084+70. 91	65. 55	608222. 3243	556337. 6158
61528	7084+88. 27	61. 59	608237. 8132	556346. 0482
61529	7084+75. 81	74. 81	608219. 8208	556347. 7647
61530	7084+70. 03	74. 23	608215. 9161	556343. 5437
61531	6082+90. 50	-76. 84	608199. 0602	556086. 8103
61532	6083+40. 18	-70. 31	608233. 8922	556123. 5590

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61533	6082+92. 25	-64. 22	608192. 5024	556097. 7376
61534	6082+97. 57	-70. 84	608200. 8461	556095. 9627
61535	6083+39. 56	-65. 35	608230. 2633	556126. 9986
61536	6083+11. 70	-37. 65	608191. 0002	556130. 7167
61537	6083+58. 38	-39. 76	608228. 6716	556158. 8024
61538	7082+34. 36	26. 77	608068. 6800	556155. 8100
61540	876+06. 45	0. 00	608035. 8461	556189. 7391
61546	878+20. 22	0. 00	608198. 9246	556327. 4307
61547	7084+74. 06	57. 27	608230. 1381	556333. 4800
61548	7084+88. 15	57. 66	608240. 3384	556343. 0388
61549	7084+80. 64	63. 03	608231. 2087	556342. 1134
61550	7084+76. 56	67. 44	608225. 2543	556342. 7384
61552	7083+08. 35	30. 34	608123. 0732	556205. 6132
61553	7083+31. 45	30. 48	608140. 5594	556220. 5480
61554	6083+11. 56	-32. 65	608187. 7398	556134. 5075
61555	6083+22. 69	-36. 84	608199. 0665	556138. 3137
61556	6082+83. 84	-41. 00	608171. 3297	556110. 4850
61557	6082+83. 84	-36. 00	608168. 1925	556114. 3783
61558	6082+95. 84	-36. 00	608177. 5785	556121. 9553
61559	6083+47. 55	-36. 23	608218. 0205	556154. 6154

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61562	6083+58. 99	-35. 98	608226. 7394	556162. 1141
61563	7081+34. 01	43. 67	607980. 4313	556106. 2335
61564	875+36. 91	10. 06	607996. 5587	556132. 4551
61565	875+58. 18	15. 08	608000. 7251	556152. 7675
61566	876+27. 55	17. 76	608037. 4595	556218. 6327
61567	876+74. 44	20. 95	608072. 6044	556251. 7061
61568	6081+56. 76	-97. 47	608105. 3909	555986. 3587
61569	6081+62. 78	-97. 34	608110. 4131	555990. 4231
61570	6087+32. 05	2. 32	608483. 6341	556436. 5163
61571	6087+32. 13	6. 31	608480. 9958	556439. 5031
61572	6088+07. 94	6. 17	608536. 5602	556490. 9653
61573	6088+07. 90	2. 22	608539. 2359	556488. 0627



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WEBSITE
COPY

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GG-15

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

GRADES AND GEOMETRICS

SECTION	JMT
SHEET NO.	98

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61600	1002+50.05	-68.00	606649.8969	555251.1175
61601	1003+99.84	-42.12	606531.8251	555346.8444
61602	1003+95.20	-6.00	606507.6798	555319.5789
61603	1003+95.20	-3.00	606505.4214	555317.6043
61604	1003+95.20	0.00	606503.1629	555315.6296
61605	1004+50.00	-34.40	606492.9934	555379.5273
61606	1004+09.37	33.00	606468.9948	555304.5731
61607	1004+50.00	24.33	606448.7797	555340.8688
61608	1004+50.52	30.30	606443.9422	555337.3321
61609	1004+17.18	46.00	606454.0658	555301.8974
61610	1004+50.69	38.46	606437.6879	555332.0841
61612	1002+50.60	-72.84	606653.5416	555254.3043

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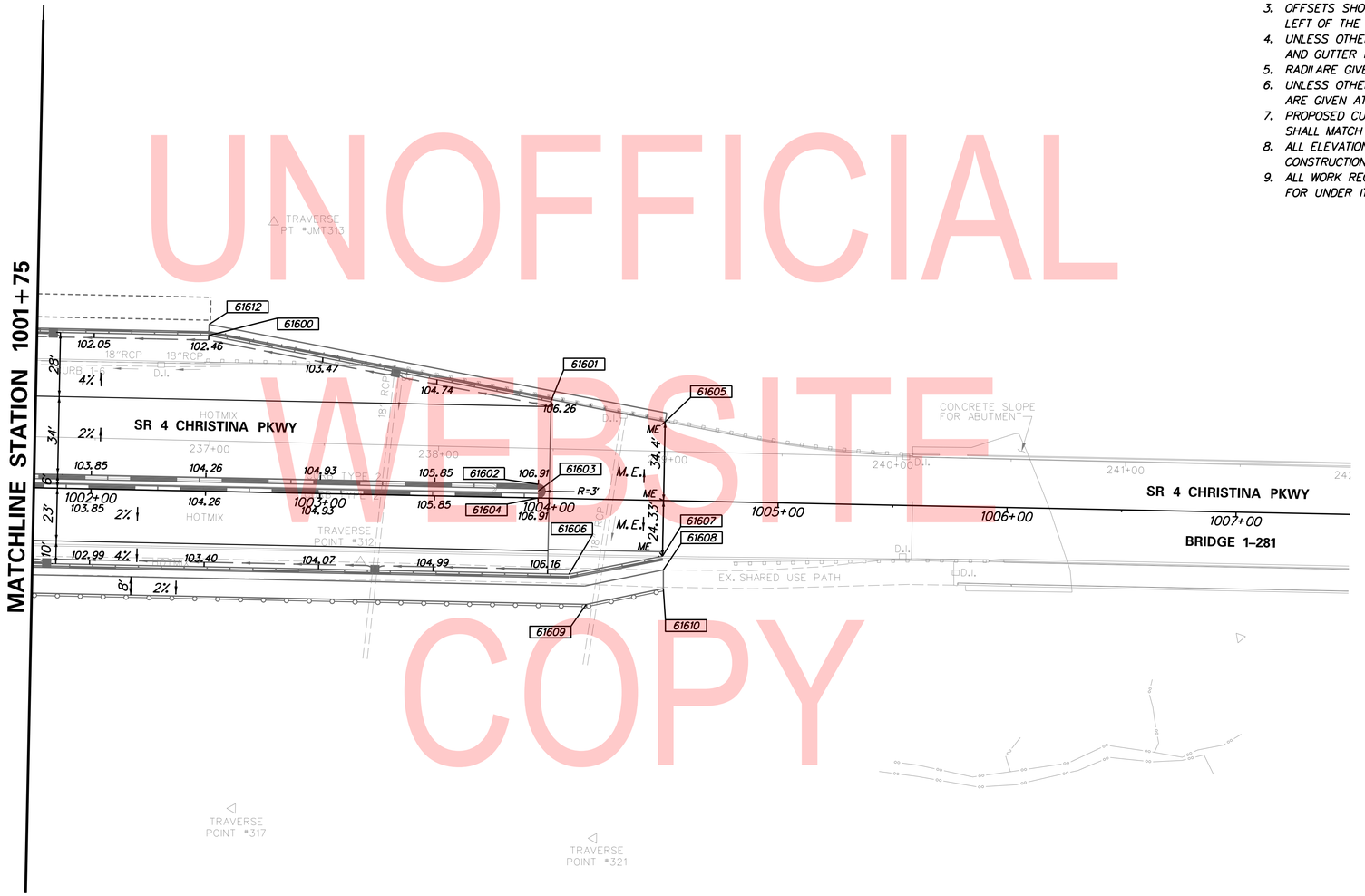

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG16]

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

GRADES AND GEOMETRICS

GG-16

SECTION	JMT
SHEET NO.	99

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61700	380+24.67	-69.83	607187.2664	554678.0018
61701	383+10.00	38.00	606914.7918	554815.1047
61702	382+19.03	-68.71	607054.9152	554820.3399
61703	382+73.33	-62.12	607013.3238	554855.8581
61704	383+08.45	-60.00	606987.9917	554880.2827
61705	382+17.63	-55.69	607046.2783	554810.4932
61706	382+17.39	-53.70	607044.9768	554808.9746
61707	382+70.00	-47.41	607004.7460	554843.4539
61708	382+90.31	-47.00	606990.6974	554858.1281
61709	381+98.52	-19.00	607032.1990	554771.5970
61710	380+23.80	37.21	607109.0436	554604.9270
61711	382+50.00	0.00	606983.3717	554796.6440
61712	382+60.00	0.00	606976.6047	554804.0066
61713	383+10.00	-12.00	606951.6046	554848.9399
61714	382+50.00	33.79	606958.4960	554773.7805
61715	382+60.00	33.79	606951.7290	554781.1430
61716	382+50.00	41.45	606952.8514	554768.5924
61717	382+71.59	41.45	606938.2434	554784.4859
61718	382+71.94	34.79	606942.9107	554789.2509

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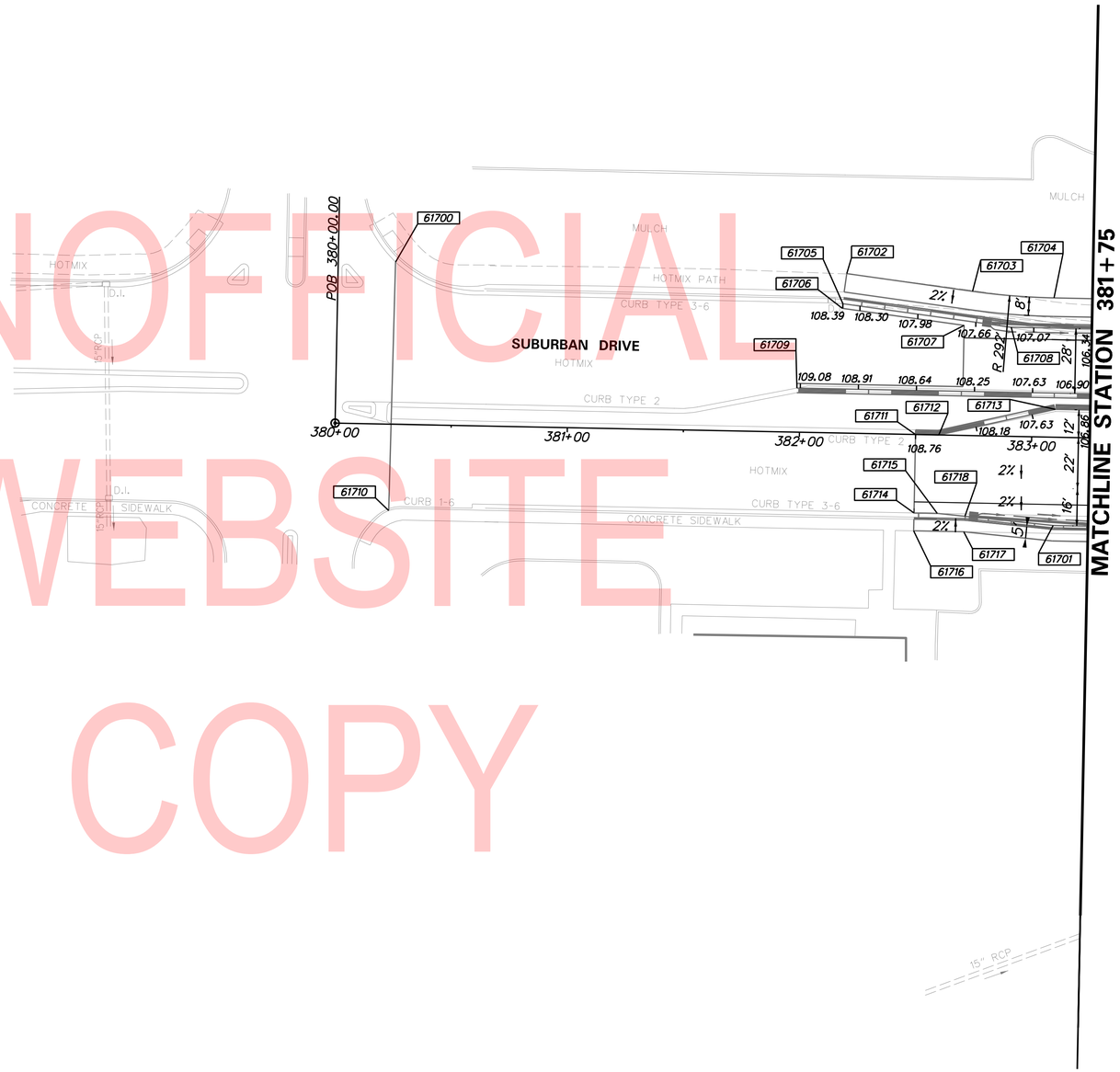

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG17]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

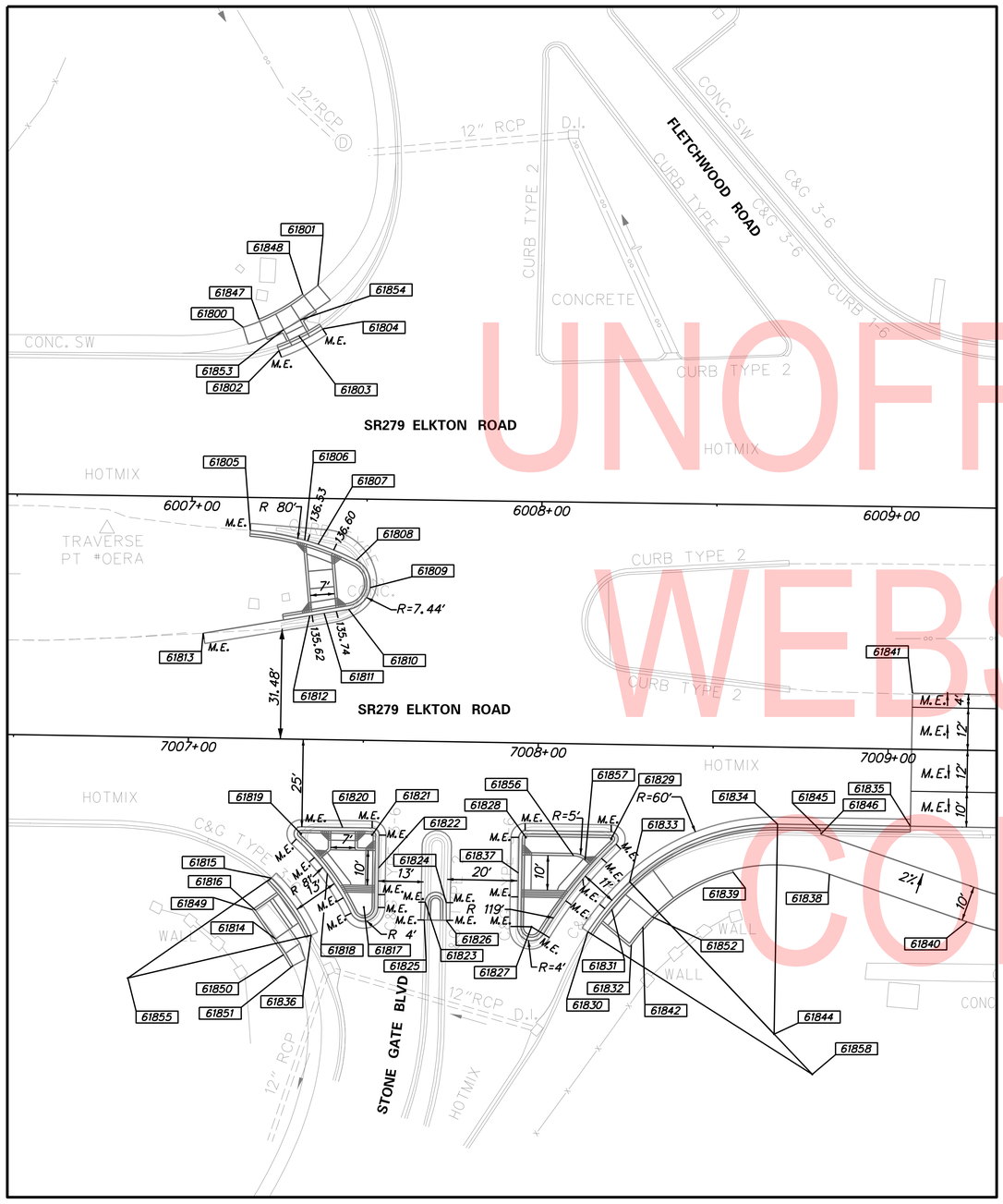
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

GRADES AND GEOMETRICS

GG–17

SECTION	SHEET NO.
JMT	100



STONE GATE BLVD/FLETCHWOOD DRIVE INTERSECTION

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
61800	6007+13.87	-48.57	602486.1665	551115.9779
61801	6007+35.08	-60.85	602510.2420	551120.5435
61802	6007+24.21	-42.05	602489.7272	551127.6734
61803	6007+29.84	-46.38	602496.8052	551128.0908
61804	6007+36.62	-48.43	602503.2913	551130.9549
61805	6007+16.74	9.42	602450.4241	551161.7296
61806	6007+32.35	11.96	602460.5779	551173.8584
61807	6007+36.20	13.09	602462.7524	551177.2294
61808	6007+47.16	17.52	602468.1491	551187.7536
61809	6007+51.24	25.24	602466.1869	551196.2624
61810	7007+45.19	-37.35	602457.4912	551197.0573
61811	7007+38.22	-36.09	602451.3972	551193.4431
61812	7007+34.10	-35.34	602447.8019	551191.3107
61813	7007+03.72	-29.84	602421.2408	551193.5575
61814	7007+25.83	57.15	602380.9521	551255.7686
61815	7007+24.36	39.77	602391.2294	551241.6683
61816	7007+19.97	49.05	602381.8340	551245.8076
61817	7007+50.93	47.67	602406.1213	551265.0522
61818	7007+40.35	39.19	602404.3441	551250.9522
61819	7007+32.63	27.00	602405.8404	551237.4407
61820	7007+44.48	25.00	602416.1045	551243.6955
61821	7007+52.93	26.99	602421.1824	551250.7395
61822	7007+54.93	36.43	602416.5131	551259.1756
61823	7007+68.43	45.93	602420.4850	551275.2030
61824	7007+74.43	45.98	602424.9873	551279.1653
61825	7007+68.25	51.04	602416.9986	551278.9412
61826	7007+74.54	51.04	602421.7516	551283.0635
61827	7007+98.93	52.47	602439.2424	551300.1230
61828	7007+96.93	27.00	602454.4182	551279.5732
61829	7008+21.28	27.00	602472.8156	551295.5295
61830	7008+15.08	53.64	602450.6726	551311.5857
61831	7008+21.79	47.11	602460.0225	551311.0492
61832	7008+27.55	57.16	602457.7893	551322.4206
61833	7008+26.75	39.16	602468.9749	551308.2989
61834	7008+68.76	22.00	602511.9579	551322.8598
61835	7009+06.73	22.00	602540.6439	551347.7398
61836	7007+36.02	55.89	602389.4741	551261.4943
61837	7007+94.93	37.18	602446.2364	551285.9542
61838	7008+83.81	36.07	602514.1102	551343.3518
61839	7008+56.32	35.98	602493.3980	551325.2746
61840	7009+23.35	49.03	602535.4869	551379.0432
61841	7009+06.74	-16.00	602565.5453	551319.0357
61842	7008+30.76	51.96	602463.6188	551320.5888
61844	7008+68.76	82.00	602472.6452	551368.1865
61845	7008+81.13	23.67	602520.2080	551332.2215
61846	7008+81.13	24.67	602519.5528	551332.9769
61847	6007+18.35	-50.94	602491.1023	551117.1045
61848	6007+30.76	-58.31	602505.3083	551119.6488
61849	7007+19.04	48.90	602381.2287	551245.0847
61850	7007+28.22	61.59	602379.8471	551260.6904
61851	7007+30.93	64.73	602379.8368	551264.8316
61852	7008+33.37	49.06	602467.4928	551320.1138
61853	6007+25.48	-48.09	602494.6388	551123.9295
61854	6007+30.17	-50.89	602500.0154	551124.8741
61855	7006+83.80	69.00	602341.4334	551237.1849
61856	7008+10.63	32.00	602461.4935	551292.3283
61857	7008+13.94	33.25	602463.1722	551295.4345
61858	7008+79.86	93.31	602473.6145	551384.0035

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG18]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 20 40 60 FEET

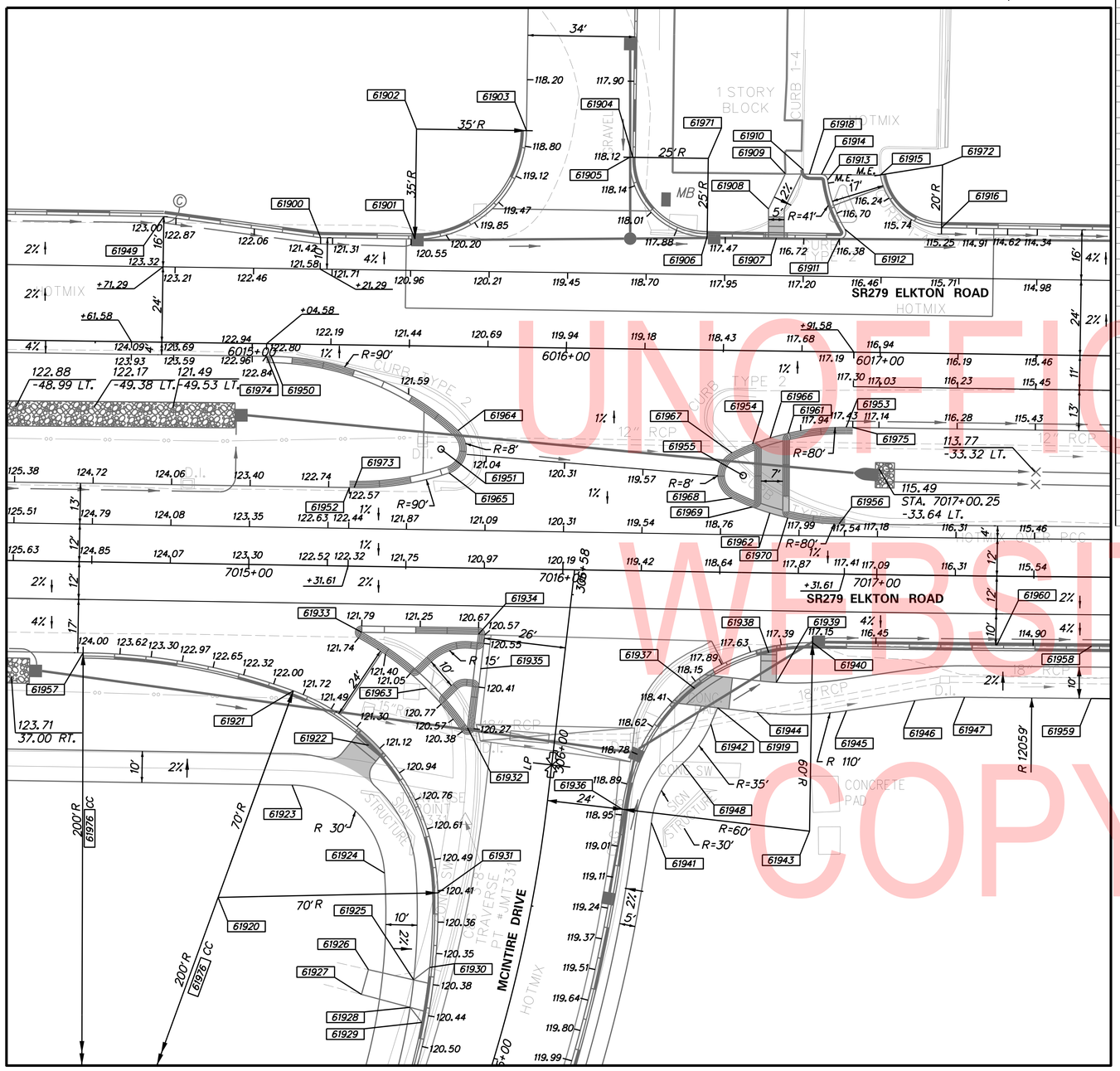
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

GRADES AND GEOMETRICS

GG-18

SECTION	SHEET NO.
JMT	101



UNOFFICIAL WEBSITE COPY

MCINTIRE DRIVE INTERSECTION

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
61900	6015+21.29	-34.00	603087.6424	551654.8252
61901	6015+51.34	-34.00	603110.3815	551674.4686
61902	6015+51.34	-69.00	603133.2616	551647.9827
61903	6015+86.34	-69.00	603159.7475	551670.8629
61904	6016+20.34	-61.00	603180.2468	551699.1432
61905	6016+19.34	-61.00	603179.4901	551698.4895
61906	6016+44.34	-36.00	603182.0656	551733.7509
61907	6016+66.36	-36.00	603198.7349	551748.1508
61908	6016+63.78	-45.19	603202.7860	551739.5027
61909	6016+68.97	-56.48	603214.0905	551734.3535
61910	6016+74.65	-57.81	603219.2631	551737.0668
61911	6016+86.49	-36.00	603213.9672	551761.3095
61912	6016+88.19	-39.06	603217.2506	551760.1055
61913	6016+82.43	-54.73	603223.1374	551744.4842
61914	6016+80.46	-56.43	603222.7620	551741.9044
61915	6016+99.25	-56.55	603237.0502	551754.0963
61916	6017+18.95	-40.00	603241.1399	551779.4971
61918	6016+76.64	-56.45	603219.8784	551739.3935
61919	7016+50.01	43.20	603088.2555	551850.7550
61920	7014+91.96	106.15	602927.6171	551794.7602
61921	7015+14.86	40.00	602988.2552	551759.7885
61922	7015+39.12	56.93	602995.4855	551788.4758
61923	7015+14.93	70.00	602968.6563	551782.5017
61924	7015+44.83	97.53	602973.2040	551822.8896
61925	305+17.69	-31.39	602958.4269	551854.9025
61926	305+17.19	-46.16	602949.5113	551843.1156
61927	305+08.09	-46.20	602942.7342	551847.7583
61928	305+08.35	-30.19	602951.9321	551860.8688
61929	305+04.55	-25.27	602951.7149	551866.9436
61930	305+23.15	-27.40	602964.9080	551855.1592
61931	7015+61.92	103.56	602982.1617	551838.6337
61932	7015+70.48	50.91	603023.1250	551804.4684
61933	7015+36.30	21.00	603016.9001	551759.4821
61934	7015+73.49	21.00	603044.9950	551783.8494
61935	7015+74.40	31.96	603038.5000	551792.7245
61936	7016+20.21	76.00	603044.2506	551856.0099

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
61937	7016+42.59	37.16	603086.6146	551841.3355
61938	7016+66.00	25.35	603112.0318	551847.7469
61939	7016+68.53	34.82	603107.7408	551856.5590
61940	7016+79.87	22.00	603124.7128	551854.3122
61941	305+80.97	33.67	603048.5583	551865.2215
61942	7016+47.93	48.38	603083.2952	551853.3105
61943	7016+79.87	82.00	603085.4205	551899.6567
61944	7016+62.57	44.41	603096.9484	551859.9017
61945	7016+90.99	43.47	603119.0915	551877.8417
61946	7017+12.63	39.94	603137.8363	551889.3605
61947	7017+28.41	38.67	603150.6619	551898.7216
61948	7016+39.07	61.19	603068.2030	551857.1842
61949	6014+71.29	-40.00	603053.7278	551619.5988
61950	6015+06.04	4.00	603051.2596	551673.6109
61951	6015+60.58	32.77	603073.7263	551731.0355
61952	6015+31.58	45.42	603043.5097	551721.6523
61953	6016+89.47	24.00	603176.9979	551808.6607
61954	6016+59.77	29.72	603150.7796	551793.5699
61955	6016+56.90	39.79	603142.0284	551799.3160
61956	6016+87.69	54.74	603155.5546	551830.7523
61957	7014+47.72	29.01	602944.7378	551767.4940
61958	7017+68.57	22.00	603192.0867	551912.2595
61959	7017+68.57	38.67	603181.2652	551924.9357
61960	7017+38.41	22.00	603167.1280	551892.6103
61961	6016+71.01	26.16	603161.6199	551798.2283
61962	6016+65.57	51.60	603140.8674	551813.9167
61963	7015+57.23	38.50	603021.2467	551786.4233
61964	6015+65.90	26.79	603081.6581	551729.9934
61965	6015+63.24	40.31	603070.8079	551738.4842
61966	6016+65.32	27.73	603156.2857	551795.6990
61967	6016+53.28	32.65	603143.9537	551791.5511
61968	6016+53.47	47.02	603134.7088	551802.5446
61969	6016+59.97	49.75	603137.8361	551808.8645
61970	6016+71.28	53.02	603144.2624	551818.7321
61971	6016+44.34	-61.00	603198.4085	551714.8324
61972	6017+18.95	-60.00	603254.2143	551764.3624
61973	6015+33.12	45.44	603044.6700	551722.6762
61974	6015+04.58	4.00	603050.1554	551672.6571
61975	6016+91.58	24.00	603178.5911	551810.0371
61976	7014+50.31	226.49	602817.3001	551858.3832

PEDESTRIAN CONNECTION, ITEM 705011

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
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9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

GG-19

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 20 40 60 FEET

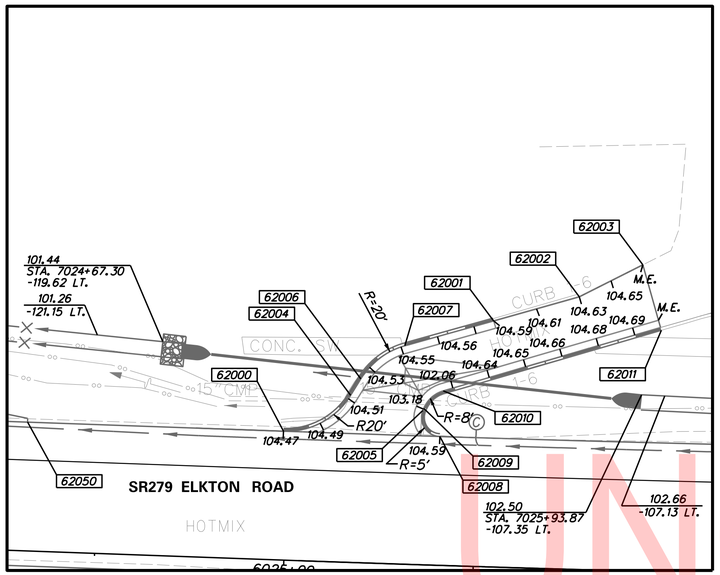
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

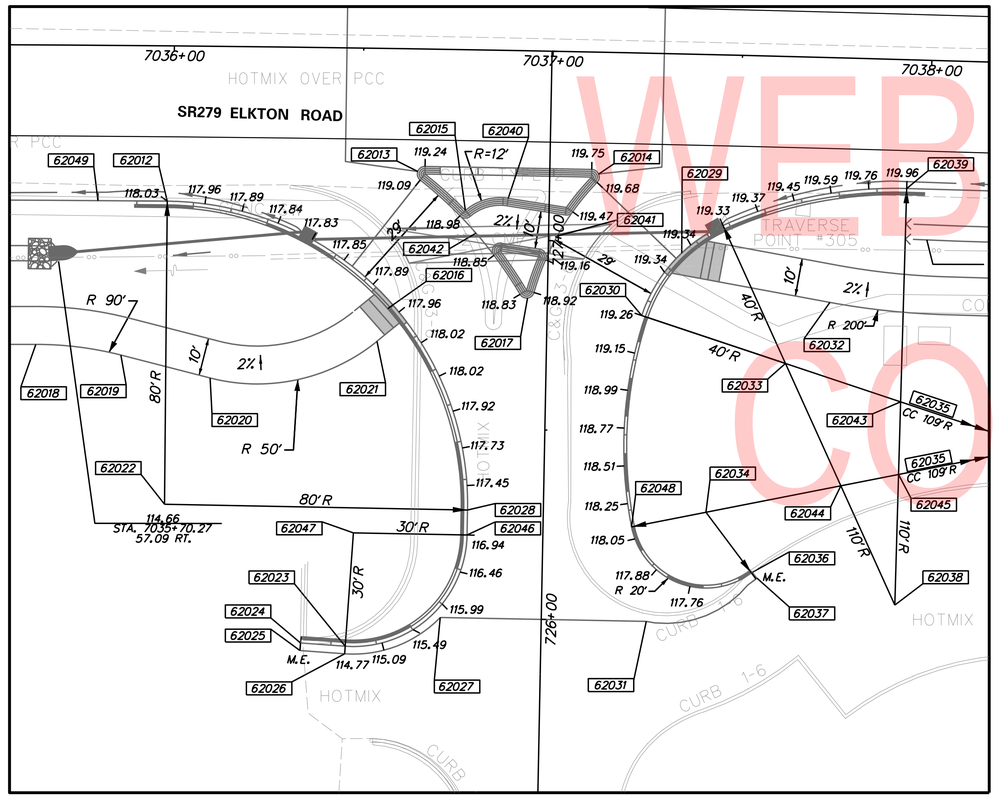
GRADES AND GEOMETRICS

SECTION	SHEET NO.
JMT	102

PLOTTED BY: LBERZINA DATE: 11/15/2019 [SHEET: GG19]
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN



AMERICAN SPIRIT FEDERAL CREDIT UNION ENTRANCE



INTERCHANGE BUSINESS PARK SOUTH ENTRANCE

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
62000	6024+98.70	-34.00	603824.0088	552298.5868
62001	6025+53.42	-64.93	603885.2071	552311.9548
62002	6025+76.00	-71.97	603906.6327	552321.6146
62003	6025+92.67	-80.87	603924.9175	552325.9321
62004	6025+16.13	-44.08	603843.6681	552302.7350
62005	6025+35.42	-40.77	603855.7556	552318.0332
62006	6025+18.68	-48.52	603848.5310	552301.1326
62007	6025+30.07	-57.64	603863.0459	552301.9113
62008	6025+40.12	-34.00	603854.7306	552326.1941
62009	6025+35.62	-41.28	603856.2461	552317.7778
62010	6025+40.64	-46.07	603863.1631	552317.5513
62011	6025+98.03	-63.72	603917.5387	552342.2994
62012	7035+98.48	41.00	604573.6491	553112.1858
62013	727+17.58	-34.83	604629.3453	553148.6995
62014	727+17.79	12.90	604665.4631	553179.9156
62015	727+07.53	-22.06	604632.3655	553164.6674
62016	726+81.24	-42.09	604599.9942	553171.3136
62017	726+84.76	-5.21	604630.0971	553192.9054
62018	7035+63.86	79.04	604522.7896	553118.8423
62019	7035+86.51	81.72	604538.1642	553135.4357
62020	7036+10.32	87.56	604552.3227	553155.2144
62021	726+72.56	-44.76	604592.2780	553176.1056
62022	726+28.49	-100.00	604521.6792	553173.0062
62023	725+91.94	-51.59	604534.1367	553232.3726
62024	725+92.57	-63.41	604525.6408	553224.1300
62025	725+90.57	-63.52	604524.2481	553225.5654
62026	725+89.94	-51.70	604532.7440	553233.8080
62027	726+00.00	-26.67	604558.2175	553242.6813
62028	726+28.49	-20.00	604581.9705	553225.5891
62029	726+97.40	35.24	604668.8942	553209.9710
62030	726+80.69	25.00	604650.1951	553215.8264
62031	726+00.00	27.74	604599.2224	553278.4436
62032	7037+74.78	64.60	604690.4711	553245.0865
62033	726+68.77	63.18	604671.1339	553249.9082
62034	726+29.10	42.93	604629.7903	553266.4938
62035	7038+30.67	101.30	604707.7769	553309.5512
62036	726+13.52	55.47	604629.0076	553286.4808
62037	726+11.97	56.73	604628.9373	553288.4799
62038	726+05.56	93.25	604652.2455	553317.3116
62039	7037+94.32	34.00	604725.3281	553235.0989
62040	727+10.96	-10.83	604643.0855	553169.4641
62041	727+01.27	2.32	604646.6245	553185.4079
62042	727+01.61	-19.16	604630.6615	553171.0425
62043	7037+94.32	90.33	604687.9018	553277.2009
62044	726+36.76	78.41	604661.5699	553284.0376
62045	726+40.04	93.58	604675.1558	553291.5392
62046	726+21.90	-20.00	604577.6357	553230.5594
62047	726+21.90	-50.00	604555.0264	553210.8408
62048	726+24.88	23.38	604612.2835	553256.8237
62049	7035+80.11	41.00	604559.7274	553100.3120
62050	6024+31.11	-34.00	603773.8090	552253.3283

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PEDESTRIAN CONNECTION, ITEM 705011

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG20]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 20 40 60 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

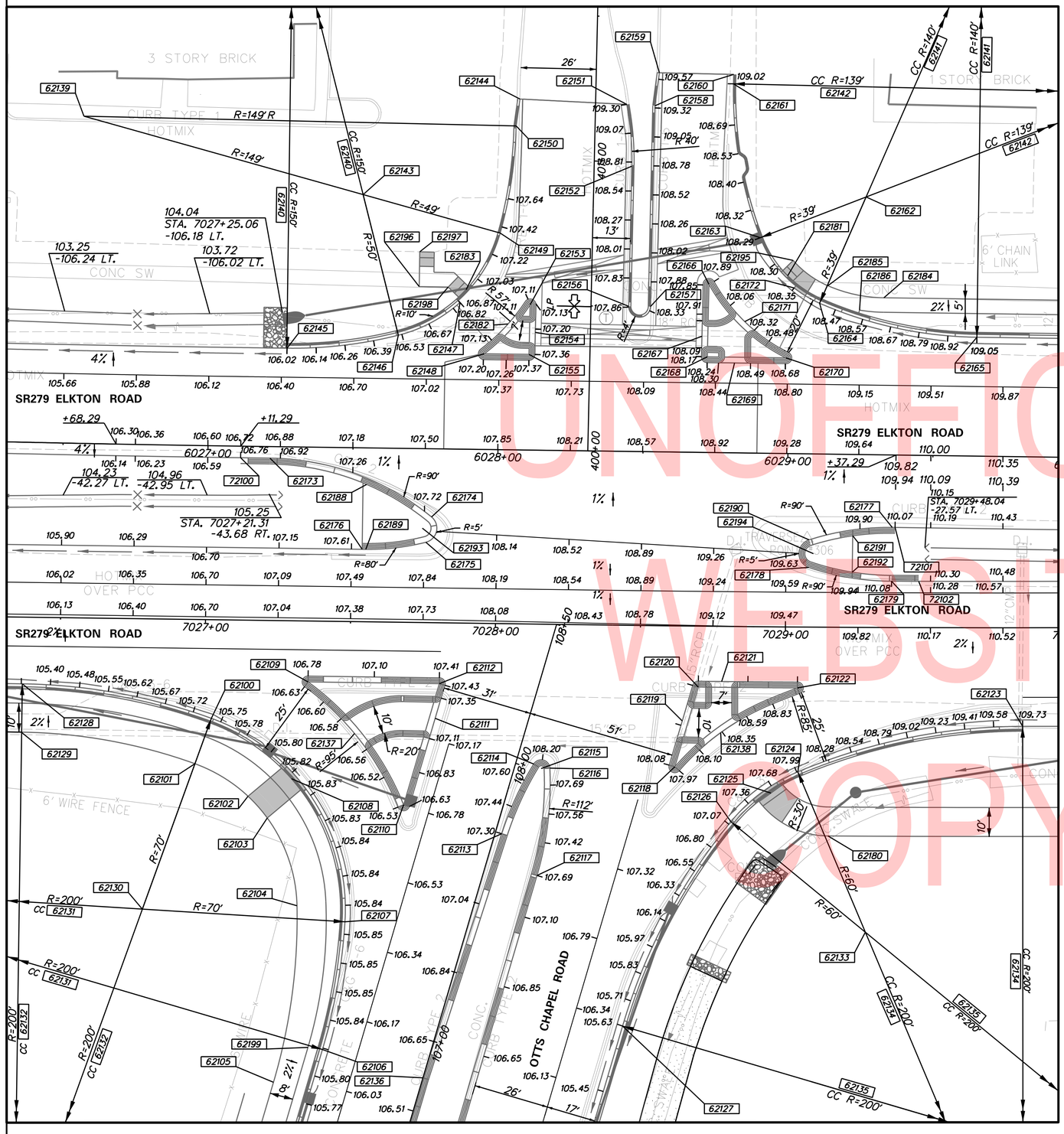
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

GRADES AND GEOMETRICS

GG–20

SECTION JMT

SHEET NO. 103



PEDESTRIAN CONNECTION, ITEM 705011

OTTS CHAPEL ROAD INTERSECTION

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
62139	6026+54.95	-112.86	603992.3494	552342.6615
62140	401+83.06	-105.90	604092.4646	552335.3792
62141	401+82.19	132.03	604270.5987	552493.1065
62142	6030+18.49	-126.02	604275.4593	552569.9288
62143	400+86.63	-79.43	604048.6818	552425.2851
62144	401+20.81	-26.10	604111.3042	552434.8162
62145	6027+26.80	-34.00	603994.5228	552448.9900
62146	6027+65.11	-39.00	604026.7904	552470.2381
62147	400+50.12	-45.16	604050.3203	552475.3230
62148	6027+94.84	-33.00	604045.3744	552494.2058
62149	400+74.42	-31.89	604076.3316	552465.8395
62150	401+11.50	-27.20	604104.3285	552441.0816
62151	401+19.77	10.81	604138.3424	552459.9613
62152	400+98.49	13.00	604125.9382	552477.3935
62153	400+49.92	-21.00	604068.3391	552491.4258
62154	400+40.46	-19.00	604063.5922	552499.8562
62155	400+32.81	-21.00	604057.0430	552504.2781
62156	400+50.16	13.00	604094.0345	552513.6925
62157	400+50.23	20.50	604099.7121	552518.5934
62158	401+19.50	20.50	604145.4419	552466.5636
62159	401+30.94	21.76	604153.9454	552458.8038
62160	401+30.94	47.42	604173.2150	552475.7402
62161	401+27.69	47.42	604171.0706	552478.1800
62162	6029+25.76	-88.86	604180.9773	552537.4688
62163	400+74.85	57.85	604144.0197	552524.7551
62164	6029+10.22	-52.00	604145.1288	552555.2137
62165	6029+64.62	-41.00	604179.1188	552599.0849
62166	400+58.37	40.50	604120.1078	552525.6831
62167	400+40.39	38.50	604106.7379	552537.8654
62168	6028+71.76	-33.00	604103.5997	552544.4655
62169	6028+81.17	-31.00	604109.4177	552552.1296
62170	6028+98.85	-33.00	604124.1105	552562.1703
62171	6028+84.49	-45.30	604121.2788	552543.4755
62172	6029+01.38	-57.14	604141.8015	552545.5469
62173	6027+21.40	4.00	603965.6032	552474.2255
62174	6027+77.40	23.53	603995.2314	552525.6029
62175	6027+75.58	32.28	603988.1421	552531.0354
62176	6027+53.65	35.00	603969.7560	552518.7621
62177	6029+36.32	25.00	604114.5768	552630.5602
62178	6029+07.75	39.17	604083.6860	552622.6160
62179	6029+36.32	43.54	604102.4629	552644.5941
62180	7029+15.10	72.00	604029.1464	552697.7959
62181	6028+99.09	-61.32	604142.7963	552540.8822
62182	6028+02.90	-43.40	604058.2657	552491.5961
62183	6027+88.28	-55.04	604054.8072	552473.2287
62184	6029+32.35	-54.17	604163.2974	552568.0345
62185	6029+12.99	-58.07	604151.1908	552552.4322
62186	6029+24.04	-49.80	604154.1506	552565.9096
62188	6027+54.89	12.61	603985.3236	552502.6281
62189	6027+54.89	35.00	603970.6962	552519.5737
62190	6029+07.70	29.67	604089.8534	552615.3933
62191	6029+22.72	28.06	604102.2826	552623.9856
62192	6029+22.72	40.62	604094.0755	552633.4935
62193	6027+74.29	27.45	603990.3189	552526.5341
62194	6029+09.29	34.41	604087.9598	552620.0208
62195	6029+00.92	-66.63	604147.6494	552538.0660
62196	6027+72.08	-55.86	604043.0848	552462.0276
62197	6027+72.11	-67.87	604050.9520	552452.9532
62198	6027+82.09	-55.84	604050.6446	552468.5816
72100	6027+11.29	4.00	603957.9518	552467.6164
72101	6029+37.29	25.00	604115.3070	552631.1905
72102	6029+45.69	43.45	604109.6098	552650.6438

REFERENCE SHEET GG-26 FOR ADDITIONAL POINT NUMBERS.

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG21]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

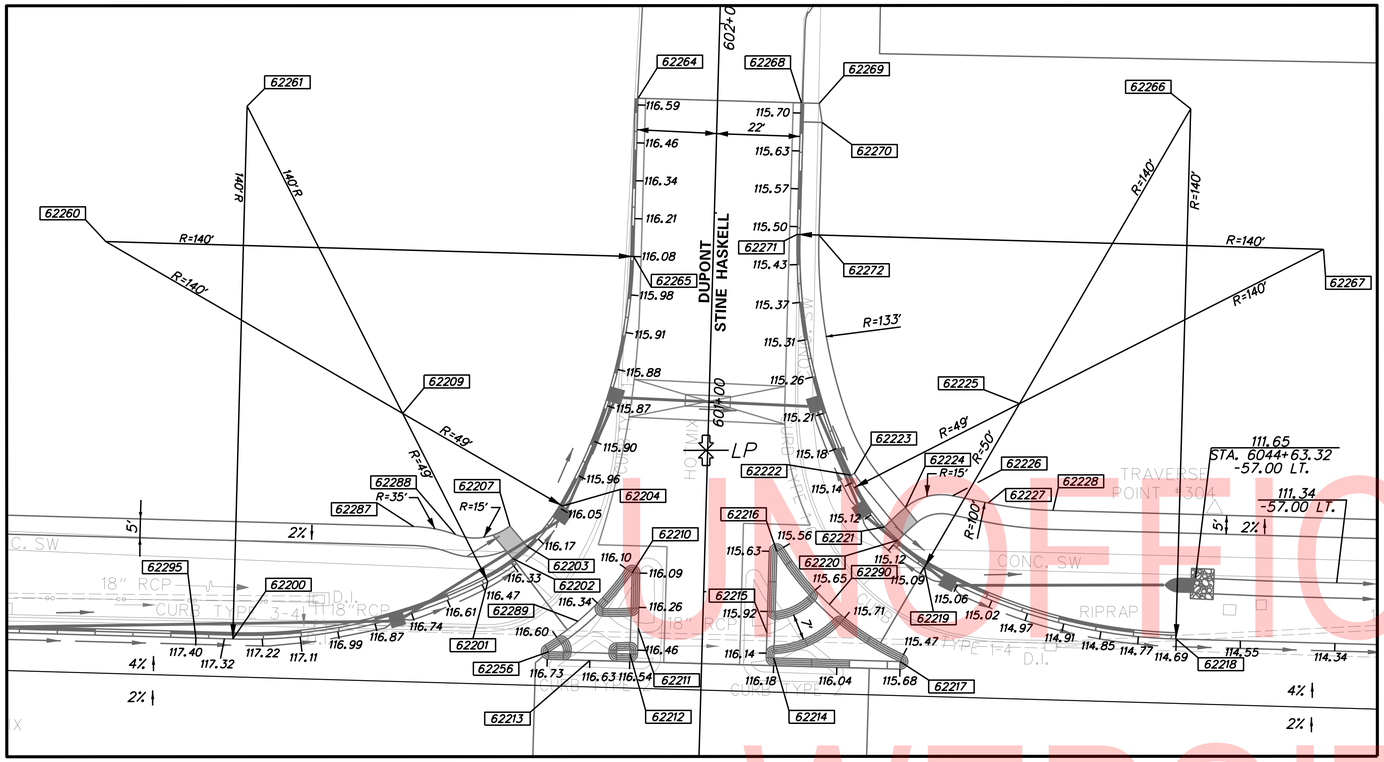
SCALE 0 20 40 60 FEET

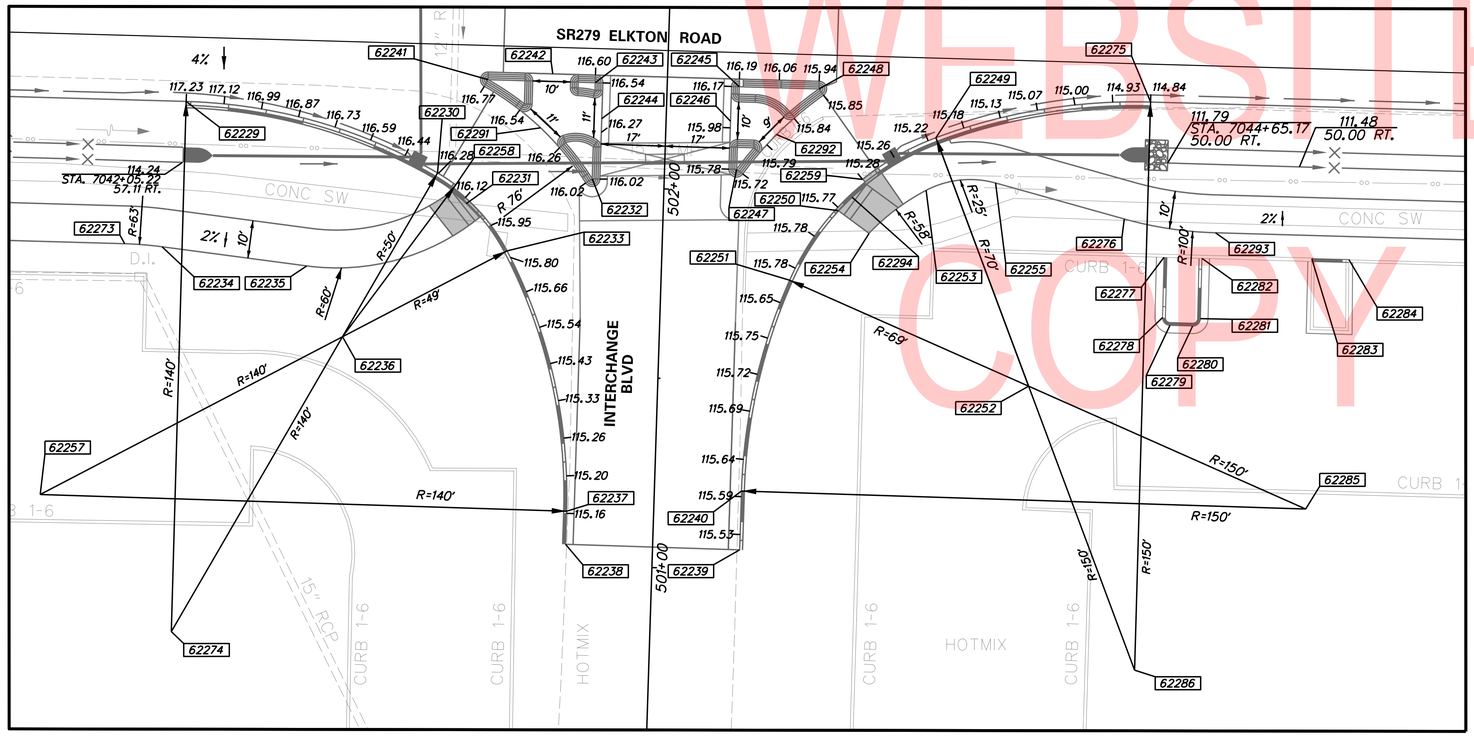
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

GRADES AND GEOMETRICS

GG-21	
SECTION	JMT
SHEET NO.	104





DUPONT STINE–HASKELL MAIN ENTRANCE

INTERCHANGE BOULEVARD INTERSECTION

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
62229	7042+05.75	41.00	605028.1689	553513.6871
62230	7042+72.62	58.00	605066.8474	553570.8182
62231	501+94.47	-52.03	605067.4443	553581.8751
62232	502+02.05	-19.00	605097.1054	553598.2679
62233	501+82.33	-40.87	605067.6569	553598.3659
62234	7042+00.45	79.51	604998.6151	553538.9454
62235	7042+38.78	83.51	605024.6063	553567.4008
62236	501+58.29	-83.57	605019.8134	553587.7829
62237	501+14.14	-23.00	605035.4812	553661.0793
62238	501+05.42	-23.00	605029.6627	553667.5760
62239	501+05.42	23.00	605063.9289	553698.2652
62240	501+20.95	23.00	605074.2887	553686.6979
62241	7042+85.24	33.00	605092.8952	553560.5238
62242	502+29.42	-30.29	605106.9537	553570.3457
62243	502+27.46	-19.00	605114.0590	553579.3383
62244	502+17.99	-17.00	605109.2359	553587.7214
62245	502+27.60	19.00	605142.4594	553604.5859
62246	502+18.41	17.00	605134.8383	553610.0974
62247	502+05.76	19.00	605127.8885	553620.8551
62248	7043+72.64	33.00	605158.2086	553618.5868
62249	7044+03.83	45.00	605173.5531	553648.2841
62250	501+95.74	46.20	605141.4627	553646.4627
62251	501+76.96	33.93	605119.7934	553652.2673
62252	501+51.02	97.87	605150.1201	553714.2454
62253	7044+01.64	58.97	605162.6307	553657.2694
62254	501+90.00	54.51	605143.8279	553656.2866
62255	7044+19.93	56.51	605177.9316	553667.5774
62257	7041+70.15	145.79	604931.9376	553568.3446
62258	7042+77.49	61.02	605068.4806	553576.3154
62259	7043+84.80	56.54	605151.6564	553644.2623
62273	7041+90.59	79.00	604991.5899	553532.0142
62274	500+79.06	-126.26	604935.1521	553618.3192
62275	7044+60.22	34.00	605223.0003	553677.5239
62276	7044+54.16	65.04	605197.8555	553696.6978
62277	7044+64.93	74.86	605199.3763	553711.1903
62278	7044+64.99	90.78	605188.8452	553723.1341
62279	7044+66.99	92.77	605189.0131	553725.9485
62280	7044+72.99	92.79	605193.4883	553729.9453
62281	7044+74.99	90.78	605196.3206	553729.7763
62282	7044+74.93	74.86	605206.8474	553717.8376
62283	7045+03.93	74.12	605229.0097	553736.5522
62284	7045+13.74	74.09	605236.3656	553743.0449
62285	7045+04.17	140.21	605185.2815	553786.1042
62286	500+77.00	128.21	605123.3395	553789.6298
62291	502+15.07	-33.05	605095.3265	553579.1936
62292	502+15.29	29.27	605141.8938	553620.6061
62293	7044+78.33	68.00	605213.9465	553714.9679
62294	501+99.39	49.71	605146.5160	553646.0907

REFERENCE SHEET GG-26 FOR ADDITIONAL POINT NUMBERS.

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

PEDESTRIAN CONNECTION, ITEM 705011

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG22]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 20 40 60 FEET

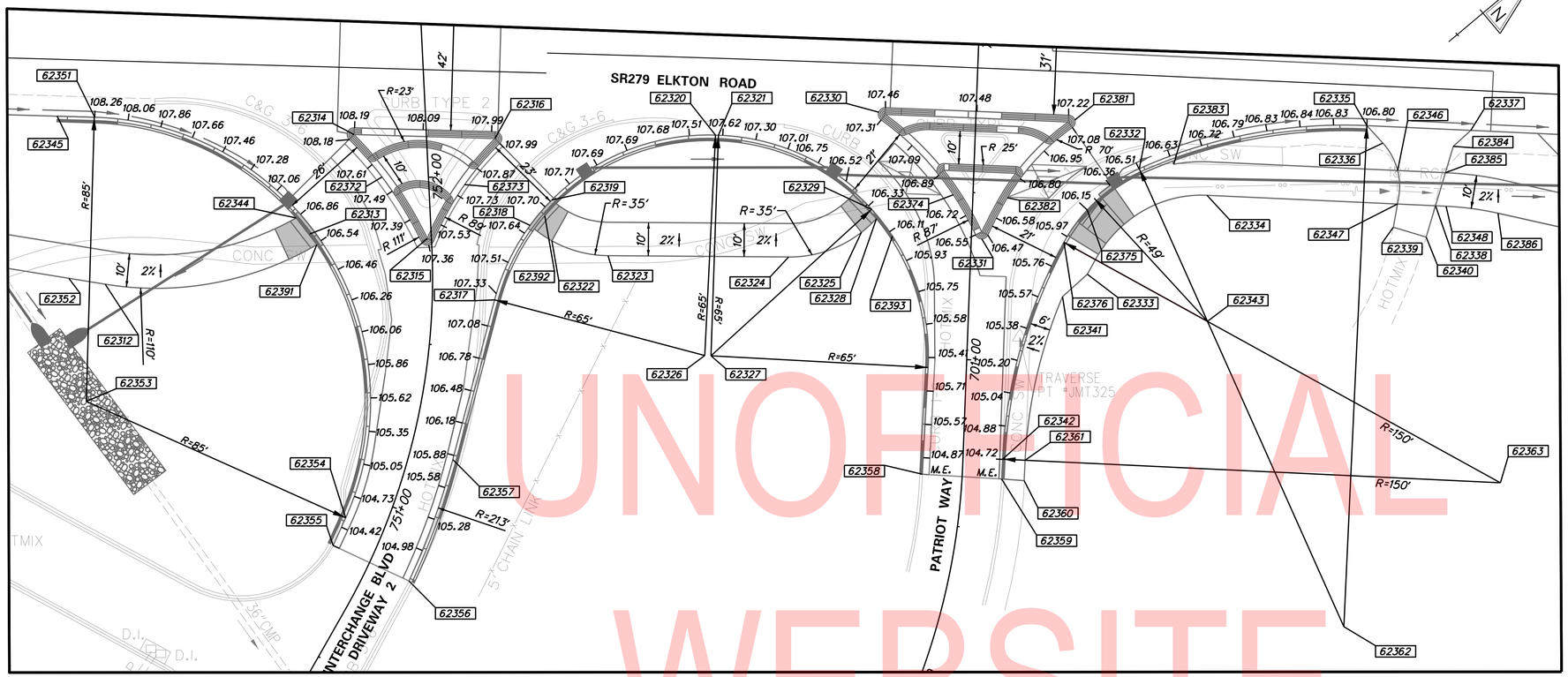
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

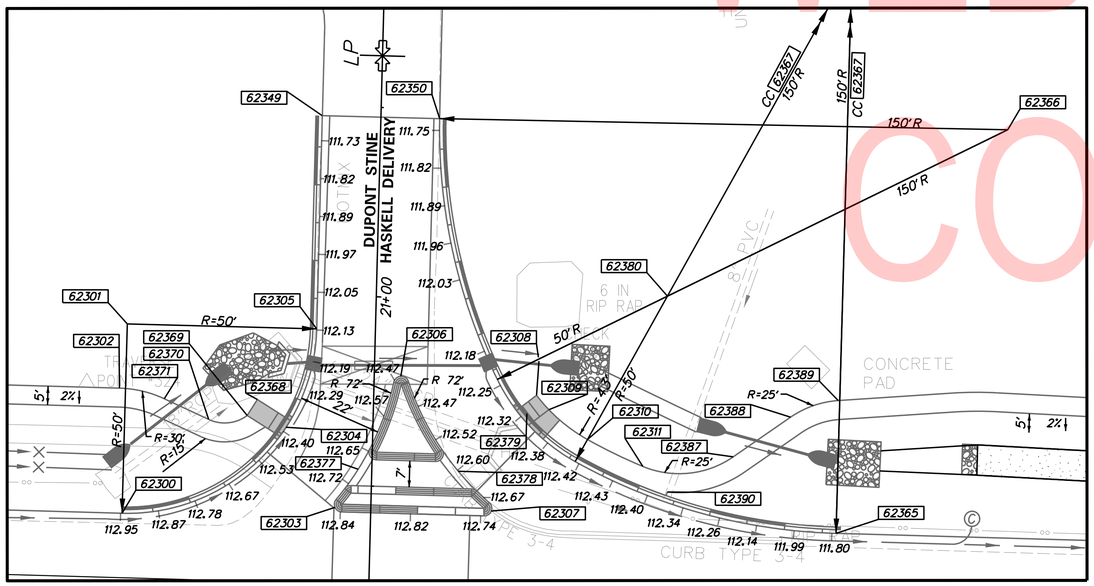
GRADES AND GEOMETRICS

GG-22

SECTION	SHEET NO.
JMT	105



AMERICAN SPIRIT FEDERAL CREDIT UNION ENTRANCE



DUPONT STINE–HASKELL DELIVERY ENTRANCE

PEDESTRIAN CONNECTION, ITEM 705011

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
62312	7055+83.10	90.82	606024.4598	554466.0444
62313	751+84.76	-36.29	606080.9383	554493.8822
62314	752+13.83	-21.63	606110.2114	554479.6249
62315	751+81.75	-1.21	606107.0288	554517.5223
62316	752+10.62	20.43	606141.7391	554507.6526
62317	751+63.85	18.64	606110.6335	554544.5193
62318	751+84.19	29.66	606133.0772	554534.2748
62319	751+91.46	36.51	606142.9324	554532.6394
62320	7057+64.49	41.00	606192.8817	554549.2791
62321	7057+65.35	41.00	606193.5208	554549.8531
62322	751+79.25	35.94	606135.0819	554542.0076
62323	751+75.07	52.57	606145.0967	554556.2161
62324	701+28.67	-54.34	606186.2034	554591.2540
62325	701+36.85	-32.91	606207.5736	554599.5917
62326	751+53.32	82.32	606148.0495	554597.6793
62327	700+98.27	-76.44	606149.4132	554598.9502
62328	701+41.10	-28.55	606213.6617	554599.3665
62329	701+43.85	-30.10	606214.3588	554596.2907
62330	701+72.94	-29.04	606234.6758	554575.4478
62331	701+36.30	3.11	606233.8986	554624.1815
62332	7058+92.04	46.00	606283.4499	554638.4396
62333	701+26.88	35.08	606251.2618	554652.6303
62334	7059+12.65	53.00	606293.8628	554657.5556
62335	7059+59.45	30.00	606343.8618	554672.3571
62336	7059+64.45	35.00	606344.1500	554679.4223
62337	7059+90.54	30.00	606366.7214	554693.4247
62338	7059+81.03	53.00	606344.1478	554703.8986
62339	7059+68.76	60.01	606330.3729	554700.7299
62340	7059+78.66	62.48	606335.9782	554709.2643
62341	701+19.91	27.91	606241.2683	554652.9897
62342	700+70.65	11.84	606196.2777	554678.6891
62343	701+14.16	71.49	606269.7024	554686.5125
62344	751+89.75	-40.09	606080.9382	554487.6037
62345	7055+67.34	41.00	606045.7853	554418.3367
62346	7059+69.24	43.00	606342.2546	554688.5547
62347	7059+69.66	53.00	606335.7829	554696.1895
62348	7059+84.20	53.00	606346.4725	554706.0410
62351	7055+78.61	41.00	606054.2030	554425.8199
62352	7055+72.20	89.37	606017.2775	554457.7104
62353	750+97.09	-96.84	605997.6222	554489.2521
62354	750+91.67	-11.92	606034.6032	554565.7858
62355	750+82.00	-12.00	606026.4162	554569.7417
62356	750+82.00	13.00	606036.9436	554592.4173
62357	751+18.31	13.00	606070.3542	554573.0458
62358	700+65.00	-11.91	606175.0245	554666.7135
62359	700+65.00	11.83	606192.2697	554683.0271
62360	700+64.90	18.58	606197.1004	554687.7454
62361	700+70.59	18.58	606201.2356	554683.2697
62362	700+40.70	118.79	606242.2074	554782.6584
62363	7060+04.22	134.86	606305.7183	554779.8016
62372	752+00.77	-13.86	606108.4874	554494.7217
62373	751+97.29	10.70	606125.9162	554512.3665
62374	701+49.13	-5.85	606235.8692	554608.6637
62375	701+46.09	34.33	606263.6032	554637.8936
62376	701+36.18	27.72	606252.0546	554640.8009
62381	701+72.81	29.59	606278.0354	554614.9129
62382	701+48.83	10.30	606247.6392	554619.7243
62383	7059+02.27	44.21	606292.1862	554644.0610
62384	7059+85.54	35.00	606359.6562	554693.7129
62385	7059+83.54	43.00	606352.7636	554698.2399
62386	7059+99.81	54.36	606357.0284	554717.6252
62391	751+81.48	-34.31	606080.5268	554497.6867
62392	751+86.84	34.19	606138.2808	554534.9091
62393	701+36.09	-23.58	606213.9823	554606.4225

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CG.DGN [SHEET: GG23]

ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

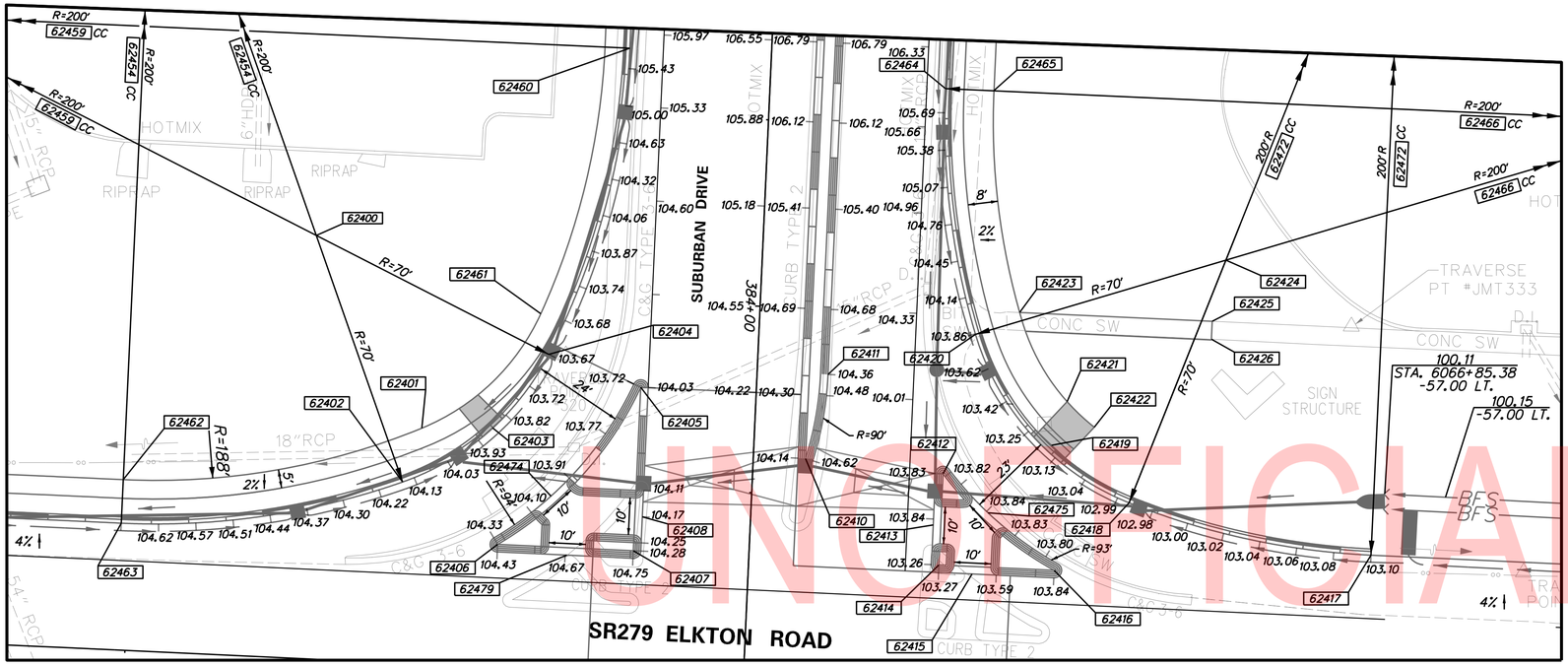
SCALE 0 20 40 60 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

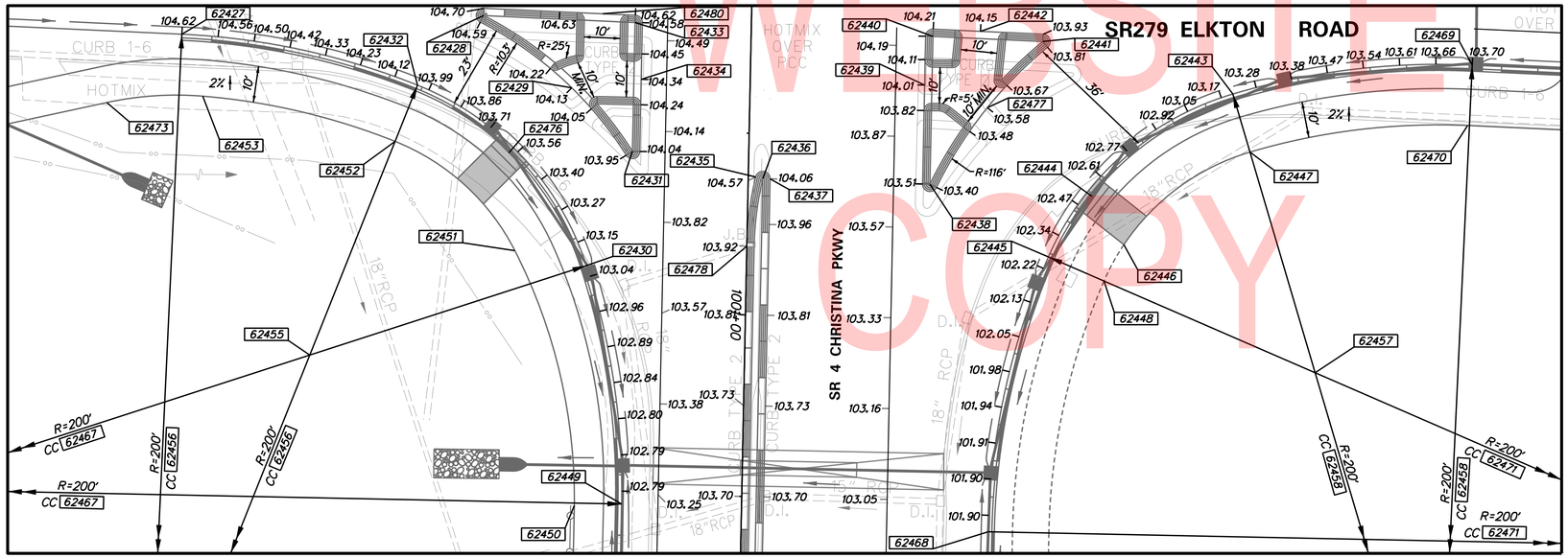
CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

GRADES AND GEOMETRICS

GG-23
SECTION JMT
SHEET NO. 106



SUBURBAN DRIVE INTERSECTION



SR 4 /CHRISTIANA PARKWAY INTERSECTION

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
62427	7063+46.36	30.00	606628.3719	554934.5634
62428	7064+29.03	21.00	606695.2636	554983.9721
62429	7064+54.17	39.74	606701.0528	555014.7915
62430	1000+87.34	44.00	606672.6803	555054.9068
62431	1000+55.62	32.00	606702.5960	555038.9230
62432	7064+11.77	41.00	606669.0189	554986.9830
62433	7064+70.73	21.00	606725.9307	555012.2351
62434	1000+35.76	30.00	606717.1727	555025.2901
62435	1000+62.00	-2.05	606724.0244	555066.1382
62436	1000+62.43	-4.00	606725.2167	555067.7439
62437	1000+62.43	-6.00	606726.7223	555069.0603
62438	1000+63.00	-50.00	606759.4724	555098.4500
62439	7065+51.11	34.49	606775.8924	555076.6320
62440	7065+52.76	21.00	606786.2494	555067.8252
62441	7065+83.03	21.00	606808.5084	555088.3392
62442	7065+65.78	19.00	606797.1785	555075.1777
62443	7066+35.93	33.00	606839.2704	555133.0086
62444	7065+98.60	63.00	606791.4905	555129.7693
62445	7065+87.32	80.15	606771.5772	555134.7402
62446	7066+07.89	75.83	606789.6303	555145.5070
62447	7066+41.38	48.75	606832.6054	555148.2839
62448	7066+02.90	86.08	606779.0147	555149.6553
62449	1001+52.76	33.00	606637.9039	555111.3921
62450	1001+53.43	46.00	606627.6778	555103.3377
62451	1000+83.61	63.77	606660.2561	555039.0825
62452	7064+06.32	56.75	606654.3367	554994.8704
62453	7063+52.90	46.78	606621.8066	554951.3367
62455	7063+85.61	116.60	606598.5444	555024.8425
62456	1002+25.85	161.80	606492.8327	555081.6319
62457	7066+62.09	108.60	606807.2773	555206.3328
62458	1002+27.13	-193.27	606759.2875	555316.3191
62467	7062+73.27	158.80	606487.3405	554979.7461
62468	1001+58.34	-68.00	606710.2640	555182.0757
62469	7067+01.34	22.00	606894.8267	555169.2507
62470	7067+00.82	38.67	606883.1491	555181.1537
62471	7067+74.25	151.28	606860.8273	555313.7218
62473	7063+26.61	49.73	606600.4805	554935.6946
62476	7064+37.75	58.42	606676.3175	555017.3931
62477	7065+68.62	39.90	606785.1056	555092.4714
62478	1000+81.08	0.00	606709.9263	555079.1546
62479	6064+67.11	-31.00	606799.3180	554924.8394
62480	7064+61.73	19.00	606720.6658	555004.6631

PEDESTRIAN CONNECTION, ITEM 705011

REFERENCE SHEET GG-26 FOR ADDITIONAL POINT NUMBERS.

1. *RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.*
2. *OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.*
3. *OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.*
4. *UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.*
5. *RADII ARE GIVEN TO EDGE OF PAVEMENT.*
6. *UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.*
7. *PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.*
8. *ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.*
9. *ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.*

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG24]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

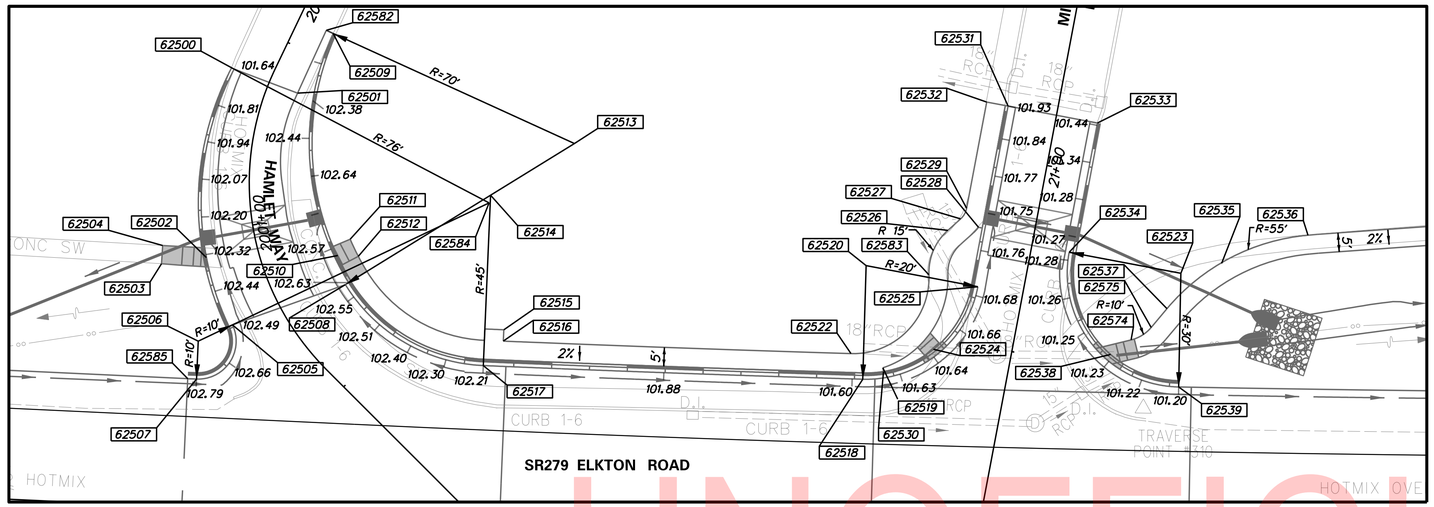
SCALE 0 20 40 60 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

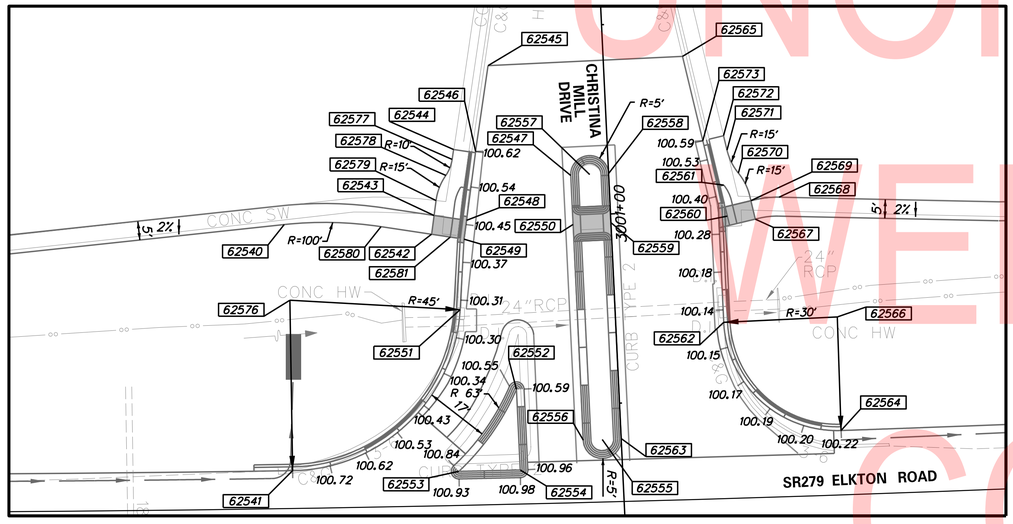
CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

GRADES AND GEOMETRICS

GG-24	
SECTION	JMT
SHEET NO.	107



HAMLET WAY /MILLSTONE DRIVE INTERSECTION



CHRISTINA MILL DRIVE INTERSECTION

1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
62500	2001+38. 11	-9. 89	607493. 4233	555448. 7189
62501	2001+38. 66	8. 02	607502. 2038	555464. 3342
62502	2000+94. 54	-13. 68	607455. 8522	555482. 0785
62503	2000+95. 41	-25. 57	607445. 7310	555475. 7380
62504	2000+98. 83	-24. 30	607449. 0631	555472. 2607
62505	2000+78. 52	-13. 35	607449. 7021	555500. 1549
62506	2000+78. 70	-23. 35	607440. 0237	555497. 6393
62507	2000+72. 51	-28. 63	607433. 2468	555504. 9927
62508	2000+73. 20	17. 89	607479. 3678	555511. 1649
62509	2001+57. 32	9. 77	607519. 5098	555458. 3064
62510	2000+83. 81	19. 58	607482. 7733	555503. 9966
62511	2000+88. 01	24. 17	607488. 0584	555502. 7952
62512	2000+80. 32	24. 45	607486. 7891	555507. 6420
62513	2001+58. 61	79. 75	607549. 6110	555521. 5038
62514	2000+76. 75	62. 88	607523. 8880	555517. 7186
62515	2000+30. 77	40. 54	607503. 7436	555547. 1726
62516	2000+28. 74	38. 33	607501. 7197	555549. 3871
62517	2000+27. 91	30. 04	607493. 5304	555550. 9364
62518	20+35. 54	-37. 31	607567. 9455	555618. 0890
62519	20+39. 48	-32. 66	607573. 9408	555619. 1888
62520	20+65. 17	-42. 00	607587. 9034	555595. 6908
62522	20+41. 60	-41. 64	607569. 8948	555610. 8958
62523	20+78. 60	40. 00	607650. 2299	555650. 6434
62524	20+46. 77	-20. 45	607587. 3083	555624. 0179
62525	20+65. 17	-12. 00	607606. 9031	555618. 9074
62526	20+78. 33	-22. 54	607610. 4105	555602. 4122
62527	20+81. 92	-19. 78	607614. 9389	555602. 2722
62528	20+80. 61	-14. 75	607617. 1109	555607. 0001
62529	20+84. 97	-18. 75	607617. 9509	555601. 1440
62530	20+38. 54	-32. 32	607573. 4300	555620. 0485
62531	21+12. 50	-13. 00	607643. 6697	555587. 5266
62532	21+13. 50	-18. 75	607640. 0281	555583. 0768
62533	21+13. 50	11. 00	607658. 8694	555606. 0999
62534	20+78. 60	10. 00	607631. 2302	555627. 4268
62535	20+83. 17	50. 08	607660. 1494	555655. 5550
62536	20+94. 73	71. 10	607682. 4044	555664. 4994
62537	20+68. 77	38. 13	607641. 4378	555655. 4260
62538	20+54. 11	25. 75	607622. 2540	555655. 1280
62539	20+49. 02	45. 00	607630. 5078	555673. 2496
62540	3001+01. 29	-86. 17	607878. 7812	555806. 5629
62541	3000+36. 30	-87. 04	607838. 7260	555857. 7447
62542	3000+96. 90	-47. 45	607906. 9321	555833. 5076

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
62543	3001+01. 81	-46. 53	607910. 6316	555830. 1577
62544	3001+18. 95	-40. 54	607925. 7860	555820. 1435
62545	3001+40. 64	-30. 41	607946. 9780	555809. 0189
62546	3001+18. 14	-34. 78	607929. 8803	555824. 2813
62547	3001+10. 64	-10. 00	607945. 0527	555845. 2548
62548	3001+00. 11	-38. 03	607916. 3677	555836. 6569
62549	3000+95. 19	-38. 92	607912. 6798	555840. 0345
62550	3000+97. 69	-10. 00	607937. 2113	555855. 5570
62551	3000+76. 63	-40. 85	607899. 9052	555853. 6333
62552	3000+54. 91	-27. 00	607897. 7710	555879. 3064
62553	3000+34. 03	-43. 20	607872. 2313	555886. 1073
62554	3000+33. 62	-27. 00	607884. 8764	555896. 2477
62555	3000+40. 65	-5. 00	607906. 6414	555903. 9765
62556	3000+40. 65	-10. 00	607902. 6628	555900. 9482
62557	3001+10. 64	-5. 00	607949. 0313	555848. 2830
62558	3001+10. 64	0. 00	607953. 0100	555851. 3113
62559	3000+97. 69	0. 00	607945. 1686	555861. 6136
62560	3000+97. 96	30. 77	607969. 8189	555880. 0400
62561	3001+06. 18	30. 23	607974. 3637	555873. 1750
62562	3000+70. 00	28. 50	607951. 0754	555900. 9097
62563	3000+40. 65	0. 00	607910. 6201	555907. 0047
62564	3000+40. 00	58. 09	607956. 4538	555942. 7011
62565	3001+40. 64	20. 98	607987. 8720	555840. 1446
62566	3000+70. 00	58. 50	607974. 9472	555919. 0793
62567	3000+96. 81	38. 12	607974. 9652	555885. 4034
62568	3001+02. 31	44. 66	607983. 4996	555884. 9877
62569	3001+01. 72	37. 19	607977. 1985	555880. 9298
62570	3001+09. 17	34. 23	607979. 3636	555873. 2115
62571	3001+15. 35	31. 53	607980. 9473	555866. 6578
62572	3001+19. 19	30. 80	607982. 6958	555863. 1622
62573	3001+18. 14	25. 25	607977. 6430	555860. 6349
62574	20+58. 90	30. 36	607628. 8779	555655. 6594
62575	20+63. 11	34. 95	607635. 0386	555656. 5469
62576	3000+81. 28	-85. 61	607867. 1069	555822. 8230
62577	3001+16. 36	-41. 06	607923. 8044	555821. 8923
62578	3001+12. 21	42. 94	607919. 7910	555824. 0498
62579	3001+05. 72	-45. 83	607913. 5654	555827. 4707
62580	3000+99. 53	-60. 67	607898. 0069	555823. 4093
62581	3000+95. 91	-42. 55	607910. 2347	555837. 2616
62582	2001+57. 28	7. 77	607518. 6498	555456. 5007
62583	20+65. 84	-25. 27	607599. 0165	555608. 2183
62584	2000+63. 17	61. 43	607522. 2902	555519. 0219
62285	2000+73. 38	-30. 55	607431. 5362	555503. 4720

PEDESTRIAN CONNECTION, ITEM 705011

GG-25

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG25]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 20 40 60 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

GRADES AND GEOMETRICS

SECTION JMT
SHEET NO. 108

GG–21

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
62100	7027+02.47	34.00	603892.4292	552529.9546
62101	7026+97.02	49.75	603878.0112	552538.3152
62102	7027+15.48	60.72	603884.8235	552558.6843
62103	7027+22.22	68.12	603885.0844	552568.6845
62104	107+31.59	-58.43	603873.4519	552598.4713
62105	106+70.90	-49.00	603828.0869	552639.8808
62106	106+86.52	-36.00	603848.2915	552642.0787
62107	107+30.96	-41.00	603882.5620	552613.3465
62108	7027+30.39	54.47	603900.1933	552563.6923
62109	7027+35.65	21.00	603926.0398	552541.7937
62110	107+75.44	-33.00	603924.0470	552595.4288
62111	108+07.10	-31.00	603951.5343	552579.5961
62112	7027+80.92	21.00	603960.3097	552571.3752
62113	107+75.39	2.27	603943.5033	552624.8424
62114	108+01.57	6.06	603967.4116	552613.5365
62115	108+00.79	8.96	603968.3649	552616.3810
62116	108+01.77	11.79	603970.7521	552618.1980
62117	107+65.00	18.00	603943.5404	552643.6983
62118	7028+62.40	48.61	604004.0457	552645.5640
62119	7028+64.79	32.76	604016.1944	552635.1055
62120	7028+70.18	21.00	604027.9530	552629.7059
62121	7028+78.20	19.00	604035.3606	552633.4202
62122	7029+04.29	21.00	604053.9318	552651.9194
62123	7029+81.79	34.00	604104.8860	552712.0217
62124	7029+04.60	49.96	604035.3880	552674.1627
62125	7028+95.46	57.34	604023.6071	552673.8155
62126	7028+81.83	67.33	604006.6965	552672.5028
62127	107+23.53	61.00	603932.7473	552702.4573
62128	7026+37.13	23.00	603850.1568	552478.9341
62129	7026+36.98	39.67	603839.1536	552491.4532
62130	7026+79.57	100.15	603831.8737	552565.0692
62131	7025+49.73	93.79	603737.7384	552475.4113
62132	105+85.64	-117.07	603719.4136	552630.2820
62133	7029+28.05	105.11	604017.6777	552731.4894
62134	106+69.88	220.77	603976.3535	552865.2515
62135	7030+34.73	194.08	604043.3004	552869.1247
62136	106+86.94	0.00	603868.5363	552671.8498
62137	7027+51.92	38.58	603926.8714	552565.7414
62138	7028+78.02	36.65	604023.7390	552646.7058
62199	106+85.79	-41.00	603844.9184	552638.3161

GG–22

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
62200	6042+09.74	-34.00	605115.0855	553421.0262
62201	6042+76.60	-51.00	605176.3538	553452.7467
62202	600+57.32	-50.69	605185.3065	553452.2403
62203	600+60.65	-46.96	605190.3065	553452.2285
62204	600+71.51	-37.88	605204.3100	553450.1455
62207	600+65.87	-51.62	605190.2899	553445.2285
62209	600+94.76	-80.77	605187.7059	553404.2665
62210	600+54.41	-19.00	605207.0507	553475.4724
62211	600+39.81	-17.00	605198.8448	553487.7095
62212	600+33.00	-19.00	605192.8226	553491.4717
62213	600+30.99	-29.52	605183.6302	553485.9758
62214	600+33.00	19.00	605221.2227	553516.7191
62215	600+39.61	17.00	605224.1190	553510.4527
62216	600+61.14	19.00	605239.9194	553495.6950
62217	6043+86.02	-33.00	605246.1696	553538.8966
62218	6044+58.69	-41.00	605305.7965	553581.2000
62219	6043+91.70	-58.00	605267.0251	553523.9863
62220	600+65.01	50.88	605266.3151	553513.9905
62221	600+68.42	47.23	605265.8502	553509.0110
62222	600+81.82	37.99	605267.8566	553492.8617
62223	600+82.28	38.88	605268.8248	553493.1118
62224	600+73.71	52.60	605273.3803	553508.6309
62225	601+01.94	81.93	605314.0591	553507.0217
62226	600+77.14	64.98	605284.9102	553514.2963
62227	600+75.50	74.39	605290.8545	553521.7753
62228	6044+25.21	-74.00	605302.6993	553534.2919
62256	6042+93.23	-33.00	605176.8209	553477.2464
62260	6041+73.29	-137.93	605156.8979	553319.1403
62261	601+74.67	-124.10	605208.4307	553315.7597
62264	601+79.67	-21.00	605288.7975	553380.5395
62265	601+37.90	-21.00	605261.0396	553411.7529
62266	601+81.02	124.90	605398.7204	553476.4853
62267	6044+94.66	-144.90	605401.7109	553527.4464
62268	6043+55.83	-179.67	605321.0502	553409.2219
62269	601+79.68	26.86	605324.5611	553412.3371
62270	601+74.68	27.75	605321.9077	553416.6673
62271	601+44.93	22.00	605297.8419	553435.0763
62272	601+44.93	27.75	605302.1387	553438.8973
62287	6042+56.66	-65.00	605170.7468	553429.0298
62288	6042+67.72	-63.20	605177.8237	553437.7229
62289	600+41.22	-32.96	605187.8620	553476.0491
62290	600+47.53	33.26	605241.5348	553515.3413
62295	6042+00.00	-34.00	605107.8070	553414.5557

GG–23

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
62300	6046+85.67	-41.00	605475.4317	553732.0039
62301	20+91.14	-65.50	605508.6520	553694.6352
62302	20+74.14	-67.15	605496.1513	553706.2686
62303	20+44.15	-9.43	605519.4872	553766.9806
62304	20+64.96	-22.90	605523.2014	553742.4716
62305	20+91.14	-15.50	605546.0904	553727.7769
62306	20+79.19	7.02	605555.0346	553751.6492
62307	20+44.26	31.81	605550.4437	553794.2347
62308	20+75.12	42.98	605579.2623	553778.5297
62309	20+71.40	46.32	605579.2986	553783.5318
62310	20+63.79	56.71	605582.0368	553796.1190
62311	6048+22.75	-57.23	605588.6632	553810.9536
62349	21+47.44	-15.51	605583.3972	553685.6148
62350	21+47.45	15.50	605606.6269	553706.1656
62365	6048+74.22	-41.00	605616.3494	553857.2781
62366	6049+16.55	-148.76	605719.5811	553804.8638
62367	21+90.74	123.26	605716.0102	553745.1722
62368	20+72.09	-30.68	605522.0965	553731.9794
62369	20+67.79	-33.24	605517.3315	553733.4940
62370	20+66.50	-43.39	605508.8746	553727.7375
62371	20+71.66	-55.25	605503.4099	553716.0147
62377	20+54.38	-3.59	605530.6488	553763.1928
62378	20+54.54	22.84	605550.5405	553780.5993
62379	20+70.24	40.55	605574.2073	553780.5748
62380	21+02.17	76.83	605622.5404	553780.7165
62387	6048+46.53	-60.41	605608.5519	553824.3719
62388	6048+61.35	-71.31	605626.8701	553826.0814
62389	6048+73.82	-76.05	605639.3402	553830.8198
62390	6048+29.40	-50.65	605589.2625	554520.2864

GG–24

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
62400	6063+96.06	-113.44	606802.9412	554816.0691
62401	6064+26.72	-63.17	606791.4192	554873.8103
62402	6064+22.25	-48.52	606778.2025	554881.5519
62403	6064+45.63	-64.14	606805.9840	554885.9099
62404	384+15.42	56.00	606830.2032	554880.5422
62405	384+23.12	31.00	606843.3948	554903.1294
62406	6064+48.46	-33.00	606786.9588	554910.7293
62407	384+66.96	31.00	606813.7315	554935.4032
62408	384+57.77	29.00	606821.4230	554929.9904
62410	384+40.20	-14.00	606864.9694	554946.1551
62411	384+17.42	-19.00	606884.0670	554932.7655
62412	384+42.63	-51.00	606890.5663	554972.9824
62413	6065+64.85	-43.64	606879.7608	554981.7833
62414	6065+66.87	-33.00	606874.0296	554990.9744
62415	6065+75.84	-31.00	606879.2724	554998.5260
62416	6065+97.78	-33.00	606896.7595	555011.9223
62417	6066+82.42	-41.00	606964.4231	555063.4023
62418	6066+17.01	-52.00	606923.7760	555010.9826
62419	6065+95.54	-66.42	606917.7589	554985.8268
62420	384+04.91	-58.00	606921.2448	554949.9483
62421	6065+99.14	-78.31	606928.4659	554979.5312
62422	6066+06.73	-71.80	606929.6355	554989.4626
62423	383+98.51	-69.56	606934.0849	554953.0542
62424	6066+39.90	-118.15	606985.4412	554977.8556
62425	6066+36.99	-101.62	606972.0981	554988.0376
62426	6066+37.01	-96.79	606968.8411	554991.6027
62454	382+65.77	168.17	606848.8843	554694.4581
62459	6062+78.83	-167.41	606752.3117	554696.3333
62460	383+32.50	38.00	606899.5630	554831.6738
62461	384+04.64	58.63	606835.5634	554870.8238
62462	6063+47.43	-45.67	606721.2516	554832.9475
62463	6063+47.43	-34.00	606713.3451	554841.5265
62464	383+39.50	-47.00	606957.4119	554894.3429
62465	383+39.41	-60.00	606967.0414	554903.0768
62466	383+39.50	-247.00	607104.6632	555029.6834
62472	382+59.23	-166.84	607099.9624	554916.3339
62474	6064+62.15	-46.59	606806.2352	554910.0113
62475	6065+79.36	-47.56	606893.0796	554988.7334

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1. RADII FOR CANALIZING ISLANDS ARE 2' UNLESS OTHERWISE SHOWN.
2. OPENINGS FOR CANALIZING ISLANDS ARE 10' UNLESS OTHERWISE SHOWN.
3. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
4. UNLESS OTHERWISE NOTED GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
5. RADII ARE GIVEN TO EDGE OF PAVEMENT.
6. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
7. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT OR CURBS SHALL MATCH THE EXISTING PAVEMENT OR CURB ELEVATIONS.
8. ALL ELEVATION DATA ALONG ELKTON ROAD ARE REFERENCED TO THE NORTHBOUND CONSTRUCTION BASELINE.
9. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\1406659_007_ELKTON_RD_CASHO_MILL\CADD\GG.DGN [SHEET: GG26]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

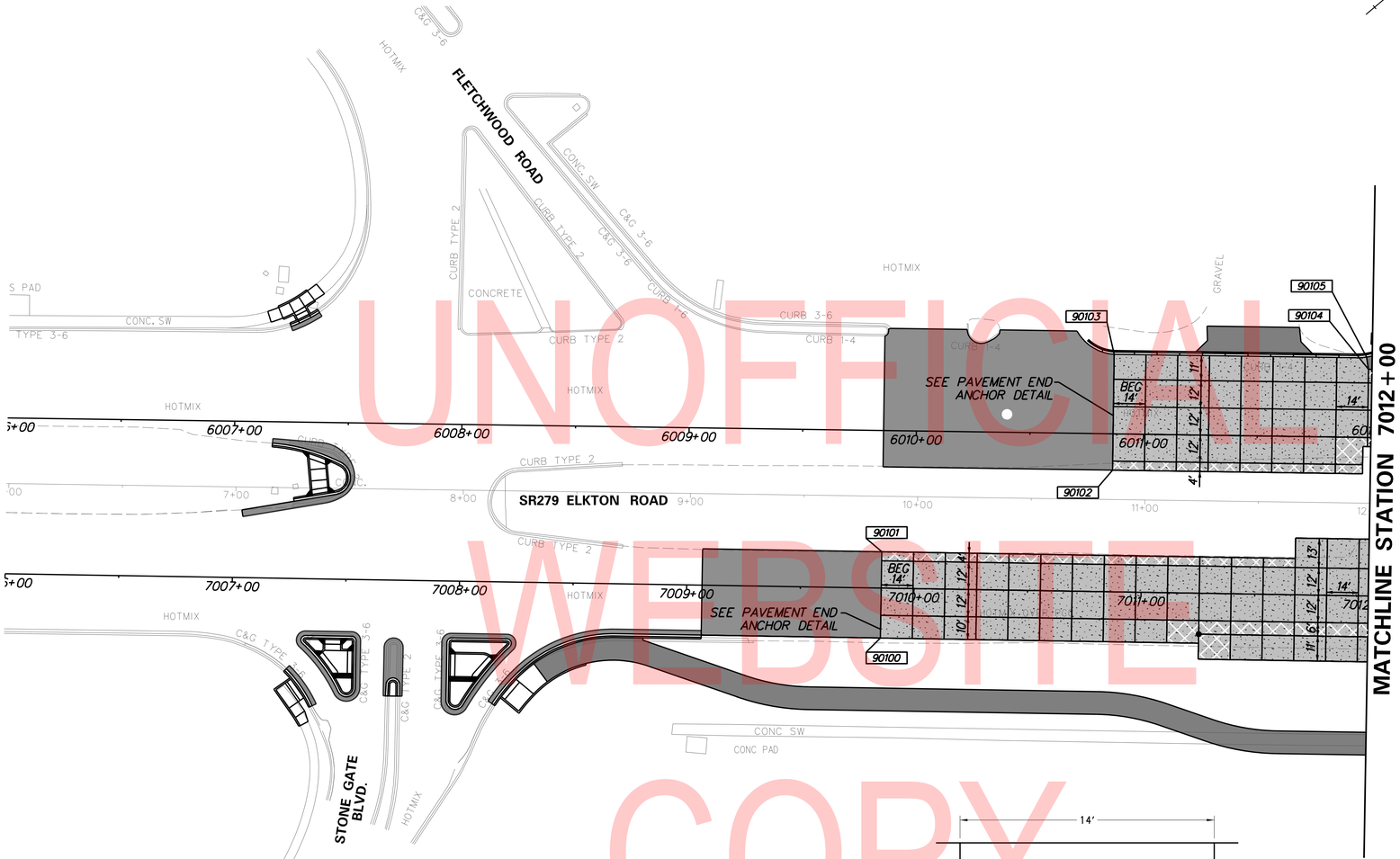
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

GRADES AND GEOMETRICS

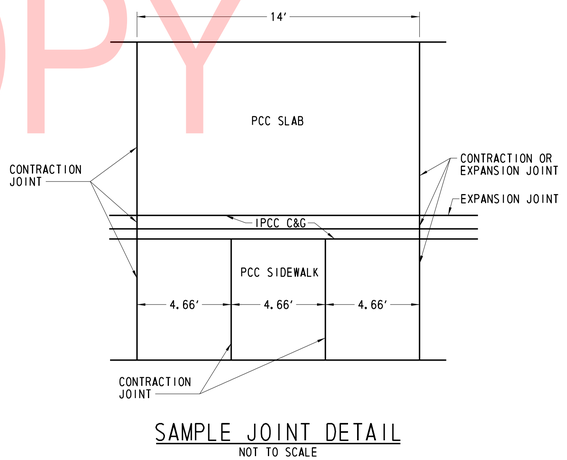
GG–26

SECTION	SHEET NO.
JMT	109



UNOFFICIAL WEBSITE COPY

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
90100	7009+85.61	22.00	602600.2327	551399.4222
90101	7009+85.61	-16.00	602625.1308	551370.7153
90102	6010+86.58	16.00	602725.9941	551408.4839
90103	6010+86.58	-35.02	602759.3453	551369.8768
90104	6011+98.58	-30.00	602840.8196	551446.8906
90105	6011+97.63	-35.38	602843.6194	551442.2011



SAMPLE JOINT DETAIL
NOT TO SCALE

GENERAL PAVEMENT JOINT NOTES:

1. JOINT LAYOUT AS SHOWN ON THE PLANS IS GRAPHICAL AND ITS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSTRUCT THE JOINTS ACCORDING TO THE STANDARD DETAILS AND THESE GENERAL NOTES.
2. TYPICAL TRANSVERSE JOINT SPACING IS 15' UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER.
3. THE MAXIMUM SLAB WIDTH IS 14' UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER.
4. THE MINIMUM SLAB WIDTH IS 4'.
5. THE MINIMUM TRANSVERSE JOINT SPACING IS 7'. THE MAXIMUM TRANSVERSE SPACING IS 20'. MAXIMUM AND MINIMUM SPACING ON CURVES SHALL BE MEASURED ALONG THE LONGEST CHORD. THE MAXIMUM AND MINIMUM SPACING FOR CURVES ON THE ELKTON ROAD MAINLINE SHOULD BE CALCULATED FOR FUTURE LANE EXPANSION INTO THE MEDIAN WHERE APPLICABLE.
6. PAVEMENT CROSS SLOPES AND TRANSITION LENGTHS SHALL BE ADJUSTED AS NEEDED PER LOCATION AND TO MEET DESIGN CRITERIA.
7. IN CURVED SECTIONS, SLAB DIMENSIONS ARE PROVIDED ALONG THE OUTER RADIUS THROUGH TRAVEL LANES.
8. IN LOCATIONS WHERE 4' SHOULDER IS ADJACENT TO AN 11' OR 12' LANE, PRECAST SLABS ARE TO BE CAST IN ONE SLAB THAT INCLUDES THE LANE AND SHOULDER ALONG WITH THE ASSOCIATED GRADE BREAK BETWEEN THEM.
9. A. REPLACE SECTION 701.03.E.7.a. WITH: AT NO GREATER THAN 160 FOOT INTERVALS.

   B. REPLACE SECTION 701.03.G.1 WITH: CONSTRUCT CONTRACTION JOINT BY TOOL OR SAW CUT AT NO GREATER THAN 15 FOOT INTERVALS WHEN CONCRETE IS SUFFICIENTLY SET OR AS DIRECTED BY THE ENGINEER. THERE IS NO CHANGE TO SUBSECTIONS 701.03.G.1.A THRU 701.03.G.1.C.

   C. REPLACE SECTION 705.03.2 WITH: USE MOLDS OF REQUIRED HEIGHT, WIDTH AND SHAPE. PLACE CONCRETE IN ACCORDANCE WITH SECTION 705.03.3 WITH THE EXCEPTION THAT THE EXPANSION JOINTS ARE PERMITTED TO BE PLACED AT NO GREATER THAN 100 FOOT INTERVALS WHEN SLIP-FORMING.

   D. REPLACE SECTION 705.03.3.C.5.A WITH: AT NO GREATER THAN 20 FOOT INTERVALS.

   E. REPLACE SECTION 705.03.4.a WITH: CONSTRUCT CONTRACTION JOINT BY TOOL OR SAW CUT AT NO GREATER THAN 15 FOOT INTERVALS WHEN CONCRETE IS SUFFICIENTLY SET OR AS DIRECTED BY THE ENGINEER. THERE IS NO CHANGE TO SUBSECTION 705.03.4.A.1.

   F. WHEN CURB IS CONSTRUCTED ADJACENT TO CONCRETE PAVEMENT AND SIDEWALK IS BEHIND THE CURB, ALIGN CURB AND SIDEWALK JOINTS WITH THE CONCRETE PAVEMENT JOINTS. SPACE SIDEWALK EXPANSION AND CONTRACTION JOINTS AT NEAR EVEN INCREMENTS OR AS DIRECTED BY THE ENGINEER.
10. A. REPLACE SECTION 701.03.E.7 WITH AT NO GREATER THAN 160 FOOT INTERVALS.

    B. REPLACE SECTION 701.03.G.1 WITH CONSTRUCT CONTRACTION JOINT BY TOOL OR SAW CUT AT NO GREATER THAN 15 FOOT INTERVALS WHEN CONCRETE IS SUFFICIENTLY SET OR AS DIRECTED BY THE ENGINEER. REPLACE SECTION 701.03.G.1.B WITH WHEN SIDEWALK IS BEHIND CURB, ALIGN JOINTS IN THE SIDEWALK TO COINCIDE WITH ALL JOINTS IN THE CURB. THERE IS NO CHANGE TO SUBSECTIONS 701.03.G.1.A AND 701.03.G.1.C.

    C. REPLACE SECTION 705.03.2 WITH USE MOLDS OF REQUIRED HEIGHT, WIDTH AND SHAPE. PLACE CONCRETE IN ACCORDANCE WITH SECTION 705.03.3 WITH THE EXCEPTION THAT THE EXPANSION JOINTS ARE PERMITTED TO BE PLACED AT NO GREATER THAN 100 FOOT INTERVALS WHEN SLIP-FORMING.

    D. REPLACE SECTION 705.03.3.C.5.A WITH AT NO GREATER THAN 20 FOOT INTERVALS.

    E. REPLACE SECTION 705.03.4.A WITH CONSTRUCT CONTRACTION JOINT BY TOOL OR SAW CUT AT NO GREATER THAN 6 FOOT INTERVALS WHEN CONCRETE IS SUFFICIENTLY SET OR AS DIRECTED BY THE ENGINEER. SPACE SIDEWALK CONTRACTION JOINTS AT NEAR EVEN INCREMENTS OR AS DIRECTED BY THE ENGINEER. FOR EXAMPLE, FOR 14' LONG TRANSVERSE PAVEMENT JOINTS, SPACE THE SIDEWALK CONTRACTION JOINTS AT 4.66' SPACING. SEE SAMPLE JOINT DETAIL. REPLACE SECTION 705.03.4.A.1 WITH WHEN SIDEWALK IS BEHIND CURB, ALIGN JOINTS IN THE SIDEWALK TO COINCIDE WITH ALL JOINTS IN THE CURB.

● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

PJL-01

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

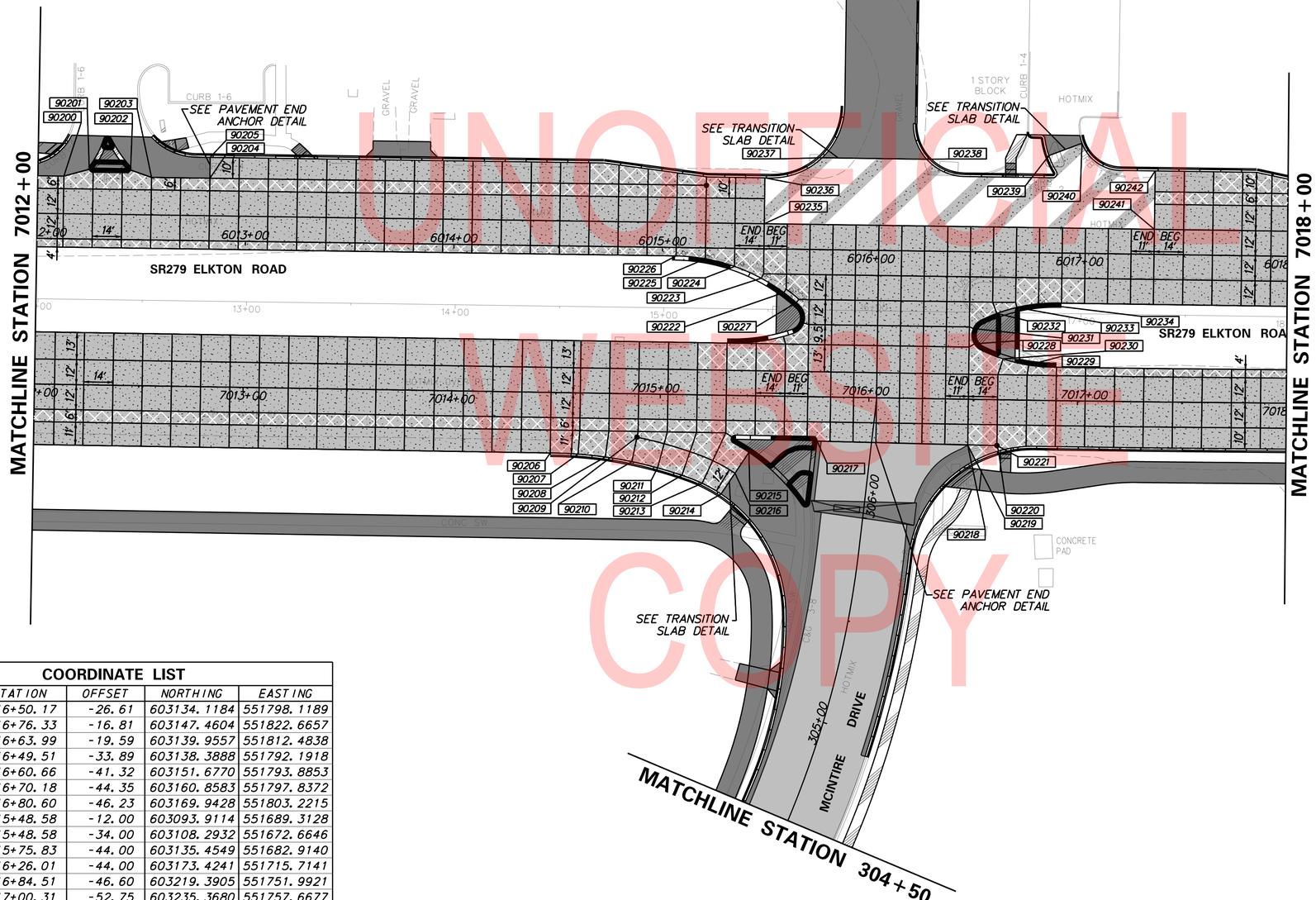
PAVEMENT JOINT LAYOUT

SECTION	JMT
SHEET NO.	110

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL01]

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
90200	6012+12.58	-30.00	602851.4140	551456.0426
90201	6012+24.68	-33.45	602862.8300	551461.3461
90202	6012+44.50	-33.37	602877.7684	551474.3601
90203	6012+54.58	-30.00	602883.1970	551483.4987
90204	6012+82.58	-30.00	602904.3857	551501.8028
90205	6012+82.58	-40.00	602910.9231	551494.2352
90206	7014+47.72	29.00	602944.7427	551707.4884
90207	7014+61.04	29.34	602954.5848	551716.4699
90208	7014+74.14	30.53	602963.6983	551725.9547
90209	7014+89.17	20.76	602981.4597	551728.4205
90210	7014+86.92	32.54	602972.0376	551735.8518
90211	7014+99.25	35.30	602979.5425	551746.0112
90212	7015+11.00	38.71	602986.1863	551756.2840
90213	7015+20.73	42.33	602991.1613	551765.3981

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
90214	7015+29.91	47.33	602994.8257	551775.1896
90215	7015+42.92	27.16	603017.8686	551768.4797
90216	7015+36.42	37.25	603006.3471	551771.8347
90217	7015+75.47	21.23	603046.3456	551785.3247
90218	7016+47.71	21.96	603100.4315	551833.2067
90219	7016+51.55	29.12	603098.6413	551841.1314
90220	7016+62.51	24.58	603109.9002	551844.8776
90221	7016+61.71	21.94	603111.0258	551842.3587
90222	6015+58.41	20.81	603079.9057	551720.5720
90223	6015+47.78	14.11	603076.0134	551708.3561
90224	6015+34.67	8.68	603069.8687	551695.8647
90225	6015+20.58	5.18	603061.4902	551684.0113
90226	6015+06.58	4.00	603051.6678	551673.9657
90227	6015+64.44	25.52	603081.3851	551728.0753



COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
90228	7016+50.17	-26.61	603134.1184	551798.1189
90229	7016+76.33	-16.81	603147.4604	551822.6657
90230	7016+63.99	-19.59	603139.9557	551812.4838
90231	7016+49.51	-33.89	603138.3888	551792.1918
90232	7016+60.66	-41.32	603151.6770	551793.8853
90233	7016+70.18	-44.35	603160.8583	551797.8372
90234	7016+80.60	-46.23	603169.9428	551803.2215
90235	6015+48.58	-12.00	603093.9114	551689.3128
90236	6015+48.58	-34.00	603108.2932	551672.6646
90237	6015+75.83	-44.00	603135.4549	551682.9140
90238	6016+26.01	-44.00	603173.4241	551715.7141
90239	6016+84.51	-46.60	603219.3905	551751.9921
90240	6017+00.31	-52.75	603235.3680	551757.6677
90241	6017+35.58	-12.00	603235.4215	551811.5581
90242	6017+35.58	-40.00	603235.7256	551790.3694

● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL02]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

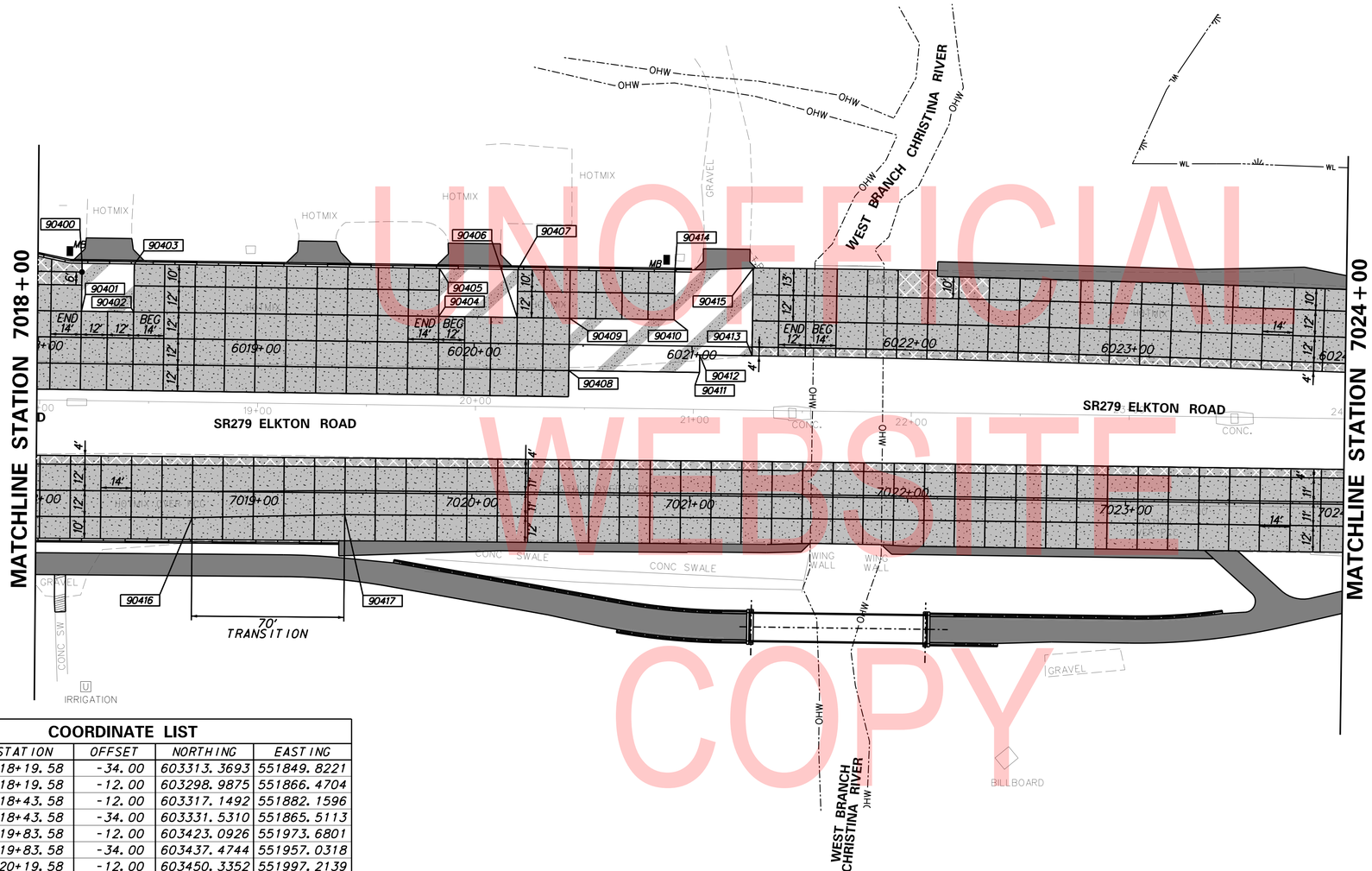
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PAVEMENT JOINT LAYOUT

PJL-02

SECTION	SHEET NO.
JMT	111



UNOFFICIAL WEBSITE COPY

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
90400	6018+19.58	-34.00	603313.3693	551849.8221
90401	6018+19.58	-12.00	603298.9875	551866.4704
90402	6018+43.58	-12.00	603317.1492	551882.1596
90403	6018+43.58	-34.00	603331.5310	551865.5113
90404	6019+83.58	-12.00	603423.0926	551973.6801
90405	6019+83.58	-34.00	603437.4744	551957.0318
90406	6020+19.58	-12.00	603450.3352	551997.2139
90407	6020+19.58	-34.00	603464.7170	551980.5657
90408	6020+43.58	12.00	603452.8077	552031.0649
90409	6020+43.58	-12.00	603468.4969	552012.9031
90410	6020+91.58	-12.00	603504.8203	552044.2816
90411	6021+03.58	12.00	603498.2120	552070.2879
90412	6021+03.58	4.01	603503.4326	552064.2446
90413	6021+27.55	4.00	603521.5797	552079.9063
90414	6020+91.58	-34.00	603519.2021	552027.6334
90415	6021+27.55	-36.19	603547.8747	552049.5119
90416	7018+71.76	12.00	603277.0577	551971.6495
90417	7019+41.76	10.00	603331.5952	552015.5775

● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

PJL-03

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

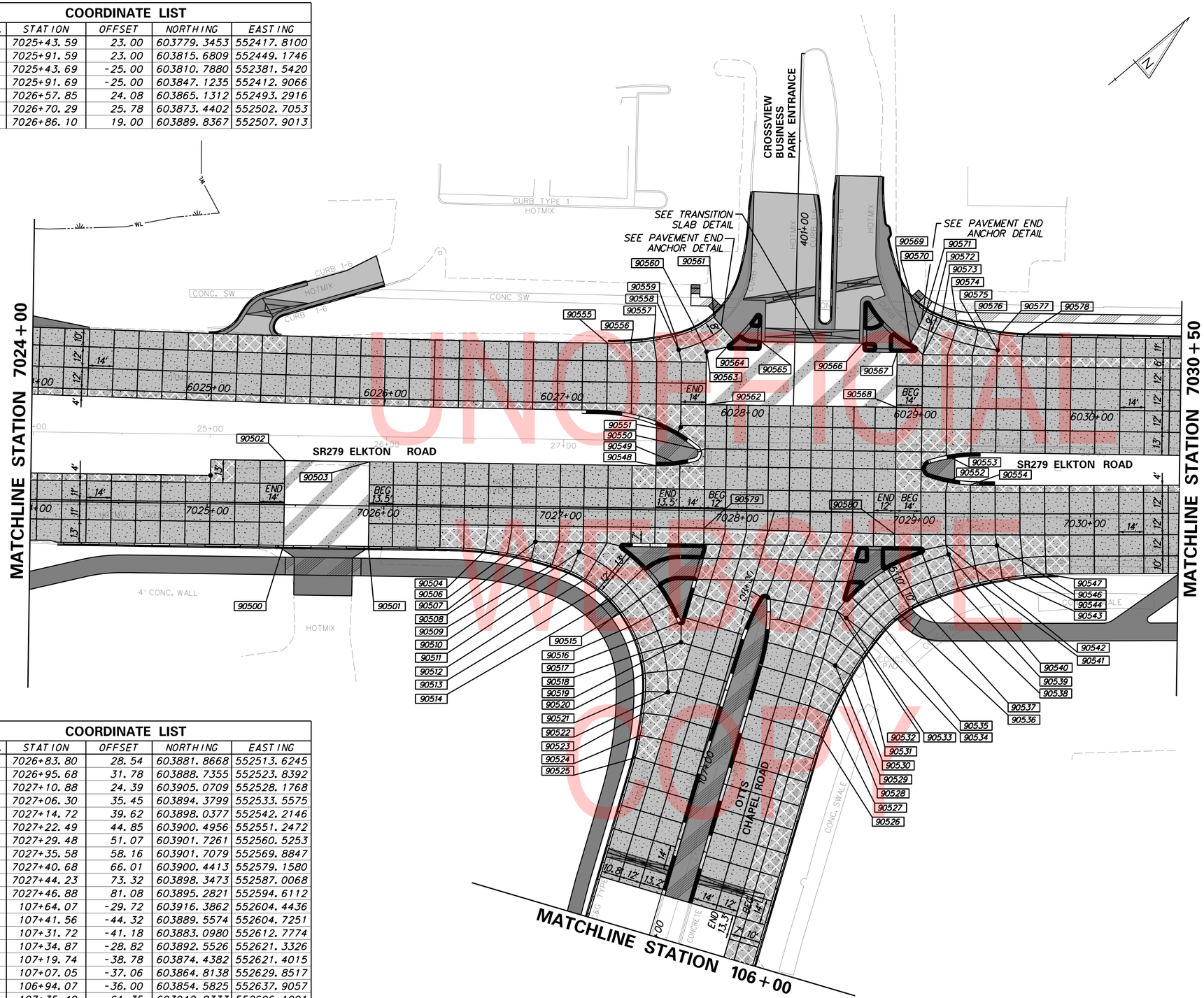
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PAVEMENT JOINT LAYOUT

SECTION	JMT
SHEET NO.	112

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL03]

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
90500	7025+43.59	23.00	603779.3453	552417.8100
90501	7025+91.59	23.00	603815.6809	552449.1746
90502	7025+43.69	-25.00	603810.7880	552381.5420
90503	7025+91.69	-25.00	603847.1235	552412.9066
90504	7026+57.85	24.08	603865.1312	552493.2916
90506	7026+70.29	25.78	603873.4402	552502.7053
90507	7026+86.10	19.00	603889.8367	552507.9013



COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
90508	7026+83.80	28.54	603881.8668	552513.6245
90509	7026+95.68	31.78	603888.7355	552523.8392
90510	7027+10.88	24.39	603905.0709	552528.1768
90511	7027+06.30	35.45	603894.3799	552533.5575
90512	7027+14.72	39.62	603898.0377	552542.2146
90513	7027+22.49	44.85	603900.4956	552551.2472
90514	7027+29.48	51.07	603901.7261	552560.5253
90515	7027+35.58	58.16	603901.7079	552569.8847
90516	7027+40.68	66.01	603900.4413	552579.1580
90517	7027+44.23	73.32	603898.3473	552587.0068
90518	7027+46.88	81.08	603895.2821	552594.6112
90519	107+64.07	-29.72	603916.3862	552604.4436
90520	107+41.56	-44.32	603889.5574	552604.7251
90521	107+31.72	-41.18	603883.0980	552612.7774
90522	107+34.87	-28.82	603892.5526	552621.3326
90523	107+19.74	-38.78	603874.4382	552621.4015
90524	107+07.05	-37.06	603864.8138	552629.8517
90525	106+94.07	-36.00	603854.5825	552637.9057
90526	107+35.40	61.35	603942.8333	552696.1901
90527	107+48.50	62.57	603954.4282	552689.9551
90528	107+61.29	64.60	603966.2056	552684.5809
90529	107+76.12	57.69	603974.7458	552670.6297
90530	107+73.61	67.37	603978.0103	552680.0818

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
90531	107+85.32	70.79	603989.6498	552676.4550
90532	7028+57.28	55.80	603995.4541	552647.6630
90533	7028+62.49	59.76	603996.8418	552654.0861
90534	7028+78.32	71.85	604001.0653	552673.6350
90535	7028+83.81	65.07	604009.6794	552672.0801
90536	7028+92.44	57.03	604021.5002	552671.6113
90537	7029+02.64	50.84	604033.3200	552673.5643
90538	7029+13.68	46.30	604044.7093	552677.2954
90539	7029+25.52	42.31	604056.3537	552681.9486
90540	7029+19.77	23.16	604064.3537	552663.6183
90541	7029+37.16	39.18	604067.2899	552687.1207
90542	7029+18.22	18.00	604066.5082	552658.6817
90543	7029+50.15	36.59	604078.9290	552693.5592
90544	7029+62.39	34.97	604089.3657	552700.2417
90546	7029+47.10	18.00	604088.5817	552677.3828
90547	7029+74.87	34.12	604099.4922	552707.6543
90548	7027+53.69	-25.00	603969.7560	552518.7621
90549	7027+67.05	-25.92	603980.4714	552526.7924
90550	7027+79.05	-34.20	603994.9699	552528.3692
90551	7027+65.81	-44.31	603991.5519	552512.0637
90552	7029+19.02	-17.70	604090.2306	552631.9939
90553	7029+18.44	-32.84	604099.5986	552620.0831
90554	7029+31.88	-16.12	604098.9983	552641.5043
90555	6027+25.29	-34.00	603993.3776	552448.0015
90556	6027+38.47	-34.46	604003.6543	552456.2624
90557	6027+51.29	-36.03	604014.3858	552463.4562
90558	6027+65.55	-30.86	604021.8041	552476.6815
90559	6027+63.59	-38.60	604025.3755	552469.5398
90560	6027+75.18	-42.74	604036.6676	552473.8203
90561	6027+85.17	-49.65	604048.9306	552475.2845
90562	6027+81.29	0.00	604013.5524	552510.3310
90563	6027+81.40	-29.99	604033.2321	552487.6993
90564	6027+92.86	-32.71	604043.6859	552493.1340
90565	6028+12.28	-36.00	604060.5376	552503.3316
90566	6028+69.79	-36.00	604104.0662	552540.9052
90567	6028+89.29	-31.00	604115.5635	552557.4346
90568	6028+89.29	0.00	604095.3072	552580.9012
90569	6028+96.74	-36.34	604124.6954	552558.2616
90570	6029+01.33	-46.11	604134.5480	552553.8618
90571	6029+05.27	-54.51	604143.0173	552550.0797
90572	6029+03.76	-30.00	604125.8622	552567.6455
90573	6029+14.02	-50.46	604146.9993	552558.8575
90574	6029+23.12	-47.29	604151.8194	552567.2110
90575	6029+34.85	-44.20	604158.6767	552577.2105
90576	6029+46.15	-33.15	604160.0108	552592.9630
90577	6029+47.27	-42.08	604166.6906	552586.9314
90578	6029+60.08	-41.07	604175.7362	552596.0682
90579	7027+81.33	9.92	603967.8633	552563.2614
90580	7028+89.28	12.00	604048.3384	552635.3140

● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

UNOFFICIAL WEB COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019 [SHEET: PJL04]
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PAVEMENT JOINT LAYOUT

PJL-04

SECTION	SHEET NO.
JMT	113

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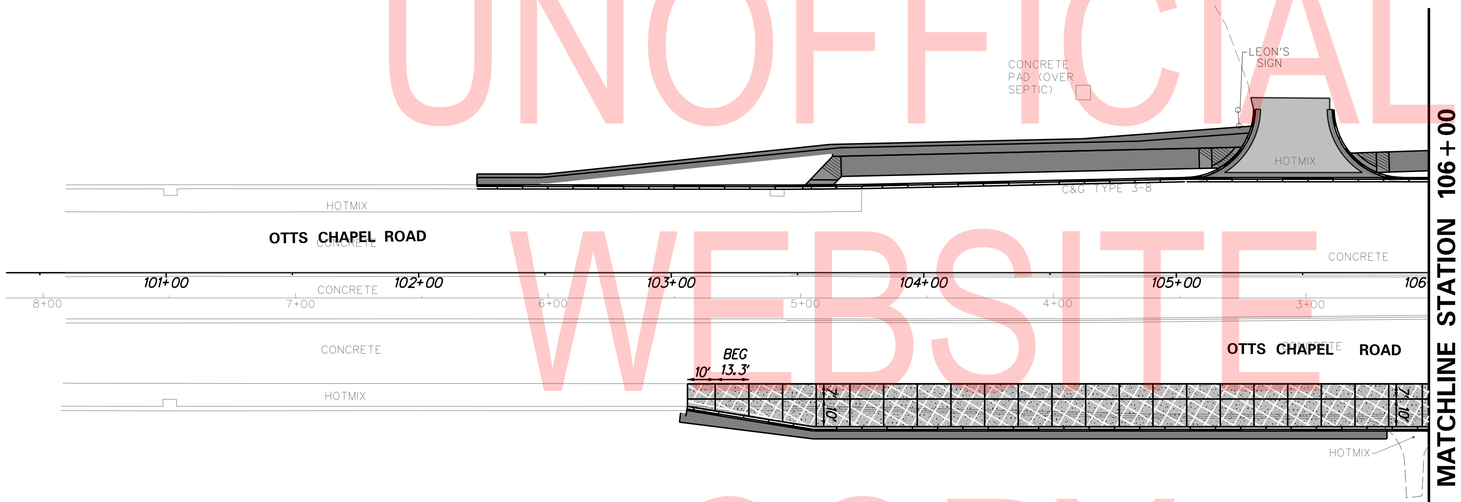


● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

PJL-05

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

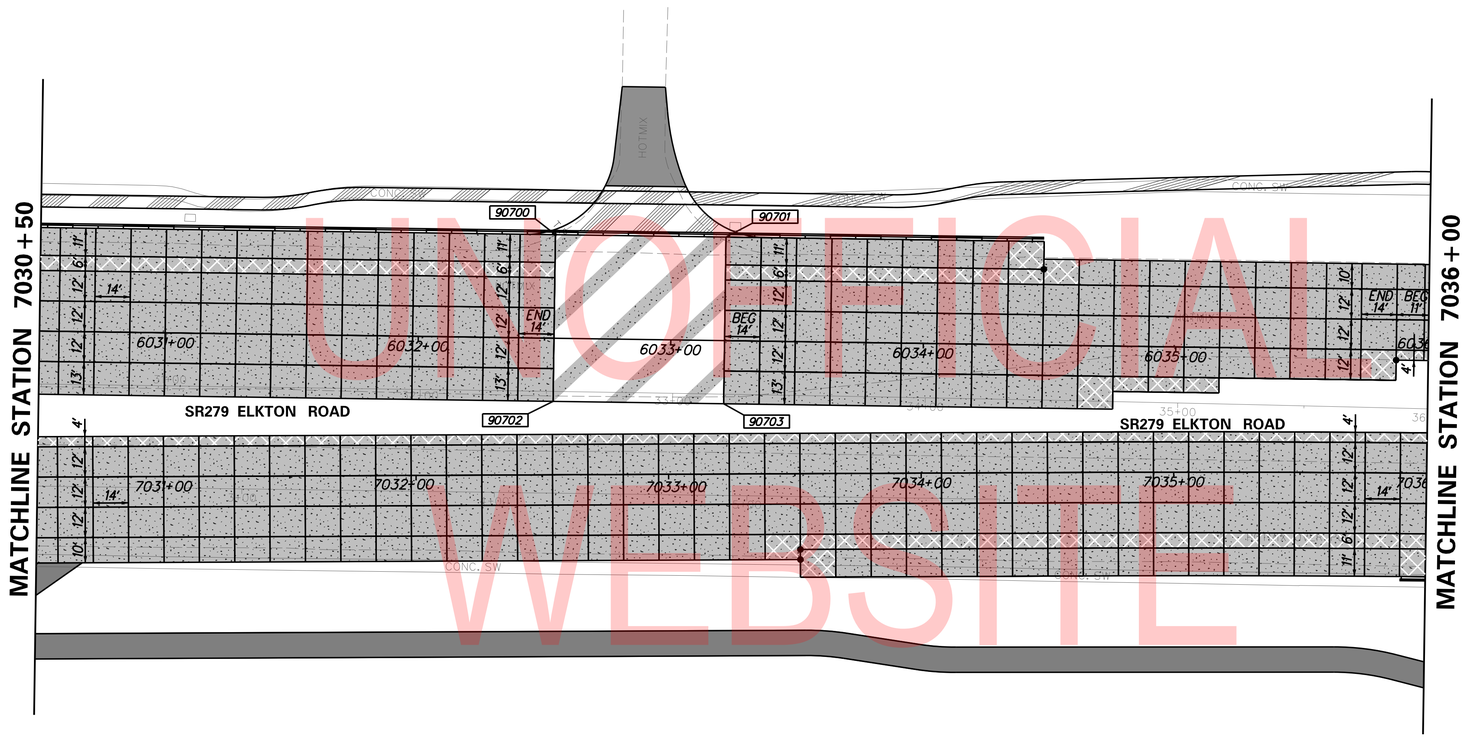
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

PAVEMENT JOINT LAYOUT

SECTION	JMT
SHEET NO.	114

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL05]



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● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

PJL-06

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

PAVEMENT JOINT LAYOUT

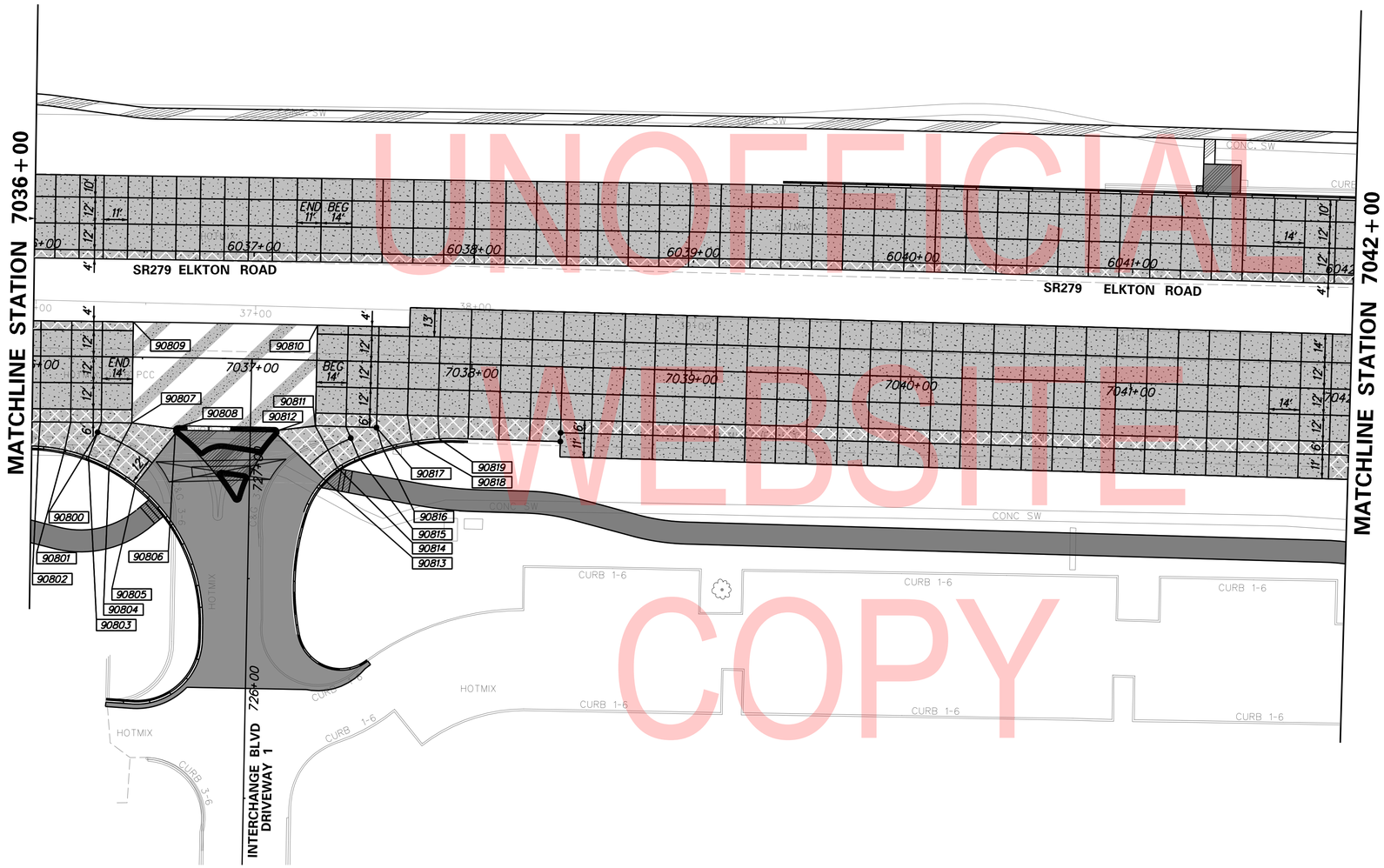
SECTION JMT

SHEET NO. 115

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL06]

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
90800	7036+30.00	34.46	604601.7449	553127.6583
90801	7036+14.99	42.69	604585.0397	553124.1652
90802	7036+03.05	41.13	604577.0221	553115.2381
90803	7036+25.92	45.77	604591.2894	553133.5802
90804	7036+35.38	49.86	604595.7667	553142.8228
90805	7036+47.74	57.62	604600.0062	553156.7309
90806	7036+65.44	34.59	604628.3997	553150.8311
90807	7036+45.57	30.00	604616.4195	553134.4088
90808	7036+64.76	32.34	604629.3554	553148.6878
90809	7036+45.57	-16.00	604646.4665	553099.5782

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
90810	7037+29.37	-16.00	604709.7828	553154.6630
90811	7037+29.37	30.00	604679.4449	553189.2407
90812	7037+12.65	32.20	604665.4631	553179.9156
90813	7037+33.70	54.01	604666.8484	553210.1367
90814	7037+39.84	48.59	604675.0155	553210.0969
90815	7037+49.32	43.44	604685.5085	553212.4614
90816	7037+60.30	39.29	604696.4474	553216.5833
90817	7037+57.30	29.93	604700.3968	553207.5832
90818	7037+73.53	35.95	604708.5383	553222.8070
90819	7037+86.00	34.31	604718.9214	553229.8226



UNOFFICIAL WEBSITE COPY

● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

PJL-07

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

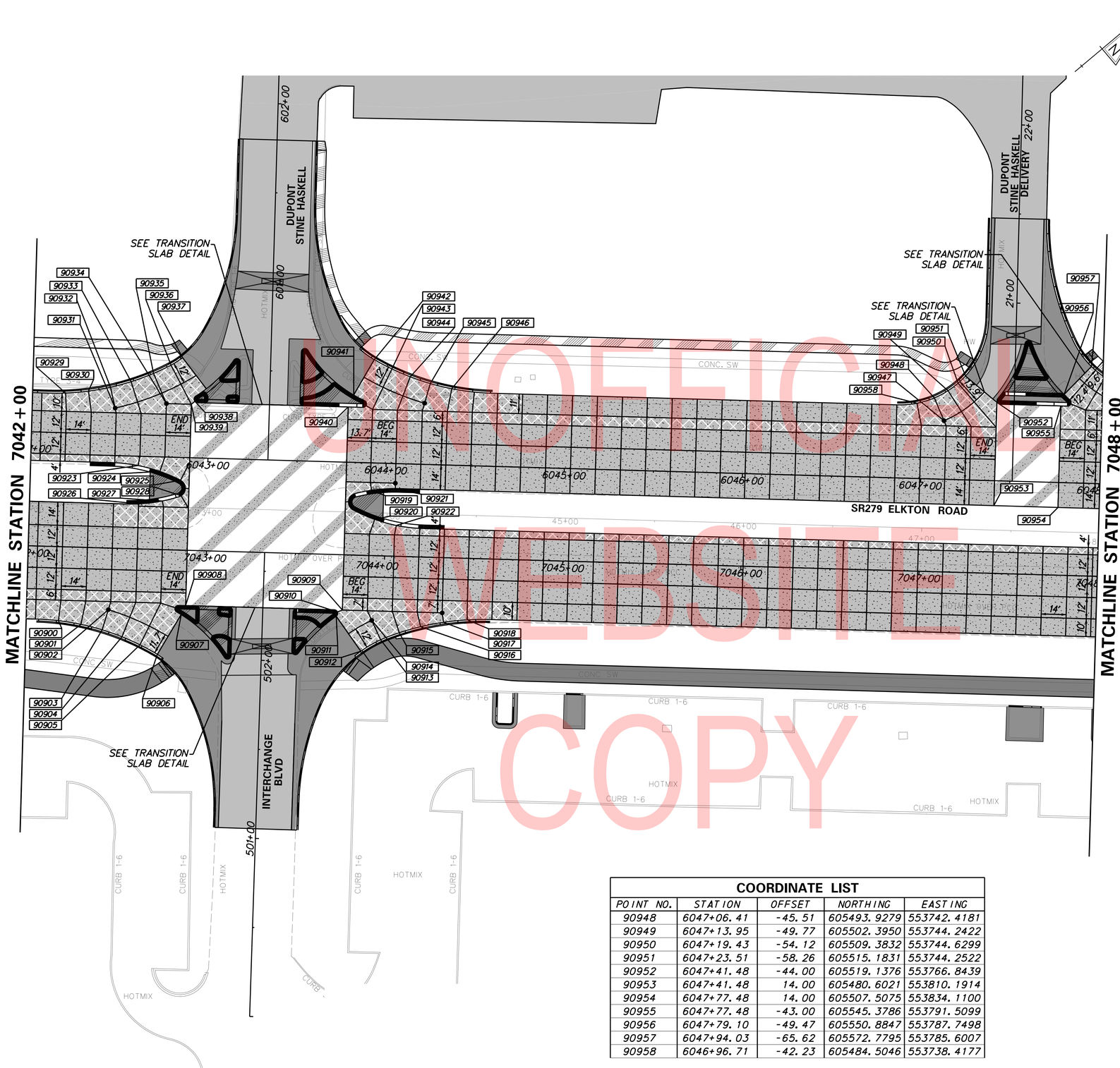
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

PAVEMENT JOINT LAYOUT

SECTION	JMT
SHEET NO.	116

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL07]



UNOFFICIAL WEBSITE COPY

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
90900	7042+18.17	41.55	605037.0854	553522.3525
90901	7042+30.79	43.26	605045.3833	553532.0112
90902	7042+45.95	34.57	605062.4856	553535.5856
90903	7042+42.81	45.99	605052.5482	553542.0424
90904	7042+54.01	49.58	605058.5358	553552.1643
90905	7042+64.25	53.81	605063.3803	553562.1274
90906	7042+74.13	58.83	605067.4219	553572.4423
90907	7042+86.92	35.96	605092.1807	553563.8549
90908	7042+89.20	31.00	605097.1814	553561.6582
90909	7043+77.20	31.00	605162.9501	553620.1259
90910	7043+74.47	32.20	605160.1109	553619.2043
90911	7043+73.83	34.60	605158.0401	553620.5797
90912	7043+88.21	53.82	605156.0180	553644.4943
90913	7043+99.15	47.10	605168.6576	553646.7446
90914	7043+93.84	36.34	605171.8355	553635.1730
90915	7044+09.46	42.85	605179.1887	553650.4146
90916	7044+21.38	39.12	605190.5737	553655.5419
90917	7044+34.14	36.29	605201.9890	553661.9025
90918	7044+47.50	34.54	605213.1394	553669.4799
90919	7044+91.64	36.67	605218.7000	553579.1462
90920	7043+93.89	-20.34	605209.5338	553592.8440
90921	7044+04.96	-37.98	605229.5216	553587.0169
90922	7044+06.13	-17.32	605216.6723	553603.2280
90923	7042+60.33	-46.78	605127.2849	553484.3467
90924	7042+72.63	-43.84	605134.5176	553494.7159
90925	7042+84.36	-39.22	605140.2115	553505.9619
90926	7042+61.11	-25.26	605113.5610	553500.9473
90927	7042+74.45	-27.28	605124.8772	553508.2995
90928	7042+84.90	-30.50	605134.8261	553512.8417
90929	6042+19.10	-34.31	605122.2924	553427.0135
90930	6042+31.91	-35.77	605132.8273	553434.4351
90931	6042+47.12	-26.67	605138.1498	553451.3409
90932	6042+44.17	-38.30	605143.6723	553440.6872
90933	6042+55.64	-41.74	605154.5310	553445.7390
90934	6042+75.79	-30.00	605161.7960	553467.9034
90935	6042+68.11	-46.75	605167.1822	553450.2804
90936	6042+77.76	-51.65	605177.6476	553453.0299
90937	6042+84.08	-56.02	605185.2729	553453.9590
90938	6042+91.72	-31.68	605174.8210	553477.2283
90939	6042+89.79	-30.00	605172.2592	553477.2051
90940	6043+77.79	-31.00	605238.6924	553534.9255
90941	6043+80.69	-37.81	605245.3795	553531.7625
90942	6043+91.70	-58.00	605267.0251	553523.9863
90943	6044+01.72	-53.06	605271.2330	553534.3382
90944	6044+12.13	-48.92	605276.2653	553544.3435
90945	6044+23.48	-45.47	605282.4510	553554.4688
90946	6044+35.62	-42.89	605289.8126	553564.4574
90947	6047+12.17	-32.87	605489.8397	553755.6852

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
90948	6047+06.41	-45.51	605493.9279	553742.4181
90949	6047+13.95	-49.77	605502.3950	553744.2422
90950	6047+19.43	-54.12	605509.3832	553744.6299
90951	6047+23.51	-58.26	605515.1831	553744.2522
90952	6047+41.48	-44.00	605519.1376	553766.8439
90953	6047+41.48	14.00	605480.6021	553810.1914
90954	6047+77.48	14.00	605507.5075	553834.1100
90955	6047+77.48	-43.00	605545.3786	553791.5099
90956	6047+79.10	-49.47	605550.8847	553787.7498
90957	6047+94.03	-65.62	605572.7795	553785.6007
90958	6046+96.71	-42.23	605484.5046	553738.4177

● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

PJL-08

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

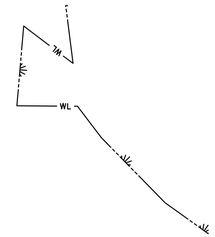
PAVEMENT JOINT LAYOUT

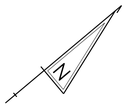
SECTION	JMT
SHEET NO.	117

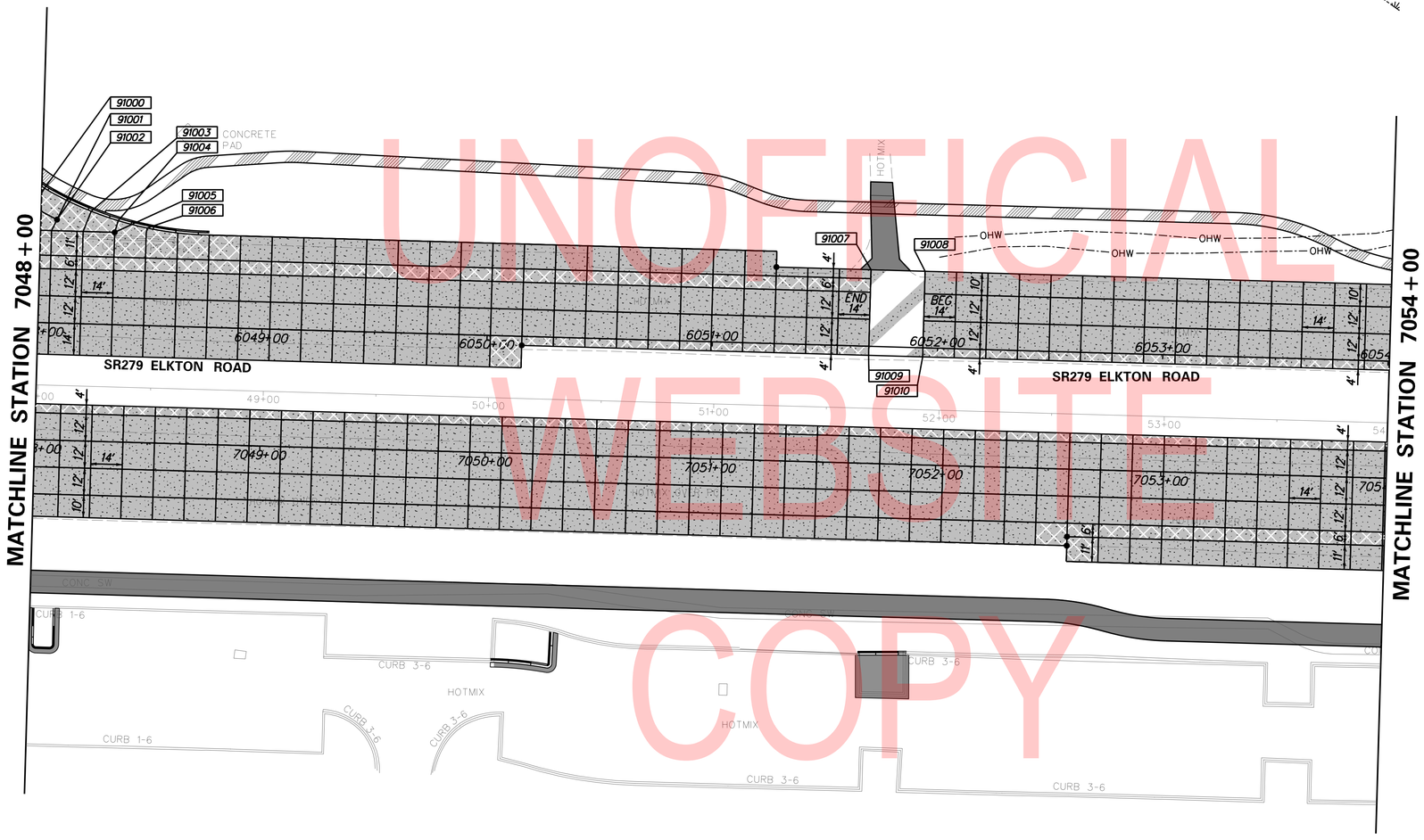
PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL08]

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
91000	6048+01.77	-59.66	605574.5988	553795.2004
91001	6048+11.73	-54.64	605578.7065	553805.5684
91002	6048+07.75	-45.95	605569.9568	553809.4171
91003	6048+22.80	-50.09	605583.9574	553816.3203
91004	6048+34.90	-46.24	605590.4510	553827.2385
91005	6048+33.48	-41.00	605585.9027	553830.2113

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
91006	6048+47.89	-43.33	605598.2226	553838.0489
91007	6051+69.48	-34.00	605832.3689	554058.6832
91008	6051+93.48	-34.00	605850.3058	554074.6289
91009	6051+69.48	4.00	605807.1215	554087.0833
91010	6051+93.48	4.00	605825.0584	554103.0291







UNOFFICIAL WEBSITE COPY

● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

PJL-09

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

PAVEMENT JOINT LAYOUT

SECTION	JMT
SHEET NO.	118

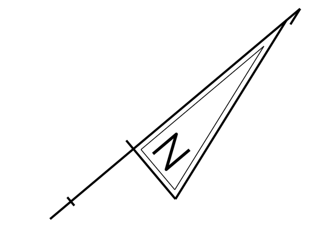
PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL09]

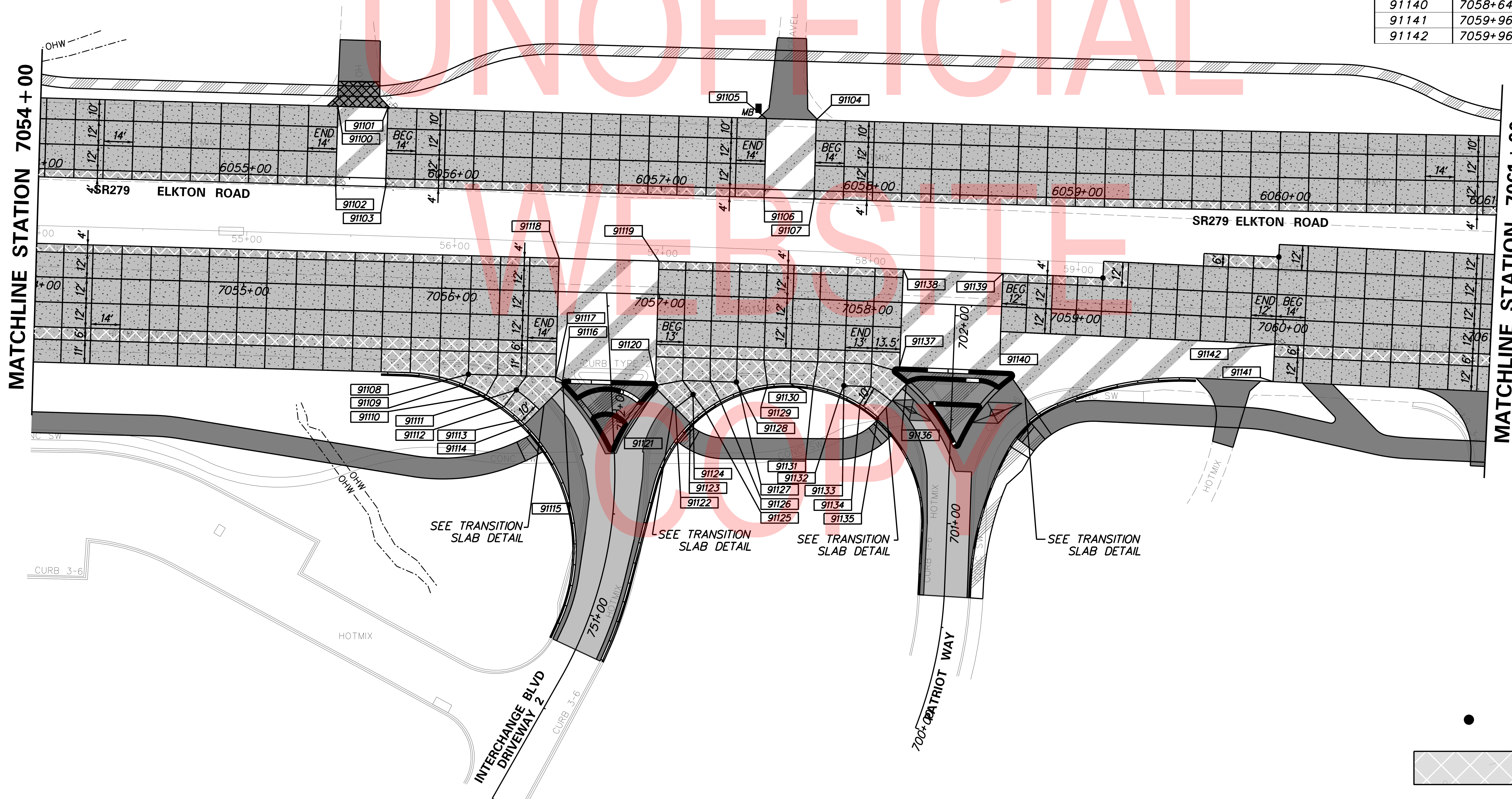
COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
91100	6055+43.48	-34.00	606111.8861	554307.1709
91101	6055+67.48	-34.00	606129.8230	554323.1166
91102	6055+43.48	4.00	606086.6387	554335.5710
91103	6055+67.48	4.00	606104.5756	554351.5167
91104	6057+73.48	-34.00	606283.7817	554459.9841
91105	6057+49.48	-34.00	606265.8448	554444.0384
91106	6057+49.48	4.00	606240.5974	554472.4385
91107	6057+73.48	4.00	606258.5343	554488.3843
91108	7056+09.20	41.00	606077.0687	554446.1473
91109	7056+07.37	46.07	606072.3339	554448.7162
91110	7056+18.05	50.78	606077.1848	554459.3391
91111	7056+32.47	47.84	606089.9123	554466.7237
91112	7056+26.79	56.07	606080.1976	554469.0951
91113	7056+34.57	62.14	606081.9774	554478.8020
91114	7056+36.95	64.32	606082.3132	554482.0104
91115	7056+54.84	45.45	606108.2186	554479.7952

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
91116	7056+54.50	42.97	606109.6112	554477.7170
91117	7056+51.20	41.00	606108.4583	554474.0523
91118	7056+51.20	-16.00	606146.3294	554431.4521
91119	7056+99.20	-16.00	606182.2033	554463.3436
91120	7056+99.20	42.17	606143.5561	554506.8168
91121	7056+99.84	45.39	606141.8938	554509.6467
91122	7057+09.20	54.41	606142.8994	554522.6077
91123	7057+16.42	61.34	606143.6730	554532.5777
91124	7057+17.44	47.67	606153.5166	554523.0305
91125	7057+23.33	55.14	606152.9205	554532.5101
91126	7057+30.67	50.17	606161.6802	554533.6533
91127	7057+40.00	45.64	606171.6269	554536.4611
91128	7057+38.16	41.04	606173.3303	554531.8093
91129	7057+53.20	41.96	606183.8741	554542.4846
91130	7057+64.17	41.00	606192.6466	554549.0689
91131	7057+75.32	41.75	606200.4029	554557.0450
91132	7057+88.54	45.14	606207.9056	554568.3783
91133	7057+90.08	41.00	606211.8190	554566.3328
91134	7057+98.18	49.60	606212.0391	554578.1176
91135	7058+06.99	55.52	606214.5632	554588.3923
91136	7058+20.15	39.10	606235.2928	554585.0330
91137	7058+16.59	31.00	606238.1154	554576.6491
91138	7058+16.59	-16.00	606269.7042	554541.8477
91139	7058+64.52	-16.01	606305.1742	554574.1878
91140	7058+64.52	11.96	606286.2765	554594.8077
91141	7059+96.47	30.00	606371.0859	554697.4470
91142	7059+96.47	12.00	606383.2845	554684.2109





● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

ADDENDA / REVISIONS	
REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO. 1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB
COUNTY	CHECKED BY: BPH
NEW CASTLE	

PAVEMENT JOINT LAYOUT

PJL-10

SECTION JMT

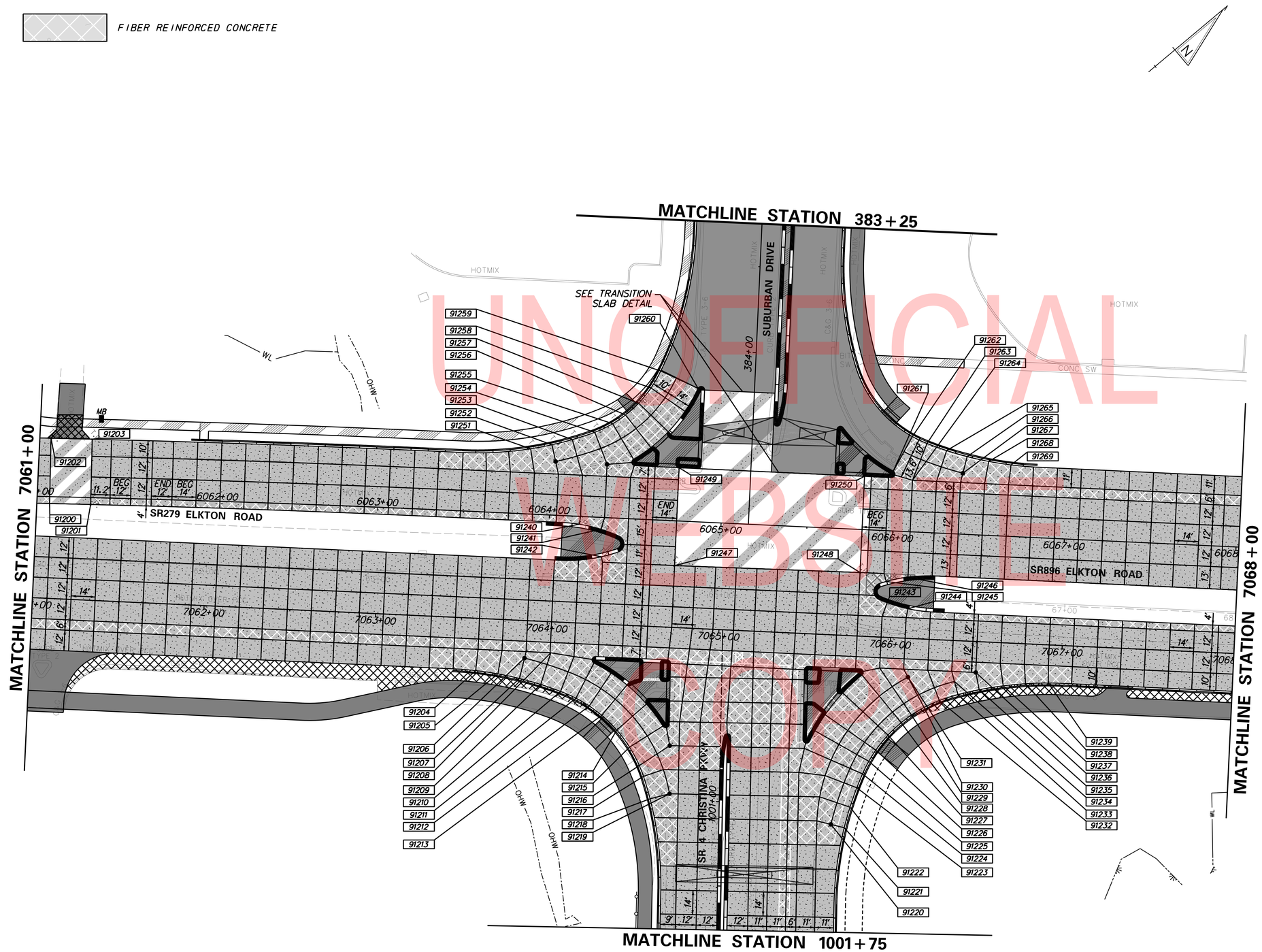
SHEET NO. 119

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL10]

UNOFFICIAL WEBSITE COPY

2" CORE HOLE (FOR SYMPATHY CRACKING)
(SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE



UNOFFICIAL WEBSITE

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
91200	6061+08.92	4.00	606510.3704	554709.9988
91201	6061+32.84	4.00	606528.3139	554725.7999
91202	6061+08.92	-34.00	606535.4498	554681.4502
91203	6061+32.84	-34.00	606553.4615	554697.3113
91204	7063+59.64	30.44	606637.8420	554943.8919
91205	7063+72.65	31.74	606646.5295	554953.6581
91206	7063+87.71	21.84	606664.3090	554956.5866
91207	7063+85.33	33.83	606654.4295	554963.7910
91208	7064+02.86	18.04	606678.0233	554964.0633
91209	7063+97.87	36.75	606661.6805	554974.4386
91210	7064+09.58	40.26	606667.9130	554984.9526
91211	7064+18.69	43.76	606672.2352	554993.7032
91212	7064+26.66	47.94	606675.2667	555002.1779
91213	7064+34.12	52.99	606677.3278	555010.9440
91214	7064+43.29	61.17	606678.5270	555023.1740
91215	7064+51.17	70.76	606677.8218	555035.5705
91216	7064+74.51	68.80	606696.3133	555049.9434
91217	1000+86.22	44.40	606673.1194	555053.8005
91218	1000+99.19	40.31	606667.6653	555066.2502
91219	1000+96.05	29.04	606678.2109	555071.3090
91220	1001+11.94	-65.24	606738.7317	555145.3274
91221	1001+13.72	-73.04	606743.4277	555151.8041
91222	1001+01.71	-76.18	606753.6980	555144.8333
91223	1000+90.34	-79.91	606763.9971	555138.7249
91224	7065+87.39	79.98	606771.7429	555134.6576
91225	7065+90.69	72.52	606779.2286	555131.4110
91226	7065+94.46	65.87	606786.5023	555129.0774
91227	7066+01.12	56.80	606797.5463	555126.9268
91228	7066+08.49	49.21	606808.1119	555126.3372
91229	7066+14.24	44.49	606815.5394	555126.7606
91230	7066+21.35	39.75	606823.9724	555128.0943
91231	7066+11.16	22.54	606828.1462	555108.5346
91232	7066+30.04	35.30	606833.3807	555130.7113
91233	7066+40.73	31.40	606843.8877	555135.0933
91234	7066+38.31	23.78	606847.2717	555127.8442
91235	7066+52.95	27.94	606855.2173	555140.8270
91236	7066+50.47	18.00	606860.1320	555131.8362
91237	7066+66.76	25.01	606867.3542	555148.0289
91238	7066+79.69	23.18	606878.1091	555155.4421
91239	7066+92.90	22.18	606888.5010	555163.6630
91240	6064+17.61	4.54	606738.8307	554917.4287
91241	6064+30.33	6.88	606746.5984	554927.7661
91242	7064+31.26	22.87	606736.4494	554940.1603
91243	7065+97.04	-20.16	606846.7018	555067.5676
91244	7066+09.34	-17.22	606853.7501	555078.0643
91245	7065+95.95	-32.49	606854.2618	555057.7611
91246	7066+08.47	-35.64	606865.5966	555063.9321
91247	6064+74.11	26.00	606765.8367	554971.4978
91248	6065+82.11	25.04	606845.9071	555043.9799
91249	6064+74.11	-31.00	606804.4654	554929.5833
91250	6065+82.11	-31.00	606883.8823	555002.7745
91251	6063+87.25	-38.00	606745.3412	554865.5687
91252	6063+99.55	-40.91	606756.3511	554871.7646
91253	6064+11.23	-44.45	606767.3393	554877.0790
91254	6064+24.11	-49.29	606780.0933	554882.2553
91255	6064+34.27	-59.79	606791.2874	554885.0922
91256	6064+41.51	-60.20	606800.2832	554886.0186
91257	6064+48.78	-67.38	606810.4921	554885.6606
91258	6064+55.57	-76.57	606821.7156	554883.5044
91259	6064+60.79	-86.73	606832.4417	554879.5795
91260	6064+82.96	-77.60	606842.5520	554901.3156
91261	6065+98.67	-34.79	606898.6265	555011.2051
91262	6066+08.86	-55.41	606920.0968	555002.9574
91263	6066+17.58	-51.80	606924.0641	555011.5168
91264	6066+10.12	-30.03	606903.8181	555022.4724
91265	6066+29.15	-48.23	606930.1447	555021.9842
91266	6066+41.29	-45.28	606937.0720	555032.3801
91267	6066+39.23	-35.49	606928.9275	555038.1824
91268	6066+53.98	-43.03	606944.8873	555042.6341
91269	6066+67.01	-41.60	606953.4904	555052.5175

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL11]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

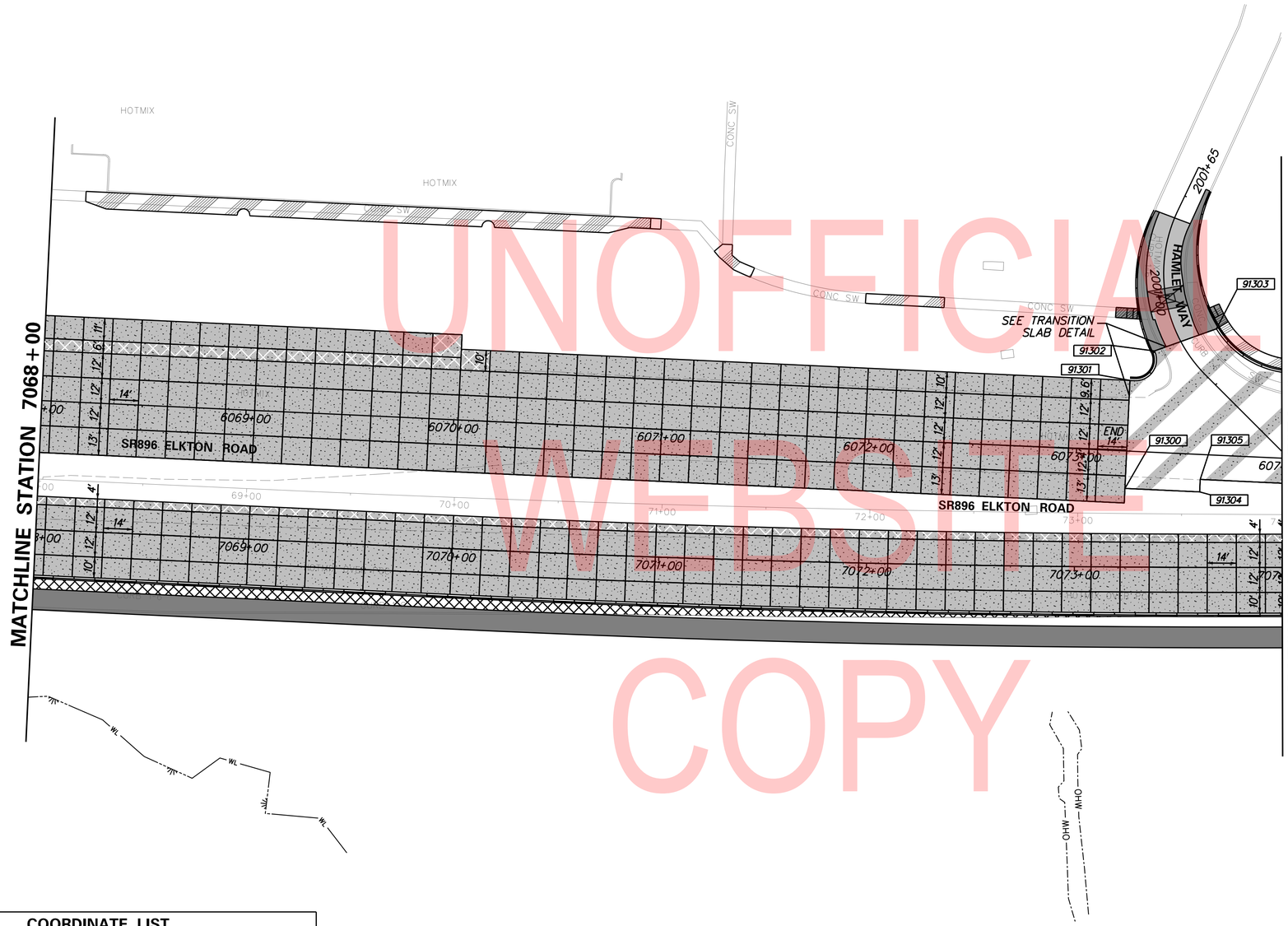
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

PAVEMENT JOINT LAYOUT

PJL-11
SECTION: JMT
SHEET NO.: 120



UNOFFICIAL WEBSITE COPY

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
91300	6073+24.11	18.00	607396.2990	555541.6568
91301	6073+24.11	-34.00	607431.5392	555503.4190
91302	6073+35.25	-48.71	607449.7021	555500.1549
91303	6073+64.53	-60.72	607479.3678	555511.1649
91304	6073+60.11	18.00	607422.7713	555566.0539
91305	6073+60.11	12.00	607426.8375	555561.6418

● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

PJL-12

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

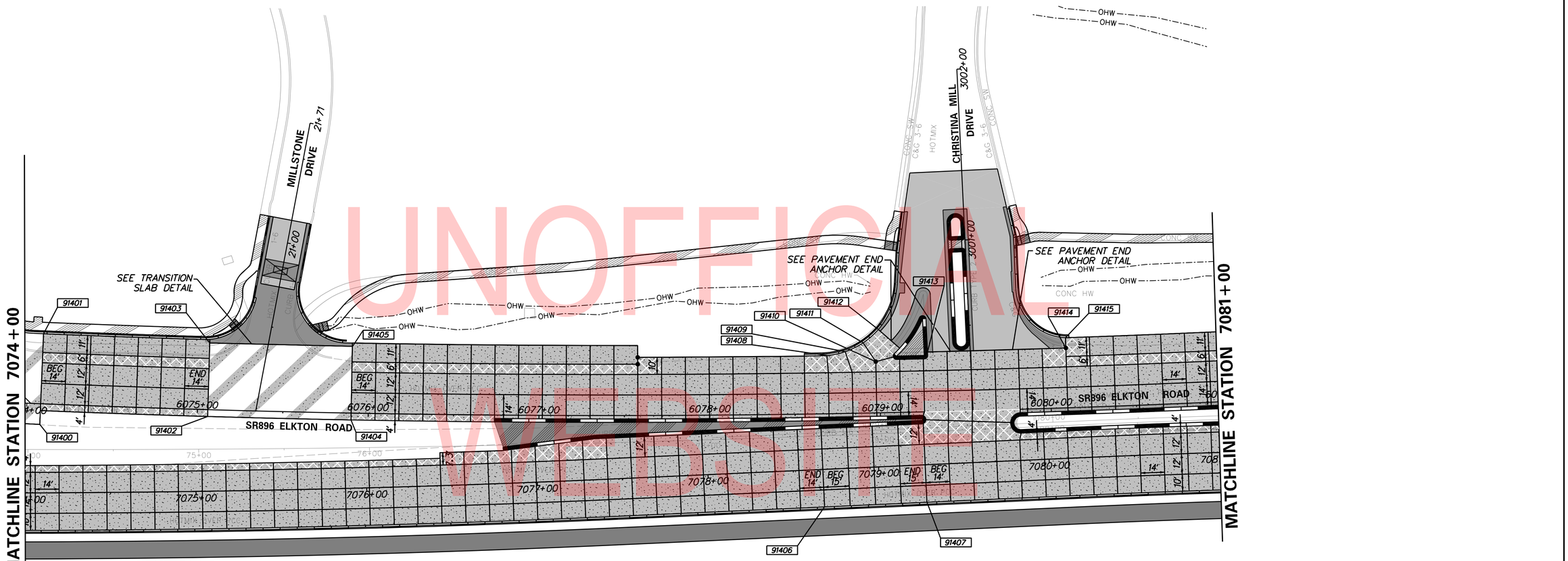
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

PAVEMENT JOINT LAYOUT

SECTION	JMT
SHEET NO.	121

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL12]



UNOFFICIAL WEBSITE COPY

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
91400	6074+08.09	12.10	607462.1647	555594.1996
91401	6074+08.09	-41.00	607497.9556	555554.9774
91402	6075+06.04	4.00	607540.4162	555653.8308
91403	6075+06.04	-39.02	607569.0203	555621.7030
91404	6075+90.00	4.00	607603.4457	555709.3574
91405	6075+90.11	-39.07	607631.8312	555676.9623
91406	7078+67.38	21.87	607783.2373	555926.5426
91407	7079+27.38	21.80	607830.9398	555962.9358
91408	6078+69.17	-34.10	607841.1738	555859.5990
91409	6078+79.95	-36.16	607850.8005	555864.7646
91410	6078+97.85	-30.00	607860.7951	555880.7537
91411	6078+90.65	-41.17	607862.2328	555867.5582
91412	6078+99.69	-48.77	607873.9985	555867.2922
91413	6079+28.40	-35.00	607887.6503	555895.9056
91414	6080+09.79	-35.00	607951.1907	555946.2005
91415	6080+09.79	-41.00	607954.8906	555941.4770

● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

PJL-13

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

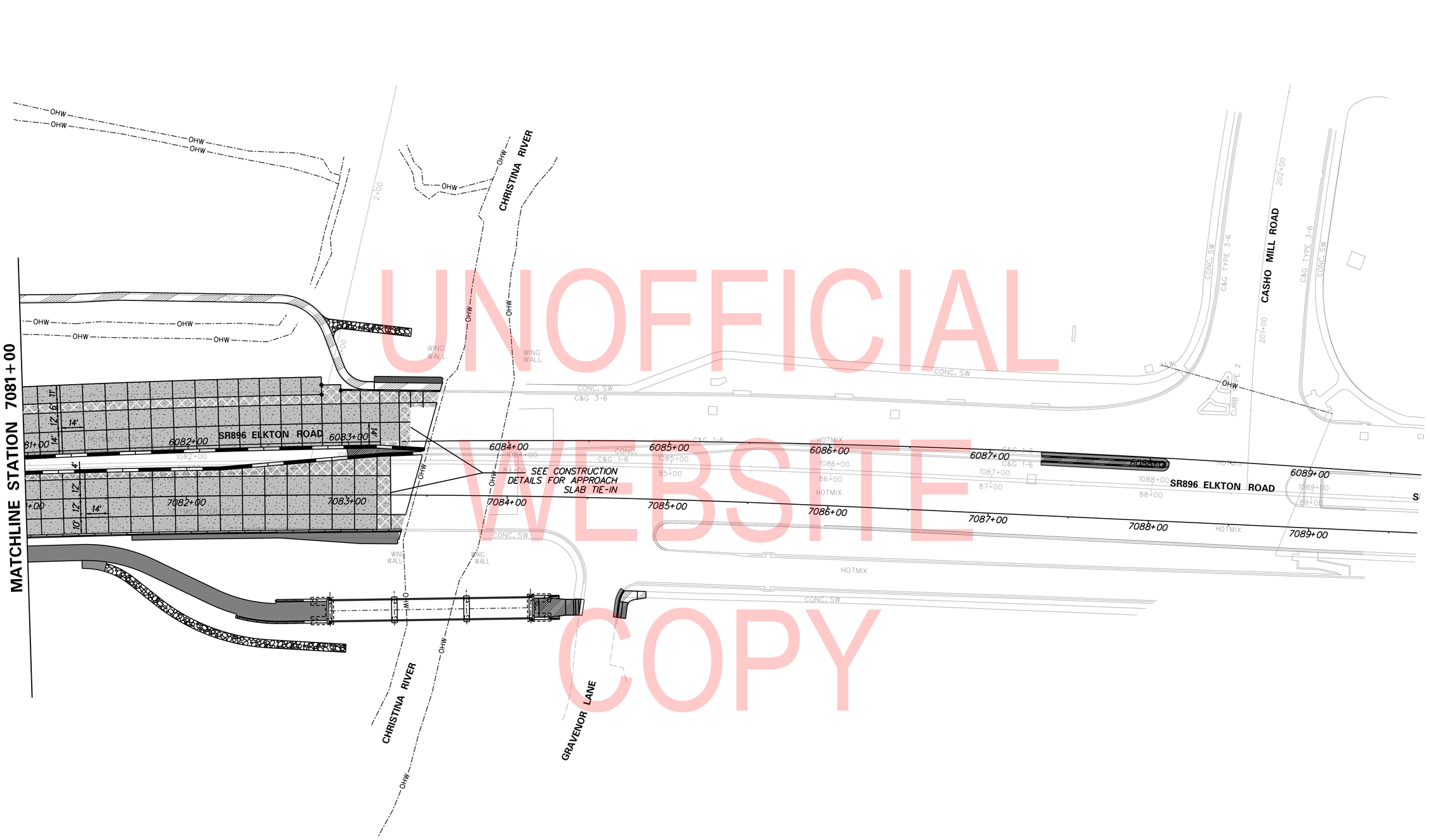
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

PAVEMENT JOINT LAYOUT

SECTION	JMT
SHEET NO.	122

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL13]



UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL14]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

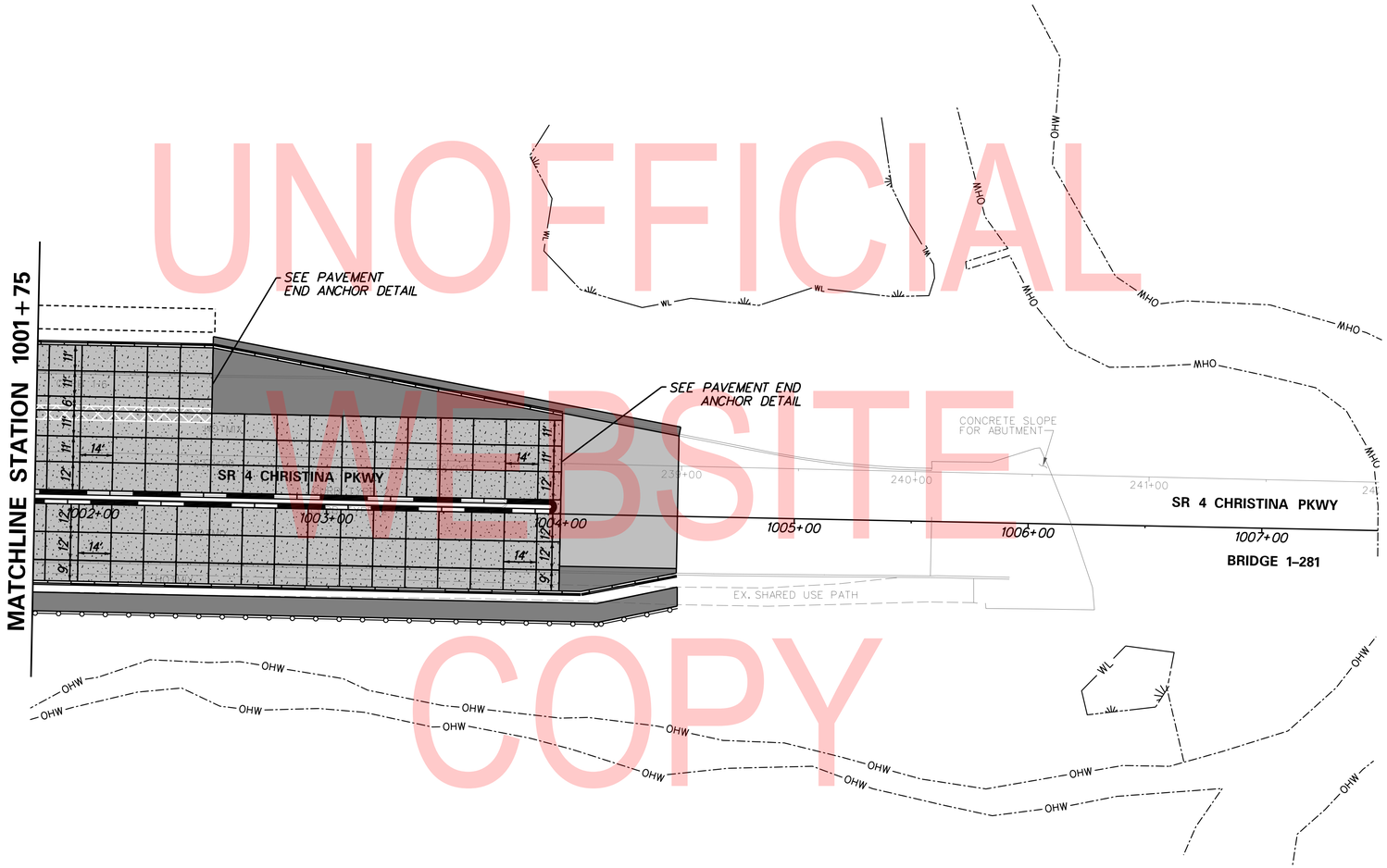
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

PAVEMENT JOINT LAYOUT

	PJL-14
SECTION	JMT
SHEET NO.	123

UNOFFICIAL WEBSITE COPY



● 2" CORE HOLE (FOR SYMPATHY CRACKING) (SEE CONSTRUCTION DETAIL DT-17)

FIBER REINFORCED CONCRETE

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PJL.DGN [SHEET: PJL15]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

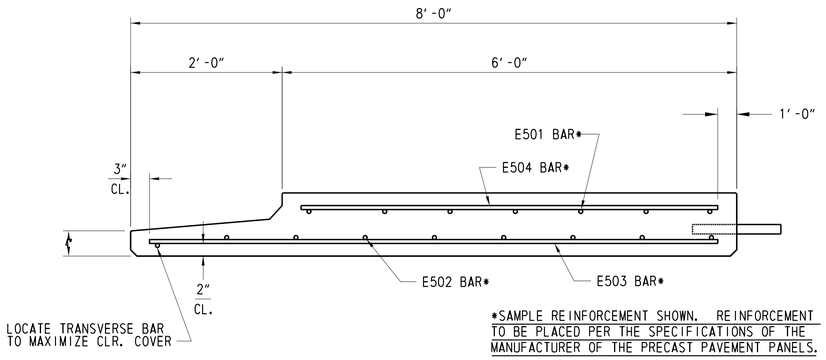
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

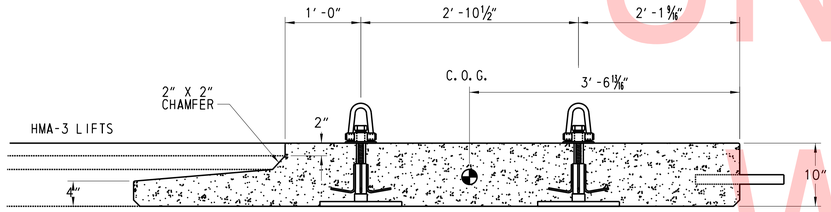
PAVEMENT JOINT LAYOUT

	PJL-15
SECTION	JMT
SHEET NO.	124



TYPICAL REINFORCEMENT SECTION

NOT TO SCALE



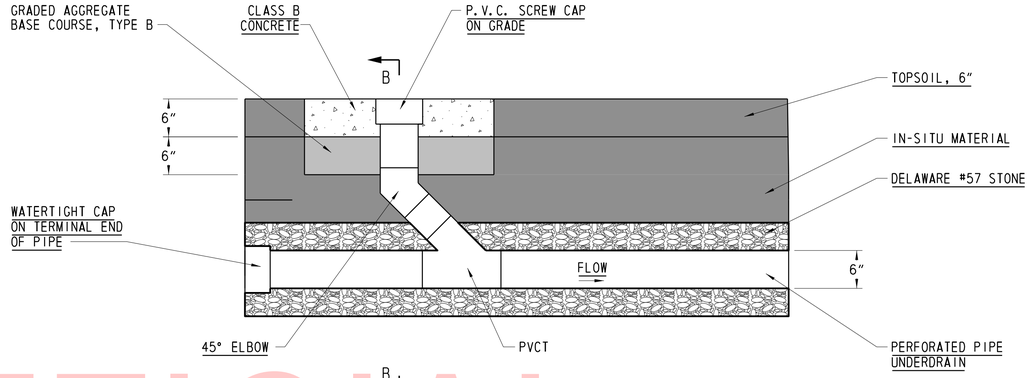
LIFTER LOCATIONS

NOT TO SCALE

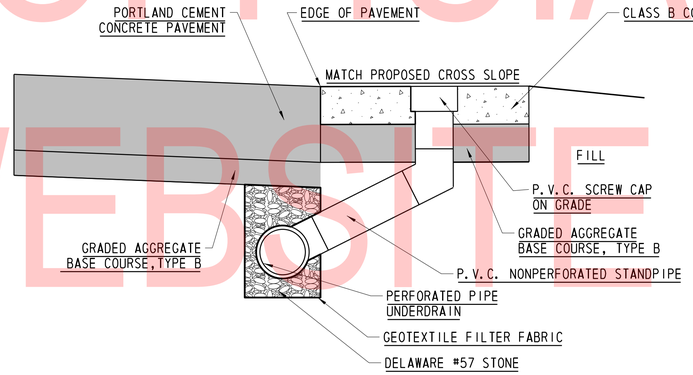
TRANSITION SLAB

NOT TO SCALE

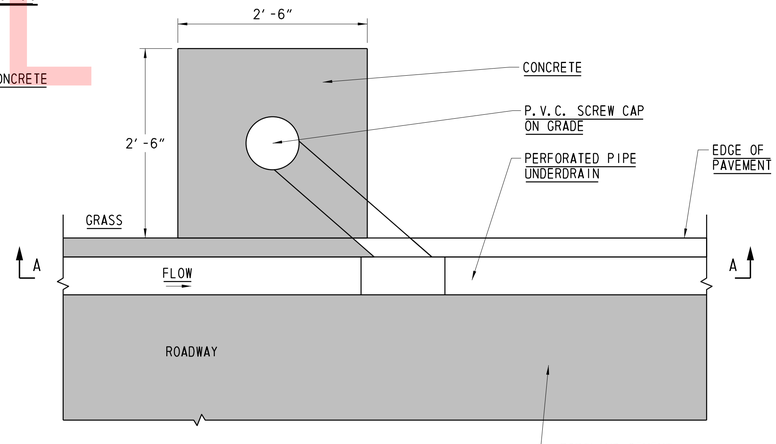
NOTE:
COSTS ASSOCIATED WITH SUPPLY AND INSTALLATION OF
TRANSITION SLABS ARE TO BE PAID UNDER ITEM 501503.



SECTION A-A



SECTION B-B



PLAN VIEW

UNDERDRAIN CLEANOUT

NOT TO SCALE

NOTE:
COSTS ASSOCIATED WITH SUPPLY AND INSTALLATION OF
UNDERDRAIN CLEANOUTS ARE TO BE PAID UNDER ITEM 709001.

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT01]

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

NOT TO SCALE

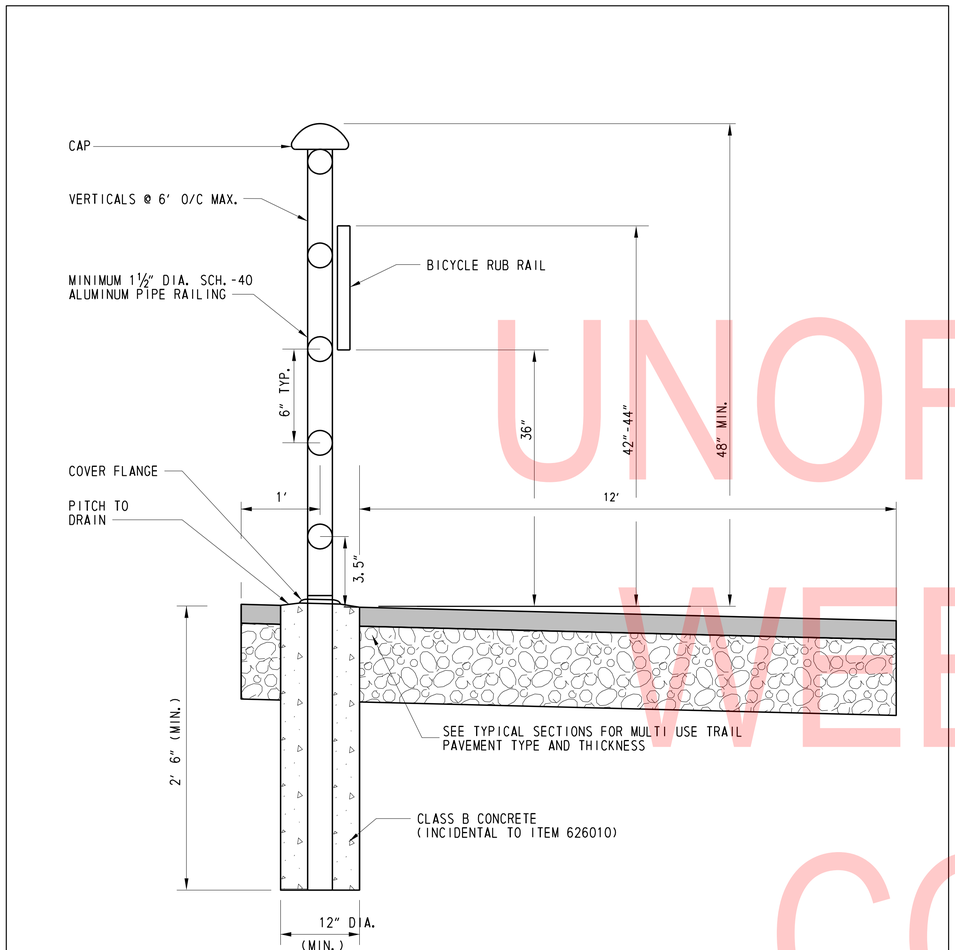
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION DETAILS

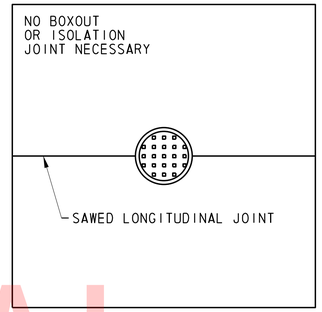
DT-01

SECTION	SHEET NO.
JMT	125



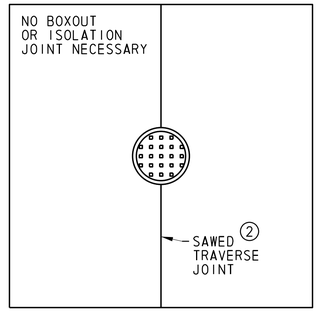
ITEM 626010 - ALUMINUM PEDESTRIAN RAILING

NOT TO SCALE



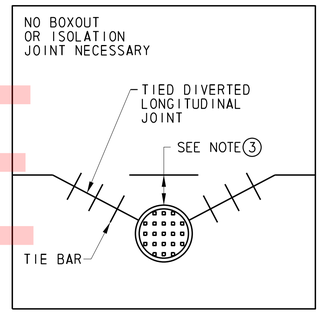
MANHOLE WITH LONGITUDINAL JOINT

NOT TO SCALE



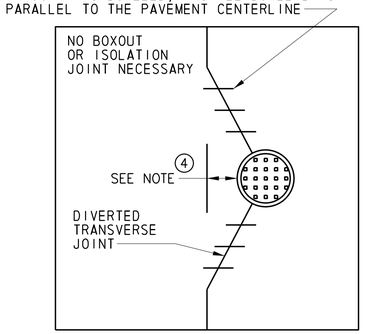
MANHOLE WITH TRANSVERSE JOINT

NOT TO SCALE



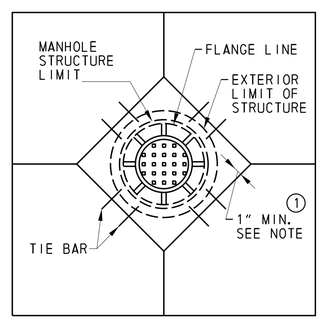
MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT

NOT TO SCALE



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

NOT TO SCALE



DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS

NOT TO SCALE

GENERAL NOTES:

1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
4. IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.
6. PAYMENT FOR ALL WORK AND MATERIALS REQUIRED TO CONSTRUCT JOINTS SHALL BE INCIDENTAL TO THE RESPECTIVE PORTLAND CEMENT CONCRETE PAVEMENT (ITEM 501006) OR PRECAST CONCRETE PAVEMENT (ITEM 501503) ITEM BEING PERFORMED.

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT02]

ADDENDA / REVISIONS		
⚠1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

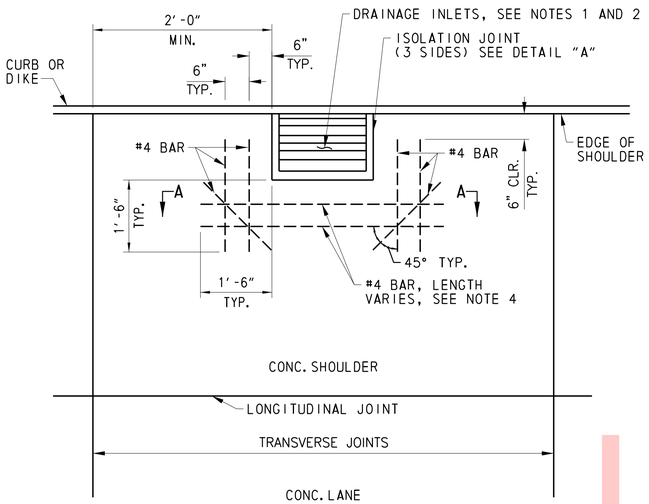
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION DETAILS

DT-02

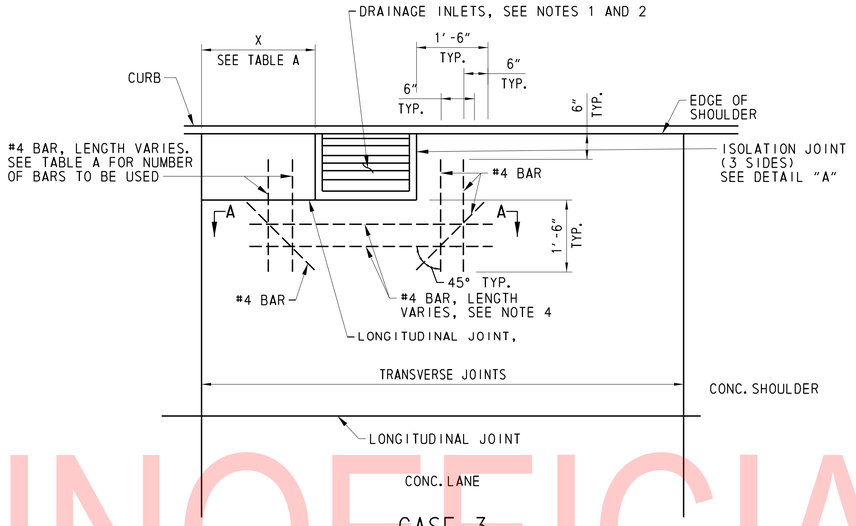
SECTION: JMT

SHEET NO.: 126



CASE 1

TRANSVERSE JOINT MORE THAN 2'-0" CLEAR OF DRAINAGE INLET WALL OR NO TRANSVERSE JOINT



CASE 3

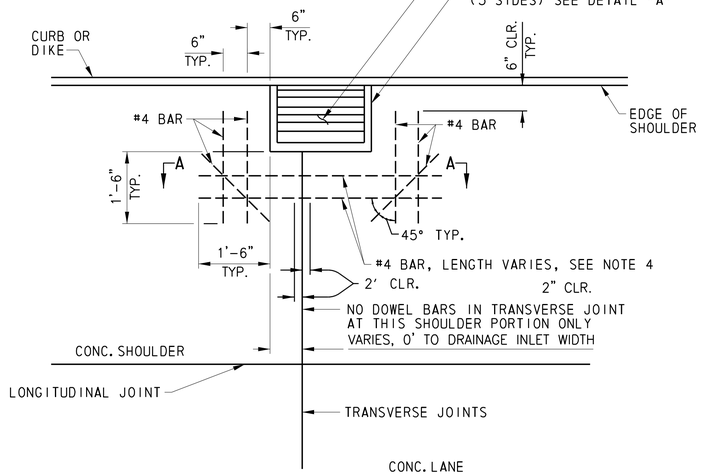
TRANSVERSE JOINT WITHIN 2'-0" OF DRAINAGE INLET WALL, OR MATCHES DRAINAGE INLET WALL.

NOTES:

1. REFER TO CONSTRUCTION PLANS FOR LOCATION AND TYPE OF DRAINAGE INLETS.
2. TOP OF INLET SHALL BE FLUSH WITH SHOULDER SURFACE.
3. THE JOINT FILLER MATERIAL SHALL EXTEND TO THE BOTTOM OF THE NEW CONCRETE PAVEMENT.
4. DOWEL AND TIE BARS NOT SHOWN.
5. PAYMENT FOR ALL WORK AND MATERIALS REQUIRED TO CONSTRUCT JOINTS SHALL BE INCIDENTAL TO THE RESPECTIVE PORTLAND CEMENT CONCRETE PAVEMENT (ITEM 501006) OR PRECAST CONCRETE PAVEMENT (ITEM 501503) ITEM BEING PERFORMED.

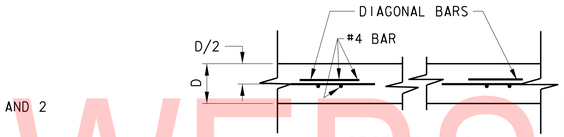
TABLE A

DISTANCE X	BARS REQUIRED
2'-0" TO 1'-6"	2
1'-6" TO 9"	1 @ X/2
9" OR LESS	NONE



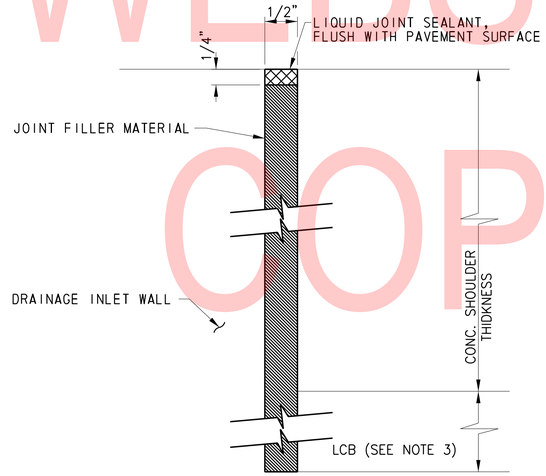
CASE 2

TRANSVERSE JOINT INTERSECTS DRAINAGE INLET, OR MATCHES DRAINAGE INLET WALL.



SECTION A-A

D = PAVEMENT THICKNESS

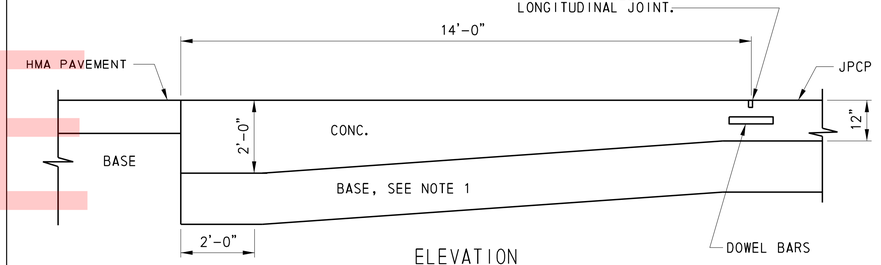


DETAIL "A"

ISOLATION JOINT AROUND DRAINAGE INLET

NOTES:

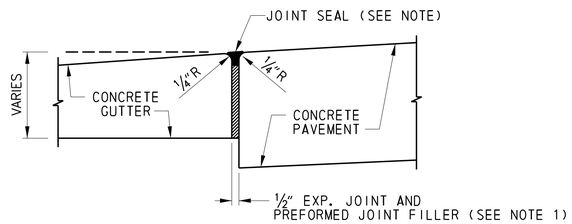
1. MAINTAIN SAME BASE THICKNESS AS CONCRETE. TRANSVERSE JOINT AT RIGHT ANGLE TO LONGITUDINAL JOINT.



ELEVATION

PAVEMENT END ANCHOR

FOR HMA PVMT



1. APPLIES TO BOTH HIGH AND LOW SIDES OF PAVEMENT, LOW SIDE SHOWN.

EXPANSION JOINT BETWEEN GUTTER AND CONCRETE PAVEMENT

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT03]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION DETAILS

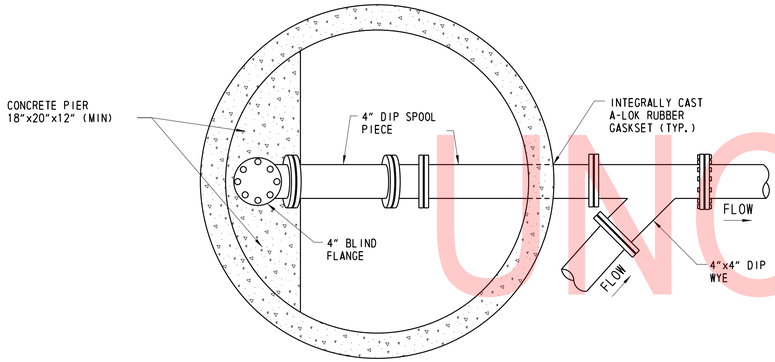
DT-03

SECTION	JMT
SHEET NO.	127

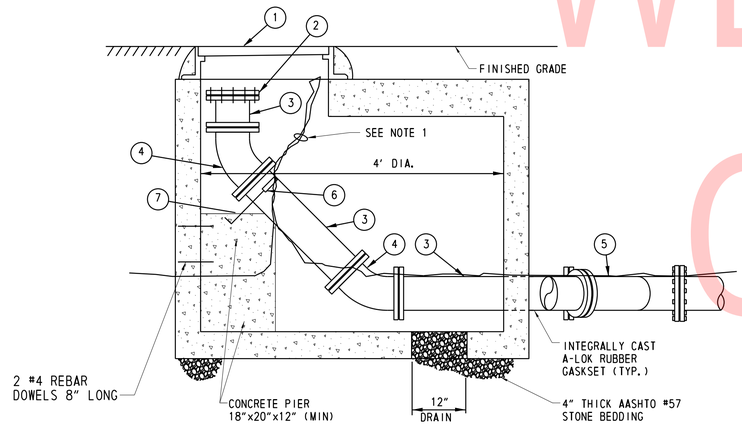
ITEM	DESCRIPTION
1	MANHOLE COVER & FRAME
2	4" BLIND FLANGE C. I.
3	4" DIP SPOOL (FJxPE) WITH FLANGE ADAPTER
4	4" EIGHTH BEND(FJxFJ)
5	4"x4" WYE (FJxFJxFJ)
6	PIPE STRAP - S.S. MIN 1" WIDE, MIN 1/8" THICK
7	J-ANCHOR - S.S., 3/8" DIA. x 10" LONG (MIN.)

NOTES

1. #12 INSULATED COPPER WIRE TO RUN ALONG ENTIRE LENGTH OF F.M. AND TO BE ACCESSIBLE TO TOP COVER.
2. ALL NUTS & BOLTS TO BE STAINLESS STEEL.
3. ALL PIPING SHALL BE DUCTILE IRON CLASS 52.
4. ALL DUCTILE IRON PIPE SHALL BE COATED WITH 2 COATS ASPHALTIC COATING.
5. SANITARY SEWER FORCEMAIN JUNCTION CHAMBER SHALL BE PAID FOR BY ITEM 711501, SANITARY SEWER SYSTEM.
6. FORCE MAIN CLEANOUT SHALL BE FOUND UPSTREAM BEND AND CONNECT TO FORCE MAIN AT WYE.



PLAN



SECTION

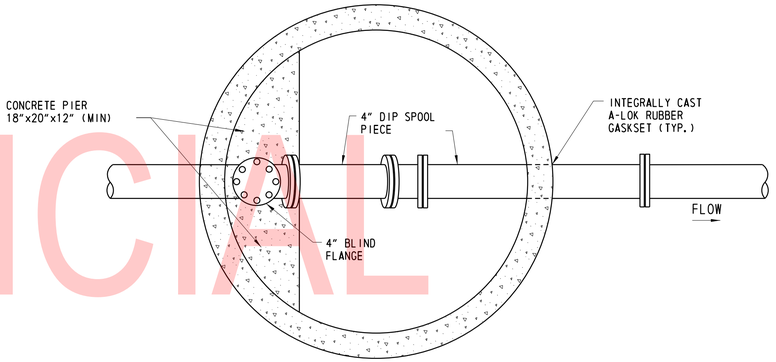
SANITARY SEWER FORCEMAIN TERMINAL CLEAN-OUT

NOT TO SCALE

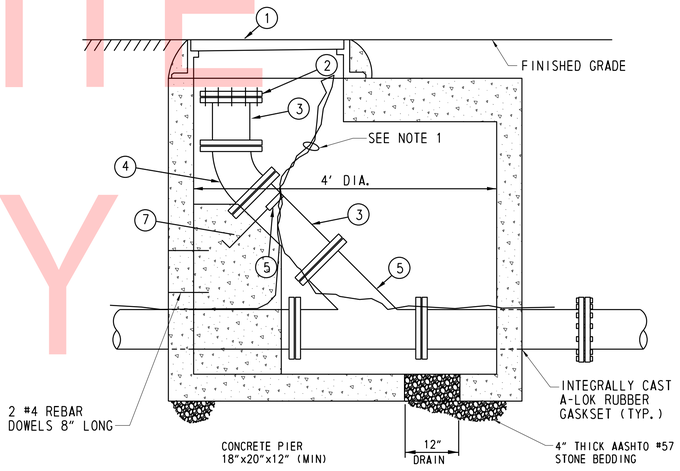
ITEM	DESCRIPTION
1	MANHOLE COVER & FRAME
2	4" BLIND FLANGE C. I.
3	4" DIP SPOOL (FJxPE) WITH FLANGE ADAPTER
4	4" EIGHTH BEND(FJxFJ)
5	4"x4" WYE (FJxFJxFJ)
6	PIPE STRAP - S.S. MIN 1" WIDE, MIN 1/8" THICK
7	J-ANCHOR - S.S., 3/8" DIA. x 10" LONG (MIN.)

NOTES

1. #12 INSULATED COPPER WIRE TO RUN ALONG ENTIRE LENGTH OF F.M. AND TO BE ACCESSIBLE TO TOP COVER.
2. ALL NUTS & BOLTS TO BE STAINLESS STEEL.
3. ALL PIPING SHALL BE DUCTILE IRON CLASS 52.
4. ALL DUCTILE IRON PIPE SHALL BE COATED WITH 2 COATS ASPHALTIC COATING.



PLAN



SECTION

SANITARY SEWER FORCEMAIN IN-LINE CLEAN-OUT

NOT TO SCALE

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT04]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION DETAILS

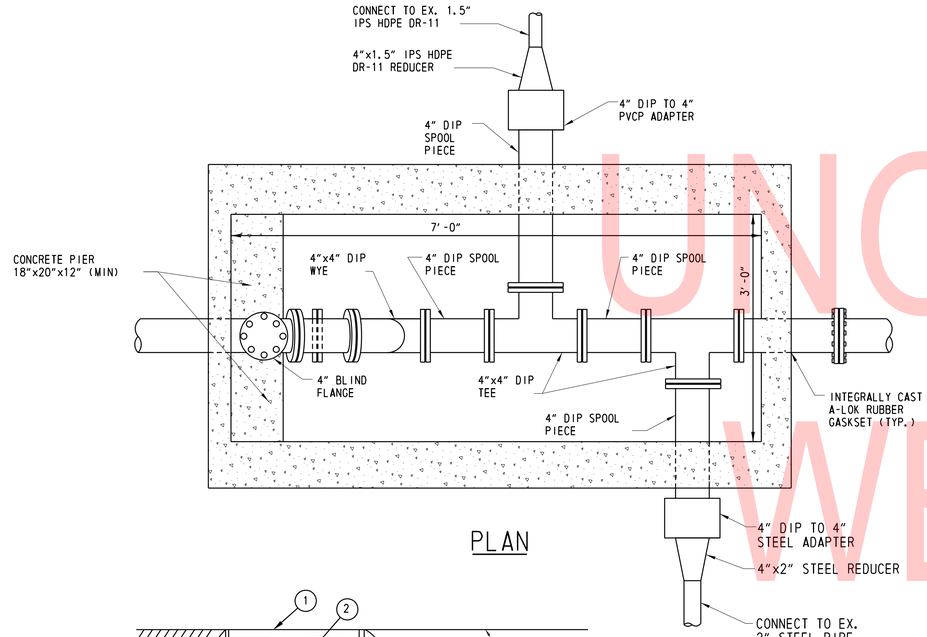
DT-04

SECTION
JMT
SHEET NO.
128

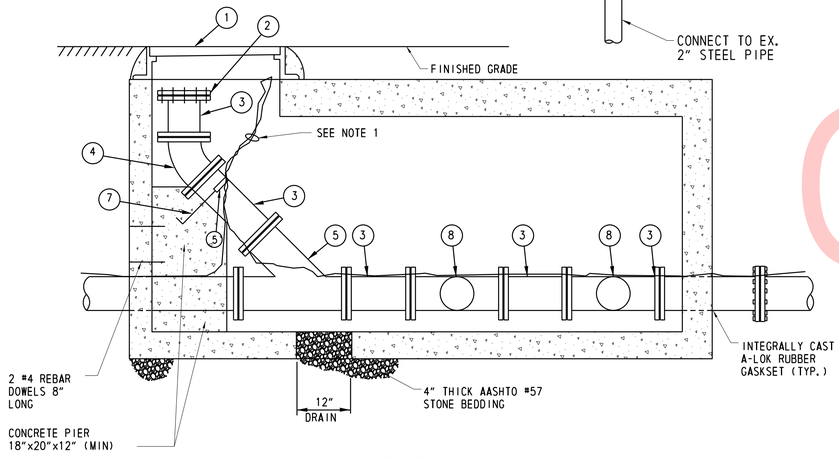
ITEM	DESCRIPTION
1	MANHOLE COVER & FRAME
2	4" BLIND FLANGE C.I.
3	4" DIP SPOOL (FJxPE) WITH FLANGE ADAPTER
4	4" EIGHTH BEND(FJxFJ)
5	4"x4" WYE (FJxFJxFJ)
6	PIPE STRAP - S.S. MIN 1" WIDE, MIN 1/8" THICK
7	J-ANCHOR - S.S., 3/8" DIA. x 10" LONG (MIN.)
8	4"x4" TEE (FJxFJxFJ)

NOTES

1. #12 INSULATED COPPER WIRE TO RUN ALONG ENTIRE LENGTH OF F.M. AND TO BE ACCESSIBLE TO TOP COVER.
2. ALL NUTS & BOLTS TO BE STAINLESS STEEL.
3. ALL PIPING SHALL BE DUCTILE IRON CLASS 52.
4. ALL DUCTILE IRON PIPE SHALL BE COATED WITH 2 COATS ASPHALTIC COATING.
5. SANITARY SEWER FORCEMAIN JUNCTION CHAMBER SHALL BE PAID FOR BY ITEM 711501, SANITARY SEWER SYSTEM.



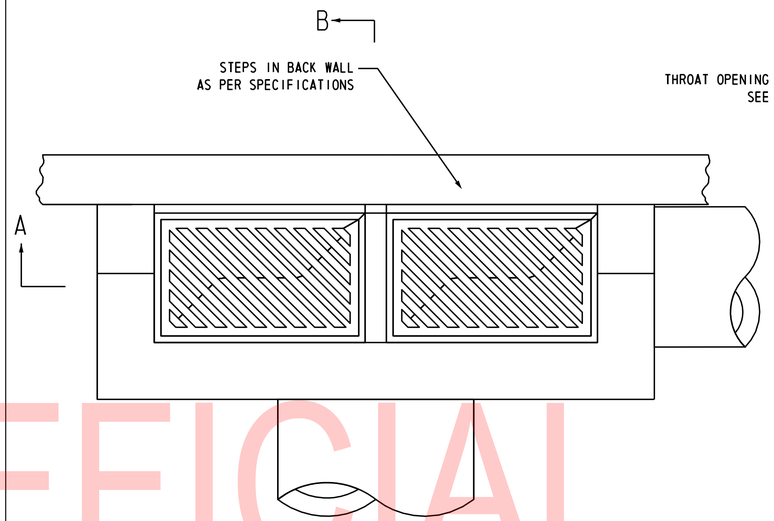
PLAN



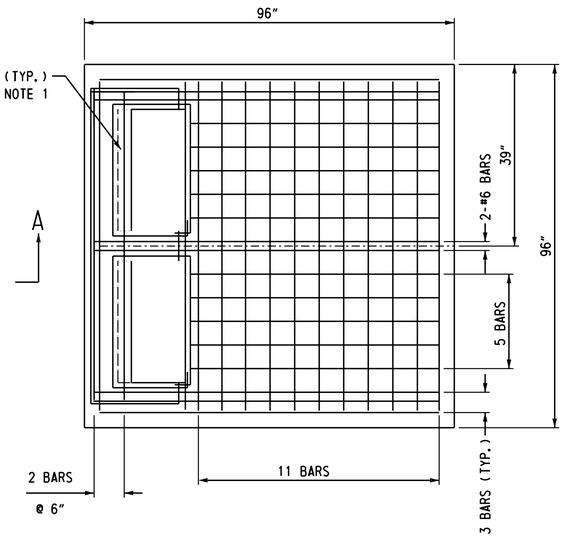
SECTION

SANITARY SEWER FORCEMAIN JUNCTION CHAMBER

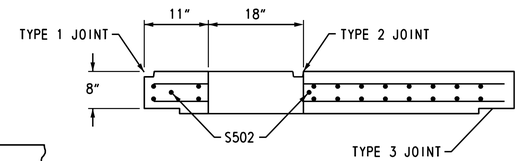
NOT TO SCALE



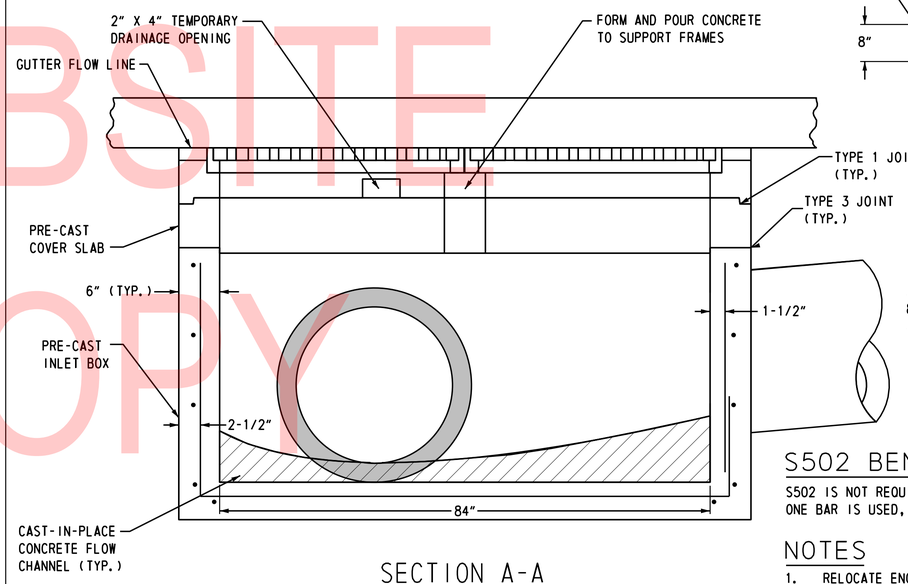
PLAN



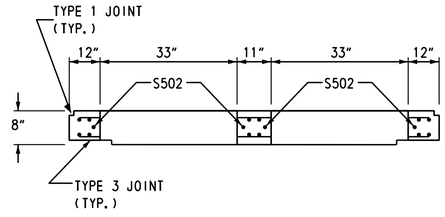
84" X 84" COVER SLAB



SECTION B-B



SECTION A-A



SECTION A-A

S502 BENDING DIAGRAM

S502 IS NOT REQUIRED TO BE ONE CONTINUOUS BAR. IF MORE THAN ONE BAR IS USED, THERE MUST BE A 12" (300) OVERLAP BETWEEN BARS.

NOTES

1. RELOCATE ENCROACHING REINFORCING BARS WHEN USING TYPE B TOP UNIT.
2. COVER SLABS ARE TO BE PRECAST AND MUST BE SIZED TO FIT INLET BOX DIMENSIONS.
3. ALL BARS ARE TO BE #5 (#16) SPACED @ 6" (150) UNLESS NOTED OTHERWISE. TOP REINFORCEMENT SHALL BE 0.11 IN (70 mm) MIN. HORIZONAL REINFORCEMENT PER FOOT IN BOTH DIRECTIONS.
4. MINIMUM BAR COVER = 1½" (38).
5. TO BE PAID UNDER ITEM NO. 602013, DRAINAGE INLET, SPECIAL.

DRAINAGE INLET, 84" X 84"

N.T.S.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT05]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

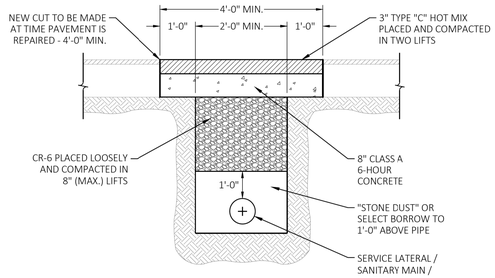
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION DETAILS

DT-05

SECTION: JMT

SHEET NO.: 129



TYPICAL CROSS SECTION

NOTES:

1. CONTRACTOR SHALL VERIFY DEPTH AND TYPE OF EXISTING PAVING COURSES. IF EXISTING SECTION IS GREATER THAN MINIMUM SPECIFICATION, MATCH EXISTING SECTION. PAVING SECTION SUBJECT TO APPROVAL BY CITY OF NEWARK PUBLIC WORKS DEPARTMENT.
2. THIS DETAIL SHALL BE USED FOR ALL TRENCHES THAT ARE PERPENDICULAR TO THE ROADWAYS FOR SERVICE LATERALS, WATER MAINS, AND FIRE HYDRANTS.
3. THIS DETAIL SHALL BE USED FOR ALL TRENCHES IN INTERSECTIONS OF CITY OWNED STREETS THAT ARE LOCATED IN THE ENTIRE RADIUS OF THE CURB AT THE INTERSECTION.

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UTILITY TRENCH ROAD CROSSING DETAIL

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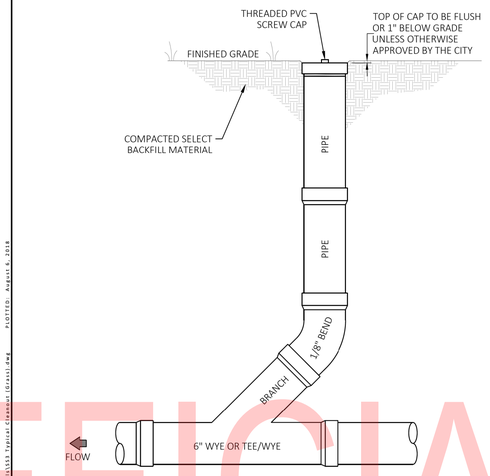
DATE: NOVEMBER 2018
SCALE: NOT TO SCALE
DRAWN BY: MWF
APPROVED BY: PWWR
SHEET: **U8**



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TYPICAL CLEANOUT (GRASS)

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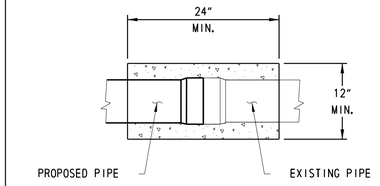
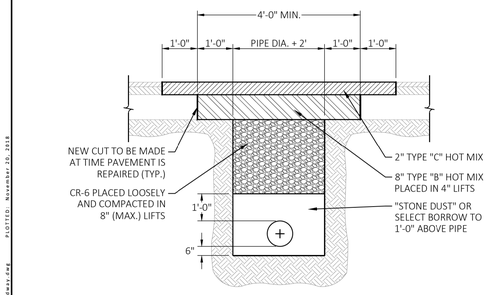
DATE: AUGUST 2018
SCALE: NOT TO SCALE
DRAWN BY: MWF
APPROVED BY: PWWR
SHEET: **SS3**



EXPANSION/ CONTRACTION ANCHOR

NOT TO SCALE



TYPICAL CROSS SECTION

NOTES:

1. CONTRACTOR SHALL VERIFY DEPTH AND TYPE OF EXISTING PAVING COURSES AND PROVIDE AN ADDITIONAL INCH DEPTH FOR EACH COURSE. PAVING SECTION SUBJECT TO APPROVAL BY CITY OF NEWARK PUBLIC WORKS AND WATER RESOURCES DEPARTMENT.
2. THE USE OF EXCAVATED DIRT TO 1'-0" ABOVE THE PROPOSED WATER MAIN SHALL BE SUBJECT TO THE APPROVAL OF THE INSPECTOR.

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LONGITUDINAL TRENCH DETAIL FOR CITY ROADWAY

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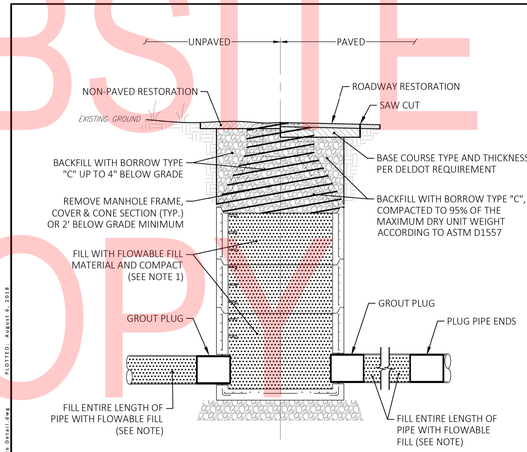
DATE: NOVEMBER 2018
SCALE: NOT TO SCALE
DRAWN BY: MWF
APPROVED BY: PWWR
SHEET: **U9**



TYPICAL CROSS SECTION

NOTE:

1. FLOWABLE FILL SHALL BE AS DEFINED BY THE AMERICAN CONCRETE INSTITUTE (ACI) AS A SELF COMPACTING CEMENTITIOUS MATERIAL THAT IS IN A FLOWABLE STATE AT PLACEMENT AND HAS A COMPRESSIVE STRENGTH OF 8.3 MPa (1,200 lb/in^2) OR MORE AT 28 DAYS.

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ABANDONED MANHOLE DETAIL

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ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST CITY OF NEWARK STANDARDS AND SPECIFICATIONS AND IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND THE RULES AND REGULATIONS THERETO.

DATE: AUGUST 2018
SCALE: NOT TO SCALE
DRAWN BY: MWF
APPROVED BY: PWWR
SHEET: **U7**

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

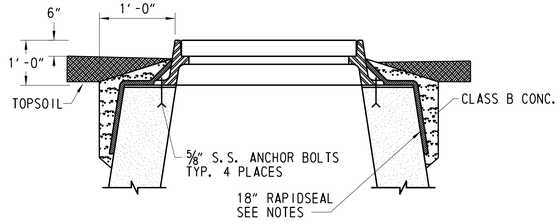
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION DETAILS

	DT-06
SECTION	JMT
SHEET NO.	130

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NJDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT06]

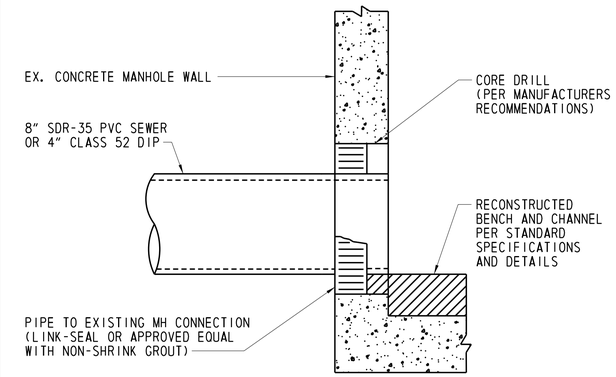


NOTES

1. ADJUSTMENT & REPAIR OF EXISTING SANITARY MANHOLES SHALL BE PAID FOR BY ITEM 711500,ADJUST AND REPAIR EXISTING SANITARY MANHOLE.
2. FOR NEW AND ADJUSTED SANITARY MANHOLES, CONTRACTOR SHALL SUPPLY 18" RAPIDSEAL, COST SHALL BE INCIDENTAL TO WORK BEING PERFORMED.

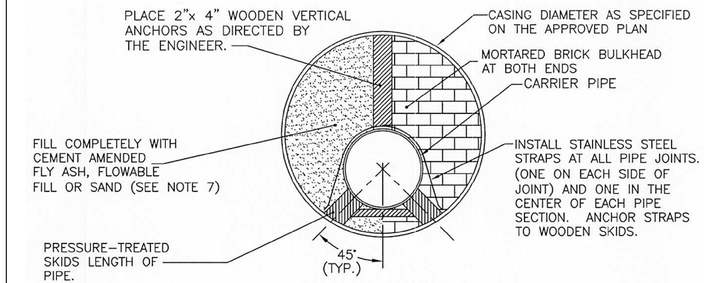
CONCRETE SANITARY MANHOLE COLLAR FOR UNPAVED AREAS

NOT TO SCALE

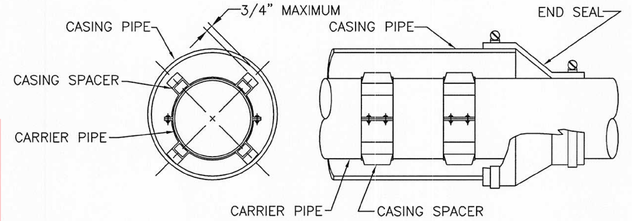


PIPE TO EXISTING MANHOLE CONNECTION DETAIL

NOT TO SCALE



TYPICAL CROSS SECTION



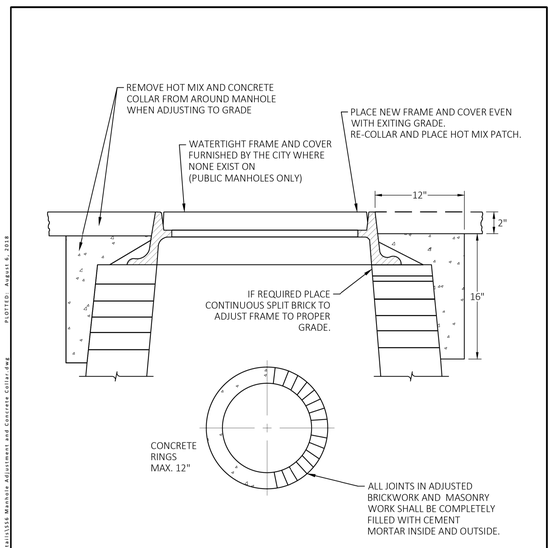
ALTERNATE METHOD

NOTES

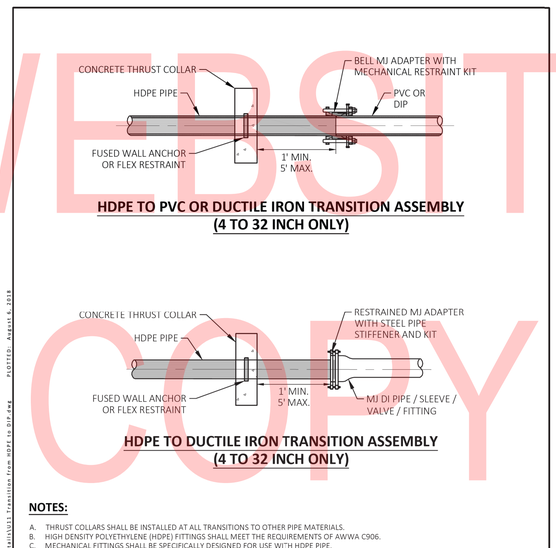
1. CASING SPACERS MAY BE USED IN LIEU OF SKIDS AND FILLING CEMENT-AMENDED FLY ASH. SPACER MUST REACH TO WITHIN 3/4" OF TOP OF SLEEVE.
2. CASING SPACERS AND END SEALS SHALL BE AS MANUFACTURED BY ADVANCE PRODUCTS AND SYSTEMS INC. OR APPROVED EQUAL.
3. INSTALL CASING SPACERS PER MANUFACTURER'S RECOMMENDATIONS.
4. STEEL CASING PIPE SHALL HAVE A MINIMUM OF 4 FT. BELOW FINAL GRADE OR STREAM BED ELEVATION. THE DIAMETER OF THE CASING PIPE SHALL BE AT LEAST 4" GREATER THAN THE CARRIER PIPE.
5. FLOWABLE FILL SHALL BE DEFINED BY THE AMERICAN CONCRETE INSTITUTE (ACI) AS A SELF COMPACTING CEMENTITIOUS MATERIAL THAT IS IN A FLOWABLE STATE AT PLACEMENT AND HAS A COMPRESSIVE STRENGTH OF 8.3 MPa (1,200 lb/in^2) OR MORE AT 28 DAYS.

JACK AND BORE PIPE CASING DETAIL

NOT TO SCALE



CITY OF NEWARK PUBLIC WORKS AND WATER RESOURCES DEPARTMENT 220 SOUTH MAIN STREET NEWARK, DELAWARE 19711 (302) 366-7000 www.newarkde.gov @CityofNewarkDE	MANHOLE ADJUSTMENT AND CONCRETE COLLAR	THIS DRAWING AND THE DESIGN SHOWN ARE THE EXCLUSIVE PROPERTY OF THE CITY OF NEWARK AND SHALL NOT BE ALTERED OR REPRODUCED EXCEPT WITHOUT EXPRESS WRITTEN PERMISSION. ANY ALTERATION, REPRODUCTION OR ADAPTATION BY THE CITY OF NEWARK OR BY OTHERS SHALL BE AT THE USER'S OR AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO THE CITY OF NEWARK. ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH CURRENT CITY OF NEWARK STANDARDS AND SPECIFICATIONS AND IN COMPLIANCE WITH STATE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1972 AND THE REGULATIONS THEREUNDER.	DATE: AUGUST 2018 SCALE: NOT TO SCALE DRAWN BY: MWF APPROVED BY: PWWR SHEET: SS6



HDPE TO PVC OR DUCTILE IRON TRANSITION ASSEMBLY (4 TO 32 INCH ONLY)

HDPE TO DUCTILE IRON TRANSITION ASSEMBLY (4 TO 32 INCH ONLY)

NOTES:

A. THRUST COLLARS SHALL BE INSTALLED AT ALL TRANSITIONS TO OTHER PIPE MATERIALS.
B. HIGH DENSITY POLYETHYLENE (HDPE) FITTINGS SHALL MEET THE REQUIREMENTS OF AWWA C906.
C. MECHANICAL FITTINGS SHALL BE SPECIFICALLY DESIGNED FOR USE WITH HDPE PIPE.
D. INSTALL STAINLESS STEEL INTERNAL STIFFENER IN THE END OF THE HDPE PIPE WHEN HDPE PIPE IS INSERTED INTO THE BELL END OF NON-HDPE PIPE, VALVE, FITTING, OR INTO THE HUB OF A MECHANICAL COUPLING.
E. INTERNAL STIFFENER CAN BE WEDGE TYPE OR SOLID BODY. STIFFENER WILL BE RATED FOR DR AND ID OF PIPE. FOR WATER, 304 OR 316 STAINLESS STEEL IS ALLOWED. FOR WASTEWATER, 316 SS IS REQUIRED.
F. MECHANICAL JOINT ADAPTERS SHALL BE PE4710 AND CAN BE MADE TO ASTM D 3261. IF MACHINED, ADAPTERS MUST MEET THE REQUIREMENTS OF ASTM F 2206. ADAPTERS SHALL HAVE A PRESSURE RATING EQUAL TO THE PIPE.
G. EXTERNAL RESTRAINT DEVICES ARE NOT ALLOWED.

CITY OF NEWARK PUBLIC WORKS AND WATER RESOURCES DEPARTMENT 220 SOUTH MAIN STREET NEWARK, DELAWARE 19711 (302) 366-7000 www.newarkde.gov @CityofNewarkDE	TRANSITION FROM HDPE TO DIP	THIS DRAWING AND THE DESIGN SHOWN ARE THE EXCLUSIVE PROPERTY OF THE CITY OF NEWARK AND SHALL NOT BE ALTERED OR REPRODUCED EXCEPT WITHOUT EXPRESS WRITTEN PERMISSION. ANY ALTERATION, REPRODUCTION OR ADAPTATION BY THE CITY OF NEWARK OR BY OTHERS SHALL BE AT THE USER'S OR AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO THE CITY OF NEWARK. ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH CURRENT CITY OF NEWARK STANDARDS AND SPECIFICATIONS AND IN COMPLIANCE WITH STATE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1972 AND THE REGULATIONS THEREUNDER.	DATE: AUGUST 2018 SCALE: NOT TO SCALE DRAWN BY: MWF APPROVED BY: PWWR SHEET: U11

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT07]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

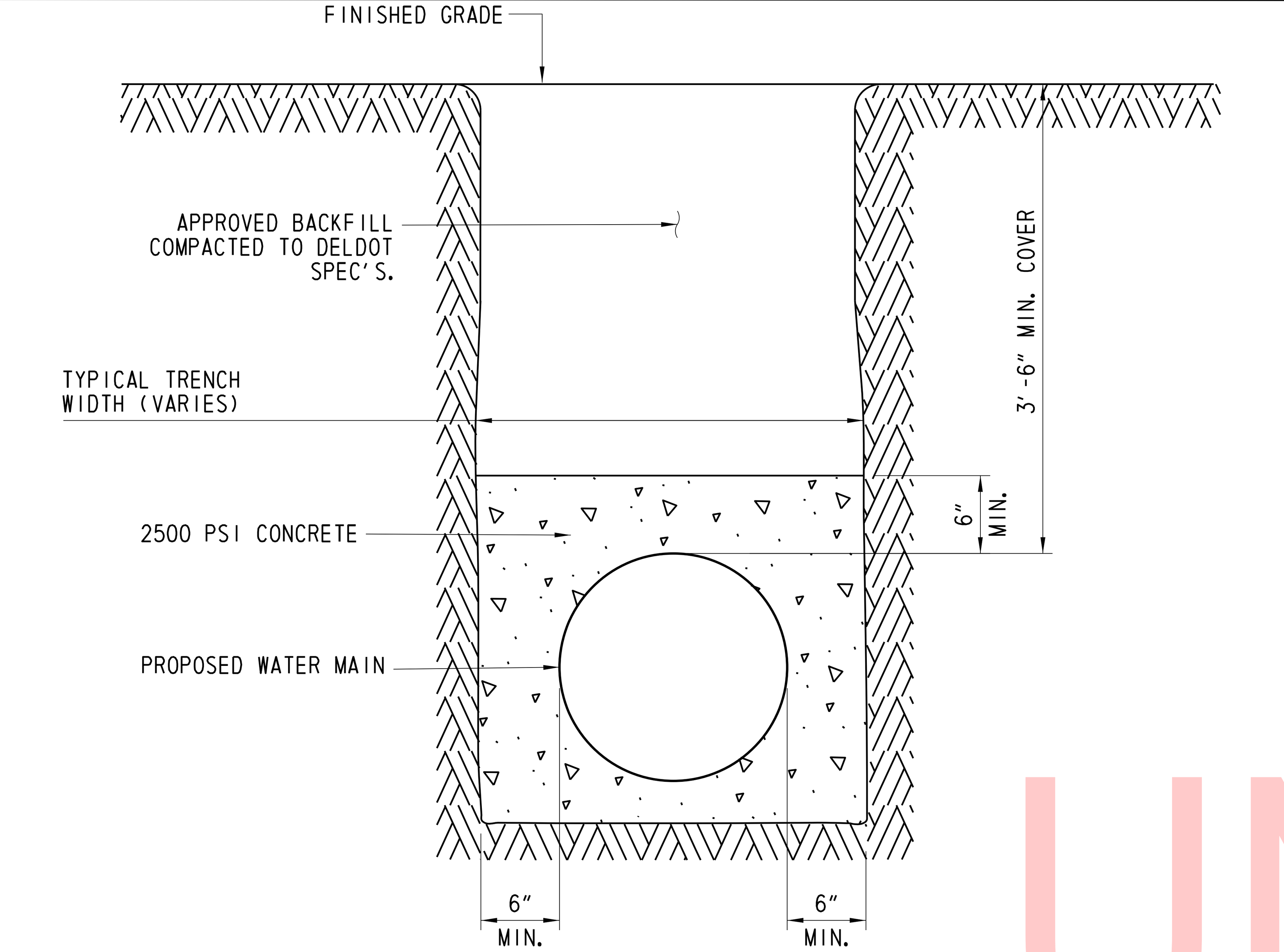
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION DETAILS

DT-07

SECTION JMT

SHEET NO. 131

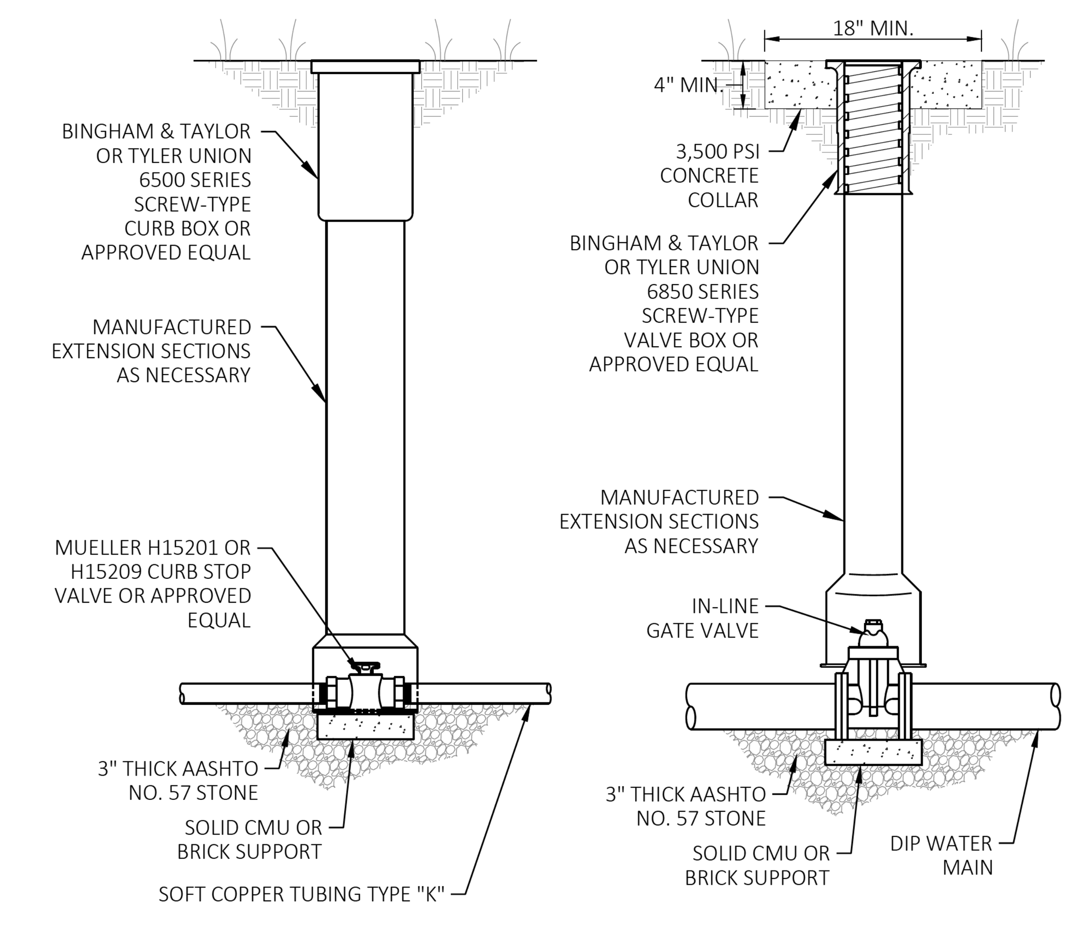


WATER MAIN CONCRETE ENCASEMENT DETAIL

NOT TO SCALE

NOTES

CONCRETE ENCASEMENT OF EXISTING SANITARY SEWERS LOCATED BENEATH PROPOSED WATER MAIN SHALL EXTEND 10 LINEAR FEET (MIN.) ON BOTH SIDES OF UTILITY CROSSING



CURB BOX
NOT TO SCALE

VALVE BOX
NOT TO SCALE

NOTES:

1. ONLY MANUFACTURED VALVE BOX EXTENSIONS SHALL BE ALLOWED.
2. VALVE OPERATING NUT MUST BE EXTENDED SO THAT THE DEPTH IS NO GREATER THAN 4' FROM THE SURFACE USING A MANUFACTURER APPROVED STAINLESS STEEL EXTENSION KIT.
3. CURB BOX AND VALVE BOX LID SHALL BE CAST IRON WITH THE WORD "WATER" OR "FIRE" CAST INTEGRALLY ON TOP ACCORDINGLY.
4. VALVE BOX LOCATED OUTSIDE OF PAVEMENT OR CONCRETE SIDEWALK SHALL HAVE A CONCRETE COLLAR INSTALLED AS SHOWN UNLESS OTHERWISE DIRECTED BY THE PUBLIC WORKS AND WATER RESOURCES DEPARTMENT.
5. VALVE SHALL BE MUELLER A-2362 OR APPROVED EQUAL.

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STANDARD INSTALLATION CURB BOX AND VALVE BOX

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DATE: OCTOBER 2018
SCALE: NOT TO SCALE
DRAWN BY: MWF
APPROVED BY: PWWR
SHEET: W4

VERTICAL BENDS

SIZE		BEND ••••••	22 ½••	11 ¼••
6"	A	6"	6"	6"
	B	1'-5"	11"	6"
	C	6"	8"4"	6"
8"	A	6"	6"	6"
	B	1'-10"	1'-2"	6"
	C	8"	6"	6"
12"	A	6"	6"	6"
	B	2'-10"	1'-10"	1'-2"
	C	11"	8"	7"

HORIZONTAL BENDS

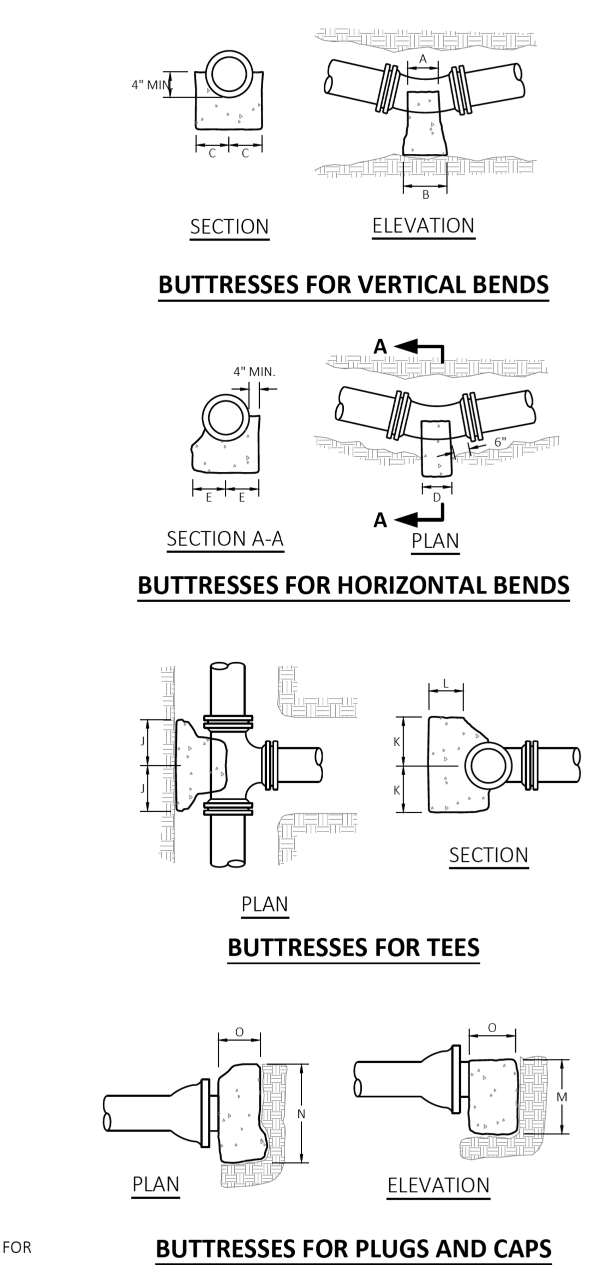
BEND		SIZE 6"	8"	12"
••••••	D	1'-5"	1'-10"	3'-10"
	E	6"	8"	12"
22 ½••	D	11"	1'-2"	1'-10"
	E	4"	6"	9"
11 ¼••	D	11"	12"	1'-2"
	E	4"	6"	7"

TEES

	SIZE 6"	8"	12"
J	6"	8"	1'-1"
K	10"	1'-1"	1'-7"
L	8"	8"	1'-10"

PLUG OR CAP

	SIZE 6"	8"	12"
M	1'-1"	1'-5"	2'-1"
N	1'-7"	2'-2"	3'-2"
O	7"	9"	1'-1"



NOTES:

1. ALL FITTINGS MUST BE WRAPPED WITH PLASTIC BEFORE CONCRETE BUTTRESS IS POURED.
2. ALL BOLTS TO BE FREE FROM CONCRETE AND ACCESSIBLE FOR FUTURE REPAIRS.

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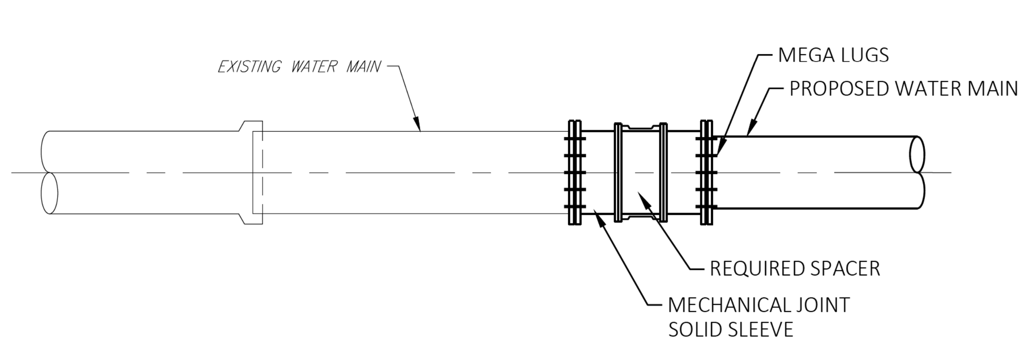
STANDARD BUTTRESS FOR PIPE FITTINGS

DATE: AUGUST 2018
SCALE: NOT TO SCALE
DRAWN BY: MWF
APPROVED BY: PWWR
SHEET: U1



PLAN VIEW DETAIL

NOTES:

1. ALL JOINTS NOT SUBJECTED TO HYDROSTATIC TEST SHALL BE OBSERVED UNDER LINE PRESSURE TO ASSURE WATER TIGHT FIT.

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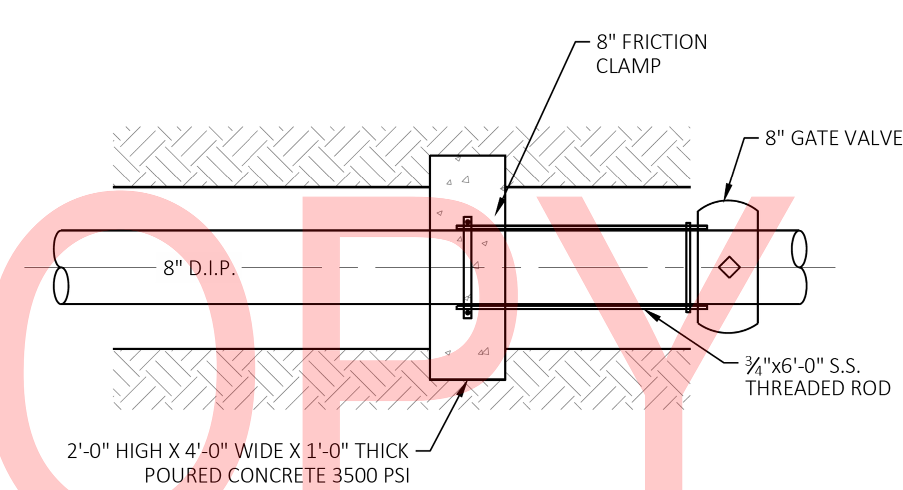
CONNECTION TO EXISTING WATER MAIN

DATE: AUGUST 2018
SCALE: NOT TO SCALE
DRAWN BY: MWF
APPROVED BY: PWWR
SHEET: W9



PLAN VIEW DETAIL

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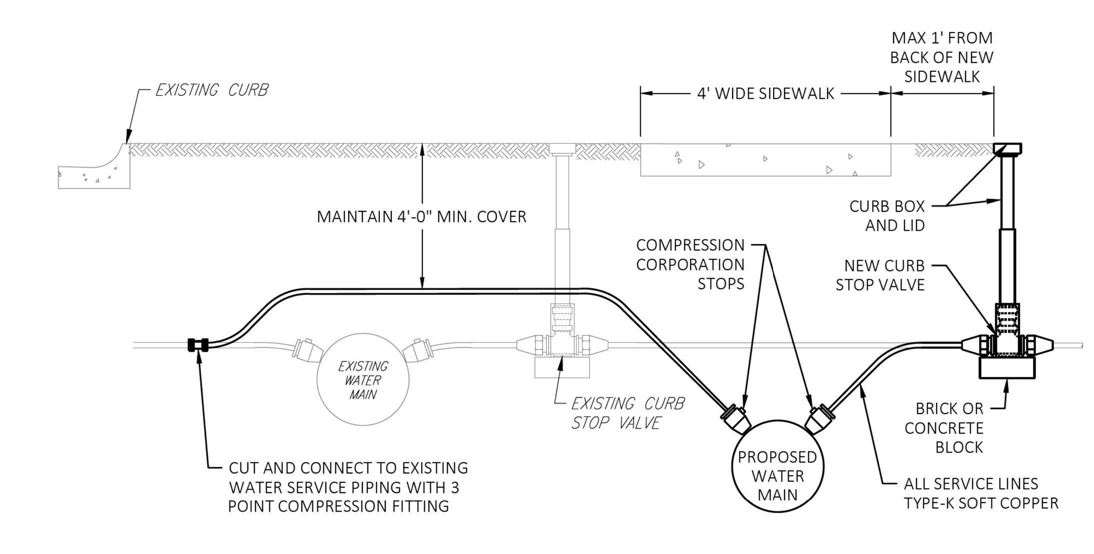
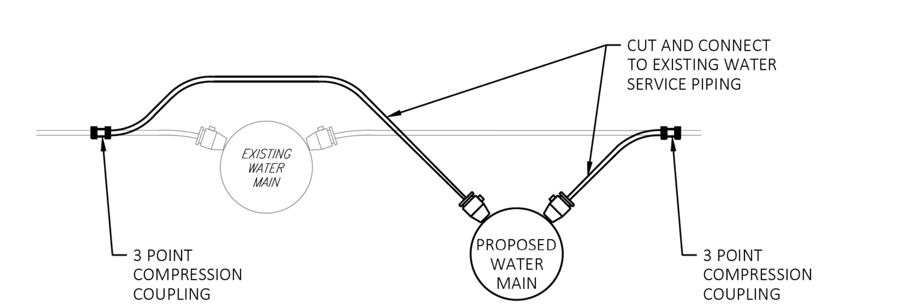
VALVE RESTRAINT

DATE: AUGUST 2018
SCALE: NOT TO SCALE
DRAWN BY: MWF
APPROVED BY: PWWR
SHEET: W10



WATER SERVICE CONNECTION UNDER SIDEWALK



WATER SERVICE CONNECTION IN ROAD

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WATER SERVICE CONNECTION

DATE: AUGUST 2018
SCALE: NOT TO SCALE
DRAWN BY: MWF
APPROVED BY: PWWR
SHEET: W8

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DT-08

ADDENDA / REVISIONS	
REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

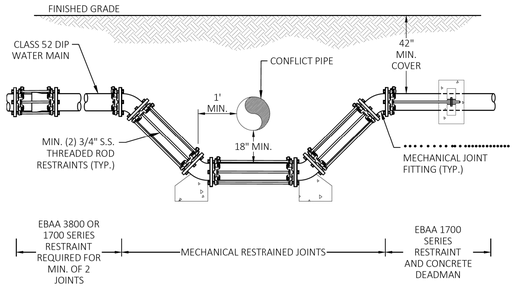
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT: T201504401
COUNTY: NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

CONSTRUCTION DETAILS

SECTION: JMT

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT08]



MATERIAL LIST

4	-	••••••••••••
10	-	¾" DIA. THREADED RODS
2	-	FRICTION CLAMPS
16	-	DUCKLUK WASHERS
2	-	CONCRETE KICKERS
8	-	M/J GLAND PACK FITTINGS
2	-	CONCRETE DEAD MEN

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TYPICAL WATER MAIN RELOCATION

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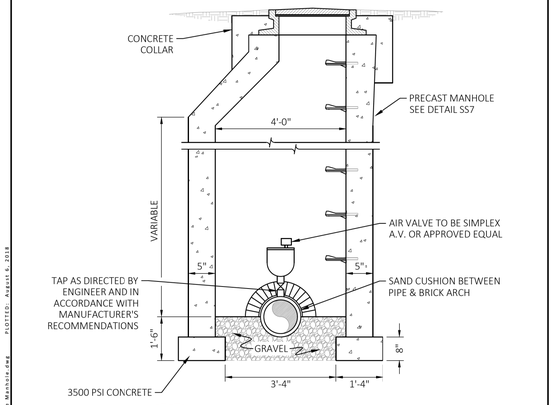
ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST CITY OF NEWARK STANDARDS AND SPECIFICATIONS AND IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND THE RULES AND REGULATIONS THEREIN.

DATE:	AUGUST 2018
SCALE:	NOT TO SCALE
DRAWN BY:	MWF
APPROVED BY:	PWWR
SHEET:	**W7**



TYPICAL CROSS SECTION

NOTES:

1. MANHOLE COVER TO BE STAMPED APPROPRIATE TO INDICATE TYPE OF UTILITY AS FOLLOWS:
   - 1a. WATER SHALL BE LABELED "NEWARK WATER".
   - 1b. SANITARY SEWER SHALL BE LABELED "NEWARK SANITARY SEWER".
   - 1c. ANY MANHOLE FOR PRIVATE WATER OR SEWER SHALL NOT INCLUDE THE WORD "NEWARK" ANYWHERE ON THE LID BUT SHOULD STILL INDICATE THE APPROPRIATE UTILITY TYPE.

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STANDARD AIR RELEASE MANHOLE

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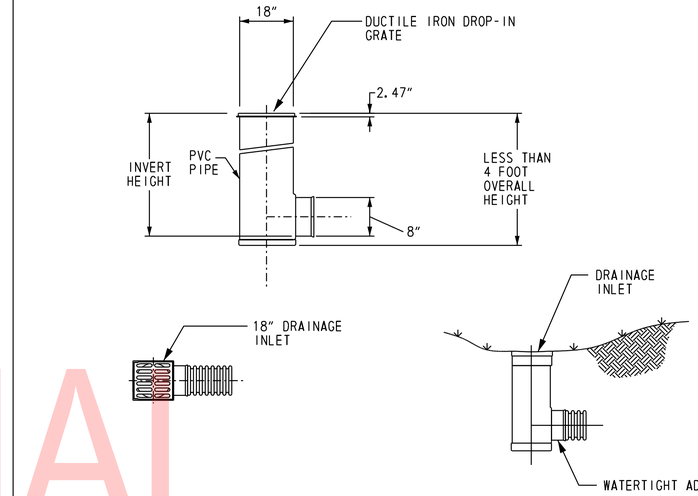
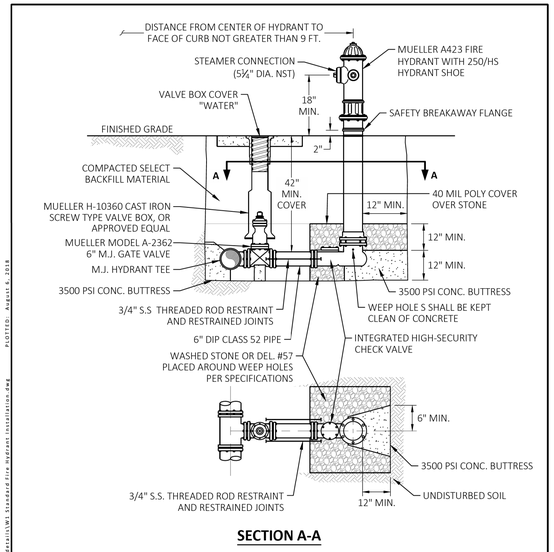
DATE:	AUGUST 2018
SCALE:	NOT TO SCALE
DRAWN BY:	MWF
APPROVED BY:	PWWR
SHEET:	**U2**



DRAINAGE INLET, 18" PVC

NOT TO SCALE

NOTE:
1. ALL WORK AND MATERIALS ARE TO BE PAID FOR BY PAY ITEM 602013.
2. PAYMENT FOR 19 LF OF SMOOTH WALL 8" HDPE SHALL BE INCIDENTAL TO ITEM 602013.



SECTION A-A

NOTES:

1. HYDRANT TO BE PLACED WITH STEAMER CONNECTION FACING STREET.
2. MEGA-LUG REQUIRED AT VALVE (ON HYDRANT SIDE ONLY IF HYDRANT TEE IS UTILIZED) AND AT HYDRANT.

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STANDARD FIRE HYDRANT INSTALLATION

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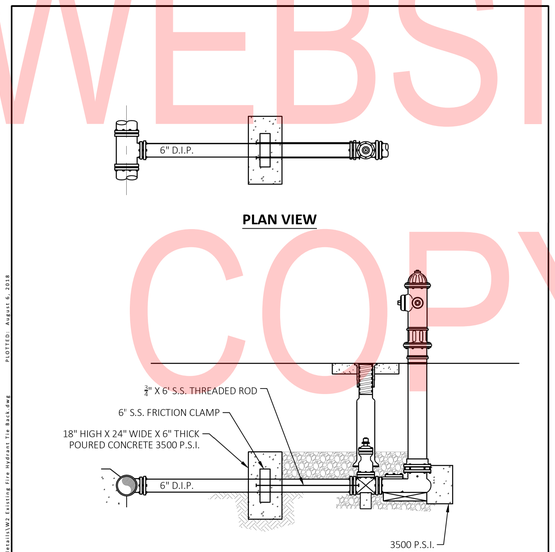
DATE:	AUGUST 2018
SCALE:	NOT TO SCALE
DRAWN BY:	MWF
APPROVED BY:	PWWR
SHEET:	**W1**



SECTION VIEW

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EXISTING FIRE HYDRANT TIE BACK

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DATE:	AUGUST 2018
SCALE:	NOT TO SCALE
DRAWN BY:	MWF
APPROVED BY:	PWWR
SHEET:	**W2**

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

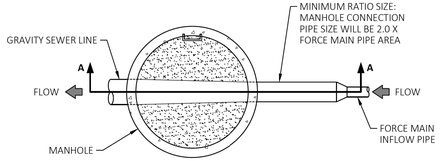
ELKTON ROAD MD LINE TO CASHO MILL ROAD

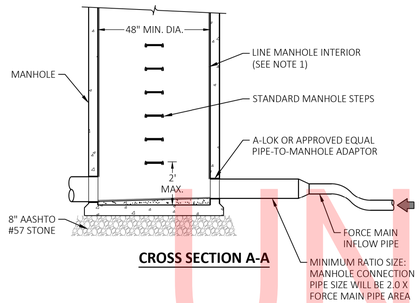
CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION DETAILS

	DT-09
SECTION	JMT
SHEET NO.	133

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT09]



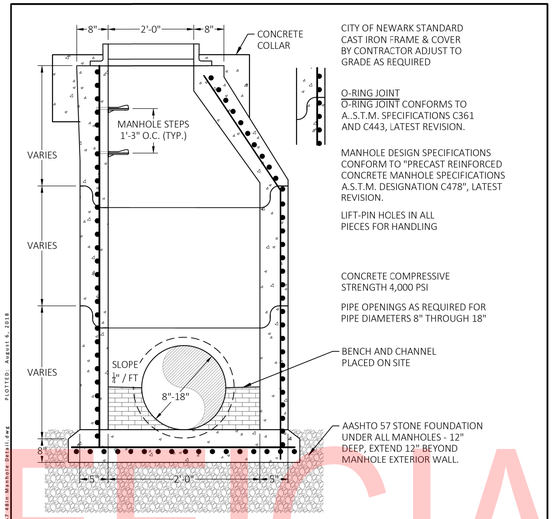


CROSS SECTION A-A

NOTE:

1. LINE MANHOLE INTERIOR WITH A 3 COAT SYSTEM MODIFIED POLYAMINE EPOXY BY TNEMEC OR APPROVED EQUAL.

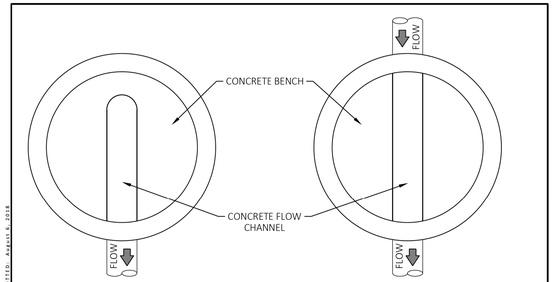
CITY OF NEWARK PUBLIC WORKS AND WATER RESOURCES DEPARTMENT 220 SOUTH MAIN STREET NEWARK, DELAWARE 19711 (302) 366-7000 www.newarkde.gov @CityofNewarkDE	**FORCE MAIN DISCHARGE TO MANHOLE**	DATE: AUGUST 2018 SCALE: NOT TO SCALE DRAWN BY: MWF APPROVED BY: PWWR SHEET: **U5**



CHANNELING/ALL WASTEWATER MANHOLES - PRE-CAST:

BOTTOM OF MANHOLE TO BE CHANNELED AND BENCHED. MINIMUM CHANNEL DEPTH TO BE HALF THE DIAMETER OF INLET OR THROUGH PIPE. CHANNELS TO BE SMOOTH CONCRETE AND SEMI CIRCULAR IN SECTION. WHERE BRICK CHANNEL IS USED INVERT SHALL BE BRICK LAID ON EDGE. SUBJECT TO APPROVAL OF THE CITY OF NEWARK PUBLIC WORKS AND WATER RESOURCES DIRECTOR OR APPOINTED REPRESENTATIVE PRECAST CHANNELS MAY BE USED WITH THE UNDERSTANDING THAT IF ALIGNMENT OF FLOW CHANNEL IS MISALIGNED, CHANNEL WILL BE REMOVED AND BRICK CHANNEL SHALL BE INSTALLED PER CITY OF NEWARK STANDARDS.

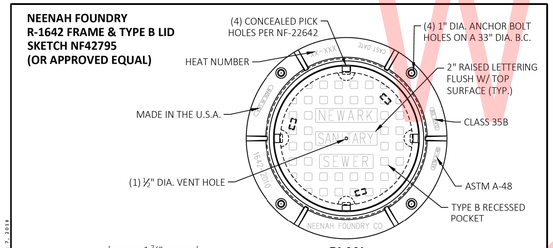
CITY OF NEWARK PUBLIC WORKS AND WATER RESOURCES DEPARTMENT 220 SOUTH MAIN STREET NEWARK, DELAWARE 19711 (302) 366-7000 www.newarkde.gov @CityofNewarkDE	**48IN MANHOLE DETAIL**	DATE: AUGUST 2018 SCALE: NOT TO SCALE DRAWN BY: MWF APPROVED BY: PWWR SHEET: **SS7**



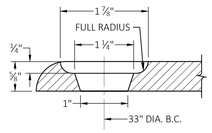
NOTE:
1. CONCRETE SHALL BE 3500 PSI

CITY OF NEWARK PUBLIC WORKS AND WATER RESOURCES DEPARTMENT 220 SOUTH MAIN STREET NEWARK, DELAWARE 19711 (302) 366-7000 www.newarkde.gov @CityofNewarkDE	**STANDARD CONNECTIONS FOR MANHOLE FLOW CHANNELS**	DATE: AUGUST 2018 SCALE: NOT TO SCALE DRAWN BY: MWF APPROVED BY: PWWR SHEET: **SS11**

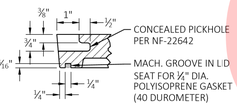
NEENAH FOUNDRY
R-1642 FRAME & TYPE B LID
SKETCH NF42795
(OR APPROVED EQUAL)



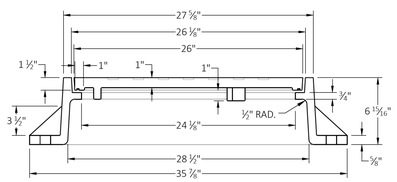
PLAN



ANCHOR HOLE DETAIL

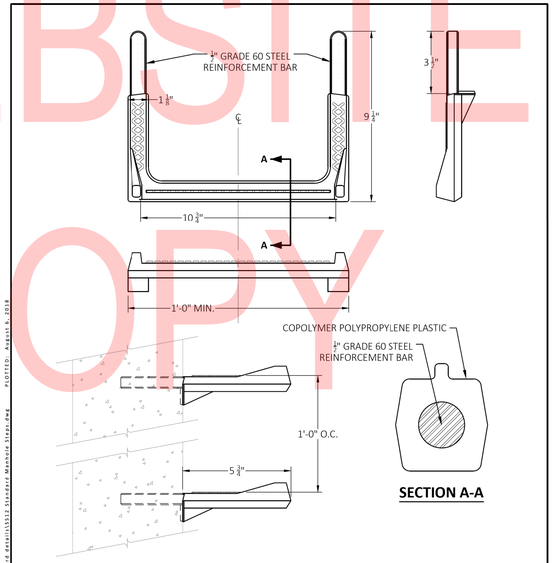


SELF SEAL DETAIL



SECTION

CITY OF NEWARK PUBLIC WORKS AND WATER RESOURCES DEPARTMENT 220 SOUTH MAIN STREET NEWARK, DELAWARE 19711 (302) 366-7000 www.newarkde.gov @CityofNewarkDE	**STANDARD MANHOLE FRAME AND COVER**	DATE: AUGUST 2018 SCALE: NOT TO SCALE DRAWN BY: MWF APPROVED BY: PWWR SHEET: **SS4**



SECTION A-A

TYPICAL WALL SECTION

CITY OF NEWARK PUBLIC WORKS AND WATER RESOURCES DEPARTMENT 220 SOUTH MAIN STREET NEWARK, DELAWARE 19711 (302) 366-7000 www.newarkde.gov @CityofNewarkDE	**STANDARD MANHOLE STEPS**	DATE: AUGUST 2018 SCALE: NOT TO SCALE DRAWN BY: MWF APPROVED BY: PWWR SHEET: **SS12**

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ADDENDA / REVISIONS

1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401	BRIDGE NO. 1-322 1-322P 1-323 1-323P	**CONSTRUCTION DETAILS**
COUNTY NEW CASTLE	DESIGNED BY: LB CHECKED BY: BPH	SECTION JMT SHEET NO. 134

DT-10

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT10]

1. RUMBLE STRIPS SHALL BE INSTALLED IN ACCORDANCE WITH ITEM 760003 - BIKE-FRIENDLY RUMBLE STRIPS, CONCRETE.

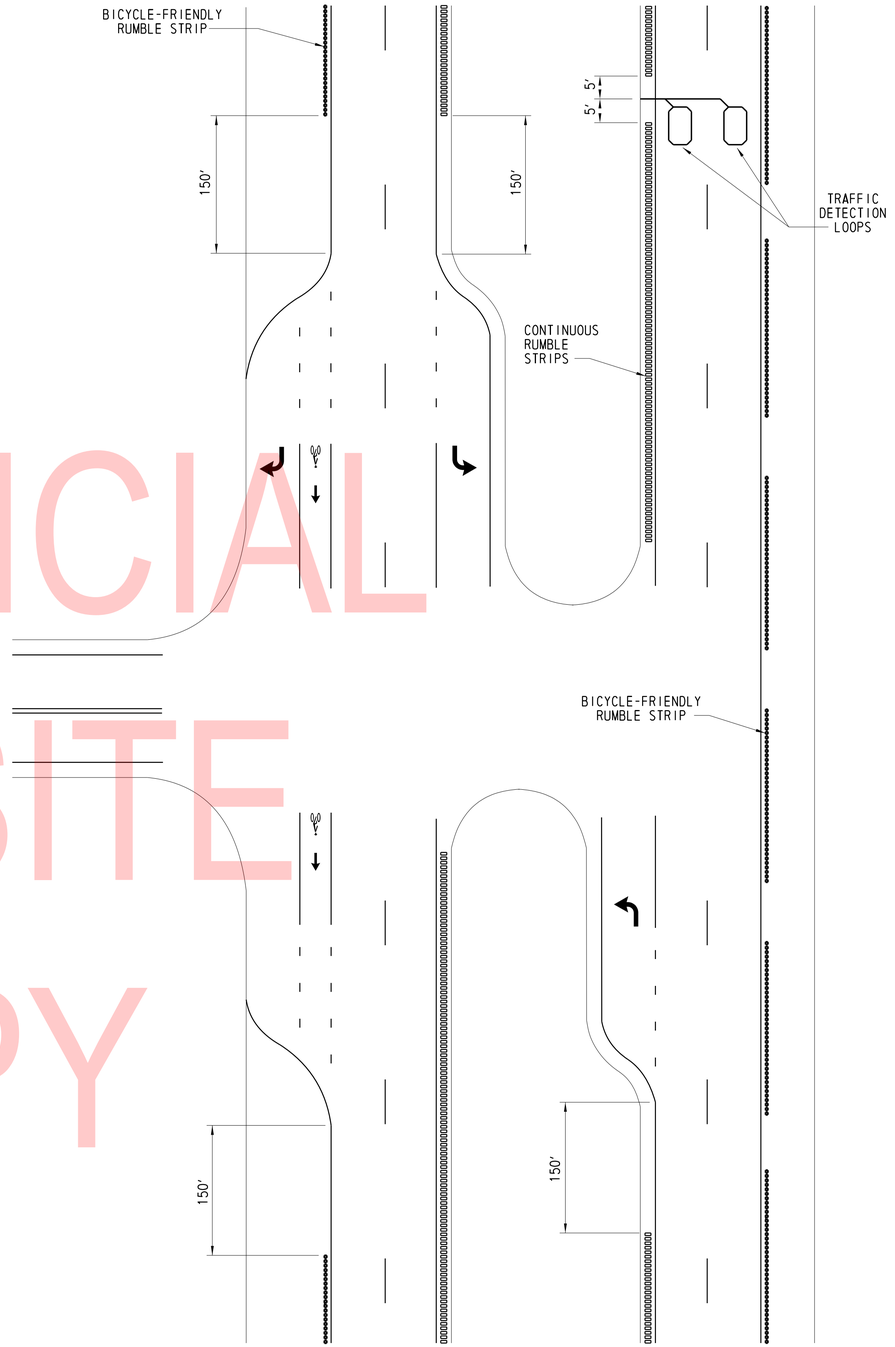
   BIKE FRIENDLY RUMBLE STRIPS SHALL BE PLACED ON SHOULDERS THROUGHOUT THE PROJECT AS NOTED BELOW OR AS DIRECTED BY THE ENGINEER:

   -STATION 7018+30 TO STATION 7022+43 - 320 LF
   -STATION 7046+22 TO STATION 7050+99 - 369 LF
   -STATION 7068+52 TO STATION 7083+35 - 1147 LF
   -STATION 6019+65 TO STATION 6025+65 - 468 LF
   -STATION 6036+00 TO STATION 6040+60 - 360 LF
   -STATION 6052+93 TO STATION 6061+98 - 701 LF
   -STATION 6084+54 TO STATION 6085+54 - 80 LF

2. ALL WORK REQUIRED TO COMPLETE THE INSTALLATION OF EDGELINE RUMBLE STRIPS SHALL BE INCIDENTAL TO ITEM 760007 - RUMBLE STRIPS, CONCRETE.

   EDGELINE RUMBLE STRIPS SHALL BE INSTALLED ALONG ALL INSIDE SHOULDERS, AS PER THIS DETAIL, THROUGHOUT THE PROJECT AS NOTED BELOW OR AS DIRECTED BY THE ENGINEER:

   -STATION 7009+07 TO STATION 7010+28 - 121 LF
   -STATION 7017+06 TO STATION 7023+36 - 630 LF
   -STATION 7029+29 TO STATION 7035+94 - 665 LF
   -STATION 7044+21 TO STATION 7057+43 - 1322 LF
   -STATION 7066+24 TO STATION 7074+97 - 873 LF
   -STATION 7079+85 TO STATION 7080+72 - 87 LF
   -STATION 6013+43 TO STATION 6015+07 - 164 LF
   -STATION 6022+54 TO STATION 6027+06 - 452 LF
   -STATION 6037+33 TO STATION 6042+50 - 517 LF
   -STATION 6051+74 TO STATION 6064+08 - 1234 LF
   -STATION 6075+75 TO STATION 6079+24 - 349 LF
   -STATION 6079+82 TO STATION 6085+55 - 573 LF



BICYCLE-FRIENDLY EDGELINE RUMBLE STRIPS AT INTERSECTIONS

NOT TO SCALE

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT11]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

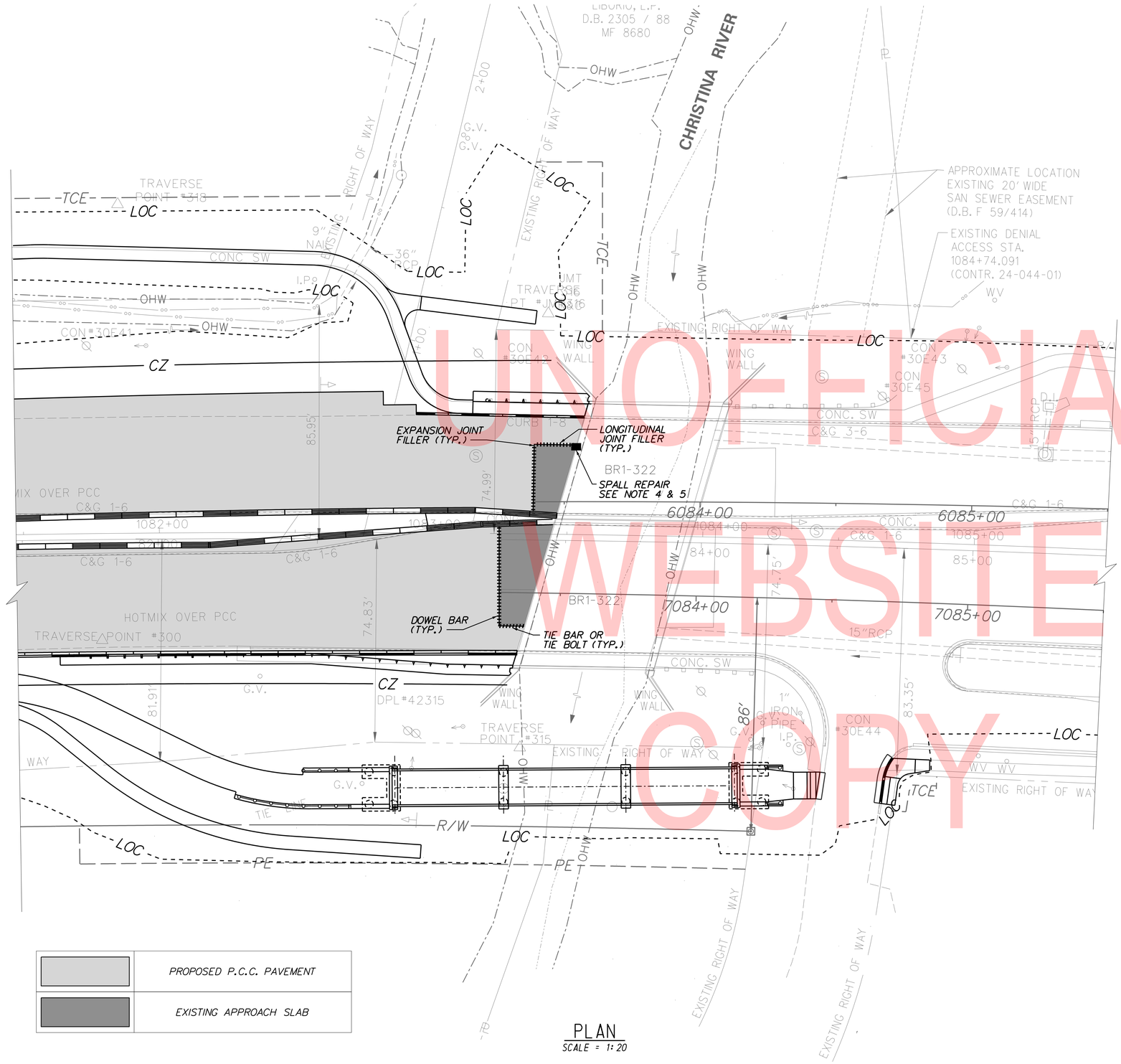
NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P	CONSTRUCTION DETAILS
T201504401	DESIGNED BY: LB		
COUNTY	CHECKED BY: BPH		
NEW CASTLE			

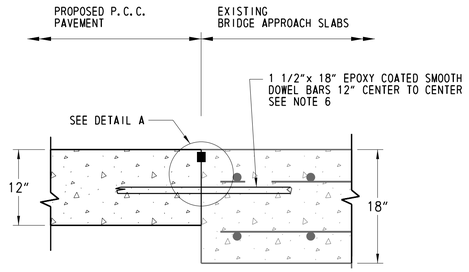
DT-11

SECTION	SHEET NO.
JMT	135

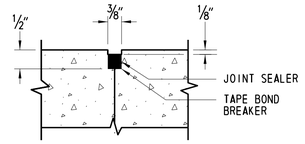


	PROPOSED P.C.C. PAVEMENT
	EXISTING APPROACH SLAB

PLAN
SCALE = 1:20

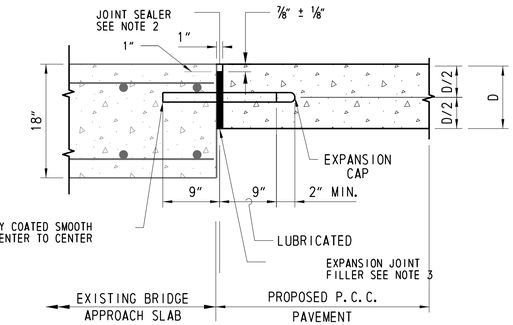


LONGITUDINAL JOINT
NOT TO SCALE



DETAIL A

HOT-POURED JOINT SEALER
NOT TO SCALE



TRANSVERSE EXPANSION JOINT DETAIL
NOT TO SCALE

NOTES

1. PLACE DEFORMED BAR PERPENDICULAR TO AND CENTERED OVER THE LONGITUDINAL JOINT.
2. CUT EXPANSION JOINT FILLER MATERIAL IN STRIPS EQUAL TO THE WIDTH OF APPROACH SLAB. MAKE SMOOTH AND HAVE HOLES PUNCHED FOR DOWEL BARS.
3. INSTALL TOP OF THE JOINT SEALING MATERIAL 1/4" + 1/8" BELOW THE SURFACE OF THE PAVEMENT.
4. REMOVE EXISTING DETERIORATED CONCRETE AS INDICATED, AND AT THE DIRECTION OF THE ENGINEER, TO SOUND CONCRETE. FOR ADDITIONAL INFORMATION ON THE REMOVAL AND REPAIR PROCEDURE SEE DELDOT BRIDGE DETAIL NO. 301.03 AND DELDOT STANDARD SPECIFICATION SECTION 628.
5. COST FOR SPALL REPAIR PAID UNDER ITEM 610006.
6. DOWEL BARS/TIE BARS SHALL BE DRILLED INTO EXISTING APPROACH SLABS AND HOLES SHALL BE FILLED WITH NON-SHRINK GROUT SHALL BE PAID UNDER ITEM 628070.
7. COST FOR APPROACH SLAB, REMOVAL OF EXISTING CONCRETE, JOINT SEALER AND EXPANSION JOINT SHALL BE PAID UNDER ITEM 610006.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT12]

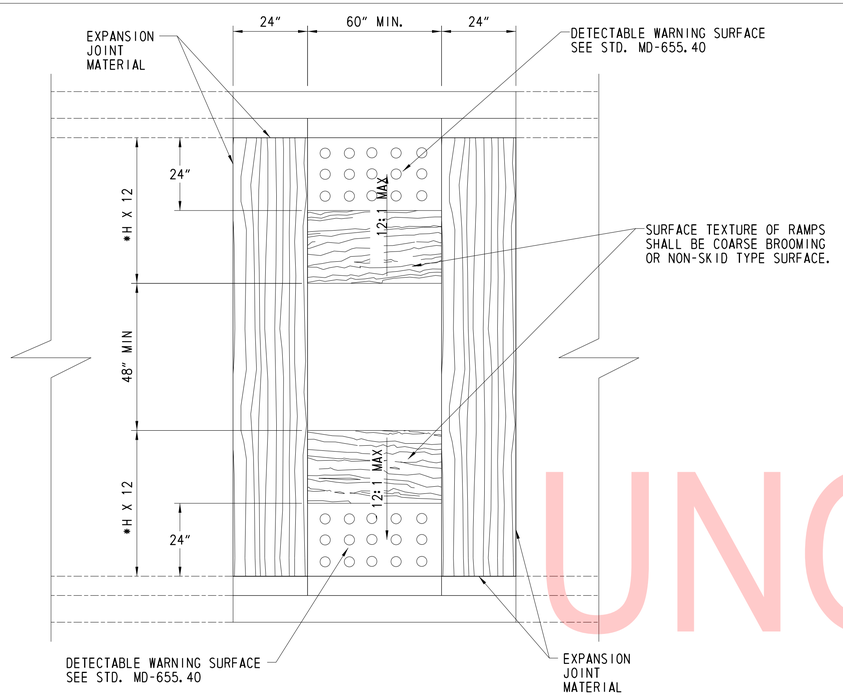
ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

AS NOTED

**ELKTON ROAD
MD LINE TO
CASHO MILL ROAD**

CONTRACT T201504401	BRIDGE NO. 1-322 1-322P 1-323 1-323P	**CONSTRUCTION DETAILS**
COUNTY NEW CASTLE	DESIGNED BY: LB CHECKED BY: BPH	

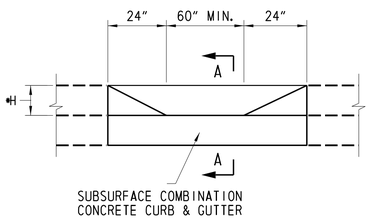
	DT-12
SECTION	JMT
SHEET NO.	136



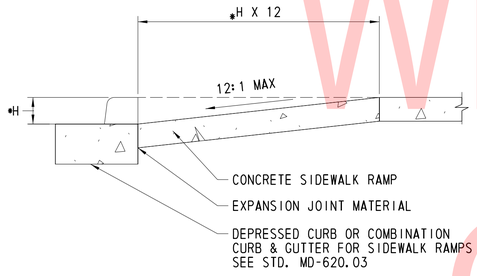
PLAN

* - H = HEIGHT OF CURB

ALL MEASUREMENTS IN INCHES



ELEVATION

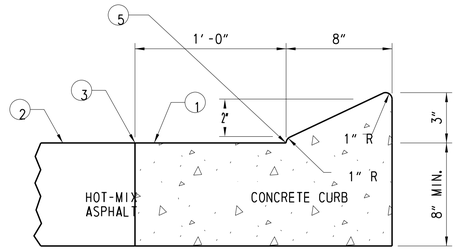


SECTION A-A

NOTES

A). TO BE USED WHERE A PEDESTRIAN ACCESS ROUTE CROSSES RAISED MEDIANS OR RAISED ISLANDS AND THERE IS SUFFICIENT WIDTH TO SATISFY THE GEOMETRY OUTLINED IN THE STANDARD.
B). EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD MD-655.01.
C). RAMPED MEDIAN AND ISLAND OPENINGS TO BE SHOWN ON PLANS SYMBOLICALLY AND REFERENCED WITH THE CENTER OF THE OPENING ALIGNED TO A STATION ON THE CONSTRUCTION CENTERLINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED OPENING VARIES FROM STANDARD METHODS.
D). WHERE 60" OPENINGS CAN NOT BE USED A DESIGN WAIVER MUST BE REQUESTED.

MSHA	STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES	STD. NO. 655.22



SECTION C

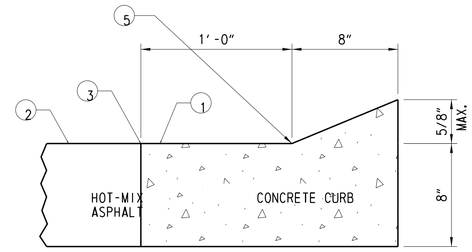
COMBINATION CURB & GUTTER
TO BE USED FOR DESIGN SPEED 60 MPH

(1) SLOPE GUTTER PAN 1/2" PER FOOT TOWARD FLOW LINE ON ALL ROADWAYS INCLUDING SUPERELEVATED SECTIONS. EXCEPT INTERCHANGE RAMPS.
(2) ROADWAY PAVEMENT SLOPE.
(3) ROADWAY PAVEMENT CONSTRUCTION JOINT.
(4) PROVIDE LONGITUDINAL TIE DEVICE "J" BAR MODIFIED. REFER TO STANDARD NO MD 572.61.
(5) FLOW LINE.

NOTES

A). RIGID PAVEMENT ROADWAY ADJACENT TO COMBINATION CURB AND GUTTER AND CLOSED SECTION ROADWAY USING RIGID PAVEMENT WITH COMBINATION CURB AND GUTTER SHALL BE KEYED AND TIED AT THE ROADWAY PAVEMENT CONSTRUCTION JOINT. REFER TO STANDARD MD 572.61 FOR METHOD OF KEYWAY AND LONGITUDINAL TIE DEVICES. SPACING OF THE TIE BARS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. RIGID PAVEMENT AND CURB SHALL BE CONSTRUCTED AS INDICATED. TIE DEVICES AND KEYS ARE NOT REQUIRED WHEN USING FLEXIBLE PAVEMENT FOR ROADWAY.
B). MAXIMUM JOINT SPACING FOR CONCRETE CURB AND COMBINATION CURB AND GUTTER IS 10'. SEE SPECIFICATION FOR LOCATIONS AND DESCRIPTION OF TREATMENT FOR THE TYPES OF JOINTS USED.
C). PAYMENT FOR DEPRESSING THE CURB WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR THE ITEM CONCRETE CURB OR COMBINATION CURB AND GUTTER. AS SPECIFIED IN THE CONTRACT DOCUMENTS

MSHA	STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES	STD. NO. 620.02



DEPRESSED CURB FOR COMBINATION CONCRETE CURB & GUTTER FOR SIDEWALK RAMPS

(1) SLOPE GUTTER PAN 1/2" PER FOOT TOWARD FLOW LINE ON ALL ROADWAYS INCLUDING SUPERELEVATED SECTIONS. EXCEPT INTERCHANGE RAMPS.
(2) ROADWAY PAVEMENT SLOPE.
(3) ROADWAY PAVEMENT CONSTRUCTION JOINT.
(4) PROVIDE LONGITUDINAL TIE DEVICE "J" BAR MODIFIED. REFER TO STANDARD NO MD 572.61.
(5) FLOW LINE.

NOTES

A). RIGID PAVEMENT ROADWAY ADJACENT TO COMBINATION CURB AND GUTTER AND CLOSED SECTION ROADWAY USING RIGID PAVEMENT WITH COMBINATION CURB AND GUTTER SHALL BE KEYED AND TIED AT THE ROADWAY PAVEMENT CONSTRUCTION JOINT. REFER TO STANDARD MD 572.61 FOR METHOD OF KEYWAY AND LONGITUDINAL TIE DEVICES. SPACING OF THE TIE BARS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. RIGID PAVEMENT AND CURB SHALL BE CONSTRUCTED AS INDICATED. TIE DEVICES AND KEYS ARE NOT REQUIRED WHEN USING FLEXIBLE PAVEMENT FOR ROADWAY.
B). MAXIMUM JOINT SPACING FOR CONCRETE CURB AND COMBINATION CURB AND GUTTER IS 10'. SEE SPECIFICATION FOR LOCATIONS AND DESCRIPTION OF TREATMENT FOR THE TYPES OF JOINTS USED.
C). PAYMENT FOR DEPRESSING THE CURB WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR THE ITEM CONCRETE CURB OR COMBINATION CURB AND GUTTER. AS SPECIFIED IN THE CONTRACT DOCUMENTS

MSHA	STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES	STD. NO 620.03

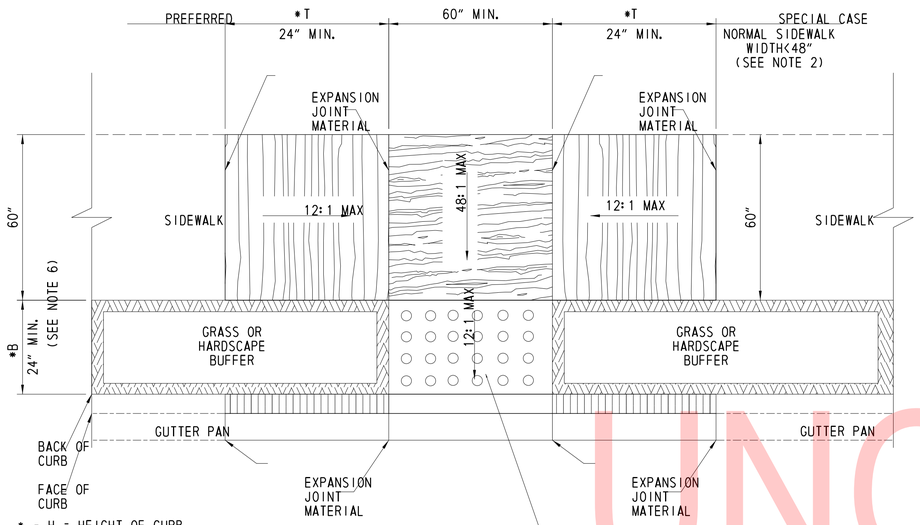
WORK TO BE PAID FOR BY DELDOT PAY ITEM 801500.

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019 [SHEET: DT13]
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN

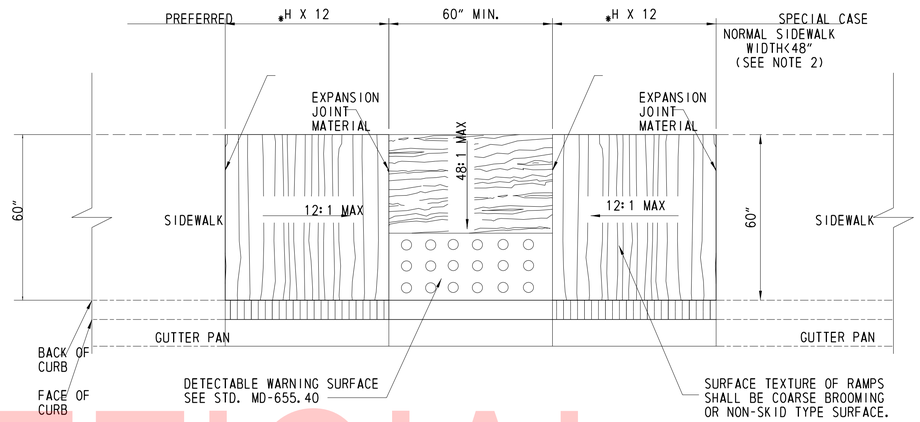
DT-13

ADDENDA / REVISIONS							
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	NOT TO SCALE	ELKTON ROAD MD LINE TO CASHO MILL ROAD	CONTRACT T201504401	BRIDGE NO. 1-322 1-322P 1-323 1-323P	CONSTRUCTION DETAILS
					COUNTY NEW CASTLE	DESIGNED BY: LB	SECTION JMT
						CHECKED BY: BPH	SHEET NO. 137



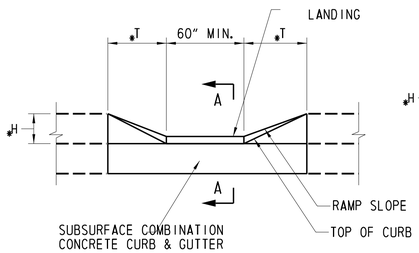
PLAN

* - H = HEIGHT OF CURB
B = BUFFER WIDTH (BACK OF CURB TO FRONT OF SIDEWALK)
T = TRANSITION LENGTH (LENGTH OF RAMP FROM SIDEWALK TO LANDING)
T= (12 X H) - B
ALL MEASUREMENTS IN INCHES

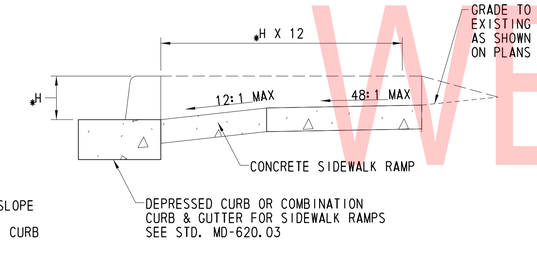


PLAN

* - H = HEIGHT OF CURB
ALL MEASUREMENTS IN INCHES



ELEVATION

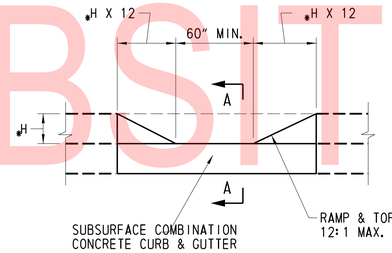


SECTION A-A

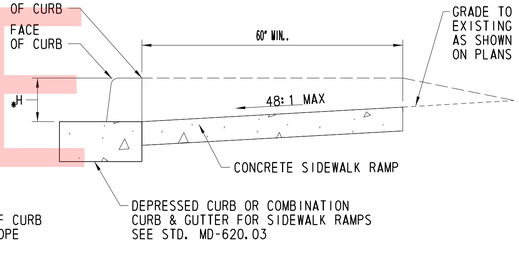
NOTES

A). TO BE USED WHERE AT LEAST 7'-0" EXISTS BETWEEN THE BACK OF CURB AND THE BACK OF SIDEWALK. THIS STANDARD MAY BE MODIFIED TO SUIT A PARTICULAR LOCATION
B). WHERE 60" SIDEWALK CAN NOT BE PROVIDED. A DESIGN WAIVER MUST BE REQUESTED.
C). NO TRAVERSABLE SLOPE ON THE RAMP OR SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL, OR 48:1 PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.
D). EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH STD. MD-655.01.
E). SIDEWALK RAMPS TO BE SHOWN ON PLANS SYMBOLICALLY AND REFERENCED WITH THE CENTER OF THE RAMP ALIGNED TO A STATION ON THE CONSTRUCTION CENTERLINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED RAMP VARIES FROM STANDARD CASES.
F). FOR BUFFER WIDTHS LESS THAN 24", WIDEN SIDEWALK TO BACK OF CURB AS SHOWN FOR THE SPECIAL CASE. THEN BUILD PARALLEL RAMP USING STANDARD MD-655.12.
G). TRANSITION PANELS TO TIE INTO EXISTING SIDEWALK MUST BE A MIN. OF 5' IN LENGTH.
H). IF THE BUFFER AREA IS GREATER THAN OR EQUAL TO 4' THE LANDING AREA MUST BE 2% X 2%. IF THE BUFFER AREA IS LESS THAN 4' THE LANDING AREA CROSS-SLOPE CANNOT EXCEED THE GRADE OF THE ROAD.

MSHA	STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES	STD. NO. 655.13



ELEVATION



SECTION A-A

NOTES

A). TO BE USED WHERE AT LEAST 7'-0" EXISTS BETWEEN THE BACK OF CURB AND THE BACK OF SIDEWALK. THIS STANDARD MAY BE MODIFIED TO SUIT A PARTICULAR LOCATION
B). WHERE 60" SIDEWALK CAN NOT BE PROVIDED. A DESIGN WAIVER MUST BE REQUESTED.
C). NO TRAVERSABLE SLOPE ON THE RAMP OR SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL, OR 48:1 PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL. THE CROSS-SLOPE OF THE LANDING AREA CANNOT EXCEED GRADE OF ROADWAY.
D). EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH STD. MD-655.01.
E). SIDEWALK RAMPS TO BE SHOWN ON PLANS SYMBOLICALLY AND REFERENCED WITH THE CENTER OF THE RAMP ALIGNED TO A STATION ON THE CONSTRUCTION CENTERLINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED RAMP VARIES FROM STANDARD CASES.
F). TRANSITION PANELS TO TIE INTO EXISTING SIDEWALK MUST BE A MIN. OF 5' IN LENGTH.

MSHA	STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES	STD. NO. 655.12

WORK TO BE PAID FOR BY DELDOT PAY ITEM 801500.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT14]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

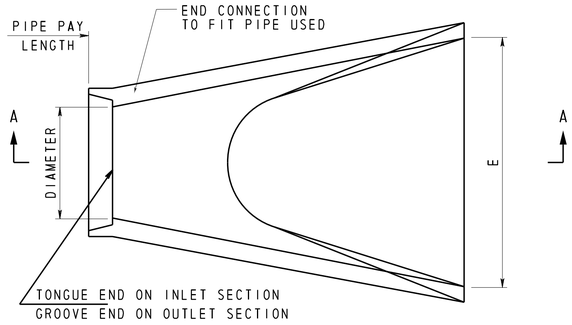
NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

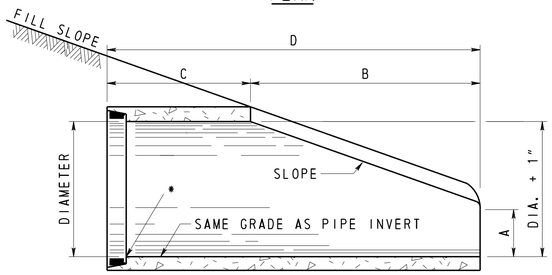
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION DETAILS

DT-14
SECTION: JMT
SHEET NO.: 138



PLAN

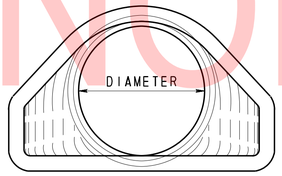


SECTION A-A

NOTES

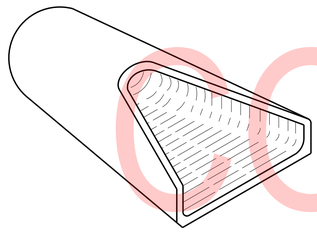
1. CONTRACTOR HAS OPTION OF FURNISHING END SECTIONS CONFORMING TO DETAILS ON THIS SHEET OR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
2. END SECTIONS MUST BE REINFORCED TO CONFORM TO ASTM CLASS III PIPE.

* INVERT ELEVATION TO BE AT THE PIPE END OF THE STANDARD END SECTION. ELEVATIONS TO BE NOTED ON THE CONSTRUCTION PLANS.



END VIEW

SEE NOTE 3 ABOVE FOR CONCRETE FOOTER

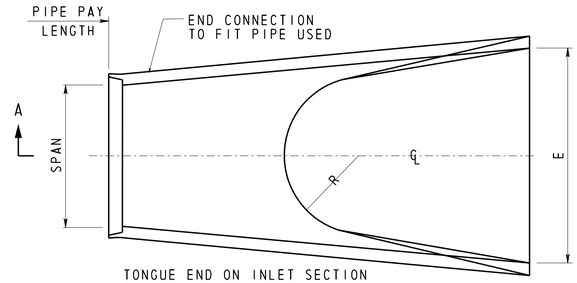


ISOMETRIC VIEW

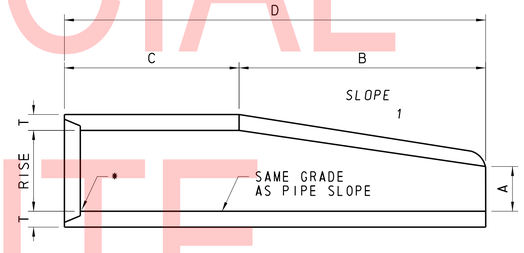
DIMENSIONS						
CONCRETE END SECTION						
DIA.	SLOPE	A	B	C	D	E
12"	3:1	4"	2'-0"	4'-0⅞"	6'-0⅞"	2'-0"
15"	3:1	6½"	2'-4"	3'-10"	6'-2"	2'-6"
18"	3:1	10¼"	2'-2"	4'-0"	6'-2"	3'-0"
21"	3:1	9"	3'-0"	3'-1½"	6'-1½"	3'-6"
24"	3:1	11"	3'-7"	2'-8"	6'-3"	4'-0"
27"	3:1	10½"	4'-1½"	2'-0"	6'-1½"	4'-6"
30"	3:1	1'-1"	4'-5"	1'-10"	6'-3"	5'-0"
33"	3:1	1'-2"	4'-7"	2'-2"	6'-9"	5'-6"
36"	3:1	1'-3½"	5'-3"	3'-1"	8'-1½"	6'-0"
42"	3:1	1'-9¼"	5'-5"	2'-10"	8'-3"	6'-6"
48"	3:1	2'-1"	6'-0"	2'-2"	8'-2"	7'-0"
54"	2.4:1	2'-5"	5'-2"	2'-10"	8'-0"	7'-6"
60"	2:1	2'-7"	4'-11"	3'-8½"	8'-7½"	8'-0"
66"	2:1	2'-4"	6'-6"	1'-9"	8'-3"	8'-6"
72"	2:1	2'-10"	6'-6"	1'-9"	8'-3"	9'-0"

FLARED END SECTION - ROUND CONCRETE PIPE

NOT TO SCALE



PLAN

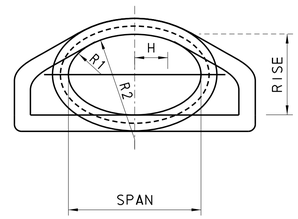


SECTION A-A

NOTES

1. CONTRACTOR HAS OPTION OF FURNISHING END SECTIONS CONFORMING TO DETAILS ON THIS SHEET OR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
2. END SECTIONS SHALL BE REINFORCED TO CONFORM WITH CLASS III PIPE.

* INVERT ELEVATION TO BE AT THE PIPE END OF THE STANDARD END SECTION. ELEVATIONS TO BE NOTED ON THE CONSTRUCTION PLANS.



END VIEW

DIMENSIONS												
HERCP			CONCRETE END SECTION									
RISE	SPAN	EQUIV. DIA.	APPR. SLOPE	WALL T	A	B	C	D	E	H	R	R1	R2
14"	23"	18"	3.1:1	2¾"	8"	2'-3"	3'-9"	6'-0"	3'-5"	5 3/8"	6"	6"	1'-8"
19"	30"	24"	2.8:1	3¼"	8½"	3'-3"	2'-9"	6'-0"	4'-6"	6 7/8"	7"	8¼"	2'-2¼"
22"	34"	27"	2.9:1	3½"	9"	4'-0"	2'-0"	6'-0"	5'-1"	7 3/4"	8"	9¼"	2'-5¼"
24"	38"	30"	2.9:1	3¾"	9½"	4'-6"	1'-6"	6'-0"	5'-8"	8 5/8"	9"	10¼"	2'-8¾"
29"	45"	36"	2.7:1	4½"	11¼"	5'-0"	3'-0"	8'-0"	6'-9"	10 1/2"	12"	12¼"	3'-3¼"
34"	53"	42"	2.6:1	5"	15¾"	5'-0"	3'-0"	8'-0"	7'-5"	12 1/8"	13"	14½"	3'-10"
38"	60"	48"	2.7:1	5½"	21"	5'-0"	3'-0"	8'-0"	8'-0"	13 1/2"	14"	16½"	4'-3½"
43"	68"	54"	2.6:1	6"	26"	5'-0"	3 -0"	8'-0"	8'-8"	15 1/4"	16"	18¾"	4'-10½"
48"	76"	60"	2.6:1	6½"	31"	5'-0"	3'-0"	8'-0"	9'-4"	17"	18"	20¾"	5'-5"

ELLIPTICAL END SECTION - ELLIPTICAL CONCRETE PIPE

NOT TO SCALE

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT15]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

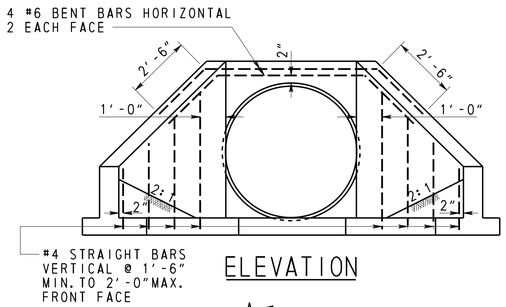
NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

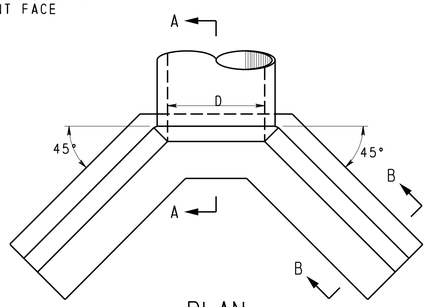
CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

CONSTRUCTION DETAILS

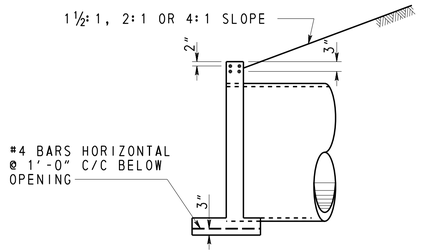
DT-15
SECTION JMT
SHEET NO. 139



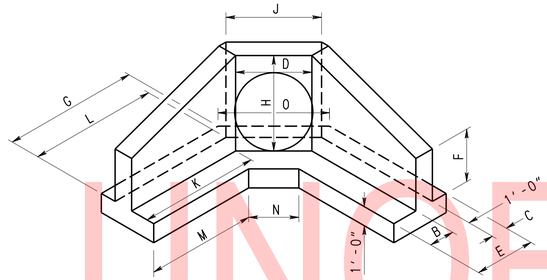
ELEVATION



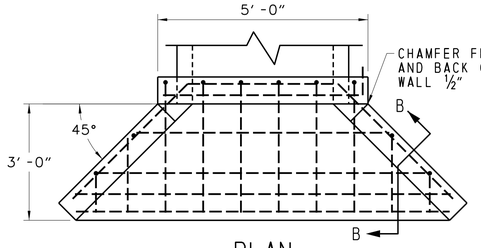
PLAN



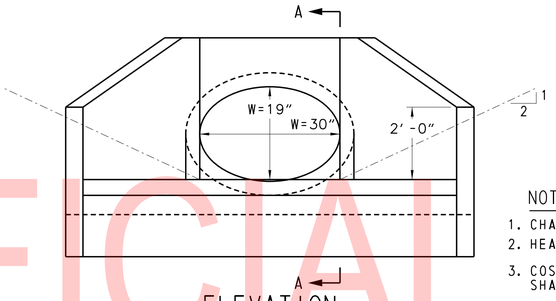
SECTION A-A



ISOMETRIC VIEW



PLAN
(SHOWING REINFORCEMENT)



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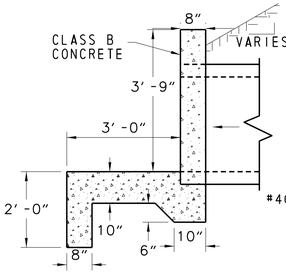
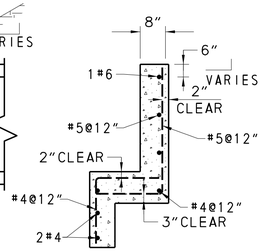


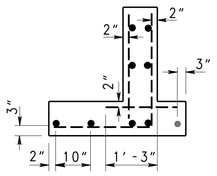
SECTION A-A
(REINFORCING NOT SHOWN
SIMILAR TO B-B)



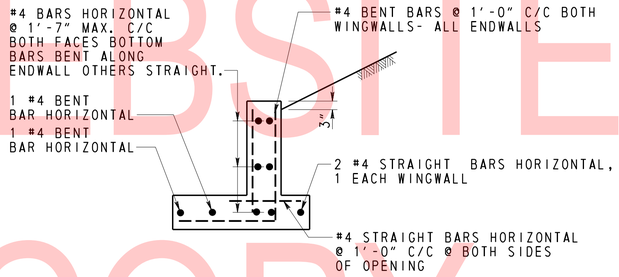
SECTION B-B

NOTES

1. CHAMFER EXPOSED EDGES 1"x1".
2. HEADWALL AS SHOWN ON CONSTRUCTION PLAN.
3. COST FOR HEADWALL AND FOOTING CONCRETE SHALL BE PAID UNDER ITEM 617515.
4. COST FOR HEADWALL AND FOOTING REINFORCING STEEL SHALL BE PAID UNDER ITEM 617515.
5. COST FOR STRUCTURAL EXCAVATION SHALL BE PAID UNDER ITEM 617515.



DISPOSITION OF
BAR DETAIL



SECTION B-B

NOTES

SPECIFICATIONS: LATEST DELDOT
CONCRETE SHALL BE CLASS B (Fc^1 = 3,000 PSI)
REINFORCING: DEFORMED STEEL BARS #4 & #6
CHAMFER: ALL EXPOSED EDGES 1"X1" OR AS DIRECTED

OPENING	DIMENSIONS											
D INCHES	B	C	E	F	G	H	J	K	L	M	N	O
54	3'-0"	1'-6"	5'-6"	3'-9"	13'-10"	8'-0"	5'-4"	12'-9½"	13'-2½"	11'-6½"	3'-1½"	6'-2"

QUANTITIES IN TABLE TO BE USED FOR ESTIMATING ONLY

HEADWALL
NOT TO SCALE

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DT.DGN [SHEET: DT16]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

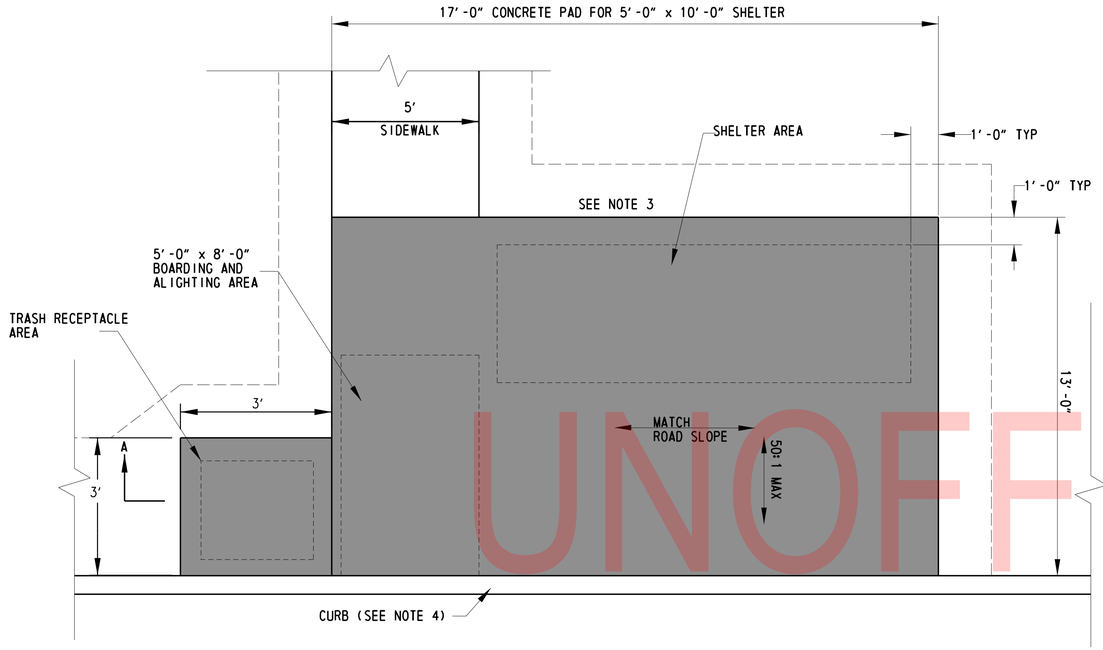
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

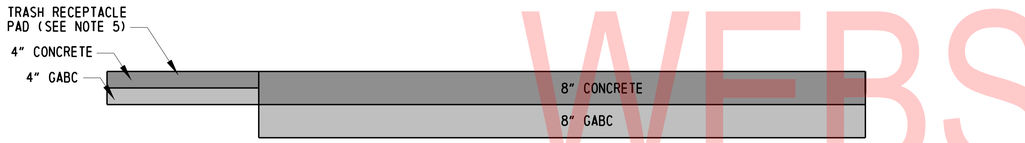
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION DETAILS

DT-16

SECTION	SHEET NO.
JMT	140



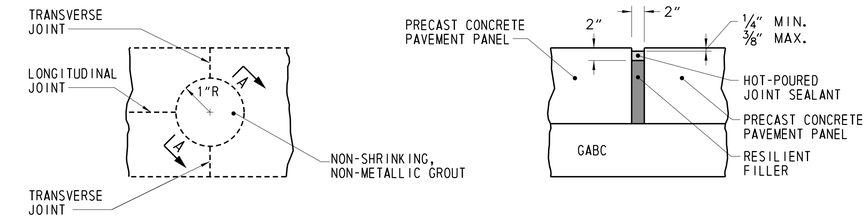


SECTION A-A

NOTES:

1). REFERENCE THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR GENERAL INFORMATION ON PLACEMENT OF SIGNS.
2). SEE CONSTRUCTION PLANS SIGNING AND STRIPING SHEETS FOR SPECIFIC SIGN AND SIGN LOCATION DETAILS
3). A 6:1 MAX SLOPE IS REQUIRED FOR 2'-0" ON ALL SIDES OF THE BUS STOP PAD AND APPROACHING SIDEWALKS. WHERE THIS CANNOT BE ACHIEVED, AN APPROVED HANDRAIL OR HEADWALL IS REQUIRED.
4). CURB TYPE VARIES. SEE PLANS FOR CORRECT CURB TYPE.
5). TRASH RECEPTACLE PAD CAN BE PLACED ON EITHER SIDE OF THE SHELTER PAD, AT THE DIRECTION OF THE ENGINEER IN THE FIELD.

BUS STOP WITH SHELTER PAD, TYPE 1, MODIFIED



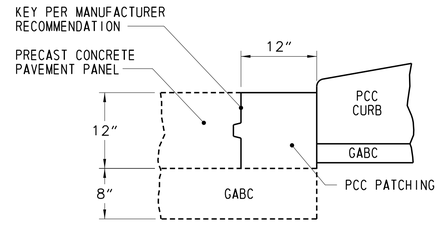
PLAN SECTION A-A

PCC CORE HOLE FOR SYMPATHY CRACKING

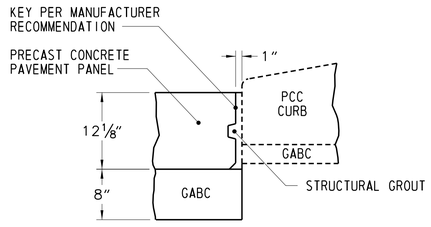
NOT TO SCALE

NOTES

1. DRILL FULL DEPTH 2" DIAMETER CORE HOLE AT THE INTERSECTION OF JOINTS AS INDICATED ON THE PAVEMENT JOINT LAYOUT PLANS.
2. FILL HOLE WITH RESILIENT FILLER (STYROFOAM OR CLEAN SAND) TO WITHIN 2" OF THE TOP OF SLAB.
3. FILL THE REMAINDER OF THE HOLE WITH HOT-POURED JOINT SEALANT TO BETWEEN 1/4" AND 3/8" FROM THE TOP OF SLAB.
4. CONCRETE SURFACES MUST BE WET BEFORE THE APPLICATION OF GROUT.
5. THE COST ASSOCIATED WITH CREATING CORE HOLE AND BACKFILLING WITH FILLER AND SEALANT ARE INCIDENTAL TO ITEM 501006-PORTLAND CEMENT CONCRETE PAVEMENT, 12".
6. FOR LOCATIONS UTILIZING PRECAST CONCRETE PAVEMENT PANEL, THE CORE HOLES ARE TO BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR AS PRESCRIBED BY THE ENGINEER. COSTS ASSOCIATED WITH CREATING CORE HOLES AND BACKFILLING WITH FILLER AND SEALANT AT THE RECOMMENDATION OF THE MANUFACTURER OR ENGINEER ARE INCIDENTAL TO ITEM 501503-PRECAST CONCRETE PANELS.



PRECAST CONCRETE PANEL PLACED BEFORE CURB



PRECAST CONCRETE PANEL PLACED AFTER CURB

CONCRETE JOINT BETWEEN P.C.C. CURB AND PRECAST CONCRETE PAVEMENT PANELS

NOT TO SCALE

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ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION DETAILS

DT-17	
SECTION	JMT
SHEET NO.	141

BRIDGE 1-323 PROJECT NOTES

1. LOCATION
   BRIDGE 1-323 ALONG SR279 ELKTON ROAD, NEW CASTLE COUNTY, DELAWARE.
   OVER WEST BRANCH CHRISTINA RIVER.

2. DESIGN CRITERIA

   AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION, WITH 2015 & 2016 INTERIM REVISIONS.

   DELDOT BRIDGE DESIGN MANUAL, 2017.

   DELDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2016.

3. GENERAL
   PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ALL DIMENSIONS ARE HORIZONTAL, EXCEPT AS NOTED. SUPERSTRUCTURE DIMENSIONS SHOWN ARE FOR A NORMAL TEMPERATURE OF 68 DEGREES FAHRENHEIT.

   ALL ELEVATIONS ARE BASED ON NAVD 1988.

4. LOADING
   - UNIT WEIGHTS OF MATERIALS SHALL BE IN ACCORDANCE WITH THE DELDOT BRIDGE MANUAL.
   - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

5. PORTLAND CEMENT CONCRETE
   STRUCTURAL ELEMENTS OF PORTLAND CEMENT CONCRETE SHALL BE AS NOTED:
   (f'c = 28 DAY COMPRESSIVE STRENGTH)

   CLASS A - CONCRETE PARAPET (f'c = 4.5 KSI)
   CLASS D - CONCRETE CULVERT SLAB AND OVERLAY (f'c = 4.5 KSI)

   MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE STANDARD SPECIFICATIONS. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾" UNLESS OTHERWISE NOTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE ANY APPROVED CONCRETE ADDITIVES OR HEATING TECHNIQUES TO MAINTAIN THE PROPER TEMPERATURE FOR ANY CONCRETE POURED DURING COLD WEATHER. PAYMENT SHALL BE INCIDENTAL TO THE RESPECTIVE CONCRETE BID ITEMS.

6. BAR REINFORCEMENT
   REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60. REINFORCING STEEL SHALL HAVE A 3" COVER IF CAST AGAINST EARTH AND A 2" CLEAR COVER ELSEWHERE, UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL REINFORCING STEEL SHALL BE PROTECTED WITH FUSION BONDED EPOXY. EPOXY COATED REINFORCING STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963). ALL NECESSARY FIELD CUTTING AND BENDING SHALL BE INCIDENTAL TO ITEM 611001-BAR REINFORCEMENT, EPOXY COATED.

7. CONSTRUCTION JOINTS
   KEYED CONSTRUCTION JOINTS SHALL BE 2 INCHES X 4 INCHES OR AS NOTED. ALL EXPOSED CONSTRUCTION JOINTS SHALL HAVE A ¾" V-NOTCH. ANY WATERSTOPS SHALL BE INCIDENTAL TO THE APPROPRIATE CONCRETE ITEM.

8. HYDRAULIC DATA:

DRAINAGE AREA:	3.96 SQ. MILES	DESIGN FREQ. :	50 YEARS
DESIGN DISCHARGE:	2171 CFS	100-YEAR DISCHARGE:	2547 CFS
EXISTING (DESIGN STORM) WSE:	104.60 FT	PROPOSED (DESIGN STORM) WSE:	104.70 FT
EXISTING (DESIGN STORM) VELOCITY:	4.47 FPS	PROPOSED (DESIGN STORM) VELOCITY:	4.71 FPS
EXISTING 100-YEAR WSE:	104.84 FT	PROPOSED 100-YEAR WSE:	104.75 FT
EXISTING 100-YEAR VELOCITY:	4.78 FPS	PROPOSED 100-YEAR VELOCITY:	5.44 FPS
EXISTING WATERWAY OPENING:	255 SQ. FT	PROPOSED WATERWAY OPENING:	255 SQ. FT

QUANTITIES

ITEM NUMBER	ITEM TITLE	UNIT	QUANTITY
211000	REMOVAL OF STRUCTURE AND OBSTRUCTIONS	LS	1
610008	PCC MASONRY, PARAPET, CLASS A	CY	15
610017	PCC MASONRY, SUPERSTRUCTURE, CLASS D	CY	120
611001	BAR REINFORCEMENT, EPOXY COATED	LB	12,000
628070	DRILLING HOLES AND INSTALLING DOWELS	EA	14

INDEX OF SHEETS

DRAWING NO.	TITLE
PN-01	PROJECT NOTES
PE-01	PLAN AND ELEVATION
TS-01	CONSTRUCTION DETAILS
BR-01	REINFORCEMENT BAR LIST

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PN_BR.DGN [SHEET: PN-01 Culvert]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

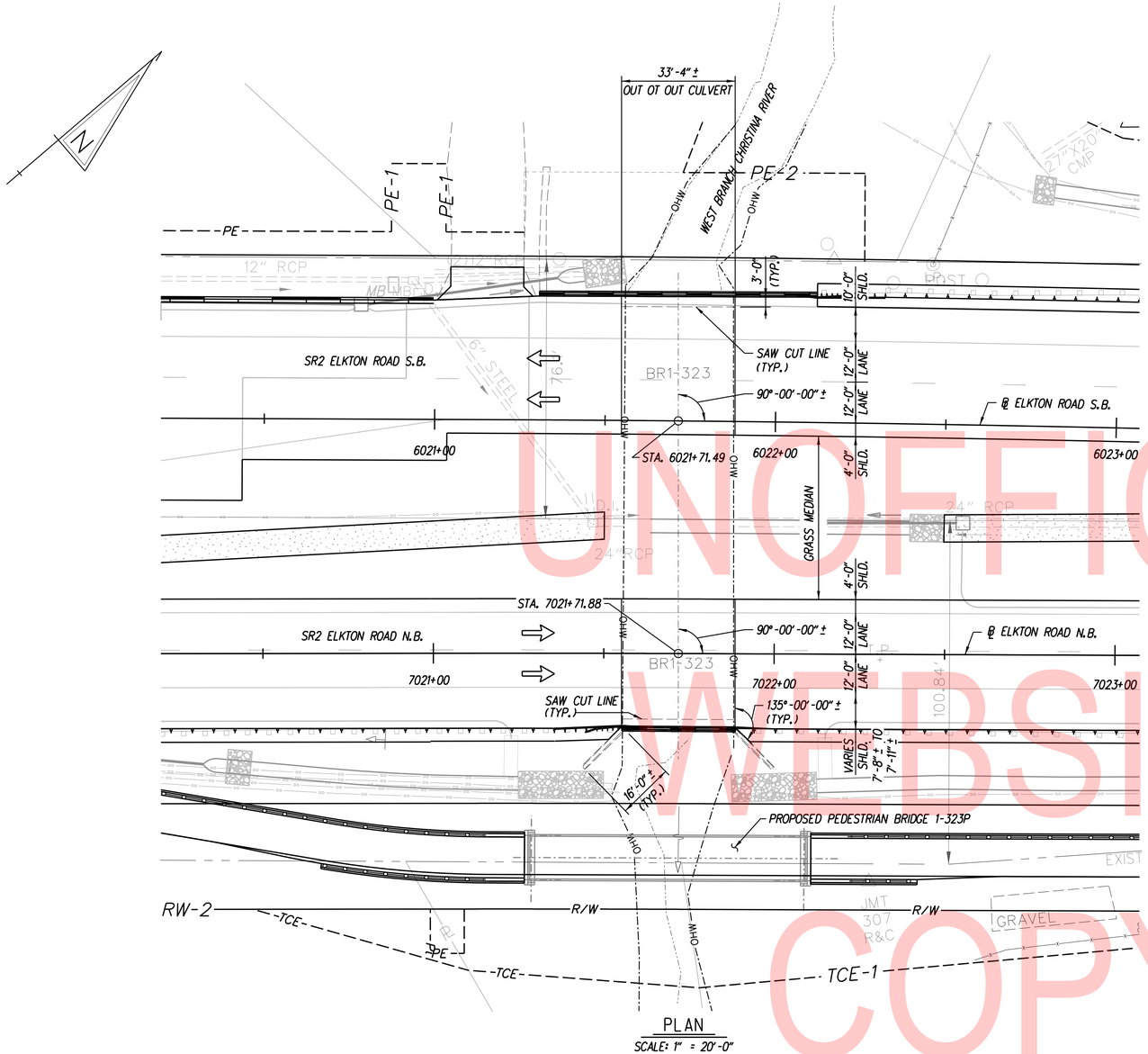
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE

BRIDGE NO. 1-323
DESIGNED BY: S.P.A.
CHECKED BY: F.F.B.

BRIDGE 1-323
PROJECT NOTES

PN-01
1-323
SECTION JMT
SHEET NO. 142



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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PE.DGN [SHEET: DT17]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

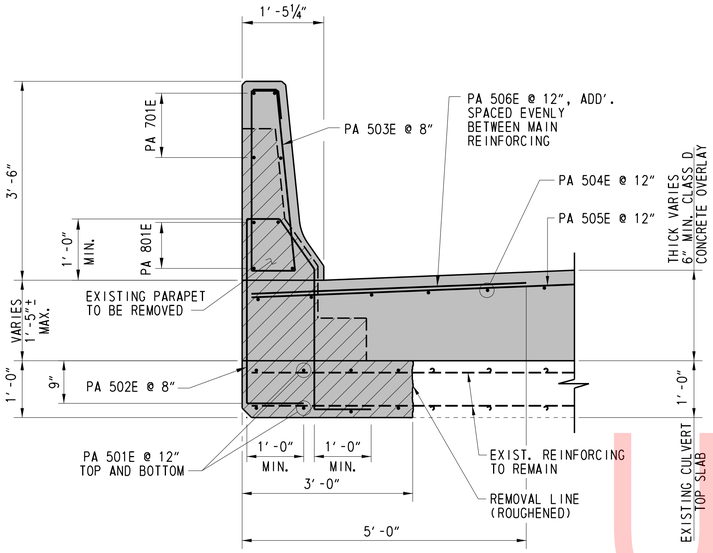
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-323
COUNTY	NEW CASTLE	DESIGNED BY: SPA	CHECKED BY: FFB

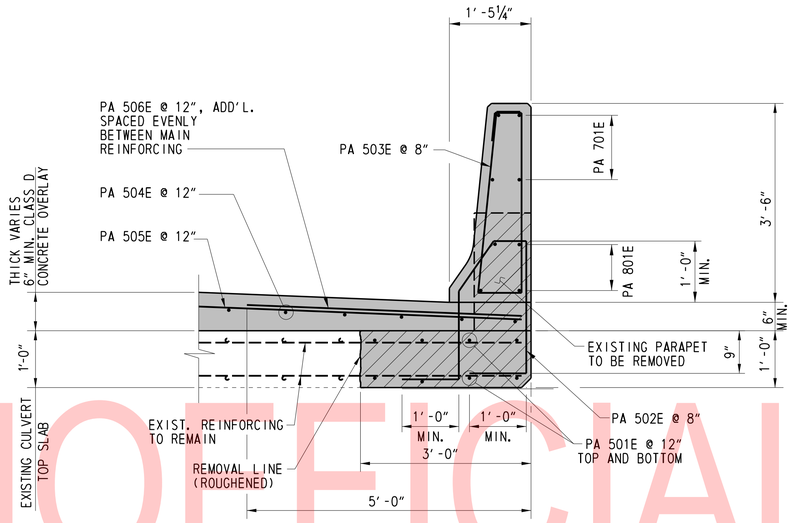
BRIDGE 1-323
CULVERT PLAN AND ELEVATION

	PE-01 1-323
SECTION	JMT
SHEET NO.	143



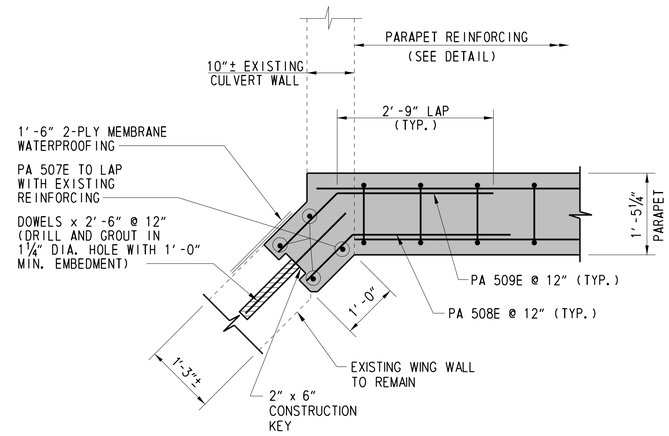
BRIDGE 1-323 S. B. PARAPET MODIFICATION

SCALE: ¾″ = 1′-0″



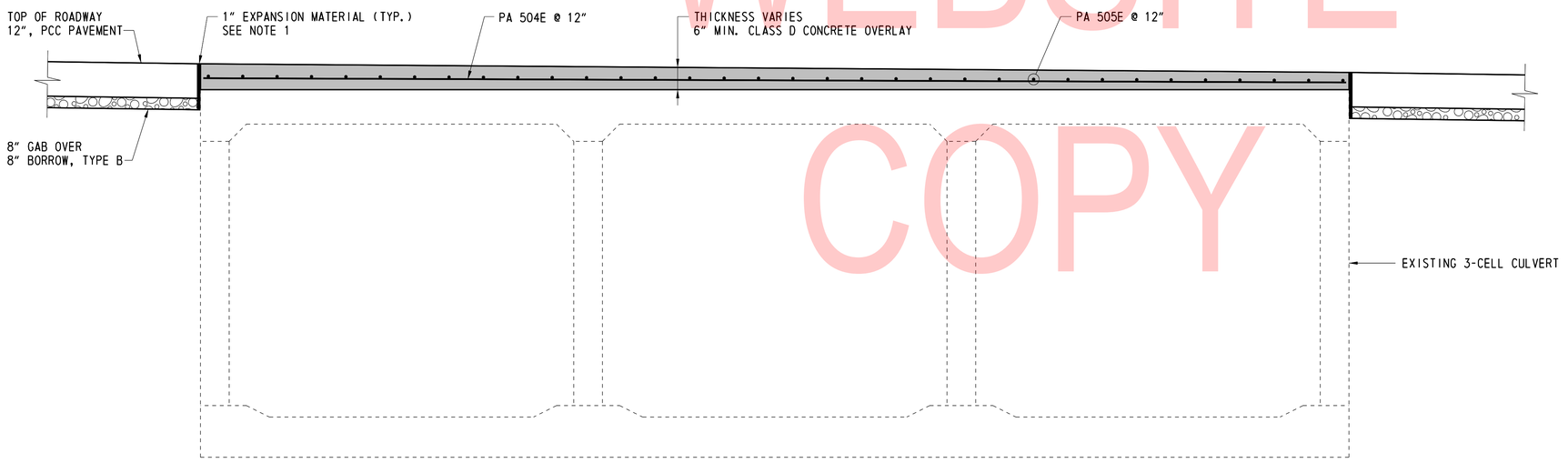
BRIDGE 1-323 N.B. PARAPET MODIFICATION

SCALE: ¾″ = 1′-0″



BRIDGE 1-323 N.B. TYPICAL CORNER DETAIL

SCALE: ¾″ = 1′-0″



BRIDGE 1-323 TYPICAL SECTION

SCALE: ½″ = 1′-0″

CULVERT REMOVAL NOTES:

1. SAW CUT 1″ DEEP ALONG THE REMOVAL LINE OF CULVERT TOP SLAB.
2. USING 15 LB PNEUMATIC HAMMER REMOVE PORTION OF 1′-0″ THICK SLAB AS SHOWN.
3. CONTRACTOR CAUTIONED NOT TO DAMAGE EXISTING CULVERT AND REINFORCING. ANY DAMAGES SHALL REPAIR AT HIS OWN EXPENSE AT NO ADDITIONAL COST TO DELDOT.
4. THE EXISTING REINFORCING SHALL BE CLEAN OF ALL EXISTING CONCRETE, LAITANCE OF UNSATISFACTORY MATERIAL. SAND OR WATER BLAST EXISTING REINFORCING AND APPLY EPOXY COATING.

NOTES:

1. COST FOR EXPANSION MATERIAL SHALL BE PAID UNDER ITEM *610017.
2. COST FOR SAW CUTTING, REMOVAL OF ASPHALT, EXISTING CONCRETE AND W-BEAM RAIL SHALL BE PAID UNDER ITEM *211000.
3. COST FOR PARAPET AND WING WALL MODIFICATION SHALL BE PAID UNDER ITEM 610008.
4. COST FOR CONCRETE OVERLAY AND CULVERT SLAB MODIFICATION SHALL BE PAID UNDER ITEM 610017.
5. COST FOR BAR REINFORCEMENT, CLEANING EXISTING REINFORCING, REPAIR/REPLACE EXISTING BAR REINFORCEMENT AND EPOXY COATING EXISTING REINFORCEMENT SHALL BE PAID UNDER ITEM 611001.
6. COST FOR DRILLING HOLES AND INSTALLING DOWELS SHALL BE PAID UNDER ITEM 628070.

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CU.DGN [SHEET: DT18]

TS-01
1-323P

ADDENDA / REVISIONS					
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	SCALE AS NOTED	ELKTON ROAD MD LINE TO CASHO MILL ROAD	CONTRACT T201504401
					COUNTY NEW CASTLE
					BRIDGE NO. 1-323
					DESIGNED BY: S.P.A.
					CHECKED BY: F.F.B.
				BRIDGE 1-323 PARAPET DETAILS	SECTION JMT
					SHEET NO. 144

① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.

② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SL = SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)									
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
CULVERT															
16	5	33-0 0	PA501E	STR											
101	5	9-7 0	PA502E	T15	1-0 0	3-3 0	0-7 0	1-1 0	2-6 0	1-2 0		2-6 0	0-7 0	0-11 0	1-2 0
175	5	8-8 0	PA503E	T7	0-6 0	3-2 0	0-9 0	3-3 0	0-6 0		0-6 0	3-2 0		0-4 0	
81	5	33-0 0	PA504E	STR											
34	5	40-9 0	PA505E	STR											
34	5	37-11 0	PA505E	STR											
68	5	4-10 0	PA506E	STR											
8	5	1-0 0	PA507E	STR											
2	5	3-11 0	PA508E	16			2-9 0	1-2 0				0-10 0		0-10 0	
2	5	4-3 0	PA509E	16			2-9 0	1-6 0				1-0 0		1-0 0	
12	7	33-0 0	PA701E	STR											
4	7	27-10 0	PA701E	STR											
12	8	33-0 0	PA801E	STR											
4	8	24-10 0	PA801E	STR											

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)									
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
CULVERT (CONT.)															

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)									
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
CULVERT (CONT.)															

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ASTM STANDARD ENGLISH REINFORCING BARS

BAR SIZE	NOMINAL DIAMETER (INCHES)	NOMINAL AREA (INCHES²)	NOMINAL WEIGHT (LBS./FT.)
3	0.375	0.110	0.376
4	0.500	0.200	0.668
5	0.625	0.310	1.043
6	0.750	0.440	1.502
7	0.875	0.600	2.044
8	1.000	0.790	2.670
9	1.128	1.000	3.400
10	1.270	1.270	4.303
11	1.410	1.560	5.313
14	1.693	2.250	7.650
18	2.257	4.000	13.600

RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES

	180° HOOKS		90° HOOKS
	D	A OR G	J	A OR G
3	2¼"	5"	3"	6"
4	3"	6"	4"	8"
5	3¾"	7"	5"	10"
6	4½"	8"	6"	1-0"
7	5¼"	10"	7"	1-2"
8	6"	11"	8"	1-4"
9	9½"	1-3"	11¾"	1-7"
10	10¾"	1-5"	1-1¼"	1-10"
11	1-0"	1-7"	1-2¾"	2-0"
14	1-6¼"	2-3"	1-9¾"	2-7"
18	2-0"	3-0"	2-4½"	3-5"

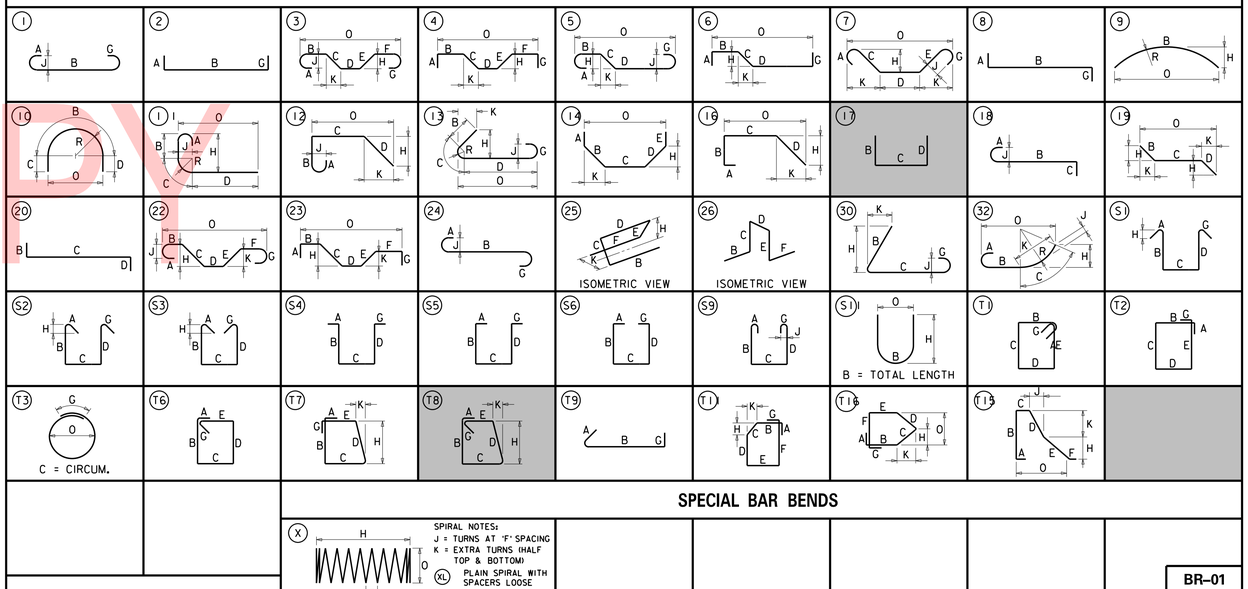
STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES

	90° HOOK	135° HOOK	
	D	A OR G	A OR G	A OR G
3	1½"	4"	4"	2½"
4	2"	4½"	4½"	3"
5	2½"	6"	5½"	3¾"
6	4½"	1-0"	8"	4½"
7	5¼"	1-2"	9"	5¼"
8	6"	1-4"	10½"	6"

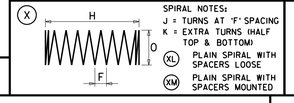
NOTES:

1. FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
2. STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
3. ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" ON STD. 180° AND 135° HOOKS.
4. "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
5. WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
6. "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
7. UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
8. WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
9. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
10. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRSI' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
11. TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.

STANDARD BAR BENDS

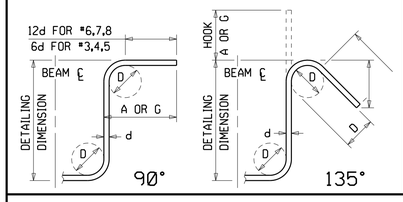


SPECIAL BAR BENDS

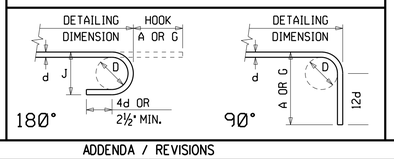


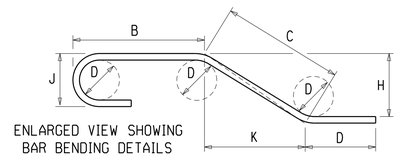
SPIRAL NOTES:
J = TURNS AT 'F' SPACING
K = EXTRA TURNS (HALF TOP & BOTTOM)
(KL) PLAIN SPIRAL WITH SPACERS LOOSE
(KM) PLAIN SPIRAL WITH SPACERS MOUNTED

STIRRUP AND TIE HOOKS



180° AND 90° END HOOKS





ADDENDA / REVISIONS		
⚠1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-323
DESIGNED BY:	S.P.A.
CHECKED BY:	F.F.B.

BRIDGE 1-323
REINFORCEMENT BAR LIST

BR-01
1-323

SECTION: JMT
SHEET NO.: 145

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\BR_BR.DGN [SHEET: BR01-Culvert]

PEDESTRIAN BRIDGE PROJECT NOTES

1. LOCATION
   PROPOSED PEDESTRIAN BRIDGE ALONG SR279 ELKTON ROAD, NEW CASTLE COUNTY, DELAWARE.
   - PEDESTRIAN BRIDGE 1-323P OVER WEST BRANCH CHRISTINA RIVER.

2. DESIGN CRITERIA
   AASHTO LRFD GUIDE SPECIFICATION FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2ND EDITION WITH 2015 INTERIM REVISIONS.

   AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION, WITH 2015 & 2016 INTERIM REVISIONS.

   DELDOT BRIDGE DESIGN MANUAL, 2017.

   DELDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2016.

3. GENERAL
   PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ANSI/AASHTO/AWS D1.5-08 BRIDGE WELDING CODE AND PROJECT SPECIAL PROVISIONS. ALL DIMENSIONS ARE HORIZONTAL, EXCEPT AS NOTED. SUPERSTRUCTURE DIMENSIONS SHOWN ARE FOR A NORMAL TEMPERATURE OF 68 DEGREES FAHRENHEIT.

   ALL ELEVATIONS ARE BASED ON NAVD 1988.

4. LOADING
   - UNIT WEIGHTS OF MATERIALS SHALL BE IN ACCORDANCE WITH THE DELDOT BRIDGE MANUAL.
   - 90 PSF PEDESTRIAN LIVE LOAD.
   - VEHICLE LIVE LOAD SHALL BE H10.

5. PORTLAND CEMENT CONCRETE
   STRUCTURAL ELEMENTS OF PORTLAND CEMENT CONCRETE SHALL BE AS NOTED:
   (f'c = 28 DAY COMPRESSIVE STRENGTH)
   CLASS B - ABUTMENT FOOTINGS, ABUTMENTS AND WING WALLS (f'c = 3.0 KSI)
   CLASS D - CONCRETE DECK (f'c = 4.5 KSI)

   MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE STANDARD SPECIFICATIONS. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾" UNLESS OTHERWISE NOTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE ANY APPROVED CONCRETE ADDITIVES OR HEATING TECHNIQUES TO MAINTAIN THE PROPER TEMPERATURE FOR ANY CONCRETE POURED DURING COLD WEATHER. PAYMENT SHALL BE INCIDENTAL TO THE RESPECTIVE CONCRETE BID ITEMS.

6. PRE-FABRICATED TRUSS STRUCTURAL STEEL
   ACCORDING TO MANUFACTURER REQUIREMENTS.

   STRUCTURAL STEEL
   STEEL PLATE GIRDER TOP AND BOTTOM FLANGES STEEL PLATE WEB, STIFFENERS AND CROSS FRAMES SHALL BE ASTM A709 GRADE 50W. THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING OF AASHTO M270 FOR PRIMARY LOAD CARRYING MEMBERS SHALL BE INCLUDED.

7. BAR REINFORCEMENT
   REINFORCING STEEL SHALL CONFORM TO AASHTO M31(ASTM A615), GRADE 60. REINFORCING STEEL SHALL HAVE A 3" COVER IF CAST AGAINST EARTH AND A 2" CLEAR COVER ELSEWHERE, UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL REINFORCING STEEL SHALL BE PROTECTED WITH FUSION BONDED EPOXY. EPOXY COATED REINFORCING STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963). ALL NECESSARY FIELD CUTTING AND BENDING SHALL BE INCIDENTAL TO ITEM 611001-BAR REINFORCEMENT, EPOXY COATED.

8. CONSTRUCTION JOINTS
   KEYED CONSTRUCTION JOINTS SHALL BE 2 INCHES X 4 INCHES OR AS NOTED. ALL EXPOSED CONSTRUCTION JOINTS SHALL HAVE A ¾" V-NOTCH. ANY WATERSTOPS SHALL BE INCIDENTAL TO THE APPROPRIATE CONCRETE ITEM.

9. BORING LOGS
   SEE BORING LOG SHEETS FOR MORE INFORMATION.

10. SHEETING AND SHORING
    THE CONTRACTOR SHALL SUBMIT A PROPOSED PLAN FOR SHEETING OR SHORING OF THE EXCAVATION. THE SUBMITTAL SHALL INCLUDE ANY DRAWINGS AND CALCULATIONS ASSOCIATED WITH THE WORK AND SHALL BE STAMPED BY A DELAWARE REGISTERED PROFESSIONAL ENGINEER. PAYMENT FOR SHEETING AND SHORING, AS WELL AS THE MATERIALS AND WORK ASSOCIATED WITH THE SUBMITTAL, SHALL BE MADE UNDER ITEM 604003-SHORING.

11. HYDRAULIC DATA:

DRAINAGE AREA:	4.21 SQ. MILES	DESIGN FREQ. :	50 YEARS
DESIGN DISCHARGE:	2171 CFS	100-YEAR DISCHARGE:	2547 CFS
EXISTING (DESIGN STORM) WSE:	103.46 FT	PROPOSED (DESIGN STORM) WSE:	103.65 FT
EXISTING (DESIGN STORM) VELOCITY:	3.71 FPS	PROPOSED (DESIGN STORM) VELOCITY:	4.94 FPS
EXISTING 100-YEAR WSE:	103.59 FT	PROPOSED 100-YEAR WSE:	103.65 FT
EXISTING 100-YEAR VELOCITY:	4.11 FPS	PROPOSED 100-YEAR VELOCITY:	6.12 FPS
EXISTING WATERWAY OPENING:	NA SQ. FT	PROPOSED WATERWAY OPENING:	438 SQ. FT

12. SCOUR ANALYSIS:

SCOUR DESIGN FREQUENCY::	200 YEARS
SCOUR DESIGN FLOOD DISCHARGE:	3100 CFS
SCOUR DESIGN FLOOD VELOCITY:	6.81 FPS (AT BRIDGE OUTLET)
WATER SURFACE ELEVATION:	104.93 FT (IMMEDIATELY UPSTREAM OF BRIDGE)
CALCULATED SCOUR DEPTH,	ABUTMENT A: 9.8 FT
	ABUTMENT B: 8.1 FT

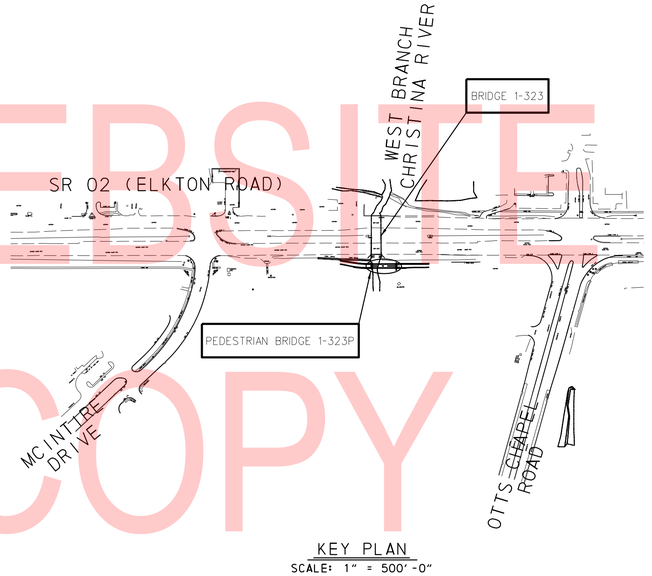
SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE SCOUR DESIGN FLOOD IN ACCORDANCE WITH HEC 23 - BRIDGE SCOUR AND STREAM INSTABILITY COUNTERMEASURES AND/OR HEC 14 - HYDRAULIC DESIGN OF ENERGY DISSIPATORS FOR CULVERTS AND CHANNELS (AS APPROPRIATE).

QUANTITIES

ITEM NUMBER	ITEM TITLE	UNIT	QUANTITY
207000	STRUCTURAL EXCAVATION	CY	411
302005	DELAWARE NO. 57 STONE	TON	52
615516	PREFABRICATED STEEL TRUSS BRIDGE	LS	1
604003	SHORING	LS	1
610010	PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT FOOTING, CLASS B	CY	62
610011	PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING, CLASS B	CY	60
611001	BAR REINFORCEMENT, EPOXY COATED	LB	12,000
626000	STEEL PEDESTRIAN RAILING	LF	52
707002	RIPRAP, R-5	SY	27
708003	GEOTEXTILES, RIPRAP	SY	61
709000	PERFORATED PIPE UNDERDRAINS, 4"	LF	70

INDEX OF SHEETS

DRAWING NO.	TITLE
PN-01	PROJECT NOTES
PE-01	PLAN, ELEVATION AND SECTION
TS-01	TYPICAL SECTION
FT-01	FOOTING LAYOUT PLAN
AB-01	ABUTMENT A PLAN, ELEVATION AND SECTIONS
AB-02	ABUTMENT B PLAN, ELEVATION AND SECTIONS
AB-03	ABUTMENT A REINFORCEMENT
AB-04	ABUTMENT B REINFORCEMENT
WW-01	WING WALL ELEVATIONS
RA-01	RAILING DETAILS
BR-01	REINFORCEMENT BAR LIST
BO-01	SOIL BORING LOGS



KEY PLAN
SCALE: 1" = 500'-0"

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PN_BR.DGN [SHEET: PN01-Ped 1]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

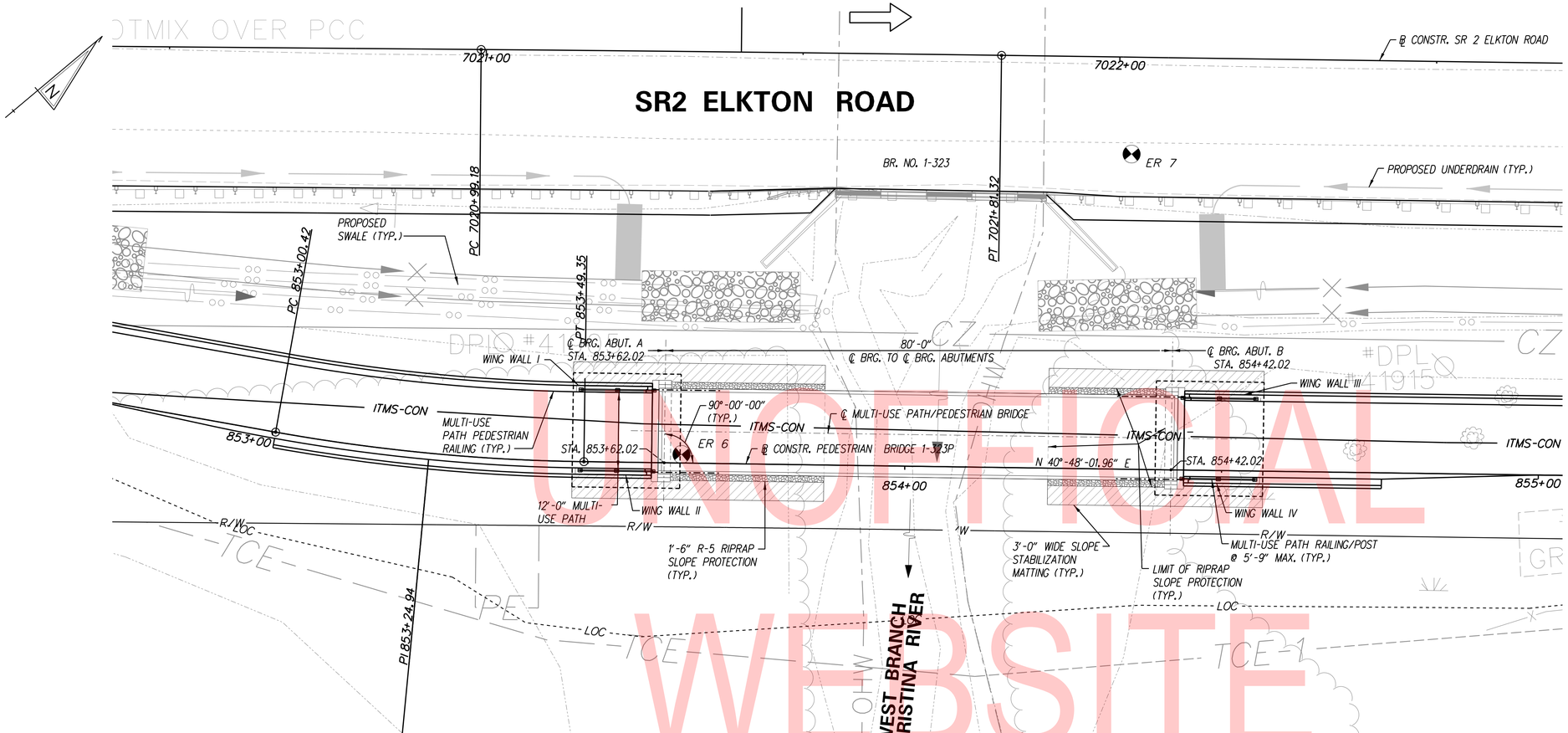
SCALE AS NOTED

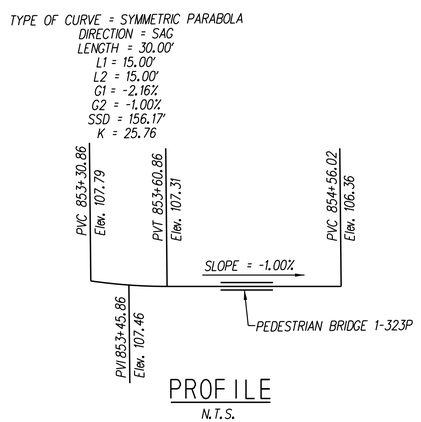
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-323P
DESIGNED BY:	S.P.A.
CHECKED BY:	F.F.B.

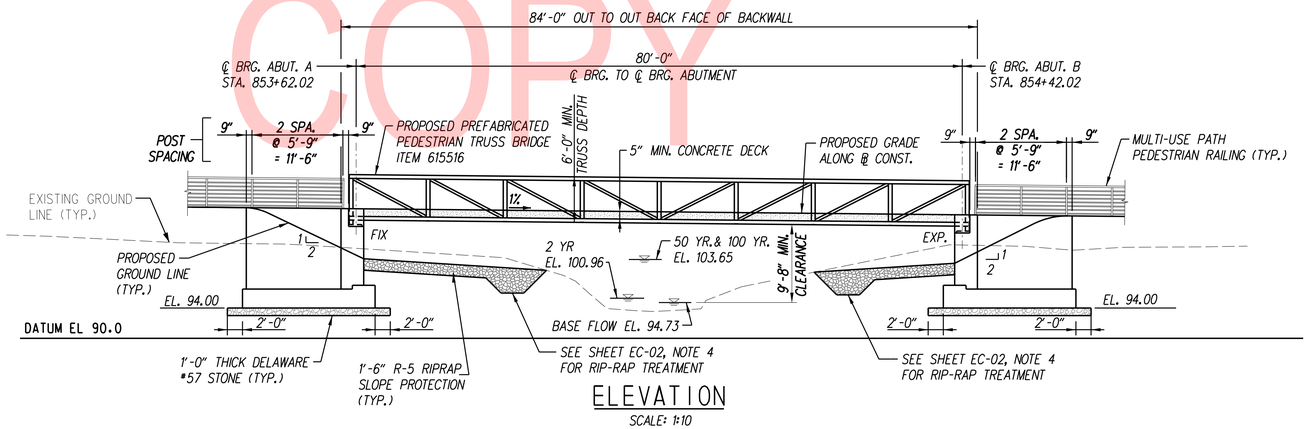
PEDESTRIAN BRIDGE 1-323P
PROJECT NOTES

	PN-01 1-323P
SECTION	JMT
SHEET NO.	146





PROFILE
N.T.S.



ELEVATION
SCALE: 1:10

UNOFFICIAL WEBSITE COPY

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE AS NOTED

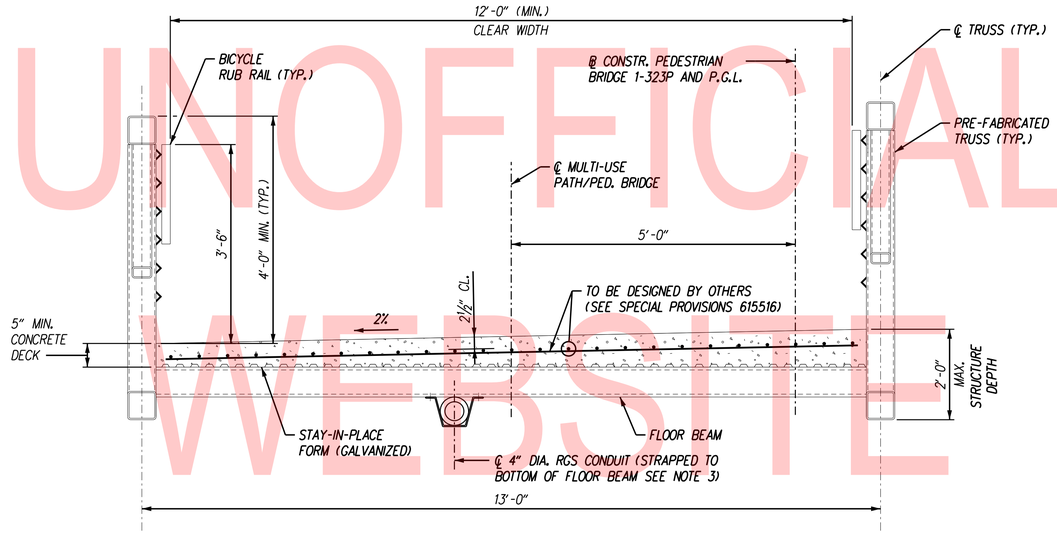
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-323P
T201504401	DESIGNED BY: S.P.A.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-323P
PLAN, ELEVATION AND SECTION

PE-01 1-323P	
SECTION	JMT
SHEET NO.	147

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PE.DGN [SHEET: BR02]



TYPICAL SECTION - PEDESTRIAN BRIDGE 1-323P

SCALE: ¾"=1'-0"

NOTE:

1. ℄ TRUSS TO ℄ TRUSS DIMENSION SHOWN IS ESTIMATED AND CONTRACTOR TO COORDINATE WITH TRUSS FABRICATOR FOR ACTUAL DIMENSIONS.
2. SEE SPECIAL PROVISIONS FOR PRE-FABRICATED TRUSS BRIDGE ADDITIONAL REQUIREMENTS.
3. 4" DIA. RGS CONDUIT SHALL BE PROVIDED BY THE CONTRACTOR AND COST SHALL BE PAID UNDER ITEM 831541.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\TS_BR.DGN [SHEET: TS01-Ped1]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

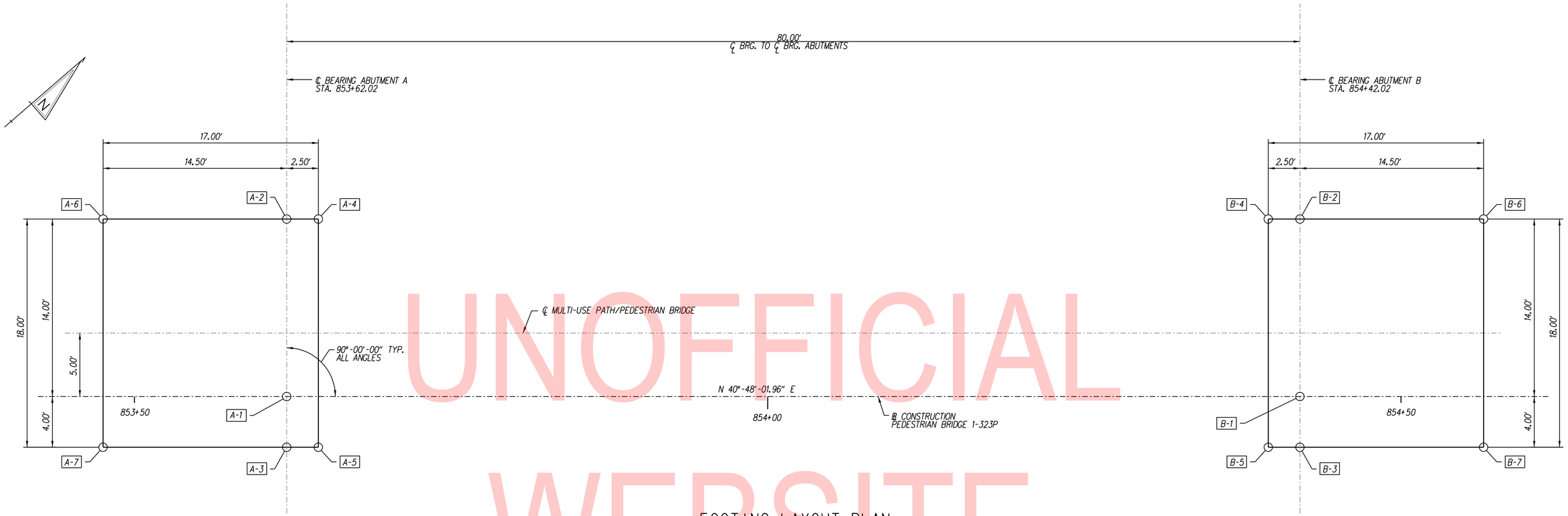
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-323P
T201504401	DESIGNED BY: S.P.A.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-323P
TYPICAL SECTION

SECTION	TS-01 1-323P
JMT	
SHEET NO.	148



FOOTING LAYOUT PLAN

SCALE: 1/4" = 1'-0"

UNOFFICIAL WEBSITE COPY

ABUTMENT A WORKING POINTS				
W.P. NO.	STATION	OFFSET	NORTHING	EASTING
A-1	853+62.02	0'-0"	603438.04	552178.68
A-2	853+62.02	14'-0" L	603447.19	552168.08
A-3	853+62.02	4'-0" R	603435.43	552181.71
A-4	853+64.52	14'-0" L	603449.08	552169.72
A-5	853+64.52	4'-0" R	603437.32	552183.34
A-6	853+47.52	14'-0" L	603436.21	552158.61
A-7	853+47.52	4'-0" R	603424.45	552172.23

ABUTMENT B WORKING POINTS				
W.P. NO.	STATION	OFFSET	NORTHING	EASTING
B-1	854+42.02	0'-0"	603498.60	552230.96
B-2	854+42.02	14'-0" L	603507.75	552220.36
B-3	854+42.02	4'-0" R	603495.99	552233.98
B-4	854+39.52	14'-0" L	603505.86	552218.72
B-5	854+39.52	4'-0" R	603494.09	552232.35
B-6	854+56.52	14'-0" L	603518.72	552229.83
B-7	854+56.52	4'-0" R	603506.96	552243.46

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\FT.DGN [SHEET: FT01-Ped 1]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE AS NOTED

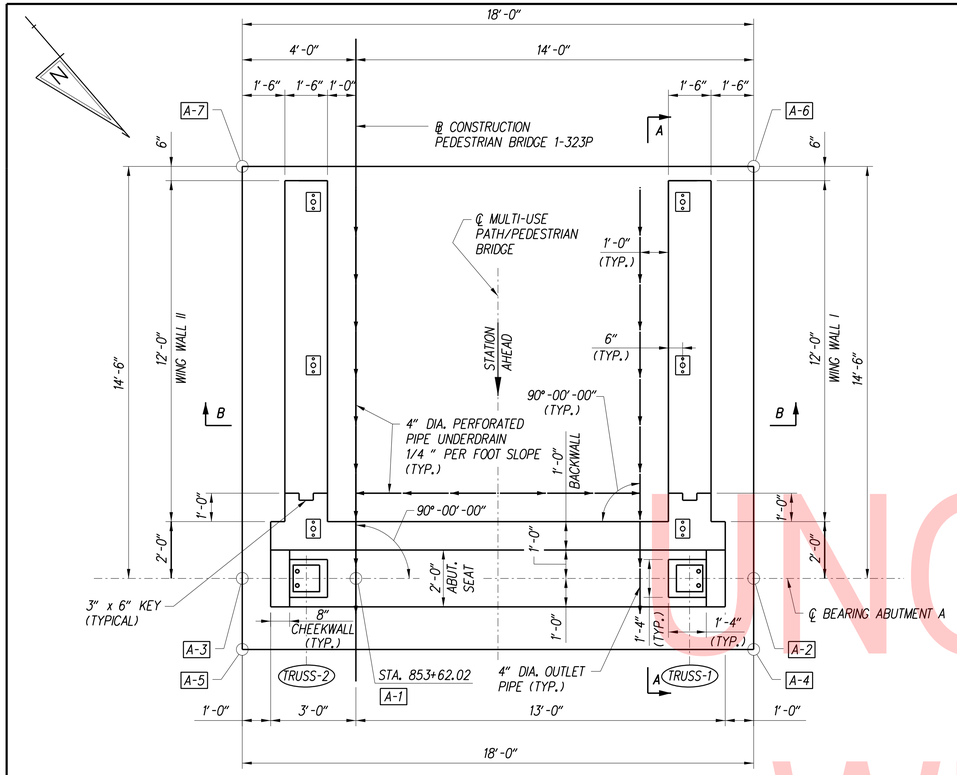
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-323P
T201504401	DESIGNED BY: S.P.A.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-323P
FOOTING LAYOUT PLAN

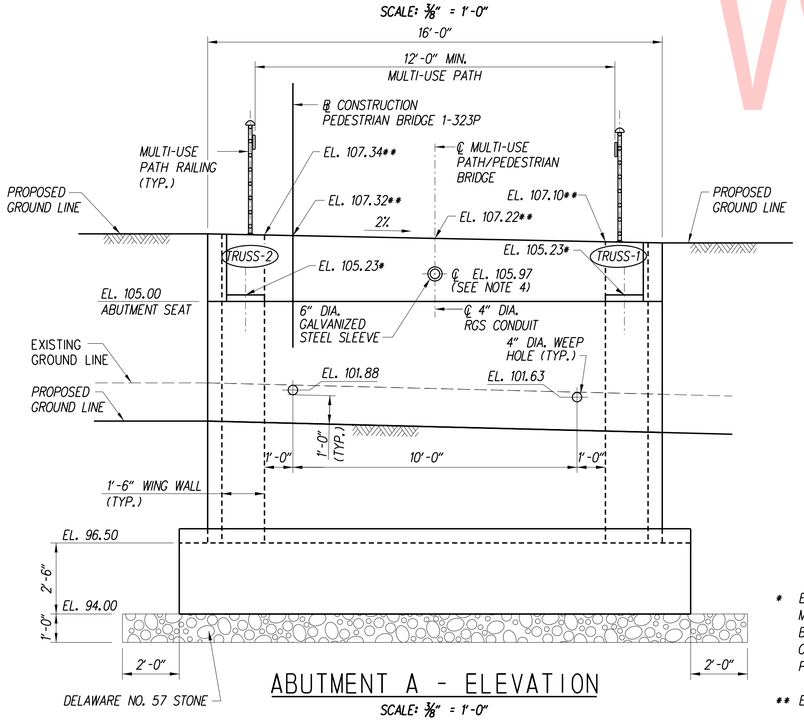
FT-01
1-323P

SECTION: JMT
SHEET NO.: 149



ABUTMENT A - PLAN

SCALE: 3/8" = 1'-0"

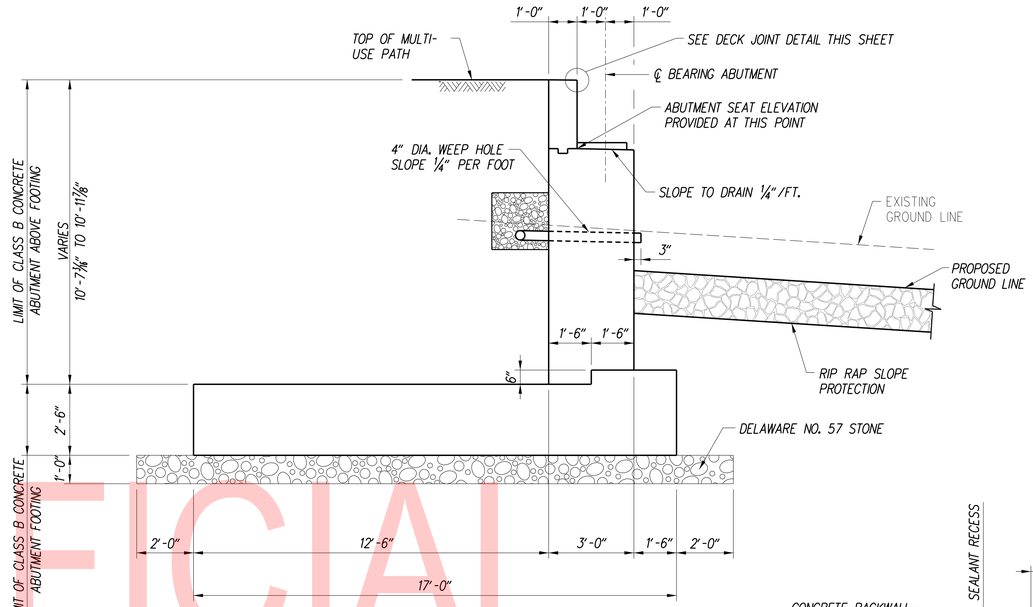


ABUTMENT A - ELEVATION

SCALE: 3/8" = 1'-0"

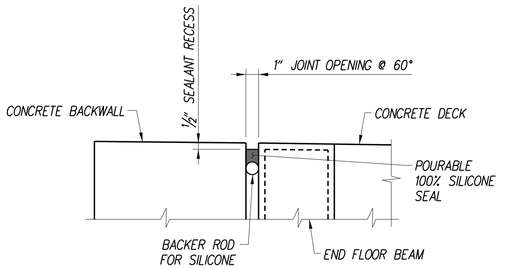
* ELEVATION AT ℄ BEARING BASED ON 2'-0" MAX. STRUCTURE DEPTH AND 1⅛" THICK BEARING PLATE ASSEMBLY. CONTRACTOR TO COORDINATE BEARING PLATE ASSEMBLY AND PEDESTAL DIMENSIONS WITH BRIDGE FABRICATOR.

** ELEVATION SHOWN AT BACK OF BACKWALL.



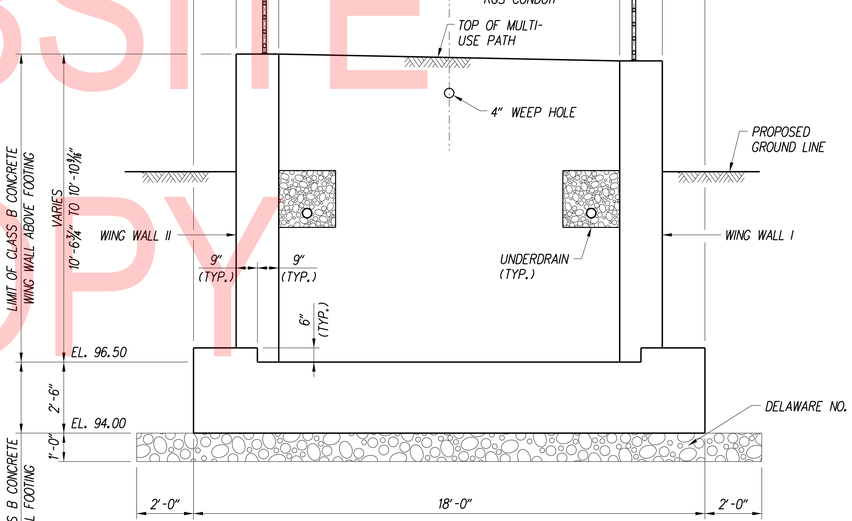
ABUTMENT A - TYPICAL SECTION (A-A)

SCALE: 3/8" = 1'-0"



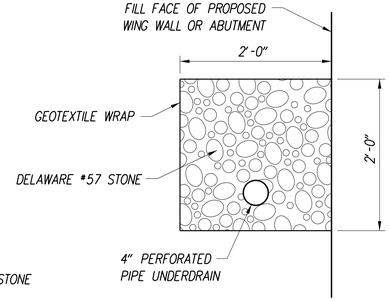
DECK JOINT DETAIL

SCALE: 1" = 1'-0"



ABUTMENT A - TYPICAL WING WALL SECTION (B-B)

SCALE: 3/8" = 1'-0"



UNDERDRAIN DETAIL

SCALE: 1" = 1'-0"

NOTES:
1. SEE SHEET PE-01 FOR GENERAL PLAN AND ELEVATION.
2. COST FOR UNDERDRAIN SYSTEM SHALL BE PAID UNDER ITEM # 709000.
3. COST FOR DECK JOINT SHALL BE PAID UNDER ITEM # 610017.
4. CONTRACTOR TO COORDINATE WITH TRUSS FABRICATOR FOR ELEVATION.

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\AB.DGN [SHEET: AB01-Ped1]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE AS NOTED

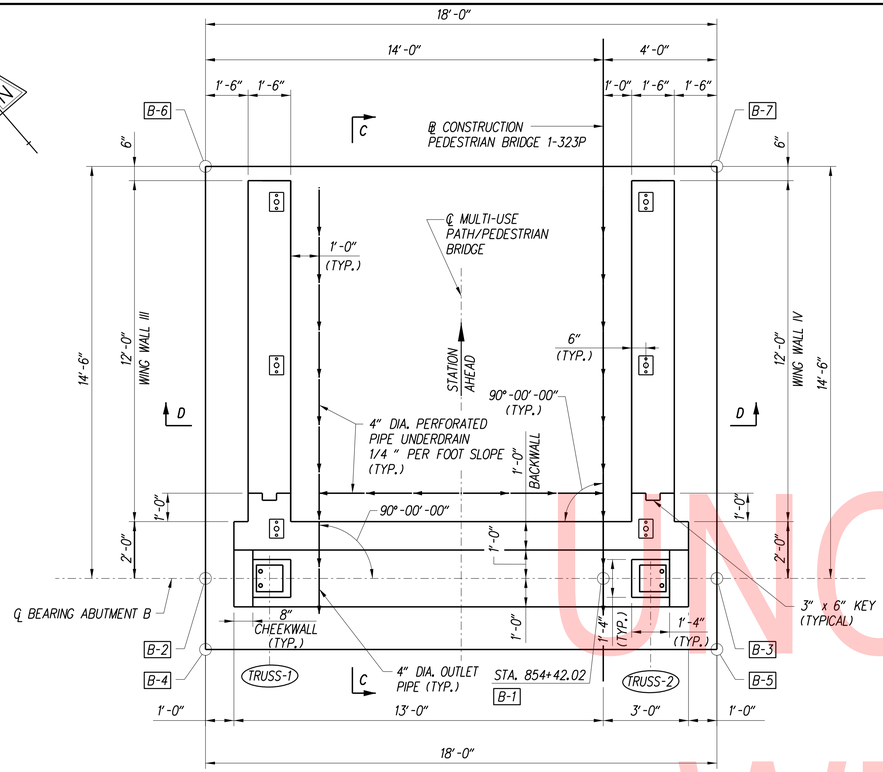
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-323P
COUNTY	NEW CASTLE	DESIGNED BY: P.J.M.	
		CHECKED BY: F.F.B.	

PEDESTRIAN BRIDGE 1-323P
ABUTMENT A PLAN, ELEVATION AND SECTIONS

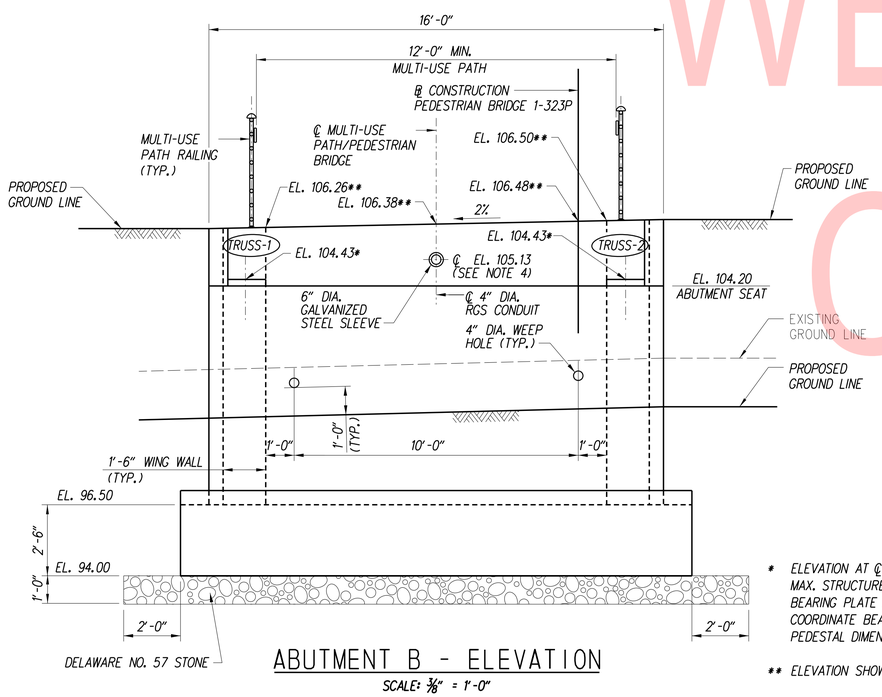
AB-01
1-323P

SECTION	JMT
SHEET NO.	150



ABUTMENT B - PLAN

SCALE: 3/8" = 1'-0"

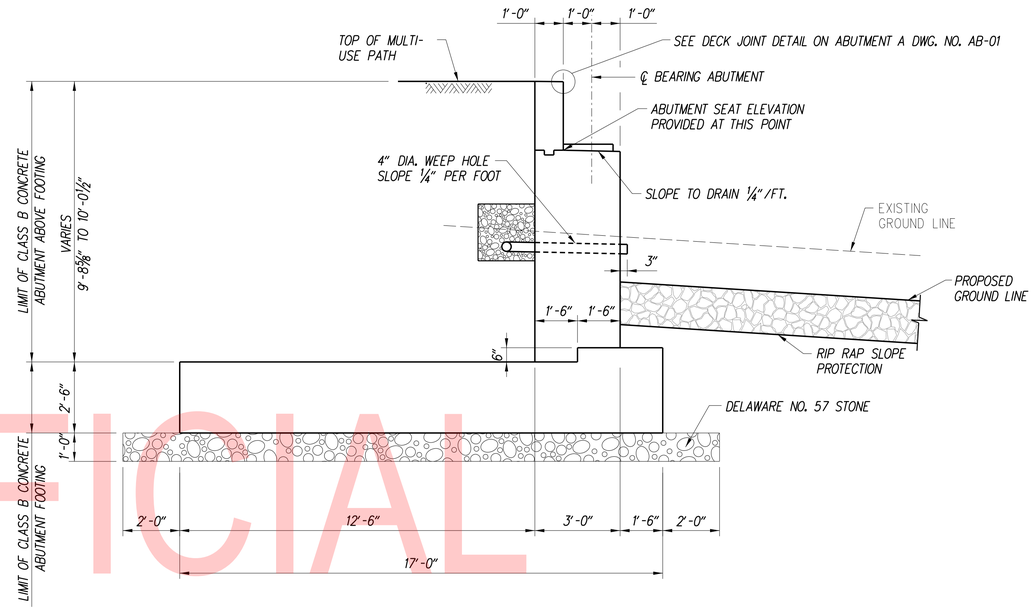


ABUTMENT B - ELEVATION

SCALE: 3/8" = 1'-0"

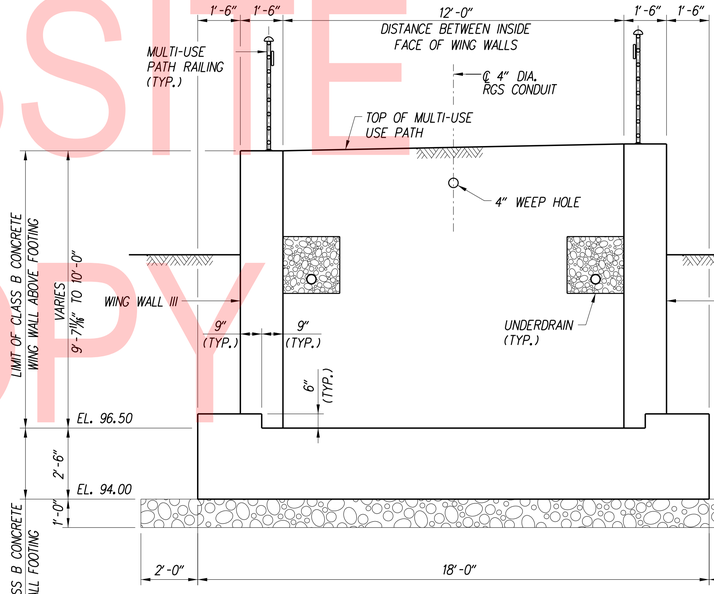
* ELEVATION AT ℄ BEARING BASED ON 2'-0" MAX. STRUCTURE DEPTH AND 1 1/8" THICK BEARING PLATE ASSEMBLY. CONTRACTOR TO COORDINATE BEARING PLATE ASSEMBLY AND PEDESTAL DIMENSIONS WITH BRIDGE FABRICATOR.

** ELEVATION SHOWN AT BACK OF BACKWALL.



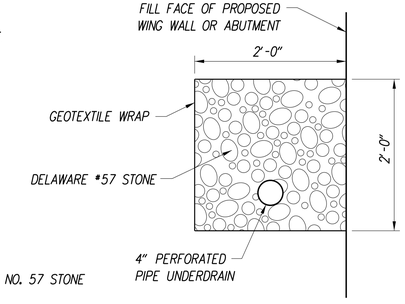
ABUTMENT B - TYPICAL SECTION (C-C)

SCALE: 3/8" = 1'-0"



ABUTMENT B - TYPICAL WING WALL SECTION (D-D)

SCALE: 3/8" = 1'-0"



UNDERDRAIN DETAIL

SCALE: 1" = 1'-0"

NOTES:
1. SEE SHEET PE-01 FOR GENERAL PLAN AND ELEVATION.
2. COST FOR UNDERDRAIN SYSTEM SHALL BE PAID UNDER ITEM # 709000.
3. COST FOR DECK JOINT SHALL BE PAID UNDER ITEM # 610017.
4. CONTRACTOR TO COORDINATE WITH TRUSS FABRICATOR FOR ELEVATION.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\AB.DGN [SHEET: AB02-Ped1]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

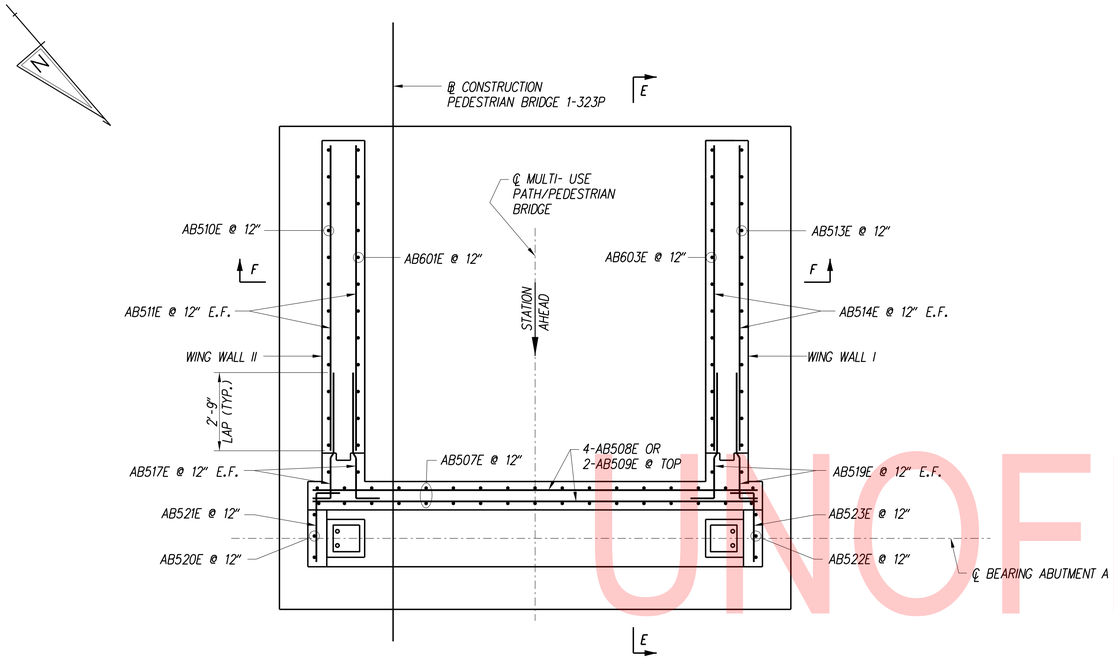
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-323P
COUNTY	NEW CASTLE	DESIGNED BY: P.J.M.	
		CHECKED BY: F.F.B.	

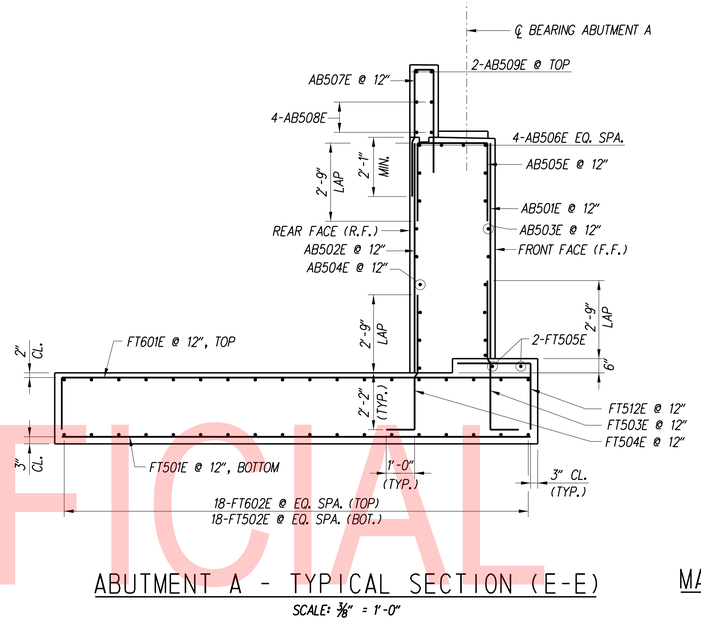
PEDESTRIAN BRIDGE 1-323P
ABUTMENT B PLAN, ELEVATION AND SECTIONS

AB-02 1-323P	
SECTION	JMT
SHEET NO.	151



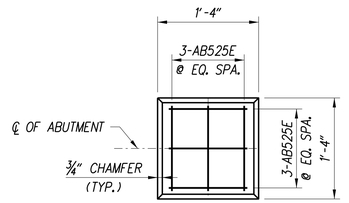
ABUTMENT A - PLAN

SCALE: 3/8" = 1'-0"



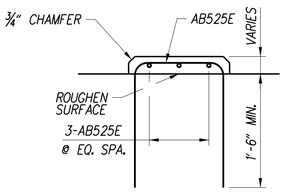
ABUTMENT A - TYPICAL SECTION (E-E)

SCALE: 3/8" = 1'-0"



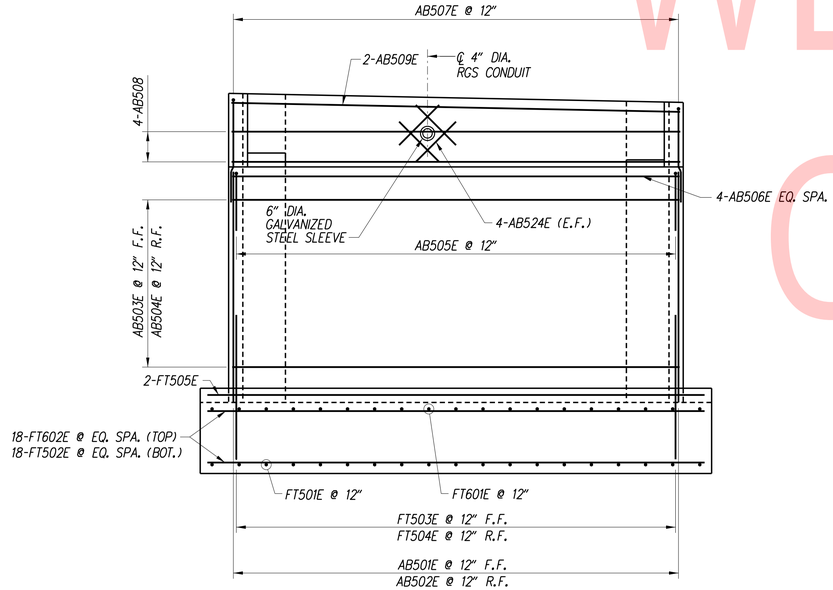
MASONRY PAD PLAN - ABUTMENTS A & B

SCALE: 1" = 1'-0"



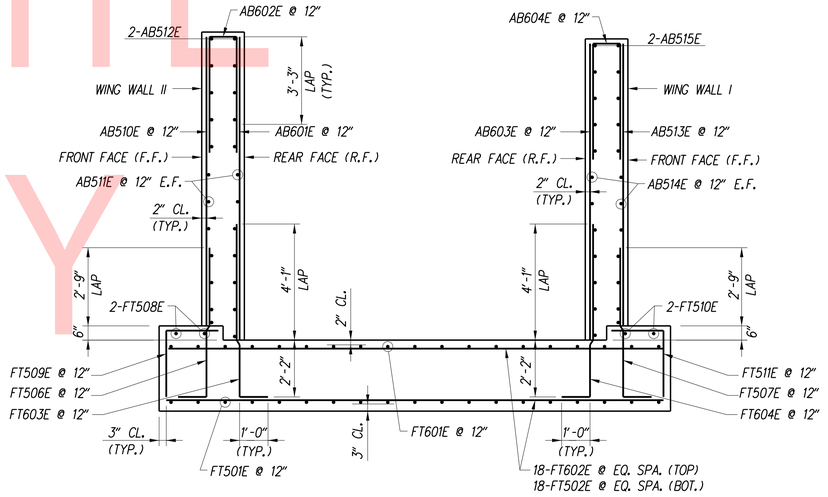
MASONRY PAD ELEVATION - ABUTMENTS A & B

SCALE: 1" = 1'-0"



ABUTMENT A - ELEVATION

SCALE: 3/8" = 1'-0"



ABUTMENT A - TYPICAL WING WALL SECTION (F-F)

SCALE: 3/8" = 1'-0"

NOTES:

1. SEE SHEET PE-01 FOR GENERAL PLAN AND ELEVATION.

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\AB.DGN [SHEET: AB03-Ped1]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

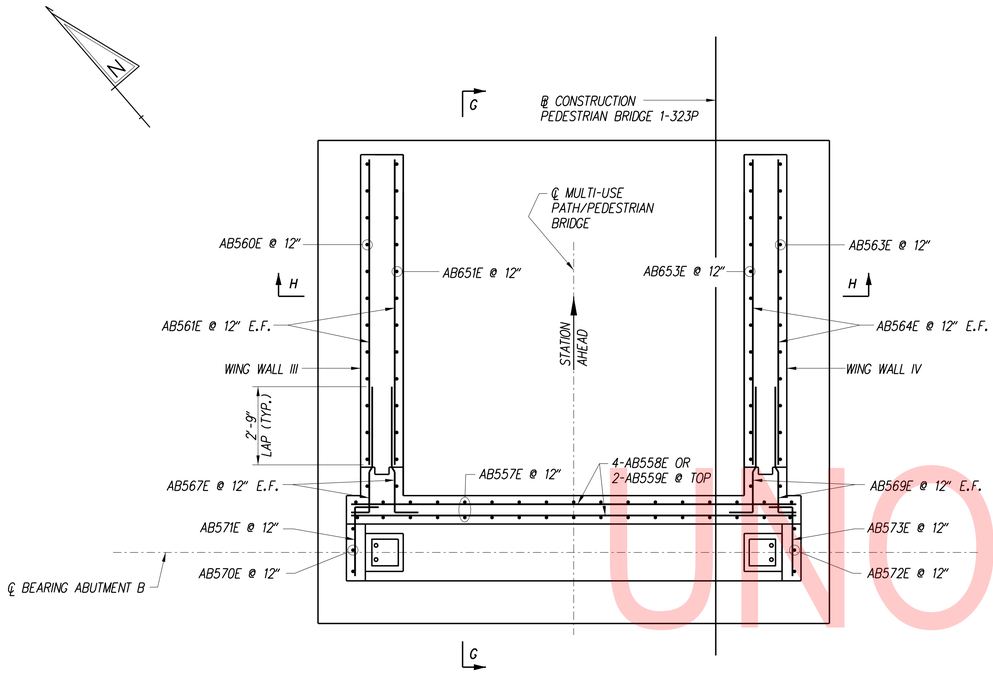
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-323P
T201504401	DESIGNED BY: P.J.M.	
COUNTY		
NEW CASTLE	CHECKED BY: F.F.B.	

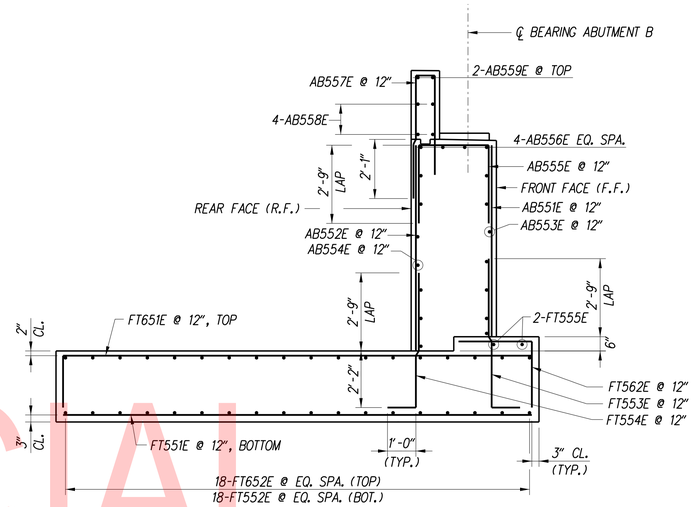
PEDESTRIAN BRIDGE 1-323P
ABUTMENT A
REINFORCEMENT

AB-03 1-323P	
SECTION	JMT
SHEET NO.	152



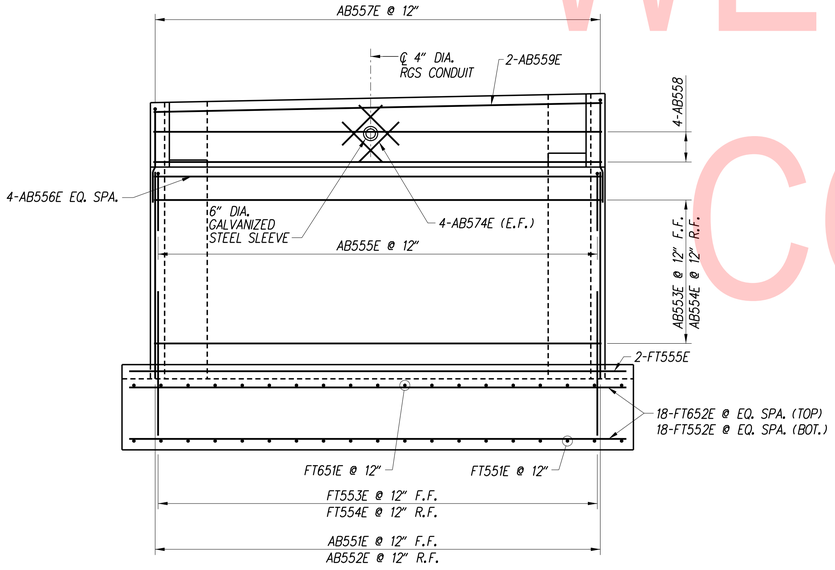
ABUTMENT B - PLAN

SCALE: 3/8″ = 1′-0″



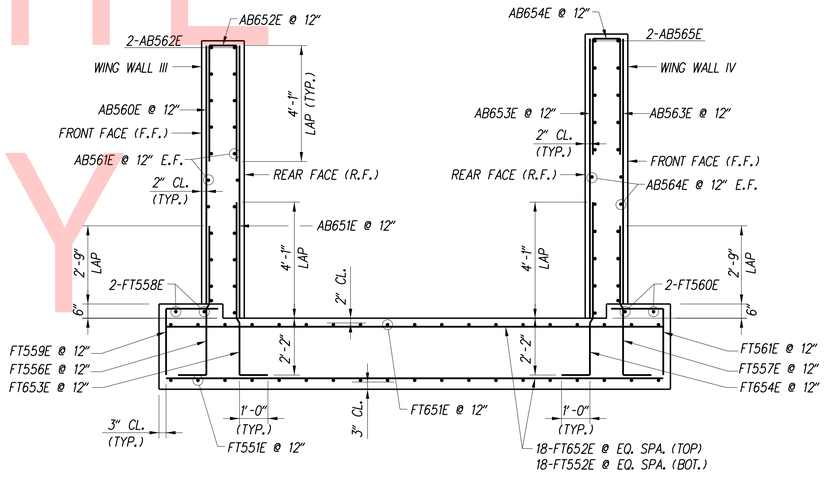
ABUTMENT B - TYPICAL SECTION (G-G)

SCALE: 3/8″ = 1′-0″



ABUTMENT B - ELEVATION

SCALE: 3/8″ = 1′-0″



ABUTMENT B - TYPICAL WING WALL SECTION (H-H)

SCALE: 3/8″ = 1′-0″

NOTES:

1. SEE SHEET PE-01 FOR GENERAL PLAN AND ELEVATION.

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\AB.DGN [SHEET: AB04-Ped1]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

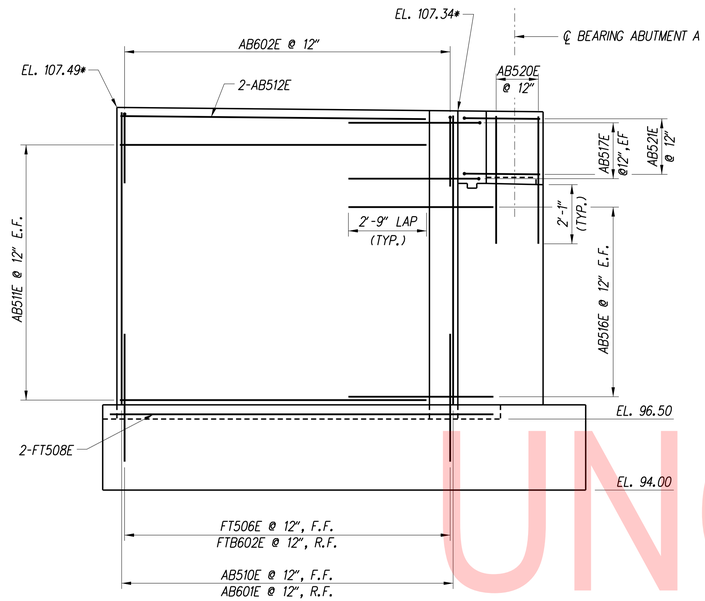
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-323P
T201504401	DESIGNED BY: P.J.M.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

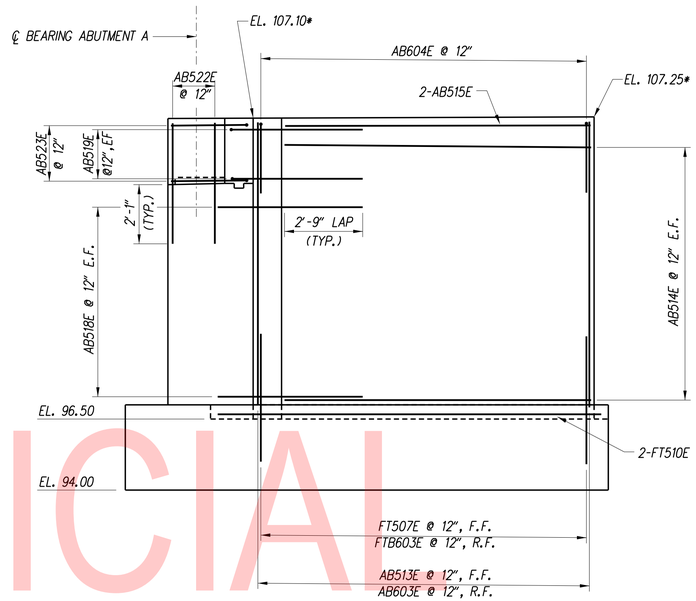
PEDESTRIAN BRIDGE 1-323P
ABUTMENT B
REINFORCEMENT

AB-04 1-323P	
SECTION	JMT
SHEET NO.	153



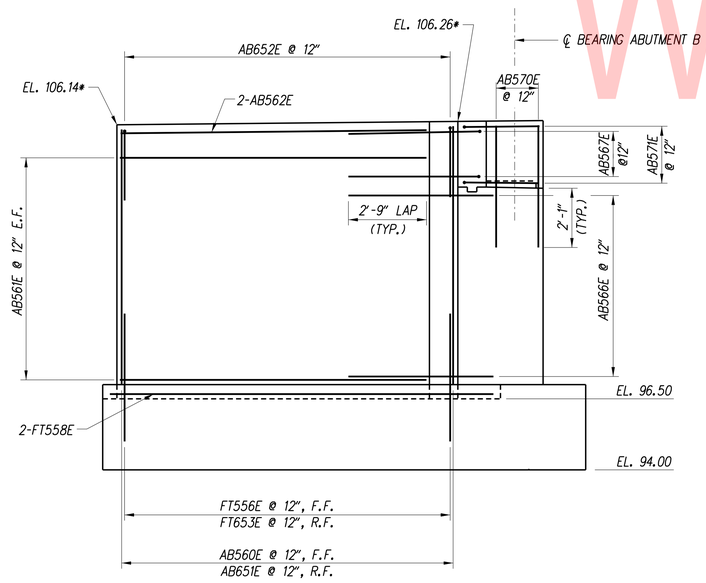
WING WALL II REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"



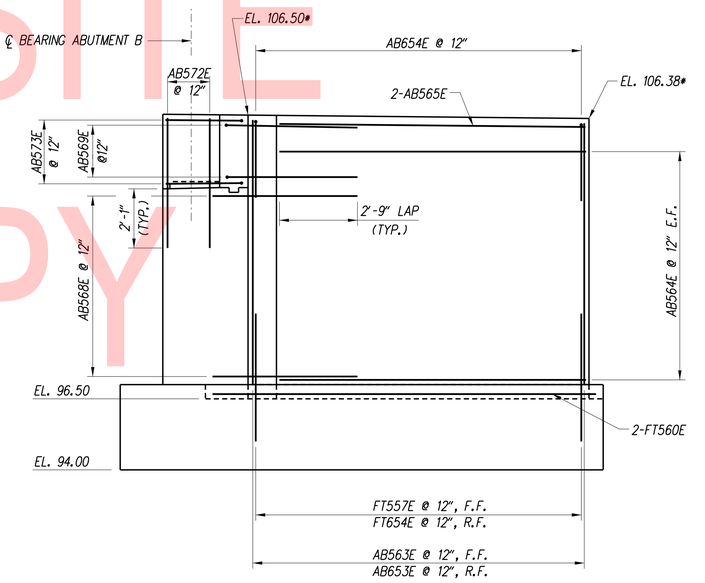
WING WALL I REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"



WING WALL III REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"



WING WALL IV REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"

* ELEVATIONS ALONG INTERIOR OF WING WALLS

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\WW.DGN [SHEET: WW01-Ped1]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE AS NOTED

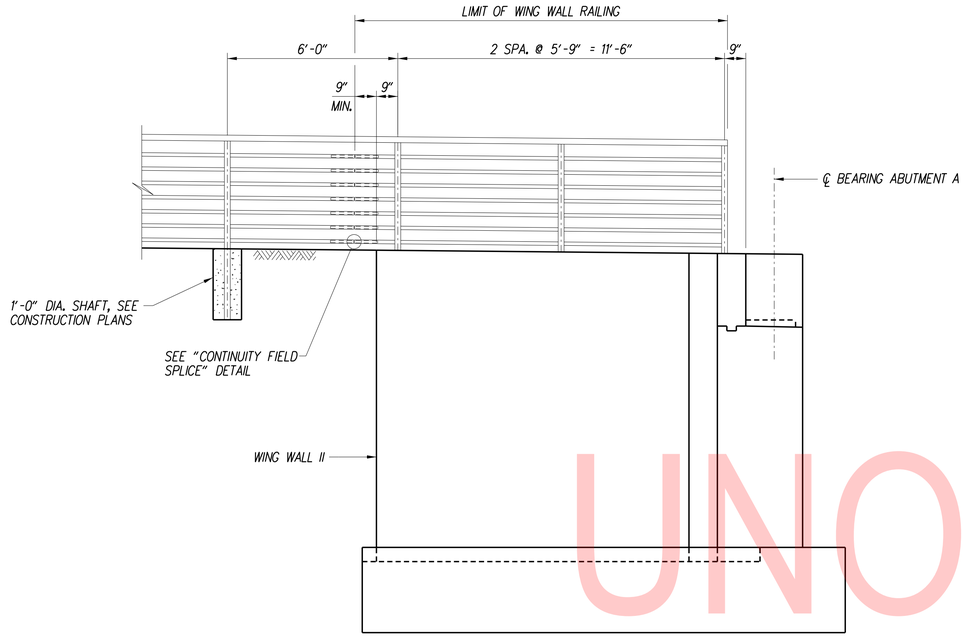
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-323P
T201504401	DESIGNED BY: P.J.M.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-323P
WING WALL ELEVATIONS

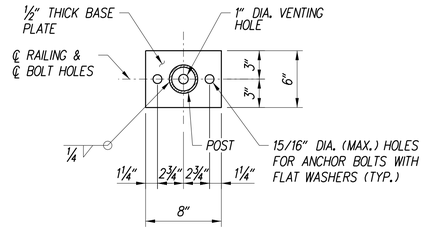
WW-01
1-323P

SECTION	SHEET NO.
JMT	154



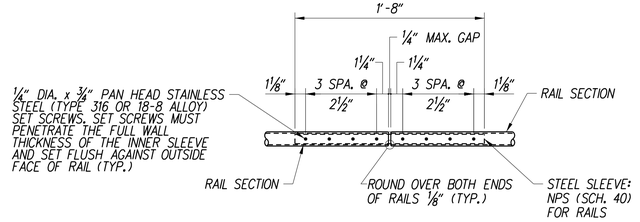
PEDESTRIAN RAILING ELEVATION

SCALE: 3/8" = 1'-0"



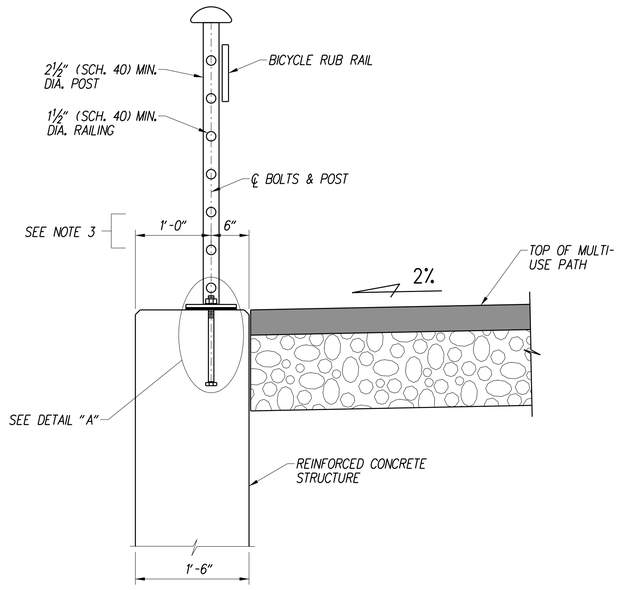
BASE PLATE DETAIL

SCALE: 1½" = 1'-0"



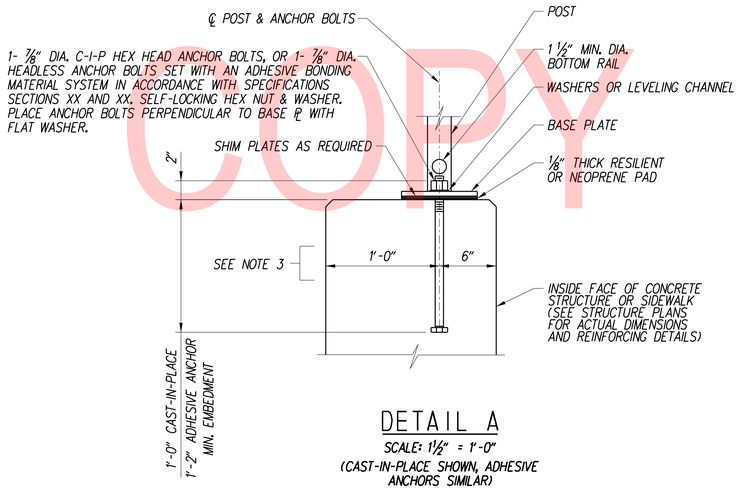
CONTINUITY FIELD SPLICE

SCALE: 1½" = 1'-0"



TYPICAL SECTION ON WING WALL

SCALE: 1" = 1'-0"
(WING WALL I SHOWN, OTHERS SIMILAR)



DETAIL A

SCALE: 1½" = 1'-0"
(CAST-IN-PLACE SHOWN, ADHESIVE ANCHORS SIMILAR)

NOTES:

1. FOR MULTI-USE PATH DETAILS, SEE CONSTRUCTION PLANS.
2. ABUTMENT A-WING WALL II RAILING SHOWN. ALL OTHER WING WALL RAILINGS ARE SIMILAR TO WING WALL II.
3. BICYCLE RUB RAIL ON PEDESTRIAN BRIDGE AND WING WALL SHALL BE LINED UP WITH SHARE USE PATH APPROACH RAILING. CONTRACTOR TO COORDINATE WITH PRE-FABRICATED TRUSS MANUFACTURER.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\RA.DGN [SHEET: AB06]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-323P
T201504401	DESIGNED BY: S.P.A.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-323P
RAILING DETAILS

SECTION	RA-01 1-323P
JMT	
SHEET NO.	155

① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.

② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SL = SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

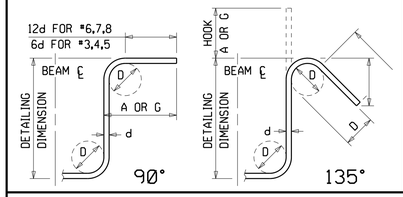
SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)									
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
ABUTMENT A															
19	5	16-6 0	FT501E	STR											
18	5	17-6 0	FT502E	STR											
17	5	6-5 0	FT503E	2	1-0 0	5-5 0									
17	5	5-11 0	FT504E	2	1-0 0	4-11 0									
2	5	17-6 0	FT505E	STR											
13	5	6-5 0	FT506E	2	1-0 0	5-5 0									
13	5	6-5 0	FT507E	2	1-0 0	5-5 0									
2	5	13-6 0	FT508E	STR											
18	5	4-5 0	FT509E	17	1-10 0	2-7 0									
2	5	13-6 0	FT510E	STR											
18	5	4-5 0	FT511E	17	1-10 0	2-7 0									
19	5	5-2 0	FT512E	17	2-7 0	2-7 0									
19	6	18-7 0	FT601E	2	2-1 0	16-6 0									
18	6	17-6 0	FT602E	STR											
13	6	7-3 0	FT603E	2	1-0 0	6-3 0									
13	6	7-3 0	FT604E	2	1-0 0	6-3 0									
17	5	7-10 0	AB501E	STR											
17	5	8-4 0	AB502E	STR											
8	5	15-8 0	AB503E	STR											
8	5	15-8 0	AB504E	STR											
17	5	8-2 0	AB505E	17		2-9 0	2-8 0	2-9 0							
4	5	15-8 0	AB506E	STR											
17	5	9-2 0	AB507E	17		4-3 0	0-8 0	4-3 0							
4	5	15-8 0	AB508E	STR											
2	5	15-8 0	AB509E	STR											
13	5	10-4 0	AB510E	STR											
22	5	10-9 0	AB511E	STR											
2	5	10-9 0	AB512E	STR											
13	5	9-11 0	AB513E	STR											
22	5	10-9 0	AB514E	STR											
2	5	10-9 0	AB515E	STR											
18	5	4-10 0	AB516E	STR											
6	5	5-6 0	AB517E	2	0-10 0	4-8 0									
18	5	4-10 0	AB518E	STR											
6	5	5-6 0	AB519E	2	0-10 0	4-8 0									
3	5	4-4 0	AB520E	STR											
3	5	3-5 0	AB521E	2	0-10 0	2-7 0									
3	5	4-1 0	AB522E	STR											
3	5	3-5 0	AB523E	2	0-10 0	2-7 0									
8	5	2-0 0	AB524E	STR											
12	5	4-4 0	AB525E	17		1-8 0	1-0 0	1-8 0							
13	6	10-8 0	AB601E	STR											
13	6	9-4 0	AB602E	17		4-1 0	1-2 0	4-1 0							
13	6	10-5 0	AB603E	STR											
13	6	9-4 0	AB604E	17		4-1 0	1-2 0	4-1 0							
ABUTMENT B															
19	5	16-6 0	FT551E	STR											
18	5	17-6 0	FT552E	STR											
17	5	6-5 0	FT553E	2	1-0 0	5-5 0									
17	5	5-11 0	FT554E	2	1-0 0	4-11 0									
2	5	17-6 0	FT555E	STR											
13	5	6-5 0	FT556E	2	1-0 0	5-5 0									
13	5	6-5 0	FT557E	2	1-0 0	5-5 0									
2	5	13-6 0	FT558E	STR											
18	5	4-5 0	FT559E	17	1-10 0	2-7 0									
2	5	13-6 0	FT560E	STR											
18	5	4-5 0	FT561E	17	1-10 0	2-7 0									
19	5	5-2 0	FT562E	17	2-7 0	2-7 0									
19	6	18-7 0	FT651E	2	2-1 0	16-6 0									
18	6	17-6 0	FT652E	STR											
13	6	7-3 0	FT653E	2	1-0 0	6-3 0									
13	6	7-3 0	FT654E	2	1-0 0	6-3 0									
12	5	4-4 0	AB525E	17		1-8 0	1-0 0	1-8 0							
17	5	7-0 0	AB551E	STR											
17	5	7-6 0	AB552E	STR											
7	5	15-8 0	AB553E	STR											
7	5	15-8 0	AB554E	STR											
17	5	8-2 0	AB555E	17		2-9 0	2-8 0	2-9 0							
4	5	15-8 0	AB556E	STR											
17	5	9-2 0	AB557E	17		4-3 0	0-8 0	4-3 0							
4	5	15-8 0	AB558E	STR											
2	5	15-8 0	AB559E	STR											
13	5	8-11 0	AB560E	STR											
20	5	10-9 0	AB561E	STR											
2	5	10-9 0	AB562E	STR											
13	5	9-2 0	AB563E	STR											
20	5	10-9 0	AB564E	STR											
2	5	10-9 0	AB565E	STR											
16	5	4-10 0	AB566E	STR											
6	5	5-6 0	AB567E	2	0-10 0	4-8 0									
16	5	4-10 0	AB568E	STR											
6	5	5-6 0	AB569E	2	0-10 0	4-8 0									
3	5	4-1 0	AB570E	STR											
3	5	3-5 0	AB571E	2	0-10 0	2-7 0									
3	5	4-4 0	AB572E	STR											
3	5	3-5 0	AB573E	2	0-10 0	2-7 0									
8	5	2-0 0	AB574E	STR											
13	6	9-5 0	AB651E	STR											
13	6	9-4 0	AB652E	17		4-1 0	1-2 0	4-1 0							
13	6	9-8 0	AB653E	STR											
13	6	9-4 0	AB654E	17		4-1 0	1-2 0	4-1 0							

UNOFFICIAL WEBSITE COPY

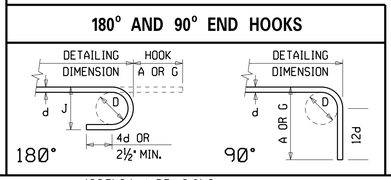
ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES			
	NOMINAL DIMENSIONS				180° HOOKS		90° HOOKS		90° HOOK	135° HOOK	
BAR SIZE	DIAMETER (INCHES)	AREA (INCHES²)	WEIGHT (LBS./FT.)	D	A OR G	J	A OR G	D	A OR G	A OR G	A OR G
3	0.375	0.110	0.376	2¼"	5"	3"	6"	1½"	4"	4"	2½"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4½"	4½"	3"
5	0.625	0.310	1.043	3¾"	7"	5"	10"	2½"	6"	5½"	3¾"
6	0.750	0.440	1.502	4½"	8"	6"	1-0"	4½"	1-0"	8"	4½"
7	0.875	0.600	2.044	5¼"	10"	7"	1-2"	5¼"	1-2"	9"	5¼"
8	1.000	0.790	2.670	6"	11"	8"	1-4"	6"	1-4"	10½"	6"
9	1.128	1.000	3.400	9½"	1-3"	11¾"	1-7"				
10	1.270	1.270	4.303	10¾"	1-5"	1-1¼"	1-10"				
11	1.410	1.560	5.313	1-0"	1-7"	1-2¾"	2-0"				
14	1.693	2.250	7.650	1-6¼"	2-3"	1-9¾"	2-7"				
18	2.257	4.000	13.600	2-0"	3-0"	2-4½"	3-5"				

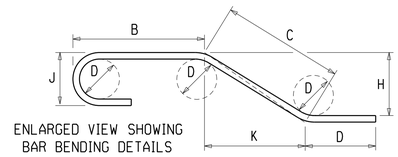
NOTES:
1. FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
2. STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
3. ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" ON STD. 180° AND 135° HOOKS.
4. "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
5. WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
6. "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
7. UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
8. WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
9. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
10. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRSI' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
11. TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.

STIRRUP AND TIE HOOKS

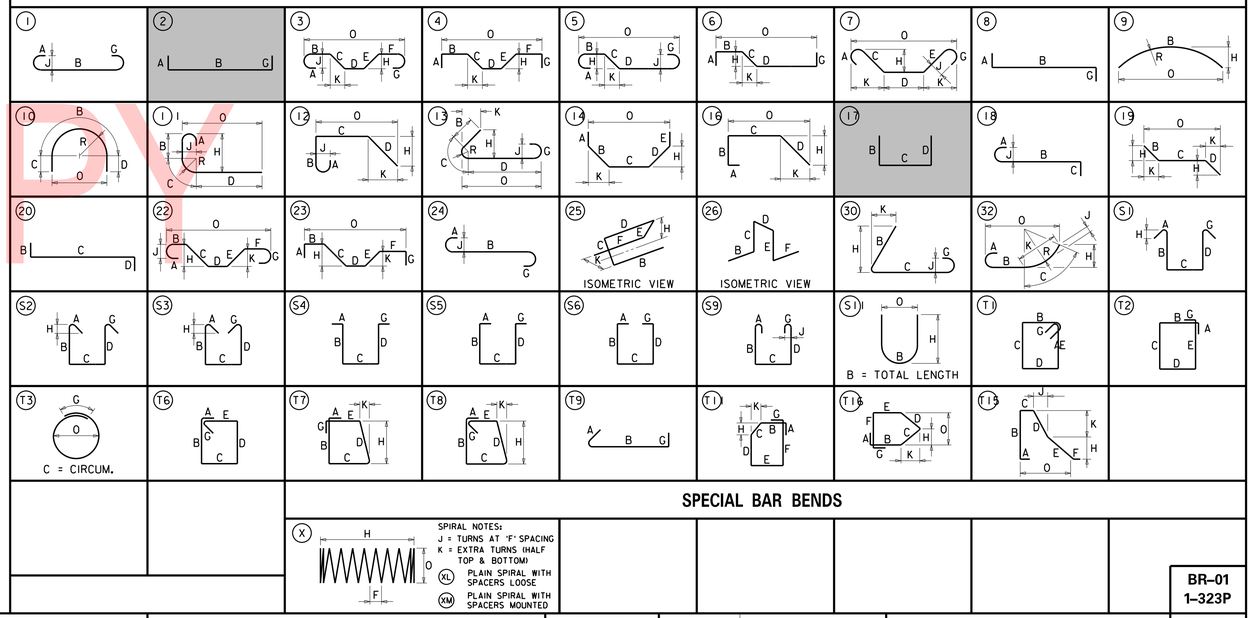


180° AND 90° END HOOKS





STANDARD BAR BENDS



SPECIAL BAR BENDS

BR-01
1-323P

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-323P
COUNTY	NEW CASTLE	DESIGNED BY: S.P.A.	
		CHECKED BY: F.F.B.	

PEDESTRIAN BRIDGE 1-323P
REINFORCEMENT BAR LIST

SECTION: JMT
SHEET NO.: 156

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\BR_BR.DGN [SHEET: BR01-Ped1]

BORING: ER-6 **DATE DRILLED:** 11/28/07
STATION: 853+64.74 **OFFSET:** 1.36 **ELEVATION:** 102.0 **NORTHING:** 603440.99 **EASTING:** 552179.43
COMMENTS:

EL. 94.00
BOT. OF
FTG. EL.

SAMPLE INFORMATION					
NO.	DEPTH	BLOWS /6"	DESCRIPTION	CLASS /G.I.	REMARKS
1	0.3 2.0	2 3 4 5	WET FIRM BROWN SILT W/SOME FINE SAND, GRAVEL AND CLAY, TRACE OF COARSE SAND.	A-4(1)	FROM 0.0' TO 0.25', 3" OF TOP SOIL
2	2.0 4.0	3 5 3 4	SATURATED LOOSE BROWNISH GRAY FINE TO COARSE SAND W/TRACE OF SILT.	A-3	
3	4.0 6.0	2 1 1 3	SATURATED SOFT GRAY FINE SANDY SILT W/TRACE OF COARSE SAND.	A-4(0)	
4	6.0 8.0	2 3 21 19	SATURATED MEDIUM DENSE GRAY COARSE SAND AND GRAVEL W/SOME FINE SAND, TRACE OF SILT.	A-1-b	
5	8.0 10.0	8 15 11 12	SATURATED MEDIUM DENSE BROWN SILTY FINE SAND AND GRAVEL W/SOME COARSE SAND.	A-2-4(0)	LARGE GRAVEL IN TIP OF SPOON.
6	10.0 12.0	12 14 16 18	NO SAMPLE RECOVERY		LARGE GRAVEL IN TIP OF SPOON (ACROSS THE ENTIRE OPENING).
7	12.0 14.0	14 16 13 15	SATURATED MEDIUM DENSE BROWN SILTY COARSE TO FINE SAND W/TRACE OF GRAVEL.	A-2-4(0)	DECOMPOSED ROCK
8	14.0 16.0	12 16 20 20	SATURATED DENSE BROWN SILTY COARSE TO FINE SAND W/TRACE OF GRAVEL.	A-2-4(0)	DECOMPOSED ROCK
9	16.0 18.0	22 27 28 33	SATURATED VERY DENSE MULTICOLORED SILTY COARSE TO FINE SAND W/TRACE OF SILT.	A-1-b	DECOMPOSED ROCK
10	18.0 20.0	7 10 11 15	SATURATED MEDIUM DENSE GRAY GREEN COARSE TO FINE SAND W/SOME SILT, TRACE OF GRAVEL.	A-1-b	DECOMPOSED ROCK
11	24.0 25.5	13 21 35	SATURATED VERY DENSE GRAY GREEN COARSE TO FINE SAND W/SOME SILT, TRACE OF GRAVEL.	A-1-b	DECOMPOSED ROCK
12	29.0 30.5	15 22 25	SATURATED DENSE GRAY GREEN SILTY COARSE TO FINE SAND W/TRACE OF GRAVEL.	A-2-4(0)	DECOMPOSED ROCK
13	34.0 35.4	20 37 50/4"	SATURATED VERY DENSE GRAY GREEN SILTY COARSE TO FINE SAND W/TRACE OF GRAVEL.	A-2-4(0)	DECOMPOSED ROCK
14	39.0 39.8	38 50/3"	STATURATED VERY DENSE GRAY GREEN COARSE SAND AND GRAVEL W/SOME FINE SAND AND SILT.	A-1-b	DECOMPOSED ROCK

BORING: ER-7 **DATE DRILLED:** 11/27/07
STATION: 854+35.11 **OFFSET:** 49.72 **ELEVATION:** 106.0 **NORTHING:** 603525.85 **EASTING:** 552188.80
COMMENTS: N/A

EL. 94.00
BOT. OF
FTG. EL.

SAMPLE INFORMATION					
NO.	DEPTH	BLOWS /6"	DESCRIPTION	CLASS /G.I.	REMARKS
1	1.0 2.0	6 11	MOIST MEDIUM DENSE LIGHT BROWN SILTY FINE TO COARSE SAND W/SOME GRAVEL.	A-2-4(0)	FROM 0.0' TO 1.0', 8" OF CRUSHED STONE, 3" OF HOT MIX ASPHALT
2	2.0 4.0	10 9 8 8	MOIST MEDIUM DENSE LIGHT BROWN FINE TO COARSE SAND AND GRAVEL W/TRACE OF SILT.	A-1-b	
3	4.0 6.0	5 8 7 6	MOIST MEDIUM DENSE LIGHT BROWN SILTY FINE TO COARSE SAND W/SOME GRAVEL.	A-2-4(0)	
4	6.0 8.0	6 4 3 3	MOIST LOOSE LIGHT BROWN COARSE TO FINE SAND W/ SOME SILT AND GRAVEL.	A-1-b	
5	8.0 10.0	2 1 2 1	WET VERY LOOSE LIGHT BROWN COARSE TO FINE SAND W/SOME SILT AND GRAVEL.	A-2-4(0)	
6	10.0 12.0	5 6 8 9	SATURATED MEDIUM DENSE GRAY SILTY FINE SAND AND GRAVEL W/SOME COARSE SAND.	A-2-4(0)	
7	12.0 14.0	17 13 8 11	SATURATED MEDIUM DENSE MULTICOLORED COARSE TO FINE SAND AND GRAVEL W/SOME SILT, TRACE OF MICA.	A-1-b	
8	14.0 16.0	3 7 11 11	SATURATED VERY STIFF MULTICOLORED FINE TO COARSE SANDY CLAY W/TRACE OF GRAVEL.	A-7-5(5)	DECOMPOSED ROCK
9	16.0 18.0	10 12 44 50/4"	SATURATED VERY DENSE MULTICOLORED CLAYEY COARSE TO FINE SAND W/SOME GRAVEL AND DECOMPOSED ROCK.	A-2-7(2)	
10	18.0 18.8	24 50/3"	SATURATED VERY DENSE MULTICOLORED COARSE SAND AND GRAVEL W/SOME SILT, FINE SAND AND DECOMPOSED ROCK.	A-1-b	
11	24.0 25.5	30 25 26	SATURATED HARD MULTICOLORED FINE SANDY CLAY W/SOME COARSE SAND AND DECOMPOSED ROCK, TRACE OF GRAVEL.	A-7-5(4)	
12	29.0 30.5	12 22 24	SATURATED DENSE GRAY GREEN SILTY COARSE TO FINE SAND AND DECOMPOSED ROCK W/TRACE OF GRAVEL.	A-2-4(0)	
13	34.0 35.5	10 20 25	SATURATED DENSE GRAY GREEN FINE TO COARSE SAND AND DECOMPOSED ROCK W/SOME SILT, TRACE OF GRAVEL.	A-2-4(0)	
14	39.0 40.5	13 16 30	SATURATED DENSE GRAY GREEN FINE TO COARSE SAND AND DECOMPOSED ROCK W/TRACE OF GRAVEL AND SILT.	A-3	
15	44.0 45.5	19 24 52	SATURATED VERY DENSE GRAY GREEN FINE TO COARSE SAND AND DECOMPOSED ROCK W/SOME SILT, TRACE OF GRAVEL.	A-2-4(0)	
16	49.0 50.3	17 42 50/3"	SATURATED VERY DENSE GRAY GREEN SILTY FINE TO COARSE SAND AND DECOMPOSED ROCK, TRACE OF GRAVEL.	A-2-4(0)	

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NOTES:

1. BORING LOGS CREATED BY THE DELEWARE DEPARTMENT OF TRANSPORTATION. SUNSURFACE EXPLORATION COMPLETED BY WALTON CORPORATION.
2. REFER TO PLAN, SECTION AND ELEVATION SHEET (PE-01) FOR APPROXIMATE BORING LOCATIONS. BORING LOGS ARE LABELED AS ER-6 AND ER-7.
3. SOIL SAMPLING: 2 IN. OUTSIDE DIAMETER SPLIT BARREL SAMPLER, DRIVEN WITH A 140 LB. HAMMER FALLING 30 IN.
4. ALL DEPTHS ARE GIVEN IN FEET.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\BO.DGN [SHEET: BO01-Ped 1]

BO-01
1-323P

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-323P
DESIGNED BY:	S.P.A.
CHECKED BY:	F.F.B.

PEDESTRIAN BRIDGE 1-323P
SOIL BORING LOGS

SECTION	JMT
SHEET NO.	157

PEDESTRIAN BRIDGE PROJECT NOTES

1. LOCATION
   PROPOSED PEDESTRIAN BRIDGE ALONG SR279 ELKTON ROAD, NEW CASTLE COUNTY, DELAWARE.
   - PEDESTRIAN BRIDGE #2 OVER BRANCH OF CHRISTINA RIVER.

2. DESIGN CRITERIA
   AASHTO LRFD GUIDE SPECIFICATION FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2ND EDITION WITH 2015 INTERIM REVISIONS.

   AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION, WITH 2015 & 2016 INTERIM REVISIONS.

   DELDOT BRIDGE DESIGN MANUAL, 2017.

   DELDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2016.

3. GENERAL
   PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ANSI/AASHTO/AWS D1.5-08 BRIDGE WELDING CODE AND PROJECT SPECIAL PROVISIONS. ALL DIMENSIONS ARE HORIZONTAL, EXCEPT AS NOTED. SUPERSTRUCTURE DIMENSIONS SHOWN ARE FOR A NORMAL TEMPERATURE OF 68 DEGREES FAHRENHEIT.

   ALL ELEVATIONS ARE BASED ON NAVD 1988.

4. LOADING
   - UNIT WEIGHTS OF MATERIALS SHALL BE IN ACCORDANCE WITH THE DELDOT BRIDGE MANUAL.
   - 90 PSF PEDESTRIAN LIVE LOAD.
   - VEHICLE LIVE LOAD SHALL BE H10 (10 TONS).

5. PORTLAND CEMENT CONCRETE
   STRUCTURAL ELEMENTS OF PORTLAND CEMENT CONCRETE SHALL BE AS NOTED:
   (f'c = 28 DAY COMPRESSIVE STRENGTH)
   CLASS B - ABUTMENT FOOTINGS, ABUTMENTS, WING WALLS, PIERS & DRILLED SHAFTS (f'c = 3.0 KSI)
   CLASS D - CONCRETE DECK (f'c = 4.5 KSI)

   MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE STANDARD SPECIFICATIONS. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾" UNLESS OTHERWISE NOTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE ANY APPROVED CONCRETE ADDITIVES OR HEATING TECHNIQUES TO MAINTAIN THE PROPER TEMPERATURE FOR ANY CONCRETE POURED DURING COLD WEATHER. PAYMENT SHALL BE INCIDENTAL TO THE RESPECTIVE CONCRETE BID ITEMS.

6. PRE-FABRICATED TRUSS STRUCTURAL STEEL
   ACCORDING TO MANUFACTURER REQUIREMENTS.

   STRUCTURAL STEEL
   STEEL PLATE GIRDER TOP AND BOTTOM FLANGES STEEL PLATE WEB, STIFFENERS AND CROSS FRAMES SHALL BE ASTM A709 GRADE 50W. THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING OF AASHTO M270 FOR PRIMARY LOAD CARRYING MEMBERS SHALL BE INCLUDED.

7. BAR REINFORCEMENT
   REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60. MINIMUM ALLOWABLE REINFORCING SIZE FOR THIS PROJECT IS #5. REINFORCING STEEL SHALL HAVE A 3" COVER IF CAST AGAINST EARTH AND A 2" CLEAR COVER ELSEWHERE, UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL REINFORCING STEEL SHALL BE PROTECTED WITH FUSION BONDED EPOXY. EPOXY COATED REINFORCING STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963). ALL NECESSARY FIELD CUTTING AND BENDING SHALL BE INCIDENTAL TO ITEM 611001-BAR REINFORCEMENT, EPOXY COATED.

8. CONSTRUCTION JOINTS
   KEYED CONSTRUCTION JOINTS SHALL BE 2 INCHES X 4 INCHES OR AS NOTED. ALL EXPOSED CONSTRUCTION JOINTS SHALL HAVE A ¾" V-NOTCH. ANY WATERSTOPS SHALL BE INCIDENTAL TO THE APPROPRIATE CONCRETE ITEM.

9. BORING LOGS
   SEE BORING LOG SHEETS FOR MORE INFORMATION.

10. SHEETING AND SHORING
    THE CONTRACTOR SHALL SUBMIT A PROPOSED PLAN FOR SHEETING OR SHORING OF THE EXCAVATION. THE SUBMITTAL SHALL INCLUDE ANY DRAWINGS AND CALCULATIONS ASSOCIATED WITH THE WORK AND SHALL BE STAMPED BY A DELAWARE REGISTERED PROFESSIONAL ENGINEER. PAYMENT FOR SHEETING AND SHORING, AS WELL AS THE MATERIALS AND WORK ASSOCIATED WITH THE SUBMITTAL, SHALL BE MADE UNDER ITEM 604003-SHORING.

11. HYDRAULIC DATA:

DRAINAGE AREA:	9.08 SQ. MILES	DESIGN FREQ. :	50 YEARS
DESIGN DISCHARGE:	3100 CFS	100-YEAR DISCHARGE:	4000 CFS
EXISTING (DESIGN STORM) WSE:	97.87 FT	PROPOSED (DESIGN STORM) WSE:	97.89 FT
EXISTING (DESIGN STORM) VELOCITY:	3.91 FPS	PROPOSED (DESIGN STORM) VELOCITY:	4.08 FPS
EXISTING 100-YEAR WSE:	98.59 FT	PROPOSED 100-YEAR WSE:	98.56 FT
EXISTING 100-YEAR VELOCITY:	3.85 FPS	PROPOSED 100-YEAR VELOCITY:	4.56 FPS
EXISTING WATERWAY OPENING:	NA SQ. FT	PROPOSED WATERWAY OPENING:	775 SQ. FT

12. SCOUR ANALYSIS:

SCOUR DESIGN FREQUENCY::	200 YEARS
SCOUR DESIGN FLOOD DISCHARGE:	4900 CFS
SCOUR DESIGN FLOOD VELOCITY:	3.08 FPS (AT BRIDGE OUTLET)
WATER SURFACE ELEVATION:	99.41 FT (IMMEDIATELY UPSTREAM OF BRIDGE)
CALCULATED SCOUR DEPTH,	ABUTMENT A+B: 4.9 FT
	PIER 1+2: 4.8 FT

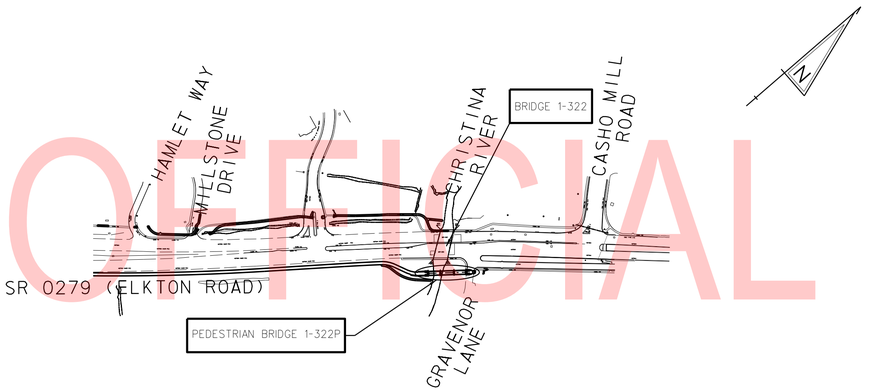
SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE SCOUR DESIGN FLOOD IN ACCORDANCE WITH HEC 23 - BRIDGE SCOUR AND STREAM INSTABILITY COUNTERMEASURES AND/OR HEC 14 - HYDRAULIC DESIGN OF ENERGY DISSIPATORS FOR CULVERTS AND CHANNELS (AS APPROPRIATE).

QUANTITIES

ITEM NUMBER	ITEM TITLE	UNIT	QUANTITY
207000	STRUCTURAL EXCAVATION	CY	305
615516	PREFABRICATED STEEL TRUSS BRIDGE	LS	1
604003	SHORING	LS	1
606001	DRILLED SHAFT, 36"	LF	285
606502	DRILLED SHAFT IN ROCK, 30"	LF	72
610010	PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT FOOTING, CLASS B	CY	43
610011	PORTLAND CEMENT CONCRETE MASONRY, ABUTMENT ABOVE FOOTING, CLASS B	CY	40
610013	PORTLAND CEMENT CONCRETE MASONRY, PIER ABOVE FOOTING, CLASS B	CY	13
611001	BAR REINFORCEMENT, EPOXY COATED	LB	9,000
626000	STEEL PEDESTRIAN RAILING	LF	54
707002	RIPRAP, R-5	SY	53
708003	GEOTEXTILES, RIPRAP	SY	95
709000	PERFORATED PIPE UNDERDRAINS, 4"	LF	61

INDEX OF SHEETS

DRAWING NO.	TITLE
PN-01	PROJECT NOTES
PE-01	PLAN, ELEVATION AND SECTION
TS-01	TYPICAL SECTION
FT-01	FOOTING LAYOUT PLAN
PL-01	DRILLED SHAFT DETAILS
AB-01	ABUTMENT A PLAN, ELEVATION AND SECTIONS
AB-02	ABUTMENT B PLAN, ELEVATION AND SECTIONS
AB-03	ABUTMENT A REINFORCEMENT
AB-04	ABUTMENT B REINFORCEMENT
WW-01	WING WALL ELEVATIONS
PR-01	PIER 1 PLAN AND ELEVATION
PR-02	PIER 2 PLAN AND ELEVATION
PR-03	PIER 1 REINFORCEMENT
PR-04	PIER 2 REINFORCEMENT
RA-01	RAILING DETAILS
BR-01	REINFORCEMENT BAR LIST I
BR-02	REINFORCEMENT BAR LIST II
BO-01	SOIL BORING LOGS



KEY PLAN
SCALE: 1" = 500'-0"

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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE AS NOTED

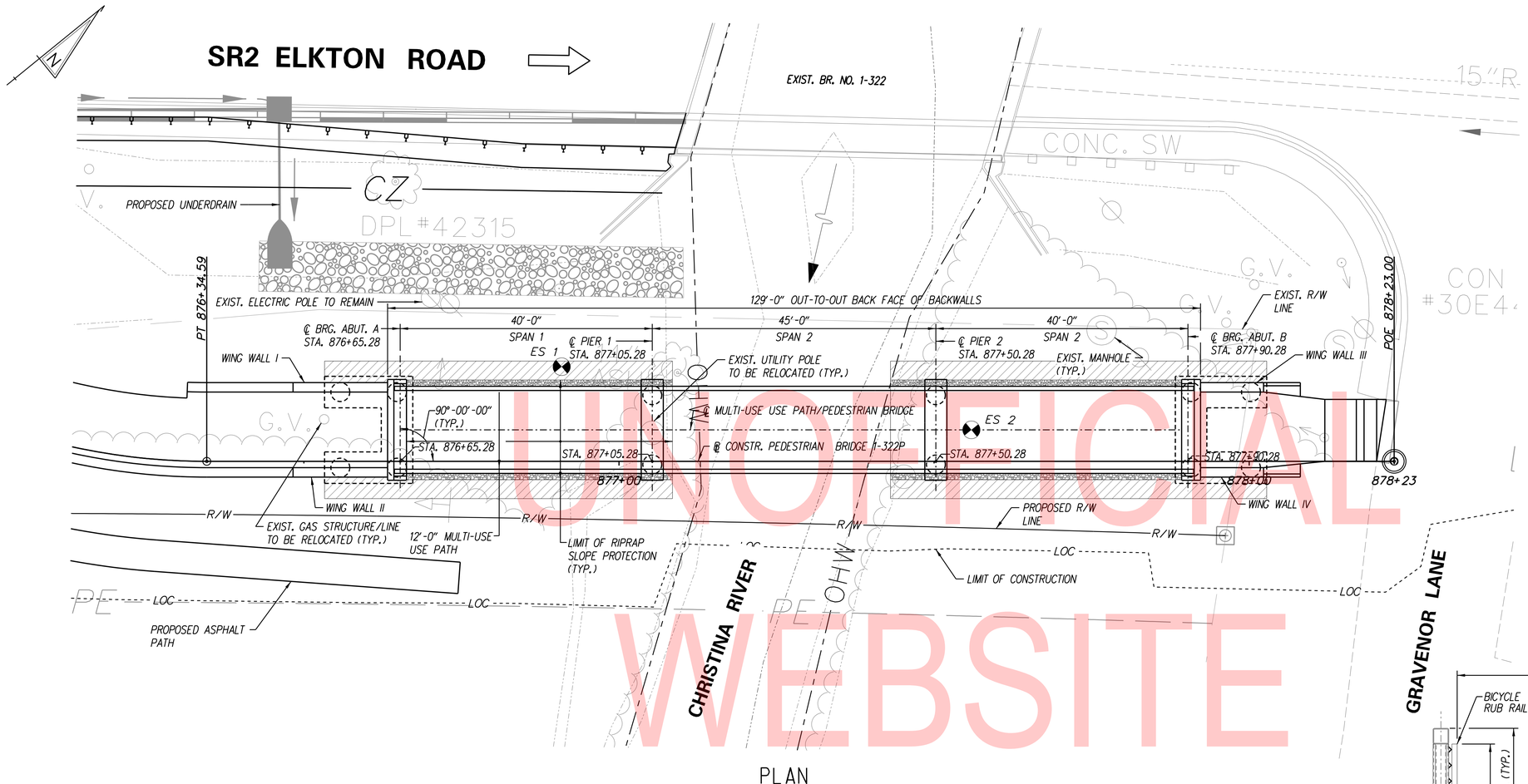
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: S.P.A.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-322P
PROJECT NOTES

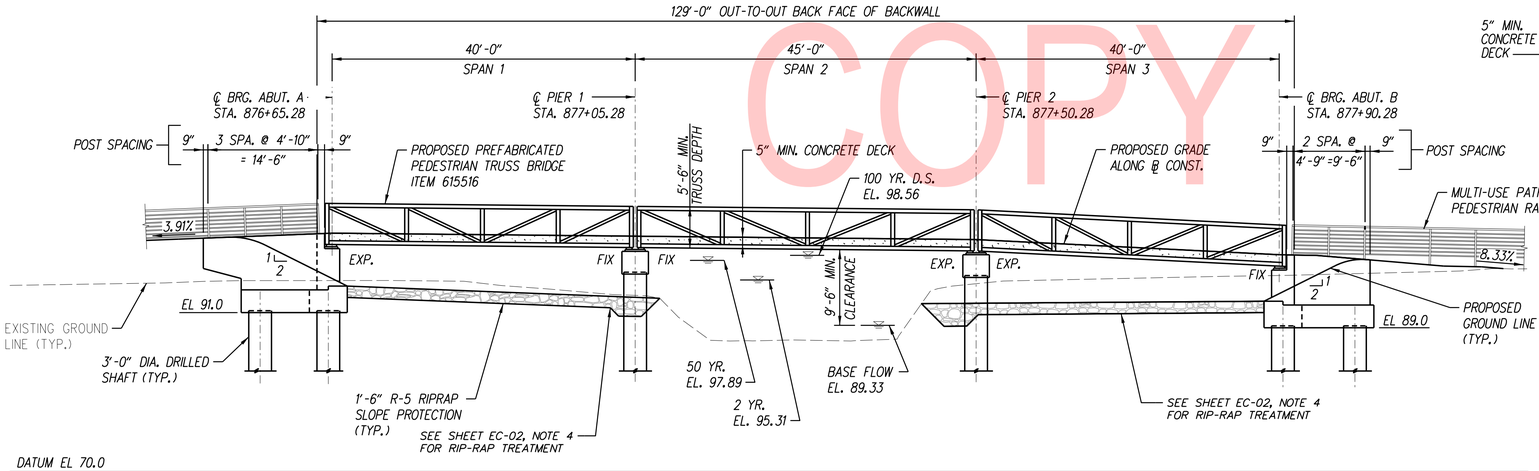
PN-01
1-322P

SECTION	SHEET NO.
JMT	158



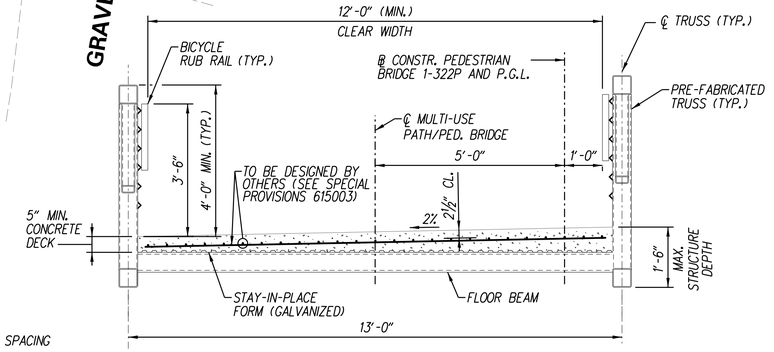
PLAN

SCALE: 1:10



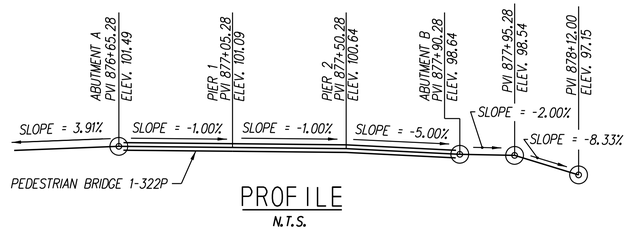
ELEVATION

SCALE: 1:10



TYPICAL SECTION - PEDESTRIAN BRIDGE 1-322P

SCALE: ½" = 1'-0"



PROFILE

N.T.S.

LEGEND:

INDICATES SOIL BORING LOCATION

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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE AS NOTED

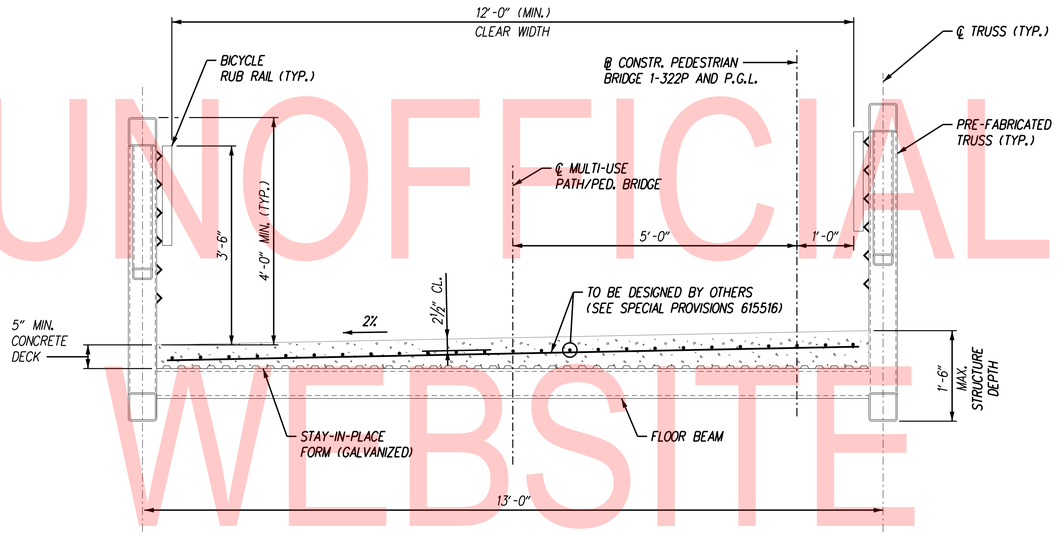
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: S.P.A.	
COUNTY: NEW CASTLE	CHECKED BY: F.F.B.	

PEDESTRIAN BRIDGE 1-322P
PLAN, ELEVATION AND SECTION

PE-01
1-322P

SECTION	SHEET NO.
JMT	159



TYPICAL SECTION - PEDESTRIAN BRIDGE 1-322P

SCALE: ¾" = 1'-0"

NOTE:

1. ℄ TRUSS TO ℄ TRUSS DIMENSION SHOWN IS ESTIMATED AND CONTRACTOR TO COORDINATE WITH TRUSS FABRICATOR FOR ACTUAL DIMENSIONS.
2. SEE SPECIAL PROVISIONS FOR PRE-FABRICATED TRUSS BRIDGE ADDITIONAL REQUIREMENTS.

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ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

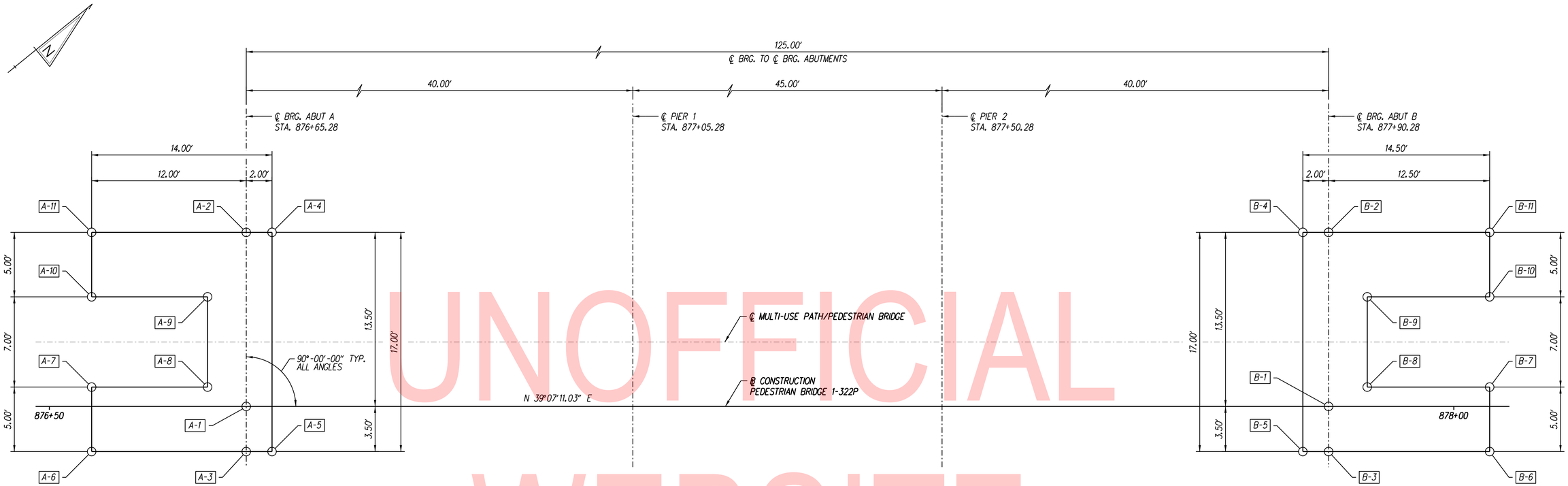
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: S.P.A.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-322P
TYPICAL SECTION

TS-01 1-322P	
SECTION	JMT
SHEET NO.	160



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FOOTING LAYOUT PLAN

SCALE: 1/4" = 1'-0"

ABUTMENT A WORKING POINTS				
W.P. NO.	STATION	OFFSET	NORTHING	EASTING
A-1	876+65.28	0'-0"	608078.72	556229.67
A-2	876+65.28	13'-6"L	608087.23	556219.20
A-3	876+65.28	3'-6"R	608076.51	55623.39
A-4	876+67.28	13'-6"L	608088.79	556220.46
A-5	876+67.28	3'-6"R	608078.06	556233.65
A-6	876+53.28	3'-6"R	608067.20	556224.82
A-7	876+53.28	1'-6"L	608070.35	556220.94
A-8	876+62.28	1'-6"L	608077.34	556226.62
A-9	876+62.28	8'-6"L	608081.75	556221.18
A-10	876+53.28	8'-6"L	608074.77	556215.51
A-11	876+53.28	13'-6"L	608077.92	556211.63

ABUTMENT B WORKING POINTS				
W.P. NO.	STATION	OFFSET	NORTHING	EASTING
B-1	877+90.28	0'-0"	608175.70	556308.54
B-2	877+90.28	13'-6"L	608184.21	55298.07
B-3	877+90.28	3'-6"R	608173.49	556311.26
B-4	877+88.28	13'-6"L	608182.66	556296.80
B-5	877+88.28	3'-6"R	608171.94	556309.99
B-6	878+02.78	3'-6"R	608183.19	556319.14
B-7	878+02.78	1'-6"L	608186.34	556315.26
B-8	877+93.28	1'-6"L	608178.97	556309.27
B-9	877+93.28	8'-6"L	608183.39	556303.84
B-10	878+02.78	8'-6"L	608190.76	556309.83
B-11	878+02.78	13'-6"L	608193.91	556305.95

PLOTTED BY: LBERZINA DATE: 11/15/2019
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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE AS NOTED

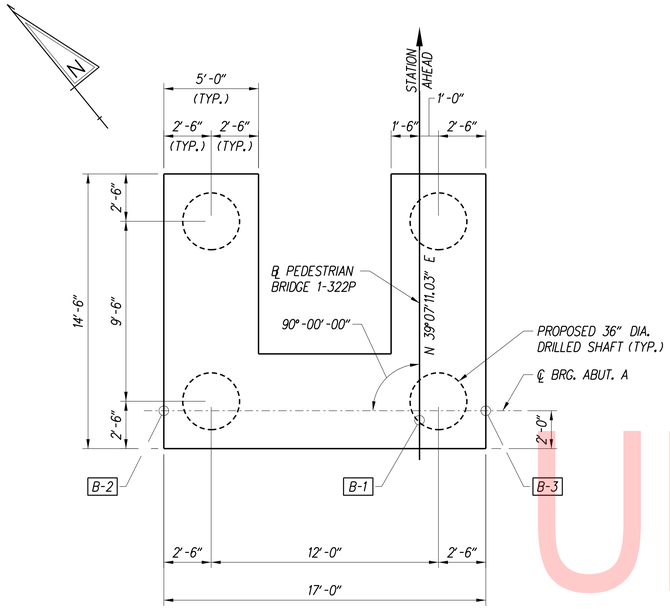
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: S.P.A.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-322P
FOOTING LAYOUT PLAN

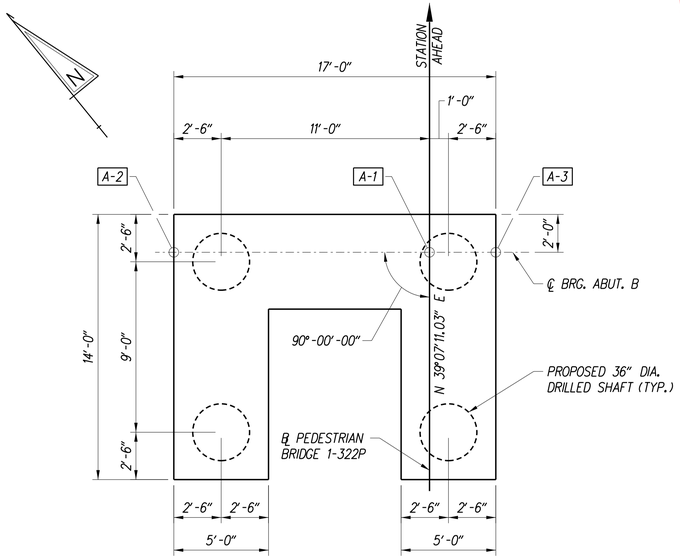
FT-01
1-322P

SECTION
JMT
SHEET NO.
161



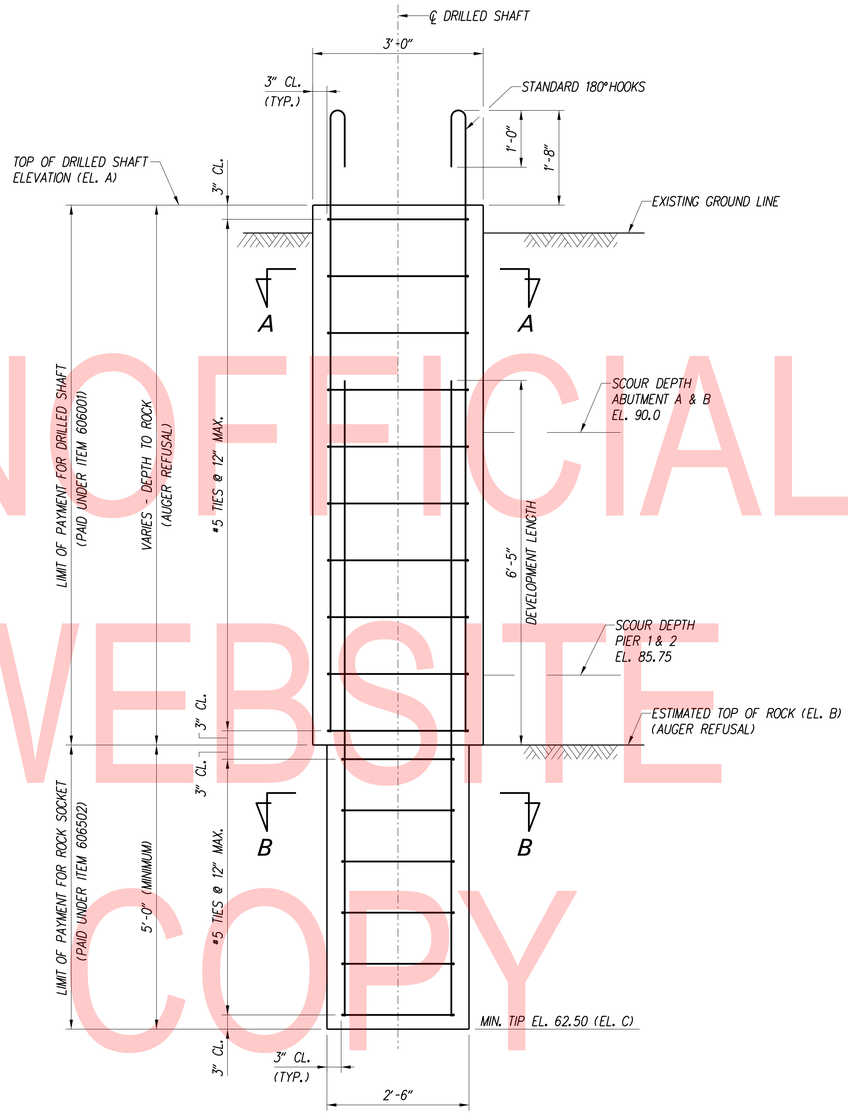
DRILLED SHAFT LAYOUT PLAN - ABUTMENT B

SCALE: 1/4" = 1'-0"



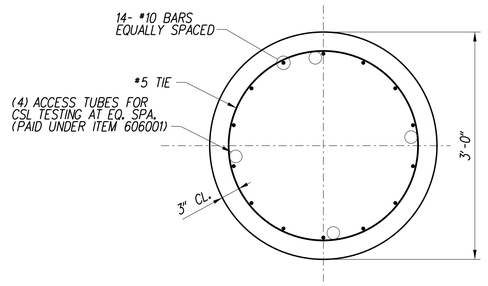
DRILLED SHAFT LAYOUT PLAN - ABUTMENT A

SCALE: 1/4" = 1'-0"



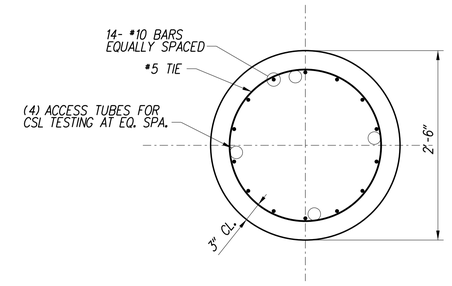
TYPICAL DRILLED SHAFT SECTION (ABUTMENT AND PIER)

SCALE: 1" = 1'-0"



SECTION A-A - STANDARD DRILLED SHAFT

SCALE: 1" = 1'-0"



SECTION B-B - ROCKET SOCKET

SCALE: 1" = 1'-0"

DRILLED SHAFT INSTALLATION DATA					
SUBSTRUCTURE UNIT	DESIGN DATA			ACTUAL FIELD DATA	
	EL. A	ESTIMATED EL. B	ESTIMATED EL. C	ACTUAL EL. B	ACTUAL EL. C
ABUTMENT A	91.25	69.00	62.50		
PIER 1	96.49	69.00	62.50		
PIER 2	96.01	68.00	62.50		
ABUTMENT B	89.25	68.00	62.50		

DRILLED SHAFT NOTES:

1. ALL CONCRETE FOR DRILLED SHAFT SHALL BE CLASS B (3,000 p.s.i.).
2. REINFORCING STEEL FOR DRILLED SHAFT SHALL CONFORM TO DELDOT SPECIFICATION. REINFORCEMENT SHALL BE EPOXY COATED. COST OF REINFORCING BARS INSIDE THE DRILLED SHAFT AND ROCK SOCKET SHALL BE PAID UNDER ITEM 606001.
3. THE INSTALLATION OF THE DRILLED SHAFT FOUNDATIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 606 AND SPECIAL PROVISION FOR DRILLED SHAFT FOUNDATION.
4. THE LENGTH OF THE DRILLED SHAFT IS BASED ON THE FRICTIONAL RESISTANCE OF SHAFT AND TIP RESISTANCE OF THE SHAFT IN THE ROCK.
5. MINIMUM DRILLED SHAFT TIP ELEVATION SHALL BE EL. 62.50. FOR AUGER REFUSAL REQUIREMENTS REFER TO THE SPECIAL PROVISION.
6. STEEL CASING PORTION ABOVE GROUND LEVEL SHALL REMAIN IN PLACE FOR PIERS 1 AND 2 DRILLED SHAFTS.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PL.DGN [SHEET: PL01]

PL-01
1-322P

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

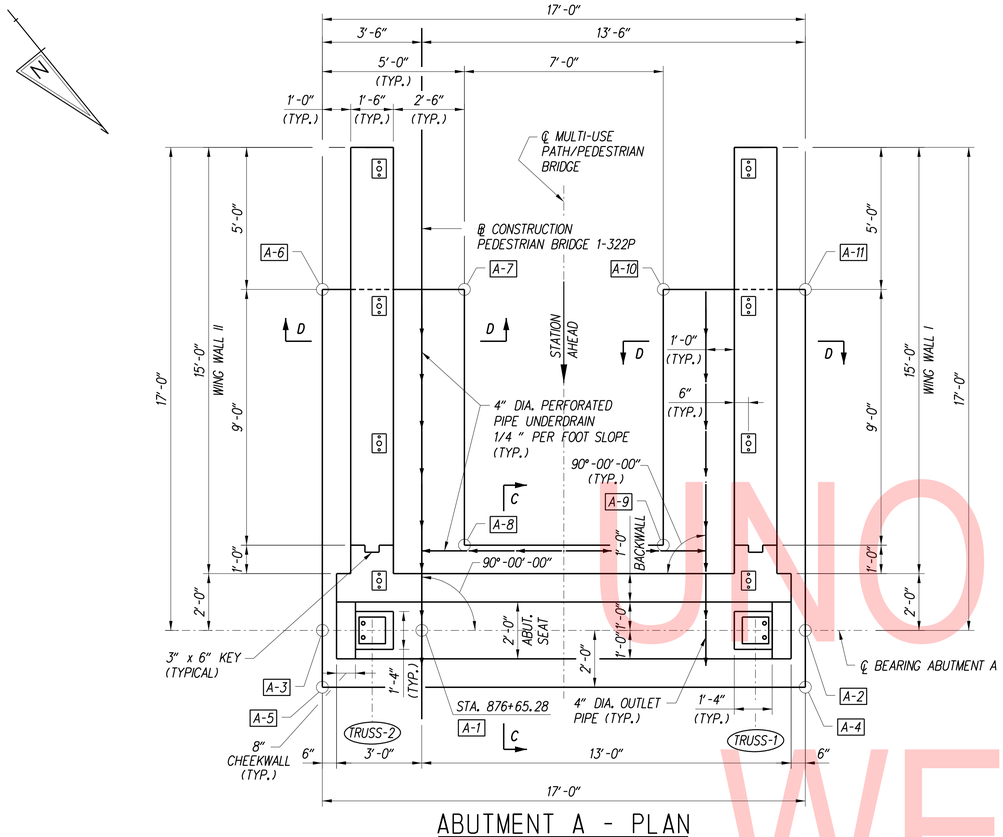
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: P.J.M.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

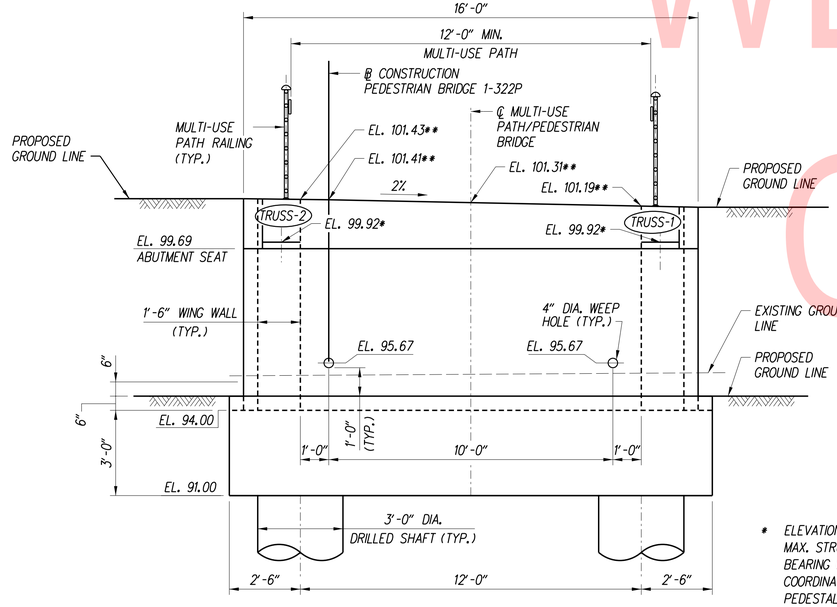
PEDESTRIAN BRIDGE 1-322P
DRILLED SHAFT DETAILS

SECTION: JMT
SHEET NO.: 162



ABUTMENT A - PLAN

SCALE: 3/8" = 1'-0"

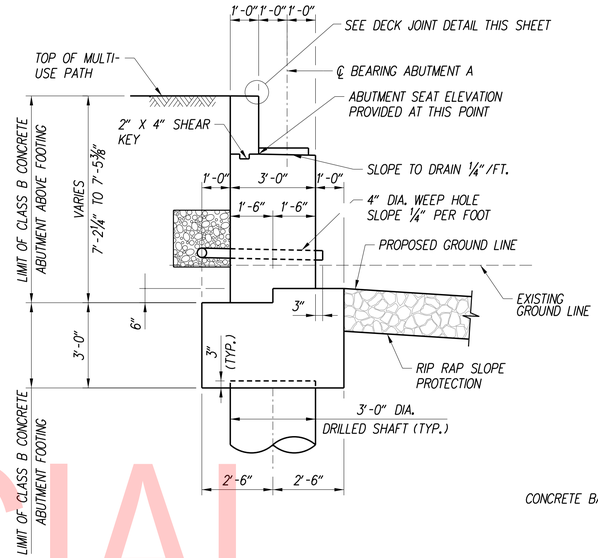


ABUTMENT A - ELEVATION

SCALE: 3/8" = 1'-0"

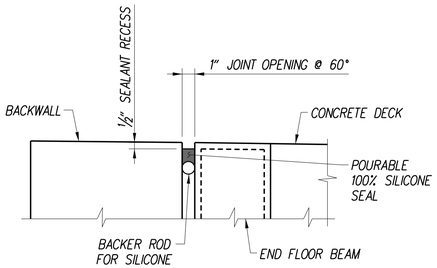
* ELEVATION AT ℄ BEARING BASED ON 1'-6" MAX. STRUCTURE DEPTH AND 1 1/8" THICK BEARING PLATE ASSEMBLY. CONTRACTOR TO COORDINATE BEARING PLATE ASSEMBLY AND PEDESTAL DIMENSIONS WITH BRIDGE FABRICATOR.

** ELEVATION SHOWN AT BACK OF BACKWALL.



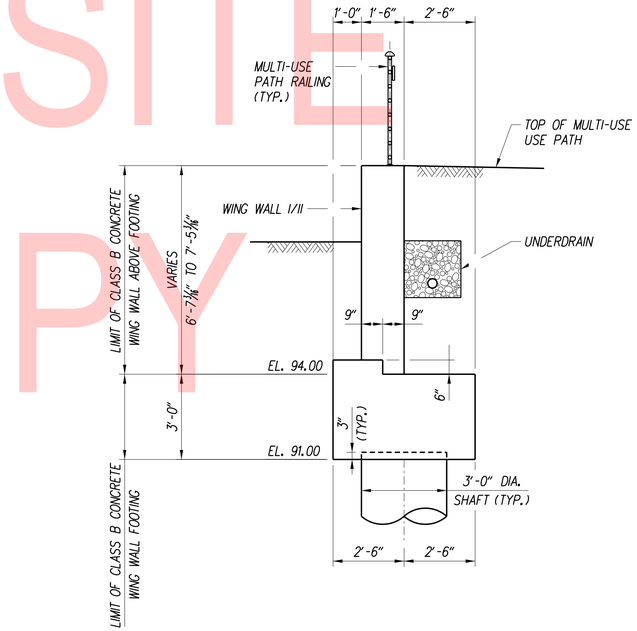
ABUTMENT A - TYPICAL SECTION (C-C)

SCALE: 3/8" = 1'-0"



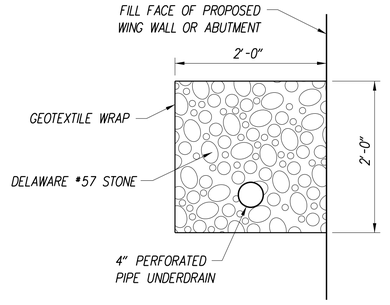
DECK JOINT DETAIL

SCALE: 1" = 1'-0"



ABUTMENT A - TYPICAL WING WALL SECTION (D-D)

SCALE: 3/8" = 1'-0"



UNDERDRAIN DETAIL

SCALE: 1" = 1'-0"

NOTES:
1. SEE SHEET PE-01 FOR GENERAL PLAN AND ELEVATION.
2. COST FOR UNDERDRAIN SYSTEM SHALL BE PAID UNDER ITEM # 709000.
3. COST FOR DECK JOINT SHALL BE PAID UNDER ITEM # 610017.

UNOFFICIAL WEBSITE COPY

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

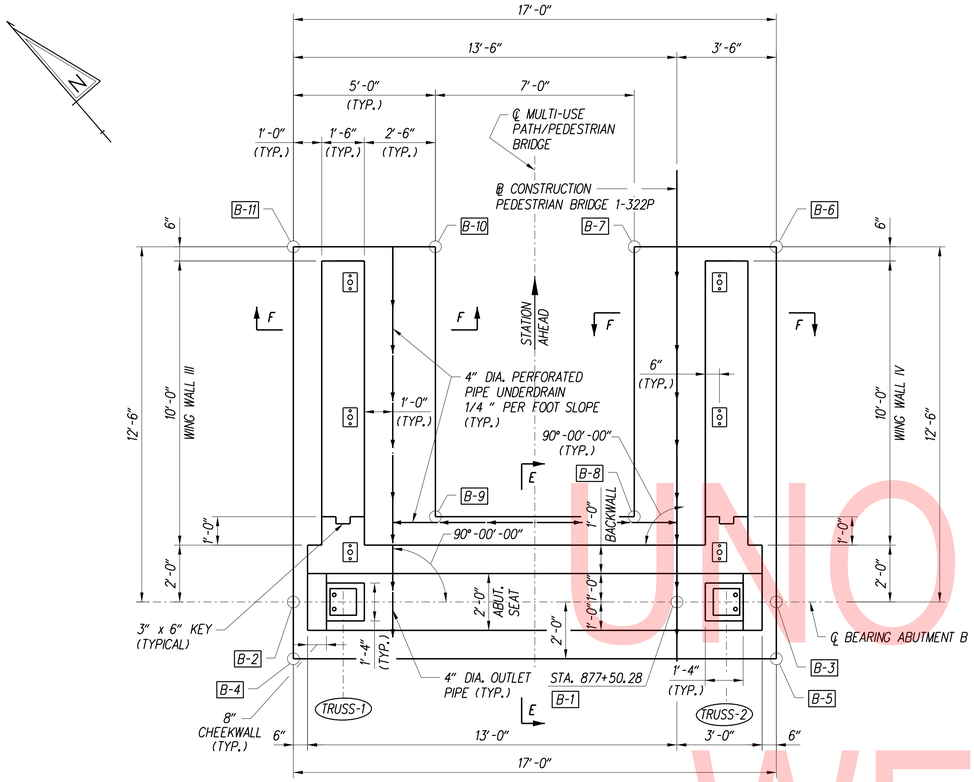
CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: P.J.M.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-322P
ABUTMENT A PLAN, ELEVATION AND SECTIONS

SECTION	JMT
SHEET NO.	163

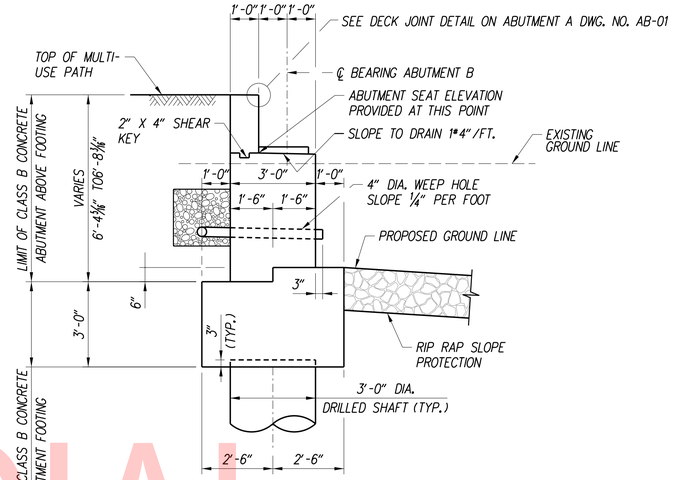
AB-01
1-322P

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\AB.DGN [SHEET: AB01-Ped2]



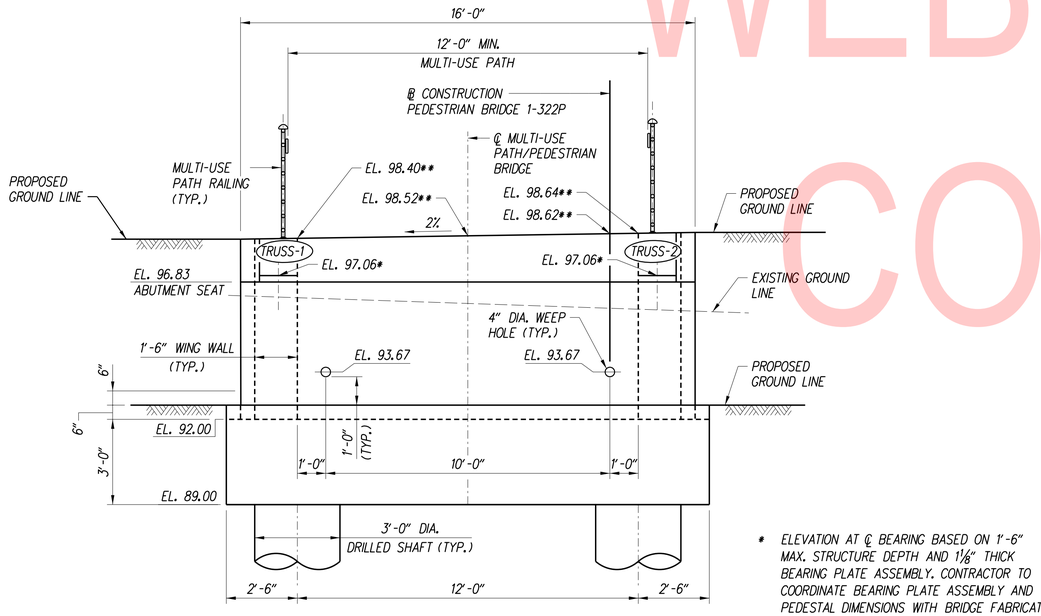
ABUTMENT B - PLAN

SCALE: 3/8" = 1'-0"



ABUTMENT B - TYPICAL SECTION (E-E)

SCALE: 3/8" = 1'-0"

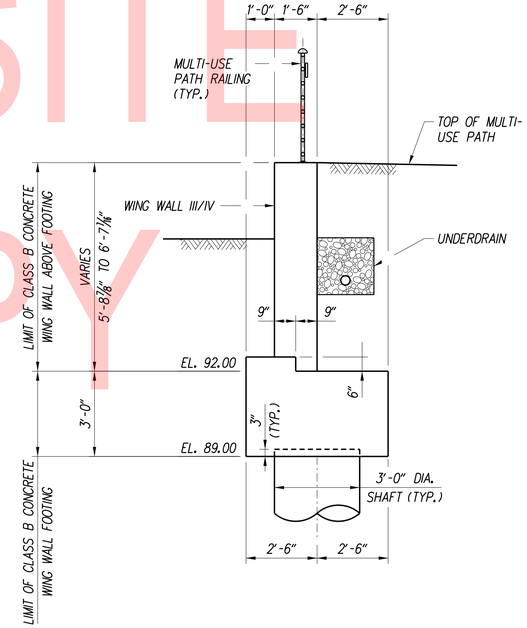


ABUTMENT B - ELEVATION

SCALE: 3/8" = 1'-0"

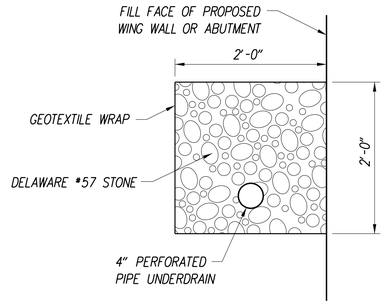
* ELEVATION AT ℄ BEARING BASED ON 1'-6" MAX. STRUCTURE DEPTH AND 1 1/2" THICK BEARING PLATE ASSEMBLY. CONTRACTOR TO COORDINATE BEARING PLATE ASSEMBLY AND PEDESTAL DIMENSIONS WITH BRIDGE FABRICATOR.

** ELEVATION SHOWN AT BACK OF BACKWALL.



ABUTMENT B - TYPICAL WING WALL SECTION (F-F)

SCALE: 3/8" = 1'-0"



UNDERDRAIN DETAIL

SCALE: 1" = 1'-0"

NOTES:
1. SEE SHEET PE-01 FOR GENERAL PLAN AND ELEVATION.
2. COST FOR UNDERDRAIN SYSTEM SHALL BE PAID UNDER ITEM # 709000.
3. COST FOR DECK JOINT SHALL BE PAID UNDER ITEM # 610017.

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\AB.DGN [SHEET: AB02-Ped2]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

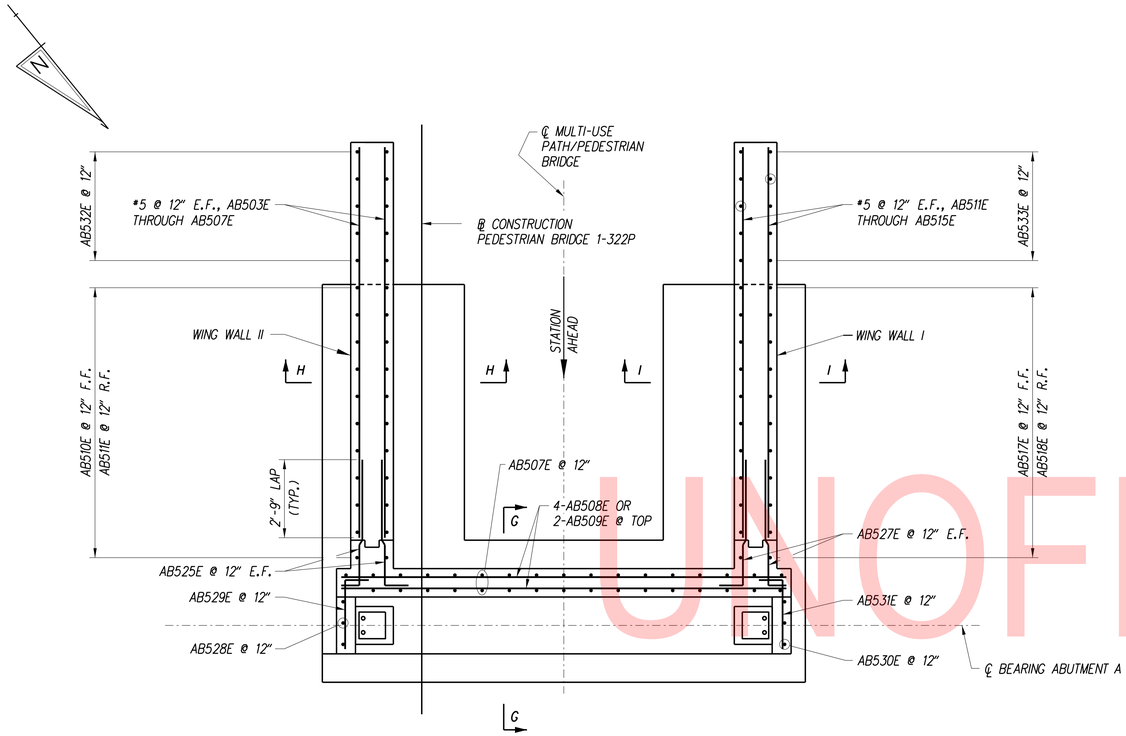
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: P.J.M.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-322P
ABUTMENT B PLAN, ELEVATION AND SECTIONS

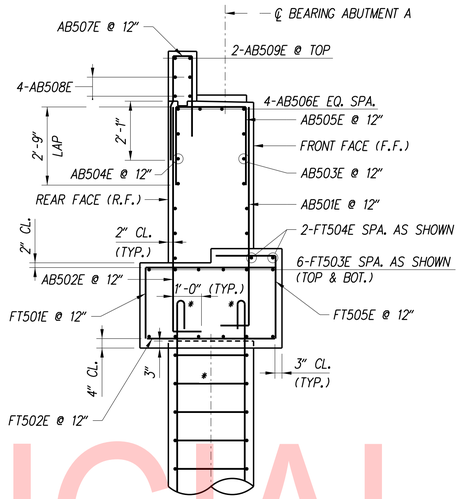
AB-02 1-322P	
SECTION	JMT
SHEET NO.	164



ABUTMENT A - PLAN

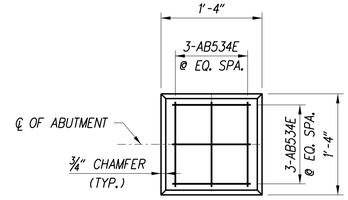
SCALE: 3/8" = 1'-0"

* SEE DRILLED SHAFT DETAIL SHEET FOR REINFORCING DETAIL.



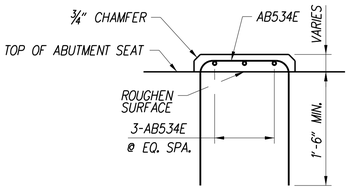
ABUTMENT A - TYPICAL SECTION (G-G)

SCALE: 3/8" = 1'-0"



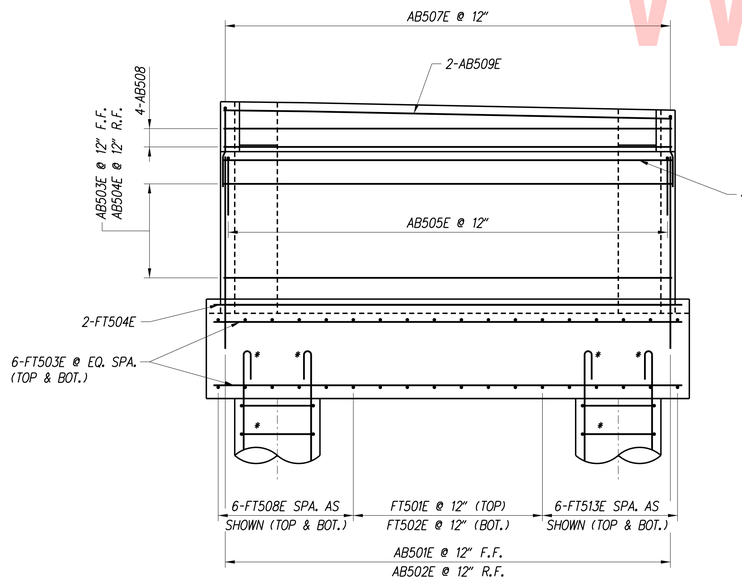
MASONRY PAD PLAN - ABUTMENTS A & B

SCALE: 1" = 1'-0"



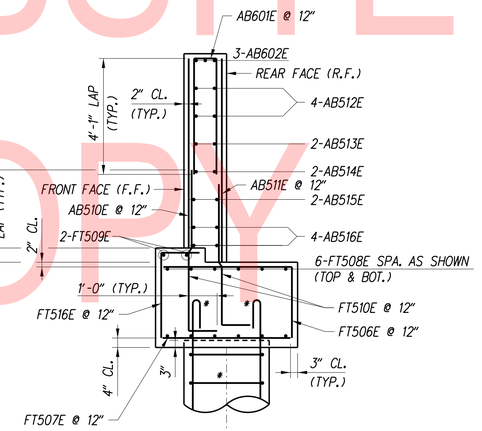
MASONRY PAD ELEVATION - ABUTMENTS A & B

SCALE: 1" = 1'-0"

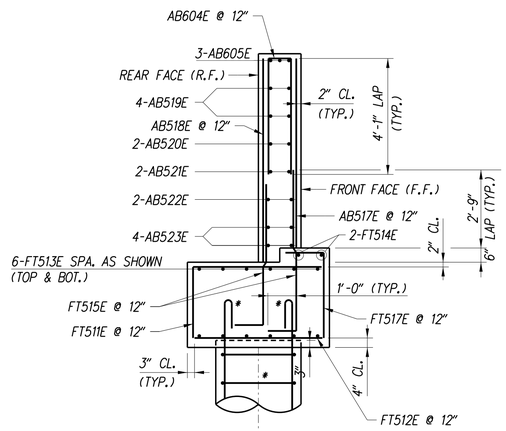


ABUTMENT A - ELEVATION

SCALE: 3/8" = 1'-0"



WING WALL II (SECTION H-H)



WING WALL I (SECTION I-I)

ABUTMENT A - TYPICAL WING WALL SECTIONS

SCALE: 3/8" = 1'-0"

NOTES:

1. SEE SHEET PE-01 FOR GENERAL PLAN AND ELEVATION.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\AB.DGN [SHEET: AB03-Ped2]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE AS NOTED

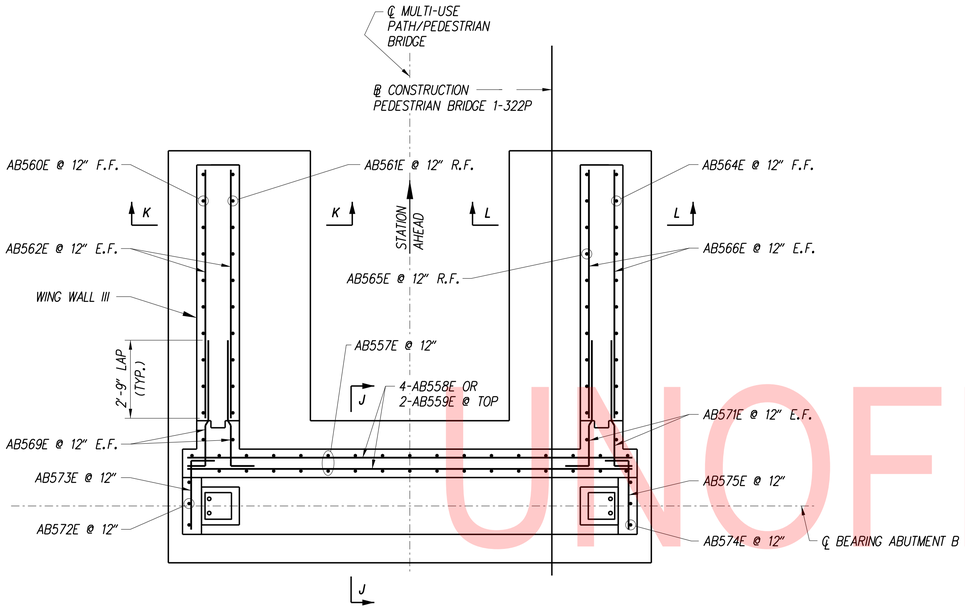
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: P.J.M.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-322P
ABUTMENT A
REINFORCEMENT

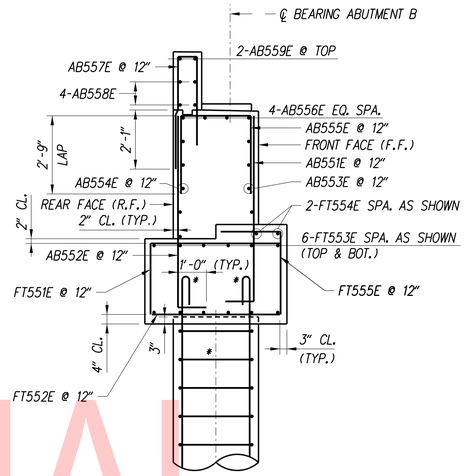
SECTION	JMT
SHEET NO.	165

AB-03
1-322P



ABUTMENT B - PLAN

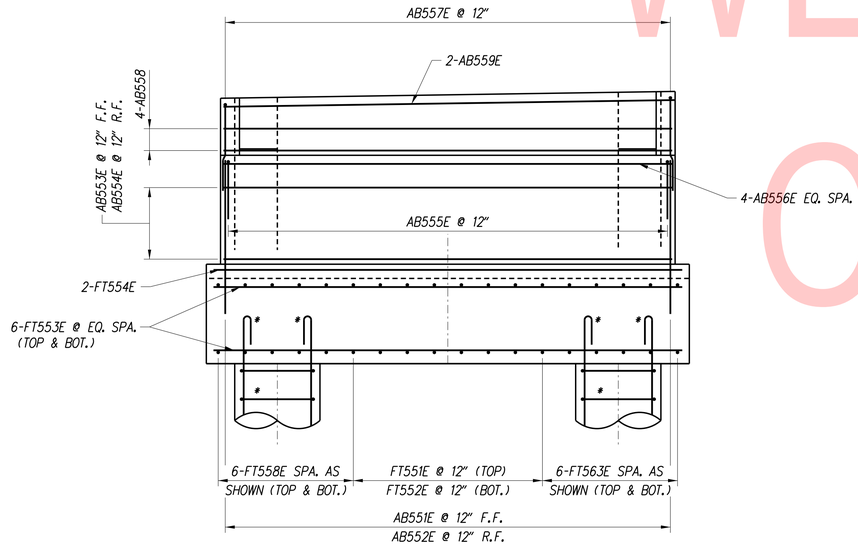
SCALE: 3/8" = 1'-0"



ABUTMENT B - TYPICAL SECTION (J-J)

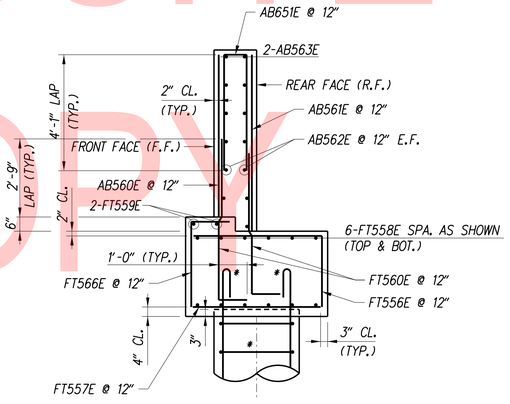
SCALE: 3/8" = 1'-0"

* SEE DRILLED SHAFT DETAIL SHEET FOR REINFORCING DETAIL.

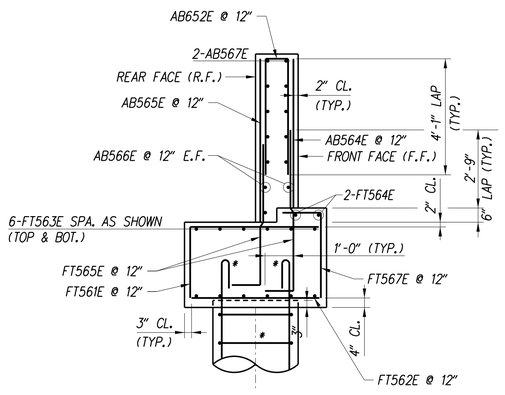


ABUTMENT B - ELEVATION

SCALE: 3/8" = 1'-0"



WING WALL III (SECTION K-K)



WING WALL IV (SECTION L-L)

ABUTMENT B - TYPICAL WING WALL SECTIONS

SCALE: 3/8" = 1'-0"

NOTES:

1. SEE SHEET PE-01 FOR GENERAL PLAN AND ELEVATION.

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PLOTTED BY: LBERZINA DATE: 11/15/2019 [SHEET: AB04-Ped2]
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\AB.DGN

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

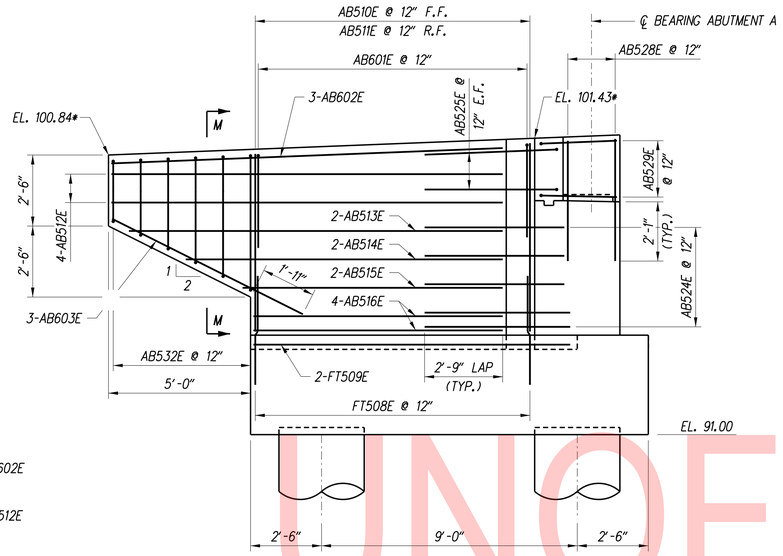
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: P.J.M.	
COUNTY		
NEW CASTLE	CHECKED BY: F.F.B.	

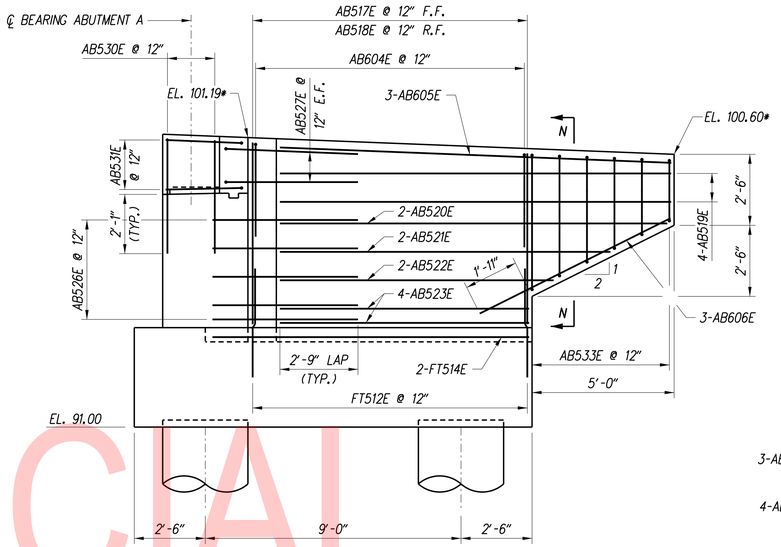
PEDESTRIAN BRIDGE 1-322P
ABUTMENT B
REINFORCEMENT

AB-04 1-322P	
SECTION	JMT
SHEET NO.	166



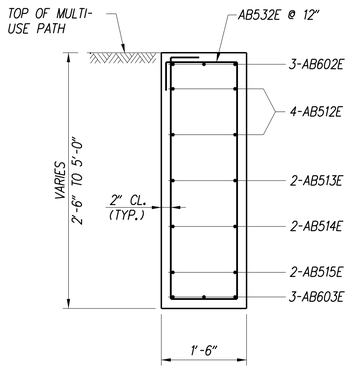
WING WALL II REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"



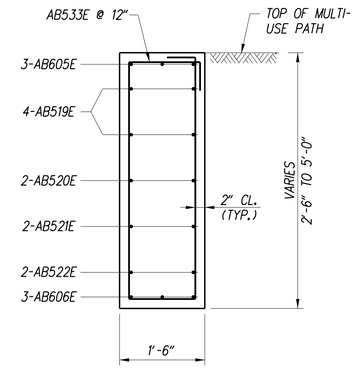
WING WALL I REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"



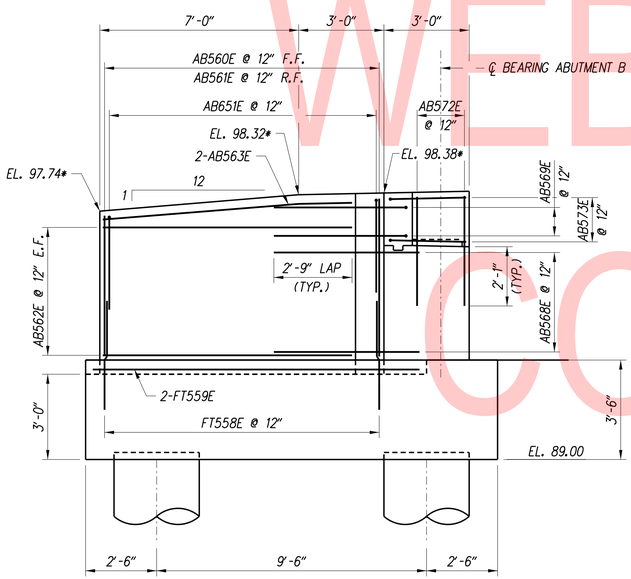
SECTION M-M

SCALE: 3/4" = 1'-0"



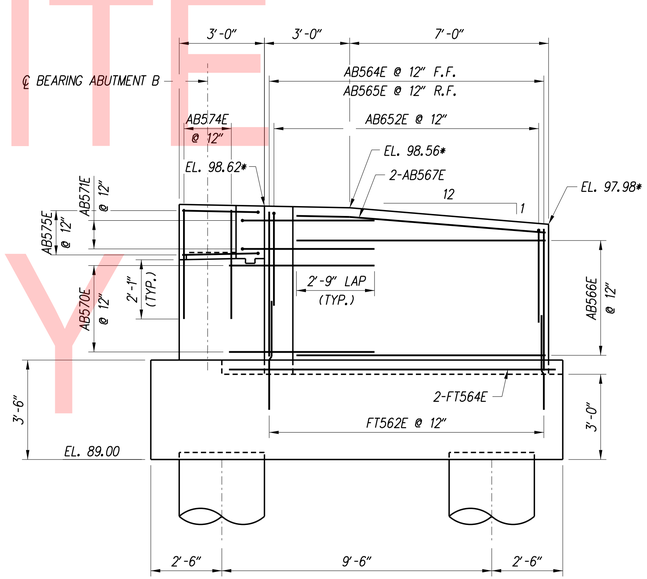
SECTION N-N

SCALE: 3/4" = 1'-0"



WING WALL III REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"



WING WALL IV REINFORCEMENT ELEVATION

SCALE: 3/8" = 1'-0"

* ELEVATIONS ALONG INTERIOR OF WING WALLS

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\WW.DGN [SHEET: WW01-Ped2]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

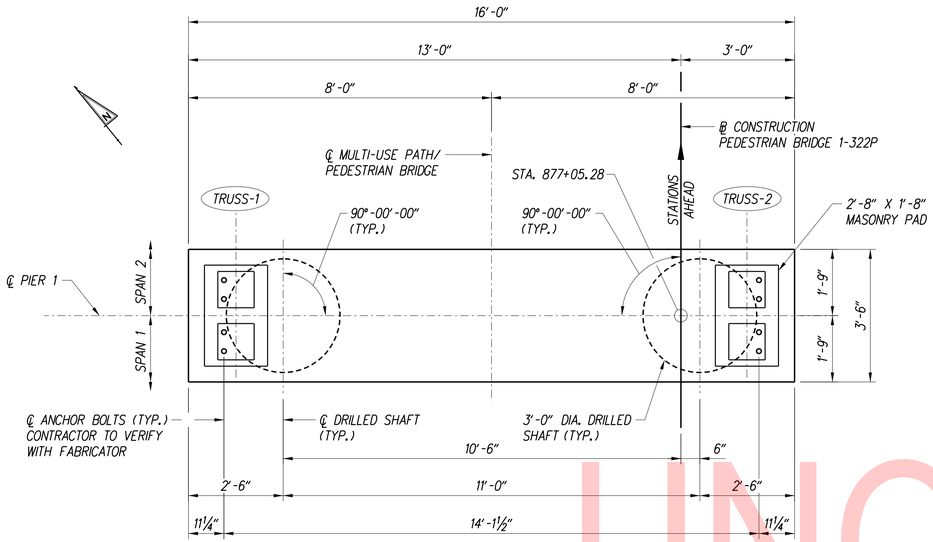
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: P.J.M.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

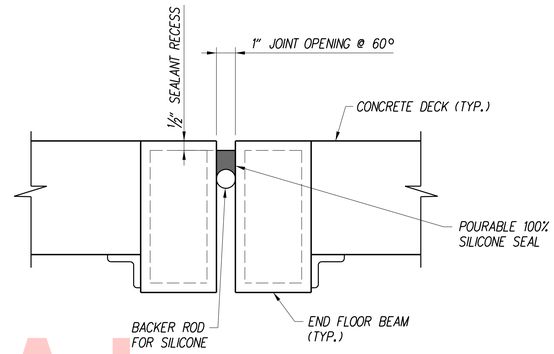
PEDESTRIAN BRIDGE 1-322P
WING WALL ELEVATIONS

WW-01 1-322P	
SECTION	JMT
SHEET NO.	167



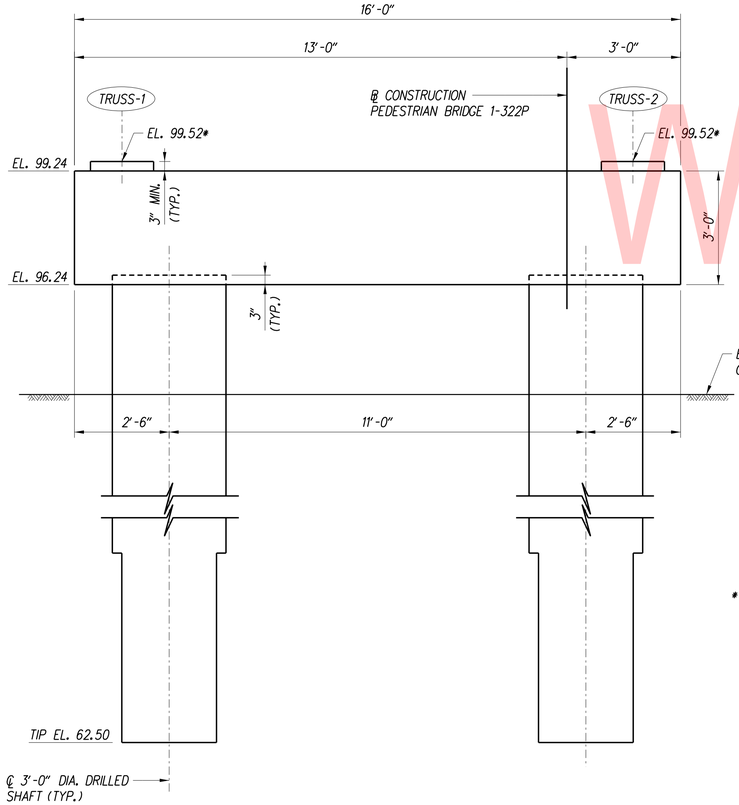
PIER 1 - PLAN

SCALE: ½" = 1'-0"



DECK JOINT DETAIL

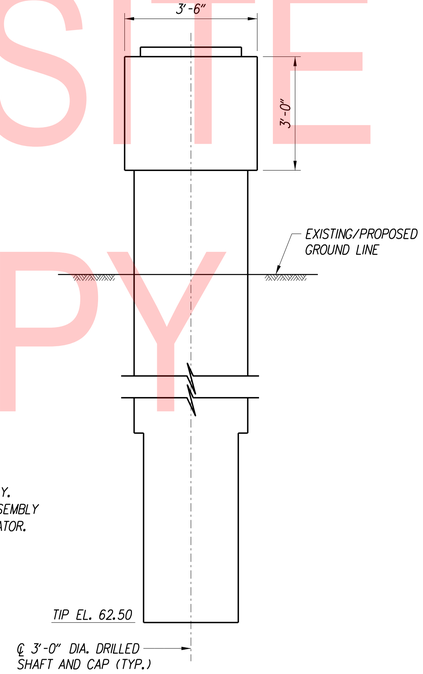
SCALE: 3" = 1'-0"



PIER 1 - ELEVATION

SCALE: ½" = 1'-0"

* ELEVATION BASED ON 1'-6" MAX. STRUCTURE DEPTH AND 1⅛" THICK BEARING PLATE ASSEMBLY. CONTRACTOR TO COORDINATE BEARING PLATE ASSEMBLY AND PEDESTAL DIMENSIONS WITH BRIDGE FABRICATOR.



PIER 1 - END ELEVATION

SCALE: ½" = 1'-0"

NOTE:

1. STEEL CASING FOR PIER 1 ABOVE GROUND LINE SHALL REMAIN IN PLACE. COST FOR STEEL CASING REMAIN IN PLACE IS PAID UNDER ITEM * 606001.
2. COST FOR DECK JOINT SHALL BE PAID UNDER ITEM * 610017.

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PR.DGN [SHEET: PR01]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

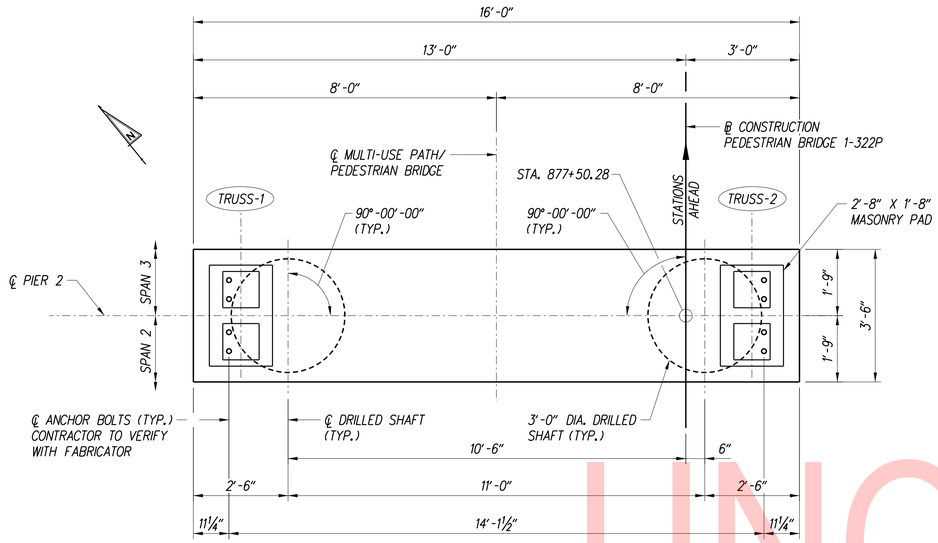
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: P.J.M.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

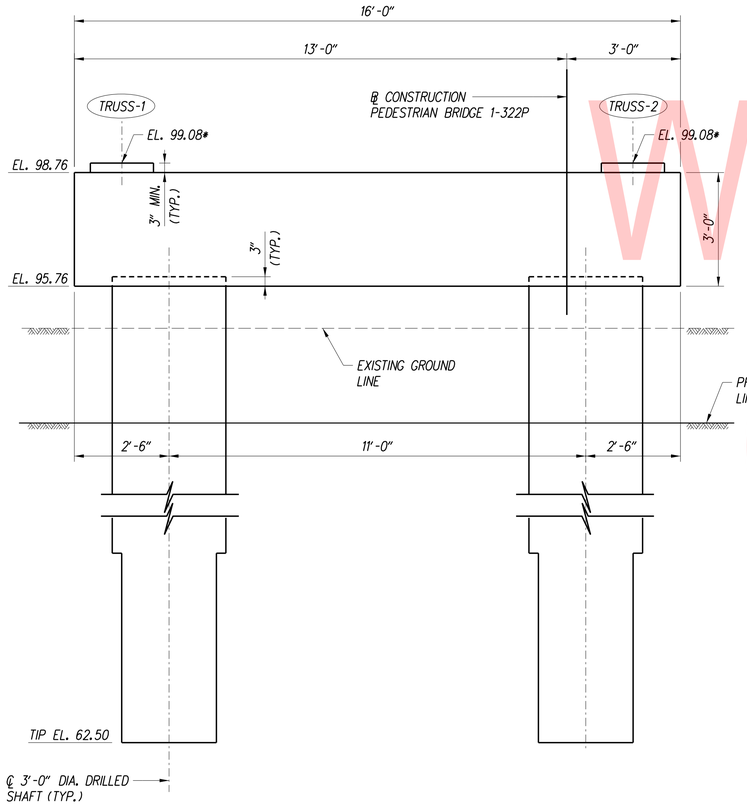
PEDESTRIAN BRIDGE 1-322P
PIER 1 PLAN AND ELEVATION

PR-01 1-322P	
SECTION	JMT
SHEET NO.	168



PIER 2 - PLAN

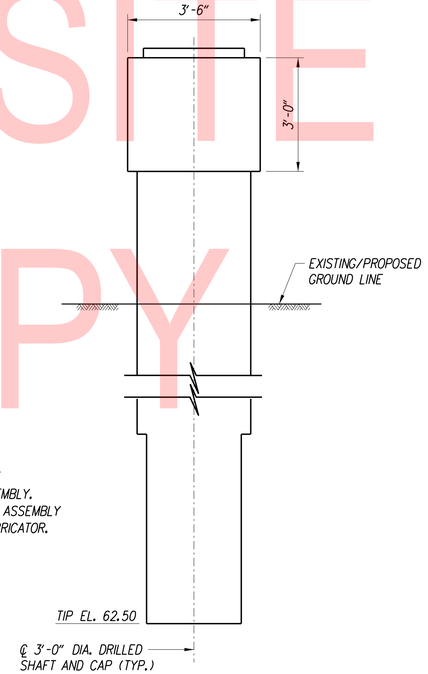
SCALE: ½" = 1'-0"



PIER 2 - ELEVATION

SCALE: ½" = 1'-0"

* ELEVATION BASED ON 1'-6" MAX. STRUCTURE DEPTH AND 1⅛" THICK BEARING PLATE ASSEMBLY. CONTRACTOR TO COORDINATE BEARING PLATE ASSEMBLY AND PEDESTAL DIMENSIONS WITH BRIDGE FABRICATOR.



PIER 2 - END ELEVATION

SCALE: ½" = 1'-0"

NOTE:

1. STEEL CASING FOR PIER 2 ABOVE GROUND LINE SHALL REMAIN IN PLACE. COST FOR STEEL CASING REMAIN IN PLACE IS PAID UNDER ITEM # 606001.

2. COST FOR DECK JOINT SHALL BE PAID UNDER ITEM # 610017.

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PR.DGN [SHEET: PR02]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

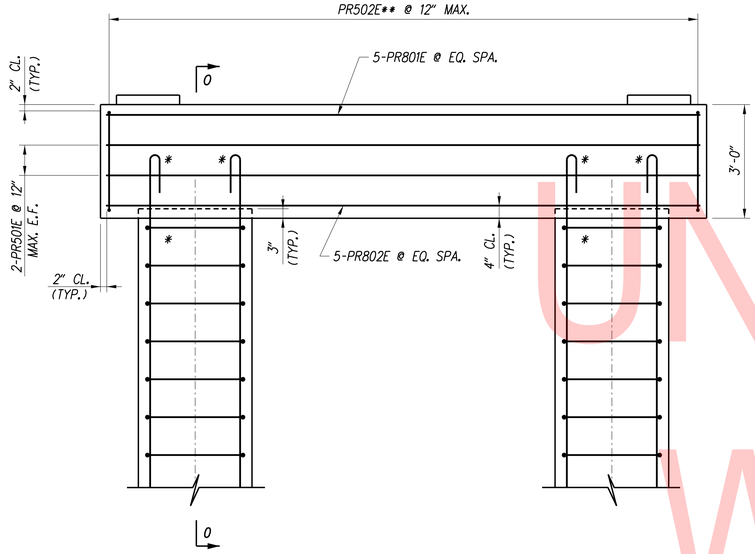
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: P.J.M.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-322P
PIER 2 PLAN AND ELEVATION

PR-02 1-322P	
SECTION	JMT
SHEET NO.	169

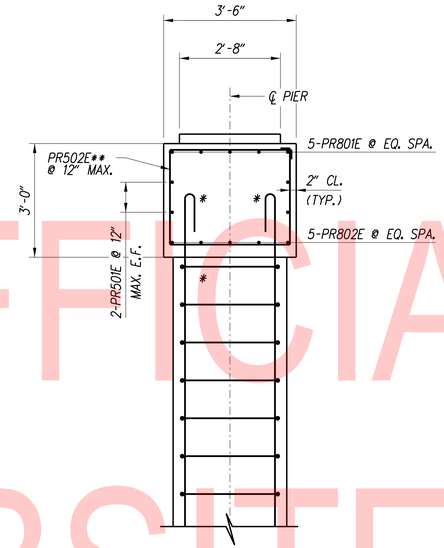


PIER 1 - REINFORCING (ELEVATION)

SCALE: ½" = 1'-0"

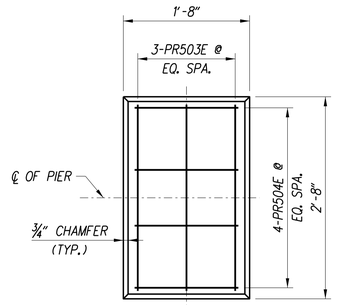
* SEE DRILLED SHAFT DETAIL SHEET FOR REINFORCING DETAIL.

** ADJUST SPACING TO CLEAR DRILLED SHAFT REINFORCING.



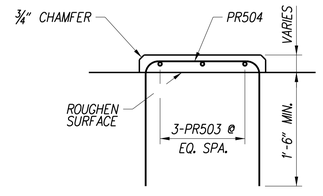
PIER 1 - REINFORCING (SECTION 0-0)

SCALE: ½" = 1'-0"



MASONRY PAD PLAN - PIERS 1 & 2

SCALE: 1" = 1'-0"



MASONRY PAD ELEVATION - PIERS 1 & 2

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PR.DGN [SHEET: PR03]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

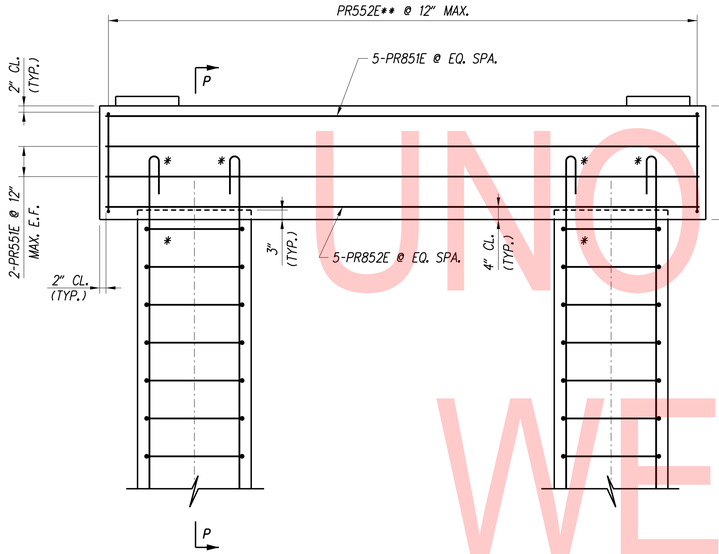
SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322P	
DESIGNED BY: P.J.M.		
CHECKED BY: F.F.B.		

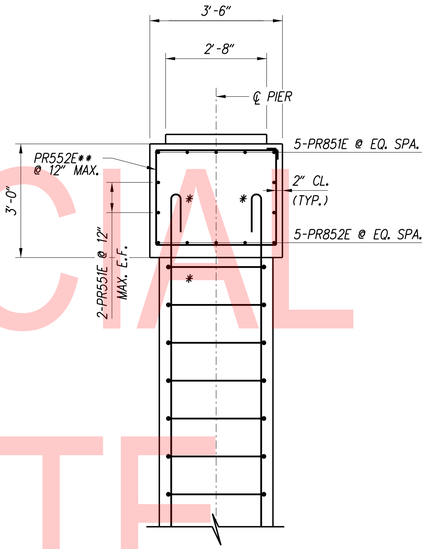
PEDESTRIAN BRIDGE 1-322P
PIER 1 REINFORCEMENT

	PR-03 1-322P
SECTION	JMT
SHEET NO.	170



PIER 2 - REINFORCING (ELEVATION)

SCALE: ½" = 1'-0"



PIER 2 - REINFORCING (SECTION P-P)

SCALE: ½" = 1'-0"

* SEE DRILLED SHAFT DETAIL SHEET FOR REINFORCING DETAIL.

** ADJUST SPACING TO CLEAR DRILLED SHAFT REINFORCING.

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\PR.DGN [SHEET: PR04]

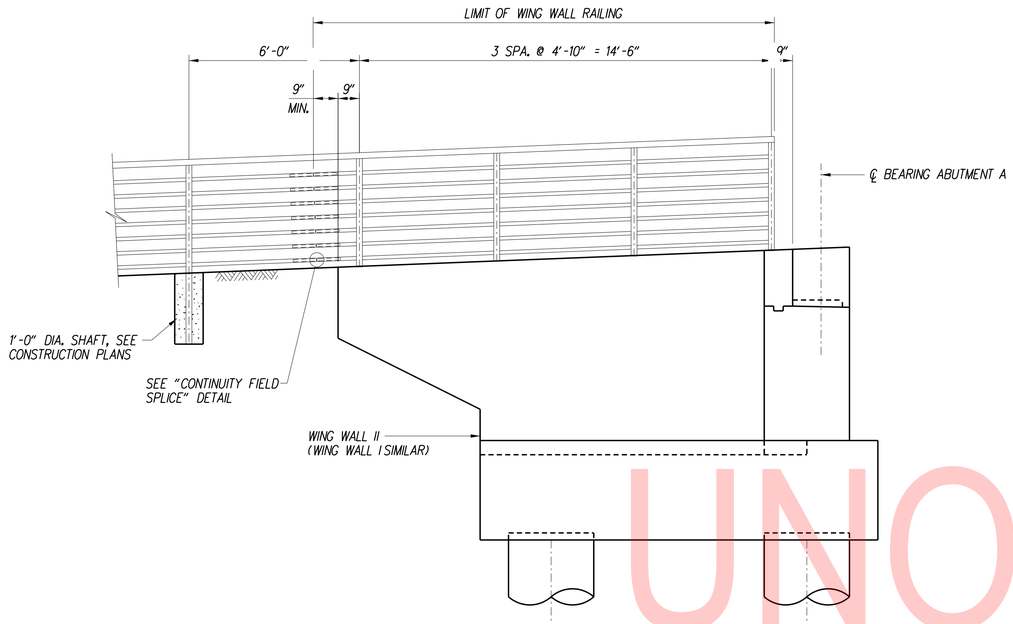
ADDENDA / REVISIONS					
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	SCALE AS NOTED	ELKTON ROAD MD LINE TO CASHO MILL ROAD	CONTRACT T201504401 / COUNTY NEW CASTLE / BRIDGE NO. 1-322P / DESIGNED BY: P.J.M. / CHECKED BY: F.F.B.

PEDESTRIAN BRIDGE 1-322P
PIER 2 REINFORCEMENT

PR-04
1-322P

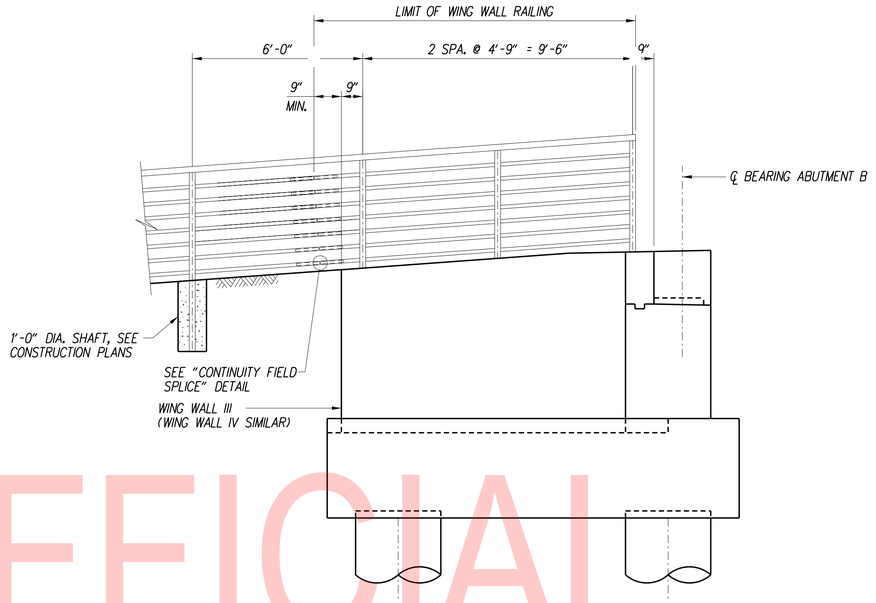
SECTION JMT

SHEET NO. 171



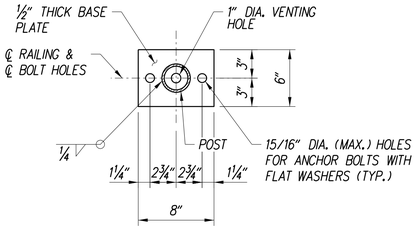
PEDESTRIAN RAILING ELEVATION - ABUTMENT A

SCALE: 3/8" = 1'-0"



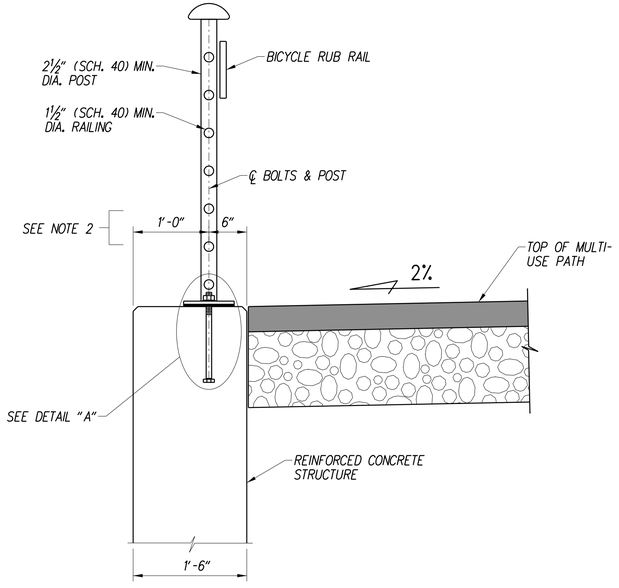
PEDESTRIAN RAILING ELEVATION - ABUTMENT B

SCALE: 3/8" = 1'-0"



BASE PLATE DETAIL

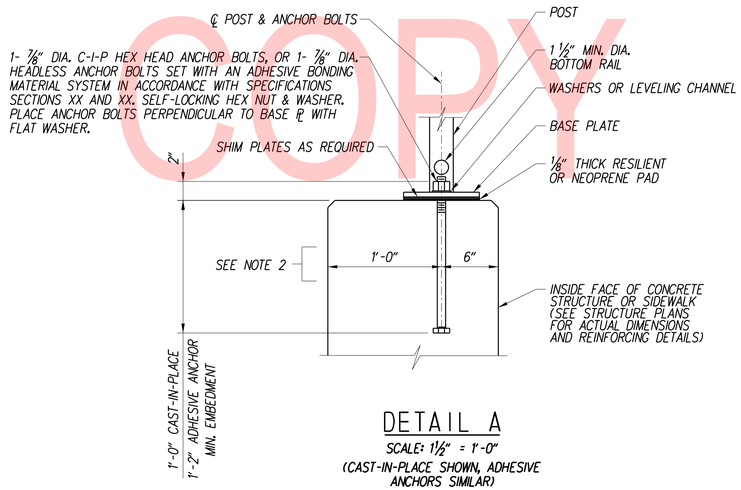
SCALE: 1 1/2" = 1'-0"



TYPICAL SECTION ON WING WALL

SCALE: 1" = 1'-0"

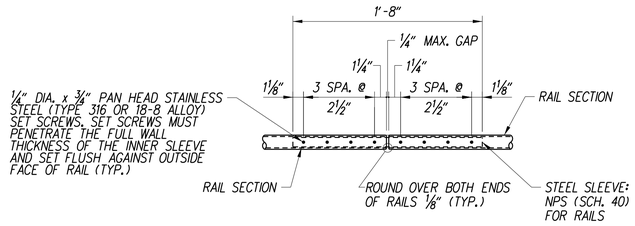
(WING WALL I SHOWN, OTHERS SIMILAR)



DETAIL A

SCALE: 1 1/2" = 1'-0"

(CAST-IN-PLACE SHOWN, ADHESIVE ANCHORS SIMILAR)



CONTINUITY FIELD SPLICE

SCALE: 1 1/2" = 1'-0"

NOTES:

1. FOR MULTI-USE PATH DETAILS, SEE CONSTRUCTION DETAILS.
2. BICYCLE RUB RAIL ON PEDESTRIAN BRIDGE AND WING WALL SHALL BE LINED UP WITH SHARE USE PATH APPROACH RAILING. CONTRACTOR TO COORDINATE WITH PRE-FABRICATED TRUSS MANUFACTURER.

UNOFFICIAL WEBSITE COPY

RA-01
1-322P

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE AS NOTED

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: S.P.A.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-322P
RAILING DETAILS

SECTION
JMT
SHEET NO.
172

① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.

② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SL = SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
ABUTMENT A															
6	5	7-0 0	FT501E	17		2-6 0	4-6 0	2-6 0							
6	5	4-6 0	FT502E	STR											
12	5	16-6 0	FT503E	STR											
2	5	16-6 0	FT504E	STR											
18	5	5-2 0	FT505E	17		2-1 0	3-1 0								
9	5	7-0 0	FT506E	17			4-6 0	2-6 0							
9	5	4-6 0	FT507E	STR											
12	5	16-0 0	FT508E	2	2-6 0	13-6 0									
2	5	11-0 0	FT509E	STR											
11	5	6-6 0	FT510E	2	1-0 0	5-6 0									
11	5	6-0 0	FT510E	2	1-0 0	5-0 0									
9	5	7-0 0	FT511E	17			4-6 0	2-6 0							
9	5	4-6 0	FT512E	STR											
12	5	16-0 0	FT513E	2	2-6 0	13-6 0									
2	5	11-0 0	FT514E	STR											
11	5	6-6 0	FT515E	2	1-0 0	5-0 0									
11	5	6-0 0	FT515E	2	1-0 0	5-0 0									
9	5	4-5 0	FT516E	17		1-4 0	3-1 0								
9	5	4-5 0	FT517E	17		1-4 0	3-1 0								
17	5	8-10 0	AB501E	2	1-0 0	7-10 0									
17	5	8-10 0	AB502E	2	1-0 0	7-10 0									
5	4	15-8 0	AB503E	STR											
6	4	15-8 0	AB504E	STR											
17	5	8-2 0	AB505E	17		2-9 0	2-8 0	2-9 0							
4	5	15-8 0	AB506E	STR											
17	5	8-2 0	AB507E	17		3-9 0	0-8 0	3-9 0							
4	5	15-8 0	AB508E	2											
2	5	15-8 0	AB509E	STR											
2	5	6-9 0	AB510E	STR											
2	5	6-8 0	AB510E	STR											
2	5	6-7 0	AB510E	STR											
2	5	6-6 0	AB510E	STR											
2	5	6-5 0	AB510E	STR											
1	5	6-4 0	AB510E	STR											

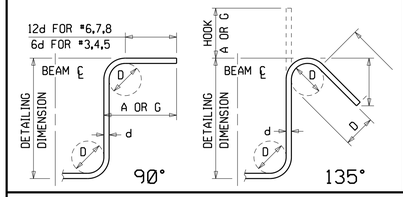
SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
ABUTMENT A (CONT.)															
2	5	7-3 0	AB511E	STR											
2	5	7-2 0	AB511E	STR											
2	5	7-1 0	AB511E	STR											
2	5	7-0 0	AB511E	STR											
2	5	6-11 0	AB511E	STR											
1	5	6-10 0	AB511E	STR											
4	6	13-8 0	AB512E	STR											
2	6	13-1 0	AB513E	STR											
2	6	11-1 0	AB514E	STR											
2	6	9-1 0	AB515E	STR											
4	6	8-9 0	AB516E	STR											
2	5	6-6 0	AB517E	STR											
2	5	6-5 0	AB517E	STR											
2	5	6-4 0	AB517E	STR											
2	5	6-3 0	AB517E	STR											
2	5	6-2 0	AB517E	STR											
1	5	6-1 0	AB517E	STR											
2	5	7-0 0	AB518E	STR											
2	5	6-11 0	AB518E	STR											
2	5	6-10 0	AB518E	STR											
2	5	6-9 0	AB518E	STR											
2	5	6-8 0	AB518E	STR											
1	5	6-7 0	AB518E	STR											
4	6	13-8 0	AB519E	STR											
2	6	13-1 0	AB520E	STR											
2	6	11-1 0	AB521E	STR											
2	6	9-1 0	AB522E	STR											
4	6	8-9 0	AB523E	STR											
10	5	4-10 0	AB524E	STR											
6	5	5-6 0	AB525E	2	0-10 0	4-8 0									
10	5	4-10 0	AB526E	STR											
6	5	5-6 0	AB527E	2	0-10 0	4-8 0									
3	5	2-10 0	AB528E	STR											
3	5	3-5 0	AB529E	2	0-10 0	2-7 0									
3	5	2-7 0	AB530E	STR											
3	5	3-5 0	AB531E	2	0-10 0	2-7 0									

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
ABUTMENT A (CONT.)															
1	5	12-8 0	AB532E	T2	0-6 0	1-2 0	4-8 0	1-2 0	4-8 0		0-6 0				
1	5	11-8 0	AB532E	T2	0-6 0	1-2 0	4-2 0	1-2 0	4-2 0		0-6 0				
1	5	10-8 0	AB532E	T2	0-6 0	1-2 0	3-8 0	1-2 0	3-8 0		0-6 0				
1	5	9-8 0	AB532E	T2	0-6 0	1-2 0	3-2 0	1-2 0	3-2 0		0-6 0				
1	5	8-8 0	AB532E	T2	0-6 0	1-2 0	2-8 0	1-2 0	2-8 0		0-6 0				
1	5	7-8 0	AB532E	T2	0-6 0	1-2 0	2-2 0	1-2 0	2-2 0		0-6 0				
1	5	12-8 0	AB533E	T2	0-6 0	1-2 0	4-8 0	1-2 0	4-8 0		0-6 0				
1	5	11-8 0	AB533E	T2	0-6 0	1-2 0	4-2 0	1-2 0	4-2 0		0-6 0				
1	5	10-8 0	AB533E	T2	0-6 0	1-2 0	3-8 0	1-2 0	3-8 0		0-6 0				
1	5	9-8 0	AB533E	T2	0-6 0	1-2 0	3-2 0	1-2 0	3-2 0		0-6 0				
1	5	8-8 0	AB533E	T2	0-6 0	1-2 0	2-8 0	1-2 0	2-8 0		0-6 0				
1	5	7-8 0	AB533E	T2	0-6 0	1-2 0	2-2 0	1-2 0	2-2 0		0-6 0				
12	5	4-4 0	AB534E	17		1-8 0	1-0 0	1-8 0							
11	6	9-4 0	AB601E	17		4-1 0	1-2 0	4-1 0							
2	6	13-9 0	AB602E	STR											
2	6	7-5 0	AB603E	STR											
11	6	9-4 0	AB604E	17		4-1 0	1-2 0	4-1 0							
2	6	13-9 0	AB605E	STR											
2	6	7-5 0	AB606E	STR											

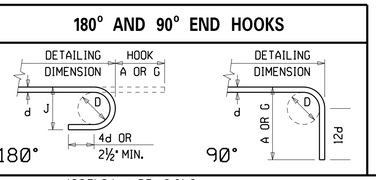
ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES			
	NOMINAL DIMENSIONS				180° HOOKS		90° HOOKS		90° HOOK	135° HOOK	
BAR SIZE	DIAMETER (INCHES)	AREA (INCHES²)	WEIGHT (LBS./FT.)	D	A OR G	J	A OR G	D	A OR G	A OR G	A OR G
3	0.375	0.110	0.376	2¼"	5"	3"	6"	1½"	4"	4"	2½"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4½"	4½"	3"
5	0.625	0.310	1.043	3¾"	7"	5"	10"	2½"	6"	5½"	3¾"
6	0.750	0.440	1.502	4½"	8"	6"	1-0"	4½"	1-0"	8"	4½"
7	0.875	0.600	2.044	5¼"	10"	7"	1-2"	5¼"	1-2"	9"	5¼"
8	1.000	0.790	2.670	6"	11"	8"	1-4"	6"	1-4"	10½"	6"
9	1.128	1.000	3.400	9½"	1-3"	11¾"	1-7"				
10	1.270	1.270	4.303	10¾"	1-5"	1-1¼"	1-10"				
11	1.410	1.560	5.313	1-0"	1-7"	1-2¾"	2-0"				
14	1.693	2.250	7.650	1-6¼"	2-3"	1-9¾"	2-7"				
18	2.257	4.000	13.600	2-0"	3-0"	2-4½"	3-5"				

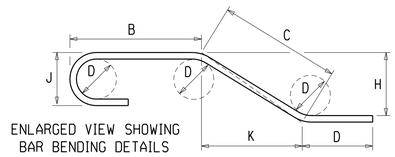
NOTES:
1. FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
2. STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
3. ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" ON STD. 180° AND 135° HOOKS.
4. "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
5. WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
6. "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
7. UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
8. WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
9. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
10. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRSI' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
11. TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.

STIRRUP AND TIE HOOKS

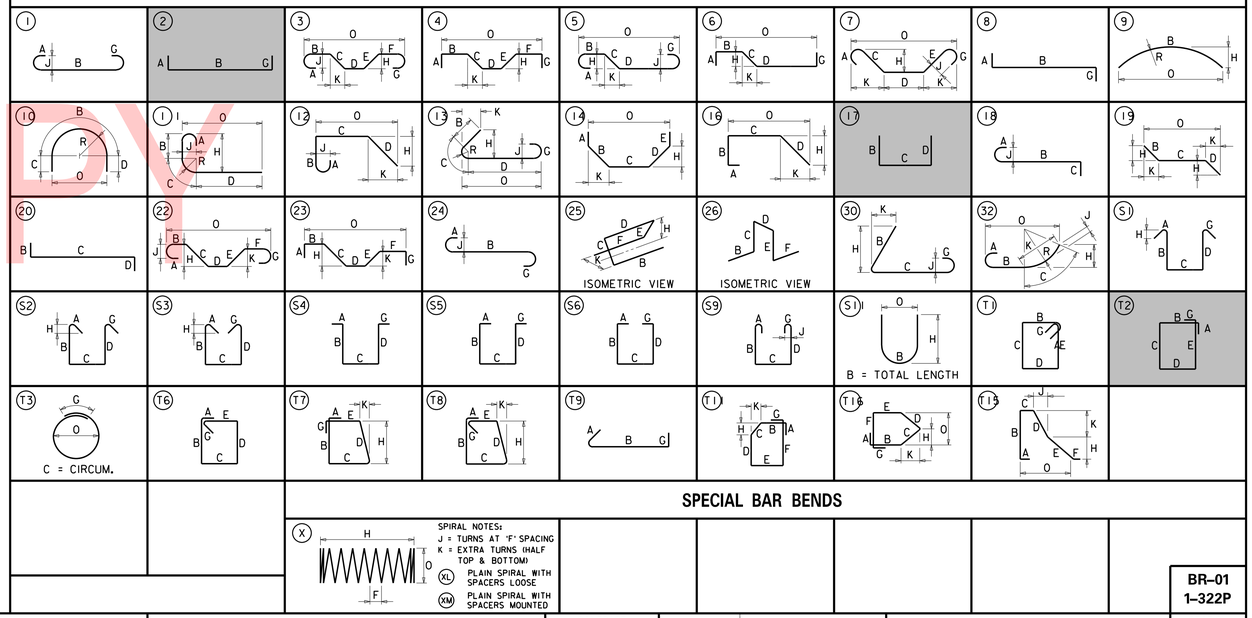


180° AND 90° END HOOKS





STANDARD BAR BENDS



SPECIAL BAR BENDS

BR-01
1-322P

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322P
DESIGNED BY:	S.P.A.
CHECKED BY:	F.F.B.

PEDESTRIAN BRIDGE 1-322P
REINFORCEMENT BAR LIST I

SECTION	JMT
SHEET NO.	173

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\BR_BR.DGN [SHEET: BR01-Ped2]

① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.

② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SL = SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)									
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
PIER 1															
4	5	15-8 0	PR501E	STR											
17	5	12-4 0	PR502E	T2	0-6 0	3-2 0	2-6 0	3-2 0	2-6 0		0-6 0				
6	5	5-6 0	PR503E	17		1-8 0	2-6 0	1-8 0							
8	5	4-8 0	PR504E	17		1-8 0	1-6 0	1-8 0							
5	8	15-8 0	PR801E	STR											
5	8	15-8 0	PR802E	STR											
PIER 2															
6	5	5-6 0	PR503E	S4		1-8 0	2-6 0	1-8 0							
8	5	4-8 0	PR504E	S4		1-8 0	1-6 0	1-8 0							
4	5	15-8 0	PR551E	STR											
17	5	12-4 0	PR552E	T2	0-6 0	3-2 0	2-6 0	3-2 0	2-6 0		0-6 0				
5	8	15-8 0	PR851E	STR											
5	8	15-8 0	PR852E	STR											
ABUTMENT B															
6	5	7-0 0	FT551E	17		2-6 0	4-6 0								
6	5	4-6 0	FT552E	STR											
12	5	16-6 0	FT553E	STR											
2	5	16-6 0	FT554E	STR											
18	5	5-2 0	FT555E	17		2-1 0	3-1 0								
9	5	7-0 0	FT556E	17			4-6 0	2-6 0							
9	5	4-6 0	FT557E	STR											
12	5	16-6 0	FT558E	2	2-6 0	14-0 0									
2	5	11-6 0	FT559E	STR											
11	5	6-6 0	FT560E	2	1-0 0	5-6 0									
11	5	6-0 0	FT560E	2	1-0 0	5-0 0									
9	5	7-0 0	FT561E	17			4-6 0	2-6 0							
9	5	4-6 0	FT562E	STR											
12	5	16-6 0	FT563E	2	2-6 0	14-0 0									
2	5	11-6 0	FT564E	STR											
11	5	6-6 0	FT565E	2	1-0 0	5-6 0									
11	5	6-0 0	FT565E	2	1-0 0	5-0 0									
9	5	4-5 0	FT566E	17		1-4 0	3-1 0								
9	5	4-5 0	FT567E	17		1-4 0	3-1 0								

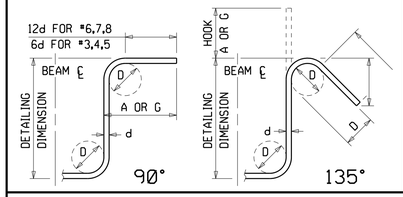
SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)									
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
ABUTMENT B (CONT.)															
12	5	4-4 0	AB534E	17		1-8 0	1-0 0	1-8 0							
17	5	7-11 0	AB551E	2	1-0 0	6-11 0									
17	5	7-11 0	AB552E	2	1-0 0	6-11 0									
4	5	15-8 0	AB553E	STR											
5	5	15-8 0	AB554E	STR											
17	5	8-2 0	AB555E	17		2-9 0	2-8 0	2-9 0							
4	5	15-8 0	AB556E	STR											
17	5	8-2 0	AB557E	17		3-9 0	0-8 0	3-9 0							
4	5	15-8 0	AB558E	STR											
2	5	15-8 0	AB559E	STR											
4	5	5-8 0	AB560E	STR											
1	5	5-7 0	AB560E	STR											
1	5	5-6 0	AB560E	STR											
1	5	5-5 0	AB560E	STR											
1	5	5-4 0	AB560E	STR											
1	5	5-3 0	AB560E	STR											
1	5	5-2 0	AB560E	STR											
1	5	5-1 0	AB560E	STR											
4	5	6-2 0	AB561E	STR											
1	5	6-1 0	AB561E	STR											
1	5	6-0 0	AB561E	STR											
1	5	5-11 0	AB561E	STR											
1	5	5-10 0	AB561E	STR											
1	5	5-9 0	AB561E	STR											
1	5	5-8 0	AB561E	STR											
1	5	5-7 0	AB561E	STR											
11	5	8-8 0	AB562E	STR											
2	5	8-8 0	AB563E	16			6-10 0	1-10 0				0-1 0		1-10 0	
4	5	5-11 0	AB564E	STR											
1	5	5-10 0	AB564E	STR											
1	5	5-9 0	AB564E	STR											
1	5	5-8 0	AB564E	STR											
1	5	5-7 0	AB564E	STR											
1	5	5-6 0	AB564E	STR											
1	5	5-5 0	AB564E	STR											
1	5	5-4 0	AB564E	STR											

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)									
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
ABUTMENT B (CONT.)															
4	5	6-5 0	AB565E	STR											
1	5	6-4 0	AB565E	STR											
1	5	6-3 0	AB565E	STR											
1	5	6-2 0	AB565E	STR											
1	5	6-1 0	AB565E	STR											
1	5	6-0 0	AB565E	STR											
1	5	5-11 0	AB565E	STR											
1	5	5-10 0	AB565E	STR											
11	5	8-8 0	AB566E	STR											
2	5	8-8 0	AB567E	16			6-10 0	1-10 0					0-1 0		1-10 0
9	5	4-10 0	AB568E	STR											
4	5	5-6 0	AB569E	2	0-10 0	4-8 0									
9	5	4-10 0	AB570E	STR											
4	5	5-6 0	AB571E	2	0-10 0	4-8 0									
3	5	2-7 0	AB572E	STR											
2	5	3-5 0	AB573E	2	0-10 0	2-7 0									
3	5	2-11 0	AB574E	STR											
2	5	3-5 0	AB575E	2	0-10 0	2-7 0									
11	6	9-4 0	AB651E	17		4-1 0	1-2 0	4-1 0							
11	6	9-4 0	AB652E	17		4-1 0	1-2 0	4-1 0							

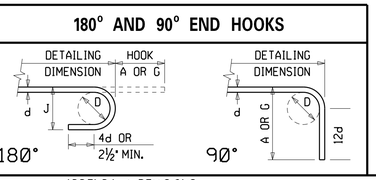
ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES			
	NOMINAL DIMENSIONS				180° HOOKS		90° HOOKS		90° HOOK	135° HOOK	
BAR SIZE	DIAMETER (INCHES)	AREA (INCHES²)	WEIGHT (LBS./FT.)	D	A OR G	J	A OR G	D	A OR G	A OR G	A OR G
3	0.375	0.110	0.376	2¼"	5"	3"	6"	1½"	4"	4"	2½"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4½"	4½"	3"
5	0.625	0.310	1.043	3¾"	7"	5"	10"	2½"	6"	5½"	3¾"
6	0.750	0.440	1.502	4½"	8"	6"	1-0"	4½"	1-0"	8"	4½"
7	0.875	0.600	2.044	5¼"	10"	7"	1-2"	5¼"	1-2"	9"	5¼"
8	1.000	0.790	2.670	6"	11"	8"	1-4"	6"	1-4"	10½"	6"
9	1.128	1.000	3.400	9½"	1-3"	11¾"	1-7"				
10	1.270	1.270	4.303	10¾"	1-5"	1-1¼"	1-10"				
11	1.410	1.560	5.313	1-0"	1-7"	1-2¾"	2-0"				
14	1.693	2.250	7.650	1-6¼"	2-3"	1-9¾"	2-7"				
18	2.257	4.000	13.600	2-0"	3-0"	2-4½"	3-5"				

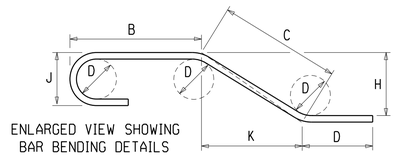
NOTES:
1. FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
2. STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
3. ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" ON STD. 180° AND 135° HOOKS.
4. "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
5. WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
6. "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
7. UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
8. WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
9. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
10. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRSI' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
11. TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.

STIRRUP AND TIE HOOKS

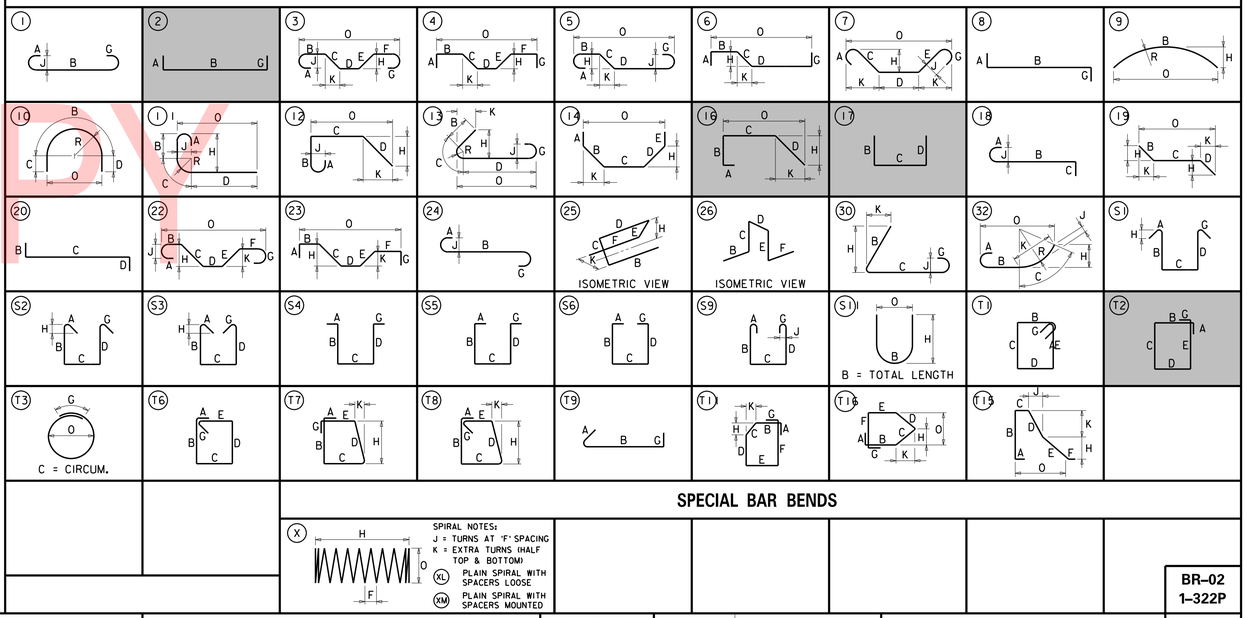


180° AND 90° END HOOKS





STANDARD BAR BENDS



SPECIAL BAR BENDS

BR-02
1-322P

ADDENDA / REVISIONS

⚠1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322P
T201504401	DESIGNED BY: S.P.A.	
COUNTY	CHECKED BY: F.F.B.	
NEW CASTLE		

PEDESTRIAN BRIDGE 1-322P
REINFORCEMENT BAR LIST II

SECTION	
JMT	
SHEET NO.	
174	

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\BR_BR.DGN [SHEET: BR02-Ped2]

BORING: ES-1 **DATE DRILLED:** 6/20/16
STATION: 876+90.90 **OFFSET:** 15.02' **ELEVATION:** 95.0 **NORTHING:** 608108.07 **EASTING:** 556234.18
COMMENTS: N/A

SAMPLE INFORMATION

NO.	DEPTH	BLOWS /6"	DESCRIPTION	CLASS /G.I.	REMARKS
1	0.0 2.0		MOIST BROWN FINE SANDY SILT W/TRACE COARSE SAND.	A-4(0)	
2	2.0 4.0		WET BROWN FINE SANDY SILT W/TRACE COARSE SAND AND FINE GRAVEL.	A-4(0)	
	EL. 91.00 ABUT. A BOT. OF FTG. EL.				
3	4.0 6.0		WET BROWN SILT W/SOME FINE SAND, TRACE OF COARSE SAND AND FINE GRAVEL.	A-4(0)	
4	6.0 8.0		WET BROWN FINE SANDY SILT W/TRACE COARSE SAND AND FINE GRAVEL.	A-4(0)	
5	8.0 10.0	5 5 6 7	WET MEDIUM DENSE BROWN COARSE TO FINE SAND AND FINE GRAVEL W/SOME SILT.	A-1-b	
6	10.0 12.0	2 2 2 2	WET VERY LOOSE BROWN SILTY COARSE TO FINE SAND W/SOME FINE GRAVEL.	A-2-7(1)	
7	12.0 14.0	2 2 3 2	WET FIRM BROWN FINE SANDY CLAY W/SOME COARSE SAND AND SILT, TRACE OF FINE GRAVEL.	A-7-6(8)	
8	14.0 16.0	3 3 6 9	WET STIFF BROWN FINE SANDY CLAY W/SOME COARSE SAND, FINE GRAVEL AND SILT.	A-7-6(4)	
9	16.0 18.0	7 7 7 9	WET MEDUIM DENSE BROWN SILTY FINE SAND W/ SOME COARSE SAND, TRACE OF FINE GRAVEL.	A-2-4(0)	
10	18.0 20.0	50/5	WET VERY DENSE BROWN SILTY COARSE TO FINE SAND W/SOME FINE GRAVEL.	A-2-4(0)	
11	24.0 26.0	28 17 26 21	WET DENSE BROWN SILTY FINE TO COARSE SAND W/ TRACE FINE GRAVEL.	A-2-4(0)	
R-1	26.0 31.0		GNEISS 14" RECOVERY		RECOVERY 100% ROD 41.7%
R-2	31.0 36.0		GNEISS 60" RECOVERY		RECOVERY 100% ROD 11.7%
	EL. 62.50 TYPICAL DRILLED SHAFT TIP EL. (ABUT. & PIER)				

BORING: ES-2 **DATE DRILLED:** 6/21/16
STATION: 877+55.92 **OFFSET:** 5.0' **ELEVATION:** 94.40 **NORTHING:** 608152.19 **EASTING:** 556282.98
COMMENTS:

SAMPLE INFORMATION

NO.	DEPTH	BLOWS /6"	DESCRIPTION	CLASS /G.I.	REMARKS
1	0.0 2.0		WET BROWN CLAYEY FINE SANDY SILT W/SOME COARSE SAND AND FINE GRAVEL.	A-4(1)	
2	2.0 4.0		WET BROWN CLAYEY FINE SANDY SILT W/SOME COARSE SAND, TRACE OF FINE GRAVEL.	A-4(1)	
3	4.0 6.0		WET BROWN CLAYEY FINE SANDY SILT W/SOME COARSE SAND, TRACE OF FINE GRAVEL.	A-4(2)	
	EL. 89.00 ABUT. B BOT. OF FTG. EL.				
4	6.0 8.0		WET BROWN SILTY W/SOME FINE SAND AND CLAY, TRACE OF COARSE SAND AND FINE GRAVEL.	A-4(2)	
	8.0 10.0	5 6 6 7	WET MEDIUM DENSE BROWN SILTY COARSE SAND FINE GRAVEL W/SOME FINE SAND.	A-1-b	
6	10.0 12.0	9 11 14 17	NO SIEVE ANALYSIS - INDICATION OF WET MEDIUM DENSE BROWN FINE TO COARSE SAND AND FINE GRAVEL W/SOME SILT.		
	12.0 14.0	3 7 8 10	WET STIFF BROWN FINE SANDY CLAY W/SOME COARSE SAND, FINE GRAVEL AND SILT.	A-7-6(7)	
	14.0 16.0	7 9 11 16	NO SIEVE ANALYSIS - INDICATION OF WET VERY STIFF BROWN FINE SANDY CLAY W/SOME COARSE SAND, FINE GRAVEL AND SILT.		
	16.0 18.0	13 17 23 31	WET HARD BROWN FINE SANDY CLAY W/SOME COARSE SAND, FINE GRAVEL AND SILT.	A-6(1)	
10	18.0 20.0	33 50/3	WET VERY DENSE BROWN CLAYEY COARSE TO FINE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-2-4(0)	
11	24.0 26.0	50/5	NO SIEVE ANALYSIS - INDICATION OF WET VERY DENSE BROWN CLAYEY COARSE TO FINE SAND W/ SOME SILT, TRACE OF FINE GRAVEL.		
R-1	27.0 32.0		GNEISS		RECOVERY 100% ROD 46.7%
	EL. 62.50 TYPICAL DRILLED SHAFT TIP EL. (ABUT. & PIER)				
R-2	32.0 37.0		GNEISS 60" RECOVERY		RECOVERY 100% ROD 23.3%

UNOFFICIAL WEBSITE COPY

NOTES:

1. BORING LOGS CREATED BY THE DELEWARE DEPARTMENT OF TRANSPORTATION. SUNSURFACE EXPLORATION COMPLETED BY WALTON CORPORATION.
2. REFER TO PLAN, SECTION AND ELEVATION SHEET (PE-01) FOR APPROXIMATE BORING LOCATIONS. BORING LOGS ARE LABELED AS ES-1 AND ES-2.
3. SOIL SAMPLING: 2 IN. OUTSIDE DIAMETER SPLIT BARREL SAMPLER, DRIVEN WITH A 140 LB. HAMMER FALLING 30 IN.
4. ALL DEPTHS ARE GIVEN IN FEET.

BO-01
1-322P

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322P
DESIGNED BY: S.P.A.
CHECKED BY: F.F.B.

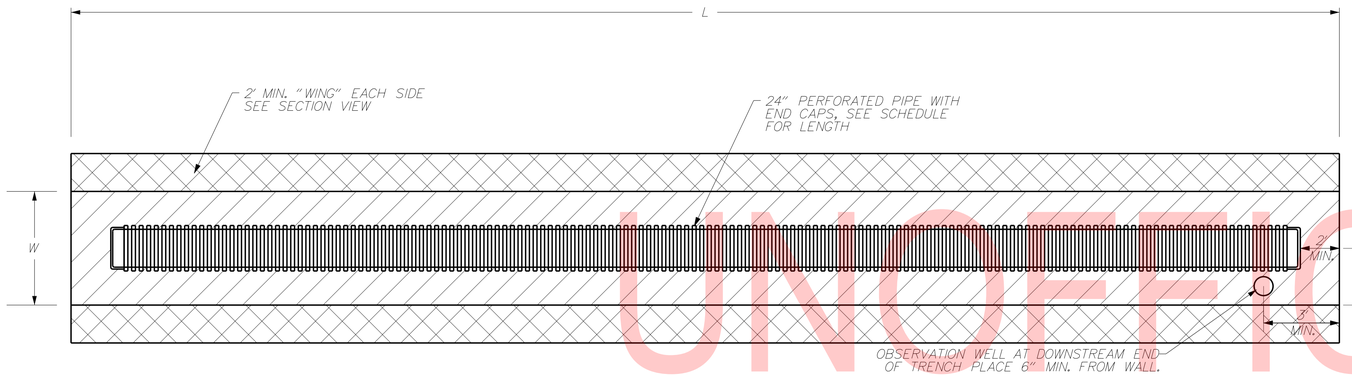
PEDESTRIAN BRIDGE 1-322P
SOIL BORING LOGS

SECTION JMT
SHEET NO. 175

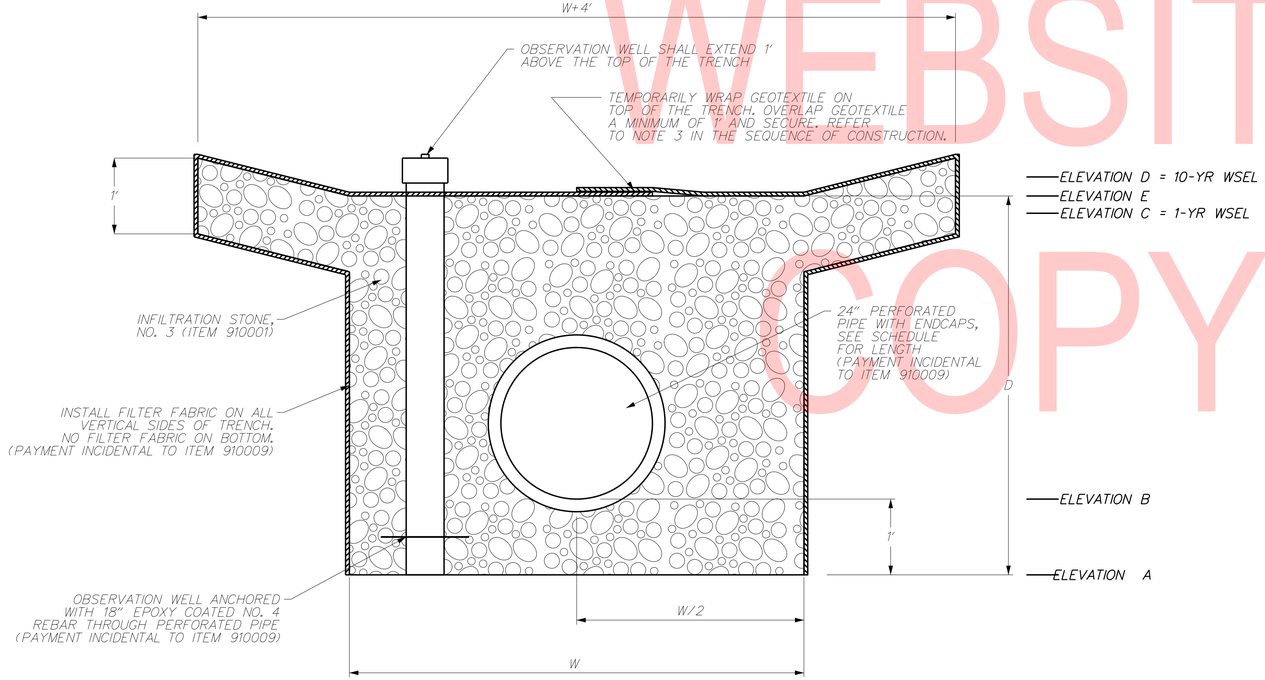
PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\BO.DGN [SHEET: BO01-Ped 2]

BMP SWM FACILITY SCHEDULE

SWM FACILITY NO.	LENGTH (L) FT.	WIDTH (W) FT.	DEPTH (D) FT.	PERF. PIPE LENGTH FT.	MEAS. RATE IN/HR	DESIGN RATE IN/HR	ELEVATION A FT.	ELEVATION B FT.	ELEVATION C FT.	ELEVATION D FT.	ELEVATION E FT.
973	150.00	4.00	5.00	140.00	3.408	1.704	116.00	117.00	121.15	122.39	121.00
974	300.00	4.00	5.00	290.00	1.051	0.525	118.50	119.50	122.48	124.10	123.50



BMP 973 & 974 INFILTRATION TRENCH – PLAN VIEW



BMP 973 & 974 INFILTRATION TRENCH – SECTION VIEW
NOT TO SCALE

SEQUENCE OF CONSTRUCTION FOR INFILTRATION TRENCH:

BEFORE CONSTRUCTION BEGINS ON THE INFILTRATION TRENCH, CONTACT THE DESIGNATED CCR A MINIMUM OF 2 WORKING DAYS IN ADVANCE SO THAT THE REQUIRED FACILITY CONSTRUCTION CHECKLIST CAN BE COMPLETED. ALL AREAS DRAINING TO THE TRENCH MUST BE AT FINAL GRADE AND STABILIZED. STABILIZATION SHALL BE APPROVED BY THE STORMWATER ENGINEER PRIOR TO FACILITY CONSTRUCTION. ABSOLUTELY NO EQUIPMENT SHALL BE ALLOWED WITHIN 2 FEET OF THE PERMANENT BOTTOM ELEVATION. ALL #3 STONE USED IN THE TRENCH SHALL CONFORM TO THE SECTION 910, INFILTRATION STONE SPECIFICATION.

1. IF AREA(S) DRAINING TO THE INFILTRATION TRENCH ARE NOT VEGETATIVELY STABILIZED, INFLOW SWALES WILL HAVE A 18" COMPOST FILTER LOG PLACED 25 FEET BEFORE THE EDGE OF THE PROPOSED TRENCH OR CLOSER IF DIRECTED BY THE ENGINEER. OTHER INFLOW AREAS, INCLUDING SIDE SLOPES, WILL HAVE SILT FENCE OR 18" COMPOST FILTER LOG INSTALLED SO THAT RUNOFF IS INTERCEPTED BEFORE ENTERING THE TRENCH AREA. THESE ITEMS WILL REMAIN UNTIL SURROUNDING VEGETATION IS ESTABLISHED.

2. EXCAVATE THE TRENCH TO THE DIMENSIONS SHOWN ON THE PLANS AND SCARIFY THE BOTTOM A MINIMUM 6 INCHES. DURING EXCAVATION, THE CCR SHALL OBSERVE THE SOIL TYPE. IF STANDING WATER OR EXCESSIVE CLAY/SILT MATERIAL IS DISCOVERED AT THE PROPOSED BOTTOM ELEVATION, THE CCR SHALL NOTIFY THE ENGINEER AND STORMWATER ENGINEER IMMEDIATELY.

3. INSTALL GEOTEXTILE ON ALL TRENCH SIDES MAKING SURE TO HAVE ENOUGH EXTRA TO COVER THE TOP OF THE TRENCH COMPLETELY AFTER STONE IS PLACED AND HAVING AT LEAST 1 FOOT OF OVERLAP OF THE GEOTEXTILE. THE ONLY AREA THAT IS NOT COVERED WITH GEOTEXTILE IS THE BOTTOM.

4. PLACE THE OBSERVATION WELL AS SHOWN IN THE PLANS.

5. ADD INFILTRATION STONE, NO. 3 AND PERFORATED PIPE PER PLAN.

6. AFTER STONE PLACEMENT, IMMEDIATELY COVER THE ENTIRE TOP OF THE TRENCH WITH THE EXCESS GEOTEXTILE AND SPARINGLY SECURE WITH INFILTRATION STONE, NO. 3, SO GEOTEXTILE DOES NOT MOVE. BRUSH CLEAN GEOTEXTILE COVER AS NEEDED TO PREVENT SEDIMENT ACCUMULATION.

7. THE SAME DAY THAT THE TRENCH IS COMPLETED, PERMANENTLY STABILIZE THE DISTURBED AREA AROUND THE TRENCH WITH PERMANENT SEED - DRY GROUND AND EROSION CONTROL BLANKET.

8. INSPECT THE TRENCH AND REMOVE LOOSE SEDIMENT AFTER EVERY RAIN EVENT. ENSURE E&S CONTROLS ARE PROPERLY FUNCTIONING.

9. AFTER ALL SURROUNDING AREAS DRAINING TO THE TRENCH HAVE SUFFICIENT VEGETATION, AS DETERMINED BY THE STORMWATER ENGINEER, ALL E&S DEVICES SHALL BE REMOVED AND THE EXCESS GEOTEXTILES REMOVED FROM THE TOP.

AS-BUILT DRAWINGS WILL BE COMPLETED BY THE CONTRACTOR AND CERTIFIED BY A DELAWARE PLS BEFORE THE DELDOT SEMI-FINAL INSPECTION DATE. THESE DRAWINGS SHALL BE SENT TO THE STORMWATER ENGINEER FOR VERIFICATION. AS-BUILT DRAWINGS WILL INCLUDE, BUT NOT LIMITED TO:
- GENERAL TOPOGRAPHY OF THE WHOLE FACILITY AT 1-FOOT CONTOURS INCLUDING FOREBAYS AND TOP/TOE OF ANY EMBANKMENT
- INVERTS OF ALL PIPES AND SWALES THAT INFLOW TO THE TRENCH
- OUTLET STRUCTURE (OR WEIR WALL) INVERTS OF ANY AND ALL ORIFICES/WEIRS, TOP OF STRUCTURE, OUTLET PIPE, ETC.
- PRIMARY OUTFLOW PIPE OR CHANNEL. FOR A PIPE OUTFALL, INVERTS AT THE ENTRANCE AND EXIT. FOR A PRIMARY OUTFLOW CHANNEL/SWALE, SHOW CROSS SECTIONS AND SLOPE.

GENERAL NOTES:

1. AT NO TIME DURING CONSTRUCTION SHOULD EXCAVATION OCCUR WITHIN 1-FOOT OF THE PROPOSED TRENCH AREA BOTTOM UNTIL ACTUAL TRENCH CONSTRUCTION COMMENCES.

2. FILTER FABRIC SHALL BE MIRAFI 140N, LINQ GTF 130D, AMOCO 4545 OR APPROVED EQUAL IN ACCORDANCE WITH SECTION 1060 OF THE STANDARD SPECIFICATIONS AND SHALL BE INCIDENTAL TO 708002.

3. AN OBSERVATION PERFORATED PIPE SHALL BE INSTALLED AT THE DOWNSTREAM END OF EACH INFILTRATION TRENCH. THE PIPE SHALL EXTEND TO THE BOTTOM OF THE TRENCH AND BE 6-INCH PVC SCH. 40 WITH A REMOVABLE CAP AT THE TOP. TOP OF REMOVABLE CAP SHALL BE 1-FOOT ABOVE STONE BACKFILL. PERFORATIONS SHALL BE 4 ROWS OF 3/8-INCH HOLES AT 6-INCH ON CENTER.

4. ALL EXCAVATION WITH REGARD TO THE INFILTRATION TRENCH SHALL BE INCIDENTAL TO PAY ITEM 910009 - INFILTRATION TRENCH.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SW.DGN [SHEET: SW01]

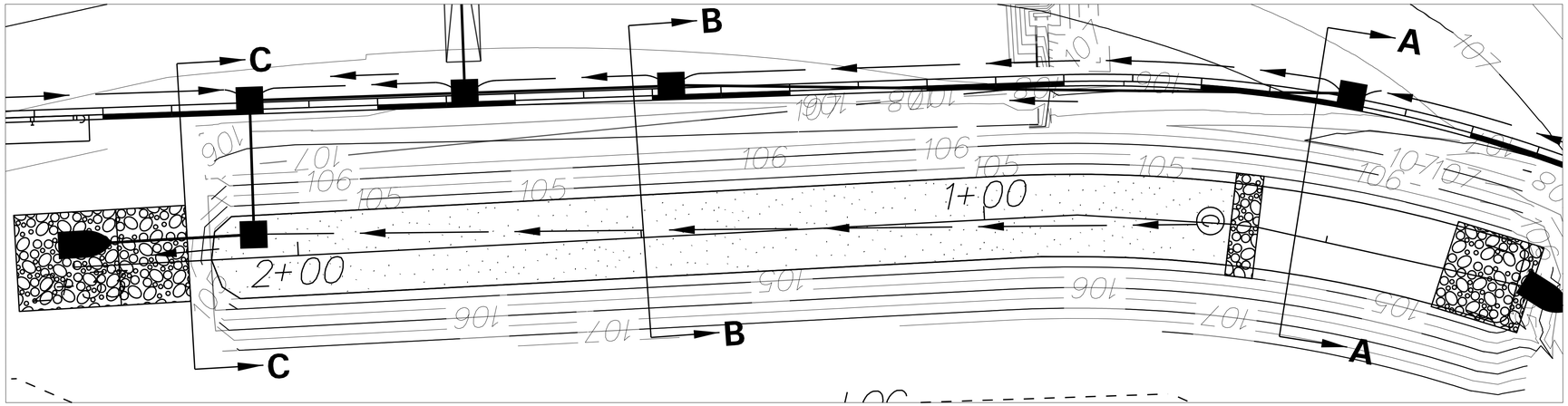
ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

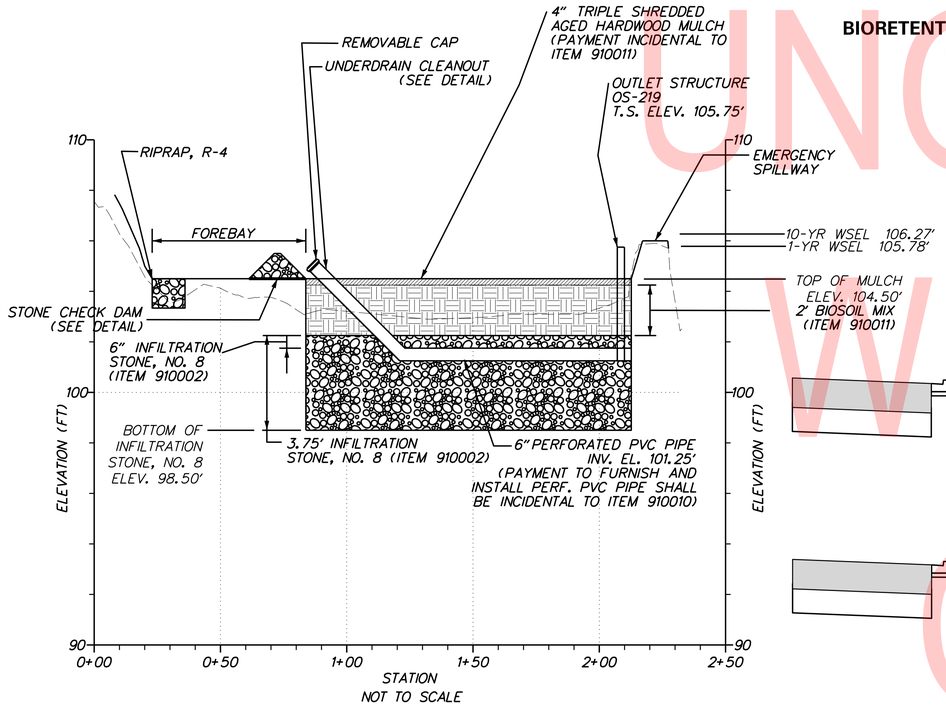
CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

STORMWATER MANAGEMENT PLAN

SW-01	
SECTION	JMT
SHEET NO.	176

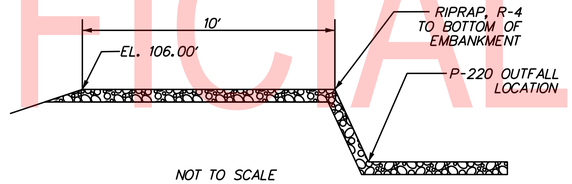


BIORETENTION AREA – BMP 975
PLAN VIEW



NOT TO SCALE

BMP 975 BIORETENTION PROFILE



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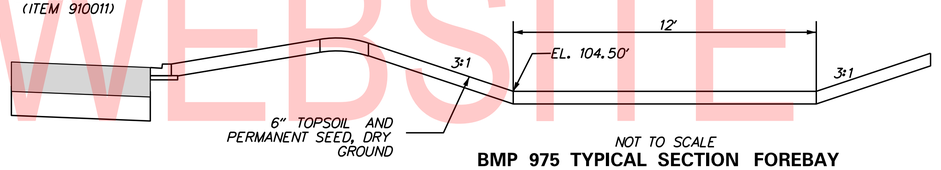
BMP 975 EMERGENCY SPILLWAY DETAIL



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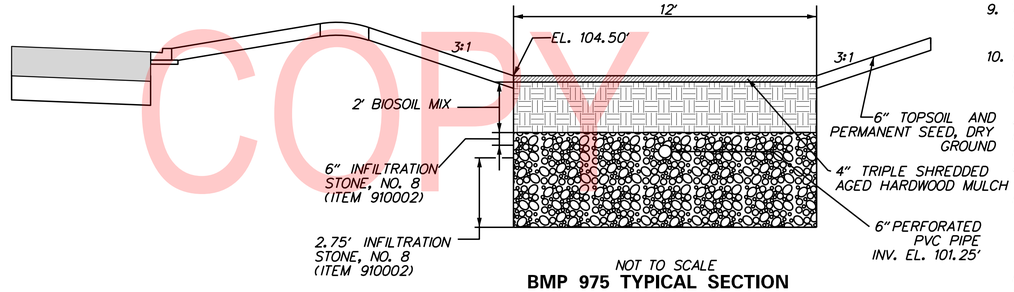
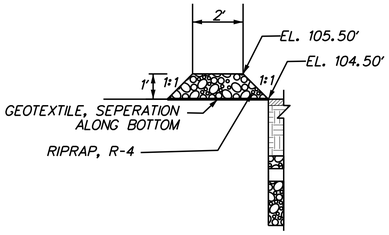
BMP 975 TYPICAL SECTION FOREBAY
SECTION A–A



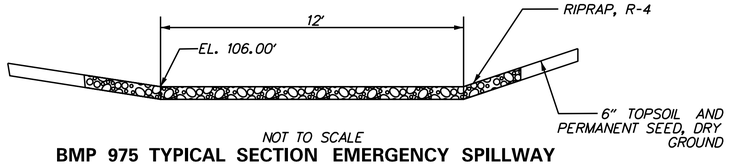
NOT TO SCALE

BMP 975 TYPICAL SECTION
SECTION B–B



NOT TO SCALE

BMP 975 FOREBAY STONE CHECK DAM DETAIL



NOT TO SCALE

BMP 975 TYPICAL SECTION EMERGENCY SPILLWAY
SECTION C–C

SEQUENCE OF CONSTRUCTION FOR BIORETENTION AREA BMP 975:

THE BIORETENTION AREA SHALL FUNCTION AS A SEDIMENT BASIN DURING CONSTRUCTION. PAYMENT SHALL BE INCIDENTAL TO BIORETENTION ITEMS.

1. *CLEAR AND GRUB AREA FOR BIORETENTION AREA CONSTRUCTION, INSTALL PERIMETER CONTROLS. 2. EXCAVATE AS NEEDED TO INSTALL BIORETENTION OUTLET STRUCTURE. TEMPORARILY PLUG LOW FLOW UNDERDRAIN ORIFICE AND INSTALL INLET PROTECTION.*
3. *EXCAVATE REMAINING BIORETENTION AREA TO 1' BELOW THE TOP ELEVATION OF THE OUTLET STRUCTURE.*
4. *CONTRACTOR SHALL CLEARLY MARK THE CLEAN OUT ELEVATION ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN IT REACHES AN ELEVATION 6" BELOW THE TOP OF THE OUTLET STRUCTURE.*

PRIOR TO CONVERSION TO PERMANENT BIORETENTION AREA, CONTRACTOR SHALL CONTACT AND SCHEDULE AN ON-SITE REVIEW MEETING WITH DELDOT'S STORMWATER ENGINEER.

CONVERSION TO PERMANENT BIORETENTION AREA BMP 975:

BEFORE CONSTRUCTION OF THE BIORETENTION AREA, CONTACT THE DESIGNATED CCR A MINIMUM OF 2 WORKING DAYS IN ADVANCE SO THAT THE REQUIRED FACILITY CONSTRUCTION CHECKLIST CAN BE COMPLETED. ALL AREAS DRAINING TO THE FACILITY MUST BE AT FINAL GRADE AND STABILIZED. STABILIZATION SHALL BE APPROVED BY THE STORMWATER ENGINEER PRIOR TO FACILITY CONSTRUCTION. ABSOLUTELY NO HEAVY EQUIPMENT SHALL BE ALLOWED WITHIN 2 FEET OF THE PERMANENT BOTTOM ELEVATION. ALL #8 STONE USED SHALL CONFORM TO SECTION 910, INFILTRATION STONE SPECIFICATION.

1. *INFLOW AREAS AROUND THE PERIMETER OF THE BIORETENTION AREA, INCLUDING THE SIDE SLOPES WILL REQUIRE SILT FENCE OR 18" COMPOST FILTER LOGS AROUND THE EDGE TO INTERCEPT RUNOFF PRIOR TO ENTERING THE FACILITY. THESE ITEMS SHALL REMAIN UNTIL THE SURROUNDING VEGETATION IS ESTABLISHED.*
2. *CONSTRUCT FOREBAY TO LINES, GRADES AND DETAILS AS SHOWN ON THE STORMWATER PLANS AND STABILIZE IMMEDIATELY AFTER CONSTRUCTION. DEWATER WORK AREA AS NEEDED IN ACCORDANCE WITH SECTION 900 OF THE SPECIFICATIONS.*
3. *EXCAVATE THE BIORETENTION AREA TO THE DIMENSIONS AS SHOWN ON THE PLANS AND SCARIFY THE BOTTOM A MINIMUM OF 6 INCHES.*
4. *PLACE #8 INFILTRATION STONE UP TO THE BOTTOM INVERT OF THE UNDERDRAIN ORIFICE ON THE OUTLET STRUCTURE. NO COMPACTION OF THE STONE IS NECESSARY.*
5. *INSTALL UNDERDRAIN AS SHOWN ON PLAN. UNDERDRAIN SHALL BE 6-INCH DIAMETER PVC PERFORATED UNDERDRAIN PIPE WITH 3/8-INCH DIAMETER HOLES IN ACCORDANCE WITH SECTION 1031. WRAP IN WIRE MESH WITH A SQUARE OPENING SIZE OF 1/8-INCH, AND SECURE MESH TO THE PIPE PRIOR TO PIPE PLACEMENT. PVC PERFORATED PIPE, MESH AND FASTENERS SHALL BE INCIDENTAL TO BIORETENTION AREA, ITEM 910010.*
6. *PLACE ADDITIONAL #8 INFILTRATION STONE SO THAT THERE WILL BE A MINIMUM OF 3 INCHES OF STONE OVER TOP OF THE UNDERDRAIN PIPING.*
7. *PLACE BIOSOIL MIX AS SHOWN ON PLAN. OPTION 1: ALLOW ONE STORM EVENT TO TAKE PLACE OR WAIT 3 CALENDAR DAYS TO CHECK FOR SETTLEMENT AND ADD ADDITIONAL BIOSOIL MIX, AS NEEDED, TO ACHIEVE THE DESIGN ELEVATION. OPTION 2: PLACE BIOSOIL MIX IN MAXIMUM 12" LIFTS, WATERING EACH LIFT UNTIL SATURATED.*
8. *PLACE 4 INCHES OF TRIPLE SHREDDED, AGED HARDWOOD MULCH AS SHOWN ON PLAN.*
9. *THE SAME DAY THAT THE BIORETENTION AREA IS COMPLETED, PERMANENTLY STABILIZE THE DISTRUBED AREA AROUND THE BIORETENTION AREA AS SHOWN ON THE PLANS.*
10. *E&S DEVICES SHALL BE REMOVED AFTER FINAL VEGETATIVE STABILIZATION OF ALL DISTURBED AREAS AND WITH CONCURRENCE FROM DELDOT'S STORMWATER ENGINEER.*

AS-BUILT DRAWINGS WILL BE COMPLETED BY THE CONTRACTOR AND CERTIFIED BY A DELAWARE PLS BEFORE THE DELDOT SEMI-FINAL INSPECTION DATE. THESE DRAWINGS SHALL BE SENT TO THE STORMWATER ENGINEER FOR VERIFICATION. AS-BUILT DRAWINGS WILL INCLUDE, BUT NOT LIMITED TO:
- GENERAL TOPOGRAPHY OF THE WHOLE FACILITY AT 1-FOOT CONTOURS INCLUDING FOREBAYS AND TOP/TOE OF ANY EMBANKMENT.
- INVERTS OF ALL PIPES AND SWALES THAT INFLOW TO THE BIORETENTION AREA.
- OUTLET STRUCTURE (OR WEIR WALL) INVERTS OF ANY AND ALL ORIFICES/WEIRS, TOP OF STRUCTURE, OUTLET PIPE, ETC.
- PRIMARY OUTFLOW PIPE OR CHANNEL. FOR A PIPE OUTFALL, INVERTS AT THE ENTRANCE AND EXIT. FOR A PRIMARY OUTFLOW CHANNEL/SWALE, SHOW CROSS SECTIONS AND SLOPE.

BIORETENTION AREA BMP 975 NOTES:

1. *THE CONTRACTOR SHALL INSPECT THE BIORETENTION AREA IMMEDIATELY AFTER EVERY RAIN EVENT AND MAKE REPAIRS AS NECESSARY.*
2. *ENTIRE DISTURBED AREA EXCEPT THE AREA COVERED WITH BIOSOIL MIX SHALL RECEIVE 6" TOPSOIL (908004) AND PERMANENT SEED, DRY GROUND (908014).*
3. *BIOSOIL MIX MUST COME FROM DNREC APPROVED BIOSOIL-14 SUPPLIER ONLY.*
4. *ALL EXCAVATION WITH REGARD TO THE BIORETENTION AREA SHALL BE INCIDENTAL TO PAY ITEM 910010 - BIORETENTION AREA.*

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SW.DGN [SHEET: SW02]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

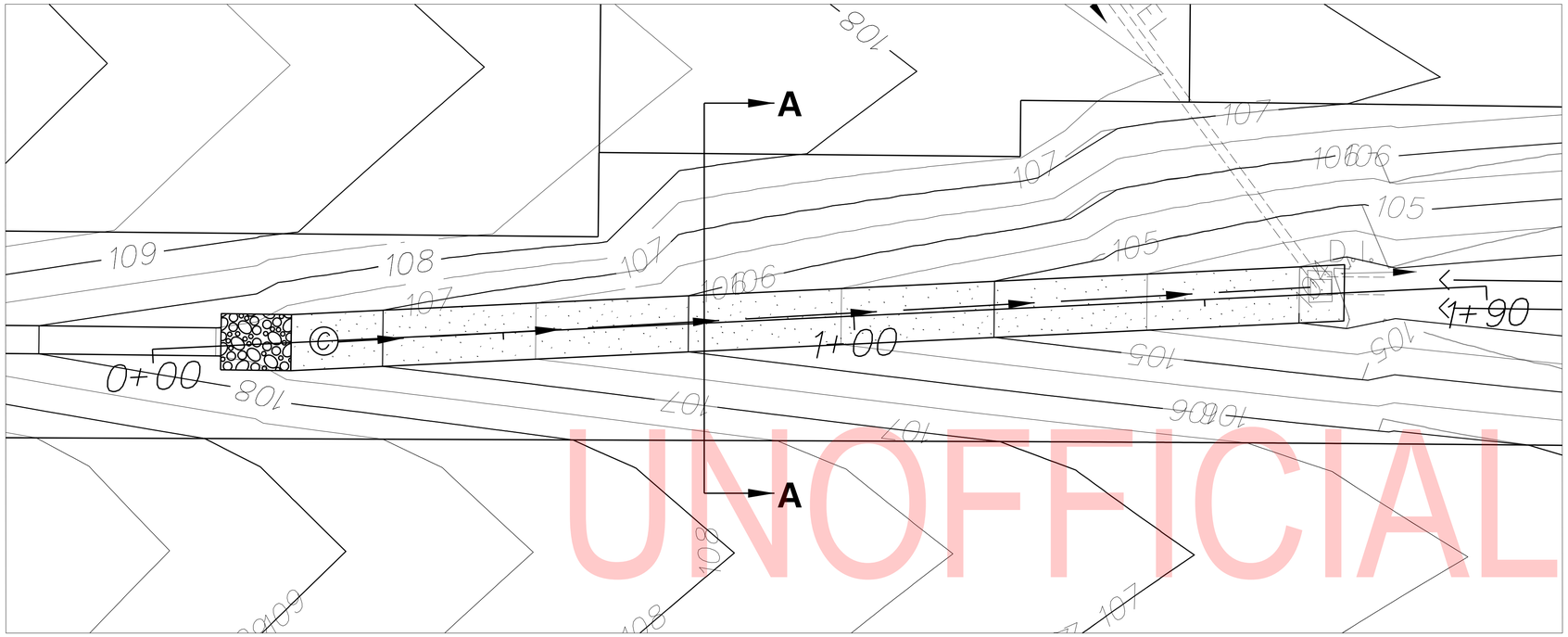
NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

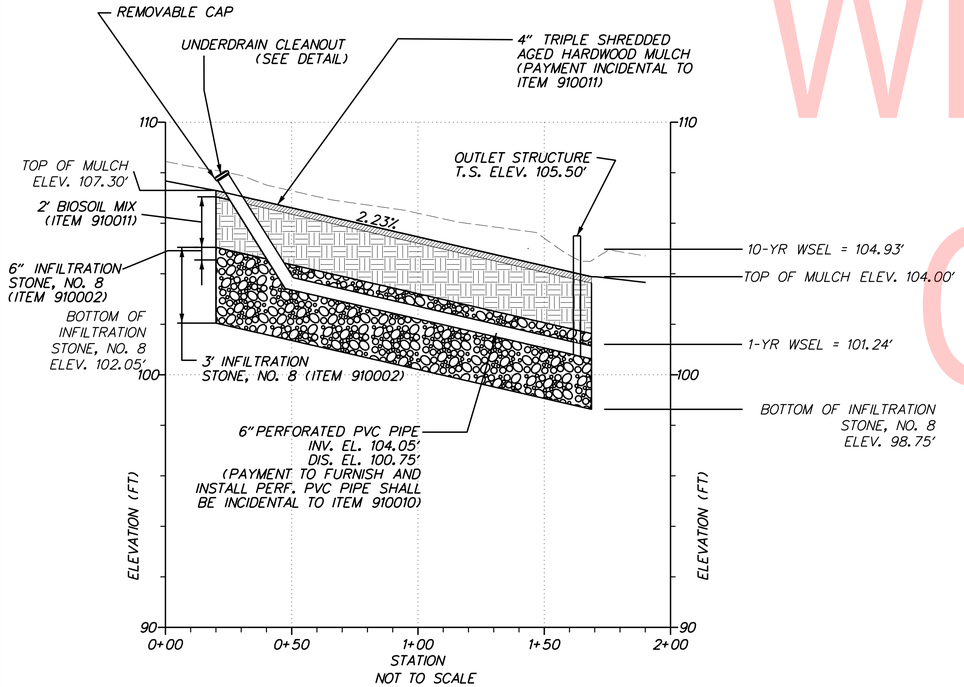
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

STORMWATER MANAGEMENT PLAN

SW–02	
SECTION	JMT
SHEET NO.	177

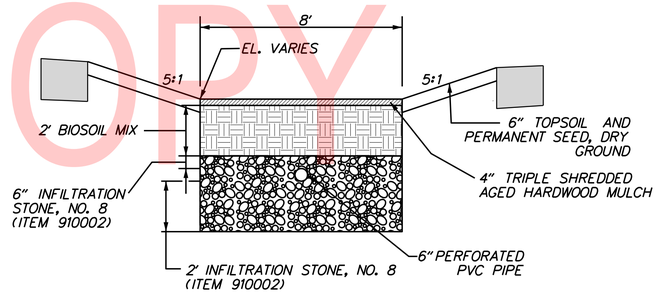


BIORETENTION AREA – BMP 976
PLAN VIEW



NOT TO SCALE

BMP 976 BIORETENTION PROFILE



NOT TO SCALE

BMP 976 TYPICAL SECTION
SECTION A–A

SEQUENCE OF CONSTRUCTION FOR BIORETENTION AREA BMP 976:

THE BIORETENTION AREA SHALL FUNCTION AS A SEDIMENT BASIN DURING CONSTRUCTION. PAYMENT SHALL BE INCIDENTAL TO BIORETENTION ITEMS.

1. *CLEAR AND GRUB AREA FOR BIORETENTION AREA CONSTRUCTION, INSTALL PERIMETER CONTROLS. 2. EXCAVATE AS NEEDED TO INSTALL BIORETENTION OUTLET STRUCTURE. TEMPORARILY PLUG LOW FLOW UNDERDRAIN ORIFICE AND INSTALL INLET PROTECTION.*
3. *EXCAVATE REMAINING BIORETENTION AREA TO 1' BELOW THE TOP ELEVATION OF THE OUTLET STRUCTURE.*
4. *CONTRACTOR SHALL CLEARLY MARK THE CLEAN OUT ELEVATION ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN IT REACHES AN ELEVATION 6" BELOW THE TOP OF THE OUTLET STRUCTURE.*

PRIOR TO CONVERSION TO PERMANENT BIORETENTION AREA, CONTRACTOR SHALL CONTACT AND SCHEDULE AN ON-SITE REVIEW MEETING WITH DELDOT'S STORMWATER ENGINEER.

CONVERSION TO PERMANENT BIORETENTION AREA BMP 976:

BEFORE CONSTRUCTION OF THE BIORETENTION AREA, CONTACT THE DESIGNATED CCR A MINIMUM OF 2 WORKING DAYS IN ADVANCE SO THAT THE REQUIRED FACILITY CONSTRUCTION CHECKLIST CAN BE COMPLETED. ALL AREAS DRAINING TO THE FACILITY MUST BE AT FINAL GRADE AND STABILIZED. STABILIZATION SHALL BE APPROVED BY THE STORMWATER ENGINEER PRIOR TO FACILITY CONSTRUCTION. ABSOLUTELY NO HEAVY EQUIPMENT SHALL BE ALLOWED WITHIN 2 FEET OF THE PERMANENT BOTTOM ELEVATION. ALL #8 STONE USED SHALL CONFORM TO SECTION 910, INFILTRATION STONE SPECIFICATION.

1. *INFLOW AREAS AROUND THE PERIMETER OF THE BIORETENTION AREA, INCLUDING THE SIDE SLOPES WILL REQUIRE SILT FENCE OR 18" COMPOST FILTER LOGS AROUND THE EDGE TO INTERCEPT RUNOFF PRIOR TO ENTERING THE FACILITY. THESE ITEMS SHALL REMAIN UNTIL THE SURROUNDING VEGETATION IS ESTABLISHED.*
2. *CONSTRUCT FOREBAY TO LINES, GRADES AND DETAILS AS SHOWN ON THE STORMWATER PLANS AND STABILIZE IMMEDIATELY AFTER CONSTRUCTION. DEWATER WORK AREA AS NEEDED IN ACCORDANCE WITH SECTION 900 OF THE SPECIFICATIONS.*
3. *EXCAVATE THE BIORETENTION AREA TO THE DIMENSIONS AS SHOWN ON THE PLANS AND SCARIFY THE BOTTOM A MINIMUM OF 6 INCHES.*
4. *PLACE #8 INFILTRATION STONE UP TO THE BOTTOM INVERT OF THE UNDERDRAIN ORIFICE ON THE OUTLET STRUCTURE. NO COMPACTION OF THE STONE IS NECESSARY.*
5. *INSTALL UNDERDRAIN AS SHOWN ON PLAN. UNDERDRAIN SHALL BE 6-INCH DIAMETER PVC PERFORATED UNDERDRAIN PIPE WITH 3/8-INCH DIAMETER HOLES IN ACCORDANCE WITH SECTION 1031. WRAP IN WIRE MESH WITH A SQUARE OPENING SIZE OF 1/8-INCH, AND SECURE MESH TO THE PIPE PRIOR TO PIPE PLACEMENT. PVC PERFORATED PIPE, MESH AND FASTENERS SHALL BE INCIDENTAL TO BIORETENTION AREA, ITEM 910010.*
6. *PLACE ADDITIONAL #8 INFILTRATION STONE SO THAT THERE WILL BE A MINIMUM OF 3 INCHES OF STONE OVER TOP OF THE UNDERDRAIN PIPING.*
7. *PLACE BIOSOIL MIX AS SHOWN ON PLAN. OPTION 1: ALLOW ONE STORM EVENT TO TAKE PLACE OR WAIT 3 CALENDAR DAYS TO CHECK FOR SETTLEMENT AND ADD ADDITIONAL BIOSOIL MIX, AS NEEDED, TO ACHIEVE THE DESIGN ELEVATION. OPTION 2: PLACE BIOSOIL MIX IN MAXIMUM 12" LIFTS, WATERING EACH LIFT UNTIL SATURATED.*
8. *PLACE 4 INCHES OF TRIPLE SHREDDED, AGED HARDWOOD MULCH AS SHOWN ON PLAN.*
9. *THE SAME DAY THAT THE BIORETENTION AREA IS COMPLETED, PERMANENTLY STABILIZE THE DISTRUBED AREA AROUND THE BIORETENTION AREA AS SHOWN ON THE PLANS.*
10. *E&S DEVICES SHALL BE REMOVED AFTER FINAL VEGETATIVE STABILIZATION OF ALL DISTURBED AREAS AND WITH CONCURRENCE FROM DELDOT'S STORMWATER ENGINEER.*

AS-BUILT DRAWINGS WILL BE COMPLETED BY THE CONTRACTOR AND CERTIFIED BY A DELAWARE PLS BEFORE THE DELDOT SEMI-FINAL INSPECTION DATE. THESE DRAWINGS SHALL BE SENT TO THE STORMWATER ENGINEER FOR VERIFICATION. AS-BUILT DRAWINGS WILL INCLUDE, BUT NOT LIMITED TO:
- GENERAL TOPOGRAPHY OF THE WHOLE FACILITY AT 1-FOOT CONTOURS INCLUDING FOREBAYS AND TOP/TOE OF ANY EMBANKMENT.
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- OUTLET STRUCTURE (OR WEIR WALL) INVERTS OF ANY AND ALL ORIFICES/WEIRS, TOP OF STRUCTURE, OUTLET PIPE, ETC.
- PRIMARY OUTFLOW PIPE OR CHANNEL. FOR A PIPE OUTFALL, INVERTS AT THE ENTRANCE AND EXIT. FOR A PRIMARY OUTFLOW CHANNEL/SWALE, SHOW CROSS SECTIONS AND SLOPE.

BIORETENTION AREA BMP 976 NOTES:

1. *THE CONTRACTOR SHALL INSPECT THE BIORETENTION AREA IMMEDIATELY AFTER EVERY RAIN EVENT AND MAKE REPAIRS AS NECESSARY.*
2. *ENTIRE DISTURBED AREA EXCEPT THE AREA COVERED WITH BIOSOIL MIX SHALL RECEIVE 6" TOPSOIL (908004) AND PERMANENT SEED, DRY GROUND (908014).*
3. *BIOSOIL MIX MUST COME FROM DNREC APPROVED BIOSOIL-14 SUPPLIER ONLY.*
4. *ALL EXCAVATION WITH REGARD TO THE BIORETENTION AREA SHALL BE INCIDENTAL TO PAY ITEM 910010 - BIORETENTION AREA.*

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SW.DGN [SHEET: SW03]

ADDENDA / REVISIONS		
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NOT TO SCALE

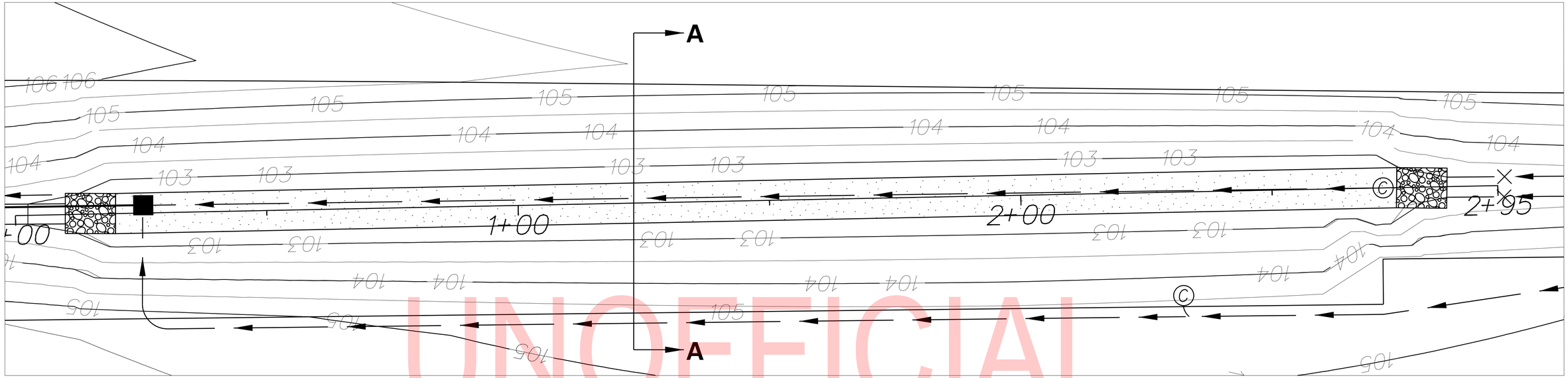
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

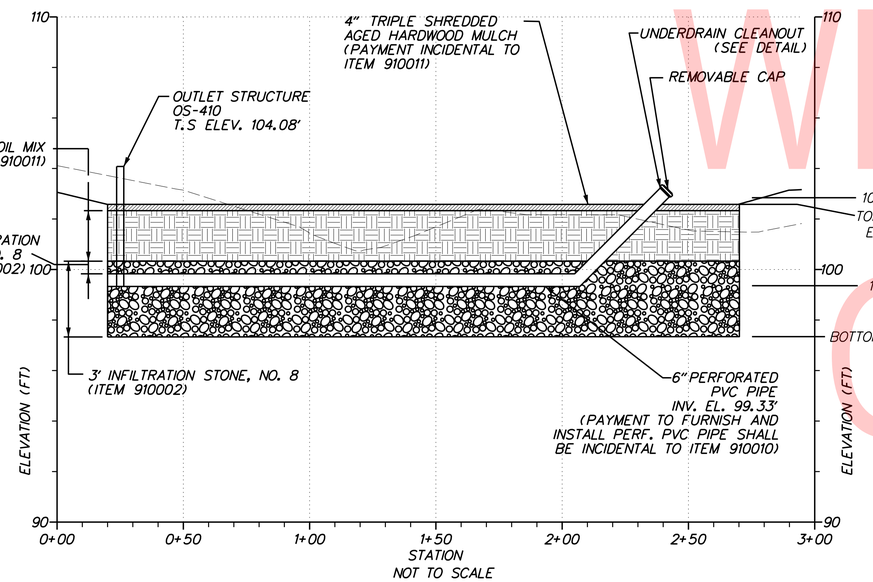
STORMWATER MANAGEMENT PLAN

SW-03

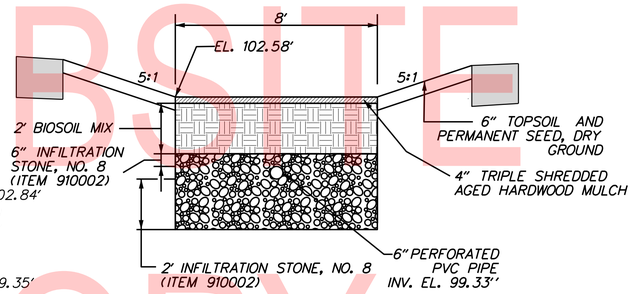
SECTION	JMT
SHEET NO.	178



BIORETENTION AREA – BMP 977
PLAN VIEW



BMP 977 BIORETENTION PROFILE



NOT TO SCALE

BMP 977 TYPICAL SECTION
SECTION A–A

BIORETENTION AREA BMP 977 NOTES:

1. *THE CONTRACTOR SHALL INSPECT THE BIORETENTION AREA IMMEDIATELY AFTER EVERY RAIN EVENT AND MAKE REPAIRS AS NECESSARY.*
2. *ENTIRE DISTURBED AREA EXCEPT THE AREA COVERED WITH BIOSOIL MIX SHALL RECEIVE 6" TOPSOIL (908004) AND PERMANENT SEED, DRY GROUND (908014).*
3. *BIOSOIL MIX MUST COME FROM DNREC APPROVED BIOSOIL-14 SUPPLIER ONLY.*
4. *ALL EXCAVATION WITH REGARD TO THE BIORETENTION AREA SHALL BE INCIDENTAL TO PAY ITEM 910010 - BIORETENTION AREA.*

SEQUENCE OF CONSTRUCTION FOR BIORETENTION AREA BMP 977:

THE BIORETENTION AREA SHALL FUNCTION AS A SEDIMENT BASIN DURING CONSTRUCTION. PAYMENT SHALL BE INCIDENTAL TO BIORETENTION ITEMS.

1. *CLEAR AND GRUB AREA FOR BIORETENTION AREA CONSTRUCTION, INSTALL PERIMETER CONTROLS.*
2. *EXCAVATE AS NEEDED TO INSTALL BIORETENTION OUTLET STRUCTURE. TEMPORARILY PLUG LOW FLOW UNDERDRAIN ORIFICE AND INSTALL INLET PROTECTION.*
3. *EXCAVATE REMAINING BIORETENTION AREA TO 1' BELOW THE TOP ELEVATION OF THE OUTLET STRUCTURE.*
4. *CONTRACTOR SHALL CLEARLY MARK THE CLEAN OUT ELEVATION ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN IT REACHES AN ELEVATION 6" BELOW THE TOP OF THE OUTLET STRUCTURE.*

PRIOR TO CONVERSION TO PERMANENT BIORETENTION AREA, CONTRACTOR SHALL CONTACT AND SCHEDULE AN ON-SITE REVIEW MEETING WITH DELDOT'S STORMWATER ENGINEER.

CONVERSION TO PERMANENT BIORETENTION AREA BMP 977:

BEFORE CONSTRUCTION OF THE BIORETENTION AREA, CONTACT THE DESIGNATED CCR A MINIMUM OF 2 WORKING DAYS IN ADVANCE SO THAT THE REQUIRED FACILITY CONSTRUCTION CHECKLIST CAN BE COMPLETED. ALL AREAS DRAINING TO THE FACILITY MUST BE AT FINAL GRADE AND STABILIZED. STABILIZATION SHALL BE APPROVED BY THE STORMWATER ENGINEER PRIOR TO FACILITY CONSTRUCTION. ABSOLUTELY NO HEAVY EQUIPMENT SHALL BE ALLOWED WITHIN 2 FEET OF THE PERMANENT BOTTOM ELEVATION. ALL #8 STONE USED SHALL CONFORM TO SECTION 910, INFILTRATION STONE SPECIFICATION.

1. *INFLOW AREAS AROUND THE PERIMETER OF THE BIORETENTION AREA, INCLUDING THE SIDE SLOPES WILL REQUIRE SILT FENCE OR 18" COMPOST FILTER LOGS AROUND THE EDGE TO INTERCEPT RUNOFF PRIOR TO ENTERING THE FACILITY. THESE ITEMS SHALL REMAIN UNTIL THE SURROUNDING VEGETATION IS ESTABLISHED.*
2. *CONSTRUCT FOREBAY TO LINES, GRADES AND DETAILS AS SHOWN ON THE STORMWATER PLANS AND STABILIZE IMMEDIATELY AFTER CONSTRUCTION. DEWATER WORK AREA AS NEEDED IN ACCORDANCE WITH SECTION 900 OF THE SPECIFICATIONS.*
3. *EXCAVATE THE BIORETENTION AREA TO THE DIMENSIONS AS SHOWN ON THE PLANS AND SCARIFY THE BOTTOM A MINIMUM OF 6 INCHES.*
4. *PLACE #8 INFILTRATION STONE UP TO THE BOTTOM INVERT OF THE UNDERDRAIN ORIFICE ON THE OUTLET STRUCTURE. NO COMPACTION OF THE STONE IS NECESSARY.*
5. *INSTALL UNDERDRAIN AS SHOWN ON PLAN. UNDERDRAIN SHALL BE 6-INCH DIAMETER PVC PERFORATED UNDERDRAIN PIPE WITH 3/8-INCH DIAMETER HOLES IN ACCORDANCE WITH SECTION 1031. WRAP IN WIRE MESH WITH A SQUARE OPENING SIZE OF 1/8-INCH, AND SECURE MESH TO THE PIPE PRIOR TO PIPE PLACEMENT. PVC PERFORATED PIPE, MESH AND FASTENERS SHALL BE INCIDENTAL TO BIORETENTION AREA, ITEM 910010.*
6. *PLACE ADDITIONAL #8 INFILTRATION STONE SO THAT THERE WILL BE A MINIMUM OF 3 INCHES OF STONE OVER TOP OF THE UNDERDRAIN PIPING.*
7. *PLACE BIOSOIL MIX AS SHOWN ON PLAN. OPTION 1: ALLOW ONE STORM EVENT TO TAKE PLACE OR WAIT 3 CALENDAR DAYS TO CHECK FOR SETTLEMENT AND ADD ADDITIONAL BIOSOIL MIX, AS NEEDED, TO ACHIEVE THE DESIGN ELEVATION. OPTION 2: PLACE BIOSOIL MIX IN MAXIMUM 12" LIFTS, WATERING EACH LIFT UNTIL SATURATED.*
8. *PLACE 4 INCHES OF TRIPLE SHREDDED, AGED HARDWOOD MULCH AS SHOWN ON PLAN.*
9. *THE SAME DAY THAT THE BIORETENTION AREA IS COMPLETED, PERMANENTLY STABILIZE THE DISTRUBED AREA AROUND THE BIORETENTION AREA AS SHOWN ON THE PLANS.*
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AS-BUILT DRAWINGS WILL BE COMPLETED BY THE CONTRACTOR AND CERTIFIED BY A DELAWARE PLS BEFORE THE DELDOT SEMI-FINAL INSPECTION DATE. THESE DRAWINGS SHALL BE SENT TO THE STORMWATER ENGINEER FOR VERIFICATION. AS-BUILT DRAWINGS WILL INCLUDE, BUT NOT LIMITED TO:
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- INVERTS OF ALL PIPES AND SWALES THAT INFLOW TO THE BIORETENTION AREA.
- OUTLET STRUCTURE (OR WEIR WALL) INVERTS OF ANY AND ALL ORIFICES/WEIRS, TOP OF STRUCTURE, OUTLET PIPE, ETC.
- PRIMARY OUTFLOW PIPE OR CHANNEL. FOR A PIPE OUTFALL, INVERTS AT THE ENTRANCE AND EXIT. FOR A PRIMARY OUTFLOW CHANNEL/SWALE, SHOW CROSS SECTIONS AND SLOPE.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SW.DGN [SHEET: SW04]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

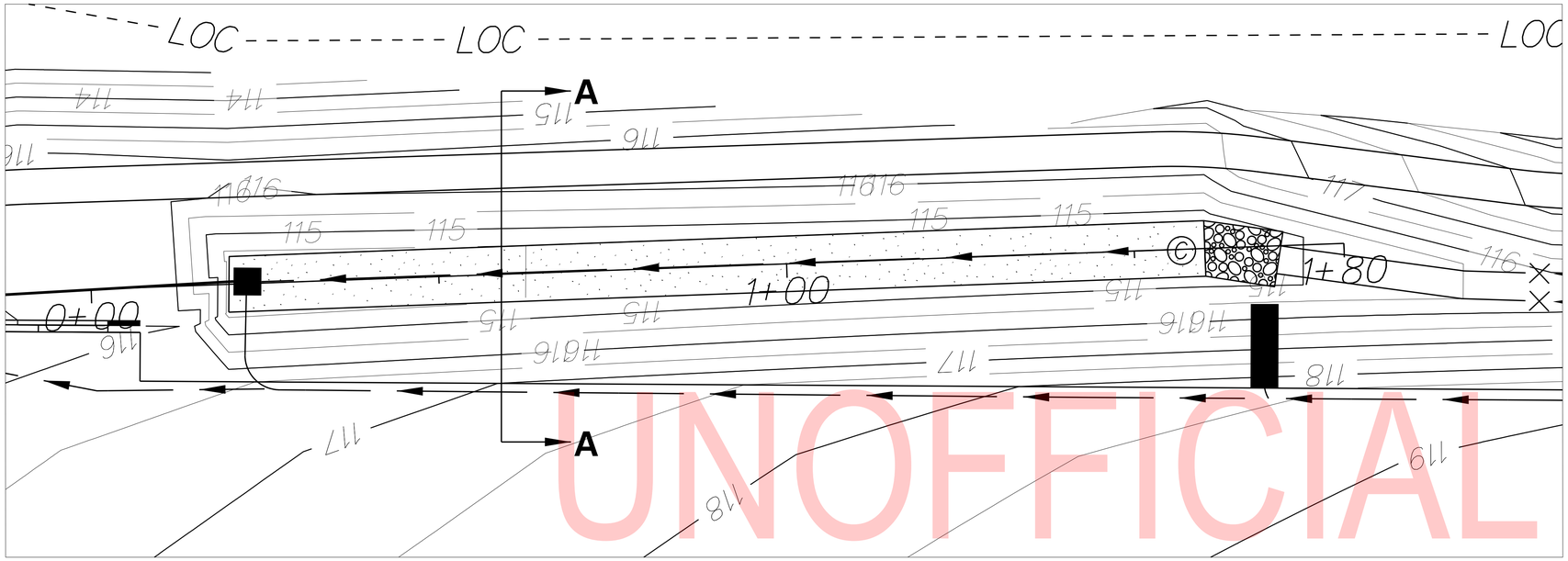
NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

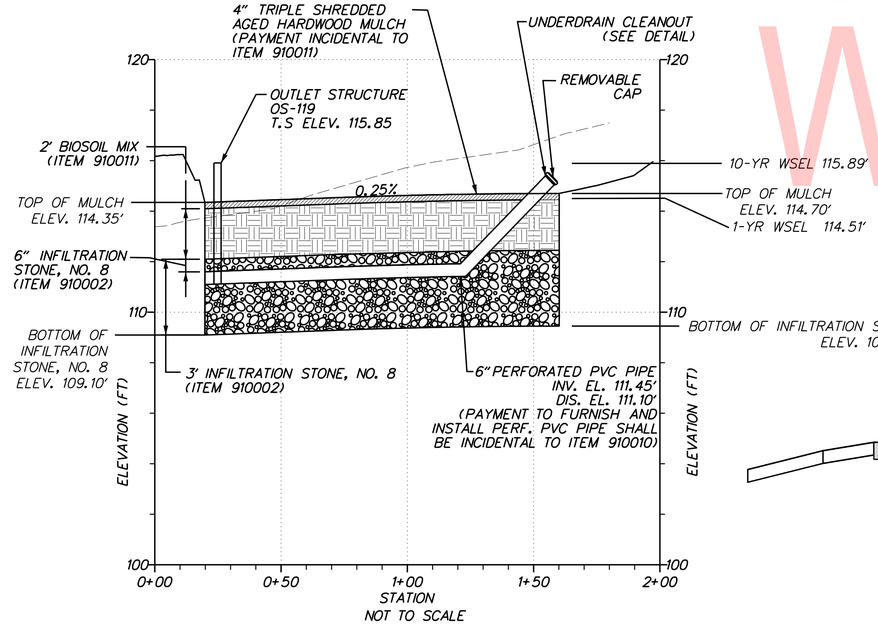
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

STORMWATER MANAGEMENT PLAN

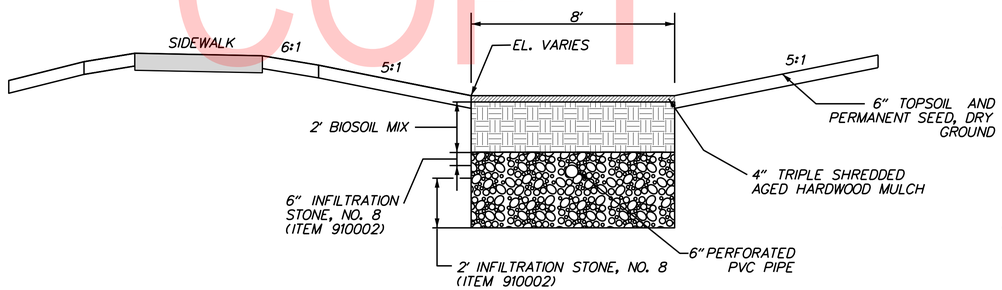
SW-04	
SECTION	JMT
SHEET NO.	179



BIORETENTION AREA – BMP 981
PLAN VIEW



BMP 981 BIORETENTION PROFILE



NOT TO SCALE
BMP 981 TYPICAL SECTION
SECTION A–A

SEQUENCE OF CONSTRUCTION FOR BIORETENTION AREA BMP 981:

THE BIORETENTION AREA SHALL FUNCTION AS A SEDIMENT BASIN DURING CONSTRUCTION. PAYMENT SHALL BE INCIDENTAL TO BIORETENTION ITEMS.

1. *CLEAR AND GRUB AREA FOR BIORETENTION AREA CONSTRUCTION, INSTALL PERIMETER CONTROLS. 2. EXCAVATE AS NEEDED TO INSTALL BIORETENTION OUTLET STRUCTURE. TEMPORARILY PLUG LOW FLOW UNDERDRAIN ORIFICE AND INSTALL INLET PROTECTION.*
3. *EXCAVATE REMAINING BIORETENTION AREA TO 1' BELOW THE TOP ELEVATION OF THE OUTLET STRUCTURE.*
4. *CONTRACTOR SHALL CLEARLY MARK THE CLEAN OUT ELEVATION ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN IT REACHES AN ELEVATION 6" BELOW THE TOP OF THE OUTLET STRUCTURE.*

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BIORETENTION AREA BMP 981 NOTES:

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3. *BIOSOIL MIX MUST COME FROM DNREC APPROVED BIOSOIL-14 SUPPLIER ONLY.*
4. *ALL EXCAVATION WITH REGARD TO THE BIORETENTION AREA SHALL BE INCIDENTAL TO PAY ITEM 910010 - BIORETENTION AREA.*

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SW.DGN [SHEET: SW05]

ADDENDA / REVISIONS		
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NOT TO SCALE

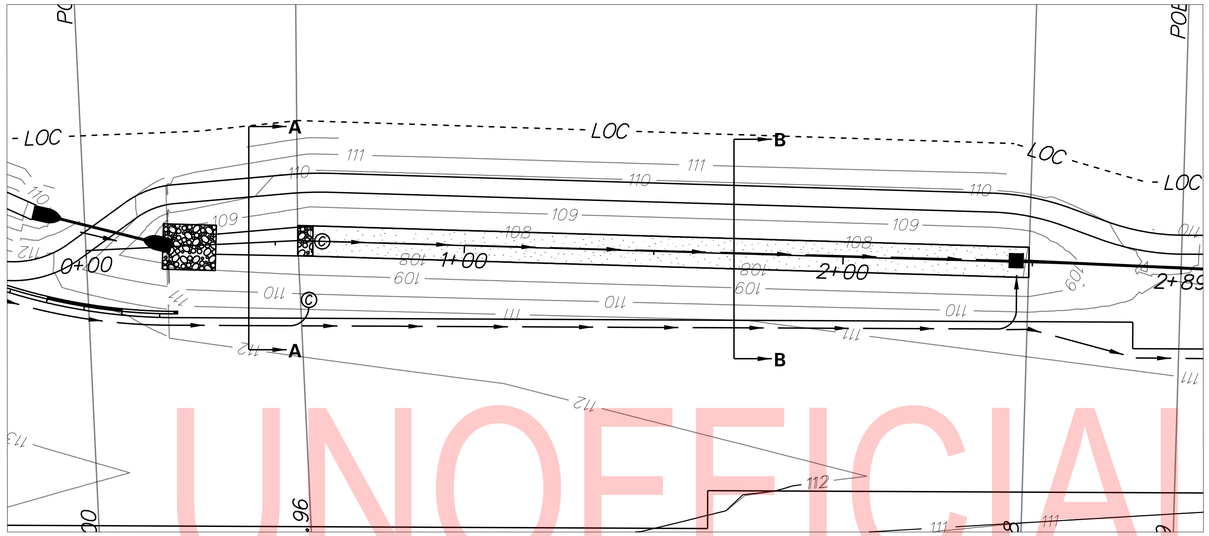
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

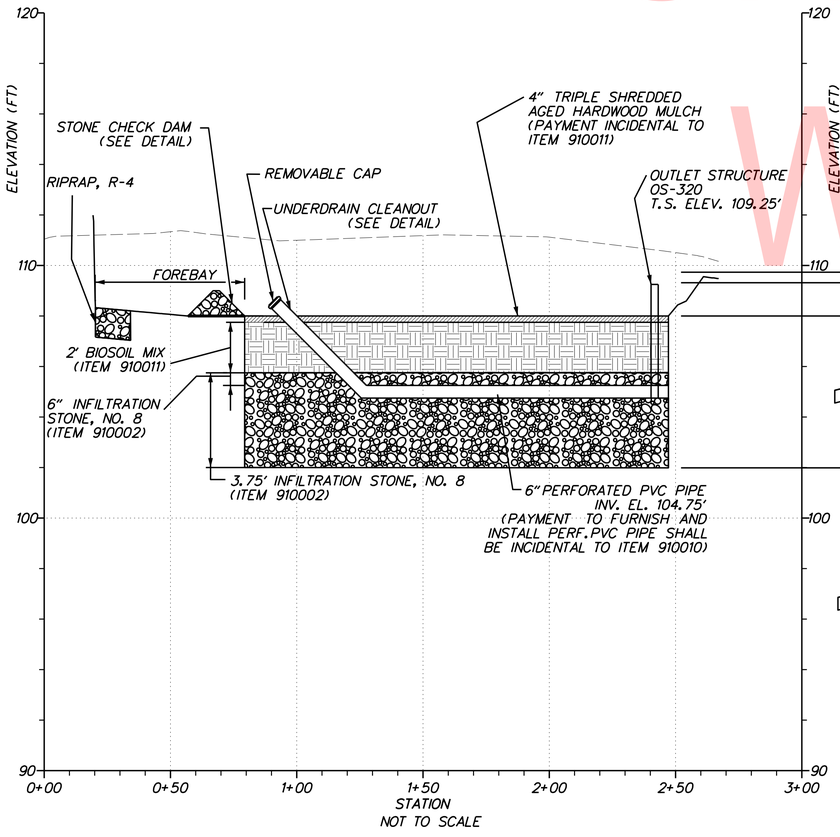
STORMWATER MANAGEMENT PLAN

SW–05

SECTION	SHEET NO.
JMT	180

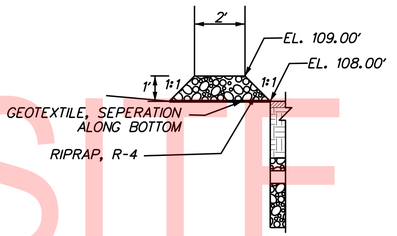


BIORETENTION AREA – BMP 986
PLAN VIEW



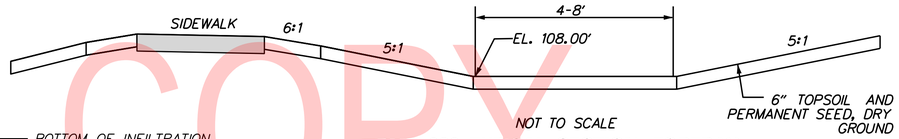
NOT TO SCALE

BMP 986 BIORETENTION PROFILE



NOT TO SCALE

BMP 986 FOREBAY STONE CHECK DAM DETAIL



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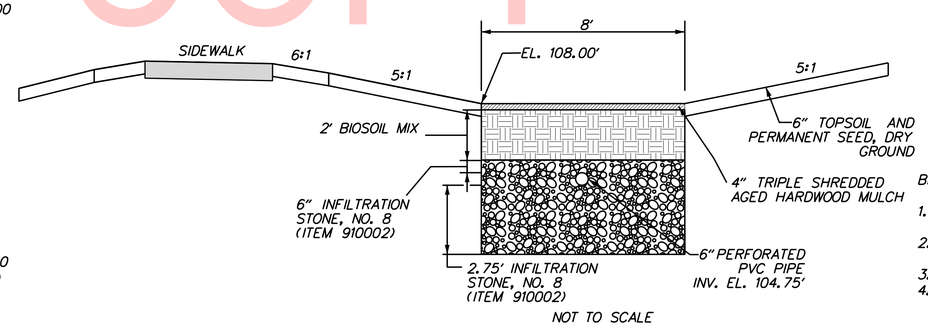
BMP 986 TYPICAL SECTION FOREBAY SECTION A–A



NOT TO SCALE

BMP 986 TYPICAL SECTION SECTION B–B

SEQUENCE OF CONSTRUCTION FOR BIORETENTION AREA BMP 981:

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SW.DGN [SHEET: SW06]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

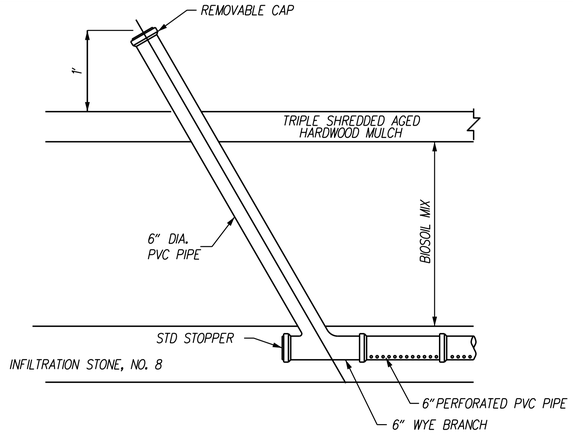
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

STORMWATER MANAGEMENT PLAN

SECTION	SHEET NO.
JMT	181

SW–06



CLEANOUT DETAIL

N.T.S.

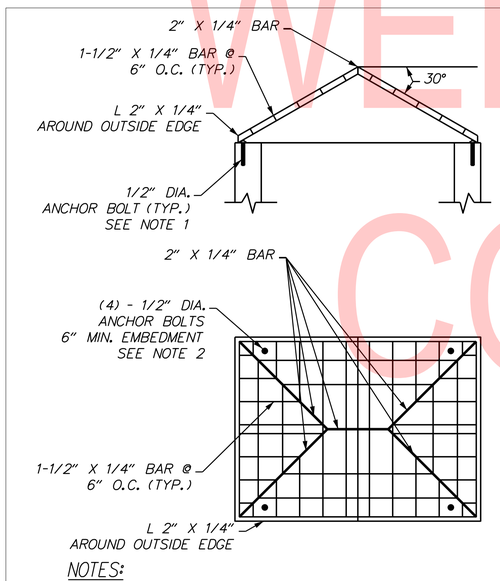
NOTES:

1. ALL MATERIAL AND WORK REQUIRED TO INSTALL CLEANOUT SHALL BE INCIDENTAL TO PAY ITEM 910010.

BIORETENTION OUTLET STRUCTURE SCHEDULE

NO.	SWM FACILITY NO.	BOX SIZE	PIPE SIZE	INV. EL. FT.	ELEVATION A FT.	ELEVATION B FT.
219	975	48" x 48"	24"	101.25	104.50	105.75
++EX. DI	976	EX. 38" X 24"	24"	**99.66	104.00	105.50
410	977	48" X 48"	24"	98.25	102.58	104.08
119	981	48" x 48"	18"	110.50	114.35	115.85
320	986	48" x 48"	19"X30"	104.75	108.00	109.25

** CONTRACTOR SHALL VERIFY AND MATCH EXISTING PIPE INVERT.
++ CONTRACTOR SHALL INSTALL TRASH RACK ON EXISTING DRAINAGE INLET. ALL MATERIAL AND WORK REQUIRED TO INSTALL TRASH RACK SHALL BE INCIDENTIAL TO PAY ITEM 602130.

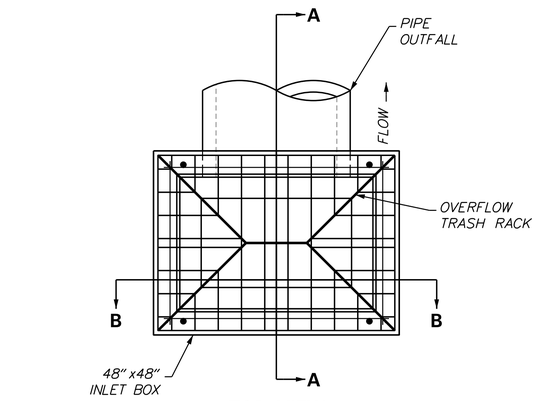


NOTES:

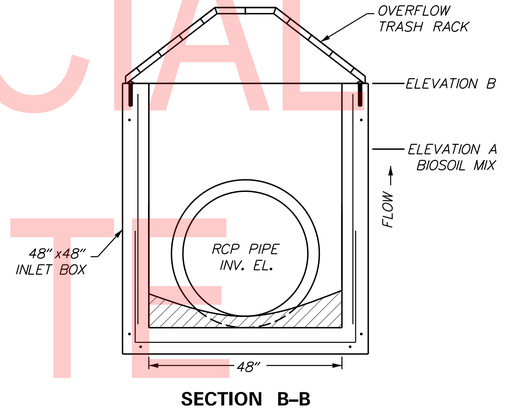
1. ANCHOR BOLTS TO BE STAINLESS STEEL ONLY.
2. TRASH RACK BARS TO BE ALUMINUM ONLY.

OVERFLOW TRASH RACK DETAIL

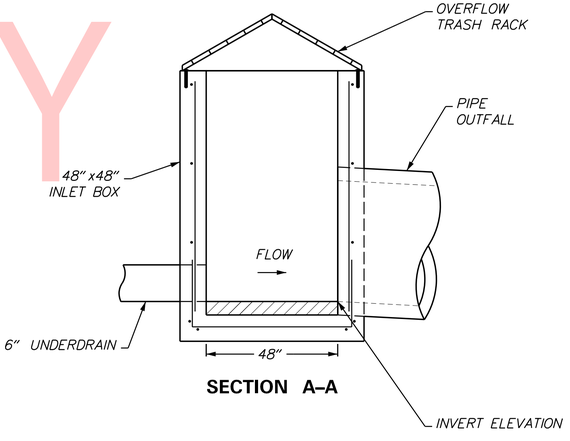
N.T.S.



TOP VIEW



SECTION B–B



SECTION A–A

BIORETENTION AREA – OUTLET STRUCTURE DETAIL

N.T.S.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SW.DGN [SHEET: SW07]

ADDENDA / REVISIONS		
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NOT TO SCALE

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

STORMWATER MANAGEMENT PLAN

SW-07

SECTION	JMT
SHEET NO.	182

ENVIRONMENTAL COMPLIANCE	(03)	(04)	(05)	(06)	(07)	(08)	(09)	(10)	(11)	(12)
CONSTRUCTION PLAN	CP-04	CP-05	CP-06	CP-10	CP-11	CP-12	CP-13	CP-14	CP-15	CP-16

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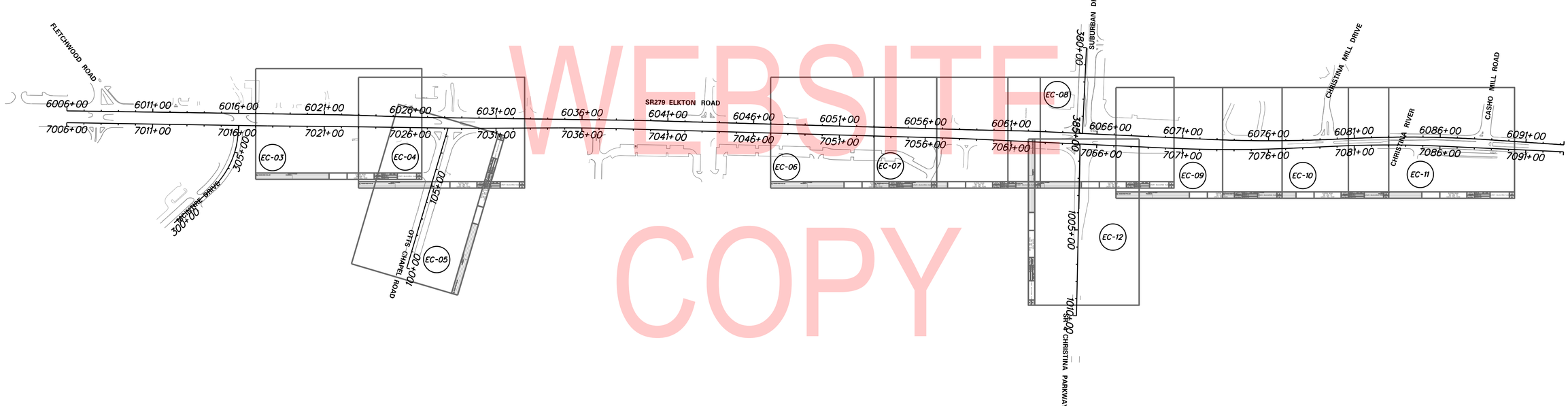

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC01]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE
0 300 600 900
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

ENVIRONMENTAL COMPLIANCE PLAN INDEX SHEET

EC-01
SECTION
JMT
SHEET NO.
183

ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:

A. THE PURPOSE OF THESE SHEETS IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR AGENCY REPORTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES.

B. IF A DEPARTURE FROM THE APPROVED PLANS (WHICH WOULD AFFECT ANY NATURAL AND/OR CULTURAL RESOURCES) IS NECESSARY, THE ENVIRONMENTAL STUDIES SECTION SHALL BE CONTACTED AT (302) 760-2264 TO ALLOW THEM TO COORDINATE WITH THE APPROPRIATE AGENCIES FOR APPROVAL.

C. USE OF THESE SHEETS DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

2. NATURAL RESOURCES:

A. PERMIT REQUIREMENTS / APPROVALS*

CORPS - NWP #23 (PCN REQUIRED)**
DNREC WLSL - SUBAQUEOUS LANDS PERMIT**
DNREC WQC & CZM - ISSUED (PROJECT IS NOT LOCATED IN CRW)
CITY OF NEWARK - PUBLIC WORKS AND WATER RESOURCES AND THE PLANNING DEPARTMENT FLOODPLAIN PERMIT**

* THE PERMITS/APPROVALS LISTED ARE THOSE REQUIRED FOR THIS PROJECT. THE ENVIRONMENTAL STUDIES SECTION IS RESPONSIBLE FOR COORDINATING/OBTAINING THIS APPROVAL.
** THE CONTRACTOR MUST ENSURE THAT THESE PERMITS/APPROVALS (CORPS, DNREC WLSL, CITY OF NEWARK) ARE IN THEIR POSSESSION PRIOR TO BEGINNING CONSTRUCTION IN THE PERMITTED AREA(S) AND ENSURE THEY ARE DISPLAYED ON-SITE DURING THE ENTIRE CONSTRUCTION PERIOD.
NOTE: THE ABSENCE OF ASTERIKS AFTER A PERMIT (WQC, CZM) INDICATES THAT COORDINATION HAS BEEN DONE WITH THAT AGENCY BUT NO WRITTEN AUTHORIZATION WAS REQUIRED. AS SUCH, NO PAPERWORK FROM THAT AGENCY SHOULD BE ANTICPATED.

B. CONSTRUCTION RESTRICTIONS:
FISHERIES - NONE
ENDANGERED SPECIES - NONE
MIGRATORY BIRDS - NONE

3. CULTURAL RESOURCE ISSUES: THE STATE HISTORIC PRESERVATION OFFICE CONCURRED WITH A FINDING OF NO HISTORIC PROPERTIES AFFECTED IN SEPTEMBER 2017.

4. STREAM RESTORATION AND RIPRAP TREATMENT:

A. FOLLOW THE SPECIAL PROVISION FOR ITEM 707500 - CHANNEL BED FILL IN REGARDS TO THE SALVAGING OF ON-SITE NATURAL STREAM BOTTOM MATERIAL OR THE FURNISHING OF OFF-SITE MATERIAL. IF SUFFICIENT SOURCES FOR CHANNEL BED FILL DO NOT EXIST ON-SITE, ANY NEW MATERIAL MUST CONFORM TO THE REQUIREMENTS OF ITEM 707500 - CHANNEL BED FILL. RECESS ALL RIPRAP IN THE CHANNEL BOTTOM (I.E. BELOW THE WATER LINE) ONE FOOT BELOW STREAM BED ELEVATION AND CHOKE WITH BORROW TYPE 'B' SO THAT ALL OF THE VOIDS IN THE RIPRAP ARE FILLED WITH SPECIFIED MATERIAL. PAYMENT UNDER ITEM 209002 - BORROW, TYPE B. COVER THE RIPRAP WITH A MINIMUM OF 12" CHANNEL BED FILL. MATCH THE FINAL CHANNEL ELEVATIONS WITH EXISTING ELEVATIONS AT THE UPSTREAM AND DOWNSTREAM PROJECT LIMITS. THROUGH THE STRUCTURE, ELEVATIONS WILL BE AS NOTED ON THE PLANS. PAYMENT UNDER ITEM 707500 - CHANNEL BED FILL.

B. RESTORE OTHER AREAS OF THE CHANNEL BOTTOM AFFECTED BY CONSTRUCTION (INCLUDING, BUT NOT LIMITED TO, THE LOCATION OF SUMP PITS, STABILIZED OUTFALLS, TEMPORARY PIPES AND/OR SANDBAG DIKES AND DIVERSIONS) TO EXISTING CONDITIONS. FILL ANY CAVITIES OR SCOUR HOLES RESULTING FROM CONSTRUCTION ACTIVITIES WITH CHANNEL BED FILL. PAYMENT UNDER ITEM 707500 - CHANNEL BED FILL.

C. WHEN ALL EROSION AND SEDIMENT CONTROL MEASURES ARE REMOVED AND THE STREAM RETURNS TO ITS NATURAL FLOW CONDITIONS, THE FLOW MUST REMAIN ABOVE GROUND AND ABOVE THE RIPRAP (I.E. THE FLOW CANNOT BE "LOST" IN THE RIPRAP OR BENEATH THE STRUCTURE). IF THIS IS NOT ACHIEVED, THE CONTRACTOR WILL BE REQUIRED TO TAKE CORRECTIVE ACTION AT THE CONTRACTOR'S EXPENSE.

D. CHOKE ALL RIPRAP ON THE STREAM BANK, OUTSIDE THE CHANNEL BED, WITH DELAWARE #57 STONE. PLACE JUST ENOUGH CHOKE MATERIAL TO PREVENT THE LOSS OF CHANNEL BED FILL OR TOPSOIL (DEPENDING ON LOCATION AS INDICATED BELOW) THROUGH THE RIPRAP.

1. BENEATH BRIDGES 1-322P & 1-323P: AFTER PLACING DELAWARE #57 STONE, PERFORM A FINAL CHOKE OF CHANNEL BED FILL SO THAT THE RIPRAP PEAKS ARE BARELY VISIBLE. PAYMENT UNDER ITEM 707500 - CHANNEL BED FILL. DELAWARE #57 STONE IS INCIDENTAL TO THE RIPRAP ITEM.

2. ALL OTHER LOCATIONS: FINISH FILLING THE VOIDS WITH TOPSOIL SO THAT THE RIPRAP PEAKS ARE BARELY VISIBLE. PLACE AN ADDITIONAL 6-INCH TOPSOIL LAYER ON TOP OF THE RIPRAP. SLOPE SEEDING WILL BE DONE WITH ITEM 908019 - STREAMBANK SEED MIX, SEEDING. FOLLOWING THE SEEDING OPERATION, INSTALL ITEM 908020 - EROSION CONTROL BLANKET (ECB) MULCH, OR OTHER BLANKET AS SHOWN ON THE PLANS. ECB AT TOE OF SLOPE CAN BE EITHER TRENCHED IN OR STAPLED AT 6" ON CENTER. COMPLETE ALL WORK, STARTING WITH THE INITIAL CHOKING WITH TOPSOIL THROUGH THE SEEDING AND MULCHING PRIOR TO ANY RAIN EVENT. DELAWARE #57 STONE IS INCIDENTAL TO THE RIPRAP ITEM. ALL OTHER ITEMS WILL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

E. THE TOPSOIL/SEED/MULCH CAN BE PLACED BEFORE OR AFTER THE REMOVAL OF THE STREAM DIVERSION. IF THE PLACEMENT OCCURS AFTER STREAM DIVERSION REMOVAL, USE A TURBIDITY CURTAIN TO MINIMIZE IN-STREAM SEDIMENTATION.

5. PROTECTION OF RESOURCES:

A. KEEP CLEARING IN WETLAND AREAS TO A MINIMUM ABSOLUTELY NECESSARY FOR CONSTRUCTION ACCESS. SUPPORT ALL EQUIPMENT TRAVERSING WETLANDS AND SUBAQUEOUS LAND ON MATS. PAYMENT FOR MATS WILL BE MADE UNDER ITEM 621500 - TEMPORARY TIMBER MAT. IN WETLAND AREAS THAT ARE CLEARED, NO GRUBBING EXCEPT WHERE NECESSARY TO CONSTRUCT PROJECT COMPONENTS SUCH AS FOUNDATIONS AND RIPRAP PROTECTION IS PERMITTED. CUT VEGETATION FLUSH WITH THE GROUND (I.E. NO DISTURBANCE OF THE ROOT MAT). RESTORE TEMPORARILY DISTURBED WETLAND AREAS TO GRADE AND SEED WITH ITEM 908017 - TEMPORARY GRASS SEEDING (ANNUAL RYEGRASS).

B. USE SILT FENCE OR CONSTRUCTION SAFETY FENCE ALONG THE LIMITS OF CONSTRUCTION IN ALL AREAS WHERE WATER/WETLANDS ARE BEING IMPACTED (AS SHOWN ON ENVIRONMENTAL COMPLAINCE SHEETS), AND ALSO IN ANY AREA WHERE WATER/WETLANDS EXIST WITHIN 20 FEET OF THE LIMIT OF CONSTRUCTION (AS SHOWN ON CONSTRUCTION PLAN SHEETS). ANY CONTRACTOR ACCESS BEYOND THE LIMIT OF CONSTRUCTION IS STRICTLY PROHIBITED.

C. USE SANDBAGS TO SECURE SILT FENCE AT AREAS ADJACENT TO WOODED UPLANDS/ALL WETLANDS IN LIEU OF TRENCHING UNLESS PROPER EROSION AND SEDIMENT CONTROL CANNOT BE MAINTAINED. SANDBAGS USED TO SECURE THE SILT FENCE IS INCIDENTAL TO ITEM 905001 - SILT FENCE. THE ENVIRONMENTAL STUDIES SECTION (JOHN CARUANO 302-760-2747) CAN PROVIDE FURTHER GUIDANCE REGARDING THE METHOD OF INSTALLATION.

D. CLEARLY MARK ALL TREES TO BE REMOVED WITH PAINT PRIOR TO THE EROSION AND SEDIMENT CONTROL MEETING.

E. THIS PROJECT PROPOSES A CONNECTION TO THE RITTENHOUSE TRAIL, WHICH IS OPERATED BY THE CITY OF NEWARK AS A RECREATIONAL FACILITY. USE OF THIS PROPERTY IS SUBJECT TO COMPLIANCE WITH SECTION 4(f) OF THE USDOT ACT OF 1966. THE CITY OF NEWARK, AS THE OFFICIAL WITH JURISDICTION, HAS CONCURRED IN WRITING THAT THE TEMPORARY OCCUPANCY OF THE RITTENHOUSE TRAIL DOES NOT CONSTITUTE A SECTION 4(f) USE.

PROJECT AREA DELINEATED BY McCORMICK TAYLOR, INC. IN JUNE 2015 IN ACCORDANCE WITH THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND REGIONAL SUPPLEMENT.

SHEETS PREPARED BY, JMT, INC., NOVEMBER 2016
SHEETS LAST UPDATED: 9/11/2019

TOTAL OPEN WATER CREATION AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	
03-OC-01	SWALE	484.10	0.0111	17.93	USACE/DNREC	
04-OC-01	SWALE	293.53	0.0067	10.87	USACE/DNREC	
06-OC-01	SWALE	517.90	0.0119	19.18	USACE/DNREC	
10-OC-01	SWALE	696.74	0.0160	25.81	USACE/DNREC	
ALL	TOTAL USACE/DNREC IMPACTS	1992.27	0.0457	73.79	USACE/DNREC	-

TOTAL PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	USACE IMPACT EVALUATION
03-O-01	SHADING	263.24	0.0061	9.75	USACE/DNREC	LOSS
06-O-01	FILL	873.20	0.0201	32.34	USACE/DNREC	LOSS
06-O-02	FILL/PIPE	509.16	0.0117	18.86	USACE/DNREC	LOSS
07-O-01	RIPRAP	56.81	0.0013 *	2.10	USACE/DNREC	IMPACT
07-O-02	FILL/PIPE	147.24	0.0034	5.45	USACE/DNREC	LOSS
07-O-03	FILL/PIPE	320.95	0.0074	11.89	USACE/DNREC	LOSS
07-O-04	RIPRAP	279.34	0.0064 *	10.35	USACE/DNREC	IMPACT
07-O-05	FILL	22.02	0.0005	0.82	USACE/DNREC	LOSS
08-O-01	FILL/PIPE	97.50	0.0022	3.61	USACE/DNREC	LOSS
08-O-02	CONCRETE HEADWALL	31.10	0.0007	1.15	USACE/DNREC	LOSS
09-O-01	RIPRAP	150.75	0.0035 *	5.58	USACE/DNREC	IMPACT
10-O-01	FILL/PIPE	158.66	0.0036	5.88	USACE/DNREC	LOSS
10-O-02	RIPRAP	123.39	0.0028 *	4.57	USACE/DNREC	IMPACT
10-O-03	FILL	1123.89	0.0258	41.63	USACE/DNREC	LOSS
11-O-01	SHADING	395.96	0.0091	14.67	USACE/DNREC	LOSS
ALL	TOTAL USACE/DNREC IMPACTS	4553.21	0.1045	168.65	USACE/DNREC	-
			0.0905			

TOTAL TEMPORARY OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	
07-OT-01	ACCESS	190.04	0.0044	7.04	USACE/DNREC	
07-OT-02	ACCESS	141.27	0.0032	5.23	USACE/DNREC	
07-OT-03	STREAM DIVERSION	369.38	0.0085	13.68	USACE/DNREC	
08-OT-01	STREAM DIVERSION	137.37	0.0032	5.09	USACE/DNREC	
08-OT-02	STREAM DIVERSION	1421.00	0.0326	52.63	USACE/DNREC	
09-OT-01	ACCESS	29.23	0.0007	11.08	USACE/DNREC	
ALL	TOTAL USACE/DNREC IMPACTS	2288.29	0.0525	94.75	USACE/DNREC	-

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC02]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

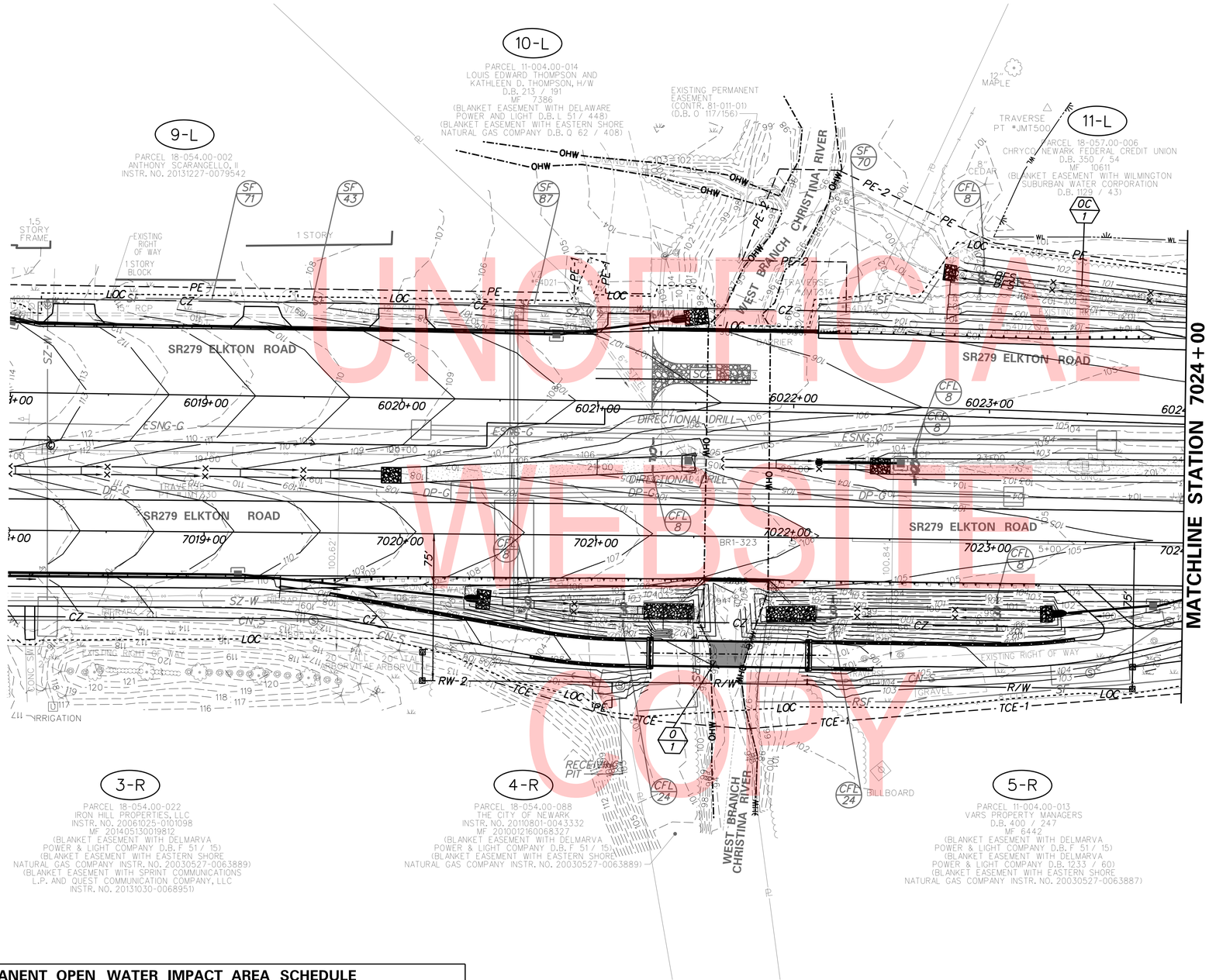
**ELKTON ROAD
MD LINE TO
CASHO MILL ROAD**

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

ENVIRONMENTAL COMPLIANCE PLAN

	EC-02
SECTION	JMT
SHEET NO.	184

OPEN WATER CREATION AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
03-OC-01	SWALE	484.10	0.0111	17.93	USACE/DNREC
TOTAL FOR THIS SHEET		484.10	0.0111	17.93	



PERMANENT OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
03-O-01	SHADING	263.24	0.0061	9.75	USACE/DNREC
TOTAL FOR THIS SHEET		263.24	0.0061	9.75	

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC03]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

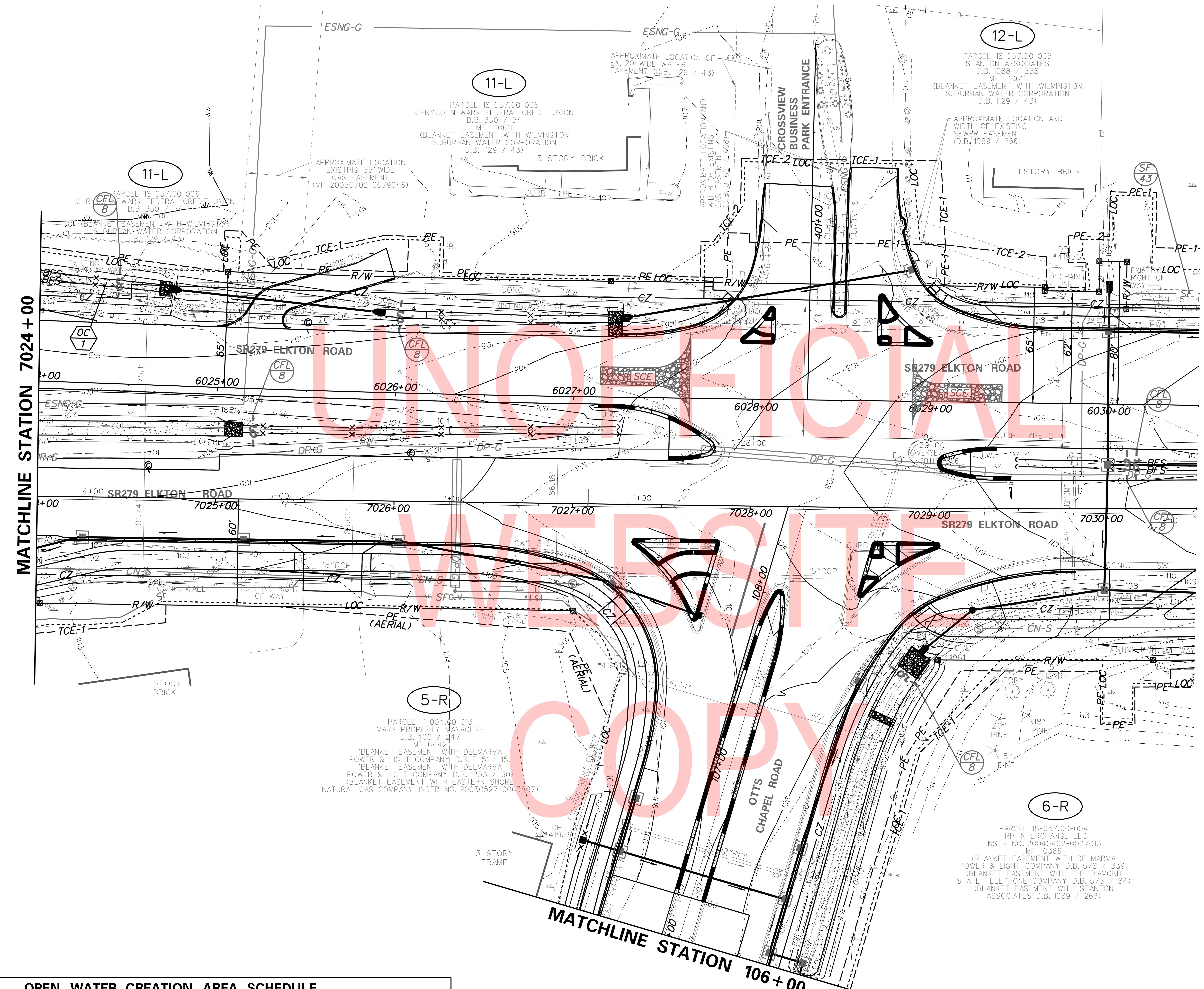
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

ENVIRONMENTAL COMPLIANCE PLAN

EC-03
SECTION JMT
SHEET NO. 185



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LEGEND

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- CREATION AREA
- —OHW— ORDINARY HIGH WATER
- —OHW/WL— ORD. HIGH WATER/WETLAND
- —WL— WETLAND BOUNDARY
- XX IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

W = WETLAND IMPACT O = OPEN WATER
T = TEMPORARY IMPACT

OPEN WATER CREATION AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
04-OC-01	SWALE	293.53	0.0067	10.87	USACE/DNREC
TOTAL FOR THIS SHEET		293.53	0.0067	10.87	

ADDENDA / REVISIONS

⚠	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

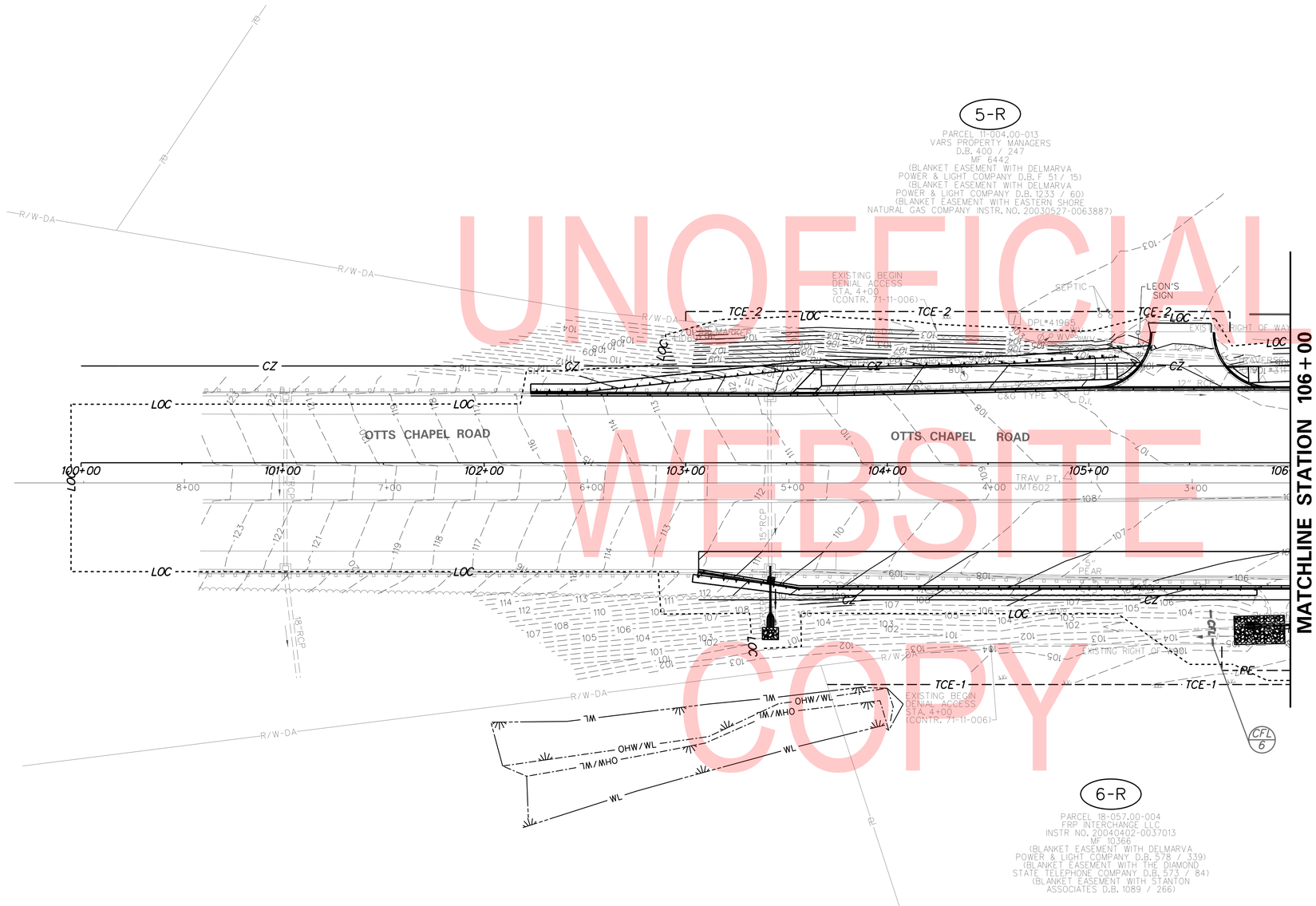
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

ENVIRONMENTAL COMPLIANCE PLAN

EC-04
SECTION JMT
SHEET NO. 186

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC04]
JMT



LEGEND

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- OHW — ORDINARY HIGH WATER
- OHW/WL — ORD. HIGH WATER/WETLAND
- WL — WETLAND BOUNDARY
- XX / X — IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

W = WETLAND IMPACT O = OPEN WATER
T = TEMPORARY IMPACT

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NO IMPACTS OCCUR ON THIS SHEET.

EC-05

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

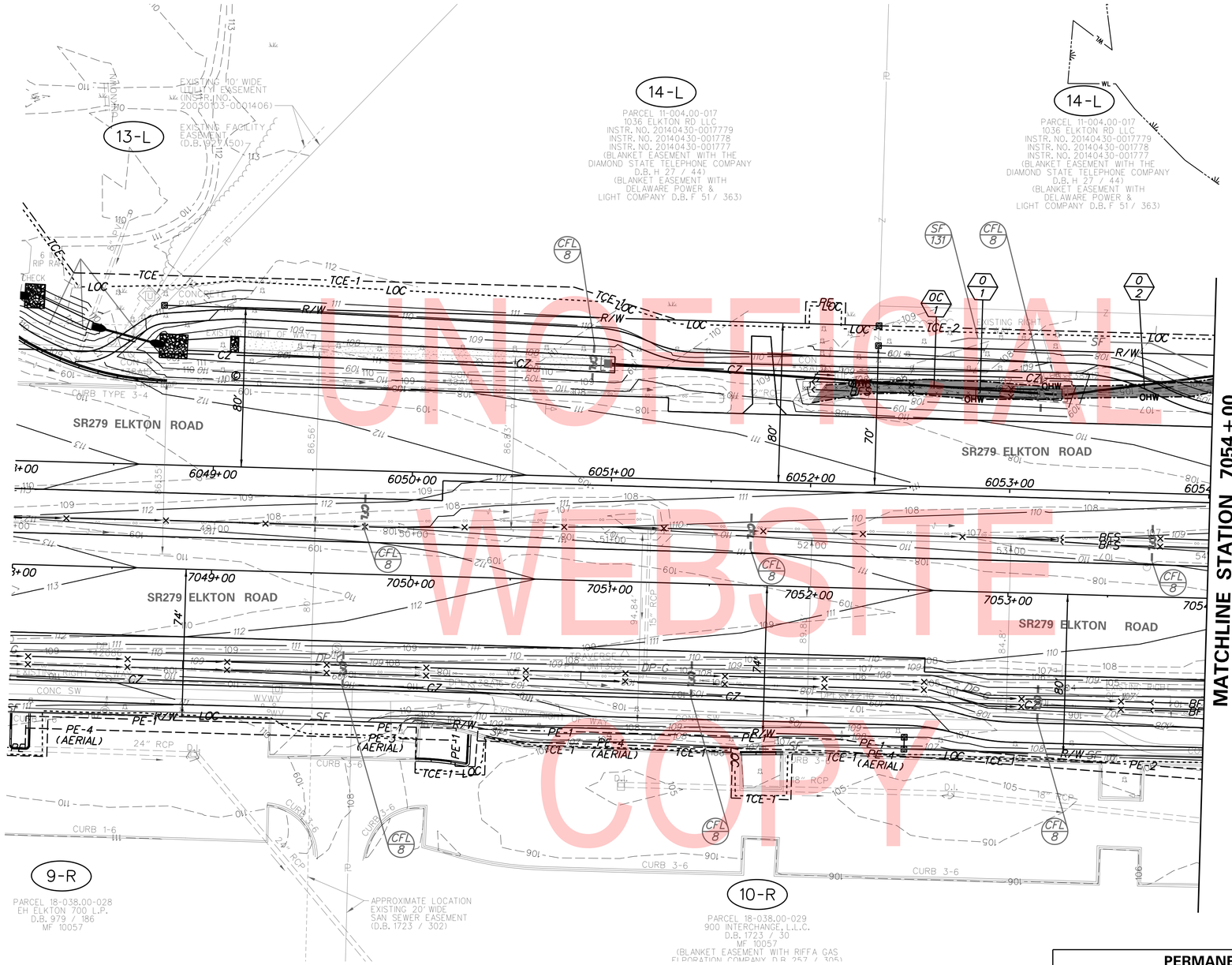
CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

ENVIRONMENTAL COMPLIANCE PLAN

SECTION	JMT
SHEET NO.	187

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC05]

OPEN WATER CREATION AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
06-OC-01	SWALE	517.90	0.0119	19.18	USACE/DNREC
TOTAL FOR THIS SHEET		517.90	0.0119	19.18	



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LEGEND

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- CREATION AREA
- OHW — ORDINARY HIGH WATER
- OHW/WL — ORD. HIGH WATER/WETLAND
- WL — WETLAND BOUNDARY
- XX — IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

W = WETLAND IMPACT O = OPEN WATER
T = TEMPORARY IMPACT

PERMANENT OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
06-O-01	FILL	873.20	0.0201	32.34	USACE/DNREC
06-O-02	FILL/PIPE	509.16	0.0117	18.86	USACE/DNREC
TOTAL FOR THIS SHEET		1382.36	0.0318	51.20	

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC06]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

ENVIRONMENTAL COMPLIANCE PLAN

EC-06

SECTION	SHEET NO.
JMT	188

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
07-OT-01	ACCESS	190.04	0.0044	7.04	USACE/DNREC
07-OT-02	ACCESS	141.27	0.0032	5.23	USACE/DNREC
07-OT-03	STREAM DIVERSION	369.38	0.0085	13.68	USACE/DNREC
TOTAL FOR THIS SHEET		700.69	0.0161	25.95	

PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
07-O-01	RIPRAP	56.81	0.0013	2.10	USACE/DNREC
07-O-02	FILL/PIPE	147.24	0.0034	5.45	USACE/DNREC
07-O-03	FILL/PIPE	320.95	0.0074	11.89	USACE/DNREC
07-O-04	RIPRAP	279.34	0.0064	10.35	USACE/DNREC
07-O-05	FILL	22.02	0.0005	0.82	USACE/DNREC
TOTAL FOR THIS SHEET		826.36	0.0190	30.61	

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LEGEND

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- CREATION AREA
- OHW — ORDINARY HIGH WATER
- OHW/WL — ORD. HIGH WATER/WETLAND
- WL — WETLAND BOUNDARY
- XX / . — IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

W = WETLAND IMPACT O = OPEN WATER
T = TEMPORARY IMPACT

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC07]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

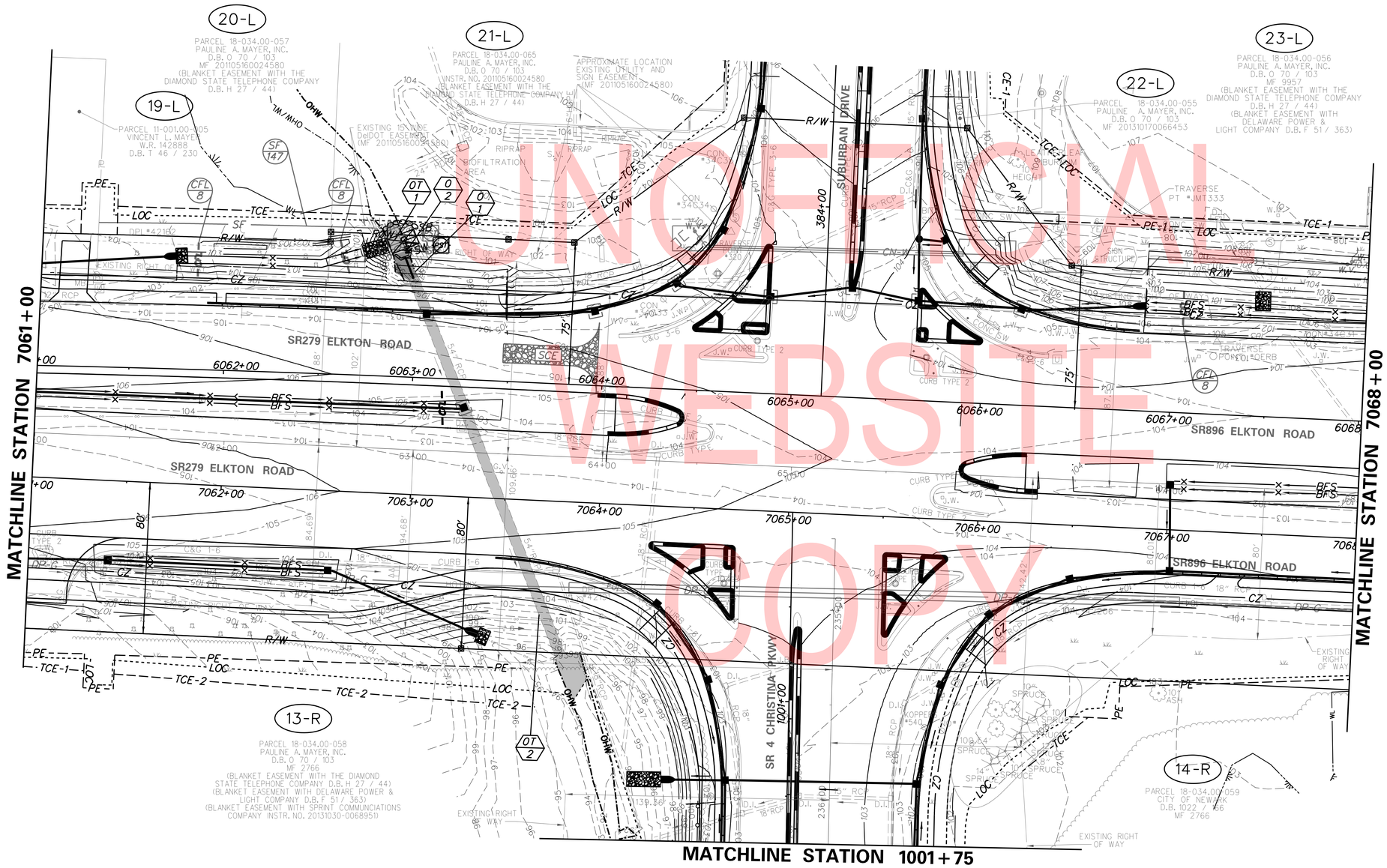
ENVIRONMENTAL COMPLIANCE PLAN

EC-07

SECTION	SHEET NO.
JMT	189

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
08-OT-01	STREAM DIVERSION	137.37	0.0032	5.09	USACE/DNREC
08-OT-02	STREAM DIVERSION	1421.00	0.0326	52.63	USACE/DNREC
TOTAL FOR THIS SHEET		1558.37	0.0358	57.72	

PERMANENT OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
08-O-01	FILL/PIPE	97.50	0.0022	3.61	USACE/DNREC
08-O-02	CONCRETE HEADWALL	31.10	0.0007	1.15	USACE/DNREC
TOTAL FOR THIS SHEET		128.60	0.0029	4.76	



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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC08]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

ENVIRONMENTAL COMPLIANCE PLAN

EC-08

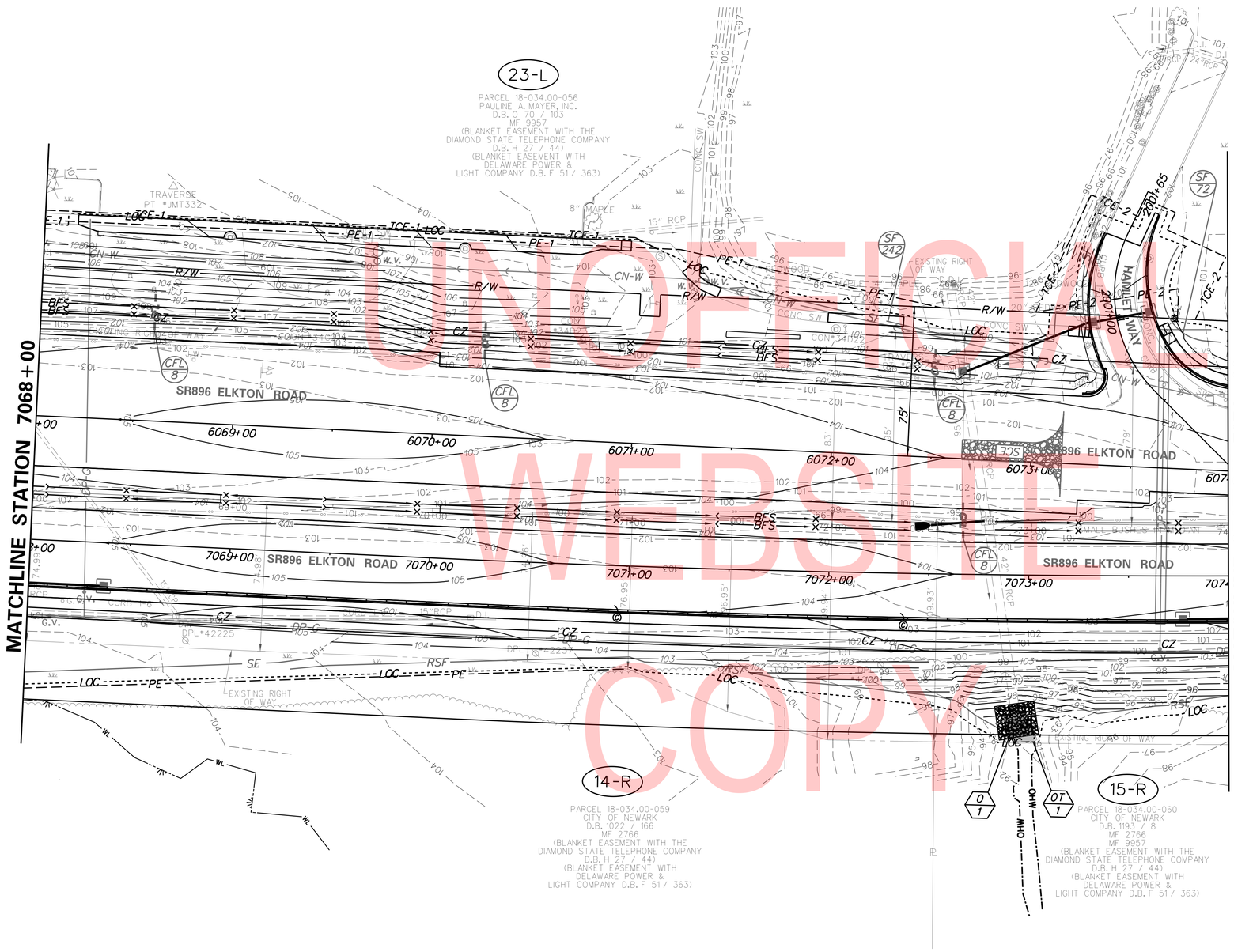
SECTION	SHEET NO.
JMT	190

PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
09-O-01	RIPRAP	150.75	0.0035	5.58	USACE/DNREC
TOTAL FOR THIS SHEET		150.75	0.0035	5.58	

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
09-OT-01	ACCESS	29.23	0.0007	11.08	USACE/DNREC
TOTAL FOR THIS SHEET		29.23	0.0007	11.08	



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LEGEND

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- OHW — ORDINARY HIGH WATER
- OHW/WL — ORD. HIGH WATER/WETLAND
- WL — WETLAND BOUNDARY
- XX — IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

W = WETLAND IMPACT
T = TEMPORARY IMPACT
O = OPEN WATER

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC09]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

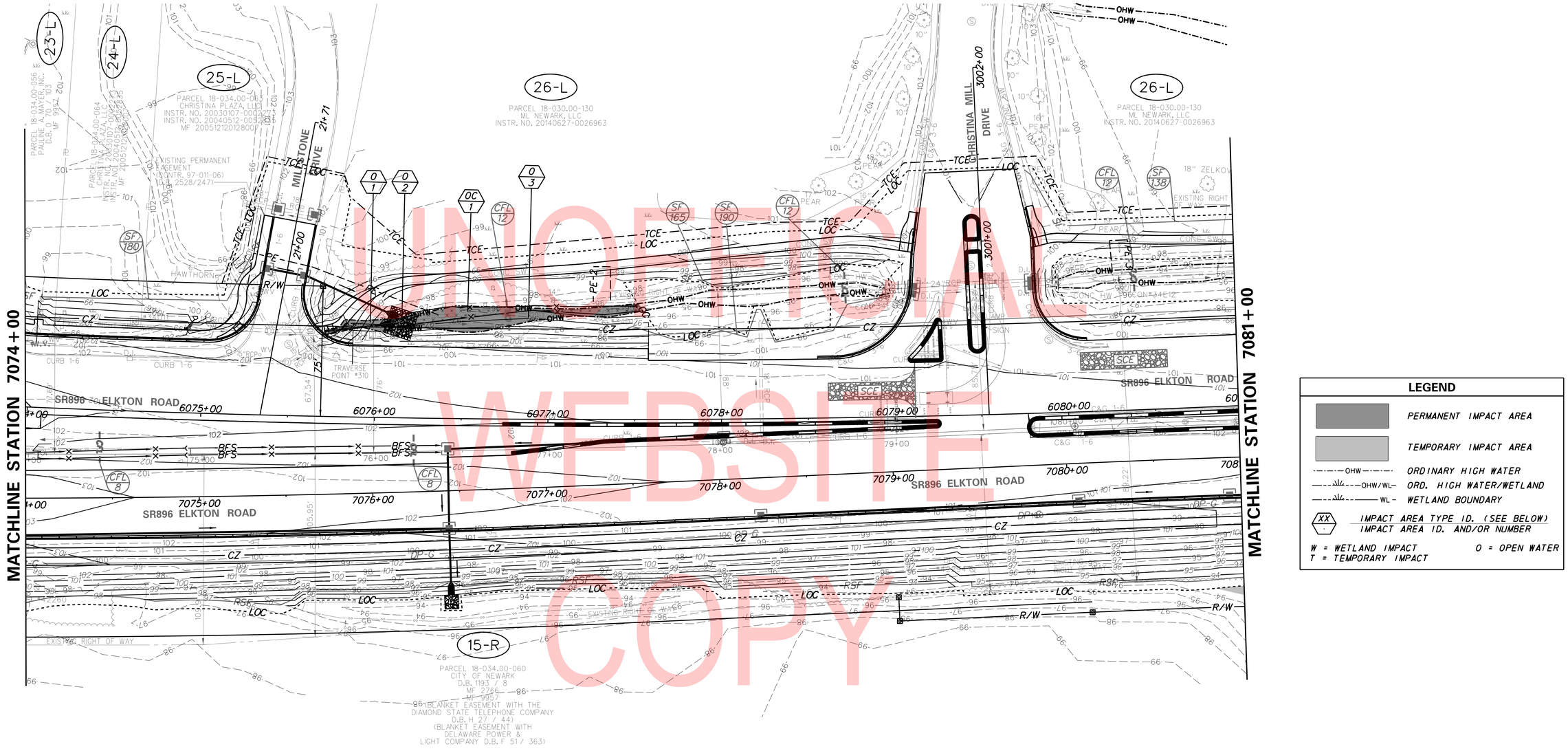
SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

ENVIRONMENTAL COMPLIANCE PLAN

EC-09
SECTION JMT
SHEET NO. 191



UNOFFICIAL WEBSITE COPY

LEGEND

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- OHW — ORDINARY HIGH WATER
- OHW/WL — ORD. HIGH WATER/WETLAND
- WL — WETLAND BOUNDARY
- XX / - IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

W = WETLAND IMPACT
T = TEMPORARY IMPACT
O = OPEN WATER

OPEN WATER CREATION AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
10-OC-01	SWALE	696.74	0.0160	25.81	USACE/DNREC
TOTAL FOR THIS SHEET		696.74	0.0160	25.81	

PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
10-O-01	FILL/PIPE	158.66	0.0036	5.88	USACE/DNREC
10-O-02	RIPRAP	123.39	0.0028	4.57	USACE/DNREC
10-O-03	FILL	1123.89	0.0258	41.63	USACE/DNREC
TOTAL FOR THIS SHEET		1405.94	0.0322	52.08	

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

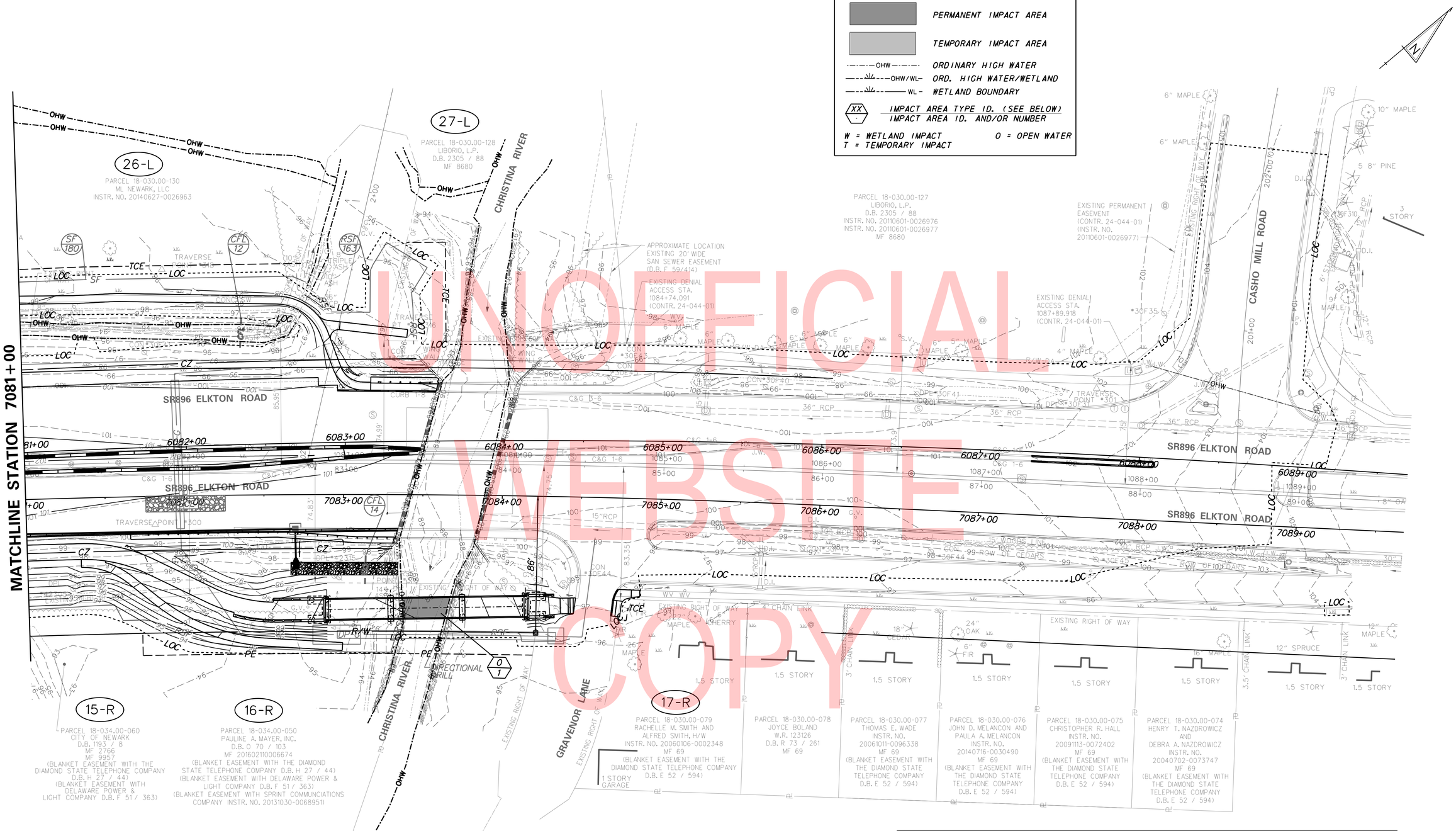
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

ENVIRONMENTAL COMPLIANCE PLAN

EC-10

SECTION	JMT
SHEET NO.	192

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC10]



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PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
11-0-01	SHADING	395.96	0.0091	14.67	USACE/DNREC
TOTAL FOR THIS SHEET		395.96	0.0091	14.67	

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	
T201504401	1-322	1-322P
	1-323	1-323P
COUNTY	DESIGNED BY: LB	
NEW CASTLE	CHECKED BY: BPH	

ENVIRONMENTAL COMPLIANCE PLAN

EC-11

SECTION	
JMT	
SHEET NO.	
193	

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC11]

LEGEND

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- OHW — ORDINARY HIGH WATER
- OHW/WL — ORD. HIGH WATER/WETLAND
- WL — WETLAND BOUNDARY
- XX — IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

W = WETLAND IMPACT O = OPEN WATER
T = TEMPORARY IMPACT

UNOFFICIAL WEBSITE COPY

NO IMPACTS OCCUR ON THIS SHEET.

EC-12

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

ENVIRONMENTAL COMPLIANCE PLAN

SECTION	JMT
SHEET NO.	194

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\EC.DGN [SHEET: EC12]

PREPARED BY

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
121 Continental Drive, Suite 300, Newark, DE 19713

08/20/2019
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "CS" SECTION DESIGNATION. — DATE

JAMES J. KELLEY — REGISTERED — No. 12162 — DELAWARE — PROFESSIONAL ENGINEER
SEAL

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN OF THESE PLANS MEETS THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS."

Vincent W. Davis 08/28/2019
DELDOT STORMWATER ENGINEER — DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THESE PLANS MEET THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS AND THAT ALL CLEARING, GRADING, AND CONSTRUCTION WILL BE ACCOMPLISHED PURSUANT TO THE PLAN."

MAINTENANCE OF TRAFFIC NOTES

1. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES AND LANE SHIFTS SHALL CONFORM TO TYPICAL APPLICATION 10, 11, 27, 33, AND 36 OF THE DELAWARE MUTCD.
2. A TYPE II TRUCK MOUNTED ATTENUATOR (TMA) SHALL BE REQUIRED ON THIS PROJECT DURING THE FOLLOWING OPERATIONS: TEMPORARY/PERMANENT PAVEMENT MARKINGS, ROADSIDE SPRAYING, PATCHING, MILLING, SWEEPING, TEMPORARY TRAFFIC BARRIER PLACEMENT OR AS DIRECTED BY THE ENGINEER. THE ROLL AHEAD DISTANCE SHALL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS. THE TMA SHALL CONFORM TO THE REQUIREMENTS OF SECTION 6F OF THE DELAWARE MUTCD.
3. THE USE OF MILLINGS AND GABC IN THE TRAVEL WAY, TEMPORARY TRAVEL WAY, HIGH VOLUME ENTRANCES, AND ACCESS RAMP FOR THE PURPOSE OF PROVIDING A TEMPORARY ROADWAY SURFACE, POTHOLE REPAIR, TAPERED EDGE FOR UTILITIES, BUTT JOINTS, AND LONGITUDINAL DROP-OFFS (MILLING AND PAVING OPERATIONS) IS PROHIBITED UNLESS IT IS OTHERWISE DESIGNATED TO BE USED IN THE CONTRACT PLANS. USE COLD PATCH, BITUMINOUS CONCRETE, BITUMINOUS CONCRETE WEDGE, OR TAPER MILL, AS NOTED IN THE CONTRACT DOCUMENTS OR APPROVED BY THE ENGINEER. PAYMENT FOR COLD PATCH, BITUMINOUS CONCRETE, OR BITUMINOUS CONCRETE WEDGE SHALL BE PAID AS NOTED IN THE CONTRACT DOCUMENTS. TAPER MILL BITUMINOUS CONCRETE SHALL BE PAID UNDER THE BITUMINOUS CONCRETE MILLING ITEM.
4. MILLINGS OR GABC SHALL BE USED AT THE FOLLOWING LOCATIONS WHERE ACCESS TO A BUSINESS, RESIDENCE, OR EDGE DROP OFF NEEDS TO BE MAINTAINED UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER TO USE BITUMINOUS CONCRETE OR COLD PATCH. ALL MILLINGS AND GABC WILL BE ROLLED AND COMPACTED TO HELP PREVENT THE MATERIAL FROM UNRAVELLING:
   A. DRIVEWAYS
   B. ENTRANCES
   C. LOW VOLUME ACCESS RAMPS (IDENTIFIED IN THE CONTRACT DOCUMENTS)
   D. EDGE DROP OFFS ADJACENT TO LIVE ROADWAY (LANE, SHOULDER, OR TURN LANE) AND THE PROPOSED ROAD CONSTRUCTION
   E. EDGE OF ROADWAY DROP OFF
5. GRADING AND MAINTAINING BASE COURSE THAT IS BEING USED FOR ROADWAY WEDGE/FILLET BETWEEN TRAVEL LANES AND PAVEMENT BOX, EDGE OF TRAVEL WAY, DRIVEWAY, OR ENTRANCE ACCESS SHALL BE INCIDENTAL TO ITEM NO. 801000 - MAINTENANCE OF TRAFFIC. THE BASE COURSE MATERIAL SHALL BE PLACED AT NO GREATER THAN THE SLOPE SPECIFIED IN TABLE 6G-1 AND SHALL BE COMPACTED. EXCESS BASE COURSE MATERIAL SHALL BE PUSHED AHEAD AND USED IN THE NEXT SEGMENT AND SHALL BE INCIDENTAL TO THE PERTINENT BASE COURSE PAY ITEM. NO SEPARATE PAYMENT SHALL BE MADE FOR MILLINGS OR GABC TEMPORARY ROADWAY MATERIAL (TRM) USED TO PROTECT EDGE DROP OFFS, UNLESS THE MATERIAL IS EVENTUALLY UTILIZED AS PART OF A PERMANENT ROADWAY AT WHICH TIME THE MATERIAL WOULD BE PAID FOR UNDER THE RESPECTIVE CONTRACT MATERIAL ITEM. VERTICAL DIFFERENCES SHALL BE CORRECTED IN ACCORDANCE WITH TABLE 6G-1 OF THE DELAWARE MUTCD.
6. THE CONTRACTOR SHALL COORDINATE PROPOSED CONSTRUCTION ALONG ADJACENT PROPERTY OWNERS FRONTAGE AT LEAST TWO WEEKS PRIOR TO BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN VEHICULAR ACCESS TO EACH PROPERTY AT ALL TIMES.
7. THE CONTRACTOR SHALL SUPPLY MESSAGE BOARDS TO PLACE AT LOCATIONS WITHIN 1 MILE OF THE PROJECT LIMITS AS DIRECTED BY THE ENGINEER TEN DAYS IN ADVANCE OF NEW TRAFFIC PATTERNS OR ROAD CLOSURES. MESSAGE BOARDS FOR ROAD CLOSURES SHALL REMAIN IN PLACE 5 DAYS AFTER THE CLOSURE OCCURS. THE ENGINEER MAY LENGTHEN OR SHORTEN THE REQUIRED DURATIONS FOR THE MESSAGE BOARDS BASED ON CONDITIONS IN THE FIELD. PAYMENT FOR THESE MESSAGE BOARDS WILL BE MADE UNDER ITEM NUMBER 803001. SIX PLASTIC DRUMS SHALL BE PLACED IN FRONT OF THE MESSAGE BOARD. THE CONTRACTOR SHALL PROVIDE A PERSON TO PERFORM MAINTENANCE ON THE MESSAGE BOARDS THAT THE ENGINEER CAN CONTACT AT ALL TIMES. THE MESSAGE ON THE MESSAGE BOARD SHALL BE SUPPLIED BY THE DISTRICT SAFETY OFFICER.
8. FLOOD LIGHTS SHALL BE USED IN CROSSOVER GORE AREAS. TEMPORARY FLOOD LIGHTING NECESSARY DUE TO WORK OCCURRING AFTER DARK WILL BE PAID UNDER ITEM NUMBER 804001. THE ATSSA SUPERVISOR SHALL APPROVE THE POSITION OF THE LIGHT ASSEMBLY. DURING BOTH DAY AND NIGHT WORK, ALL PERSONS WORKING WITHIN THE WORK SITE MUST WEAR REFLECTORIZED VESTS IN ACCORDANCE WITH THE DELAWARE MUTCD.
9. PORTABLE CONCRETE SAFETY BARRIER AND PLASTIC DRUMS SHALL BE PLACED AT A MINIMUM OF 12 INCHES FROM THE EDGELINE OF TRAVEL LANE AS INDICATED ON THE TYPICAL SECTIONS. THE BOTTOM OF PORTABLE CONCRETE SAFETY BARRIER SHALL HAVE SLOTS TO ALLOW DRAINAGE RUNOFF TO PASS UNDER IT.
10. THIS PROJECT IS CONSIDERED A SIGNIFICANT PROJECT AS DEFINED BY DELDOT'S WORK ZONE MOBILITY PROCEDURES AND GUIDELINES. A TYPE B TRANSPORTATION MANAGEMENT PLAN (TMP) HAS BEEN PREPARED AND IS AVAILABLE FOR VIEWING BY CONTACTING THE DEPARTMENT'S SAFETY PROGRAMS MANAGER AT (302) 659-4060. ALL MONITORING REQUIREMENTS OF THE TMP SHALL BE CONDUCTED BY DELDOT FORCES UNLESS OTHERWISE DIRECTED BY THE ENGINEER. MODIFICATIONS TO THE TMP SHALL BE COMPLETED BY THE CONTRACTOR IF CHANGES TO THE TIME RESTRICTIONS OR THE TRAFFIC CONTROL PLAN ARE DESIRED. THE MODIFIED TMP SHALL BE PREPARED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF DELAWARE.
11. WEEKEND CLOSURES OF SR 4 AND OTTS CHAPEL ROAD SHALL BE FROM 8:00 PM FRIDAY TO 5:00 AM MONDAY. ONLY ONE DIRECTION OF OTTS CHAPEL ROAD OR SR 4 MAY CLOSED AT ANY ONE TIME.
12. CONTACT THE HAULING PERMIT OFFICE AT (302) 744-2700 FOR DELDOT'S OVERSIZE OVERWEIGHT PERMIT SYSTEM (OOPS) TO REQUEST POSTING ANY LANE RESTRICTIONS OR ROAD CLOSURES ON THE TEMPORARY ROUTE RESTRICTIONS WEB PAGE AT LEAST TWO WEEKS IN ADVANCE OF NEW TRAFFIC PATTERNS.

MAINTENANCE OF TRAFFIC NOTES

13. TRAFFIC OFFICERS SHALL BE UNIFORMED AND EQUIPPED WITH MARKED NEWARK POLICE VEHICLES WHICH SHALL INCLUDE A SPEED MEASURING DEVICE. THE ATSSA SUPERVISOR SHALL INFORM THE STATE TROOPER OF THE OVERALL MOT SCHEME, AS WELL AS THE SPECIFICS OF HIS/HER FUNCTION.
14. ROADWAY AND SHOULDER WORK SHALL BE PERFORMED IN A MANNER SUCH THAT POSITIVE DRAINAGE OF THE ROADWAY SURFACES IS MAINTAINED THROUGHOUT CONSTRUCTION. ALL WORK AND MATERIALS TO PROVIDE AND MAINTAIN THIS DRAINAGE SHALL BE INCIDENTAL TO ITEM 801000 - MAINTENANCE OF TRAFFIC.
15. THE RESIDENT ENGINEER OR AN APPOINTED REPRESENTATIVE SHALL BE THE OFFICIAL TIME KEEPER FOR THE LANE CLOSURES. THE TIMES SHALL BE BASED ON "VERIZON TIME".
16. NO MORE THAN ONE INTERSECTION DETOUR PLAN SHALL BE USED AT ANY TIME DURING CONSTRUCTION.
17. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 14 CALENDAR DAYS BEFORE:
    1) CLOSING ANY ROADS OR
    2) CLOSING ANY TRAVEL LANES FOR MORE THAT ONE DAY THE ENGINEER WILL NOTIFY THE POLICE (302-366-7111), FIRE DEPARTMENT (302-454-3307) AND SCHOOL DISTRICT (302-454-2043) OF THE CONTRACTOR'S ROAD AND LANE CLOSURES. THE ENGINEER WILL ALSO KEEP DELDOT'S TRAFFIC MANAGEMENT CENTER (302-659-4600) APPRAISED OF ALL LANE AND ROAD CLOSURES THAT OCCUR ON THE PROJECT..
18. ACCEPTABLE MATERIALS FOR TEMPORARY PEDESTRIAN PATHS SHALL INCLUDE CONCRETE, HOT-MIX, COMPACTED MILLINGS OR PLYWOOD WALKWAY STRUCTURE. PLYWOOD WALKWAY STRUCTURES SHALL ALSO INCLUDE DETECTABLE EDGING AND RAILINGS IN ACCORDANCE WITH ADA GUIDELINES AND THE DELAWARE MUTCD. TEMPORARY PEDESTRIAN PATHS SHALL BE INCIDENTAL TO ITEM 80100 - MAINTENANCE OF TRAFFIC UNLESS OTHERWISE SPECIFIED IN THE PLANS. STONE OR GRADED AGGREGATE BASE COURSE SHALL NOT BE USED FOR TEMPORARY PEDESTRIAN PATHS.
19. PEDESTRIANS SHALL BE ACCOMMODATED AT ALL TIMES DURING CONSTRUCTION. IF A VIABLE PEDESTRIAN DETOUR OR TEMPORARY CROSSING SCHEME IS NOT AVAILABLE, THE CONTRACTOR SHALL SEEK APPROVAL BY THE ENGINEER TO UTILIZE FLAGGERS TO SAFELY LEAD PEDESTRIANS THROUGH THE WORK ZONE. BY THE END OF EACH WORK DAY A VIABLE PEDESTRIAN ROUTE SHALL BE AVAILABLE.
20. AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.
21. ITEM 825001 - TUBULAR MARKERS SHALL BE SPACED 10' (TYP.) OR AS DIRECTED BY THE ENGINEER.
22. PHASING STRIPING SHALL BE 4" SOLID WHITE PERMANENT EPOXY RESIN PAINT AND SHALL BE PAID UNDER ITEM 817013 - PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"
23. THE CONTRACTOR SHALL CONTACT DELDOT'S ERLSP VENDOR AT 571-926-1429 A MINIMUM OF 5 BUSINESS DAYS PRIOR TO THE START OF PHASE 1 ADVANCE WORK TO COORDINATE THE TEMPORARY DECOMMISSIONING OF THE EXISTING RED LIGHT RUNNING CAMERA (SITE 0302). THE CONTRACTOR SHALL AGAIN CONTACT DELDOT'S ERLSP VENDOR AT 571-926-1429 UPON THE INSTALLATION OF THE PERMANENT STRIPING ON THE SOUTHBOUND ELKTON ROAD APPROACH AT THE SR 4 (CHRISTINA PARKWAY) INTERSECTION.

( )	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
(X)	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR. PAYMENT FOR ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 801000.
( )	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE ATSSA SUPERVISOR'S SOLE JOB SHALL BE SUPERVISION OF THE INSTALLATION, OPERATION AND MAINTENANCE OF TRAFFIC CONTROL DEVICES FOR THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT SHALL NOT BE THE ATSSA SUPERVISOR. PAYMENT FOR ATSSA SUPERVISOR SHALL BE PAID FOR UNDER ITEM 812500.

WORK AT ENTRANCES

1. USE TA-10, TA-27 AND/OR FLAGGERS TO CONSTRUCT THE ENTRANCES AS NEEDED.
2. WORK AT HAMLET WAY, PATRIOT WAY, ALL INTERCHANGE BOULEVARD ENTRANCES, ENTRANCE TO LEON'S GARDEN CENTER, SHALL BE PERFORMED AT WEEKDAY NIGHTS TO MINIMIZE TRAFFIC IMPACT.
3. WORK AT RESIDENTIAL ENTRANCES, MILLSTONE DRIVE AND CHRISTINA MILL DRIVE SHALL BE PERFORMED DURING OFF PEAK HOURS 9:00AM TO 3:00PM.
4. WEDGE ROADWAY AT ENTRANCES AS NEEDED PRIOR TO OPENING TO FULL TRAFFIC.
5. NEWARK CHARTER SCHOOL BUS ACCESS TO PATRIOT WAY FROM SB ELKTON ROAD DURING PHASE 1 AND PHASE 2 SHALL USE DUPONT ACCESSES THROUGH INTERNAL CIRCULATION.

GUIDELINES FOR USE OF TRAFFIC OFFICERS

1. CONTRACTOR SHALL BE REQUIRED TO ENSURE THAT A TRAFFIC OFFICER IS ON DUTY DURING ANY WORK ZONE OPERATIONS ALONG ELKTON ROAD THAT REQUIRE BRIEF STOPPING OF ALL TRAFFIC IN ONE OR BOTH DIRECTIONS THAT REQUIRE BRIEF STOPPING IN ONE OR BOTH DIRECTIONS OF TRAVEL.
2. TRAFFIC OFFICERS SHALL BE ON DUTY DURING ALL ROAD CLOSURE OPERATIONS.
3. THREE TRAFFIC OFFICERS SHALL BE REQUIRED TO PERFORM SPEED ENFORCEMENT ON ELKTON ROAD ONE DAY PER WEEK FOR A FOUR HOUR PERIOD. DAYS AND TIME PERIODS SHALL BE SPECIFIED BY THE ENGINEER. ALL TRAFFIC OFFICERS ARE REQUIRED TO PROVIDE ENFORCEMENT STATISTICS TO THE ENGINEER FOR EACH SPEED ENFORCEMENT PERIOD.
4. ADDITIONAL USE OF TRAFFIC OFFICERS SHALL BE APPROVED BY THE TRAFFIC SAFETY SECTION AS NEEDED.

GUIDELINES FOR SCHOOL BUS DETOUR ROUTE

1. TRAFFIC OFFICERS SHALL BE ON DUTY AT DUPONT DELIVERY ENTRANCE DURING THE FIRST 20 SCHOOL DAYS AFTER A CHANGE IN TRAFFIC FOR PHASE 1 AND PHASE 2 TO ENSURE NO OTHER VEHICLES BUT ADVANCED STUDENT TRANSPORTATION SCHOOL BUSSES AND DUPONT SITE VEHICLES ENTER. HOURS OF ENFORCEMENT ARE 8:00 TO 9:00AM AND 3:00 TO 4:00PM ON SCHOOL DAYS. TRAFFIC OFFICERS MAY BE USED AT OTHER TIMES FOR ENFORCEMENT AS DIRECTED BY THE ENGINEER.

TRAFFIC RESTRICTIONS

1. LANE CLOSURES AND DETOURS SHALL NOT BE PERMITTED DURING STATUE HOLIDAYS AND MAJOR EVENTS AS LISTED IN SECTION 801000 AS WELL AS THE FOLLOWING:

   -ELECTION DAY
   -PRIMARY DAY
   -UNIVERSITY OF DELAWARE HOME FOOTBALL GAME WEEKENDS
   -UNIVERSITY OF DELAWARE MOVE-IN WEEKEND
   -UNIVERSITY OF DELAWARE GRADUATION WEEKEND
   -CITY OF NEWARK WINE + DINE NIGHT DOWNTOWN
   -CITY OF NEWARK "A NEW NIGHT" DOWNTOWN
   -CITY OF NEWARK FOOD AND BREW FESTIVAL
   -CITY OF NEWARK "A TASTE OF NEWARK"
   -CITY OF NEWARK "WINTERFEST"
   -FIREFLY MUSIC FESTIVAL

2. OFFPEAK WORK DURATIONS SHALL BE DEFINED AS FOLLOWS:
   WEEKEND - FRIDAY AT 8 PM UNTIL MONDAY AT 5 AM
   WEEKDAY MID-DAY - 9 AM TO 2 PM, MONDAY THRU THURSDAY
   WEEKDAY NIGHTS - 8 PM TO 5 AM, SUNDAY THRU THURSDAY
3. REFER TO THE FOLLOWING TABLE FOR CLOSURE TIMES ALONG ELKTON ROAD:

Allowable Hours for Lane Closures on Elkton Road

	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
SUNDAY	■	■	■	■	■	■	■	■	■	■	■	■	■	■							■	■	■	■
MONDAY	■	■	■	■	■					■	■	■	■	■							■	■	■	■
TUESDAY	■	■	■	■	■					■	■	■	■	■							■	■	■	■
WEDNESDAY	■	■	■	■	■					■	■	■	■	■							■	■	■	■
THURSDAY	■	■	■	■	■					■	■	■	■	■							■	■	■	■
FRIDAY	■	■	■	■	■					■	■	■	■	■							■	■	■	■
SATURDAY	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

■ lane closed
□ lane open

4. REFER TO THE FOLLOWING TABLES FOR CLOSURE TIMES FOR THE WEEKEND WORK AT EASTBOUND AND WESTBOUND SR 4 AND EASTBOUND AND WESTBOUND OTTS CHAPEL ROAD:

Allowable Hours for Closures of Eastbound and Westbound Otts Chapel Road

	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
SUNDAY	■	■	■	■	■	■																		■
MONDAY	■	■	■	■	■	■																		■
TUESDAY																								
WEDNESDAY																								
THURSDAY																								
FRIDAY													▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒
SATURDAY	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

▒ One lane closed in both directions
■ Full Approach closed
□ lane open

Allowable Hours for Closures of Eastbound and Westbound Route 4

	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
SUNDAY	■	■	■	■	■	■																		■
MONDAY	■	■	■	■	■	■																		■
TUESDAY																								
WEDNESDAY																								
THURSDAY																								
FRIDAY													▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒
SATURDAY	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

▒ One lane closed in both directions
■ Full Approach closed
□ lane open

UNOFFICIAL WORKSHOP COPY

[SHEET: CS_01 Notes]
PLOTTED BY: JDSMITH DATE: 10/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00.DGN

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

CS-01

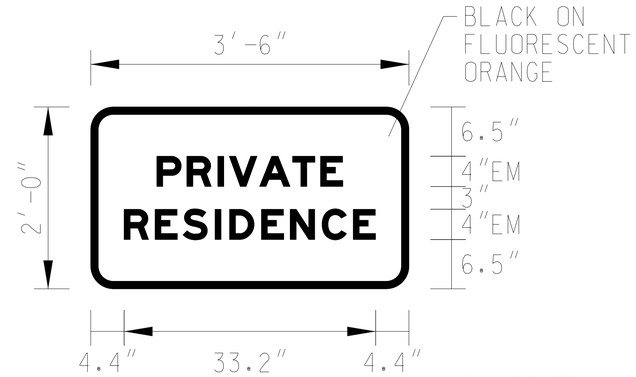
SECTION	JMT
SHEET NO.	195

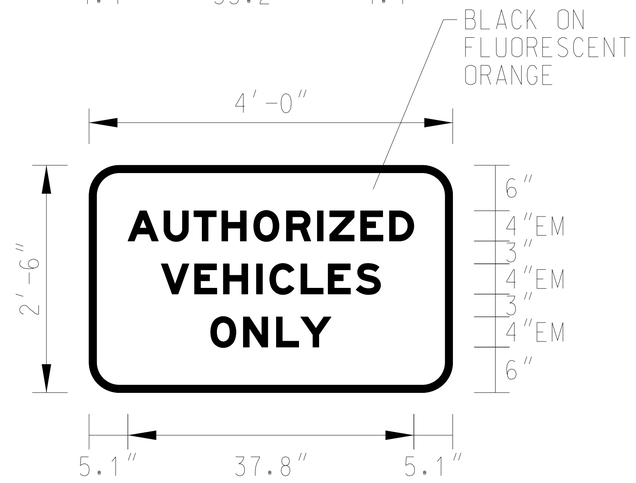
EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL CURB INLET PROTECTION ON ALL DRAINAGE INLETS AS SHOWN ON THE CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLANS. ALL INLET PROTECTION SHALL BE TYPE: INLET SEDIMENT CONTROL (905004) - THIS WILL BE USED ON ALL YARD INLETS UNTIL FRAME AND GRATE ARE ATTACHED. THEN, INLET SEDIMENT CONTROL (905005) WILL BE USED.
2. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES FOLLOWING FINAL VEGETATIVE STABILIZATION OF ENTIRE DISTURBED AREA AND WITH CONCURRENCE FROM THE STORMWATER ENGINEER.
3. THE SILT FENCE LINES HAVE BEEN OFFSET FROM THE LIMIT OF CONSTRUCTION FOR PRESENTATION CLARITY. CONTRACTOR SHALL INSTALL ALL PERIMETER CONTROLS (I.E. SF) AT THE LIMIT OF CONSTRUCTION.
4. SILT FENCE IS NOT TO BE INSTALLED IN CONCENTRATED FLOW AREAS.
5. ALL TEMPORARY SWALES SHALL BE STABILIZED WITH EROSION CONTROL BLANKET MULCH - ITEM 908020.
6. CONTRACTOR SHALL VERIFY LENGTHS AND INVERTS OF TEMPORARY PIPES AS REQUIRED PRIOR TO PLACEMENT.
7. REFERENCE CS-22 FOR TRIPLE-STACKED COMPOST FILTER LOG DETAIL.

EROSION & SEDIMENT CONTROL	
CFL	COMPOST FILTER LOG / LENGTH
—CFL—	COMPOST FILTER LOG
CIP	CULVERT INLET PROTECTION
DWBAG	DEWATERING BAG
DWB	DEWATERING BASIN
ED	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
PST	PORTABLE SEDIMENT TANK
SBD	SANDBAG DIKE
SB	SANDBAG DIVERSION
	STONE CHECK DAM
SCE	STABILIZED CONSTRUCTION ENTRANCE
SF	SILT FENCE / LENGTH
—SF—	SILT FENCE
—RSF—	SILT FENCE - REINFORCED
SP	SUMP PIT
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP WITH INLET AS OUTLET
ST	SEDIMENT TRAP PIPE OUTLET
STW	STILLING WELL
	TEMPORARY SWALE
TSD	TEMPORARY SLOPE DRAIN
T XXX	TURBIDITY CURTAIN / LENGTH
—T—	TURBIDITY CURTAIN

CONSTRUCTION PHASING & M.O.T	
	BARRICADE, TYPE 3
	CONCRETE SAFETY BARRIER - PORTABLE
CSF XXX	CONSTRUCTION SAFETY FENCE / LENGTH
—CSF—	CONSTRUCTION SAFETY FENCE
	CONSTRUCTION WARNING SIGN LOCATION
END ROAD WORK	CONSTRUCTION WARNING SIGN
	CRASH CUSHION ARRAY
	DRUM - TRAFFIC CONTROL
	FLAGGER LOCATION
	PHASING TRAFFIC FLOW ARROW
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
	TRUCK WITH MOUNTED ATTENUATOR
	WORK AREA - ACTIVE PHASE
	PRECAST CONCRETE PANELS
	TUBULAR DELINEATOR
	ARROW BOARD
	TEMPORARY CONSTRUCTION (DONE IN PREVIOUS PHASE(S)





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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00.DGN [SHEET: CS_02 Notes]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

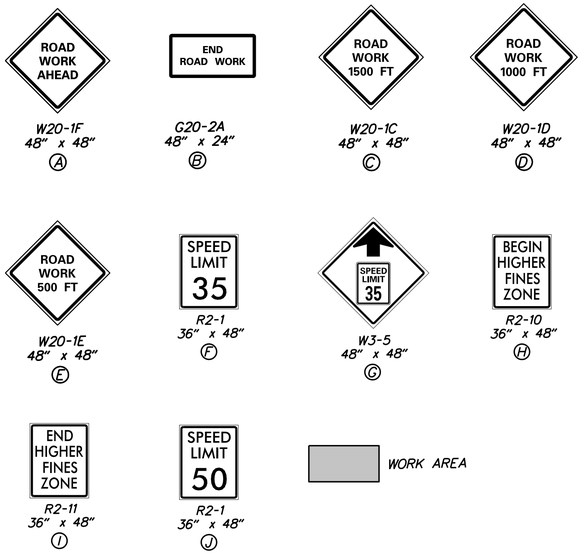
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

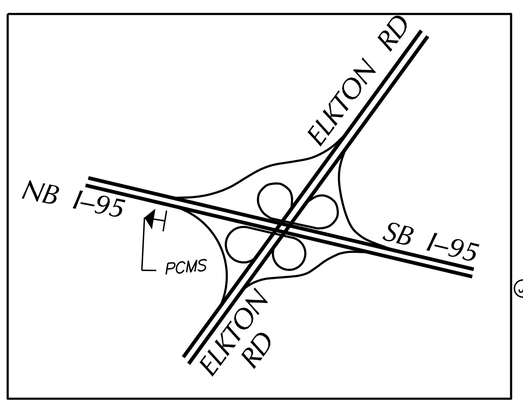
CS-02

SECTION	SHEET NO.
JMT	196

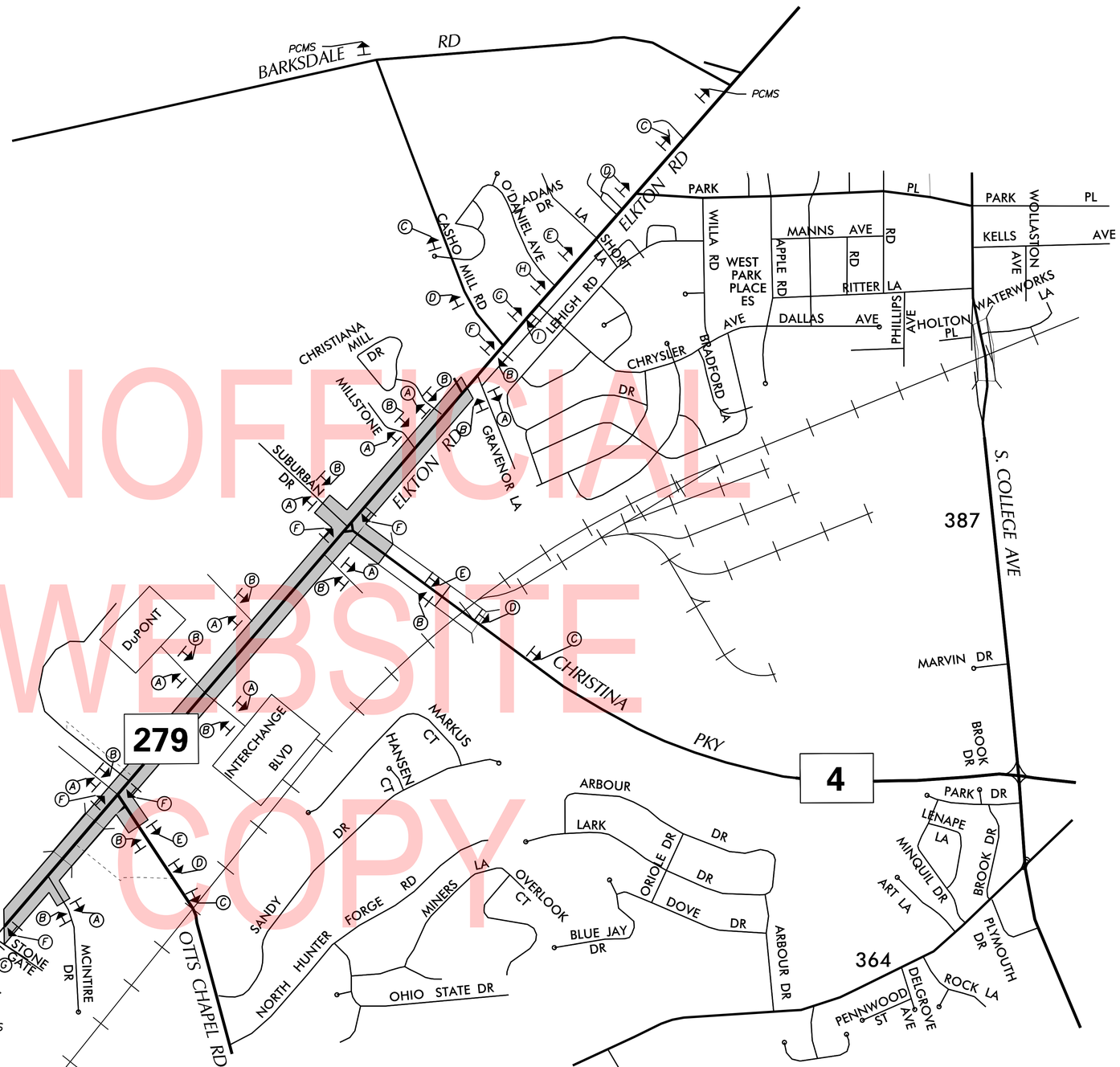


NOTES:

1. SEE INDIVIDUAL PHASING PLANS FOR PLACEMENT OF TEMPORARY WARNING SIGNS. FINAL LOCATION OF ALL PERMANENT WARNING SIGNS SHALL BE COORDINATED WITH THE ENGINEER.
2. ALL WARNING SIGNS SHOWN ON THIS SHEET ARE TO BE DISPLAYED THROUGHOUT THE DURATION OF THE CONTRACT.
3. ANY EXISTING SIGNS THAT CONFLICT WITH CONSTRUCTION WARNING SIGNS SHALL BE COVERED AS NEEDED AND AS DIRECTED BY THE ENGINEER.
4. PCMS SHALL BE IN PLACE 10 DAYS PRIOR TO THE BEGINNING OF WORK AND 10 10 DAYS AFTER THE COMPLETION OF WORK. ALL PCMS MESSAGES TO BE APPROVED BY DISTRICT SAFETY OFFICER.
5. INSTALL A PCMS ALONG SOUTHBOUND CASHO MILL ROAD JUST PRIOR TO THE BARKSDALE ROAD INTERSECTION AND A PCMS ALONG NORTHBOUND ELKTON ROAD JUST PRIOR TO THE FLETCHWOOD ROAD INTERSECTION. THE MESSAGE BOARDS SHOULD BOTH STATE "ELKTON ROAD WORK" ON SCREEN 1 "EXPECT DELAYS" ON SCREEN 2.
6. INSTALL A PCMS ALONG NORTHBOUND I-95 1000 FEET PRIOR TO THE SR 279 EXIT. THE MESSAGE BOARDS SHOULD BOTH STATE "NB 279 ROAD WORK" ON SCREEN 1 "EXPECT DELAYS". SEE THE I-95 AND ELKTON ROAD INTERCHANGE DETAIL.
7. WHERE DIVIDED MEDIAN IS AVAILABLE SIGNS SHALL BE PLACED ON BOTH SIDES OF THE ROADWAY.



I-95 AND ELKTON ROAD INTERCHANGE DETAIL



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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00.DGN [SHEET: CS_03 Adv warning signs]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 500 1000 1500
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN PERMANENT WARNING SIGNS

CS-03
SECTION JMT
SHEET NO. 197

GENERAL NOTES

1.

EROSION POTENTIAL FOR THIS PROJECT	CONTRACTOR ESC SUPERVISOR REQUIREMENT
( ) INSIGNIFICANT	NONE
( ) MINOR	CONTRACTOR TRAINING PROGRAM, AS DEFINED IN SECTION 6.2 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
(X) MAJOR	CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 6.3 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.

2. THE DISTURBED AREA FOR THIS PROJECT IS 38 ACRES.

3. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS HAVE BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS ARE VALID FOR A FIVE YEAR PERIOD, BEGINNING ON THE DATE THE STORMWATER ENGINEER SIGNED THE CONSTRUCTION TITLE SHEET. IF THE FINAL ACCEPTANCE OF THE PROJECT IS ANTICIPATED TO EXTEND BEYOND THE FIVE YEARS, THE CONTRACTOR WILL INFORM THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS. THE STORMWATER ENGINEER WILL REVIEW THE CURRENT SEDIMENT AND STORMWATER MANAGEMENT PLAN AND ISSUE AN EXTENSION WITH ANY APPROPRIATE MODIFICATIONS.

ADVANCED PHASE 1 SEQUENCE OF CONSTRUCTION

(1) PLACE ALL PERMANENT WARNING SIGNS AS SHOWN ON FIRST CONSTRUCTION, PHASING, MOT, AND EROSION CONTROL SHEET.

(2) PLACE ALL TEMPORARY WARNING SIGNS AND TRAFFIC CONTROL DEVICES AS SHOWN. USE TA-35 AS NECESSARY. PLACE TEMPORARY PAVEMENT STRIPING. USE TA-35B AS NECESSARY.

(3) INSTALL ALL EROSION AND SEDIMENT PERIMETER CONTROL MEASURES AS SHOWN. UNTIL THE RIPRAP OUTFALLS ARE IN PLACE, THE SILT FENCE MUST ENCLOSE THE WORK AREA. AFTER THE RIPRAP IS PLACED, TIE THE SILT FENCE INTO THE RIPRAP AS SHOWN.

(4) CLEAR AND GRUB AS NECESSARY AND STOCKPILE TOPSOIL.

(5) STAGE 1 WEEKEND WORK - PLACE TRAFFIC CONTROLS AS SHOWN ON PLANS, REMOVE EXISTING PAVEMENT AND CONSTRUCT CAST-IN-PLACE PCC PAVEMENT SECTIONS FOR SOUTH TEMPORARY CROSSOVER. REMOVAL OF EXISTING PAVEMENT MAY BEGIN ON FRIDAY AT 10 AM. PLACE HOT-MIX WEDGE.

(6) PRIOR TO STAGE 2 WEEKEND WORK, CONSTRUCT TEMPORARY PAVEMENT FROM STATION 6077+25 TO STATION 6088+10 USING TA-33 AS NECESSARY.

(7) STAGE 2 WEEKEND WORK - IN TWO WEEKENDS, PLACE TRAFFIC CONTROLS AS SHOWN ON PLANS, REMOVE EXISTING PAVEMENT IN ONE DIRECTION AND CONSTRUCT CAST-IN-PLACE PCC PAVEMENT SECTIONS FOR NORTH TEMPORARY CROSSOVER. REMOVAL OF EXISTING INSIDE SB TRAVEL LANE PAVEMENT MAY BEGIN ON FRIDAY AT 10 AM UTILIZING TA-33. TRAFFIC SHIFT AND CLOSURE OF THE SB ELKTON ROAD TRAVEL LANES MAY BEGIN ON FRIDAY AT 8 PM. PLACE HOT-MIX WEDGE UTILIZING TA-27 AS NECESSARY.

(8) CONSTRUCT TEMPORARY DRAINAGE, TEMPORARY PAVEMENT AND CAST-IN-PLACE CONCRETE SECTIONS OUTSIDE OF STAGES 1 AND 2 AS SHOWN USING TA-3A AND TA-33 AS NECESSARY.

(9) WORK WITHIN INTERSECTIONS SHALL BE DONE DURING OFF PEAK HOURS UTILIZING TA-27 AS NECESSARY.

(10) MILL SB ELKTON RD SHOULDER AND PLACE 6" LIFT OF TYPE B ASPHALT AS SHOWN USING TA-33 AS NECESSARY.

PHASE 1 SEQUENCE OF CONSTRUCTION

(1) REMOVE EXISTING STRIPING AS NECESSARY ON SB ELKTON RD, DRIVEWAYS AND SIDE ROADS. PLACE ALL TEMPORARY WARNING SIGNS AND TRAFFIC CONTROL DEVICES AS SHOWN. USE TA-17 AND TA-35 AS NECESSARY. PLACE TEMPORARY PAVEMENT STRIPING USING TA-17A AND TA-35B, AS NECESSARY.

(2) INSTALL TEMPORARY OR PERMANENT SIGNAL EQUIPMENT AS NECESSARY. CHANGE SIGNAL HEADS AND TIMINGS IN ACCORDANCE WITH THE CORRESPONDING PHASE 1 TEMPORARY SIGNAL PLANS.

(3) PLACE TEMPORARY PAVEMENT STRIPING AND LANE DELINEATORS ON SB ELKTON RD, DRIVEWAYS AND SIDE ROAD AS SHOWN.

(4) UTILIZE TA-33 ON BOTH NB AND SB ELKTON ROAD PRIOR TO THE WORK ZONE TO REDUCE TRAFFIC TO ONE TRAVEL LANE FOR PHASE 1. SHIFT TRAFFIC TO SB ELKTON ROAD.

(5) INSTALL ALL EROSION AND SEDIMENT PERIMETER CONTROL MEASURES AS SHOWN. UNTIL THE RIPRAP OUTFALLS ARE IN PLACE, THE SILT FENCE MUST ENCLOSE THE WORK AREA. AFTER THE RIPRAP IS PLACED, TIE THE SILT FENCE INTO THE RIPRAP AS SHOWN. TO CONSTRUCT DOWNSTREAM DRAINAGE, DEWATER AS NECESSARY IN ACCORDANCE WITH SECTION 900 OF THE STANDARD SPECIFICATIONS: PLACE SANDBAGS TO BLOCK BASE FLOWS AND COVER INLETS AT STA. 7055+00 LT. UTILIZE CLEAN-WATER DIVERSION TO INSTALL DOWNSTREAM DRAINAGE.

(6) CLEAR AND GRUB AS NECESSARY AND STOCKPILE TOPSOIL.

(7) PERFORM NECESSARY EARTHWORK AND DITCH GRADING AS ACCORDING TO PLANS. CONSTRUCT DRAINAGE FROM DOWNSTREAM END AND TIE INTO CROSSROAD PIPES AS NEEDED IN ACCORDANCE WITH PLANS. USE TA-3A OR TA-33 AS NEEDED, KEEPING ONE LANE OPEN AT ALL TIMES.

(8) REMOVE EXISTING NB ELKTON ROAD PAVEMENT, GRADE AND BOX OUT FOR ROAD CONSTRUCTION. INSTALL GABC, UNDERDRAIN, CURB, CAST-IN-PLACE PCC PAVEMENT, ISLANDS AND GUARDRAIL AS SHOWN.

(9) ELKTON ROAD AND STONE GATE BOULEVARD INTERSECTION:
STAGE 1 - DURING OFF-PEAK HOURS AND USING VEHICLE DETOUR CLOSE THE WEST SIDE OF THE ENTRANCE. CONSTRUCT PEDESTRAIN CONNECTIONS, INSTALL PEDESTRIAN SIGNALS AND RELOCATE ENTRANCE LIGHT AND CONSTRUCT MEDIAN PEDESTRAIN CONNECTIONS.
STAGE 2- DURING OFF-PEAK HOURS CLOSE SB RIGHT TURN AND WB THROUGH LANE AND CONSTRUCT ISLAND AND CURB, PEDESTRAIN CONNECTION AND SIDEWALK. INSTALL PEDESTRIAN SIGNALS.
STAGE 3 - DURING OFF PEAK HOURS CLOSE INTERIOR SB THROUGH LANE AND RIGHT SHOULDER AND CONSTRUCT MEDIAN ISLAND AND PEDESTRIAN CONNECTION ON NW CORNER.

(10) WORK AT THIS INTERSECTION SHALL BE DONE AT THE END OF PHASE 1 AND PEDESTRIAN SIGNALS SHALL BE TEMPORARILY BAGGED.

(11) ELKTON RD AND MCINTIRE DRIVE INTERSECTION CONSTRUCTION:
INSTALL DRAINAGE SYSTEM CROSSING MCINTIRE DRIVE.
STAGE 1 - INSTALL SIGNAL EQUIPMENT AS PER PHASE 1 STAGE 1 TEMPORARY SIGNAL PLANS. USING TA-27 WITH FLAGGERS AS NEEDED, CONSTRUCT PROPOSED CURB, PEDESTRIAN CONNECTION, MEDIAN ISLAND, TEMPORARY PEDESTRIAN SIGNAL, SIDEWALK AND TEMPORARY SIDEWALK CONNECTION ALONG NORTHBOUND MCINTIRE DRIVE. SHIFT PEDESTRIANS TO NEWLY CONSTRUCTED SIDEWALK WHEN TEMPORARY PEDESTRIAN SIGNAL IS OPERATIONAL.
STAGE 2 WEEKEND 1 - CONSTRUCT CAST-IN-PLACE PCC PAVEMENT SECTION AS SHOWN UTILIZING TA-27 WITH FLAGGERS AS NEEDED. PLACE HOT-MIX WEDGE AS NECESSARY.
STAGE 2 WEEKEND 2 - CONSTRUCT CAST-IN-PLACE PCC PAVEMENT SECTION AS SHOWN UTILIZING TA-27 WITH FLAGGERS AS NEEDED. PLACE HOT-MIX WEDGE AS NECESSARY.
STAGE 2 - INSTALL SIGNAL EQUIPMENT AS PER PHASE 1 STAGE 2 TEMPORARY SIGNAL PLANS. AFTER CAST-IN-PLACE PCC PAVEMENT SECTIONS ARE CONSTRUCTED AND USING TA-27 WITH FLAGGERS AS NEEDED, CONSTRUCT CURB AND MULTI-USE PATH ALONG SOUTHBOUND MCINTIRE DRIVE. CONSTRUCT SOUTHEAST ISLAND AND PEDESTRIAN SIGNALS. REMOVE TEMPORARY SIDEWALK CONNECTION AFTER PROPOSED PEDESTRIAN CROSSING ON MCINTIRE DRIVE IS OPERATIONAL.

(12) ELKTON RD AND OTTS CHAPEL RD INTERSECTION CONSTRUCTION:
STAGE 1 - INSTALL P-215 ACROSS OTTS CHAPEL RD UTILIZING TA-3A AND TA-33 DURING OFF-PEAK HOURS AND DRAINAGE ALONG NB AND SB OTTS CHAPEL ROAD. STAGE 1 SHALL BE DONE BEFORE WORK SHOWN ON CS-43 PLAN SHEET.
STAGE 2 WEEKEND - IN TWO WEEKENDS USING A DETOUR, INSTALL CAST-IN-PLACE PCC PAVEMENT ALONG NB OTTS CHAPEL ROAD. CLOSURE OF THE NB OTTS CHAPEL RD TRAVEL LANES MAY BEGIN ON FRIDAY AT 12 PM. PLACE HOT-MIX WEDGE UTILIZING TA-27 AS NECESSARY. PLACE PAVEMENT MARKINGS AS SHOWN.
STAGE 3 WEEKEND - IN TWO WEEKENDS USING A DETOUR, USING A WEEKEND DETOUR INSTALL CAST-IN-PLACE PCC PAVEMENT ALONG SB OTTS CHAPEL ROAD. CLOSURE OF THE SB OTTS CHAPEL RD TRAVEL LANES MAY BEGIN ON FRIDAY AT 12 PM. PLACE HOT-MIX WEDGE UTILIZING TA-27 AS NECESSARY. PLACE PAVEMENT MARKINGS AS SHOWN.
THE MEDIAN FROM STATION 106+25 TO STATION 108+05 SHALL BE RECONSTRUCTED BEFORE STAGE 2 UTILIZING A LANE CLOSURE ON SB AND NB OTTS CHAPEL ROAD DURING OFF-PEAK HOURS UTILIZING TA-33 OR DURING STAGE 2 OR 3, WHICH MAY REQUIRE CLOSING A TRAVEL LANE ADJACENT TO THE MEDIAN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER HOW THE MEDIAN WILL BE CONSTRUCTED AT LEAST 30 DAYS PRIOR TO BEGINNING MEDIAN WORK.
STAGE 4 - INSTALL CAST-IN-PLACE PCC PAVEMENT IN NB AND SB TURN LANES ON OTTS CHAPEL RD. NB OTTS CHAPEL RD RIGHT TURN LANE MAY BE CLOSED DURING OFF-PEAK HOURS TO POUR CAST-IN-PLACE PCC PAVEMENT FROM STA. 103+00 TO 108+00. INSTALL CURB AND GUARDRAIL ALONG NB OTTS CHAPEL RD RIGHT TURN LANE. CONSTRUCT MULTI-USE PATH, CURB AND GUARDRAIL ALONG SB OTTS CHAPEL RD. INSTALL LEON'S GARDEN WORLD ENTRANCE IMPROVEMENTS ENTRANCE UTILIZING TA-27 DURING OFF-PEAK HOURS.

(13) ENTRANCE WORK AT STA. 6025+50 RT AND STA. 105+50 LT SHALL BE COORDINATED WITH THE PROPERTY BUSINESSES AND CONSTRUCTED DURING OFF-PEAK HOURS. ONLY ONE ENTRANCE CAN BE CLOSED AT A TIME.

(14) CONSTRUCT REMAINING PRECAST CONCRETE PANELS AT ACCESSES. ENTRANCE WORK AT STA. 6057+00 RT AND STA. 6058+50 RT SHALL BE COORDINATED WITH THE PROPERTY OWNERS AND CONSTRUCTED DURING OFF-PEAK HOURS.
ENTRANCE AT STA. 6058+50 RT SHALL BE CONSTRUCTED DURING OFF-PEAK NIGHTTIME HOURS.
ENTRANCE AT STA. 6057+00 RT SHALL BE CONSTRUCTED DURING STAGE 1 OFF-PEAK AND MUST NOT BE CONSTRUCTED AT THE SAME TIME AS THE ENTRANCE TO INTERCHANGE BLVD DRIVEWAY 1.

(15) ELKTON RD AND INTERCHANGE BLVD INTERSECTION CONSTRUCTION:
CONSTRUCT PROPOSED DRAINAGE AND CURB ALONG INTERCHANGE BLVD UTILIZING TA-27 DURING OFF-PEAK HOURS. INSTALL P-233 ACROSS INTERCHANGE BLVD UTILIZING TA-27 DURING OFF-PEAK HOURS.
STAGE 1 - INSTALL PRECAST CONCRETE PANELS ALONG INTERCHANGE BLVD AS SHOWN UTILIZING TA-27 DURING OFF-PEAK HOURS. PLACE HOT-MIX WEDGE AS NECESSARY.
STAGE 2 - INSTALL PRECAST CONCRETE PANELS ALONG INTERCHANGE BLVD AS SHOWN UTILIZING TA-27 DURING OFF-PEAK HOURS. PLACE HOT-MIX WEDGE AS NECESSARY.

(16) ELKTON RD AND SR 4 INTERSECTION CONSTRUCTION:
STAGE 1 - CONSTRUCT PROPOSED DRAINAGE ALONG SR 4. INSTALL P-280 ACROSS SR 4 UTILIZING TA-33 DURING OFF-PEAK HOURS. WHERE INLETS INTERFERE WITH THE EXISTING MULTI-USE PATH, CONSTRUCT 4' WIDE TEMPORARY BULBOUTS AROUND THE INLETS. INSTALL GUARDRAIL ON EB SR 4 UTILIZING TA- 33 DURING OFF-PEAK HOURS. PLACE TEMPORARY ASPHALT WEDGE IN AREA SHOWN ON PLAN UTILIZING TA-33. CONSTRUCT TEMPORARY PEDESTRIAN CONNECTION AND ADJUST EXISTING PEDESTRIAN SIGNAL IN SOUTHWEST ISLAND OF SUBURBAN DRIVE AS SHOWN ON TEMPORARY SIGNAL PLAN. CONSTRUCT TEMPORARY CROSSWALK, TEMPORARY PEDESTRIAN CONNECTION, INSTALL PCBS AND TEMPORARY PEDESTRIAN SIGNAL NEAR SOUTHEAST ISLAND OF SR 4 AS SHOWN ON TEMPORARY SIGNAL PLAN. SHIFT PEDESTRIANS TO TEMPORARY CROSSWALK.

STAGE 2 WEEKEND - IN TWO WEEKENDS USING A DETOUR, INSTALL CAST-IN-PLACE PCC PAVEMENT ALONG WB SR 4. CLOSURE OF THE WB SR 4 TRAVEL LANES MAY BEGIN ON FRIDAY AT 12 PM. PLACE HOT-MIX WEDGE UTILIZING TA-27 AS NECESSARY. PLACE PAVEMENT MARKINGS AS SHOWN. DURING OFF-PEAK HOURS, CONSTRUCT THE NORTHEAST ISLAND OF SR 4 WITH PERMANENT PEDESTRIAN SIGNAL. A WB SR 4 TRAVEL LANE ADJACENT TO THE ISLAND MAY BE CLOSED TO CONSTRUCT THE ISLAND WITH PRIOR APPROVAL BY THE ENGINEER.
STAGE 3 WEEKEND - INSTALL SIGNAL EQUIPMENT AS PER PHASE 1 STAGE 3 TEMPORARY SIGNAL PLANS. IN TWO WEEKENDS USING A DETOUR, INSTALL CAST-IN-PLACE PCC PAVEMENT AND MULTI-USE PATH ALONG EB SR 4. CLOSURE OF THE EB SR 4 TRAVEL LANES MAY BEGIN ON FRIDAY AT 12 PM. PLACE HOT-MIX WEDGE UTILIZING TA-27 AS NECESSARY. PLACE PAVEMENT MARKINGS AS SHOWN. DURING OFF-PEAK HOURS, CONSTRUCT CURB ALONG EB SR 4, THE SOUTHEAST ISLAND OF SR 4 AND PERMANENT PEDESTRIAN SIGNAL. AN EB SR 4 TRAVEL LANE ADJACENT TO THE ISLAND MAY BE CLOSED TO CONSTRUCT THE ISLAND WITH PRIOR APPROVAL BY THE ENGINEER. INSTALL ELKTON RD CROSSWALK ON NORTHERLY SIDE OF THE INTERSECTION AND SR 4 CROSSWALK TO NEW ISLANDS ON SR 4.
THE MEDIAN FROM STATION 1000+55 TO STATION 1003+75 SHALL BE RECONSTRUCTED BEFORE STAGE 2 UTILIZING A LANE CLOSURE ON EB AND WB SR RT 4 DURING OFF-PEAK HOURS UTILIZING TA-33 OR DURING STAGE 2 OR 3, WHICH MAY REQUIRE CLOSING A TRAVEL LANE ADJACENT TO THE MEDIAN. THE ENGINEER SHALL NOTIFY THE ENGINEER HOW THE MEDIAN WILL BE CONSTRUCTED AT LEAST 30 DAYS PRIOR TO BEGINNING MEDIAN WORK.
STAGE 4 - INSTALL CAST-IN-PLACE PCC PAVEMENT AND ASPHALT PAVEMENT ON WB SR 4 AS SHOWN. WB SR 4 RIGHT TURN LANE MAY BE CLOSED DURING OFF-PEAK HOURS TO POUR CAST-IN-PLACE PCC PAVEMENT FROM STA. 1000+50 TO 1004+50 AS APPROVED BY THE ENGINEER. INSTALL CURB ALONG WB SR 4.

(17) CONSTRUCT SIDEWALK, PEDESTRIAN BRIDGES AND MULTI-USE PATH FACILITIES AS ACCORDING TO PLANS. OPEN MULTI-USE PATH FROM MD STATE LINE TO OTTS CHAPEL ROAD AND FROM PATRIOTS WAY TO GRAVENOR LANE.

(18) PLACE TEMPORARY STRIPING AND DELINEATORS ON NB ELKTON ROAD IN ACCORDANCE WITH THE NEXT PHASE OF CONSTRUCTION.

(19) STABILIZE ALL DISTURBED AREAS WITH TOPSOIL SEED, AND MULCH. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER VEGETATION HAS STABILIZED ALL DISTURBED AREAS IN ACCORDANCE WITH THESE PLANS AND AS DIRECTED BY THE STORMWATER ENGINEER PRIOR TO PROCEEDING TO THE NEXT PHASE.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00.DGN [SHEET: CS_04 Notes by Phase]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

CS-04

SECTION	SHEET NO.
JMT	198

ADVANCED PHASE 2 SEQUENCE OF CONSTRUCTION

1. PLACE ALL TEMPORARY WARNING SIGNS AND TRAFFIC CONTROL DEVICES AS SHOWN. USE TA-35 AS NECESSARY. PLACE TEMPORARY PAVEMENT STRIPING. USE TA-35B AS NECESSARY.
2. INSTALL ALL EROSION AND SEDIMENT PERIMETER CONTROL MEASURES AS SHOWN. UNTIL THE RIPRAP OUTFALLS ARE IN PLACE, THE SILT FENCE MUST ENCLOSE THE WORK AREA. AFTER THE RIPRAP IS PLACED, TIE THE SILT FENCE INTO THE RIPRAP AS SHOWN.
3. CLEAR AND GRUB AS NECESSARY AND STOCKPILE TOPSOIL.
4. PLACE TRAFFIC CONTROLS AS SHOWN ON PLANS, REMOVE EXISTING PAVEMENT AND CONSTRUCT CAST-IN-PLACE PCC PAVEMENT SECTIONS FOR SOUTH TEMPORARY CROSSOVER. REMOVAL OF EXISTING PAVEMENT MAY BEGIN ON FRIDAY AT 10 AM. PLACE HOT-MIX WEDGE UTILIZING TA-27 AS NECESSARY.
5. STAGE 1 WEEKEND WORK - PLACE TRAFFIC CONTROLS AS SHOWN ON PLANS, REMOVE EXISTING PAVEMENT AND CONSTRUCT CAST-IN-PLACE PCC PAVEMENT SECTIONS FROM STATION 6065+80 TO STATION 6071+20. PLACE HOT-MIX WEDGE UTILIZING TA-27 AS NECESSARY.
6. CONSTRUCT TEMPORARY DRAINAGE, TEMPORARY PAVEMENT AS SHOWN USING TA-3A AND TA-33 AS NECESSARY. PRECAST PANELS AT STATION 6020+60 SHALL BE INSTALLED DURING WEEKDAY NIGHTS USING TA-33. PLACE HOT-MIX WEDGE UTILIZING TA-27 AS NECESSARY.
7. PRECAST CONCRETE PANELS WORK WITHIN INTERSECTIONS SHALL BE DONE DURING OFF-PEAK HOURS UTILIZING TA-27 AS NECESSARY.

PHASE 2 SEQUENCE OF CONSTRUCTION

1. REMOVE EXISTING STRIPING AS NECESSARY ON NB ELKTON RD, DRIVEWAYS AND SIDE ROADS. PLACE ALL TEMPORARY WARNING SIGNS AND TRAFFIC CONTROL DEVICES AS SHOWN. USE TA-35 AS NECESSARY. PLACE TEMPORARY PAVEMENT STRIPING. USE TA-35B AS NECESSARY.
2. INSTALL TEMPORARY SIGNAL EQUIPMENT OR PLACE NEW PERMANENT SIGNAL EQUIPMENT AS NECESSARY. CHANGE SIGNAL HEADS AND TIMINGS IN ACCORDANCE WITH THE CORRESPONDING PHASE 2 TEMPORARY SIGNAL PLANS.
3. PLACE TEMPORARY PAVEMENT STRIPING AND LANE DELINEATORS ON NB ELKTON RD, DRIVEWAYS AND SIDE ROAD AS SHOWN. WORK SHOULD BE PERFORMED ON WEEKDAY NIGHTS.
4. UTILIZE TA-33 ON BOTH NB AND SB ELKTON ROAD PRIOR TO THE WORK ZONE TO REDUCE TRAFFIC TO ONE TRAVEL LANE FOR PHASE 2. SHIFT TRAFFIC TO SB ELKTON ROAD.
5. INSTALL ALL EROSION AND SEDIMENT PERIMETER CONTROL MEASURES AS SHOWN. UNTIL THE RIPRAP OUTFALLS ARE IN PLACE, THE SILT FENCE MUST ENCLOSE THE WORK AREA. AFTER THE RIPRAP IS PLACED, TIE THE SILT FENCE INTO THE RIPRAP AS SHOWN. DEWATER AS NECESSARY THROUGH THE EXISTING 54" RCP IN ACCORDANCE WITH SECTION 900 OF THE STANDARD SPECIFICATIONS: UTILIZE CLEAN-WATER DIVERSION TO INSTALL PIPE P-156 AND HEADWALL HW-156.
6. CLEAR AND GRUB AS NECESSARY AND STOCKPILE TOPSOIL.
7. PERFORM NECESSARY EARTHWORK AND DITCH GRADING AS ACCORDING TO PLANS. CONSTRUCT DRAINAGE FROM DOWNSTREAM END AS NECESSARY USING TA-3A OR TA-33 AS NEEDED, KEEPING ONE LANE OPEN AT ALL TIMES PRIOR TO INSTALLING EARLY PHASE PRECAST CONCRETE PANELS IN LOCATIONS SHOWN ON THE PLAN USING TA-33 AS NECESSARY.
8. CONSTRUCT TEMPORARY PAVEMENT AS SHOWN ON PLANS USING TA-3A AND TA-33 AS NECESSARY.
9. REMOVE TEMPORARY TRAFFIC CONTROL DEVICES FROM PREVIOUS PHASE OF CONSTRUCTION.
10. MAINTAIN ONE TRAVEL LANE FROM STA. 6012+00 TO STA. 6021+00 ON SB ELKTON ROAD FOR LOCAL ACCESS TO ADJACENT PROPERTIES.
11. PERFORM NECESSARY EARTHWORK AND DITCH GRADING AS ACCORDING TO PLANS. CONSTRUCT DRAINAGE FROM DOWNSTREAM END AND TIE INTO CROSSROAD PIPES AS NEEDED IN ACCORDANCE WITH PLANS. USE TA-3A OR TA-33 AS NEEDED, KEEPING ONE LANE OPEN AT ALL TIMES.
12. REMOVE EXISTING SB ELKTON ROAD PAVEMENT, GRADE AND BOX OUT FOR ROAD CONSTRUCTION. INSTALL GABC, UNDERDRAIN, CURB, CAST-IN-PLACE PCC PAVEMENT, ISLANDS AND GUARDRAIL AS SHOWN.
13. AFTER THE ENTRANCE CONSTRUCTION AT STA. 6016+00, LT. IS COMPLETED AND OPEN TO TRAFFIC, THE ENTRANCE AT STA. 6017+00 LT. MAY BE CLOSED AS NEEDED, ONLY TO REMOVE ISLAND AND CONSTRUCT THE CURB.
14. MAINTAIN PEDESTRIAN ACCESS ACROSS ELKTON ROAD AT MCINTIRE DRIVE USING PCBS.
15. STAGE 1 DUNKIN DONUTS - FOLLOWING THE COMPLETION DRAINAGE, CURB, PAVEMENT AND SIGNAL ON THE FOURTH LEG OF THE MCINTIRE INTERSECTION (STATION 6016+40, LT), OPEN THE LEG TO TRAFFIC AND CONSTRUCT THE CURB AT ENTRANCE AT STATION 6018+90, LT WHILE MAINTAINING COMMERCIAL ACCESS. DURING WEEKDAY NIGHTS, INSTALL PRECAST CONCRETE PANELS ACROSS ENTRANCE. PLACE HOT-MIX WEDGE AS NECESSARY.
16. INSTALL CCTV CAMERA AT ELKTON ROAD AND SUBURBAN DRIVE INTERSECTION PER SS-12. THE PROPOSED CCTV CAMERA SHALL BE ACTIVATED PRIOR TO REMOVING THE EXISTING CCTV CAMERA LOCATED ON THE TEMPORARY WOOD POLE AT STA. 7066+08 OFFSET 117' RIGHT.
17. ELKTON RD AND CROSSVIEW BUSINESS PARK INTERSECTION CONSTRUCTION:
    STAGE 1 - INSTALL PRECAST CONCRETE PANELS ACROSS CROSSVIEW BUSINESS PARK INTERSECTION DURING WEEKDAY NIGHTS MAINTAINING ACCESS TO CROSSVIEW BUSINESS PARK UTILIZING TA-27.
    STAGE 2 - CONSTRUCT PROPOSED DRAINAGE AND INSTALL P-112 ACROSS OTTS CHAPEL RD EXTENDED UTILIZING TA-10 DURING OFF PEAK HOURS. INSTALL CURB, SIDEWALK, MEDIAN, ISLANDS OF OTTS CHAPEL RD WITH PERMANENT PEDESTRIAN SIGNALS, AND ASPHALT PAVEMENT UP TO B COURSE UTILIZING TA-10.
18. ELKTON RD AND DUPONT STINE HASKELL INTERSECTION CONSTRUCTION:
    STAGE 1 - INSTALL PRECAST CONCRETE PANELS ACROSS DUPONT STINE HASKELL INTERSECTION DURING WEEKDAY NIGHTS UTILIZING TA-33. PLACE HOT-MIX WEDGE AS NECESSARY.
    STAGE 2 - CONSTRUCT PROPOSED DRAINAGE AND INSTALL P-135 ACROSS DUPONT STINE HASKELL UTILIZING TA-10 DURING OFF PEAK HOURS. INSTALL CURB, SIDEWALK, SOUTHWEST ISLAND OF DUPONT STINE HASKELL WITH PERMANENT PEDESTRIAN SIGNALS, AND ASPHALT PAVEMENT UP TO B COURSE UTILIZING TA-10.
19. ELKTON RD AND SUBURBAN DRIVE INTERSECTION CONSTRUCTION:
    ALL WORK DURING STAGES 1 THRU 3 SHALL BE PERFORMED AT NIGHT.
    STAGE 1 - INSTALL SIGNAL EQUIPMENT AS PER PHASE 2 STAGE 1 TEMPORARY SIGNAL PLANS. REMOVE EXISTING MEDIAN AND INSTALL TEMPORARY PAVEMENT. INSTALL DRAINAGE ACROSS SUBURBAN DRIVE DURING OFF PEAK HOURS UTILIZING TA-33. SHIFT LANES SOUTH AND CONSTRUCT DRAINAGE, CURB, MULTI-USE PATH, NORTHWEST ISLAND OF SUBURBAN DRIVE WITH PERMANENT PEDESTRIAN SIGNALS, PRE-CAST CONCRETE PANELS AND ASPHALT PAVEMENT UP TO B COURSE ALONG NB SUBURBAN DRIVE.
    STAGE 2 - INSTALL SIGNAL EQUIPMENT AS PER PHASE 2 STAGE 2 TEMPORARY SIGNAL PLANS. SHIFT LANES NORTH AND CONSTRUCT DRAINAGE, CURB, MULTI-USE PATH, SOUTHWEST ISLAND OF SUBURBAN DRIVE WITH PERMANENT PEDESTRIAN SIGNALS, PRE-CAST CONCRETE PANELS AND ASPHALT PAVEMENT UP TO B COURSE ALONG SB SUBURBAN DRIVE.
    STAGE 3 - SHIFT LANES TOWARDS OUTER CURB, AND CONSTRUCT PRE-CAST PANELS, MEDIAN AND ASPHALT PAVEMENT UP TO B COURSE.
20. SIDEWALK CONSTRUCTION SHALL OCCUR FOLLOWING THE PCC AND PRECAST PANEL CONSTRUCTION BETWEEN STA. 6065+00 TO STA. 6083+00 AS FOLLOWS:
    STAGE 1 - SETUP PEDESTRIAN DETOUR TO CHRISTINA MILL. CONSTRUCT WB CHRISTIANA MILL ENTRANCE CURB, PAVEMENT UP TO B COURSE AND SIDEWALK FROM STA. 6079+30 TO STA. 6083+00.
    STAGE 2 - SETUP PEDESTRIAN DETOUR TO MILLSTONE DRIVE. CONSTRUCT EB CHRISTINA MILL ENTRANCE CURB AND MEDIAN, WB MILLSTONE DR CURB, PAVEMENT UP TO B COURSE AND SIDEWALK FROM STA. 6075+50 TO STA. 6079+60.
    STAGE 3 - SETUP PEDESTRIAN DETOUR TO SUBURBAN DRIVE. INSTALL TEMPORARY SIDEWALK AND PEDESTRIAN CONNECTIONS ON EACH SIDE OF MILLSTONE DRIVE TO PROVIDE ACCESS TO EXISTING SIDEWALK. CONSTRUCT SIDEWALK FROM STA. 6065+50 TO STA. 6075+40. CONSTRUCT SIDEWALK FACILITIES AS ACCORDING TO PLANS.
21. CONSTRUCT REMAINING PRECAST CONCRETE PANELS AT ACCESSES. THE PRECAST CONCRETE PANELS IN THE INTERSECTIONS SHALL BE CONSTRUCTED IN SECTIONS DURING WEEKDAY NIGHTS SUCH THAT ACCESS IS MAINTAINED.
    DUPONT STINE HASKELL DELIVERY ENTRANCE MUST NOT BE CONSTRUCTED THE SAME TIME AS THE MAIN DUPONT STINE HASKELL ENTRANCE.
22. MICRO-MILL CONCRETE PAVEMENT ON SB ELKTON ROAD LANES AND PLACE PERMANENT STRIPING ON SB ELKTON ROAD LANES.
23. STABILIZE ALL DISTURBED AREAS WITH TOPSOIL, SEED, AND MULCH. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER VEGETATION HAS STABILIZED ALL DISTURBED AREAS IN ACCORDANCE WITH THESE PLANS AND AS DIRECTED BY THE ENGINEER PRIOR TO PROCEEDING TO THE NEXT PHASE.

PHASE 2A SEQUENCE OF CONSTRUCTION

1. PLACE ALL TEMPORARY WARNING SIGNS AND TRAFFIC CONTROL DEVICES AS SHOWN. USE TA-35 AS NECESSARY. PLACE TEMPORARY PAVEMENT STRIPING. USE TA-35B AS NECESSARY.
2. MOVE LOCAL ACCESS LANE STA. 6012+00 TO STA. 6021+00 TO NEWLY FINISHED SECTION OF THE ROADWAY.
3. PERFORM NECESSARY EARTHWORK AND DITCH GRADING AS ACCORDING TO PLANS. CONSTRUCT INLETS AND PIPES FROM DOWNSTREAM END AND TIE INTO CROSSROAD PIPES AS NEEDED IN ACCORDANCE WITH PLANS.
4. INSTALL P-107 ACROSS MCINTIRE DRIVE AND CONCRETE PAVEMENT ACROSS MCINTIRE DRIVE DURING WEEKDAY NIGHTS UTILIZING TA-27.
5. REMOVE EXISTING SB ELKTON ROAD PAVEMENT, GRADE AND BOX OUT FOR ROAD CONSTRUCTION. INSTALL GABC, UNDERDRAIN, CURB, CAST-IN-PLACE PCC PAVEMENT, ISLANDS AND GUARDRAIL AS SHOWN.
6. MICRO-MILL CONCRETE PAVEMENT ON SB ELKTON ROAD LANES AND PLACE PERMANENT STRIPING ON SB ELKTON ROAD LANES.
7. STABILIZE ALL DISTURBED AREAS WITH TOPSOIL, SEED, AND MULCH. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER VEGETATION HAS STABILIZED ALL DISTURBED AREAS IN ACCORDANCE WITH THESE PLANS AND AS DIRECTED BY THE ENGINEER PRIOR TO PROCEEDING TO THE NEXT PHASE.

PHASE 3 SEQUENCE OF CONSTRUCTION (NO PLANS)

1. INSTALL SIGNAL EQUIPMENT AS NECESSARY, REFER TO PHASE 3 TEMPORARY SIGNAL PLANS.
2. SHIFT SB ELKTON ROAD TRAFFIC ONTO SB TRAVEL LANES USING TA-33. MAINTAIN A SINGLE NB ELKTON ROAD TRAVEL LANE.
3. REMOVE TEMPORARY CROSSOVER AND PAVEMENT CONSTRUCTED IN EARLIER PHASE. USE TA-3A AND TA-33 TO DECONSTRUCT THE TEMPORARY PAVEMENT AS NEEDED.
4. INSTALL MEDIANS AND REMAINING PCC PAVEMENT AS NEEDED. UTILIZE TA-3A AND TA-33 AS NECESSARY.
5. MICRO-MILL CONCRETE PAVEMENT ON NB ELKTON ROAD PLACE PERMANENT STRIPING AND SIGNAGE ON NB ELKTON ROAD UTILIZING TA-3A AND TA-33 AS NECESSARY.
6. PLACE ASPHALT TYPE C, AND INSTALL PERMANENT STRIPING AS SHOWN ON PLANS ON DRIVEWAYS AND SIDE ROADS.
7. STABILIZE ALL DISTURBED AREAS WITH TOPSOIL, SEED, AND MULCH. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER VEGETATION HAS STABILIZED ALL DISTURBED AREAS IN ACCORDANCE WITH THESE PLANS AND AS DIRECTED BY THE ENGINEER PRIOR TO REMOVING ALL SEDIMENT CONTROL DEVICES.
8. REMOVE MOT DEVICES AND PERMANENT WARNING SIGNS.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00.DGN [SHEET: CS_05 Notes by Phase]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

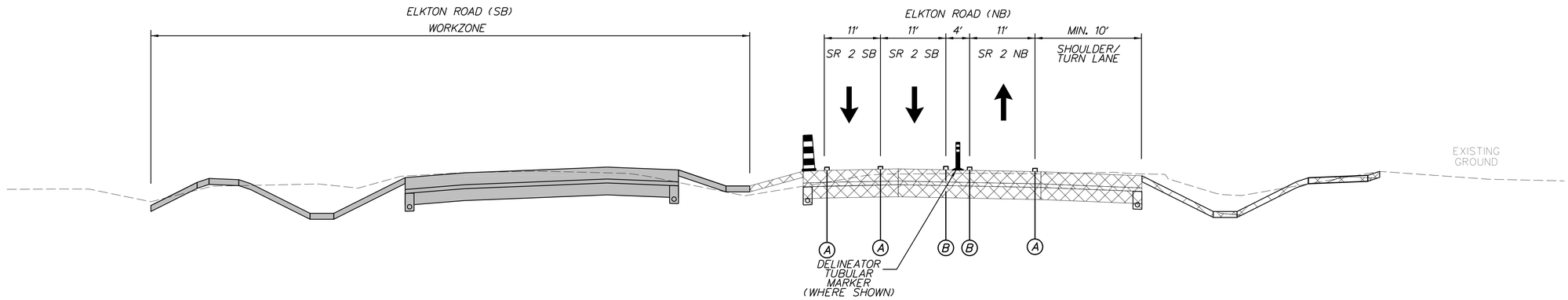
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

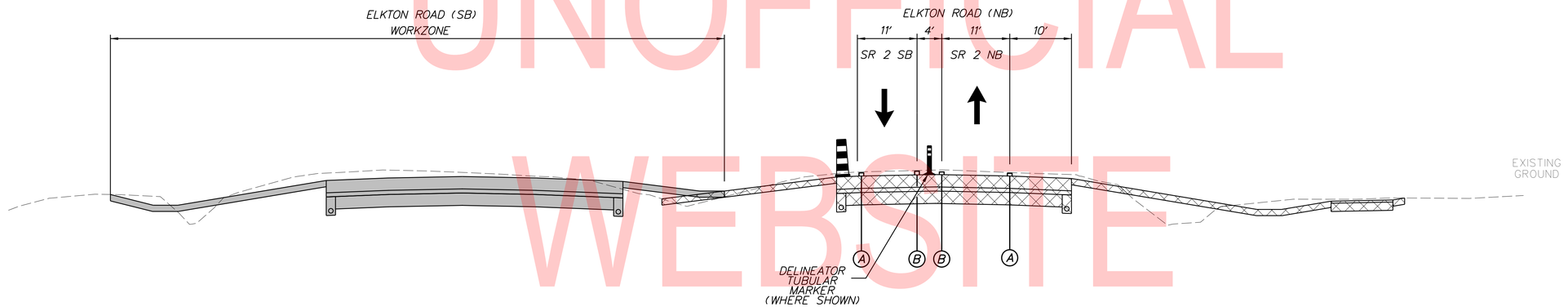
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

CS-05

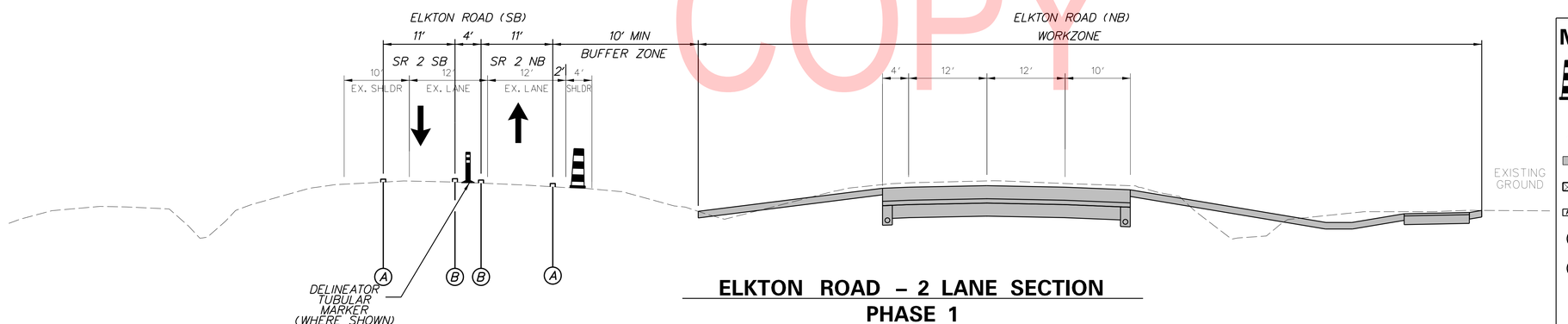
SECTION	SHEET NO.
JMT	199



ELKTON ROAD – 3 LANE SECTION
PHASE 2
STA. 7043+50 TO STA. 7065+00



ELKTON ROAD – 2 LANE SECTION
PHASE 2
STA. 7014+00 TO STA. 7043+50
STA. 7065+00 TO STA. 7083+00



ELKTON ROAD – 2 LANE SECTION
PHASE 1
STA. 7014+00 TO STA. 7083+00

MAINTENANCE OF TRAFFIC LEGEND

- PLASTIC DRUMS
- TUBULAR DELINEATOR
- SECTION TO BE CONSTRUCTED IN PHASE
- SECTION CONSTRUCTED IN PREVIOUS PHASE(S)
- PHASE TRAFFIC DIRECTION ARROW
- (A) 4" PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE (PAID UNDER ITEM 817013)
- (B) 4" PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, YELLOW (PAID UNDER ITEM 817013)

NOTE: SEE CONSTRUCTION PHASING PLAN SHEETS FOR ADDITIONAL STRIPING ITEMS.

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00.DGN [SHEET: CS06]

CS-06

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

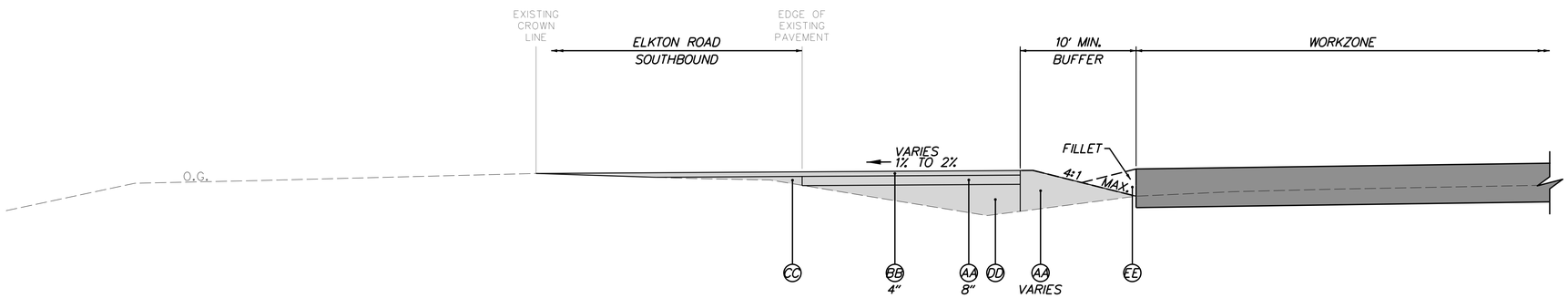
NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

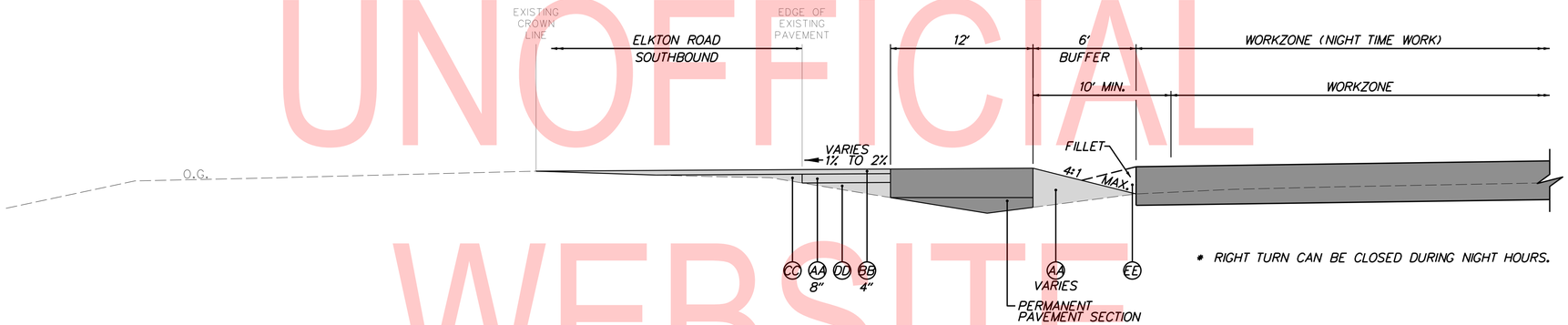
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SECTION	SHEET NO.
JMT	200



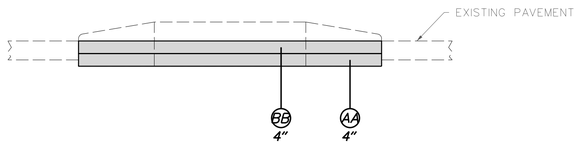
DETAIL A – TEMPORARY ROADWAY WIDENING

NOT TO SCALE



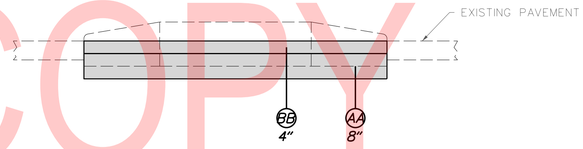
DETAIL A–1 – TEMPORARY ROADWAY WIDENING

NOT TO SCALE



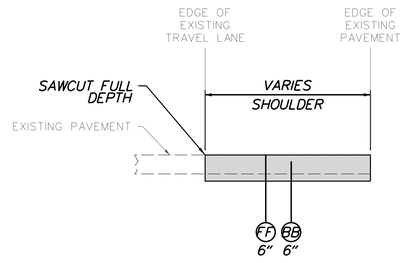
DETAIL B – TEMPORARY PAVEMENT PATCH (NON–VEHICULAR PATH LOCATIONS AND RESIDENTIAL DRIVEWAYS)

NOT TO SCALE



DETAIL C – TEMPORARY PAVEMENT PATCH (VEHICULAR PATH LOCATIONS)

NOT TO SCALE



DETAIL D – TEMPORARY PAVEMENT LIFT (VEHICULAR PATH SHOULDER LOCATIONS)

NOT TO SCALE

LEGEND

- (AA) 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (BB) 401030- SUPERPAVE TYPE B, PG 64-22, PATCHING
- (CC) 401037 -SUPERPAVE TYPE B, PG 64-22, WEDGE
- (DD) 209006 - BORROW, TYPE F
- (FF) 760012 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, VARIABLE DEPTH

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

CS–07

SECTION	SHEET NO.
JMT	201

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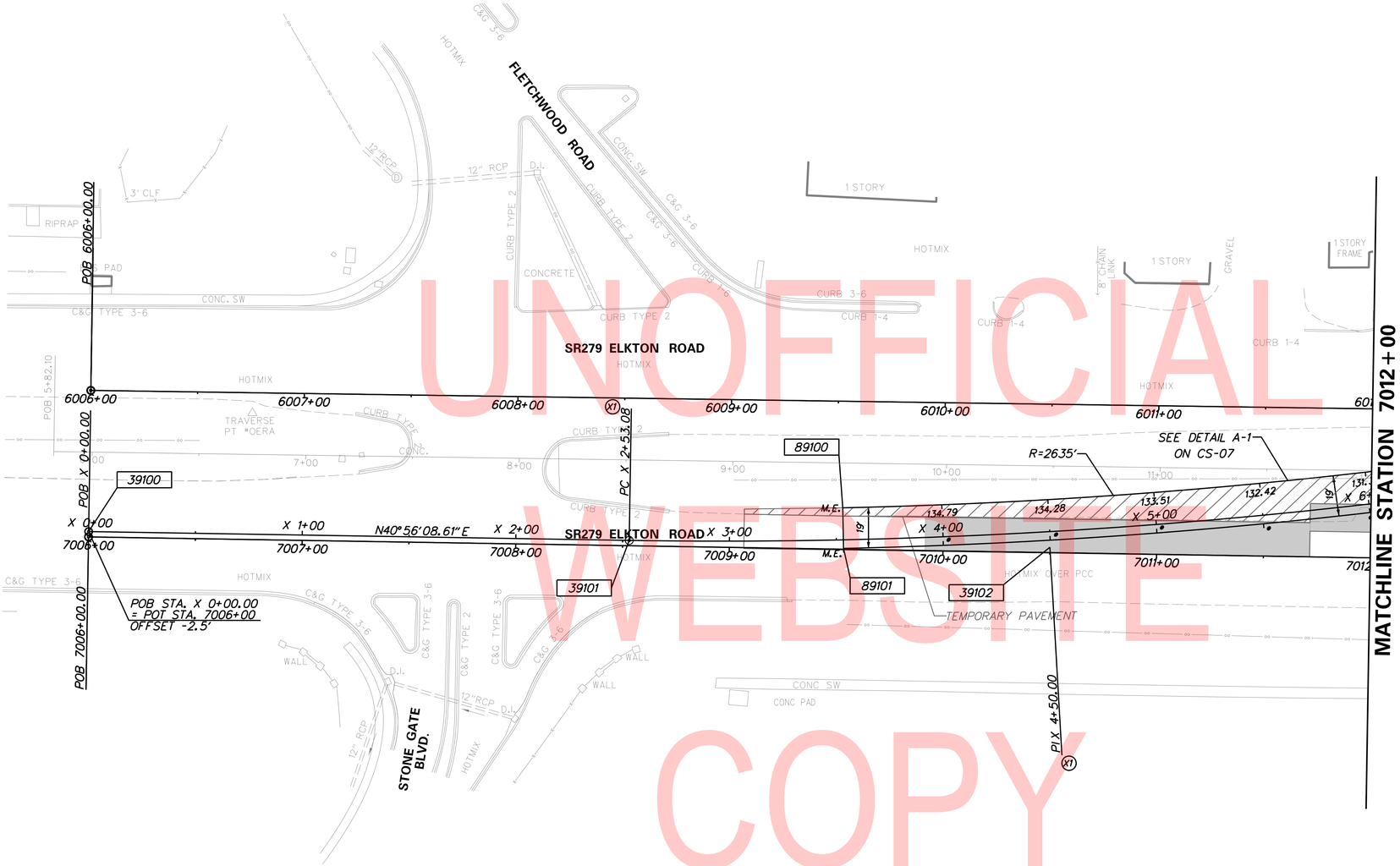
PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00.DGN [SHEET: CS07]

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
89100	X 3+53.34	-15.00'	602602.5256	551346.6274
89101	X 3+53.34	15.00'	602583.7407	551370.0181



UNOFFICIAL WEBSITE COPY

CIRCULAR CURVE NO. (X1)			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (39101)	X 2+53.08	602516.1616	551294.0746
PI (39102)	X 4+50.00	602664.9263	551423.1010
CC (●●●●●)		604252.4733	549292.1451
PT (39103)	X 6+46.20	602831.1277	551528.7221
RADIUS:	2650.00		
DESIGN SPEED(MPH):	35.00		
SUPERELEVATION:	-2.00%		
DELTA:	8°29'59.10" LT		
DEGREE OF CURVATURE(ARC):	2°09'43.58"		
LENGTH:	393.12		
TANGENT:	196.92		
CHORD:	392.76		
MIDDLE ORDINATE:	7.29		
EXTERNAL:	7.31		
TANGENT DIRECTION:	N 40°56'08.61" E		
RADIAL DIRECTION:	S 49°03'51.39" E		
CHORD DIRECTION:	N 36°41'09.06" E		
RADIAL DIRECTION:	S 57°33'50.49" E		
TANGENT DIRECTION:	N 32°26'09.51" E		

HORIZONTAL / VERTICAL CONTROL DATA					
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
39100	X 0+00.00	0.00'	602324.9760	551128.2556	
39101	X 2+53.08	0.00'	602516.1616	551294.0746	
39102	X 4+49.64	7.31'	602664.9263	551423.1010	

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83).
VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

▨ - TEMPORARY PAVEMENT

* - ELEVATION TO MATCH PROPOSED CAST IN PLACE PCC PAVEMENT

NOTE: REFER TO ADVANCED PHASE 1 CONSTRUCTION PHASING PLANS CS-10 TO CS-13 FOR TRAFFIC CONTROLS DURING CONSTRUCTION

PHASE 1 – SOUTH TEMPORARY CROSSOVER LAYOUT PLAN

CS-08

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	SHEET NO.
JMT	202

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS08]

HORIZONTAL / VERTICAL CONTROL DATA

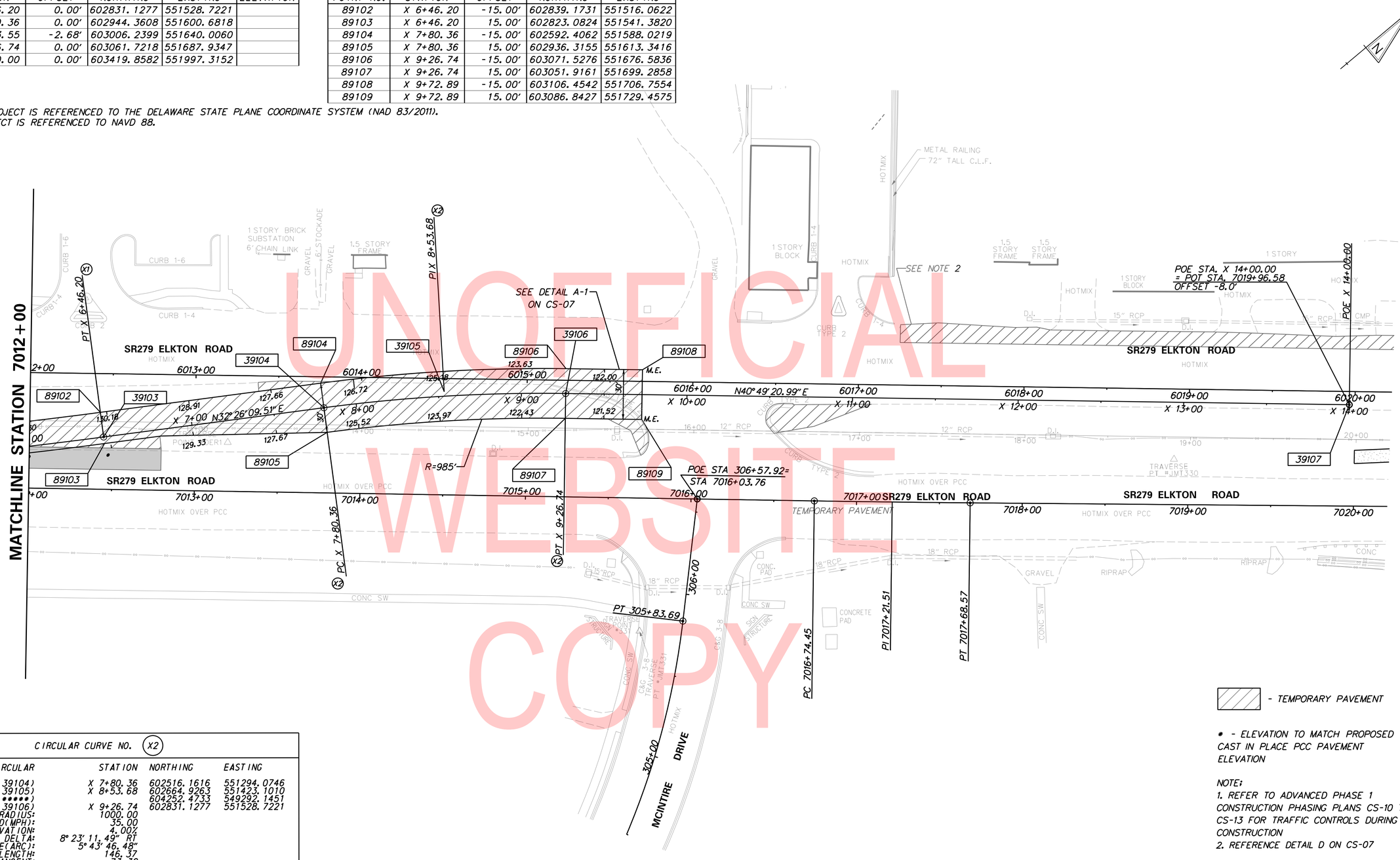
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
39103	X 6+46.20	0.00'	602831.1277	551528.7221	
39104	X 7+80.36	0.00'	602944.3608	551600.6818	
39105	X 8+53.55	-2.68'	603006.2399	551640.0060	
39106	X 9+26.74	0.00'	603061.7218	551687.9347	
39107	X 14+00.00	0.00'	603419.8582	551997.3152	

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
89102	X 6+46.20	-15.00'	602839.1731	551516.0622
89103	X 6+46.20	15.00'	602823.0824	551541.3820
89104	X 7+80.36	-15.00'	602592.4062	551588.0219
89105	X 7+80.36	15.00'	602936.3155	551613.3416
89106	X 9+26.74	-15.00'	603071.5276	551676.5836
89107	X 9+26.74	15.00'	603051.9161	551699.2858
89108	X 9+72.89	-15.00'	603106.4542	551706.7554
89109	X 9+72.89	15.00'	603086.8427	551729.4575

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/2011).
VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.



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- TEMPORARY PAVEMENT

* - ELEVATION TO MATCH PROPOSED CAST IN PLACE PCC PAVEMENT ELEVATION

NOTE;
1. REFER TO ADVANCED PHASE 1 CONSTRUCTION PHASING PLANS CS-10 TO CS-13 FOR TRAFFIC CONTROLS DURING CONSTRUCTION
2. REFERENCE DETAIL D ON CS-07

CIRCULAR CURVE NO. (X2)			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (39104)	X 7+80.36	602516.1616	551294.0746
PI (39105)	X 8+53.68	602664.9263	551423.1010
CC (*****)		604252.4733	549292.1451
PT (39106)	X 9+26.74	602831.1277	551528.7221
RADIUS:	1000.00		
DESIGN SPEED(MPH):	35.00		
SUPERELEVATION:	4.00%		
DELTA:	8° 23' 11.49" RT		
DEGREE OF CURVATURE(ARC):	5° 43' 46.48"		
LENGTH:	146.37		
TANGENT:	73.32		
CHORD:	146.24		
MIDDLE ORDINATE:	2.68		
EXTERNAL:	2.68		
TANGENT DIRECTION:	N 32° 26' 09.51" E		
RADIAL DIRECTION:	S 57° 33' 50.49" E		
CHORD DIRECTION:	N 36° 37' 45.25" E		
RADIAL DIRECTION:	S 49° 10' 39.00" E		
TANGENT DIRECTION:	N 40° 49' 21.00" E		

PHASE 1 – SOUTH TEMPORARY CROSSOVER LAYOUT PLAN

CS-09

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION JMT

SHEET NO. 203

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS09]

UNOFFICIAL WEBSITE COPY

MATCHLINE STATION A

MATCHLINE STATION 7012+00

SR279 ELKTON ROAD

JOD ROAD

APPROX. DE AND MD STATE LINE

STONE GATE BLVD.

IRON HILL RD

6006+00 6007+00 6008+00 6009+00 6010+00 6011+00 7006+00 7007+00 7008+00 7009+00 7010+00 7011+00

25′ 10′ 11′ 25′ 11′

W24-01R 48″X48″

LANE SHIFT TAPER = 150′
= ((12′*(35MPH)*2)/60)/2
SPEED=35 MPH
SHIFT WIDTH=12′

LANE SHIFT TAPER = 125′
= ((12′*(35MPH)*2)/60)/2
SPEED=35 MPH
SHIFT WIDTH=12′

W20-05LB 48″X48″ LEFT LANE CLOSED 1/2 MILE

W20-05LC 48″X48″ LEFT LANE CLOSED 1500 FT

W04-02L 48″X48″

1140′ 500′ 1000′

ARROW BOARD

TURN LANE

R03-20-DE 18″X18″

NB LANE CLOSURE TAPE = 600′
= 12′X50MPH
SPEED=50 MPH
SHIFT WIDTH=12′

PHASE 1 ADVANCED WORK – SOUTH
TEMPORARY CROSSOVER STAGE 1 WEEKEND

CS-10

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

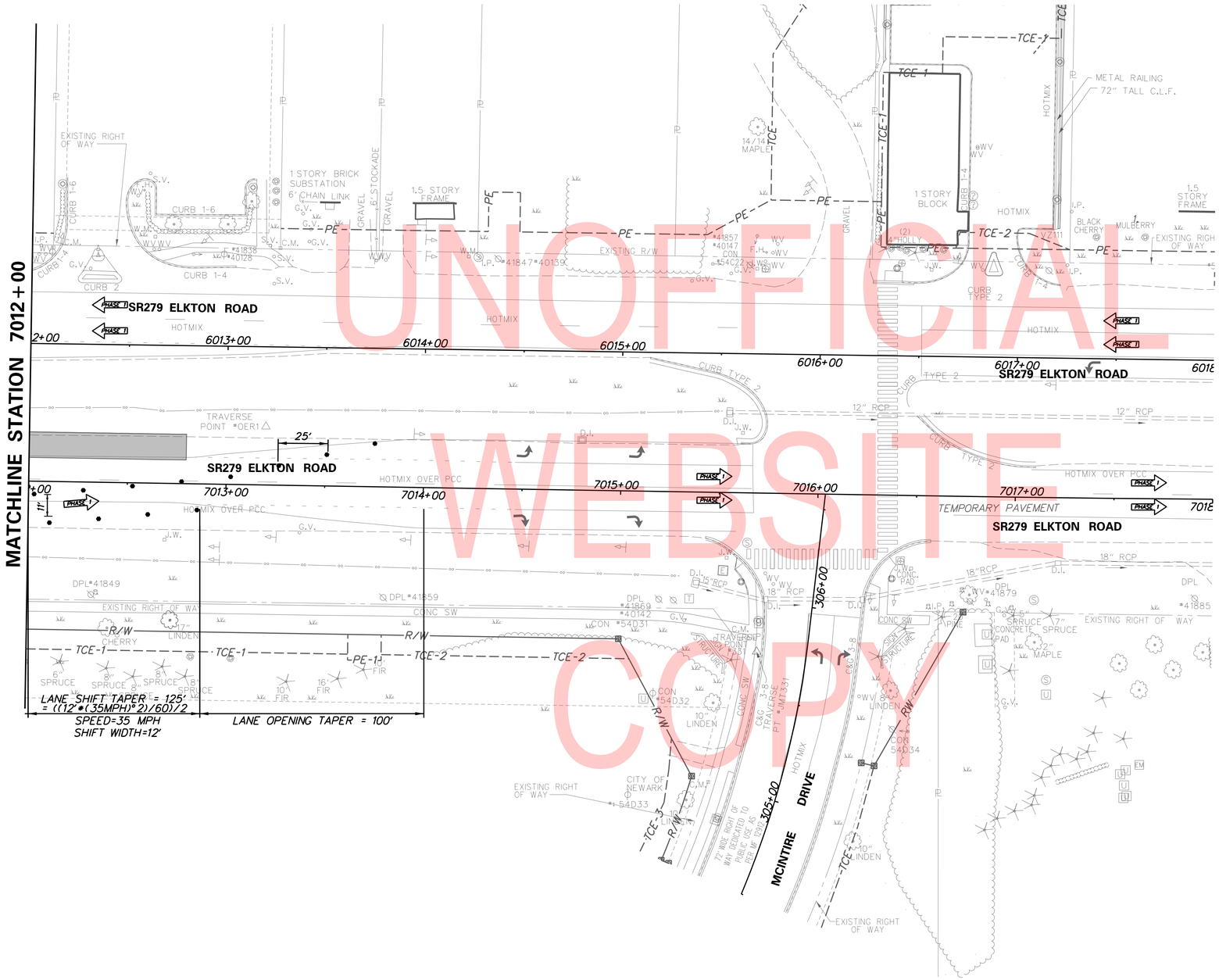
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION JMT

SHEET NO. 204

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE_PHASE1.DGN [SHEET: CS10]



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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS11]

PHASE 1 ADVANCED WORK – SOUTH
TEMPORARY CROSSOVER STAGE 1 WEEKEND

CS–11

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

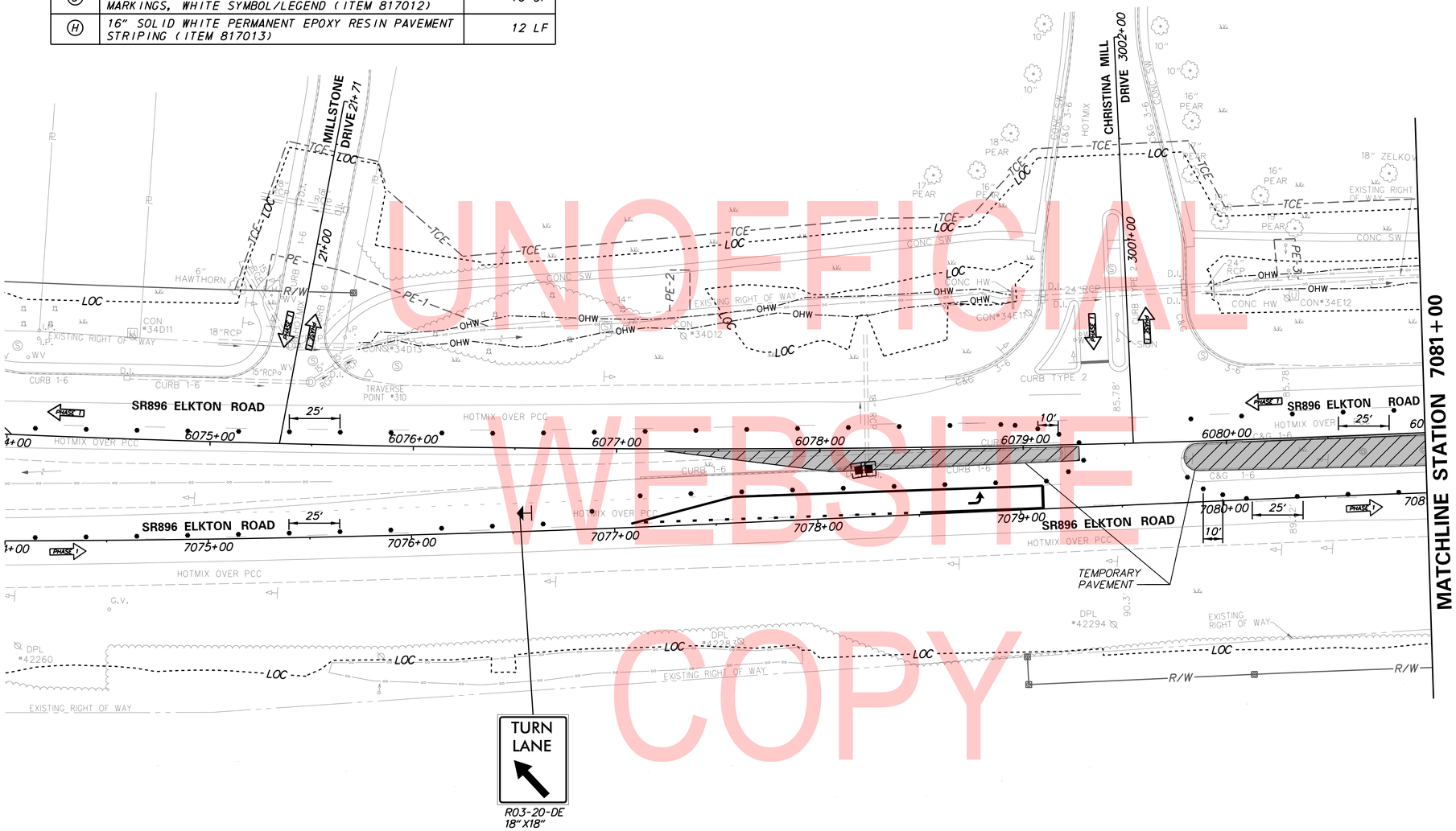
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	JMT
SHEET NO.	205

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAVEMENT STRIPING (ITEM 817013)	61 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAVEMENT STRIPING (ITEM 817013)	205 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	141 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	16 SF
(H)	16" SOLID WHITE PERMANENT EPOXY RESIN PAVEMENT STRIPING (ITEM 817013)	12 LF



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NOTE: WORK SHOWN TO BE COMPLETED PRIOR TO PHASE 1 ADVANCED WORK NB TEMP. CROSSOVER STAGE 2 WEEKEND.

PHASE 1 ADVANCED WORK

CS-12

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION JMT

SHEET NO. 206

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS12]

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MATCHLINE STATION 7081+00

MATCHLINE STATION 7090+00

SR896 ELKTON ROAD

CASHO MILL ROAD

CHRISTINA RIVER

GRAVENOR LANE

TEMPORARY PAVEMENT

TURN LANE

R03-20-DE
18" X18"

100' LANE OPENING TAPER

LANE CLOSURE TAPER = 250' = (12'*(35MPH)*2)/60
SPEED = 35 MPH
SHIFT WIDTH = 12'

W04-02R
48" X48"

W20-05RC
48" X48"

LEFT LANE CLOSED 1500 FT

W20-05RC
48" X48"

LEFT LANE CLOSED 1/2 MILE

1000'

500'

1140'

ARROW BOARD

NOTE: WORK SHOWN TO BE COMPLETED PRIOR TO PHASE 1 ADVANCED WORK NB TEMP. CROSSOVER STAGE 2 WEEKEND.

PHASE 1 ADVANCED WORK

CS-13

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

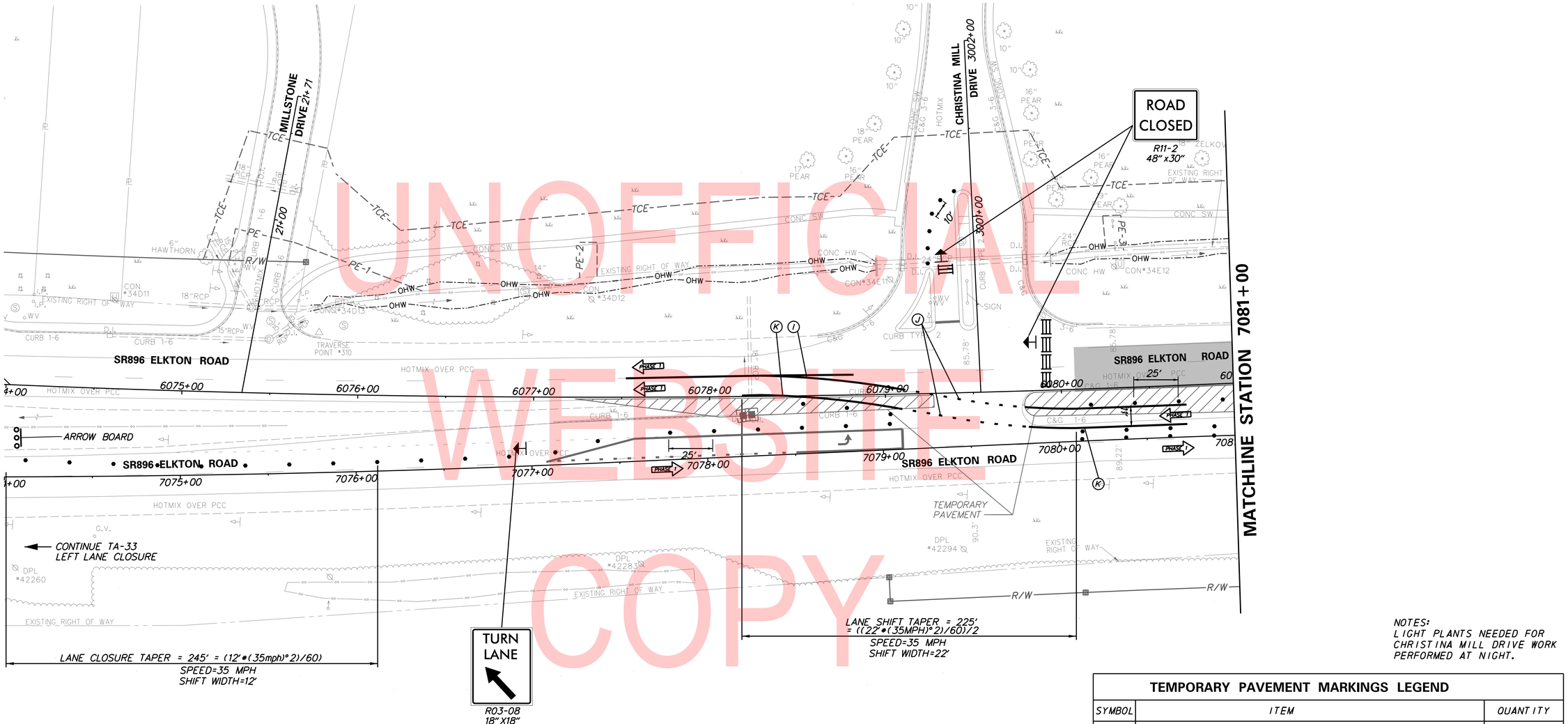
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION: JMT

SHEET NO.: 207

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS13]



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NOTES:
LIGHT PLANTS NEEDED FOR CHRISTINA MILL DRIVE WORK PERFORMED AT NIGHT.

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(I)	4" SOLID WHITE TEMPORARY PAVEMENT TAPE (ITEM 817009)	301 LF
(K)	4" SOLID YELLOW TEMPORARY PAVEMENT TAPE (ITEM 817009)	180 LF
(J)	4" SKIP WHITE TEMPORARY TAPE (ITEM 817009)	146 LF

PHASE 1 ADVANCED WORK – NORTH
TEMPORARY CROSSOVER STAGE 2 WEEKEND 1

CS-14

ADDENDA / REVISIONS	
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION: JMT
SHEET NO.: 208

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS14]

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(I)	4" SOLID WHITE TEMPORARY PAVEMENT TAPE (ITEM 817009)	110 LF
(K)	4" SOLID YELLOW TEMPORARY PAVEMENT TAPE (ITEM 817009)	110 LF
(J)	4" SKIP WHITE TEMPORARY TAPE (ITEM 817009)	188 LF
(F)	WHITE TEMPORARY PAVEMENT SYMBOL TAPE (ITEM 817010)	25 SF
(X)	6" BLACKOUT TAPE (ITEM 817008)	114 SF

NOT FOR CONSTRUCTION

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MATCHLINE STATION 7081+00

SR896 ELKTON ROAD

TEMPORARY PAVEMENT

HOTMIX OVER PCC

6082+00 6083+00 6084+00 6085+00 6086+00 6087+00 6088+00 6089+00

7082+00 7083+00 7084+00 7085+00 7086+00 7087+00 7088+00 7089+00

25'

11'

PHASE 1

W1-4R 48" X48"

CHRISTINA RIVER

GRAVENOR LANE

EXISTING RIGHT OF WAY

TRAVERSE POINT #300

TRAVERSE POINT #315

TRAVERSE PT #JMT316

TRAVERSE POINT #301

DPL #42305

DPL #42315

CON #30E41

CON #30E42

CON #30E43

CON #30E44

CON #30E45

CON #30F40

CON #30F43

CON #30F44

#30F45

#30F35

#30F310

CONC. SW

CURB 1-8

C&G 1-6

C&G TYPE 3-6

BR1-322

36" RCP

30" RCP

15" RCP

12" RCP

15" WOODS LINE

ROW OF CEDARS

WING WALL

R/W-DA

I.P.

D.I.

G.V.

W.V.

S.V.

OHW

TCE

PE

R/W

CONTINUE TA-3 RIGHT TURN LANE CLOSURE

RIGHT TURN LANE CLOSED AHEAD

R21-5bR 36" X36"

500'

LANE SHIFT TAPER = 175'
= ((17'*(35MPH)*2)/60)/2
SPEED=35 MPH
SHIFT WIDTH=17'

CASHO MILL ROAD

R03-02 36" X36"

R11-2 48" x30"

ROAD CLOSED

LANE SHIFT TAPER = 115'
= ((11'*(35MPH)*2)/60)/2
SPEED=35 MPH
SHIFT WIDTH=11'

LANE CLOSURE TAPER = 250' = (12'*(35mph)*2)/60)
SPEED = 35 MPH
SHIFT WIDTH = 12'

ARROW BOARD

CONTINUE TA-33 RIGHT LANE CLOSURE

MATCHLINE STATION 7090+00

ELKTON ROAD

6091+00

12" DOGWOOD

12" MAPLE

12" JAPANESE MAPLE

8" OAK

10" MAPLE

6" MAPLE

5 8" PINE

9" MAPLE

4" MAPLE

3 STORY

PHASE 1 ADVANCED WORK – NORTH
TEMPORARY CROSSOVER STAGE 2 WEEKEND 1

CS-15

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

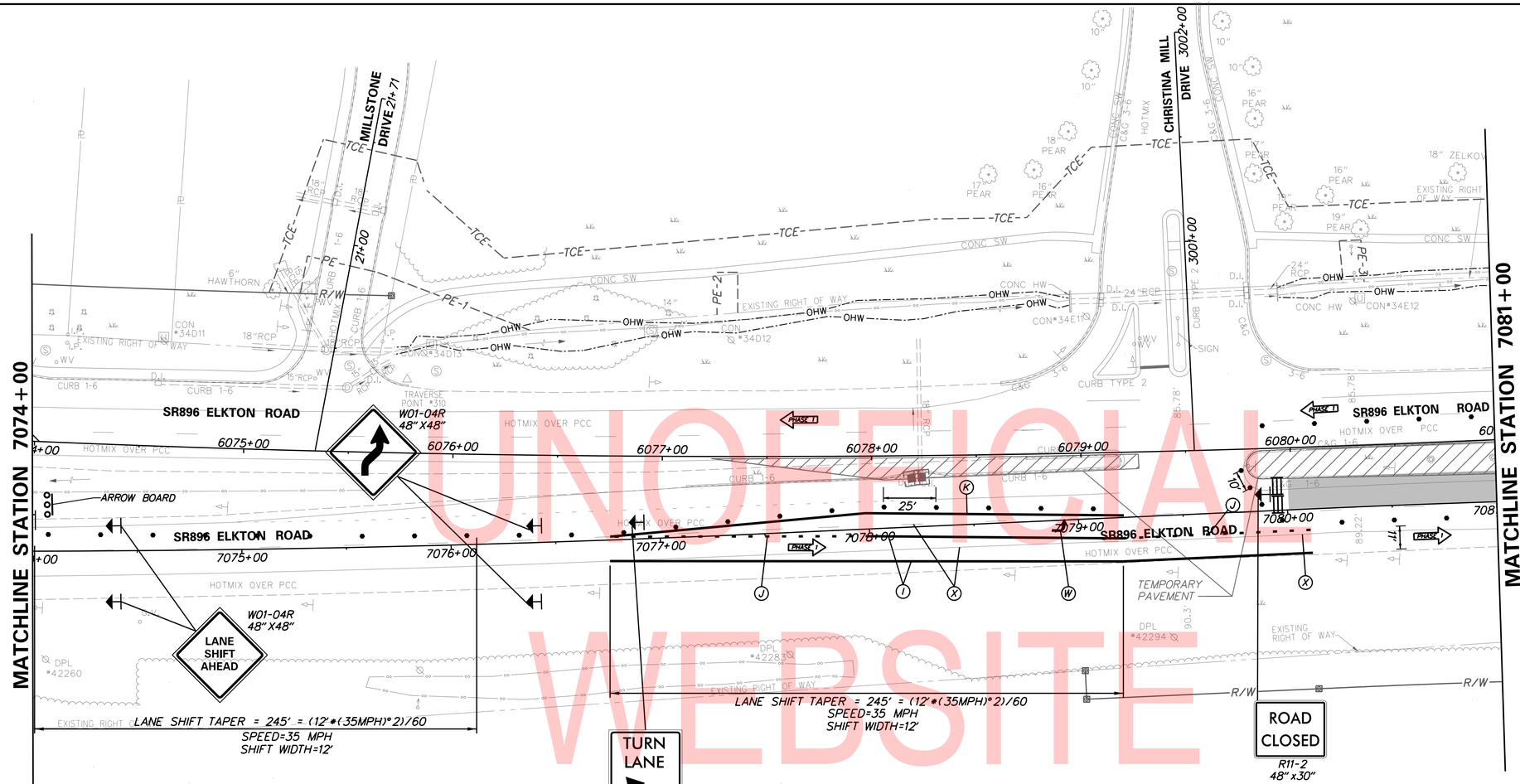
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION JMT

SHEET NO. 209

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE_PHASE1.DGN [SHEET: CS15]



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TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(I)	4" SOLID WHITE TEMPORARY PAVEMENT TAPE (ITEM 817009)	457 LF
(K)	4" SOLID YELLOW TEMPORARY PAVEMENT TAPE (ITEM 817009)	246 LF
(J)	4" SKIP WHITE TEMPORARY TAPE (ITEM 817009)	214 LF
(W)	WHITE TEMPORARY PAVEMENT SYMBOL TAPE (ITEM 817010)	16 SF
(X)	6" BLACKOUT TAPE (ITEM 817008)	669 SF

PHASE 1 ADVANCED WORK – NORTH
TEMPORARY CROSSOVER STAGE 2 WEEKEND 2

CS–16

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	JMT
SHEET NO.	210

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE_PHASE1.DGN [SHEET: CS16]

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MATCHLINE STATION 7081+00

SR896 ELKTON ROAD

TEMPORARY PAVEMENT

LANE CLOSURE TAPER = 510' = (12'*(35MPH)*2)/60
SPEED=35 MPH
SHIFT WIDTH=12'

LANE SHIFT TAPER = 165' = (5'*(35MPH)*2)/60
SPEED=35 MPH
SHIFT WIDTH=5'

100' OPENING TAPER

ARROW BOARD

W04-02L
48"X48"

CHRISTINA RIVER

GRAVENOR LANE

CASHO MILL ROAD

MATCHLINE STATION 7090+00

ELKTON ROAD

1140'

LEFT LANE CLOSED 1/2 MILE
W20-05LC
48"X48"

LEFT LANE CLOSED 1500 FT
W20-05LC
48"X48"

PHASE 1 ADVANCED WORK – NORTH
TEMPORARY CROSSOVER STAGE 2 WEEKEND 2

CS-17

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION: JMT
SHEET NO.: 211

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS17]

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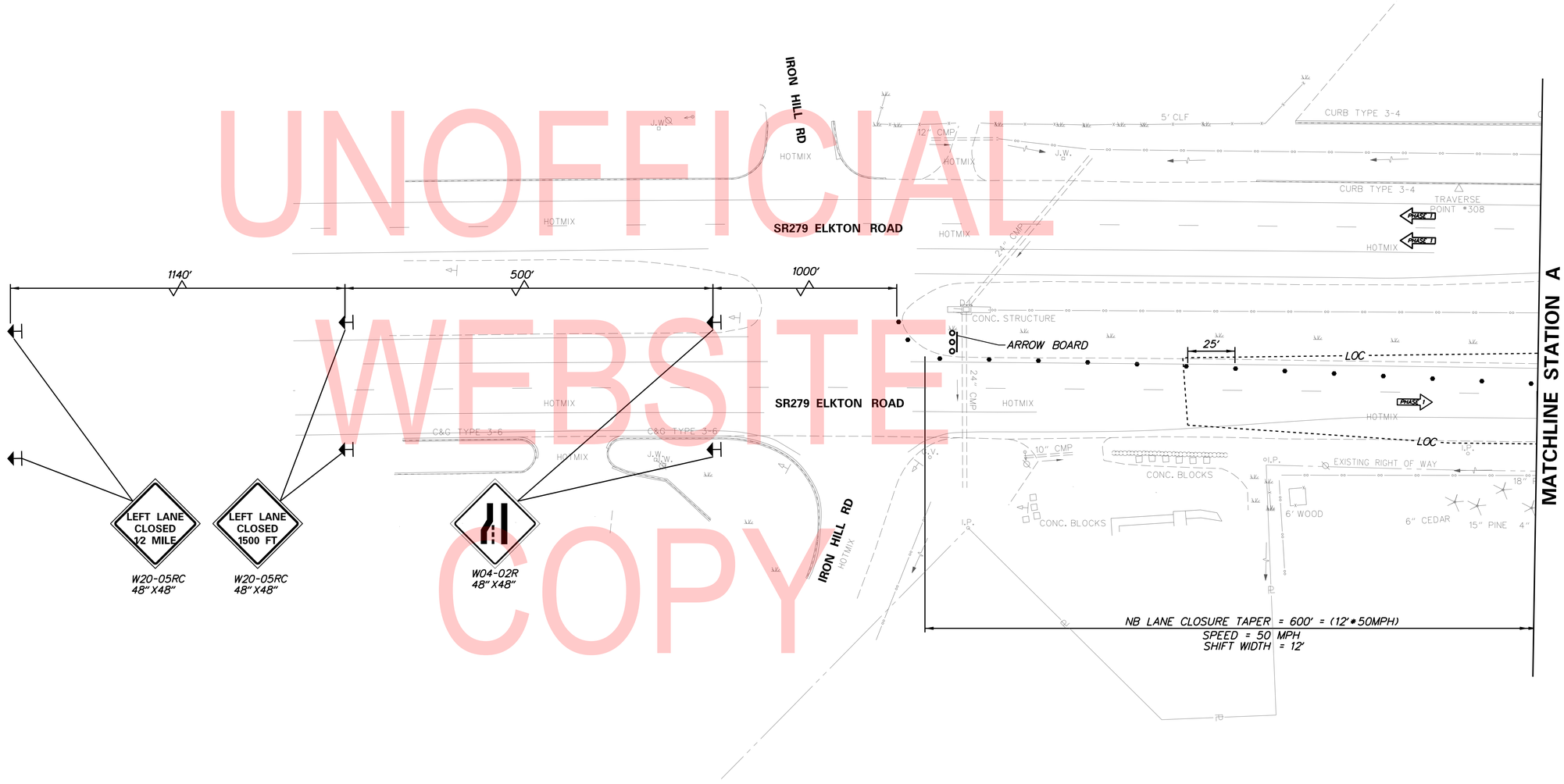


PHASE 1 ADVANCED WORK

CS-18

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

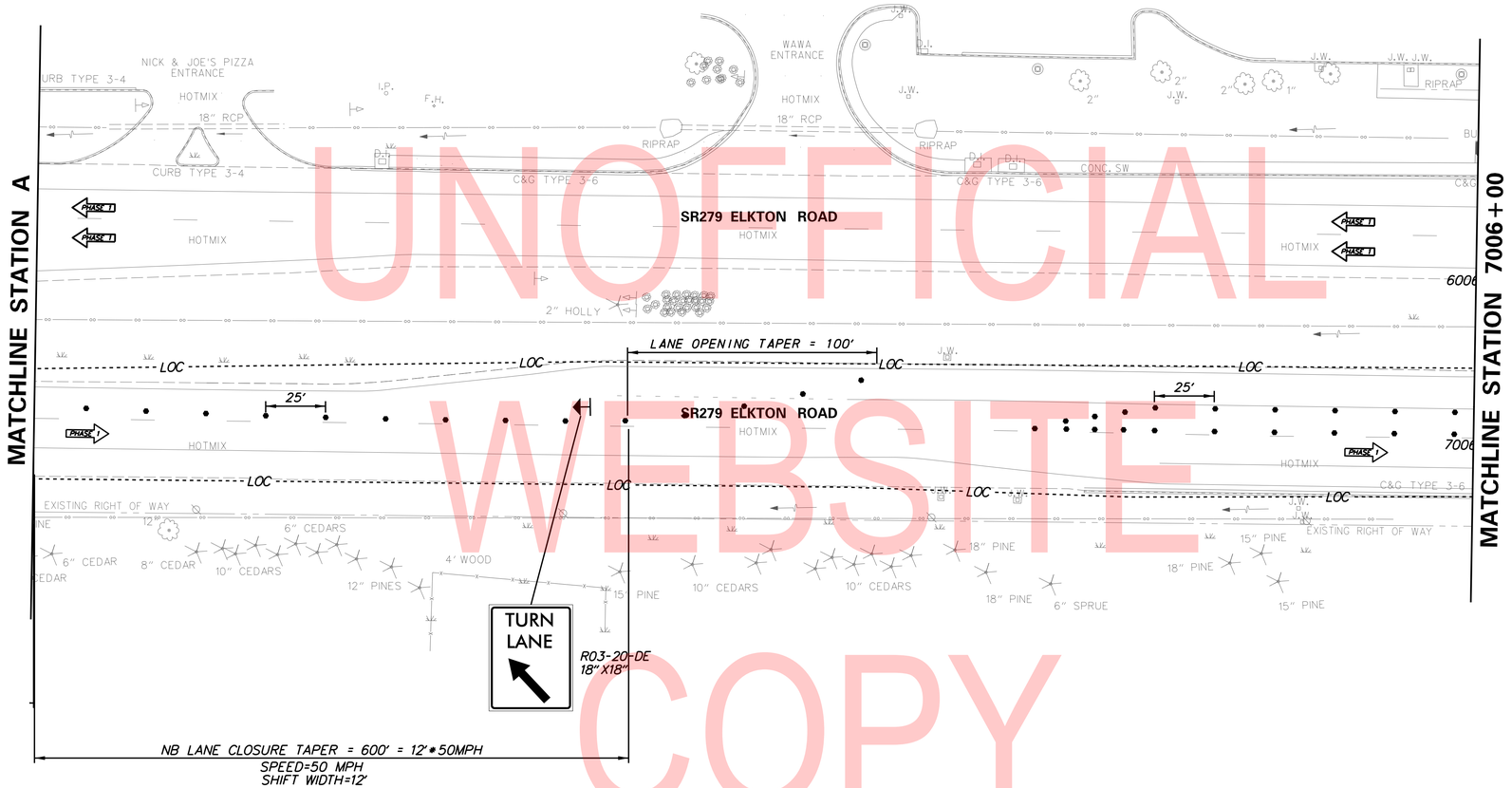
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	SHEET NO.
JMT	212

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS18]



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PHASE 1 ADVANCED WORK

CS-19

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

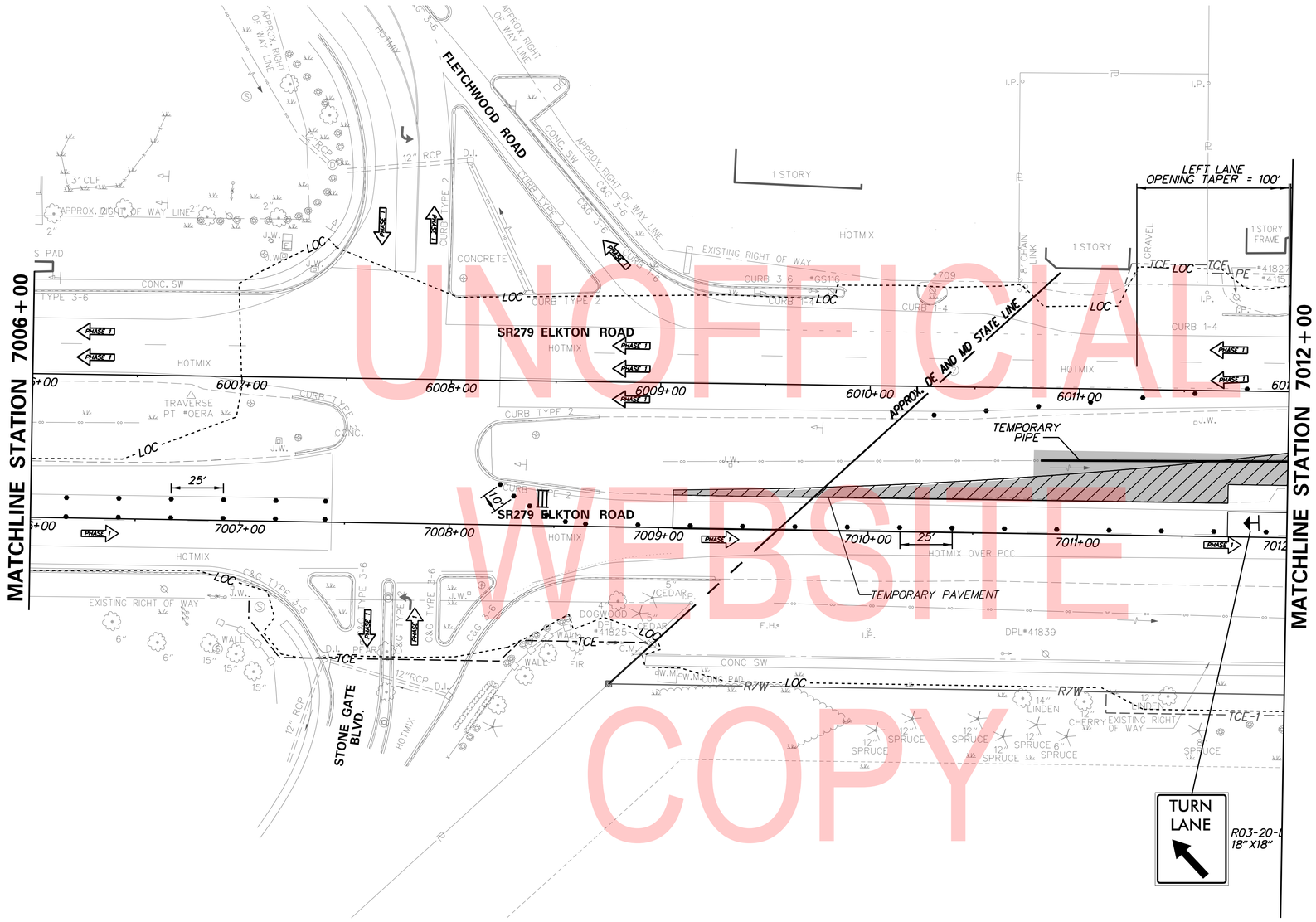
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	JMT
SHEET NO.	213

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS19]



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TEMPORARY DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
1	8" CPP-S	N/A	442 LF	0.0254	131.64	120.42

PHASE 1 ADVANCED WORK

CS-20

ADDENDA / REVISIONS

1 REPLACED PAGES 1 THRU 432 — 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT T201504401

COUNTY NEW CASTLE

BRIDGE NO. 1-322 1-322P 1-323 1-323P

DESIGNED BY: LB

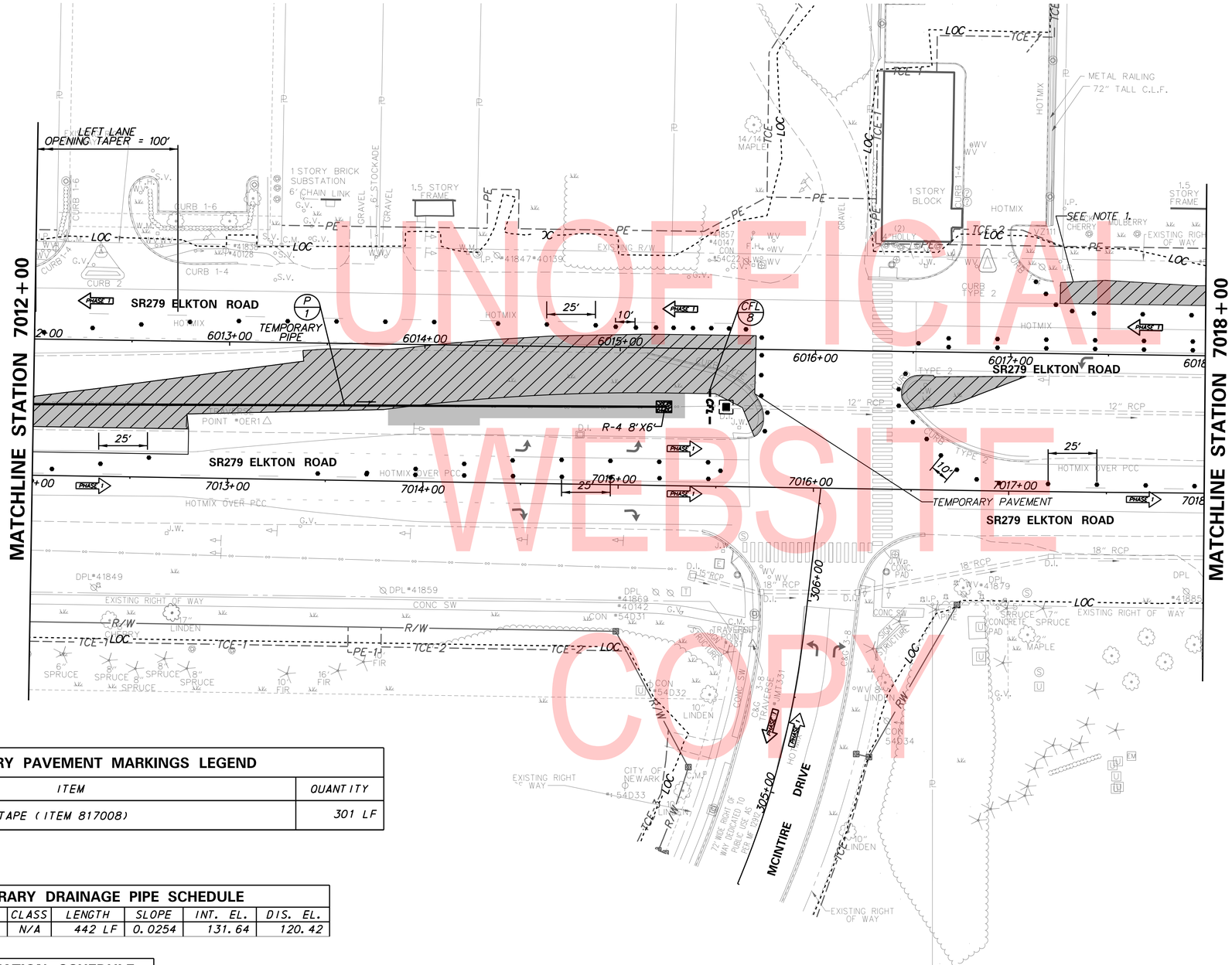
CHECKED BY: BPH

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION JMT

SHEET NO. 214

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS20]



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TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
Ⓧ	6" BLACKOUT TAPE (ITEM 817008)	301 LF

TEMPORARY DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
1	8" CPP-S	N/A	442 LF	0.0254	131.64	120.42

RIPRAP STABILIZATION SCHEDULE				
NO.	TYPE	W	L	D
1	R-4	6.0'	8.0'	14"

NOTES:
1. REFERENCE DETAIL D CS-07 AS SHOWN AND CONSTRUCT USING TA-33 AND TA-3A AS NECESSARY.

2. MEDIAN WORK AND SHOULDER WORK MAY NOT BE DONE SIMULTANEOUSLY.

PHASE 1 ADVANCED WORK

CS-21

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

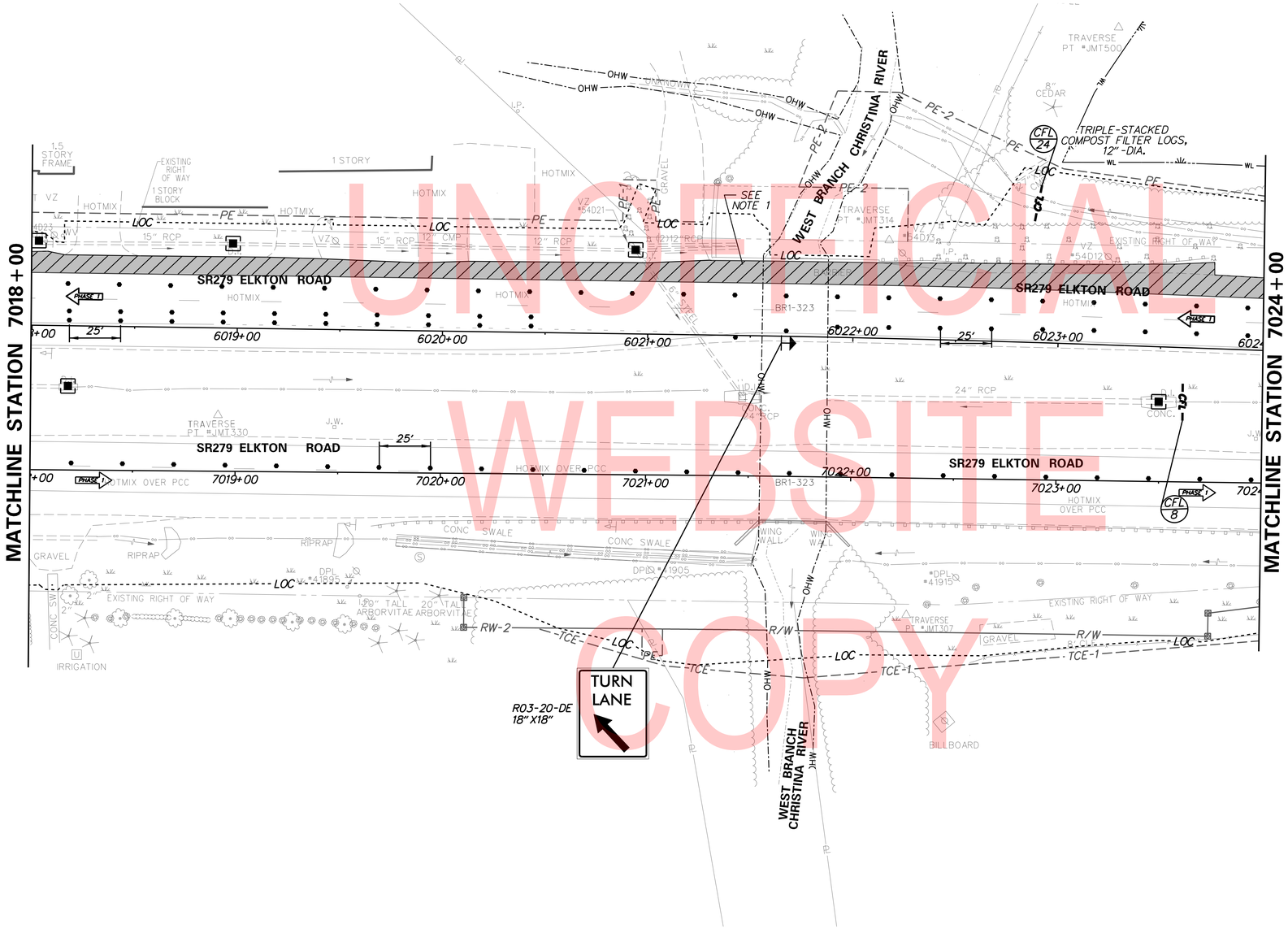
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

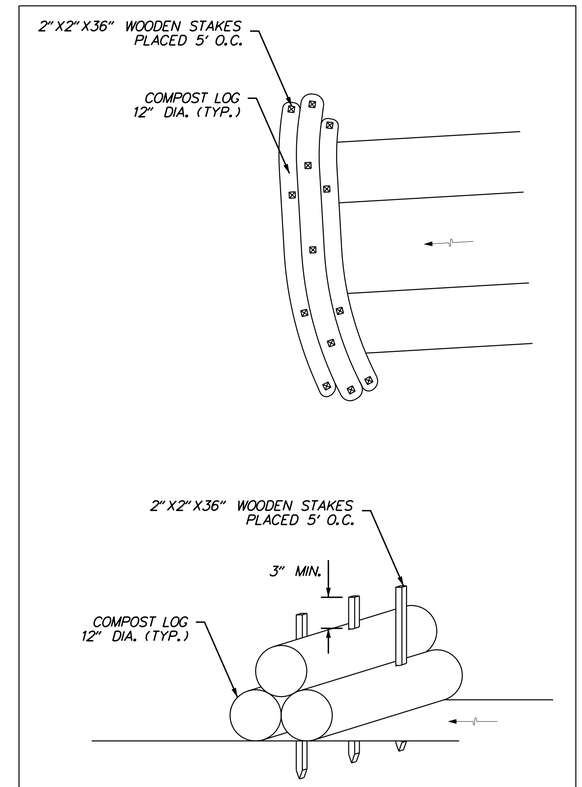
SECTION JMT

SHEET NO. 215

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS21]

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(X)	6" BLACKOUT TAPE (ITEM 817008)	848 LF





TRIPLE-STACK COMPOST FILTER LOGS

NOT TO SCALE

NOTES:
1. *ALL MATERIAL WILL MEET DELDOT SPECIFICATIONS.*

2. *SEDIMENT SHOULD BE REMOVED FROM BEHIND THE CHECKDAM ONCE THE ACCUMULATED HEIGHT HAS REACHED ½ THE HEIGHT OF THE CHECK DAM.*

NOTES:
1. *REFERENCE DETAIL D CS-07 AS SHOWN AND CONSTRUCT USING TA-33 AND TA-3A AS NECESSARY.*

PHASE 1 ADVANCED WORK

CS-22

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS22]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

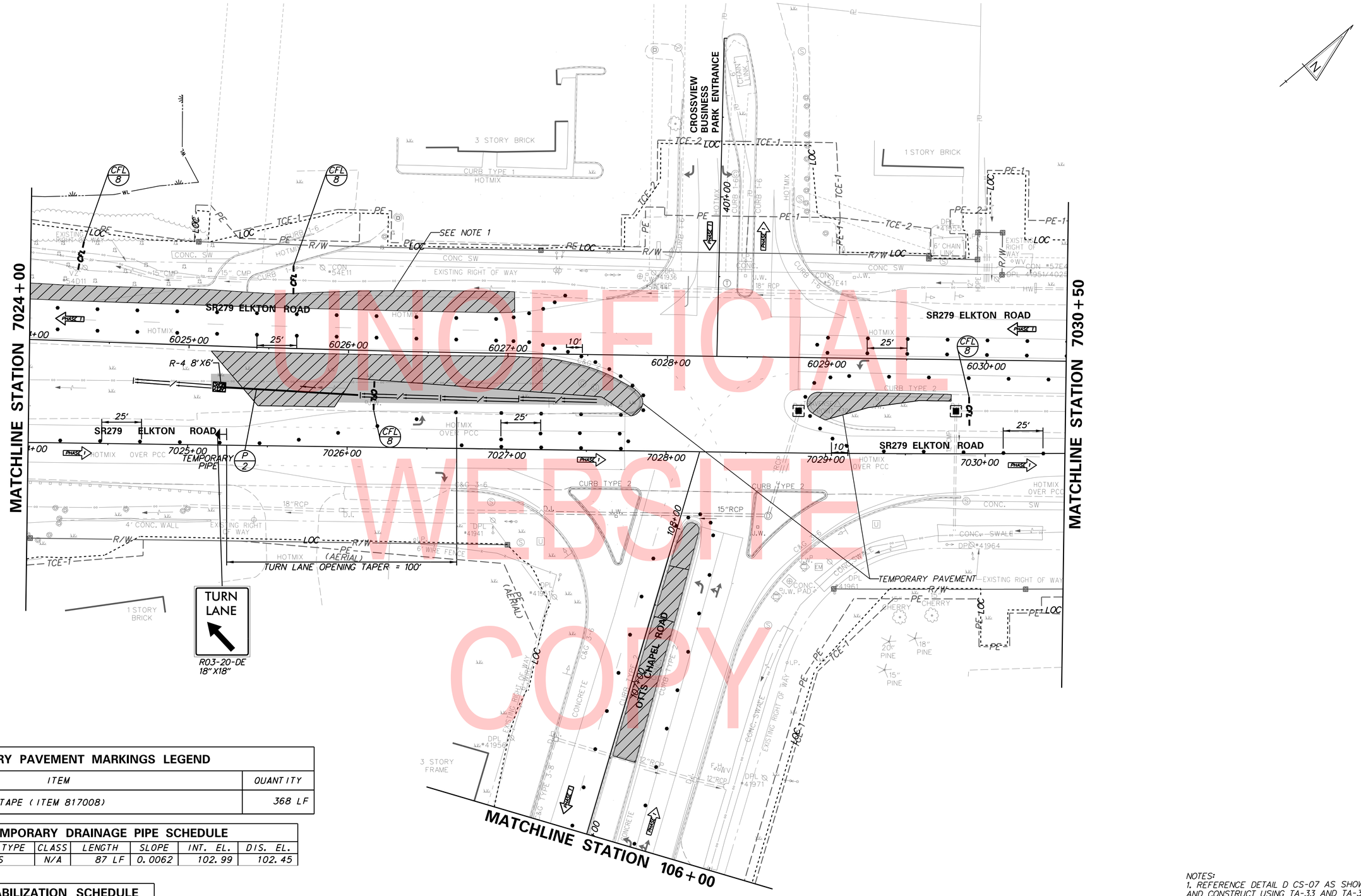
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	JMT
SHEET NO.	216



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TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(X)	6" BLACKOUT TAPE (ITEM 817008)	368 LF

TEMPORARY DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
2	8" CPP-S	N/A	87 LF	0.0062	102.99	102.45

RIPRAP STABILIZATION SCHEDULE				
NO.	TYPE	W	L	D
2	R-4	6.0'	8.0'	14"

NOTES:
1. REFERENCE DETAIL D CS-07 AS SHOWN AND CONSTRUCT USING TA-33 AND TA-3A AS NECESSARY.

PHASE 1 ADVANCED WORK

CS-23

ADDENDA / REVISIONS	
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION JMT
SHEET NO. 217

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS23]

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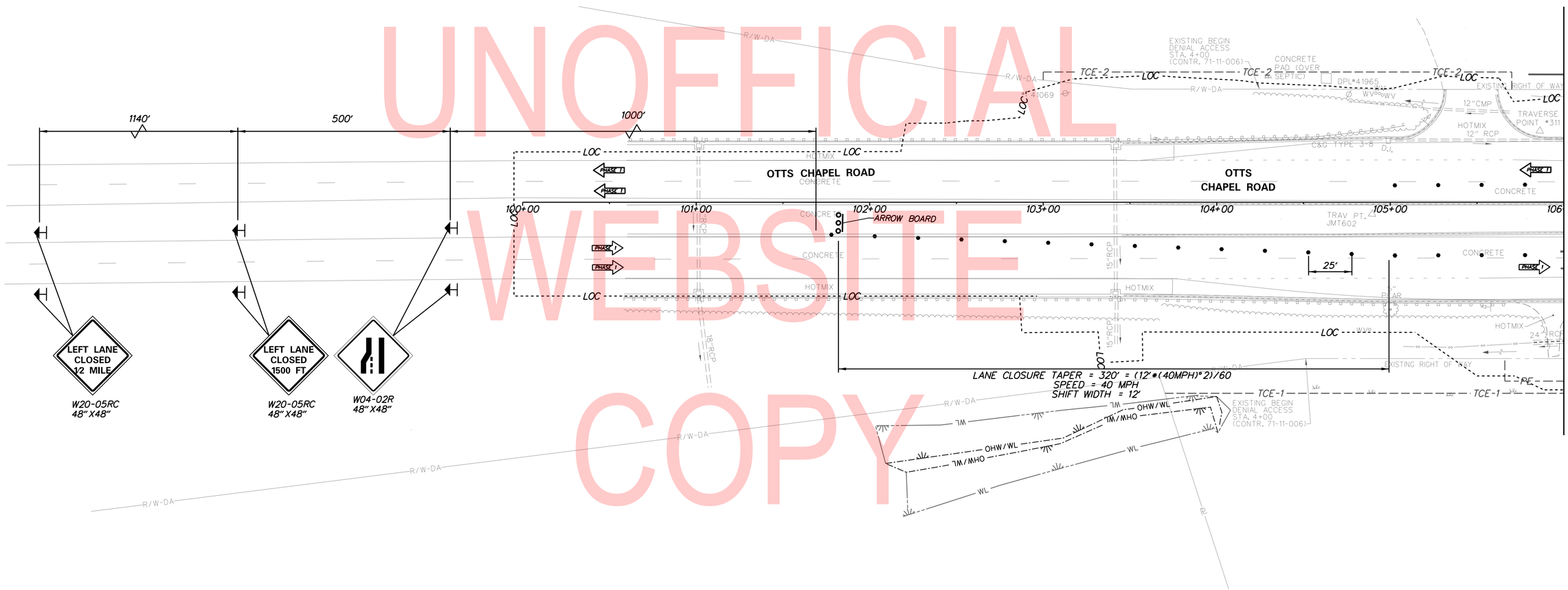


PHASE 1 ADVANCED WORK

CS-24

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

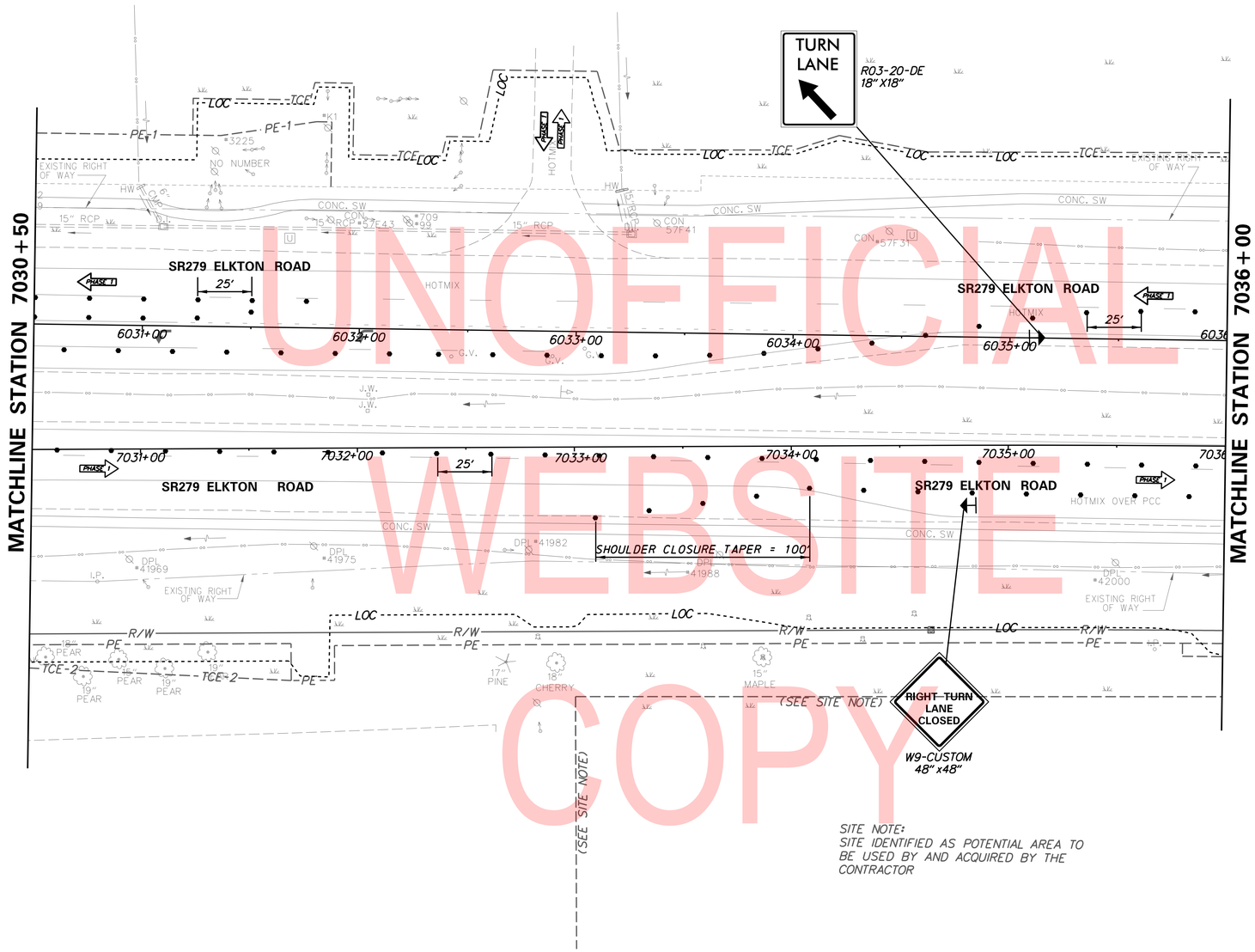
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION: JMT

SHEET NO.: 218

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS24]



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WEBSITE
COPY

SITE NOTE:
SITE IDENTIFIED AS POTENTIAL AREA TO BE USED BY AND ACQUIRED BY THE CONTRACTOR

PHASE 1 ADVANCED WORK

CS-25

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

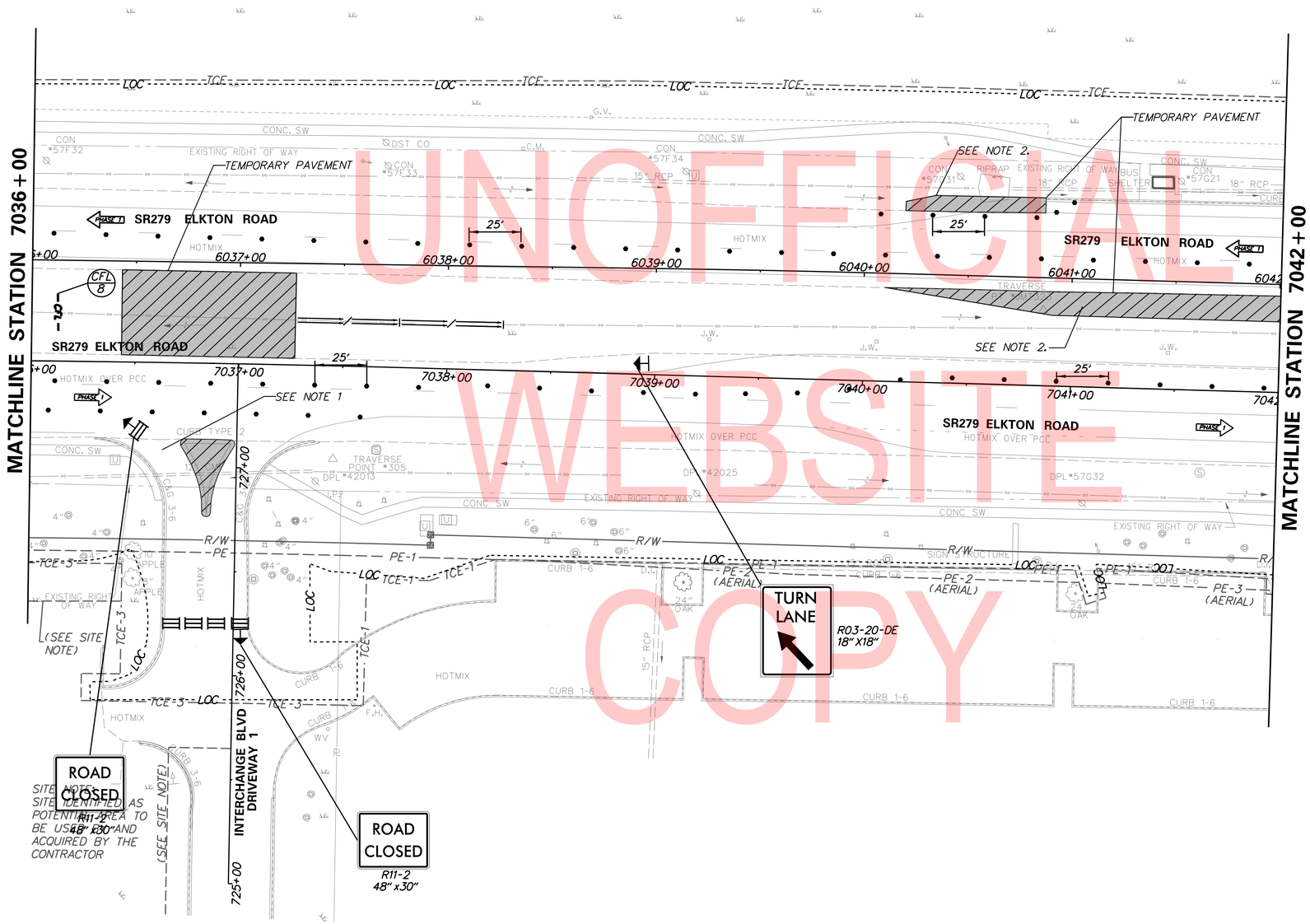
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	SHEET NO.
JMT	219

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS25]



UNOFFICIAL WEBSITE COPY

SITE NOTES:
SITE IDENTIFIED AS POTENTIAL AREA TO BE USED AND ACQUIRED BY THE CONTRACTOR

NOTES:

1. REFER TO CS-07, DETAIL D FOR TEMPORARY SHOULDER RECONSTRUCTION PAVEMENT SECTION. UTILIZE TA-33 AND TA-03A WHEN WORK IS BEING PERFORMED OR AS DIRECTED BY THE ENGINEER. ADJUST DRUMS SHOWN ON SB SR 898 ON THIS SHEET AS NEEDED TO IMPLEMENT TA'S.

PHASE 1 ADVANCED WORK

CS-26

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

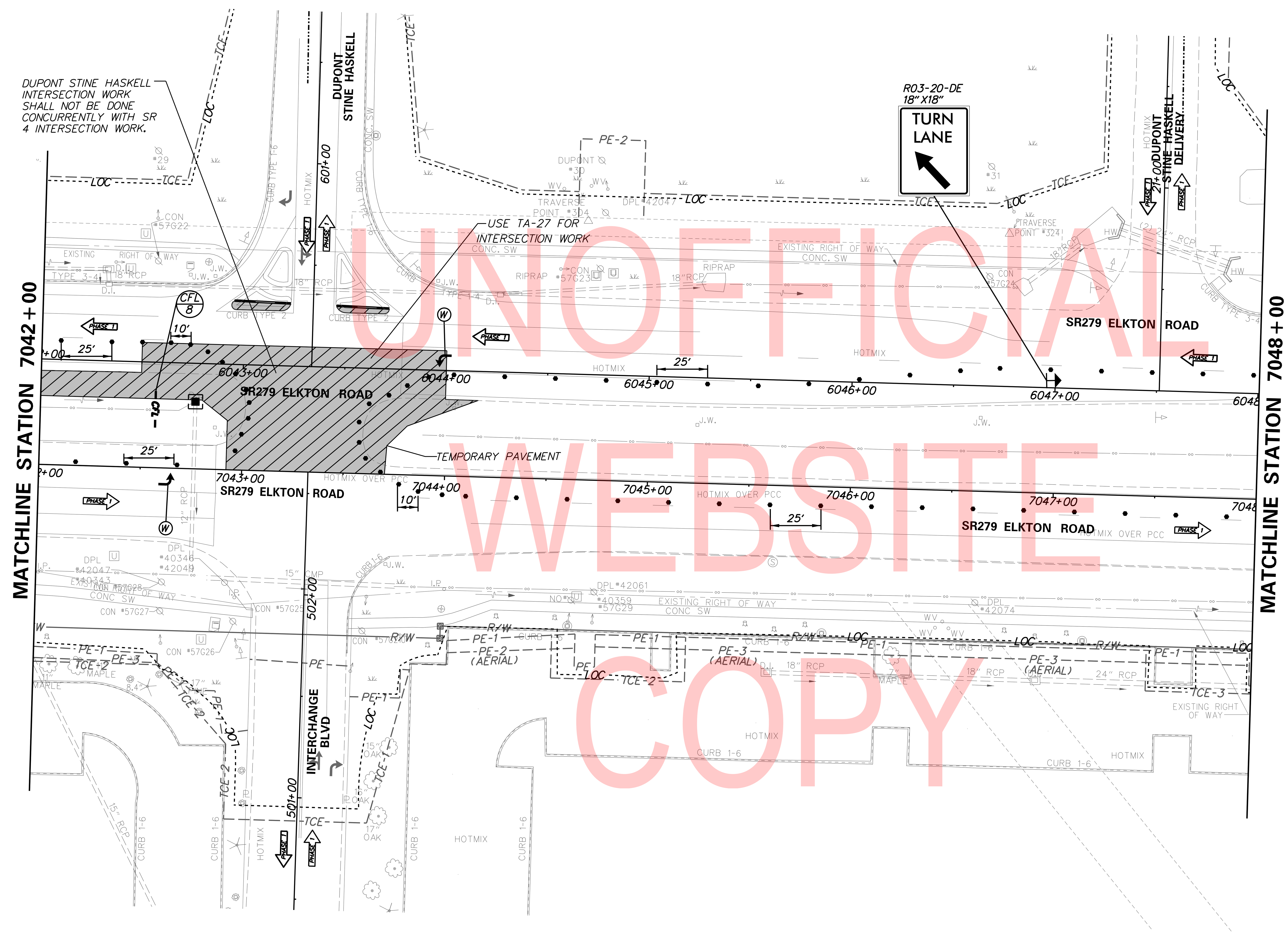
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	JMT
SHEET NO.	220

PLOTTED BY: LBERZINA DATE: 11/15/2019
[FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN] [SHEET: CS26]



UNOFFICIAL WEBSITE COPY

PHASE 1 ADVANCED WORK

CS-27

ADDENDA / REVISIONS	
REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

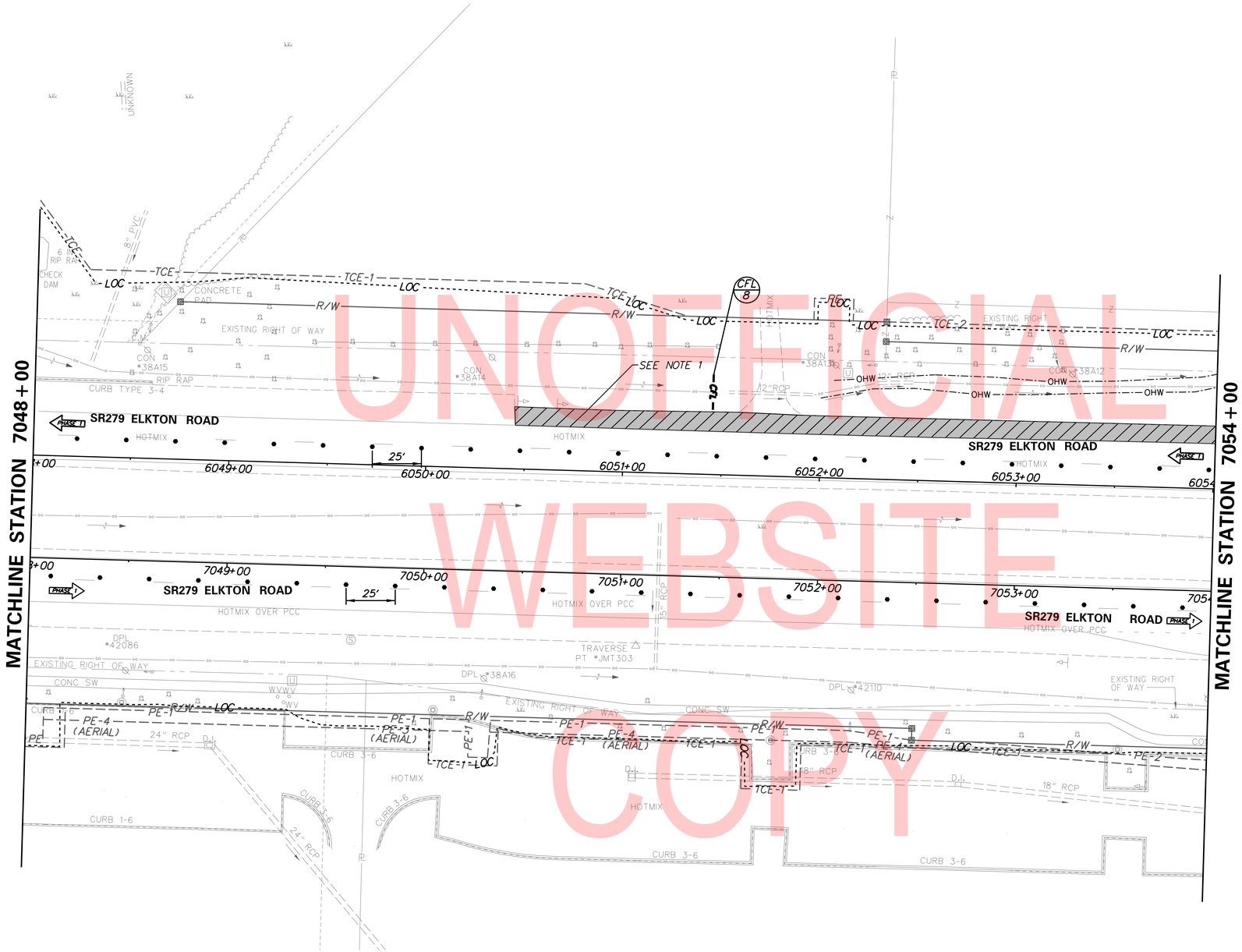
CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 1

SECTION JMT

SHEET NO. 221

PLOTTED BY: LBERZINA DATE: 11/15/2019 FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS27]



UNOFFICIAL WEBSITE COPY

NOTES:

1. REFER TO CS-07, DETAIL D FOR TEMPORARY SHOULDER RECONSTRUCTION PAVEMENT SECTION. UTILIZE TA-33 AND TA-03A WHEN WORK IS BEING PERFORMED OR AS DIRECTED BY THE ENGINEER. ADJUST DRUMS SHOWN ON SB SR 898 ON THIS SHEET AS NEEDED TO IMPLEMENT TA'S.

PHASE 1 ADVANCED WORK

CS-28

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

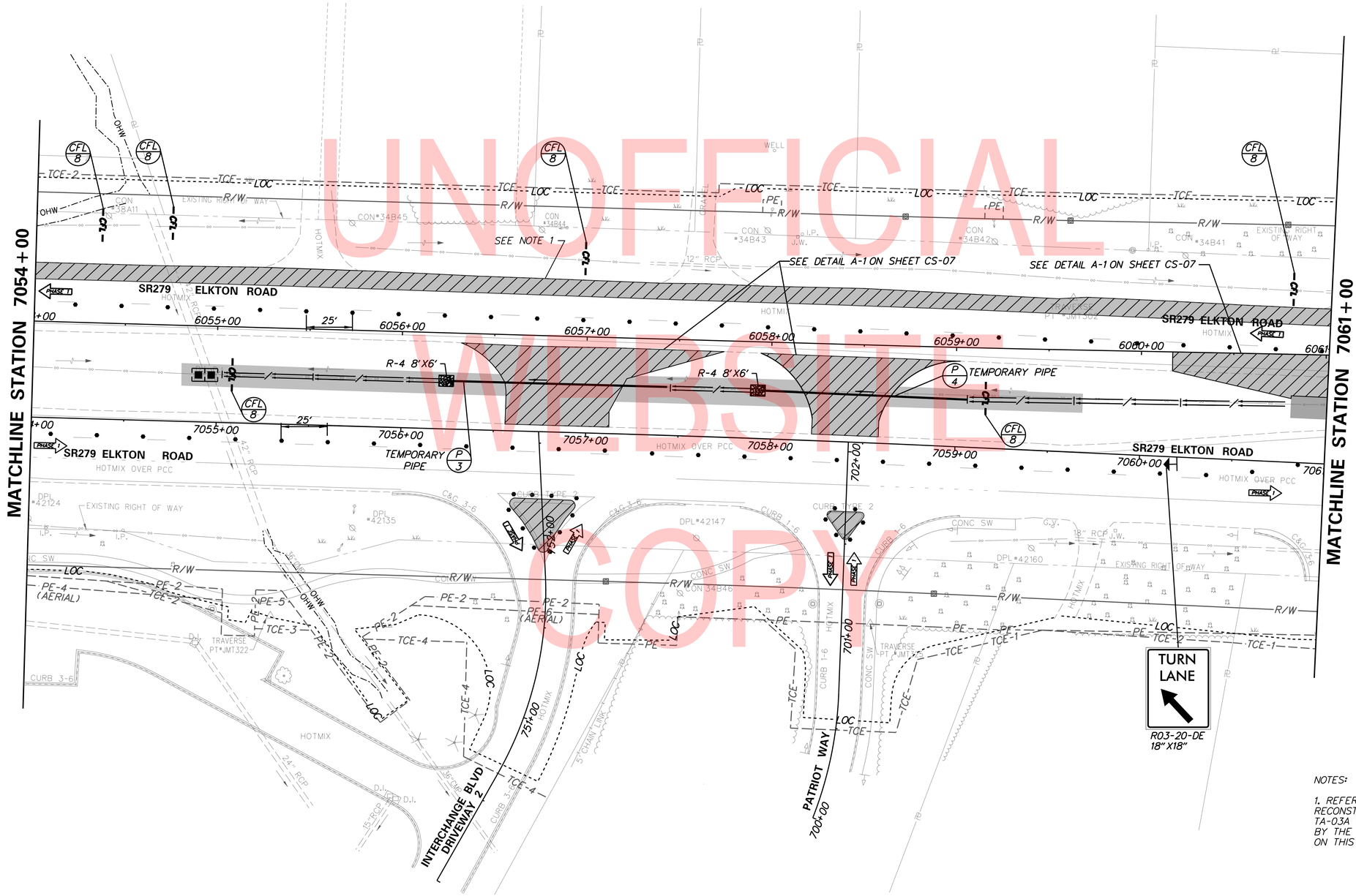
SECTION: JMT

SHEET NO.: 222

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS28]

TEMPORARY DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
3	8" CPP-S	N/A	120 LF	0.0032	105.09	104.71
4	8" CPP-S	N/A	112 LF	0.0032	105.59	105.25

RIPRAP STABILIZATION SCHEDULE				
NO.	TYPE	W	L	D
3	R-4	6.0'	8.0'	14"
4	R-4	6.0'	8.0'	14"



NOTES:

1. REFER TO CS-07, DETAIL D FOR TEMPORARY SHOULDER RECONSTRUCTION PAVEMENT SECTION. UTILIZE TA-33 AND TA-03A WHEN WORK IS BEING PERFORMED OR AS DIRECTED BY THE ENGINEER. ADJUST DRUMS SHOWN ON SB SR 898 ON THIS SHEET AS NEEDED TO IMPLEMENT TA'S.

PHASE 1 ADVANCED WORK

CS-29

UNOFFICIAL WEBSITE COPY

ADDENDA / REVISIONS	
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

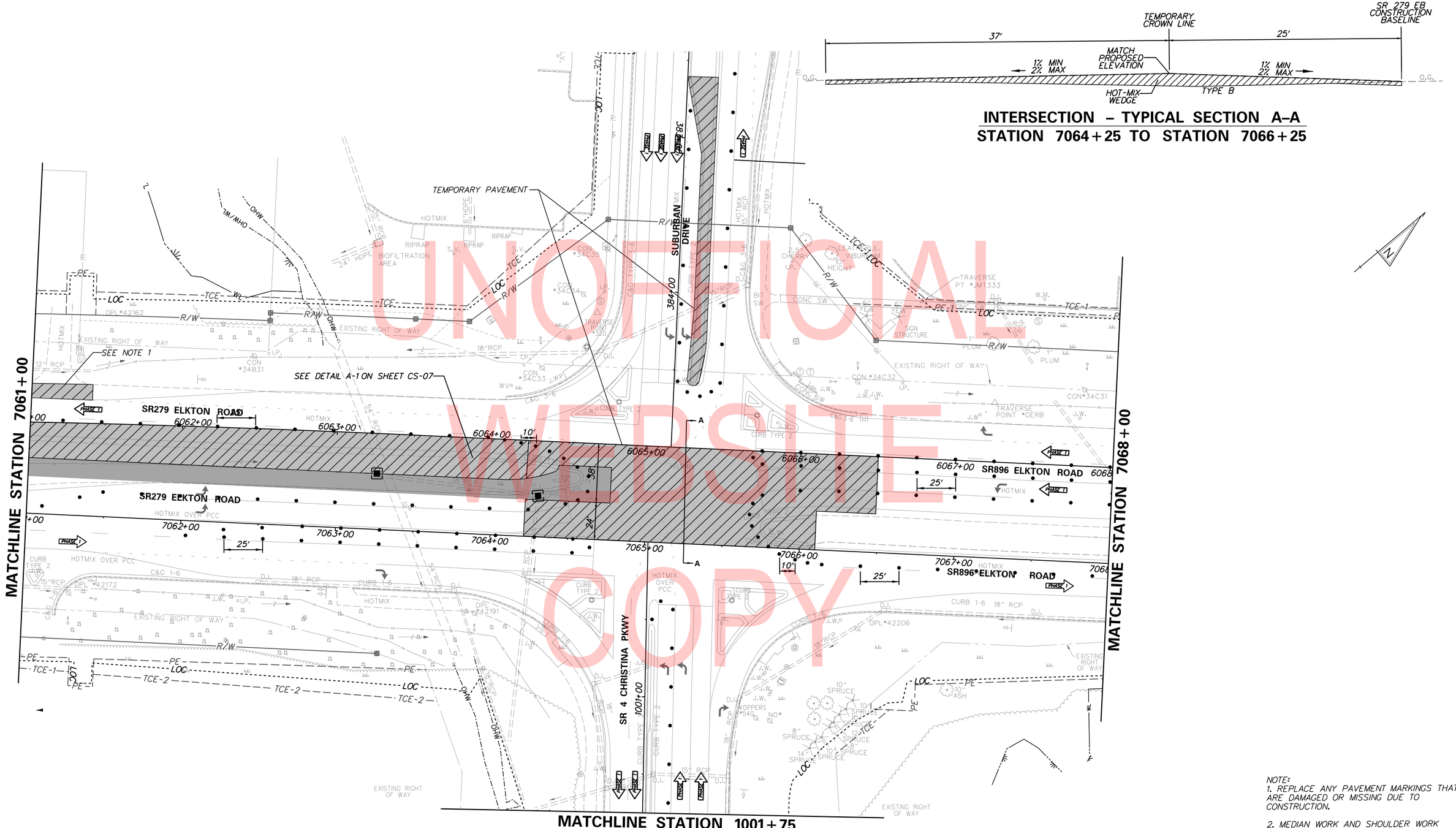
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION JMT

SHEET NO. 223

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS29]



UNOFFICIAL WEBSITE COPY

NOTE:
1. REPLACE ANY PAVEMENT MARKINGS THAT ARE DAMAGED OR MISSING DUE TO CONSTRUCTION.

2. MEDIAN WORK AND SHOULDER WORK MAY NOT BE DONE SIMULTANEOUSLY.

PHASE 1 ADVANCED WORK

CS–30

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

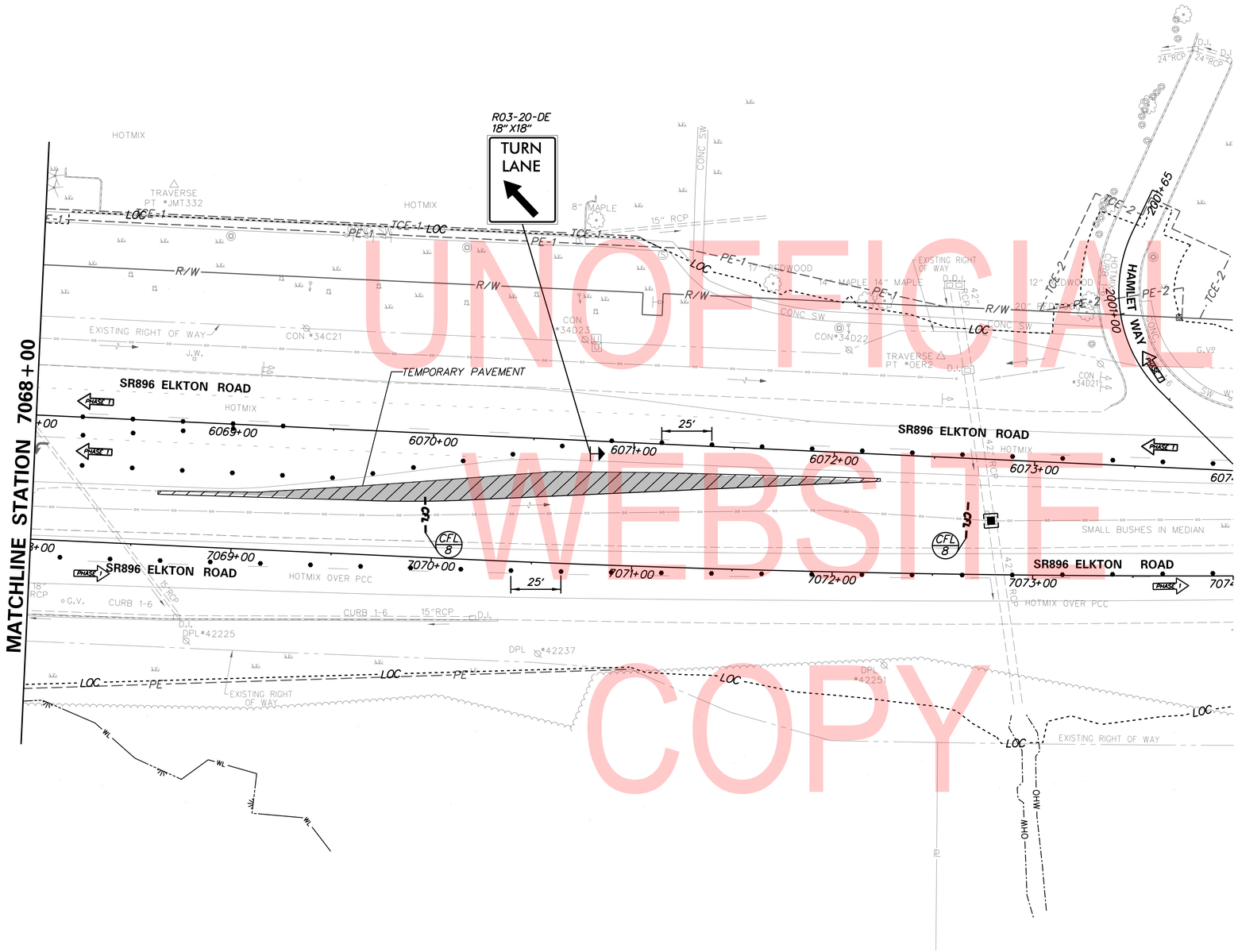
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION JMT

SHEET NO. 224

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS30]



UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE1.DGN [SHEET: CS31]

PHASE 1 ADVANCED WORK CS-31

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	JMT
SHEET NO.	225

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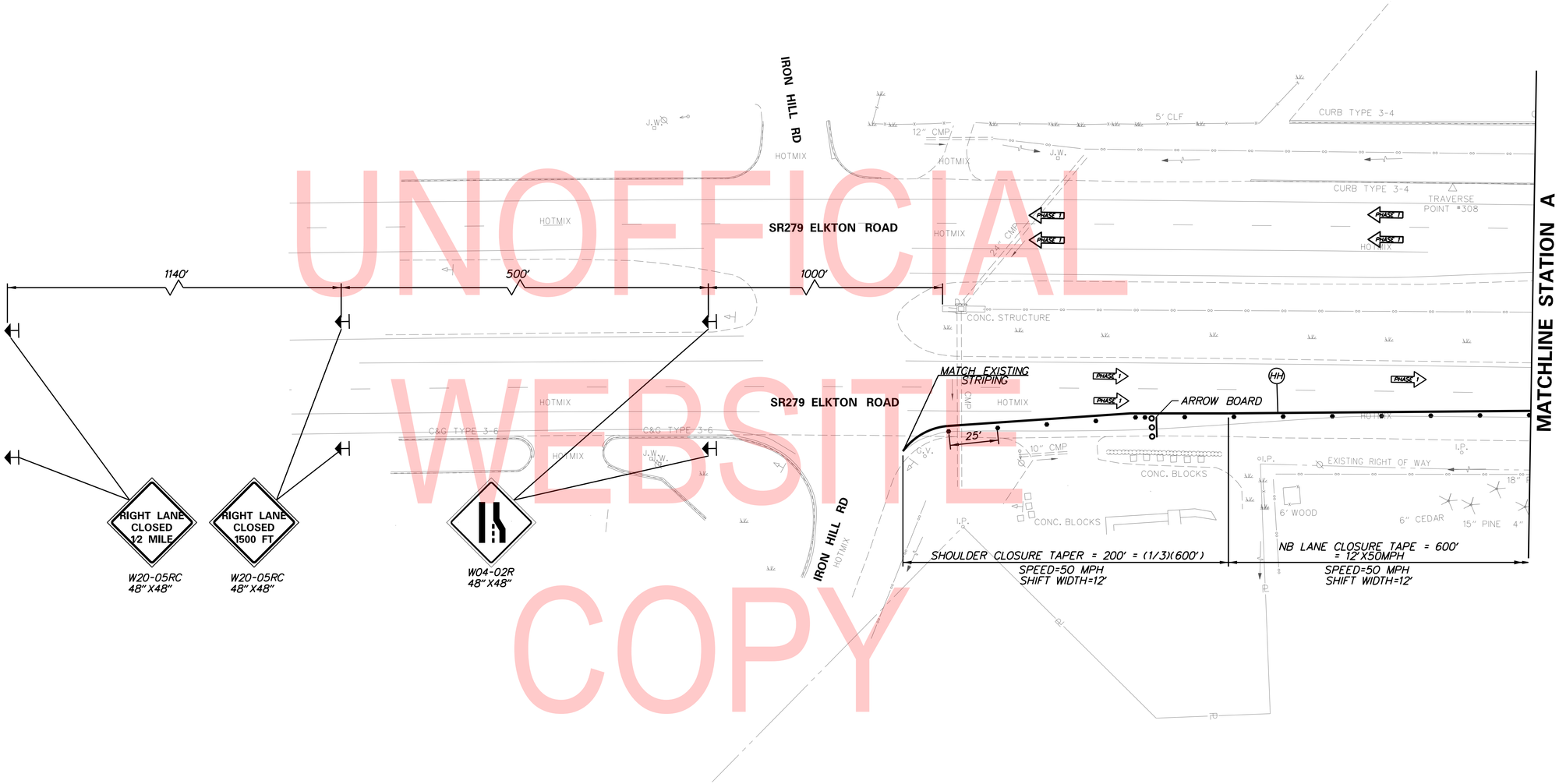
WEBSITE
COPY



TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
HH	5" WHITE SOLID EPOXY PAVEMENT MARKINGS (ITEM 549301)	360 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS32]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE
0 30 60 90
FEET

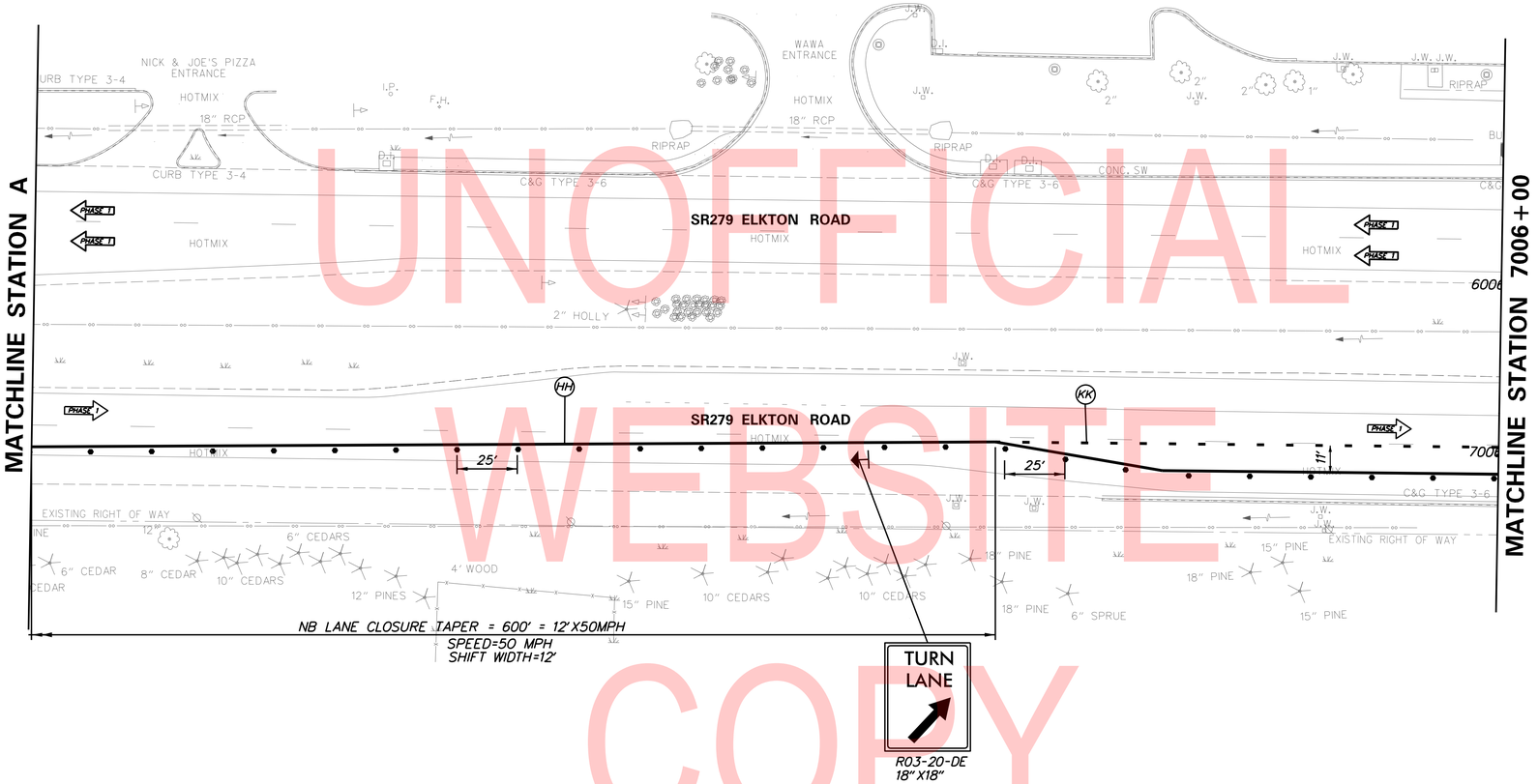
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-32

SECTION	SHEET NO.
JMT	226



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(HH)	5" WHITE SOLID EPOXY PAVEMENT MARKINGS (ITEM 549301)	665 LF
(KK)	5" WHITE SKIP 3'-9' EPOXY PAVEMENT MARKINGS (ITEM 549301)	60 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS33]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

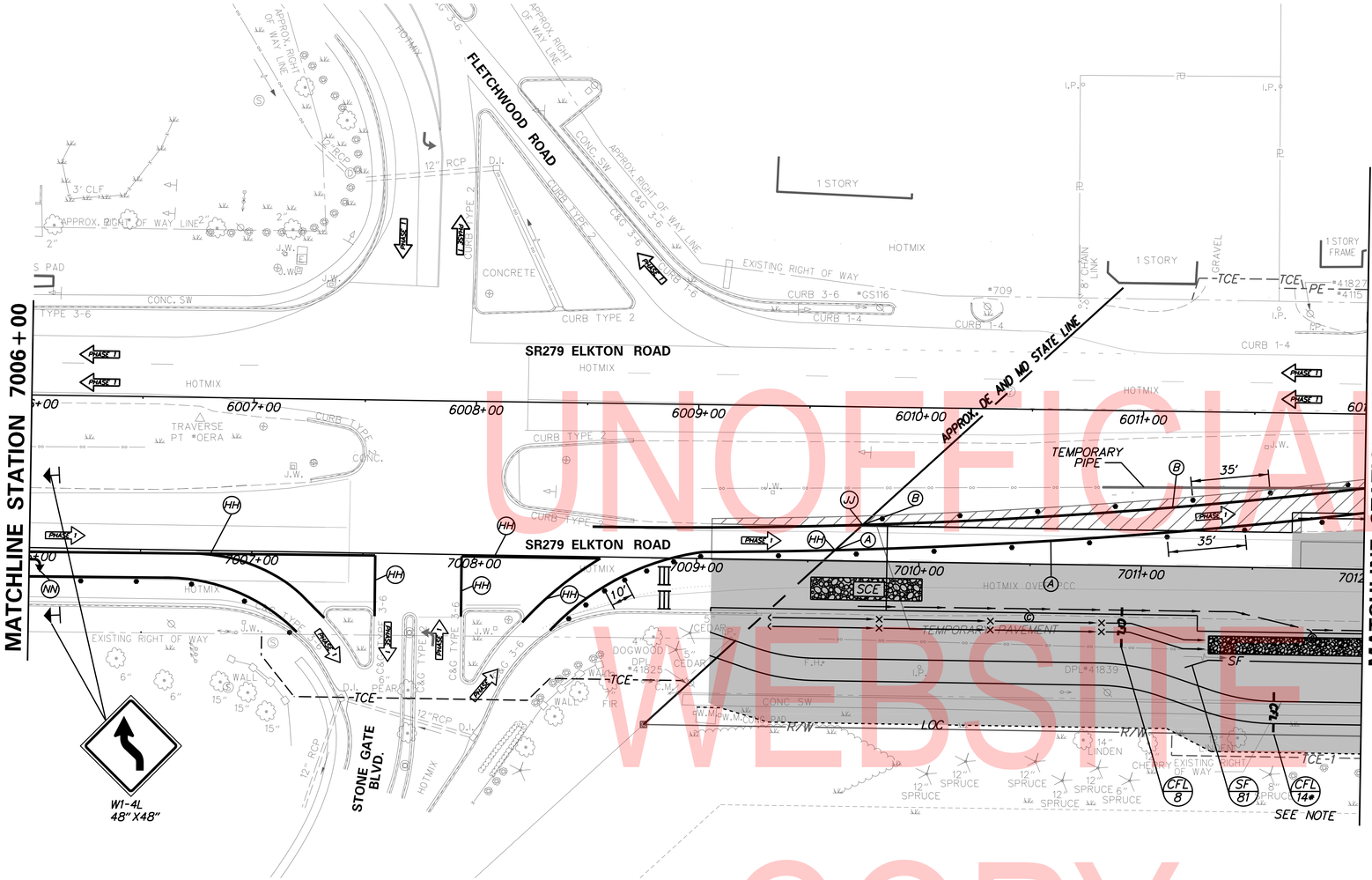
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

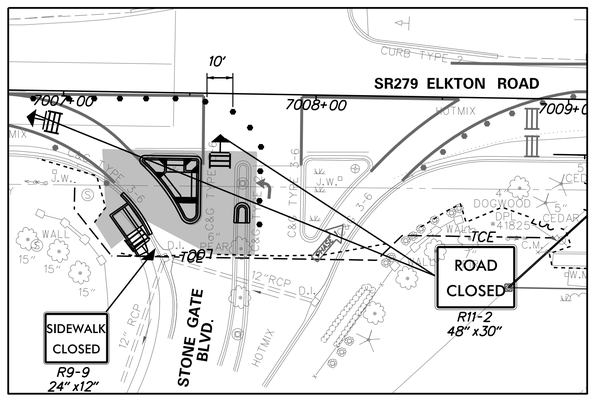
CS-33

SECTION	JMT
SHEET NO.	227

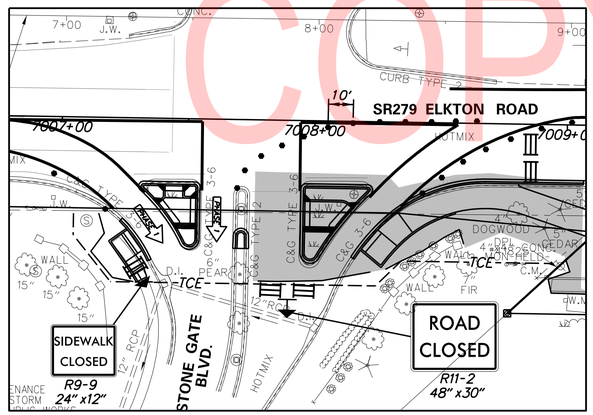


TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAVEMENT STRIPING (ITEM 817013)	384 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	347 LF
(HH)	5" WHITE SOLID EPOXY PAVEMENT MARKINGS (ITEM 549301)	720 LF
(JJ)	5" YELLOW SOLID EPOXY PAVEMENT MARKINGS (ITEM 549303)	135 LF
(NN)	PAVEMENT MARKING PAINT LEGENDS AND SYMBOLS (ITEM 549010)	20 SF

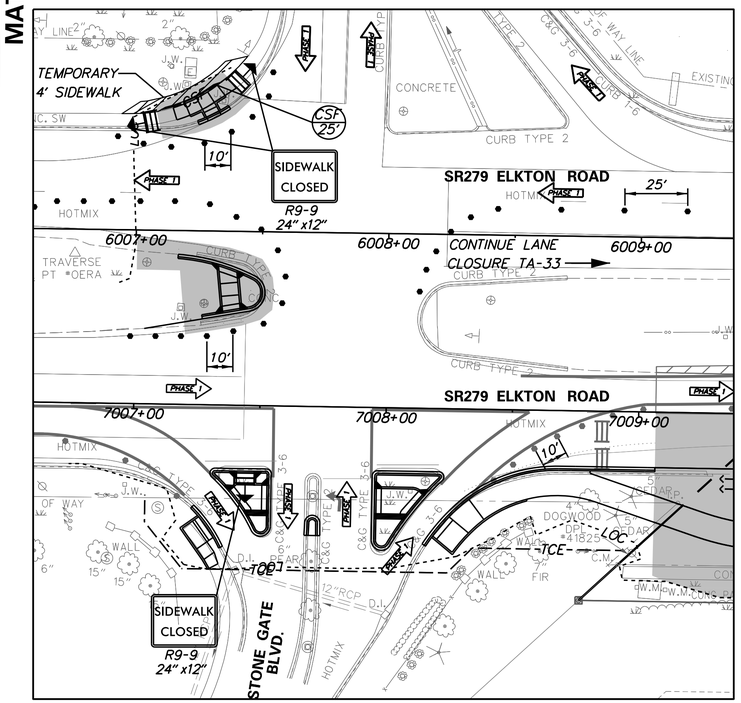
NOTE:
UNTIL SHARED USE PATH STONE BASE IS INSTALLED, UTILIZE COMPOST FILTER LOGS AT 100' SPACING IN EXCAVATED AREA OR AS DIRECTED BY THE ENGINEER.



STONE GATE BLVD. WORK OFF-PEAK HOURS
STAGE 1



STONE GATE BLVD. WORK OFF-PEAK HOURS
STAGE 2



STONE GATE BLVD. WORK OFF-PEAK HOURS
STAGE 3

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS34]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

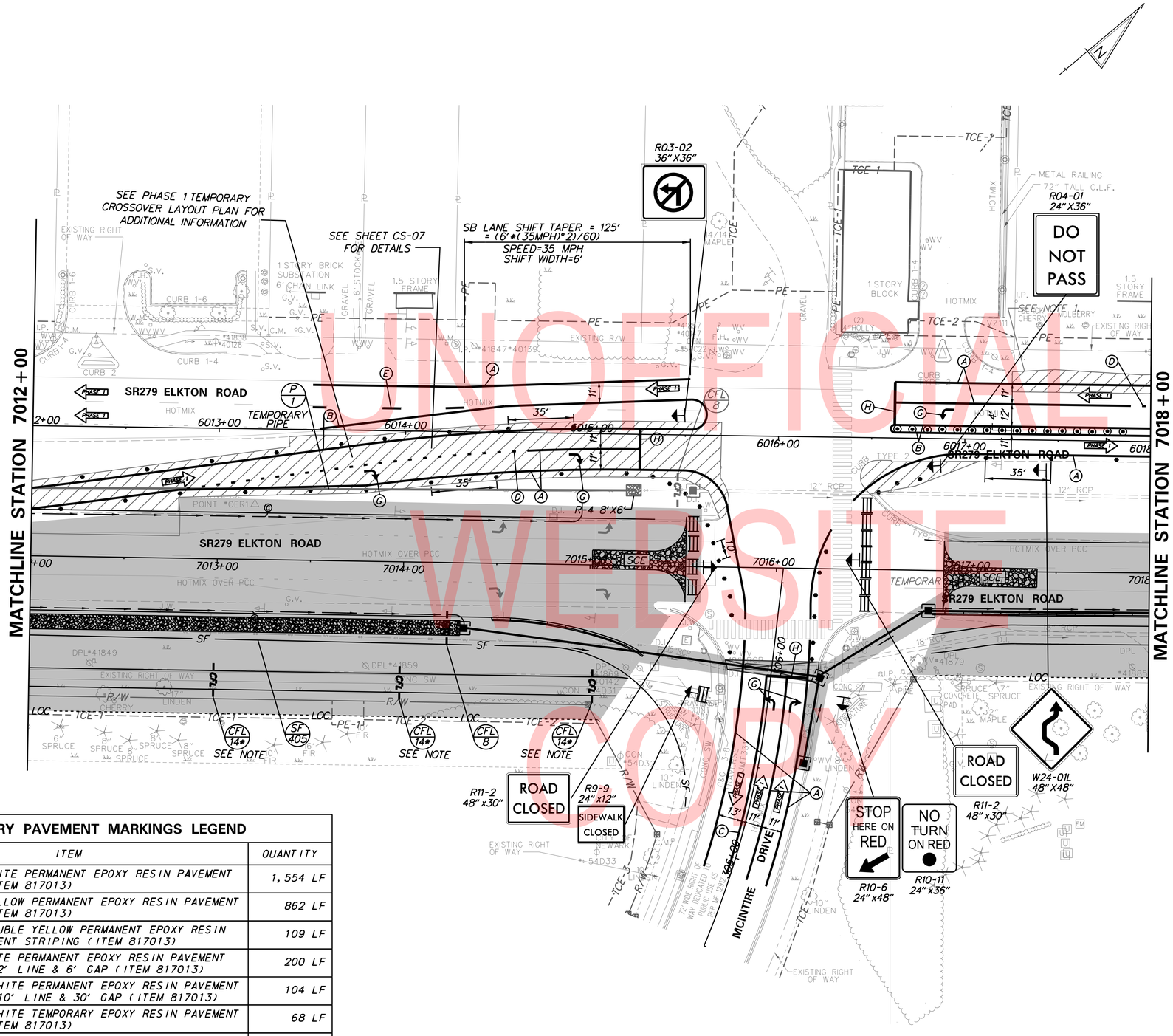
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-34

SECTION	SHEET NO.
JMT	228



TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAVEMENT STRIPING (ITEM 817013)	1,554 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAVEMENT STRIPING (ITEM 817013)	862 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	109 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	200 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	104 LF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAVEMENT STRIPING (ITEM 817013)	68 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	78 SF

NOTE:
UNTIL SHARED USE PATH STONE BASE IS INSTALLED, UTILIZE COMPOST FILTER LOGS AT 100' SPACING IN EXCAVATED AREA OR AS DIRECTED BY THE ENGINEER.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\1406659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS35]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

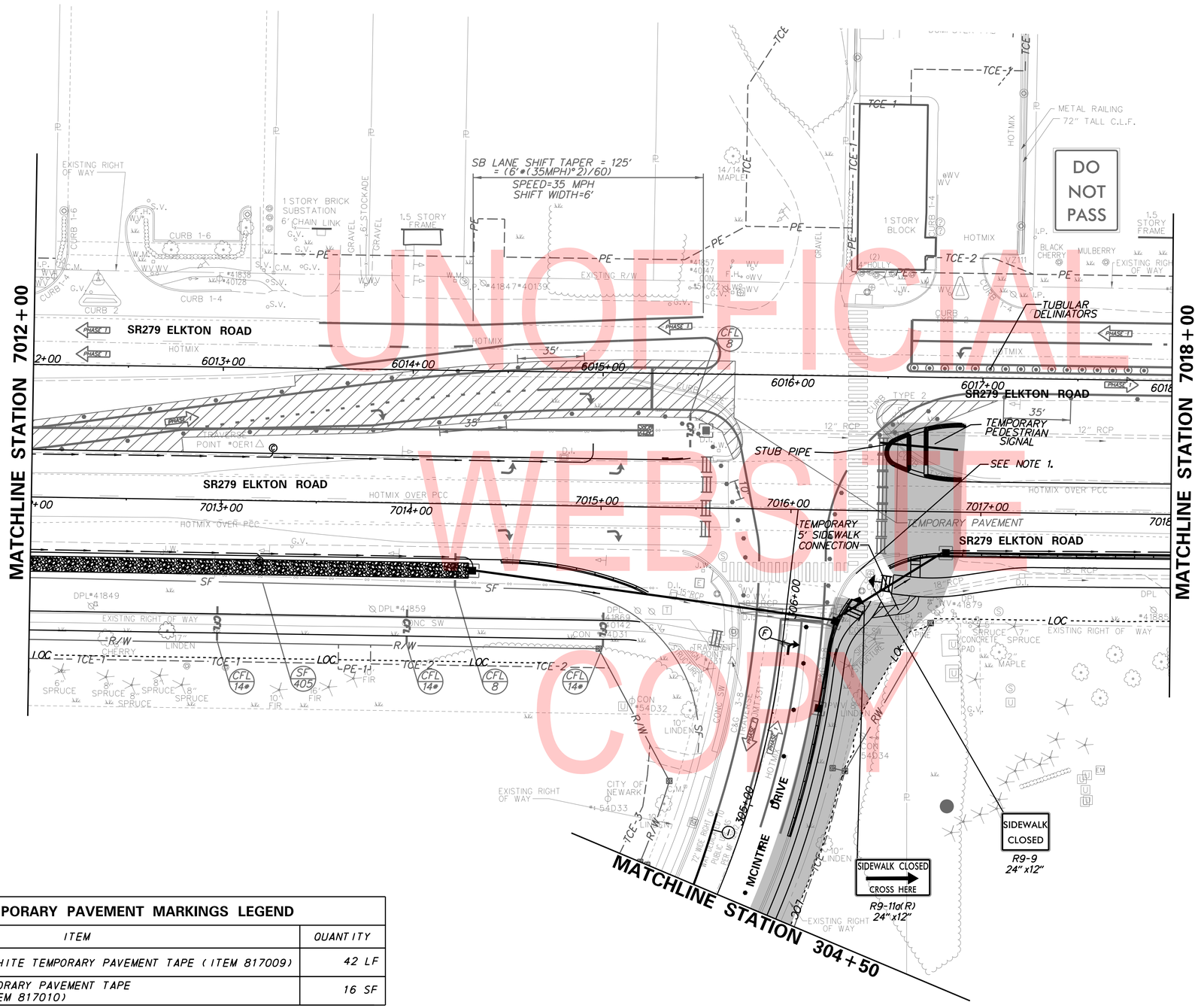
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-35

SECTION	SHEET NO.
JMT	229



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(1)	4" SOLID WHITE TEMPORARY PAVEMENT TAPE (ITEM 817009)	42 LF
(F)	WHITE TEMPORARY PAVEMENT TAPE SYMBOL (ITEM 817010)	16 SF

NOTES:
1. NE CORNER TO BE COMPLETED DURING PHASE 1 STAGE 2.

MCINTIRE DRIVE – STAGE 1

CS-36

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

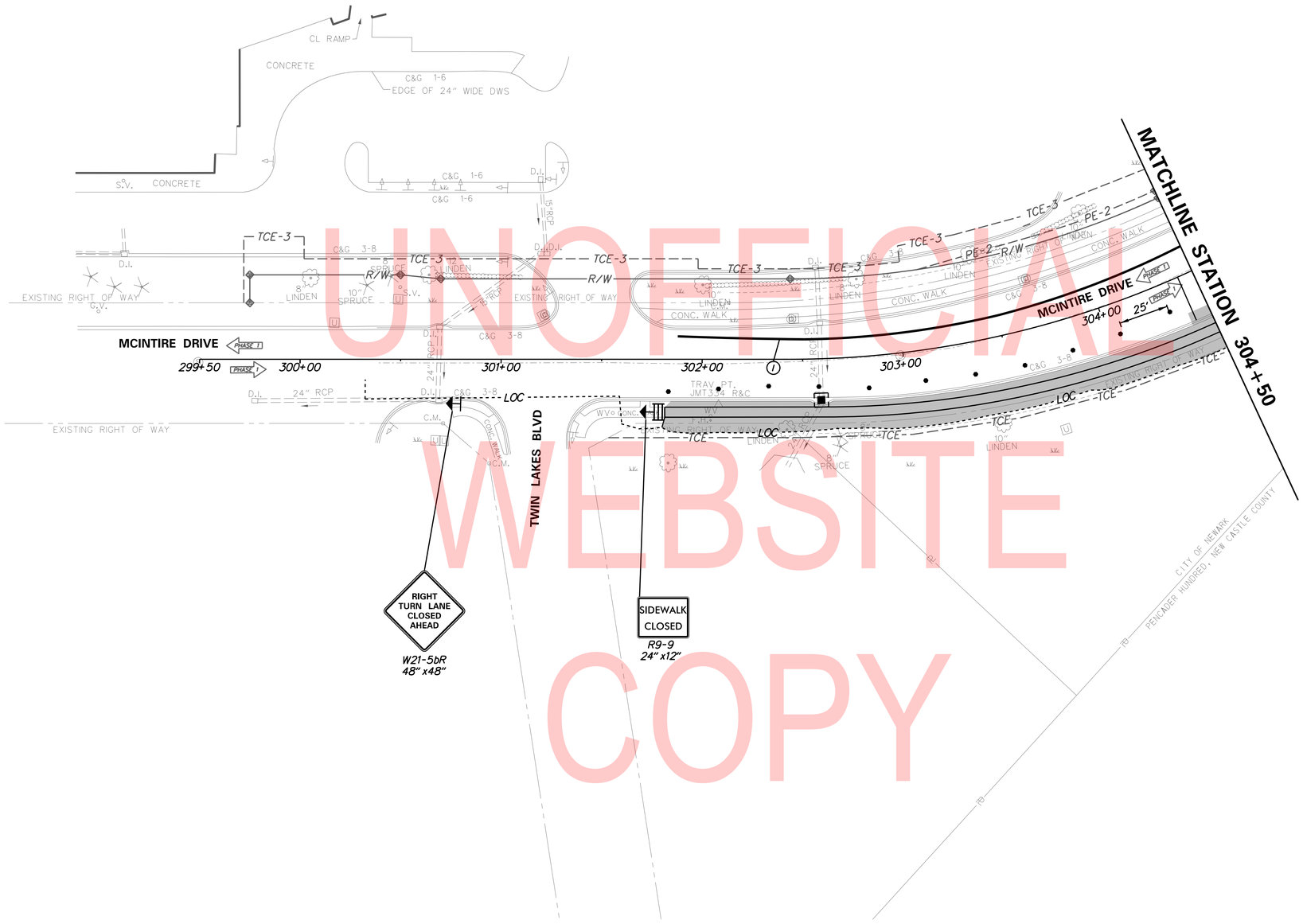
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION JMT

SHEET NO. 230

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS36]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
①	4" SOLID WHITE TEMPORARY PAVEMENT TAPE (ITEM 817009)	258 LF

MCINTIRE DRIVE – STAGE 1

CS-37

ADDENDA / REVISIONS		
⚠1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE
0 30 60 90
FEET

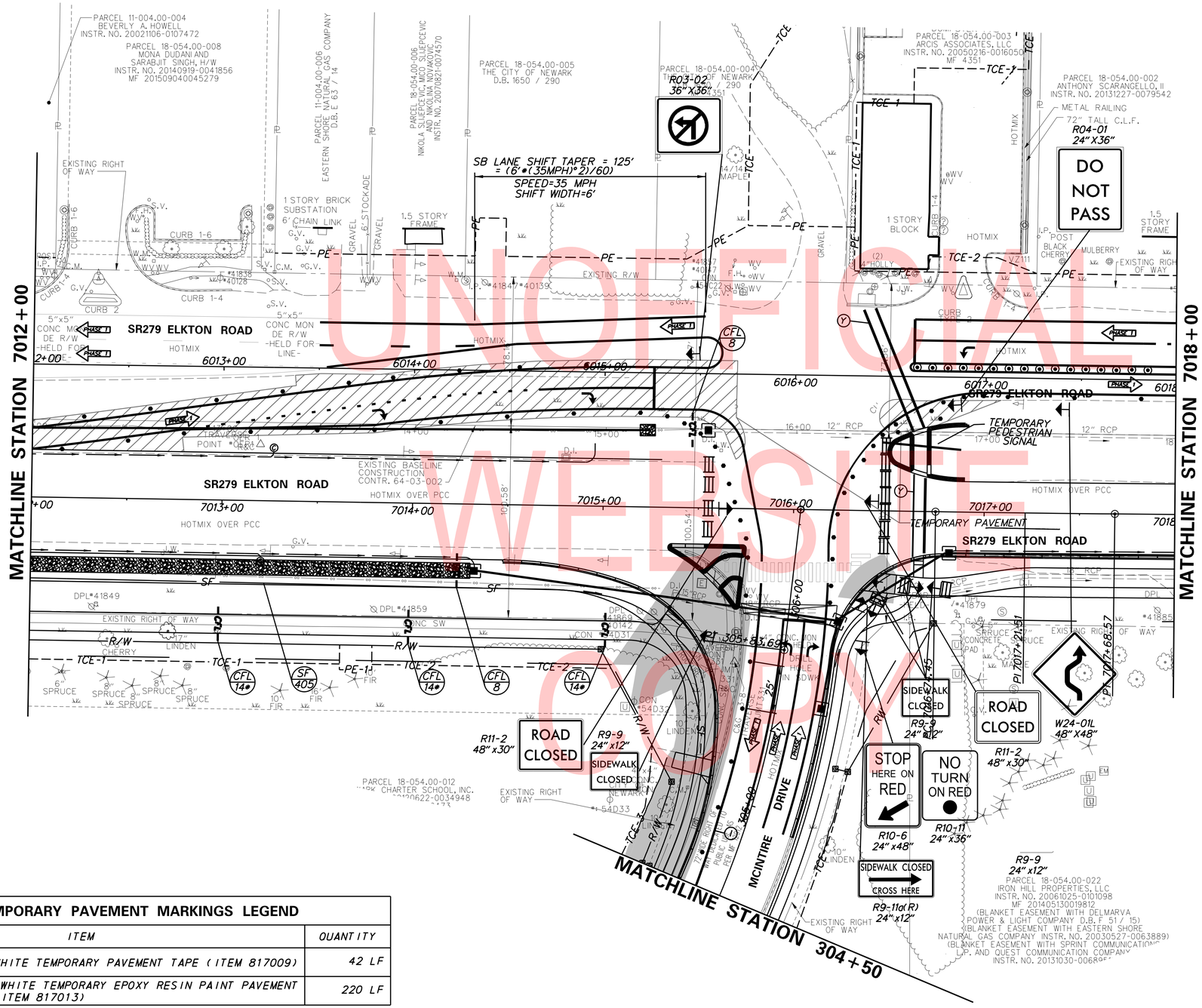
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

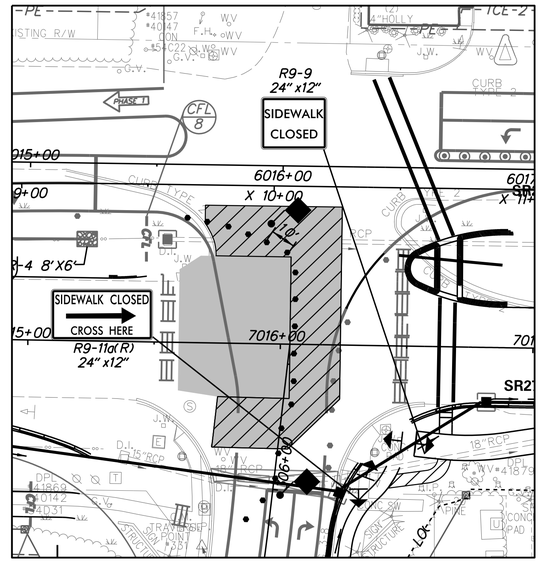
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

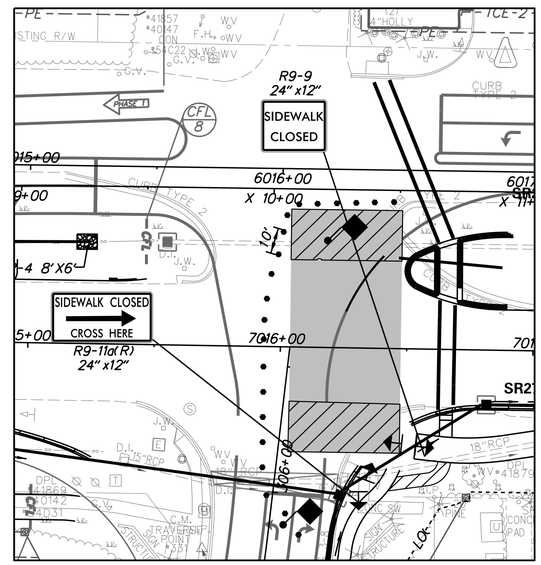
SECTION	SHEET NO.
JMT	231

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS37]





STAGE 2 – WEEKEND NIGHTS



STAGE 2 – WEEKEND NIGHTS

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(1)	4" SOLID WHITE TEMPORARY PAVEMENT TAPE (ITEM 817009)	42 LF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	220 LF

MCINTIRE DRIVE – STAGE 2

CS-38

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

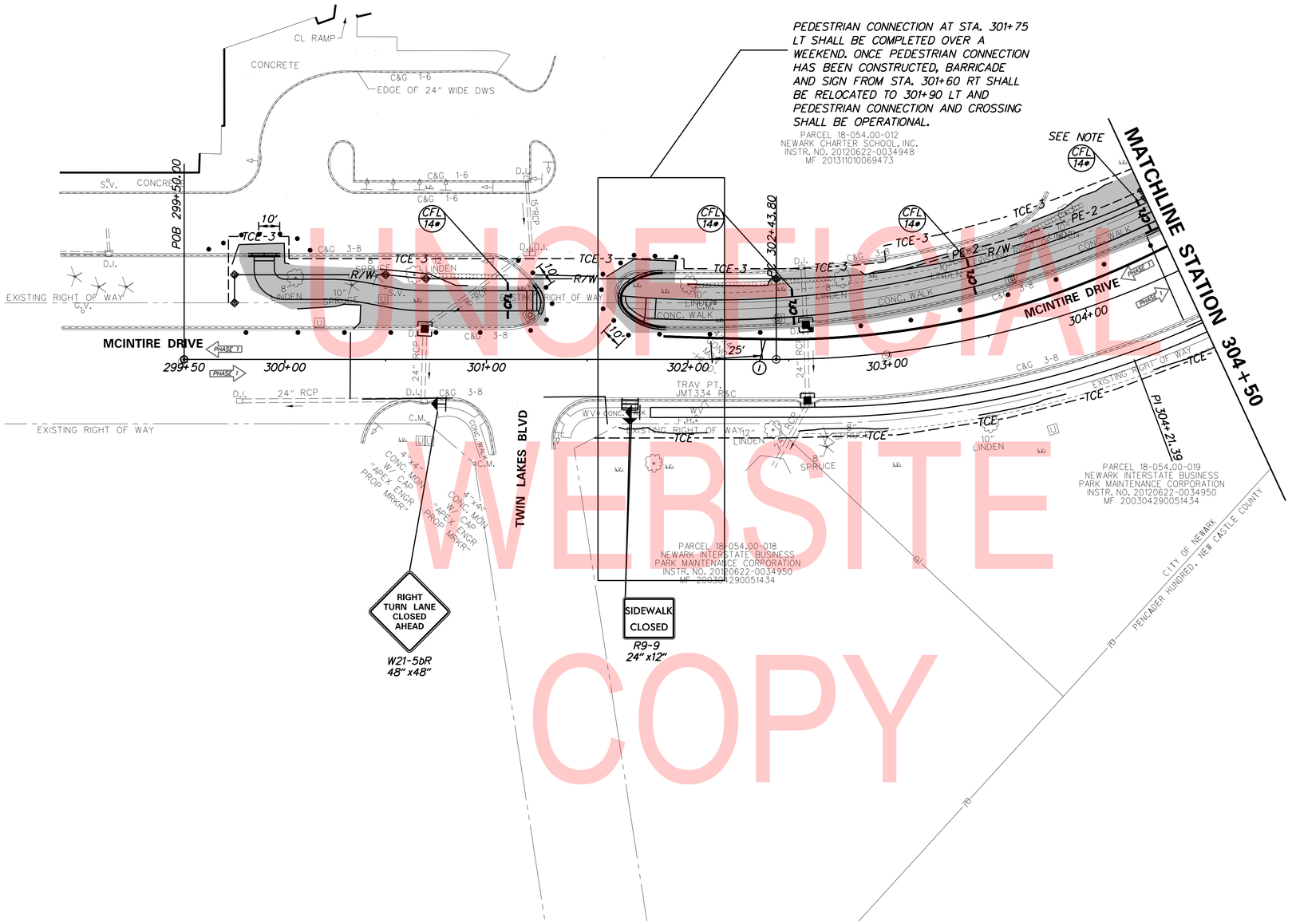
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	SHEET NO.
JMT	232

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS38]

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
①	4" SOLID WHITE TEMPORARY PAVEMENT TAPE (ITEM 817009)	258 LF



UNOFFICIAL WEBSITE COPY

NOTE:
UNTIL SHARED USE PATH STONE BASE IS INSTALLED, UTILIZE COMPOST FILTER LOGS AT 100' SPACING IN EXCAVATED AREA OR AS DIRECTED BY THE ENGINEER.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS39]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

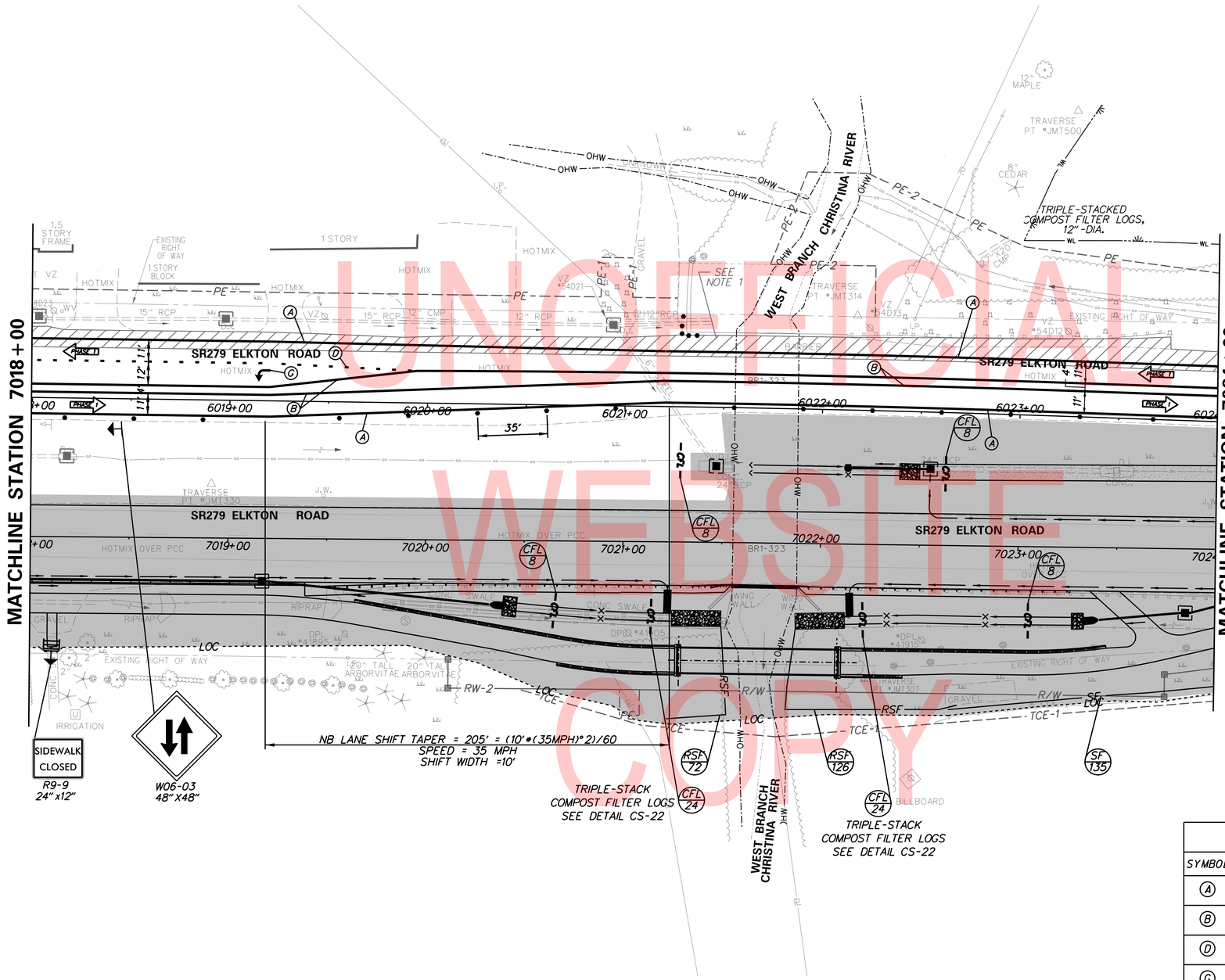
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

MCINTIRE DRIVE – STAGE 2

CS-39	
SECTION	JMT
SHEET NO.	233



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,201 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,202 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	194 LF
(C)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	16 SF

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P	
T201504401		1-323 1-323P	
COUNTY	DESIGNED BY: LB		
NEW CASTLE	CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS–40

SECTION	SHEET NO.
JMT	234

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS40]

UNOFFICIAL WEBSITE COPY

SB LANE SHIFT TAPER = 65'
= (3*(35MPH)*2)/60
SPEED=35 MPH
SHIFT WIDTH=3'

NB LANE SHIFT TAPER = 265' = (14'*(35MPH)*2)/60
SPEED=35 MPH
SHIFT WIDTH=14'

CROSSVIEW BUSINESS PARK ENTRANCE

SR279 ELKTON ROAD

MATCHLINE STATION 7024+00

MATCHLINE STATION 7030+50

MATCHLINE STATION 106+00

OTTS CHAPEL ROAD

R-4 8'X6'

TEMPORARY PIPE

TEMPORARY PAVEMENT

ROAD CLOSED
R11-2
48" x30"

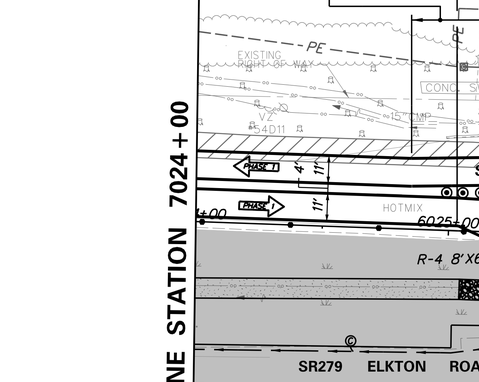
R01-01
36" X36"
STOP

R03-05R
24" X36"
ONLY

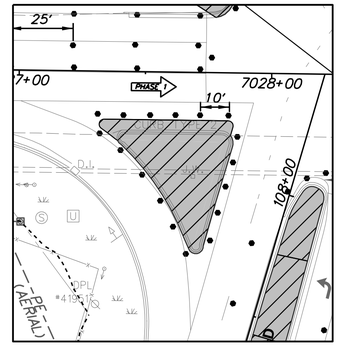
STOP HERE ON RED
R10-6
24" x48"

NO TURN ON RED
R10-11
24" x36"

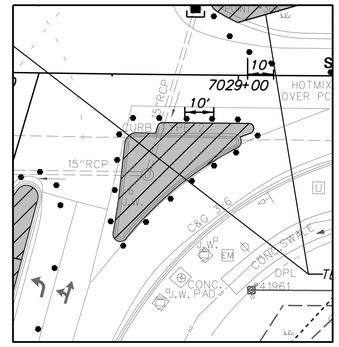
SEE NOTE 1



ENTRANCE WORK OFF-PEAK HOURS
STAGE 1



ELKTON ROAD
PHASE 1 ISLAND WORK



ELKTON ROAD
PHASE 1 ISLAND WORK

NOTE:
ISLAND WORK IS TO BE DONE SEPARATE FROM OTTS CHAPEL MEDIAN WORK.

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	2,202 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,442 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	671 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	280 LF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	80 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	108 SF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS41]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

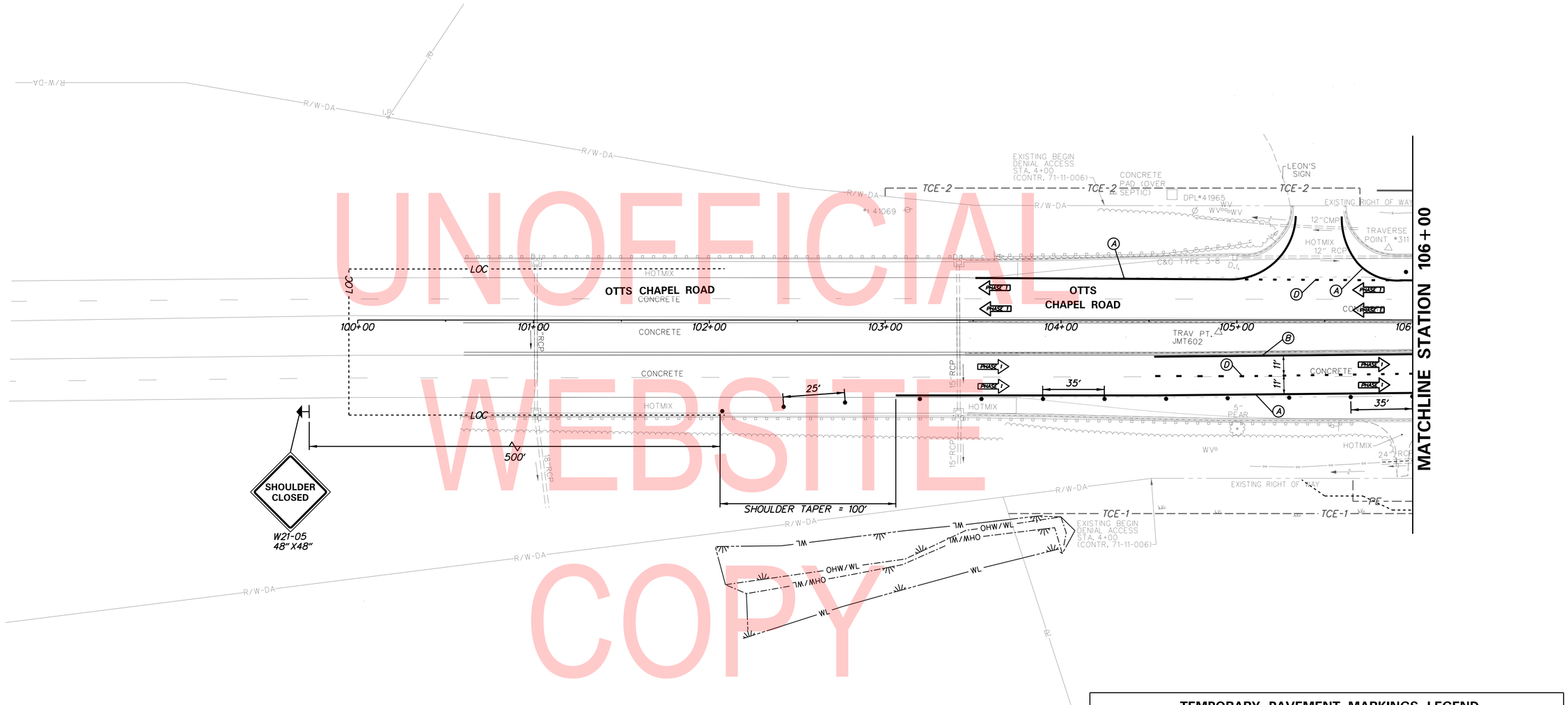
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-41

SECTION	SHEET NO.
JMT	235

UNOFFICIAL WEBSITE COPY



TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	560 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	148 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	249 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS42]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

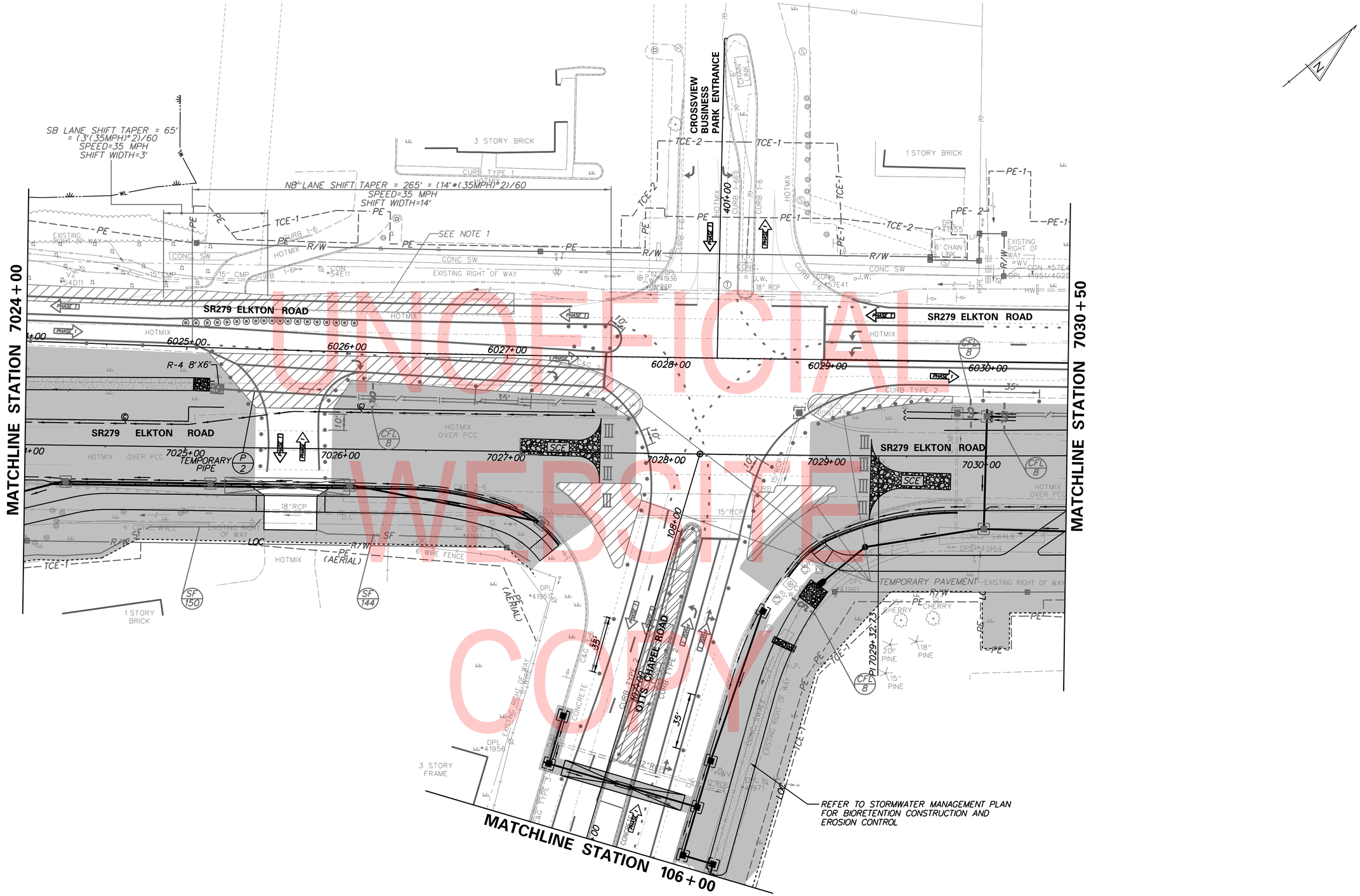
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-42
SECTION JMT
SHEET NO. 236



UNOFFICIAL WEBSITE COPY

OTTS CHAPEL – STAGE 1 | CS-43

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

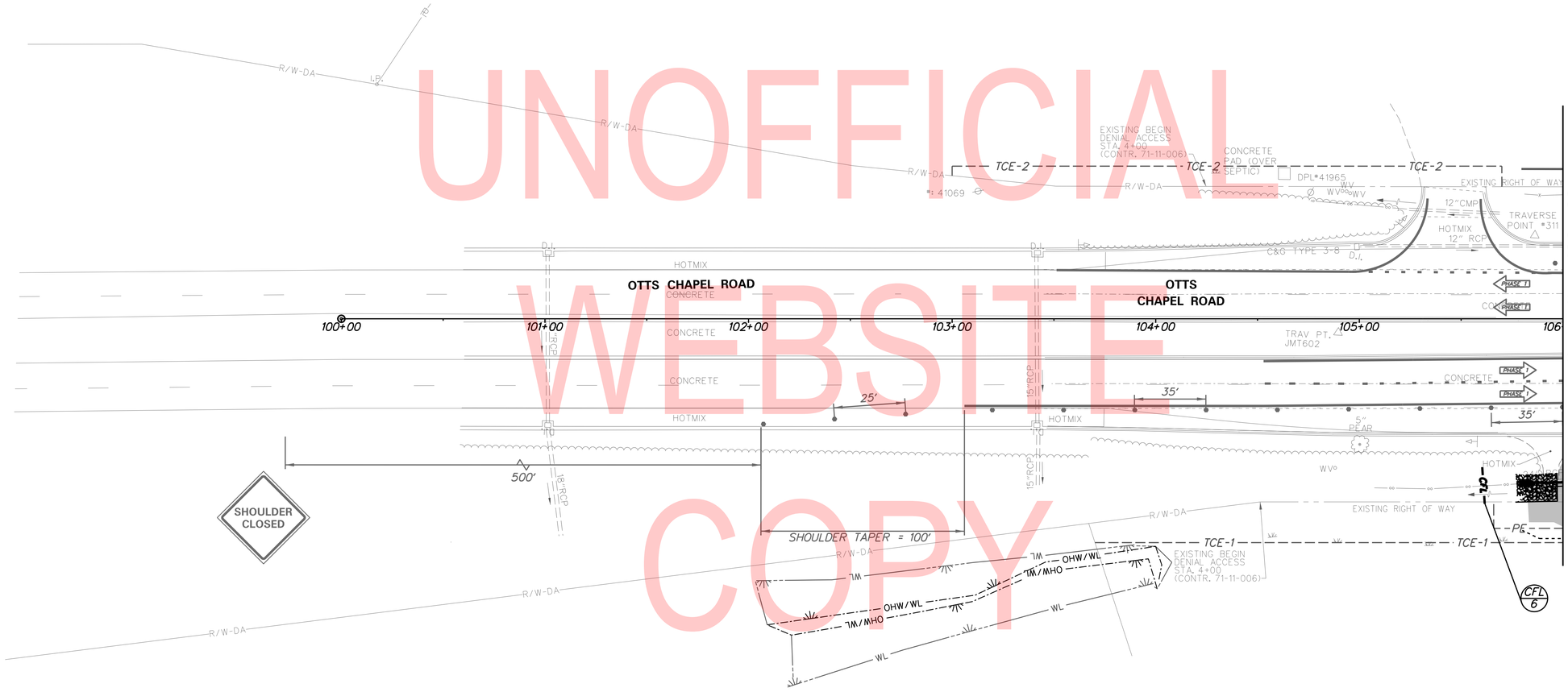
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	SHEET NO.
JMT	237

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS43]

UNOFFICIAL
WEBSITE
COPY



OTTS CHAPEL – STAGE 1 | CS–44

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

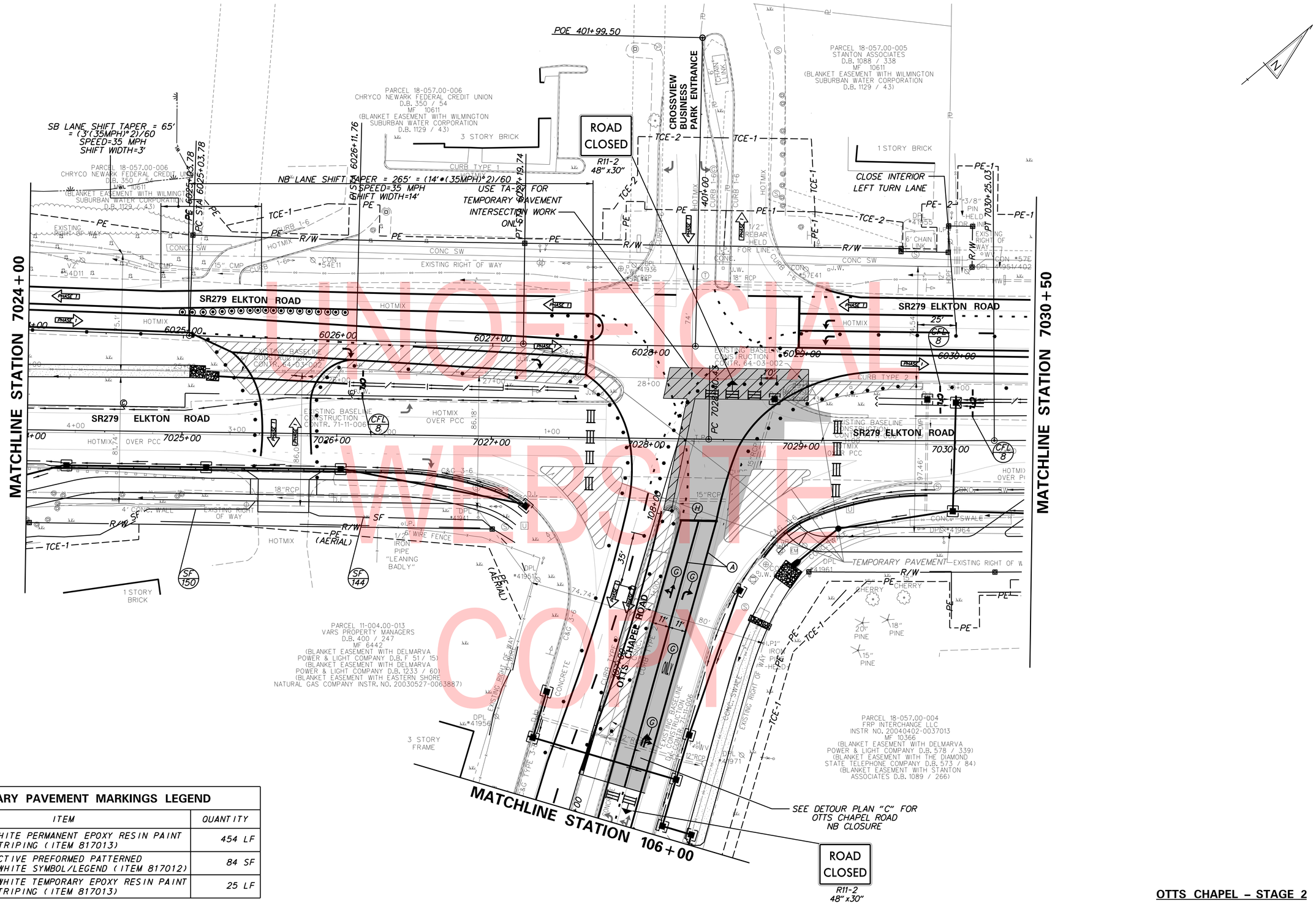
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	JMT
SHEET NO.	238

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS44]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	454 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	84 SF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	25 LF

ADDENDA / REVISIONS

1 REPLACED PAGES 1 THRU 432 — 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

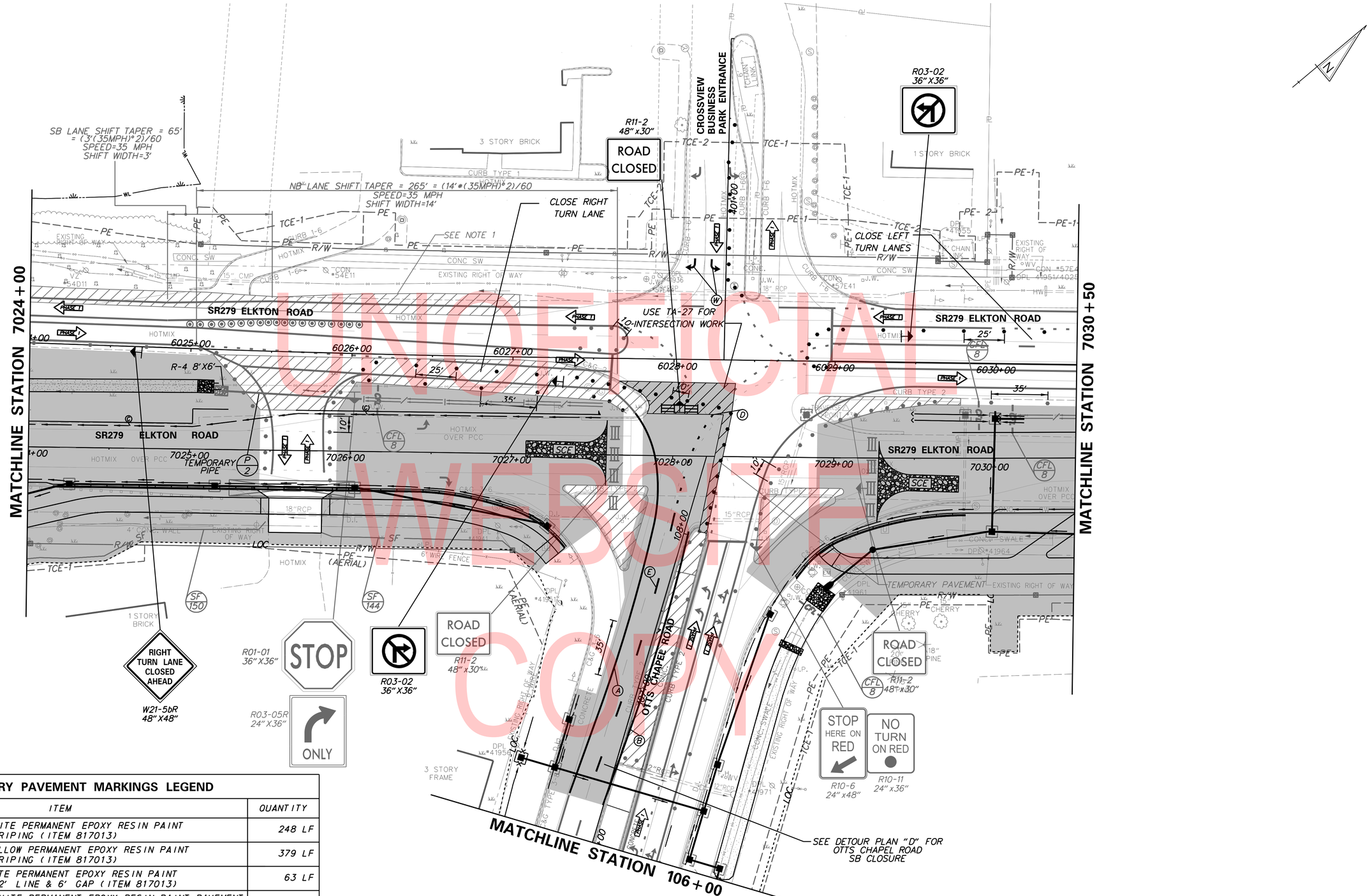
CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

OTTS CHAPEL – STAGE 2
WEEKEND WORK

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-45
SECTION JMT
SHEET NO. 239

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS45]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	248 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	379 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	63 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	185 LF
(F)	WHITE TEMPORARY PAVEMENT TAPE SYMBOL (ITEM 817010)	32 SF

ADDENDA / REVISIONS

1 REPLACED PAGES 1 THRU 432 — 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

OTTS CHAPEL – STAGE 3
WEEKEND WORK

CS-46
SECTION JMT
SHEET NO. 240

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MLL\CADD\CS00_PHASE1.DGN [SHEET: CS46]

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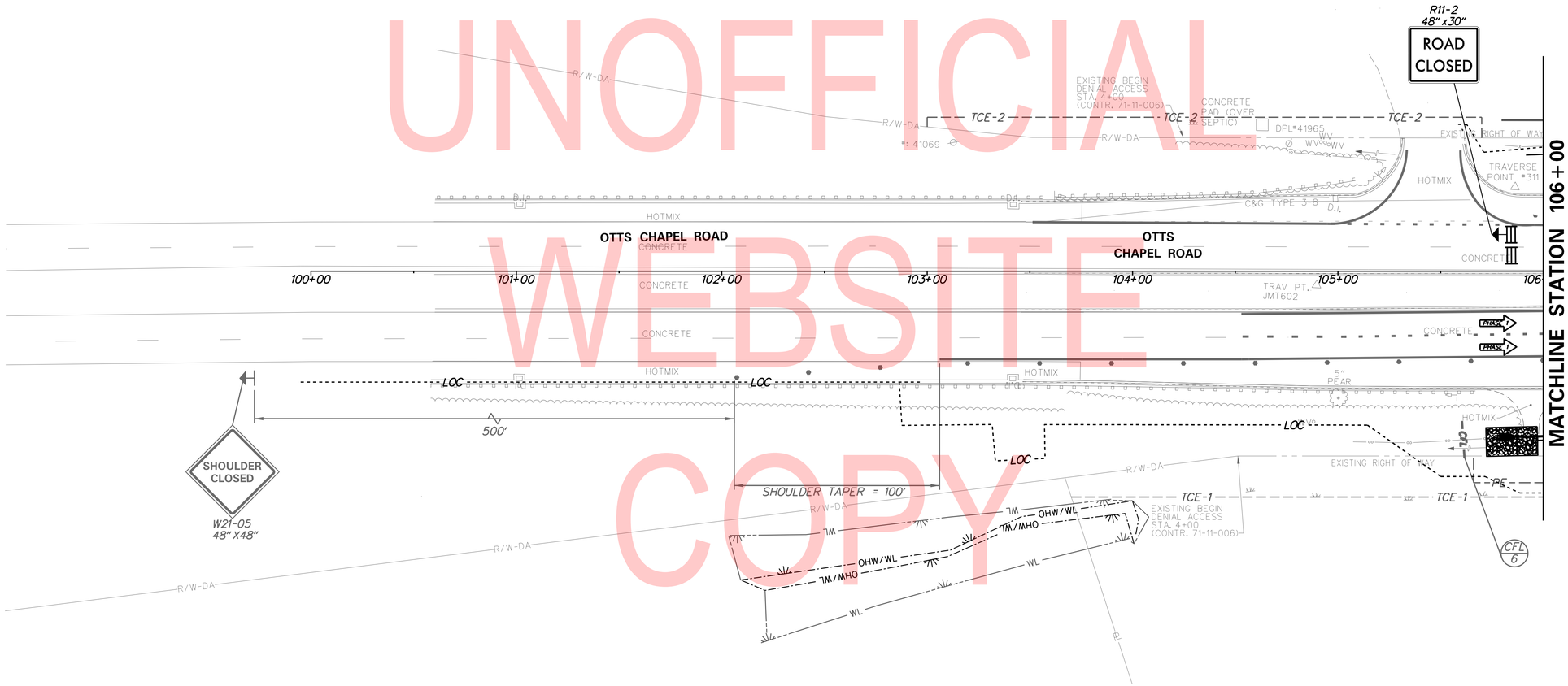


PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS47]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

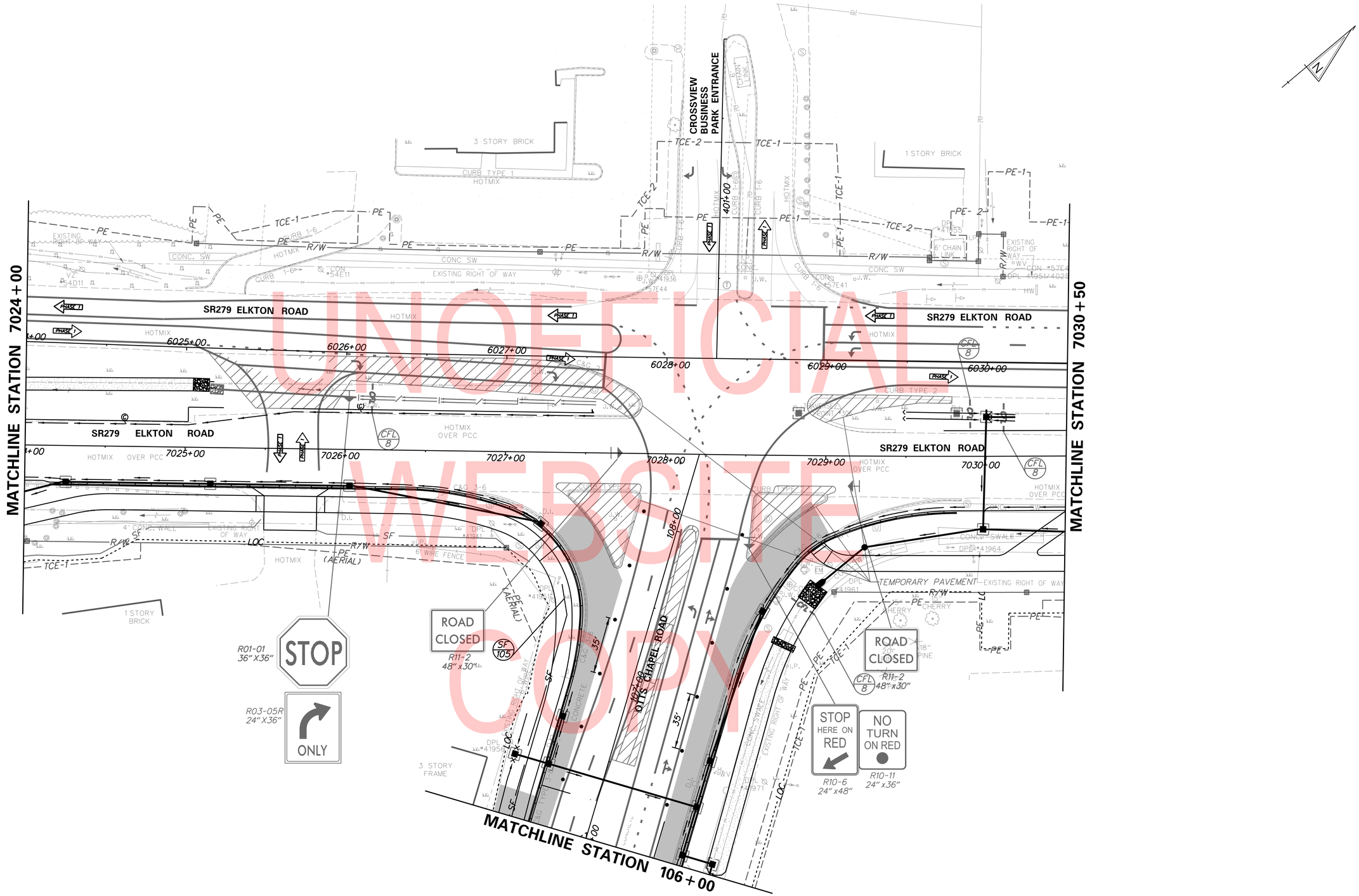
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

OTTS CHAPEL – STAGE 3
WEEKEND WORK

	CS-47
SECTION	JMT
SHEET NO.	241



UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS48]

OTTS CHAPEL – STAGE 4 | CS-48

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

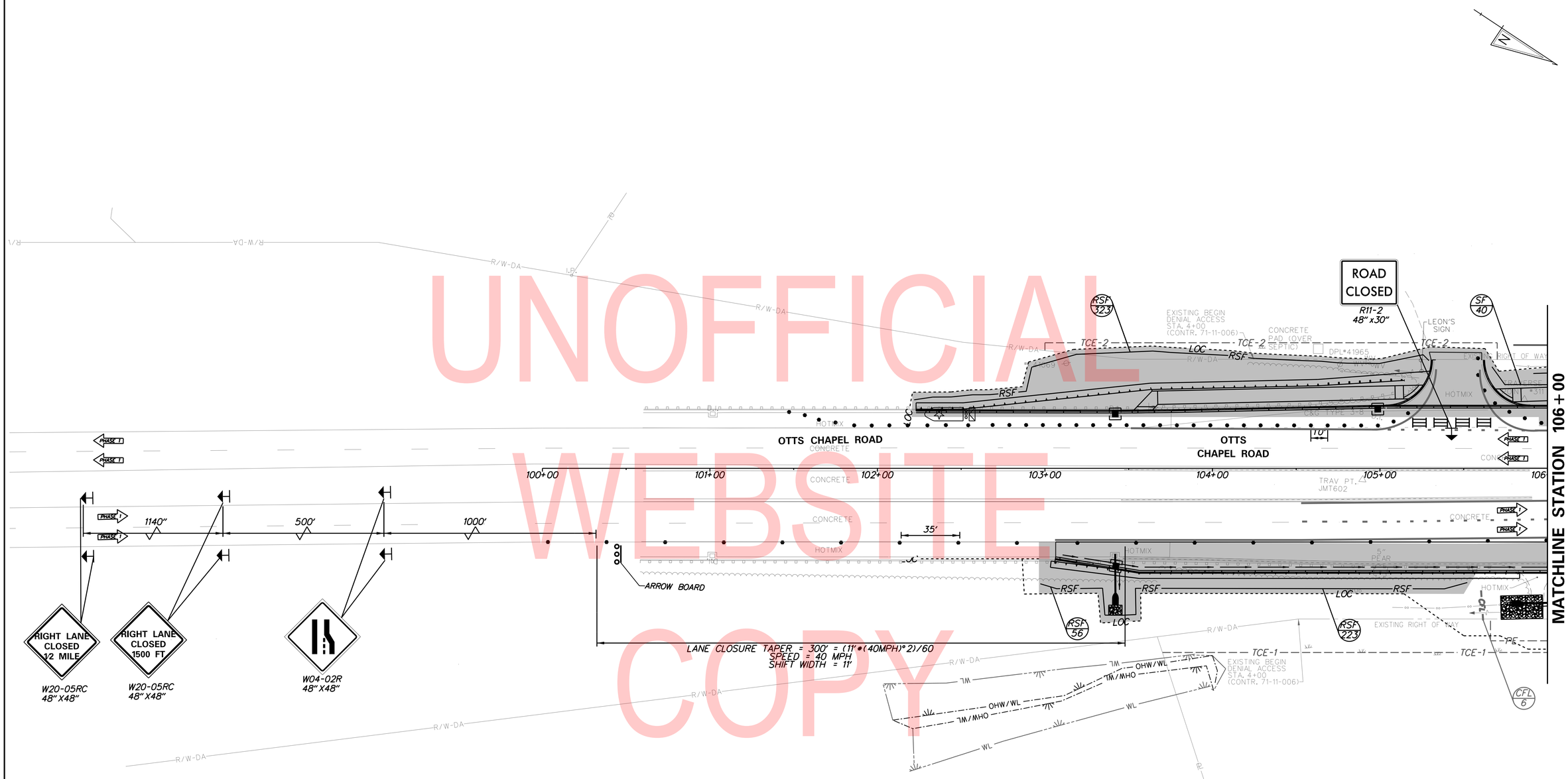
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION: JMT
SHEET NO.: 242

UNOFFICIAL WEBSITE COPY



PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS49]

OTTS CHAPEL – STAGE 4 | CS–49

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

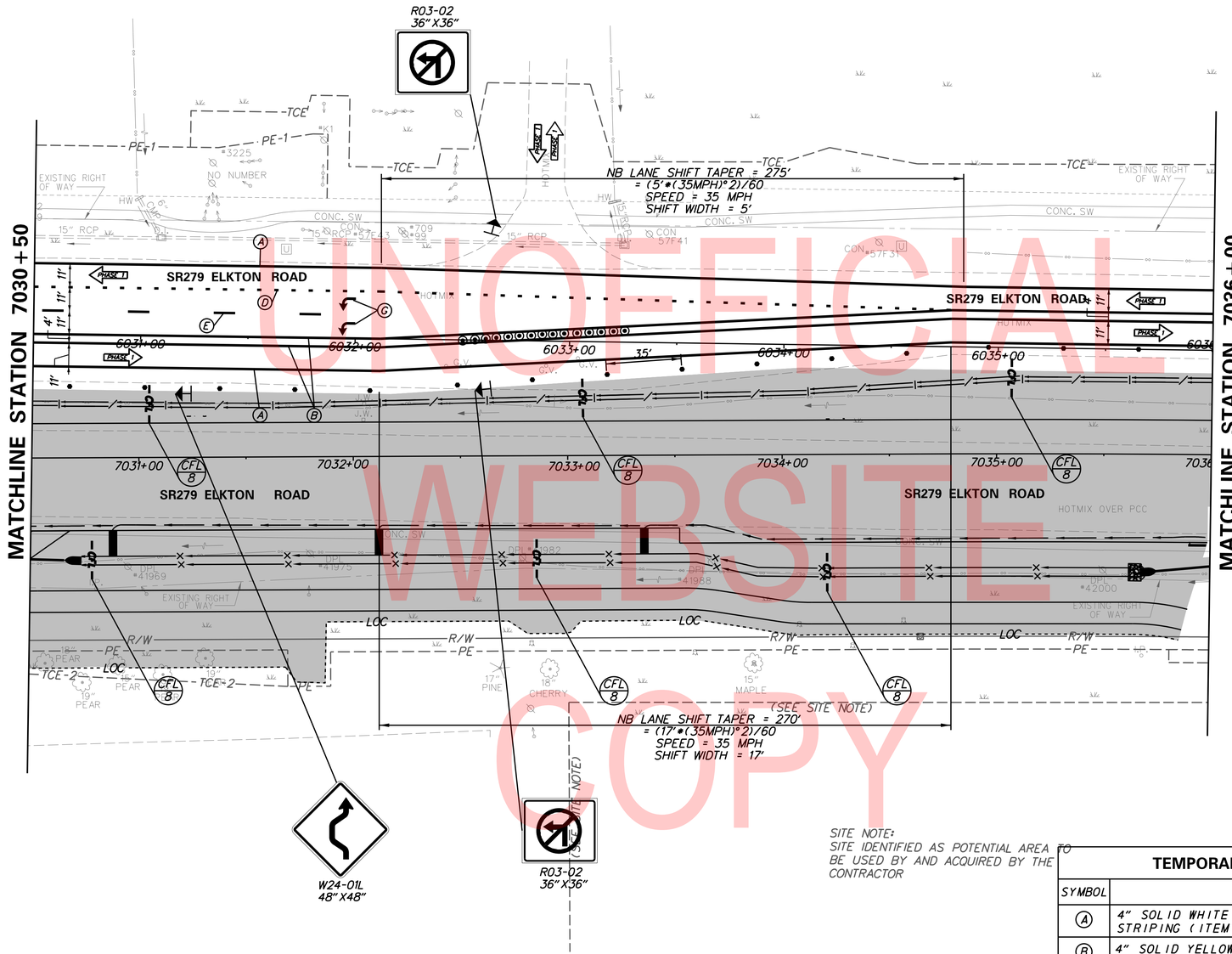
SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	SHEET NO.
JMT	243



UNOFICIAL WEBSITE COPY

SITE NOTE:
SITE IDENTIFIED AS POTENTIAL AREA TO BE USED BY AND ACQUIRED BY THE CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,101 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,102 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	434 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	162 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	32 SF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS50]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

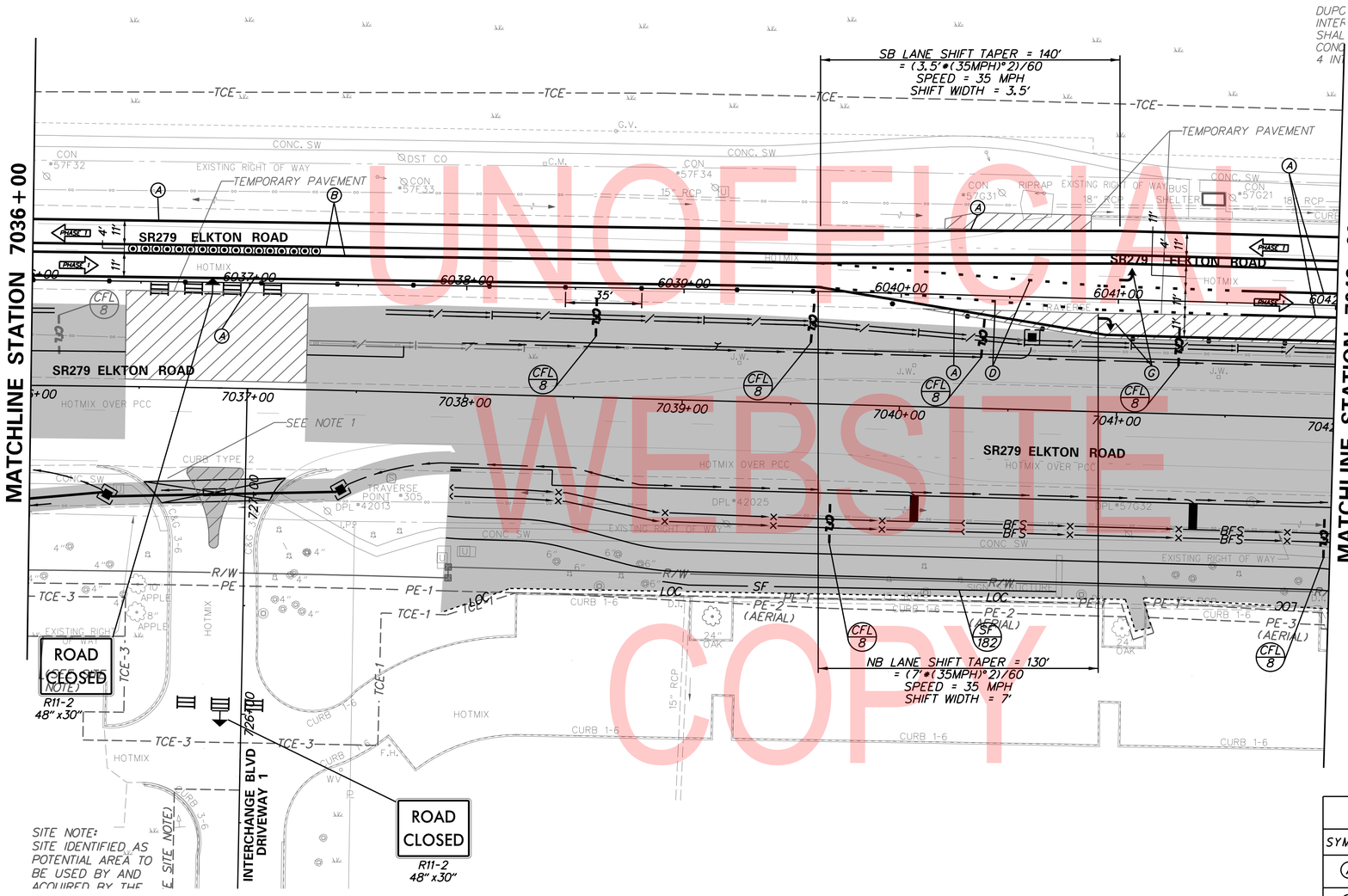
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-50

SECTION	JMT
SHEET NO.	244



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,292 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,202 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	391 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	30 SF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS51]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

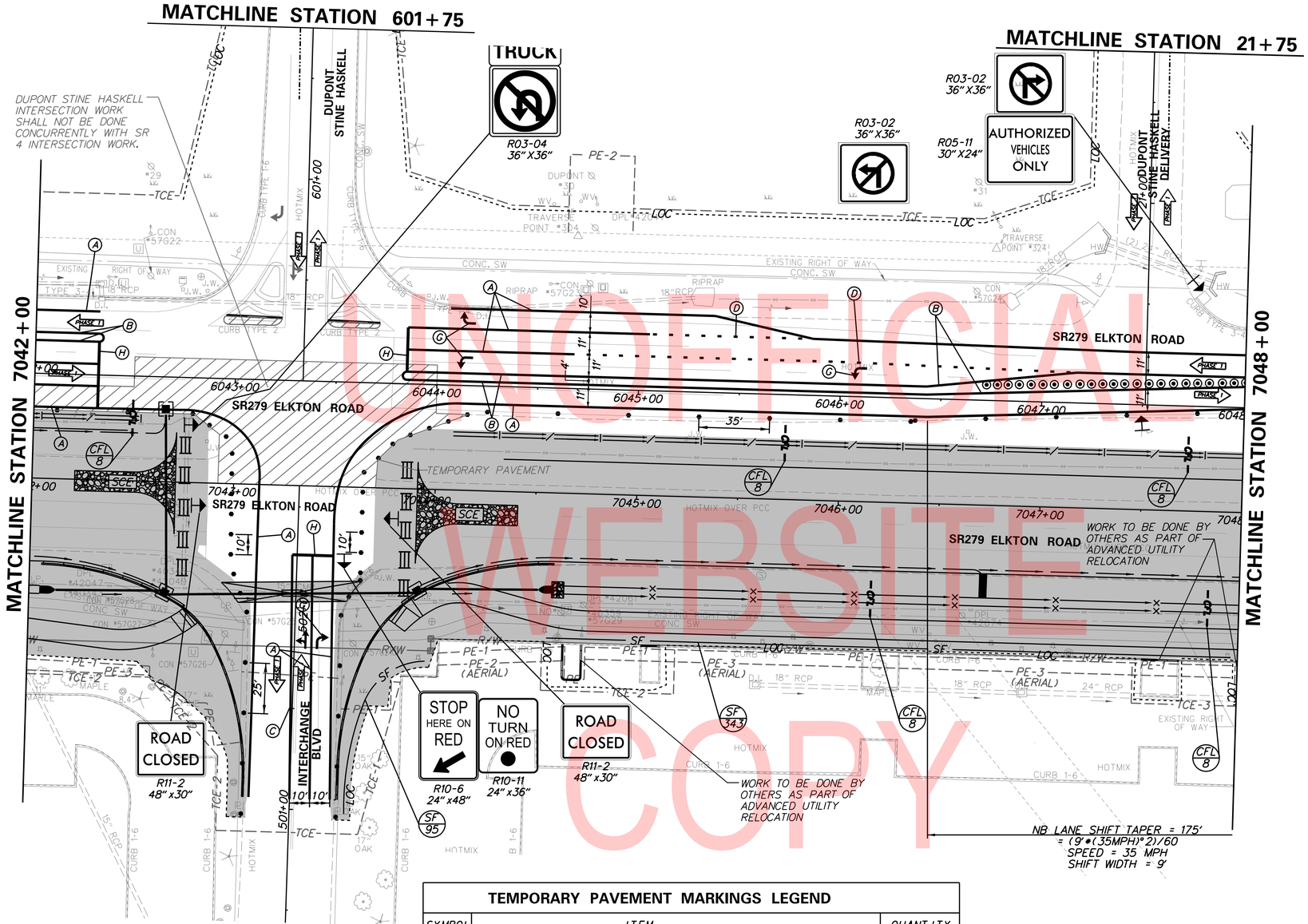
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1
T201504401		1-323 1-323P	
COUNTY	DESIGNED BY: LB		
NEW CASTLE	CHECKED BY: BPH		

CS–51

SECTION	JMT
SHEET NO.	245



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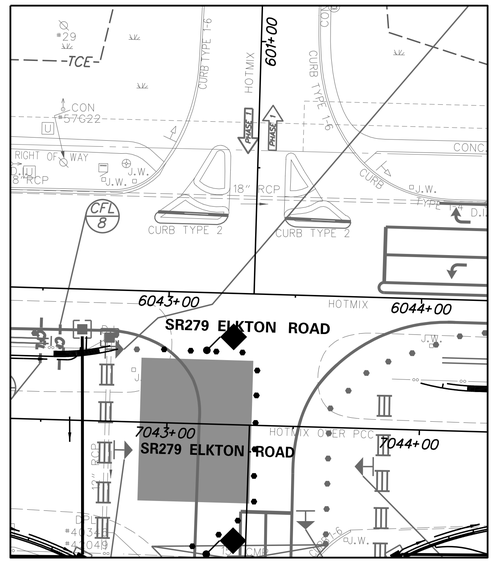
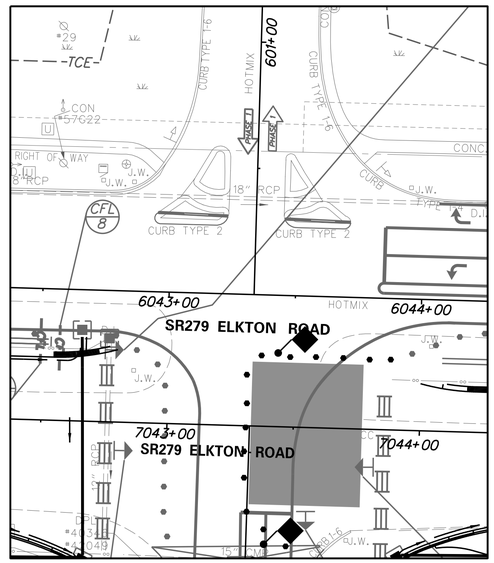


OFF-PEAK HOURS – STAGE 1



OFF-PEAK HOURS – STAGE 2

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,745 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	908 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	121 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	332 LF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	75 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	116 SF

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

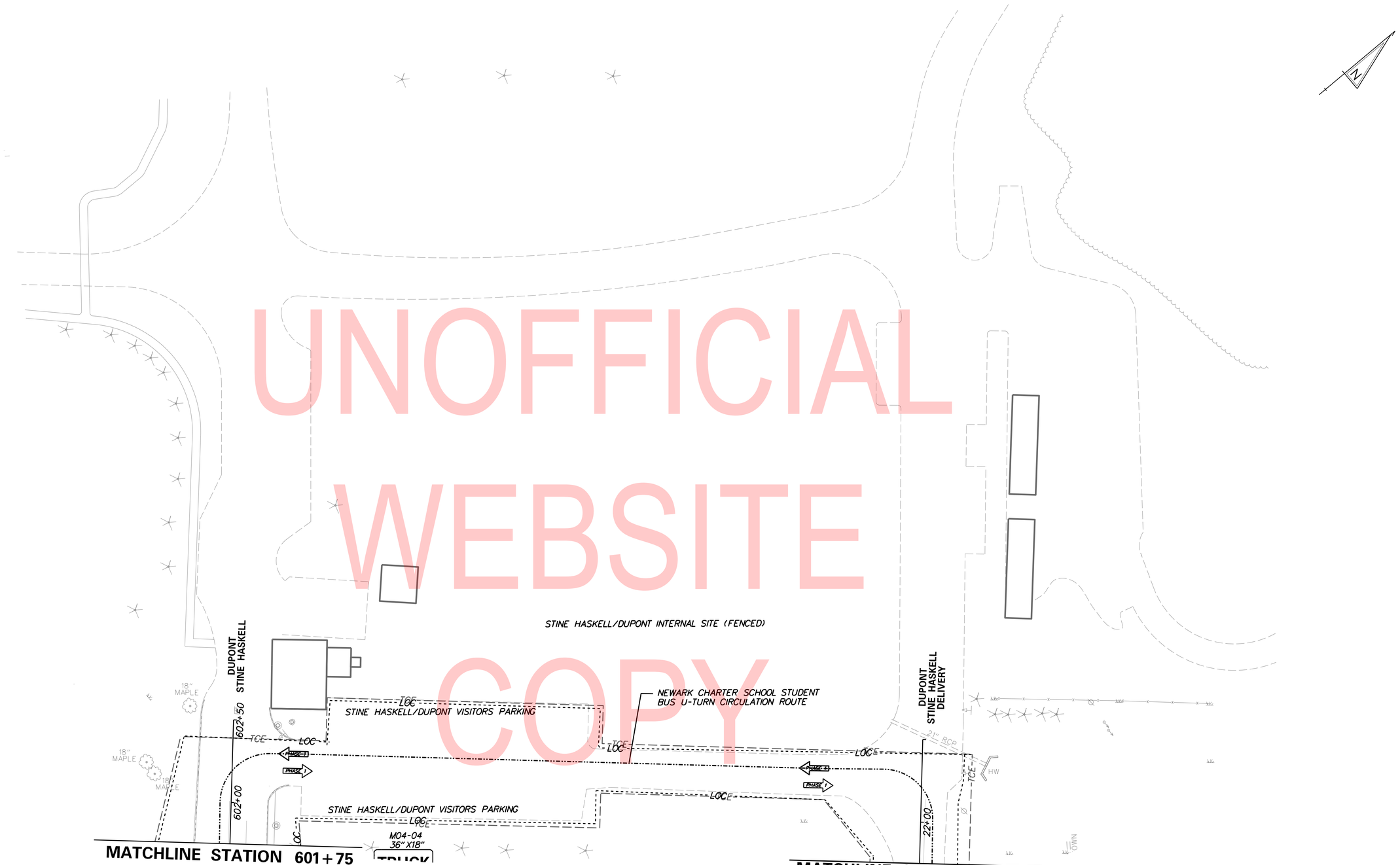
CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-52
SECTION JMT
SHEET NO. 246

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\1406659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS52]

UNOFFICIAL
WEBSITE
COPY



PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS53]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

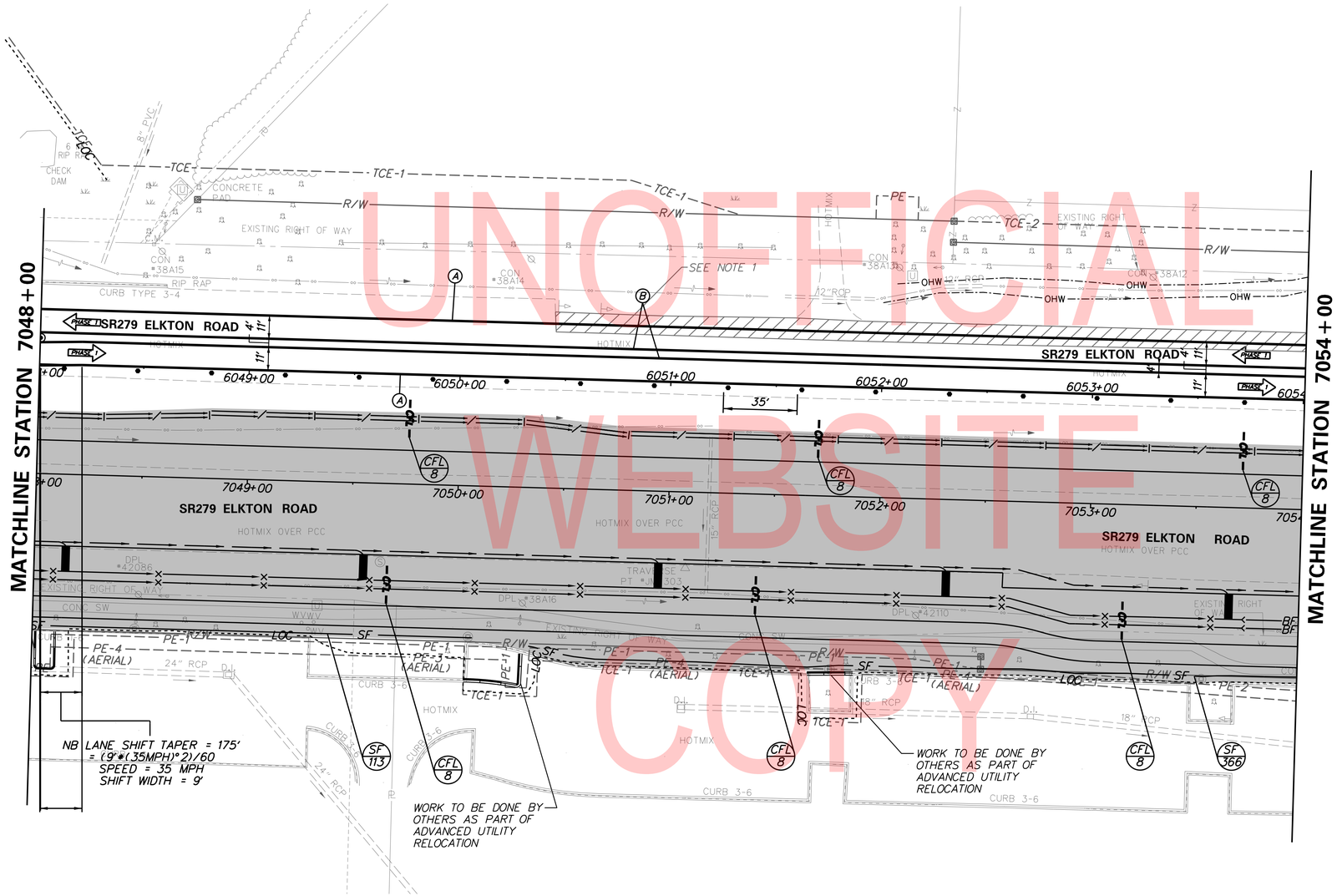
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-53
SECTION
JMT
SHEET NO.
247

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
Ⓐ	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,200 LF
Ⓑ	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,200 LF



NOTES:

1. REFERENCE DETAIL D CS-07 AS SHOWN AND CONSTRUCT USING TA-33 AND TA-3A AS NECESSARY.

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS54]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

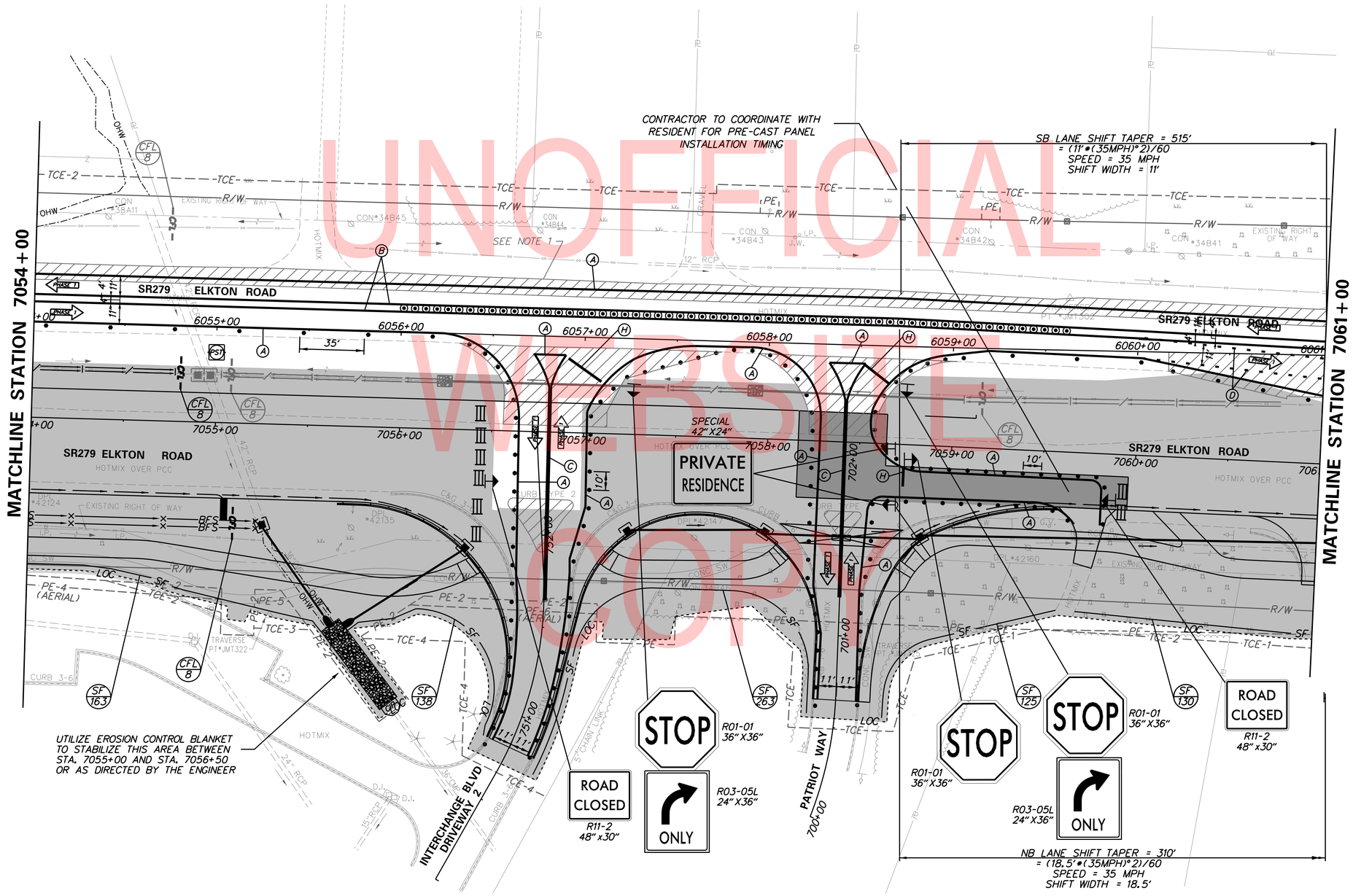
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-54

SECTION	SHEET NO.
JMT	248

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	2,445 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,405 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	224 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	198 LF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	39 LF



NOTES:

1. REFERENCE DETAIL D CS-07 AS SHOWN AND CONSTRUCT USING TA-33 AND TA-3A AS NECESSARY.

UNOFFICIAL WEBSITE COPY

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

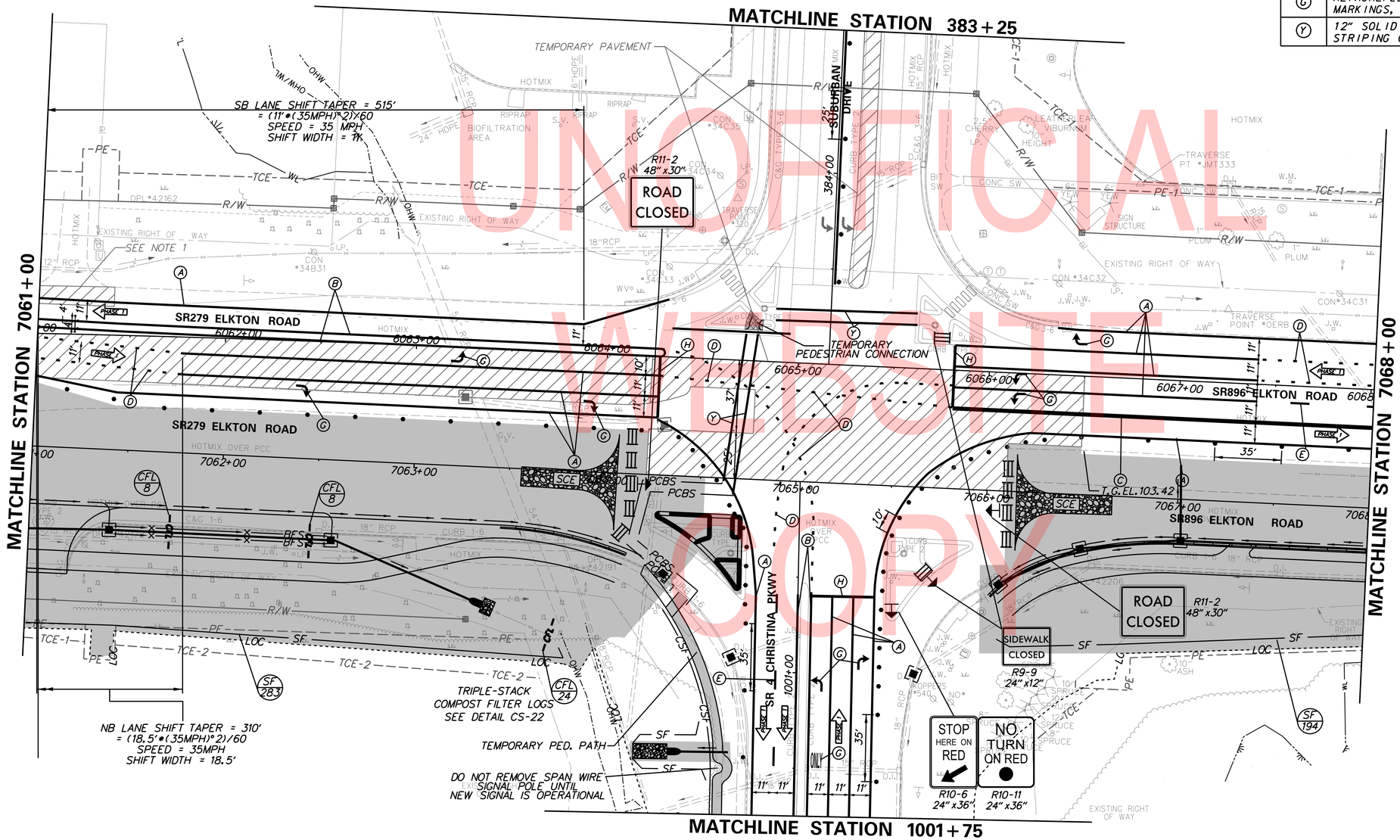
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-55

SECTION	SHEET NO.
JMT	249

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS55]

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	2,734 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	891 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	220 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	753 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	116 LF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	99 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	160 SF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	312 LF



UNOFFICIAL WEBSITE COPY

NOTES:

1. REFERENCE DETAIL D CS-07 AS SHOWN AND CONSTRUCT USING TA-33 AND TA-3A AS NECESSARY.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS56]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

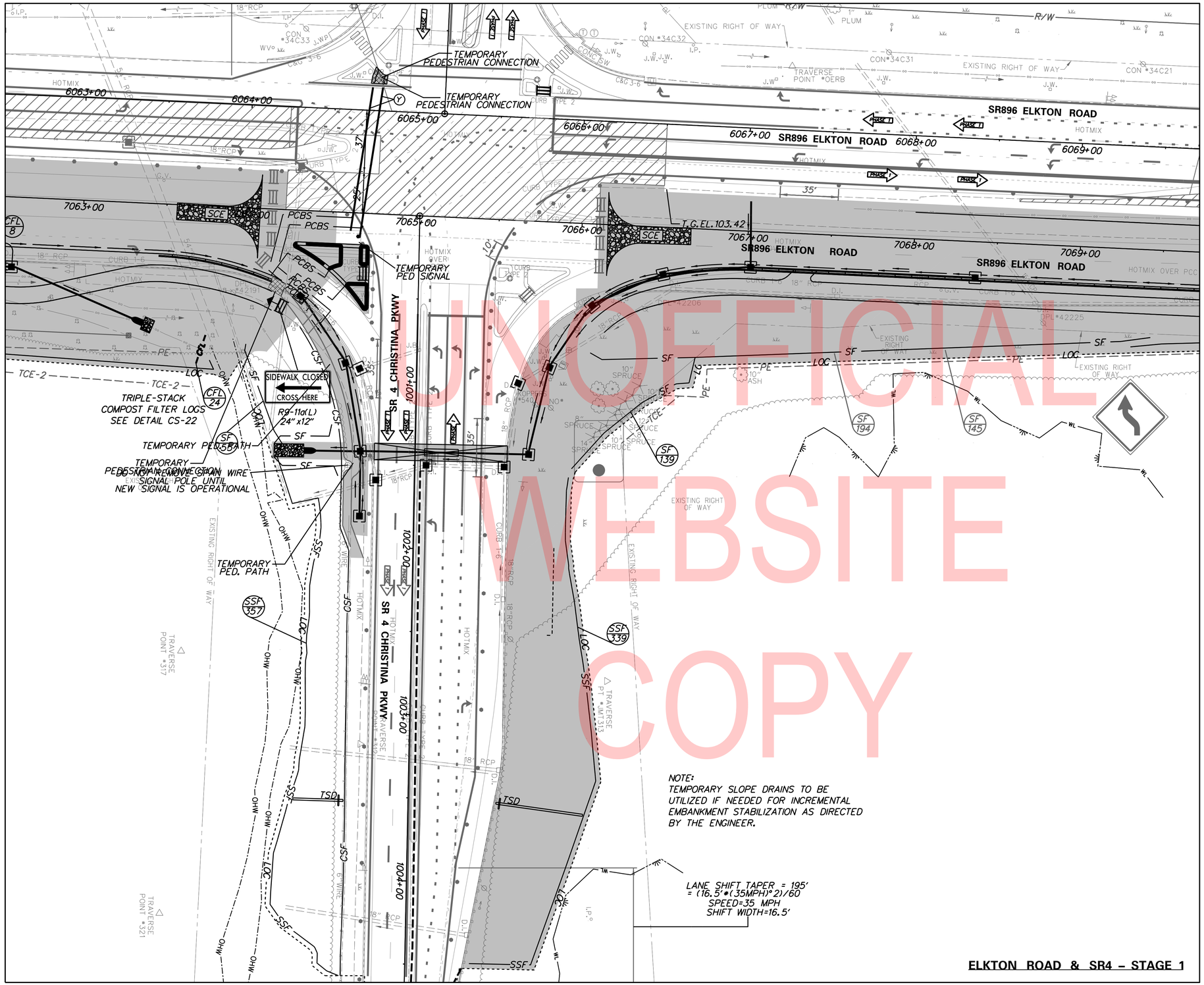
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

	CS-56
SECTION	JMT
SHEET NO.	250

MATCHLINE A



NOTE:
TEMPORARY SLOPE DRAINS TO BE UTILIZED IF NEEDED FOR INCREMENTAL EMBANKMENT STABILIZATION AS DIRECTED BY THE ENGINEER.

LANE SHIFT TAPER = 195′
= (16.5′*(35MPH)*2)/60
SPEED=35 MPH
SHIFT WIDTH=16.5′

MATCHLINE A

ELKTON ROAD & SR4 – STAGE 1

UNOFFICIAL WEBSITE COPY

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE
0 30 60 90
FEET

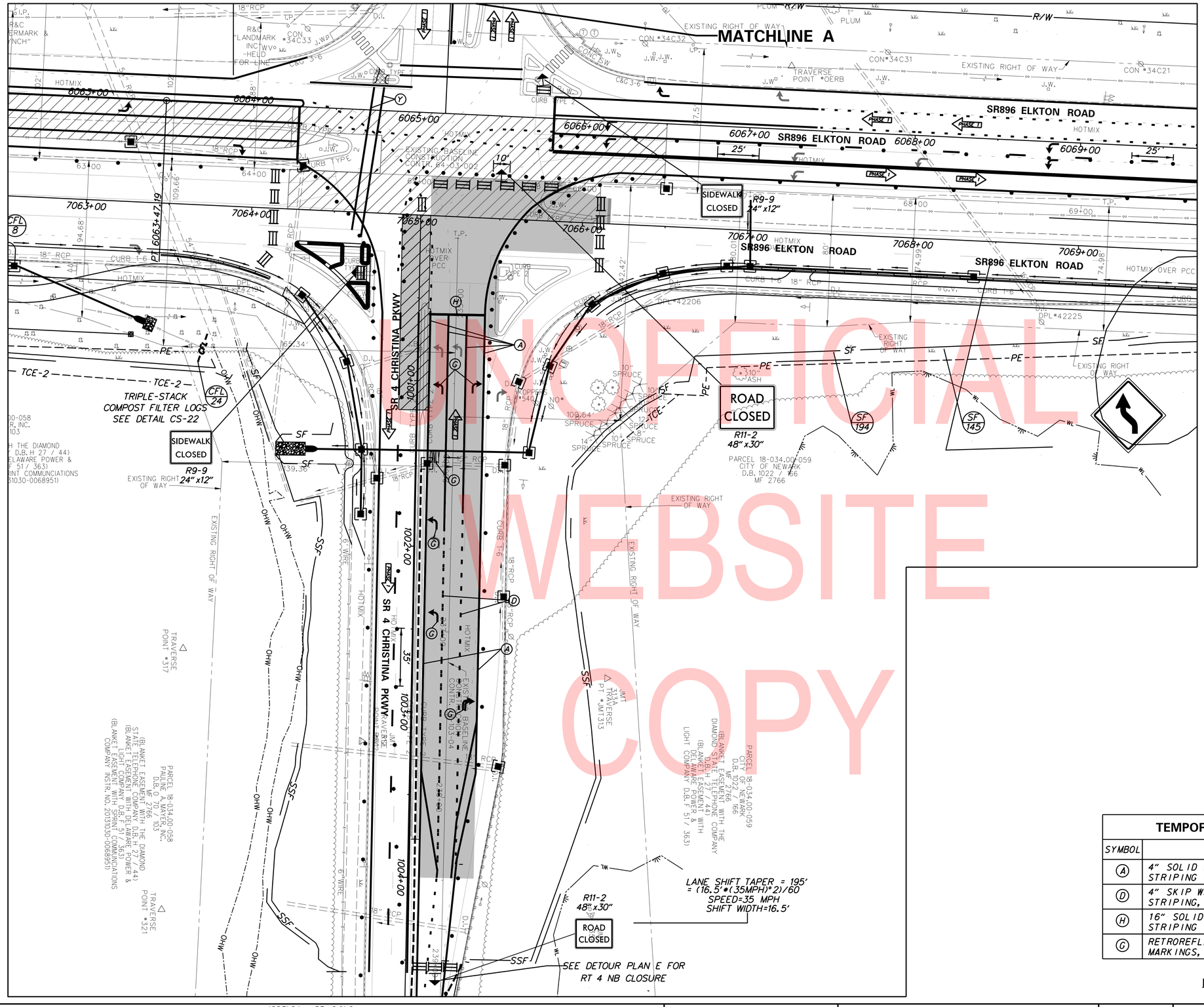
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-57
SECTION: JMT
SHEET NO.: 251

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS57]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,017 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	426 LF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	33 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	114 SF

ELKTON ROAD & SR4 – WEEKEND STAGE 2

CS-58

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

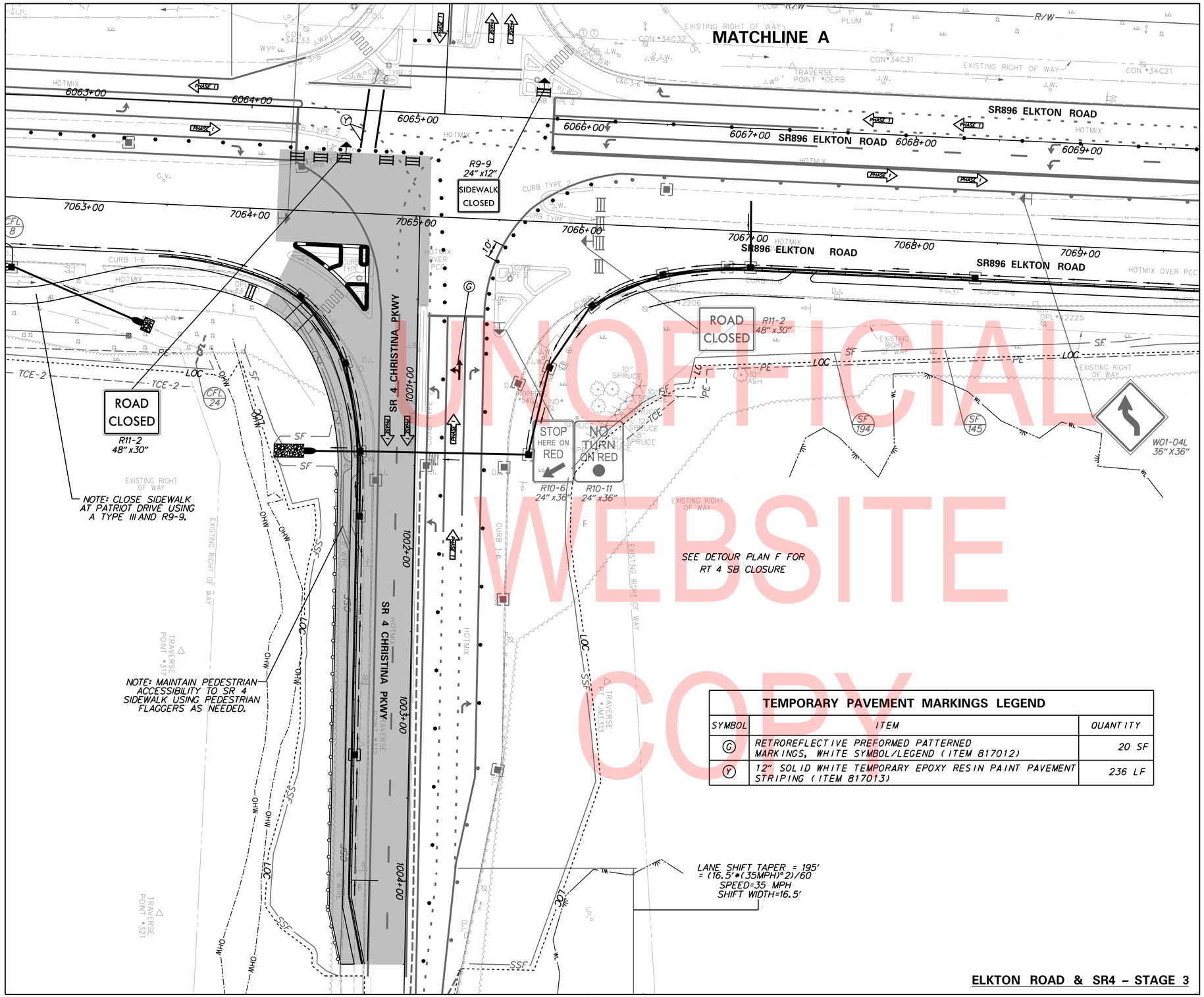
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SECTION	JMT
SHEET NO.	252

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659.007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS58]



TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	20 SF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	236 LF

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ELKTON ROAD & SR4 – STAGE 3

MATCHLINE A

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

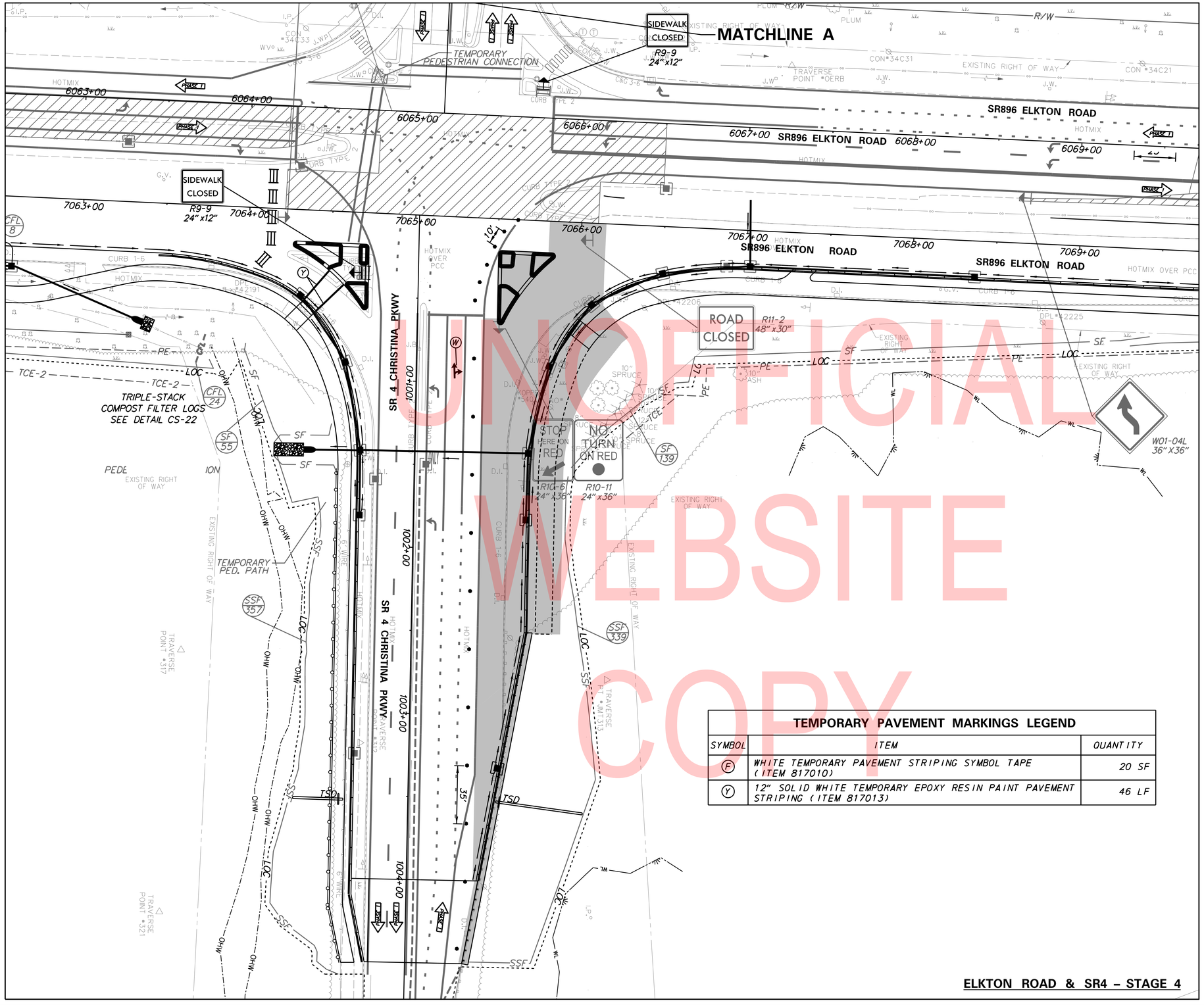
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

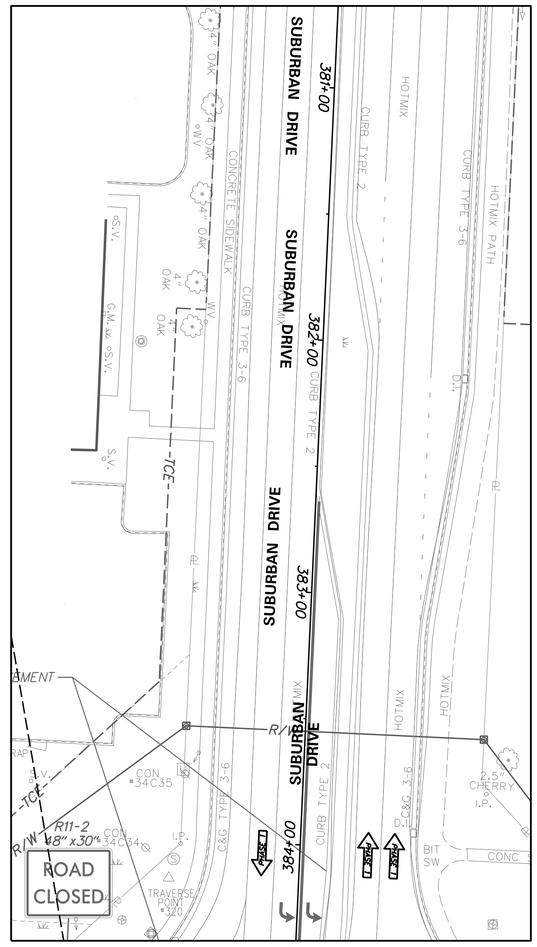
CS-59
SECTION JMT
SHEET NO. 253

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS59]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(F)	WHITE TEMPORARY PAVEMENT STRIPING SYMBOL TAPE (ITEM 817010)	20 SF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	46 LF



MATCHLINE A

ELKTON ROAD & SR4 – STAGE 4

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

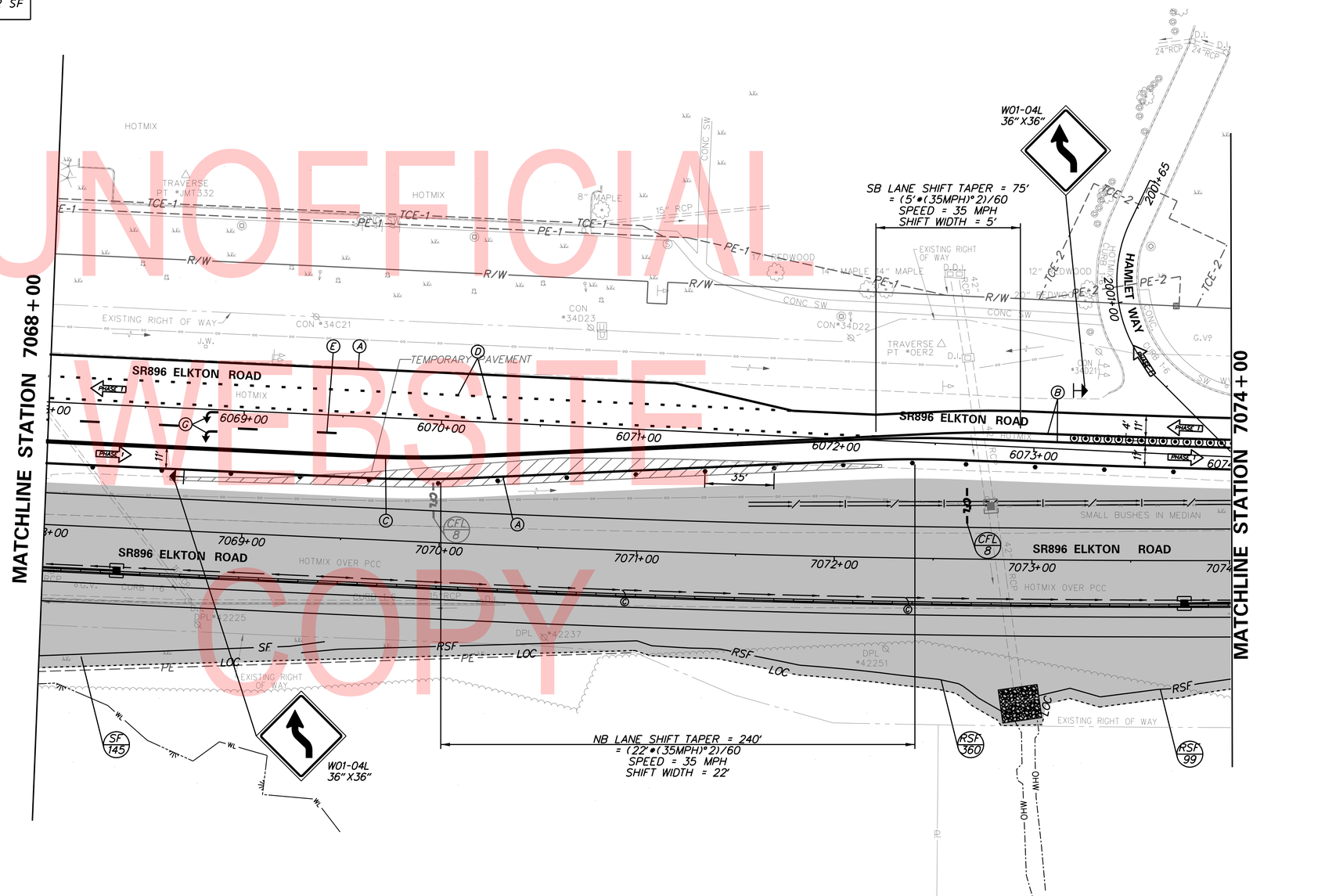
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-60
SECTION: JMT
SHEET NO.: 254

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS60]

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,197 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	356 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	416 LF
(D)	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	790 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	171 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	32 SF



UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS61]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

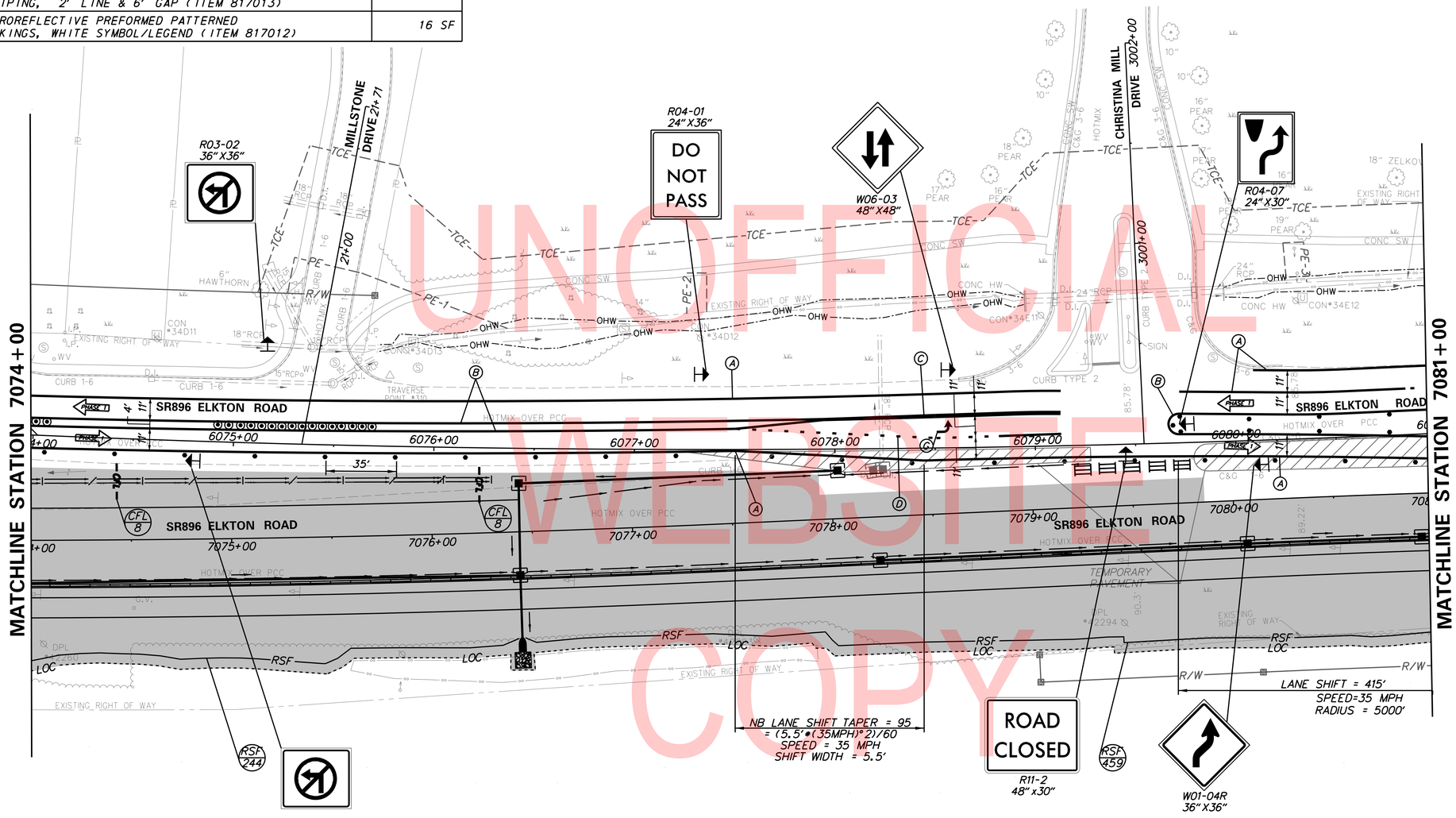
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1
T201504401		1-323 1-323P	
COUNTY	DESIGNED BY: LB		
NEW CASTLE	CHECKED BY: BPH		

CS-61
SECTION: JMT
SHEET NO.: 255

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
Ⓐ	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,445 LF
Ⓑ	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,059 LF
Ⓒ	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	118 LF
Ⓓ	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	138 LF
Ⓖ	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	16 SF



UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS62]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

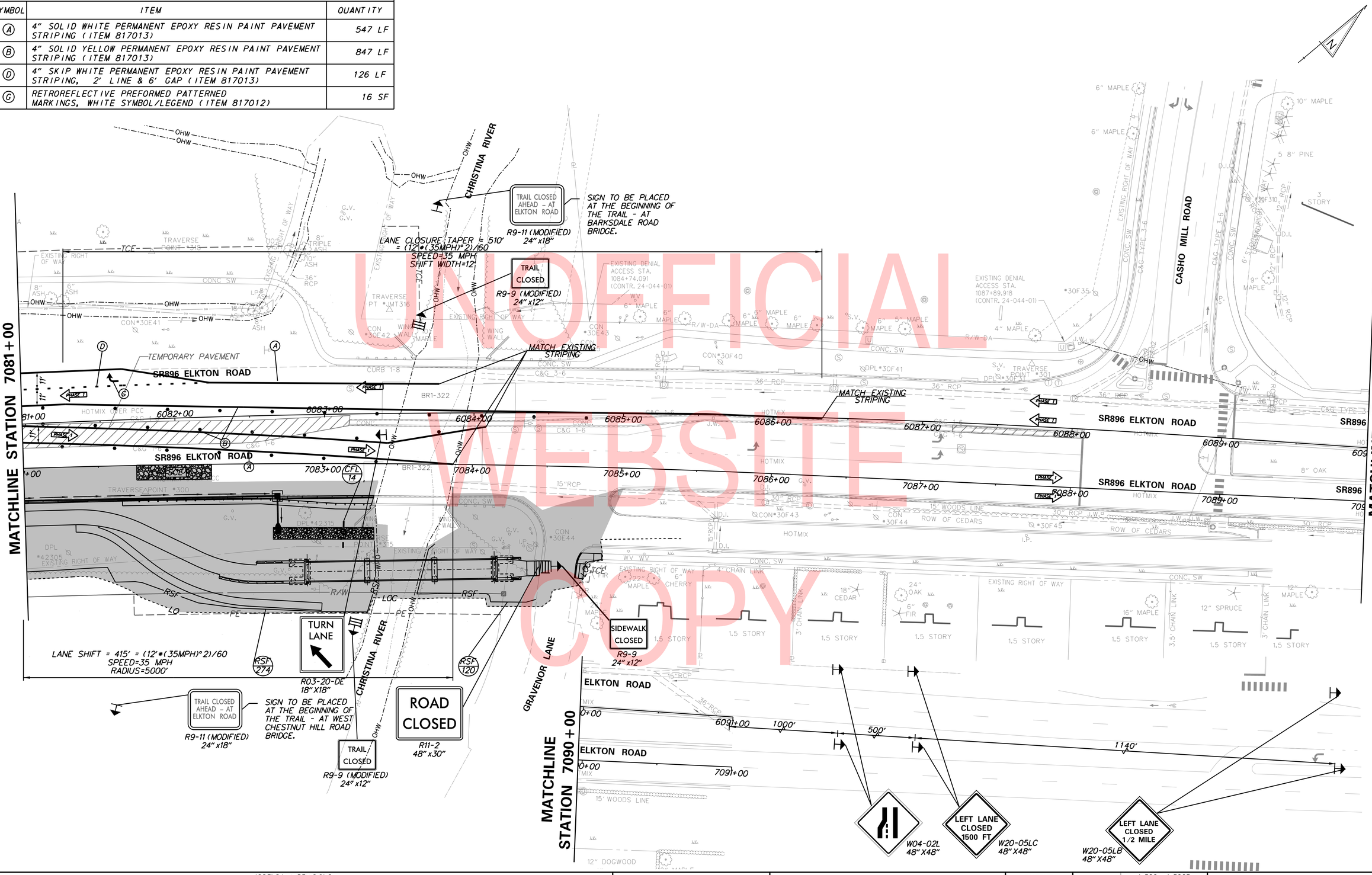
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS–62
SECTION JMT
SHEET NO. 256

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
Ⓐ	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	547 LF
Ⓑ	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	847 LF
Ⓓ	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	126 LF
Ⓖ	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	16 SF



UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS63]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

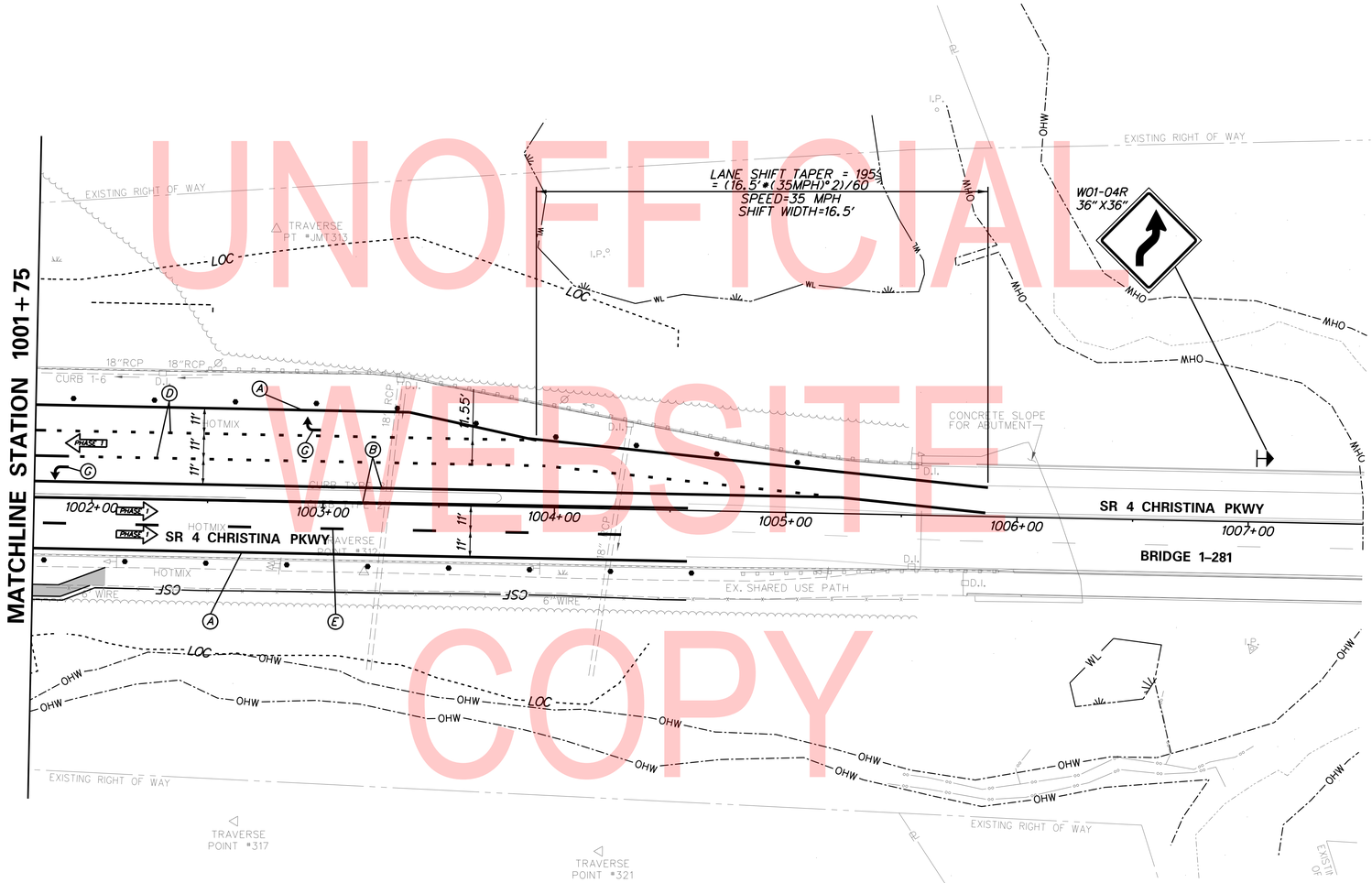
CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-63

SECTION	SHEET NO.
JMT	257

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
Ⓐ	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	720 LF
Ⓑ	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	695 LF
Ⓓ	4" SKIP WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	541 LF
Ⓔ	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	283 LF
Ⓖ	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	32 SF



UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE1.DGN [SHEET: CS64]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

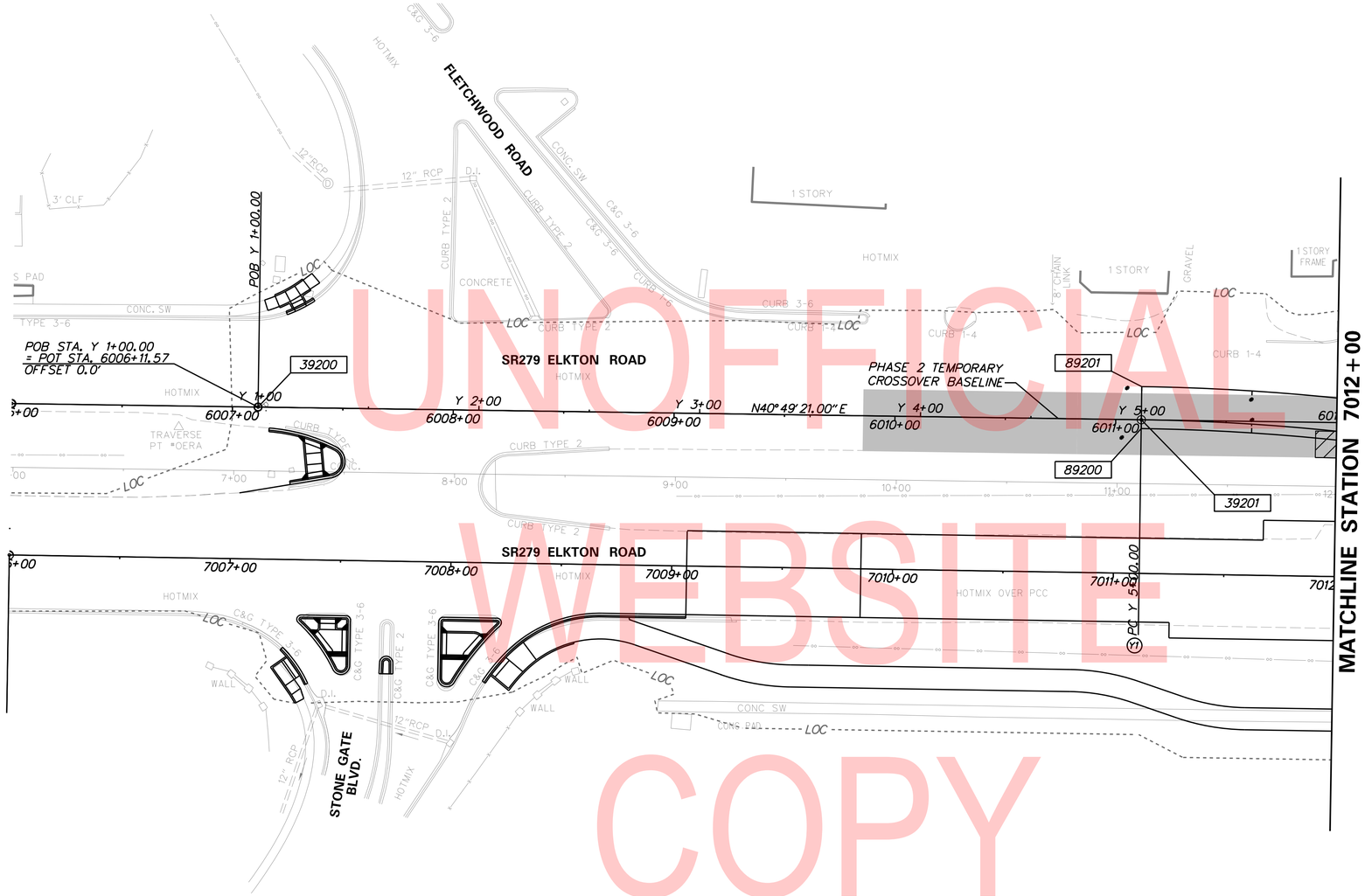
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

CS-64

SECTION	SHEET NO.
JMT	258



- TEMPORARY PAVEMENT

* - ELEVATION TO MATCH PROPOSED CAST IN PLACE PCC PAVEMENT ELEVATION

NOTE; REFER TO ADVANCED PHASE 2 CONSTRUCTION PHASING PLANS CS-67 TO CS-70 FOR TRAFFIC CONTROLS DURING CONSTRUCTION

UNOFFICIAL WEBSITE COPY

CIRCULAR CURVE NO. (Y1)			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (39201)	Y 5+00.00	602755.3702	551412.7173
PI (39202)	Y 5+88.43	602822.2850	551470.5226
CC (*****)		602101.6523	552169.4557
PT (39203)	Y 6+76.39	602878.0180	551539.1730
RADIUS:	1000.00		
DESIGN SPEED(MPH):	35.00		
SUPERELEVATION:	-2.00%		
DELTA:	10° 06' 23.46" RT		
DEGREE OF CURVATURE(ARC):	5° 43' 46.48"		
LENGTH:	176.39		
TANGENT:	88.43		
CHORD:	176.16		
MIDDLE ORDINATE:	3.89		
EXTERNAL:	3.90		
TANGENT DIRECTION:	N 40° 49' 21.00" E		
RADIAL DIRECTION:	S 49° 10' 39.00" E		
CHORD DIRECTION:	N 45° 52' 32.73" E		
RADIAL DIRECTION:	S 39° 04' 15.54" E		
TANGENT DIRECTION:	N 50° 55' 44.46" E		

HORIZONTAL / VERTICAL CONTROL DATA

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
39200	Y 1+00.00	0.00'	602452.6748	551151.2302	
39201	Y 5+00.00	0.00'	602755.3702	551412.7173	
39202	Y 5+88.20	-3.90'	602822.2850	551470.5226	
39203	Y 6+76.39	0.00'	602878.0180	551539.1730	
39204	Y 7+36.80	0.00'	602916.0900	551586.0691	
39205	Y 9+78.28	11.04'	603068.7154	551774.0690	
39206	Y 12+19.76	0.00'	603252.8868	551931.2958	
39207	Y 14+91.77	0.00'	603459.7631	552107.8993	

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
89200	Y 5+00.00	4.00'	602752.7553	551415.7443
89201	Y 5+00.00	-15.00'	602765.1759	551401.3663
89202	Y 6+76.39	-15.00'	602889.6635	551529.7188
89203	Y 7+36.80	-15.00'	602927.7355	551576.6149
89204	Y 6+76.39	4.00'	602874.9126	551541.6942
89205	Y 7+36.80	4.00'	602912.9846	551588.5903
89206	Y 12+19.76	-15.00'	603262.6259	551919.8845
89207	Y 12+19.76	4.00'	603250.2897	551934.3350

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83).
VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

PHASE 2 – SOUTH TEMPORARY CROSSOVER LAYOUT PLAN

CS-65

ADDENDA / REVISIONS	
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

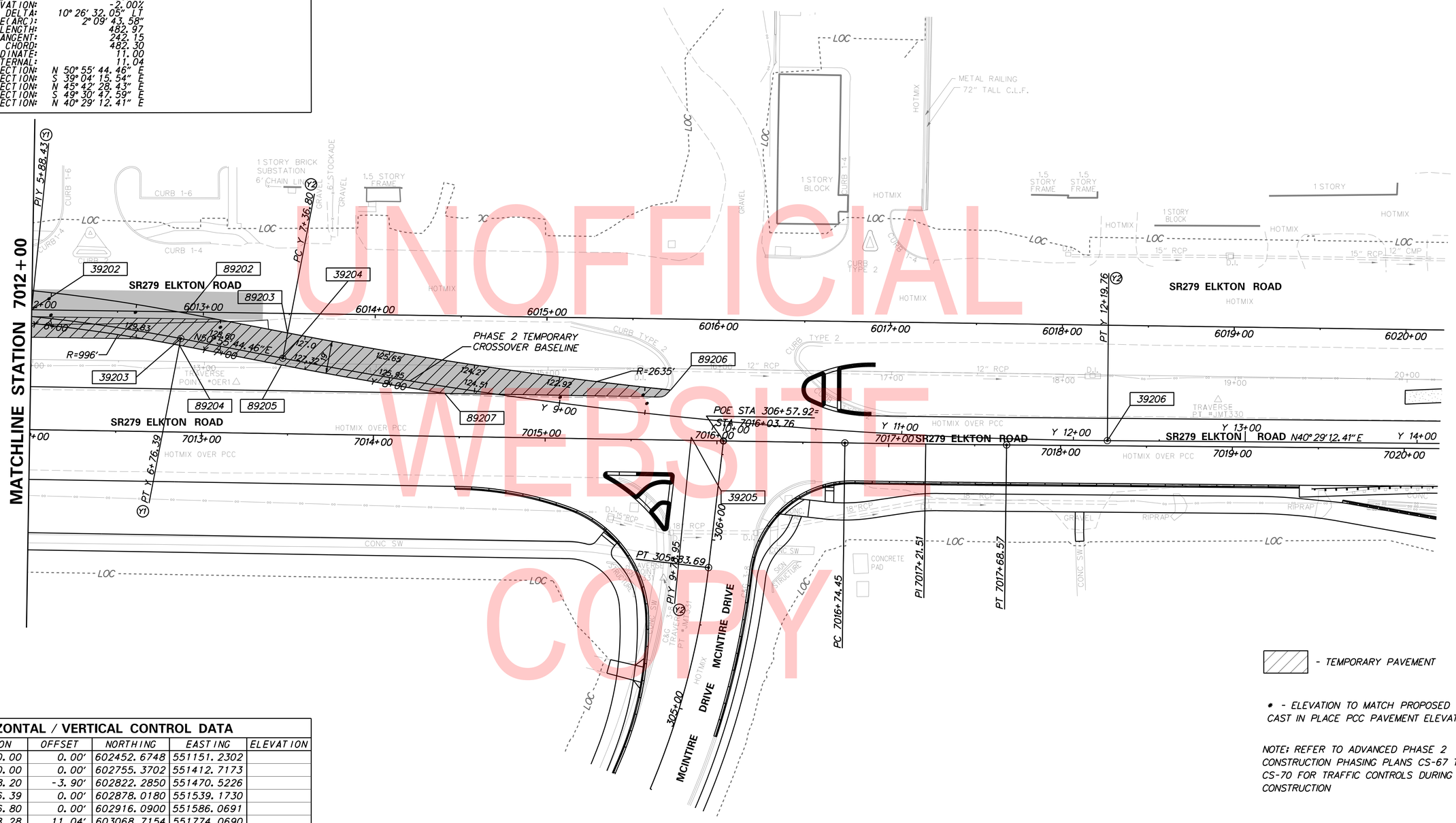
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	SHEET NO.
JMT	259

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE_PHASE2.DGN [SHEET: CS68]

CIRCULAR CURVE NO. (Y2)			
ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC (39204)	Y 7+36.80	602916.0900	551586.0691
PI (39205)	Y 9+78.95	603068.7154	551774.0690
CC (*****)		604973.4592	549915.8200
PT (39206)	Y 12+19.76	603252.8868	551931.2928
RADIUS:	2650.00		
DESIGN SPEED(MPH):	35.00		
SUPERELEVATION:	-2.00%		
DELTA:	10° 26' 32.05" LT		
DEGREE OF CURVATURE(ARC):	2° 09' 43.58"		
LENGTH:	482.97		
TANGENT:	242.15		
CHORD:	482.30		
MIDDLE ORDINATE:	11.00		
EXTERNAL:	11.04		
TANGENT DIRECTION:	N 50° 55' 44.46" E		
RADIAL DIRECTION:	S 39° 04' 15.54" E		
CHORD DIRECTION:	N 45° 42' 28.43" E		
RADIAL DIRECTION:	S 49° 30' 47.59" E		
TANGENT DIRECTION:	N 40° 29' 12.41" E		



- TEMPORARY PAVEMENT

* - ELEVATION TO MATCH PROPOSED CAST IN PLACE PCC PAVEMENT ELEVATION

NOTE; REFER TO ADVANCED PHASE 2 CONSTRUCTION PHASING PLANS CS-67 TO CS-70 FOR TRAFFIC CONTROLS DURING CONSTRUCTION

HORIZONTAL / VERTICAL CONTROL DATA

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
39200	Y 1+00.00	0.00'	602452.6748	551151.2302	
39201	Y 5+00.00	0.00'	602755.3702	551412.7173	
39202	Y 5+88.20	-3.90'	602822.2850	551470.5226	
39203	Y 6+76.39	0.00'	602878.0180	551539.1730	
39204	Y 7+36.80	0.00'	602916.0900	551586.0691	
39205	Y 9+78.28	11.04'	603068.7154	551774.0690	
39206	Y 12+19.76	0.00'	603252.8868	551931.2958	
39207	Y 14+91.77	0.00'	603459.7631	552107.8993	

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83).
VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

UNOFFICIAL WEBSITE COPY

PHASE 2 – SOUTH TEMPORARY CROSSOVER LAYOUT PLAN

CS-66

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

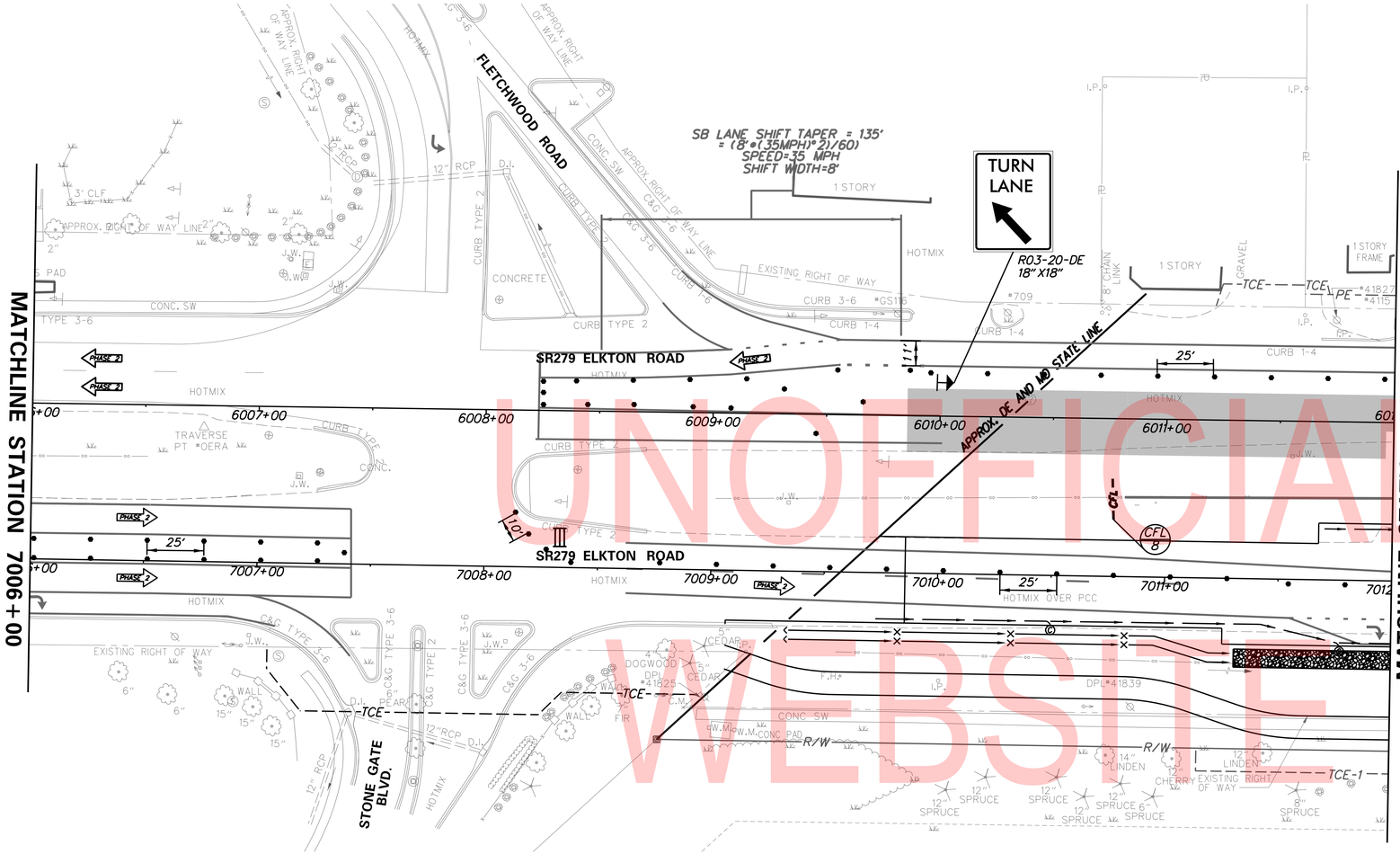
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION JMT

SHEET NO. 260

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS69]



UNOFFICIAL WEBSITE COPY

NOTE:
WEEKEND WORK OCCURS PRIOR TO PHASE 2 FULL TRAFFIC SHIFT. SB TRAFFIC STILL REMAINS ON SB ELKTON RD AND NB TRAFFIC HAS BEEN SHIFTED TO PHASE 2 TRAFFIC SETUP.

PHASE 2 ADVANCED WORK STAGE 1 WEEKEND

CS-67

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

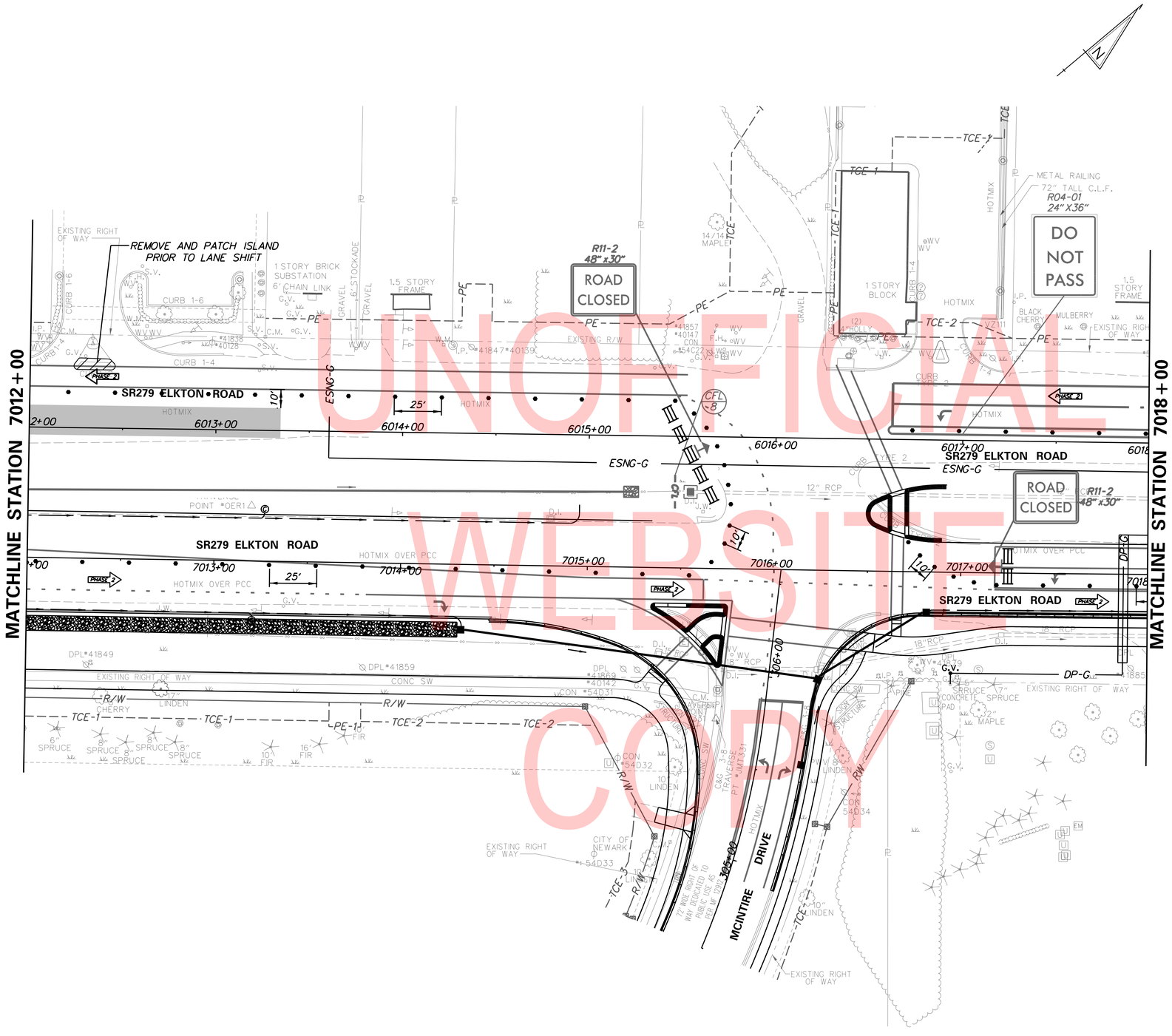
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION: JMT
SHEET NO.: 261

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS70]



UNOFFICIAL WEBSITE COPY

NOTE:
WEEKEND WORK OCCURS PRIOR TO PHASE 2 FULL TRAFFIC SHIFT. SB TRAFFIC STILL REMAINS ON SB ELKTON RD AND NB TRAFFIC HAS BEEN SHIFTED TO PHASE 2 TRAFFIC SETUP.

PHASE 2 ADVANCED WORK
STAGE 1 WEEKEND

CS-68

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

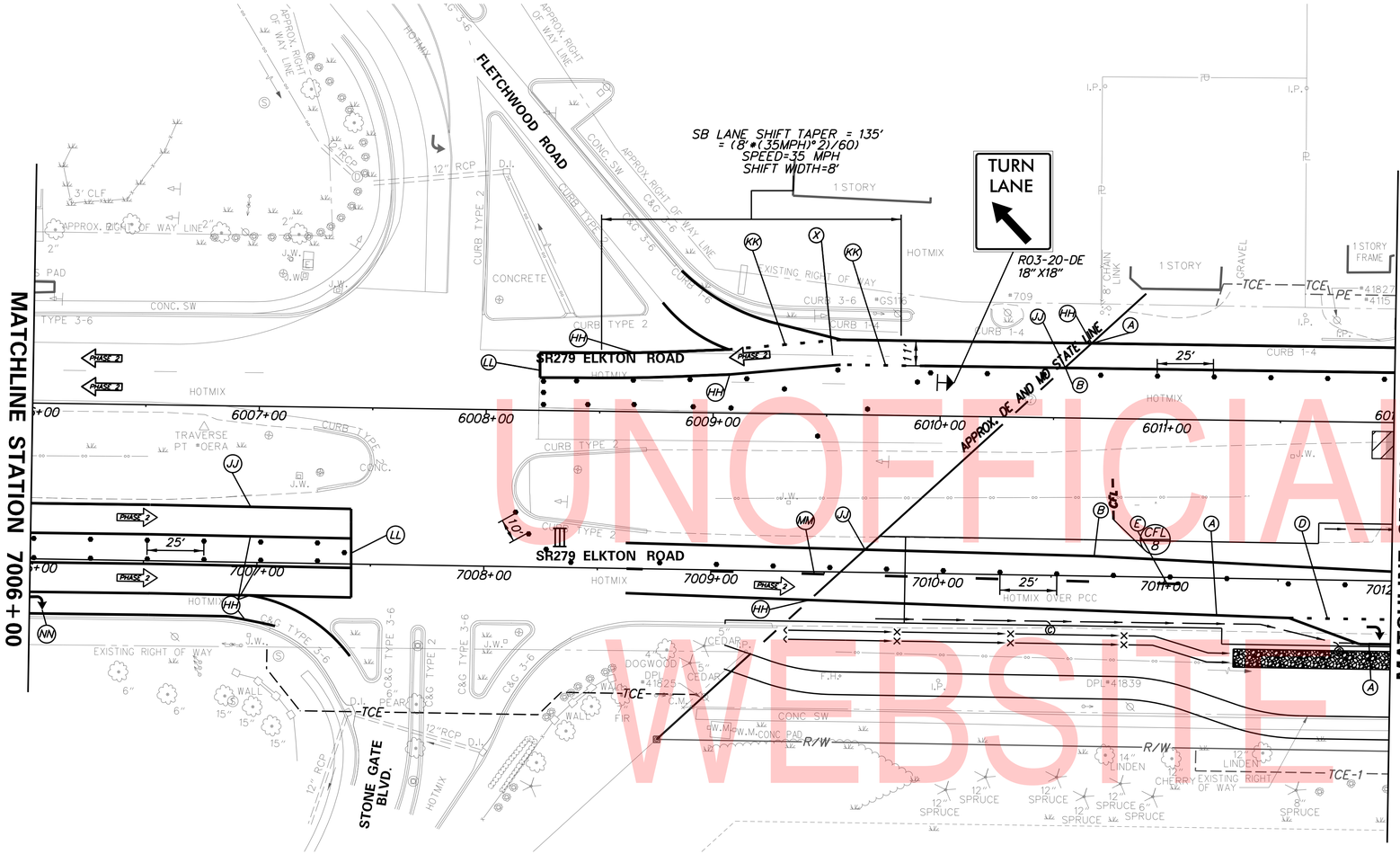
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

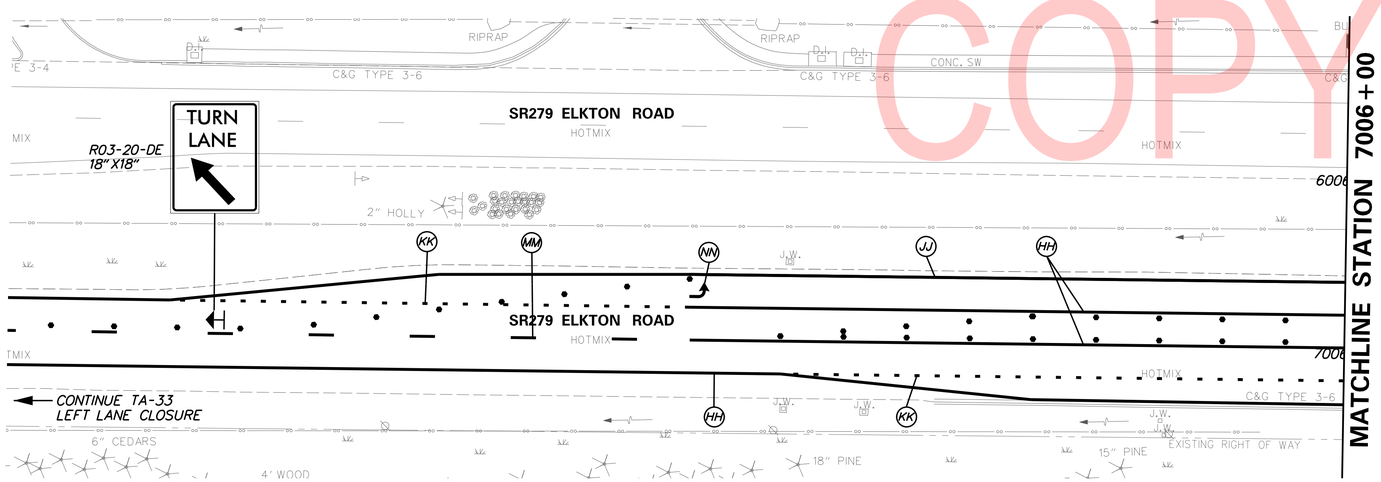
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION: JMT
SHEET NO.: 262

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE_PHASE2.DGN [SHEET: CS71]





UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	933 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	785 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	416 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	522 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817013)	12 LF
(X)	6" BLACKOUT TAPE (ITEM 817008)	158 SF
(HH)	5" WHITE SOLID EPOXY PAVEMENT MARKINGS (ITEM 549301)	2975 LF
(JJ)	5" YELLOW SOLID EPOXY PAVEMENT MARKINGS (ITEM 549303)	930 LF
(KK)	5" WHITE SKIP 3'-9' EPOXY PAVEMENT MARKINGS (ITEM 549301)	145 LF
(LL)	24" WHITE SOLID PAVEMENT MARKING PAINT (ITEM 114046)	60 LF
(MM)	5" WHITE DASHED 10'-30' EPOXY PAVEMENT MARKINGS (ITEM 549301)	105 LF
(NN)	PAVEMENT MARKING PAINT LEGENDS AND SYMBOLS (ITEM 549010)	35 SF

NOTE:
WEEKEND WORK HAPPENS PRIOR TO PHASE 2 FULL TRAFFIC SHIFT. SB TRAFFIC STILL REMAINS ON SB ELKTON RD AND NB TRAFFIC HAS BEEN SHIFTED TO PHASE 2 TRAFFIC SETUP.

PHASE 2 ADVANCED WORK

CS-69

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

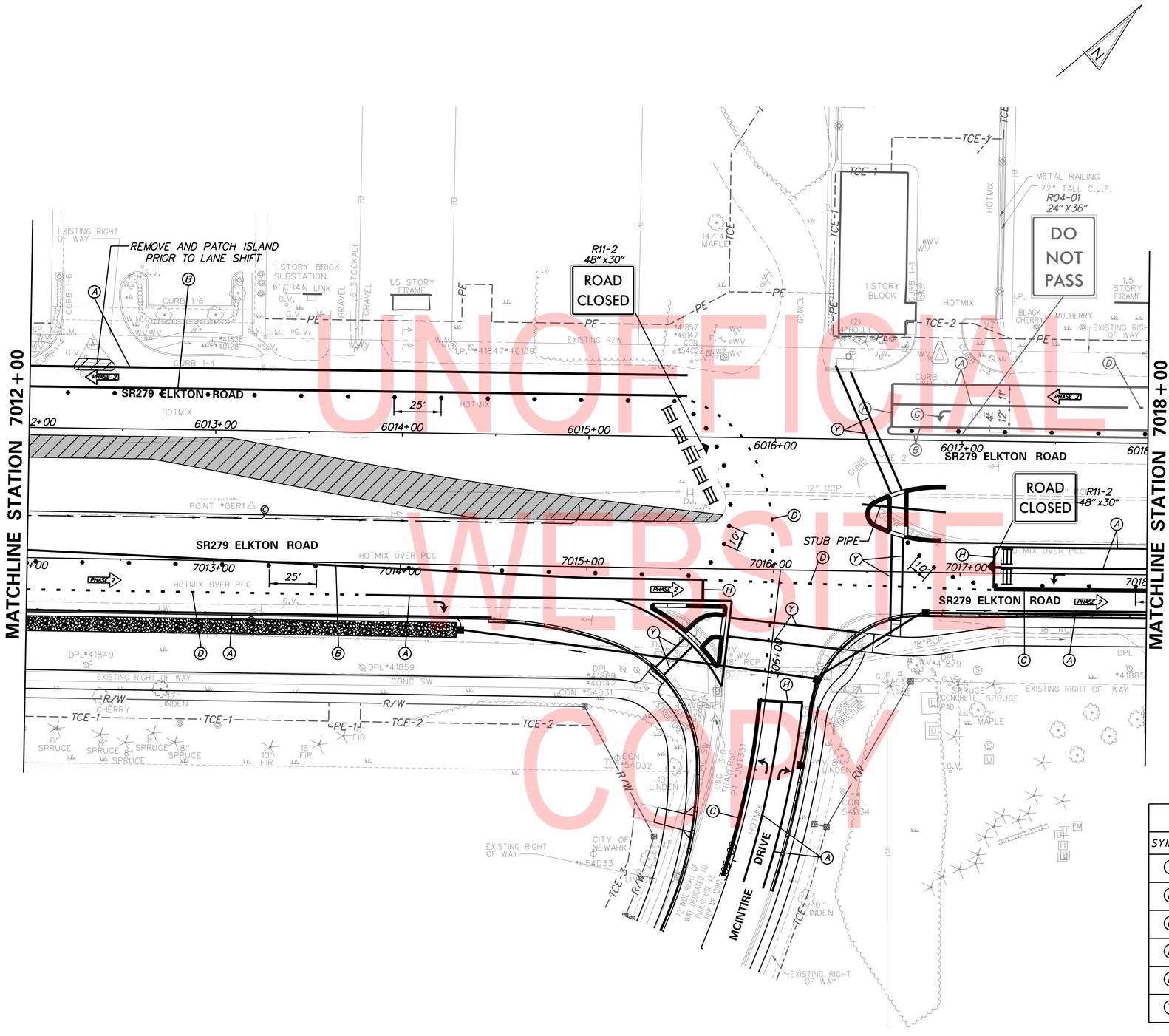
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	JMT
SHEET NO.	263

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS69]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,441 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	362 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	179 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	527 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817013)	56 LF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	403 LF

NOTE:
WEEKEND WORK HAPPENS PRIOR TO PHASE 2 FULL TRAFFIC SHIFT. SB TRAFFIC STILL REMAINS ON SB ELKTON RD AND NB TRAFFIC HAS BEEN SHIFTED TO PHASE 2 TRAFFIC SETUP.

PHASE 2 ADVANCED WORK

CS-70

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

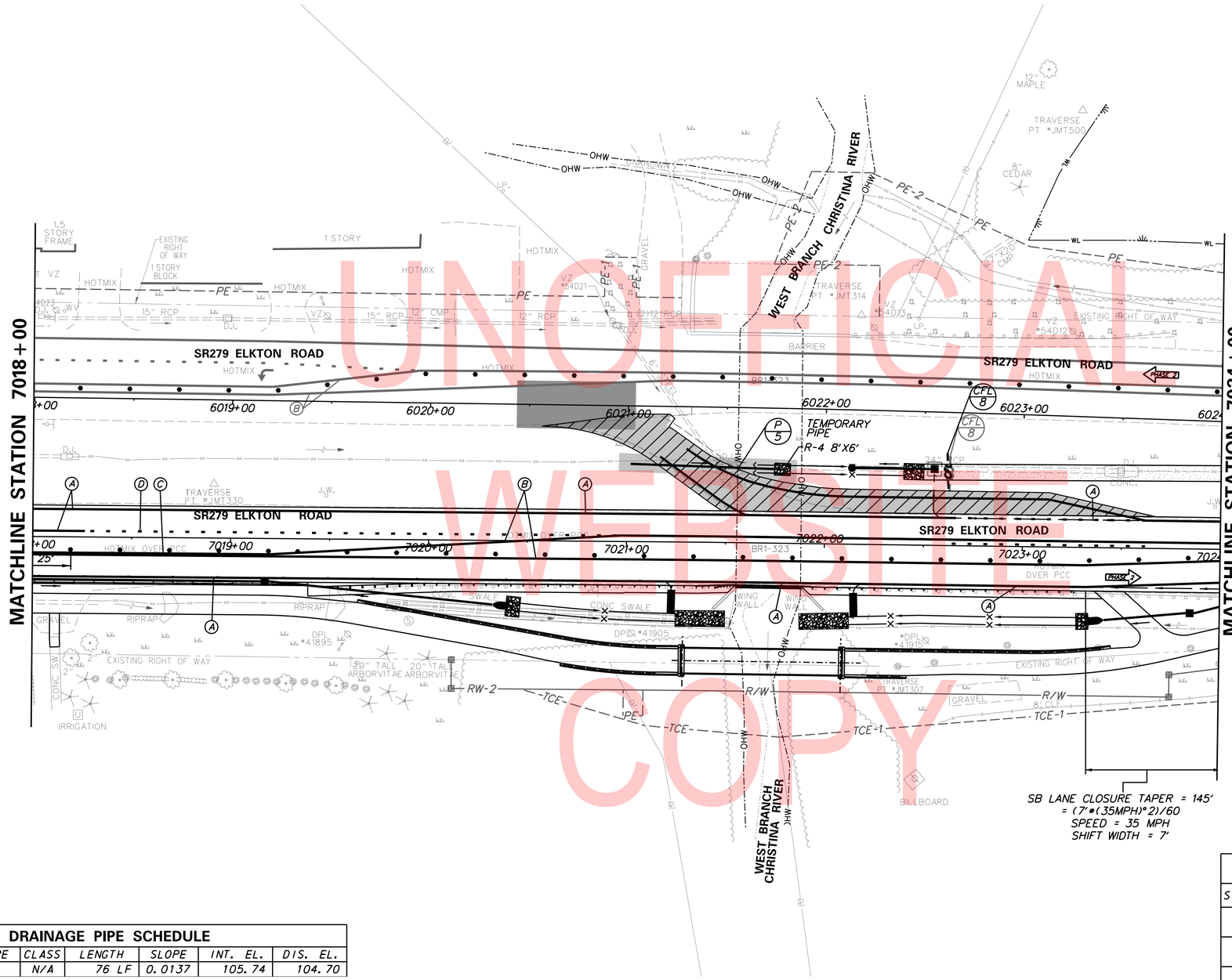
SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P	SECTION
T201504401	DESIGNED BY: LB		JMT
COUNTY	CHECKED BY: BPH		SHEET NO.
NEW CASTLE			264

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE_PHASE2.DGN [SHEET: CS70]



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DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
5	8" CPP-S	N/A	76 LF	0.0137	105.74	104.70

RIPRAP STABILIZATION SCHEDULE				
NO.	TYPE	W	L	D
5	R-4	6.0'	8.0'	14"

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,419 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	963 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	119 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	467 LF

PHASE 2 ADVANCED WORK

CS-71

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

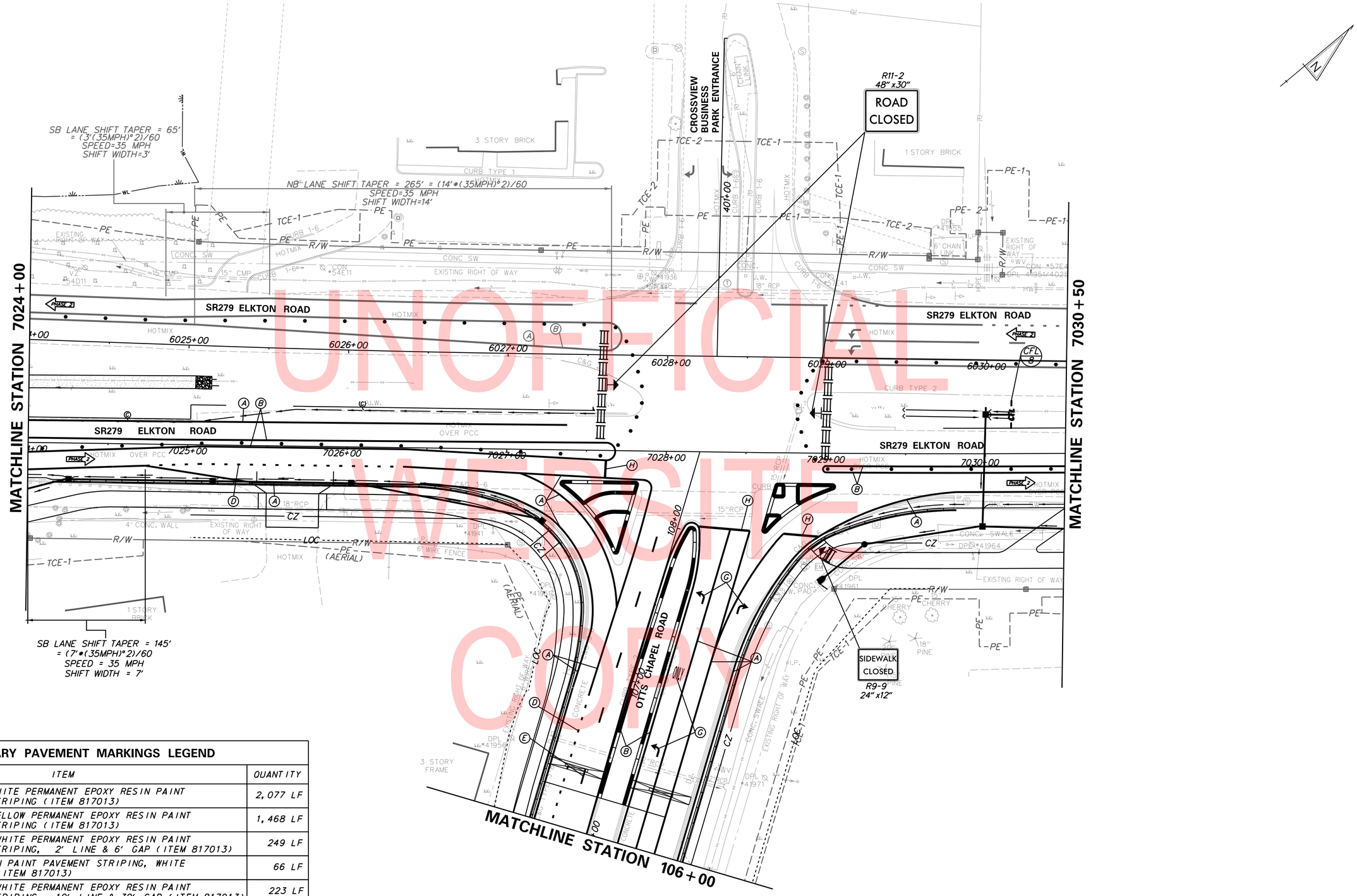
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	JMT
SHEET NO.	265

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS71]



UNOFFICIAL
WEBSITE
COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	2,077 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,468 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	249 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817013)	66 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	223 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	70 SF

PHASE 2 ADVANCED WORK

CS-72

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

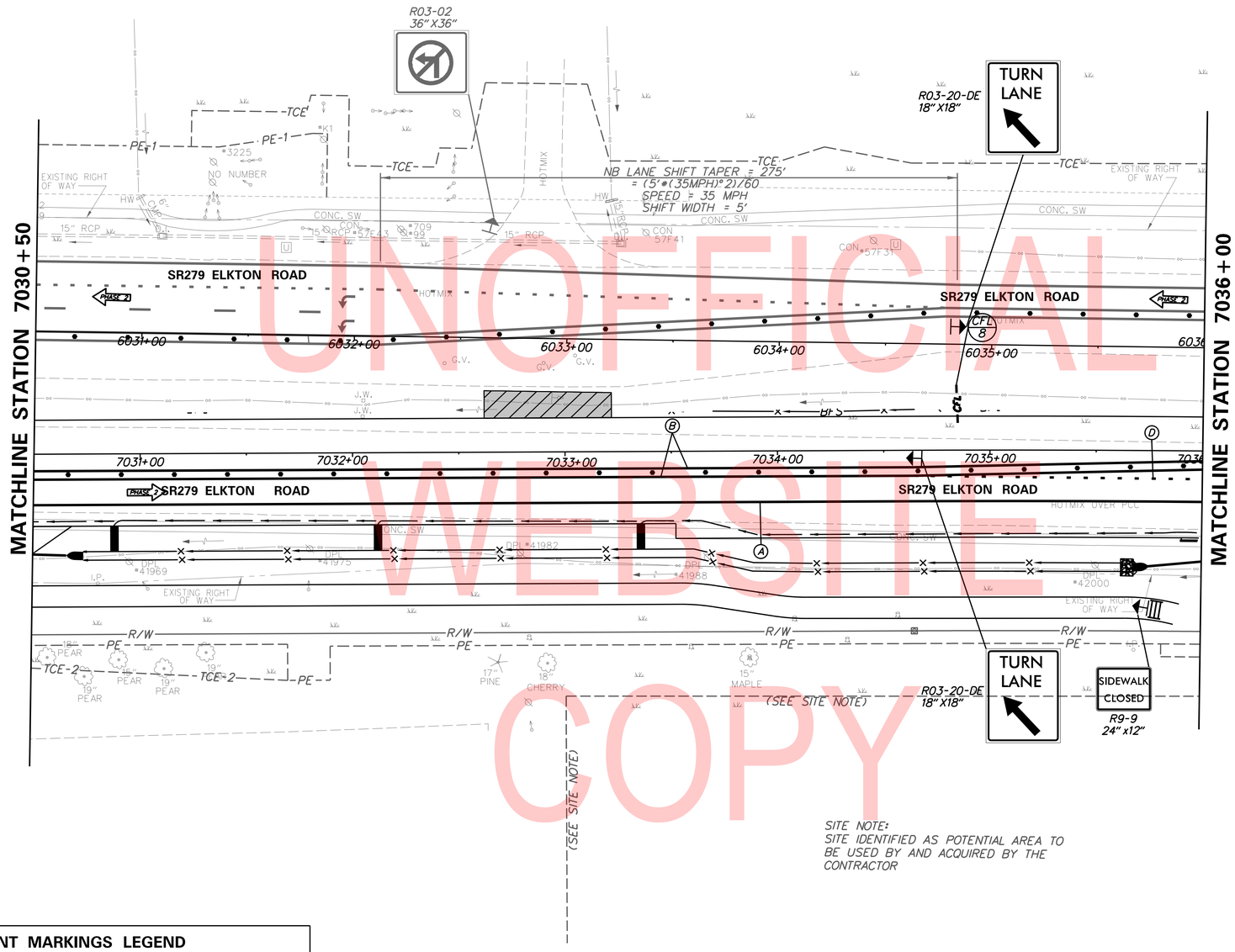
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	JMT
SHEET NO.	266

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NODE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS72]



SITE NOTE:
SITE IDENTIFIED AS POTENTIAL AREA TO BE USED BY AND ACQUIRED BY THE CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	550 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1101 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	136 LF

UNOFFICIAL WEBSITE COPY

PHASE 2 ADVANCED WORK

CS-73

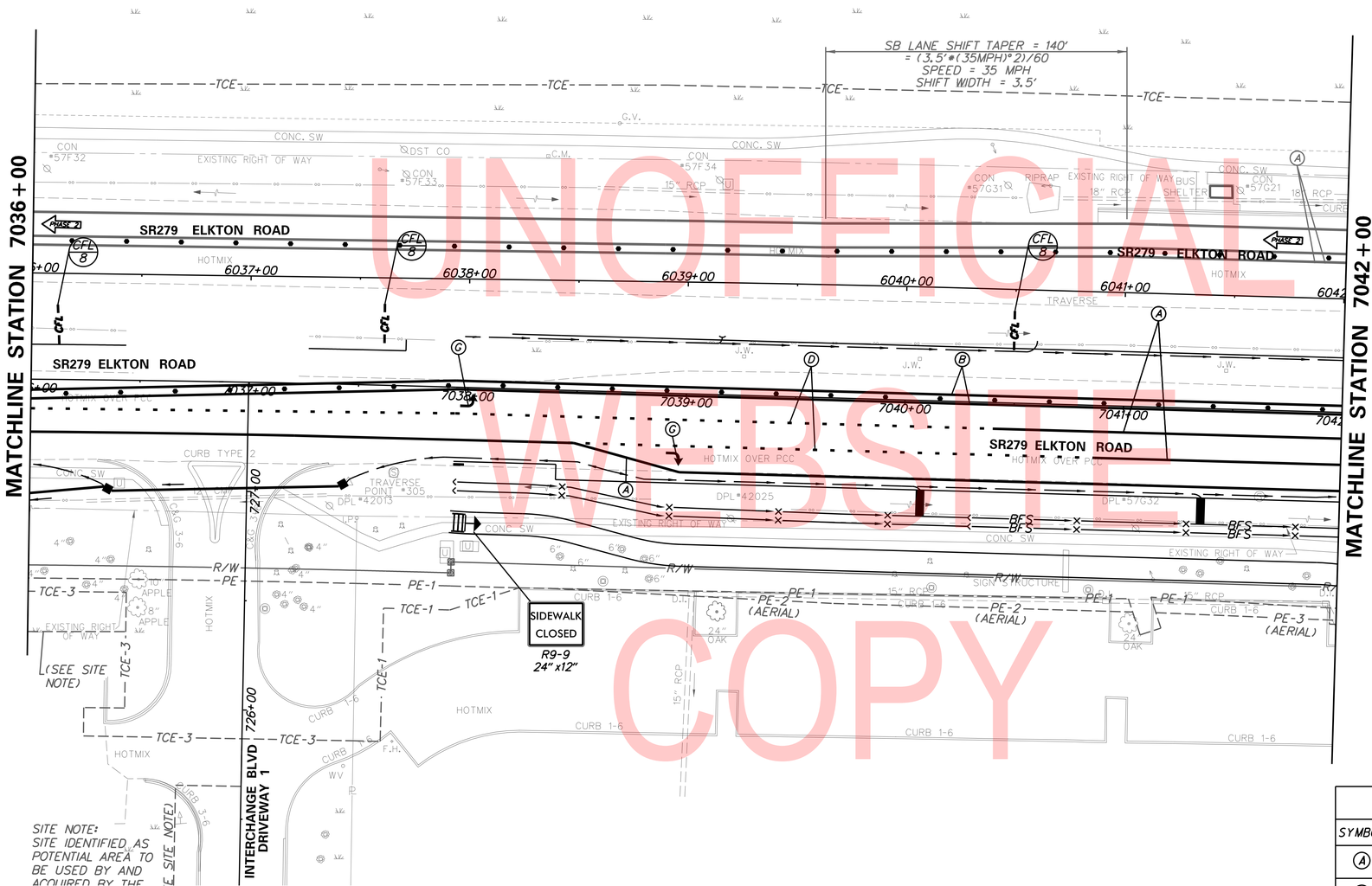
ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

**ELKTON ROAD
MD LINE TO
CASHO MILL ROAD**

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2	SECTION
T201504401	DESIGNED BY: LB			JMT
COUNTY				SHEET NO.
NEW CASTLE	CHECKED BY: BPH			267

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS73]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	874 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,200 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	680 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	31 SF

PHASE 2 ADVANCED WORK

CS-74

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

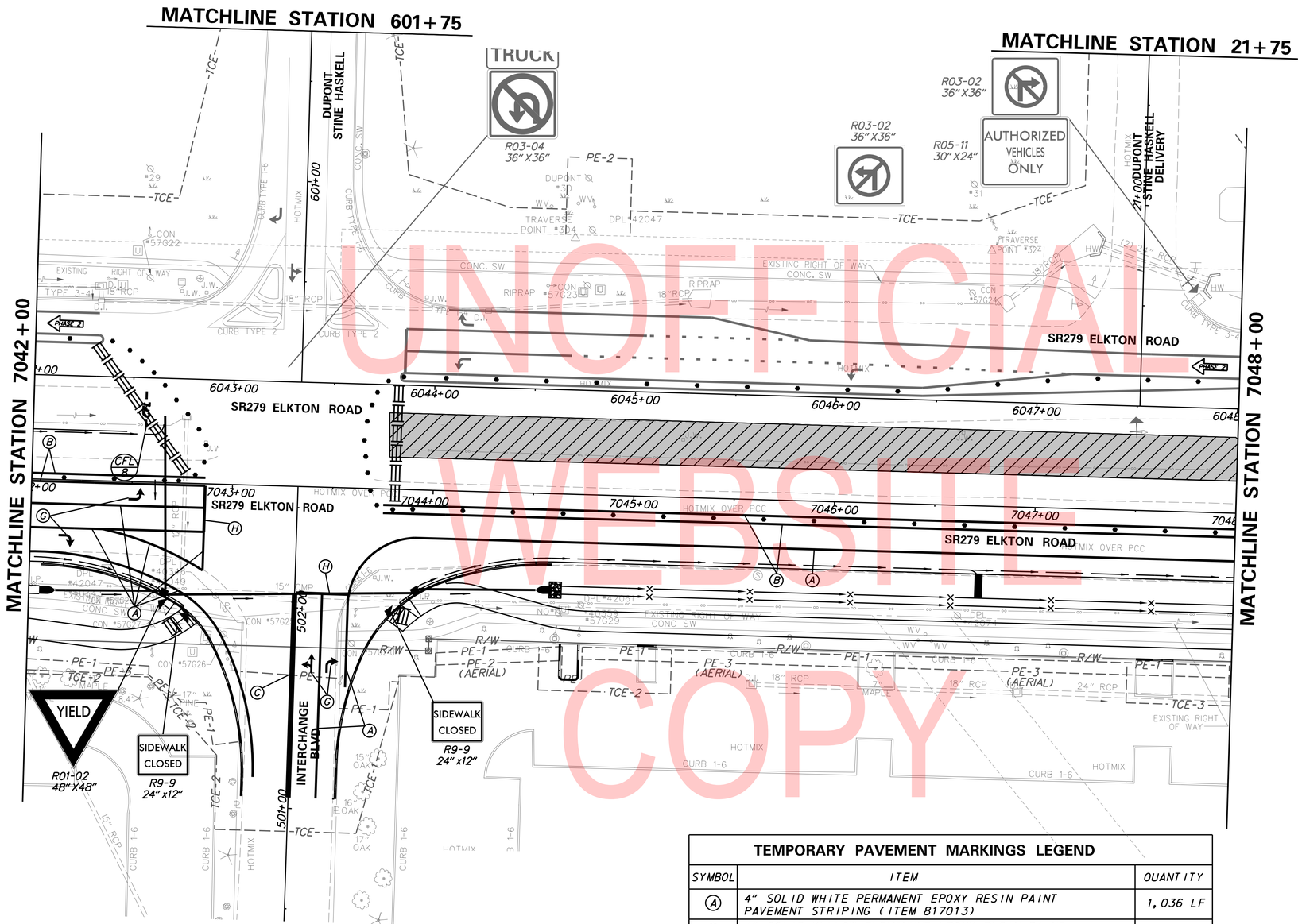
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	JMT
SHEET NO.	268

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS74]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,036 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,023 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	103 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	65 SF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817013)	48 LF

PHASE 2 ADVANCED WORK

CS-75

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

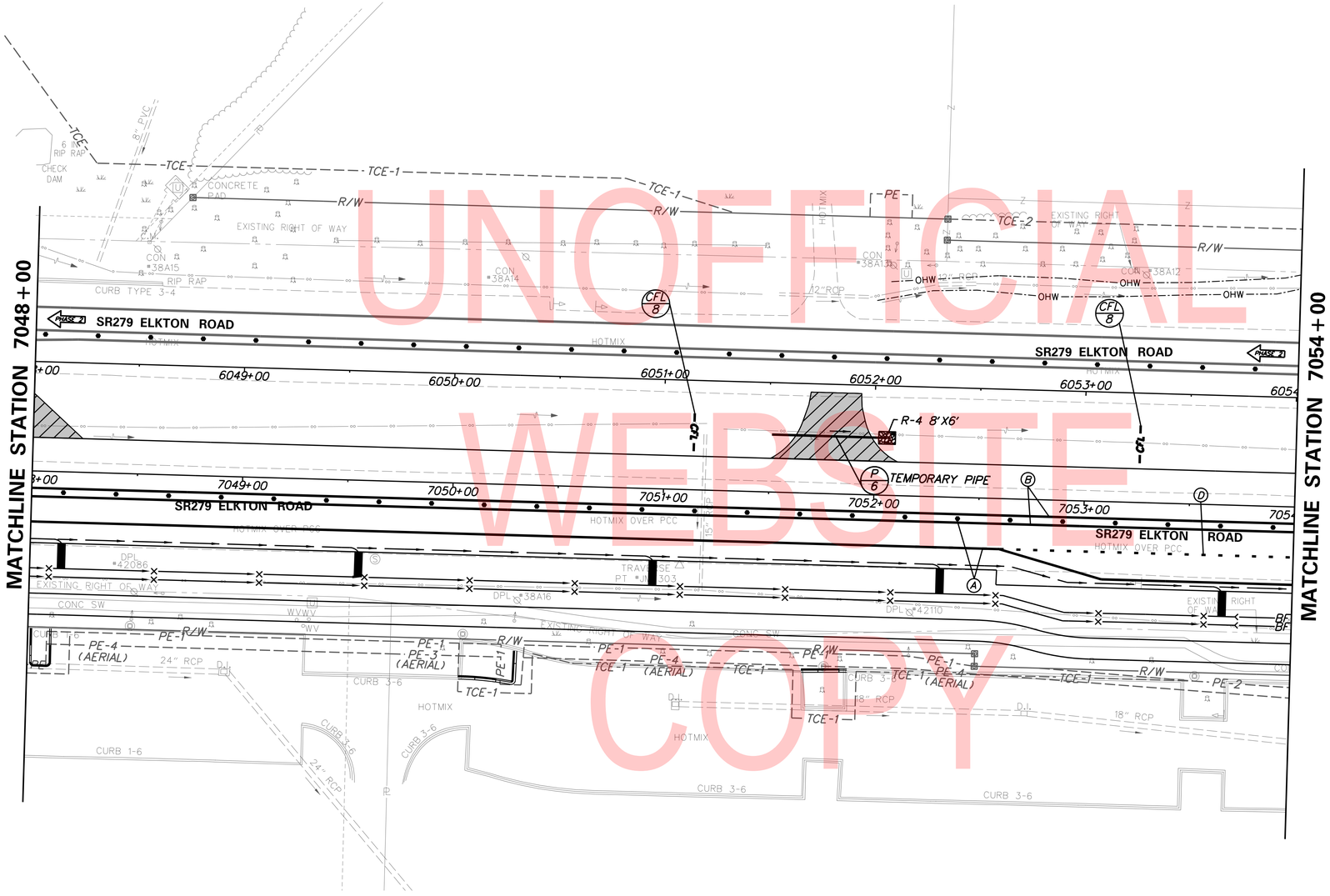
CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	JMT
SHEET NO.	269

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_MLL_PRE-PHASE2.DGN [SHEET: CS75]

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	602 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,200 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	180 LF



TEMPORARY DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
6	8" CPP-S	N/A	55 LF	0.0050	110.39	110.11

RIPRAP STABILIZATION SCHEDULE				
NO.	TYPE	W	L	D
6	R-4	6.0'	8.0'	14"

UNOFFICIAL WEBSITE COPY

PHASE 2 ADVANCED WORK

CS-76

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION JMT

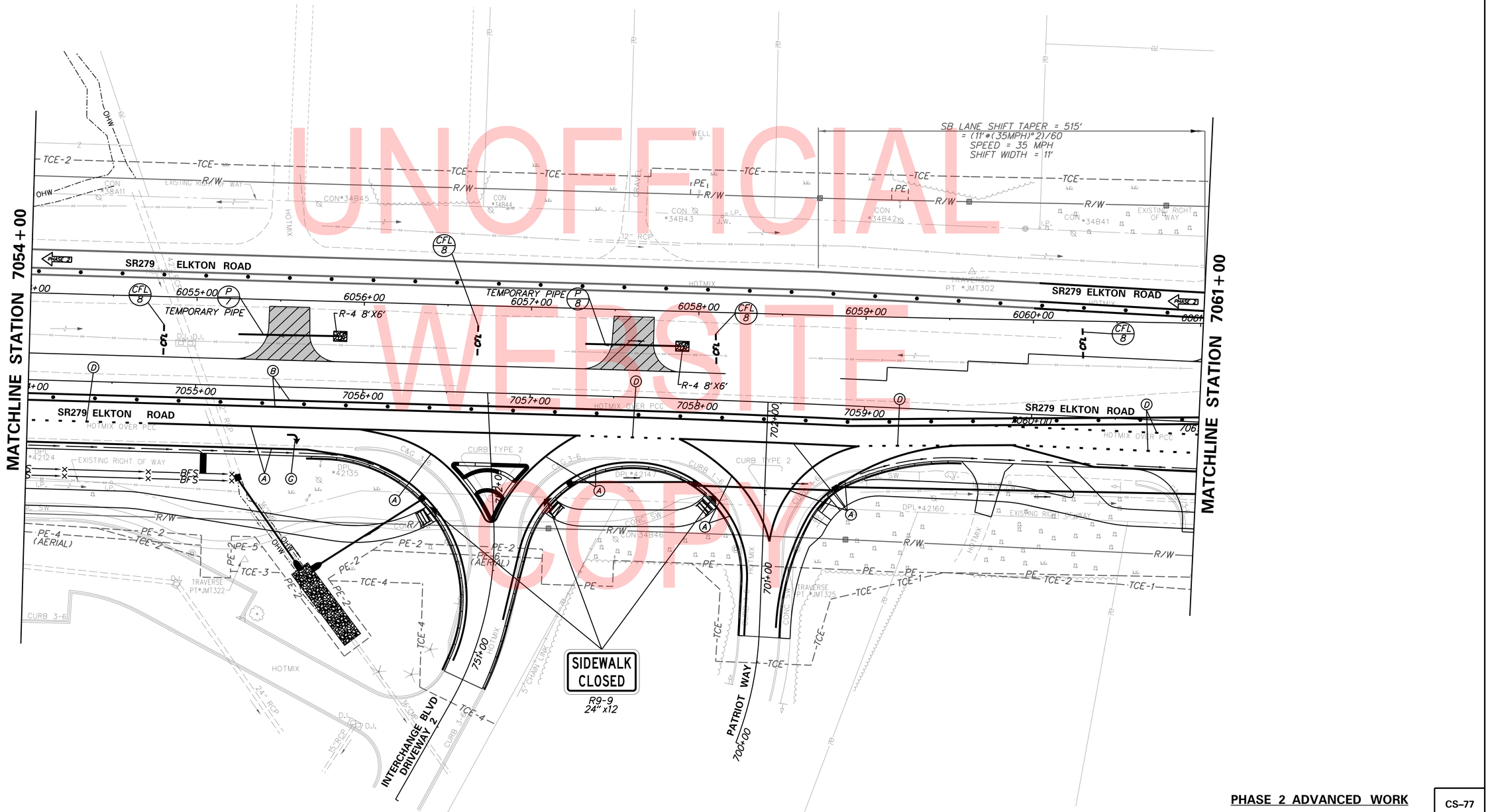
SHEET NO. 270

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS76]

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
Ⓐ	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,770 LF
Ⓑ	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,401 LF
Ⓓ	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	446 LF
Ⓖ	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	15 SF

TEMPORARY DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
7	8" CPP-S	N/A	61 LF	0.0050	108.52	108.21
8	8" CPP-S	N/A	55 LF	0.0051	107.48	107.20

RIPRAP STABILIZATION SCHEDULE				
NO.	TYPE	W	L	D
7	R-4	6.0'	8.0'	14"
8	R-4	6.0'	8.0'	14"



UNOFFICIAL WEBSITE COPY

PHASE 2 ADVANCED WORK

CS-77

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

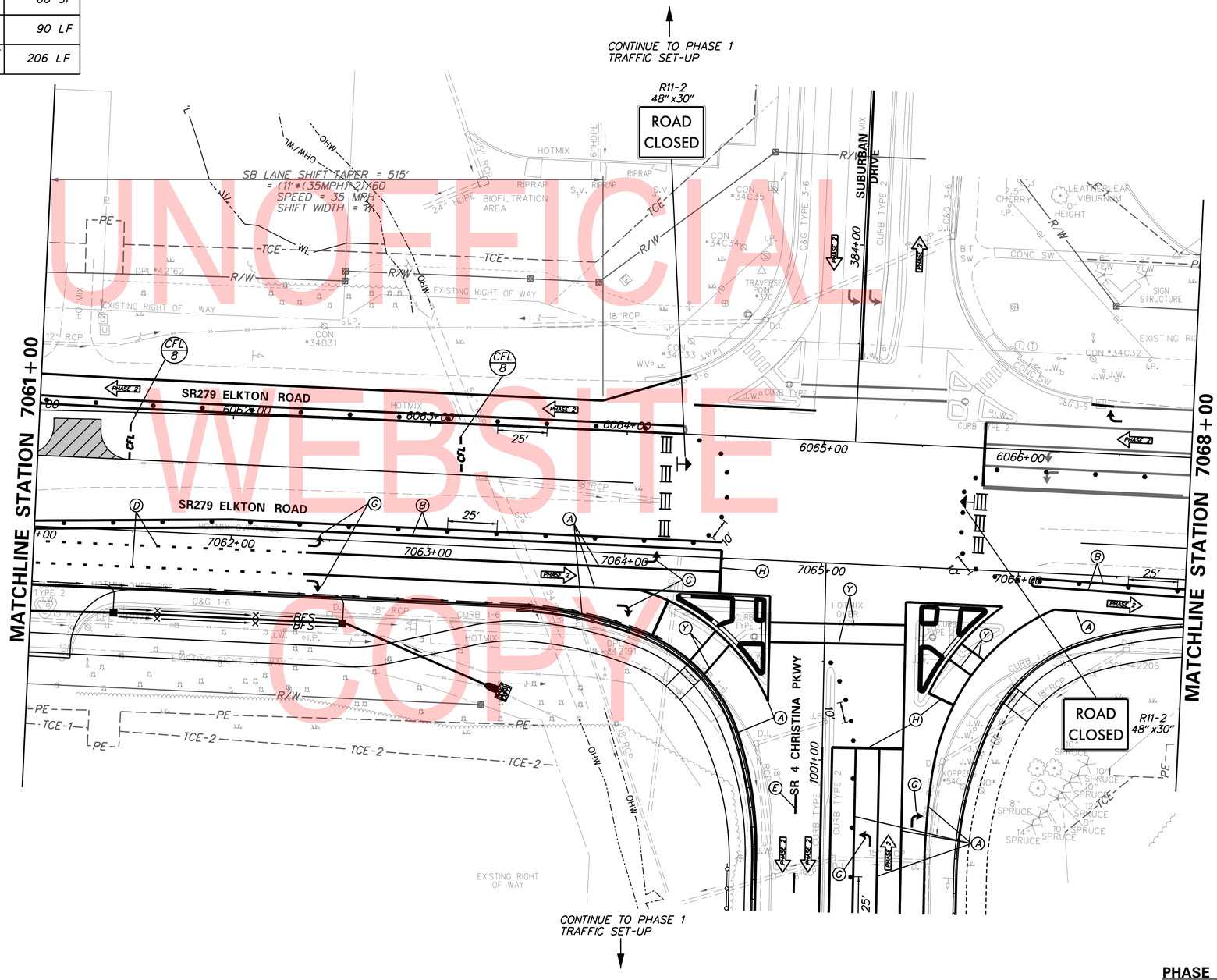
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	SHEET NO.
JMT	271

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS77]

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	2,216 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,904 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	105 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	20 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	60 SF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817013)	90 LF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	206 LF



NOTE:
WEEKEND WORK OCCURS PRIOR TO PHASE 2 FULL TRAFFIC SHIFT. SB TRAFFIC STILL REMAINS ON SB ELKTON RD AND NB TRAFFIC HAS BEEN SHIFTED TO PHASE 2 TRAFFIC SETUP.

PHASE 2 ADVANCED WORK

CS-78

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS78]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

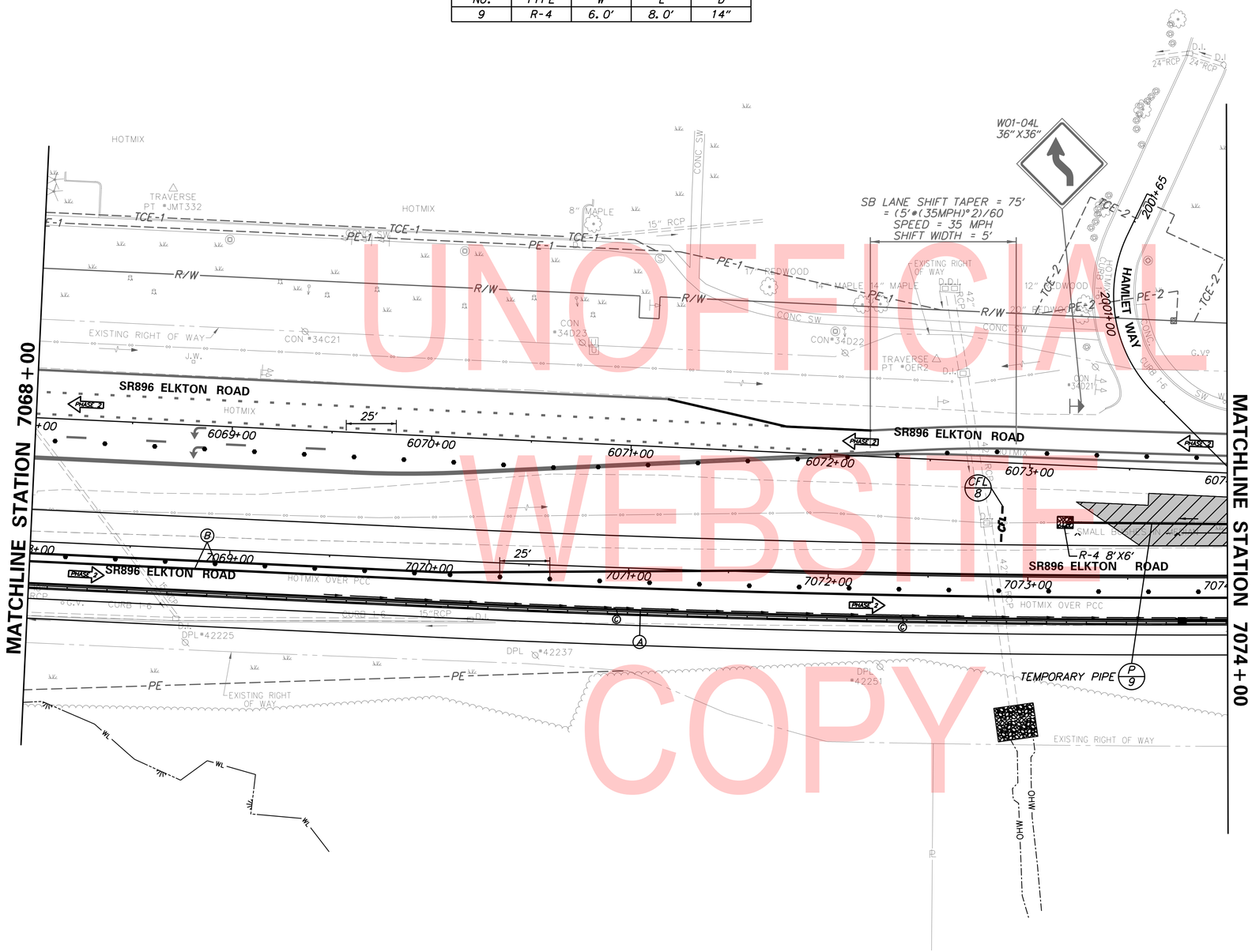
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION JMT
SHEET NO. 272

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	601 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,201 LF

TEMPORARY DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
9	8" CPP-S	N/A	116 LF	0.0174	101.50	99.48

RIPRAP STABILIZATION SCHEDULE				
NO.	TYPE	W	L	D
9	R-4	6.0'	8.0'	14"



UNOFFICIAL WEBSITE COPY

NOTE:
WEEKEND WORK OCCURS PRIOR TO PHASE 2 FULL TRAFFIC SHIFT. SB TRAFFIC STILL REMAINS ON SB ELKTON RD AND NB TRAFFIC HAS BEEN SHIFTED TO PHASE 2 TRAFFIC SETUP.

PHASE 2 ADVANCED WORK

CS-79

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE
0 30 60 90
FEET

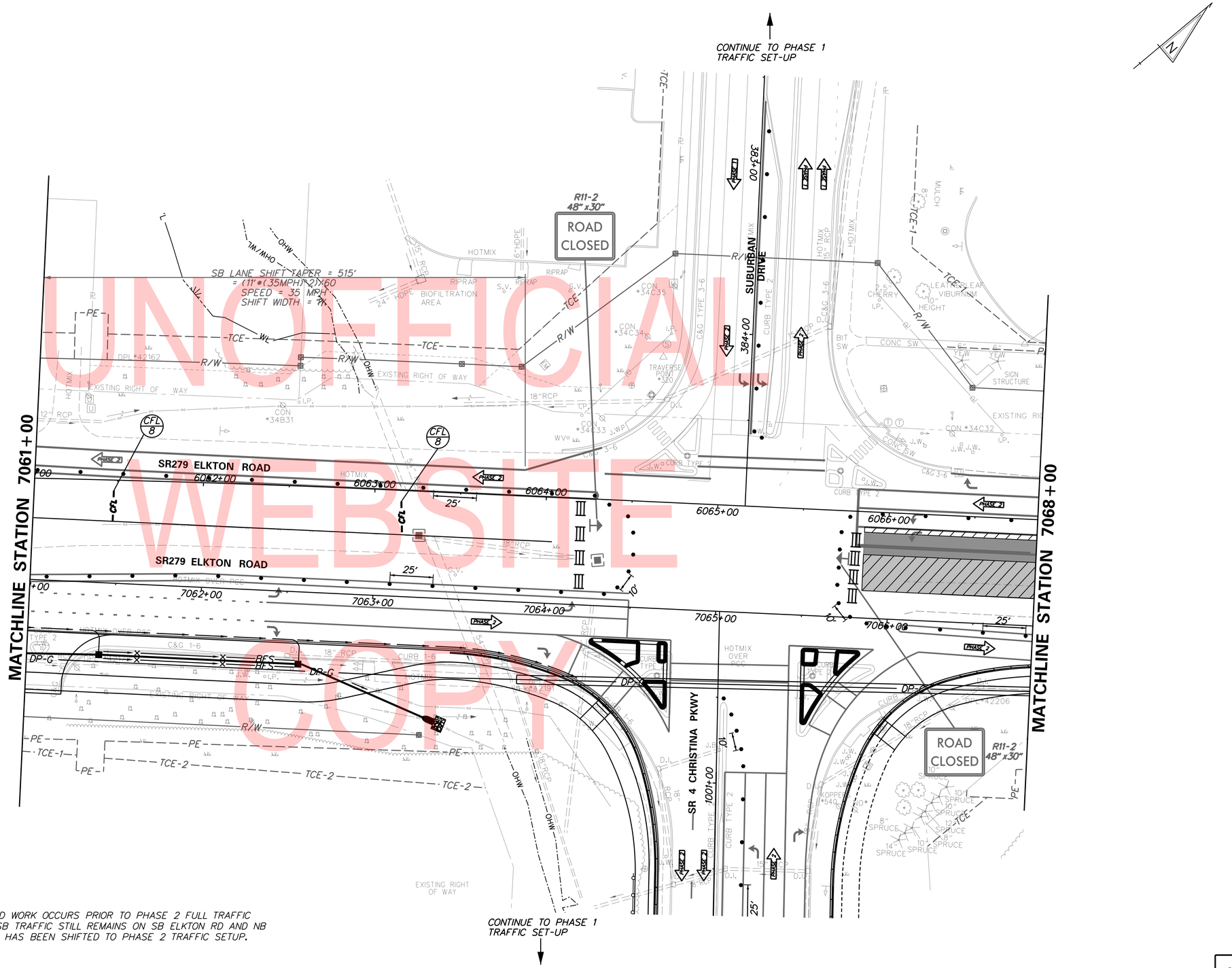
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	SHEET NO.
JMT	273

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS79]



NOTE:
WEEKEND WORK OCCURS PRIOR TO PHASE 2 FULL TRAFFIC SHIFT. SB TRAFFIC STILL REMAINS ON SB ELKTON RD AND NB TRAFFIC HAS BEEN SHIFTED TO PHASE 2 TRAFFIC SETUP.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS80 - Stg. 1]

PHASE 2 ADVANCED WEEKEND WORK – STAGE 1

CS-80

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

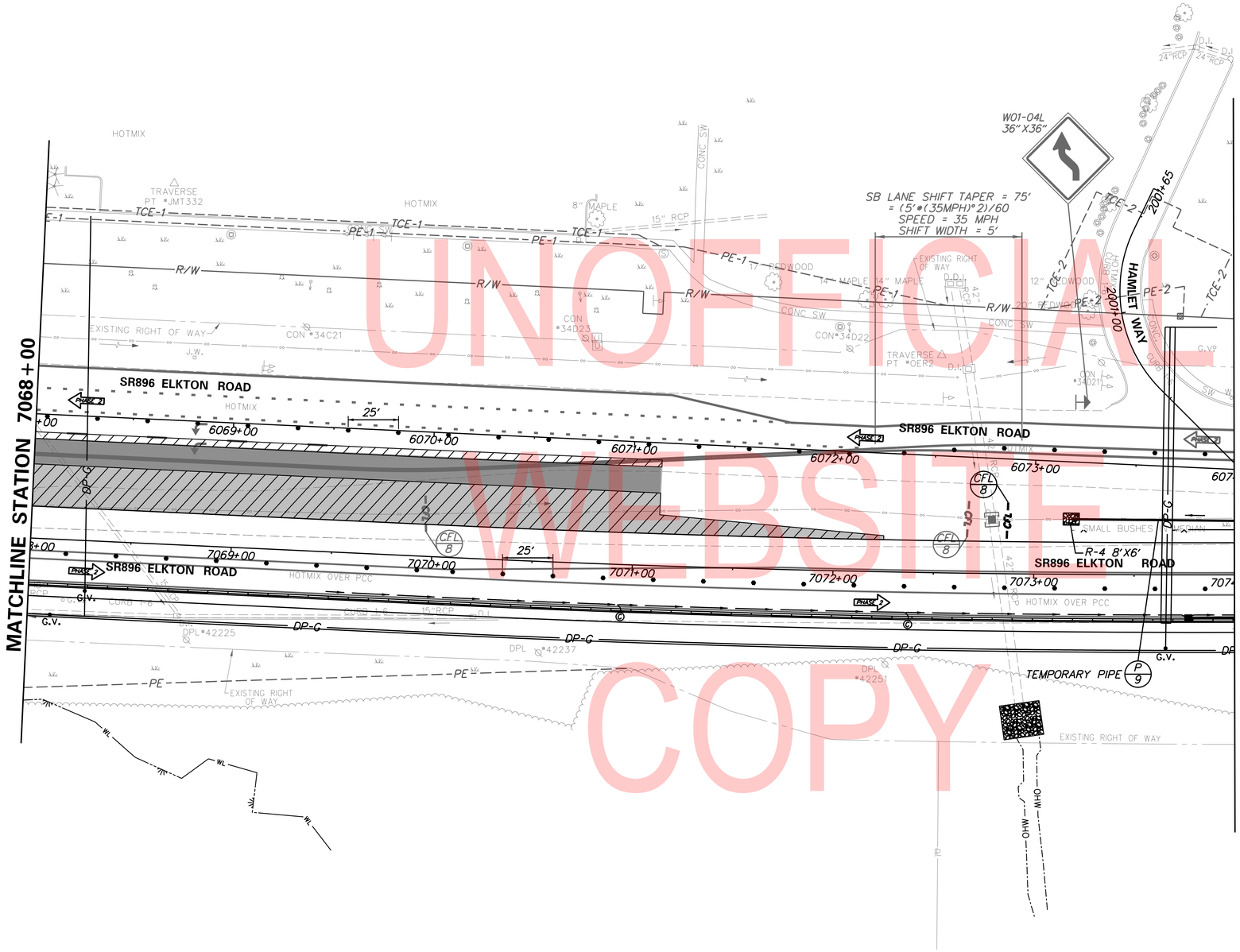
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION JMT
SHEET NO. 274

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,201 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	601 LF



NOTE:
WEEKEND WORK OCCURS PRIOR TO PHASE 2 FULL TRAFFIC SHIFT. SB TRAFFIC STILL REMAINS ON SB ELKTON RD AND NB TRAFFIC HAS BEEN SHIFTED TO PHASE 2 TRAFFIC SETUP.

PHASE 2 ADVANCED WEEKEND WORK – STAGE 1

CS-81

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

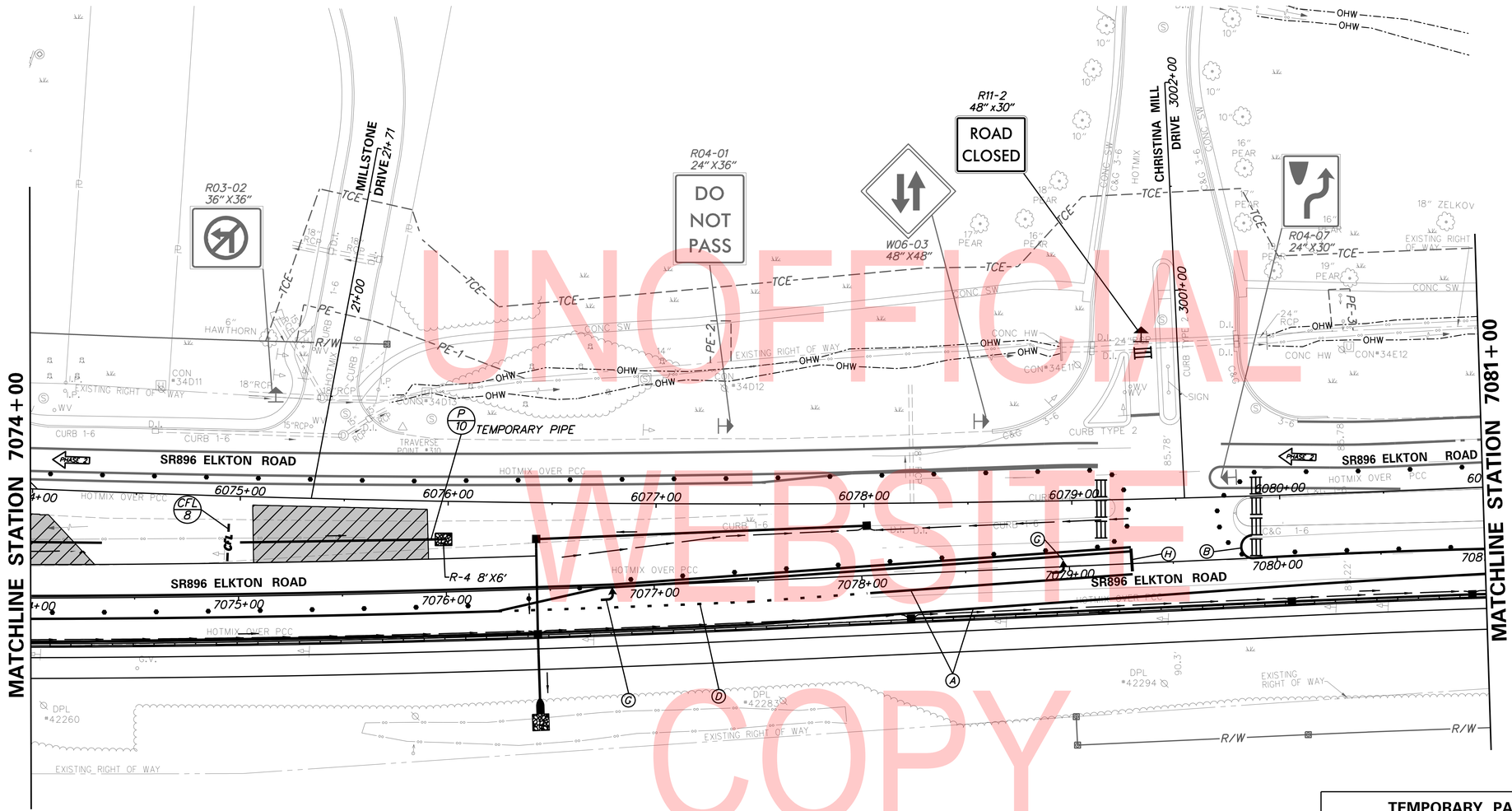
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION: JMT
SHEET NO.: 275

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS81 - Stg. 1]



UNOFFICIAL WEBSITE COPY

TEMPORARY DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
10	8" CPP-S	N/A	98 LF	0.0048	101.18	100.71

RIPRAP STABILIZATION SCHEDULE

NO.	TYPE	W	L	D
10	R-4	6.0'	8.0'	14"

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	827 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	684 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	250 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	178 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817013)	11 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	30 SF

PHASE 2 ADVANCED WORK

CS-82

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

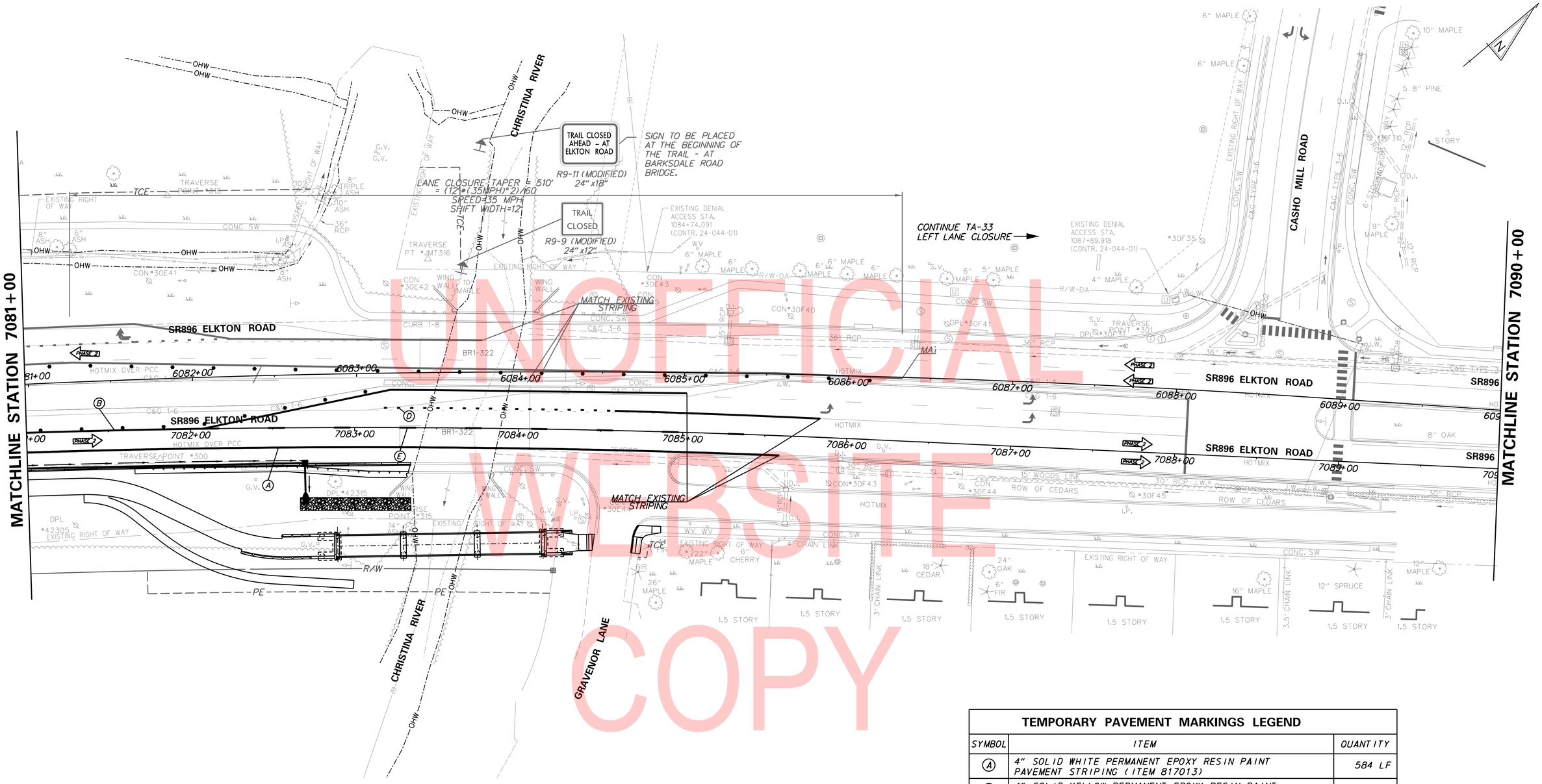
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION: JMT
SHEET NO.: 276

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS82]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	584 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	405 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	141 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	351 LF

PHASE 2 ADVANCED WORK

CS-83

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

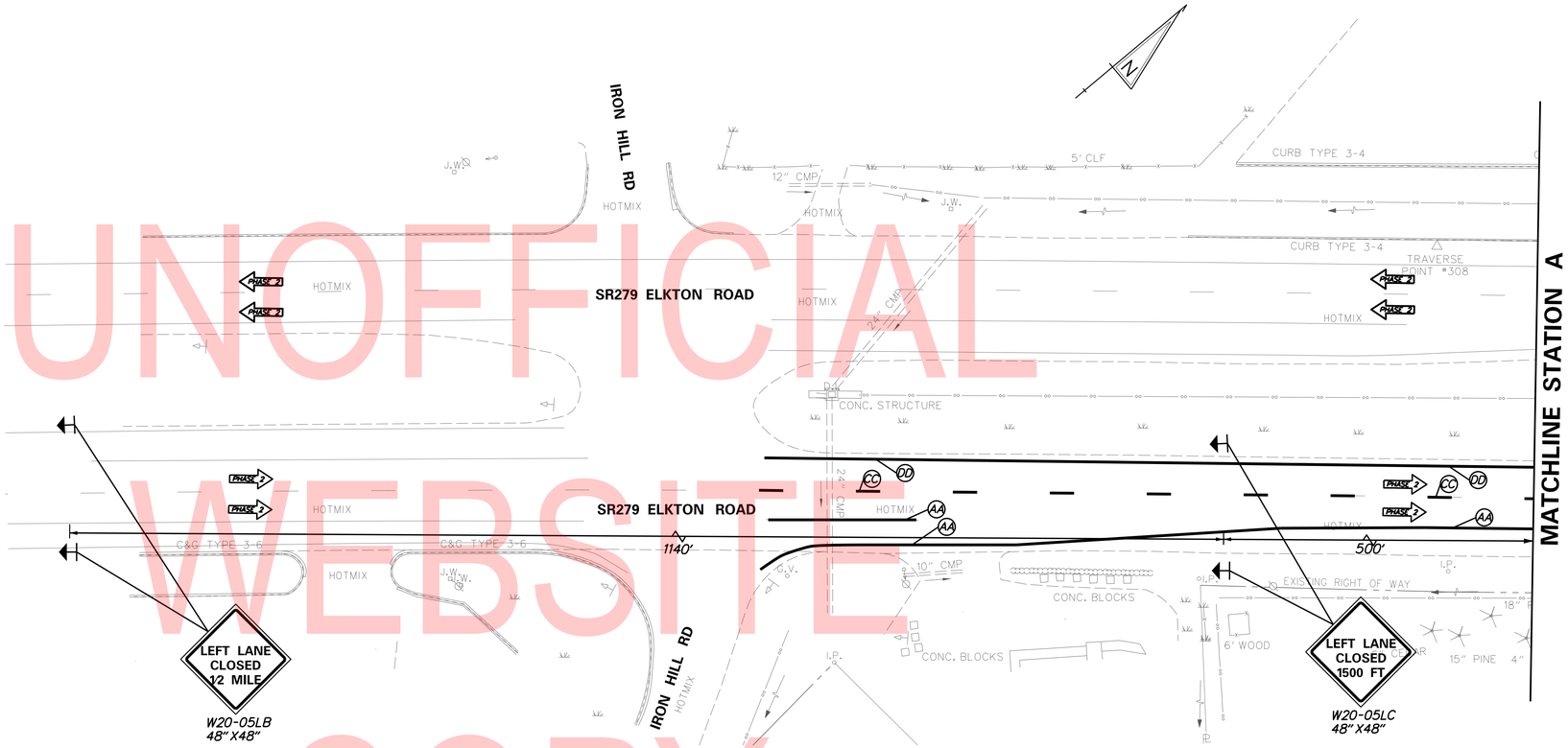
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 2

SECTION JMT

SHEET NO. 277

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PRE-PHASE2.DGN [SHEET: CS83]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
AA	5" WHITE SOLID PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549401)	425 LF
CC	5" BROKEN WHITE 10'-30' PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549401)	90 LF
DD	5" SOLID YELLOW PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549403)	355 LF

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

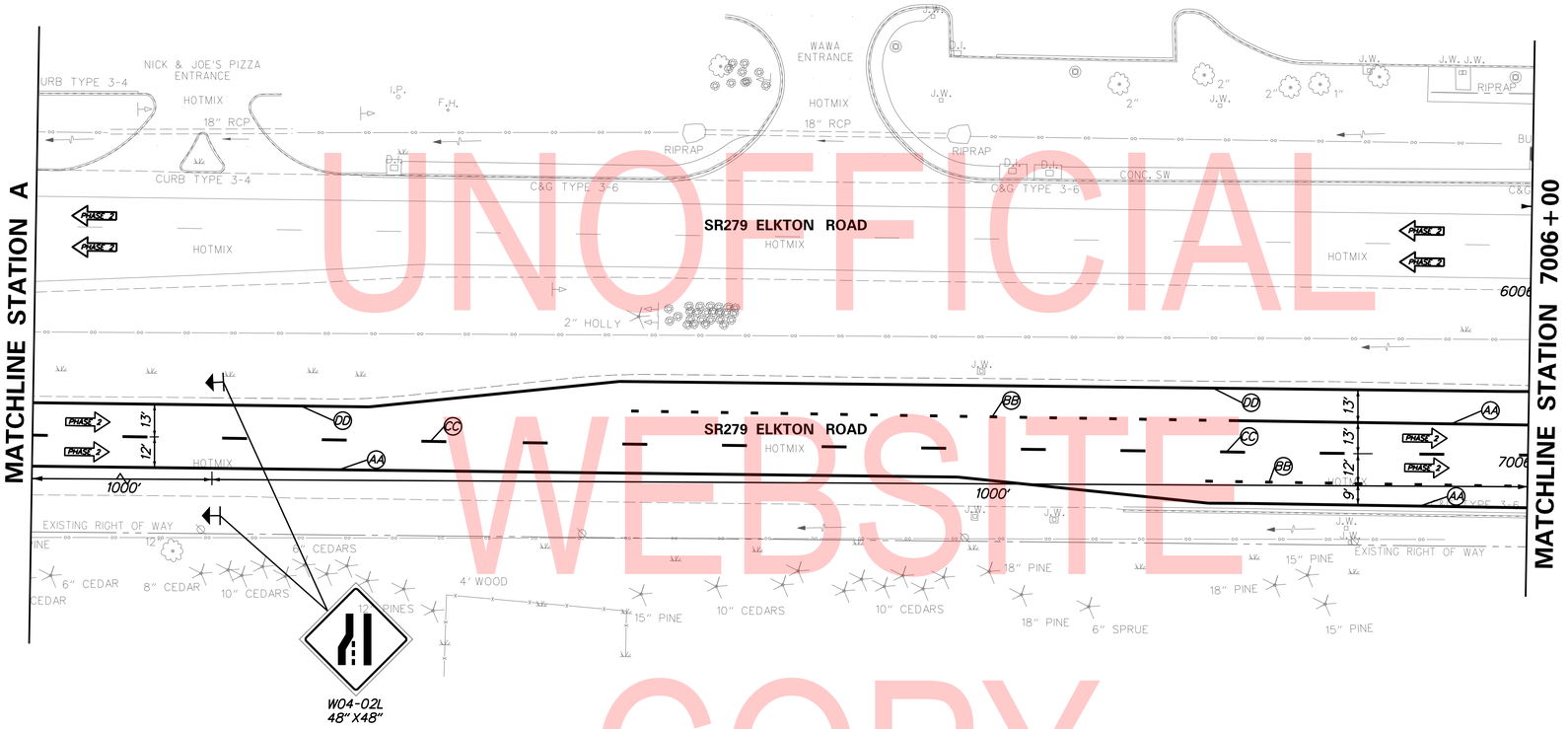
CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-84

SECTION	JMT
SHEET NO.	278

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS74]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(AA)	5" WHITE SOLID PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549401)	790 LF
(BB)	5" WHITE 3'-9' SKIP PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549401)	105 LF
(CC)	5" BROKEN WHITE 10'-30' PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549401)	170 LF
(DD)	5" SOLID YELLOW PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549403)	665F

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

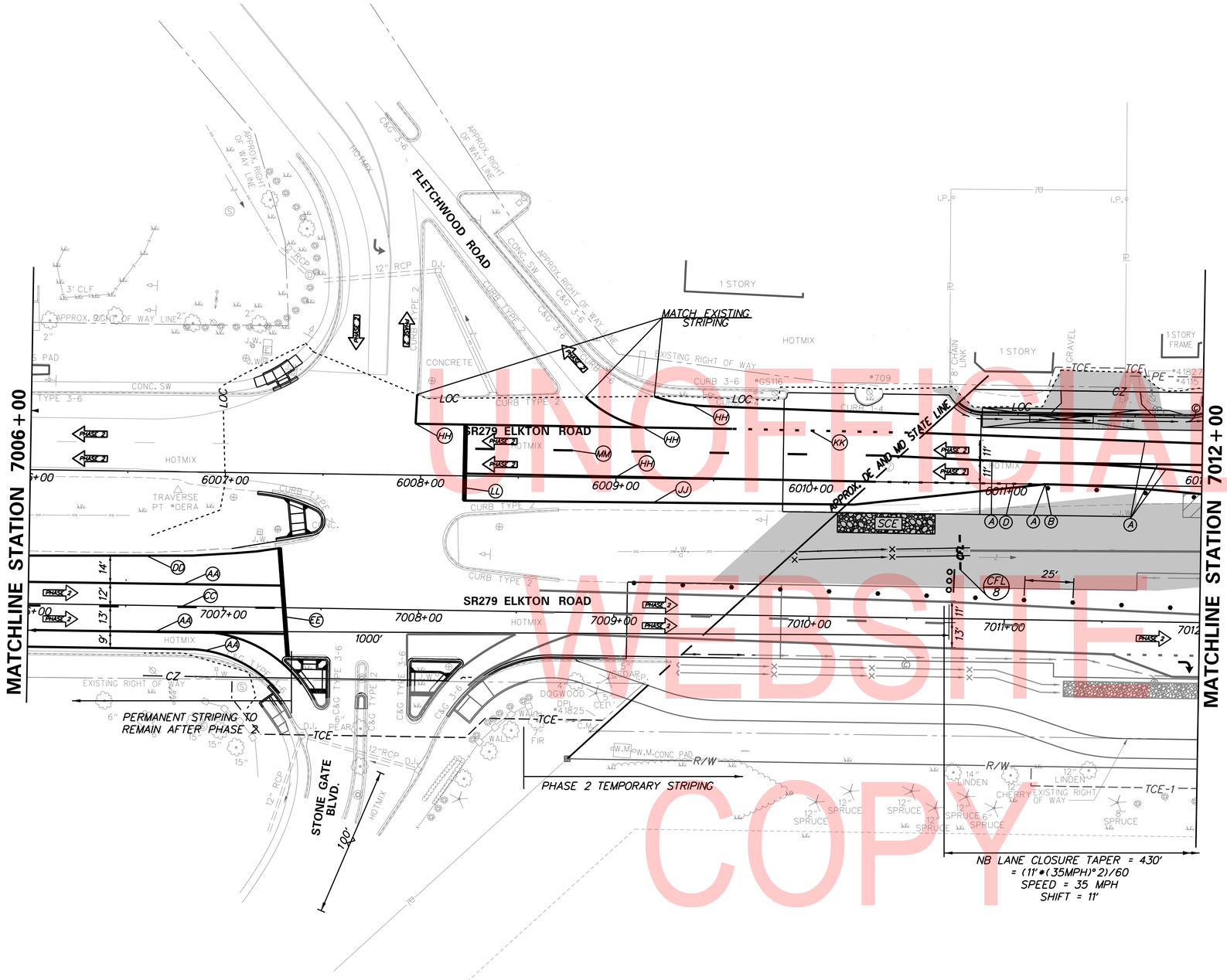
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-85
SECTION JMT
SHEET NO. 279

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS75]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	607 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	178 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	22 LF
(AA)	5" WHITE SOLID PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549401)	505 LF
(BB)	5" WHITE 3'-9' SKIP PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549401)	0 LF
(CC)	5" BROKEN WHITE 10'-30' PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549401)	40 LF
(DD)	5" SOLID YELLOW PERMANENT THERMOPLASTIC PAVEMENT MARKINGS (ITEM 549403)	145 LF
(EE)	24" HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES (ITEM 549617)	55 LF
(HH)	5" WHITE SOLID EPOXY PAVEMENT MARKINGS (ITEM 549301)	625 LF
(JJ)	5" YELLOW SOLID EPOXY PAVEMENT MARKINGS (ITEM 549303)	220 LF
(KK)	5" WHITE SKIP 3'-9' EPOXY PAVEMENT MARKINGS (ITEM 549301)	30 LF
(LL)	24" WHITE SOLID PAVEMENT MARKING PAINT (ITEM 114046)	45 LF
(MM)	5" WHITE DASHED 10'-30' EPOXY PAVEMENT MARKINGS (ITEM 549301)	65 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS76]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

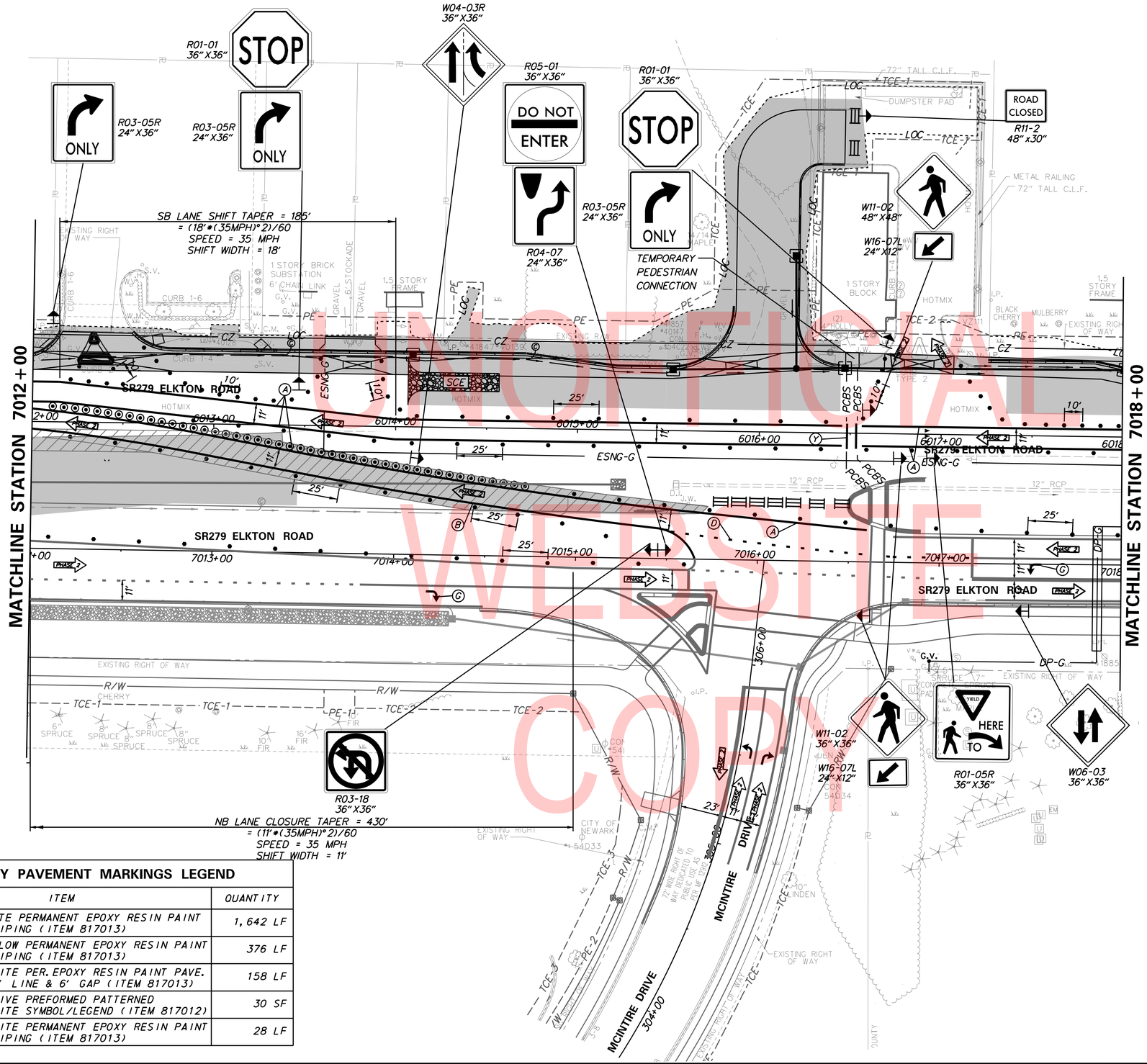
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P	
T201504401	DESIGNED BY: LB		
COUNTY	CHECKED BY: BPH		
NEW CASTLE			

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-86

SECTION	SHEET NO.
JMT	280



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,642 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	376 LF
(D)	4" DASHED WHITE PER. EPOXY RESIN PAINT PAVE. STRIPING, 2' LINE & 6' GAP (ITEM 817013)	158 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	30 SF
(Y)	12" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	28 LF

PHASE 2 – STAGE 1
DUNKIN DONUTS

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

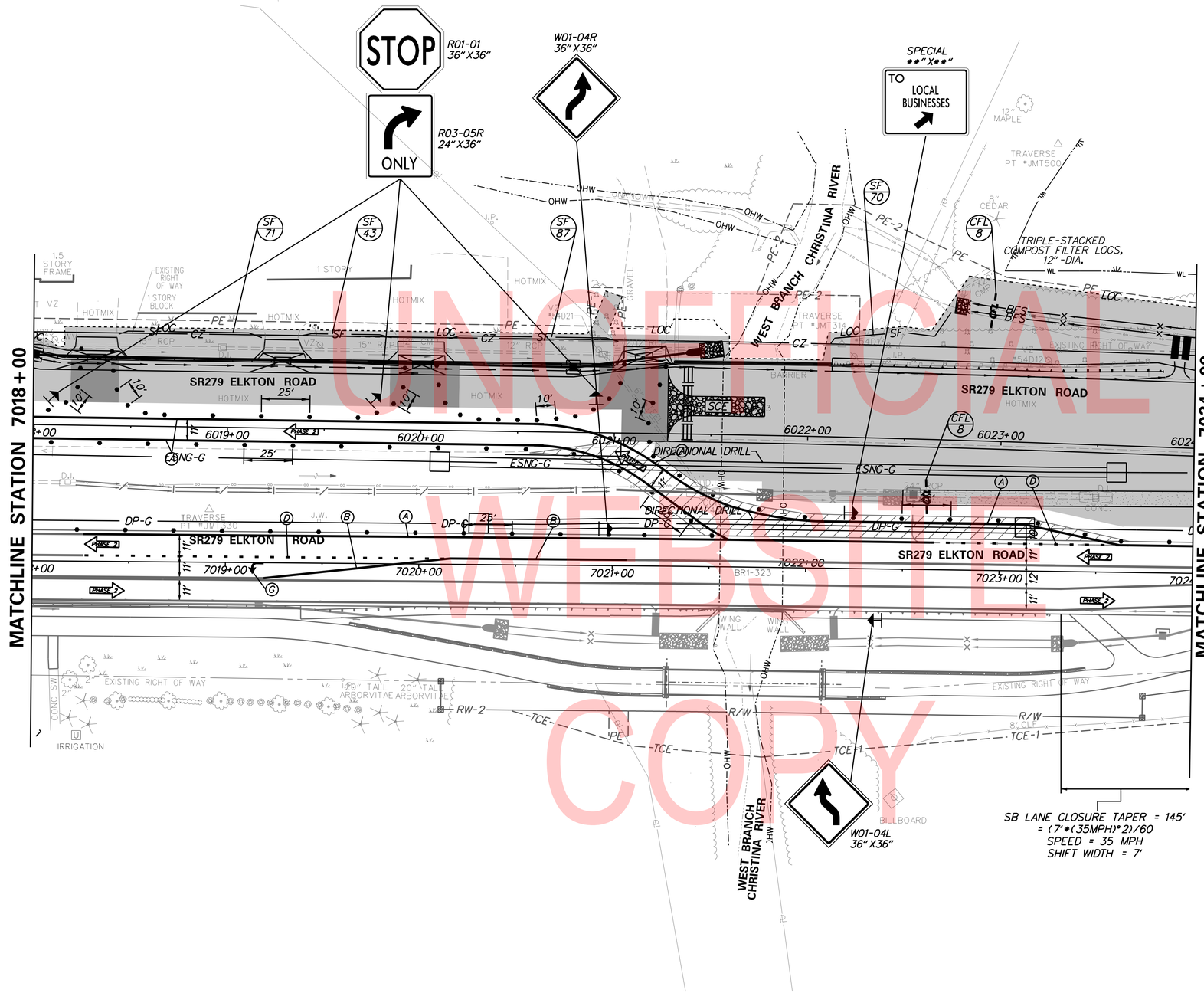
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-87
SECTION: JMT
SHEET NO.: 281

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS77]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,733 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	947 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	72 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	16 SF

CS-88

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

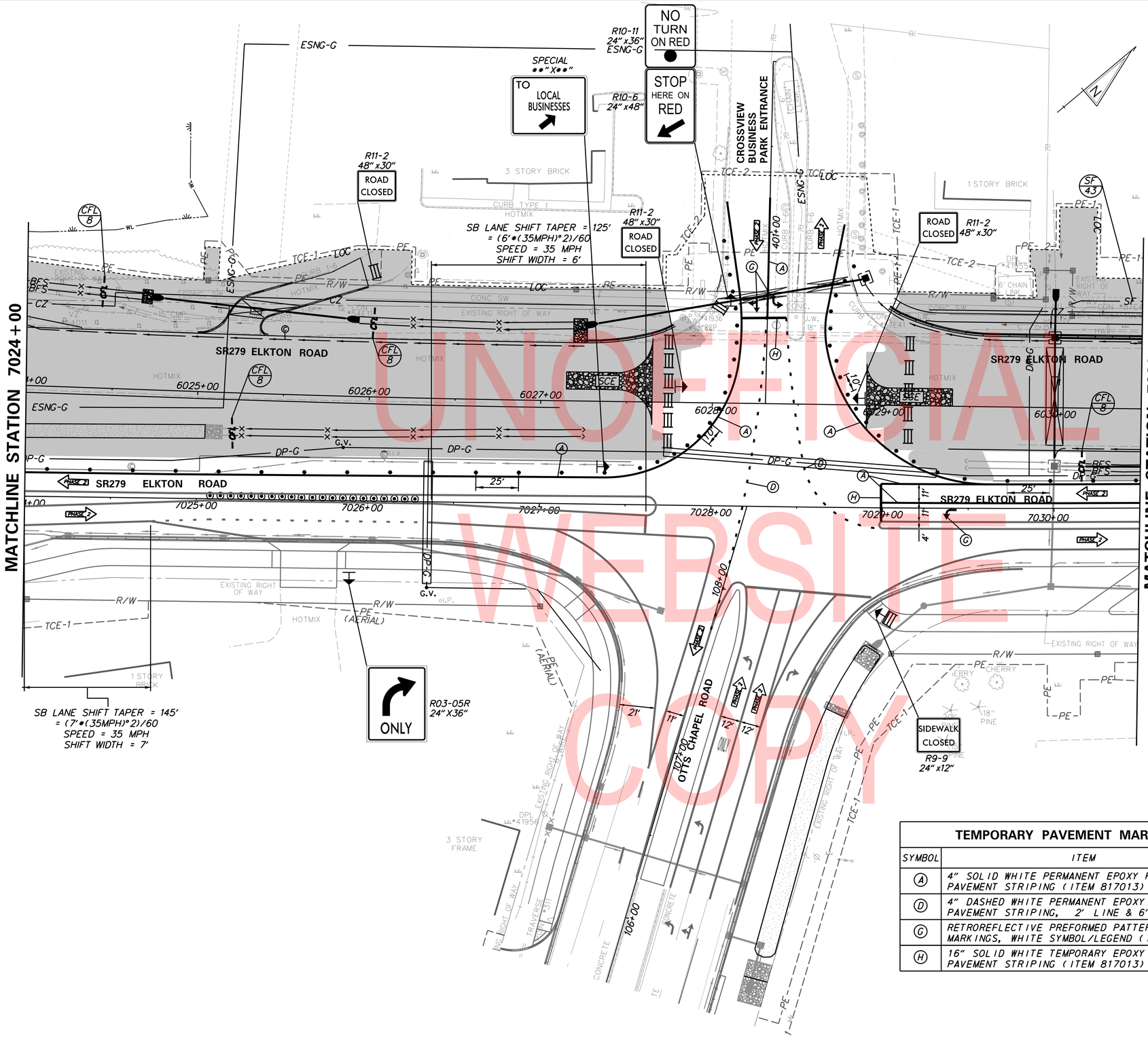
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	JMT
SHEET NO.	282

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS78]



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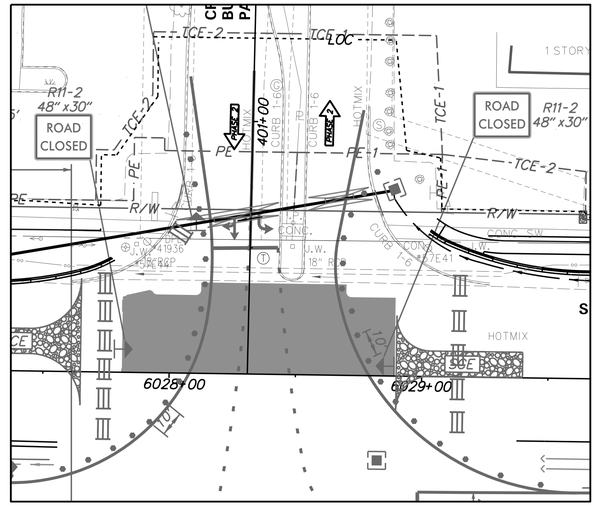
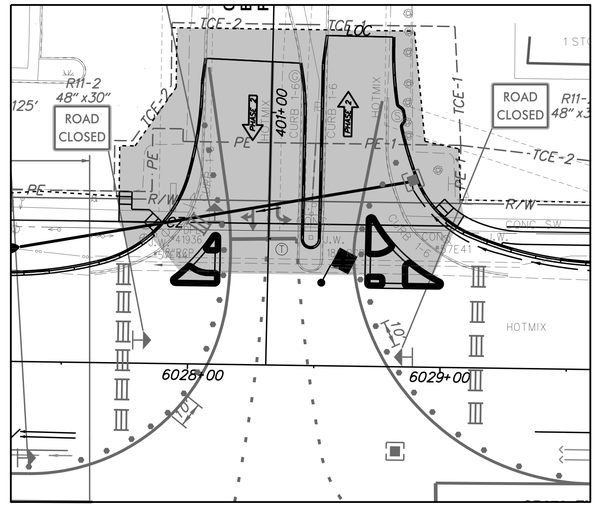


PHASE 2 – STAGE 1
OTTS CHAPEL RD EXTENDED



PHASE 2 – STAGE 2
OTTS CHAPEL RD EXTENDED

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
Ⓐ	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,130 LF
Ⓓ	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	363 LF
Ⓖ	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	51 SF
Ⓗ	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	48 LF

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

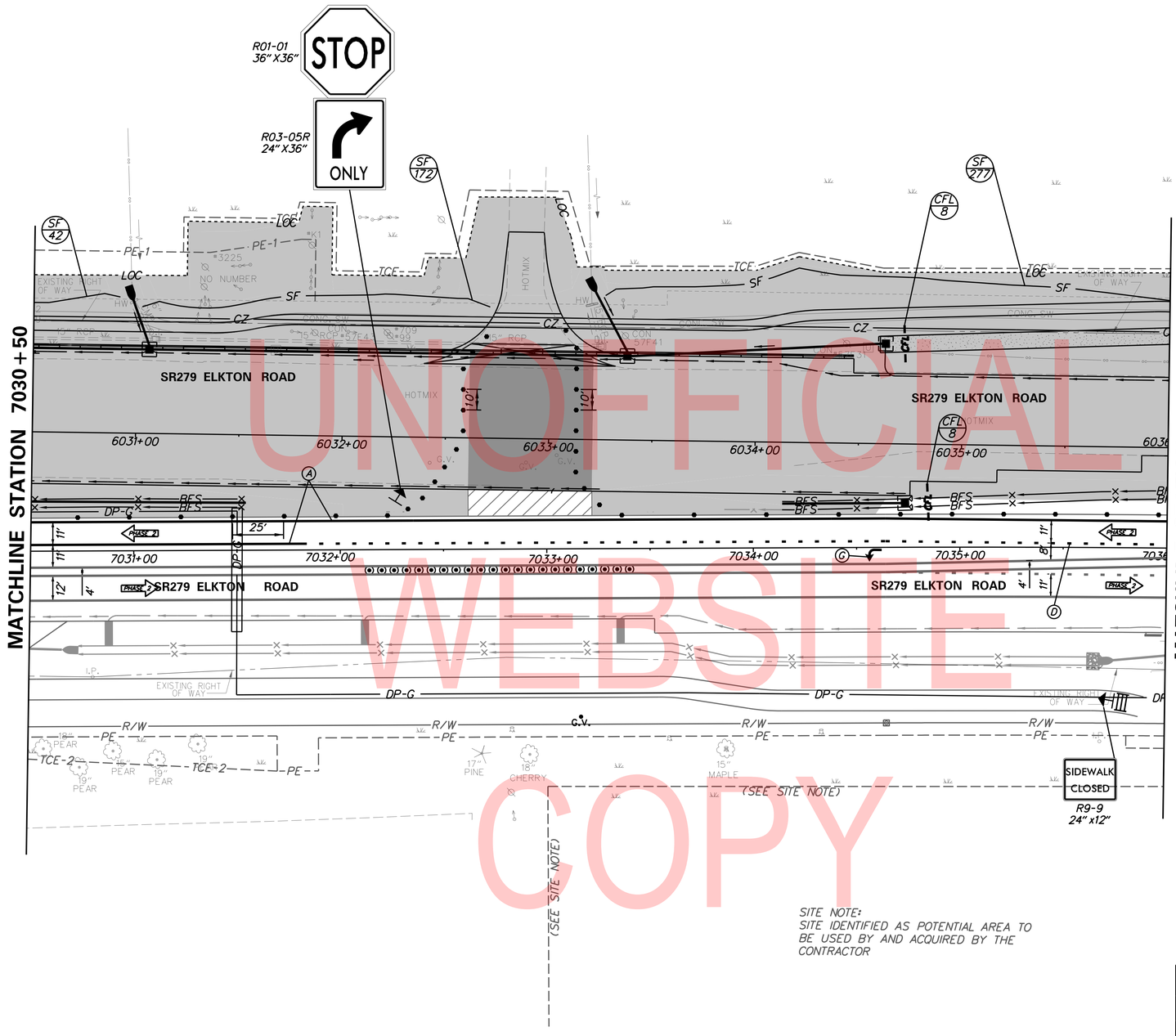
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-89

SECTION	SHEET NO.
JMT	283

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS79]



UNOFFICIAL
WEBSITE
COPY

SITE NOTE:
SITE IDENTIFIED AS POTENTIAL AREA TO BE USED BY AND ACQUIRED BY THE CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	681 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	419 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	16 SF

CS-90

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE
0 30 60 90
FEET

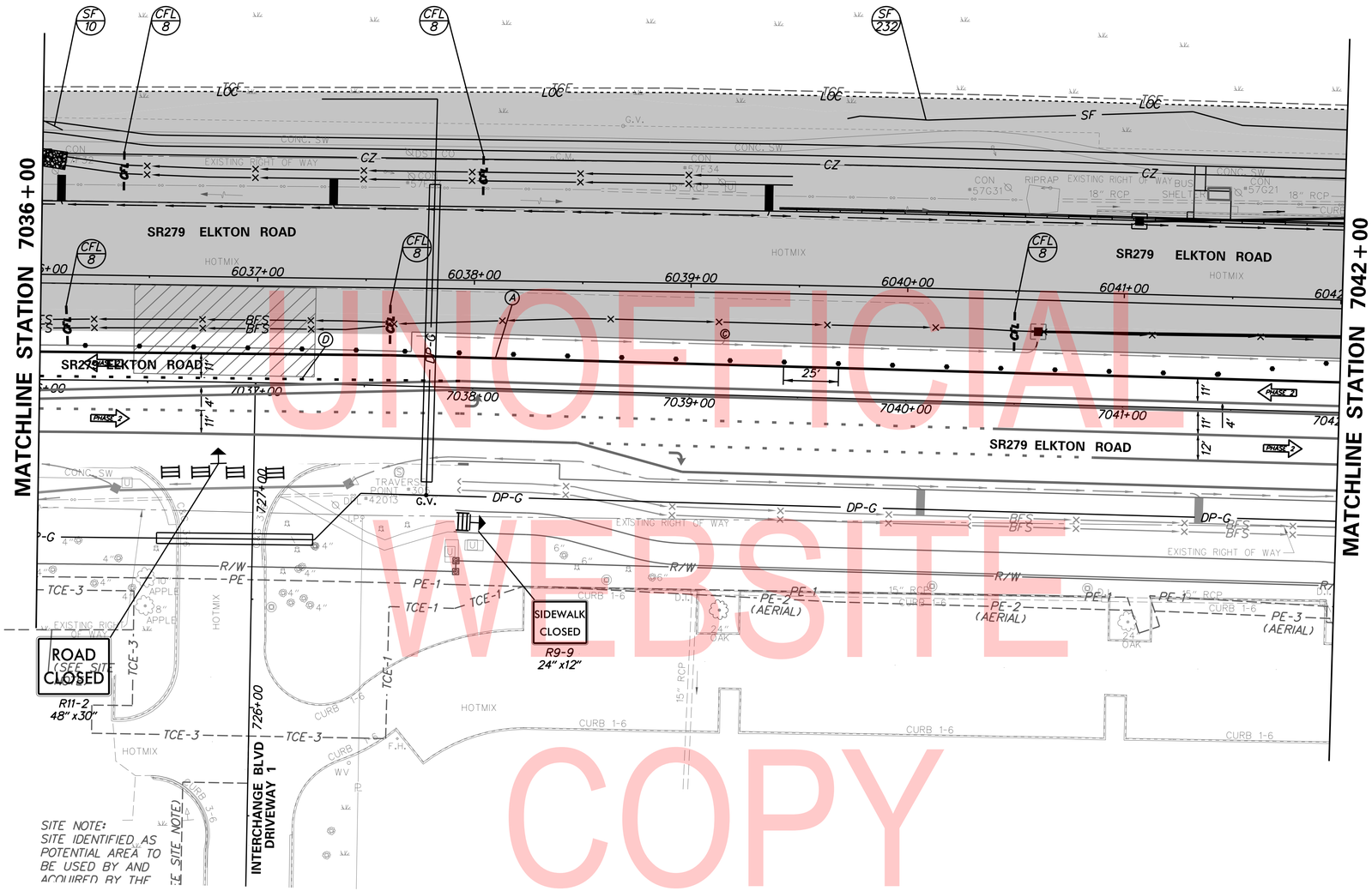
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION: JMT
SHEET NO.: 284

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS80]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	600 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	194 LF

NOTES:

1) CONTRACTOR SHALL CLOSE EXISTING BUS STOP AT STATION 6041+25 LT DURING PHASE 2 AND COORDINATE WITH CECIL COUNTY TRANSIT IN REGARDS TO CURRENT BUS ROUTE.

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

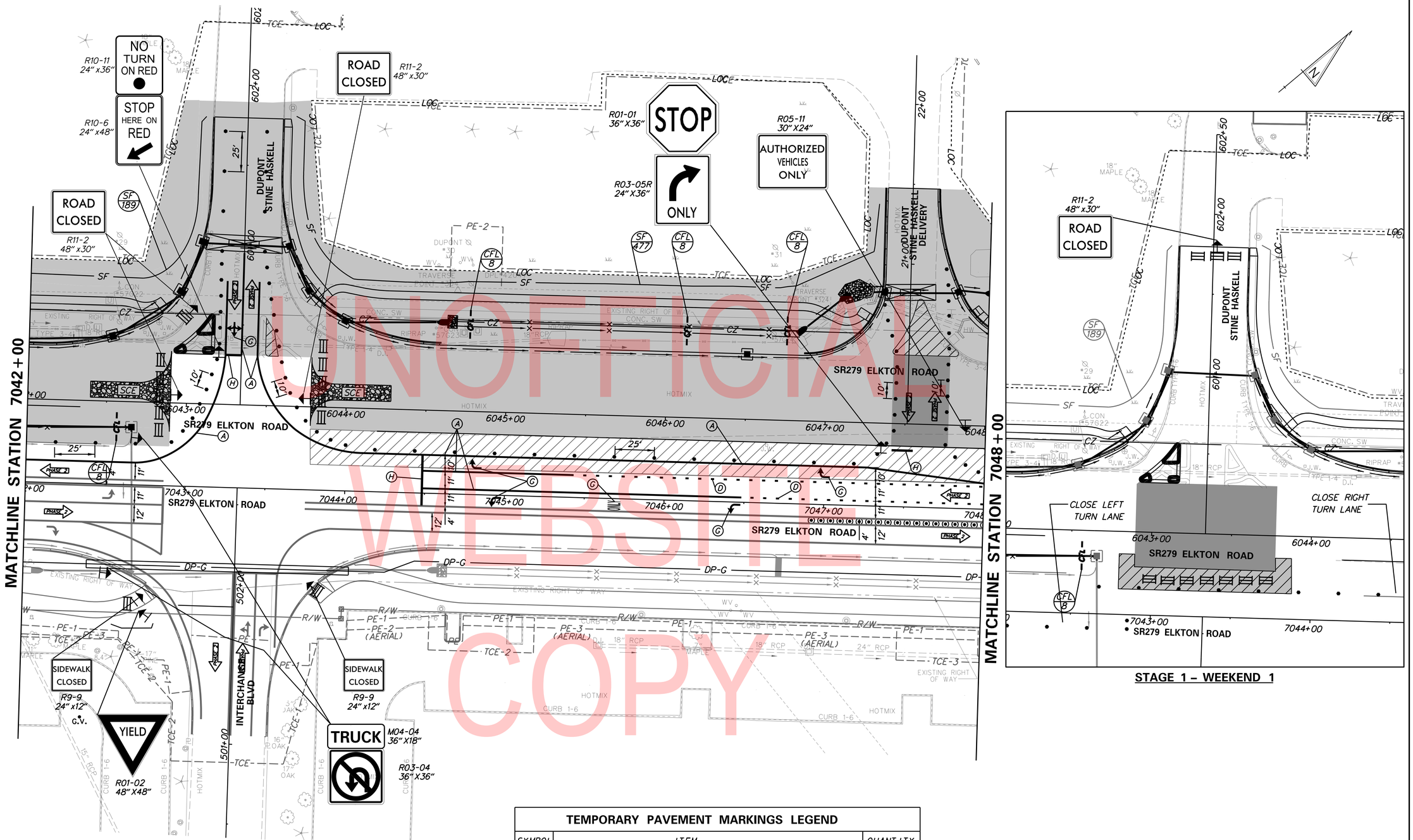
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-91

SECTION JMT

SHEET NO. 285

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS81]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,237 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	527 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	102 SF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	55 LF

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

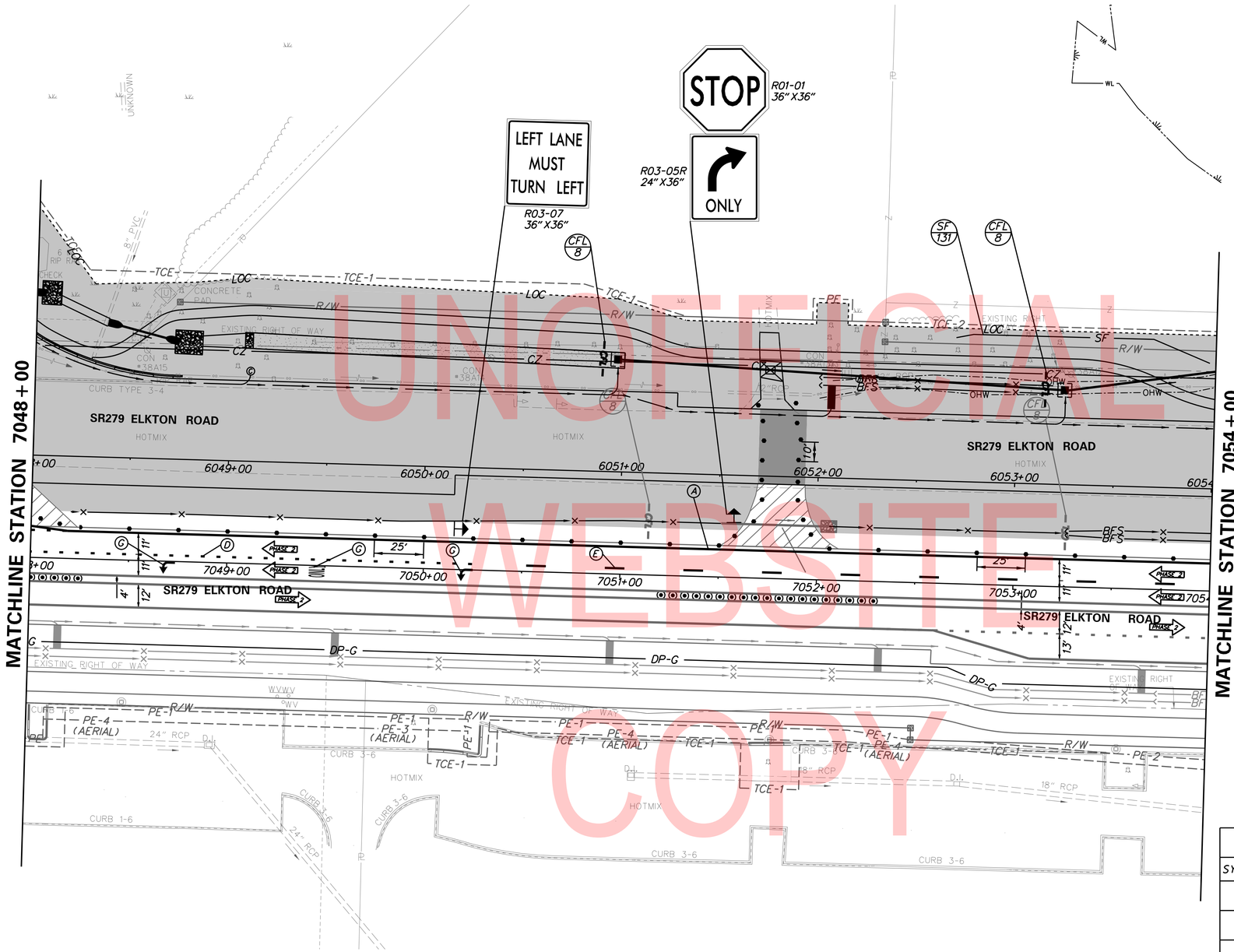
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-92

SECTION JMT

SHEET NO. 286

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS89]



UNOFFICIAL
WEBSITE
COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	600 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	225 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 4" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	372 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	51 SF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS90]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

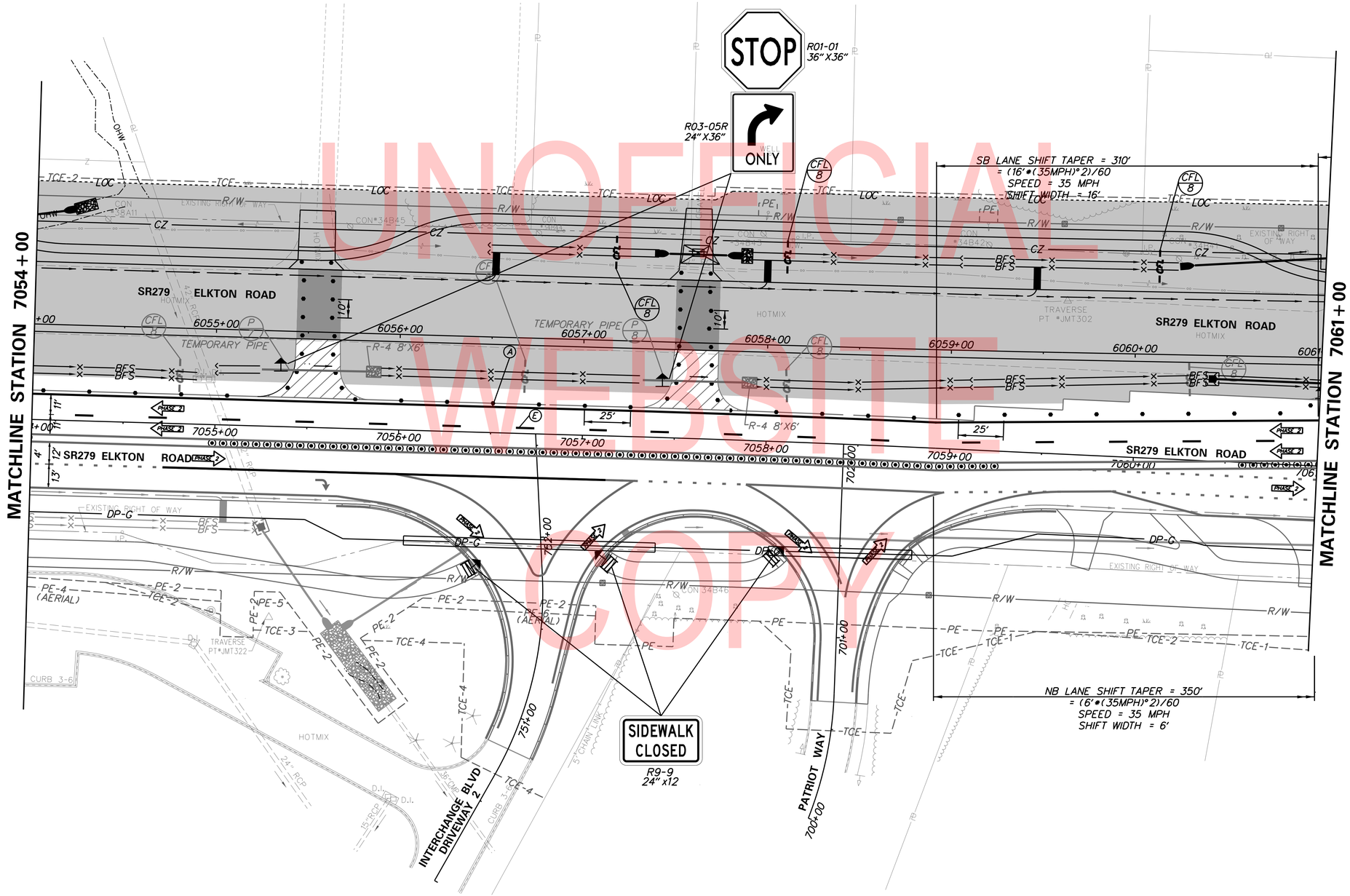
CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-93

SECTION	JMT
SHEET NO.	287

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	702 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 4" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	700 LF



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PLOTTED BY: LBERZINA DATE: 11/15/2019
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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

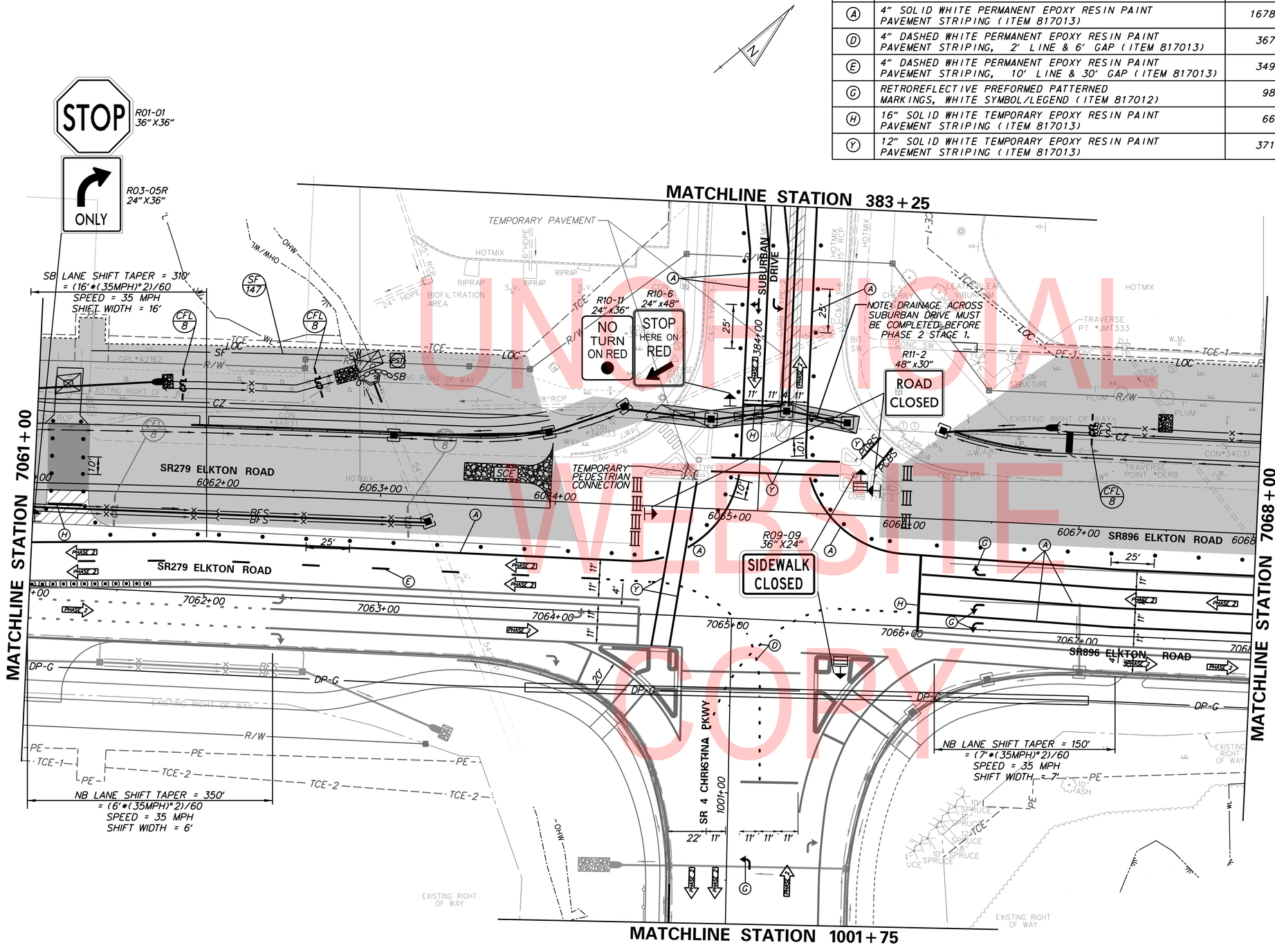
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-94	
SECTION	JMT
SHEET NO.	288

NOTE: CONTRACTOR MUST ADD A HOTMIX PATCH ON PEDESTRIAN WALKWAYS AND ISLANDS IF THEY ARE OPEN BEFORE THEY ARE RE-CONSTRUCTED.

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1678 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	367 LF
(E)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 817013)	349 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	98 SF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	66 LF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	371 LF



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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS92]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

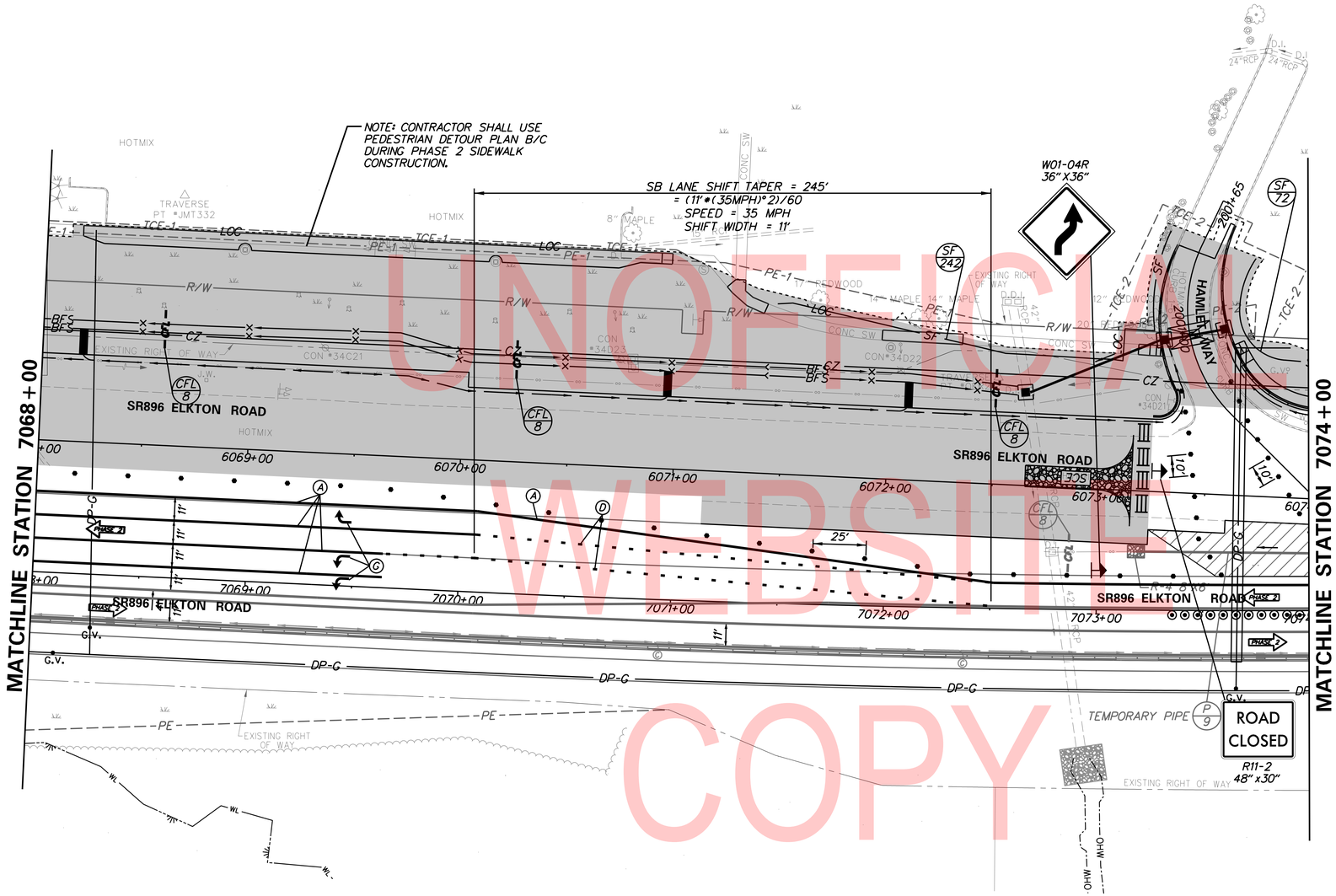
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

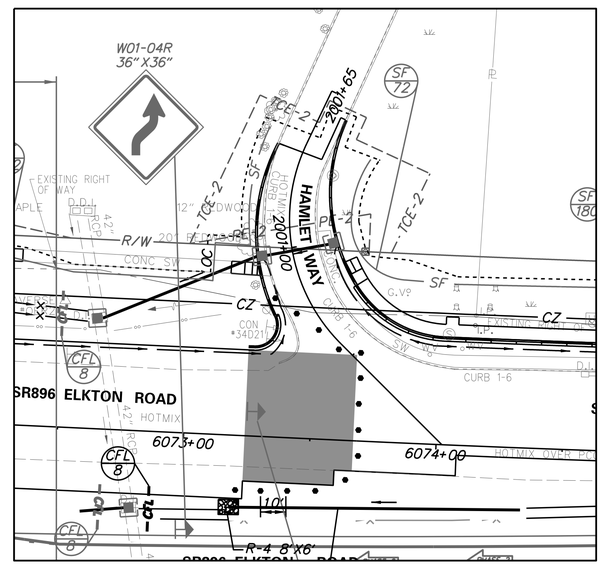
CS-95

SECTION	SHEET NO.
JMT	289

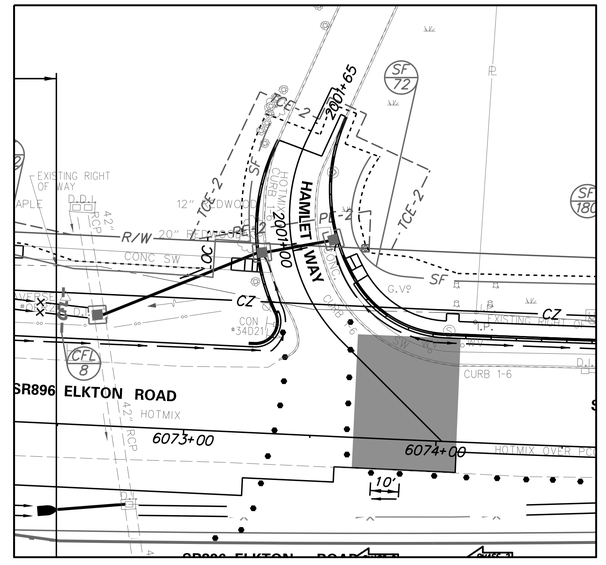


UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,136 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	488 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	46 SF



HAMLET WAY
WORK OFF-PEAK HOURS
STAGE 1



HAMLET WAY
WORK OFF-PEAK HOURS
STAGE 2

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

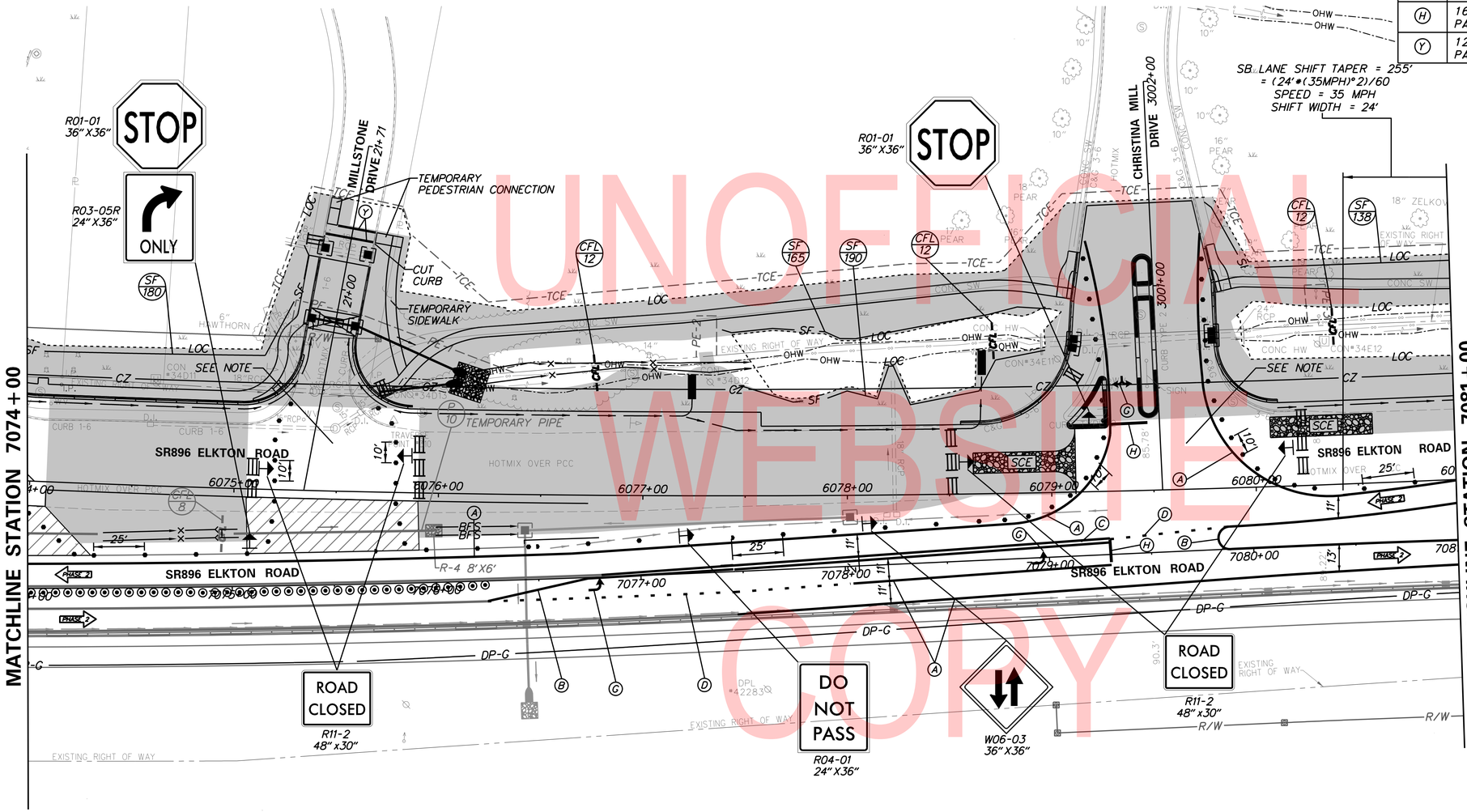
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-96
SECTION JMT
SHEET NO. 290

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS93]

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,358 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	291 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	250 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	237 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	25 SF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	30 LF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	42 LF



NOTES: SEE CS-98 FOR INTERSECTION CONSTRUCTION DETAILS

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[SHEET: CS94]
PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

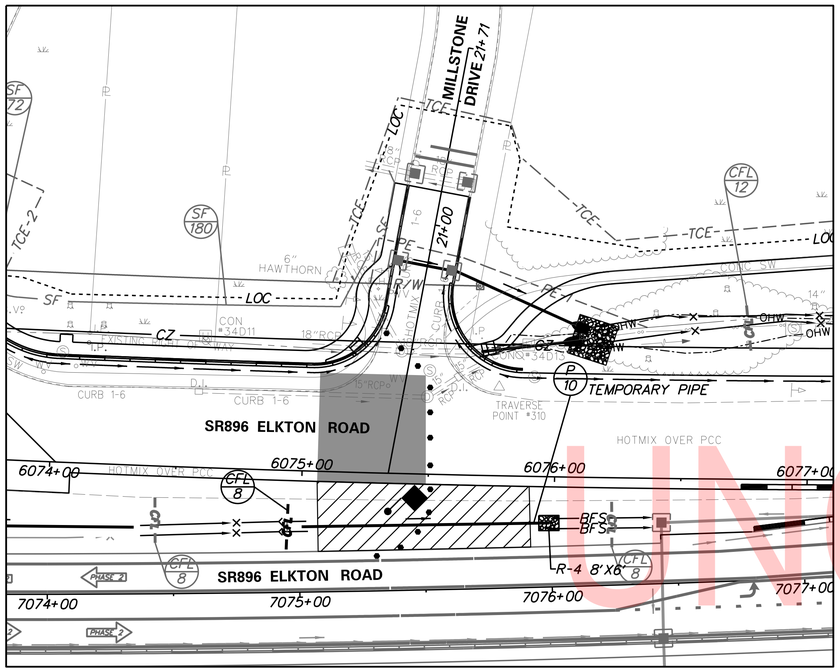
SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

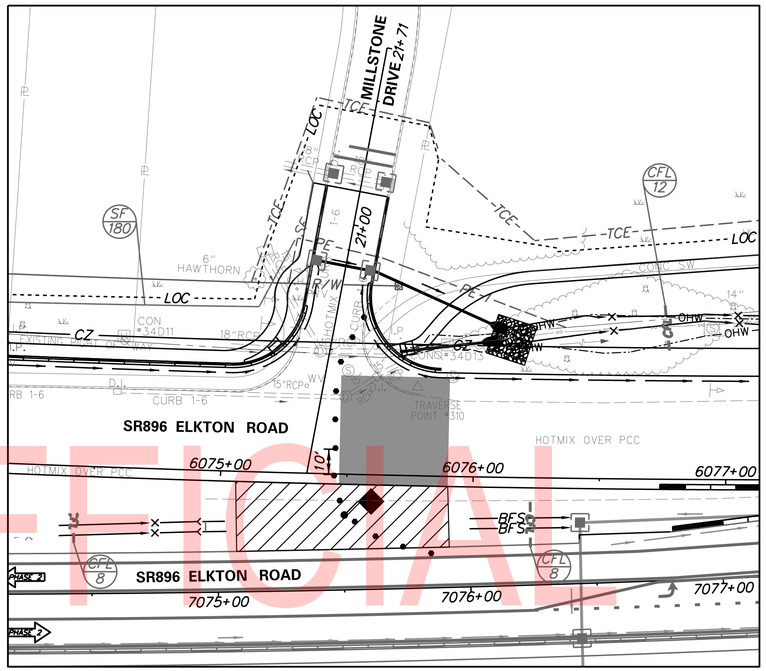
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-97
SECTION JMT
SHEET NO. 291



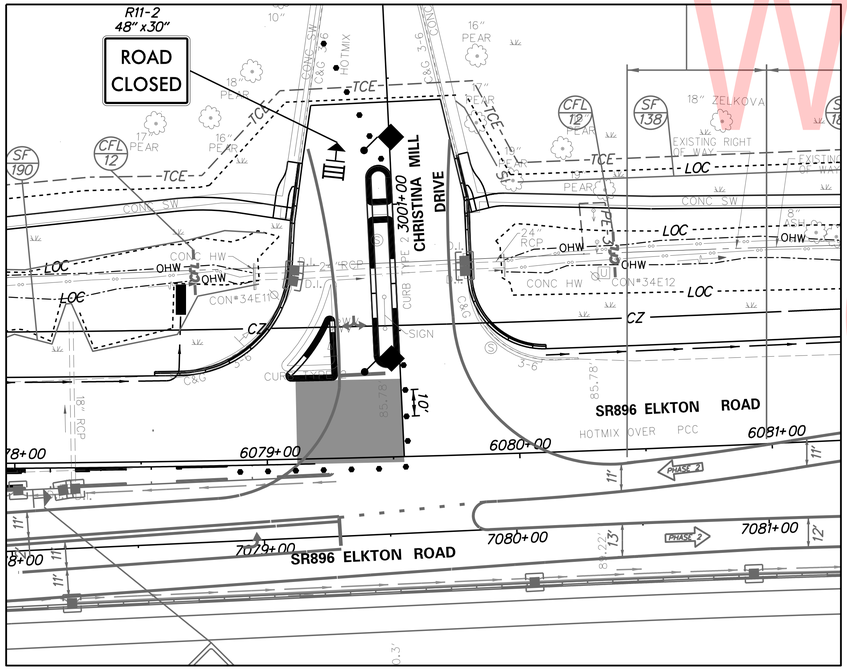
MILLSTONE DRIVE – WORK OFF-PEAK HOURS

STAGE 1



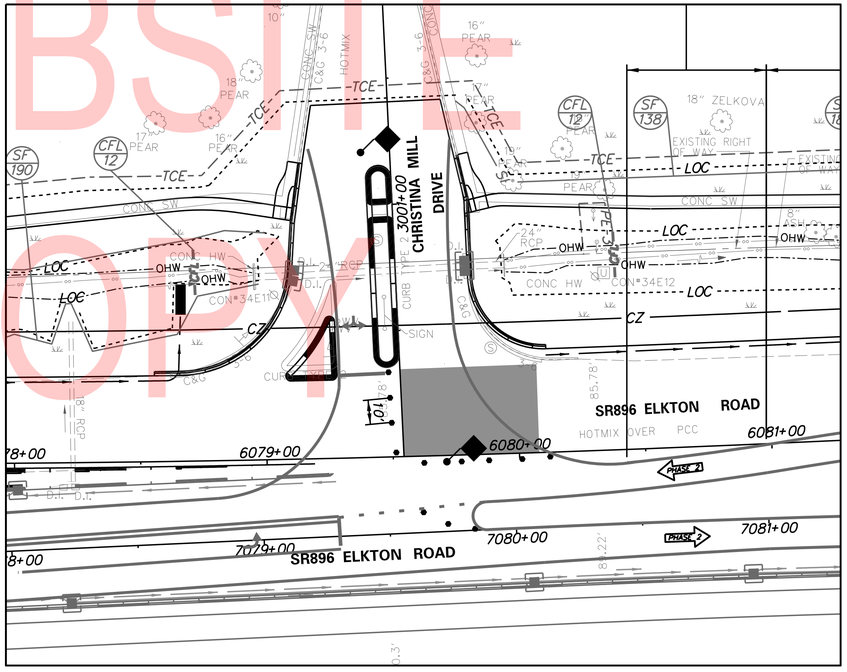
MILLSTONE DRIVE – WORK OFF-PEAK HOURS

STAGE 2



CHRISTINA MILL – WORK OFF-PEAK HOURS

STAGE 1



CHRISTINA MILL – WORK OFF-PEAK HOURS

STAGE 2

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS95]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	CS-98
SHEET NO.	JMT
	292

SIGN TO BE PLACED AT THE BEGINNING OF THE TRAIL - AT BARKSDALE ROAD BRIDGE.

TRAIL CLOSED AHEAD - AT ELKTON ROAD

R9-11 (MODIFIED) 24" x18"

W01-04L 48" X48"

CHRISTINA RIVER

SB LANE SHIFT TAPER = 255'
= (24'*(35MPH)*2)/60
SPEED = 35 MPH
SHIFT WIDTH = 24'

SB LANE CLOSURE TAPER = 205'
= (12'*(35MPH)*2)/60
SPEED = 35 MPH
SHIFT WIDTH = 12'

TRAIL CLOSED

R9-9 (MODIFIED) 24" x12"

ARROW BOARD

SR896 ELKTON ROAD

MATCHLINE STATION 7081+00

MATCHLINE STATION 7090+00

CASHO MILL ROAD

MATCH EXISTING STRIPING

DIRECTIONAL DRILL

GRAVENOR LANE

W04-02R 48" X48"

W20-05RC 48" X48"

RIGHT LANE CLOSED 1500 FT

W20-05RB 48" X48"

RIGHT LANE CLOSED 1/2 MILE

1000'

500'

1140'

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	1,096 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	790 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	141 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 4" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	351 LF

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS96]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

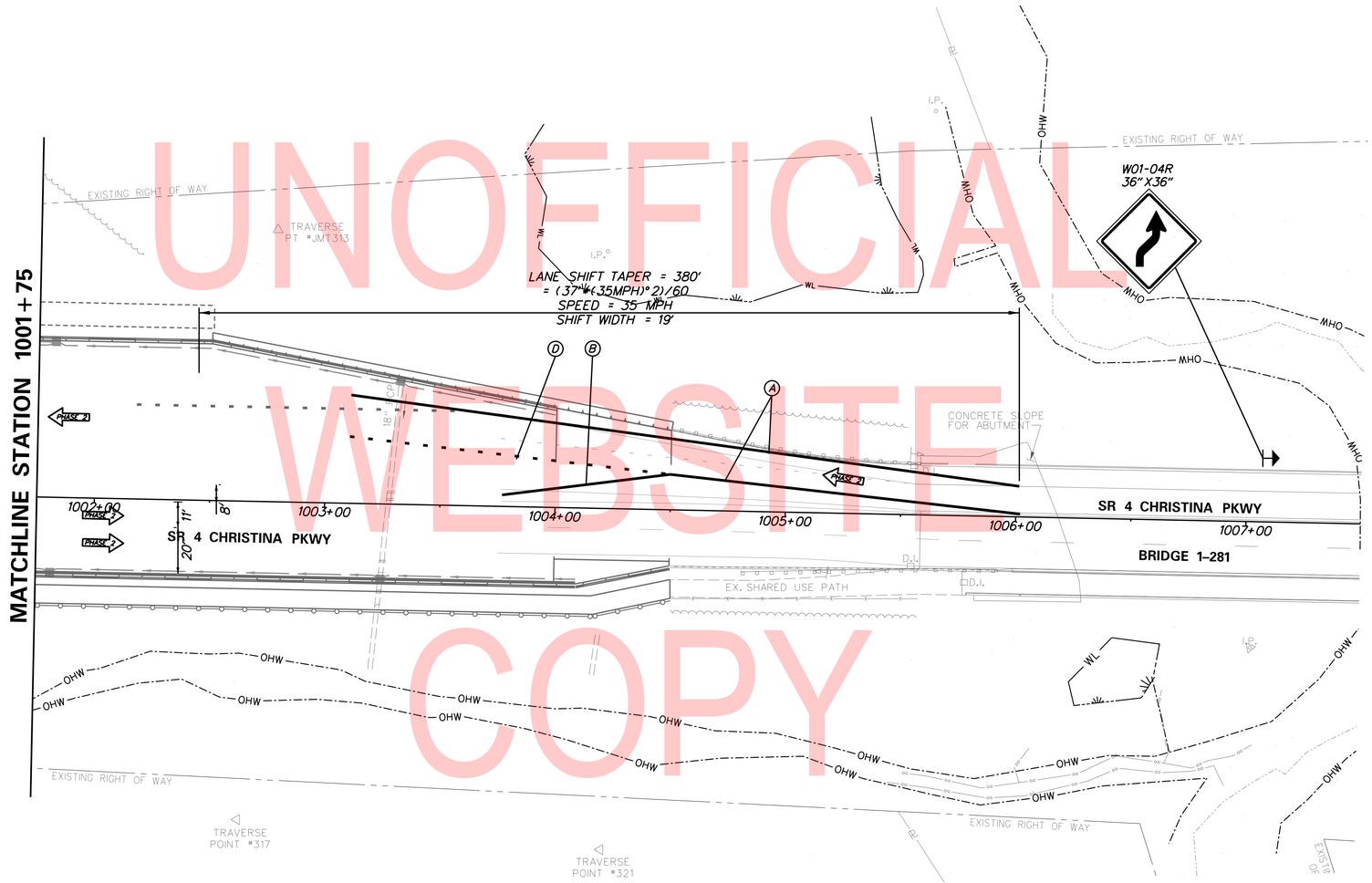
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 2

CS-99

SECTION JMT

SHEET NO. 293

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	446 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	74 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	140 LF



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PLOTTED BY: LBERZINA DATE: 11/15/2019
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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

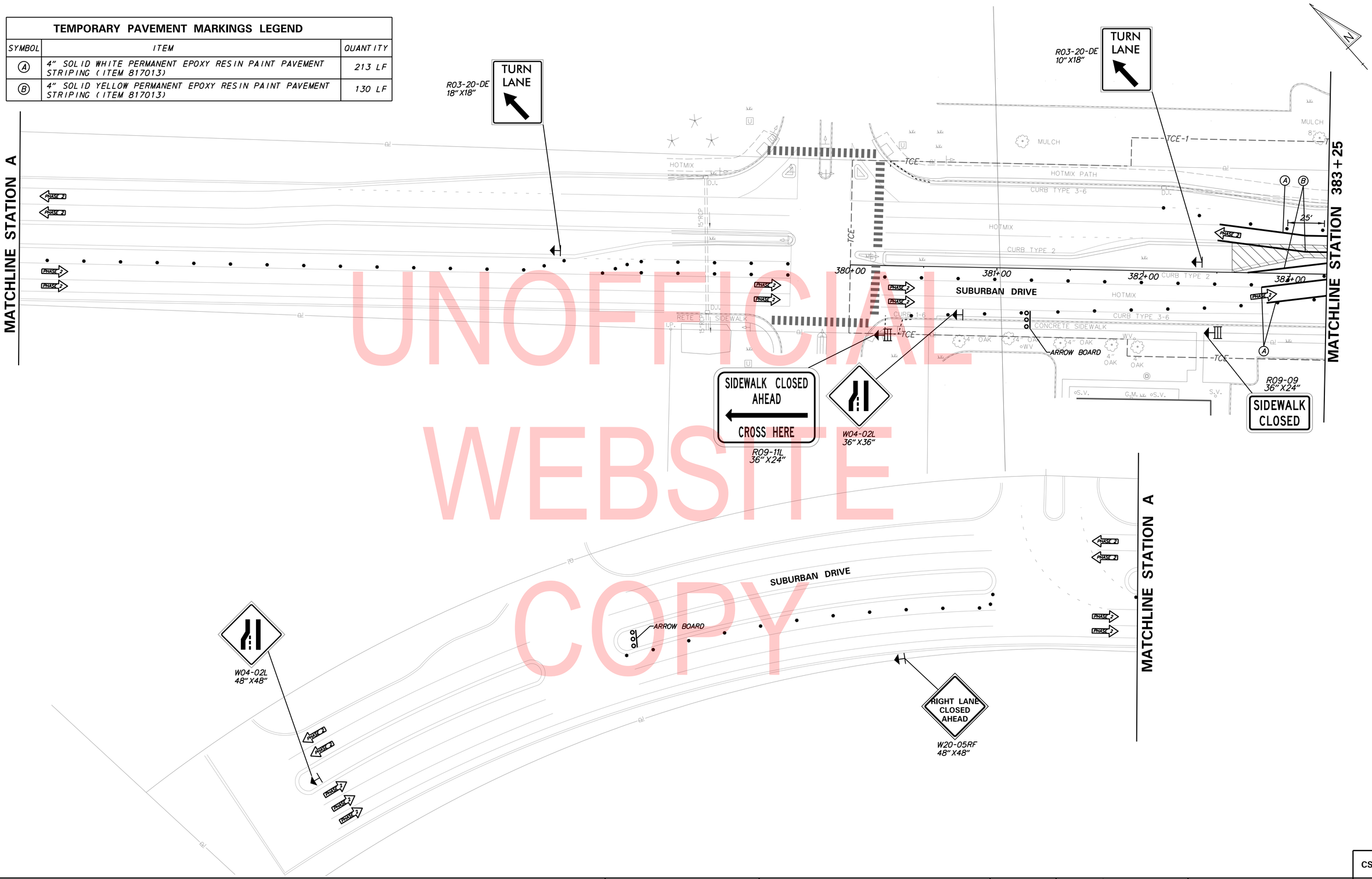
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS–100

SECTION	SHEET NO.
JMT	294

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	213 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	130 LF



UNOFFICIAL WEBSITE COPY

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

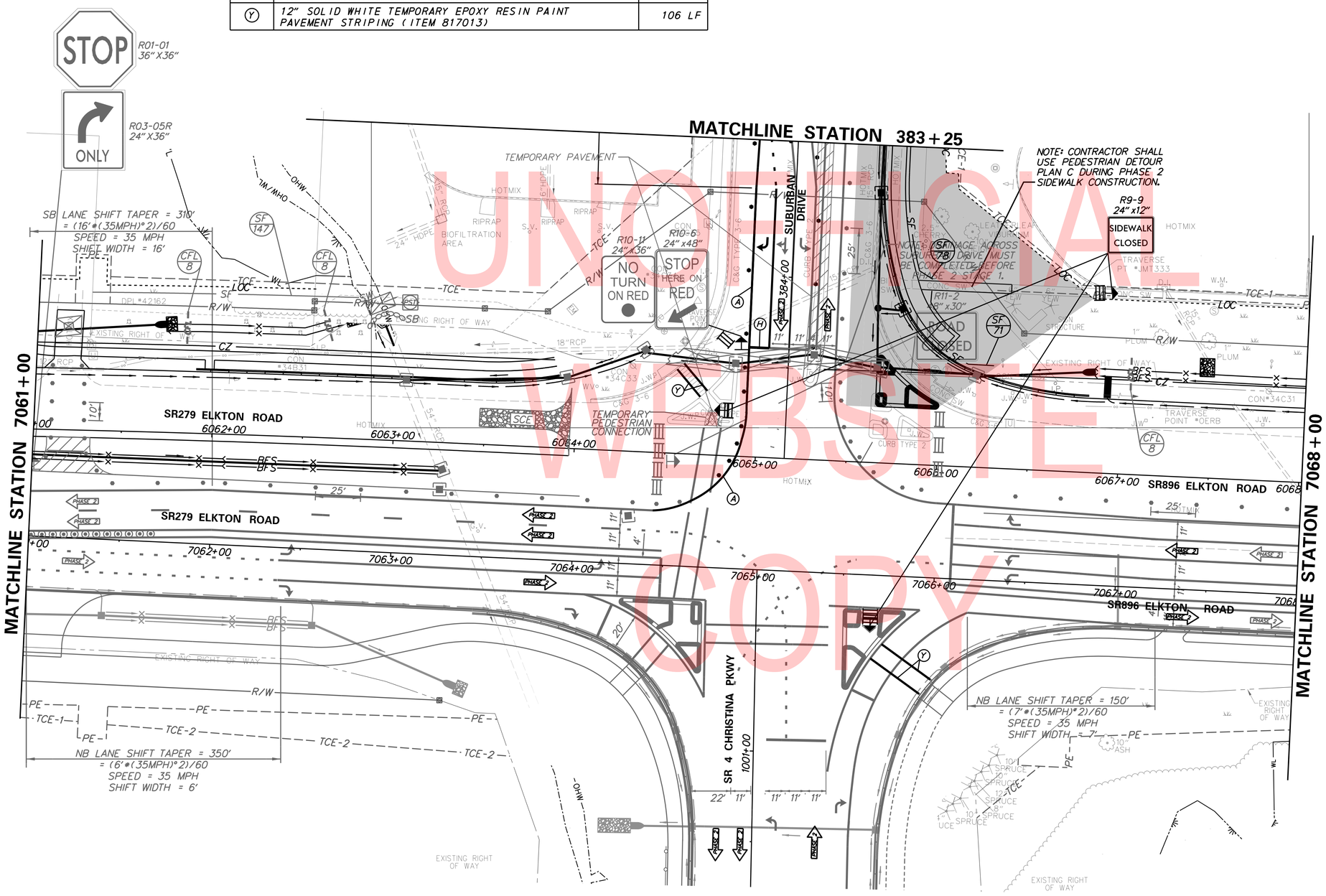
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

CS-101	
SECTION	JMT
SHEET NO.	295

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS98]

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	321 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	25 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	16 SF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	11 LF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	106 LF



UNOFFICIAL WEBSITE COPY

PHASE 2 – STAGE 1

CS-102

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

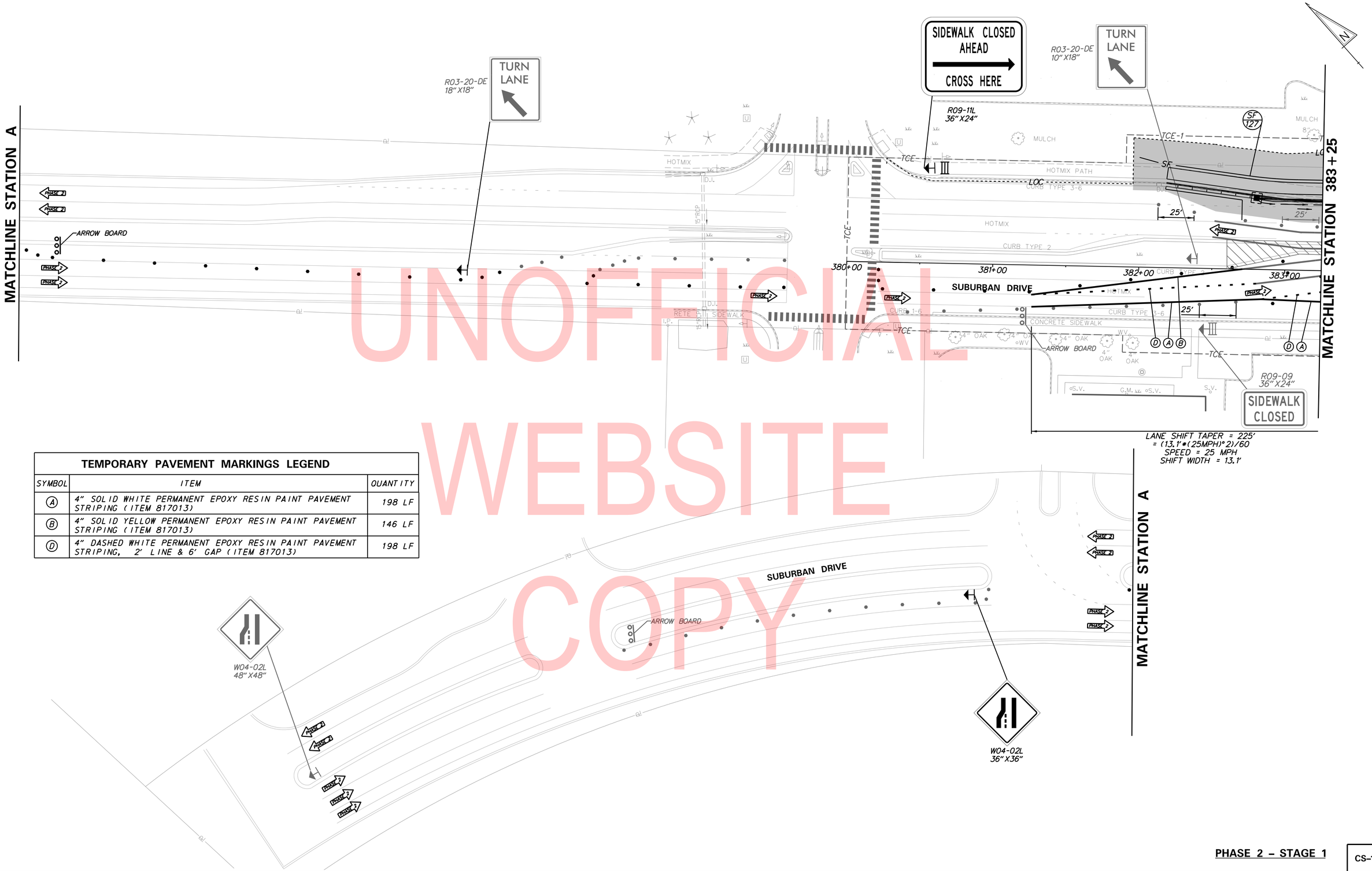
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	JMT
SHEET NO.	296

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS99]



TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	198 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	146 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	198 LF

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS100]

PHASE 2 – STAGE 1

CS-103

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

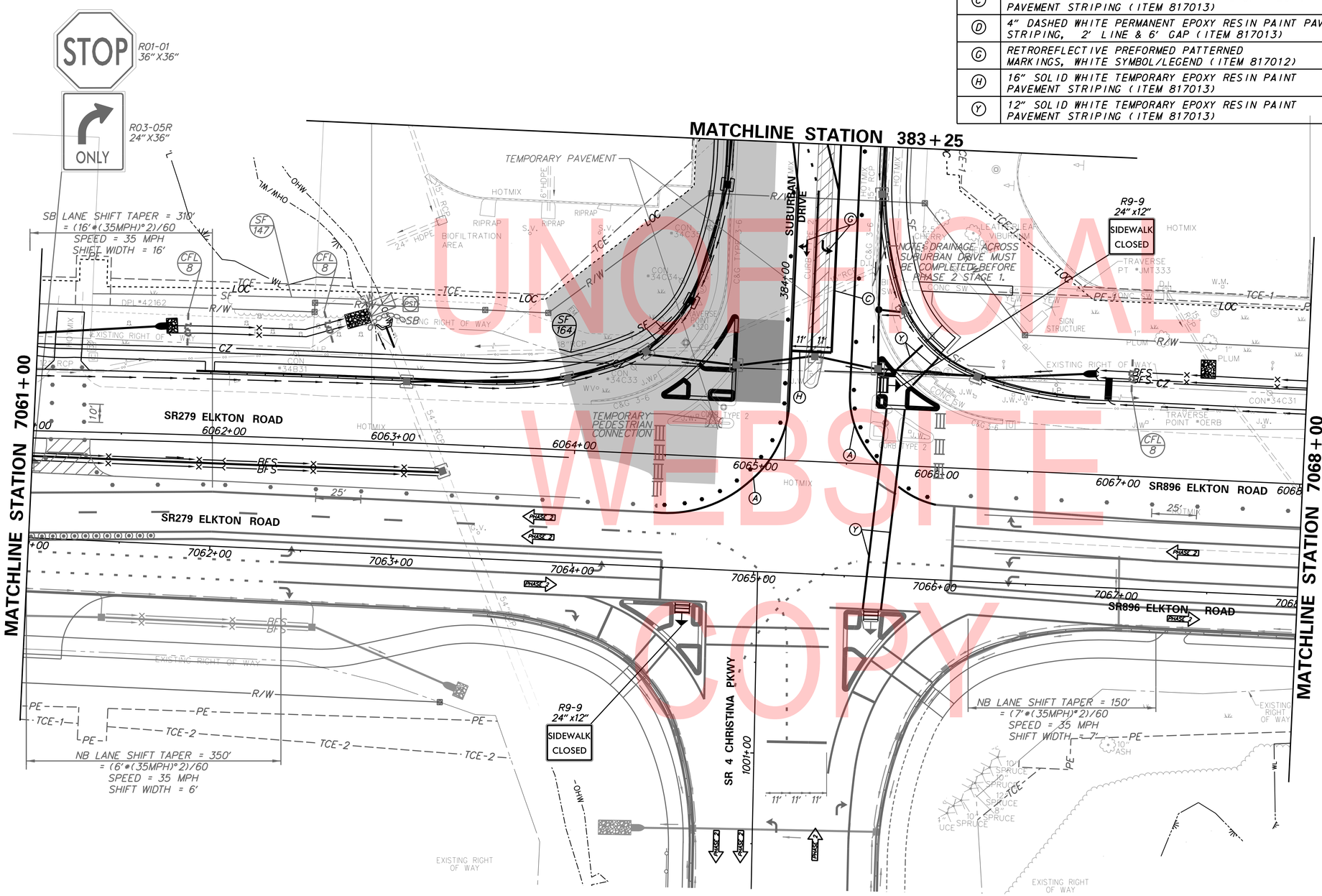
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	JMT
SHEET NO.	297

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	542 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	51 LF
(C)	4" SOLID DOUBLE YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	90 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	10 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	36 SF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	22 LF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	251 LF



UNOFFICIAL WEBSITE COPY

PHASE 2 – STAGE 2

CS-104

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

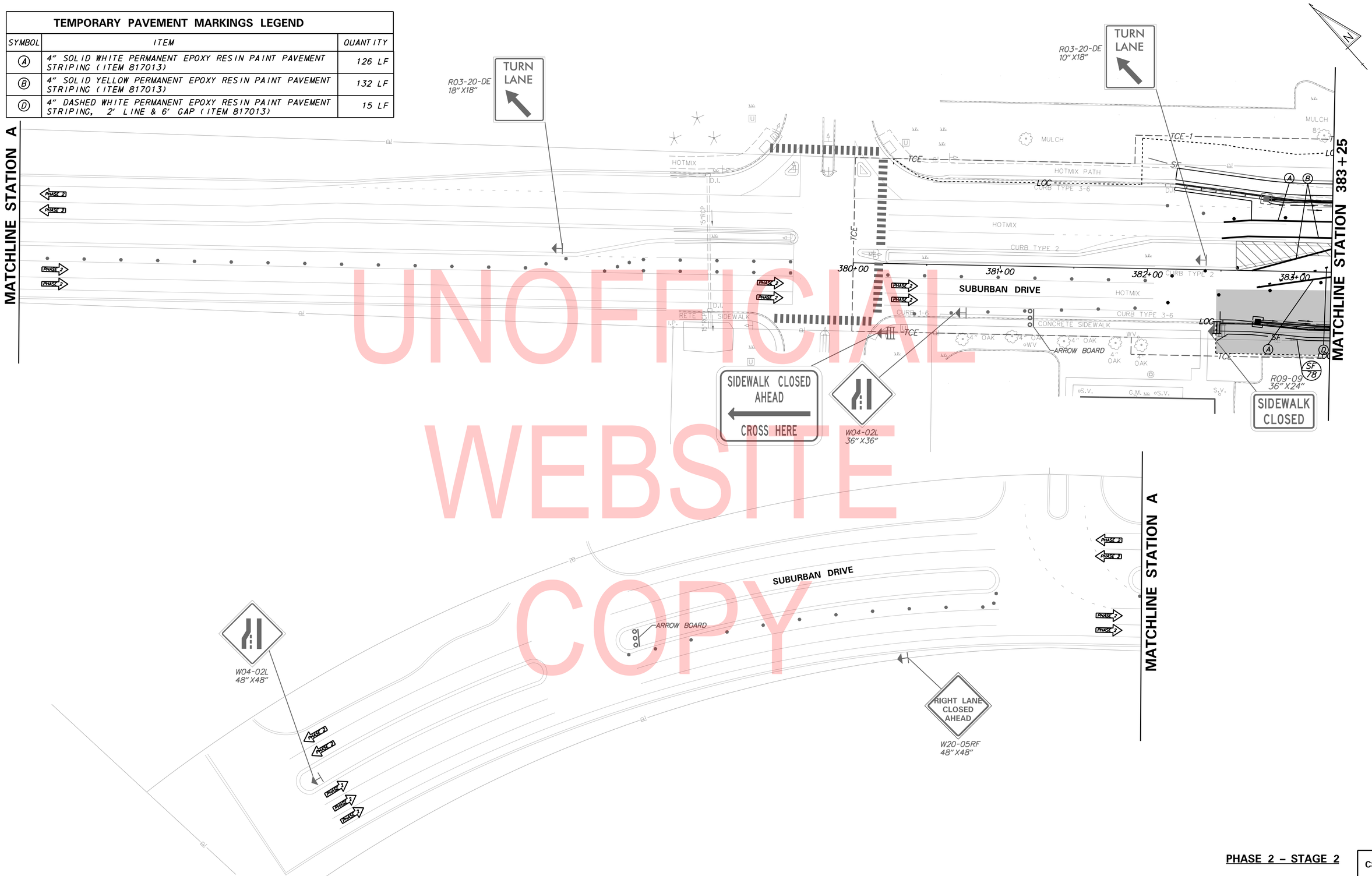
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	SHEET NO.
JMT	298

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS101]

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
Ⓐ	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	126 LF
Ⓑ	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	132 LF
Ⓓ	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	15 LF



UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS102]

PHASE 2 – STAGE 2

CS–105

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

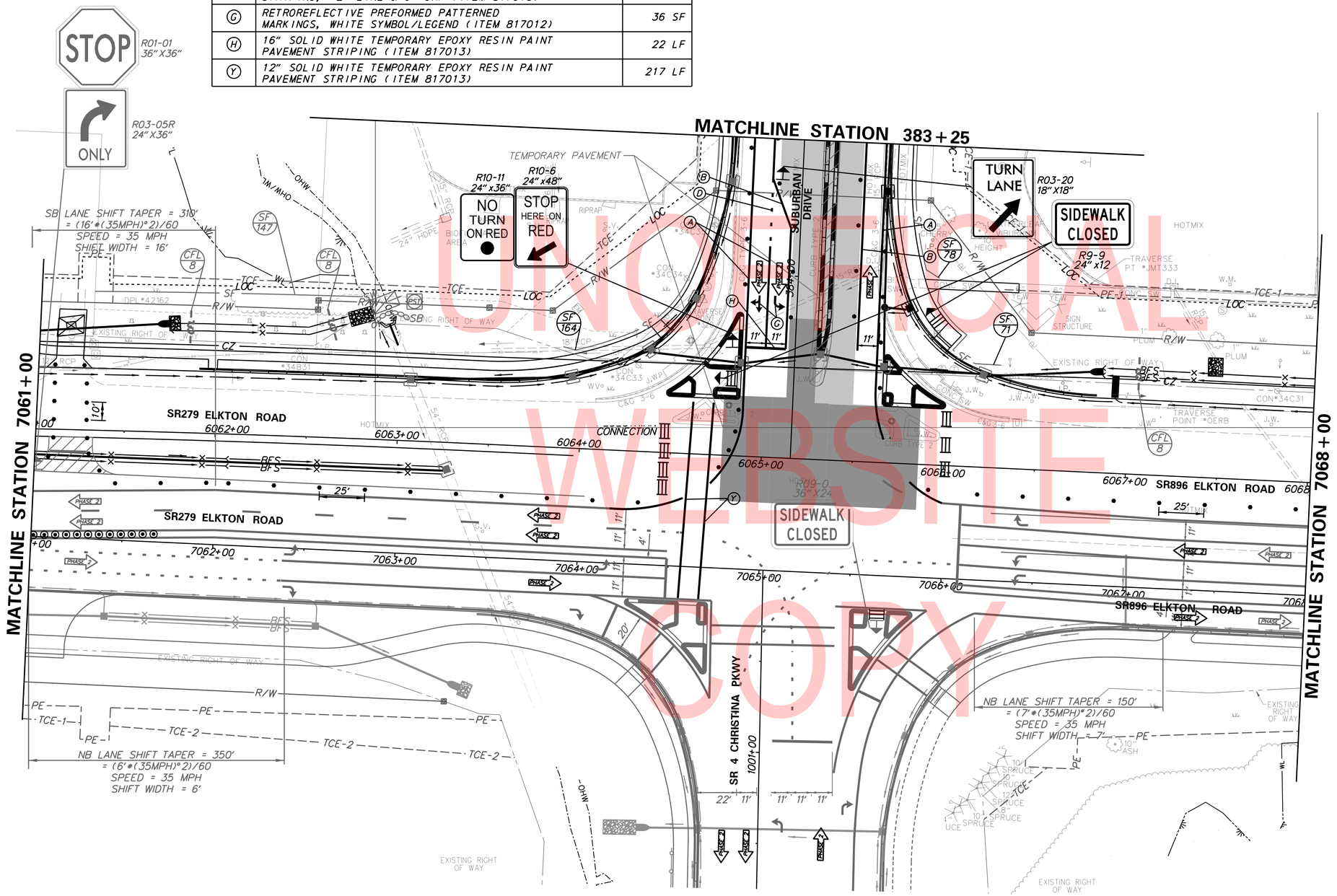
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	SHEET NO.
JMT	299

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	476 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	231 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	37 LF
(G)	RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	36 SF
(H)	16" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	22 LF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	217 LF



UNOFFICIAL WEBSITE COPY

PHASE 2 – STAGE 3

CS-106

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

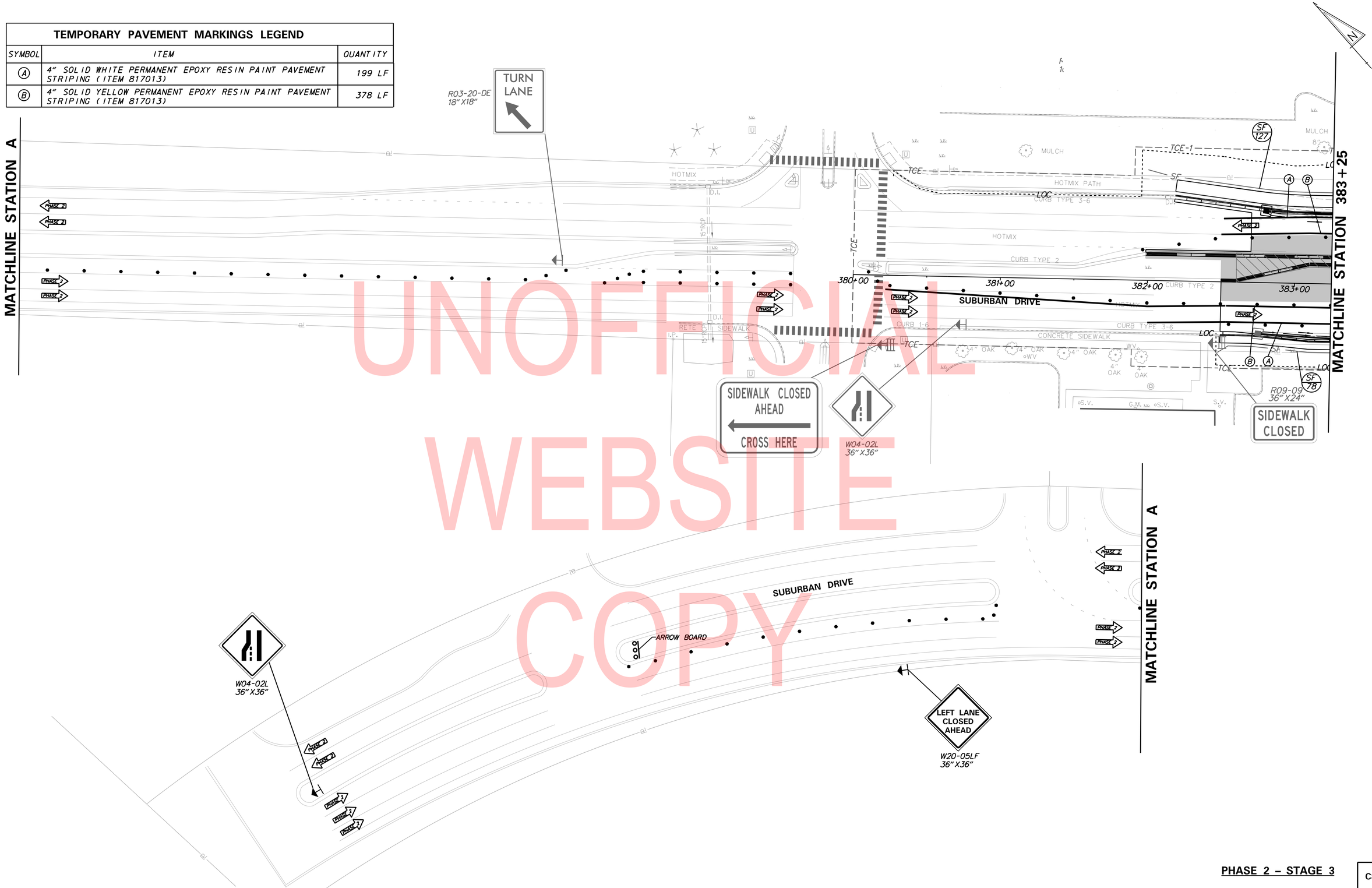
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	JMT
SHEET NO.	300

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS103]

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	199 LF
(B)	4" SOLID YELLOW PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	378 LF



UNOFFICIAL WEBSITE COPY

PHASE 2 – STAGE 3

CS-107

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

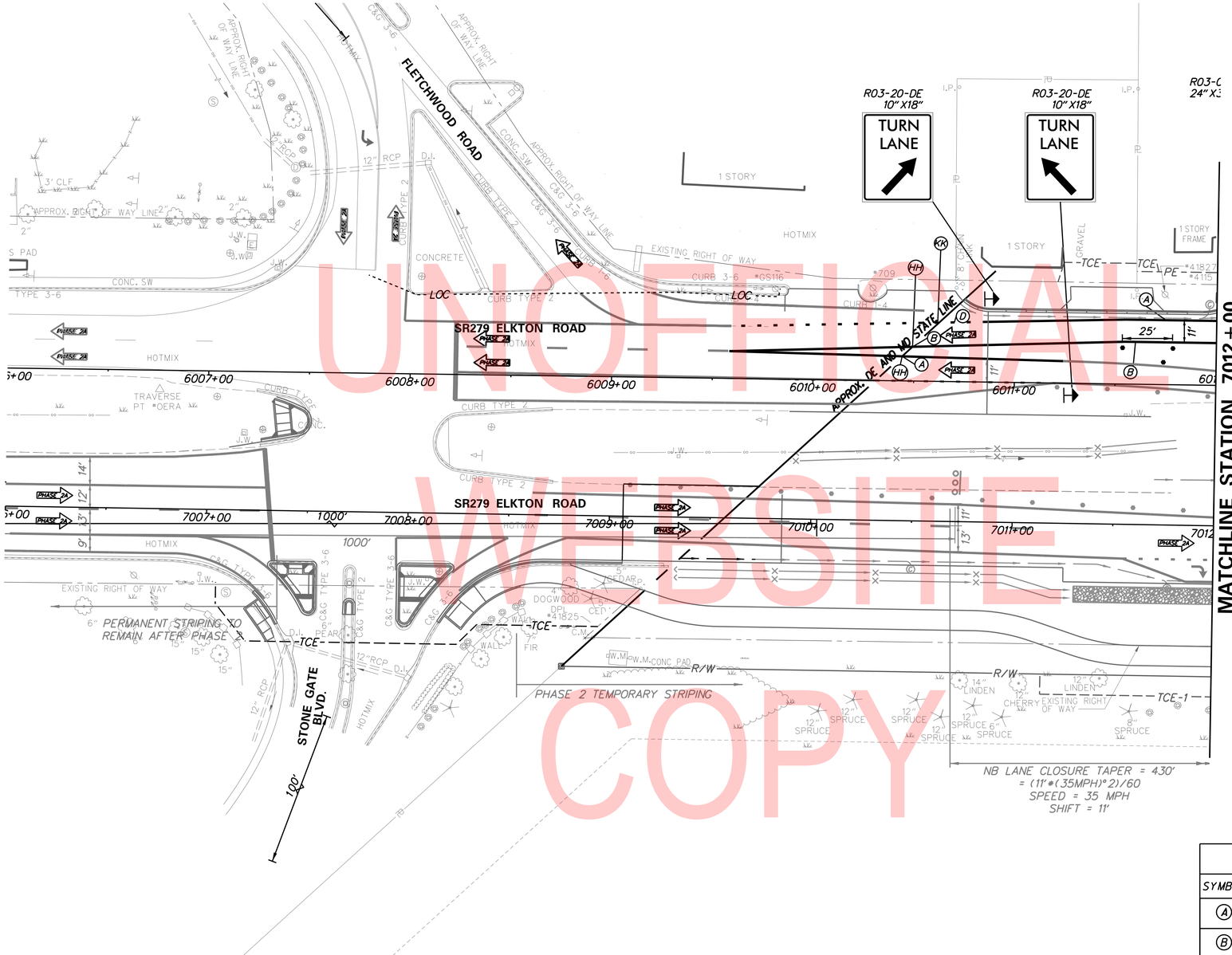
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2

SECTION	SHEET NO.
JMT	301

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2.DGN [SHEET: CS104]



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817013)	215 LF
(B)	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817013)	165 LF
(D)	4" DASHED WHITE PERMANENT EPOXY RESIN PAINT PAVEMENT STRIPING, 2' LINE & 6' GAP (ITEM 817013)	10 LF
(HH)	5" WHITE SOLID EPOXY PAVEMENT MARKINGS (ITEM 549301)	200 LF
(KK)	5" WHITE SKIP 3'-9' EPOXY PAVEMENT MARKINGS (ITEM 549301)	30 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2A.DGN [SHEET: CS105]

ADDENDA / REVISIONS	
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

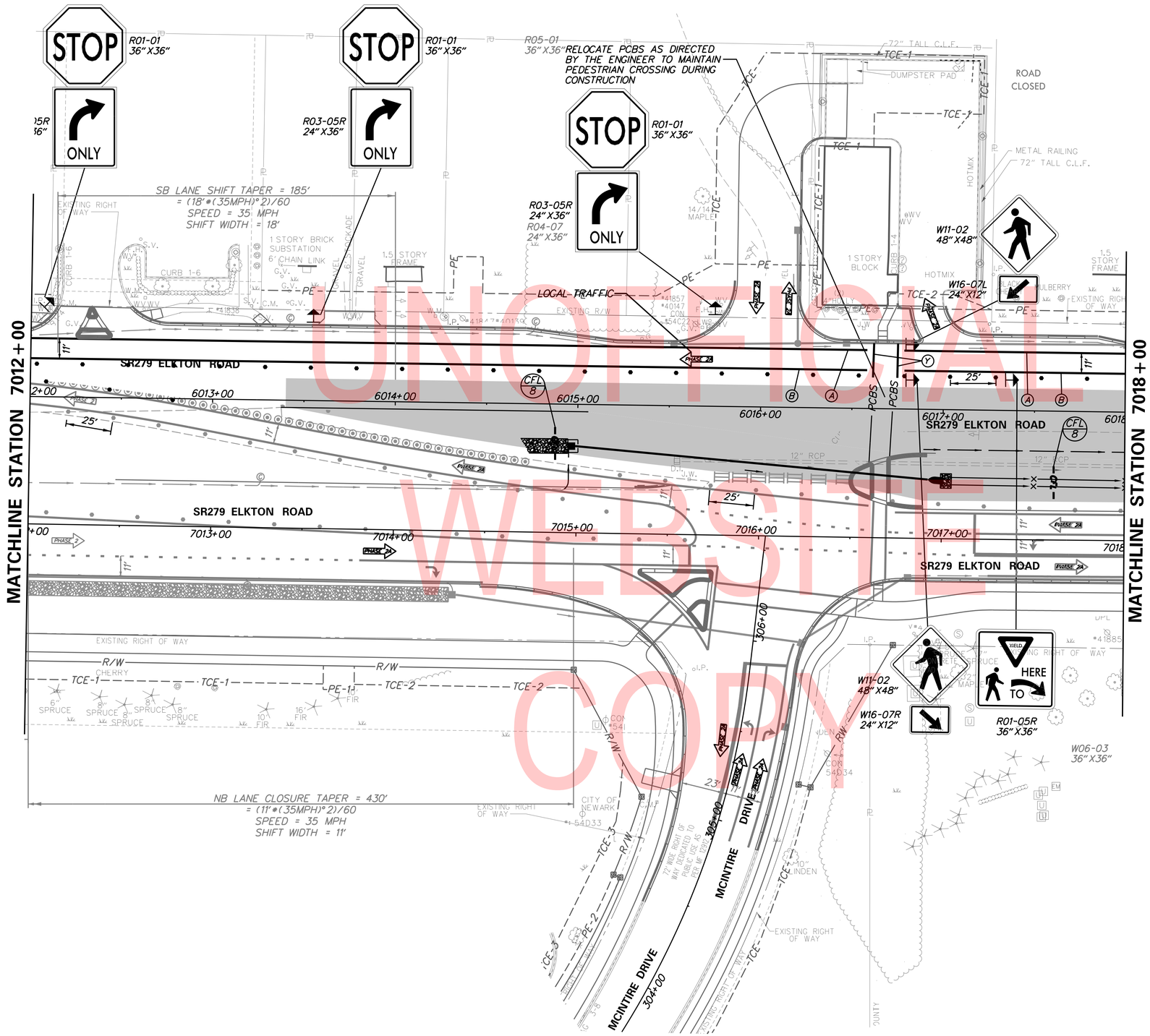
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2A

CS-108

SECTION	SHEET NO.
JMT	302



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817013)	600 LF
(B)	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817013)	600 LF
(Y)	12" SOLID WHITE TEMPORARY EPOXY RESIN PAINT PAVEMENT STRIPING (ITEM 817013)	39 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2A.DGN [SHEET: CS106]

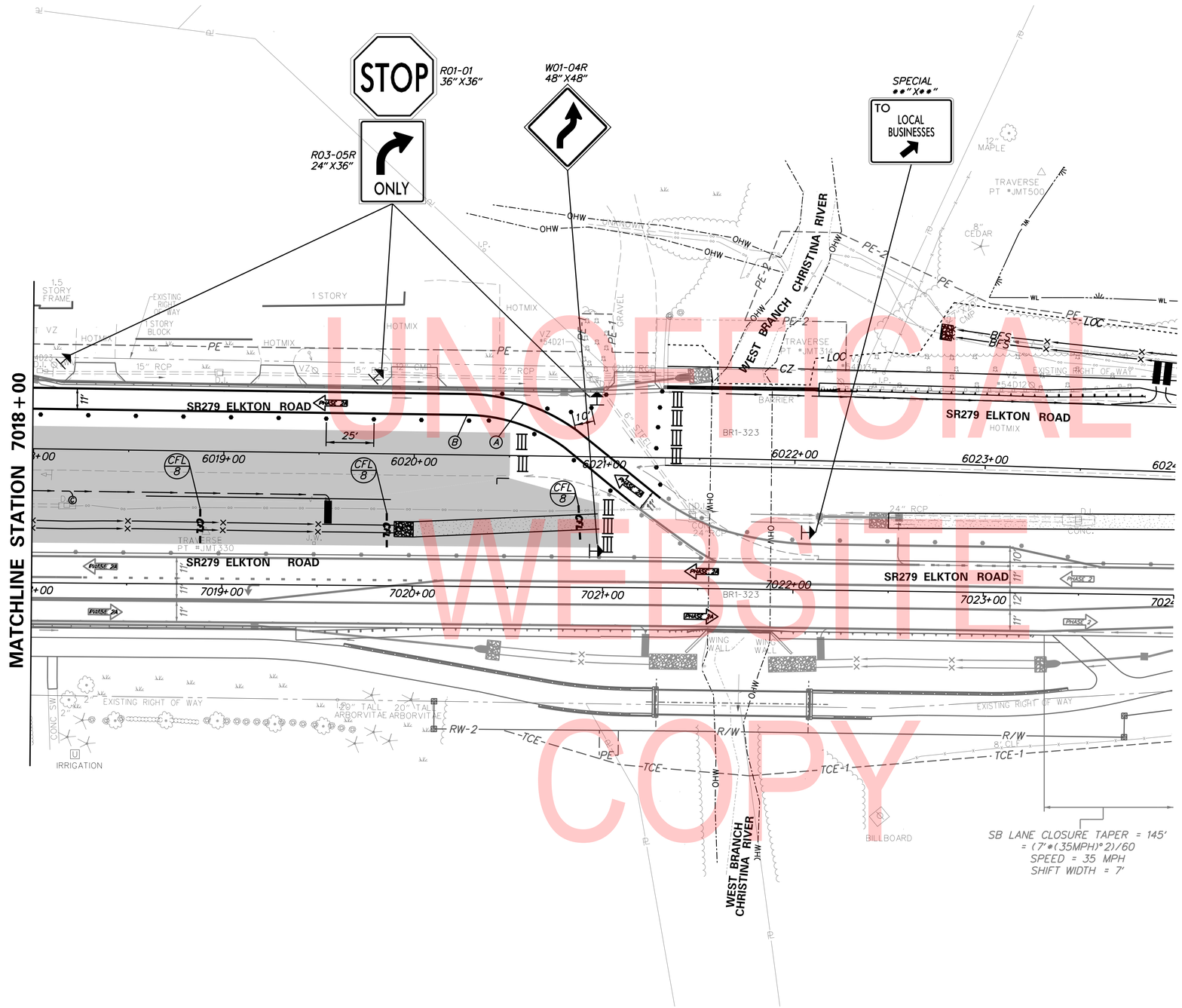
CS-109

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2A
T201504401	DESIGNED BY: LB		SECTION: JMT
COUNTY: NEW CASTLE	CHECKED BY: BPH		SHEET NO.: 303



UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817013)	347 LF
(B)	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817013)	331 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\CS00_PHASE2A.DGN [SHEET: CS107]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2A

CS-110

SECTION	SHEET NO.
JMT	304

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR

(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS

NO LEFT TURNS AT CASHO

MILL RD STARTING XX/XX/XX

DURING DETOUR

PCMS

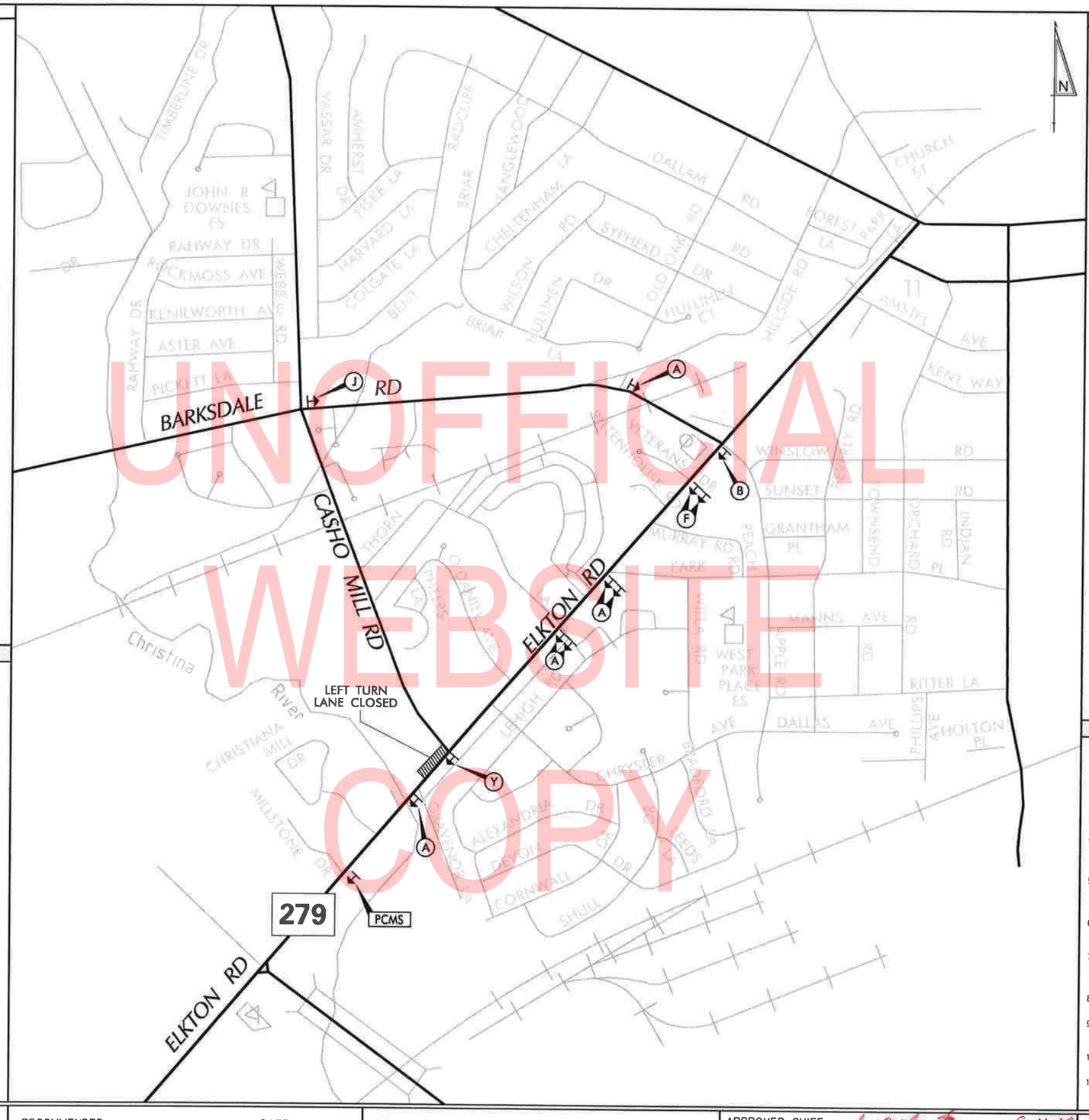
NO LEFT TURNS AT CASHO

MILL RD FOLLOW DETOUR

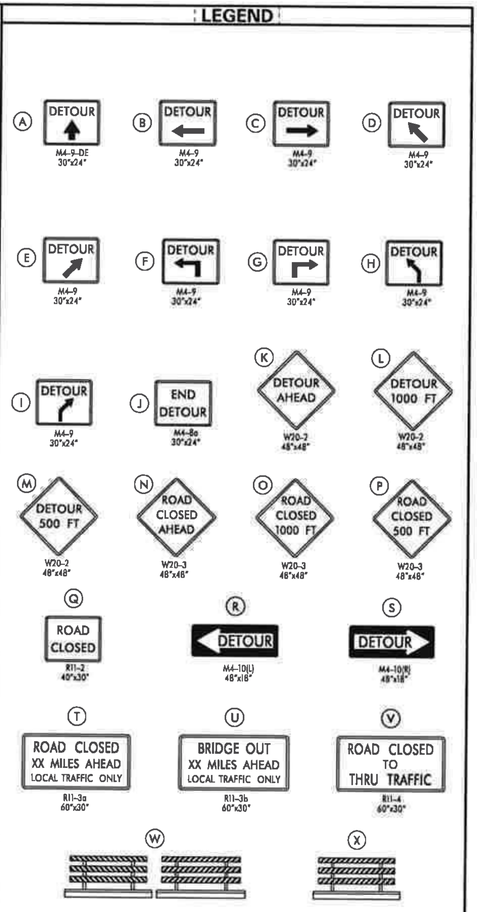
SPECIAL SIGNS

(Y)

R3-18
36"x36"



LEGEND



GENERAL NOTES

1. ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
2. THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD PART 6) FOR BARRICADES AND SIGNS.(AS PER LATEST REVISION)
3. DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
4. SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
5. THE COLORS, DIMENSIONS, AND CHARACTERISTICS OF ALL INTERSTATE, U.S. ROUTE, AND STATE ROUTE SHIELD SIGNS SHALL BE IN ACCORDANCE WITH SECTION 2D.11 OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
6. SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
7. FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD) WILL PREVAIL.
8. SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHOULD BE CHANGED TO "RAMP", "RR XING", OR "BRIDGE" WHERE APPLICABLE.
9. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
10. "W" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF THE ROADWAY.
11. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

UNOFFICIAL WEBSITE COPY

RECOMMENDED Mii Wakef DATE: 5/30/18

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

APPROVED CHIEF SAFETY OFFICER [illegible] DATE: 6-11-19

APPROVED TRAFFIC ENGINEER _____ DATE: 6/11/19

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS

⚠ REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT T201504401

COUNTY NEW CASTLE

PERMIT NO. X

DESIGNED BY: JDS

CHECKED BY: MAW

DETOUR PLAN A
PHASE 1, STAGE 2
EB LEFT AT CASHO MILL

SHEET NO. 305

TOTAL SHTS. 432

JMT PLOTTED BY: JDSMITH DATE: 5/31/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP01]

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

NO LEFT TURNS AT OTTS

CHAPEL STARTING XX/XX/XX

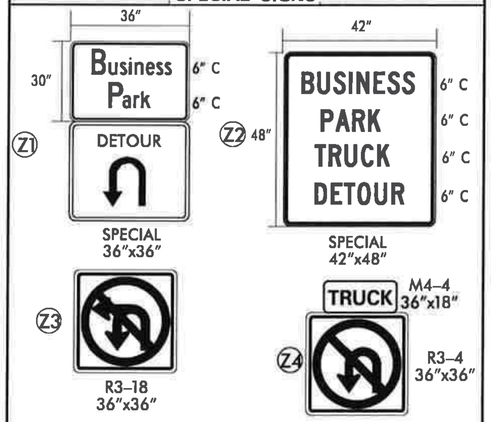
DURING DETOUR
(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF DETOUR)

PCMS-1

NO LEFT TURNS AT OTTS

CHAPEL FOLLOW DETOUR

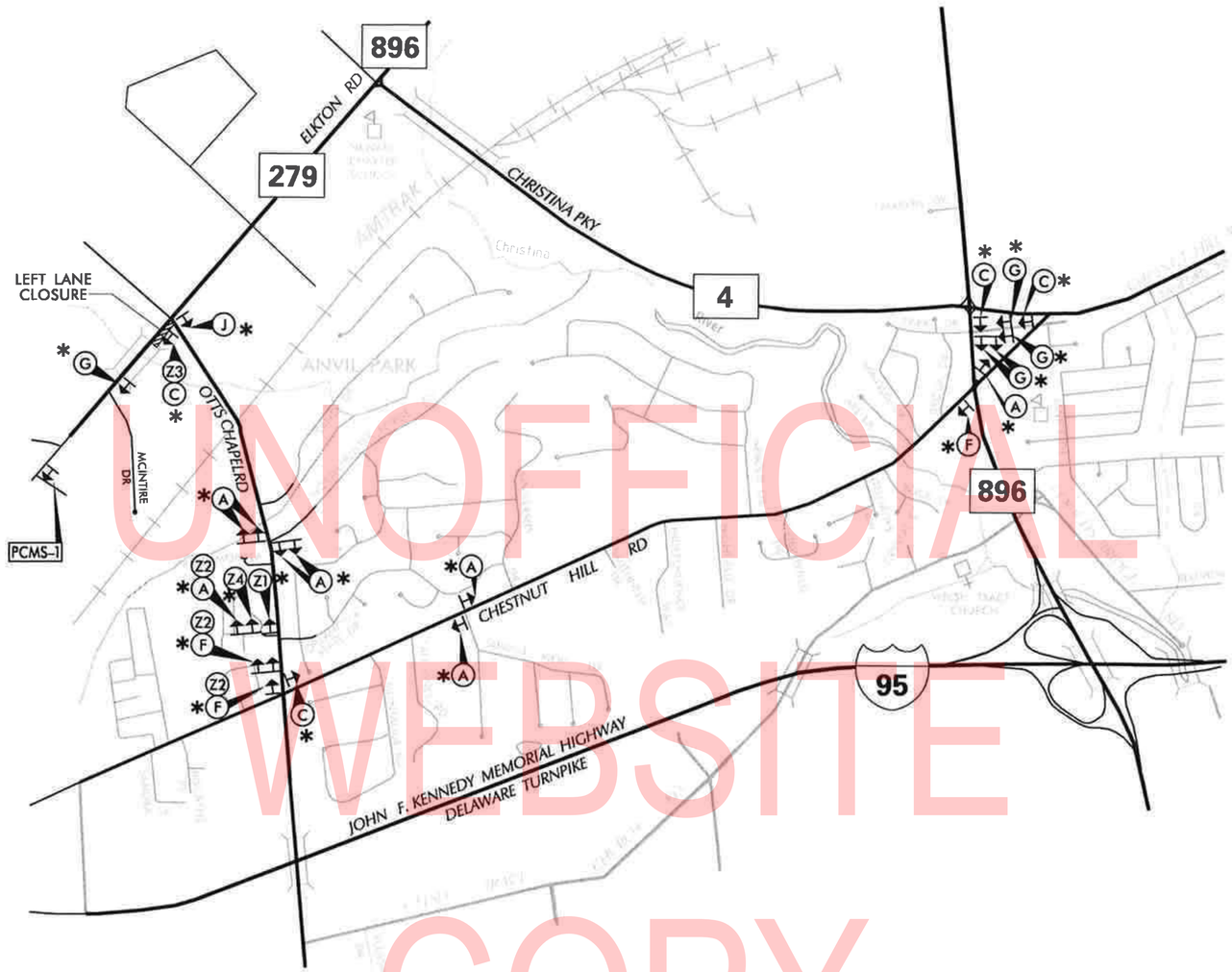
SPECIAL SIGNS



ALL SIGNS SHALL BE BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE

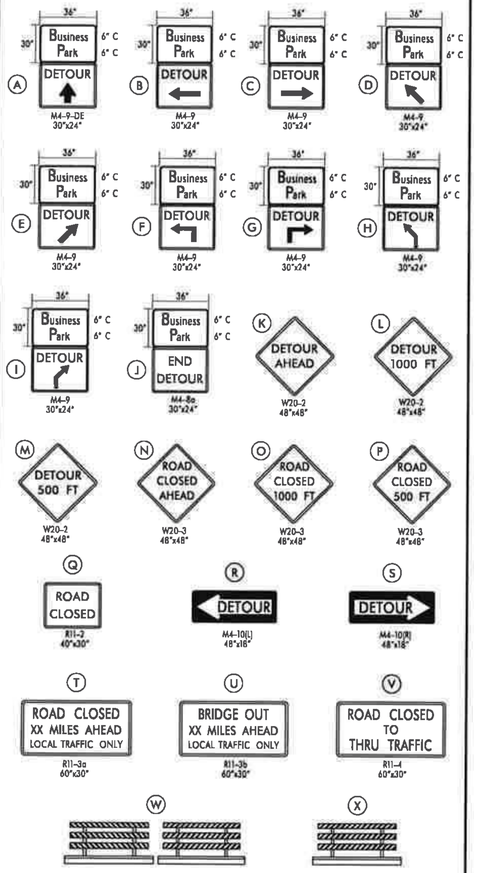
THE R3-18 "NO LEFT TURN/NO U-TURN", R3-4 "NO U-TURN" AND M4-4 "TRUCK" SIGNS SHALL BE BLACK ON WHITE IN ACCORDANCE WITH THE DE MUTCD

THE FABRICATION OF THE "Z1" AND "Z2" SIGNS SHALL BE PAID UNDER ITEM NUMBER 818001. THE INSTALLATION AND REMOVAL OF THE SIGN SHALL BE INCIDENTAL TO ITEM 818001. THE FURNISHING OF THE SIGN POSTS SHALL BE INCIDENTAL TO ITEM 818001.



* - THESE SIGNS SHOULD BE COVERED WHEN DETOUR PLAN C AND DETOUR PLAN D ARE IN PLACE

LEGEND



GENERAL NOTES

1. ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
2. THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD PART 6) FOR BARRICADES AND SIGNS (AS PER LATEST REVISION.)
3. DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
4. SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
5. THE COLORS, DIMENSIONS, AND CHARACTERISTICS OF ALL INTERSTATE, U.S ROUTE, AND STATE ROUTE SHIELD SIGNS SHALL BE IN ACCORDANCE WITH SECTION 2D.11 OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
6. SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
7. FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD) WILL PREVAIL.
8. SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHOULD BE CHANGED TO "RAMP", "RR XING", OR "BRIDGE" WHERE APPLICABLE.
9. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
10. "W" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF THE ROADWAY.
11. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

UNOFFICIAL WEBSITE COPY

RECOMMENDED Mir Wakef DATE: 5/30/18

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

APPROVED CHIEF SAFETY OFFICER _____ DATE: 6-11-18

APPROVED TRAFFIC ENGINEER _____ DATE: 6/11/18

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	PERMIT NO.	X
T201504401	DESIGNED BY: JDS	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

DETOUR PLAN B
PHASE 1 & 2
EB LEFT AT OTTS CHAPEL RD

SHEET NO.	
306	
TOTAL SHTS.	
432	

JMT PLOTTED BY: JDSMITH DATE: 5/31/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP_DGN [SHEET: DP02]

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

OTTS CHAPEL ROAD	TO CLOSE STARTING XX/XX/XX

DURING DETOUR

PCMS-2

OTTS CHAPEL ROAD	CLOSED FOLLOW DETOUR

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-3

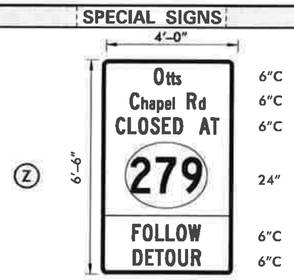
NO LEFT TURNS AT OTTS	CHAPEL STARTING XX/XX/XX

DURING DETOUR

PCMS-4

NO LEFT TURNS AT OTTS	CHAPEL FOLLOW DETOUR

SPECIAL SIGNS

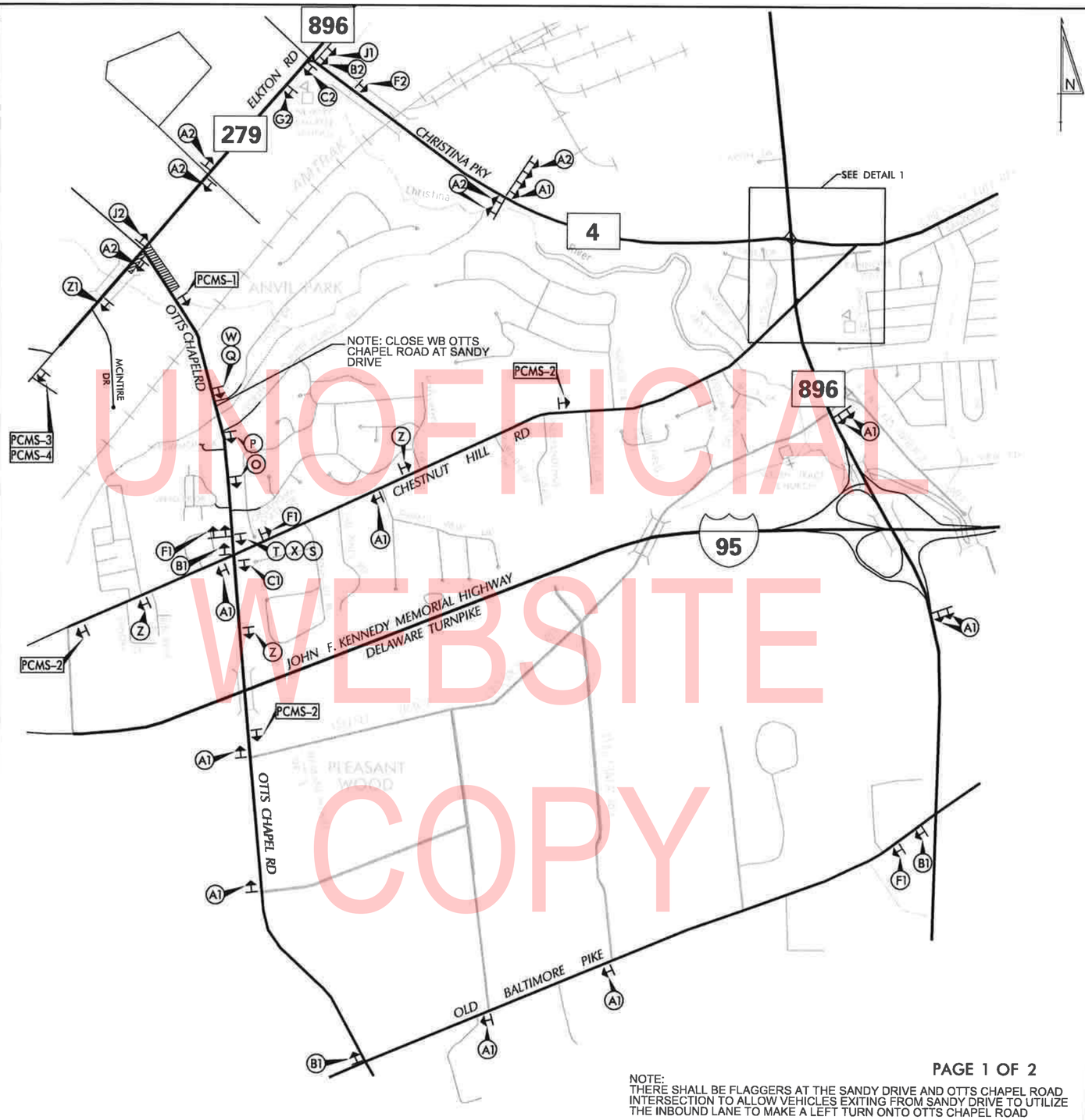


ALL SIGNS SHALL BE BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE

ALL ROUTE SHIELDS SHALL BE BLACK ON WHITE IN ACCORDANCE WITH THE DE MUTCD

THE R3-2 "NO LEFT TURN" SIGN SHALL BE BLACK ON WHITE IN ACCORDANCE WITH THE DE MUTCD

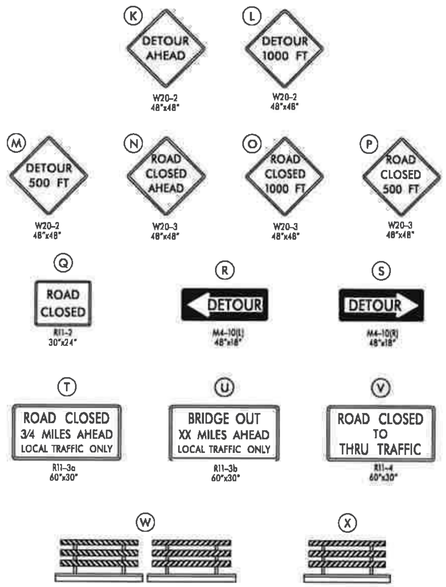
THE FABRICATION OF THE "Z" SIGN SHALL BE PAID UNDER ITEM NUMBER 818001. THE INSTALLATION AND REMOVAL OF THE SIGN SHALL BE INCIDENTAL TO ITEM 818001. THE FURNISHING OF THE SIGN POSTS SHALL BE INCIDENTAL TO ITEM 818001.



NOTE:
THERE SHALL BE FLAGGERS AT THE SANDY DRIVE AND OTTS CHAPEL ROAD INTERSECTION TO ALLOW VEHICLES EXITING FROM SANDY DRIVE TO UTILIZE THE INBOUND LANE TO MAKE A LEFT TURN ONTO OTTS CHAPEL ROAD

PAGE 1 OF 2

LEGEND



GENERAL NOTES

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UNOFFICIAL WEBSITE COPY

RECOMMENDED Mir Wahed DATE: 5/30/18

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

APPROVED CHIEF SAFETY OFFICER _____ DATE: 6-11-18

APPROVED TRAFFIC ENGINEER _____ DATE: 6/11/18

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS
⚠ REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
PERMIT NO. X
DESIGNED BY: JDS
CHECKED BY: MAW

DETOUR PLAN C
PHASE 1, STAGE 2
NB OTTS CHAPEL RD

SHEET NO. 307
TOTAL SHTS. 432

PLOTTED BY: JDSMITH DATE: 5/31/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP_DGN [SHEET: DP03]
JMT

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

OTTS CHAPEL ROAD	TO CLOSE STARTING XX/XX/XX

DURING DETOUR

PCMS-2

OTTS CHAPEL ROAD	CLOSED FOLLOW DETOUR

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-3

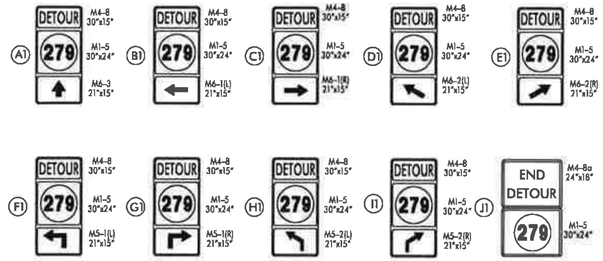
NO LEFT TURNS AT OTTS	CHAPEL STARTING XX/XX/XX

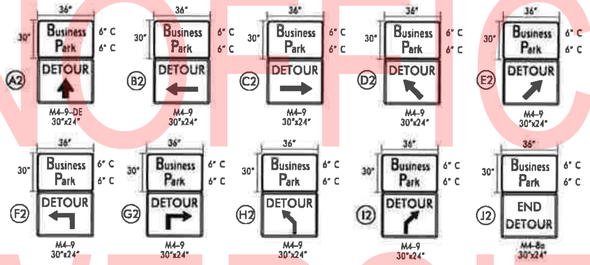
DURING DETOUR

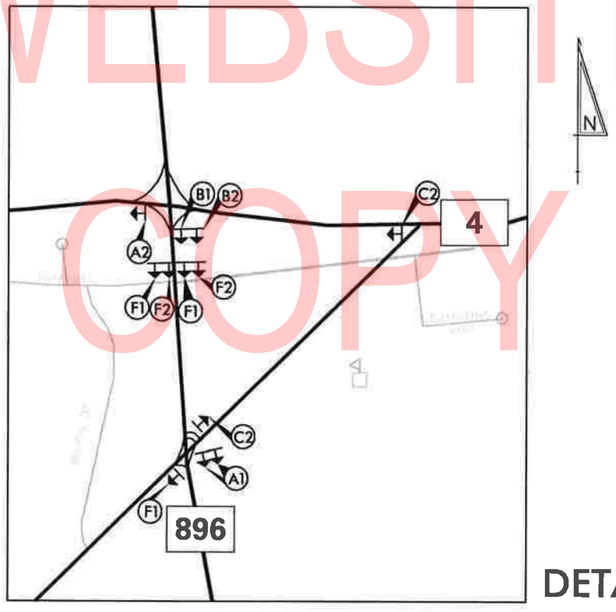
PCMS-4

NO LEFT TURNS AT OTTS	CHAPEL FOLLOW DETOUR

SPECIAL SIGNS

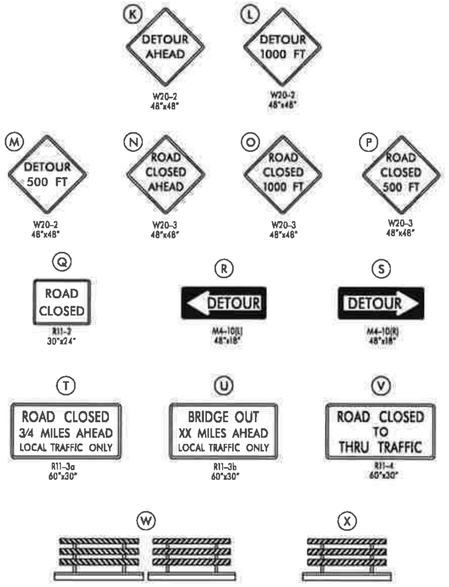






DETAIL 1

LEGEND



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UNOFFICIAL WEBSITE COPY

RECOMMENDED Mir Wahed DATE: 5/30/18
RECOMMENDED _____ DATE: _____
RECOMMENDED _____ DATE: _____
APPROVED CHIEF SAFETY OFFICER _____ DATE: 6-11-18
APPROVED TRAFFIC ENGINEER _____ DATE: 6/11/18

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS
⚠ REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
PERMIT NO. X
DESIGNED BY: JDS
CHECKED BY: MAW

DETOUR PLAN C
PHASE 1, STAGE 2
NB OTTS CHAPEL RD

SHEET NO. 308
TOTAL SHTS. 432

JMT
PLOTTED BY: JDSMITH DATE: 5/31/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP04]

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

OTTS CHAPEL ROAD	TO CLOSE STARTING XX/XX/XX

DURING DETOUR

PCMS-2

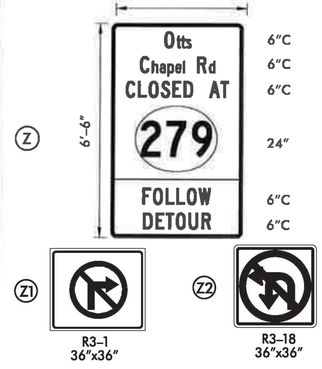
NO LEFT TURNS AT OTTS	CHAPEL FOLLOW DETOUR

DURING DETOUR

PCMS-3

NO TURNS AT OTTS	CHAPEL FOLLOW DETOUR

SPECIAL SIGNS

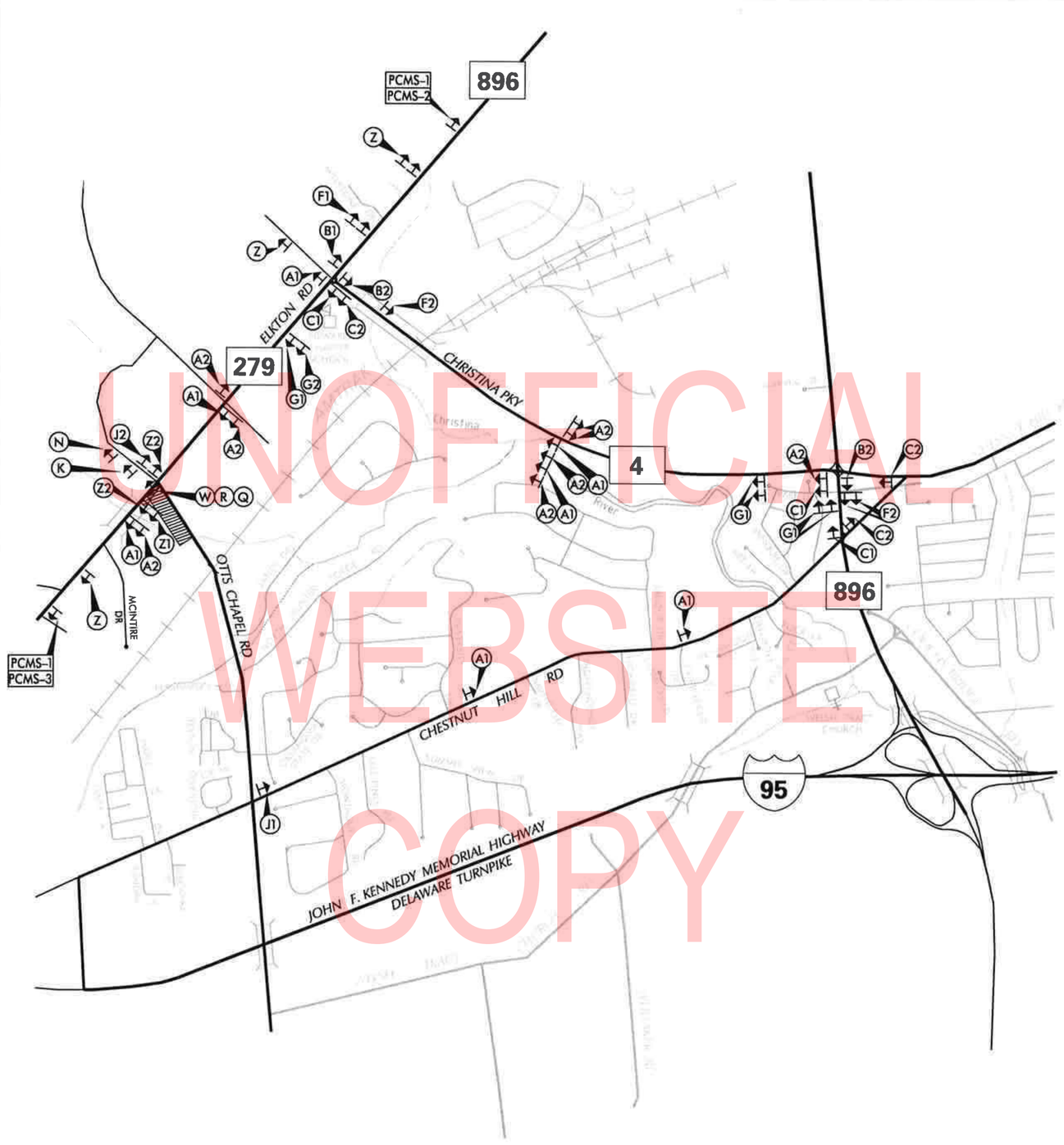


SPECIAL SIGNS SHALL BE BLACK ON RETROREFLECTIVE PRISMATIC FLORESCENT ORANGE

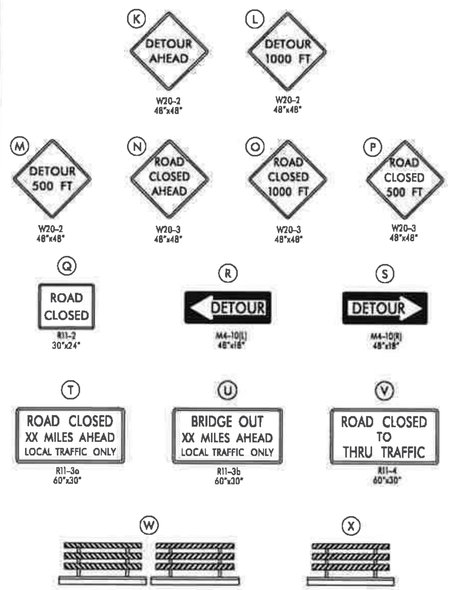
ALL ROUTE SHIELDS SHALL BE BLACK ON WHITE IN ACCORDANCE WITH THE DE MUTCD

THE R3-1 "NO RIGHT TURN" AND R3-18 "NO LEFT TURN/NO U-TURN" SIGNS SHALL BE BLACK ON WHITE IN ACCORDANCE WITH THE DE MUTCD

THE FABRICATION OF THE "Z" SIGN SHALL BE PAID UNDER ITEM NUMBER 818001. THE INSTALLATION AND REMOVAL OF THE SIGN SHALL BE INCIDENTAL TO ITEM 818001. THE FURNISHING OF THE SIGN POSTS SHALL BE INCIDENTAL TO ITEM 818001.



LEGEND



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UNOFFICIAL WEBSITE COPY

RECOMMENDED Mir Wahed DATE: 5/30/18
RECOMMENDED _____ DATE: _____
RECOMMENDED _____ DATE: _____
APPROVED CHIEF SAFETY OFFICER [signature] DATE: 6-11-18
APPROVED TRAFFIC ENGINEER [signature] DATE: 6/11/18

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS
⚠ REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	PERMIT NO.	X
T201504401	DESIGNED BY: JDS	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

DETOUR PLAN D
PHASE 1, STAGE 3
SB OTTS CHAPEL RD

SHEET NO.	309
TOTAL SHTS.	432

PLOTTED BY: JDSMITH DATE: 5/31/2018
FILE LOCATION: G:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP05]
JMT

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

OTTS CHAPEL ROAD	TO CLOSE STARTING XX/XX/XX

DURING DETOUR

PCMS-2

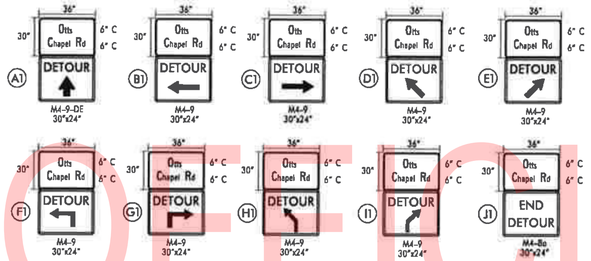
NO LEFT TURNS AT OTTS	CHAPEL FOLLOW DETOUR

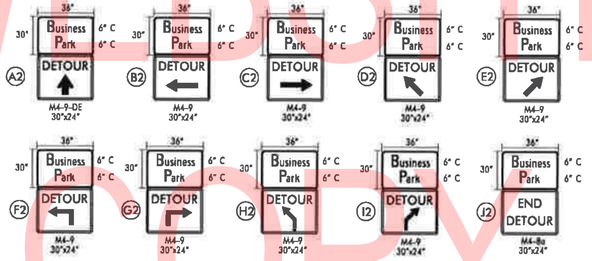
DURING DETOUR

PCMS-3

NO TURNS AT OTTS	CHAPEL FOLLOW DETOUR

SPECIAL SIGNS

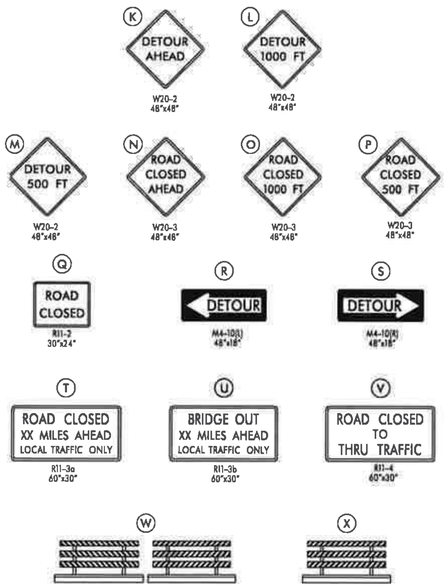




UNOFFICIAL WEBSITE COPY

N

LEGEND



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RECOMMENDED Kii Wakad DATE: 5/30/18
RECOMMENDED _____ DATE: _____
RECOMMENDED _____ DATE: _____
APPROVED CHIEF SAFETY OFFICER [signature] DATE: 6-11-18
APPROVED TRAFFIC ENGINEER [signature] DATE: 6/11/18

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS
⚠ REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	X
COUNTY	NEW CASTLE	DESIGNED BY: JDS	
		CHECKED BY: MAW	

DETOUR PLAN D
PHASE 1, STAGE 3
SB OTTS CHAPEL RD

SHEET NO. 310
TOTAL SHTS. 432

PLOTTED BY: JDSMITH DATE: 5/31/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP_DGN [SHEET: DP06]
JMT

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

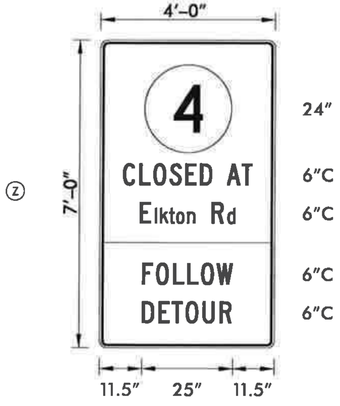
SR 4 AT SR 279	TO CLOSE STARTING XX/XX

DURING DETOUR

PCMS-2

SR 4 AT SR 279	CLOSED FOLLOW DETOUR

SPECIAL SIGNS



ALL SIGNS SHALL BE BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE

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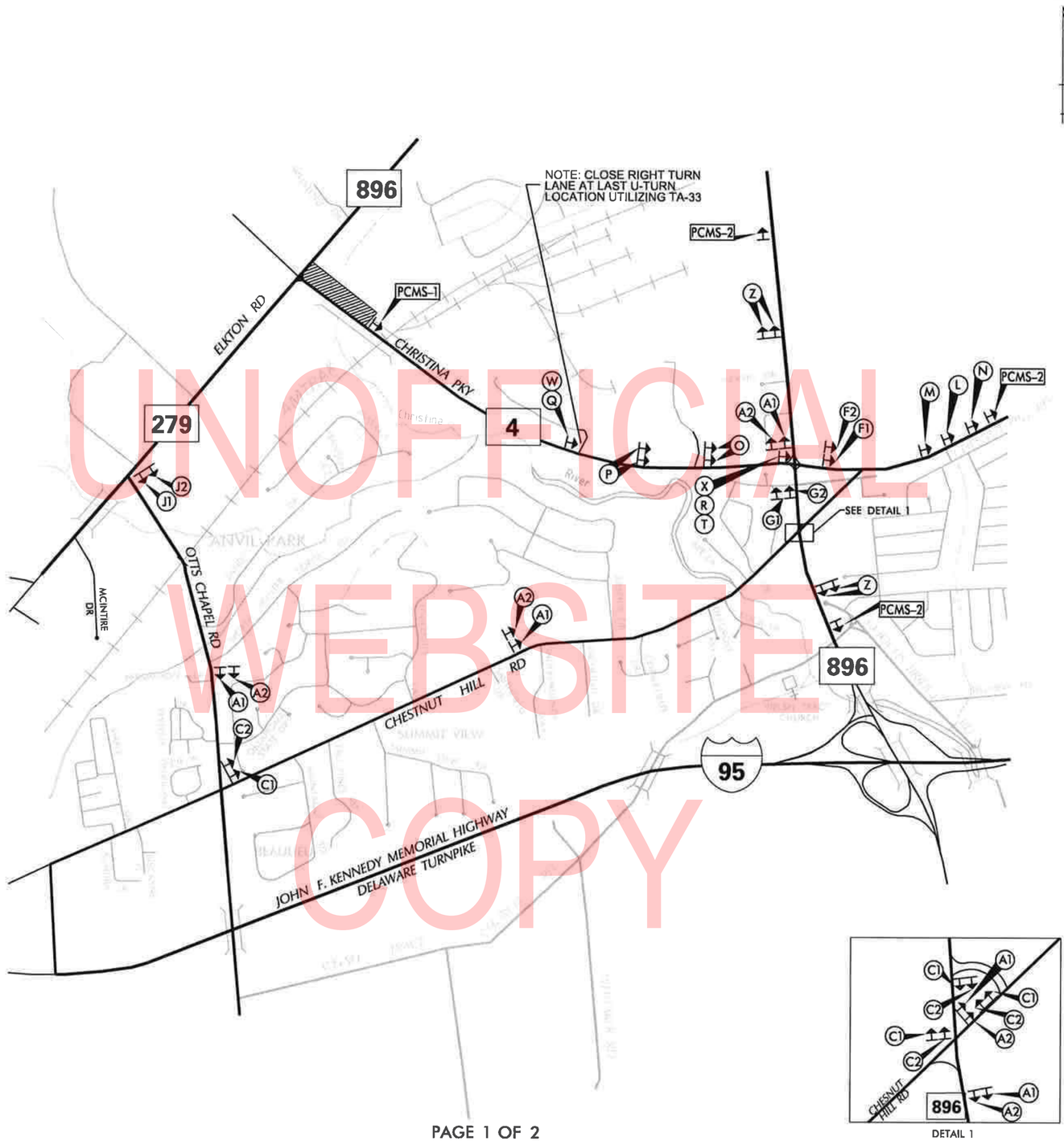
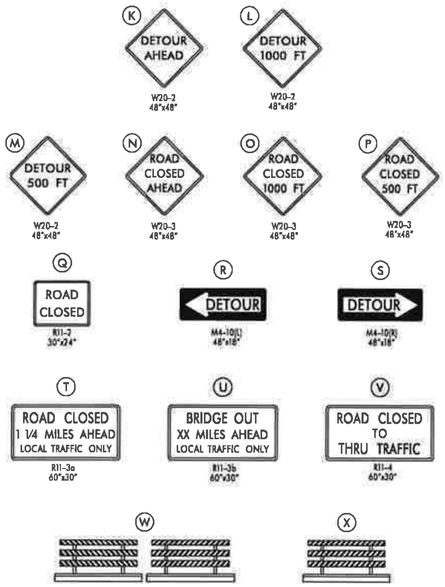


UNOFFICIAL WEBSITE COPY

DETAIL 1

LEGEND



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PAGE 1 OF 2

RECOMMENDED _____ DATE: 5/30/18

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

APPROVED CHIEF SAFETY OFFICER _____ DATE: 6-11-18

APPROVED TRAFFIC ENGINEER _____ DATE: 6/11/18

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD,
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
PERMIT NO. X
DESIGNED BY: JDS
CHECKED BY: MAW

DETOUR PLAN E
PHASE 1, STAGE 2
WB SR 4 (CHRISTINA PKWY)

SHEET NO. 311
TOTAL SHTS. 432

PLOTTED BY: JDSMITH DATE: 5/31/2018
FILE LOCATION: G:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP07]

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR

(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

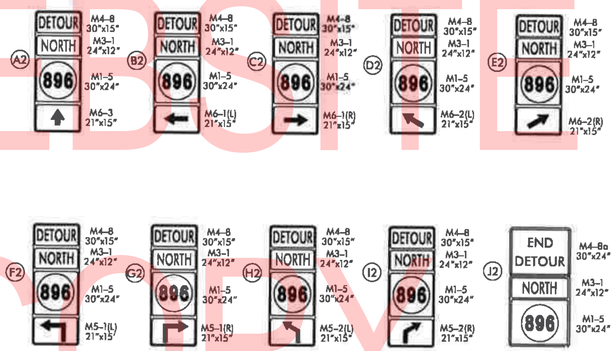
SR 4 AT SR 279	TO CLOSE STARTING XX/XX

DURING DETOUR

PCMS-1

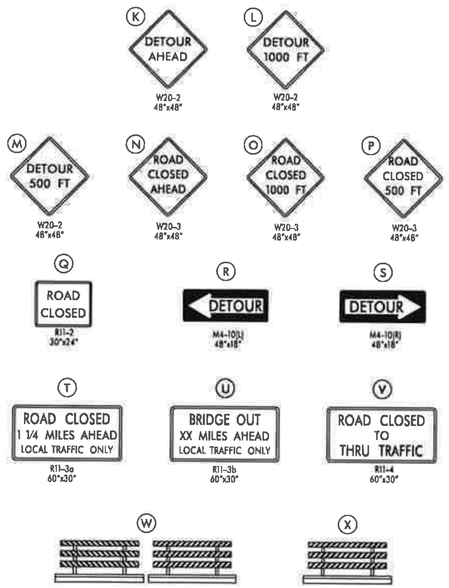
SR 4 AT SR 279	CLOSED FOLLOW DETOUR

SPECIAL SIGNS



UNOFFICIAL WEBSITE COPY

LEGEND



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7. FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD) WILL PREVAIL.
8. SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHOULD BE CHANGED TO "RAMP", "RR XING", OR "BRIDGE" WHERE APPLICABLE.
9. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
10. "W" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF THE ROADWAY.
11. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED Mir Wahed DATE: 5/30/18

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

APPROVED CHIEF SAFETY OFFICER _____ DATE: 6-11-18

APPROVED TRAFFIC ENGINEER _____ DATE: 6/11/18

JMT

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS

⚠ REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT T201504401

COUNTY NEW CASTLE

PERMIT NO. X

DESIGNED BY: JDS

CHECKED BY: MAW

DETOUR PLAN E
PHASE 1, STAGE 2
WB SR 4 (CHRISTINA PKWY)

SHEET NO. 312

TOTAL SHTS. 432

PLOTTED BY: JDSMITH DATE: 5/31/2018
FILE LOCATION: O:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP08]

PORTABLE CHANGEABLE MESSAGE SIGNS

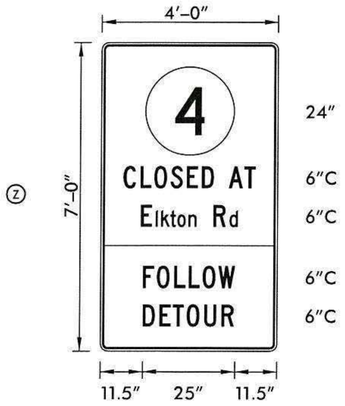
PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

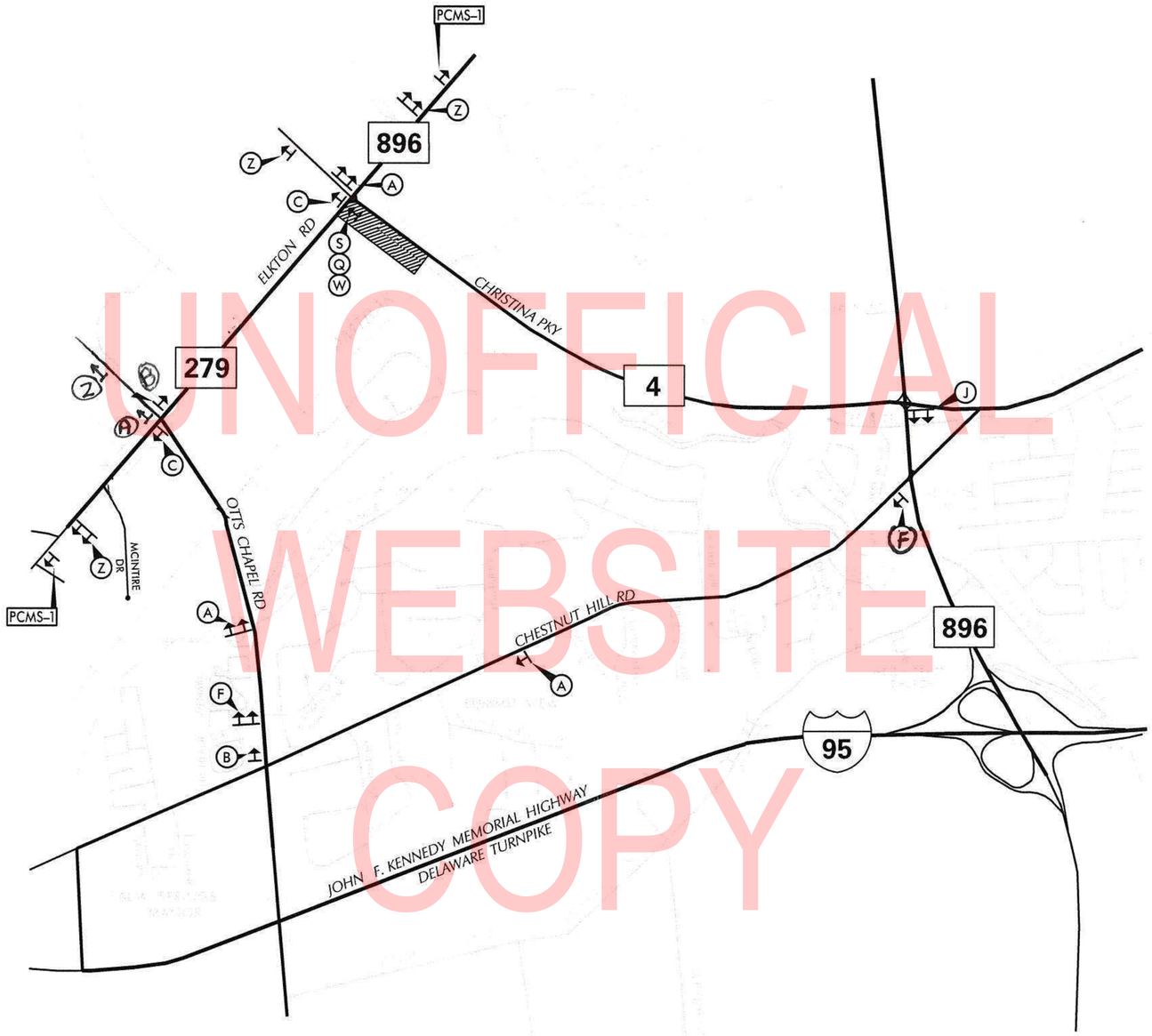
SR 4
CLOSING
AT SR279

STARTING
XX/XX

SPECIAL SIGNS



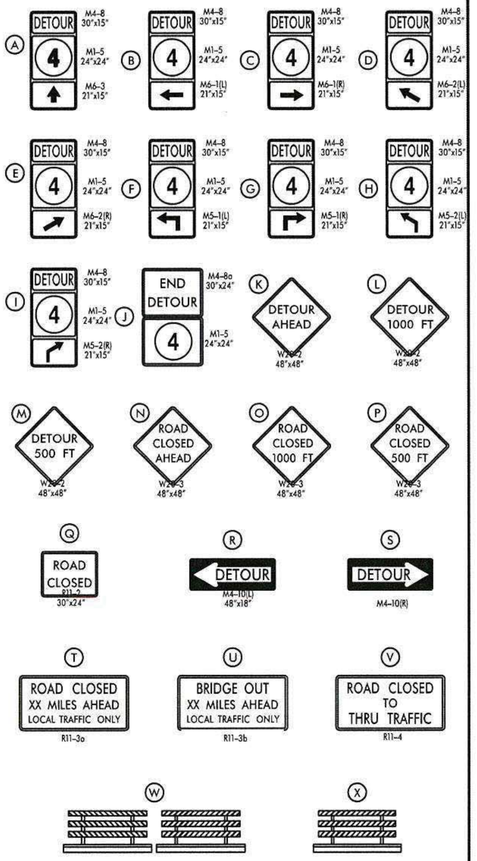
ALL SIGNS SHALL BE BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE
ALL ROUTE SHIELDS SHALL BE BLACK ON WHITE
IN ACCORDANCE WITH THE DE MUTCD
THE FABRICATION OF THE "Z" SIGNS SHALL BE PAID UNDER ITEM NUMBER 818001. THE INSTALLATION AND REMOVAL OF THE SIGN SHALL BE INCIDENTAL TO ITEM 818001. THE FURNISHING OF THE SIGN POSTS SHALL BE INCIDENTAL TO ITEM 818001.



UNOFFICIAL WEBSITE COPY

N

LEGEND



GENERAL NOTES

1. ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
2. THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD PART 6) FOR BARRICADES AND SIGNS.(AS PER LATEST REVISION)
3. DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
4. SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
5. THE COLORS, DIMENSIONS, AND CHARACTERISTICS OF ALL INTERSTATE, U.S. ROUTE, AND STATE ROUTE SHIELD SIGNS SHALL BE IN ACCORDANCE WITH SECTION 2D.11 OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
6. SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
7. FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD) WILL PREVAIL.
8. SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHOULD BE CHANGED TO "RAMP", "RR XING", OR "BRIDGE" WHERE APPLICABLE.
9. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
10. "W" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF THE ROADWAY.
11. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: 3/13/18

RECOMMENDED _____ DATE: _____

APPROVED CHIEF SAFETY OFFICER _____ DATE: 3-13-18

APPROVED TRAFFIC ENGINEER _____ DATE: 3/13/18

PLOTTED BY: JDSMITH DATE: 3/12/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP09]

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD,
MD LINE TO
CASHO MILL ROAD

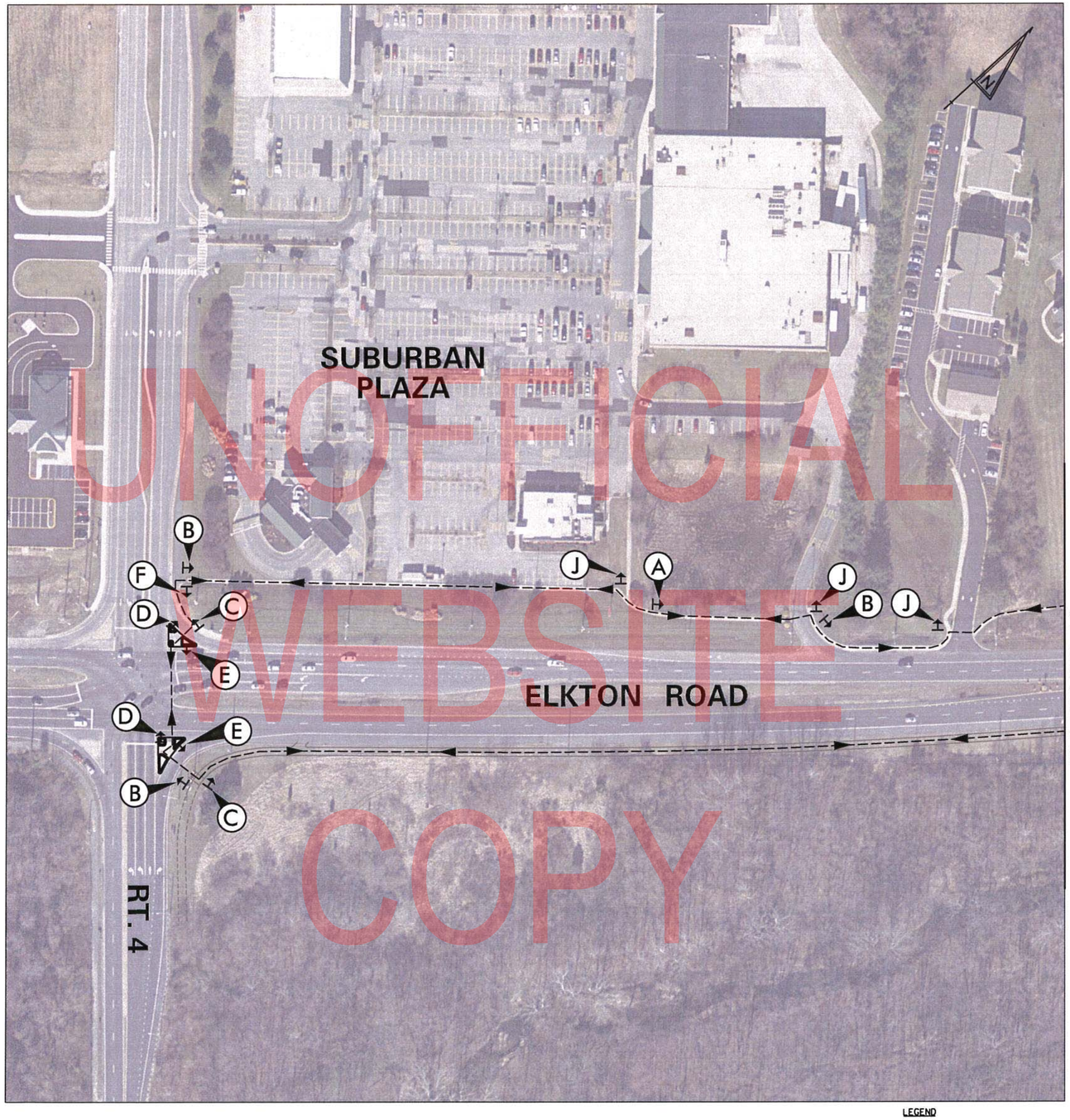
CONTRACT	PERMIT NO.	X
T201504401	DESIGNED BY: JDS	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

DETOUR PLAN F
PHASE 1, STAGE 3
EB SR 4 (CHRISTINA PKWY)

SHEET NO.	313
TOTAL SHTS.	432

SPECIAL SIGNS

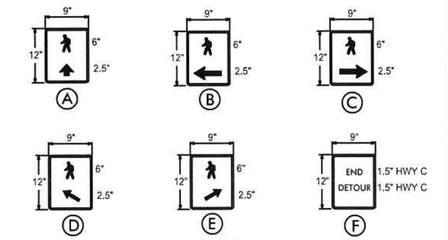
SPECIAL NOTES

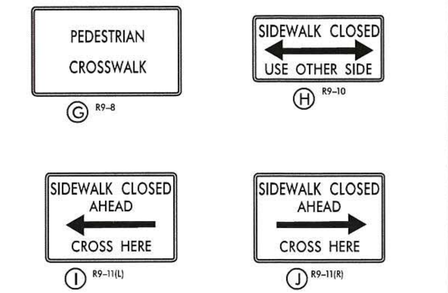


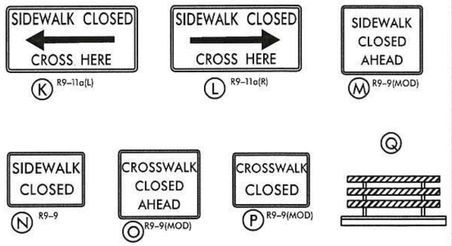
PEDESTRIAN DETOUR PHASE 2 – STAGE 1 ELKTON ROAD

LEGEND
CONSTRUCTION AREA
PEDESTRIAN DETOUR ROUTE

LEGEND







GENERAL NOTES

1. ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
2. THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD PART 6) FOR BARRICADES AND SIGNS (AS PER LATEST REVISION.)
3. DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
4. SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
5. SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
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7. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
8. "Q" BARRICADE SHALL COMPLETELY RUN THE FULL WIDTH OF SIDEWALK OR PEDESTRIAN PATH.
9. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.
10. PEDESTRIAN DETOUR TRAILBLAZERS NOT ATTACHED TO BARRICADES ARE TO EITHER BE GROUND MOUNTED OR ATTACHED TO AN EXISTING SIGN POST AT THE LOCATION SHOWN ON THE PLAN.
11. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON PEDESTRIAN CHANNELIZING BARRICADE AND TEMPORARY PEDESTRIAN PATH.
12. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON TEMPORARY PEDESTRIAN CURB RAMPS AND TEMPORARY PEDESTRIAN CROSSWALK.

UNOFFICIAL WEBSITE COPY

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: 4/24/19

APPROVED CHIEF SAFETY OFFICER _____ DATE: _____

APPROVED TRAFFIC ENGINEER _____ DATE: 4/23/19

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS

1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL RD

CONTRACT	BRIDGE NO.	X
T201504401	DESIGNED BY: JDS	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

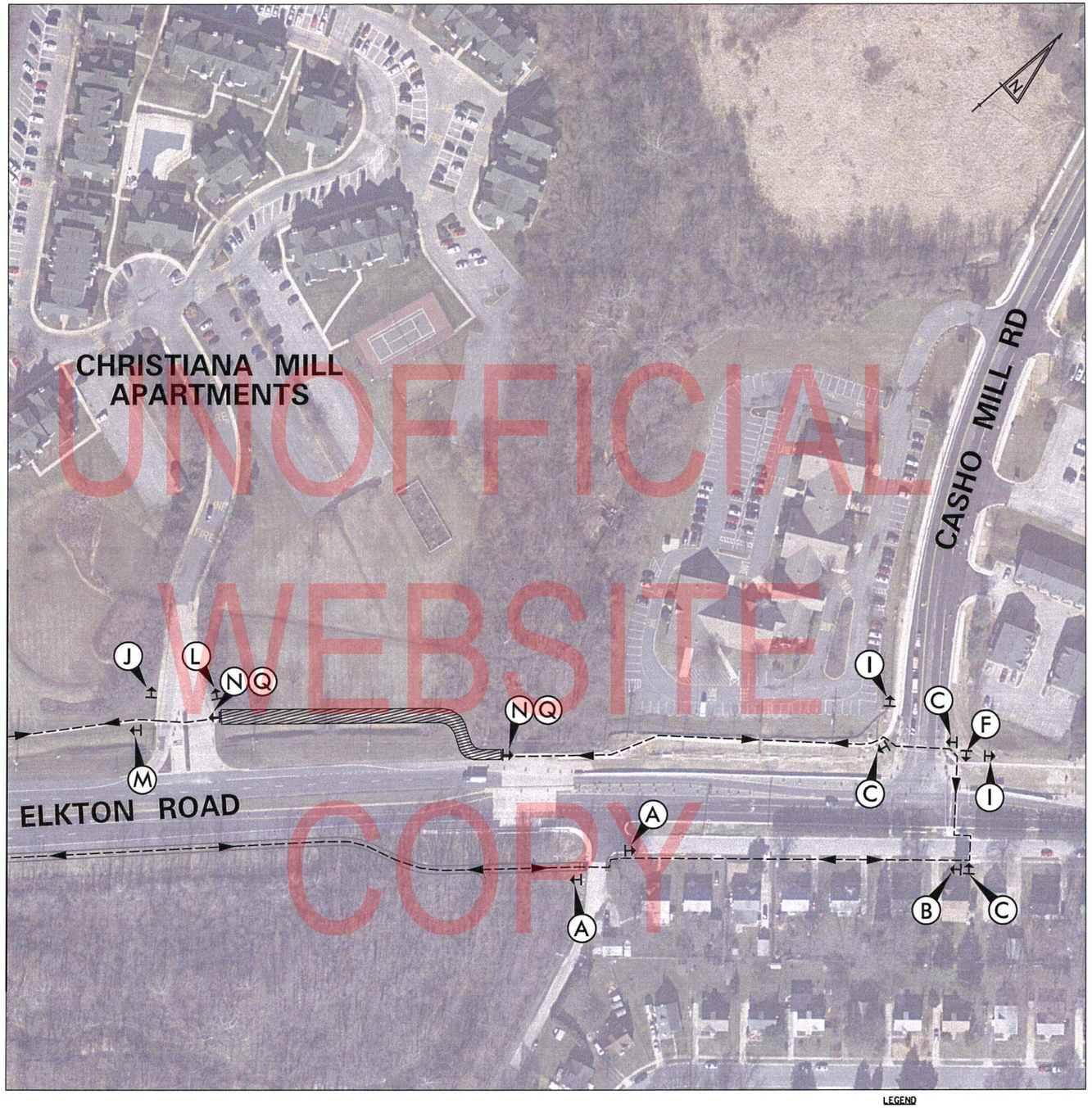
PEDESTRIAN DETOUR PLAN A

SHEET NO.
314
TOTAL SHTS.
432

PLOTTED BY: JDSMITH DATE: 4/13/2018
FILE LOCATION: Q:\NIDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP10]

SPECIAL SIGNS

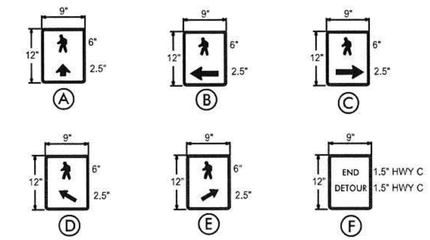
SPECIAL NOTES

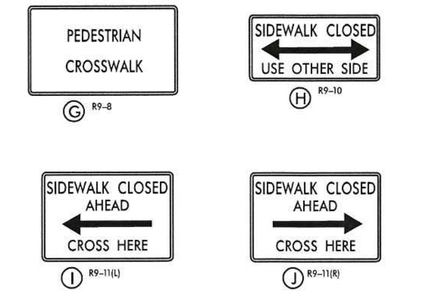


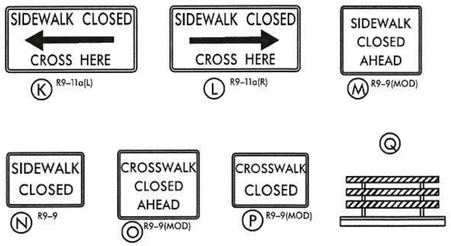
PEDESTRIAN DETOUR PHASE 2 – STAGE 1 ELKTON ROAD

LEGEND
CONSTRUCTION AREA
PEDESTRIAN DETOUR ROUTE

LEGEND







GENERAL NOTES

1. ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
2. THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD PART 6) FOR BARRICADES AND SIGNS (AS PER LATEST REVISION.)
3. DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
4. SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
5. SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
6. FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD) WILL PREVAIL.
7. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
8. "O" BARRICADE SHALL COMPLETELY RUN THE FULL WIDTH OF SIDEWALK OR PEDESTRIAN PATH.
9. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.
10. PEDESTRIAN DETOUR TRAILBLAZERS NOT ATTACHED TO BARRICADES ARE TO EITHER BE GROUND MOUNTED OR ATTACHED TO AN EXISTING SIGN POST AT THE LOCATION SHOWN ON THE PLAN.
11. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON PEDESTRIAN CHANNELIZING BARRICADE AND TEMPORARY PEDESTRIAN PATH.
12. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON TEMPORARY PEDESTRIAN CURB RAMPS AND TEMPORARY PEDESTRIAN CROSSWALK.

UNOFFICIAL WEBSITE COPY

RECOMMENDED _____ DATE:_____ | RECOMMENDED _____ DATE:_____ | RECOMMENDED _____ DATE: 4/30/19 | APPROVED CHIEF SAFETY OFFICER _____ DATE: 4-30-19 | APPROVED TRAFFIC ENGINEER _____ DATE: 4/30/19

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL RD

CONTRACT	BRIDGE NO.	X
T201504401	DESIGNED BY: JDS	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

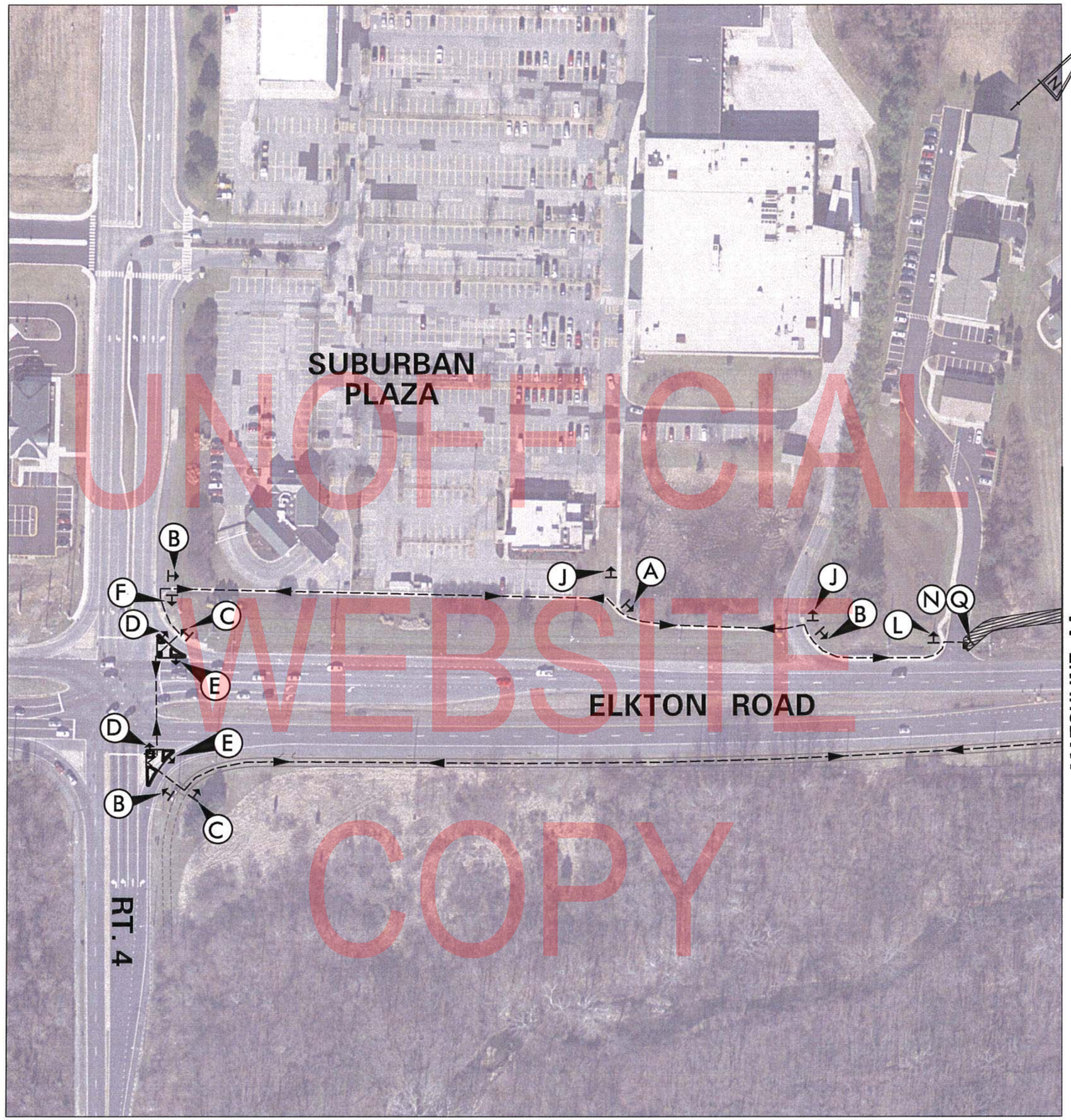
PEDESTRIAN DETOUR PLAN A

SHEET NO.
315
TOTAL SHTS.
432

PLOTTED BY: JDSMITH DATE: 4/13/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP11]

SPECIAL SIGNS

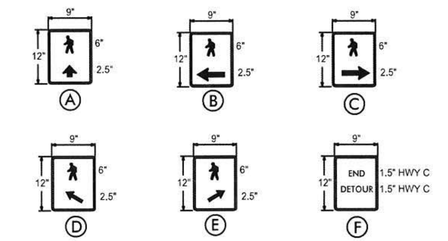
SPECIAL NOTES



PEDESTRIAN DETOUR PHASE 2 – STAGE 2 ELKTON ROAD

LEGEND
- CONSTRUCTION AREA
- PEDESTRIAN DETOUR ROUTE

LEGEND



GENERAL NOTES

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11. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON PEDESTRIAN CHANNELIZING BARRICADE AND TEMPORARY PEDESTRIAN PATH.
12. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON TEMPORARY PEDESTRIAN CURB RAMPS AND TEMPORARY PEDESTRIAN CROSSWALK.

UNOFFICIAL WEBSITE COPY

RECOMMENDED _____ DATE:	RECOMMENDED _____ DATE:	RECOMMENDED _____ DATE: 4/30/18	APPROVED CHIEF SAFETY OFFICER _____ DATE: 7-30-18	APPROVED TRAFFIC ENGINEER _____ DATE: 4/30/18

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL RD

CONTRACT	BRIDGE NO.	X
T201504401	DESIGNED BY: JDS	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

PEDESTRIAN DETOUR PLAN B

SHEET NO.
316
TOTAL SHTS.
432

PLOTTED BY: JDSMITH DATE: 4/13/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP12]

SPECIAL SIGNS

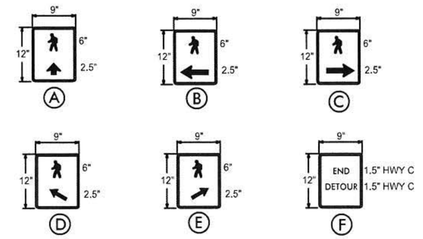
SPECIAL NOTES

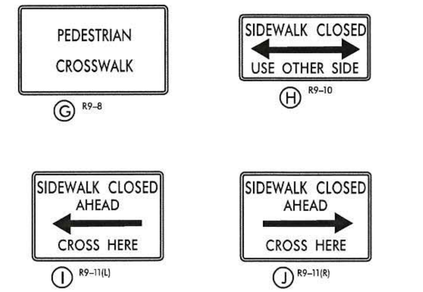
UNOFFICIAL WEBSITE COPY

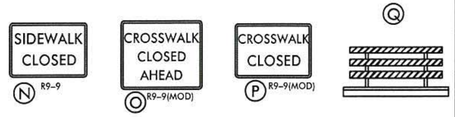
PEDESTRIAN DETOUR PHASE 2 - STAGE 2 ELKTON ROAD

LEGEND
- CONSTRUCTION AREA
- PEDESTRIAN DETOUR ROUTE

LEGEND







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12. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON TEMPORARY PEDESTRIAN CURB RAMPS AND TEMPORARY PEDESTRIAN CROSSWALK.

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: 4/30/18

APPROVED CHIEF SAFETY OFFICER _____ DATE: 4-30-18

APPROVED TRAFFIC ENGINEER _____ DATE: 4-30-18

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS

1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL RD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	X
DESIGNED BY: JDS	
CHECKED BY: MAW	

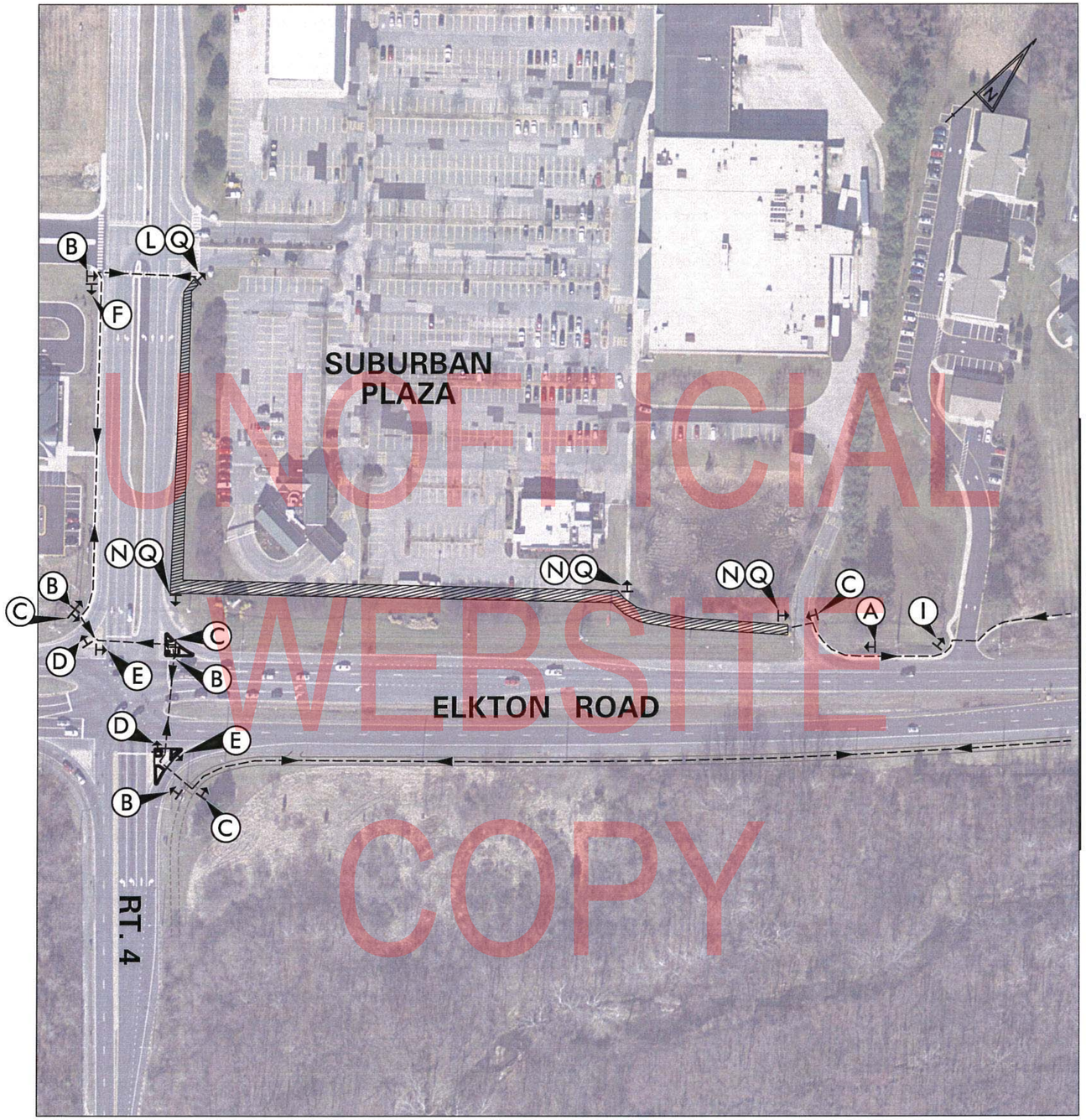
PEDESTRIAN DETOUR PLAN B

SHEET NO.	317
TOTAL SHTS.	432

PLOTTED BY: JDSMITH DATE: 4/13/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP13]

SPECIAL SIGNS

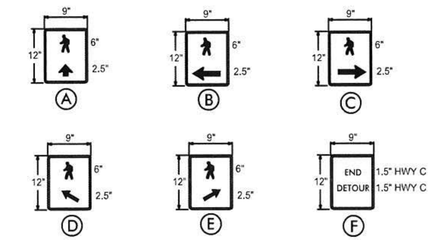
SPECIAL NOTES

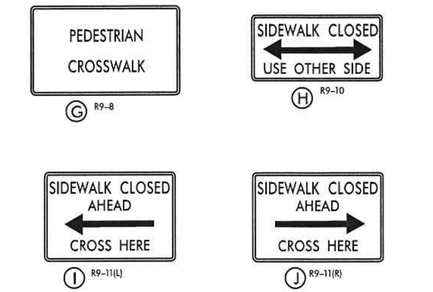


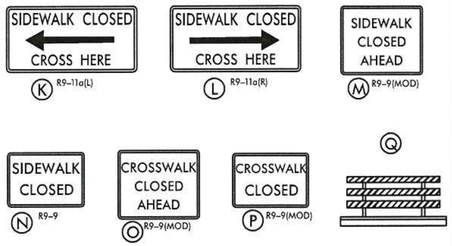
PEDESTRIAN DETOUR PHASE 2 – STAGE 3 ELKTON ROAD
& STAGE 1 SUBURBAN DRIVE

LEGEND
CONSTRUCTION AREA
PEDESTRIAN DETOUR ROUTE

LEGEND







GENERAL NOTES

1. ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
2. THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD PART 6) FOR BARRICADES AND SIGNS (AS PER LATEST REVISION.)
3. DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
4. SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
5. SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
6. FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD) WILL PREVAIL.
7. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
8. "O" BARRICADE SHALL COMPLETELY RUN THE FULL WIDTH OF SIDEWALK OR PEDESTRIAN PATH.
9. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.
10. PEDESTRIAN DETOUR TRAILBLAZERS NOT ATTACHED TO BARRICADES ARE TO EITHER BE GROUND MOUNTED OR ATTACHED TO AN EXISTING SIGN POST AT THE LOCATION SHOWN ON THE PLAN.
11. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON PEDESTRIAN CHANNELIZING BARRICADE AND TEMPORARY PEDESTRIAN PATH.
12. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON TEMPORARY PEDESTRIAN CURB RAMPS AND TEMPORARY PEDESTRIAN CROSSWALK.

UNOFFICIAL WEBSITE COPY

RECOMMENDED _____ DATE:_____

RECOMMENDED _____ DATE:_____

RECOMMENDED _____ DATE: 4/30/18

APPROVED CHIEF SAFETY OFFICER _____ DATE: 4-30-18

APPROVED TRAFFIC ENGINEER _____ DATE: 4/30/18

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS

1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL RD

CONTRACT	BRIDGE NO.	X
T201504401	DESIGNED BY: JDS	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

PEDESTRIAN DETOUR PLAN C

SHEET NO.
318
TOTAL SHTS.
432

PLOTTED BY: JDSMITH DATE: 4/13/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP14]

SPECIAL SIGNS

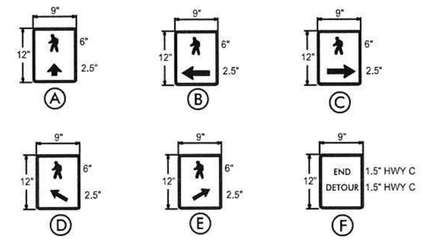
SPECIAL NOTES

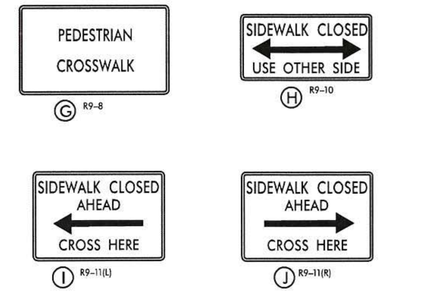
UNOFFICIAL WEBSITE COPY

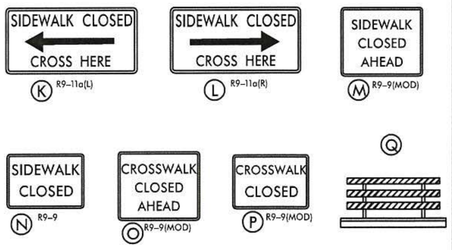
PEDESTRIAN DETOUR PHASE 2 – STAGE 3 ELKTON ROAD & STAGE 1 SUBURBAN DRIVE

LEGEND
CONSTRUCTION AREA
PEDESTRIAN DETOUR ROUTE

LEGEND







GENERAL NOTES

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11. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON PEDESTRIAN CHANNELIZING BARRICADE AND TEMPORARY PEDESTRIAN PATH.
12. REFER TO CONSTRUCTION PLAN SHEETS FOR DETAILS ON TEMPORARY PEDESTRIAN CURB RAMPS AND TEMPORARY PEDESTRIAN CROSSWALK.

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: 4/30/18

APPROVED CHIEF SAFETY OFFICER _____ DATE: 4-30-18

APPROVED TRAFFIC ENGINEER _____ DATE: 4/30/18

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS

1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

NOT TO SCALE

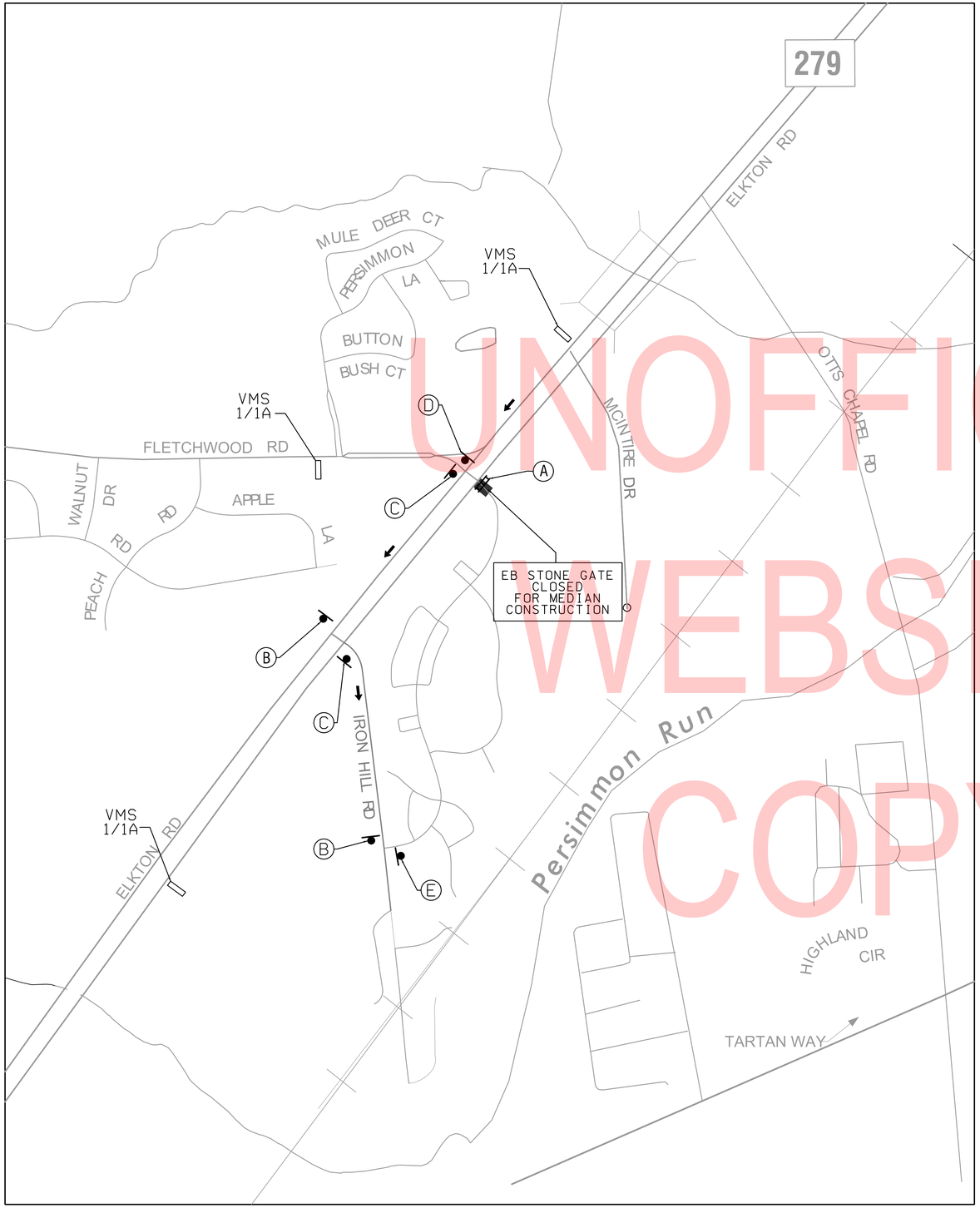
ELKTON ROAD, MD LINE TO CASHO MILL RD

CONTRACT	BRIDGE NO.	X
T201504401	DESIGNED BY: JDS	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

PEDESTRIAN DETOUR PLAN C

SHEET NO.
319
TOTAL SHTS.
432

PLOTTED BY: JDSMITH DATE: 4/13/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\DP.DGN [SHEET: DP15]



N

SIGNS

Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
ROAD CLOSED	STONE GATE / DETOUR ←	STONE GATE / DETOUR →	STONE GATE / DETOUR ↑	END DETOUR
R11-2 MOD 48"x30"	M4-9(1) MOD 30"x12" HWY-B FONT	M4-9(1) MOD 30"x12" HWY-B FONT	M4-9(1) MOD 30"x12" HWY-B FONT	M4-8a(1) 36"x24"
ON TYPE 3 BARRICADE	M4-9L 30"x24"	M4-9R 30"x24"	M4-9R (MOD) 30"x24"	TWO (2) - 4"x4" WOOD SUPPORTS BREAKAWAY
	ONE (1) - 4"x6" WOOD SUPPORTS BREAKAWAY	ONE (1) - 4"x6" WOOD SUPPORTS BREAKAWAY	ONE (1) - 4"x6" WOOD SUPPORTS BREAKAWAY	

VMS 1
(MESSAGE 1 WEEK IN ADVANCE OF CLOSURE UNTIL CLOSURE)

VMS 1A
(MESSAGE NIGHT OF CLOSURE) WHEN DETOUR IS IN PLACE

VMS MESSAGES SHALL BE PROVIDED BY ASSISTANT DISTRICT ENGINEER-TRAFFIC.

UNOFFICIAL WEBSITE COPY

LEGEND

- DETOURED ROADWAY
- DETOUR ROUTE
- SIGN
- TYPE III BARRICADE

SIGNS SHALL BE PAID UNDER ITEM NUMBER 120635 (SIGNS FOR MAINTENANCE OF TRAFFIC)

TYPE III BARRICADES SHALL BE PAID UNDER ITEM NUMBER 120743 (TYPE III BARRICADE FOR MAINTENANCE OF TRAFFIC)

VMS SIGNS SHALL BE PAID UNDER ITEM NUMBER 120860 (PORTABLE VARIABLE MESSAGE SIGN)

HIGHWAY DESIGN DIVISION

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

REVISIONS

⚠ *REPLACED PAGES 1 THROU 432 11-15-2019 (LB)*

DETOUR SIGNING PLAN

SCALE N.T.S. ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY JDS
DRAWN BY PER
CHECKED BY MAW
MDE/PRD _____

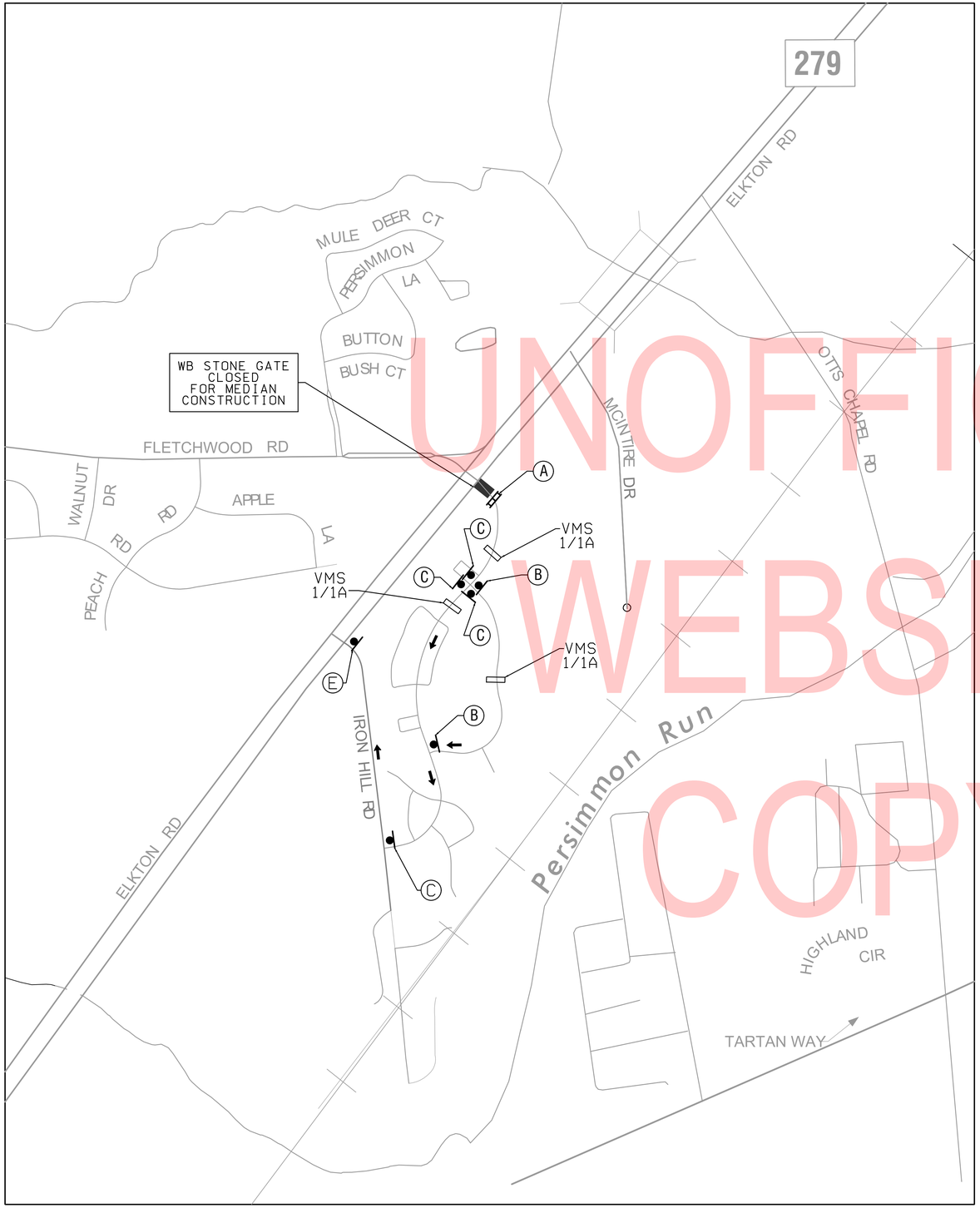
COUNTY _____
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. 1 – OF

SHEET NO. 320 OF 432

BY: jdsmith –

PLOTTED: Thursday, September 12, 2019 AT 10:54 AM



STONE GATE DRIVE – EXIT CLOSED

N

SIGNS

A	B	C	D	E
ROAD CLOSED	ELKTON RD DETOUR	ELKTON RD DETOUR	ELKTON RD DETOUR	END DETOUR
R11-2 MOD 48"x30"	M4-9(1) MOD 30"x12" HWY-B FONT	M4-9(1) MOD 30"x12" HWY-B FONT	M4-9(1) MOD 30"x12" HWY-B FONT	M4-8a(1) 36"x24"
ON TYPE 3 BARRICADE	M4-9L 30"x24" ONE (1) - 4"x6" WOOD SUPPORTS BREAKAWAY	M4-9R 30"x24" ONE (1) - 4"x6" WOOD SUPPORTS BREAKAWAY	M4-9R (MOD) 30"x24" ONE (1) - 4"x6" WOOD SUPPORTS BREAKAWAY	TWO (2) - 4"x4" WOOD SUPPORTS BREAKAWAY

VMS 1
(MESSAGE 1 WEEK IN ADVANCE OF CLOSURE UNTIL CLOSURE)

VMS 1A
(MESSAGE NIGHT OF CLOSURE) WHEN DETOUR IS IN PLACE

VMS MESSAGES SHALL BE PROVIDED BY ASSISTANT DISTRICT ENGINEER-TRAFFIC.

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VMS SIGNS SHALL BE PAID UNDER ITEM NUMBER 120860 (PORTABLE VARIABLE MESSAGE SIGN)

LEGEND

- DETOURED ROADWAY
- DETOUR ROUTE
- SIGN
- TYPE III BARRICADE

UNOFFICIAL WEBSITE COPY

HIGHWAY DESIGN DIVISION

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

REVISIONS	DETOUR SIGNING PLAN
⚠ *REPLACED PAGES 1 THROU 432 11-15-2019 (LB)*	SCALE N.T.S. ADVERTISED DATE _____ NTRACT NO. _____
	DESIGNED BY JDS COUNTY _____
	DRAWN BY PER LOGMILE _____
	CHECKED BY MAW HORIZONTAL SCALE _____
	MDE/PRD _____ VERTICAL SCALE _____
	DRAWING NO. 1 OF _____ SHEET NO. 321 OF 432

BY: jdsmith –

PLOTTED: Thursday, September 12, 2019 AT 10:53 AM

LIGHTING STANDARD SCHEDULE

NO.	CIRCUIT NO.	STATION	OFFSET	ARM	LIGHT STANDARD	POLE BASE	LUMINAIRE
*1	N/A	7012+27	57' RT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*2	N/A	7013+76	56' RT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*3	N/A	7015+17	54' RT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*4	N/A	305+47	49' RT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*5	N/A	7016+83	53' RT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*6	N/A	6017+15	50' LT	12'	UTILITY POLE (VERIZON OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*7	N/A	6015+60	52' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT

W = WATT
LED = LIGHT EMITTING DIODE
* = LIGHT TO BE INSTALLED BY CITY OF NEWARK

GENERAL NOTES:

1. ALL LIGHTING JUNCTION WELLS SHALL BE TYPE 1, UNLESS OTHERWISE NOTED.

2. EXISTING LIGHT POLES, DAVIT ARMS, AND LUMINAIRES BEING REMOVED SHALL BE SALVAGED AND DELIVERED TO DELDOT CANAL DISTRICT MAINTENANCE SHOP, 250 BEAR CHRISTIANA RD, BEAR, DELAWARE, UNLESS OTHERWISE NOTED.

3. LOCATION OF CONDUIT AND POLE MAY BE ADJUSTED IN FIELD TO AVOID EXISTING OR OTHER PROPOSED CONSTRUCTION FEATURES, SUBJECT TO APPROVAL OF THE ENGINEER. ALL CONDUITS AND POLES SHALL BE LOCATED WITHIN EXISTING/PROPOSED RIGHT-OF-WAY OR PERMANENT EASEMENT.

4. FOR FINAL CONNECTION TO LIGHT FIXTURES, AND LIGHT STANDARD AND FIXTURE DETAILS, SEE TYPICAL LUMINAIRE CONNECTION DETAILS ON LIGHTING DETAIL SHEET LI-14.

5. COORDINATE THE INSTALLATION OF ITMS MULTIDUCT CONDUIT AND LIGHTING CONDUIT IN TRENCHES. REFER TO SIGNING, STRIPING AND CONDUIT PLANS FOR ITMS DETAILS. ITMS AND LIGHTING CABLES SHALL NOT SHARE THE SAME CONDUIT OR JUNCTION WELL, UNLESS OTHERWISE NOTED.

6. UNLESS OTHERWISE NOTED, CONTRACTORS SHALL RUN UNSPLICED, CONTINUOUS CABLE FROM POINT OF SERVICE TO LIGHT POLE BASE, AND FROM LIGHT POLE BASE TO LIGHT POLE BASE.

7. FOR ACCESS TO DELDOT OWNED LIGHTING EQUIPMENT, CONTACT FRANK PEPPER (MONDAY TO FRIDAY, 8 AM TO 4 PM, 302-379-5313) AT THE CANAL DISTRICT FACILITY AT LEAST 48 HOURS IN ADVANCE.

8. BURIED ELECTRICAL CABLE AND CONDUIT, AND OTHER UTILITIES MAY EXIST THROUGHOUT THIS PROJECT. THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PREVENTING DAMAGE TO THEM, AND MAINTAINING THEM IN SERVICE WHEN AND WHERE REQUIRED.

9. ALL LIGHTING CONDUIT ENDS IN JUNCTION WELLS AND POLE BASES SHALL BE SEALED WITH PEST DETERRING FOAM, THE TYPE OF WHICH SHALL BE SPECIFIED BY DELDOT TRAFFIC.

10. ALL THE EXISTING LIGHTING WITHIN THE PROJECT LIMITS MAY NOT BE MAINTAINED DURING CONSTRUCTION. LIGHTING WILL BE PROVIDED AS DESIGNED ONCE THE CONSTRUCTION IS COMPLETED.

11. THE REMOVAL OF EXISTING LIGHTING POLES, LIGHTING POLE BASES AND JUNCTION WELLS SHALL BE PAID UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS. WHERE INDICATED ON THE PLANS TO REMOVE EXISTING LIGHTING STANDARDS, THIS SHALL INCLUDE REMOVAL OF THE EXISTING LIGHTING STANDARD AND FOUNDATION, UNLESS OTHERWISE NOTED. PAYMENT FOR REMOVAL OF EXISTING LUMINAIRES SHALL BE MADE UNDER ITEM #850011.

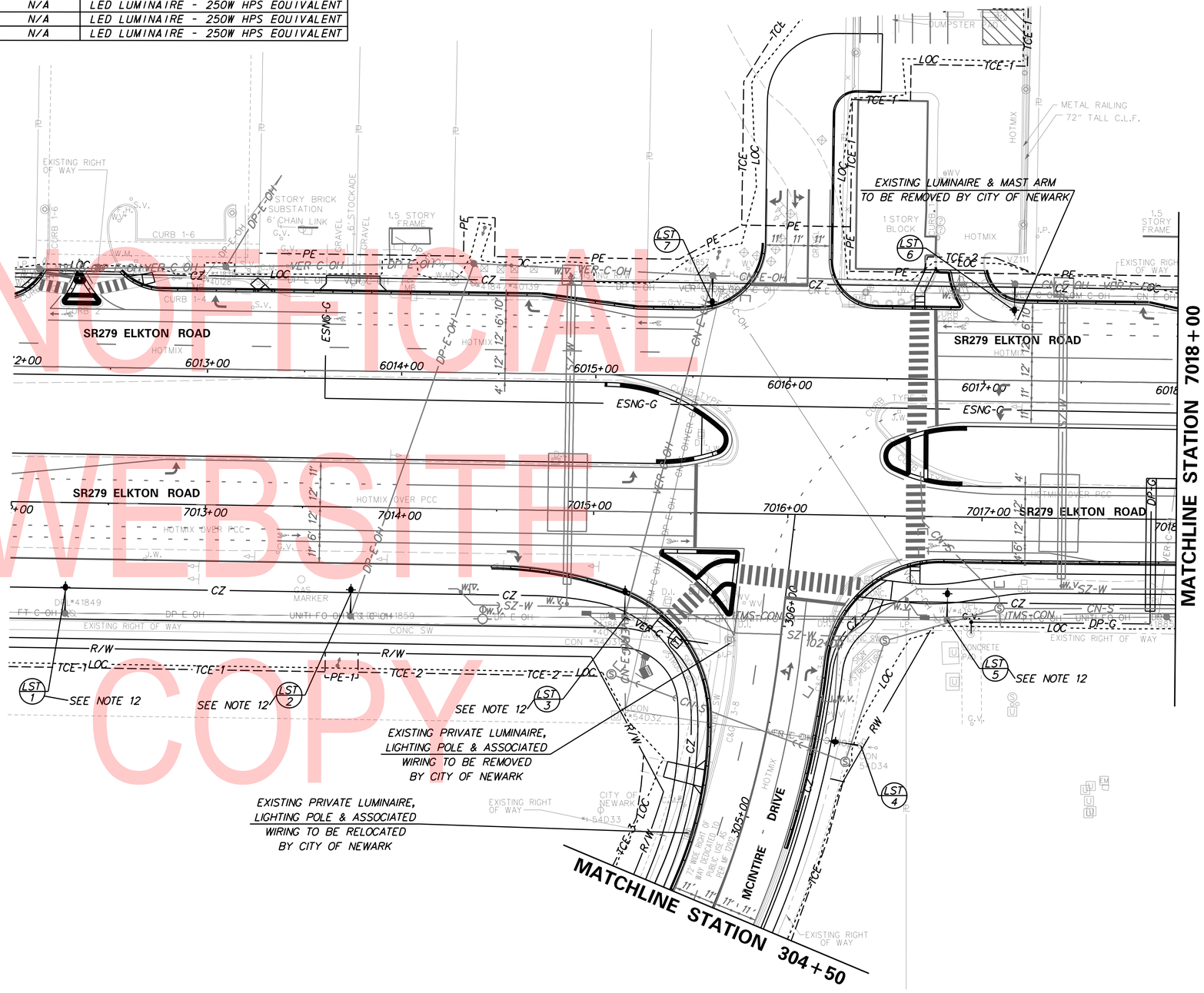
12. THESE FIXTURES WILL BE INSTALLED BY THE CITY OF NEWARK ON DELMARVA OWNED UTILITY POLES. THE CITY OF NEWARK WILL PROVIDE POWER TO THESE UTILITY POLE FIXTURES VIA A SECONDARY TRIPLEX CONNECTION.

13. ANY LIGHTING FIXTURES MOUNTED ON THE UTILITY POLES SHOULD BE MOUNTED AS CLOSE TO 25' ABOVE THE GROUND AS FEASIBLE, AS THE OVERHEAD UTILITY LINES ALLOW. MOUNTING HEIGHTS OF 25' +/- 3' ARE ACCEPTABLE, SHOULD ANY MOUNTING CONFLICTS ARISE. LIGHTING FIXTURES ON THE UTILITY POLES ARE TO BE INSTALLED BY DELMARVA.

14. THE LUMINAIRES INSTALLED BY THE CITY OF NEWARK ON BOTH CITY OF NEWARK OWNED UTILITY POLES AND DELMARVA OWNED UTILITY POLES, ARE TO BE SUPPLIED BY DELDOT.

LEGEND

LST X — LIGHTING STANDARD IDENTIFIER



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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

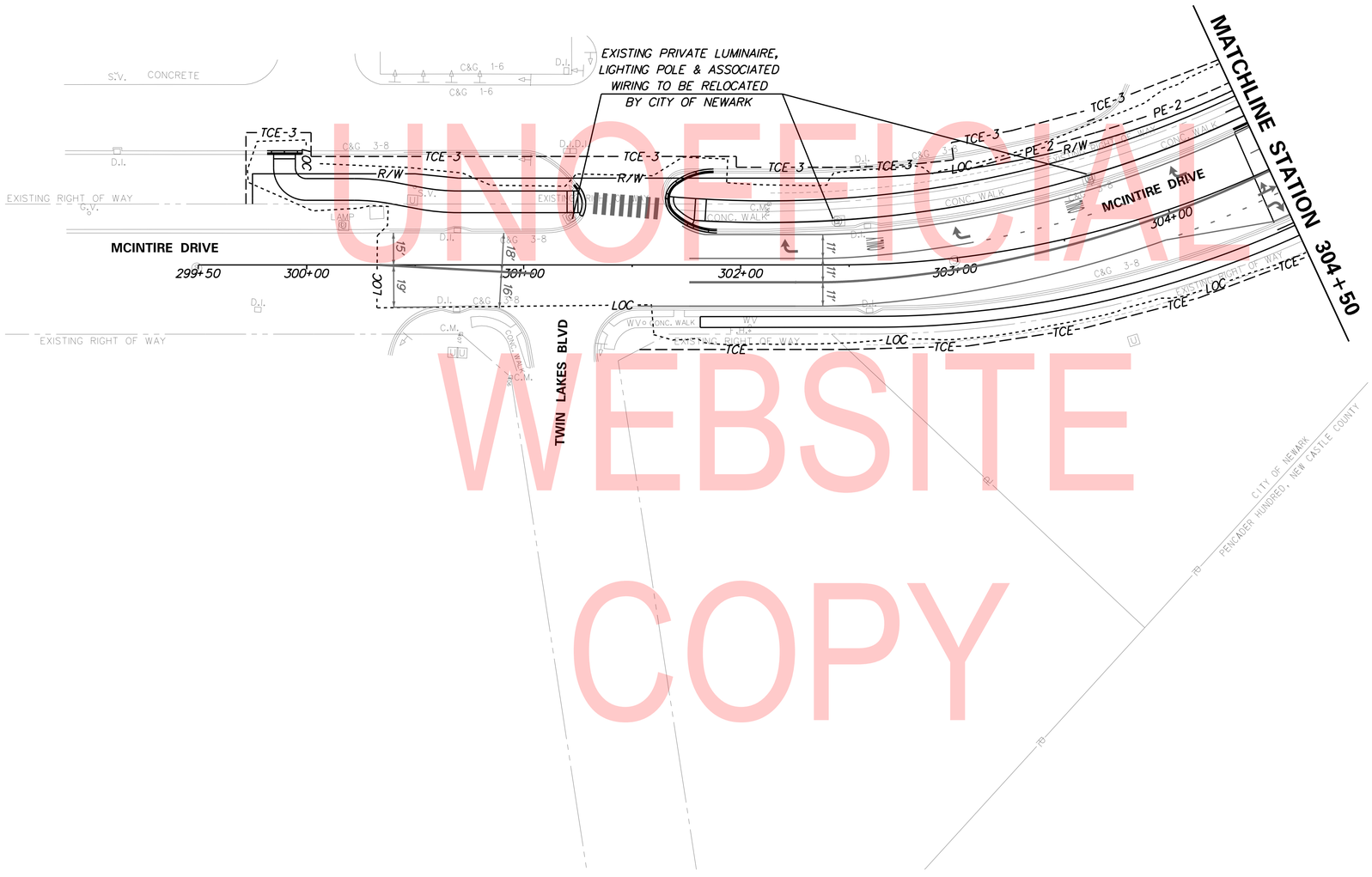
LIGHTING PLAN

LI-01

SECTION JMT

SHEET NO. 322

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI.DGN [SHEET: LI01]



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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI.DGN [SHEET: LI02]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB	
CHECKED BY: MAW	

LIGHTING PLAN

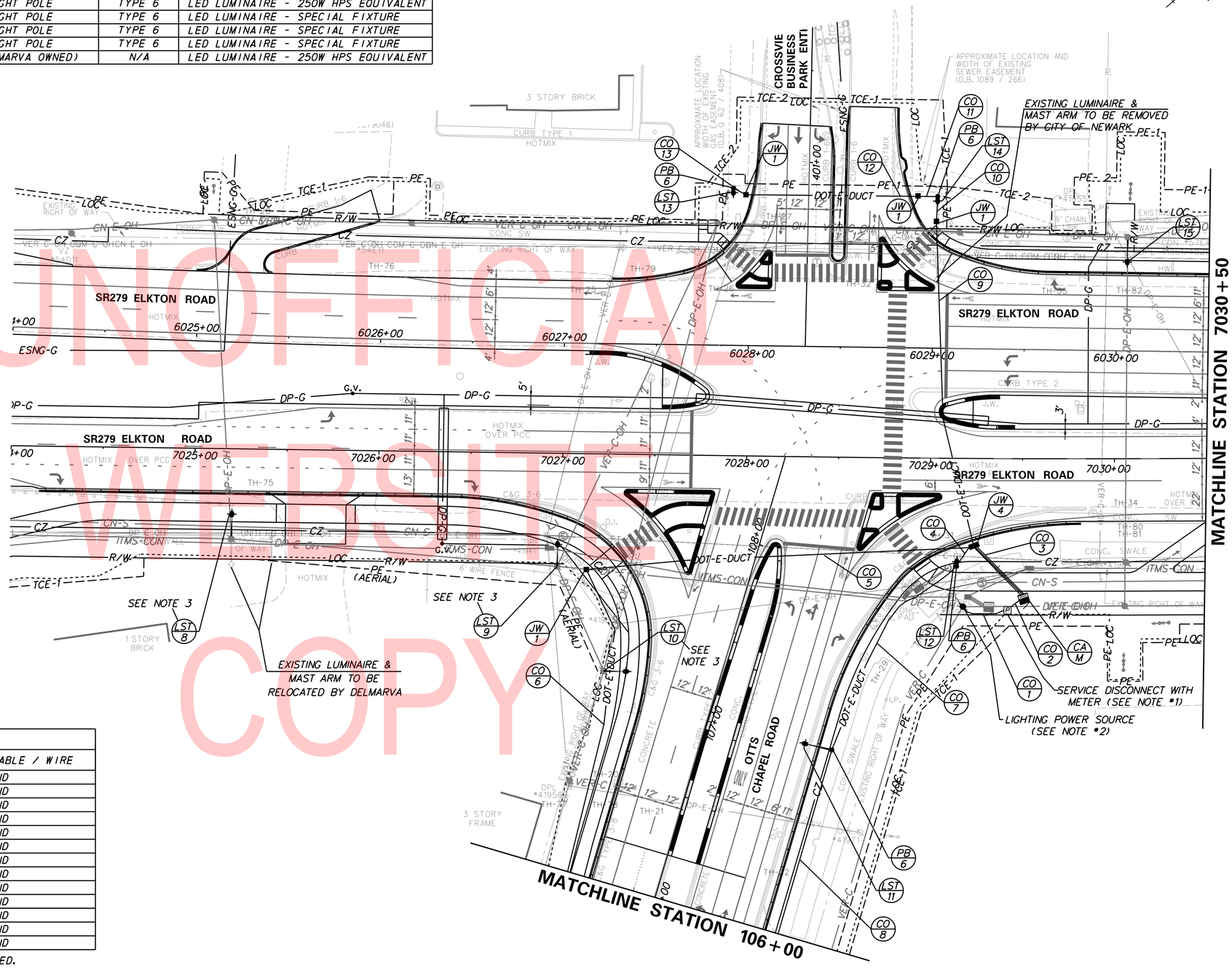
LI-02

SECTION	JMT
SHEET NO.	323

LIGHTING STANDARD SCHEDULE

NO.	CIRCUIT NO.	STATION	OFFSET	ARM	LIGHT STANDARD	POLE BASE	LUMINAIRE
*8	N/A	7025+20	49' RT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*9	N/A	7026+98	62' RT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*10	N/A	107+10	62' LT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
11	1A1	107+04	69' RT	15'	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - 250W HPS EQUIVALENT
12	1B1	7029+14	59' RT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
13	1A1	400+85	41' LT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
14	1B1	400+83	70' RT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
*15	N/A	6030+05	62' LT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT

W = WATT
LED = LIGHT EMITTING DIODE
* = LIGHT TO BE INSTALLED BY CITY OF NEWARK



GENERAL NOTES:

1. INSTALL ELECTRICAL SERVICE ON PEDESTAL WITH 120/240V, SINGLE PHASE, THREE WIRE, 100 AMP ELECTRICAL SERVICE.

2. SECONDARY SERVICE FOR NEW LIGHTING POWER SOURCE TO BE ESTABLISHED BY THE CITY OF NEWARK AT NEW UTILITY POLE AT STATION 7029+18, OFFSET 81' RT.

3. THESE FIXTURES WILL BE INSTALLED BY THE CITY OF NEWARK ON DELMARVA OWNED UTILITY POLES. THE CITY OF NEWARK WILL PROVIDE POWER TO THESE UTILITY POLE FIXTURES VIA A SECONDARY TRIPLEX CONNECTION.

LIGHTING SERVICE SCHEDULE

SERVICE RUN NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
CO-1	1 (GALV. STEEL)	2.0"	25'	T	(3)#4 + (1)#4 GND
CO-2	1 (GALV. STEEL)	2.0"	15'	T	(3)#4 + (1)#4 GND
CO-3	3**	3.0"	45'	T	(3)#6 + (3)#6 GND
CO-4	1	3.0"	15'	T	(3)#6 + (1)#6 GND
CO-5	1 (SCH 80 HDPE)	4.0"	215'	B	(2)#6 + (1)#6 GND
CO-6	1	3.0"	190'	T	(2)#6 + (1)#6 GND
CO-7	1	3.0"	125'	T	(3)#6 + (1)#6 GND
CO-8	1	3.0"	195'	T	(3)#6 + (1)#6 GND
CO-9	1 (SCH 80 HDPE)	4.0"	180'	B	(3)#6 + (1)#6 GND
CO-10	1	3.0"	15'	T	(3)#6 + (1)#6 GND
CO-11	1	3.0"	15'	T	(3)#6 + (1)#6 GND
CO-12	1 (SCH 80 HDPE)	3.0"	95'	B	(2)#6 + (1)#6 GND
CO-13	1	4.0"	10'	T	(2)#6 + (1)#6 GND

NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
B = BORE, T = TRENCH, O = OPEN CUT
** - A GROUND CABLE SHALL BE PLACED IN EACH INDIVIDUAL CONDUIT

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI.DGN [SHEET: LI03]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: GYB	CHECKED BY: MAW

LIGHTING PLAN

LI-03

SECTION	SHEET NO.
JMT	324

LIGHTING STANDARD SCHEDULE

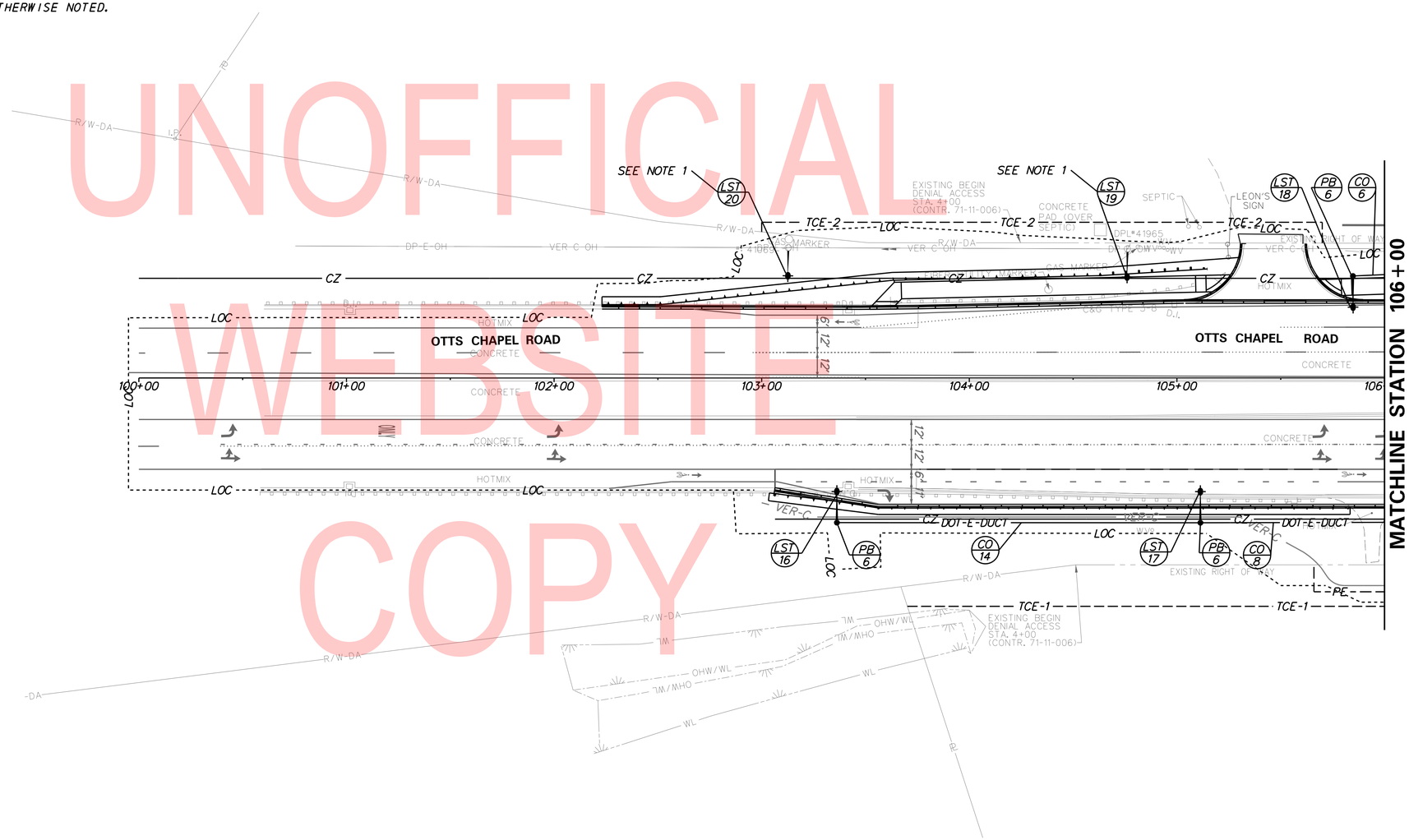
NO.	CIRCUIT NO.	STATION	OFFSET	ARM	LIGHT STANDARD	POLE BASE	LUMINAIRE
16	1A1	103+36	70' RT	15'	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - 250W HPS EQUIVALENT
17	1B1	105+11	70' RT	15'	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - 250W HPS EQUIVALENT
18	1A1	105+85	49' LT	15'	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - 250W HPS EQUIVALENT
#19	N/A	104+76	62' LT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
#20	N/A	103+13	63' LT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT

W = WATT
LED = LIGHT EMITTING DIODE
# = LIGHT INSTALLED BY CITY OF NEWARK

LIGHTING SERVICE SCHEDULE

SERVICE RUN NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
CO-6	INFORMATION PROVIDED ON SHEET LI-04				
CO-8	INFORMATION PROVIDED ON SHEET LI-04				
CO-14	1	3.0"	175'	T	(2)#2 + (1)#2 GND

NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
B = BORE, T = TRENCH, O = OPEN CUT



GENERAL NOTES:

1. THESE FIXTURES WILL BE INSTALLED BY THE CITY OF NEWARK ON DELMARVA OWNED UTILITY POLES. THE CITY OF NEWARK WILL PROVIDE POWER TO THESE UTILITY POLE FIXTURES VIA A SECONDARY TRIPLEX CONNECTION.

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: GYB	
		CHECKED BY: MAW	

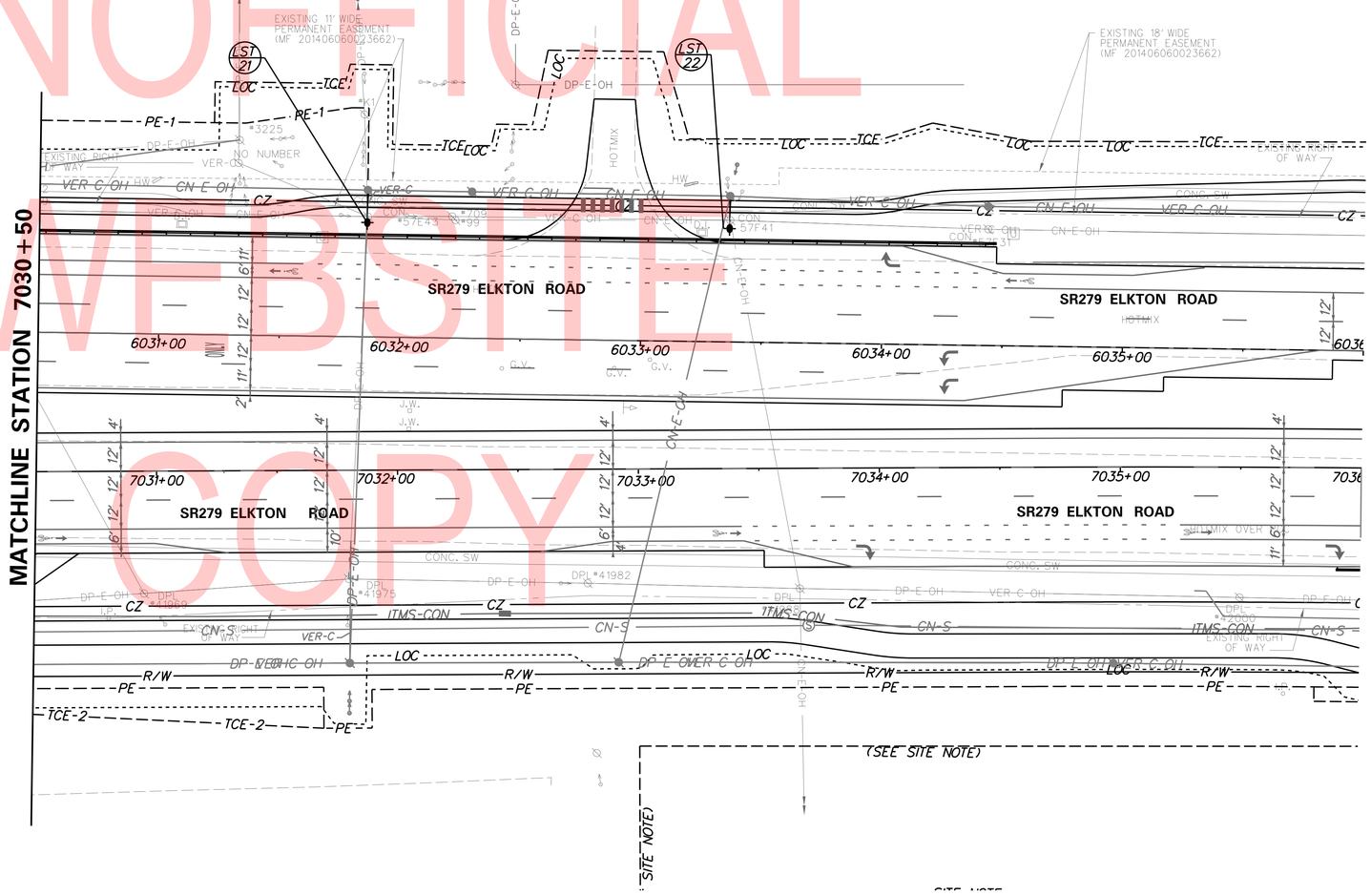
LIGHTING PLAN

	LI-04
SECTION	JMT
SHEET NO.	325

LIGHTING STANDARD SCHEDULE

NO.	CIRCUIT NO.	STATION	OFFSET	ARM	LIGHT STANDARD	POLE BASE	LUMINAIRE
#21	N/A	6031+86	61' LT	12'	UTILITY POLE (DELMARVA OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
#22	N/A	6033+36	61' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT

W = WATT
LED = LIGHT EMITTING DIODE
# = LIGHT TO BE INSTALLED BY CITY OF NEWARK



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FILE LOCATION: Q:\NJDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI.DGN [SHEET: LI05]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

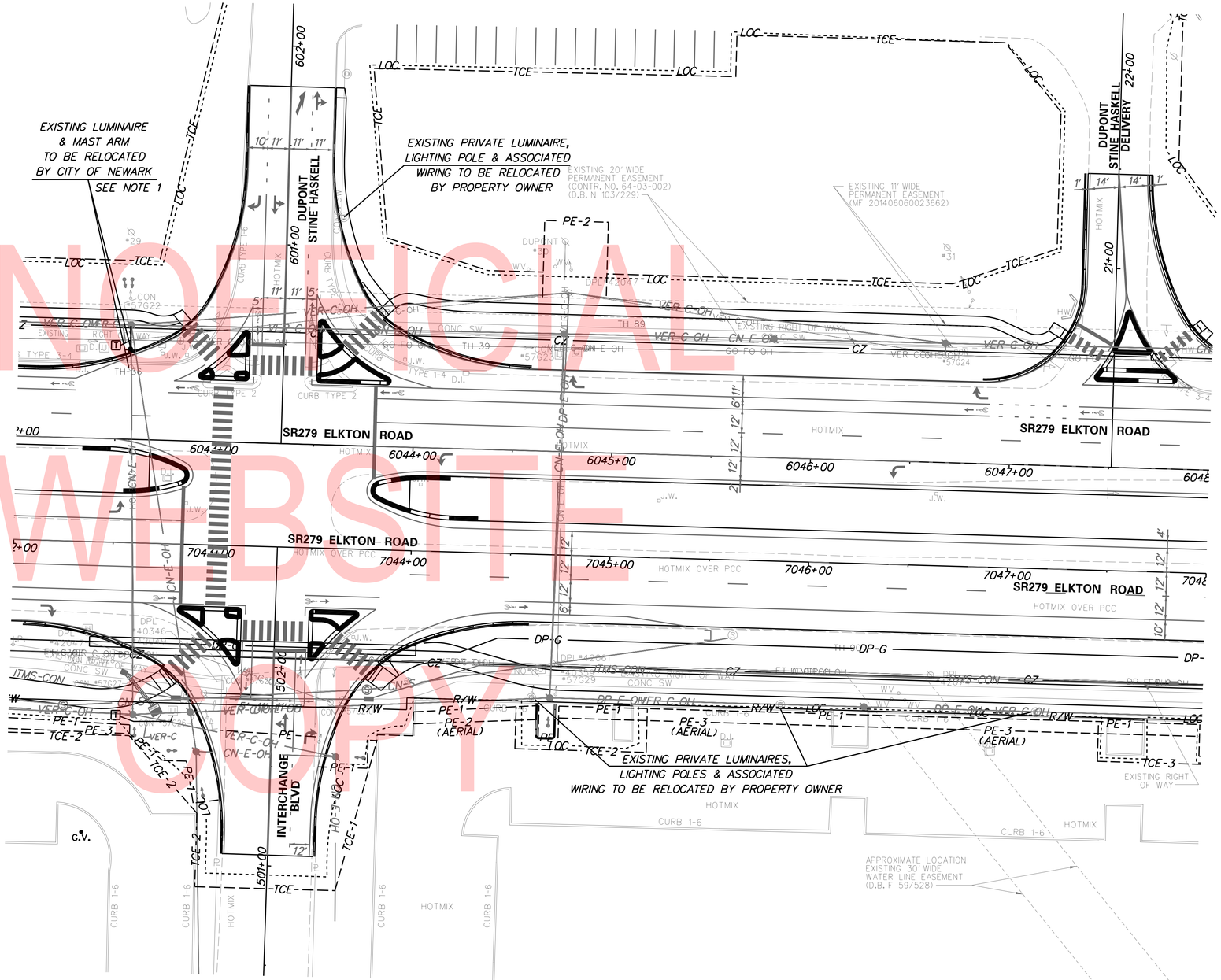
LIGHTING PLAN

LI-05

SECTION	SHEET NO.
JMT	326

NOTES:

1. CITY OF NEWARK SHOULD PROVIDE THE SAME COLOR TEMPERATURE FOR THIS LUMINAIRE, SIMILAR TO ALL THE ROADWAY FIXTURES WITHIN THE CORRIDOR.



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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB	
CHECKED BY: MAW	

LIGHTING PLAN

	LI-06
SECTION	JMT
SHEET NO.	327

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NJDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI.DGN [SHEET: LI06]

LIGHTING STANDARD SCHEDULE

NO.	CIRCUIT NO.	STATION	OFFSET	ARM	LIGHT STANDARD	POLE BASE	LUMINAIRE
23	2B1	7060+56	66' RT	15'	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - 250W HPS EQUIVALENT

W = WATT
LED = LIGHT EMITTING DIODE

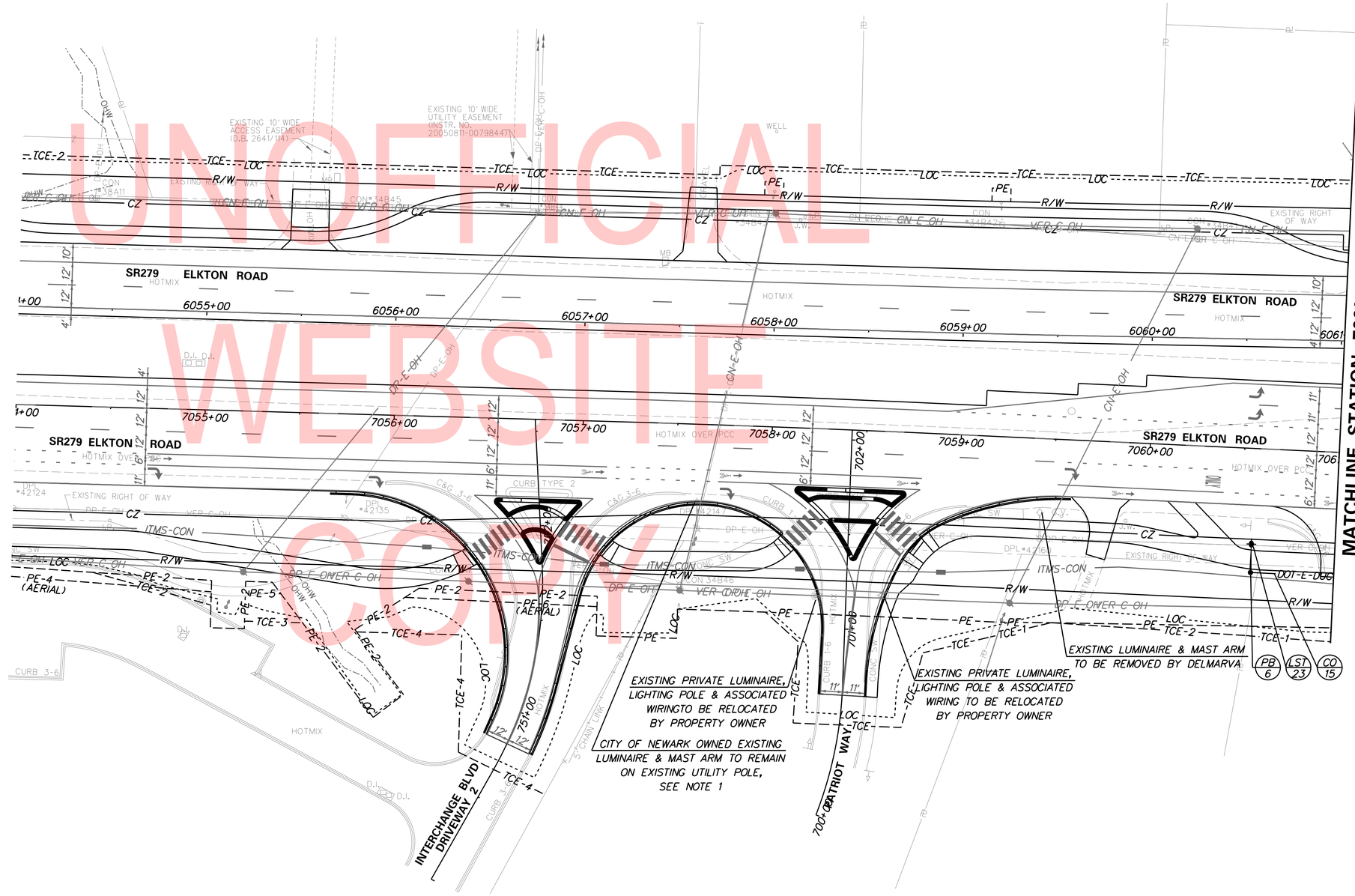
LIGHTING SERVICE SCHEDULE

SERVICE RUN NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
CO-15	1	3.0"	185'	O	(2)#6 + (1)#6 GND

NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
B = BORE, T = TRENCH, O = OPEN CUT

NOTES:

1. CITY OF NEWARK SHOULD PROVIDE THE SAME COLOR TEMPERATURE FOR THIS LUMINAIRE, SIMILAR TO ALL ROADWAY FIXTURES WITHIN THE CORRIDOR.



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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI\LDGN [SHEET: LI07]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: GYB		
CHECKED BY: MAW		

LIGHTING PLAN

LI-07	
SECTION	JMT
SHEET NO.	328

LIGHTING STANDARD SCHEDULE

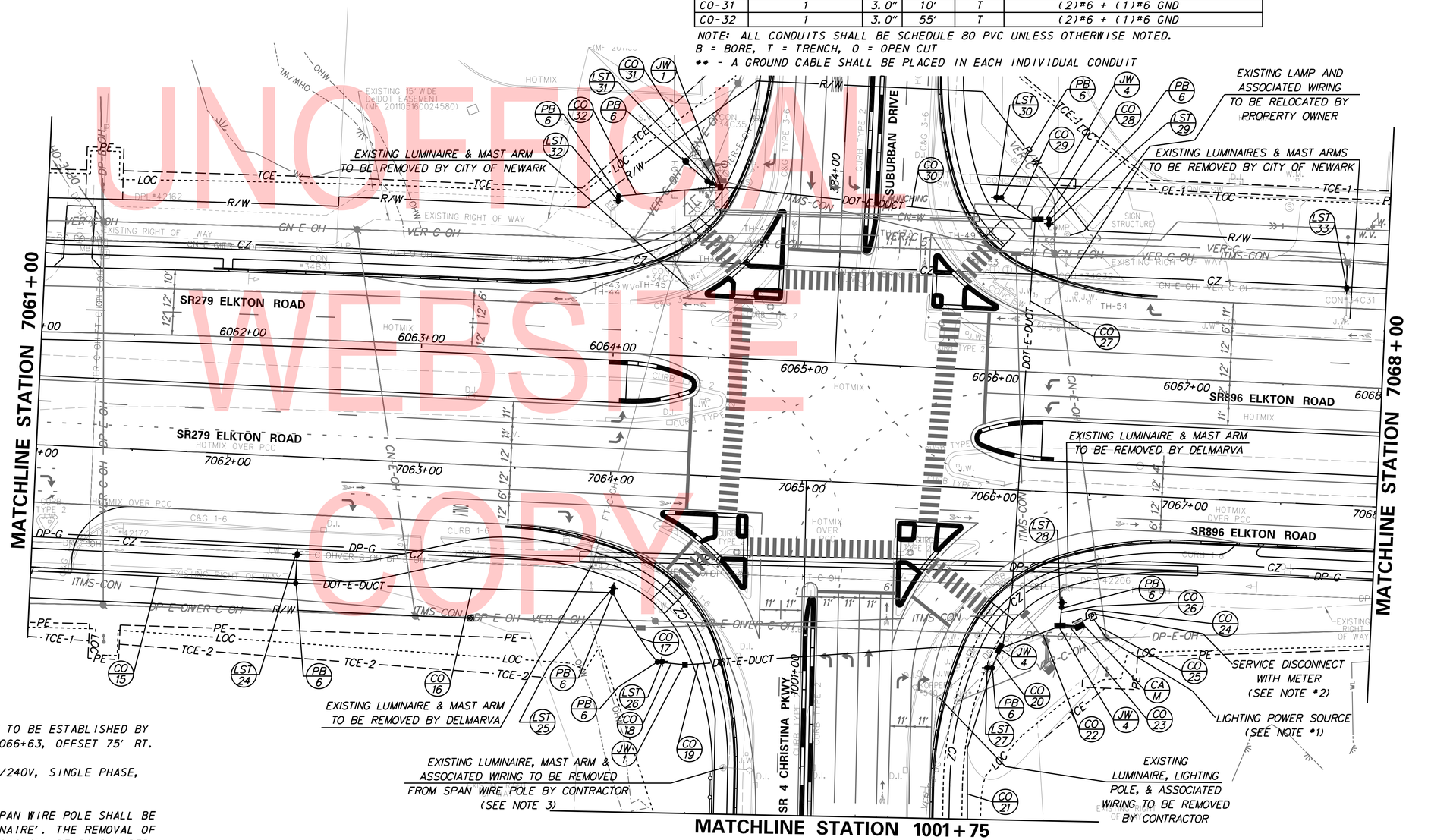
NO.	CIRCUIT NO.	STATION	OFFSET	ARM	LIGHT STANDARD	POLE BASE	LUMINAIRE
24	2A1	7062+38	66' RT	15'	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - 250W HPS EQUIVALENT
25	2B1	7064+04	63' RT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
26	2A1	1000+96	76' RT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
27	2B1	1000+97	99' LT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
28	2A1	7066+38	60' RT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
29	2A1	6066+24	80' LT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
30	2B1	384+11	83' LT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
31	2A1	384+08	71' RT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
32	2B1	6063+99	82' LT	N/A	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - SPECIAL FIXTURE
*33	N/A	6067+80	65' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT

W = WATT
LED = LIGHT EMITTING DIODE
* = LIGHT INSTALLED BY CITY OF NEWARK

LIGHTING SERVICE SCHEDULE

SERVICE RUN NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
CO-15	INFORMATION PROVIDED ON SHEET LI-08				
CO-16	1	3.0"	170'	T	(3)#6 + (1)#6 GND
CO-17	1	3.0"	45'	T	(3)#6 + (1)#6 GND
CO-18	1	3.0"	15'	T	(3)#6 + (1)#6 GND
CO-19	1 (SCH 80 HDPE)	4.0"	165'	B	(3)#6 + (1)#6 GND
CO-20	1	3.0"	15'	T	(3)#6 + (1)#6 GND
CO-21	1	3.0"	185'	T	(2)#6 + (1)#6 GND
CO-22	1	4.0"	50'	T	(3)#6 + (1)#6 GND
CO-23	3**	2.5"	10'	T	(3)#6 + (3)#6 GND
CO-24	1 (GALV. STEEL)	2.0"	10'	T	(3)#2 + (1)#2 GND
CO-25	1 (GALV. STEEL)	2.0"	15'	T	(3)#2 + (1)#2 GND
CO-26	1	3.0"	15'	T	(2)#6 + (1)#6 GND
CO-27	1 (SCH 80 HDPE)	4.0"	225'	B	(3)#6 + (1)#6 GND
CO-28	1	3.0"	5'	T	(2)#6 + (1)#6 GND
CO-29	1	3.0"	25'	T	(2)#6 + (1)#6 GND
CO-30	1 (SCH 80 HDPE)	4.0"	170'	B	(3)#6 + (1)#6 GND
CO-31	1	3.0"	10'	T	(2)#6 + (1)#6 GND
CO-32	1	3.0"	55'	T	(2)#6 + (1)#6 GND

NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
B = BORE, T = TRENCH, O = OPEN CUT
** - A GROUND CABLE SHALL BE PLACED IN EACH INDIVIDUAL CONDUIT



NOTES:

1. SECONDARY SERVICE FOR NEW LIGHTING POWER SOURCE TO BE ESTABLISHED BY THE CITY OF NEWARK AT NEW UTILITY POLE AT STATION 7066+63, OFFSET 75' RT.

2. INSTALL ELECTRICAL SERVICE ON PEDESTAL WITH 120/240V, SINGLE PHASE, THREE WIRE, 100 AMP ELECTRICAL SERVICE.

3. THE REMOVAL OF THE EXISTING LUMINAIRE FROM THE SPAN WIRE POLE SHALL BE PAID UNDER ITEM #850011 - 'REMOVAL OF EXISTING LUMINAIRE'. THE REMOVAL OF THE EXISTING LIGHTING MAST ARM AND ASSOCIATED WIRING SHALL BE PAID UNDER ITEM #211000 - 'REMOVAL OF STRUCTURES AND OBSTRUCTIONS'.

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: GYB	
		CHECKED BY: MAW	

LIGHTING PLAN

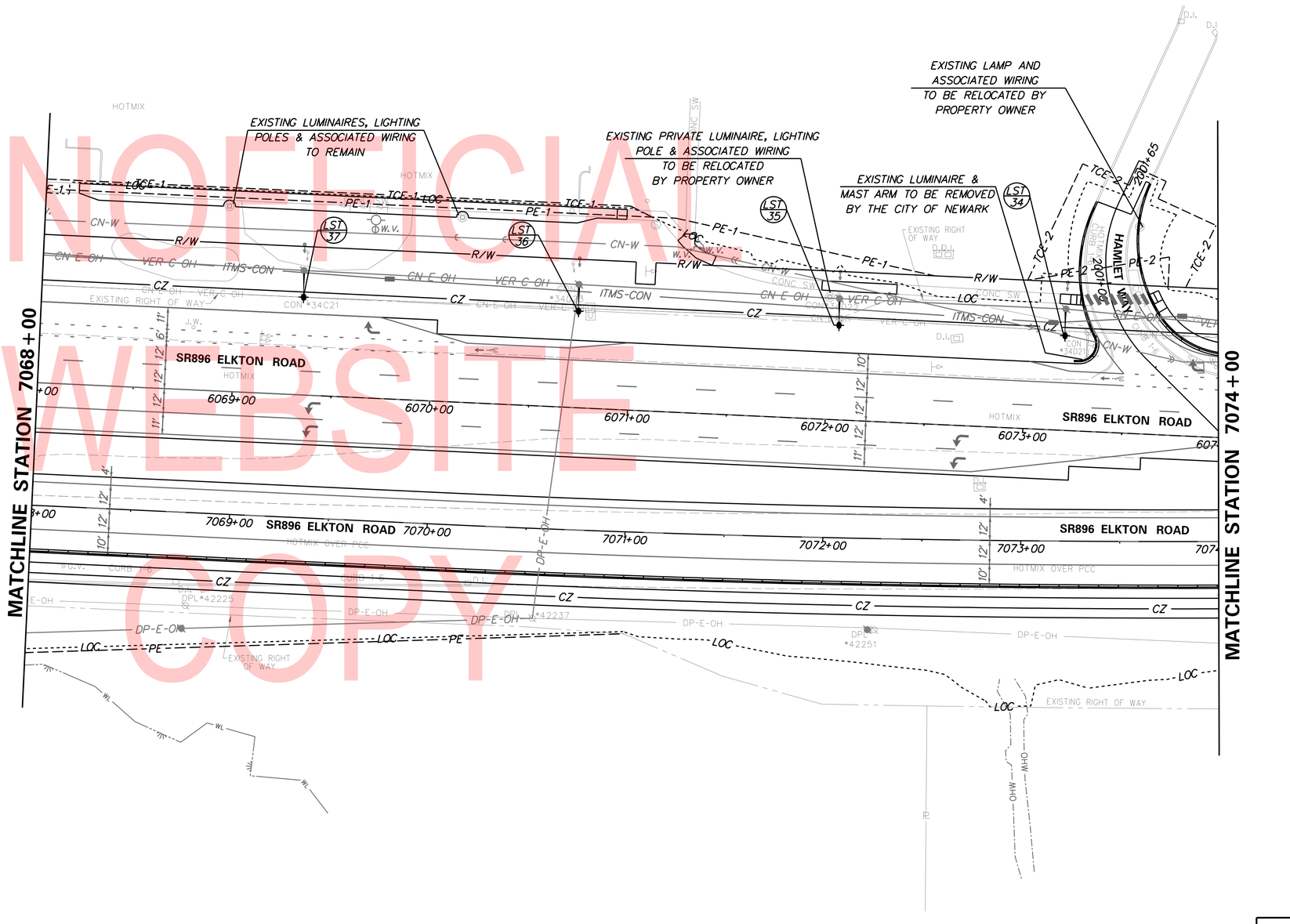
LI-08

SECTION	SHEET NO.
JMT	329

LIGHTING STANDARD SCHEDULE

NO.	CIRCUIT NO.	STATION	OFFSET	ARM	LIGHT STANDARD	POLE BASE	LUMINAIRE
*34	N/A	6073+19	61' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*35	N/A	6072+04	61' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*36	N/A	6070+73	62' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*37	N/A	6069+34	63' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT

W = WATT
LED = LIGHT EMITTING DIODE
* = LIGHT INSTALLED BY CITY OF NEWARK



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FILE LOCATION: Q:\NJDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI.DGN [SHEET: LI09]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB	
CHECKED BY: MAW	

LIGHTING PLAN

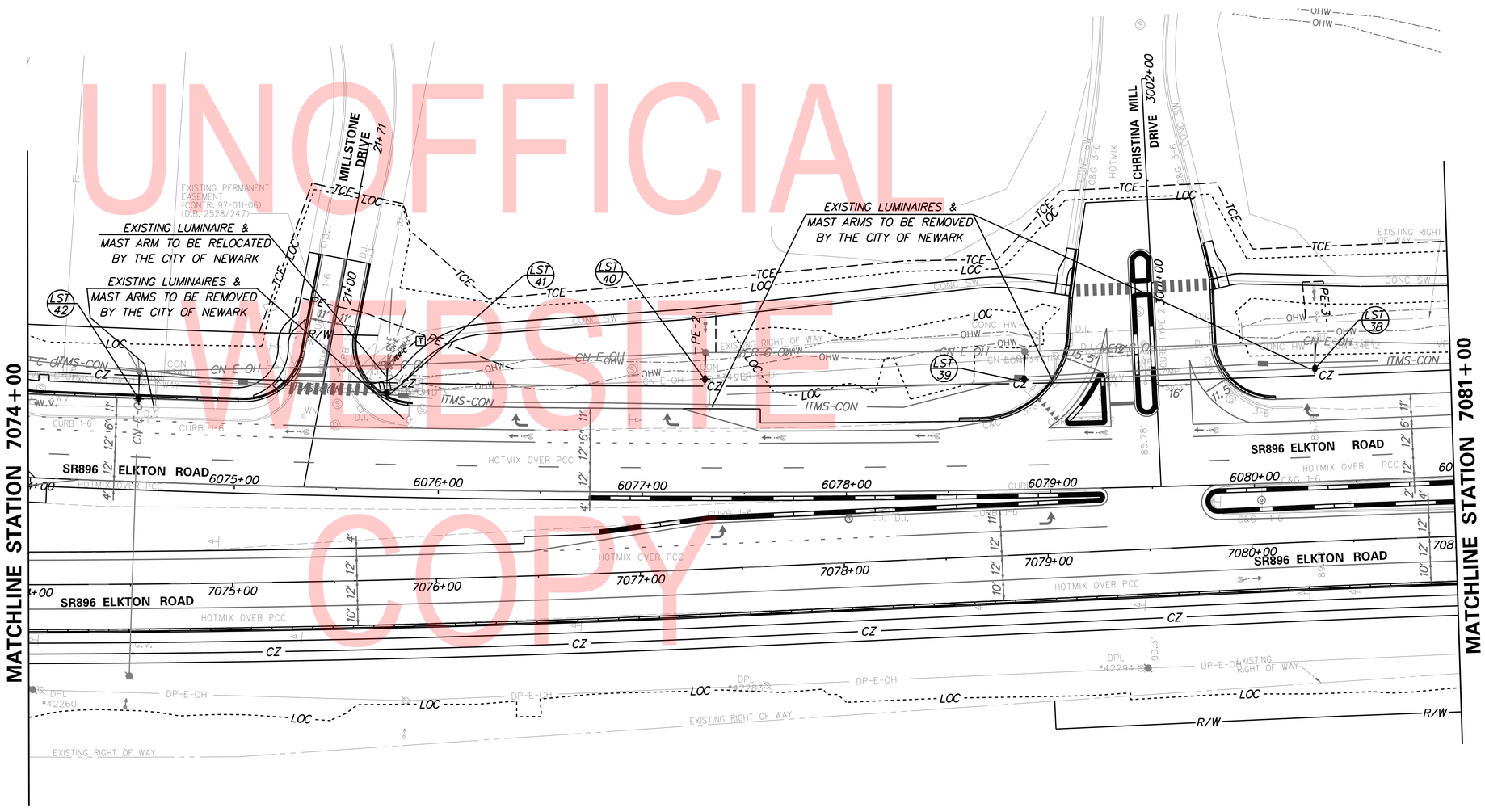
LI-09

SECTION	JMT
SHEET NO.	330

LIGHTING STANDARD SCHEDULE

NO.	CIRCUIT NO.	STATION	OFFSET	ARM	LIGHT STANDARD	POLE BASE	LUMINAIRE
*38	N/A	6080+33	69' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*39	N/A	6078+89	68' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*40	N/A	6077+31	69' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*41	N/A	6075+74	61' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*42	N/A	6074+51	54' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT

W = WATT
LED = LIGHT EMITTING DIODE
* = LIGHT TO BE INSTALLED BY CITY OF NEWARK



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FILE LOCATION: Q:\NJDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI\DGN [SHEET: LI10]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

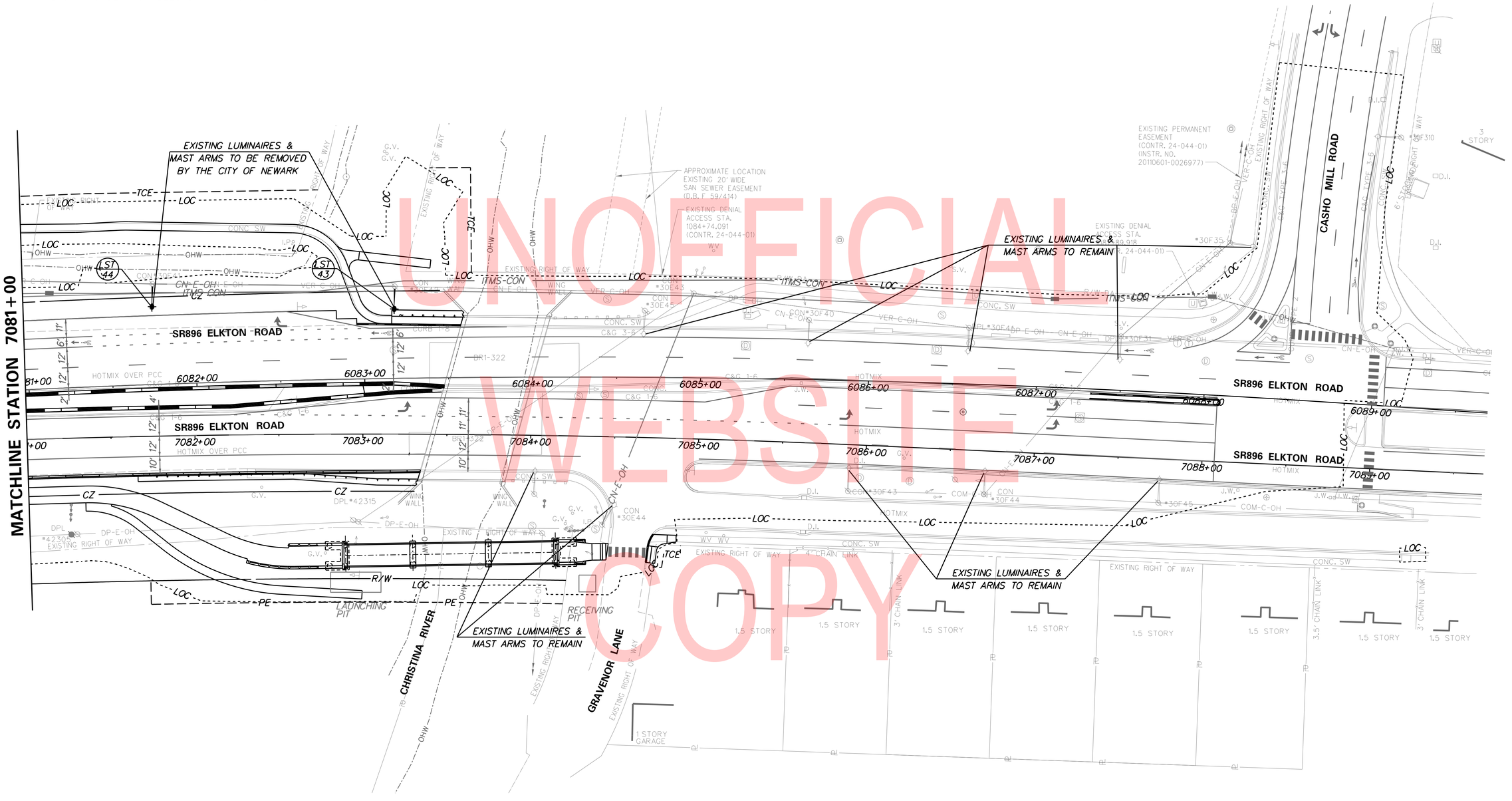
LIGHTING PLAN

LI-10	
SECTION	JMT
SHEET NO.	331

LIGHTING STANDARD SCHEDULE

NO.	CIRCUIT NO.	STATION	OFFSET	ARM	LIGHT STANDARD	POLE BASE	LUMINAIRE
*43	N/A	6083+19	55' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT
*44	N/A	6081+76	60' LT	12'	UTILITY POLE (CITY OF NEWARK OWNED)	N/A	LED LUMINAIRE - 250W HPS EQUIVALENT

W = WATT
LED = LIGHT EMITTING DIODE
* = LIGHT TO BE INSTALLED BY CITY OF NEWARK



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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI.DGN [SHEET: LI11]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

LIGHTING PLAN

LI-11
SECTION
JMT
SHEET NO.
332

LIGHTING STANDARD SCHEDULE

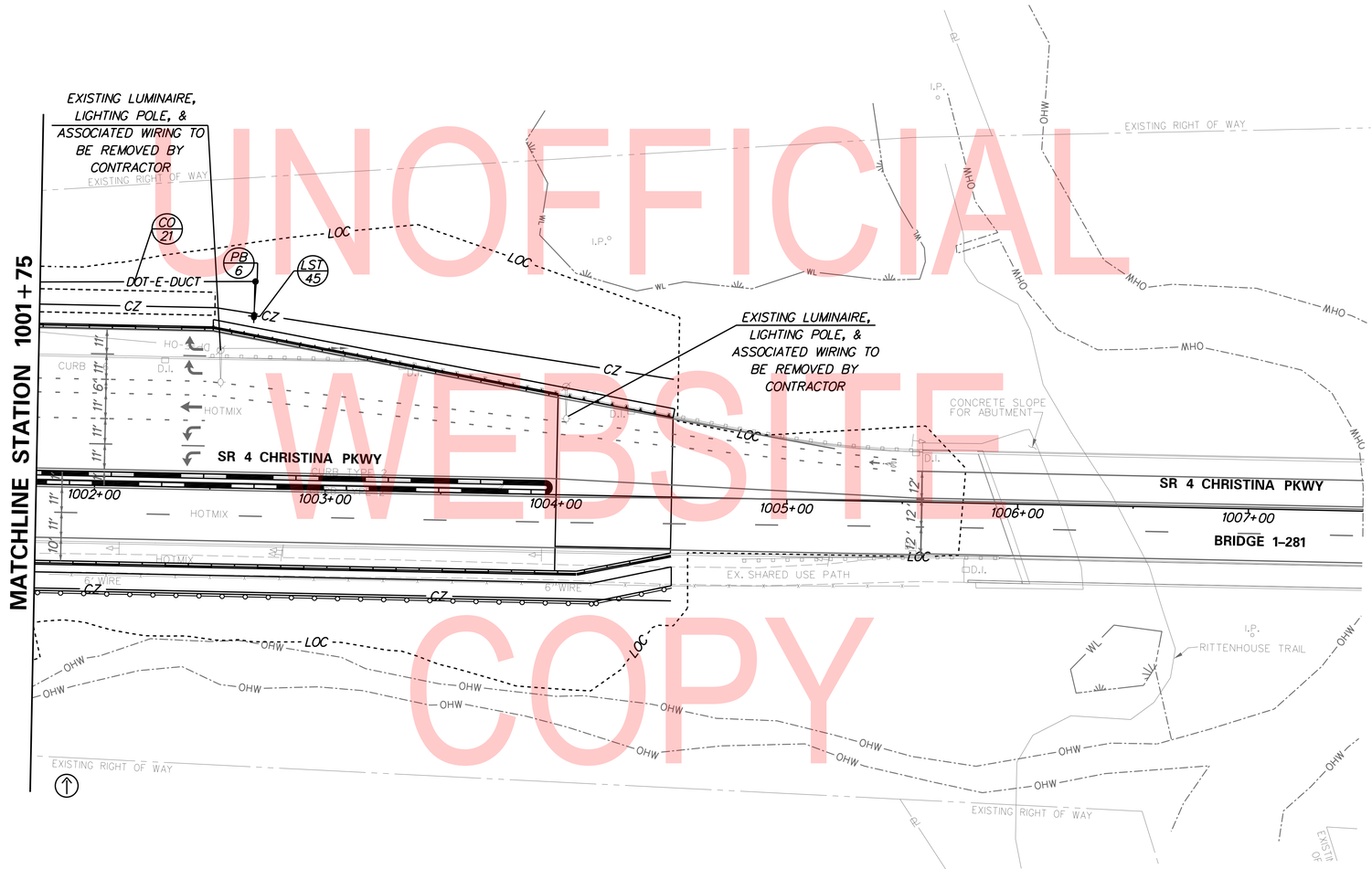
NO.	CIRCUIT NO.	STATION	OFFSET	ARM	LIGHT STANDARD	POLE BASE	LUMINAIRE
45	2A1	1002+68	90' LT	15'	30' ALUMINUM LIGHT POLE	TYPE 6	LED LUMINAIRE - 250W HPS EQUIVALENT

W = WATT
LED = LIGHT EMITTING DIODE

LIGHTING SERVICE SCHEDULE

SERVICE RUN NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
CO-21	INFORMATION PROVIDED ON SHEET LI-09				

NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
B = BORE, T = TRENCH, O = OPEN CUT



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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI.DGN [SHEET: LI12]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB	
CHECKED BY: MAW	

LIGHTING PLAN

	LI-12
SECTION	JMT
SHEET NO.	333

GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL BE PERFORMED AND ALL MATERIAL PROVIDED SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION, TO ALL LOCAL AND SPECIAL LAWS, AND/OR TO ORDINANCES GOVERNING SUCH MATERIAL. CODE SHALL BE CONSIDERED THE MINIMUM REQUIREMENTS FOR THE ELECTRICAL WORK AND IF THERE IS A CONFLICT BETWEEN THE REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS AND THE CODE, THE MORE STRINGENT REQUIREMENT WILL APPLY AS DETERMINED AND APPROVED BY THE ENGINEER. WHEN THESE REQUIREMENTS DO NOT GOVERN, AND WHERE NOT OTHERWISE SPECIFIED, ELECTRICAL MATERIALS SHALL CONFORM TO THE STANDARDIZATION RULES OF THE INSTITUTE OF ELECTRICAL ENGINEERS.

2. CONDUIT RUNS ARE SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL LOCATE THE CONDUIT RUNS IN A MANNER THAT AVOIDS CONFLICTS WITH ALL EXISTING AND PROPOSED FEATURES AS APPROVED BY THE ENGINEER.

3. THE CONTRACTOR SHALL PROVIDE AND SECURE ALL ELECTRICAL INSPECTIONS AS REQUIRED AND PAY FOR THE SAME.

4. THE ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK MATERIAL AND LABOR TO BE FREE FROM DEFECTS FOR A ONE YEAR PERIOD FROM THE TIME OF OWNER ACCEPTANCE. ANY DEFECTS OCCURING DURING THIS PERIOD SHALL BE CORRECTED BY THE ELECTRICAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT SITE PRIOR TO WORK.

6. WORK INCLUDES FURNISHING LABOR, MATERIAL, EQUIPMENT AND SERVICE NECESSARY AND INCIDENTAL TO PROPER COMPLETION OF THE ELECTRICAL WORK AS SHOWN. MINOR ITEMS, ACCESSORIES OR DEVICES NECESSARY FOR COMPLETION AND PROPER OPERATION OF ANY SYSTEM SHALL BE PROVIDED WHETHER OR NOT THEY ARE SPECIFICALLY CALLED FOR BY SPECIFICATIONS OR DRAWINGS.

7. THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL THE CONTRACTORS INVOLVED ON THIS PROJECT. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND THE GENERAL SUPERINTENDENT FOR THE LOCATIONS OF ALL CONDUITS AND POLE BASES TO ELIMINATE CONSTRUCTION CONFLICTS.

8. THE ELECTRICAL CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL NECESSARY PERMITS AND CERTIFICATES AS REQUIRED.

9. TERMINATE ALL CONDUITS WHEN ENTERING ENCLOSURES WITH LOCKNUT AND BONDING BUSHINGS. ALL OTHER CONDUITS SHALL BE PROVIDED WITH BONDING BUSHINGS. ALL CONDUITS SHALL BE BONDED WITH THE GROUND WIRE.

10. COLOR CODING SHALL BE PROVIDED THROUGHOUT THE ENTIRE NETWORK FOR SERVICE, FEEDER, BRANCH AND CONTROL CONDUCTORS. EACH PHASE SHALL BE AN INDEPENDENT COLOR. CONDUCTORS SHALL HAVE FACTORY IMPREGNATED COLOR THROUGHOUT THEIR ENTIRE LENGTH. PHASE TAPING IS NOT PERMITTED.

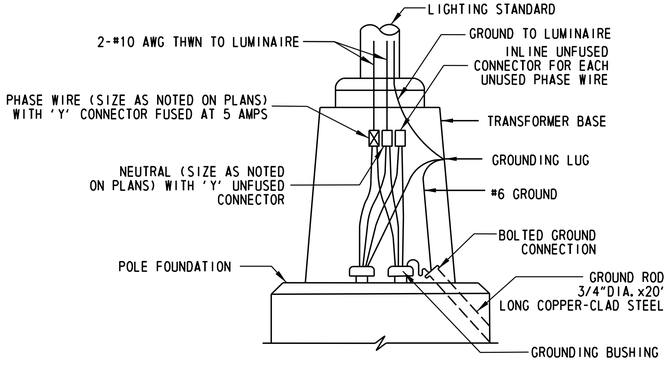
11. THE CONTRACTOR SHALL NOTIFY DELMARVA POWER TWO WEEKS IN ADVANCE TO ARRANGE FINAL POWER CONNECTIONS. CONTACT: MR. ANGEL M. COLLAZO 302-454-4370. THE CONTACT INFORMATION, AS NEEDED, FOR THE DIRECTOR OF THE CITY OF NEWARK ELECTRICAL DEPARTMENT IS: MR. RICK VITELLI, 302-366-7000 (X2083).

12. ALL FUSED CONNECTIONS SHALL BE MADE IN THE POLE BASE, UNLESS OTHERWISE NOTED. SPLICES IN JUNCTION BOXES OR PULL BOXES SHALL NOT BE FUSED EXCEPT AT NEMA 4X BOXES, IF NEEDED.

13. USE CAUTION WHEN INSTALLING CONDUITS UNDER EXISTING CULVERTS. WHEN COMPLETE, ENSURE ALL STORM WATER MANAGEMENT FACILITIES ARE RESTORED TO EXISTING CONDITIONS.

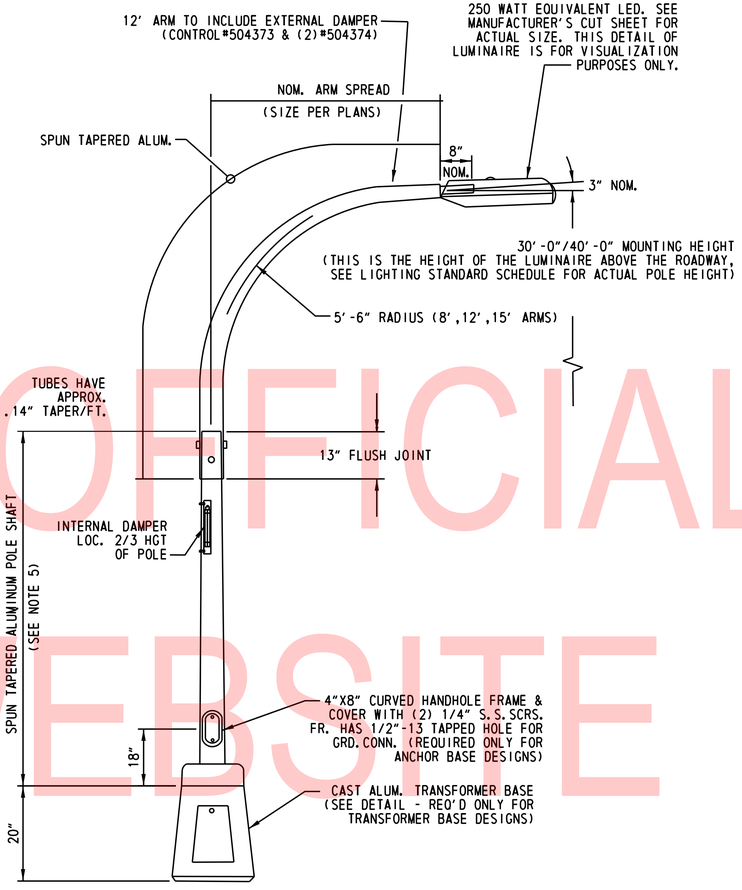
14. ALL COSTS ASSOCIATED WITH CONNECTING PROPOSED CONDUIT TO EXISTING JUNCTION WELLS OR EXISTING CONDUITS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CONDUIT BEING INSTALLED.

15. ALL COSTS ASSOCIATED WITH WELDING GROUNDING WIRE TO SHEET PILE WALLS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF INSTALLING THE CABLE.



TYPICAL LUMINAIRE CONNECTION
120/240V SERVICE

N.T.S.

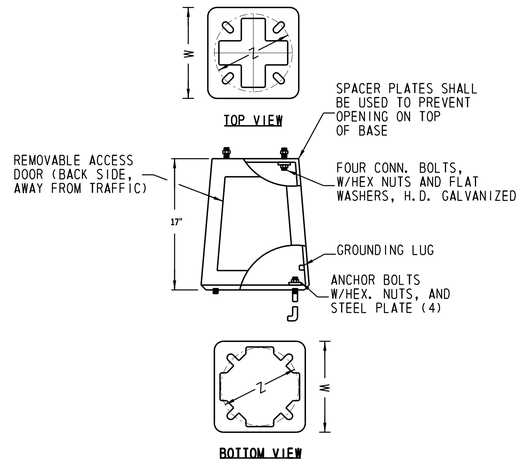


DAVIT ARM LIGHT POLE DETAIL

N.T.S.

NOTES:
1. HEAT TREAT POLE & DAVIT TO -T6, TEMPER AFTER WELDING.
2. FINISH - POLE & DAVIT SHALL BE SATIN FINISHED POLISHED AND WRAPPED.
3. DESIGNED IN ACCORDANCE WITH STANDARDS ESTABLISHED BY THE LATEST EDITION OF AASHTO REQUIREMENTS.
4. TRANSFORMER SHALL MEET THE STANDARDS ESTABLISHED BY THE LATEST EDITION OF AASHTO BREAKAWAY REQUIREMENTS.
5. DUE TO VARYING ELEVATIONS OF ROADWAY, IT MAY BE NECESSARY TO MAINTAIN A NOMINAL FIXTURE MOUNTING HEIGHT (OF 30' OR 40', AS SPECIFIED ON PLANS) ABOVE THE ROADWAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THESE MEASUREMENTS. BETWEEN TWO ADJACENT LUMINAIRES, THE DIFFERENCE IN HEIGHT SHALL NOT EXCEED 12".

MATERIAL SPECIFICATION	
POLE & DAVIT TUBES	6063-T6
ANCHOR BASE	AA356-T6
BOLT COVERS	AA356
ANCHOR BOLT NUTS	ASTM-A563 GR. A
ANCHOR BOLTS	ASTM-F1554 GR55
STN. STL. HARDWARE	AISI-300 SERIES STN. STL.
TRANSFORMER BASE	AA356-T6
T-BASE HARDWARE	ASTM-A325 GALV.



LIGHTING STRUCTURE ON BREAKAWAY TRANSFORMER BASE

N.T.S.

MOUNTING HEIGHT	ARM LENGTH	MIN WIDTH 'W'	BOLT DIA.	BOLT CIRCLE 'Z'
LESS THAN 40'	LESS THAN 30'	13"	1"	13 ½"

NOTES:
1. ALUMINUM TRANSFORMER BASE SHALL MEET 1985 AASHTO BREAKAWAY REQUIREMENTS
2. BREAKAWAY TRANSFORMER BASES SHALL BE INSTALLED WITH ALL POLES, UNLESS OTHERWISE NOTED.
3. OPENING OF TRANSFORMER BASE ACCESS DOOR SHALL BE INSTALLED ON THE SIDE OF THE POLE FACING AWAY FROM TRAFFIC.
4. PROVIDE ACCESSIBLE GROUNDING NUT OR LUG INSIDE TRANSFORMER BASE.
5. PROVIDE WASHERS, SHIMS AND BOLTS AS REQUIRED BY TRANSFORMER BASE MANUFACTURER.
6. THE CONTACT AREA BETWEEN THE TRANSFORMER BASE AND CONCRETE FOUNDATION SHALL BE SHOP COATED WITH COAL TAR EPOXY MEETING SSPC-PAINT 16 SPECIFICATIONS. THE THICKNESS OF THE COATING SHALL BE BETWEEN 6 AND 8 MILS. THE COATING SHALL BE COMPLETELY DRY BEFORE INSTALLATION. THE TOP OF THE FOUNDATION SHALL NOT BE PAINTED.
7. TOP AND BOTTOM OF BASE MAY BE SLOTTED FOR BOLT CIRCLE. SLOT MUST ACCOMMODATE DIMENSION SHOWN.
8. TRANSFORMER BASE AND ASSOCIATED COMPONENTS SHALL MEET THE FOLLOWING MATERIAL REQUIREMENTS:

MATERIAL SPECIFICATION	
POLE & DAVIT TUBES	6063-T6
ANCHOR BASE	AA356-T6
BOLT COVERS	AA356
ANCHOR BOLT NUTS	ASTM-A563 GR. A
ANCHOR BOLTS	ASTM-F1554 GR55
STN. STL. HARDWARE	AISI-300 SERIES SST
TRANSFORMER BASE	AA356-T6
T-BASE HARDWARE	ASTM-A325 GALV.

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI.DGN

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

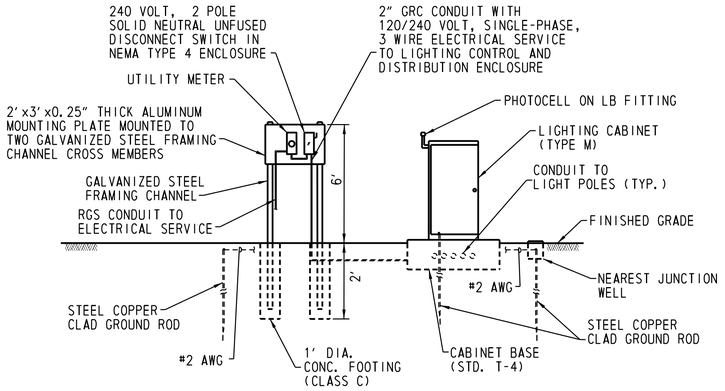
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: GYB	CHECKED BY: MAW

LIGHTING PLAN

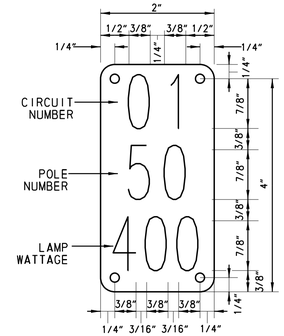
LI-13

SECTION JMT

SHEET NO. 334



ELECTRICAL UTILITY SERVICE EQUIPMENT
AND LIGHTING CONTROL
AND DISTRIBUTION ENCLOSURE DETAIL



TYPICAL POLE
IDENTIFICATION TAG

NOTES:

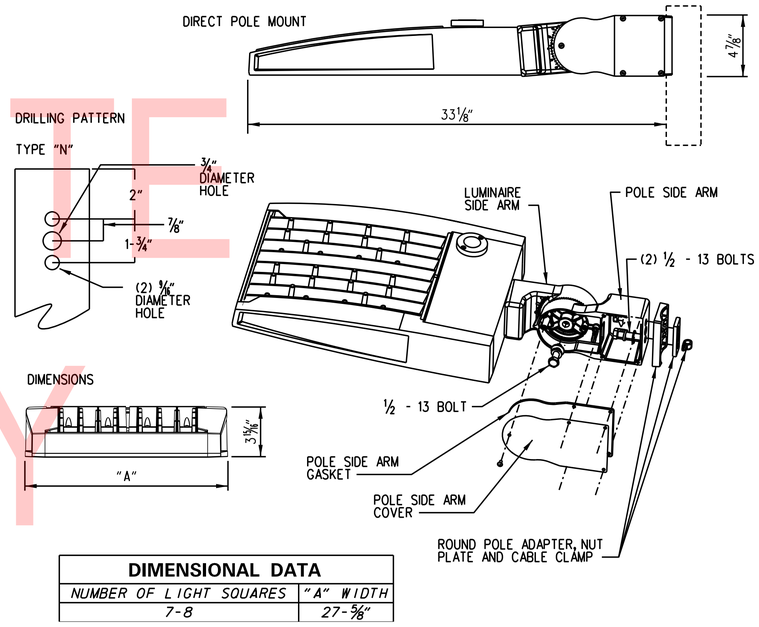
1. IDENTIFICATION TAG SHALL BE INSTALLED ON THE SIDE OF THE POLE FACING AWAY FROM TRAFFIC.

2. POLE ARMS SHALL BE ALIGNED PERPENDICULAR TO THE EDGE OF TRAVELEDWAY, UNLESS OTHERWISE DIRECTED.

3. THE OUTER SLEEVE MEMBER AT THE LIGHT STANDARD FLUSH JOINT SHALL BE FURNISHED WITH PREDRILLED THROUGH HOLES AT 90 DEGREES APART (MIN. 6" DISTANCE BETWEEN HOLES). THE INNER MEMBER SHALL BE DRILLED IN THE FIELD AFTER THE POLE SHAFT IS INSTALLED AND THE DAVIT ARM IS ALIGNED.

4. LAMP TYPE, WATTAGE AND HORIZONTAL DISTRIBUTION TYPE SHALL BE AS SPECIFIED ON THE PLANS. ALL LUMINAIRES SHALL BE MOUNTED AT A ZERO DEGREE TILT ANGLE. PHOTOCELL AS REQUIRED PER PLANS.

5. LUMINAIRES SHALL HAVE CUTOFF OPTICS, AND BE LABELLED WITH AN IDENTIFICATION STICKER IN ACCORDANCE WITH NEMA CONVENTIONS.



DIMENSIONAL DATA	
NUMBER OF LIGHT SQUARES	"A" WIDTH
7-8	27-5/8"

LED LUMINAIRE - SPECIAL FIXTURE DETAIL
N. T. S.

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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

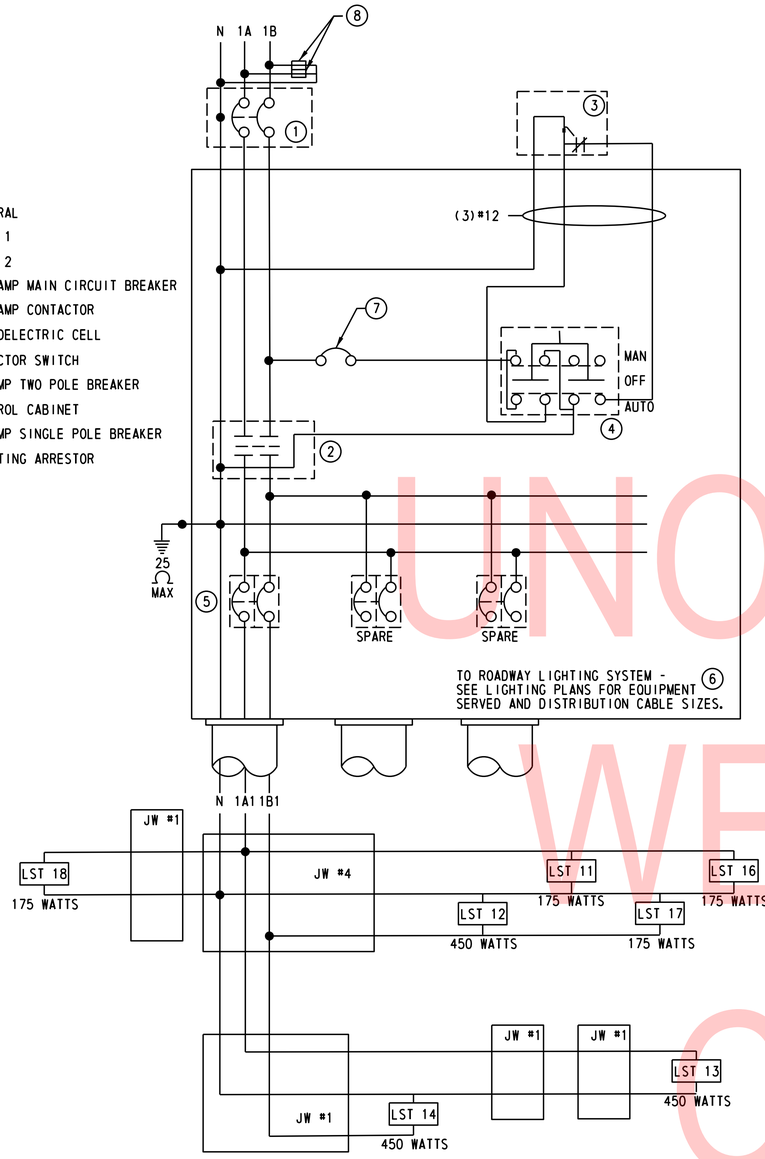
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

LIGHTING PLAN

LI-14	
SECTION	JMT
SHEET NO.	335

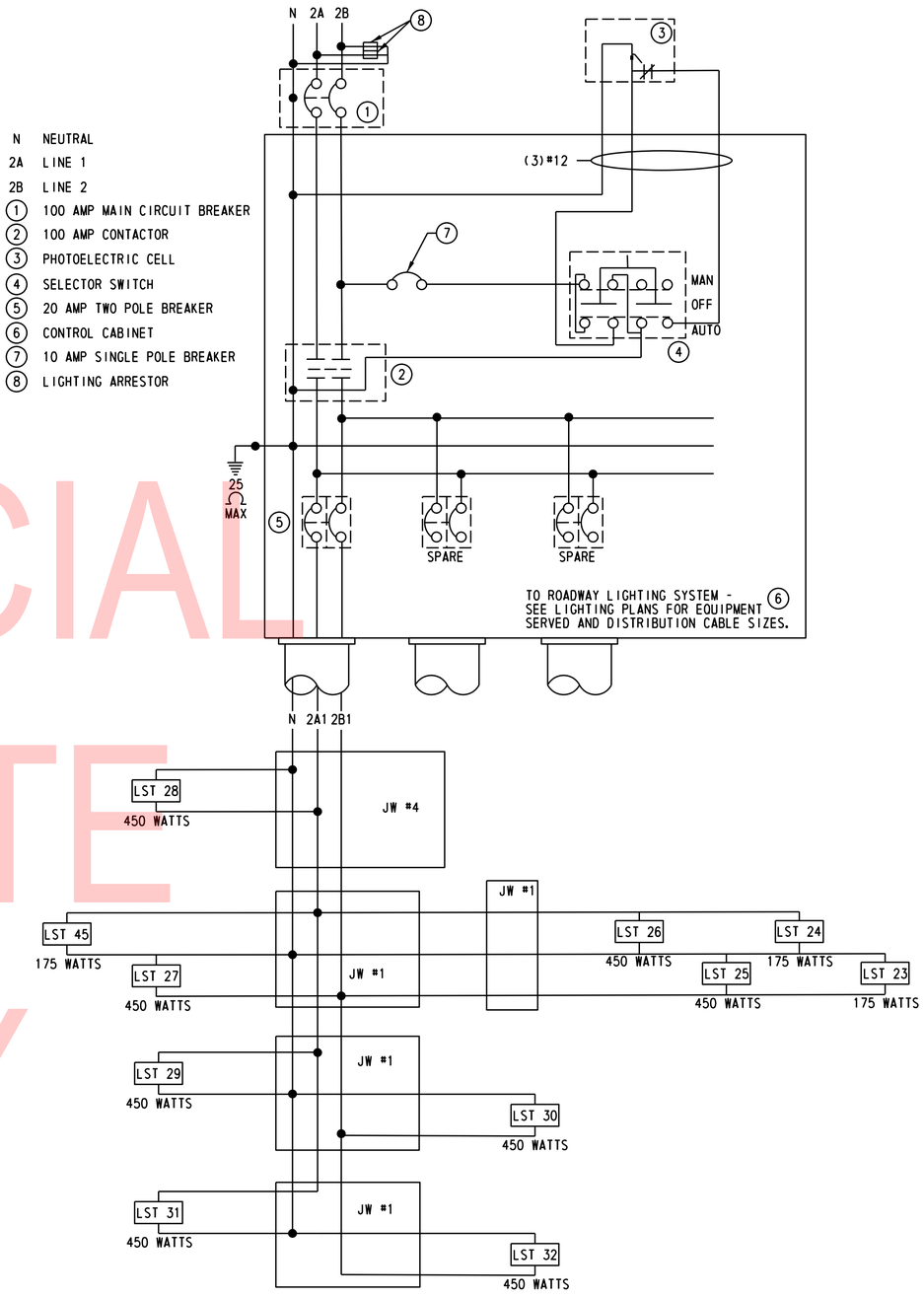
N NEUTRAL
1A LINE 1
1B LINE 2
(1) 100 AMP MAIN CIRCUIT BREAKER
(2) 100 AMP CONTACTOR
(3) PHOTOELECTRIC CELL
(4) SELECTOR SWITCH
(5) 20 AMP TWO POLE BREAKER
(6) CONTROL CABINET
(7) 10 AMP SINGLE POLE BREAKER
(8) LIGHTING ARRESTOR



PROPOSED LOAD CENTER CABINET
(LOCATED AT OTTS CHAPEL ROAD INTERSECTION)
SCHEMATIC WIRING DIAGRAM POWERING
LIGHTS #11-#14, & #16-#18

N. T. S.

N NEUTRAL
2A LINE 1
2B LINE 2
(1) 100 AMP MAIN CIRCUIT BREAKER
(2) 100 AMP CONTACTOR
(3) PHOTOELECTRIC CELL
(4) SELECTOR SWITCH
(5) 20 AMP TWO POLE BREAKER
(6) CONTROL CABINET
(7) 10 AMP SINGLE POLE BREAKER
(8) LIGHTING ARRESTOR



PROPOSED LOAD CENTER CABINET
(LOCATED AT SR 4-CHRISTIANA PARKWAY INTERSECTION)
SCHEMATIC WIRING DIAGRAM POWERING
LIGHTS #23-#32, & #45

N. T. S.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\LI.DGN [SHEET: LI15]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

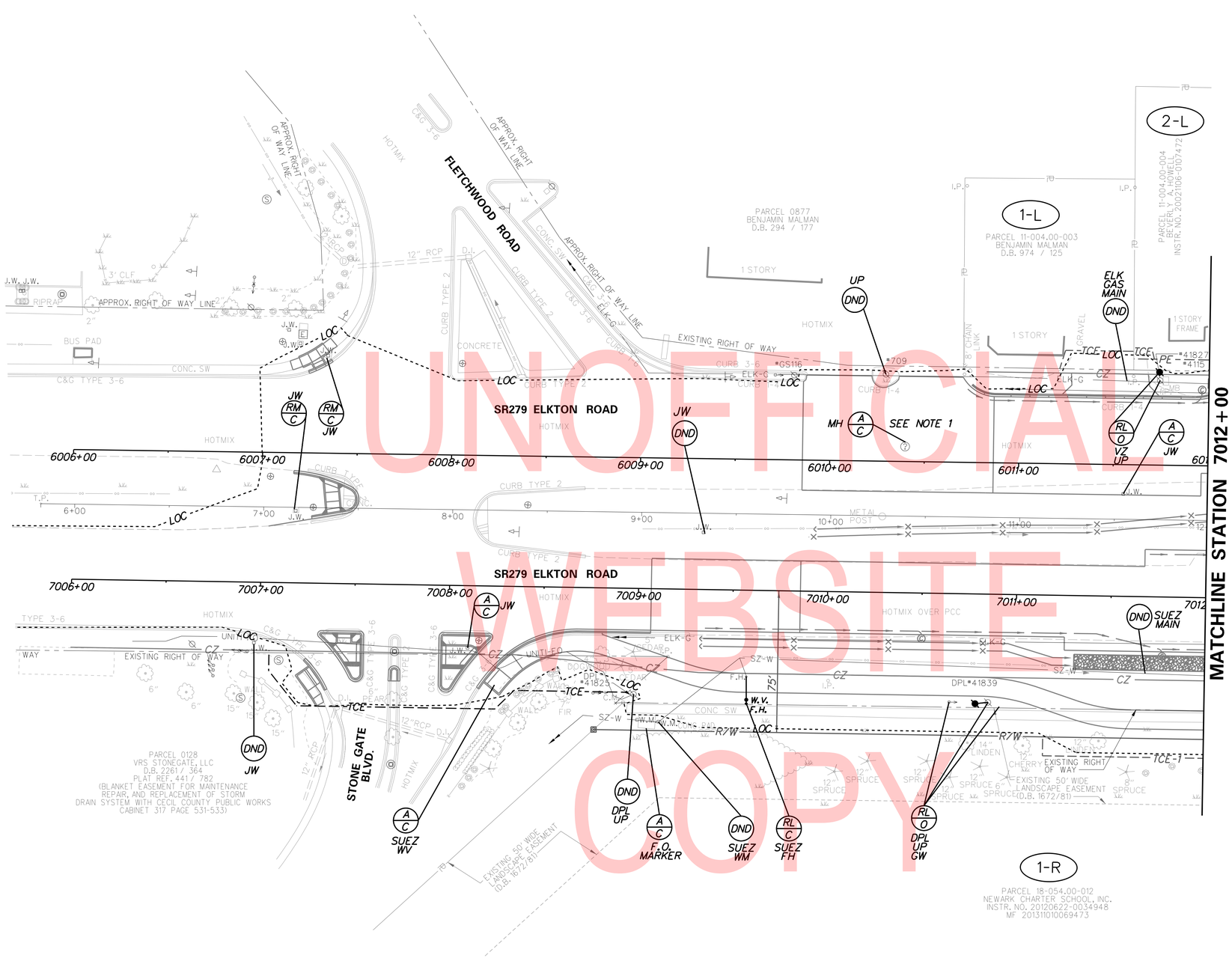
NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

LIGHTING PLAN

LI-15	
SECTION	JMT
SHEET NO.	336



NOTES:

1. EXISTING MANHOLE IS OVER MASON-DIXON STONE MONUMENT. STONE MONUMENT SHALL NOT BE DISTRUBED.

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NOTE

IN AREAS WHERE TREES WILL BE LOCATED ADJACENT TO AERIAL UTILITY LINES, TRIMMING MAY BE NECESSARY TO ACHIEVE A RADIAL CLEAR SPACE OF 10' FROM THE AERIAL UTILITY. THE CONTRACTOR SHALL TRIM THE EXISTING TREE BRANCHES, WHICH EXIST WITHIN THE 10' RADIAL DISTANCE OF THE AERIAL UTILITY LINE, IN ACCORDANCE WITH I.S.A. STANDARDS. THE CONTRACTOR SHALL NOTIFY DELDOT'S ROADSIDE ENVIRONMENTALIST, DARIN CALLAWAY AT (302) 760-2186 AND/OR HIS DESIGNEE, AT LEAST TWO (2) DAYS PRIOR TO THE PRUNING OPERATION. ALL COSTS ASSOCIATED WITH THE ABOVE WORK TO BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.

GENERAL WATER AND SANITARY NOTES

1. ALL SANITARY SEWER FORCE MAINS AND GRAVITY MAINS SHALL BE INSTALLED PER PROFILES INCLUDED IN CONTRACT PLANS.

2. ALL WATER MAINS SHALL BE INSTALLED PER PROFILES INCLUDED IN CONTRACT PLANS.

3. MAINTAIN A MINIMUM HORIZONTAL DISTANCE OF 10-FEET OR A VERTICAL SEPARATION OF 18-INCHES BETWEEN ALL WATER MAINS AND SEWER MAINS UNLESS OTHERWISE SPECIFIED ON THE PLANS.

UT-01

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

UTILITY RELOCATION PLAN

SECTION	JMT
SHEET NO.	337

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-1	SUEZ WATER	7012+13.47	41.59	132.61	4.53'	12" PL.
TH-2	ELKTON GAS	7012+13.68	24.51	130.91	3.11'	4" X.S.
TH-3	ELKTON GAS	7013+01.86	24.09	129.03	3.99'	4" X.S.
TH-4	DELMARVA GAS	6013+15.69	-37.23	128.43	3.30'	1.5" STL.
TH-5	ELKTON GAS	7013+36.78	-41.21	125.55	3.82	8" STL. CASING
TH-6	SUEZ WATER	7015+01.80	41.12	121.37	3.47'	12" PL.

SANITARY MANHOLE SCHEDULE

NO.	STATION	TYPE/SIZE	RIM EL.	T.G. EL.	INV. EL.	NORTHING	EASTING
SM-1	0+00.0	48" ROUND (CLEAN-OUT)	125.03	124.53	119.67	602956.21	551790.06
SM-2	1+31.7	60" ROUND (AIR RELEASE)	121.98	121.48	115.96	603019.43	551902.00
SM-3	1+97.3	48" ROUND (CLEAN-OUT)	120.65	120.15	115.24	603075.14	551867.36
SM-4	2+58.6	84"x36" (JUNCTION CHAMBER)	117.61	117.11	113.42	603131.04	551892.51

SANITARY PIPE SCHEDULE

NO.	SIZE/TYPE	LENGTH	SLOPE (FT/FT)	INV. EL.	DIS. EL.
SP-1	4" CLASS 52 DIP	131'	N/A	119.70	115.96
SP-2	4" CLASS 52 DIP	66'	N/A	115.96	115.24
SP-3	4" CLASS 52 DIP	62'	N/A	113.42	113.42
SP-4	1.5" IPS HDPE DR-11	85'	N/A	113.42	106.65
SP-5	4" CLASS 52 DIP	247'	N/A	113.42	106.65

GENERAL WATER AND SANITARY NOTES

1. ALL SANITARY SEWER FORCE MAINS AND GRAVITY MAINS SHALL BE INSTALLED PER PROFILES INCLUDED IN CONTRACT PLANS.

2. ALL WATER MAINS SHALL BE INSTALLED PER PROFILES INCLUDED IN CONTRACT PLANS.

3. MAINTAIN A MINIMUM HORIZONTAL DISTANCE OF 10-FEET OR A VERTICAL SEPARATION OF 18-INCHES BETWEEN ALL WATER MAINS AND SEWER MAINS UNLESS OTHERWISE SPECIFIED ON THE PLANS.

WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-7	12" CLASS 52 DIP	663'	SUEZ
WM-10*	8" CLASS 52 DIP	172'	SUEZ
WM-11	12" CLASS 52 DIP	47'	SUEZ
WM-12**	6" CLASS 52 DIP	150'	SUEZ
WM-13	6" CLASS 52 DIP	65'	SUEZ
WM-16	12" CLASS 52 DIP	17'	SUEZ

*OPEN CUT AND JACK AND BORE WITH 16"x3/8"x149' STEEL CASING PIPE. SEE PROFILE.
**OPEN CUT AND JACK AND BORE WITH 12"x3/8"x145' STEEL CASING PIPE. SEE PROFILE.

WATER ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
2	12" M.J. PIPE CAP	5
4	VERTICAL 12" BEND, 45 DEGREES	2
5	HORIZONTAL 12" BEND, 45 DEGREES	5
6	12" GATE VALVE W/C.I. BOX AND COVER	3
7	6" GATE VALVE W/C.I. BOX AND COVER	2
8	12"x6" TEE	1
10	CONNECT TO EX. 6" MAIN W/M.J. SLEEVE	1
12	FIRE HYDRANT, 6" GATE VALVE W/C.I. BOX AND COVER, 12"x6" TEE	1
13	VERTICAL 12" BEND, 11.25 DEGREES	2
14	HORIZONTAL 12" BEND, 11.25 DEGREES	2
16	VERTICAL 8" BEND, 45 DEGREES	2
17	VERTICAL 6" BEND, 11.25 DEGREES	2
19	CONNECT TO EX. 12" MAIN W/M.J. SLEEVE	2
20	12"x8" TEE	1
21	8" GATE VALVE W/C.I. BOX AND COVER	1
22	HORIZONTAL 12" BEND, 22.5 DEGREES	4
23	12"x12" TEE	2
27	8"x8" WET TAP WITH 8" GATE VALVE W/C.I. BOX AND COVER	1
28	HORIZONTAL 6" BEND, 90 DEGREES	2
29	2" TEMPORARY BLOW OFF TO BE CONVERTED TO A 2" SERVICE	1

SANITARY ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
1	CONNECT TO EX. 4" MAIN W/M.J. SLEEVE	1
2	HORIZONTAL 4" BEND, 90 DEGREES	1
3	4" M.J. PIPE CAP	1
4	VERTICAL 4" BEND, 11.25 DEGREES	2
5	VERTICAL 4" BEND, 45 DEGREES	4
6	HORIZONTAL 4" BEND, 45 DEGREES	2
7	HORIZONTAL 4" BEND, 22.5 DEGREES	1
8	HORIZONTAL 4" BEND, 11.25 DEGREES	3
9	1.5" M.J. PIPE CAP	1
10	CONNECT TO EX. 1.5" MAIN W/M.J. SLEEVE	1
11	2" M.J. PIPE CAP	1
12	CONNECT TO EX. 2" MAIN W/M.J. SLEEVE	1
13	4"x1.5" PVC REDUCER	1
14	4"x2" PVC REDUCER	1
15	4"x4" DI TEE	2
16	HORIZONTAL 1.5" BEND, 45 DEGREES	2

NOTE

IN AREAS WHERE TREES WILL BE LOCATED ADJACENT TO AERIAL UTILITY LINES, TRIMMING MAY BE NECESSARY TO ACHIEVE A RADIAL CLEAR SPACE OF 10' FROM THE AERIAL UTILITY. THE CONTRACTOR SHALL TRIM THE EXISTING TREE BRANCHES, WHICH EXIST WITHIN THE 10' RADIAL DISTANCE OF THE AERIAL UTILITY LINE, IN ACCORDANCE WITH I.S.A. STANDARDS. THE CONTRACTOR SHALL NOTIFY DELDOT'S ROADSIDE ENVIRONMENTALIST, DARIN CALLAWAY AT (302) 760-2186 AND/OR HIS DESIGNEE, AT LEAST TWO (2) DAYS PRIOR TO THE PRUNING OPERATION. ALL COSTS ASSOCIATED WITH THE ABOVE WORK TO BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.

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ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

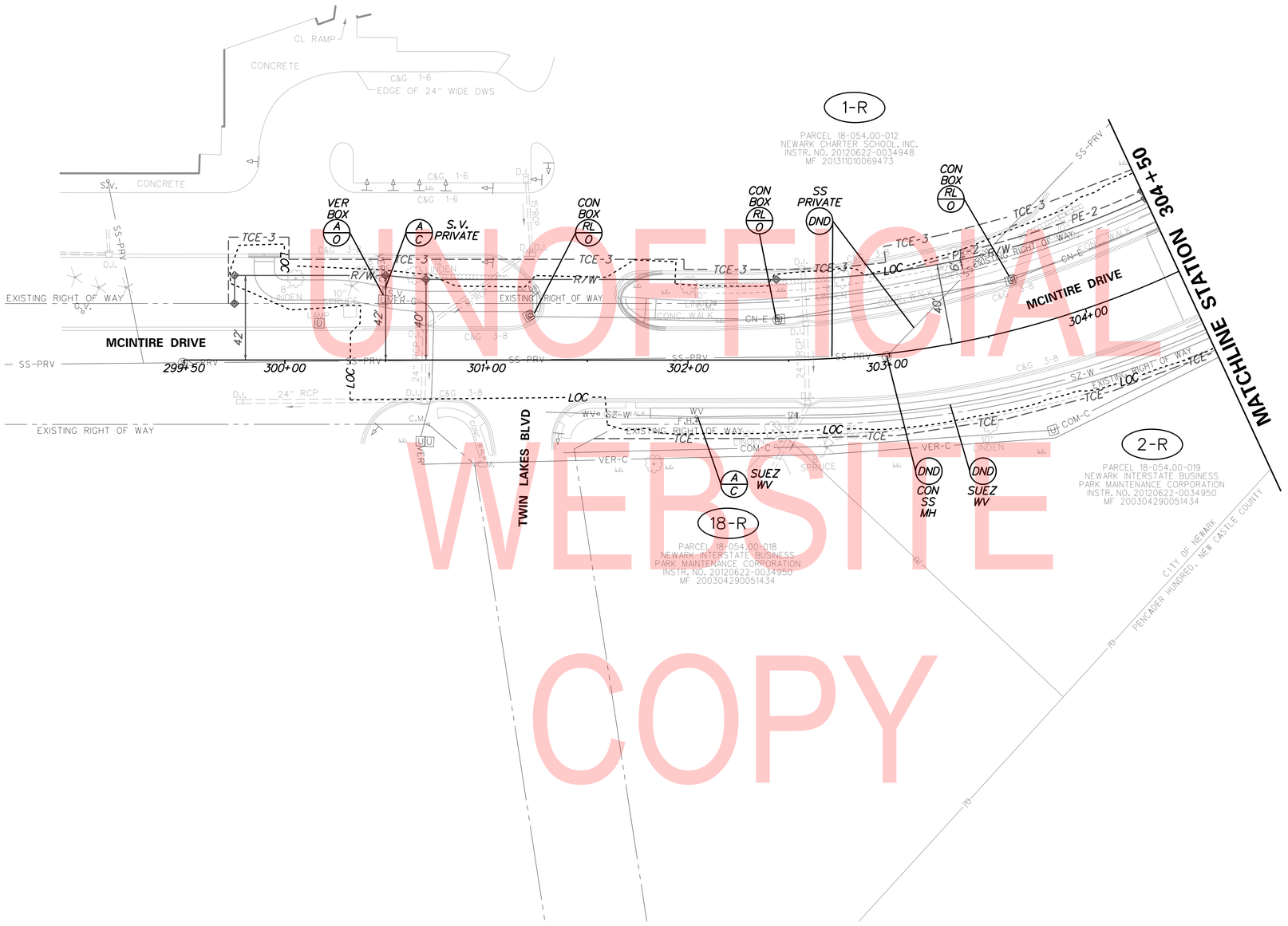
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

UT-02 | SECTION JMT | SHEET NO. 338

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT02]



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GENERAL WATER AND SANITARY NOTES

1. ALL SANITARY SEWER FORCE MAINS AND GRAVITY MAINS SHALL BE INSTALLED PER PROFILES INCLUDED IN CONTRACT PLANS.

2. ALL WATER MAINS SHALL BE INSTALLED PER PROFILES INCLUDED IN CONTRACT PLANS.

3. MAINTAIN A MINIMUM HORIZONTAL DISTANCE OF 10-FEET OR A VERTICAL SEPARATION OF 18-INCHES BETWEEN ALL WATER MAINS AND SEWER MAINS UNLESS OTHERWISE SPECIFIED ON THE PLANS.

NOTE

IN AREAS WHERE TREES WILL BE LOCATED ADJACENT TO AERIAL UTILITY LINES, TRIMMING MAY BE NECESSARY TO ACHIEVE A RADIAL CLEAR SPACE OF 10' FROM THE AERIAL UTILITY. THE CONTRACTOR SHALL TRIM THE EXISTING TREE BRANCHES, WHICH EXIST WITHIN THE 10' RADIAL DISTANCE OF THE AERIAL UTILITY LINE, IN ACCORDANCE WITH I.S.A. STANDARDS. THE CONTRACTOR SHALL NOTIFY DELDOT'S ROADSIDE ENVIRONMENTALIST, DARIN CALLAWAY AT (302) 760-2186 AND/OR HIS DESIGNEE, AT LEAST TWO (2) DAYS PRIOR TO THE PRUNING OPERATION. ALL COSTS ASSOCIATED WITH THE ABOVE WORK TO BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT03]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P	**UTILITY RELOCATION PLAN**
T201504401	DESIGNED BY: LB		SECTION: JMT
COUNTY: NEW CASTLE	CHECKED BY: BPH		SHEET NO.: 339

UT-03

SANITARY MANHOLE SCHEDULE

NO.	STATION	TYPE/SIZE	RIM EL.	T.G. EL.	INV. EL.	NORTHING	EASTING
SM-5	5+05.5	48" ROUND (CLEAN-OUT)	111.65	111.15	106.65	603319.95	552051.46
SM-6	6+65.5	48" ROUND (CLEAN-OUT)	103.51	103.01	87.62	603437.10	552201.16
SM-7	9+06.6	48" ROUND (CLEAN-OUT)	104.05	102.55	87.62	603606.60	552326.87
SM-8	9+55.5	48" ROUND (CLEAN-OUT)	105.51	100.48	95.95	603654.16	552332.79

SANITARY PIPE SCHEDULE

NO.	SIZE/TYPE	LENGTH	SLOPE (FT/FT)	INV. EL.	DIS. EL.
SP-6	4" CLASS 52 DIP	160'	N/A	106.65	87.62
SP-7	4" IPS HDPE DR-11*	241'	N/A	87.62	87.62
SP-8	4" CLASS 52 DIP	53'	N/A	87.62	95.95

* DIRECTIONAL DRILL WITH 8" IPS HDPE DR-11 CASING PIPE

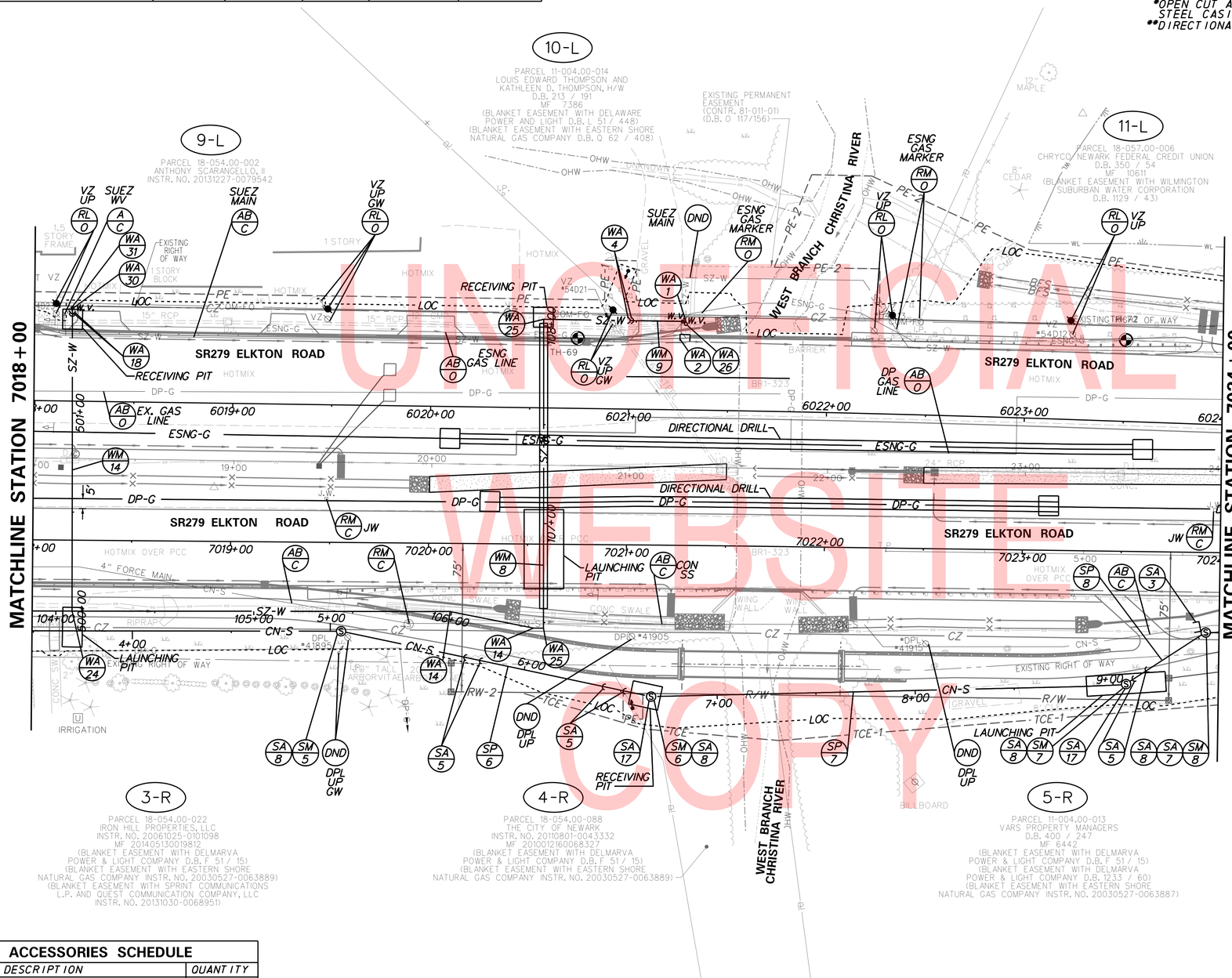
WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-8*	12" CLASS 52 DIP	138'	SUEZ
WM-9	12" CLASS 52 DIP	74'	SUEZ
WM-14**	1.5" PE DR-9	157'	SUEZ

*OPEN CUT AND JACK AND BORE WITH 20"x3/8"x138' STEEL CASING PIPE. SEE PROFILE.
**DIRECTIONAL DRILL WITH 2"x146' DR-11 PE CASING PIPE.

WATER ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
1	12"x12" WET TAP WITH 12" GATE VALVE W/C.I. BOX AND COVER	1
2	12" M.J. PIPE CAP	1
4	VERTICAL 12" BEND, 45 DEGREES	2
14	HORIZONTAL 12" BEND, 11.25 DEGREES	2
18	VERTICAL 1.5" BEND, 45 DEGREES	2
24	1.5" SERVICE TAP ON 12" MAIN	1
25	HORIZONTAL 12" BEND, 90 DEGREES	2
26	12" INSERTION VALVE W/C.I. BOX AND COVER	3
30	1.5" CURB STOP	1
31	CONNECT TO EX. 1.5" MAIN W/SLEEVE	1



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SANITARY ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
3	4" M.J. PIPE CAP	1
5	VERTICAL 4" BEND, 45 DEGREES	6
7	HORIZONTAL 4" BEND, 22.5 DEGREES	1
8	HORIZONTAL 4" BEND, 11.25 DEGREES	4
17	HDPE TO DIP TRANSITION COUPLING	2

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-69	SUEZ WATER	6020+73.83	-35.45	107.66	3.13'	12" PL.
TH-72	ESNG	6023+50.00	-41.08	104.74	6.70'	4" STL.

GENERAL WATER AND SANITARY NOTES

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2. ALL WATER MAINS SHALL BE INSTALLED PER PROFILES INCLUDED IN CONTRACT PLANS.
3. MAINTAIN A MINIMUM HORIZONTAL DISTANCE OF 10-FEET OR A VERTICAL SEPARATION OF 18-INCHES BETWEEN ALL WATER MAINS AND SEWER MAINS UNLESS OTHERWISE SPECIFIED ON THE PLANS.

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

UTILITY RELOCATION PLAN

UT-04
SECTION JMT
SHEET NO. 340

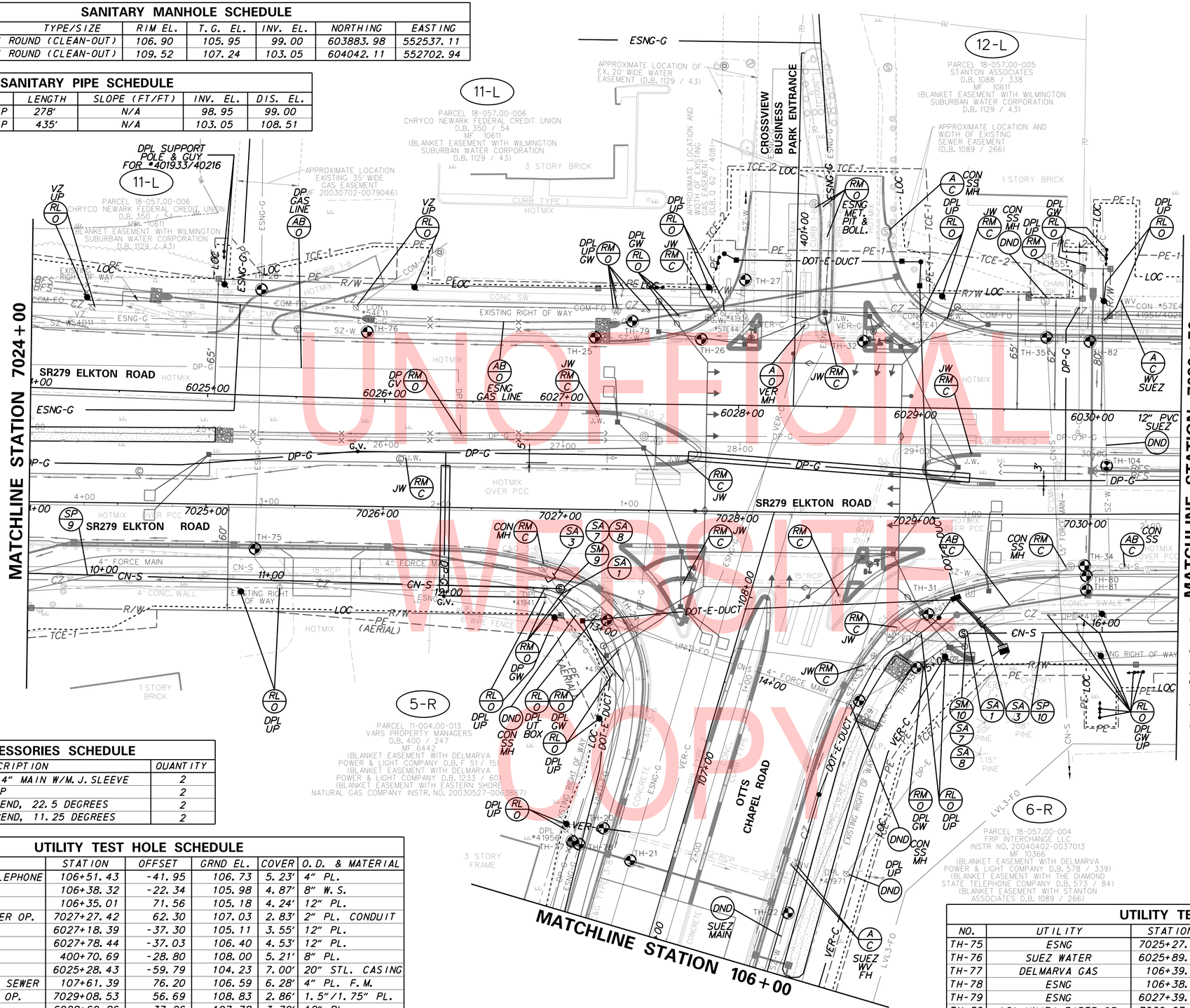
PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT04]

SANITARY MANHOLE SCHEDULE

NO.	STATION	TYPE/SIZE	RIM EL.	T.G. EL.	INV. EL.	NORTHING	EASTING
SM-9	12+65.8	48" ROUND (CLEAN-OUT)	106.90	105.95	99.00	603883.98	552537.11
SM-10	15+29.5	48" ROUND (CLEAN-OUT)	109.52	107.24	103.05	604042.11	552702.94

SANITARY PIPE SCHEDULE

NO.	SIZE/TYPE	LENGTH	SLOPE (FT/FT)	INV. EL.	DIS. EL.
SP-9	4" CLASS 52 DIP	278'	N/A	98.95	99.00
SP-10	4" CLASS 52 DIP	435'	N/A	103.05	108.51



SANITARY ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
1	CONNECT TO EX. 4" MAIN W/M.J. SLEEVE	2
3	4" M.J. PIPE CAP	2
7	HORIZONTAL 4" BEND, 22.5 DEGREES	2
8	HORIZONTAL 4" BEND, 11.25 DEGREES	2

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-20	(2) VERIZON TELEPHONE	106+51.43	-41.95	106.73	5.23'	4" PL.
TH-21	ESNG	106+38.32	-22.34	105.98	4.87'	8" W.S.
TH-22	SUEZ	106+35.01	71.56	105.18	4.24'	12" PL.
TH-24	(4) UNITI FIBER OP.	7027+27.42	62.30	107.03	2.83'	2" PL. CONDUIT
TH-25	SUEZ	6027+18.39	-37.30	105.11	3.55'	12" PL.
TH-26	SUEZ	6027+78.44	-37.03	106.40	4.53'	12" PL.
TH-27	SUEZ	400+70.69	-28.80	108.00	5.21'	8" PL.
TH-28	ESNG	6025+28.43	-59.79	104.23	7.00'	20" STL. CASING
TH-29	CITY OF NEWARK SEWER	107+61.39	76.20	106.59	6.28'	4" PL. F.M.
TH-31	UNITI FIBER OP.	7029+08.53	56.69	108.83	2.86'	1.5"/1.75" PL.
TH-32	SUEZ	6028+69.86	-37.26	107.78	3.79'	12" PL.
TH-33	CITY OF NEWARK SEWER	7029+02.31	86.92	106.84	5.84'	4" PL. F.M.
TH-34	CITY OF NEWARK SEWER	7029+96.29	29.03	110.19	6.70'	4" PL. F.M.
TH-35	CITY OF NEWARK SEWER	6029+73.55	-40.69	108.38	3.58'	3" PL. F.M.

GENERAL WATER AND SANITARY NOTES

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UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-75	ESNG	7025+27.99	24.77	104.66	5.42'	16" STL.
TH-76	SUEZ WATER	6025+89.16	-37.66	103.98	3.38'	12" PL.
TH-77	DELMARVA GAS	106+39.30	-56.92	104.99	4.01'	6" PL.
TH-78	ESNG	106+38.90	-52.72	104.74	4.52'	16" STL.
TH-79	ESNG	6027+39.26	-46.72	104.84	2.93'	4" PL.
TH-80	(2) UNITI FIBER OP.	7029+97.35	34.86	110.17	3.12'	2" PL. CONDUITS
TH-81	SUEZ WATER	7029+97.31	42.69	108.23	4.13'	12" PL.
TH-82	SUEZ WATER	6029+97.94	-38.84	108.77	4.36'	12" PL.
TH-104	SUEZ WATER	7030+08.92	-27.29	108.22	1.64'	12" PL.

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

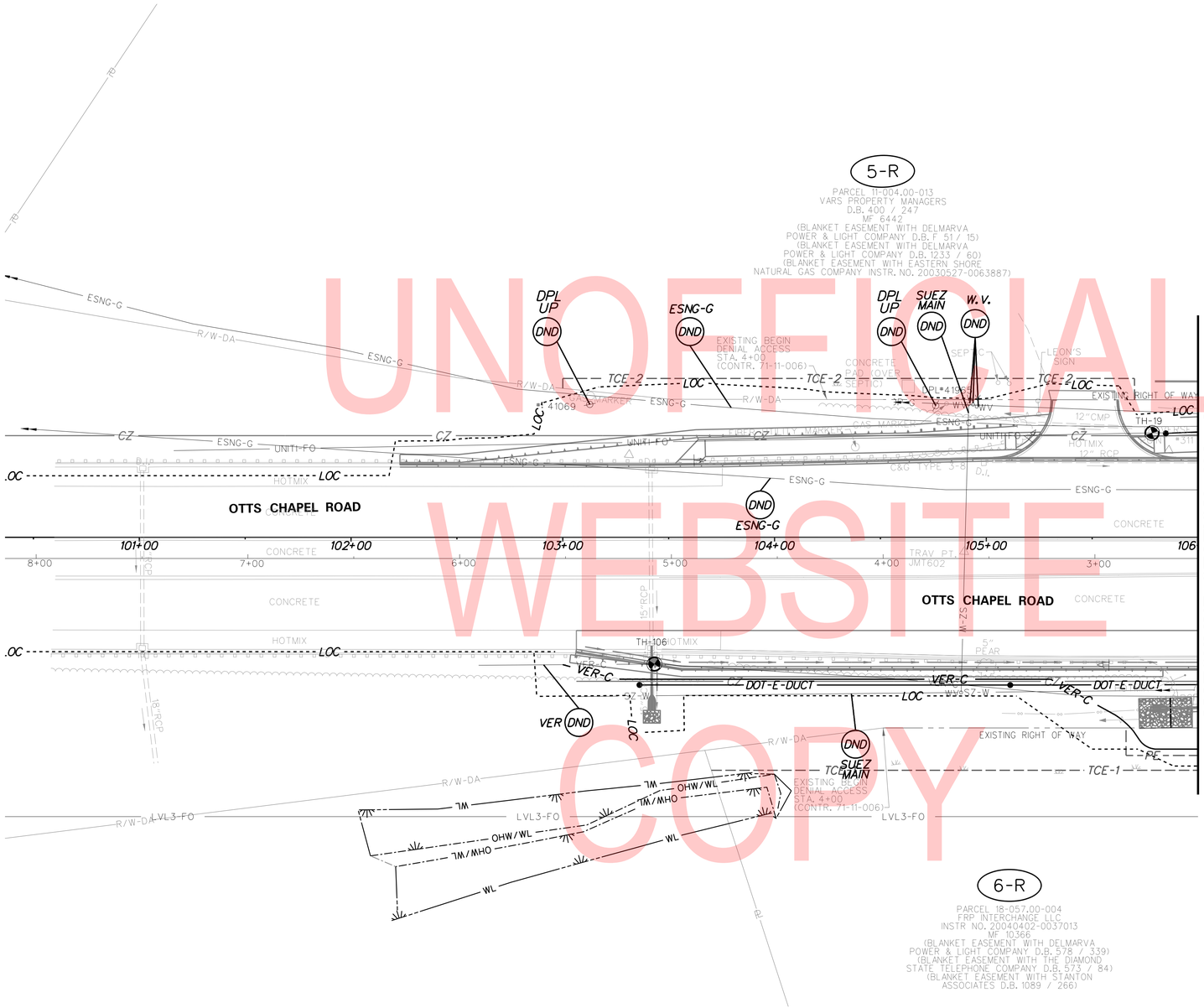
UT-05

SECTION JMT

SHEET NO. 341

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT05]

UTILITY TEST HOLE SCHEDULE						
NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-19	UNITI FIBER OP.	105+78.27	-49.25	104.85	6.39'	(2) 2" PL. CONDUIT
TH-106	VERIZON	103+43.26	59.82	111.30	2.40'	1.5" CONDUIT-TELE



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GENERAL WATER AND SANITARY NOTES

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT06]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

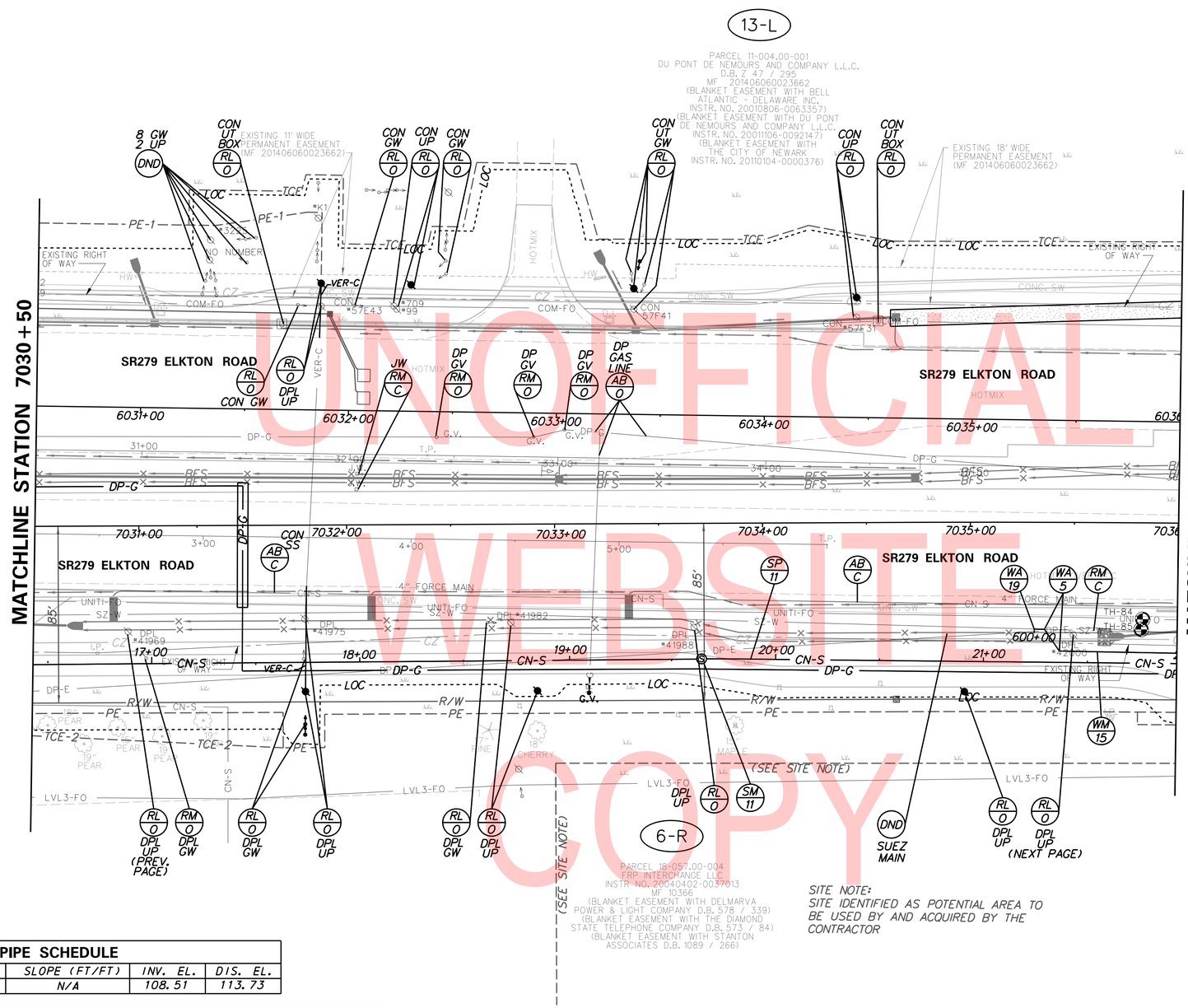
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

UT-06	
SECTION	JMT
SHEET NO.	342



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WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-15*	12" CLASS 52 DIP	96'	SUEZ

*OPEN CUT WITH 72' CONCRETE ENCASEMENT

WATER ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
5	HORIZONTAL 12" BEND, 45 DEGREES	2
19	CONNECT TO EX. 12" MAIN W/M.J. SLEEVE	1

SANITARY PIPE SCHEDULE

NO.	SIZE/TYPE	LENGTH	SLOPE (FT/FT)	INV. EL.	DIS. EL.
SP-11	4" CLASS 52 DIP	558'	N/A	108.51	113.73

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-84	(2) UNITI FIBER OP.	7035+83.19	46.40	117.40	3.15'	2" PL. CONDUIT
TH-85	(3) DP ELECTRIC	7035+82.48	51.31	115.76	4.58'	1" D.B.

SANITARY MANHOLE SCHEDULE

NO.	STATION	TYPE/SIZE	RIM EL.	T.G. EL.	INV. EL.	NORTHING	EASTING
SM-11	19+64.9	48" ROUND (CLEAN-OUT)	115.57	113.51	108.51	604383.82	552984.61

GENERAL WATER AND SANITARY NOTES

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UT-07

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

SECTION JMT

SHEET NO. 343

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT07]

SANITARY MANHOLE SCHEDULE

NO.	STATION	TYPE/SIZE	RIM EL.	T.G. EL.	INV. EL.	NORTHING	EASTING
SM-12	25+21.2	48" ROUND	121.78	121.28	113.83	604806.51	553347.14

SANITARY PIPE SCHEDULE

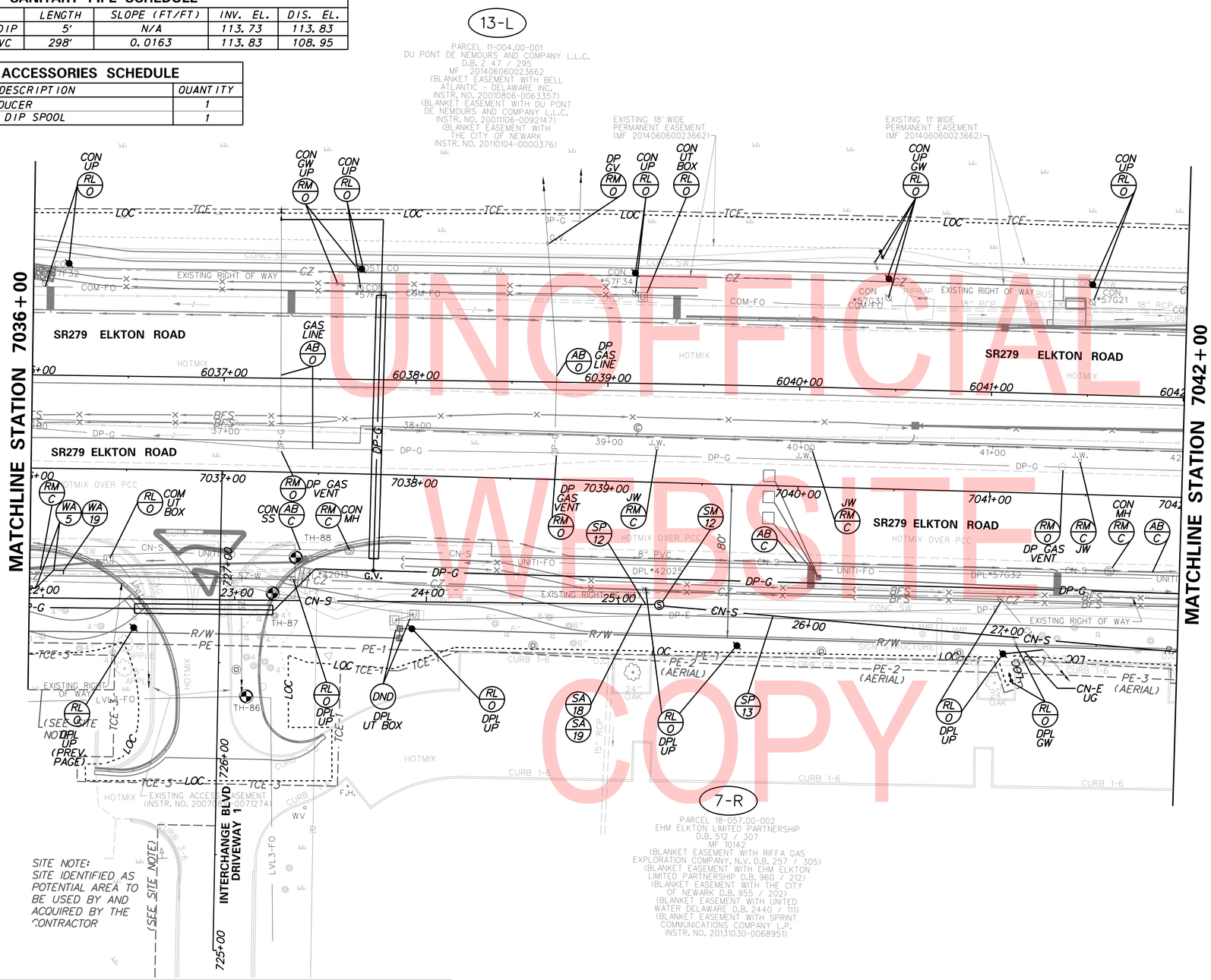
NO.	SIZE/TYPE	LENGTH	SLOPE (FT/FT)	INV. EL.	DIS. EL.
SP-12	8" CLASS 52 DIP	5'	N/A	113.73	113.83
SP-13	8" SDR-26 PVC	298'	0.0163	113.83	108.95

SANITARY ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
18	8"X4" DIP REDUCER	1
19	MIN. 5 LF 8" DIP SPOOL	1

WATER ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
5	HORIZONTAL 12" BEND, 45 DEGREES	2
19	CONNECT TO EX. 12" MAIN W/M.J. SLEEVE	1



UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-86	(2) LEVEL 3 FIBER OP.	726+32.71	14.81	119.06	4.80'	4" PL. CONDUIT
TH-87	DELMARVA POWER	726+86.75	27.57	120.69	8.28'	6" PL.
TH-88	SUEZ WATER	727+05.58	39.31	118.86	3.57'	12" PL.

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT08]

ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

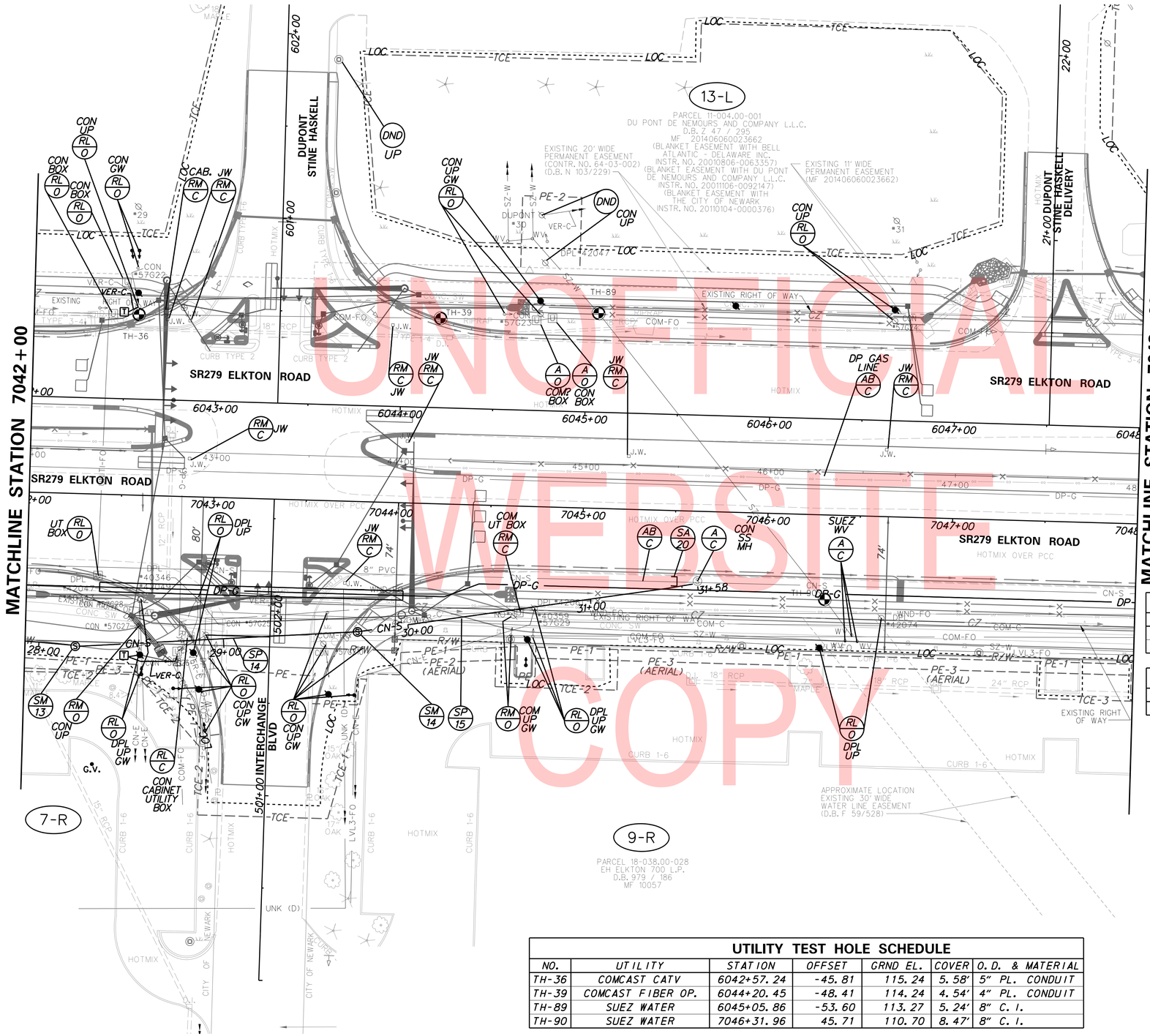
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

UT-08
SECTION JMT
SHEET NO. 344

SANITARY MANHOLE SCHEDULE

NO.	STATION	TYPE/SIZE	RIM EL.	T.G. EL.	INV. EL.	NORTHING	EASTING
SM-13	28+19.7	48" ROUND	117.49	116.99	108.95	605016.59	553559.05
SM-14	29+72.8	48" ROUND	115.30	113.92	106.46	605138.60	553651.34



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SANITARY PIPE SCHEDULE

NO.	SIZE/TYPE	LENGTH	SLOPE (FT/FT)	INV. EL.	DIS. EL.
SP-14	8" SDR-26 PVC	153'	0.0163	108.95	106.46
SP-15	8" SDR-26 PVC	185'	0.0050	106.46	105.65

SANITARY ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
20	8" M.J. PIPE CAP	1

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UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-36	COMCAST CATV	6042+57.24	-45.81	115.24	5.58'	5" PL. CONDUIT
TH-39	COMCAST FIBER OP.	6044+20.45	-48.41	114.24	4.54'	4" PL. CONDUIT
TH-89	SUEZ WATER	6045+05.86	-53.60	113.27	5.24'	8" C.I.
TH-90	SUEZ WATER	7046+31.96	45.71	110.70	8.47'	8" C.I.

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

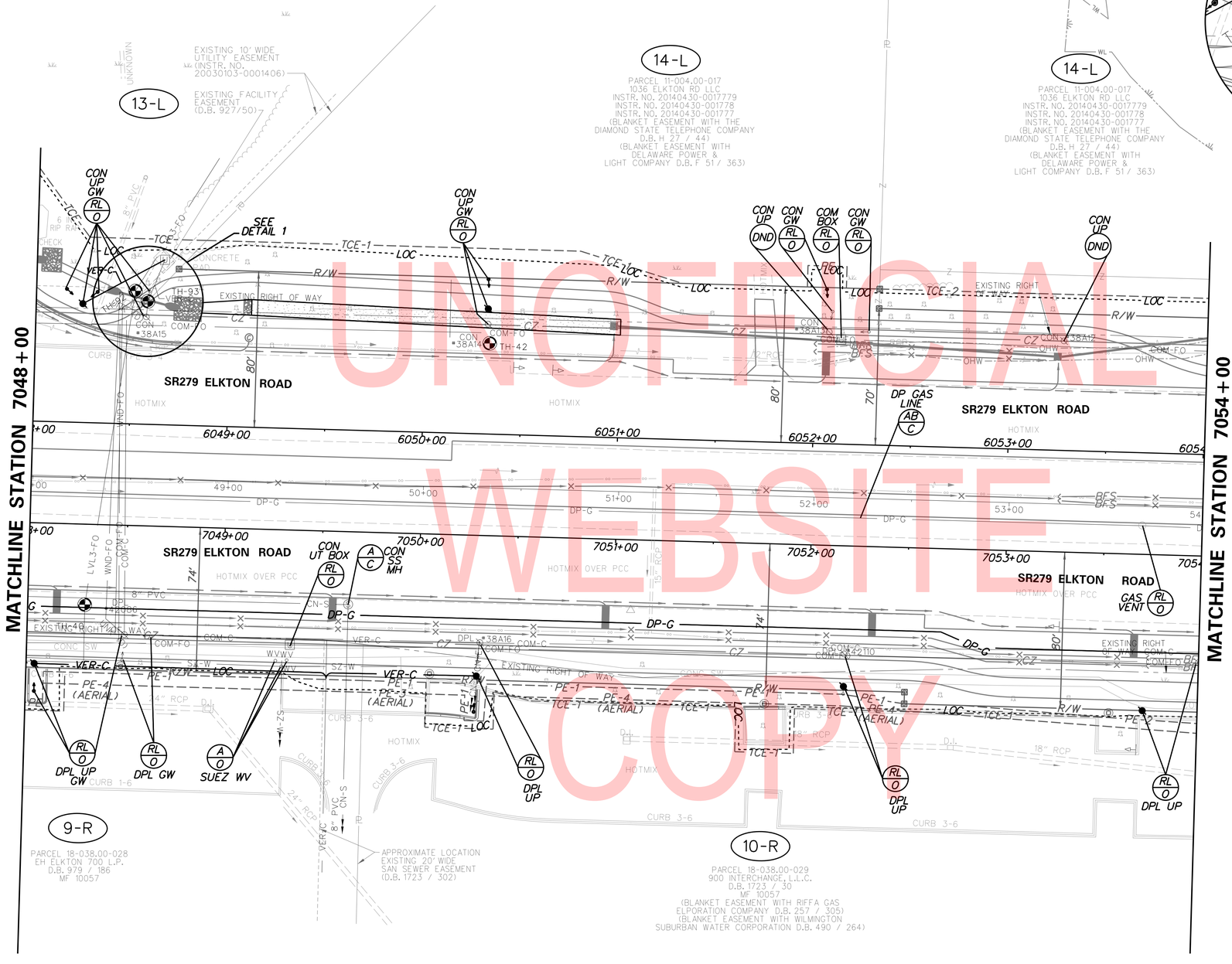
UTILITY RELOCATION PLAN

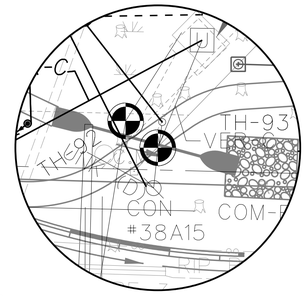
UT-09 | SECTION: JMT | SHEET NO.: 345

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT09]

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-40	(2) LEVEL 3 FIBER OP.	7048+29.22	41.21	109.17	3.44'	4" PL. CONDUIT
TH-42	COMCAST CATV	6050+33.25	-46.48	109.21	3.39'	4" PL. CONDUIT
TH-92	LEVEL 3 FIBER OP.	6048+51.22	-68.13	111.14	4.16'	4" STL. CONDUIT
TH-93	(2) VERIZON FIBER OP.	6048+57.74	-63.01	111.36	1.64'	4" PL. CONDUIT





DETAIL 1
NOT TO SCALE

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UT-10

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

UTILITY RELOCATION PLAN

SECTION: JMT
SHEET NO.: 346

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT10]

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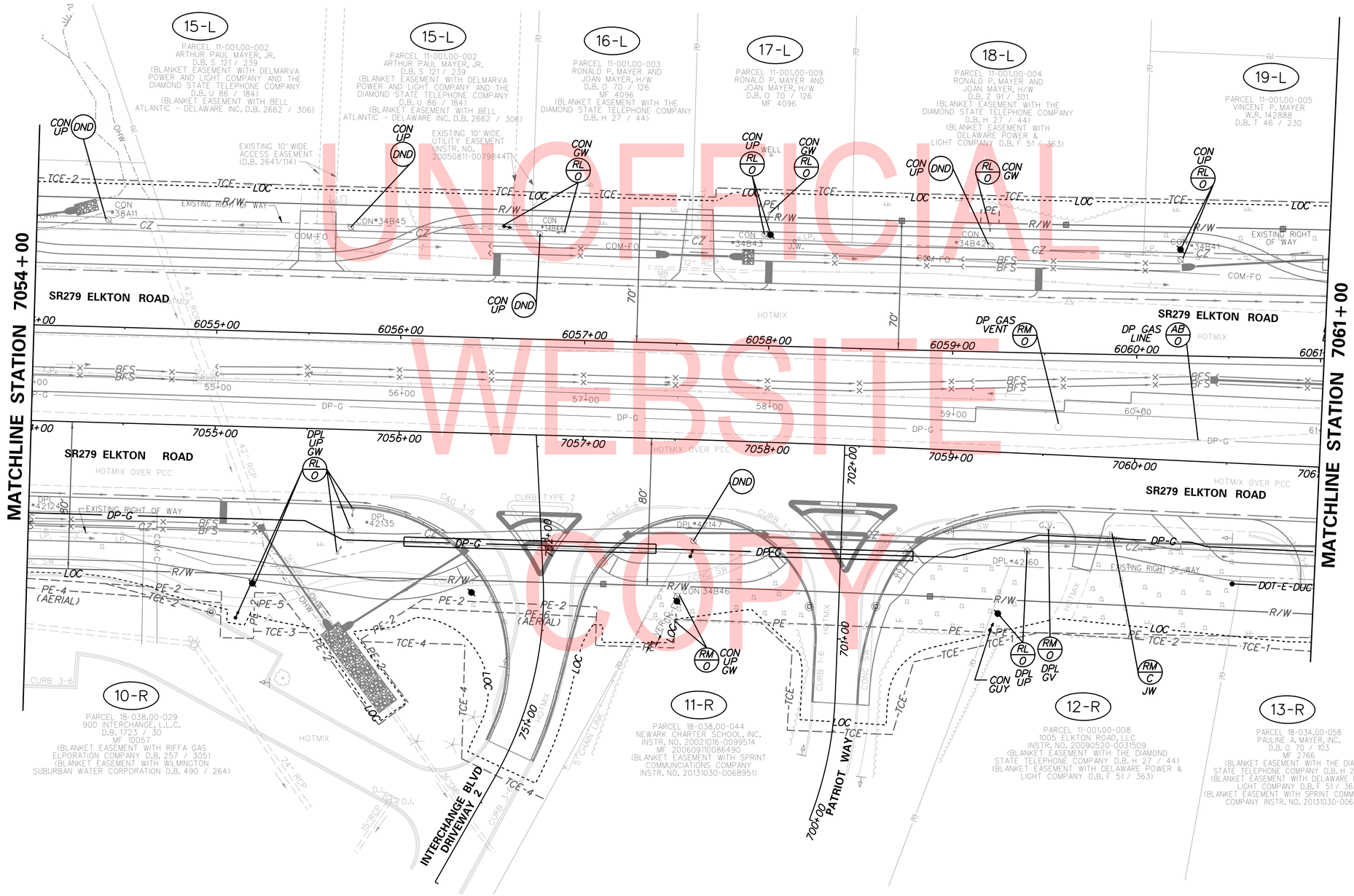

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT11]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

UT-11	
SECTION	JMT
SHEET NO.	347

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-43	COMCAST FIBER OP.	6064+02.88	-45.08	103.14	1.60'	1.5" PL.
TH-44	COMCAST FIBER OP. AND CATV	6064+02.89	-41.92	101.71	1.54'	4" PL.
TH-45	CITY OF NEWARK WATER	6064+11.18	-43.09	103.18	3.90'	12" D.I.
TH-46	(2) WINDSTREAM FIBER OP.	6064+39.31	-53.70	103.70	2.01'	2" PL.
TH-47	COMCAST FIBER OP. AND CATV	384+33.87	54.52	104.40	1.40'	4" PL. CONDUIT
TH-47A	COMCAST FIBER OP. AND CATV	384+32.68	-12.80	105.80	4.81'	4" PL. CONDUIT
TH-49	COMCAST FIBER OP. AND CATV	6065+81.06	-62.86	105.69	1.28'	4" PL.
TH-52	(6) VERIZON TELEPHONE	6066+04.83	-67.42	107.70	7.76'	4" PL.
TH-53	(2) VERIZON TELEPHONE	6066+08.02	-54.10	106.56	4.10'	4" PL.
TH-54	CITY OF NEWARK WATER	6066+70.00	-33.07	103.60	5.04'	12" D.I.

WATER ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
1	12"x12" WET TAP WITH 12" GATE VALVE W/C.I. BOX AND COVER	1
2	12" M.J. PIPE CAP	1
3	12" M.J. PIPE PLUG	1
4	VERTICAL 12" BEND, 45 DEGREES	6
5	HORIZONTAL 12" BEND, 45 DEGREES	5
6	12" GATE VALVE W/C.I. BOX AND COVER	1
7	6" GATE VALVE W/C.I. BOX AND COVER	1
8	12"x6" TEE	1
9	HORIZONTAL 6" BEND, 45 DEGREES	2
10	CONNECT TO EX. 6" MAIN W/M.J. SLEEVE	1
11	6" M.J. PIPE CAP	1
15	CONNECT TO EX. 1.5" SERVICE WITH 2"x1.5" REDUCER	1
32	2" SERVICE CONNECTION	1

GENERAL WATER AND SANITARY NOTES

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2. ALL WATER MAINS SHALL BE INSTALLED PER PROFILES INCLUDED IN CONTRACT PLANS.

3. MAINTAIN A MINIMUM HORIZONTAL DISTANCE OF 10-FEET OR A VERTICAL SEPARATION OF 18-INCHES BETWEEN ALL WATER MAINS AND SEWER MAINS UNLESS OTHERWISE SPECIFIED ON THE PLANS.

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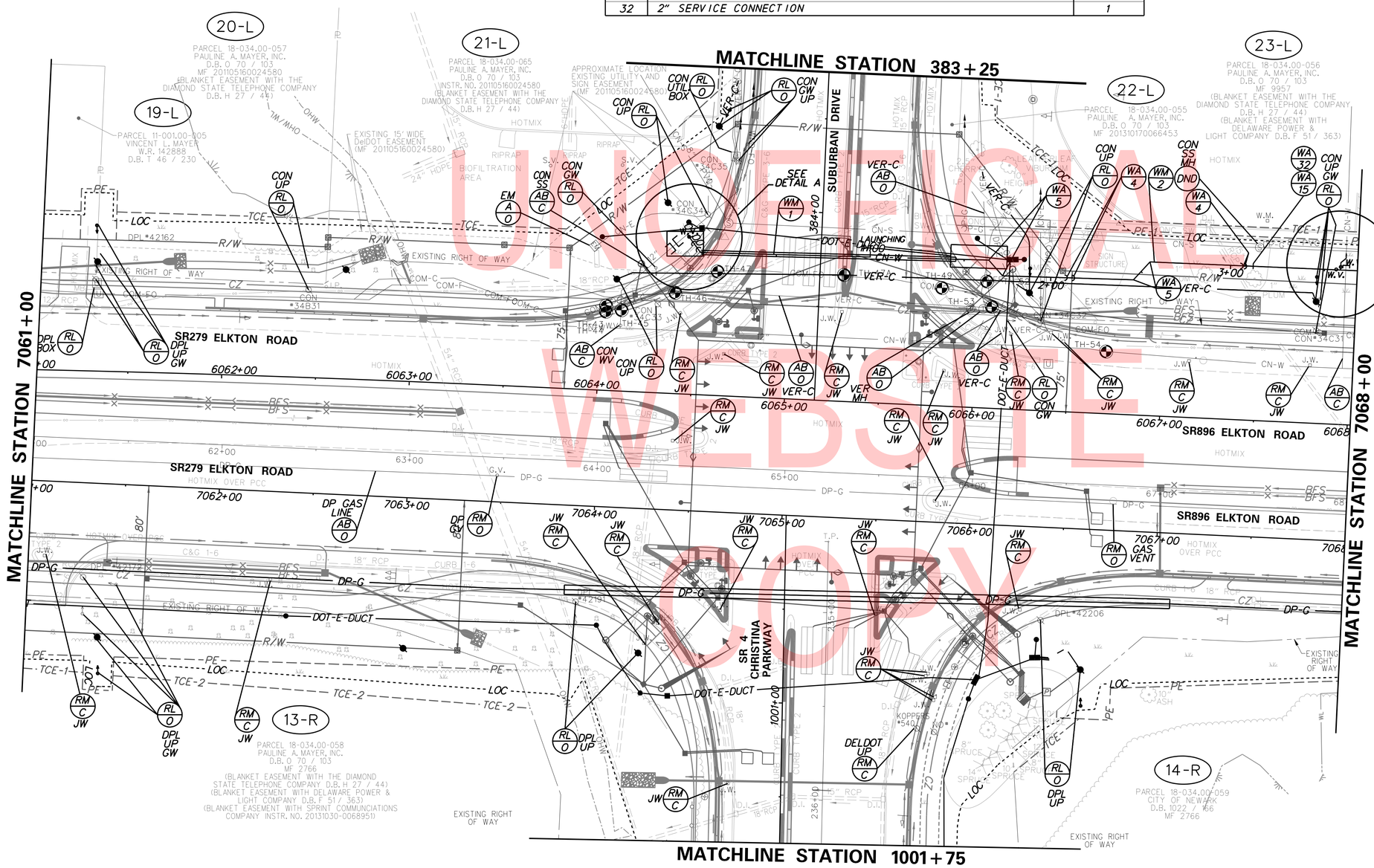
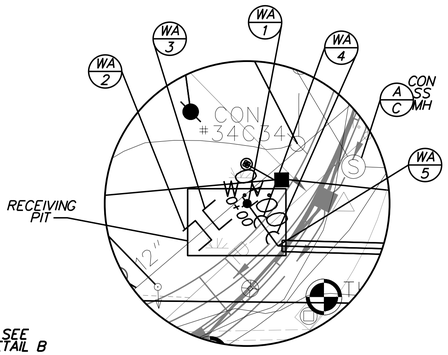
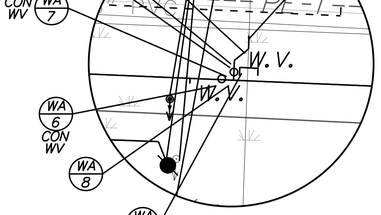




DETAIL A
NOT TO SCALE



DETAIL B
NOT TO SCALE

WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-1	12" CLASS 52 DIP*	146'	NEWARK
WM-2	12" CLASS 52 DIP	209'	NEWARK
WM-3	6" CLASS 52 DIP	15'	NEWARK

*JACK AND BORE WITH 20"x3/8"x135' STEEL CASING PIPE

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT12]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

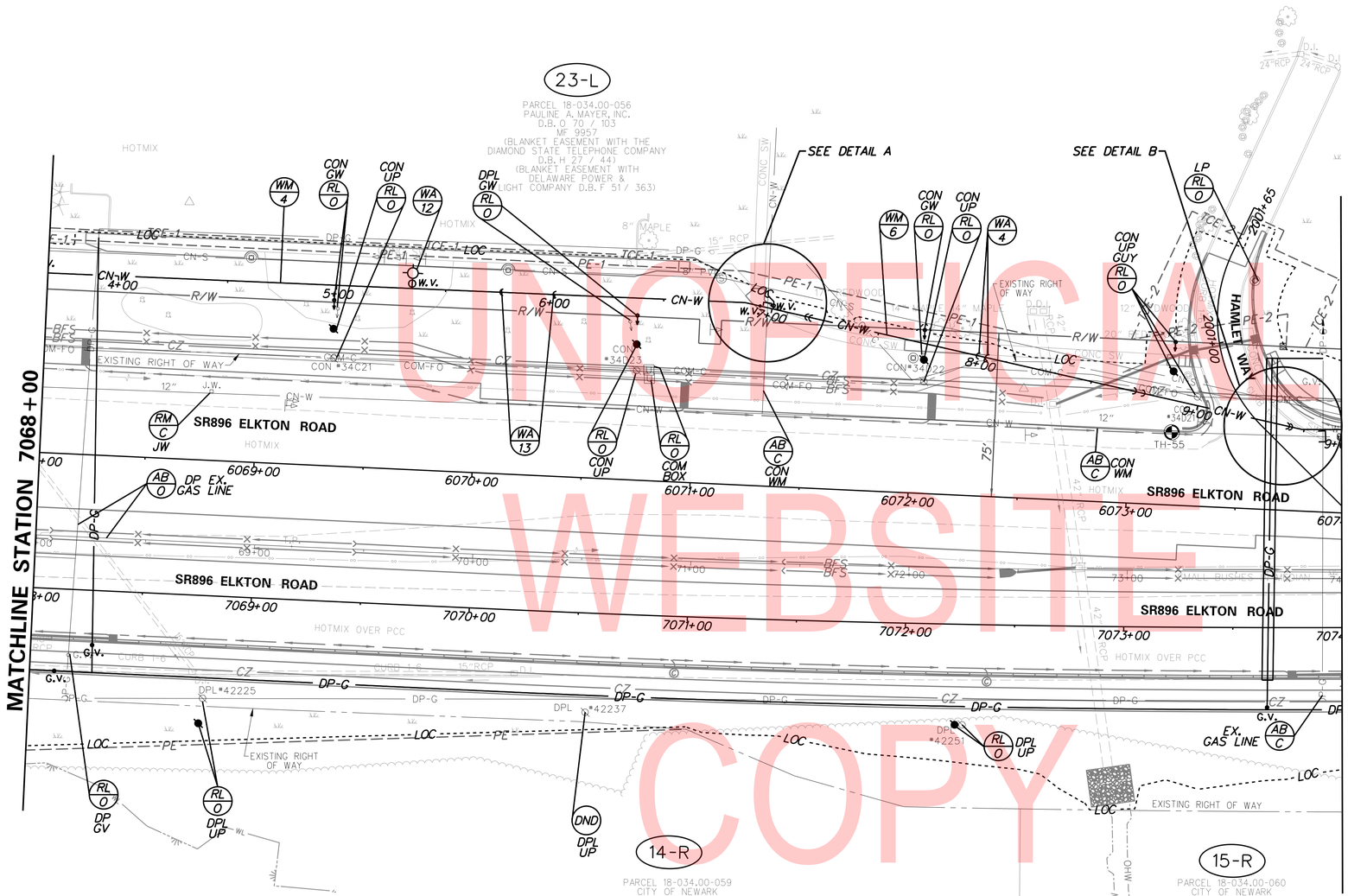
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

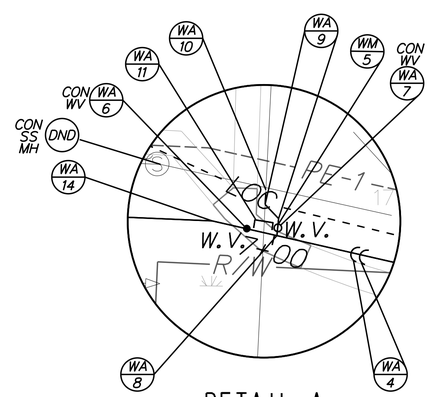
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

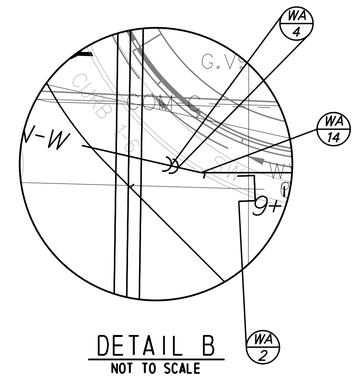
UTILITY RELOCATION PLAN

UT-12

SECTION	SHEET NO.
JMT	348







WATER ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
2	12" M.J. PIPE CAP	1
4	VERTICAL 12" BEND, 45 DEGREES	8
6	12" GATE VALVE W/C.I. BOX AND COVER	1
7	6" GATE VALVE W/C.I. BOX AND COVER	2
8	12"x6" TEE	2
9	HORIZONTAL 6" BEND, 45 DEGREES	4
10	CONNECT TO EX. 6" MAIN W/M.J. SLEEVE	2
11	6" M.J. PIPE CAP	2
12	FIRE HYDRANT, 6" GATE VALVE W/C.I. BOX AND COVER, 12"x6" TEE	1
13	VERTICAL 12" BEND, 11.25 DEGREES	2
14	HORIZONTAL 12" BEND, 11.25 DEGREES	2

WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-4	12" CLASS 52 DIP	339'	NEWARK
WM-5	6" CLASS 52 DIP	15'	NEWARK
WM-6	12" CLASS 52 DIP	277'	NEWARK

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-55	CITY OF NEWARK WATER	6073+19.44	-33.32	101.24	3.96'	12" D.I.

GENERAL WATER AND SANITARY NOTES

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

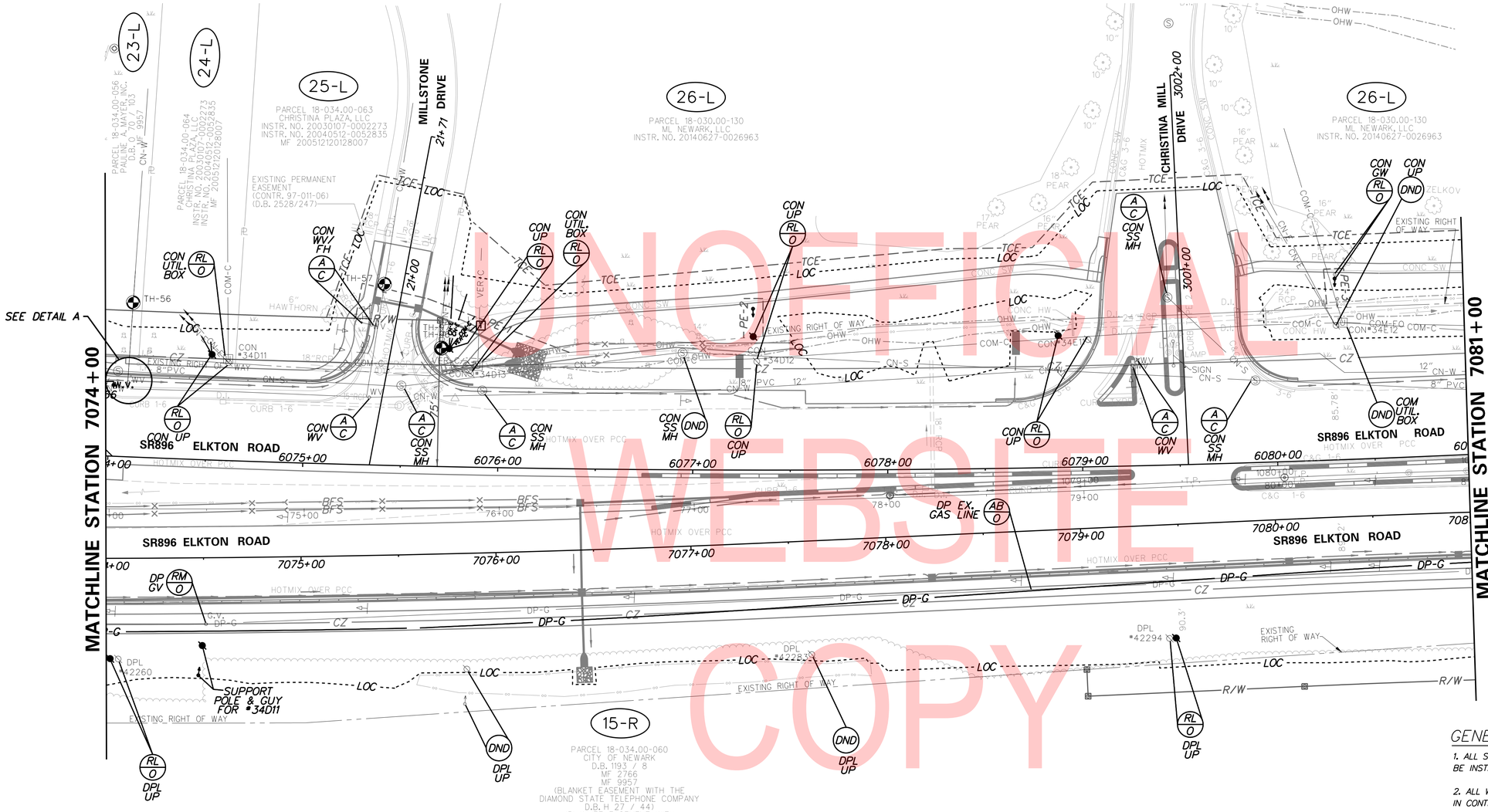
ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

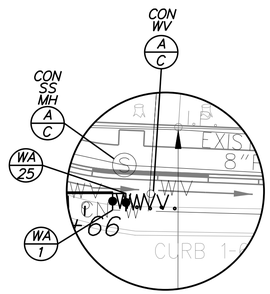
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	CHECKED BY: BPH

UTILITY RELOCATION PLAN

UT-13 | SECTION JMT | SHEET NO. 349

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT13]





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UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-56	CITY OF NEWARK WATER	2000+48.14	63.30	98.81	4.90'	12" D.I.
TH-57	CITY OF NEWARK WATER	20+92.58	-9.52	102.06	5.78'	12" D.I.
TH-96	NEWARK ELECTRIC	20+65.55	25.10	99.84	3.97'	4" PL. CONDUIT
TH-97	NEWARK ELECTRIC	20+65.90	25.42	99.83	3.44'	4" PL. CONDUIT

WATER ACCESSORIES SCHEDULE

NO.	DESCRIPTION	QUANTITY
1	12"x12" WET TAP WITH 12" GATE VALVE W/C.I. BOX AND COVER	1
25	HORIZONTAL 12" BEND, 90 DEGREES	1

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ADDENDA / REVISIONS

1 REPLACED PAGES 1 THRU 432 — 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: LB
CHECKED BY: BPH

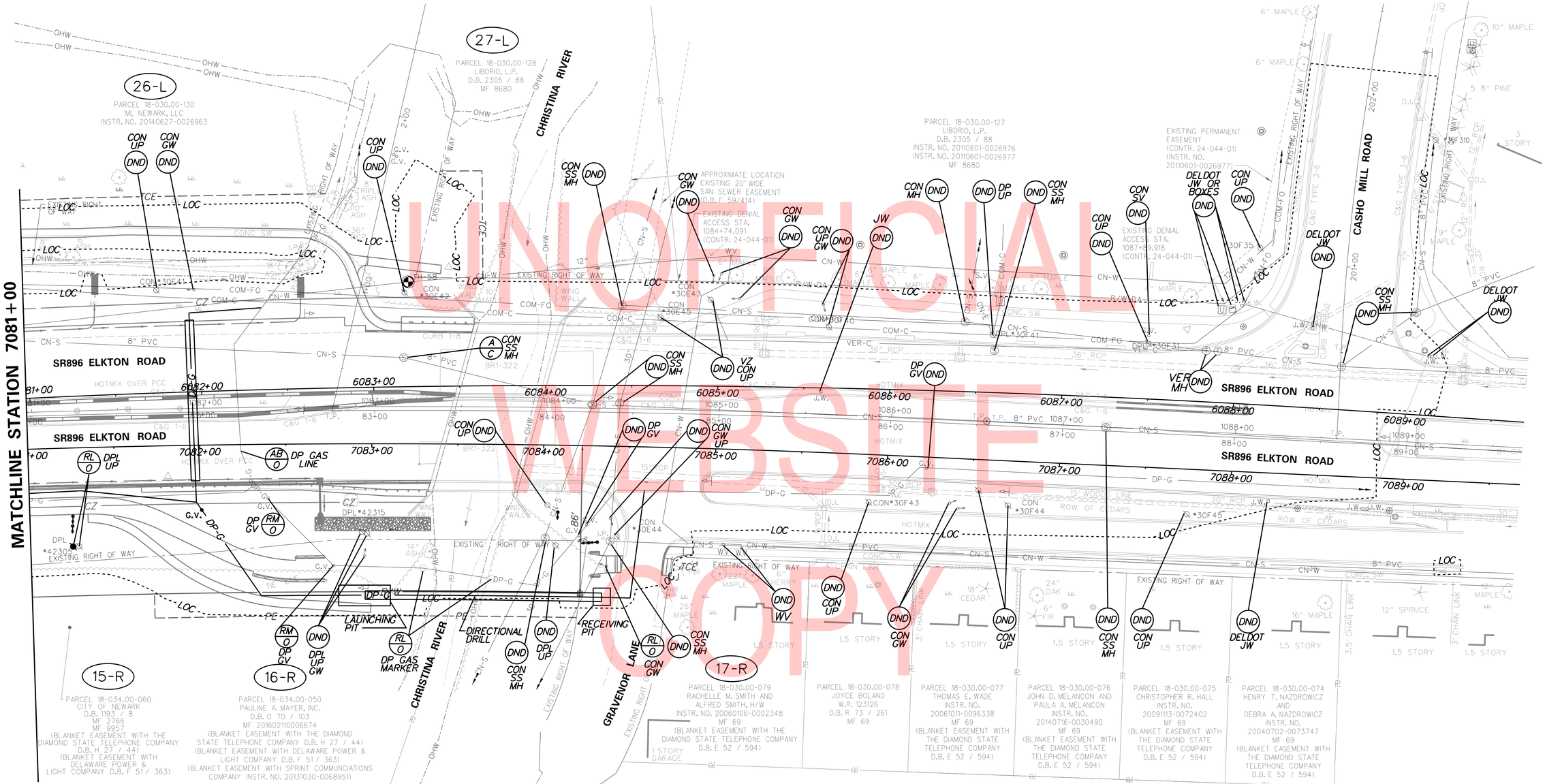
UTILITY RELOCATION PLAN

UT-14
SECTION JMT
SHEET NO. 350

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT14]

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O.D. & MATERIAL
TH-58	CITY OF NEWARK WATER	6083+20.97	-60.89	97.15	4.97'	12" D.I.



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GENERAL WATER AND SANITARY NOTES

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

UTILITY RELOCATION PLAN

UT-15
SECTION JMT
SHEET NO. 351

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT15]

GENERAL WATER AND SANITARY NOTES

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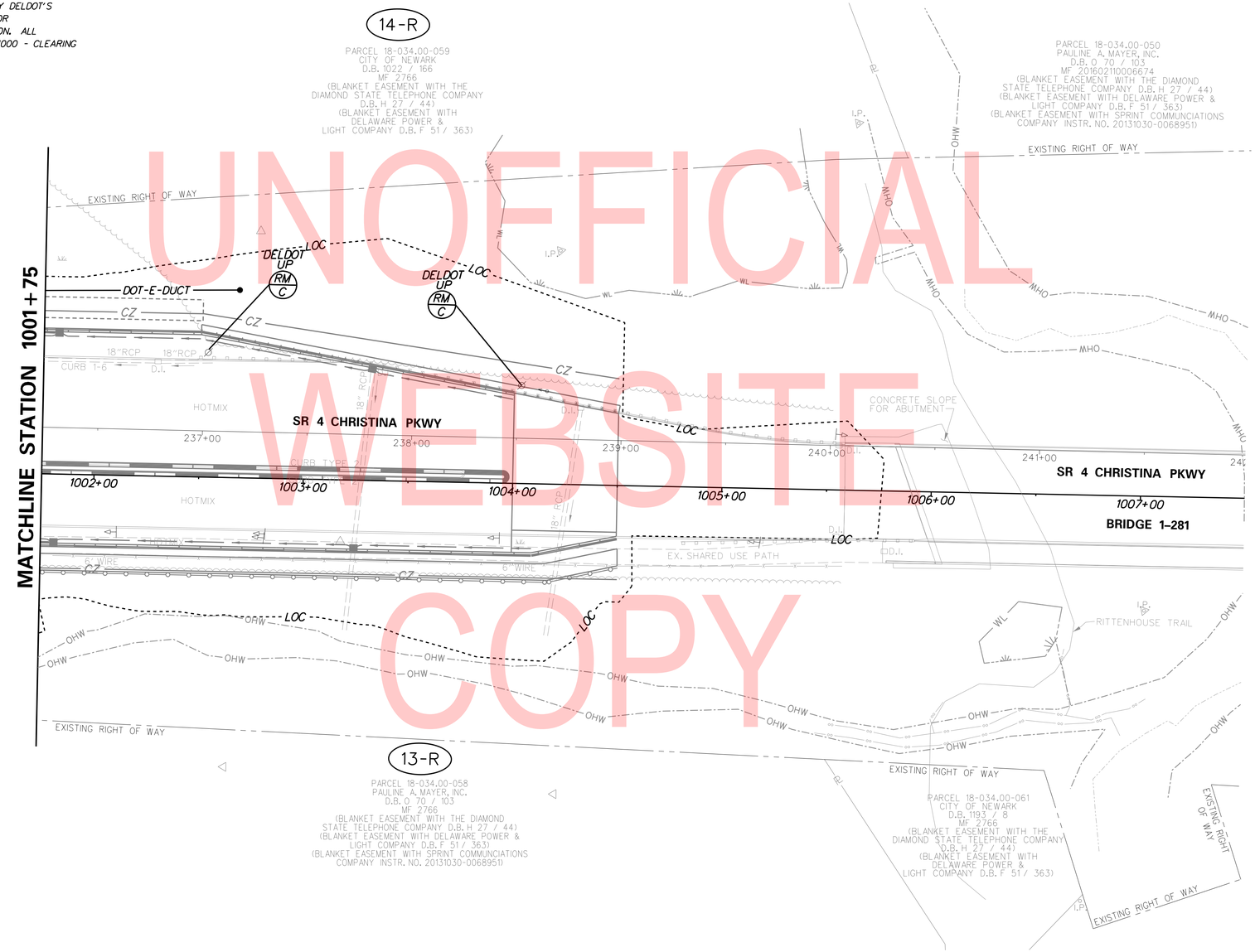

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT16]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: LB		
CHECKED BY: BPH		

UTILITY RELOCATION PLAN

UT-16	
SECTION	JMT
SHEET NO.	352

GENERAL WATER AND SANITARY NOTES

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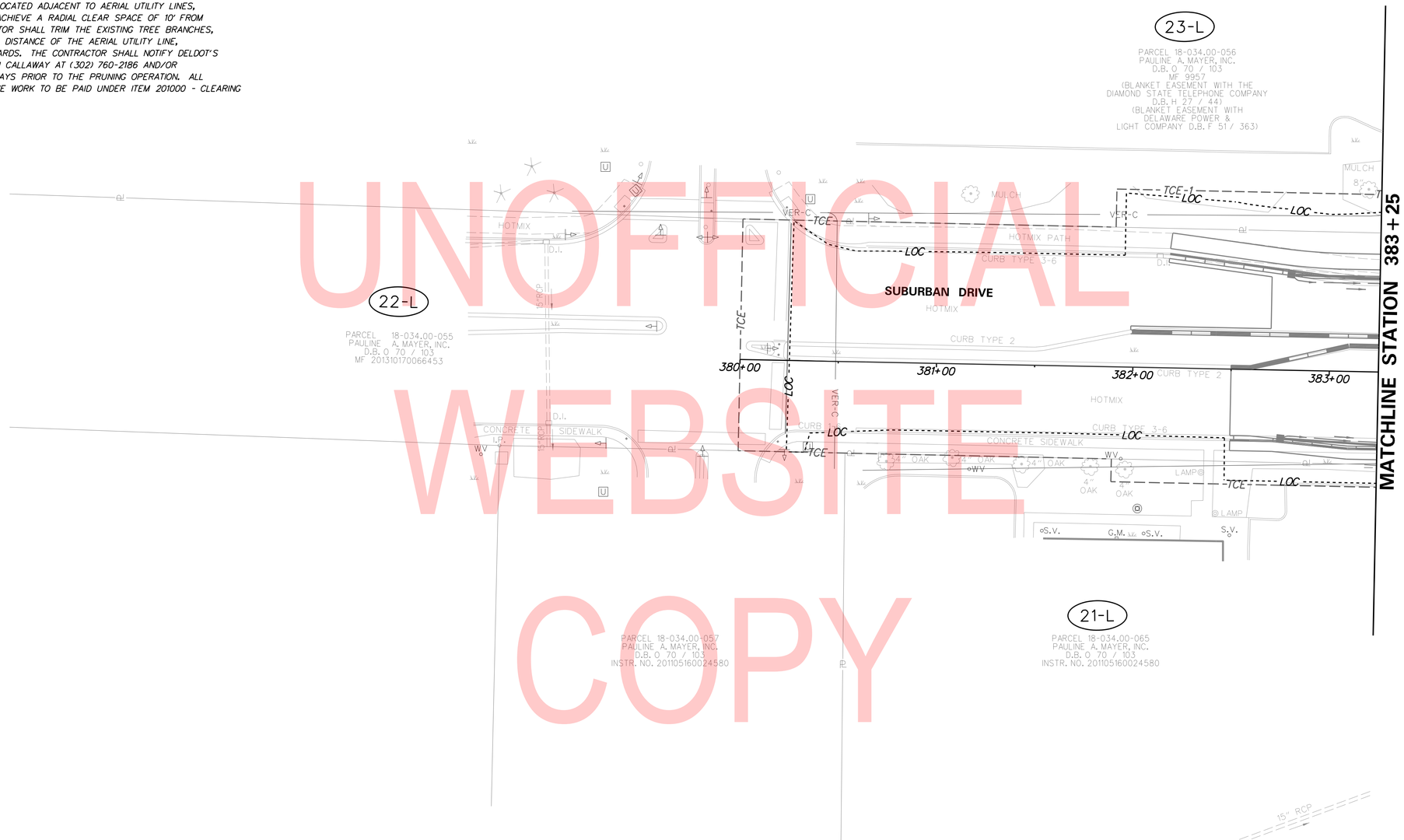

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT17]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

UTILITY RELOCATION PLAN

	UT-17
SECTION	JMT
SHEET NO.	353

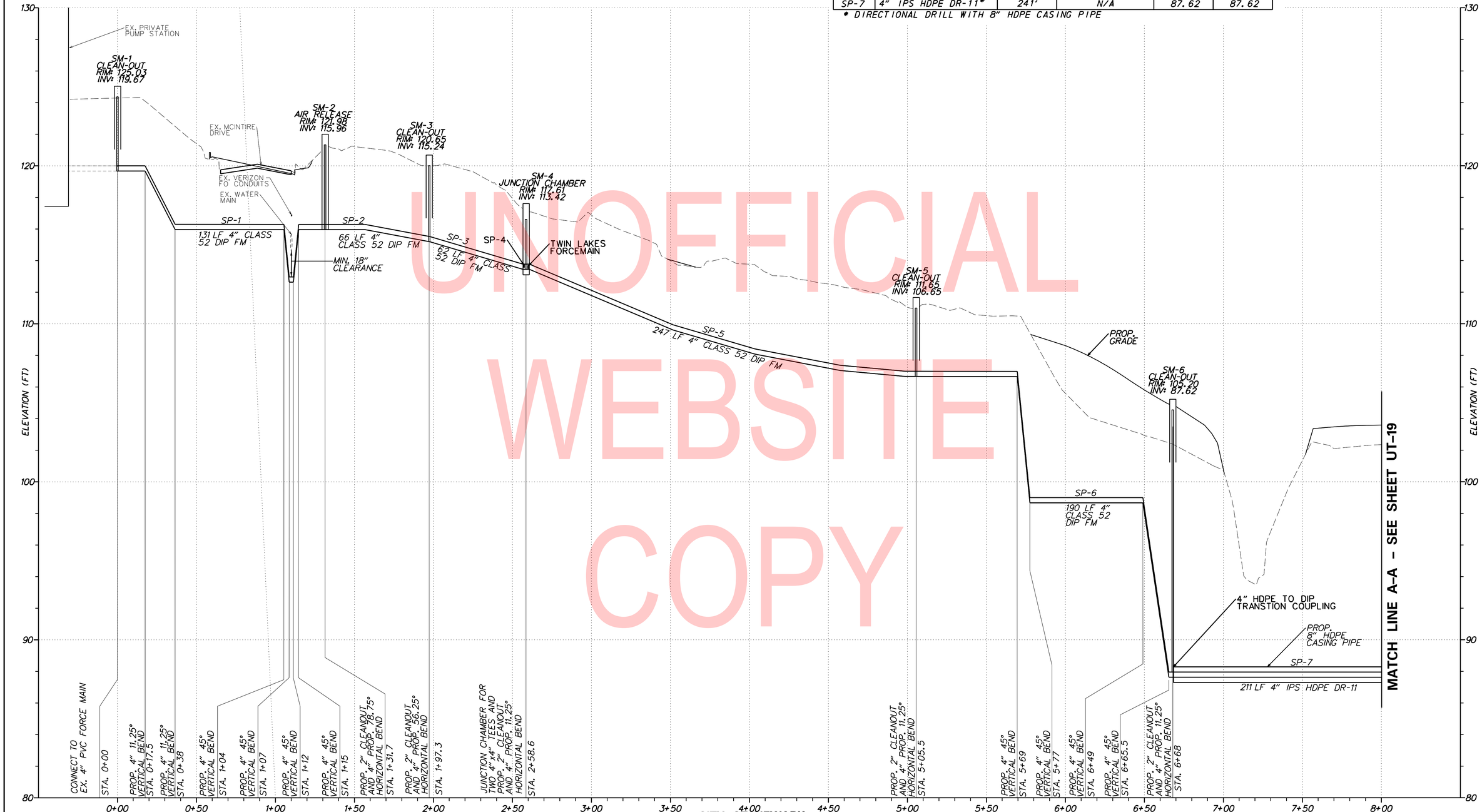
SANITARY MANHOLE SCHEDULE

NO.	STATION	TYPE/SIZE	RIM EL.	T.G. EL.	INV. EL.	NORTHING	EASTING
SM-1	0+00.0	48" ROUND (CLEAN-OUT)	125.03	124.53	119.67	602956.21	551790.06
SM-2	1+31.7	60" ROUND (AIR RELEASE)	121.98	121.48	115.96	603019.43	551902.00
SM-3	1+97.3	48" ROUND (CLEAN-OUT)	120.65	120.15	115.24	603075.14	551867.36
SM-4	2+58.6	84"x36" JUNCTION CHAMBER	117.61	117.11	113.42	603131.04	551892.51
SM-5	5+05.5	48" ROUND (CLEAN-OUT)	111.65	111.15	106.65	603319.95	552051.46
SM-6	6+65.5	48" ROUND (CLEAN-OUT)	105.20	104.80	87.62	603437.10	552201.16

SANITARY PIPE SCHEDULE

NO.	SIZE/TYPE	LENGTH	SLOPE (FT/FT)	INV. EL.	DIS. EL.
SP-1	4" CLASS 52 DIP	131'	N/A	119.70	115.96
SP-2	4" CLASS 52 DIP	66'	N/A	115.96	115.24
SP-3	4" CLASS 52 DIP	62'	N/A	113.42	113.42
SP-4	1.5" IPS HDPE DR-11	85'	N/A	113.42	106.65
SP-5	4" CLASS 52 DIP	247'	N/A	113.42	106.65
SP-6	4" CLASS 52 DIP	160'	N/A	106.65	87.62
SP-7	4" IPS HDPE DR-11*	241'	N/A	87.62	87.62

* DIRECTIONAL DRILL WITH 8" HDPE CASING PIPE



CITY OF NEWARK
SANITARY SEWER FORCE MAIN 4" CLASS 52 DIP
NORTHBOUND ELKTON ROAD

UNOFFICIAL WEBSITE COPY

VERTICAL SCALE FEET 0 3 6 9

UT-18

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

SECTION JMT
SHEET NO. 354

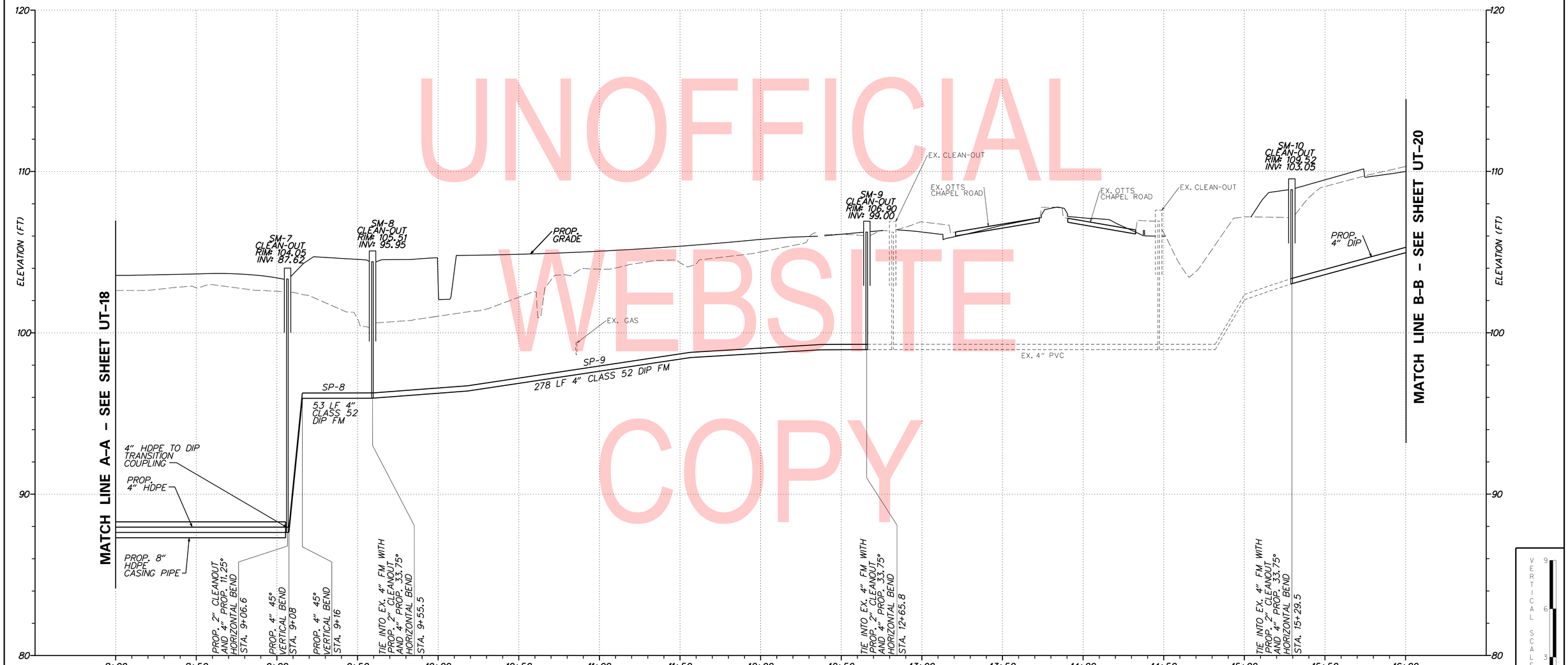
PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: G:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT_DGN [SHEET: UT18]

SANITARY MANHOLE SCHEDULE

NO.	STATION	TYPE/SIZE	RIM EL.	T.G. EL.	INV. EL.	NORTHING	EASTING
SM-7	9+06.6	48" ROUND (CLEAN-OUT)	104.05	102.55	87.62	603606.60	552326.87
SM-8	9+55.5	48" ROUND (CLEAN-OUT)	105.51	100.48	95.95	603654.16	552332.79
SM-9	12+65.8	48" ROUND (CLEAN-OUT)	106.90	105.95	99.00	603883.98	552537.11
SM-10	15+29.5	48" ROUND (CLEAN-OUT)	109.52	107.24	103.05	604042.11	552702.94

SANITARY PIPE SCHEDULE

NO.	SIZE/TYPE	LENGTH	SLOPE (FT/FT)	INV. EL.	DIS. EL.
SP-8	4" CLASS 52 DIP	53'	N/A	87.62	95.95
SP-9	4" CLASS 52 DIP	278'	N/A	98.95	99.00



CITY OF NEWARK
SANITARY FORCE MAIN – 4" CLASS 52 DIP
NORTHBOUND ELKTON ROAD

VERTICAL SCALE FEET 0 3 6 9

UT-19

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT19]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

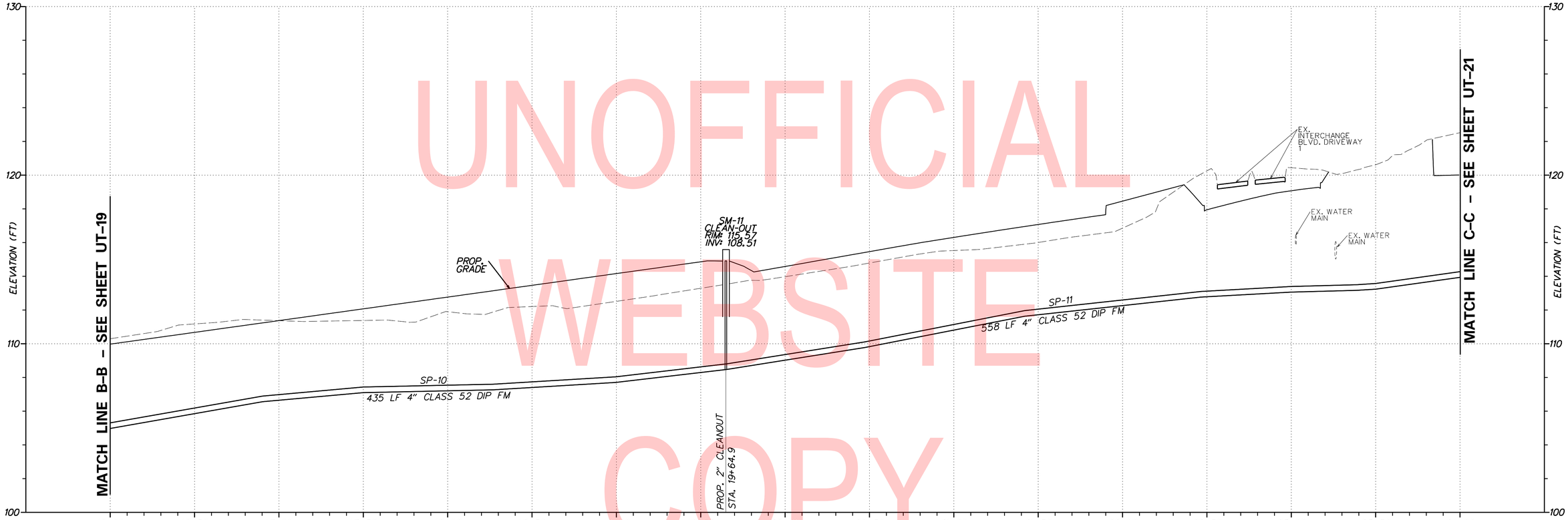
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

UTILITY RELOCATION PLAN

SECTION: JMT
SHEET NO.: 355

SANITARY PIPE SCHEDULE					
NO.	SIZE/TYPE	LENGTH	SLOPE (FT/FT)	INV. EL.	DIS. EL.
SP-11	4" CLASS 52 DIP	435'	N/A	103.05	108.51
SP-12	4" CLASS 52 DIP	558'	N/A	108.51	114.16

SANITARY MANHOLE SCHEDULE							
NO.	STATION	TYPE/SIZE	RIM EL.	T.G. EL.	INV. EL.	NORTHING	EASTING
SM-11	19+64.9	48" ROUND (CLEAN-OUT)	115.57	113.51	108.51	604383.82	552984.61



CITY OF NEWARK
SANITARY FORCE MAIN – 4" CLASS 52 DIP
NORTHBOUND ELKTON ROAD

VERTICAL SCALE FEET 9 6 3 0

UT–20

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT20]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

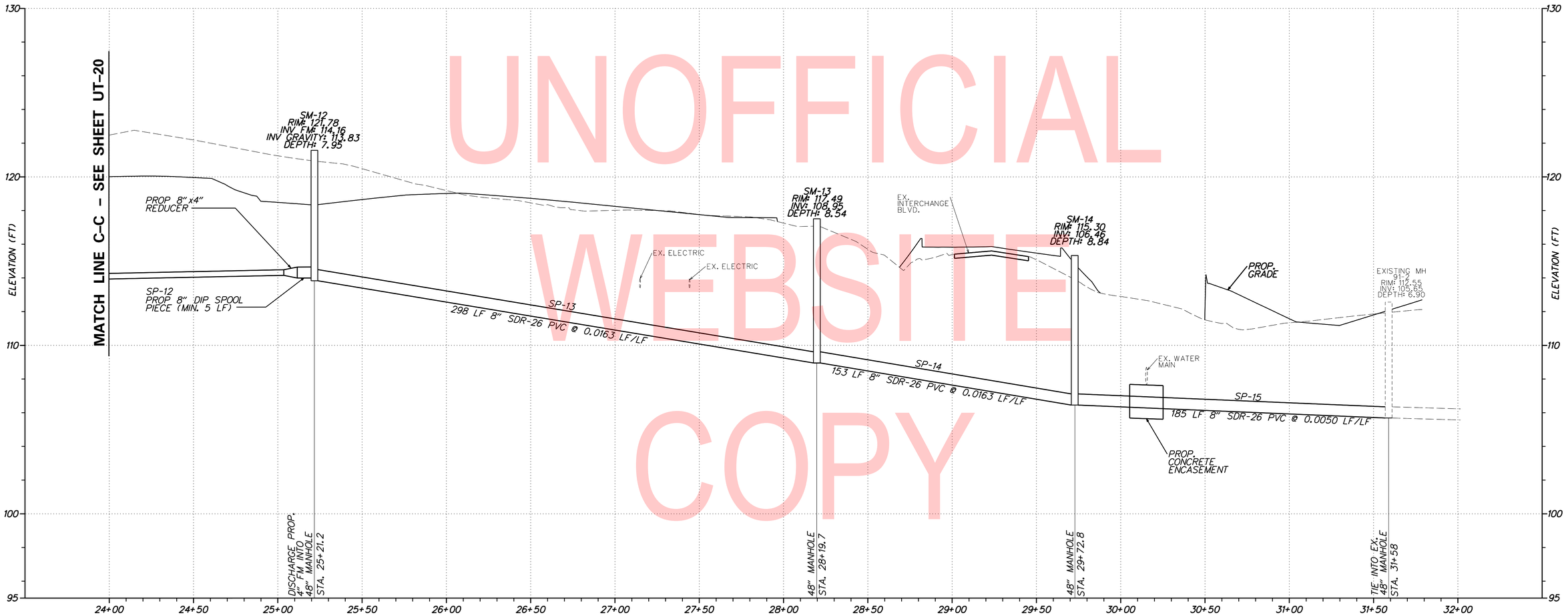
SECTION	JMT
SHEET NO.	356

SANITARY MANHOLE SCHEDULE

NO.	STATION	TYPE/SIZE	RIM EL.	T.C. EL.	INV. EL.	NORTHING	EASTING
SM-12	25+21.2	48" ROUND	121.78	121.28	113.83	604806.51	553347.14
SM-13	28+19.7	48" ROUND	117.49	116.99	108.95	605016.59	553559.05
SM-14	29+72.8	48" ROUND	115.30	113.92	106.46	605138.60	553651.34

SANITARY PIPE SCHEDULE

NO.	SIZE/TYPE	LENGTH	SLOPE (FT/FT)	INV. EL.	DIS. EL.
SP-12	8" CLASS 52 DIP	5'	0.0163	113.73	113.83
SP-13	8" SDR-26 PVC	298'	0.0163	113.83	108.95
SP-14	8" SDR-26 PVC	153'	0.0163	108.95	106.46
SP-15	8" SDR-26 PVC	185'	0.0050	106.46	105.65



CITY OF NEWARK
SANITARY – 8" SDR-26 PVC
NORTHBOUND ELKTON ROAD

VERTICAL SCALE FEET 0 3 6 9

UT-21

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT21]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

UTILITY RELOCATION PLAN

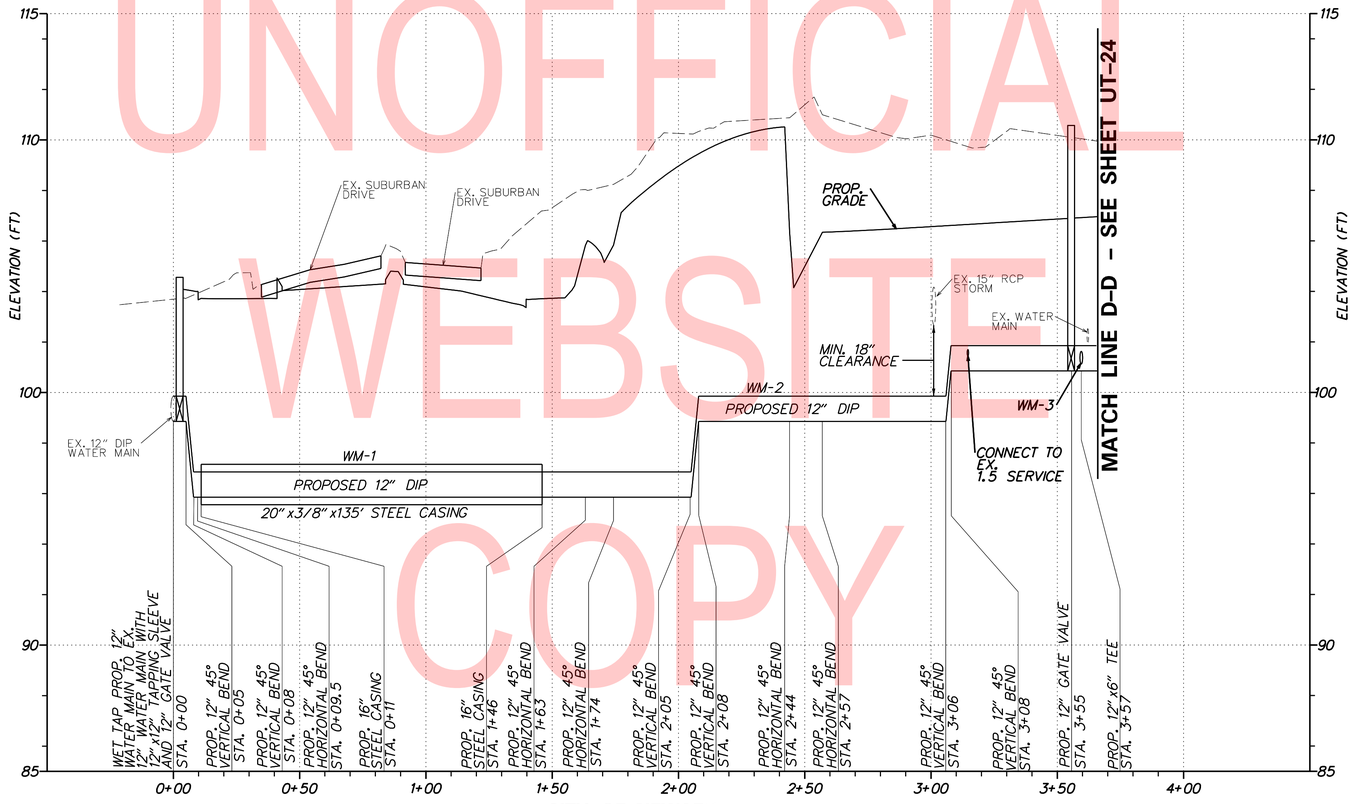
SECTION	JMT
SHEET NO.	357

WATER MAIN SCHEDULE			
NO.	SIZE/TYPE	LENGTH	OWNER
WM-1	12" CLASS 52 DIP*	146'	NEWARK
WM-2	12" CLASS 52 DIP	209'	NEWARK
WM-3	6" CLASS 52 DIP	15'	NEWARK

*JACK AND BORE WITH 16"x3/8"x135' STEEL CASING PIPE

NOTE

1. CITY OF NEWARK WATER DETAILS SHALL BE USED FOR WATER MAINS AND APPUTENANCES ON THIS SHEET.



CITY OF NEWARK
WATER MAIN – 12" CLASS 52 DIP
SOUTHBOUND ELKTON ROAD

UNOFFICIAL WEBSITE COPY

VERTICAL SCALE FEET 0 3 6 9

UT-22

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

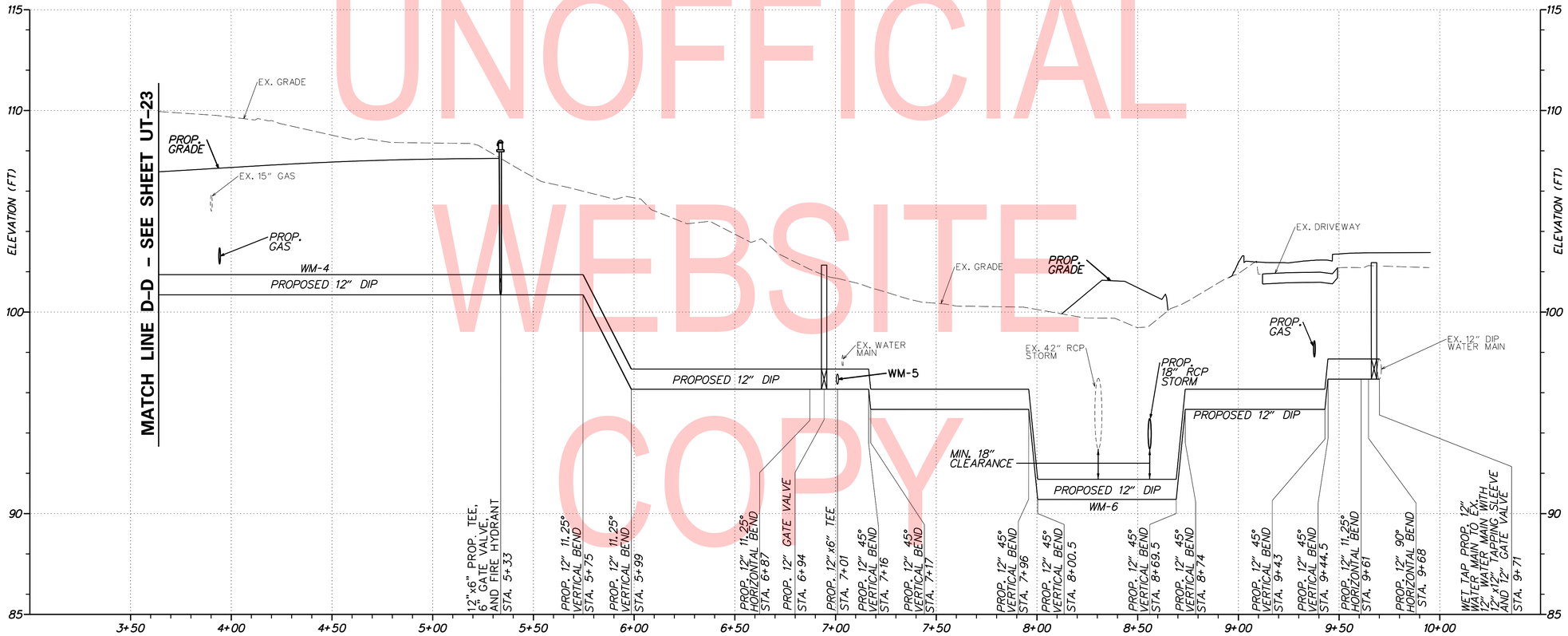
SECTION	
JMT	
SHEET NO.	
358	

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT22]

WATER MAIN SCHEDULE			
NO.	SIZE/TYPE	LENGTH	OWNER
WM-4	12" CLASS 52 DIP	339'	NEWARK
WM-5	6" CLASS 52 DIP	15'	NEWARK
WM-6	12" CLASS 52 DIP	277'	NEWARK

NOTE

1. CITY OF NEWARK WATER DETAILS SHALL BE USED FOR WATER MAINS AND APPUTENANCES ON THIS SHEET.



CITY OF NEWARK
WATER MAIN - 12" CLASS 52 DIP
SOUTHBOUND ELKTON ROAD

UNOFFICIAL WEBSITE COPY

VERTICAL SCALE FEET 0 3 6 9

UT-23

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT23]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

SECTION JMT

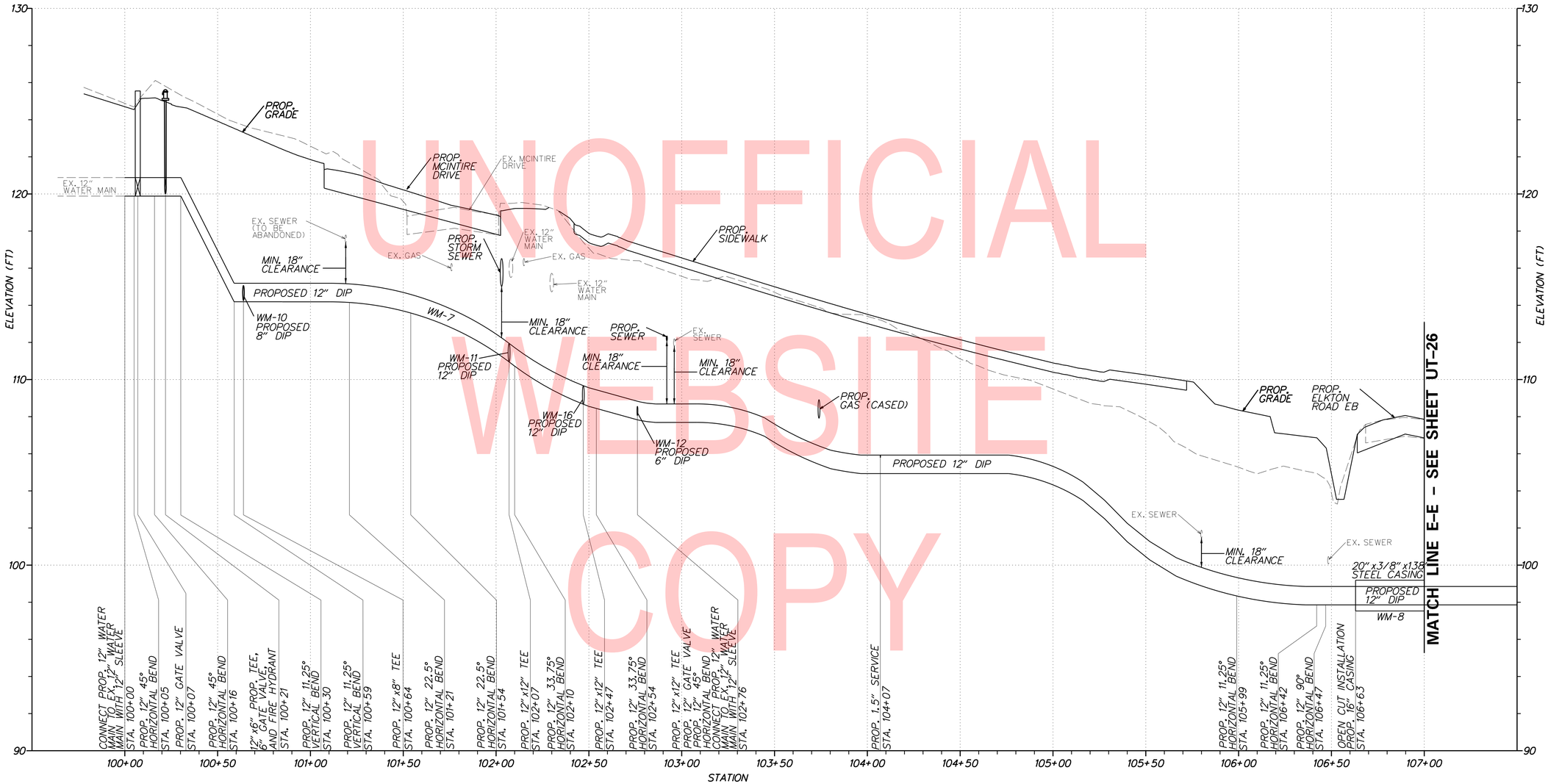
SHEET NO. 359

WATER MAIN SCHEDULE			
NO.	SIZE/TYPE	LENGTH	OWNER
WM-7	12" CLASS 52 DIP	663'	SUEZ
WM-8*	12" CLASS 52 DIP	138'	SUEZ
WM-16	12" CLASS 52 DIP	17'	SUEZ

*OPEN CUT AND JACK AND BORE WITH 16"x3/8"x138' STEEL CASING PIPE

NOTE

1. SUEZ WATER DETAILS FOR THRUST BLOCKS, VALVES, AND BLOWOFF ON SHEET DT-18 SHALL BE USED FOR THOSE APPUTENANCES ON THIS SHEET. ALL OTHER DETAILS SHALL BE COVERED BY CITY OF NEWARK WATER DETAILS.



SUEZ WATER
WATER MAIN – 12" CLASS 52 DIP
NORTHBOUND ELKTON ROAD

UNOFFICIAL WEBSITE COPY

VERTICAL SCALE FEET 0 3 6 9

UT-24

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: LB	
COUNTY	CHECKED BY: BPH	
NEW CASTLE		

UTILITY RELOCATION PLAN

SECTION JMT

SHEET NO. 360

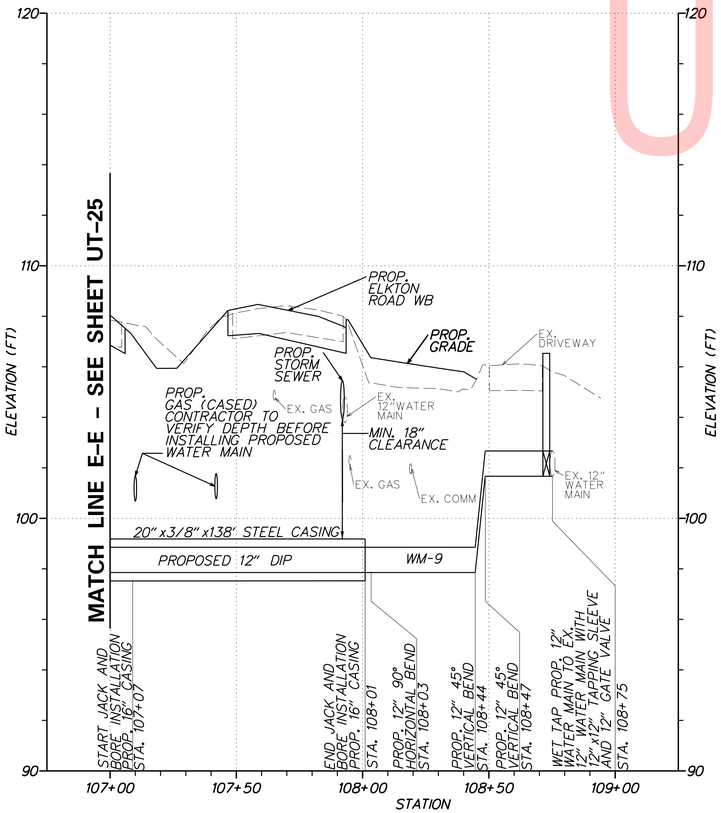
PLOTTED BY: LBERZINA DATE: 11/15/2019 [SHEET: UT24]
FILE LOCATION: G:\NDEV\40659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN

NOTE

1. SUEZ WATER DETAILS FOR THRUST BLOCKS, VALVES, AND BLOWOFF ON SHEET DT-18 SHALL BE USED FOR THOSE APPUTENANCES ON THIS SHEET. ALL OTHER DETAILS SHALL BE COVERED BY CITY OF NEWARK WATER DETAILS.

WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-9	12" CLASS 52 DIP	74'	SUEZ

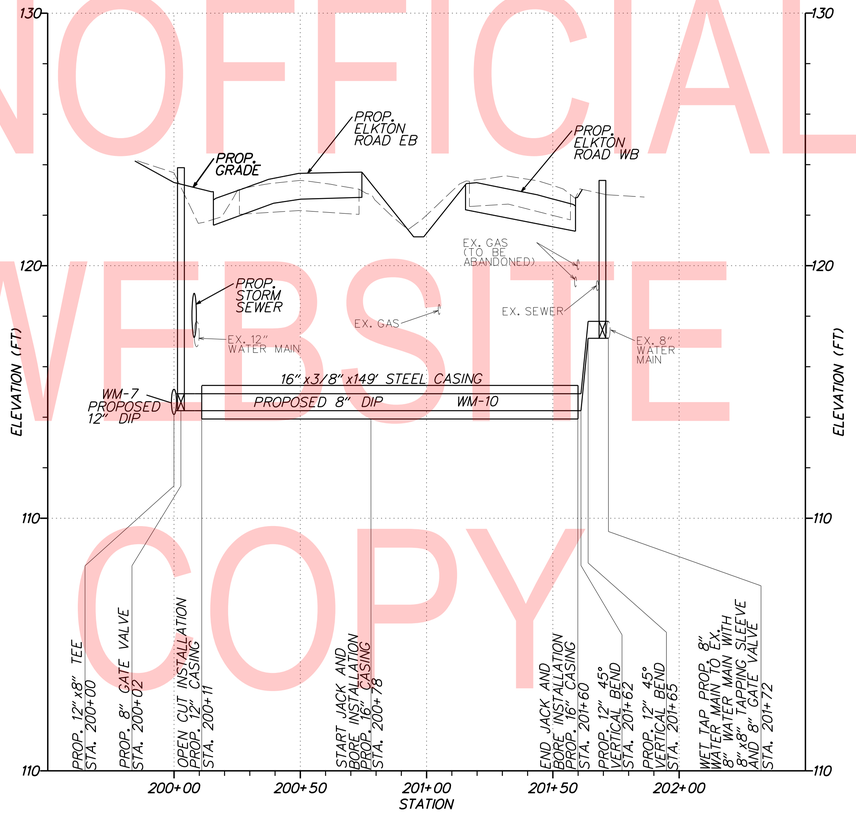


SUEZ WATER
WATER MAIN – 12" CLASS 52 DIP
NORTHBOUND ELKTON ROAD

WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-10*	8" CLASS 52 DIP	172'	SUEZ

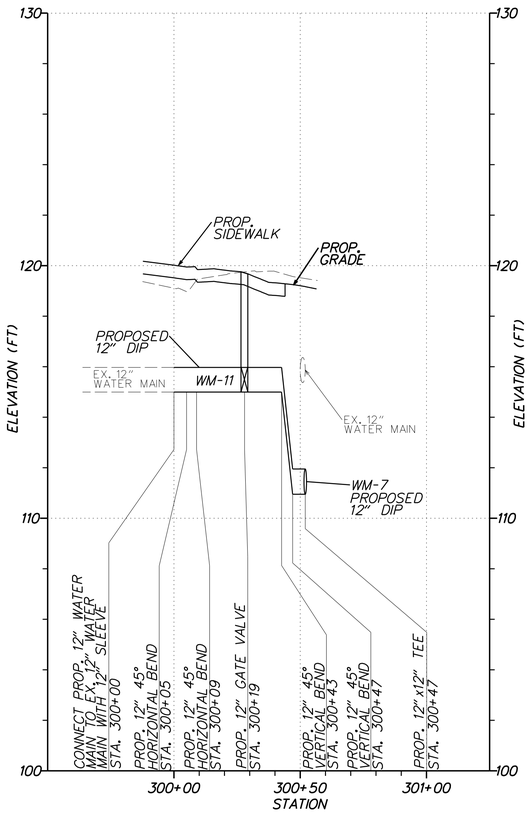
*OPEN CUT AND JACK AND BORE WITH 12" x 3/8" x 149' STEEL CASING PIPE



SUEZ WATER
WATER MAIN – 8" CLASS 52 DIP
ELKTON ROAD

WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-11	12" CLASS 52 DIP	47'	SUEZ



SUEZ WATER
WATER MAIN – 12" CLASS 52 DIP
MCINTIRE DRIVE

UNOFFICIAL WEBSITE COPY

VERTICAL SCALE FEET 0 3 6 9

UT-25

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT25]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: LB	
		CHECKED BY: BPH	

UTILITY RELOCATION PLAN

SECTION	JMT
SHEET NO.	361

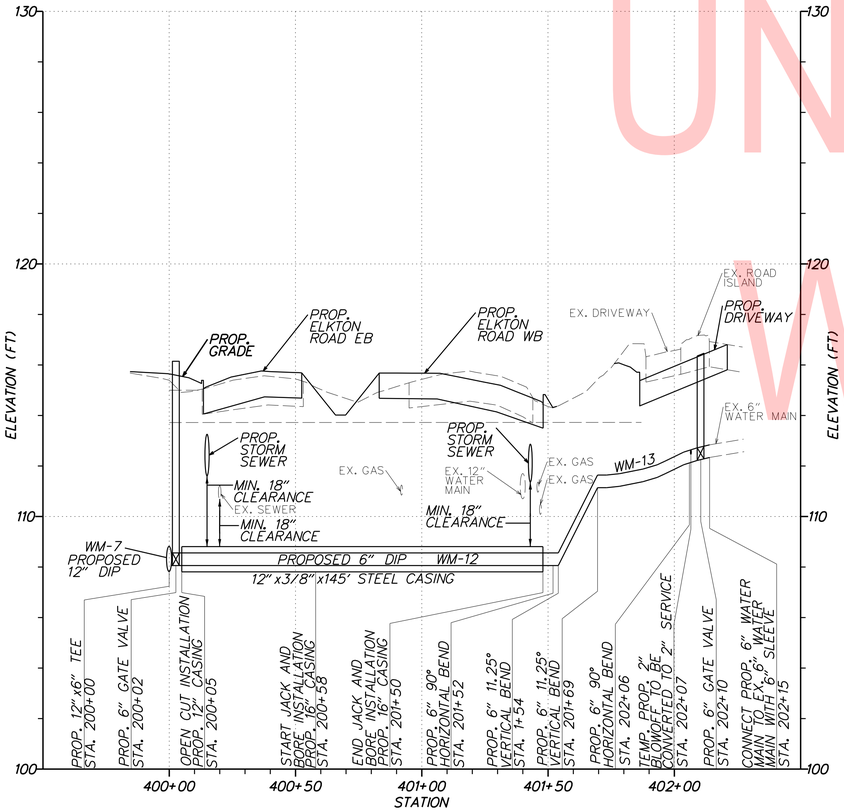
NOTE

1. SUEZ WATER DETAILS FOR THRUST BLOCKS, VALVES, AND BLOWOFF ON SHEET DT-18 SHALL BE USED FOR THOSE APPUTENANCES ON THIS SHEET. ALL OTHER DETAILS SHALL BE COVERED BY CITY OF NEWARK WATER DETAILS.

WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-12*	6" CLASS 52 DIP	150'	SUEZ
WM-13	6" CLASS 52 DIP	65'	SUEZ

*OPEN CUT AND JACK AND BORE WITH 12"x3/8"x145' STEEL CASING PIPE

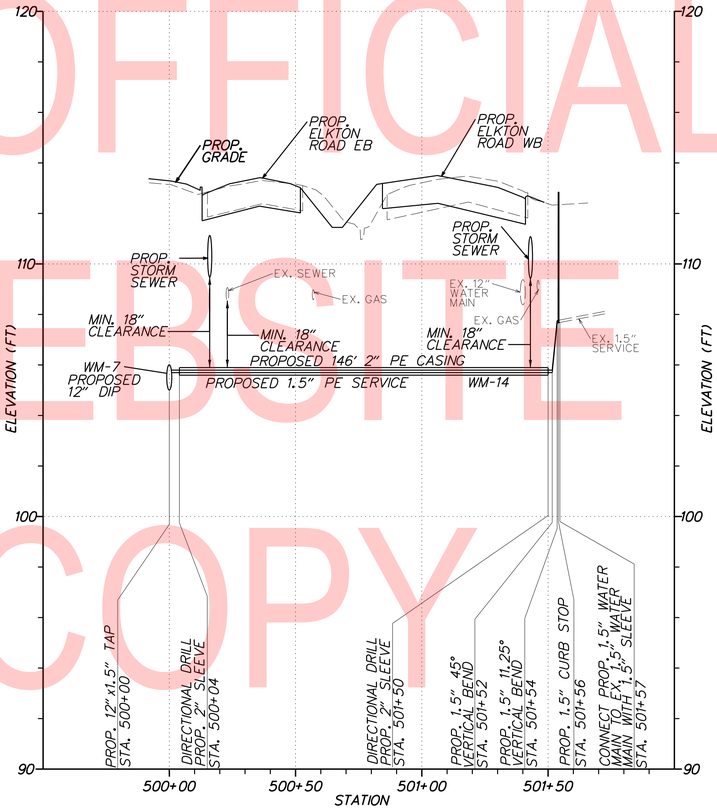


SUEZ WATER
WATER MAIN – 6" CLASS 52 DIP
ELKTON ROAD

WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-14*	1.5" PE DR-9	157'	SUEZ

*DIRECTIONAL DRILL WITH 2" DR-11 PE CASING PIPE

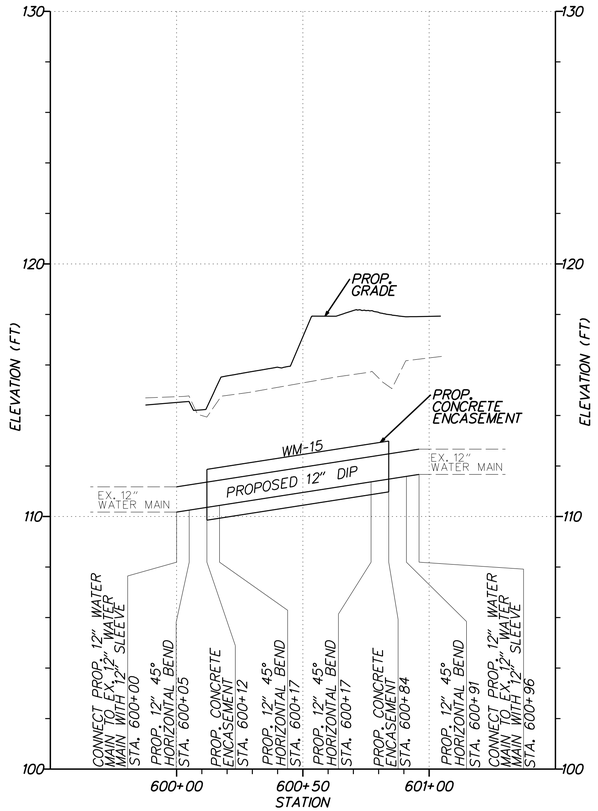


SUEZ WATER
WATER MAIN – 1.5" PE SERVICE
ELKTON ROAD

WATER MAIN SCHEDULE

NO.	SIZE/TYPE	LENGTH	OWNER
WM-12*	12" CLASS 52 DIP	96'	SUEZ

*OPEN CUT WITH 72' CONCRETE ENCASEMENT



SUEZ WATER
WATER MAIN – 12" CLASS 52 DIP
NORTHBOUND ELKTON ROAD

VERTICAL SCALE FEET 0 3 6 9

UT-26

UNOFFICIAL WEBSITE COPY

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\UT.DGN [SHEET: UT26]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: LB	
CHECKED BY: BPH	

UTILITY RELOCATION PLAN

SECTION	JMT
SHEET NO.	362

SIGNING AND STRIPING NOTES:

1. THE CONTRACTOR SHALL INSTALL AND REMOVE ONLY THE REGULATORY, WARNING, AND SPECIAL SIGNS AND POSTS NOTED IN THE PLANS WITHIN CONTRACT LIMITS. DELDOT TO FURNISH ALL REGULATORY, WARNING, AND SPECIAL SIGNS AND POSTS TO THE CONTRACTOR FOR INSTALLATION.

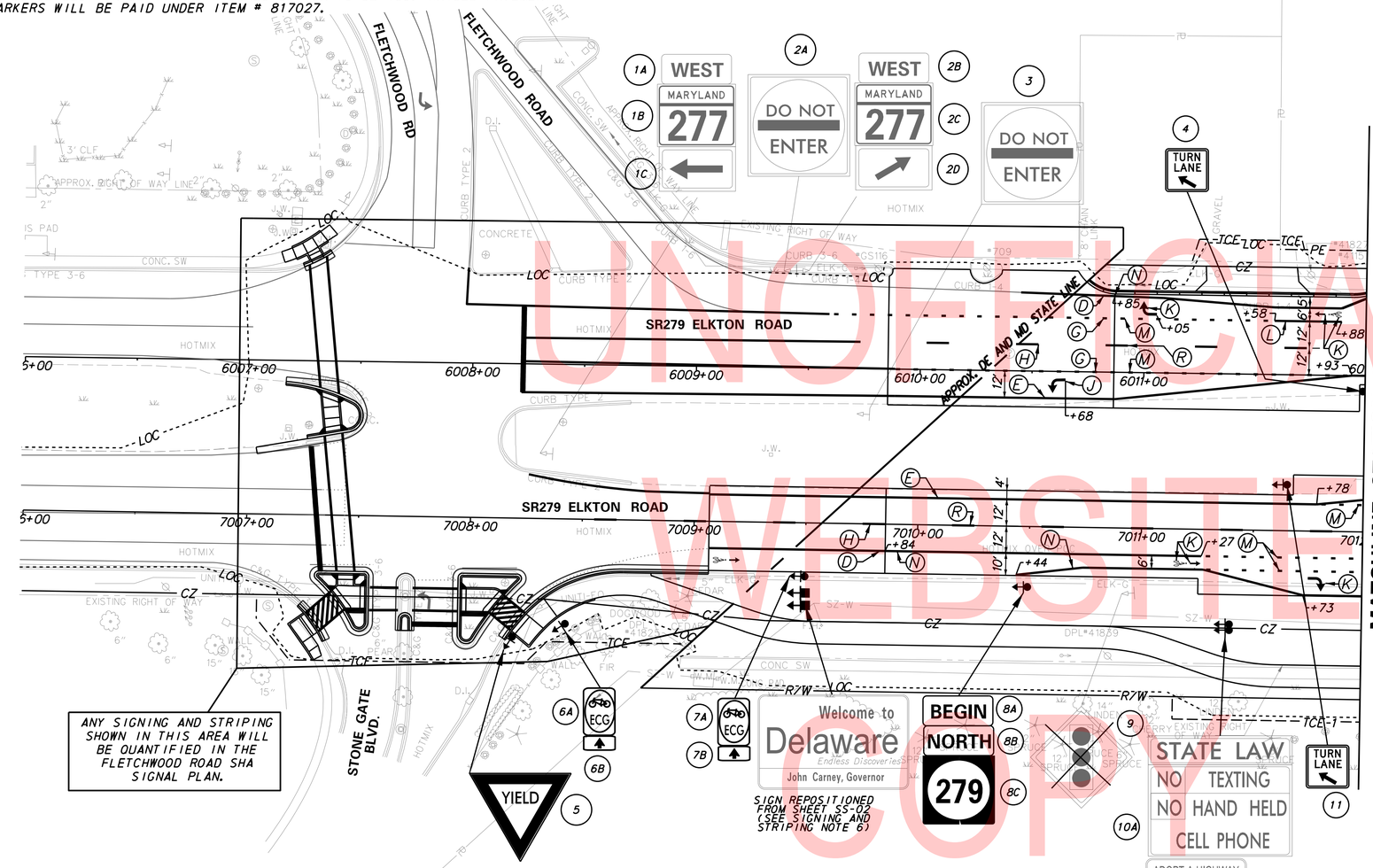
2. ADDITIONAL STRIPING BEYOND CONTRACT LIMITS MAY BE REQUIRED TO REPLACE THE EXISTING STRIPING REMOVED FOR MAINTENANCE OF TRAFFIC. ALL PROPOSED STRIPING SHALL TIE INTO EXISTING STRIPING, ACTUAL LIMITS TO BE DETERMINED BY THE ENGINEER.

3. CONTRACTOR SHALL INSTALL RAISED PAVEMENT MARKERS IN ACCORDANCE WITH THE DE MUTCD SECTION 3B-11 AND FIGURES 3B-15A TO 3B-15C. RAISED PAVEMENT MARKERS WILL BE PAID UNDER ITEM # 817027.

4. ANY SIGNING AND STRIPING WITHIN THE MARYLAND STATE BOUNDARY WILL BE SHOWN ON THE FLETCHWOOD ROAD INTERSECTION PLAN.

5. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING SIGNS BEFORE GIVING DIRECTION TO THE SIGN SHOP TO MANUFACTURE THE SIGNS.

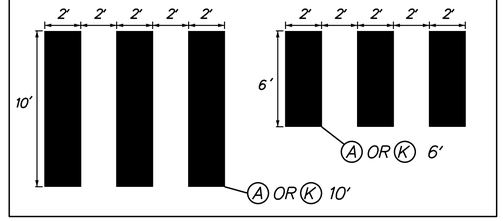
6. THE EXISTING SIGN ON I-BEAM POSTS AT STATION 7013+00 RIGHT, SHALL BE INSTALLED ON NEW I-BEAM SIGN POSTS AS SHOWN ON THE PLANS. THE INSTALLATION OF THE NEW I-BEAM POSTS SHALL BE PAID VIA ITEM # 820017 AND THE INSTALLATION OF THE SIGN SHALL BE PAID VIA ITEM # 820019. SEE SHEET SS-24 FOR GROUND MOUNTED SIGN DETAIL.

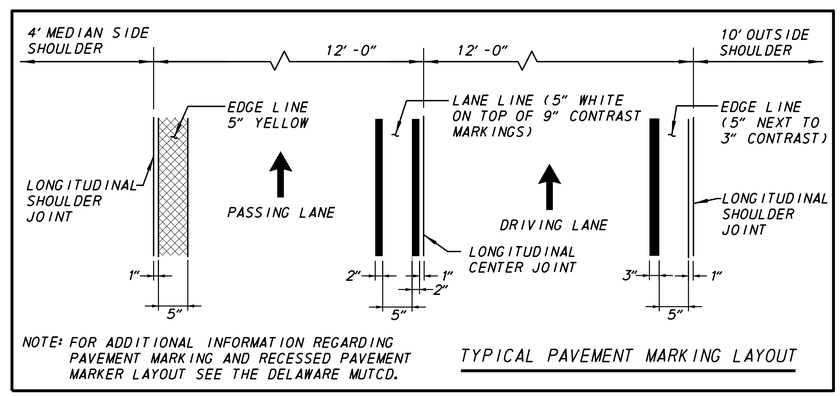


PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	80 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	460 LF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	30 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	25 LF
(J)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	20 SF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	60 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	35 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	35 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	100 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	100 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	475 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	475 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	105 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	105 LF

PIANO KEYS DETAILS





NOTE: FOR ADDITIONAL INFORMATION REGARDING PAVEMENT MARKING AND RECESSED PAVEMENT MARKER LAYOUT SEE THE DELAWARE MUTCD.

TYPICAL PAVEMENT MARKING LAYOUT

ITMS NOTES :

1. REMOVAL OF EXISTING JUNCTION WELLS SHALL BE PAID UNDER ITEM #211000.
2. COORDINATE THE INSTALLATION OF ITMS CONDUIT AND LIGHTING/SIGNAL CONDUITS IN TRENCHES. REFER TO LIGHTING PLANS AND SIGNAL PLANS FOR RELEVANT CONDUIT DETAILS. ITMS FIBER AND LIGHTING/SIGNAL CABLES SHALL NOT SHARE THE SAME CONDUIT OR JUNCTION WELL.
3. DELDOT FORCES SHALL BE RESPONSIBLE FOR ALL FINAL ITMS CONNECTIONS AND DEVICE INSTALLATION.
4. ALL EXISTING ITMS CONDUITS WITHIN THE PROJECT LIMITS SHALL BE ABANDONED, UNLESS OTHERWISE NOTED.
5. REFER TO THE TRAFFIC SIGNAL PLANS FOR THE CONNECTION OF ITMS CONDUITS WITH THE SIGNAL JUNCTION WELLS AND CONTROLLER CABINET.
6. BURIED ELECTRICAL CABLE AND CONDUIT, AND OTHER UTILITIES MAY EXIST THROUGHOUT THIS PROJECT. THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PREVENTING DAMAGE TO THEM, AND MAINTAINING THEM IN SERIVCE WHEN AND WHERE REQUIRED. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES BY HAND EXCAVATION PRIOR TO TRENCHING BY MACHINE.
7. CONDUIT RUNS ARE SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL LOCATE THE CONDUIT RUNS IN A MANNER THAT AVOIDS CONFLICT WITH ALL EXISTING AND PROPOSED FEATURES AS FIELD CONDITIONS DICTATE AND AS APPROVED BY THE ENGINEER.
8. THE CONTRACTOR SHALL NOTIFY DELMARVA POWER TWO WEEKS IN ADVANCE TO ARRANGE FINAL POWER CONNECTIONS. CONTACT: MR. ANGEL COLLAZO AT 302-454-4370 OR MR. TOM SMITH AT 302-283-5757.
9. ALL CONDUITS AND JUNCTION WELLS, ETC. SHALL BE STAKED OUT AND EVERY LOCATION APPROVED BY THE ENGINEER BEFORE ANY WORK IS DONE.
10. UNDERGOUND CONDUITS SHALL BE SLOPED TO DRAIN TO THE NEAREST JUNCTION WELL. IF THIS CANNOT BE ACCOMPLISHED, PROVIDE A DRAINAGE TEE AT LOW POINT OF CONDUIT RUN. DRAINAGE TIES SHALL BE INCIDENTAL TO PROPOSED CONDUIT.
11. CONTRACTOR SHALL CONTACT DELDOT'S SIGNAL CONSTRUCTION MANAGER AT 302-659-2565 AND DELDOT'S TMC MANAGER AT 302-659-4600 A MINIMUM OF 48 HOURS PRIOR TO REMOVAL, INSTALLATION AND/OR TIE TO EXISTING FACILITIES.
12. CONTRACTOR SHALL INSTALL PULL STRING IN ALL PROPOSED CONDUIT.

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS01]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

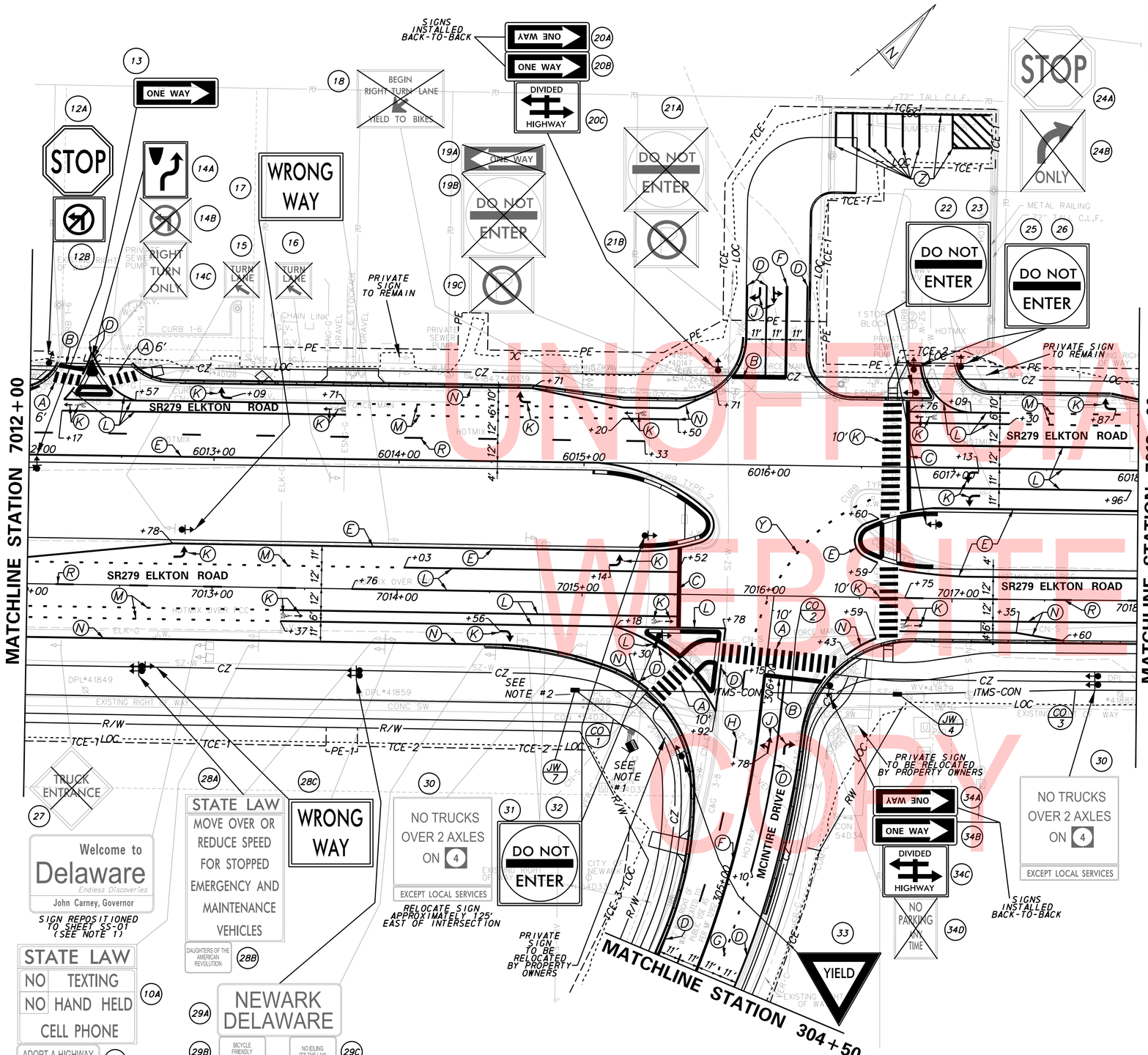
SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: GYB	CHECKED BY: MAW

SIGNING, STRIPING AND CONDUIT PLAN

SS-01 | SECTION: JMT | SHEET NO.: 363



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WEBSITE
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CONDUIT RUN SCHEDULE

TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-1	1	4"	40'	T	BY DELDOT FORCES
CO-2	1 (SCHD. 80 HDPE)	4"	175'	B	BY DELDOT FORCES
CO-3	1	4"	300'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT

PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 24" SOLID (ITEM 817002)	585 SF
(B)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	115 SF
(C)	PREFORMED PATTERNED TAPE MARKINGS, WHITE 16" SOLID (ITEM 817012)	155 SF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	760 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,170 LF
(F)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID DOUBLE LINE (ITEM 817013)	470 LF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	25 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	50 LF
(J)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	85 SF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	785 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,835 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	1,835 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	260 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	260 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	990 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	990 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	185 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	185 LF
(Y)	PREFORMED PATTERNED TAPE MARKINGS, WHITE/BLACK 8" DOTTED - 2' LINE & 6' GAP (ITEM 817022)	35 LF
(Z)	PAINTING OF WHITE OR YELLOW LINE, 5" LINE (ITEM 817026)	355 LF

NOTE:
1. THE EXISTING I-BEAM POSTS SHALL BE REMOVED UNDER ITEM #820018. THE REMOVAL OF THE EXISTING FOUNDATIONS SHALL BE INCIDENTAL TO ITEM # 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS. THE REMOVAL OF THE EXISTING SIGN PANEL FROM THE I-BEAM POSTS SHALL BE PAID FOR UNDER ITEM #820020. THE CONTRACTOR SHALL CAREFULLY RELOCATE AND REINSTALL THE EXISTING SIGN. THE CONTRACTOR SHALL SAFELY STORE THE SIGN IF NECESSARY UNTIL IT CAN BE REINSTALLED. IF THE SIGN IS DAMAGED DURING THE RELOCATION PROCESS, THE CONTRACTOR SHALL FURNISH A NEW SIGN WITH NO COST TO THE DEPARTMENT.

ITMS NOTES :
1. ITMS CONDUIT TO TERMINATE IN SIGNAL TYPE 4 JUNCTION WELL AND CONNECT TO SIGNAL CABINET (INSTALLED AS PART OF SIGNAL WORK).
2. FIBER BACKBONE TO TERMINATE IN JW 7 STA 7014+97.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS02]

ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

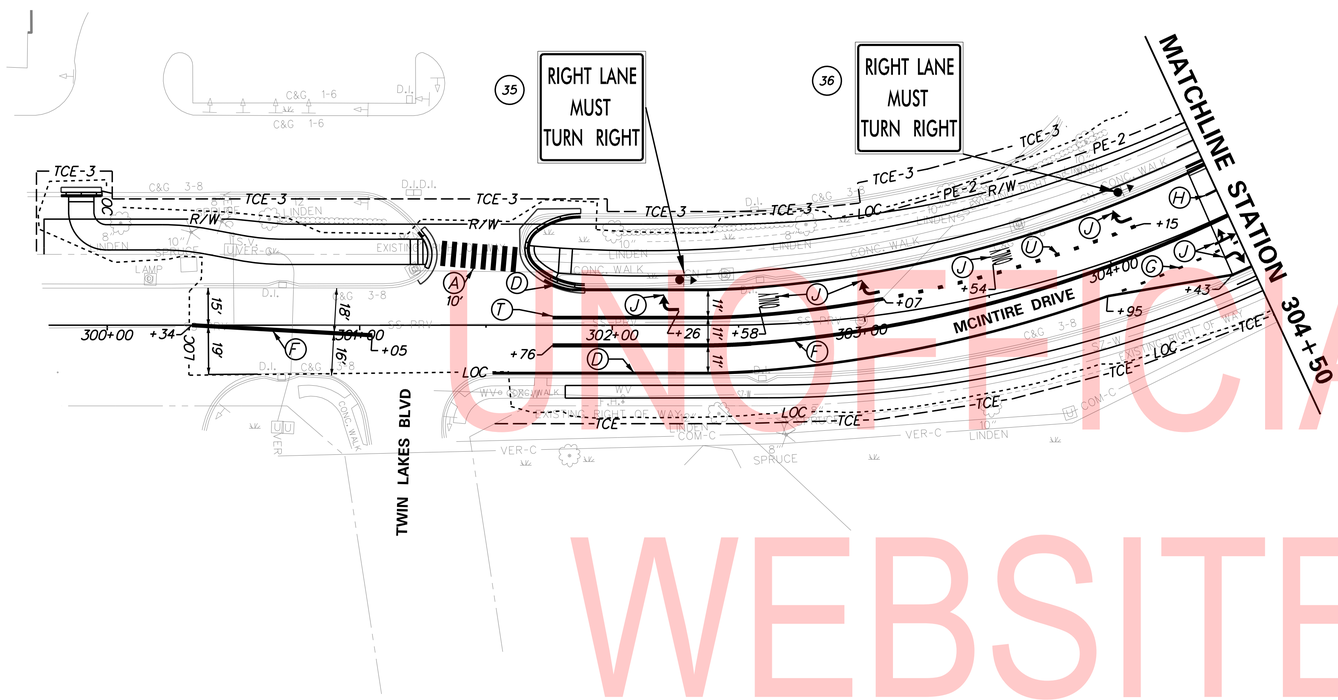
SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

SS-02
SECTION JMT
SHEET NO. 364



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PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 24" SOLID (ITEM 817002)	180 SF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	640 LF
(F)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID DOUBLE LINE (ITEM 817013)	770 LF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	20 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	15 LF
(J)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	165 SF
(T)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 10" SOLID (ITEM 817014)	145 LF
(U)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 10" DOTTED - 2' LINE & 6' GAP (ITEM 817014)	35 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS03]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

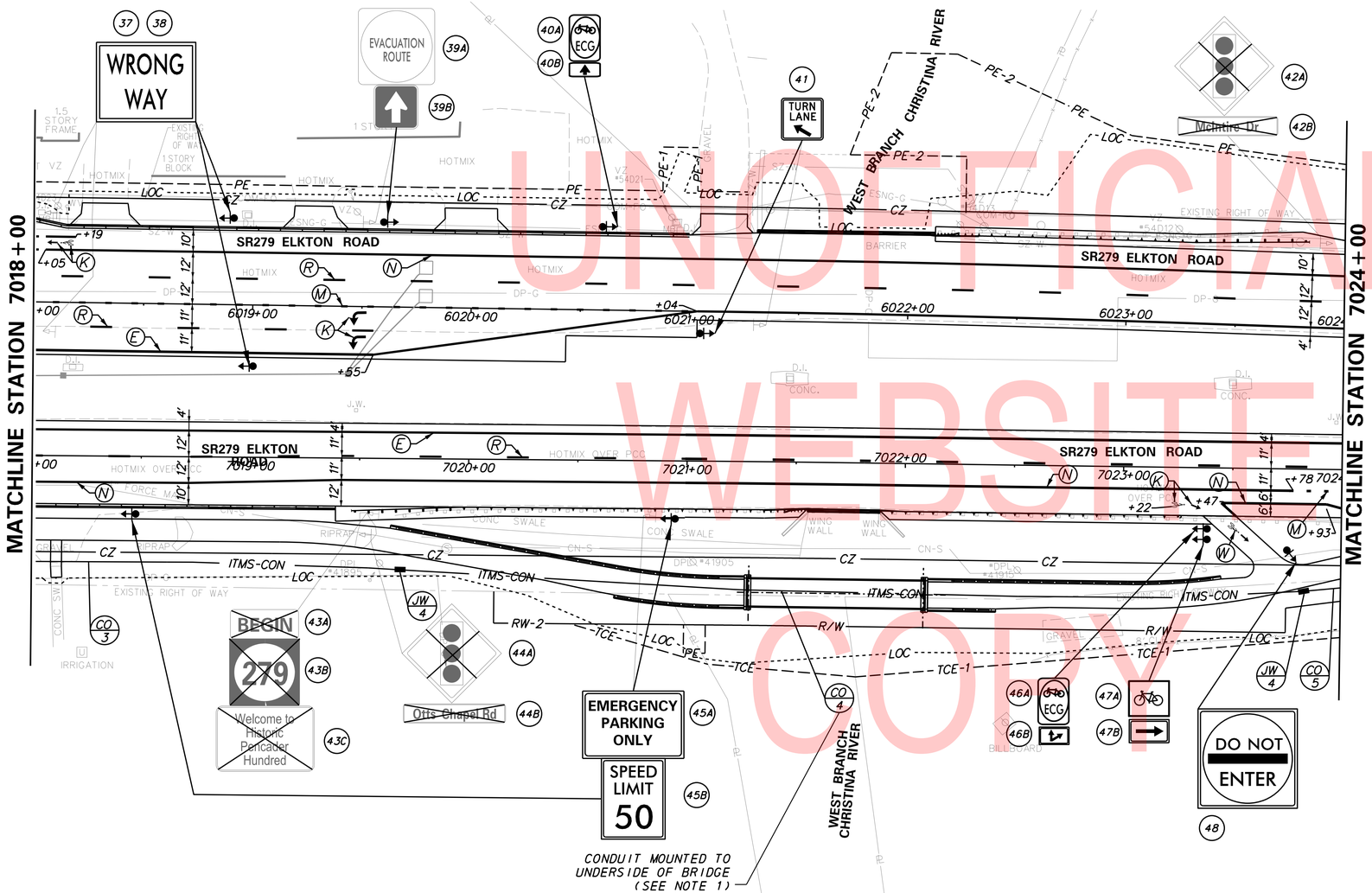
SIGNING, STRIPING AND CONDUIT PLAN

SS-03

SECTION	SHEET NO.
JMT	365

CONDUIT RUN SCHEDULE					
TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-3	INFORMATION PROVIDED ON SHEET SS-02				
CO-4	1 (GALV. STEEL)	4"	415'	T/*	BY DELDOT FORCES
CO-5	1	4"	315'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH. O = OPEN CUT
* - SECTION OF CONDUIT INSTALLED ON STRUCTURE



PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,325 LF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	60 SF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	95 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	95 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,375 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	1,375 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	375 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	375 LF
(W)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (817015)	1 EACH

NOTE:
1) CONDUIT #4 WILL BE INSTALLED BY MOUNTING IT UNDERNEATH THE PEDESTRIAN BRIDGE. SEE SS-25 AND THE STRUCTURAL DETAIL SHEETS FOR ADDITIONAL INFORMATION ON THE INSTALLATION OF THE CONDUIT ON THE BRIDGE AND THE TRANSITION OF THE CONDUIT THROUGH THE STRUCTURE. INSTALLATION OF THE CONDUIT UNDER THE BRIDGE STRUCTURE SHALL BE CHARGED TO ITEM #831541 - 'FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (ON STRUCTURE)'.

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS04]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

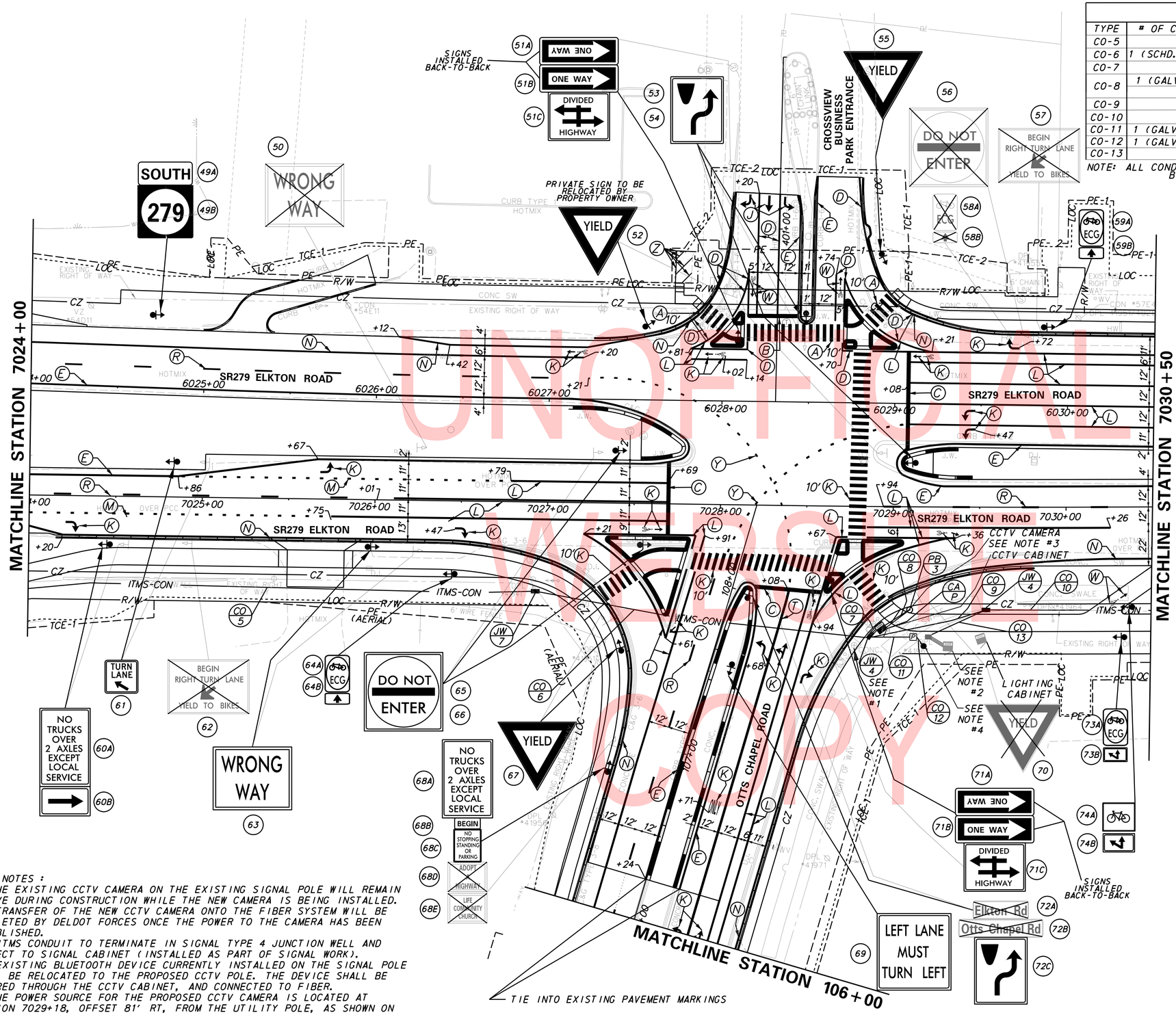
SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

SS-04
SECTION JMT
SHEET NO. 366



CONDUIT RUN SCHEDULE

TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-5	INFORMATION PROVIDED ON SHEET SS-04				
CO-6	1 (SCHD. 80 HDPE)	4"	195'	B	BY DELDOT FORCES
CO-7	3	4"	10'	T	BY DELDOT FORCES
CO-8	1 (GALV. STEEL)	2"	20'	T	(2) 1/#6, (1) 1/#6 GND
	1	4"	20'	T	BY DELDOT FORCES
CO-9	1	4"	70'	T	BY DELDOT FORCES
CO-10	1	4"	295'	T	BY DELDOT FORCES
CO-11	1 (GALV. STEEL)	2"	25'	T	(2) 1/#6, (1) 1/#6 GND
CO-12	1 (GALV. STEEL)	2"	10'	T	(2) 1/#6, (1) 1/#6 GND
CO-13	1	4"	35'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT

PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 24" SOLID (ITEM 817002)	510 SF
(B)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	45 SF
(C)	PREFORMED PATTERNED TAPE MARKINGS, WHITE 16" SOLID (ITEM 817012)	205 SF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	545 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,795 LF
(J)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	50 SF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	1,620 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	2,640 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	2,640 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	105 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	105 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,680 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	1,680 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	255 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	255 LF
(T)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 10" SOLID (ITEM 817014)	230 LF
(W)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (817015)	3 EACH
(Y)	PREFORMED PATTERNED TAPE MARKINGS, WHITE/BLACK 8" DOTTED - 2' LINE & 6' GAP (ITEM 817022)	95 LF
(Z)	PAINTING OF WHITE OR YELLOW LINE, 5" LINE (ITEM 817026)	75 LF

ITMS NOTES :
1. THE EXISTING CCTV CAMERA ON THE EXISTING SIGNAL POLE WILL REMAIN ACTIVE DURING CONSTRUCTION WHILE THE NEW CAMERA IS BEING INSTALLED. THE TRANSFER OF THE NEW CCTV CAMERA ONTO THE FIBER SYSTEM WILL BE COMPLETED BY DELDOT FORCES ONCE THE POWER TO THE CAMERA HAS BEEN ESTABLISHED.
2. ITMS CONDUIT TO TERMINATE IN SIGNAL TYPE 4 JUNCTION WELL AND CONNECT TO SIGNAL CABINET (INSTALLED AS PART OF SIGNAL WORK).
3. EXISTING BLUETOOTH DEVICE CURRENTLY INSTALLED ON THE SIGNAL POLE SHALL BE RELOCATED TO THE PROPOSED CCTV POLE. THE DEVICE SHALL BE POWERED THROUGH THE CCTV CABINET, AND CONNECTED TO FIBER.
4. THE POWER SOURCE FOR THE PROPOSED CCTV CAMERA IS LOCATED AT STATION 7029+18, OFFSET 81' RT, FROM THE UTILITY POLE, AS SHOWN ON THE PLANS.

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS05]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

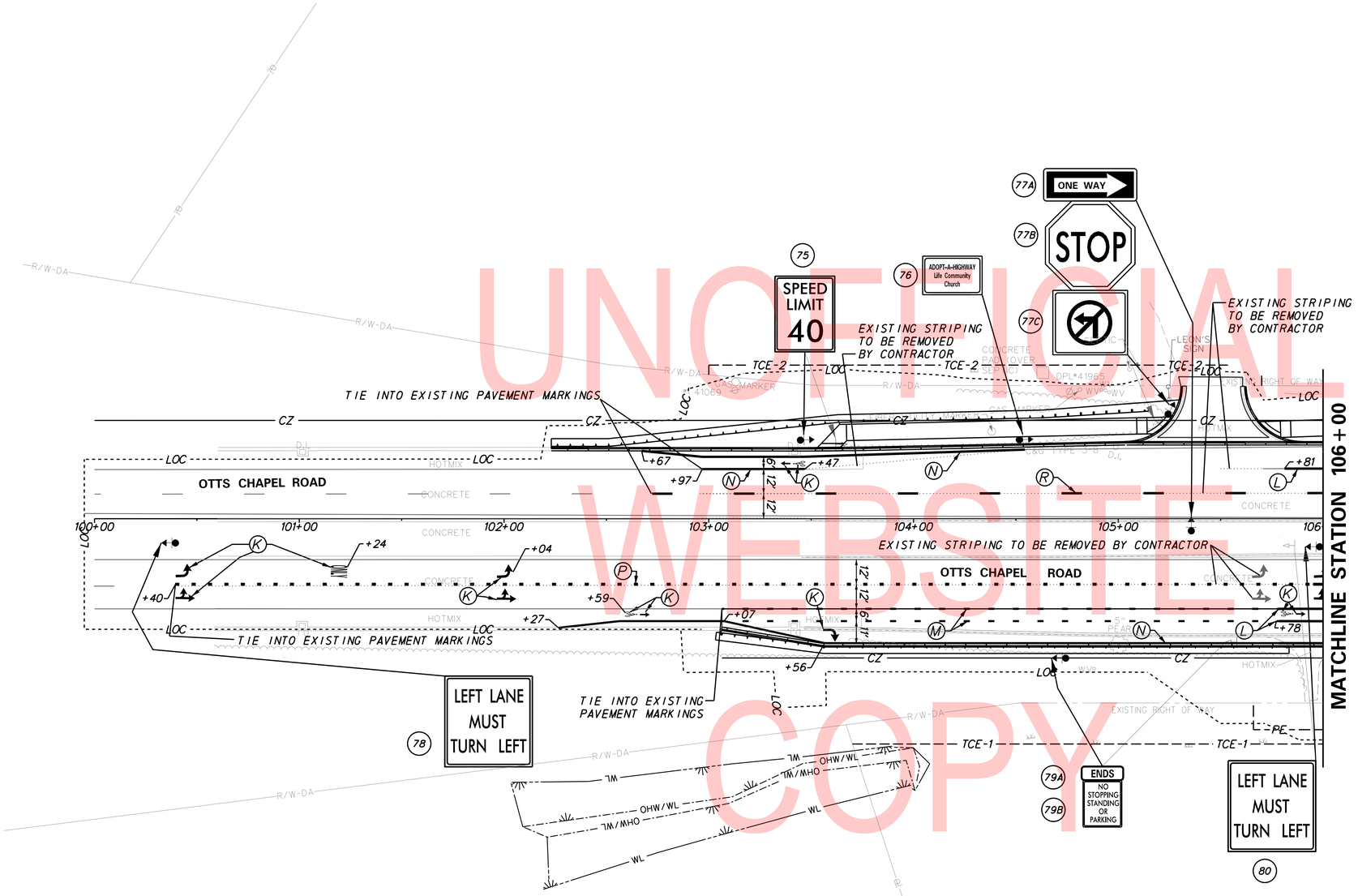
SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: GYB	CHECKED BY: MAW

SIGNING, STRIPING AND CONDUIT PLAN

SS-05
SECTION JMT
SHEET NO. 367



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PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	170 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	80 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	80 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	155 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	155 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	840 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	840 LF
(P)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 10" DOTTED - 2' LINE & 6' GAP (ITEM 817014)	155 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 14" DOTTED - 2' LINE & 6' GAP (ITEM 817025)	155 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	95 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	95 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS06]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

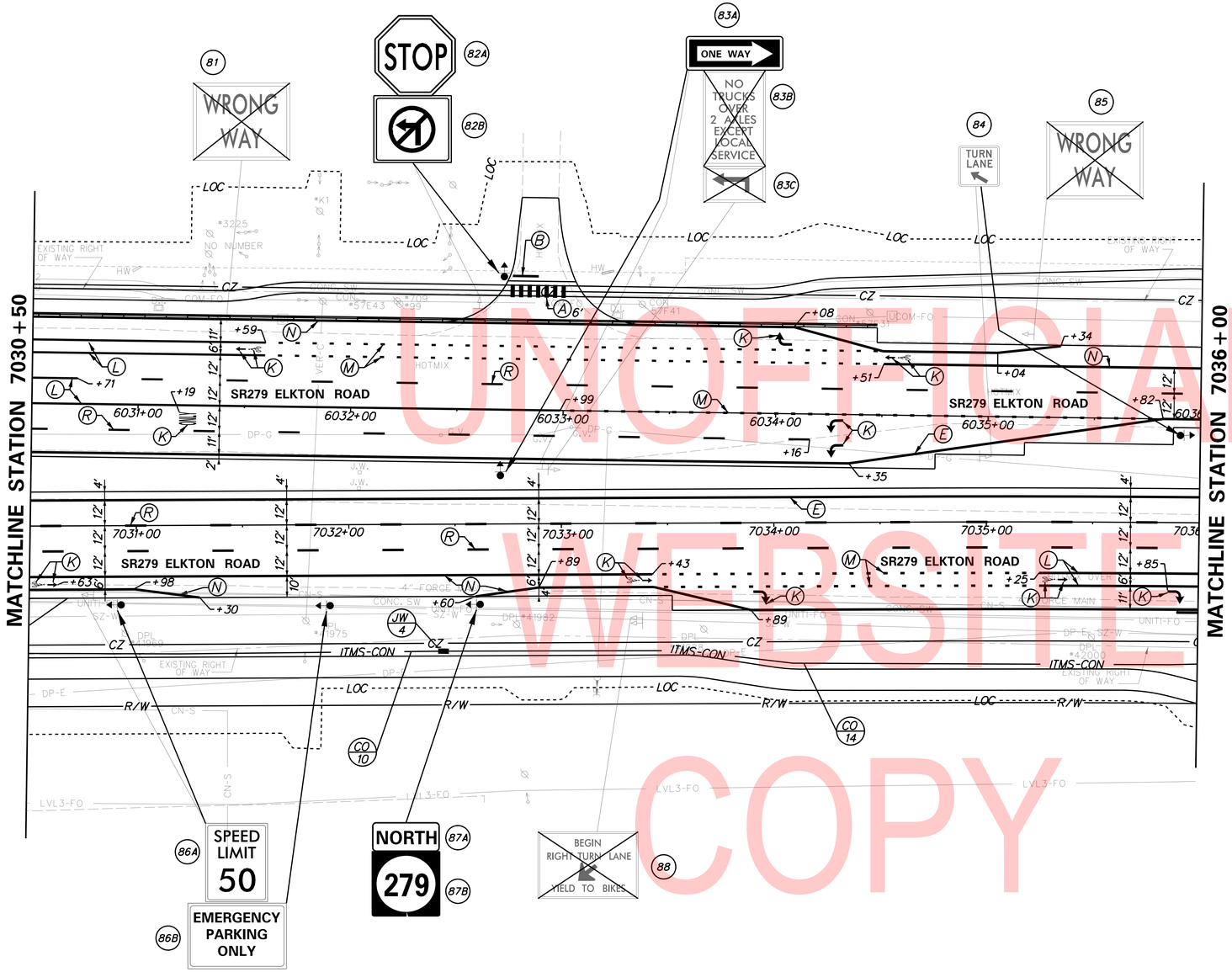
CONTRACT	T201504401	BRIDGE NO.	1-322 1-322P 1-323 1-323P
COUNTY	NEW CASTLE	DESIGNED BY: GYB	
		CHECKED BY: MAW	

SIGNING, STRIPING AND CONDUIT PLAN

SS-06	
SECTION	JMT
SHEET NO.	368

CONDUIT RUN SCHEDULE					
TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-10	INFORMATION PROVIDED ON SHEET SS-05				
CO-14	1	4"	400'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT



UNOFFICIAL WEBSITE COPY

PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 24" SOLID (ITEM 817002)	95 SF
(B)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	25 SF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,215 LF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	180 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	710 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	710 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	345 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	345 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,490 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	1,490 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	550 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	550 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS07]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

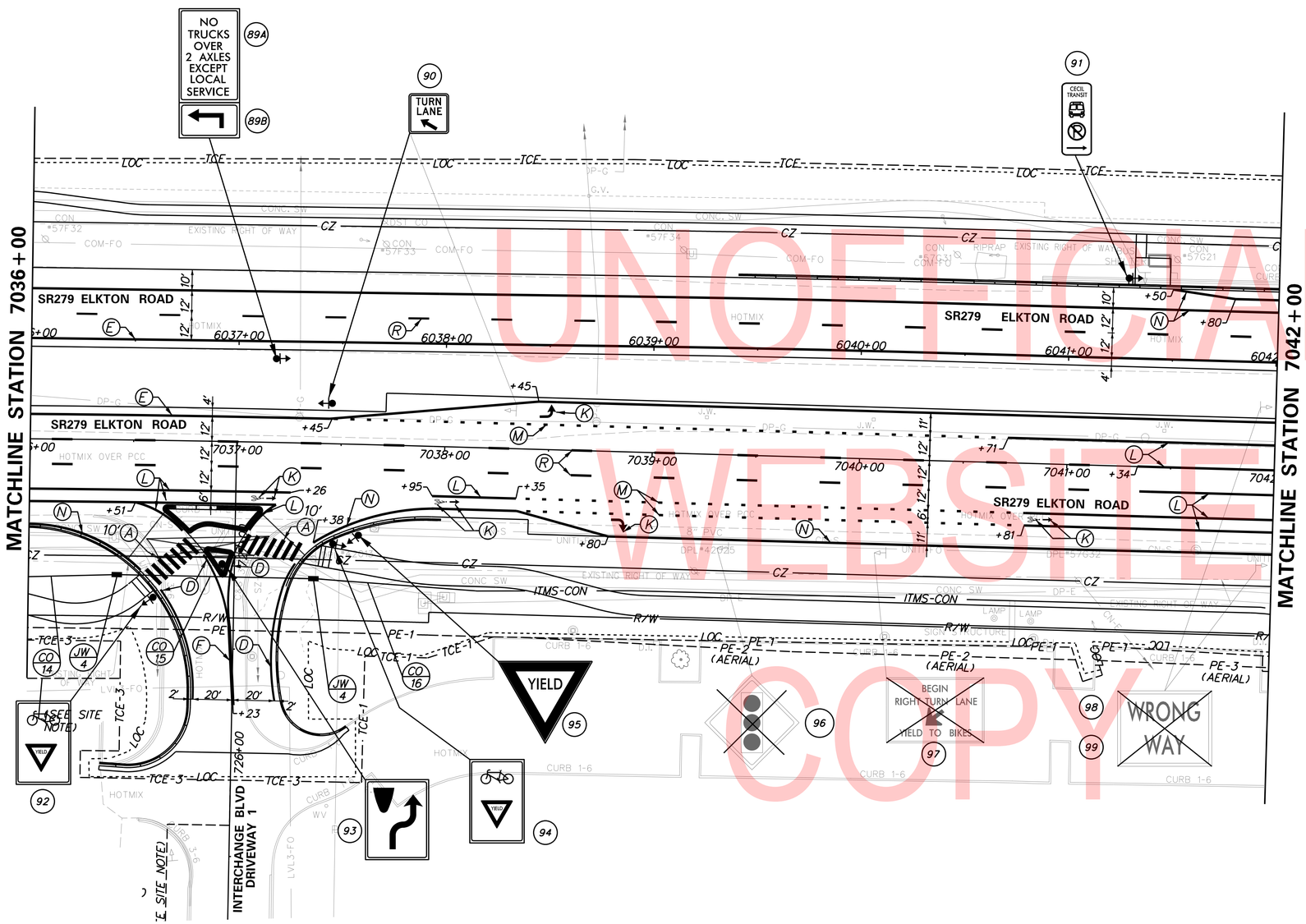
CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

SS-07
SECTION JMT
SHEET NO. 369

	CONDUIT RUN SCHEDULE				
TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-14	INFORMATION PROVIDED ON SHEET SS-07				
CO-15	1 (SCHD. 80 HDPE)	4"	95'	B	BY DELDOT FORCES
CO-16	1	4"	550'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT



UNOFFICIAL WEBSITE COPY

PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 24" SOLID (ITEM 817002)	310 SF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	220 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,325 LF
(F)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID DOUBLE LINE (ITEM 817013)	90 LF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	75 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	935 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	935 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	225 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	225 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,310 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	1,310 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	460 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	460 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS08]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

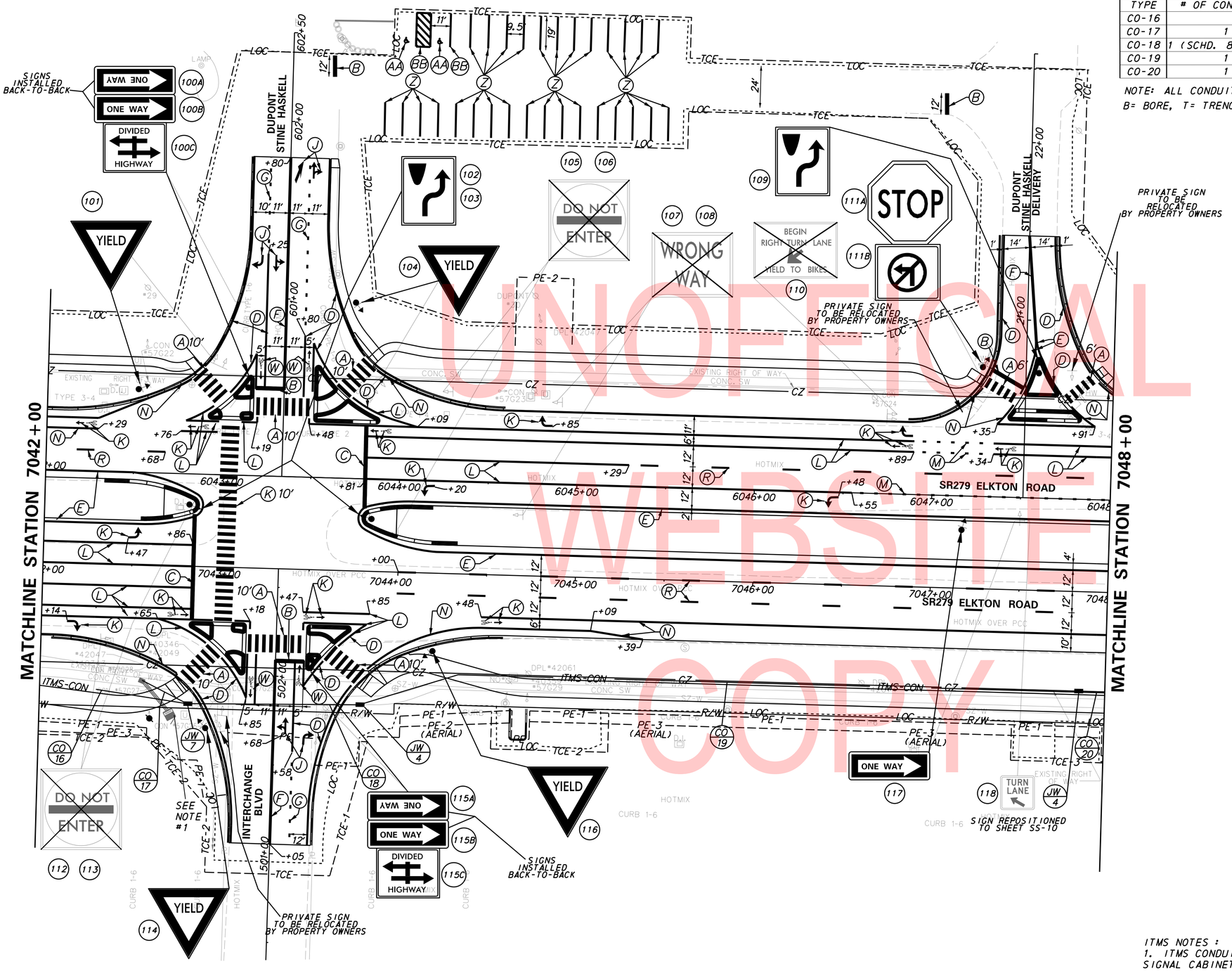
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

SS-08	
SECTION	JMT
SHEET NO.	370



CONDUIT RUN SCHEDULE

TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-16	INFORMATION PROVIDED ON SHEET SS-08				
CO-17	1	4"	30'	T	BY DELDOT FORCES
CO-18	1 (SCHD. 80 HDPE)	4"	100'	B	BY DELDOT FORCES
CO-19	1	4"	410'	T	BY DELDOT FORCES
CO-20	1	4"	400'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT

PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 24" SOLID (ITEM 817002)	990 SF
(B)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	110 SF
(C)	PREFORMED PATTERNED TAPE MARKINGS, WHITE 16" SOLID (ITEM 817012)	160 SF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,185 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,155 LF
(F)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID DOUBLE LINE (ITEM 817013)	650 LF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	60 LF
(J)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	150 SF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	820 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	2,085 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	2,085 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	70 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	70 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,265 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	1,265 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	320 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	320 LF
(W)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (817015)	4 EACH
(Z)	PAINTING OF WHITE OR YELLOW LINE, 5" LINE, (ITEM 817026)	610 LF
(AA)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, HANDICAP SYMBOL (817017)	2 EACH
(BB)	PAINTING OF BLUE LINE, 5" LINE, (ITEM 817026)	145 LF

ITMS NOTES :
1. ITMS CONDUIT TO TERMINATE IN SIGNAL TYPE 4 JUNCTION WELL AND CONNECT TO SIGNAL CABINET (INSTALLED AS PART OF SIGNAL WORK).

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS09]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD MD LINE TO CASHO MILL ROAD

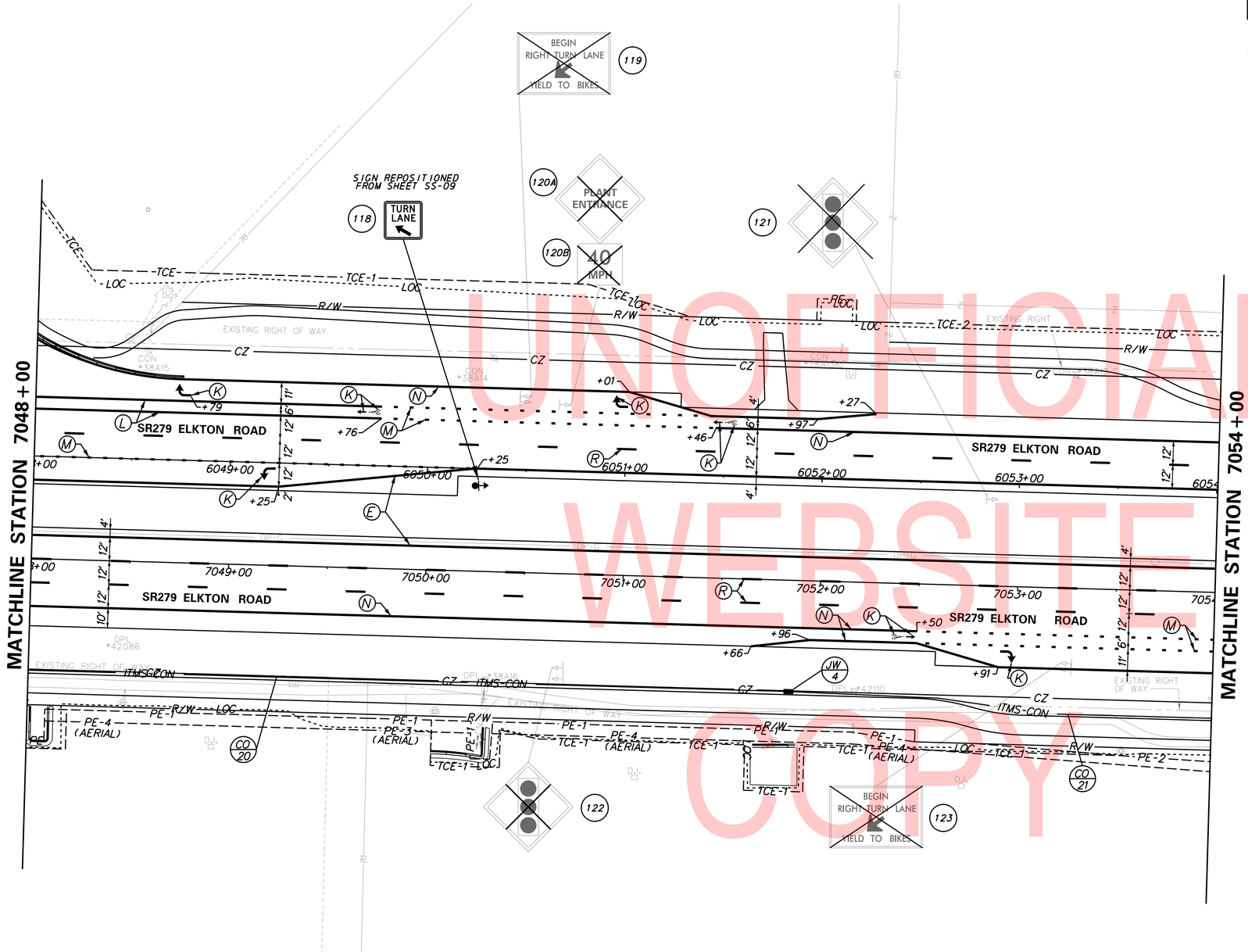
CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: GYB	CHECKED BY: MAW	

SIGNING, STRIPING AND CONDUIT PLAN

SS-09
SECTION JMT
SHEET NO. 371

CONDUIT RUN SCHEDULE					
TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-20		INFORMATION PROVIDED ON SHEET SS-09			
CO-21	1	4"	435'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT



PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,320 LF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	105 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	375 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	375 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	250 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	250 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,515 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	1,515 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	495 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	495 LF

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS10]

ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB
CHECKED BY: MAW

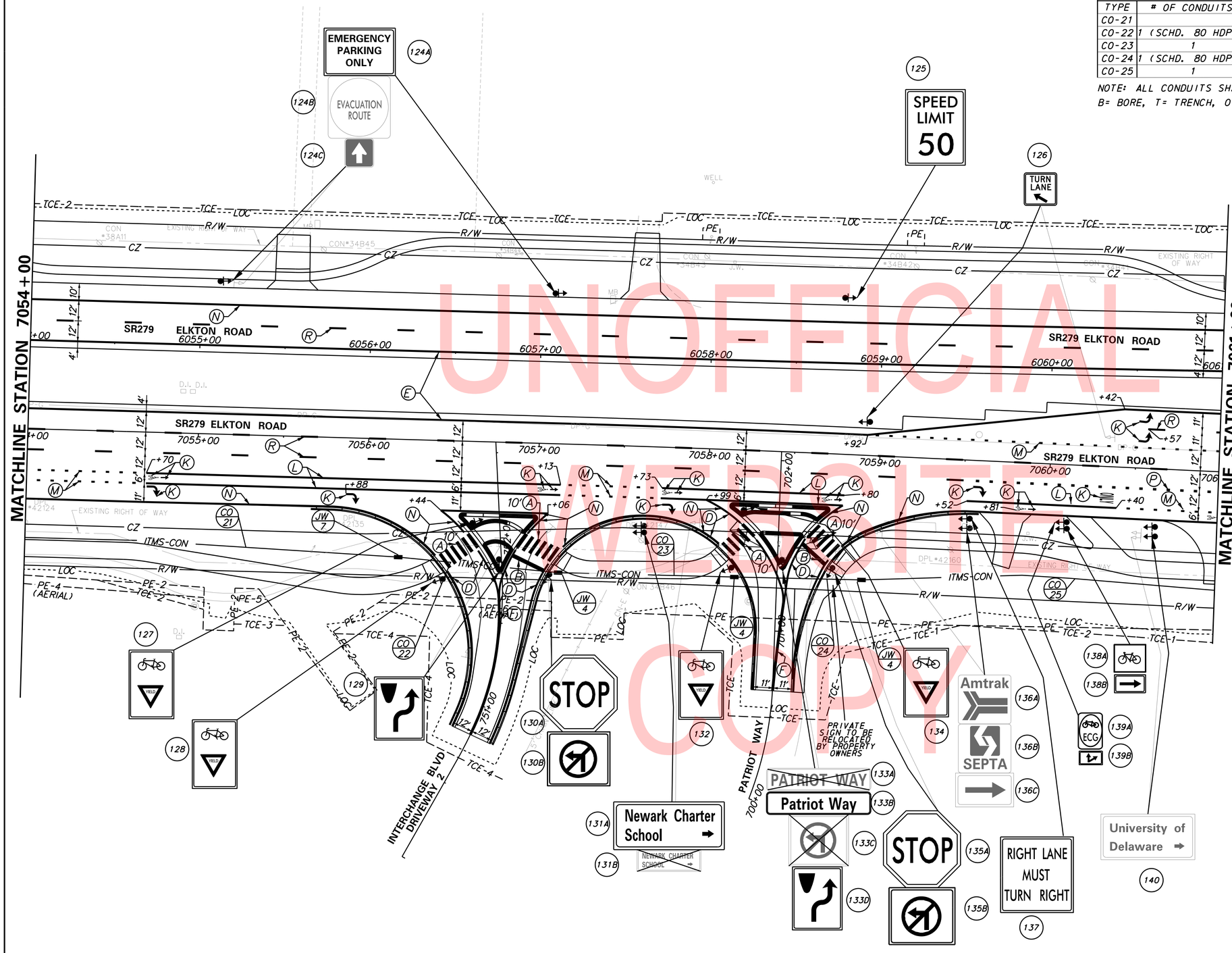
SIGNING, STRIPING AND CONDUIT PLAN

SS-10
SECTION JMT
SHEET NO. 372

CONDUIT RUN SCHEDULE

TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-21	INFORMATION PROVIDED ON SHEET SS-10				
CO-22	1 (SCHD. 80 HDPE)	4"	95'	B	BY DELDOT FORCES
CO-23	1	4"	105'	T	BY DELDOT FORCES
CO-24	1 (SCHD. 80 HDPE)	4"	75'	B	BY DELDOT FORCES
CO-25	1	4"	530'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT



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WEBSITE
COPY

PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 24" SOLID (ITEM 817002)	485 SF
(B)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	35 SF
(C)	PREFORMED PATTERNED TAPE MARKINGS, WHITE 16" SOLID (ITEM 817012)	35 SF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	540 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,550 LF
(F)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID DOUBLE LINE (ITEM 817013)	310 LF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	200 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	880 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	880 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	150 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	150 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,615 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	1,615 LF
(P)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 10" DOTTED - 2' LINE & 6' GAP (ITEM 817014)	45 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 14" DOTTED - 2' LINE & 6' GAP (ITEM 817025)	45 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	2,165 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	2,165 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS11]

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

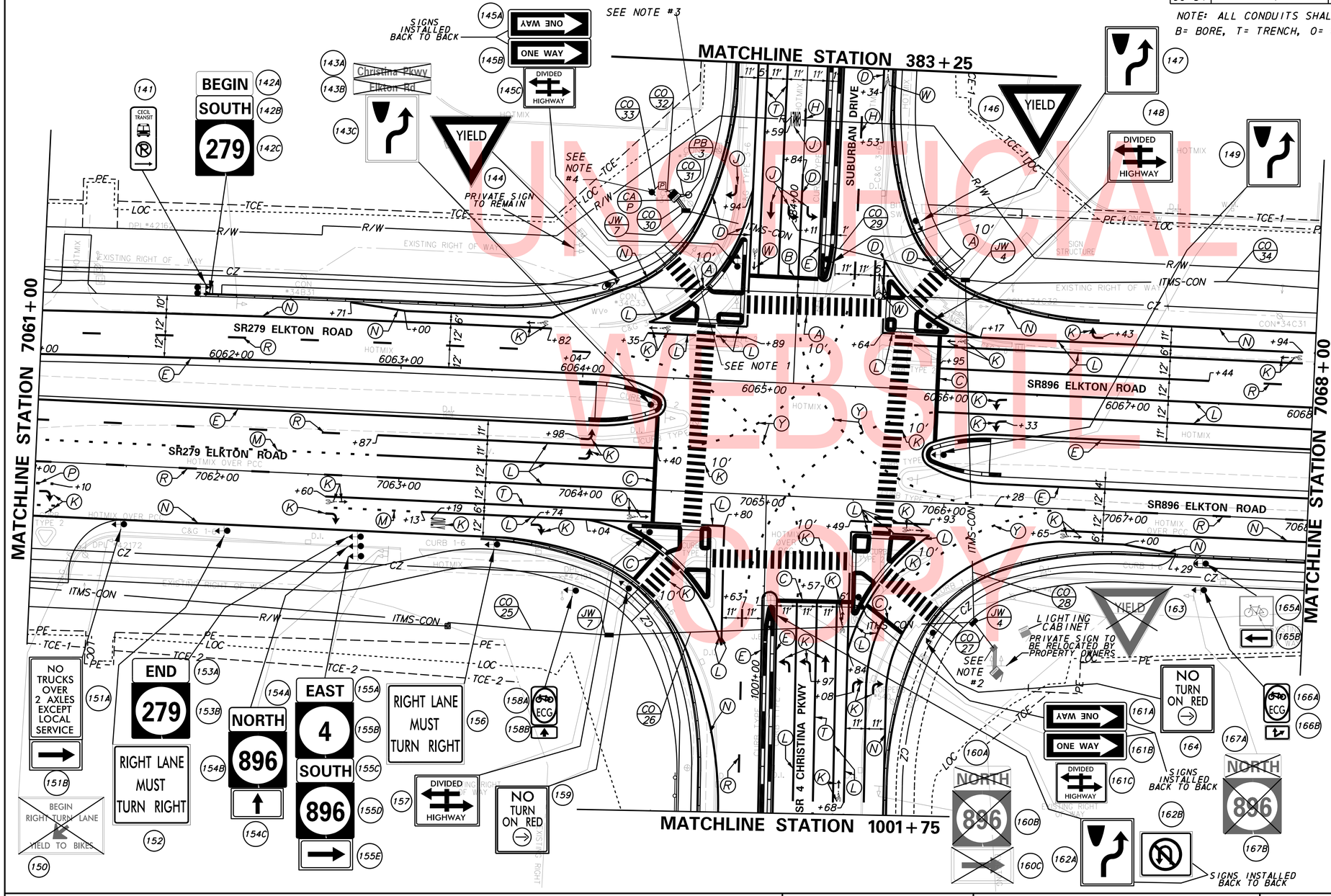
SS-11
SECTION JMT
SHEET NO. 373

ITMS NOTES :
1. THE EXISTING CCTV CAMERA WILL REMAIN ACTIVE DURING CONSTRUCTION WHILE THE NEW CAMERA IS BEING INSTALLED. THE TRANSFER OF THE NEW CCTV CAMERA ONTO THE FIBER SYSTEM WILL BE COMPLETED BY DELDOT FORCES ONCE THE POWER TO THE CAMERA HAS BEEN ESTABLISHED.
2. ITMS CONDUIT TO TERMINATE SIGNAL TYPE 4 JUNCTION WELL AND CONNECT TO SIGNAL CABINET (INSTALLED AS PART OF SIGNAL WORK).
3. EXISTING BLUETOOH DEVICE CURRENTLY INSTALLED ON THE SIGNAL POLE SHALL BE RELOCATED TO THE PROPOSED CCTV POLE. THE DEVICE SHALL RECEIVE POWER FROM THE CCTV CABINET, AND BE CONNECTED TO FIBER.
4. THE POWER SOURCE FOR THE PROPOSED CCTV CAMERA IS LOCATED AT STATION 6064+33, OFFSET 102' LT, FROM THE UTILITY POLE, AS SHOWN ON THE PLANS.

CONDUIT RUN SCHEDULE

TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-25	INFORMATION PROVIDED ON SHEET SS-11				
CO-26	1 (SCHD. 80 HDPE)	4"	205'	B	BY DELDOT FORCES
CO-27	1	4"	20'	T	BY DELDOT FORCES
CO-28	1 (SCHD. 80 HDPE)	4"	190'	B	BY DELDOT FORCES
CO-29	1 (SCHD. 80 HDPE)	4"	155'	B	BY DELDOT FORCES
CO-30	3	4"	20'	T	BY DELDOT FORCES
CO-31	1 (GALV. STEEL)	2"	5'	T	(2) 1/#6, (1) 1/#6 GND
	1	4"	5'	T	BY DELDOT FORCES
CO-32	1 (GALV. STEEL)	2"	5'	T	(2) 1/#6, (1) 1/#6 GND
CO-33	1 (GALV. STEEL)	2"	10'	T	(2) 1/#6, (1) 1/#6 GND
CO-34	1	4"	370'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT



PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 24" SOLID (ITEM 817002)	685 SF
(B)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	55 SF
(C)	PREFORMED PATTERNED TAPE MARKINGS, WHITE 16" SOLID (ITEM 817012)	295 LF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	640 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,795 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	50 LF
(J)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	105 SF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	2,665 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	2,745 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	2,745 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	75 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	75 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,685 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	1,685 LF
(P)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 10" DOTTED - 2' LINE & 6' GAP (ITEM 817014)	10 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 14" DOTTED - 2' LINE & 6' GAP (ITEM 817025)	10 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	520 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	520 LF
(T)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 10" SOLID (ITEM 817014)	580 LF
(W)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (817015)	3 EACH
(Y)	PREFORMED PATTERNED TAPE MARKINGS, WHITE/BLACK 8" DOTTED - 2' LINE & 6' GAP (ITEM 817022)	205 LF

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB	
CHECKED BY: MAW	

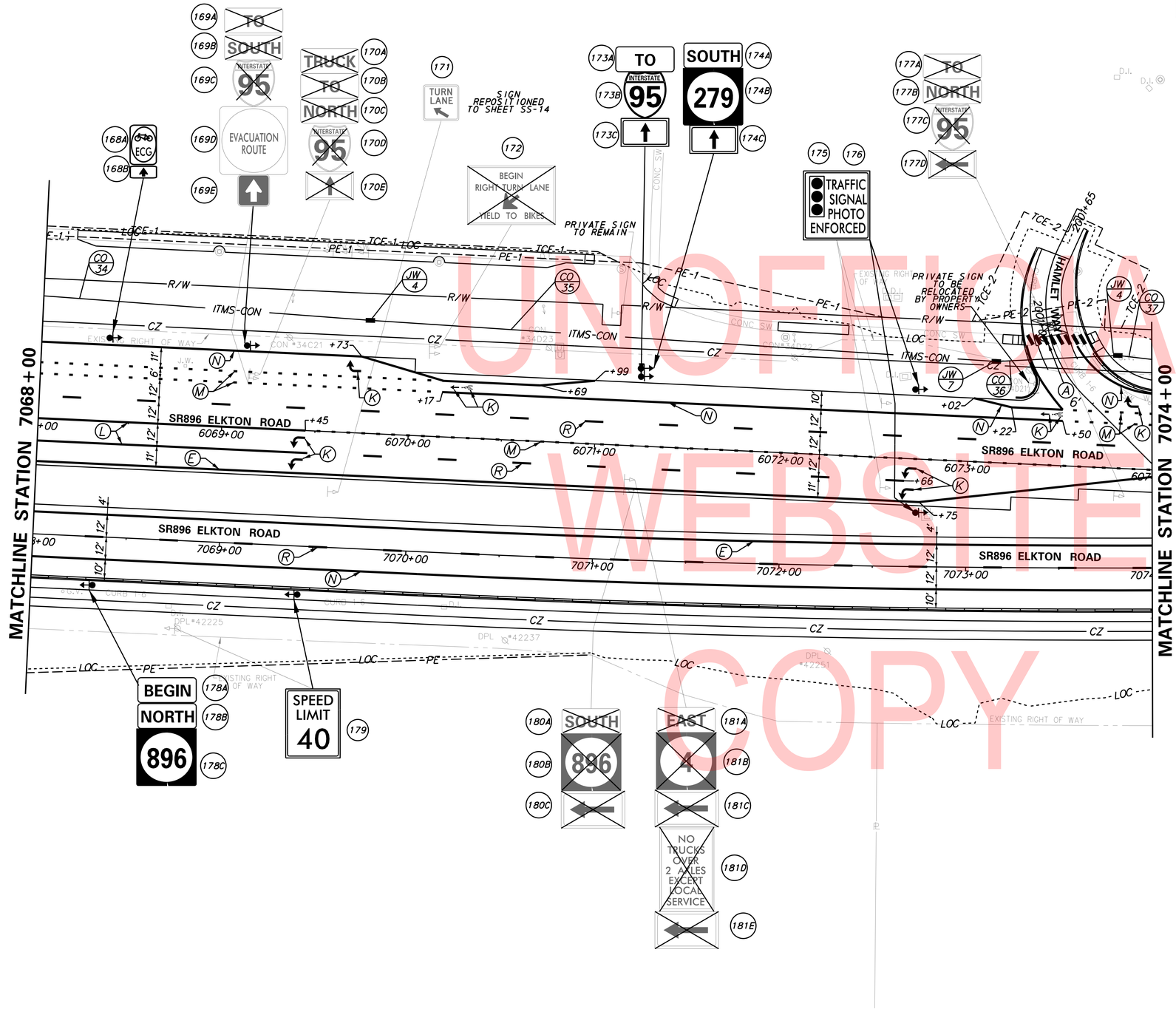
SIGNING, STRIPING AND CONDUIT PLAN

SS-12
SECTION JMT
SHEET NO. 374

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS12]

CONDUIT RUN SCHEDULE					
TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-34	INFORMATION PROVIDED ON SHEET SS-12				
CO-35	1	4"	340'	T	BY DELDOT FORCES
CO-36	1 (SCHD. 80 HDPE)	4"	70'	B	BY DELDOT FORCES
CO-37	1	4"	125'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT



PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 24" SOLID (ITEM 817002)	110 SF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,320 LF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	130 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	310 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	310 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	275 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	275 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,530 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	1,530 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	425 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	425 LF

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS13]

ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: GBB
CHECKED BY: MAW

SIGNING, STRIPING AND CONDUIT PLAN

SS-13
SECTION JMT
SHEET NO. 375

CONDUIT RUN SCHEDULE

TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-37	INFORMATION PROVIDED ON SHEET SS-13				
CO-38	1 (SCHD. 80 HDPE)	4"	80'	B	BY DELDOT FORCES
CO-39	1	4"	305'	T	BY DELDOT FORCES
CO-40	1 (SCHD. 80 HDPE)	4"	120'	B	BY DELDOT FORCES
CO-41	1	4"	110'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT

PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 24" SOLID (ITEM 817002)	320 SF
(B)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	40 SF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	365 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,645 LF
(F)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID DOUBLE LINE (ITEM 817013)	135 LF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	180 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	855 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	855 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	195 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	195 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,335 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	1,335 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	375 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	375 LF

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FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS14]

ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE
BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB
CHECKED BY: MAW

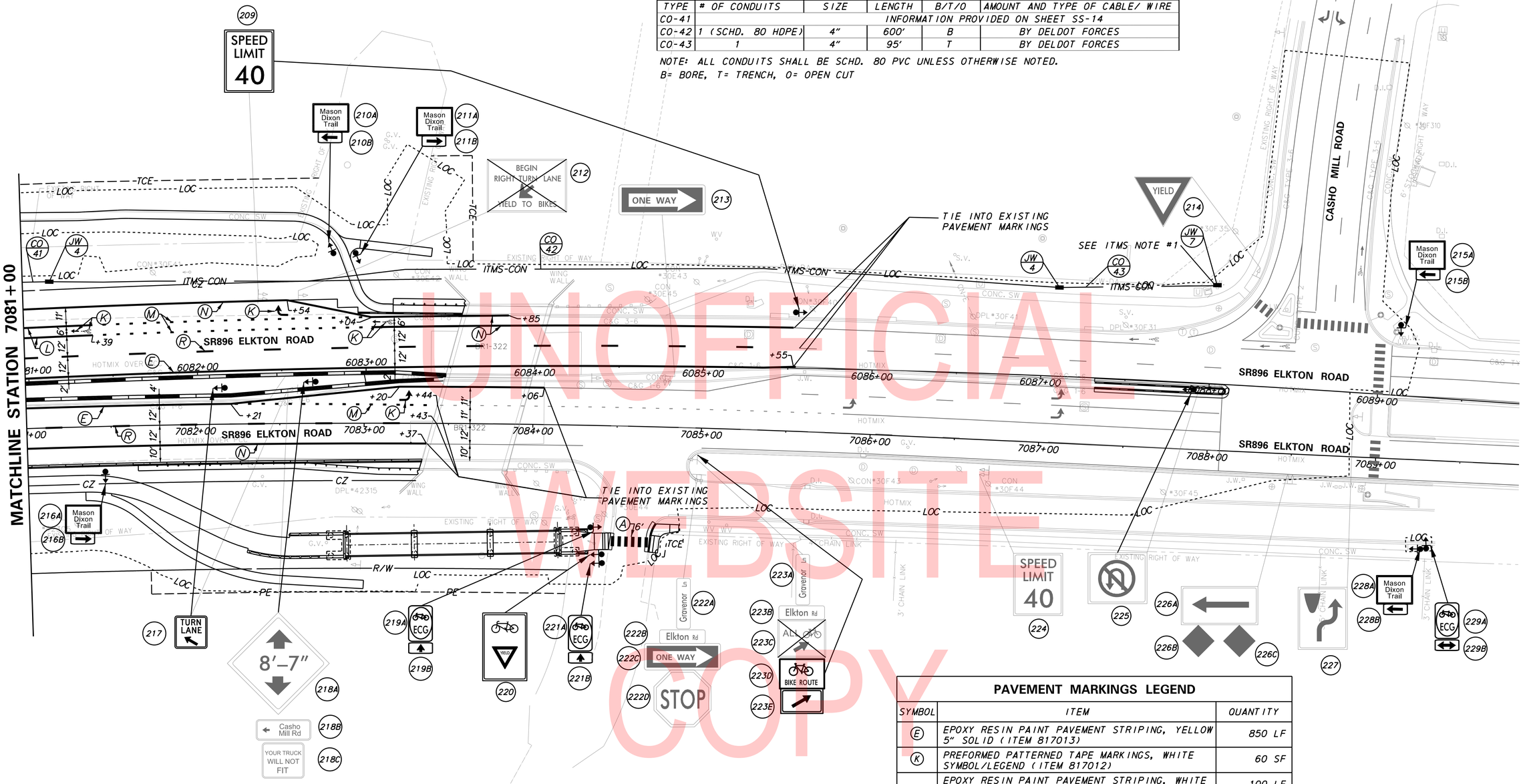
SIGNING, STRIPING AND CONDUIT PLAN

SS-14
SECTION JMT
SHEET NO. 376

CONDUIT RUN SCHEDULE

TYPE	# OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE/ WIRE
CO-41	INFORMATION PROVIDED ON SHEET SS-14				
CO-42	1 (SCHD. 80 HDPE)	4"	600'	B	BY DELDOT FORCES
CO-43	1	4"	95'	T	BY DELDOT FORCES

NOTE: ALL CONDUITS SHALL BE SCHD. 80 PVC UNLESS OTHERWISE NOTED.
B= BORE, T= TRENCH, O= OPEN CUT



PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	850 LF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	60 SF
(L)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	100 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" SOLID (ITEM 817024)	100 LF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	130 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	130 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	860 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	860 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	195 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	195 LF

ITMS NOTES :
1. CONTRACTOR TO REMOVE EXISTING TYPE 4 JUNCTION WELL AND REPLACE IT WITH A NEW TYPE 7 JUNCTION WELL. PROPOSED ITMS CONDUIT (CONDUIT #43) SHALL BE INSTALLED RUNNING INTO THE NEW TYPE 7 JUNCTION WELL. DELDOT FORCES TO COMPLETE ALL SPLICING TO DELDOT FIBER AS NEEDED.

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ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

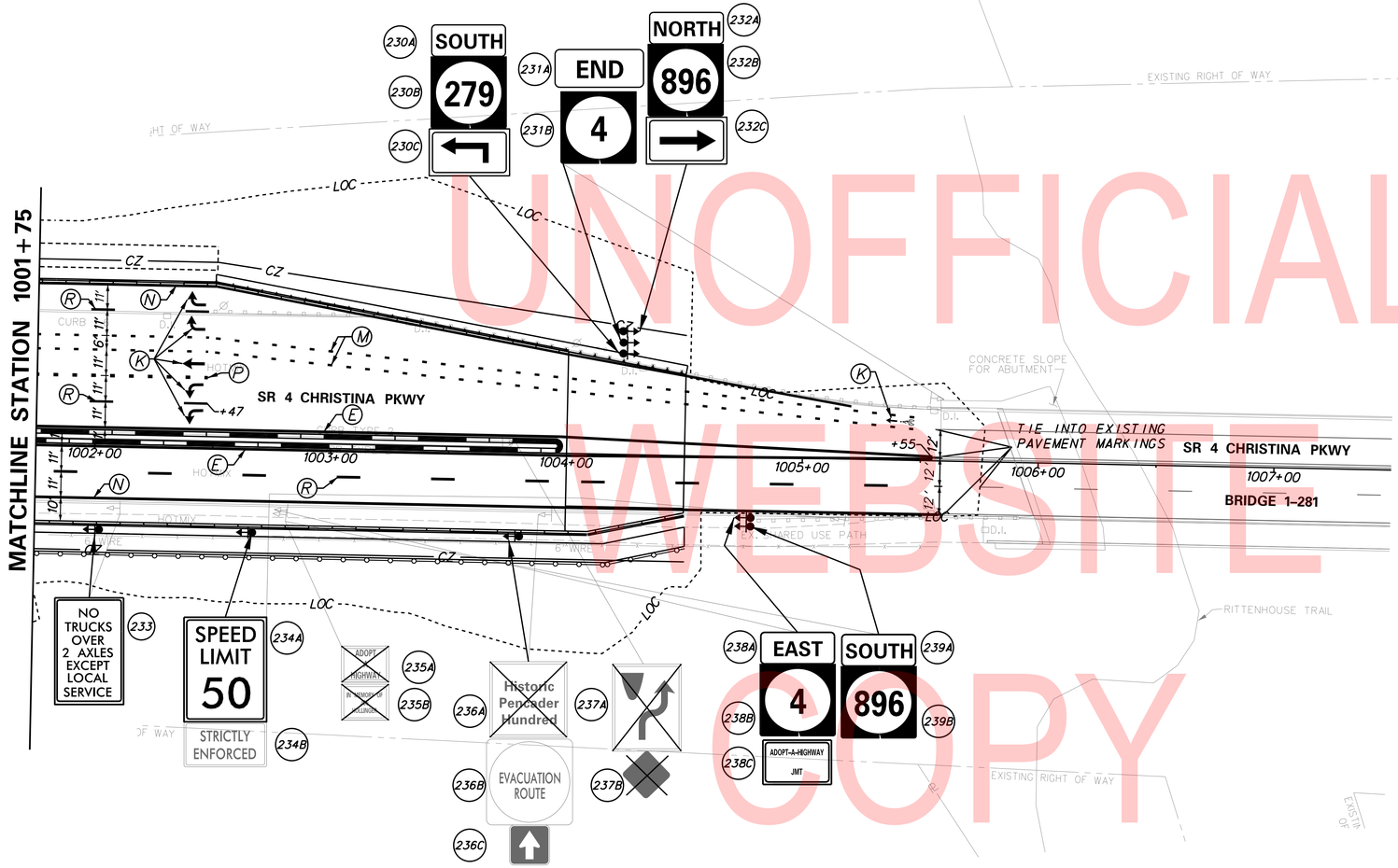
ELKTON ROAD MD LINE TO CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

SS-15 | SECTION: JMT | SHEET NO.: 377

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS15]



UNOFFICIAL
WEBSITE
COPY

PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	840 LF
(K)	PREFORMED PATTERNED TAPE MARKINGS, WHITE SYMBOL/LEGEND (ITEM 817012)	100 SF
(M)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	210 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 817024)	210 LF
(N)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	895 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	895 LF
(P)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 10" DOTTED - 2' LINE & 6' GAP (ITEM 817014)	25 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 14" DOTTED - 2' LINE & 6' GAP (ITEM 817025)	25 LF
(R)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	190 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	190 LF

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS16]

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-322 1-322P 1-323 1-323P	
DESIGNED BY: GYB		
CHECKED BY: MAW		

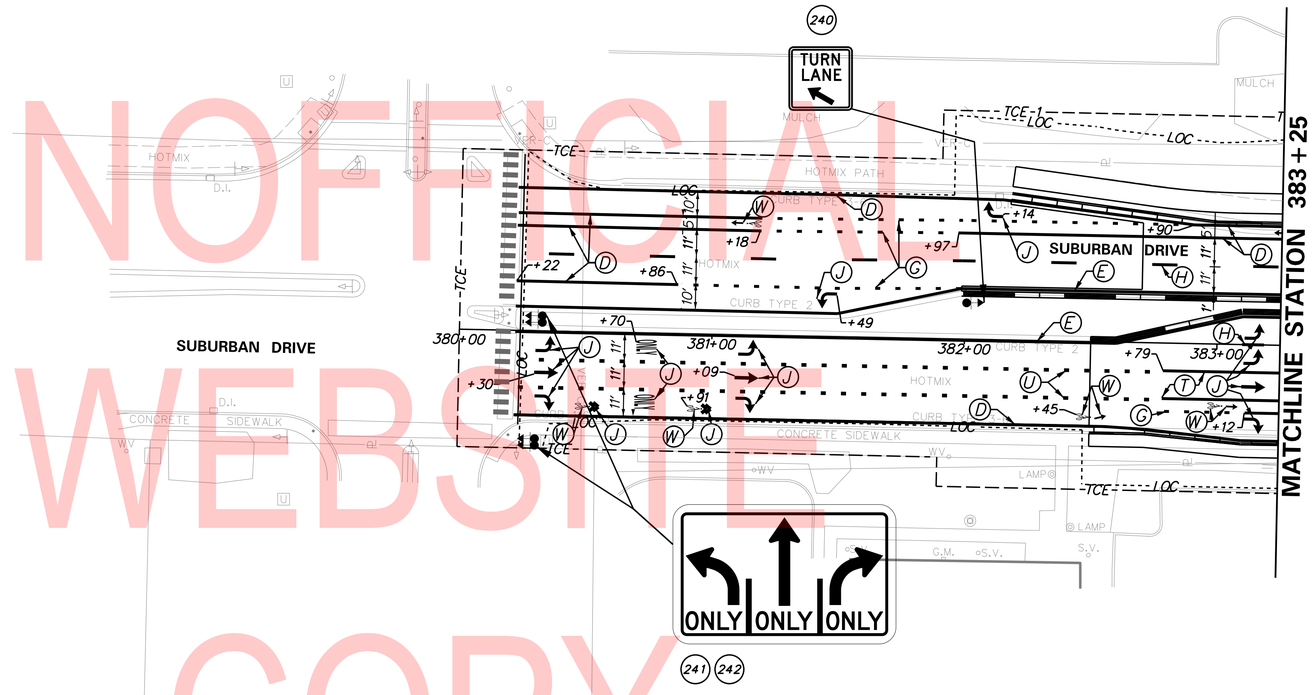
SIGNING, STRIPING AND CONDUIT PLAN

SS-16	
SECTION	JMT
SHEET NO.	378

UNOFFICIAL WEBSITE COPY

PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,125 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	675 LF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	115 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	90 LF
(J)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	280 SF
(T)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 10" SOLID (ITEM 817014)	110 LF
(U)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 10" DOTTED - 2' LINE & 6' GAP (ITEM 817014)	145 LF
(W)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (817015)	5 EACH



ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

SS-17

SECTION	JMT
SHEET NO.	379

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS17]

PERMANENT SIGN SCHEDULE

#	SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS
									SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL					
1517	SS-1	1A	M3-4(24)	1	CARDINAL DIRECTION - WEST - 24x12	24"	12"		REMAIN										
	SS-1	1B		1	MARYLAND 277	30"	24"		REMAIN										
1605	SS-1	1C	M6-1_L(21)	1	DIRECTIONAL ARROW (Left) - 21x15	21"	15"		REMAIN										
359	SS-1	2A	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"		REMAIN										
1517	SS-1	2B	M3-4(24)	1	CARDINAL DIRECTION - WEST - 24x12	24"	12"		REMAIN										
	SS-1	2C		1	MARYLAND 277	30"	24"		REMAIN										
1610	SS-1	2D	M6-2_R(21)	1	DIRECTIONAL ARROW (Right - upward 45) - 21x15	21"	15"		REMAIN										
359	SS-1	3	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"		REMAIN										
252	SS-1	4	R3-20-DE	1	TURN LANE	18"	18"	2.3	NEW		1				SOIL	1			
9	SS-1	5	R1-2(48)	1	YIELD	48"	48"	8.0	RENEW	1	1				SOIL	1			REPOSITION
1499	SS-1	6A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1618	SS-1	6B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1500	SS-1	7A	M1-8a(18)	1	BIKE ROUTE (pictograph) - 18x24	18"	24"	3.0	NEW		1				SOIL	1			"ECG"
1618	SS-1	7B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1576	SS-1	8A	M4-14(24)	1	BEGIN - 24x12	24"	12"	2.0	NEW		1				SOIL	1			
1508	SS-1	8B	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24"	12"	2.0	NEW		1								
1489	SS-1	8C	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	NEW		1								"279"
877	SS-1	9	W3-3(30)	1	SIGNAL AHEAD (Symbol) - 30x30	36"	36"		REMOVE	1									
701	SS-1	10A	SR1-20-DE(60)	1	NO TEXTING - 60x60	60"	60"					REPOSITION	25.0	25.0	SOIL	2			REPOSITIONED FROM SS-02
1872	SS-1	10B	D14-3-DE	1	ADOPT A HIGHWAY	24"	18"		REPOSITION	1	1								"GAMMA PHI BETA-ETA GAMMA"
252	SS-1	11	R3-20-DE	1	TURN LANE	18"	18"	2.3	NEW		1				SOIL	1			
4	SS-2	12A	R1-1(36)	1	STOP	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
111	SS-2	12B	R3-2(36)	1	LEFT TURN PROHIBITION (Symbol) - 36x36	36"	36"	9.0	NEW		1								
392	SS-2	13	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	NEW		1				SOIL	1			
311	SS-2	14A	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	NEW		1				CONCRETE	1	1		
111	SS-2	14B	R3-2(36)	1	LEFT TURN PROHIBITION (Symbol) - 36x36	36"	36"		REMOVE	1									
124	SS-2	14C	R3-5_R	1	MANDATORY MOVEMENT LANE CONTROL (Right)	30"	36"		REMOVE	1									
252	SS-2	15	R3-20-DE	1	TURN LANE	18"	18"		REMOVE	1									
252	SS-2	16	R3-20-DE	1	TURN LANE	18"	18"		REMOVE	1									
363	SS-2	17	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"	8.8	RENEW	1	1				SOIL	1			REPOSITION
304	SS-2	18	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"		REMOVE	1									
394	SS-2	19A	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36"	12"		REMOVE	1									
359	SS-2	19B	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"		REMOVE	1									
460	SS-2	19C	R8-3(24)	1	NO PARKING (Symbol) 24x24	24"	24"		REMOVE	1									
394	SS-2	20A	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36"	12"	3.0	NEW		1				SOIL	1			
392	SS-2	20B	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	NEW		1								
406	SS-2	20C	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30"	24"	5.0	NEW		1								
359	SS-2	21A	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"		REMOVE	1									
460	SS-2	21B	R8-3(24)	1	NO PARKING (Symbol) 24x24	24"	24"		REMOVE	1									
359	SS-2	22	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
359	SS-2	23	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
3	SS-2	24A	R1-1(30)	1	STOP	30"	30"		REMOVE	1									
124	SS-2	24B	R3-5_R	1	MANDATORY MOVEMENT LANE CONTROL (Right)	30"	36"		REMOVE	1									
358	SS-2	25	R5-1(30)	1	DO NOT ENTER - 30x30	30"	30"	6.3	NEW		1				SOIL	1			
358	SS-2	26	R5-1(30)	1	DO NOT ENTER - 30x30	30"	30"	6.3	NEW		1				SOIL	1			
1211	SS-2	27	W11-10-DE(30)	1	TRUCK ENTRANCE - 30x30	30"	30"		REMOVE	1									
696	SS-2	28A	SR1-18-DE(40)	1	MOVE OVER OR REDUCE SPEED - 42x60	42"	60"					REPOSITION	17.5	17.5	SOIL	2			
	SS-2	28B		1	DAUGHTERS OF THE AMERICAN REVOLUTION	18"	24"		REPOSITION	1	1								
363	SS-2	28C	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"	8.8	RENEW	1	1								REPOSITION
	SS-2	29A		1	NEWARK, DELAWARE	54"	40"					REPOSITION	15.0	15.0	SOIL	2			
	SS-2	29B		1	BICYCLE FRIENDLY COMMUNITY	24"	18"		REPOSITION	1	1								
	SS-2	29C		1	NO IDLING. IT'S THE LAW	12"	18"		REPOSITION	1	1								
	SS-2	30		1	CUSTOM WEIGHT LIMIT GUIDE SIGN	60"	54"					REPOSITION	22.5	22.5	SOIL	2			"NO TRUCKS OVER 2 AXLES ON SR 4" "EXCEPT LOCAL SERVICES"
359	SS-2	31	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
359	SS-2	32	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"	9.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
9	SS-2	33	R1-2(48)	1	YIELD	48"	48"	8.0	NEW		1				SOIL	1			
394	SS-2	34A	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36"	12"	3.0	NEW		1				SOIL	1			
392	SS-2	34B	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	NEW		1								
406	SS-2	34C	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30"	24"	5.0	RENEW	1	1								REPOSITION
418	SS-2	34D	R7-1	1	NO PARKING ANY TIME	12"	18"		REMOVE	1									
135	SS-3	35	R3-7_R(36)	1	RIGHT LANE MUST TURN RIGHT - 36"x36"	36"	36"	9.0	NEW		1				SOIL	1			
135	SS-3	36	R3-7_R(36)	1	RIGHT LANE MUST TURN RIGHT - 36"x36"	36"	36"	9.0	NEW		1				SOIL	1			
363	SS-4	37	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"	8.8	RENEW	1	1				SOIL	1			REPOSITION
363	SS-3	38	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"	8.8	RENEW	1	1				SOIL	1			REPOSITION
1924	SS-4	39A	EM-1-DE	1	EVACUATION ROUTE	24"	24"		REPOSITION	1	1				SOIL	1			
1618	SS-4	39B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	12"		REPOSITION	1	1								BLUE BACKGROUND, WHITE ARROW
1499	SS-4	40A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1618	SS-4	40B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
252	SS-4	41	R3-20-DE	1	TURN LANE	18"	18"	2.3	RENEW	1	1				SOIL	1			REPOSITION
877	SS-4	42A	W3-3(30)	1	SIGNAL AHEAD (Symbol) - 30x30	30"	30"		REMOVE	1									
1367	SS-4	42B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	36"	9"		REMOVE	1									"McIntire Dr"
1576	SS-4	43A	M4-14(24)	1	BEGIN - 24x12	24"	12"		REMOVE	1									
1489	SS-4	43B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"		REMOVE	1									"279"
	SS-4	43C		1	WELCOME TO HISTORIC PENCADER HUNDRED	24"	18"		REMOVE	1									
877	SS-4	44A	W3-3(30)	1	SIGNAL AHEAD (Symbol) - 30x30	30"	30"		REMOVE	1									
1367	SS-4	44B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	36"	9"		REMOVE	1									"Otts Chapel Rd"
PAGE TOTALS								190		40	42		80	80		34	2	0	

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS18]

SS-18

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY	CHECKED BY: MAW	
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

SECTION	JMT
SHEET NO.	380

PERMANENT SIGN SCHEDULE

NO.	SHEET NO.	PLAN IDENTIFIER	CODE	QTY.	DISCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS
									SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL					
488	SS-4	45A	R8-4(30)	1	EMERGENCY PARKING ONLY - 30x24	30"	24"	5.0	RENEW	1	1				SOIL	1			REPOSITION
62.5	SS-4	45B	R2-1-50(30)	1	SPEED LIMIT (50 MPH - 30x36)	30"	36"	7.5	RENEW	1	1				SOIL	1			REPOSITION
1499	SS-4	46A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1636	SS-4	46B	M6-7_R(B)	1	DIRECTIONAL ARROW AUXILIARY (Up - 45 Right) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1837	SS-4	47A	D11-1a	1	BIKE (Symbol)	18"	18"	2.3	NEW		1				SOIL	1			
1604	SS-4	47B	M6-1_R(21)	1	DIRECTIONAL ARROW (Right) - 21x15	21"	15"	2.2	NEW		1								GREEN BACKGROUND, WHITE ARROW
358	SS-4	48	R5-1(30)	1	DO NOT ENTER - 30x30	30"	30"	6.3	NEW		1				SOIL	1			
1514	SS-5	49A	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24"	12"	2.0	NEW		1				SOIL	1			
1489	SS-5	49B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	NEW		1								"279"
363	SS-5	50	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"		REMOVE	1									
394	SS-5	51A	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1								REPOSITION
392	SS-5	51B	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
406	SS-5	51C	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30"	24"	5.0	RENEW	1	1								REPOSITION
9	SS-5	52	R1-2(48)	1	YIELD	48"	48"	8.0	RENEW	1	1				SOIL	1			REPOSITION
311	SS-5	53	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
311	SS-5	54	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
9	SS-5	55	R1-2(48)	1	YIELD	48"	48"	8.0	NEW		1				SOIL	1			
359	SS-5	56	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"		REMOVE	1									
304	SS-5	57	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"		REMOVE	1									
1499	SS-5	58A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"		REMOVE	1									"ECG"
1618	SS-5	58B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	9"		REMOVE	1									GREEN BACKGROUND, WHITE ARROW
1499	SS-5	59A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1618	SS-5	59B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
623	SS-5	60A	R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24"	36"	6.0	RENEW	1	1				SOIL	1			REPOSITION
1588	SS-5	60B	M5-1_R	1	ADVANCE TURN ARROW (Right - 90)	21"	15"		REMOVE	1									
1604	SS-5	60C	M6-1_R(21)	1	DIRECTIONAL ARROW (Right) - 21x15	21"	15"	2.2	NEW		1								
252	SS-5	61	R3-20-DE	1	TURN LANE	18"	18"	2.3	RENEW	1	1				SOIL	1			REPOSITION
304	SS-5	62	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"		REMOVE	1									
363	SS-5	63	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"	8.8	RENEW	1	1				SOIL	1			REPOSITION
1499	SS-5	64A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1618	SS-5	64B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
359	SS-5	65	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
359	SS-5	66	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
9	SS-5	67	R1-2(48)	1	YIELD	48"	48"	8.0	RENEW	1	1				SOIL	1			REPOSITION
623	SS-5	68A	R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24"	36"	6.0	RENEW	1	1				SOIL	1			REPOSITION
447	SS-5	68B	R7-202aP-DE	1	BEGIN (plaque - red)	12"	6"	0.5	RENEW	1	1								REPOSITION
423	SS-5	68C	R7-4-DE(12)	1	NO STOPPING, STANDING, OR PARKING - 12x18	12"	18"	1.5	RENEW	1	1								REPOSITION
1872	SS-5	68D	D14-3-DE	1	ADOPT A HIGHWAY	18"	12"		REMOVE	1									
1672	SS-5	68E	D3-1(8)	1	STREET NAME (1 Line)	18"	12"		REMOVE	1									"LIFE COMMUNITY CHURCH"
137	SS-5	69	R3-7_L(36)	1	LEFT LANE MUST TURN LEFT - 36"x36"	36"	36"	9.0	NEW		1				CONCRETE	1	1		
9	SS-5	70	R1-2(48)	1	YIELD	48"	48"		REMOVE	1									
394	SS-5	71A	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1								REPOSITION
392	SS-5	71B	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
406	SS-5	71C	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30"	24"	5.0	RENEW	1	1								REPOSITION
1673	SS-5	72A	D3-1(9)	2	STREET NAME (1 Line)	24"	9"		REMOVE	2									"Elkton Rd"
1673	SS-5	72B	D3-1(9)	2	STREET NAME (1 Line)	36"	9"		REMOVE	2									"Otts Chapel Rd"
311	SS-5	72C	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
1499	SS-5	73A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1637	SS-5	73B	M6-7_L(B)	1	DIRECTIONAL ARROW AUXILIARY (Up - 45 Left) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1837	SS-5	74A	D11-1a	1	BIKE (Symbol)	18"	18"	2.3	NEW		1				SOIL	1			
1637	SS-5	74B	M6-7_L(B)	1	DIRECTIONAL ARROW AUXILIARY (Up - 45 Left) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
54.5	SS-6	75	R2-1-40(30)	1	SPEED LIMIT (40 MPH - 30x36)	30"	36"	7.5	RENEW	1	1				SOIL	1			REPOSITION
1872	SS-6	76	D14-3-DE	1	ADOPT A HIGHWAY	24"	18"	3.0	NEW		1				SOIL	1			"Life Community Church"
392	SS-6	77A	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1				SOIL	1			REPOSITION
4	SS-6	77B	R1-1(36)	1	STOP	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
111	SS-6	77C	R3-2(36)	1	LEFT TURN PROHIBITION (Symbol) - 36x36	36"	36"	9.0	NEW		1								
137	SS-6	78	R3-7_L(36)	1	LEFT LANE MUST TURN LEFT - 36"x36"	36"	36"	9.0	NEW		1				CONCRETE	1	1		
448	SS-6	79A	R7-202aP-DE1	1	END (plaque - red)	12"	6"	0.5	RENEW	1	1				SOIL	1			REPOSITION
423	SS-6	79B	R7-4-DE(12)	1	NO STOPPING, STANDING, OR PARKING - 12x18	12"	18"	1.5	RENEW	1	1								REPOSITION
137	SS-6	80	R3-7_L(36)	1	LEFT LANE MUST TURN LEFT - 36"x36"	36"	36"	9.0	RENEW	1	1				CONCRETE		1		REPOSITION
363	SS-7	81	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"		REMOVE	1									
4	SS-7	82A	R1-1(36)	1	STOP	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
111	SS-7	82B	R3-2(36)	1	LEFT TURN PROHIBITION (Symbol) - 36x36	36"	36"	9.0	RENEW	1	1								REPOSITION
392	SS-7	83A	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1				SOIL	1			REPOSITION
623	SS-7	83B	R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24"	36"		REMOVE	1									
1589	SS-7	83C	M5-1_L	1	ADVANCE TURN ARROW (Left - 90)	21"	15"		REMOVE	1									
252	SS-7	84	R3-20-DE	1	TURN LANE	18"	18"		REPOSITION	1	1				SOIL	1			
363	SS-7	85	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"		REMOVE	1									
62.5	SS-7	86A	R2-1-50(30)	1	SPEED LIMIT (50 MPH - 30x36)	30"	36"	7.5	RENEW	1	1				SOIL	1			REPOSITION
488	SS-7	86B	R8-4(30)	1	EMERGENCY PARKING ONLY - 30x24	30"	24"	5.0	RENEW	1	1				SOIL	1			REPOSITION
1508	SS-7	87A	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24"	12"	2.0	NEW		1				SOIL	1			
1489	SS-7	87B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	NEW		1								"279"
304	SS-7	88	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"		REMOVE	1									
623	SS-8	89A	R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24"	36"	6.0	NEW		1				SOIL	1			
1589	SS-8	89B	M5-1_L	1	ADVANCE TURN ARROW (Left - 90)	21"	15"	2.2	NEW		1								
PAGE TOTALS								258		52	58		0	0		38	8	0	

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS19]

SS-19

ADDENDA / REVISIONS		
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	BRIDGE NO.	1-322 1-322P 1-323 1-323P
T201504401	DESIGNED BY: GYB	
COUNTY		
NEW CASTLE	CHECKED BY: MAW	

SIGNING, STRIPING AND CONDUIT PLAN

SECTION	SHEET NO.
JMT	381

PERMANENT SIGN SCHEDULE

NO.	SHEET NO.	PLAN IDENTIFIER	CODE	QTY.	DISCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS
									SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL					
252	SS-8	90	R3-20-DE	1	TURN LANE	18"	18"	2.3	RENEW	1	1				SOIL	1			REPOSITION
	SS-8	91		1	CECIL TRANSIT SIGN	12"	24"	2.0	RENEW	1	1				SOIL	1			REPOSITION
695	SS-8	92	SR1-17-DE	1	YIELD (shared-use path only)	24"	42"	7.0	NEW		1				SOIL	1			
311	SS-8	93	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	NEW		1				CONCRETE	1	1		
695	SS-8	94	SR1-17-DE	1	YIELD (shared-use path only)	24"	42"	7.0	NEW		1				SOIL	1			
9	SS-8	95	R1-2(48)	1	YIELD	48"	48"	8.0	NEW		1				SOIL	1			
877	SS-8	96	W3-3(30)	1	SIGNAL AHEAD (Symbol) - 30x30	30"	30"		REMOVE	1									
304	SS-8	97	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"		REMOVE	1									
363	SS-8	98	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"		REMOVE	1									
363	SS-8	99	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"		REMOVE	1									
394	SS-9	100A	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36"	12"	3.0	NEW		1								
392	SS-9	100B	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	NEW		1				CONCRETE	1	1		
406	SS-9	100C	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30"	24"	5.0	RENEW	1	1								REPOSITION
9	SS-9	101	R1-2(48)	1	YIELD	48"	48"	8.0	RENEW	1	1				SOIL	1			REPOSITION
311	SS-9	102	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	NEW		1				CONCRETE	1	1		
311	SS-9	103	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	NEW		1				CONCRETE	1	1		
9	SS-9	104	R1-2(48)	1	YIELD	48"	48"	8.0	RENEW	1	1				SOIL	1			REPOSITION
359	SS-9	105	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"		REMOVE	1									
359	SS-9	106	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"		REMOVE	1									
363	SS-9	107	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"		REMOVE	1									
363	SS-9	108	R5-1a(42)	1	WRONG WAY - 42x30	42"	30"		REMOVE	1									
311	SS-9	109	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	NEW		1				CONCRETE	1	1		
304	SS-9	110	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"					REMOVE	7.5						
4	SS-9	111A	R1-1(36)	1	STOP	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
111	SS-9	111B	R3-2(36)	1	LEFT TURN PROHIBITION (Symbol) - 36x36	36"	36"	9.0	RENEW	1	1								REPOSITION
359	SS-9	112	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"		REMOVE	1									
359	SS-9	113	R5-1(36)	1	DO NOT ENTER - 36x36	36"	36"		REMOVE	1									
9	SS-9	114	R1-2(48)	1	YIELD	48"	48"	8.0	NEW		1				SOIL	1			
394	SS-9	115A	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1								REPOSITION
392	SS-9	115B	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
406	SS-9	115C	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30"	24"	5.0	RENEW	1	1								REPOSITION
9	SS-9	116	R1-2(48)	1	YIELD	48"	48"	8.0	NEW		1				SOIL	1			
392	SS-9	117	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1				SOIL	1			REPOSITION
252	SS-9	118	R3-20-DE	1	TURN LANE	18"	18"	2.3	RENEW	1	1				SOIL	1			REPOSITION
304	SS-10	119	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"		REMOVE	1									
1270	SS-10	120A	W11-25-DE(30)	1	PLANT ENTRANCE - 30x30	30"	30"		REMOVE	1									
1294	SS-10	120B	W13-1P-40(18)	1	ADVISORY SPEED (40 MPH) 18x18	18"	18"		REMOVE	1									
877	SS-10	121	W3-3(30)	1	SIGNAL AHEAD (Symbol) - 30x30	30"	30"		REMOVE	1									
877	SS-10	122	W3-3(30)	1	SIGNAL AHEAD (Symbol) - 30x30	30"	30"		REMOVE	1									
304	SS-10	123	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"		REMOVE	1									
488	SS-11	124A	R8-4(30)	1	EMERGENCY PARKING ONLY - 30x24	30"	24"	5.0	RENEW	1	1				SOIL	1			REPOSITION
1924	SS-11	124B	EM-1-DE	1	EVACUATION ROUTE	24"	24"		REPOSITION	1	1				SOIL	1			
1618	SS-11	124C	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	12"		REPOSITION	1	1								BLUE BACKGROUND, WHITE ARROW
62.5	SS-11	125	R2-1-50(30)	1	SPEED LIMIT (50 MPH - 30x36)	30"	36"	7.5	NEW		1				SOIL	1			
252	SS-11	126	R3-20-DE	1	TURN LANE	18"	18"	2.3	RENEW	1	1				SOIL	1			REPOSITION
695	SS-11	127	SR1-17-DE	1	YIELD (shared-use path only)	24"	42"	7.0	NEW		1				CONCRETE	1	1		
695	SS-11	128	SR1-17-DE	1	YIELD (shared-use path only)	24"	42"	7.0	NEW		1				SOIL	1			
311	SS-11	129	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
4	SS-11	130A	R1-1(36)	1	STOP	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
111	SS-11	130B	R3-2(36)	1	LEFT TURN PROHIBITION (Symbol) - 36x36	36"	36"	9.0	NEW		1								
1653	SS-11	131A	D1-2	1	DESTINATION (2 Line)	60"	30"	12.5				NEW		12.5	SOIL	2			"Newark Charter School" RIGHT ARROW
1652	SS-11	131B	D1-2(B)	1	DESTINATION (2 Line)	36"	12"		REMOVE	1									"NEWARK CHARTER SCHOOL" RIGHT ARROW
695	SS-11	132	SR1-17-DE	1	YIELD (shared-use path only)	24"	42"	7.0	NEW		1				SOIL	1			
1671	SS-11	133A	D3-1(6)	1	STREET NAME (1 Line)	30"	6"		REMOVE	1									"PATRIOT WAY"
1673	SS-11	133B	D3-1(9)	2	STREET NAME (1 Line)	30"	9"	3.8	NEW		2								"Patriot Way"
110	SS-11	133C	R3-2(24)	1	LEFT TURN PROHIBITION (Symbol) - 24x24	24"	24"		REMOVE	1					CONCRETE	1	1		
311	SS-11	133D	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	NEW		1								
695	SS-11	134	SR1-17-DE	1	YIELD (shared-use path only)	24"	42"	7.0	NEW		1				CONCRETE	1	1		
4	SS-11	135A	R1-1(36)	1	STOP	36"	36"	9.0	RENEW	1	1				SOIL	1			REPOSITION
111	SS-11	135B	R3-2(36)	1	LEFT TURN PROHIBITION (Symbol) - 36x36	36"	36"	9.0	NEW		1								
	SS-11	136A		1	AMTRAK	24"	18"		REPOSITION	1	1								
	SS-11	136B		1	SEPTA	24"	18"		REPOSITION	1	1				SOIL	1			
1604	SS-11	136C	M6-1_R(21)	1	DIRECTIONAL ARROW (Right) - 21x15	21"	15"		REPOSITION	1	1								
135	SS-11	137	R3-7_R(36)	1	RIGHT LANE MUST TURN RIGHT - 36"x36"	36"	36"	9.0	NEW		1				SOIL	1			
1837	SS-11	138A	D11-1a	1	BIKE (Symbol)	18"	18"	2.3	NEW		1				SOIL	1			
1604	SS-11	138B	M6-1_R(21)	1	DIRECTIONAL ARROW (Right) - 21x15	21"	15"	2.2	NEW		1								GREEN BACKGROUND, WHITE ARROW
1499	SS-11	139A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1636	SS-11	139B	M6-7_R(B)	1	DIRECTIONAL ARROW AUXILIARY (Up - 45 Right) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1653	SS-11	140	D1-2	1	DESTINATION (2 Line)	66"	30"					REPOSITION	13.8	13.8	SOIL	2			"University of Delaware" RIGHT ARROW
	SS-12	141		1	CECIL TRANSIT SIGN	12"	24"	2.0	NEW		1				SOIL	1			
1576	SS-12	142A	M4-14(24)	1	BEGIN - 24x12	24"	12"	2.0	RENEW	1	1								REPOSITION
1514	SS-12	142B	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24"	12"	2.0	NEW		1				SOIL	1			
1489	SS-12	142C	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	RENEW	1	1								"279" REPOSITION
1673	SS-12	143A	D3-1(9)	2	STREET NAME (1 Line)	30"	9"		REMOVE	2									"Christiana Pkwy"
1673	SS-12	143B	D3-1(9)	2	STREET NAME (1 Line)	30"	9"		REMOVE	2									"Elkton Rd"
311	SS-12	143C	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
9	SS-12	144	R1-2(48)	1	YIELD	48"	48"	8.0	RENEW	1	1				SOIL	1			REPOSITION
			PAGE TOTALS					268		49	54		21	26		42	11	0	

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SS-20

ADDENDA / REVISIONS

⚠	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT: T201504401
COUNTY: NEW CASTLE
BRIDGE NO.: 1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB
CHECKED BY: MAW

SIGNING, STRIPING AND CONDUIT PLAN

SECTION: JMT
SHEET NO. 382

PLOTTED BY: LBERZINA DATE: 11/15/2019 [SHEET: SS20]
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN

JMT

PERMANENT SIGN SCHEDULE

NO.	SHEET NO.	PLAN IDENTIFIER	CODE	QTY.	DISCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS
									SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL					
394	SS-12	145A	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
392	SS-12	145B	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1								REPOSITION
406	SS-12	145C	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30"	24"	5.0	RENEW	1	1								REPOSITION
9	SS-12	146	R1-2(48)	1	YIELD	48"	48"	8.0	RENEW	1	1				SOIL	1			REPOSITION
311	SS-12	147	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
406	SS-12	148	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30"	24"	5.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
311	SS-12	149	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
304	SS-12	150	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"		REMOVE	1									
623	SS-12	151A	R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24"	36"	6.0	RENEW	1	1				SOIL	1			REPOSITION
1604	SS-12	151B	M6-1_R(21)	1	DIRECTIONAL ARROW (Right) - 21x15	21"	15"	2.2	RENEW	1	1								REPOSITION
135	SS-12	152	R3-7_R(36)	1	RIGHT LANE MUST TURN RIGHT - 36"x36"	36"	36"	9.0	NEW		1				SOIL	1			
1548	SS-12	153A	M4-8b	1	END	24"	12"	2.0	NEW		1				SOIL	1			
1489	SS-12	153B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	NEW		1								"279"
1508	SS-12	154A	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24"	12"	2.0	NEW		1				SOIL	1			
1489	SS-12	154B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	RENEW	1	1								"896" REPOSITION
1619	SS-12	154C	M6-3(21)	1	DIRECTIONAL ARROW (Up) - 21x15	21"	15"	2.2	RENEW	1	1								REPOSITION
1511	SS-12	155A	M3-2(24)	1	CARDINAL DIRECTION - EAST - 24x12	24"	12"	2.0	RENEW	1	1				SOIL	1			REPOSITION
1488	SS-12	155B	M1-5(24)	1	STATE ROUTE (2 - Digit Sign) - 24x24	24"	24"	4.0	RENEW	1	1								"4" REPOSITION
1514	SS-12	155C	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24"	12"	2.0	RENEW	1	1								REPOSITION
1489	SS-12	155D	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	RENEW	1	1								"896" REPOSITION
1604	SS-12	155E	M6-1_R(21)	1	DIRECTIONAL ARROW (Right) - 21x15	21"	15"	2.2	RENEW	1	1								REPOSITION
135	SS-12	156	R3-7_R(36)	1	RIGHT LANE MUST TURN RIGHT - 36"x36"	36"	36"	9.0	NEW		1				SOIL	1			
406	SS-12	157	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30"	24"	5.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
1499	SS-12	158A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1618	SS-12	158B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
574	SS-12	159	R10-11-DE(24)	1	NO TURN ON RED (Arrow) - 24x30	24"	30"	5.0	RENEW	1	1				SOIL	1			REPOSITION
1508	SS-12	160A	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24"	12"		REMOVE	1									
1489	SS-12	160B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"		REMOVE	1									"896"
1604	SS-12	160C	M6-1_R(21)	1	DIRECTIONAL ARROW (Right) - 21x15	21"	15"		REMOVE	1									
394	SS-12	161A	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
392	SS-12	161B	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1								REPOSITION
406	SS-12	161C	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30"	24"	5.0	RENEW	1	1								REPOSITION
311	SS-12	162A	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
121	SS-12	162B	R3-4(36)	1	U - TURN PROHIBITION (Symbol) - 36x36	36"	36"	9.0	RENEW	1	1								REPOSITION
9	SS-12	163	R1-2(48)	1	YIELD	48"	48"		REMOVE	1									
574	SS-12	164	R10-11-DE(24)	1	NO TURN ON RED (Arrow) - 24x30	24"	30"	5.0	NEW		1				SOIL	1			
1837	SS-12	165A	D11-1a	1	BIKE (Symbol)	18"	18"	2.3	NEW		1				SOIL	1			
1605	SS-12	165B	M6-1_L(21)	1	DIRECTIONAL ARROW (Left) - 21x15	21"	15"	2.2	NEW		1								GREEN BACKGROUND, WHITE ARROW
1499	SS-12	166A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1636	SS-12	166B	M6-7_R(B)	1	DIRECTIONAL ARROW AUXILIARY (Up - 45 Right) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1508	SS-12	167A	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24"	12"		REMOVE	1									
1489	SS-12	167B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"		REMOVE	1									"896"
1499	SS-13	168A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1618	SS-13	168B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1534	SS-13	169A	M4-5(24)	1	TO - 24x12	24"	12"		REMOVE	1									BLUE BACKGROUND, WHITE LETTERS
1514	SS-13	169B	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24"	12"		REMOVE	1									BLUE BACKGROUND, WHITE LETTERS
1472	SS-13	169C	M1-1(24)	1	INTERSTATE ROUTE (2 - Digit Sign) - 24x24	24"	24"		REMOVE	1									"I-95"
1924	SS-13	169D	EM-1-DE	1	EVACUATION ROUTE	24"	24"		REPOSITION	1	1				SOIL	1			
1618	SS-13	169E	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	12"		REPOSITION	1	1								BLUE BACKGROUND, WHITE ARROW
1531	SS-13	170A	M4-4(24)	1	TRUCK - 24x12	24"	12"		REMOVE	1									
1534	SS-13	170B	M4-5(24)	1	TO - 24x12	24"	12"		REMOVE	1									BLUE BACKGROUND, WHITE LETTERS
1508	SS-13	170C	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24"	12"		REMOVE	1									BLUE BACKGROUND, WHITE LETTERS
1472	SS-13	170D	M1-1(24)	1	INTERSTATE ROUTE (2 - Digit Sign) - 24x24	24"	24"		REMOVE	1									"I-95"
1619	SS-13	170E	M6-3(21)	1	DIRECTIONAL ARROW (Up) - 21x15	21"	15"		REMOVE	1									BLUE BACKGROUND, WHITE ARROW
252	SS-13	171	R3-20-DE	1	TURN LANE	18"	18"	2.3	RENEW	1	1				SOIL	1			REPOSITION
304	SS-13	172	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"					REMOVE	7.5						
1534	SS-13	173A	M4-5(24)	1	TO - 24x12	24"	12"	2.0	NEW		1				SOIL	1			BLUE BACKGROUND, WHITE LETTERS
1472	SS-13	173B	M1-1(24)	1	INTERSTATE ROUTE (2 - Digit Sign) - 24x24	24"	24"	4.0	NEW		1								"I-95"
1619	SS-13	173C	M6-3(21)	1	DIRECTIONAL ARROW (Up) - 21x15	21"	15"	2.2	NEW		1								BLUE BACKGROUND, WHITE ARROW
1514	SS-13	174A	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24"	12"	2.0	NEW		1				SOIL	1			
1489	SS-13	174B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	NEW		1								"279"
1619	SS-13	174C	M6-3(21)	1	DIRECTIONAL ARROW (Up) - 21x15	21"	15"	2.2	NEW		1								
593	SS-13	175	R10-18a	1	TRAFFIC SIGNAL PHOTO ENFORCED	30"	42"	8.8	RENEW	1	1				SOIL	1			REPOSITION
593	SS-13	176	R10-18a	1	TRAFFIC SIGNAL PHOTO ENFORCED	30"	42"	8.8	RENEW	1	1				SOIL	1			REPOSITION
1534	SS-13	177A	M4-5(24)	1	TO - 24x12	24"	12"		REMOVE	1									BLUE BACKGROUND, WHITE LETTERS
1508	SS-13	177B	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24"	12"		REMOVE	1									BLUE BACKGROUND, WHITE LETTERS
1472	SS-13	177C	M1-1(24)	1	INTERSTATE ROUTE (2 - Digit Sign) - 24x24	24"	24"		REMOVE	1									"I-95"
1605	SS-13	177D	M6-1_L(21)	1	DIRECTIONAL ARROW (Left) - 21x15	21"	15"		REMOVE	1									BLUE BACKGROUND, WHITE ARROW
1576	SS-13	178A	M4-14(24)	1	BEGIN - 24x12	24"	12"	2.0	NEW		1				SOIL	1			
1508	SS-13	178B	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24"	12"	2.0	NEW		1								
1489	SS-13	178C	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	NEW		1								"896"
54.5	SS-13	179	R2-1-40(30)	1	SPEED LIMIT (40 MPH - 30x36)	30"	36"	7.5	RENEW	1	1				SOIL	1			REPOSITION
1514	SS-13	180A	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24"	12"		REMOVE	1									
1489	SS-13	180B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"		REMOVE	1									"896"
1605	SS-13	180C	M6-1_L(21)	1	DIRECTIONAL ARROW (Left) - 21x15	21"	15"		REMOVE	1									
1511	SS-13	181A	M3-2(24)	1	CARDINAL DIRECTION - EAST - 24x12	24"	12"		REMOVE	1									
1488	SS-13	181B	M1-5(24)	1	STATE ROUTE (2 - Digit Sign) - 24x24	24"	24"		REMOVE	1									"4"
1605	SS-13	181C	M6-1_L(21)	1	DIRECTIONAL ARROW (Left) - 21x15	21"	15"		REMOVE	1									
623	SS-13	181D	R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24"	36"		REMOVE	1									
1605	SS-13	181E	M6-1_L(21)	1	DIRECTIONAL ARROW (Left) - 21x15	21"	15"		REMOVE	1									
PAGE TOTALS								196		56	52		8	0		28	7	0	

NO OFICIAL
WEBSITE
COPY

ADDENDA / REVISIONS

1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB	
CHECKED BY: MAW	

SIGNING, STRIPING AND CONDUIT PLAN

	SS-21
SECTION	JMT
SHEET NO.	383

PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS21]

PERMANENT SIGN SCHEDULE

NO.	SHEET NO.	PLAN IDENTIFIER	CODE	QTY.	DISCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS
									SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL					
	SS-14	182		1	CECIL TRANSIT SIGN	12"	24"	2.0	RENEW	1	1				SOIL	1			REPOSITION
1673	SS-14	183A	D3-1(9)	2	STREET NAME (1 Line)	30"	9"	3.8	NEW		2								"Millstone Dr"
1671	SS-14	183B	D3-1(6)	1	STREET NAME (1 Line)	30"	6"		REMOVE	1					SOIL	1			"MILLSTONE DR"
4	SS-14	183C	R1-1(36)	1	STOP	36"	36"	9.0	RENEW	1	1								REPOSITION
111	SS-14	183D	R3-2(36)	1	LEFT TURN PROHIBITION (Symbol) - 36x36	36"	36"	9.0	RENEW	1	1								REPOSITION
392	SS-14	184	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36"	12"	3.0	NEW		1				SOIL	1			
	SS-14	185A		1	CUSTOM WEIGHT LIMIT GUIDE SIGN	60"	54"					REPOSITION	22.5	22.5	SOIL	2			"NO TRUCKS OVER 2 AXLES ON SR 4, EXCEPT LOCAL SERVICES"
1872	SS-14	185B	D14-3-DE	1	ADOPT A HIGHWAY	24"	18"		REPOSITION	1	1								"GAMMA PHI BETA-ETA GAMMA"
54	SS-14	186	R2-1-40(24)	1	SPEED LIMIT (40 MPH - 24x30)	24"	30"		REMOVE	1									
9	SS-14	187	R1-2(48)	1	YIELD	48"	48"	8.0	RENEW	1	1				SOIL	1			REPOSITION
4	SS-14	188A	R1-1(36)	1	STOP	36"	36"	9.0	RENEW	1	1				CONCRETE	1	1		REPOSITION
408	SS-14	188B	R6-3a(30)	1	DIVIDED HIGHWAY CROSSING (T - Intersection) - 30x24	30"	24"	5.0	RENEW	1	1								REPOSITION
1169	SS-14	189A	W11-2(30)	1	PEDESTRIAN (Symbol) - 30x30	30"	30"	6.3	NEW		1				SOIL	1			
1359	SS-14	189B	W16-7P_L(24)	1	LEFT DOWNWARD DIAGONAL ARROW (plaque) - 24x12	24"	18"	3.0	NEW		1								
311	SS-14	190	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	NEW		1				CONCRETE	1	1		
1169	SS-14	191A	W11-2(30)	1	PEDESTRIAN (Symbol) - 30x30	30"	30"	6.3	NEW		1				SOIL	1			
1359	SS-14	191B	W16-7P_L(24)	1	LEFT DOWNWARD DIAGONAL ARROW (plaque) - 24x12	24"	18"	3.0	NEW		1								
311	SS-14	192	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	NEW		1				CONCRETE	1	1		
8	SS-14	193	R1-2(36)	1	YIELD	36"	36"	4.5	NEW		1				SOIL	1			
	SS-14	194		1	UNIVERSITY OF DELAWARE DESTINATION	24"	24"		REPOSITION	1	1				SOIL	1			THRU ARROW "Clayton Hall Conference Center" THRU ARROW "Courtyard Hotel"
1511	SS-14	195A	M3-2(24)	1	CARDINAL DIRECTION - EAST - 24x12	24"	12"		REMOVE	1									
1488	SS-14	195B	M1-5(24)	1	STATE ROUTE (2 - Digit Sign) - 24x24	24"	24"		REMOVE	1									"4"
1605	SS-14	195C	M6-1_L(21)	1	DIRECTIONAL ARROW (Left) - 21x15	21"	15"		REMOVE	1									
1514	SS-14	196A	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24"	12"	2.0	NEW		1								
1489	SS-14	196B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	NEW		1				SOIL	1			"896"
1589	SS-14	196C	M5-1_L	1	ADVANCE TURN ARROW (Left - 90)	21"	15"	2.2	NEW		1								
1511	SS-14	197A	M3-2(24)	1	CARDINAL DIRECTION - EAST - 24x12	24"	12"	2.0	NEW		1								
1488	SS-14	197B	M1-5(24)	1	STATE ROUTE (2 - Digit Sign) - 24x24	24"	24"	4.0	NEW		1				SOIL	1			"4"
1589	SS-14	197C	M5-1_L	1	ADVANCE TURN ARROW (Left - 90)	21"	15"	2.2	NEW		1								
623	SS-14	198A	R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24"	36"	6.0	NEW		1				SOIL	1			
1589	SS-14	198B	M5-1_L	1	ADVANCE TURN ARROW (Left - 90)	21"	15"	2.2	NEW		1								
54	SS-14	199	R2-1-40(24)	1	SPEED LIMIT (40 MPH - 24x30)	24"	30"		REMOVE	1									
252	SS-14	200	R3-20-DE	1	TURN LANE	18"	18"	2.3	RENEW	1	1				SOIL	1			REPOSITION
	SS-14	201A		1	ROTARY INTERNATIONAL	30"	30"		REPOSITION	1	1				SOIL	1			PRIVATE SIGN
	SS-14	201B		1	ROTARY INTERNATIONAL - MEETING TIMES	24"	12"		REPOSITION	1	1								PRIVATE SIGN
	SS-14	201C		1	ROTARY INTERNATIONAL - MEETING TIMES	24"	12"		REPOSITION	1	1								PRIVATE SIGN
488	SS-14	202A	R8-4(30)	1	EMERGENCY PARKING ONLY - 30x24	30"	24"	5.0	RENEW	1	1				SOIL	1			REPOSITION
	SS-14	202B		1	LIONS INTERNATIONAL	30"	30"		REPOSITION	1	1				SOIL	1			PRIVATE SIGN
	SS-14	202C		1	LIONS INTERNATIONAL - MEETING TIMES	24"	9"		REPOSITION	1	1								PRIVATE SIGN
311	SS-14	203A	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"		REMOVE	1									
1955	SS-14	203B	OM1-3	1	TYPE 1 OBJECT MARKER	18"	18"		REMOVE	1									
394	SS-14	204	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36"	12"	3.0	RENEW	1	1				SOIL	1			REPOSITION
311	SS-14	205A	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"	5.0	RENEW	1	1								REPOSITION
1955	SS-14	205B	OM1-3	1	TYPE 1 OBJECT MARKER	18"	18"		REMOVE	1					CONCRETE	1	1		
121	SS-14	205C	R3-4(36)	1	U - TURN PROHIBITION (Symbol) - 36x36	36"	36"	9.0	RENEW	1	1								REPOSITION
1872	SS-14	206A	D14-3-DE	1	ADOPT A HIGHWAY	24"	18"		REMOVE	1									"UDEL S4E"
1872	SS-14	206B	D14-3-DE	1	ADOPT A HIGHWAY	18"	12"		REMOVE	1									
1872	SS-14	206C	D14-3-DE	1	ADOPT A HIGHWAY	18"	12"		REMOVE	1									"UNIVERSITY OF DELAWRE DANCE TEAM"
1872	SS-14	206D	D14-3-DE	1	ADOPT A HIGHWAY	24"	18"	3.0	NEW		1				SOIL	1			"University of Delaware Dance Team"
877	SS-14	207	W3-3(30)	1	SIGNAL AHEAD (Symbol) - 30x30	30"	30"		REMOVE	1									
877	SS-14	208	W3-3(30)	1	SIGNAL AHEAD (Symbol) - 30x30	30"	30"		REMOVE	1									
54.5	SS-15	209	R2-1-40(30)	1	SPEED LIMIT (40 MPH - 30x36)	30"	36"	7.5	RENEW	1	1				SOIL	1			REPOSITION
1663	SS-15	210A	D1-3b(18-B)	1	BICYCLE DESTINATION (3 Line)	24"	24"	4.0	NEW		1				SOIL	1			"Mason Dixon Trail"
1603	SS-15	210B	M6-1_L(B)	1	DIRECTIONAL ARROW (Left) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1663	SS-15	211A	D1-3b(18-B)	1	BICYCLE DESTINATION (3 Line)	24"	24"	4.0	NEW		1				SOIL	1			"Mason Dixon Trail"
1602	SS-15	211B	M6-1_R(B)	1	DIRECTIONAL ARROW (Right) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
304	SS-15	212	R4-4	1	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"	30"		REMOVE	1									
393	SS-15	213	R6-1_R(54)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 54x18	54"	18"					REMAIN							
9	SS-15	214	R1-2(48)	1	YIELD	48"	48"		REMAIN										
1663	SS-15	215A	D1-3b(18-B)	1	BICYCLE DESTINATION (3 Line)	24"	24"	4.0	NEW		1				SOIL	1			"Mason Dixon Trail"
1603	SS-15	215B	M6-1_L(B)	1	DIRECTIONAL ARROW (Left) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1663	SS-15	216A	D1-3b(18-B)	1	BICYCLE DESTINATION (3 Line)	24"	24"	4.0	NEW		1				SOIL	1			"Mason Dixon Trail"
1602	SS-15	216B	M6-1_R(B)	1	DIRECTIONAL ARROW (Right) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
252	SS-15	217	R3-20-DE	1	TURN LANE	18"	18"	2.3	RENEW	1	1				CONCRETE	1	1		REPOSITION
1276	SS-15	218A	W12-2(36)	1	LOW CLEARANCE (Arrow) - 36x36	36"	36"		REPOSITION	1	1				CONCRETE	1	1		8'-7"
1367	SS-15	218B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	30"	9"		REPOSITION	1	1								"CASHO MILL RD"
	SS-15	218C		1	YOUR TRUCK WILL NOT FIT	30"	30"		REPOSITION	1	1								
1499	SS-15	219A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1618	SS-15	219B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
695	SS-15	220	SR1-17-DE	1	YIELD (shared-use path only)	24"	42"	7.0	NEW		1				SOIL	1			
1499	SS-15	221A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1618	SS-15	221B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1673	SS-15	222A	D3-1(9)	1	STREET NAME (1 Line)	30"	9"		REMAIN										"Gravenor Ln"
1673	SS-15	222B	D3-1(9)	1	STREET NAME (1 Line)	24"	9"		REMAIN										"Elkton Rd"
393	SS-15	222C	R6-1_R(54)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 54x18	54"	18"					REMAIN							
4	SS-15	222D	R1-1(36)	1	STOP	36"	36"		REMAIN										
1673	SS-15	223A	D3-1(9)	1	STREET NAME (1 Line)	30"	9"		REMAIN										"Gravenor Ln"
1673	SS-15	223B	D3-1(9)	1	STREET NAME (1 Line)	24"	9"		REMAIN										"Elkton Rd"
	SS-15	223C		1	ALL BIKE, RIGHT UPWARD 45 ARROW	36"	24"		REMOVE	1									
1836	SS-15	223D	D11-1	1	BIKE ROUTE	24"	18"	3.0	ADD TO ASSEMBLY		1								
1610	SS-15	223E	M6-2_R(21)	1	DIRECTIONAL ARROW (Right - upward 45) - 21x15	21"	15"	2.2	ADD TO ASSEMBLY		1								GREEN BACKGROUND, WHITE ARROW
PAGE TOTALS								180		39	57		23	23		33	6	0	

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS22]

ADDENDA / REVISIONS					
⚠ REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	NOT TO SCALE	ELKTON ROAD MD LINE TO CASHO MILL ROAD	CONTRACT T201504401	BRIDGE NO. 1-322 1-322P 1-323 1-323P
				COUNTY NEW CASTLE	DESIGNED BY: GYB
					CHECKED BY: MAW

SIGNING, STRIPING AND CONDUIT PLAN

SS-22

SECTION	SHEET NO.
JMT	384

PERMANENT SIGN SCHEDULE

NO.	SHEET NO.	PLAN IDENTIFIER	CODE	QTY.	DISCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 SINGLE POST			ITEM 819019 INSTALLATION OR REMOVAL			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	
									SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL					
54.5	SS-15	224	R2-1-40(30)	1	SPEED LIMIT (40 MPH - 30x36)	30"	36"					REMAIN							
121	SS-15	225	R3-4(36)	1	U - TURN PROHIBITION (Symbol) - 36x36	36"	36"		REPOSITION	1	1				CONCRETE	1	1		
774	SS-15	226A	W1-6_L(48)	1	ONE DIRECTIONAL LARGE ARROW (Left) - 48x24	48"	24"					REMAIN							
1964	SS-15	226B	OM4-3	1	END OF ROAD OBJECT MARKER	18"	18"		REMAIN										
1964	SS-15	226C	OM4-3	1	END OF ROAD OBJECT MARKER	18"	18"		REMAIN										
311	SS-15	227	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"		REMAIN										
1664	SS-15	228A	D1-3b(42-B)	1	BICYCLE DESTINATION (3 Line)	24"	24"	4.0	NEW		1				SOIL	1			"Mason Dixon Trail"
1603	SS-15	228B	M6-1_L(B)	1	DIRECTIONAL ARROW (Left) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1499	SS-15	229A	M1-8a(12)	1	BIKE ROUTE (pictograph) - 12x18	12"	18"	1.5	NEW		1				SOIL	1			"ECG"
1621	SS-15	229B	M6-4(B)	1	DIRECTIONAL ARROW AUXILIARY (Left and Right) - 12x9	12"	9"	0.8	NEW		1								GREEN BACKGROUND, WHITE ARROW
1514	SS-16	230A	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24"	12"	2.0	NEW		1				SOIL	1			
1489	SS-16	230B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	NEW		1								"279"
1589	SS-16	230C	M5-1_L	1	ADVANCE TURN ARROW (Left - 90)	21"	15"	2.2	NEW		1								
1537	SS-16	231A	M4-6(24)	1	END - 24x12	24"	12"	2.0	RENEW	1	1				SOIL	1			REPOSITION
1488	SS-16	231B	M1-5(24)	1	STATE ROUTE (2 - Digit Sign) - 24x24	24"	24"	4.0	RENEW	1	1								"4" REPOSITION
1508	SS-16	232A	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24"	12"	2.0	NEW		1				SOIL	1			
1489	SS-16	232B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	NEW		1								"896"
1604	SS-16	232C	M6-1_R(21)	1	DIRECTIONAL ARROW (Right) - 21x15	21"	15"	2.2	NEW		1								
623	SS-16	233	R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24"	36"	6.0	RENEW	1	1				SOIL	1			REPOSITION
62.5	SS-16	234A	R2-1-50(30)	1	SPEED LIMIT (50 MPH - 30x36)	30"	36"	7.5	RENEW	1	1				SOIL	1			REPOSITION
1447	SS-16	234B	W21-12P-DE	1	STRICTLY ENFORCED (plaque)	36"	24"		REPOSITION	1	1								
1872	SS-16	235A	D14-3-DE	1	ADOPT A HIGHWAY	18"	12"		REMOVE	1									
1872	SS-16	235B	D14-3-DE	1	ADOPT A HIGHWAY	18"	12"		REMOVE	1									"IN MEMORY OF JOE HOLLINGER"
	SS-16	236A		1	HISTORIC PENCADER HUNDRED	24"	18"		REMOVE	1									
1924	SS-16	236B	EM-1-DE	1	EVACUATION ROUTE	24"	24"		REPOSITION	1	1				SOIL	1			
1618	SS-16	236C	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12"	12"		REPOSITION	1	1								BLUE BACKGROUND, WHITE ARROW
311	SS-16	237A	R4-7(24)	1	KEEP RIGHT (Symbol) - 24x30	24"	30"		REMOVE	1									
1955	SS-16	237B	OM1-3	1	TYPE 1 OBJECT MARKER	18"	18"		REMOVE	1									
1511	SS-16	238A	M3-2(24)	1	CARDINAL DIRECTION - EAST - 24x12	24"	12"	2.0	RENEW	1	1								REPOSITION
1488	SS-16	238B	M1-5(24)	1	STATE ROUTE (2 - Digit Sign) - 24x24	24"	24"	4.0	RENEW	1	1				SOIL	1			"4" REPOSITION
1872	SS-16	238C	D14-3-DE	1	ADOPT A HIGHWAY	24"	18"	3.0	NEW		1								"JMT"
1514	SS-16	239A	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24"	12"	2.0	RENEW	1	1				SOIL	1			REPOSITION
1489	SS-16	239B	M1-5(30)	1	STATE ROUTE (3 - Digit Sign) - 30x24	30"	24"	5.0	RENEW	1	1								"896" REPOSITION
252	SS-17	240	R3-20-DE	1	TURN LANE	18"	18"	2.3	NEW		1				SOIL	1			
143	SS-17	241	R3-8b(48)	1	VANCE INTERSECTION LANE CONTROL (Left, Ahead, Right) - 48"x	48"	30"	10.0				NEW		10.0	SOIL	2			
143	SS-17	242	R3-8b(48)	1	VANCE INTERSECTION LANE CONTROL (Left, Ahead, Right) - 48"x	48"	30"	10.0				NEW		10.0	SOIL	2			
PAGE TOTALS								83		17	24		0	20		16	1	0	
JOB TOTALS								1174.75		253	287		131.25	148.75		191	35	0	

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SS-23

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE

BRIDGE NO. 1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB
CHECKED BY: MAW

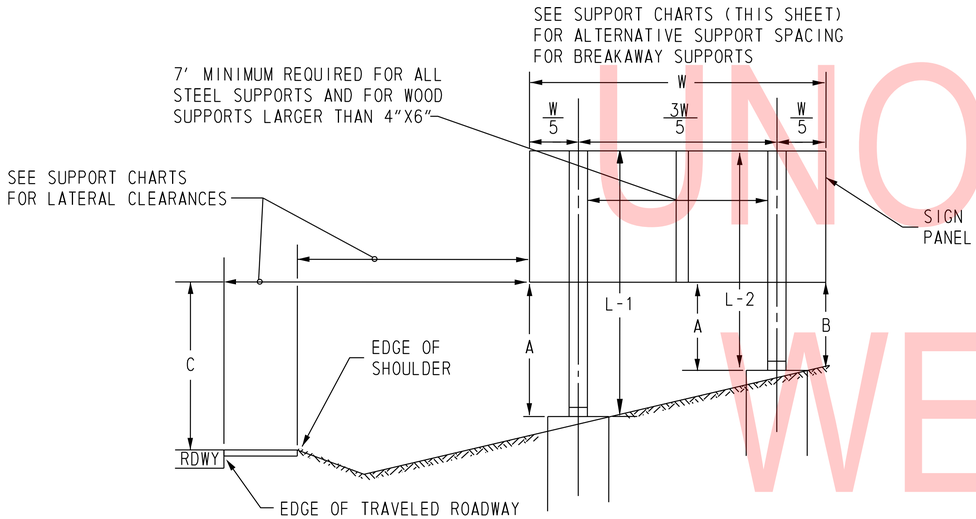
SIGNING, STRIPING AND CONDUIT PLAN

SECTION JMT
SHEET NO. 385

GROUND MOUNTED SIGN DETAIL

FOR INFORMATIONAL PURPOSES ONLY

SIGN CLEARANCE



VERTICAL CLEARANCE OF SIGNS

A. 7'6" MINIMUM FOR BREAKAWAY SUPPORTS OR 5'-6" FOR NON-BREAKAWAY SUPPORTS.
B. 2.0' MINIMUM
C. 7'6" MINIMUM & PREFERABLE. THIS DIMENSION IS TO BE INCREASED ONLY WHEN REQUIRED TO MEET A = 7'-6" FOR BREAKAWAY OR A (MIN.) = 5'-6" FOR NON-BREAKAWAY AND B (MIN) 2'-0"

ALL DIMENSIONS ARE TO BOTTOM OF SIGN
*TOTAL WEIGHT BELOW THE HINGES SHOULD BE LESS THAN 600 POUNDS
LATERAL CLEARANCE SEE SUPPORT CHARTS

GUIDE SIGN STEEL SUPPORT CHART

SIGN NO.	SHEET NO.	POST SIZE	*BW OR NBW	SUPPORT L - 1	SUPPORT L - 2	SUPPORT L - 3	LATERAL CLEARANCE		SUPPORT SPACING FROM LEFT EDGE OF SIGN
							OFFSET	OBJECT **	
GM-1	SS-01	W6x9	BW	14'-0"	16'-0"	-	6'	ES	1.8' - 5.4' - 1.8'

* BW = BREAKAWAY NBW = NON-BREAKAWAY

** OBJECT CODES
W = FACE OF W-BEAM TRAFFIC BARRIER
FOC = FACE OF CURB
ES = EDGE OF SHOULDER
ETR = EDGE OF TRAVELED ROADWAY
CM = CENTERED IN MEDIAN
CG = CENTERED IN GORE (6' MINIMUM FROM EDGE OF PAVEMENT)

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PLOTTED BY: LBERZINA DATE: 11/15/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SS.DGN [SHEET: SS24]

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

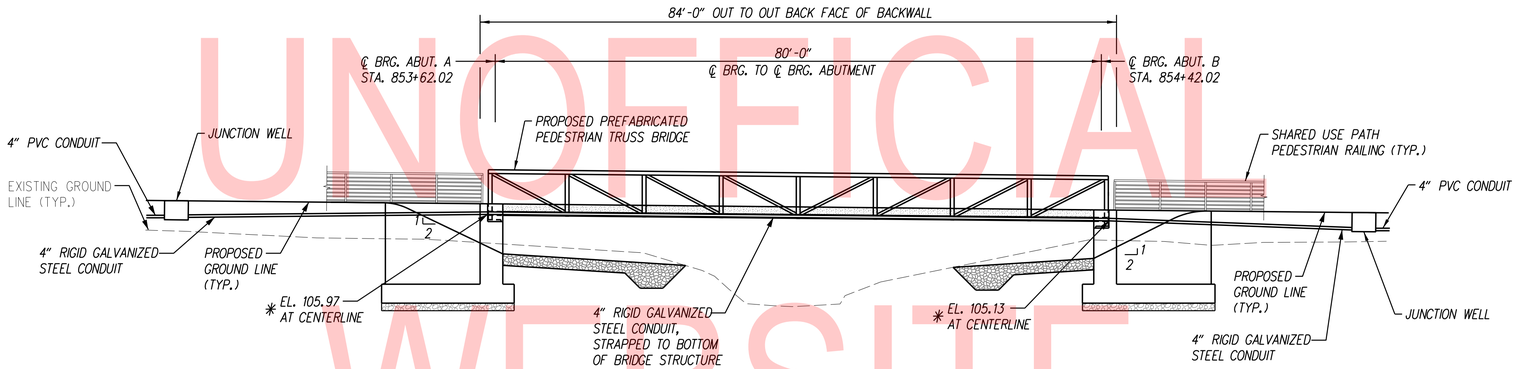
SCALE
0 30 60 90
FEET

ELKTON ROAD
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
BRIDGE NO.	1-322 1-322P 1-323 1-323P
DESIGNED BY: GYB	
CHECKED BY: MAW	

SIGNING, STRIPING AND CONDUIT PLAN

	SS-24
SECTION	JMT
SHEET NO.	386



PEDESTRIAN BRIDGE:
UNDERBRIDGE MOUNTED CONDUIT DETAIL
(ELEVATION VIEW)

* CONTRACTOR TO COORDINATE WITH TRUSS FABRICATOR FOR ELEVATIONS

NOTES:

1) FOR THE PLAN VIEW OF THE CONDUIT TO BE MOUNTED TO THE PEDESTRIAN BRIDGE AND IN THE SURROUNDING AREAS, REFER TO SHEET SS-04.

2) THE FURNISHING AND INSTALLATION OF THE 4" RIGID GALVANIZED STEEL CONDUIT INSTALLED ON THE BRIDGE STRUCTURE SHALL BE PAID VIA ITEM *831541 - 'FURNISH & INSTALL UP TO 4" GALVANIZED STEEL CONDUIT (ON STRUCTURE).

3) SEE THE STRUCTURAL DETAIL SHEETS FOR ADDITIONAL INFORMATION ON THE INSTALLATION OF THE CONDUIT ON THE BRIDGE AND THE TRANSITION OF THE CONDUIT THROUGH THE STRUCTURE.

UNOFFICIAL WEBSITE COPY

SS-25

ADDENDA / REVISIONS						
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	NOT TO SCALE	ELKTON ROAD MD LINE TO CASHO MILL ROAD	CONTRACT T201504401 COUNTY NEW CASTLE	BRIDGE NO. 1-322 1-322P 1-323 1-323P DESIGNED BY: GYB CHECKED BY: MAW	SIGNING, STRIPING AND CONDUIT PLAN	SECTION JMT SHEET NO. 387

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (50H OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ALL VIDEO DETECTION SHALL BE INSTALLED ON THE MAST ARMS TO ACHIEVE OPTIMUM DETECTION PER MANUFACTURER'S SPECIFICATIONS. THE DESIRED DETECTION ZONES SHALL BE SET AND APPROVEDBY DELDOT. PER MANUFACTURER'S SPECIFICATION ANY VIDEO DETECTOR MORE THAN 300 FEET FROM THE CONTROLLER CABINET SHALL HAVE A REPEATER INSTALLED.

7. ALL SIGNAL HEADS ARE TO BE CONTROLLED BY THE EXISTING CONTROLLER CABINET.

8. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

ADDITIONAL GENERAL SIGNAL NOTES (CONTINUED)

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR TH INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

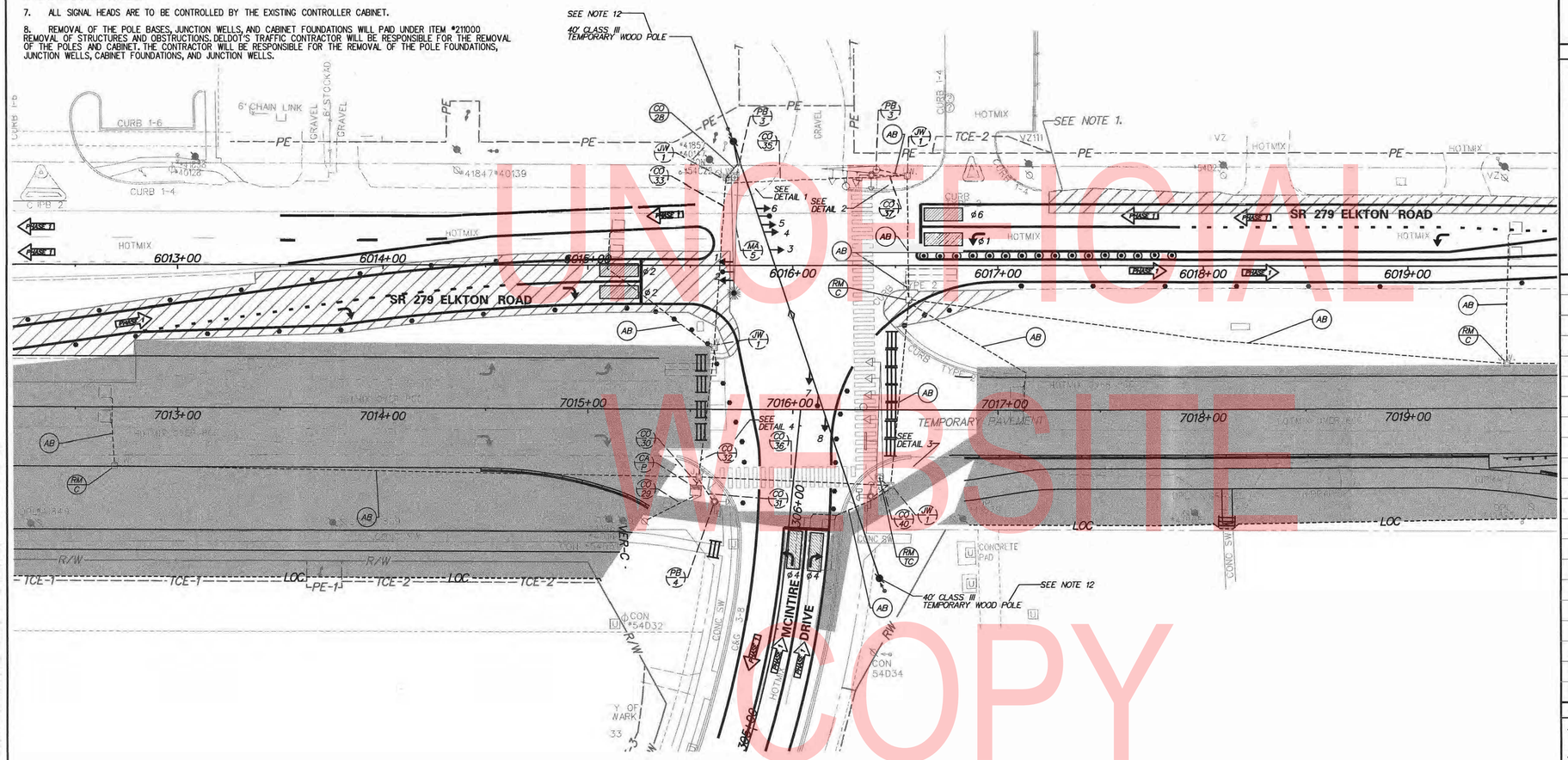
10. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

11. INSTALL SIGNAL HEADS *1,2,3,4,5,6,7 AND 8. REMOVE ALL OTHER EXISTING SIGNAL HEADS.

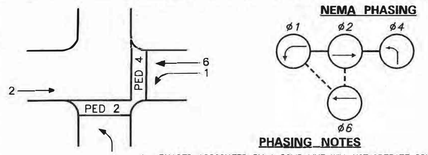
12. INSTALL TEMPORARY 40' CLASS III WOOD POLES AT STATION 6015+71 OFFSET 61' LEFT, AND AT STATION 7016+42 OFFSET 82' RIGHT.

13. ALL EXISTING SIGNAL EQUIPMENT SHALL REMAIN, UNLESS OTHERWISE NOTED.

PHASE 1



SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	OH-X	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA-X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH-X	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA-X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB-X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO-X	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB-X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO-X	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL-X	EXISTING POLE IDENTIFIER (* OF POLE)
JW-X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL-X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW-X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM-C	REMOVE BY CONTRACTOR
MA-XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM-O	REMOVE BY OTHERS
MA-XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM-TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE		✦
MAST ARM		▬
MICROWAVE DETECTION	◀	◀
OPTICOM RECEIVER	○	●
OVERHEAD SIGNING		⊣
PEDESTRIAN POLE/BASE	○	◉
PEDESTRIAN PUSHBUTTON	○	⟶
PEDESTRIAN SIGNAL HEAD		▀
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		▮
SIGNAL HEAD	▷	→
SIGNAL POLE/BASE	⊗	⊙
CCTV CAMERA		■◀
SPAN WIRE	XX	
UTILITY POLE		◣
VIDEO DETECTION	◀	◀

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
*5	55' MAST ARM	2 -3 SECTION	0 SF

* EXISTING OR CONSTRUCTED IN PREVIOUS PHASE

SPAN WIRE SCHEDULE

SPAN	LENGTH	SPAN MOUNT HEIGHT	SAG	SPAN LOW POINT	BOTTOM OF LOWEST HEAD
TEMP	225 FT	30.3 FT	11.3 FT @ 5.0%	19.0 FT	16.0 FT

* FIELD ADJUSTMENTS AS REQUIRED
** LOW POINT TAKEN WITH RESPECT TO ROADWAY ELEVATION.

ADDITIONAL LEGEND

MINIMUM DETECTION ZONE

FISHEYE VIDEO DETECTION

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAKED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 (DATE)

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N643
DESIGNED BY:	JDS (JMT)
CHECKED BY:	MAW (JMT)

SIGNAL PLAN SR 279 (ELKTON ROAD) @ MCINTIRE DR

SECTION	JMT
SHEET NO.	388

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: N:\NDEV\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG _MCINTIRE_PRINT FILES.DGN [SHEET: SG01]

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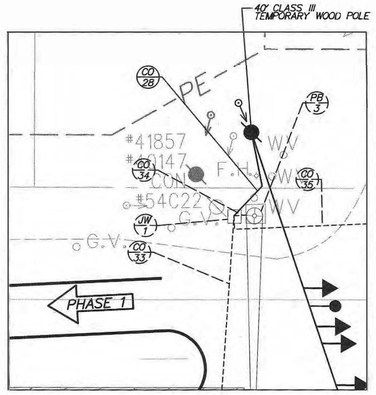
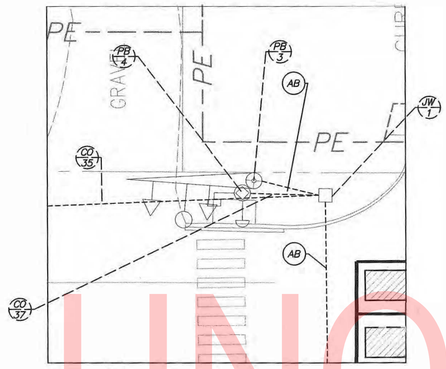
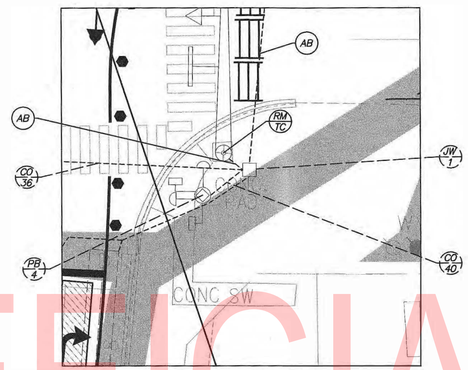
PHASE 1



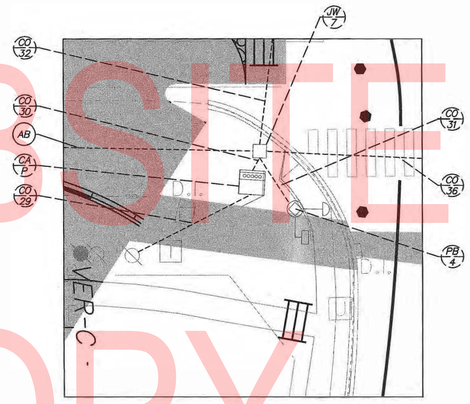
DETAIL 1 – NORTHWEST CORNER
SCALE: 1"=15'



DETAIL 2 – NORTHEAST CORNER
SCALE: 1"=15'



DETAIL 3 – SOUTHEAST CORNER
SCALE: 1"=15'



DETAIL 4 – SOUTHWEST CORNER
SCALE: 1"=15'

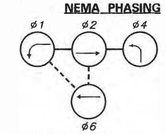
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
28	1	T	3"	20'	NEW [(1)16/#14, (2)4/#18, (1)1/#6 GRD]
*29	1	-	2.5"	30'	EX. [(1)2/#8 U.F. W/GROUND]
*30	3	-	2.5"	5'	NEW [GRIDSMART CAT5E CABLE, (1)16/#14, (1)5/#14, (2)4/#18], EX. [(1)9/#14, (1)4/#18, (3)5/#14, (1)1/#6 GRD], REMOVE [(5)4/#18, (3)9/#14, (1)5/#14]
*31	1	-	2.5"	15'	EX. [(1)5/#14, (1)1/#6 GRD]
*32	2	-	2.5"	65'	NEW [GRIDSMART CAT5E CABLE, (1)16/#14, (2)4/#18, (1)5/#14], EX. [(1)4/#18, (1)9/#14, (1)1/#6 GRD], REMOVE [(1)4/#0 URD, (1)9/#14]
*33	2	-	2.5"	80'	NEW [GRIDSMART CAT5E CABLE, (1)16/#14, (1)5/#14, (2)4/#18], EX. [(1)4/#18, (1)9/#14, (1)1/#6 GRD], REMOVE [(1)4/#0 URD]
*34	2	-	2.5"	10'	NEW [GRIDSMART CAT5E CABLE], EX. [(1)4/#18, (1)9/#14, (1)1/#6], REMOVE [(1)4/#0 URD]
*35	1	-	2.5"	95'	NEW [(1)5/#14], EX. [(1)1/#6 GRD], REMOVE [(1)4/#0 URD]
*36	2	-	2.5"	90'	EX. [(2)5/#14, (1)1/#6 GRD], REMOVE [(4)4/#18, (3)9/#14, (1)5/#14, (1)4/#0 URD]
*37	1	-	2.5"	15'	NEW [(1)5/#14], EX. [(1)1/#6 GRD], REMOVE [(1)5/#14]
*40	1	-	2.5"	10'	EX. [(2)5/#14, (1)1/#6 GRD]

NOTE: ALL CONDUITS SHALL BE SCHEUDLE 80 PVC UNLESS OTHERWISE NOTED

* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

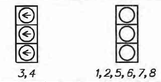
SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH#	EXISTING OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH#	PROPOSED OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO #	EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO #	PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (# OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (# OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Wahed — 12/17/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 (DATE)

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N643
COUNTY	NEW CASTLE	DESIGNED BY:	JDS (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD) @ MCINTIRE DR

SECTION: JMT
SHEET NO.: 389

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: D:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG _MCINTIRE_PRINT FILES.DGN [SHEET: SG02]

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (5%) OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. INSTALL A TEMPORARY PEDESTRIAN POLE AT STA. 7016+60 OFFSET 31' LEFT. TO POWER THE TEMPORARY PEDESTRIAN SIGNAL INSTALL CONDUIT RUN #11. THE TEMPORARY POLE, CONDUIT AND CABLES WILL BE REMOVED AT THE BEGINNING OF PHASE 3.

7. ALL SIGNAL HEADS WILL BE CONTROLLED BY THE EXISTING CONTROLLER CABINET DURING THIS PHASE.

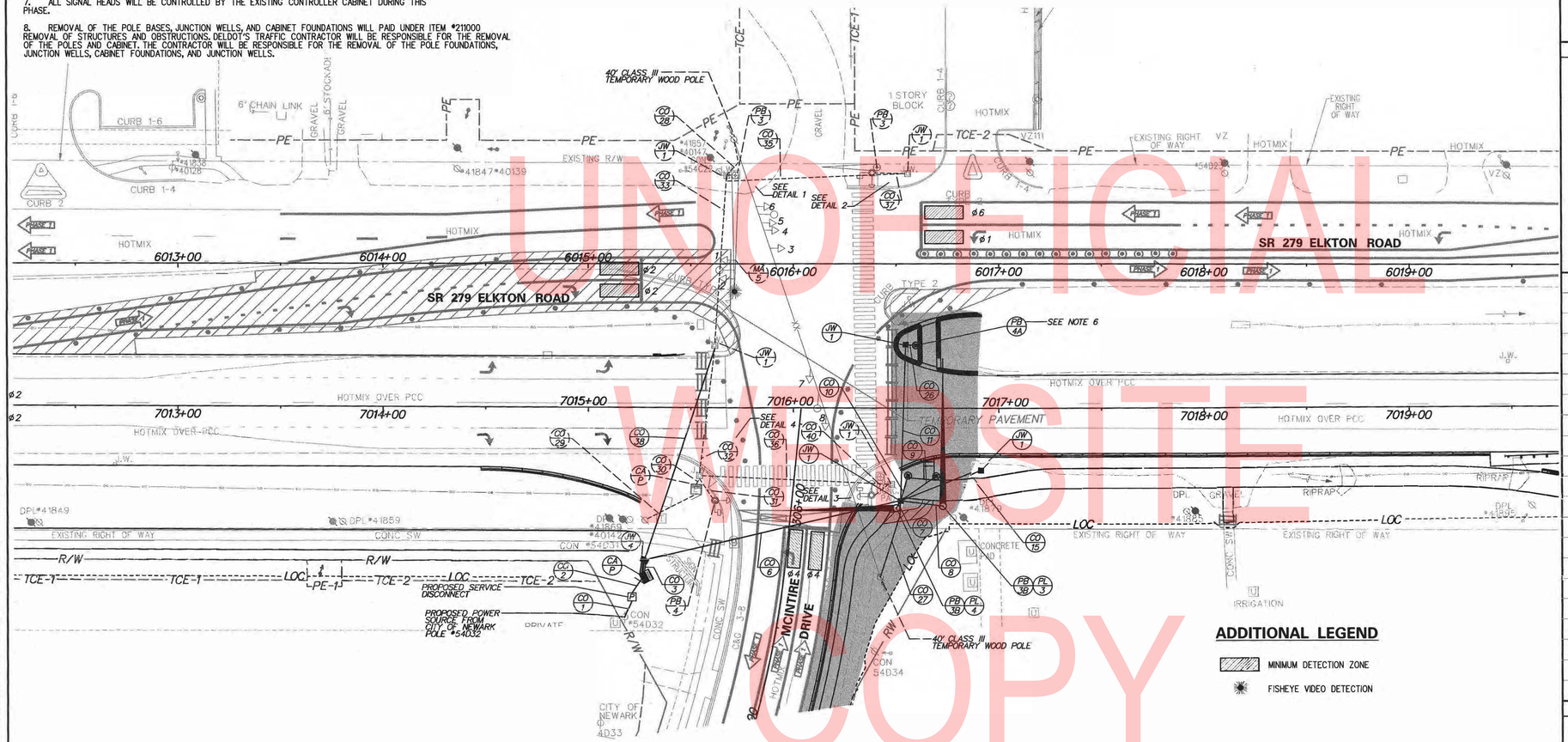
8. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM #211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

ADDITIONAL GENERAL SIGNAL NOTES

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR TH INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

10. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

PHASE 1 STAGE 1



ADDITIONAL LEGEND

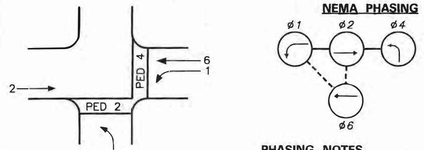
- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
3	70' MAST ARM	-	0 SF
4	55' MAST ARM	-	0 SF
#5	55' MAST ARM	2 -3 SECTION	0 SF

* EXISTING OR CONSTRUCTED IN PREVIOUS PHASE

SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	OH	EXISTING OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH	PROPOSED OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO #	EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO #	PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (# OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (# OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abr Waked — 12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N643
DESIGNED BY:	JDS (JMT)
CHECKED BY:	MAW (JMT)

SIGNAL PLAN SR 279 (ELKTON ROAD) @ MCINTIRE DR

SECTION	JMT
SHEET NO.	390

JMT

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140559-007_ELKTON_RD_CASHO_MILL\CADD\SG_MCINTIRE_PRINT FILES.DGN [SHEET: SG03]

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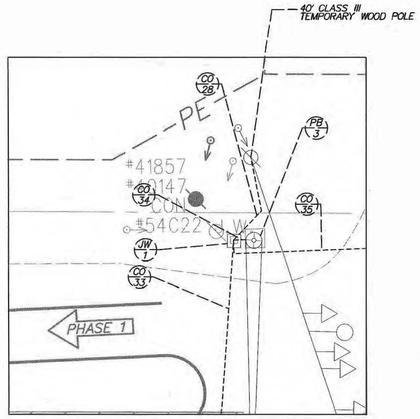
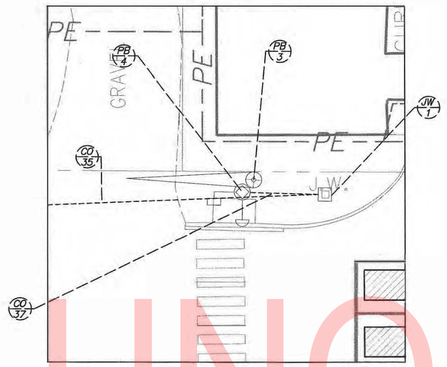
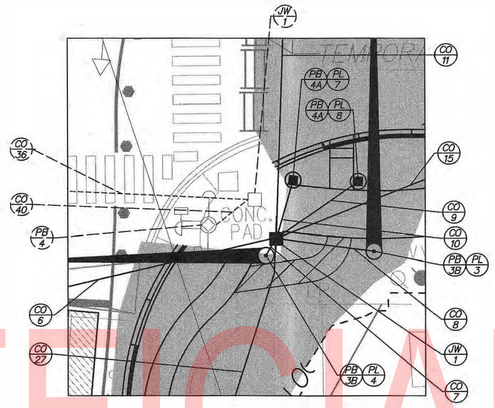
PHASE 1 STAGE 1



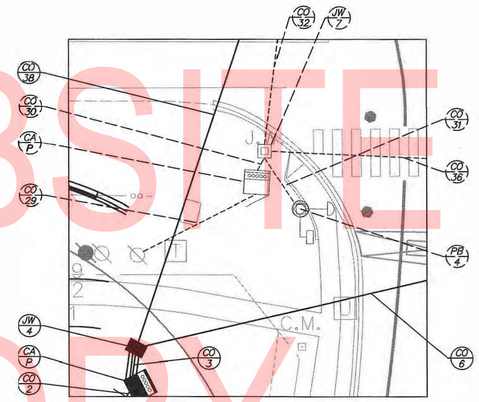
DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'



DETAIL 2 – NORTHEAST CORNER
SCALE: 1" = 15'



DETAIL 3 – SOUTHEAST CORNER
SCALE: 1" = 15'



DETAIL 4 – SOUTHWEST CORNER
SCALE: 1" = 15'

CONDUIT RUN SCHEDULE

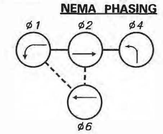
CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
1	1 (GALV. STEEL)	T	2"	15'	EMPTY
2	1 (GALV. STEEL)	T	2"	15'	EMPTY
3	4	T	4"	10'	EMPTY
6	1 (SCHD 80 HDPE)	B	4"	130'	EMPTY
7	1	T	3"	5'	EMPTY
8	1	T	3"	20'	EMPTY
9	1	T	3"	25'	EMPTY
10	1	T	3"	15'	EMPTY
11	1 (SCHD 80 HDPE)	B	4"	80'	EMPTY
15	1	T	4"	45'	EMPTY
26	1	T	3"	10'	EMPTY
27	1	T	4"	40'	EMPTY
*28	1	T	3"	20'	EX. [(1)16/#14, (2)4/#18, (1)1/#6 GRD]
*29	1	-	2.5"	30'	EX. [(1)2/#8 U.F. W/GROUND]
*30	3	-	2.5"	5'	EX. [GRIDSMART CAT5E CABLE, (1)16/#14, (1)9/#14, (3)4/#18, (4)5/#14, (1)1/#6 GRD]
*31	1	-	2.5"	15'	EX. [(1)5/#14, (1)1/#6 GRD]
*32	2	-	2.5"	65'	EX. [GRIDSMART CAT5E CABLE, (1)16/#14, (1)5/#14, (3)4/#18, (1)9/#14, (1)1/#6 GRD]
*33	2	-	2.5"	80'	EX. [GRIDSMART CAT5E CABLE, (1)16/#14, (1)5/#14, (3)4/#18, (1)9/#14, (1)1/#6 GRD]
*34	2	-	2.5"	10'	EX. [GRIDSMART CAT5E CABLE, (1)4/#18, (1)9/#14, (1)1/#6 GRD]
*35	1	-	2.5"	95'	EX. [(1)5/#14, (1)1/#6 GRD]
*36	2	-	2.5"	90'	EX. [(2)5/#14, (1)1/#6 GRD]
*37	1	-	2.5"	15'	EX. [(1)5/#14, (1)1/#6 GRD]
38	1 (SCHD 80 HDPE)	B	4"	110'	EMPTY
*40	1	-	2.5"	10'	EX. [(2)5/#14, (1)1/#6 GRD]

NOTE: ALL CONDUITS SHALL BE SCHEUDLE 80 PVC UNLESS OTHERWISE NOTED

* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

SIGNAL PHASING

NEMA PHASING



PHASING NOTES

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2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	OH-#	EXISTING OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA-X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH-#	PROPOSED OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA-X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB-X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO-#	EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PB-X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO-#	PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PL-X	EXISTING POLE IDENTIFIER (# OF POLE)
JW-X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL-X	PROPOSED POLE IDENTIFIER (# OF POLE)
JW-X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM-C	REMOVE BY CONTRACTOR
MA-XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM-O	REMOVE BY OTHERS
MA-XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM-TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

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2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAKED LICENSED No. 14810 DELAWARE PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

12/18/19
CHIEF TRAFFIC ENGINEER — DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N643
COUNTY	NEW CASTLE	DESIGNED BY: JDS (JMT)	
		CHECKED BY: MAW (JMT)	

SIGNAL PLAN
SR 279 (ELKTON ROAD) @ MCINTIRE DR

SECTION	JMT
SHEET NO.	391

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NJOB\140859_007_ELKTON_MD_CASHO_MILL\CADD\SG_MCINTIRE_PRINT FILES.DGN [SHEET: SG04]

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (5%† OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ALL SIGNAL HEADS WILL BE CONTROLLED BY THE PROPOSED CONTROLLER CABINET DURING THIS PHASE. THE EXISTING CONTROLLER CABINET AND SIGNAL SETUP SHALL BE MAINTAINED UNTIL THE PROPOSED SIGNAL LAYOUT IS OPERATIONAL. IN ADDITION, THE EXISTING POWER SOURCE TO THE EXISTING CONTROLLER CABINET SHALL BE MAINTAINED UNTIL THE PROPOSED CONTROLLER CABINET IS POWERED FROM THE PROPOSED POWER SOURCE. REMOVE THE COMA FROM THE EXISTING CONTROLLER CABINET AND INSTALL IN THE PROPOSED CONTROLLER CABINET.

7. PRIOR TO THE TRAFFIC SIGNAL BEING CONTROLLED BY THE PROPOSED CONTROLLER CABINET, NEW CABLES SHOULD BE INSTALLED FROM THE NEW CONTROLLER CABINET TO THE EXISTING POLES ON THE WEST SIDE OF THE INTERSECTION.

8. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

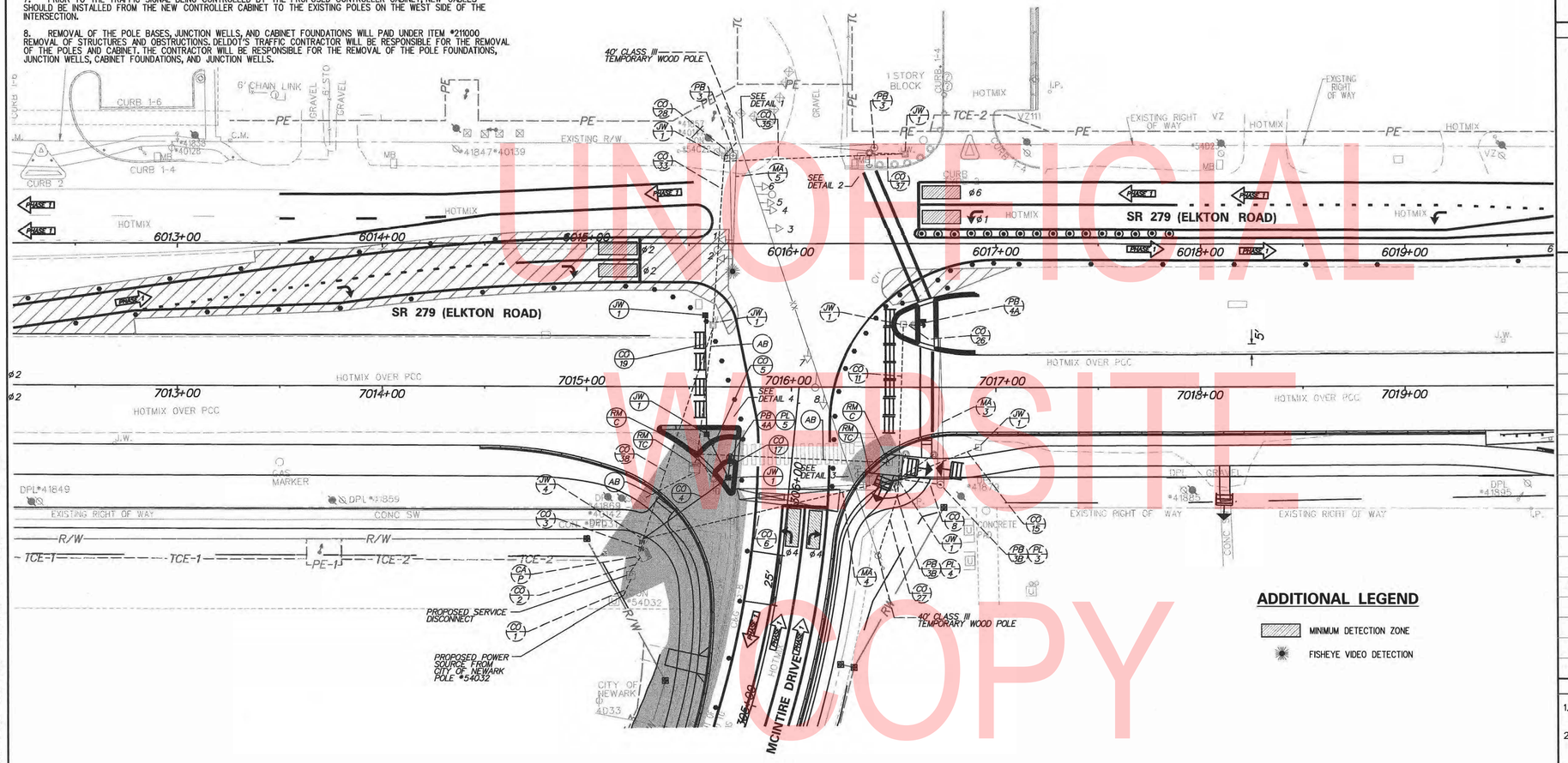
ADDITIONAL GENERAL SIGNAL NOTES

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR TH INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

10. DURING THE PHASE 2 ADVANCE TRAFFIC SETUP ADJUST SIGNAL HEADS AND THE VIDEO DETECTION ZONES AS NECESSARY.

11. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

PHASE 1 STAGE 2



ADDITIONAL LEGEND

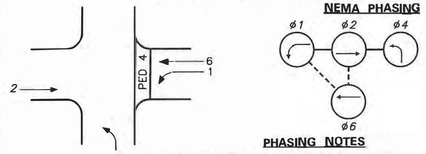
- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
#3	70' MAST ARM	-	0 SF
#4	55' MAST ARM	-	0 SF
#5	55' MAST ARM	2 -3 SECTION	0 SF

* EXISTING OR CONSTRUCTED IN PREVIOUS PHASE

SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB — ABANDON	OH — EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X — EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH * — PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X — PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X — EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO * — EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X — PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO * — PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X — EXISTING POLE IDENTIFIER (* OF POLE)
JW X — EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X — PROPOSED POLE IDENTIFIER (* OF POLE)
JW X — PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C — REMOVE BY CONTRACTOR
MA XX — EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O — REMOVE BY OTHERS
MA XX — PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC — REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	— XX —	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir A. Wahed — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

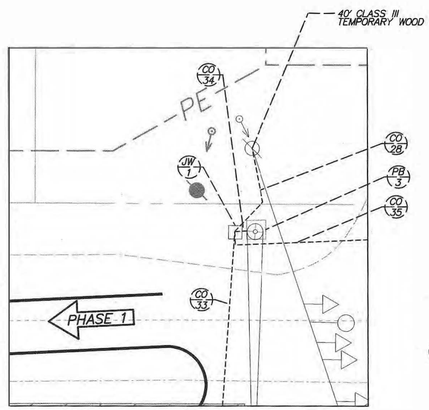
ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT T201504401	PERMIT NO.	N643	SECTION JMT
COUNTY NEW CASTLE	DESIGNED BY: JDS (JMT)	**SIGNAL PLAN SR 279 (ELKTON ROAD) @ MCINTIRE DR**	SHEET NO. 392
	CHECKED BY: MAW (JMT)		

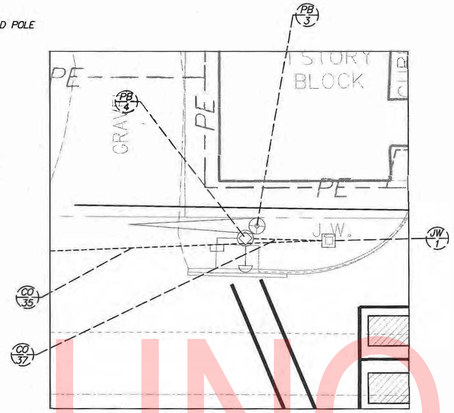
UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/7/2018
FILE LOCATION: Q:\NDE\140859_007_ELKTON_RD_CASHO_MILL\CADD\SG_MCINTIRE_PRINT FILES.DGN [SHEET: SG05]

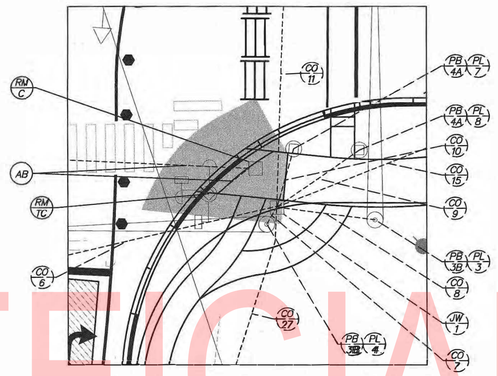
PHASE 1 STAGE 2



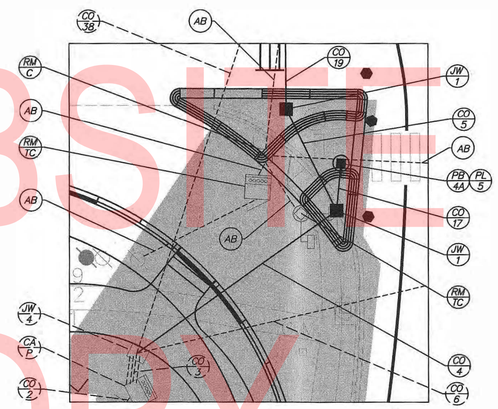
DETAIL 1 – NORTHWEST CORNER
SCALE: 1"=15'



DETAIL 2 – NORTHEAST CORNER
SCALE: 1"=15'



DETAIL 3 – SOUTHEAST CORNER
SCALE: 1"=15'



DETAIL 4 – SOUTHWEST CORNER
SCALE: 1"=15'

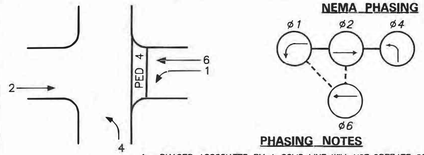
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
#1	1 (GALV. STEEL)	-	2"	15'	NEW [(1)2/#8 2 U.F. W/GROUND]
#2	1 (GALV. STEEL)	-	2"	15'	NEW [(1)2/#8 2 U.F. W/GROUND]
#3	4	-	4"	10'	NEW [GRIDSMART CAT5E CABLE, (1)16/#14, (2)5/#14, (3)4/#18, (1)9/#14, (4)1/#6 GRD]
4	1 (SCHD 80 HDPE)	B	4"	55'	EMPTY
5	1	O	4"	25'	EMPTY
#6	1 (SCHD 80 HDPE)	-	4"	130'	NEW [(1)5/#14, (1)1/#6 GRD]
#7	1	-	3"	5'	EMPTY
#8	1	-	3"	20'	EMPTY
#9	1	-	3"	25'	EMPTY
#10	1	-	3"	15'	EMPTY
#11	1 (SCHD 80 HDPE)	-	4"	80'	NEW [(1)5/#14, (1)1/#6 GRD]
#15	1	-	4"	45'	EMPTY
17	1	O	3"	10'	EMPTY
19	1 (SCHD 80 HDPE)	B	4"	60'	EMPTY
#26	1	-	3"	10'	NEW [(1)5/#14, (1)1/#6 GRD]
#27	1	-	3"	40'	EMPTY
#28	1	-	3"	20'	EX. [(1)16/#14, (2)4/#18, (1)1/#6 GRD]
#33	2	-	2.5"	80'	EX. [GRIDSMART CAT5E CABLE, (1)16/#14, (1)5/#14, (3)4/#18, (1)9/#14, (1)1/#6 GRD]
#34	2	-	2.5"	10'	EX. [GRIDSMART CAT5E CABLE, (1)4/#18, (1)9/#14, (1)1/#6 GRD]
#35	1	-	2.5"	95'	EX. [(1)5/#14, (1)1/#6 GRD]
#37	1	-	2.5"	15'	EX. [(1)5/#14, (1)1/#6 GRD]
#38	1 (SCHD 80 HDPE)	-	4"	110'	NEW [GRIDSMART CAT5E CABLE, (1)16/#14, (1)5/#14, (3)4/#18, (1)9/#14, (1)1/#6 GRD]

NOTE: ALL CONDUITS SHALL BE SCHEUDLE 80 PVC UNLESS OTHERWISE NOTED

# EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

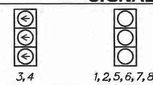
SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH *	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH *	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAHEED — LICENSE — No. 14810 — DELAWARE PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/18/18 DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD,
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N643
COUNTY	NEW CASTLE	DESIGNED BY: JDS (JMT)	CHECKED BY: MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ MCINTIRE DR

SECTION	JMT
SHEET NO.	393

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140859_007_ELKTON_RD_CASHO_MILL\CADD\SG_MCINTIRE_PRINT FILES.DGN [SHEET: SG06]

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (5'0H OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR TH INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

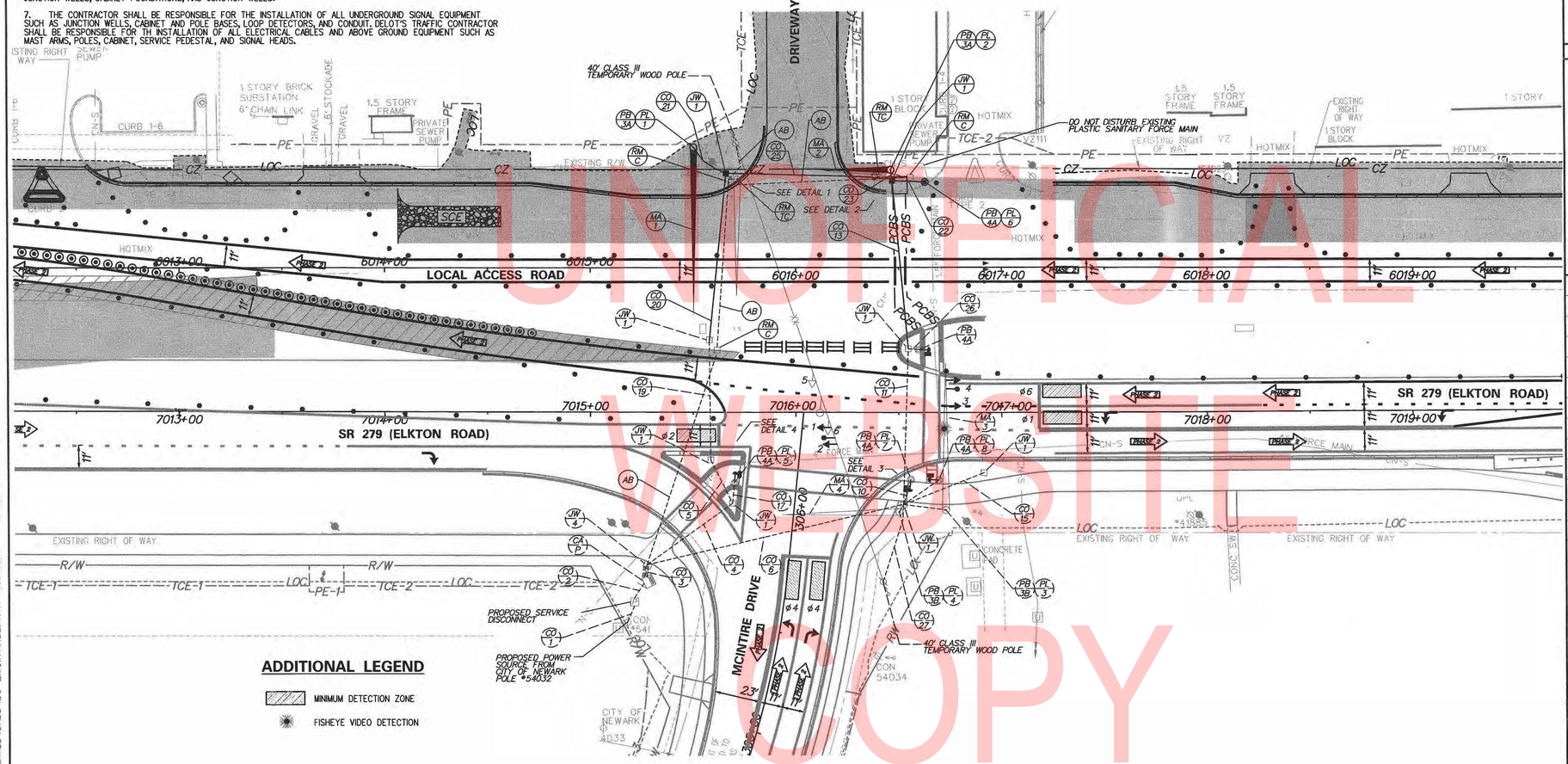
ADDITIONAL GENERAL SIGNAL NOTES (CONTINUED)

8. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

9. REMOVE THE EXISTING MAST ARM ON THE NORTHWEST CORNER PRIOR TO INSTALLING THE PROPOSED MAST ARM.

10. INSTALL SIGNAL HEADS #1,2,3, AND 4. REALIGN SIGNAL HEADS #5 AND 6.

PHASE 2



ADDITIONAL LEGEND

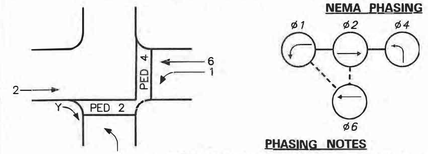
- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
1	80' MAST ARM	-	0 SF
2	35' MAST ARM	-	0 SF
*3	70' MAST ARM	1 - 3 SECTION, 1 - 5 SECTION	0 SF
*4	55' MAST ARM	-	0 SF

* EXISTING OR CONSTRUCTED IN PREVIOUS PHASE

SIGNAL PHASING



PHASING NOTES

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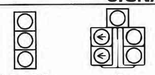
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH (•)	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA (X)	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH (•)	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA (X)	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB (X)	EXISTING POLE BASE IDENTIFIER (TYPE OF ■OLE ■ASE)
CO (•)	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB (X)	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (•)	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL (X)	EXISTING POLE IDENTIFIER (* OF ■OLE)
JW (X)	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL (X)	PROPOSED POLE IDENTIFIER (* OF POLE)
JW (X)	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM (C)	REMOVE BY CONTRACTOR
MA (XX)	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM (O)	REMOVE BY OTHERS
MA (XX)	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM (TC)	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir A. Wahed

12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER

12/19/18
DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	PERMIT NO.	N643
T201504401	DESIGNED BY:	JDS (JMT)
COUNTY	CHECKED BY:	MAW (JMT)
NEW CASTLE		

SIGNAL PLAN SR 279 (ELKTON ROAD) @ MCINTIRE DR

SECTION	
JMT	
SHEET NO.	
394	

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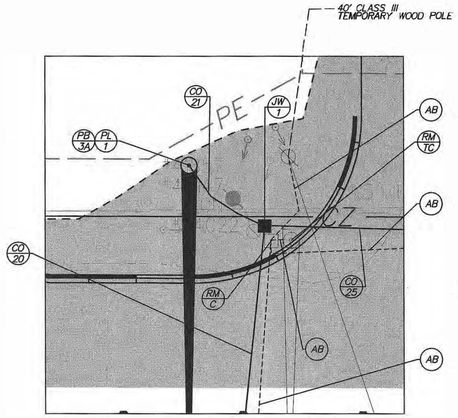
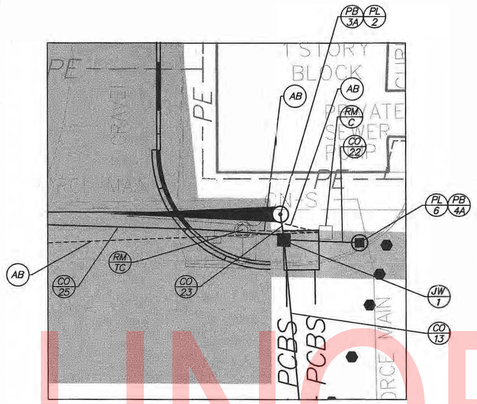
PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: G:\NDE\40659_007_ELKTON_RD_CASHO_MILL\CADD\SIG_MCINTIRE_PRNT FILES.DGN [SHEET: SG07]

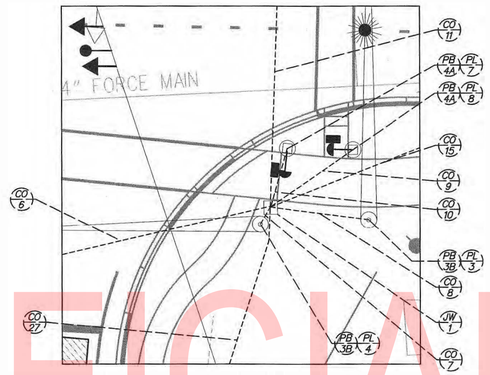
PHASE 2



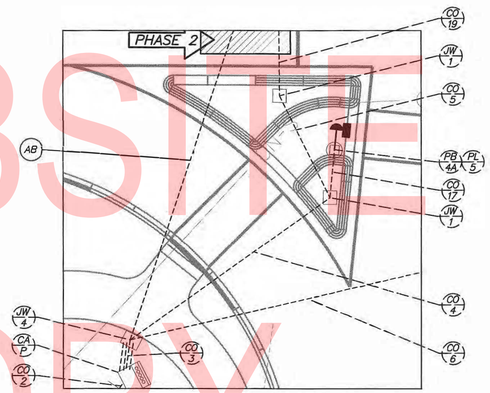
DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'



DETAIL 2 – NORTHEAST CORNER
SCALE: 1" = 15'



DETAIL 3 – SOUTHEAST CORNER
SCALE: 1" = 15'



DETAIL 4 – SOUTHWEST CORNER
SCALE: 1" = 15'

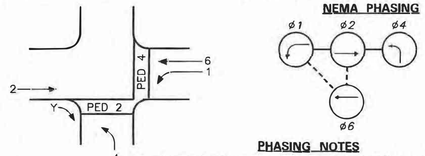
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
#1	1 (GALV. STEEL)	-	2"	15'	EX. [(1)2/#8 2 U.F. W/GROUND]
#2	1 (GALV. STEEL)	-	2"	15'	EX. [(1)2/#8 2 U.F. W/GROUND]
#3	4	-	4"	10'	NEW [(2)5/#14], EX. [(3)4/#18,(1)16/#14, (1)9/#14,(2)5/#14,GRIDSMART CAT5E CABLE, (4)1/#6 GRD]
#4	1 (SCHD 80 HDPE)	-	4"	55'	NEW [(1)5/#14, (1)1/#6 GRD]
#5	1	-	4"	25'	EMPTY
#6	1 (SCHD 80 HDPE)	-	4"	130'	NEW [(3)4/#18,(2)5/#14,(1)16/#14,(1)9/#14, GRIDSMART CAT5E CABLE] EX. [(1)5/#14, (1)1/#6 GRD]
#7	1	-	3"	5'	EMPTY
#8	1	-	3"	20'	NEW [(1)4/#18, (1)9/#14, GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
#9	1	-	3"	25'	NEW [(1)5/#14, (1)1/#6 GRD]
#10	1	-	3"	15'	NEW [(1)5/#14, (1)1/#6 GRD]
#11	1 (SCHD 80 HDPE)	-	4"	80'	EX. [(1)5/#14,(1)1/#6 GRD]
13	1 (SCHD 80 HDPE)	B	4"	85'	EMPTY
#15	1	-	4"	45'	EMPTY
#17	1	-	3"	10'	NEW [(1)5/#14, (1)1/#6 GRD]
#19	1 (SCHD 80 HDPE)	-	4"	60'	EMPTY
20	1 (SCHD 80 HDPE)	B	4"	85'	EMPTY
21	1	T	3"	20'	EMPTY
22	1	T	3"	20'	EMPTY
23	1	T	3"	5'	EMPTY
25	1	T	4"	80'	EMPTY
#26	1	-	3"	10'	EX. [(1)5/#14, (1)1/#6 GRD]
#27	1	-	3"	40'	NEW [(2)4/#18,(1)16/#14,(1)1/#6 GRD]

NOTE: ALL CONDUITS SHALL BE SCHEUDLE 80 PVC UNLESS OTHERWISE NOTED

* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

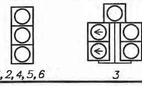
SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH-*	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH-*	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB-X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO-*	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO-*	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL-X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE	—○	—✦
MAST ARM		▶
MICROWAVE DETECTION	◀	◀
OPTICOM RECEIVER	—○	—●
OVERHEAD SIGNING		—|
PEDESTRIAN POLE/BASE	○	◉
PEDESTRIAN PUSHBUTTON	—●	—●
PEDESTRIAN SIGNAL HEAD		—■
RIGHT-OF-WAY		—R/W—
SERVICE PEDESTAL		P
SIGNAL CABINET		■
SIGNAL HEAD	—▷	—▶
SIGNAL POLE/BASE	◑	⊙
CCTV CAMERA		■
SPAN WIRE	—XX—	—◇—
UTILITY POLE	○	●
VIDEO DETECTION		■

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir A. Waked — 12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAKED — LICENSE — No. 14810 — DELAWARE PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N643
COUNTY	NEW CASTLE	DESIGNED BY:	JDS (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ MCINTIRE DR

SECTION: JMT
SHEET NO. 395

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: G:\NDE\1140659_007_ELKTON_RD_CASHO_MILL\CADD\SG_MONTIRE_PRNT FILES.DGN [SHEET: SG08]

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (5%1/OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. INSTALL FISH EYE CAMERA ON MAST ARM LOCATED AT STA 6015+50 OFFSET 58' LEFT. ADJUST THE VIDEO DETECTION ZONES AS NECESSARY.

7. INSTALL LOOP DETECTOR WIRES AS PER THE ULTIMATE SIGNAL PLAN AFTER DIAMOND GRINDING IS PERFORMED AND THE FINAL WEARING COURSE OF HOT MIX IS INSTALLED. MAINTAIN THE VIDEO DETECTION UNTIL THE LOOP DETECTORS ARE OPERATIONAL. AFTER LOOP DETECTORS ARE OPERATIONAL, REMOVE THE VIDEO DETECTION EQUIPMENT, INCLUDING CABLES AND CAMERA.

ADDITIONAL GENERAL SIGNAL NOTES (CONTINUED)

8. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR TH INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

10. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

11. INSTALL SIGNAL HEADS #1-14. REMOVE THE EXISTING SIGNALS FROM MAST ARM #3.

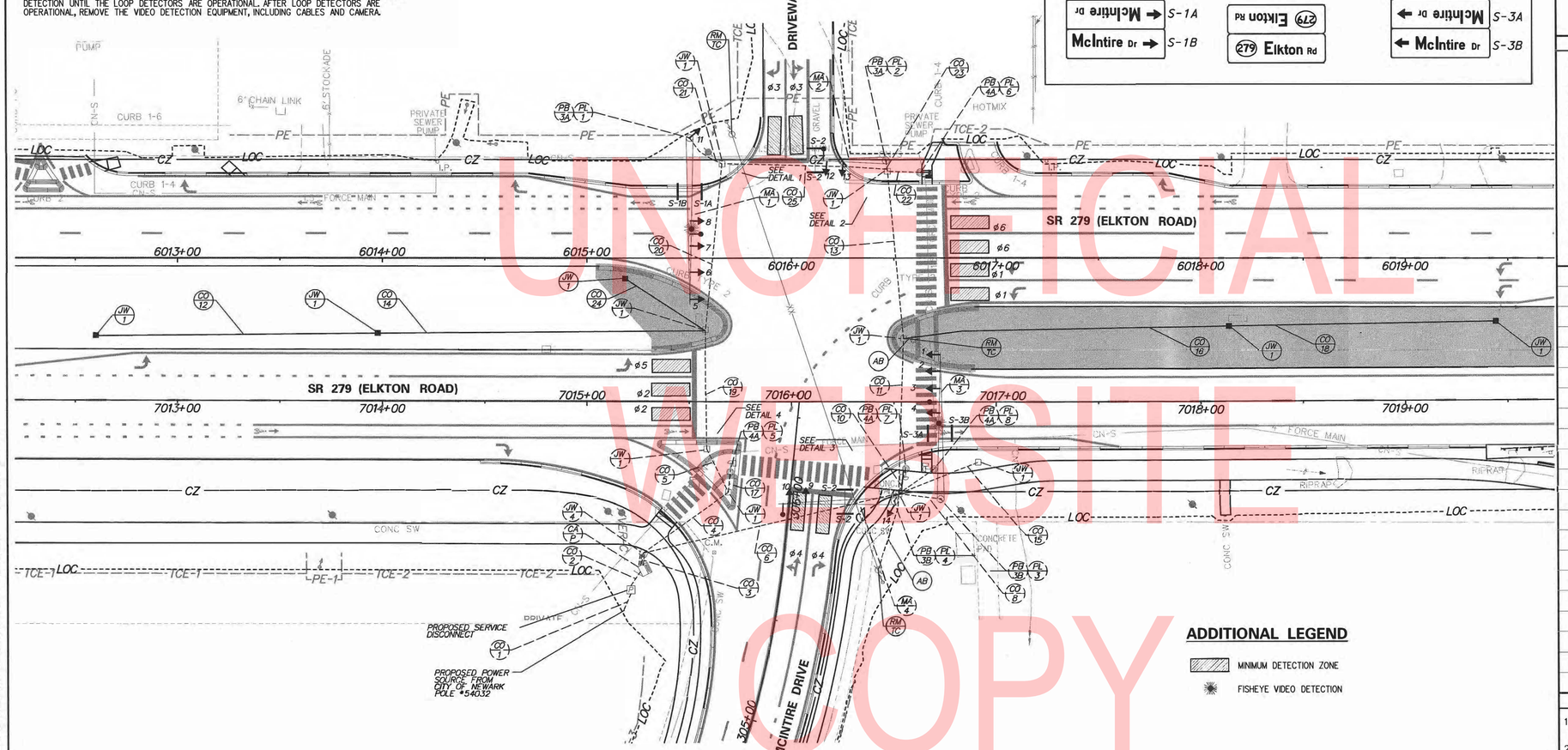
PHASE 3

OVERHEAD SIGN DETAILS

S-1: 48" X 18" 8"/5" D-SERIES — McIntire Dr → S-1A; McIntire Dr → S-1B

S-2: 60" X 18" 8"/5" D-SERIES — 279 Elkton Rd; 279 Elkton Rd

S-3: 48" X 18" 8"/5" D-SERIES — ← McIntire Dr S-3A; ← McIntire Dr S-3B



ADDITIONAL LEGEND

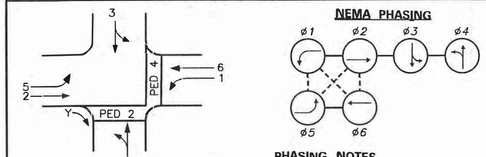
- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
#1	80' MAST ARM	4 - 3 SECTION & 1 - 3 SECTION ON MAST ARM POLE	6 SF
#2	35' MAST ARM	1 - 3 SECTION, 1 - 4 SECTION	7.5 SF
#3	70' MAST ARM	4 - 3 SECTION	6 SF
#4	55' MAST ARM	1 - 3 SECTION, 1 - 4 SECTION & 1 - 3 SECTION ON MAST ARM POLE	7.5 SF

* EXISTING OR CONSTRUCTED IN PREVIOUS PHASE

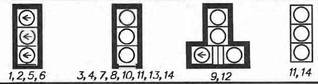
SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB — ABANDON	OR — EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X — EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OR * — PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X — PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X — EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO * — EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X — PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO * — PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X — EXISTING POLE IDENTIFIER (* OF POLE)
JW X — EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X — PROPOSED POLE IDENTIFIER (* OF POLE)
JW X — PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C — REMOVE BY CONTRACTOR
MA XX — EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O — REMOVE BY OTHERS
MA XX — PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC — REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE	—○	—●—
MAST ARM	—▷	—▶
MICROWAVE DETECTION	—◀	—◀
OPTICOM RECEIVER	—○	—●
OVERHEAD SIGNING		—┤
PEDESTRIAN POLE/BASE	○	●
PEDESTRIAN PUSHBUTTON	—▷	—▶
PEDESTRIAN SIGNAL HEAD		—▟
RIGHT-OF-WAY		—R/W—
SERVICE PEDESTAL		P
SIGNAL CABINET		▮
SIGNAL HEAD	—▷	—▶
SIGNAL POLE/BASE	⊗	⊙
CCTV CAMERA		—■
SPAN WIRE	—XX—	——◇——
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir A. Waked — 12/17/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED — LICENSE No. 14810 — DELAWARE PROFESSIONAL ENGINEER (SEAL)

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 (DATE)

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE: 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

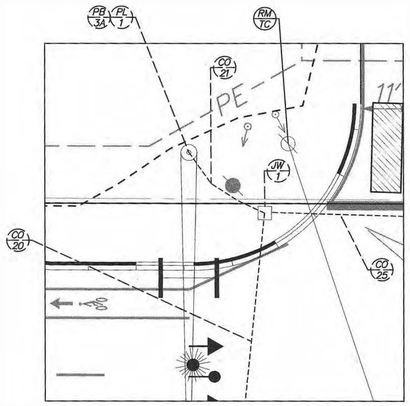
CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N643
DESIGNED BY:	JDS (JMT)
CHECKED BY:	MAW (JMT)

SIGNAL PLAN SR 279 (ELKTON ROAD) @ MCINTIRE DR

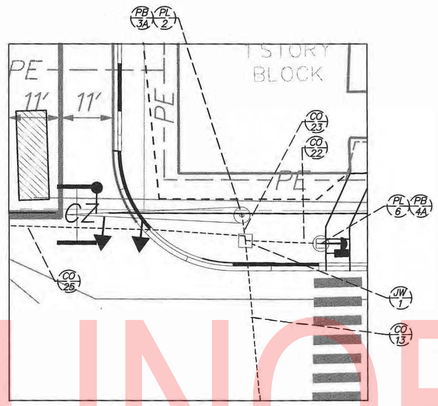
SECTION	JMT
SHEET NO.	396

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SIG_MONTIRE_PRINT FILES.DGN [SHEET: SG09]

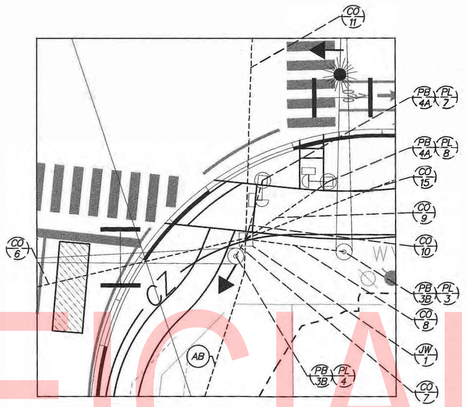


DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'

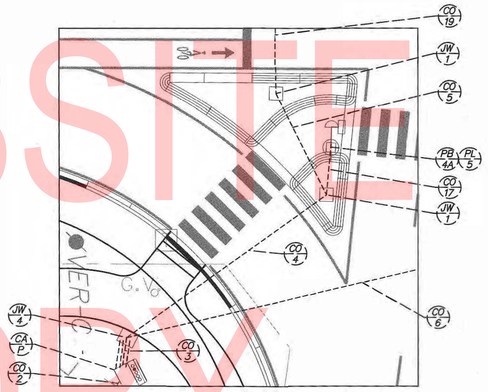


DETAIL 2 – NORTHEAST CORNER
SCALE: 1" = 15'

PHASE 3



DETAIL 3 – SOUTHEAST CORNER
SCALE: 1" = 15'



DETAIL 4 – SOUTHWEST CORNER
SCALE: 1" = 15'

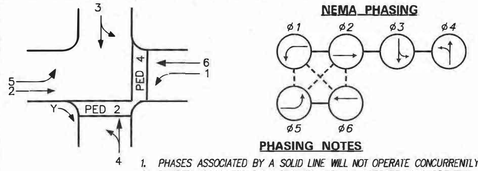
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
*1	1 (GALV. STEEL)	-	2"	15'	EX. [(1)2/#8 2 U.F. W/GROUND]
*2	1 (GALV. STEEL)	-	2"	15'	EX. [(1)2/#8 2 U.F. W/GROUND]
*3	4	-	4"	10'	NEW [GRIDSMART CAT5E CABLE, (2)9/#14] EX. [(3)4/#18, (1)16/#14, (1)9/#14, (4)5/#14, GRIDSMART CAT5E CABLE, (4)1/#6 GRD]
*4	1 (SCHD 80 HDPE)	-	4"	55'	NEW [(1)4/#18, (1)16/#14, GRIDSMART CAT5E CABLE] EX. [(1)5/#14, (1)1/#6 GRD]
*5	1	-	4"	25'	NEW [(1)4/#18, (1)16/#14, GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
*6	1 (SCHD 80 HDPE)	-	4"	130'	NEW [(1)9/#14], EX. [(3)4/#18, (1)9/#14, (3)5/#14, (1)1/#6 GRD GRIDSMART CAT5E CABLE] REMOVE [(1)16/#14]
*7	1	-	3"	5'	NEW [(1)4/#18, (1)9/#14, (1)1/#6 GRD]
*8	1	-	3"	20'	EX. [(1)4/#18, (1)9/#14, (1)1/#6 GRD, GRIDSMART CAT5E CABLE]
*9	1	-	3"	25'	EX. [(1)5/#14, (1)1/#6 GRD]
*10	1	-	3"	15'	EX. [(1)5/#14, (1)1/#6 GRD]
*11	1 (SCHD 80 HDPE)	-	4"	80'	NEW [(1)4/#18, (1)9/#14], EX [(1)5/#14, (1)1/#6 GRD]
12	1	T	4"	140'	EMPTY
*13	1 (SCHD 80 HDPE)	-	4"	85'	NEW [(1)4/#18, (1)9/#14, (1)5/#14, (1)1/#6 GRD]
14	1	T	4"	160'	EMPTY
*15	1	-	4"	45'	EMPTY
16	1	T	4"	160'	EMPTY
*17	1	-	3"	10'	EX. [(1)5/#14, (1)1/#6 GRD]
18	1	T	4"	130'	EMPTY
*19	1 (SCHD 80 HDPE)	-	4"	60'	NEW [(1)16/#14, (1)4/#18, (1)1/#6 GRD, GRIDSMART CAT5E CABLE]
*20	1 (SCHD 80 HDPE)	-	4"	85'	NEW [(1)16/#14, (1)4/#18, GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
*21	1	-	3"	25'	NEW [(1)4/#18, (1)16/#14, GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
*22	1	-	3"	20'	NEW [(1)5/#14, (1)1/#6 GRD]
*23	1	-	3"	5'	NEW [(1)9/#14, (1)4/#18, (1)1/#6 GRD]
24	1	T	4"	50'	EMPTY
*25	1	-	4"	80'	EMPTY

NOTE: ALL CONDUITS SHALL BE SCHEUDLE 80 PVC UNLESS OTHERWISE NOTED

* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

SIGNAL PHASING



PHASING NOTES

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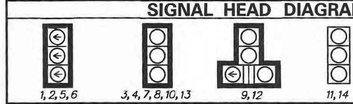
SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAKED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N643
DESIGNED BY:	JDS (JMT)
CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ MCINTIRE DR

SECTION	JMT
SHEET NO.	397

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG _MCINTIRE_PRINT FILES.DGN [SHEET: SG10]

UNOFFICIAL WEBSITE COPY

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (5OH OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

7. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

8. INSTALL PASSAGE DETECTION LOOPS ALONG ELKTON ROAD IN EACH THROUGH TRAVEL LANE 300 FEET IN ADVANCE OF THE STOP BAR IN ACCORDANCE WITH TABLE IV-7 FROM THE DELDOT TRAFFIC DESIGN MANUAL.

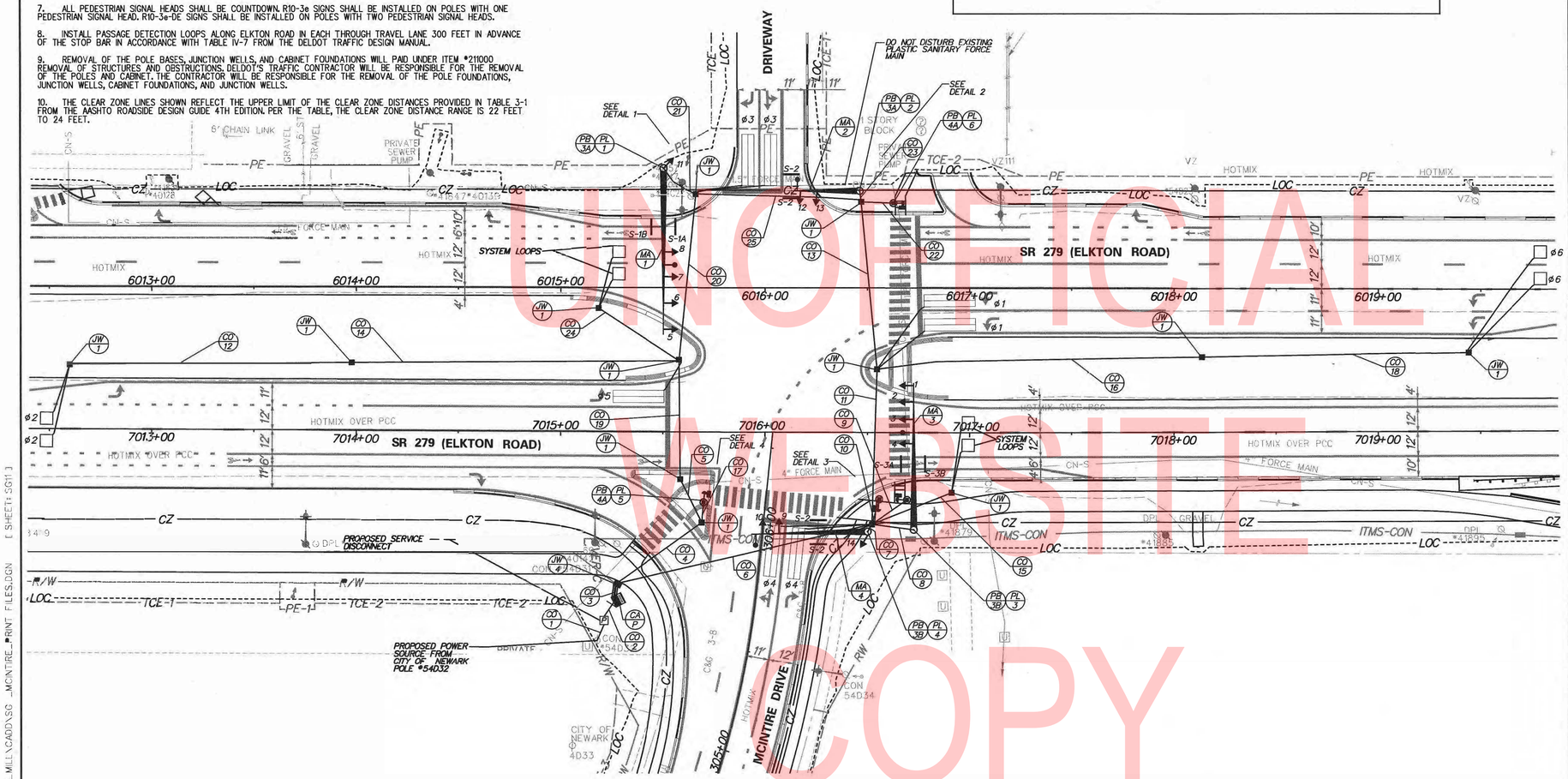
9. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM #211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

10. THE CLEAR ZONE LINES SHOWN REFLECT THE UPPER LIMIT OF THE CLEAR ZONE DISTANCES PROVIDED IN TABLE 3-1 FROM THE AASHTO ROADSIDE DESIGN GUIDE 4TH EDITION. PER THE TABLE, THE CLEAR ZONE DISTANCE RANGE IS 22 FEET TO 24 FEET.

ULTIMATE

OVERHEAD SIGN DETAILS

S-1	S-2	S-3
48" X 18"	60" X 18"	48" X 18"
8"/5" D-SERIES	8"/5" D-SERIES	8"/5" D-SERIES
McIntire Dr → S-1A	279 Elkton Rd S-2	← McIntire Dr S-3A
McIntire Dr → S-1B		← McIntire Dr S-3B



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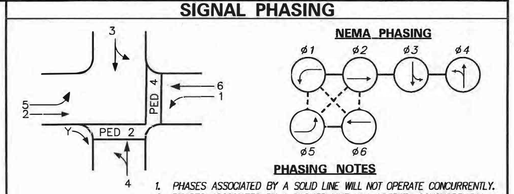
POLE SCHEDULE

NO.	TYPE	STATION	OFFSET
1	80' MAST ARM W/ TYPE 3A POLE BASE	6015+50	59' LT
2	35' MAST ARM W/ TYPE 3A POLE BASE	6016+46	47' LT
3	70' MAST ARM W/ TYPE 3B POLE BASE	7016+73	48' RT
4	55' MAST ARM W/ TYPE 3B POLE BASE	7016+50	49' RT
5	PEDESTAL POLE W/ TYPE 4A BASE	7015+70	35' RT
6	PEDESTAL POLE W/ TYPE 4A BASE	6016+63	42' LT
7	PEDESTAL POLE W/ TYPE 4A BASE	7016+56	33' RT
8	PEDESTAL POLE W/ TYPE 4A BASE	7016+70	33' RT

MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
1	80' MAST ARM	4 - 3 SECTION & 1 - 3 SECTION ON MAST ARM POLE	6 SF
2	35' MAST ARM	1 - 3 SECTION, 1 - 4 SECTION	7.5 SF
3	70' MAST ARM	4 - 3 SECTION	6 SF
4	55' MAST ARM	1 - 3 SECTION, 1 - 4 SECTION & 1 - 3 SECTION ON MAST ARM POLE	7.5 SF

SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (# OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (# OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Ata Waked — 12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

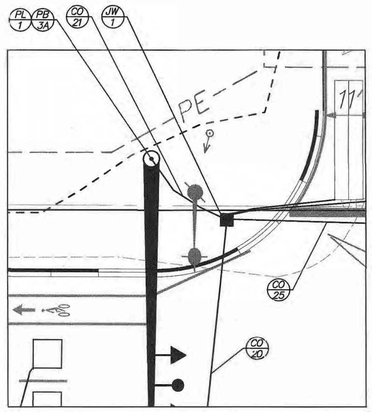
CONTRACT	PERMIT NO.	N643
T201504401	DESIGNED BY:	JDS (JMT)
COUNTY	CHECKED BY:	MAW (JMT)
NEW CASTLE		

SIGNAL PLAN SR 279 (ELKTON ROAD) @ MCINTIRE DR

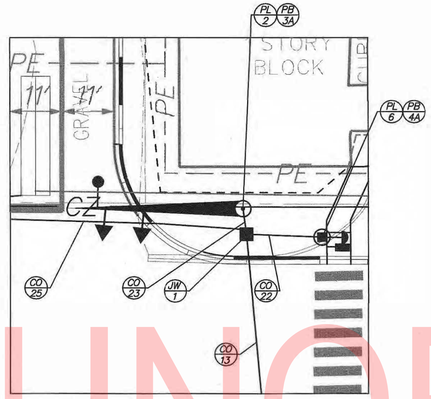
SECTION	JMT
SHEET NO.	398

PLOTTED BY: JDSMITH DATE: 12/17/2019
FILE LOCATION: G:\NDE\14059_007_ELKTON_RD_CASHO_MILL\CADD\SG_MCINTIRE_PRINT FILES.DGN [SHEET: SG11]

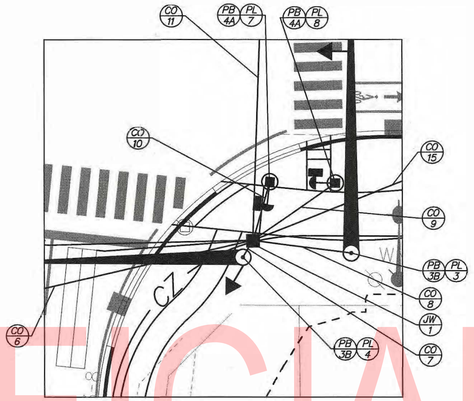
ULTIMATE



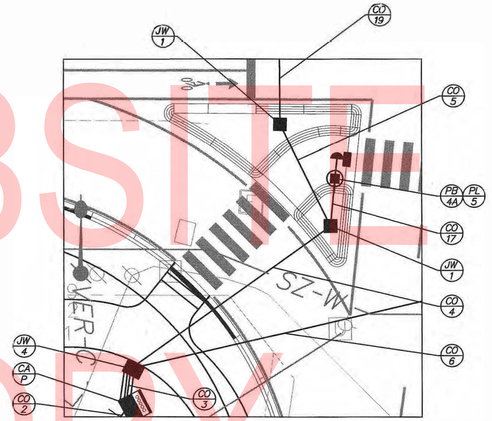
DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'



DETAIL 2 – NORTHEAST CORNER
SCALE: 1" = 15'



DETAIL 3 – SOUTHEAST CORNER
SCALE: 1" = 15'



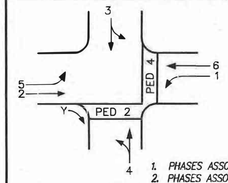
DETAIL 4 – SOUTHWEST CORNER
SCALE: 1" = 15'

CONDUIT RUN SCHEDULE

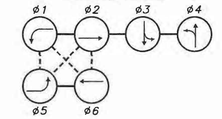
CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
1	1 (GALV. STEEL)	T	2"	15'	(1)2/#8 U.F. W/GROUND
2	1 (GALV. STEEL)	T	2"	15'	(1)2/#8 U.F. W/GROUND
3	4	T	4"	10'	(4)4/#18, (3)9/#14, (1)16/#14 (4)5/#14, (15)2/#14, (4)1/#6 GRD
4	1 (SCHD 80 HDPE)	B	4"	55'	(1)16/#14, (1)4/#18, (1)5/#14, (7)2/#14, (1)1/#6 GRD
5	1	O	4"	25'	(1)16/#14, (1)4/#18, (7)2/#14, (1)1/#6 GRD
6	1 (SCHD 80 HDPE)	B	4"	130'	(3)4/#18, (3)9/#14, (3)5/#14, (8)2/#14, (1)1/#6 GRD
7	1	T	3"	5'	(1)9/#14, (1)4/#18, (1)1/#6 GRD
8	1	T	3"	20'	(1)9/#14, (1)4/#18, (1)1/#6 GRD
9	1	T	3"	25'	(1)5/#14, (1)1/#6 GRD
10	1	T	3"	15'	(1)5/#14, (1)1/#6 GRD
11	1 (SCHD 80 HDPE)	B	4"	80'	(1)9/#14, (1)4/#18, (1)5/#14, (4)2/#14, (1)1/#6 GRD
12	1	T	4"	140'	(2)2/#14, (1)1/#6 GRD
13	1 (SCHD 80 HDPE)	B	4"	85'	(1)9/#14, (1)4/#18, (1)5/#14, (1)1/#6 GRD
14	1	T	4"	160'	(2)2/#14, (1)1/#6 GRD
15	1	T	4"	45'	(2)2/#14, (1)1/#6 GRD
16	1	T	4"	160'	(2)2/#14, (1)1/#6 GRD
17	1	O	3"	10'	(1)5/#14, (1)1/#6 GRD
18	1	T	4"	130'	(2)2/#14, (1)1/#6 GRD
19	1 (SCHD 80 HDPE)	B	4"	60'	(1)16/#14, (1)4/#18, (7)2/#14, (1)1/#6 GRD
20	1 (SCHD 80 HDPE)	B	4"	85'	(1)16/#14, (1)4/#18, (2)2/#14, (1)1/#6 GRD
21	1	T	3"	25'	(1)4/#18, (1)16/#14, (1)1/#6 GRD
22	1	T	3"	20'	(1)5/#14, (1)1/#6 GRD
23	1	T	3"	5'	(1)9/#14, (1)4/#18, (1)1/#6 GRD
24	1	T	4"	50'	(2)2/#14, (1)1/#6 GRD
25	1	T	4"	80'	EMPTY

NOTE: ALL CONDUITS SHALL BE SCHEUDLE 80 PVC UNLESS OTHERWISE NOTED
B=BORE, T=TRENCH, O=OPEN CUT

SIGNAL PHASING



NEMA PHASING



PHASING NOTES

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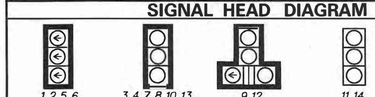
SIGNAL HEAD DIAGRAM



LEGEND

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CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
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	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

UNOFFICIAL WEBSITE COPY

ADDENDA / REVISIONS		
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NOT TO SCALE

ELKTON ROAD,
MD LINE TO
CASHO MILL ROAD

CONTRACT T201504401
COUNTY NEW CASTLE

PERMIT NO. N643
DESIGNED BY: ALM(JMT)
CHECKED BY: MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ MCINTIRE DR

SECTION JMT
SHEET NO. 399

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: G:\NDE\14\059_007_ELKTON_RD_CASHO_MILL\CADD\SG_MCINTIRE_PRINT FILES.DGN [SHEET1: SG12]

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6. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN SIGNALS. R10-3e SIGNS SHOULD BE INSTALLED ON POLES WITH ONEPEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND SIGNAL EQUIPMENT SUCH AS MAST ARMS, POLES, CABINETS, SERVICE PEDESTALS, AND SIGNAL HEADS.

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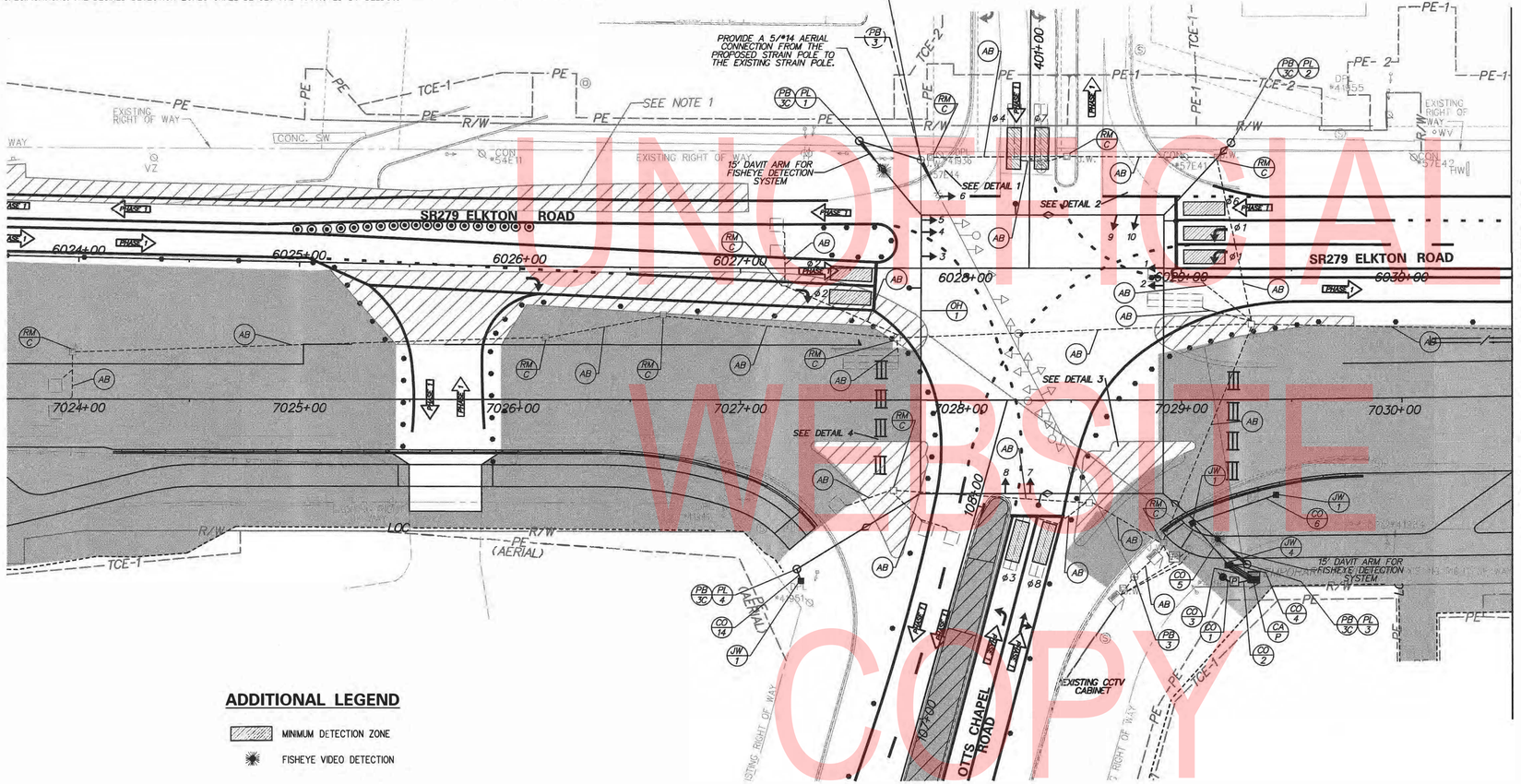
9. ALL VIDEO DETECTORS SHALL BE INSTALLED ON THE TEMPORARY DAVIT ARMS TO ACHIEVE OPTIMUM DETECTION PER MANUFACTURERS SPECIFICATIONS. THE DESIRED DETECTION ZONES SHALL BE SET AND APPROVED BY DELDOT.

ADDITIONAL GENERAL SIGNAL NOTES (CONTINUED)

10. ALL SIGNAL HEADS ARE TO BE CONTROLLED BY THE PROPOSED CONTROLLER CABINET DURING THIS PHASE. THE EXISTING CONTROLLER AND SIGNAL SETUP SHALL BE MAINTAINED UNTIL THE PROPOSED SIGNAL LAYOUT IS OPERATIONAL. IN ADDITION, THE EXISTING POWER SOURCE TO THE EXISTING CONTROLLER CABINET SHALL BE MAINTAINED UNTIL PROPOSED CONTROLLER IS OPERATIONAL AND IS POWERED FROM THE PROPOSED POWER SOURCE. REMOVE THE CDMA FROM THE EXISTING CONTROLLER CABINET AND INSTALL IN THE PROPOSED CONTROLLER CABINET.

PHASE 1



ADDITIONAL LEGEND

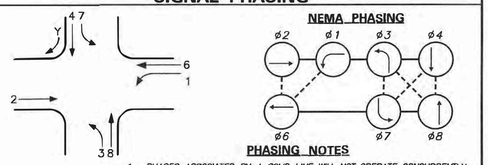
- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

SPAN WIRE SCHEDULE

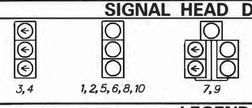
SPAN	LENGTH	SPAN MOUNT HEIGHT	5% DROP	BULL RING HEIGHT	5% SAG	SPAN LOW POINT	BOTTOM OF LOWEST HEAD
NORTHEAST	45 FT	28.8 FT	2.3 FT	26.5 FT	-	-	-
SOUTHEAST	50 FT	29.0 FT	2.5 FT	26.5 FT	-	-	-
NORTHWEST	44 FT	28.7 FT	2.2 FT	26.5 FT	-	-	-
SOUTHWEST	65 FT	29.8 FT	3.3 FT	26.5 FT	-	-	-
NORTH	110 FT	-	-	26.5 FT	5.5 FT	21.0 FT	17.0 FT
SOUTH	110 FT	-	-	26.5 FT	5.5 FT	21.0 FT	17.0 FT
EAST	127 FT	-	-	26.5 FT	6.4 FT	20.1 FT	16.1 FT
WEST	127 FT	-	-	26.5 FT	6.4 FT	20.1 FT	16.1 FT

NOTE: FIELD ADJUSTMENTS AS REQUIRED

SIGNAL PHASING



SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH (•)	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA (X)	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH (•)	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA (X)	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB (X)	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (•)	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB (X)	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (•)	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL (X)	EXISTING POLE IDENTIFIER (* OF POLE)
JW (X)	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL (X)	PROPOSED POLE IDENTIFIER (* OF POLE)
JW (X)	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA (XX)	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA (XX)	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAKED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER

SEAL

APPROVED FOR INSTALLATION

Mark Luft — 12/19/18
CHIEF TRAFFIC ENGINEER — DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE: 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N181
COUNTY	NEW CASTLE	DESIGNED BY:	ALM (JMT)
		CHECKED BY:	MAW (JMT)

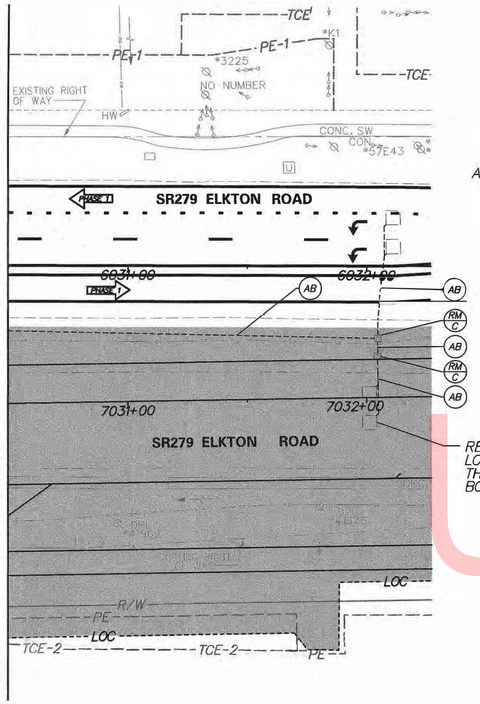
SIGNAL PLAN SR 279 (ELKTON ROAD) @ OTTS CHAPEL ROAD

SECTION	
JMT	
SHEET NO.	400

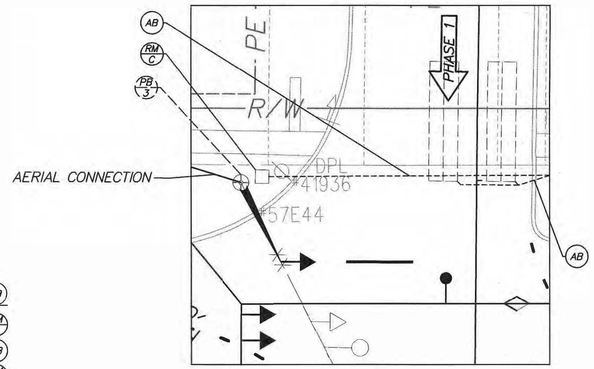
UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: G:\NDEV\40659_007_ELKTON_RD_CASHO_MILL\CADD\SG _OTTS_PRINT FILES.DGN [SHEET: SG13]

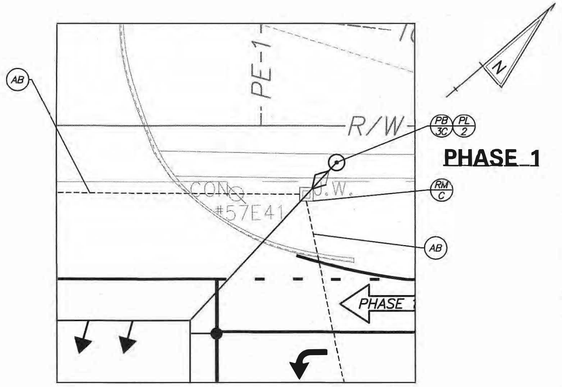
MATCHLINE BB – SEE SHEET 397



REMOVE THE ADVANCE LOOPS WHICH ARE FOR THE INTERCHANGE BOULEVARD INTERSECTION

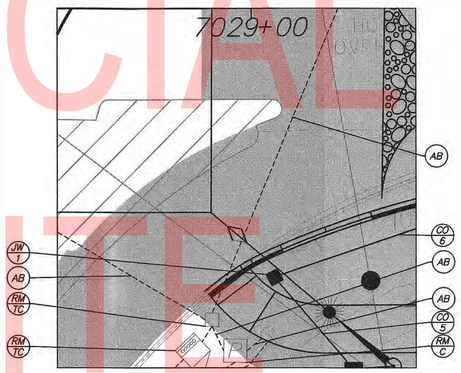


DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'

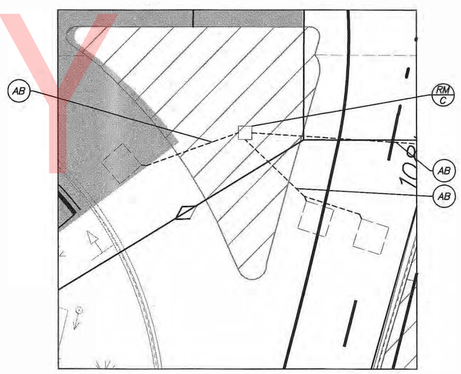


PHASE 1

DETAIL 2 – NORTHEAST CORNER
SCALE: 1" = 15'



DETAIL 3 – SOUTHEAST CORNER
SCALE: 1" = 15'



DETAIL 4 – SOUTHWEST CORNER
SCALE: 1" = 15'

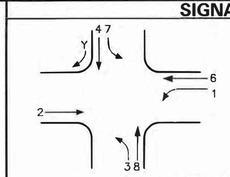
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
1	1 (GALV. STEEL)	T	2"	10'	NEW [(1)2/#8 U.F. W/GROUND]
2	1 (GALV. STEEL)	T	2"	10'	NEW [(1)2/#8 U.F. W/GROUND]
3	4	T	4"	15'	NEW [(1)5/#14, (2)16/#14,(4)4/#18, GRIDSMART CAT5E CABLE, (4)1/#6 GRD]
4	1	T	3"	10'	NEW [(1)5/#14, (2)16/#14,(4)4/#18, GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
5	1	T	4"	30'	EMPTY
6	1	T	4"	45'	EMPTY
14	1	T	4"	10'	EMPTY

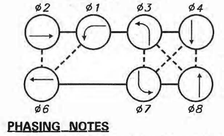
NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.

* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

SIGNAL PHASING



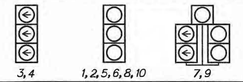
NEMA PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL		
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/20/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAKED LICENSED No. 14810 DELAWARE PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/20/18 DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N181
DESIGNED BY:	ALM (JMT)
CHECKED BY:	MAW (JMT)

SIGNAL PLAN SR 279 (ELKTON ROAD) @ OTTS CHAPEL ROAD

SECTION	JMT
SHEET NO.	401

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/20/2018
FILE LOCATION: Q:\NDE\140859_007_ELKTON_RD_CASHO_MILL\CADD\SG_OTTS_PRINT FILES.DGN [SHEET: SG14]

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATLY ADJACENT TO THE FLAT (5O:1 OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK, IN ADDORDANCE WITH THE ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LANDING AREA TO THE FACE OF THE PUSHBUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN SIGNALS.

6. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHOULD BE INSTALLED ON POLES WITH ONE PEDESTRAIN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND SIGNAL EQUIPMENT SUCH AS MAST ARMS, POLES, CABINETS, SERVICE PEDESTALS, AND SIGNAL HEADS.

ADDITIONAL GENERAL SIGNAL NOTES (CONTINUED)

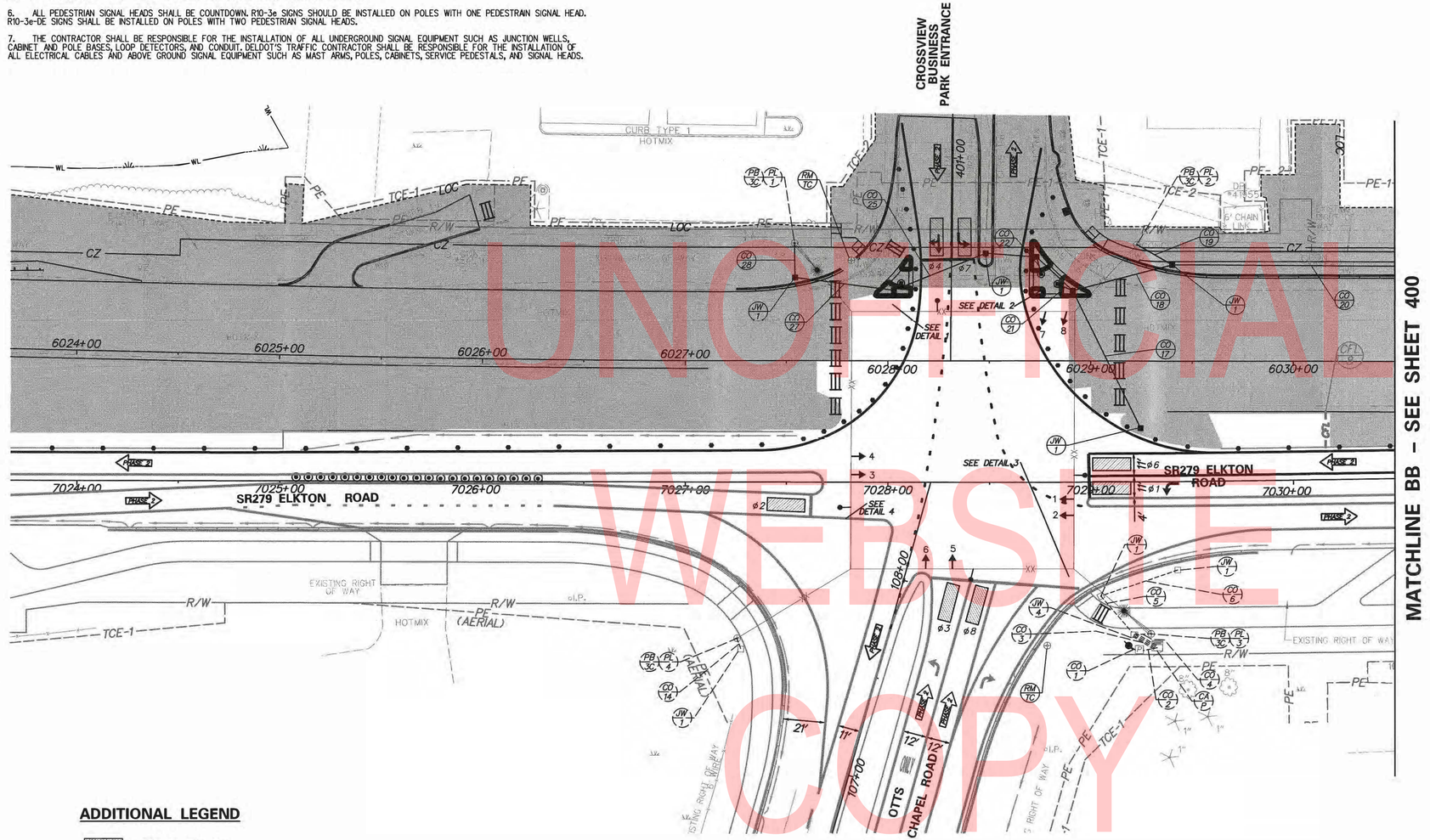
8. REMOVAL OF POLE BASES, JUNCTION WELLS AND CABINET FOUNDATIONS WILL BE PAID UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, CABINET FOUNDATIONS AND JUNCTION WELLS.

9. ADJUST THE VIDEO DETECTION ZONES AS NECESSARY.

10. SLIDE EXISTING SIGNAL HEADS *1, 2, 4, 5, 6, 7, & 8. INSTALL SIGNAL HEAD *3.

11. ALL EXISTING SIGNAL EQUIPMENT SHALL REMIAN UNLESS OTHERWISE NOTED.

PHASE 2



ADDITIONAL LEGEND

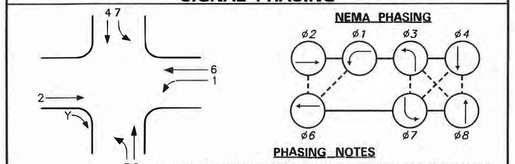
- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

SPAN WIRE SCHEDULE

SPAN	LENGTH	SPAN MOUNT HEIGHT	5% DROP	BULL RING HEIGHT	5% SAG	SPAN LOW POINT	BOTTOM OF LOWEST HEAD
NORTHEAST	45 FT	28.8 FT	2.3 FT	26.5 FT	-	-	-
SOUTHEAST	50 FT	29.0 FT	2.5 FT	26.5 FT	-	-	-
NORTHWEST	44 FT	28.7 FT	2.2 FT	26.5 FT	-	-	-
SOUTHWEST	65 FT	29.8 FT	3.3 FT	26.5 FT	-	-	-
NORTH	110 FT	-	-	26.5 FT	5.5 FT	21.0 FT	17.0 FT
SOUTH	110 FT	-	-	26.5 FT	5.5 FT	21.0 FT	17.0 FT
EAST	127 FT	-	-	26.5 FT	6.4 FT	20.1 FT	16.1 FT
WEST	127 FT	-	-	26.5 FT	6.4 FT	20.1 FT	16.1 FT

NOTE: FIELD ADJUSTMENTS AS REQUIRED

SIGNAL PHASING



PHASING NOTES

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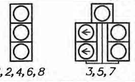
SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH(*)	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA(X)	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH(*)	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA(X)	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB(X)	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO(*)	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB(X)	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO(*)	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL(X)	EXISTING POLE IDENTIFIER (* OF POLE)
JW(X)	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL(X)	PROPOSED POLE IDENTIFIER (* OF POLE)
JW(X)	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM(C)	REMOVE BY CONTRACTOR
MA(XX)	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM(O)	REMOVE BY OTHERS
MA(XX)	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM(TC)	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/20/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/20/18 (DATE)

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

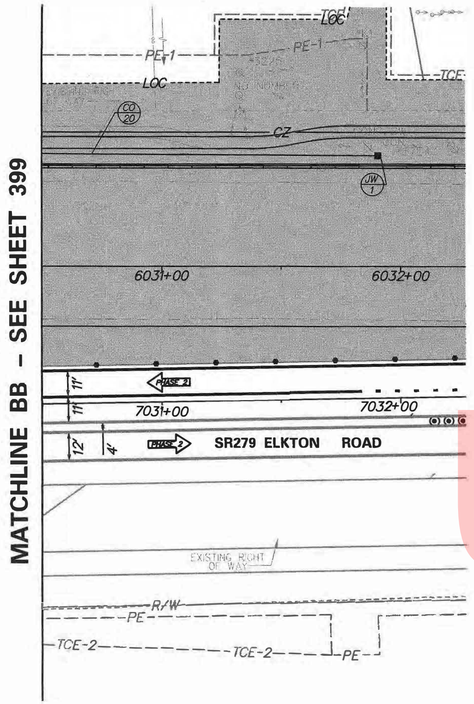
CONTRACT	T201504401	PERMIT NO.	N181
COUNTY	NEW CASTLE	DESIGNED BY:	ALM (JMT)
		CHECKED BY:	MAW (JMT)

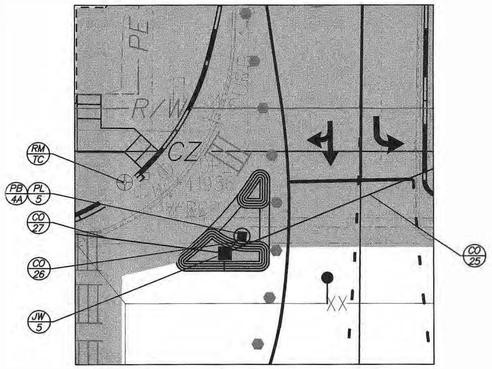
SIGNAL PLAN SR 279 (ELKTON ROAD) @ OTTS CHAPEL ROAD

SECTION: JMT
SHEET NO.: 402

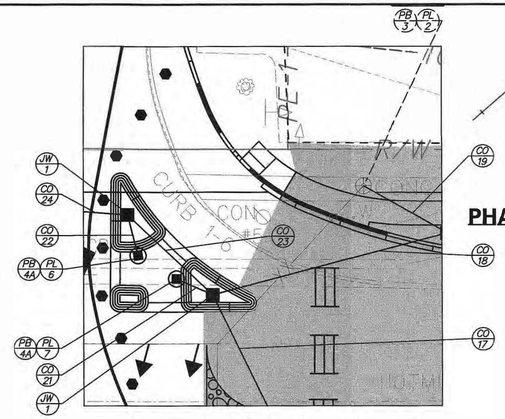
PLOTTED BY: JDSMITH DATE: 12/20/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG_OTTS_PRINT FILES.DGN [SHEET: SG15]

UNOFFICIAL WEBSITE COPY



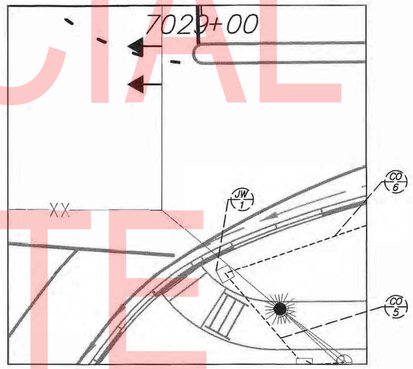


DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'

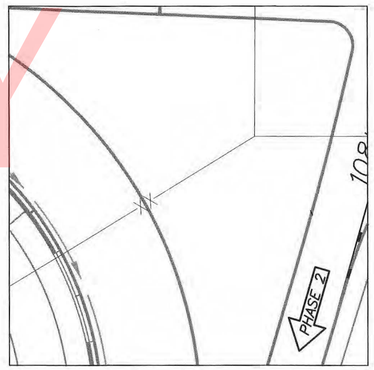


DETAIL 2 – NORTHEAST CORNER
SCALE: 1" = 15'

PHASE 2



DETAIL 3 – SOUTHEAST CORNER
SCALE: 1" = 15'



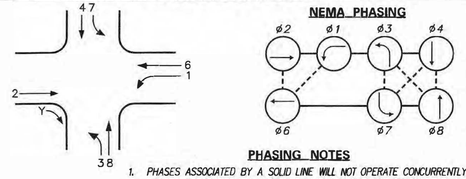
DETAIL 4 – SOUTHWEST CORNER
SCALE: 1" = 15'

CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
*1	1 (GALV. STEEL)	-	2"	10'	EX. [(1)2/*8 U.F. W/GROUND]
*2	1 (GALV. STEEL)	-	2"	10'	EX. [(1)2/*8 U.F. W/GROUND]
*3	4	-	4"	15'	EX. [(2)16/*14, (4)4/*18, GRIDSMART CAT5E CABLES, (4)1/*6 GRD] REMOVE [(1)5/*14]
*4	1	-	3"	10'	EX. [(2)16/*14, (4)4/*18, GRIDSMART CAT5E CABLES, (1)1/*6 GRD] REMOVE [(1)5/*14]
*5	1	-	4"	30'	EMPTY
*6	1	-	4"	45'	EMPTY
*14	1	-	4"	10'	EMPTY
17	1 (SCHD 80 HDPE)	B	4"	80'	EMPTY
18	1 (SCHD 80 HDPE)	B	4"	55'	EMPTY
19	1	T	3"	25'	EMPTY
20	1	T	4"	250'	EMPTY
21	1	O	3"	10'	EMPTY
22	1	O	3"	20'	EMPTY
23	1	O	4"	25'	EMPTY
24	1 (SCHD 80 HDPE)	B	4"	30'	EMPTY
25	1 (SCHD 80 HDPE)	B	4"	50'	EMPTY
26	1	O	3"	10'	EMPTY
27	1	T	3"	20'	EMPTY
28	1	O	3"	50'	EMPTY

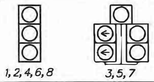
NOTE: ALL COUNDITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

SIGNAL PHASING



PHASING NOTES
1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W. 5	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE		—•—
MAST ARM		▶
MICROWAVE DETECTION	—◀	—◀
OPTICOM RECEIVER	—○	—●
OVERHEAD SIGNING		—|
PEDESTRIAN POLE/BASE	⊙	⊗
PEDESTRIAN PUSHBUTTON	—▯	—▮
PEDESTRIAN SIGNAL HEAD	▭	▬
RIGHT-OF-WAY	———	—R/W—
SERVICE PEDESTAL		P
SIGNAL CABINET	▭	▬
SIGNAL HEAD	—▷	—▶
SIGNAL POLE/BASE	⊗	⊙
CCTV CAMERA		▬
SPAN WIRE	—XX—	—◇—
UTILITY POLE	○	●
VIDEO DETECTION	◁	◀

GENERAL SIGNAL NOTES

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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/20/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAKED — LICENSE — No. 14810 — DELAWARE PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/20/18 (DATE)

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N181
COUNTY	NEW CASTLE	DESIGNED BY:	ALM (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ OTTS CHAPEL ROAD

SECTION: JMT
SHEET NO.: 403

PLOTTED BY: JDSMITH DATE: 12/20/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SIG_-_OTTS_PRINT FILES.DGN [SHEET1: SG16_1]

UNOFFICIAL WEBSITE COPY

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATLY ADJACENT TO THE FLAT (50:1 OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK, IN ADDORDANCE WITH THE ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LANDING AREA TO THE FACE OF THE PUSHBUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10 3e SIGNS SHOULD BE INSTALLED ON POLES WITH ONE PEDESTRAIN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND SIGNAL EQUIPMENT SUCH AS MAST ARMS, POLES, CABINETS, SERVICE PEDESTALS, AND SIGNAL HEADS.

8. REMOVAL OF POLE BASES, JUNCTION WELLS AND CABINET FOUNDATIONS WILL BE PAID UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. THE TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, CABINET FOUNDATIONS AND JUNCTION WELLS.

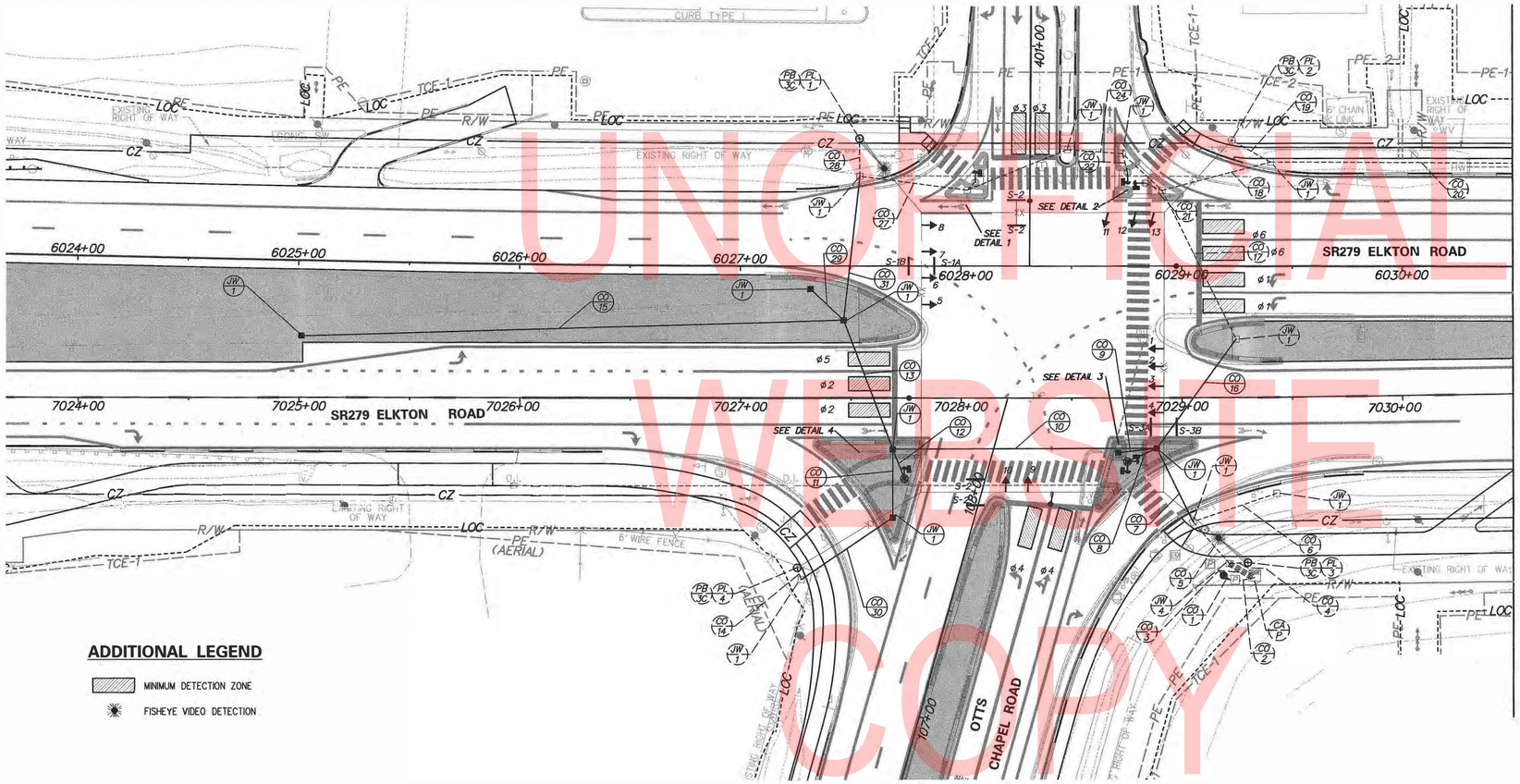
ADDITIONAL GENERAL SIGNAL NOTES (CONTINUED)

9. CONDUITS CROSSING THE ROADWAY SHALL BE AT A MINIMUM DEPTH OF 24".

10. INSTALL LOOP DETECTOR WIRES AS PER THE ULTIMATE SIGNAL PLAN AFTER DIAMOND GRINDING IS PREFORMED AND THE FINAL WEARING COURSE OF HOT MIX IS INSTALLED. MAINTAIN THE VIDEO DETECTION UNTIL THE LOOP DETECTORS ARE OPERATIONAL. AFTER LOOP DETECTORS ARE OPERATIONAL, REMOVE THE VIDEO DETECTION EQUIPMENT, INCLUDING CABLES AND CAMERA AND RETURN TO DELDOT.

11. SLIDE EXISTING SIGNAL HEAD #'S 3,4,7,8,10, & 13. INSTALL SIGNAL HEAD #'S 1,2,5,6,9,11, &12.

PHASE 3



ADDITIONAL LEGEND

- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

OVERHEAD SIGN DETAILS

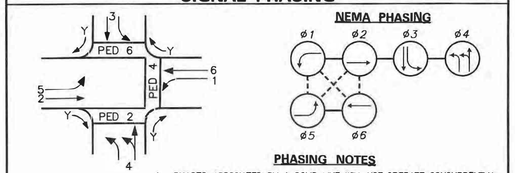
S-1 66" X 18" 8"/5" D-SERIES	S-2 60" X 18" 8"/5" D-SERIES	S-3 66" X 18" 8"/5" D-SERIES
Otts Chapel Rd → S-1A	279 Elkton Rd S-2	← Otts Chapel Rd S-3A
Otts Chapel Rd → S-1B	279 Elkton Rd	← Otts Chapel Rd S-3B

SPAN WIRE SCHEDULE

SPAN	LENGTH	SPAN MOUNT HEIGHT	5% DROP	BULL RING HEIGHT	5% SAG	SPAN LOW POINT	BOTTOM OF LOWEST HEAD
NORTHEAST	45 FT	28.8 FT	2.3 FT	26.5 FT	-	-	-
SOUTHEAST	50 FT	29.0 FT	2.5 FT	26.5 FT	-	-	-
NORTHWEST	44 FT	28.7 FT	2.2 FT	26.5 FT	-	-	-
SOUTHWEST	65 FT	29.8 FT	3.3 FT	26.5 FT	-	-	-
NORTH	110 FT	-	-	26.5 FT	5.5 FT	21.0 FT	17.0 FT
SOUTH	110 FT	-	-	26.5 FT	5.5 FT	21.0 FT	17.0 FT
EAST	127 FT	-	-	26.5 FT	6.4 FT	20.1 FT	16.1 FT
WEST	127 FT	-	-	26.5 FT	6.4 FT	20.1 FT	16.1 FT

NOTE: FIELD ADJUSTMENTS AS REQUIRED

SIGNAL PHASING



PHASING NOTES

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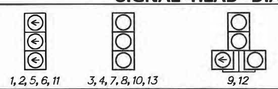
SIGNAL HEAD DIAGRAM



LEGEND

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JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1	⬚	□
LOOP DETECTOR, TYPE 2	⬚	▭
LUMINAIRE	—○—	—●—
MAST ARM		▶
MICROWAVE DETECTION	—◀	—◀
OPTICOM RECEIVER	—○	—●
OVERHEAD SIGNING		—|
PEDESTRIAN POLE/BASE	○	●
PEDESTRIAN PUSHBUTTON	—▷	—▶
PEDESTRIAN SIGNAL HEAD		▶
RIGHT-OF-WAY	R/W	R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		■
SIGNAL HEAD	—▷	→
SIGNAL POLE/BASE	⊗	⊙
CCTV CAMERA		■
SPAN WIRE	XX	—◇—
UTILITY POLE		●
VIDEO DETECTION		■

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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Aly Waked — 12/17/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAKED LICENSED No. 14810 DELAWARE PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

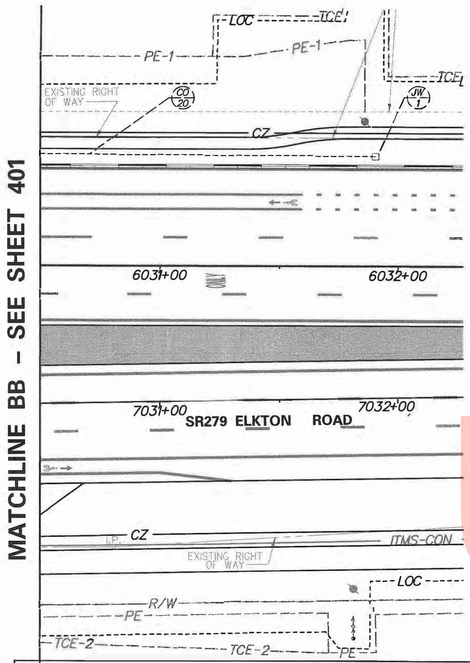
CONTRACT	PERMIT NO.	N181
T201504401	DESIGNED BY:	ALM (JMT)
COUNTY	CHECKED BY:	MAW (JMT)
NEW CASTLE		

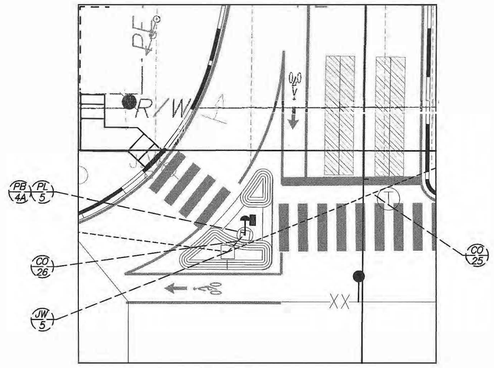
SIGNAL PLAN SR 279 (ELKTON ROAD) @ OTTS CHAPEL ROAD

SECTION	SHEET NO.
JMT	404

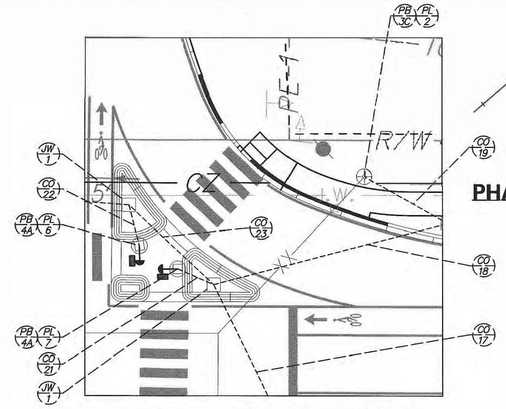
PLOTTED BY: JOSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CAD\SSG _OTTS_PRINT FILES.DGN [SHEET= SG17]

UNOFFICIAL WEBSITE COPY



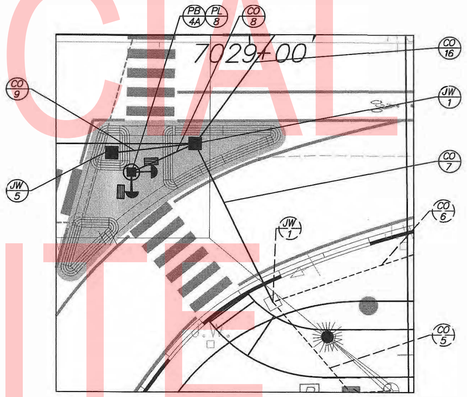


DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'

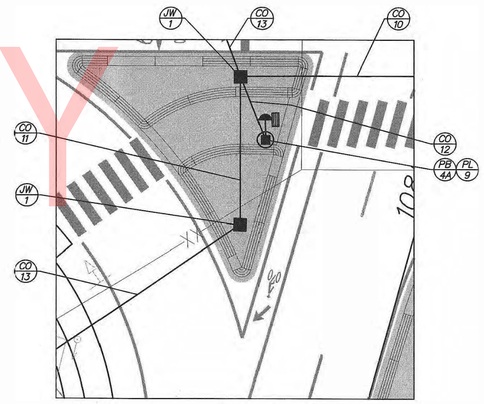


DETAIL 2 – NORTHEAST CORNER
SCALE: 1" = 15'

PHASE 3



DETAIL 3 – SOUTHEAST CORNER
SCALE: 1" = 15'



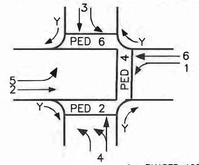
DETAIL 4 – SOUTHWEST CORNER
SCALE: 1" = 15'

CONDUIT RUN SCHEDULE

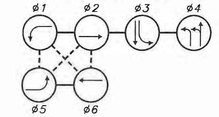
CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
#1	1 (GALV. STEEL)	-	2"	10'	EX. [(1)2/#8 U.F. W/GROUND]
#2	1 (GALV. STEEL)	-	2"	10'	EX. [(1)2/#8 U.F. W/GROUND]
#3	4	-	4"	15'	EX. [(2)16/#14,(4)4/#18, GRIDSMART CAT5E CABLE, (4)1/#6 GRD]
#4	1	-	3"	10'	EX. [(2)16/#14,(4)4/#18, GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
#5	1	-	4"	30'	NEW [(5)5/#14,(1)1/#6 GRD]
#6	1	-	4"	45'	EMPTY
7	1 (SCHD 80 HDPE)	B	4"	40'	NEW [(5)5/#14,(1)1/#6 GRD]
8	1	O	3"	15'	NEW [(2)5/#14, (1)1/#6 GRD]
9	1	O	4"	20'	EMPTY
10	1 (SCHD 80 HDPE)	B	4"	125'	NEW [(1)5/#14,(1)1/#6 GRD]
11	1	O	4"	35'	EMPTY
12	1	O	3"	15'	NEW [(1)5/#14, (1)1/#6 GRD]
13	1 (SCHD 80 HDPE)	B	4"	65'	EMPTY
#14	1	-	4"	10'	EMPTY
15	1	T	4"	250'	EMPTY
16	1 (SCHD 80 HDPE)	B	4"	65'	NEW [(3)5/#14,(1)1/#6 GRD]
#17	1 (SCHD 80 HDPE)	-	4"	80'	NEW [(3)5/#14,(1)1/#6 GRD]
#18	1 (SCHD 80 HDPE)	-	4"	55'	EMPTY
#19	1	-	3"	25'	EMPTY
#20	1	-	4"	250'	EMPTY
#21	1	-	3"	10'	NEW [(1)5/#14,(1)1/#6 GRD]
#22	1	-	3"	10'	NEW [(1)5/#14,(1)1/#6 GRD]
#23	1	-	4"	25'	NEW [(2)5/#14,(1)1/#6 GRD]
#24	1 (SCHD 80 HDPE)	-	4"	30'	NEW [(1)5/#14,(1)1/#6 GRD]
#25	1 (SCHD 80 HDPE)	-	4"	50'	NEW [(1)5/#14,(1)1/#6 GRD]
#26	1	-	3"	10'	NEW [(1)5/#14,(1)1/#6 GRD]
#27	1	-	3"	20'	EMPTY
#28	1	-	3"	50'	EMPTY
29	1	O	4"	25'	EMPTY
30	1	T	3"	50'	EMPTY
31	1 (SCHD 80 HDPE)	B	4"	70'	EMPTY

NOTE: ALL CONDUITS SHALL BE SHECULE 80 PVC UNLESS OTHERWISE NOTED.
# EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

SIGNAL PHASING



NEMA PHASING



PHASING NOTES
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	EXISTING SYMBOL	PROPOSED SYMBOL
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LOOP DETECTOR, TYPE 2		▭
LUMINAIRE		—•—
MAST ARM		▶
MICROWAVE DETECTION		—◀
OPTICOM RECEIVER		—●
OVERHEAD SIGNING		—┤
PEDESTRIAN POLE/BASE	○	◉
PEDESTRIAN PUSHBUTTON	—○	—▶
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD	—▷	—▶
SIGNAL POLE/BASE	◔	⊙
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir A. Wahed — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE: 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N181
COUNTY	NEW CASTLE	DESIGNED BY:	ALM (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN SR 279 (ELKTON ROAD) @ OTTS CHAPEL ROAD

SECTION	JMT
SHEET NO.	405

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JMT PLOTTED BY: JSMITH DATE: 12/17/2018
FILE LOCATION: C:\NDEV\140659_007_ELK\ON_RD_CASHO_MILL\CADD\SG_OTTS_PRINT FILES.DGN [SHEET: SG01]

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5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATLY ADJACENT TO THE FLAT (5O:1 OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK, IN ADDORDANCE WITH THE ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LANDING AREA TO THE FACE OF THE PUSHBUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ALL PEDESTRIAN SIGNALS SHALL BE COUNTDOWN SIGNALS. R10-3e SIGNS SHOULD BE INSTALLED ON POLES WITH ONE PEDESTRAIN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

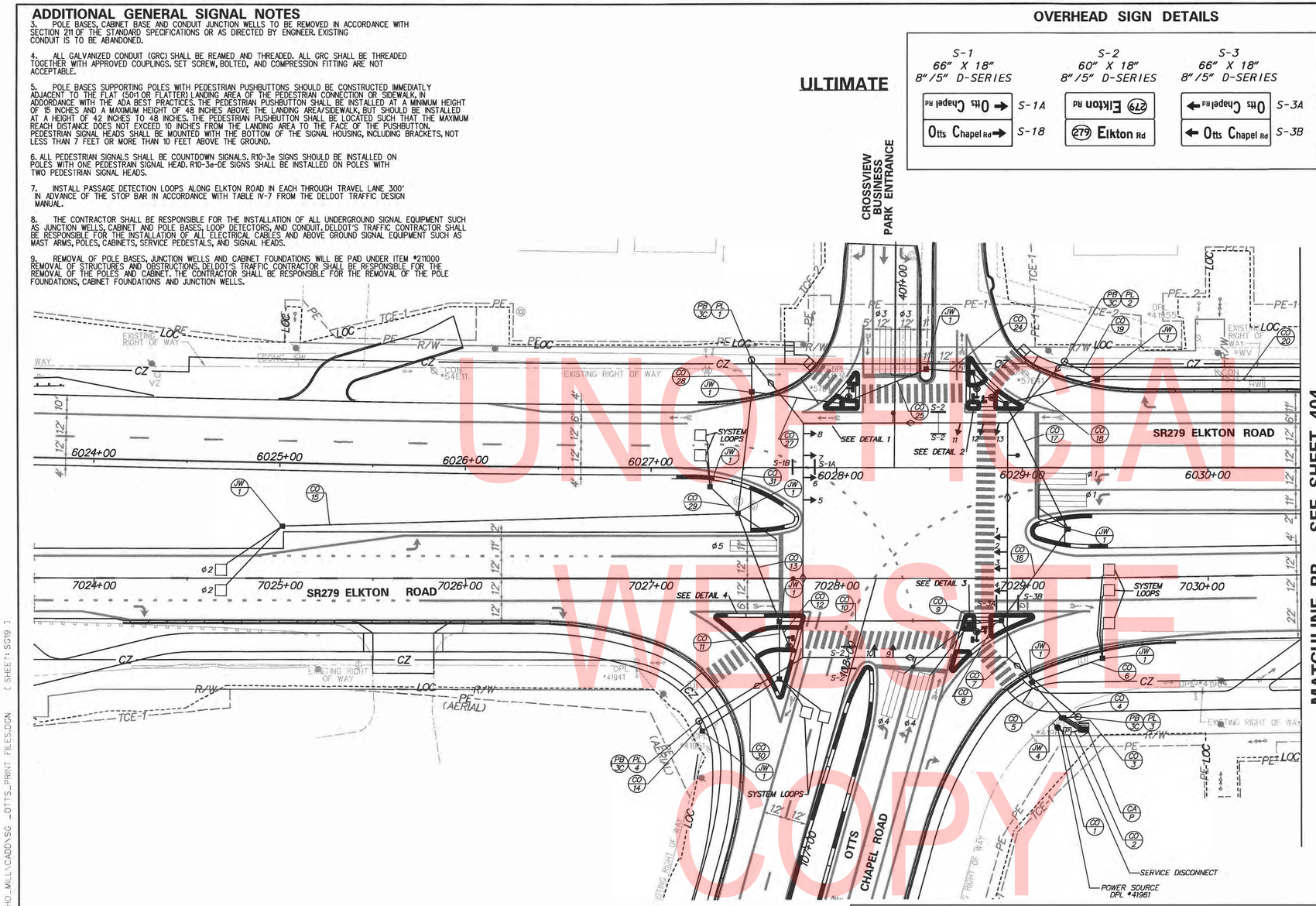
7. INSTALL PASSAGE DETECTION LOOPS ALONG ELKTON ROAD IN EACH THROUGH TRAVEL LANE 300' IN ADVANCE OF THE STOP BAR IN ACCORDANCE WITH TABLE IV-7 FROM THE DELDOT TRAFFIC DESIGN MANUAL.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND SIGNAL EQUIPMENT SUCH AS MAST ARMS, POLES, CABINETS, SERVICE PEDESTALS, AND SIGNAL HEADS.

9. REMOVAL OF POLE BASES, JUNCTION WELLS AND CABINET FOUNDATIONS WILL BE PAID UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, CABINET FOUNDATIONS AND JUNCTION WELLS.

OVERHEAD SIGN DETAILS

S-1	S-2	S-3
66" X 18"	60" X 18"	66" X 18"
8"/5" D-SERIES	8"/5" D-SERIES	8"/5" D-SERIES
Otts Chapel Rd → 0 (S-1A)	Elkton Rd (279) (S-2)	← Otts Chapel Rd 0 (S-3A)
Otts Chapel Rd → (S-1B)	(279) Elkton Rd	← Otts Chapel Rd (S-3B)



UNOFFICIAL WEBSITE COPY

POLE SCHEDULE

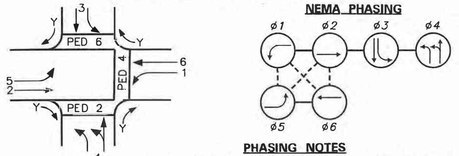
NO.	TYPE	STATION	OFFSET
1	32' STRAIN POLE W/ TYPE 3C BASE	6027+54	58' LT
2	32' STRAIN POLE W/ TYPE 3C BASE	6029+23	57' LT
3	32' STRAIN POLE W/ TYPE 3C BASE	7029+29	75' RT
4	32' STRAIN POLE W/ TYPE 3C BASE	7027+26	77' RT
5	PEDESTAL POLE W/ TYPE 4A BASE	6028+07	38' LT
6	PEDESTAL POLE W/ TYPE 4A BASE	6028+76	43' LT
7	PEDESTAL POLE W/ TYPE 4A BASE	6028+84	38' LT
8	PEDESTAL POLE W/ TYPE 4A BASE	7028+75	29' RT
9	PEDESTAL POLE W/ TYPE 4A BASE	7027+74	36' RT

SPAN WIRE SCHEDULE

SPAN	LENGTH	SPAN MOUNT HEIGHT	5% DROP	BULL RING HEIGHT	5% SAG	SPAN LOW POINT	BOTTOM OF LOWEST HEAD
NORTHEAST	45 FT	28.8 FT	2.3 FT	26.5 FT	-	-	-
SOUTHEAST	50 FT	29.0 FT	2.5 FT	26.5 FT	-	-	-
NORTHWEST	44 FT	28.7 FT	2.2 FT	26.5 FT	-	-	-
SOUTHWEST	65 FT	29.8 FT	3.3 FT	26.5 FT	-	-	-
NORTH	110 FT	-	-	26.5 FT	5.5 FT	21.0 FT	17.0 FT
SOUTH	110 FT	-	-	26.5 FT	5.5 FT	21.0 FT	17.0 FT
EAST	127 FT	-	-	26.5 FT	6.4 FT	20.1 FT	16.1 FT
WEST	127 FT	-	-	26.5 FT	6.4 FT	20.1 FT	16.1 FT

ALL PROPOSED SIGNAL POLES ARE 32 FEET
NOTE: FIELD ADJUSTMENTS AS REQUIRED

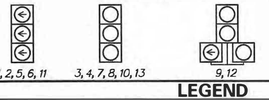
SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER

Mir Ahe Wahed — 12/17/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 (DATE)

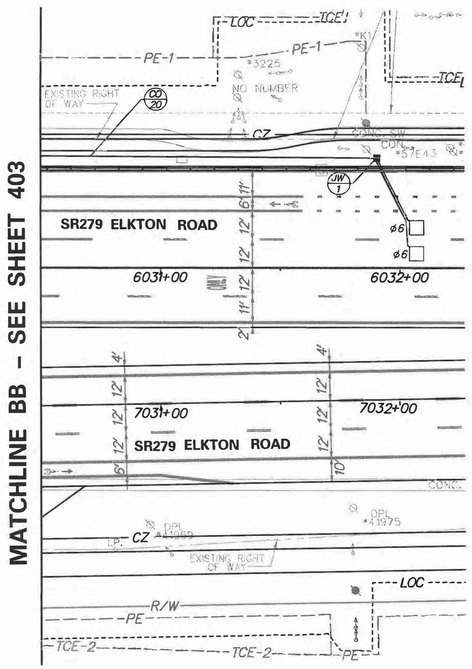
ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

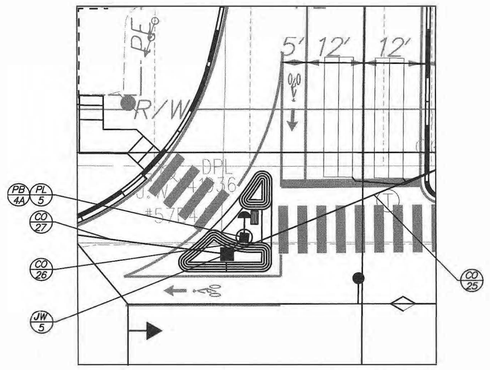
SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

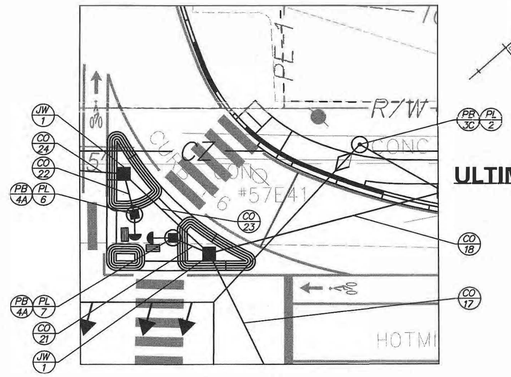
CONTRACT	PERMIT NO.	N181	SIGNAL PLAN	SECTION
T201504401	DESIGNED BY: ALM (JMT)		SR 279 (ELKTON ROAD)	JMT
COUNTY	CHECKED BY: MAW (JMT)		@ OTTS CHAPEL ROAD	SHEET NO.
NEW CASTLE				406

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG_OTTS_PRINT FILES.DGN [SHEET: SG19]



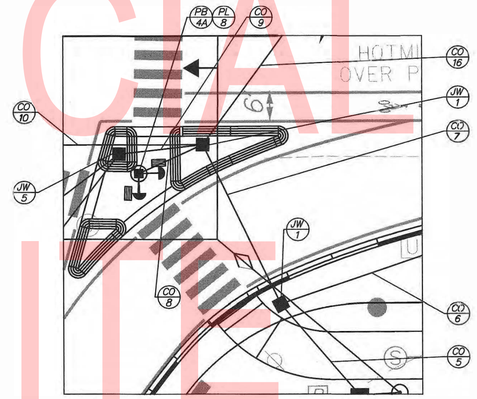


DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'

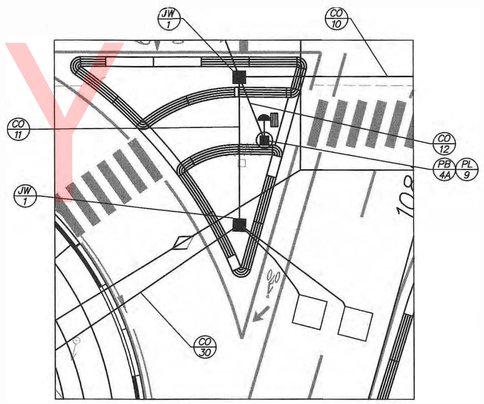


DETAIL 2 – NORTHEAST CORNER
SCALE: 1" = 15'

ULTIMATE



DETAIL 3 – SOUTHEAST CORNER
SCALE: 1" = 15'



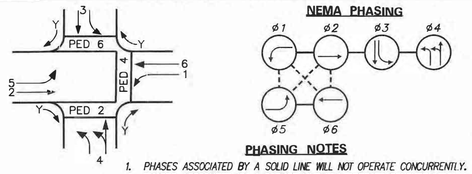
DETAIL 4 – SOUTHWEST CORNER
SCALE: 1" = 15'

CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
1	1 (GALV. STEEL)	T	2"	10'	(1)2/#8 U.F. W/GROUND
2	1 (GALV. STEEL)	T	2"	10'	(1)2/#8 U.F. W/GROUND
3	4	T	4"	15'	(2)16/#14, (4)4/#18, (18)2/#14, (6)5/#14, (4)1/#6 GRD
4	1	T	3"	10'	(2)16/#14, (4)4/#18, (1)1/#6 GRD
5	1	T	4"	30'	(18)2/#14, (6)5/#14, (1)1/#6 GRD
6	1	T	4"	45'	(3)2/#14, (1)1/#6 GRD
7	1 (SCHD 80 HDPE)	B	4"	40'	(15)2/#14, (6)5/#14, (1)1/#6 GRD
8	1	O	3"	15'	(2)5/#14, (1)1/#6 GRD
9	1	O	4"	20'	(2)2/#14, (1)1/#6 GRD
10	1 (SCHD 80 HDPE)	B	4"	125'	(7)2/#14, (1)5/#14, (1)1/#6 GRD
11	1	O	4"	35'	(2)2/#14, (1)1/#6 GRD
12	1	O	3"	15'	(1)5/#14, (1)1/#6 GRD
13	1 (SCHD 80 HDPE)	B	4"	65'	(5)2/#14, (1)1/#6 GRD
14	1	T	3"	10'	EMPTY
15	1	T	4"	250'	(2)2/#14, (1)1/#6 GRD
16	1 (SCHD 80 HDPE)	B	4"	65'	(6)2/#14, (3)5/#14, (1)1/#6 GRD
17	1 (SCHD 80 HDPE)	B	4"	80'	(4)2/#14, (3)5/#14, (1)1/#6 GRD
18	1 (SCHD 80 HDPE)	B	4"	55'	(2)2/#14, (1)1/#6 GRD
19	1	T	3"	25'	EMPTY
20	1	T	4"	250'	(2)2/#14, (1)1/#6 GRD
21	1	O	3"	10'	(1)5/#14, (1)1/#6 GRD
22	1	O	3"	10'	(1)5/#14, (1)1/#6 GRD
23	1	O	4"	25'	(2)5/#14, (2)2/#14, (1)1/#6 GRD
24	1 (SCHD 80 HDPE)	B	4"	30'	(2)2/#14, (1)5/#14, (1)1/#6 GRD
25	1 (SCHD 80 HDPE)	B	4"	50'	(1)5/#14, (1)1/#6 GRD
26	1	O	3"	10'	(1)5/#14, (1)1/#6 GRD
27	1	T	4"	20'	EMPTY
28	1	O	3"	50'	EMPTY
29	1	O	4"	25'	(2) 2/#14, (1)1/#6 GRD
30	1	T	3"	50'	EMPTY
31	1 (SCHD 80 HDPE)	B	4"	70'	EMPTY

NOTE: ALL CONDUITS SHALL BE SCHEUDLE 80 PVC UNLESS OTHERWISE NOTED
B=BORE, T=TRENCH, O=OPEN CUT

SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	OH (*)	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH (*)	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (*)	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (*)	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE		—◆—
MAST ARM		▶
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		⊗
PEDESTRIAN PUSHBUTTON		→
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		→
SIGNAL POLE/BASE	⊗	⊙
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAKED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

12/19/18
CHIEF TRAFFIC ENGINEER — DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD,
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N181
DESIGNED BY:	ALM (JMT)
CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ OTTS CHAPEL ROAD

SECTION	JMT
SHEET NO.	407

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG_OTTS_PRINT FILES.DGN [SHEET: SG20]

UNOFFICIAL WEBSITE COPY

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOTACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATLY ADJACENT TO THE FLAT (50:1 OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK, IN ACCORDANCE WITH THE ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUN HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LANDING AREA/SIDEWALK, BUT SHOUULD BE INSTALLED AT A HEIGHT OF 42 TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LANDING AREA TO THE FACE OF THE PUSHBUTTON. PEDESTRIAN ANGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHOULD BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10 3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

7. INSTALL PASSAGE DETECTION LOOPS ALONG ELKTON ROAD IN EACH THROUGH TRAVEL LANE 300' IN ADVANCE OF THE STOP BAR IN ACCORDANCE WITH TABLE IV-7 FROM THE DELDOT TRAFFIC DESIGN MANUAL.

8. CONDUIT 22 SHOULD BE INSTALLED AT A DEPTH OF 4 FEET SUCH THAT IT IS BELOW THE UNDERDRAIN OUTLET.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND SIGNAL EQUIPMENT SICH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

10. REMOVAL OF POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL BE PAID FOR UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

11. FISH EYE DETECTORS SHALL BE INSTALLED ON THE TEMPORARY DAVIT ARM TO ACHIEVE OPTIMUM DETECTION PER MANUFACTURER'S SPECIFICATIONS. THE DESIRED DETECTION ZONES SHALL BE SET AND APPROVED BY DELDOT.

12. ALL SIGNAL HEADS ARE TO BE CONTROLLED BY THE EXISTING CONTROLLER CABINET DURING THIS PHASE.

13. SIGNAL HEADS 1,2,7 AND 8 SHOULD BE SHIFTED TO THE LOCATION INDICTED. EXTEND THE SIGNAL HEAD CABLES ALONG THE EXISTING SPAN WIRE BY SPLICING THE EXISTING SIGNAL HEAD CABLES TO NEW SIGNAL HEAD CABLES.

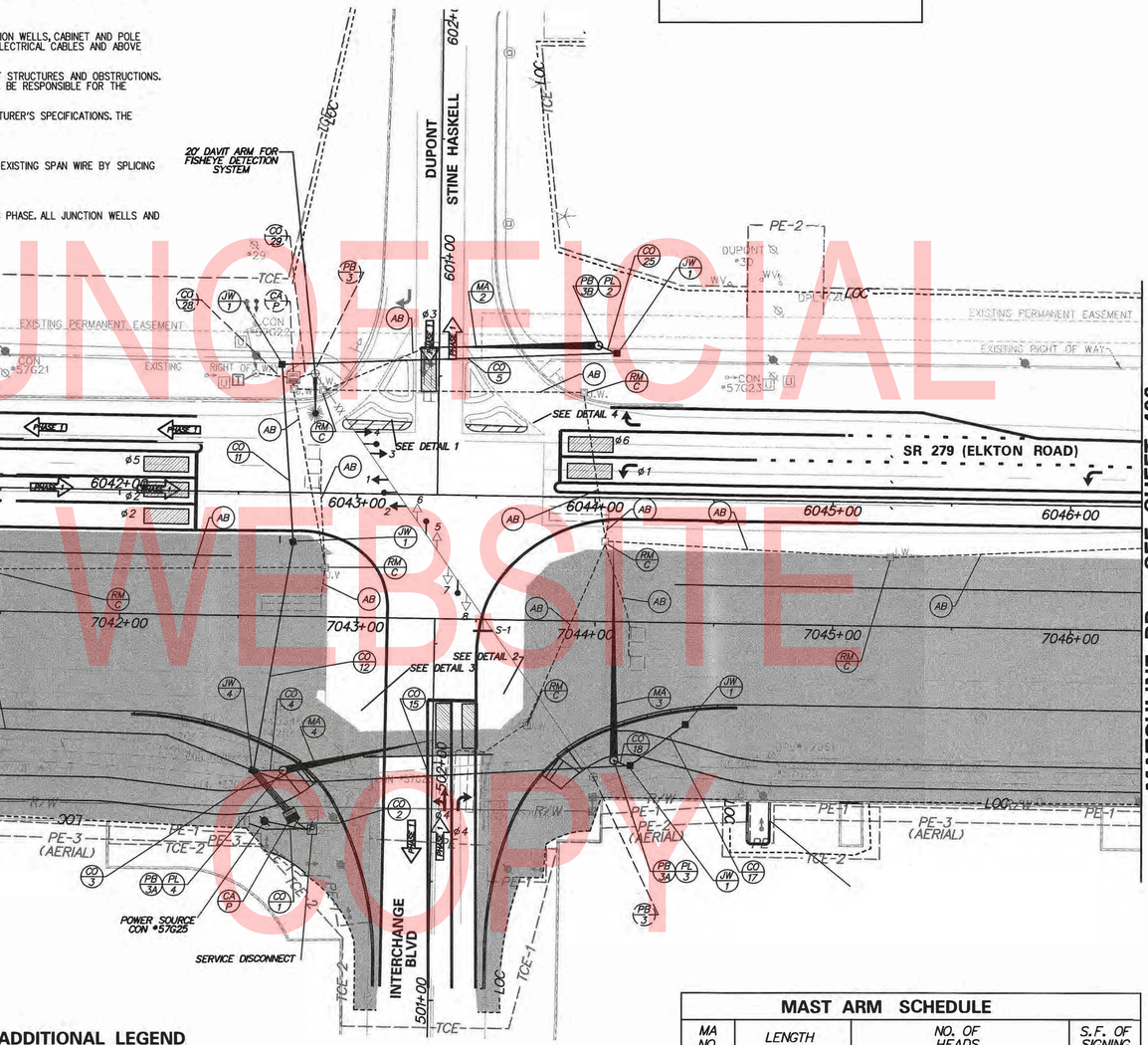
14. CONDUITS CROSSING THE ROADWAY SHALL BE AT A MINIMUM DEPTH OF 24".

15. ALL JUNCTION WELLS AND CONDUIT ASSOCIATED WITH EXISTING LOOP DETECTORS/SYSTEM LOOPS WILL BE REMOVED IN THIS PHASE. ALL JUNCTION WELLS AND CONDUIT NEEDED TO MAINTAIN THE SIGNAL WILL REMAIN.

16. A TEATHER WIRE SHALL BE INSTALLED TO SECURE THE PROPOSED R10-11 SIGN.

OVERHEAD SIGN DETAILS

S-1
36" X 48"
R10-11



PHASE 1

ADDITIONAL LEGEND

- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

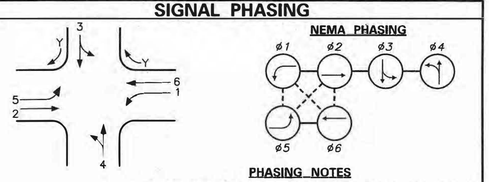
MA NO.	LENGTH	NO. OF HEADS	S.F. OF SIGNING
2	70' MAST ARM	-	0 SF
3	90' MAST ARM	-	0 SF
4	70' MAST ARM	-	0 SF

ADDITIONAL GENERAL SIGNAL NOTES (CONTINUED)

17. PL#3 SHOULD BE HAND DUG AND A TRUCK SHOULD BE USED TO STABALIZE THE EXISTING STRAIN POLE. WHEN THE EXISTING STRAIN POLE IS TO BE REMOVED, THE FOUNDATION SHOULD BE CHIPPED AWAY TO JUST BELOW FINISHED GRADE, AND SHOULD NOT BE COMPLETLY REMOVED.

18. ALL EXISTING SIGNAL EQUIPMENT SHALL REMAIN UNLESS OTHERWISE NOTED.

SIGNAL PHASING



PHASING NOTES

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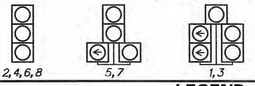
SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH	EXISTING OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH	PROPOSED OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO #	EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO #	PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (# OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (# OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

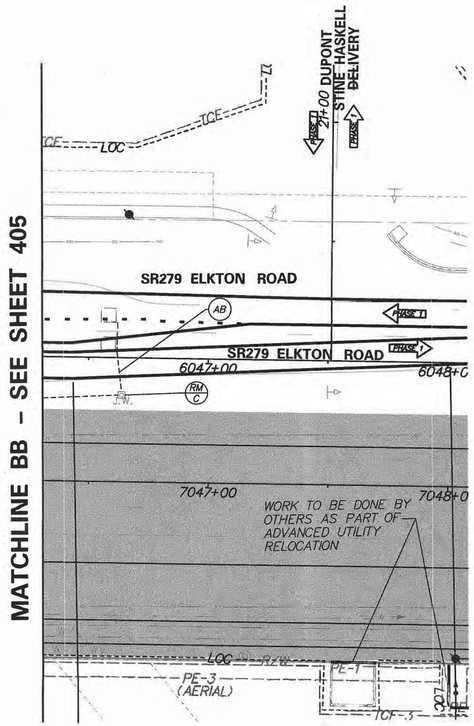
CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N017P
DESIGNED BY:	ALM (JMT)
CHECKED BY:	MAW (JMT)

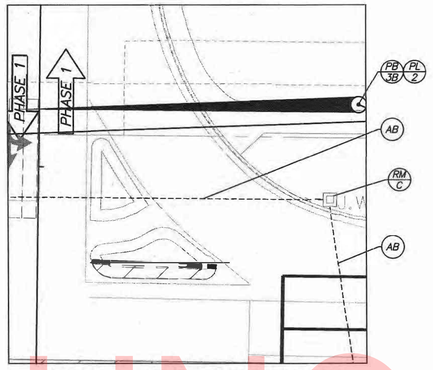
SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ INTERCHANGE BLVD

SECTION	
JMT	
SHEET NO.	408

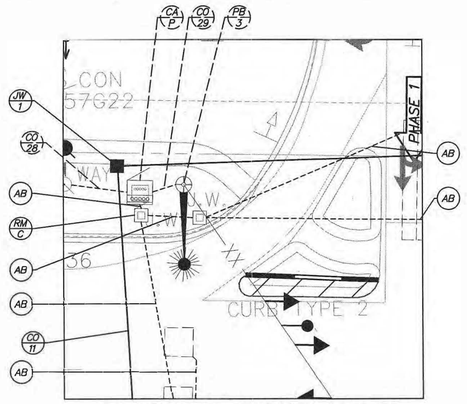
PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: G:\NDE\T40659_007_ELKTON_RD_CASHO_MILL\CADD\SIG_INTERCHANGE_PRINT FILES.DGN [SHEET: SG-21]

UNOFFICIAL WEBSITE COPY

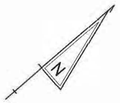




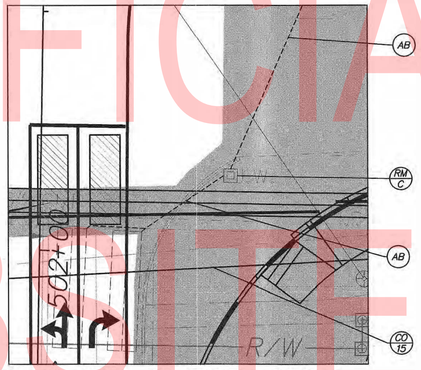
DETAIL 4 – NORTHEAST CORNER
SCALE: 1" = 15'



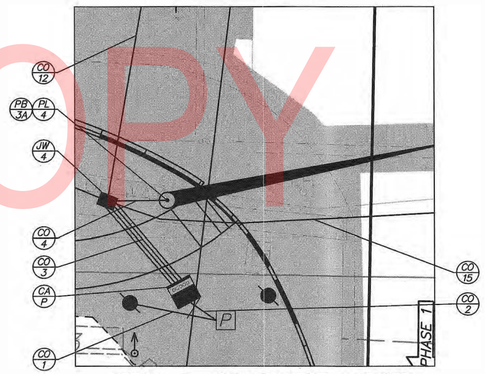
DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'



PHASE 1



DETAIL 2 – SOUTHEAST CORNER
SCALE: 1" = 15'



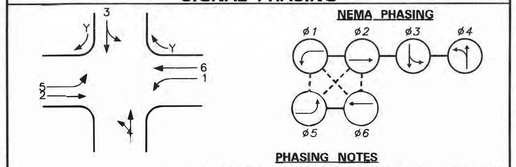
DETAIL 3 – SOUTHWEST CORNER
SCALE: 1" = 15'

CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
1	1 (GALV. STEEL)	T	2"	20'	EMPTY
2	1 (GALV. STEEL)	T	2"	10'	EMPTY
3	4	T	4"	25'	EMPTY
4	1	T	3"	20'	EMPTY
5	1 (SCHD 80 HDPE)	B	4"	145'	EMPTY
11	1 (SCHD 80 HDPE)	B	4"	75'	EMPTY
12	1	O	4"	100'	EMPTY
15	1 (SCHD 80 HDPE)	B	4"	160'	EMPTY
17	1	T	4"	30'	EMPTY
18	1	T	3"	10'	EMPTY
22	1	T	4"	250'	EMPTY
25	1	T	3"	10'	EMPTY
*28	1	-	2"	15'	EX. [(1)2/#8 U.F. W/GROUND]
*29	1	-	3"	10	EX. [(1)16/#14], NEW [GRIDSMART CAT5E CABLE, (1)16/#14, (1)1/#6 GRD, (4) 4/#18]

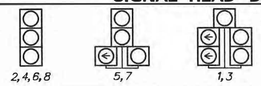
NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

SIGNAL PHASING



PHASING NOTES
1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH *	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH *	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY	R/W	R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER

Mir Abe Waked — 12/17/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — SEAL

APPROVED FOR INSTALLATION

12/19/18
CHIEF TRAFFIC ENGINEER — DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE: 0 30 60 90 FEET

ELKTON ROAD,
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N017P
COUNTY	NEW CASTLE	DESIGNED BY:	ALM (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ INTERCHANGE BLVD

SECTION: JMT
SHEET NO.: 409

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JOSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG_INTERCHANGE_PRINT FILES.DGN [SHEET: SG-22]

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATLY ADJACENT TO THE FLAT (50:1 OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK, IN ACCORDANCE WITH THE ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUN HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LANDING AREA TO THE FACE OF THE PUSHBUTTON. PEDESTRIAN AIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHOULD BE INSTALLED ON POLES WITH ONE PEDESTRAIN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

7. INSTALL PASSAGE DETECTION LOOPS ALONG ELKTON ROAD IN EACH THROUGH TRAVEL LANE 300' IN ADVANCE OF THE STOP BAR IN ACCORDANCE WITH TABLE IV-7 FROM THE DELDOT TRAFFIC DESIGN MANUAL.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND SIGNAL EQUIPMENT SICH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

9. REMOVAL OF POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL BE PAID FOR UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

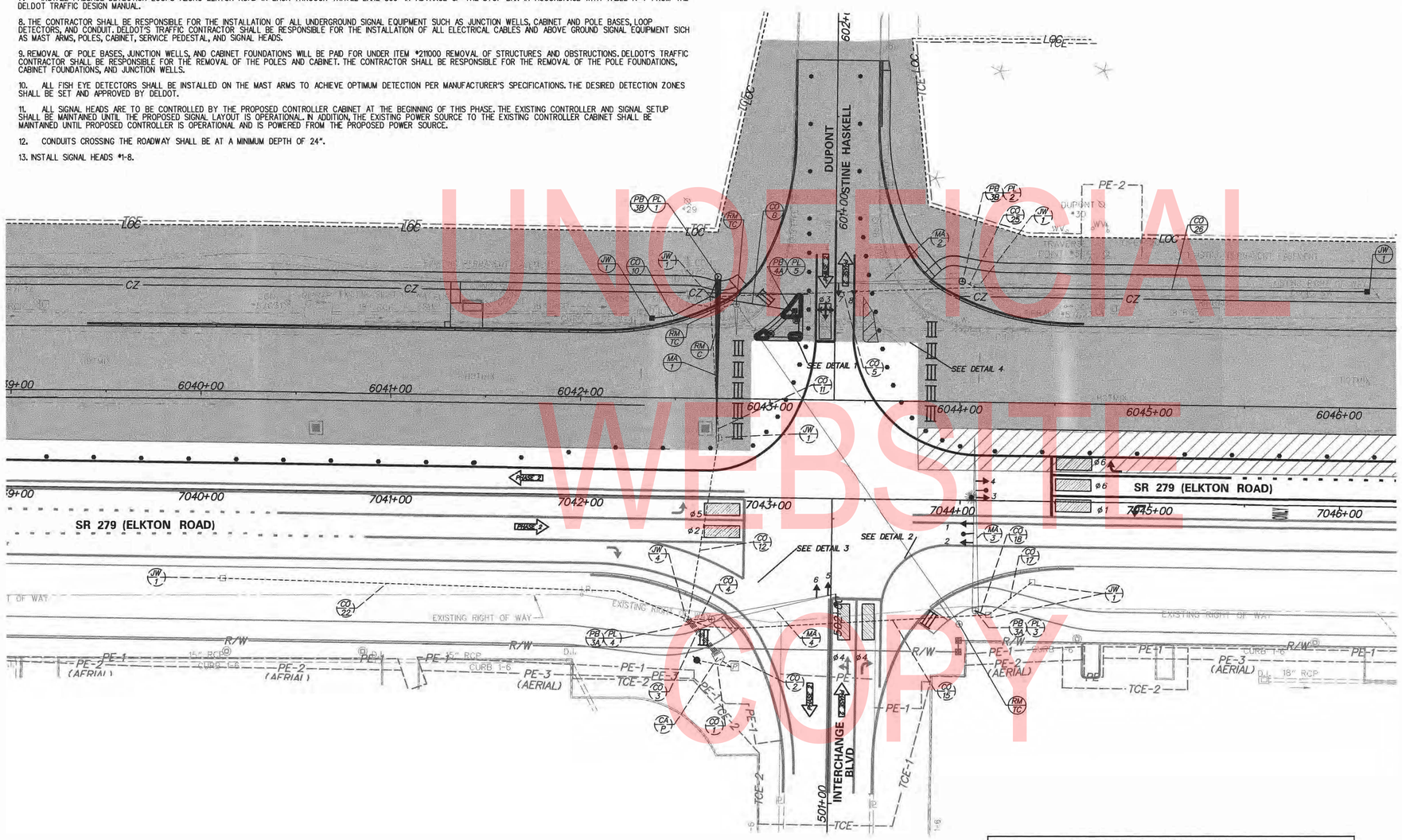
10. ALL FISH EYE DETECTORS SHALL BE INSTALLED ON THE MAST ARMS TO ACHIEVE OPTIMUM DETECTION PER MANUFACTURER'S SPECIFICATIONS. THE DESIRED DETECTION ZONES SHALL BE SET AND APPROVED BY DELDOT.

11. ALL SIGNAL HEADS ARE TO BE CONTROLLED BY THE PROPOSED CONTROLLER CABINET AT THE BEGINNING OF THIS PHASE. THE EXISTING CONTROLLER AND SIGNAL SETUP SHALL BE MAINTAINED UNTIL THE PROPOSED SIGNAL LAYOUT IS OPERATIONAL. IN ADDITION, THE EXISTING POWER SOURCE TO THE EXISTING CONTROLLER CABINET SHALL BE MAINTAINED UNTIL PROPOSED CONTROLLER IS OPERATIONAL AND IS POWERED FROM THE PROPOSED POWER SOURCE.

12. CONDUITS CROSSING THE ROADWAY SHALL BE AT A MINIMUM DEPTH OF 24".

13. INSTALL SIGNAL HEADS #1-8.

PHASE 2



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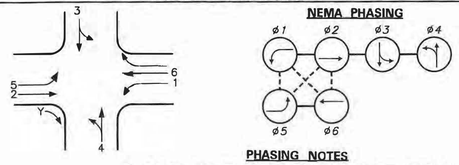
ADDITIONAL LEGEND

- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

MA NO.	LENGTH	NO. OF HEADS	S.F. OF SIGNING
1	90' MAST ARM	-	0 SF
2	70' MAST ARM	1-4 SECTION, 1-3 SECTION	0 SF
3	90' MAST ARM	2-5 SECTION, 2-3 SECTION	0 SF
4	70' MAST ARM	1-4 SECTION, 1-3 SECTION	0 SF

SIGNAL PHASING



PHASING NOTES

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2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	OH (*)	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA (X)	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH (*)	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA (X)	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB (X)	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (*)	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB (X)	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (*)	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL (X)	EXISTING POLE IDENTIFIER (* OF POLE)
JW (X)	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL (X)	PROPOSED POLE IDENTIFIER (* OF POLE)
JW (X)	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM (C)	REMOVE BY CONTRACTOR
MA (XX)	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM (O)	REMOVE BY OTHERS
MA (XX)	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM (TC)	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER (SEAL)

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 (DATE)

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 4.32	11-15-2019 (LB)

SCALE: 0 30 60 90 FEET

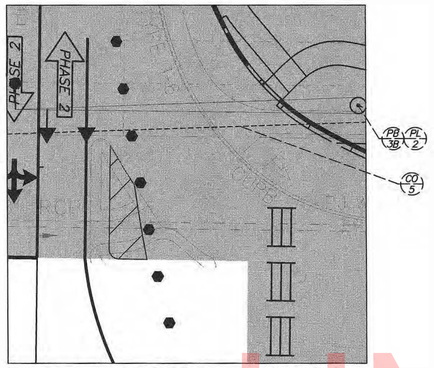
ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N017P
DESIGNED BY:	ALM (JMT)
CHECKED BY:	MAW (JMT)

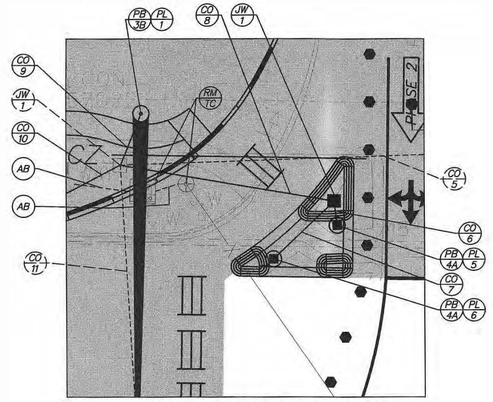
SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ INTERCHANGE BLVD

SECTION	JMT
SHEET NO.	410

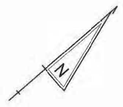
PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NJDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG_INTERCHANGE_PRINT FILES.DGN [SHEET: SG-23]



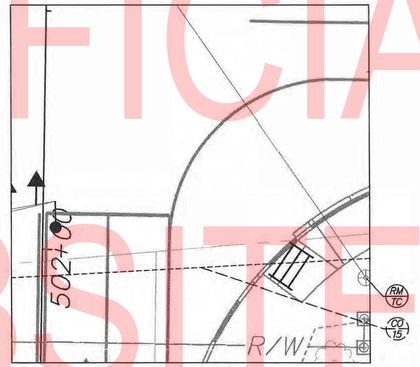
DETAIL 4 – NORTHEAST CORNER
SCALE: 1"=15'



DETAIL 1 – NORTHWEST CORNER
SCALE: 1"=15'



PHASE 2



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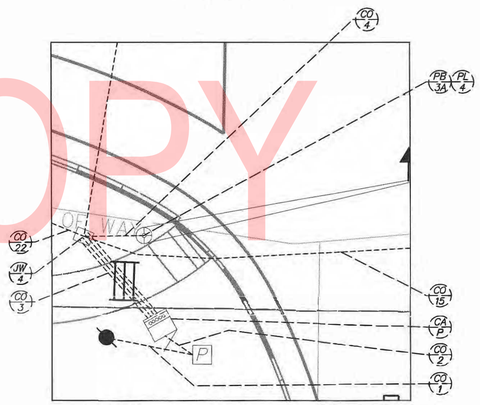
SCALE: 1"=15'



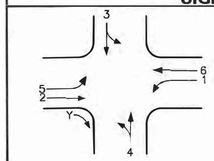
DETAIL 3 – SOUTHWEST CORNER
SCALE: 1"=15'

CONDUIT RUN SCHEDULE

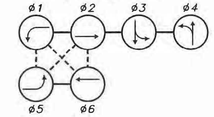
CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
*1	1 (GALV. STEEL)	-	2"	20'	NEW [(1)2/#8 U.F. W/GROUND]
*2	1 (GALV. STEEL)	-	2"	10'	NEW [(1)2/#8 U.F. W/GROUND]
*3	4	-	4"	25'	NEW [(1)16/#14, (4)4/#18,(2)9/#14, GRIDSMART CAT5E CABLE, (4)1/#6 GRD]
*4	1	-	3"	20'	NEW [(1)4/#18, (1)9/#14, (1)1/#6 GRD]
*5	1 (SCHD 80 HDPE)	-	4"	145'	NEW [(1)4/#18, (1)9/#14, (1)1/#6 GRD]
6	1	O	3"	10'	EMPTY
7	1	O	3"	20'	EMPTY
8	1 (SCHD 80 HDPE)	B	4"	50'	EMPTY
9	1	T	3"	15'	EMPTY
10	1	T	4"	35'	EMPTY
*11	1 (SCHD 80 HDPE)	-	4"	75'	NEW [(1)4/#18, (1)9/#14, (1)1/#6 GRD]
*12	1	-	4"	100'	NEW [(1)4/#18, (1)9/#14, (1)1/#6 GRD]
*15	1 (SCHD 80 HDPE)	-	4"	160'	NEW [(1)16/#14, (2)4/#18, GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
*17	1	-	4"	30'	EMPTY
*18	1	-	3"	10'	NEW [(1)16/#14, (2)4/#18, GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
*22	1	-	4"	250'	EMPTY
*25	1	-	3"	10'	NEW [(1)4/#18, (1)9/#14, (1)1/#6 GRD]
26	1	T	4"	210'	EMPTY

NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

SIGNAL PHASING

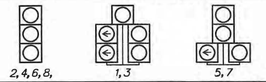


NEMA PHASING



PHASING NOTES
1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Aly Waked — 12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS
1 REPLACED PAGES 1 THRU 432 — 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD,
MD LINE TO
CASHO MILL ROAD

CONTRACT: T201504401
COUNTY: NEW CASTLE

PERMIT NO. N017P
DESIGNED BY: ALM (JMT)
CHECKED BY: MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ INTERCHANGE BLVD

SECTION: JMT
SHEET NO. 411

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140859_007_ELKTON_RD_CASHO_MILL\CADD\SG_INTERCHANGE_PRINT FILES.DGN [SHEET: SG-24]

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (5%) OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK, IN ACCORDANCE WITH THE ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LANDING AREA TO THE FACE OF THE PUSHBUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHOULD BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

7. INSTALL PASSAGE DETECTION LOOPS ALONG ELKTON ROAD IN EACH THROUGH TRAVEL LANE 300' IN ADVANCE OF THE STOP BAR IN ACCORDANCE WITH TABLE IV-7 FROM THE DELDOT TRAFFIC DESIGN MANUAL.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND SIGNAL EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

9. REMOVAL OF POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL BE PAID FOR UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

10. CONDUITS CROSSING THE ROADWAY SHALL BE AT A MINIMUM DEPTH OF 24".

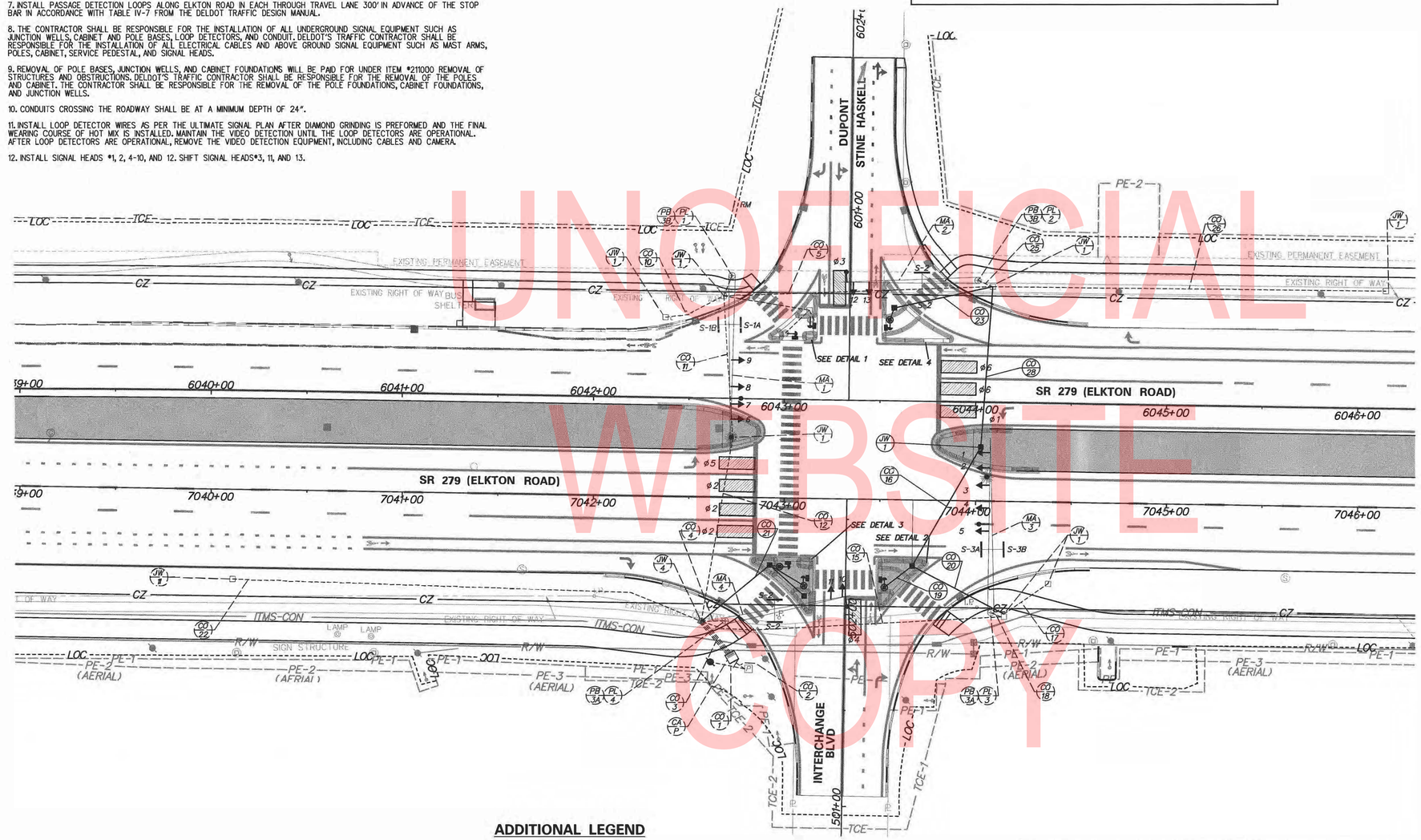
11. INSTALL LOOP DETECTOR WIRES AS PER THE ULTIMATE SIGNAL PLAN AFTER DIAMOND GRINDING IS PREFORMED AND THE FINAL WEARING COURSE OF HOT MIX IS INSTALLED. MAINTAIN THE VIDEO DETECTION UNTIL THE LOOP DETECTORS ARE OPERATIONAL. AFTER LOOP DETECTORS ARE OPERATIONAL, REMOVE THE VIDEO DETECTION EQUIPMENT, INCLUDING CABLES AND CAMERA.

12. INSTALL SIGNAL HEADS *1, 2, 4-10, AND 12. SHIFT SIGNAL HEADS*3, 11, AND 13.

OVERHEAD SIGN DETAILS

	S-1 66" X 18" 8"/5" D-SERIES	S-2 60" X 18" 8"/5" D-SERIES	S-3 66" X 18" 8"/5" D-SERIES
B	← Interchange Blvd	279 Elkton Rd	Interchange → Blvd
A	← Interchange Blvd	279 Elkton Rd	Interchange → Blvd

PHASE 3



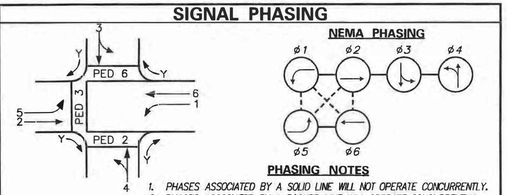
ADDITIONAL LEGEND

- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

MA NO.	LENGTH	NO. OF HEADS	S.F. OF SIGNING
1	90' MAST ARM	4-3 SECTION	8.25 SF
2	70' MAST ARM	1-4 SECTION, 1-3 SECTION	7.5 SF
3	90' MAST ARM	5-3 SECTION	8.25 SF
4	70' MAST ARM	1-4 SECTION, 1-3 SECTION	7.5 SF

SIGNAL PHASING



SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	DH (*)	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH (*)	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (*)	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (*)	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED — LICENSE No. 14810 — DELAWARE PROFESSIONAL ENGINEER (SEAL)

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 (DATE)

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

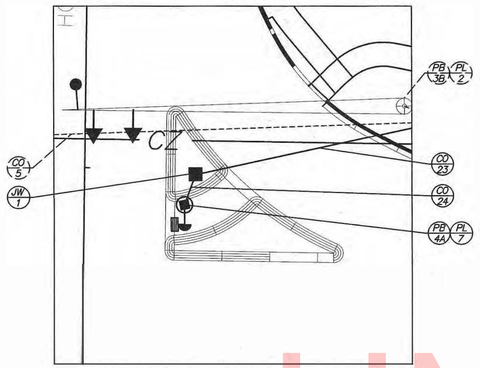
CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N017P
DESIGNED BY:	ALM (JMT)
CHECKED BY:	MAW (JMT)

SIGNAL PLAN SR 279 (ELKTON ROAD) @ INTERCHANGE BLVD

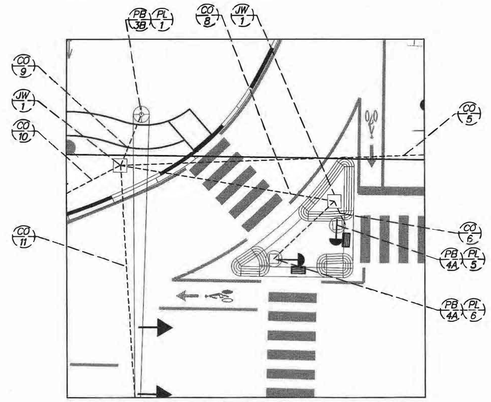
SECTION	JMT
SHEET NO.	412

UNOFFICIAL WEBSITE COPY

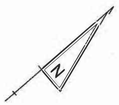
PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: G:\NDEV\1406\59_007_ELKTON_RD_CASHO_MILL\CAD\DGN\SG_INTERCHANGE_PRINT FILES.DGN [SHEET: SG-25]



DETAIL 4 – NORTHEAST CORNER
SCALE: 1" = 15'

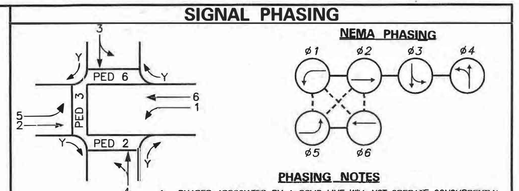


DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'



PHASE 3

SIGNAL PHASING



SIGNAL HEAD DIAGRAM

LEGEND

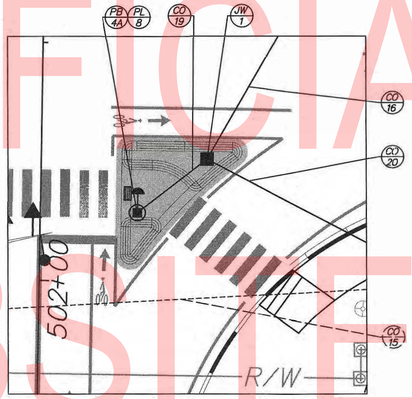
AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE		—◆
MAST ARM		▶
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		⊗
PEDESTRIAN PUSHBUTTON	D	
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		⊙
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

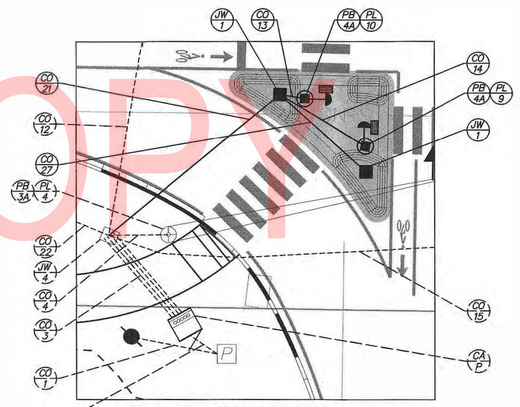
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
#1	1 (GALV. STEEL)	-	2"	20'	EX. [(1)2/#8 U.F. W/GROUND]
#2	1 (GALV. STEEL)	-	2"	10'	EX. [(1)2/#8 U.F. W/GROUND]
#3	4	-	4"	25'	EX. [(2)9/#14, (4)4/#18, GRIDSMART CAT5E CABLE, (4)1/#6 GRD], NEW [(2)9/#14, (6)5/#14, GRIDSMART CAT5E CABLE], REMOVE [(1)16/#14]
#4	1	-	3"	20'	EX. [(1)4/#18, (1)9/#14, (1)1/#6 GRD]
#5	1 (SCHD 80 HDPE)	-	4"	145'	EX. [(1)4/#18, (1)9/#14, (1)1/#6 GRD] NEW [(1)5/#14]
#6	1	-	3"	10'	NEW [(1)5/#14, (1)1/#6 GRD]
#7	1	-	3"	20'	NEW [(1)5/#14, (1)1/#6 GRD]
#8	1 (SCHD 80 HDPE)	-	4"	50'	NEW [(2)5/#14, (1)1/#6 GRD]
#9	1	-	3"	15'	NEW [(1)9/#14, (1)4/#18, (1)1/#6 GRD, GRIDSMART CAT5E CABLE]
#10	1	-	4"	35'	EMPTY
#11	1 (SCHD 80 HDPE)	-	4"	75'	EX. [(1)4/#18, (1)9/#14, (1)1/#6 GRD] NEW [(1)9/#14, (1)4/#18, (3)5/#14, GRIDSMART CAT5E CABLE]
#12	1	-	4"	100'	EX. [(1)4/#18, (1)9/#14, (1)1/#6 GRD] NEW [(1)9/#14, (1)4/#18, (3)5/#14, GRIDSMART CAT5E CABLE]
13	1	O	3"	10'	NEW (1)5/#14, (1)1/#6 GRD
14	1	O	3"	25'	NEW (1)5/#14, (1)1/#6 GRD
#15	1 (SCHD 80 HDPE)	-	4"	160'	EX. [(1)4/#18, GRIDSMART CAT5E CABLE, (1)1/#6 GRD], NEW [(1)9/#14, (1)5/#14] REMOVE [(1)16/#14, (1)4/#18]
16	1 (SCHD 80 HDPE)	B	4"	75'	EMPTY
#17	1	-	4"	30'	EMPTY
#18	1	-	3"	10'	EX. [(1)4/#18, GRIDSMART CAT5E CABLE, (1)1/#6 GRD], NEW [(1)9/#14], REMOVE [(1)16/#14, (1)4/#18]
19	1	O	3"	20'	NEW [(1)5/#14, (1)1/#6 GRD]
20	1 (SCHD 80 HDPE)	B	4"	55'	NEW [(1)5/#14, (1)1/#6 GRD]
21	1 (SCHD 80 HDPE)	B	4"	50'	NEW [(2)5/#14, (1)1/#6 GRD]
#22	1	-	4"	250'	EMPTY
23	1 (SCHD 80 HDPE)	B	4"	55'	NEW [(1)5/#14, (1)1/#6 GRD]
24	1	O	3"	10'	NEW [(1)5/#14, (1)1/#6 GRD]
#25	1	-	3"	10'	EX. [(1)4/#18, (1)9/#14, (1)1/#6 GRD]
#26	1	-	4"	210'	EMPTY
27	1	O	4"	25'	EMPTY
28	1 (SCHD 80 HDPE)	B	4"	85'	EMPTY

NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT



DETAIL 2 – SOUTHEAST CORNER
SCALE: 1" = 15'



DETAIL 3 – SOUTHWEST CORNER
SCALE: 1" = 15'

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Aly Wahed — 12/17/2018 (DATE)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER (SEAL)

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 (DATE)

UNOFFICIAL WEBSITE COPY

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N017P
COUNTY	NEW CASTLE	DESIGNED BY:	ALM (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ INTERCHANGE BLVD

SECTION: JMT
SHEET NO.: 413

[SHEET1 SG-26]
PLOTTED BY: JDSMITH DATE: 12/17/2019
FILE LOCATION: G:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG_INTERCHANGE_PRINT FILES.DGN

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATLY ADJACENT TO THE FLAT (5D=1 OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK, IN ACCORDANCE WITH THE ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUN HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LANDING AREA TO THE FACE OF THE PUSHBUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN SIGNALS. R10-3e SIGNS SHOULD BE INSTALLED ON POLES WITH ONE PEDESTRAIN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

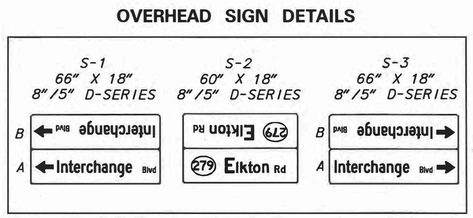
7. INSTALL PASSAGE DETECTION LOOPS ALONG ELKTON ROAD IN EACH THROUGH TRAVEL LANE 300' IN ADVANCE OF THE STOP BAR IN ACCORDANCE WITH TABLE IV-7 FROM THE DELDOT TRAFFIC DESIGN MANUAL.

8. CONDUIT 22 SHOULD BE INSTALLED AT A DEPTH OF 4 FEET SUCH THAT IT IS BELOW THE UNDERDRAIN OUTLET.

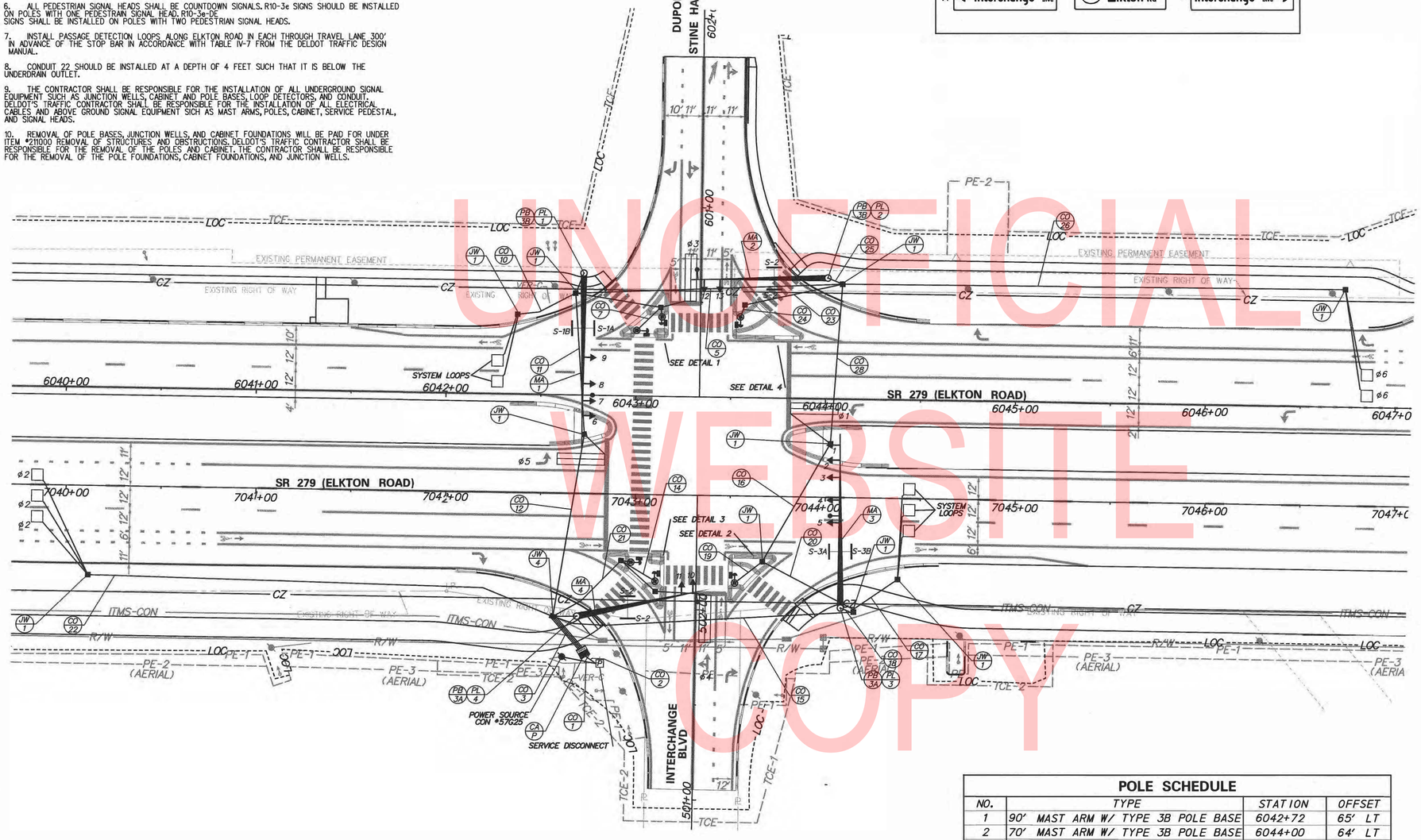
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND SIGNAL EQUIPMENT SICH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

10. REMOVAL OF POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL BE PAID FOR UNDER ITEM #211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

OVERHEAD SIGN DETAILS



ULTIMATE



UNOFFICIAL WEBSITE COPY

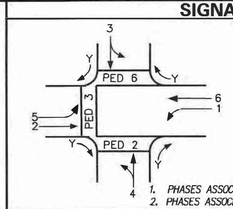
MAST ARM SCHEDULE

MA NO.	LENGTH	NO. OF HEADS	S.F. OF SIGNING
1	90' MAST ARM	4-3 SECTION	8.25 SF
2	70' MAST ARM	1-4 SECTION, 1-3 SECTION	7.5 SF
3	90' MAST ARM	5-3 SECTION	8.25 SF
4	70' MAST ARM	1-4 SECTION, 1-3 SECTION	7.5 SF

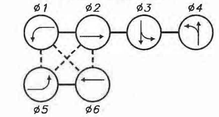
POLE SCHEDULE

NO.	TYPE	STATION	OFFSET
1	90' MAST ARM W/ TYPE 3B POLE BASE	6042+72	65' LT
2	70' MAST ARM W/ TYPE 3B POLE BASE	6044+00	64' LT
3	90' MAST ARM W/ TYPE 3A POLE BASE	7044+09	58' RT
4	70' MAST ARM W/ TYPE 3A POLE BASE	7042+70	65' RT
5	PEDESTAL POLE W/ TYPE 4A BASE	6043+13	42' LT
6	PEDESTAL POLE W/ TYPE 4A BASE	6043+00	35' LT
7	PEDESTAL POLE W/ TYPE 4A BASE	6043+55	43' LT
8	PEDESTAL POLE W/ TYPE 4A BASE	7043+53	46' RT
9	PEDESTAL POLE W/ TYPE 4A BASE	7043+11	46' RT
10	PEDESTAL POLE W/ TYPE 4A BASE	7042+98	36' RT

SIGNAL PHASING



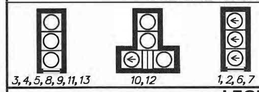
NEMA PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1	⬚	□
LOOP DETECTOR, TYPE 2	⬚	▭
LUMINAIRE	—○	—●
MAST ARM	▷	▶
MICROWAVE DETECTION	◂	◂
OPTICOM RECEIVER	—○	—●
OVERHEAD SIGNING		⊣
PEDESTRIAN POLE/BASE	○	●
PEDESTRIAN PUSHBUTTON	—▷	—▶
PEDESTRIAN SIGNAL HEAD	▱	▰
RIGHT-OF-WAY	———	R/W
SERVICE PEDESTAL		P
SIGNAL CABINET	▯	▮
SIGNAL HEAD	—▷	—▶
SIGNAL POLE/BASE	⊗	⊙
CCTV CAMERA	EXTEX	■
SPAN WIRE	—XX—	—◇—
UTILITY POLE	⊘	◔
VIDEO DETECTION	◂	◂

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.

2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Aly Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

12/19/18
CHIEF TRAFFIC ENGINEER — DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

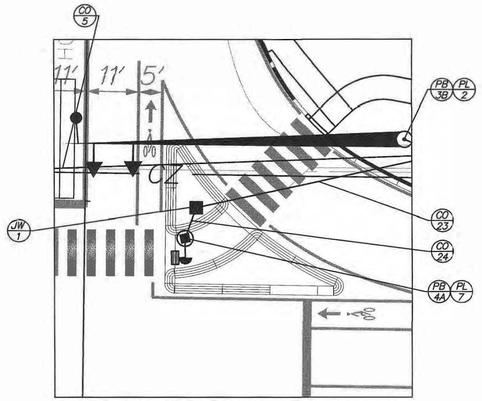
CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N017P
DESIGNED BY: ALM (JMT)	
CHECKED BY: MAW (JMT)	

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ INTERCHANGE BLVD

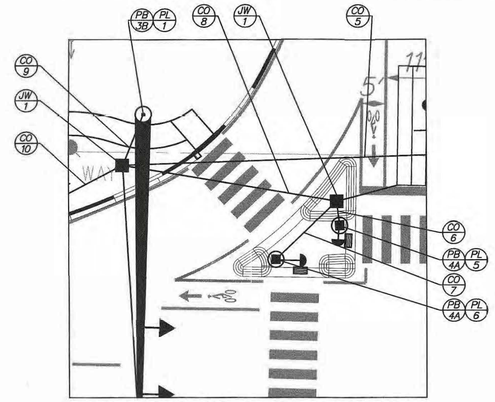
SECTION	JMT
SHEET NO.	414

JMT

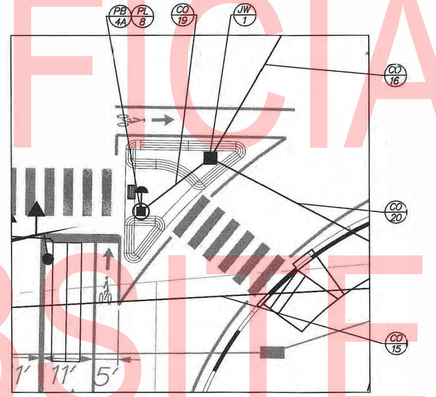
PLOTTED BY: JOSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDEV140659_007_ELKTON_MD_CASHO_MILL\CADD\SG ULT_PRINT FILES.DGN [SHEET: SG27]



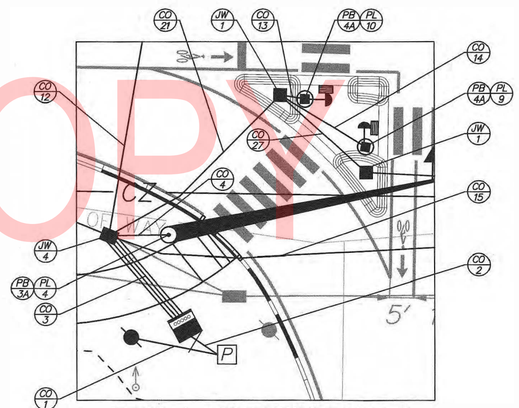
DETAIL 4 – NORTHEAST CORNER
SCALE: 1" = 15'



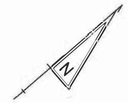
DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'



DETAIL 2 – SOUTHEAST CORNER
SCALE: 1" = 15'



DETAIL 3 – SOUTHWEST CORNER
SCALE: 1" = 15'



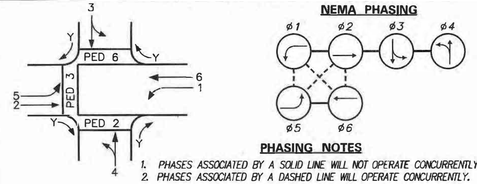
ULTIMATE

CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
1	1 (GALV. STEEL)	T	2"	20'	(1)2/#8 U.F. W/GROUND
2	1 (GALV. STEEL)	T	2"	10'	(1)2/#8 U.F. W/GROUND
3	4	T	4"	25'	(14)2/#14, (4)4/#18, (4)9/#14, (6)5/#14, (4)1/#6 GRD
4	1	T	3"	20'	(1)4/#18, (1)9/#14, (1)1/#6 GRD
5	1 (SCHD 80 HDPE)	B	4"	145'	(2)2/#14, (1)4/#18, (1)9/#14, (1)5/#14, (1)1/#6 GRD
6	1	O	3"	10'	(1)5/#14, (1)1/#6 GRD
7	1	O	3"	20'	(1)5/#14, (1)1/#6 GRD
8	1 (SCHD 80 HDPE)	B	4"	50'	(2)5/#14, (1)2/#14, (1)1/#6 GRD
9	1	T	3"	15'	(1)9/#14, (1)4/#18, (1)1/#6 GRD
10	1	T	4"	35'	(2)2/#14, (1)1/#6 GRD
11	1 (SCHD 80 HDPE)	B	4"	75'	(5)2/#14, (2)4/#18, (2)9/#14, (3)5/#14, (1)1/#6 GRD
12	1	O	4"	100'	(6)2/#14, (2)4/#18, (2)9/#14, (3)5/#14, (1)1/#6 GRD
13	1	O	3"	10'	(1)5/#14, (1)1/#6 GRD
14	1	O	3"	25'	(1)5/#14, (1)1/#6 GRD
15	1 (SCHD 80 HDPE)	B	4"	160'	(1)9/#14, (1)4/#18, (4)2/#14, (1)5/#14, (1)1/#6 GRD
16	1 (SCHD 80 HDPE)	B	4"	75'	(1)2/#14, (1)1/#6 GRD
17	1	T	4"	30'	(3)2/#14, (1)1/#6 GRD
18	1	T	3"	10'	(1)9/#14, (1)4/#18, (1)1/#6 GRD
19	1	O	3"	20'	(1)5/#14, (1)1/#6 GRD
20	1 (SCHD 80 HDPE)	B	4"	55'	(1)2/#14, (1)5/#14, (1)1/#6 GRD
21	1 (SCHD 80 HDPE)	B	4"	50'	(2)5/#14, (1)2/#14, (1)1/#6 GRD
22	1	T	4"	250'	(3)2/#14, (1)1/#6 GRD
23	1 (SCHD 80 HDPE)	B	4"	55'	(1)5/#14, (1)1/#6 GRD
24	1	O	3"	10'	(1)5/#14, (1)1/#6 GRD
25	1	T	3"	10'	(1)4/#18, (1)9/#14, (1)1/#6 GRD
26	1	T	4"	265'	(2)2/#14, (1)1/#6 GRD
27	1	O	4"	25'	(1)2/#14, (1)1/#6 GRD
28	1 (SCHD 80 HDPE)	B	4"	85'	EMPTY

NOTE: ALL CONDUITS SHALL BE SCHEUDLE 80 PVC UNLESS OTHERWISE NOTED
B=BORE, T=TRENCH, O=OPEN CUT

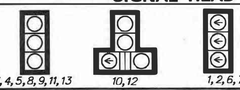
SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH (•)	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA (X)	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH (•)	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA (X)	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB (X)	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (•)	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB (X)	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (•)	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL (X)	EXISTING POLE IDENTIFIER (* OF POLE)
JW (X)	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL (X)	PROPOSED POLE IDENTIFIER (* OF POLE)
JW (X)	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM (C)	REMOVE BY CONTRACTOR
MA (XX)	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM (O)	REMOVE BY OTHERS
MA (XX)	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM (TC)	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N017P
DESIGNED BY:	ALM (JMT)
CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279 (ELKTON ROAD)
@ INTERCHANGE BLVD

SECTION	JMT
SHEET NO.	415

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JOSMITH DATE: 12/17/2018
FILE LOCATION: G:\NCE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG_ULT_PRNT FILES.DGN [SHEET: SG28_1]

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (5%1) OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ALL VIDEO DETECTORS SHALL BE INSTALLED ON THE MAST ARM OR TEMPORARY DAVIT ARM TO ACHIEVE OPTIMUM DETECTION PER MANUFACTURER'S SPECIFICATIONS. THE DESIRED DETECTION ZONES SHALL BE SET AND APPROVED BY DELDOT.

7. INSTALL TEMPORARY PEDESTRIAN POLES AT STA. 7064+59 OFFSET 10' RT AND AT STA. 6064+72 OFFSET 19' LT. TO POWER THE TEMPORARY PEDESTRIAN SIGNALS, INSTALL CONDUIT RUNS *40, *41, *44 AND *46. THE TEMPORARY PEDESTRIAN POLES, PEDESTRIAN SIGNAL HEADS, AND PEDESTRIAN PUSHBUTTONS SHALL BE REUSED AT A PERMANENT LOCATION FOR THIS PROJECT. AT LEAST ONE PEDESTRIAN CROSSING NEEDS TO BE MAINTAINED ACROSS ELKTON ROAD AT ALL TIMES.

8. INSTALL TEMPORARY CONDUIT *51 TO CONNECT TO THE JUNCTION WELL AT STA. 6066+19 OFFSET 40' LT TO POWER THE EXISTING PEDESTRIAN SIGNAL AT STA. 6065+71 OFFSET 23' LT.

9. ALL SIGNAL HEADS SHALL BE CONTROLLED BY THE PROPOSED CONTROLLER CABINET DURING THIS PHASE. THE EXISTING CONTROLLER AND SIGNAL SET UP SHALL BE MAINTAINED UNTIL THE PEDESTRIAN CROSSING IS OPERATIONAL. UTILIZING THE PROPOSED CONTROLLER, THE PROPOSED SIGNAL LAYOUT SHALL BE OPERATIONAL BEFORE THE REMOVAL OF THE EXISTING CONTROLLER CABINET AND SIGNAL SET UP. REMOVE THE COMA FROM THE EXISTING CONTROLLER CABINET AND INSTALL THE COMA IN THE PROPOSED CONTROLLER CABINET.

10. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

ADDITIONAL GENERAL SIGNAL NOTES (CONTINUED)

12. CONDUITS CROSSING THE ROADWAY SHALL BE INSTALLED AT A MINIMUM DEPTH OF 24".

13. INSTALL NEW TRAFFIC SIGNAL CABLES FROM THE CONTROLLER CABINET TO EXISTING PEDESTRIAN SIGNAL POLES LOCATED IN THE ISLANDS ON THE WEST SIDE OF THE INTERSECTION.

14. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

15. WHEN ANY CROSSWALK IS CLOSED, CORRESPONDING SIGNAL HEADS SHALL BE BAGGED.

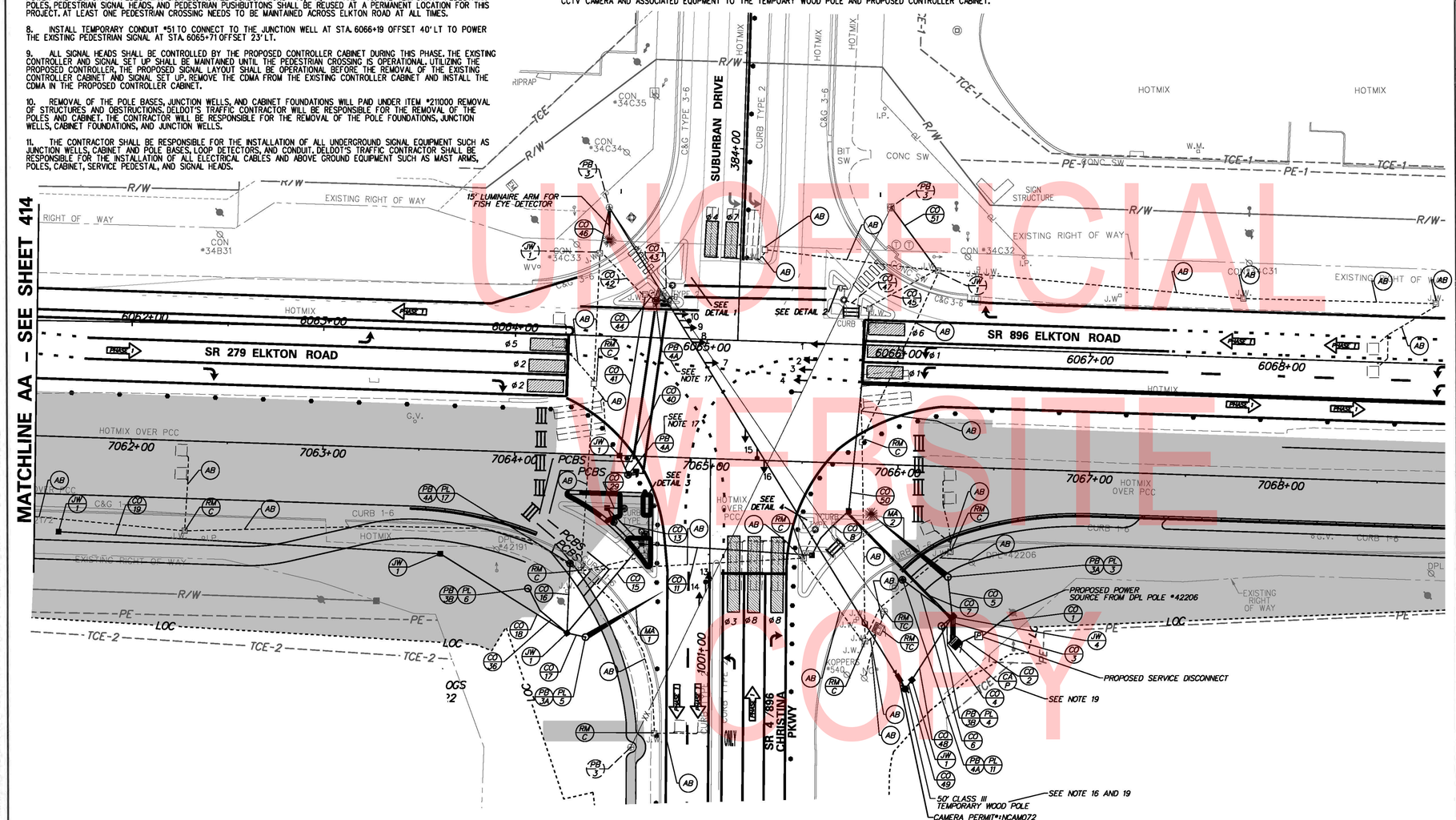
16. INSTALL A TEMPORARY 50' CLASS III WOOD POLE AT STATION 7066+08 OFFSET 117' RIGHT.

17. INSTALL TEMPORARY PEDESTAL POLES AT STATION 7064+59 OFFSET 10' RIGHT AND AT STATION 6064+72 OFFSET 19' LEFT.

18. ALL EXISTING SIGNAL EQUIPMENT SHALL REMAIN, UNLESS OTHERWISE NOTED.

19. PRIOR TO THE REMOVAL OF THE EITHER THE EXISTING STRAIN POLE OR EXISTING CONTROLLER CABINET, RELOCATE THE CCTV CAMERA AND ASSOCIATED EQUIPMENT TO THE TEMPOARY WOOD POLE AND PROPOSED CONTROLLER CABINET.

PHASE 1



ADDITIONAL LEGEND

- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

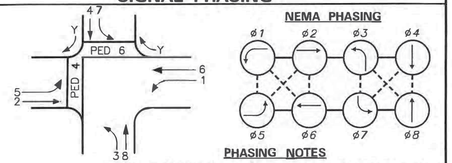
NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
1	45' MAST ARM	-	0 SF
2	50' MAST ARM	-	0 SF

SPAN WIRE SCHEDULE

SPAN	LENGTH	SPAN MOUNT HEIGHT	SAG	SPAN LOW POINT	BOTTOM OF LOWEST HEAD
TEMP	294 FT	33.8 FT	14.8 FT @ 5.0%	19.0 FT	16.0 FT

* FIELD ADJUSTMENTS AS REQUIRED
** LOW POINT TAKEN WITH RESPECT TO ROADWAY ELEVATION.

SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	OH/X	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA/X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH/*	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA/*	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB/X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO/X	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB/*	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO/*	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL/X	EXISTING POLE IDENTIFIER (* OF POLE)
JW/X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL/*	PROPOSED POLE IDENTIFIER (* OF POLE)
JW/*	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM/C	REMOVE BY CONTRACTOR
MA/XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM/O	REMOVE BY OTHERS
MA/XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM/TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE		—●—
MAST ARM		➤
MICROWAVE DETECTION		◂
OPTICOM RECEIVER	—○	—●
OVERHEAD SIGNING		—┤
PEDESTRIAN POLE/BASE	○	●
PEDESTRIAN PUSHBUTTON	—▷	—▶
PEDESTRIAN SIGNAL HEAD		■▶
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		■
SIGNAL HEAD	—▷	—▶
SIGNAL POLE/BASE	⊗	⊙
CCTV CAMERA		■
SPAN WIRE	—XX—	—◇—
UTILITY POLE		◥
VIDEO DETECTION		■

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAKED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

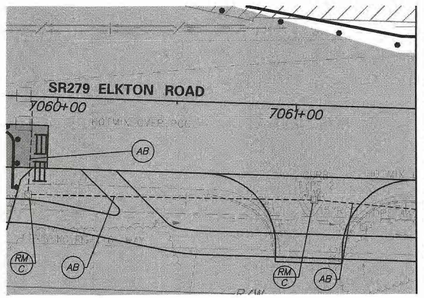
CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N153
DESIGNED BY:	JDS (JMT)
CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279/896 (ELKTON ROAD)
@ SR 4/896 (CHRISTINA PKWY)

SECTION	JMT
SHEET NO.	416

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: QANDE\14059_007_ELKTON_RD_CASHO_MILL\CADD\SG_-_ROUTE_4_PRINT_FILES.DGN [SHEET: SG29]

UNOFFICIAL WEBSITE COPY



MATCHLINE AA – SEE SHEET 413

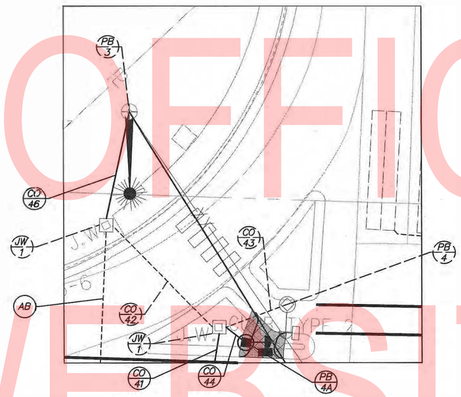
PHASE 1

CONDUIT RUN SCHEDULE

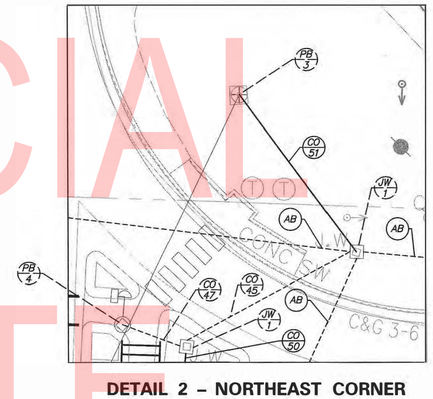
CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
1	1 (GALV. STEEL)	T	2"	20'	NEW [(1)2/#8 U.F. W/GROUND]
2	1 (GALV. STEEL)	T	2"	15'	NEW [(1)2/#8 U.F. W/GROUND]
3	4	T	4"	15'	NEW [GRIDSMART CAT5E CABLE, (2)16/#14, (4)5/#14, (4)4/#18, (4)1/#6 GRD]
4	1	T	3"	10'	EMPTY
5	1	T	3"	25'	NEW [GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
6	1	T	3"	35'	EMPTY
7	2	O	4"	80'	EMPTY
8	1	O	4"	35'	EMPTY
11	1 (SCHD 80 HDPE)	B	4"	90'	EMPTY
12	1	O	3"	10'	EMPTY
13	1	O	4"	30'	EMPTY
14	1	O	3"	10'	EMPTY
15	1 (SCHD 80 HDPE)	B	4"	65'	EMPTY
16	1	T	3"	40'	EMPTY
17	1	T	3"	10'	EMPTY
18	1	T	4"	80'	EMPTY
19	1	T	4"	200'	EMPTY
29	1	O	3"	10'	EMPTY
36	1	T	3"	35'	EMPTY
40	1	O	3"	15'	NEW [(1)5/#14, (1)1/#6 GRD]
41	1 (SCHD 80 HDPE)	B	4"	85'	NEW [(1)5/#14, (1)1/#6 GRD]
*42	1	-	2.5"	30'	NEW [(3)5/#14,(1)1/#6 GRD], REMOVE [(1)5/14]
*43	1	-	2.5"	15'	NEW [(1)5/#14,(1)1/#6 GRD], REMOVE [(1)5/14]
44	1	O	3"	10'	NEW [(1)5/#14, (1)1/#6 GRD]
*45	1	-	4"	45'	NEW [(1)5/#14,(1)1/#6 GRD], REMOVE [(2)5/14]
46	1	T	3"	25'	NEW [(3)5/#14,(1)1/#6 GRD]
*47	1	-	2.5"	15'	NEW [(1)5/#14,(1)1/#6 GRD], REMOVE [(3)5/14]
48	1	T	4"	40'	NEW [GRIDSMART CAT5E CABLES, (4)5/#14, (4)4/#18, (2)16/#14, (1)1/#6 GRD]
49	1	T	3"	10'	NEW [GRIDSMART CAT5E CABLES, (4)5/#14, (4)4/#18, (2)16/#14, (1)1/#6 GRD]
50	1 (SCHD 80 HDPE)	B	4"	105'	EMPTY
51	1	T	3"	45'	NEW [(1)5/#14,(1)1/#6 GRD]

NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.

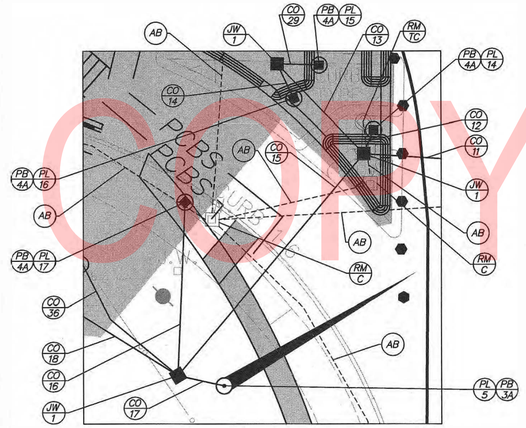
* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT



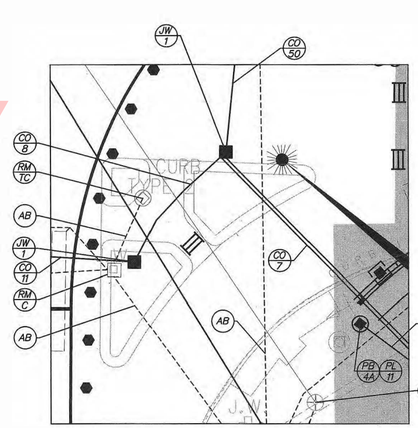
DETAIL 1 – NORTHWEST CORNER
SCALE: 1"=15'



DETAIL 2 – NORTHEAST CORNER
SCALE: 1"=15'

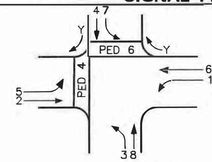


DETAIL 3 – SOUTHWEST CORNER
SCALE: 1"=15'

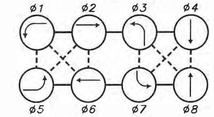


DETAIL 4 – SOUTHEAST CORNER
SCALE: 1"=15'

SIGNAL PHASING



NEMA PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB — ABANDON	OH — EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X — EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH * — PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X — PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X — EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO * — EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X — PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO * — PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X — EXISTING POLE IDENTIFIER (* OF POLE)
JW X — EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X — PROPOSED POLE IDENTIFIER (* OF POLE)
JW X — PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C — REMOVE BY CONTRACTOR
MA XX — EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O — REMOVE BY OTHERS
MA XX — PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC — REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Ata Wahed — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

12/19/18
CHIEF TRAFFIC ENGINEER — DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD,
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N153
COUNTY	NEW CASTLE	DESIGNED BY: JDS (JMT)	CHECKED BY: MAW(JMT)

SIGNAL PLAN
SR 279/896 (ELKTON ROAD)
@ SR 4/896 (CHRISTINA PKWY)

SECTION: JMT
SHEET NO.: 417

PLOTTED BY: JOSWITH DATE: 12/17/2018
FILE LOCATION: Q:\NJDE\140659.007_ELKTON_RD_CASHO_MILL\CADD\SC ...ROUTE 4_PRINT FILES\D.GN [SHEET: SG30]

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ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (50:1 OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ADJUST VIDEO DETECTION ZONES AS NECESSARY FOR THE PHASE 1 STAGES 1 THROUGH 4.

7. PRIOR TO THE START OF PHASE 1 STAGE 3 WHEN THE LANES ARE REDUCED ON THE SR 4 WESTBOUND APPROACH INSTALL SIGNAL HEADS #11,12,17 AND 18; HOWEVER, KEEP THESE SIGNAL HEADS BAGGED DURING PHASE 1 STAGES 1, 2, AND 4. DURING PHASE 1 STAGE 3, WHEN THE LANE BECOMES A SHARED LEFT/THROUGH, SIGNAL HEADS #13,14,15 AND 16 SHALL BE BAGGED AND SIGNAL HEADS #11,12,17 AND 18 SHALL BE UNBAGGED.

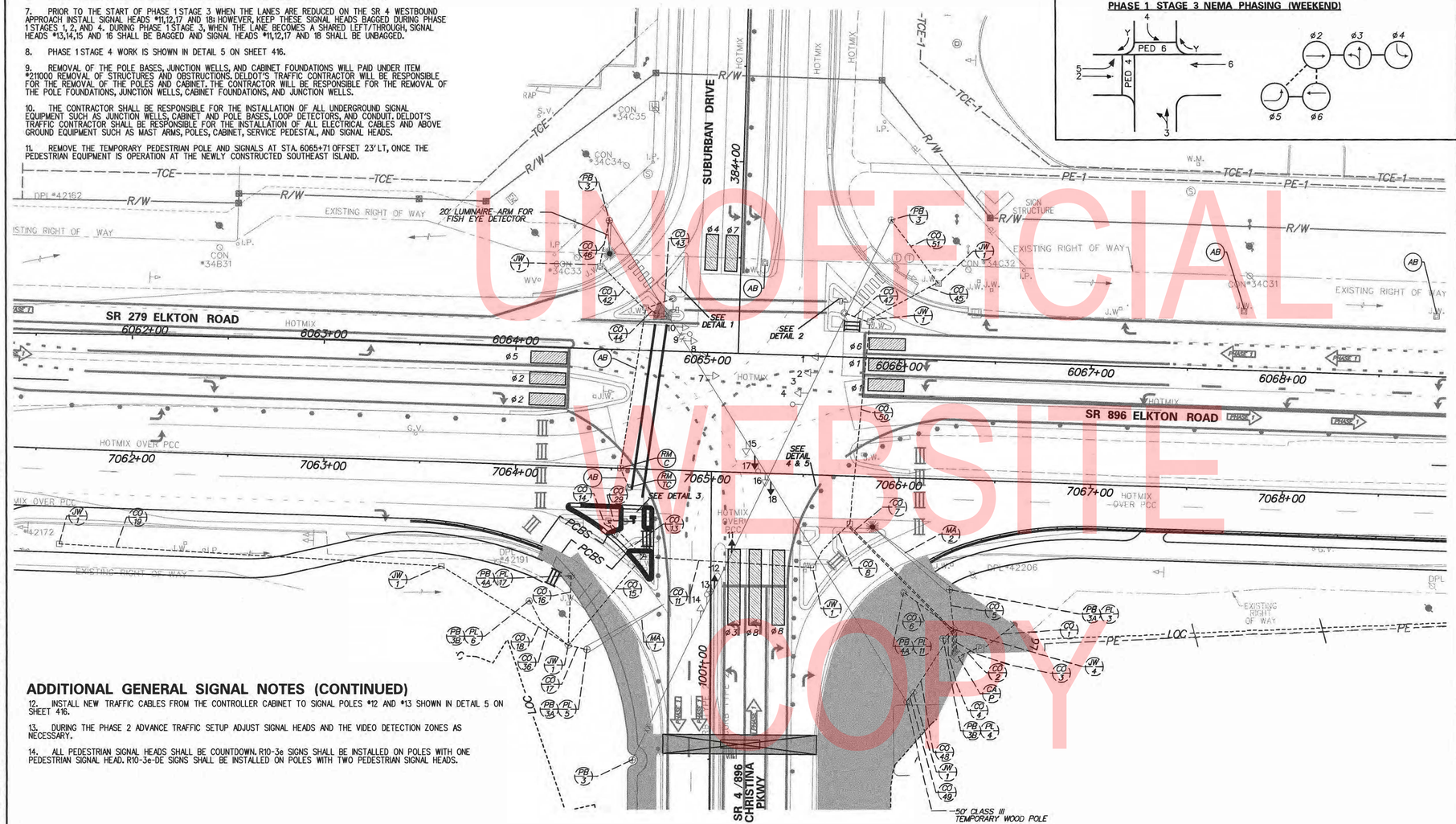
8. PHASE 1 STAGE 4 WORK IS SHOWN IN DETAIL 5 ON SHEET 416.

9. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM #211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

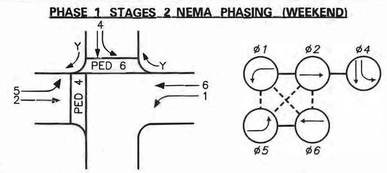
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

11. REMOVE THE TEMPORARY PEDESTRIAN POLE AND SIGNALS AT STA. 6065+71 OFFSET 23' LT, ONCE THE PEDESTRIAN EQUIPMENT IS OPERATION AT THE NEWLY CONSTRUCTED SOUTHEAST ISLAND.

PHASE 1 STAGES 1–4



PHASE 1 STAGES 2 NEMA PHASING (WEEKEND)



PHASE 1 STAGE 3 NEMA PHASING (WEEKEND)

ADDITIONAL GENERAL SIGNAL NOTES (CONTINUED)

12. INSTALL NEW TRAFFIC CABLES FROM THE CONTROLLER CABINET TO SIGNAL POLES #12 AND #13 SHOWN IN DETAIL 5 ON SHEET 416.

13. DURING THE PHASE 2 ADVANCE TRAFFIC SETUP ADJUST SIGNAL HEADS AND THE VIDEO DETECTION ZONES AS NECESSARY.

14. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

ADDITIONAL LEGEND

- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

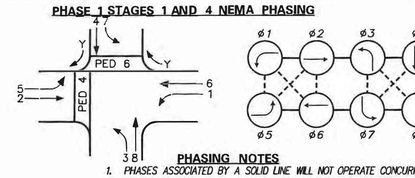
MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
#1	45' MAST ARM	-	0 SF
#2	50' MAST ARM	-	0 SF

\# EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE

SIGNAL PHASING

PHASE 1 STAGES 1 AND 4 NEMA PHASING



PHASING NOTES

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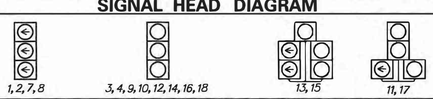
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH *	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

MIR A. WAKED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/20/18 DATE

ADDENDA / REVISSIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE: 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	PERMIT NO.	N153
T201504401	DESIGNED BY: JDS (JMT)	
COUNTY	CHECKED BY: MAW (JMT)	
NEW CASTLE		

SIGNAL PLAN
SR 279/896 (ELKTON ROAD)
@SR 4/896 (CHRISTINA PKWY)

SECTION	
JMT	
SHEET NO.	
418	

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/17/2018
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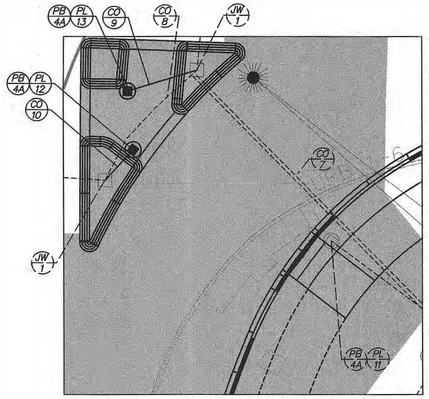
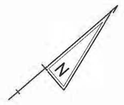


DETAIL 5 – SOUTHEAST CORNER
PHASE 1 – STAGE 4
SCALE: 1" = 15'

PHASE 1 STAGES 1–4

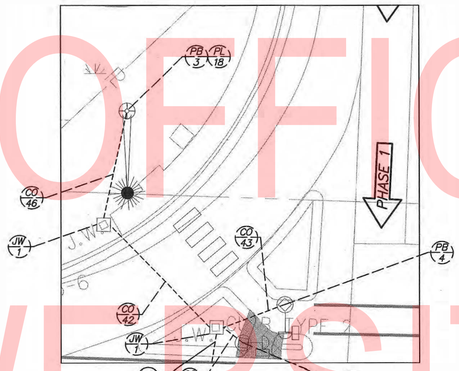


CONDUIT RUN SCHEDULE

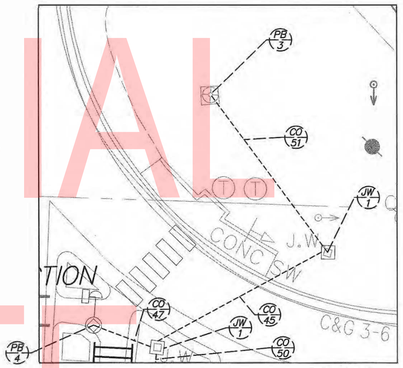
CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
*1	1 (GALV. STEEL)	-	2"	20'	EX. [(1)2/#8 U.F. W/GROUND]
*2	1 (GALV. STEEL)	-	2"	15'	EX. [(1)2/#8 U.F. W/GROUND]
*3	4	-	4"	15'	EX. [GRIDSMART CAT5E CABLE, (2)16/#14, (4)5/#14, (4)4/#18, (4)1/#6 GRD]
*4	1	-	3"	10'	EMPTY
*5	1	-	3"	25'	EX. [GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
*6	1	-	3"	35'	EMPTY
*7	2	-	4"	80'	NEW [(1)5/#14, (1)1/#6 GRD]
*8	1	-	4"	35'	NEW [(1)5/#14, (1)1/#6 GRD]
9	1	T	4"	10'	EMPTY
10	1	T	3"	5'	EMPTY
*11	1 (SCHD 80 HDPE)	-	4"	90'	NEW [(1)5/#14, (1)1/#6 GRD]
*12	1	-	3"	10'	EMPTY
*13	1	-	4"	30'	NEW [(1)5/#14, (1)1/#6 GRD]
*14	1	-	3"	10'	EMPTY
*15	1 (SCHD 80 HDPE)	-	4"	65'	EMPTY
*16	1	-	3"	40'	EMPTY
*17	1	-	3"	10'	EMPTY
*18	1	-	4"	80'	EMPTY
*19	1	-	4"	200'	EMPTY
*29	1	-	3"	35'	NEW [(1)5/#14, (1)1/#6 GRD]
*36	1	-	3"	35'	EMPTY
*42	1	-	2.5"	30'	EX. [(2)5/#14, (1)1/#6 GRD], REMOVE [(1)5/#14]
*43	1	-	2.5"	15'	EX. [(1)5/#14, (1)1/#6 GRD]
*44	1	-	3"	10'	Ex. [(1)5/#14, (1)1/#6 GRD]
*45	1	-	4"	45'	EX. [(1)5/#14, (1)1/#6 GRD]
*46	1	-	3"	25'	EX. [(2)5/#14, (1)1/#6 GRD], REMOVE [(1)5/#14]
*47	1	-	2.5"	15'	EX. [(1)5/#14, (1)1/#6 GRD]
*48	1	-	4"	40'	EX. [GRIDSMART CAT5E CABLES, (3)5/#14, (4)4/#18, (2)16/#14, (1)1/#6 GRD], REMOVE [(1)5/#14]
*49	1	-	3"	10'	EX. [GRIDSMART CAT5E CABLES, (3)5/#14, (4)4/#18, (2)16/#14, (1)1/#6 GRD], REMOVE [(1)5/#14]
*50	1 (SCHD 80 HDPE)	-	4"	105'	EMPTY
*51	1	-	3"	45'	EX. [(1)5/#14, (1)1/#6 GRD]

NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.

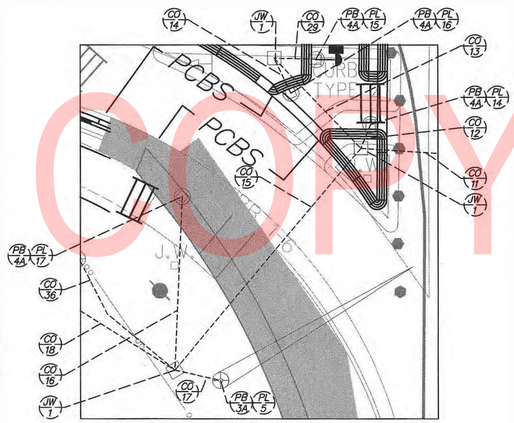
* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT



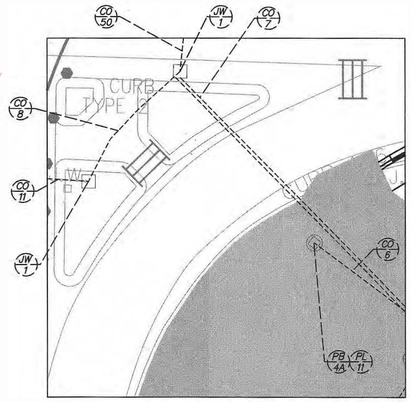
DETAIL 1 – NORTHWEST CORNER
PHASE 1 STAGES 1–3
SCALE: 1" = 15'



DETAIL 2 – NORTHEAST CORNER
PHASE 1 STAGES 1–3
SCALE: 1" = 15'

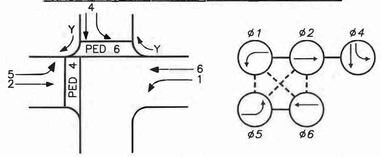


DETAIL 3 – SOUTHWEST CORNER
PHASE 1 STAGES 1–3
SCALE: 1" = 15'

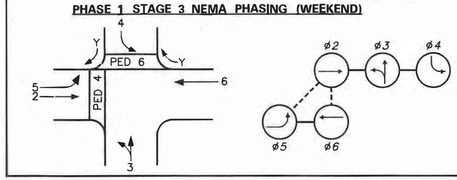


DETAIL 4 – SOUTHEAST CORNER
PHASE 1 STAGES 1–3
SCALE: 1" = 15'

PHASE 1 STAGES 2 NEMA PHASING (WEEKEND)

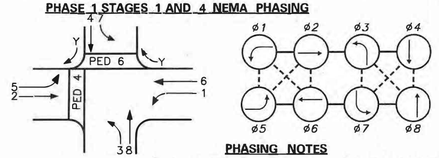


PHASE 1 STAGE 3 NEMA PHASING (WEEKEND)



SIGNAL PHASING

PHASE 1 STAGES 1 AND 4 NEMA PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELD)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAKED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

12/20/18
CHIEF TRAFFIC ENGINEER — DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N153
COUNTY	NEW CASTLE	DESIGNED BY:	JDS (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279/896 (ELKTON ROAD)
@ SR 4/896 (CHRISTINA PKWY)

SECTION: JMT
SHEET NO.: 419

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: G:\NBE\140859_007_ELKTON_RD_CASHO_MILL\CADD\SIG _ROUTE 4_PRINT FILES\DGN [SHEET: SG32]

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (50:1 OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ADJUST VIDEO DETECTION ZONES AS NECESSARY.

7. PHASE 2 STAGE 1 WORK IS SHOWN IN DETAIL 5.

8. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM #211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

ADDITIONAL GENERAL SIGNAL NOTES (CONTINUED)

10. INSTALL NEW TRAFFIC CABLES FROM THE CONTROLLER CABINET TO SIGNAL POLE ON ISLAND ON THE NORTHWEST CORNER .

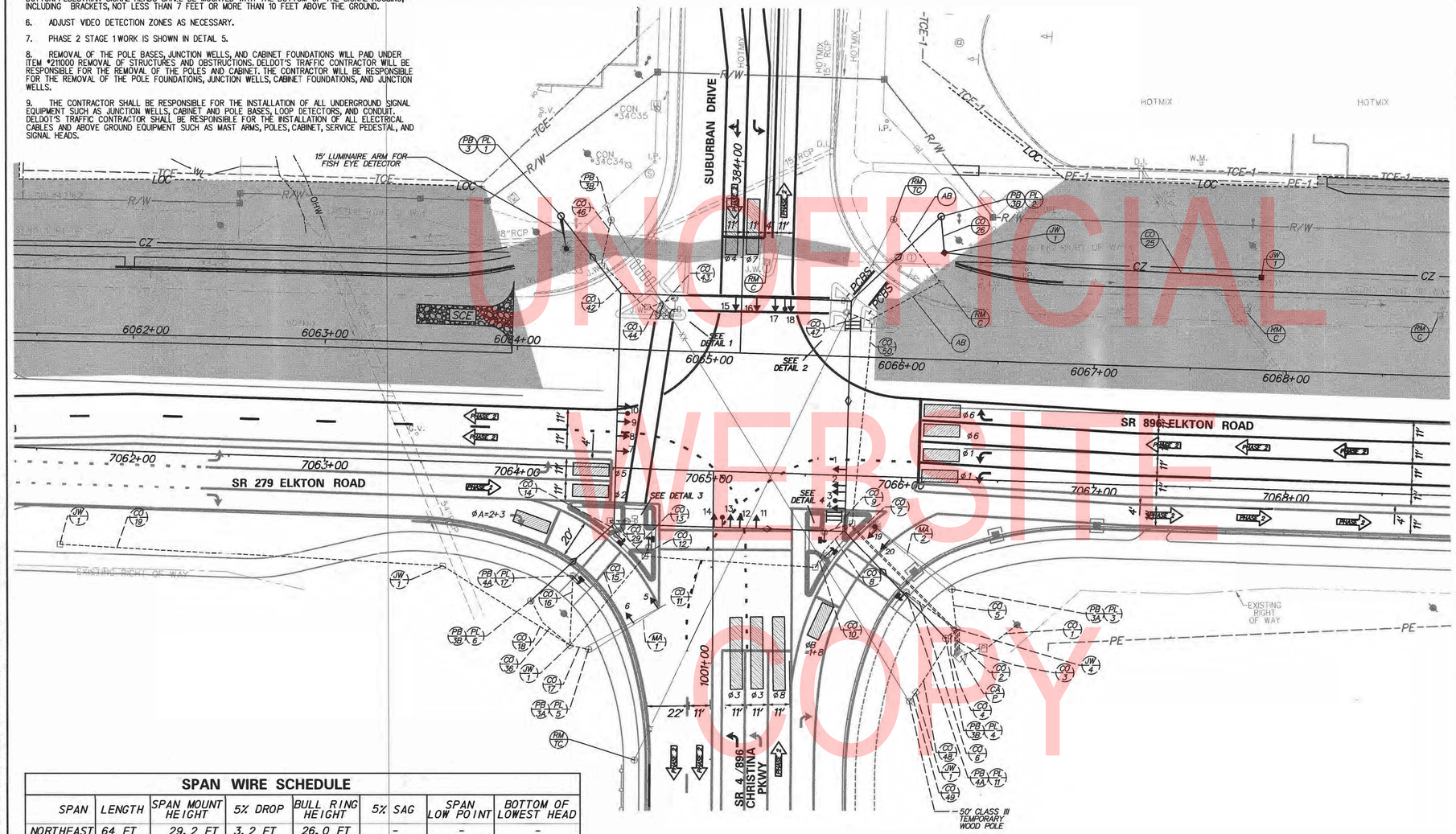
11. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN, R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

12. WHEN ANY CROSSWALK IS CLOSED, THE CORRESPONDING SIGNAL HEADS SHALL BE BAGGED.

13. INSTALL CONDUIT #25 AT A DEPTH OF 4 SUCH THAT IT IS BELOW THE PROPOSED UNDERDRAIN OUTLET.

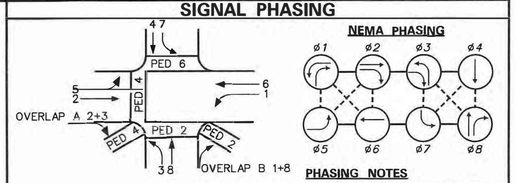
14. INSTALL SIGNAL HEADS #1-20.

PHASE 2 AND PHASE 2 STAGE 1



UNOFFICIAL WEBSITE COPY

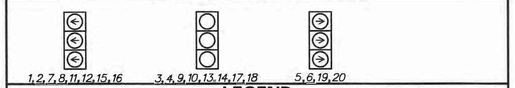
SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

SPAN WIRE SCHEDULE

SPAN	LENGTH	SPAN MOUNT HEIGHT	5% DROP	BULL RING HEIGHT	5% SAG	SPAN LOW POINT	BOTTOM OF LOWEST HEAD
NORTHEAST	64 FT	29.2 FT	3.2 FT	26.0 FT	-	-	-
SOUTHEAST	77 FT	29.9 FT	3.9 FT	26.0 FT	-	-	-
NORTHWEST	51 FT	28.6 FT	2.6 FT	26.0 FT	-	-	-
SOUTHWEST	59 FT	29.0 FT	3.0 FT	26.0 FT	-	-	-
NORTH	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
SOUTH	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
EAST	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
WEST	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT

NOTE: FIELD ADJUSTMENTS AS REQUIRED

ADDITIONAL LEGEND

MINIMUM DETECTION ZONE

FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
#1	45' MAST ARM	2 - 3 SECTION	0 SF
#2	50' MAST ARM	2 - 3 SECTION	0 SF

* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Aly Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N153
DESIGNED BY:	JDS (JMT)
CHECKED BY:	MAW (JMT)

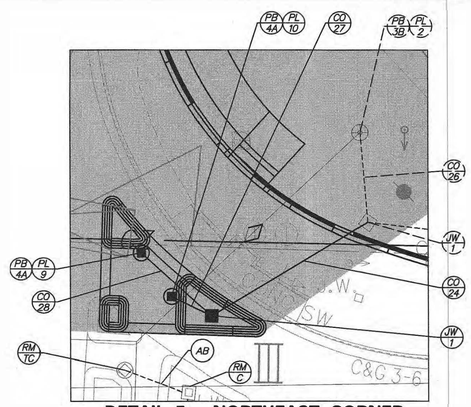
SIGNAL PLAN
SR 279/896 (ELKTON ROAD)
@SR 4/896 (CHRISTINA PKWY)

SECTION	
JMT	
SHEET NO.	420

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: C:\NJDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SIG_ROUTE 4_PRINT FILES\LOGN [SHEET: SG33]

UNOFFICIAL WEBSITE COPY

PHASE 2 AND PHASE 2 STAGE 1

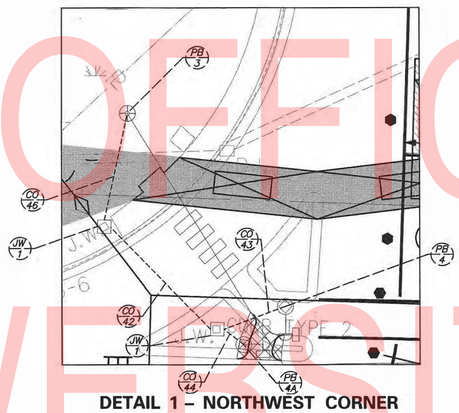


DETAIL 5 – NORTHEAST CORNER
PHASE 2 STAGE 1
SCALE: 1" = 15'

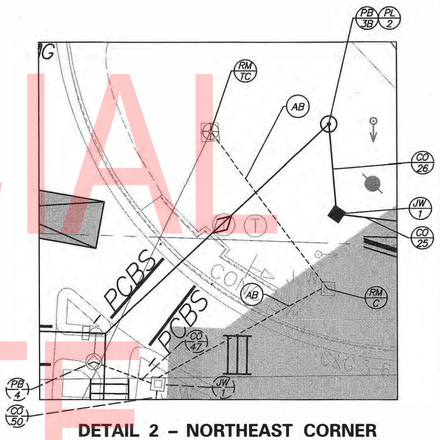
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
#1	1 (GALV. STEEL)	-	2"	20'	EX. [(1)2/#8 U.F. W/GROUND]
#2	1 (GALV. STEEL)	-	2"	15'	EX. [(1)2/#8 U.F. W/GROUND]
#3	4	-	4"	15'	NEW [(6)5/#14, (2)9/#14, GRIDSMART CAT5E CABLES], EX. [GRIDSMART CAT5E CABLES, (2)16/#14,(4)5/#14, (4)4/#18, (4)1/#6 GRD]
#4	1	-	3"	10'	NEW [GRIDSMART CAT5E CABLES, (4)4/#18,(2)16/#14,(1)1/#6 GRD]
#5	1	-	3"	25'	NEW [(1)9/#14], EX. [GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
#6	1	-	3"	35'	NEW [(1)5/#14, (1)1/#6 GRD]
#7	2	-	4"	80'	NEW [(1)9/#14,(6)5/#14], EX. [(1)5/#14,(1)1/#6]
#8	1	-	4"	35'	NEW [(1)9/#14,(4)5/#14] EX. [(1)5/#14,(1)1/#6 GRD]
#9	1	-	3"	10'	NEW [(1)5/#14,(1)1/#6 GRD]
#10	1	-	3"	5'	NEW [(1)5/#14,(1)1/#6 GRD]
#11	1 (SCHD 80 HDPE)	-	4"	90'	NEW [(1)9/#14,(3)5/#14] EX. [(1)5/#14,(1)1/#6 GRD]
#12	1	-	3"	10'	NEW [(1)5/#14,(1)1/#6 GRD]
#13	1	-	4"	30'	NEW [(1)5/#14], EX. [(1)5/#14,(1)1/#6 GRD]
#14	1	-	3"	10'	NEW [(1)5/#14,(1)1/#6 GRD]
#15	1 (SCHD 80 HDPE)	-	4"	65'	NEW [(1)9/#14,(1)5/#14,(1)1/#6 GRD]
#16	1	-	3"	40'	NEW [(1)5/#14,(1)1/#6 GRD]
#17	1	-	3"	10'	NEW [(1)9/#14,(1)1/#6 GRD]
#18	1	-	4"	80'	EMPTY
#19	1	-	4"	200'	EMPTY
24	1	0	4"	40'	EMPTY
25	1	T	4"	170'	EMPTY
26	1	T	3"	20'	EMPTY
27	1	T	3"	10'	EMPTY
28	1	T	3"	20'	EMPTY
#29	1	-	3"	10'	EX. [(1)5/#14,(1)1/#6 GRD]
#36	1	-	3"	35'	EMPTY
#42	1	-	2.5"	30'	EX. [(2)5/#14,(1)1/#6 GRD]
#43	1	-	2.5"	10'	EX. [(1)5/#14,(1)1/#6 GRD]
#44	1	-	3"	10'	EX. [(1)5/#14,(1)1/#6 GRD]
#46	1	-	3"	25'	EX. [(2)5/#14,(1)1/#6 GRD],
#47	1	-	2.5"	15'	NEW [(1)5/#14], EX. [(1)1/#6 GRD], REMOVE [(1)5/#14]
#48	1	-	4"	40'	EX. [(2)5/#14,(1)1/#6 GRD], REMOVE [GRIDSMART CAT5E CABLES, (1)5/#14,(4)4/#18,(2)16/#14]
#49	1	-	3"	10'	EX. [(2)5/#14,(1)1/#6 GRD], REMOVE [GRIDSMART CAT5E CABLES, (1)5/#14,(4)4/#18,(2)16/#14]
#50	1 (SCHD 80 HDPE)	-	4"	105'	NEW [(1)5/#14,(1)1/#6 GRD]

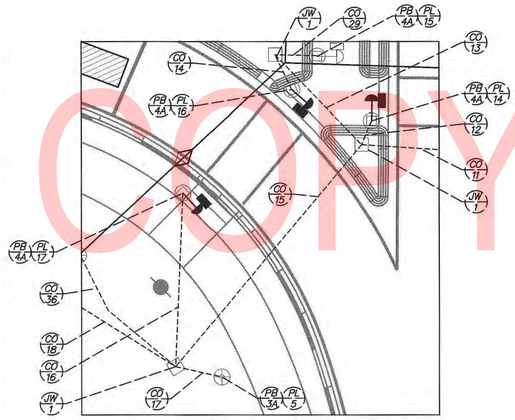
NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT



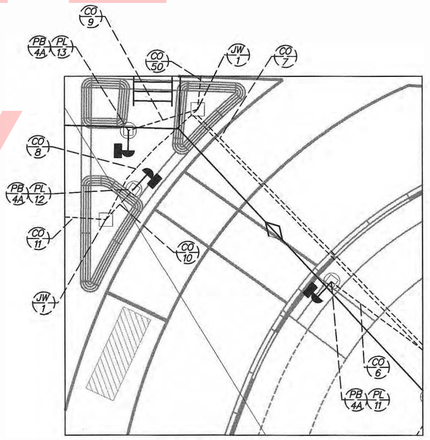
DETAIL 1 – NORTHWEST CORNER
PHASE 2
SCALE: 1" = 15'



DETAIL 2 – NORTHEAST CORNER
PHASE 2
SCALE: 1" = 15'

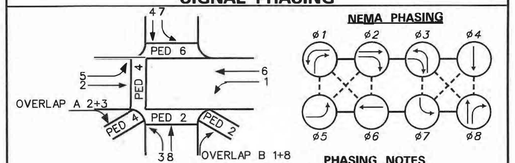


DETAIL 3 – SOUTHWEST CORNER
PHASE 2
SCALE: 1" = 15'



DETAIL 4 – SOUTHEAST CORNER
PHASE 2
SCALE: 1" = 15'

SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

1,2,7,8,11,12,15,16 — 3,4,9,10,13,14,17,18 — 5,6,19,20

LEGEND

AB	ABANDON	OH *	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH *	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAKED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER
SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N153
COUNTY	NEW CASTLE	DESIGNED BY:	JDS (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279/896 (ELKTON ROAD)
@ SR 4/896 (CHRISTINA PKWY)

SECTION: JMT
SHEET NO.: 421

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: G:\NDE\140859_007_ELKTON_RD_CASHO_MILL\CADD\SG _ROUTE 4_PRINT FILES\DGN [SHEET: SG34]

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (5%1 OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. ADJUST VIDEO DETECTION ZONES AS NECESSARY.

7. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM #211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

9. THE PHASE 2 STAGE 3 TRAFFIC WORK IS SHOWN IN DETAIL 5.

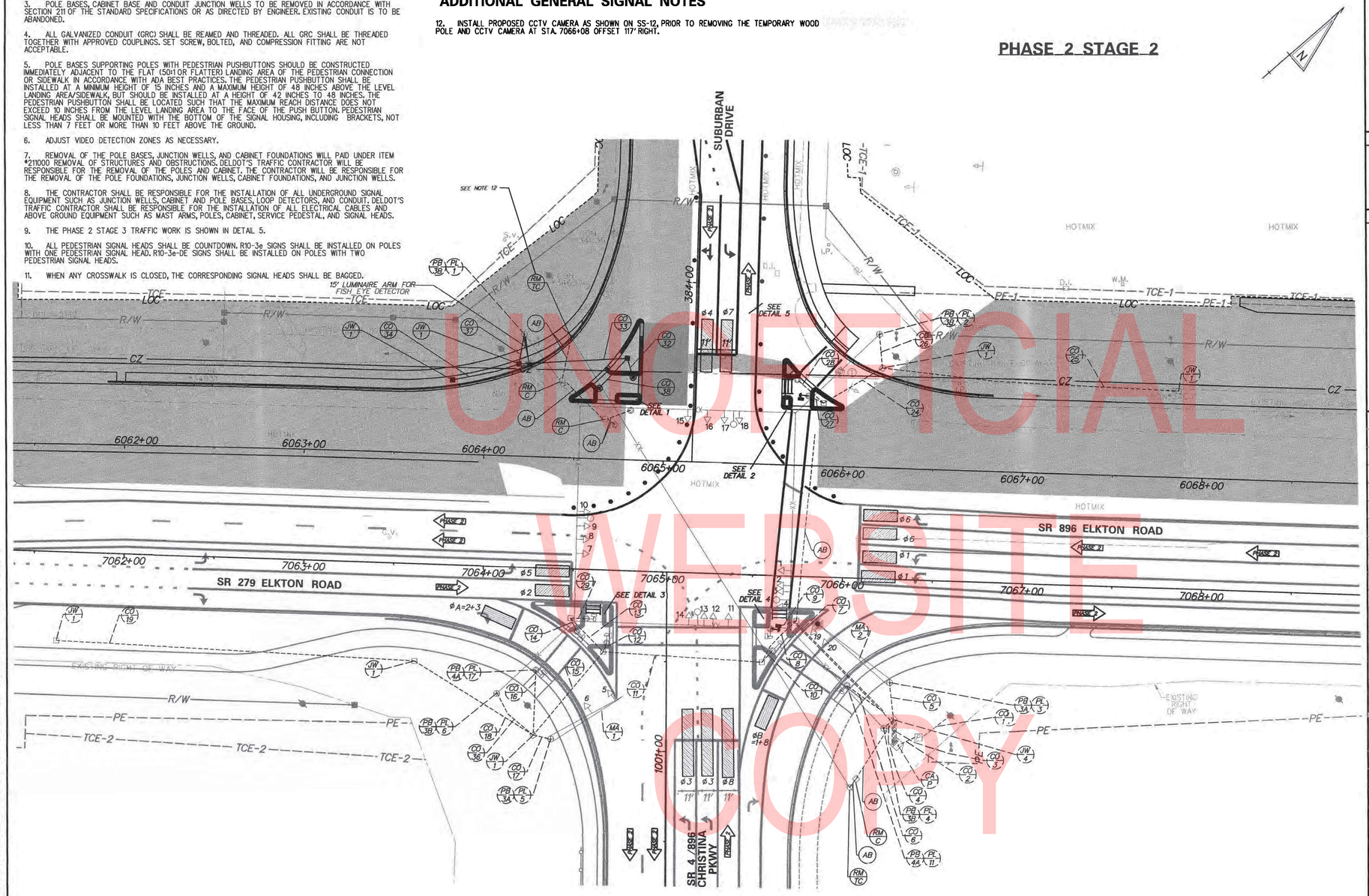
10. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

11. WHEN ANY CROSSWALK IS CLOSED, THE CORRESPONDING SIGNAL HEADS SHALL BE BAGGED.

ADDITIONAL GENERAL SIGNAL NOTES

12. INSTALL PROPOSED CCTV CAMERA AS SHOWN ON SS-12, PRIOR TO REMOVING THE TEMPORARY WOOD POLE AND CCTV CAMERA AT STA. 7066+08 OFFSET 117' RIGHT.

PHASE 2 STAGE 2



ADDITIONAL LEGEND

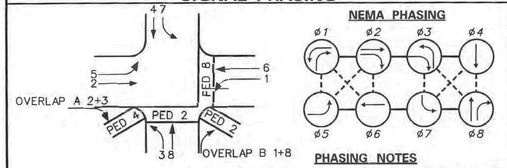
- MINIMUM DETECTION ZONE
- FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
#1	45' MAST ARM	2 - 3 SECTION	0 SF
#2	50' MAST ARM	2 - 3 SECTION	0 SF

* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE

SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	OH (•)	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA (X)	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH (•)	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA (X)	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB (X)	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (•)	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB (X)	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (•)	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL (X)	EXISTING POLE IDENTIFIER (* OF POLE)
JW (X)	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL (X)	PROPOSED POLE IDENTIFIER (* OF POLE)
JW (X)	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA (XX)	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA (XX)	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE	—○	—✦
MAST ARM		➤
MICROWAVE DETECTION	—◄	—◄
OPTICOM RECEIVER	—○	—●
OVERHEAD SIGNING		—⊣
PEDESTRIAN POLE/BASE	○	●
PEDESTRIAN PUSHBUTTON	—○	—●
PEDESTRIAN SIGNAL HEAD		■
RIGHT-OF-WAY		—R/W—
SERVICE PEDESTAL		P
SIGNAL CABINET		■
SIGNAL HEAD	—▷	→
SIGNAL POLE/BASE	⊗	⊙
CCTV CAMERA	CCTV	■
SPAN WIRE	—XX—	—◇—
UTILITY POLE		●
VIDEO DETECTION		■

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER

Mir Abe Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — DATE 12/19/18

ADDENDA / REVISIONS		
1 REPLACED PAGES 1 THRU 432	11-15-2019 (LB)	

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N153
DESIGNED BY:	JDS (JMT)
CHECKED BY:	MAW (JMT)

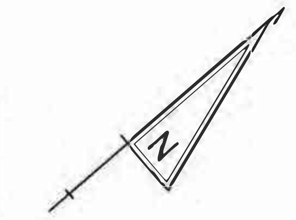
SIGNAL PLAN
SR 279/896 (ELKTON ROAD) @SR 4/896 (CHRISTINA PKWY)

SECTION	JMT
SHEET NO.	422

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CAD\DSG _ROUTE 4_PRINT FILES\DGN [SHEET: SG35]

UNOFFICIAL WEBSITE COPY

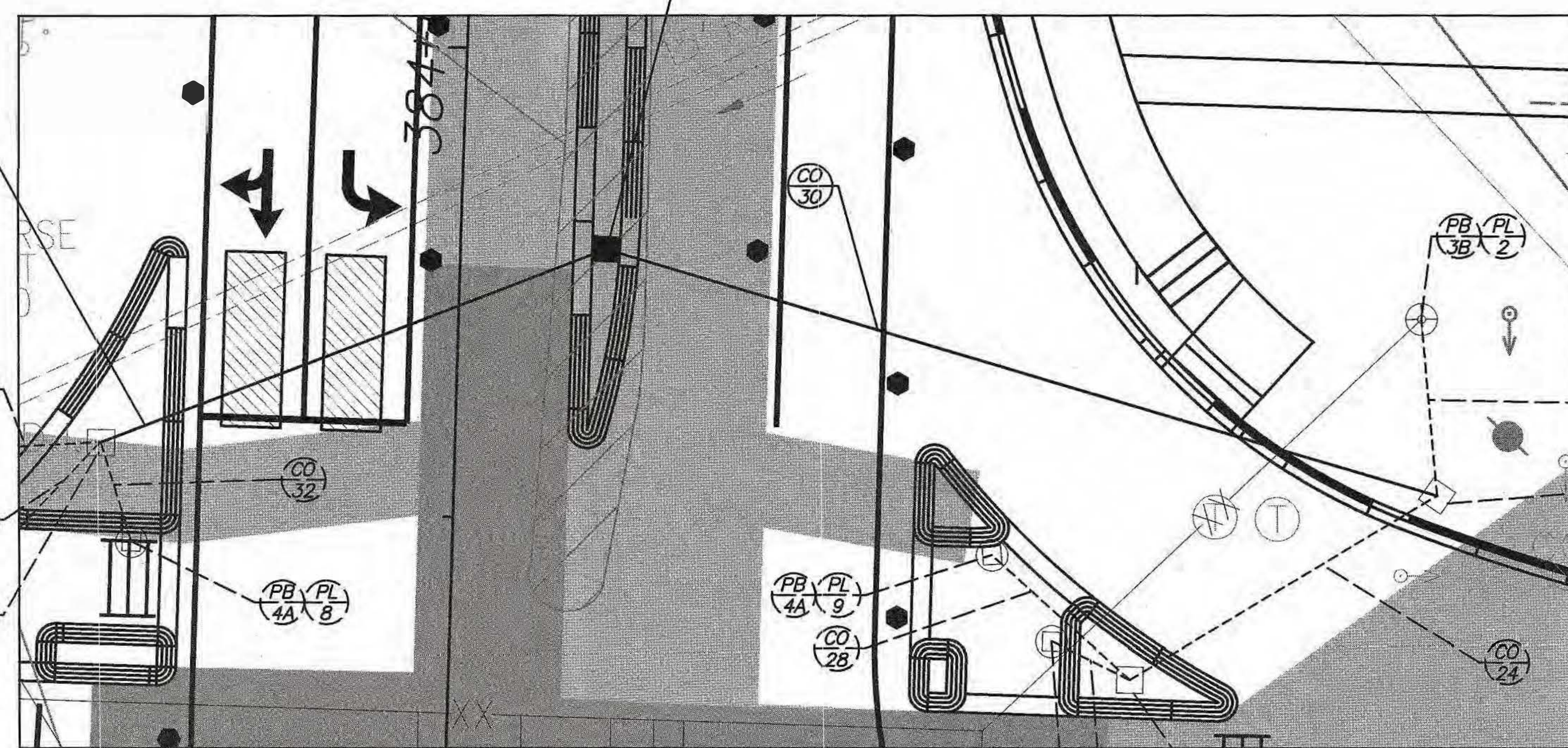
PHASE 2 STAGE 2



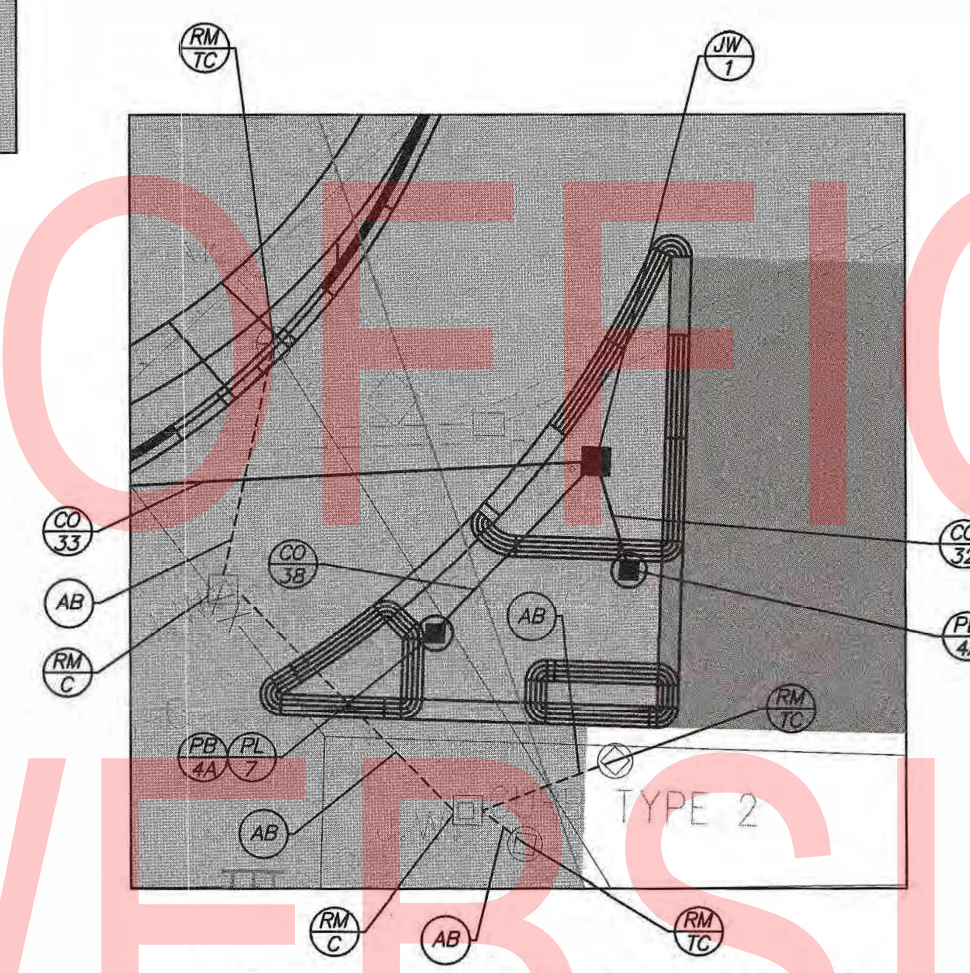
SPAN WIRE SCHEDULE

SPAN	LENGTH	SPAN MOUNT HEIGHT	5% DROP	BULL RING HEIGHT	5% SAG	SPAN LOW POINT	BOTTOM OF LOWEST HEAD
NORTHEAST	64 FT	29.2 FT	3.2 FT	26.0 FT	-	-	-
SOUTHEAST	77 FT	29.9 FT	3.9 FT	26.0 FT	-	-	-
NORTHWEST	51 FT	28.6 FT	2.6 FT	26.0 FT	-	-	-
SOUTHWEST	59 FT	29.0 FT	3.0 FT	26.0 FT	-	-	-
NORTH	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
SOUTH	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
EAST	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
WEST	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT

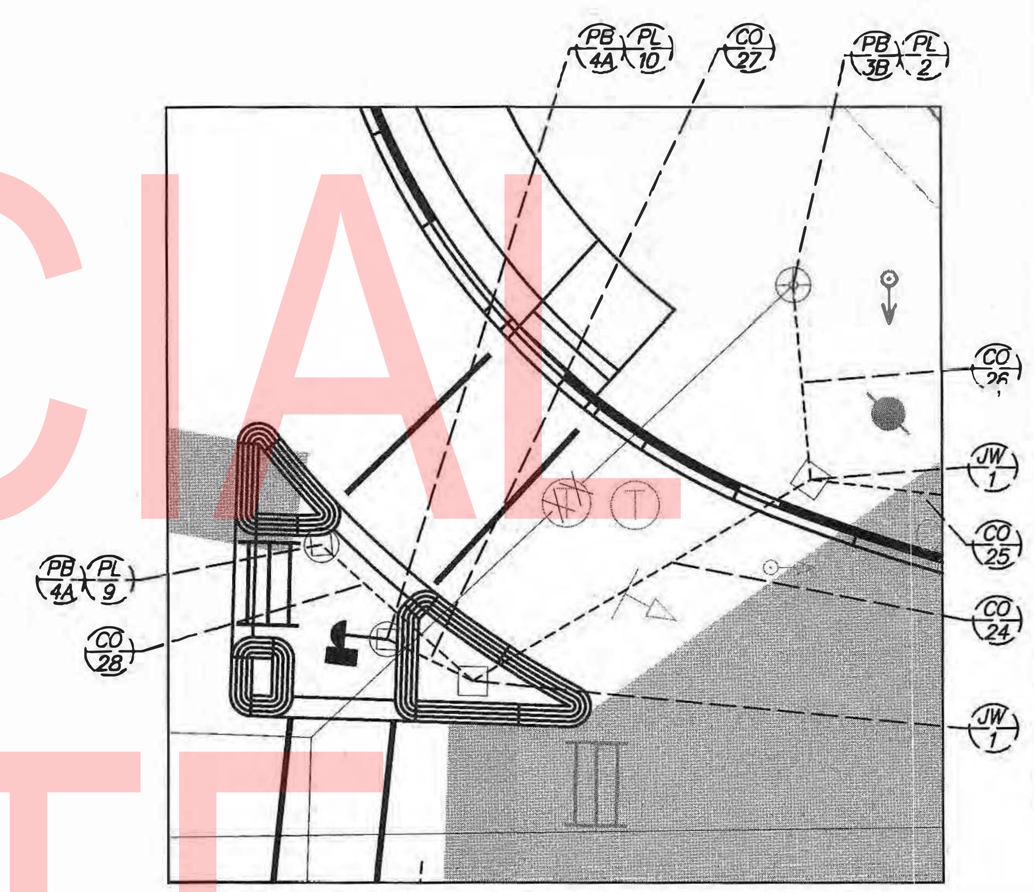
NOTE: FIELD ADJUSTMENTS AS REQUIRED



DETAIL 5 – NORTH SIDE
PHASE 2 STAGE 3
SCALE: 1" = 15'



DETAIL 1 – NORTHWEST CORNER
PHASE 2 STAGE 2
SCALE: 1" = 15'

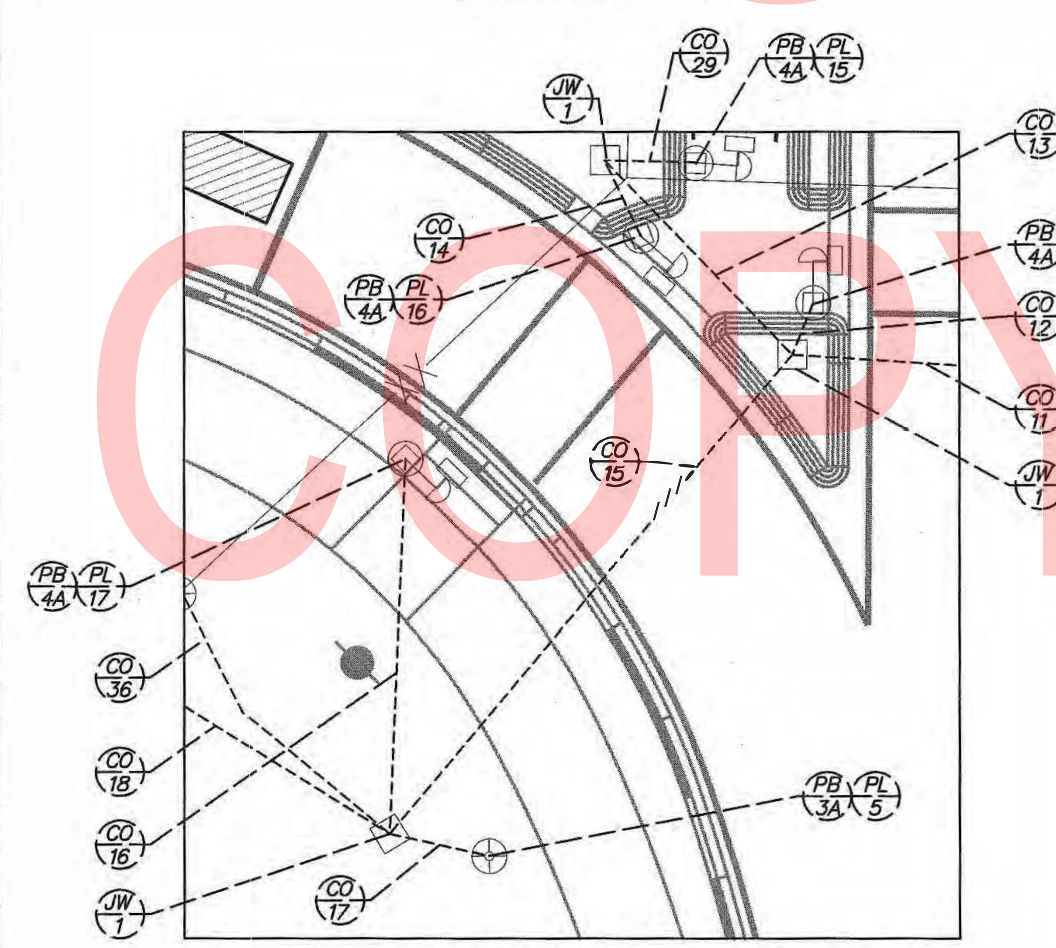


DETAIL 2 – NORTHEAST CORNER
PHASE 2 STAGE 2
SCALE: 1" = 15'

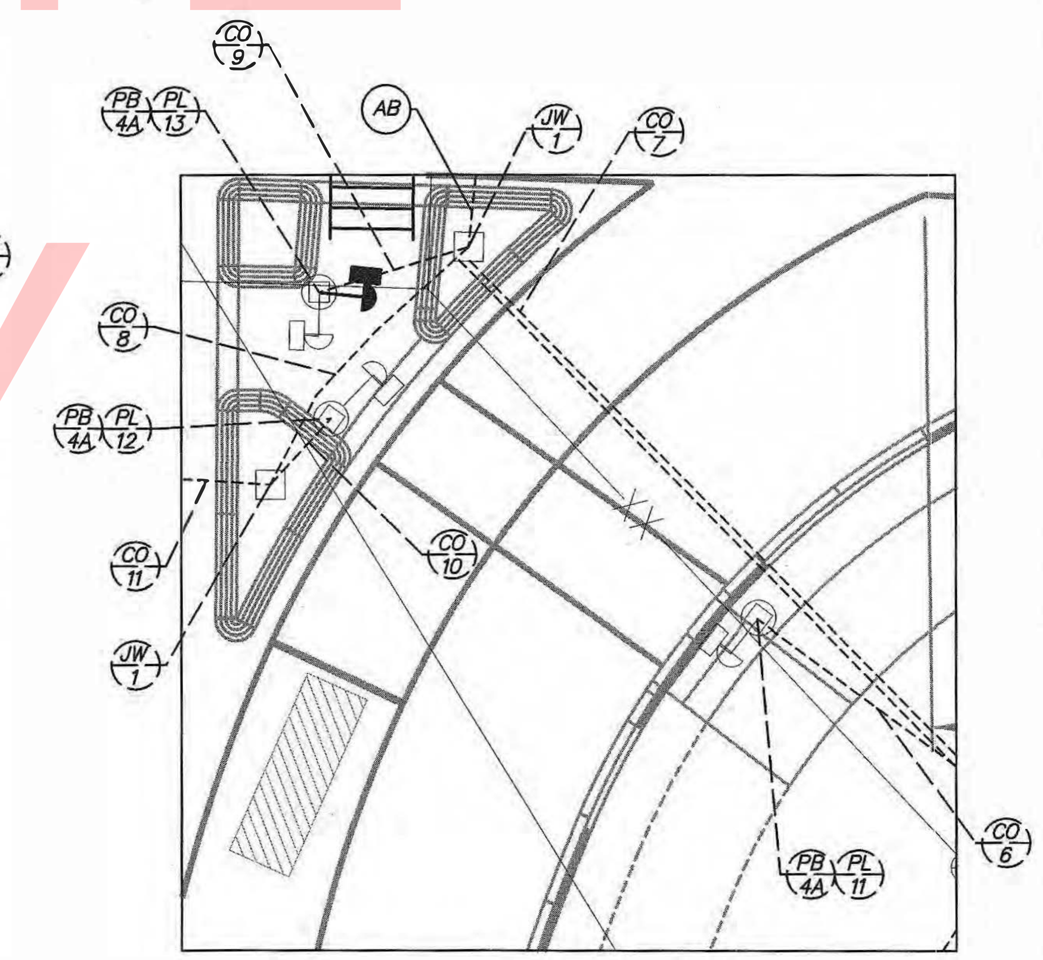
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
*1	1 (GALV. STEEL)	-	2"	20'	EX. [(1)2/#8 U.F. W/GROUND]
*2	1 (GALV. STEEL)	-	2"	15'	EX. [(1)2/#8 U.F. W/GROUND]
*3	4	-	4"	15'	EX. [GRIDSMART CAT5E CABLE, (2)16/#14, (2)9/#14, (9)5/#14, (4)4/#18, (4)1/#6 GRD], REMOVE [(1)5/#14]
*4	1	-	3"	10'	NEW [(1)5/#14], EX. [GRIDSMART CAT5E CABLES, (4)4/#18, (2)16/#14, (1)1/#6 GRD]
*5	1	-	3"	25'	EX. [GRIDSMART CAT5E CABLE, (1)9/#14, (1)1/#6 GRD]
*6	1	-	3"	35'	EX. [(1)5/#14, (1)1/#6 GRD]
*7	2	-	4"	80'	EX. [(1)9/#14, (7)5/#14, (1)1/#6 GRD]
*8	1	-	4"	35'	EX. [(1)9/#14, (5)5/#14, (1)1/#6 GRD]
*9	1	-	3"	10'	NEW [(1)5/#14], EX. [(1)5/#14, (1)1/#6 GRD]
*10	1	-	3"	5'	EX. [(1)5/#14, (1)1/#6 GRD]
*11	1 (SCHD 80 HDPE)	-	4"	90'	EX. [(1)9/#14, (4)5/#14, (1)1/#6 GRD]
*12	1	-	3"	10'	EX. [(1)5/#14, (1)1/#6 GRD]
*13	1	-	4"	30'	EX. [(2)5/#14, (1)1/#6 GRD]
*14	1	-	3"	10'	EX. [(1)5/#14, (1)1/#6 GRD]
*15	1 (SCHD 80 HDPE)	-	4"	65'	EX. [(1)9/#14, (1)5/#14, (1)1/#6 GRD]
*16	1	-	3"	40'	EX. [(1)5/#14, (1)1/#6 GRD]
*17	1	-	3"	10'	EX. [(1)9/#14, (1)1/#6 GRD]
*18	1	-	4"	80'	EMPTY
*19	1	-	4"	200'	EMPTY
*24	1	-	4"	40'	NEW [(1)5/#14, (1)1/#6 GRD]
*25	1	-	4"	170'	EMPTY
*26	1	-	3"	20'	NEW [(1)5/#14, (1)1/#6 GRD]
*27	1	-	3"	10'	NEW [(1)5/#14, (1)1/#6 GRD]
*28	1	-	3"	20'	EMPTY
*29	1	-	3"	10'	EX. [(1)5/#14, (1)1/#6 GRD]
30	1 (SCHD 80 HDPE)	B	4"	95'	EMPTY
31	1 (SCHD 80 HDPE)	B	4"	60'	EMPTY
32	1	O	3"	15'	EMPTY
33	1	O	4"	65'	EMPTY
34	1	T	4"	40'	EMPTY
*36	1	-	3"	35'	EMPTY
37	1	T	3"	20'	EMPTY
38	1	O	3"	25'	EMPTY

NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE

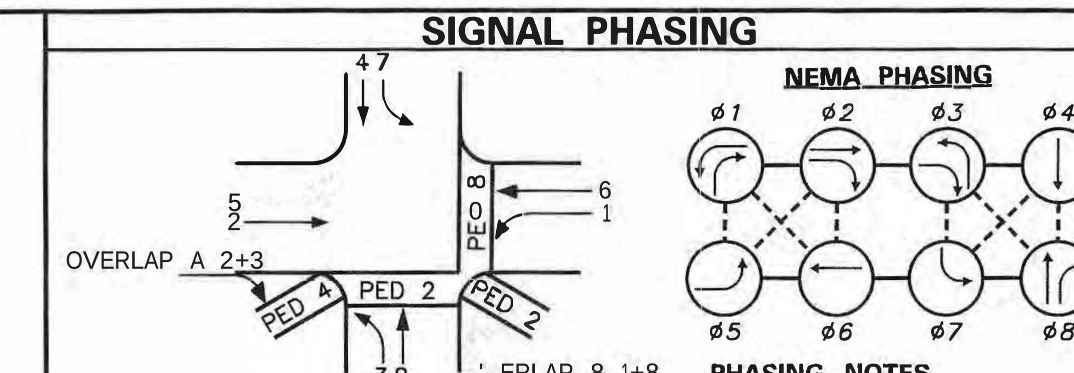


DETAIL 3 – SOUTHWEST CORNER
PHASE 2 STAGE 2
SCALE: 1" = 15'



DETAIL 4 – SOUTHEAST CORNER
PHASE 2 STAGE 2
SCALE: 1" = 15'

SIGNAL PHASING



PHASING NOTES
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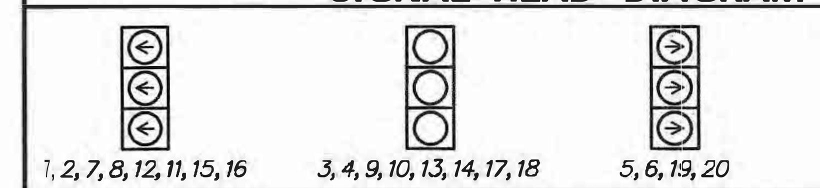
SIGNAL HEAD DIAGRAM



LEGEND

AB — ABANDON	OH — EXISTING OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA/X — EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	PROPOSED OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
CA/X — PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB/X — EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO/# — EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)	PL/X — EXISTING POLE IDENTIFIER (# OF POLE)
JW/X — EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL/X — PROPOSED POLE IDENTIFIER (# OF POLE)
JW/X — PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM/C — REMOVE BY CONTRACTOR
MA/XX — EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	REMOVE BY OTHERS
MA/XX — PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM/TC — REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA	CCTV	
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

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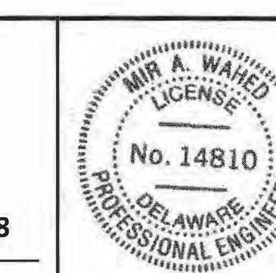
PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Wahed — 12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.



SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18
DATE

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REPLACED PAGES 1 THRU 432 — 11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N153	SIGNAL PLAN SR 279/896 (ELKTON ROAD) @ SR 4/896 (CHRISTINA PKWY)	SECTION JMT
COUNTY	NEW CASTLE	DESIGNED BY: JDS (JMT)	CHECKED BY: MAW (JMT)		SHEET NO. 423

ADDITIONAL GENERAL SIGNAL NOTES

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4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (50:1 OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. READJUST VIDEO DETECTION ZONES AS NECESSARY.

7. INSTALL LOOP DETECTORS AS PER THE ULTIMATE SIGNAL PLAN. ONCE THE LOOP DETECTORS ARE OPERATIONAL REMOVE THE VIDEO DETECTION CAMERA, WIRES, AND TEMPORARY LUMINAIRE ARM.

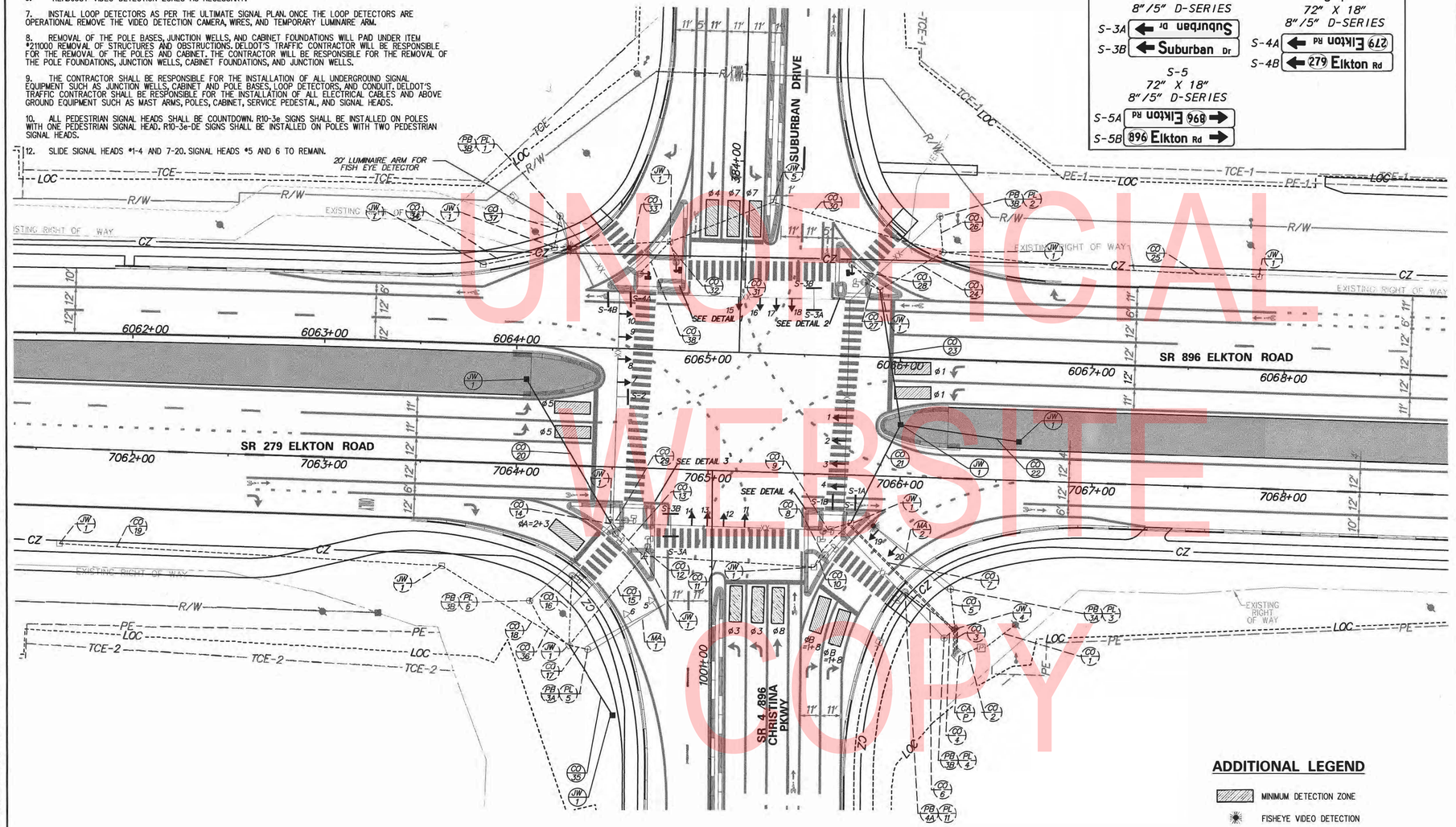
8. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

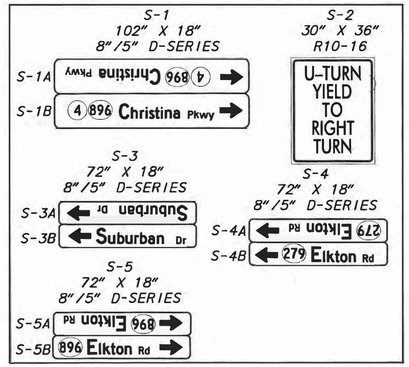
10. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

12. SLIDE SIGNAL HEADS #1-4 AND 7-20. SIGNAL HEADS #5 AND 6 TO REMAIN.

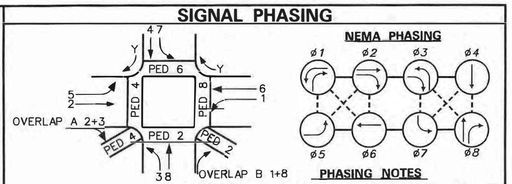
PHASE 3



OVERHEAD SIGN DETAILS



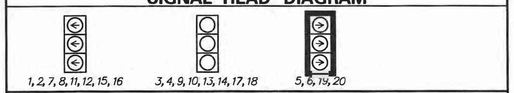
SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH *	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

ADDITIONAL LEGEND

MINIMUM DETECTION ZONE

FISHEYE VIDEO DETECTION

MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
#1	45' MAST ARM	2 - 3 SECTION	0 SF
#2	50' MAST ARM	2 - 3 SECTION	0 SF

* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE

GENERAL SIGNAL NOTES

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2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked

MIR A. WAHED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER

12/17/2018
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER

12/19/18
DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE
0 30 60 90
FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N153
COUNTY	NEW CASTLE	DESIGNED BY:	JDS (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279/896 (ELKTON ROAD)
@ SR 4/896 (CHRISTINA PKWY)

SECTION: JMT
SHEET NO.: 424

UNOFFICIAL WEBSITE COPY

PLOTTED BY: JDSMITH DATE: 12/17/2019
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SIG_ROUTE 4_PRINT FILES\DGN [SHEET: SG37]

SPAN WIRE SCHEDULE

SPAN	LENGTH	SPAN MOUNT HEIGHT	5% DROP	BULL RING HEIGHT	5% SAG	SPAN LOW POINT	BOTTOM OF LOWEST HEAD
NORTHEAST	64 FT	29.2 FT	3.2 FT	26.0 FT	-	-	-
SOUTHEAST	77 FT	29.9 FT	3.9 FT	26.0 FT	-	-	-
NORTHWEST	51 FT	28.6 FT	2.6 FT	26.0 FT	-	-	-
SOUTHWEST	59 FT	29.0 FT	3.0 FT	26.0 FT	-	-	-
NORTH	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
SOUTH	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
EAST	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
WEST	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT

NOTE: FIELD ADJUSTMENTS AS REQUIRED

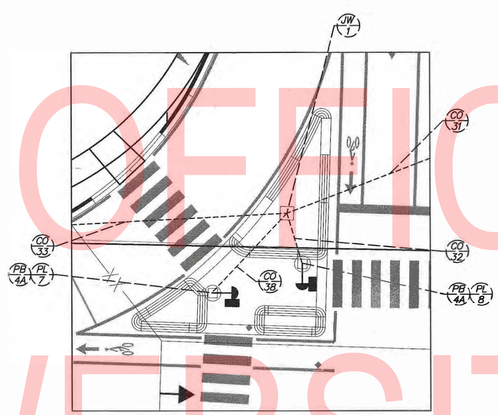
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
#1	1 (GALV. STEEL)	-	2"	20'	EX. [(1)2/#8 U.F. W/GROUND]
#2	1 (GALV. STEEL)	-	2"	15'	EX. [(1)2/#8 U.F. W/GROUND]
#3	4	-	4"	15'	NEW [(4)5/#14], EX. [GRIDSMART CAT5E CABLES, (2)9/#14, (9)5/#14, (2)16/#14, (4)4/#18, (4)1/#6 GRD]
#4	1	-	3"	10'	EX. [GRIDSMART CAT5E CABLES, (4)4/#18, (2)16/#14, (1)1/#6 GRD], REMOVE [(1)5/#14]
#5	1	-	3"	25'	EX. [(1)9/#14, GRIDSMART CAT5E CABLE, (1)1/#6 GRD]
#6	1	-	3"	35'	EX. [(1)5/#14, (1)1/#6 GRD]
#7	2	-	4"	80'	NEW [(4)5/#14], EX. [(1)9/#14, (7)5/#14, (1)1/#6 GRD]
#8	1	-	4"	35'	EX. [(1)9/#14, (4)5/#14, (1)1/#6 GRD]
#9	1	-	3"	10'	EX. [(1)5/#14, (1)1/#6 GRD]
#10	1	-	3"	5'	EX. [(1)5/#14, (1)1/#6 GRD]
#11	1 (SCHD 80 HDPE)	-	4"	90'	EX. [(1)9/#14, (4)5/#14, (1)1/#6 GRD]
#12	1	-	3"	10'	EX. [(1)5/#14, (1)1/#6 GRD]
#13	1	-	4"	30'	EX. [(2)5/#14, (1)1/#6 GRD]
#14	1	-	3"	10'	EX. [(1)5/#14, (1)1/#6 GRD]
#15	1 (SCHD 80 HDPE)	-	4"	65'	EX. [(1)9/#14, (1)5/#14, (1)1/#6 GRD]
#16	1	-	3"	40'	EX. [(1)5/#14, (1)1/#6 GRD]
#17	1	-	3"	10'	EX. [(1)9/#14, (1)1/#6 GRD]
#18	1	-	4"	80'	EMPTY
#19	1	-	4"	200'	EMPTY
20	1 (SCHD 80 HDPE)	B	4"	85'	EMPTY
21	1 (SCHD 80 HDPE)	B	4"	60'	NEW [(4)5/#14, (1)1/#6 GRD]
22	1	T	4"	65'	EMPTY
23	1 (SCHD 80 HDPE)	B	4"	75'	NEW [(4)5/#14, (1)1/#6 GRD]
#24	1	-	4"	40'	NEW [(1)5/#14], EX. [(1)5/#14, (1)1/#6 GRD]
#25	1	-	4"	170'	EMPTY
#26	1	-	3"	20'	REMOVE [(1)5/#14, (1)1/#6 GRD]
#27	1	-	3"	10'	EX. [(1)5/#14, (1)1/#6 GRD]
#28	1	-	4"	20'	NEW [(1)5/#14, (1)1/#6 GRD]
#29	1	-	3"	10'	EX. [(1)5/#14, (1)1/#6 GRD]
#30	1 (SCHD 80 HDPE)	-	4"	95'	NEW [(2)5/#14, (1)1/#6 GRD]
#31	1 (SCHD 80 HDPE)	-	4"	60'	NEW [(2)5/#14, (1)1/#6 GRD]
#32	1	-	3"	15'	NEW [(1)5/#14, (1)1/#6 GRD]
#33	1	-	4"	65'	EMPTY
#34	1	-	4"	40'	EMPTY
35	1	T	4"	45'	EMPTY
#36	1	-	3"	35'	EMPTY
#37	1	-	3"	20'	EMPTY
#38	1	-	3"	25'	NEW [(1)5/#14, (1)1/#6 GRD]

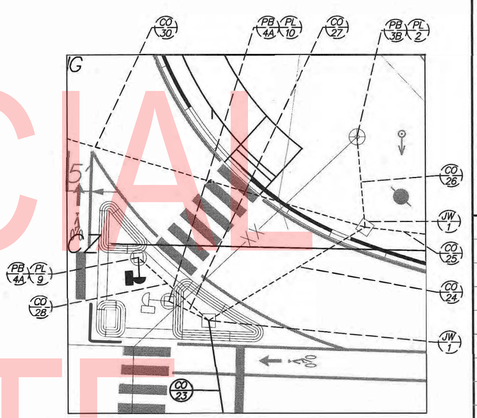
NOTE: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.

* EXISTING OR CONSTRUCTED DURING PREVIOUS PHASE
B=BORE, T=TRENCH, O=OPEN CUT

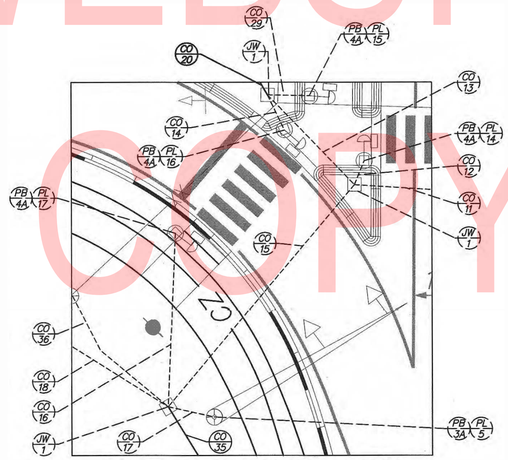
PHASE 3



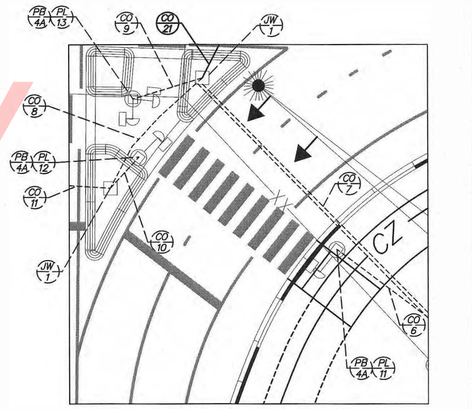
DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'



DETAIL 2 – NORTHEAST CORNER
SCALE: 1" = 15'

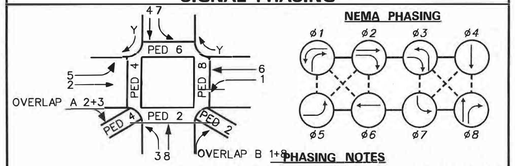


DETAIL 3 – SOUTHWEST CORNER
SCALE: 1" = 15'



DETAIL 4 – SOUTHEAST CORNER
SCALE: 1" = 15'

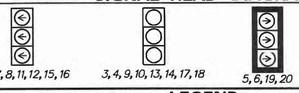
SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM



1, 2, 7, 8, 11, 12, 15, 16 — 3, 4, 9, 10, 13, 14, 17, 18 — 5, 6, 19, 20

LEGEND

AB	ABANDON	OH *	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH *	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CO X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB Y	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO *	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL Y	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1	⬚	□
LOOP DETECTOR, TYPE 2	⬚	▭
LUMINAIRE	—○	—●
MAST ARM	▷	▶
MICROWAVE DETECTION	◁	◀
OPTICOM RECEIVER	—○	—●
OVERHEAD SIGNING		⊣
PEDESTRIAN POLE/BASE	◎	◉
PEDESTRIAN PUSHBUTTON	—D	—▶
PEDESTRIAN SIGNAL HEAD	▱	▰
RIGHT-OF-WAY	———	—R/W—
SERVICE PEDESTAL		P
SIGNAL CABINET	▱	▰
SIGNAL HEAD	—▷	—▶
SIGNAL POLE/BASE	⊗	⊙
CCTV CAMERA	CCTV	■
SPAN WIRE	—XX—	—◇—
UTILITY POLE	◥	◣
VIDEO DETECTION	◀	◀

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD,
MD LINE TO
CASHO MILL ROAD

CONTRACT	PERMIT NO.	N153	SIGNAL PLAN	SECTION
T201504401	DESIGNED BY:	JDS (JMT)	SR 279/896 (ELKTON ROAD)	JMT
COUNTY	CHECKED BY:	MAW (JMT)	@ SR 4896 (CHRISTINA PKWY)	SHEET NO. 425
NEW CASTLE				

JMT PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDEV\40659_007_ELKTON_RD_CASHO_MILL\CADD\SG_ROUTE 4_PRINT FILES\LOGN [SHEET: SG38_1]

UNOFFICIAL WEBSITE COPY

ADDITIONAL GENERAL SIGNAL NOTES

3. POLE BASES, CABINET BASE AND CONDUIT JUNCTION WELLS TO BE REMOVED IN ACCORDANCE WITH SECTION 211 OF THE STANDARD SPECIFICATIONS OR AS DIRECTED BY ENGINEER. EXISTING CONDUIT IS TO BE ABANDONED.

4. ALL GALVANIZED CONDUIT (GRC) SHALL BE REAMED AND THREADED. ALL GRC SHALL BE THREADED TOGETHER WITH APPROVED COUPLINGS. SET SCREW, BOLTED, AND COMPRESSION FITTING ARE NOT ACCEPTABLE.

5. POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHOULD BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (SOFT OR FLATTER) LANDING AREA OF THE PEDESTRIAN CONNECTION OR SIDEWALK IN ACCORDANCE WITH ADA BEST PRACTICES. THE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 15 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE LEVEL LANDING AREA/SIDEWALK, BUT SHOULD BE INSTALLED AT A HEIGHT OF 42 INCHES TO 48 INCHES. THE PEDESTRIAN PUSHBUTTON SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE DOES NOT EXCEED 10 INCHES FROM THE LEVEL LANDING AREA TO THE FACE OF THE PUSH BUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING, INCLUDING BRACKETS, NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE THE GROUND.

6. THE COMPANY WHICH OWNS THE RED LIGHT CAMERA EQUIPMENT WILL BE RESPONSIBLE TO REINSTALL RED LIGHT RUNNING CAMERA ON THE SOUTHBOUND ELKTON ROAD APPROACH.

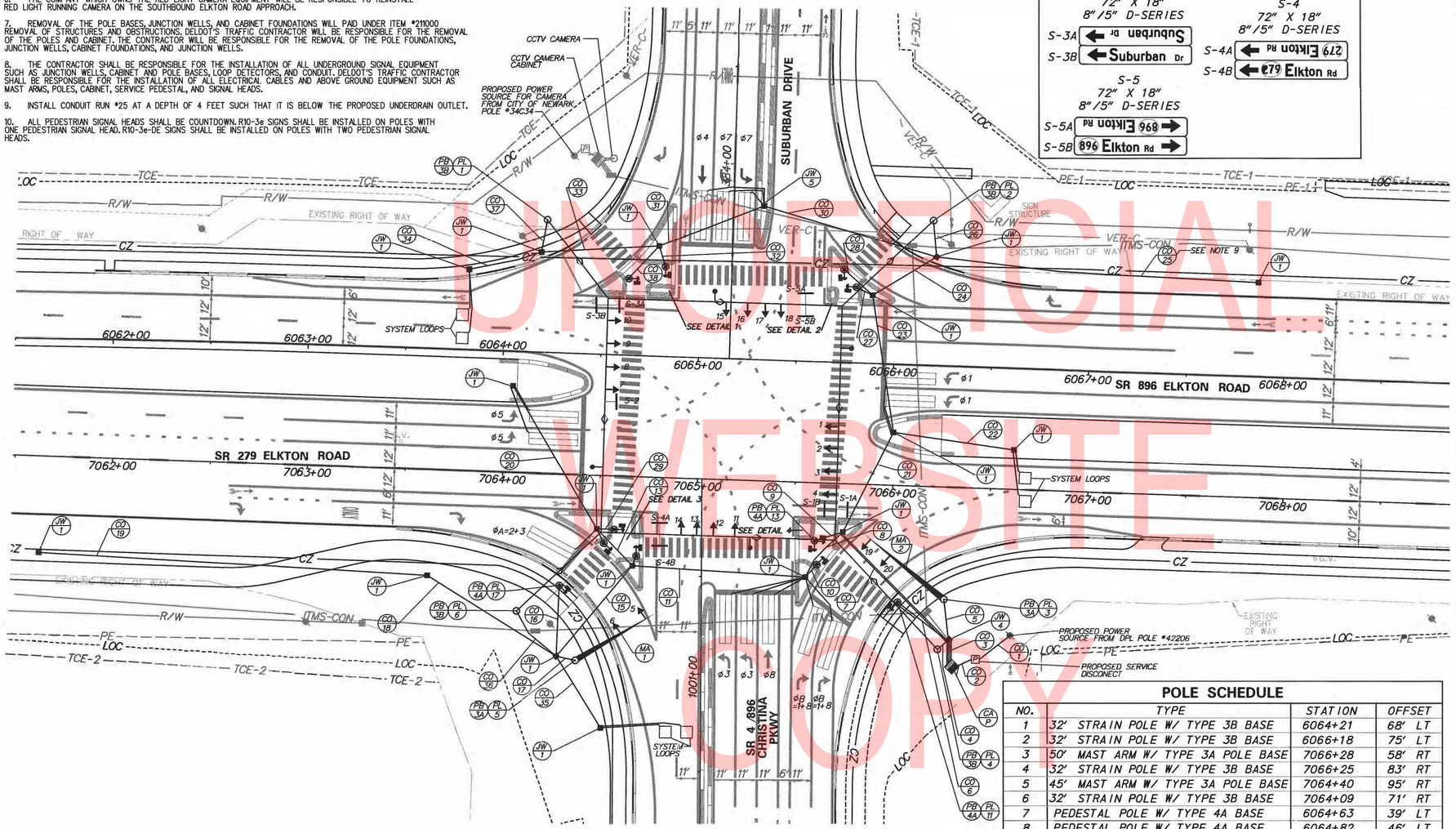
7. REMOVAL OF THE POLE BASES, JUNCTION WELLS, AND CABINET FOUNDATIONS WILL PAID UNDER ITEM *211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS. DELDOT'S TRAFFIC CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLES AND CABINET. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF THE POLE FOUNDATIONS, JUNCTION WELLS, CABINET FOUNDATIONS, AND JUNCTION WELLS.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL UNDERGROUND SIGNAL EQUIPMENT SUCH AS JUNCTION WELLS, CABINET AND POLE BASES, LOOP DETECTORS, AND CONDUIT. DELDOT'S TRAFFIC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL ELECTRICAL CABLES AND ABOVE GROUND EQUIPMENT SUCH AS MAST ARMS, POLES, CABINET, SERVICE PEDESTAL, AND SIGNAL HEADS.

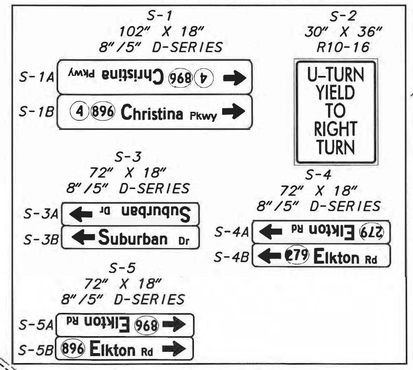
9. INSTALL CONDUIT RUN *25 AT A DEPTH OF 4 FEET SUCH THAT IT IS BELOW THE PROPOSED UNDERDRAIN OUTLET.

10. ALL PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN. R10-3e SIGNS SHALL BE INSTALLED ON POLES WITH ONE PEDESTRIAN SIGNAL HEAD. R10-3e-DE SIGNS SHALL BE INSTALLED ON POLES WITH TWO PEDESTRIAN SIGNAL HEADS.

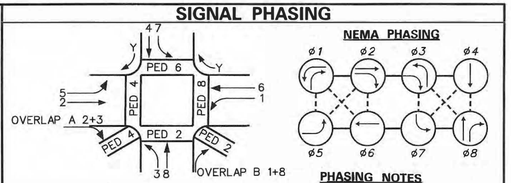
ULTIMATE



OVERHEAD SIGN DETAILS



SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

LEGEND

AB	ABANDON	OH •	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH •	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO •	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	JW	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE		—•—
MAST ARM		▬
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

POLE SCHEDULE

NO.	TYPE	STATION	OFFSET
1	32' STRAIN POLE W/ TYPE 3B BASE	6064+21	68' LT
2	32' STRAIN POLE W/ TYPE 3B BASE	6066+18	75' LT
3	50' MAST ARM W/ TYPE 3A POLE BASE	7066+28	58' RT
4	32' STRAIN POLE W/ TYPE 3B BASE	7066+25	83' RT
5	45' MAST ARM W/ TYPE 3A POLE BASE	7064+40	95' RT
6	32' STRAIN POLE W/ TYPE 3B BASE	7064+09	71' RT
7	PEDESTAL POLE W/ TYPE 4A BASE	6064+63	39' LT
8	PEDESTAL POLE W/ TYPE 4A BASE	6064+82	46' LT
9	PEDESTAL POLE W/ TYPE 4A BASE	6065+73	48' LT
10	PEDESTAL POLE W/ TYPE 4A BASE	6065+80	39' LT
11	PEDESTAL POLE W/ TYPE 4A BASE	7066+04	60' RT
12	PEDESTAL POLE W/ TYPE 4A BASE	7065+62	42' RT
13	PEDESTAL POLE W/ TYPE 4A BASE	7065+61	30' RT
14	PEDESTAL POLE W/ TYPE 4A BASE	7064+70	41' RT
15	PEDESTAL POLE W/ TYPE 4A BASE	7064+58	27' RT
16	PEDESTAL POLE W/ TYPE 4A BASE	7064+53	35' RT
17	PEDESTAL POLE W/ TYPE 4A BASE	7064+31	57' RT

MAST ARM SCHEDULE

NO.	LENGTH	NO. OF SIGNAL HEADS	S.F. OF SIGNAGE
1	45' MAST ARM	2 - 3 SECTION	0 SF
2	50' MAST ARM	2 - 3 SECTION	0 SF

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY, AND/OR THE APPROPRIATE UTILITY PRIOR TO THE BEGINNING OF CONSTRUCTION FOR THE UTILITY MARKOUTS. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.

PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Abe Waked — 12/17/2018 (DATE)

MIR A. WAKED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER (SEAL)

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION.

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 (DATE)

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N153
COUNTY	NEW CASTLE	DESIGNED BY:	JDS (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN SR 279/896 (ELKTON ROAD) @ SR 4896 (CHRISTINA PKWY)

SECTION: JMT
SHEET NO.: 426

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG _ROUTE 4_PRINT FILES\DGN [SHEET: SG39]

UNOFFICIAL WEBSITE COPY

SPAN WIRE SCHEDULE

SPAN	LENGTH	SPAN MOUNT HEIGHT	5% DROP	BULL RING HEIGHT	5% SAG	SPAN LOW POINT	BOTTOM OF LOWEST HEAD
NORTHEAST	64 FT	29.2 FT	3.2 FT	26.0 FT	-	-	-
SOUTHEAST	77 FT	29.9 FT	3.9 FT	26.0 FT	-	-	-
NORTHWEST	51 FT	28.6 FT	2.6 FT	26.0 FT	-	-	-
SOUTHWEST	59 FT	29.0 FT	3.0 FT	26.0 FT	-	-	-
NORTH	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
SOUTH	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
EAST	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT
WEST	120 FT	-	-	26.0 FT	6.0 FT	20.0 FT	16.0 FT

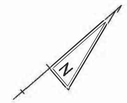
NOTE: FIELD ADJUSTMENTS AS REQUIRED

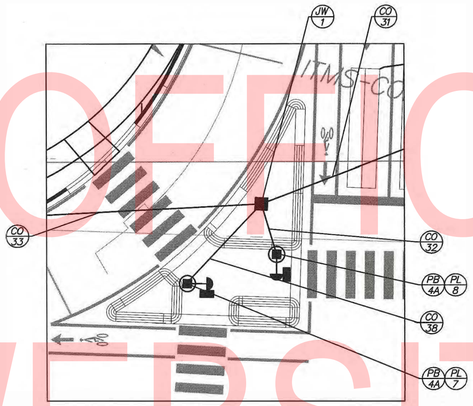
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	B/T/O	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE / WIRE
1	1 (GALV. STEEL)	T	2"	20'	(1)2/#8 U.F. W/GROUND
2	1 (GALV. STEEL)	T	2"	15'	(1)2/#8 U.F. W/GROUND
3	4	T	4"	15'	(19)2/#14,(4)4/#18,(2)16/#14,(2)9/#14, (12)5/#14,(4)1/#6 GRD
4	1	T	3"	10'	(2)16/#14,(4)4/#18,(1)1/#6 GRD
5	1	T	3"	25'	(1)9/#14,(1)1/#6 GRD
6	1	T	3"	35'	(1)5/#14, (1)1/#6 GRD
7	2	O	4"	80'	(19)2/#14,(1)9/#14,(11)5/#14,(1)1/#6 GRD
8	1	O	4"	35'	(10)2/#14,(5)5/#14,(1)9/#14,(1)1/#6 GRD
9	1	T	3"	10'	(2)5/#14,(1)1/#6 GRD
10	1	T	3"	5'	(1)5/#14,(1)1/#6 GRD
11	1 (SCHD 80 HDPE)	B	4"	90'	(5)2/#14,(1)9/#14,(4)5/#14,(1)1/#6 GRD
12	1	O	3"	10'	(1)5/#14,(1)1/#6 GRD
13	1	O	4"	30'	(3)2/#14,(2)5/#14,(1)1/#6 GRD
14	1	O	3"	10'	(1)5/#14,(1)1/#6 GRD
15	1 (SCHD 80 HDPE)	B	4"	65'	(2)2/#14,(1)9/#14, (1)5/#14,(1)1/#6 GRD
16	1	T	3"	40'	(1)5/#14,(1)1/#6 GRD
17	1	T	3"	10'	(1)9/#14,(1)1/#6 GRD
18	1	T	4"	80'	EMPTY
19	1	T	4"	200'	EMPTY
20	1 (SCHD 80 HDPE)	B	4"	85'	(2)2/#14,(1)1/#6 GRD
21	1 (SCHD 80 HDPE)	B	4"	60'	(9)2/#14,(4)5/#14,(1)1/#6 GRD
22	1	T	4"	65'	(2)2/#14,(1)1/#6 GRD
23	1 (SCHD 80 HDPE)	B	4"	75'	(5)2/#14,(4)5/#14,(1)1/#6 GRD
24	1	O	4"	40'	(5)2/#14,(2)5/#14,(1)1/#6 GRD
25	1	T	4"	170'	EMPTY
26	1	T	3"	20'	EMPTY
27	1	T	3"	10'	(1)5/#14,(1)1/#6 GRD
28	1	T	3"	20'	(1)5/#14,(1)1/#6 GRD
29	1	O	3"	10'	(1)5/#14,(1)1/#6 GRD
30	1 (SCHD 80 HDPE)	B	4"	95'	(5)2/#14,(2)5/#14,(1)1/#6 GRD
31	1 (SCHD 80 HDPE)	B	4"	60'	(2)2/#14,(2)5/#14,(1)1/#6 GRD
32	1	O	3"	15'	(1)5/#14,(1)1/#6 GRD
33	1	O	4"	65'	(2)2/#14,(1)1/#6 GRD
34	1	T	4"	40'	(2)2/#14,(1)1/#6 GRD
35	1	T	4"	45'	(2)2/#14,(1)1/#6 GRD
36	1	T	3"	35'	EMPTY
37	1	T	3"	20'	EMPTY
38	1	O	3"	25'	(1)5/#14,(1)1/#6 GRD

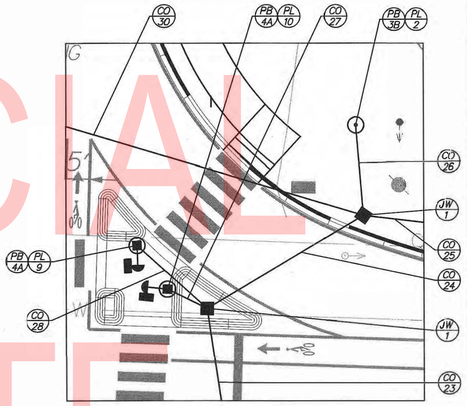
NOTE: ALL CONDUITS SHALL BE SCHEUDLE 80 PVC UNLESS OTHERWISE NOTED
B=BORE, T=TRENCH, O=OPEN CUT

ULTIMATE

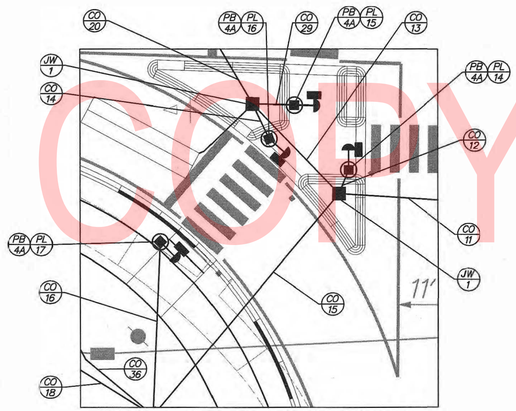




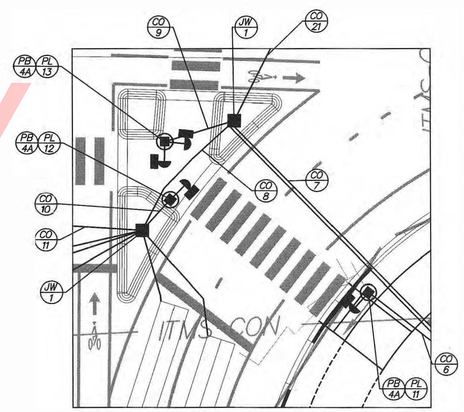
DETAIL 1 – NORTHWEST CORNER
SCALE: 1" = 15'



DETAIL 2 – NORTHEAST CORNER
SCALE: 1" = 15'

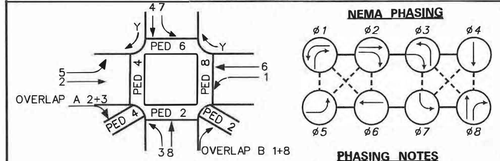


DETAIL 3 – SOUTHWEST CORNER
SCALE: 1" = 15'



DETAIL 4 – SOUTHEAST CORNER
SCALE: 1" = 15'

SIGNAL PHASING



PHASING NOTES

1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.

SIGNAL HEAD DIAGRAM

1,2,7,8,11,12,15,16 — 3,4,9,10,13,14,17,18 — 5,6,19,20

LEGEND

AB	ABANDON	OH (*)	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH (*)	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (*)	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO (*)	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL X	EXISTING POLE IDENTIFIER (* OF POLE)
JW X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM C	REMOVE BY CONTRACTOR
MA XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM O	REMOVE BY OTHERS
MA XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		
LOOP DETECTOR, TYPE 2		
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAHED — LICENSE — No. 14810 — DELAWARE — PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS		
1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

NOT TO SCALE

ELKTON ROAD,
MD LINE TO
CASHO MILL ROAD

CONTRACT	T201504401	PERMIT NO.	N153
COUNTY	NEW CASTLE	DESIGNED BY:	JDS (JMT)
		CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 279/896 (ELKTON ROAD)
@ SR 4/896 (CHRISTINA PKWY)

SECTION: JMT
SHEET NO.: 427

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG_ROUTE 4_PRINT FILES\DGN [SHEET: SG40]

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ADDITIONAL GENERAL SIGNAL NOTES

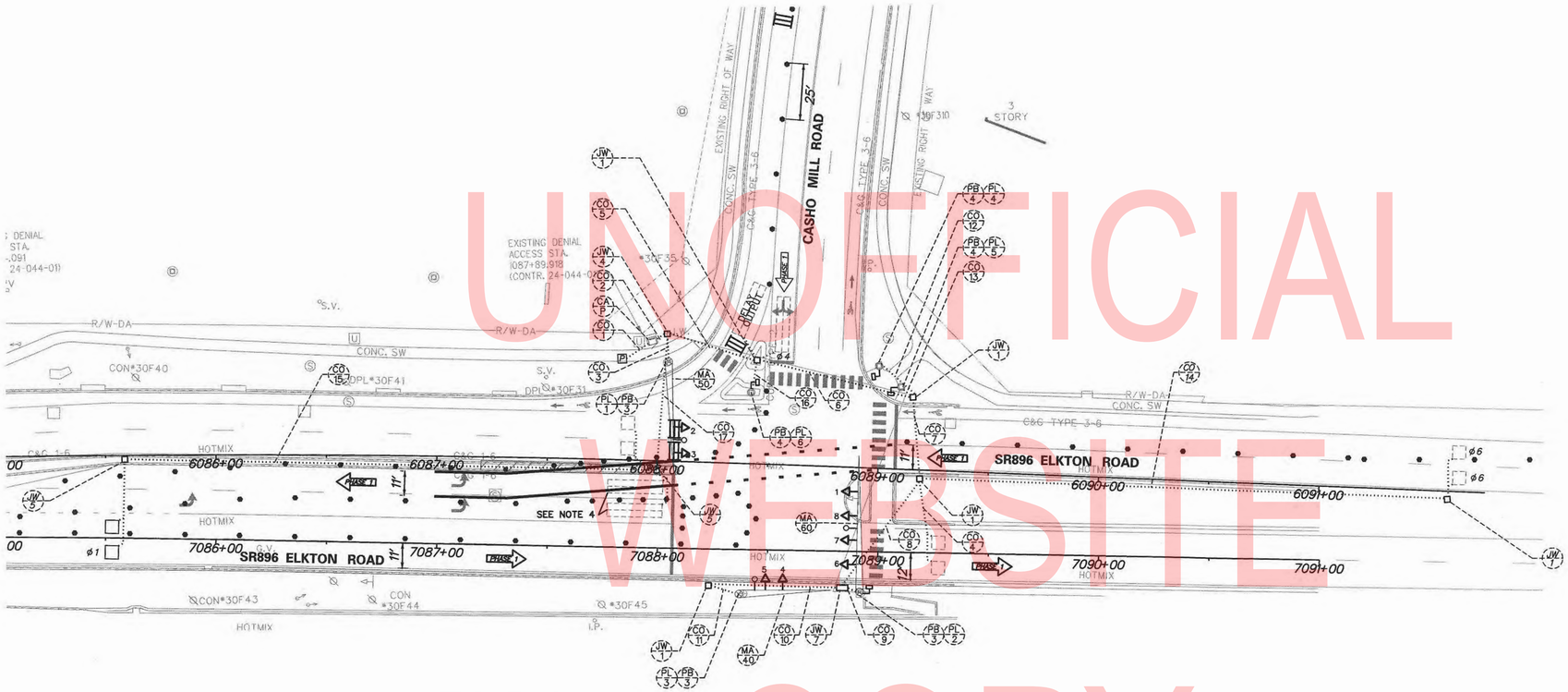
3. ALL SIGNAL POLES ARE 21 FEET, EXCEPT WHERE SHOWN.

4. DEACTIVATE THE EXISTING NORTHBOUND ELKTON ROAD LEFT TURN LOOPS DURING THIS WEEKEND SETUP.

5. BAG SIGNAL HEADS 1 AND 8 DURING THIS WEEKEND SETUP.

6. AFTER THIS WEEKEND WORK IS COMPLETED, SIGNAL HEADS 1 AND 8 SHALL BE UNBAGGED AND THE NORTHBOUND ELKTON ROAD LEFT TURN LOOPS SHALL BE REACTIVATED.

PHASE 1 ADVANCE WEEKEND



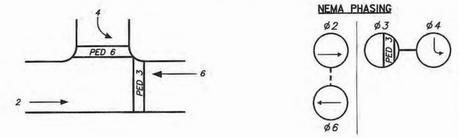
CONDUIT RUN SCHEDULE

CR#	# OF CONDUITS	SIZE	LENGTH	AMOUNT AND TYPE OF CABLE/ WIRE
#1	1	2"	11'	(1)2/#8 U.F. W/GROUND
#2	3	2.5"	5'	(3)16/#14, (10)4/#18, (4)9/#14
#3	1	2.5"	9'	(1)16/#14, (1)4/#18
#4	1	1.5"	20'	(1)4/#18
#5	1	2.5"	39'	(2)16/#14, (4)9/#14, (6)4/#18
#6	1	2.5"	70'	(2)16/#14, (3)9/#14, (4)4/#18
#7	1	2.5"	35'	(2)16/#14, (1)9/#14, (4)4/#18
#8	1	2.5"	60'	(2)16/#14, (1)9/#14, (2)4/#18
#9	1	2.5"	19'	(1)16/#14, (1)9/#14, (1)4/#18
#10	1	2.5"	77'	(1)16/#14, (1)4/#18
#11	1	2.5"	4'	(1)16/#14, (1)4/#18
#12	1	2.5"	24'	(1)9/#14
#13	1	2.5"	3'	(1)9/#14
#14	1	2.5"	240'	(1)4/#18
#15	1	2.5"	241'	(1)4/#18
#16	1	2.5"	15'	(1)9/#14
#17	1	2.5"	62'	(3)4/#18

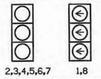
POLE SCHEDULE

NO.	TYPE	STATION	OFFSET
#1	50' MAST ARM POLE W/ TYPE 3 BASE	6088+04	45' LT
#2	60' MAST ARM POLE W/ TYPE 3 BASE	7088+92	18' RT
#3	40' MAST ARM POLE W/ TYPE 3 BASE	7088+37	20' RT
#4	PEDESTRIAN POLE W/ TYPE 4 BASE	6088+99	47' LT
#5	PEDESTRIAN POLE W/ TYPE 4 BASE	6089+09	36' LT
#6	PEDESTRIAN POLE W/ TYPE 4 BASE	6088+42	32' LT

SIGNAL PHASING



SIGNAL HEAD DIAGRAM



LEGEND

AB	ABANDON	OH-*	EXISTING OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA-X	EXISTING CABINET IDENTIFIER (TYPE OF CABINET)	OH-*	PROPOSED OVERHEAD RUN IDENTIFIER (* OF OVERHEAD RUN)
CA-X	PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)	PB-X	EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO-*	EXISTING CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PB-X	PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
CO-*	PROPOSED CONDUIT RUN IDENTIFIER (* OF CONDUIT RUN)	PL-X	EXISTING POLE IDENTIFIER (* OF POLE)
JW-X	EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	PL-X	PROPOSED POLE IDENTIFIER (* OF POLE)
JW-X	PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)	RM-C	REMOVE BY CONTRACTOR
MA-XX	EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)	RM-O	REMOVE BY OTHERS
MA-XX	PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)	RM-TC	REMOVE BY TRAFFIC CONTRACTOR

	EXISTING SYMBOL	PROPOSED SYMBOL
JUNCTION WELL	J.W.	■
LOOP DETECTOR, TYPE 1		□
LOOP DETECTOR, TYPE 2		▭
LUMINAIRE		
MAST ARM		
MICROWAVE DETECTION		
OPTICOM RECEIVER		
OVERHEAD SIGNING		
PEDESTRIAN POLE/BASE		
PEDESTRIAN PUSHBUTTON		
PEDESTRIAN SIGNAL HEAD		
RIGHT-OF-WAY		R/W
SERVICE PEDESTAL		P
SIGNAL CABINET		
SIGNAL HEAD		
SIGNAL POLE/BASE		
CCTV CAMERA		
SPAN WIRE	XX	
UTILITY POLE		
VIDEO DETECTION		

GENERAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT REMOVED FROM A PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.
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PREPARED BY
JOHNSON, MIRMIRAN & THOMPSON

Mir A. Waked — 12/17/2018
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "JMT" SECTION DESIGNATION. — DATE

MIR A. WAKED LICENSE No. 14810 DELAWARE PROFESSIONAL ENGINEER — SEAL

APPROVED FOR INSTALLATION

CHIEF TRAFFIC ENGINEER — 12/19/18 DATE

ADDENDA / REVISIONS

1	REPLACED PAGES 1 THRU 432	11-15-2019 (LB)

SCALE 0 30 60 90 FEET

ELKTON ROAD, MD LINE TO CASHO MILL ROAD

CONTRACT	T201504401
COUNTY	NEW CASTLE
PERMIT NO.	N 639
DESIGNED BY:	JDS (JMT)
CHECKED BY:	MAW (JMT)

SIGNAL PLAN
SR 896 (ELKTON RD) @ CASHO MILL RD

SECTION	JMT
SHEET NO.	428

PLOTTED BY: JDSMITH DATE: 12/17/2018
FILE LOCATION: Q:\NDE\140659_007_ELKTON_RD_CASHO_MILL\CADD\SG _CASHO_PRINT FILES.DGN [SHEET: SG41]

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PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of the existing traffic signal to add pedestrian crossings at Stone Gate Blvd. and MD 279 (Elkton Road) at the intersection of MD 279 & MD 277 in Cecil County. MD 279 is assumed to run in a North/South direction.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA 6-phase, full-actuated mode, with the exclusive left turn phasing for the northbound and southbound MD 279 left turns. The MD 279 through movements will run concurrently. The MD 277 (Fletchwood)/Stone Gate Blvd. though movements will run concurrently.

2. The existing NEMA full-traff-actuated, eight (8) phase controller housed in a NEMA 6 base mounted cabinet is utilized at this location.

III. TYPICAL MESSAGES FOR ACCESSABLE PEDESTRIAN SIGNALS

1. To cross Stone Gate Blvd from Elkton Road when pedestrian locates and presses pushbutton for an extended time, the pushbutton unit message will be "Wait to cross Stone Gate at Elkton, wait." When walk phase begins, the message will be a rapid tick which will last for the duration of the walk phase.

2. To cross Elkton Road from Stone Gate Blvd when pedestrian locates and presses pushbutton for an extended time, the pushbutton unit message will be "Wait to cross Elkton Newark, wait." When walk phase begins, the message will be a rapid tick which will last for the duration of the walk phase.

3. To cross Elkton Road from Fletchwood Road when pedestrian locates and presses pushbutton for an extended time, the pushbutton unit message will be "Wait to cross Elkton Newark, wait." When walk phase begins, the message will be a rapid tick which will last for the duration of the walk phase.

NOTES

1. All pavement markings shall be installed in accordance with Administration standards.
2. The contractor shall be responsible for terminating all signal cable to the appropriate terminals and properly label each cable.
3. All traffic signal foundations shall be installed at the final sidewalk or curb grade for closed sections, highest roadway profile grade for open sections, to meet clearances as specified in the appropriate 800 series Standard Plates. The contractor shall verify ultimate grades prior to the installation of all signal equipment.
4. All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.
5. The contractor shall maintain the continuous operation of all interconnect, vehicular, pedestrian detectors, and lighting devices. If any device is damaged by the contractor, it shall be repaired within 72 hours by the contractor at no cost to the Administration after notification by the Engineer.
6. Any striping beyond the intersection that will be impacted by the construction will be restored during the Advance Phase 2 construction and will follow SHA standards.

CONTACTS

DISTRICT 2

MR. KENNETH FENDER
DISTRICT ENGINEER
410-778-3061

MR. JEFFERY WENTZ
ASSISTANT DISTRICT ENGINEER - TRAFFIC
410-810-3241

MR. ROBERT TUCKER
UTILITY ENGINEER
410-810-3275

MR. BRETT HADZIMICHALIS
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
410-810-3270

MR. DAVE EDWARDS II
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
410-778-3061

OFFICE OF TRAFFIC AND SAFETY

MS. VIVIAN BERRA FIGUEREO
DIVISION CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. ED RODENHIZER
SIGNAL OPERATIONS MANAGER
410-787-7650

VACANT
SIGN OPERATIONS MANAGER
410-787-7678

MR. MICHAEL BOYLE (ACTING)
SECTION CHEIF, INVENTORY AND PROCUREMENT SECTION
410-787-7673

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADIMISTRATION

ITEM NO./ CAT CODE	QUANTITY	DESCRIPTION

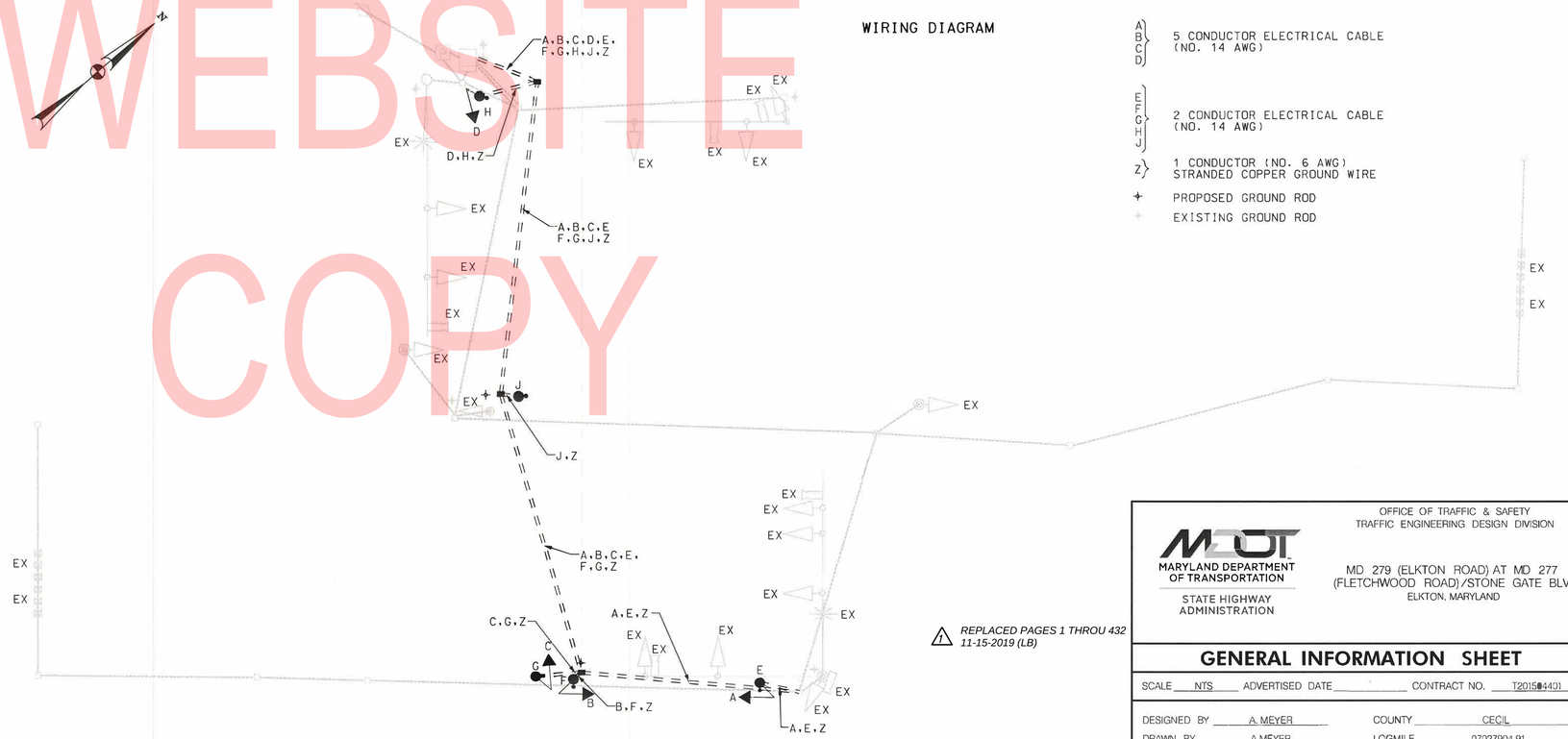
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

ITEM NO./ CAT CODE	UNITS	QUANTITY	DESCRIPTION
203030	CY	3	TEST PIT EXCAVATION
549401	LF	845	5 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS
549403	LF	345	5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKINGS
549405	LF	180	10 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS
549425	SF	15	PAVEMENT MARKING PAINT LEGENDS AND SYMBOLS
549609	LF	485	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
549617	LF	115	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
801004	CY	2	CONCRETE FOR SIGNAL FOUNDATION
802145	EA	1	ADJUST EXISTING HANDHOLE
802501	LF	300	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805118	LF	220	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
805135	LF	125	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
811001	EA	3	FURNISH AND INSTALL ELECTRICAL HANDHOLE
818004	EA	5	10 FOOT BREAKAWAY PEDESTAL POLE
837001	EA	2	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
860285	EA	4	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
860292	EA	1	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
861105	LF	800	ELECTRICAL CABLE 2-CONDUCTOR (NO. 14 AWG)
861107	LF	710	ELECTRICAL CABLE 5-CONDUCTOR (NO. 14 AWG)
865210	EA	5	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
865300	EA	1	2-WIRE APS CENTRAL CONTROL UNIT

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	◂R– ◂Y– ◂G–	◂R– ◂Y– ◂G–	R Y G	R Y G	◂R– ◂Y– ◂G–	◂R– ◂Y– ◂G–	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G				
PHASE 1 AND 5	◂G–	◂G–	R	R	◂G–	◂G–	R	R	R	R	R	R	R	R	DW	DW	DW	DW
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																		
PHASE 1 AND 6	◂G–	◂G–	G	G	◂R–	◂R–	R	R	R	R	R	R	R	R	DW	DW	DW	DW
1 AND 6 CHANGE	◂Y–	◂Y–	G	G	◂R–	◂R–	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 AND 5	◂R–	◂R–	R	R	◂G–	◂G–	G	G	R	R	R	R	R	R	DW	DW	DW	DW
2 AND 5 CHANGE	◂R–	◂R–	R	R	◂Y–	◂Y–	G	G	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 AND 6 ALT	◂R–	◂R–	G	G	◂R–	◂R–	G	G	R	R	R	R	R	R	WK	WK	DW	DW
PED CLEARANCE	◂R–	◂R–	G	G	◂R–	◂R–	G	G	R	R	R	R	R	R	FL/DW	FL/DW	DW	DW
ALT 2 AND 6 CHANGE	◂R–	◂R–	Y	Y	◂R–	◂R–	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 4 AND 8	◂R–	◂R–	R	R	◂R–	◂R–	R	R	G	G	G	G	G	G	DW	DW	DW	DW
4 AND 8 CHANGE	◂R–	◂R–	R	R	◂R–	◂R–	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 4 AND 8 ALT	◂R–	◂R–	R	R	◂R–	◂R–	R	R	G	G	G	G	G	G	DW	DW	WK	WK
PED CLEARANCE	◂R–	◂R–	R	R	◂R–	◂R–	R	R	G	G	G	G	G	G	DW	DW	FL/DW	FL/DW
ALT 4 AND 8 CHANGE	◂R–	◂R–	R	R	◂R–	◂R–	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK

WIRING DIAGRAM



KEY

A, B, C, D	5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
E, F, G, H, J	2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
Z	1 CONDUCTOR (NO. 6 AWG) STRANDED COPPER GROUND WIRE
✦	PROPOSED GROUND ROD
✦	EXISTING GROUND ROD

⚠ *REPLACED PAGES 1 THROU 432 11-15-2019 (LB)*

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 279 (ELKTON ROAD) AT MD 277 (FLETCHWOOD ROAD)/STONE GATE BLVD
ELKTON, MARYLAND

GENERAL INFORMATION SHEET

SCALE NTS ADVERTISED DATE _____ CONTRACT NO. T201504401

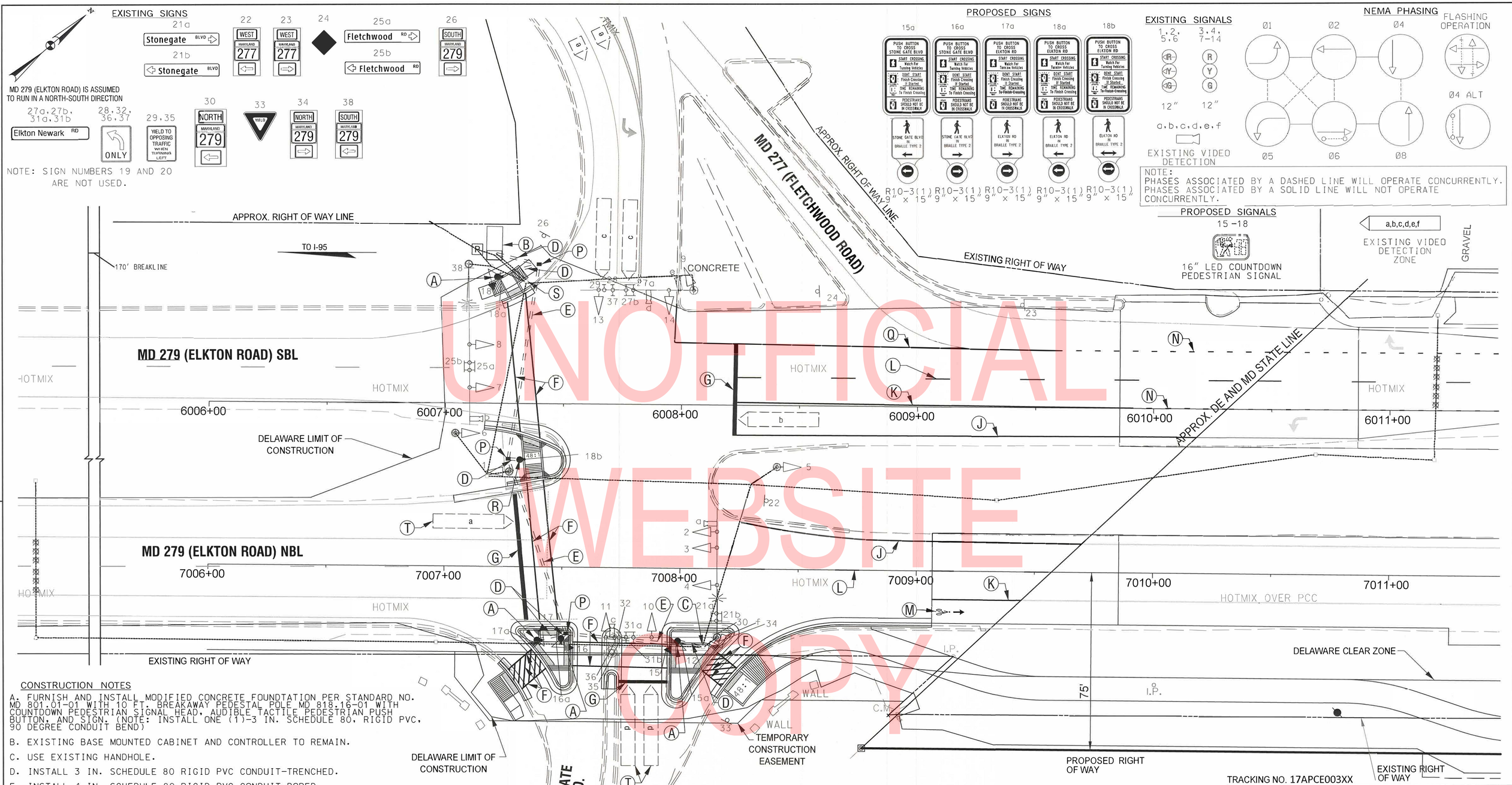
DESIGNED BY A. MEYER
DRAWN BY A.MEYER
CHECKED BY M. WAHED
MDE/PRD SEE TITLE SHEET

COUNTY CECIL
LOGMILE 07027904.91
TIMS NO. N976
TOD NO. _____

TS NO. 1514 I | DRAWING pSG-N002 OF N004 | SHEET NO. 429 OF 432

UNOFFICIAL WEBSITE COPY

PLOTTED: Thursday, November 15, 2018 AT 08:16 AM



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CONSTRUCTION NOTES

A. FURNISH AND INSTALL MODIFIED CONCRETE FOUNDTATION PER STANDARD NO. MD 801.01-01 WITH 10 FT. BREAKAWAY PEDESTAL POLE MD 818.16-01 WITH COUNTDOWN PEDESTRIAN SIGNAL HEAD, AUDIBLE TACTILE PEDESTRIAN PUSH BUTTON, AND SIGN. (NOTE: INSTALL ONE (1)-3 IN. SCHEDULE 80, RIGID PVC, 90 DEGREE CONDUIT BEND)

B. EXISTING BASE MOUNTED CABINET AND CONTROLLER TO REMAIN.

C. USE EXISTING HANDHOLE.

D. INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED.

E. INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT-BORED.

F. INSTALL 12 IN. HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING FOR CROSSWALK.

G. INSTALL 24 IN. HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING FOR STOP LINE.

J. INSTALL 5 IN. SOLID YELLOW PERMANENT THERMOPLASTIC PAVEMENT MARKING.

K. INSTALL 5 IN. SOLID WHITE PERMANENT THERMOPLASTIC PAVEMENT MARKING.

L. INSTALL 5 IN. BROKEN WHITE 10'-30' PERMANENT THERMOPLASTIC PAVAMENT MARKING.

M. INSTALL WHITE EPOXY LEGEND, BICYCLE WITH RIDER AND STRAIGHT ARROW PAVEMENT MARKING.

N. INSTALL 5 IN. WHITE 3'-9' SKIP PERMANENT THERMOPLASTIC PAVEMENT MARKING.

P. FURNISH AND INSTALL ELECTRICAL HANDHOLE.

Q. INSTALL 10 IN. SOLID WHITE PERMANENT THERMOPLASTIC PAVAMENT MARKING.

CONSTRUCTION NOTES

R. FURNISH AND INSTALL MODIFIED CONCRETE FOUNDATION PER MD STANDARD NO. 801.01-01 WITH 6 FT. BREAKAWAY PEDESTAL POLE PER MD STANDARD NO. 818.16-01 WITH AUDIBLE TACTILE PEDESTRIAN PUSHBUTTON, AND SIGN. (NOTE: INSTALL ONE (1) -3 IN. SCHEDULE 80, RIGID PVC, 90 DEGREE CONDUIT BEND)

S. ADJUST THE EXISTING HAND HOLE, FRAME, AND COVER.

T. CONTRACTOR SHALL COORDINATE WITH SHA TO RE-AIM EXISTING VIDEO DETECTION CAMERA AS NECESSARY.

GEOMETRIC LEGEND
EXISTING
PROPOSED

UTILITY LEGEND
SD STORM DRAIN
G GAS MAIN
W WATER MAIN
S SEWER MAIN
E ELECTRIC CABLES
E AERIAL CABLES
T TELEPHONE CABLES
F FIBER-OPTIC

REPLACED PAGES 1 THROU 432 11-15-2019 (LB)

PROFESSIONAL CERTIFICATION

"I hearby certify that theses documents were prepared or approved by me, and that I am a duly licenced professional engineer under the approved laws of the State of Maryland."

License No. Expiration Date

JMT

APPROVALS

TEAM LEADER
ASST. DIV. CHIEF
DIVISION CHIEF
OFFICE DIRECTOR

ORIGINAL ON FILE

REVISIONS

J INSTALL APS#PS & ADA TIMS NO. N976 10-2018
SHA NO. BW996M821 JMT MV RDB CJW

H ADDITION OF PEDESTRIAN FACILITIES. TIMS NO. L635 01-2013
SHA NO. XX6615185 SWA XXX DGD RDB MLP CJW

G DETECTION UPGRADE 09-02-2009
SHA NO. XX3565168 MF DD RDB RDB CDS TH

TRACKING NO. 17APCE003XX

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 279 (ELKTON ROAD) AT MD 277 (FLETCHWOOD ROAD)/STONE GATE BLVD
ELKTON, MARYLAND

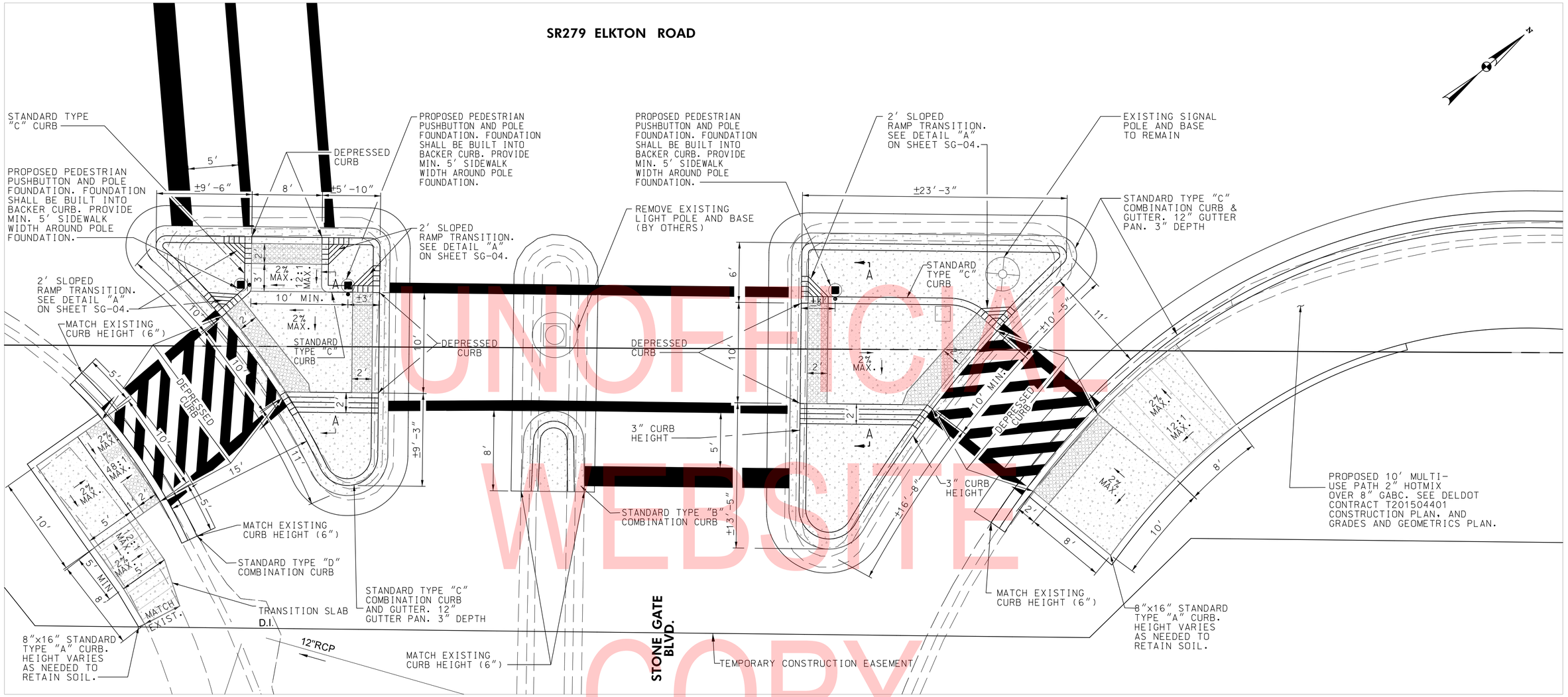
TRAFFIC SIGNAL PLAN

SCALE 1" =20' ADVERTISED DATE AUG. 1987 CONTRACT NO. CE-690-501-277

DESIGNED BY JCB COUNTY CECIL
DRAWN BY SHRKHL LOGMILE 07027904.91
CHECKED BY BDB TIMS NO.
MDE/PRD TOD NO.

TS NO. 1541 I DRAWING SG – P001 OF P004 SHEET NO. 430 OF 432

PLOTTED: Thursday, November 15, 2018 AT 08:19 AM



UNOFFICIAL WEBSITE COPY

STANDARD TYPE C CURB ANY HEIGHT OR DEPTH (STANDARD) MD 620.02)	
LOCATION	QUANTITY (LF)
STONE GATE W ISLAND	20
STONE GATE E ISLAND	21

STANDARD TYPE A CURB ANY HEIGHT OR DEPTH (STANDARD) MD 620.02)	
LOCATION	QUANTITY (LF)
STONE GATE W SIDEWALK	30
STONE GATE E SIDEWALK	47

STANDARD TYPE A,B,C OR D COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH (STANDARD) MD 620.02)	
LOCATION	QUANTITY (LF)
STONE GATE W SIDEWALK	20
STONE GATE W ISLAND	87
STONE GATE MEDIAN ISLAND	20
STONE GATE E ISLAND	102
STONE GATE E SIDEWALK	104

DETECTABLE WARNING SURFACE (STANDARD MD 655.40)	
LOCATION	QUANTITY (SF)
STONE GATE W SIDEWALK	20
STONE GATE W ISLAND	57
STONE GATE E ISLAND	44
STONE GATE E SIDEWALK	20

5 INCH CONCRETE SIDEWALK	
LOCATION	QUANTITY (SF)
STONE GATE W SIDEWALK	125
STONE GATE W ISLAND	230
STONE GATE MEDIAN ISLAND	17
STONE GATE E ISLAND	340
STONE GATE E SIDEWALK	195

LEGEND

CONCRETE PAVEMENT

DETECTABLE WARNING SURFACE SHA STD. NO. MD-655.40

⚠1 *REPLACED PAGES 1 THROU 432 11-15-2019 (LB)*

5' 0 5' 10'
SCALE: 1"=5'

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 279 (ELKTON ROAD) AT MD 277 (FLETCHWOOD ROAD)/STONE GATE BLVD
ELKTON, MARYLAND

TRAFFIC SIGNAL PLAN

SCALE 1"=5' ADVERTISED DATE _____ CONTRACT NO. T201504401

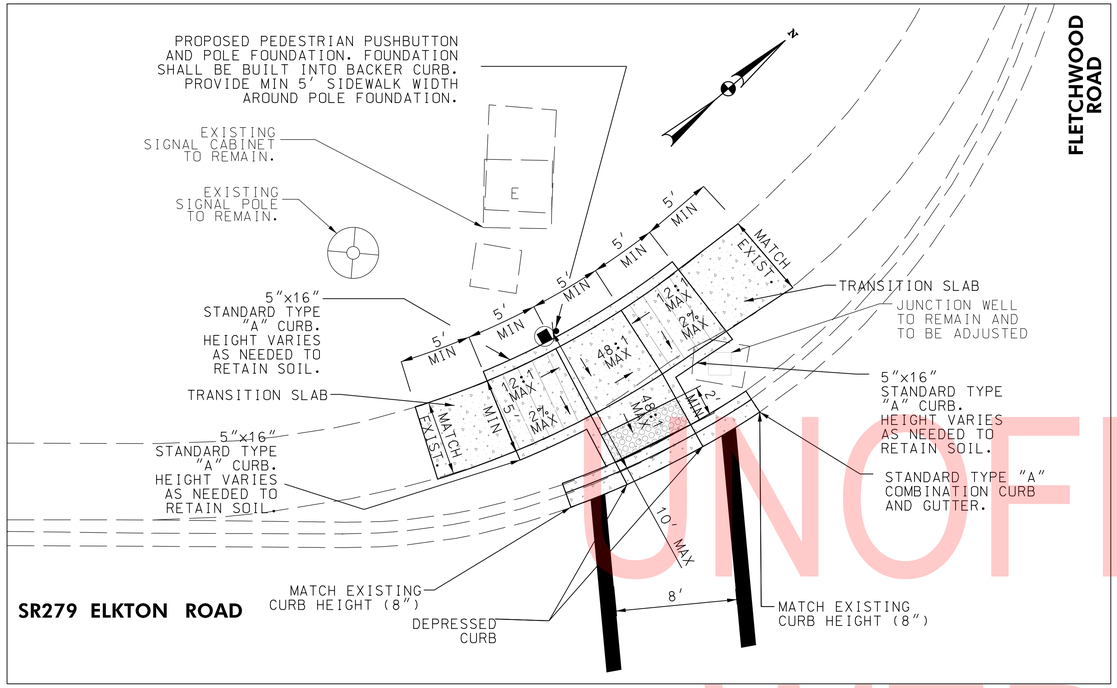
DESIGNED BY L. BERZINA
DRAWN BY D. MONTES
CHECKED BY M. WAHED
MDE/PRD SEE TITLE SHEET

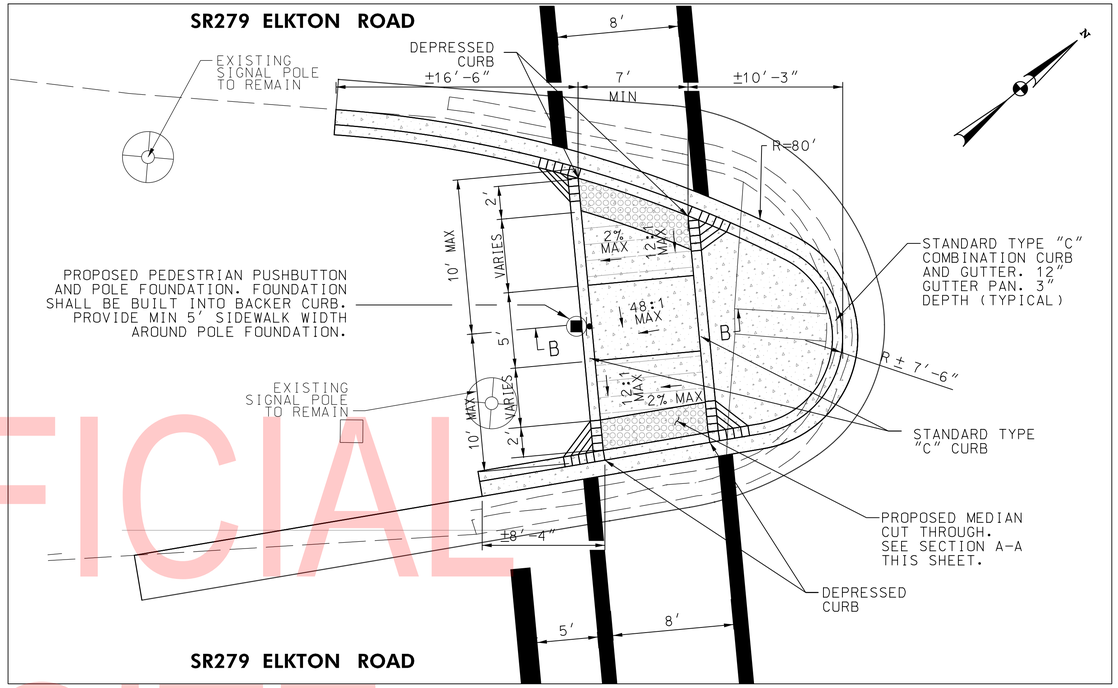
COUNTY CECIL
LOGMILE 07027904.91
TIMS NO. N976
TOD NO. _____

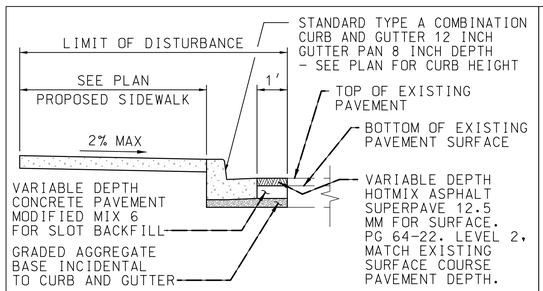
TS NO. 1541 I | DRAWING SG – P003 OF P004 | SHEET NO. 431 OF 432

BY: LBerzina –

PLOTTED: Friday, August 30, 2019 AT 07:45 AM



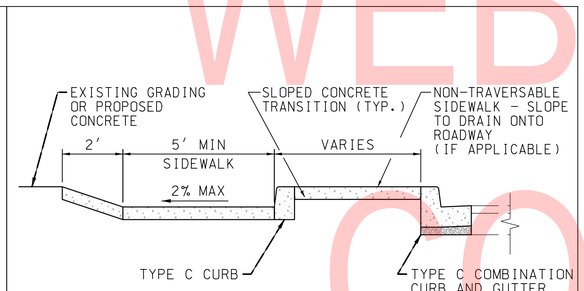




TYPICAL SECTION

NOT TO SCALE

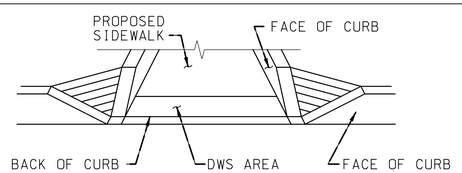
PROPOSED SIDEWALK WITH CURB REPLACEMENT AND SLOT BACKFILL



SECTION A-A

NOT TO SCALE

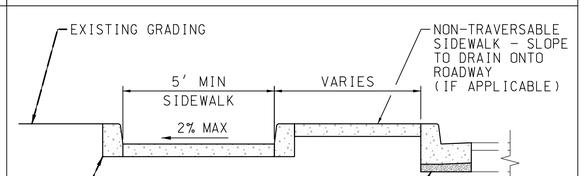
TYPICAL ISLAND CUT THROUGH WITH SLOPED SIDES



DETAIL A

NOT TO SCALE

PROPOSED SIDEWALK RAMP AND SLOPED RAMP TRANSITION SEE PLAN VIEW FOR DIMENSIONS



SECTION B-B

NOT TO SCALE

TYPICAL ISLAND CUT THROUGH WITH SLOPED SIDE

STANDARD TYPE C CURB
ANY HEIGHT OR DEPTH (STANDARD) MD 620.02)

LOCATION	QUANTITY (LF)
ELKTON RD MEDIAN ISLAND	33

STANDARD TYPE A,B,C OR D COMBINATION CURB AND GUTTER
ANY HEIGHT OR DEPTH (STANDARD) MD 620.02)

LOCATION	QUANTITY (LF)
WEST OF FLETCHWOOD RD	14
ELKTON RD MEDIAN ISLAND	70

DETECTABLE WARNING SURFACE
(STANDARD MD 655.40)

LOCATION	QUANTITY (LF)
WEST OF FLETCHWOOD RD	10
ELKTON RD MEDIAN ISLAND	30

5 INCH CONCRETE SIDEWALK

LOCATION	QUANTITY (SF)
WEST OF FLETCHWOOD RD	150
ELKTON RD MEDIAN ISLAND	195

STANDARD TYPE A CURB
ANY HEIGHT OR DEPTH (STANDARD) MD 620.02)

LOCATION	QUANTITY (LF)
WEST OF FLETCHWOOD RD	30

LEGEND

CONCRETE PAVEMENT

DETECTABLE WARNING SURFACE SHA STD. NO. MD-655.40

5' 0 5' 10'

SCALE: 1"=5'

⚠ *REPLACED PAGES 1 THROU 432 11-15-2019 (LB)*

MARYLAND DEPARTMENT OF TRANSPORTATION
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TRAFFIC SIGNAL PLAN

SCALE 1"=5' ADVERTISED DATE _____ CONTRACT NO. T201504401

DESIGNED BY L. BERZINA
DRAWN BY D. MONTES
CHECKED BY M. WAHED
MDE/PRD SEE TITLE SHEET

COUNTY CECIL
LOGMILE 07027904.91
TIMS NO. N976
TOD NO. _____

TS NO. 1541 I | DRAWING SG – P004 OF P004 | SHEET NO. 432 OF 432

BY: LBerzina –

PLOTTED: Friday, August 30, 2019 AT 07:46 AM

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