COUNTY	CONTRACT	F.A.A. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216(3)		1	7

THE STATE OF DELAWARE

State of Delaware

STATE HIGHWAY DEPARTMENT

PLAN
FOR
CONSTRUCTION OF CONTRACT № 64-01-030

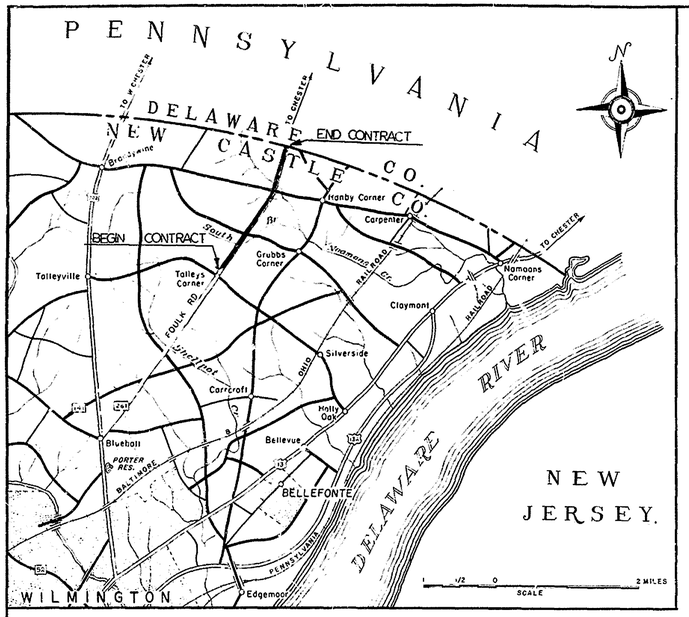
STA. 146+23 TO STA. 242+49.40

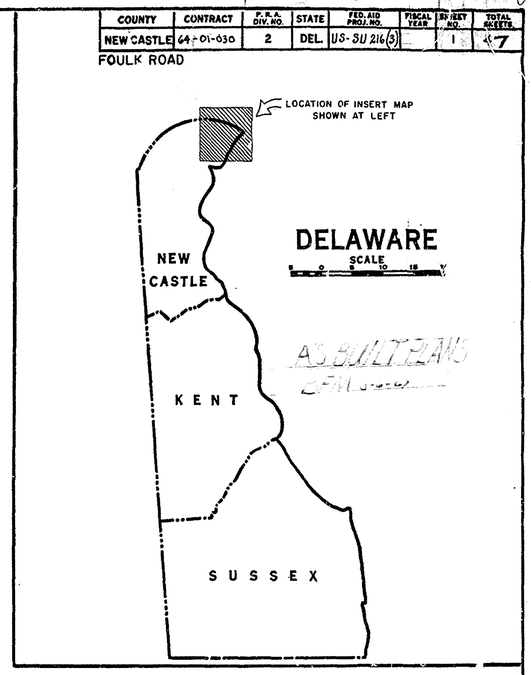
9,610.622 FEET: 1.820 MILES

SCALE: PLAN: 1 IN.= 30 FT.
PROFILE: HOR. 1 IN.= 30 FT.
VERT. 1 IN.= 5 FT.

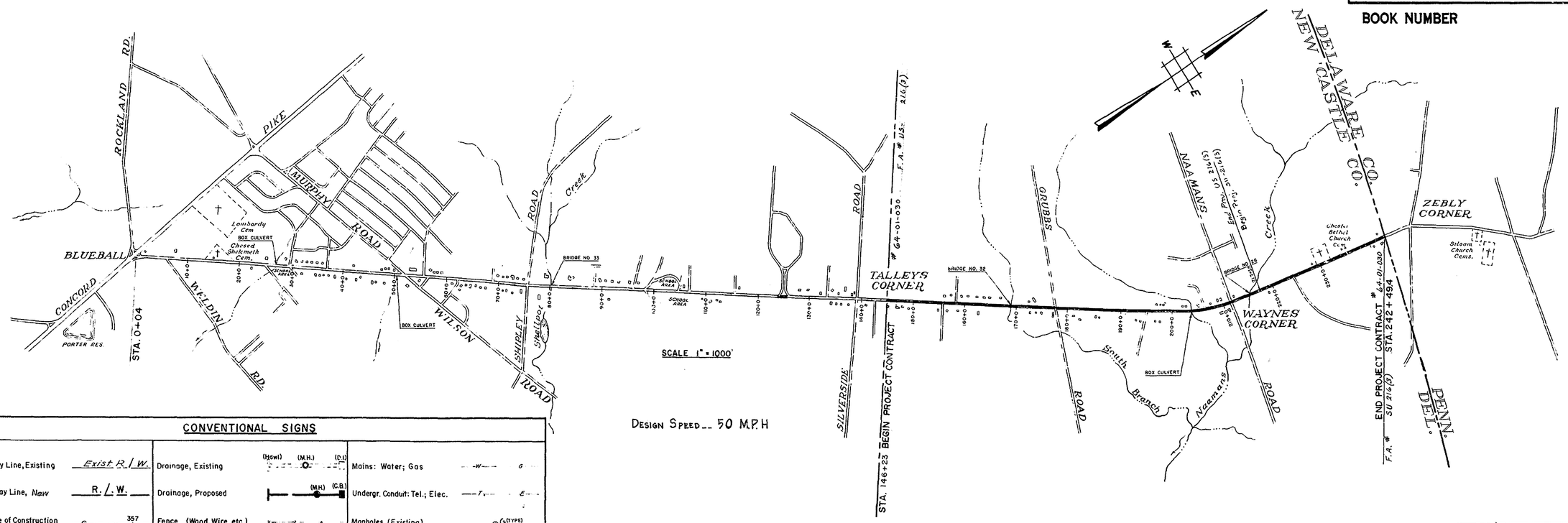
EQUATION 213+61.691 BACK =
213+78.112 AHEAD
241+49.130 BACK =
241+48.487 AHEAD

FEDERAL AID PROJECT № US-SU 216 (3)





BOOK NUMBER



Index of Survey Books

Boswell Book	D.S.H.D. Book
1	3835
2	3836
3	3837
9	3843
13	3857
14	3859
16	3848
17	3860
18	3861
19	3862
20	3863
21	3849
23	3851
24	3864
26	3853
27	3854
28	3855
29	3856

CONVENTIONAL SIGNS

Right of Way Line, Existing	Exist R/W.	Drainage, Existing	(Hdwl) (M.H.) (D.I)	Mains: Water; Gas	W G
Right of Way Line, New	R/W.	Drainage, Proposed	(M.H) (C.B.)	Undergr. Conduit: Tel.; Elec.	T E
Center Line of Construction	℄ 357	Fence (Wood, Wire, etc.)		Manholes (Existing)	G (TYPE)
Edge Pav't., Curb, Drives (Exist.)		Stone Wall		Manholes (Proposed; Reset)	T (TYPE)
Edge of Pavement, Proposed		Conc. Retain. Wall, Abutment			
Sidewalk, Existing		Guard Rail (Exist.; Proposed)			
Property Line		Mailbox; Hydrant; Traffic Lgt.	P		
Easement Line		Poles; Valves, Meters; Signs			

INDEX OF SHEETS

SHEET NO. 1 TITLE SHEET
2 ALIGNMENT LAYOUT
3 TYPICAL SECTIONS
4-14 PLAN AND PROFILE
15-18 SLAB LAYOUTS & ~~TRAFFIC~~
19 STREET PROFILES
20-32 BRIDGES
33-34 QUANTITIES
35-47A STANDARDS
(B, A-1, A-2, DR, DT, E, G, K, L, M, M-M, T, Y, SD)

PREPARED BY
BOSWELL ENGINEERING CO.
CONSULTING ENGINEERS
RIDGEFIELD PARK N.J.
Signed David C. Boswell
DAVID C. BOSWELL
Reg. Professional Engineer
No 1691
State of Delaware
Date: Jan. 1960

RECOMMENDED August 24, 1964 — E. Powell Smith, CHIEF, PLANS & DESIGN

RECOMMENDED 19 — ASSISTANT CHIEF ENGINEER

APPROVED 8/26 1964 — Jac S. Robinson, CHIEF ENGINEER

APPROVED 8-26 1964 — DIRECTOR OF OPERATIONS

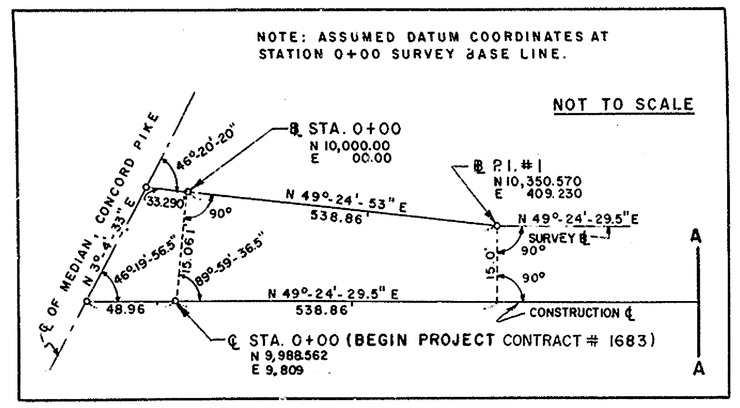
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

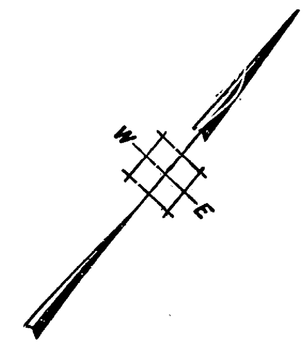
APPROVED:

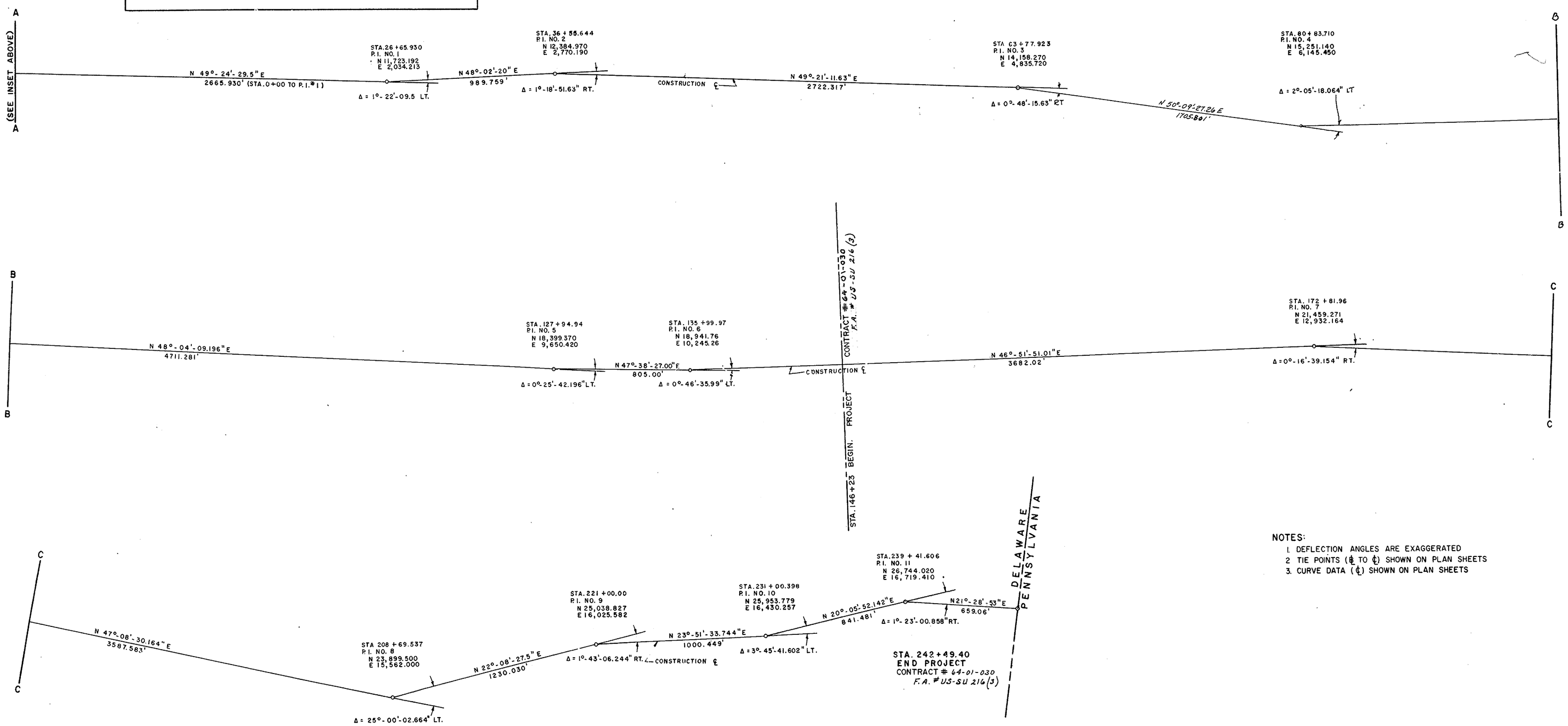
DIVISION ENGINEER DATE

COUNTY	CONTRACT	P.R.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216(3)		2	47

FOULK ROAD







NOTES:

1. DEFLECTION ANGLES ARE EXAGGERATED
2. TIE POINTS (℄ TO ℄) SHOWN ON PLAN SHEETS
3. CURVE DATA (℄) SHOWN ON PLAN SHEETS

ALIGNMENT LAYOUT

CENTERLINE OF IMPROVEMENT

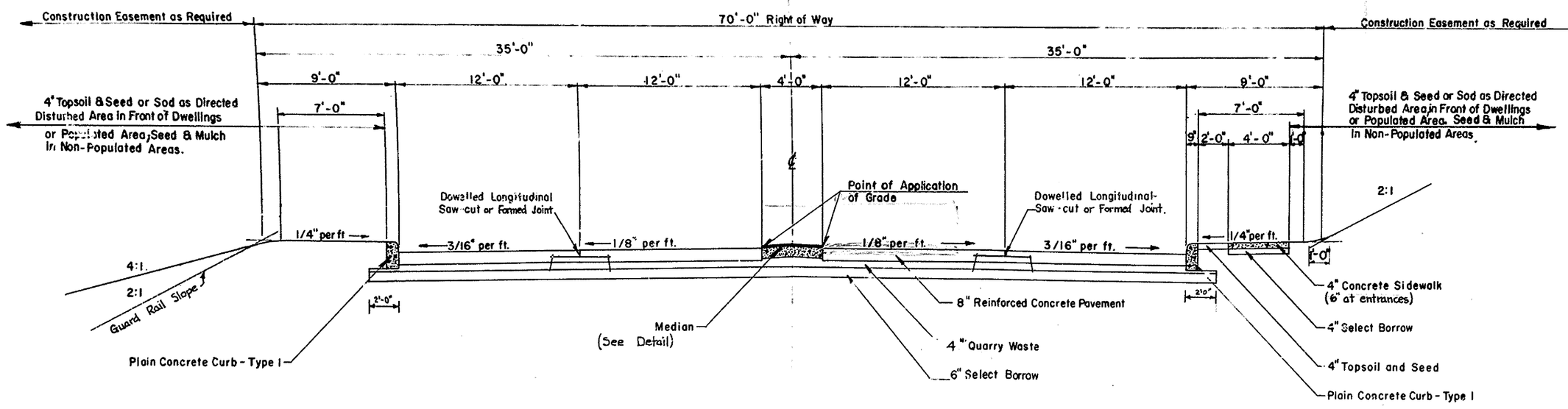
SCALE: 1" = 300' (UNLESS NOTED)

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

EARTHWORK
DRAINAGE
T.A.L.G.S.

COUNTY	CONTRACT	F.A.P. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216(3)		3	47

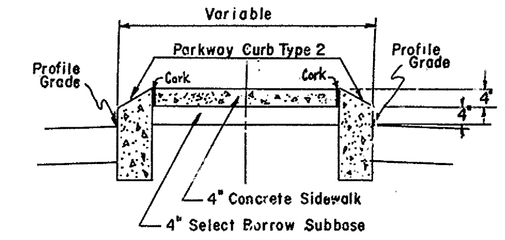
FOULK ROAD



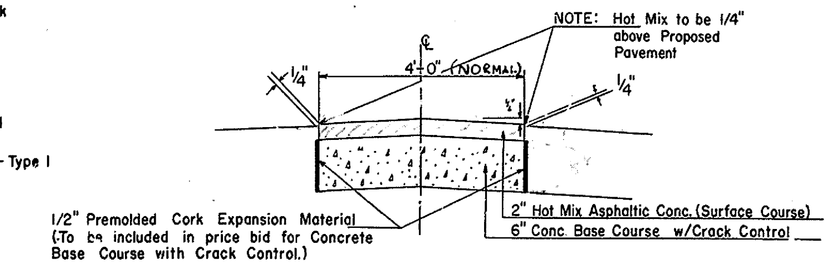
NORMAL SECTION

(STA. 146+23 - STA. 217+50)
Scale 1" = 5'-0"

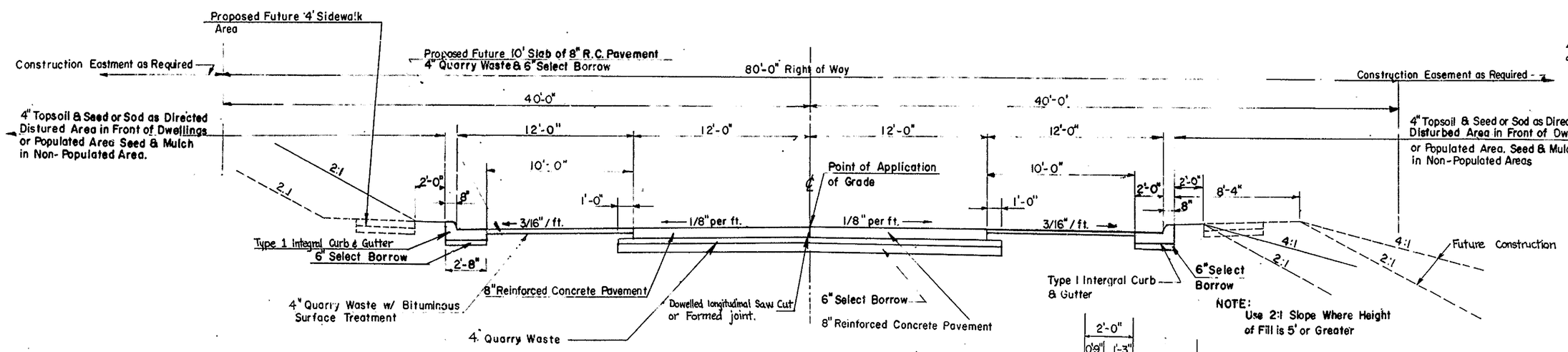
See Sheet 16 For details of transition between Normal Sections.



RAISED MEDIAN
Scale 1" = 2'-0"

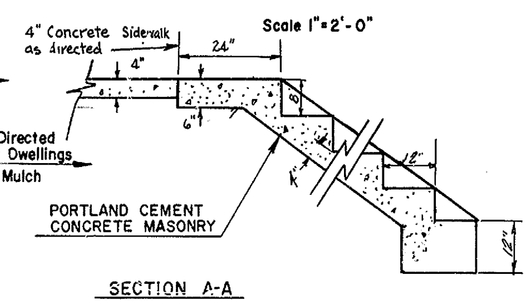


4' CROSSABLE MEDIAN

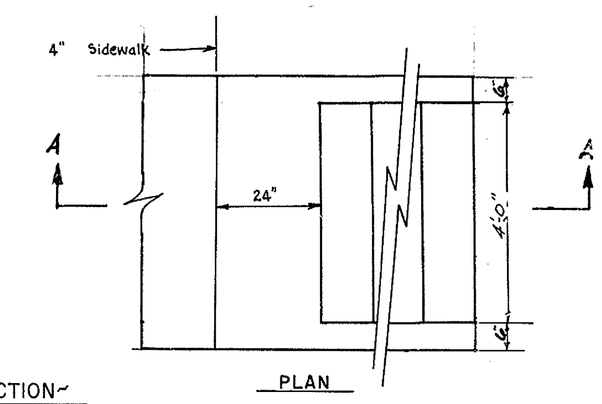


NORMAL SECTION

(STA. 219+46 TO END OF PROJECT)
Scale — 1" = 5'-0"

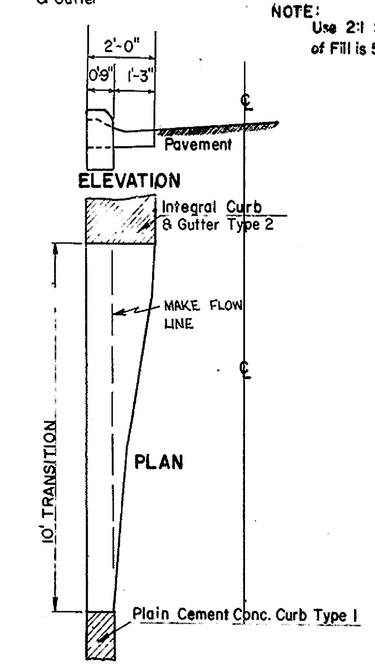


SECTION A-A

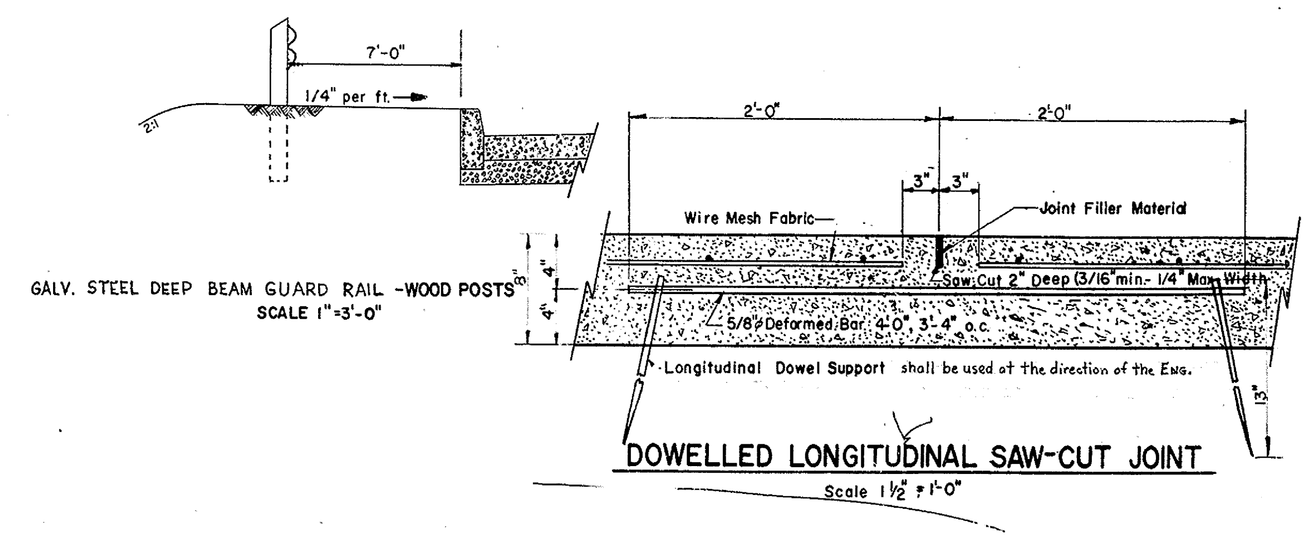


PLAN

"DETAIL OF STEP CONSTRUCTION"
STA. 1+28 RT. MAPLEWOOD AVENUE.

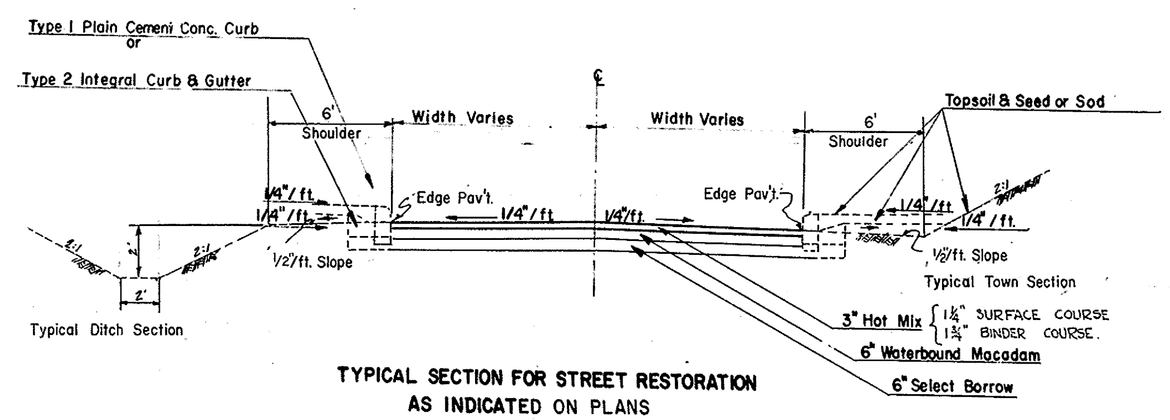


Typical Section For Curb Transition
Scale 1" = 3'



GALV. STEEL DEEP BEAM GUARD RAIL -WOOD POSTS
SCALE 1" = 3'-0"

DOWELLED LONGITUDINAL SAW-CUT JOINT
Scale 1 1/2" = 1'-0"



TYPICAL SECTION FOR STREET RESTORATION
AS INDICATED ON PLANS
SCALE 1" = 5'

1960 SPECIFICATIONS

Any remaining cellar or foundation from buildings removed by others, shall be removed under Clearing and Grubbing if required for the proposed construction. Any backfill required will be incidental to excavation.

Privately owned utilities affected by construction will be adjusted or relocated by others. The location of the utilities as indicated on the plans is approximate and the State Highway Department of Delaware will not be responsible for the accuracy or completeness thereof nor any construction difficulties arising therefrom.

New sidewalk will be constructed where existing sidewalk is disturbed by construction as indicated on the plans.

Commercial entrances to be governed by the Department's current Policy and Standards for Entrances to Highways from Commercial Establishments.

Buildings marked by "R" will be removed by others.

Curb transition to integral curb & gutter will be in 10' Sections.

All existing lawns affected by construction shall be sodded or topsoiled and seeded as indicated or as directed by the Engineer.

Contractor will remove and reset all mail boxes, house lamps, street signs and traffic devices as directed by the Engineer. This will be included in the unit price bid for Item 2, Excavation.

All ditches will be seeded and mulched unless otherwise indicated.

It shall be the Contractor's responsibility to protect the existing utility conduits at all times during construction and to notify the owner of the utility before any excavation is made across or adjacent to his underground conduit.

All driveways shall match existing driveways. Where existing driveway is concrete, new construction will be 6" C.C. Sidewalk with 4" sub-base of select borrow. All other existing dirt, stone or macadam drives shall be rebuilt with a 2" hot mix and 6" sub-base of select borrow

Removal of Existing Conc. Curb, Integral Curb & Gutter, Conc. Sidewalk, Conc. Driveways, & Conc. Gutter to be included in the Unit Price bid for Item 2 Excavation. Flush Conc. Curb along Foulk Road roadway to be included in Price Bid for Item 2, Excavation.

Remove Existing Pavement at Naamans Road under Item "Removal of Existing Conc. Pavement," on a Square Yard basis.

GENERAL NOTES & PLANS TO GOVERN SPECS.

Removal of existing storm sewer pipe, castings, catch basins, manholes, junction boxes, and other drainage structures not designated on the plan to remain will be removed under Item 2 Excavation

Pipes and castings shall be salvaged free from damage and stockpiled in locations designated by the Engineer, to remain the property of the Delaware State Highway Department

Headwalls, steps and other existing concrete masonry so designated shall be removed under Item 2A.

Removal of Exist. Bituminous Pavement on Foulk Road shall be included in Item 2, Excavation.

All streets shall be restored with the materials indicated on the plans

All pipe biding shall be class "C" unless otherwise directed.

Driveway entrance curbs are to be depressed as indicated on Standard Sheet DR.

Place cork in the median area where 4" sidewalk is to be placed. To be included in the unit price bid for 4" sidewalk.

All dry stone walls removed under Item 2, Excavation, regardless of size of individual stones.

Any rock encountered in channel excavation will be removed under roadway rock excavation

LEGEND

New Concrete Pavement

Existing Concrete Pavement to be Removed

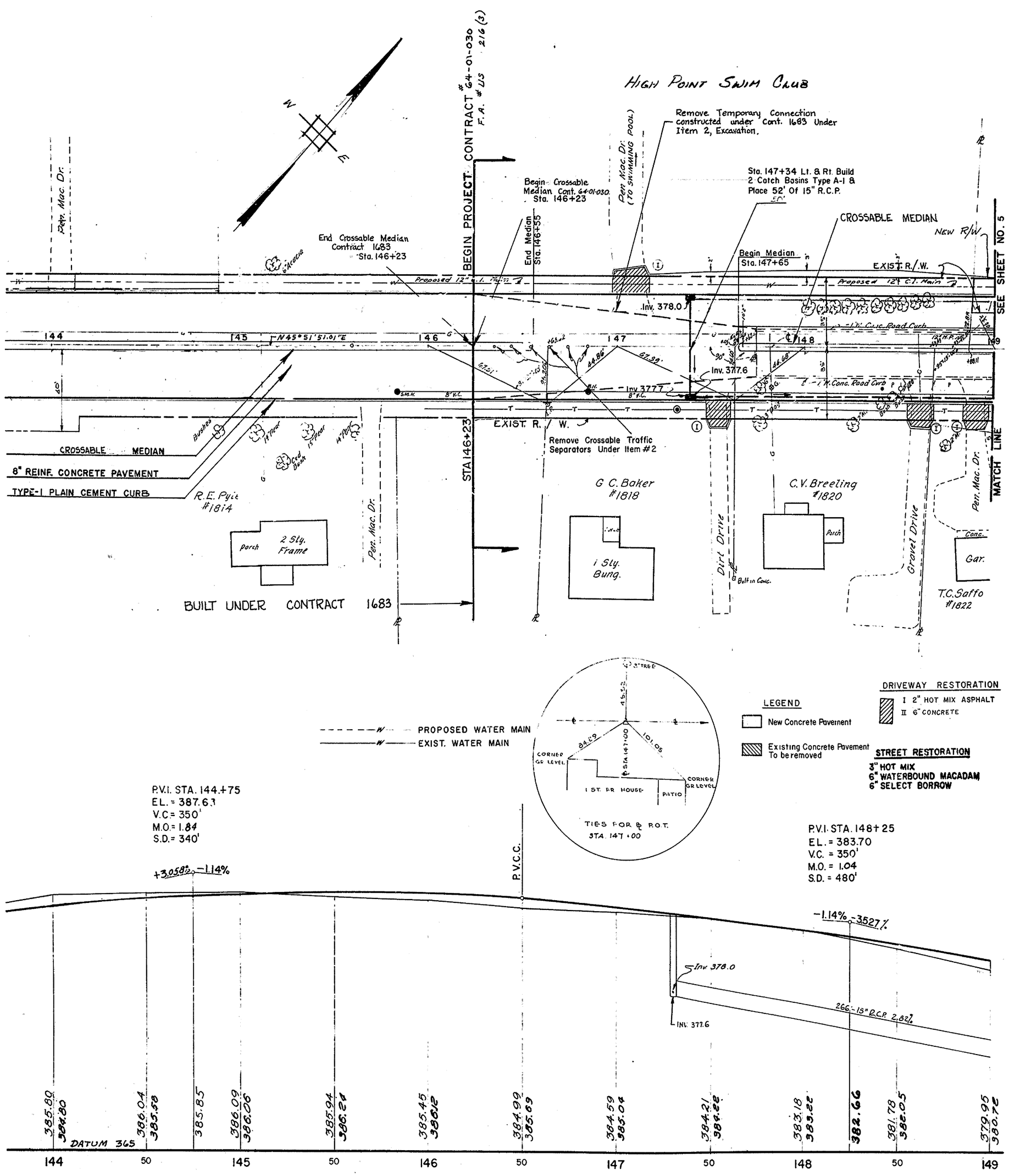
DESIGNED AND DRAWN UNDER THE SUPERVISION OF A. B. Cullen Jr.

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

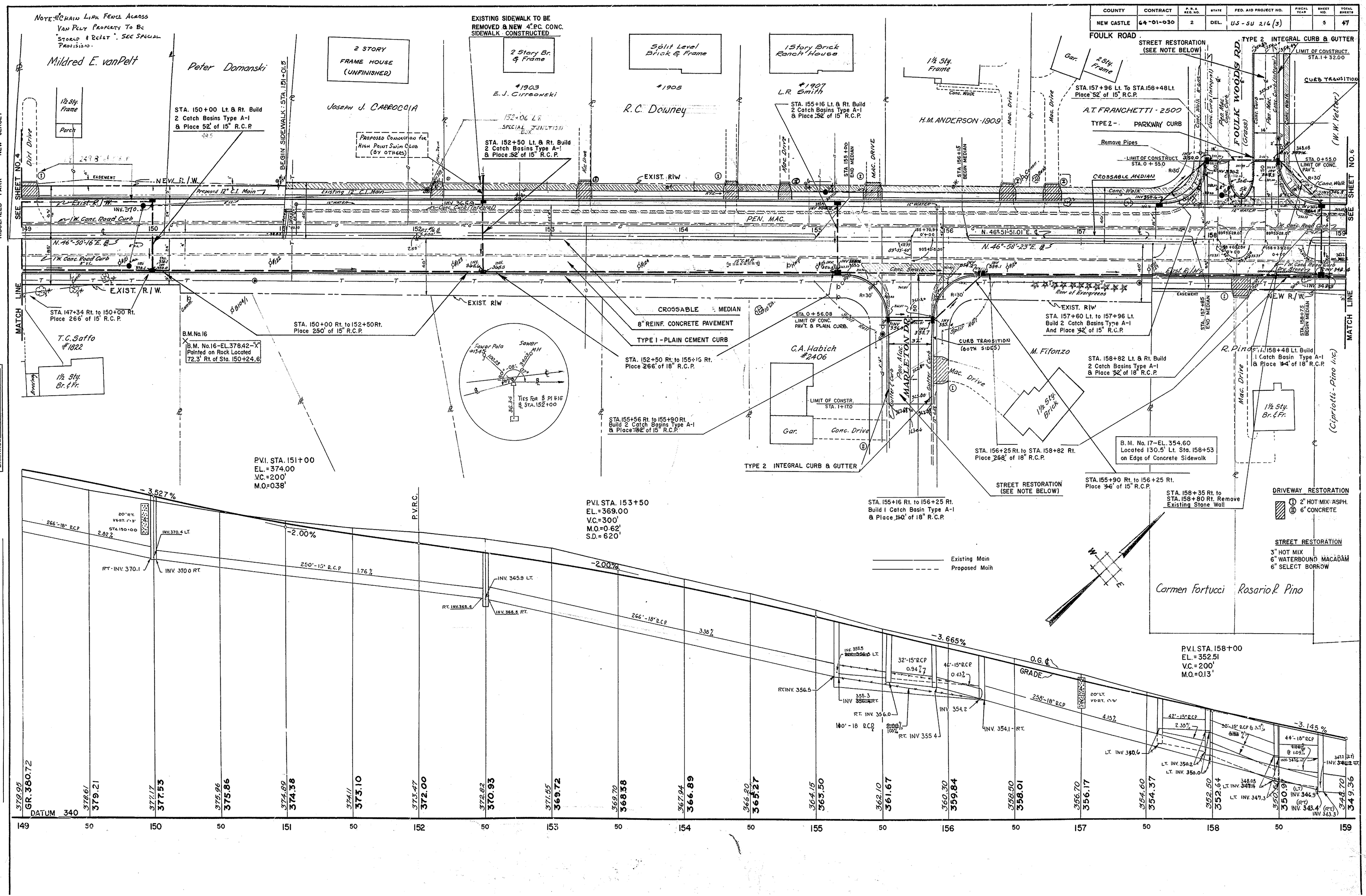
COUNTY	CONTRACT	P.R.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)		4	47

FOULK ROAD



CHECKED BY
GRADE
BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

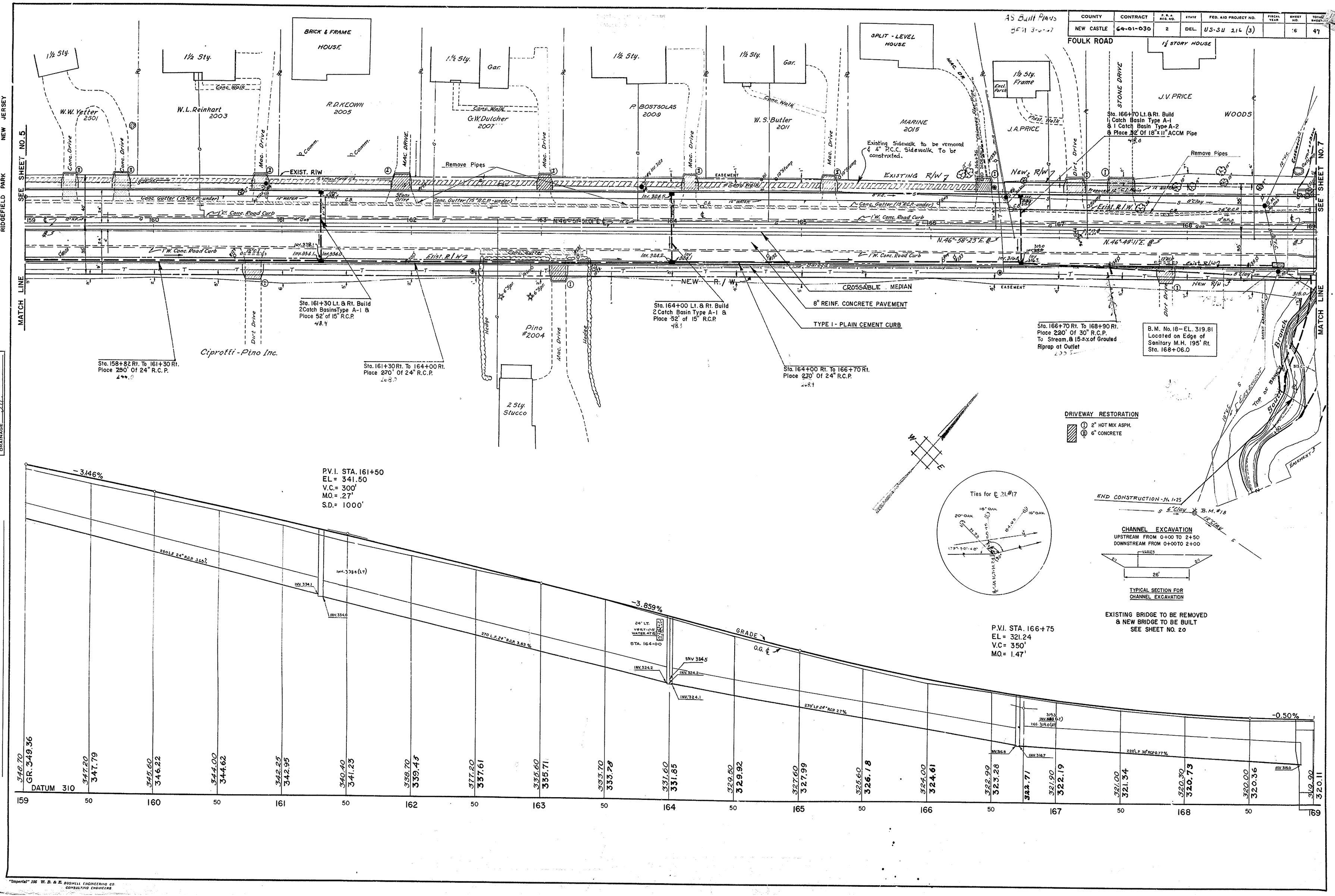
REVISIONS



COUNTY | CONTRACT | P.R.A. REG. NO. | STATE | FED. AID PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS
NEW CASTLE | 64-01-030 | 2 | DEL. | US-SU 216(3) | | 5 | 47
FOULK ROAD
NOTE: "CHAIN LINK FENCE ACROSS VAN PELT PROPERTY TO BE STORED & RESET". SEE SPECIAL PROVISION.
EXISTING SIDEWALK TO BE REMOVED & NEW 4" P.C. CONC. SIDEWALK CONSTRUCTED
Mildred E. vanPelt
Peter Domanski
2 STORY FRAME HOUSE (UNFINISHED)
Joseph J. CARROCCIA
2 Story Br. & Frame
#1903 E.J. Cirrowski
Split Level Brick & Frame
#1905
R.C. Downey
1 Story Brick Ranch House
#1907 L.R. Smith
1½ Sty. Frame
H.M. ANDERSON - 1909
Gar.
2 Sty. Frame
A.T. FRANCHETTI - 2500
TYPE 2 - PARKWAY CURB
Remove Pipes
STREET RESTORATION (SEE NOTE BELOW)
TYPE 2 INTEGRAL CURB & GUTTER
LIMIT OF CONSTRUCT. STA. 1+32.00
CURB TRANSITION
FOULK WOODS RD. (Grass)
(W.W. Vetter)
STA. 150+00 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 52' of 15" R.C.P.
STA. 152+50 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 52' of 15" R.C.P.
STA. 155+16 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 52' of 15" R.C.P.
STA. 157+96 Lt. To STA. 158+48 Lt. Place 52' of 15" R.C.P.
BEGIN SIDEWALK: STA. 151+01.5
Proposed Connection for High Point Swim Club (BY OTHERS)
NEW R/W
EXIST. R/W
PEN. MAC.
MAC. DRIVE
CROSSABLE MEDIAN
Conc. Walk
Conc. Swale
Conc. Drive
Mac. Drive
Dirt Drive
Porch
1½ Sty. Br. & Fr.
T.C. Saffo #1822
MATCH LINE
SEE SHEET NO. 4
SEE SHEET NO. 6
STA. 147+34 Rt. to 150+00 Rt. Place 266' of 15" R.C.P.
STA. 150+00 Rt. to 152+50 Rt. Place 250' of 15" R.C.P.
B.M. No. 16 - EL. 378.42 - "X" Painted on Rock Located 72.3' Rt. of Sta. 150+24.6
CROSSABLE MEDIAN
8" REINF. CONCRETE PAVEMENT
TYPE 1 - PLAIN CEMENT CURB
STA. 152+50 Rt. to 155+16 Rt. Place 266' of 18" R.C.P.
STA. 155+56 Rt. to 155+90 Rt. Build 2 Catch Basins Type A-1 & Place 32' of 15" R.C.P.
STA. 0+56.08 LIMIT OF CONC. PAV'T. & PLAIN CURB.
C.A. Habich #2406
LIMIT OF CONSTR. STA. 1+17.0
Gar.
Conc. Drive
TYPE 2 INTEGRAL CURB & GUTTER
MARLETON DR.
CURB TRANSITION (BOTH SIDES)
M. Fifonzo
1½ Sty. Brick
STA. 156+25 Rt. to STA. 158+82 Rt. Place 258' of 18" R.C.P.
STA. 155+16 Rt. to 156+25 Rt. Build 1 Catch Basin Type A-1 & Place 110' of 18" R.C.P.
STREET RESTORATION (SEE NOTE BELOW)
STA. 157+60 Lt. to 157+96 Lt. Build 2 Catch Basins Type A-1 And Place 32' of 15" R.C.P.
STA. 158+82 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 52' of 18" R.C.P.
STA. 158+48 Lt. Build 1 Catch Basin Type A-1 & Place 44' of 18" R.C.P.
R. Pino
1½ Sty. Br. & Fr.
(Cipriotti-Pino Inc.)
B.M. No. 17 - EL. 354.60 Located 130.5' Lt. Sta. 158+53 on Edge of Concrete Sidewalk
STA. 155+90 Rt. to 156+25 Rt. Place 46' of 15" R.C.P.
STA. 158+35 Rt. to STA. 158+80 Rt. Remove Existing Stone Wall
DRIVEWAY RESTORATION
(I) 2" HOT MIX ASPH.
(II) 6" CONCRETE
STREET RESTORATION
3" HOT MIX
6" WATERBOUND MACADAM
6" SELECT BORROW
Carmen Fortucci
Rosario R. Pino
P.V.I. STA. 151+00 EL. = 374.00 V.C. = 200' M.O. = 038'
P.V.I. STA. 153+50 EL. = 369.00 V.C. = 300' M.O. = 0.62' S.D. = 620'
P.V.I. STA. 158+00 EL. = 352.51 V.C. = 200' M.O. = 0.13'
-3.527%
-2.00%
-3.665%
-3.145%
266'-18" R.C.P.
250'-15" R.C.P.
266'-18" R.C.P.
258'-18" R.C.P.
32'-15" R.C.P.
46'-15" R.C.P.
100'-18" R.C.P.
O.G. GRADE
Existing Main
Proposed Main
DATUM 340
GR. 380.72
379.95
378.61 379.21
377.17 377.53
375.96 375.86
374.89 374.38
374.11 373.10
373.47 372.00
372.82 370.93
371.55 369.72
369.70 368.38
367.94 366.89
366.20 365.27
364.15 363.50
362.10 361.67
360.30 359.84
358.50 358.01
356.70 356.17
354.60 354.37
352.50 352.64
350.97 350.91
348.70 349.36
149 50 150 50 151 50 152 50 153 50 154 50 155 50 156 50 157 50 158 50 159
BOSWELL ENGINEERING CO. RIDGEFIELD PARK NEW JERSEY
REVISIONS
CHANGED INVERTS OF CATCH BASINS @ 155+16 LT & RT GTP 4/8/65
" " " on FOULK WOODS ROAD GTP 4/8/65
BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

COUNTY	CONTRACT	F.A.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-311 214 (3)		16	47

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY



TIE POINTS	
BENCH MARKS	
EARTHWORK	
DRAINAGE	

"Imperial" 256 W. B. & E. BOSWELL ENGINEERING CO. CONSULTING ENGINEERS

COUNTY	CONTRACT	F.R.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YE-YR	SHEET NO	TOTAL SHEETS
NEW CASTLE	G41-01-030	2	DEL.	SU 216 (2)		.	46

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

CURVE NO. 7
P.I. ℄ STA. 172+81.96
Δ=0°-16'-39.154" RT.
D=0°-4' (Chord Def.)
T=208.16'
L=416.31'
R=85,943.7

STREET RESTORATION
3" HOT MIX
6" WATERBOUND MACADAM
6" SELECT BORROW

NOTE:
FOR LIMIT OF CONSTRUCTION
SEE SHEET NO. 15

Construct 200' of Lateral Ditching Each Side

Place 8 S.Y. of Conc. Gutter Paving Each Side
Sta. 178+88 Lt. & Rt. Build
2 Catch Basins Type A-1
& Place 52' Of 15" A.C.C.M. Pipe

STA. 0+85 Rt. to 0+85 Lt.
Build 2 Catch Basins Type PW-1
& Place 58' of 18" x 11" A.C.C.M. Pipe

Sta. 0+85 Lt. To 177+06 Rt.
Place 52' Of 15" R.C.P.

STA. 177+06 Lt. to 177+20 Rt. Build
1 Type A-1 Catch Basin & Place
52' of 15" R.C.P.

Sta. 169+77 Lt. & Rt. Build
2 Catch Basins Type A-1
& Place 52' Of 15" R.C.P

Sta. 172+25 Lt. & Rt. Build
2 Catch Basins Type A-1
& Place 52' Of 15" R.C.P.

TYPE 1 - PLAIN CEMENT CURB
8" REINF. CONCRETE PAVEMENT
CROSSABLE MEDIAN

Typical Section Grubbs Road - Left & Right of ℄ (Foulk Rd. Lt.)

Sta. 169+12 ℄ +0+00

Sta. 169+77 Rt. To 169+07 Rt.
Place 60' Of 15" R.C.P.
To Stream, & Place 10 Sq. Yd. of
Grouted Rip-rap at Outlet

Sta. 170+25
End Median

Sta. 171+30
Begin Median

P.C. STA. 170+73.80

Sta. 172+25 Rt. To 169+77 Rt.
Place 248' Of 15" R.C.P.

Patching - Street Restoration. See note this Sheet

Sta. 3+90 Lt. Build 1 Type "B" Catch Basin & Place 34' of 15" R.C.P. & Connect to M.H. Sta. 4+20 Rt. & Place 2 S.Y. Conc. Gutter.

Sta. 4+20 Rt. Build 1 Std. M.H. & Place 68' of 21" R.C.P. to Stream on Left

Sta. 4+20 Rt. Build 1 Type "3" Catch Basin & Place 6' of 15" R.C.P. to M.H. & Place 2 S.Y. Conc. Gutter

Patching-Street Restoration. See note this Sheet

Place 5 yds. of Grouted Rip Rap at outlet
Inv. 308.0
Exist. 4'x20' Structure
Elev. 308.0

P.V.I. STA. 173+50
EL. = 329.00
V.C. = 400'
M.O. = 2.58
S.D. = 375'

Sta. 177+20 Rt. To 177+75
Build 1 Catch Basin Type A-1
& Place 50' Of 18" R.C.P. TO M.H.

Sta. 177+75 Rt. Build
1 Std. Manhole

Sta. 178+88 Rt. To 177+50 Rt.
Place 110' of 15" R.C.P.

Sta. 177+75 Rt. to 1+72 Rt.
Place 132 of 21" R.C.P.

B.M. No. 19 - EL. 323.34
Located on Curb 110.6' Rt.
Sta. 177+05

STREET RESTORATION
3" HOT MIX
6" WATERBOUND MACADAM
6" SELECT BORROW

Sta. 1+72 Rt. Build 1 Std. Manhole

Sta. 1+72 Lt. & Rt. Build 2 Type "B" Catch Basins & Place 28' of 15" R.C.P. to M.H. Between. Place 2 S.Y. of Conc. Gutter Each Side.

Limit of Pavement
Sta. 2+05

NOTE:
FOR ADDITIONAL DATA NOT SHOWN
ON THIS SHEET SEE SHEET NO. 15

Sta. 1+72 Rt. to 4+20 Rt. Place 248' of 21" R.C.P.
Connect to Std. M.H. 4+20 Rt.

Patching
Street Restorations
Note This Sheet.

Typical Town Section Grubbs Road - Left & Right of ℄ (Foulk Road. Rt.)

CHANNEL EXCAVATION
UPSTREAM FROM 0+00 TO 2+50
DOWNSTREAM FROM 0+00 TO 2+00

TYPICAL SECTION FOR CHANNEL EXCAVATION

EXISTING BRIDGE TO BE REMOVED
& NEW BRIDGE TO BE BUILT
SEE SHEET NO. 20

DRIVEWAY RESTORATION
(I) 2" HOT MIX ASPH.
(II) 6" CONCRETE

P.V.I. STA. 170+50
EL. = 319.36
V.C. = 200'
M.O. = .92

P.V.I. STA. 178+00
EL. = 320.20
V.C. = 300'
M.O. = .93

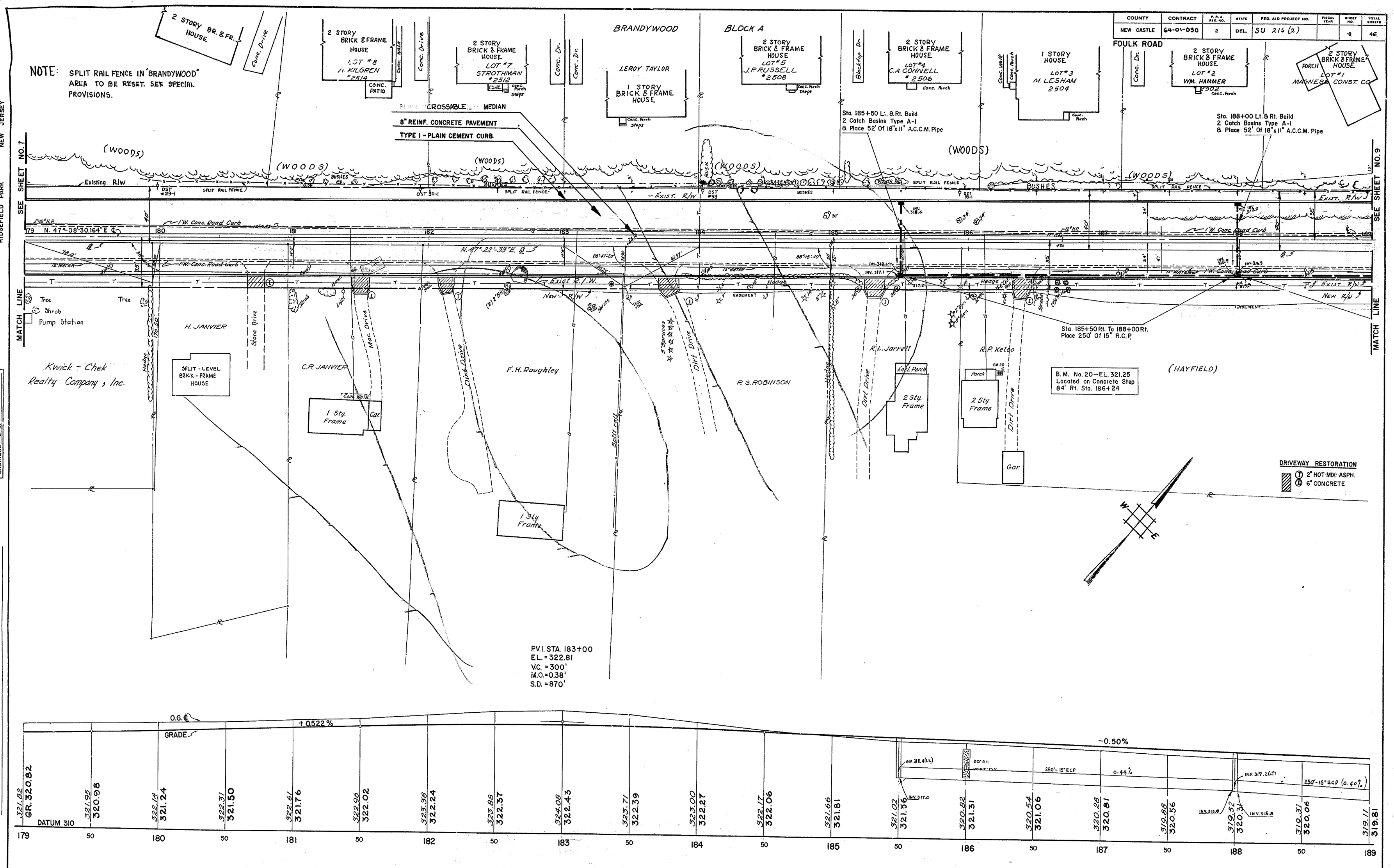
-0.50%
+3.213%
-1.955%
+0.522%
1.41%
1.79%
0.5%
O.G.
GRADE
P.V.R.C.
248 L.F. of 15" R.C.P.
60 L.F. of 15" R.C.P.
MATCH LINE STA. 3+20 (THIS SHEET)

Station	Elevation
169	319.90
50	319.50
170	319.60
50	320.25
171	321.60
50	323.75
172	326.06
50	327.00
173	328.35
50	328.08
174	327.56
50	326.89
175	325.92
50	325.04
176	324.38
50	323.54
177	322.77
50	321.99
178	321.54
50	321.66
179	321.82

DATUM 310

REVISIONS

COUNTY	CONTRACT	P.R.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	SU 216 (2)		8	46



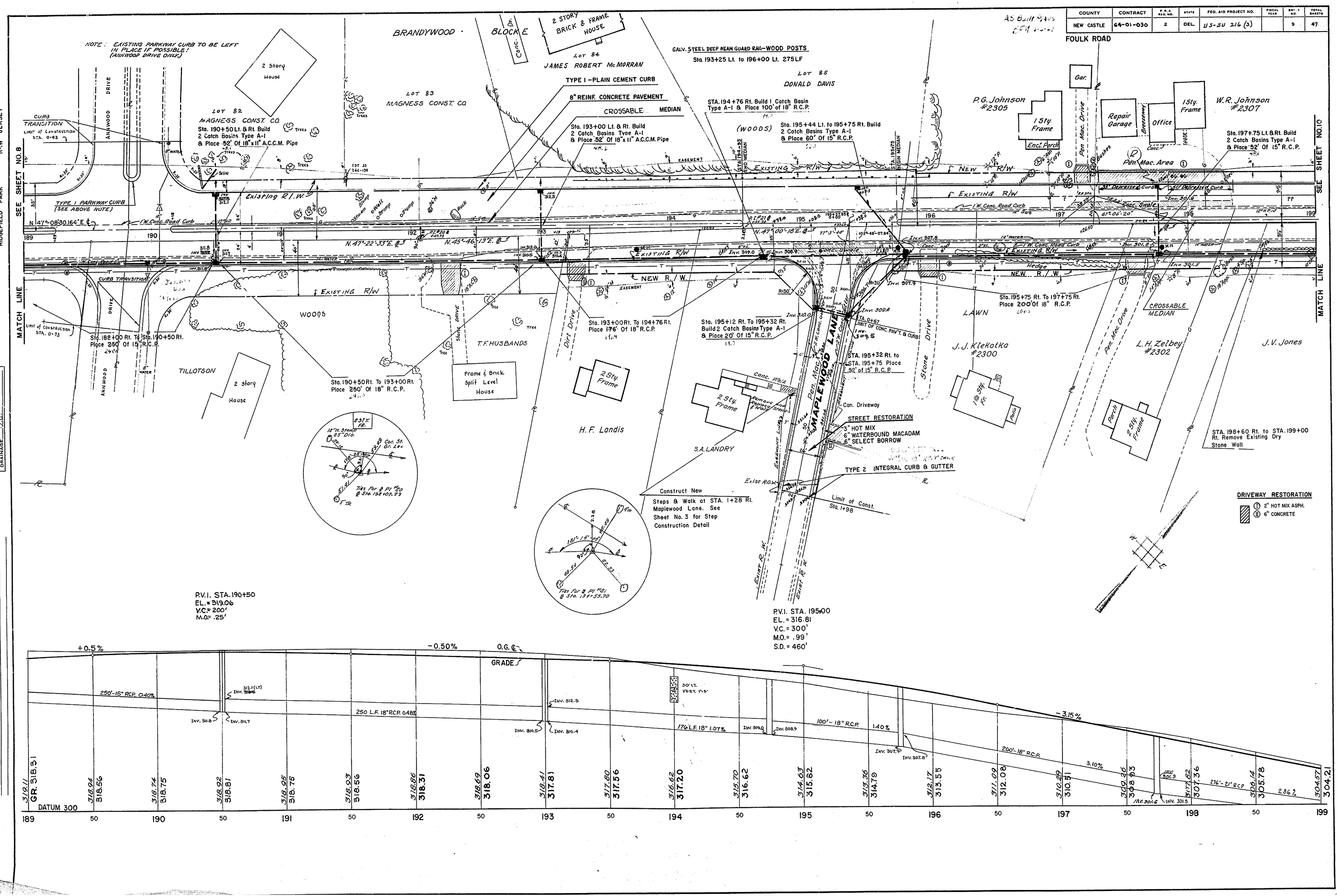
BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

REVISIONS

BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

"Imperial" 156 W. B. & E. BOSWELL ENGINEERING CO.

COUNTY	CONTRACT	P.R.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)		9	47



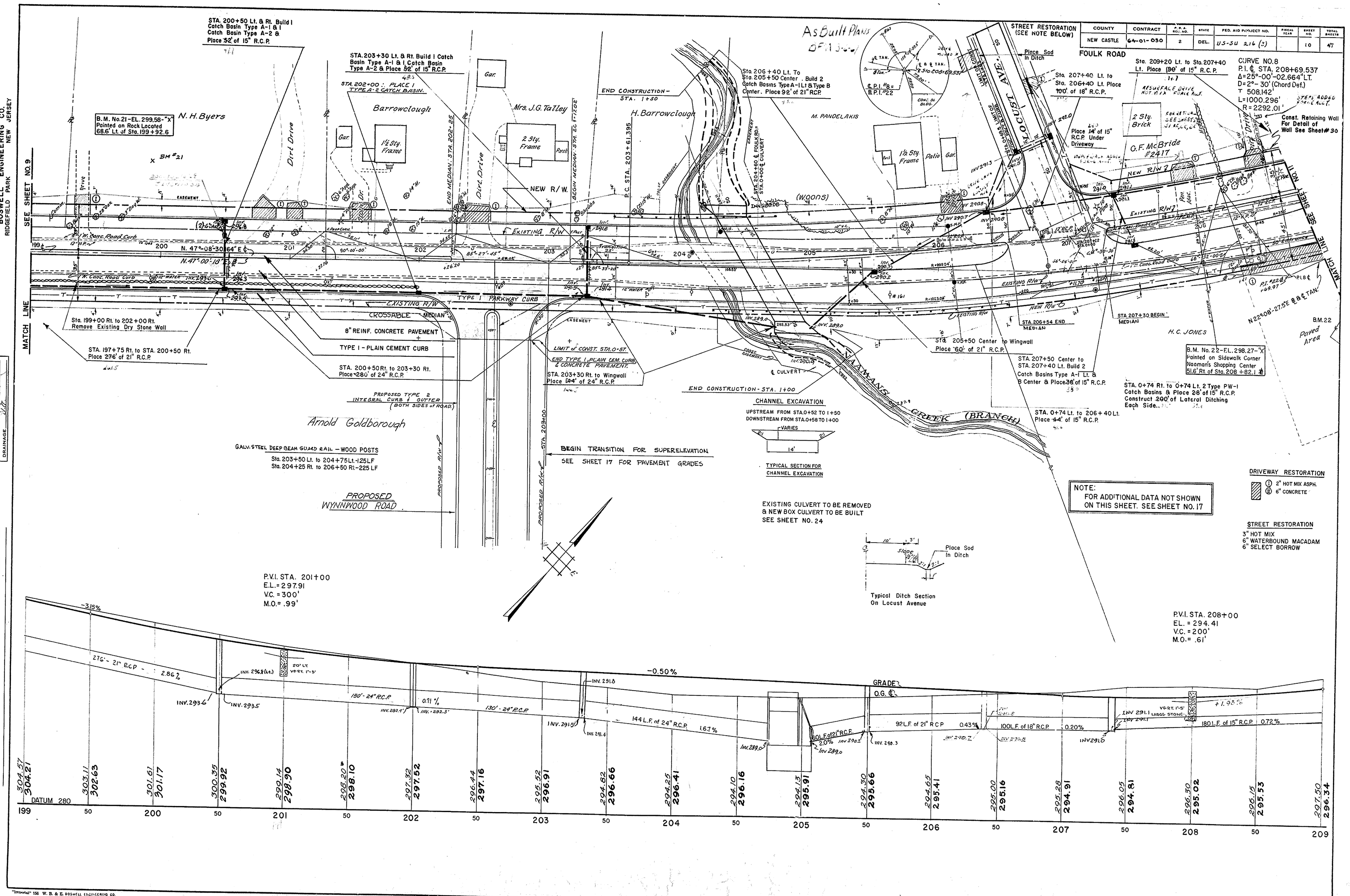
BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

REVISIONS
CHANGED INVERTS OF C.B. @ 190+50 LT. & RT. STP. 4/8/65

SEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

COUNTY	CONTRACT	F.P.A. REL. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	U.S.-S.U. 216 (2)		10	47



GRADE
BEARINGS
TIE POINTS
BENCH MARKS
ELEVATIONS
DRAINAGE
CHECKED

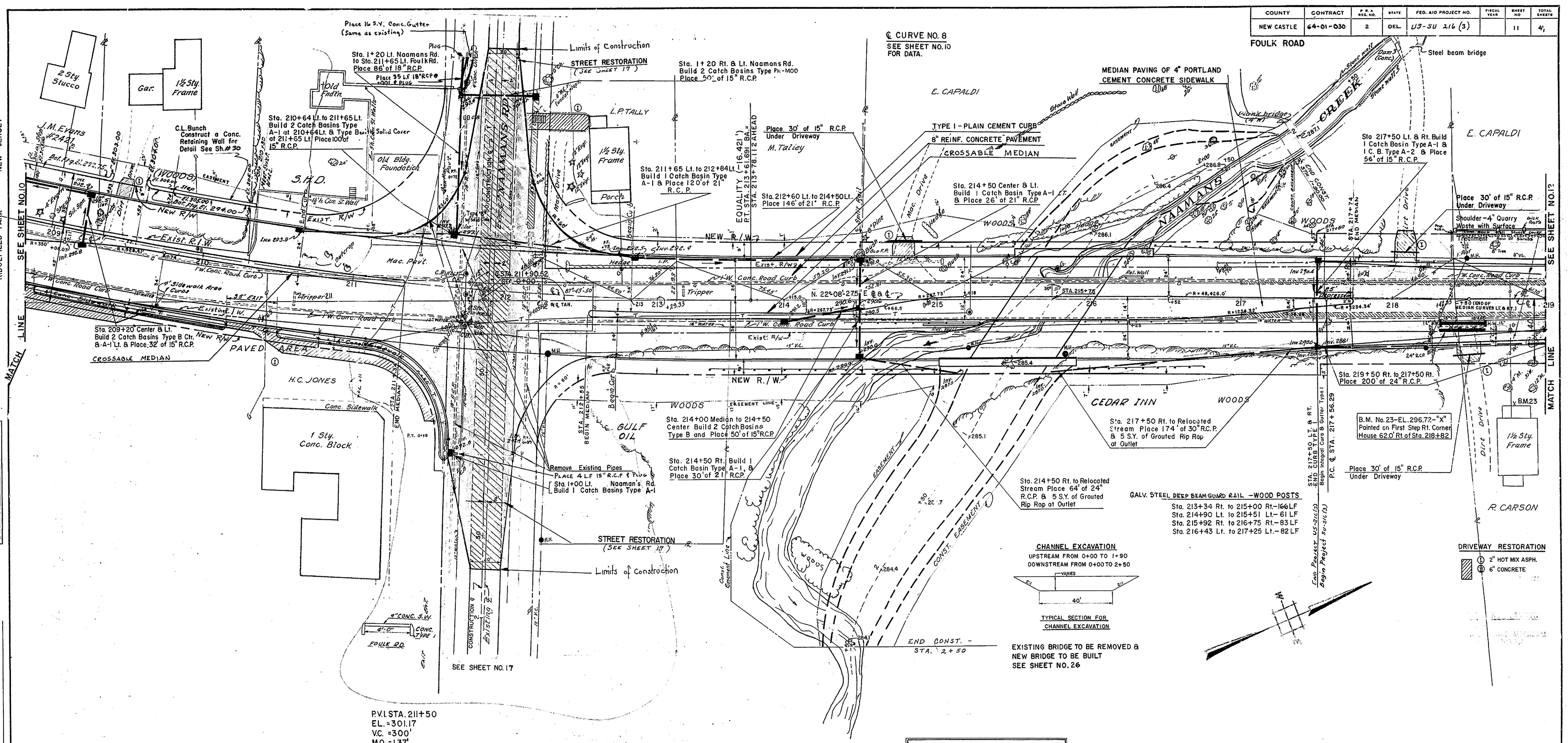
REVISIONS

"Imperial" 156 W. B. & E. BOSWELL ENGINEERING CO. CONSULTING ENGINEERS

COUNTY	CONTRACT	F.A.P. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	U3-SU 216 (3)		11	41

FOULK ROAD

BOSWELL ENGINEERING CO. RIDGEFIELD PARK NEW JERSEY



TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

REVISIONS

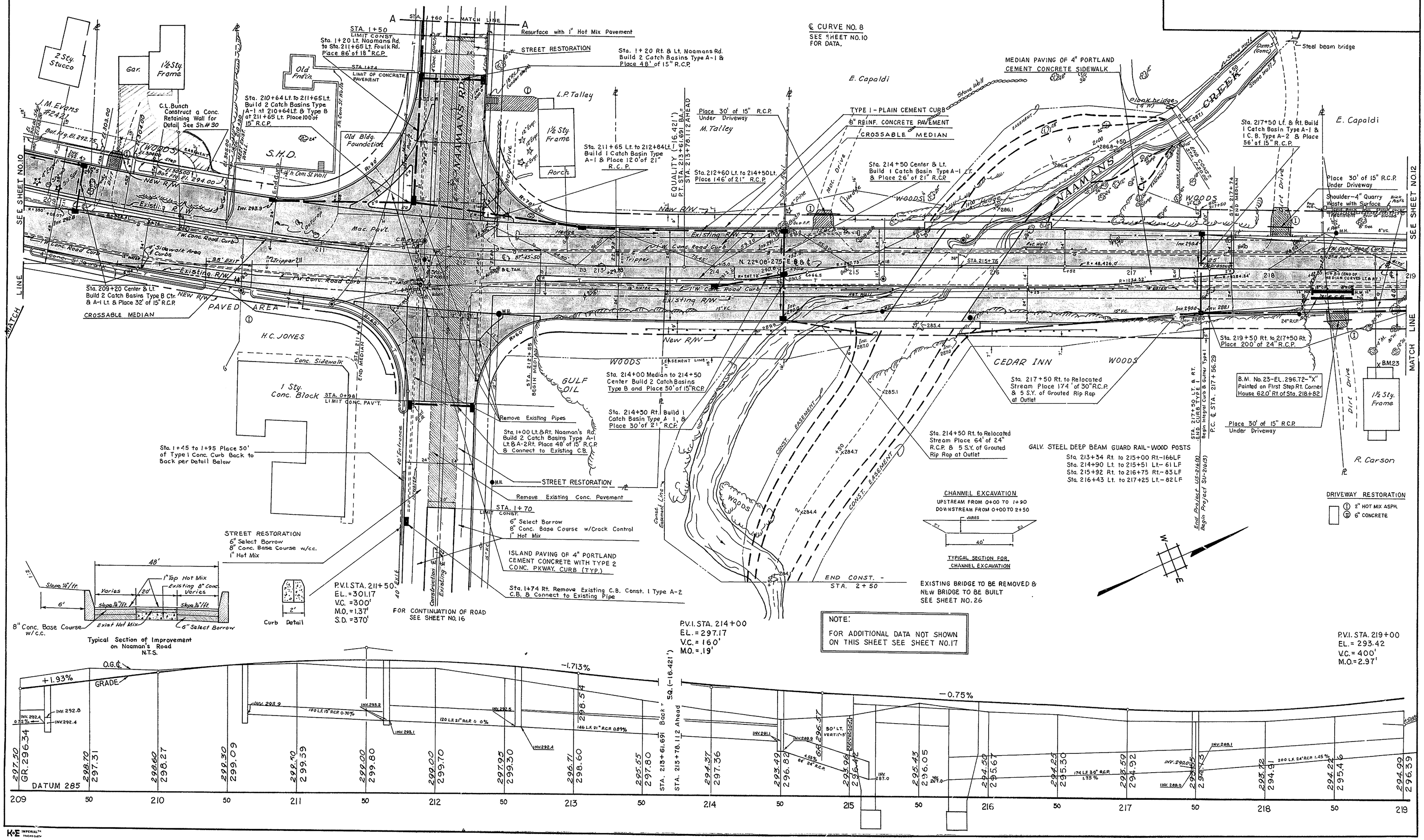
COUNTY	CONTRACT	P. B. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216(3)	11	47

FOULK ROAD

PREL. TRACING _____ DESIGN _____ CHKD. _____

REVISIONS

CHANGED INVERTS OF C.B. & 1+20 RT NAAMANS Rd. GTP 4/8/65

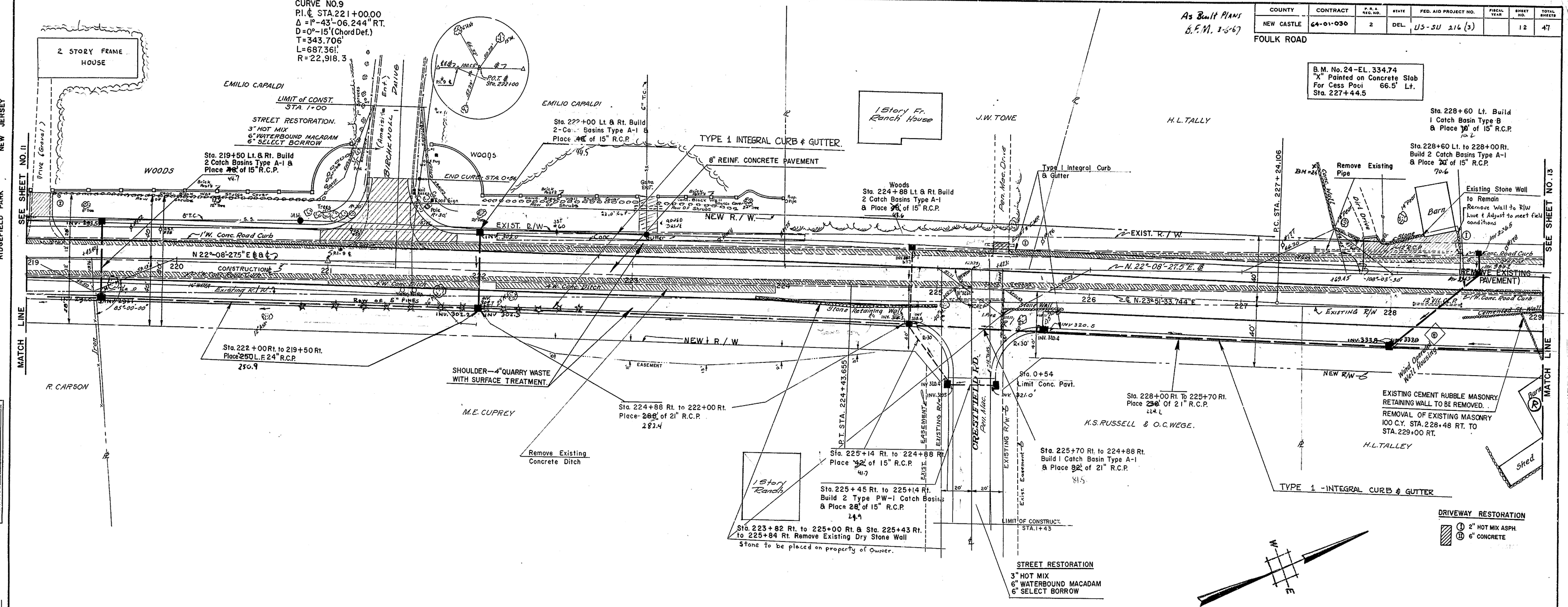


BOSWELL, ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

As Built Plans
B.F.M. 3-5-67

COUNTY	CONTRACT	F.P.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)		12	47

FOULK ROAD



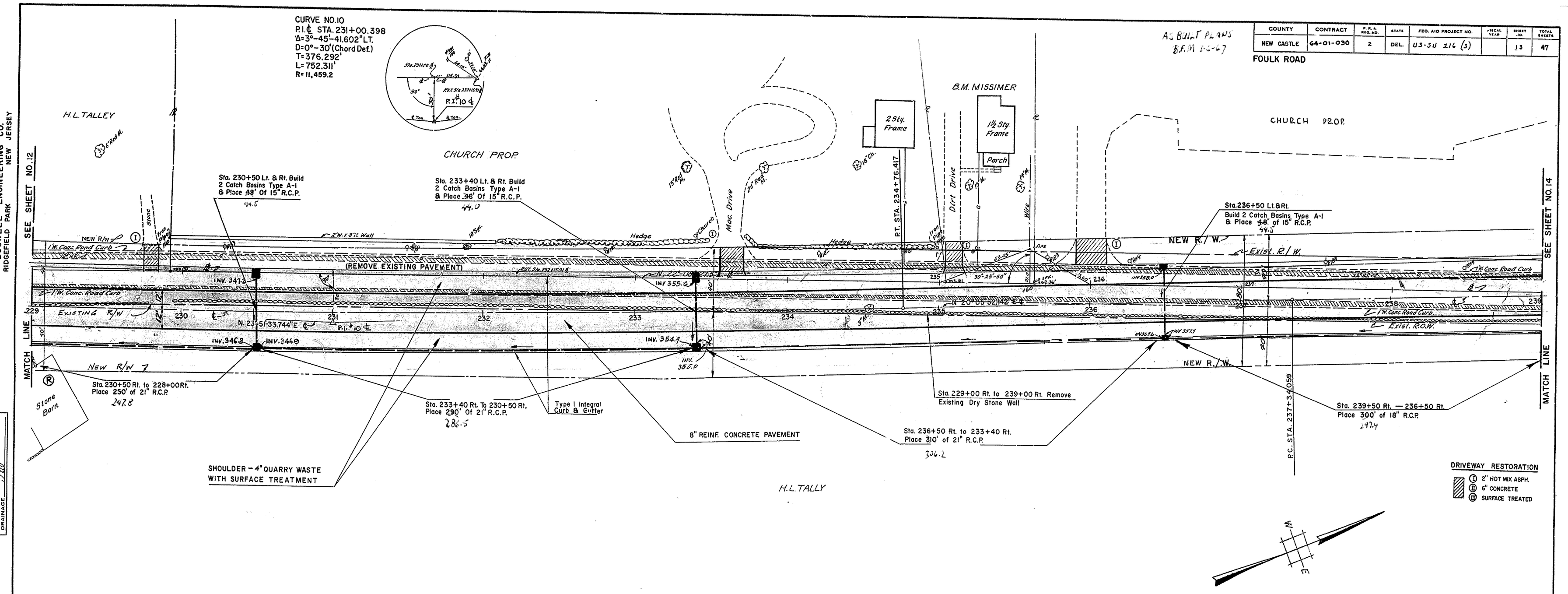
BENCH MARKS
EARTHWORK
DRAINAGE

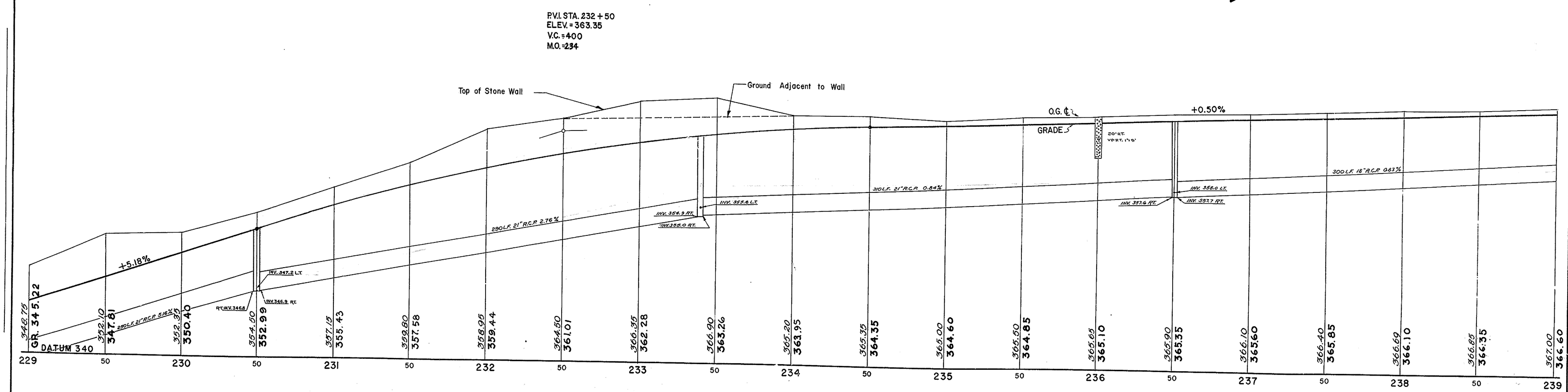
BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

COUNTY	CONTRACT	F.R.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-301 216 (3)		13	47

FOULK ROAD

AS BUILT PLANS
B.F.M. 5-5-67





BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

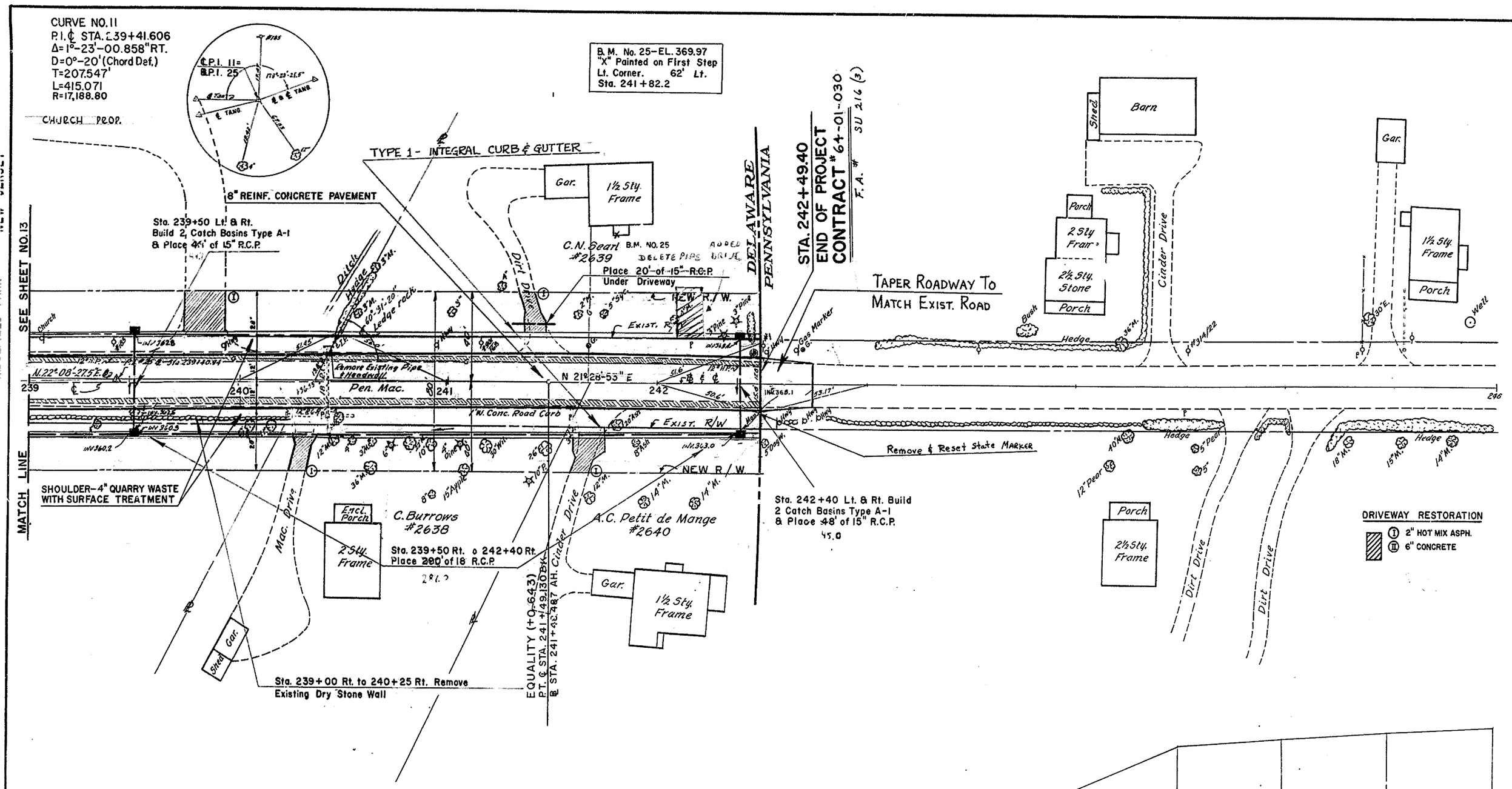
REVISIONS

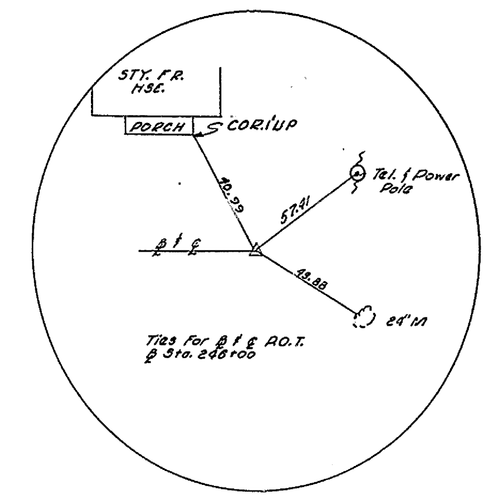
"Imperial" 356 W. B. & E. BOSWELL ENGINEERING CO. CONSULTING ENGINEERS

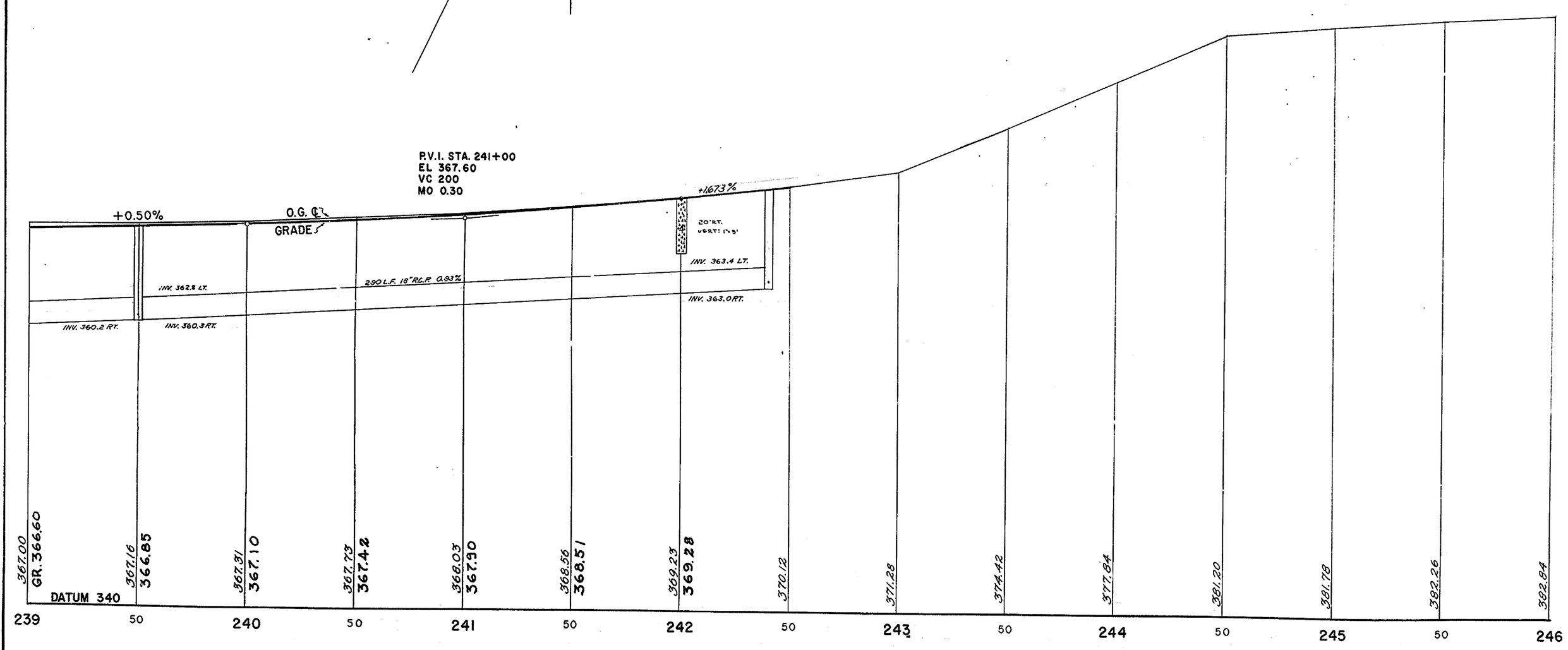
COUNTY	CONTRACT	F.A.I. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)		14	47

FOULK ROAD

As Built Plans
BEM 8-6-67







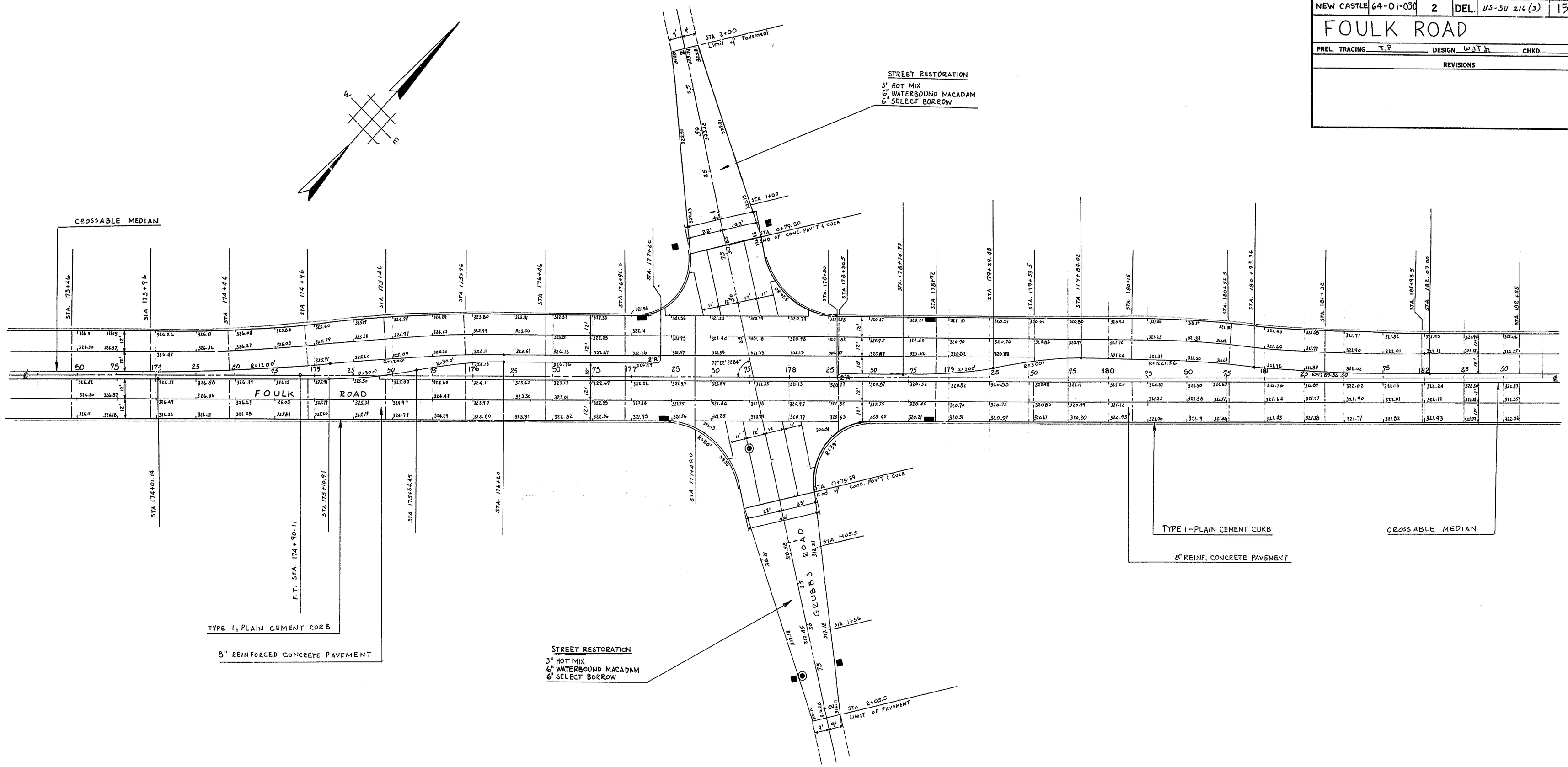
"Imperial" 356 W. B. & E. BOSWELL ENGINEERING CO.

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216(3)	15	47

FOULK ROAD

PREL. TRACING T.P. DESIGN W.J.T. CHKD.

REVISIONS



NOTE: SEE SHEET 3 FOR TYPICAL SECTIONS.

GRUBBS RD. & FOULK RD.
INTERSECTION

LEGEND

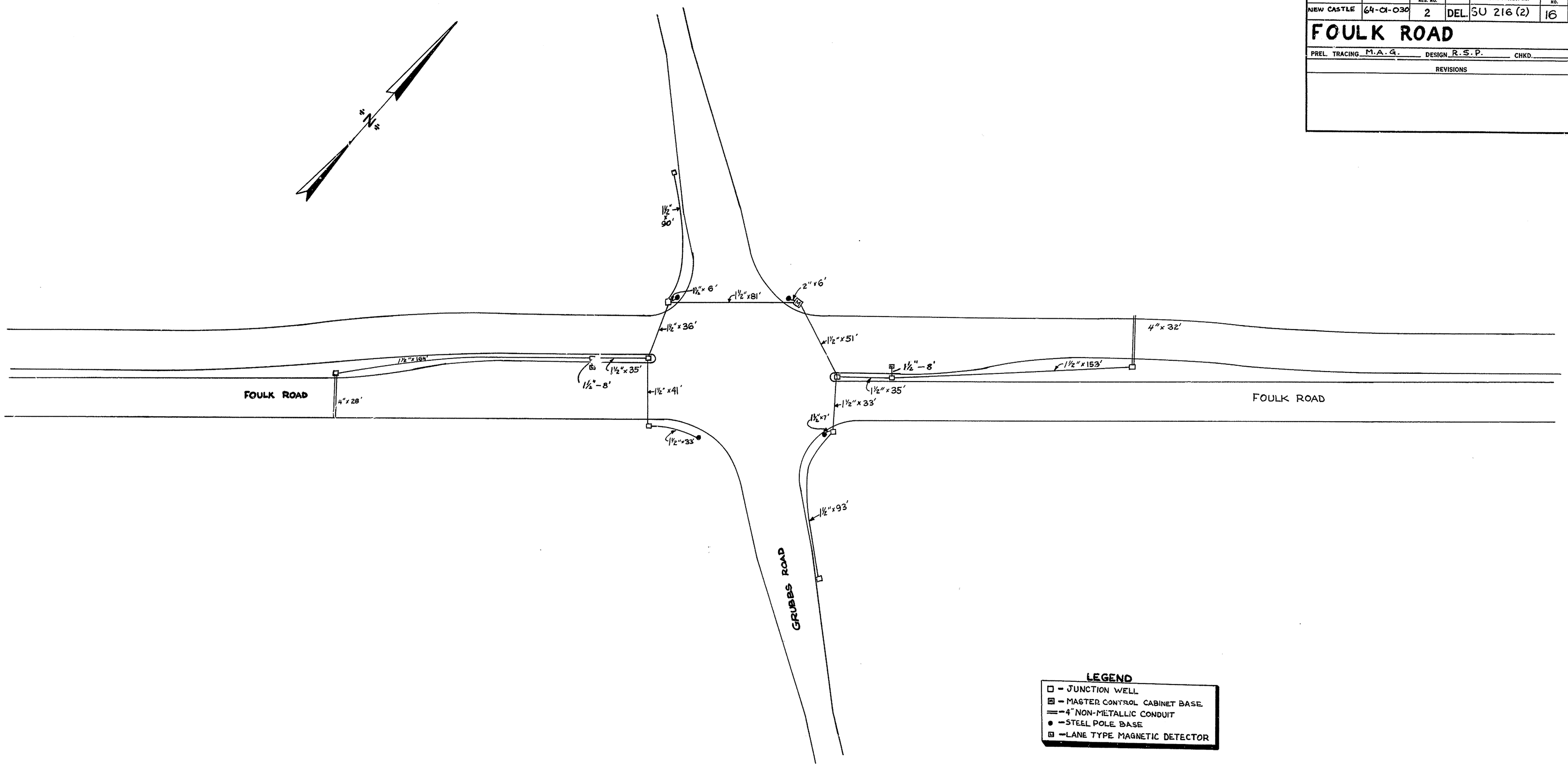
- CONSTRUCTION JOINT
- DUMMY CONTRACTION JOINT
- CONSTRUCTION ℄
- EDGE OF PAVEMENT
- CURB (TYPE 1-PLAIN CEMENT CONC.)
- CATCH BASIN
- MANHOLE

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	SU 216 (2)	16	47

FOULK ROAD

PREL. TRACING M.A.G. DESIGN R.S.P. CHKD.

REVISIONS



LEGEND

- □ - JUNCTION WELL
- ⊠ - MASTER CONTROL CABINET BASE
- ═ - 4" NON-METALLIC CONDUIT
- ● - STEEL POLE BASE
- ⊡ - LANE TYPE MAGNETIC DETECTOR

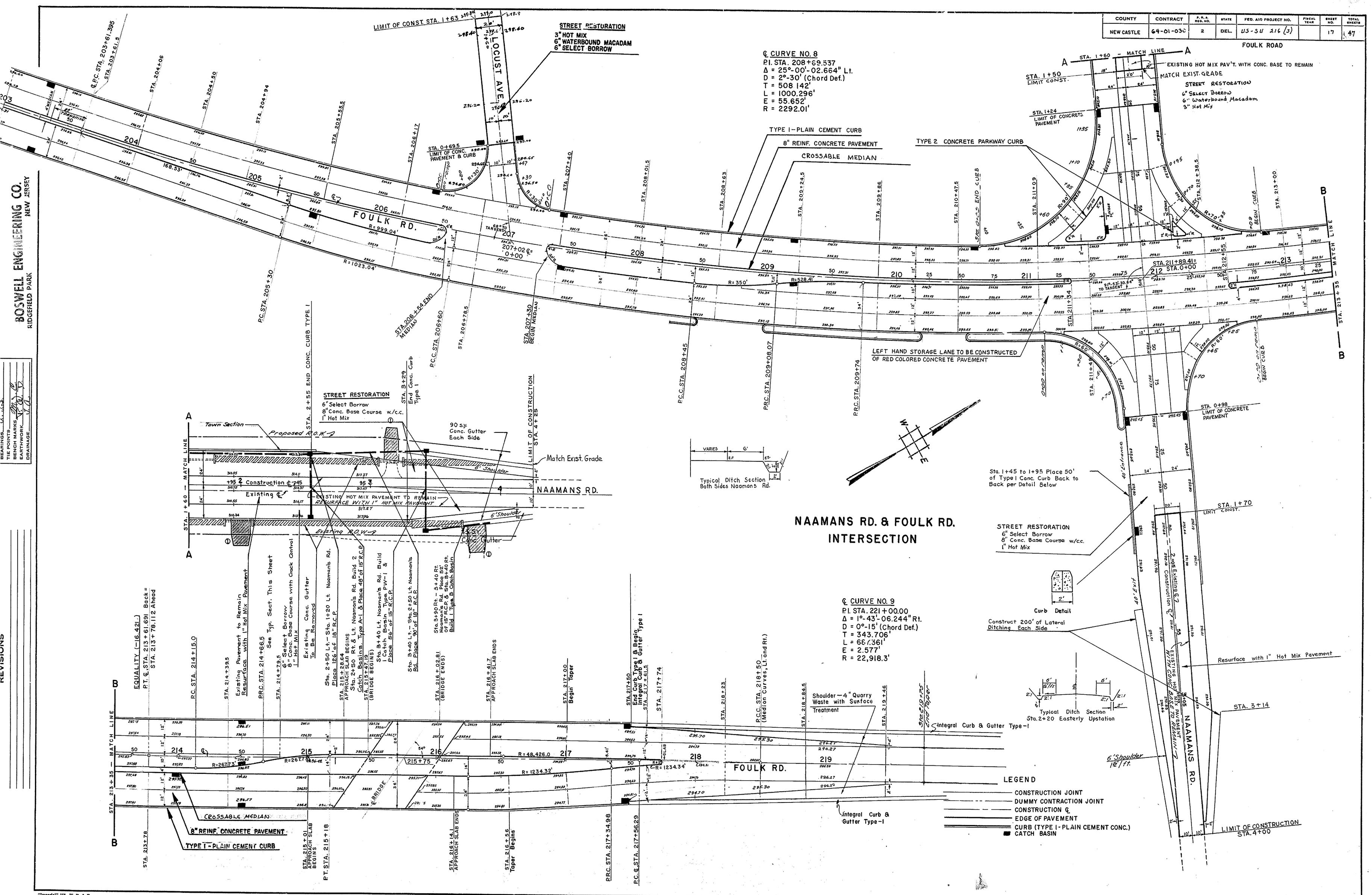
COUNTY	CONTRACT	F.A.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)		17	47

FOULK ROAD

BOSWELL ENGINEERING CO.
NEW JERSEY
RIDGEFIELD PARK

REVISIONS

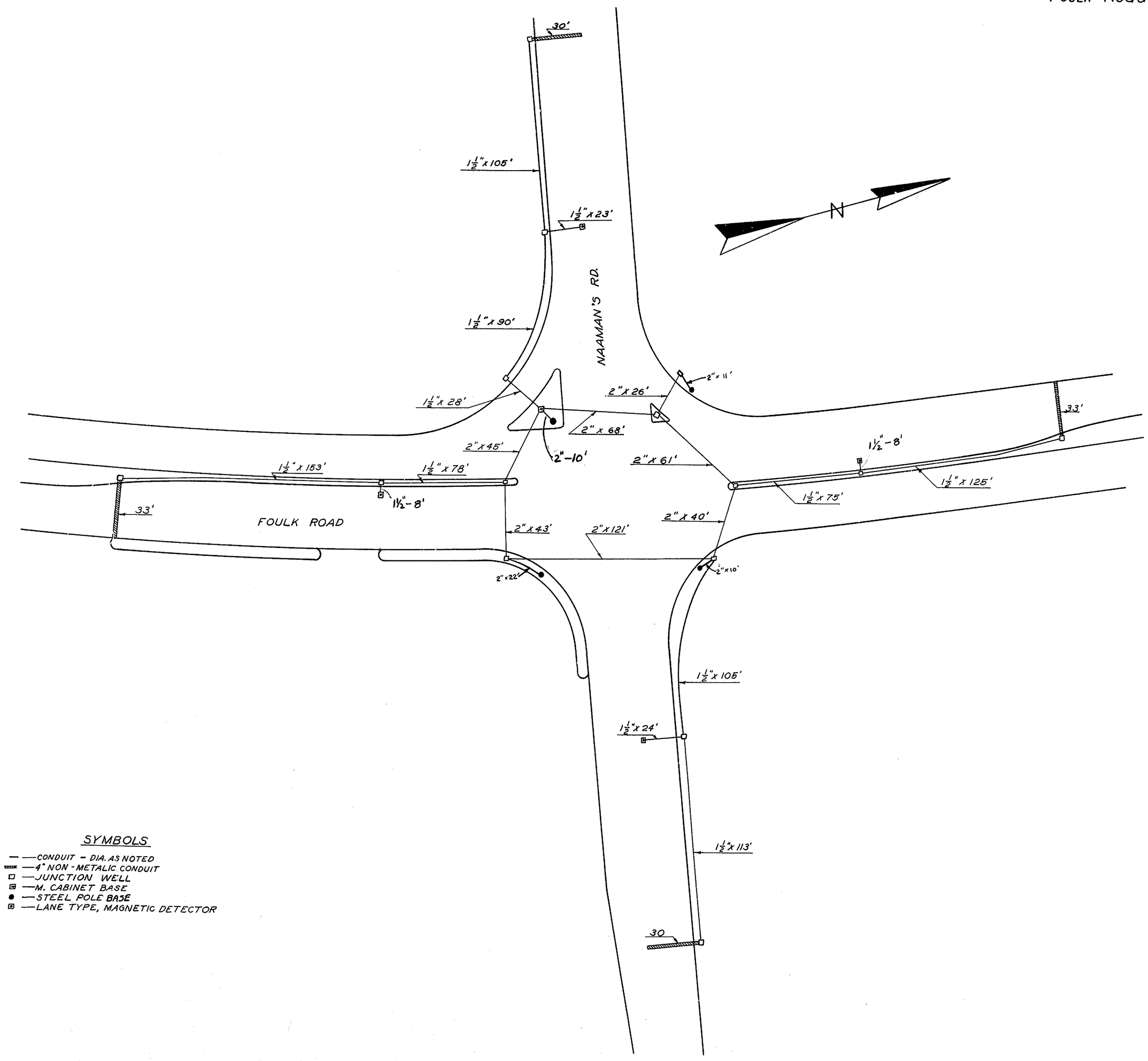
BEARINGS
TIES
BENCH MARKS
EARTHWORK
DRAINAGE



"Imperial" 156 W. B. & E. BOSWELL ENGINEERING CO. CONSULTING ENGINEERS

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
N. C.	64-01-030	2	DEL.	SU 216 (2)		18	47

FOULK Road



SYMBOLS

- CONDUIT - DIA. AS NOTED
- 4" NON-METALIC CONDUIT
- JUNCTION WELL
- M. CABINET BASE
- STEEL POLE BASE
- LANE TYPE, MAGNETIC DETECTOR

K & E CO. 17 5183

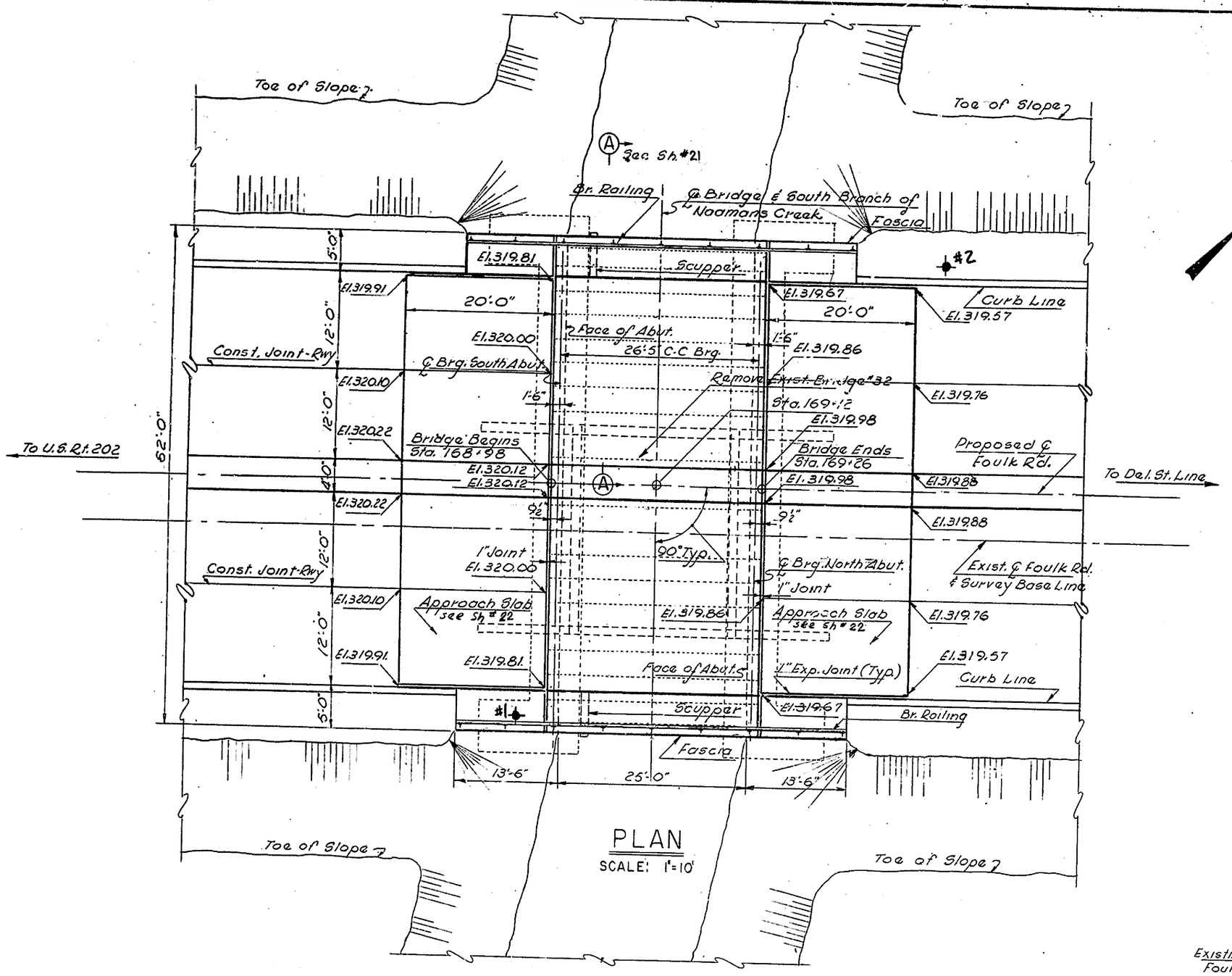
BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

REVISIONS

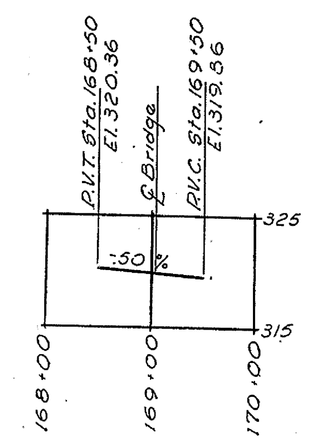
NC 8-1

COUNTY	CONTRACT	DIV.	PROJ. NO.	STATE	FED AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2		DEL	US-SU 216 (3)	1959	20	47

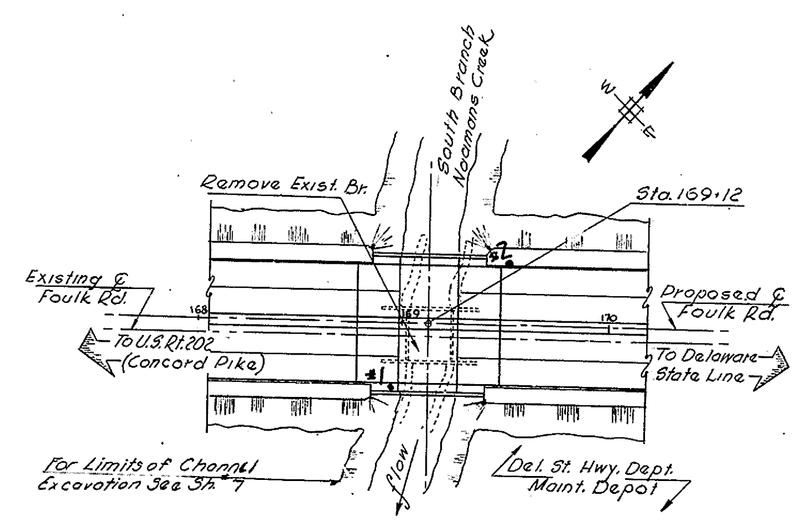
FOULK ROAD BRIDGE #32



PLAN
SCALE: 1"=10'



PROFILE
HORIZ: 1"=100'
VERT: 1"=10'



LOCATION PLAN
SCALE: 1"=50'

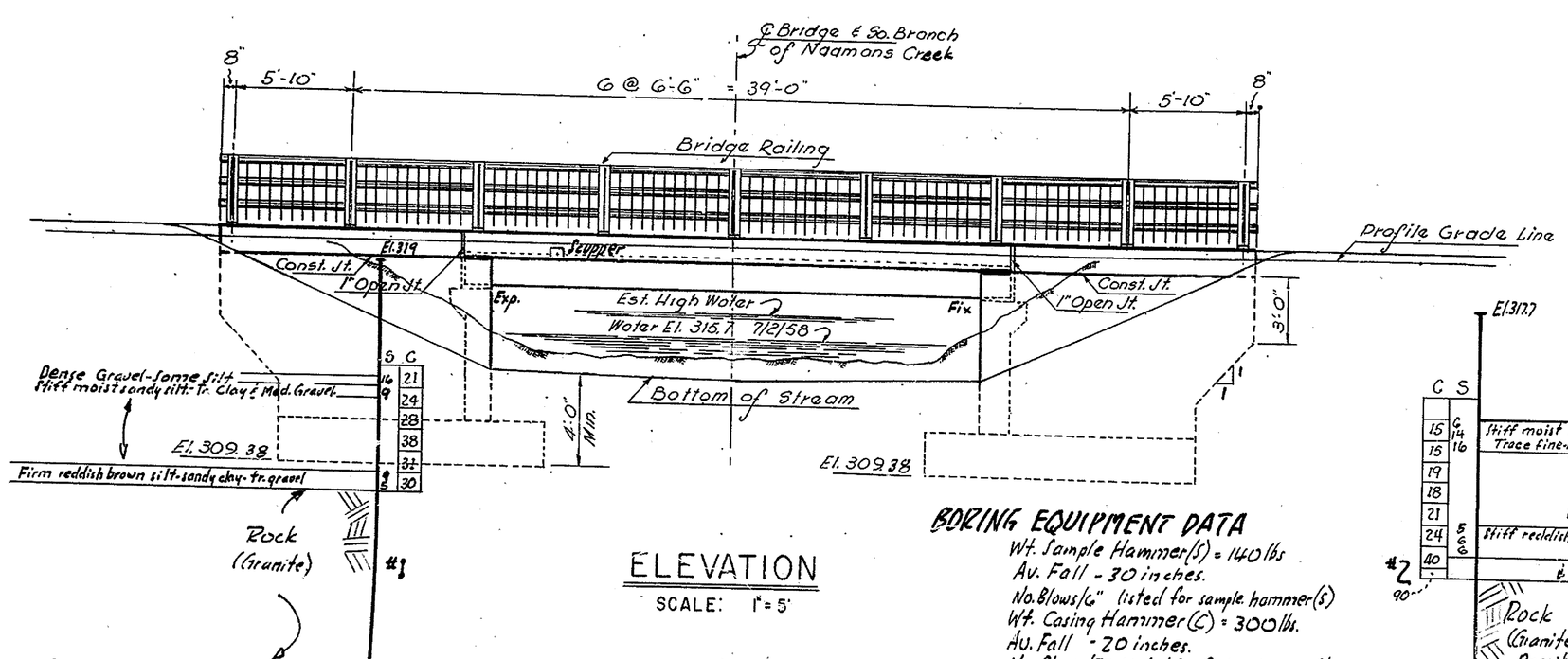
ESTIMATE OF BRIDGE QUANTITIES

ITEM #	DESCRIPTION	UNIT	QUANTITY
—	Removal of Existing Bridge	L.S.	—
—	Prestressed Precast Reinforced Concrete Bridge Deck Including Sidewalks Curbs And Median Strip Over Bridge Deck	L.S.	—
—	Bridge Railing	L.F.	104
—	Asphalt Tack Coat	Gal.	32
4	Excavation for Structures	C.Y.	298
11	Hot Mix Asphaltic Concrete Pav't	Ton	98
* 18	Portland Cement Conc. Masonry for Abut., Wingwalls,	C.Y.	158
	Sub-Foundation Concrete	C.Y.	30
19	Superficial Waterproofing	S.Y.	127
*20	Bar Reinforcement	Lb.	25361
57	Sand	Ton	1.8
28	Channel Excavation	C.Y.	1399
3	Rock Excavation	C.Y.	10
*18	Portland Cement Conc. Masonry for Approach Slabs	C.Y.	94

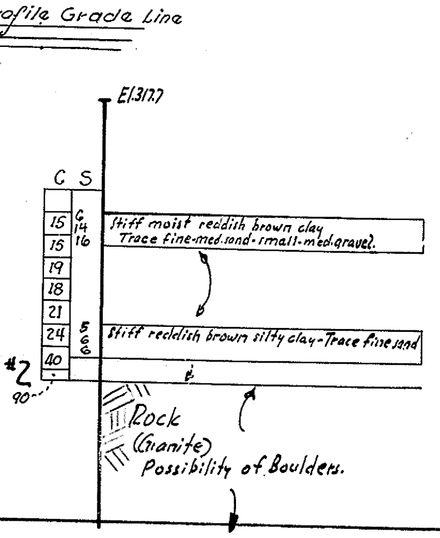
* "Estimated Fixed Quantity Items" See Sheet #33 of the Plans.

GENERAL NOTES

1. All materials and construction shall conform to the State of Delaware State Highway Department Standard Specifications dated July 1, 1960, and the special provisions. Design Specifications - 1961 AASHO Standard Specifications for Highway Bridges including interim specifications.
2. Design Loading - H20-S16-44.
3. All dimensions are given at 68°F.
4. Reinforcing steel shall have a clear cover of 3" in footing and 2" elsewhere unless noted.
5. All exposed edges to be chamfered ¾" unless noted.
6. Entire curb and other exposed surfaces are to have a rubbed finish.
7. Top of sidewalk shall be finished with a wooden float and tool marked as directed by Engineer.
8. Cross slope of Approach Slab shall conform to that of roadway.



ELEVATION
SCALE: 1"=5'

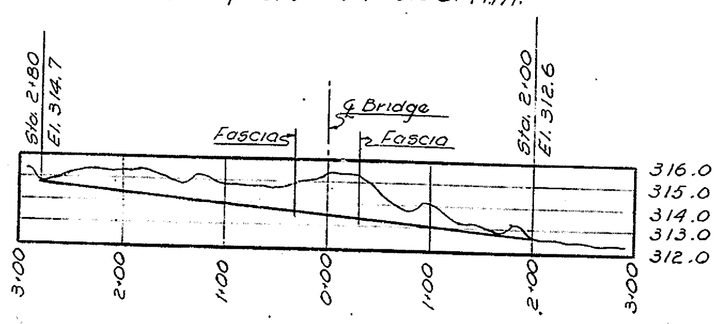


BORING EQUIPMENT DATA

Wt. Sample Hammer(S) = 140 lbs
Av. Fall - 30 inches.
No. Blows/6" listed for sample hammer(s)
Wt. Casing Hammer (C) = 300 lbs.
Av. Fall - 20 inches.
No. Blows/Ft. Listed for Casing Hammer(c)

HYDRAULIC DATA
25-YR FREQUENCY

Design Discharge - 575 c.f.s.
Design Velocity - 4.31 ft/sec.
Design Depth - 3.2 ft.
Normal Flow Depth - 0.7 ft.
Av. Slope of Stream - 0.001 ft/ft.



STREAM PROFILE
SCALE: HORIZ: 1"=100'
VERT: 1"=5'
(Looking toward increasing stations)

LIST OF DRAWINGS

Plan & Elevation	Sh.# 20
Details	Sh.# 21
Approach Slab & Details	Sh.# 22
Bar Schedule	Sh.# 23
Bridge Railing Details	Sh.# 32

DELAWARE
STATE HIGHWAY DEPARTMENT

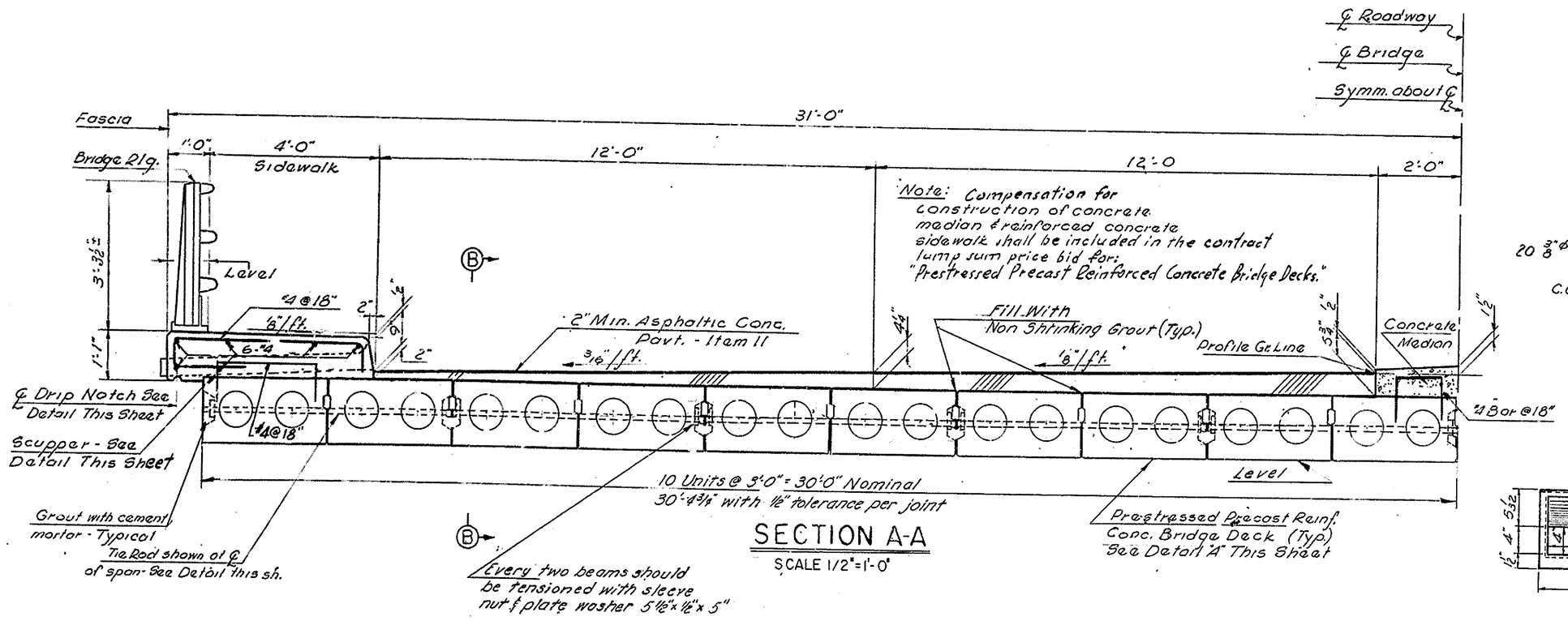
PLAN & ELEVATION

DR: D.R.	SCALE:	APPROVED:
TR:	AS SHOWN	BRIDGE ENGINEER
CHE: 11-25-59		

BOSWELL ENGINEERING CO
CONSULTING ENGINEERS

COUNTY	CONTRACT	DIV.	PROJ. NO.	STATE	FED AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2		DEL	US-SU 216 (3)	1959	21	4

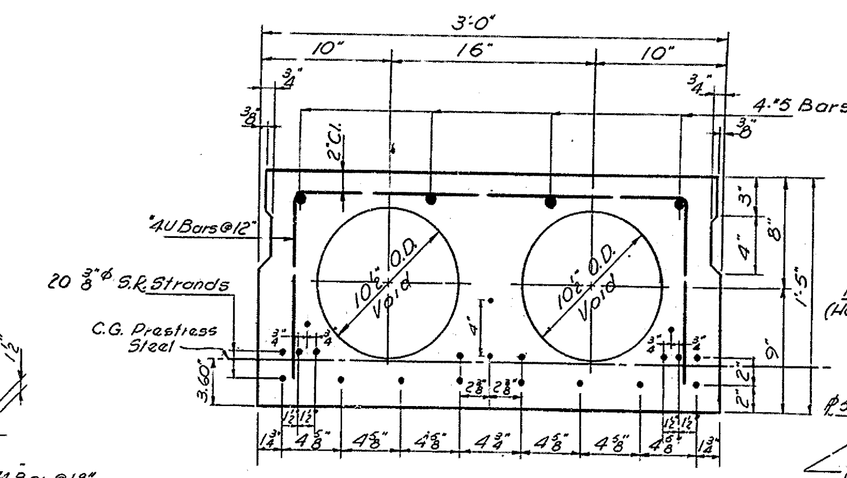
FOULK ROAD BRIDGE #32



SECTION A-A

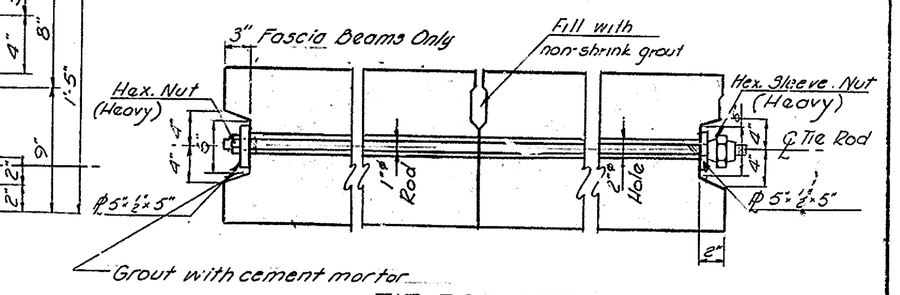
SCALE 1/2" = 1'-0"

Note: Compensation for construction of concrete median & reinforced concrete sidewalk shall be included in the contract lump sum price bid for: "Prestressed Precast Reinforced Concrete Bridge Decks."



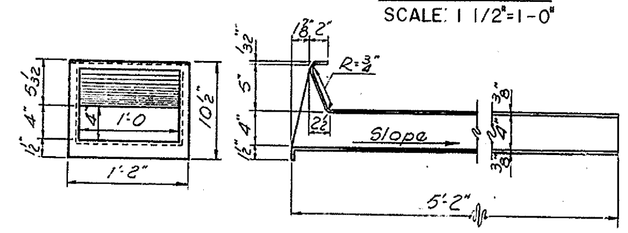
DETAIL A

SCALE: 1 1/2" = 1'-0"



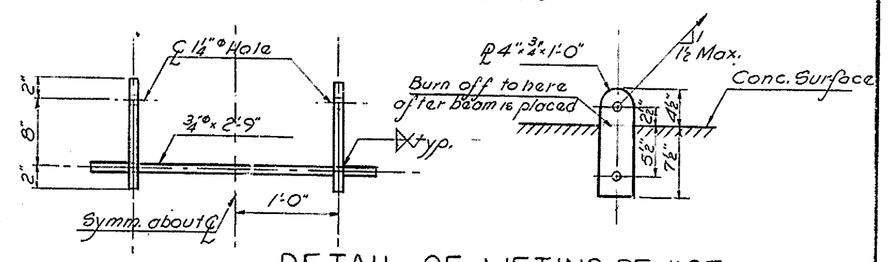
TIE ROD DETAIL

SCALE: 1" = 1'-0"



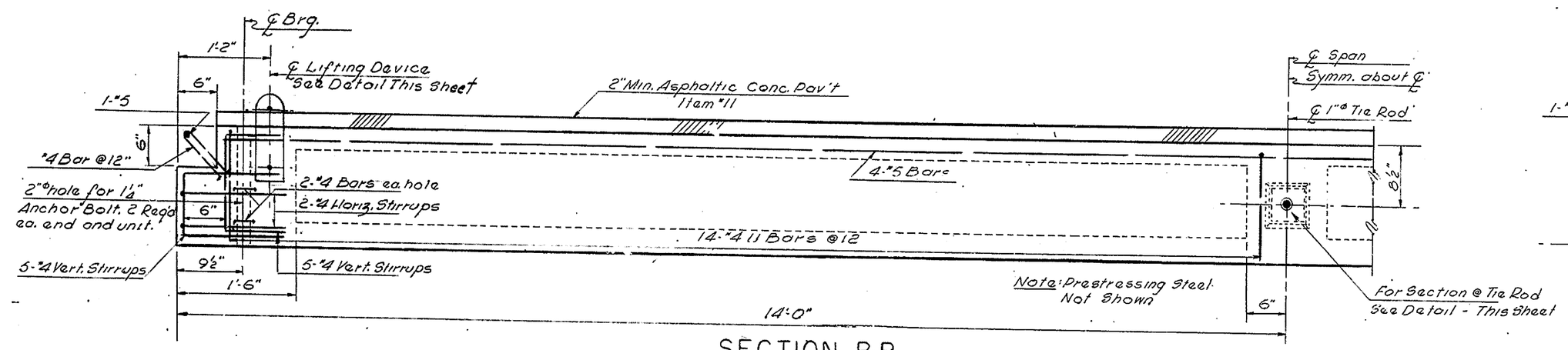
SCUPPER DETAIL

SCALE 1" = 1'-0"
(2 Required)
See Spec. Prov.



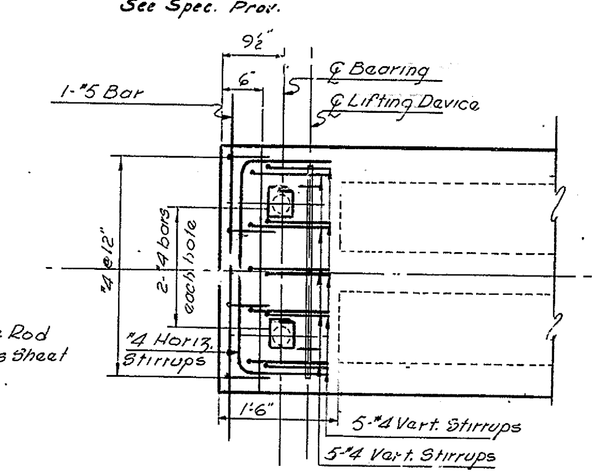
DETAIL OF LIFTING DEVICE

SCALE 1" = 1'-0"



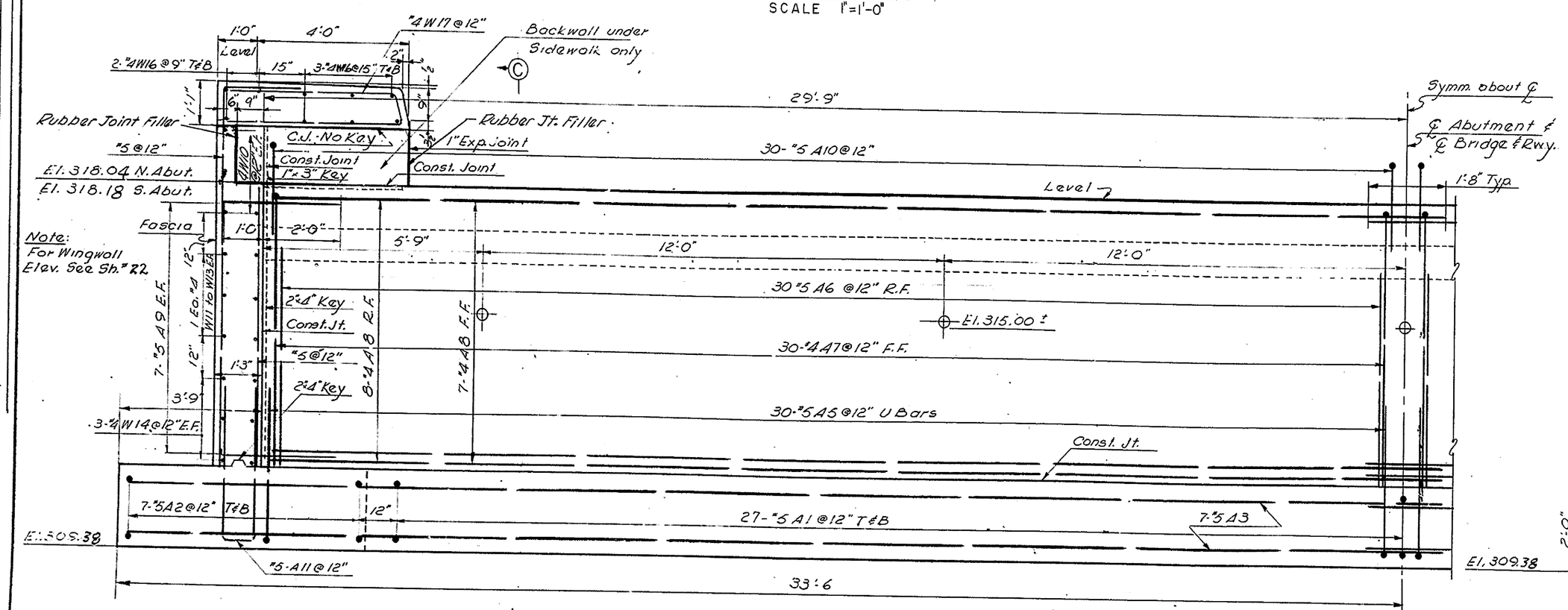
SECTION B-B

SCALE 1" = 1'-0"



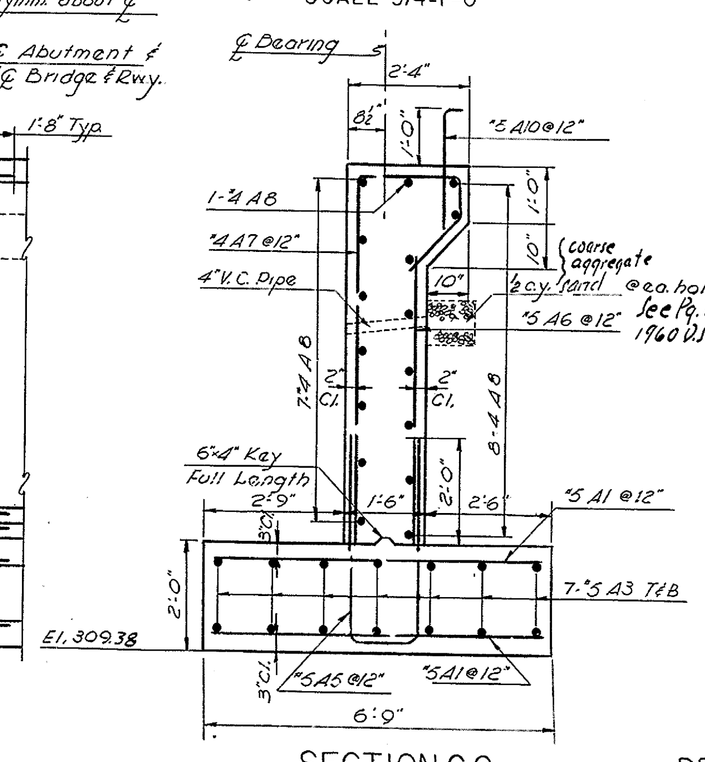
PLAN AT BEARING

SCALE 3/4" = 1'-0"



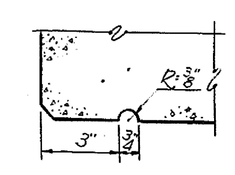
ABUTMENT ELEVATION

SCALE: 1/2" = 1'-0"



SECTION C-C

SCALE 1/2" = 1'-0"



DRIP NOTCH DETAIL

SCALE 3" = 1'-0"

NOTE:

1. For General Notes see Sh. #20
2. Location of Section A-A on Sh. #20
3. Scuppers are to be fabricated of hot dipped galvanized wrought iron or steel.
4. Max. Live Load + Dead Load pressure @ abutment toe = 0.81 Tons/Sq. Ft. & @ heel = 1.07 Tons/Sq. Ft.
5. Anchor bolts are to be set perpendicular to bridge seat.
6. All slab units are designed in accordance with the requirements of the 1961 Standard Specifications for Highway Bridges of the American Association of State Highway Officials, including current corrections, modifications, and addenda.
7. Required:
   Min. 28 day cylinder strength of concrete - 5,000 psi.
   Min. cylinder strength at time of prestressing - 4,000 psi.
   Max. stress in concrete at time of prestressing - 2,400 psi.
   Steel wire strands for prestressing to be 3/8" dia., 7 wire stress relieved strand.
   Min. tensile strength - 20,000 lbs. per strand.
   Max. initial prestress - 175,000 psi.
   Max. design stress - 140,000 psi.
8. For more design data and detailed information refer to Special Provisions.
9. Design Load - H 20-S16-44
10. The ultimate strength must be such as to withstand the following loads without failure: 1.5 D + 2.5 (L + I)
11. The weight of one slab unit is approx. 12,570 lbs.

DELAWARE
STATE HIGHWAY DEPARTMENT

DETAILS

DR: D.R.F.	SCALE:	APPROVED:
TR:	AS SHOWN	F. M. Fox
CH: M.J.C. 11-24-58		BRIDGE ENGINEER

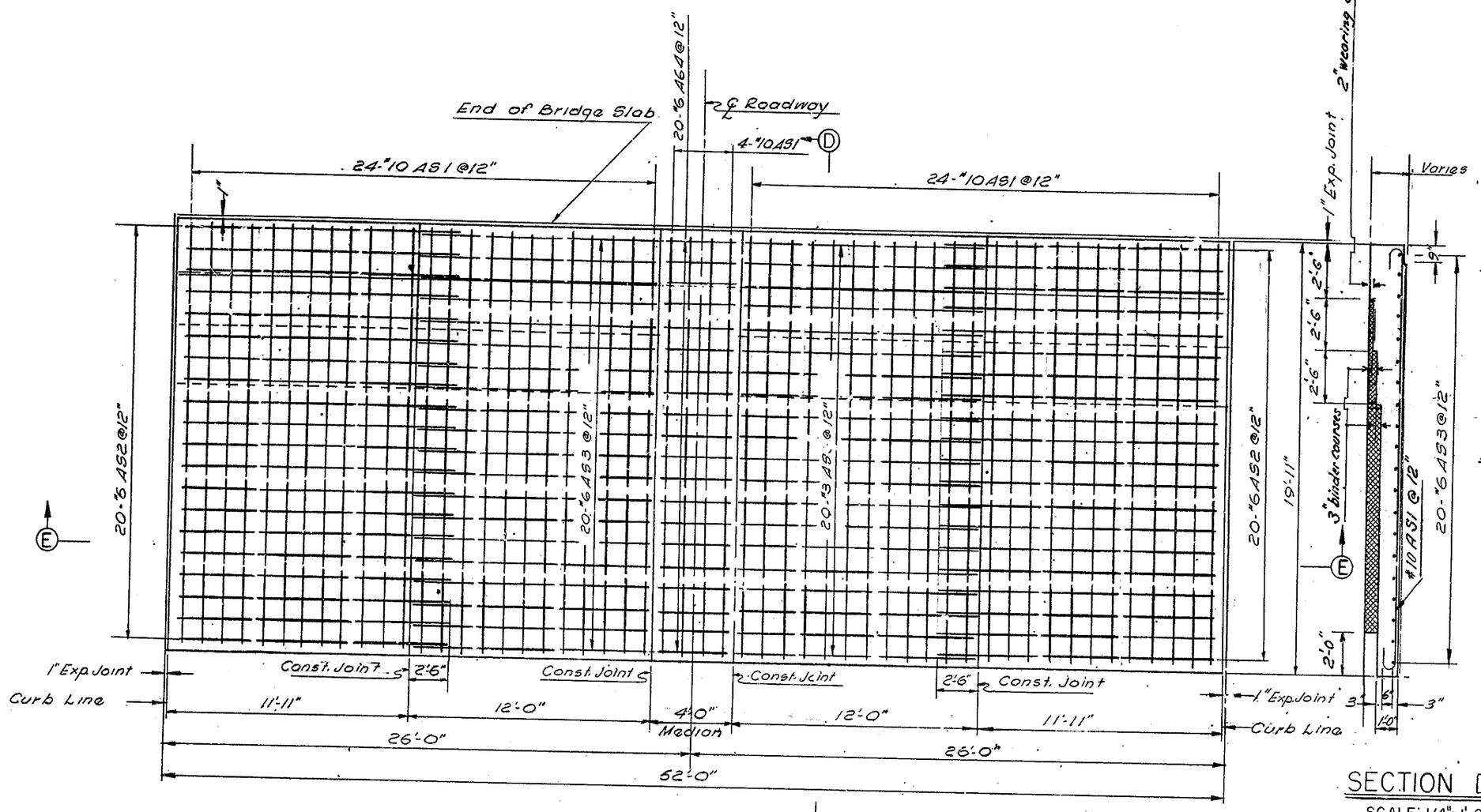
BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

REVISIONS

BOSWELL ENGINEERING CO.
CONSULTING ENGINEERS

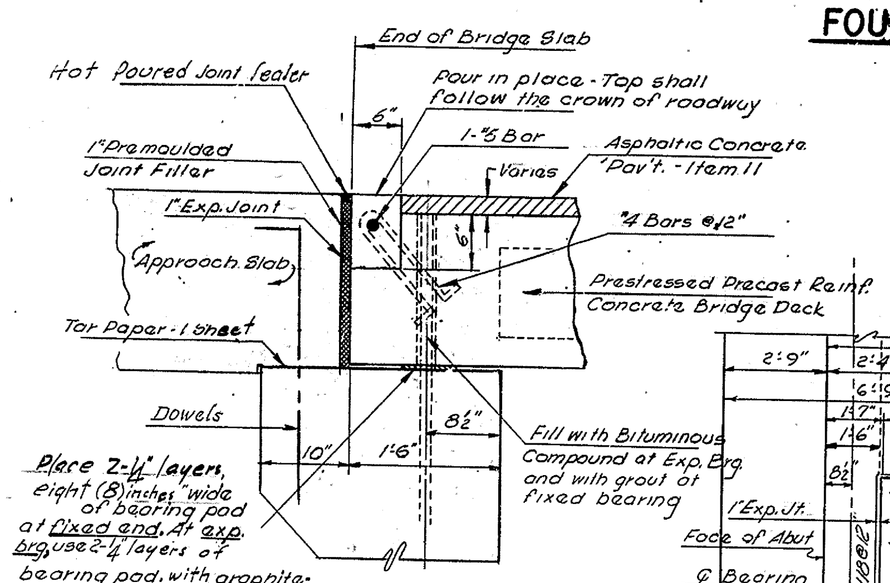
COUNTY	CONTRACT	PRA. DIV.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)	1959	22	47

FOULK ROAD BRIDGE #32



PLAN

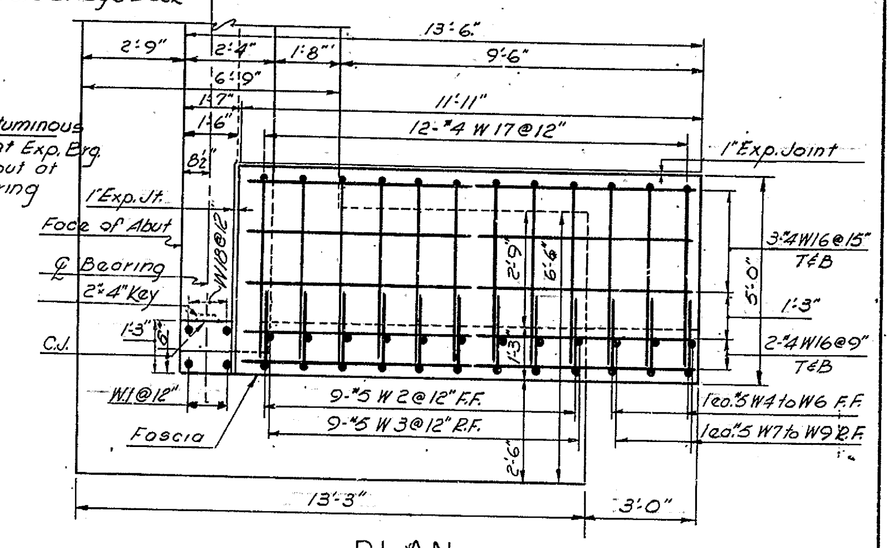
SCALE 1/4"=1'-0"



JOINT AT ABUTMENTS

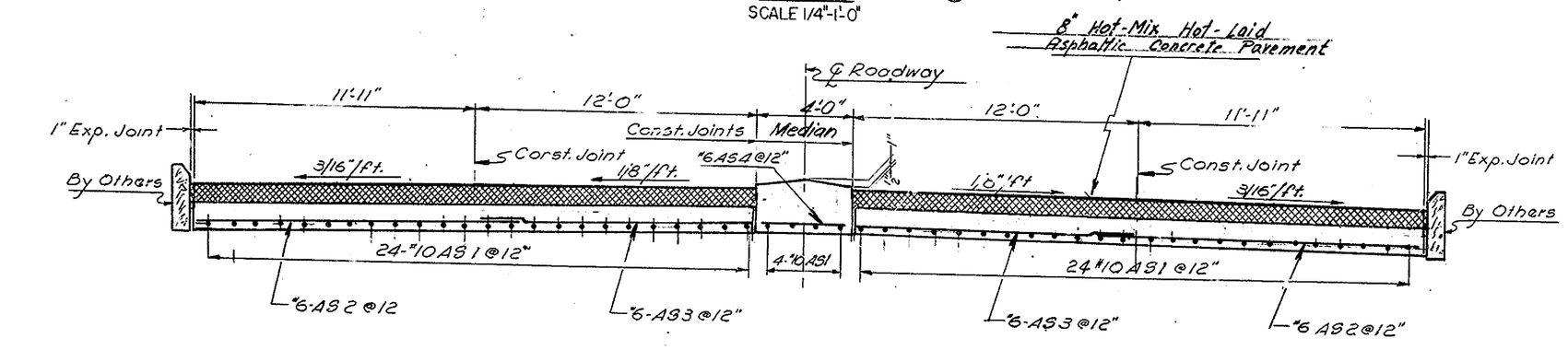
SCALE: 1"=1'-0"

Typical Below Curbs



PLAN

SCALE: 3/8"=1'-0"

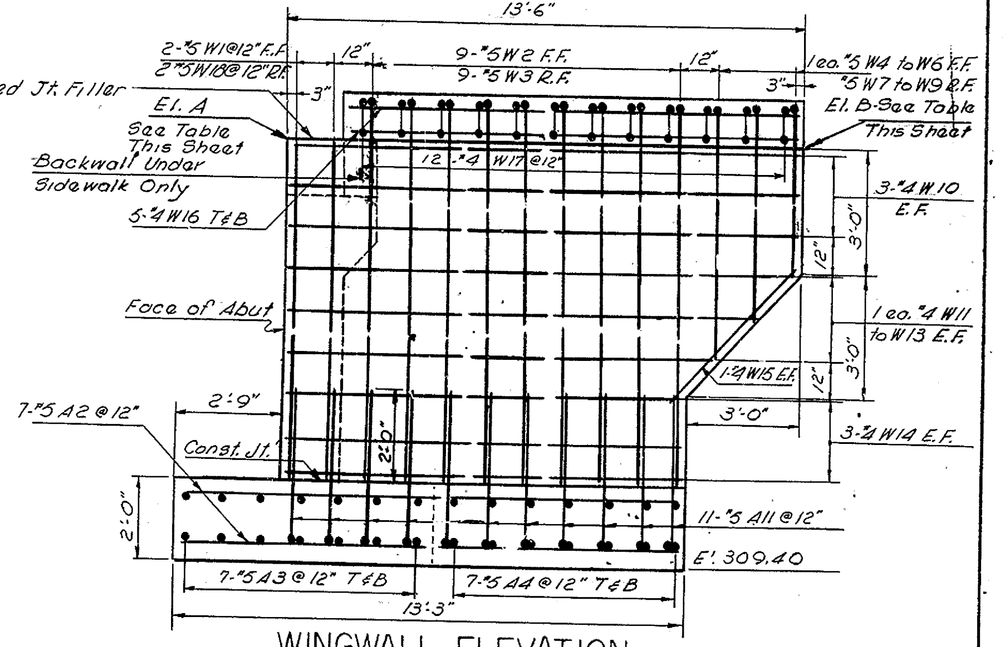


SECTION D-D

SCALE: 1/4"=1'-0"

SECTION E-E

SCALE: 1/4"=1'-0"



WINGWALL ELEVATION

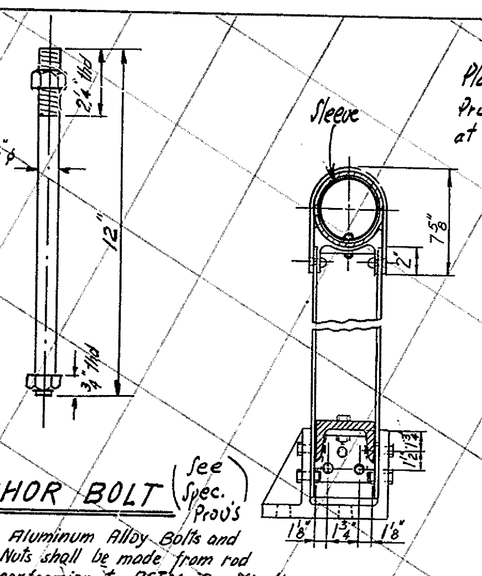
SCALE: 3/8"=1'-0"

WINGWALL ELEVATIONS		
Location	A	B
N. Abut.	319.39	319.32
S. Abut.	319.51	319.58

NOTE:

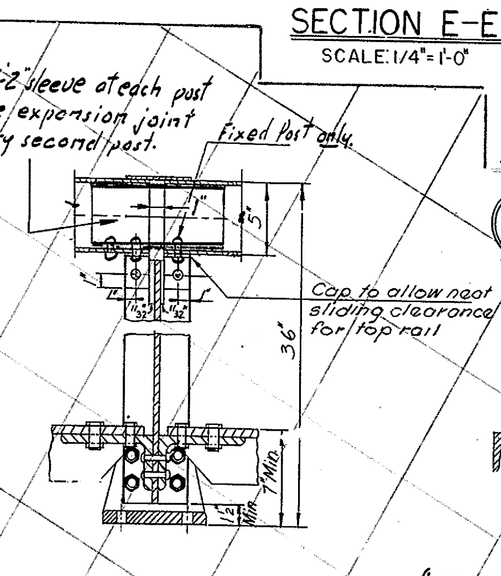
1. For General Notes See Sh. #20
2. Rail Posts to be set perpendicular to grade.
3.
4. For Abutment Details see Sh. #21

NOTE: BRIDGE RAILING DETAILS IN HATCHED AREA ARE VOID. REFER TO SHEET #32 OF THE PLANS. ALSO SPECIAL PROVISIONS FOR THIS CONTRACT.



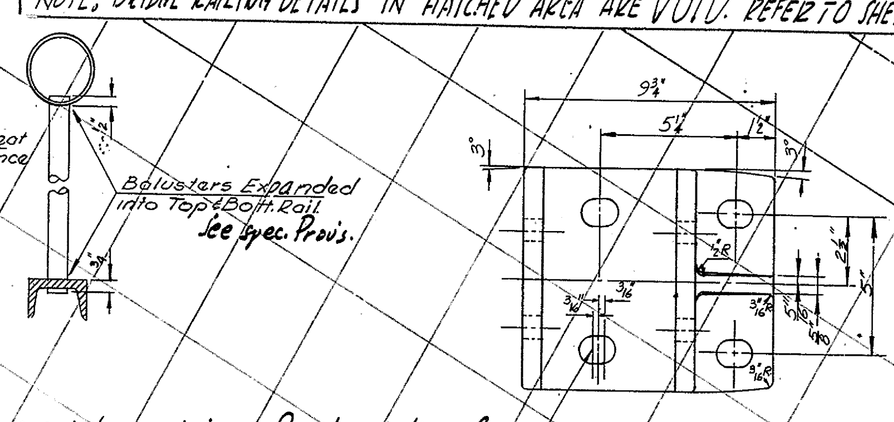
ANCHOR BOLT (See Spec. Prov's)

NOTE: Aluminum Alloy Bolts and Nuts shall be made from rod conforming to ASTM Specifications B 211 - 54 T alloy CG 42 A. The finished bolts and nuts shall be supplied in the T4 temper and shall be given an anodic coating at least 0.0002 in. in thickness and chromate sealed.

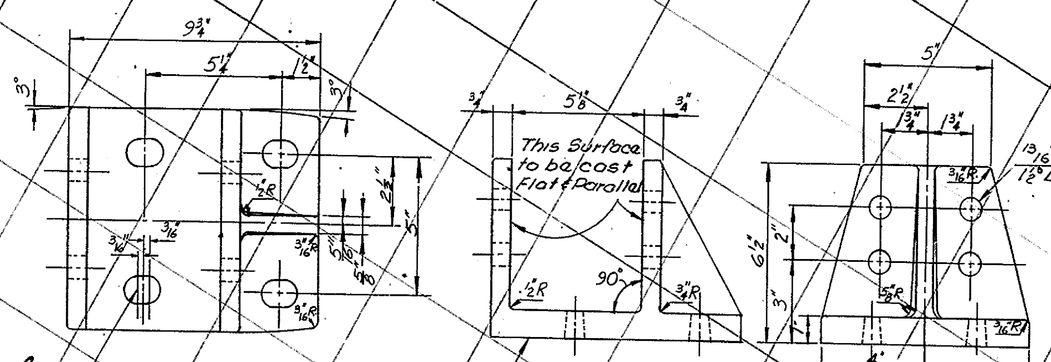


RAIL POST DETAILS

SCALE: 1 1/2"=1'-0"



See special provisions for description of alternate types of Bridge Railing.
① Aluminum Bridge Railing
② Wrought Iron Bridge Railing



BASE PLATE DETAILS

SCALE: 3"=1'-0"

Note! Provide a 1/8" preformed fabric pad for each base plate, with the pad outline conforming to the outline of the base plate. See special provisions.

DELAWARE STATE HIGHWAY DEPARTMENT

APPROACH SLAB & DETAILS

DR: H.W.H.	SCALE:	APPROVED:
TR:	AS SHOWN	F.M. Fox
CH: MJC 12/1/59		BRIDGE ENGINEER

BOSWELL ENGINEERING CO. RIDGEFIELD PARK NEW JERSEY

REVISIONS

BOSWELL ENGINEERING CO. CONSULTING ENGINEERS

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

REVISIONS

COUNTY	CONTRACT	PR. A. DIV. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL	US-511 216(3)	1959	23	47

FOULK ROAD BRIDGE #32

Item	No. Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
						NORTH ABUTMENT											
1																	
2	106	#5	6'-3"	A1	STR.												
3	28	#5	12'-9"	A2	STR.												
4	28	#5	34'-4"	A3	STR.												
5	28	#5	6'-0"	A4	STR.												
6	60	#5	8'-8"	A5	17		3'-9"	1'-2"	3'-9"								
7	60	#5	5'-0"	A6	STR.												
8	60	#4	10'-6"	A7	22		6'-6"	2'-0"	10"	1'-2"			10"		10"		
9	32	#4	30'-5"	A8	STR.												
10	28	#5	3'-5"	A9	2	5"	3'-5"					0		5"			
11	60	#5	2'-5"	A10	2	5"	2'-0"					0		5"			
12	22	#5	8'-5"	A11	17		3'-9"	11"	3'-9"								
13																	
14																	
15																	
16						SOUTH ABUTMENT											
17																	
18	106	#5	6'-3"	A1	STR.												
19	28	#5	12'-9"	A2	STR.												
20	28	#5	34'-4	A3	STR.												
21	28	#5	6'-0"	A4	STR.												
22	60	#5	8'-8"	A5	17		3'-9"	1'-2"	3'-9"								
23	60	#5	5'-2"	A6	STR.												
24	60	#4	10'-7"	A7	22		6'-7"	2'-0"	10"	1'-2"			10"		10"		
25	32	#4	30'-5"	A8	STR.												
26	28	#5	3'-5"	A9	2	5"	3'-0"					0		5"			
27	60	#5	2'-5"	A10	2	5"	2'-0"					0		5"			
28	22	#5	8'-5"	A11	17		3'-9"	11"	3'-9"								
29																	
30																	
31																	
32				NORTH ABUTMENT WINGWALLS													
33																	
34	4	#5	7'-10"	W1	STR.												
35	18	#5	11'-0"	W2	17		2'-1"	8'-1"	0								
36	18	#5	8'-11"	W3	STR.												
37	2	#5	7'-11"	W4	17		2'-1"	5'-10"	0								
38	2	#5	6'-11"	W5	17		2'-1"	4'-10"	0								
39	2	#5	5'-11"	W6	17		2'-1"	3'-10"	0								
40	2	#5	5'-10"	W7	STR.												
41	2	#5	4'-10"	W8	STR.												
42	2	#5	3'-10"	W9	STR.												
43	12	#4	13'-2"	W10	STR.												
44	4	#4	13'-0"	W11	STR.												
45	4	#4	12'-0"	W12	STR.												
46	4	#4	11'-0"	W13	STR.												
47	12	#4	10'-2"	W14	STR.												
48	4	#4	4'-6"	W15	STR.												
49	20	#4	11'-7"	W16	STR.												
50	24	#4	9'-9"	W17	17		4'-6"	9"	4'-6"								
51	4	#5	6'-6"	W18	STR.												
52																	
53																	
54				SOUTH ABUTMENT WINGWALLS													
55																	
56	4	#5	7'-1"	W1	STR.												
57	18	#5	11'-1"	W2	17		2'-1"	9'-0"	0								
58	18	#5	9'-0"	W3	STR.												
59	2	#5	8'-1"	W4	17		2'-1"	6'-0"	0								
60	2	#5	7'-1"	W5	17		2'-1"	5'-0"	0								
61	2	#5	6'-1"	W6	17		2'-1"	4'-0"	0								
62	2	#5	6'-0"	W7	STR.												
63	2	#5	5'-0"	W8	STR.												
64	2	#5	4'-0"	W9	STR.												
65	12	#4	13'-2"	W10	STR.												
66	4	#4	13'-0"	W11	STR.												
67	4	#4	12'-0"	W12	STR.												
68	4	#4	11'-0"	W13	STR.												
69	12	#4	10'-2"	W14	STR.												
70	4	#4	4'-6"	W15	STR.												
71	20	#4	11'-7"	W16	STR.												
72	24	#4	9'-9"	W17	17		4'-6"	9"	4'-6"								
73	4	#5	6'-7"	W18	STR.												
74																	
75																	
76																	
77																	
78																	

Item	No. Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
79						NORTH APPROACH SLAB											
80	52	#10	22'-5"	A51	1	1'-5"	19'-7"					1'-5"		6"			
81	40	#6	14'-2"	A52	STR.												
82	40	#6	11'-10"	A53	STR.												
83	20	#6	3'-8"	A54	STR.												
84																	
85																	
86																	
87						SOUTH APPROACH SLAB											
88						(Same as North Approach Slab)											
89																	
90																	
91																	
92																	
93																	
94																	
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Item	No. Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
157																	
158																	
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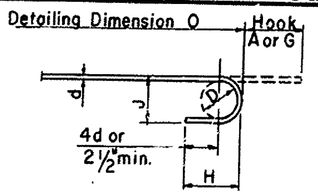
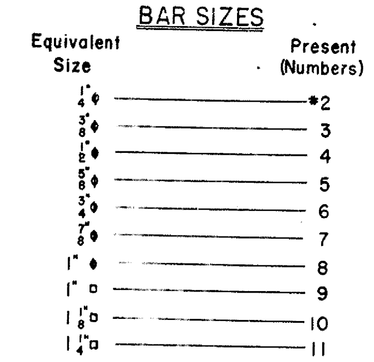
Detailing Dimension O

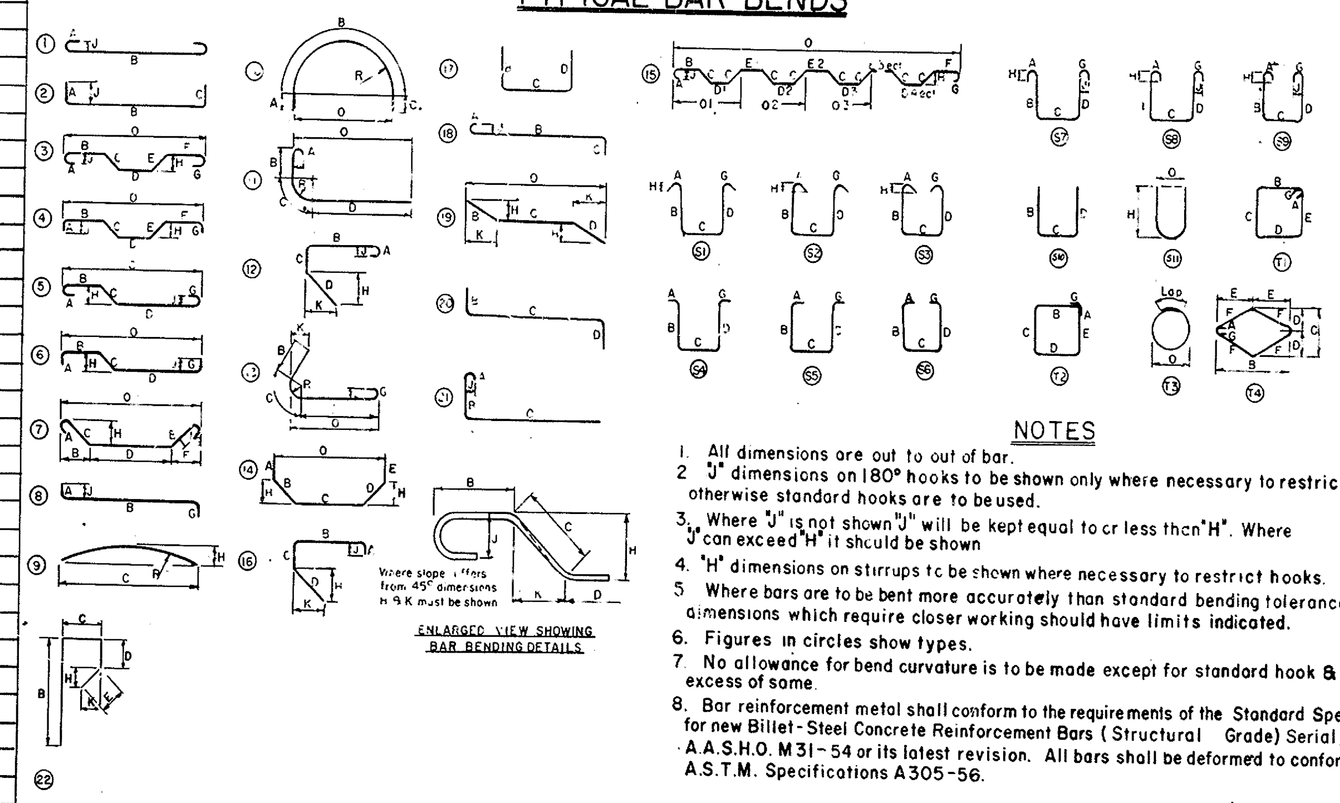


STANDARD HOOK DETAIL

BAR SIZES



TYPICAL BAR BENDS



NOTES

1. All dimensions are out to out of bar.
2. "J" dimensions on 180° hooks to be shown only where necessary to restrict hook size otherwise standard hooks are to be used.
3. Where "J" is not shown "J" will be kept equal to or less than "H". Where "J" can exceed "H" it should be shown
4. "H" dimensions on stirrups to be shown where necessary to restrict hooks.
5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer working should have limits indicated.
6. Figures in circles show types.
7. No allowance for bend curvature is to be made except for standard hook & radii in excess of same.
8. Bar reinforcement metal shall conform to the requirements of the Standard Specifications for new Billet-Steel Concrete Reinforcement Bars (Structural Grade) Serial Designation A.A.S.H.O. M31-54 or its latest revision. All bars shall be deformed to conform with A.S.T.M. Specifications A305-56.

LOCATION	POUNDS
North Abutment	5112
South Abutment	4626
North Abutment Wingwalls	1120
South Abutment Wingwalls	1125
North Approach Slab	6689
South Approach Slab	6689
TOTAL	25,361

DELAWARE
STATE HIGHWAY DEPARTMENT

BAR SCHEDULE

DR: R.H.E.
TR:
CH: M.J.C. 11-28-58

SCALE: AS SHOWN

APPROVED: J. M. Fox
BRIDGE ENGINEER

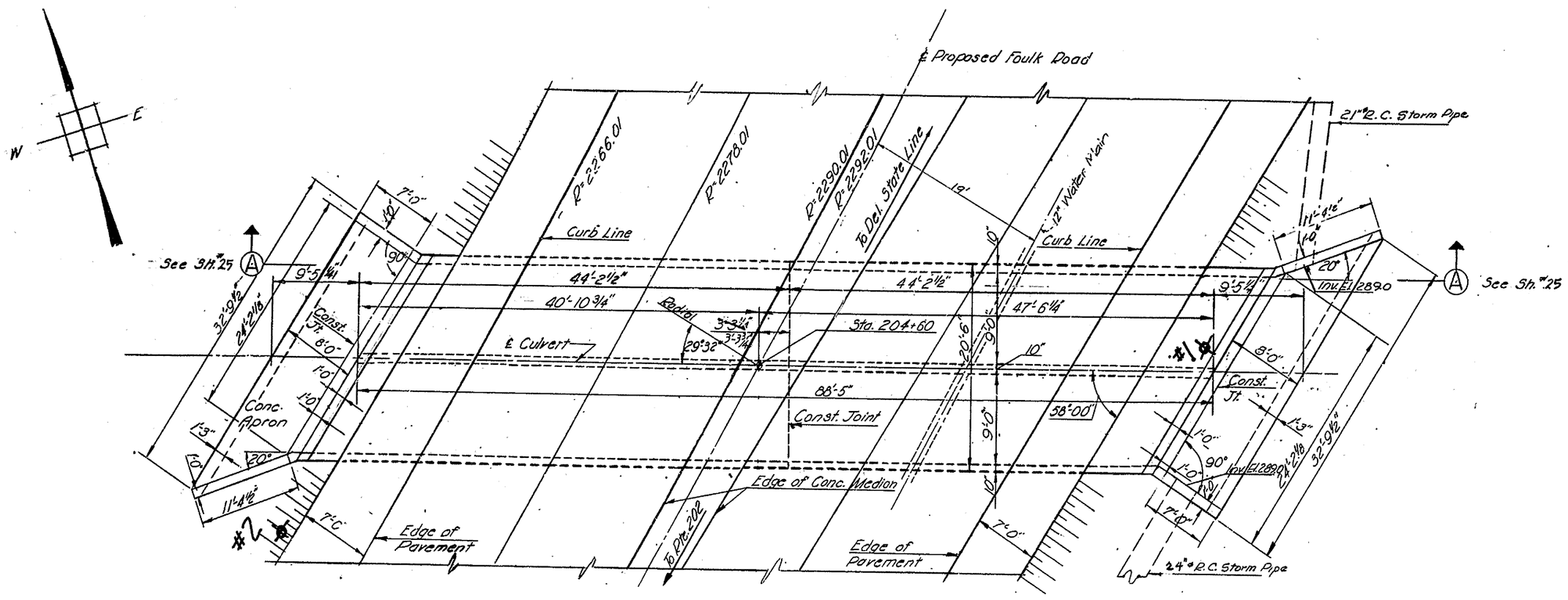
BOSWELL ENGINEERING CO.
CONSULTING ENGINEERS

NC 8-1

COUNTY	CONTRACT	P.R.A. DIV. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)	1959	24	47

FOULK ROAD Bv. 545

BOX CULVERT STA. 204+60



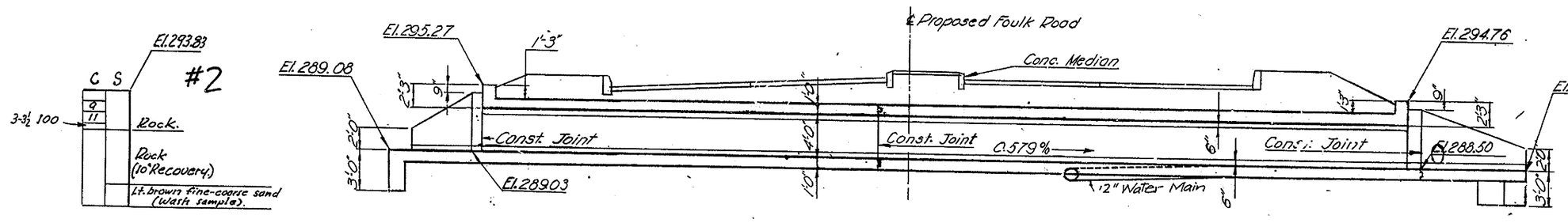
PLAN
SCALE 1/8" = 1'-0"

ESTIMATE OF BRIDGE QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY
—	Removal of Existing Bridge	L.S.	—
4	Excavation for Structures	C.Y.	515
18A	Subfoundation Concrete	C.Y.	30
*18	Portland Cement Conc. Masonry	C.Y.	205
19	Superficial Waterproofing	S.Y.	315
*20	Bar Reinforcement	LBS.	31,742
28	Channel Excavation	C.Y.	964
3	Rock Excavation	C.Y.	10

* "Estimated Fixed Quantity Items" See Sheet #33 of the Plans.

GENERAL NOTES

1. All materials and constructions shall conform to the State of Delaware State Highway Department Standard Specifications dated July 1, 1960, and the special provisions. Design Specifications 1961 AASHO Standard Specifications for Highway Bridges, including interim specifications.
2. Design Loading - H20-S16-44
3. All dimensions are given at 68°F.
4. Reinforcing steel shall have a clear cover of 3" in footings and 2" elsewhere unless noted.
5. All exposed edges to be chamfered unless noted.
6. Exposed surfaces are to have a rubbed finish.

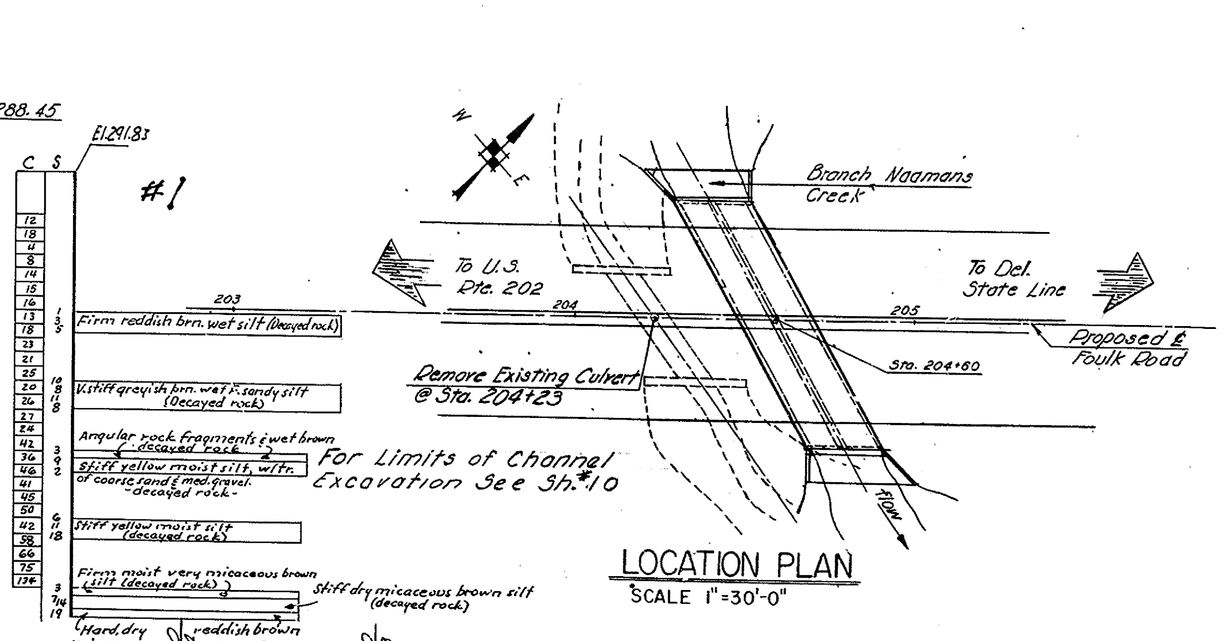


LONGITUDINAL SECTION
SCALE 1/8" = 1'-0"

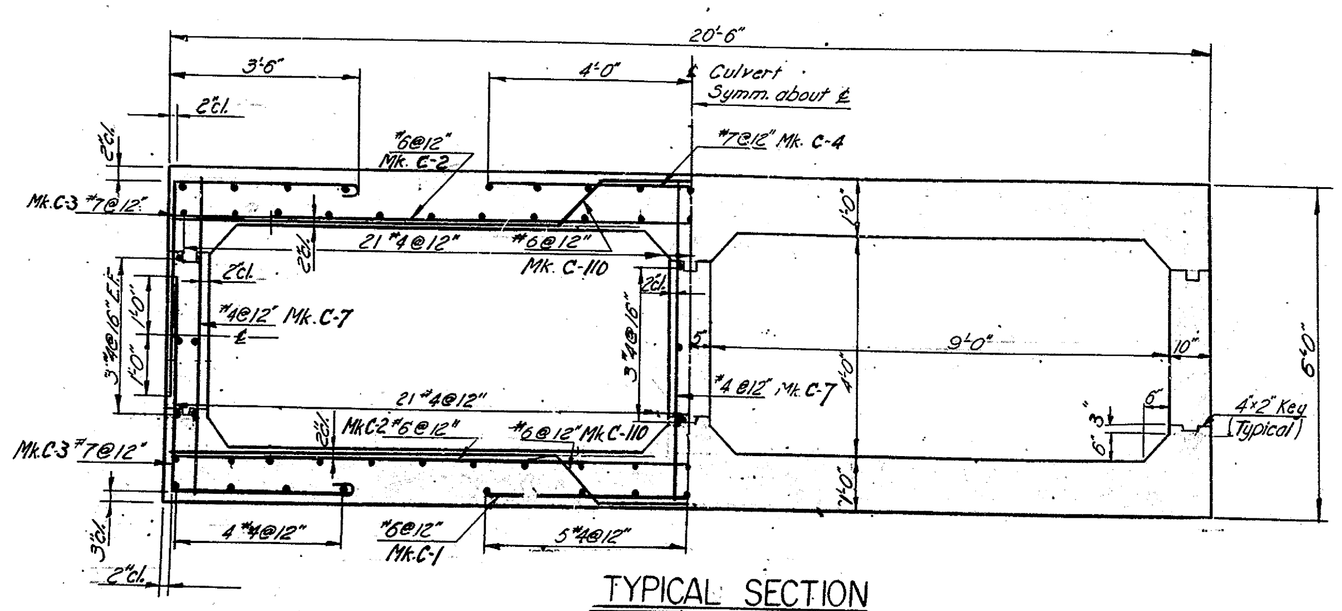
Note! For listing of boring equipment data, refer to Sheet #20.

HYDRAULIC DATA
25-YR FREQUENCY

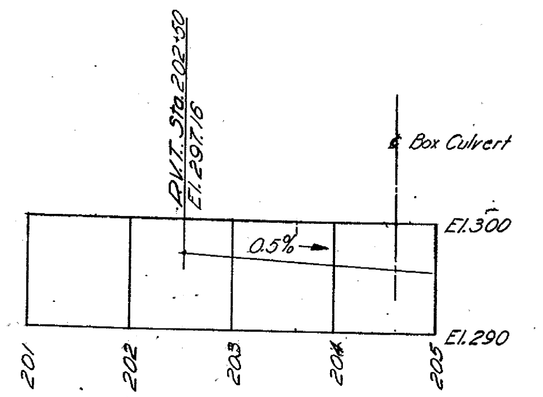
Design Discharge	-	437 c.f.s.
Design Velocity	-	5.4 ft./sec.
Design Depth	-	3.2 ft.
Normal Flow Depth	-	0.8 ft.
Av. Slope of Stream	-	0.005 ft/ft.



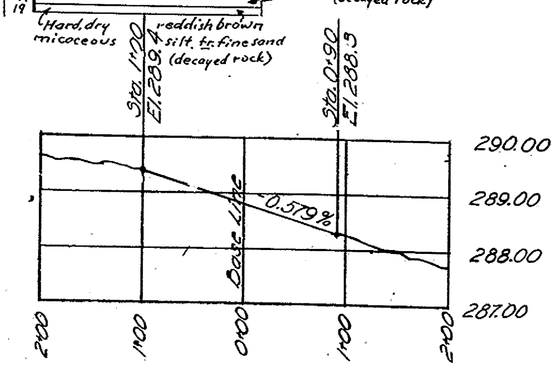
LOCATION PLAN
SCALE 1" = 30'-0"



TYPICAL SECTION
SCALE 1/2" = 1'-0"



FOULK ROAD PROFILE
SCALE VERT. 1" = 10'-0"
HORZ 1" = 100'-0"



STREAM PROFILE
SCALE VERT. 1" = 100'-0"
HORZ 1" = 20'-0"

LIST OF DRAWINGS

Plan & Elevation — Sh. #24
Details — Sh. #25

DELAWARE STATE HIGHWAY DEPARTMENT		
GENERAL PLAN & SECTION		
DR: R. H. E. TR: CH: Nov. 8, 1958	SCALE: AS SHOWN	APPROVED: J. M. Fox BRIDGE ENGINEER

REVISIONS
12" Water Main — S.T.L. 4/6/65
the distance between const. joint and S. of road — S.T.L. 4/1/65

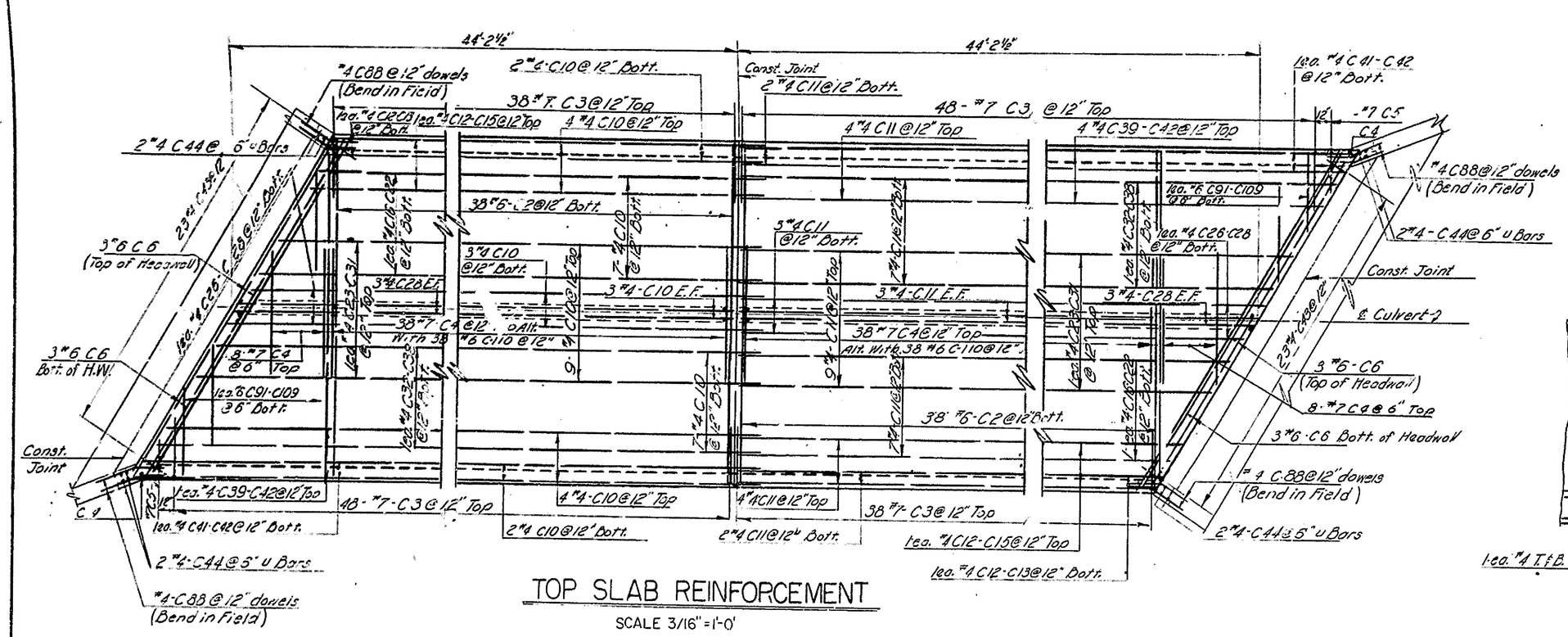
BOSWELL ENGINEERING CO. NEW JERSEY
RIDGEFIELD PARK

BOSWELL ENGINEERING CO.
CONSULTING ENGINEERS

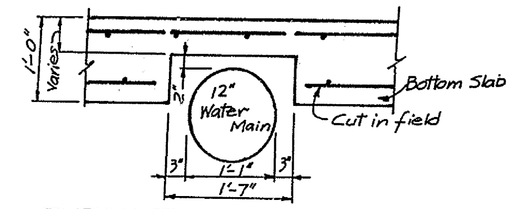
BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

COUNTY	CONTRACT	F.R.A. DIV. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-301 2(6)(3)	1959	25	47

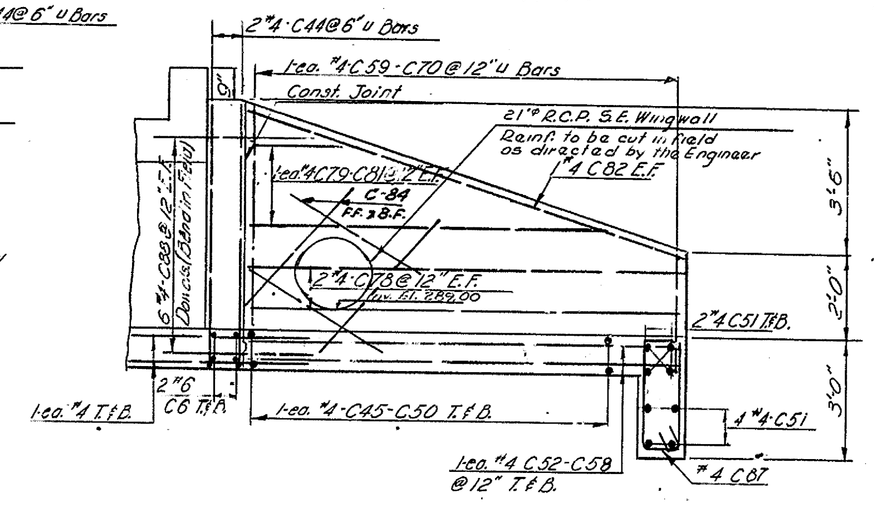
FOULK ROAD
BOX CULVERT STA. 204+60



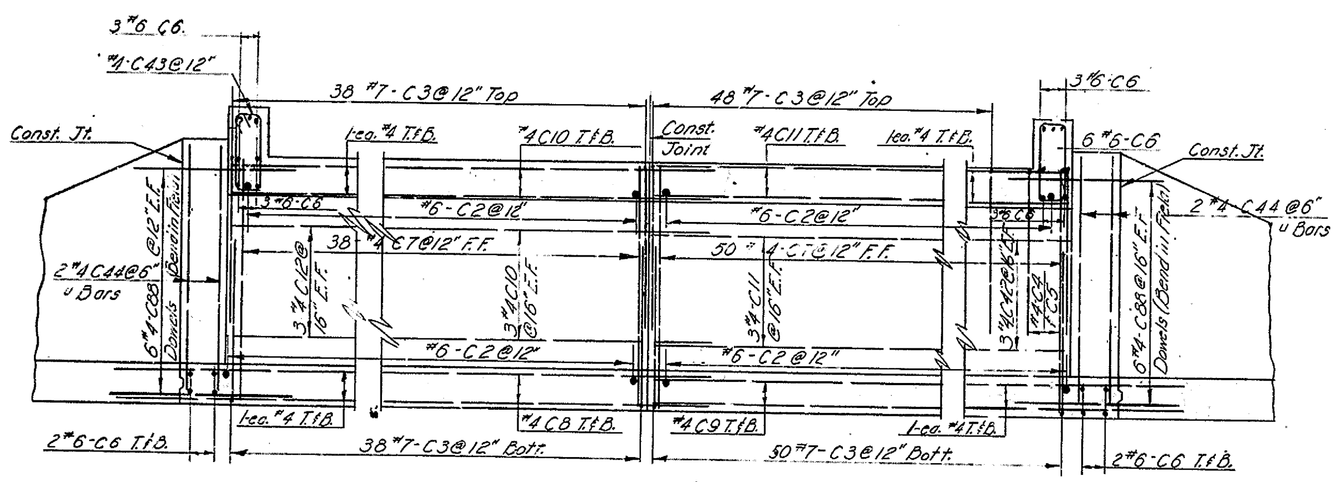
TOP SLAB REINFORCEMENT
SCALE 3/16" = 1'-0"



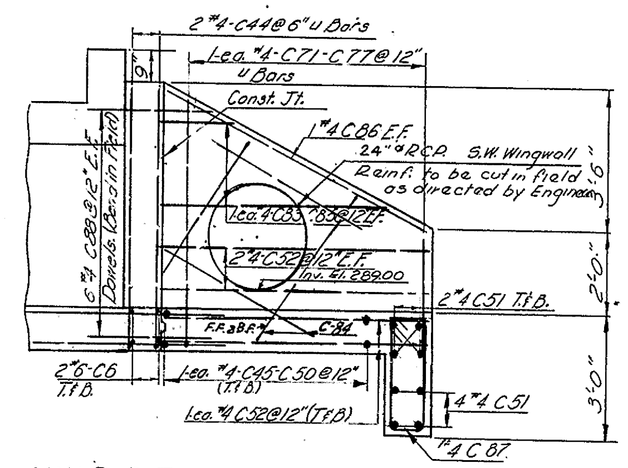
TYPICAL SECTION FOR 12" WATER MAIN
SCALE 3/4" = 1'-0"



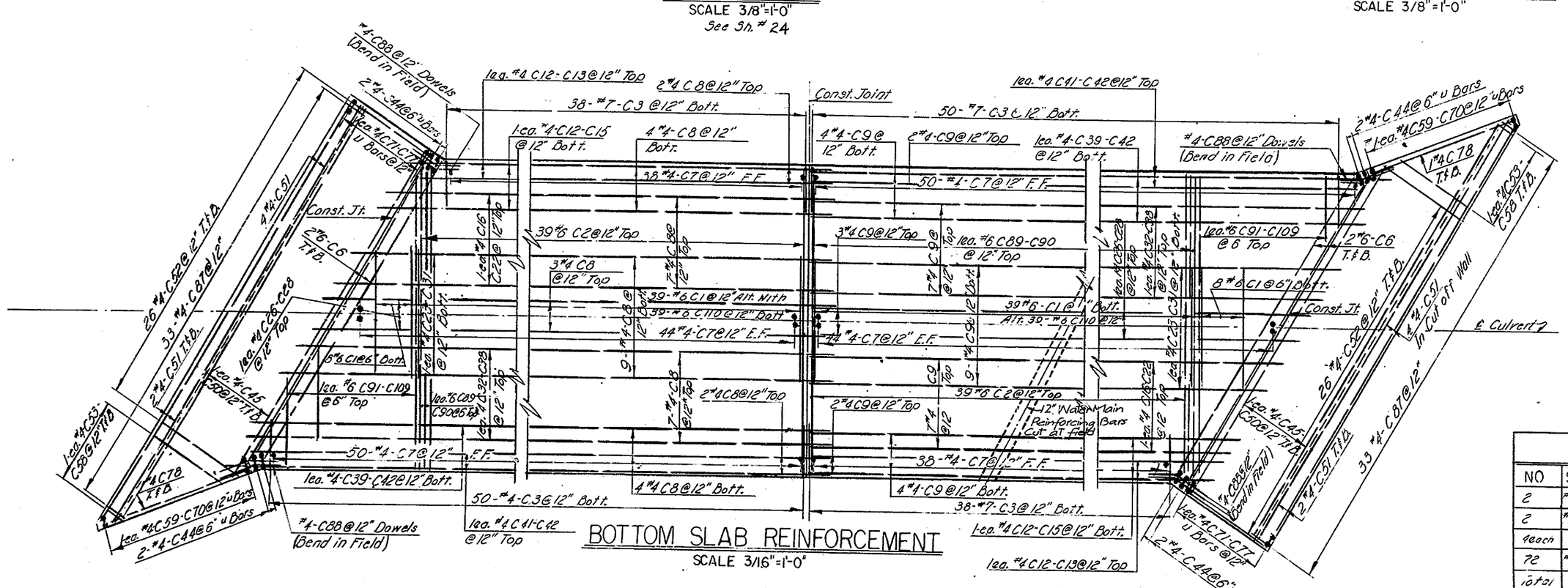
S.W. & N.E. WINGWALL
SCALE 3/8" = 1'-0"



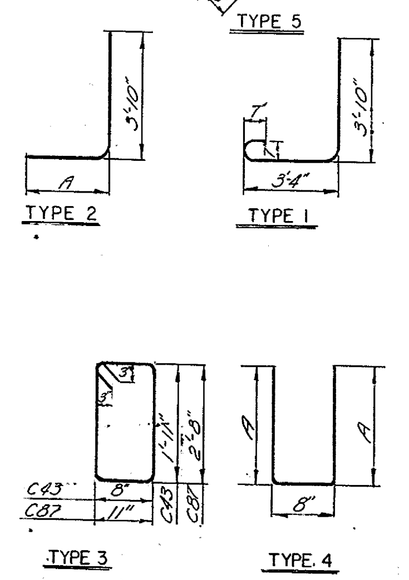
SECTION A-A
SCALE 3/8" = 1'-0"
See Sh. # 24



N.W. & S.E. WINGWALL
SCALE 3/8" = 1'-0"



BOTTOM SLAB REINFORCEMENT
SCALE 3/16" = 1'-0"



BAR SCHEDULE

NO	SIZE	MARK	LENGTH	TYPE	A	REMARKS
94	#6	C1	8'-3"	STR.		
154	#6	C2	20'-2"	STR.		
348	#7	C3	8'-0"	1		
92	#7	C4	8'-3"	STR.		
2	#7	C5	6'-0"	2	2'-2"	
20	#6	C6	23'-10"	STR.		
352	#4	C7	5'-8"	STR.		
38	#4	C8	26'-3"	STR.		
38	#4	C9	24'-3"	STR.		
56	#4	C10	25'-0"	STR.		
56	#4	C11	23'-0"	STR.		
20	#4	C12	16'-9"	STR.		
8	#4	C13	17'-5"	STR.		
4	#4	C14	18'-0"	STR.		
4	#4	C15	18'-8"	STR.		
4 each	#4	C16	17'-9"			Varies by 7 1/8" increments
(23 Total)	#4		to	STR.		(Average Length)
		C22	21'-6"			(19'-8")
4	#4	C23	20'-6"	STR.		Varies by 7 1/8" increments
4	#4	C24	to 21'-2"	STR.		
4	#4	C25	21'-9"	STR.		
20	#4	C28	23'-8"	STR.		
4	#4	C29	24'-3"	STR.		
4	#4	C30	24'-11"	STR.		
4	#4	C31	25'-6"	STR.		
4 each		C32	24'-6"			Varies by 7 1/8" increments
(28 Total)	#4	to	to	STR.		(Average Length)
		C38	28'-3"			(26'-5")
4	#4	C39	27'-5"	STR.		
4	#4	C40	28'-0"	STR.		
8	#4	C41	28'-8"	Str.		
20	#4	C42	29'-3"	STR.		
46	#4	C43	6'-0"	3		
8	#4	C44	12'-10"	4	6'-1"	
4 each		C45	25'-3"			Varies by 15" increments
(24 Total)	#4	to	to	STR.		(Average Length)
		C50	31'-6"			(28'-5")
16	#4	C51	32'-9"	STR.		
112	#4	C52	6'-8"	STR.		
4 each		C53	5'-10"			Varies by 10" increments
(24 Total)	#4	to	to			(Average Length)
		C58	1'-8"			3'-9"
2 each		C59	12'-8"		6'-0"	"A" varies by 38" increments
(24 Total)	#4	to	to	4	2'-9"	(Average Length)
		C70	6'-2"			9'-5"
2 each		C71	12'-8"		6'-0"	"A" varies by 6 1/8" increments
(14 Total)	#4	to	to	4	2'-9"	(Average Length)
		C77	6'-2"			9'-5"
12	#4	C78	11'-0"	STR.		
4	#4	C79	10'-0"	STR.		
4	#4	C80	6'-0"	STR.		
4	#4	C81	2'-0"	STR.		
4	#4	C82	11'-6"	STR.		
4	#4	C83	5'-9"	STR.		
20	#4	C84	3'-8"	STR.		
4	#4	C85	1'-7"	STR.		
4	#4	C86	7'-6"	STR.		
66	#4	C87	7'-4"	3		
48	#4	C88	5'-0"	STR.		(Dowels) Bend in Field
154	#6	C110	20'-10"	5		

BAR SCHEDULE CONTINUED

NO	SIZE	MARK	LENGTH	TYPE	A	REMARKS
2	#6	C89	19'-11"			
2	#6	C90	19'-5"			
4 each		C91	15'-0"			Varies by 10" increments
72	#6	To	To	STR.		
total		109	4'-[illegible]			Avg. Length 11'-6"
8	#4	C26	22'-5"	STR.		
8	#4	C27	23'-0"	STR.		

DELAWARE
STATE HIGHWAY DEPARTMENT

DETAILS

DR: R.H.E.
TR:
CH: Nov 1959

SCALE: AS SHOWN

APPROVED: J. M. Fox
BRIDGE ENGINEER

REVISIONS
Typical Section for 12" Water Main 3-7-61 4/6/65

BOSWELL ENGINEERING CO.
CONSULTING ENGINEERS

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

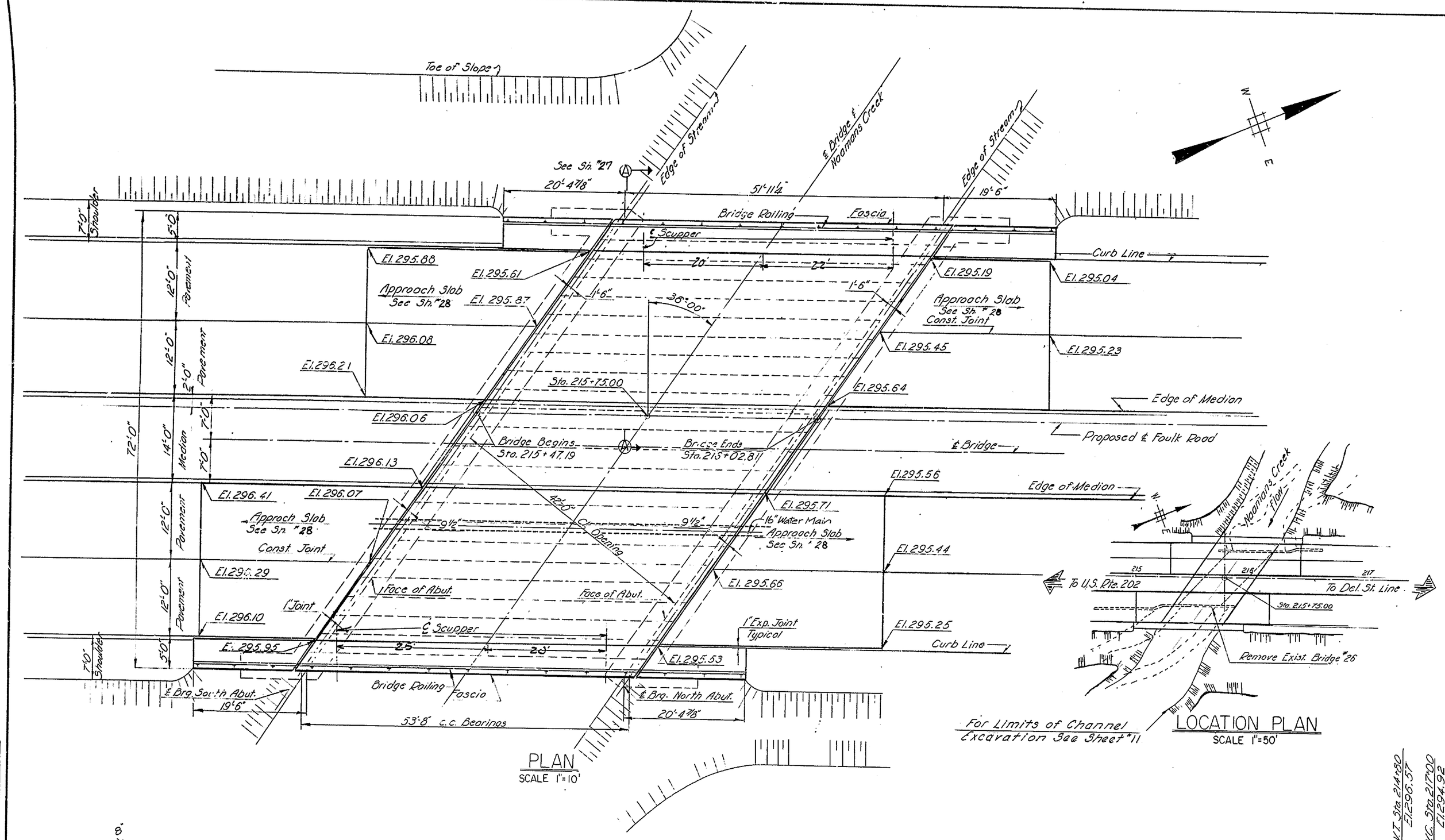
REVISIONS

16" Water Main S.T.L. 4/1/68

AL 8-1

COUNTY	CONTRACT	DIV.	P.R.A. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2		DEL.	US-SU 216 (3)	1959	26	47

FOULK ROAD BRIDGE #26



ESTIMATE OF BRIDGE QUANTITY

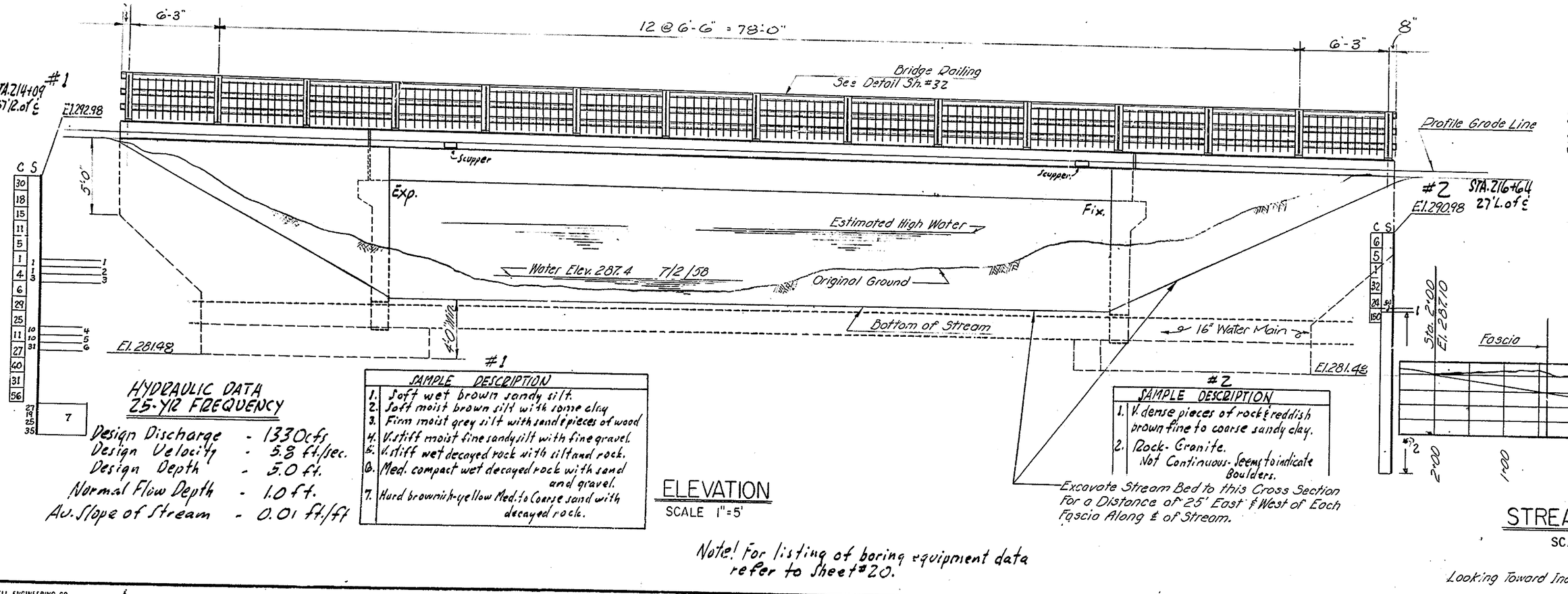
ITEM	DESCRIPTION	UNIT	QUANTITY
—	Removal of Existing Bridge	L.S.	—
— —	Prestressed Precast Reinforced Concrete Bridge Deck Including Sidewalks, Curbs & Median Strip Over Bridge	L.S.	—
—	Bridge Railing	L.F.	182
	Asphaltic Tack Coat	Gal.	61
4	Excavation for Structures	C.Y.	475
11	Hot Mix Asphaltic Concrete Pavement	Ton	178
*18	Portland Cement Conc. Masonry Abut. & Wingwalls	C.Y.	279
*18	Portland Cement Conc. Masonry Approach Slabs	C.Y.	117
	Sub-Foundation Concrete	C.Y.	30
19	Superficial Waterproofing	S.Y.	272
*20	Bar Reinforcement	Lb.	40,969
57	Sand	Ton	30
20	Channel Excavation	C.Y.	4563
3	Rock Excavation	C.Y.	10

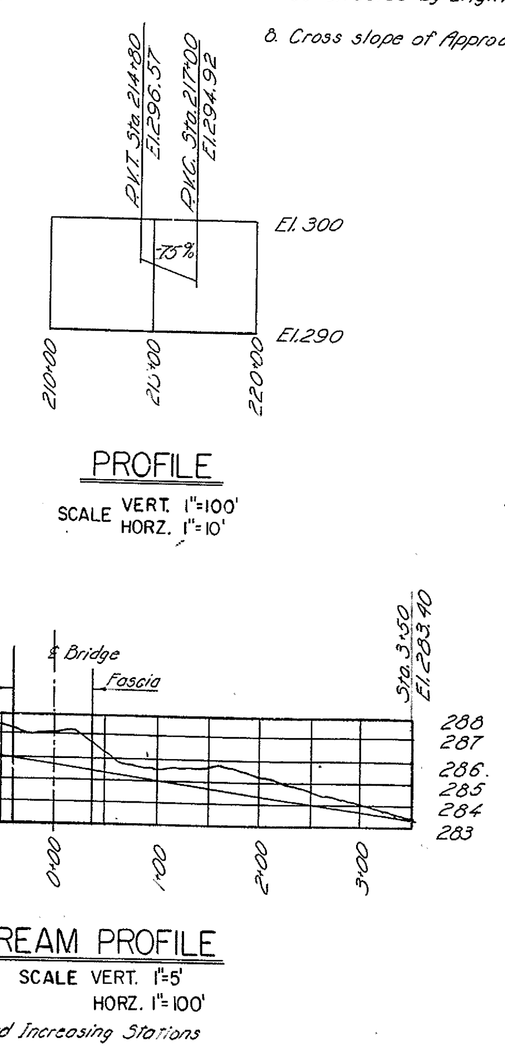
*"Estimated Fixed Quantity Items"

GENERAL NOTES

See Sheet #33 of the Plans.

1. All material and construction shall conform to the State of Delaware State Highway Department Standard Specifications Dated July 1, 1960 and the special provisions. Design Specifications - 1961 AASHO Standard Specifications for Highway Bridges, including interim specifications.
2. Design Loading - H20-S16-44
3. All dimensions are given at 68°F.
4. Reinforcing steel shall have a clear cover of 3" in footing and 2" elsewhere unless noted.
5. All exposed edges ... be chamfered ¾" unless noted
6. Entire curb and other exposed surfaces are to have a rubbed finished.
7. Top of sidewalk shall be finished with a wooden float and tool marked as directed by Engineer.
8. Cross slope of Approach Slab shall conform to that of Roadway.





LIST OF DRAWINGS

Plan & Elevation	Sh. #26
Details	Sh. #27
Approach Slab & Details	Sh. #28
Details	Sh. #29
Bar Schedule	Sh. #30
Bridge Railing Details	Sh. #32

DELAWARE
STATE HIGHWAY DEPARTMENT

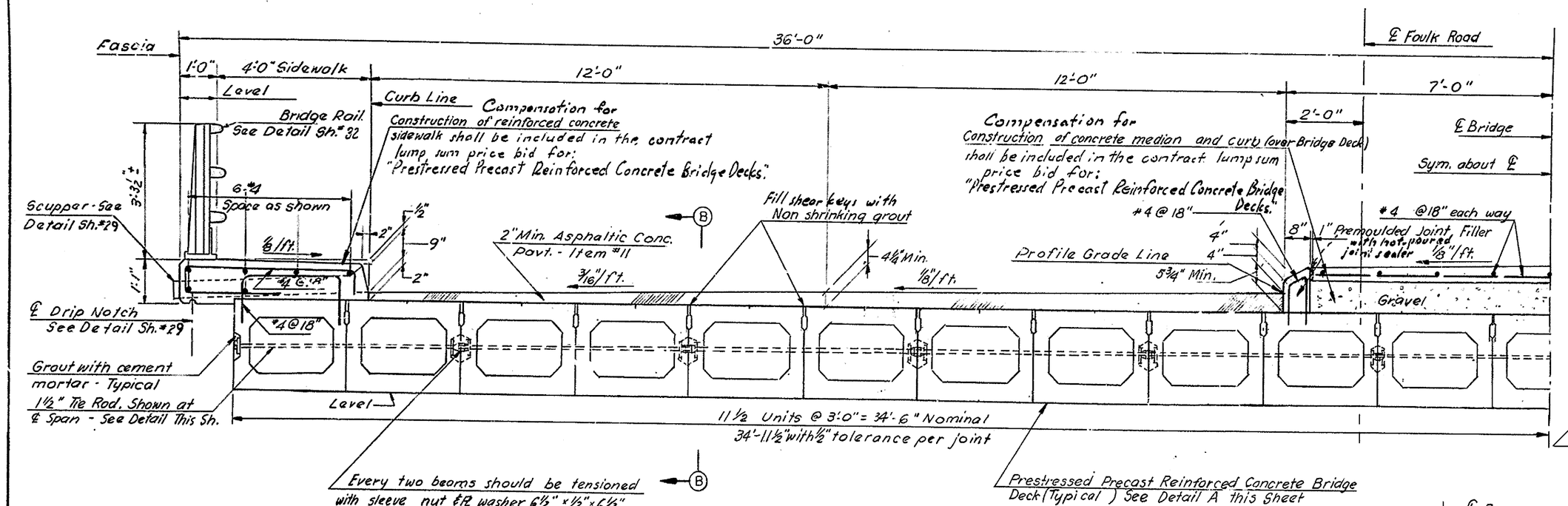
PLAN & ELEVATION

DR: R.W.E. R.A.J.	SCALE:	APPROVED:
TR:	AS SHOWN	BRIDGE ENGINEER
CH: MJC 12/1/58		

BOSWELL ENGINEERING CO
CONSULTING ENGINEERS

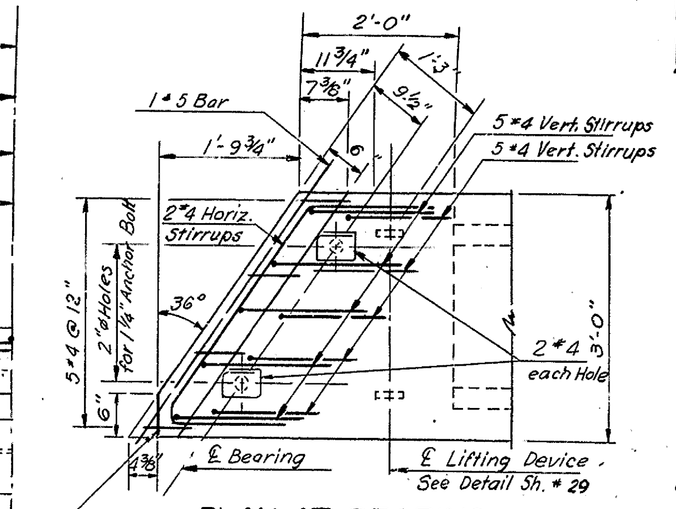
COUNTY	CONTRACT	F.H.A. DIV. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-301 216 (3)	1959	27	47

FOULK ROAD BRIDGE #26



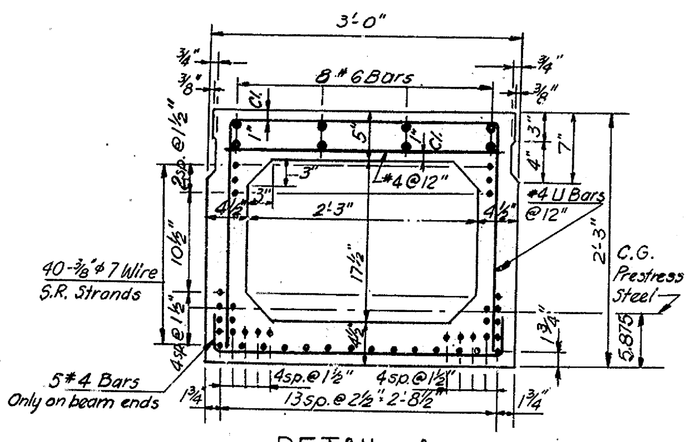
SECTION A - A

SCALE: 1/2" = 1'-0"



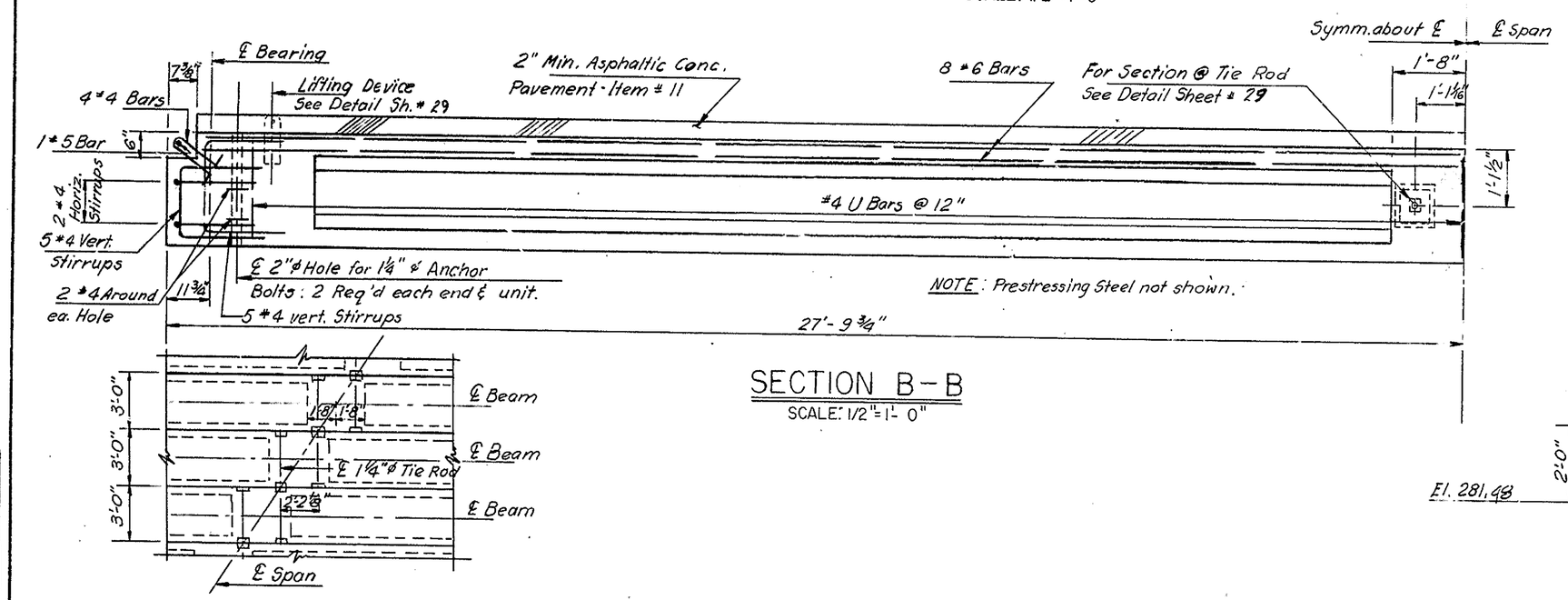
PLAN AT BEARING

SCALE: 3/4" = 1'-0"



DETAIL A

SCALE: 1" = 1'-0"

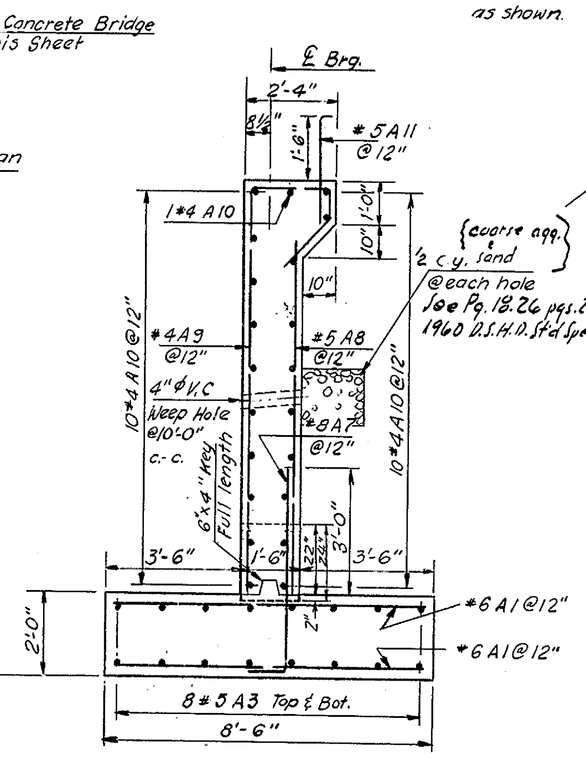


SECTION B - B

SCALE: 1/2" = 1'-0"

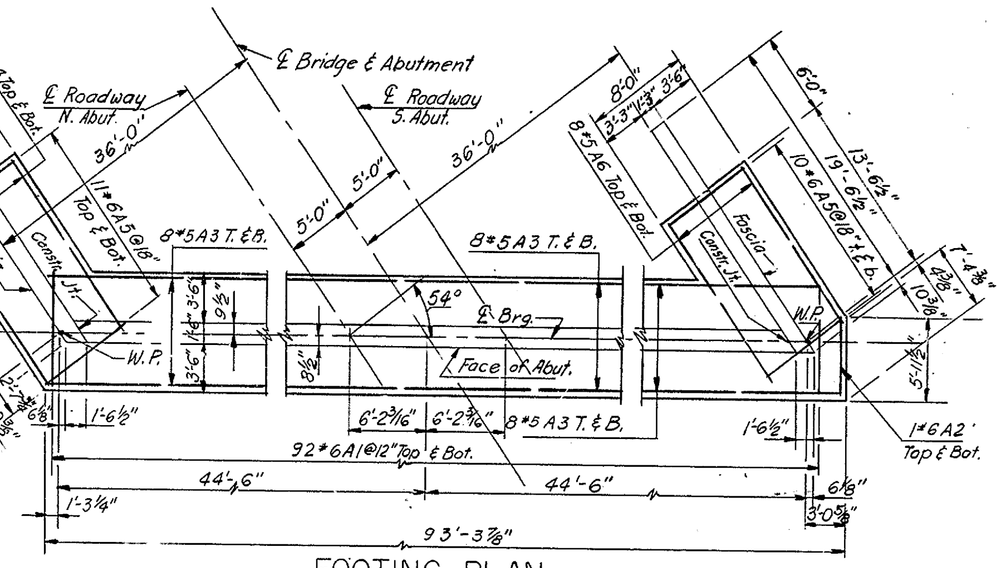
PLAN AT TIE RODS

SCALE: 3/16" = 1'-0"



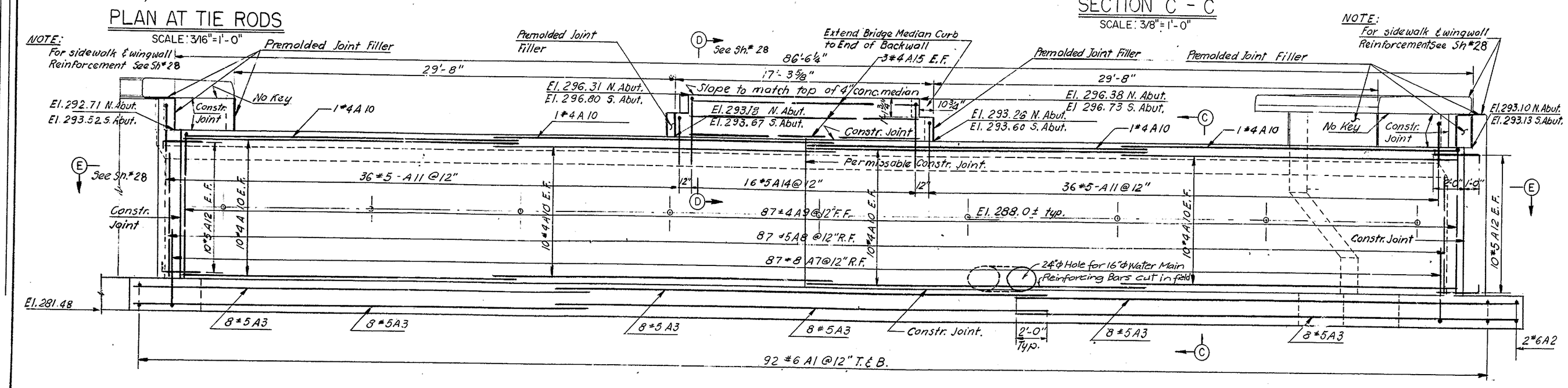
SECTION C - C

SCALE: 3/8" = 1'-0"



FOOTING PLAN

SCALE: 1/8" = 1'-0"



ABUTMENT ELEVATION

SCALE: 1/4" = 1'-0"

LOOKING NORTH FOR NORTH ABUTMENT
LOOKING SOUTH FOR SOUTH ABUTMENT

NOTE:

1. For General Notes See Sh. # 24
2. For Location of Section A-A See Sh. # 26
3. Scuppers are to be fabricated of hot dipped galvanized wrought iron or steel.
4. Max. Live Load + Dead Load pressure @ abutment toe = 1.18 Tons/Sq. Ft & @ heel = 1.26 Tons/Sq. Ft.
5. Anchor Bolts are to be set perpendicular to bridge seat.
6. All slab units are designed in accordance with the requirements of the 1961 Standard Specifications for Highway Bridges of the A.A.S.H.O., including current corrections, modifications, and addenda.
7. Required:
   Min. 28 day cylinder strength of concrete - 5,000 p.s.i.
   Min. cylinder strength at time of prestressing - 4,000 p.s.i.

   Max. stress in concrete at time of prestressing - 2,400 p.s.i.
   Steel wire strands for prestressing to be ⅜" ø, 7 wire stress relieved strands.
   Min. tensile strength - 20,000 lbs. per strand.
   Max. initial prestress 175,000 p.s.i
   Max. design stress - 140,000 p.s.i.
8. For more design data and detailed information refer to "Special Provisions".
9. Design Load - H 20 - S16 - 44.
10. The ultimate strength must be such as to withstand the following loads without failure: 1.5 D + 2.5 (L + I).
11. The weight of one slab unit is approximately 29,535 #

DELAWARE
STATE HIGHWAY DEPARTMENT

DETAILS

DR: A.M.	SCALE:	APPROVED:
TR:	AS SHOWN	J. M. Fox BRIDGE ENGINEER
CH: MJC 12-4-58		

BOSWELL ENGINEERING CO. NEW JERSEY
RIDGEFIELD PARK

REVISIONS
16" Water Main S.T.L. 4/15/61

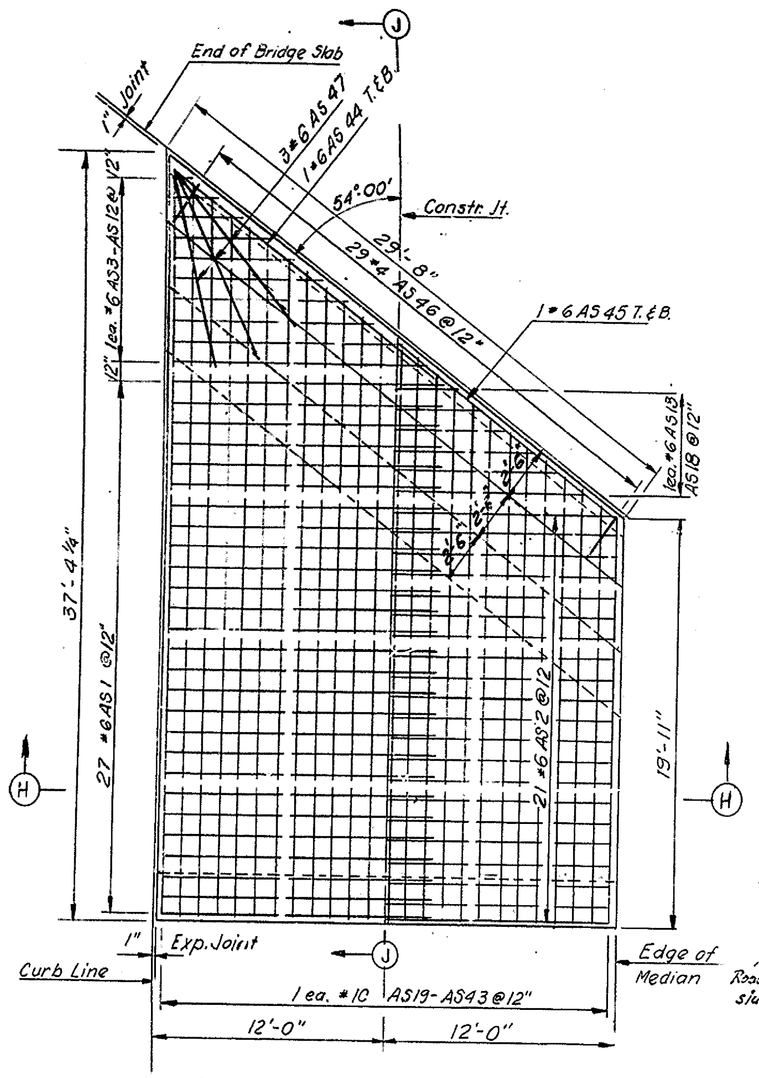
BOSWELL ENGINEERING CO. CONSULTING ENGINEERS

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

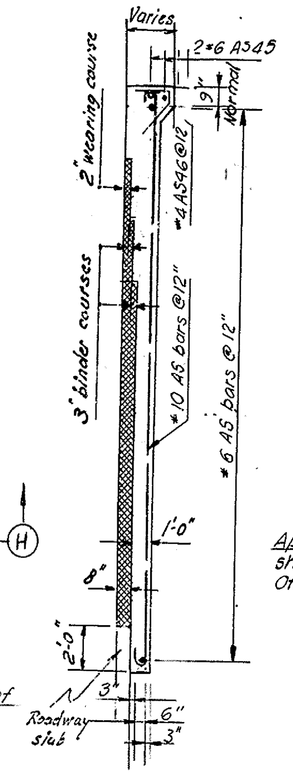
REVISIONS

COUNTY	CONTRACT	PRA DIV. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)	1959	28	47

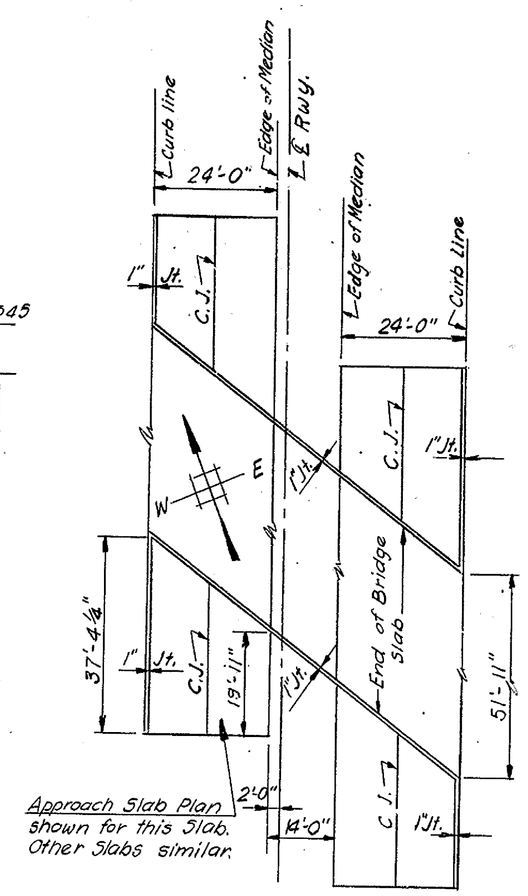
FOULK ROAD BRIDGE #26



APPROACH SLAB PLAN
SCALE: 3/16"=1'-0"
4 REQ.D

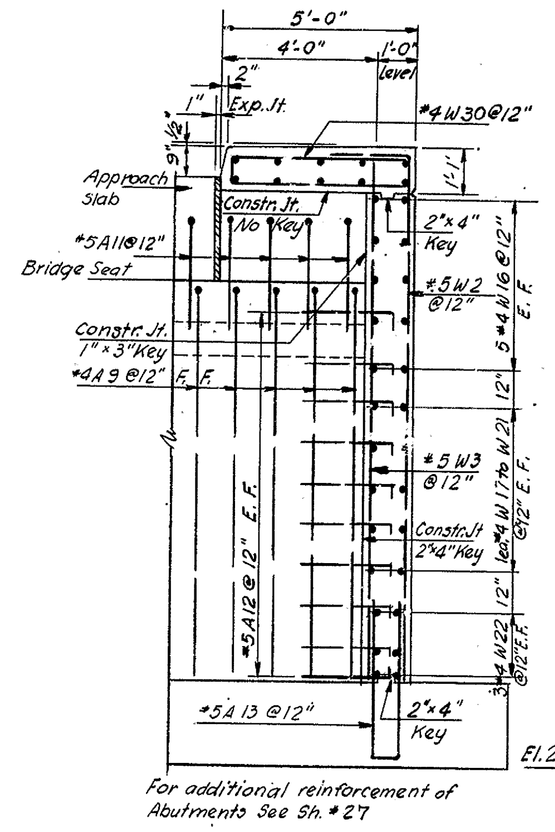


SECTION J-J
SCALE: 3/16"=1'-0"

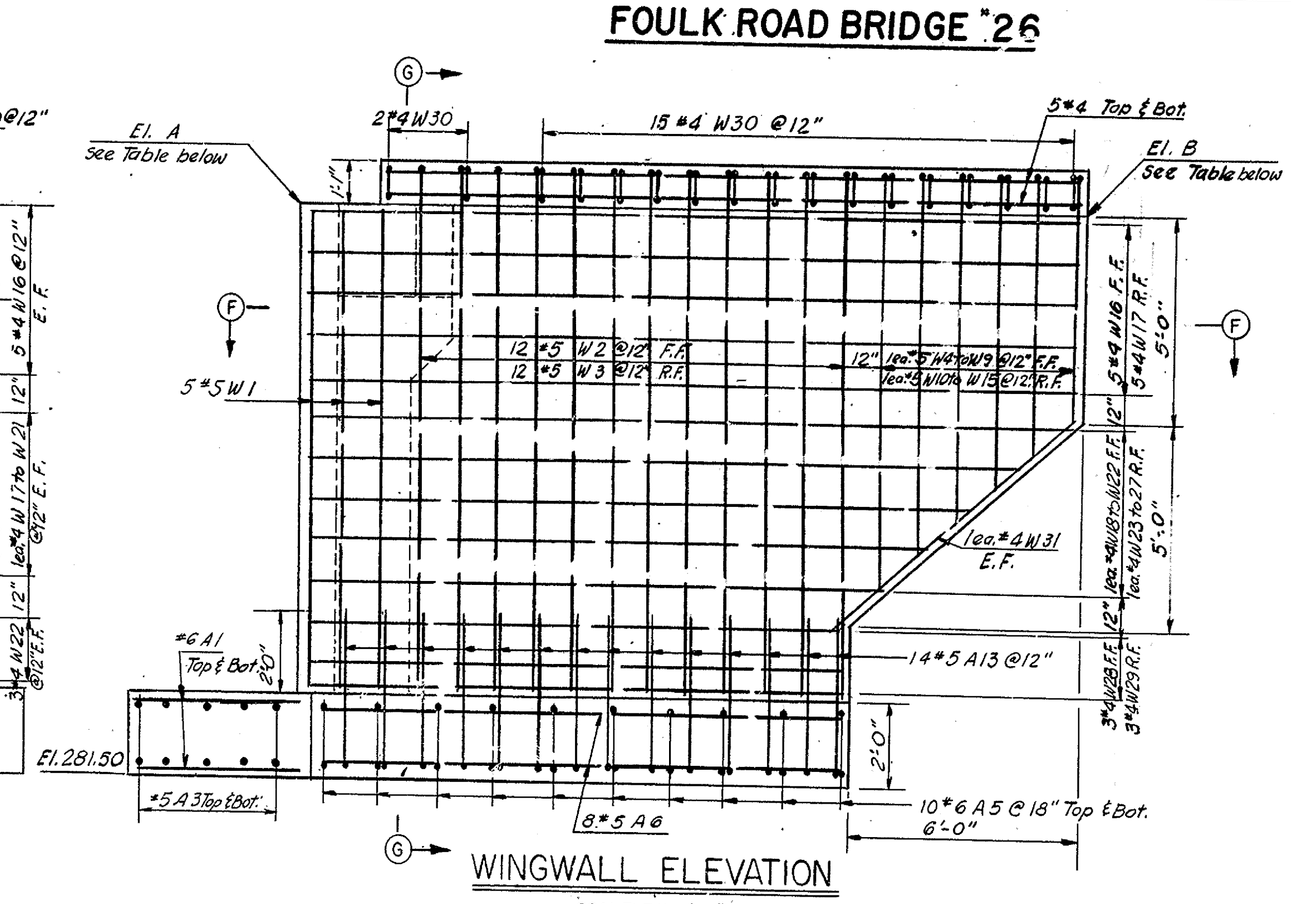


Approach Slab Plan shown for this Slab. Other Slabs similar.

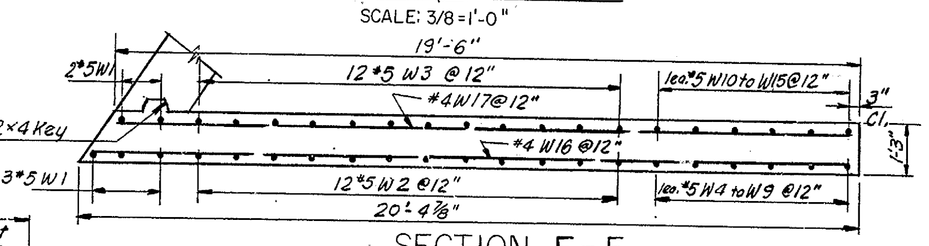
APPROACH SLAB LAYOUT
NO SCALE.



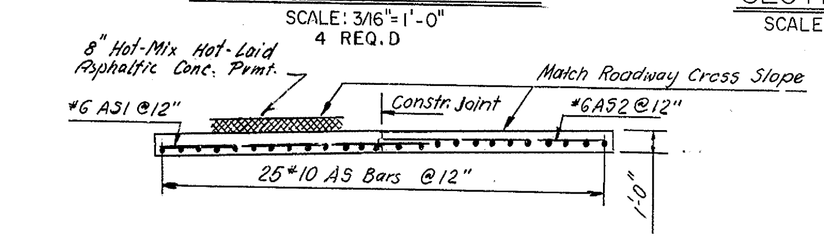
SECTION G-G
SCALE: 3/8"=1'-0"



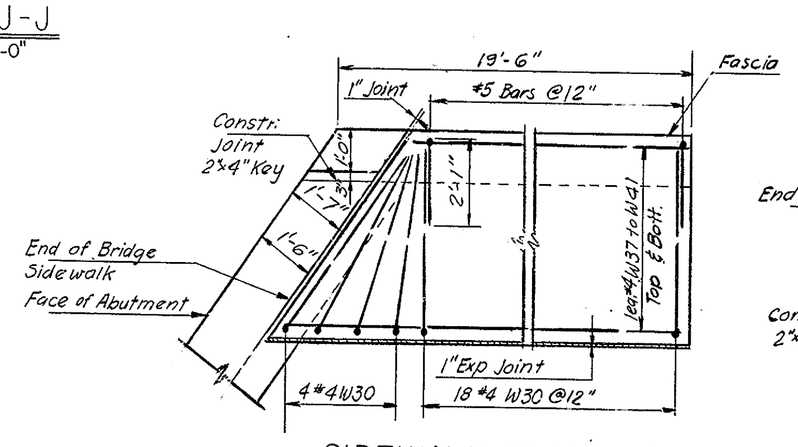
WINGWALL ELEVATION
SCALE: 3/8"=1'-0"



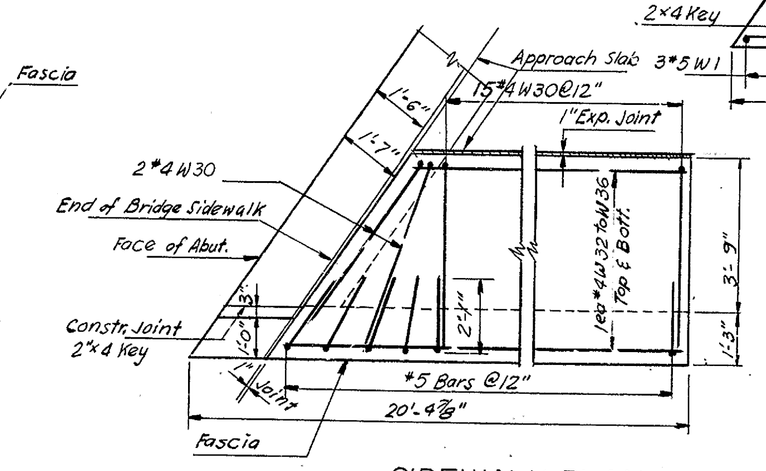
SECTION F-F
SCALE: 3/8"=1'-0"



SECTION H-H
SCALE: 3/16"=1'-0"



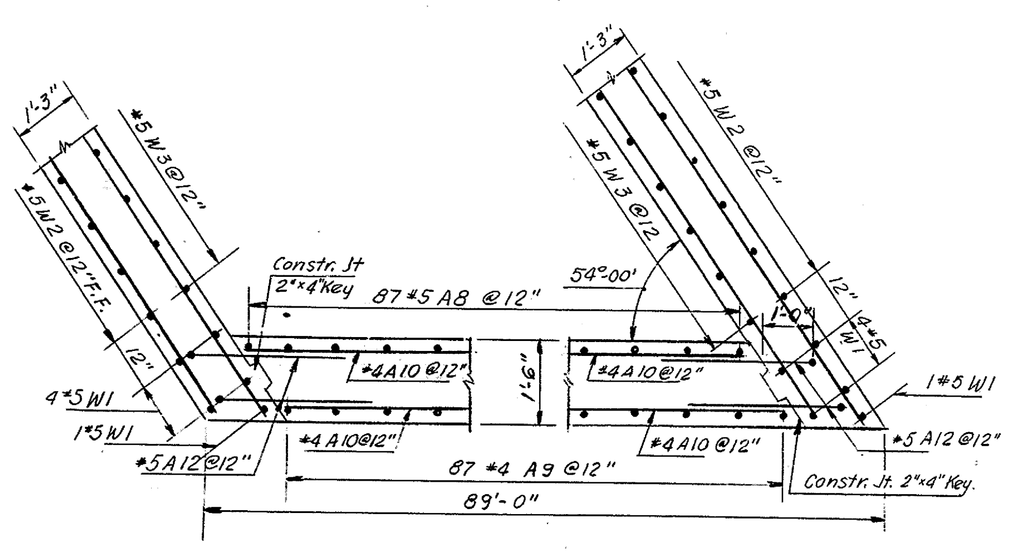
SIDEWALK PLAN
SCALE: 3/8"=1'-0"
OBTUSE CORNER



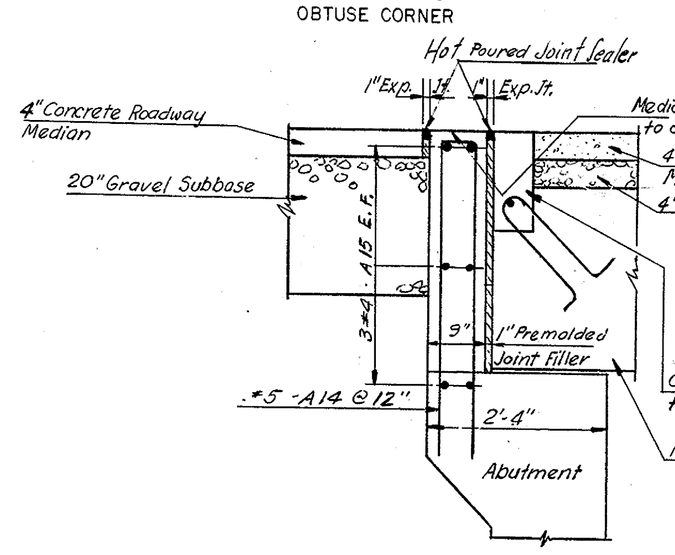
SIDEWALK PLAN
SCALE: 3/8"=1'-0"
ACUTE CORNER

WINGWALL ELEVATIONS			
Location		Elev. A	Elev. B
N. Abut.	E. Wingwall	295.28	295.13
	W. Wingwall	294.89	294.74
S. Abut.	E. Wingwall	295.67	295.82
	W. Wingwall	295.28	295.43

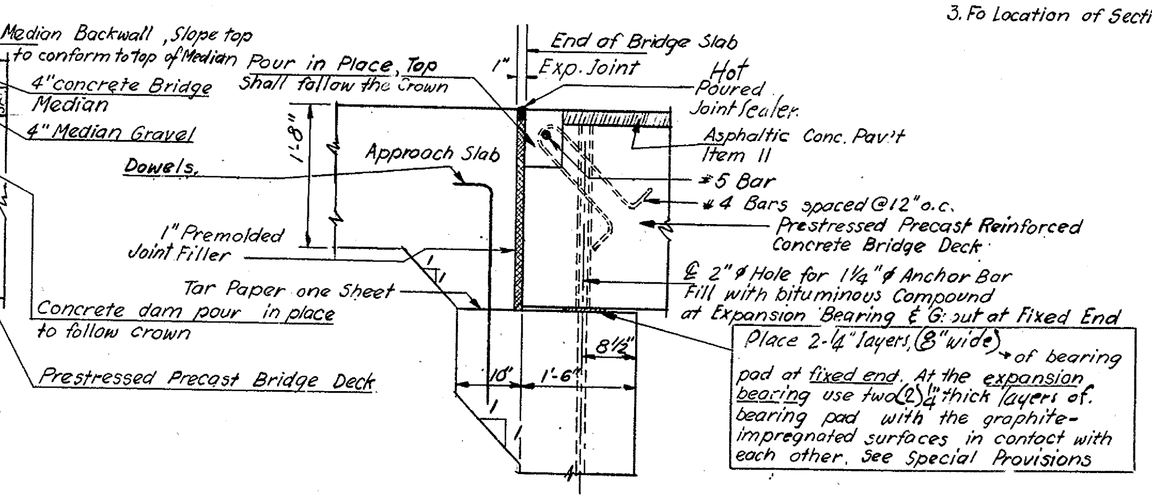
NOTE:
1. For General Notes See Sh. #26.
2. For Abutments Reinforcement See Sh. #27
3. Fo Location of Sections D-D & E-E See Sh. #27



SECTION E-E
SCALE: 1/2"=1'-0"



SECTION D-D
SCALE: 3/4"=1'-0"



JOINT AT ABUTMENTS
SCALE: 3/4"=1'-0"
(TYPICAL BETWEEN CURBS)

DELAWARE
STATE HIGHWAY DEPARTMENT

APPROACH SLAB & DETAILS

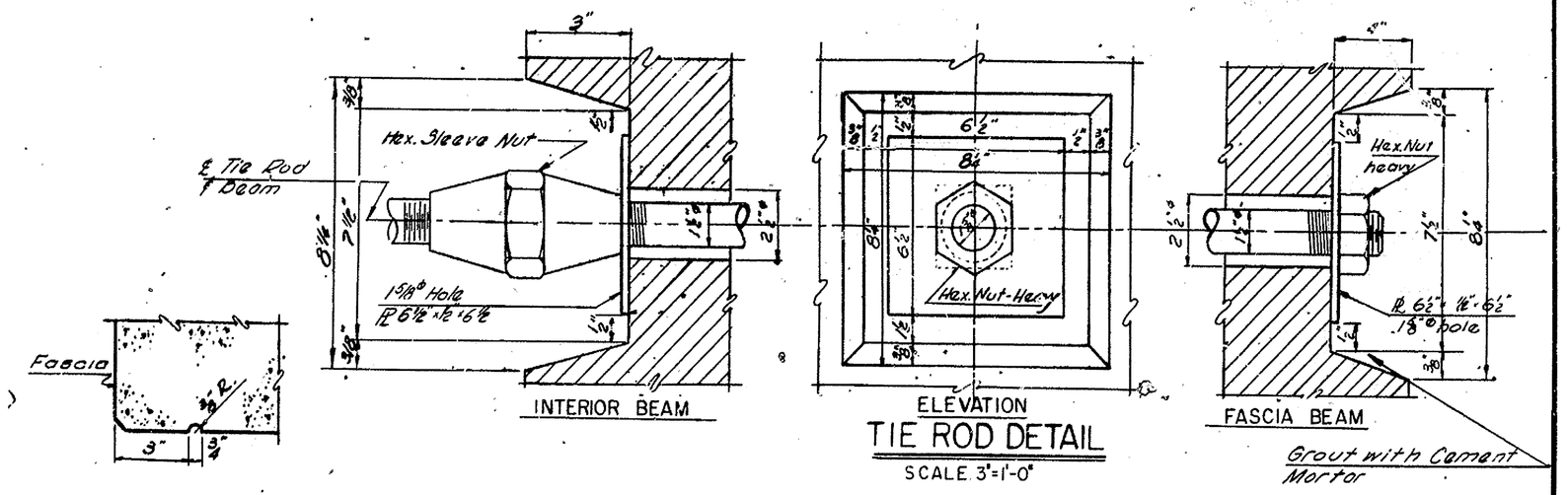
DR: A.M.	SCALE:	APPROVED:
TR:	AS SHOWN	J. M. Fox
CH:		BRIDGE ENGINEER

BOSWELL ENGINEERING CO.
CONSULTING ENGINEERS

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

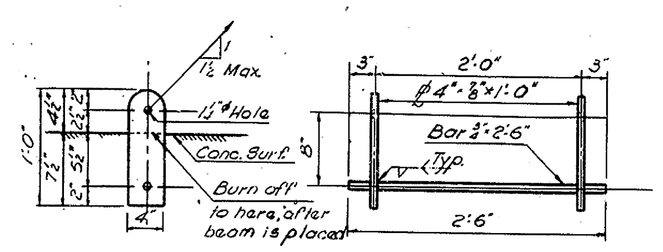
COUNTY	CONTRACT	P.R.A. DIV. NO	STATE	FED AID PROJECT NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)	1959	29	47

FOULK ROAD BRIDGE # 26

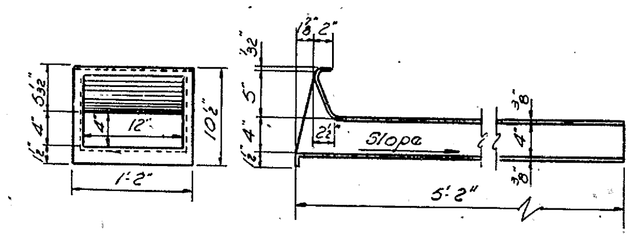


TIE ROD DETAIL
SCALE 3"=1'-0"

DRIP NOTCH DETAIL
SCALE 3"=1' 0"



DETAIL OF LIFTING DEVICE
SCALE: 1"=1'-0"



SCUPPER DETAIL
SCALE 3/8"=1'-0"

REVISIONS

DELAWARE STATE HIGHWAY DEPARTMENT		
DETAILS		
DR: D.C.F. TR: CH: M.R.C.	SCALE: AS SHOWN	APPROVED: J. M. Fox BRIDGE ENGINEER

BOSWELL ENGINEERING CO.

BOSWELL ENGINEERING CO.

RIDGEFIELD PARK NEW JERSEY

REVISIONS

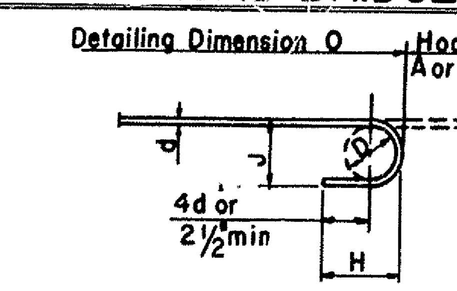
COUNTY	CONTRACT	F.R.A. DIV. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
NEW CASTLE	64-01-030		DEL.	US-511 216 (3)	1959	30	4

FOULK ROAD BRIDGE # 26

Item	No. Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
							NORTH ABUTMENT										
1																	
2																	
3	184	#6	8'-0"	A1	Str.												
4	2	#6	5'-5"	A2	Str.												
5	48	#5	32'-3"	A3	Str.												
6	16	#5	14'-9"	A4	Str.												
7	42	#6	7'-6"	A5	Str.												
8	16	#5	13'-6"	A6	Str.												
9	87	#8	5'-9"	A7	17		4'-9"	1'-0"	0								
10	87	#5	7'-9"	A8	Str.												
11	87	#4	13'-0"	A9	22		9'-0"	2'-0"	10"	1'-2"			10"		10"		
12	84	#4	23'-0"	A10	Str.												
13	87	#5	2'-11"	A11	2	5"	2'-6"					0"		5"			
14	40	#5	3'-5"	A12	2	5"	3'-0"					0"		5"			
15	28	#5	8'-5"	A13	17		3'-9"	11"	3'-9"								
16	16	#5	7'-11"	A14	17		3'-9"	5"	3'-9"								
17	6	#4	15'-0"	A15	STR.												
18							SOUTH ABUTMENT										
19																	
20	184	#6	8'-0"	A1	Str.												
21	2	#6	5'-5"	A2	Str.												
22	48	#5	32'-3"	A3	Str.												
23	16	#5	14'-9"	A4	Str.												
24	42	#6	7'-6"	A5	Str.												
25	16	#5	13'-6"	A6	Str.												
26	87	#8	5'-9"	A7	17		4'-9"	1'-0"	0"								
27	87	#5	8'-2"	A8	Str.												
28	87	#4	13'-5"	A9	22		9'-5"	2'-0"	10"	1'-2"			10"		10"		
29	84	#4	23'-0"	A10	Str.												
30	87	#5	2'-11"	A11	2	5"	2'-6"					0"		5"			
31	40	#5	3'-5"	A12	2	5"	3'-0"					0"		5"			
32	28	#5	8'-5"	A13	17		3'-9"	11"	3'-9"								
33	16	#5	7'-11"	A14	17		3'-9"	5"	3'-9"								
34	6	#4	15'-0"	A15	STR.												
35							NORTH ABUTMENT EAST WINGWALL										
36																	
37	5	#5	11'-7"	W1	Str.												
38	12	#5	14'-9"	W2	17		12'-8"	2'-1"	0"								
39	12	#5	12'-8"	W3	Str.												
40	1ea.	#5	8'-1"	W4	17		6'-0"	2'-1"									
41	/6			to		Vary in 9½" increments. (Average lenth - 10'-1")											
42	total	#5	12'-2"	W9	17		10'-1"	2'-1"									
43	1ea.	#5	6'-0"	W10	Str.												
44	/6			to		Vary in 9½ increments. (Average length - 8'-1")											
45	total	#5	10'-1"	W15	Str.												
46	5	#4	19'-11"	W16	Str.												
47	5	#4	19'-0"	W17	Str.												
48	1ea.	#4	19'-9"	W18	Str.												
49	/5			to		Vary in 1'-3" increments. (Average length - 17'-3")											
50	total	#4	14'-9"	W22	Str.												
51	1ea.	#4	18'-10"	W23	Str.												
52	/5			to		Vary in 1'-3" increments. (Average length - 15'-4")											
53	total	#4	13'-10"	W27	Str.												
54	3	#4	13'-11"	W28	Str.												
55	3	#4	13'-0"	W29	Str.												
56	17	#4	9'-9"	W30	17		4'-6"	9"	4'-6"								
57	2	#4	8'-6"	W31	Str.												
58	2ea	#4	17'-10"	W32	Str.												
59	/5			to		Vary in 10" increments (Average length - 16'-2)											
60	total	#4	14'-6"	W36	Str.												
61																	
62																	
63							NORTH ABUTMENT WEST WINGWALL										
64																	
65	5	#5	11'-2"	W1	Str.												
66	12	#5	14'-4"	W2	17		12'-3"	2'-1"	0"								
67	12	#5	12'-3"	W3	Str.												
68	1ea.	#5	8'-1"	W4	17		6'-0"	2'-1"									
69	/6			to		Vary in 9½" increments (Average length - 10'-1")											
70	total	#5	12'-2"	W9	17		10'-1"	2'-1"									
71	1ea.	#5	6'-0"	W10	Str.												
72	/6					Vary in 9½" increments (Average length - 8'-1")											
73	total	#5	10'-1"	W15	Str.												
74	5	#4	19'-11"	W16	Str.												
75	5	#4	19'-0"	W17	Str.												
76	1ea.	#4	19'-9"	W18	Str.												
77	/5			to		Vary in 1'-3" increments (Average length - 17'-3")											
78	total	#4	14'-9"	W22	Str.												

Item	No. Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
79	1ea.	#4	18'-10"	W23	Str.												
80	/5			to		Vary in 1'-3" increment. (Average length - 16'-4")											
81	Total	#4	13'-10	W27	Str.												
82	3	#4	13'-11"	W28	Str.												
83	3	#4	13'-0"	W29	Str.												
84	22	#4	9'-9"	W30	17		4'-6"	9"	4'-6"								
85	2	#4	8'-6"	W31	Str.												
86	2ea.	#4	20'-7"	W32	Str.												
87	/10			to		Vary in 10" increments (Average length 18'-11")											
88	total	#4	17'-3"	W41	Str.												
89																	
90																	
91							SOUTH ABUTMENT EAST WINGWALL										
92																	
93	5	#5	11'-11"	W1	Str.												
94	12	#5	15'-1"	W2	17		13'-0"	2'-1"	0"								
95	12	#5	13'-0"	W3	Str.												
96	1ea.	#5	8'-1"	W4	17												
97	/6			to		Vary in 9½" increments (Average length 10'-1")											
98	total	#5	12'-2"	W9	17												
99	1ea	#5	6'-0"	W10	Str.												
100	/6			to		Vary in 9½" increments (Average length 8'-1")											
101	total	#5	10'-1"	W15	Str.												
102	5	#4	19'-11"	W16	Str.												
103	5	#4	19'-0"	W17	Str.												
104	1ea.	#4	19'-9"	W18	Str.												
105	/5	#4		to		Vary in 1'-3" increments (Average length 17'-3")											
106	total	#4	1'-9"	W22	Str.												
107	1ea.	#4	18'-10"	W23	Str.												
108	/5			to		Vary in 1'-3" increments (Average length 16'-4")											
109	total	#4	13'-10"	W27	Str.												
110	3	#4	13'-11"	W28	Str.												
111	3	#4	13'-0"	W29	Str.												
112	22	#4	9'-9"	W30	17		4'-6"	9"	4'-6"								
113	2	#4	8'-6	W31	Str.												
114	2ea.	#4	20'-7"	W32	Str.												
115	/10			to		Vary in 10" increments (Average length 18'-11")											
116	total	#4	17'-3"	W41	Str.												
117																	
118																	
119							SOUTH ABUTMENT WEST WINGWALL										
120																	
121	5	#5	11'-6"	W1	Str.												
122	12	#5	14'-8"	W2	17		12'-7"	2'-1"	0"								
123	12	#5	12'-7"	W3	Str.												
124	1ea.	#5	8'-1"	W4	17		6'-0"	2'-1									
125	/6			to		Vary in 9½" increments (Average length 10'-1")											
126	total	#5	12'-2"	W9	17		10'-1"	2'-1									
127	1ea.	#5	6'-0"	W10	Str.												
128	/6			to		Vary in 9½" increments (Average length 8'-1")											
129	total	#5	10'-1"	W15	Str.												
130	5	#4	19'-11"	W16	Str.												
131	5	#4	19'-0"	W17	Str.												
132	1ea.	#4	19'-9"	W18	Str.												
133	/5			to		Vary in 1'-3" increments (Average length 17'-3")											
134	total	#4	14'-9"	W22	Str.												
135	1ea.	#4	18'-10"	W23	Str.												
136	/5			to		Vary in 1'-3" increments (Average length 16'-4")											
137	total	#4	13'-10"	W27	Str.												
138	3	#4	13'-11"	W28	Str.												
139	3	#4	13'-0"	W29	Str.												
140	17	#4	9'-9"	W30	17		4'-6"	9"	4'-6"								
141	2	#4	8'-6"	W31	Str.												
142	2ea.	#4	17'-10"	W32	Str.												
143	/10			to		Vary in 10" increments (Average length 16'-2½")											
144	total	#4	14'-7"	W36	Str.												
145																	
146																	
147																	
148							NORTH APPROACH SLABS										
149																	
150	54	#6	14'-4"	A51	Str.												
151	42	#6	11'-8"	A52	Str.												
152	2ea.	#6	13'-4"	A53	Str.												
153	/20			to		Vary in 1'-4" increments (Average length 7'-2")											
154	total	#6	1'-0"	A512	Str.												
155																	
156																	

Item	No. Pieces	Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
157	2ea.	#6	10'-0"	AS13	Str.												
158	/12			to		Vary in 1'-4" increments. (Average length 6'-7")											
159	total	#6	3'-3"	AS18	Str.												
160	2ea.	#10	36'-11"	AS19	1												
161	/50					Vary in 8⅝" increments. (Average length 28'-3½")											
162	total	#10	19'-8"	AS43	1												
163	4	#6	17'-0"	AS44	Str.												
165	4	#6	14'-6"	AS45	Str.												
166	56	#4	5'-4"	AS46	12	0	2'-0"	6"	2'-10				2'-0"		2'-0"		
167	6	#6	10'-0"	1S47	Str.												
168																	
169																	
170																	
171							SOUTH APPROACH SLABS										
172																	
173						(Identical to North Approach Slabs)											
174																	
175																	
176																	
177																	
178																	
179																	
180																	
181																	
182																	
183																	
184																	

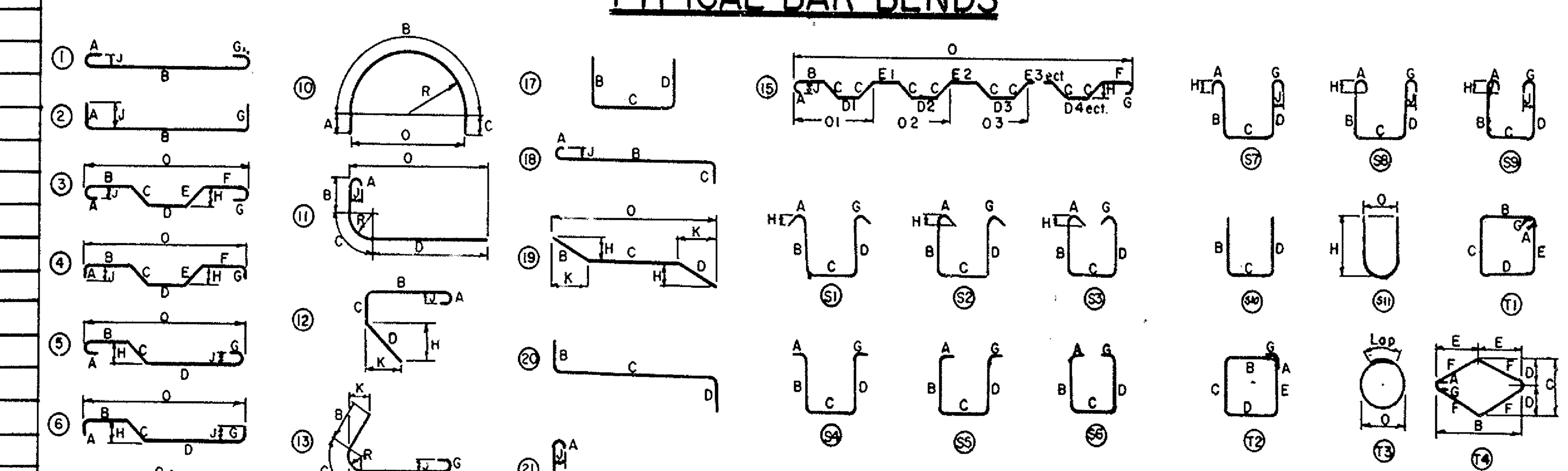


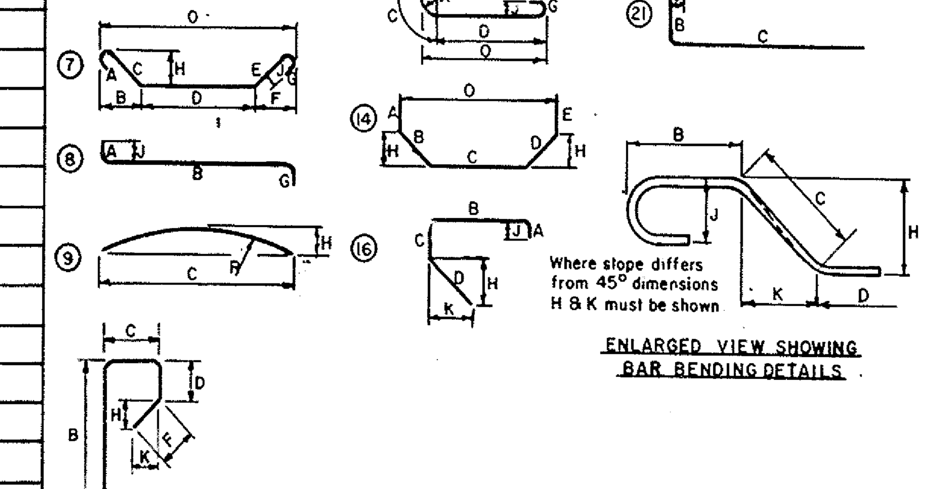
STANDARD HOOK DETAIL

BAR SIZES

Equivalent Size	Present (Numbers)
¼" ●	#2
⅜" ●	3
½" ●	4
⅝" ●	5
¾" ●	6
⅞" ●	7
1" ●	8
1" □	9
1⅛" □	10
1¼" □	11

TYPICAL BAR BENDS





NOTES

1. All dimensions are out to out of bar.
2. "J" dimensions on 180° hooks to be shown only where necessary to restrict hook size otherwise standard hooks are to be used.
3. Where "J" is not shown "J" will be kept equal to or less than "H". Where "J" can exceed "H" it should be shown.
4. "H" dimensions on stirrups to be shown where necessary to restrict hooks.
5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer working should have limits indicated.
6. Figures in circles show types.
7. No allowance for bend curvature is to be made except for standard hook & radii in excess of same.
8. Bar reinforcement metal shall conform to the requirements of the Standard Specifications for new Billet-Steel Concrete Reinforcement Bars (Structural Grade) Serial Designation A.A.S.H.O. M31-54 or its latest revision. All bars shall be deformed to conform with A.S.T.M. Specifications A305-50.

LOCATION	POUNDS
North Abutment	9885
South Abutment	9948
N. Abut. East Wingwall	1,044
N. Abut. West Wingwall	1,082
S. Abut East Wingwall	1,093
S. Abut West Wingwall	1,041
N. Approach Slabs	8,798
S. Approach Slabs	8,798
Total	41,689

DELAWARE
STATE HIGHWAY DEPARTMENT

BAR SCHEDULE

DR. A.M.
TR.
CHM.
SCALE AS SHOWN
APPROVED J. M. Fox
BRIDGE ENGINEER

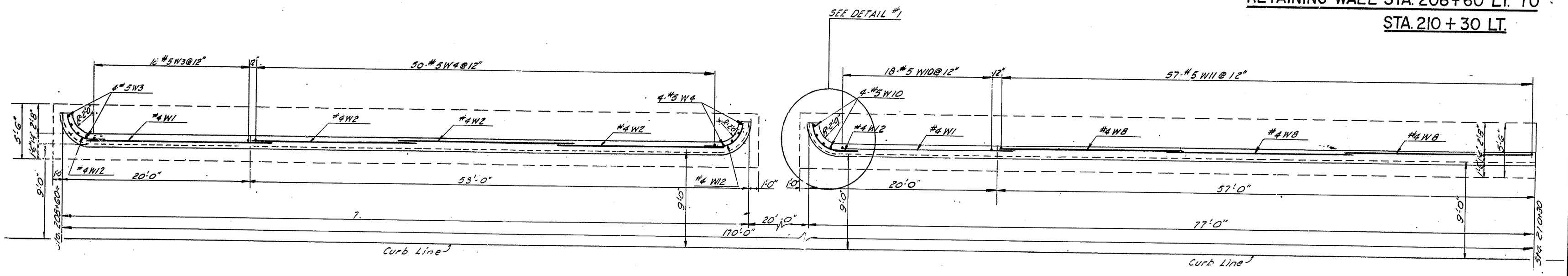
BOSWELL ENGINEERING CO.
CONSULTING ENGINEERS

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

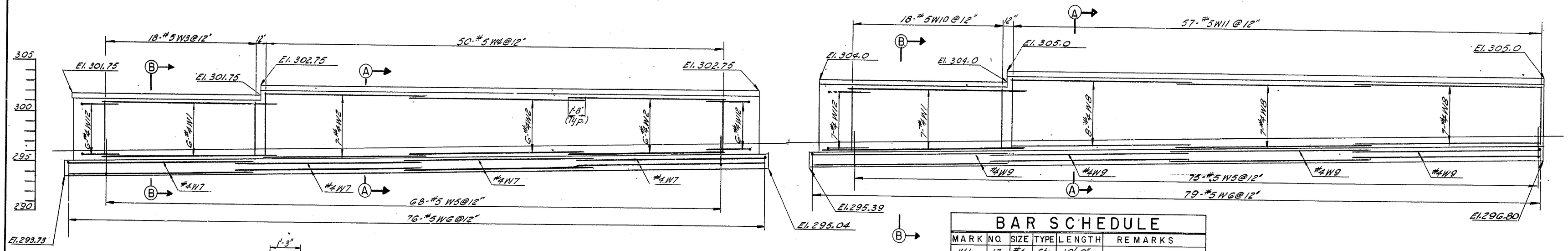
REVISIONS

COUNTY	CONTRACT	P.R.A. DIV. NO.	STATE	FED. AID PROJECT NO.	FISCEL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216(3)		31	42

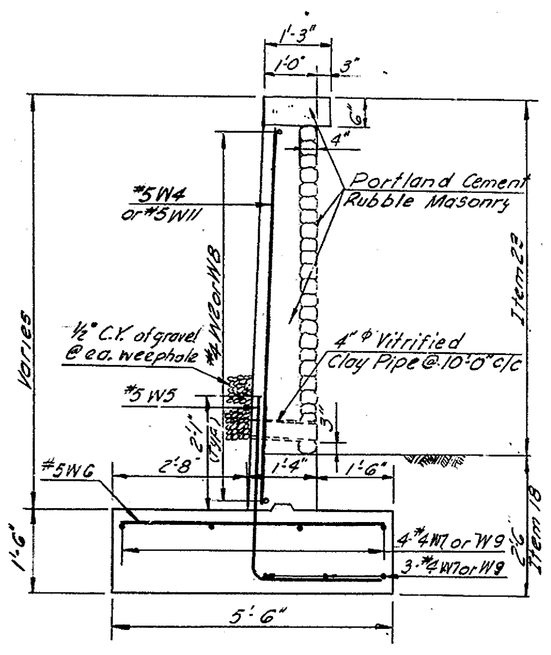
FOULK ROAD
RETAINING WALL STA. 208+60 LT. TO STA. 210+30 LT.



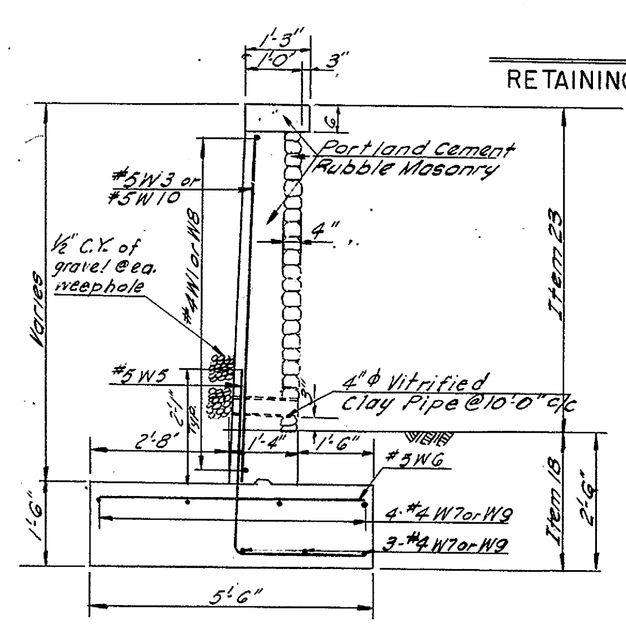
PLAN
RETAINING WALL STA. 208+60 LT. TO 210+30 LT.
SCALE 1"=5'-0"



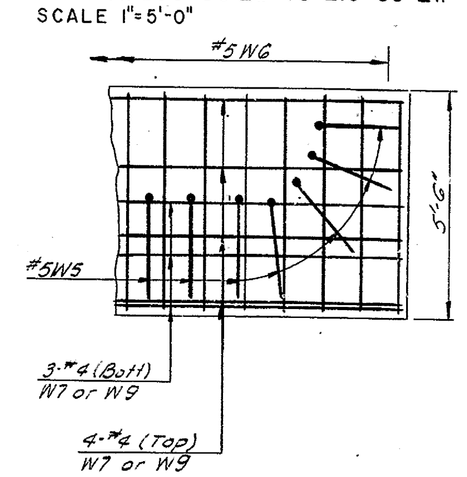
ELEVATION
RETAINING WALL STA. 208+60 LT. TO 210+30 LT.
SCALE 1"=5'-0"



SECTION A-A
SCALE 1/2"=1'-0"



SECTION B-B
SCALE 1/2"=1'-0"

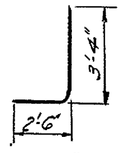


DETAIL #1
FOOTING REINFORCING
SCALE 3/8"=1'-0"

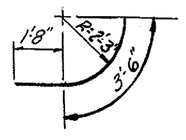
NOTE
Vitrified Clay Pipe & Gravel to be included in price of portland Cement Concrete Masonry

BAR SCHEDULE

MARK	NO.	SIZE	TYPE	LENGTH	REMARKS
W1	13	#4	Str.	19'-0"	
W2	19	#4	Str.	17'-9"	
W3	22	#5	Str.	5'-10"	Vary by 1/8" Increments
				to 5'-6"	Avg. Length 5'-8"
W4	54	#5	Str.	5'-6	Vary by 1/8" Increments
				to 6'-6"	Avg. Length 6'-0"
W5	155	#5	1	5'-10"	
W6	155	#5	Str.	5'-0"	
W7	28	#4	Str.	19'-9"	
W8	22	#4	Str.	20'-0"	
W9	28	#4	Str.	20'-7"	
W10	22	#5	Str.	6'-5" to	Vary by 1/8" Increments
				6'-0"	Avg. Length 6'-3"
W11	57	#5	Str.	7'-0" to	Vary by 1/8" Increments
				6'-0"	Avg. Length 6'-6"
W12	19	#4	2	5'-2"	



TYPE #1



TYPE #2

RETAINING WALL ESTIMATE OF QUANTITIES

Item	Description	Unit	Quantity
4	Excavation for Retaining Wall	Cu.Yd.	110
*18	Portland Cement Concrete Masonry for Retaining Wall	Cu.Yd.	55
19	Superficial Waterproofing	Sq.Yd.	107
*20	Bar Reinforcement	Lb.	4,252
23	Concrete Cement Rubble Masonry	Cu.Yd.	46

* Estimated Fixed Quantity Items See Sheet #33 of the Plans.

DELAWARE
STATE HIGHWAY DEPARTMENT

RETAINING WALL PLAN-ELEVATION & DETAILS

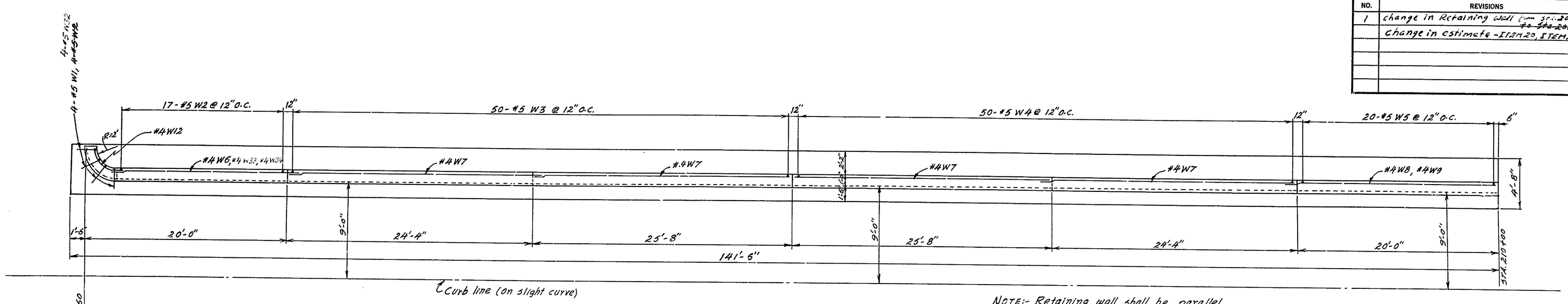
DR: R.H.E. SCALE: AS SHOWN
TR:
CK: A.J.I.
APPROVED: J. M. Foy
BRIDGE ENGINEER

COUNTY	CONTRACT	P.R.A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	64-01-030	2	DEL.	US-SU-216(3)	31AR	48

FOULK ROAD

RETAINING WALL STA. 208+60 LT. TO STA. 210+30 LT.

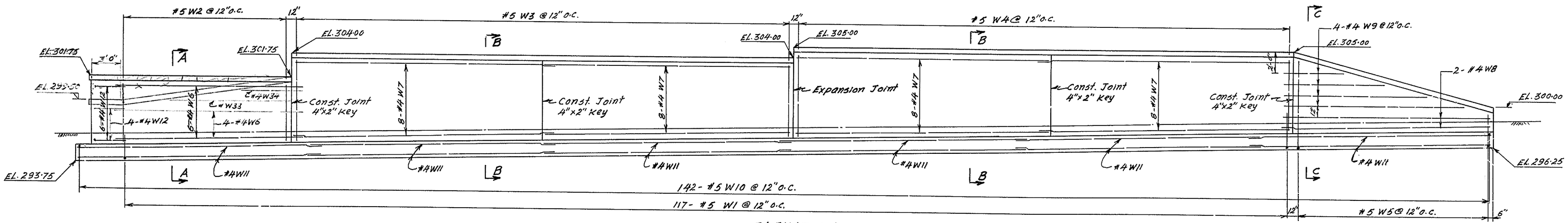
NO.	REVISIONS	BY	DATE
1	change in Retaining wall from Sta. 208+60 to Sta. 208+30	J.A.P.	9/30/65
	change in estimate - ITEM 20, ITEM 23		



NOTE:- Retaining wall shall be parallel to curb line at 9'-0" distance.

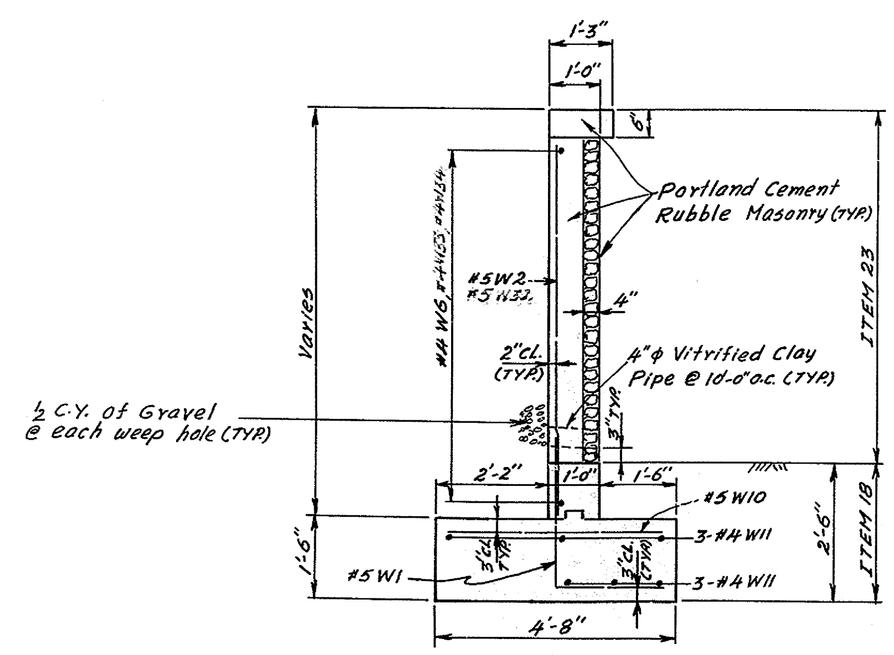
PLAN

(RETAINING WALL STA. 208+60 LT. to STA. 210+00 LT.)
1" = 5'-0"



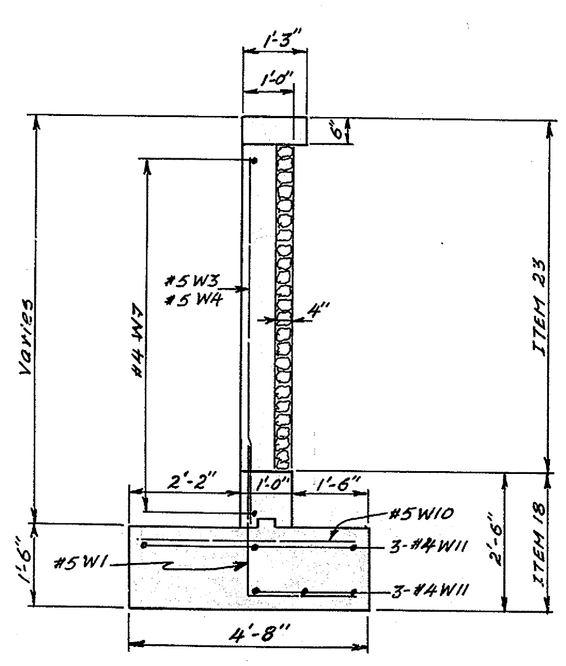
ELEVATION

1" = 5'-0"



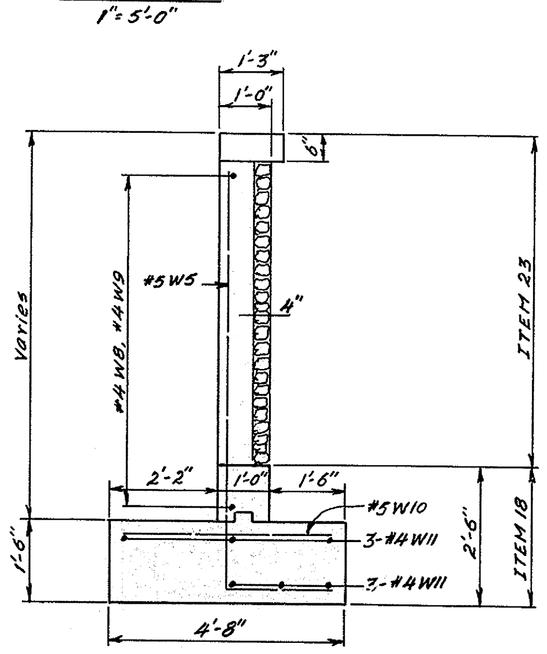
SECTION A-A

½" = 1'-0"



SECTION B-B

½" = 1'-0"



SECTION C-C

½" = 1'-0"

RETAINING WALL			
ESTIMATE OF QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY
4	Excavation for Retaining Wall	C.Y.	400
* 18	P.C.C. Masonry for Retaining Wall	C.Y.	52
20	Bar Reinforcement	LBS.	~~4,260~~ 4,213
23	Concrete Cement Rubble Masonry	C.Y.	~~44~~ 43

* Estimated Fixed Quantity Item

NOTE:-
1. Vitrified Clay Pipe and Gravel to be included in price of Portland Cement Rubble Masonry.
2. For Location see sheet No. 11A

DELAWARE
STATE HIGHWAY DEPARTMENT

RETAINING WALL PLAN
ELEVATION & SECTIONS

	SCALE	APPROVED BY:
D.J.A.P. 7/13/65 T.J.A.P. 7/13/65 C.S.T.L. 7/13/65	AS SHOWN	[signature] BRIDGE ENGINEER

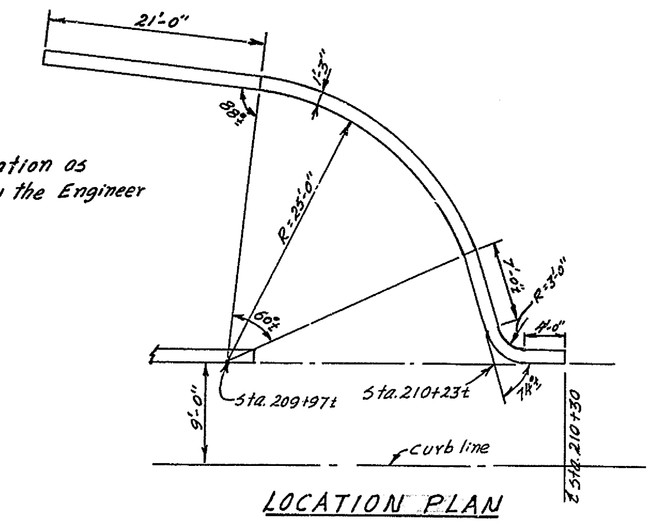
COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	64-01-030	2	DEL.	US-SU-216(3)	31BR	48

FOULK ROAD

RETAINING WALL STA. 208+60 LT TO STA. 210+30 LT.

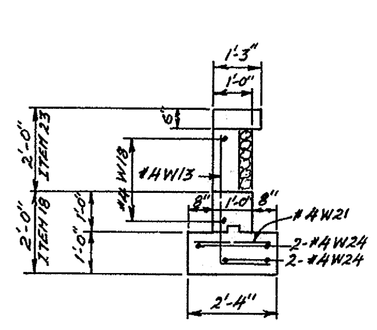
NO.	REVISIONS	BY	DATE
1.	Change in Bar Schedule	J.A.P.	9/30/65

NOTE:- Final location as directed by the Engineer



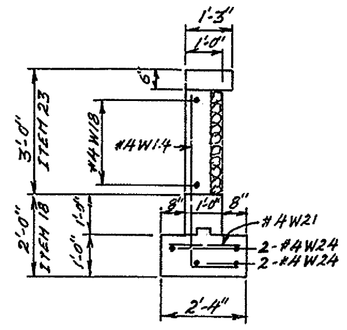
LOCATION PLAN

1"=10'-0"



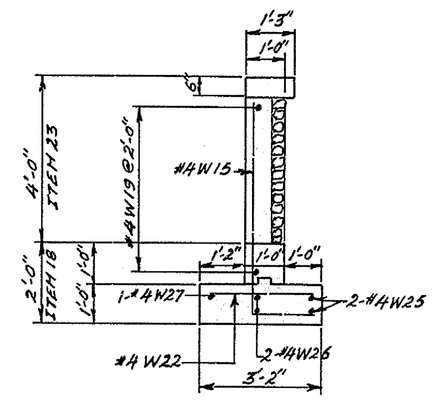
SECTION P-P

3/8"=1'-0"



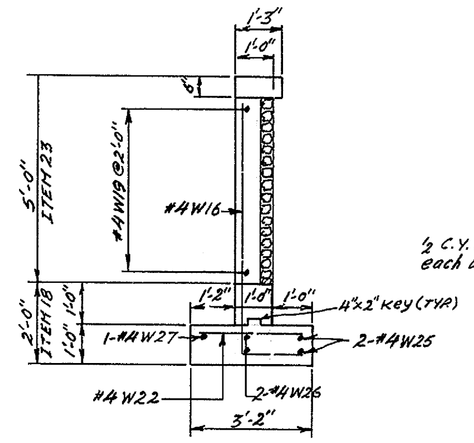
SECTION Q-Q

3/8"=1'-0"



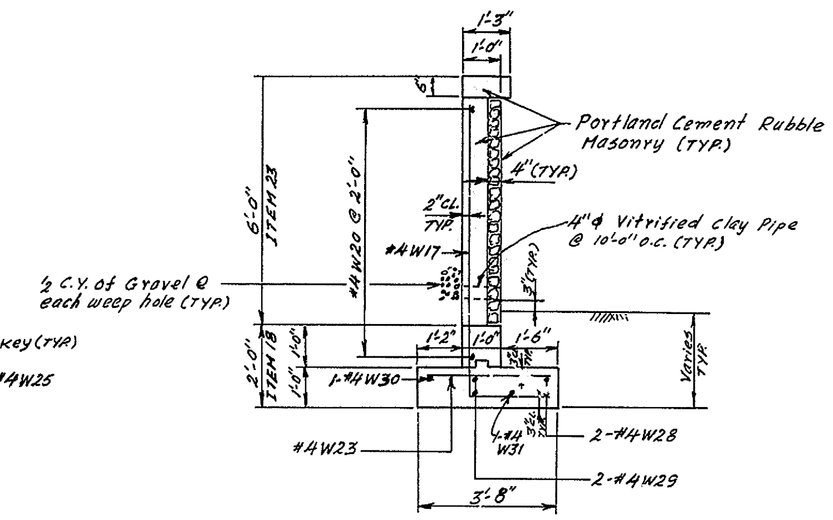
SECTION R-R

3/8"=1'-0"



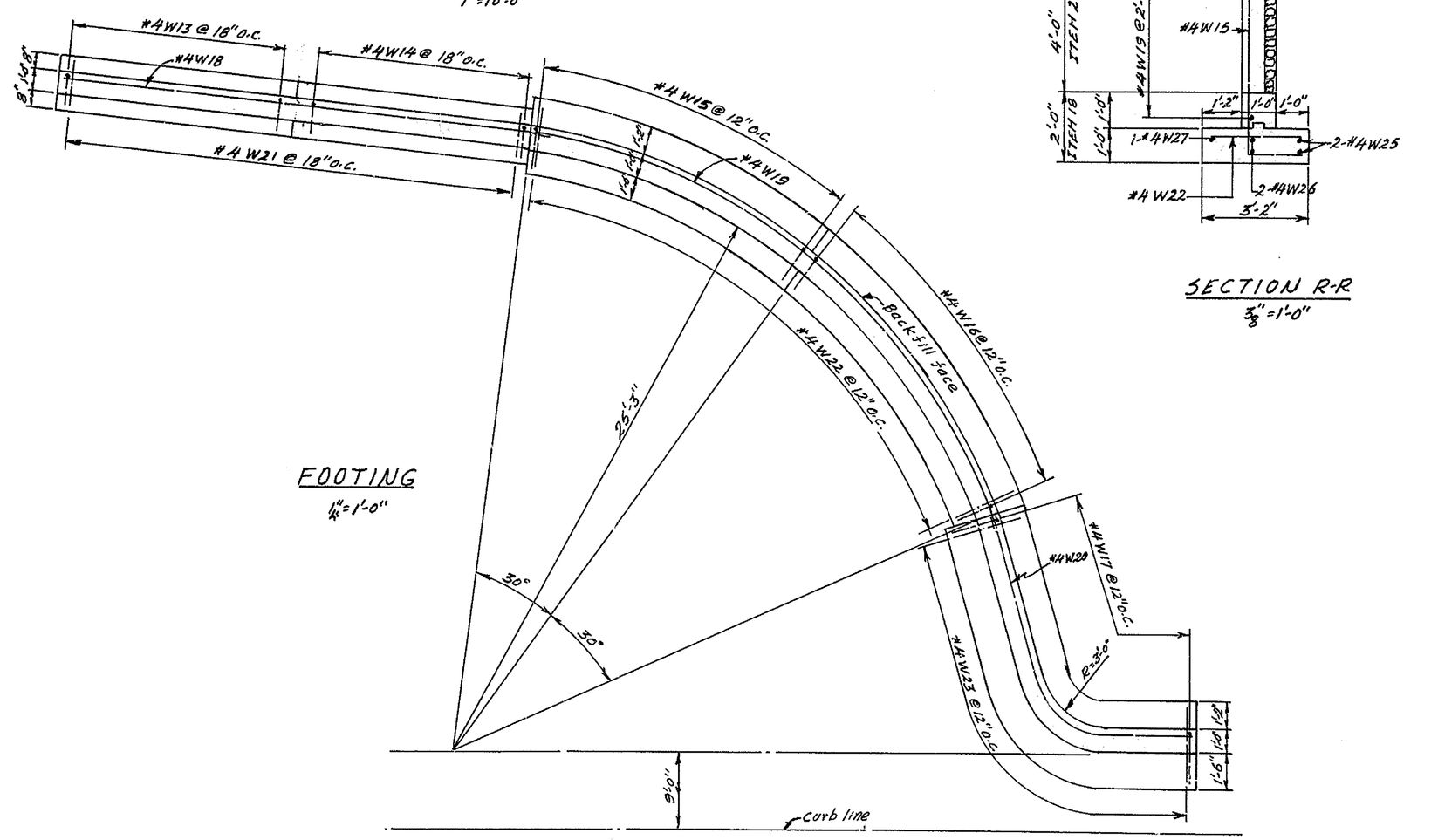
SECTION S-S

3/8"=1'-0"



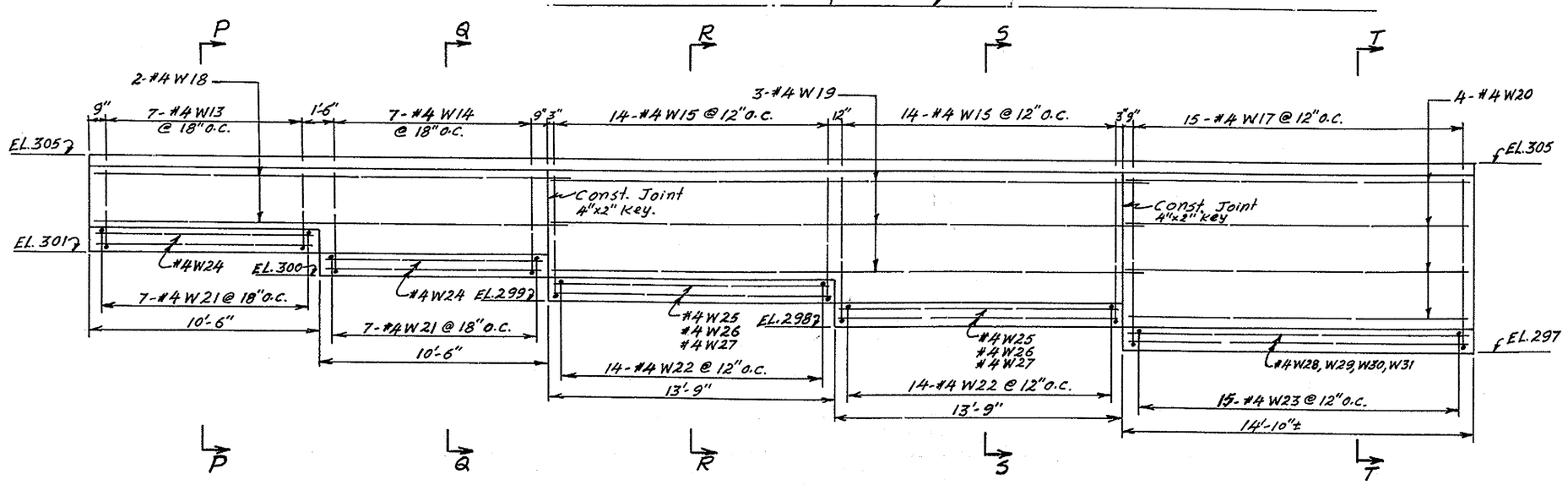
SECTION T-T

3/8"=1'-0"



FOOTING

1/4"=1'-0"



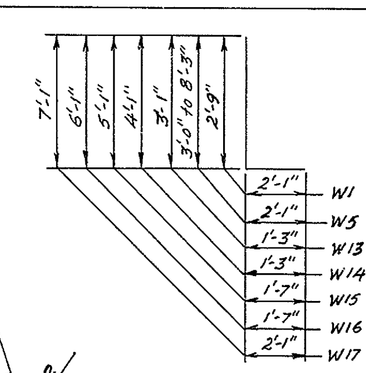
ELEVATION (Developed along backfill face)

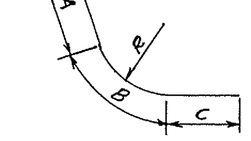
1/4"=1'-0"

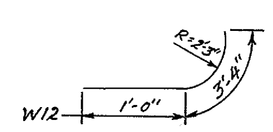
BAR SCHEDULE

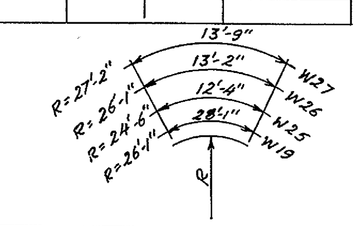
MARK	NO.	SIZE	TYPE	LENGTH	MARK	NO.	SIZE	TYPE	LENGTH
W1	121	5	B	4'-10"	W19	3	4	B	28'-1"
W2	217	5	S	5'-8" to 5'-10"	W20	4	4	B	14'-11"
W3	50	5	S	6'-10" to 7'-9"	W21	14	4	S	1'-10"
W4	50	5	S	6'-11" to 7'-10"	W22	28	4	S	2'-8"
W5	20	5	B	5'-1" to 10'-4"	W23	15	4	S	3'-2"
W6	64	4	S	18'-0"	W24	8	4	S	10'-0"
W7	32	4	S	25'-4"	W25	4	4	B	12'-4"
W8	2	4	S	21'-0"	W26	4	4	B	13'-2"
W9	4	4	S	6'-6" to 18'-3"	W27	2	4	B	13'-9"
W10	142	5	S	4'-2"	W28	2	4	B	17'-3"
W11	36	4	S	24'-7"	W29	2	4	B	14'-7"
W12	64	4	B	4'-4"	W30	1	4	B	13'-2"
W13	7	4	B	4'-4"	W31	1	4	B	16'-0"
W14	7	4	B	5'-4"	W32	4	5	S	3'-2"
W15	14	4	B	6'-8"	W33	1	4	S	13'-6"
W16	14	4	B	7'-8"	W34	1	4	S	6'-0"
W17	15	4	B	9'-2"					
W18	2	4	S	21'-10"					

BENDING DIAGRAM









MARK	A	B	C	R
W20	7'-0"	4'-1"	3'-10"	3'-2"
W28	6'-9"	6'-9"	3'-9"	5'-3"
W29	6'-9"	4'-1"	3'-9"	3'-2"
W30	6'-9"	2'-8"	3'-9"	2'-1"
W31	6'-9"	5'-6"	3'-9"	4'-2½"

NOTE:- 1. Not to scale
2. All dimensions are out-to-out.

DELAWARE
STATE HIGHWAY DEPARTMENT

RETAINING WALL PLAN
ELEVATION & SECTIONS

D. J.A.P. 7/13/65
T. J.A.P. 7/13/65
C. S.T.L. 7/13/65

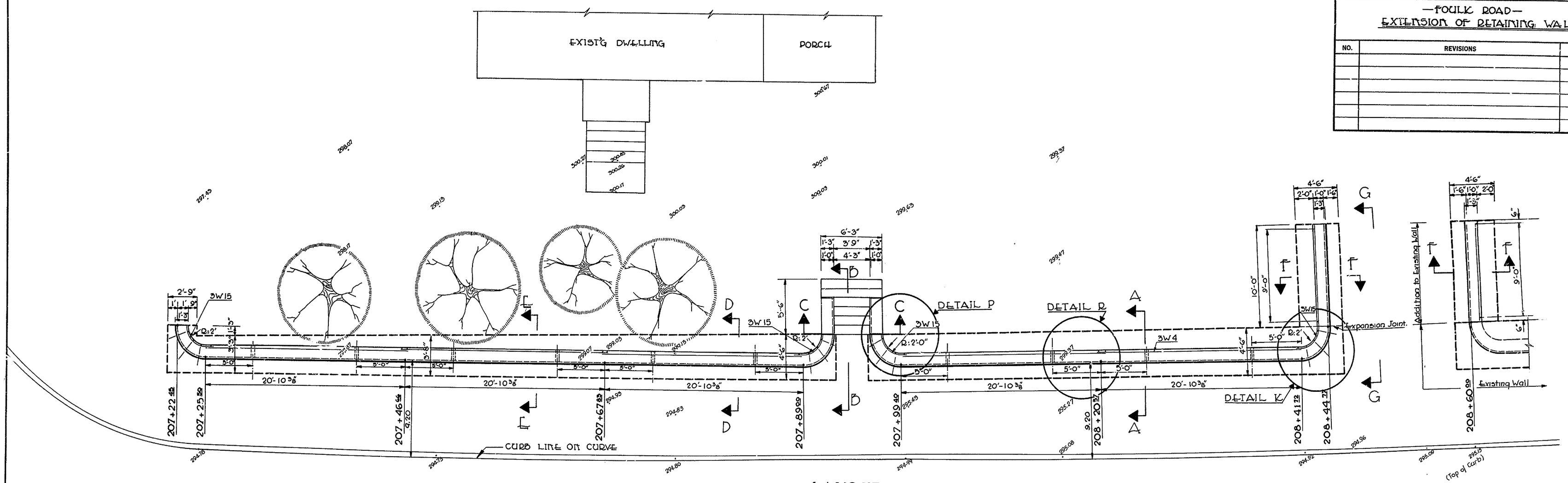
SCALE AS SHOWN

APPROVED BY: Johnnie R. Pearson
BRIDGE ENGINEER

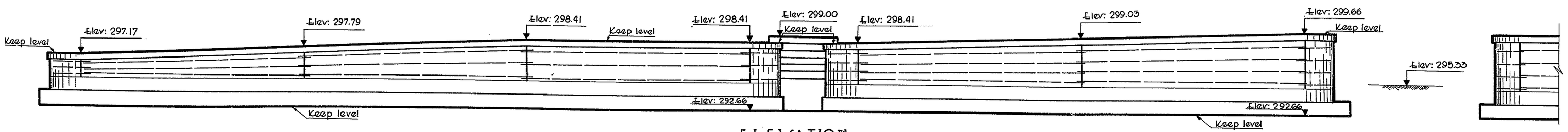
COUNTY	CONTRACT	P. B. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
NEW CASTLE	6401-030	2	DEL.		31-CR	47

—FOULK ROAD—
EXTENSION OF RETAINING WALL

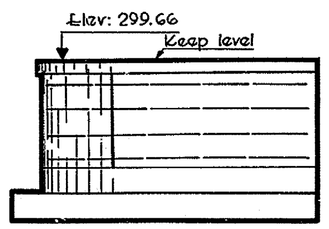
NO.	REVISIONS	BY	DATE



LAYOUT



ELEVATION



VIEW GG

GENERAL NOTES

SPECIFICATIONS:
Delaware State Highway Department Standard Specifications dated June 1960 for material and construction as modified by the Special Provisions.

REINFORCEMENT:
The general details of fabrication, bending and placement of reinforcing steel shall conform to the requirements of the 1961 AASHO Standard Specifications. Unless otherwise noted all bars shall have min cover of 2" clear, except footings which shall have a min 3" clear cover. All bars reinforcement to be Intermediate Grade A.S.T.M. A15, Deformations A.S.T.M. A 305.
The Contractor shall check the bar list for numbe., length and dimensions before ordering bars. Placing reinforcing into position during or after pouring of concrete is absolutely prohibited.

CONCRETE:
Exposed edges of concrete shall be chamfered ¾" and inside corners filleted ¾".

NOTE:
Place wall on Stations as shown on Layout.
Connect those points with a straight line.
Each straight section includes two drain tiles and placed as shown on details.
Vitrified Clay Pipe and Gravel to be included in price of Portland Cement Rubble Masonry.

DELAWARE
STATE HIGHWAY DEPARTMENT

RETAINING WALL
PLAN & ELEVATION

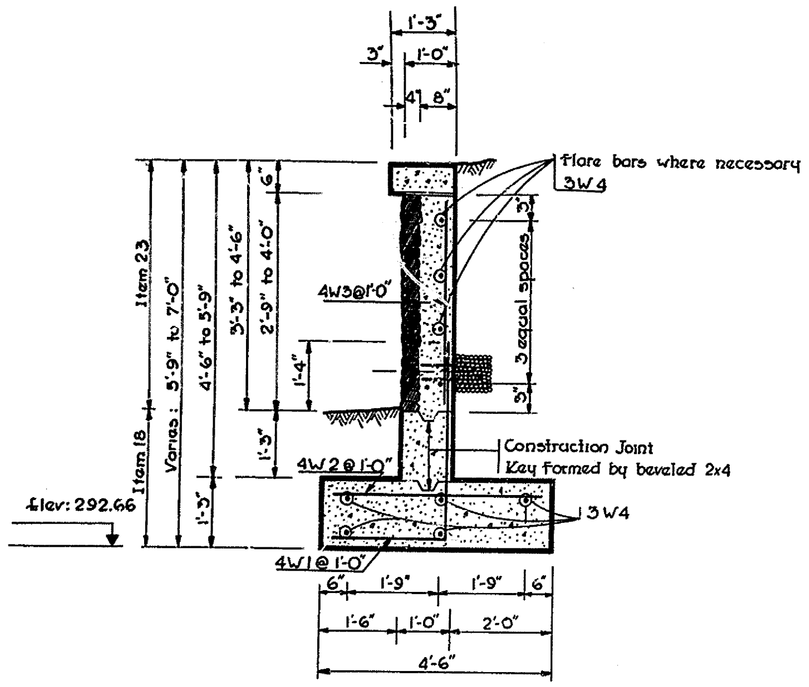
D.	SCALE	APPROVED BY:
T. A.D.	1" = 5'-0"	BRIDGE ENGINEER

COUNTY	CONTRACT	P.R.A. REF. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
NEW CASTLE	6401-030	2	DEL.		31-DR	47.

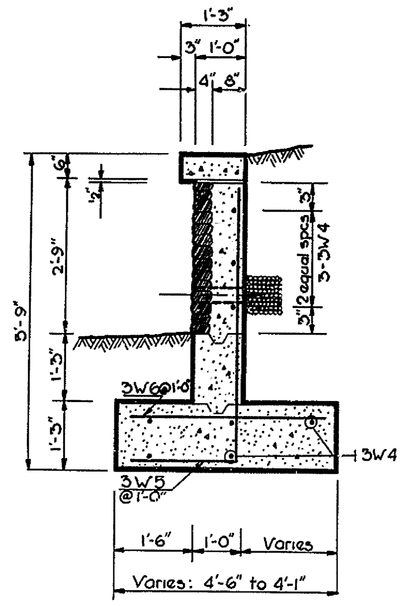
—FOULK ROAD—

EXTENSION OF RETAINING WALL

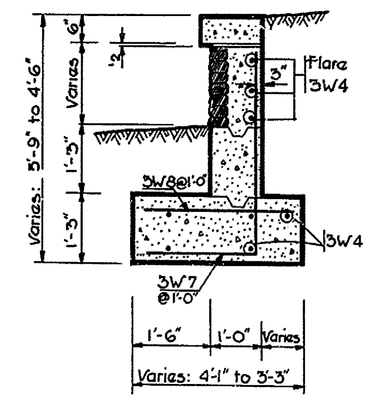
NO.	REVISIONS	BY	DATE



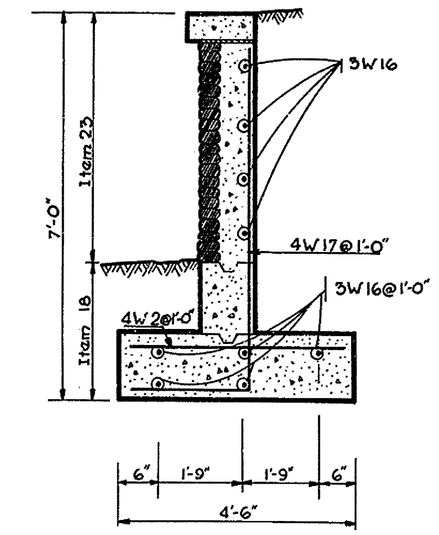
SECTION A-A



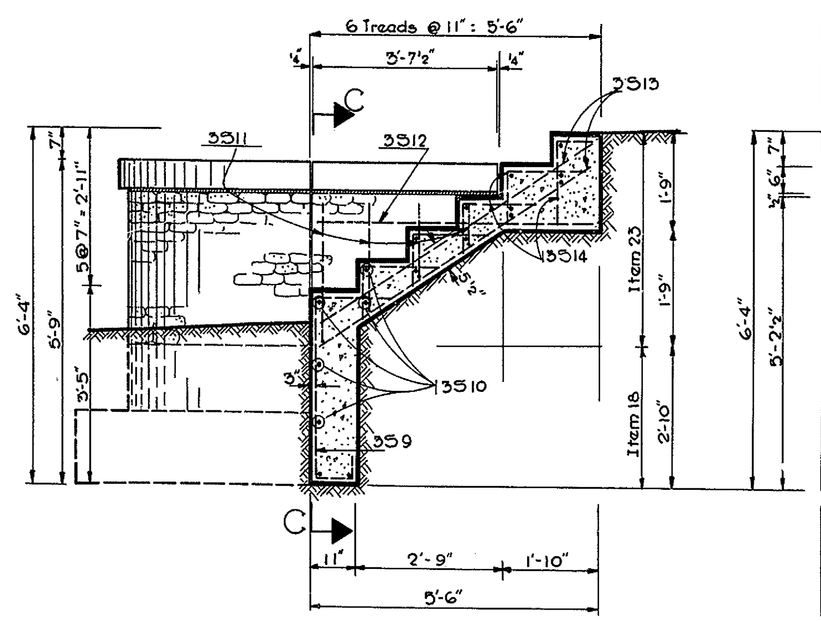
SECTION D-D



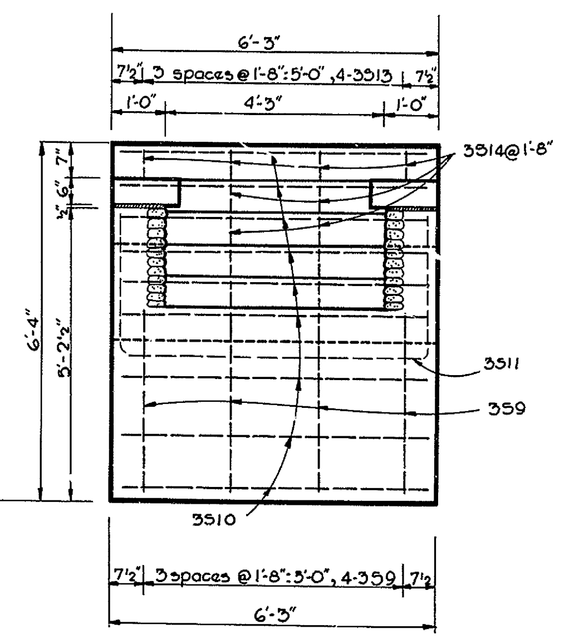
SECTION E-E



SECTION F-F



SECTION B-B

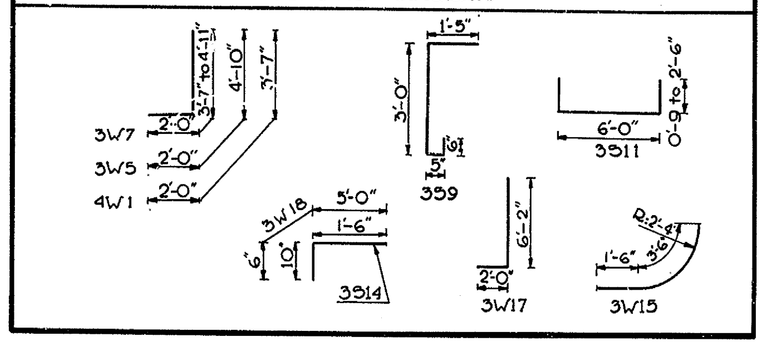


VIEW C-C

REINFORCING BAR LIST

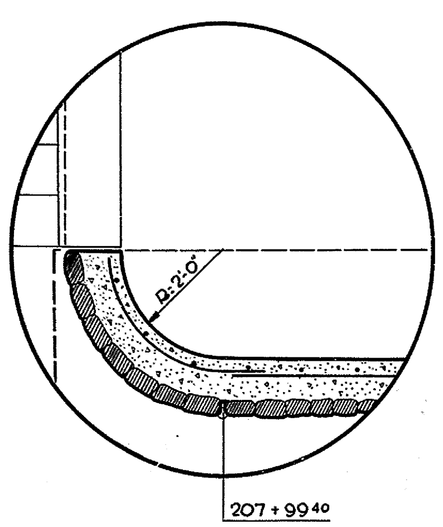
STRAIGHT BARS				BEND BARS			
MARK	SIZE	LENGTH	NUMBER	MARK	SIZE	LENGTH	NUMBER
4W2	4	4'-2"	70	4W1	4	5'-7"	48
4W3	4	2'-7" to 3'-0"	46	3W5	3	6'-10"	24
3W4	3	22'-0"	42	3W7	3	5'-7" to 6'-1"	45
3W6	3	2'-11" to 4'-2"	71	359	3	5'-4"	4
				3511	3	7'-6" to 11'-0"	4
3510	3	6'-0"	17	3514	3	2'-4"	20
3512	3	5'-2"	2	3W15	3	5'-0"	14
3513	3	6'-2"	8	4W17	4	8'-2"	20
3W16	3	9'-8"	18	3W18	3	5'-6"	12

BENDING DIAGRAM

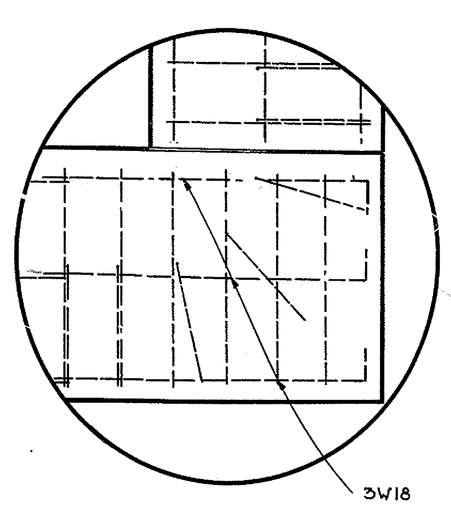


ESTIMATED QUANTITIES

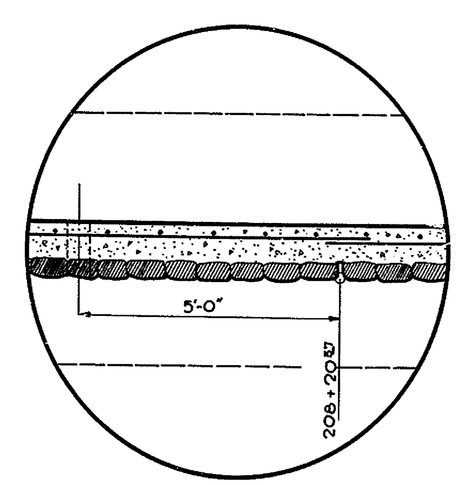
ITEM	DESCRIPTION	UNIT	QUANTITY
4	EXCAVATION FOR RETAINING WALL	C.Y.	210
18	P.C.C. MASONRY FOR RETAINING WALL	C.Y.	34
20	BAR REINFORCEMENT	LBS.	1,400
23	CONCRETE CEMENT RUBBLE MASONRY	C.Y.	19.1



DETAIL 'P'



DETAIL 'K'



DETAIL 'B'

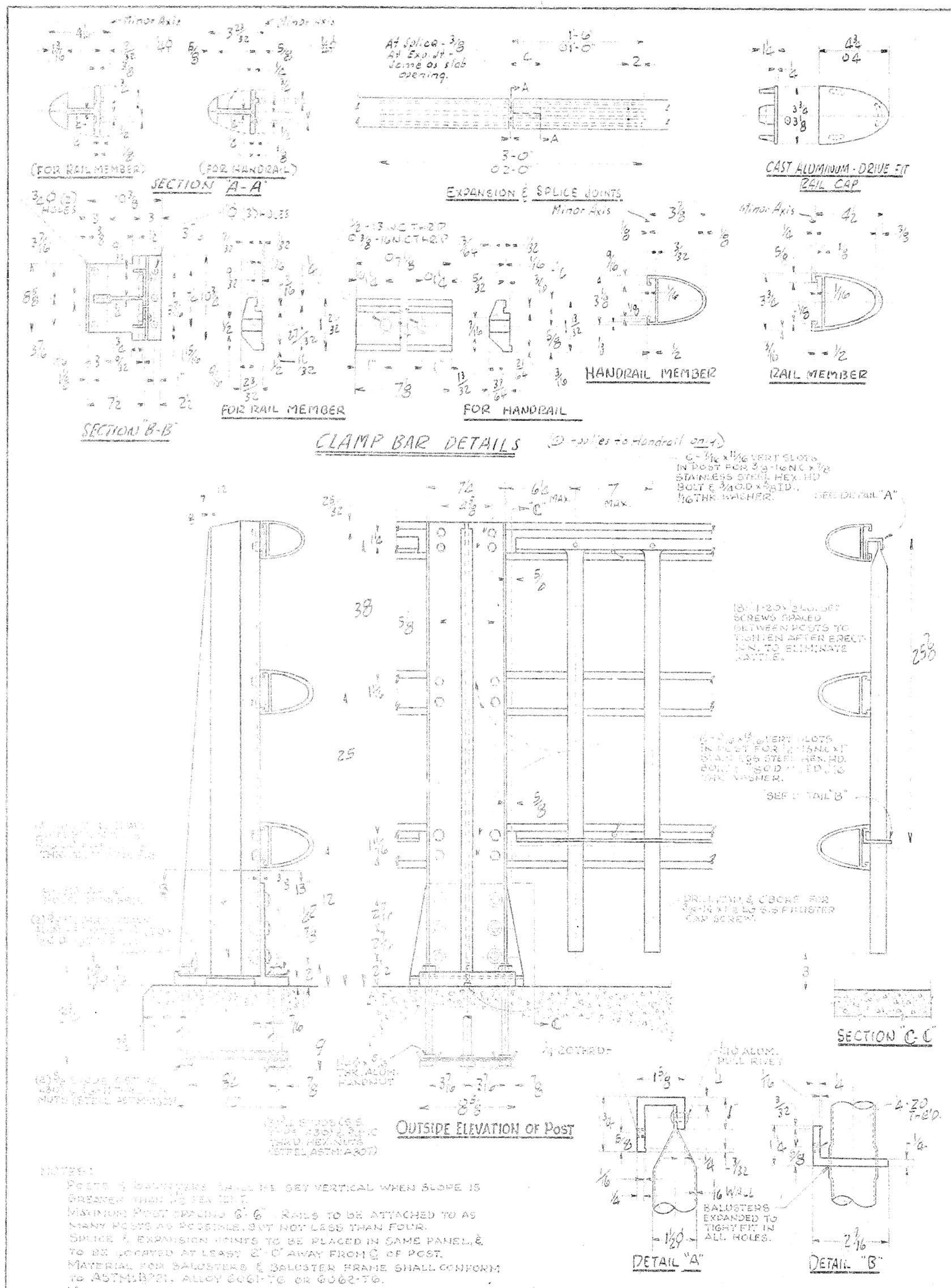
DELAWARE
STATE HIGHWAY DEPARTMENT

—RETAINING WALL—

DETAILS, SECTIONS & QUANTITIES

D.	SCALE	APPROVED BY:
T.A.B.	1/2"=1'-0"	Dominic Rhoades, P.E.
C.		BRIDGE ENGINEER

WILPRINT IMPERIAL TRACING CLOTH



NOTES:

POSTS & BALUSTERS SHALL BE SET VERTICAL WHEN SLOPE IS GREATER THAN 1½ PER CENT.

MAXIMUM POST SPACING 6'-6". RAILS TO BE ATTACHED TO AS MANY POSTS AS POSSIBLE, BUT NOT LESS THAN FOUR.

SPLICE & EXPANSION JOINTS TO BE PLACED IN SAME PANEL, & TO BE LOCATED AT LEAST 2'-0" AWAY FROM ℄ OF POST.

MATERIAL FOR BALUSTERS & BALUSTER FRAME SHALL CONFORM TO ASTM:B221, ALLOY 6061-T6 OR 6062-T6.

MATERIAL FOR STAINLESS STEEL SET SCREWS SHALL CONFORM TO ASTM:A193, GRADE B8.

COUNTY	CONTRACT	P.O.A. REG. NO.	ROUTE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
New Castle	64 (M-030)	2	DEL.	US-CU-216(3)	3	

NO	REVISIONS	BY	DATE

FOULK ROAD

DELAWARE
STATE HIGHWAY DEPARTMENT

BRIDGE RAILING DETAILS

	SCALE	APPROVED BY
D. Victor A. Jost T. Nov. 1964 C.		Johnnie R. Pearson, Jr. BRIDGE ENGINEER

BRIDGE QUANTITIES

COUNTY	CONTRACT	P.R.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	U3-5U 216 (3)		33	47

FOULK ROAD

REMOVAL OF EXISTING STRUCTURES	
STA. 169+12	LUMP SUM
STA. 204+23	LUMP SUM
STA. 215+75	LUMP SUM

ITEM 11- HOT MIX ASPHALTIC CONCRETE PAVEMENT	
TOTAL	276 TONS

Note! Included in the contract pay quantity for ITEM 11- "HOT-MIX, HOT LAID ASPHALTIC CONCRETE PAVEMENT" See Sheet 33- ROAD QUANTITIES.

ITEM 4- EXCAVATION FOR STRUCTURES	
STRUCTURES	1,288 C.Y.
RETAINING WALL	110 C.Y.
TOTAL	1,398 C.Y.
PROPOSAL	1,550 C.Y.

BRIDGE RAILING ⊡	
TOTAL	286 L.F.
PROPOSAL	286 L.F.

⊡ Refer to plans and special provisions for details & description of alternate types of Bridge Railing.
1. Aluminum Bridge Railing.
2. Metal Bridge Railing.

ITEM 23- PORTLAND CEMENT RUBBLE MASONRY	
TOTAL	46 C.Y.
PROPOSAL	50 C.Y.

ITEM 57- SAND	
TOTAL	4.8 TONS
PROPOSAL	5.0 TONS

SUBFOUNDATION CONCRETE	
TOTAL	90 C.Y.
PROPOSAL	95 C.Y.

ASPHALTIC TACK COAT	
TOTAL	93 GALS. *

* COST TO BE INCLUDED IN PRICE BID FOR ITEM 11- HOT MIX

* ITEM 18- PORTLAND CEMENT CONCRETE MASONRY		
* ITEM 18- BRIDGE ABUT'S & WINGWALLS-	437	C.Y.
* ITEM 18 APPROACH SLABS- BRIDGES	211	C.Y.
* ITEM 18- RETAINING WALL	55	C.Y.
* ITEM 18- BOX CULVERT	205	C.Y.

205 C.Y.

ITEM 19 - SUPERFICIAL WATERPROOFING	
BRIDGE ABUT'S & WINGWALLS - BOX CULVERT	714 S.Y.
RETAINING WALL	107 S.Y.
TOTAL	821 S.Y.
PROPOSAL	875 S.Y.

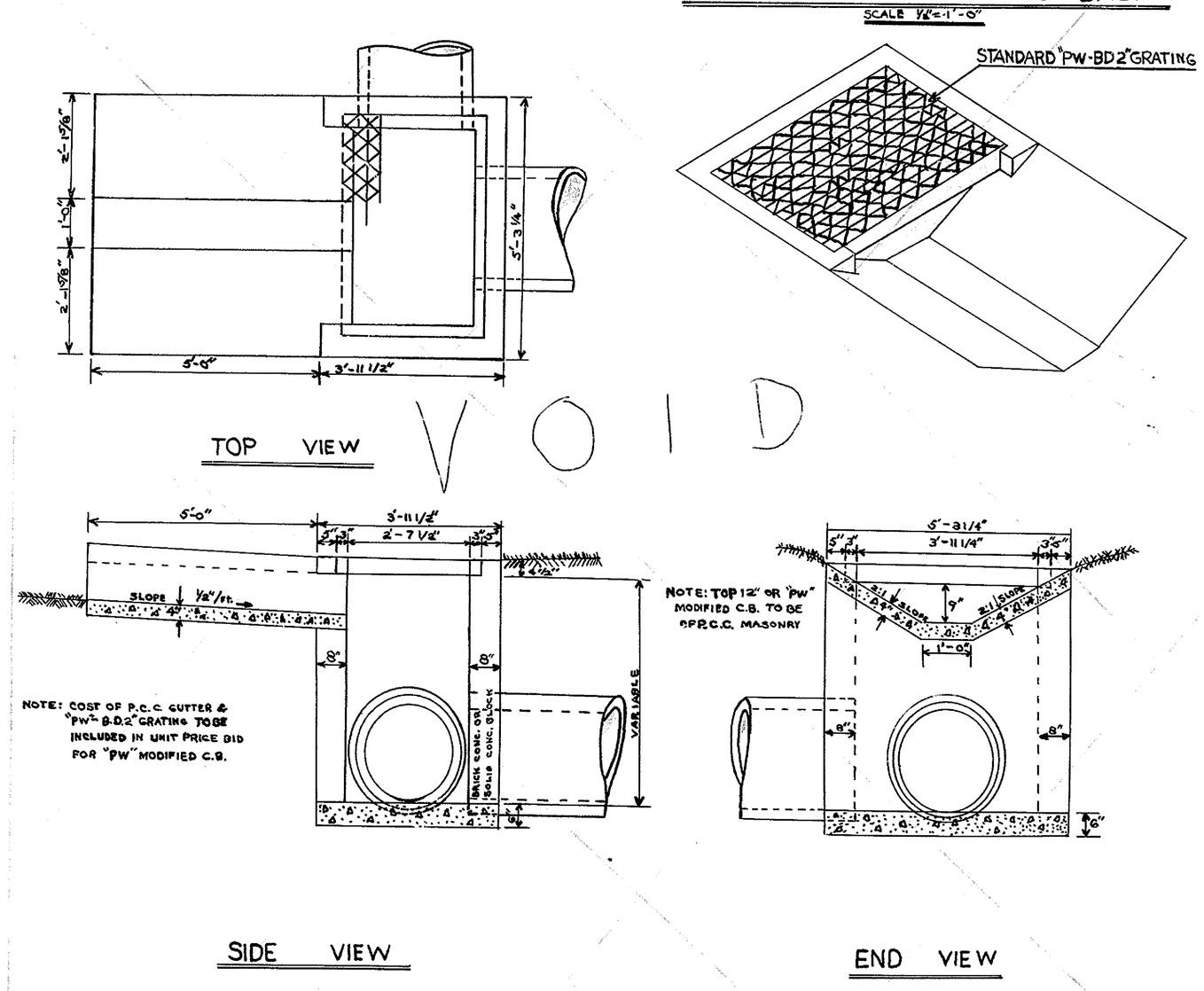
PRESTRESSED PRECAST REINFORCED CONCRETE BRIDGE DECKS	
BRIDGE #32	LUMP SUM
BRIDGE #26	LUMP SUM

* ITEM 20 - BAR REINFORCEMENT	
BRIDGE ABUT'S & WINGWALLS - BOX CULVERT	98,072 LBS.
RETAINING WALL	4,252 LBS.
TOTAL	102,324 LBS.
PROPOSAL	107,324 LBS.

* DENOTES "ESTIMATED FIXED-QUANTITY ITEM."
See Pg. 72- p. 43- St'd Specifications, also Special Provisions.

TYPE "PW" MODIFIED CATCH BASIN

SCALE 1/2"=1'-0"



TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

V.A.J. 10/14/64

"Imperial" 156 W. B. & E.

ROAD QUANTITIES

COUNTY	CONTRACT	P.B.A. REG. NO.	STATE	FED AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	64-01-030	2	DEL.	US-SU 216 (3)	34	47

FOULK ROAD

PREL. TRACING JPR DESIGN WJTK CHKD

REVISIONS

SPECIAL PROVISION ITEMS

STATION	Remove & Re-set State Line Marker	Stoking & Resetting Chain Link & Split Rail Fence	Rem. of Exist. Con. Pavement	Transport of Stockpiled Macadam		Maint. of Traffic	Temporary Roadway Materials: Select Borrow	Hot Mix	Quarry Waste	Cold-Laid Bituminous Concrete	Traffic: M. Cabinet Base	Lane Type Magnetic Detectors Under Hard Pav't	Steel Pole Base	Conduit Junction Well	1½" Galv. Conduit Under New Pavement	4" Non-Metallic Conduit Under Hard Pav't	4" Non-Metallic Conduit Under Exist. Pav't		2" Galv. Conduit Under New Pavement
	L.S.	L.S.	S.Y.	C.Y.		L.S.	C.Y.	TONS	TON	TON	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.		L.F.
146+23 to 217+50			716								2	6	8	26	1,809	126	60		463
217+50 to 242+49.40																			
TOTAL	L.S.	L.S.	716								2	6	8	26	1,809	126	60		463
PROPOSAL	L.S.	L.S.	720	2700		L.S.	150	150	150	150	2	6	8	26	1,809	126	60		463

DRAINAGE

ITEM NO.	26 Reinforced Concrete Pipe: 18"	18"	21"	24"	30"	29 16 Gage C.M. Pipe Bit. Paved 18 X 11	44 Catch Basins & Drop Inlets: A-1	A-2	SD-1		B	PW-1	37 Portland Cement Concrete Gutter	40 Man-Holes	60 Lateral Ditching	64 Grouted Rip-Rap
STATION	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	EA.	EA		EA.	EA.	S.Y.	EA.	LF	S.Y.
146+23 to 149+00	218						2									
149+00 to 159+00	823	730		18			14		1							
159+00 to 169+00	104			772	220	52	5	1								15
169+00 to 179+00	705	56	448			110	8				4	2	24	3	400	15
179+00 to 189+00	350					104	4									
189+00 to 199+00	334	726	125			104	11									
199+00 to 209+00	388	100	303	424			4	3			3	2			400	
209+00 to 217+50	494	304	322	64			10	4			5	1	135		200	5
SUB-TOTAL	3416	1916	1198	1278	220	370	58	8	1		12	5	159	3	1000	35
217+50 to 219+00	60			200	174											5
219+00 to 229+00	294		600	250			9				1	2				
229+00 to 239+00	144	250	850				6									
239+00 to 242+49.40	116	340					4									
SUB-TOTAL	614	590	1450	450	174		19				1	2				5
TOTAL	4030	2506	2648	1728	394	370	77	8	1		13	7	159	3	1000	40
PROPOSAL	4100	2600	2700	1750	400	370	77	8	1		13	7	170	3	1000	40

EARTHWORK

STATION	1 Clearing & Grubbing	2 Excavation	3 Rock Excavation Road-way	3A Rock Excav. Structure & Trenches	Embankment +30%	Excess	Borrow	2A Removal of Exist. Masonry	2B Channel Excavation	7 Select Borrow (+35%)	8 Water-Bound Macadam Base	8C Quarry Waste Base Course Ex'd 1" th.	10 Port. Cem. Conc. Base Course 9" th.
	L.S.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	TON	S.Y.	C.Y.
146+23 to 149+00		1,090			19	1,071				662		6,574	13
149+00 to 159+00		5,292			28	5,264				2,925	120	25,059	59
159+00 to 169+00		2,606			656	1,950				2,632		23,429	74
169+00 to 179+00		6,488			325	6,163			1399	2,806	295	24,691	65
179+00 to 189+00		6,552			688	4,105				1,976		23,918	90
189+00 to 199+00		3,793			1,681	2,112		2		2,797	114	26,510	59
199+00 to 209+00		3,996			2,037	1,959			964	2,322	74	23,820	142
209+00 to 217+50		4,886			4,568	310			4563	3,566	537	26,976	460
SUB-TOTAL	74%	34,703			10,002	22,942		2	6,926	19,686	1140	180,977	962
217+50 to 219+00		69			257		188			353		3,400	
219+00 to 229+00		4,024			2,528	1,496				2,574	189	21,394	
229+00 to 239+00		4,787			359	4,428		100		2,531		19,889	
239+00 to 242+49.40		816			310	506				792		6,950	
SUB-TOTAL	26%	9,696			3,454	6,430	188	100		6,250	189	51,633	
TOTAL		44,399			13,456	29,372 / 29,184	188	102	6,926	25,936	1329	232,613	962
PROPOSAL	L.S.	44,500	300	300			*	110	7,000	26,500	1350	233,000	1000

* Not a pay item.

ITEM NO.	11 Hot Mix, Hot Laid Asphalt Concrete Pavement	Tack Coat	14 Bit. Surface Treatment: RC-70 Asphalt	RC-250 Asphalt	Course Agg.	15 Portland Cement Concrete Pavement	21 Wire Mesh Reinforcement	38 Port. Cem. Concrete Curb Type #1	39 Integral Portland Cement Concrete Gutter & Curb: Type 1	Type 2	40 Portland Cement Parkway Curb: Type 1	Type 2	41 Portland Cement Concrete Sidewalk: 4"	6"	S.P. Galv. Steel Deep Beam Guard Rail (WD Post)
STATION	TONS	GAL.	GAL.	GAL.	TONS	C.Y.	SQ.	L.F.	L.F.	L.F.	L.F.	L.F.	S.F.	S.F.	L.F.
146+23 to 149+00	18	23				339	127	554							
149+00 to 159+00	118	129				1282	491	1978		199		135	7696		
159+00 to 169+00	79	78				1185	450	1972					4239	423	
169+00 to 179+00	249	271				1467	491	2004							
179+00 to 189+00	104	60				1297	460	2000							
189+00 to 199+00	128	144				1329	510	2121		262	60				275
199+00 to 209+00	160	100				1370	531	1995			51				350
209+00 to 217+50	520	352				1054	483	2467				155	1760		392
SUB-TOTAL	1376	1157				9323	3543	15,091		461	111	290	13,695	423	1017
217+50 to 219+00	5	8	42	58	4	141	35		300						
219+00 to 229+00	125	95	1111	1556	89	700	250		2010						
229+00 to 239+00	23	28	1111	1556	89	593	230		2000						
239+00 to 242+49.40	18	19	269	377	22	207	80		699						
SUB-TOTAL	171	150	2533	3547	204	1641	595		5009						
TOTAL	1,547	1,307	2533	3547	204	10,964	4138	15,091	5009	461	111	290	13,695	423	1017
PROPOSAL	1600	*	2600	3600	210	11,200	4200	15,200	5100	500	120	350	14,000	450	1050

STATION	51 Topsoil	52 Top-soiling	53 Seeding	54 Mulching	55 Sodding			61 Calcium Chloride (for Dust Control)
	S.Y.	S.Y.	AC.	S.Y.	S.Y.			TONS
146+23 to 149+00	800	-	0.104	—	25			
149+00 to 159+00	1600		0.379	900	100			
159+00 to 169+00	1500		0.352	1200	100			
169+00 to 179+00	1105		0.473	1400	50			
179+00 to 189+00	1680		0.470	1200	75			
189+00 to 199+00	1400		0.581	1400	50			
199+00 to 209+00	1265		0.550	2055	100			
209+00 to 217+50	1235		0.561	1645	-			
SUB-TOTAL	10,585	1,600	3.470	9,800	500			
217+50 to 219+00	704		0.060	780	35			
219+00 to 229+00	1050		0.485	985	65			
229+00 to 239+00	1165		0.327	965	25			
239+00 to 242+49.40	800		0.141	770	50			
SUB-TOTAL	3,719	622	1.013	3,500	175			
TOTAL	14,304	2,222	4.483	13,300	675			
PROPOSAL	14,500	2,500	5.000	13,500	700			5

* Cost to be included in price bid for item #11 - hot mix

COUNTY	CONTRACT	R.O.W. REQ. NO.	STATE	FED. AID PROJECT NO.	FINAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216(3)		3	47

AS Built
BFM 3-6-67

FOULK ROAD

STREET RESTORATION (SEE NOTE BELOW)

TYPE 2 INTEGRAL CURB & GUTTER

LIMIT OF CONSTRUCT. STA. 1+32.00

CURB TRANSITION

FOULK WOODS RD.

(W.W. Kelter)

STA. 157+96 Lt. To STA. 159+18 Lt. Place 52' of 15" R.C.P.

A.T. FRANCHETTI - 2500

TYPE 2 - PARKWAY CURB

Remove Pipes

LIMIT OF CONSTRUCT. STA. 9+50

CROSSABLE MEDIAN

STA. 9+55.0 LIMIT OF CONC. PAVT.

R=30'

Conc. Walk

Conc. Road Curb

SEE SHEET NO. 4

SEE SHEET NO. 6

MATCH LINE

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

Note: Chain Link Fence Across Van Pelt Property To Be "Storm & Erosion" See Special Provision

Mildred E. vanPelt

1½ Sty Frame

Porch

Dirt Drive

Peter Domanski

2 STORY FRAME HOUSE (UNFINISHED)

BEGIN SIDEWALK STA. 151+01 Lt.

JOSEPH J. CARROCCIA

Proposed Connection for Alum. Pilot Stain Curb (By Others)

Special Junction Box

EXISTING SIDEWALK TO BE REMOVED & NEW 4" P.C. CONC. SIDEWALK CONSTRUCTED

2 Story Br & Frame

#1903
E.J. Cirreowski

Split Level Brick & Frame

#1905

R.C. Downey

1 Story Brick Ranch House

#1907
L.R. Smith

1½ Sty Frame

Conc. Walk

H.M. ANDERSON 1909

Gar.

2 Sty Frame

STA. 147+34 Rt. to 150+00 Rt. Place 266' of 15" R.C.P.

STA. 150+00 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 52' of 15" R.C.P.

STA. 150+00 Rt. to 152+50 Rt. Place 250' of 15" R.C.P.

B.M. No. 16
B.M. No. 16-EL. 378.42-"X" Painted on Rock Located 72.3' Rt. of Sta. 150+24.6

STA. 152+50 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 52' of 15" R.C.P.

STA. 152+50 Rt. to 155+16 Rt. Place 266' of 18" R.C.P.

STA. 155+16 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 52' of 15" R.C.P.

STA. 155+56 Rt. to 155+90 Rt. Build 2 Catch Basins Type A-1 & Place 32' of 15" R.C.P.

Place 148' - 15" R.C.P. @ 0.008

TYPE 2 INTEGRAL CURB & GUTTER

Build 1 Catch Basin Type SD-1

STA. 155+16 Rt. to 156+25 Rt. Build 1 Catch Basin Type A-1 & Place 46' of 18" R.C.P.

STA. 156+25 Rt. to STA. 158+82 Rt. Place 258' of 18" R.C.P.

STA. 155+90 Rt. to 156+25 Rt. Place 46' of 15" R.C.P.

STA. 158+35 Rt. to STA. 158+80 Rt. Remove Existing Stone Wall

STA. 157+60 Lt. to 157+96 Lt. Build 2 Catch Basins Type A-1 And Place 32' of 15" R.C.P.

STA. 158+82 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 32' of 18" R.C.P.

STA. 158+48 Lt. Build 1 Catch Basin Type A-1 & Place 44' of 18" R.C.P.

B.M. No. 17-EL. 354.02 Located 130.5' Lt. Sta. 158+53 on Edge of Concrete Sidewalk

STREET RESTORATION (SEE NOTE BELOW)

DRIVEWAY RESTORATION
① 2" HOT MIX ASPH.
② 6" CONCRETE

STREET RESTORATION
3" HOT MIX
6" WATERBOUND MACADAM
6" SELECT BORROW

Carmen Fortucci Rosario R. Pino

(Ciprotti-Pino i.e.)

R. Pino

M. Fitonzo

C.A. Habich #2406

Gar.

1½ Sty Brick

1½ Sty Br & Fr.

T.C. Saffo #1822

1½ Sty Br & Fr.

Mac. Drive

MARLETTON DR.

Conc. Drive

Run of Evergreens

Existing Main
Proposed Main

CROSSABLE MEDIAN
8" REINF. CONCRETE PAVEMENT
TYPE 1 - PLAIN CEMENT CURB

STA. 0+56.08 LIMIT OF CONC. PAVT. & PLAIN CURB

CURB TRANSITION (BOTH SIDES)

PEN. MAC

N. 46°-50'-16" E. B.S.

N. 46°-51'-51.0" L.

N. 46°-50'-23" E. B.S.

P.V.I. STA. 151+00
EL.=374.00
V.C.=200'
M.O.=0.38'

P.V.I. STA. 153+50
EL.=369.00
V.C.=300'
M.O.=0.62'
S.D.=620'

P.V.I. STA. 158+00
EL.=352.51
V.C.=200'
M.O.=0.13'

-3.527%
-2.00%
-2.00%
-3.665%
-3.145%
O.G.
GRADE
P.V.R.C.

DATUM 340

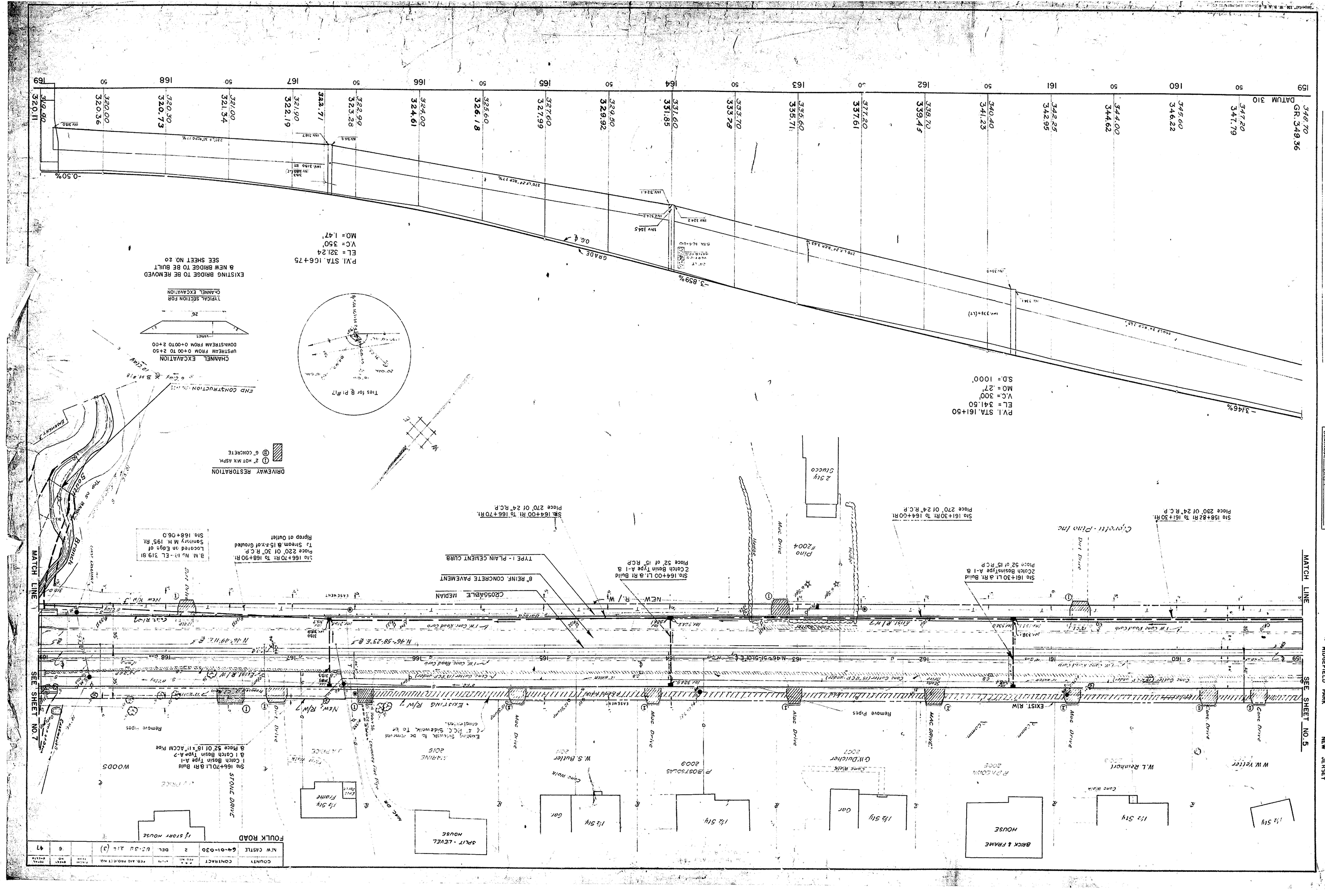
Station	Ground	Invert
149	379.95	
50	378.61	379.21
150	377.17	377.53
50	375.96	375.86
151	374.89	374.38
50	374.11	373.10
152	373.47	372.00
50	372.82	370.93
153	371.55	369.72
50	369.70	368.38
154	367.94	366.85
50	366.20	365.27
155	364.15	363.50
50	362.10	361.67
156	360.30	359.84
50	358.50	358.01
157	356.70	356.17
50	354.60	354.37
158	352.50	352.64
50	350.39	350.39
159	348.70	349.36

BEARINGS — TIE POINTS — BENCH MARKS — CONTROL — DRAINAGE

REVISIONS

CHANGED INVERTS & CATCH BASINS 152+16 Rt. & Lt. | GTP 6/16/67
AS PER WOODS ROAD GTP 4/18/67

Imperial 156, W. B. & E. Hewitt - Philadelphia, Pa.



COUNTY	CONTRACT			FED. AID PROJECT NO.			
NEW CASTLE	64-01-030	2	DEL	US-SU 214 (3)		6	47

REVISIONS

CHANGED INVERTS OF C.B. @ 166+70 G.T.R. 4/8/65

GRADE
BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

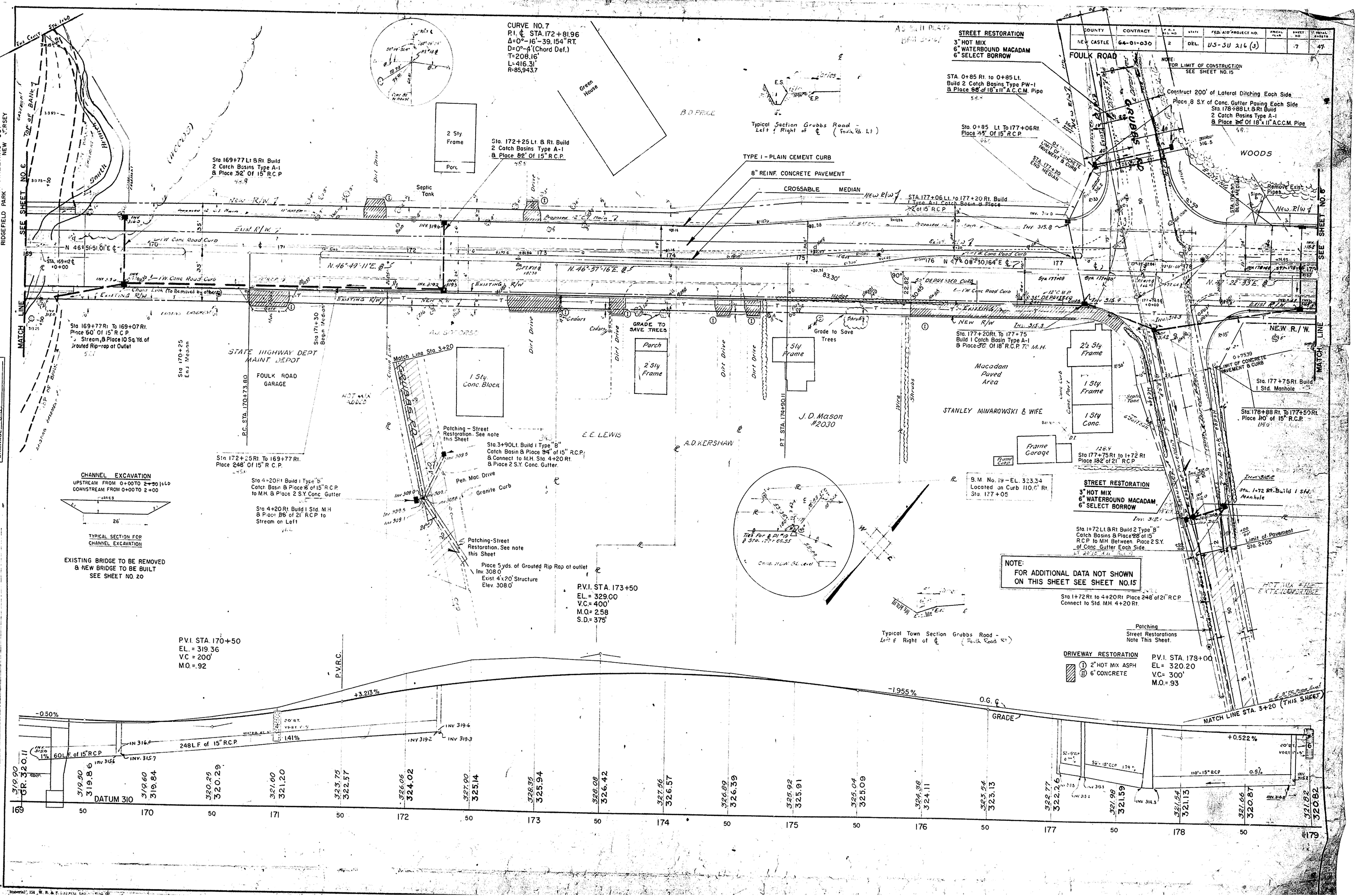
BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

COUNTY	CONTRACT	F.A.P. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)		7	47

BOSWELL ENGINEERING CO. RIDGEFIELD PARK NEW JERSEY

GRADE CHECKED
BEARINGS
TIE POINTS
BENCHMARKS
EARTHWORK
DRAINAGE

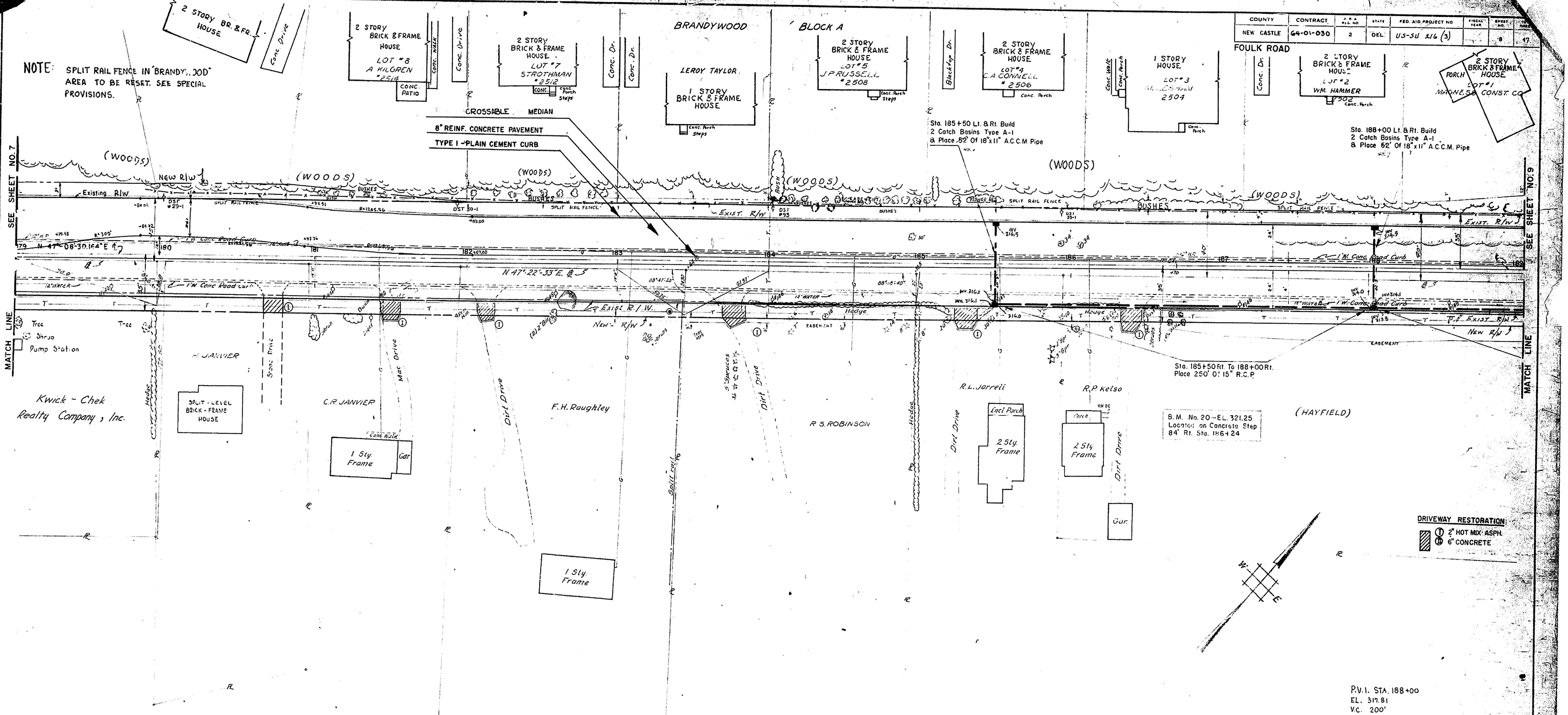
REVISIONS
CHANGED INVERTS AT C.B. @ 0+85 LT. & RT. GRUBBS ROAD 6-7-65



COUNTY	CONTRACT	F.A.P. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 116 (3)		8	17

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

NOTE: SPLIT RAIL FENCE IN "BRANDYWOOD" AREA TO BE RESET. SEE SPECIAL PROVISIONS.



REVISIONS

GRADE
BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

COUNTY	CONTRACT	F.A. PROJ. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US-SU 216 (3)		9	47

FOULK ROAD

BOSWELL ENGINEERING & CO.
RIDGEFIELD PARK, NEW JERSEY

SEE SHEET NO. 8 — SEE SHEET NO. 10 — MATCH LINE

NOTE: EXISTING PARKWAY CURB TO BE LEFT IN PLACE IF POSSIBLE (ANNWOOD DRIVE ONLY)

BRANDYWOOD — BLOCK E — 2 STORY BRICK & FRAME HOUSE — LOT 84 JAMES ROBERT McMORRAN — LOT 83 MAGNESS CONST CO — LOT 82 MAGNESS CONST CO — LOT 85 DONALD DAVIS

GALV. STEEL BEAM GUARD RAIL—WOOD POSTS*
Sta 193+25 Lt. to 196+00 Lt. 275 LF

TYPE I - PLAIN CEMENT CURB
8" REINF. CONCRETE PAVEMENT
CROSSABLE MEDIAN

Sta. 190+50 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 52' Of 18" x 11" A.C.C.M. Pipe

Sta. 193+00 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 52' Of 18" x 11" A.C.C.M. Pipe

STA. 194+76 Rt. Build 1 Catch Basin Type A-1 & Place 100' of 18" R.C.P.

Sta. 195+44 Lt. to 195+75 Rt. Build 2 Catch Basins Type A-1 & Place 60' Of 15" R.C.P.

Sta. 197+75 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 52' Of 15" R.C.P.

P.G. Johnson #2305 — 1 Sty Frame — Encl. Porch — Gar — Repair Garage — Office — 1 Sty Frame — W.R. Johnson #2307

Pen Mac. Area — Pen Mac Drive — Sidewalk — 30" Depressed Curb

TYPE 1 PARKWAY CURB (SEE ABOVE NOTE)

N 47°-08'-30.164" E ℄

Existing R/W — New R/W — Existing R/W — Easement — I.W. Conc Road Curb — 12" Water

CURB TRANSITION — LIMIT OF CONSTRUCTION STA. 0+93

Sta 188+00 Rt. To Sta 190+50 Rt. Place 250' Of 15" R.C.P.

Sta. 190+50 Rt. To 193+00 Rt. Place 250' Of 18" R.C.P.

Sta. 193+00 Rt. To 194+76 Rt. Place 176' Of 18" R.C.P.

Sta. 195+12 Rt. To 195+32 Rt. Build 2 Catch Basins Type A-1 & Place 20' Of 15" R.C.P.

Sta 195+75 Rt To 197+75 Rt. Place 200' Of 18" R.C.P.

STA. 195+32 Rt. to STA. 195+75 Place 52' of 15" R.C.P.

N.47°-22'-33" E. ℄ — N.45°-46'-13" E. ℄ — N.47°-00'-18" E. ℄

WOODS — T.F. HUSBANDS — T.F. HUDSON — Dirt Drive — Stone Drive — Frame & Brick Split Level House — 2 Story House — 2 Sty Frame — H.F. Landis — S.A. LANDRY — MAPLEWOOD LANE — Pen Mac Drive — LAWN — J.J. Klekotka #2300 — 1½ Sty Fr. — L.H. Zeibey #2302 — J.V. Jones — Porch — 2 Sty Frame

Con. Driveway

STREET RESTORATION
3" HOT MIX
6" WATERBOUND MACADAM
6" SELECT BORROW

TYPE 2 INTEGRAL CURB & GUTTER

Limit of Const Sta. 1+98

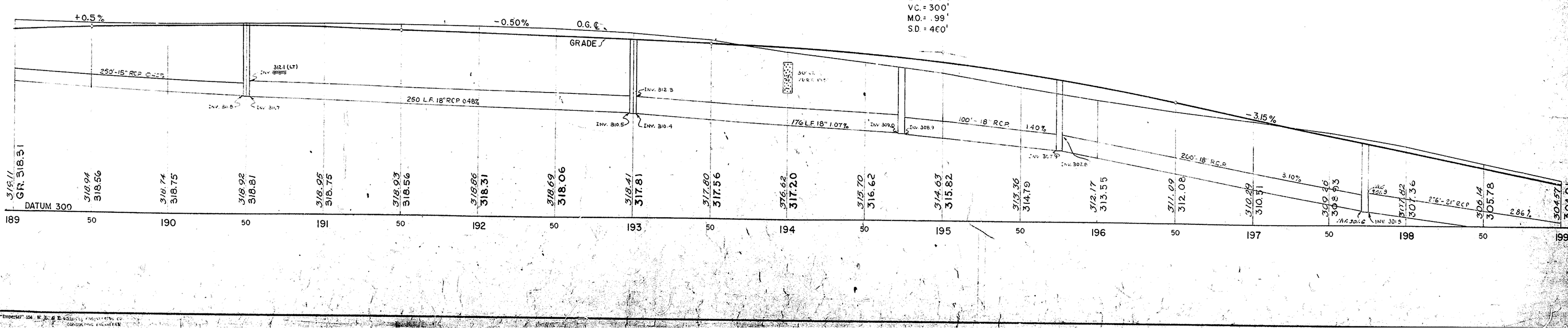
Construct New Steps & Walk at STA. 1+28 Rt. Maplewood Lane. See Sheet No. 3 for Step Construction Detail

STA. 198+60 Rt. to STA. 199+00 Rt. Remove Existing Dry Stone Wall

DRIVEWAY RESTORATION
① 2" HOT MIX ASPH.
⑧ 6" CONCRETE

P.V.I. STA. 190+50
EL. = 319.06
V.C. = 200'
M.O. = .25'

P.V.I. STA. 195+00
EL. = 316.81
V.C. = 300'
M.O. = .99'
S.D. = 460'

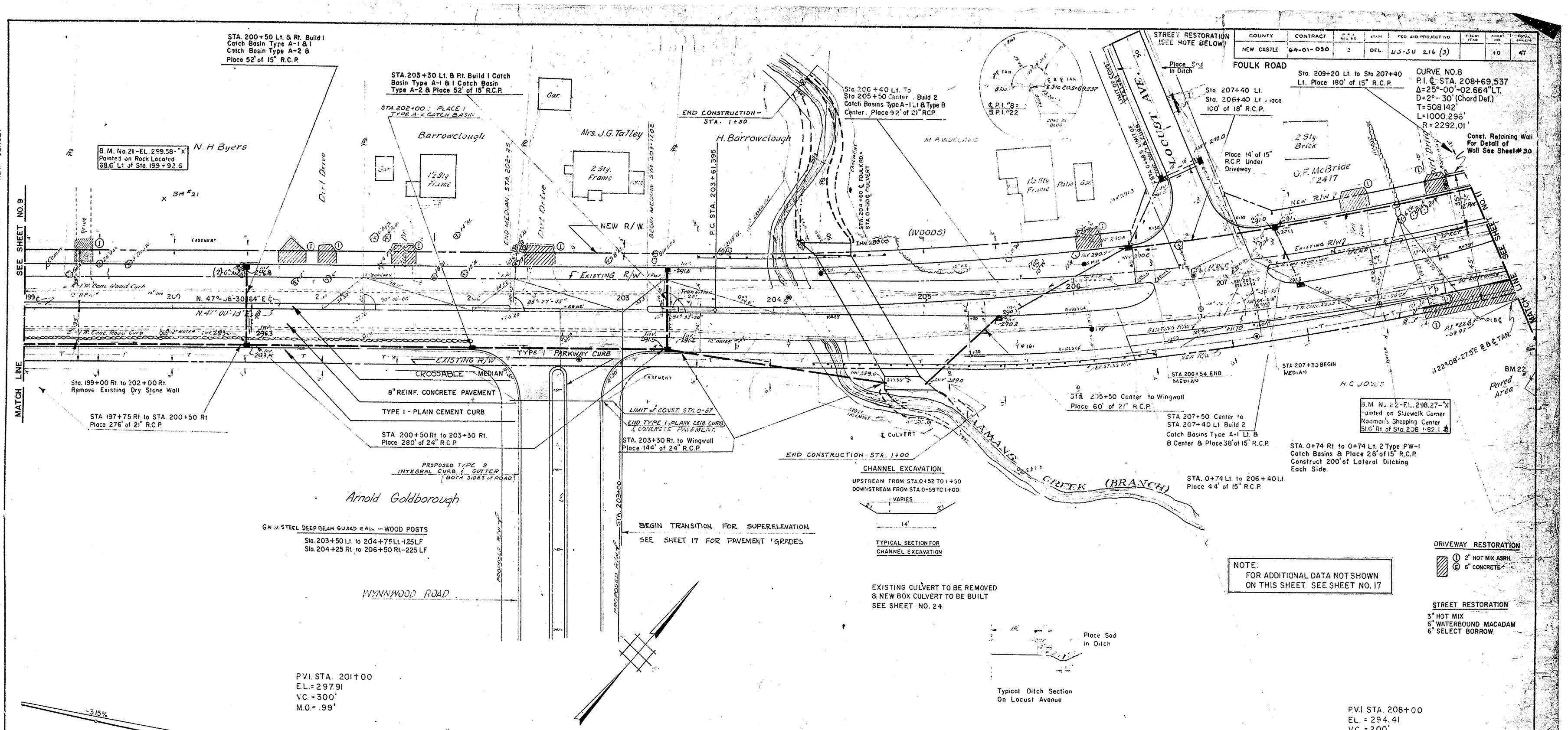


REVISIONS
CHANGED INVERT OF C.B. @ 190+50 LT & RT. GTP 4/15/63

GRADE
BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

COUNTY	CONTRACT	F.A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	U3-30 216 (3)		10	47

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY



REVISIONS

GRADE	CHECKED
BEARINGS	
TIE POINTS	
BENCH MARKS	
EARTHWORK	
DRAINAGE	

"Imperial" 156 W. B. & E. BOSWELL ENGINEERING CO. CONSULTING ENGINEERS

COUNTY	CONTRACT	PROJ. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL.	US SU 216 (3)		11	46

FOULK ROAD

BOSWELL ENGINEERING CO. RIDGEFIELD PARK NEW JERSEY

As Built Plans BFM 3-06

MATCH LINE STA. 1+70 (THIS SHEET)

SEE SHEET 11A for Lot grading plan

See Sheets 31A & 31B for Retaining Wall Det.

Resurface with 1" Hot Mix Pavement

STREET RESTORATION (SEE SHEET 17)

Sta. 1+20 Rt. & Lt. Naamans Rd. Build 2 Catch Basins Type A-1 & Place 58' of 15" R.C.P.

Sta. 1+20 Lt. Naamans Rd. to Sta. 211+65 Lt. Foulk Rd. Place 88' of 18" R.C.P.

STA. 1+24 LIMIT OF CONC. PAVEMENT

STA. 1+24 LT. & RT. LIMIT OF CONC. PAVT.

℄ CURVE NO. 8 SEE SHEET NO. 10 FOR DATA.

MEDIAN PAVING OF 4" PORTLAND CEMENT CONCRETE SIDEWALK

Sta. 216+76 Lt. 216+50 Rt. Build 2 Catch Basin Type A-1 & Place 56 L.F. 15" R.C.P.

Sta. 217+70 Lt. Build 1 Catch Basin, Type A-1 (MAKE THIS LOCATION LOW POINT)

Stone beam bridge

Sta. 217+50 Rt. Build 1 C.B. Type A-2 & Place 88' of 15" R.C.P. 62' East of Channel

Place 30' of 15" R.C.P. Under Driveway

Shoulder - 4" Quarry Waste with Surface Treatment

Sta. 211+65 Lt. to 212+84 Lt. Build 1 Catch Basin Type A-1 & Place 120' of 21" R.C.P.

Sta. 212+60 Lt. to 214+50 Lt. Place 146' of 21" R.C.P.

Place 30' of 15" R.C.P. Under Driveway

EQUALITY (-16.421')
P.T. STA. 213+61.691 BACK
STA. 213+78.112 AHEAD

TYPE I - PLAIN CEMENT CURB

8" REINF. CONCRETE PAVEMENT

CROSSABLE MEDIAN

Sta. 214+50 Center & Lt. Build 1 Catch Basin Type A-1 & Place 46' of 21" R.C.P.

Sta. 209+20 Center & Lt. Build 2 Catch Basins Type B Ctr. & A-1 Lt. & Place 32' of 15" R.C.P.

CROSSABLE MEDIAN

Sta. 214+00 Median to 214+50 Center Build 2 Catch Basins Type B and Place 50' of 15" R.C.P.

Sta. 214+50 Rt. Build 1 Catch Basin Type A-1 & Place 30' of 21" R.C.P.

Remove Existing Pipes

Sta. 1+00 Lt. & Rt. Naaman's Rd. Build 2 Catch Basins Type A-1 Lt. & A-2 Rt. Place 48' of 15" R.C.P. & Connect to Existing C.B.

STREET RESTORATION (SEE SHEET 17)

Remove Existing Conc. Pavement

6" Select Borrow

8" Conc. Base Course w/Crack Control

1" Hot Mix

ISLAND PAVING OF 4" PORTLAND CEMENT CONCRETE WITH TYPE 2 CONC. PKWY. CURB (TYP.)

Sta. 1+74 Rt. Remove Existing C.B. Const. 1 Type A-2 C.B. & Connect to Existing Pipe

Sta. 214+50 Rt. to Relocated Stream Place 64' of 24" R.C.P. & 5 S.Y. of Grouted Rip Rap at Outlet

Sta. 216+76 Lt. & Rt. Remove Curb Type I & Pour Int. Curb & Gutter Type 2

Sta. 216+76 Lt. to Relocated Stream Place 125' of 30" R.C.P. & 5 S.Y. of Grouted Rip Rap at Outlet

Sta. 219+50 Rt. to 217+50 Rt. Place 200' of 24" R.C.P.

Sta. 217+56.29 Rt. Point of First Stone Rt. Corner House 62.0' N. of Sta. 218+82

Place 30' of 15" R.C.P. Under Driveway

GALV. STEEL DELIN. BEAM & POST - WOOD POSTS
Sta. 213+36 Rt. to 215+00 Rt. - 166 LF
Sta. 213+50 Lt. to 215+51 Lt. - 61 LF
Sta. 215+32 Rt. to 216+76 Rt. - 93 LF
Sta. 216+43 Lt. to 217+00 Lt. - 57 LF

CHANNEL EXCAVATION
UPSTREAM FROM 0+00 TO 1+90
DOWNSTREAM FROM 0+00 TO 2+50

TYPICAL SECTION FOR CHANNEL EXCAVATION

DRIVEWAY RESTORATION
① 2" HOT MIX ASPH.
② 6" CONCRETE

EXISTING BRIDGE TO BE REMOVED & NEW BRIDGE TO BE BUILT SEE SHEET NO. 26

END CONST. STA. 2+50

FOR CONTINUATION OF ROAD SEE SHEET NO. 17

Resurface with 1" Hot Mix Pavement

Sta. 3+90 Rt. - 3+40 Rt. Naaman's Rd. Place 52' of 15" R.C.P. & Sta. 3+40 Rt. Build 1 Type B Catch Basin

Sta. 3+40 Lt. - Sta. 2+50 Lt. Naaman's Rd. Place 30' of 18" R.C.P.

Sta. 3+40 Lt. Naaman's Rd. Build 1 Catch Basin Type PW-1 & Place 56' of 15" R.C.P.

Sta. 2+50 Rt. & Lt. Naaman's Rd. Build 2 Catch Basins Type A-1 & Place 48' of 15" R.C.P.

Sta. 2+50 Lt. - Sta. 1+20 Lt. Naaman's Rd. Place 126' of 18" R.C.P.

Existing Conc. Gutter To Be Removed

6" Select Borrow

8" Conc. Base Course With Crack Control

1" Hot Mix

See Typ. Sect. This Sheet

Existing Pavement to Remain Resurface with 1" Hot Mix Pavement

Typical Town Section Lt. Side Naaman's Rd.

P.V.I. STA. 211+50
EL. = 301.17
V.C. = 300'
M.O. = 1.37'
S.D. = 370'

8" Conc. Base Course w/C.C.

SECTION A-A
Typical Section of Improvement on Naaman's Road
(Not To Scale)

P.V.I. STA. 214+00
EL. = 297.17
V.C. = 160'
M.O. = .19'

NOTE:
FOR ADDITIONAL DATA NOT SHOWN ON THIS SHEET SEE SHEET NO. 17

P.V.I. STA. 219+00
EL. = 293.42
V.C. = ~~400'~~ 600'
M.O. = ~~2.97'~~ 4.45'

+1.93% GRADE

-1.713%

-0.75%

DATUM 285

Station	Grade	Invert
209	297.50 GR. 296.34	
50	298.70 297.31	
210	298.60 298.27	
50	299.30 299.09	
211	299.90 299.59	
50	299.00 299.80	
212	299.00 299.70	
50	297.95 299.30	
213	296.71 298.60	
50	295.55 297.80	
214	294.37 297.36	
50	293.49 296.82	
215	293.94 296.42	
50	295.43 296.05	
216	294.50 295.61	
50	294.25 295.30	
217	295.39 295.41	
50	294.92 295.31	
218	295.66 295.42	
50	296.15 295.68	
219	294.90 296.39	
	297.87	

STA. 213+61.691 Back = EQ. (-16.421')
STA. 213+78.112 Ahead

REVISIONS
Changed invert of C.B. @ 1+20 Rt. Naaman Rd. STP 4/8/02
Proposed Sheet Added Sta. 211+45 Lt. Deleted Drive @ 218+10 Rt. Revised
Revised Profile Curve & Added C.B. Sta. 211+65 Lt. Revised
Revised Profile Curve & Added C.B. Sta. 214+50 Rt. Revised
Relocated C.B. @ 1+74 Rt. Revised

BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

Joseph Scanlon

Alva S. & Lydia D. Wimmer

CEDAR INN

GULF OIL

R. CARSON

NAAMANS RD.

FOULK RD.

S.H.D.

PAVED AREA

Valley Ave.

Limit of Const. Sta. 4+25

Ditch Section

Sta. 0+98 LIMIT CONC. PAVT.

Sta. 209+00 Rt. Build 1 Catch Basin Type A-1 & Place 32' of 15" R.C.P.

Sta. 211+90.52 Sta. 0+00

Sta. 211+45 Lt. Build 1 Catch Basin Type A-1 & Place 100' of 15" R.C.P.

Sta. 210+64 Lt. to 211+35 Lt. Build 2 Catch Basins Type A-1 & 210+64 Lt. & Type B at 211+35 Lt. Place 100' of 15" R.C.P.

C.L. Bunch Construct a Conc. Retaining Wall for Detail See Sh. # 30

Old Fistern

Old Hay Foundation

Porch

Garage

2 Sty. Stucco

1½ Sty. Frame

1 Sty. Conc. Block

H.C. JONES

J.M. Evans

Conc. Sidewalk

Conc. Driveway

Existing R/W

New R/W

Exist. R/W

Exist. Curb

Hedge

Tripper

Nac Port

N. 22°08'27.5" E. ℄

STA. 215+78

STA. 216+76

STA. 217+70

STA. 218+82

P.C. ℄ STA. 217+56.29

BM23

MATCH LINE

SEE SHEET NO. 10

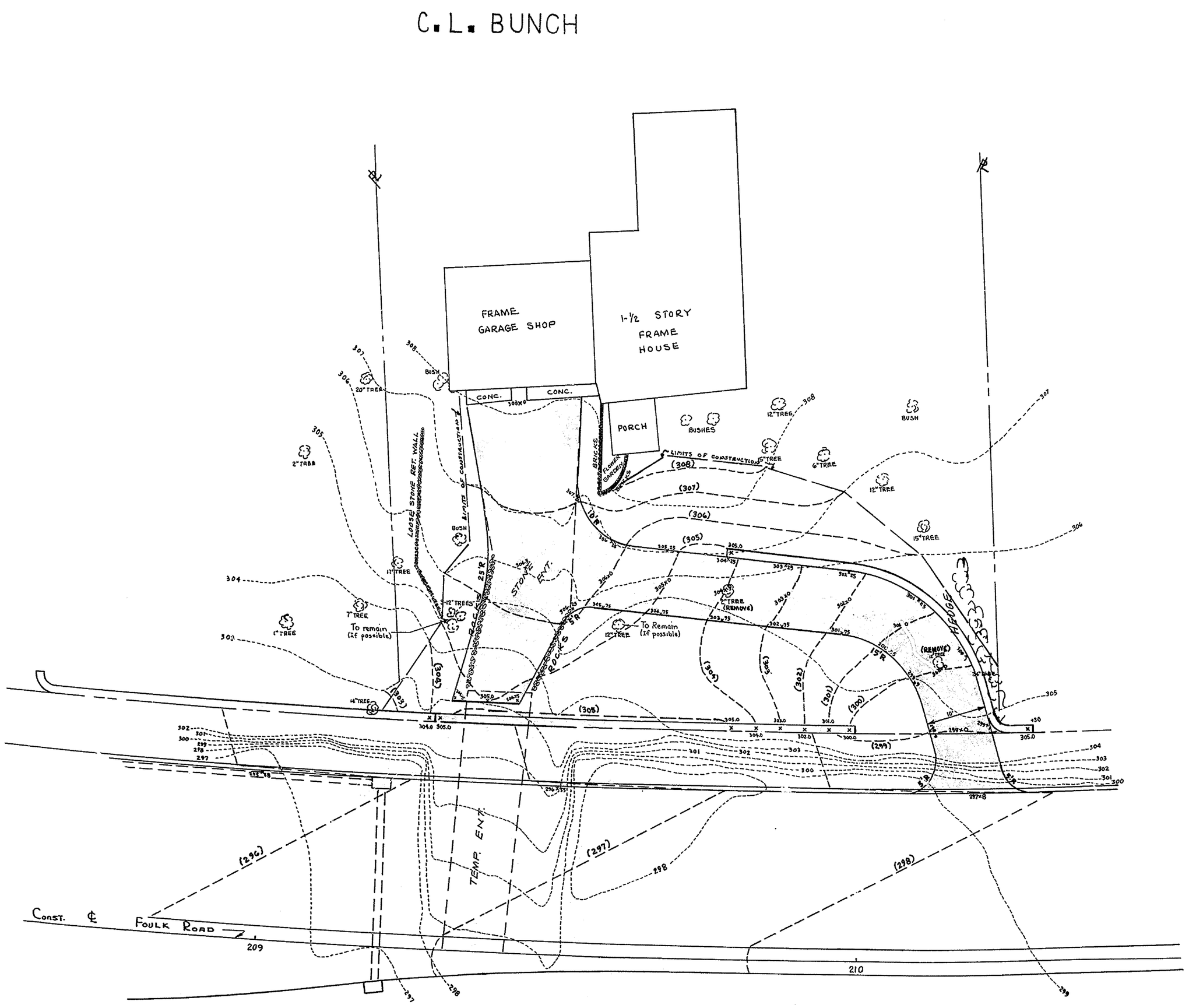
SEE SHEET NO. 12

COUNTY	CONTRACT	P.R.A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
NEW CASTLE	64-01-030	2	DEL	US-SU 216(3)	11 A	47

FOULK ROAD

PREL. TRACING WJT DESIGN WJT CHKD. WJT

REVISIONS



SCALE 1"=10'

NOTE: PLACE 4" TOPSOIL & SEEDING ON ALL AREAS DISTURBED BY CONSTRUCTION.

LEGEND

- PROPOSED DRIVE (2" HOT MIX ON 6" SELECT BORROW)
- PROPOSED RETAINING WALL (SEE SHEETS 31AR & 31BR FOR DETAIL)
- 300 EXISTING GROUND CONTOUR
- (300) PROPOSED GROUND CONTOUR
- 300×0 PROPOSED ELEVATIONS

BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY

COUNTY	CONTRACT	R.P.M. SEQ. NO.	STATE	FED. AID PROJECT NO	FISCAL YEAR	SHEET NO.
NEW CASTLE	64-91-030	2	DEL.	US-30 216(3)		12

FOULK ROAD

CURVE NO.9
P.I. ℄ STA. 221+00.00
Δ = 1°-43'-06.244" RT.
D = 0°-15' (Chord Def.)
T = 343.706'
L = 687.361'
R = 22,916.3

2 STORY FRAME HOUSE

EMILIO CAPALDI

LIMIT of CONST STA 1+00

STREET RESTORATION
3" HOT MIX
6" WATERBOUND MACADAM
6" SELECT BORROW

Sta. 219+50 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 48' of 15" R.C.P.

WOODS

BIRCH HILL DRIVE

END CURB STA 0+56

Sta. 222+00 Lt. & Rt. Build 2-Catch Basins Type A-1 & Place 48' of 15" R.C.P.

TYPE 1 INTEGRAL CURB & GUTTER

8" REINF. CONCRETE PAVEMENT

NEW R./W.

EXIST. R./W.

1 Story Ranch House

J.W. TONE

F.L. TALLY

Woods
Sta. 224+88 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 48' of 15" R.C.P.

Type 1 Integral Curb & Gutter

EXIST. R/W

B.M. No. 24-EL. 334.74
"X" Painted on Concrete Slab For Cess Pool 66.5' Lt. Sta. 227+44.5

Sta. 228+60 Lt. Build 1 Catch Basin Type B & Place 10' of 15" R.C.P.

Sta 228+60 Lt. to 228+00 Rt. Build 2 Catch Basins Type A-1 & Place 70' of 15" R.C.P.

Remove Existing Pipe

Existing Stone Wall to Remain
Remove Wall to R/W line & Adjust to meet field conditions

Barn

Dirt Drive

Stone Wall

P.C. STA. 227+24.106

1'W. Conc Road Curb

N 22°-08-27.5" E ℄

CONSTRUCTION ℄

N. 22°-08'-27.5" E ℄

(REMOVE EXISTING PAVEMENT)

12" Vit. C.P.

Cemented

℄ N. 23°-51'-33.749" E

EXISTING R/W

Stone Retaining Wall

NEW R/W

Sta. 222+00 Rt. to 219+50 Rt. Place 250 L.F. 24" R.C.P.

SHOULDER—4" QUARRY WASTE WITH SURFACE TREATMENT

EASEMENT

Sta. 224+88 Rt. to 222+00 Rt. Place 288' of 21" R.C.P.

P. CHAPSON

M.E. CUFREY

Remove Existing Concrete Ditch

P.T. STA. 224+43.655

Sta. 225+14 Rt. to 224+88 Rt. Place 42' of 15" R.C.P.

Sta. 225+45 Rt. to 225+14 Rt. Build 2 Type PW-1 Catch Basins & Place 28' of 15" R.C.P.

1 Story Ranch

Sta. 223+82 Rt. to 225+00 Rt. & Sta. 225+43 Rt. to 225+84 Rt. Remove Existing Dry Stone Wall
Stone to be placed on property of Owner

CRESTFIELD RD.

Sta 0+54 Limit Conc. Pavt.

Sta. 228+00 Rt. to 225+70 Rt. Place 230' Of 21" R.C.P.

Sta. 225+70 Rt. to 224+88 Rt. Build 1 Catch Basin Type A-1 & Place 82' of 21" R.C.P.

EXISTING CEMENT RUBBLE MASONRY RETAINING WALL TO BE REMOVED.
REMOVAL OF EXISTING MASONRY 100 C.Y. STA. 228+48 RT. TO STA. 229+00 RT.

Well Unused Well Housing

Shed

TYPE 1 - INTEGRAL CURB & GUTTER

LIMIT OF CONSTRUCT. STA 1+43

STREET RESTORATION
3" HOT MIX
6" WATERBOUND MACADAM
6" SELECT BORROW

DRIVEWAY RESTORATION
① 2" HOT MIX ASPH.
⑪ 6" CONCRETE

Typical Ditch Section Crestfield Rd.
NOT TO SCALE

P.V.I. STA. 219+00
EL. = 293.42
V.C. = ~~400'~~ 600'
M.O. = ~~2.97'~~ 2.45'

O.G. ℄
GRADE

+5.18%

INV 303.0
INV 302.2
STA 222+00
INV 302.3

INV 299.5 (est.)

294.90 294.87
296.60 296.39
299.10 299.10
297.10 293.34 300.58
298.67 300.58 302.30
300.66 300.58 304.27
303.08 306.33 49
306.33 308.96
310.17 311.55
314.11 314.14
318.02 316.73
320.30 319.32
322.50 321.91
324 324
325.80 327.09
327.25 329.68
329.60 332.27
331.80 334.86
335.25 337.45
338.40 340.04
340.20 342.63
348.75 345.22

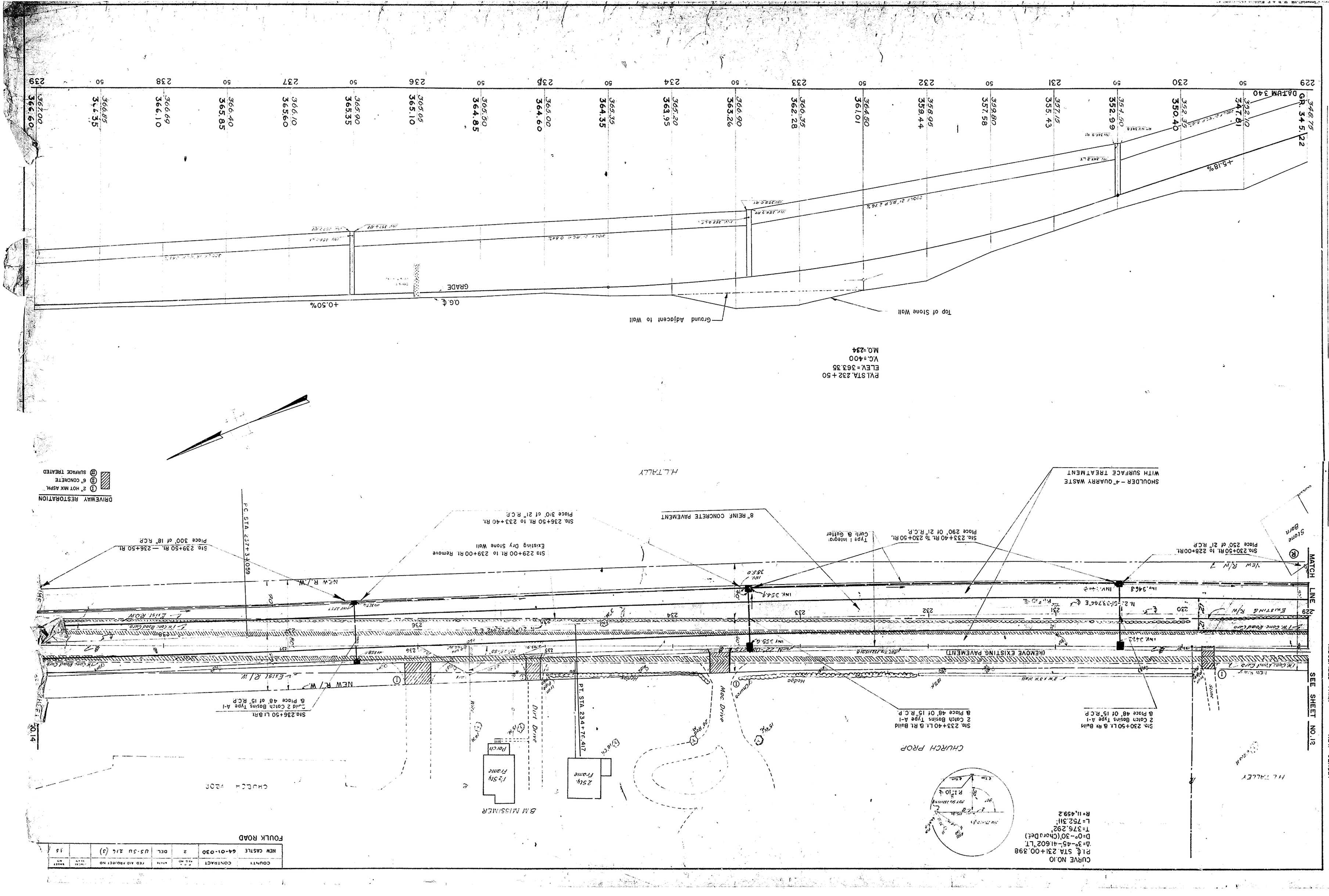
DATUM 290
DATUM 315

219 50 220 50 221 50 222 50 223 50 224 50 225 50 226 50 227 50 228 50 229

REVISIONS
CHANGED INVERTS OF C.B. @ 224+88 RT. & ADD. G.T.P. 4/8/66
CHANGED LENGTH OF VERTICAL CURVE, PROFILE GRADE W.T.P. 7/22/66

GRADE
BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

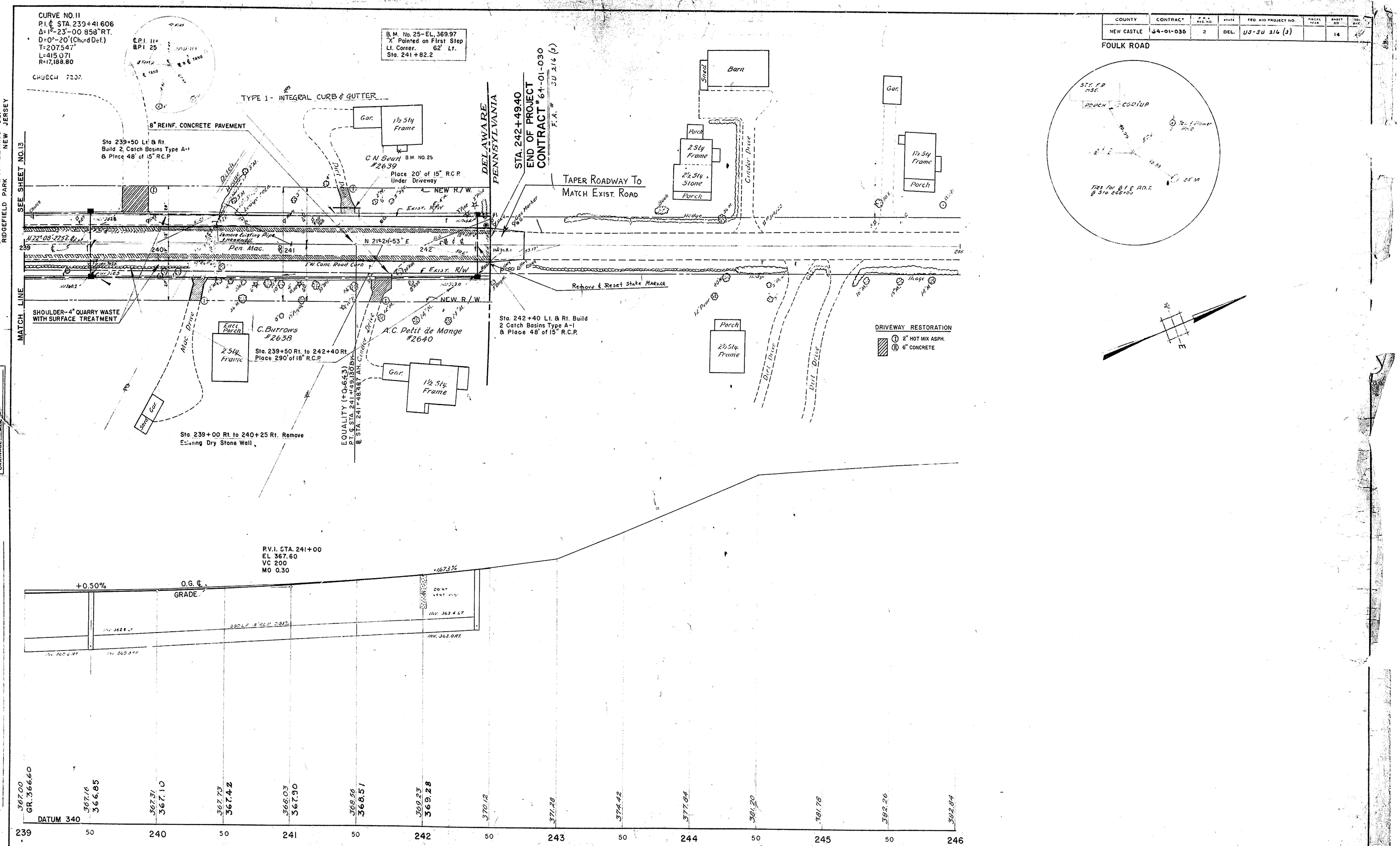
CHECKED



REVISIONS
BOSWELL ENGINEERING CO.
RIDGEFIELD PARK NEW JERSEY
BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE
MATCH LINE
SEE SHEET NO. 12
DATUM 340
GR. 345.22
+5.18%
+0.50%
O.G.
GRADE
Top of Stone Wall
Ground Adjacent to Wall
PVI. STA. 232+50
ELEV.=363.35
V.C.=400
M.O.=234
SHOULDER - 4" QUARRY WASTE WITH SURFACE TREATMENT
8" REINF. CONCRETE PAVEMENT
Type I Integral Curb & Gutter
Sta. 233+40 Rt. to 230+50 Rt. Place 290' of 21" R.C.P.
Sta. 230+50 Rt. to 228+00 Rt. Place 250' of 21" R.C.P.
Sta. 236+50 Rt. to 233+40 Rt. Place 310' of 21" R.C.P.
Sta. 229+00 Rt. to 239+00 Rt. Remove Existing Dry Stone Wall
Sta. 239+50 Rt. — 236+50 Rt. Place 300' of 18" R.C.P.
P.C. STA. 237+34.059
(REMOVE EXISTING PAVEMENT)
Sta. 236+50 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 48' of 15" R.C.P.
Sta. 233+40 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 48' of 15" R.C.P.
Sta. 230+50 Lt. & Rt. Build 2 Catch Basins Type A-1 & Place 48' of 15" R.C.P.
P.T. STA. 234+76.417
Dirt Drive
Mac Drive
Stone Barn
Existing R/W
New R/W
Exist. R/W
CHURCH PROP
B.M. MISSIMER
H.L. TALLEY
CURVE NO. 10
P.I.℄ STA. 231+00.398
Δ=3°-45'-41.602" LT
D=0°-30' (Chord Def.)
T=376.292'
L=752.311'
R=11,459.2
DRIVEWAY RESTORATION
2" HOT MIX ASPH.
6" CONCRETE
SURFACE TREATED
FOULK ROAD
COUNTY
CONTRACT
NEW CASTLE
64-01-030
2
DEL
US-SU 214 (3)
13

COUNTY	CONTRACT	F.A.P. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO	TOT. SHTS
NEW CASTLE	64-01-036	2	DEL.	US-SU 214 (3)		14	

FOULK ROAD



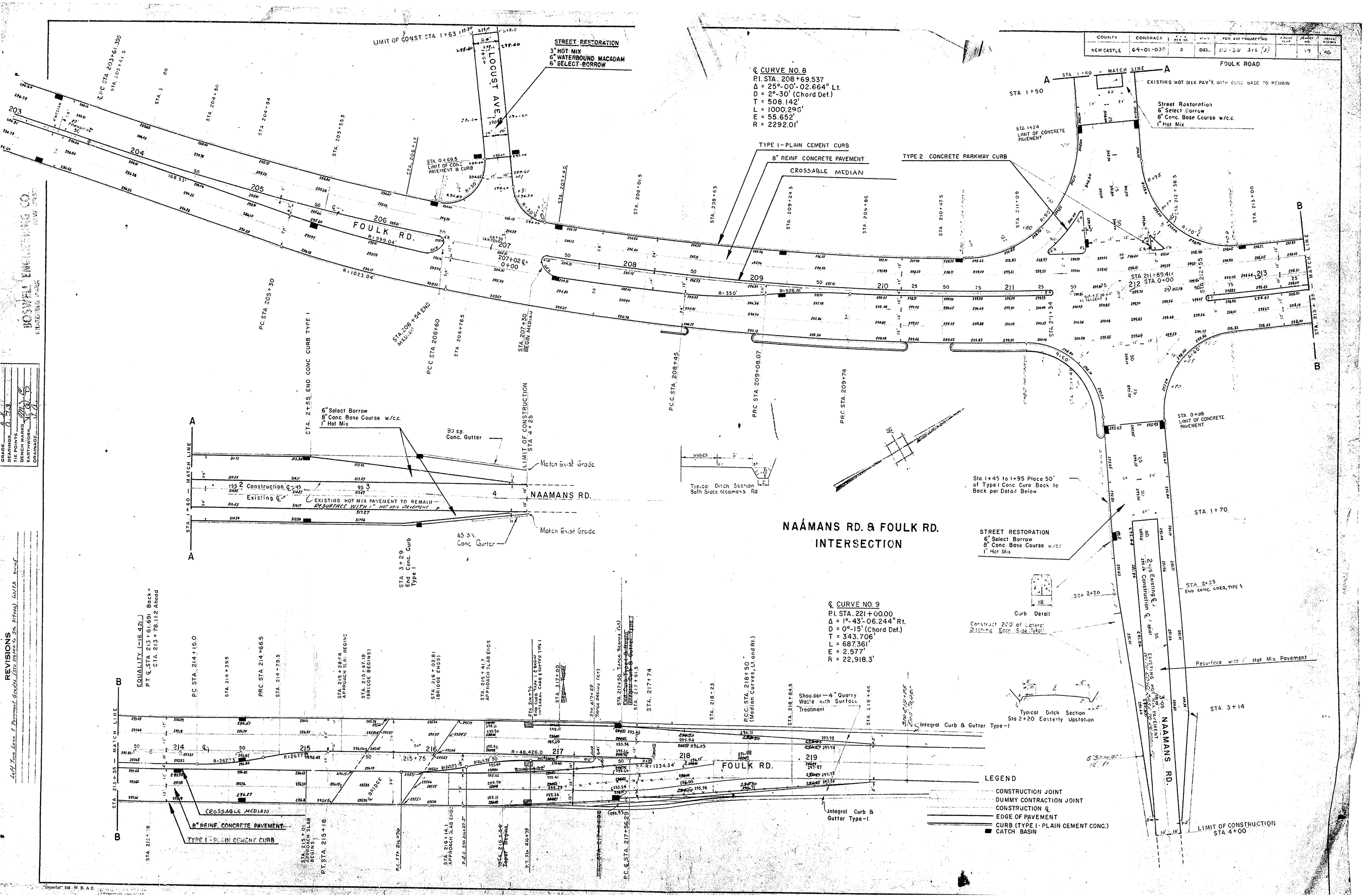
REVISIONS

BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

"Imperial" 156 W. B. & E.

COUNTY	CONTRACT	F.A. RTE. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-01-030	2	DEL.	[illegible]		17	46

FOULK ROAD



GRADE
BEARINGS
TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE

REVISIONS
Left Turn Lane & Pavement Grades (Sta 1+24 to Sta. 2+20) [illegible]

"Imperial" 104 W. B. & E.