THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY UNITS

CONSTRUCTION PLANS FOR:

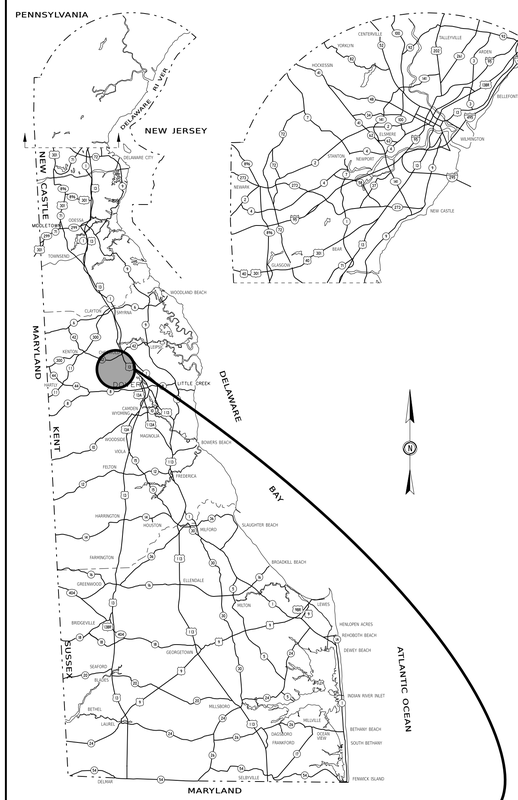
HEP KC, SR15/KENTON RD.
AT CENTRAL CHURCH RD.
INTERSECTION IMPROVEMENTS

CONTRACT NUMBER: T202104204

FEDERAL AID PROJECT NUMBER: N/A

COUNTY: KENT

M.R. #: K104, K155



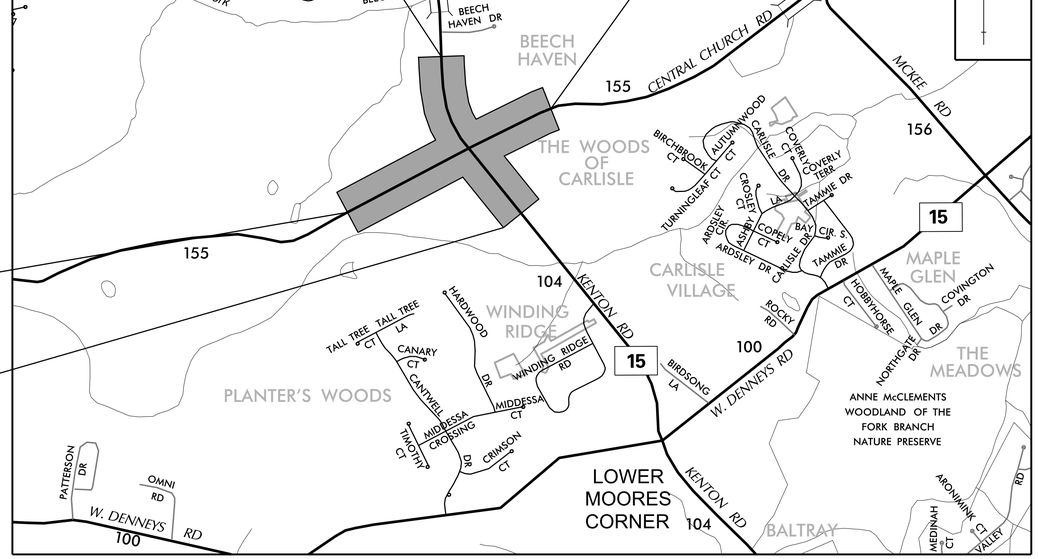
GENERAL LOCATION OF CONTRACT

END CONTRACT
KENTON ROAD
STATION 205+47

LIMIT OF CONTRACT
CENTRAL CHURCH ROAD
STATION 405+75

LIMIT OF CONTRACT
CENTRAL CHURCH ROAD
STATION 304+25

BEGIN CONTRACT
KENTON ROAD
STATION 106+11



LOCATION MAP
N.T.S.

PREPARED BY
CENTURY ENGINEERING
A Kleinfelder Company

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "CEN" SECTION DESIGNATION.

10/30/25
DATE

LILLY F. FREY LICENSE NO. 11974 STATE OF DELAWARE PROFESSIONAL ENGINEER
SEAL

DESIGN DESIGNATION

MRD #: K104	ROAD NAME: KENTON ROAD		
FUNCTIONAL CLASS: MAJOR COLLECTOR		D.H.V. PROJECTED: 1,115	YEAR: 2055
TYPE OF CONSTRUCTION: RECONSTRUCTION		DESIGN SPEED: 50 M.P.H. (25 M.P.H. ROUNDABOUT)	
A.A.D.T. CURRENT: 4,341	YEAR: 2020	TRUCKS: 12.69%	
A.A.D.T. PROJECTED: 6,077	YEAR: 2055	DIRECTION OF DISTRIBUTION: 60.82%	

DESIGN DESIGNATION

MRD #: K155	ROAD NAME: CENTRAL CHURCH ROAD		
FUNCTIONAL CLASS: MINOR COLLECTOR		D.H.V. PROJECTED: 282	YEAR: 2055
TYPE OF CONSTRUCTION: RECONSTRUCTION		DESIGN SPEED: 40 M.P.H. (25 M.P.H. ROUNDABOUT)	
A.A.D.T. CURRENT: 1,751	YEAR: 2020	TRUCKS: 7.06%	
A.A.D.T. PROJECTED: 2,381	YEAR: 2055	DIRECTION OF DISTRIBUTION: 59.99%	

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA / REVISIONS

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
157	HASTINGS CORNER TO MOORES CORNER
1866	ROAD 155 (RD. 156 TO RD. 101)
T201604501	K104, KENTON ROAD, SR8 TO CHESTNUT GROVE ROAD
T202100401	ICB/HIB PLAN SR 15 (KENTON ROAD) @ CENTRAL CHURCH ROAD

APPROVED FOR ADVERTISEMENT

DIRECTOR OF TRANSPORTATION SOLUTIONS

10/31/2025
DATE

LAST REVISED: 11/26/2018
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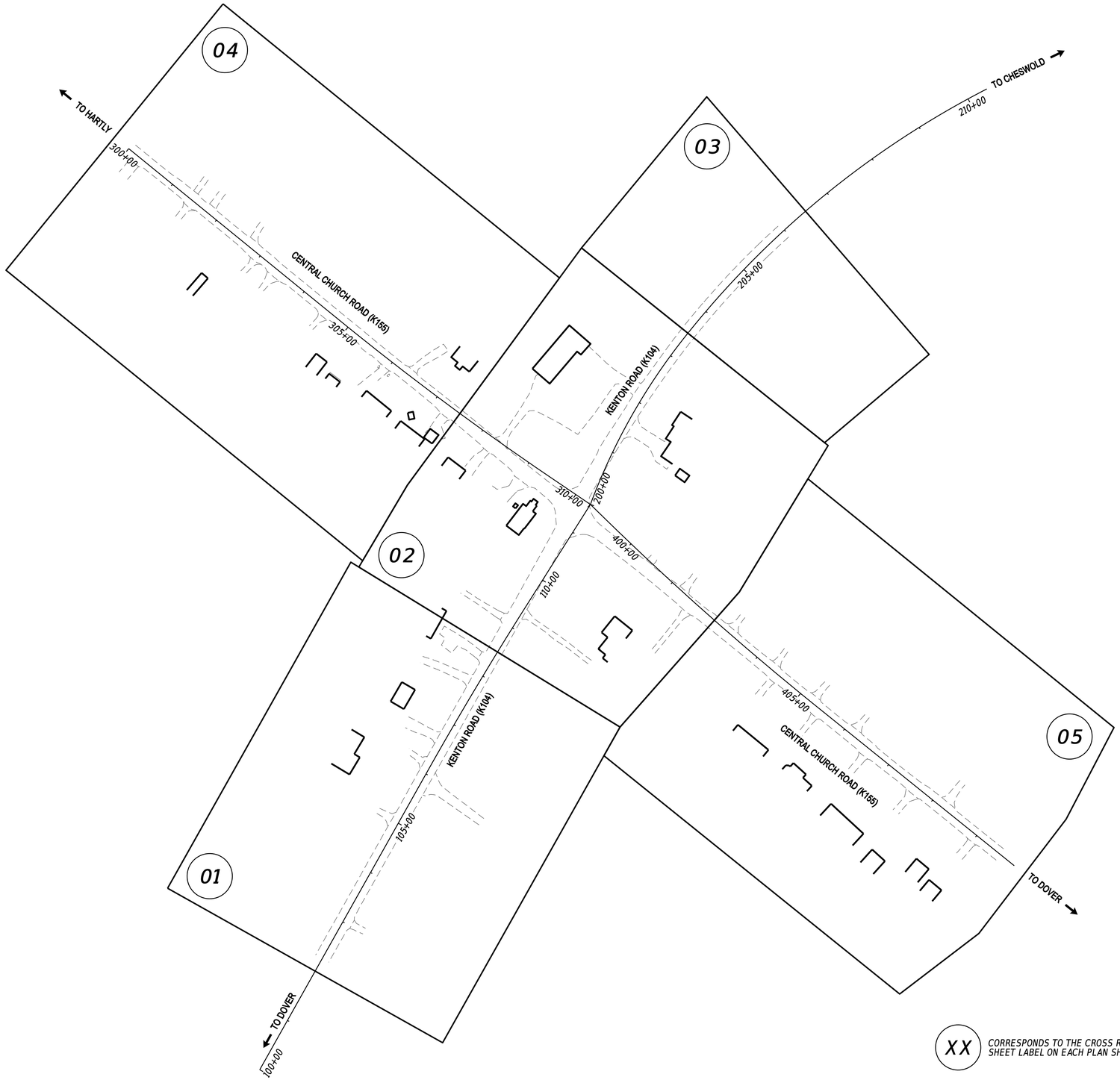

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XX CORRESPONDS TO THE CROSS REFERENCE SHEET LABEL ON EACH PLAN SHEET.

ADDENDA / REVISIONS

SCALE
0 100 200 300
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

INDEX OF SHEETS

SECTION: CEN
SHEET NO.: 2

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ADDENDUM PREPARED BY

CENTURY ENGINEERING
A Kleinfelder Company

THIS SEAL APPLIES TO THE FOLLOWING SHEETS
CHANGED UNDER ADDENDUM #X:
XX, XX-XX, XX

DATE

SEAL

REVISION PREPARED BY

CENTURY ENGINEERING
A Kleinfelder Company

THIS SEAL APPLIES TO THE FOLLOWING SHEETS
CHANGED UNDER REVISION #X:
XX, XX-XX, XX

DATE

SEAL

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ADDENDA / REVISIONS

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

ADDENDA AND REVISIONS

SECTION	CEN
SHEET NO.	3

MANMADE ROADSIDE FEATURES

FEATURE DESCRIPTION	EXISTING	PROPOSED	ID
BARRIER - DOUBLE-FACED, PERMANENT	BARRIER, TYPE "X"		B/XXX
BARRIER - SINGLE-FACED, PERMANENT, TEST LEVEL 4 / TEST LEVEL 5			
BARRIER - HIGH TENSION CABLE (HTCB)			
BARRIER - HTCB END TERMINAL			
BOLLARD - STEEL POLE			
BOLLARD - WOOD POST			
CURB, TYPE 1 AND TYPE 3	CURB, TYPE "X"		C/XXX
CURB, TYPE 2			
CURB & GUTTER, TYPE 1	C&G, TYPE "X"		
CURB & GUTTER, TYPE 2			
CURB & GUTTER, TYPE 3			
CURB OPENING - SUMP / ON GRADE			C/O
CURB/SW OPENING - ADJACENT CURB			CO/SW
CURB/SW OPENING - NON-ADJACENT CURB			
FENCE - CHAINLINK OR STRANDED			F/XXX
FENCE - STOCKADE OR SPLIT RAIL			
FLAG POLE	F.P.		
GUARDRAIL - STEEL BEAM, TYPE 1			GR/XXX
GUARDRAIL - STEEL BEAM, TYPE 2			
GUARDRAIL - STEEL BEAM, TYPE 3			
GUARDRAIL - WIRE ROPE			
GUARDRAIL - END ANCHORAGE			
GUARDRAIL - END TREATMENT, TYPE 1			
GUARDRAIL - END TREATMENT, TYPE 2			
GUARDRAIL - END TREATMENT, TYPE 3			
IMPACT ATTENUATOR			
LAMP AND POST - RESIDENTIAL	LAMP		
MAILBOX	MB	MB	
PARKING METER AND POST	P.M.		
PAVEMENT - FLEXIBLE			
PAVEMENT - RIGID			
PILE - BRIDGE			
PILLAR OR MISCELLANEOUS POST			
TRAFFIC SIGN AND POST			
WALL - BRICK OR BLOCK			
WALL - STONE			

DRAINAGE FEATURES

FEATURE DESCRIPTION	EXISTING	PROPOSED	ID
BIOFILTRATION SWALE		BFS	
DITCH OR STREAM (V-SHAPE / TRAPEZOIDAL)			
DIRECTIONAL STREAM FLOW ARROW			
DRAINAGE INLET	C.B. / D.I.		DI/XXX
DRAINAGE JUNCTION BOX	J.B.		JB/XXX
DRAINAGE MANHOLE	D		MH/XXX
DRAINAGE PIPE AND FLOW ARROW	SIZE/TYPE LABEL		P/XXX
FLARED END SECTION			FES/XXX
RIPRAP - AREA FEATURE			RR/XXX
RIPRAP - LINEAR FEATURE			
SAFETY END STRUCTURE			SES/XXX
UNDERDRAIN			UD/XXX
UNDERDRAIN OUTLET			UDO/XXX

UTILITY FEATURES

FEATURE DESCRIPTION	EXISTING	PROPOSED
COMMUNICATIONS DISTRIBUTION BOX	CD TV	
COMMUNICATIONS MANHOLE	C T	C
COMMUNICATIONS TEST POINT	CT T	
COMMUNICATIONS - UNDERGROUND	COMM(A)	COMM
ELECTRIC - UNDERGROUND	E(A)	E
ELECTRIC MANHOLE	E	E
ELECTRIC METER	EM	
ELECTRIC TRANSFORMER	E	
GAS - UNDERGROUND	G(A)	G
GAS MANHOLE	G	G
GAS METER	G.M.	
GAS VALVE	G.V.	
GAS PUMP - SERVICE STATION	G.P.	
IRRIGATION - UNDERGROUND	IR(A)	IR
ITMS - UNDERGROUND	ITMS(A)	ITMS
LIGHTING - UNDERGROUND	LI(A)	LI
LUMINAIRE - POLE MOUNTED		
MANHOLE - UNDETERMINED OWNER	?	
RAILROAD TRACKS		
SANITARY - UNDERGROUND	S(A)	S
SANITARY SEWER MANHOLE	S	S
SANITARY SEWER VALVE	S.V.	
SANITARY SEWER CLEANOUT OR VENT	S.C.O.	
SEPTIC DRAIN FIELD	S.D.F.	
SIGNALIZATION - UNDERGROUND	SIG(A)	SIG
SOIL BORING LOCATION		
TELEPHONE BOOTH	B	
TRAFFIC - CONDUIT JUNCTION WELL	J.W.	
TRAFFIC - LIGHT POLE AND BASE		
TRAFFIC - PEDESTRIAN POLE & BASE		
TRAFFIC - SIGNAL CABINET & BASE		
TRAFFIC - SIGNAL POLE AND BASE		
UTILITY BOX	U	
UTILITY MARKER	UM	
UTILITY POLE GUY WIRE ANCHOR		
UTILITY POLE		
UTILITY TEST HOLE LOCATION		
WATER - UNDERGROUND	W(A)	W
WATER - FIRE HYDRANT	F.H.	F.H.
WATER METER	W.M.	
WATER VALVE	WV	W.V.
WELL HEAD	WELL	

PAVEMENT SECTION(S)

OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS	
RECONSTRUCTED PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS	
DRIVEWAY AND ENTRANCE PAVEMENT - SEE NOTES FOR MATERIALS AND DEPTHS	

NATURAL ROADSIDE FEATURES

FEATURE DESCRIPTION	EXISTING	PROPOSED
HEDGEROW OR THICKET		
MARSH BOUNDARY LINE		
TREE - CONIFEROUS		
TREE - DECIDUOUS		
TREE STUMP		
SHRUBBERY		
WETLAND BOUNDARY - DELINEATED	WL	
WOODS LINE BOUNDARY		

RIGHT-OF-WAY FEATURES

FEATURE DESCRIPTION	EXISTING	PROPOSED
DENIAL OF ACCESS	DA	DA
EASEMENT - OTHERS	EASEMENT TYPE	
PERMANENT EASEMENT	PE	PE
PROPERTY LINE		
PROPERTY MARKER - CONCRETE	C.M.	
PROPERTY MARKER - IRON PIPE	I.P.	
RIGHT-OF-WAY BASELINE	100+00	100+00
RIGHT-OF-WAY LINE	R/W	R/W
RIGHT-OF-WAY BY PE	R/W-PE	
RIGHT-OF-WAY & DENIAL OF ACCESS	R/W-DA	R/W-DA
RIGHT-TO-ENTER		RTE
TEMPORARY CONSTRUCTION EASEMENT		TCE

SURVEY CONTROL & MONUMENTATION

FEATURE DESCRIPTION	EXISTING
POINT OF CURVATURE OR TANGENCY	
POINT OF INTERSECTING TANGENTS	
SURVEY BENCHMARK LOCATION	B.M.
SURVEY NGS POINT LOCATION	
SURVEY TIE POINT LOCATION	T.P.
SURVEY TRAVERSE POINT	

MISCELLANEOUS FEATURES

FEATURE DESCRIPTION	PROPOSED
BRICK PATTERNED SURFACE	
BUTT JOINT	
CLEAR ZONE	CZ
CONSTRUCTION BASELINE	100+00
LATERAL OFFSET	LO
LIMIT OF CONSTRUCTION	LOC
PAVEMENT PATCH	
PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH	
P.C.C. SIDEWALK - 4"	
P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.)	

IDENTIFIERS

FEATURE DESCRIPTION	ID
ABANDON BY CONTRACTOR	AB/C
ABANDON BY OTHERS	AB/O
ADJUST BY CONTRACTOR	A/C
ADJUST BY OTHERS	A/O
BEST MANAGEMENT PRACTICE	BMP/XXXX
BUS STOP PAD / TYPE	BSP/X
BUS STOP WITH SHELTER PAD / TYPE	BSSP/X
CONCRETE SAFETY BARRIER	B/XXX
CONVERT TO JUNCTION BOX	CJB/XXX
CONVERT TO DRAINAGE MANHOLE	CMH/XXX
DO NOT DISTURB	DND
ENERGY DISSIPATOR	ED/XXX
FILL WITH FLOWABLE FILL	FF/C
LANDSCAPE PLANTINGS	LS/XXX
PEDESTRIAN CONNECTION / TYPE	PC/XX
PEDESTRIAN CONNECTION / TYPE WITHOUT DETECTABLE WARNING SYSTEM	PC-N/XXX
RELOCATE BY CONTRACTOR	RL/C
RELOCATE BY OTHERS	RL/O
RELOCATE BY PROPERTY OWNER	RL/PO
REMOVE BY CONTRACTOR	RM/C
REMOVE BY OTHERS	RM/O
REMOVE BY TRAFFIC CONTRACTOR	RM/TC
RIGHT-OF-WAY MONUMENT	M/XXX

PAVEMENT SECTION(S)

OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS	
RECONSTRUCTED PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS	
DRIVEWAY AND ENTRANCE PAVEMENT - SEE NOTES FOR MATERIALS AND DEPTHS	

GENERAL NOTES

1. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED JANUARY 2024 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2024.

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 AERIAL 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.

3. NIGHT WORK IS NOT PERMITTED ON THIS PROJECT UNLESS THE CONTRACTOR OBTAINS: APPROVAL FROM THE ENGINEER, ACCEPTABLE RESPONSES ON NIGHT WORK SURVEYS, AND ACCEPTANCE FROM THE MUNICIPALITY. METHOD AND FORMAT OF NIGHT WORK SURVEYS WILL BE PROVIDED BY THE ENGINEER UPON REQUEST. NIGHT WORK, SURVEYS, AND COORDINATION WITH MUNICIPALITIES IS NOT COMPENSABLE AND THE TIME TO COMPLETE THE SURVEYS IS NOT EXCUSABLE.

SECTION 200

4. 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 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 MAILBOX 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.

5. ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   PERMANENT DRAINAGE STRUCTURES, ABANDONED UTILITIES, FIRE HYDRANTS, WATER VALVES, TRAFFIC STRUCTURES AND FOUNDATIONS, JUNCTION WELLS, ABANDONED CONDUITS, LIGHT POLES, SIGNS AND PIEZOMETERS.

6. UNLESS OTHERWISE NOTED AS DO NOT DISTURB OR ADJUST BY CONTRACTOR/OTHERS, ALL EXISTING FEATURES, INCLUDING TREES, WITHIN THE PROPOSED LOC SHALL BE REMOVED BY THE CONTRACTOR AND PAID FOR UNDER THE RESPECTIVE BID ITEM. REMOVAL OF EXISTING STORM DRAIN PIPE SHALL BE PAID UNDER ITEM 202000 UNLESS NOTED WITH A FLOWABLE FILL IDENTIFIER, REMOVAL OF TREES AND SHRUBS SHALL BE PAID FOR UNDER 201000, AND REMOVAL OF ADDITIONAL EXISTING FEATURES SHALL BE PAID FOR UNDER ITEM 211000 AS NOTED IN SECTION 200 OF THE PROJECT NOTES.

SECTION 400

7. THE PAVEMENT SECTION FOR FLEXIBLE PAVEMENT RESIDENTIAL DRIVEWAYS SHALL BE 2" BITUMINOUS CONCRETE, TYPE 'C' OVER 8" GRADED AGGREGATE BASE COURSE, UNLESS OTHERWISE NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN THE FIELD AS NEEDED TO MATCH EXISTING.

SECTION 600

8. DRAINAGE INLET GRATES ADJACENT TO THE CURB OR EDGE PAVING, WITHIN THE PROJECT LIMITS, WHICH ARE NOT TYPE 1 OR TYPE 4, SHALL BE REPLACED WITH TYPE 1 (SAG) OR TYPE 4 (ON GRADE). INLET GRATES WITHIN THE PAVING, NOT ADJACENT TO THE CURB OR EDGE OF PAVING SHALL BE REPLACED WITH TYPE 3. 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 - DRAINAGE INLET GRATE(S) & ITEM 602101 - DRAINAGE INLET FRAME(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.

9. 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.

SECTION 700

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

11. 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

12. 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. THE CONTRACTOR IS RESPONSIBLE FOR POSTING AND MAINTAINING A LEGIBLE COPY OF THE NOI IN A VISIBLE LOCATION ON THE CONSTRUCTION SITE. THE NOI POSTING SHALL FOLLOW DELDOT'S APPROVED TEMPLATE. COSTS FOR POSTING AND MAINTAINING THE NOI IS INCIDENTAL TO THE CONTRACT.

MISCELLANEOUS NOTES

13. THE LOCATIONS OF ALL ABOVE GROUND ITEMS TO BE INSTALLED, SUCH AS SIGNS, ETC. SHALL BE VERIFIED BY THE ENGINEER PRIOR TO INSTALLATION. ALL COSTS INCIDENTAL TO ITEM 763501 - CONSTRUCTION ENGINEERING.

14. 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.

15. ANY STAGING AND/OR STOCKPILE AREA(S) OUTSIDE THE PROJECT'S LIMIT OF CONSTRUCTION (LOC) THAT INDIVIDUALLY OR CUMULATIVELY ARE LARGER THAN 10,000 SQUARE FEET, MUST BE APPROVED BY DELDOT'S ARCHAEOLOGIST. CONTACT THE CONSTRUCTION AREA ENGINEER WHO WILL COORDINATE WITH DELDOT'S ARCHAEOLOGIST. WITHIN 30 DAYS, DELDOT WILL;
    1. APPROVE THE USE OF THE PROPOSED STAGING AND STOCKPILE AREA(S);
    2. REJECT THE REQUEST; OR
    3. PERFORM AN ARCHAEOLOGICAL SURVEY TO DETERMINE WHETHER TO APPROVE OR REJECT THE REQUEST, WHICH MAY TAKE UP TO 3 MONTHS. IF AN ARCHAEOLOGICAL SURVEY IS NECESSARY, DELDOT OR A CONSULTANT ON ITS BEHALF WILL UNDERTAKE THE SURVEY.

16. THE CONTRACTOR SHALL UNDERCUT ALL UNSUITABLE MATERIALS, PER DELDOT STANDARD. AFTER PREPARATION OF THE SUBGRADE, PLACE ITEM 708001 – GEOTEXTILE, STABILIZATION, THEN BACKFILL WITH ITEM 209002 - BORROW, TYPE B.

17. THE CONTRACTOR SHALL REMOVE ANY EXISTING UTILITIES, DENOTED AS ABANDONED, BY CUTTING AND CAPPING AT BOTH ENDS, WHEN IN CONFLICT WITH PROPOSED WORK. ALL COSTS TO REMOVE ABANDONED UTILITIES AND REQUIRED CAPPING SHALL BE INCIDENTAL TO THE ITEM BEING INSTALLED.

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. ALL DART SIGNS HAVE BEEN UPDATED TO A NEW DESIGN. THE DELDOT SIGN SHOP DOES NOT FABRICATE THE UPDATED SIGN OR ANY SUPPLEMENTAL PLAQUES TO ALLOW FOR ADDITIONAL ROUTE NUMBERS. ALL REQUESTS FOR FABRICATION OF THESE SIGNS MUST BE MADE THROUGH DART TRANSIT AT (302) 576-6132.

20. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE PILE OF TREE TRIMMINGS LEFT ON-SITE FROM ADVANCED UTILITY RELOCATIONS. ALL COSTS ARE PAID FOR UNDER ITEM 201000 - CLEARING AND GRUBBING.

EARTHWORK SUMMARY

EXCAVATION	
EXCAVATION FROM CROSS SECTIONS	7,677 C.Y.
ROCK EXCAVATION FOR ROADWAY AND TRENCHES	0 C.Y.
TOPSOIL STRIPPING	0 C.Y.
TOTAL EXCAVATION	7,677 C.Y.
EMBANKMENT REQUIREMENTS	
BORROW TYPE 'A' REQUIRED	272 C.Y.
BORROW TYPE 'B' REQUIRED (UNDERCUT)	806 C.Y.
BORROW TYPE 'F' REQUIRED	393 C.Y.
TOPSOIL REQUIRED	3,407 C.Y.
MATERIAL BALANCE ("+"= EXCESS, "-"= NEED)	
BORROW TYPE 'A'	-272 C.Y.
BORROW TYPE 'B' REQUIRED	-806 C.Y.
BORROW TYPE 'F'	-393 C.Y.
TOPSOIL	-3,407 C.Y.
UNSUITABLE MATERIAL	7,677 C.Y.

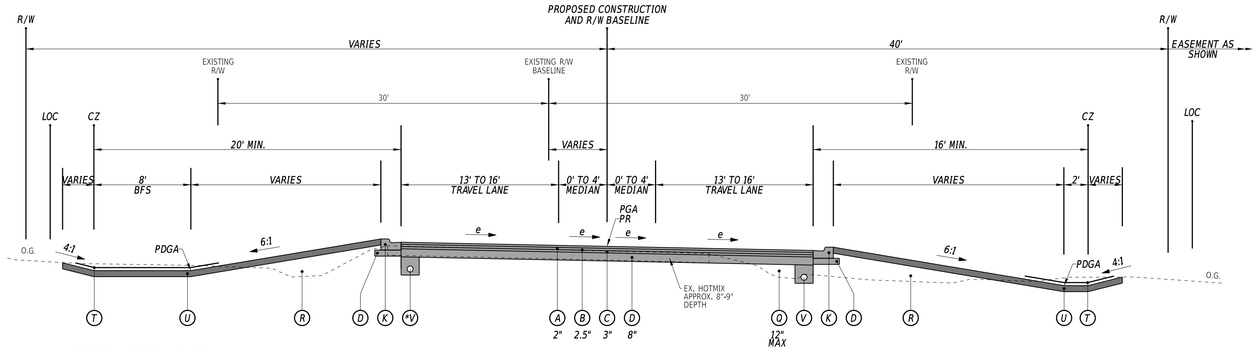
NOTES:
1) THE VALUES LISTED IN THE EARTHWORK SUMMARY ARE APPROXIMATE AND ARE NOT TO BE USED AS A BASIS OF PAYMENT. THE EARTHWORK SUMMARY IS CONSIDERED FOR INFORMATIONAL PURPOSES ONLY.

2) OTHER SOURCES OF EXCAVATION MAY INCLUDE PIPE TRENCH EXCAVATION, STRUCTURE EXCAVATION, UNDERCUT EXCAVATION, STORMWATER MANAGEMENT POND EXCAVATION, ENVIRONMENTAL SITE EXCAVATION, MAINTENANCE OF TRAFFIC EXCAVATION, ETC.

3) UNSUITABLE MATERIALS INCLUDE UNDERCUT SOILS, BITUMINOUS PAVEMENT, ETC.

* ASSUMES ALL EXCAVATED MATERIAL WILL BE HAULED OFF SITE.

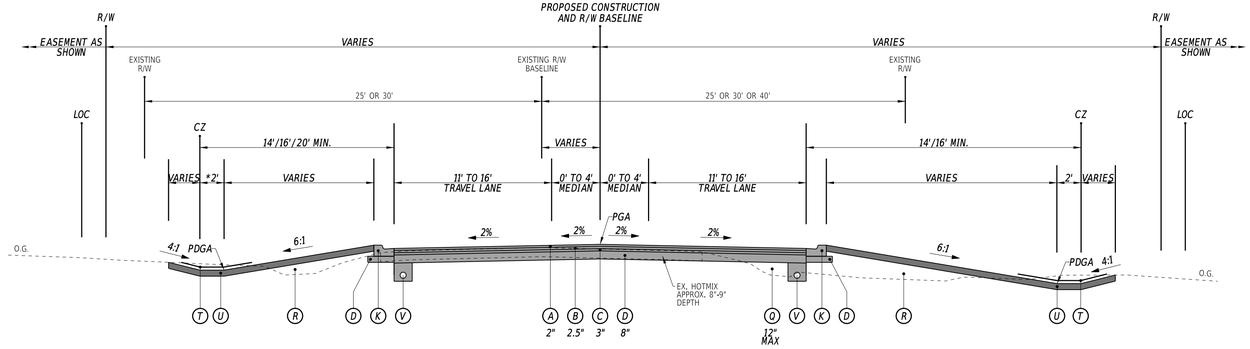
ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO. N/A	NOTES	SECTION
				T202104204	DESIGNED BY: A. HALLER		CEN
				COUNTY	CHECKED BY: L. HAXTON		SHEET NO.
				KENT			5



* NO PROPOSED UNDERDRAIN LT FROM STATION 202+48 TO 203+66.

TYPICAL SUPERELEVATED SECTION - KENTON ROAD

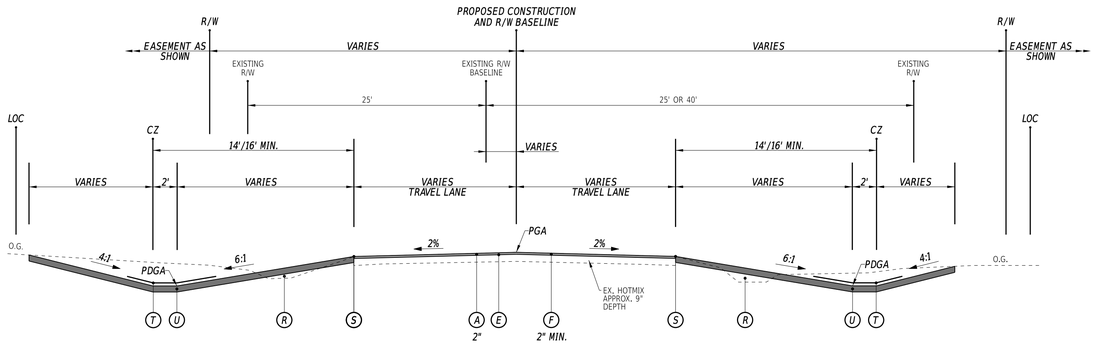
STATION 202+00 TO 203+66



TYPICAL SECTION - KENTON ROAD & CENTRAL CHURCH ROAD

STATION 107+93 TO 109+93
STATION 201+15 TO 202+00
STATION 307+56 TO 308+91
STATION 401+65 TO 402+75

* PROPOSED BFS LT (8' FLAT BOTTOM) FROM STATION 201+15 TO 202+00.



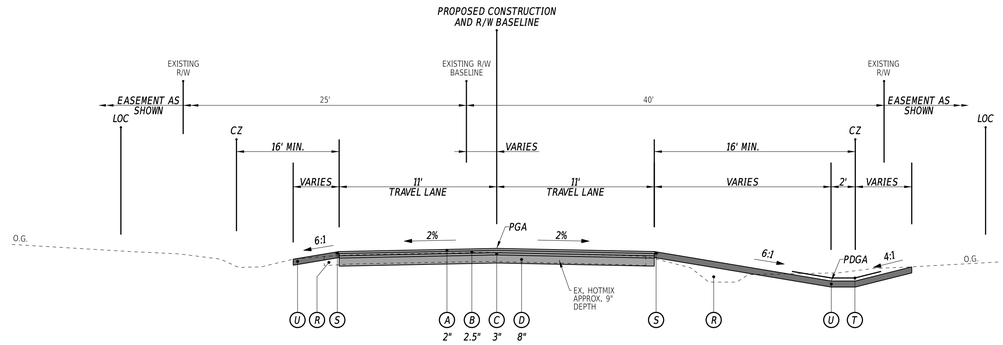
TYPICAL SECTION - KENTON ROAD & CENTRAL CHURCH ROAD

STATION 106+41 TO 107+00
STATION 304+25 TO 306+25
STATION 404+00 TO 405+00

NOTE:

NO PROPOSED DITCH LT FROM STATION 106+41 TO 107+00
STATION 304+25 TO 305+50
STATION 404+00 TO 405+00

NO PROPOSED DITCH RT FROM STATION 304+25 TO 306+25
STATION 404+31 TO 405+00



TYPICAL SECTION - KENTON RD

STATION 107+00 TO 107+93

MATERIAL TYPE	BINDER GRADE	LIFT THICKNESS (IN)	
		MINIMUM	MAXIMUM
TYPE C (4.75 MM MIX)	ALL	0.5	1.0
TYPE C (9.5 MM MIX)	ALL	1.25	2.0
TYPE C (12.5 MM MIX)	ALL	1.5	2.0
TYPE B (19 MM MIX)	76-22, 70-22	2.25	4.0
TYPE B (19 MM MIX)	64-22	2.25	6.0
TYPE BCBC (25 MM MIX)	64-22	3.0	6.0
GABC	-	4.0	8.0

NOTES:

1. *BORROW, TYPE A SHALL BE PLACED IN SUCCESSIVE LAYERS NOT TO EXCEED 8" IN DEPTH, LOOSE MEASUREMENT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.*
2. *UTILIZE EROSION CONTROL BLANKET MULCH ON THE BOTTOM OF DITCHES AND UP 2 FT ON THE ADJACENT SLOPES UNLESS NOTED OTHERWISE. EROSION CONTROL BLANKET MULCH SHALL BE EXTENDED TO UNDERDRAIN OUTLET LOCATION, WHEN NECESSARY.*
3. *EROSION CONTROL MULCH SHALL BE UTILIZED IN ALL PERMANENT GRASS SEEDING AREAS OUTSIDE OF EROSION CONTROL BLANKET MUCH FOOTPRINT.*

LEGEND

A	ITEM 401046 -	SUPERPAVE TYPE C, PG 76-22 (NON-CARBONATE STONE)
B	ITEM 401016 -	SUPERPAVE TYPE B, PG 76-22
C	ITEM 401014 -	SUPERPAVE TYPE B, PG 64-22
D	ITEM 301001 -	GABC
E	ITEM 401036 -	SUPERPAVE TYPE C, PG 64-22, WEDGE
F	ITEM 760010 -	PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
G	ITEM 701011 -	PCC CURB, TYPE 1-4
H	ITEM 701013 -	PCC CURB, TYPE 1-8
I	ITEM 701014 -	PCC CURB, TYPE 2
J	ITEM 701020 -	I.PCC CURB AND GUTTER, TYPE 3-2
K	ITEM 701023 -	I.PCC CURB AND GUTTER, TYPE 3-4
L	ITEM 701027 -	PCC CURB, TYPE 1-2 ROUNDABOUT
M	ITEM 701025 -	PCC CURB, TYPE 2 ROUNDABOUT
N	ITEM 705001 -	PCC SIDEWALK, 4"
O	ITEM 705005 -	PCC SIDEWALK, 8"
P	ITEM 705521 -	PATTERNED PCC SIDEWALK, 8"
Q	ITEM 209001 -	BORROW, TYPE A
R	ITEM 209006 -	BORROW, TYPE F
S	SAFETY EDGE	
T	ITEM 908020 -	EROSION CONTROL BLANKET MULCH
U	ITEM 908004 -	TOPSOIL, 6" DEPTH
	ITEM 908014 -	PERMANENT GRASS SEEDING, DRY GROUND
	ITEM 908026 -	EROSION CONTROL MULCH
V	ITEM 709001 -	PERFORATED PIPE UNDERDRAINS, 6"

PR - POINT OF ROTATION PGA - PROFILE GRADE APPLICATION
PDGA - PROFILE DITCH GRADE APPLICATION

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	T202104204	BRIDGE NO.	N/A	TYPICAL SECTIONS	SECTION	CEN
				COUNTY	KENT	DESIGNED BY:	A. HALLER		SHEET NO.	6
						CHECKED BY:	L. HAXTON			

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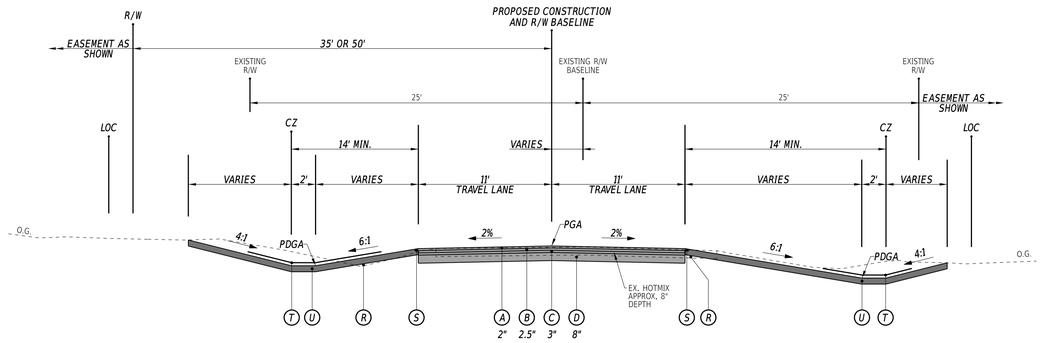
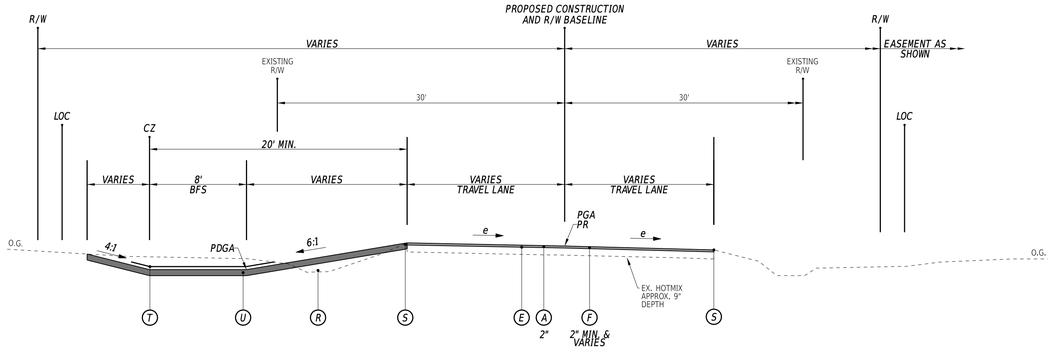


TYPICAL SECTION - CENTRAL CHURCH ROAD

STATION 306+25 TO 307+56

STATION 402+75 TO 404+00

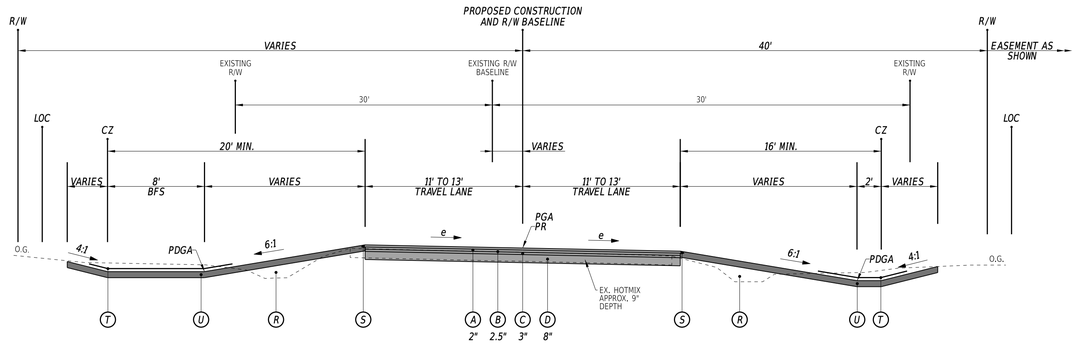
NOTE: NO PROPOSED DITCH LT FROM STATION 403+25 TO 404+00 EXTEND 6:1 SLOPE TO TIE IN



TYPICAL SUPERELEVATED SECTION - KENTON RD

STATION 204+00 TO 205+47

NOTE: NO PROPOSED DITCH LT FROM STATION 204+21 TO 205+47



TYPICAL SUPERELEVATED SECTION - KENTON RD

STATION 203+66 TO 204+00

NOTE: NO PROPOSED DITCH RT FROM STATION 203+91 TO 204+00 EXTEND 6:1 SLOPE TO TIE IN

LEGEND

A	ITEM 401046 -	SUPERPAVE TYPE C, PG 76-22 (NON-CARBONATE STONE)
B	ITEM 401016 -	SUPERPAVE TYPE B, PG 76-22
C	ITEM 401014 -	SUPERPAVE TYPE B, PG 64-22
D	ITEM 301001 -	GABC
E	ITEM 401036 -	SUPERPAVE TYPE C, PG 64-22, WEDGE
F	ITEM 760010 -	PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
G	ITEM 701011 -	PCC CURB, TYPE 1-4
H	ITEM 701013 -	PCC CURB, TYPE 1-8
I	ITEM 701014 -	PCC CURB, TYPE 2
J	ITEM 701020 -	I.PCC CURB AND GUTTER, TYPE 3-2
K	ITEM 701023 -	I.PCC CURB AND GUTTER, TYPE 3-4
L	ITEM 701027 -	PCC CURB, TYPE 1-2 ROUNDABOUT
M	ITEM 701025 -	PCC CURB, TYPE 2 ROUNDABOUT
N	ITEM 705001 -	PCC SIDEWALK, 4"
O	ITEM 705005 -	PCC SIDEWALK, 8"
P	ITEM 705521 -	PATTERNED PCC SIDEWALK, 8"
Q	ITEM 209001 -	BORROW, TYPE A
R	ITEM 209006 -	BORROW, TYPE F
S	SAFETY EDGE	
T	ITEM 908020 -	EROSION CONTROL BLANKET MULCH
U	ITEM 908004 -	TOPSOIL, 6" DEPTH
	ITEM 908014 -	PERMANENT GRASS SEEDING, DRY GROUND
	ITEM 908026 -	EROSION CONTROL MULCH
V	ITEM 709001 -	PERFORATED PIPE UNDERDRAINS, 6"

PR - POINT OF ROTATION PGA - PROFILE GRADE APPLICATION

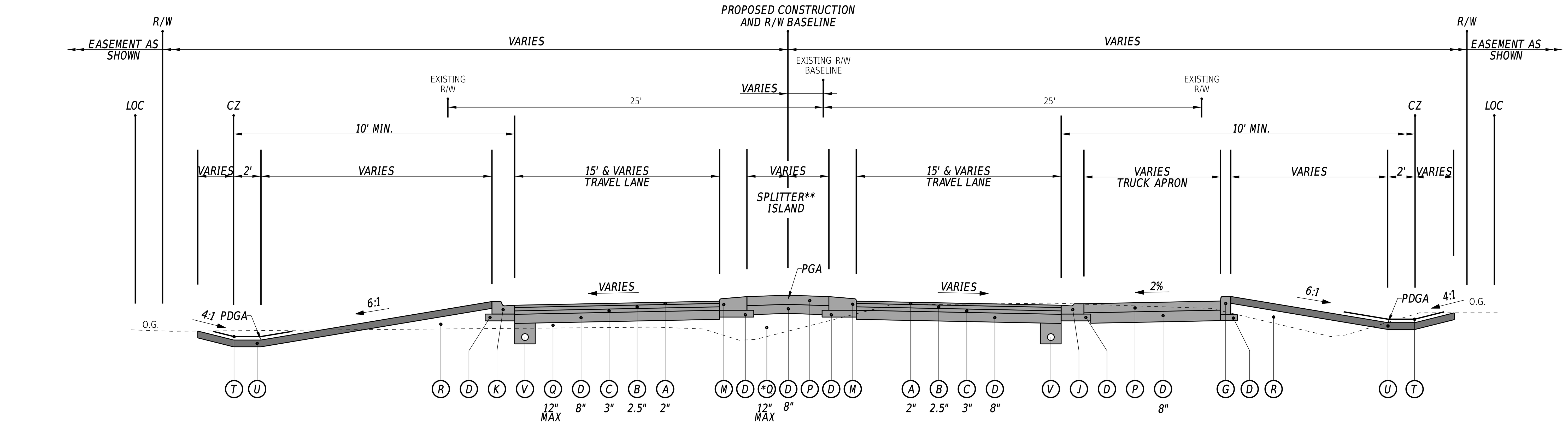
PDGA - PROFILE DITCH GRADE APPLICATION

MATERIAL TYPE	BINDER GRADE	LIFT THICKNESS (IN)	
		MINIMUM	MAXIMUM
TYPE C (4.75 MM MIX)	ALL	0.5	1.0
TYPE C (9.5 MM MIX)	ALL	1.25	2.0
TYPE C (12.5 MM MIX)	ALL	1.5	2.0
TYPE B (19 MM MIX)	76-22, 70-22	2.25	4.0
TYPE B (19 MM MIX)	64-22	2.25	6.0
TYPE BCBC (25 MM MIX)	64-22	3.0	6.0
GABC	-	4.0	8.0

NOTES:

1. BORROW, TYPE A SHALL BE PLACED IN SUCCESSIVE LAYERS NOT TO EXCEED 8" IN DEPTH, LOOSE MEASUREMENT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. UTILIZE EROSION CONTROL BLANKET MULCH ON THE BOTTOM OF DITCHES AND UP 2 FT ON THE ADJACENT SLOPES UNLESS NOTED OTHERWISE. EROSION CONTROL BLANKET MULCH SHALL BE EXTENDED TO UNDERDRAIN OUTLET LOCATION, WHEN NECESSARY.
3. EROSION CONTROL MULCH SHALL BE UTILIZED IN ALL PERMANENT GRASS SEEDING AREAS OUTSIDE OF EROSION CONTROL BLANKET MUCH FOOTPRINT.

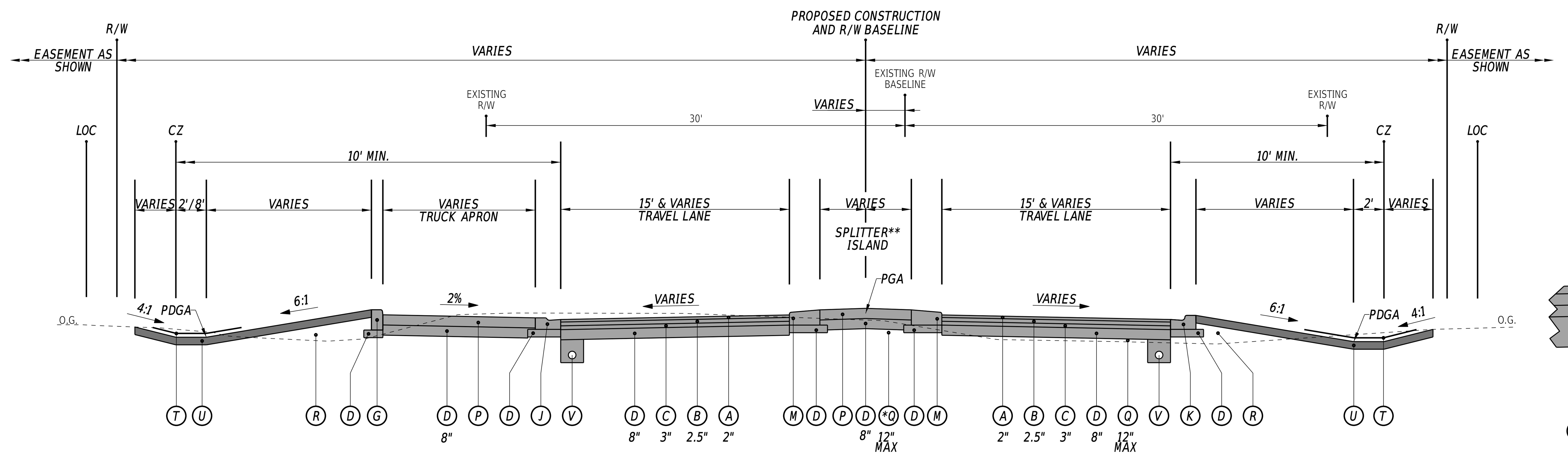
ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO.	N/A	TYPICAL SECTIONS	SECTION
				T202104204	DESIGNED BY:	A. HALLER		CEN
				COUNTY	CHECKED BY:	L. HAXTON		SHEET NO.
				KENT				7



ROUNDABOUT APPROACH SECTION

CENTRAL CHURCH RD STATION 400+67 TO 401+65

* PLACE BORROW, TYPE A AS REQUIRED.
** SEE SPLITTER ISLAND PGA DETAIL.

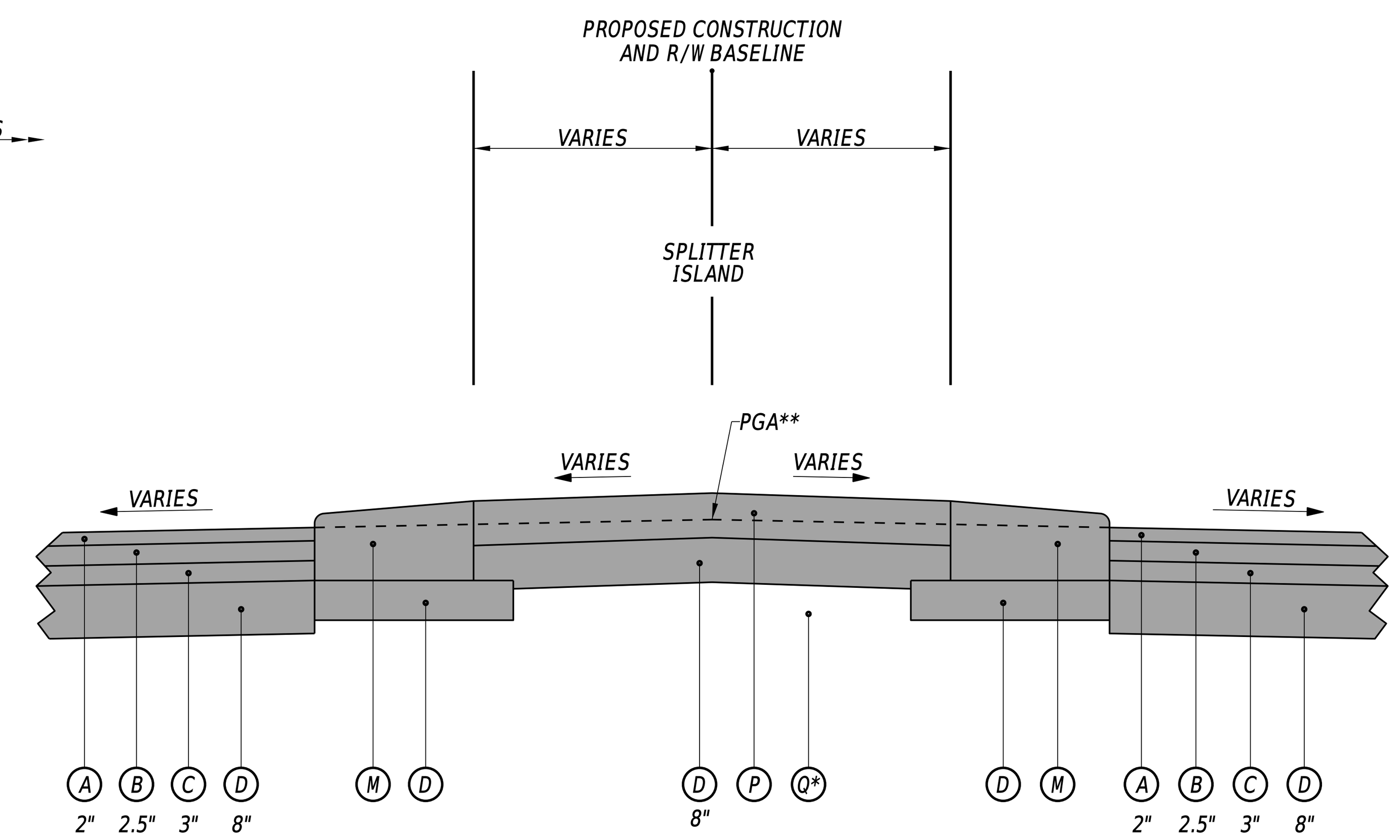


ROUNDABOUT APPROACH SECTION

KENTON RD STATION 200+67 TO 201+15

* PLACE BORROW, TYPE A AS REQUIRED.
** SEE SPLITTER ISLAND PGA DETAIL.

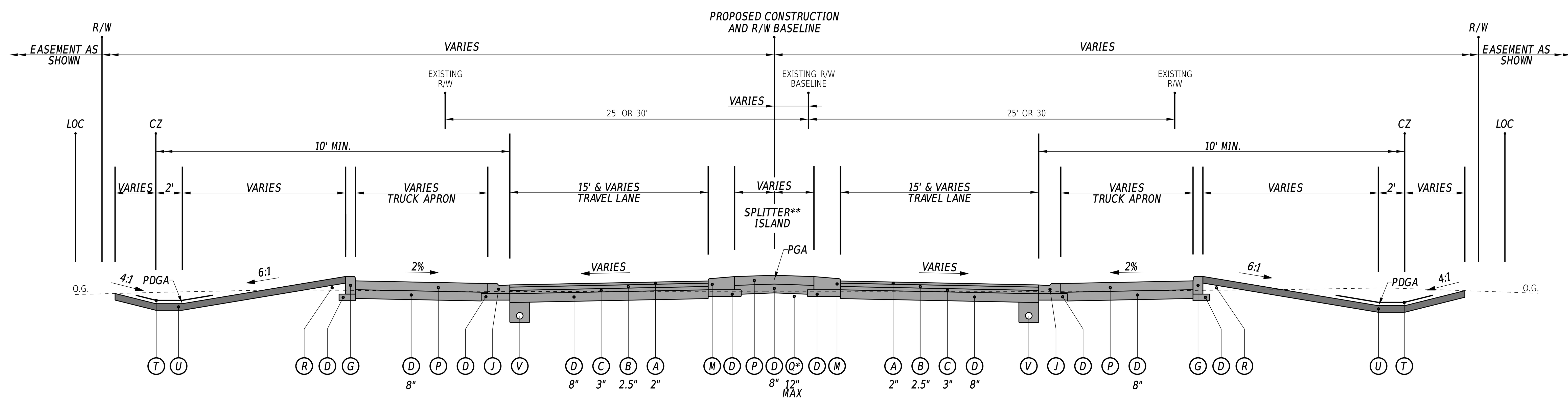
NOTE: PROPOSED BFS LT (8' FLAT BOTTOM) FROM STATION 200+67 TO 201+15.



SPLITTER ISLAND PGA DETAIL

NOT TO SCALE

* PLACE BORROW, TYPE A AS REQUIRED.
** IN AREAS WHERE THE PGA IS LOCATED WITHIN THE SPLITTER ISLAND, ITS VERTICAL LOCATION SHALL BE THE TOP OF THE ADJACENT PAVEMENT ELEVATION PROJECTED AT THE PROPOSED CROSS SLOPE TO THE CONSTRUCTION BASELINE.



ROUNDABOUT APPROACH SECTION

KENTON ROAD STATION 109+93 TO 110+92
CENTRAL CHURCH ROAD STATION 308+91 TO 309+65

* PLACE BORROW, TYPE A AS REQUIRED.
** SEE SPLITTER ISLAND PGA DETAIL.

LEGEND

- (A) ITEM 401046 - SUPERPAVE TYPE C, PG 76-22 (NON-CARBONATE STONE)
- (B) ITEM 401016 - SUPERPAVE TYPE B, PG 76-22
- (C) ITEM 401014 - SUPERPAVE TYPE B, PG 64-22
- (D) ITEM 301001 - GABC
- (E) ITEM 401036 - SUPERPAVE TYPE C, PG 64-22, WEDGE
- (F) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (G) ITEM 701011 - PCC CURB, TYPE 1-4
- (H) ITEM 701013 - PCC CURB, TYPE 1-8
- (I) ITEM 701014 - PCC CURB, TYPE 2
- (J) ITEM 701020 - I.PCC CURB AND GUTTER, TYPE 3-2
- (K) ITEM 701023 - I.PCC CURB AND GUTTER, TYPE 3-4
- (L) ITEM 701027 - PCC CURB, TYPE 1-2 ROUNDABOUT
- (M) ITEM 701025 - PCC CURB, TYPE 2 ROUNDABOUT
- (N) ITEM 705001 - PCC SIDEWALK, 4"
- (O) ITEM 705005 - PCC SIDEWALK, 8"
- (P) ITEM 705521 - PATTERNED PCC SIDEWALK, 8"
- (Q) ITEM 209001 - BORROW, TYPE A
- (R) ITEM 209006 - BORROW, TYPE F
- (S) SAFETY EDGE
- (T) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (U) ITEM 908004 - TOPSOIL, 6" DEPTH
  ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 908026 - EROSION CONTROL MULCH
- (V) ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"

PR - POINT OF ROTATION   PGA - PROFILE GRADE APPLICATION

PDGA - PROFILE DITCH GRADE APPLICATION

MATERIAL TYPE	BINDER GRADE	LIFT THICKNESS (IN)	
		MINIMUM	MAXIMUM
TYPE C (4.75 MM MIX)	ALL	0.5	1.0
TYPE C (9.5 MM MIX)	ALL	1.25	2.0
TYPE C (12.5 MM MIX)	ALL	1.5	2.0
TYPE B (19 MM MIX)	76-22, 70-22	2.25	4.0
TYPE B (19 MM MIX)	64-22	2.25	6.0
TYPE BCBC (25 MM MIX)	64-22	3.0	6.0
GABC	-	4.0	8.0

NOTES:

1. BORROW, TYPE A SHALL BE PLACED IN SUCCESSIVE LAYERS NOT TO EXCEED 8" IN DEPTH, LOOSE MEASUREMENT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. UTILIZE EROSION CONTROL BLANKET MULCH ON THE BOTTOM OF DITCHES AND UP 2 FT ON THE ADJACENT SLOPES UNLESS NOTED OTHERWISE. EROSION CONTROL BLANKET MULCH SHALL BE EXTENDED TO UNDERDRAIN OUTLET LOCATION, WHEN NECESSARY.
3. EROSION CONTROL MULCH SHALL BE UTILIZED IN ALL PERMANENT GRASS SEEDING AREAS OUTSIDE OF EROSION CONTROL BLANKET MUCH FOOTPRINT.

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ADDENDA / REVISIONS

NOT TO SCALE

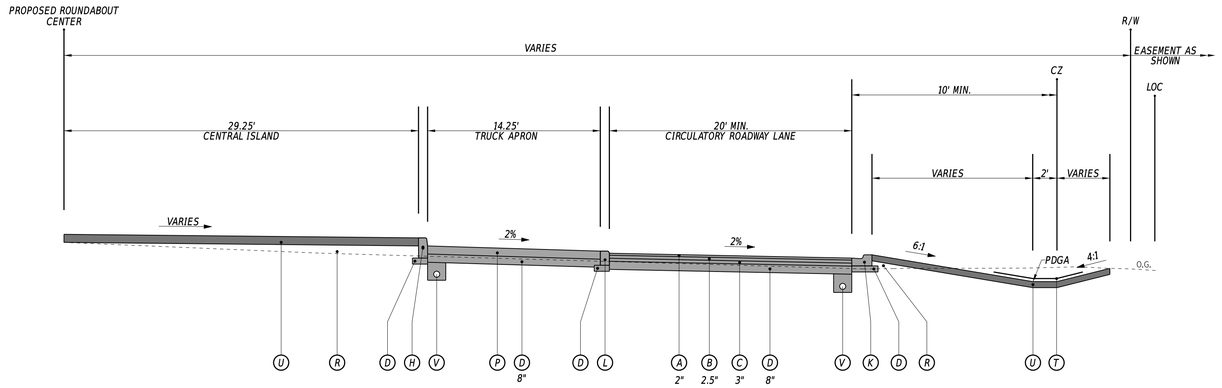
HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT

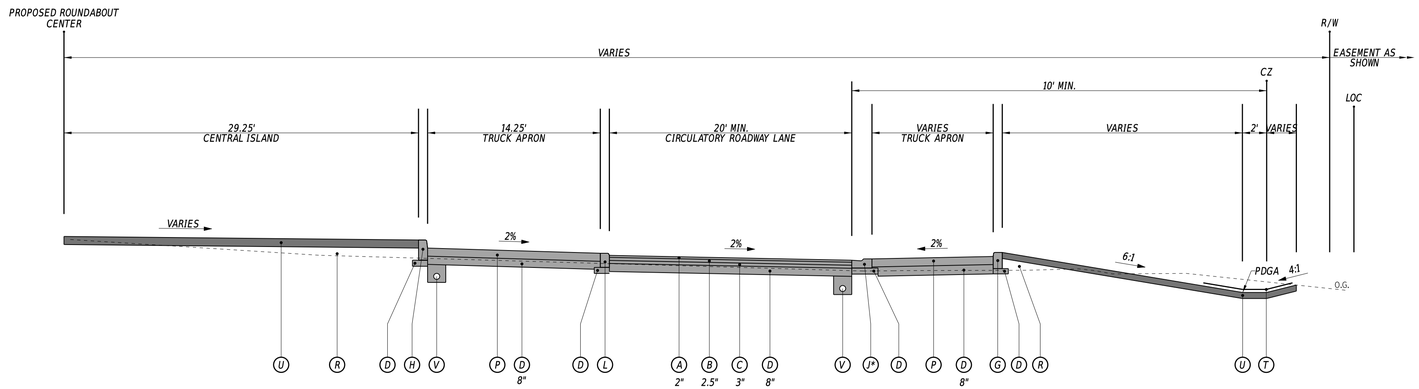
BRIDGE NO. N/A
DESIGNED BY: A. HALLER
CHECKED BY: L. HAXTON

TYPICAL SECTIONS

SECTION: CEN
SHEET NO. 8



ROUNDABOUT CENTER SECTION



ROUNDABOUT CENTER SECTION WITH OUTER TRUCK APRON

* SEE CONSTRUCTION DETAILS FOR MODIFIED CURB.

LEGEND

A	ITEM 401046 -	SUPERPAVE TYPE C, PG 76-22 (NON-CARBONATE STONE)
B	ITEM 401016 -	SUPERPAVE TYPE B, PG 76-22
C	ITEM 401014 -	SUPERPAVE TYPE B, PG 64-22
D	ITEM 301001 -	GABC
E	ITEM 401036 -	SUPERPAVE TYPE C, PG 64-22, WEDGE
F	ITEM 760010 -	PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
G	ITEM 701011 -	PCC CURB, TYPE 1-4
H	ITEM 701013 -	PCC CURB, TYPE 1-8
I	ITEM 701014 -	PCC CURB, TYPE 2
J	ITEM 701020 -	I.PCC CURB AND GUTTER, TYPE 3-2
K	ITEM 701023 -	I.PCC CURB AND GUTTER, TYPE 3-4
L	ITEM 701027 -	PCC CURB, TYPE 1-2 ROUNDABOUT
M	ITEM 701025 -	PCC CURB, TYPE 2 ROUNDABOUT
N	ITEM 705001 -	PCC SIDEWALK, 4"
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P	ITEM 705521 -	PATTERNED PCC SIDEWALK, 8"
Q	ITEM 209001 -	BORROW, TYPE A
R	ITEM 209006 -	BORROW, TYPE F
S	SAFETY EDGE	
T	ITEM 908020 -	EROSION CONTROL BLANKET MULCH
U	ITEM 908004 -	TOPSOIL, 6" DEPTH
	ITEM 908014 -	PERMANENT GRASS SEEDING, DRY GROUND
	ITEM 908026 -	EROSION CONTROL MULCH
V	ITEM 709001 -	PERFORATED PIPE UNDERDRAINS, 6"

PR - POINT OF ROTATION PGA - PROFILE GRADE APPLICATION

PDGA - PROFILE DITCH GRADE APPLICATION

MATERIAL TYPE	BINDER GRADE	LIFT THICKNESS (IN)	
		MINIMUM	MAXIMUM
TYPE C (4.75 MM MIX)	ALL	0.5	1.0
TYPE C (9.5 MM MIX)	ALL	1.25	2.0
TYPE C (12.5 MM MIX)	ALL	1.5	2.0
TYPE B (19 MM MIX)	76-22, 70-22	2.25	4.0
TYPE B (19 MM MIX)	64-22	2.25	6.0
TYPE BCBC (25 MM MIX)	64-22	3.0	6.0
GABC	-	4.0	8.0

NOTES:

1. BORROW, TYPE A SHALL BE PLACED IN SUCCESSIVE LAYERS NOT TO EXCEED 8" IN DEPTH, LOOSE MEASUREMENT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. UTILIZE EROSION CONTROL BLANKET MULCH ON THE BOTTOM OF DITCHES AND UP 2 FT ON THE ADJACENT SLOPES UNLESS NOTED OTHERWISE. EROSION CONTROL BLANKET MULCH SHALL BE EXTENDED TO UNDERDRAIN OUTLET LOCATION, WHEN NECESSARY.
3. EROSION CONTROL MULCH SHALL BE UTILIZED IN ALL PERMANENT GRASS SEEDING AREAS OUTSIDE OF EROSION CONTROL BLANKET MUCH FOOTPRINT.

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO.	N/A	TYPICAL SECTIONS	SECTION
				T202104204	DESIGNED BY:	A. HALLER		CEN
				COUNTY	CHECKED BY:	L. HAXTON		SHEET NO.
				KENT				9

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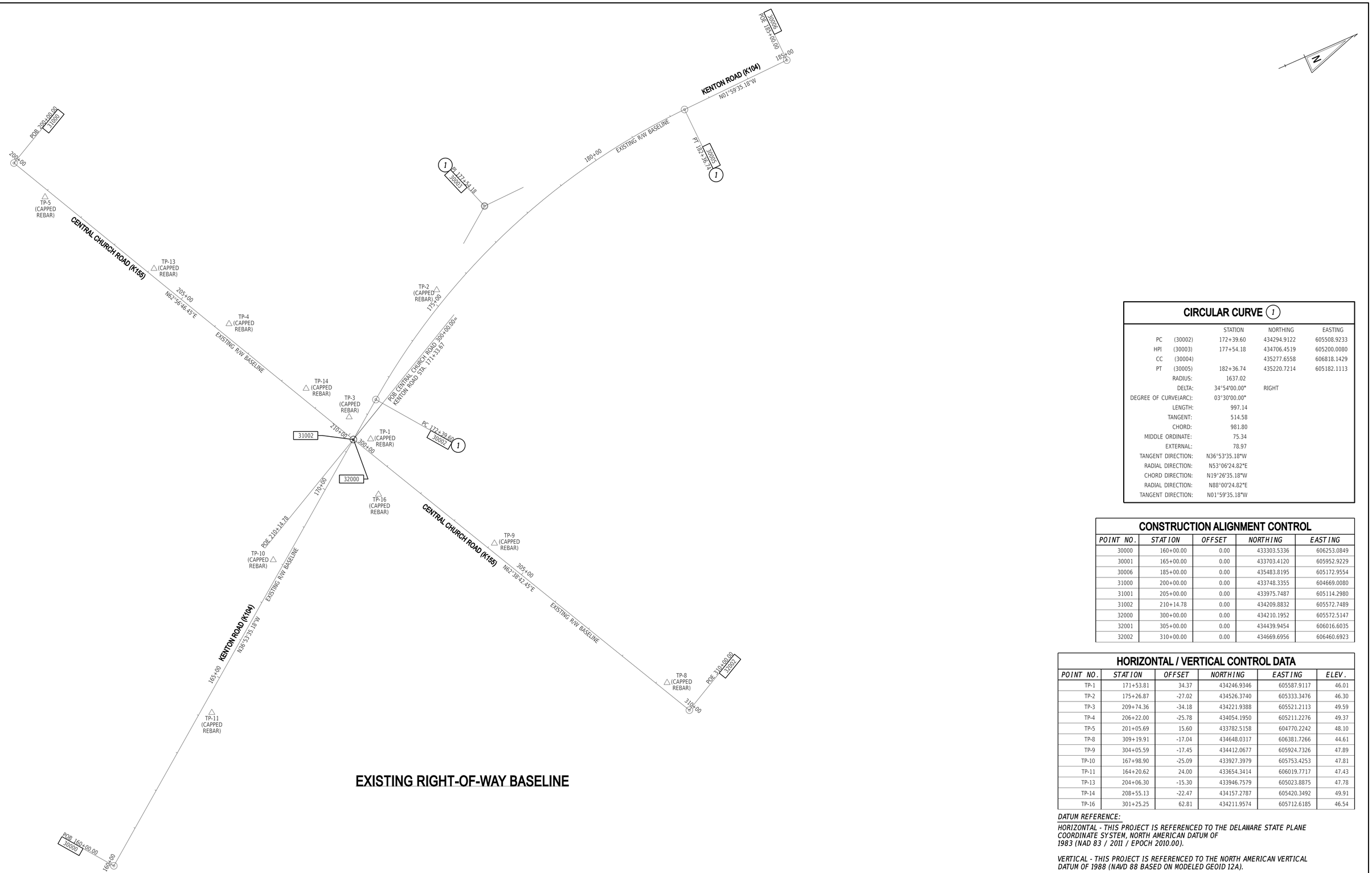

CIRCULAR CURVE 1

		STATION	NORTHING	EASTING
PC	(30002)	172+39.60	434294.9122	605508.9233
HPI	(30003)	177+54.18	434706.4519	605200.0080
CC	(30004)		435277.6558	606818.1429
PT	(30005)	182+36.74	435220.7214	605182.1113
RADIUS:		1637.02		
DELTA:		34°54'00.00"	RIGHT	
DEGREE OF CURVE(ARC):		03°30'00.00"		
LENGTH:		997.14		
TANGENT:		514.58		
CHORD:		981.80		
MIDDLE ORDINATE:		75.34		
EXTERNAL:		78.97		
TANGENT DIRECTION:		N36°53'35.18"W		
RADIAL DIRECTION:		N53°06'24.82"E		
CHORD DIRECTION:		N19°26'35.18"W		
RADIAL DIRECTION:		N88°00'24.82"E		
TANGENT DIRECTION:		N01°59'35.18"W		

CONSTRUCTION ALIGNMENT CONTROL

POINT NO.	STATION	OFFSET	NORTHING	EASTING
30000	160+00.00	0.00	433303.5336	606253.0849
30001	165+00.00	0.00	433703.4120	605952.9229
30006	185+00.00	0.00	435483.8195	605172.9554
31000	200+00.00	0.00	433748.3355	604669.0080
31001	205+00.00	0.00	433975.7487	605114.2980
31002	210+14.78	0.00	434209.8832	605572.7489
32000	300+00.00	0.00	434210.1952	605572.5147
32001	305+00.00	0.00	434439.9454	606016.6035
32002	310+00.00	0.00	434669.6956	606460.6923

HORIZONTAL / VERTICAL CONTROL DATA

POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
TP-1	171+53.81	34.37	434246.9346	605587.9117	46.01
TP-2	175+26.87	-27.02	434526.3740	605333.3476	46.30
TP-3	209+74.36	-34.18	434221.9388	605521.2113	49.59
TP-4	206+22.00	-25.78	434054.1950	605211.2276	49.37
TP-5	201+05.69	15.60	433782.5158	604770.2242	48.10
TP-8	309+19.91	-17.04	434648.0317	606381.7266	44.61
TP-9	304+05.59	-17.45	434412.0677	605924.7326	47.89
TP-10	167+98.90	-25.09	433927.3979	605753.4253	47.81
TP-11	164+20.62	24.00	433654.3414	606019.7717	47.43
TP-13	204+06.30	-15.30	433946.7579	605023.8875	47.78
TP-14	208+55.13	-22.47	434157.2787	605420.3492	49.91
TP-16	301+25.25	62.81	434211.9574	605712.6185	46.54

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83 / 2011 / EPOCH 2010.00).

VERTICAL - THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 BASED ON MODELED GEOID 12A).

ADDENDA / REVISIONS

SCALE
0 100 200 300
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A	SECTION
T202104204	DESIGNED BY:	A. HALLER	CEN
COUNTY	CHECKED BY:	L. HAXTON	SHEET NO.
KENT			10

HORIZONTAL AND VERTICAL CONTROL

21-OCT-2025
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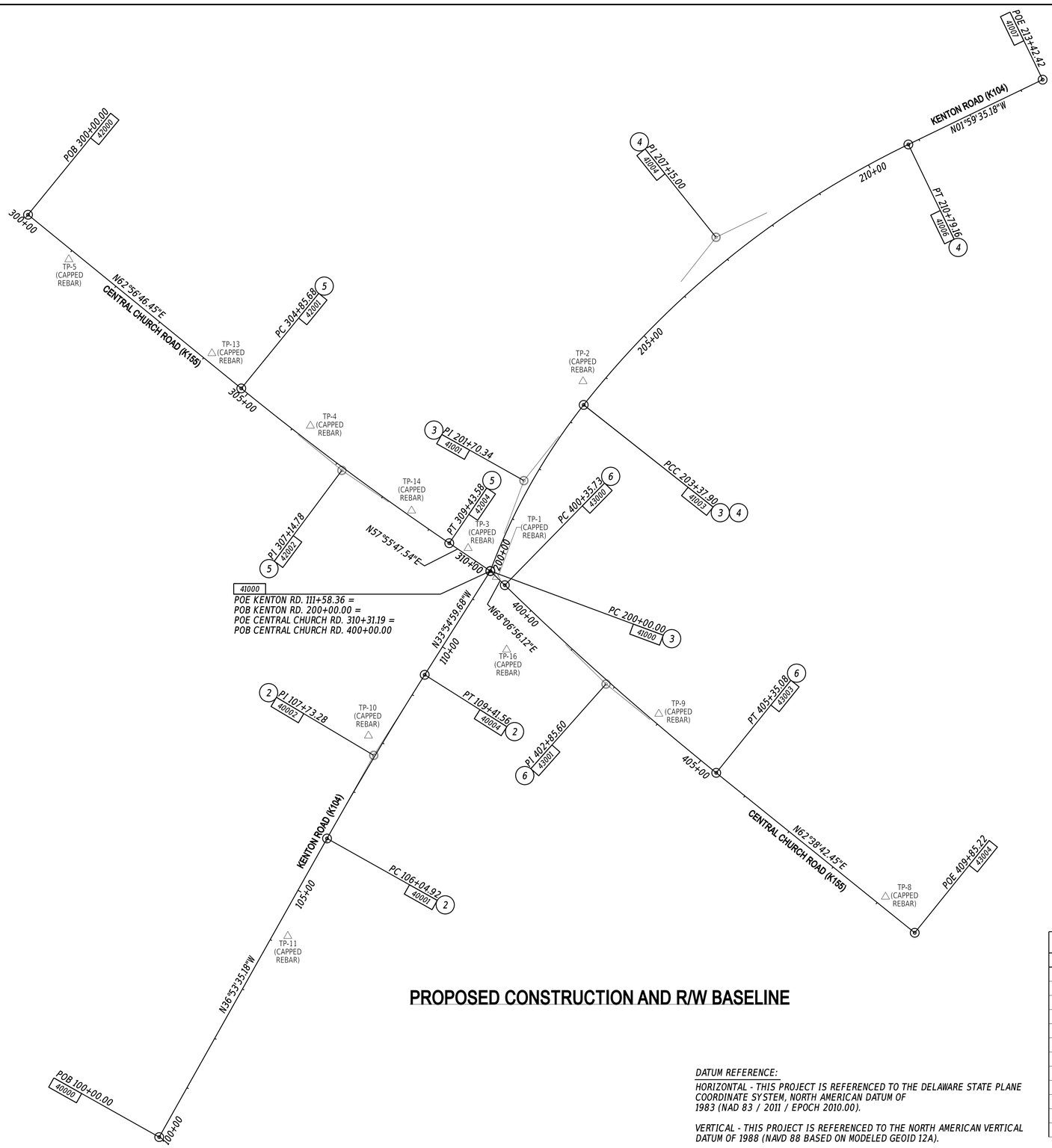

PROPOSED CONSTRUCTION AND R/W BASELINE

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83 / 2011 / EPOCH 2010.00).

VERTICAL - THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 BASED ON MODELED GEOID 12A).

CONSTRUCTION ALIGNMENT CONTROL

POINT NO.	STATION	OFFSET	NORTHING	EASTING
40000	100+00.00	0.00	433303.5336	606253.0849
41007	213+42.42	0.00	435483.8195	605172.9554
42000	300+00.00	0.00	433748.3355	604669.0080
43004	409+85.22	0.00	434669.6956	606460.6923

CIRCULAR CURVE (2)

		STATION	NORTHING	EASTING
PC	(40001)	106+04.92	433787.3264	605889.9340
HPI	(40002)	107+73.28	433921.9707	605788.8655
CC	(40003)		437677.4259	611072.3587
PT	(40004)	109+41.56	434061.6814	605694.9251
RADIUS:		6480.00		
DELTA:		02°58'35.50"	Right	
DEGREE OF CURVE(ARC):		00°53'03.10"		
LENGTH:		336.64		
TANGENT:		168.36		
CHORD:		336.60		
MIDDLE ORDINATE:		2.19		
EXTERNAL:		2.19		
TANGENT DIRECTION:		N36°53'35.18"W		
RADIAL DIRECTION:		N53°06'24.82"E		
CHORD DIRECTION:		N35°24'17.43"W		
RADIAL DIRECTION:		N56°05'00.32"E		
TANGENT DIRECTION:		N33°54'59.68"W		

CIRCULAR CURVE (3)

		STATION	NORTHING	EASTING
PC	(41000)	200+00.00	434241.5939	605573.9534
HPI	(41001)	201+70.34	434360.2153	605451.7022
CC	(41002)		435016.6893	606326.0352
PCC	(41003)	203+37.90	434510.7060	605371.8964
RADIUS:		1080.00		
DELTA:		17°55'34.24"	Right	
DEGREE OF CURVE(ARC):		05°18'18.59"		
LENGTH:		337.90		
TANGENT:		170.34		
CHORD:		336.52		
MIDDLE ORDINATE:		13.19		
EXTERNAL:		13.35		
TANGENT DIRECTION:		N45°51'48.05"W		
RADIAL DIRECTION:		N44°08'11.95"E		
CHORD DIRECTION:		N36°54'00.93"W		
RADIAL DIRECTION:		N62°03'46.19"E		
TANGENT DIRECTION:		N27°56'13.81"W		

CIRCULAR CURVE (4)

		STATION	NORTHING	EASTING
PCC	(41003)	203+37.90	434510.7060	605371.8964
HPI	(41004)	207+15.00	434843.8548	605195.2263
CC	(41005)		435277.6558	606818.1429
PT	(41006)	210+79.16	435220.7214	605182.1113
RADIUS:		1637.02		
DELTA:		25°56'38.63"	Right	
DEGREE OF CURVE(ARC):		03°30'00.00"		
LENGTH:		741.26		
TANGENT:		377.09		
CHORD:		734.94		
MIDDLE ORDINATE:		41.78		
EXTERNAL:		42.87		
TANGENT DIRECTION:		N27°56'13.81"W		
RADIAL DIRECTION:		N62°03'46.19"E		
CHORD DIRECTION:		N14°57'54.50"W		
RADIAL DIRECTION:		N88°00'24.82"E		
TANGENT DIRECTION:		N01°59'35.18"W		

CIRCULAR CURVE (5)

		STATION	NORTHING	EASTING
PC	(42001)	304+85.68	433969.2368	605101.5474
HPI	(42002)	307+14.78	434073.4353	605305.5749
CC	(42003)		438626.9709	602722.8055
PT	(42004)	309+43.58	434195.0748	605499.7097
RADIUS:		5230.00		
DELTA:		05°00'58.91"	Left	
DEGREE OF CURVE(ARC):		01°05'43.88"		
LENGTH:		457.90		
TANGENT:		229.10		
CHORD:		457.75		
MIDDLE ORDINATE:		5.01		
EXTERNAL:		5.02		
TANGENT DIRECTION:		N62°56'46.45"E		
RADIAL DIRECTION:		S27°03'13.55"E		
CHORD DIRECTION:		N60°26'17.00"E		
RADIAL DIRECTION:		S32°04'12.46"E		
TANGENT DIRECTION:		N57°55'47.54"E		

CIRCULAR CURVE (6)

		STATION	NORTHING	EASTING
PC	(43000)	400+35.73	434254.9122	605607.1099
HPI	(43001)	402+85.60	434348.0453	605838.9680
CC	(43002)		439108.0264	603657.7042
PT	(43003)	405+35.08	434462.8578	606060.8914
RADIUS:		5230.00		
DELTA:		05°28'13.67"	Left	
DEGREE OF CURVE(ARC):		01°05'43.88"		
LENGTH:		499.35		
TANGENT:		249.86		
CHORD:		499.16		
MIDDLE ORDINATE:		5.96		
EXTERNAL:		5.97		
TANGENT DIRECTION:		N68°06'56.12"E		
RADIAL DIRECTION:		S21°53'03.88"E		
CHORD DIRECTION:		N65°22'49.29"E		
RADIAL DIRECTION:		S27°21'17.55"E		
TANGENT DIRECTION:		N62°38'42.45"E		

HORIZONTAL / VERTICAL CONTROL DATA

POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
TP-1	171+53.81	34.37	434246.9346	605587.9117	46.01
TP-2	175+26.87	-27.02	434526.3740	605333.3476	46.30
TP-3	209+74.36	-34.18	434221.9388	605521.2113	49.59
TP-4	206+22.00	-25.78	434054.1950	605211.2276	49.37
TP-5	201+05.69	15.60	433782.5158	604770.2242	48.10
TP-8	309+19.91	-17.04	434648.0317	606381.7266	44.61
TP-9	304+05.59	-17.45	434412.0677	605924.7326	47.89
TP-10	167+98.90	-25.09	433927.3979	605753.4253	47.81
TP-11	164+20.62	24.00	433654.3414	606019.7717	47.43
TP-13	204+06.30	-15.30	433946.7579	605023.8875	47.78
TP-14	208+55.13	-22.47	434157.2787	605420.3492	49.91
TP-16	301+25.25	62.81	434211.9574	605712.6185	46.54

ADDENDA / REVISIONS

SCALE
0 100 200 300
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

HORIZONTAL AND VERTICAL CONTROL

SECTION	CEN
SHEET NO.	11

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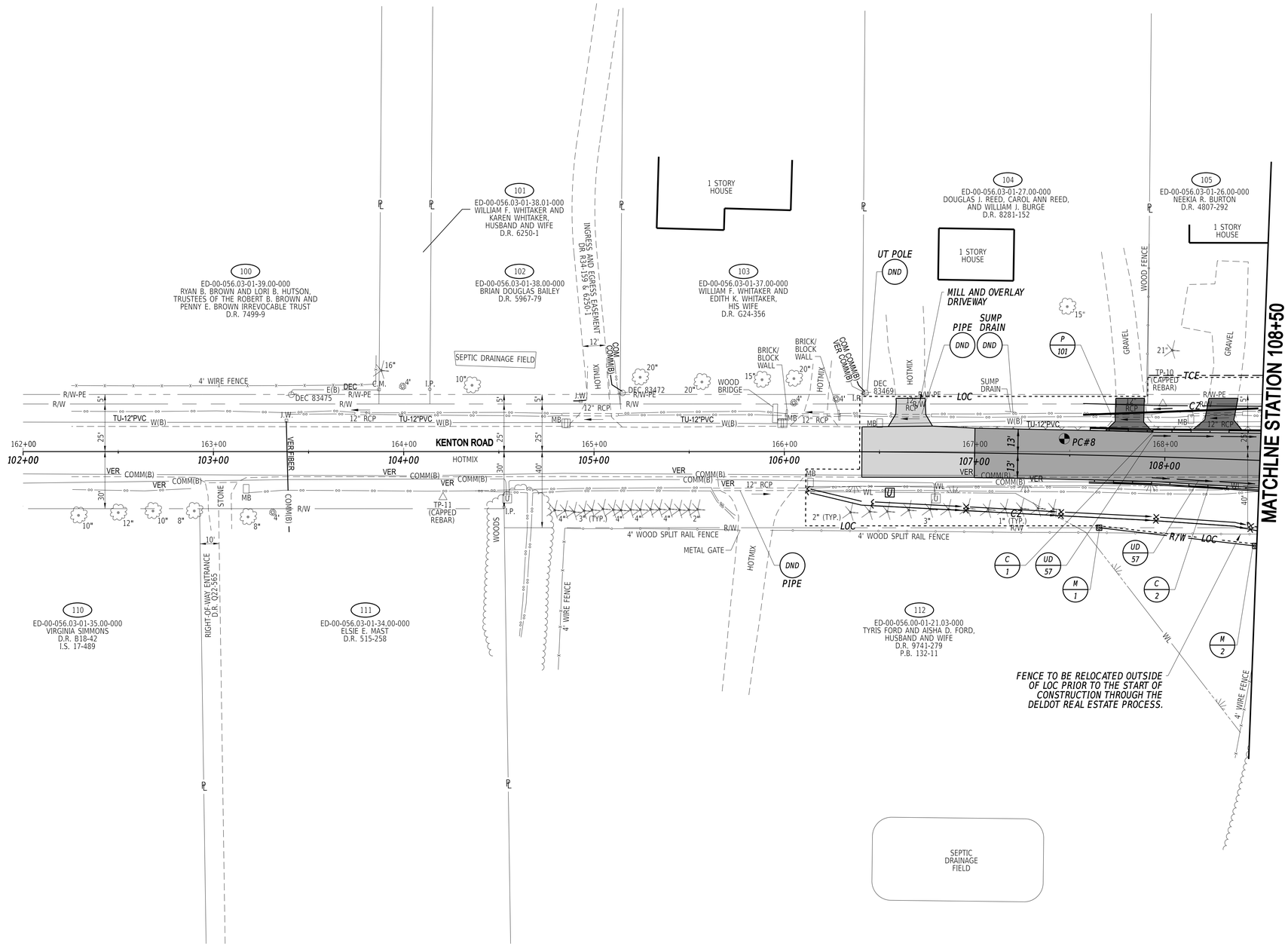

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
1	I.PCC CURB AND GUTTER, TYPE 3-4	90
2	I.PCC CURB AND GUTTER, TYPE 3-4	90

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
1	CONCRETE	107+66.40	38.00	433939.7097	605825.5652
2	CONCRETE	108+49.18	45.00	434011.0249	605784.0008

ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
8	107+46.99	-8.30	8" HMA, 1.25" ST

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INVERT EL.	DIS. EL.
101	12" RCP	V	93	0.0030	47.00	46.72

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

CONSTRUCTION PLAN

CP-01
SECTION CEN
SHEET NO. 12

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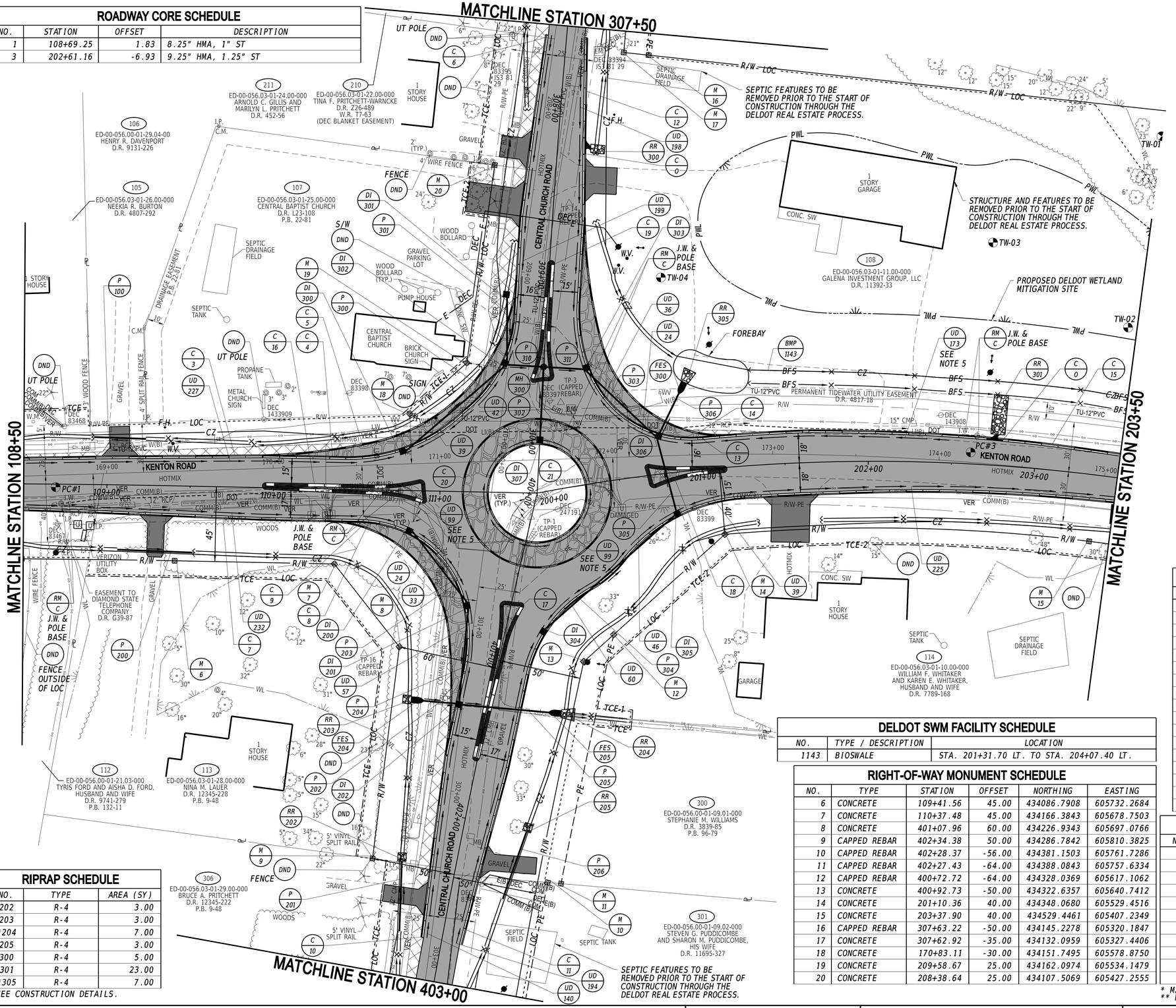

NOTES:

1. *INTERSECTION SIGHT EASEMENT PROVIDED AS FOLLOWS:*
   - *A. PP 107: DR I22-467*
   - *B. PP 108: DR I22-448*
   - *C. PP 113: DR H22-582*
   - *D. PP 114: DR H22-582*
2. *EX R/W PE FOR K155 PER CN 1866.*
3. *ALL PAVEMENT WITHIN THE LIMITS OF THE ROUNDABOUT ARE TO BE REMOVED TO THEIR FULL-DEPTH.*
4. *SEE UTILITY SHEETS FOR ALL UTILITY RELOCATIONS.*
5. *SEE MODIFIED UNDERAIN DETAIL.*

ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
1	108+69.25	1.83	8.25" HMA, 1" ST
3	202+61.16	-6.93	9.25" HMA, 1.25" ST

FLARED END SECTION SCHEDULE

NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
204	15" RCP	0.0155	YES
205	18" RCP	0.0030	NO
300	18" RCP	0.0030	NO

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
3	1.PCC CURB AND GUTTER, TYPE 3-4	144
4	1.PCC CURB AND GUTTER, TYPE 3-2 MODIFIED*	221
5	PCC CURB, TYPE 1-4	210
6	1.PCC CURB AND GUTTER, TYPE 3-4	146
7	1.PCC CURB AND GUTTER, TYPE 3-4	183
8	1.PCC CURB AND GUTTER, TYPE 3-2 MODIFIED*	200
9	PCC CURB, TYPE 1-4	183
10	1.PCC CURB AND GUTTER, TYPE 3-4	111
11	1.PCC CURB AND GUTTER, TYPE 3-4	567
12	1.PCC CURB AND GUTTER, TYPE 3-4	108
13	1.PCC CURB AND GUTTER, TYPE 3-2 MODIFIED*	197
14	PCC CURB, TYPE 1-4	181
15	1.PCC CURB AND GUTTER, TYPE 3-4	235
16	PCC CURB, TYPE 2 ROUNDABOUT	216
17	PCC CURB, TYPE 2 ROUNDABOUT	216
18	PCC CURB, TYPE 2 ROUNDABOUT	116
19	PCC CURB, TYPE 2 ROUNDABOUT	166
20	PCC CURB, TYPE 1-2 ROUNDABOUT	283
21	PCC CURB, TYPE 1-8	189

* SEE CONSTRUCTION DETAILS.

MANHOLE SCHEDULE

NO.	STATION	OFFSET	TYPE/SIZE	T.G. EL.	INVERT EL.
300	309+55.29	0.05	48" x 48"	48.59	44.21

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INVERT EL.	DIS. EL.
100	12" RCP	V	32	0.0030	47.22	47.13
200	15" RCP	IV	46	0.0041	45.42	45.23
201	15" RCP	IV	43	0.0198	46.68	45.84
202	15" RCP	IV	22	0.0155	44.35	44.01
203	18" RCP	IV	54	0.0030	44.34	44.18
204	18" RCP	IV	56	0.0030	44.18	44.01
205	18" RCP	IV	55	0.0030	44.01	43.85
206	15" RCP	IV	44	0.0177	45.95	45.19
300	18" RCP	IV	78	0.0030	44.50	44.27
301	18" RCP	IV	39	0.0030	44.39	44.27
302	15" RCP	IV	42	0.0030	45.25	44.41
303	18" RCP	IV	57	0.0030	44.14	43.97
304	18" RCP	IV	104	0.0030	44.42	44.11
305	18" RCP	IV	45	0.0030	44.11	43.97
306	18" RCP	IV	29	0.0030	43.97	43.89
310	18" RCP	IV	20	0.0030	44.27	44.21
311	18" RCP	IV	22	0.0030	44.21	44.14

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
200	110+82.19	**	48" x 48"	1	*	44.34
201	400+75.05	**	48" x 48"	1	*	44.18
202	401+33.86	**	48" x 30"	4	*	44.01
300	110+57.13	**	48" x 48"	1	*	44.50
301	309+13.12	25.03	48" x 30"	2	48.05	44.39
302	309+54.40	**	48" x 48"	1	*	44.27
307	309+99.19	**	34" x 24"	1	*	45.25
303	309+54.68	**	48" x 48"	1	*	44.14
304	400+80.40	**	48" x 30"	1	*	44.42
305	200+82.44	**	48" x 30"	1	*	44.11
306	200+76.31	**	48" x 48"	1	*	43.97

* MATCH FLOWLINE OF PROPOSED CURB OR CURB AND GUTTER.
** MATCH PROPOSED CURBLINE.

DELDOT SWM FACILITY SCHEDULE

NO.	TYPE / DESCRIPTION	LOCATION
1143	BIOSWALE	STA. 201+31.70 LT. TO STA. 204+07.40 LT.

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
6	CONCRETE	109+41.56	45.00	434086.7908	605732.2684
7	CONCRETE	110+37.48	45.00	434166.3843	605678.7503
8	CONCRETE	401+07.96	60.00	434226.9343	605697.0766
9	CAPPED REBAR	402+34.38	50.00	434286.7842	605810.3825
10	CAPPED REBAR	402+28.37	-56.00	434381.1503	605761.7286
11	CAPPED REBAR	402+27.43	-64.00	434388.0843	605757.6334
12	CONCRETE	400+72.72	-64.00	434328.0369	605617.1062
13	CONCRETE	400+92.73	-50.00	434322.6357	605640.7412
14	CONCRETE	201+10.36	40.00	434348.0680	605529.4516
15	CONCRETE	203+37.90	40.00	434529.4461	605407.2349
16	CAPPED REBAR	307+63.22	-50.00	434145.2278	605320.1847
17	CONCRETE	307+62.92	-35.00	434132.0959	605327.4406
18	CONCRETE	170+83.11	-30.00	434151.7495	605578.8750
19	CONCRETE	209+58.67	25.00	434162.0974	605534.1479
20	CONCRETE	208+38.64	25.00	434107.5069	605427.2555

RIPRAP SCHEDULE

NO.	TYPE	AREA (SY)
202	R-4	3.00
203	R-4	3.00
*204	R-4	7.00
205	R-4	3.00
300	R-4	5.00
301	R-4	23.00
*305	R-4	7.00

* SEE CONSTRUCTION DETAILS.

ADDENDA / REVISIONS	

SCALE 0 30 60 90 FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

CONSTRUCTION PLAN

CP-02
SECTION CEN
SHEET NO. 13

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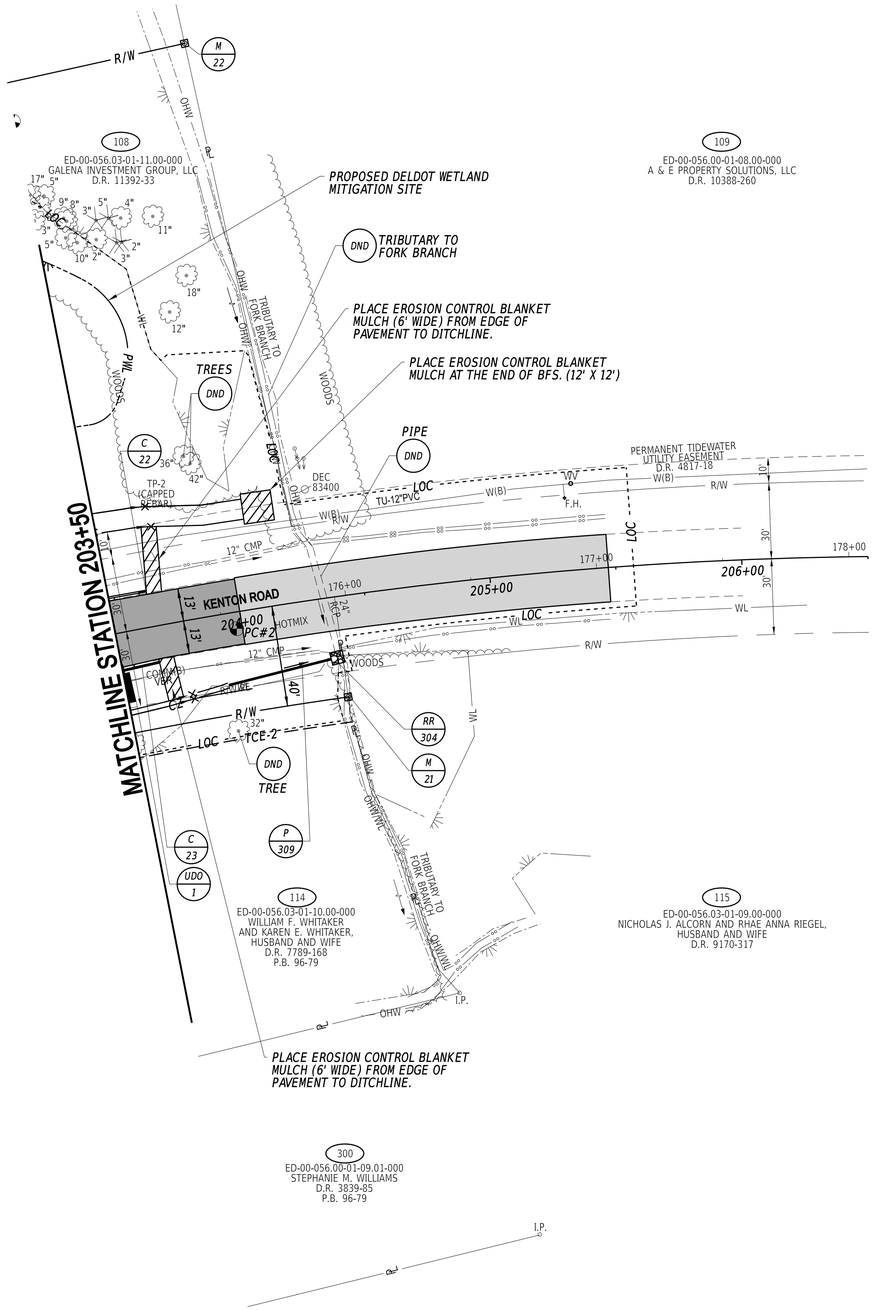

UNDERDRAIN OUTLETS

NO.	LENGTH	DIS. EL.
1	15	44.30

RIPRAP SCHEDULE

NO.	TYPE	AREA (SY)
304	R-4	3.00

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
22	I.PCC CURB AND GUTTER, TYPE 3-4	15
23	I.PCC CURB AND GUTTER, TYPE 3-4	15

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
21	CAPPED REBAR	204+37.82	40.00	434616.8998	605364.2238
22	CONCRETE	204+13.22	-225.49	434481.6625	605134.2912

ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
2	203+97.72	6.50	9" HMA, 1.5" ST

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INVERT EL.	DIS. EL.
309	15" RCP	V	42	0.0105	43.46	43.02

CP-03

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204	BRIDGE NO.	N/A
COUNTY	KENT	DESIGNED BY:	A. HALLER
		CHECKED BY:	L. HAXTON

CONSTRUCTION PLAN

SECTION: CEN
SHEET NO.: 14

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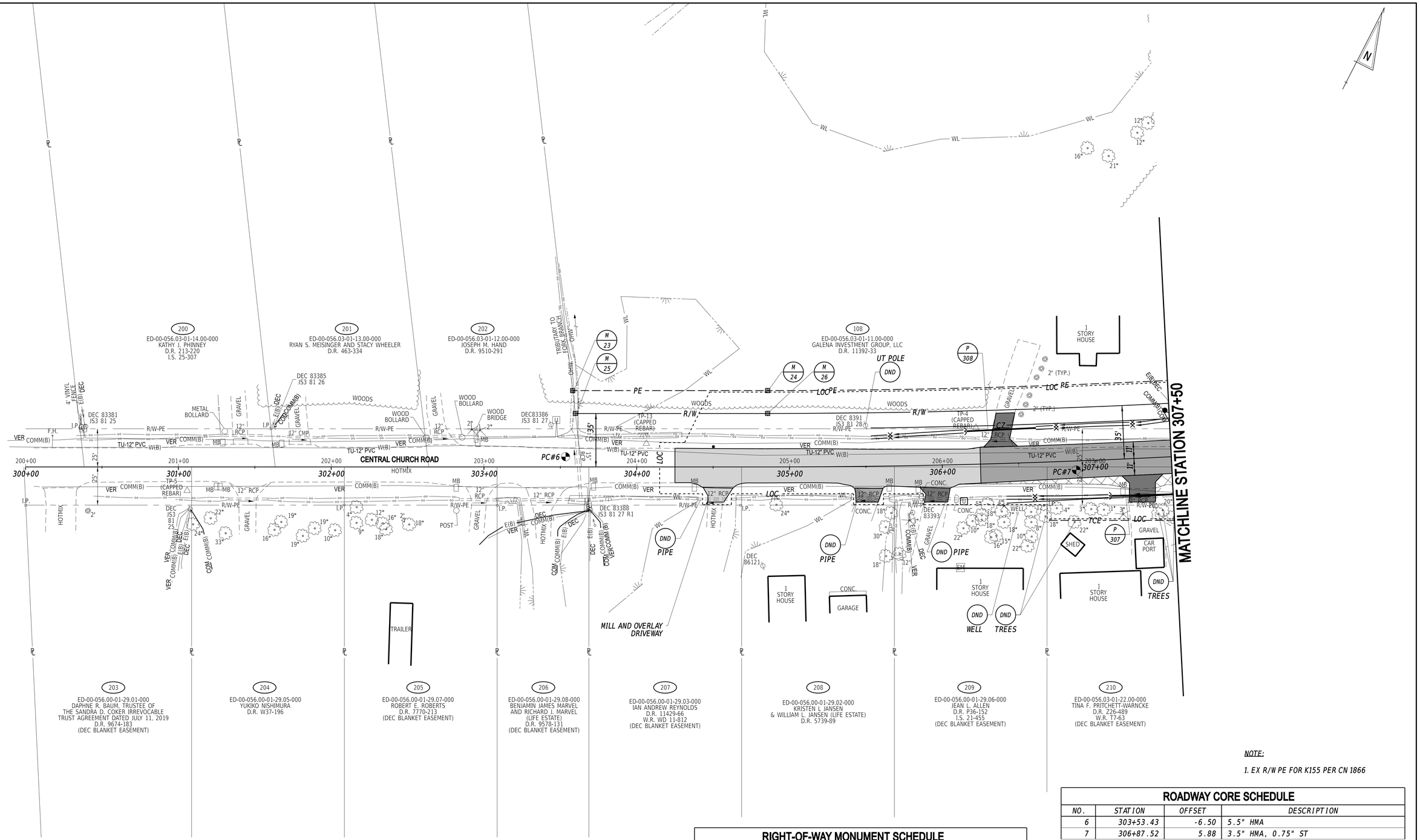

NOTE:

1. EX R/W PE FOR K155 PER CN 1866

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
23	CAPPED REBAR	303+58.07	-50.00	433955.7236	604965.1556
24	CAPPED REBAR	304+85.68	-50.00	434013.7658	605078.8061
25	CONCRETE	303+59.82	-35.00	433943.1606	604973.5360
26	CONCRETE	304+85.68	-35.00	434000.4071	605085.6285

ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
6	303+53.43	-6.50	5.5" HMA
7	306+87.52	5.88	3.5" HMA, 0.75" ST

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INVERT EL.	DIS. EL.
307	15" RCP	V	42	0.0066	48.27	48.00
308	15" RCP	V	46	0.0070	47.86	47.54

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

CONSTRUCTION PLAN

CP-04

SECTION	CEN
SHEET NO.	15

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NOTE:

1. EX R/W PE FOR K155 PER CN 1866.

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
27	CAPPED REBAR	403+39.95	-56.00	434427.1139	605862.0940
28	CONCRETE	403+40.48	-50.00	434421.9085	605865.1232
29	CAPPED REBAR	405+46.56	-50.00	434512.5438	606048.1167

ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
4	406+17.85	7.47	3.75" HMA, 0.5" ST
5	403+66.71	-3.88	6" HMA, 0.5" ST

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204	BRIDGE NO.	N/A
COUNTY	KENT	DESIGNED BY:	A. HALLER
		CHECKED BY:	L. HAXTON

CONSTRUCTION PLAN

CP-05

SECTION CEN

SHEET NO. 16

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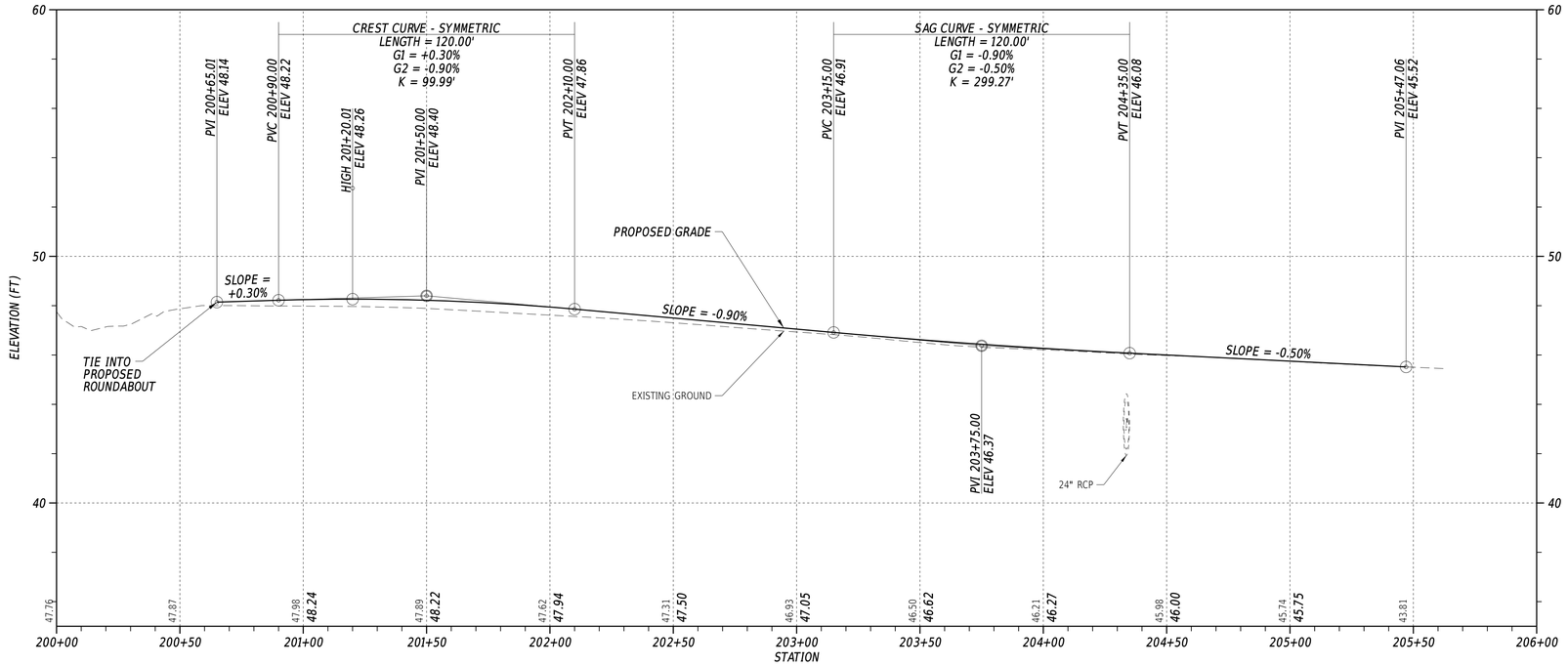
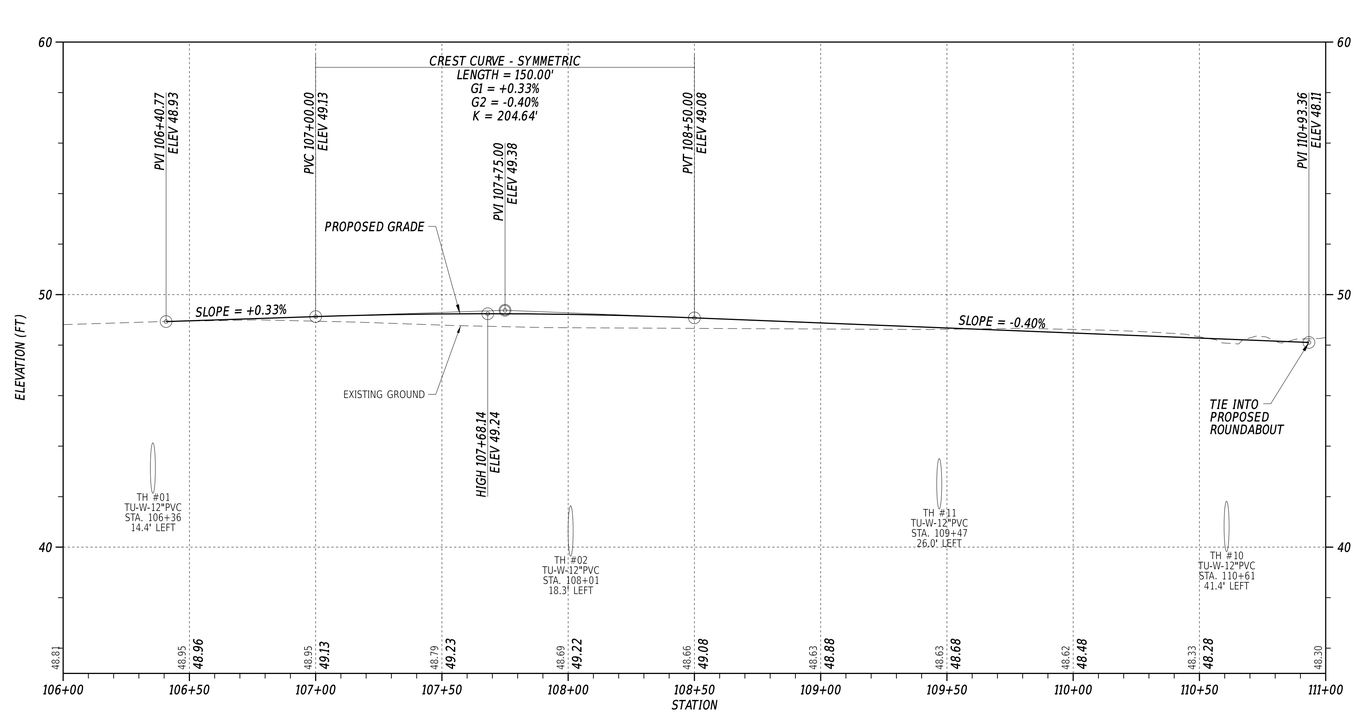


KENTON ROAD STATION 200+00 TO 206+00



KENTON ROAD STATION 106+00 TO 111+00

VERTICAL SCALE FEET: 0, 3, 6, 9

ADDENDA / REVISIONS	SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO. N/A	PROFILES	SECTION
	0 30 60 90 FEET		T202104204	DESIGNED BY: A. HALLER		CEN
			COUNTY	CHECKED BY: L. HAXTON		SHEET NO.
			KENT			17

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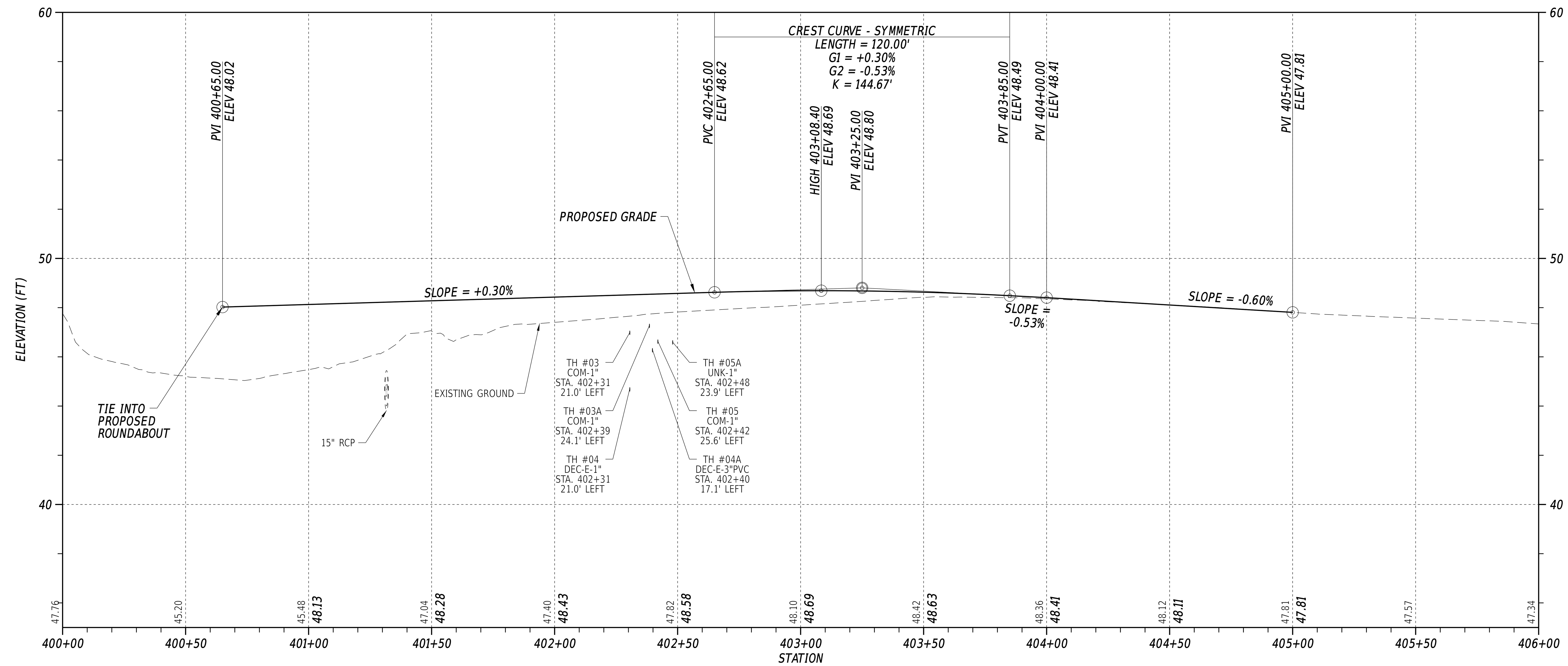
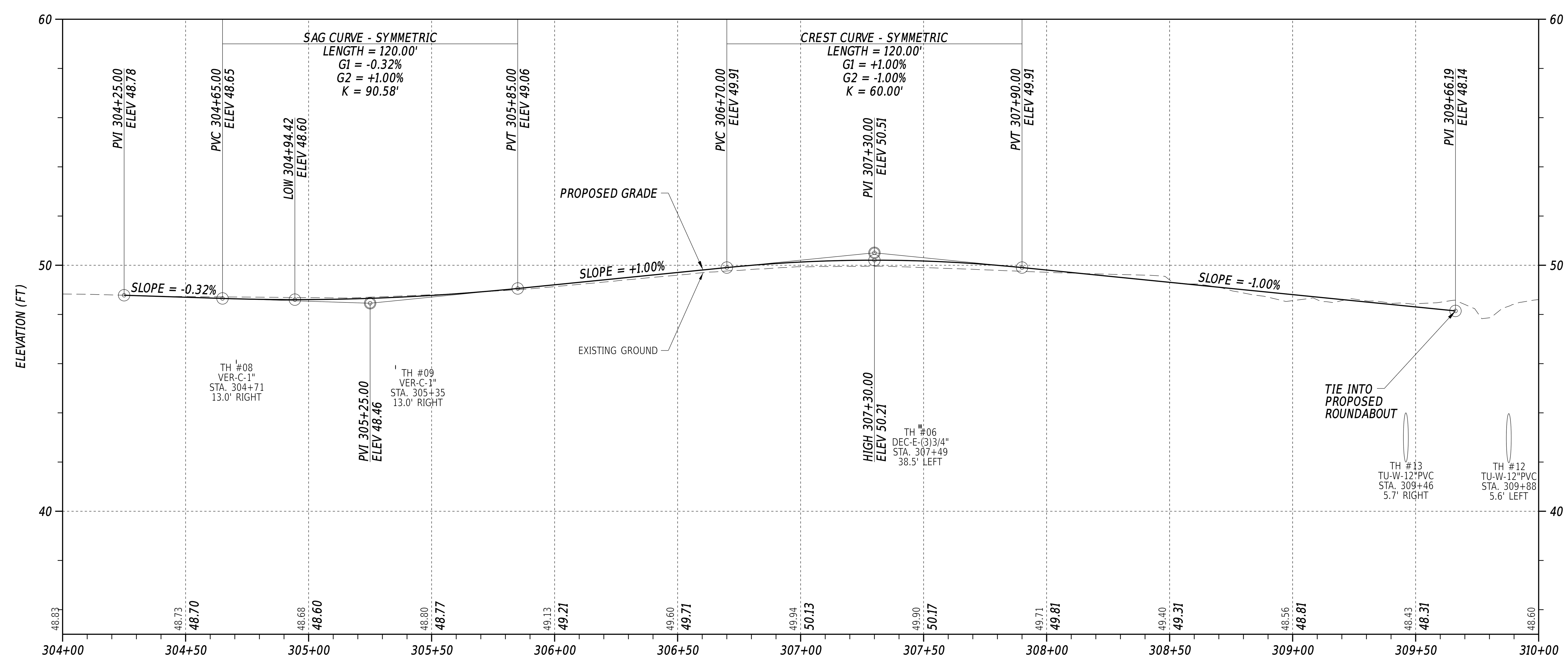


CENTRAL CHURCH ROAD STATION 400+00 TO 406+00



CENTRAL CHURCH ROAD STATION 304+00 TO 310+00

VERTICAL SCALE FEET 0 3 6 9

ADDENDA / REVISIONS	SCALE 0 30 60 90 FEET	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	PROFILES	SECTION CEN
			COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 18
				CHECKED BY: L. HAXTON		

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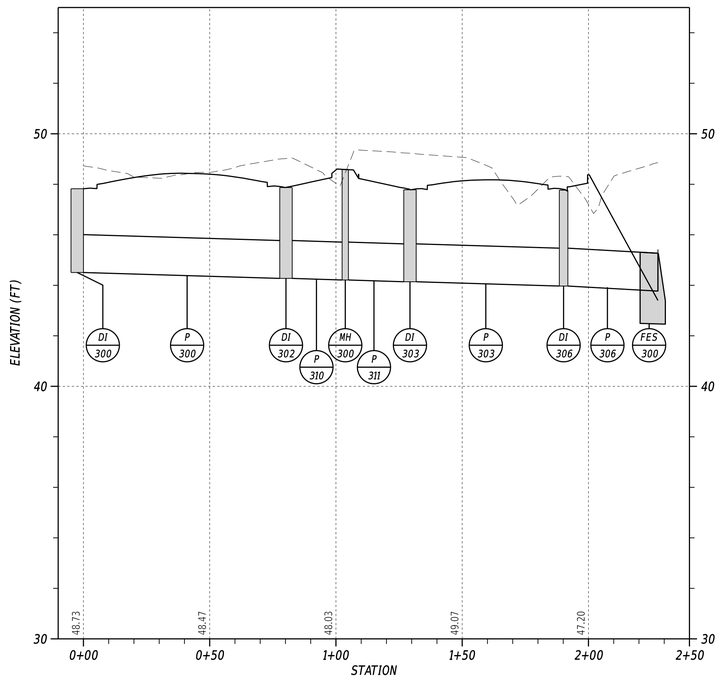
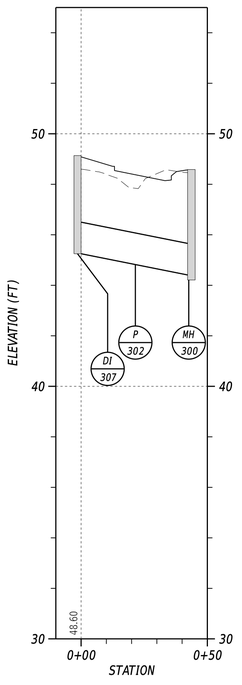
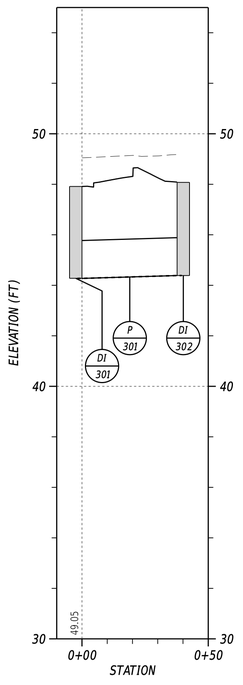


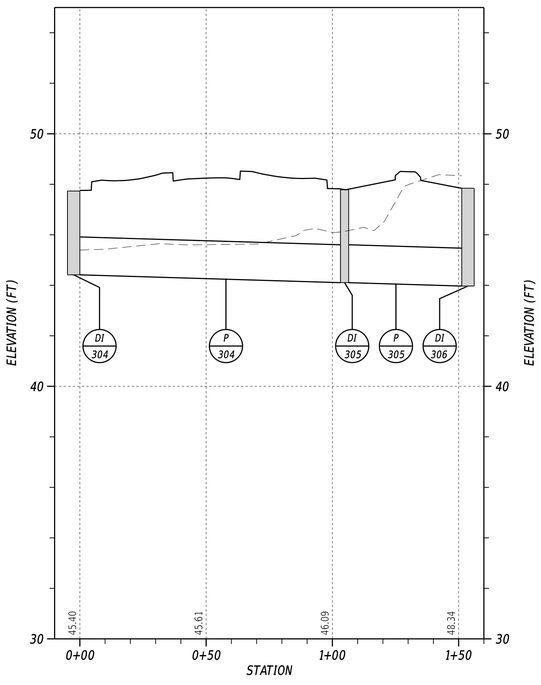
DI-300 TO FES-300



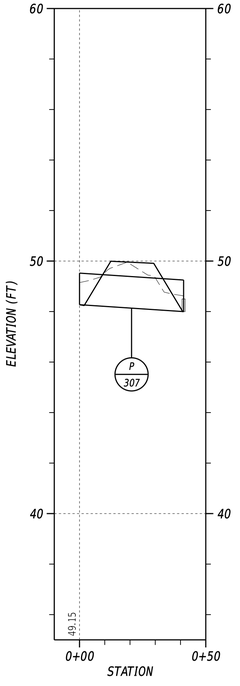
DI-307 TO MH-300



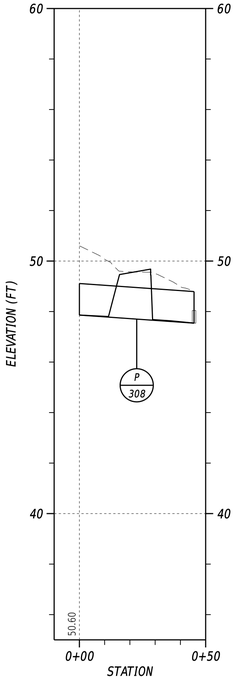
DI-301 TO DI-302



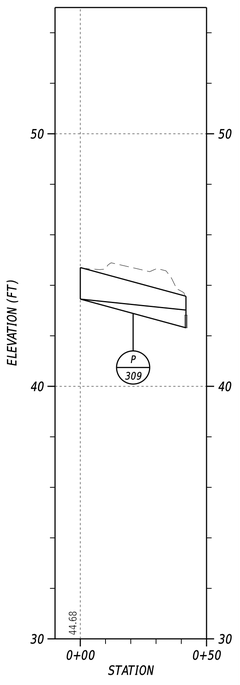
DI-304 TO DI-306



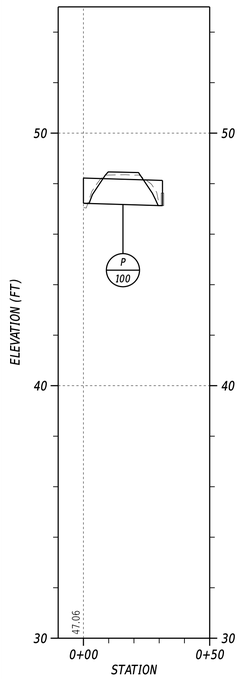
P-307



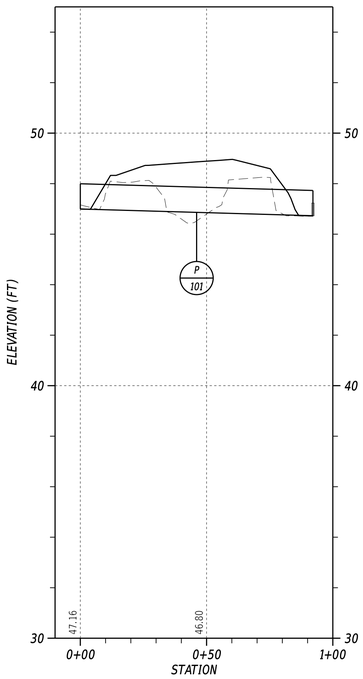
P-308



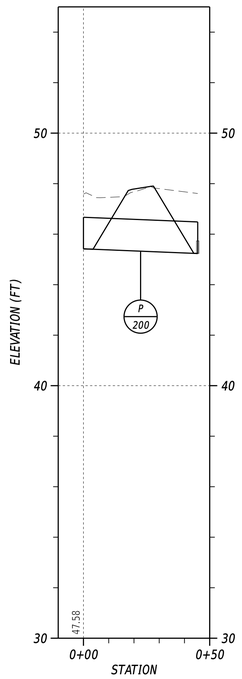
P-309



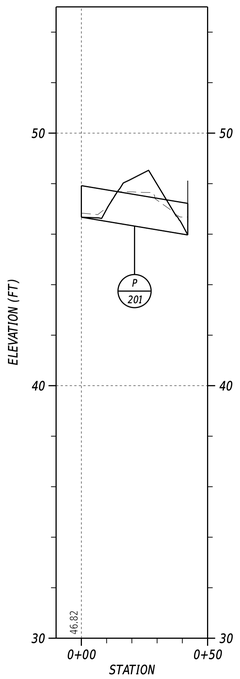
P-100



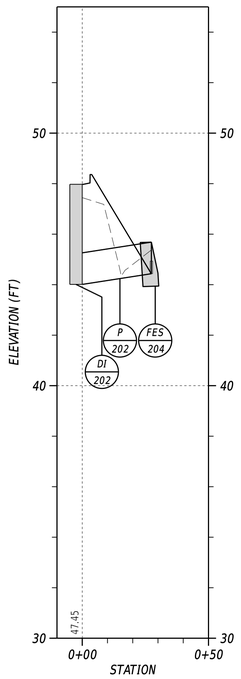
P-101



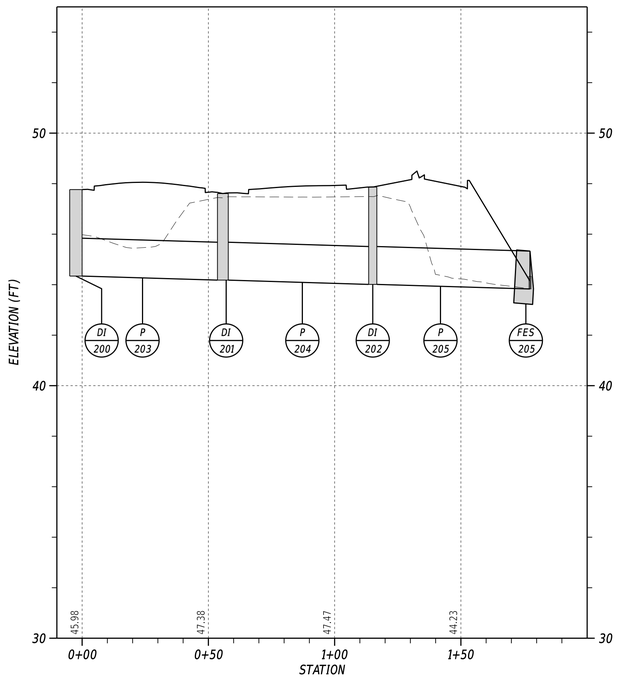
P-200



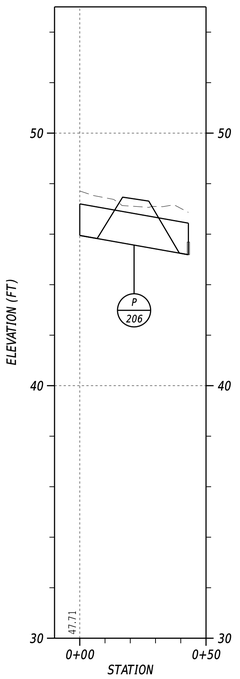
P-201



DI-202 TO FES-204



DI-200 TO FES-205



P-206

VERTICAL SCALE FEET
9
6
3
0

ADDENDA / REVISIONS		SCALE 0 30 60 90 FEET	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	PROFILES	SECTION CEN
				COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 19
					CHECKED BY: L. HAXTON		

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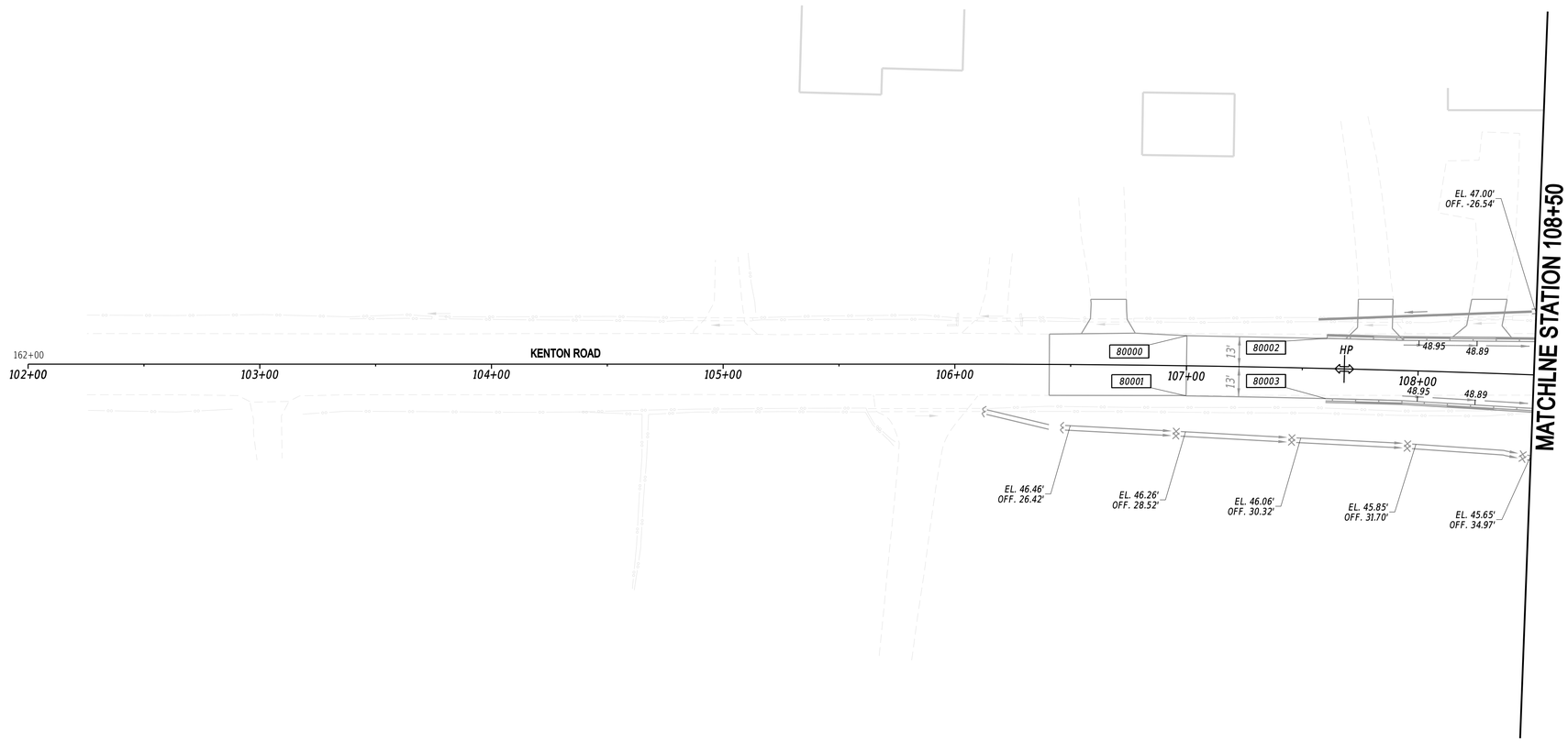
COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
80000	107+00.00	-13.00	433856.1286	605822.9077
80001	107+00.00	13.00	433871.4302	605843.9282
80002	107+60.42	-13.00	433905.2269	605787.4909
80003	107+60.34	13.00	433920.2769	605808.7173



NOTES:

1. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION & R/W BASELINE.
2. UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
3. RADII ARE GIVEN TO EDGE OF PAVEMENT.
4. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
5. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501-CONSTRUCTION ENGINEERING.
6. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT SHALL MATCH ELEVATIONS.

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

GRADES AND GEOMETRICS

GG-01
SECTION CEN
SHEET NO. 20

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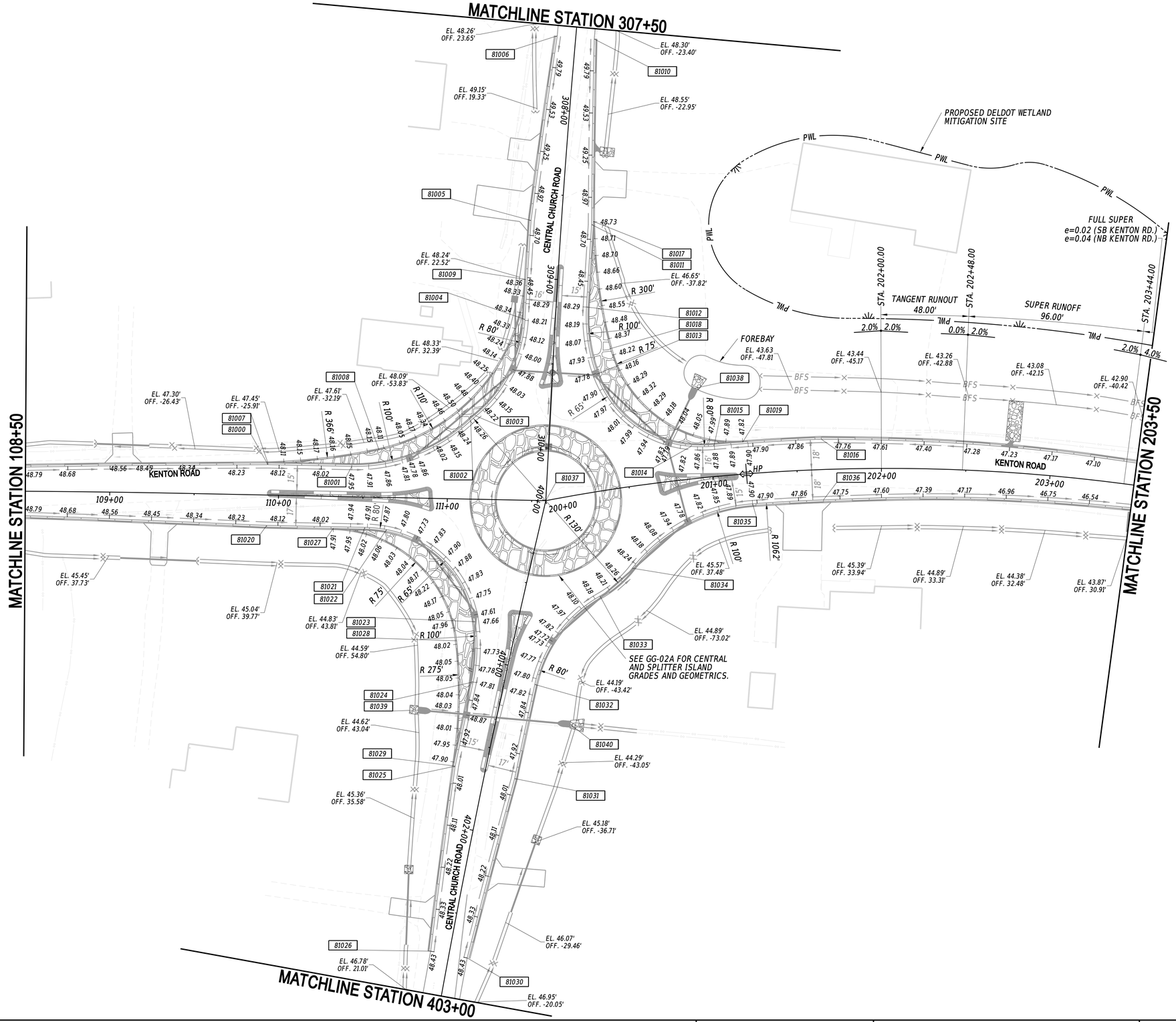

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
81000	109+93.38	-18.00	434094.6370	605651.0754
81001	110+43.03	-18.00	434135.8435	605623.3685
81002	111+12.93	-46.48	434177.9534	605560.7289
81003	309+83.27	43.92	434178.9359	605556.6622
81004	309+24.65	18.00	434169.7637	605493.1499
81005	308+66.16	18.00	434139.0647	605443.1367
81006	307+56.20	11.00	434088.9265	605344.6815
81007	109+93.36	-18.93	434094.1006	605650.3109
81008	110+58.97	-28.12	434143.4224	605606.0832
81009	309+01.10	18.92	434156.5530	605473.5308
81010	307+56.20	-11.00	434107.9757	605333.6757
81011	308+66.22	-18.00	434169.8806	605424.5253
81012	309+15.30	-18.00	434195.4299	605466.2319
81013	309+54.88	-25.97	434223.0832	605495.5000
81014	200+89.23	-19.21	434293.6676	605498.0885
81015	201+02.37	-18.00	434304.5768	605490.2723
81016	201+65.01	-18.00	434354.2247	605450.3956
81017	308+64.25	-18.92	434169.6472	605422.3712
81018	309+39.19	-33.60	434221.2334	605478.1664
81019	201+19.26	-18.92	434317.1538	605478.5283
81020	109+93.36	18.00	434114.7122	605680.9583
81021	110+51.49	18.00	434162.9522	605648.5221
81022	110+64.34	19.04	434174.1914	605642.2158
81023	400+79.17	24.51	434248.6067	605656.6730
81024	401+14.18	18.00	434268.0955	605686.6380
81025	401+64.99	18.00	434288.0380	605733.5693
81026	402+74.99	11.00	434339.1310	605831.5757
81027	110+32.86	18.92	434148.0017	605659.6793
81028	400+92.56	32.80	434246.0750	605672.2812
81029	401+64.99	18.93	434287.1873	605733.9362
81030	402+74.99	-11.00	434359.1492	605822.4505
81031	401+64.99	-18.00	434321.1020	605719.3294
81032	401+07.77	-18.00	434298.8330	605666.8340
81033	400+47.81	-44.14	434300.3433	605601.7654
81034	200+44.82	48.02	434306.5082	605577.2891
81035	201+22.26	18.00	434342.9344	605505.1221
81036	201+65.01	18.00	434375.9449	605479.1051
81037	111+58.36	0.00	434241.5939	605573.9534
81038	200+94.70	-53.22	434275.6336	605468.7041
81039	401+37.16	46.34	434250.9700	605718.9628
81040	401+26.42	-43.53	434329.5439	605674.0423

NOTES:

1. *OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION & R/W BASELINE.*
2. *UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.*
3. *RADII ARE GIVEN TO EDGE OF PAVEMENT.*
4. *UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.*
5. *ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501-CONSTRUCTION ENGINEERING.*
6. *PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT SHALL MATCH ELEVATIONS.*

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

GRADES AND GEOMETRICS

GG-02

SECTION CEN

SHEET NO. 21

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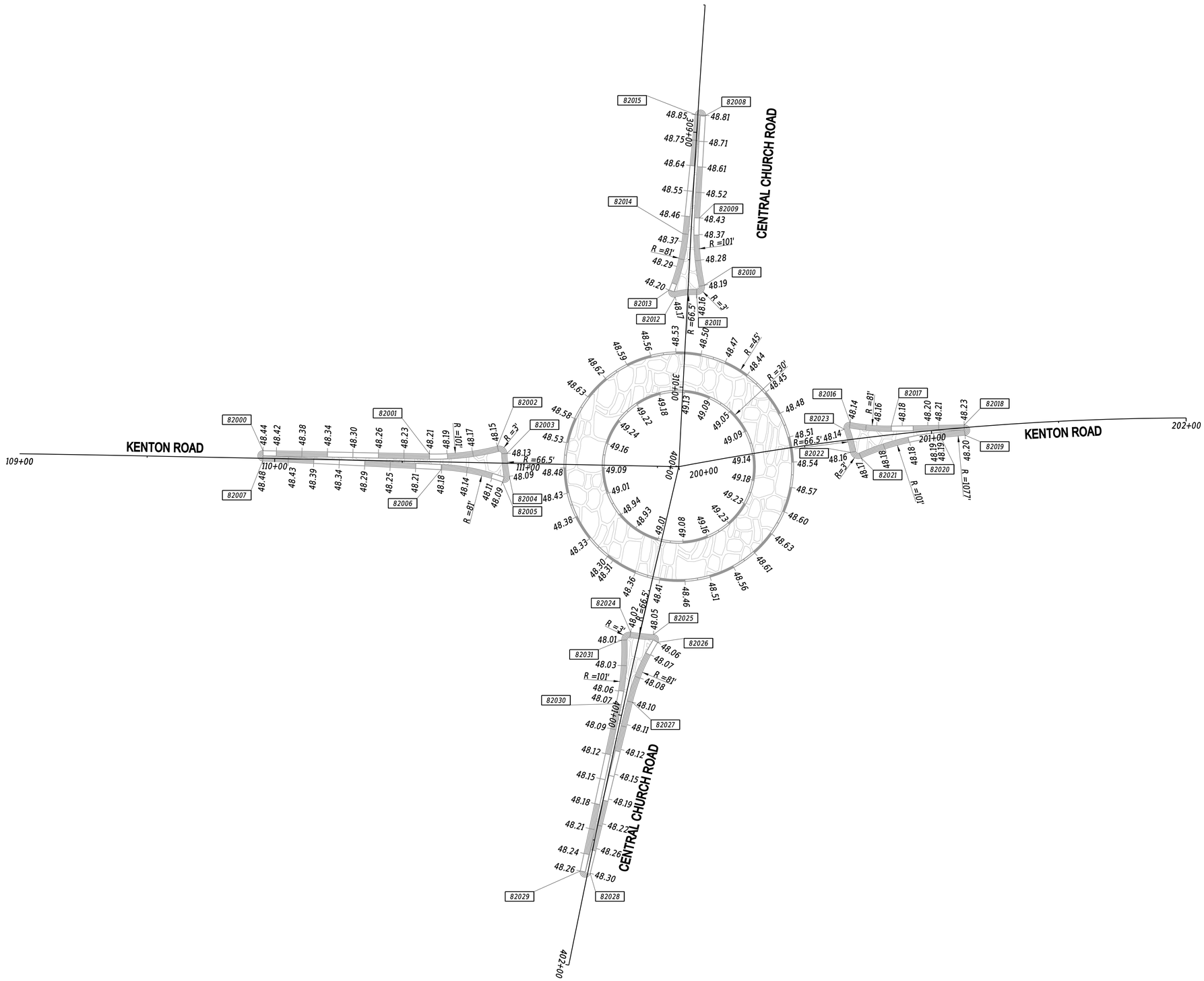

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
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82002	110+87.12	-6.54	434178.8255	605608.2744
82003	110+90.91	-3.82	434183.4808	605608.4193
82004	110+92.05	5.12	434189.4173	605615.2044
82005	110+89.43	7.40	434188.5209	605618.5527
82006	110+65.46	3.03	434166.1905	605628.3102
82007	109+95.31	1.00	434106.8376	605665.7665
82008	308+93.19	-3.00	434171.0820	605455.3104
82009	309+33.46	-2.97	434192.2339	605489.5550
82010	309+59.68	-6.27	434208.9388	605510.0242
82011	309+63.44	-3.44	434208.5386	605514.7102
82012	309+64.82	4.90	434202.1987	605520.3152
82013	309+62.26	7.39	434198.7310	605519.4685
82014	309+39.98	3.10	434190.5383	605498.2992
82015	308+93.11	1.00	434167.6347	605457.3374
82016	200+68.81	-6.61	434286.6086	605521.2324
82017	200+84.63	-3.34	434300.6349	605513.0801
82018	201+13.01	-1.00	434323.7457	605496.3424
82019	201+13.01	3.00	434326.3098	605499.4125
82020	201+03.44	3.00	434319.0161	605505.5591
82021	200+71.43	7.66	434298.1245	605530.0614
82022	200+67.56	5.00	434293.4860	605530.6708
82023	200+66.25	-4.29	434286.2695	605524.6785
82024	400+67.45	3.65	434263.4471	605637.8867
82025	400+66.33	-5.27	434271.2747	605633.4773
82026	400+68.95	-7.54	434274.3688	605635.0406
82027	400+94.05	-3.02	434279.7415	605659.9460
82028	401+63.07	-1.00	434304.7278	605724.2901
82029	401+62.99	3.00	434301.0218	605725.7939
82030	400+95.99	3.04	434274.8834	605664.0612
82031	400+71.21	6.38	434262.3493	605642.4069

NOTES:

1. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION & R/W BASELINE.
2. UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
3. RADII ARE GIVEN TO EDGE OF PAVEMENT.
4. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
5. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501-CONSTRUCTION ENGINEERING.
6. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT SHALL MATCH ELEVATIONS.
7. ALL CURB, TYPE 2, RADII SHALL BE 2' UNLESS OTHERWISE NOTED.

ADDENDA / REVISIONS

SCALE
0 20 40 60
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

GRADES AND GEOMETRICS

GG-02A

SECTION
CEN
SHEET NO.
22

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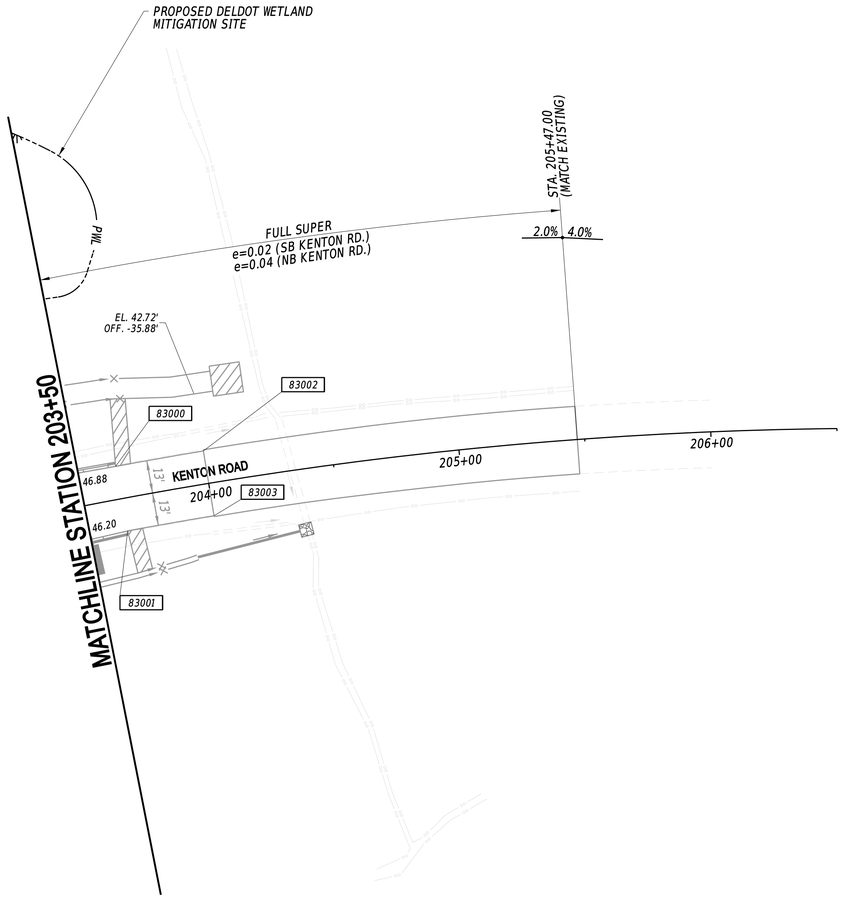

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
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83001	203+65.00	13.00	434540.6491	605370.9841
83002	204+00.00	-13.00	434560.4566	605332.1423
83003	204+00.00	13.00	434571.7578	605355.5577

NOTES:

1. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION & R/W BASELINE.
2. UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
3. RADII ARE GIVEN TO EDGE OF PAVEMENT.
4. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
5. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501-CONSTRUCTION ENGINEERING.
6. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT SHALL MATCH ELEVATIONS.

ADDENDA / REVISIONS	

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

GRADES AND GEOMETRICS

GG-03

SECTION: CEN

SHEET NO.: 23

21-OCT-2025
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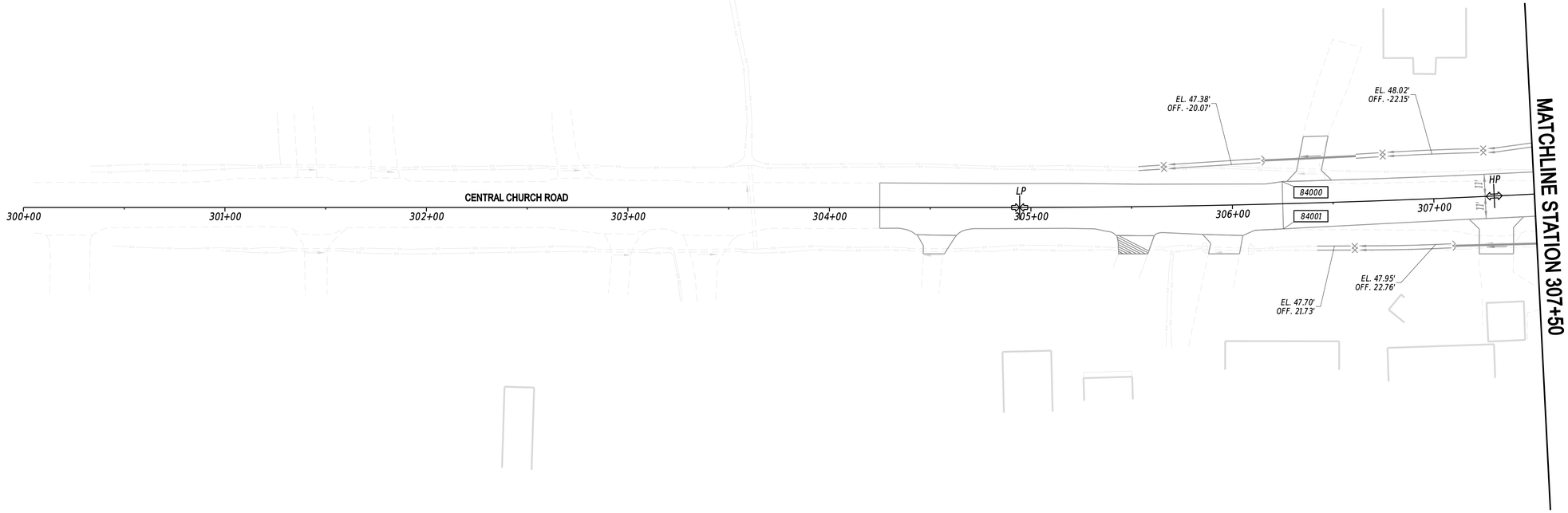
COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
84000	306+25.00	-11.00	434043.9065	605219.4997
84001	306+25.00	12.45	434023.3175	605230.7159



NOTES:

1. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION & R/W BASELINE.
2. UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
3. RADII ARE GIVEN TO EDGE OF PAVEMENT.
4. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
5. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501-CONSTRUCTION ENGINEERING.
6. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT SHALL MATCH ELEVATIONS.

ADDENDA / REVISIONS	

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

GRADES AND GEOMETRICS

GG-04

SECTION	SHEET NO.
CEN	24

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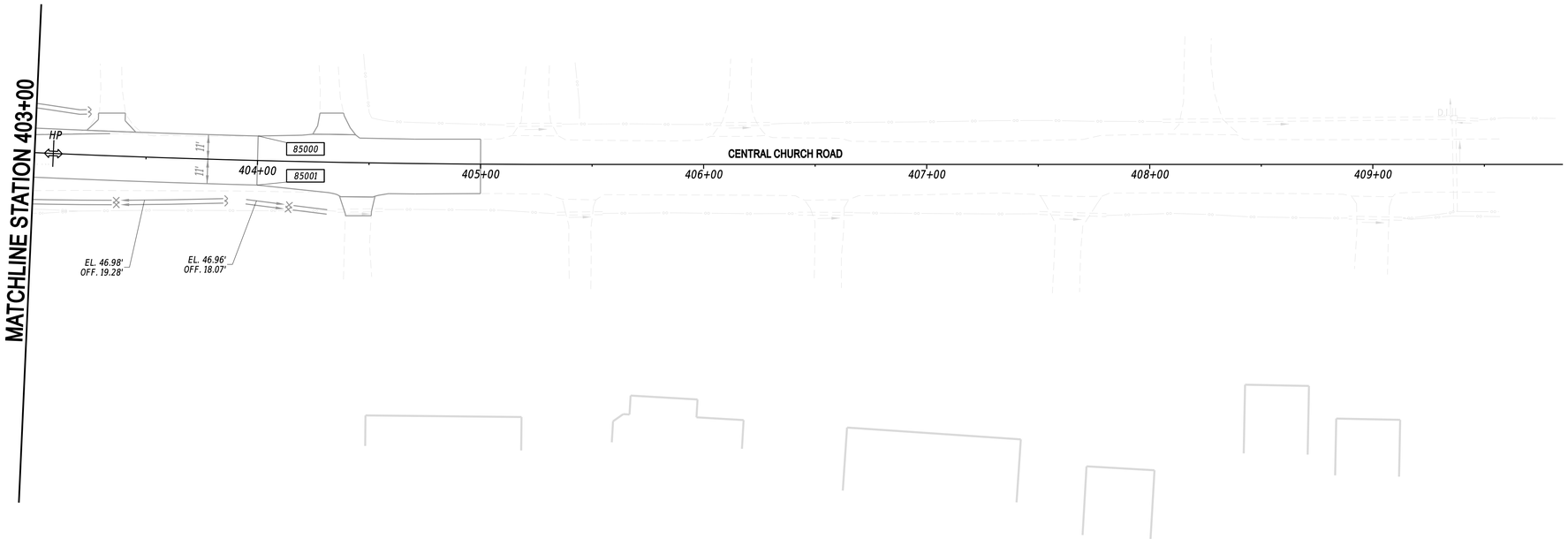

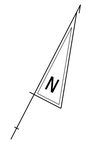

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
85000	404+00.00	-11.00	434412.2422	605935.3283
85001	404+00.00	11.00	434392.4477	605944.9293

NOTES:

1. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION & R/W BASELINE.
2. UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN TO THE EDGE OF PAVEMENT.
3. RADII ARE GIVEN TO EDGE OF PAVEMENT.
4. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS AT CURB RETURNS ARE GIVEN AT 10 FOOT INTERVALS.
5. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 7635O1-CONSTRUCTION ENGINEERING.
6. PROPOSED CURBS OR PAVEMENT THAT TIE INTO EXISTING PAVEMENT SHALL MATCH ELEVATIONS.

ADDENDA / REVISIONS		SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO.	N/A	GRADES AND GEOMETRICS	GG-05
		0 30 60 90		T202104204				SECTION
		FEET		COUNTY	DESIGNED BY:	A. HALLER		CEN
				KENT	CHECKED BY:	L. HAXTON		SHEET NO.
								25

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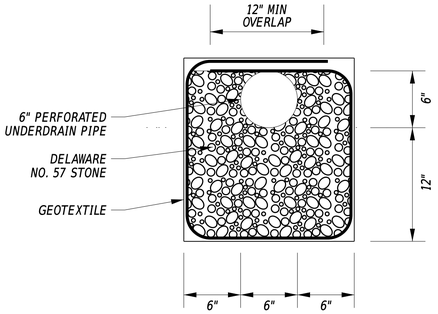
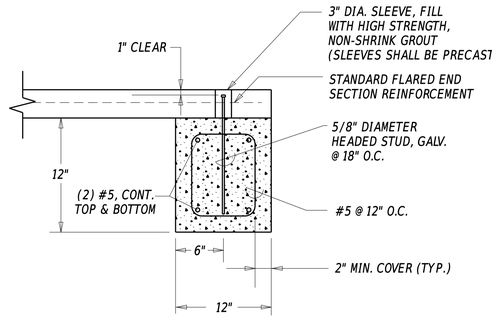


MODIFIED UNDERDRAIN DETAIL
N.T.S.

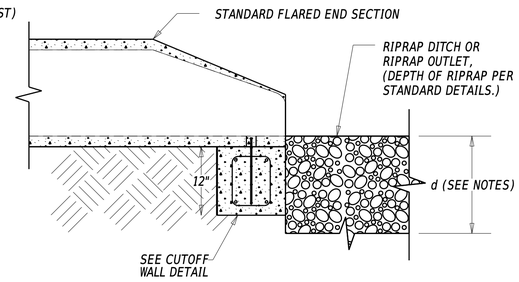
ITEM 709001 - PERFORATED PIPE UNDERDRAINS, 6"

NOTES:

1. APPLIED FROM STA. 201+20 LEFT TO 202+50 LEFT.
2. APPLIED TO UNDERDRAIN WITHIN CENTRAL ISLAND OF ROUNDABOUT.



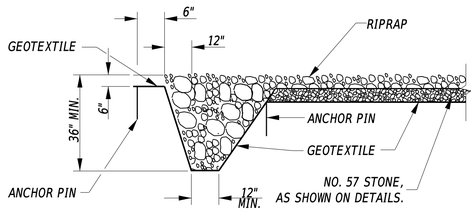
CUTOFF WALL DETAIL
N.T.S.



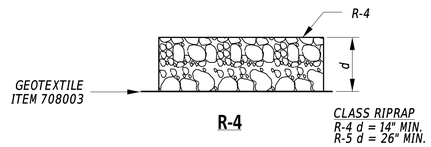
SIDE VIEW WITH OUTLET PROTECTION
N.T.S.

NOTES:

1. FLARED END SECTIONS SMALLER THAN 24 INCHES SHALL UTILIZE DELDOT STANDARD DETAIL D-8, PIPE FLARED END SUPPORT. FLARED END SECTIONS 24 INCHES AND LARGER SHALL UTILIZE THE DETAIL PROVIDED ON THIS SHEET.
2. FLARED END SECTIONS SHALL BE BEDDED IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATION 601, REINFORCED CONCRETE PIPE.
3. FLARED END SECTIONS SHALL RECEIVE A 12 INCH WIDE CUTOFF WALL CONSTRUCTED AS SHOWN. CUTOFF WALL MAY BE CAST-IN-PLACE OR PRECAST CLASS B CONCRETE. ALL COSTS FOR THE CUTOFF WALL SHALL BE INCIDENTAL TO THE FLARED END SECTION BEING INSTALLED.
4. DEPTH OF RIPRAP (d) PER STANDARD DETAILS.
5. PAYMENT FOR CUTOFF WALL EXCAVATION, CONCRETE, REBAR, SLEEVE, GROUT, AND GALVANIZED STUD ARE INCIDENTAL TO THE FLARED END SECTION BEING INSTALLED.



RIPRAP KEY-IN DETAIL
N.T.S.

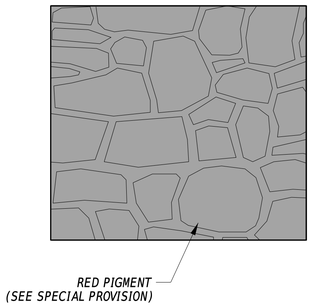


RIPRAP BLANKET SECTION DETAILS
N.T.S.

NOTES:

1. SEE CONSTRUCTION PLANS FOR LOCATIONS AND SIZES OF RIPRAP BLANKET.
2. RIPRAP SHALL BE KEYED IN AT DOWNSTREAM END OF BLANKET FOLLOWING RIPRAP KEY-IN DETAIL.
3. FOR RIPRAP PAID BY SY, ONLY THE TOP SURFACE OF THE KEY WILL BE MEASURE FOR PAYMENT.

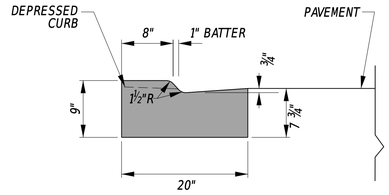
ADDENDA / REVISIONS	NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	CONSTRUCTION DETAILS	SECTION CEN
			COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 26
				CHECKED BY: L. HAXTON		



PATTERNED PORTLAND CEMENT CONCRETE DETAIL
N.T.S.

NOTES:

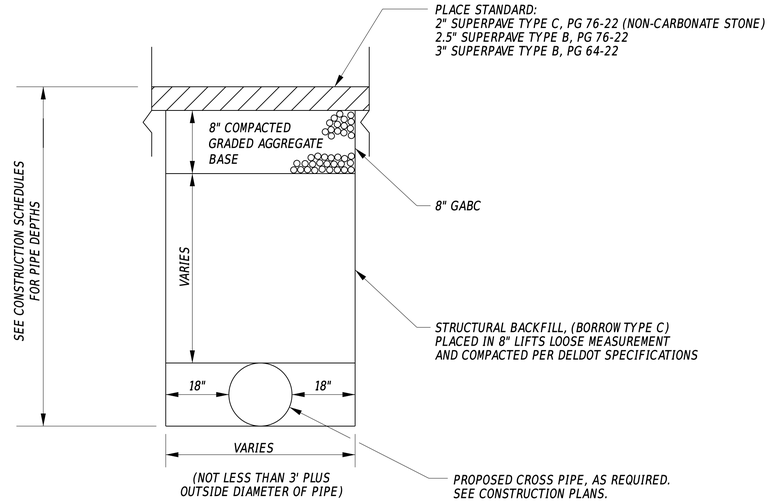
1. PLACE IN ROUNDABOUT TRUCK APRONS AND SPLITTER ISLANDS.
2. CONTRACTOR SHALL SUBMIT MEANS AND METHODS FOR CONSTRUCTION OF THE PATTERNED PCC SIDEWALK TO THE ENGINEER FOR APPROVAL.
3. PAID FOR UNDER ITEM 705521 - PATTERNED PCC SIDEWALK, 8".



I.PCC CURB AND GUTTER TYPE 3-2, MODIFIED DETAIL
N.T.S.

NOTES:

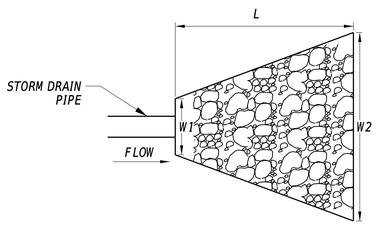
1. PAID FOR UNDER ITEM 701020 - I.PCC CURB AND GUTTER, TYPE 3-2.



TEMPORARY PATCH DETAIL (BITUMINOUS CONCRETE)
N.T.S.

NOTES:

1. TRANSVERSE SLOPES SHOULD BE A MINIMUM OF 6:1, LONGITUDINAL SLOPES SHOULD BE A MINIMUM OF 10:1 UNLESS OTHERWISE PROTECTED.

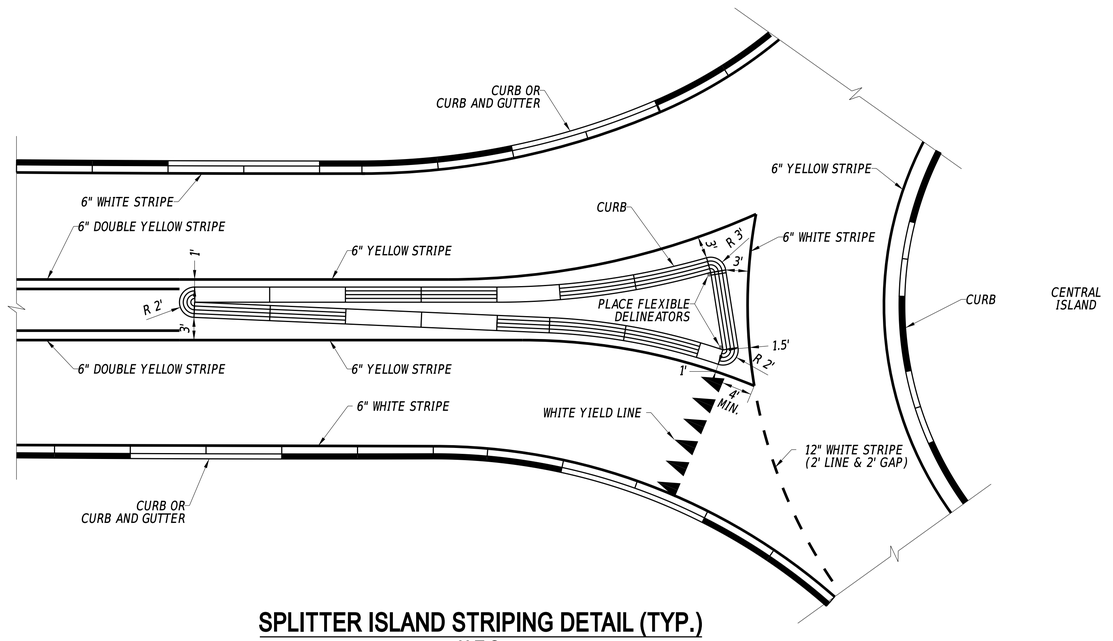


RIPRAP SCHEDULE			
NO.	W1 (FT)	W2 (FT)	L (FT)
204	4.5	7.7	8.0
305	4.5	7.7	8.0

NOTES:

1. PLACE A MINIMUM BLANKET THICKNESS OF 18"

RIPRAP OUTLET PROTECTION DETAIL
N.T.S.



SPLITTER ISLAND STRIPING DETAIL (TYP.)
N.T.S.

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	CONSTRUCTION DETAILS	SECTION CEN
				COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 27
					CHECKED BY: L. HAXTON		

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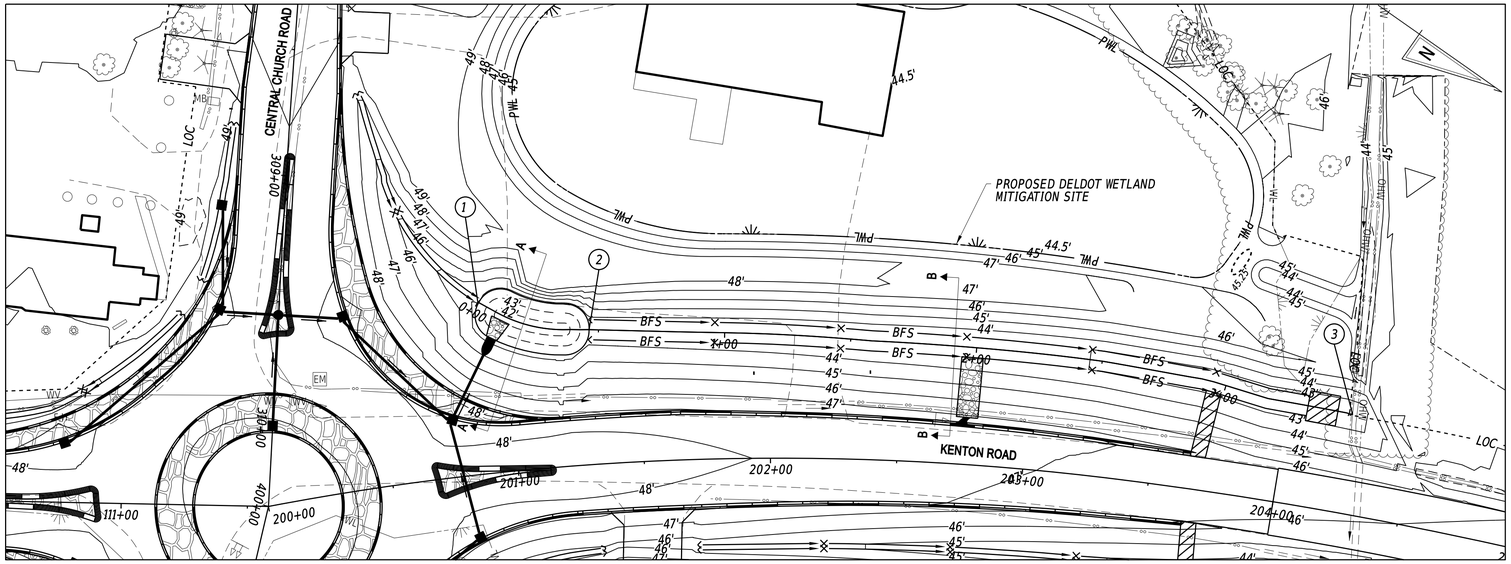
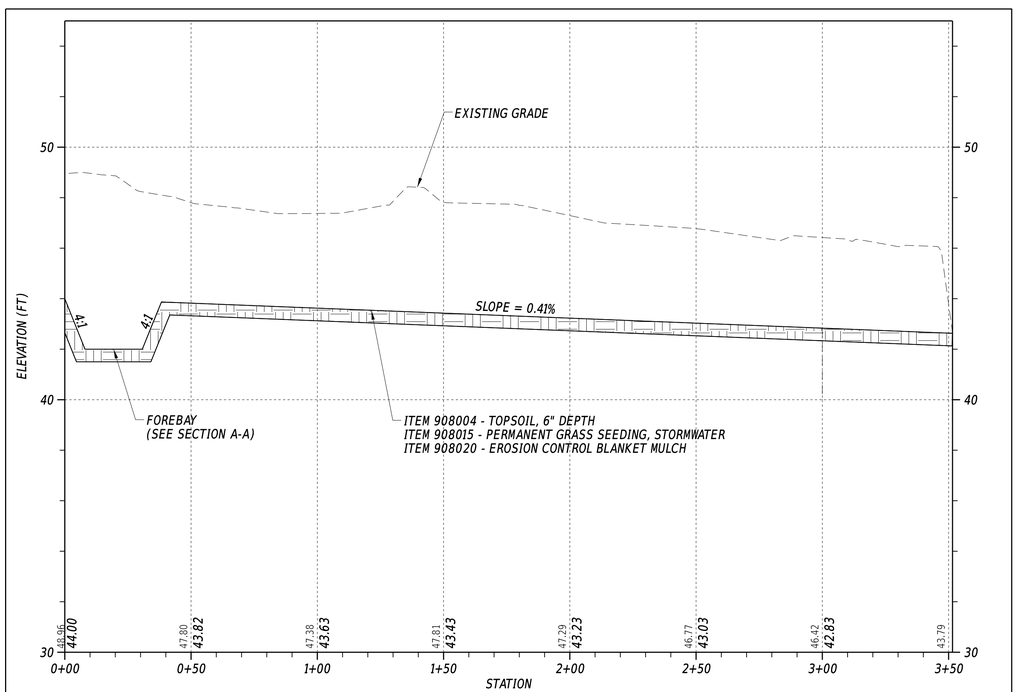


PLAN - DELDOT SWM BMP #1143
BIOSWALE

SCALE
0 30 60 90
FEET



BIOSWALE - SPILLWAY PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'

BIOSWALE CONSTRUCTION SEQUENCE AND NOTES:

NOTIFY THE CCR A MINIMUM OF TWO WORKING DAYS IN ADVANCE OF ANY CONSTRUCTION SO THAT THE REQUIRED FACILITY CONSTRUCTION CHECKLIST CAN BE COMPLETED.

1. *BEFORE SOIL DISTURBANCE, CONTRACTOR SHALL CLEARLY MARK BIOSWALE BOUNDARY.*
2. *CLEAR AND GRUB FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS.*
3. *INSTALL PERIMETER SEDIMENT CONTROLS AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS.*
4. *CLEAR AND GRUB REMAINING AREA FOR CONSTRUCTION.*
5. *GRADE THE BIOSWALE AND SEDIMENT FOREBAY TO THE FINAL DIMENSIONS SHOWN ON THE PLANS. CONSTRUCTION EQUIPMENT SHALL WORK FROM THE SIDES. EXCAVATING EQUIPMENT SHALL HAVE SCOOPS WITH ADEQUATE REACH SO THEY DO NOT HAVE TO SIT INSIDE THE FOOTPRINT OF THE BIOSWALE CHANNEL AREA. ALL EXCAVATED MATERIAL SHALL BE STOCKPILED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS.*
6. *INSTALL COMPOST FILTER LOG CHECK DAMS AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS.*
7. *COMPLETE STABILIZATION OF ALL BARE AREAS ALONG THE BOTTOM AND SIDES OF THE BIOSWALE WITH ITEM 908015, PERMANENT GRASS SEEDING - STORMWATER AND MULCHED WITH ITEM 908020, EROSION CONTROL BLANKET MULCH.*
8. *AFTER ALL SURROUNDING AREAS DRAINING TO THE BIOSWALE HAVE SUFFICIENT VEGETATION, AS APPROVED BY THE STORMWATER ENGINEER, EROSION AND SEDIMENT CONTROL DEVICES SHALL BE REMOVED.*

AS-BUILT DRAWINGS SHALL BE COMPLETED BY THE CONTRACTOR AND CERTIFIED BY A DELAWARE PLS BEFORE THE DELDOT INITIAL INSPECTION DATE. THESE DRAWINGS SHALL BE SENT TO THE STORMWATER ENGINEER FOR VERIFICATION. PAID FOR UNDER ITEM 910008. AS-BUILT DRAWINGS SHALL INCLUDE, BUT ARE NOT LIMITED TO:

1. *GENERAL TOPOGRAPHY OF THE WHOLE FACILITY AT 1-FOOT CONTOURS INCLUDING FOREBAYS AND TOP/TOE OF EMBANKMENT.*
2. *INVERTS OF ALL PIPES AND SWALES THAT INFLOW TO THE BIOSWALE.*
3. *OUTLINE OF ALL RIPRAP AND SPOT ELEVATIONS ON TOP OF THE RIPRAP.*
4. *PRIMARY OUTFLOW CHANNEL. FOR A PRIMARY OUTFLOW CHANNEL/SWALE, SHOW AT MINIMUM THREE CROSS-SECTIONS OF EQUAL DISTANCE APART AT 50' DOWNSTREAM ALONG THE SLOPE.*

DRAINAGE AREA TO FACILITY: 1.16 AC.

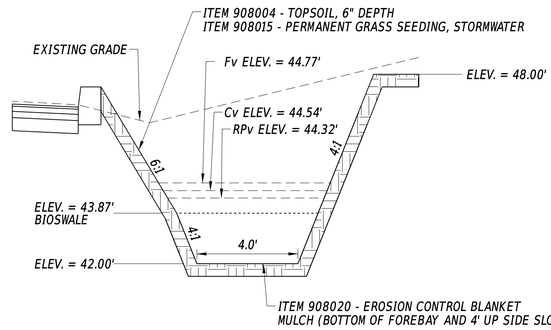
MANAGEMENT PROVIDED BY FACILITY: WATER QUALITY FOR RPv STORM EVENT BY BIOFILTRATION
WATER QUANTITY FOR Cv AND Fv STORM EVENTS

(1143) BIOSWALE SPILLWAY PROFILE

IDENTIFIER	STATION	NORTHING	EASTING
1 POB	0+00.00	434262.944	605460.086
2	0+46.03	434305.074	605443.838
3 POE	3+51.56	434572.126	605297.498

NOTE:

1. *SEE GRADES AND GEOMETRICS FOR BIOSWALE LAYOUT OFFSETS AND ELEVATIONS.*



FOREBAY - SECTION A-A
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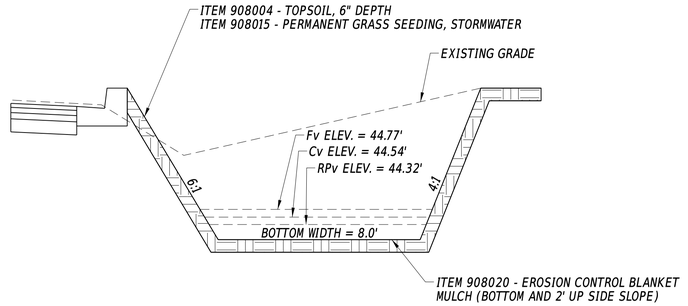

BIOSWALE - SECTION B-B
N.T.S.

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO. N/A	STORMWATER MANAGEMENT PLAN	SECTION
				T202104204	DESIGNED BY: A. HALLER		CEN
				COUNTY	CHECKED BY: L. HAXTON		SHEET NO.
				KENT			28

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ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:

   A. THE PURPOSE OF THIS SHEET IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR THE AGENCY PERMIT 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, CONTACT THE ENVIRONMENTAL STUDIES SECTION AT (302) 760-2264 OR DOT_ENVIRONMENTALSTUDIES@DELAWARE.GOV TO ALLOW FOR COORDINATION WITH THE APPROPRIATE RESOURCE AGENCIES AND APPROVAL.

   C. USE OF THIS SHEET DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

2. NATURAL RESOURCE ISSUES:

   A. PERMIT REQUIREMENTS/APPROVALS *:
   U.S. ARMY CORPS OF ENGINEERS (COE): NATIONWIDE PERMIT NWP 14 WITH PRECONSTRUCTION NOTIFICATION (PCN) **
   DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): DNREC §7217. SPECIAL EXEMPTION (a)
   DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): : ISSUED NWP 14

   * THE PERMITS/APPROVALS LISTED ARE THOSE REQUIRED FOR THIS PROJECT. THE ENVIRONMENTAL STUDIES SECTION IS RESPONSIBLE FOR COORDINATING AND/OR OBTAINING THESE APPROVALS.
   ** THE CONTRACTOR MUST ENSURE THAT THESE PERMITS/APPROVALS 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.

   B. CONSTRUCTION RESTRICTIONS:
   FISHERIES - NONE
   ENDANGERED SPECIES - NONE
   MIGRATORY BIRDS - NONE

3. CULTURAL RESOURCE ISSUES:

   A. NONE

4. 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 COMPLIANCE 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 OR COMPOST FILTER LOG (CFL) 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. REMOVE SANDBAGS AND CFLS (AND CONTENTS) IN THEIR ENTIRETY WHEN NO LONGER NEEDED. SANDBAGS/CFLS USED TO SECURE THE SILT FENCE IS INCIDENTAL TO ITEM 905002 - REINFORCED SILT FENCE. THE ENVIRONMENTAL STUDIES SECTION AT (302) 760-2259 OR DOT_ENVIRONMENTALSTUDIES@DELAWARE.GOV CAN PROVIDE FURTHER GUIDANCE REGARDING THIS METHOD OF INSTALLATION.

   D. CLEARLY MARK ALL TREES TO BE REMOVED WITH PAINT PRIOR TO THE EROSION AND SEDIMENT CONTROL MEETING.

5. 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 OFFSITE 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. 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. ALL COSTS PAID FOR 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 TOPSOIL THROUGH THE RIPRAP, AND THEN 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. COSTS FOR TURBIDITY CURTAIN IS INCIDENTAL TO ITEM 909002 - SANDBAG DIVERSION.

WETLANDS DELINEATED BY CENTURY ENGINEERING IN MAY 2021 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".

ORIGINAL SHEET PREPARED BY CENTURY ENGINEERING ON 09-28-2021. SHEET LAST UPDATED ON 8-21-2024.

WETLAND CREATION AREA SCHEDULE

ID	CREATION	AREA (SF)	AREA (AC)	VOLUME (CY)
3-01	WETLAND	25946.67	0.5957	N/A
TOTAL WETLAND CREATION AREAS		25946.67	0.5957	N/A

PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
O3-01	RIPRAP PLACEMENT	26.64	0.0006	N/A	USACE/DNREC
TOTAL PERMANENT OPEN WATER IMPACTS		26.64	0.0006	N/A	USACE/DNREC

PERMANENT WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
W1-01	REGRADE DRAINAGE SWALE	2977.48	0.0684	N/A	USACE
W2-01	REGRADE DRAINAGE SWALE	885.46	0.0203	N/A	USACE
W2-02	REGRADE DRAINAGE SWALE	6593.29	0.1514	N/A	USACE
W2-03	REGRADE DRAINAGE SWALE	8926.04	0.2049	N/A	USACE
W3-01	REGRADE DRAINAGE SWALE	321.50	0.0074	N/A	USACE
W3-02	WETLAND OUTFALL SWALE	278.75	0.0064	N/A	USACE
W3-03	RIPRAP PLACEMENT	8.92	0.0002	0.3854	USACE
TOTAL PERMANENT WETLAND IMPACT AREAS		19991.44	0.4590	0.3854	USACE

TEMPORARY WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
T1-01	WORK AREA / E&S CONTROLS	195.78	0.0045	N/A	USACE
T2-01	WORK AREA / E&S CONTROLS	20.69	0.0005	N/A	USACE
T2-02	WORK AREA / E&S CONTROLS	1509.78	0.0347	N/A	USACE
T2-03	WORK AREA / E&S CONTROLS	1756.97	0.0403	N/A	USACE
T3-01	WORK AREA / E&S CONTROLS	976.79	0.0224	N/A	USACE
T3-02	WORK AREA	356.25	0.0082	N/A	USACE
T3-03	WORK AREA	352.94	0.0081	N/A	USACE
TOTAL TEMPORARY WETLAND IMPACT AREAS		5169.20	0.1187	N/A	USACE

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	ENVIRONMENTAL COMPLIANCE PLAN	SECTION CEN
				COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 29
					CHECKED BY: L. HAXTON		

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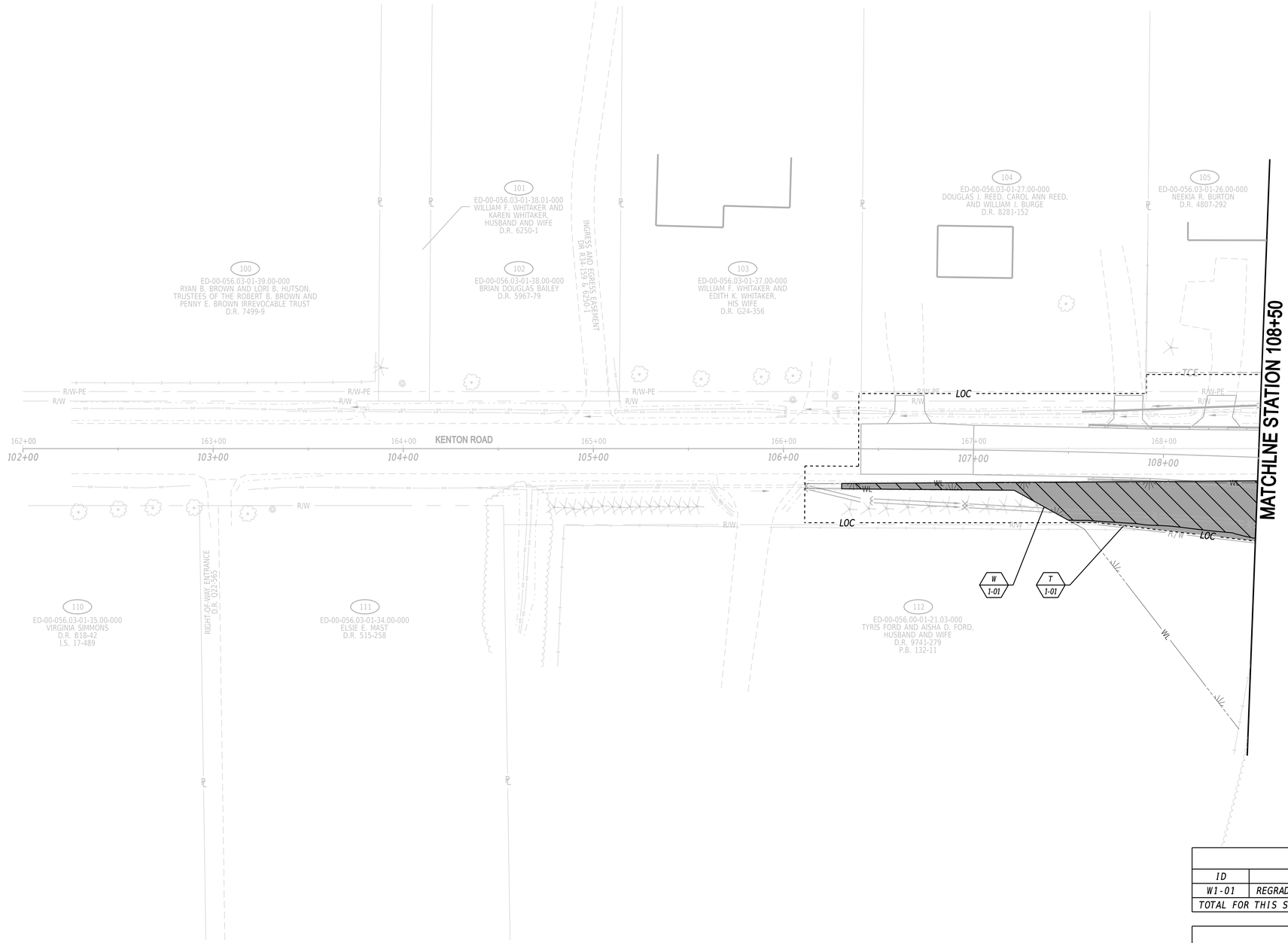
WETLANDS DELINEATED BY CENTURY ENGINEERING IN MAY 2021 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".

ORIGINAL SHEET PREPARED BY CENTURY ENGINEERING ON 09-28-2021. SHEET LAST UPDATED ON 8-21-2024.



LEGEND

- TEMPORARY IMPACT AREA
- PERMANENT IMPACT AREA
- WL – WETLAND BOUNDARY
- OHW/WL – ORDINARY HIGH WATER / WETLAND
- PWL – PROPOSED WETLAND BOUNDARY
- XX / ?X – IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

O = OPEN WATER IMPACT

T = TEMPORARY IMPACT

W = WETLAND IMPACT

PERMANENT WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
W1-01	REGRADE DRAINAGE SWALE	2977.48	0.0684	N/A	USACE
TOTAL FOR THIS SHEET		2977.48	0.0684	N/A	USACE

TEMPORARY WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
T1-01	WORK AREA / E&S CONTROLS	195.78	0.0045	N/A	USACE
TOTAL FOR THIS SHEET		195.78	0.0045	N/A	USACE

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

ENVIRONMENTAL COMPLIANCE PLAN

EC-01

SECTION CEN

SHEET NO. 30

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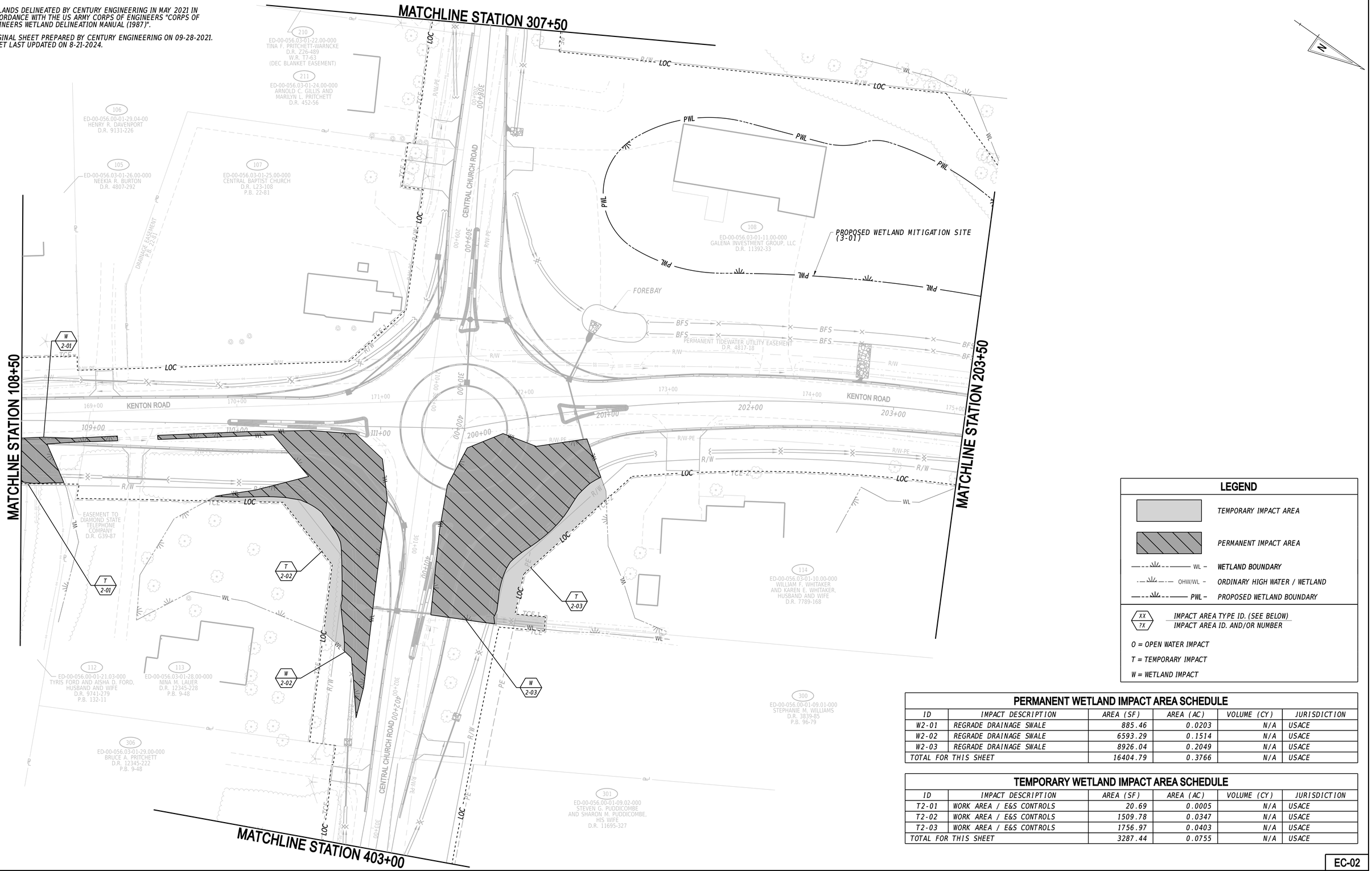
WETLANDS DELINEATED BY CENTURY ENGINEERING IN MAY 2021 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".

ORIGINAL SHEET PREPARED BY CENTURY ENGINEERING ON 09-28-2021.
SHEET LAST UPDATED ON 8-21-2024.



LEGEND

- TEMPORARY IMPACT AREA
- PERMANENT IMPACT AREA
- WL – WETLAND BOUNDARY
- OHW/WL – ORDINARY HIGH WATER / WETLAND
- PWL – PROPOSED WETLAND BOUNDARY
- XX / ?X – IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER
- O = OPEN WATER IMPACT
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- W = WETLAND IMPACT

PERMANENT WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
W2-01	REGRADE DRAINAGE SWALE	885.46	0.0203	N/A	USACE
W2-02	REGRADE DRAINAGE SWALE	6593.29	0.1514	N/A	USACE
W2-03	REGRADE DRAINAGE SWALE	8926.04	0.2049	N/A	USACE
TOTAL FOR THIS SHEET		16404.79	0.3766	N/A	USACE

TEMPORARY WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
T2-01	WORK AREA / E&S CONTROLS	20.69	0.0005	N/A	USACE
T2-02	WORK AREA / E&S CONTROLS	1509.78	0.0347	N/A	USACE
T2-03	WORK AREA / E&S CONTROLS	1756.97	0.0403	N/A	USACE
TOTAL FOR THIS SHEET		3287.44	0.0755	N/A	USACE

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204	BRIDGE NO.	N/A
COUNTY	KENT	DESIGNED BY:	A. HALLER
		CHECKED BY:	L. HAXTON

ENVIRONMENTAL COMPLIANCE PLAN

EC-02
SECTION CEN
SHEET NO. 31

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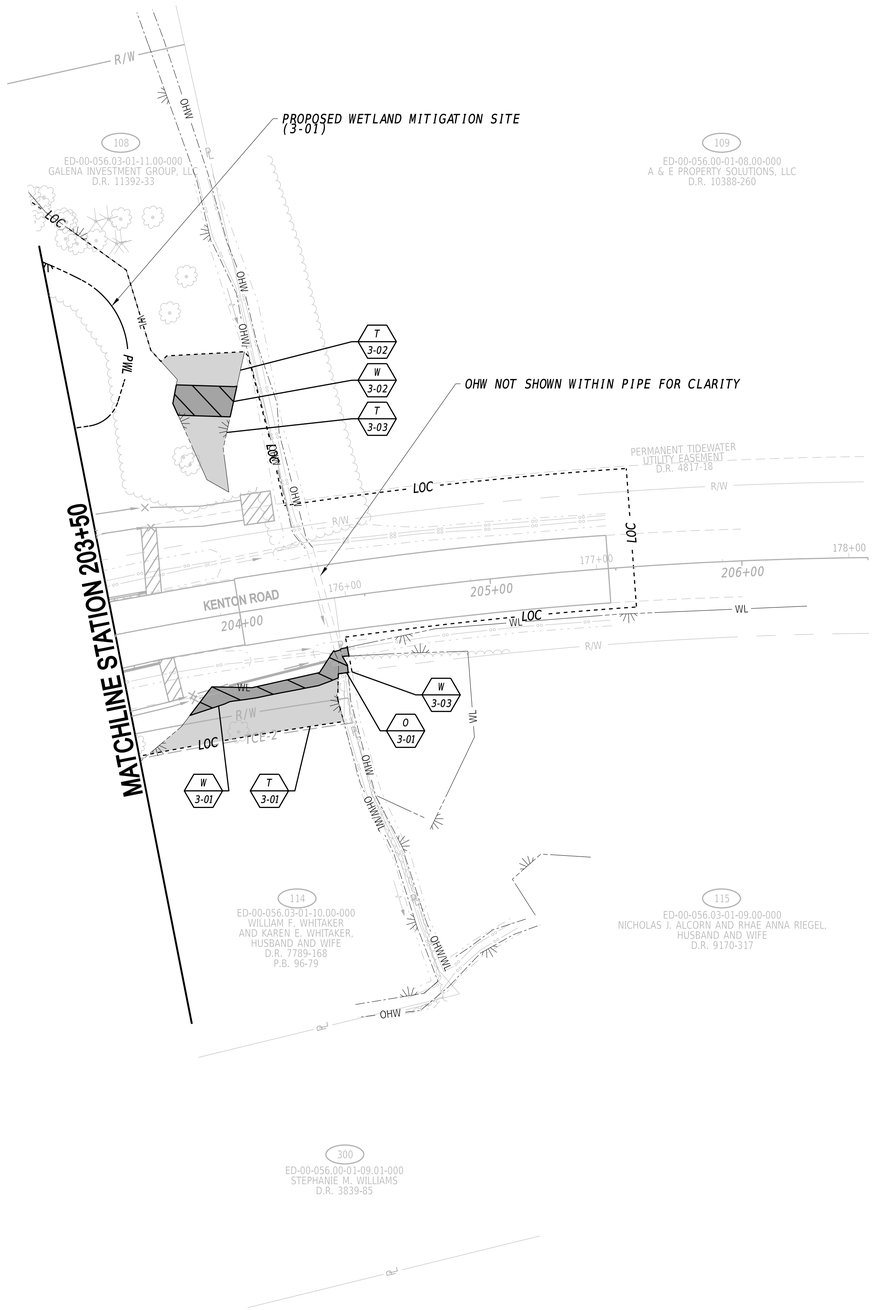
WETLANDS DELINEATED BY CENTURY ENGINEERING IN MAY 2021 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".

ORIGINAL SHEET PREPARED BY CENTURY ENGINEERING ON 09-28-2021. SHEET LAST UPDATED ON 8-21-2024.



N

LEGEND

- TEMPORARY IMPACT AREA
- PERMANENT IMPACT AREA
- WL – WETLAND BOUNDARY
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- PWL – PROPOSED WETLAND BOUNDARY
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T = TEMPORARY IMPACT

W = WETLAND IMPACT

PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
O3-01	RIPRAP PLACEMENT	26.64	0.0006	N/A	USACE/DNREC
TOTAL FOR THIS SHEET		26.64	0.0006	N/A	USACE/DNREC

PERMANENT WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
W3-01	REGRADE DRAINAGE SWALE	321.50	0.0074	N/A	USACE
W3-02	WETLAND OUTFALL SWALE	278.75	0.0064	N/A	USACE
W3-03	RIPRAP PLACEMENT	8.92	0.0002	0.3854	USACE
TOTAL FOR THIS SHEET		609.17	0.0140	0.3854	USACE

TEMPORARY WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
T3-01	WORK AREA / E&S CONTROLS	976.79	0.0224	N/A	USACE
T3-02	WORK AREA	356.25	0.0082	N/A	USACE
T3-03	WORK AREA	352.94	0.0081	N/A	USACE
TOTAL FOR THIS SHEET		1685.98	0.0387	N/A	USACE

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

ENVIRONMENTAL COMPLIANCE PLAN

EC-03

SECTION: CEN

SHEET NO.: 32

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WETLANDS DELINEATED BY CENTURY ENGINEERING IN MAY 2021 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".

ORIGINAL SHEET PREPARED BY CENTURY ENGINEERING ON 09-28-2021. SHEET LAST UPDATED ON 8-21-2024.

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ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

ENVIRONMENTAL COMPLIANCE PLAN

	EC-04
SECTION	CEN
SHEET NO.	33

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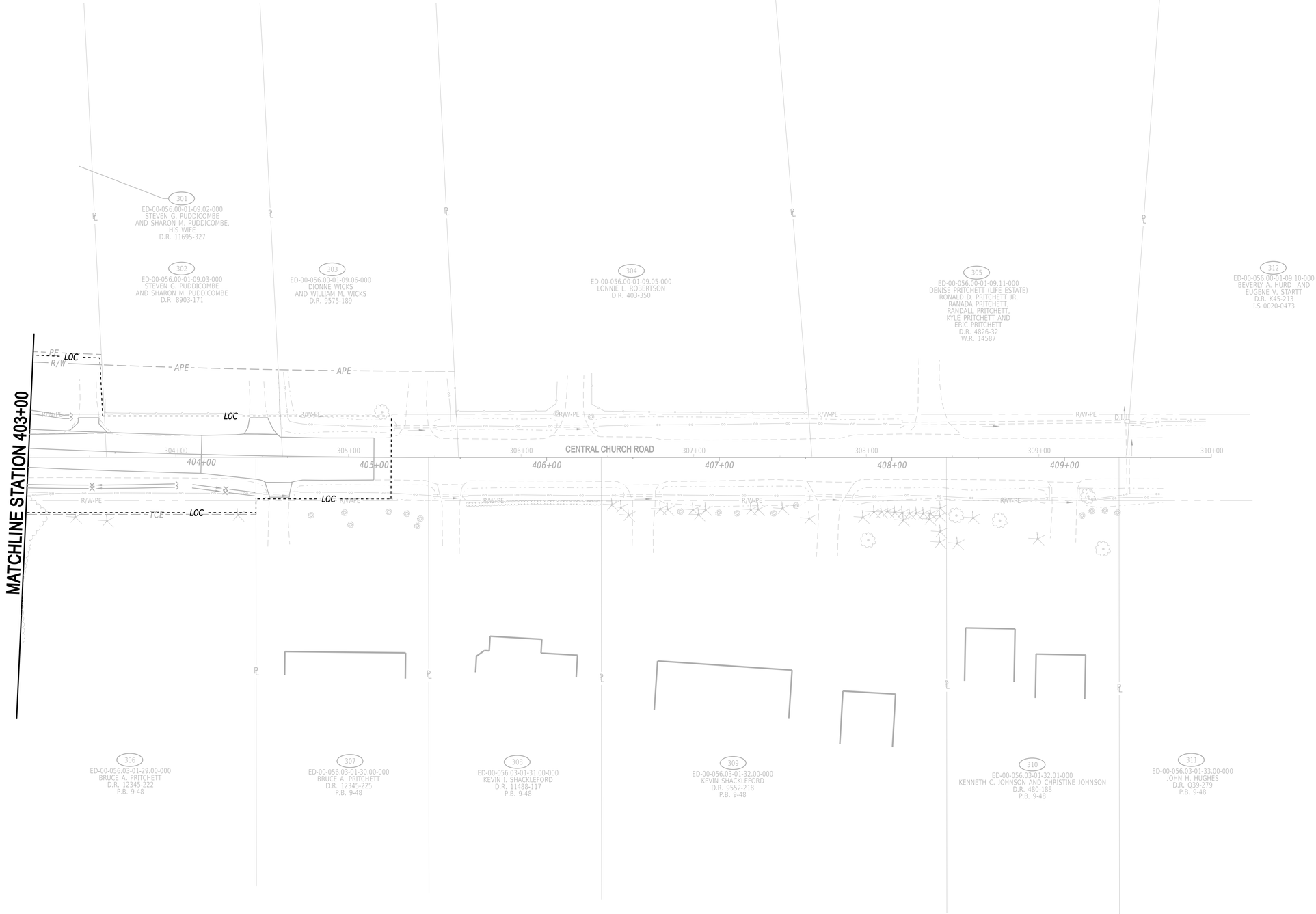
WETLANDS DELINEATED BY CENTURY ENGINEERING IN MAY 2021 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".

ORIGINAL SHEET PREPARED BY CENTURY ENGINEERING ON 09-28-2021. SHEET LAST UPDATED ON 8-21-2024.



THERE ARE NO ENVIRONMENTAL RESOURCES LOCATED WITHIN THIS SHEET.

LEGEND

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- PERMANENT IMPACT AREA
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ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

ENVIRONMENTAL COMPLIANCE PLAN

	EC-05
SECTION	CEN
SHEET NO.	34

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GENERAL MOT NOTES

1. AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.

( )	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.

2. ALL NECESSARY SIGNS, PAVEMENT MARKINGS AND ROADSIDE APPURTENANCES SHALL BE INSTALLED PRIOR TO THE OPENING/REOPENING OF A ROADWAY OR RAMP. A WALKTHROUGH WITH THE ENGINEER, TRAFFIC SAFETY, TRAFFIC CONSTRUCTION AND OTHER PERSONNEL SHALL OCCUR NO LESS THAN 48 HOURS PRIOR TO THE OPENING/REOPENING OF ANY ROAD OR RAMP.

3. THE USE OF MILLINGS AND GABC IN THE TRAVEL WAY, TEMPORARY TRAVEL WAY, HIGH VOLUME ENTRANCES AND ACCESS RAMPS FOR THE PURPOSE OF PROVIDING A TEMPORARY ROADWAY SURFACE, POTHOLE REPAIR, TAPERED EDGE FOR UTILITIES, BUTTJOINTS 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.

   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 ENTRANCES AND 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.

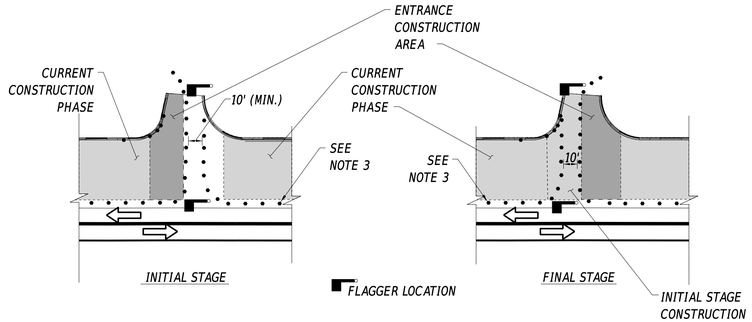
   GRADING AND MAINTAINING BASE COURSE THAT IS BEING USED FOR THE ROADWAY WEDGE/FILLET BETWEEN TRAVEL LANES AND PAVEMENT BOX, EDGE OF TRAVELWAY, DRIVEWAY OR ENTRANCE ACCESS SHALL BE INCIDENTAL TO ITEM 801000 - MAINTENANCE OF TRAFFIC. THE BASE COURSE MATERIAL SHALL BE PLACED AT NO GREATER THAN THE SLOPE SPECIFIED IN TABLE 6G-1 OF THE DE MUTCD AND SHALL BE COMPACTED. EXCESS BASE COURSE MATERIAL SHALL BE PUSHED AHEAD AND USED IN THE NEXT SEGMENT OR REMOVED, AND SHALL BE INCIDENTAL TO THE PARTICULAR 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 DE MUTCD.

4. THIS PROJECT IS CONSIDERED A SIGNIFICANT PROJECT AS DEFINED BY DELDOT'S WORK ZONE MOBILITY PROCEDURES AND GUIDELINES. A MODIFIED 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, CONSTRUCTION PHASING, OR THE TRAFFIC CONTROL PLAN ARE DESIRED. THE MODIFIED TMP SHALL BE PREPARED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF DELAWARE.

5. CONSTRUCTION ACTIVITY FOR THIS PROJECT SHALL BE RESTRICTED TO THE HOURS OF 7:00 AM TO 7:00 PM. LANE RESTRICTIONS SHALL FOLLOW THE ALLOWABLE LANE CLOSURE HOURS TABLE.

6. THE CONTRACTOR SHALL COMPLETE ALL WORK WITHIN THE CURRENT PHASE PRIOR TO PROCEEDING TO THE NEXT PHASE. THE VEHICULAR DETOUR CANNOT BE REMOVED UNTIL ALL ITEMS THAT REQUIRE LANE CLOSURES ARE COMPLETE OR AS DIRECTED BY THE ENGINEER IN THE FIELD.



TYPICAL DRIVEWAY / ENTRANCE RECONSTRUCTION
NOT TO SCALE

NOTES:

1. THIS DETAIL PROVIDES THE PROPER TRAFFIC CONTROL DEVICES AT DRIVEWAYS AND ENTRANCES THAT ARE TO BE BUILT IN HALF-SECTION UNDER FLAGGER CONTROL. APPLICATION OF THIS DETAIL SHALL BE AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. TRAFFIC CONTROL DEVICES AT ENTRANCES SHALL BE RESET TO MAIN PHASE AT END OF EACH WORKING DAY.

2. CHANNELIZATION THROUGH ENTRANCE AREA SHALL BE ACCOMPLISHED WITH DRUMS PLACED AT 10' BETWEEN THE EDGES OF THE DRUMS IMMEDIATELY ADJACENT TO THE TRAVELED WAY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. DRUM LAYOUT SHALL ACCOMMODATE LARGEST DESIGN VEHICLE EXPECTED TO USE ENTRANCE.

3. TRAFFIC CONTROL DEVICES ALONG MAINLINE ROADWAY SHALL BE AS SHOWN ON CONSTRUCTION PHASING PLANS.

4. DEPENDING ON TRAFFIC VOLUME UTILIZING ENTRANCE AND OTHER SITE-SPECIFIC CONDITIONS, THE NUMBER OF FLAGGERS USED DURING ENTRANCE CONSTRUCTION MAY BE REDUCED FROM 2 TO 1, SUBJECT TO APPROVAL OF ENGINEER.

ALLOWABLE LANE CLOSURE HOURS

KENTON 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								■	■	■	■	■	■	■	■	■	■	■	■					

CENTRAL CHURCH 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								■	■	■	■	■	■	■	■	■	■	■	■					

* NIGHT WORK IS NOT PERMITTED FOR THIS PROJECT.

■ ONE LANE CLOSURE
□ ALL LANES OPEN

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
PHASE	PHASING TRAFFIC FLOW ARROW
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
	TRUCK WITH MOUNTED ATTENUATOR
	WORK AREA - ACTIVE PHASE
	CONSTRUCTED AREA - PRIOR PHASE
	PAVEMENT REMOVAL - ACTIVE PHASE

ADDENDA / REVISIONS	

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SECTION
CEN
SHEET NO.
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EROSION AND SEDIMENT CONTROL NOTES

1.

EROSION POTENTIAL FOR THIS PROJECT	SITE REVIEWER REQUIREMENT
( ) INSIGNIFICANT	NONE
( ) MINOR	CONTRACTOR TRAINING PROGRAM, AS DEFINED IN SECTION 6.2 OF THE DELAWARE SEDIMEMNT AND STORMWATER REGULATIONS.
(X) MAJOR	CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 6.3 IF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.

2. THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. PLAN APPROVAL IS VALID FOR A FIVE YEAR PERIOD BEGINNING ON THE DATE OF THE STORMWATER ENGINEER'S SIGNATURE. IF THE FINAL ACCEPTANCE OF THE PROJECT IS ANTICIPATED TO EXTEND BEYOND THE FIVE YEARS, NOTIFY THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION. ANY DEVIATIONS TO THE SWPPP NEED APPROVAL FROM THE ENGINEER.

Steven Sisson — DELDOT STORMWATER ENGINEER

10/15/2024 — 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."

AMOUNT OF DISTURBED AREA FOR THE PROJECT	5.28 AC
ADDED IMPERVIOUS FOR THE PROJECT	0.33 AC
HUC-10 WATERSHED	ST. JONES RIVER

3. ASSIGN A RESPONSIBLE PERSON TO BE ON SITE DURING ALL EARTH DISTURBING ACTIVITIES AND BE AN ACTIVE DNREC BLUE CARD HOLDER AS DEFINED IN SECTION 6.2 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS (DSSR). BE FAMILIAR WITH AND COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION GENERAL PERMIT.

4. FILE AS A CO-PERMITTEE IN ACCORDANCE WITH SECTION 901 OF THE STANDARD SPECIFICATIONS. POSTING AND MAINTENANCE OF THE NOI PERMIT COVERAGE IS INCIDENTAL TO THE CONTRACT.

5. REVISIONS TO THE SWPPP OR ENVIRONMENTAL COMPLIANCE PLAN SHEET(S) SHALL BE APPROVED PRIOR TO INITIATION IN THE FIELD. THE ENGINEER IS RESPONSIBLE FOR APPROVING ALL REDLINES AND REVISIONS TO THE SWPPP.

6. IMPLEMENTING AND MAINTAINING POLLUTION PREVENTION DEVICES AND PRACTICES IS REQUIRED UNDER THE DELAWARE CONSTRUCTION GENERAL PERMIT AND THE DSSR AND ARE INCIDENTAL TO THE CONTRACT.

7. A SOIL STOCKPILE, AS DESCRIBED IN DELDOT STANDARD SPECIFICATIONS AND DEFINED IN THE DELAWARE EROSION & SEDIMENT CONTROL HANDBOOK, IS ANY LOCATION WITHIN THE LIMITS OF CONSTRUCTION WHERE A TEMPORARY DEPOSIT OF EXCAVATED SOIL IS BEING RESERVED FOR FUTURE USE. A SOIL STOCKPILE SHALL BE LOCATED A MINIMUM OF 50 FEET FROM A STORM DRAIN INLET, OPEN CHANNEL, WETLAND, OR WATERBODY. A REQUEST MAY BE MADE MAY BE MADE TO THE ENGINEER TO PERMIT LOCATING A SOIL STOCKPILE LESS THAN 50 FEET FROM A STORM DRAIN INLET OR OPEN CHANNEL. UPON APPROVAL, IF ANY PART OF A SOIL STOCKPILE IS LESS THAN 50 FEET FROM A STORM DRAIN INLET OR OPEN CHANNEL, INSTALL A SUPER SILT FENCE PERIMETER TO PROTECT THE SOIL STOCKPILE. THE SUPER SILT FENCE MUST BE CONSTRUCTED IN ACCORDANCE WITH 905.3.B.3 OF THE STANDARD SPECIFICATIONS. THE COST FOR INSTALLATION AND MAINTENANCE OF THE STOCKPILE SUPER SILT FENCE IS INCIDENTAL TO THE CONTRACT.

8. PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF FROM LEAVING THE SITE. CHECK PERIMETER CONTROLS DAILY AND ADJUST OR REPAIR TO FULLY CONTAIN AND CONTROL SEDIMENT FROM LEAVING THE SITE. REMOVE ACCUMULATED SEDIMENT BEFORE IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. ADJUST OR ALTER MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE ENGINEER.

9. ANY SEDIMENT LADEN DISCHARGE LEAVING THE LIMIT OF CONSTRUCTION SHALL IMMEDIATELY BE ADDRESSED THROUGH BEST AVAILABLE TECHNOLOGIES TO CONTROL ANY FURTHER SEDIMENT LADEN DISCHARGE. REMEDIATION MAY INCLUDE STANDARD E&S PRACTICES OR OTHER METHODS AS APPROVED BY THE ENGINEER.

10. ALL TEMPORARY CONCENTRATED FLOW AREAS INCLUDING CHANNEL SIDE SLOPES SHALL HAVE EROSION CONTROL BLANKET MULCH AS DIRECTED BY THE ENGINEER. INSTALL WITHIN SEVEN CALENDAR DAYS UPON CONSTRUCTION INITIATION. A TEMPORARY CONCENTRATED FLOW AREA MAY INCLUDE DITCHES, SWALES, BERMS, CONCENTRATED RUNOFF AREAS, ETC.

11. FOR ANY PERMANENT STORMWATER MANAGEMENT FACILITY, FOLLOW THAT FACILITY'S SEQUENCE OF CONSTRUCTION AS NOTED ON THE STORMWATER MANAGEMENT SHEETS.

12. NO MORE THAN 20 ACRES MAY BE DISTURBED AT ANY TIME. DISTURBANCE OF A SECOND 20 ACRE SECTION MAY NOT PROCEED UNTIL TEMPORARY OR PERMANENT STABILIZATION OF THE FIRST 20 ACRE SECTION IS ACCOMPLISHED AS APPROVED BY THE ENGINEER.

13. MAINTAIN POSITIVE DRAINAGE IN EXISTING AND PROPOSED DRAINAGE SYSTEMS BY EXECUTING CONSTRUCTION, CLEANING EXISTING DRAINAGE SYSTEMS, AND PROPERLY DISPOSING OF SEDIMENT THROUGHOUT THE DURATION OF THE PROJECT.

14. ALL EXISTING INLETS AND PIPES WITHIN THE PROJECT LIMITS TO REMAIN SHALL BE CLEANED OUT. ALL COSTS ARE INCIDENTAL TO ITEM 201000.

EROSION & SEDIMENT CONTROL

CFL	COMPOST FILTER LOG
CFL	COMPOST FILTER LOG / LENGTH
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	REINFORCED SILT FENCE / LENGTH
RSF	REINFORCED SILT FENCE
SSF	SUPER SILT FENCE / LENGTH
SSF	SUPER SILT FENCE
SP	SUMP PIT
ST	SEDIMENT TRAP / NUMBER
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP WITH INLET AS OUTLET
ST	SEDIMENT TRAP PIPE OUTLET
SW	STILLING WELL
	TEMPORARY SWALE
TSD	TEMPORARY SLOPE DRAIN
T XXX	TURBIDITY CURTAIN / LENGTH
T	TURBIDITY CURTAIN

ADDENDA / REVISIONS

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SECTION
CEN
SHEET NO.
36

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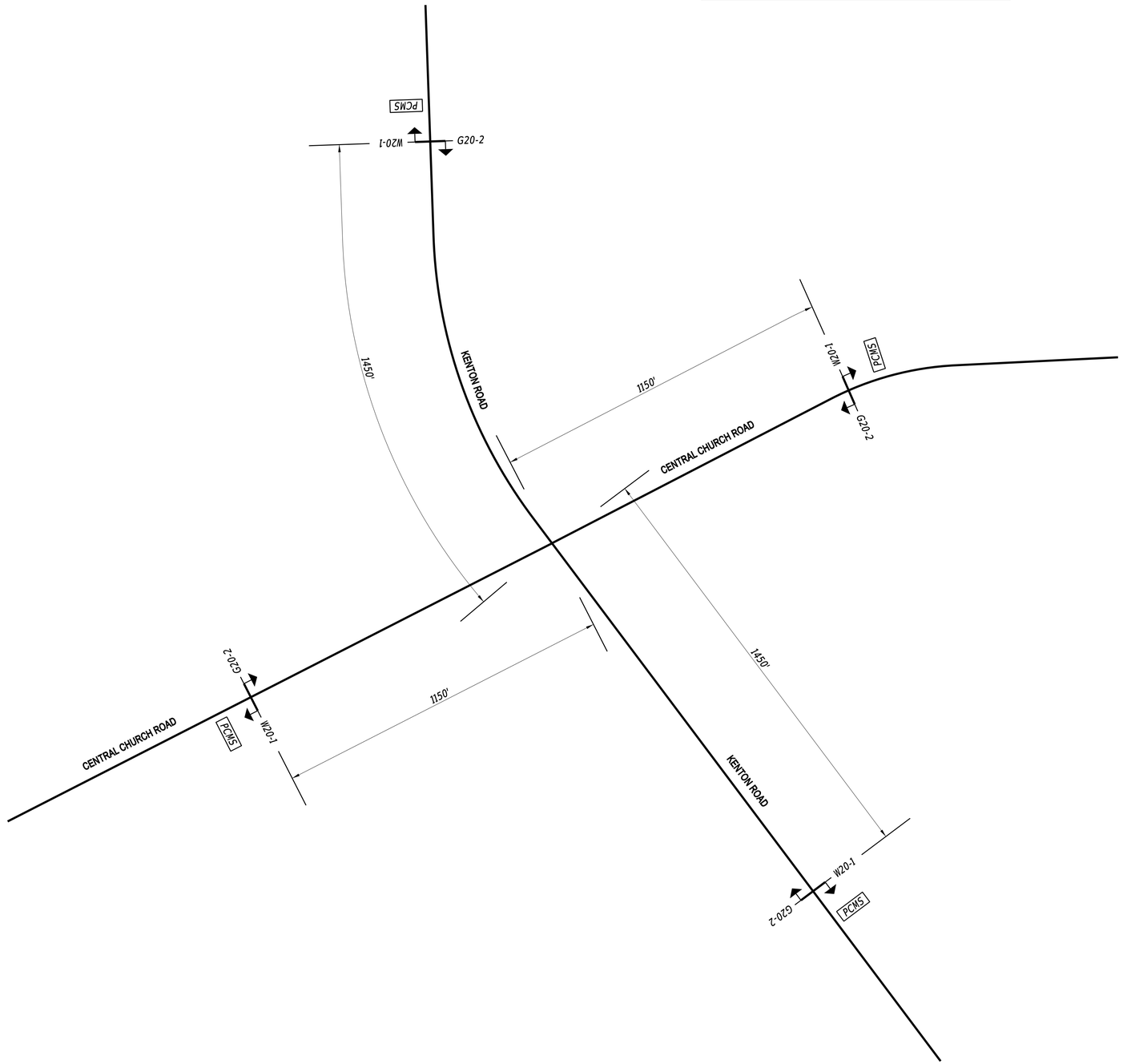
ADVANCED WARNING SIGNS



NOTE: THE CONTRACTOR SHALL LAYOUT SIGNS FOR APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION.

END ROAD WORK

G20-2
48" x 24"

ROAD WORK AHEAD

W20-1
48" x 48"

NOTE: ALL WARNING SIGNS PAID UNDER ITEM 810001.

PCMS *PORTABLE CHANGEABLE MESSAGE SIGN LOCATIONS*

10 DAYS PRIOR TO CONSTRUCTION:	*5 DAYS AFTER CONSTRUCTION HAS BEGUN:*
ROAD WORK STARTING XX/XX/XX	ROAD WORK AHEAD
	USE CAUTION

NOTES:
1. *PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED 10 DAYS PRIOR TO AND 5 DAYS AFTER CONSTRUCTION BEGINS.*
2. *MESSAGE BOARD MESSAGE AND LOCATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE DISTRICT TRAFFIC SAFETY OFFICER.*

ADDENDA / REVISIONS	

SCALE
0 200 400 600
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SECTION
CEN
SHEET NO.
37

21-OCT-2025
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GENERAL NOTES

1. UTILIZE TA-10 AND TA-27 FROM THE DE MUTCD AS NECESSARY FOR CONSTRUCTION.
2. ALL VERTICAL DIFFERENCES SHALL BE ADDRESSED PER TABLE 6G-1 IN THE DE MUTCD DURING ALL PHASES OF CONSTRUCTION.
3. TEMPORARY WARNING SIGNS DEPICTED WITHIN THE PHASING PLANS ARE SHOWN TO ASSIST IN CLARIFYING THE INTENT OF THE PHASED CONSTRUCTION. ADDITIONAL SIGNING AND/OR STRIPING MAY BE REQUIRED TO COMPLY WITH THE DE MUTCD.
4. THE LOCATION AND MESSAGE OF THE PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE COORDINATED WITH AND APPROVED BY THE DISTRICT TRAFFIC SAFETY OFFICER.
5. THE INLET SEDIMENT CONTROLS FOR DRAINAGE STRUCTURES SHALL USE INLET SEDIMENT CONTROL - DRAINAGE INLET. THE CONTRACTOR SHALL TRANSITION TO INLET SEDIMENT CONTROL – CURB INLET AFTER THE TOP UNIT, FRAME, AND GRATE ARE INSTALLED.
6. THE CONSTRUCTION PHASING PLANS ARE A SUGGESTED SEQUENCE FOR BUILDING THE PROJECT WITHIN THE MAINTENANCE OF TRAFFIC AND SCHEDULING CONSTRAINTS PROVIDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR MAY SUBMIT AN ALTERNATE PHASING PLAN FOR APPROVAL. HOWEVER, ANY ALTERNATE PLAN MUST COMPLY WITH THE SCHEDULE CONSTRAINTS, TRAFFIC CONTROL AND LANE RESTRICTION NOTES, UTILITY RELOCATIONS, AND ANY OTHER APPLICABLE PROJECT NOTES OR CONTRACT RESTRICTIONS INCLUDED WITHIN THE CONTRACT DOCUMENTS. UNLESS APPROVED OTHERWISE, THE ALTERNATE PHASING PLAN MAY NOT ADD COST OR TIME TO THE CONTRACT AND SHALL RECEIVE APPROVAL BY THE ENGINEER PRIOR TO IMPLEMENTING.
7. THE CONTRACTOR SHALL COMPLETE CONSTRUCTION OF PHASE 2 WORK WITHIN TWENTY-SEVEN (27) CONTINUOUS CALENDAR DAYS, INCLUSIVE OF WEATHER DAYS. FAILURE TO COMPLETE THE WORK REQUIRED TO REOPEN THE ROADWAY TO TRAFFIC WITHIN THE SPECIFIED TIME WILL RESULT IN ROAD USER COSTS AS DEFINED IN THE BID PACKAGE. TO REMOVE THE DETOUR, THE ROADWAY SHALL MEET ALL SAFETY REQUIREMENTS TO ENSURE FULL OPERATION TO THE TRAVELING PUBLIC.

SEQUENCE OF CONSTRUCTION

PHASE 1

1. PLACE PORTABLE CHANGEABLE MESSAGE SIGNS TEN (10) DAYS PRIOR TO THE START OF CONSTRUCTION.
2. PLACE ADVANCED WARNING SIGNS PER THE ADVANCED WARNING SIGN LAYOUT.
3. PLACE DRUMS AS SHOWN ON THE PHASE 1 PLAN.
4. UTILIZE TA-10 FROM THE DE MUTCD AS NECESSARY DURING THIS PHASE OF CONSTRUCTION TO CLOSE A LANE ADHERING TO THE ALLOWABLE LANE CLOSURE HOURS.
5. INSTALL TEMPORARY CONSTRUCTION FENCE.
6. INSTALL PERIMETER E&S CONTROLS AND STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THE PHASE 1 PLAN. CLEAR AND GRUB PROJECT LIMITS.
7. THE CONTRACTOR SHALL ENSURE THE SEPTIC SYSTEMS ON PROJECT PARCELS 108 AND 301 HAVE BEEN REMOVED BY OTHERS PRIOR TO STARTING WORK IN THIS AREA.
8. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO STAKE OUT PROPOSED IMPROVEMENTS AND RIGHT-OF-WAY FOR ENTIRE PROJECT LIMITS. PERFORM ALL UTILITY RELOCATIONS.
9. UTILIZE TA-10 FROM THE DE MUTCD WITH ADDITIONAL FLAGGERS POSITIONED PER TA-27 FROM THE DE MUTCD TO INSTALL THE PROPOSED WATER LINE CROSSING OF CENTRAL CHURCH ROAD AT STA. 308+75, CLOSING ONE LANE AT A TIME. CONTRACTOR SHALL INSTALL TEMPORARY PATCH DETAIL (BITUMINOUS CONCRETE) PER THE CONSTRUCTION DETAILS PRIOR TO REOPENING THE LANE.
10. THE CONTRACTOR SHALL COORDINATE WITH THE TRAFFIC MANAGEMENT CENTER AND DELDOT'S SIGNAL CONTRACTOR TO ENSURE THAT TRAFFIC SIGNAL BEACONS RECEIVE POWER FROM THE RELOCATED UTILITY POLES. ADVANCED AND STOP BEACONS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF PHASE 1.
11. CONSTRUCT PROPOSED WETLAND MITIGATION SITE.
12. INSTALL STREAM DIVERSION ON THE CROSSROAD PIPE AT STATION 204+35 USING A SAND BAG DIKE AND SUMP PUMP THAT OUTLETS TO A DEWATERING BAG TO INSTALL RR-304 AND P-309. SAND BAG DIKE SHALL HAVE A MINIMUM HEIGHT EQUAL TO THE TOP OF STREAMBANK. RIPRAP SHALL BE INSTALLED NO LESS THAN 48 HOURS PRIOR TO A FORECASTED RAIN EVENT. REMOVE STREAM DIVERSION.
13. EXCAVATE PROPOSED DITCHES AND SWALES AND INSTALL PROPOSED DRIVEWAY PIPES AS SHOWN IN THIS PHASE. INSTALL E&S CONTROLS AS PROPOSED DRAINAGE IS CONSTRUCTED AS SHOWN ON THE PHASE 1 PLAN.
14. INSTALL PROPOSED LIGHTING INCLUDING BUT NOT LIMITED TO CONDUIT, JUNCTION WELLS, POLE BASES, AND LIGHTING STANDARD PER THE LIGHTING PLANS.
15. ALL DISTURBED AREAS SHALL BE ADEQUATELY STABILIZED BEFORE PROCEEDING TO THE NEXT PHASE. THE CONTRACTOR MAY REMOVE RESPECTIVE E&S DEVICES AFTER FINAL VEGETATIVE STABILIZATION OF ALL DISTURBED AREAS AND WITH THE APPROVAL OF THE STORMWATER ENGINEER.

PHASE 2

1. MAINTAIN NECESSARY E&S CONTROLS INSTALLED IN THE PREVIOUS PHASE AS SHOWN ON THE PLANS.
2. IMPLEMENT THE KENTON ROAD AT CENTRAL CHURCH ROAD DETOUR. PLACE PORTABLE CHANGEABLE MESSAGE SIGNS TEN (10) DAYS PRIOR TO THE CLOSURE.
3. INSTALL TEMPORARY TRAFFIC CONTROL AS SHOWN ON THE PHASE 2 PLAN, INCLUDING BUT NOT LIMITED TO:
   A. PLACE TYPE 3 BARRICADES WITH R11-2 SIGNS AT THE LIMIT OF DRIVEWAY ACCESS AS SHOWN ON THE PHASE 2 PLANS.
   B. PLACE TYPE 3 BARRICADES WITH R11-4 SIGNS AT THE PROJECT LIMITS TO ALLOW ACCESS TO DRIVEWAYS WITHIN THE PROJECT LIMITS.
   C. PLACE DRUMS FROM THE PROJECT LIMITS TO THE CLOSURE LIMITS TO DELINEATE A 20' WIDE ACCESSWAY TO DRIVEWAYS WITHIN THE PROJECT LIMITS.
4. INSTALL PROPOSED DRAINAGE AS SHOWN IN THIS PHASE. INSTALL E&S CONTROLS AS PROPOSED DRAINAGE IS CONSTRUCTED AS SHOWN ON THE PHASE 2 PLAN.
5. SAWCUT, EXCAVATE, AND GRADE PAVEMENT BOX. CONTRACTOR SHALL PLACE AND COMPACT GABC WITH A MINIMUM WIDTH OF 20' FROM THE MILL AND OVERLAY LIMIT TO THE FURTHEST DRIVEWAY WITHIN THE PROJECT LIMITS TO CREATE AN ACCESSWAY. THIS ACCESSWAY SHALL BE MAINTAINED UNTIL PAVING WITHIN THESE AREAS IS COMPLETED. INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN IN THE PHASE 2 PLANS.
6. CONSTRUCT CURB, TRUCK APRONS, SPLITTER ISLANDS, AND CENTRAL ISLAND AS SHOWN ON THE PHASE 2 PLAN.
7. CONSTRUCT PAVEMENT BOX. MILL AND/OR WEDGE REQUIRED AREAS. PAVE THE TYPE C PAVEMENT TO THE FINAL GRADES THROUGH THE PROJECT LIMITS.
8. PLACE FINAL PAVEMENT MARKINGS AND PERMANENT SIGNING. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF THE FINAL SIGNAGE WITH THE ENGINEER IN THE FIELD. THE CONTRACTOR SHALL NOT REMOVE ANY TEMPORARY SIGNAGE UNLESS APPROVED BY THE ENGINEER IN THE FIELD.
9. AFTER APPROVAL, REMOVE THE DETOUR AND PHASE 2 TEMPORARY TRAFFIC CONTROLS. PLACE PORTABLE MESSAGE SIGNS TO ALERT PUBLIC OF NEW TRAFFIC PATTERN. MESSAGE AND LOCATION SHALL BE COORDINATED WITH AND APPROVED BY THE DISTRICT SAFETY OFFICER. OPEN KENTON ROAD AND CENTRAL CHURCH ROAD TO TRAFFIC.
10. ALL DISTURBED AREAS SHALL BE ADEQUATELY STABILIZED. THE CONTRACTOR MAY REMOVE THE E&S DEVICES AFTER FINAL VEGETATIVE STABILIZATION OF ALL DISTURBED AREAS AND WITH THE APPROVAL OF THE STORMWATER ENGINEER.
11. REMOVE ADVANCED WARNING SIGNS.

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO. N/A	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SECTION
				T202104204	DESIGNED BY: A. HALLER		CEN
				COUNTY	CHECKED BY: L. HAXTON		SHEET NO.
				KENT			38

PHASE 1

1. PLACE PORTABLE CHANGEABLE MESSAGE SIGNS TEN (10) DAYS PRIOR TO THE START OF CONSTRUCTION.
2. PLACE ADVANCED WARNING SIGNS PER THE ADVANCED WARNING SIGN LAYOUT.
3. PLACE DRUMS AS SHOWN ON THE PHASE 1 PLAN.
4. UTILIZE TA-10 FROM THE DE MUTCD AS NECESSARY DURING THIS PHASE OF CONSTRUCTION TO CLOSE A LANE ADHERING TO THE ALLOWABLE LANE CLOSURE HOURS.
5. INSTALL TEMPORARY CONSTRUCTION FENCE.
6. INSTALL PERIMETER E&S CONTROLS AND STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THE PHASE 1 PLAN. CLEAR AND GRUB PROJECT LIMITS.
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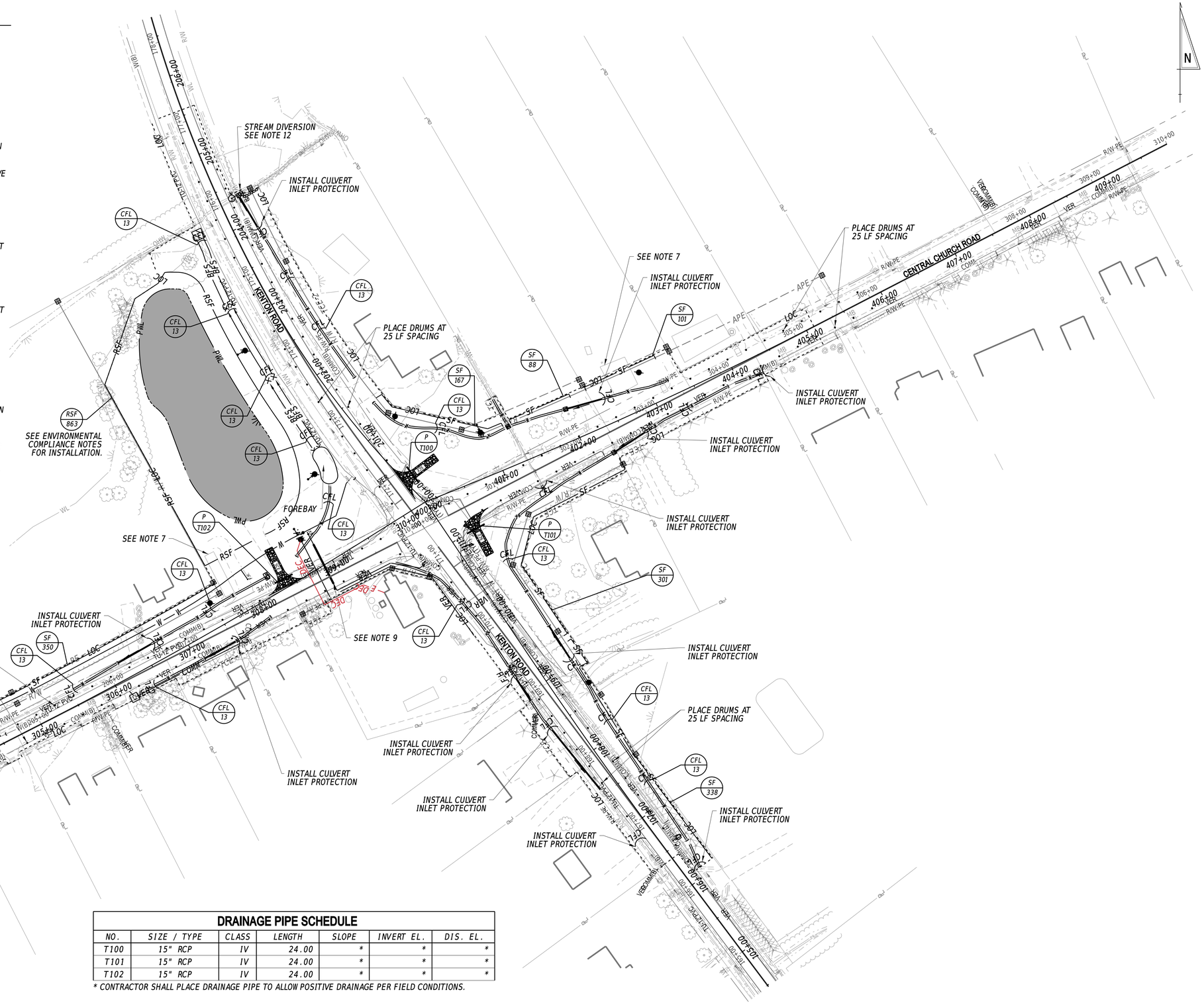

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INVERT EL.	DIS. EL.
T100	15" RCP	IV	24.00	*	*	*
T101	15" RCP	IV	24.00	*	*	*
T102	15" RCP	IV	24.00	*	*	*

* CONTRACTOR SHALL PLACE DRAINAGE PIPE TO ALLOW POSITIVE DRAINAGE PER FIELD CONDITIONS.

ADDENDA / REVISIONS

SCALE 0 60 120 180 FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 1

SECTION
CEN
SHEET NO.
39

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PHASE 2

1. MAINTAIN NECESSARY E&S CONTROLS INSTALLED IN THE PREVIOUS PHASE AS SHOWN ON THE PLANS.

2. IMPLEMENT THE KENTON ROAD AT CENTRAL CHURCH ROAD DETOUR. PLACE PORTABLE CHANGEABLE MESSAGE SIGNS TEN (10) DAYS PRIOR TO THE CLOSURE.

3. INSTALL TEMPORARY TRAFFIC CONTROL AS SHOWN ON THE PHASE 2 PLAN, INCLUDING BUT NOT LIMITED TO:
   A. PLACE TYPE 3 BARRICADES WITH R11-2 SIGNS AT THE LIMIT OF DRIVEWAY ACCESS AS SHOWN ON THE PHASE 2 PLANS.
   B. PLACE TYPE 3 BARRICADES WITH R11-4 SIGNS AT THE PROJECT LIMITS TO ALLOW ACCESS TO DRIVEWAYS WITHIN THE PROJECT LIMITS.
   C. PLACE DRUMS FROM THE PROJECT LIMITS TO THE CLOSURE LIMITS TO DELINEATE A 20' WIDE ACCESSWAY TO DRIVEWAYS WITHIN THE PROJECT LIMITS.

4. INSTALL PROPOSED DRAINAGE AS SHOWN IN THIS PHASE. INSTALL E&S CONTROLS AS PROPOSED DRAINAGE IS CONSTRUCTED AS SHOWN ON THE PHASE 2 PLAN.

5. SAWCUT, EXCAVATE, AND GRADE PAVEMENT BOX. CONTRACTOR SHALL PLACE AND COMPACT GABC WITH A MINIMUM WIDTH OF 20' FROM THE MILL AND OVERLAY LIMIT TO THE FURTHEST DRIVEWAY WITHIN THE PROJECT LIMITS TO CREATE AN ACCESSWAY. THIS ACCESSWAY SHALL BE MAINTAINED UNTIL PAVING WITHIN THESE AREAS IS COMPLETED. INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN IN THE PHASE 2 PLANS.

6. CONSTRUCT CURB, TRUCK APRONS, SPLITTER ISLANDS, AND CENTRAL ISLAND AS SHOWN ON THE PHASE 2 PLAN.

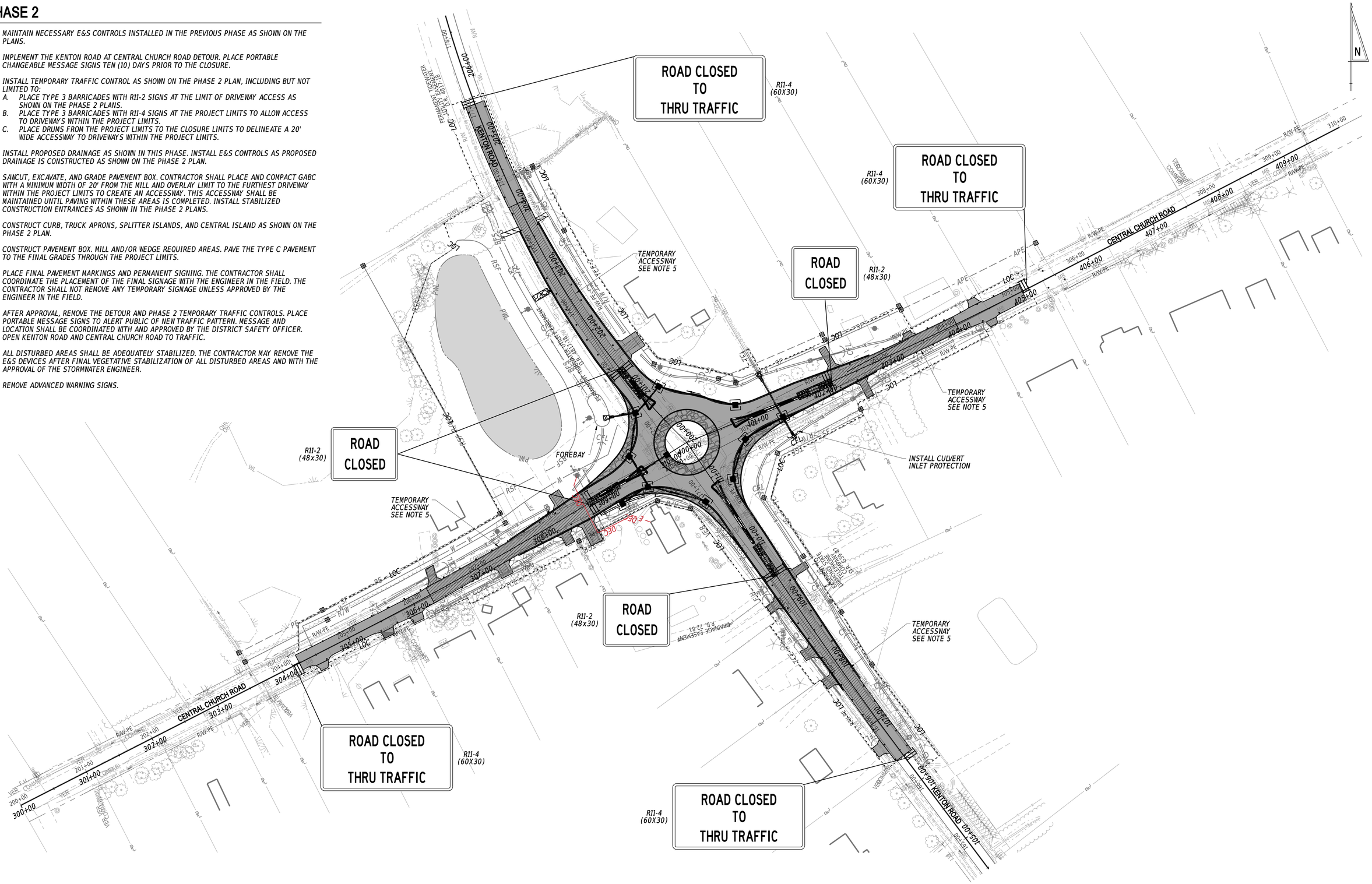
7. CONSTRUCT PAVEMENT BOX. MILL AND/OR WEDGE REQUIRED AREAS. PAVE THE TYPE C PAVEMENT TO THE FINAL GRADES THROUGH THE PROJECT LIMITS.

8. PLACE FINAL PAVEMENT MARKINGS AND PERMANENT SIGNING. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF THE FINAL SIGNAGE WITH THE ENGINEER IN THE FIELD. THE CONTRACTOR SHALL NOT REMOVE ANY TEMPORARY SIGNAGE UNLESS APPROVED BY THE ENGINEER IN THE FIELD.

9. AFTER APPROVAL, REMOVE THE DETOUR AND PHASE 2 TEMPORARY TRAFFIC CONTROLS. PLACE PORTABLE MESSAGE SIGNS TO ALERT PUBLIC OF NEW TRAFFIC PATTERN. MESSAGE AND LOCATION SHALL BE COORDINATED WITH AND APPROVED BY THE DISTRICT SAFETY OFFICER. OPEN KENTON ROAD AND CENTRAL CHURCH ROAD TO TRAFFIC.

10. ALL DISTURBED AREAS SHALL BE ADEQUATELY STABILIZED. THE CONTRACTOR MAY REMOVE THE E&S DEVICES AFTER FINAL VEGETATIVE STABILIZATION OF ALL DISTURBED AREAS AND WITH THE APPROVAL OF THE STORMWATER ENGINEER.

11. REMOVE ADVANCED WARNING SIGNS.



ADDENDA / REVISIONS		SCALE 0 60 120 180 FEET	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 2	SECTION CEN
				COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 40
					CHECKED BY: L. HAXTON		

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PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

SR15 AT CENTRAL CHURCH	TO CLOSE STARTING XX/XX/XX

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-2

CENTRAL CHURCH AT SR15	TO CLOSE STARTING XX/XX/XX

GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
2. *SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHALL BE CHANGED TO "RAMP", "RR XING" OR "BRIDGE" WHERE APPLICABLE.*
3. *"W" TYPE 3 BARRICADES AT A ROAD CLOSURE SHALL BE PLACED COMPLETELY ACROSS THE ROADWAY, FROM CURB TO CURB, OR FROM EDGE OF ROAD TO EDGE OF ROAD, WITH THE STRIPES POSITIONED DOWNWARD TOWARD THE CENTER OF THE ROADWAY.*
4. *BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.*

SPECIAL NOTES

5. *THE CLOSURE AT THE INTERSECTION OF KENTON ROAD AND CENTRAL CHURCH ROAD WILL BE PERMITTED FOR A MAXIMUM PERIOD OF 27 CONTINUOUS CALENDAR DAYS.*
6. *FOR SPECIAL SIGN DETAILS "Y1", "Y2", "Y3", "Z" SEE SHEET 42.*

PREPARED BY
CENTURY ENGINEERING
A Kleinfelder Company

TYLER DANE HARTMAN LICENSE No. 25884 DELAWARE PROFESSIONAL ENGINEER

THIS SEAL APPLIES TO THIS DETOUR SHEET. — 11/30/2023 DATE

SEAL

QA/QC — 11/27/23 DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

LAST REVISED: 9/11/2018
31-NOV-2023
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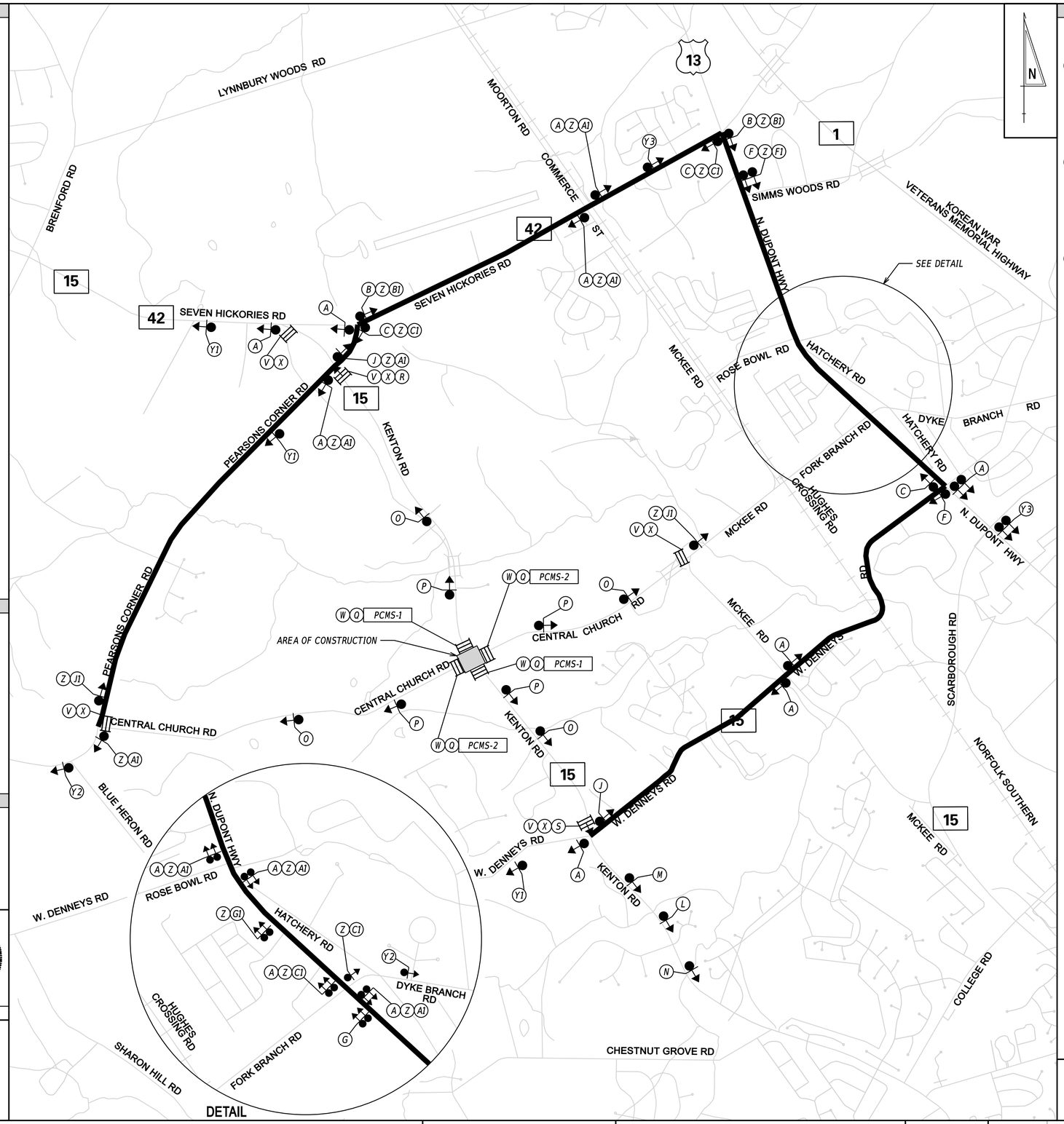
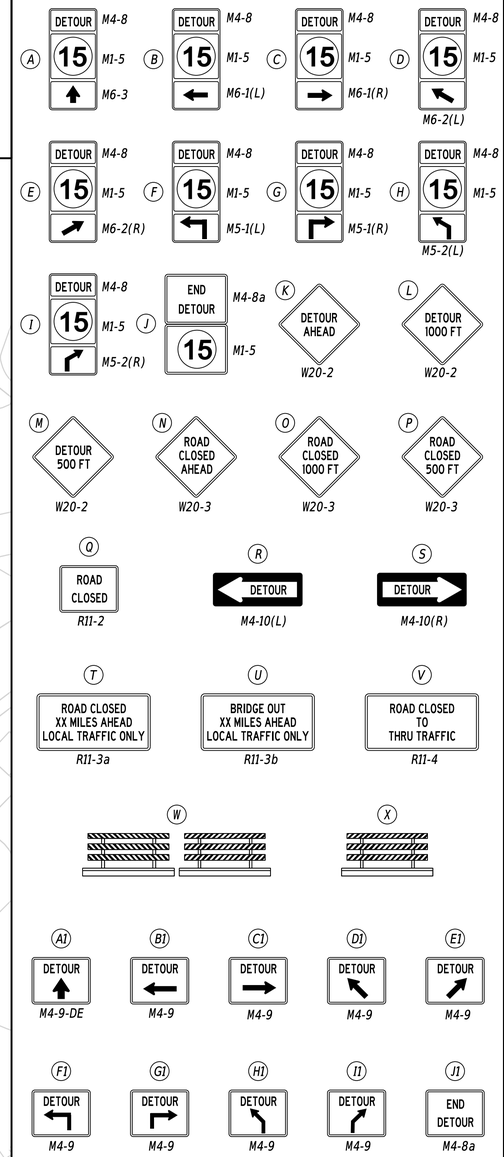


LEGEND



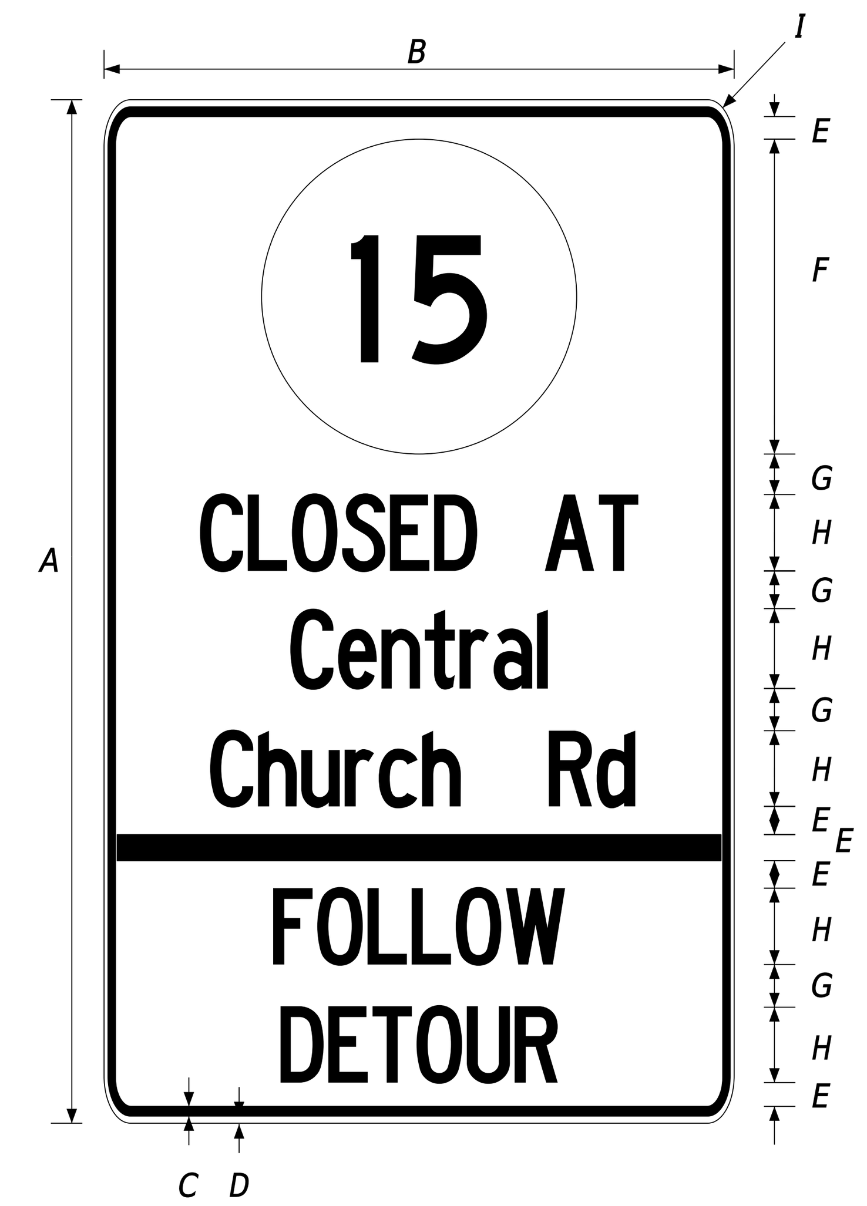
CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY — 12/5/23 DATE

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	ROAD NO. K104	DETOUR PLAN CENTRAL CHURCH RD @ SR15	SECTION CEN
				COUNTY KENT	DESIGNED BY: D. SPENCE		SHEET NO. 41
					CHECKED BY: T. HARTMAN		

SPECIAL SIGNS

(Y1)

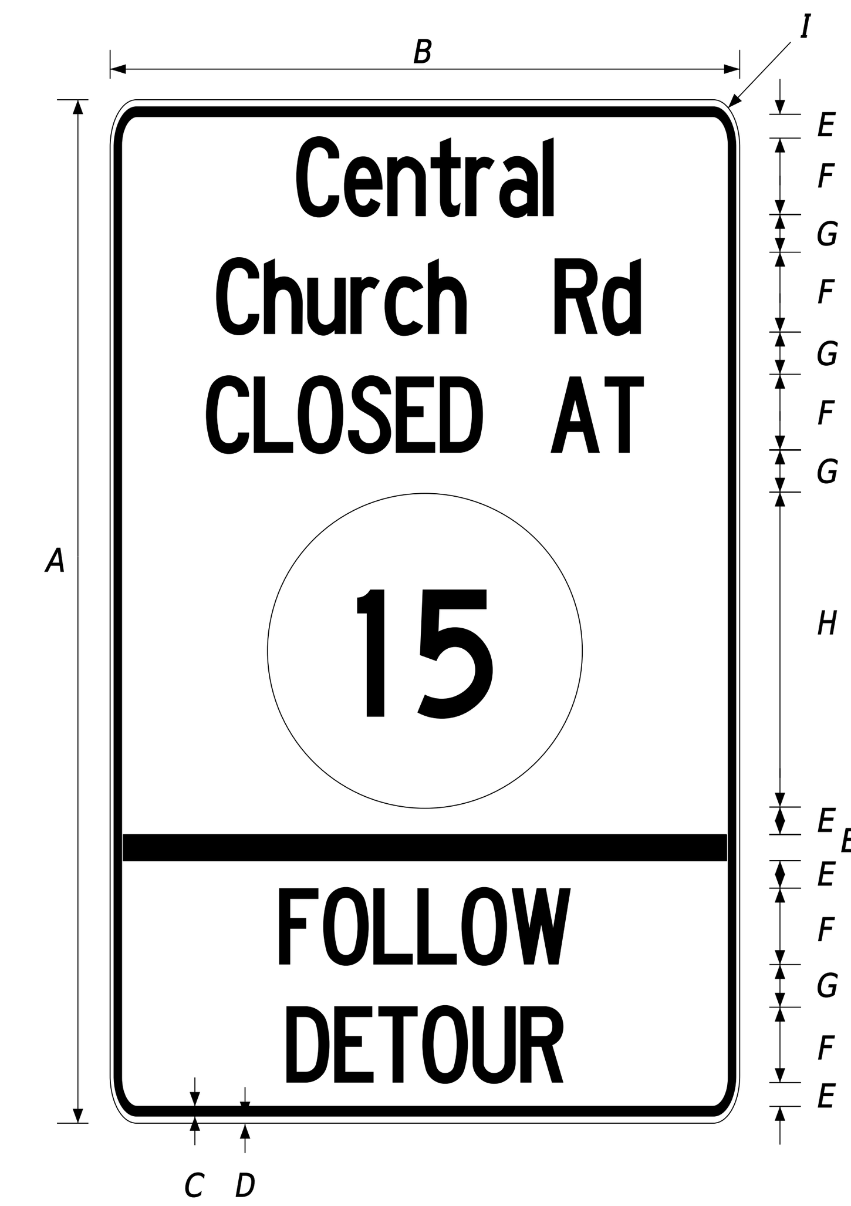


SIGN SIZE	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	I	J
STD	78"	48"	.625"	.375"	2"	24"	3"	6"C	2.5"	-

COLORS - LEGEND, BORDER - BLACK
BACKGROUND - PRISMATIC RETROREFLECTIVE FLUORESCENT ORANGE

- ROUTE SHIELD - WHITE BACKGROUND, BLACK LEGEND

(Y2)

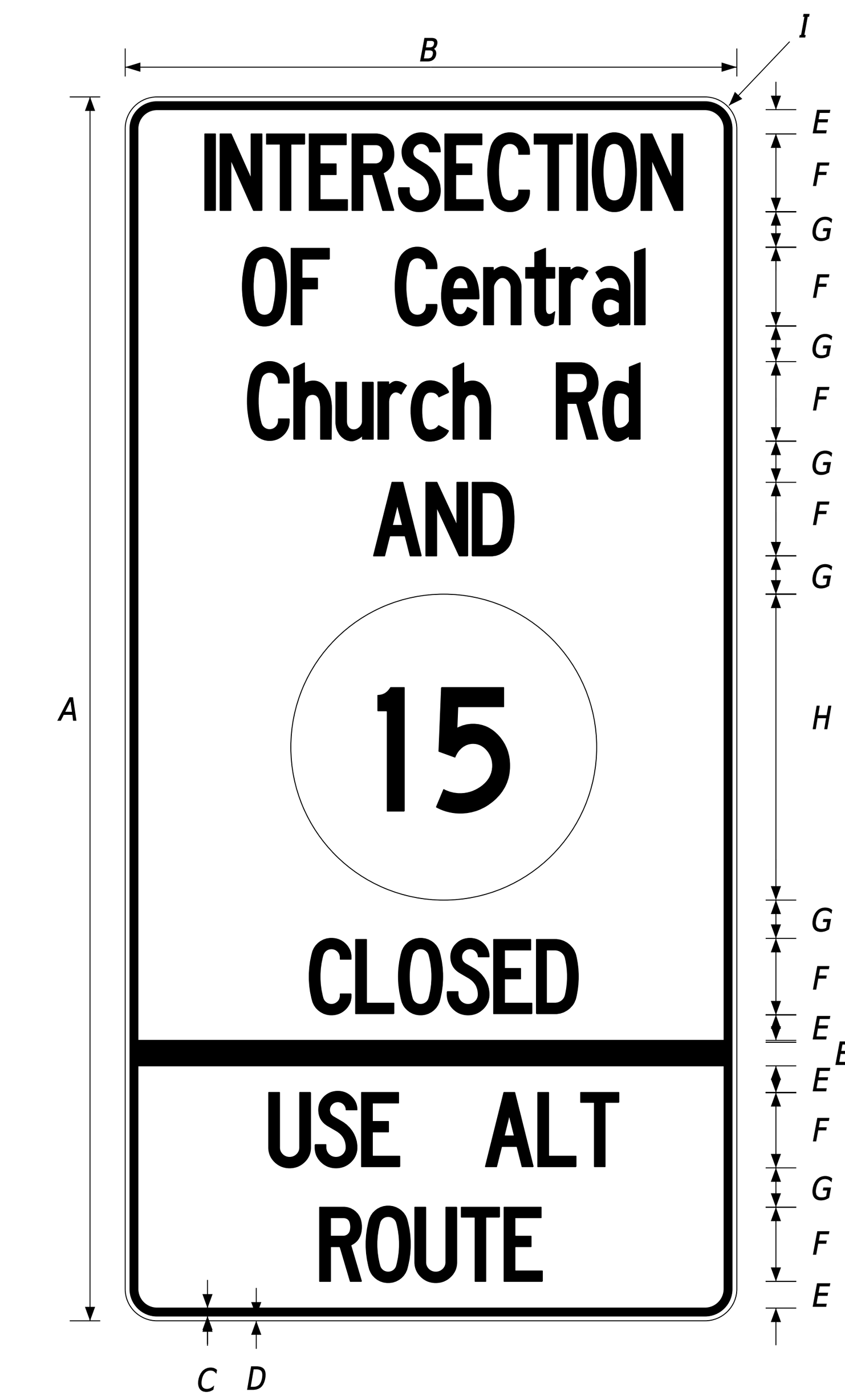


SIGN SIZE	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	I	J
STD	78"	48"	.625"	.375"	2"	6"C	3"	24"	2.5"	-

COLORS - LEGEND, BORDER - BLACK
BACKGROUND - PRISMATIC RETROREFLECTIVE FLUORESCENT ORANGE

- ROUTE SHIELD - WHITE BACKGROUND, BLACK LEGEND

(Y3)



SIGN SIZE	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	I	J
STD	96"	48"	.625"	.375"	2"	6"C	3"	24"	2.5"	-

COLORS - LEGEND, BORDER - BLACK
BACKGROUND - PRISMATIC RETROREFLECTIVE FLUORESCENT ORANGE

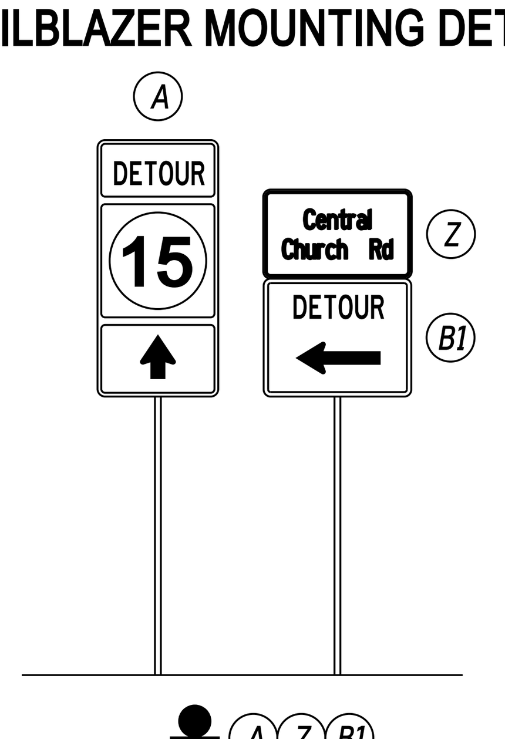
- ROUTE SHIELD - WHITE BACKGROUND, BLACK LEGEND

(Z)

18" X 30"

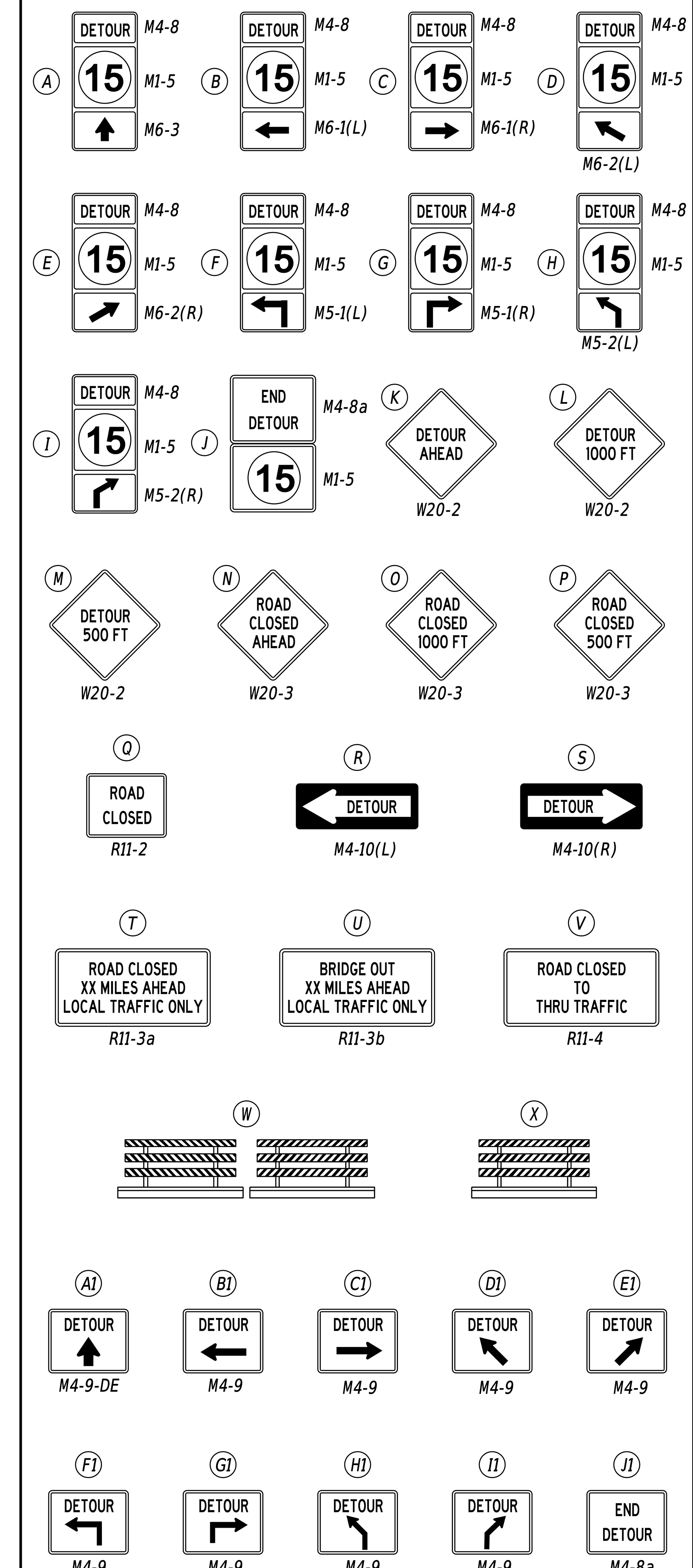
COLORS - LEGEND, BORDER - BLACK
BACKGROUND - PRISMATIC RETROREFLECTIVE FLUORESCENT ORANGE

TRAILBLAZER MOUNTING DETAIL



REFER TO SECTION 2D.29 IN THE DE MUTCD FOR SIGN ARRANGEMENT WHERE MULTIPLE SIGNS ARE POSTED IN THE SAME LOCATION

LEGEND



GENERAL NOTES

1. ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.
2. SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHALL BE CHANGED TO "RAMP", "RR XING" OR "BRIDGE" WHERE APPLICABLE.
3. "W" TYPE 3 BARRICADES AT A ROAD CLOSURE SHALL BE PLACED COMPLETELY ACROSS THE ROADWAY, FROM CURB TO CURB, OR FROM EDGE OF ROAD TO EDGE OF ROAD, WITH THE STRIPES POSITIONED DOWNWARD TOWARD THE CENTER OF THE ROADWAY.
4. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

PREPARED BY
CENTURY ENGINEERING
A Kleinfelder Company

THIS SEAL APPLIES TO THIS DETOUR SHEET. 11/29/2023 DATE

TYLER DANE HARTMAN LICENSE No. 25884 DELAWARE PROFESSIONAL ENGINEER

SEAL

QA/QC 11/27/23 DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY 12/5/23 DATE

LAST REVISED: 9/11/2018
27-NOV-2023
17:48
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ADDENDA / REVISIONS

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	ROAD NO.	K104	DETOUR SIGN DETAIL	SECTION
T202104204	DESIGNED BY:	D. SPENCE		CEN
COUNTY	CHECKED BY:	T. HARTMAN		SHEET NO.
KENT				42

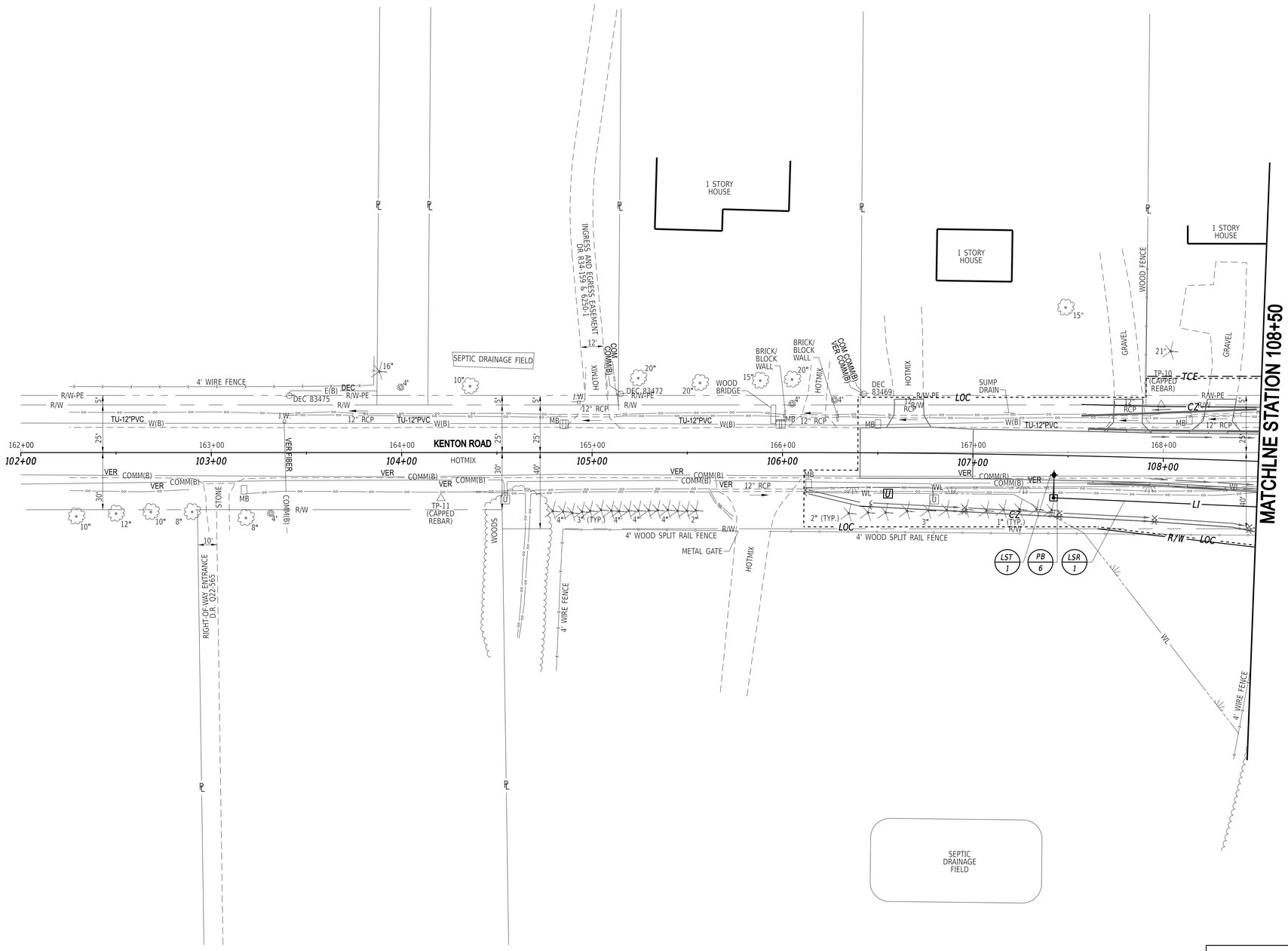
LIGHTING PROJECT NOTES

1. CENTER OF CONDUIT TRENCH SHALL BE RUN IN STRAIGHT LINE BETWEEN THE LIGHTING STANDARDS, WHERE POSSIBLE.
2. AT ALL LOCATIONS WHERE THE INSTALLATION OF CONDUITS REQUIRES CROSSING OF EXISTING UNDERDRAINS. THE CONTRACTOR SHALL HAND EXCAVATE. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO AVOID EXISTING UNDERDRAINS WHERE POSSIBLE.
3. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IN CASE OF INADVERTENT DAMAGE TO AN EXISTING UNDERDRAIN LINE OR STRUCTURE. ALL REPAIRS SHALL BE MADE TO THE SATISFACTION OF THE ENGINEER. REPAIR COSTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEMS.
4. THE CONTRACTOR SHALL BOND ALL METALLIC BOXES, CONDUITS, POLES, JUNCTION WELL COVERS & GROUND RODS TO FEEDER GROUND CABLES. COSTS INCIDENTAL TO ITEMS BEING INSTALLED.
5. CONDUCTORS SHALL NOT BE SPLICED EXCEPT IN THE POLE BASE. THE CONTRACTOR SHALL INCLUDE 10' OF SLACK CABLE FOR JUNCTION WELLS AND 4' OF SLACK CABLE FOR POLE-JUNCTION BOXES, NEATLY COILED AND BOUND FOR FUTURE USE.
6. ALL CONDUITS, JUNCTION WELLS, LIGHTING STANDARDS ETC., SHALL BE STAKED OUT BY THE CONTRACTOR AND EVERY LOCATION APPROVED BY THE ENGINEER BEFORE ANY WORK IS DONE. ALL TEMPORARY BYPASSES OF CIRCUITS SHALL BE ESTABLISHED PRIOR TO EXCAVATION.
7. CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING DELDOT TRAFFIC SECTION INTERIM MANAGER NICK MOGLE AT (302) 222-5920 TO INITIATE SERVICE APPLICATION AT LEAST 90 DAYS BEFORE POWER IS REQUIRED ON THE PROJECT. ALL POWER COSTS DURING CONSTRUCTION WILL BE AT THE CONTRACTOR'S EXPENSE.
8. MOUNTING HEIGHT SHALL BE MEASURED FROM THE CENTER LINE OF THE LUMINAIRE TO THE TOP OF THE ROADWAY AT THE SHOULDER LINE.
9. ALL LIGHTING STANDARDS NOT PROTECTED BY A GUARDRAIL SHALL BE ON AASHTO-APPROVED BREAKAWAY TRANSFORMERBASES.
10. BURIED ELECTRICAL CABLE, CONDUIT, AND UTILITY PIPES ARE SHOWN THROUGHOUT THE PROJECT. IT IS THE RESPONBILITY OF THE CONTRACTOR TO CONTACT MISS UTILITY TO VERFIY THE EXACT LOCATIONS OF THESE CABLES, CONDUITS, AND PIPES PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PREVENTING DAMAGE TO THEM, AND MAINTAINING THEM IN SERVICE WHEN AND WHERE REQUIRED.
11. ANY GUARDRAIL OR FENCE MATERIAL REMOVED FOR EASE OF CONSTRUCTION SHALL BE REPLACED THE SAME DAY. GUARDRAIL AND FENCE MATERIAL REMOVAL AND REPLACEMENT WILL BE CONSIDERED INCIDENTAL TO THE BID ITEMS.
12. ALL CONCRETE SHALL BE CLASS B, UNLESS OTHERWISE NOTED.
13. WHERE CONDUIT HAS PREVIOUSLY BEEN INSTALLED, THE CONNECTION TO THE CONDUIT IN THE BASE WILL BE MADE BEFORE POURING CONCRETE.
14. ALL LIGHTING BASES WILL CONTAIN TWO 3" PVC CONDUIT SWEEPS WHICH SHALL BE INCLUDED IN THE COST OF THE BASE.THIS INCLUDES POLES AT THE END OF A CONDUIT RUN. ANY SWEEP NOT USED WILL BE CAPPED IN THE GROUND. AN ARROWSHALL BE PLACED IN THE BASE SURFACE INDICATING WHERE CONDUITS LEAVE THE BASE. PAYMENT FOR CAPS IS INCIDENTAL TO ITEM 834006, POLE BASE, TYPE 6.
15. USE A 90° ELBOW WITH A 24" RADIUS FOR CONDUIT SWEEPS INTO POLE FOUNDATIONS. CONDUIT SWEEPS INTO LIGHTINGCONTROL PANELS SHALL BE 4" DIA. WITH A 90° BEND AND 30" RADIUS. ALL 90° CONDUIT SWEEPS SHALL BE MANUFACTURED, FIELD BENDS ARE NOT ACCEPTABLE.
16. CONDUIT SWEEPS AT LIGHTING CONTROL PANELS SHALL BE CONSIDERED INCIDENTAL TO THE LIGHTING ITEMS. CONTRACTOR SHALL PROVIDE FOUR SPARE 4" CONDUIT SWEEPS (CAPPED AT BOTH ENDS) IN EACH CONCRETE PAD.
17. IN STABLE SOIL, FORMS BELOW 12" FROM THE SURFACE ARE NOT REQUIRED. ALL BASES SHALL BE EDGED AND HAVE ABROOM FINISH.
18. FOR TYPE 6 POLE BASES, WHERE HORIZONTAL BARS AND VERTICAL BARS INTERSECT, THEY WILL BE WIRED TOGETHER. NO WELDING WILL BE ACCEPTED.
19. THE ANCHOR BOLTS FOR TYPE 6 POLE BASES WILL HAVE A MINIMUM YIELDING STRESS OF 55,000 PSI.
20. ANCHOR BOLTS, NUTS, AND HEX BOLTS WILL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH THE LATEST A.S.T.M. SPECIFICATIONS.
21. ALL CONDUIT JUNCTION WELLS CONSTRUCTED WITHIN PAVEMENTS, SIDEWALKS, ETC. WILL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATIONS IN UNPAVED AREAS WILL BE CONSTRUCTED SUCH THAT THE TOP OF THE COVER IS ONE INCH ABOVE FINAL GRADE. SURROUNDING AREA SHALL BE GRADED TO DRAIN AWAY FROM CONDUIT JUNCTION WELL.
22. CAST IRON FRAMES AND/OR COVERS WILL CONFORM TO SECTION 1039.7, CASTINGS, SHALL BE INCLUDED IN UNIT PRICE BID FOR CONDUIT JUNCTIONS WELLS.
23. IN ALL JUNCTION WELLS AND POLE BASES, THE CONTRACTOR SHALL LABEL ALL BRANCH CIRCUIT CONDUCTORS WITH THEIR RESPECTIVE BRANCH CIRCUIT NUMBERS AND LIGHTING PANELS: 3(ON), 7(AS), ETC. INCIDENTAL TO ALL LIGHTING ITEMS.
24. POLES AND TRANSFORMER BASES SHALL HAVE STRUCTURAL CAPABILITIES EQUAL TO OR EXCEEDING THOSE INTENDED BY THE LATEST EDITION OF AASHTO'S "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGN, LUMINAIRES, AND TRAFFIC SIGNALS".
25. HANDHOLES SHALL BE INSTALLED ON THE SIDE OF THE LIGHTING POLE SUCH THAT THE HANDHOLE COVER FACES ONCOMING TRAFFIC.
26. IDENTIFICATION TAG SHALL BE LOCATED ON THE QUADRANT OF THE SURFACE OF THE POLE THAT FACES ONCOMING TRAFFIC, SO THAT A VEHICLE DRIVING BY CAN EASILY VIEW THE TAG.
27. CONDUIT FIELD BENDS ARE ACCEPTABLE ONLY FOR NECESSARY NON-STANDARD BENDS OR OFFSETS OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
28. ALL THE TRENCHING, BACKFILL, AND COMPACTION SHALL BE CONSIDERED INCIDENTAL TO THE CONDUIT ITEM.
29. ALL FOUNDATIONS SHALL BE POURED IN THE SAME DAY OR THE HOLE SHALL BE COVERED AND DEWATERED BEFORE POURING. ALL COSTS ARE INCIDENTAL TO THE FOUNDATION WORK. THE CONTRACTOR SHALL MAKE ANY AND ALL ADJUSTMENTS AS NECESSARY IN THE EVENT THAT HIGH GROUNDWATER OR UNSTABLE SOIL IS ENCOUNTERED. CONTRACTOR SHALL DIRECT ALL SEDIMENT LADEN WATER TO AN APPROVED SEDIMENT TRAPPING DEVICE PRIOR TO RELEASING IT TO ANY DRAINAGE INLET, STORM DRAIN, OR WATER COURSE. ALL COSTS ARE INCIDENTAL TO THE ITEM BEING INSTALLED.
30. AT LOCATIONS WHERE CONTRACTOR IS WORKING AT OR NEAR EXISTING LIGHTING SERVICES, THERE SHALL BE NO OVERNIGHT LIGHTING OUTAGES.
31. THE CONTRACTOR SHALL ESTABLISH ALL TEMPORARY BYPASSES OF CIRCUITS PRIOR TO EXCAVATION.
32. COPPER COATED GROUND RODS (3/4" x 10' MIN.) SHALL BE PLACED FOR ALL EXISTING AND PROPOSED LIGHT ASSEMBLIES AND CONTROL BOXES AS SHOWN ON PLANS WITH 6'-0" MINIMUM OF THE ROD IN UNDISTURBED EARTH OR AS DIRECTED BY ENGINEER IN THE FIELD. COST FOR GROUND RODS TO BE INCIDENTAL TO THE ITEM BEING GROUNDED.
33. PROVIDE A 160W, 60A LIGHTING CONTACTOR TO CONTROL THE LIGHTS, ONE CONTACTOR SHALL BE INSTALLED IN EACH OF THE CABINETS WITH THE PANEL AND CONTROLLED BY A PHOTOCELL. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE CONTACTOR AND PHOTOCELL AND MAKE ALL FINAL CONNECTIONS. ALL COSTS INCIDENTAL TO THE LIGHTING ITEMS.
34. ALL LIGHTING STANDARD STATION AND OFFSET REFER TO THE CENTER OF POLE BASE.
35. THE PROPOSED LIGHTING CIRCUIT AND PANEL DESIGNS ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL SUBMIT A CIRCUIT, PANEL AND WIRING DIAGRAM FOR APPROVAL BY THE ENGINEER, PRIOR TO CONSTRUCTION. THE DIAGRAMS SHALL BE SEALED BY AN ELECTRICAL ENGINEER AND MEET ALL DELDOT AND ELECTRIC CODE REQUIREMENTS. ALL COSTS FOR SHOP DRAWINGS AND WIRING DIAGRAMS ARE INCIDENTAL TO THE LIGHTING ITEMS.
36. THE CABINET COMPONENTS SHALL BE SQUARE D OR APPROVED EQUAL. THE CONTRACTOR SHALL CONTACT ALASTAIR PROBERT, SOUTH DISTRICT ENGINEER, AT (302) 853-1300 TO GO OVER FINAL CABINET WIRING AND CONFIGURATION.
37. LUMINAIRES INSTALLED SHALL BE PHILLIPS ROADFOCUS RFL FIXTURES. THE LUMINAIRE MODEL SELECTED SHALL BE THE LED EQUIVALENT TO A 250 WATT HPS LUMINAIRE.
38. ALL DELDOT OWNED LIGHTING EQUIPMENT TO BE REMOVED SHALL BE RETURNED TO SOUTH DISTRICT.

LIGHTING AND ITMS LEGEND

CA X / CA X	ITMS CABINET IDENTIFIER (TYPE) (EXISTING AND PROPOSED)
CO X / CO X	ITMS CONDUIT RUN IDENTIFIER (RUN #) (EXISTING AND PROPOSED)
JW X / JW X	ITMS JUNCTION WELL IDENTIFIER (TYPE) (EXISTING AND PROPOSED)
PB X / PB X	POLE BASE IDENTIFIER (TYPE) (EXISTING AND PROPOSED)
LCA X / LCA X	LIGHTING CABINET IDENTIFIER (TYPE) (EXISTING AND PROPOSED)
LJW X / LJW X	LIGHTING JUNCTION WELL IDENTIFIER (TYPE) (EXISTING AND PROPOSED)
LSR X / LSR X	LIGHTING SERVICE IDENTIFIER (EXISTING AND PROPOSED)
LST X / LST X	LIGHTING STANDARD IDENTIFIER (EXISTING AND PROPOSED)
AB	ABANDON CONDUIT IDENTIFIER
DND	DO NOT DISTURB - EXISTING
DND O	DO NOT DISTURB - PROPOSED WORK BY OTHERS
RM C	REMOVE BY CONTRACTOR
RM O	REMOVE BY OTHERS
—— LI ——	PROPOSED LIGHTING SERVICE RUN (CONDUIT)
— ITMS-T —	PROPOSED 4" MULTIDUCT, PVC (TRENCH) WITH (4) 1" RIBBED INNER DUCT
— ITMS-B —	PROPOSED 4" MULTIDUCT, SDR-13.5 HDPE (BORE), WITH (4) 1" RIBBED INNER DUCT
	JUNCTION WELL (EXISTING AND PROPOSED)
EM / P	POWER SERVICE PEDESTAL (EX. AND PR.)
P	SECONDARY SERVICE DISCONNECT (PROPOSED)
	LIGHTING CABINET (EXISTING AND PROPOSED)
	ITMS POLE (EXISTING AND PROPOSED)
CCTV	CCTV CAMERA (EXISTING AND PROPOSED)
	PROPOSED LIGHTING STANDARD
	PROPOSED LUMINAIRE ON EXISTING POLE
	EXISTING LIGHTING STANDARD

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	LIGHTING NOTES	SECTION CEI
				COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 43
					CHECKED BY: L. HAXTON		



LIGHTING SERVICE SCHEDULE

SERVICE RUN	LENGTH	INSTALL METHOD	DESCRIPTION
1	118'	T	(1) 3" PVC - 2#8 + 1#8 GROUND

* DENOTES EXISTING SERVICE RUN.
INSTALL METHODS: B=BORE, IB=IN BARRIER, OC=OPEN CUT, OS=ON STRUCTURE, T=TRENCH

LIGHTING STANDARD SCHEDULE

NO.	CKT NO.	STATION	OFFSET	NORTHING	EASTING	ARM	LIGHT STANDARD
1	A1	107+42.82	22.30'R	433911.4839	605826.4495	12'	81W TYPE III LED LUMINAIRE

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

LIGHTING PLAN

	LI-01
SECTION	CEN
SHEET NO.	44

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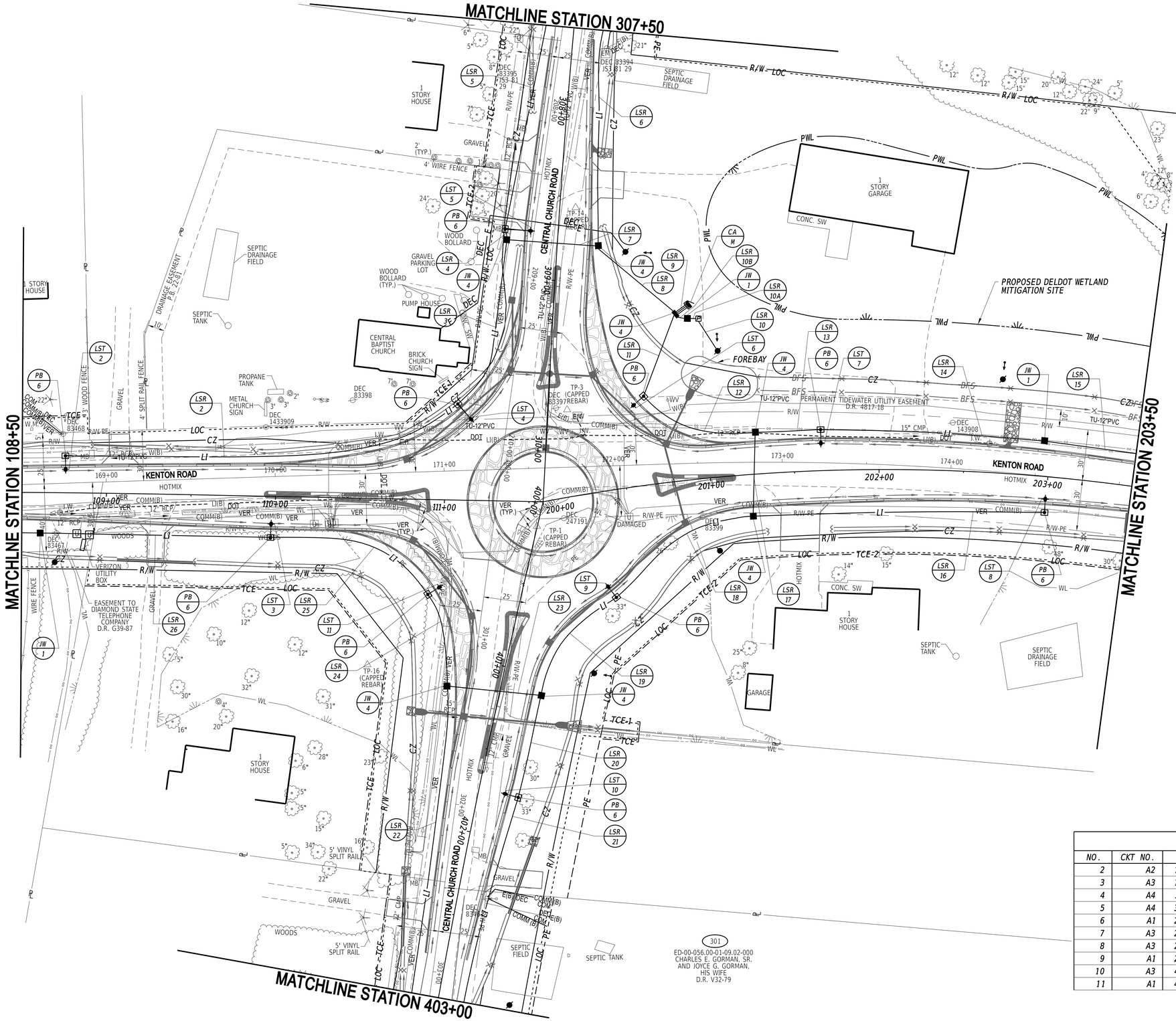

LIGHTING SERVICE SCHEDULE

SERVICE RUN	LENGTH	INSTALL METHOD	DESCRIPTION
2	239'	T	(1) 3" PVC - 2#8 + 1#8 GROUND
3	103'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
4	9'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
5	127'	T	(1) 3" PVC - 2#8 + 1#8 GROUND
6	142'	T	(1) 3" PVC - 2#8 + 1#8 GROUND
7	56'	B	(1) 4" HDPE - 3#8 + 1#8 GROUND
8	58'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
9	7'	T	(4) 4" PVC - 6#8 + 1#8 GROUND
10	20'	T	(1) 3" GALV. - 3#2 + 1#2 GROUND
10A	5'	T	(1) 3" GALV. - 3#2 + 1#2 GROUND
10B	5'	T	(1) 3" GALV. - 3#2 + 1#2 GROUND
11	52'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
12	72'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
13	39'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
14	133'	T	(1) 3" PVC - 2#8 + 1#8 GROUND
15	120'	T	(1) 3" PVC - 2#8 + 1#8 GROUND
16	172'	T	(1) 3" PVC - 2#8 + 1#8 GROUND
17	50'	B	(1) 4" HDPE - 3#8 + 1#8 GROUND
18	97'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
19	76'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
20	62'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
21	147'	T	(1) 3" PVC - 2#8 + 1#8 GROUND
22	198'	T	(1) 3" PVC - 2#8 + 1#8 GROUND
23	56'	B	(1) 4" HDPE - 3#8 + 1#8 GROUND
24	56'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
25	105'	T	(1) 3" PVC - 3#8 + 1#8 GROUND
26	136'	T	(1) 3" PVC - 2#8 + 1#8 GROUND

* DENOTES EXISTING SERVICE RUN.
INSTALL METHODS: B=BORE, IB=IN BARRIER, OC=OPEN CUT, OS=ON STRUCTURE, T=TRENCH

LIGHTING STANDARD SCHEDULE

NO.	CKT NO.	STATION	OFFSET	NORTHING	EASTING	ARM	LIGHT STANDARD
2	A2	108+75.54	21.89'L	433994.6323	605714.0376	8'	81W TYPE III LED LUMINAIRE
3	A3	109+98.28	24.21'R	434121.7617	605683.8806	8'	81W TYPE III LED LUMINAIRE
4	A4	309+71.71	58.18'R	434160.7080	605554.4398	12'	81W TYPE III LED LUMINAIRE
5	A4	308+71.55	31.33'R	434130.4886	605454.6699	15'	81W TYPE III LED LUMINAIRE
6	A1	200+66.93	52.43'L	434254.3675	605488.6204	8'	81W TYPE III LED LUMINAIRE
7	A3	201+66.23	24.29'L	434351.4294	605444.6250	8'	81W TYPE III LED LUMINAIRE
8	A3	203+00.00	21.26'R	434488.0531	605408.7218	8'	81W TYPE III LED LUMINAIRE
9	A1	200+40.58	59.41'R	434311.4437	605588.3130	8'	81W TYPE III LED LUMINAIRE
10	A3	401+74.36	23.75'L	434330.0911	605725.6386	8'	81W TYPE III LED LUMINAIRE
11	A1	400+68.58	54.00'R	434217.2755	605657.9954	8'	81W TYPE III LED LUMINAIRE

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

LIGHTING PLAN

LI-02
SECTION: CEN
SHEET NO.: 45

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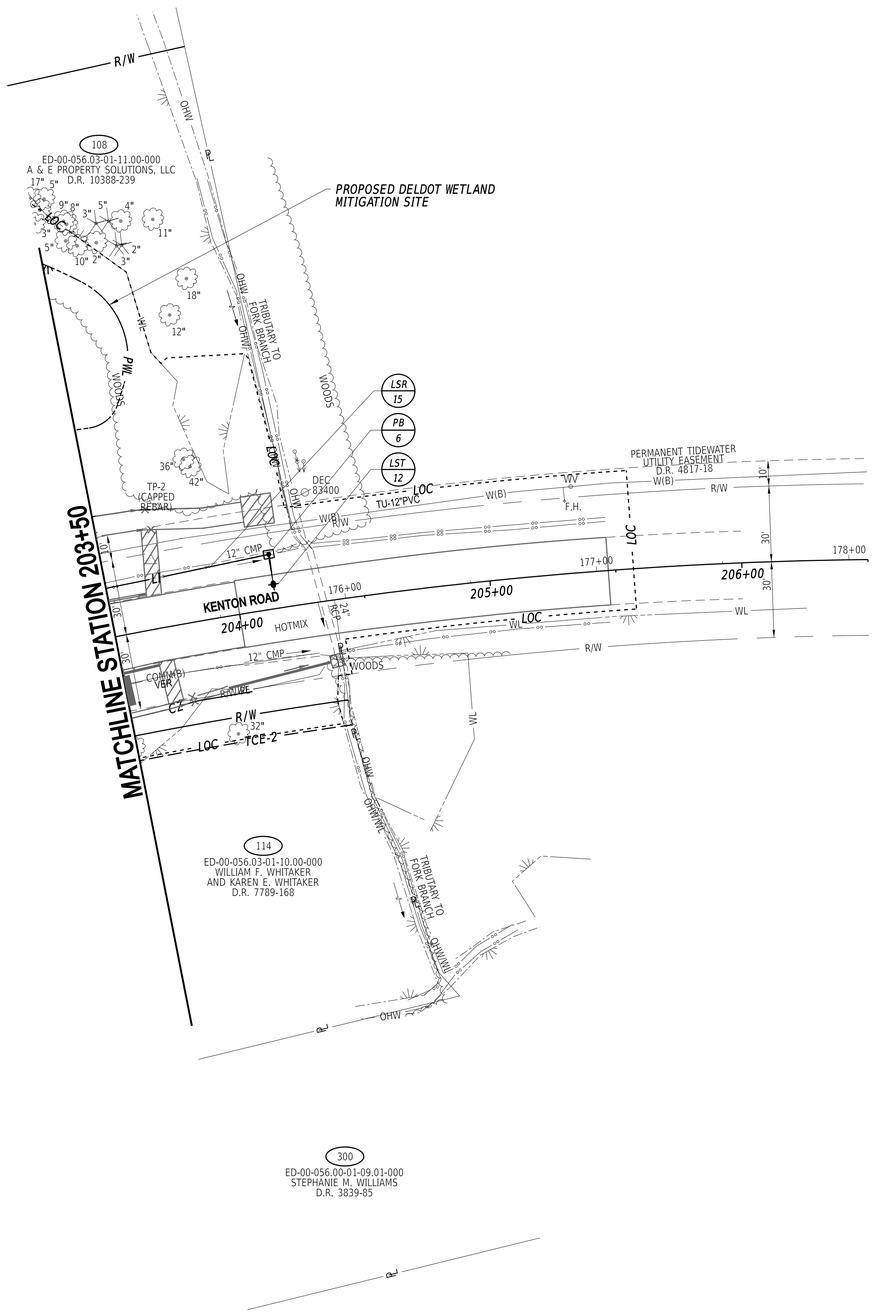

LIGHTING STANDARD SCHEDULE

NO.	CKT NO.	STATION	OFFSET	NORTHING	EASTING	ARM	LIGHT STANDARD
12	A1	204+15.00	21.65'L	434570.4130	605317.8056	12'	81W TYPE III LED LUMINAIRE

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT T202104204	BRIDGE NO. N/A	LIGHTING PLAN
COUNTY KENT	DESIGNED BY: A. HALLER	
	CHECKED BY: L. HAXTON	

LI-03
SECTION CEN
SHEET NO. 46

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LIGHTING SERVICE SCHEDULE

SERVICE RUN	LENGTH	INSTALL METHOD	DESCRIPTION
27	134'	T	(1) 3" PVC - 2#8 + 1#8 GROUND

* DENOTES EXISTING SERVICE RUN.
INSTALL METHODS: B=BORE, IB=IN BARRIER, OC=OPEN CUT, OS=ON STRUCTURE, T=TRENCH

LIGHTING STANDARD SCHEDULE

NO.	CKT NO.	STATION	OFFSET	NORTHING	EASTING	ARM	LIGHT STANDARD
13	A2	306+16.50	19.66'R	434012.8869	605226.6289	12'	81W TYPE III LED LUMINAIRE
14	A2	307+39.60	19.18'L	434106.8007	605315.2460	12'	81W TYPE III LED LUMINAIRE

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

LIGHTING PLAN

LI-04
SECTION CEN
SHEET NO. 47

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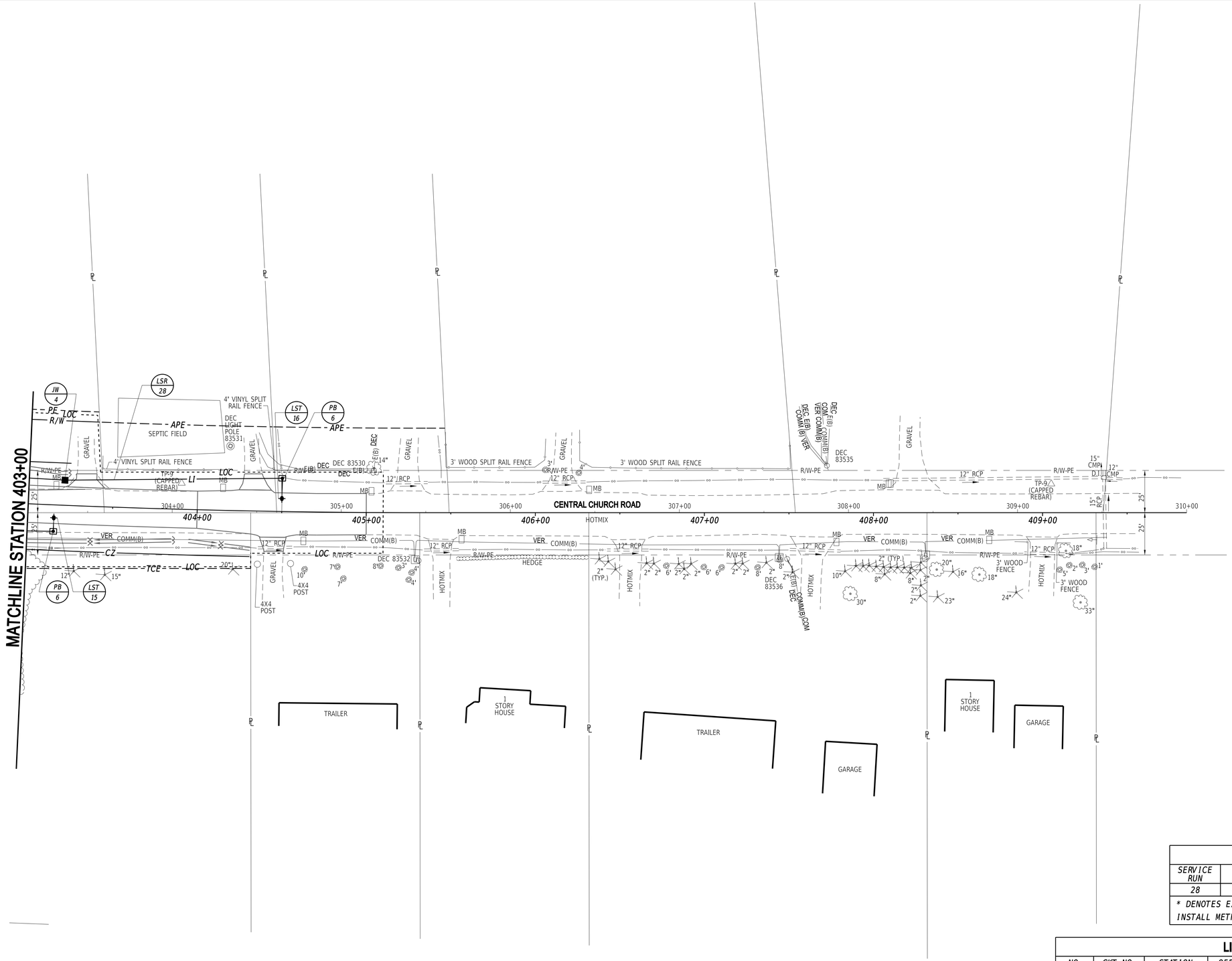

LIGHTING SERVICE SCHEDULE

SERVICE RUN	LENGTH	INSTALL METHOD	DESCRIPTION
28	128'	B	(1) 3" HDPE - 2#8 + 1#8 GROUND

* DENOTES EXISTING SERVICE RUN.

INSTALL METHODS: B=BORE, IB=IN BARRIER, OC=OPEN CUT, OS=ON STRUCTURE, T=TRENCH

LIGHTING STANDARD SCHEDULE

NO.	CKT NO.	STATION	OFFSET	NORTHING	EASTING	ARM	LIGHT STANDARD
15	A3	403+15.45	15.66'R	434351.8650	605870.3661	8'	81W TYPE III LED LUMINAIRE
16	A1	404+50.00	19.66'L	434442.0019	605976.2873	12'	81W TYPE III LED LUMINAIRE

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204	BRIDGE NO.	N/A
COUNTY	KENT	DESIGNED BY:	A. HALLER
		CHECKED BY:	L. HAXTON

LIGHTING PLAN

LI-05

SECTION CEN

SHEET NO. 48

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POLE SCHEDULE

POLE NO.	TYPE OF POLE	MAST ARM LENGTH	LUMINAIRE WATTAGE	TYPE OF BASE	STATION LOCATION		NOTES
					STATION	OFFSET	
1	30' ROUND ALUMINUM	12'	81 W	TYPE 6 (BREAKAWAY)	107+42.82	22.30'R	
2	30' ROUND ALUMINUM	8'	81 W	TYPE 6 (BREAKAWAY)	108+75.54	21.89'L	
3	30' ROUND ALUMINUM	8'	81 W	TYPE 6 (BREAKAWAY)	109+98.28	24.21'R	
4	30' ROUND ALUMINUM	12'	81 W	TYPE 6 (BREAKAWAY)	309+71.71	58.18'R	
5	30' ROUND ALUMINUM	15'	81 W	TYPE 6 (BREAKAWAY)	308+71.55	31.33'R	
6	30' ROUND ALUMINUM	8'	81 W	TYPE 6 (BREAKAWAY)	200+66.93	52.43'L	
7	30' ROUND ALUMINUM	8'	81 W	TYPE 6 (BREAKAWAY)	201+66.23	24.29'L	
8	30' ROUND ALUMINUM	8'	81 W	TYPE 6 (BREAKAWAY)	203+00.00	21.26'R	
9	30' ROUND ALUMINUM	8'	81 W	TYPE 6 (BREAKAWAY)	200+34.01	63.21'R	
10	30' ROUND ALUMINUM	8'	81 W	TYPE 6 (BREAKAWAY)	401+74.36	23.75'L	
11	30' ROUND ALUMINUM	8'	81 W	TYPE 6 (BREAKAWAY)	400+68.58	54.00'R	
12	30' ROUND ALUMINUM	12'	81 W	TYPE 6 (BREAKAWAY)	204+15.00	21.65'L	
13	30' ROUND ALUMINUM	12'	81 W	TYPE 6 (BREAKAWAY)	306+16.50	19.66'R	
14	30' ROUND ALUMINUM	12'	81 W	TYPE 6 (BREAKAWAY)	307+39.60	19.18'L	
15	30' ROUND ALUMINUM	8'	81 W	TYPE 6 (BREAKAWAY)	403+15.45	15.66'R	
16	30' ROUND ALUMINUM	12'	81 W	TYPE 6 (BREAKAWAY)	404+50.00	19.66'L	

LIGHTING CABINET SCHEDULE

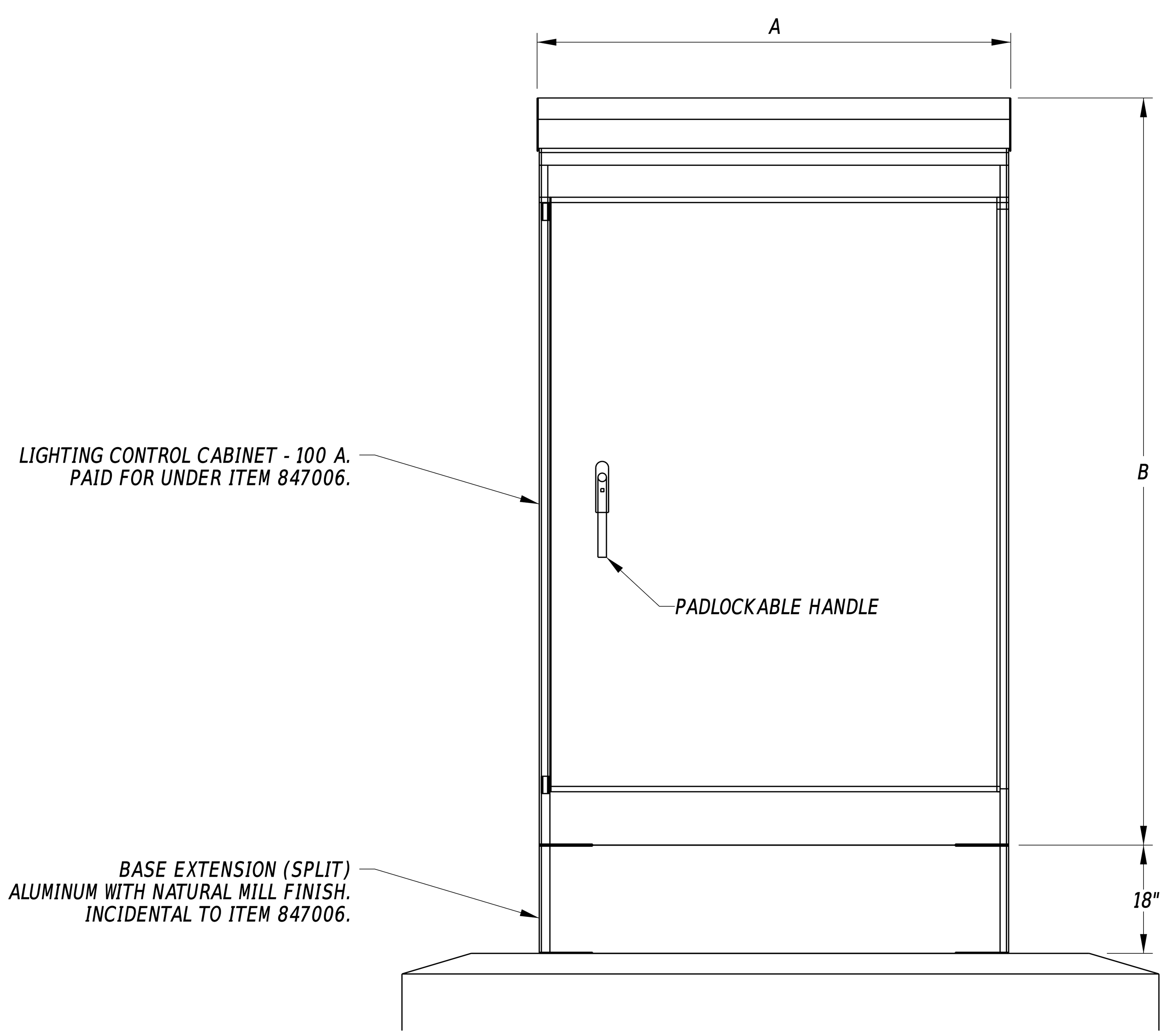
CIRCUIT PANEL	TYPE OF BASE	STATION LOCATION		NOTES
		STATION	OFFSET	
A	DELDOT TYPE M	309+09.72	79.50'L	

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	LIGHTING DETAILS & SCHEDULE	SECTION CEN
				COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 49
					CHECKED BY: L. HAXTON		

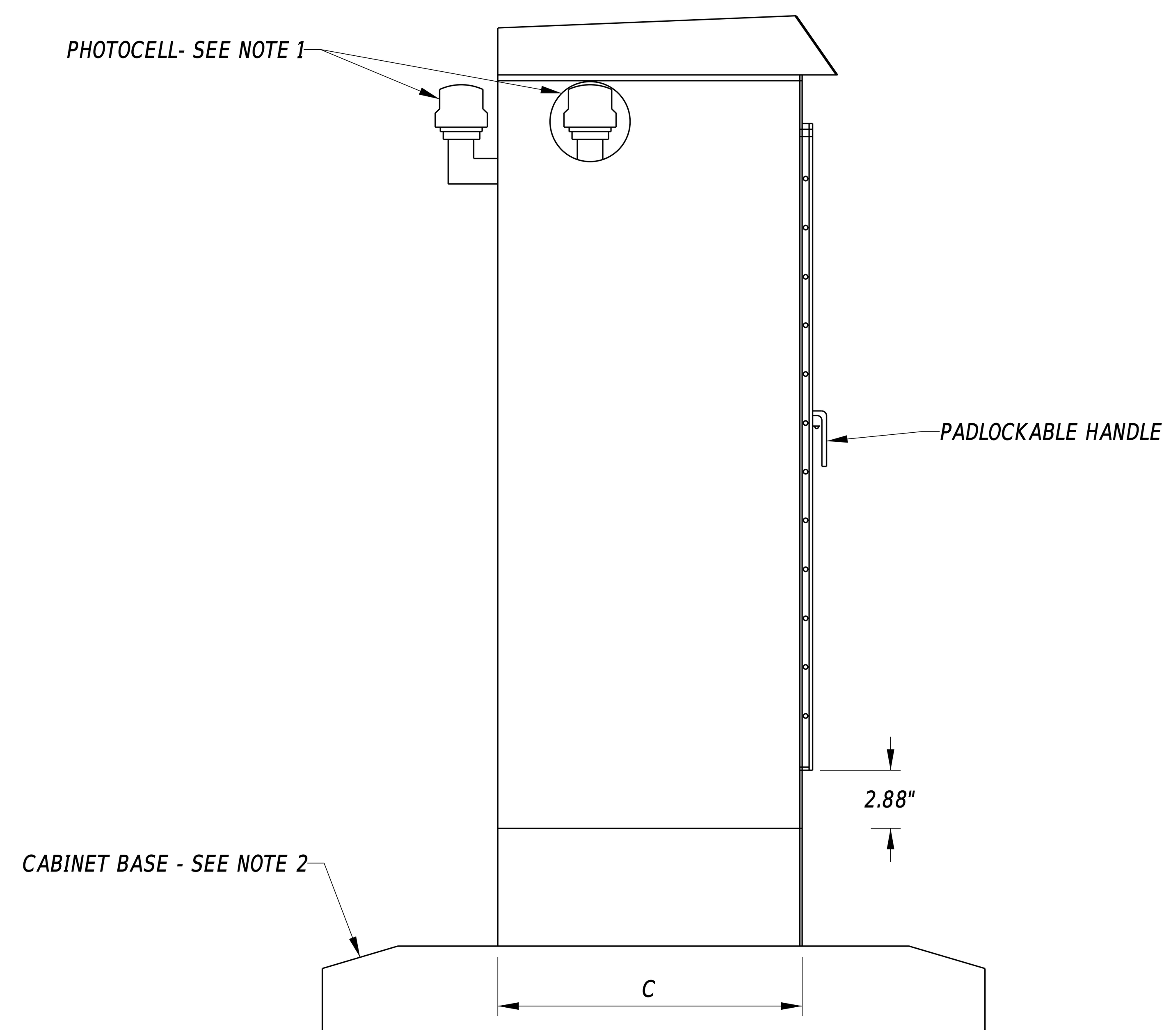
CABINET TYPE		
DIM.	TYPE R	TYPE M
A	44"	30"
B	77"	51"
C	25.5"	16.88"

NOTES:

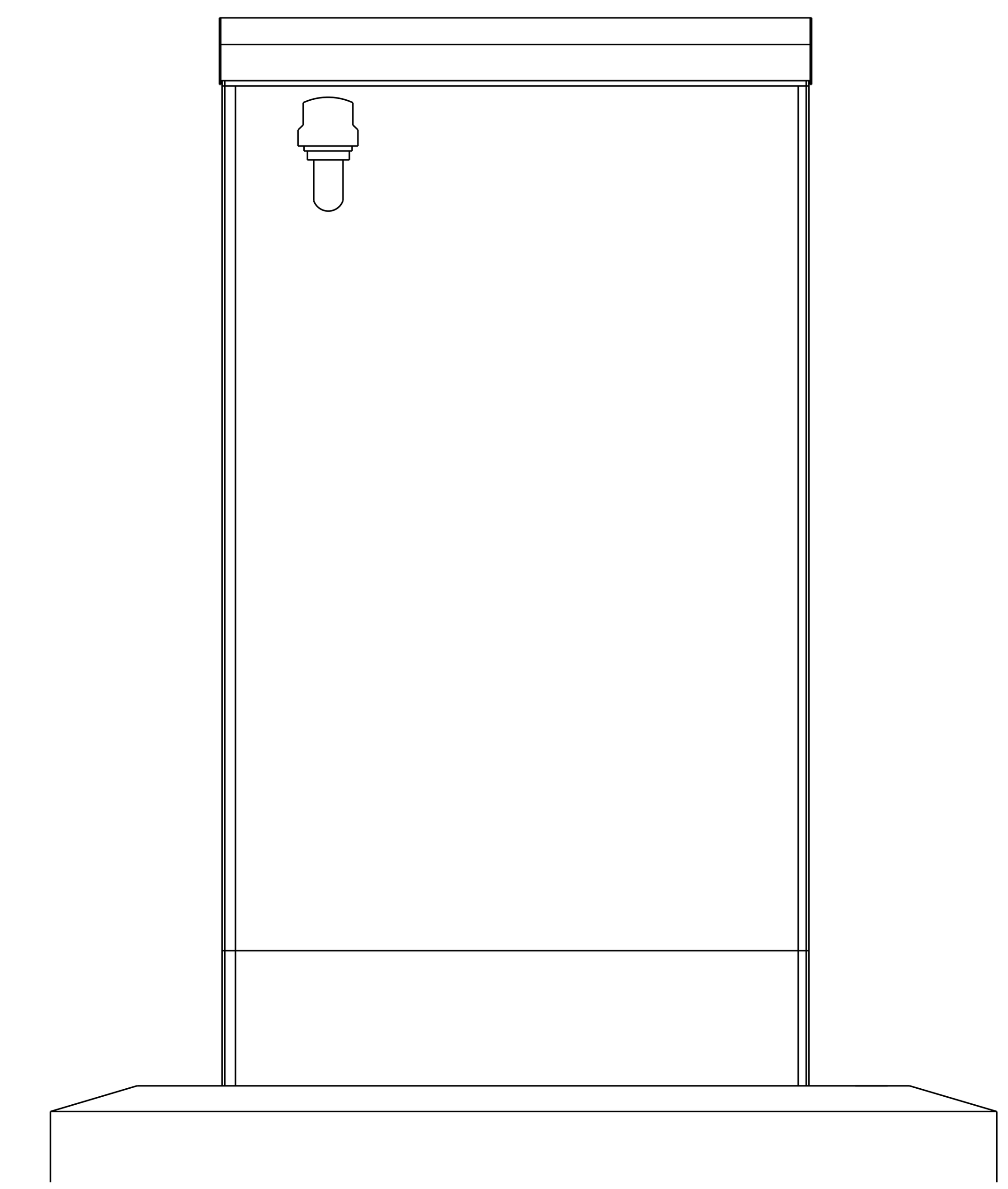
1. PHOTOCELL SHALL BE MOUNTED ON BACK OR SIDE OF CABINET ON 90 DEGREE CONDUIT FITTING TO AVOID VEHICLE HEADLIGHT GLARE. PHOTOCELLS CAN ALSO BE INSTALLED INSIDE OF THE CABINET, BEHIND A PLEXI-GLASS SHIELD.
2. REFER TO STANDARD DETAILS FOR CABINET BASE DETAILS.
3. CABINET SHALL BE NEMA 4X AND SHALL BE FABRICATED FROM 0.125 5052-H32 ALUMINUM.
4. METER AND LOAD-SIDE DISCONNECT SWITCH TO BE MOUNTED SEPARATELY FROM CABINET. REFER TO STANDARD DETAILS FOR PEDESTAL DETAILS. WORK TO BE PAID UNDER ITEM 842007 - PROVIDE AND INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240.
5. REFER TO LIGHTING PLANS FOR LIGHTING CABINET LAYOUT AND WIRING DIAGRAM.



LIGHTING CABINET - FRONT VIEW



LIGHTING CABINET - SIDE VIEW



LIGHTING CABINET - BACK VIEW

ADDENDA / REVISIONS

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT T202104204
COUNTY KENT

BRIDGE NO. N/A
DESIGNED BY: A. HALLER
CHECKED BY: L. HAXTON

LIGHTING DETAILS & SCHEDULE

SECTION CEN
SHEET NO. 50

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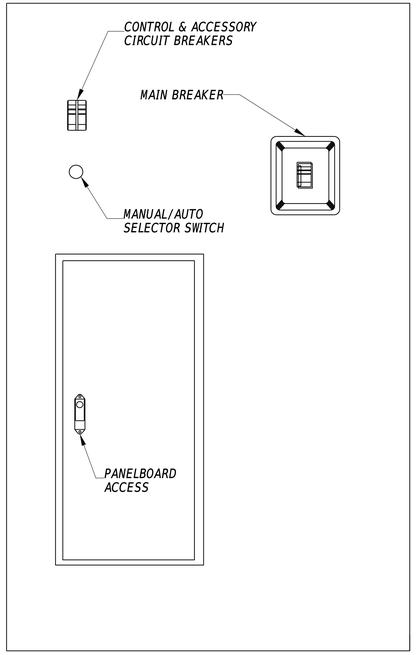
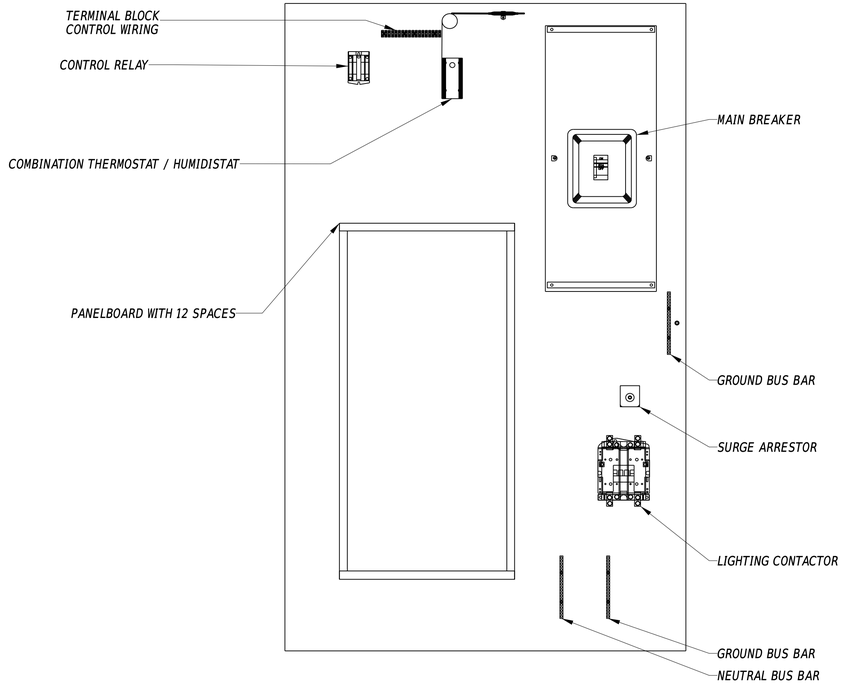


DEAD FRONT PANEL LAYOUT



BACK PANEL LAYOUT

LIGHTING CABINET LAYOUT

N.T.S.

NOTES:

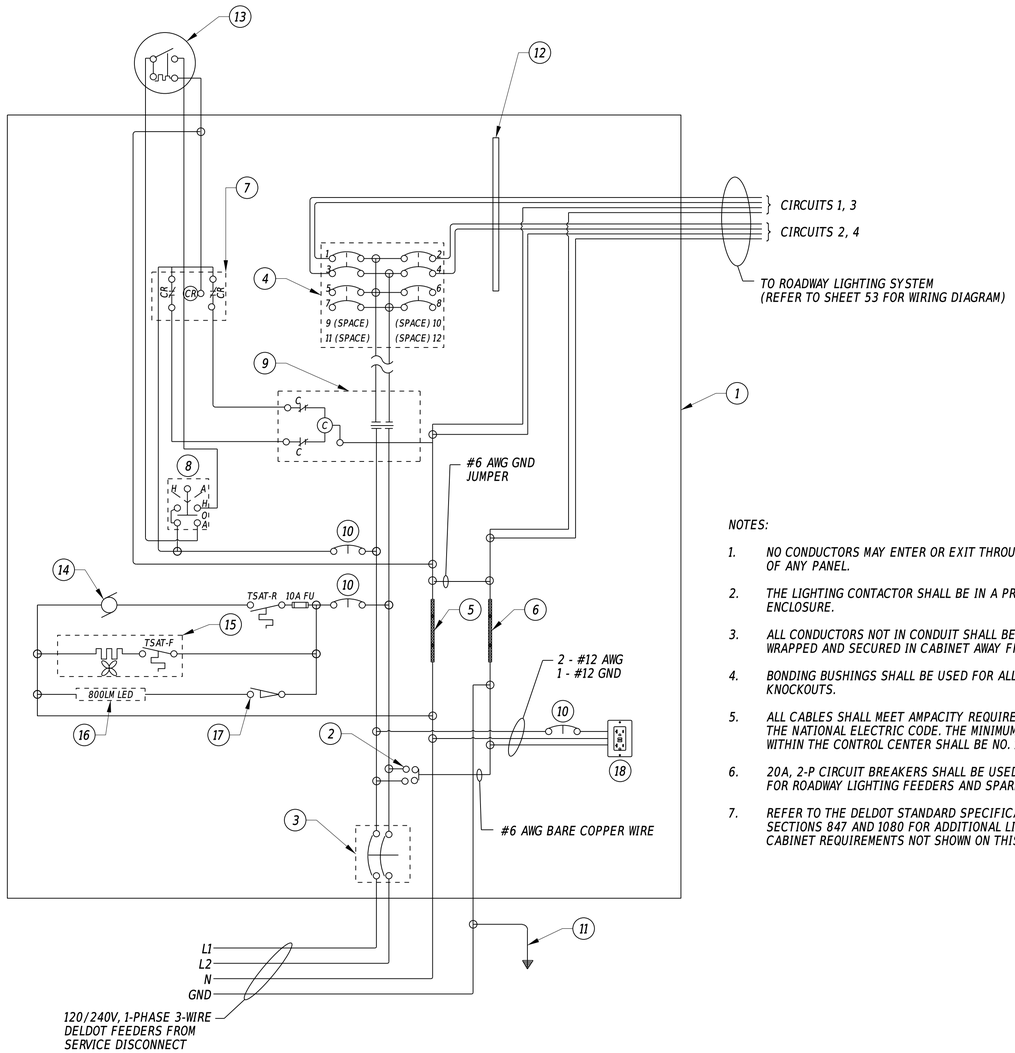
1. *SINGLE PHASE LIGHTING CABINET COMPONENTS SHALL BE RATED AS FOLLOWS:*

   CONTROL & ACCESSORY CIRCUIT BREAKERS - 15 AMP, 120 VAC
   MAIN BREAKER - 100 A, 120 VAC, 1PH, 2-POLE
   CONTROL RELAY - 120 VAC
   SURGE ARRESTOR - 1PH, 3W, 120/240 VAC
   LIGHTING CONTACTOR - 100 A, 120 VAC, 2-POLE
   PANELBOARD - 120/240 VAC, 1PH, 3W, 100 A
   PHOTOCELL - 120 VAC
   THERMOSTAT/HUMIDISTAT - 120 VAC
   FAN - 120 VAC

2. *BRANCH CIRCUIT BREAKERS SHALL BE BOLT-IN COMMERCIAL GRADE CAPABLE OF ACCEPTING UP TO A #2 AWG CONDUCTOR WIRE. TERMINAL BLOCKS SHALL BE USED IF CONDUCTOR WIRES ARE LARGER THAN #2 AWG.*

3. *REFER TO LIGHTING CABINET WIRING DIAGRAMS SHEETS FOR LIGHTING CONTROL CENTER WIRING DIAGRAM.*

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO. N/A	LIGHTING DETAILS & SCHEDULE	SECTION
				T202104204	DESIGNED BY: A. HALLER		CEN
				COUNTY			SHEET NO.
				KENT	CHECKED BY: L. HAXTON		51



120/240 VOLT
LIGHTING CONTROL CENTER
WIRING DIAGRAM

NOTES:

1. *NO CONDUCTORS MAY ENTER OR EXIT THROUGH THE REAR OF ANY PANEL.*
2. *THE LIGHTING CONTACTOR SHALL BE IN A PROPERLY SIZED ENCLOSURE.*
3. *ALL CONDUCTORS NOT IN CONDUIT SHALL BE BUNDLED OR WRAPPED AND SECURED IN CABINET AWAY FROM SHARP EDGES.*
4. *BONDING BUSHINGS SHALL BE USED FOR ALL CONCENTRIC KNOCKOUTS.*
5. *ALL CABLES SHALL MEET AMPACITY REQUIREMENTS OF THE NATIONAL ELECTRIC CODE. THE MINIMUM CABLE SIZE WITHIN THE CONTROL CENTER SHALL BE NO. 12 AWG.*
6. *20A, 2-P CIRCUIT BREAKERS SHALL BE USED IN PANEL FOR ROADWAY LIGHTING FEEDERS AND SPARES.*
7. *REFER TO THE DELDOT STANDARD SPECIFICATIONS, SECTIONS 847 AND 1080 FOR ADDITIONAL LIGHTING CONTROL CABINET REQUIREMENTS NOT SHOWN ON THIS DETAIL.*

LIGHTING CONTROL DIAGRAM LEGEND

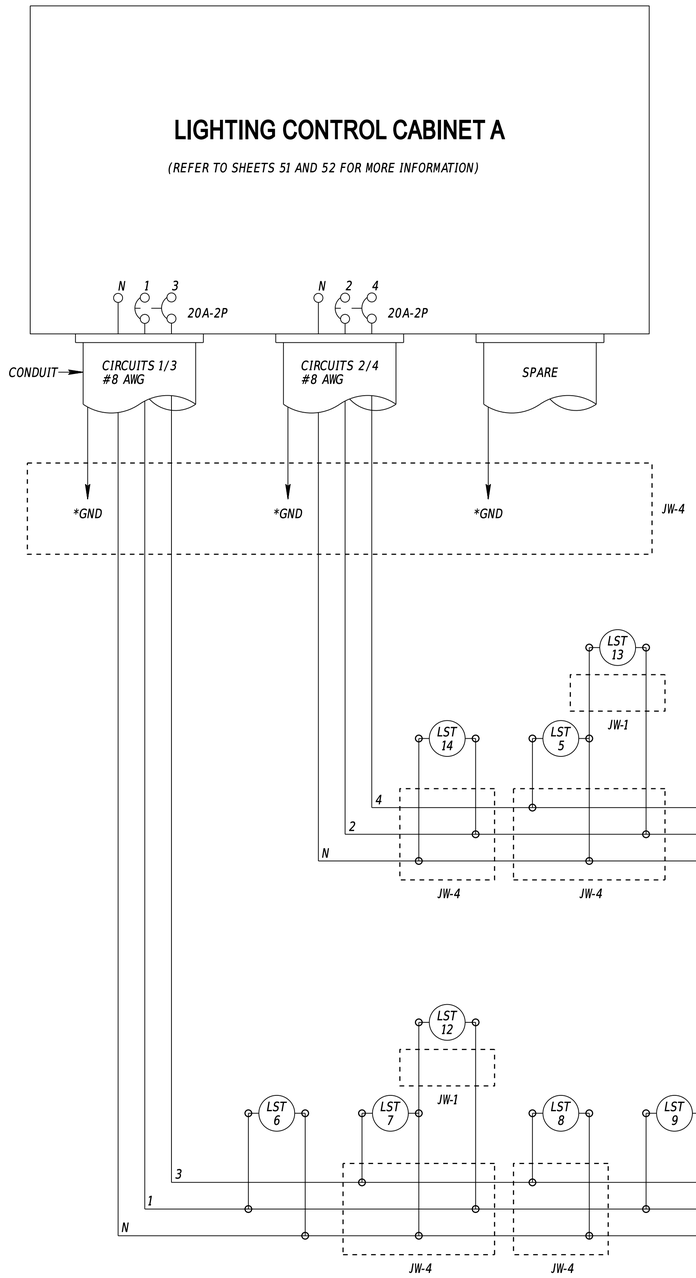
CONTRACTOR SHALL SUPPLY AND INSTALL ALL MISCELLANEOUS ITEMS REQUIRED FOR A COMPLETE INSTALLATION. COMPLY WITH DELDOT STANDARD FOR ALL COMPONENTS PROVIDED. THE FOLLOWING ITEMS ARE TYPICAL FOR EACH LIGHTING CONTROL CABINET:

1. *LIGHTING CABINET ENCLOSURE (REFER TO LIGHTING DETAILS & SCHEDULE SHEETS FOR MORE INFORMATION)*
2. *SQUARE D SECONDARY SURGE ARRESTOR*
3. *SQUARE D HDL26100 HD150 100 AMP ENCLOSED MAIN CIRCUIT BREAKER*
4. *SQUARE D NQ PANEL, 100A, 120/240V, 1 PHASE, 3-WIRE (12 SPACES) WITH FOUR SQUARE D, 20A 2P CIRCUIT BREAKERS*
5. *SQUARE D SN100FA NEUTRAL BAR*
6. *SQUARE D PKOGTA2 GROUND BAR (OR AS APPROPRIATE BASED ON # OF CIRCUITS)*
7. *SQUARE D 9001KY1 CONTROL STATION*
8. *SQUARE D 9001KS43BH13 HOA SELECTOR SWITCH MOUNTED ON DOOR OF LIGHTING CONTACTOR*
9. *SQUARE D 8903SQGIV02C CONTACTOR*
10. *SQUARE D QOU120 CIRCUIT BREAKER, DIN RAIL MOUNTED*
11. *3/4" DIA. X 10' LONG GROUND ROD (OUTSIDE CABINET BASE)*
12. *TERMINAL BLOCKS (ONLY USE WHEN CABLE SIZE IS LARGER THAN #2 AWG)*
13. *INTERMATIC C4536LAC PHOTOCELL WITH TWIST-LOCK RECEPTACLE*
14. *APX COOLING FAN KIT WITH THERMOSTAT AND INTAKE WASHABLE FILTER*
15. *HOFFMAN PANEL HEATER DAH4001B, FAN BLOWER TYPE WITH INTEGRAL THERMOSTAT*
16. *HOFFMAN 800 LUMENS LED ENCLOSURE LIGHT KIT*
17. *APX DOOR SWITCH FOR CABINET LIGHTING*
18. *20A GFCI SINGLE GANG RECEPTACLE,PHOENIX CONTACT EM-DUO 120/20/GFI-5602519*

MISCELLANEOUS ITEMS NOT SHOWN ON DIAGRAM:

19. *DIN RAILS.*
20. *NON-METALLIC WIREWAYS AND COVERS*
21. *BUSSMANN FUSES AND CH MODULAR, IP20, DIN RAIL MOUNTED FUSE HOLDERS*

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO. N/A	LIGHTING DETAILS & SCHEDULE	SECTION
				T202104204	DESIGNED BY: A. HALLER		CEN
				COUNTY	CHECKED BY: L. HAXTON		SHEET NO.
				KENT			52



CIRCUIT SCHEMATIC FOR LIGHTING CONTROL CABINET A (309+42, 67' L)

SCHEDULE OF PANEL A (309+42, 67' L)

120/240V
1 PHASE, 3-WIRE + GND
100 AMP MLO

CKT. NO.	EQUIPMENT SERVED	CONNECTED LOAD KW	CONNECTED LOAD AMPS	PHASE AND VOLTS	BRANCH CIRCUIT BREAKERS NO. OF POLES	BRANCH CIRCUIT BREAKERS FRAME SIZE	BRANCH CIRCUIT BREAKERS TRIP SIZE	REMARKS
1	PHASE A - 1, 6, 9, 11, 12, 16	0.486	4.05	1 / 120	2	100	20	6 - 81 WATT LED
3	PHASE B - 3, 7, 8, 10, 15	0.405	3.375	1 / 120		100	20	5 - 81 WATT LED
5	SPARE	-	-	1 / 120	2	100	20	
7	SPARE	-	-	1 / 120		100	20	
9	SPACE							
11	SPACE							

CKT. NO.	EQUIPMENT SERVED	CONNECTED LOAD KW	CONNECTED LOAD AMPS	PHASE AND VOLTS	BRANCH CIRCUIT BREAKERS NO. OF POLES	BRANCH CIRCUIT BREAKERS FRAME SIZE	BRANCH CIRCUIT BREAKERS TRIP SIZE	REMARKS
2	PHASE A - 2, 13, 14	0.243	2.025	1 / 120	2	100	20	3 - 81 WATT LED
4	PHASE B - 4, 5	0.162	1.35	1 / 120		100	20	2 - 81 WATT LED
6	SPARE	-	-	1 / 120	2	100	20	
8	SPARE	-	-	1 / 120		100	20	
10	SPACE							
12	SPACE							

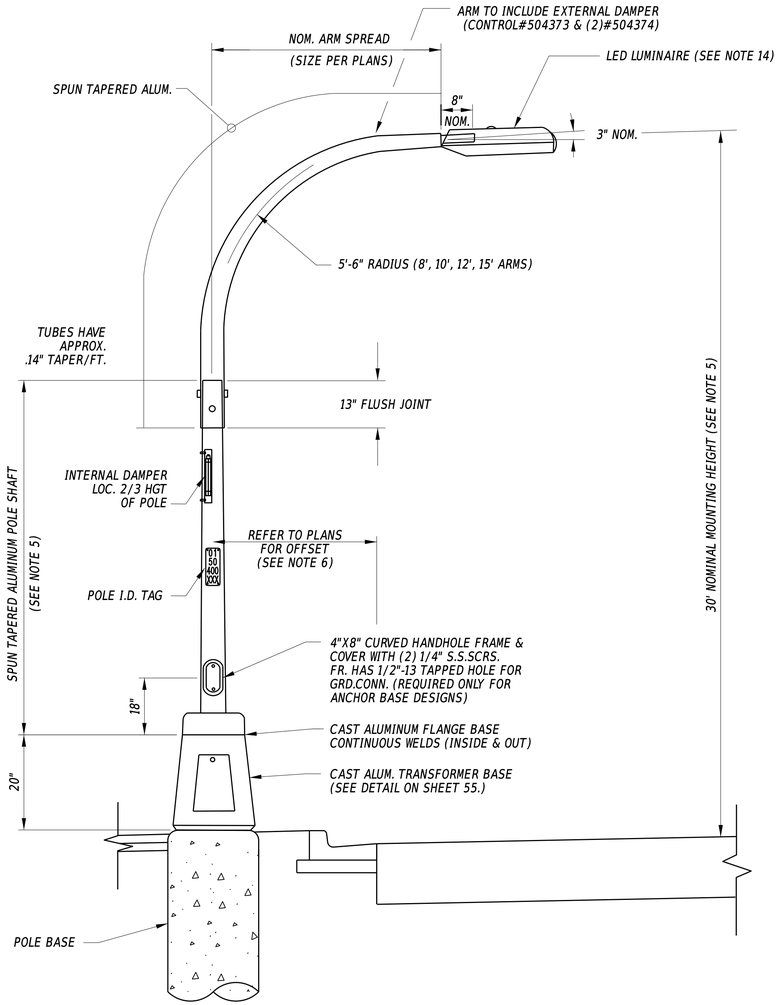
NOTE:

** EQUIPMENT GROUNDING CONDUCTOR IS NOT SHOWN FOR CLARITY. INCLUDE GROUNDING CONDUCTOR IN ALL CONDUITS, AS INDICATED IN THE LIGHTING CONDUIT RUN SCHEDULES. GROUNDING CONDUCTOR HAS BEEN SIZED TO ACCOUNT FOR VOLTAGE DROP CONSIDERATIONS.*

LEGEND:

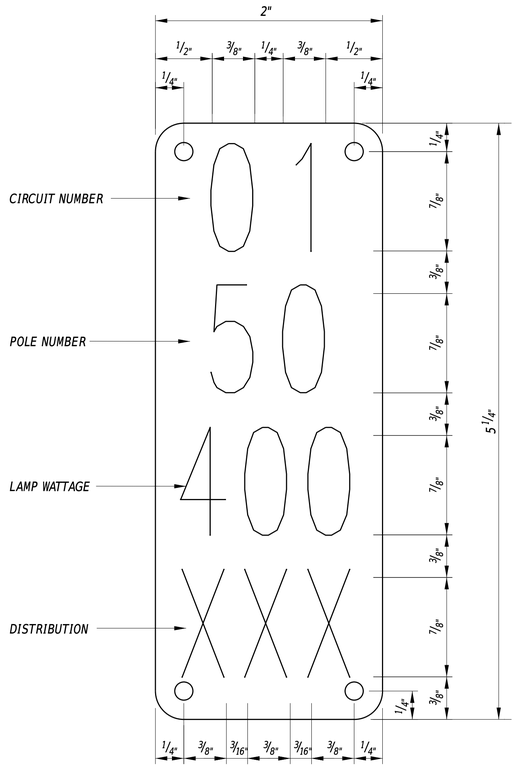
LST ## — *LIGHT STANDARD WITH 150W HPS EQUIVALENT (81 WATTS)*

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	LIGHTING DETAILS & SCHEDULE	SECTION CEN
				COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 53
					CHECKED BY: L. HAXTON		



ALUMINUM LIGHTING STANDARD WITH SINGLE DAVIT ARM

N.T.S.



TYPICAL POLE IDENTIFICATION TAG

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.

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' ABOVE THE ROADWAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THESE MEASUREMENTS. THE DIFFERENCE IN HEIGHT SHALL NOT EXCEED 12" BETWEEN TWO ADJACENT LUMINAIRES.
6. STATION AND OFFSET NOTED IN LIGHTING STANDARD SCHEDULE IS GIVEN TO THE CENTER OF THE POLE BASE.
7. GROUND WIRE TO BE BONDED TO CONDUIT BUSHING.
8. CONDUCTORS SHALL ALWAYS BE SPLICED IN THE POLE BASE.
9. IDENTIFICATION TAG SHALL BE INSTALLED ON THE SIDE OF THE POLE FACING AWAY FROM TRAFFIC.
10. POLE ARMS SHALL BE ALIGNED PERPENDICULAR TO THE EDGE OF TRAVELED WAY, UNLESS OTHERWISE DIRECTED.
11. 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.
12. 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. PHOTO CONTROL SHALL BE LOCATED AT THE LIGHTING CONTROL CENTER ENCLOSURE, UNLESS OTHERWISE NOTED
13. PAYMENT FOR LIGHT POLE AND ALL AMENITIES SHOWN IN THE ALUMINUM LIGHTING STANDARD DETAIL AND TYPICAL TRANSFORMER BASE WIRE SPLICE DETAIL (EXCEPT POLE BASE, CONDUIT, LUMINAIRE, AND CABLES) SHALL BE MADE UNDER ITEM 851001 - ALUMINUM LIGHTING STANDARD WITH SINGLE DAVIT ARM, 30' POLE. REFER TO THE DELDOT STANDARD SPECIFICATIONS, SECTION 851 FOR ADDITIONAL LIGHT STANDARD REQUIREMENTS NOT SHOWN ON THIS DETAIL.
14. DETAIL OF LUMINAIRE IS FOR VISUALIZATION PURPOSES ONLY. SEE MANUFACTURER'S CUT SHEET FOR ACTUAL SIZE. LABEL LUMINAIRES WITH AN IDENTIFICATION STICKER IN ACCORDANCE WITH NEMA CONVENTIONS. REFER TO THE DELDOT STANDARD SPECIFICATIONS, SECTION 850 FOR ADDITIONAL LUMINAIRE REQUIREMENTS. LUMINAIRES TO BE FURNISHED AND INSTALLED ARE AS FOLLOWS:

LED FIXTURE ID. (HPS EQUIVLANET)	MANUFACTURER	WATTAGE	CATALOG ORDER INFORMATION
150 WATT	LUMEC	81 WATT	RFM-80W48LED-4K-G2-R3M-UNV
250 WATT	LUMEC	137 WATT	RFL-145W64LED-4K-G2-R3M-UNV
400 WATT	LUMEC	207 WATT	RFL-215W96LED-4K-G2-R3M-UNV

ADDENDA / REVISIONS

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

LIGHTING DETAILS & SCHEDULE

SECTION
CEN
SHEET NO.
54

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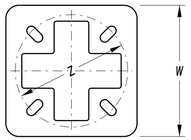
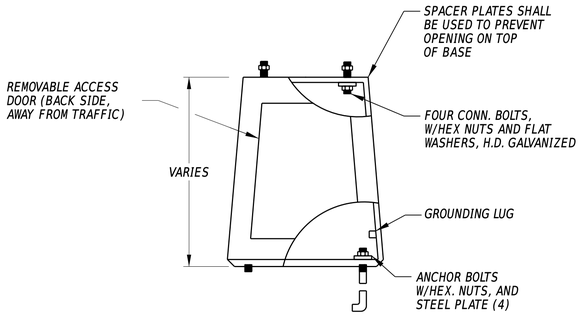
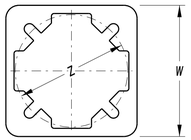
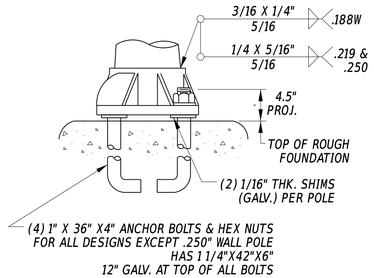


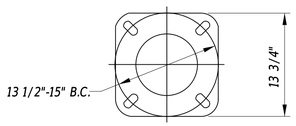
TOP VIEW





BOTTOM VIEW





ANCHOR BASE DETAIL

N.T.S.

MOUNTING HEIGHT	ARM LENGTH	MIN WIDTH 'W'	BOLT DIA.	BOLT CIRCLE 'Z'
LESS THAN 40'	LESS THAN 30'	13"	1"	$13\frac{59}{64}$"

CONSTRUCTION NOTES:

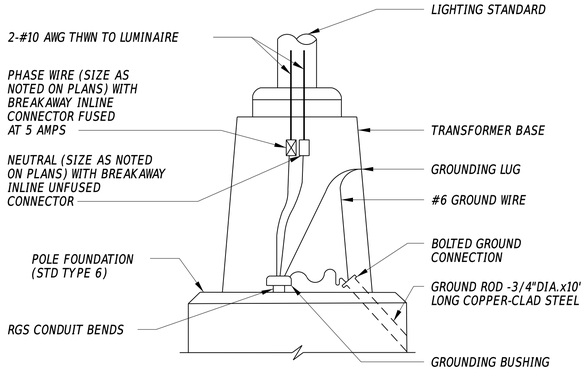
1. ALUMINUM TRANSFORMER BASE SHALL MEET THE CURRENT AASHTO BREAKAWAY REQUIREMENTS.
2. BREAKAWAY TRANSFORMER BASES SHALL BE INSTALLED WITH ALL POLES, UNLESS OTHERWISE NOTED.
3. OPENING OF TRANSFORMER BASE ACCESS DOOR SHALL BE INSTALLED ON THE SIDE OF THE POLE FACING AWAY FROM TRAFFIC.
4. PROVIDE ACCESSIBLE 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.

LIGHTING STANDARD ON BREAKWAY TRANSFORMER BASE

N.T.S.

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO.	N/A	LIGHTING DETAILS & SCHEDULE	SECTION
				T202104204	DESIGNED BY:	A. HALLER		CEN
				COUNTY				SHEET NO.
				KENT	CHECKED BY:	L. HAXTON		55



TYPICAL LUMINAIRE CONNECTION END OF CABLE RUN 120/240 VOLT

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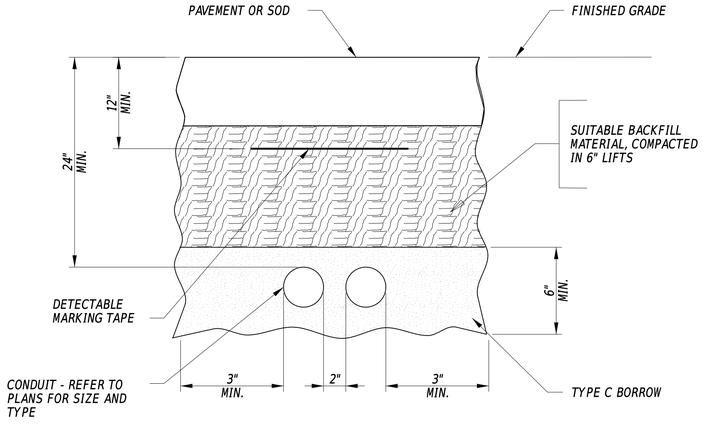
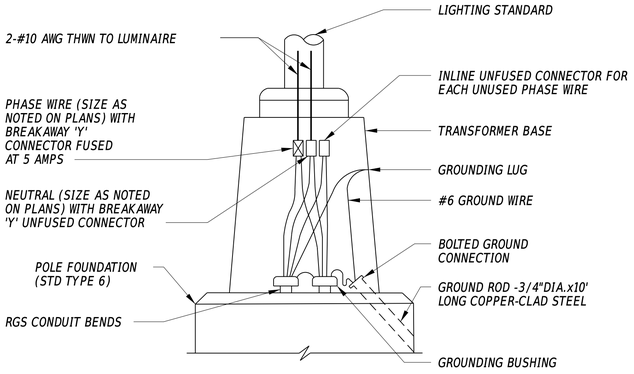


BURIED CONDUIT DETAIL

N.T.S.

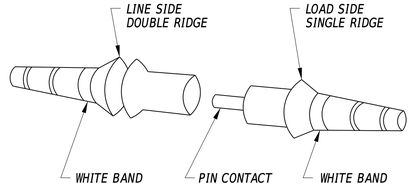
NOTES:

1. QUICK DISCONNECT CONNECTOR KITS SHALL HAVE BUILT-IN BREAKAWAY DESIGN TO ELIMINATE DE-ENERGIZATION OF COMPLETE CIRCUITS AND EXPOSED WIRES IN THE EVENT OF A KNOCKDOWN.
2. CONNECTOR KITS SHALL BE USED IN THE TRANSFORMER BASE OF LIGHTING STANDARDS TO SPLICE BRANCH CIRCUIT CONDUCTORS WITH THE LUMINAIRE CONDUCTORS.
3. IF NECESSARY, TYPE IV KITS MAY BE USED IN JUNCTION WELLS TO Y-SPLICE BRANCH CIRCUIT CONDUCTORS WHEN LIGHTING CIRCUIT DESIGN DICTATES A NEED FOR SUCH A SPLICE.
4. NEUTRAL WIRES SHALL NOT BE FUSED AND SHALL ONLY BE SPLICED USING TYPE I AND TYPE IV CONNECTOR KITS .
5. FUSES SHALL BE ORDERED SEPARATELY AND WILL BE INCIDENTAL TO CONNECTOR KITS. FUSES SHALL BE SIZED ACCORDING TO SPECIFIED LIGHTING FIXTURES.
6. REFER TO THE 2022 DELDOT STANDARD SPECIFICATIONS, SECTION 832 FOR ADDITIONAL CONNECTOR KIT REQUIREMENTS.



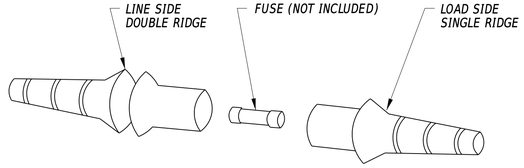
TYPICAL LUMINAIRE CONNECTION CONTINUOUS CABLE RUN 120/240 VOLT

N.T.S.



TYPE I - INLINE NON-FUSED CONNECTOR KIT

N.T.S.



TYPE II - INLINE-FUSED CONNECTOR KIT

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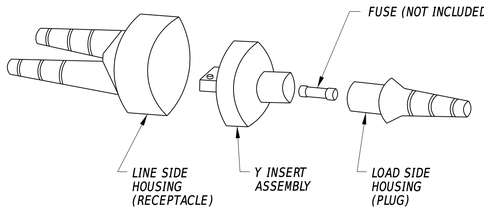

TYPE III - Y-FUSED CONNECTOR KIT

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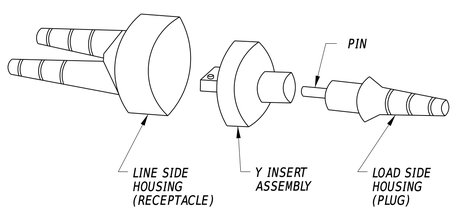
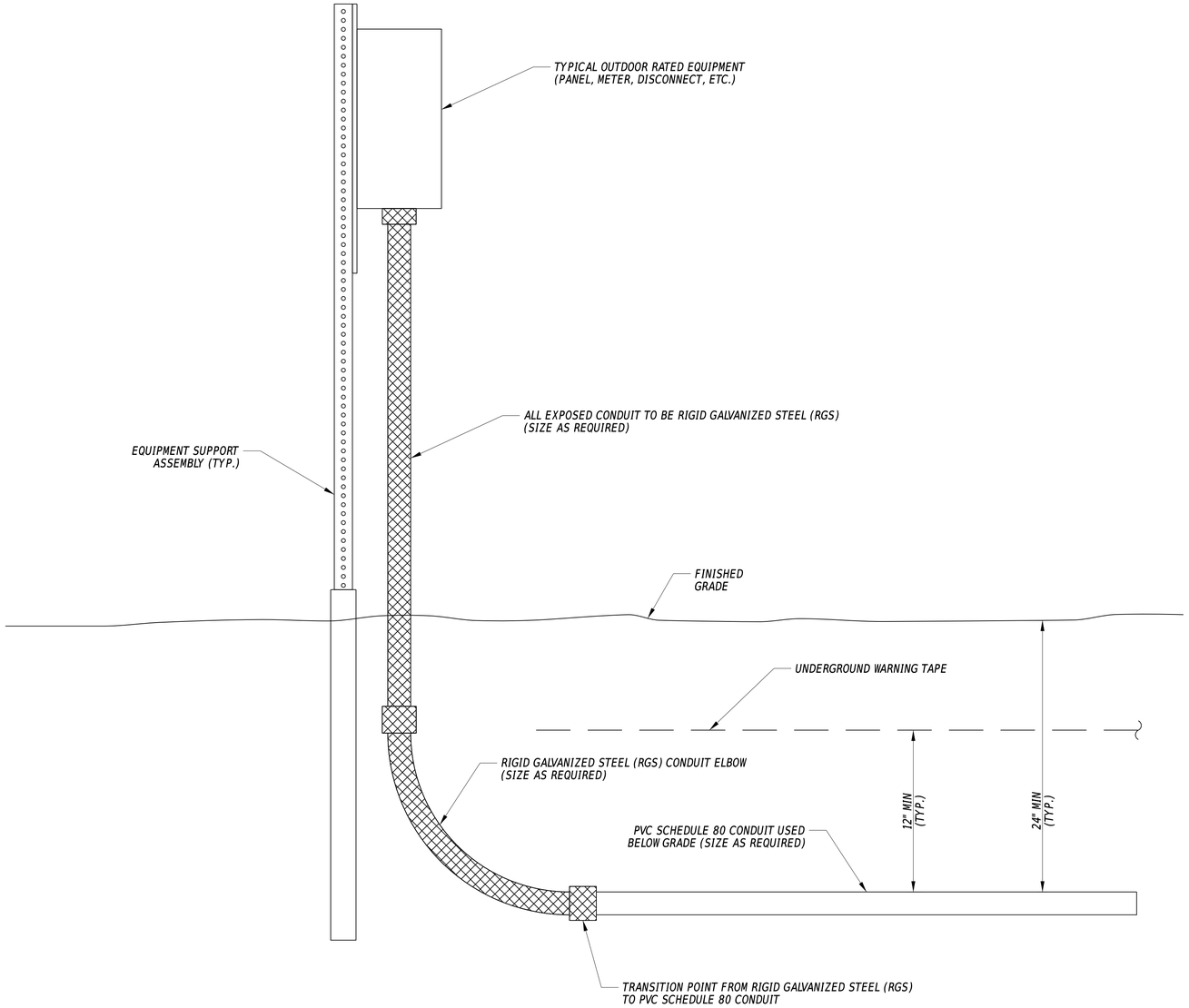


TYPE IV - NON-FUSED CONNECTOR KIT

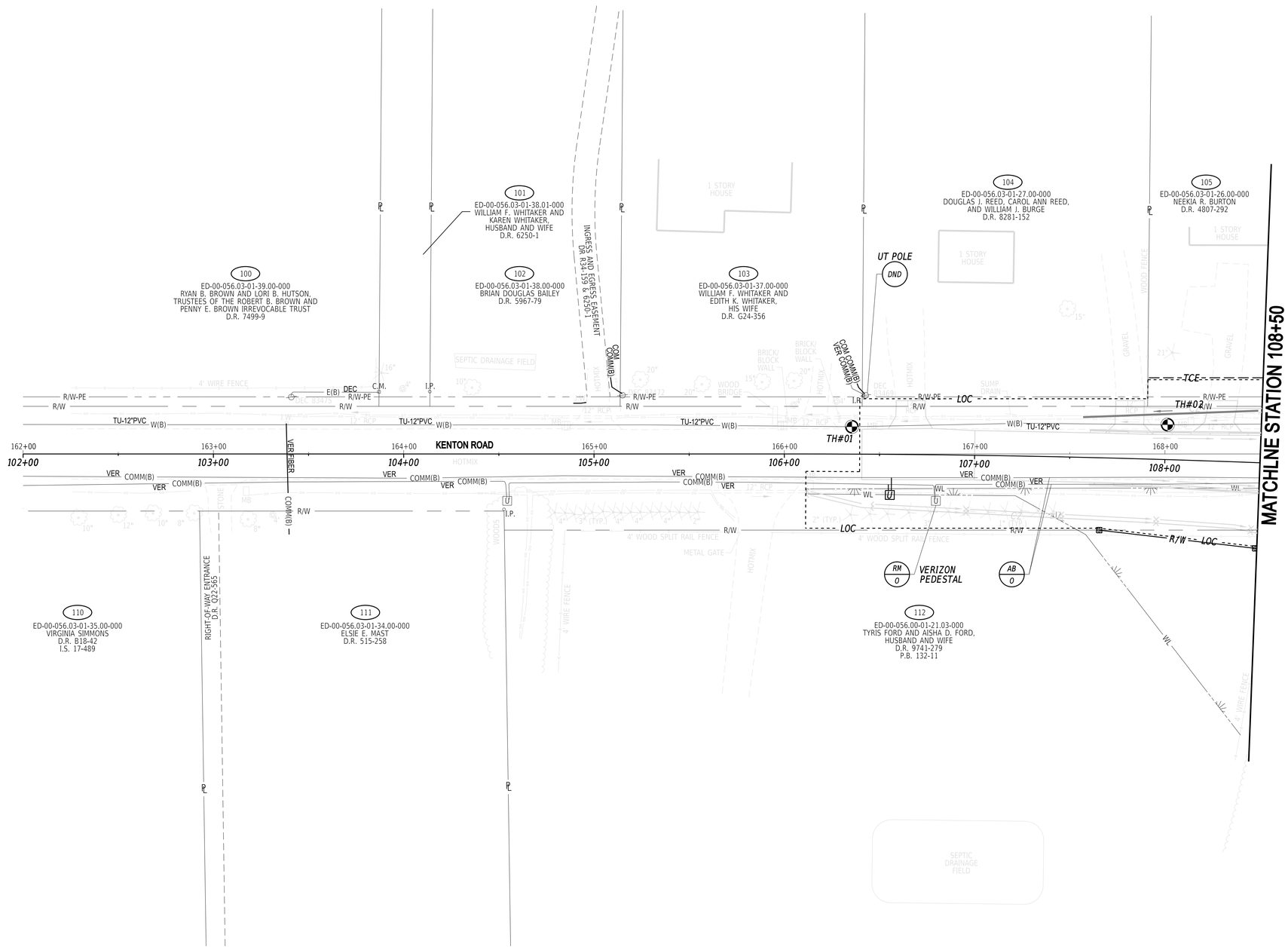
N.T.S.

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO.	N/A	LIGHTING DETAILS & SCHEDULE	SECTION
				T202104204	DESIGNED BY:	A. HALLER		CEN
				COUNTY	CHECKED BY:	L. HAXTON		SHEET NO.
				KENT				56



RGS TO PVC CONDUIT TRANSITION DETAIL

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO. N/A	LIGHTING DETAILS & SCHEDULE	SECTION
				T202104204	DESIGNED BY: A. HALLER		CEN
				COUNTY	CHECKED BY: L. HAXTON		SHEET NO.
				KENT			57



NOTES:

1. *PROPOSED UTILITIES SHALL NOT BE PLACED IN THE BACKSLOPE OF THE DITCH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.*

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GROUND EL.	COVER	O.D. & MATERIAL
TH-01	TU-W	106+35.54	-14.37	48.36	4.23	12" BLUE PLASTIC
TH-02	TU-W	108+00.98	-18.32	47.79	6.15	12" BLUE PLASTIC

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

UTILITY RELOCATION PLAN

UT-01
SECTION CEN
SHEET NO. 58

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MATCHLINE STATION 307+50

MATCHLINE STATION 108+50

MATCHLINE STATION 203+50

MATCHLINE STATION 403+00

CENTRAL CHURCH ROAD

KENTON ROAD

PROPOSED DELDOT WETLAND MITIGATION SITE

FOREBAY

PERMANENT TIDEWATER UTILITY EASEMENT D.R. 4817-18

DRAINAGE EASEMENT P.B. 22-81

EASEMENT TO DIAMOND STATE TELEPHONE COMPANY D.R. G39-87

210 ED-00-056.03-01-22.00-000 TINA F. PRITCHETT-WARNCKE D.R. Z26-489 W.R. 17-63 (DEC BLANKET EASEMENT)

211 ED-00-056.03-01-24.00-000 ARNOLD C. GILLIS AND MARILYN L. PRITCHETT D.R. 452-56

106 ED-00-056.00-01-29.04-00 HENRY R. DAVENPORT D.R. 9131-226

105 ED-00-056.03-01-26.00-000 NEEKIA R. BURTON D.R. 4807-292

107 ED-00-056.03-01-25.00-000 CENTRAL BAPTIST CHURCH D.R. L23-108 P.B. 22-81

108 ED-00-056.03-01-11.00-000 GALENA INVESTMENT GROUP, LLC D.R. 11392-33

114 ED-00-056.03-01-10.00-000 WILLIAM F. WHITAKER AND KAREN E. WHITAKER, HUSBAND AND WIFE D.R. 7789-168

112 ED-00-056.00-01-21.03-000 TYRIS FORD AND AISHA D. FORD, HUSBAND AND WIFE D.R. 9741-279 P.B. 132-11

113 ED-00-056.03-01-28.00-000 NINA M. LAUER D.R. 12345-228 P.B. 9-48

306 ED-00-056.03-01-29.00-000 BRUCE A. PRITCHETT D.R. 12345-222 P.B. 9-48

300 ED-00-056.00-01-09.01-000 STEPHANIE M. WILLIAMS D.R. 3839-85 P.B. 96-79

301 ED-00-056.00-01-09.02-000 STEVEN G. PUDDICOMBE AND SHARON M. PUDDICOMBE, HIS WIFE D.R. 11695-327

NOTES:

1. *PROPOSED UTILITIES SHALL NOT BE PLACED IN THE BACKSLOPE OF THE DITCH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.*
2. *SEE TIDEWATER RELOCATION PLANS FOR PROPOSED WATER MAIN RELOCATIONS.*

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GROUND EL.	COVER	O.D. & MATERIAL
TH-03	COM	402+30.56	-21.01	47.37	0.31	1" BLACK
TH-3A	COM	402+38.54	-24.12	47.67	0.33	1" BLACK
TH-04	DEC	402+30.56	-21.01	47.37	2.61	1" BLACK
TH-4A	DEC	402+39.77	-17.11	47.28	0.93	3" BLACK PLASTIC
TH-05	COM	402+41.97	-25.64	47.79	1.09	1" BLACK
TH-5A	UNK	402+47.99	-23.85	47.80	1.13	1" BLACK
TH-07	COM	308+50.75	-21.51	52.38	0.36	3/4" ORANGE PLASTIC
TH-10	TU-W	110+60.75	-41.35	48.52	6.70	12" BLUE PLASTIC
TH-11	TU-W	109+46.95	-26.00	48.11	4.60	12" BLUE PLASTIC
TH-12	TU-W	309+87.86	-5.62	48.33	4.36	12" PLASTIC PIPE
TH-13	TU-W	309+46.02	5.72	48.38	4.38	12" BLUE PLASTIC

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

UTILITY RELOCATION PLAN

UT-02

SECTION CEN

SHEET NO. 59

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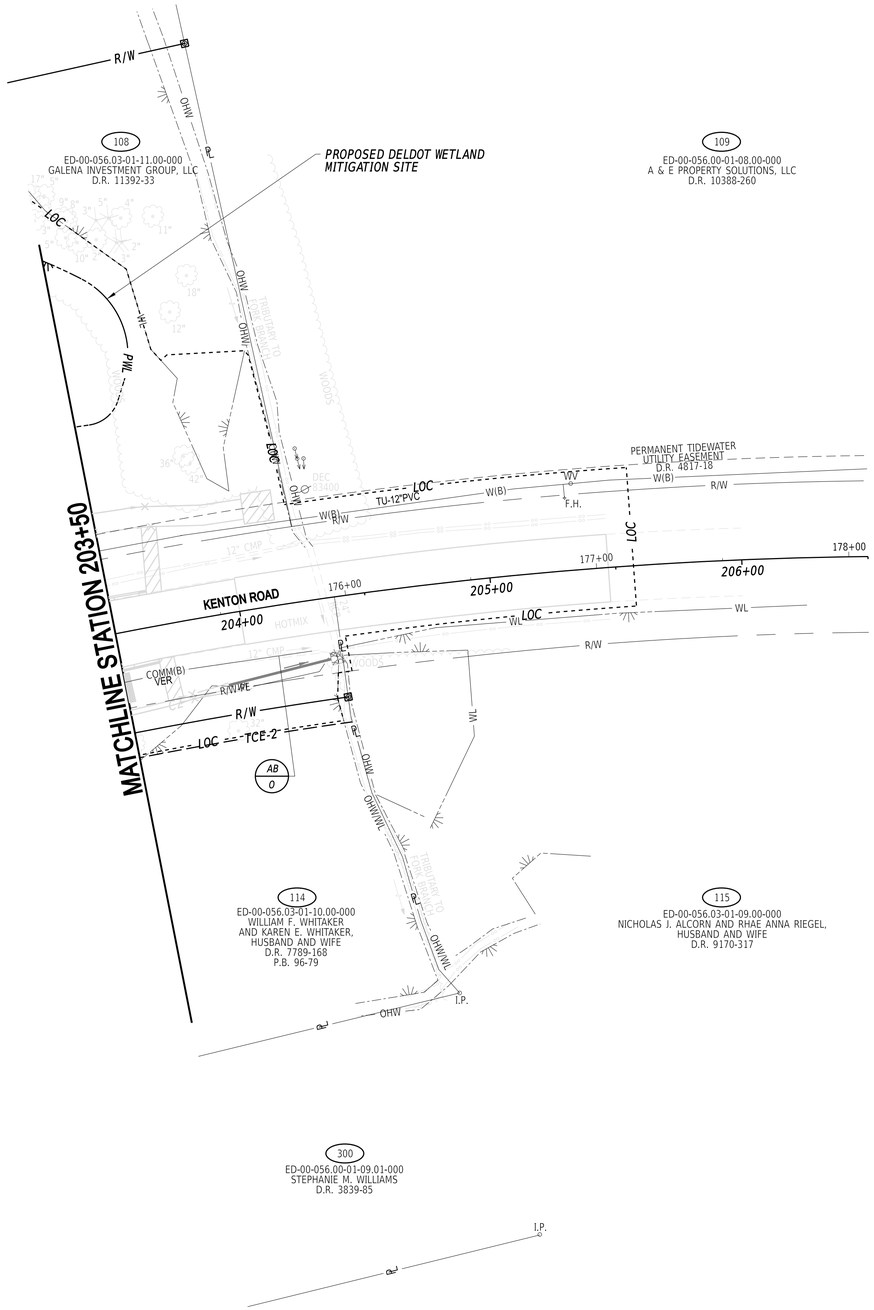

NOTES:

1. *PROPOSED UTILITIES SHALL NOT BE PLACED IN THE BACKSLOPE OF THE DITCH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.*
2. *SEE TIDEWATER RELOCATION PLANS FOR PROPOSED WATER MAIN RELOCATIONS.*

ADDENDA / REVISIONS	SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO. N/A	UTILITY RELOCATION PLAN	UT-03
	0 30 60 90		T202104204			SECTION
	FEET		COUNTY	DESIGNED BY: A. HALLER		CEN
			KENT	CHECKED BY: L. HAXTON		SHEET NO. 60

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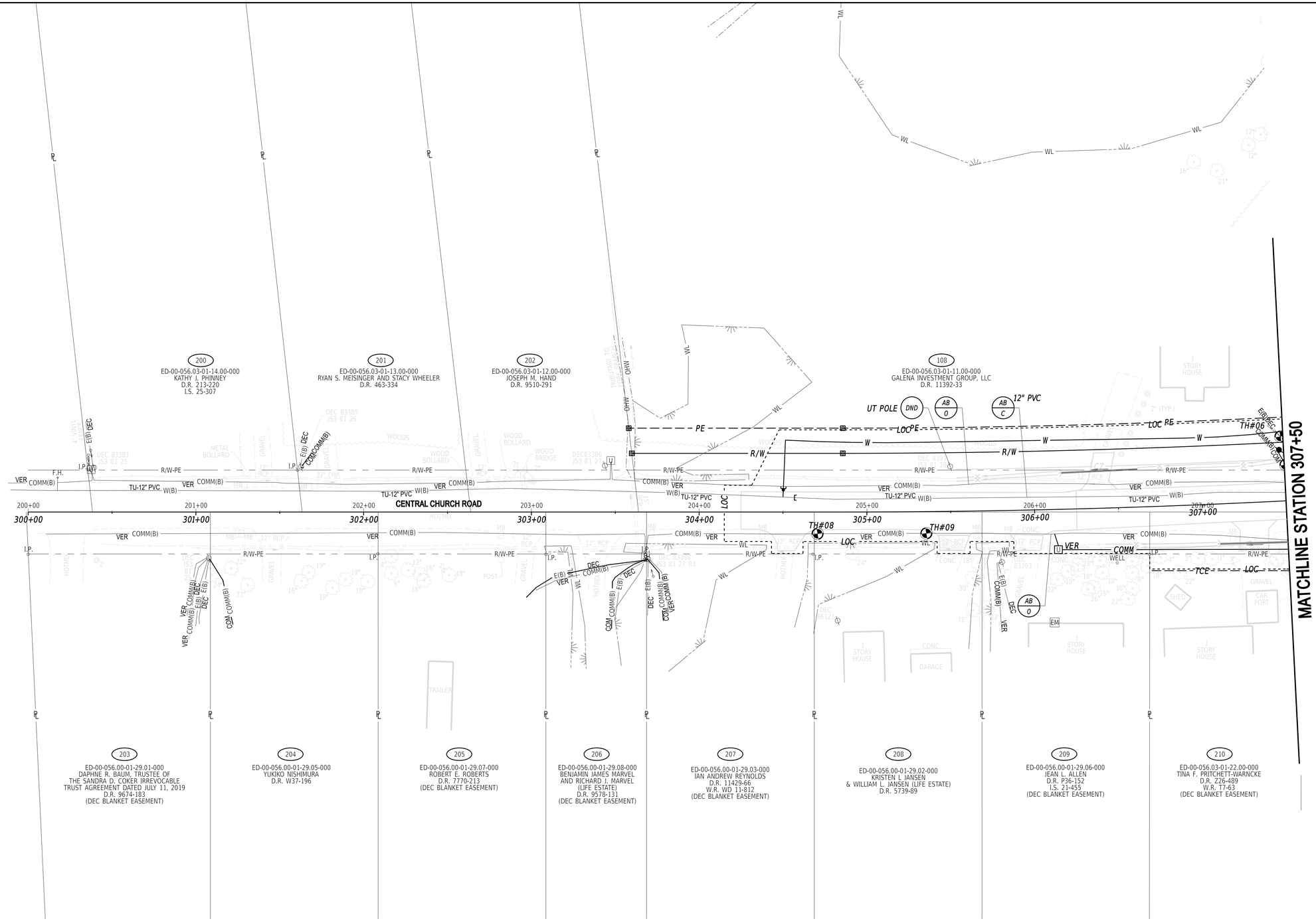

NOTES:

1. *PROPOSED UTILITIES SHALL NOT BE PLACED IN THE BACKSLOPE OF THE DITCH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.*
2. *SEE TIDEWATER RELOCATION PLANS FOR PROPOSED WATER MAIN RELOCATIONS.*

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GROUND EL.	COVER	O.D. & MATERIAL
TH-06	DEC	307+48.58	-38.48	52.31	3.70	(3) 3/4" BLACK
TH-08	VER	304+70.61	12.97	48.02	2.08	1" BLACK
TH-09	VER	305+35.33	12.97	48.01	1.85	1" BLACK

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

UTILITY RELOCATION PLAN

UT-04
SECTION CEN
SHEET NO. 61

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N

301
ED-00-056.00-01-09.02-000
STEVEN G. PUDDICOMBE
AND SHARON M. PUDDICOMBE,
HIS WIFE
D.R. 11695-327

302
ED-00-056.00-01-09.03-000
STEVEN G. PUDDICOMBE
AND SHARON M. PUDDICOMBE
D.R. 8903-171

303
ED-00-056.00-01-09.06-000
DIONNE WICKS
AND WILLIAM M. WICKS
D.R. 9575-189

304
ED-00-056.00-01-09.05-000
LONNIE L. ROBERTSON
D.R. 403-350

305
ED-00-056.00-01-09.11-000
DENISE PRITCHETT (LIFE ESTATE)
RONALD D. PRITCHETT JR,
RANADA PRITCHETT,
RANDALL PRITCHETT,
KYLE PRITCHETT AND
ERIC PRITCHETT
D.R. 4826-32
W.R. 14587

312
ED-00-056.00-01-09.10-000
BEVERLY A. HURD AND
EUGENE V. STARTT
D.R. K45-213
I.S 0020-0473

MATCHLINE STATION 403+00

CENTRAL CHURCH ROAD

306
ED-00-056.03-01-29.00-000
BRUCE A. PRITCHETT
D.R. 12345-222
P.B. 9-48

307
ED-00-056.03-01-30.00-000
BRUCE A. PRITCHETT
D.R. 12345-225
P.B. 9-48

308
ED-00-056.03-01-31.00-000
KEVIN I. SHACKLEFORD
D.R. 11488-117
P.B. 9-48

309
ED-00-056.03-01-32.00-000
KEVIN SHACKLEFORD
D.R. 9552-218
P.B. 9-48

310
ED-00-056.03-01-32.01-000
KENNETH C. JOHNSON AND CHRISTINE JOHNSON
D.R. 480-188
P.B. 9-48

311
ED-00-056.03-01-33.00-000
JOHN H. HUGHES
D.R. Q39-279
P.B. 9-48

NOTES:

1. *PROPOSED UTILITIES SHALL NOT BE PLACED IN THE BACKSLOPE OF THE DITCH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.*

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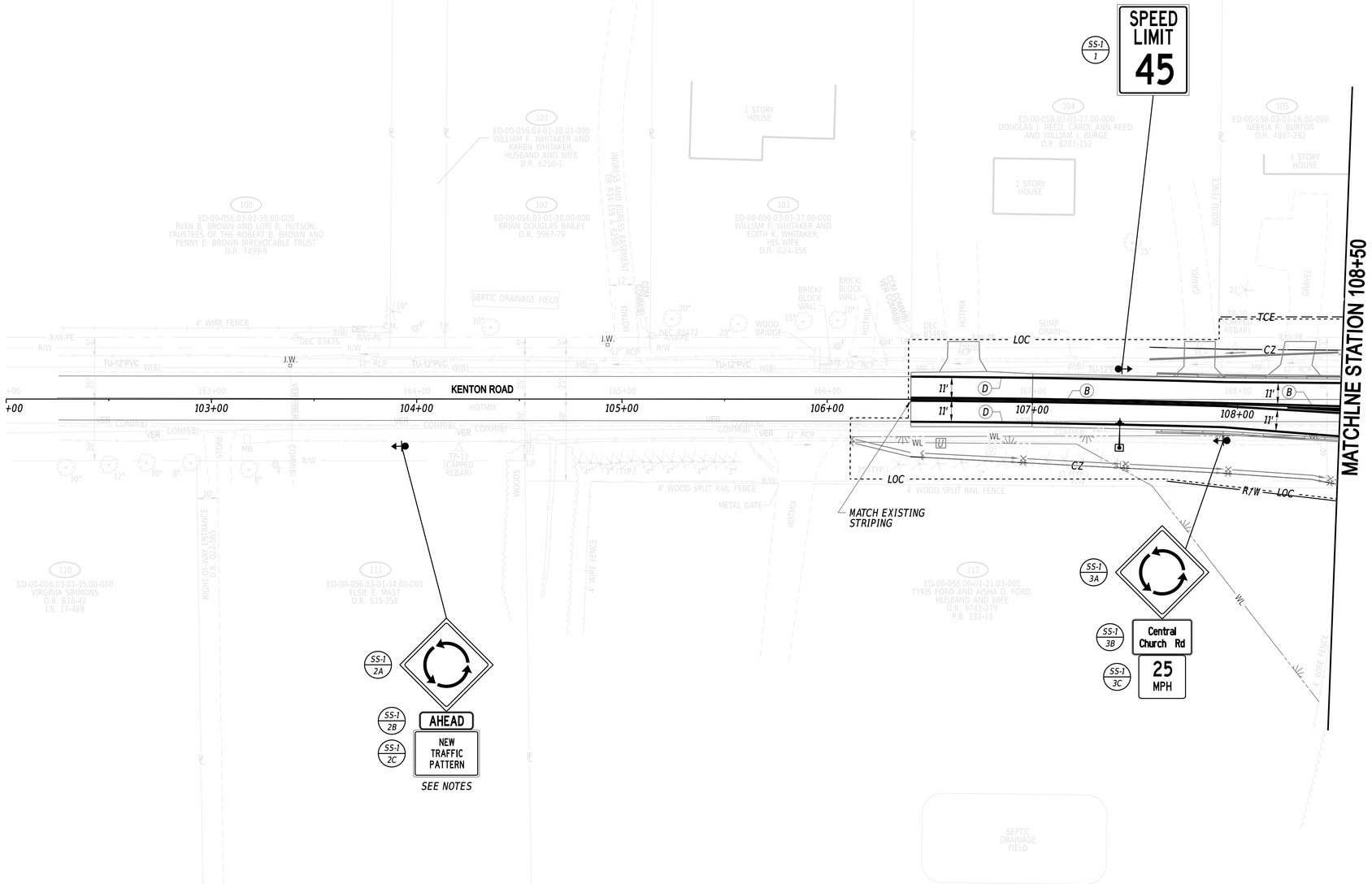
ADDENDA / REVISIONS	SCALE 0 30 60 90 FEET	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	UTILITY RELOCATION PLAN	UT-05
			COUNTY KENT	DESIGNED BY: A. HALLER		SECTION CEN
				CHECKED BY: L. HAXTON		SHEET NO. 62



PAVEMENT MARKINGS LEGEND

SYM	ITEM	QUANTITY
A	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	0 SF
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID DOUBLE LINE (ITEM 817042)	470 LF
C	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID (ITEM 817042)	0 LF
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" SOLID (ITEM 817042)	418 LF
E	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 12" DOTTED - 2' LINE & 2' GAP (ITEM 817043)	0 LF

NOTES:

1. THE PROPOSED SIGNS (SS-1 2A, 2B, 2C) SHALL BE INSTALLED FOR A MINIMUM OF 30 DAYS AND A MAXIMUM OF 180 DAYS. STATE FORCES SHALL BE RESPONSIBLE FOR REMOVING THE SIGNS AND SIGN POST.
2. CONTRACTOR SHALL INSTALL RAISED PAVEMENT MARKINGS (RPM'S) IN ACCORDANCE WITH THE DE MUTCD SECTION 3B.11/ FIGURES 3B-15A TO 3B-15H AND SHALL BE PAID FOR UNDER ITEM 817027.

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

SIGNING, STRIPING AND CONDUIT PLAN

SS-01

SECTION	SHEET NO.
CEN	63

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PAVEMENT MARKINGS LEGEND

SYM	ITEM	QUANTITY
A	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	36 SF
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID DOUBLE LINE (ITEM 817042)	2,457 LF
C	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID (ITEM 817042)	960 LF
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" SOLID (ITEM 817042)	2,200 LF
E	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 12" DOTTED - 2' LINE & 2' GAP (ITEM 817043)	140 LF

NOTES:

1. CONTRACTOR SHALL INSTALL RAISED PAVEMENT MARKINGS (RPM'S) IN ACCORDANCE WITH THE DE MUTCD SECTION 3B.11/ FIGURES 3B-15A TO 3B-15H AND SHALL BE PAID FOR UNDER ITEM 817027.
2. SEE CONSTRUCTION DETAILS FOR STRIPING DIMENSIONS AT THE ROUNDABOUT AND SPLITTER ISLANDS.

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204	BRIDGE NO.	N/A	SIGNING, STRIPING AND CONDUIT PLAN	SS-02
COUNTY	KENT	DESIGNED BY:	A. HALLER		SECTION CEN
		CHECKED BY:	L. HAXTON		SHEET NO. 64

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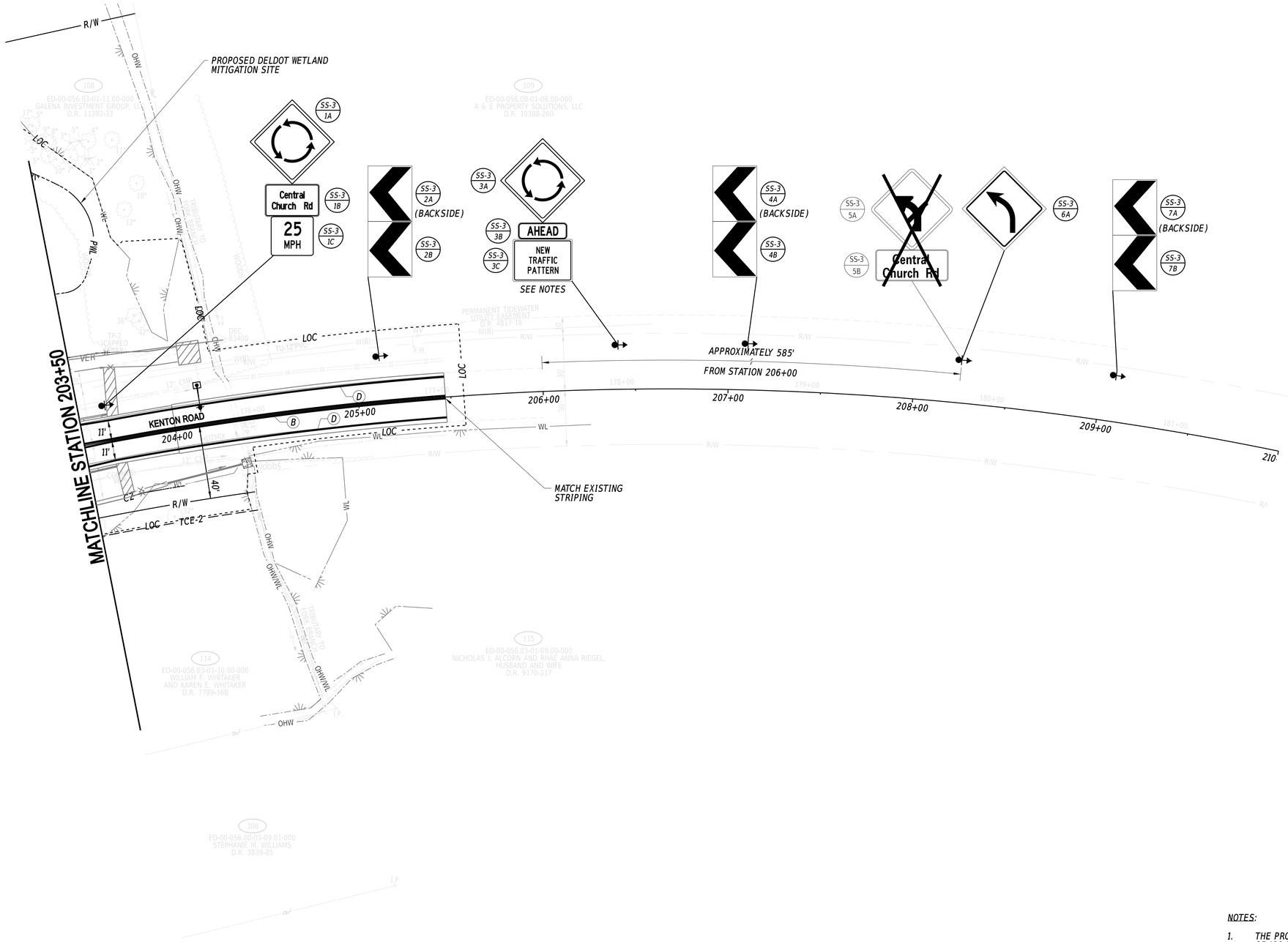

PAVEMENT MARKINGS LEGEND

SYM	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	0 SF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID DOUBLE LINE (ITEM 817042)	394 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID (ITEM 817042)	0 LF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" SOLID (ITEM 817042)	394 LF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 12" DOTTED - 2' LINE & 2' GAP (ITEM 817043)	0 LF

NOTES:

1. *THE PROPOSED SIGNS (SS-3 2A, 2B, 2C) SHALL BE INSTALLED FOR A MINIMUM OF 30 DAYS AND A MAXIMUM OF 180 DAYS. STATE FORCES SHALL BE RESPONSIBLE FOR REMOVING THE SIGNS AND SIGN POST.*
2. *CONTRACTOR SHALL INSTALL RAISED PAVEMENT MARKINGS (RPM'S) IN ACCORDANCE WITH THE DE MUTCD SECTION 3B.11/ FIGURES 3B-15A TO 3B-15H AND SHALL BE PAID FOR UNDER ITEM 817027.*

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

SIGNING, STRIPING AND CONDUIT PLAN

SS-03
SECTION
CEN
SHEET NO.
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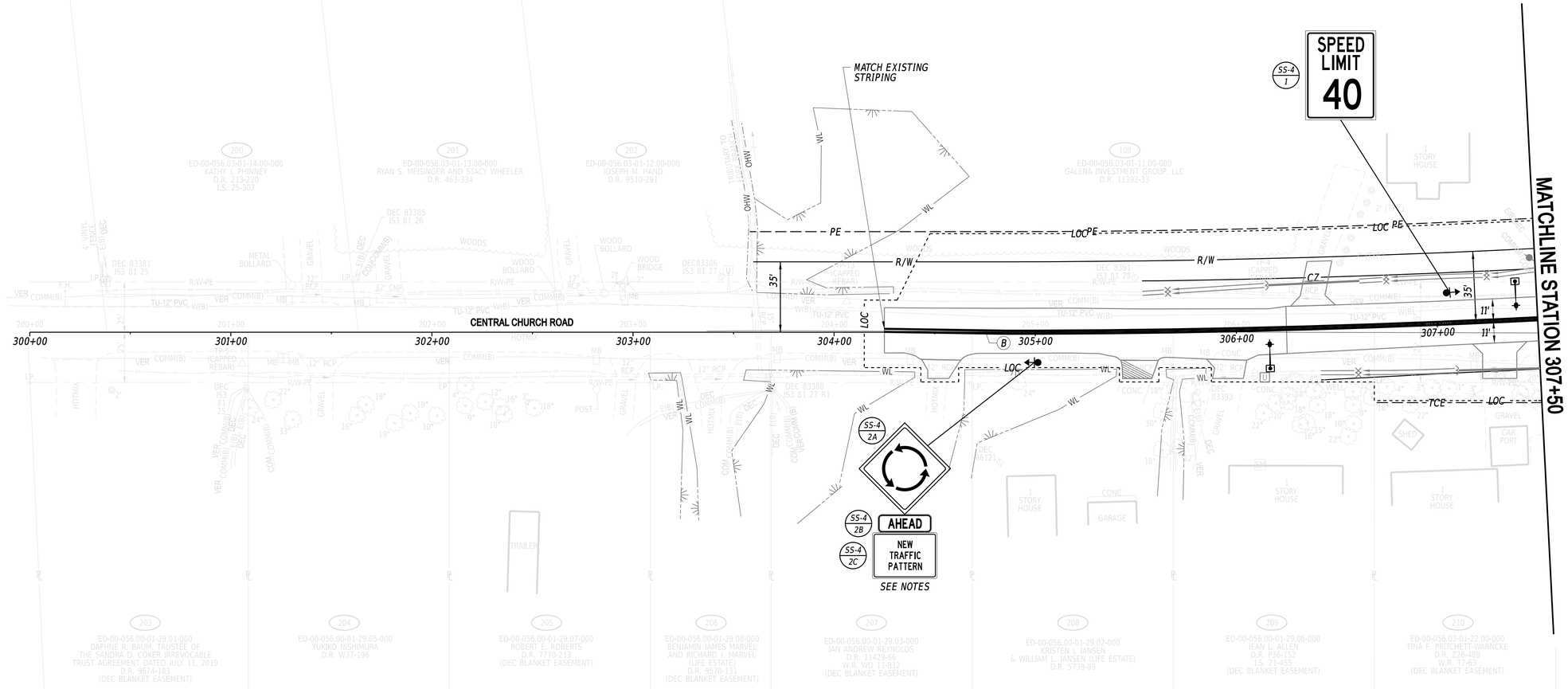

PAVEMENT MARKINGS LEGEND		
SYM	ITEM	QUANTITY
A	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	0 SF
B	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID DOUBLE LINE (ITEM 817042)	529 LF
C	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID (ITEM 817042)	0 LF
D	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" SOLID (ITEM 817042)	0 LF
E	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 12" DOTTED - 2' LINE & 2' GAP (ITEM 817043)	0 LF

NOTES:

1. THE PROPOSED SIGNS (SS-4 2A, 2B, 2C) SHALL BE INSTALLED FOR A MINIMUM OF 30 DAYS AND A MAXIMUM OF 180 DAYS. STATE FORCES SHALL BE RESPONSIBLE FOR REMOVING THE SIGNS AND SIGN POST.
2. CONTRACTOR SHALL INSTALL RAISED PAVEMENT MARKINGS (RPM'S) IN ACCORDANCE WITH THE DE MUTCD SECTION 3B.11/ FIGURES 3B-15A TO 3B-15H AND SHALL BE PAID FOR UNDER ITEM 817027.

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

SIGNING, STRIPING AND CONDUIT PLAN

SS-04
SECTION: CEN
SHEET NO.: 66

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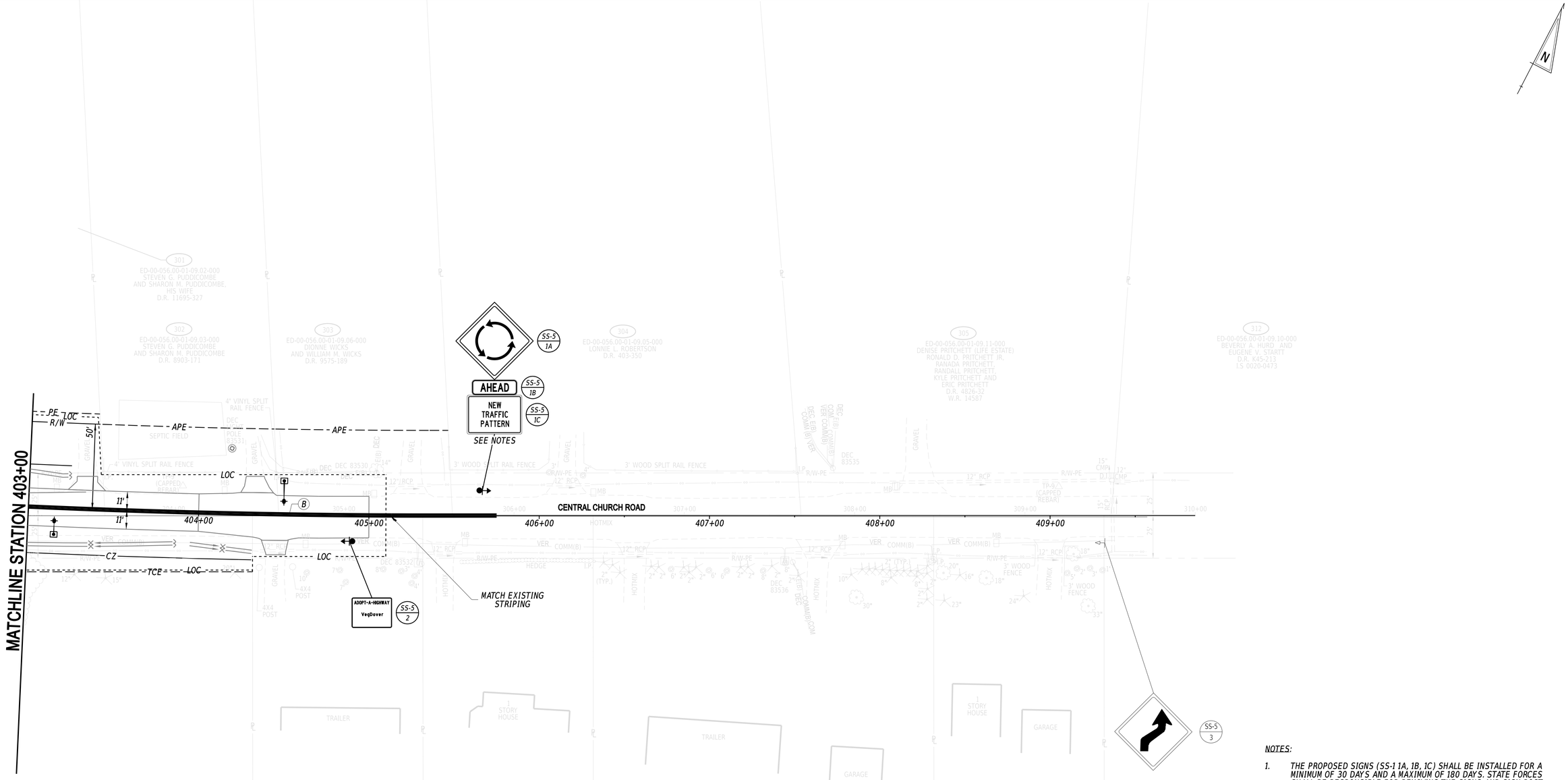

NOTES:

1. *THE PROPOSED SIGNS (SS-1 1A, 1B, 1C) SHALL BE INSTALLED FOR A MINIMUM OF 30 DAYS AND A MAXIMUM OF 180 DAYS. STATE FORCES SHALL BE RESPONSIBLE FOR REMOVING THE SIGNS AND SIGN POST.*
2. *CONTRACTOR SHALL INSTALL RAISED PAVEMENT MARKINGS (RPM'S) IN ACCORDANCE WITH THE DE MUTCD SECTION 3B.11/ FIGURES 3B-15A TO 3B-15H AND SHALL BE PAID FOR UNDER ITEM 817027.*

PAVEMENT MARKINGS LEGEND

SYM	ITEM	QUANTITY
(A)	*ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)*	*0 SF*
(B)	*EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID DOUBLE LINE (ITEM 817042)*	*427 LF*
(C)	*EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID (ITEM 817042)*	*0 LF*
(D)	*EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" SOLID (ITEM 817042)*	*0 LF*
(E)	*EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 12" DOTTED - 2' LINE & 2' GAP (ITEM 817043)*	*0 LF*

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

SIGNING, STRIPING AND CONDUIT PLAN

SS-05
SECTION
CEN
SHEET NO.
67

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PERMANENT SIGN SCHEDULE - ROADWAY

SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	X13 / ITEM 818001 SUPPLY OF ROADSIDE FLAT SHEET ALUMINUM, TYPE IV, RETROREFLECTIVE SHEETING (SF)	X14 / ITEM 818003 SUPPLY OF ROADSIDE FLAT SHEET ALUMINUM, TYPE XI, RETROREFLECTIVE SHEETING (SF)	X15 / ITEM 819512 SIGN POST REFLECTIVE PANEL (EA)	ITEM 819003 INSTALL OR REMOVE TRAFFIC SIGNS (EACH)			ITEM 819001 PROVIDE GALVANIZED TELESCOPING SIGN POST (EACH) TO BE USED FOR NEW SIGN POSTS, CONTRACTOR TO DETERMINE LENGTH	ITEM 819002 INSTALL OR REMOVE GALVANIZED TELESCOPING SIGN POST (EACH)			POST INSTALLATION TYPE	ITEM 819010 4" HOLE, 0-6" (EACH)	ITEM 819011 4" HOLE, >6" (EACH)	REMARKS
										SIGN DISPOSITION	REMOVE	INSTALL		SIGN POST DISPOSITION	REMOVE	INSTALL				
SS-1	1	R2-1-45(24)	1	SPEED LIMIT (45 MPH - 24x30)	24	30	5.0			NEW W/ POST		1	1	NEW		1	SOIL			
SS-1	2A	W2-6(36)	1	CIRCULAR INTERSECTION - 36x36	36	36	9.0			NEW W/ POST		1	1	NEW		1	SOIL			See notes on plan sheet
SS-1	2B	W16-9P(24)	1	AHEAD (plaque) - 24x12	24	12	2.0			ADD TO ASSEMBLY		1								See notes on plan sheet
SS-1	2C	W23-2P-DE(30)	1	NEW TRAFFIC PATTERN (plaque) - 30x24	30	24		5.0		ADD TO ASSEMBLY		1								See notes on plan sheet
SS-1	3A	W2-6(36)	1	CIRCULAR INTERSECTION - 36x36	36	36	9.0			NEW W/ POST		1	1	NEW		1	SOIL			
SS-1	3B	W16-8aP	1	ADVANCE STREET NAME (2 - line plaque)	30	18	3.8			ADD TO ASSEMBLY		1								Central Church Rd Hwy C, 4"
SS-1	3C	W13-1P-25(18)	1	ADVISORY SPEED (25 MPH) 18x18	18	18	2.3			ADD TO ASSEMBLY		1								
SS-2	1	R2-1-45(24)	1	SPEED LIMIT (45 MPH - 24x30)	24	30				REMOVE	1			REMOVE	1					
SS-2	2	W21-11-DE	1	WATCH CHILDREN (Symbol)	30	30				REMOVE	1			REMOVE	1					
SS-2	3	R4-7c	1	NARROW KEEP RIGHT	18	30	3.8			NEW W/ POST		1	1	NEW		1	NEW CONCRETE			
SS-2	4	D1-1d	1	CIRCULAR INTERSECTION DESTINATION (1 Line)	54	18	6.8			NEW W/ POST		1	2	NEW		2	SOIL			Kenton Rd (Arrow 45 deg) Hwy C, 8"/6"
SS-2	5	R6-4	2	ROUNDABOUT DIRECTIONAL (2 chevrons)	30	24	10.0			NEW W/ POST		2	2	NEW		2	SOIL			
SS-2	6A	D3-1(12)	2	STREET NAME (1 Line) Posted speed ≤ 40 MPH	30	12				REMOVE	2									Kenton Rd
SS-2	6B	D3-1(12)	2	STREET NAME (1 Line) Posted speed ≤ 40 MPH	48	12				REMOVE	2									Central Church RD
SS-2	6C	R1-1(36)	1	STOP	36	36				REMOVE	1			REMOVE	1					
SS-2	6D	R1-3P(30)	1	ALL WAY(plaque)	30	12				REMOVE	1									
SS-2	7	R1-2(36)	1	YIELD	36	36		3.9		NEW W/ POST		1	1	NEW		1	SOIL			
SS-2	8	R4-7c	1	NARROW KEEP RIGHT	18	30	3.8			NEW W/ POST		1	1	NEW		1	NEW CONCRETE			
SS-2	9A	W3-1(36)	1	STOP AHEAD (Symbol) - 36x36	36	36				REMOVE	1			REMOVE	1					
SS-2	9B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	30	9				REMOVE	1									
SS-2	10A	W2-6(36)	1	CIRCULAR INTERSECTION - 36x36	36	36	9.0			NEW W/ POST		1	1	NEW		1	SOIL			
SS-2	10B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	30	9	1.9			ADD TO ASSEMBLY		1								Kenton Rd Hwy C, 4"
SS-2	10C	W13-1P-25(18)	1	ADVISORY SPEED (25 MPH) 18x18	18	18	2.3			ADD TO ASSEMBLY		1								
SS-2	11	R2-1-40(24)	1	SPEED LIMIT (40 MPH - 24x30)	24	30				REMOVE	1			REMOVE	1					
SS-2	12	D1-1d	1	CIRCULAR INTERSECTION DESTINATION (1 Line)	60	18	7.5			NEW W/ POST		1	2	NEW		2	SOIL			Central Church Rd Hwy C, 8"/6"
SS-2	13A	R1-1(48)	1	STOP	48	48				REMOVE	1			REMOVE	2					
SS-2	13B	R1-3P(30)	1	ALL WAY(plaque)	30	12				REMOVE	1									
SS-2	14	R1-2(36)	1	YIELD	36	36		3.9		NEW W/ POST		1	1	NEW		1	SOIL			
SS-2	15	R4-7c	1	NARROW KEEP RIGHT	18	30	3.8			NEW W/ POST		1	1	NEW		1	NEW CONCRETE			
SS-2	16A	W3-1(36)	1	STOP AHEAD (Symbol) - 36x36	36	36				REMOVE	1			REMOVE	1					
SS-2	16B	W16-8aP	1	ADVANCE STREET NAME (2 - line plaque)	30	18				REMOVE	1									Central Church Rd
SS-2	17A	W3-1(36)	1	STOP AHEAD (Symbol) - 36x36	36	36				REMOVE	1			REMOVE	1					
SS-2	17B	W16-8aP	1	ADVANCE STREET NAME (2 - line plaque)	30	18				REMOVE	1									Central Church Rd
SS-2	18A	R1-1(48)	1	STOP	48	48				REMOVE	1			REMOVE	2					
SS-2	18B	R1-3P(30)	1	ALL WAY(plaque)	30	12				REMOVE	1									
SS-2	19	R1-2(36)	1	YIELD	36	36		3.9		NEW W/ POST		1	1	NEW		1	SOIL			
SS-2	20	R2-1-40(24)	1	SPEED LIMIT (40 MPH - 24x30)	24	30				REMOVE	1			REMOVE	1					
SS-2	21	D14-3-DE	1	ADOPT A HIGHWAY	24	18				REMOVE	1			REMOVE	1					VegDover
SS-2	22	R2-1-40(24)	1	SPEED LIMIT (40 MPH - 24x30)	24	30	5.0			NEW W/ POST		1	1	NEW		1	SOIL			
SS-2	23A	W2-6(36)	1	CIRCULAR INTERSECTION - 36x36	36	36	9.0			NEW W/ POST		1	1	NEW		1	SOIL			
SS-2	23B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	30	9	1.9			ADD TO ASSEMBLY		1								Kenton Rd Hwy C, 4"
SS-2	23C	W13-1P-25(18)	1	ADVISORY SPEED (25 MPH) 18x18	18	18	2.3			ADD TO ASSEMBLY		1								
SS-2	24A	W3-1(36)	1	STOP AHEAD (Symbol) - 36x36	36	36				REMOVE	1			REMOVE	1					
SS-2	24B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	30	9				REMOVE	1									Kenton Rd
SS-2	25	R4-7c	1	NARROW KEEP RIGHT	18	30	3.8			NEW W/ POST		1	1	NEW		1	NEW CONCRETE			
SS-2	26	D1-1d	1	CIRCULAR INTERSECTION DESTINATION (1 Line)	60	18	7.5			NEW W/ POST		1	2	NEW		2	SOIL			Central Church Rd Hwy C, 8"/6"
SS-2	27	R1-2(36)	1	YIELD	36	36		3.9		NEW W/ POST		1	1	NEW		1	SOIL			
SS-2	28A	R1-1(48)	1	STOP	48	48				REMOVE	1			REMOVE	2					
SS-2	28B	R1-3P(30)	1	ALL WAY(plaque)	30	12				REMOVE	1									
SS-2	29	R6-4	2	ROUNDABOUT DIRECTIONAL (2 chevrons)	30	24	10.0			NEW W/ POST		2	2	NEW		2	SOIL			
SS-2	30	D1-1d	1	CIRCULAR INTERSECTION DESTINATION (1 Line)	54	18	6.8			NEW W/ POST		1	2	NEW		2	SOIL			Kenton Rd (Arrow 45 deg) Hwy C, 8"/6"
SS-2	31A	W1-2_R_FY(30)	1	CURVE (Right) - 30x30 (Fluorescent Yellow)	30	30		6.3		NEW W/ POST		1	1	NEW		1	SOIL			
PAGE TOTALS							126	27	0		25	31	27		16	27		0	0	

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO. N/A	PERMANENT SIGN SCHEDULE	SECTION
				T202104204	DESIGNED BY: A. HALLER		CEN
				COUNTY	CHECKED BY: L. HAXTON		SHEET NO.
				KENT			68

PERMANENT SIGN SCHEDULE - ROADWAY

SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	X13 / ITEM 818001 FLAT SHEET ALUMINUM, TYPE IV, RETROREFLECTIVE SHEETING (SF)	X14 / ITEM 818003 FLAT SHEET ALUMINUM, TYPE XI, RETROREFLECTIVE SHEETING (SF)	X15 / ITEM 819512 SIGN POST REFLECTIVE PANEL (EA)	ITEM 819003 INSTALL OR REMOVE TRAFFIC SIGNS (EACH)			ITEM 819001 PROVIDE GALVANIZED TELESCOPING SIGN POST (EACH) TO BE USED FOR NEW SIGN POSTS, CONTRACTOR TO DETERMINE LENGTH	ITEM 819002 INSTALL OR REMOVE GALVANIZED TELESCOPING SIGN POST (EACH)			POST INSTALLATION TYPE	ITEM 819010 4" HOLE, 0-6" (EACH)	ITEM 819011 4" HOLE, >6" (EACH)	REMARKS
										SIGN DISPOSITION	REMOVE	INSTALL		SIGN DISPOSITION	REMOVE	INSTALL				
SS-3	1A	W2-6(36)	1	CIRCULAR INTERSECTION - 36x36	36	36	9.0			NEW W/ POST		1	1	NEW		1	SOIL			
SS-3	1B	W16-8aP	1	ADVANCE STREET NAME (2 - line plaque)	30	18	3.8			ADD TO ASSEMBLY		1								Central Church Rd Hwy C, 4"
SS-3	1C	W13-1P-25(18)	1	ADVISORY SPEED (25 MPH) 18x18	18	18	2.3			ADD TO ASSEMBLY		1								
SS-3	2A	W1-8_FY(18)	1	CHEVRON ALIGNMENT - 18x24 (Fluorescent Yellow)	18	24		3.0		NEW W/ POST		1	1	NEW		1	SOIL			
SS-3	2B	W1-8_FY(18)	1	CHEVRON ALIGNMENT - 18x24 (Fluorescent Yellow)	18	24		3.0		ADD TO ASSEMBLY		1								
SS-3	3A	W2-6(36)	1	CIRCULAR INTERSECTION - 36x36	36	36	9.0			NEW W/ POST		1	1	NEW		1	SOIL			See notes on plan sheet
SS-3	3B	W16-9P(24)	1	AHEAD (plaque) - 24x12	24	12	2.0			ADD TO ASSEMBLY		1								See notes on plan sheet
SS-3	3C	W23-2P-DE(30)	1	NEW TRAFFIC PATTERN (plaque) - 30x24	30	24		5.0		ADD TO ASSEMBLY		1								See notes on plan sheet
SS-3	4A	W1-8_FY(18)	1	CHEVRON ALIGNMENT - 18x24 (Fluorescent Yellow)	18	24		3.0		NEW W/ POST		1	1	NEW		1	SOIL			
SS-3	4B	W1-8_FY(18)	1	CHEVRON ALIGNMENT - 18x24 (Fluorescent Yellow)	18	24		3.0		ADD TO ASSEMBLY		1								
SS-3	5A	W1-10a_L(36)	1	COMBINATION HORIZONTAL ALIGNMENT/INTERSECTION (Left) - 36x36	36	36				REMOVE	1			REMOVE	1					
SS-3	5B	W16-8aP	1	ADVANCE STREET NAME (2 - line plaque)	30	18				REMOVE	1									Central Church Rd
SS-3	6	W1-2_L_FY(30)	1	CURVE (Left) - 30x30 (Fluorescent Yellow)	30	30		6.3		NEW W/ POST		1	1	NEW		1	SOIL			
SS-3	7A	W1-8_FY(18)	1	CHEVRON ALIGNMENT - 18x24 (Fluorescent Yellow)	18	24		3.0		NEW W/ POST		1	1							
SS-3	7B	W1-8_FY(18)	1	CHEVRON ALIGNMENT - 18x24 (Fluorescent Yellow)	18	24		3.0		ADD TO ASSEMBLY		1		NEW			SOIL			
SS-4	1	R2-1-40(24)	1	SPEED LIMIT (40 MPH - 24x30)	24	30	5.0			NEW W/ POST		1	1	NEW		1	SOIL			
SS-4	2A	W2-6(36)	1	CIRCULAR INTERSECTION - 36x36	36	36	9.0			NEW W/ POST		1	1	NEW		1	SOIL			See notes on plan sheet
SS-4	2B	W16-9P(24)	1	AHEAD (plaque) - 24x12	24	12	2.0			ADD TO ASSEMBLY		1								See notes on plan sheet
SS-4	2C	W23-2P-DE(30)	1	NEW TRAFFIC PATTERN (plaque) - 30x24	30	24		5.0		ADD TO ASSEMBLY		1								See notes on plan sheet
SS-5	1A	W2-6(36)	1	CIRCULAR INTERSECTION - 36x36	36	36	9.0			NEW W/ POST		1	1	NEW		1	SOIL			See notes on plan sheet
SS-5	1B	W16-9P(24)	1	AHEAD (plaque) - 24x12	24	12	2.0			ADD TO ASSEMBLY		1								See notes on plan sheet
SS-5	1C	W23-2P-DE(30)	1	NEW TRAFFIC PATTERN (plaque) - 30x24	30	24		5.0		ADD TO ASSEMBLY		1								See notes on plan sheet
SS-5	2	D14-3-DE	1	ADOPT A HIGHWAY	24	18	3.0			NEW W/ POST		1	1	NEW		1	SOIL			VegDover Hwy D, 2"
SS-5	3	W1-4_R(30)	1	REVERSE CURVE (Right) - 30x30	30	30				REMAIN										
PAGE TOTALS							56	39	0		2	21	10		1	9		0	0	
JOB TOTALS							182	66	0		27	52	37		17	36		0	0	

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT	BRIDGE NO. N/A	PERMANENT SIGN SCHEDULE	SECTION
				T202104204	DESIGNED BY: A. HALLER		CEN
				COUNTY	CHECKED BY: L. HAXTON		SHEET NO.
				KENT			69

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CONDUIT RUN SCHEDULE

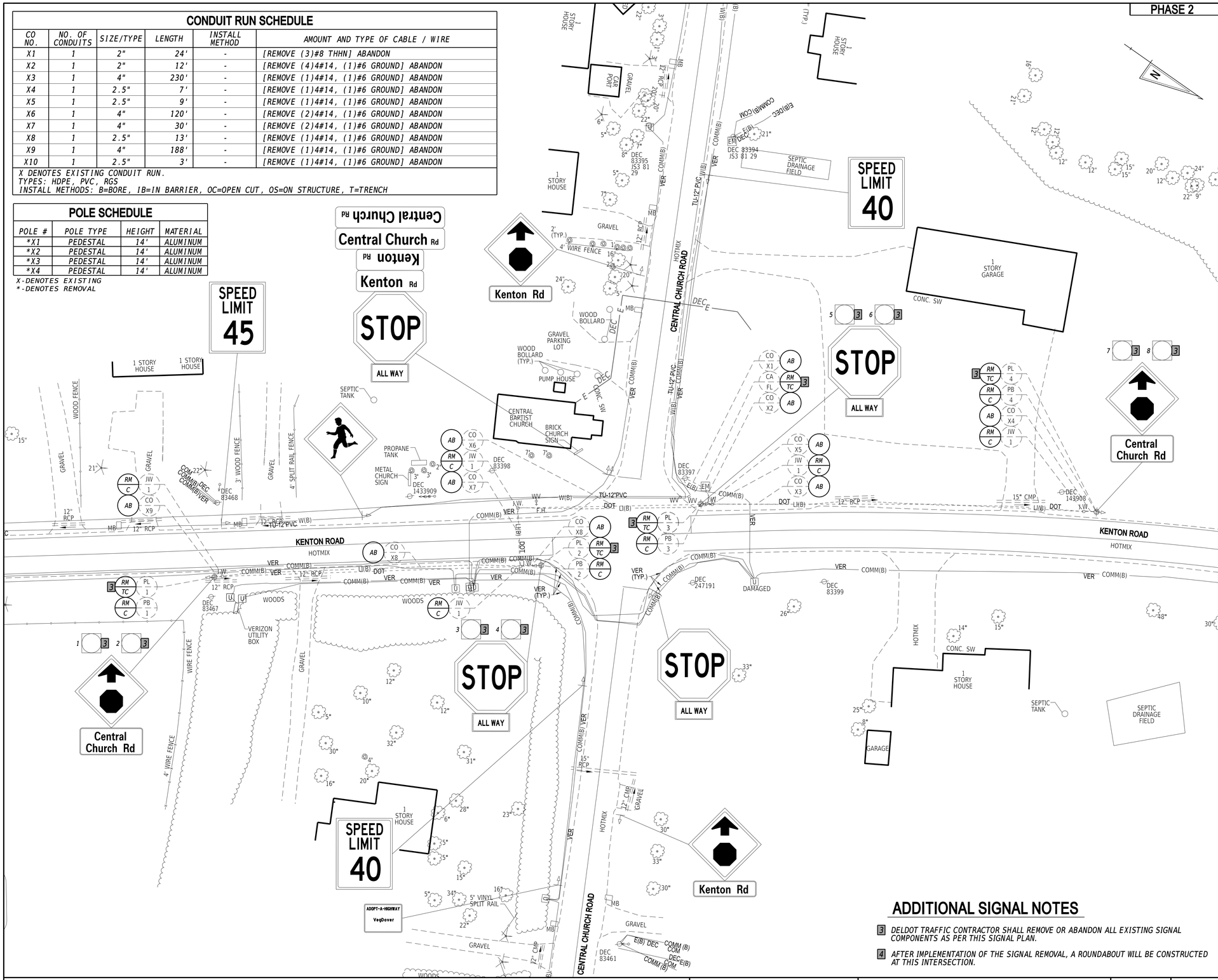
CO NO.	NO. OF CONDUITS	SIZE/TYPE	LENGTH	INSTALL METHOD	AMOUNT AND TYPE OF CABLE / WIRE
X1	1	2"	24'	-	[REMOVE (3)#8 THHN] ABANDON
X2	1	2"	12'	-	[REMOVE (4)4#14, (1)#6 GROUND] ABANDON
X3	1	4"	230'	-	[REMOVE (1)4#14, (1)#6 GROUND] ABANDON
X4	1	2.5"	7'	-	[REMOVE (1)4#14, (1)#6 GROUND] ABANDON
X5	1	2.5"	9'	-	[REMOVE (1)4#14, (1)#6 GROUND] ABANDON
X6	1	4"	120'	-	[REMOVE (2)4#14, (1)#6 GROUND] ABANDON
X7	1	4"	30'	-	[REMOVE (2)4#14, (1)#6 GROUND] ABANDON
X8	1	2.5"	13'	-	[REMOVE (1)4#14, (1)#6 GROUND] ABANDON
X9	1	4"	188'	-	[REMOVE (1)4#14, (1)#6 GROUND] ABANDON
X10	1	2.5"	3'	-	[REMOVE (1)4#14, (1)#6 GROUND] ABANDON

X DENOTES EXISTING CONDUIT RUN.
TYPES: HDPE, PVC, RGS
INSTALL METHODS: B=BORE, IB=IN BARRIER, OC=OPEN CUT, OS=ON STRUCTURE, T=TRENCH

POLE SCHEDULE

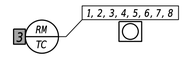
POLE #	POLE TYPE	HEIGHT	MATERIAL
*X1	PEDESTAL	14'	ALUMINUM
*X2	PEDESTAL	14'	ALUMINUM
*X3	PEDESTAL	14'	ALUMINUM
*X4	PEDESTAL	14'	ALUMINUM

X-DENOTES EXISTING
*-DENOTES REMOVAL



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. 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.

ADDITIONAL SIGNAL NOTES

3 DELDOT TRAFFIC CONTRACTOR SHALL REMOVE OR ABANDON ALL EXISTING SIGNAL COMPONENTS AS PER THIS SIGNAL PLAN.

4 AFTER IMPLEMENTATION OF THE SIGNAL REMOVAL, A ROUNDABOUT WILL BE CONSTRUCTED AT THIS INTERSECTION.

PREPARED BY
CENTURY ENGINEERING
A Kleinfelder Company

10/06/2025
DATE

THIS SEAL APPLIES THIS SHEET ONLY.

BRET A. MARTIN
No. 11947
DELAWARE PROFESSIONAL ENGINEER
SEAL

CONCURRENCE FOR INSTALLATION

CHIEF of TRAFFIC ENGINEERING

10/7/2025
DATE

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	PERMIT NO.	K332
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

SIGNAL REMOVAL PLAN KENTON ROAD @ CENTRAL CHURCH ROAD

SECTION	
CEN	
SHEET NO.	
70	

LAST REVISED: 9/11/2018
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WETLAND MITIGATION SITE NOTES AND SEQUENCE OF CONSTRUCTION

ALL WORK AT THE SR15/KENTON RD AND CENTRAL CHURCH RD WETLAND MITIGATION SITE SHALL BE COMPLETED IN ONE CONSTRUCTION SEASON AND SHALL BEGIN AS THE FIRST OPERATION. THE SITE SHALL BE COMPLETED PRIOR TO THE START OF PHASE 2. APPROVAL OF THE FINAL GRADING AS-BUILT DRAWINGS SHALL OCCUR SO ITEM 908503 - WETLAND MITIGATION SEED MIX SHALL BE PLACED BETWEEN MARCH 1ST AND APRIL 15TH AS NOTED BELOW.

1. *INSTALL ITEM 905001 - SILT FENCE AND ITEM 905002 - REINFORCED SILT FENCE AROUND THE PERIMETER OF THE SITE AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS. RESOURCE PROTECTION FENCE SHALL BE INSTALLED ALONG THE EXISTING WETLANDS.*

2. *INSTALL ITEM 908023 - STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS.*

3. *PERFORM THE CLEARING AND GRUBBING OF THE SITE SO THE WORK ONLY DISTURBS AREAS THAT WILL BE EXCAVATED OR GRADED WITHIN THE NEXT FOURTEEN (14) CALENDAR DAYS.*

4. *THE CONTRACTOR SHALL REMOVE THE EXISTING PIEZOMETERS AS SHOWN ON THE WETLAND MITIGATION SITE PLAN. THE REMOVAL OF ALL DESIGNATED PIEZOMETERS SHALL BE COMPLETED BY A CERTIFIED WELL DRILLER. REMOVAL COST INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS. IT IS THE RESPONSIBILITY OF THE WELL DRILLER TO OBTAIN AND COMPLY WITH THE REQUIRED WELL PERMITS. COST OF OBTAINING THESE PERMITS IS INCLUDED IN ITEM 202514 - PIEZOMETER.*

5. *EXCAVATE THE WETLAND MITIGATION SITE TO THE DESIGN SUB-GRADE ELEVATIONS AND STOCKPILE THE EXCAVATED MATERIALS. TOPSOIL SHALL BE STOCKPILED SEPARATELY FOR USE IN THE PROPOSED WETLAND SITE. PAYMENT FOR ALL EXCAVATED MATERIAL TO BE MADE UNDER ITEM 202000 - EXCAVATION AND EMBANKMENT.*

6. *THE CONTRACTOR SHALL PREPARE AND SUBMIT AS-BUILT TOPOGRAPHIC PLANS FOR THE SUB-GRADE. THE MAXIMUM HORIZONTAL DISTANCE BETWEEN SPOT ELEVATIONS SHALL BE 20' AND ADDITIONAL SPOT ELEVATIONS SHALL BE OBTAINED AS NECESSARY TO IDENTIFY ALL BREAKS IN GRADE AND OTHER FEATURES. SPOT ELEVATIONS SHALL EXTEND A MINIMUM OF 50' BEYOND THE DISTURBED AREA. SPOT ELEVATIONS SHALL BE OBTAINED AND SHOWN ON THE AS-BUILT PLAN TO ONE-HUNDRETH OF A FOOT. THE TOLERANCE FOR THE PROPOSED WETLAND MITIGATION SITE BOTTOM SHALL BE PLUS OR MINUS ONE TENTH (0.1) OF A FOOT. THE DRAWINGS SHALL BE SUBMITTED TO DELDOT IN BOTH DIGITAL AND PAPER FORMAT CONFORMING TO CURRENT DELDOT CADD STANDARDS. DIGITAL INFORMATION SHALL BE SUBMITTED IN .DGN FORMAT AND .DTM FORMAT AND SHALL INCLUDE ALL SURVEY DATA IN .TXT FORMAT. THE DRAWINGS SHALL BE AT 60 SCALE. CONTOURS SHALL BE SHOWN AT 0.5' INTERVALS AND THE CONTOUR LINES SHALL BE LABELED FREQUENTLY ENOUGH THAT IT IS POSSIBLE TO CLEARLY ASCERTAIN THE ELEVATION OF ANY PARTICULAR CONTOUR LINE ANYWHERE ON THE PLAN SHEET. SPOT ELEVATIONS ON THE AS-BUILTS SHALL BE LABELED AND SHALL BE SUCH THAT THE PLAN SHEET TEXT SHALL BE LEGIBLE, SOLID BLACK CHARACTERS, IN A SIZE APPROPRIATE TO THE SCALE OF THE DRAWINGS AND SEPARATED, NOT SUPERIMPOSED, ON TOP OF ONE ANOTHER. A PROFESSIONAL ENGINEER OR LAND SURVEYOR REGISTERED IN THE STATE OF DELAWARE SHALL SIGN AND SEAL THE AS-BUILTS. THE CONTRACTOR SHALL SUBMIT THE AS-BUILTS WITHIN SEVEN CALENDAR DAYS OF REACHING FINAL SUBGRADE ELEVATIONS. ALL COSTS FOR PREPARING THE SUBGRADE AS-BUILT PLANS SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING. DISKING MAY NOT BEGIN UNTIL THE CONTRACTOR HAS RECEIVED THE ENGINEER'S APPROVAL OF THE SUBGRADE AS-BUILT PLAN.*

7. *AFTER ACCEPTANCE OF THE SUB-GRADE AS-BUILTS, THE SUBGRADE SHALL BE DISKED TO A MIN. DEPTH OF 4", THREE TIMES. THE SECOND PASS WITH THE DISK SHALL BE PERPENDICULAR TO THE FIRST. SIMILARLY, THE THIRD PASS SHALL BE PERPENDICULAR TO THE SECOND PASS. ALL COSTS SHALL BE INCIDENTAL TO ITEM 202000 - EXCAVATION AND EMBANKMENT. AFTER THE SUB-GRADE IS DISKED, THE CONTRACTOR SHALL PLACE TOPSOIL FROM THE ON-SITE PROPOSED WETLAND MITIGATION TEMPORARY TOPSOIL STOCKPILES, ON THE SIDES AND BOTTOM OF THE WETLAND MITIGATION SITE. TOPSOIL SHALL BE PLACED TO THE LINES, GRADES AND ELEVATIONS SHOWN IN THE PLANS WITH EQUIPMENT UTILIZING WIDE LOW-PRESSURE TIRES OR TRACKS. NINE (9") INCHES OF TOPSOIL SHALL BE PLACED, IN TWO EQUAL 4.5" LIFTS, ON THE BOTTOM OF THE WETLAND SITE. SIX (6") INCHES OF TOPSOIL SHALL BE PLACED ON THE SIDES OF THE WETLAND SITE IN ONE LIFT. ALL COSTS ASSOCIATED WITH PLACING EACH LIFT OF THE TOPSOIL SHALL BE PAID FOR UNDER ITEM 908002 - TOPSOIL.*

8. *ONCE THE TOPSOIL IS PLACED TO THE FINAL LINES, GRADES AND ELEVATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL PREPARE AND SUBMIT AS-BUILT TOPOGRAPHIC PLANS SHOWING IN-PLACE TOPSOIL GRADES AND ELEVATIONS. THESE PLANS SHALL MEET ALL REQUIREMENTS OF THE AS-BUILTS AS STATED ABOVE AND SHALL BE SUBMITTED WITHIN SEVEN (7) CALENDAR DAYS OF REACHING FINAL GRADES.*

9. *DELDOT SHALL REVIEW THE SUBMITTED AS-BUILT DRAWINGS TO ENSURE THE PROJECT IS GRADED IN ACCORDANCE WITH THE LINE AND GRADES OF THE PLANS AND SHALL RESPOND TO THE CONTRACTOR WITHIN FOURTEEN CALENDAR DAYS. IF THE SITE IS NOT PROPERLY GRADED, DELDOT SHALL MARK THE ERRORS ON THE DRAWINGS AND RETURN THEM TO THE CONTRACTOR. THE CONTRACTOR SHALL GRADE ANY DEFECTIVE AREAS WITHIN SEVEN CALENDAR DAYS OF RECEIVING THE MARKED PLANS FROM DELDOT AND THEN SHALL PREPARE AND SUBMIT TO DELDOT A NEW SET OF PAPER AND ELECTRONIC AS-BUILT PLANS FOR THE ENTIRE SITE SHOWING THE CORRECTIVE WORK AREAS WITHIN SEVEN CALENDAR DAYS OF COMPLETING THE CORRECTIVE WORK. DELDOT SHALL REVIEW AND, IF NECESSARY, RETURN THE PLANS TO THE CONTRACTOR WITH ANY ERRORS AGAIN MARKED ON THE PLANS WITHIN SEVEN CALENDAR DAYS. THIS PROCESS SHALL CONTINUE UNTIL THE PROJECT AND AS-BUILT DRAWINGS CONFORM TO THE PLANS AND ALL OTHER REQUIREMENTS OF THE CONTRACT DOCUMENTS. ALL COSTS FOR PREPARING THE FINAL AS-BUILT PLANS SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.*

10. *THE CONTRACTOR SHALL INSTALL THE PIEZOMETERS AS SHOWN ON THE WETLAND MITIGATION SITE PLAN. THE INSTALLATION OF ALL DESIGNATED PIEZOMETERS SHALL BE COMPLETED BY A CERTIFIED WELL DRILLER. INSTALLATION TO BE PAID UNDER ITEM 202514 - PIEZOMETER. IT IS THE RESPONSIBILITY OF THE WELL DRILLER TO OBTAIN AND COMPLY WITH THE REQUIRED WELL PERMITS. COST OF OBTAINING THESE PERMITS IS INCLUDED IN ITEM 202514 - PIEZOMETER.*

11. *AFTER ACCEPTANCE OF THE WETLAND FINAL TOPSOIL GRADING BY DELDOT, THE CONTRACTOR SHALL INSTALL THE CONCRETE BLOCK LINING, THEN PLACE THE SEED AND MULCH AS SHOWN ON THE WETLAND MITIGATION SITE CROSS SECTIONS AND IN ACCORDANCE WITH THE FOLLOWING:*

    A. *THE CONTRACTOR SHALL DISK THE AREA, TO A DEPTH OF 4 INCHES, THREE (3) TIMES. THE SECOND PASS WITH THE DISK SHALL BE PERPENDICULAR TO THE FIRST PASS AND SIMILARLY, THE THIRD PASS SHALL BE PERPENDICULAR TO THE SECOND PASS. ALL COSTS FOR DISKING SHALL BE INCIDENTAL TO ITEM 202000 - EXCAVATION AND EMBANKMENT.*

    B. *THE CONTRACTOR SHALL SPREAD THE SEED MIX OVER THE WETLAND MITIGATION AREA AT THE RATES SPECIFIED IN ITEM 908503 - WETLAND MITIGATION SEED MIX AND ON THE PLANS. THE WETLAND MITIGATION GRASS SEED MIX SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISION FOR ITEM 908503 - WETLAND MITIGATION SEED MIX AND USED TO SEED THE FINISHED GRADES, AS SHOWN ON THE PLANS. AREAS SEEDED SHALL INCLUDE THE WETLAND MITIGATION SITE BOTTOM AND SLOPES. SURROUNDING UPLAND AREAS SHALL BE SEEDED WITH ITEM 908015 - PERMANENT GRASS SEEDING, STORMWATER. CONTRACTOR SHALL SCHEDULE AND COMPLETE CONSTRUCTION SO THAT THE SITE CAN BE STABILIZED WITHIN 14 DAYS AND MEET THE SAPLING PLANTING WINDOW: MARCH 1ST TO APRIL 15TH.*

    C. *THE CONTRACTOR SHALL MULCH THE AREA WITH STRAW MULCH AT 4000 LB/AC AS SPECIFIED IN THE SPECIAL PROVISION FOR ITEM 911509 - MULCHING. SECURE THE STRAW MULCH AFTER EACH APPLICATION. THIS WORK SHALL BE PAID FOR UNDER ITEM 908002 - TOPSOIL. ITEM 908020 - EROSION CONTROL BLANKET MULCH SHALL BE PLACED ON THE SIDE SLOPES OF THE WETLAND SITE AS SHOWN ON THE WETLAND MITIGATION SITE TYPICAL SECTIONS.*

12. *IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE POSITIVE DRAINAGE AND DEWATERING MEASURES AT ALL TIMES DURING WORK ACTIVITIES REQUIRING ANY EXCAVATION WITHIN THE WETLAND MITIGATION SITE. THESE MEASURES ARE INTENDED TO MAINTAIN THE GROUNDWATER LEVEL AT LEAST ONE FOOT BELOW THE EXCAVATION ELEVATION. THE CONTRACTOR SHALL ALSO PROVIDE NECESSARY DEWATERING TO STABILIZE SLOPE EXCAVATION DURING CONSTRUCTION UNTIL THE SLOPES STABILIZE AS DETERMINED BY THE ENGINEER. IN ADDITION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO GATHER ALL NECESSARY DATA AND INFORMATION TO OBTAIN ANY PERMITS FOR PUMPING GROUNDWATER THAT MAY BE REQUIRED FOR THEIR OPERATIONS. PUMPING PERMITS ARE OBTAINABLE FROM THE DNREC DIVISION OF WATER RESOURCES WATER SUPPLY WELL PERMITTING AND LICENSING BRANCH. ALL COSTS SHALL BE INCIDENTAL TO ITEM 202000 - EXCAVATION AND EMBANKMENT.*

13. *AFTER ENSURING POSITIVE DEWATERING MEASURES, THE SITE SHALL BE PLANTED WITH TREES/SHRUBS AS SPECIFIED IN THE WETLAND MITIGATION LANDSCAPING PLAN IN ACCORDANCE WITH 908503 - REFORESTATION. CONTRACTOR MUST CONSULT WITH DELDOT ENVIRONMENTAL STUDIES OR THEIR CONSULTANT ON PLANTING WINDOW AND PLANTING CONDITIONS BEFORE TRANSPORT OF PLANTING STOCK TO THE SITE. TREES/SHRUBS SHALL BE PLANTED ON AN APPROXIMATE 6 LF BY 7 LF SPACING ± 1 LF AS NOT TO RESEMBLE A GRIB OR PATTERN. SPECIAES SHALL BE EQUALLY AND RANDOMLY ACCROSS THE PLANTING AREA.*

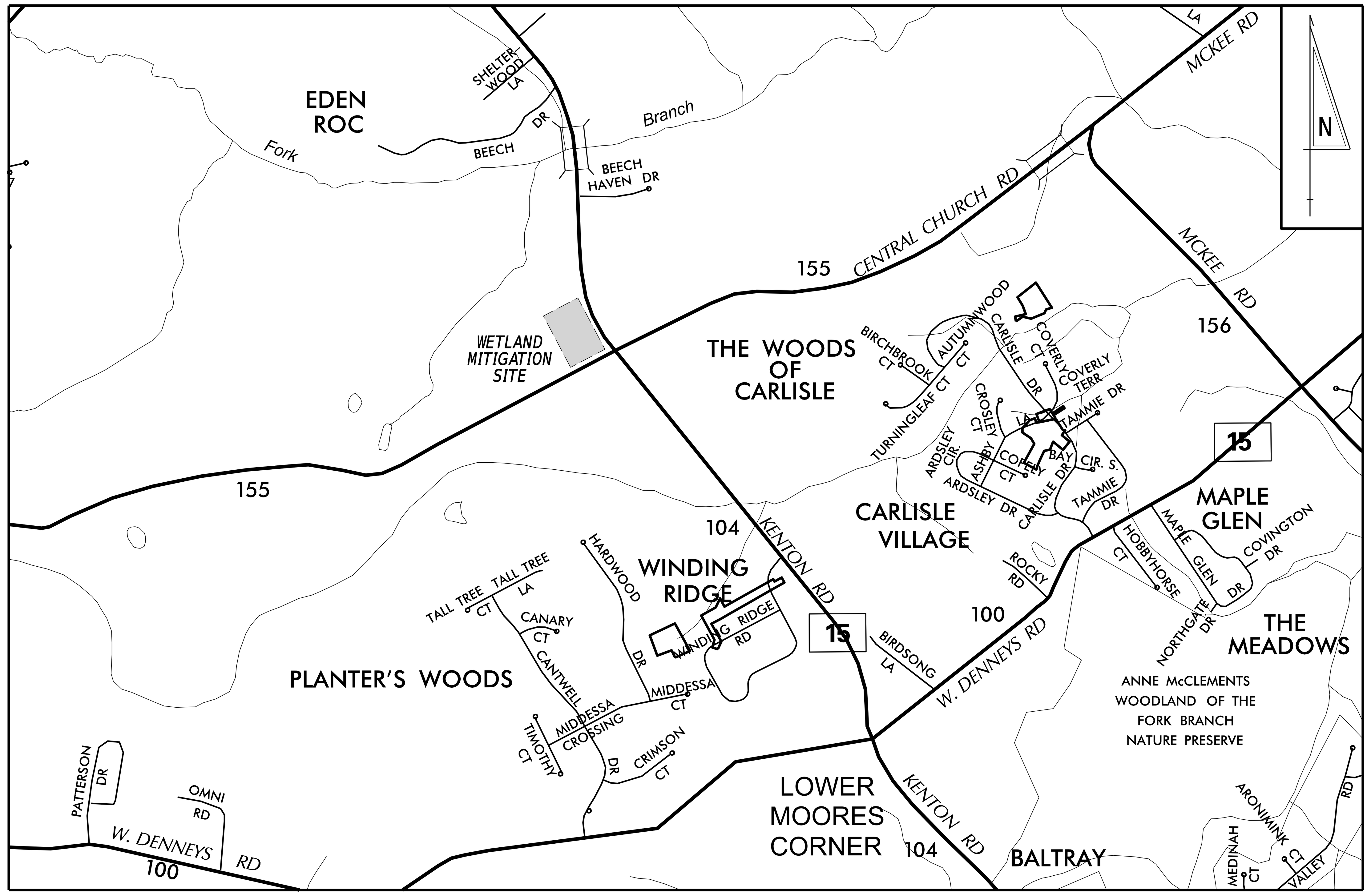
14. *ALL SURVEY WORK, INCLUDING LAYOUT AND AS-BUILTS, FOR THE WETLAND MITIGATION SITE SHALL BE BASED OFF A SINGLE MASTER CONTROL POINT AS IDENTIFIED ON THE WETLAND MITIGATION SITE CONTROL DATA PLANS. THIS ELEVATION SHALL NOT BE CHANGED OR MODIFIED. THE MASTER CONTROL POINT SHALL NOT BE DISTURBED.*

15. *ANY NATIVE WOODY DEBRIS CLEARED ONSITE SHALL BE STOCKPILED AND PLACED INTO THE WETLAND FOLLOWING FINAL TOPSOIL GRADING AND BEFORE OR CONCURRENT TO SEEDING. COARSE WOODY DEBRIS SHOULD BE RANDOMLY DISTRIBUTED ACROSS THE BOTTOM OF THE SITE. THE CONTRACTOR SHALL CONSULT WITH DELDOT ENVIRONMENTAL OR THEIR DESIGNATED CONSULTANT FOR PLACEMENT.*

16. *REMOVAL OF DEBRIS IS INCIDENTAL TO ITEM 201000 - CLEARING AND GRUBBING.*

17. *REFER TO MASTER EARTHWORK SUMMARY FOR EARTHWORK DETAILS.*

18. *REMOVE WELLS AND ABANDON PER DNREC GUIDELINES. CONTRACTOR MUST CONTACT CENTURY ENGINEERING BEFORE REMOVAL OF WELLS TO RETRIEVE EQUIPMENT FROM WELLS:*
    EMAIL: MFETTERS@KLEINFELDER.COM
    PHONE: (302) 734 - 9188



LOCATION MAP
NOT TO SCALE

ADDENDA / REVISIONS							
	NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT: T202104204	BRIDGE NO. N/A		WETLAND MITIGATION SITE NOTES	SECTION: CEN
			COUNTY: KENT	DESIGNED BY: A. HALLER			SHEET NO.: 71
				CHECKED BY: L. HAXTON			

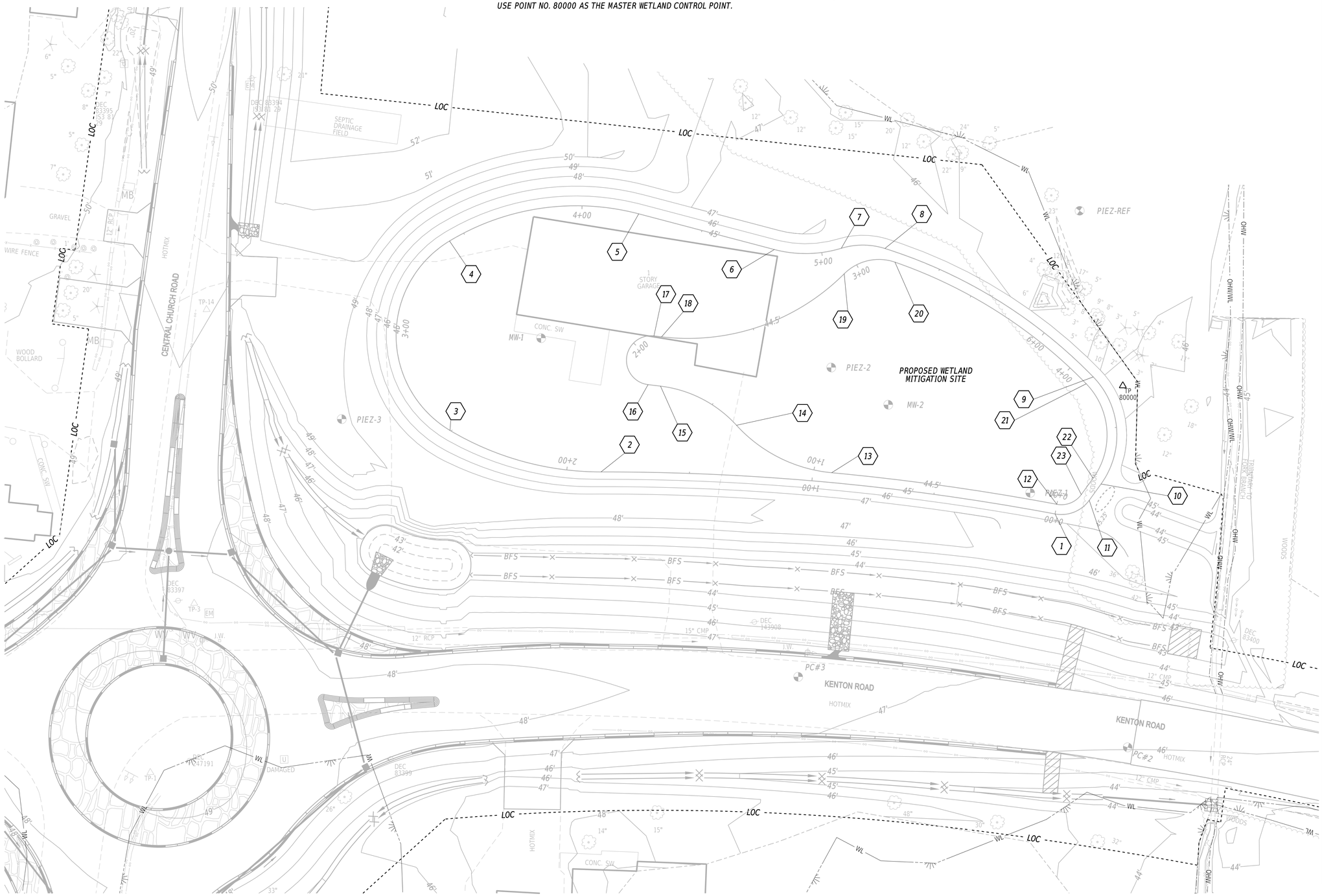
NOTE:

1. ALL MATERIALS AND LABOR NECESSARY TO CONSTRUCT AND INSTALL THE PVC PIPE, INCLUDING BUT NOT LIMITED TO A CAP, BENTONITE CLAY, PVC PIPE, FILTER MATERIAL, AND THREADED PVC PLUG, SHALL BE INCLUDED UNDER ITEM 202514 - PIEZOMETER.

WETLAND MITIGATION CONTROL POINT DATA

POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
TP-1	-	-	434246.9346	605587.9117	46.01
TP-3	-	-	434221.9388	605521.2113	49.59
TP-14	-	-	434157.2787	605420.3492	49.91
TP-80000	-	-	434480.6487	605231.2965	45.99

USE POINT NO. 80000 AS THE MASTER WETLAND CONTROL POINT.



EMBANKMENT BASELINE

POINT NO.	STATION	NORTHING	EASTING
1 PC	0+00.00	434488.0698	605289.9088
2 PRC	1+86.03	434326.8436	605382.1693
P1	0+93.29	434403.1362	605328.4888
			RADIUS = 996'
2 PC	1+86.03	434326.8436	605382.1693
3 PCC	2+50.60	434266.7881	605403.6906
P1	2+19.12	434299.7830	605401.2096
			RADIUS = 120'
3 PC	2+50.60	434266.7881	605403.6906
4 PCC	3+43.39	434222.2561	605340.6230
P1	3+25.71	434191.8866	605409.3227
			RADIUS = 45'
4 PC	3+43.39	434222.2561	605340.6230
5 PT	4+23.38	434278.9899	605287.2786
P1	3+85.67	434239.3479	605301.9593
			RADIUS = 100'
6 PC	4+80.51	434332.5666	605267.4376
7 PRC	5+08.15	434354.5997	605251.3370
P1	4+94.70	434345.8667	605262.5122
			RADIUS = 50'
7 PC	5+08.15	434354.5997	605251.3370
8 PCC	5+26.18	434369.1859	605241.2077
P1	5+17.45	434360.3235	605244.0126
			RADIUS = 30'
8 PC	5+26.18	434369.1859	605241.2077
9 PCC	6+26.92	434468.7287	605235.2679
P1	5+77.60	434418.2087	605225.6926
			RADIUS = 204'
9 PC	6+26.92	434468.7287	605235.2679
10 PT	6+74.44	434496.3939	605269.1515
P1	6+55.49	434496.7958	605240.5876
			RADIUS = 34'
11 PC	6+82.65	434496.2784	605277.3591
1 PT/POE	0+00.00	434488.0698	605289.9088
P1	6+91.53	434496.1535	605286.2368
			RADIUS = 14'

EMBANKMENT BASELINE

POINT NO.	STATION	NORTHING	EASTING
12 POB/PC	0+00.00	434486.4155	605286.2669
13 PRC	0+92.68	434403.9313	605328.4478
P1	0+46.37	434444.1954	605305.4448
			RADIUS = 1000'
13 PC	0+92.68	434403.9313	605328.4478
14 PRC	1+37.00	434361.0976	605334.9094
P1	1+15.90	434383.7650	605339.9687
			RADIUS = 60'
14 PC	1+37.00	434361.0976	605334.9094
15 PT	1+72.57	434326.5870	605339.6386
P1	1+55.58	434342.9636	605330.8619
			RADIUS = 50'
16 PC	1+77.68	434322.0852	605342.0513
17 PT	2+09.10	434312.6378	605324.4233
P1	1+93.39	434317.3615	605333.2373
			RADIUS = 10'
18 PC	2+12.24	434315.4061	605322.9397
19 PRC	2+93.69	434361.5359	605259.1817
P1	2+55.99	434353.9680	605302.2730
			RADIUS = 90'
19 PC	2+93.69	434361.5359	605259.1817
20 PCC	3+16.05	434375.7338	605243.4125
P1	3+06.20	434363.7008	605246.8547
			RADIUS = 20'
20 PCC	3+16.05	434375.7338	605243.4125
21 PCC	4+09.24	434467.9838	605239.1979
P1	3+63.51	434421.3588	605230.3609
			RADIUS = 200'
21 PCC	4+09.24	434467.9838	605239.1979
22 PT	4+51.17	434492.3943	605269.0952
P1	4+34.45	434492.7489	605243.8918
			RADIUS = 30'
23 PC	4+59.37	434492.2788	605277.3028
12 PT/POE	0+00.00	434486.4155	605286.2669
P1	4+65.72	434492.1896	605283.6441
			RADIUS = XX'

ADDENDA / REVISIONS

SCALE
0 20 40 60
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

WETLAND MITIGATION CONTROL & HORIZONATAL DATA

SECTION	CEN
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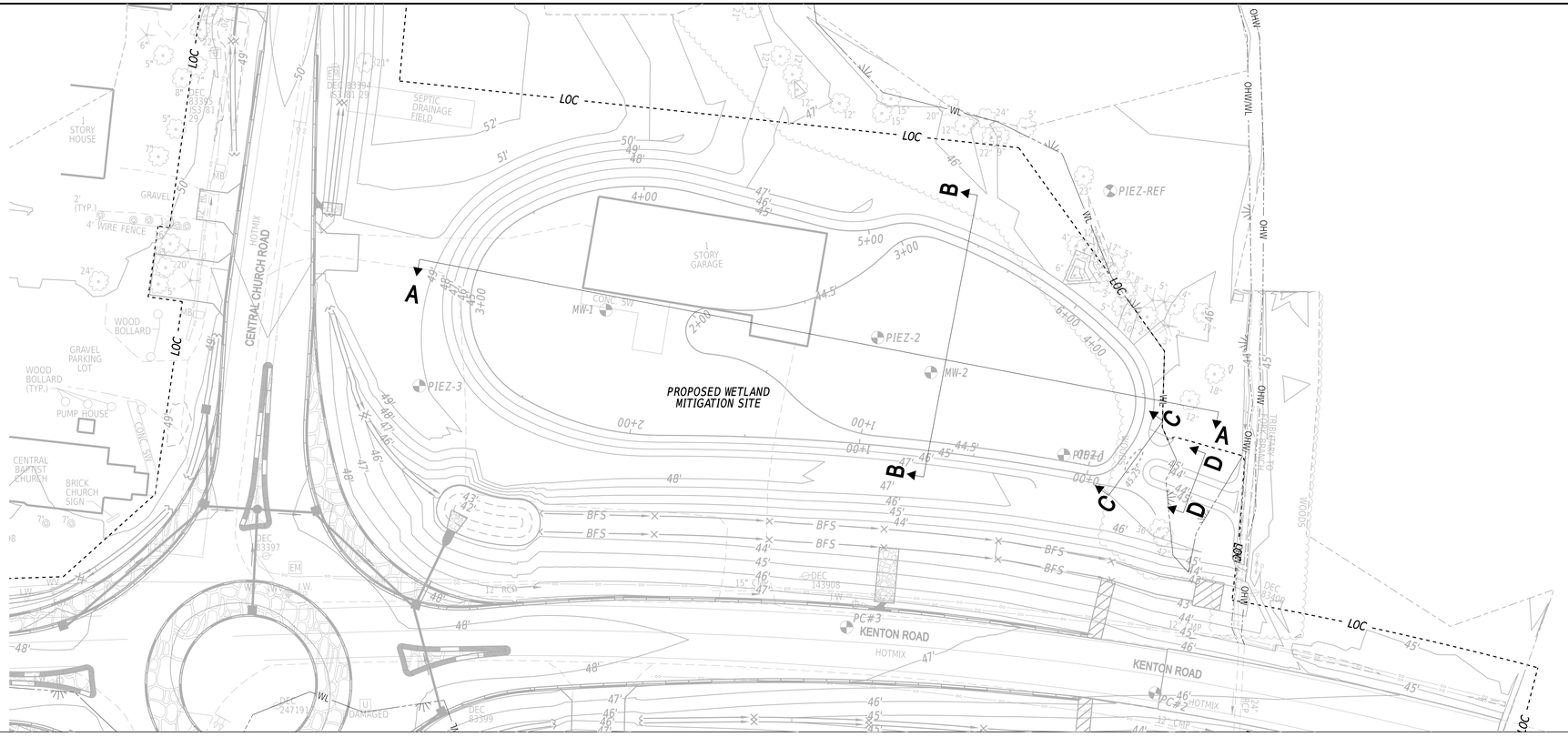
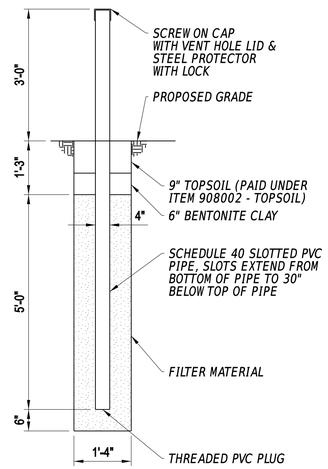
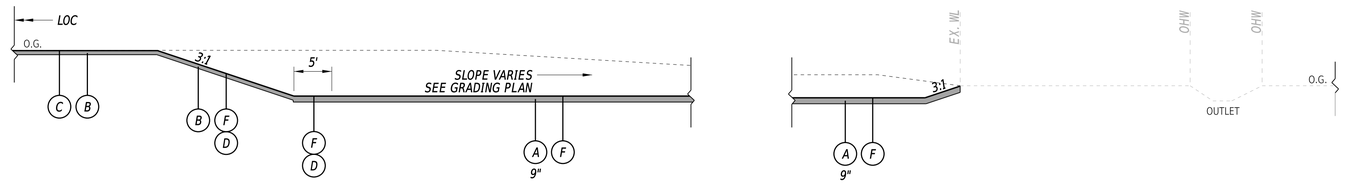
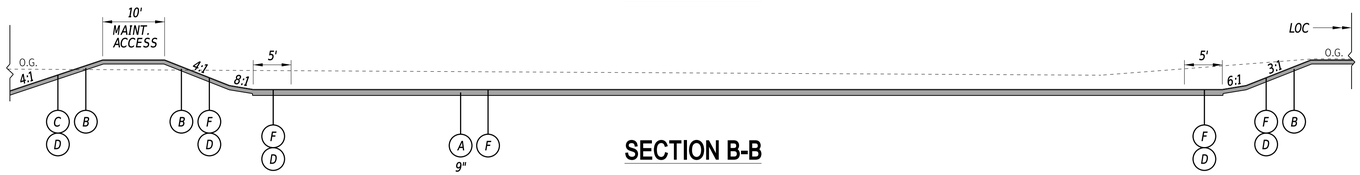




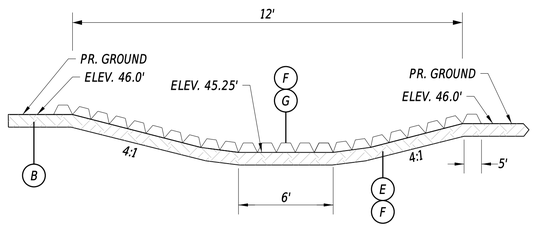
PIEZOMETER DETAIL



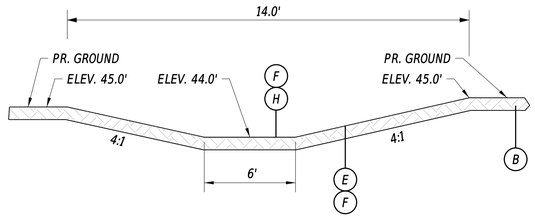
SECTION A-A



SECTION B-B



OUTLET SECTION C-C



OUTLET SECTION D-D

LEGEND

A	ITEM 908002	-	TOPSOIL
B	ITEM 908004	-	TOPSOIL, 6" DEPTH
C	ITEM 908015	-	PERMANENT GRASS SEEDING, STORMWATER
D	ITEM 908026	-	EROSION CONTROL MULCH
E	ITEM 908020	-	EROSION CONTROL BLANKET MULCH (SIDE SLOPES)
F	ITEM 908503	-	WETLAND MITIGATION SEED MIX
G	ITEM 908524	-	CONCRETE BLOCK LINING
H	ITEM 911509	-	MULCHING

ADDENDA / REVISIONS

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204	BRIDGE NO.	N/A
COUNTY	KENT	DESIGNED BY:	A. HALLER
		CHECKED BY:	L. HAXTON

WETLAND MITIGATION SITE TYPICAL SECTION

SECTION	
CEN	
SHEET NO.	
73	

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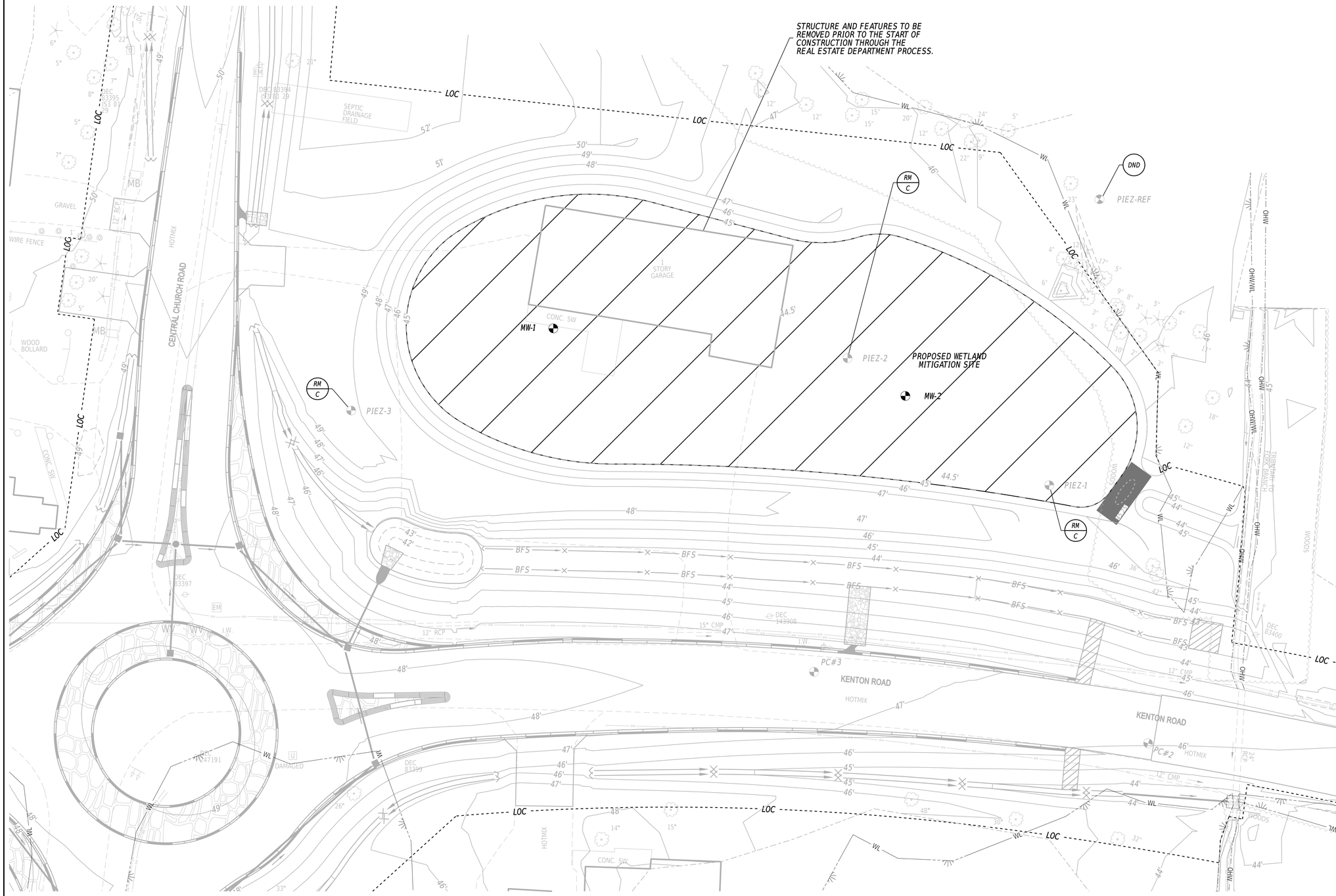
LEGEND

CONCRETE BLOCK LINING (22' X 10')

PROPOSED WETLAND AREA: 0.5957 AC.



EXISTING PIEZOMETER LOCATIONS

ID	NORTHING	EASTING
PIEZ-REF	434425.2900	605183.0510
PIEZ-1	434474.8369	605288.6768
PIEZ-2	434379.1642	605293.4626
PIEZ-3	434228.0058	605425.2573

PIEZOMETER LOCATIONS

ID	NORTHING	EASTING
MW-1	434273.4433	605353.0566
MW-2	434404.7991	605294.0032

ONCE THE FINAL GRADING FOR THE SITE HAS BEEN APPROVED, THE CONTRACTOR SHALL INSTALL THE NEW PIEZOMETERS AT LOCATIONS NOTED. THE PIEZOMETERS SHALL BE INSTALLED TO A DEPTH OF 6.25' BELOW THE EXISTING GRADE. THE INTERIOR SHALL BE OPEN SCREENED (SLITS IN THE WALL) TO WITHIN 18 INCHES OF THE SOIL SURFACE. PROTECTIVE CASING AROUND THE WELL SHALL EXTEND TO A DEPTH OF 18 INCHES. PAID FOR UNDER ITEM 202514 - PIEZOMETER.

ADDENDA / REVISIONS

SCALE
0 20 40 60
FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

WETLAND MITIGATION SITE PLAN

SECTION
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74

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WETLAND BOTTOM AND SIDE SLOPE PLANTING TABLE

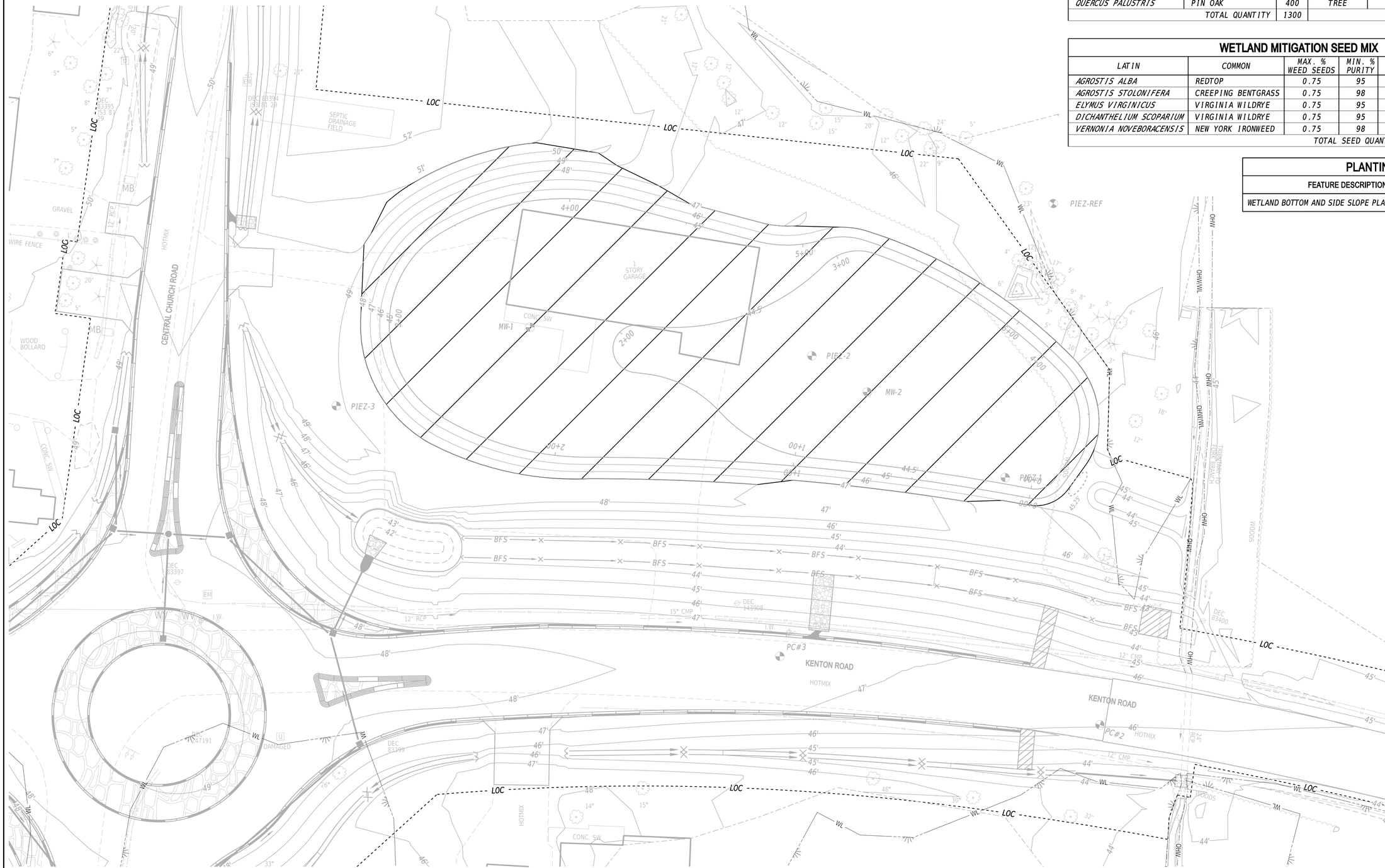
LATIN	COMMON	QTY	STRATUM	NOTES
ILEX VERTICILLATA	WINTERBERRY	100	SHRUB	
NYSSA SYLVATICA	BLACKGUM	200	TREE	
PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	200	TREE	
QUERCUS BICOLOR	SWAMP WHITE OAK	400	TREE	
QUERCUS PALUSTRIS	PIN OAK	400	TREE	
	TOTAL QUANTITY	1300		

WETLAND MITIGATION SEED MIX

LATIN	COMMON	MAX. % WEED SEEDS	MIN. % PURITY	MIN. % GERMINATION	SEEDING RATE (LB/AC)
AGROSTIS ALBA	REDTOP	0.75	95	90	20.0
AGROSTIS STOLONIFERA	CREEPING BENTGRASS	0.75	98	90	12.0
ELYMUS VIRGINICUS	VIRGINIA WILDRYE	0.75	95	90	15.0
DICHANTHELIUM SCOPARIUM	VIRGINIA WILDRYE	0.75	95	90	5.0
VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED	0.75	98	90	0.5
				TOTAL SEED QUANTITY (LB/AC)	52.5

PLANTING TYPE

FEATURE DESCRIPTION	PROPOSED
WETLAND BOTTOM AND SIDE SLOPE PLANTING (0.7589 AC.)	



ADDENDA / REVISIONS		SCALE 0 20 40 60 FEET	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	WETLAND MITIGATION LANDSCAPING PLAN	SECTION CEN
				COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 75
					CHECKED BY: L. HAXTON		

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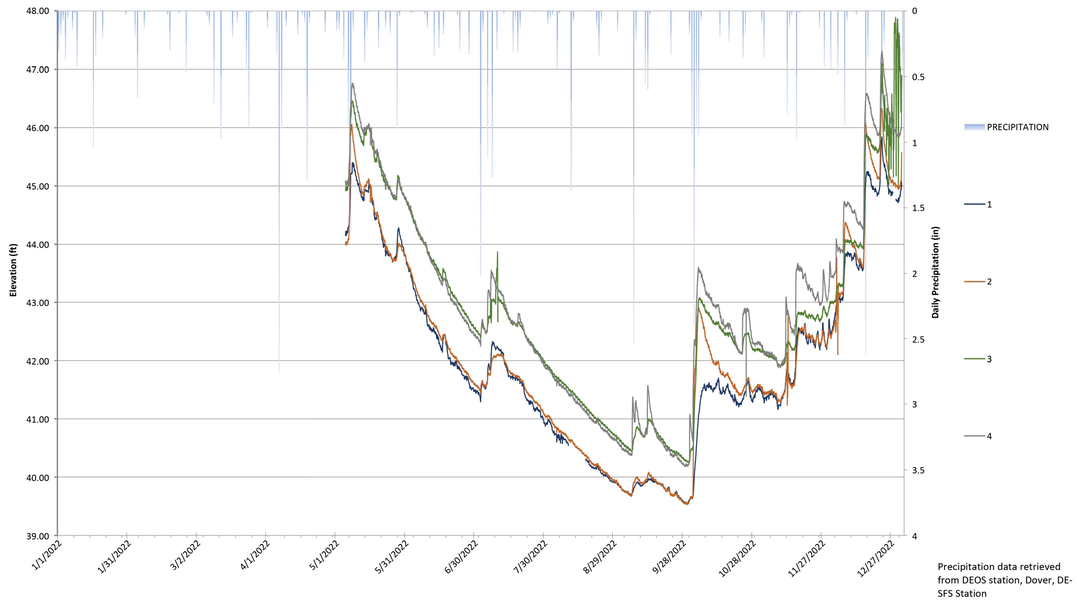
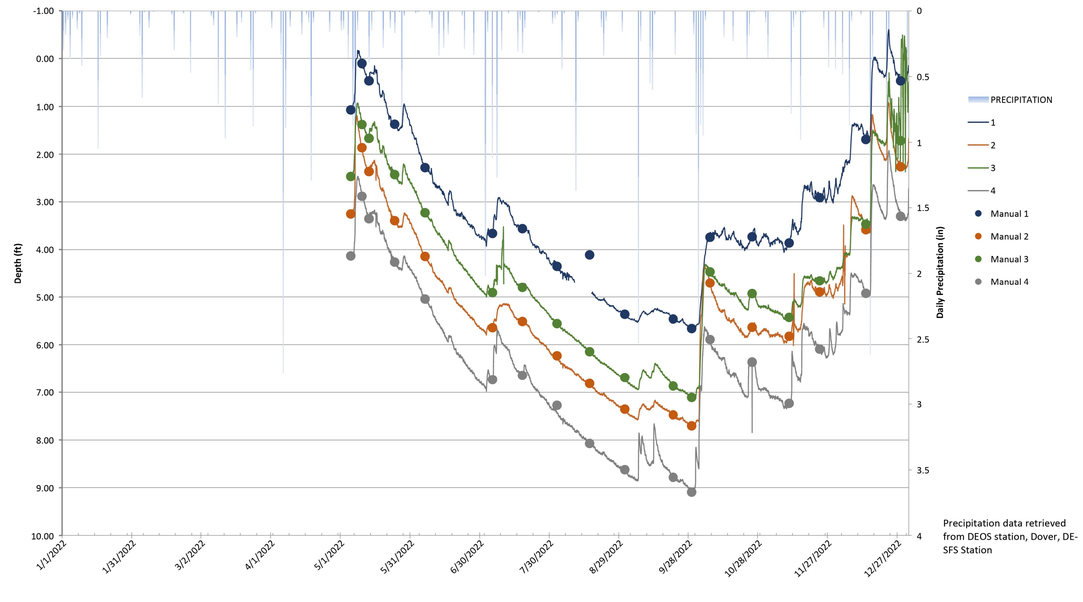
Kenton Road at Central Church 2022 (May 5—December 31) Groundwater Elevations



Precipitation data retrieved from DEOS station, Dover, DE-SFS Station

Kenton Road at Central Church 2022 (May 5—December 31) Groundwater Depths



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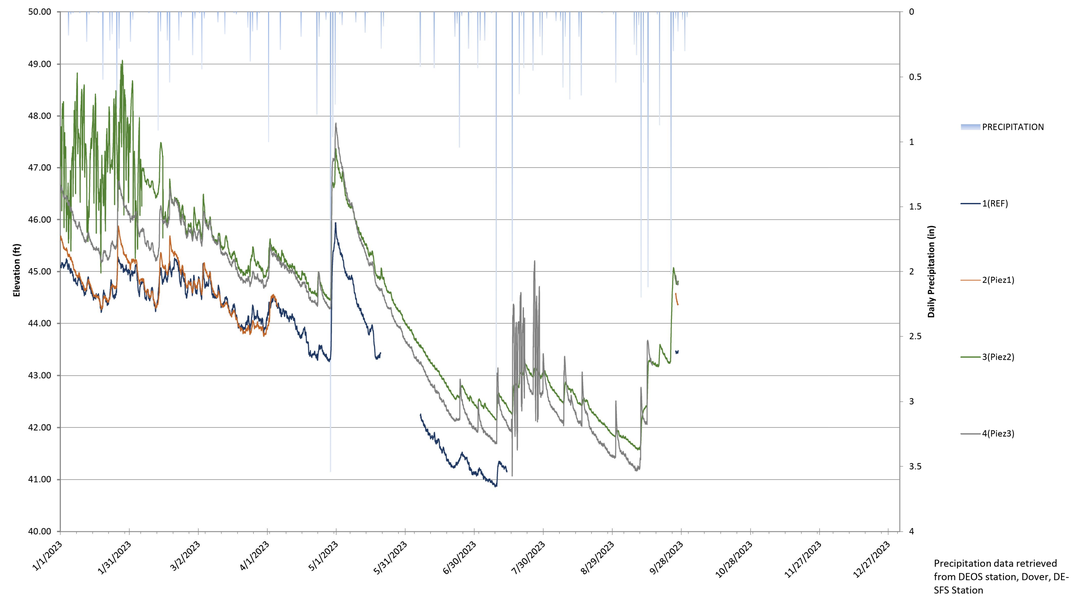
Kenton Road at Central Church 2023 (January 1—December 31) Groundwater Elevations



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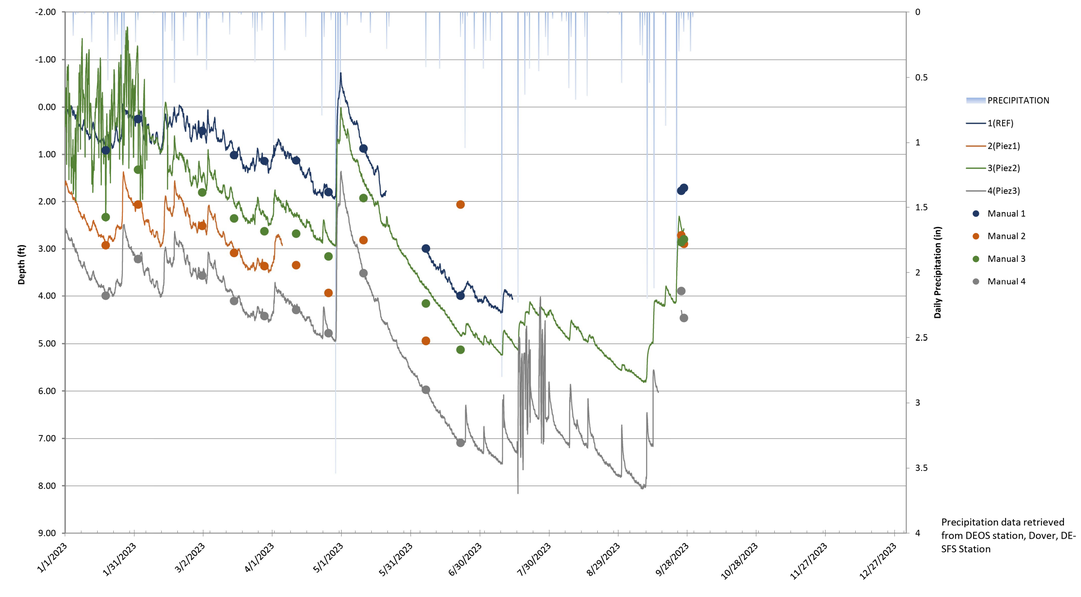
Kenton Road at Central Church 2023 (January 1—December 31) Groundwater Depths



Precipitation data retrieved from DEOS station, Dover, DE-SFS Station

ADDENDA / REVISIONS

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

WETLAND MITIGATION SUBSURFACE INVESTIGATIONS WATER LEVELS

SECTION
CEN
SHEET NO.
76

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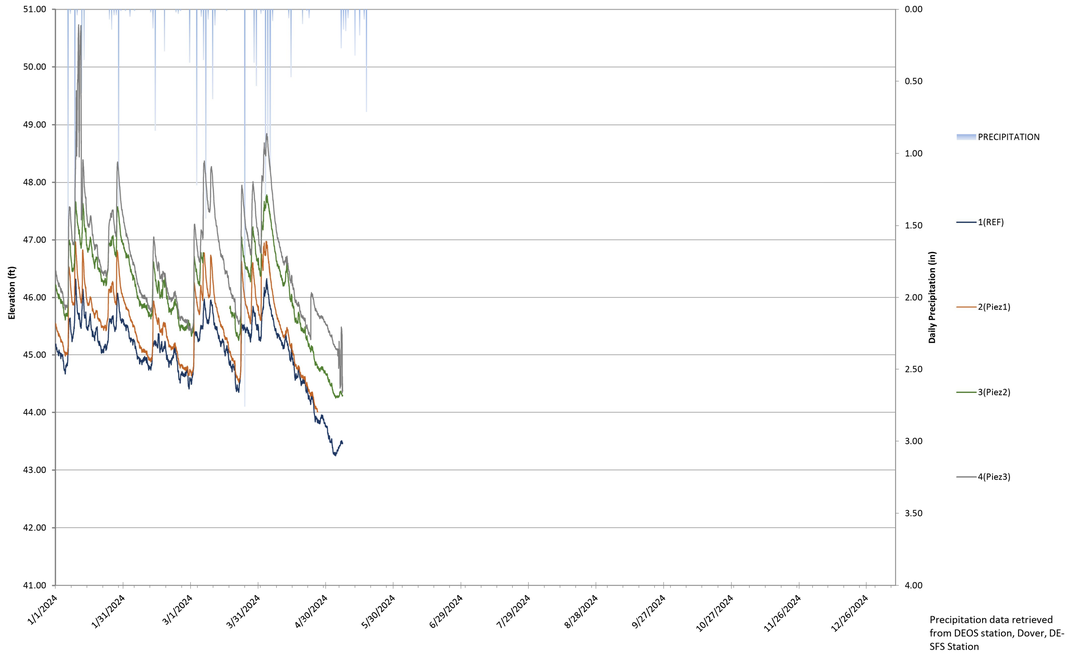
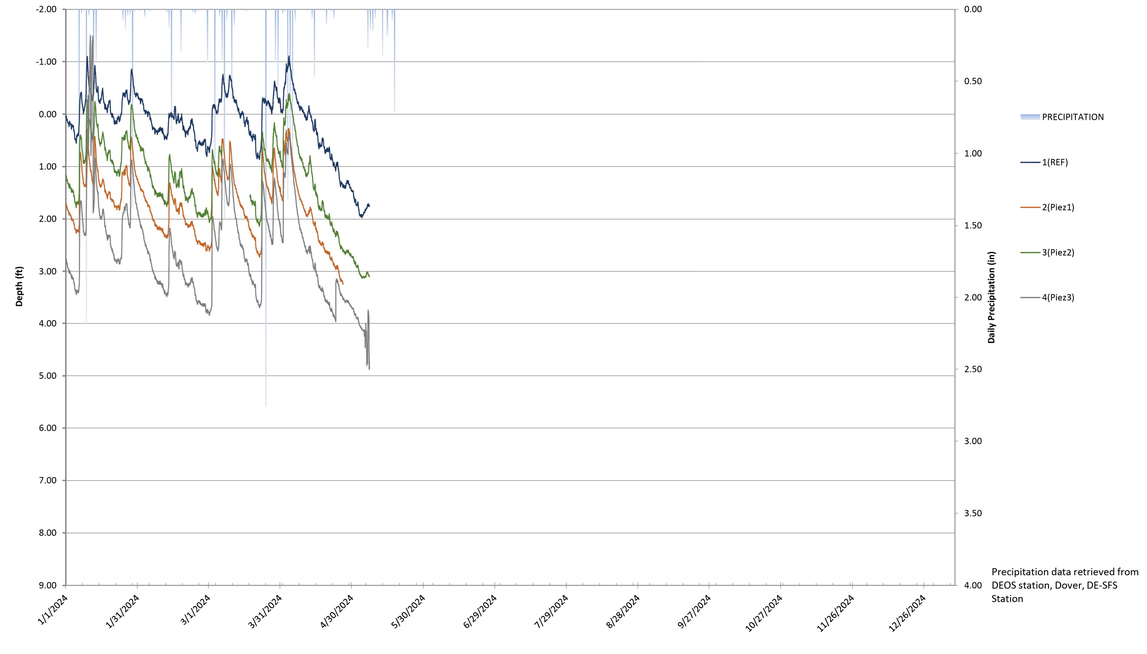
Kenton Road at Central Church 2024 (January 1—December 31) Groundwater Elevations



Precipitation data retrieved from DEOS station, Dover, DE-SFS Station

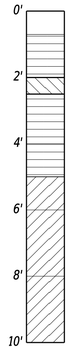
Kenton Road at Central Church 2024 (January 1—December 31) Groundwater Depths



Precipitation data retrieved from DEOS station, Dover, DE-SFS Station

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	WETLAND MITIGATION SUBSURFACE INVESTIGATIONS WATER LEVELS	SECTION CEN
				COUNTY KENT	DESIGNED BY: A. HALLER		SHEET NO. 77
					CHECKED BY: L. HAXTON		

PIEZ-REF
ELEV. 45.22'



DARK CLAY W/ ROOTS AND ORGANIC MATTER
@8" GREY CLAY W/ MOTTLING
PLASTIC, DAMP

MEDIUM-COARSE SAND, WET
@2'-6" BLACK TO GREY MOTTLED CLAY,
DENSE

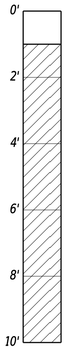
BLACK TO GREY MOTTLED CLAY, DENSE
@5' FINE-MEDIUM SAND MOTTLING W/ SOME
SILT VERY FINE SAND @ BOTTOM W/ SMALL ROCK,
DAMP-WET

VERY WET MEDIUM-COARSE BEIGE SAND,
TRACE SILT, LOOSE

VERY WET MEDIUM-COARSE BEIGE SAND,
TRACE SILT, LOOSE
@9'-8" VERY WET MEDIUM-COARSE LIGHT BEIGE
SAND, TRACE SILT, LOOSE

WATER LEVEL
AT 43.22'

PIEZ-1
ELEV. 47.25'



TOPSOIL, DARK BROWN, SILT W/ SOME SAND
@12" FINE-MEDIUM SANDY SILT, DARK GREY

SILTY SAND, SOME CLAY MOTTLING
GREYISH/ORANGE, TIGHT/DENSE,
DAMP

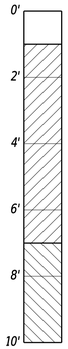
FINE-MEDIUM SAND W/ SILT, DARK GREY/BLACK
@4'-6" FINE-MEDIUM SAND W/ SOME SILT,
LIGHT GREY, DAMP-WET

SANDY SILT, LIGHT GREY, DENSE/DAMP
@7' SILTY FINE-MEDIUM SAND, LIGHT GREY, WET

SILTY MEDIUM SAND, RARE SMALL GRAVEL,
LIGHT GREY, VERY WET

WATER LEVEL
AT 40.25'

PIEZ-2
ELEV. 47.39'



TOPSOIL, DAMP
@12" SANDY SILT W/ SOME GRAVEL

DARK BROWN SANDY SILT
@3' FINE-MEDIUM SAND W/ SOME SILT,
DAMP - WET - TACKY

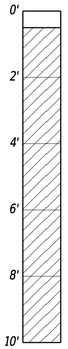
ROOTS/ORGANICS PRESENT
@5' FINE-MEDIUM GREY SAND, DAMP

DENSE/TIGHT FINE-MEDIUM SAND W/
SOME SILT
@7' MEDIUM-COARSE SAND, LIGHT GREY,
DAMP-WET

MEDIUM-COARSE SAND, CLEAN, WET

WATER LEVEL
AT 39.39'

PIEZ-3
ELEV. 49.23'



FLUFFY/LOOSE TOPSOIL
@6" GRETISH BROWN SILT W/ SOME
FINE SAND, DRY

DARK BROWN SILT
@3' REDDISH BROWN SILT W/ SOME SAND,
MOTTLING, DRY

REDDISH BROWN SILT W/ SOME SAND,
MOTTLING, DENSE, DAMP
(SOME WOOD FRAGS AT 4'-6")

REDDISH BROWN SILT W/ SOME SAND,
MOTTLING, DENSE, DAMP
@6'-6" BEIGE MEDIUM-COARSE SAND W/
SOME SILT, DAMP

BEIGE COARSE SAND W/
SOME SILT, STICKY/TACKY,DAMP-WET

WATER LEVEL
AT 35.23'

UNIFIED SOIL CLASSIFICATION SYSTEM

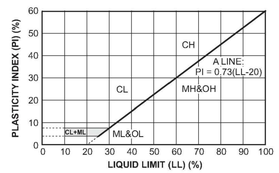
UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART			
COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
Clean Gravels (Less than 5% fines)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
Gravels with fines (More than 12% fines)			
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
Clean Sands (Less than 5% fines)			
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size		SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
Sands with fines (More than 12% fines)			
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

LABORATORY CLASSIFICATION CRITERIA		
GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent ..... GW, GP, SW, SP
More than 12 percent ..... GM, GC, SM, SC
5 to 12 percent ..... Borderline cases requiring dual symbols

PLASTICITY CHART



ADDENDA / REVISIONS

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	T202104204
COUNTY	KENT
BRIDGE NO.	N/A
DESIGNED BY:	A. HALLER
CHECKED BY:	L. HAXTON

WETLAND MITIGATION SUBSURFACE INVESTIGATIONS SOIL BORINGS

SECTION	CEN
SHEET NO.	78

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GENERAL NOTES

1. THESE DRAWINGS DO NOT INCLUDE NECESSARY ELEMENTS OF CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE COMPLETED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT, AND ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.

2. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST INFORMATION CURRENTLY AVAILABLE. LOCATIONS ARE NOT BASED ON A FIELD SURVEY. THE CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.

3. THE CONTRACTOR SHALL PROTECT ALL UTILITIES DURING CONSTRUCTION. ANY UTILITY DAMAGED SHALL BE PROMPTLY AND FULLY RESTORED TO THE SATISFACTION OF THE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.

4. THE CONTRACTOR SHALL PLAN AND IMPLEMENT ALL NECESSARY REQUIREMENTS OF THE DELAWARE UNDERGROUND UTILITY DAMAGE PREVENTION AND SAFETY ACT.

5. THE CONTRACTOR SHALL PROVIDE EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE SEDIMENT CONTROL ACT. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK OR DELDOTS REQUIREMENTS, WHICHEVER IS MORE RESTRICTIVE, AND ALL APPLICABLE LOCAL REQUIREMENTS.

6. TRAFFIC AND SAFETY CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION IN CONFORMANCE WITH THE CURRENT VERSION OF THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL (MUTCD).

7. ALL WORK WITHIN STATE RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH STATE OF DELAWARE STANDARDS.

8. FOR ROAD CROSSING WITH STEEL CASING, THE CASING SHALL EXTEND A MINIMUM 5 FEET BEYOND EDGE OF PAVEMENT.

9. ROAD PLATING IS NOT PERMITTED FROM NOVEMBER 1 THROUGH APRIL 15 OR AS APPROVED BY THE ENGINEER.

10. ALL OPEN CUT ROAD AND DRIVEWAY CROSSINGS THAT ARE WITHIN 4 FEET OF AN EXISTING PAVEMENT/ CONCRETE SEAM SHALL BE RESTORED TO THE SEAM.

11. ALL DRIVEWAYS SHALL BE RESTORED "IN KIND".

12. ALL FIRE LANES, FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE STATE FIRE PREVENTION REGULATIONS.

13. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SANITARY SEWER. WATER MAINS CROSSING SANITARY SEWER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE WATER MAIN AND THE SEWER. CROSSINGS SHALL BE ARRANGED SO THAT THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM SEWER MAIN JOINTS.

14. WATER MAINS SHALL HAVE A MINIMUM 4' OF COVER.

15. IF PIPE DEFLECTION IS NEEDED: MAX 1° AXIAL JOINT DEFLECTION IS PERMITTED AS WELL AS 1° MAX LONGITUDINAL PIPE DEFLECTION FOR A TOTAL OF 2° MAX DEFLECTION. THE JOINT MUST BE RESTRAINTED IF THE PIPE IS TO BE LONGITUDINALLY DEFLECTED.

16. NOTIFY MISS UTILITY (800) 282-8555 3 WORKING DAYS, BUT NO MORE THAN 10 WORKING DAYS, PRIOR TO ANY EXCAVATION OR DEMOLITION ACTIVITIES.

17. ALL WORK MUST BE COORDINATED WITH TIDEWATER UTILITIES PRIOR TO EXECUTION OF WORK.

18. ADJUST ALL VALVE BOXES TO FINAL GRADE.

19. ALL ABANDONED WATER MAIN IS TO BE FLOWABLE FILLED, PLUGGED AND CAPPED IN PLACE, VALVES SHUT AND VALVE BOXES AND HYDRANTS REMOVED. 3M 1403-XR BALL MARKERS (OR APPROVED EQUAL) SHALL BE INSTALLED AT EACH END OF ABANDONED MAIN.

20. ALL EXISTING WATER MAIN SHALL REMAIN ACTIVE UNTIL SUCH TIME AS NEW WATER MAIN IS APPROVED FOR OPERATION BY DHSS-OFFICE OF DRINKING WATER, THE NEW WATER MAIN IS PUT INTO SERVICE AND NEW SERVICES CAN BE ACTIVATED.

21. CONTRACTOR SHALL MARK ALL EASEMENTS AND RIGHTS OF WAY PRIOR TO WORK.

22. PROPOSED WORK AT CONNECTION POINTS TO STAY WITHIN EASEMENTS AND RIGHTS OF WAY.

23. PIPE FITTINGS SHOWN IN THIS PLAN ARE APPROXIMATE, ADDITIONAL FITTINGS REQUIRED DURING CONSTRUCTION SHALL BE PROVIDED AND INSTALLED, ALL COSTS ARE INCIDENTAL TO ITEM 710601.

24. RECOMMENDED STEEL CASING DIAMETER:

PIPE	CASING
6"	12"
8"	16"
10"	20"
12"	24"
16"	30"
20"	36"
24"	36"

OTHER DIAMETERS MEETING THE REQUIREMENTS OF CONSTRUCTION DETAIL A-12 MAY BE PERMITTED WITH TIDEWATER APPROVAL.

WATER RELOCATION PROJECT NOTES:

1. CONSTRUCTION DEWATERING
   - A. ALL DEWATERING EQUIPMENT SUCH AS PUMPS, AIR COMPRESSORS, GENERATORS, ETC. PROPOSED FOR USE DURING CONSTRUCTION IN RESIDENTIAL AREAS SHALL BE PROVIDED WITH NOISE ENCLOSURES. ALL COSTS INCIDENTAL TO ITEM 710601.
   - B. THERE IS NO DEWATERING PERMIT FOR THIS PROJECT. IF THE CONTRACTOR CONSIDERS THAT, AS PART OF ITS MEANS AND METHODS OF CONSTRUCTION, A DEWATERING PERMIT IS REQUIRED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SECURE THE REQUIRED PERMIT IN ORDER TO PROCEED WITH THE EXECUTION OF THE CONSTRUCTION. CONTRACTORS REQUIRED TO SUBMIT DEWATERING PLAN. ALL COSTS INCIDENTAL TO ITEM 710601.

2. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND IMPROVEMENTS NOT DESIGNATED FOR REMOVAL AND SHALL RESTORE DAMAGED OR TEMPORARILY RELOCATED UTILITIES AND IMPROVEMENTS TO A CONDITION EQUAL TO OR BETTER THAN THEY WERE PRIOR TO SUCH DAMAGE OR TEMPORARY RELOCATION, ALL IN ACCORDANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS.

3. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES SHOWN AND THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS OF ALL UTILITIES THAT MAY INTERFERE WITH THE WORK. ALL SUCH EXPLORATORY EXCAVATIONS SHALL BE PERFORMED AS SOON AS PRACTICABLE AFTER AWARD OF CONTRACT AND, IN ANY EVENT, A SUFFICIENT TIME IN ADVANCE OF CONSTRUCTION TO AVOID POSSIBLE DELAYS TO THE CONTRACTOR'S WORK. WHEN SUCH EXPLORATORY EXCAVATIONS SHOW THE UTILITY LOCATION AS SHOWN TO BE IN ERROR, THE CONTRACTOR SHALL SO NOTIFY TIDEWATER AND DELDOT. ALL COSTS INCIDENTAL TO 710601.

4. THE CONTRACTOR MAY BE REQUIRED TO COORDINATE THE BRACING OF UTILITY POLES WITH THE UTILITY OWNER. ANY REQUIRED ELECTRICAL OUTAGES SHALL BE INCLUDED IN THE CONTRACTOR'S CPM SCHEDULE AND ARE INCIDENTAL TO THE WORK BEING PERFORMED. THE CONTRACTOR WILL BE WORKING IN CLOSE PROXIMITY TO EXISTING OVERHEAD UTILITIES AND PROPER EQUIPMENT SHALL BE UTILIZED TO AVOID IMPACTS TO THE EXISTING FACILITY. ALL COSTS ARE INCIDENTAL TO THE CONTRACT AND WILL NOT BE CONSIDERED FOR ADDITIONAL TIME EXTENSIONS OR CAUSE FOR CONTRACT DELAY OR ADDITIONAL COMPENSATION.

5. CONTRACTOR SHALL INSTALL THRUST BLOCKS PER TIDEWATER STANDARDS AND ALL COSTS ARE INCIDENTAL TO ITEM 710601.

6. CONTRACTOR MAY BE REQUIRED TO MODIFY THRUST BLOCKS AS DETERMINED BY THE ENGINEER AND OWNER IN THE FIELD.

7. REMOVAL OF EXISTING CONCRETE THRUST BLOCKS ARE INCIDENTAL TO ITEM 710601.

8. CONTRACTOR SHALL STAKE ELEVATION AND LOCATION OF PROPOSED WATER LINE FOR APPROVAL BY ENGINEER PRIOR TO INSTALLATION. CONTRACTOR SHALL AS-BUILT INSTALLED WATER LINE AT THE END OF EACH WORK DAY. ALL COSTS ARE INCIDENTAL TO ITEM 710601.

9. THE CONTRACTOR SHALL FOLLOW THE APPROVED PLAN FOR LAYOUT OF THE PROPOSED FACILITIES. IF THE CONTRACTOR DEVIATES FROM THE PLAN AND A CONFLICT IS PRODUCED, NO ADDITIONAL COMPENSATION OR TIME EXTENSIONS SHALL BE PROVIDED TO RESOLVE.

EXISTING UNDERGROUND UTILITIES COORDINATION NOTES:

1. THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON PLANS HAS BEEN OBTAINED FROM INFORMATION SUPPLIED BY DELDOT. NEITHER THE OWNER OR THE ARCHITECT/ENGINEER ASSUMES ANY RESPONSIBILITY IN RESPECT TO ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION SHOWN. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIALS OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED DURING CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH UTILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER OF HIS OPERATIONAL PLANS. IN THE EVENT OF AN UNEXPECTED UTILITY INTERFERENCE DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER. ANY SUCH MAINS AND/OR SERVICES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.

2. PRIOR TO PERFORMING ANY EXCAVATION GREATER THAN 6 INCHES, THE CONTRACTOR SHALL COORDINATE WITH TIDEWATER UTILITIES AND ALL OTHER UTILITY COMPANIES TO DETERMINE THE LOCATION OF UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL ORGANIZATIONS THAT CONTROL EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA OR WOULD BE AFFECTED BY CONSTRUCTION WORK AROUND THE EXISTING UTILITIES.

3. THE CONTRACTOR SHALL NOT START EXCAVATION UNTIL ALL UTILITY LINE LOCATIONS HAVE BEEN STAKED OR OTHERWISE CLEARLY MARKED AND DOCUMENTATION FURNISHED TO THE OWNER. ALL MARKINGS SHALL BE CONSIDERED APPROXIMATE, AND UTILITIES OTHER THAN THOSE SHOWN SHALL BE CONSIDERED TO EXIST.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEFINITE LOCATION OF EACH UTILITY WITHIN THE WORK AREA. CARE SHALL BE EXERCISED DURING EXCAVATION WORK TO AVOID DAMAGING OR DISRUPTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REPAIR FOR DAMAGE TO ANY UTILITY CAUSED BY THE CONTRACTOR'S WORK.

5. WHERE EXISTING UNDERGROUND UTILITIES OR OTHER CONSTRUCTION ARE EXPECTED TO BE IN PROXIMITY TO PROPOSED CONSTRUCTION, OR WHEN APPROACHING EXISTING UTILITIES OR STRUCTURES FOR CONNECTIONS, THE CONTRACTOR SHALL DIG TEST PITS TO DETERMINE THE EXACT LOCATION AND INVERTS OF THE EXISTING UTILITY TO ALLOW FOR POSSIBLE CHANGES TO THE PROPOSED UTILITY IN LINE AND/OR GRADE. THE CONTRACTOR SHALL ALSO DIG TEST PITS IN THE LOCATION OF THE PROPOSED CONNECTIONS TO EXISTING UTILITIES AND SHALL MAKE ALL MEASUREMENTS NECESSARY TO ENSURE PROPER CONNECTION. ANY NECESSARY CHANGES IN LINE OR GRADE OF WORK CAUSED BY FAILURE TO TAKE SUCH PRECAUTIONS SHALL BE AT THE EXPENSE OF THE CONTRACTOR. ALL COSTS ARE INCIDENTAL TO 710601.

6. WHEN IT IS NECESSARY TO EXCAVATE NEAR OR INTERFERE WITH ANY UTILITY, SEWER LINE, WATER SERVICES, DRAINAGE PIPE, CATCH BASIN, CULVERT, OR OTHER STRUCTURES, THE CONTRACTOR SHALL MAINTAIN THE SAME IN WORKING ORDER AND SHALL REPAIR AND MAKE GOOD ANY DAMAGE DONE DURING THE PROGRESS OF THE WORK AT THE EXPENSE OF THE CONTRACTOR.

7. WHERE EXISTING UTILITIES CROSS THE TRENCH EXCAVATION, THEY SHALL BE ADEQUATELY SUPPORTED AND PROTECTED FROM DAMAGE DUE TO CONSTRUCTION. ALL METHODS FOR SUPPORTING AND MAINTAINING THESE UTILITIES SHALL BE SUBJECT TO REVIEW BY THE UTILITY OWNER. CARE SHALL BE TAKEN TO ENSURE THAT THE EXISTING UTILITY GRADES AND ALIGNMENT ARE MAINTAINED AND ANY PIPE JOINTS ARE NOT DISTURBED. BACKFILL SHALL BE CAREFULLY PLACED AND TAMPED TO PREVENT DAMAGE OR FUTURE SETTLEMENT. ANY DAMAGE OR MISALIGNMENT OF THE UTILITIES DUE TO CONSTRUCTION OR SETTLEMENT SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. ALL COSTS FOR SUPPORTING OR BRACING UTILITIES UNDERGROUND OR AERIAL ARE INCIDENTAL TO ITEM 710601.

8. ANY UNPROTECTED CABLE (DIRECT BURIED) ENCOUNTERED THAT IS VERIFIED AS NOT ABANDONED IN PLACE SHALL BE PROTECTED. THE UTILITY OWNER MAY DIRECT THE CABLE BE PLACED IN SPLIT DUCT OF APPROPRIATE SIZE AND CONCRETE ENCASED THROUGH THE AREA OF CONSTRUCTION. CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO AVOID HAVING TO CUT AND SPLICE DIRECT BURIED CABLE. THE CONTRACTOR SHALL NOTE SPLIT DUCT PORTIONS ON AS-BUILTS. ALL COSTS ARE INCIDENTAL TO THE ITEM BEING PLACED THAT NECESSITATED THE UTILITY PROTECTION.

9. ALL SUITABLE EXCESS EXCAVATED MATERIALS SHALL BE USED AS TRENCH BACKFILL AND ANY EXCESS SHALL BE DISPOSED OF OFFSITE. ALL COSTS FOR EXCAVATION, BACKFILL, BACKFILLING AND DISPOSAL ARE INCIDENTAL TO ITEM 710601.

10. INTERRUPTION OF EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND/OR AT THE DIRECTION OF THE UTILITY OWNER(S). PROPER NOTIFICATION SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVAL RECEIVED FROM THE UTILITY OWNER, PRIOR TO INTERRUPTION OF ANY UTILITIES.

INDEX OF SHEETS

LEGEND

	UTILITY TEST HOLE LOCATION
F.H.	EXISTING FIRE HYDRANT
W.M.	EXISTING WATER METER
W.V.	EXISTING WATER VALVE
F.H.	PROPOSED FIRE HYDRANT
W.M.	PROPOSED WATER METER
W.V.	PROPOSED WATER VALVE

ADDENDA / REVISIONS	

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

TIDEWATER WATER RELOCATION NOTES

TW-01
SECTION
CEN
SHEET NO.
79

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LUMP SUM BREAKDOWN FOR ITEM 710601;
INSTALLATION OF WATER MAIN AND ACCESSORIES;
HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS
DELDOT CONTRACT T202104204

SECTION DESIGNATION	ITEM NUMBER	PIPE SIZE AND TYPE	LENGTH	CASING *RECOMMENDED DIAMETER, SEE GENERAL NOTE 24 FOR REQUIREMENTS	TOP OF PIPE EL IN	TOP OF PIPE EL OUT	REQUIRED HYDRANTS, VALVES, & APPURTENANCES
TU-1 STATION 1000+00 TO STATION 1004+71.51 STATION 1100+00 TO STATION 1101+95.02 (ALL BENDS AND FITTINGS SHALL BE INCIDENTAL TO THE LINEAR FEET OF PIPE BEING INSTALLED)	710601	12" PVC C909 CL235	667 LF	24" STEEL @ 53 FT*	44.00'	44.01'	2 EA, GATE VALVE 12" 1 EA, FIRE HYDRANT ASSEMBLY 2 EA, 2" TEMPORARY BLOW-OFF W/CURBSTOP 1 EA, CONNECT TO EXISTING 12" MAIN (KENTON RD.) 1 EA, CONNECT TO EXISTING 12" MAIN (CENTRAL CHURCH RD.)
TU-2 STATION 1004+71.51 TO STATION 1005+62.49 (ALL BENDS AND FITTINGS SHALL BE INCIDENTAL TO THE LINEAR FEET OF PIPE BEING INSTALLED)	710601	12" PVC C909 CL235	91 LF	N/A	42.00'	40.47'	1 EA, CONNECT TO EXISTING 12" MAIN
TU-3 ADDITIONAL ITEMS STATION 109+40	710601	N/A	N/A	N/A	N/A	N/A	1 EA, 12"X6" WET TAP (FOR HYDRANT) 1 EA, FIRE HYDRANT (EXCLUDES HYDRANT TEE AND VALVE)

ADDENDA / REVISIONS

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT T202104204
COUNTY KENT

BRIDGE NO. N/A
DESIGNED BY: A. HALLER
CHECKED BY: L. HAXTON

TIDEWATER WATER RELOCATION ITEM SCHEDULE

TW-02
SECTION CEN
SHEET NO. 80

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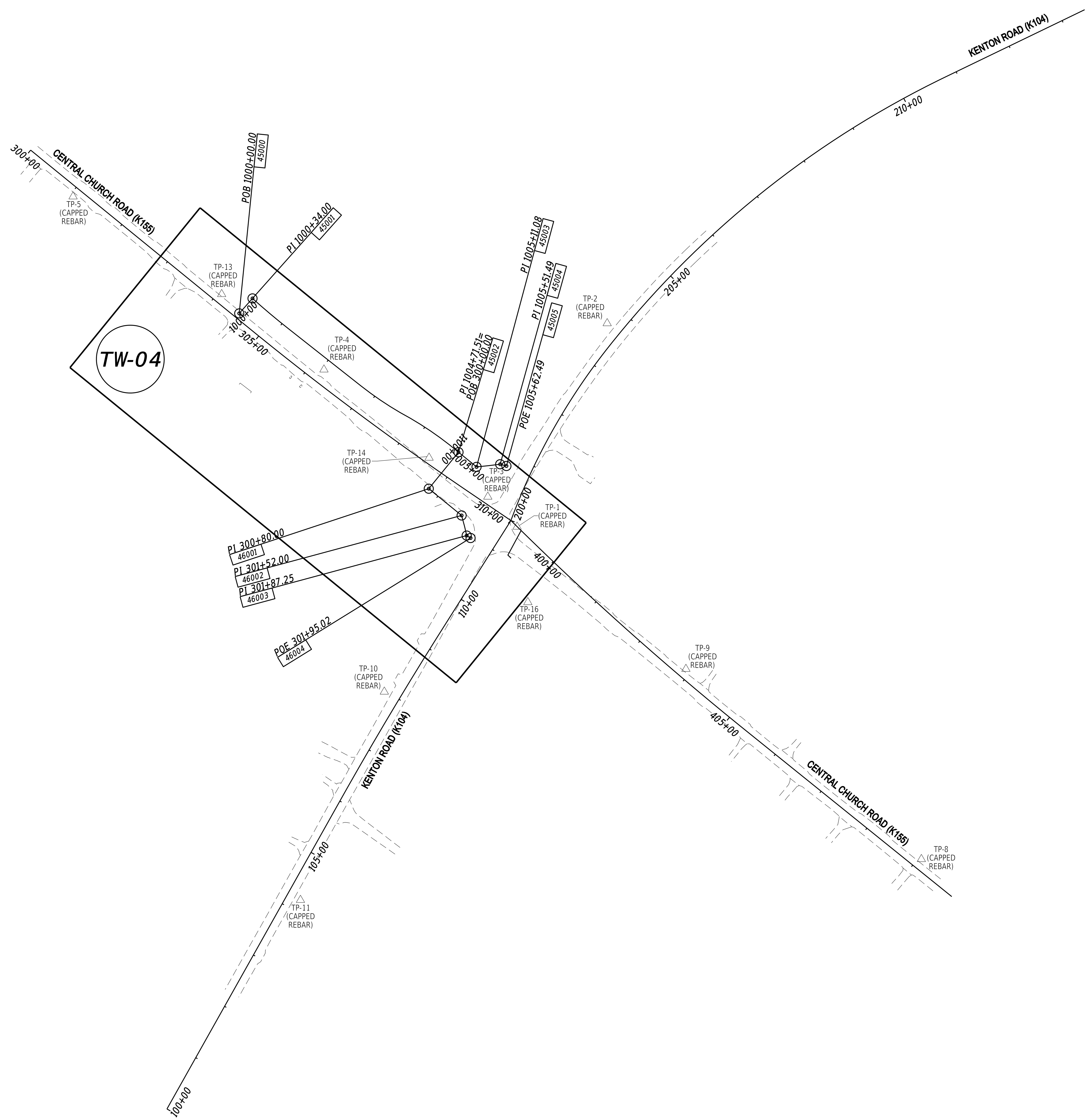

CONSTRUCTION ALIGNMENT CONTROL

POINT NO.	STATION	OFFSET	NORTHING	EASTING
45000	1000+00.00	0.00	433960.9308	605065.7224
45001	1000+34.00	0.00	433991.8426	605051.5641
45002	1004+71.51	0.00	434206.9058	605431.7799
45003	1005+11.08	0.00	434224.9038	605467.0212
45004	1005+51.49	0.00	434263.4688	605479.0867
45005	1005+62.49	0.00	434271.9844	605486.0535
46001	300+80.00	0.00	434135.6594	605468.1660
46002	301+52.00	0.00	434168.4069	605532.2877
46003	301+87.25	0.00	434162.5084	605567.0306
46004	301+95.02	0.00	434166.8680	605573.4618

HORIZONTAL / VERTICAL CONTROL DATA

POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
TP-1	171+53.81	34.37	434246.9346	605587.9117	46.01
TP-2	175+26.87	-27.02	434526.3740	605333.3476	46.30
TP-3	209+74.36	-34.18	434221.9388	605521.2113	49.59
TP-4	206+22.00	-25.78	434054.1950	605211.2276	49.37
TP-5	201+05.69	15.60	433782.5158	604770.2242	48.10
TP-8	309+19.91	-17.04	434648.0317	606381.7266	44.61
TP-9	304+05.59	-17.45	434412.0677	605924.7326	47.89
TP-10	167+98.90	-25.09	433927.3979	605753.4253	47.81
TP-11	164+20.62	24.00	433654.3414	606019.7717	47.43
TP-13	204+06.30	-15.30	433946.7579	605023.8875	47.78
TP-14	208+55.13	-22.47	434157.2787	605420.3492	49.91
TP-16	301+25.25	62.81	434211.9574	605712.6185	46.54

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83 / 2011 / EPOCH 2010.00).

VERTICAL - THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 BASED ON MODELED GEOID 12A).

RECOMMENDED BY:

TIDEWATER UTILITIES, INC. — DATE 10-28-25

PREPARED BY
CENTURY ENGINEERING
A Kleinfelder Company

RECOMMENDED — DATE 10-28-25

SEAL: ANDREW JAKUBOWITCH, LICENSED PROFESSIONAL ENGINEER, NO. 13906, DELAWARE

ADDENDA / REVISIONS	

SCALE 0 100 200 300 FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY		
KENT	CHECKED BY:	L. HAXTON

TIDEWATER WATER RELOCATION HORIZONTAL AND VERTICAL CONTROL

TW-03

SECTION	CEN
SHEET NO.	81

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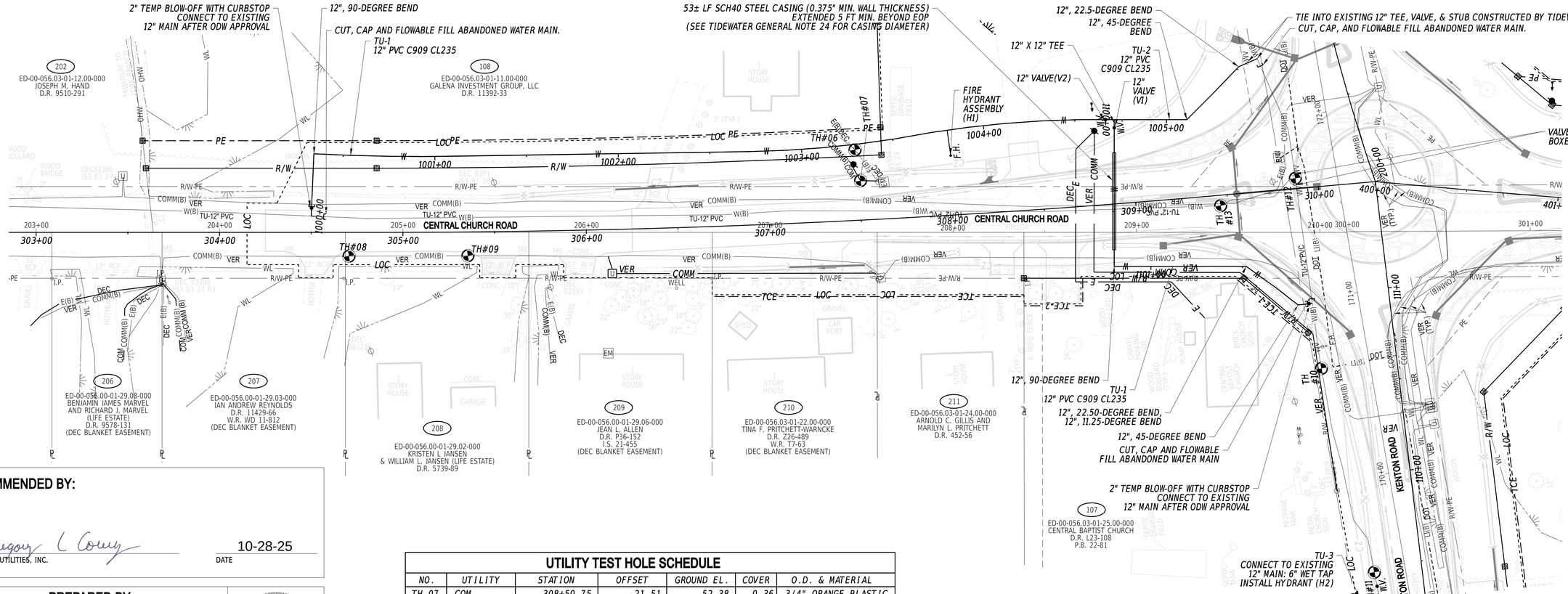


RECOMMENDED BY:

Gregory L Conley

TIDEWATER UTILITIES, INC.

10-28-25

DATE

PREPARED BY

CENTURY ENGINEERING

A Kleinfelder Company

RECOMMENDED

10-28-25

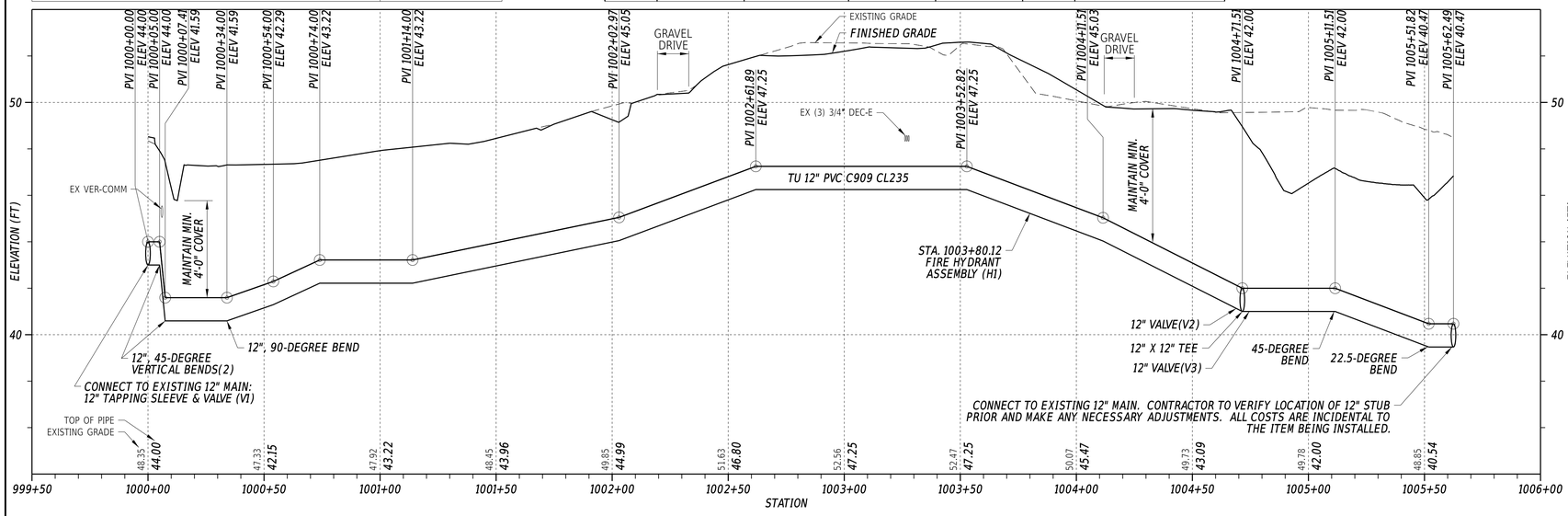
DATE

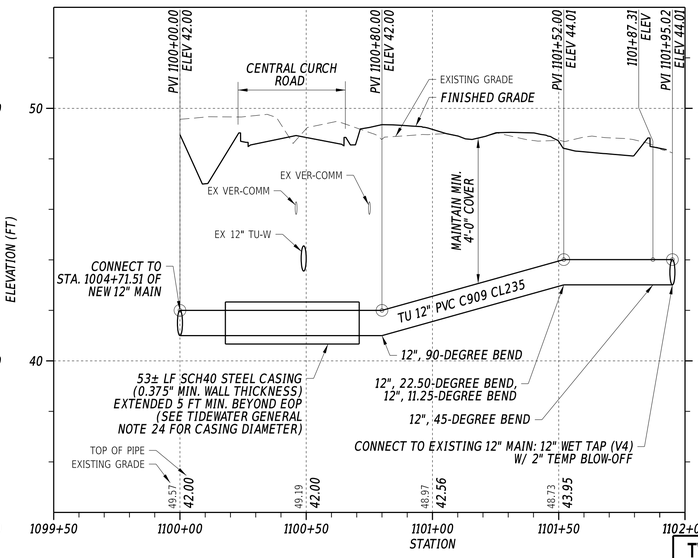
ANDREW JAKUBOWICH — LICENSED PROFESSIONAL ENGINEER — DELAWARE — NO. 13906

SEAL

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GROUND EL.	COVER	O.D. & MATERIAL
TH-07	COM	308+50.75	-21.51	52.38	0.36	3/4" ORANGE PLASTIC
TH-10	TU-W	110+60.75	-41.35	48.52	6.70	12" BLUE PLASTIC
TH-11	TU-W	109+46.95	-26.00	48.11	4.60	12" BLUE PLASTIC
TH-12	TU-W	309+87.86	-5.62	48.33	4.36	12" PLASTIC PIPE
TH-13	TU-W	309+46.02	5.72	48.38	4.38	12" BLUE PLASTIC
TH-06	DEC	307+48.58	-38.48	52.31	3.70	(3) 3/4" BLACK
TH-08	VER	304+70.61	12.97	48.02	2.08	1" BLACK
TH-09	VER	305+35.33	12.97	48.01	1.85	1" BLACK





ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

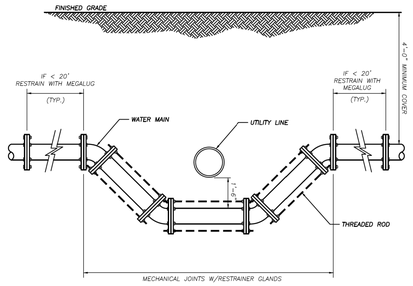
CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

TIDEWATER WATER RELOCATION PLAN

SECTION	SHEET NO.
CEN	82

TW-04

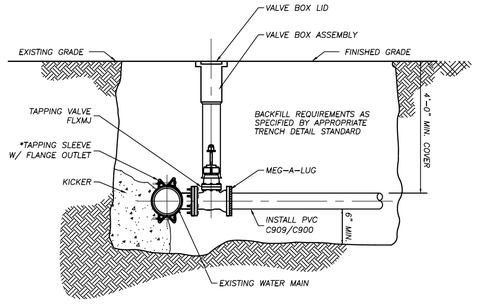
28-OCT-2025 18:51 \\tcsM-deldotpw21\ICS_pdf_work_dir\635832904_93\UT01_ROSF_T202104204_CEL_TW.dgn



TIDEWATER UTILITIES INC.
A MidAmerus Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

TYPICAL DESIGN DETAILS
WATER MAIN CROSSING UTILITY DETAIL
TUI-10

REV.	DATE	DESCRIPTION	BY	CHK
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		10	25



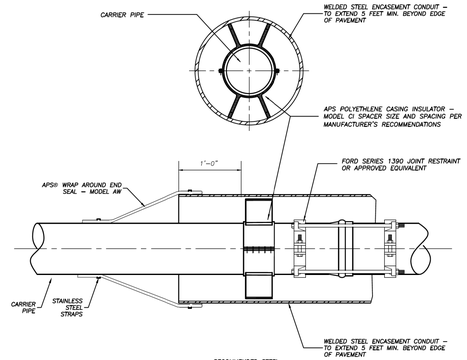
MFG	SERIES	DESCRIPTION
MUELLER	H-304-SS	STAINLESS STEEL TAPPING SLEEVE, W/FLANGE OUTLET, SIZED FOR WET TAP
MUELLER	T-2361	TAPPING VALVE, FLXMJ ENDS W/MJ ACCESSORIES
EBAA IRON	2000PV	MEG-A-LUG, SIZED FOR WATER MAIN

* POSITION OF TAPPING SLEEVE – FOR 12" PIPE OR SMALLER, THE TAP TO BE LOCATED NO CLOSER THAN 24" FROM.
- THE BACK OF THE BELL
- THE SPIGOT INSERTION LINE
- JOINT RESTRAINT HARDWARE
- OTHER DIRECT TAPS OR SADDLE TAPS

TIDEWATER UTILITIES INC.
A MidAmerus Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

TYPICAL DESIGN DETAILS
WET TAPPING SLEEVE & VALVE INSTALLATION
TUI-11

REV.	DATE	DESCRIPTION	BY	CHK
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		11	25



RECOMMENDED STEEL CASING DIAMETER

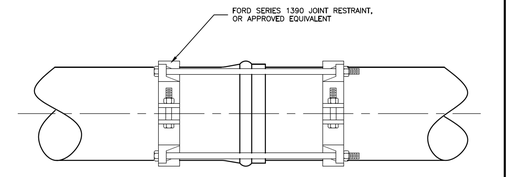
PIPE	CASING
6"	12"
8"	16"
10"	20"
12"	24"
16"	30"
20"	36"
24"	36"

OTHER DIAMETERS MEETING THE REQUIREMENTS OF CONSTRUCTION MAY BE PERMITTED WITH TIDEWATER UTILITIES INC., APPROVAL

TIDEWATER UTILITIES INC.
A MidAmerus Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

TYPICAL DESIGN DETAILS
ROAD BORING DETAIL
TUI-12

REV.	DATE	DESCRIPTION	BY	CHK
1	2.13.2024	CHANGED SIZE OF CASING	SAH	GLC
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		12	25

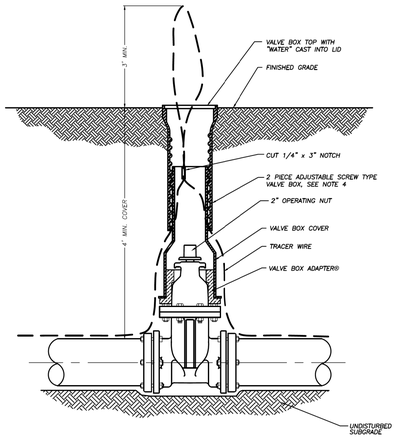


REQUIRED AT FIRST BELL JOINT ON BOTH SIDES OF FUSIBLE PVC DIRECTIONAL DRILL

TIDEWATER UTILITIES INC.
A MidAmerus Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

TYPICAL DESIGN DETAILS
FUSIBLE PVC BELL JOINT RESTRAINTS
TUI-14

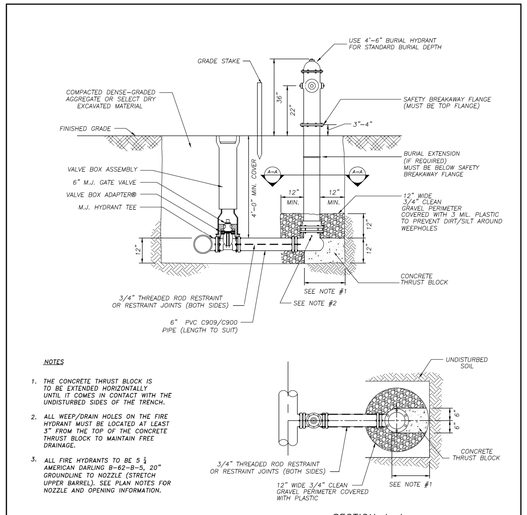
REV.	DATE	DESCRIPTION	BY	CHK
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		14	25



TIDEWATER UTILITIES INC.
A MidAmerus Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

TYPICAL DESIGN DETAILS
VALVE BOX DETAIL
TUI-15

REV.	DATE	DESCRIPTION	BY	CHK
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		15	25



NOTES

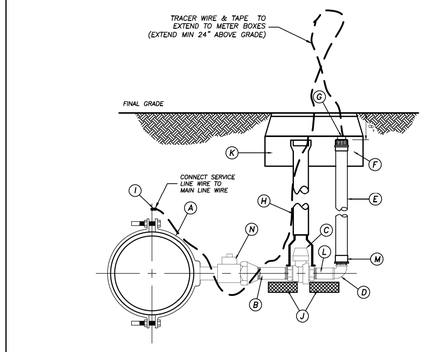
1. THE CONCRETE THRUST BLOCK IS TO BE EXTENDED HORIZONTALLY UNTIL IT COMES IN CONTACT WITH THE UNDISTURBED SIDES OF THE TRENCH.
2. ALL WEEP/DRAIN HOLES ON THE FIRE HYDRANT MUST BE LOCATED AT LEAST 1" FROM THE TOP OF THE CONCRETE THRUST BLOCK TO MAINTAIN FREE DRAINAGE.
3. ALL FIRE HYDRANTS TO BE 5 ¼ AMERICAN DARLING B-62-B-5, 20" GROUNDLINE TO NOZZLE (STRETCH UPPER BARREL). SEE PLAN NOTES FOR NOZZLE AND OPENING INFORMATION.

SECTION A–A

TIDEWATER UTILITIES INC.
A MidAmerus Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

TYPICAL DESIGN DETAILS
FIRE HYDRANT ASSEMBLY DETAIL
TUI-16

REV.	DATE	DESCRIPTION	BY	CHK
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		16	25



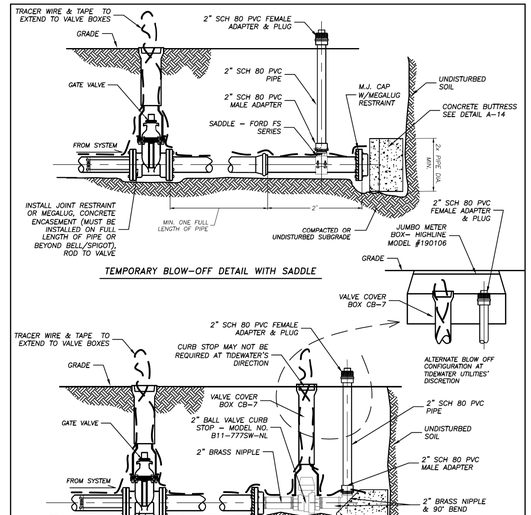
DESIGNATION	DESCRIPTION	MANUFACTURER	MODEL NUMBER	SIZE
A	SADDLE	FORD	FS202-XXX-NP7	2"
B	BRASS NIPPLE			2" x 6"
C	CURB STOP	FORD	B11-777	2"
D	90° ELBOW		BRASS	2"
E	PIPE		PVC SCHED. 80	2"
F	FEMALE ADAPTER		PVC SCHED. 80	2"
G *	DMV PLUG		PVC SCHED. 80	2"
H	VALVE COVER BOX		CB-7	
I	COPPER SPLIT BOLT CONNECTOR W/ SPACERS	BLACKBURN	#8HPS THRU #8HPS	
J	CEMENT BRICK			
K	JUMBO METER BOX	HIGHLINE	190106	
L	BRASS NIPPLE			2" x 6"
M	MALE ADAPTER		PVC SCHED. 80	2"
N	CORP STOP	FORD	FB1700-7	2"

* INSTALL FINGER TIGHT ONLY

TIDEWATER UTILITIES INC.
A MidAmerus Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

TYPICAL DESIGN DETAILS
PERMANENT BLOW OFF DETAIL
TUI-17

REV.	DATE	DESCRIPTION	BY	CHK
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		17	25



TIDEWATER UTILITIES INC.
A MidAmerus Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

TYPICAL DESIGN DETAILS
TEMPORARY BLOW-OFF DETAIL
TUI-18

REV.	DATE	DESCRIPTION	BY	CHK
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		18	25

ADDENDA / REVISIONS

NOT TO SCALE

HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS

CONTRACT	BRIDGE NO.	N/A
T202104204	DESIGNED BY:	A. HALLER
COUNTY	CHECKED BY:	L. HAXTON
KENT		

TIDEWATER WATER RELOCATION DETAIL SHEET

TW-05
SECTION
CEN
SHEET NO.
83

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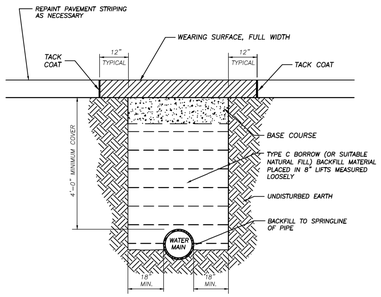


NOTE:
IN UNPAVED AREAS PROVIDE 6" OF TOPSOIL AND MULCH

RESTORATION	BASE COURSE	WEARING SURFACE/OVERLAY
* CONCRETE DRIVEWAY REPAVING	6" GRADED AGGREGATE	6" CLASS B CONRETE
* HOT-MIX DRIVEWAY REPAVING	6" GRADED AGGREGATE	2" INCHES HOT-MIX, HOT-LAID BITUMINOUS CONCRETE, TYPE C
TEMPORARY REPAVING	6" INCHES GRADED AGGREGATE	2" INCHES HOT-MIX, HOT-LAID BITUMINOUS CONCRETE, TYPE B OR C OR 2" COLD LAID, BITUMINOUS CONCRETE
LANDSCAPED/UNPAVED AREAS	COMPACTED SUBGRADE	SEEDING AND MULCHING OR STRAW AS REQUIRED

*IF A GREATER CROSS SECTION EXISTS, MATCH EXISTING.

TIDEWATER UTILITIES INC.
A MidAmerican Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

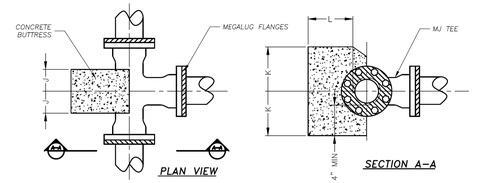
TYPICAL DESIGN DETAILS
TEMPORARY PAVEMENT, DRIVEWAY AND TRENCH DETAIL
TUI-22

REV.	DATE	DESCRIPTION	BY	CHK
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		22	25

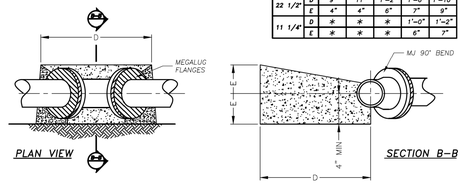
NOTES

1. PORTLAND CEMENT CONCRETE FOR BUTTRESSES SHALL BE 3000 P.S.I. MINIMUM.
2. BUTTRESS DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS BASED UPON A SOIL BEARING CAPACITY OF 3000 P.S.F. AND STATIC WATER PRESSURE OF 150 P.S.I.
3. MODIFICATIONS TO BUTTRESS DIMENSIONS IS TO BE AT THE SOLE DISCRETION OF TIDEWATER UTILITIES, INC. AND ANY CHANGES TO BUTTRESS DIMENSIONS SHALL BE APPROVED BY TIDEWATER UTILITIES, INC. BEFORE ANY CHANGE IS PERFORMED.
4. ALL CONCRETE TO MEET UNDISTURBED EARTH.
5. FITTINGS TO BE WRAPPED IN 3 MIL. PLASTIC WHERE CONCRETE IS PRESENT.

SIZE	4"	6"	8"	10"	12"
J	4"	6"	8"	11"	13"
K	8"	10"	13"	16"	19"
L	8"	8"	8"	10"	12"



SIZE		4"	6"	8"	10"	12"
90°	D	1'-8"	2'-0"	2'-3"	3'-0"	3'-4"
	E	5"	7"	9"	1' 1/2"	1'-3"
45°	D	1'-0"	1'-3"	1'-10"	2'-4"	3'-0"
	E	4"	6"	8"	10"	12"
22 1/2°	D	9"	11"	1'-2"	1'-6"	1'-10"
	E	4"	4"	6"	7"	9"
11 1/4°	D	*	*	*	1'-0"	1'-2"
	E	*	*	*	6"	7"



CONCRETE BUTTRESSES FOR HORIZONTAL BENDS AND TEES
NTS

TIDEWATER UTILITIES INC.
A MidAmerican Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

TYPICAL DESIGN DETAILS
THRUST BLOCK DETAIL
TUI-23

REV.	DATE	DESCRIPTION	BY	CHK
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		23	25

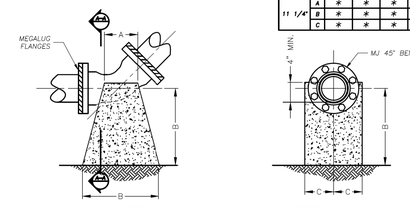
NOTES

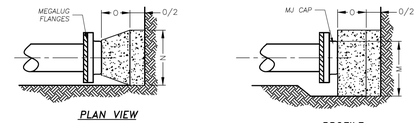
1. PORTLAND CEMENT CONCRETE FOR BUTTRESSES SHALL BE 3000 P.S.I. MINIMUM.
2. BUTTRESS DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS BASED UPON A SOIL BEARING CAPACITY OF 3000 P.S.F. AND STATIC WATER PRESSURE OF 150 P.S.I.
3. MODIFICATIONS TO BUTTRESS DIMENSIONS IS TO BE AT THE SOLE DISCRETION OF TIDEWATER UTILITIES, INC. AND ANY CHANGES TO BUTTRESS DIMENSIONS SHALL BE APPROVED BY TIDEWATER UTILITIES, INC. BEFORE ANY CHANGE IS PERFORMED.
4. ALL CONCRETE TO MEET UNDISTURBED EARTH.

FITTINGS TO BE WRAPPED IN53 MIL. PLASTIC WHERE CONCRETE IS PRESENT.

VERTICLE BENDS

SIZE		4"	6"	8"	10"	12"
45°	A	6"	6"	6"	6"	6"
	B	14"	17"	22"	27"	2'-10"
	C	5"	6"	9"	11"	13"
22 1/2°	A	6"	6"	6"	6"	6"
	B	9"	11"	14"	18"	22"
	C	4"	4"	6"	8"	10"
11 1/4°	A	*	*	*	6"	6"
	B	*	*	*	14"	17"
	C	*	*	*	7"	9"





PLUGS

SIZE	4"	6"	8"	10"	12"
M	10"	13"	16"	19"	21"
N	10"	19"	2'-2"	2'-8"	3'-2"
O	5"	7"	9"	11"	13"

NOTE:
CARRY CONCRETE TO SOLID GROUND

CONCRETE BUTTRESSES FOR VERTICAL BENDS AND PLUGS
NTS

TIDEWATER UTILITIES INC.
A MidAmerican Water Company Affiliate
1100 South Little Creek Road
Dover, Delaware 19901

TYPICAL DESIGN DETAILS
THRUST BLOCK DETAIL
TUI-24

REV.	DATE	DESCRIPTION	BY	CHK
	DATE: 3/1/2024	DRAWN BY: SAH		
	SCALE: N.T.S.		24	25

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ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	TIDEWATER WATER RELOCATION DETAIL SHEET	TW-06
				COUNTY KENT	DESIGNED BY: A. HALLER		SECTION CEN
					CHECKED BY: L. HAXTON		SHEET NO. 84

GENERAL SEQUENCE OF CONSTRUCTION

1. BEFORE COMMENCING WORK INVOLVING REMOVING OR PLACING IN OPERATION EXISTING OR NEW FACILITIES OR TIE-INS TO EXISTING FACILITIES, THE CONTRACTOR SHALL NOTIFY TIDEWATER AT LEAST FIVE (5) BUSINESS DAYS IN ADVANCE IN WRITING. TIDEWATER SHALL BE RESPONSIBLE FOR REMOVING FACILITIES FROM OPERATION AS DEEMED NECESSARY.

2. WORK UNDER THE CONTRACT SHALL BE SCHEDULED AND PERFORMED IN SUCH A MANNER AS TO RESULT IN THE LEAST POSSIBLE DISRUPTION TO THE PUBLIC'S USE OF ROADWAYS, SIDEWALKS, DRIVEWAYS, PARKING AREAS, AND UTILITIES. UTILITIES SHALL INCLUDE, BUT NOT BE LIMITED TO WATER (POTABLE, RECLAIMED OR RAW) TRANSMISSION AND DISTRIBUTION, SANITARY SEWERAGE COLLECTION AND TRANSMISSION, IRRIGATION, STORM DRAINAGE SEWERAGE AND STRUCTURES, GAS, ELECTRICAL DISTRIBUTION AND TRANSMISSION, CABLE TV, FIBER OPTIC CABLES, DATA/TELEPHONE AND TELECOMMUNICATIONS. PRIOR TO COMMENCING WITH THE WORK, CONTRACTOR SHALL PERFORM A LOCATION INVESTIGATION OF ALL EXISTING UNDERGROUND AND ABOVE GROUND UTILITIES AND FACILITIES. UTILITIES THAT PRESENT POTENTIAL CONFLICT WITH THE PROPOSED PIPING SHALL BE FIELD VERIFIED WITH UTILITY TEST PITS.

3. THE OUTLINED SEQUENCE OF CONSTRUCTION DOES NOT INCLUDE ALL ITEMS NECESSARY TO COMPLETE THE WORK BUT IS INTENDED TO IDENTIFY THE SEQUENCE OF CRITICAL EVENTS NECESSARY TO MINIMIZE ANY DISRUPTIONS AND TO AVOID ANY IMPACT TO CONTINUED SYSTEM SERVICE. IT SHALL BE UNDERSTOOD BY THE CONTRACTOR THAT THE CRITICAL EVENTS IDENTIFIED ARE NOT ALL INCLUSIVE AND THAT ADDITIONAL ITEMS OF WORK NOT SHOWN MAY BE REQUIRED. THE SEQUENCE OF CONSTRUCTION IS A PRECEDENCE REQUIREMENT AND DOES NOT ATTEMPT TO SCHEDULE THE CONTRACTOR'S WORK. IT IS INTENDED ONLY TO INDICATE WHICH ACTIVITIES MUST PRECEDE OTHER ACTIVITIES IN ORDER TO MINIMIZE INTERFERENCES AND DISRUPTIONS.

4. AT NO TIME WILL THE CONTRACTOR BE ALLOWED TO DEACTIVATE ANY PORTION OF THE EXISTING WATER SYSTEM BY OPERATING SYSTEM VALVES, PLUGGING OR REMOVING ANY PIPELINES, OR TAKE ANY OTHER ACTION WHICH WOULD AFFECT THE OPERATION OF THE EXISTING SYSTEM, EXCEPT WHEN REQUIRED BY THE CONTRACT DOCUMENTS, AND SPECIFICALLY AUTHORIZED BY TIDEWATER AFTER PROPER NOTIFICATION.

5. COMPLETION OF THE WORK IN A GIVEN PHASE COULD OVERLAP WITH COMMENCEMENT OF WORK ON SUBSEQUENT PHASES. HOWEVER, THE WORK ON THE CURRENT SECTION MUST CONTINUE FROM BEGINNING TO END WITHOUT DELAY OR INTERRUPTION.

6. SPECIFIC PHASING SCHEME WILL NOT BE DICTATED BY THE CONTRACT. HOWEVER, PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A PLAN FOR SEQUENCING THE PROJECT SECTIONS.

7. CONSTRUCTION CONSTRAINTS: CONTRACTOR SHALL COMPLY WITH THE FOLLOWING CONSTRAINTS DURING CONSTRUCTION AND UTILIZE CONSTRAINTS IN DETERMINING A SEQUENCE OF CONSTRUCTION:

   A. CONSTRUCTION WORK DURING THE INSTALLATION OF THE PROPOSED WORK SHALL BE LIMITED TO THE PUBLIC RIGHT-OF-WAY. HOMEOWNERS SHALL HAVE ACCESS TO THEIR DRIVEWAYS AND PROPERTIES AT ALL TIMES.

   B. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPROVED MAINTENANCE OF TRAFFIC PLANS.

   C. FINAL RESTORATION OF ROADS, DRIVEWAYS, SIDEWALKS AND ALL OTHER PAVED AREAS SHALL BE COMPLETED AS DIRECTED BY DELDOT.

   D. CONTRACTOR IS EXPECTED TO WORK ON THE WATERLINE DURING THE REGULAR HOURS OF TIDEWATER'S INSPECTORS UNLESS SPECIFIC REQUIREMENTS IN THE CONTRACT DOCUMENTS REQUIRE WORK OUTSIDE OF THOSE HOURS. TIDEWATER INSPECTOR'S REGULAR HOURS ARE 7:00AM TO 4:00PM, MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS. REQUESTS FOR APPROVAL TO WORK DURING OTHER THAN REGULAR HOURS MUST BE SUBMITTED TO DELDOT AT LEAST 72 HOURS IN ADVANCE OF THE PERIOD PROPOSED FOR SUCH OVERTIME WORK AND SHALL SET FORTH THE PROPOSED SCHEDULE FOR OVERTIME.

OPERATION REQUIREMENTS

1. MOBILIZATION / SITE PREPARATION: MOBILIZE FOR WORK, VIDEO WORKING AREAS, SET UP STAGING AND STORAGE AREAS, OBTAIN PERMITS, DEVELOP AND SUBMIT CONSTRUCTION SCHEDULE, SUBMIT SHOP DRAWING SCHEDULE, SURVEY, LOCATE EXISTING UTILITIES AND ELEVATIONS WITH TEST PITS, VERIFY EXISTING FITTINGS TO BE CONNECTED, SHOP DRAWING SUBMITTALS, AND PROCURE MATERIALS.

2. CONSTRUCTION OF THE WATER SYSTEM: TASKS CONSIST OF THE INSTALLATION OF PROPOSED IMPROVEMENTS AS DESCRIBED IN THE APPROVED CONSTRUCTION DOCUMENTS.

3. PHASING OF THE WORK IS OF PARTICULAR IMPORTANCE. CONSTRUCTION SHALL BE COMPLETED IN SECTIONS, WITH EACH SECTION OF CONSTRUCTION TO BE COMPLETED BEFORE PERFORMING WORK IN ANOTHER SECTION, INCLUDING BUT NOT LIMITED TO:

   A. INSTALLATION OF WATER MAINS, HYDRANTS, SERVICES AND APPURTENANCES

   B. BACKFILL, COMPACTION AND TRENCH RESTORATION

   C. WATER MAIN TESTING AND DISINFECTION

   D. WATER MAIN AND FIRE HYDRANTS ACCEPTANCE, PLACING IN SERVICE AND ESTABLISHING ALL SERVICE CONNECTIONS

   E. REMOVAL AND ABANDONMENT OF EXISTING FACILITIES, AS NEEDED.

DETAILED SEQUENCE OF CONSTRUCTION

THE OUTLINED SEQUENCE OF CONSTRUCTION DOES NOT INCLUDE ALL ITEMS NECESSARY TO COMPLETE THE WORK BUT IS INTENDED TO IDENTIFY THE SEQUENCE OF CRITICAL EVENTS NECESSARY TO MINIMIZE ANY DISRUPTIONS AND TO AVOID ANY IMPACT TO CONTINUED SYSTEM SERVICE.

TU-1

1. INSTALL WATER MAIN FROM STATION 1000+00 TO STATION 1004+71.51.
2. INSTALL WATER MAIN FROM STATION 1100+00 TO STATION 1101+95.02.
3. PRESSURE TEST AND BACTERIA TEST THE WATER MAIN.
4. UPON APPROVAL BY ODW, REMOVE TEMPORARY BLOW-OFFS AND COMPLETE CONNECTION TO EXISTING MAIN USING NECESSARY FITTINGS.

TU-2

1. INSTALL WATER MAIN FROM STATION 1004+71.51 TO STATION 1005+62.49.
2. CONNECT TO EXISTING STUB AT STATION 1005+62.49. DO NOT OPEN VALVE.
3. UPON APPROVAL BY ODW, REMOVE TEMPORARY BLOW-OFF AND COMPLETE CONNECTION TO THE EXISTING MAIN USING NECESSARY FITTINGS AND OPEN VALVE AT STATION 1005+62.49.

TU-3

1. INSTALL TAPPING SLEEVE AND VALVE.
2. INSTALL HYDRANT ASSEMBLY.
3. BLOW OFF HYDRANT FOR 30 SECONDS OR UNTIL WATER IS CLEAR.

ADDENDA / REVISIONS		NOT TO SCALE	HEP KC, SR15/KENTON RD. AT CENTRAL CHURCH RD. INTERSECTION IMPROVEMENTS	CONTRACT T202104204	BRIDGE NO. N/A	TIDEWATER WATER RELOCATION SEQUENCE OF CONSTRUCTION	TW-07
				COUNTY KENT	DESIGNED BY: A. HALLER		SECTION CEN
					CHECKED BY: L. HAXTON		SHEET NO. 85