

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LIC-310-0.74

**PART 1
ETNA TOWNSHIP
LICKING COUNTY**

FOR PART 2, SEE FAI/LIC-310-0.00/0.00



LOCATION MAP

LATITUDE: 39°58'55" LONGITUDE: 82°40'57"

SCALE IN MILES



PORTION TO BE IMPROVED.....	_____
INTERSTATE HIGHWAY.....	_____
STATE & FEDERAL ROUTES.....	_____
COUNTY & TOWNSHIP ROADS.....	_____
OTHER ROADS.....	_____

DESIGN DESIGNATION	S.R. 310 0.74-0.98	S.R. 310 0.99-1.44
OPENING YEAR ADT (2018)	8,100	17,000
DESIGN YEAR ADT (2038)	9,300	22,000
DESIGN HOURLY VOLUME (2038)	1,200	2,200
DIRECTIONAL DISTRIBUTION	70%	53%
TRUCKS (24 HOUR B/C)	5%	8%
DESIGN SPEED	40 MPH	40 MPH
LEGAL SPEED	40 MPH	40 MPH
DESIGN FUNCTIONAL CLASSIFICATION	RURAL MINOR ARTERIAL	URBAN PRINCIPAL ARTERIAL
MMS PROJECT	NO	YES

DESIGN EXCEPTIONS

RAMP B, RAMP D

HORIZONTAL ALIGNMENT/SUPERELEVATION 12/11/14

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:
DISTRICT 5 - PLANNING & ENGINEERING
9800 JACKSONTOWN ROAD
JACKSONTOWN, OHIO 43030

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ENGINEERS SEAL		STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	
 SIGNED: <i>Jason Lutz</i> DATE: 10-6-15	ENGINEERS SEAL STRUCTURES	BP-2.1	7/17/15	CB-1.1	1/18/13	HL-30.22	1/17/14	TC-21.20	1/18/15	ITS-10.10	7/17/15	800	10/18/15
		BP-2.2	7/18/08	CB-1.2	1/18/13	HL-40.10	1/17/14	TC-22.20	1/17/14	ITS-12.10	7/17/15	809	1/18/15
		BP-3.1	7/18/14	CB-2.1	1/18/13	HL-50.21	1/16/15	TC-41.10	7/18/13	ITS-14.11	7/17/15	815	1/18/07
		BP-4.1	7/19/13	CB-2.2	1/17/14	HL-60.11	1/17/14	TC-41.20	10/18/13			832	1/17/14
		BP-5.1	7/19/13	CB-2.3	1/18/13	HL-60.21	1/16/15	TC-41.30	10/18/13	A-1-89	7/18/02		
 SIGNED: <i>Justin Reid Lutz</i> DATE: 10-6-15	ENGINEERS SEAL STRUCTURES	F-2.1	7/18/13	HF-1.1	1/18/13		TC-42.10	10/18/13	BR-2-15	7/18/15			
		F-3.3	7/19/13	HF-2.1	7/17/15	MT-95.30	7/18/14	TC-42.20	10/18/13	GSD-1-98	7/18/02		
		F-3.4	7/19/13	HF-2.2	7/17/15	MT-97.10	7/18/14	TC-51.11	1/17/14	PCB-91	1/18/13		
						MT-97.12	7/18/14	TC-52.10	10/18/13	SIGD-1-98	7/18/14		
						MT-99.29	7/18/13	TC-52.20	7/18/14	SIGD-2-14	7/18/14		
 SIGNED: <i>Justin Reid Lutz</i> DATE: 10-6-15	ENGINEERS SEAL STRUCTURES	MGS-1.1	7/19/13	MH-1.2	1/18/13	MT-99.20	7/19/13	TC-65.10	1/17/14	VFF-1-90	7/17/15		
		MGS-2.1	7/19/13				MT-101.80	7/19/13	TC-65.11	7/18/14			
		MGS-3.1	7/18/14	DM-1.1	1/18/13	MT-101.70	1/17/15	TC-71.10	1/17/14				
		MGS-3.2	1/18/13	DM-1.2	1/18/13	MT-101.90	7/17/15	TC-81.10	10/18/13				
		MGS-4.2	7/19/13	DM-1.4	7/20/12	MT-101.90	7/17/15	TC-81.10	10/18/13				
 SIGNED: <i>Justin Reid Lutz</i> DATE: 10-6-15	ENGINEERS SEAL STRUCTURES	MGS-5.3	7/18/13			MT-102.10	7/18/14	TC-81.21	7/17/15				
		RM-1.1	7/19/14	HL-10.13	7/17/15	MT-102.20	7/18/14	TC-83.10	1/17/14				
		RM-4.2	4/18/14	HL-20.31	7/17/15	MT-105.10	7/19/13	TC-83.20	7/17/15				
		RM-4.5	7/18/14	HL-30.11	1/18/15			TC-85.10	10/18/13				
		RM-4.6	7/19/13	HL-30.21	1/17/14			TC-85.20	1/18/15				

PROJECT DESCRIPTION
STRUCTURE LIC-310-0098 OVER I.R. 70 WILL BE WIDENED TO ACCOMMODATE 8 LANES OF TRAFFIC AND A SHARED USE PATH. S.R. 310 PAVEMENT WILL BE WIDENED WITH NEW CONCRETE RAMPS FROM GAS STATION ON THE SOUTH SIDE OF I.R. 70 TO DAIRY QUEEN ON THE NORTH WITH THREE SIGNALIZED INTERSECTIONS.

PROJECT EARTH DISTURBED AREA = 26 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA = 1 ACRE
NOTICE OF INTENT EARTH DISTURBED AREA = 27 ACRES

LIMITED ACCESS
THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 6611.02 OF THE OHIO REVISED CODE.

2013 SPECIFICATIONS
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS 32-36, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED: *[Signature]*
DATE: 10-6-15
PRESIDENT, BOARD OF TRUSTEES,
ETNA TOWNSHIP

APPROVED: *[Signature]*, P.E.
DATE: 10-6-15
SOUTHWEST LICKING COMMUNITY
WATER AND SEWER DISTRICT

APPROVED: *[Signature]*
DATE: 10-6-15
DISTRICT DEPUTY DIRECTOR

APPROVED: _____
DATE: _____
DIRECTOR, DEPARTMENT OF
TRANSPORTATION

FEDERAL PROJECT NO.
E100(290)

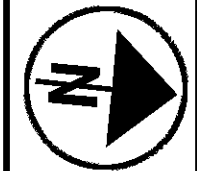
PRD NO.
87935

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
NONE

LIC-310-0.74

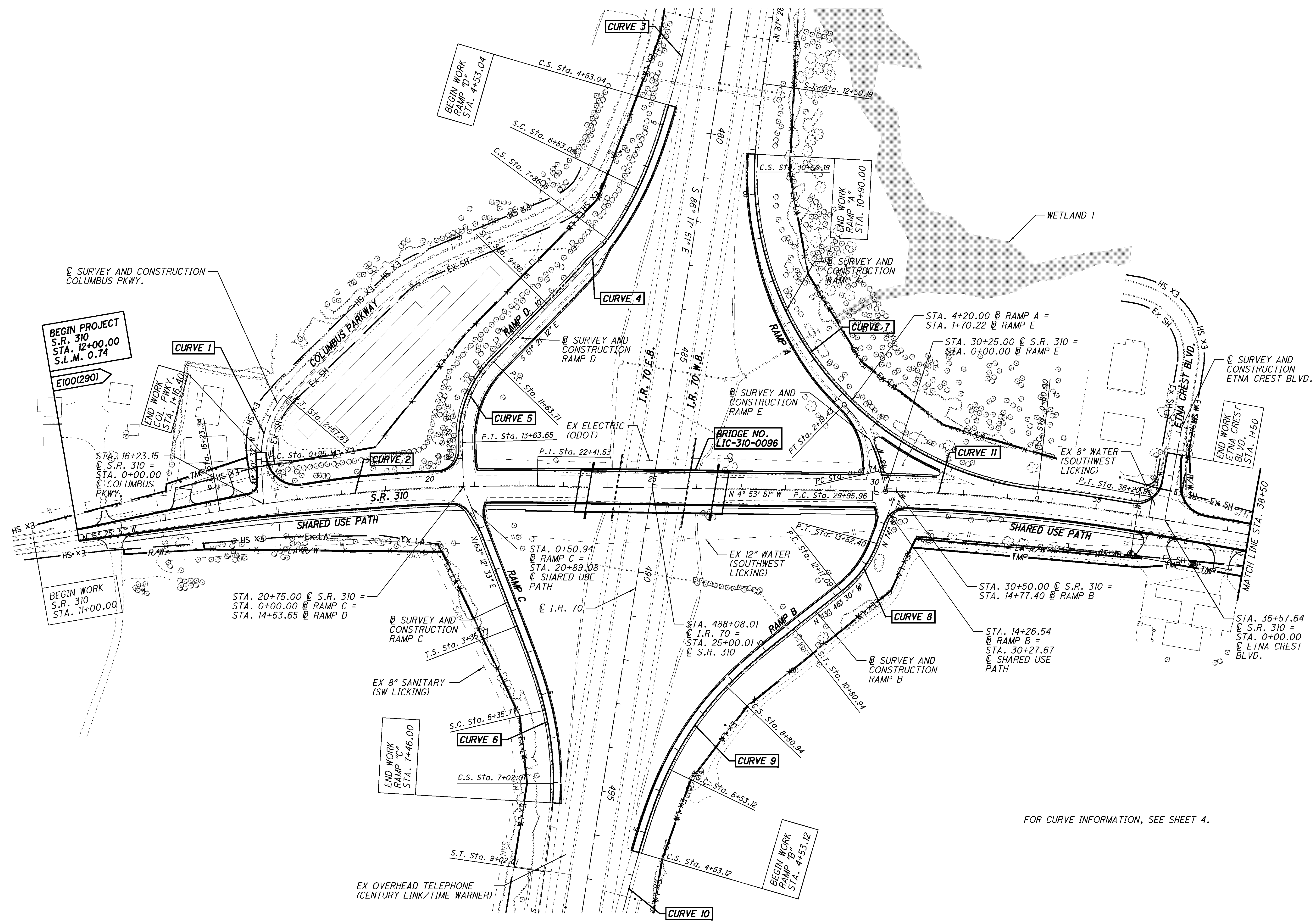
1/425



0 100 200
 HORIZONTAL
 SCALE IN FEET
 CALCULATED JLS
 CHECKED JSL

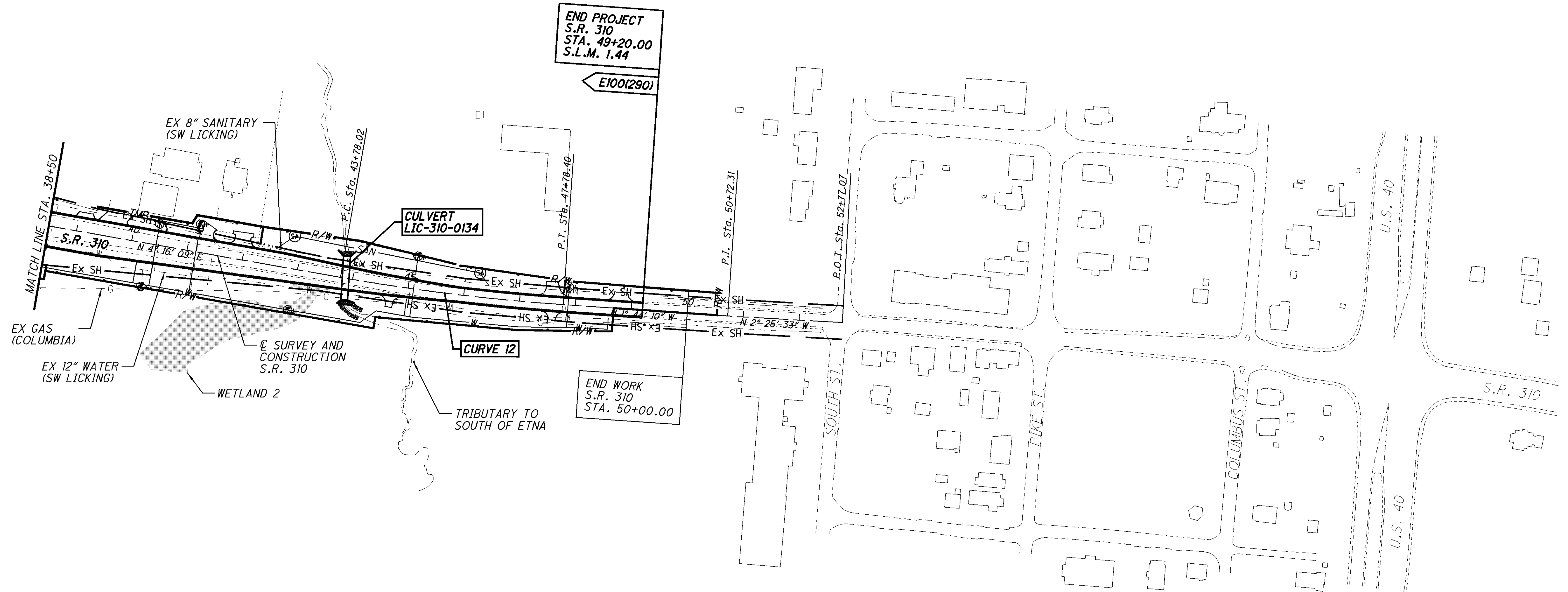
SCHEMATIC PLAN

LIC-310-0.74



FOR CURVE INFORMATION, SEE SHEET 4.

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FOR CURVE INFORMATION, SEE SHEET 4.

CALCULATED JLS
 CHECKED JSL

0 100 200
 HORIZONTAL SCALE IN FEET

SCHEMATIC PLAN

LIC-310-0.74

CURVE 1

EX. COLUMBUS PARKWAY
P.I. Sta. 1+80.44
 $\Delta = 43^\circ 06' 06''$ (RT)
Dc = 26° 31' 33"
R = 216.00'
T = 85.31'
L = 162.49'
E = 16.24'

CURVE 2

EX. SR 310
P.I. Sta. 18+83.45
 $\Delta = 10^\circ 32' 00''$ (RT)
Dc = 1° 28' 00"
R = 3,906.53'
T = 360.11'
L = 718.19'
E = 16.56'
emax = NC (40 mph)

CURVE 3

EX. RAMP D
P.I. Sta. 2+26.80
 $\Delta = 6^\circ 47' 46''$ (RT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 226.80'
L = 453.07'
E = 6.73'
emax = 0.030 (50 mph)

CURVE 4

EX. RAMP D
P.I. Sta. 7+13.25
 $\Delta = 28^\circ 08' 56''$ (RT)
Dc = 8° 00' 00"
R = 716.20'
Ls = 200.00'
 $\theta s_1 = 9^\circ 30' 00''$
LT₁ = 123.02'
ST₁ = 77.39'
 $\theta s_2 = 8^\circ 00' 00''$
LT₂ = 133.47'
ST₂ = 66.79'
 $\Delta c = 10^\circ 38' 56''$ (RT)
Lc = 133.11'
T₁ = 260.18'
T₂ = 281.37'
Es = 24.89'
emax = 0.078 (45 mph)

CURVE 5

EX. RAMP D
P.I. Sta. 12+69.40
 $\Delta = 45^\circ 59' 14''$ (LT)
Dc = 23° 00' 00"
R = 249.11'
T = 105.71'
L = 199.94'
E = 21.50'
emax = 0.016
(Less Than 25 mph)

CURVE 6

EX. RAMP C
P.I. Sta. 6+23.53
 $\Delta = 29^\circ 17' 59''$ (RT)
Dc = 8° 00' 00"
R = 716.20'
Ls = 200.00'
 $\theta s = 8^\circ 00' 00''$
LT = 133.47'
ST = 66.79'
 $\Delta c = 13^\circ 17' 59''$ (RT)
Lc = 166.25'
Ts = 287.76'
Es = 26.47'
emax = 0.078 (45 mph)

CURVE 7

EX. RAMP A
P.I. Sta. 5+76.22
 $\Delta = 92^\circ 00' 55''$ (RT)
Dc = 8° 00' 00"
R = 716.20'
Ls = 200.00'
 $\theta s = 8^\circ 00' 00''$
LT = 133.47'
ST = 66.79'
 $\Delta c = 84^\circ 00' 55''$ (RT)
Lc = 1,050.19'
Ts = 841.86'
T = 744.17'
Es = 316.63'
emax = 0.078 (45 mph)

CURVE 8

EX. RAMP B
P.I. Sta. 12+86.45
 $\Delta = 31^\circ 07' 21''$ (LT)
Dc = 23° 00' 00"
R = 249.11'
T = 69.37'
L = 135.31'
E = 9.48'
emax = 0.016
(Less Than 25 mph)

CURVE 9

EX. RAMP B
P.I. Sta. 7+64.97
 $\Delta = 35^\circ 43' 35''$ (RT)
Dc = 8° 00' 00"
R = 716.20'
Ls = 200.00'
 $\theta s_1 = 9^\circ 30' 00''$
LT₁ = 123.02'
ST₁ = 77.39'
 $\theta s_2 = 8^\circ 00' 00''$
LT₂ = 133.47'
ST₂ = 66.79'
 $\Delta c = 18^\circ 13' 35''$ (RT)
Lc = 227.83'
T₁ = 311.90'
T₂ = 332.56'
Es = 39.05'
emax = 0.078 (45 mph)

CURVE 10

EX. RAMP B
P.I. Sta. 2+26.80
 $\Delta = 6^\circ 47' 46''$ (RT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 226.80'
L = 453.07'
E = 6.73'
emax = 0.025 (45 mph)

CURVE 11

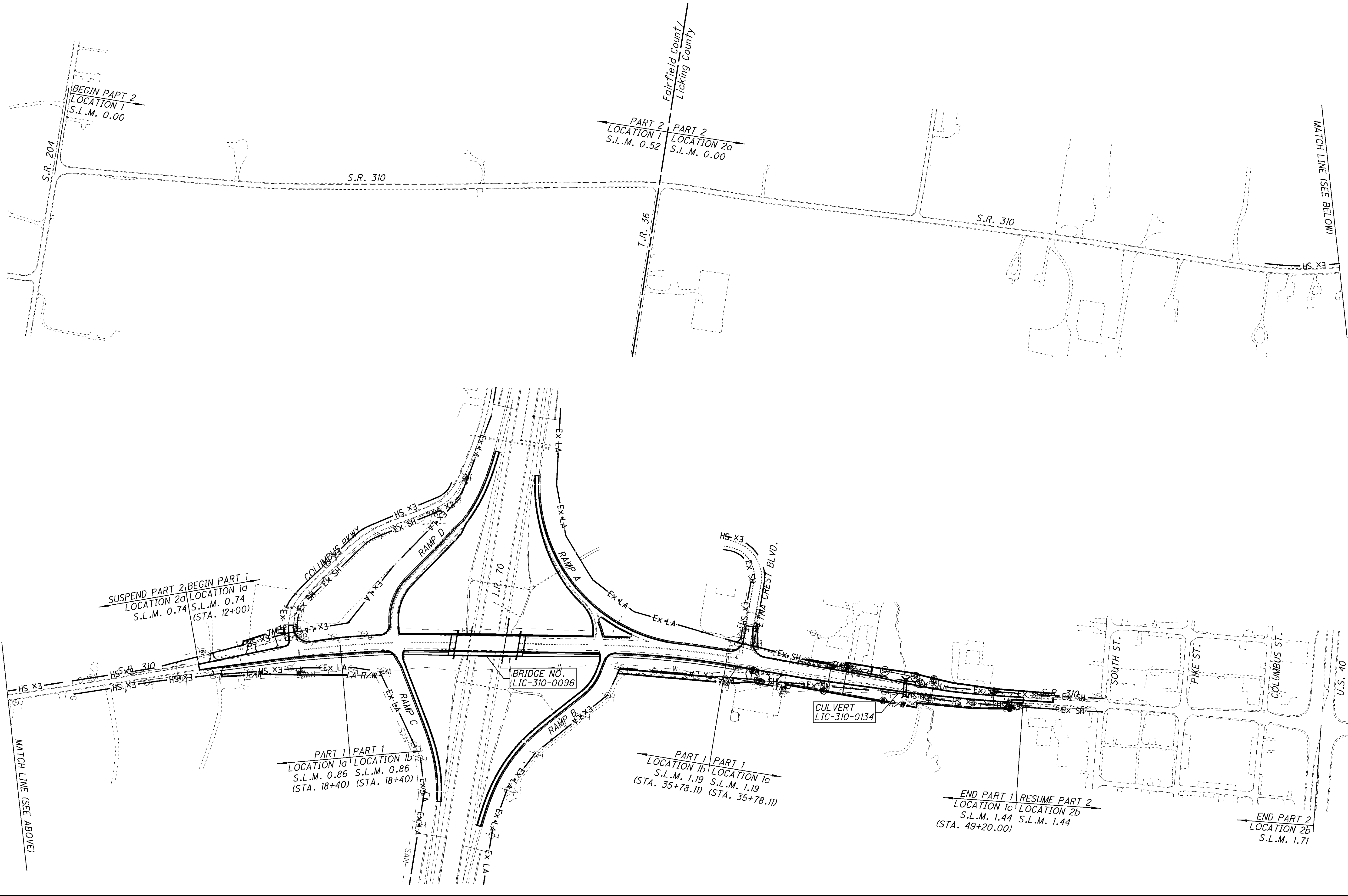
EX. SR 310
P.I. Sta. 33+09.10
 $\Delta = 9^\circ 10' 00''$ (RT)
Dc = 1° 28' 00"
R = 3,906.53'
T = 313.17'
L = 625.00'
E = 12.53'
emax = NC (40 mph)

CURVE 12

EX. SR 310
P.I. Sta. 45+78.21
 $\Delta = 6^\circ 00' 19''$ (LT)
Dc = 1° 30' 00"
R = 3,820.00'
T = 200.37'
L = 400.37'
E = 5.25'
emax = NC (40 mph)

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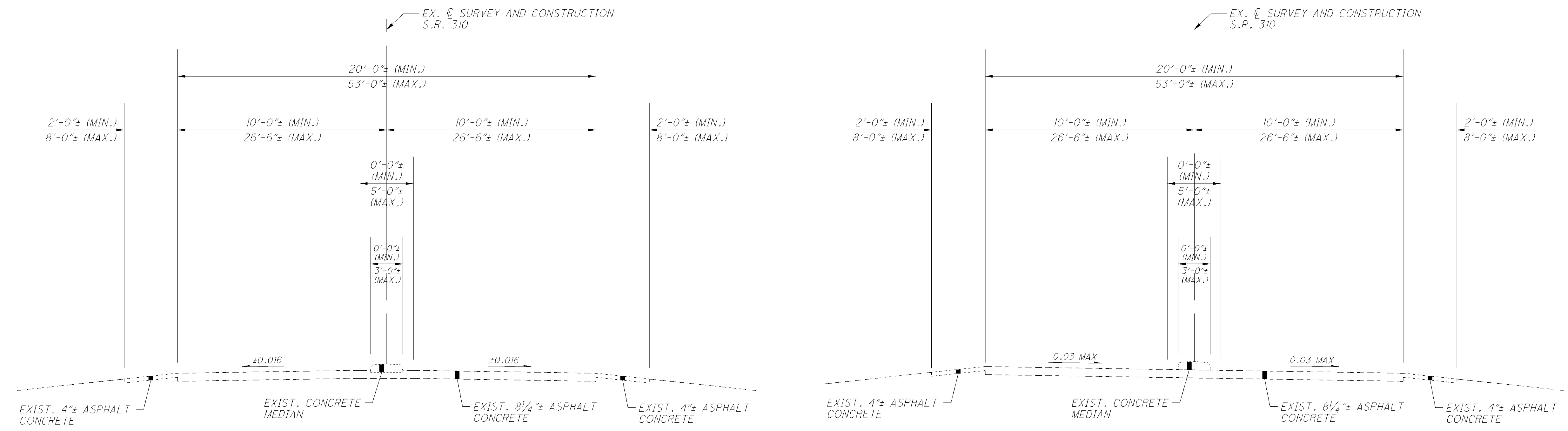
CALCULATED
JLS
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0 200 400
HORIZONTAL
SCALE IN FEET

LOCATION PLAN

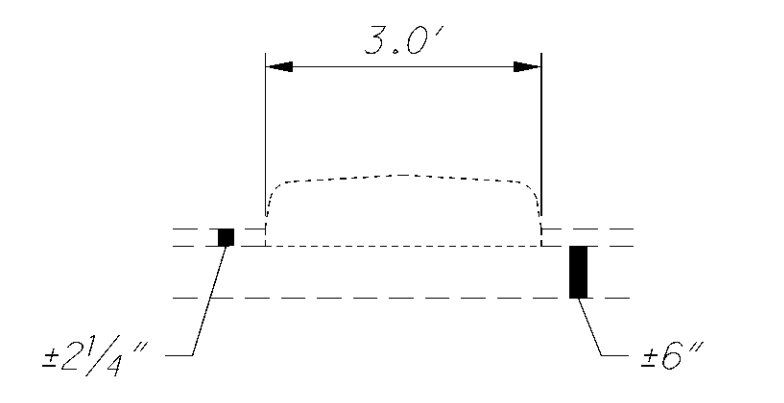
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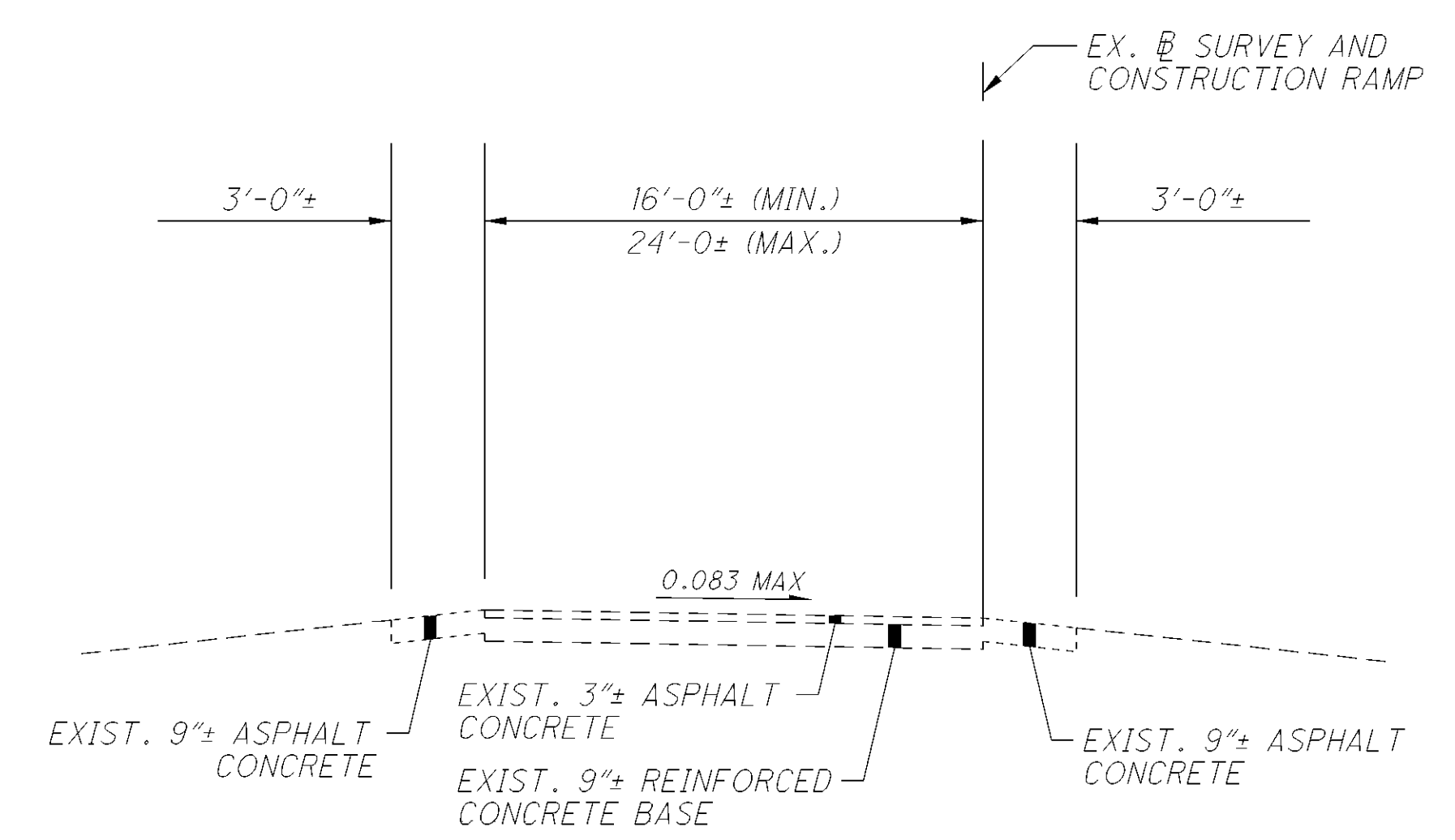


**S.R. 310 (EXISTING)
NORMAL SECTION APPLIES:**
STA. 12+00.00 TO STA. 14+40.00
STA. 22+40.00 TO STA. 23+32.23 (BRIDGE)
STA. 26+67.78 (BRIDGE) TO STA. 29+10.00
STA. 37+10.00 TO STA. 49+00.00

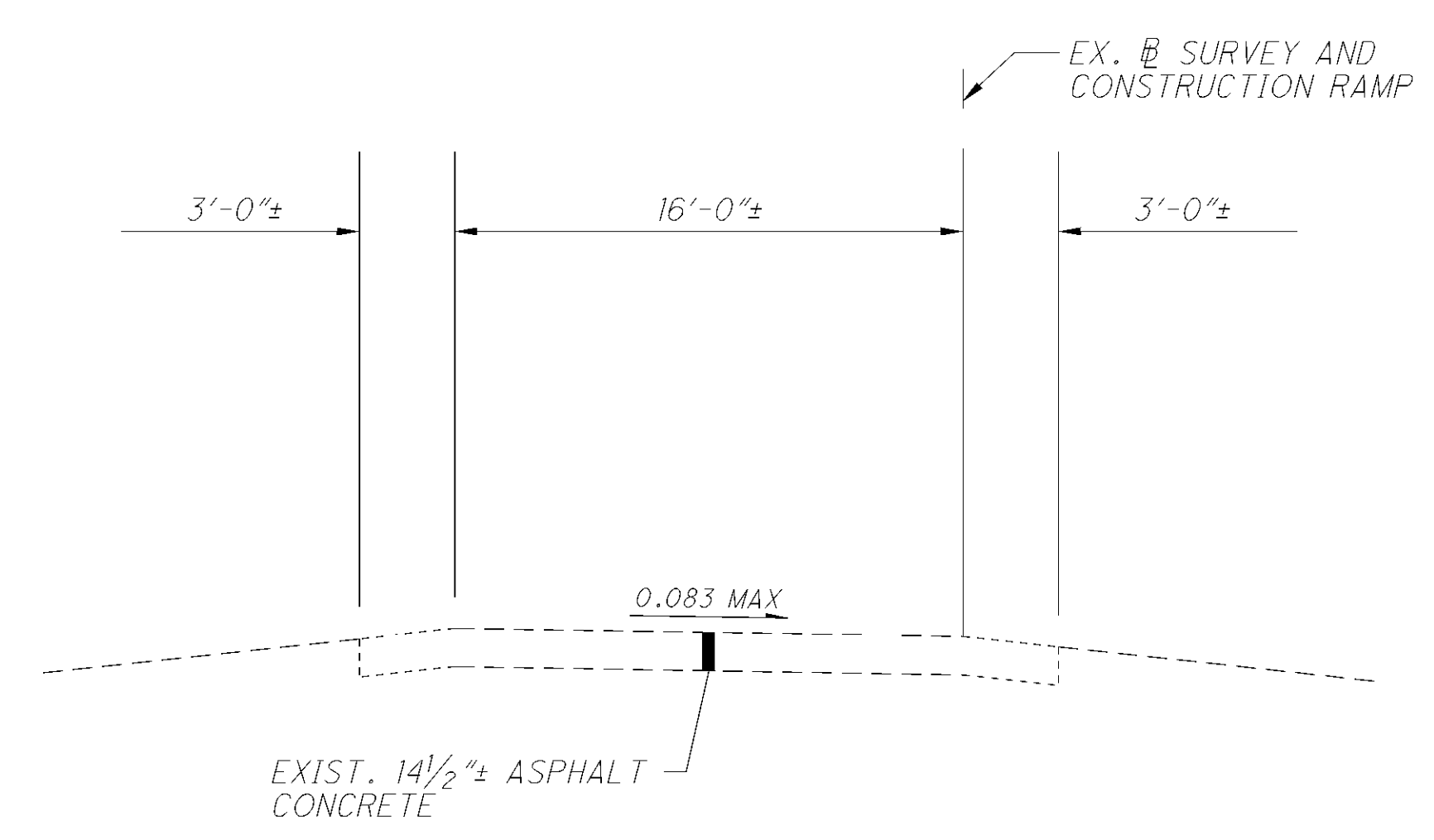
**S.R. 310 (EXISTING)
SUPERELEVATED SECTION APPLIES:**
STA. 14+40.00 TO STA. 22+40.00
STA. 29+10.00 TO STA. 37+10.00



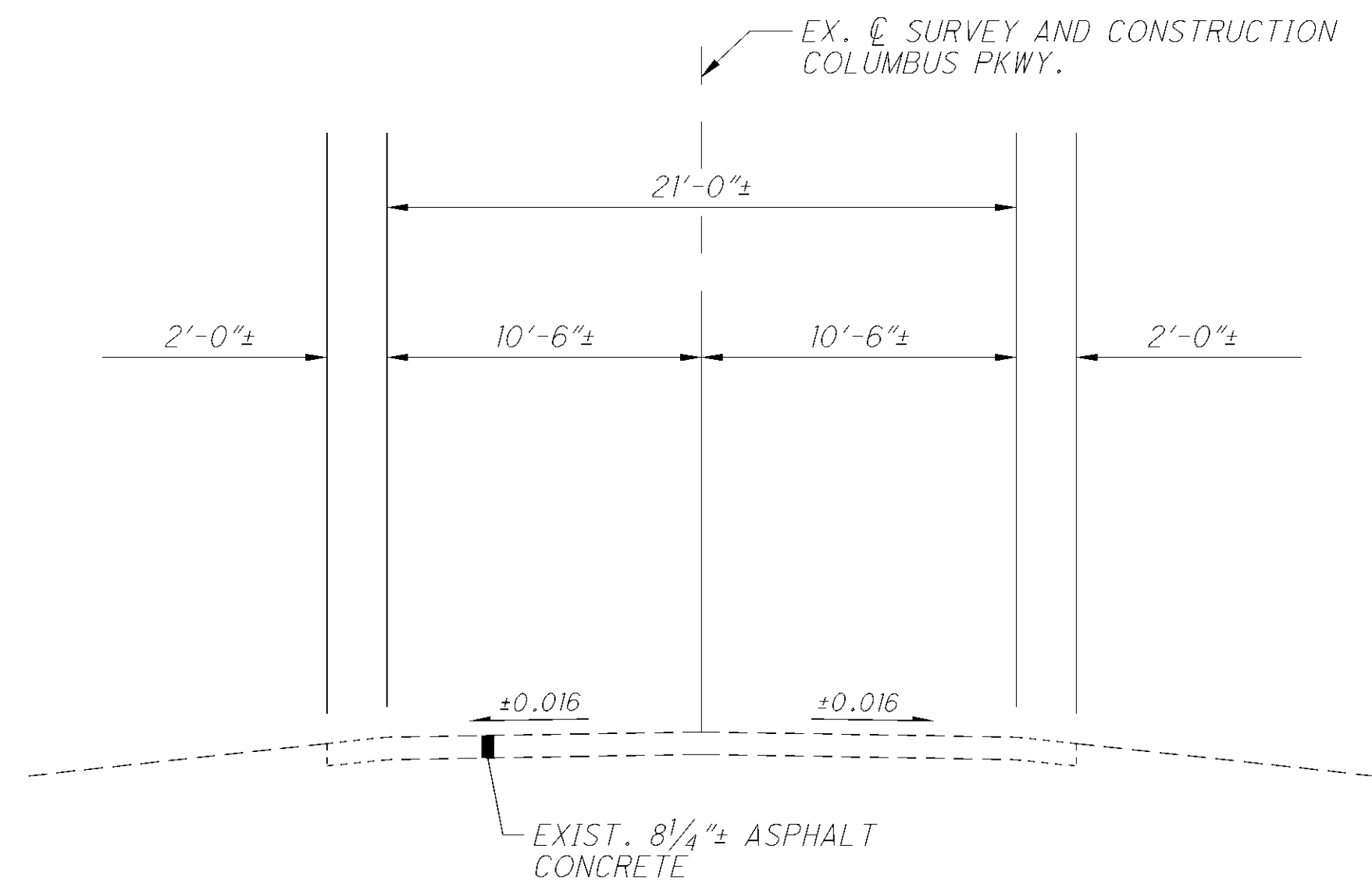
EXIST. CONCRETE MEDIAN
DETAIL



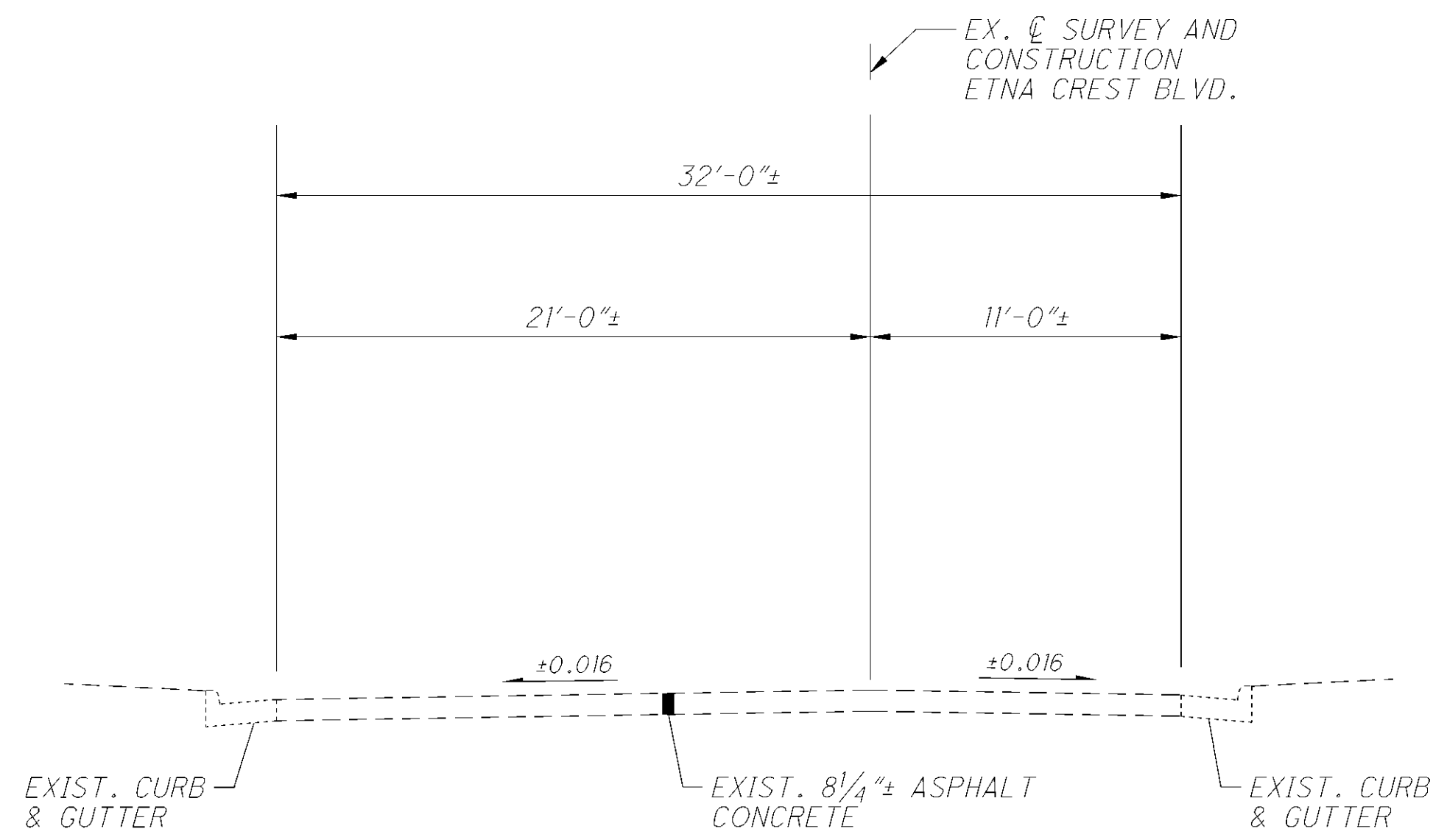
**RAMP TYPICAL (EXISTING)
SUPERELEVATED SECTION APPLIES:**
RAMP A - STA. 0+00.00 TO STA. 10+00.00
RAMP B - STA. 6+25.00 TO STA. 14+39.26
RAMP C - STA. 0+38.20 TO STA. 6+75.00
RAMP D - STA. 5+78.07 TO STA. 14+27.64
RAMP E - STA. 0+37.09 TO STA. 1+46.33



**RAMP TYPICAL (EXISTING)
SUPERELEVATED SECTION APPLIES:**
RAMP A - STA. 10+00.00 TO STA. 10+90.00
RAMP B - STA. 4+53.12 TO STA. 6+25.00
RAMP C - STA. 6+75.00 TO STA. 7+46.00
RAMP D - STA. 4+53.04 TO STA. 5+78.07



COLUMBUS PKWY. (EXISTING)
NORMAL SECTION APPLIES:
STA. 0+28.08 TO STA. 1+16.40

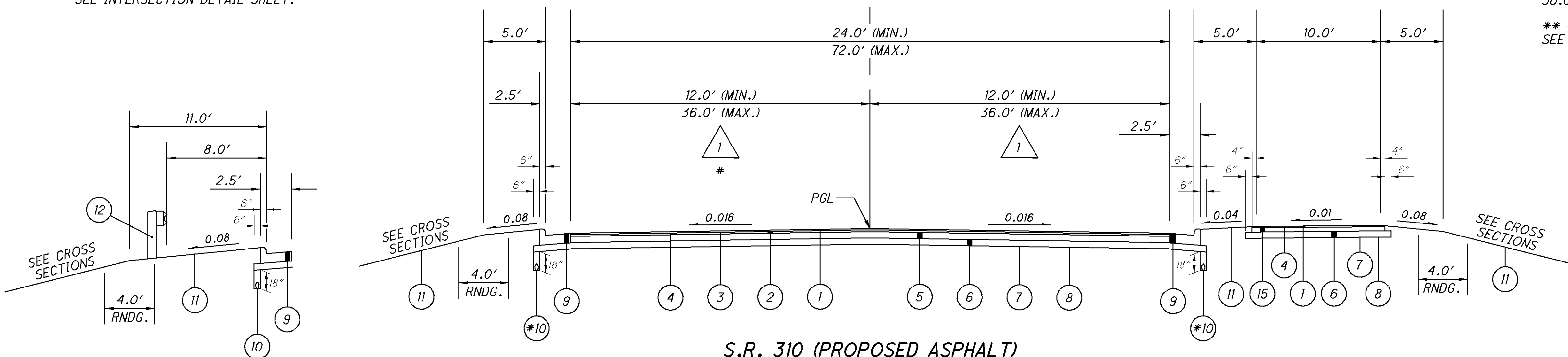


ETNA CREST BLVD. (EXISTING)
NORMAL SECTION APPLIES:
STA. 0+24.00 TO STA. 1+50.00

- FROM STA. 15+93.62 TO STA. 17+14.18,
SEE INTERSECTION DETAIL SHEET.

EX. \bar{C} SURVEY AND
CONSTRUCTION S.R. 310

1 TAPERS FROM 12.0' @ STA. 12+00.00 TO
36.0' @ STA. 18+40.00 (CONCRETE PAVEMENT).
** - FROM STA. 12+00.00 TO STA. 13+50.00,
SEE CROSS SECTIONS.



**S.R. 310 (LT. SIDE)
NORMAL SECTION APPLIES:**
STA. 17+14.11 TO STA. 18+40.00 = 125.89 FT.
TOTAL 125.89 FT.

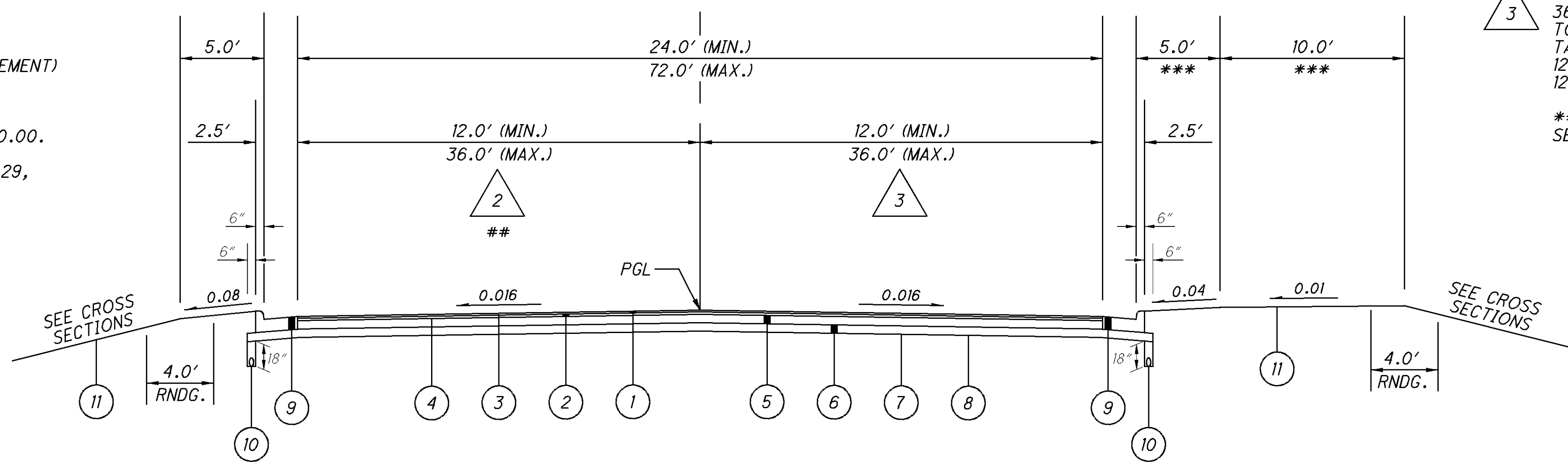
**S.R. 310 (PROPOSED ASPHALT)
NORMAL SECTION APPLIES:**
STA. 12+00.00 TO STA. 18+40.00 = 640.00 FT.
TOTAL 640.00 FT.

* NO UNDERDRAINS FROM STA. 12+00 TO STA. 13+50 L/R
(AGGREGATE DRAIN @ STA. 12+00 L/R)

2 24.0' FROM STA. 35+78.11 (CONCRETE PAVEMENT)
TO STA. 42+70.00.
TAPERS FROM 24.0' @ STA. 42+70.00 TO
12.0' @ STA. 45+90.00.
12.0' FROM STA. 45+90.00 TO STA. 49+00.00.
- FROM STA. 35+78.11 TO STA. 37+52.29,
SEE INTERSECTION DETAIL SHEET.

EX. \bar{C} SURVEY AND
CONSTRUCTION S.R. 310

3 36.0' FROM STA. 35+78.11 (CONCRETE PAVEMENT)
TO STA. 39+50.00.
TAPERS FROM 36.0' @ STA. 39+50.00 TO
12.0' @ STA. 45+90.00.
12.0' FROM STA. 45+90.00 TO STA. 49+00.00.
*** - FROM STA. 47+50.00 TO STA. 49+00.00,
SEE CROSS SECTIONS.



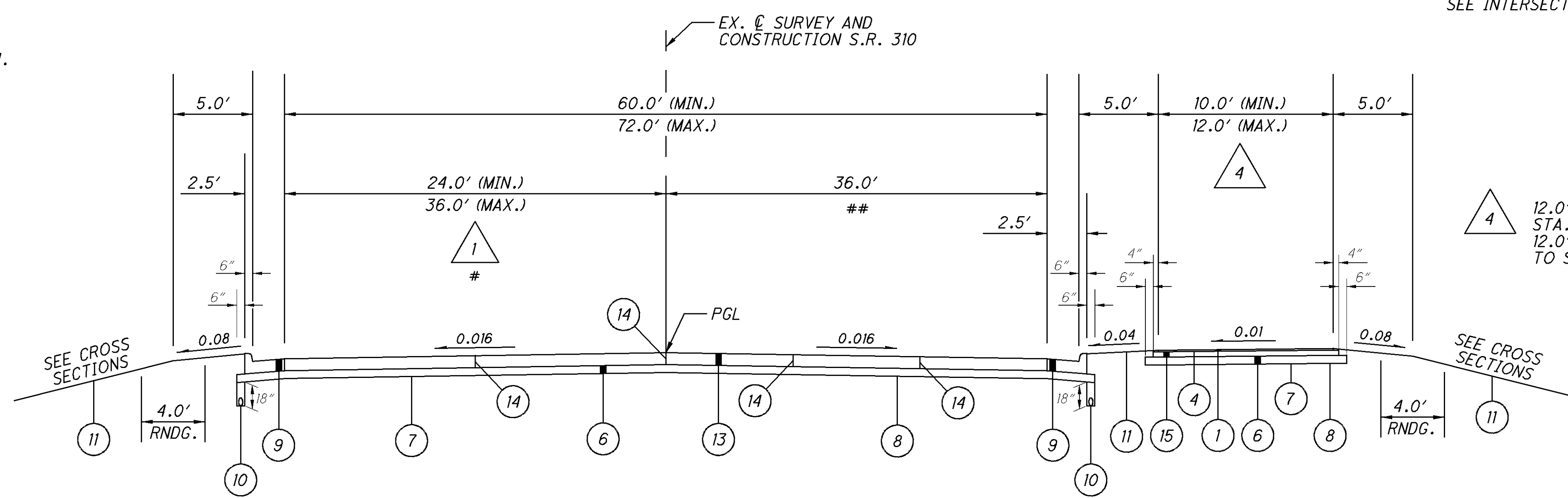
**S.R. 310 (PROPOSED ASPHALT)
NORMAL SECTION APPLIES:**
STA. 35+78.11 TO STA. 49+20.00 = 1,341.89 FT.
TOTAL 1,341.89 FT.

LEGEND

- | | | |
|---|--|--|
| 1 ITEM 441, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M | 8 ITEM 204, PROOF ROLLING | 15 ITEM 301, 3" ASPHALT CONCRETE BASE, PG64-22 |
| 2 ITEM 441, 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) | 9 ITEM 609, COMBINATION CURB AND GUTTER, TYPE 2 | 16 ITEM 609, CURB, TYPE 6 |
| 3 ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE (@ 0.05 GAL./SQ. YD.) | 10 ITEM 605, 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41 | 17 ITEM 622, CONCRETE BARRIER, TYPE D |
| 4 ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK (@ 0.075 GAL./SQ. YD.) | 11 ITEM 659, SEEDING AND MULCHING, CLASS 2 | 18 ITEM 622, CONCRETE BARRIER, TYPE D, AS PER PLAN |
| 5 ITEM 301, 7" ASPHALT CONCRETE BASE, PG64-22 | 12 ITEM 606, GUARDRAIL, TYPE MGS | |
| 6 ITEM 304, 6" AGGREGATE BASE | 13 ITEM 452, 10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1 WITH QC/OA | |
| 7 ITEM 204, SUBGRADE COMPACTION | 14 STANDARD LONGITUDINAL JOINT | |

- FROM STA. 20+43.20 TO STA. 21+23.20,
FROM STA. 30+02.47 TO STA. 30+73.48,
SEE INTERSECTION DETAIL SHEETS.

1 36.0' FROM STA. 18+40.00 TO STA. 31+40.84.
TAPERS FROM 36.0' @ STA. 31+40.84 TO
26.5' @ STA. 33+66.38.
TAPERS FROM 26.5' @ STA. 33+66.38 TO
24.0' @ STA. 35+78.11.
- FROM STA. 20+18.25 TO STA. 21+07.35,
FROM STA. 29+73.60 TO STA. 30+28.97,
FROM STA. 31+40.84 TO STA. 35+78.11,
SEE INTERSECTION DETAIL SHEETS.



**S.R. 310 (PROPOSED CONCRETE)
NORMAL SECTION APPLIES:**

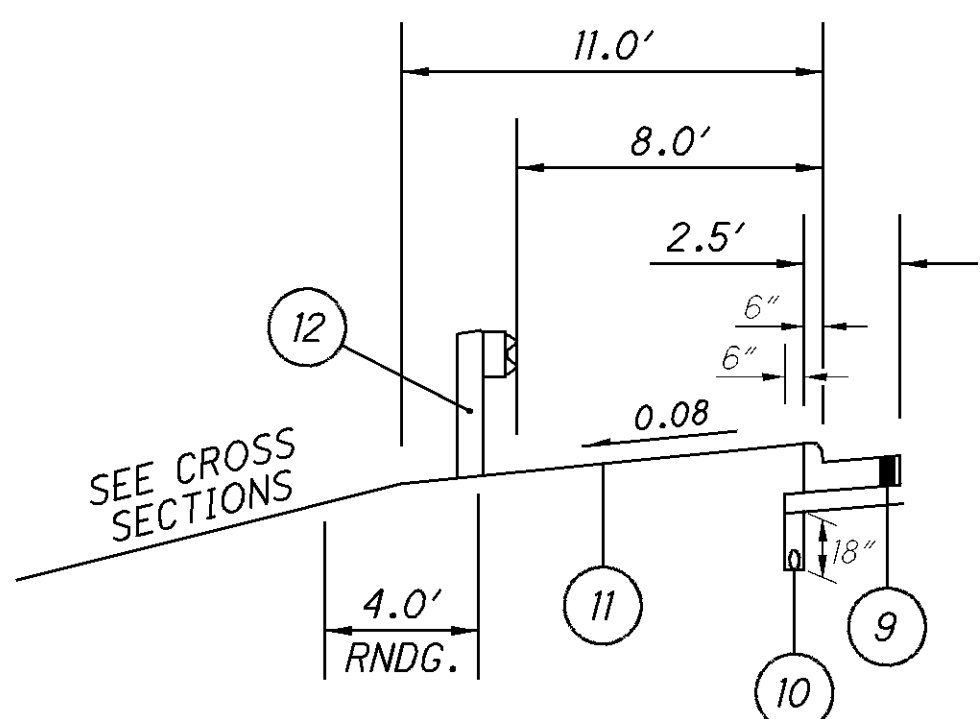
STA. 18+40.00 TO STA. 23+33.49 (BRIDGE) = 493.49 FT.
STA. 26+66.51 (BRIDGE) TO STA. 35+78.11 = 911.60 FT.
TOTAL 1,405.09 FT.

BRIDGE LIMITS (INCLUDING APPROACH SLABS)
STA. 23+33.49 TO STA. 26+66.51 = 333.02 FT.

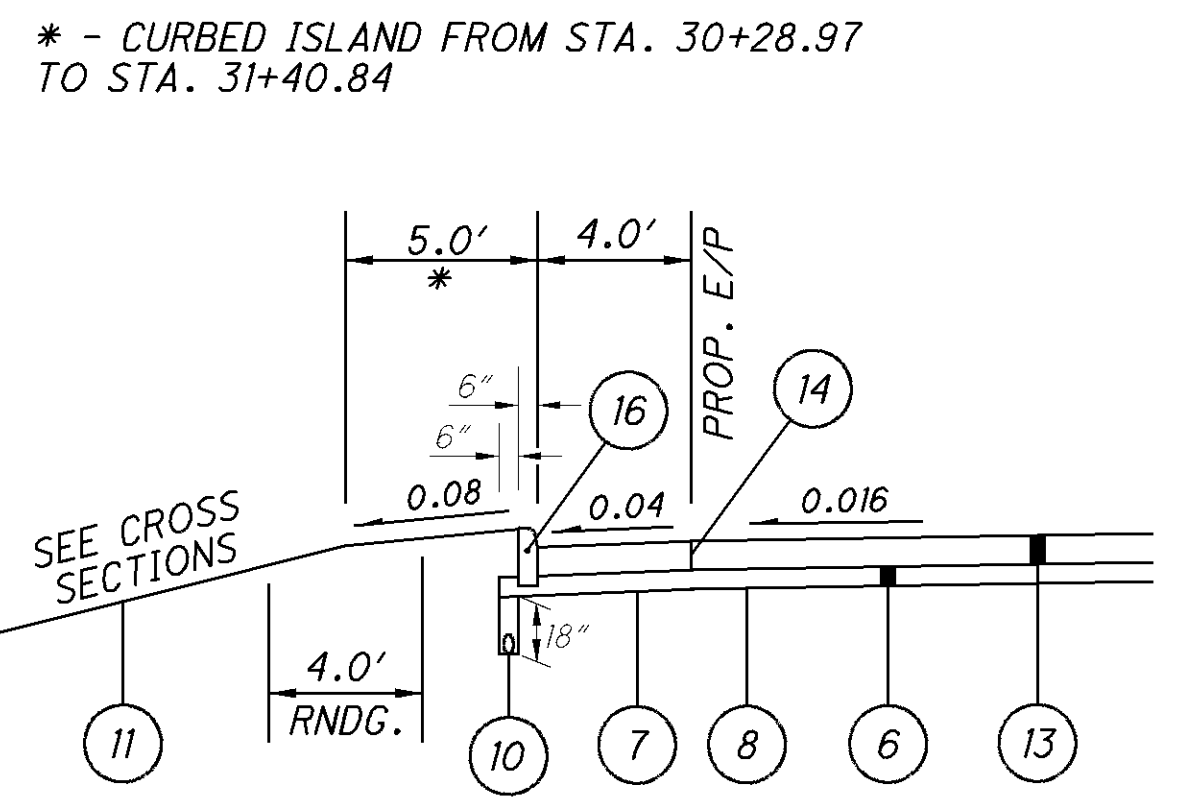
LEGEND

- | | | |
|---|--|--|
| 1 ITEM 441, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M | 8 ITEM 204, PROOF ROLLING | 15 ITEM 301, 3" ASPHALT CONCRETE BASE, PG64-22 |
| 2 ITEM 441, 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) | 9 ITEM 609, COMBINATION CURB AND GUTTER, TYPE 2 | 16 ITEM 609, CURB, TYPE 6 |
| 3 ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE (@ 0.05 GAL./SQ. YD.) | 10 ITEM 605, 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41 | 17 ITEM 622, CONCRETE BARRIER, TYPE D |
| 4 ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK (@ 0.075 GAL./SQ. YD.) | 11 ITEM 659, SEEDING AND MULCHING, CLASS 2 | 18 ITEM 622, CONCRETE BARRIER, TYPE D, AS PER PLAN |
| 5 ITEM 301, 7" ASPHALT CONCRETE BASE, PG64-22 | 12 ITEM 606, GUARDRAIL, TYPE MGS | |
| 6 ITEM 304, 6" AGGREGATE BASE | 13 ITEM 452, 10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1 WITH QC/QA | |
| 7 ITEM 204, SUBGRADE COMPACTION | 14 STANDARD LONGITUDINAL JOINT | |

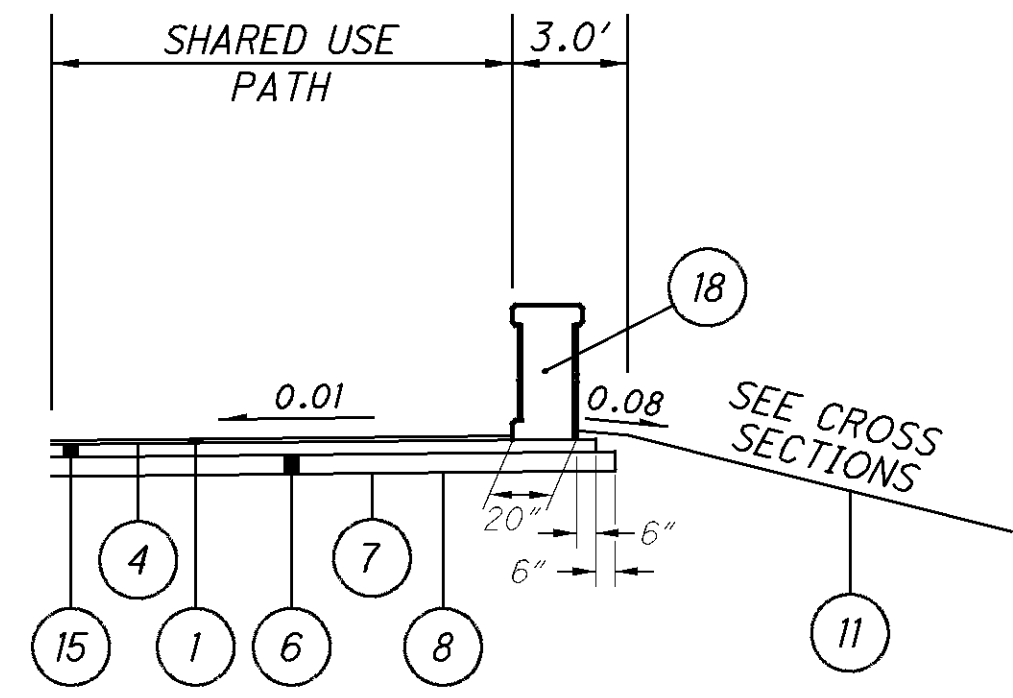
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**S.R. 310 (LT. SIDE)
NORMAL SECTION APPLIES:**
STA. 18+40.00 TO STA. 20+18.25 = 178.25 FT.
TOTAL 178.25 FT.

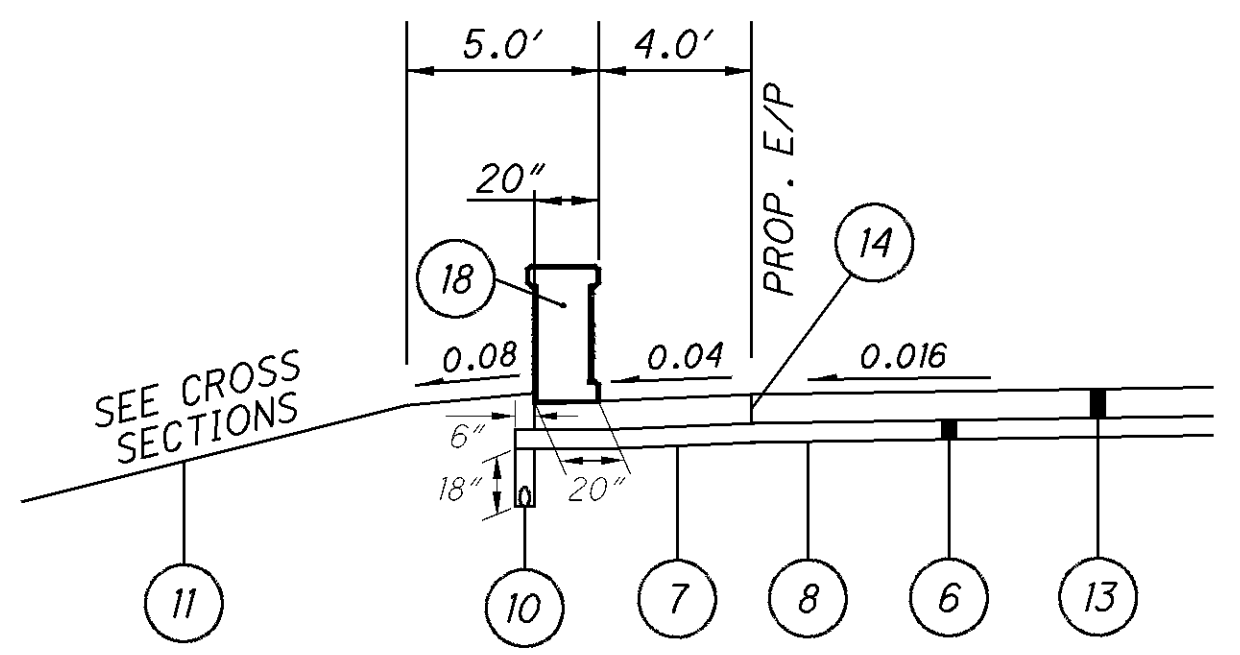


**S.R. 310 (LT. SIDE)
NORMAL SECTION APPLIES:**
STA. 21+08.98 TO STA. 22+65.00 = 156.02 FT.
STA. 28+35.00 TO STA. 29+71.04 = 136.04 FT.
STA. 30+28.97 TO STA. 31+40.84 = 111.87 FT.
TOTAL 403.93 FT.

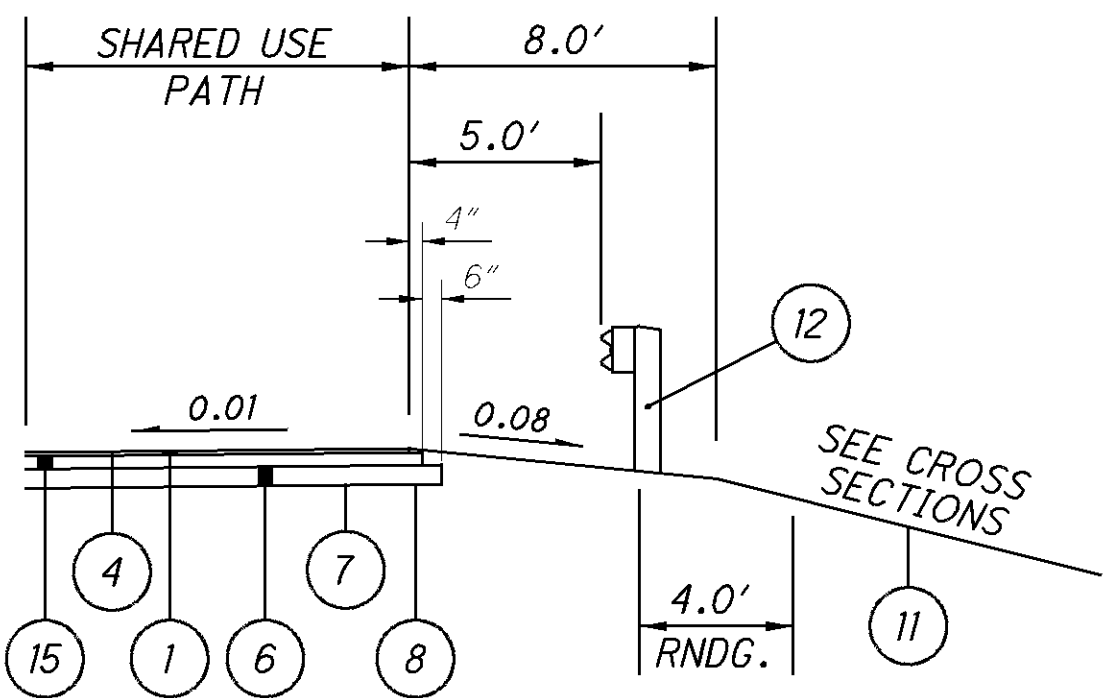


**S.R. 310 (RT. SIDE)
NORMAL SECTION APPLIES:**
STA. 22+15.00 TO STA. 23+25.17 (BRIDGE) = 110.17 FT.
STA. 26+58.19 (BRIDGE) TO STA. 28+35.00 = 176.81 FT.
TOTAL 286.98 FT.

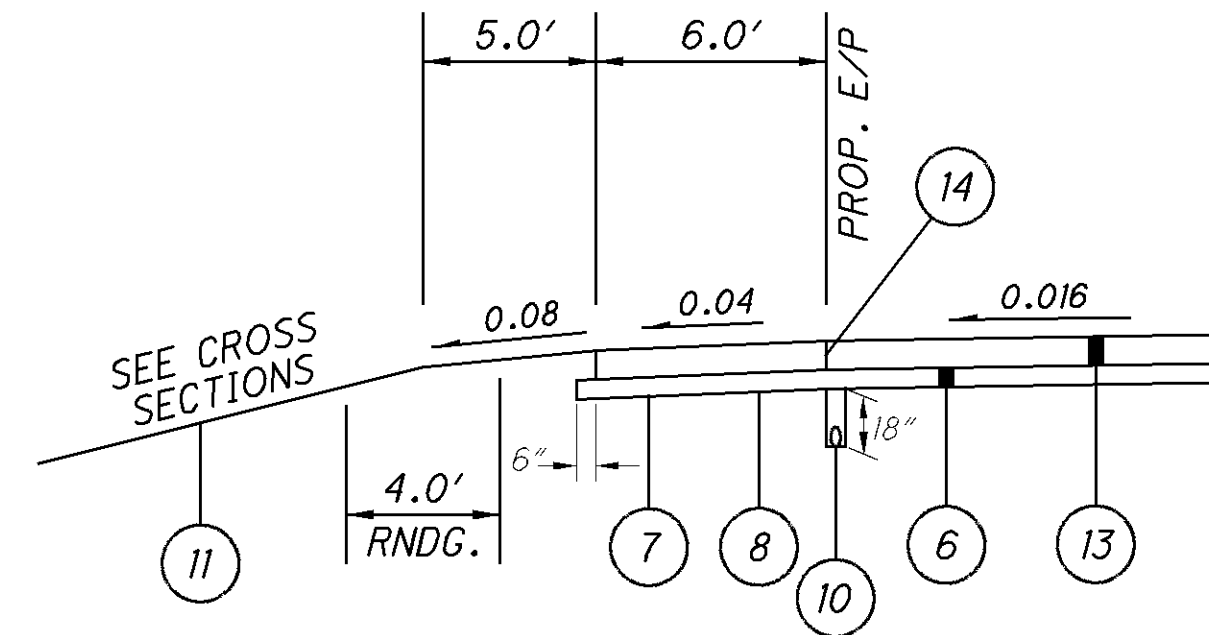
NOTE: SEE SHEETS 20-21 FOR ITEM 622, CONCRETE BARRIER, TYPE D, AS PER PLAN, DETAILS.



**S.R. 310 (LT. SIDE)
NORMAL SECTION APPLIES:**
STA. 22+65.00 TO STA. 23+39.54 (BRIDGE) = 74.54 FT.
STA. 26+72.56 (BRIDGE) TO STA. 28+35.00 = 162.44 FT.
TOTAL 236.98 FT.



**S.R. 310 (RT. SIDE)
NORMAL SECTION APPLIES:**
STA. 30+73.48 TO STA. 35+99.18 = 525.70 FT.
TOTAL 525.70 FT.



**S.R. 310 (LT. SIDE)
NORMAL SECTION APPLIES:**
STA. 33+66.38 TO STA. 35+78.11 = 211.73 FT.
TOTAL 211.73 FT.

LEGEND

- ① ITEM 441, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
- ② ITEM 441, 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
- ③ ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE (@ 0.05 GAL./SQ. YD.)
- ④ ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK (@ 0.075 GAL./SQ. YD.)
- ⑤ ITEM 301, 7" ASPHALT CONCRETE BASE, PG64-22
- ⑥ ITEM 304, 6" AGGREGATE BASE
- ⑦ ITEM 204, SUBGRADE COMPACTION

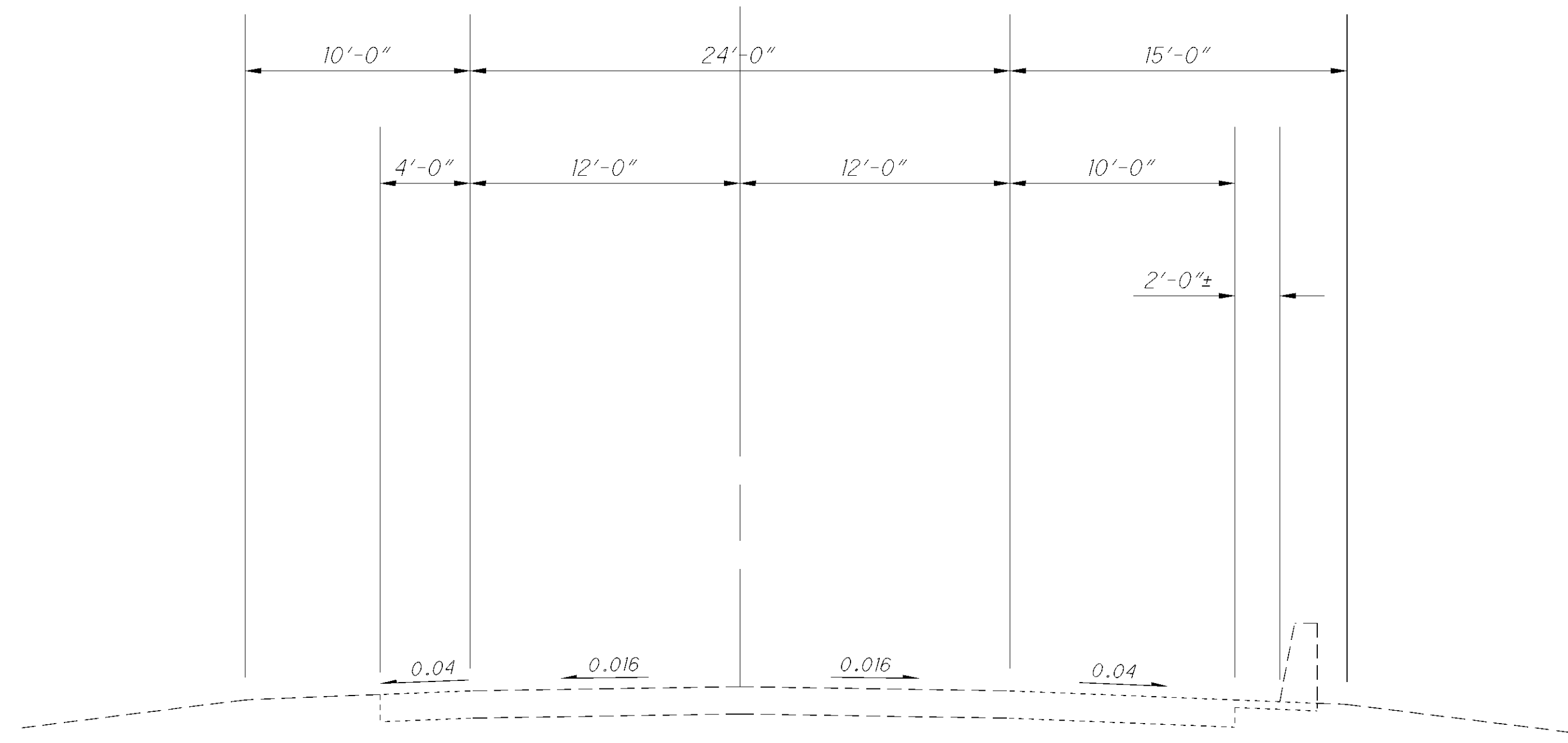
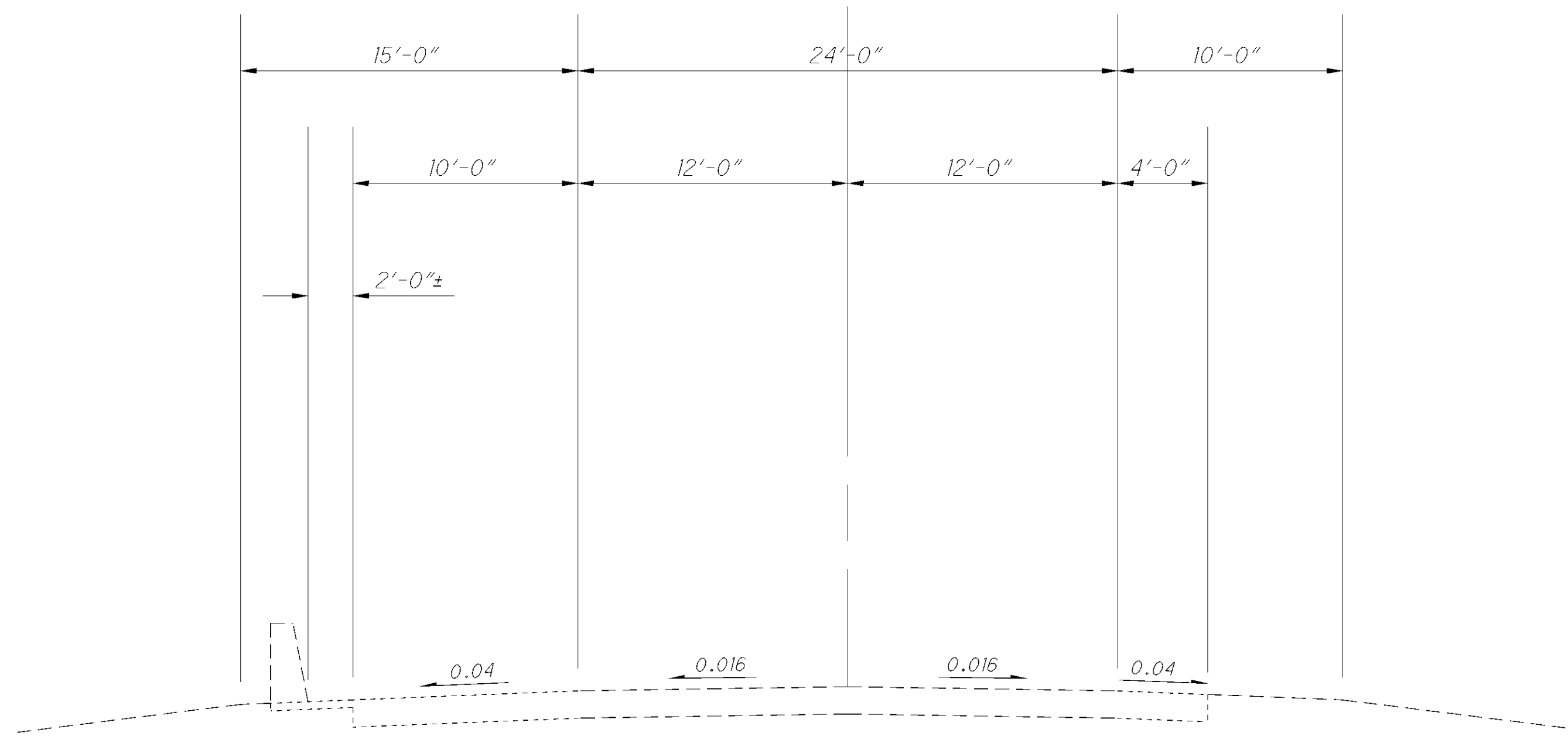
- ⑧ ITEM 204, PROOF ROLLING
- ⑨ ITEM 609, COMBINATION CURB AND GUTTER, TYPE 2
- ⑩ ITEM 605, 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- ⑪ ITEM 659, SEEDING AND MULCHING, CLASS 2
- ⑫ ITEM 606, GUARDRAIL, TYPE MGS
- ⑬ ITEM 452, 10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1 WITH QC/OA
- ⑭ STANDARD LONGITUDINAL JOINT

- ⑮ ITEM 301, 3" ASPHALT CONCRETE BASE, PG64-22
- ⑯ ITEM 609, CURB, TYPE 6
- ⑰ ITEM 622, CONCRETE BARRIER, TYPE D
- ⑱ ITEM 622, CONCRETE BARRIER, TYPE D, AS PER PLAN

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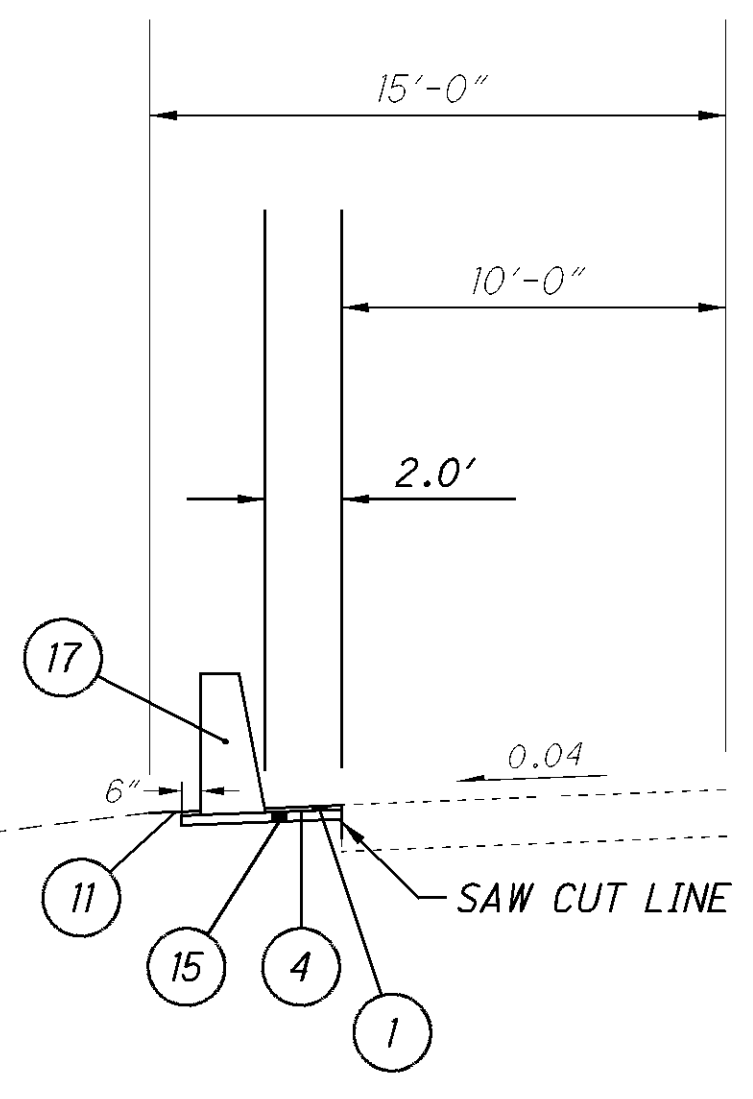
EX. \varnothing CONSTRUCTION I.R. 70
EASTBOUND LANES

EX. \varnothing CONSTRUCTION I.R. 70
WESTBOUND LANES



**I.R. 70 (EXISTING)
SECTION APPLIES:**

STA. 487+31.63 TO STA. 488+83.81 = 152.18 FT.
TOTAL 152.18 FT.

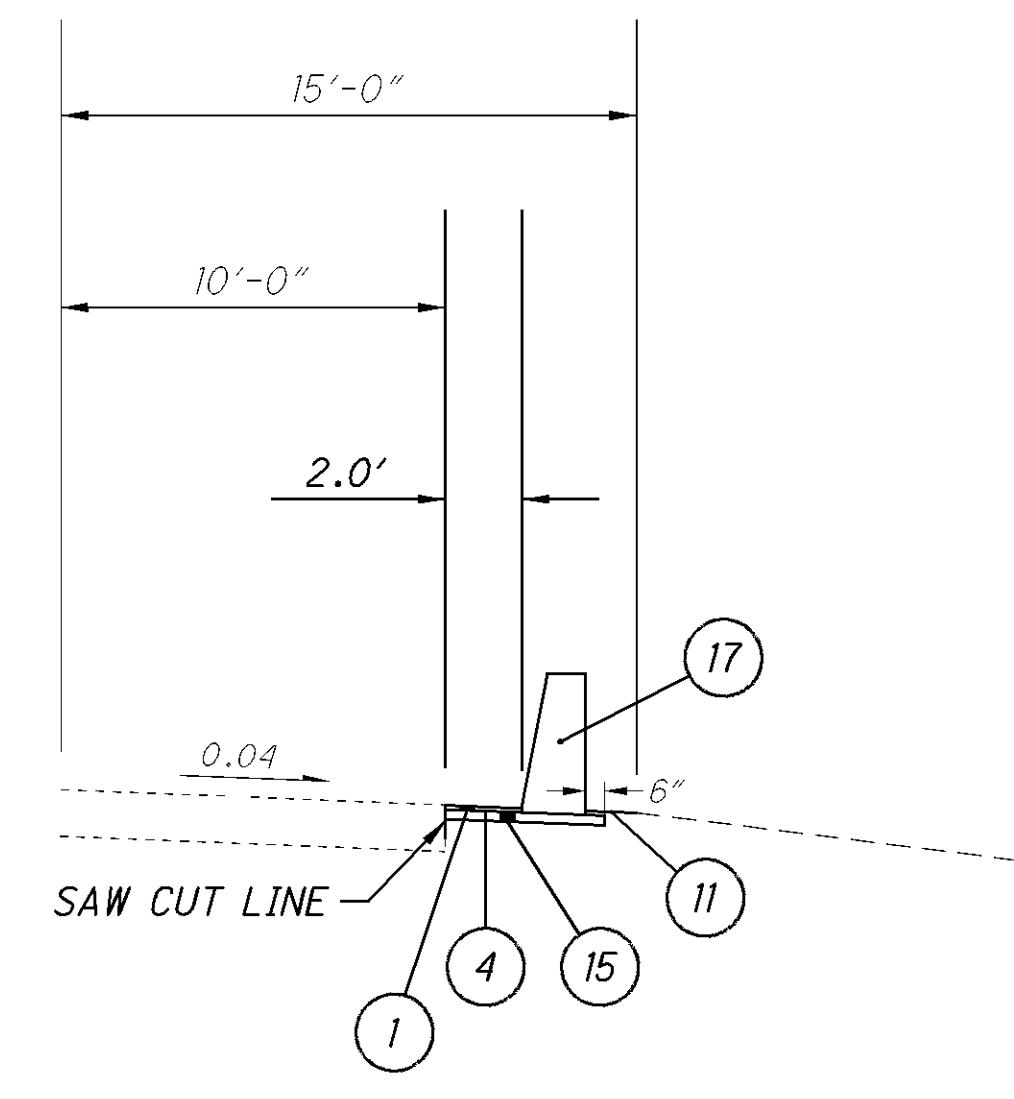


**I.R. 70 EASTBOUND LANES (PROPOSED)
SECTION APPLIES:**

STA. 487+45.00 TO STA. 488+95.00 RT. = 150.00 FT.
TOTAL 150.00 FT.

**I.R. 70 WESTBOUND LANES (PROPOSED)
SECTION APPLIES:**

STA. 486+82.00 TO STA. 488+86.00 LT. = 204.00 FT.
TOTAL 204.00 FT.



LEGEND

- ① ITEM 441, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
- ② ITEM 441, 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
- ③ ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE (@ 0.05 GAL./SQ. YD.)
- ④ ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK (@ 0.075 GAL./SQ. YD.)
- ⑤ ITEM 301, 7" ASPHALT CONCRETE BASE, PG64-22
- ⑥ ITEM 304, 6" AGGREGATE BASE
- ⑦ ITEM 204, SUBGRADE COMPACTION

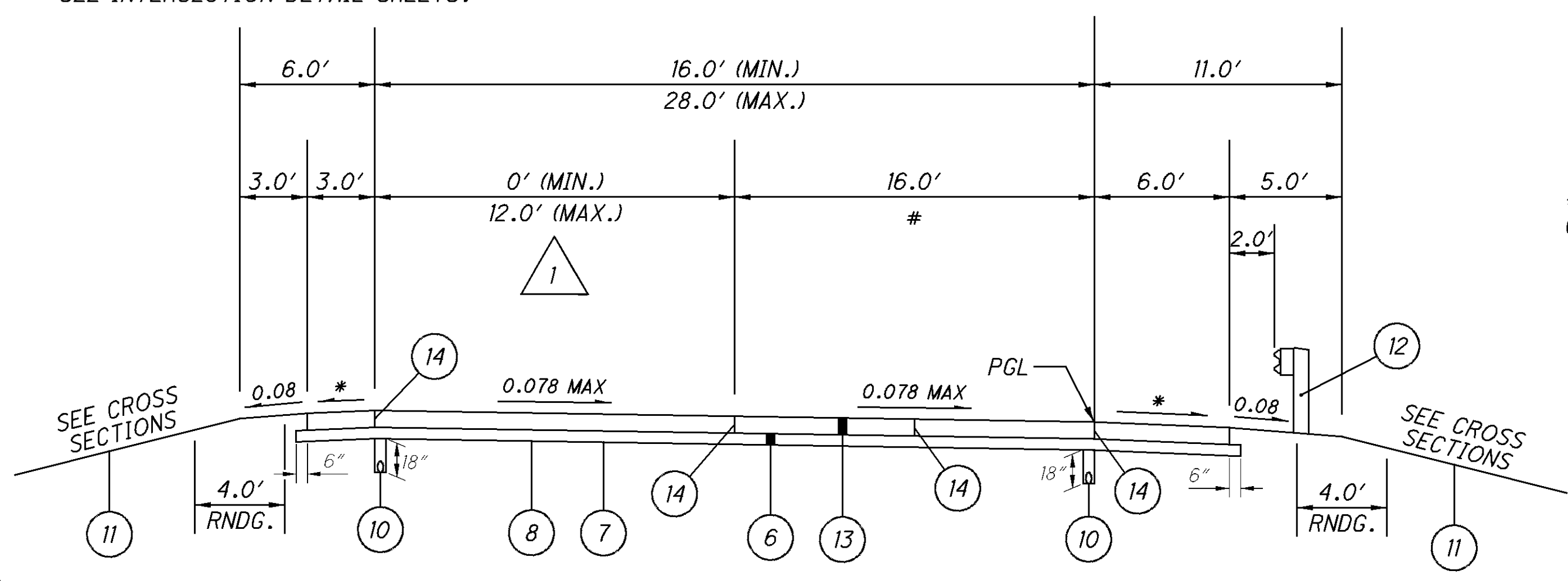
- ⑧ ITEM 204, PROOF ROLLING
- ⑨ ITEM 609, COMBINATION CURB AND GUTTER, TYPE 2
- ⑩ ITEM 605, 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- ⑪ ITEM 659, SEEDING AND MULCHING, CLASS 2
- ⑫ ITEM 606, GUARDRAIL, TYPE MGS
- ⑬ ITEM 452, 10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1 WITH QC/QA
- ⑭ STANDARD LONGITUDINAL JOINT

- ⑮ ITEM 301, 3" ASPHALT CONCRETE BASE, PG64-22
- ⑯ ITEM 609, CURB, TYPE 6
- ⑰ ITEM 622, CONCRETE BARRIER, TYPE D
- ⑱ ITEM 622, CONCRETE BARRIER, TYPE D, AS PER PLAN

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- FROM STA. 0+00.00 TO STA. 2+24.26,
SEE INTERSECTION DETAIL SHEETS.

EX. B SURVEY AND
CONSTRUCTION RAMP A



**RAMP A (PROPOSED CONCRETE)
SUPERELEVATED SECTION APPLIES:**

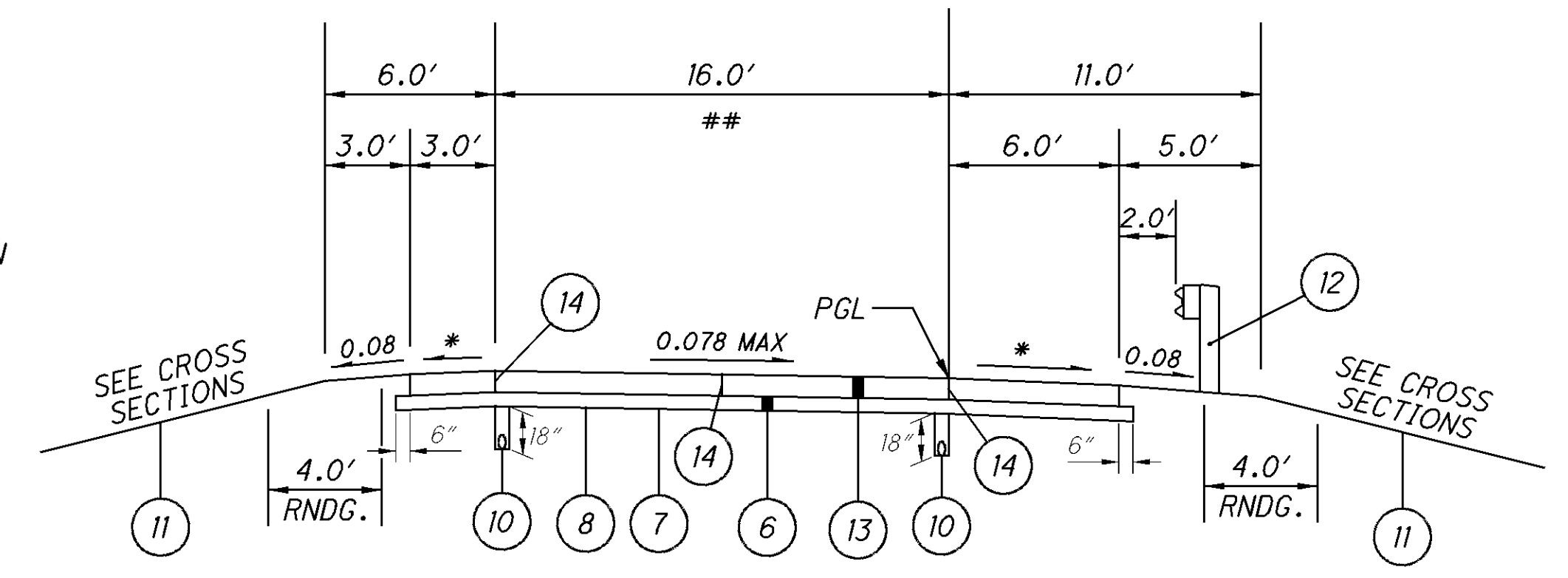
STA. 0+00.00 TO STA. 2+24.26 RT. = 224.26 FT.
STA. 2+24.26 TO STA. 10+90.00 = 865.74 FT.
TOTAL 1,090.00 FT.

1 0' FROM STA. 2+24.26 TO
STA. 4+79.49.
12.0' FROM STA. 4+79.49
TO STA. 5+70.00.
TAPERS FROM 12.0' @
STA. 5+70.00 TO
0' @ STA. 8+90.00.

- FROM STA. 0+38.20 TO STA. 1+13.17,
SEE INTERSECTION DETAIL SHEETS.

- FROM STA. 13+86.29 TO STA. 14+39.26,
SEE INTERSECTION DETAIL SHEETS.

EX. B SURVEY AND
CONSTRUCTION RAMP B



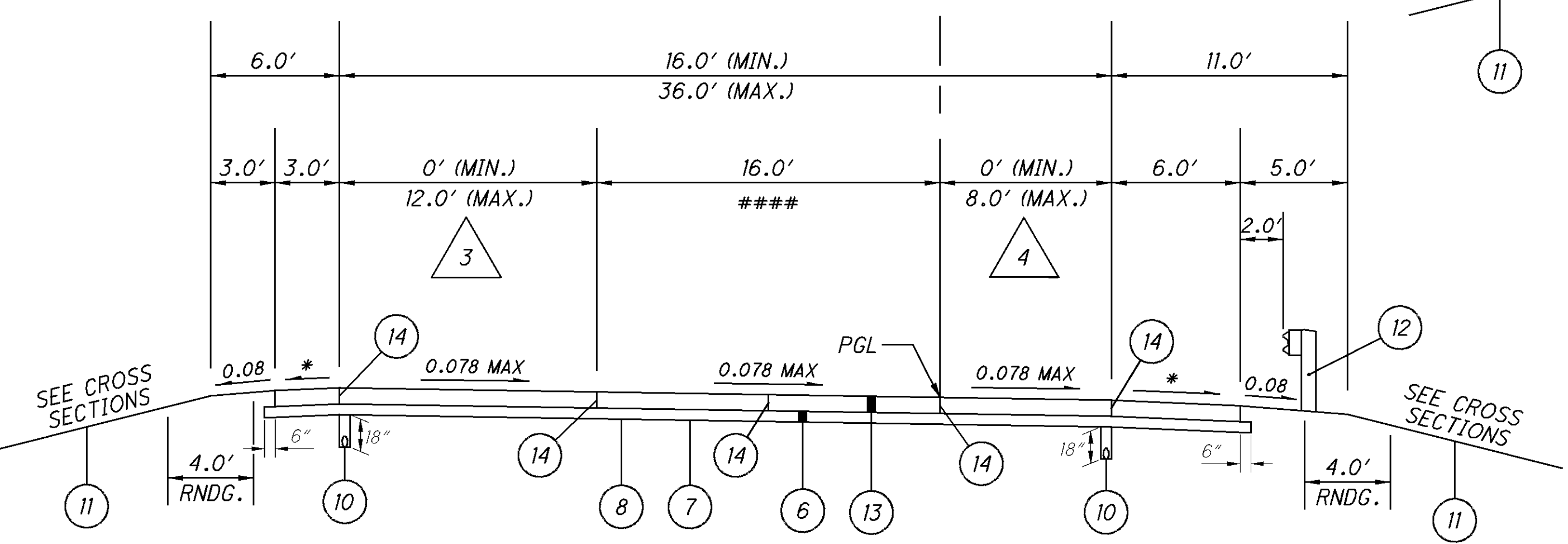
**RAMP B (PROPOSED CONCRETE)
SUPERELEVATED SECTION APPLIES:**

STA. 4+53.12 TO STA. 14+39.09 = 985.97 FT.
TOTAL 985.97 FT.

* - 0.04 OR RATE OF SUPERELEVATION
(SEE SUPERELEVATION TABLES)

- FROM STA. 13+78.06 TO STA. 14+27.64,
SEE INTERSECTION DETAIL SHEETS.

EX. B SURVEY AND
CONSTRUCTION RAMP D



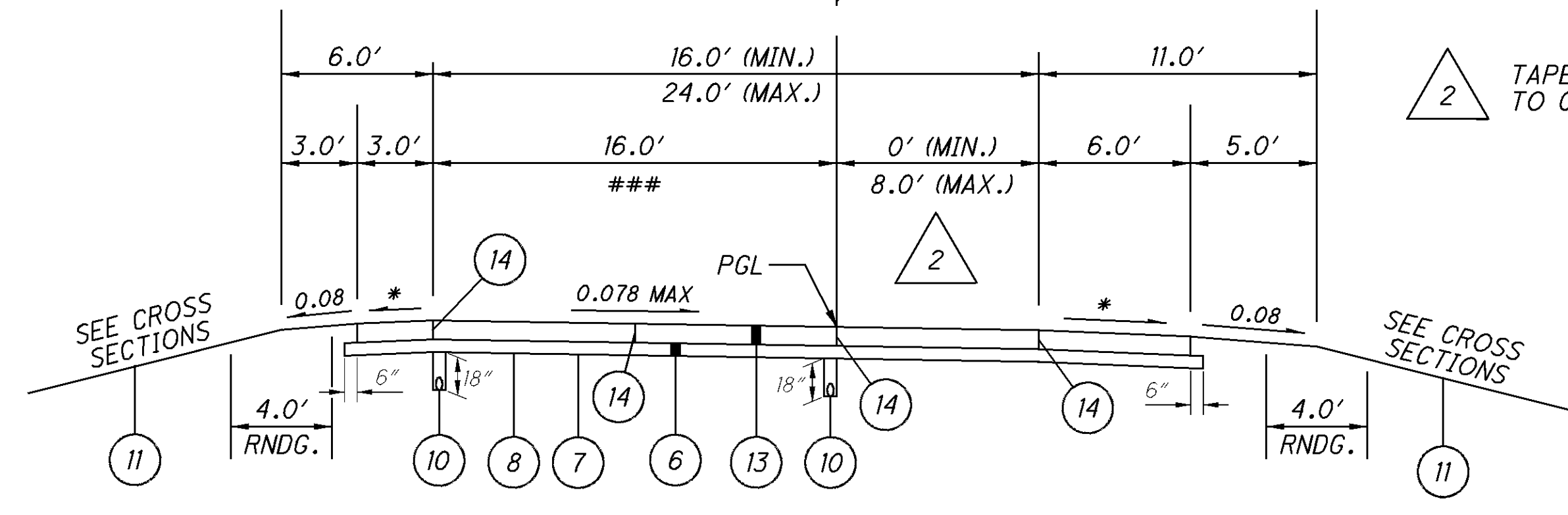
**RAMP D (PROPOSED CONCRETE)
SUPERELEVATED SECTION APPLIES:**

STA. 4+53.04 TO STA. 14+27.64 = 974.60 FT.
TOTAL 974.60 FT.

3 TAPERS FROM 0' @
STA. 8+00.00 TO
12.0' @ STA. 8+50.00.

4 TAPERS FROM 0' @
STA. 8+00.00 TO
8.0' @ STA. 8+50.00.

EX. B SURVEY AND
CONSTRUCTION RAMP C

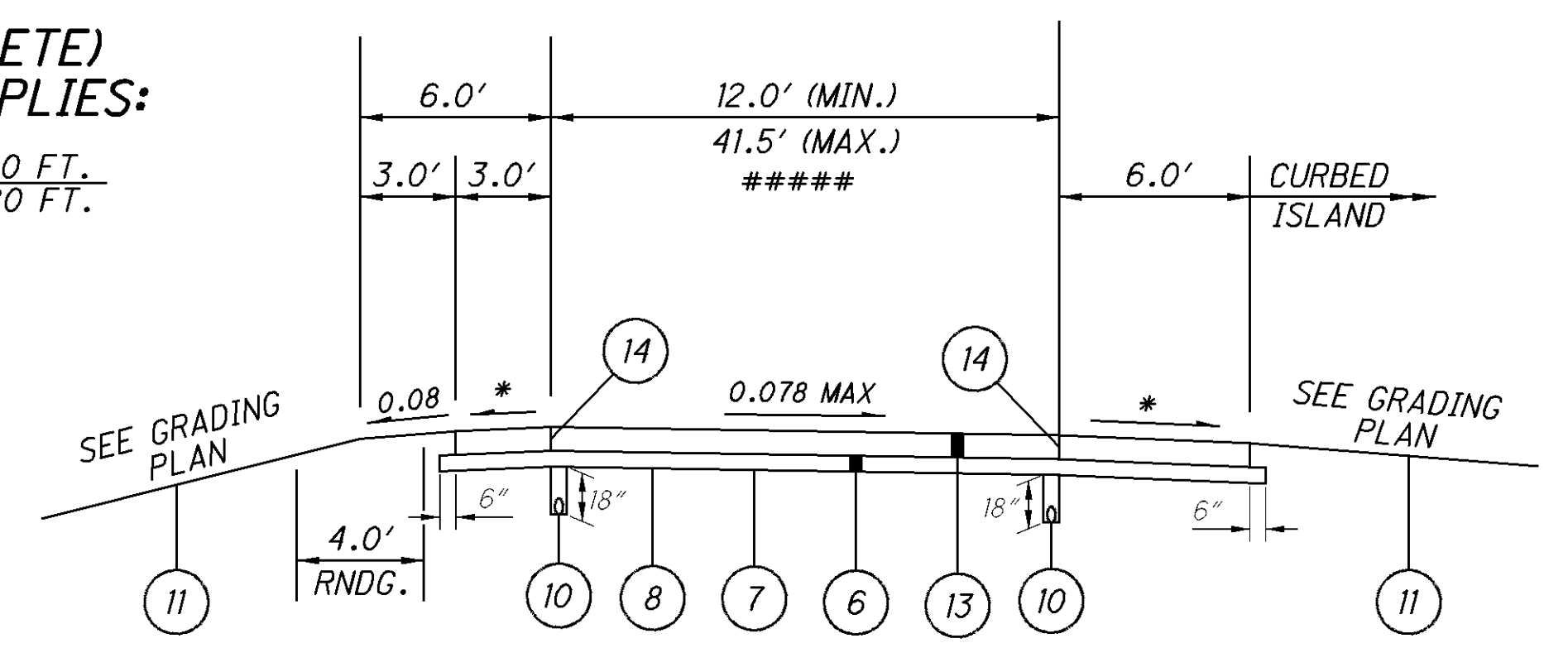


**RAMP C (PROPOSED CONCRETE)
SUPERELEVATED SECTION APPLIES:**

STA. 0+38.20 TO STA. 7+46.00 = 707.80 FT.
TOTAL 707.80 FT.

2 TAPERS FROM 8' @ STA. 0+63.17
TO 0' @ STA. 1+13.77.

PROP. B SURVEY AND
CONSTRUCTION RAMP E



**RAMP E (PROPOSED CONCRETE)
SUPERELEVATED SECTION APPLIES:**

STA. 0+37.09 TO STA. 2+19.43 = 182.34 FT.
TOTAL 182.34 FT.

- SEE INTERSECTION
DETAIL SHEETS.

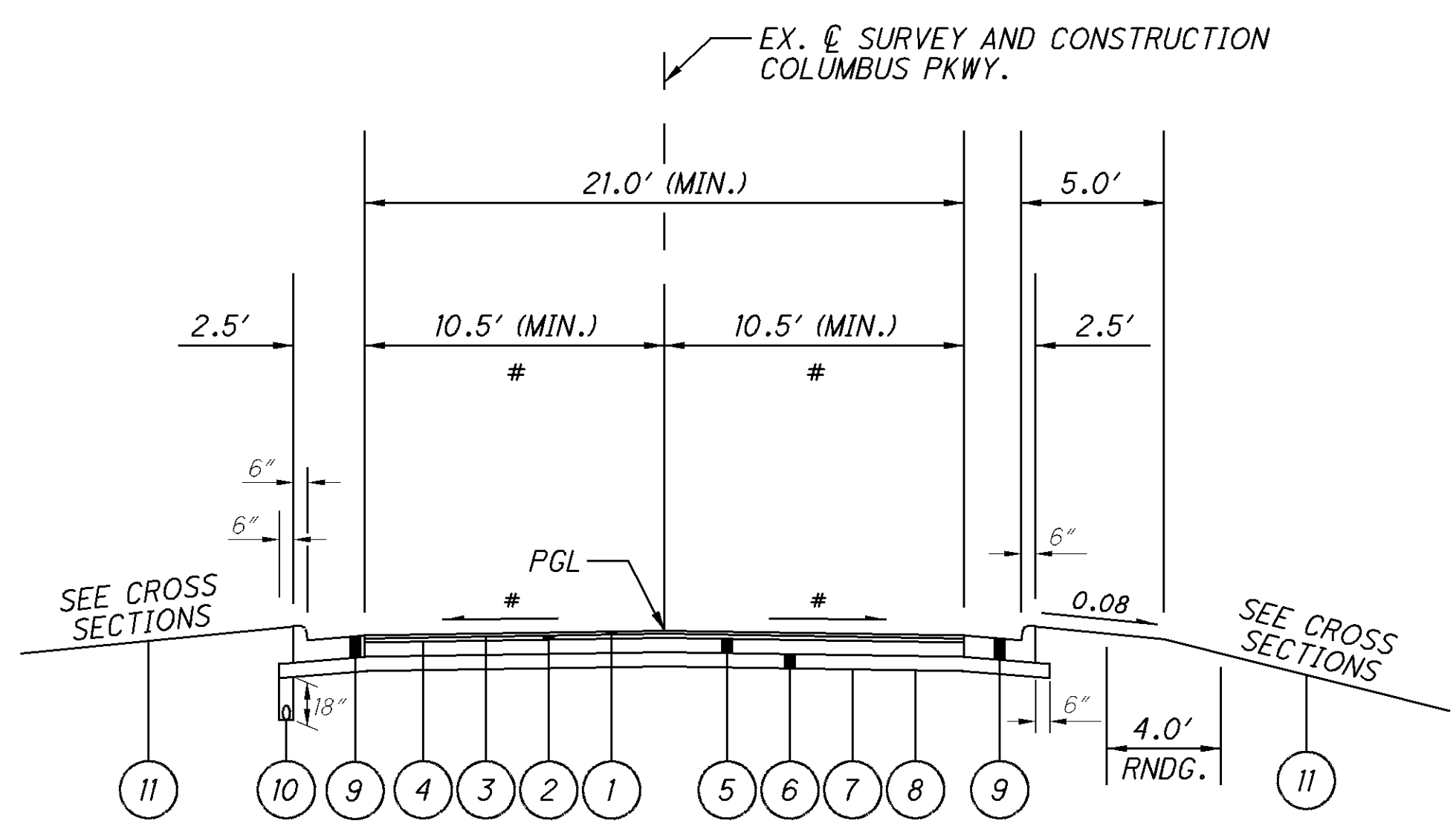
LEGEND

- 1 ITEM 441, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
- 2 ITEM 441, 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
- 3 ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE (@ 0.05 GAL./SQ. YD.)
- 4 ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK (@ 0.075 GAL./SQ. YD.)
- 5 ITEM 301, 7" ASPHALT CONCRETE BASE, PG64-22
- 6 ITEM 304, 6" AGGREGATE BASE
- 7 ITEM 204, SUBGRADE COMPACTION

- 8 ITEM 204, PROOF ROLLING
- 9 ITEM 609, COMBINATION CURB AND GUTTER, TYPE 2
- 10 ITEM 605, 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- 11 ITEM 659, SEEDING AND MULCHING, CLASS 2
- 12 ITEM 606, GUARDRAIL, TYPE MGS
- 13 ITEM 452, 10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1 WITH QC/OA
- 14 STANDARD LONGITUDINAL JOINT

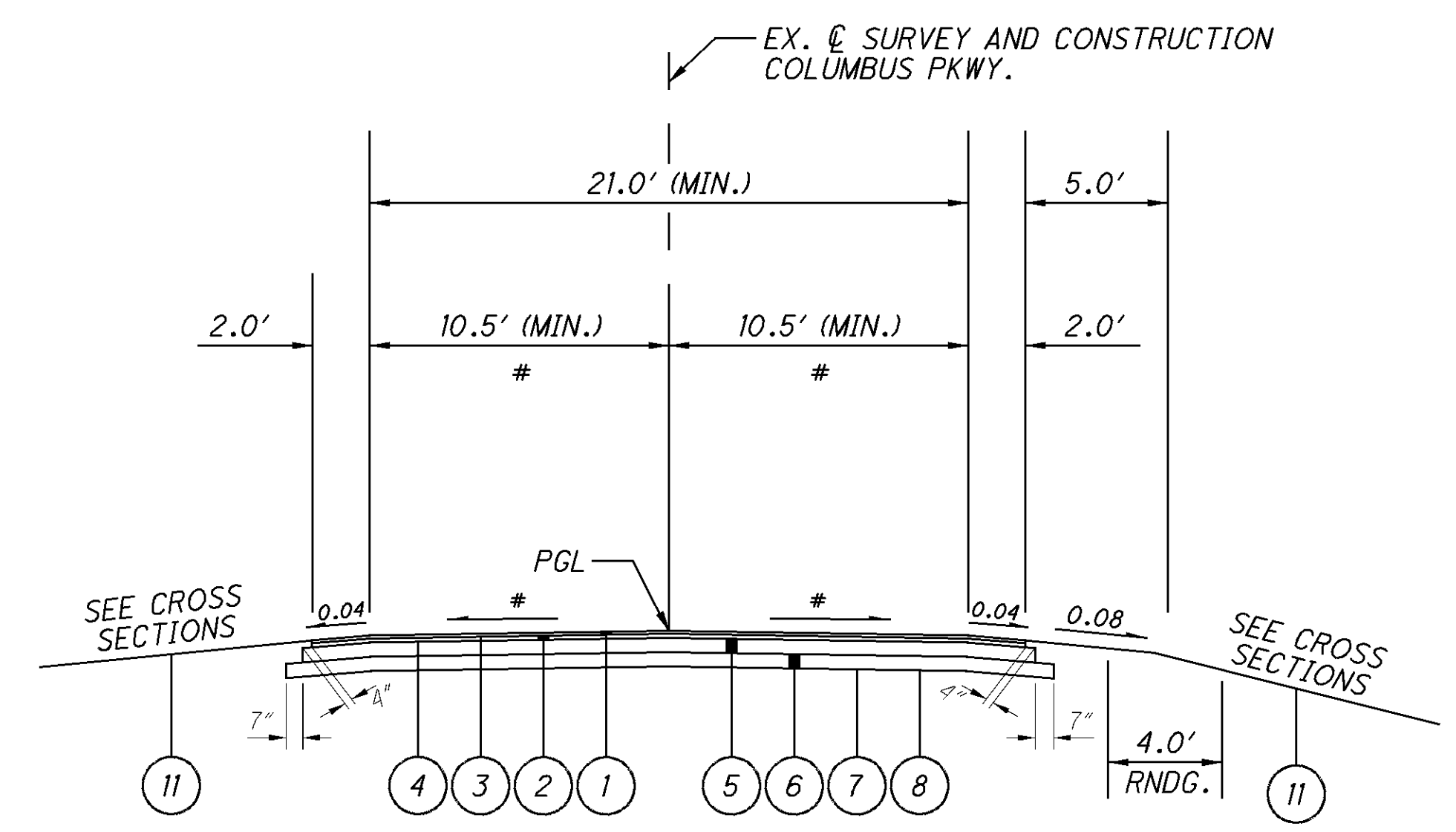
- 15 ITEM 301, 3" ASPHALT CONCRETE BASE, PG64-22
- 16 ITEM 609, CURB, TYPE 6
- 17 ITEM 622, CONCRETE BARRIER, TYPE D
- 18 ITEM 622, CONCRETE BARRIER, TYPE D, AS PER PLAN

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**COLUMBUS PKWY. (PROPOSED ASPHALT)
NORMAL SECTION APPLIES:**

STA. 0+28.08 TO STA. 0+85.00 = 56.92 FT.
TOTAL 56.92 FT.

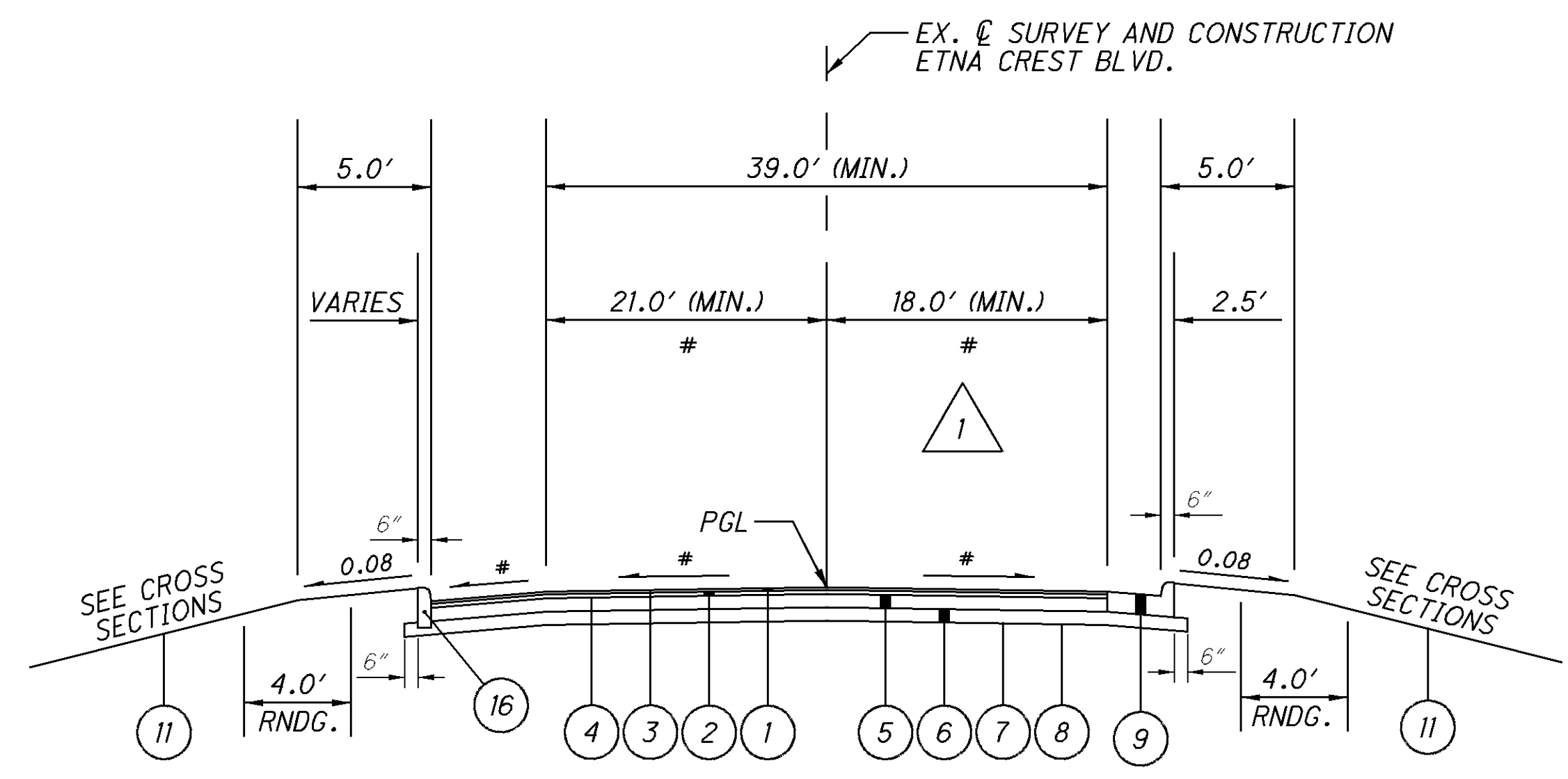


**COLUMBUS PKWY. (PROPOSED ASPHALT)
NORMAL SECTION APPLIES:**

STA. 0+85.00 TO STA. 1+16.40 = 31.40 FT.
TOTAL 31.40 FT.

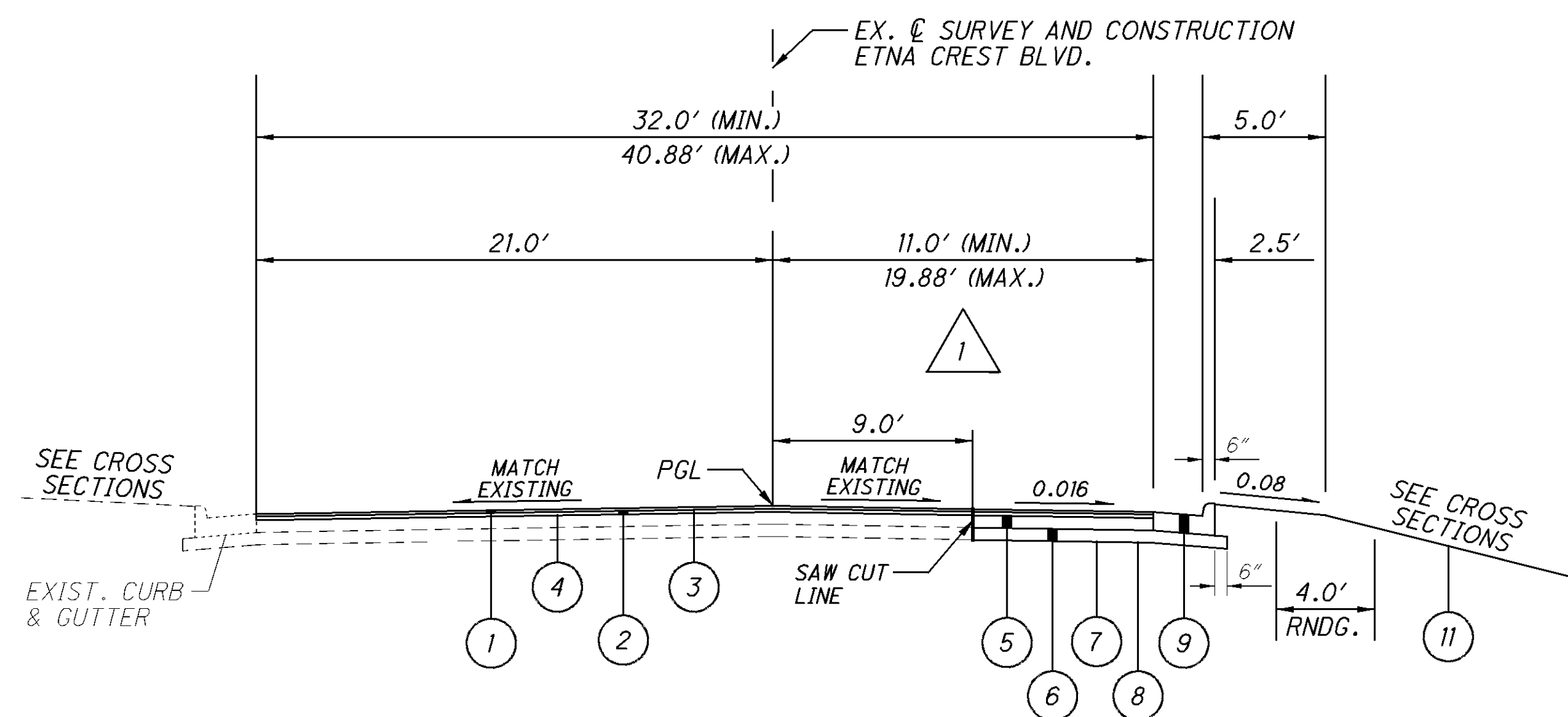
- SEE INTERSECTION DETAIL SHEETS

△ TAPERS FROM 19.88' @ STA. 0+83.53 TO 11.0' @ STA. 1+39.02.
11.0' FROM STA. 1+39.02 TO STA. 1+50.00.



**ETNA CREST BLVD. (PROPOSED ASPHALT)
NORMAL SECTION APPLIES:**

STA. 0+24.00 TO STA. 0+95.00 = 71.00 FT.
TOTAL 71.00 FT.



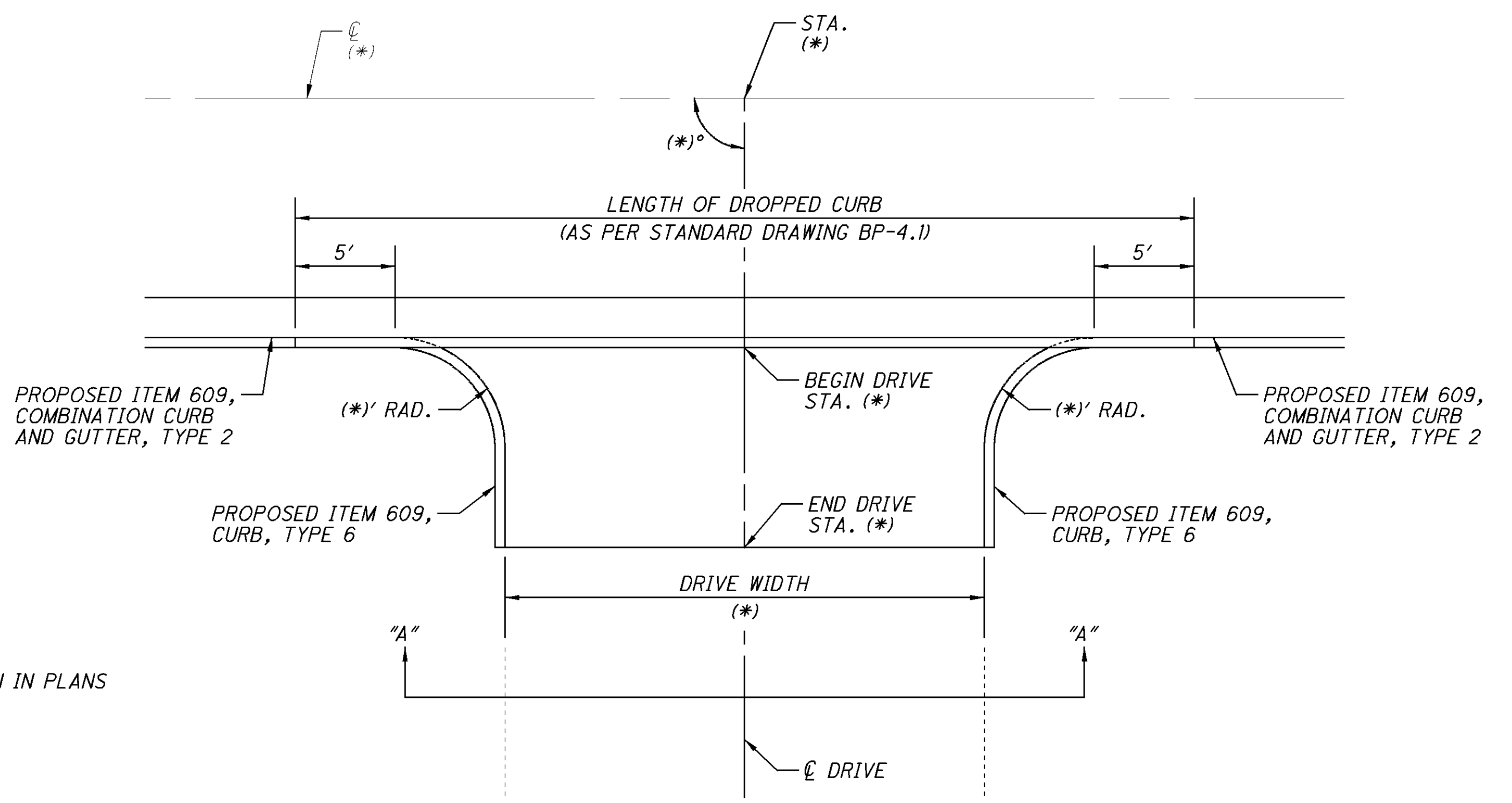
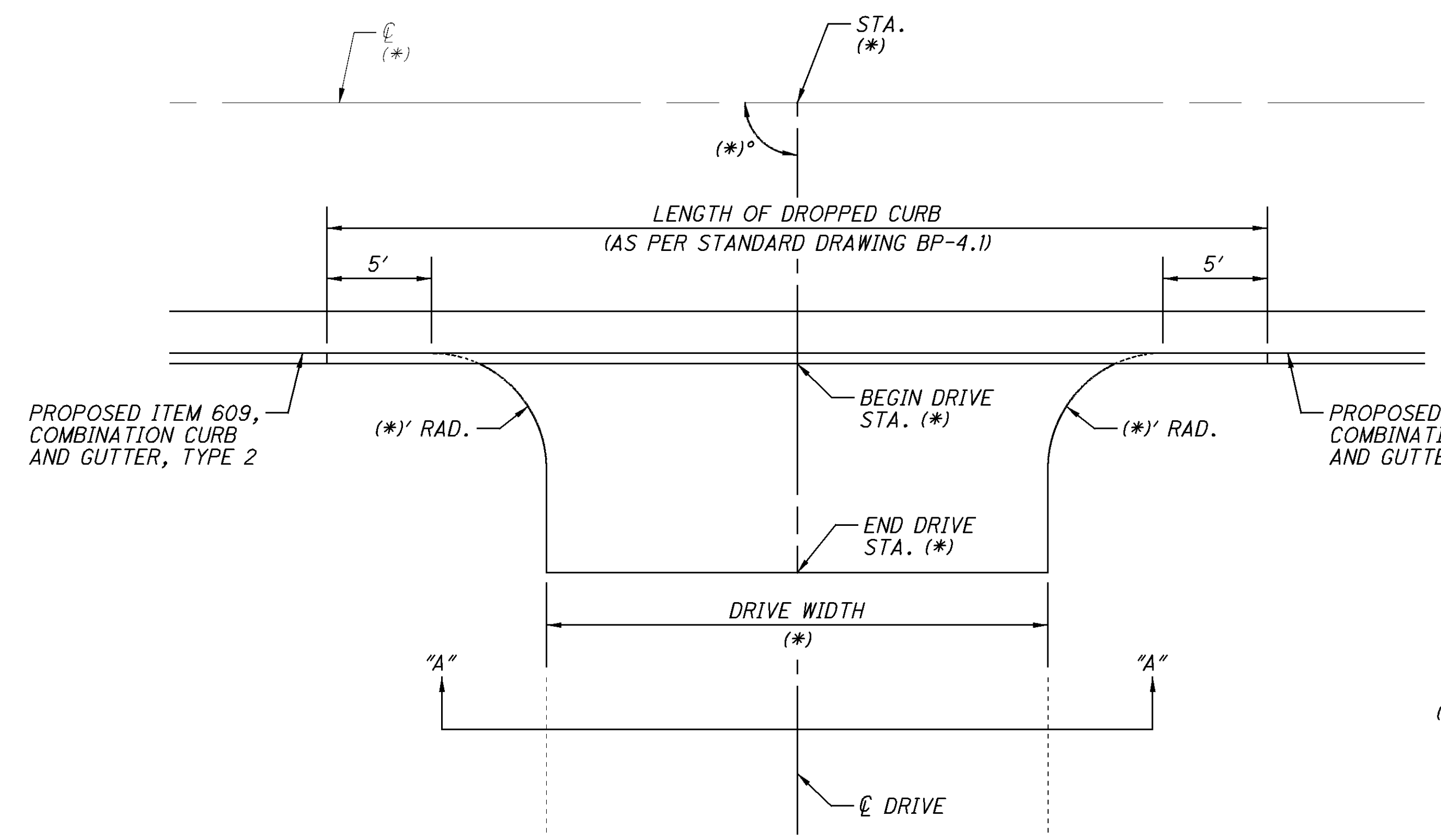
**ETNA CREST BLVD. (PROPOSED ASPHALT)
NORMAL SECTION APPLIES:**

STA. 0+95.00 TO STA. 1+50.00 = 55.00 FT.
TOTAL 55.00 FT.

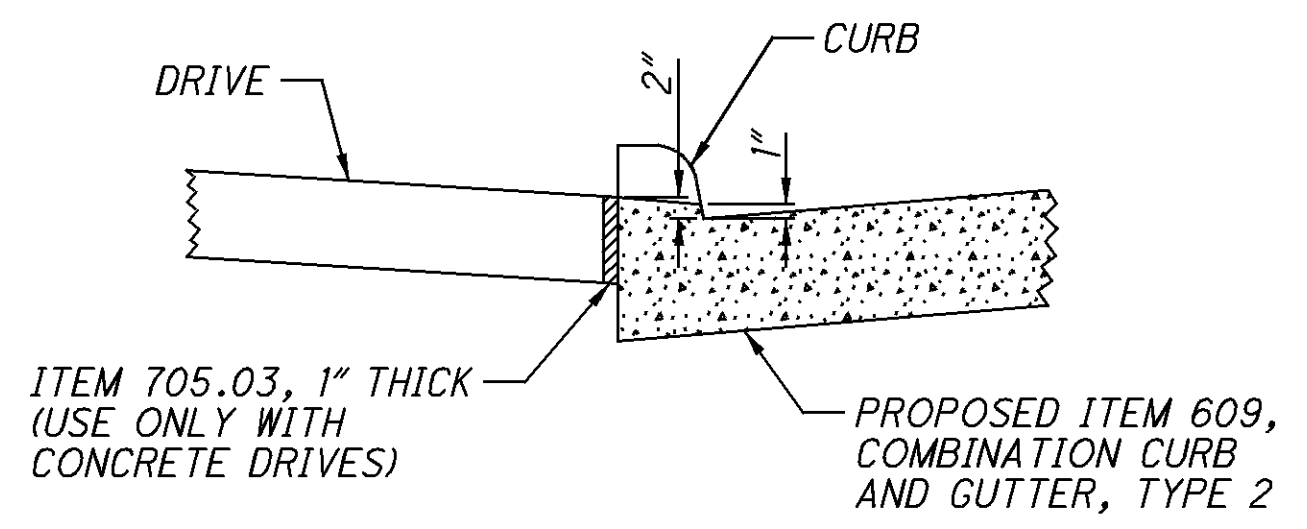
LEGEND

- ① ITEM 441, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
- ② ITEM 441, 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
- ③ ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE (@ 0.05 GAL./SQ. YD.)
- ④ ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK (@ 0.075 GAL./SQ. YD.)
- ⑤ ITEM 301, 7" ASPHALT CONCRETE BASE, PG64-22
- ⑥ ITEM 304, 6" AGGREGATE BASE
- ⑦ ITEM 204, SUBGRADE COMPACTION
- ⑧ ITEM 204, PROOF ROLLING
- ⑨ ITEM 609, COMBINATION CURB AND GUTTER, TYPE 2
- ⑩ ITEM 605, 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- ⑪ ITEM 659, SEEDING AND MULCHING, CLASS 2
- ⑫ ITEM 606, GUARDRAIL, TYPE MGS
- ⑬ ITEM 452, 10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1 WITH QC/QA
- ⑭ STANDARD LONGITUDINAL JOINT
- ⑮ ITEM 301, 3" ASPHALT CONCRETE BASE, PG64-22
- ⑯ ITEM 609, CURB, TYPE 6
- ⑰ ITEM 622, CONCRETE BARRIER, TYPE D
- ⑱ ITEM 622, CONCRETE BARRIER, TYPE D, AS PER PLAN

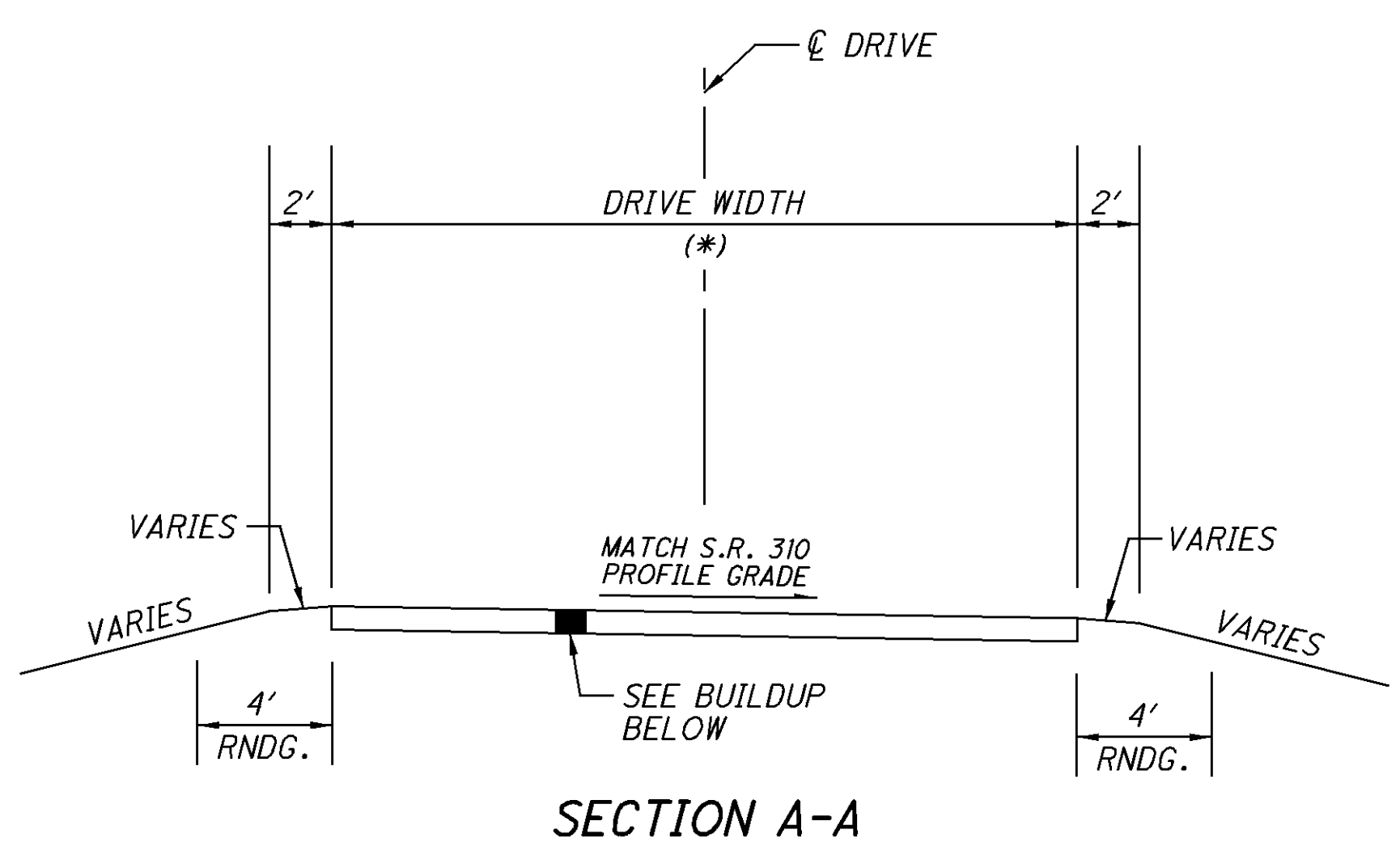
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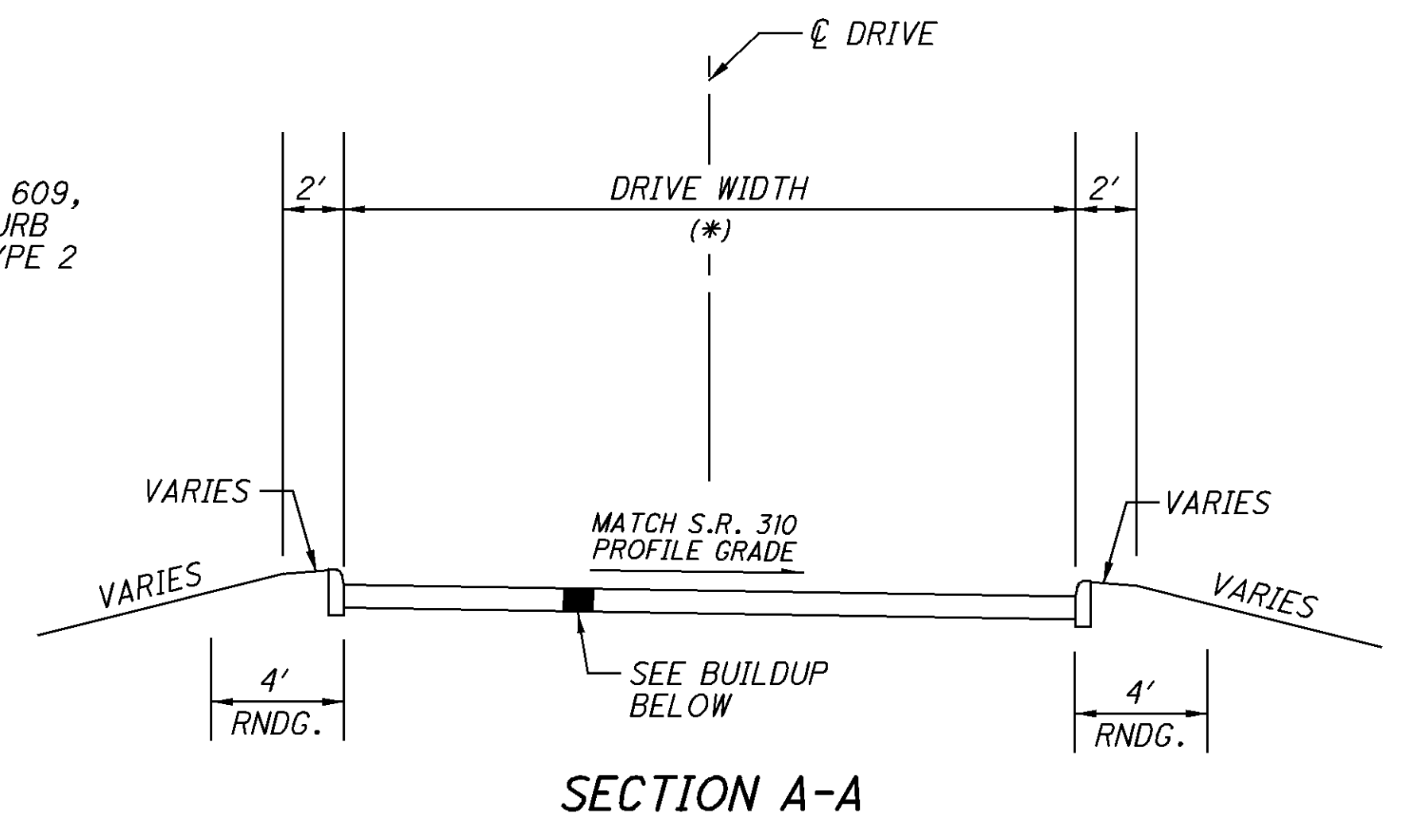
(*) - AS SHOWN IN PLANS



DROP CURB DETAILS AT DRIVES



SECTION A-A



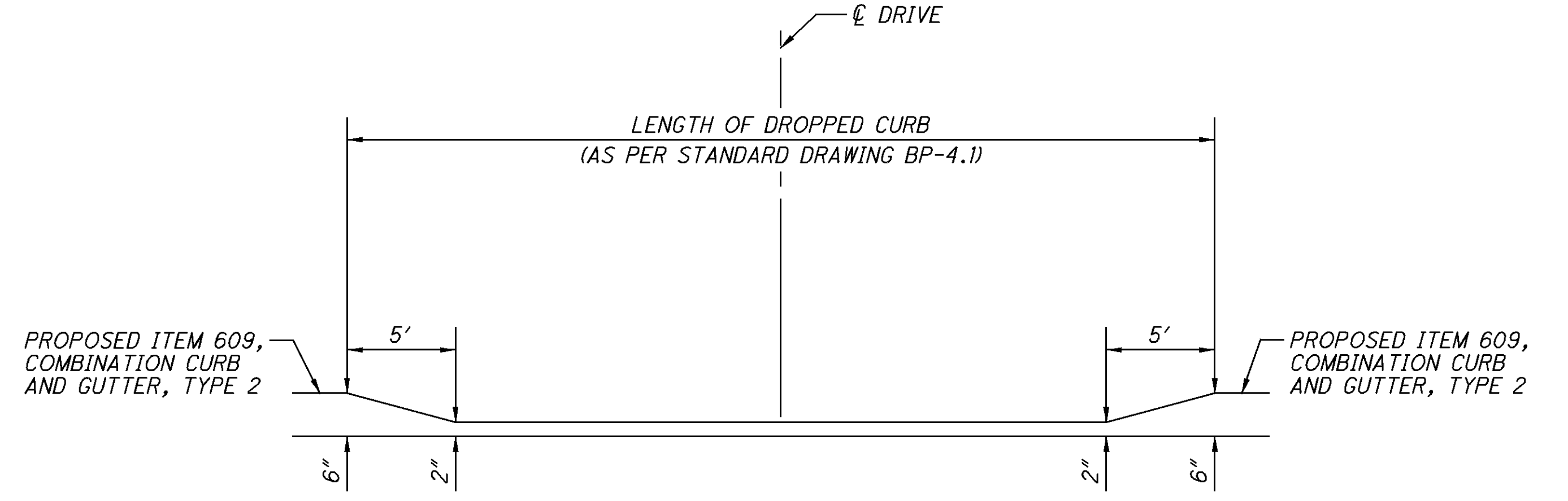
SECTION A-A

RESIDENTIAL AND/OR FIELD DRIVES

- 6" OF ITEM 452, NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1
- OR
- ITEM 441, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
- ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK (@ 0.075 GAL./SQ. YD.)
- ITEM 301, 3 1/2" ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)
- OR
- 8" ITEM 304, AGGREGATE BASE

COMMERCIAL DRIVE

- 8" OF ITEM 452, NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1
- OR
- ITEM 441, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
- ITEM 407, SPECIAL-TACK COAT, TRACKLESS TACK (@ 0.075 GAL./SQ. YD.)
- ITEM 301, 5" ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)
- OR
- 10" OR ITEM 304, AGGREGATE BASE



CURB HEIGHT REDUCTION DETAIL (AT BACK OF CURB)

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ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

<p>CABLE: TIME WARNER CABLE 3760 INTERCHANGE DRIVE COLUMBUS, OHIO 43204 ATTN: TERRY ALLEN 614.255.6349</p>	<p>TELEPHONE: CENTURY LINK CORP. 441 WEST BROAD STREET PATASKALA, OHIO 43062 ATTN: DEE REED 740.927.8282</p>
<p>ELECTRIC: AMERICAN ELECTRIC POWER CO. (DISTRIBUTION) 850 TECH CENTER DRIVE GAHANNA, OHIO 43230 ATTN: PAUL PAXTON 614.883.6831</p>	<p>WATER AND SEWER SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT 69 ZELLERS LANE PATASKALA, OHIO 43062 ATTN: DON RECTOR 740.927.0410</p>
<p>GAS: COLUMBIA GAS OF OHIO 290 WEST NATIONWIDE BLVD. COLUMBUS, OHIO 43215 ATTN: BRIAN KOPACHY 614.818.2133</p>	<p>NATIONAL GAS AND OIL COOP. 120 O'NEIL DRIVE HEBRON, OHIO 43025 ATTN: GREG WILSON 740.348.1254</p>

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITIES AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE. ODOT ASSUMES NO RESPONSIBILITY FOR THE LOCATION OR THE DEPTHS OF THE UNDERGROUND FACILITIES SHOWN ON THESE PLANS.

AT LEAST 48 HOURS BEFORE DIGGING, THE CONTRACTOR SHALL CALL THE OHIO UTILITIES PROTECTION SERVICE AT THE NUMBER LISTED ON THE TITLE SHEET. NON-MEMBER UTILITY COMPANIES MUST BE CALLED DIRECTLY. THE NAMES AND ADDRESSES OF THE UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS ARE LISTED ABOVE.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THE WORK LIMITS.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE PROJECT ENGINEER" UNLESS AUTHORIZED BY THE PROJECT ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATING INTO THE FINAL CHANGE ORDER GOVERNING THE COMPLETION OF THIS PROJECT.

CONSTRUCTION NOTIFICATION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF TWENTY ONE (21) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (614) 887-4510 OR EMAIL AT D05.PIO@DOT.STATE.OH.US
DISTRICT PERMIT SECTION BY FAX AT (614) 887-4525 OR EMAIL AT BRIAN.BOSCH@DOT.STATE.OH.US
CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.STATE.OH.US

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

SURVEYING PARAMETERS

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING AND SEE TABLE BELOW FOR CONTROL POINTS FOR THE PROJECT:

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83(CORS96)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE – SOUTH ZONE
COMBINED SCALE FACTOR: 1.000000000

CN PT	NORTHING	EASTING	ELEVATION	FEATURE CODE
SV1	709000.736	1917381.535	1083.81	1" REBAR W/ ALUM. ODOT CAP
SV2	709485.842	1917380.571	1089.72	1" REBAR W/ ALUM. ODOT CAP
SV3	710158.103	1917238.657	1088.42	1" REBAR W/ ALUM. ODOT CAP
SV4	711182.057	1917335.931	1056.14	1" REBAR W/ ALUM. ODOT CAP

UNITS ARE IN U.S. SURVEY FEET.

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON **SHEET NO. 416**.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

CLEARING AND GRUBBING

THE DEPARTMENT HAS NOT MARKED INDIVIDUAL TREES AND STUMPS FOR REMOVAL. UNLESS SPECIFICALLY DESIGNATED AS "DO NOT DISTURB" IN THE PLANS, REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS (**INCLUDING ALL TREES IN CONFLICT WITH PROPOSED L/A RIGHT-OF-WAY FENCE**) UNDER THE **LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING**.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

- ITEM 659, SEEDING AND MULCHING, CLASS 2..... SEE SHTS. 97-98**
- ITEM 659, REPAIR SEEDING AND MULCHING..... 3,841 SQ. YD.**
- ITEM 659, INTER-SEEDING..... 3,841 SQ. YD.**
- ITEM 659, COMMERCIAL FERTILIZER..... 10.71 TON**
- ITEM 659, LIME..... 15.87 ACRES**
- ITEM 659, WATER..... 425 M. GAL.**

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

CURBING ON APPROACH SLABS

WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

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BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

PRIVATE MISCELLANEOUS REMOVALS

ITEMS MARKED "PRIVATE" IN THE PLANS ARE PRIVATELY OWNED AND SHOULD BE REMOVED/ RELOCATED PRIOR TO CONSTRUCTION BY THE OWNER. ITEMS THAT ARE PRESENT AT THE START OF CONSTRUCTION SHALL BECOME PROPERTY OF THE CONTRACTOR AND BE REMOVED AND DISPOSED OF OFF SITE. ITEMS NOT PRESENT AT THE START OF CONSTRUCTION SHALL BE NON-PERFORMED.

PAYMENT WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY FOR COMPLETE REMOVAL AND DISPOSAL OF ITEM.

THE FOLLOWING ITEMS HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

- ITEM 202, REMOVAL MISC.: PRIVATE CONCRETE PAD.....1 EA.
- ITEM 202, REMOVAL MISC.: PRIVATE LIGHT POLE.....2 EA.
- ITEM 202, REMOVAL MISC.: PRIVATE PULL BOX.....1 EA.
- ITEM 202, REMOVAL MISC.: PRIVATE SIGN FRAME.....2 EA.

ITEM 202, CONCRETE BASE REMOVED, AS PER PLAN

THIS ITEM INCLUDES THE REMOVAL OF EXISTING COMPOSITE PAVEMENT CONTAINING ASPHALT CONCRETE AND REINFORCED CONCRETE PAVEMENT AT THE LIMITS SHOWN IN THE EXISTING TYPICAL SECTIONS.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND ANY INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

ITEM 202, CONCRETE MEDIAN REMOVED, AS PER PLAN

THIS ITEM INCLUDES THE REMOVAL OF EXISTING CONCRETE MEDIAN AND FILLING OF THE VOID LEFT BEHIND WITH ASPHALT CONCRETE PAVEMENT BRINGING FLUSH WITH ADJACENT PAVEMENT.

THE FOLLOWING PAVEMENT BUILDUP SHALL BE USED FOR DURING CONSTRUCTION AT THE LOCATIONS SHOWN IN THE MOT PLANS:

- ITEM 441 – 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE I, (448), PG64-22
- ITEM 441 – ±1" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, (448),

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE DRIVING SURFACE THROUGHOUT THE USE OF THE PAVEMENT, AT THE APPROVAL OF THE ENGINEER.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND ANY INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

ITEM 204, SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO CMS 204.05.

IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE. (NOT APPLICABLE)
3. COMPACT THE SUBGRADE ACCORDING TO CMS 204.03.
4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO CMS 204.06.
5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO CMS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO CMS 204.06 TO VERIFY STABILITY.
7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204, EXCAVATION OF SUBGRADE.

UNSUITABLE SUBGRADE: (NOT APPLICABLE)

UNSTABLE SUBGRADE LIMITS:

S.R. 310
STA. 18+00 TO STA. 22+00 (1'-6")
STA. 31+00 TO STA. 34+00 (1'-6")
STA. 38+00 TO STA. 46+00 (1'-6")

RAMP A
STA. 0+00 TO STA. 4+00 (1'-6")
STA. 8+00 TO STA. 10+90 (1'-6")

RAMP B
STA. 8+00 TO STA. 12+00 (1'-6")

**ITEM SPECIAL, TACK COAT, TRACKLESS TACK
ITEM SPECIAL, TACK COAT, TRACKLESS TACK FOR
INTERMEDIATE COURSE**

DESCRIPTION: THIS WORK CONSISTS OF PREPARING AND TREATING A PAVED SURFACE WITH A TRACKLESS TACK ASPHALT EMULSION. FURNISH MATERIALS ACCORDING TO THE DEPARTMENT'S APPROVED LIST. MEET ALL REQUIREMENTS OF ITEM 407 TACK COAT IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRED BY THE CONTRACT, EXCEPT AS NOTED BELOW.

MATERIAL: MEET ALL PROPERTIES OF THE APPROVED MANUFACTURER'S TRACKLESS TACK SPECIFICATION REQUIREMENTS ON FILE WITH THE LABORATORY AT TIME OF PLACEMENT.

ACCEPTANCE AND SAMPLING OF MATERIALS: SUPPLY CERTIFIED TEST DATA TO THE ENGINEER AND TO THE DISTRICT LABORATORY DEMONSTRATING THE TRACKLESS TACK SUPPLIED WAS TESTED FOR AND MEETS ALL MATERIAL PROPERTIES SHOWN ON THE DEPARTMENT'S APPROVED LIST. DURING CONSTRUCTION, ODOT PERSONNEL WILL SAMPLE FROM THE DISTRIBUTOR AND SUPPLY TO THE DISTRICT TEST LAB A MINIMUM OF ONE QUART OF TRACKLESS TACK FOR EVERY 25,000 GALLONS USED ON THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE PROPER PLASTIC QUART SAMPLING CONTAINER. CLEARLY MARK ON THE SAMPLE WITH THE MANUFACTURER'S NAME, PROJECT NUMBER, AND THE WORDS "TRACKLESS TACK".

EQUIPMENT: FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR CORRECT DISTRIBUTOR SETTINGS. THOROUGHLY CLEAN ALL EQUIPMENT IF PREVIOUSLY USED MATERIAL CHARGE IS DIFFERENT THAN THE PROPOSED MATERIAL.

APPLICATION OF ASPHALT MATERIAL: UNIFORMLY APPLY THE TRACKLESS TACK WITH A DISTRIBUTOR ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. IF TRACKLESS TACK IS STORED FOR AN EXTENDED PERIOD OF TIME, PRIOR TO APPLICATION, AGITATE OR GENTLY CIRCULATE THE MATERIAL. ENSURE ALL NOZZLES AND SPRAY PATTERNS ARE IDENTICAL TO ONE ANOTHER ALONG THE DISTRIBUTOR SPRAY BAR. PLACE THE ANGLE OF THE NOZZLE AT A 15 TO 30 DEGREE ANGLE TO THE SPRAY BAR AXIS TO MAXIMIZE OVERLAP OR AS RECOMMENDED BY THE NOZZLE MANUFACTURER. CONTACT THE MANUFACTURER'S REPRESENTATIVE FOR REQUIRED SPRAY NOZZLE SIZE AND DISTRIBUTOR AND NOZZLE SETTINGS. APPLY AT A RATE OF 0.04 TO 0.1 GALLONS PER SQUARE YARD. DO NOT DILUTE TRACKLESS TACK. RECOMMENDED APPLICATION TEMPERATURE IS 160 °F TO 180 °F. DO NOT EXCEED 180 °F. THE ENGINEER WILL APPROVE THE QUANTITY, RATE OF APPLICATION, TEMPERATURE, DISTRIBUTOR SETTINGS, AND AREAS TO BE TREATED BEFORE APPLICATION OF THE TRACKLESS TACK COAT. THE ENGINEER WILL DETERMINE THE ACTUAL APPLICATION IN GALLONS PER SQUARE YARD BY A CHECK ON THE PROJECT.

PERFORMANCE OF TRACKLESS TACK: DETERMINE THE TIME TO SET FOR THE MATERIAL TO BECOME TRACKLESS. THE ENGINEER WILL REPORT ANY ISSUES WITH EXCESSIVE TIME TO SET, OR AFTER SET ISSUES WITH STICKINESS, OR PICKUP OF THE TACK TO THE DISTRICT TESTING ENGINEER AND NEW PRODUCT ENGINEER, BRAD YOUNG 614-351-2882. IF THE CERTIFIED TEST DATA FAILS TO MEET THE LAB TESTING CRITERIA, OR FIELD SAMPLES FAIL TO MEET THE LAB TEST CRITERIA, OR THE TRACKLESS TACK FAILS TO PERFORM SATISFACTORILY IN THE FIELD, AS NOTED ABOVE, THE CONTRACTOR WILL BE REQUIRED TO REPLACE AND SUPPLY ANOTHER APPROVED TRACKLESS TACK PRODUCT FOR THE REMAINDER OF THE PROJECT AT NO ADDITIONAL COST TO THE DEPARTMENT. ANY FAILING TRACKLESS TACK PRODUCT WILL BE REMOVED FROM THE DEPARTMENT'S APPROVED LIST.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
SPECIAL	GALLON (LITER)	TACK COAT, TRACKLESS TACK
SPECIAL	GALLON (LITER)	TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE

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GENERAL NOTES

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REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

POST-CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS

WHEN NECESSARY TO OPEN CUT EXISTING FULL DEPTH PAVEMENT FOR INSTALLATION OF PIPES UNDER ITEM 611 AND MAINTAIN TRAFFIC THEREAFTER. PAVEMENT SHALL BE RESTORED TO THE EXISTING ELEVATION UNTIL FINAL FULL DEPTH PAVEMENT CAN BE PLACED. TRENCH WIDTH SHALL BE 1.5 TIMES THE DIAMETER OF THE PIPE.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE **AS DIRECTED BY THE PROJECT ENGINEER** FOR THE WORK NOTED ABOVE:

ITEM 301, ASPHALT CONCRETE BASE, PG64-22.....25 CU. YD.

UNRECORDED DRAINAGE

FURNISH NO CONTINUANCE FOR ANY UNRECORDED UNTREATED NON-STORM WATER DRAINAGE SUCH AS UNTREATED SEPTIC, UNTREATED WASTEWATER, UNTREATED CURTAIN/GRADIENT DRAINS, AND UNTREATED FOUNDATION FLOOR DRAINS DISTURBED BY THE WORK. PLUG ANY UNRECORDED UNTREATED NON-STORM WATER DRAINAGE WITH CLASS C CONCRETE AT THE RIGHT OF WAY LINE. PAYMENT FOR PLUGGING SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 OR 203 ITEM.

FURNISH A CONTINUANCE FOR ALL UNRECORDED TREATED STORM WATER DRAINAGE, SUCH AS ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK. FURNISH EITHER AN OPEN CONTINUANCE OR AN UNOBSTRUCTED CONTINUANCE BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE, AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT. THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35.

FURNISH A CONTINUANCE FOR ALL UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS SUCH AS SANITARY, WASTEWATER, CURTAIN/GRADIENT DRAINS, AND FOUNDATION FLOOR DRAINS DISTURBED BY THE WORK. FURNISH AN UNOBSTRUCTED CONTINUANCE OF THE UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS TO THE SATISFACTION OF THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT. ALL SANITARY AND SANITARY WASTEWATER CONTINUANCE MAY ALSO REQUIRE A NPDES PERMIT FROM THE OHIO ENVIRONMENTAL PROTECTION AGENCY. REPORT ALL CONTINUANCE TO THE LOCAL HEALTH DEPARTMENT. THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.42, 707.43, 707.44, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35, 706.01, 706.02, OR 706.08 WITH JOINTS AS PER 706.11 OR 706.12.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE **AS DIRECTED BY THE PROJECT ENGINEER** FOR THE WORK NOTED ABOVE:

ITEM 611, 4" CONDUIT, TYPE B.....50 FT.
ITEM 611, 4" CONDUIT, TYPE C.....50 FT.
ITEM 611, 6" CONDUIT, TYPE B.....50 FT.
ITEM 611, 6" CONDUIT, TYPE C.....50 FT.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE (RIGHT OF WAY) (CONSTRUCTION) LIMITS BY ITEM 611 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL OUTLET INTO THE ROADWAY DITCH BY 611 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOW LINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 611, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE **AS DIRECTED BY THE PROJECT ENGINEER** FOR THE WORK NOTED ABOVE:

ITEM 611, 6" CONDUIT, TYPE B.....50 FT.
ITEM 611, 6" CONDUIT, TYPE E.....50 FT.
ITEM 611, 6" CONDUIT, TYPE F.....50 FT.

EXISTING SUBSURFACE DRAINAGE

ANY EXISTING UNDERDRAINS, AGGREGATE DRAINS, OR SPRING DRAINS ENCOUNTERED IN THE FIELD THAT ARE NOT SHOWN IN THE PLANS SHALL BE HANDLED AS SPECIFIED BELOW.

PROVIDE UNOBSTRUCTED OUTLETS PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS AND SPRING DRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING TYPES OF PIPES MAY BE USED: 707.33, 707.41, 707.42 OR 707.45 PERFORATED PER 707.31.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE **AS DIRECTED BY THE PROJECT ENGINEER** FOR THE WORK NOTED ABOVE:

ITEM 601, TIED CONCRETE BLOCK MAT, TYPE 1.....5 SQ. YD.
ITEM 605, 6" UNCLASSIFIED PIPE UNDERDRAINS.....50 FT.
ITEM 605, AGGREGATE DRAINS.....50 FT.
ITEM 611, 6" CONDUIT, TYPE F.....50 FT.
ITEM 611, PRECAST REINFORCED CONCRETE OUTLET.....2 EA.

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ITEM 601, CHANNEL PROTECTION, MISC.: TYPE B REMOVAL

THE CONTRACTOR SHALL REMOVE ALL EXISTING CHANNEL PROTECTION AT THE LOCATIONS SHOWN IN THE PLANS AND DISPOSE OF OFFSITE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND ANY INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

ITEM 611, CONDUIT BORED OR JACKED

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 17 FEET TO THE EDGE OF PAVEMENT. PROVIDE A 0.50 INCH UNGALVANIZED CASING PIPE CONFORMING TO 748.06 THAT HAS JOINTS WITH A CIRCUMFERENTIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE.

ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING 12 INCH DIAMETER CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT MAY BE REMOVED. THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

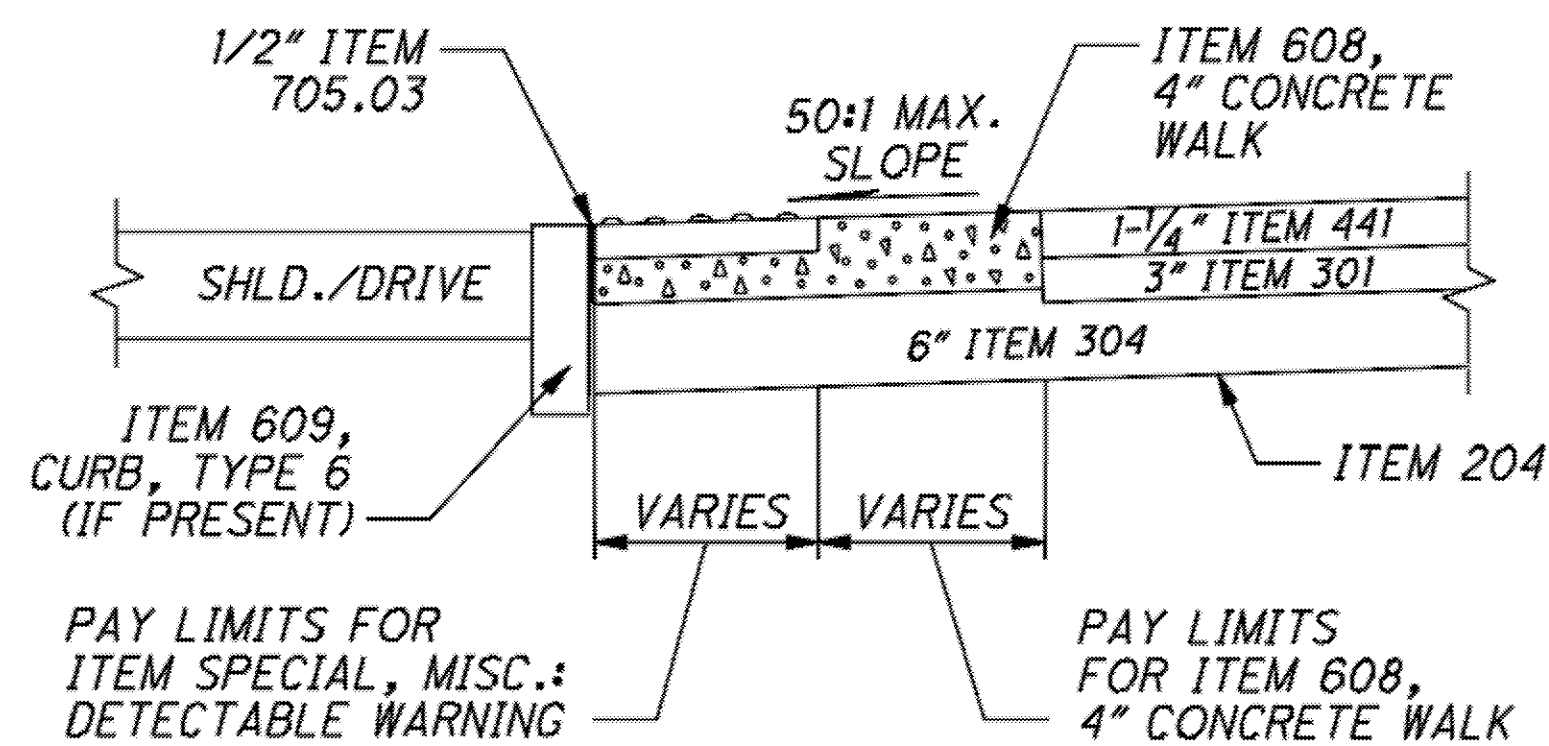
REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 608, DETECTABLE WARNING, AS PER PLAN

DETECTABLE WARNINGS CONSTRUCTED IN THE PROPOSED SHARED USE PATH FOR AT-GRADE CROSSING LOCATIONS SPECIFIED IN THE PLANS ARE PAID FOR UNDER ITEM 608, DETECTABLE WARNING, AS PER PLAN (SQ. FT.) AND IS FULL COMPENSATION FOR EXCAVATION, BACKFILL, CONCRETE WALK, EXPANSION JOINT MATERIALS, AND ANY INCIDENTALS REQUIRED TO COMPLETE THE INSTALLATION AS SPECIFIED BELOW. SEE PAVEMENT CALCULATIONS FOR QUANTITIES.



ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 623 CONSTRUCTION LAYOUT STAKES AND SURVEYING, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION TO THE DEPARTMENT:

THE CONTRACTOR SHALL PROVIDE AS-BUILT DATA FOR THE SPECIFIED COMPLETED CONSTRUCTION ITEMS IN OHIO STATE PLANE COORDINATES (GRID). THE CONSTRUCTION ITEMS SHALL BE LOCATED AS PER THE SURVEY FEATURE CODE LIST FOUND ON THE OHIO DEPARTMENT OF TRANSPORTATION OFFICE OF CADD & MAPPING SERVICES WEBSITE. A CD CONTAINING A COMMA DELIMITED ASCII FILE AND A SURVEYOR'S CERTIFICATION SHALL BE DELIVERED TO THE PROJECT ENGINEER AFTER ALL INFORMATION HAS BEEN COLLECTED. THE ASCII FILE SHALL INCLUDE A HEADER CONTAINING NAME OF SURVEYOR, DATE(S) OF COLLECTION, HORIZONTAL DATUM (I.E. NAD83 (2011), OHIO STATE PLANE COORDINATE SYSTEM NORTH OR SOUTH), VERTICAL DATUM (I.E. NAVD 88, GEOID12A) AND METHOD OF COLLECTION (I.E. OHIO VRS, GPS RTK, TOTAL STATION, ETC.) AND BE IN A TABLE FORM AS FOLLOWS: POINT NUMBER, NORTHING, EASTING, ELEVATION, FEATURE CODE, DESCRIPTION

BELOW IS A LIST OF THE ITEMS THE CONTRACTOR IS REQUIRED TO PROVIDE:

- RIGHT-OF-WAY FENCE (POINTS AT ALL CHANGES IN DIRECTION)
- LIGHT POLES AND LIGHTING PULLBOXES
- BARRIER (GUARDRAIL, CONCRETE, OR CABLE)
- BMP'S (SEE PROJECT SITE PLAN FOR INFO)
- CULVERTS (INLET INVERT, OUTLET INVERT, TYPE, AND SIZE)
- STORM SEWER OUTLETS (OUTLET INVERT, TYPE, AND SIZE)
- CATCH BASINS, MANHOLES, AND INLETS
- UNDERDRAIN OUTLETS
- SIGNS (WITH DESCRIPTION)
- TRAFFIC SIGNAL POLES, CONTROLLER LOCATION, AND SIGNAL PULLBOXES

THE ABOVE ITEMS SHALL BE COLLECTED USING SURVEY GRADE EQUIPMENT MEETING THE REQUIREMENTS OF SECTION 400 IN THE OHIO DEPARTMENT OF TRANSPORTATION SURVEY & MAPPING SPECIFICATIONS MANUAL.

ALL COST ASSOCIATED WITH OBTAINING THE INFORMATION LISTED ABOVE INCLUDING THE COST OF THE CD SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 623 CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN.

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GENERAL NOTES

LIC-310-0.74

ENVIRONMENTAL WORK

ENVIRONMENTAL STUDIES HAVE SHOWN THAT THERE IS A POTENTIAL OF ENCOUNTERING PETROLEUM-CONTAMINATED MATERIALS WHEN EXCAVATING IN THE FOLLOWING AREAS:

LOCATION 1A

STA. 14+00 TO STA. 16+00 (L) – BP FILLING STATION – 50 CY (81 TON)

LOCATION 1C

STA. 36+00 TO STA. 38+50 (R) – SPEEDWAY FILLING STATION – 150 CY (243 TON)

STA. 39+25 TO STA. 41+25 (L) – SHELL FILLING STATION – 50 CY (81 TON)

NOTE: 120 LB/FT³ USED FOR WEIGHT OF CONTAMINATED SOILS

IN THE EVENT PETROLEUM-CONTAMINATED MATERIALS ARE ENCOUNTERED, THE CONTRACTOR SHALL MANAGE THIS MATERIAL ACCORDING TO THE FOLLOWING NOTES. THE ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK. ALL EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS.

ALL MATERIAL EXCAVATED BY THE CONTRACTOR BETWEEN THESE LIMITS MAY BE STOCKPILED IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL IN A LINED AND COVERED ROLL-OFF BOX. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL ON AN IMPERMEABLE MEMBRANE. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THE SUSPECTED SOILS FROM COMING IN CONTACT WITH THE ORIGINAL SOILS. AN IMPERMEABLE MEMBRANE SHALL BE PLACED OVER THE STOCKPILE TO PREVENT CONTACT WITH PRECIPITATION AND/OR SURFACE RUN-OFF. THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED CONTAMINATED MATERIAL INTO TRUCKS.

THIS MATERIAL SHALL BE PROPERLY TESTED, TRANSPORTED, AND DISPOSED OF IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY) SOLID WASTE FACILITY.

THE CONTRACTOR SHALL COMPLETE ALL MANIFEST FOR MATERIAL TO BE TRANSPORTED AND PROVIDE TO THE ENGINEER FOR SIGNATURE. THE CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS TO TRANSPORT THE MATERIAL TO A LICENSED AND PERMITTED DISPOSAL FACILITY. THE CONTRACTOR IS TO CONTACT THE DISPOSAL FACILITY TO DETERMINE IF ANY ADDITIONAL TESTING IS REQUIRED FOR DISPOSAL. THE CONTRACTOR IS TO PROVIDE ANY ADDITIONAL SAMPLING AND ANALYSIS OF THE MATERIAL AS REQUIRED BY THE DISPOSAL FACILITY. THE CONTRACTOR SHALL OBTAIN ALL SIGNATURES ON THE MANIFEST AFTER TRANSPORTING AND DISPOSAL OF THE MATERIAL AND PROVIDE A FINAL COPY TO THE ENGINEER.

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY HANDLE, STORE (IF NECESSARY), TEST FOR DISPOSAL, TRANSPORT, AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS, APPROVALS, OR FEES WITHIN THE LIMITS IDENTIFIED ABOVE. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER TON. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM SPECIAL, WORK INVOLVING PETROLEUM CONTAMINATED SOILS..... 405 TON

ASBESTOS ABATEMENT

AN INSPECTION FOR ASBESTOS CONTAINING MATERIALS WAS COMPLETED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST ON OCTOBER 23, 2014. THE RESULTS OF THE ASBESTOS INSPECTION AND POLARIZED LIGHT MICROSCOPY TESTING OF BULK SAMPLES INDICATE REGULATED ASBESTOS CONTAINING MATERIAL (RACM) IS PRESENT ON THE LIC-70-0.96 BRIDGE STRUCTURE. THE LABORATORY TEST RESULTS INDICATE THE CAULKING/GASKET MATERIAL LOCATED AROUND AND BENEATH THE RAILING MOUNTING BRACKETS ON THE CONCRETE PARAPET CONTAIN UP TO 10 PERCENT CHRYSOTILE ASBESTOS.

BASED ON THE ASBESTOS INSPECTION AND FIELD MEASUREMENTS OF THE RAIL MOUNTING BRACKETS, THE LIC-310-0.96 BRIDGE REPLACEMENT PROJECT WILL REQUIRE THE REMOVAL OF UP TO 40 SQ. FT. OF RACM.

THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL PERTINENT ASBESTOS REMOVAL, HANDLING AND DISPOSAL REQUIREMENTS OF THE OHIO ADMINISTRATIVE CODE, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION AND NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS REGULATIONS. AS THE QUANTITY OF THE REGULATED ASBESTOS CONTAINING MATERIAL TO BE REMOVED ON THE LIC-310-0.96 BRIDGE STRUCTURE IS LESS THAN 50 SQ. FT., AN OHIO DEPARTMENT OF HEALTH NOTIFICATION SHOULD NOT BE REQUIRED.

IN ACCORDANCE WITH SECTION XVII OF THE OHIO EPA NOTIFICATION OF DEMOLITION AND RENOVATION FORM THE CONTRACTOR SHALL ENSURE AN INDIVIDUAL TRAINED IN THE PROVISIONS OF NESHAPS WILL BE ONSITE DURING THE PARAPET DEMOLITION ACTIVITIES. IN ADDITION, THE CONTRACTOR MUST COMPLETE SECTIONS VIII, IX, X, XI, XII, XIII, XVI, XVII AND XVIII OF THE ATTACHED OHIO EPA NOTIFICATION OF DEMOLITION AND RENOVATION FORM AND SUBMIT IT TO:

OHIO EPA
CENTRAL DISTRICT OFFICE
50 W. TOWN STREET, SUITE 700
COLUMBUS, OH 43215
ATTN: RICHARD FOWLER

THE FORM MUST BE SUBMITTED TO OEPA AT LEAST 10 DAYS PRIOR TO THE START OF DEMOLITION ACTIVITIES. THE CONTRACTOR SHALL ALSO PROVIDE A COPY OF THE COMPLETED FORM TO THE PROJECT ENGINEER AND THE DISTRICT 5 ENVIRONMENTAL COORDINATOR.

ATTACHED FOR THE CONTRACTORS USE IN COMPLETING THE ASBESTOS RELATED WORK ARE THE FOLLOWING ITEMS:

- ASBESTOS INSPECTION REPORT FOR LIC-310-0.96
- PARTIALLY COMPLETED OEPA NOTIFICATION OF DEMOLITION AND RENOVATION FORM
- LABORATORY ANALYSIS OF THE ASBESTOS CONTAINING MATERIALS

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE, SUBMIT AND COMPLY WITH THE OEPA NOTIFICATION REQUIREMENTS AND TO REMOVE, TRANSPORT AND DISPOSE OF ASBESTOS CONTAINING MATERIALS IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OEPA) SOLID WASTE FACILITY. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE.

ITEM SPECIAL, MISC.: ASBESTOS ABATEMENT.....LUMP SUM

WETLAND AVOIDANCE

THE CONTRACTOR SHALL AVOID IMPACTS TO THE JURISDICTIONAL WETLANDS PRESENT BEYOND THE IDENTIFIED PROJECT CONSTRUCTION LIMITS. THE CONTRACTOR MAY NOT USE THE WETLAND AREAS FOR STAGING; ALLOW ANY CONSTRUCTION ACTIVITIES, MATERIAL STORAGE, MATERIAL WASTE OR ANY OTHER TYPE OF WORK IN THE WETLAND AREAS. THE JURISDICTIONAL WETLAND AREAS ARE LOCATED TO THE NORTH OF RAMP A AND EAST OF SR 310 NORTH OF IR70. THE WETLAND LOCATIONS ARE NOTED ON PLAN SHEETS 2 AND 3.

ENDANGERED BAT HABITAT REMOVAL

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM **APRIL 1 THROUGH SEPTEMBER 30**. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM **OCTOBER 1 THROUGH MARCH 31**. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

WATERWAY PERMITS (404/401)

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. THE OHIO DEPARTMENT OF TRANSPORTATION - OFFICE OF ENVIRONMENTAL SERVICES (OES) AND/OR THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE) HAS DETERMINED THAT THIS PROJECT WILL REQUIRE PERMITS AS THE PROJECT IMPACTS "WATERS OF THE U.S." BELOW THE ORDINARY HIGH WATER MARK (OHWM). THE CONTRACTOR SHOULD BE AWARE THAT THE USE OF TEMPORARY FILL BELOW THE ORDINARY HIGH WATER MARK (OHWM), WHICH IS THE USACE'S JURISDICTIONAL LIMITS, WILL REQUIRE A PRE-CONSTRUCTION NOTIFICATION (PCN) AND AUTHORIZATION BY THE USACE. THE CONTRACTOR SHALL NOT UTILIZE TEMPORARY FILLS BELOW OHWM OR ANY FILL AT ALL BELOW OHWM OF WILLS CREEK UNTIL SUCH ACTIVITY IS AUTHORIZED BY THE USACE. A PCN IS CURRENTLY BEING PREPARED AND AUTHORIZATION FOR FILL BELOW THE OHWM IS BEING APPROPRIATELY COORDINATED. ONLY CLEAN, NON-ERODIBLE MATERIALS SHALL BE USED FOR TEMPORARY CONSTRUCTION ACCESS FILLS. ANY TEMPORARY FILLS BELOW OHWM SHALL BE REMOVED FOLLOWING COMPLETION OF THE AUTHORIZED ACTIVITY AND THE AREA OF STREAM WHERE TEMPORARY FILL WAS LOCATED SHALL BE RESTORED TO ITS PRECONSTRUCTION CONDITION. ONCE THE APPROPRIATE PERMITS ARE OBTAINED FROM THE USACE, THEY WILL BE PROVIDED TO THE CONTRACTOR AND ANY SPECIAL PROVISIONS ADHERED TO DURING CONSTRUCTION. IT IS CURRENTLY ANTICIPATED THAT PERMITS WILL BE OBTAINED PRIOR TO AWARD OF THE JOB. PLEASE NOTE THAT FORDING OF WATERWAYS IS NOT ALLOWED PER ODOT CONSTRUCTION AND MATERIAL SUPPLEMENTAL SPECIFICATIONS.

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GENERAL NOTES

LIC-310-0.74

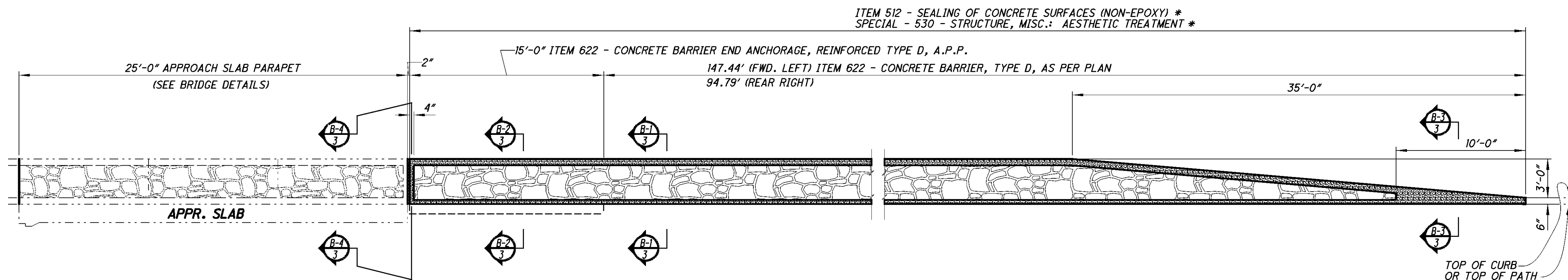
ITEMS:
622 - CONCRETE BARRIER, TYPE D, AS PER PLAN,
622 - CONCRETE BARRIER END ANCHORAGE,
REINFORCED TYPE D, AS PER PLAN

THE SURFACE FINISH SHALL BE ONE OF THE PATTERNS DESCRIBED IN THE BRIDGE PLANS. ALL AESTHETIC TREATMENT OF THESE SECTIONS OF BARRIER SHALL BE THE SAME AS THE APPROVED TREATMENTS FOR BRIDGE NO. LIC-310-0096 DETAILED IN THIS PLAN.

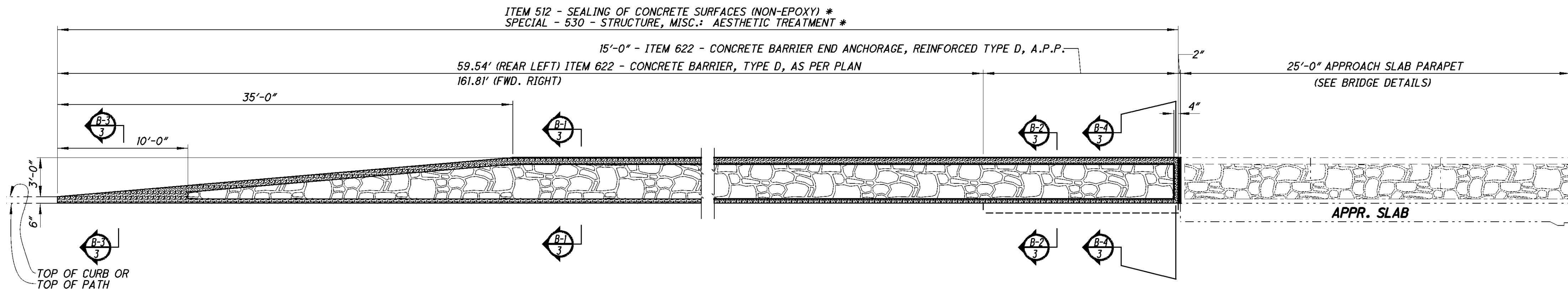
FOR DETAILS NOT SHOWN, CONSTRUCT THESE ITEMS ACCORDING TO STD. DWG.'S RM-4.5 AND RM-4.6 AND THE C&MS.

FOR AESTHETIC TREATMENT ITEM, INCIDENTALS, AND QUANTITIES, SEE THE BRIDGE PLANS.

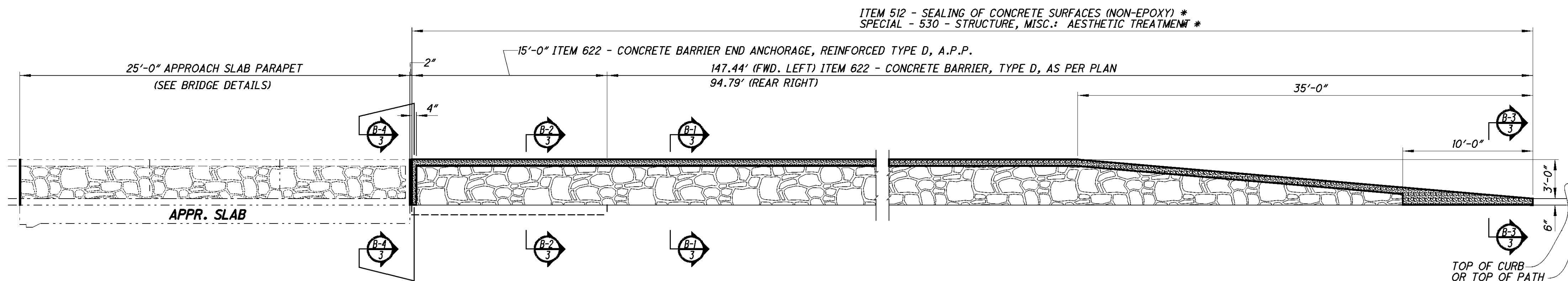
ALL WORK INCLUDING THE RE-STEEL VARIATIONS FROM THE STANDARD BARRIER DETAILS REFERENCED AND ALL OTHER MATERIALS REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED WITH THE ITEMIZED PAYMENT FOR ITEMS 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN & 622 - CONCRETE BARRIER END ANCHORAGE, REINFORCED TYPE D, AS PER PLAN.



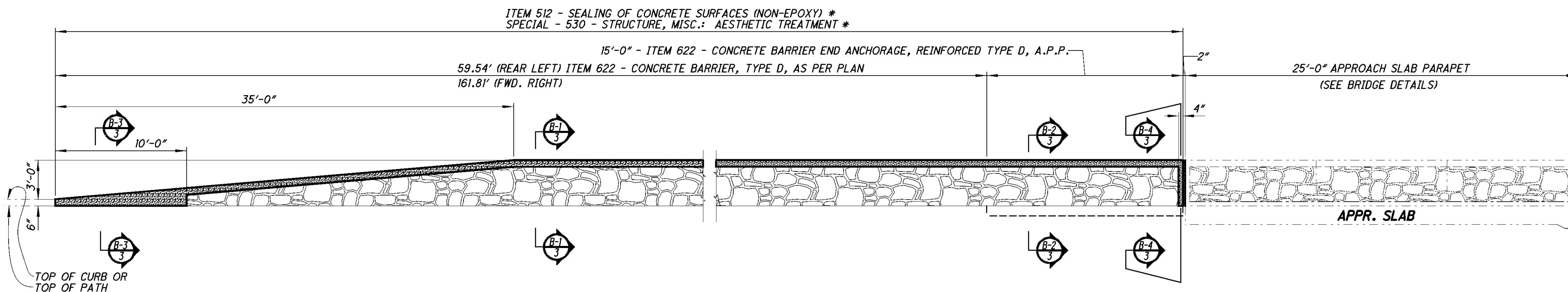
S.R. 310 BARRIER AESTHETIC LAYOUT (INSIDE FACE NORTH OF BRIDGE)



S.R. 310 BARRIER AESTHETIC LAYOUT (INSIDE FACE SOUTH OF BRIDGE)



S.R. 310 BARRIER AESTHETIC LAYOUT (OUTER FACE NORTH OF BRIDGE)



S.R. 310 BARRIER AESTHETIC LAYOUT (OUTER FACE SOUTH OF BRIDGE)

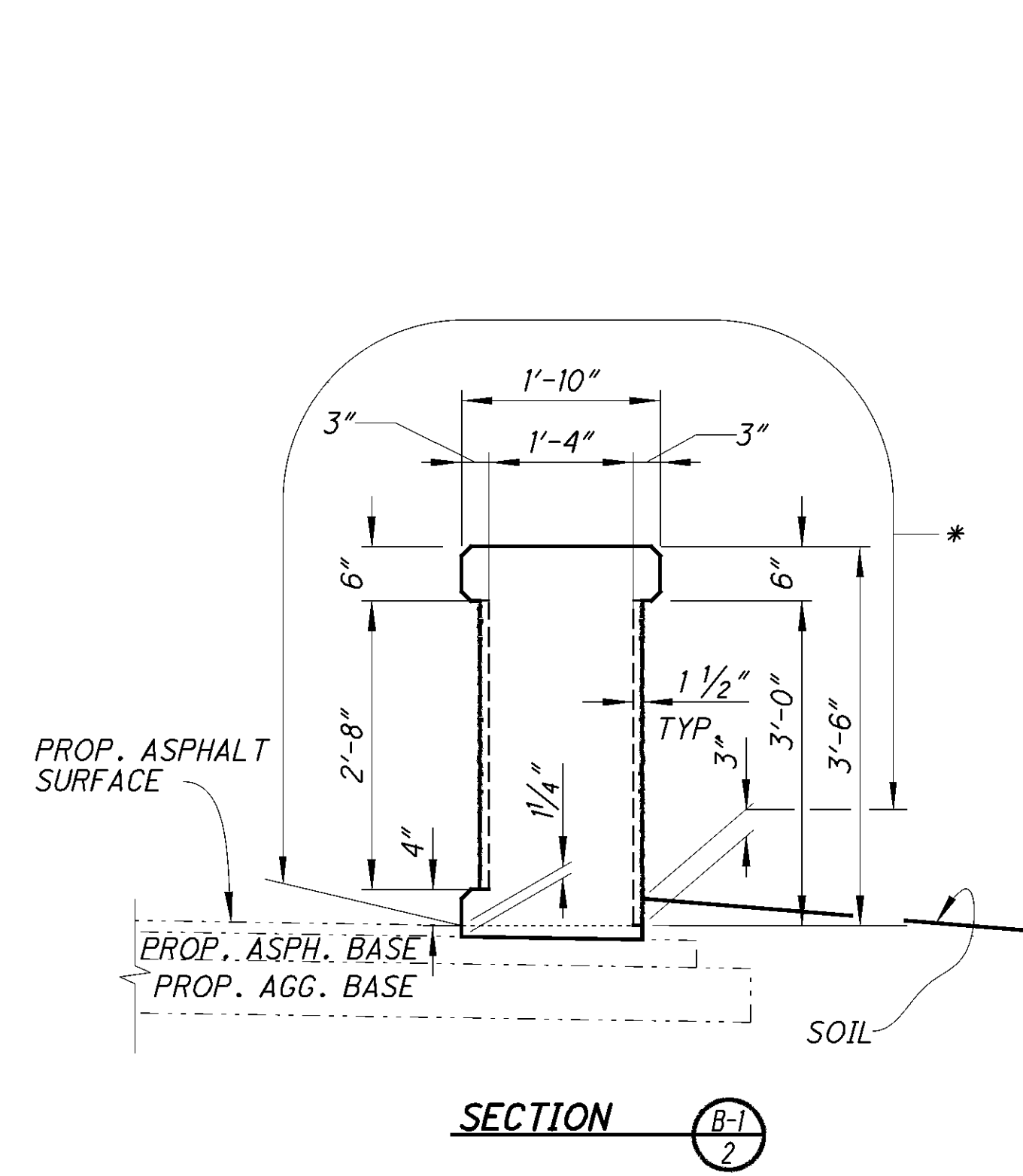
FLUSH CONCRETE SURFACES (NO STAIN)

AESTHETIC PATTERN WITH GRAY STAIN AS DESCRIBED IN BRIDGE PLANS

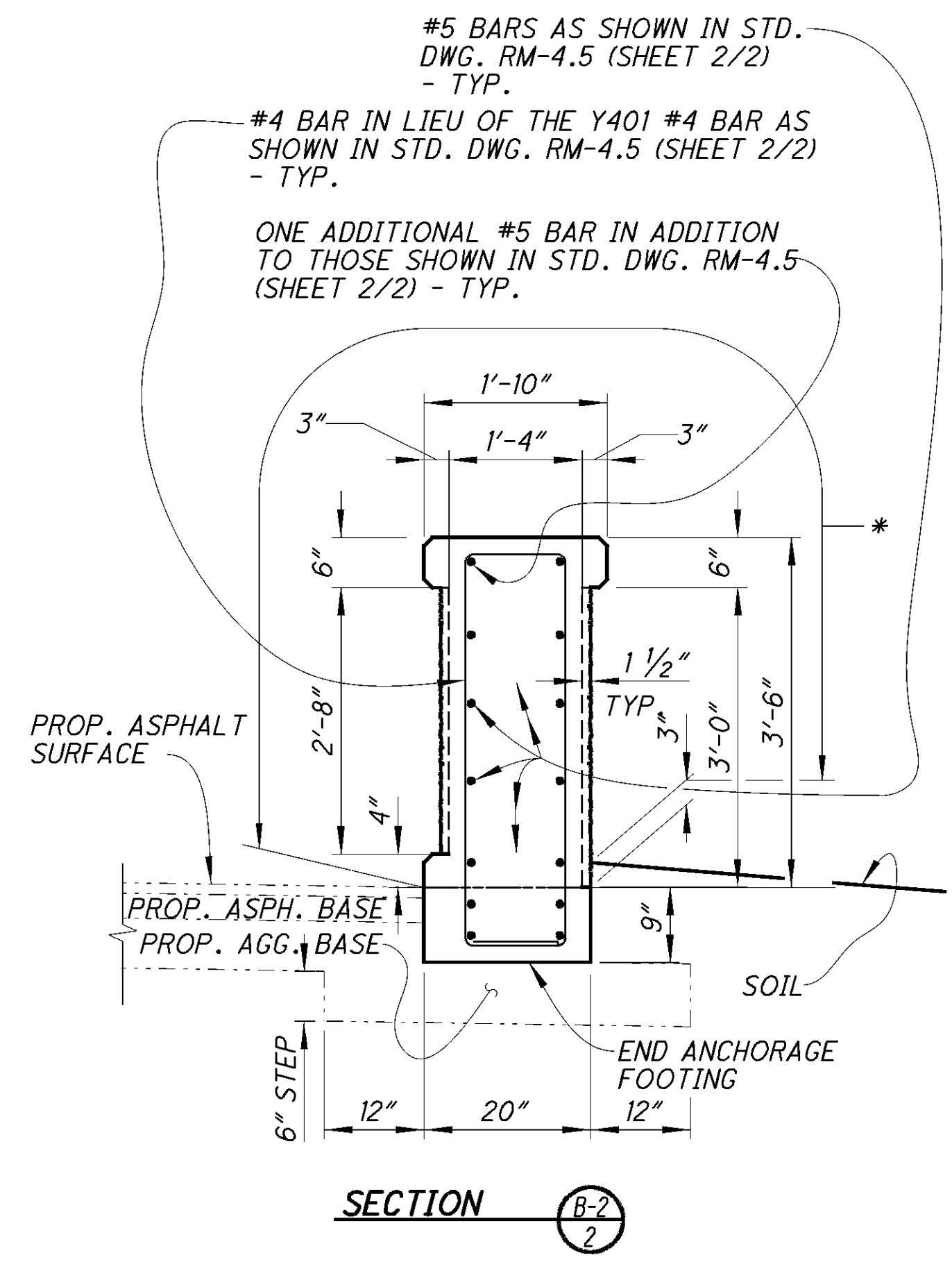
NOTE: ALL REINFORCING STEEL SHALL BE PROVIDED ACCORDING TO STD. DWG.'S RM-4.5 AND RM-4.6 AND THIS PLAN.

LEGEND	
* ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)	
* SPECIAL - 530 STRUCTURE, MISC.: AESTHETIC TREATMENT (QUANTITIES CARRIED IN BRIDGE SUMMARY UNDER "GENERAL" COLUMN)	

S.R. 310 ROADWAY BARRIER SECTIONS (RIGHT) (SHARED-USE PATH)



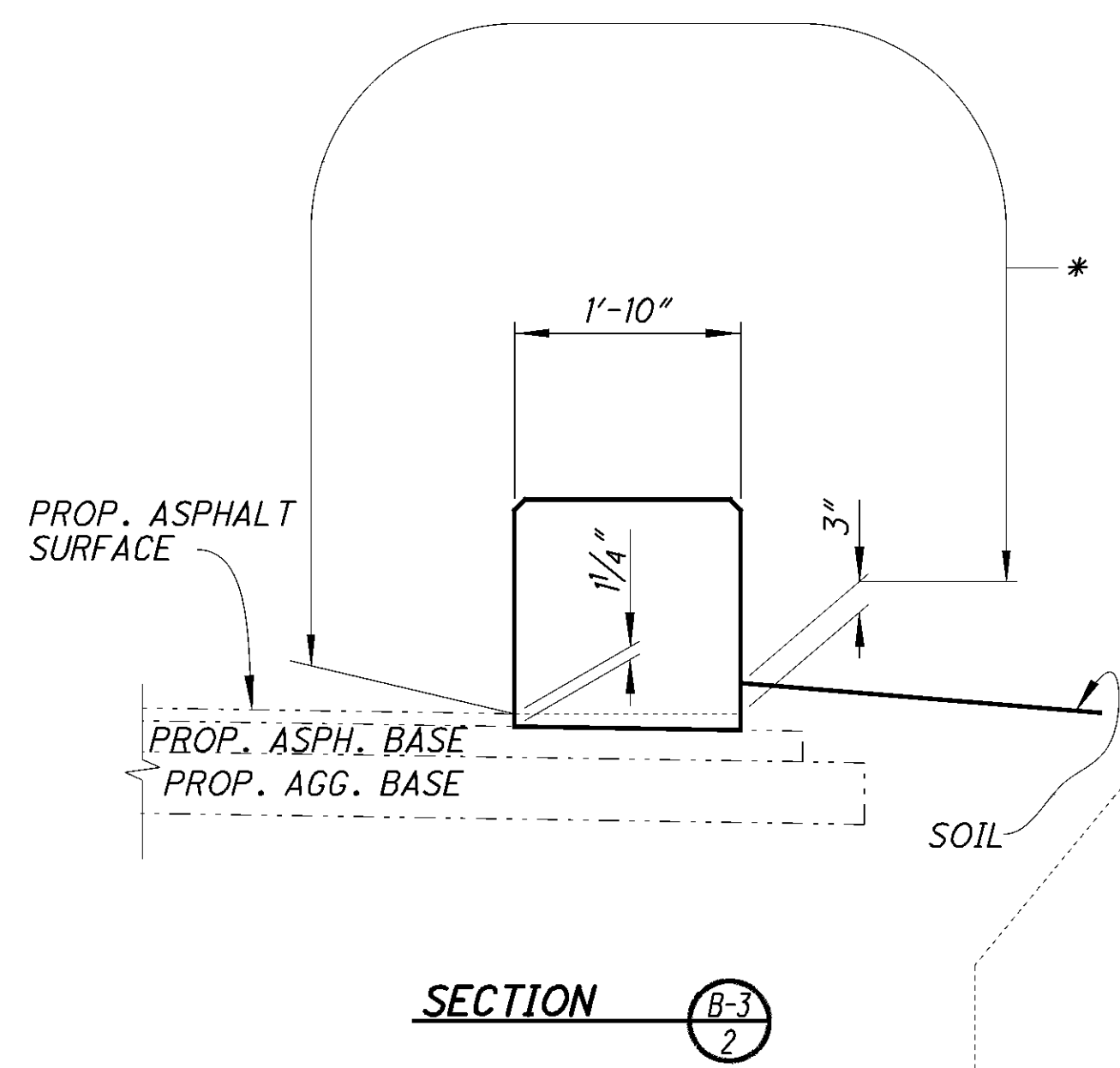
SECTION B-1
2



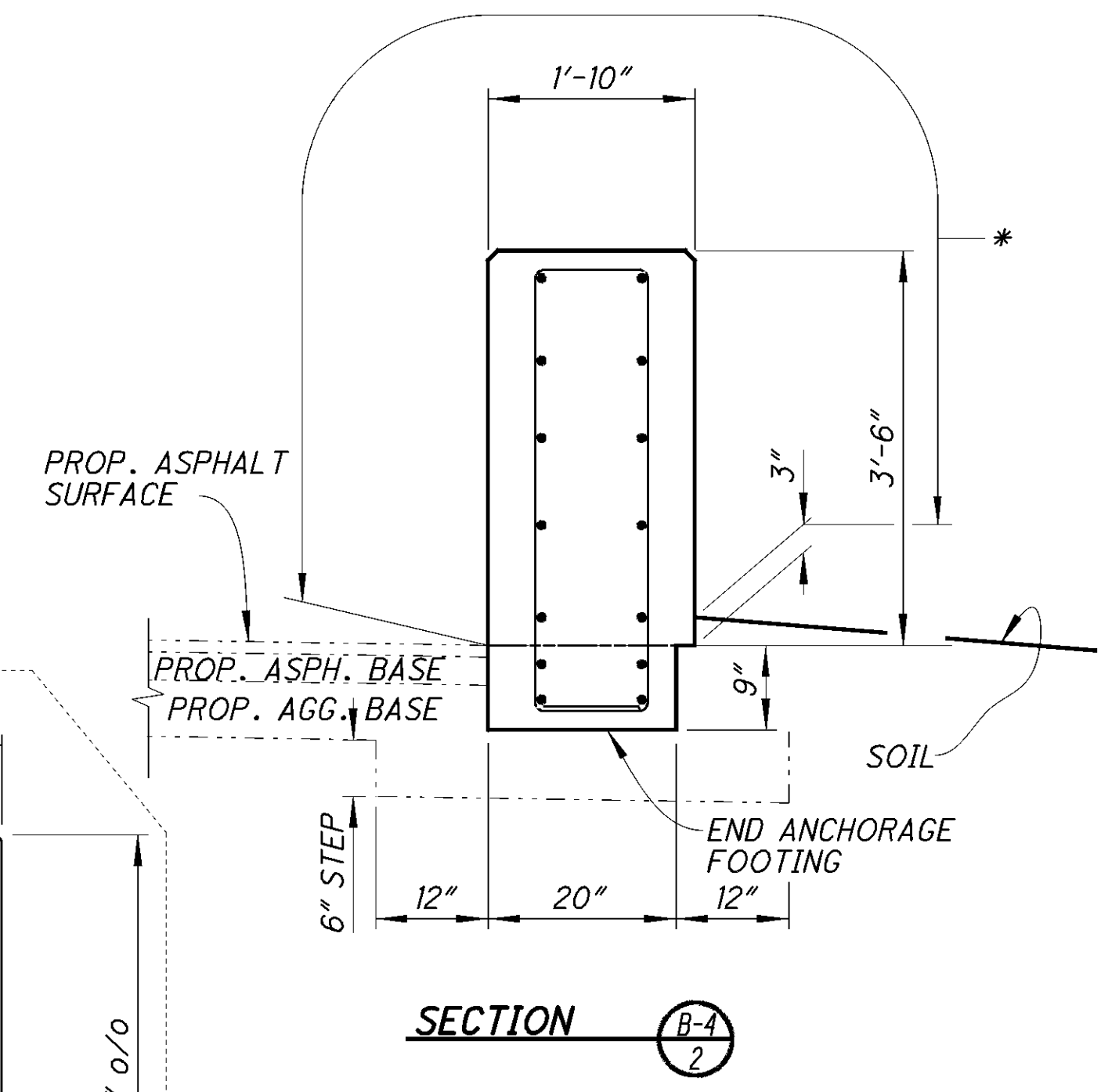
SECTION B-2
2

NOTE -ALL REINFORCING STEEL SHALL BE PROVIDED ACCORDING TO STD. DWG.'S RM-4.5 AND RM-4.6 AND THIS PLAN.

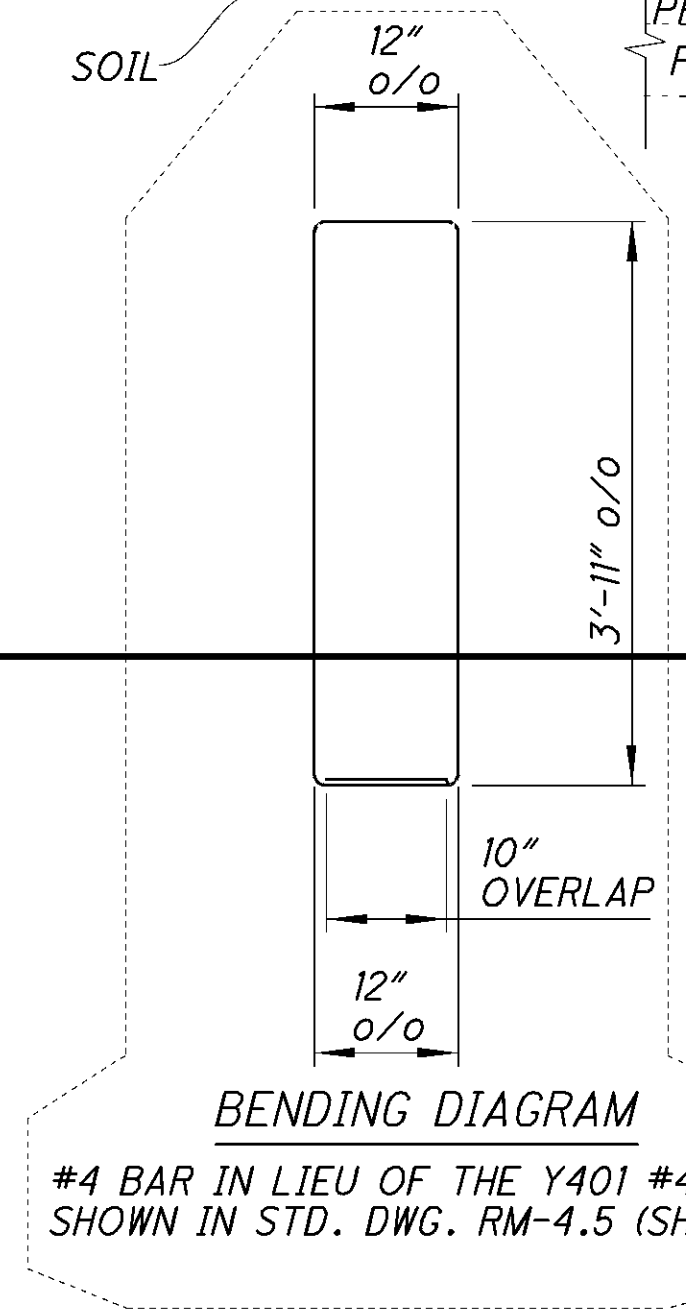
LEGEND
* ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY) = CLEAR COATING. QUANTITY CARRIED IN BRIDGE SUMMARY FOR BRIDGE NO. LIC-310-0096 UNDER "GENERAL" COLUMN



SECTION B-3
2

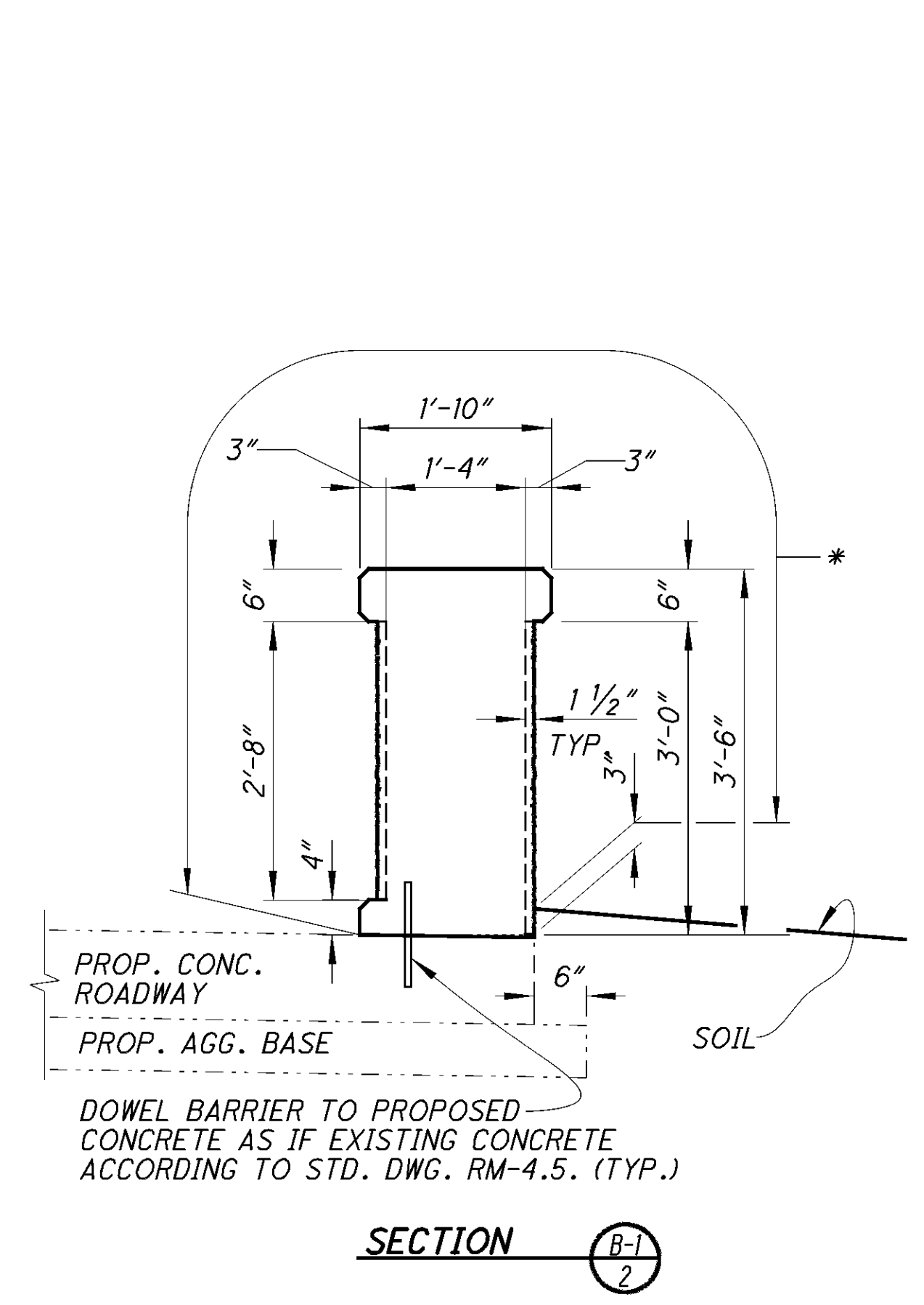


SECTION B-4
2

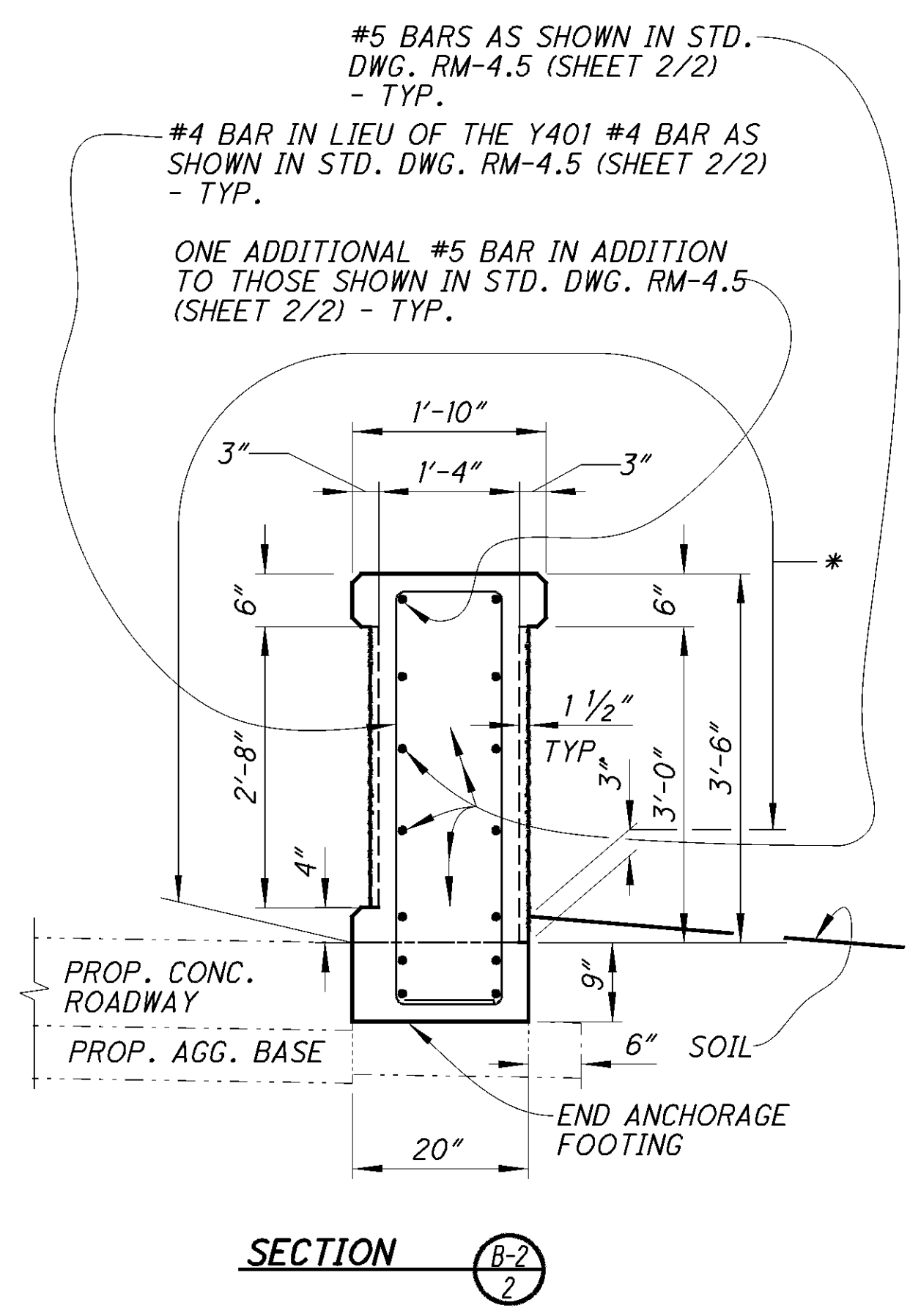


BENDING DIAGRAM
#4 BAR IN LIEU OF THE Y401 #4 BAR AS SHOWN IN STD. DWG. RM-4.5 (SHEET 2/2)

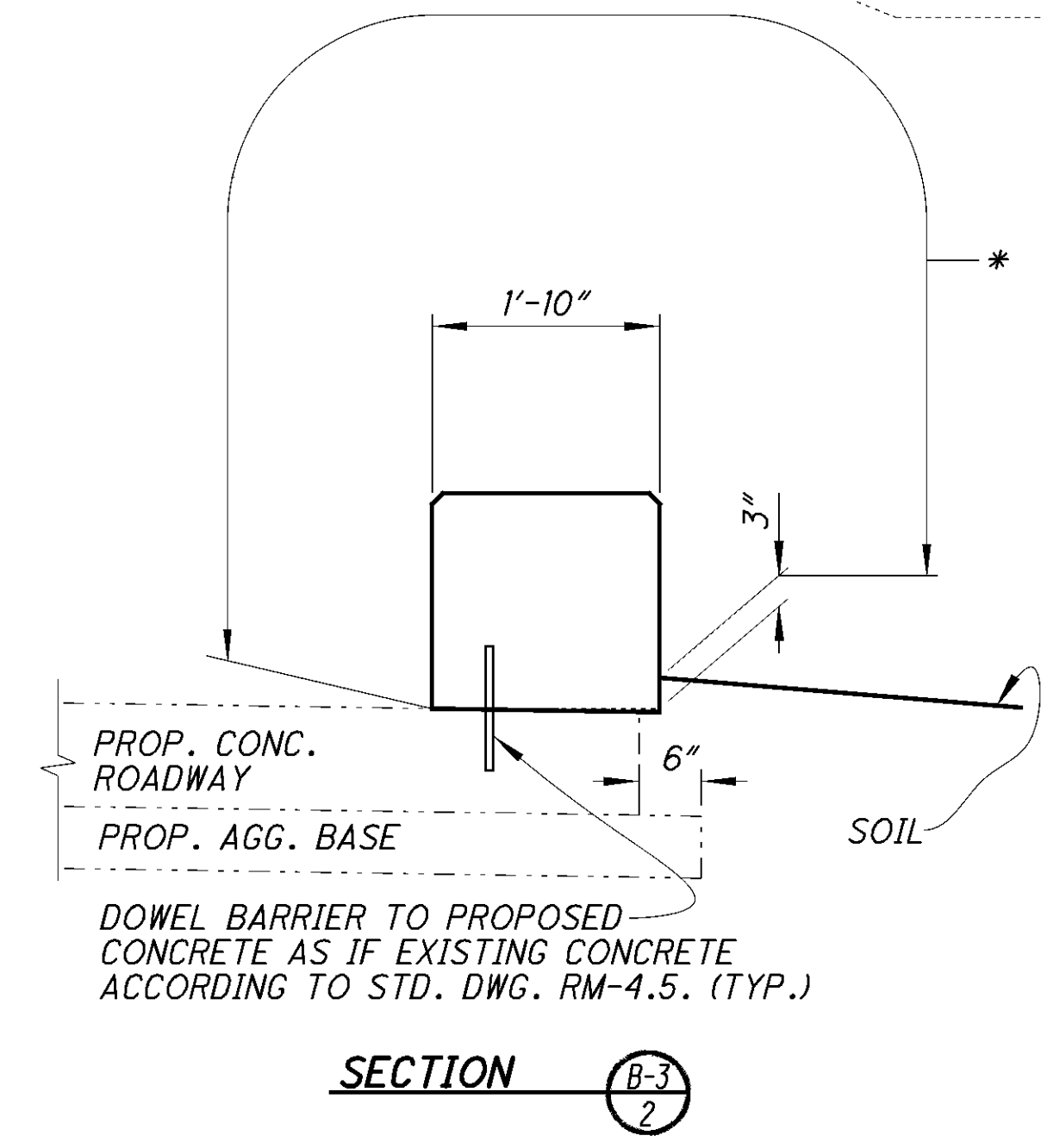
S.R. 310 ROADWAY BARRIER SECTIONS (LEFT) (CONCRETE ROADWAY)



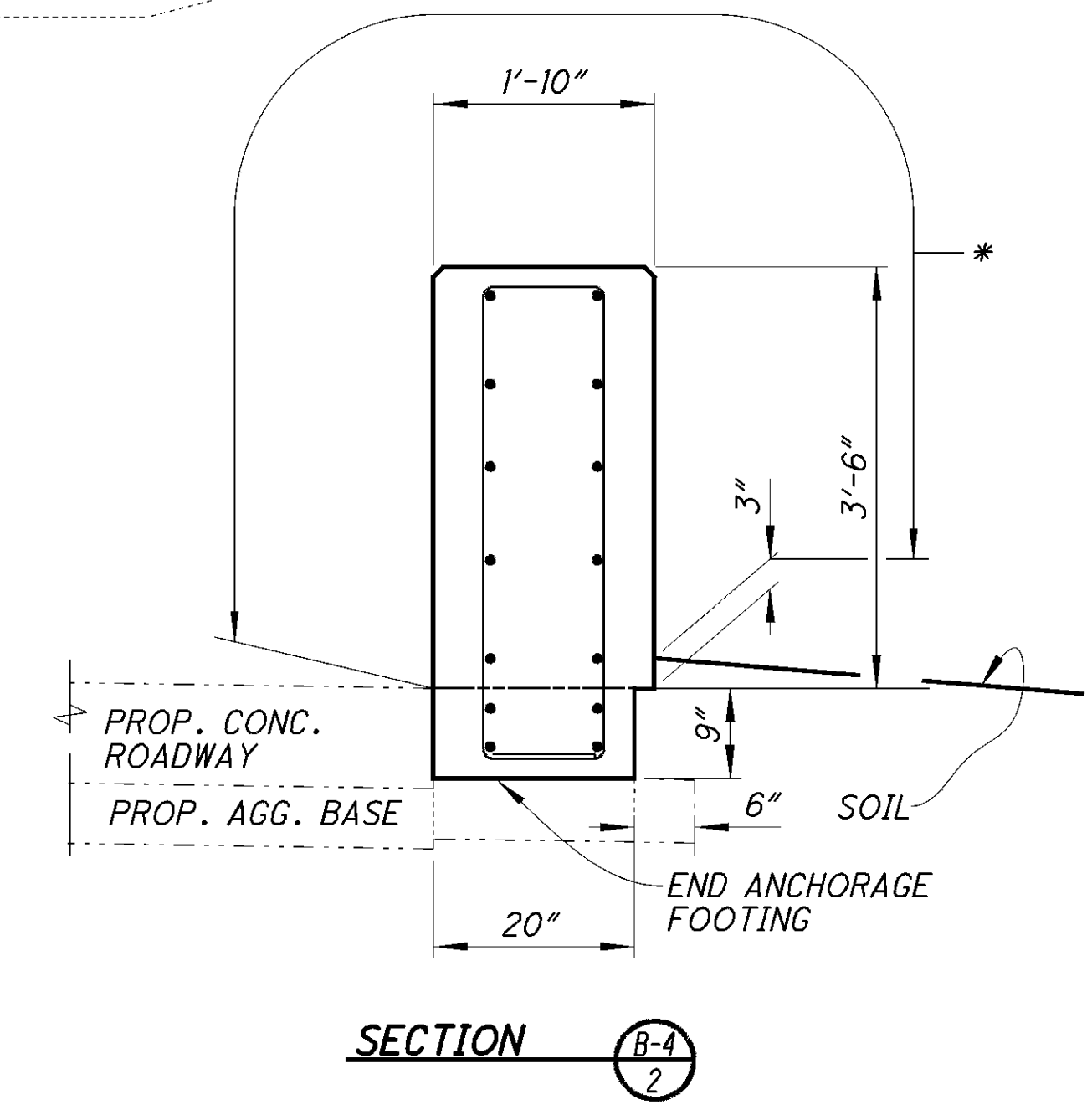
SECTION B-1
2



SECTION B-2
2



SECTION B-3
2



SECTION B-4
2

DOWEL BARRIER TO PROPOSED CONCRETE AS IF EXISTING CONCRETE ACCORDING TO STD. DWG. RM-4.5. (TYP.)

DOWEL BARRIER TO PROPOSED CONCRETE AS IF EXISTING CONCRETE ACCORDING TO STD. DWG. RM-4.5. (TYP.)

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ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATION SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER. THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING POSTS AND OTHER MATERIAL NOT CONSIDERED SALVAGEABLE AND DISPOSED OF IN ACCORDANCE WITH 202.02.

WOOD POSTS SHALL BE NOMINAL 4" x 4" SQUARE OR 4 1/2" DIAMETER ROUND, AND CONFORM TO 710.14. THE WOOD PLATE THAT IS ATTACHED TO THE TOP OF THE POST SHALL BE PRESSURE TREATED WOOD. STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2" I.D., AND CONFORM TO AASHTO M 181. HARDWARE (PLATES, SCREWS, BOLTS, ETC.) SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

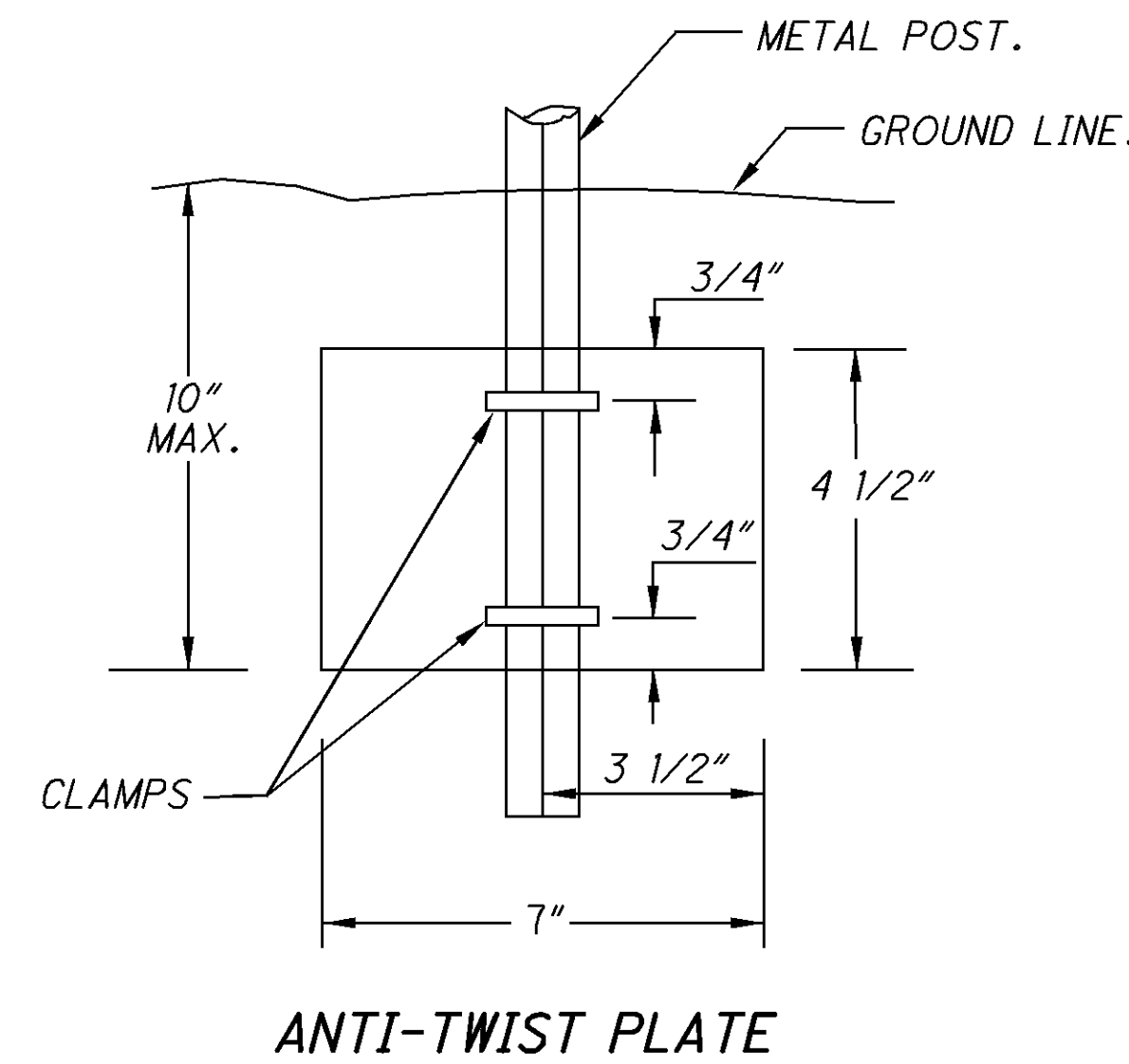
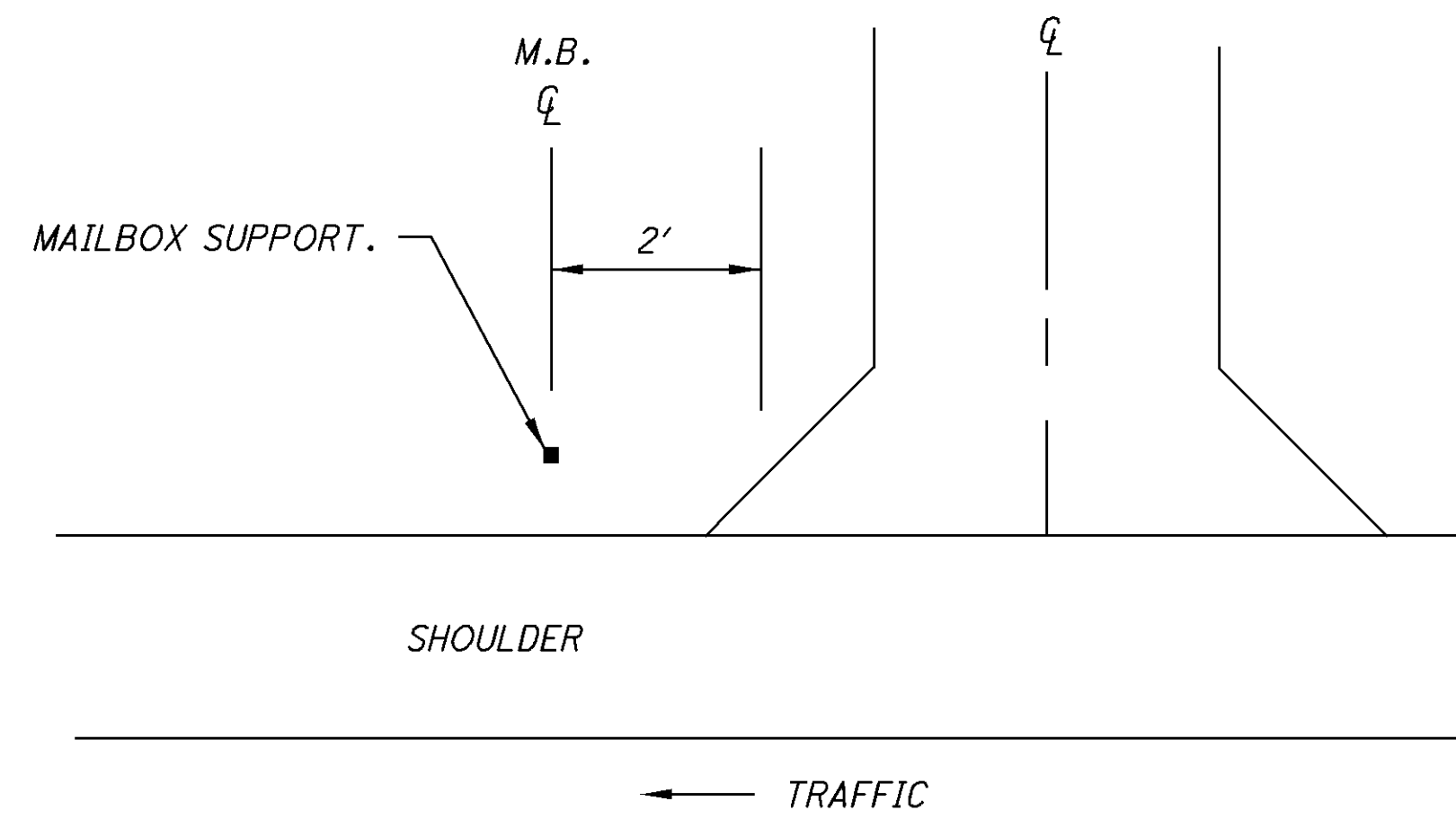
POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03 AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST. THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

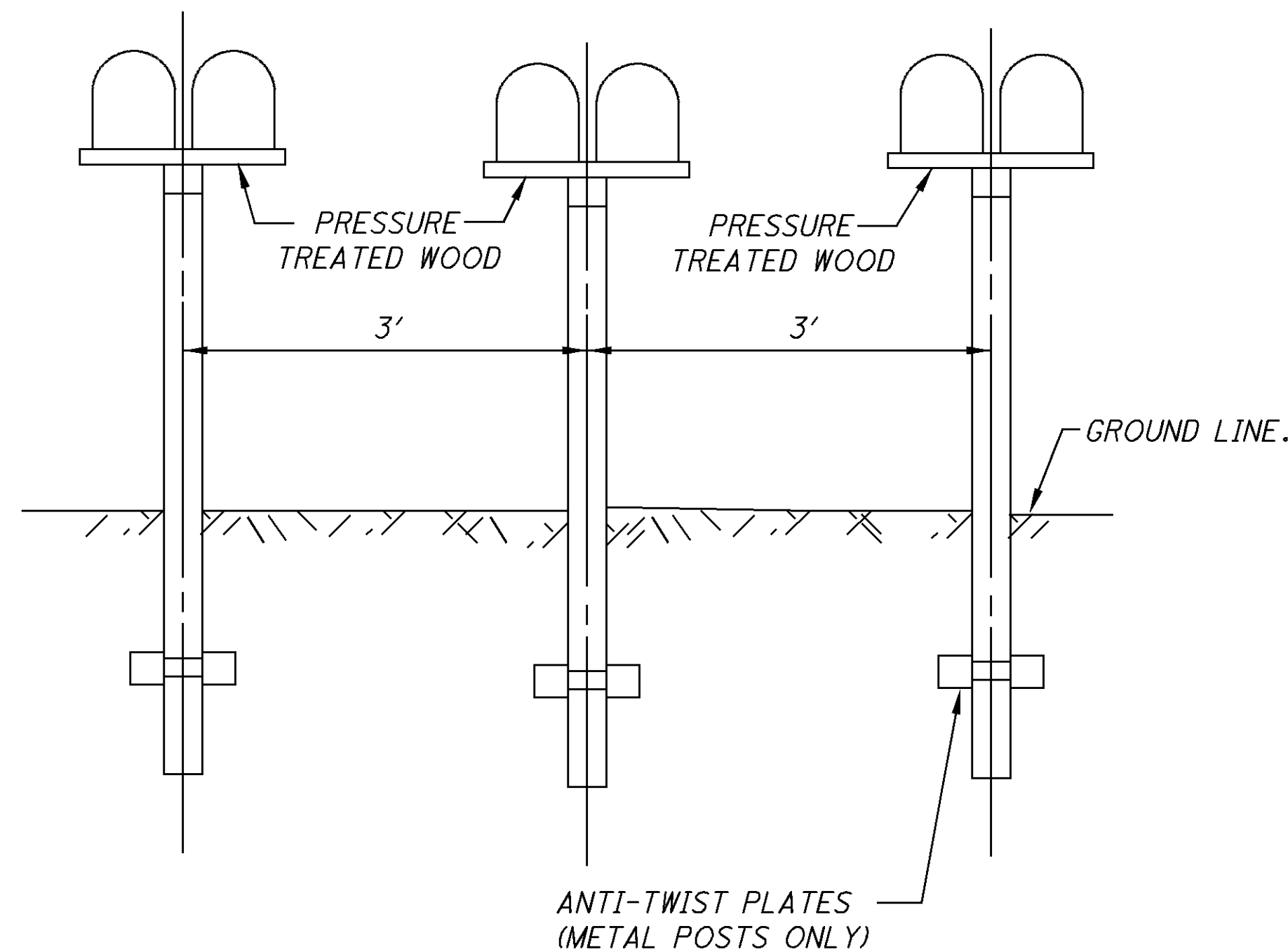
IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

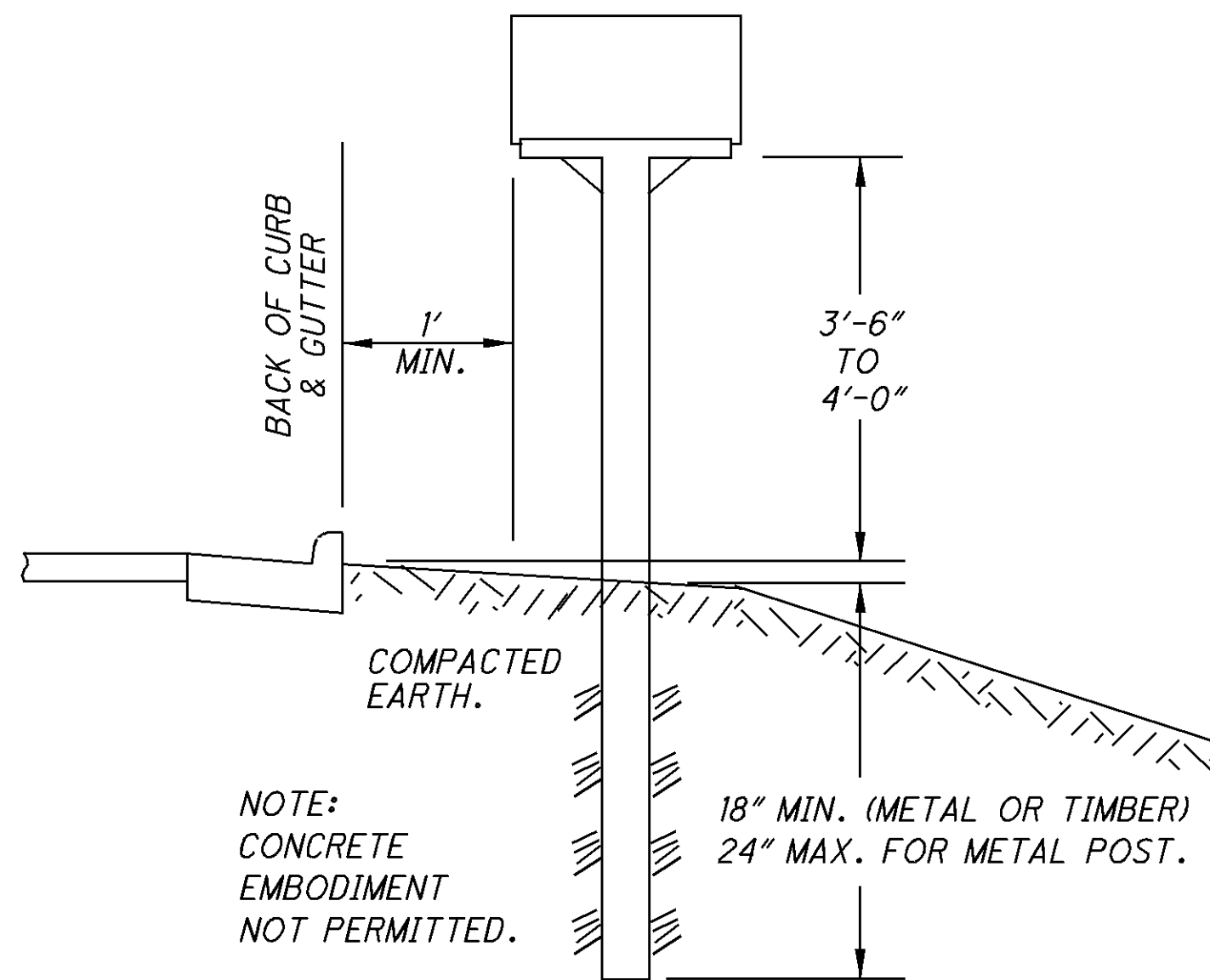
PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.12. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY. MAILBOX SUPPORTS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR THE TYPE SPECIFIED, COMPLETE IN PLACE.



ANTI-TWIST PLATE



GROUP MAILBOX INSTALLATION



TYPICAL MAILBOX LOCATION AND MOUNTING HEIGHT

Reference No.	Sheet No.	Location (Station and Offset)	202	SPECIAL	
			MAILBOX REMOVED	MAILBOX SUPPORT	
				SINGLE	DOUBLE
			EACH	EACH	EACH
S.R. 310					
MB-1	202	Sta. 12+18, 17.5' Rt.	1	1	
MB-2	202	Sta. 12+21, 17.5' Rt.	1	1	
MB-3	202	Sta. 12+24, 17.5' Rt.	1	1	
Sub-Totals					
Totals Carried to Location 1a Summary			3	3	
S.R. 310					
MB-4	203	Sta. 37+30, 40.5' Rt.	1	1	
MB-5	203	Sta. 37+33, 40.5' Rt.	1	1	
MB-6	204	Sta. 41+00, 35.0' Rt.			1
Sub-Totals					
Totals Carried to Location 1c Summary			2	2	1

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MAILBOX DETAILS

LIC-310-0.74

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ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF TWO LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON I.R. 70, EXCLUDING THE CLOSURE TIMES STATED IN THE LANE VALUE CONTRACT TABLE PROVIDED ON THIS SHEET.

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON S.R. 310, EXCLUDING THE CLOSURE TIMES STATED IN THE A+B BIDDING CONTRACT TABLE.

LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES ON I.R. 70 & RAMPS SHALL BE OPENED TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS FOURTH OF JULY
NEW YEARS LABOR DAY
MEMORIAL DAY THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

NO EXTENSIONS OF TIME SHALL BE GRANTED

DAY OF WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00AM FRIDAY
THURSDAY (THANKSGIVING)	12:00N WEDNESDAY THROUGH 6:00AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00AM MONDAY

FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE OF \$75 FOR EACH MINUTE THE ABOVE DESCRIBED LANE AND RAMP CLOSURE RESTRICTIONS ARE VIOLATED.

THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE AS SHOWN IN THE LANE VALUE CONTRACT TABLE BELOW FOR EACH UNIT OF TIME A CRITICAL LANE IS CLOSED ON I.R. 70:

LANE VALUE CONTRACT TABLE

DIRECTION	CRITICAL WORK: TIME WHEN ONE (1) LANE MAY BE CLOSED	TIME UNIT	DISINCENTIVE (\$ PER TIME UNIT)
I.R. 70 EB & WB	ODOT PERMITTED LANE CLOSURE TIMES WEBSITE: HTTP://PLCM.DOT.STATE.OH.US	15 MIN.	\$2,500

CLOSURE OF RAMPS

TRAFFIC SHALL BE MAINTAINED ON ALL RAMPS AT ALL TIMES, EXCLUDING THE FOLLOWING TIMES SHOWN IN THE A + B BIDDING CONTRACT TABLE BELOW

A + B BIDDING CONTRACT TABLE

PHASE	1B	1C	3B	3C
CRITICAL WORK – TIME WHEN RAMP/ROAD MAY BE CLOSED	RAMP D	RAMP A	RAMP C	RAMP B
MINIMUM DAYS	12	12	12	12
MAXIMUM DAYS	18	18	18	18
MAX. INCENTIVE DAYS	6	6	6	6
INCENTIVE/ DISINCENTIVE PER DAY	\$7,500	\$7,500	\$7,500	\$7,500
MAXIMUM INCENTIVE	\$45,000	\$45,000	\$45,000	\$45,000
FUNDING SPLIT	03/IMS/PV	03/IMS/PV	03/IMS/PV	03/IMS/PV

CLOSURE OF S.R. 310

TRAFFIC SHALL BE MAINTAINED ON S.R. 310 AT ALL TIMES, EXCLUDING THE FOLLOWING TIMES SHOWN IN THE A + B BIDDING CONTRACT TABLE BELOW

A + B BIDDING CONTRACT TABLE

PHASE	4	5
CRITICAL WORK – TIME WHEN RAMP/ROAD MAY BE CLOSED	S.R. 310	S.R. 310
MINIMUM DAYS	12	6
MAXIMUM DAYS	18	10
MAXIMUM INCENTIVE DAYS	6	4
INCENTIVE/ DISINCENTIVE PER DAY	\$7,500	\$7,500
MAXIMUM INCENTIVE	\$45,000	\$30,000
FUNDING SPLIT	02/STR/PV - \$13,500 04/NHS/PV - \$31,500	02/STR/PV - \$9,000 04/NHS/PV - \$21,000

AT NO TIME SHALL ANY OF THE RAMPS AND S.R. 310 BE CLOSED CONCURRENTLY

NOTIFICATION OF ROAD CLOSURE OR RESTRICTION

IN ORDER FOR ODOT TO PROPERLY PERMIT OVERSIZE LOADS, PREPARE PROPER SIGNING WHEN REQUIRED AND FURTHER TO NOTIFY THE GENERAL MOTORING PUBLIC. THE CONTRACTOR SHALL NOTIFY, IN WRITING, THE DISTRICT 5 CONSTRUCTION ENGINEER WITH COPIES FOR THE DISTRICT 5 ROADWAY SERVICES MANAGER AND PROJECT ENGINEER NO LESS THAN 21 DAYS BEFORE SUCH CLOSURE OR LANE RESTRICTIONS.

SEND NOTIFICATION TO:
DISTRICT 5 CONSTRUCTION ENGINEER
P.O. BOX 306
JACKSONTOWN, OHIO 43030
PHONE: 740.323.5244

GENERAL

THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE OF WORK FOR THE PROJECT TO THE PROJECT ENGINEER FOR APPROVAL. THIS SCHEDULE SHALL BE SUBMITTED NO LESS THAN TWO WEEKS IN ADVANCE OF STARTING WORK.

BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE PROJECT ENGINEER THE NAMES AND TELEPHONE NUMBERS OF A PERSON OR PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICING AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IMMEDIATELY.

THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. CONSTRUCTION EQUIPMENT, PRIVATE VEHICLES, AND MATERIALS SHALL NOT BE PARKED OR STORED WITHIN 30 FEET OF A LANE UNLESS BEHIND GUARDRAIL OR BARRIER.

FOR EACH PHASE OF CONSTRUCTION THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, REMOVE, AND COVER PAVEMENT MARKINGS, DRUMS, SIGNS, SIGNALS, BARRICADES, AND ANY OTHER TRAFFIC CONTROL DEVICES NEEDED IN ORDER TO MAINTAIN TRAFFIC AS SHOWN IN THESE PLANS.

NOTICE OF CLOSURE SIGN

THE CONTRACTOR SHALL PROVIDE NOTICE OF CLOSURE TO ALL RAMPS AND S.R. 310 TRAFFIC AT LEAST **SEVEN CALENDAR DAYS** IN ADVANCE THROUGH THE USE OF PORTABLE CHANGEABLE MESSAGE SIGNS. THE SIGNS MAY BE ERECTED ANYWHERE ON THE RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

WRITTEN NOTICE OF CLOSURE

THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL LOCAL, COUNTY, STATE AND FEDERAL EMERGENCY SERVICES, EVERY AFFECTED SCHOOL FACILITY AND ALL BUSINESSES AND RESIDENCES ADJACENT TO THE PROJECT SITE OF ANY ANTICIPATED ROAD OR DRIVE CLOSURES AT LEAST **SEVEN CALENDAR DAYS** BEFORE THE CLOSURE. SPECIFICALLY, THE ROAD CLOSURE NOTICE MUST DISCLOSE:

- 1) THE EXACT PORTION OF THE ROAD TO BE CLOSED
- 2) THE DATE OF THE ANTICIPATED CLOSURE
- 3) THE DURATION OF THE CLOSURE
- 4) THE DETOUR ROUTE(S).

A COPY OF THIS NOTIFICATION MUST BE PRESENTED AT THE PRECONSTRUCTION MEETING. THE CONTRACTOR IS ALSO RESPONSIBLE FOR NOTIFYING THE PROJECT ENGINEER WHEN, INCLUDING DATE AND TIME, THE NOTIFICATION IS DISTRIBUTED. A COPY OF EVERY NOTIFICATION MUST BE SENT TO THE DISTRICT OFFICE OF COMMUNICATIONS AT DO5.PIO@STATE.OH.US. IF, SUBSEQUENT TO THAT NOTIFICATION, THE START DATE IS CHANGED, THEN A NEW SEVEN DAY NOTIFICATION WILL BE REQUIRED.

THE ROAD CANNOT BE CLOSED UNLESS THIS PRIOR NOTIFICATION PROCESS HAS BEEN ACCOMPLISHED. THE SAME PARTIES SHALL BE NOTIFIED WHEN THE CLOSURE HAS CONCLUDED.

BARRIER DELINEATION

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER USED FOR TRAFFIC CONTROL AND ALL PERMANENT BARRIER AND GUARDRAIL LOCATED WITHIN FIVE (5) FEET OF THE EDGE OF THE WORK ZONE TRAVEL LANE, AS SHOWN ON **SCD MT-101.70**. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO **CMS 626**, EXCEPT THAT THE SPACING SHALL BE 50 FEET.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING, AND REMOVING BARRIER REFLECTORS AND OBJECT MARKERS.

COVERING OF SIGNS

WHERE THE PLANS CALL FOR OR AS DIRECTED BY THE PROJECT ENGINEER FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED. COST FOR THE WORK AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE **LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC**.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER.....310 M. GAL

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE **LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC**.

INTERMEDIATE COURSE TEMPORARY MARKINGS

NO WORK ZONE MARKINGS HAVE BEEN ITEMIZED IN THE PLAN FOR USE ON NEW INTERMEDIATE COURSE ASPHALT CONCRETE PAVEMENT. ALL TEMPORARY MARKINGS SHALL BE PLACED AS PER SPECIFICATIONS AND SHALL BE INCLUDED IN THE **LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC**.

SIGNAL OPERATION DURING CONSTRUCTION

THE EXISTING SIGNALS AT **S.R. 310 AND RAMP B/ RAMP D** SHALL REMAIN IN OPERATION DURING CONSTRUCTION. THE EXISTING SIGNAL HEADS SHALL BE REMOVED ALONG WITH THE TETHER WIRE. THE MESSENGER WIRE SHALL BE UNLASHED AND RE-LASHED WITH THE TEMPORARY SIGNAL HEADS BEING INSTALLED ALONG THE EXISTING SPAN. THE NEW SIGNAL CABLE SHALL RUN FROM CONTROLLER CABINET TO EACH SIGNAL HEAD AND HAVE PLENTY OF SLACK FOR MOVEMENT ALONG THE EXISTING SPAN DURING CONSTRUCTION.

A TEMPORARY SIGNAL SHALL BE INSTALLED AT **S.R. 310 AND ETNA CREST BLVD**. THE CONTRACTOR SHALL SET WOOD POLES PER **CMS 732.13** FOR THE PROPOSED SPAN AT THE LOCATIONS SHOWN IN THE PLANS. DOWN GUY ASSEMBLIES WILL BE NEEDED AND SHALL CONFORM TO **CMS 732.14**. THE POLE MOUNTED CABINET, CONTROLLER, AND ETHERNET RADIO FOR THE TEMPORARY SIGNAL WILL BE ODOT SUPPLIED AND CAN BE PICKED UP FROM AND RETURNED TO THE **ODOT DISTRICT FIVE OFFICE LOCATED AT 9600 JACKSONTOWN ROAD, JACKSONTOWN, OH 43030** BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY **BRIAN BOSCH, DISTRICT FIVE TRAFFIC ENGINEER AT 740-323-5182** A MINIMUM OF SEVEN DAYS PRIOR TO PICK UP.

ALL TEMPORARY SIGNAL HEADS SHALL CONFORM TO **CMS 632 AND 732** AND BE 12" POLYCARBONATE WITH NO BLACK PLATES. SEE **SHEETS 37-40** FOR SIGNAL HEAD TYPE AND LOCATIONS.

ALL SIGNALIZED INTERSECTIONS SHALL BE COORDINATED AND PROGRAMMED WITH THE MAINTENANCE OF TRAFFIC TIMING PLANS SHOWN IN THE PLANS. **CONTACT BRIAN BOSCH, DISTRICT 5 TRAFFIC ENGINEER AT 740.323.5182 FOR PICKUP OF INTUICOM EB-6 WIRELESS ETHERNET RADIO FOR COORDINATION OF TEMPORARY SIGNAL WITH EXISTING RAMP SIGNALS.**

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE **LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC** AND INCLUDE LABOR, EQUIPMENT, MATERIALS, AND ALL INCIDENTALS NECESSARY FOR FULL OPERATION OF ALL SIGNALIZED INTERSECTIONS FOR ALL PHASES OF THE PROJECT.

VEHICULAR DETECTION DURING CONSTRUCTION

THE CONTRACTOR SHALL MAINTAIN VEHICULAR DETECTION AT ALL SIGNALIZED INTERSECTIONS ON ALL APPROACHES DURING CONSTRUCTION THROUGH NON-INVASIVE MEANS. (I.E. VIDEO, RADAR, MICROWAVE). ALL EXISTING LOOPS SHALL BE DISCONNECTED. THE DETECTION UNITS SHALL BE ABLE TO CALL AND EXTEND THE ASSOCIATED PHASE. THE DETECTION UNITS SHALL BE POLE MOUNTED ON THE NEAREST SIGNAL SUPPORT AND CAPABLE TO DETECT VEHICLES A MINIMUM DISTANCE OF 20 FEET BACK FROM THE STOP LINE ON EACH APPROACH. THE FINAL POSITIONING OF EACH UNIT SHALL BE AT THE APPROVAL OF THE ENGINEER.

IF DETECTION AREAS CANNOT BE OBTAINED FROM MOUNTING ON THE EXISTING SIGNAL SUPPORTS THEN A WOOD POLE SHALL BE INSTALLED FOR MOUNTING OF DETECTION UNIT AND 1/4" MESSENGER WIRE SHALL BE RUN TO NEAREST EXISTING SIGNAL SUPPORT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RADIO INTERFERENCE AND SHALL AIM THE UNIT TO DECREASE OR ELIMINATE THE INTERFERENCE WHILE MAINTAINING THE DETECTION ZONE. THE CONTRACTOR IS RESPONSIBLE FOR HAVING BACKUP UNITS SO VEHICULAR DETECTION IS MAINTAINED AT ALL TIMES.

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE **LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC** AND INCLUDE LABOR, EQUIPMENT, MATERIALS, AND ALL INCIDENTALS NECESSARY FOR FULL ACTUATION OF THE SIGNALIZED INTERSECTION FOR ALL PHASES OF CONSTRUCTION.

USE OF WEIGHTED CHANNELIZERS

WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THIS SECTION. THE WEIGHTED CHANNELIZER SHALL BE PREDOMINANTLY ORANGE IN COLOR AND SHALL BE MADE OF LIGHTWEIGHT, FLEXIBLE, AND DEFORMABLE MATERIAL. THEY SHALL BE AT LEAST 42 INCHES IN HEIGHT WITH A WEIGHTED BASE. THEY MAY HAVE A HANDLE OF LIFTING DEVICE WHICH EXTENDS ABOVE THE 42 INCHES MINIMUM HEIGHT. THE MARKINGS ON THE WEIGHTED CHANNELIZER SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROFLECTIVE STRIPES 6 INCHES WIDE. EACH WEIGHTED CHANNELIZER SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES. ANY NON RETROFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 2 INCHES WIDE. THE WEIGHTED CHANNELIZER SHALL HAVE A 4-INCH MINIMUM WIDTH, REGARDLESS OF ORIENTATION.

USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTI-LANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATION, GENERALLY 12 HOURS OR LESS, FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK WITHIN THE ABOVE NOTED TIME PERIOD, THE WEIGHTED CHANNELIZERS SHALL BE REMOVED. THE WEIGHTED CHANNELIZERS MAY AGAIN BE PLACED ON THE HIGHWAY WHEN THE WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT. NY LANE CLOSURE USING CHANNELIZATION DEVICES, EXPECTED TO REMAIN FOR MORE THAN 12 HOURS, SHALL REQUIRE THE USE OF DRUMS OR BARRIERS. WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE "TANGENT AREA." THE "TANGENT AREA" IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS. WEIGHTED CHANNELIZERS SHALL HAVE A MAXIMUM SPACING OF 40 FEET.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE **LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC**.

DROP-OFFS IN WORK ZONES

DROP-OFFS THAT DEVELOP DURING CONSTRUCTION OPERATIONS THAT ARE NOT OTHERWISE PROVIDED FOR IN THE PLANS SHALL BE TREATED AS SHOWN ON **SCD MT-101.90**.

IF THE CONTRACTOR CANNOT MEET DROP-OFF CONDITIONS USING DRUMS AND PORTABLE BARRIER IS NEEDED, THE FOLLOWING QUANTITY SHALL BE USED AT THE APPROVAL OF THE PROJECT ENGINEER.

ITEM 622, PORTABLE BARRIER, 32"1,000 FT.

ALL OTHER SPECIFIC ITEMS FOR LABOR, EQUIPMENT, OR MATERIALS NEEDED TO IMPLEMENT THE DROP-OFF TREATMENT SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM BID ITEM FOR ITEM 614, MAINTAINING TRAFFIC.

COOPERATION BETWEEN CONTRACTORS

THE STATE OF OHIO HAS CONTRACTED PROJECT **LIC-310-1.74 PID 92976**, WHICH MAY BE CONSTRUCTED CONCURRENTLY WITH THIS PROJECT. IT IS IMPERATIVE THAT THE CONTRACTORS COOPERATE FULLY WITH EACH OTHER AS OUTLINED IN SECTION 105.08 OF THE CMS MANUAL. ALL MAINTENANCE OF TRAFFIC SHALL BE COORDINATED BETWEEN PROJECTS AND NOT CONFLICT WITH ONE ANOTHER.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE **LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC**, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

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MAINTENANCE OF TRAFFIC NOTES

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ITEM 614, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF **50 EACH** HAS BEEN INCLUDED IN THE GENERAL SUMMARY.

ITEM 614, DETOUR SIGNING, AS PER PLAN

THE CONTRACTOR SHALL SUPPLY, ERECT, MAINTAIN, AND REMOVE THE DETOUR SIGNING. ALL **ROUTE SIGNS** DESIGNATED IN THIS PLAN WILL BE ODOT SUPPLIED AND CAN BE PICKED UP FROM AND RETURNED TO THE **ODOT DISTRICT FIVE OFFICE LOCATED AT 9600 JACKSONTOWN ROAD, JACKSONTOWN, OH 43030** BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE DISTRICT FIVE ROADWAY SERVICES MANAGER AT **740-323-4400** A MINIMUM OF SEVEN DAYS PRIOR TO PICK UP OF ALL ROUTE SIGNS DESIGNATED IN THIS PLAN AS ODOT SUPPLIED.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS TO PERFORM THIS WORK SHALL BE INCLUDED IN THE **LUMP SUM BID FOR ITEM 614, DETOUR SIGNING, AS PER PLAN.**

ITEM 614, BUSINESS ENTRANCE (M4-H15) SIGN, AS PER PLAN

THE BUSINESS ENTRANCE (M4-H15) SIGN SHOULD BE PROVIDED AT EACH TEMPORARILY RELOCATED COMMERCIAL DRIVEWAY FOR WHICH THE RELOCATION IS NOT OBVIOUS TO THE MOTORIST. THE PROJECT ENGINEER SHALL DETERMINE WHETHER OR NOT THE DRIVEWAY RELOCATION IS, OR IS NOT, OBVIOUS AND WHETHER OR NOT A SIGN SHOULD BE PROVIDED. ONLY ONE SIGN PER BUSINESS SHALL BE PERMITTED. THE SIGN SHALL BE **36 INCH X 48 INCH** IN SIZE WITH TYPE G OR TYPE H ORANGE RETRO-REFLECTIVE SHEETING. THE SIGN LEGEND SHALL BE PLACED ON BOTH SIDES OF THE SIGN (BACK TO BACK). THE SIGN SHALL HAVE THE STANDARD M4-H15 LEGEND WITH THE WORD "BUSINESS" ON THE TOP LINE, EXCEPT UNDER UNUSUAL CIRCUMSTANCES WHERE IT MAY NOT BE INTUITIVE THAT A DRIVEWAY SERVES A SPECIFIC BUSINESS. IN SUCH UNUSUAL CASES, THE ACTUAL BUSINESS NAME MAY BE SUBSTITUTED FOR THE WORD "BUSINESS".

THE SIGN SHALL BE MOUNTED ON TWO NO. 3 POSTS OR ON TEMPORARY POSTS IN ACCORDANCE WITH **SCD MT-105.10** AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE SIGN SHALL BE CLEARLY VISIBLE AND SHALL CLEARLY IDENTIFY THE LOCATION OF THE DRIVEWAY. THE SIGN SHOULD BE POSITIONED AT 90 DEGREES TO THE DIRECTION(S) OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS.

PAYMENT FOR ALL COSTS ASSOCIATED WITH MANUFACTURING, MOUNTING, RELOCATING, AND REMOVING THE SIGN, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE CONTRACT PRICE PER EACH FOR ITEM 614-BUSINESS ENTRANCE SIGN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS ITEM:

ITEM 614, BUSINESS ENTRANCE SIGN, AS PER PLAN.....6 EA.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, 4 CHANGEABLE MESSAGE SIGNS. THE SIGNS SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE (OFFICE OF MATERIALS MANAGEMENT WEB PAGE). THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FEET AND 475 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHALL BE DELINEATED ON A PERMANENT BASIS BY AFFIXING CONSPICUITY TAPE CONFORMING TO CMS 614.03, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PCMS LOCATIONS ARE SHOWN IN THESE PLANS. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW RETRO REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (CONT'D)

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE. THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT SHALL BE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIAL, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS NECESSARY TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN.....720 DAY

(4 SIGNS X 30 DAYS X 6 MONTHS = 720 DAY)

LANE CLOSURE/ REDUCTION REQUIRED

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

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MAINTENANCE OF TRAFFIC NOTES

LIC-310-0.74

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MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

- EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK ACCEPTED.
- NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MIS-ALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 8 HOURS AND SHALL NOT INCLUDE THE HOURS OF 6 AM TO 10 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY AN OFF-DUTY POLICE OFFICER, HIRED BY THE CONTRACTOR.

- S.R. 310 / RAMP B
- S.R. 310 / RAMP D

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

- TIME OF NOTIFICATION OF MALFUNCTION
- TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION
- ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED
- A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE
- TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

- DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

- WHEN CONSTRUCTION VEHICLES ARE ENTERING/ EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/ DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE..... 200 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

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WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS SHALL BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).
2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0500.
3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-800-229-1388.
4. OHIO LABORERS TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

A COPY OF EACH WTSS CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7), THE CONTRACTOR MAY DESIGNATE AN ALTERNATE WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY. EACH WTS SHALL HAVE A WTS CERTIFICATION CONTAINING THE DATE OF ISSUE AND SHALL BE FROM ANY OF THE APPROVED ORGANIZATIONS. AT THE TIME OF THE PRECONSTRUCTION, THE WTS CERTIFICATION DATE OF ISSUE SHALL BE WITHIN 5 YEARS PRIOR TO THE ORIGINAL COMPLETION DATE OF THE PROJECT.

THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.
2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.
3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.
4. COORDINATE A TRAFFIC INCIDENT MANAGEMENT MEETING EACH YEAR BEFORE CONSTRUCTION WORK BEGINS WITH ODOT AND THE SAFETY FORCES THAT WILL RESPOND TO INCIDENTS ON THE PROJECT. ITEMS TO BE DISCUSSED WILL BE THE:
 - A. TRAFFIC INCIDENT MANAGEMENT PLAN (TIMP);
 - B. EMERGENCY RESPONSE AND NOTIFICATION;
 - C. PROJECT WORK/PHASING CONCERNS (E.G., RAMP CLOSURES)
 - D. RESPONDERS CONCERNS.
5. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.
6. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE THEY ARE ON THE PROJECT.

7. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.
8. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.
9. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.
10. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, A WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:
 - A. INITIAL TRAFFIC CONTROL SETUP (DAY AND NIGHT REVIEW).
 - B. DAILY TRAFFIC CONTROL SETUP AND REMOVAL.
 - C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TRAFFIC CONTROL SETUP.
 - D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA.
 - E. REMOVAL OF TRAFFIC CONTROL DEVICES AT THE END OF A PHASE OR PROJECT.
 - F. ALL OTHER EMERGENCY TRAFFIC CONTROL NEEDS.
11. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 10 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE CURRENT REVISION OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL.
12. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
13. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.
14. IDENTIFY AND CONTACT ALL POSSIBLE RESPONSE PERSONNEL; PREPLAN AND KEEP AN UPDATED ROSTER WITH PHONE NUMBERS:
 - A. FEDERAL, STATE, AND LOCAL TRANSPORTATION AGENCIES (TRAFFIC MANAGEMENT CENTER);
 - B. REGIONAL, COUNTY OR LOCAL 911 DISPATCH; AND
 - C. TOWING AND RECOVERY PROVIDERS.

15. COMPLY WITH THE PROVISIONS OF OMUTCD CHAPTER 6I, CONTROL OF TRAFFIC THROUGH TRAFFIC INCIDENT MANAGEMENT AREAS.
16. PROPOSE A RESPONSE/ACTION PLAN TO:
 - A. ESTABLISH ALTERNATE ROUTE PLANS PER THE PROVIDED ODOT

THE DEPARTMENT WILL NOT PAY THE UNIT PRICE BID FOR THE WTS FOR ANY DAY ON WHICH THE CONTRACTOR FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR'S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH **CMS 108.05**.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614, WORKSITE TRAFFIC SUPERVISOR.....24 MONTHS

OVERSIZE TRUCK LOADS

THE CONTRACTOR IS RESPONSIBLE FOR GETTING OVERSIZE TRUCK LOADS FROM SCREEN MACHINE INDUSTRIES THROUGH THE PROJECT SITE DURING CONSTRUCTION. IF OVERSIZE LOADS DO NOT REQUIRE A PERMIT THEN LAW ENFORCEMENT MAY BE USED FOR ASSISTANCE IF DEEMED NECESSARY BY THE PROJECT ENGINEER. SCREEN MACHINE INDUSTRIES WILL BE REQUIRED TO NOTIFY THE CONTRACTOR 72 HOURS PRIOR TO A DELIVERY.

THE CLOSURE OF COLUMBUS PARKWAY SHALL BE COORDINATED WITH SCREEN MACHINE INDUSTRIES TO TAKE PLACE DURING A NON-DELIVERY PERIOD.

CONTACT INFO:
 STEVE COHEN
 SCREEN MACHINE INDUSTRIES LLC
 10685 COLUMBUS PARKWAY
 ETNA, OH 43062
 740-927-3464
steve@thescreenmachine.com

PAYMENT FOR LEO'S SHALL BE PAID UNDER **ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE WITH ALL OTHER INCIDENTALS INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.**

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ITEM 615, ROADS FOR MAINTAINING TRAFFIC, AS PER PLAN

THIS ITEM INCLUDES THE SHOULDER PREPARATION FOR ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN. THE EXISTING SHOULDERS SHALL BE REMOVED BY SAW CUTTING ALONG THE EXISTING EDGE LINE PER 202.05. THE TEMPORARY SHOULDERS SHALL BE INSTALLED TO THE DIMENSIONS SHOWN IN THE MOT PLANS. ANY ADJACENT EXISTING SHOULDER OUTSIDE THE TEMPORARY SHOULDER LIMITS SHALL BE REMOVED AND BACKFILLED WITH ITEM 203 EMBANKMENT. SUBGRADE COMPACTION SHALL CONFORM TO CMS 204.03.

REMOVAL OF THE EXISTING ASPHALT SHOULDERS WILL BE INCLUDED IN ITEM 202, PAVEMENT REMOVED. EARTHWORK QUANTITIES ARE GIVEN BELOW FOR ESTIMATING PURPOSES AND SHALL BE INCLUDED IN THE LUMP SUM BID.

EXCAVATION FOR MAINTAINING TRAFFIC.....250 CU. YD.
EMBANKMENT FOR MAINTAINING TRAFFIC.....100 CU. YD.

PAYMENT SHALL BE MADE AT THE **LUMP SUM** BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK.

ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

THE FOLLOWING PAVEMENT BUILDUP SHALL BE USED FOR DURING CONSTRUCTION AT THE LOCATIONS SHOWN IN THE MOT PLANS:

- ITEM 441 – 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE I, (448), PG64-22
- ITEM 407 – TACK COAT (APPLIED AT A RATE OF 0.075 GAL./ SQ. YD.)
- ITEM 301 – 7" ASPHALT CONCRETE BASE, PG64-22

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE DRIVING SURFACE THROUGHOUT THE USE OF THE PAVEMENT, AT THE APPROVAL OF THE ENGINEER.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT AND ANY INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

MAINTAINING EXISTING DRIVES

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL RESIDENCE AND COMMERCIAL DRIVES TO THE FULLEST EXTENT POSSIBLE. IT IS UNDERSTOOD THAT FOR SHORT PERIODS OF TIME, THE FULL ACCESS TO A DRIVEWAY MAY NOT BE POSSIBLE. THE CONTRACTOR SHALL MAKE ACCOMMODATIONS TO THE RESIDENT/BUSINESS OWNER SO THAT DURING THESE SHORT INTERVALS, THE HOME/BUSINESS OWNER CAN STILL HAVE ACCESS TO PARK NEAR THEIR RESIDENCE/BUSINESS.

PROPERTIES WITH MULTIPLE ACCESS POINTS: WORK AT ONE DRIVE AT A TIME. PROPERTIES WITH A SINGLE ACCESS POINT: MAINTAIN ACCESS TO PROPERTY AT ALL TIMES USING ONE OF THE FOLLOWING METHODS: REPLACE DRIVEWAY USING PART WIDTH CONSTRUCTION, BACKFILL OPEN EXCAVATION WITH ITEM 304 AGGREGATE FOR TEMPORARY ACCESS, OR USE STEEL PLATES TO SPAN OVER OPEN EXCAVATIONS AND OR CONCRETE NOT OUT OF CURE BEFORE ACCESS TO A DRIVEWAY IS INTERRUPTED, THE CONTRACTOR SHALL GIVE PRIOR NOTICE TO THE OCCUPANT OF THE PROPERTY 72 HOURS BEFORE THE WORK IS STARTED.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT U.S. MAIL OR ANY OTHER DELIVERY WITHIN THE PROJECT LIMITS IS NOT DISRUPTED BY CONSTRUCTION OPERATIONS.

AFTER THE WORK IS COMPLETE THE CONTRACTOR SHALL RESTORE THE DRIVE TO THE ORIGINAL STATE AT APPROVAL OF THE ENGINEER. **(THIS ALSO APPLIES TO THE PRIVATE DRIVE FOR THE SPEEDWAY SIGN.)**

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER TO MAINTAIN AND RESTORE EXISTING DRIVES:

- ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B.....100 CU. YD.
- ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE C.....100 CU. YD.
- ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.....100 CU. YD.

DESIGNATED LOCAL DETOUR ROUTES

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, LOCAL ROUTES HAVE BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTES OR "DESIGNATED LOCAL DETOUR ROUTE." THESE ROUTES ARE SHOWN ON **SHEET 31**. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THESE ROUTES IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTES SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DETERMINED BY THE ENGINEER.

AN ESTIMATED QUANTITY FOR PAVEMENT REPAIR HAS BEEN INCLUDED IN THE PLAN TO BE USED AS DIRECTED BY THE ENGINEER, FOR THE LOCAL DETOUR ROUTES. THE INTENT OF THIS OPERATION IS TO REPAIR THOSE AREAS OF PAVEMENT WHICH HAVE FAILED AND NOT TO CORRECT SURFACE IRREGULARITIES. THE DEPTH OF EXCAVATION SHALL BE APPROXIMATELY 6 INCHES. AFTER PAVEMENT SAWING AND EXCAVATION HAS BEEN COMPLETED, THE FACE OF THE REPAIR SHALL BE COATED WITH ITEM 407 TACK COAT, AS PER 702.13. REPLACEMENT MATERIAL WILL BE 6 INCHES OF ITEM 301 ASPHALT CONCRETE BASE, PG64-22 (PLACED AND COMPACTED AS DIRECTED).

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTES:

- ITEM 209 LINEAR GRADING.....2 MILE
- ITEM 253 PAVEMENT REPAIR, AS PER PLAN.....1,000 SQ. YD.
- ITEM 407 TACK COAT.....50 GAL.
- ITEM 441 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22.....150 CU. YD.
- ITEM 616 WATER.....5 M. GAL.
- ITEM 617 COMPACTED AGGREGATE.....250 CU. YD.
- ITEM 642 EDGE LINE, 4".....2.00 MILE
- ITEM 642 CENTER LINE.....1.00 MILE
- ITEM 642 STOP LINE.....36 FT.

MAINTENANCE OF TRAFFIC NOTES

LIC - 310 - 0.74

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SEQUENCE OF OPERATIONS

IT IS THE INTENT OF THIS SEQUENCE OF OPERATIONS TO PROVIDE A WORK AREA FOR THE CONTRACTOR WHILE ALSO MAINTAINING TRAFFIC IN A MANNER WHICH IS SAFE FOR THE TRAVELING PUBLIC. THE CONTRACTOR SHALL COMPLETE ALL WORK AS DESCRIBED IN THE SEQUENCE OF OPERATIONS, FOR EACH PHASE OF CONSTRUCTION, BEFORE STARTING WORK ON THE NEXT PHASE OF CONSTRUCTION. THE CONTRACTOR SHALL NOT BE ALLOWED TO START WORK ON ANY PHASE OF CONSTRUCTION UNTIL APPROVAL HAS BEEN GRANTED BY THE PROJECT ENGINEER.

THE CONTRACTOR MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC SEQUENCING, PROVIDED NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THERE FROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL, IN WRITING, HAS BEEN GRANTED BY THE OFFICE OF PLANNING AND ENGINEERING. ALL WORK NOT SPECIFIED IN THIS SEQUENCE CAN BE COMPLETED ANYTIME DURING THE DURATION OF THE PROJECT AT THE APPROVAL OF THE ENGINEER.

PRE-PHASE 1A

PRIOR TO SHIFTING OF TRAFFIC FOR PHASE 1A THE FOLLOWING WORK SHALL TAKE PLACE:

- NEW 40 MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT THE LOCATIONS SHOWN IN THE PLANS WITH THE CONFLICTING SPEED LIMIT SIGNS BEING REMOVED. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER OF THE DATE THE NEW SPEED LIMIT SIGNS ARE INSTALLED.

- REMOVAL OF CONCRETE MEDIAN AND INSTALLATION OF TEMPORARY PAVEMENT ON S.R. 310 AT LOCATIONS DETAILED IN THE PHASE 1 MOT PLANS

- INSTALLATION OF TEMPORARY SIGNAL AT THE INTERSECTION OF S.R. 310 AND ETNA CREST BLVD.

- REMOVAL OF EXISTING SIGNAL HEADS AND PLACEMENT OF TEMPORARY SIGNAL HEADS WITH NEW SIGNAL CABLE AT THE INTERSECTION OF S.R. 310 AND RAMP B AND RAMP D.

PHASE 1A

S.R. 310 TRAFFIC WILL BE SHIFTED TO THE EAST SIDE OF S.R. 310 WITH TWO-WAY TRAFFIC BEING MAINTAINED BY ONE LANE IN BOTH THE NORTHBOUND AND SOUTHBOUND DIRECTION. ALL RAMPS WILL REMAIN OPEN DURING THIS PHASE WITH LANE WIDTH REDUCTIONS. SHORT-DURATION CLOSURES PER PIS 209960 (SHEET 30) ON I.R. 70 WILL OCCUR DURING SETTING OF BRIDGE BEAMS.

THE FOLLOWING WORK WILL TAKE PLACE ON I.R. 70, S.R. 310, RAMP A, AND RAMP D:

- PART-WIDTH CONSTRUCTION OF THE WEST SIDE OF BRIDGE NO. LIC-310-0096 (LANE CLOSURES ON I.R. 70 SHALL CONFORM TO THE LANE VALUE CONTRACT TABLE AND SCD MT-95.30)

- CLEARING AND GRUBBING, BENCHING, DRAINAGE, CURB, AND ASSOCIATED WORK ON PROTECTED AREAS OF S.R. 310, RAMP A, AND RAMP D

PHASE 1B

PHASE 1A MAINTENANCE OF TRAFFIC WILL REMAIN IN PLACE DURING THIS PHASE. RAMP D WILL BE CLOSED FOR 12 TO 18 CONSECUTIVE CALENDAR DAYS. TRAFFIC WILL BE DETOURED AS SHOWN IN PLANS.

THE FOLLOWING WORK WILL TAKE PLACE ON RAMP D AND S.R. 310:

- REMOVAL OF EXISTING PAVEMENT AND INSTALLATION OF CONCRETE PAVEMENT ON RAMP D AND S.R. 310 FROM STA. 18+40 TO STA. 23+31.73 (BRIDGE)

PHASE 1C

PHASE 1A MAINTENANCE OF TRAFFIC WILL REMAIN IN PLACE DURING THIS PHASE. RAMP D WILL REOPEN AND RAMP A/E WILL BE CLOSED FOR 12 TO 18 CONSECUTIVE CALENDAR DAYS. TRAFFIC WILL BE DETOURED AS SHOWN IN PLANS.

THE FOLLOWING WORK WILL TAKE PLACE ON RAMP A, RAMP E AND S.R. 310:

- REMOVAL OF EXISTING PAVEMENT AND INSTALLATION OF CONCRETE PAVEMENT ON RAMP A, RAMP E, AND S.R. 310 FROM STA. 26+68.29 (BRIDGE) TO STA. 35+78.11 (DO NOT INSTALL CURB AROUND RAMP A ISLAND AND ALONG RAMP E UNTIL END OF PROJECT TO ACCOMMODATE TURNING RADIUS OF OVERSIZE TRUCKS FROM SCREEN MACHINE INDUSTRIES)

PHASE 2 (WINTER – NO WORK)

PHASE 2 MAINTENANCE OF TRAFFIC WILL MAINTAIN EXISTING TRAFFIC PATTERNS ON S.R. 310 AND ALL RAMPS AS DETAILED IN THE PLANS. ANY WORK DONE DURING THIS PHASE MUST BE AT THE APPROVAL OF THE PROJECT ENGINEER.

PHASE 3A

S.R. 310 TRAFFIC WILL BE SHIFTED TO THE WEST SIDE OF S.R. 310 WITH TWO-WAY TRAFFIC BEING MAINTAINED BY ONE LANE IN BOTH THE NORTHBOUND AND SOUTHBOUND DIRECTION. ALL RAMPS WILL REMAIN OPEN DURING THIS PHASE WITH LANE WIDTH REDUCTIONS. SHORT-DURATION CLOSURES PER PIS 209960 (SHEET 30) ON I.R. 70 WILL OCCUR DURING SETTING OF BRIDGE BEAMS.

THE FOLLOWING WORK WILL TAKE PLACE ON I.R. 70, S.R. 310, RAMP B, AND RAMP C:

- PART-WIDTH CONSTRUCTION OF THE EAST SIDE OF BRIDGE NO. LIC-310-0096 (LANE CLOSURES ON I.R. 70 SHALL CONFORM TO THE LANE VALUE CONTRACT TABLE AND SCD MT-95.30)

- CLEARING AND GRUBBING, BENCHING, DRAINAGE, CURB, AND ASSOCIATED WORK ON PROTECTED AREAS OF S.R. 310, RAMP B, AND RAMP C

PHASE 3B

PHASE 3A MAINTENANCE OF TRAFFIC WILL REMAIN IN PLACE DURING THIS PHASE. RAMP C WILL BE CLOSED FOR 12 TO 18 CONSECUTIVE CALENDAR DAYS. TRAFFIC WILL BE DETOURED AS SHOWN IN PLANS.

THE FOLLOWING WORK WILL TAKE PLACE ON RAMP C AND S.R. 310:

- REMOVAL OF EXISTING PAVEMENT AND INSTALLATION OF CONCRETE PAVEMENT ON RAMP D AND S.R. 310 FROM STA. 18+40 TO STA. 23+31.73 (BRIDGE)

PHASE 3C

PHASE 3A MAINTENANCE OF TRAFFIC WILL REMAIN IN PLACE DURING THIS PHASE. RAMP C WILL REOPEN AND RAMP B WILL BE CLOSED FOR 12 TO 18 CONSECUTIVE CALENDAR DAYS. TRAFFIC WILL BE DETOURED AS SHOWN IN PLANS.

THE FOLLOWING WORK WILL TAKE PLACE ON RAMP B AND S.R. 310:

- REMOVAL OF EXISTING PAVEMENT AND INSTALLATION OF CONCRETE PAVEMENT ON RAMP A AND S.R. 310 FROM STA. 26+68.29 (BRIDGE) TO STA. 35+78.11

NOTE: ALL WATER AND SEWER WORK SHALL BE COMPLETED BEFORE BEGINNING PHASE 4 CONSTRUCTION.

PHASE 4

PHASE 3 MAINTENANCE OF TRAFFIC WILL REMAIN IN PLACE DURING THIS PHASE ON THE RAMPS AND S.R. 310 FROM COLUMBUS PARKWAY TO ETNA CREST BLVD. THE INTERCHANGE WILL BE OPEN TO BUSINESS TRAFFIC ONLY. S.R. 310 WILL BE CLOSED TO THROUGH TRAFFIC FOR 12 TO 18 CONSECUTIVE CALENDAR DAYS. NON-BUSINESS TRAFFIC WILL BE DETOURED AS SHOWN IN PLANS. DRIVE ACCESS WILL BE RESTRICTED AT THE LOCATIONS SHOWN IN PLANS.

THE FOLLOWING WORK WILL TAKE PLACE ON S.R. 310:

- REMOVAL OF EXISTING PAVEMENT AND INSTALLATION OF ASPHALT PAVEMENT ON S.R. 310 FROM STA. 12+00 TO STA. 15+50, STA. 15+50 TO STA. 18+40 RT., STA. 37+00 TO STA. 41+50 RT., AND STA. 41+50 TO STA. 49+20. (ASPHALT PAVEMENT SHALL BE BUILT UP ONLY TO INTERMEDIATE COURSE)

- INSTALLATION OF CULVERT LIC-310-0134

- INSTALLATION OF DRAINAGE ITEMS AND CURB (THE CONTRACTOR SHALL TRY TO COMPLETE AS MUCH DRAINAGE AND CURB WORK AS POSSIBLE PRIOR TO THE CLOSURE OF S.R. 310)

- CONSTRUCTION OF DRIVE APRONS (ALL DRIVES MUST BE CONSTRUCTED PART WIDTH UNLESS THERE ARE MULTIPLE ENTRANCES TO THE PROPERTY)

PHASE 5

THE INTERCHANGE WILL BE CLOSED TO ALL TRAFFIC 6 TO 10 CONSECUTIVE CALENDAR DAYS. ALL TRAFFIC WILL BE DETOURED AS SHOWN IN PLANS. A MINIMUM OF ONE LANE OF TRAFFIC WILL BE MAINTAINED ON ETNA CREST BLVD. DRIVE ACCESS WILL BE RESTRICTED AT THE LOCATIONS SHOWN IN PLANS.

THE FOLLOWING WORK WILL TAKE PLACE ON COLUMBUS PARKWAY, ETNA CREST BLVD., AND S.R. 310:

- REMOVAL OF EXISTING PAVEMENT AND INSTALLATION OF ASPHALT PAVEMENT ON COLUMBUS PARKWAY FROM STA. 0+00 TO STA. 1+10, ETNA CREST BLVD. FROM STA. 0+00 TO STA. 1+50, S.R. 310 FROM STA. 15+50 TO STA. 18+40 LT., AND STA. 35+78.11 TO STA. 41+50 LT. (ASPHALT PAVEMENT SHALL BE BUILT UP ONLY TO INTERMEDIATE COURSE)

- INSTALLATION OF DRAINAGE ITEMS AND CURB (THE CONTRACTOR SHALL TRY TO COMPLETE AS MUCH DRAINAGE AND CURB WORK AS POSSIBLE PRIOR TO THE CLOSURE OF S.R. 310)

- CONSTRUCTION OF DRIVE APRONS (ALL DRIVES MUST BE CONSTRUCTED PART WIDTH UNLESS THERE ARE MULTIPLE ENTRANCES TO THE PROPERTY)

PHASE 6

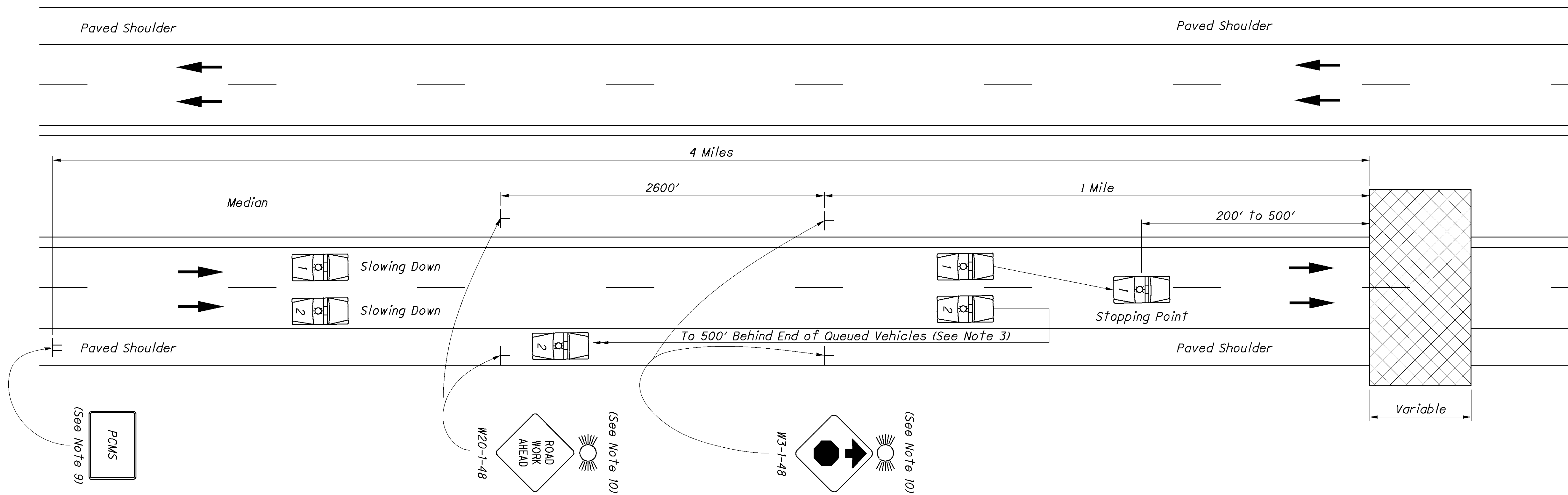
ALL ROADWAYS AND RAMPS WILL BE OPEN TO TRAFFIC WITH ALL PROPOSED SIGNS, TRAFFIC SIGNALS, AND LIGHTING INSTALLED. THE FOLLOWING WORK WILL TAKE PLACE ON I.R. 70, S.R. 310, AND RAMPS:

- COMPLETION OF CURB AROUND RAMP A ISLAND AND ALONG RAMP E

- INSTALLATION OF SURFACE COURSE AND APPLICATION OF FINAL PAVEMENT MARKINGS ON S.R. 310, RAMPS, COLUMBUS PARKWAY, ETNA CREST BLVD., AND ADJACENT DRIVES (ALL NECESSARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED TO MAINTAIN TRAFFIC AT ALL TIMES)

- PAINTING OF BRIDGE BEAMS, SEALING OF CONCRETE SURFACES, AND INSTALLATION OF VANDAL FENCING (SEE BRIDGE PLANS FOR SEQUENCING) (LANE CLOSURES ON I.R. 70 SHALL CONFORM TO THE LANE VALUE CONTRACT TABLE AND SCD MT-95.30)

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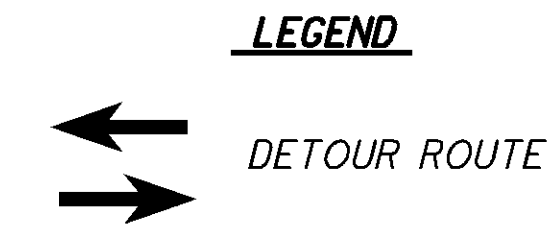
NOTES:

1. This type of highway closure shall be used for all construction, maintenance and utility operations when the duration of closure will not exceed 15 minutes.
2. A minimum of two law enforcement officers with patrol cars per direction shall be provided to block traffic and pace motorists to a stop. The number of patrol cars shall equal the number of lanes closed on the highway.
3. Patrol cars, with lights flashing, should enter the stream of traffic at approximately 3 miles before the point of closure. At approximately 2 miles before the point of closure, they should begin the gradual slow down. Traffic shall be brought to a complete stop a safe distance, between 200' and 500', from the work area. This slowing operation shall take no more than 10 minutes. After traffic has been stopped, one patrol car shall travel along the roadway shoulder 500' behind the end of the queued vehicles.
4. The Contractor shall not begin work until traffic has been brought to a complete stop.
5. All entrance ramps located between the stopped traffic and the work area shall be closed.
6. After the highway has been closed and reopened via this procedure, both of the following requirements shall have been met before implementation of another short duration closure, except with the approval of the Engineer:
 - a) A minimum period of 15 minutes shall have elapsed; and
 - b) The queued traffic shall have dissipated.
7. The time frame for stopping traffic shall be specified.
8. The public shall be given advance notice of the upcoming closure by providing portable changeable message signs at the site in advance of the scheduled closing. Closure information should also be provided to the Engineer.
9. An ODOT-approved portable changeable message sign shall be provided during operation. The message sign shall be placed approximately 4 miles in advance of the closure or as directed by the Engineer. The message shall be ROAD CLOSED AHEAD (2 sec.), PREPARE TO STOP (2 sec.).
10. The Contractor shall erect and maintain 48" ROAD WORK AHEAD and Stop Ahead signs on each side of the highway. Each sign shall be equipped with one Type A flashing warning light and one flare. There shall be one flare at each sign on both sides of the roadway. The flare shall be replaced if it burns out.

LEGEND

	WORK AREA
	PATROL CAR
	DIRECTION OF TRAFFIC

S.R. 310 LOCAL DETOUR (UNSIGNED)



DETOUR MAP

SEE SHEET 28 FOR LOCAL DETOUR NOTES AND QUANTITIES.

CALCULATED	JLS
CHECKED	JSL

**MAINTENANCE OF TRAFFIC DETOUR MAP
LOCAL DETOUR**

LIC-310-0.74

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①
 PORTABLE CHANGEABLE MESSAGE SIGN
 S.R. 310 EXIT CLOSED SCREEN 1
 USE S.R. 158 SCREEN 2
 (PLACE APPROX. 1 MILE FROM I.R. 70/S.R. 310 INTERCHANGE)

②
 DETOUR M4-8-30
 310 MI-5-36-3 (*)
 M5-2-30

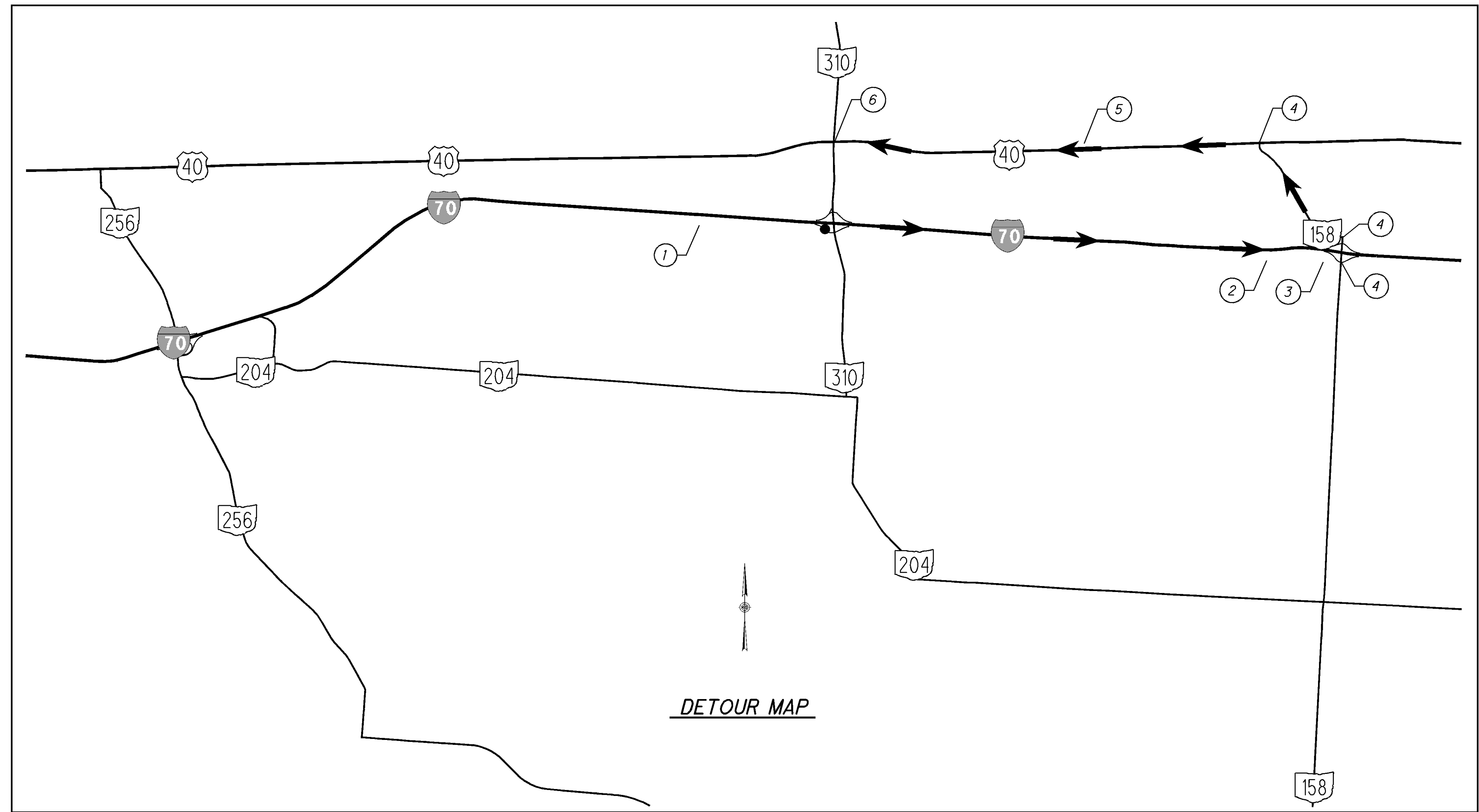
③
 DETOUR M4-8-30
 310 MI-5-36-3 (*)
 M6-2R-30

④
 DETOUR M4-8-30
 310 MI-5-36-3 (*)
 M6-1L-30

⑤
 DETOUR M4-8-30
 310 MI-5-36-3 (*)

⑥
 END DETOUR M4-8A-24
 310 MI-5-36-3 (*)

LEGEND
 ● WORK AREA - RAMP D (I.R. 70 E.B. OFF RAMP TO S.R. 310)
 ← I.R. 70 E.B. TO S.R. 310 DETOUR (PHASE 1B)



(*) - SIGN TO BE SUPPLIED BY O.D.O.T.

CALCULATED
 JLS
 CHECKED
 JSL

MAINTENANCE OF TRAFFIC DETOUR MAP
 PHASE 1B

LIC-310-0.74

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1A

PORTABLE CHANGEABLE MESSAGE SIGN

I.R. 70
W.B. RAMP
CLOSED
SCREEN 1

USE
S.R. 158
SCREEN 2

(PLACE BETWEEN RAMP A
AND ETNA CREST BLVD.)

(PLACE BETWEEN RAMP C
AND COLUMBUS PKWY.)

2

DETOUR WEST M4-8-30
M3-4-36
INTERSTATE 70 MI-1-36-2 (*)
← M6-1L-30

3

DETOUR WEST M4-8-30
M3-4-36
INTERSTATE 70 MI-1-36-2 (*)

4

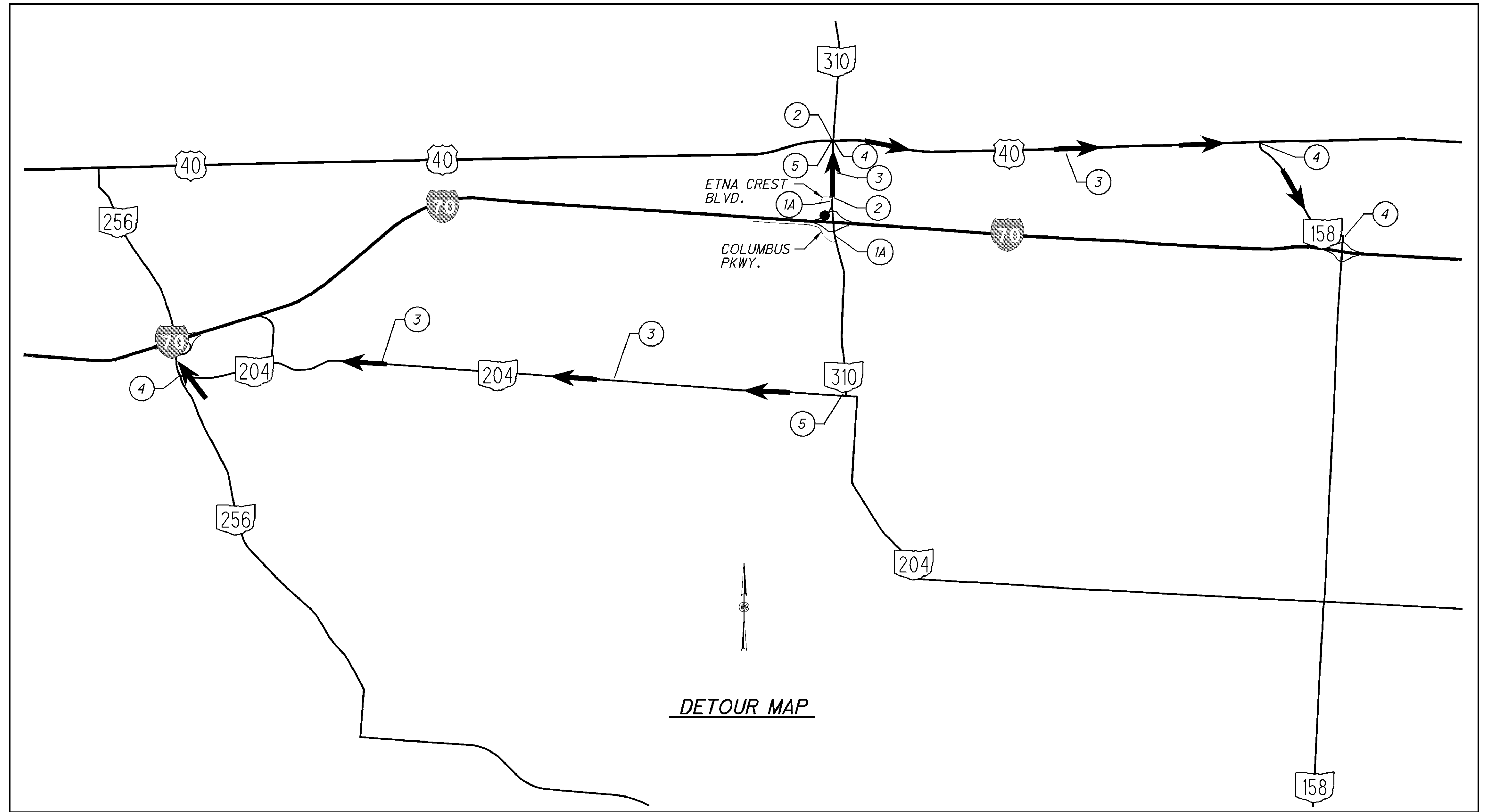
DETOUR WEST M4-8-30
M3-4-36
INTERSTATE 70 MI-1-36-2 (*)
→ M6-1R-30

5

DETOUR WEST M4-8-30
M3-4-36
INTERSTATE 70 MI-1-36-2 (*)
↑ M6-3-30

LEGEND

- WORK AREA - RAMP A (S.R. 310 ON RAMP TO I.R. 70 W.B.)
- ← S.R. 310 TO I.R. 70 W.B. DETOUR (PHASE 1C)



(*) - SIGN TO BE SUPPLIED BY O.D.O.T.

CALCULATED
JLS
CHECKED
JSL

MAINTENANCE OF TRAFFIC DETOUR MAP
PHASE 1C

LIC-310-0.74

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①
PORTABLE CHANGEABLE MESSAGE SIGN

I.R. 70
E.B. RAMP
CLOSED
SCREEN 1

USE
S.R. 158
SCREEN 2

(PLACE BETWEEN RAMP C AND COLUMBUS PKWY.)

②

DETOUR
EAST

M4-8-30

EAST

M3-2-36

INTERSTATE
70

MI-1-36-2 (*)

←

M6-1L-30

③

DETOUR
EAST

M4-8-30

EAST

M3-2-36

INTERSTATE
70

MI-1-36-2 (*)

④

DETOUR
EAST

M4-8-30

EAST

M3-2-36

INTERSTATE
70

MI-1-36-2 (*)

→

M6-1R-30

⑤

DETOUR
EAST

M4-8-30

EAST

M3-2-36

INTERSTATE
70

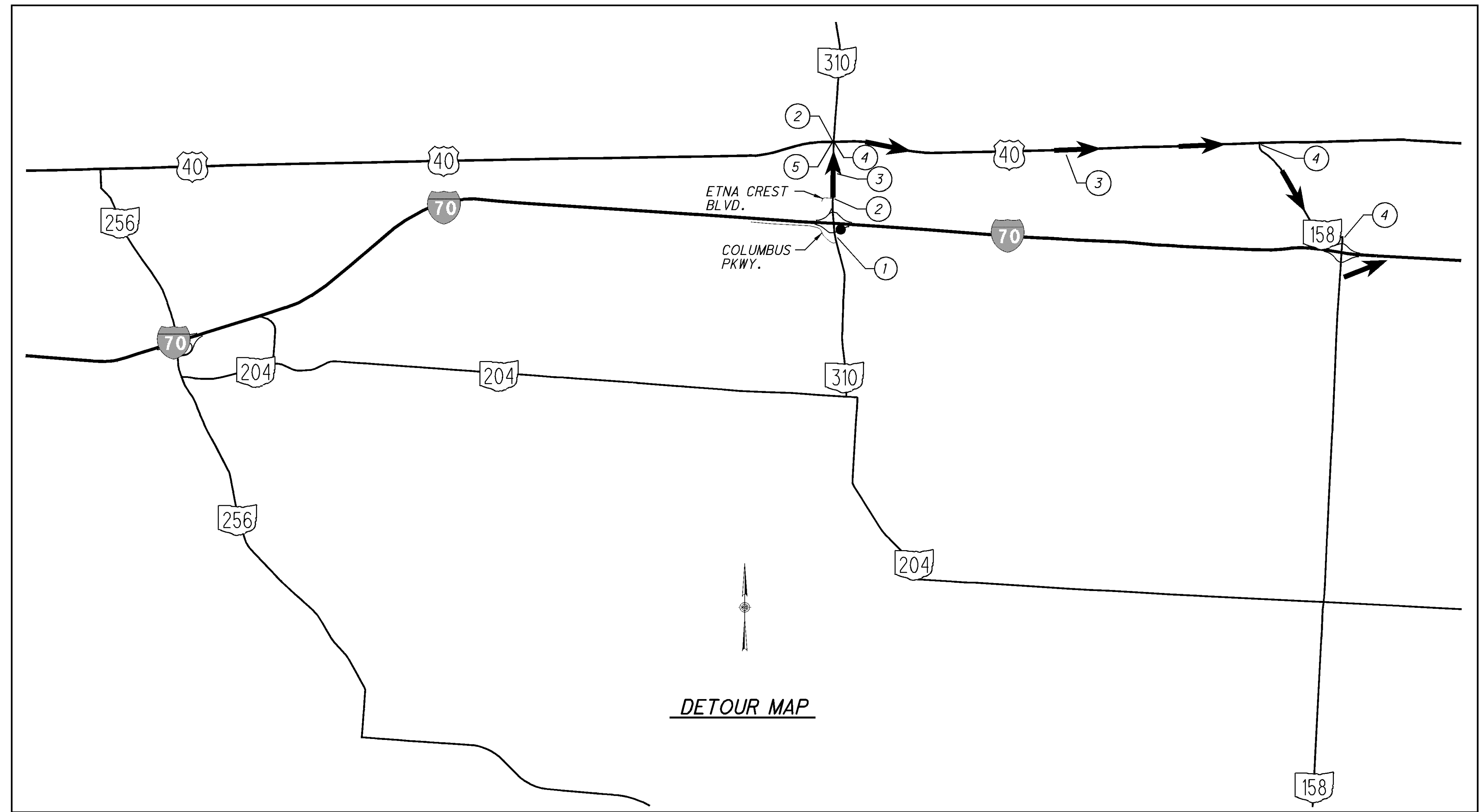
MI-1-36-2 (*)

↑

M6-3-30

LEGEND

- WORK AREA - RAMP C (S.R. 310 ON RAMP TO I.R. 70 E.B.)
- ← S.R. 310 TO I.R. 70 E.B. DETOUR (PHASE 3B)
- ⋮ SIGN USED IN PHASE 1C DETOUR



DETOUR MAP

(*) - SIGN TO BE SUPPLIED BY O.D.O.T.

CALCULATED
JLS
CHECKED
JSL

MAINTENANCE OF TRAFFIC DETOUR MAP
PHASE 3B

LIC-310-0.74

LEGEND

- WORK AREA - RAMP B (I.R. 70 W.B. OFF RAMP TO S.R. 310)
- ← I.R. 70 W.B. TO S.R. 310 DETOUR (PHASE 3C)
- ▭ - SIGN USED IN PHASE 1B DETOUR

①
PORTABLE CHANGEABLE MESSAGE SIGN

S.R. 310 EXIT CLOSED	USE S.R. 158
SCREEN 1	SCREEN 2

(PLACE APPROX. 1 MILE FROM I.R. 70/S.R. 158 INTERCHANGE)

②

DETOUR	M4-8-30
310	MI-5-36-3 (*)
↗	M5-2-30

③

DETOUR	M4-8-30
310	MI-5-36-3 (*)
↗	M6-2R-30

④

DETOUR	M4-8-30
310	MI-5-36-3 (*)
→	M6-1R-30

⑤

DETOUR	M4-8-30
310	MI-5-36-3 (*)
←	M6-1L-30

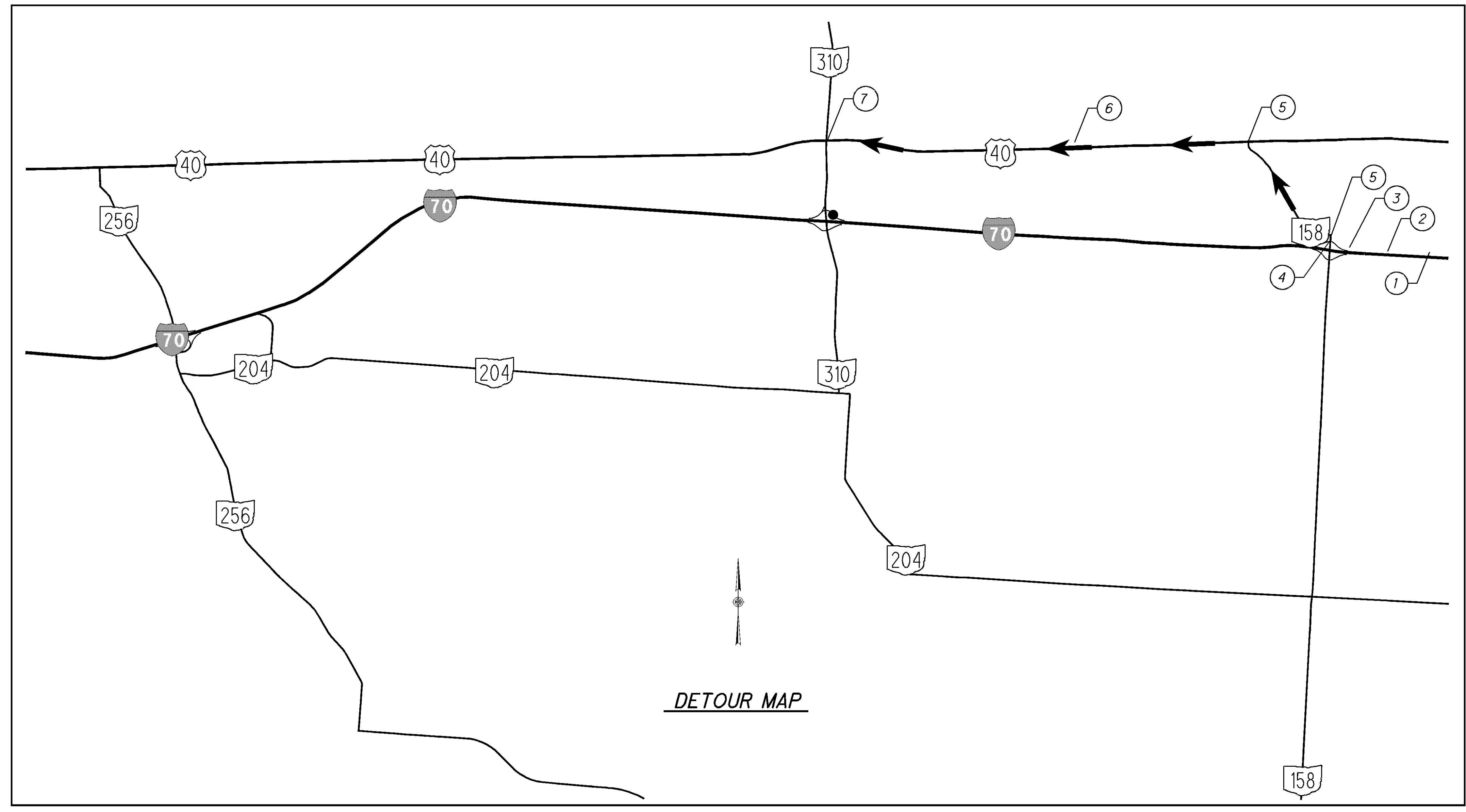
⑥

DETOUR	M4-8-30
310	MI-5-36-3 (*)

⑦

END DETOUR	M4-8A-24
310	MI-5-36-3 (*)

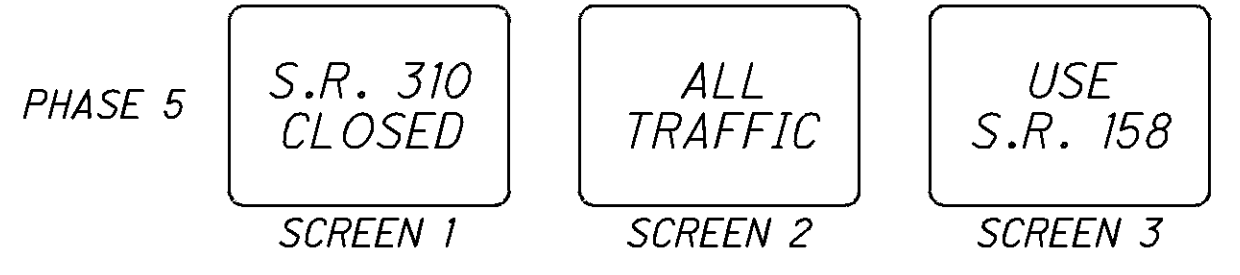
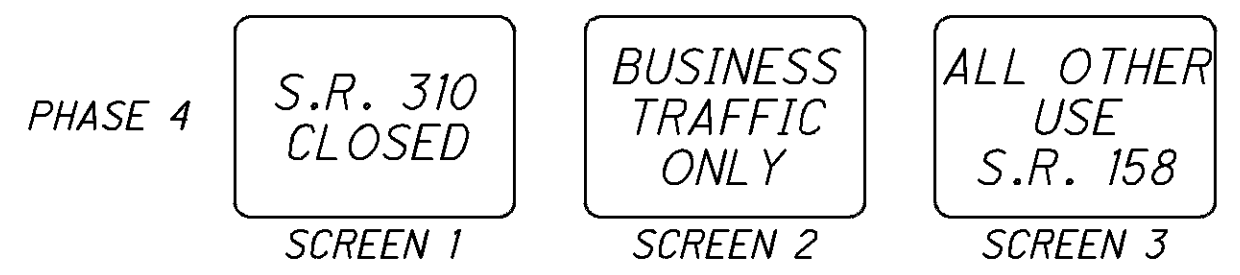
(*) - SIGN TO BE SUPPLIED BY O.D.O.T.



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1A

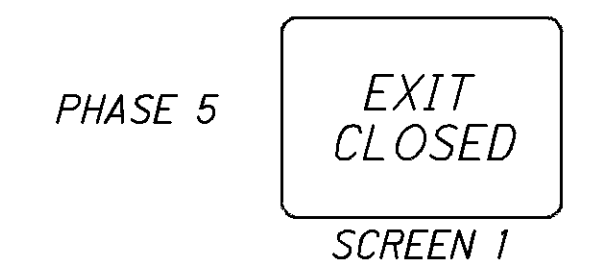
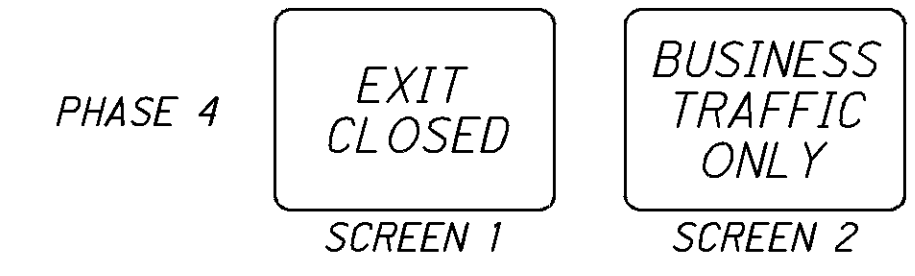
PORTABLE CHANGEABLE MESSAGE SIGN



(PLACE APPROX. 1 MILE FROM
I.R. 70/S.R. 310 AND
I.R. 70/S.R. 158 INTERCHANGES)

1B

PORTABLE CHANGEABLE MESSAGE SIGN

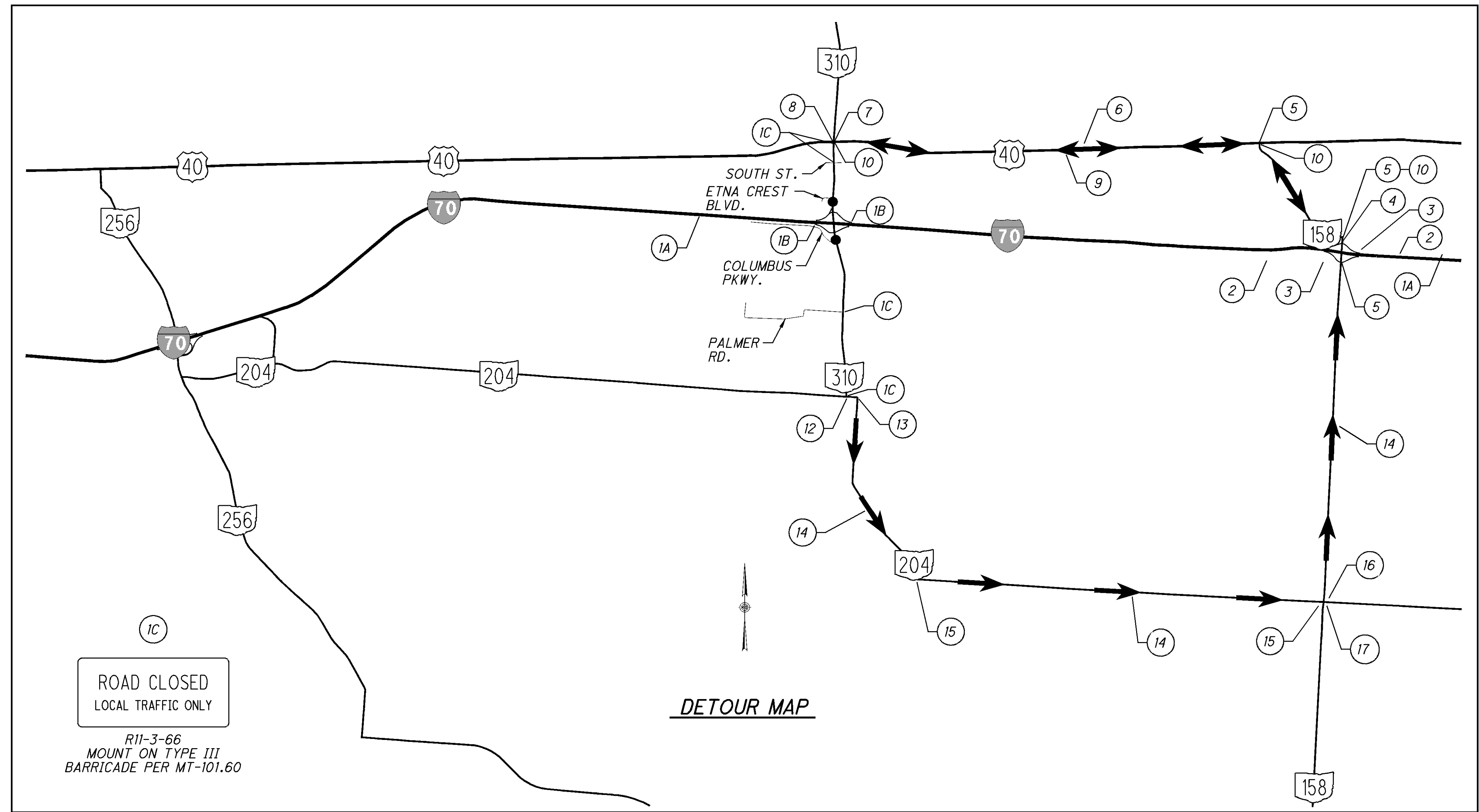


PLACE AT GORE AREA OF RAMPS B AND D

1C

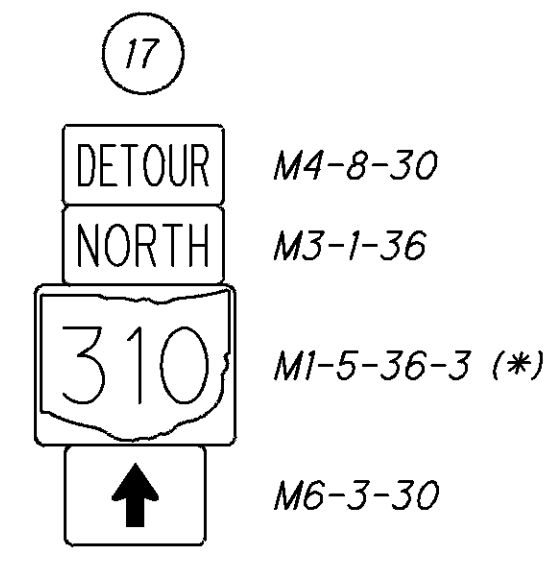
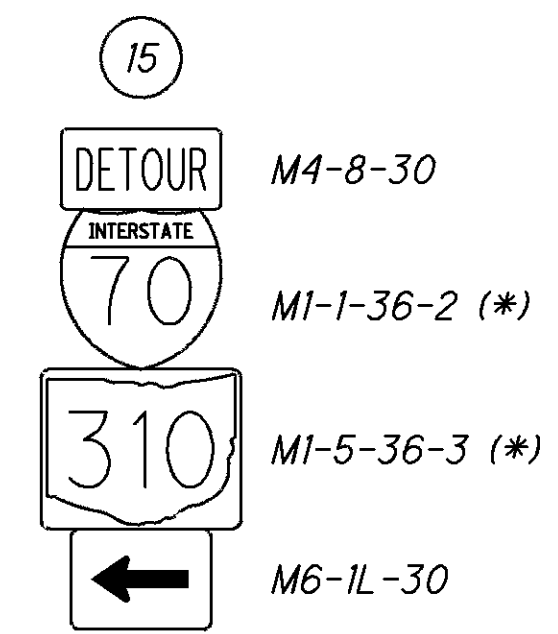
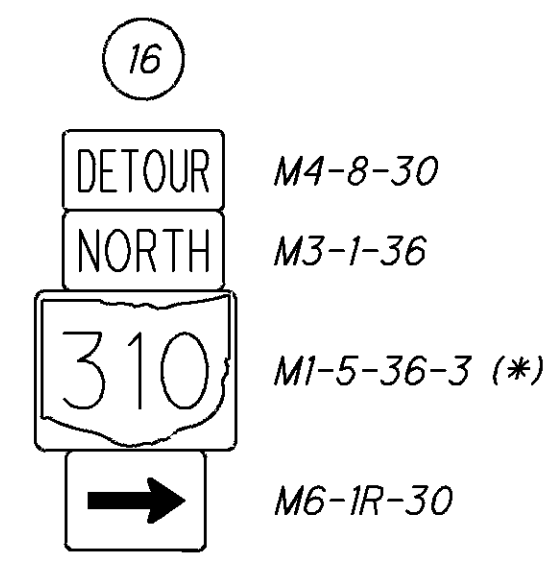
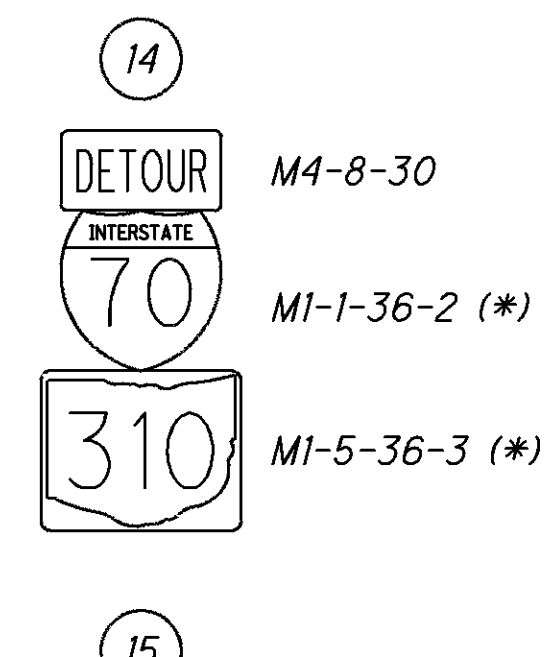
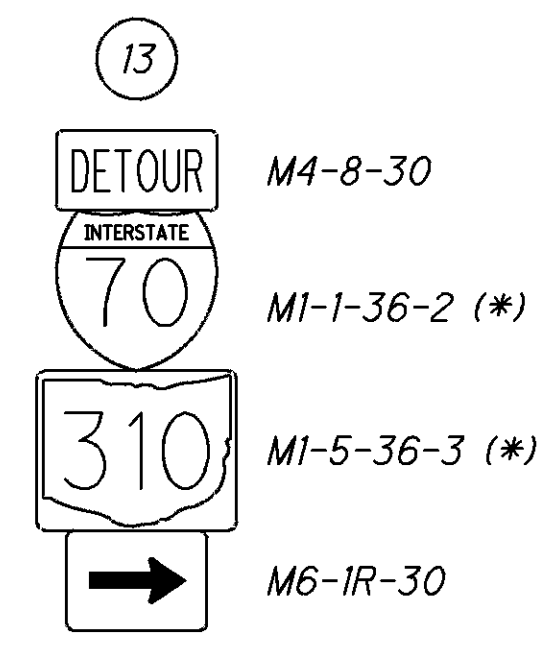
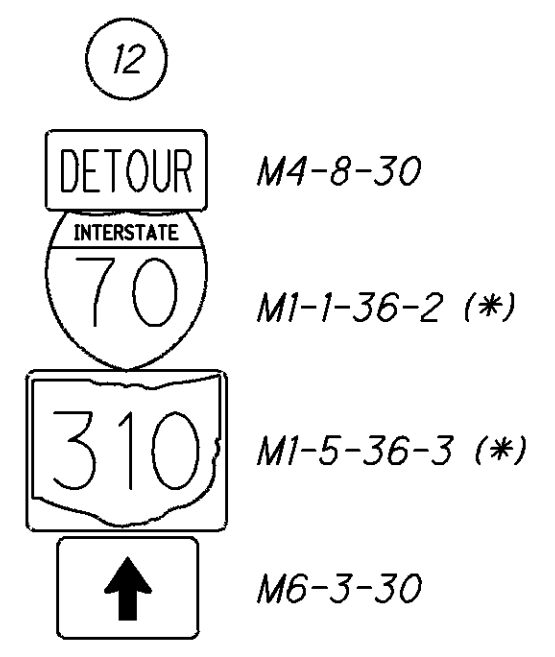
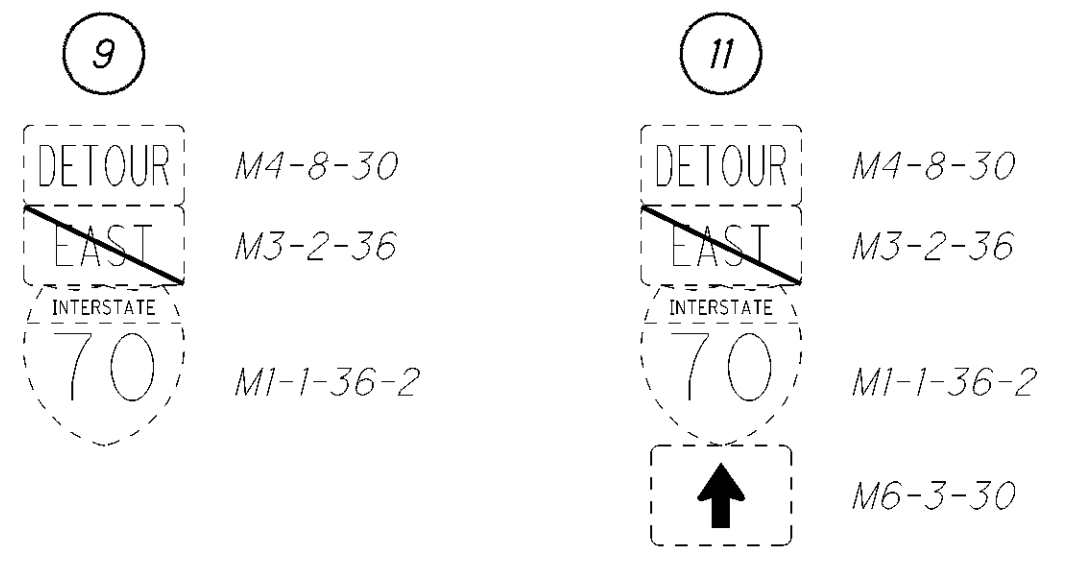
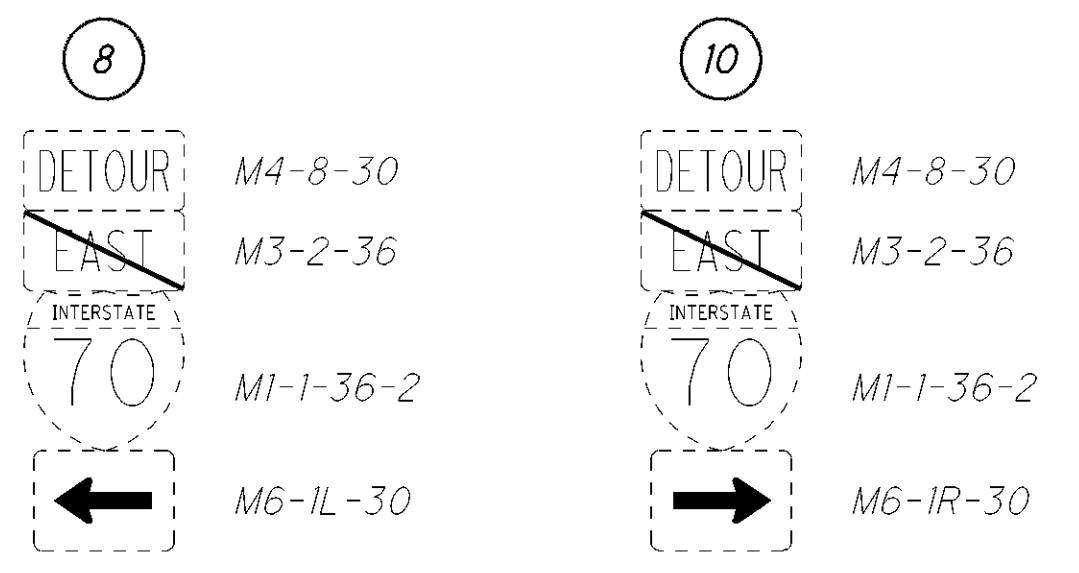
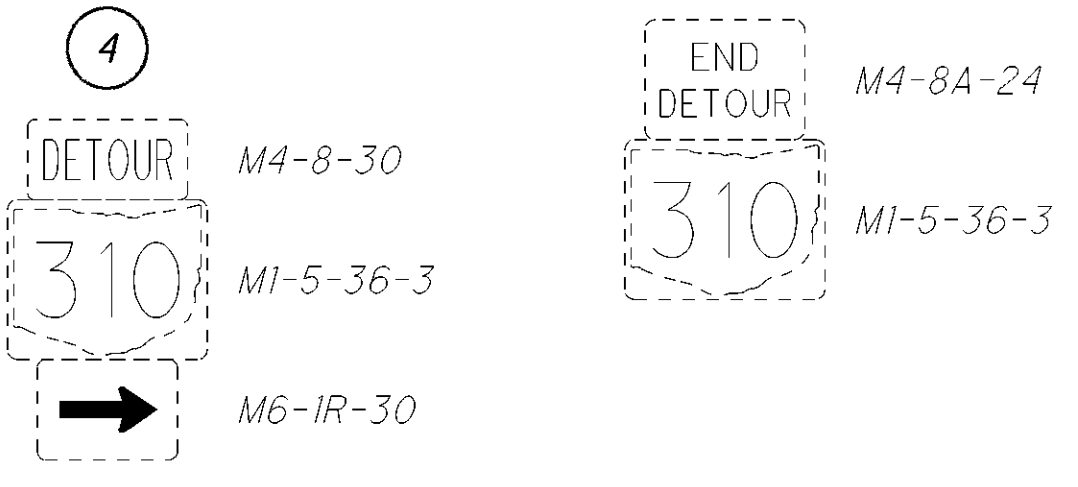
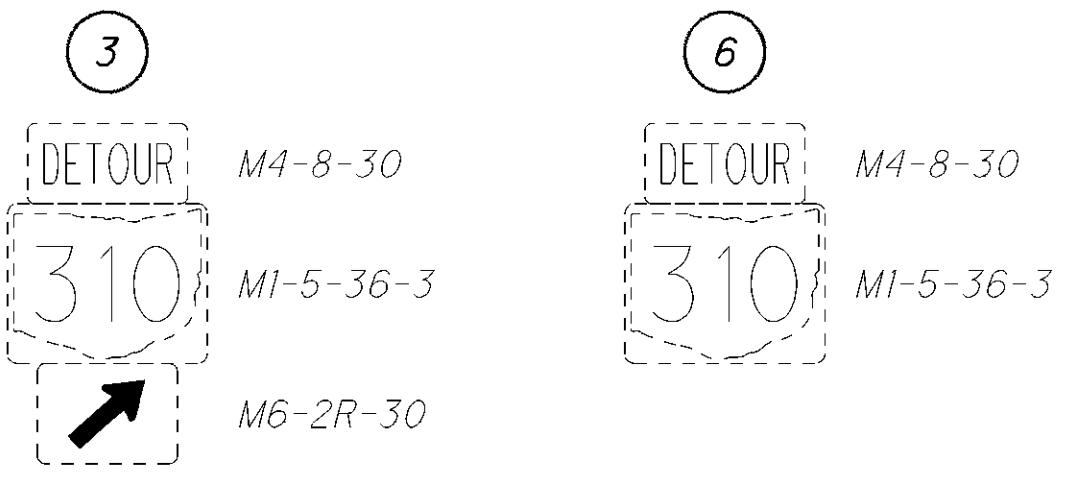
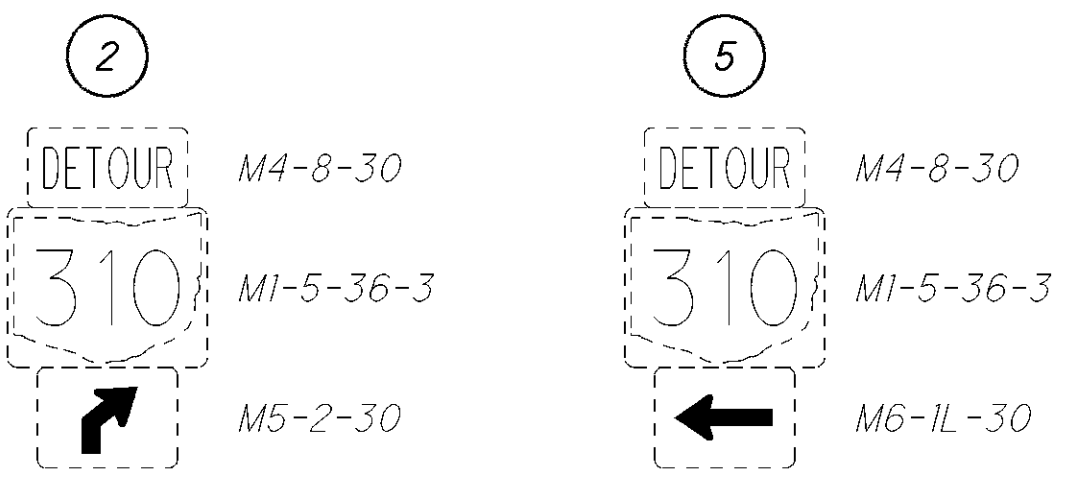
LEGEND

- WORK AREA - S.R. 310 NORTH AND SOUTH OF INTERCHANGES
- ← S.R. 310 CLOSURE DETOUR (PHASES 4 & 5)
- SIGN USED IN PREVIOUS PHASE
- SIGN TO BE COVERED/REMOVED



DETOUR MAP

ROAD CLOSED
LOCAL TRAFFIC ONLY
R11-3-66
MOUNT ON TYPE III
BARRICADE PER MT-101.60



(*) - SIGN TO BE SUPPLIED BY O.D.O.T.

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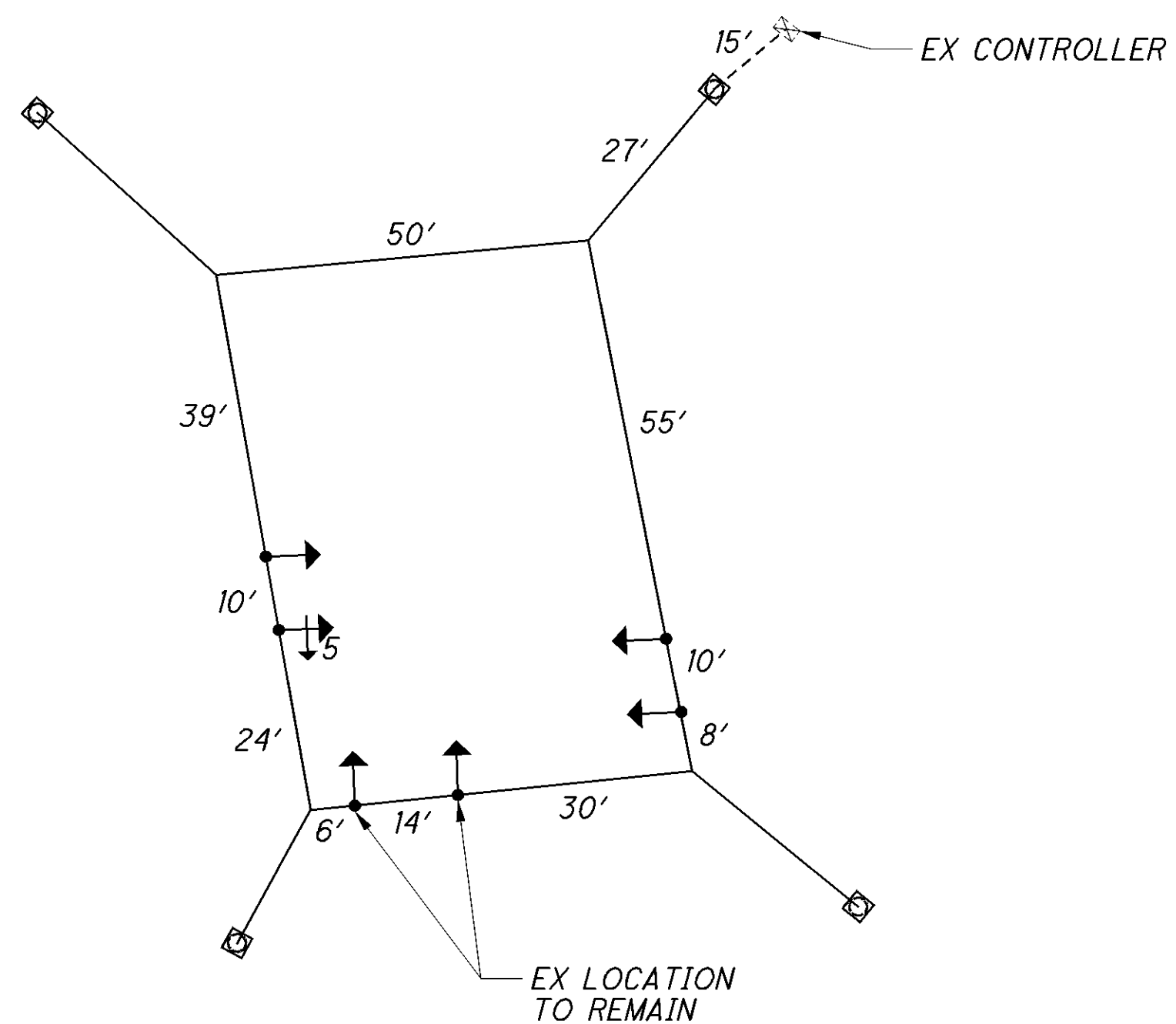
LEGEND

- TEMPORARY 3 SECTION SIGNAL HEAD
- ₄ TEMPORARY 4 SECTION SIGNAL HEAD
- ₅ TEMPORARY 5 SECTION SIGNAL HEAD



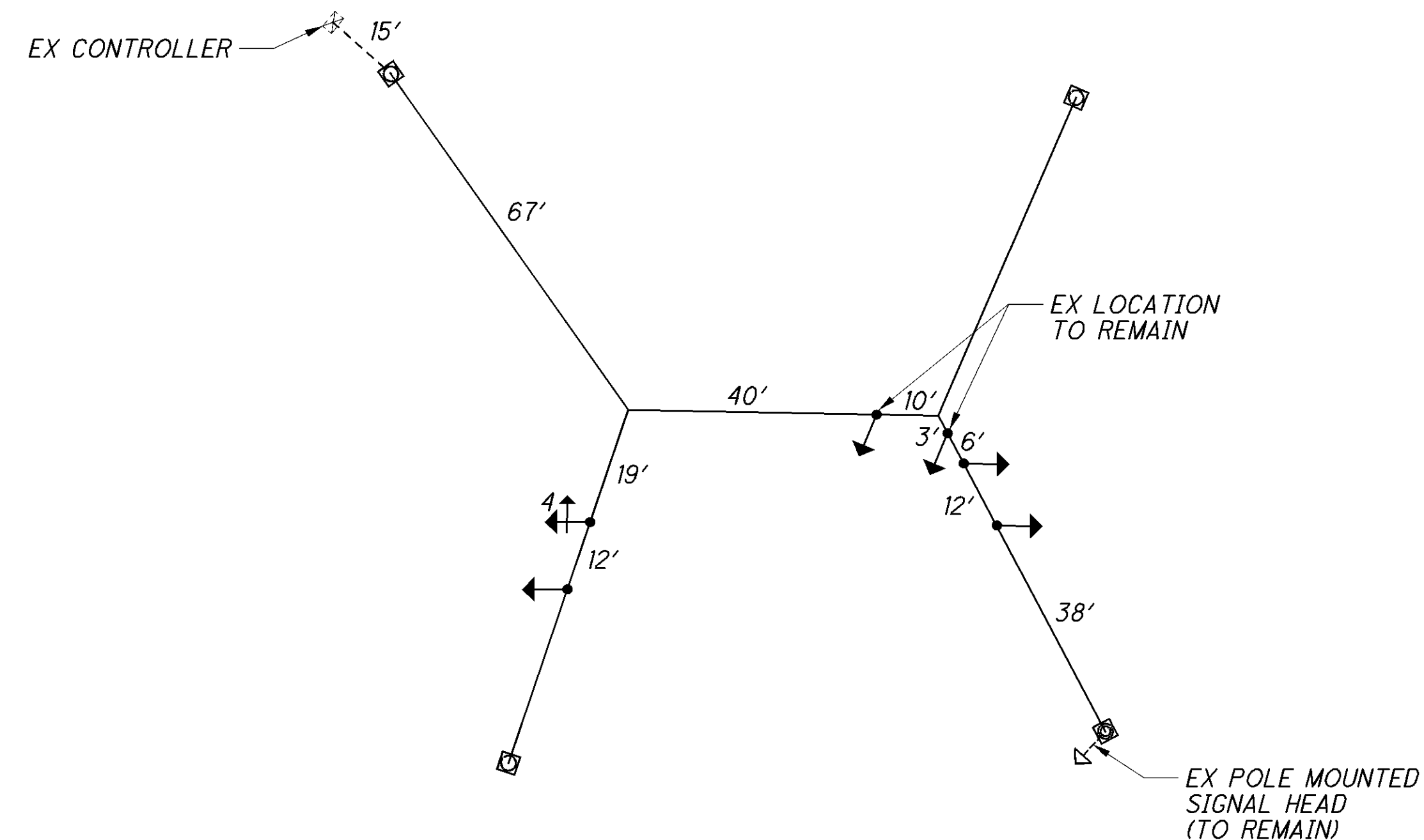
S.R. 310 AND RAMP D

EXISTING SPAN



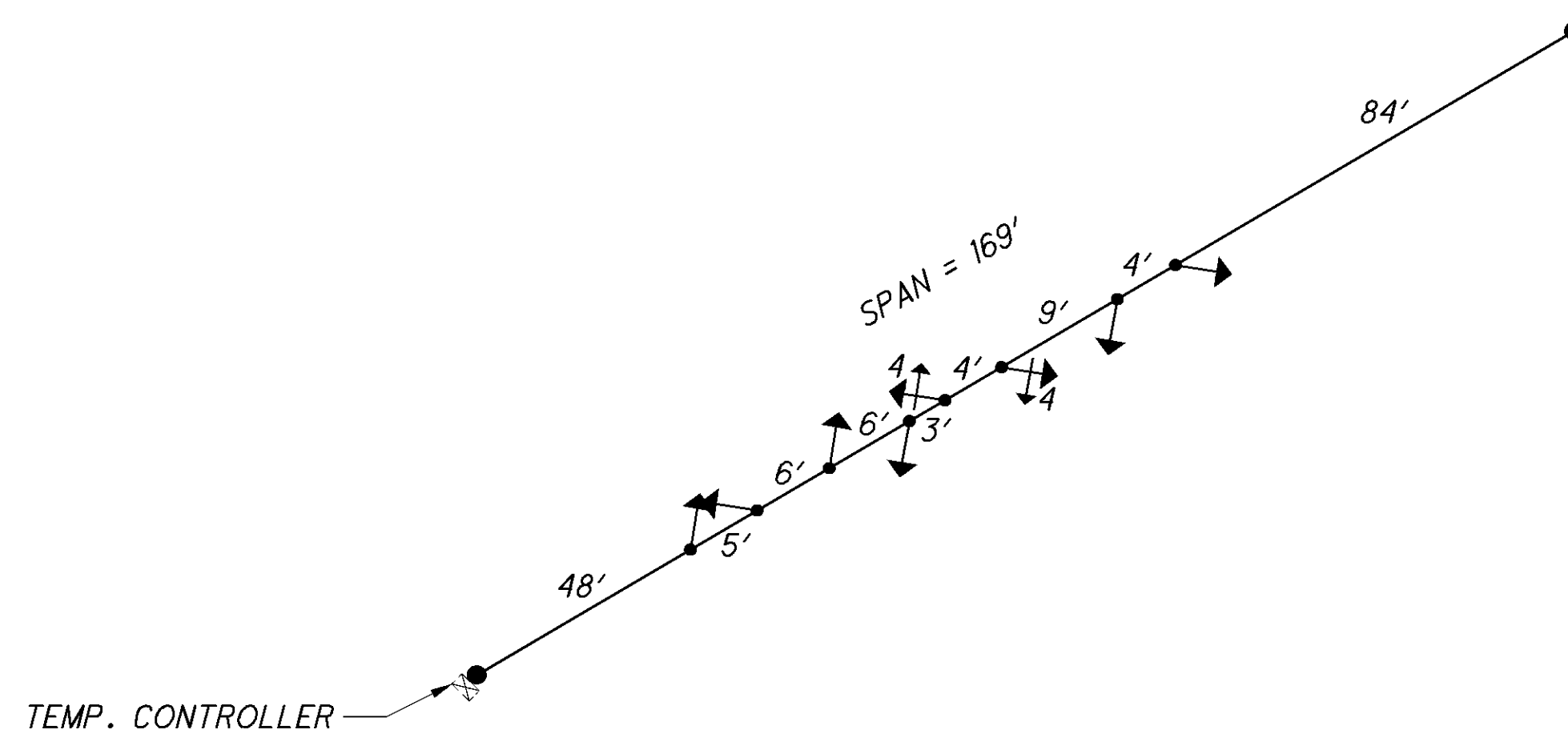
S.R. 310 AND RAMP B

EXISTING SPAN



S.R. 310 AND ETNA CREST BLVD.

TEMPORARY SPAN



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CALCULATED
JSL
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MAINTENANCE OF TRAFFIC SIGNAL LAYOUT - PHASE 1

LIC-310-0.74

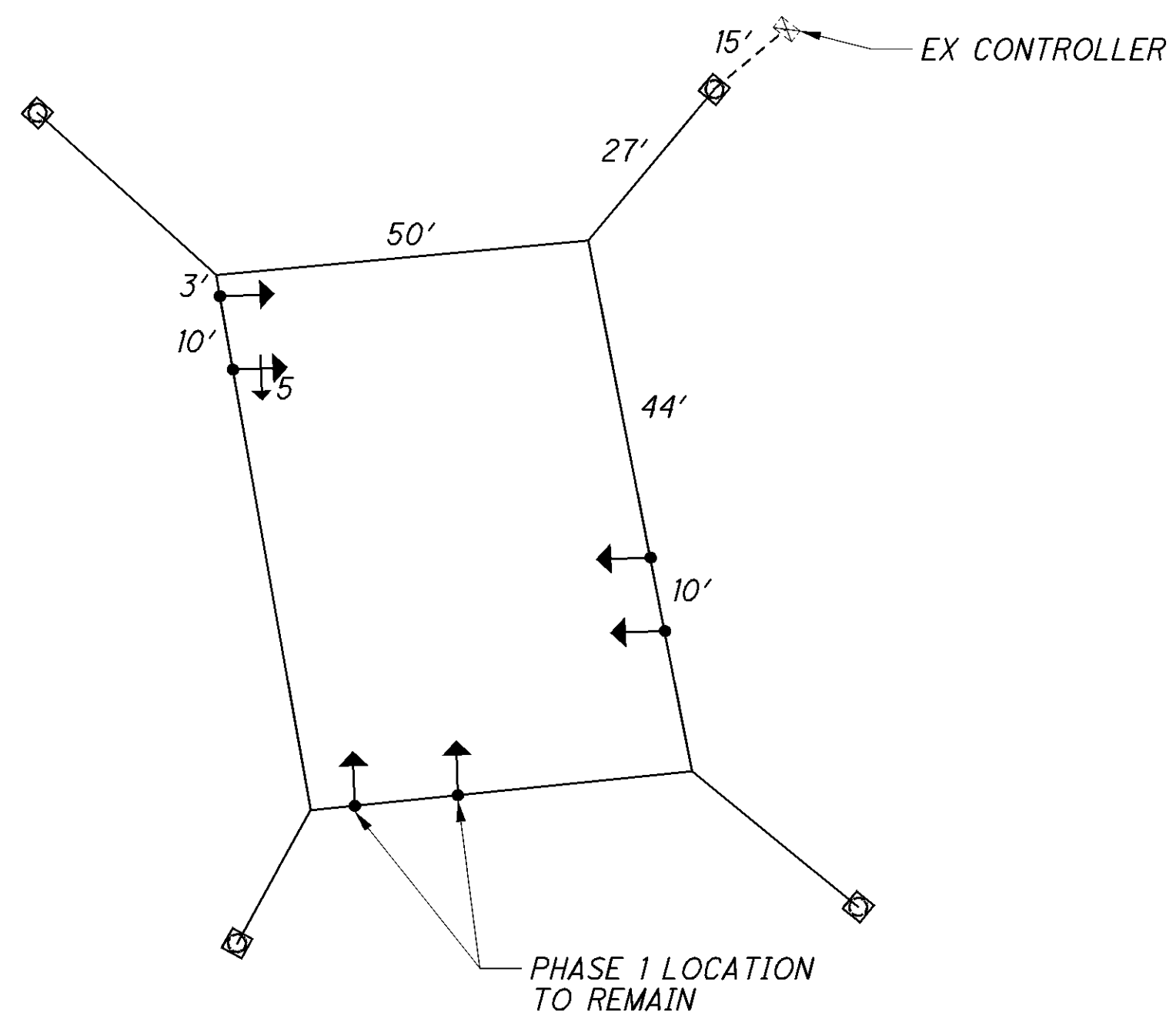
LEGEND

- TEMPORARY 3 SECTION SIGNAL HEAD
- ₄ TEMPORARY 4 SECTION SIGNAL HEAD
- ₅ TEMPORARY 5 SECTION SIGNAL HEAD



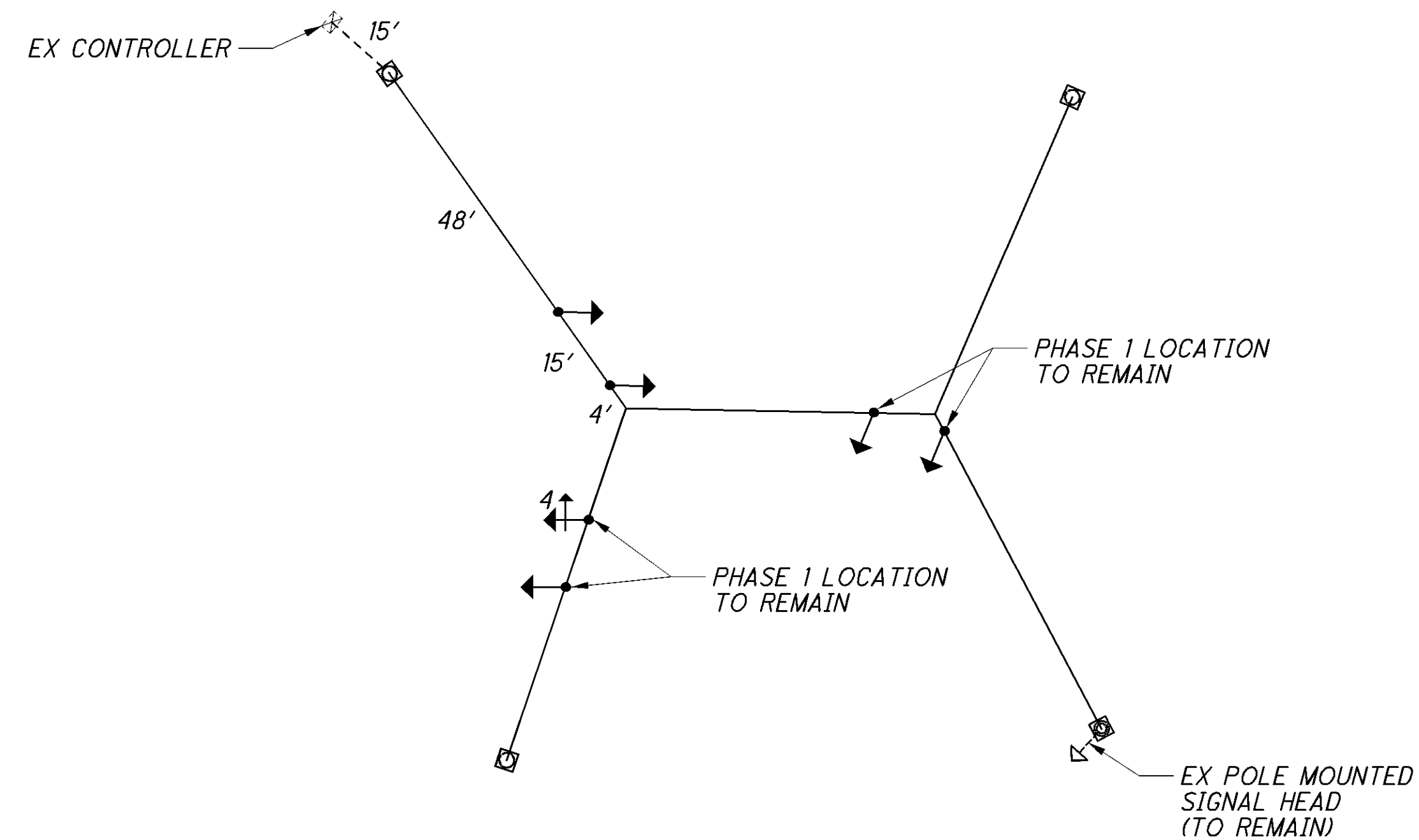
S.R. 310 AND RAMP D

EXISTING SPAN



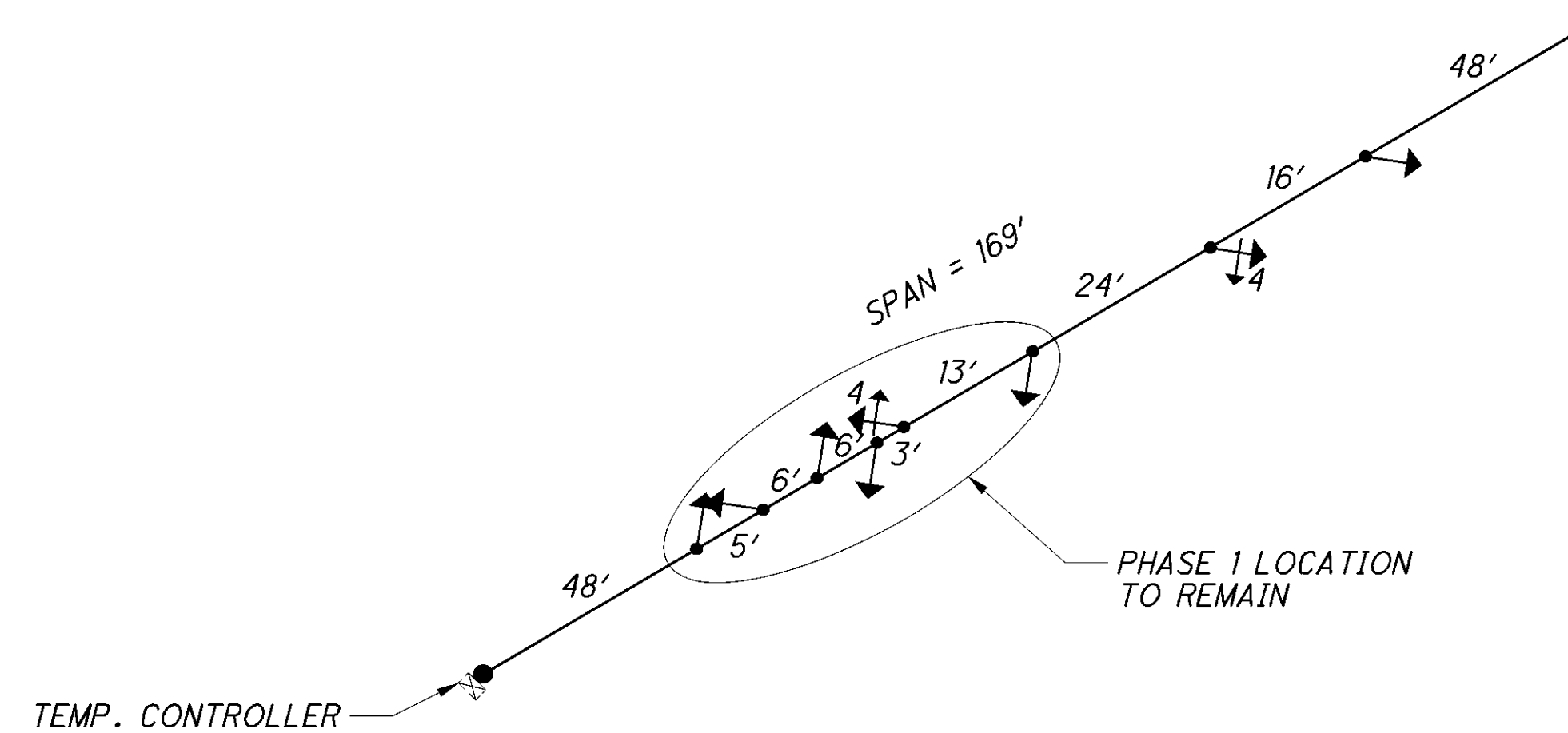
S.R. 310 AND RAMP B

EXISTING SPAN



S.R. 310 AND ETNA CREST BLVD.

TEMPORARY SPAN



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CALCULATED
JSL
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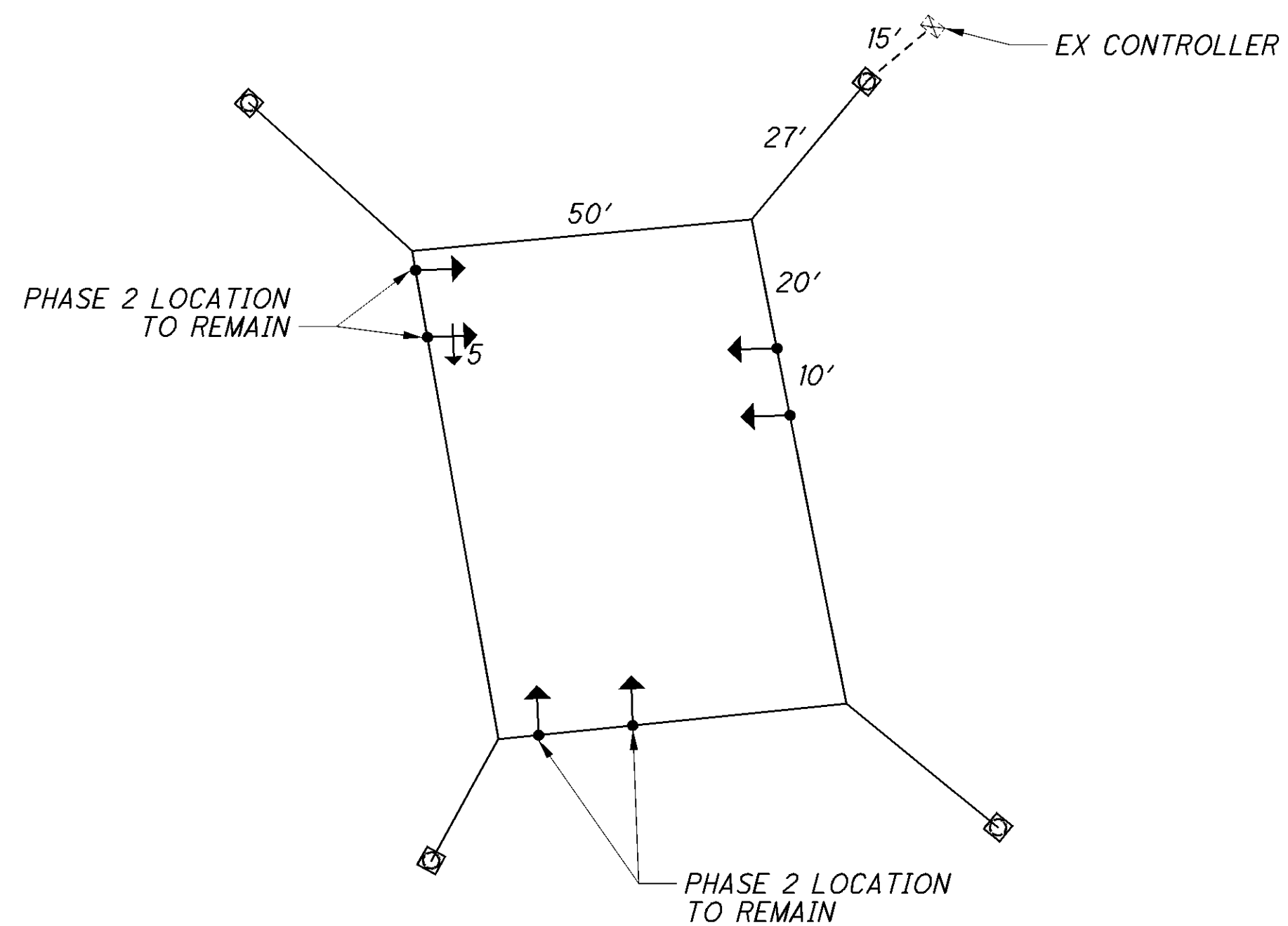
LEGEND

- TEMPORARY 3 SECTION SIGNAL HEAD
- ₄ TEMPORARY 4 SECTION SIGNAL HEAD
- ₅ TEMPORARY 5 SECTION SIGNAL HEAD



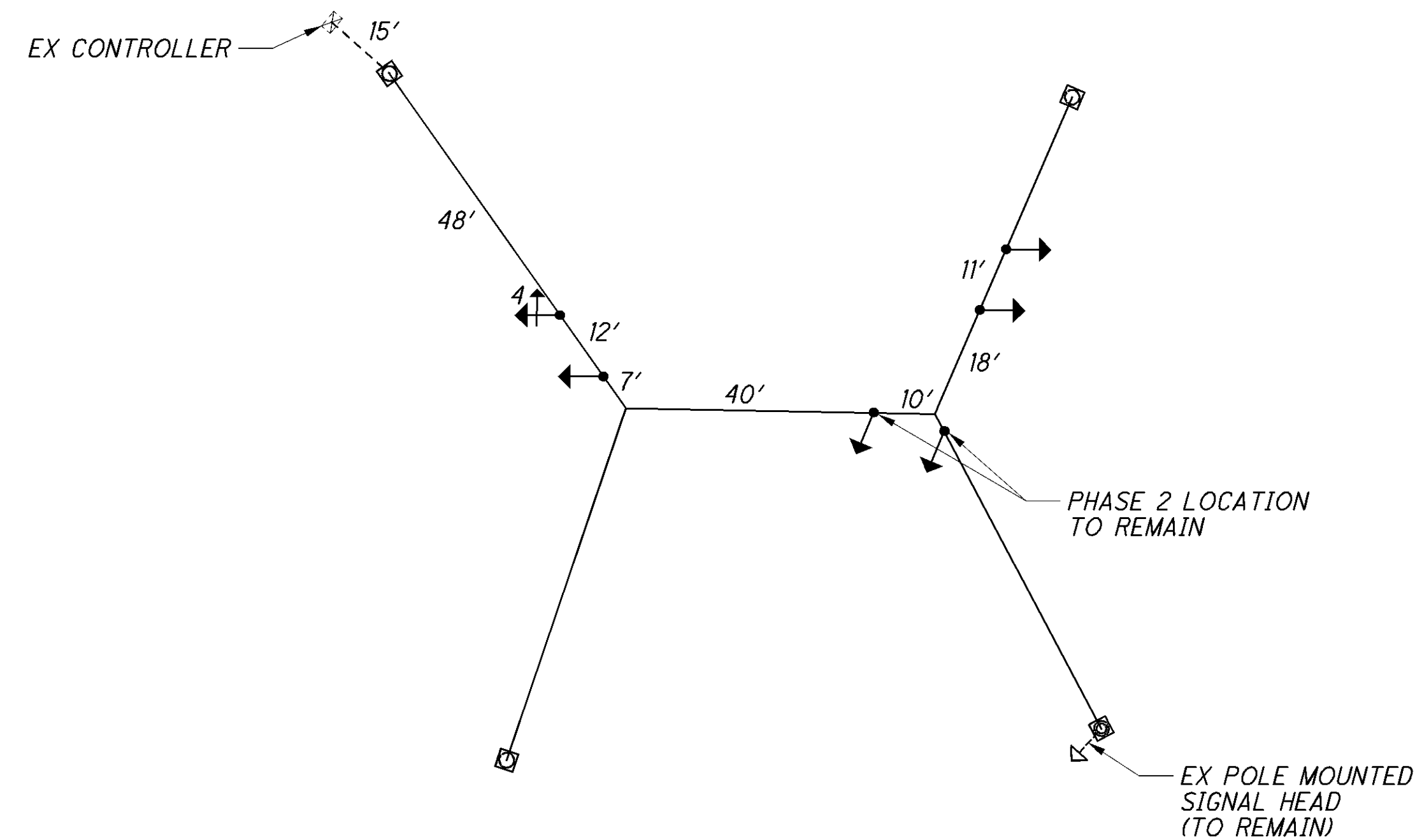
S.R. 310 AND RAMP D

EXISTING SPAN



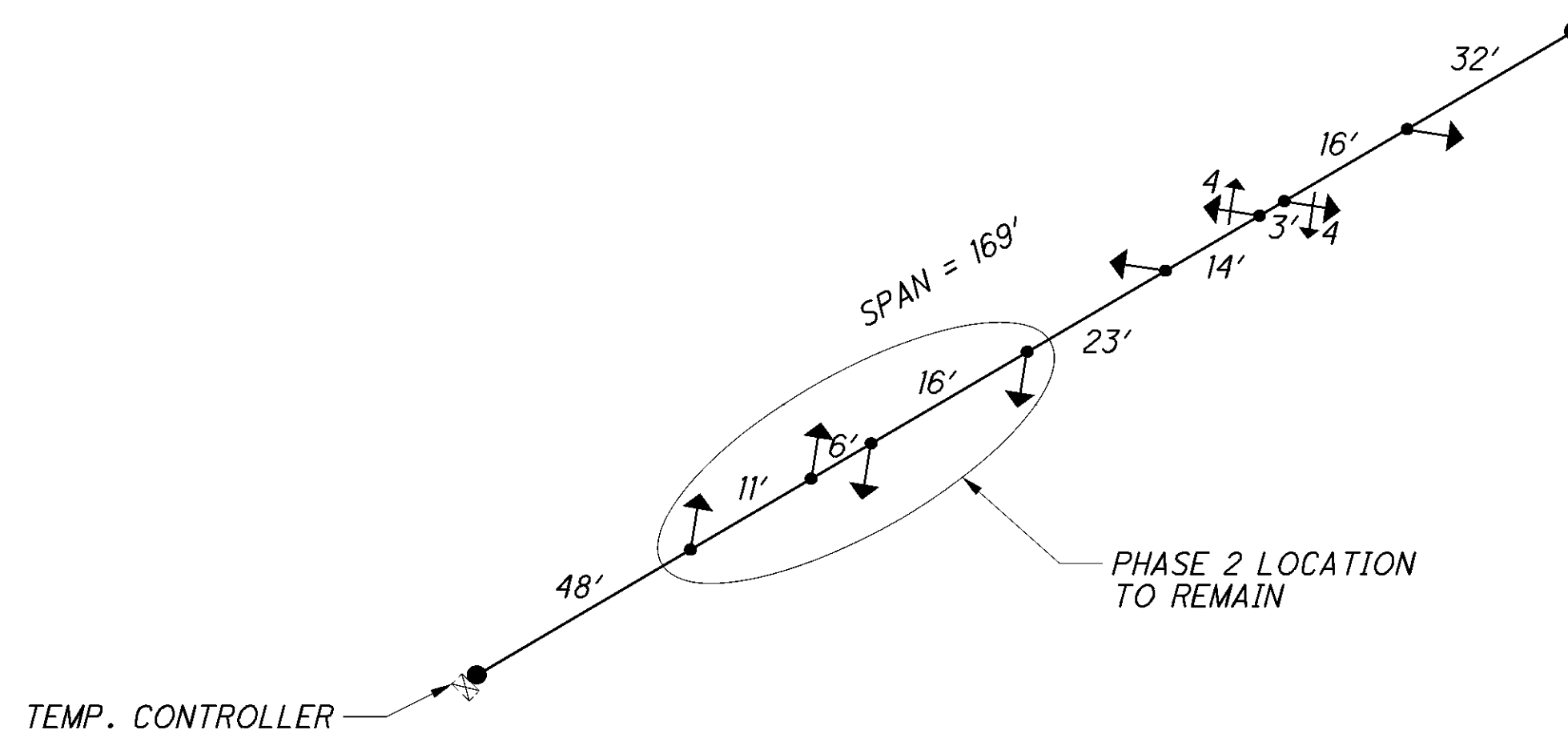
S.R. 310 AND RAMP B

EXISTING SPAN



S.R. 310 AND ETNA CREST BLVD.

TEMPORARY SPAN



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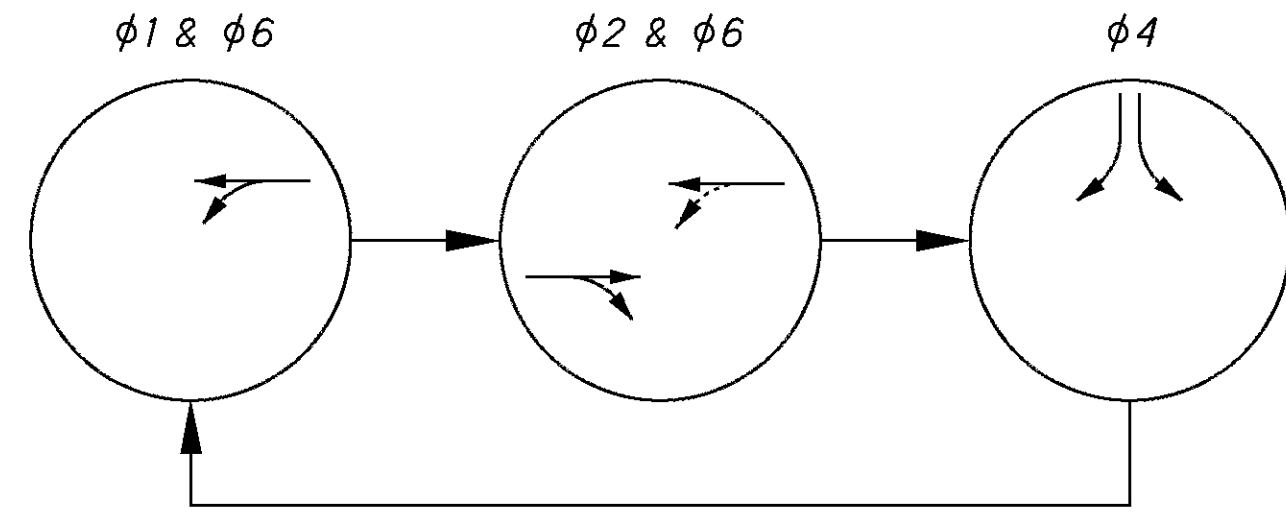
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JSL

MAINTENANCE OF TRAFFIC SIGNAL LAYOUT - PHASE 3

LIC-310-0.74

MOT SIGNAL PHASING DIAGRAM AND COORDINATION TIMING PLAN

S.R. 310 AND RAMP D

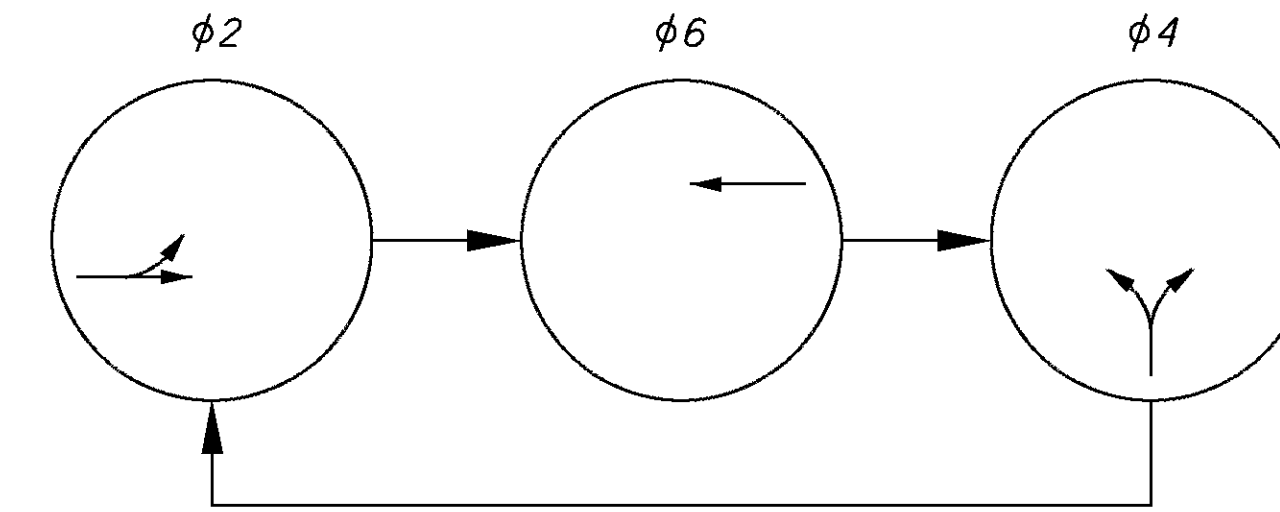


MOT SIGNAL TIMING CHART									
PHASE	1	2	3	4	5	6	7	8	OFFSET 1
DIRECTION	SB LT	NB		EB		SB			
MINIMUM GREEN	8	15		15		15			
PASSAGE TIME	3	3		3		3			
MAXIMUM GREEN	15	40		40		40			
YELLOW CHANGE	4	4.5		4		4.5			
ALL RED CLEARANCE	1.5	1.5		1.5		1.5			
MIN. RECALL		X				X			

MOT COORDINATION TIMING CHART									
SPLITS (G+Y+AR)									
CYCLE/SPLIT	1/1	25	66		39		91		54
	1/2	37	23		70		60		80

ALL TIMING IN SECONDS

S.R. 310 AND RAMP B

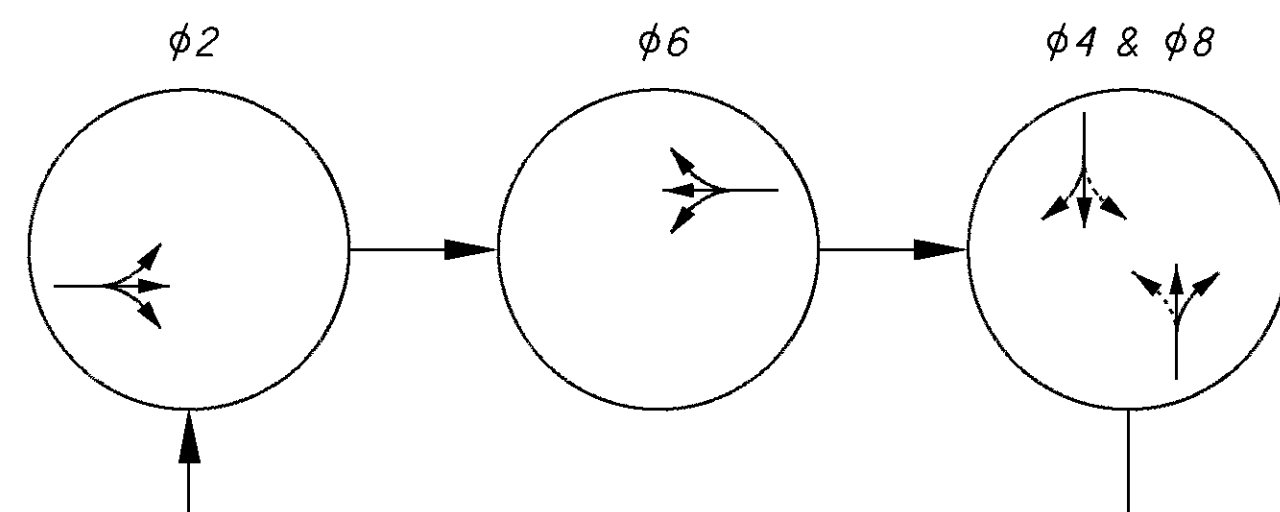


MOT SIGNAL TIMING CHART									
PHASE	1	2	3	4	5	6	7	8	OFFSET 1
DIRECTION		NB		WB		SB			
MINIMUM GREEN		15		15		15			
PASSAGE TIME		3		3		3			
MAXIMUM GREEN		40		40		40			
YELLOW CHANGE		4.5		4		4.5			
ALL RED CLEARANCE		1.5		1.5		1.5			
MIN. RECALL		X							

MOT COORDINATION TIMING CHART									
SPLITS (G+Y+AR)									
CYCLE/SPLIT	1/1		73		27		30		120
	1/2		72		21		37		0

ALL TIMING IN SECONDS

S.R. 310 AND ETNA CREST BLVD.



MOT SIGNAL TIMING CHART									
PHASE	1	2	3	4	5	6	7	8	OFFSET 1
DIRECTION		NB		EB		SB		WB	
MINIMUM GREEN		15		8		15		8	
PASSAGE TIME		3		3		3		3	
MAXIMUM GREEN		40		15		40		15	
YELLOW CHANGE		4.5		4		4.5		4	
ALL RED CLEARANCE		1.5		1.5		1.5		1.5	
MIN. RECALL		X							

MOT COORDINATION TIMING CHART										
SPLITS (G+Y+AR)										
CYCLE/SPLIT	1/1		43		21		66		21	104
	1/2		61		17		52		17	118

ALL TIMING IN SECONDS

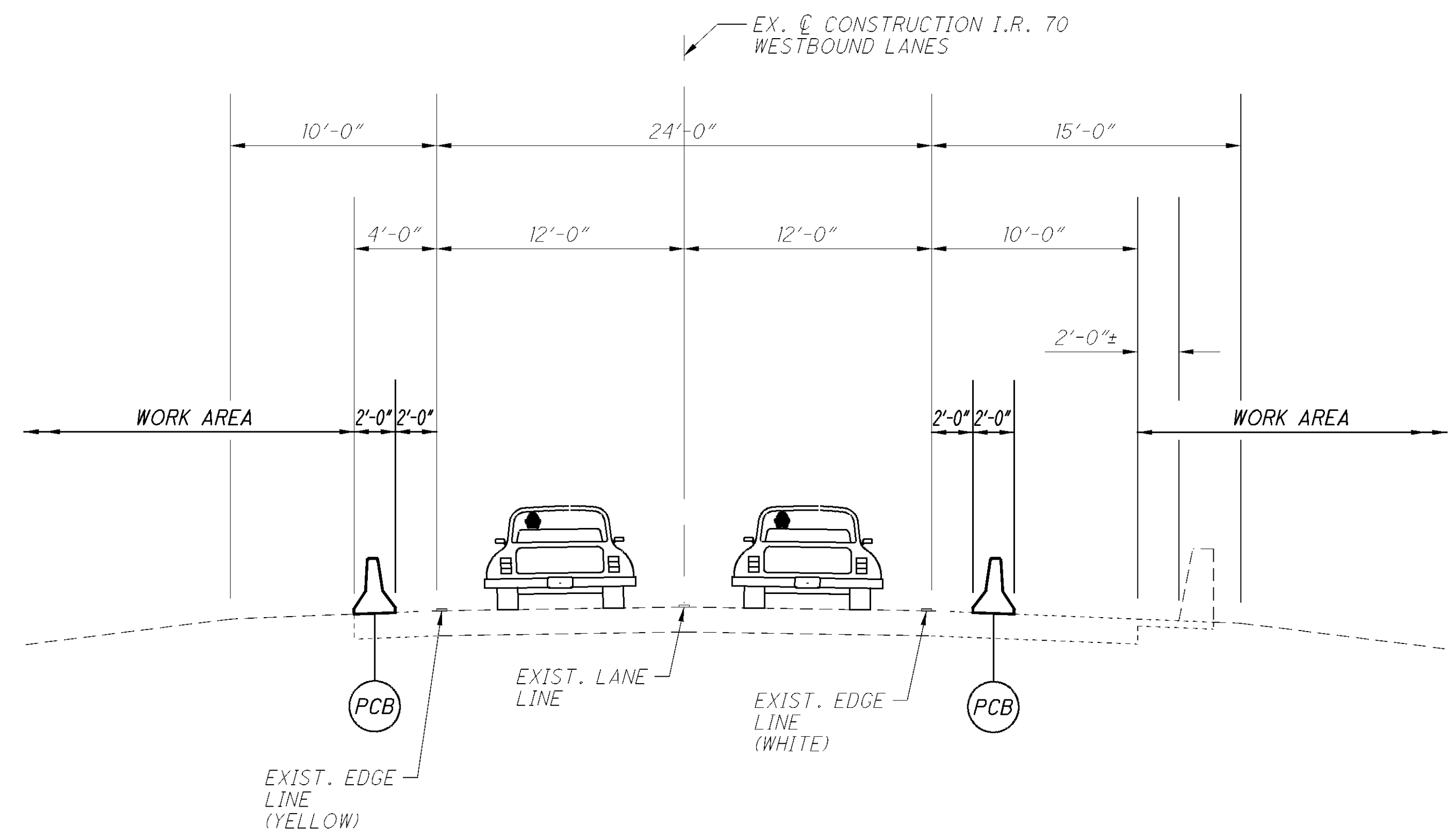
NOTE: ALL INTERSECTION APPROACHES SHALL BE ACTUATED PER VEHICULAR DETECTION NOTE ON SHEET 24.

COORDINATION TIMING PLANS				
DAY(S) OF WEEK	PLAN NAME	HOURS	CYCLE/SPLIT/OFFSET	CYCLE LENGTH (SEC)
MON-SUN	FREE	0:00-5:30	FREE	
	AM PEAK	5:30-9:00	1/1/1	130
	FREE	9:00-15:00	FREE	
	PM PEAK	15:00-20:30	1/2/1	130
	FREE	20:30-0:00	FREE	

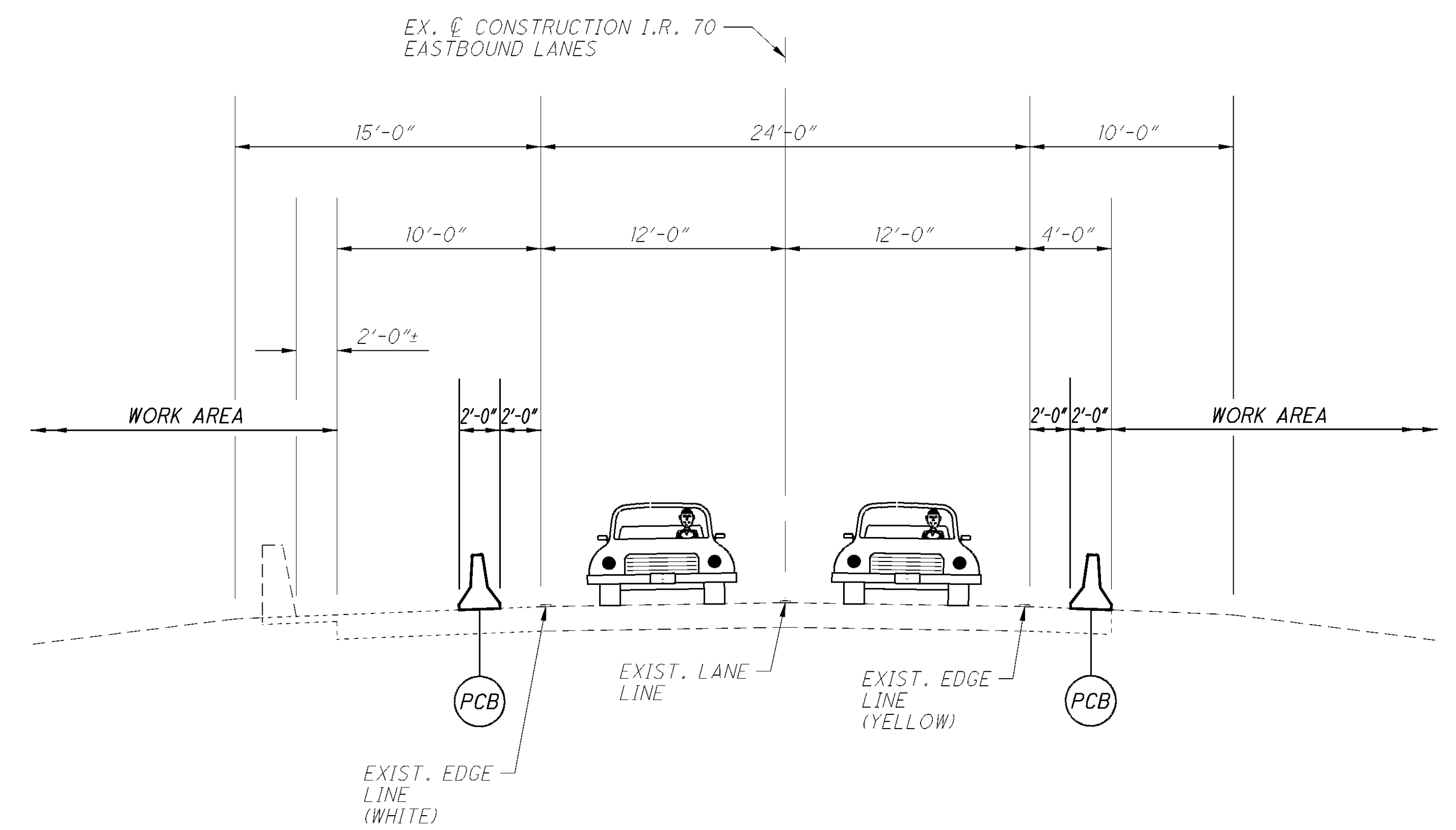
CALCULATED
JSL
CHECKED
JSL

MAINTENANCE OF TRAFFIC SIGNAL DETAILS

LIC-310-0.74



**I.R. 70 (WESTBOUND LANES)
SECTION APPLIES:**
STA. 485+00.00 TO STA. 492+00.00 = 700.00 FT.
TOTAL 700.00 FT.

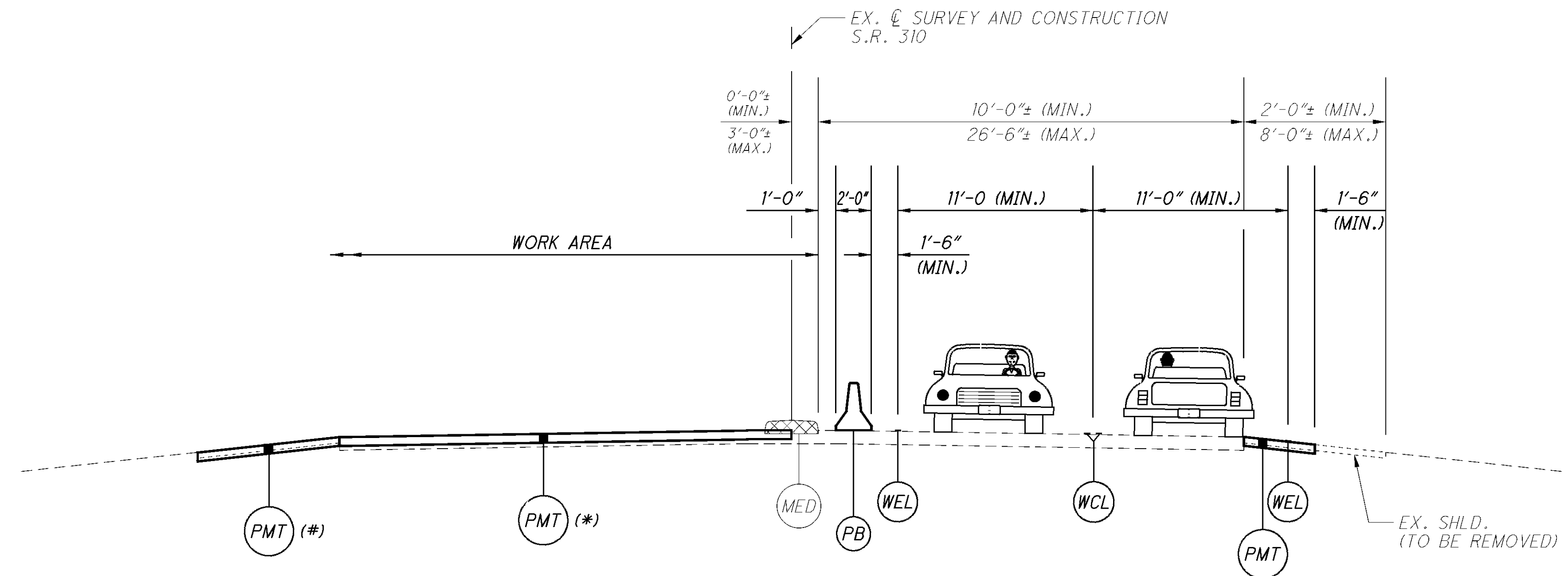


**I.R. 70 (EASTBOUND LANES)
SECTION APPLIES:**
STA. 484+00.00 TO STA. 491+00.00 = 700.00 FT.
TOTAL 700.00 FT.

LEGEND

PCB - ITEM 622, PORTABLE BARRIER, 32"

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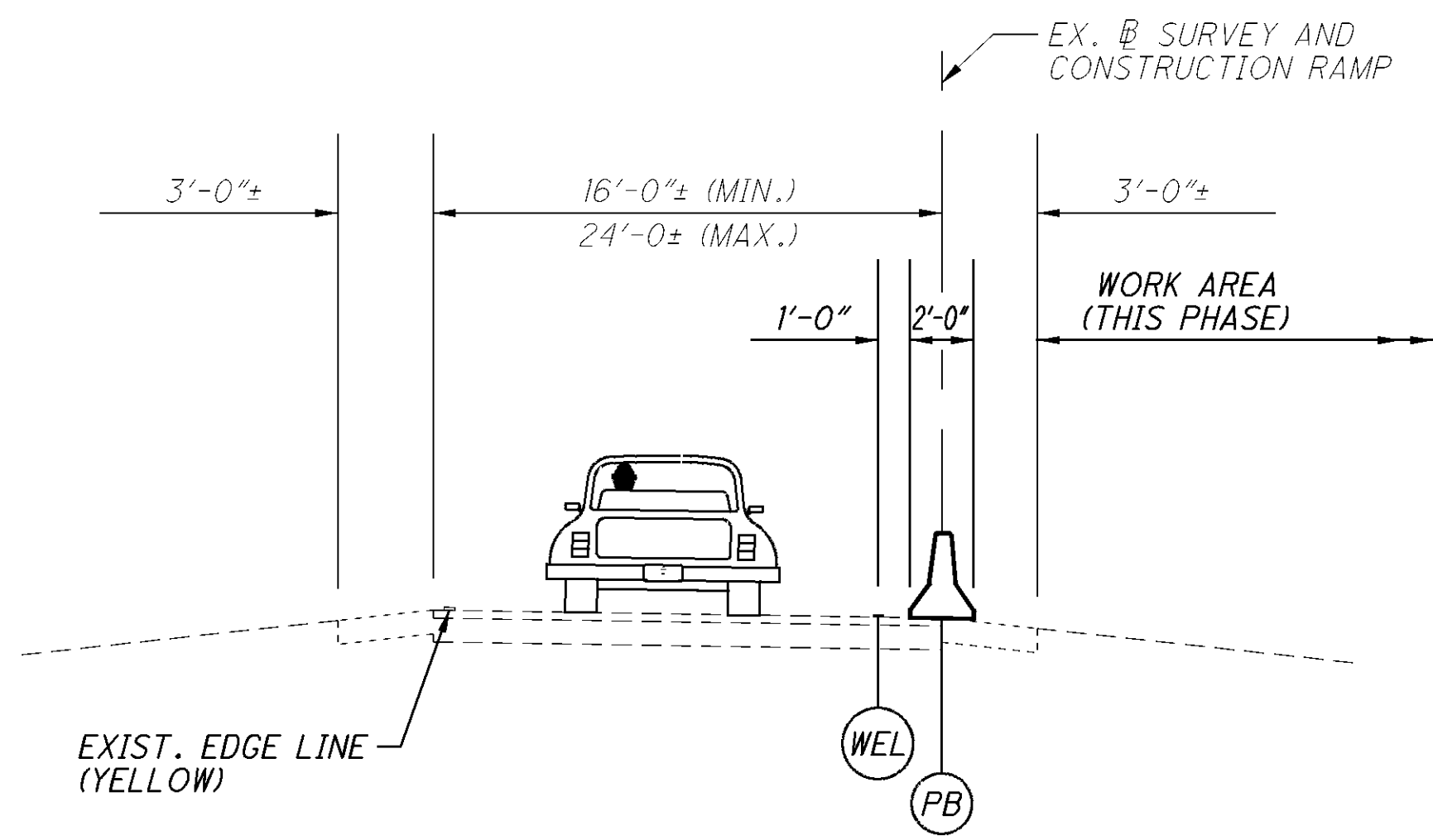


S.R. 310 SECTION

(*) - ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (SEE SHEET 28)
STA. 17+50.00 TO STA. 18+00.00 - (TAPERS FROM 26' TO 30')
STA. 18+00.00 TO STA. 18+40.00 - (30' WIDE)

(#) - ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (SEE SHEET 28)
STA. 37+18.50 TO STA. 42+50.00 - (VARIES; MATCH EXISTING SHOULDER WIDTHS ONLY)

ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (SEE SHEET 28)
STA. 16+00.00 TO STA. 20+42.50 - (5' WIDE)
STA. 21+25.20 TO STA. 21+82.00 - (10' WIDE)
STA. 21+82.00 TO STA. 23+28.48 - (TAPERS FROM 10' TO 5' WIDE)
STA. 26+63.20 TO STA. 29+65.04 - (5' WIDE)
STA. 29+65.04 TO STA. 30+02.25 - (VARIES) (SEE SHEET 57)
STA. 31+00.00 TO STA. 36+00.00 - (5' WIDE)
STA. 36+00.00 TO STA. 37+50.00 - (TAPERS FROM 5' TO 8')
STA. 37+50.00 TO STA. 39+50.00 - (8' WIDE)
STA. 39+00.00 TO STA. 42+50.00 - (TAPERS FROM 8' TO 2')



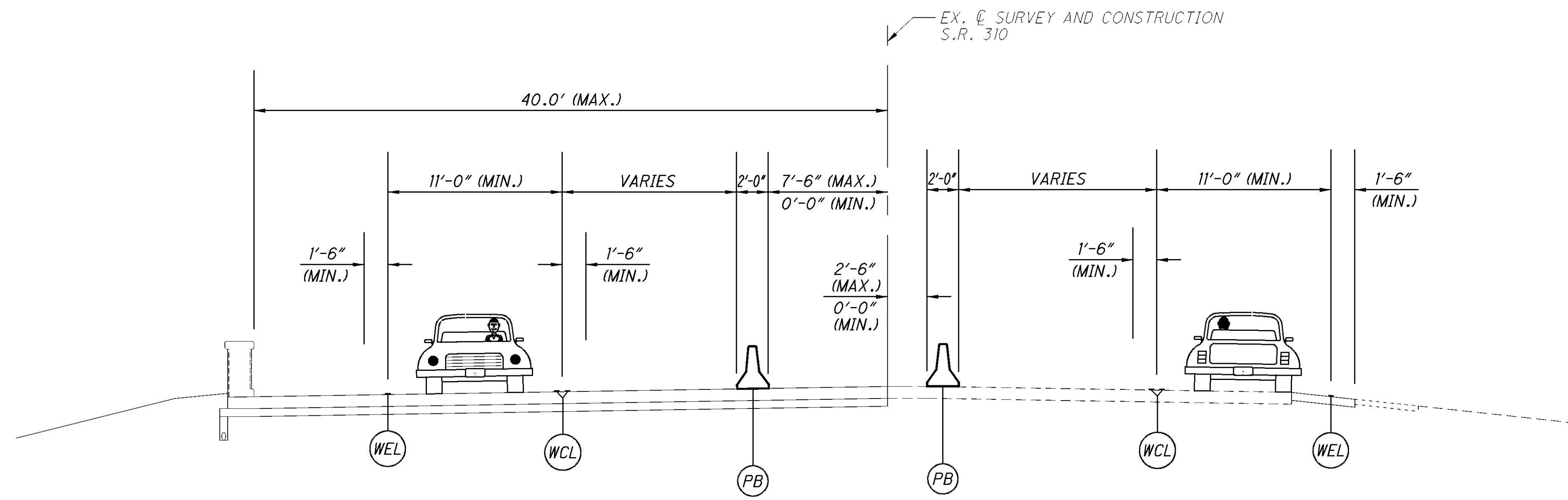
RAMP A SECTION
RAMP D SECTION

NOTE:
RAMPS B, C, AND E MAINTAIN TRAFFIC AS PER EXISTING TRAFFIC CONTROL DURING THIS PHASE.

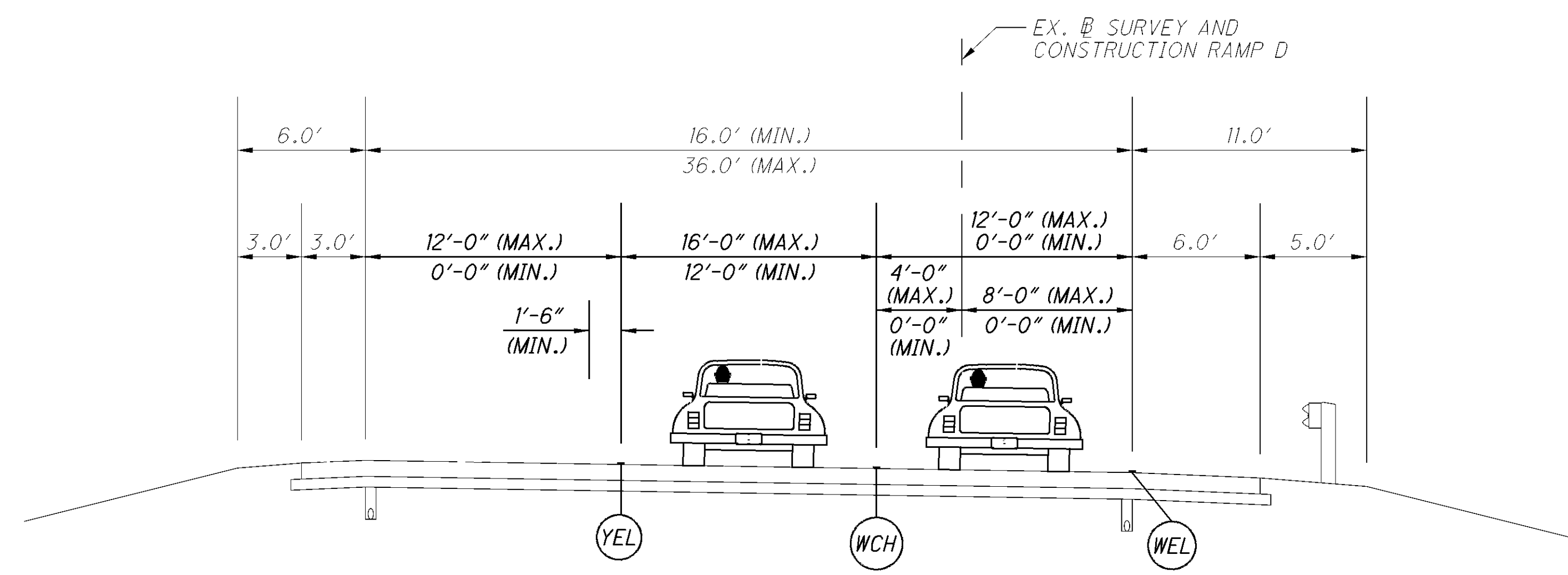
LEGEND

- (MED) - ITEM 202, CONCRETE MEDIAN REMOVED, AS PER PLAN
- (PB) - ITEM 622, PORTABLE BARRIER, 32" (SEE SHEET ? FOR BRIDGE MOUNTED)
- (PMT) - ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN
- (WCL) - ITEM 614 WORK ZONE CENTER LINE, CLASS 1, 642 PAINT (DOUBLE SOLID)
- (WEL) - ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE)

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S.R. 310 SECTION



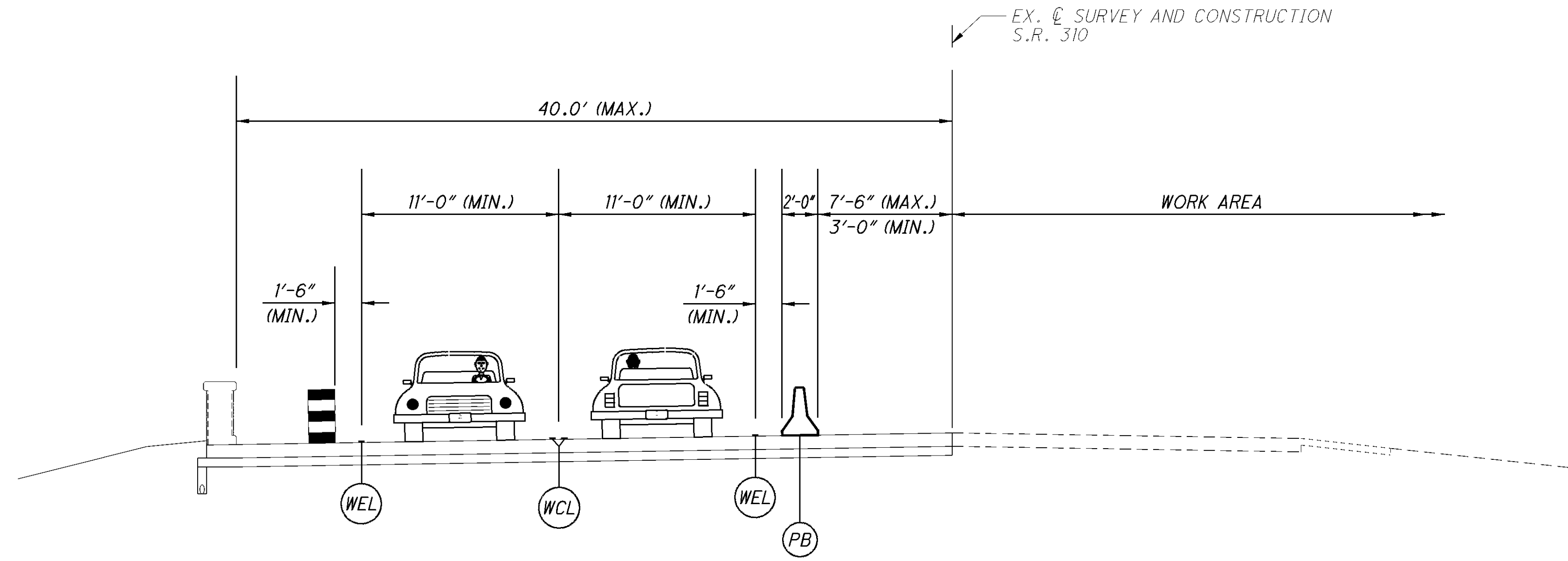
RAMP D SECTION

LEGEND

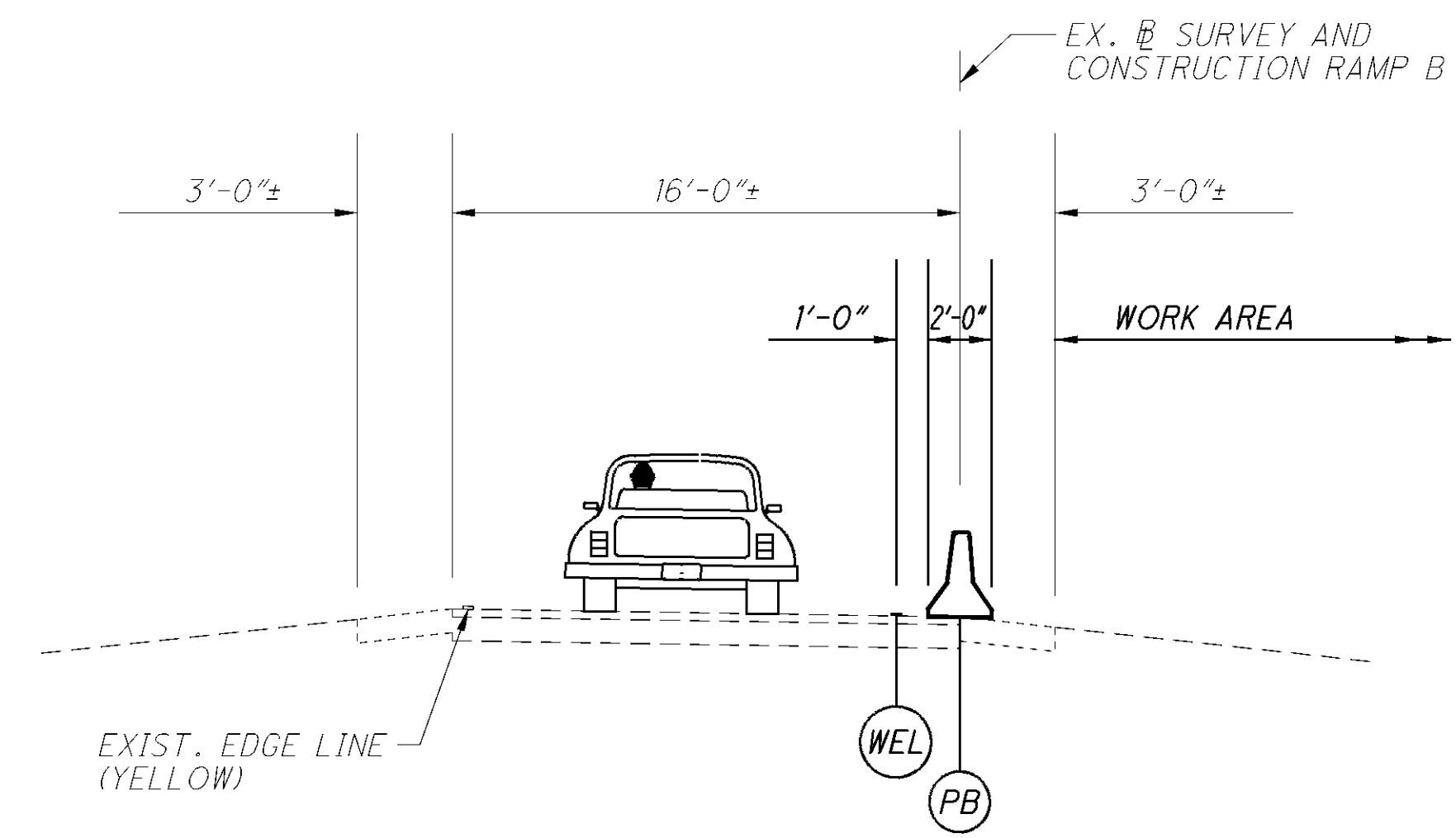
- (PB) - ITEM 622, PORTABLE BARRIER, 32" (SEE SHEET ? FOR BRIDGE MOUNTED)
- (WCL) - ITEM 614 WORK ZONE CENTER LINE, CLASS 1, 642 PAINT (DOUBLE SOLID)
- (WCH) - ITEM 614 WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT
- (WEL) - ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE)
- (YEL) - ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (YELLOW)

NOTES:
RAMPS A AND E MAINTAIN TRAFFIC AS PER PROPOSED TRAFFIC CONTROL DURING THIS PHASE.
RAMPS B AND C MAINTAIN TRAFFIC AS PER EXISTING TRAFFIC CONTROL DURING THIS PHASE.

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S.R. 310 SECTION



RAMP B SECTION

LEGEND

- (PB) - ITEM 622, PORTABLE BARRIER, 32" (SEE SHEET ? FOR BRIDGE MOUNTED)
- (WCL) - ITEM 614 WORK ZONE CENTER LINE, CLASS 1, 642 PAINT (DOUBLE SOLID)
- (WCH) - ITEM 614 WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT
- (WEL) - ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE)
- (YEL) - ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (YELLOW)

NOTES:

- RAMPS A AND E MAINTAIN TRAFFIC AS PER PROPOSED TRAFFIC CONTROL DURING THIS PHASE.
- RAMP C MAINTAIN TRAFFIC AS PER EXISTING TRAFFIC CONTROL DURING THIS PHASE.
- RAMP D MAINTAIN TRAFFIC AS PER PHASE 2 CONSTRUCTION.

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Location	Side	Length (by Computer)	614															615	622	
			WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) (Type 2 Design, 35 mph, 24" Wide)	BARRIER REFLECTOR, TYPE B		BARRIER REFLECTOR, TYPE B2 (White/White)	OBJECT MARKER, ONE WAY	OBJECT MARKER, TWO WAY	WORK ZONE CENTER LINE, CLASS I, 642 PAINT (Double Solid)	WORK ZONE EDGE LINE, CLASS I, 642 PAINT			WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT (White)	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT		PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED
				(White)	(Yellow)					(White)	(Yellow)	(White)				(Yellow)	(Right)			
Phase 1 Construction	CL/Lt./Rt.	Lin. Ft.	EACH	EACH	EACH	EACH	EACH	EACH	MILE	MILE	MILE	FT	FT	FT	EACH	EACH	SY	FT	FT	
S.R. 310																				
Sta. 12+00.0 to Sta. 18+40.0	CL/Rt.	640.00							0.13											
Sta. 12+00.0 to Sta. 0+72.0 (Columbus Pkwy.)	Lt.	481.47								0.10										
Sta. 12+00.0 to Sta. 18+40.0	Rt.	640.00								0.13										
Sta. 15+93.32 to Sta. 17+12.72	Lt.	119.40											120							
Sta. 0+56.0 (Columbus Pkwy.) to Sta. 18+40.0	Lt.	220.18								0.05										
Sta. 16+00.0 to Sta. 18+40.0	Rt.																133.4			
Sta. 0+29.0 (Columbus Pkwy.) to Sta. 18+40.0	Lt.	190.00					4											190		
Sta. 17+50.0 to Sta. 18+40.0	Lt.																290.2			
Columbus Pkwy.																				
									0.02					12						
Totals Carried to Location 1a Summary							4			4			120	12			424	190		
I.R. 70																				
<i>Westbound Lanes</i>																				
Sta. 485+00.0 to Sta. 492+00.0	Lt.	700.00	1		14			14										700		
Sta. 485+00.0 to Sta. 492+00.0	Lt.	700.00	1	14				14										700		
<i>Eastbound Lanes</i>																				
Sta. 484+00.0 to Sta. 491+00.0	Rt.	700.00	1		14			14										700		
Sta. 484+00.0 to Sta. 491+00.0	Rt.	700.00	1	14				14										700		
S.R. 310																				
Sta. 18+40.0 to Sta. 20+68.0	Rt.	228.00							0.05											
Sta. 18+40.0 to Sta. 6+10.0 (Ramp D)	Lt./Rt.	1,049.17								0.20										
Sta. 18+40.0 to Sta. 6+03.0 (Ramp D)	Lt./Rt.	1,060.00	1			22		22						22				1,060		
Sta. 18+40.0 to Sta. 20+68.0	Rt.	228.00								0.05										
Sta. 18+40.0 to Sta. 20+42.50	Rt.																112.5			
Sta. 21+24.0 to Sta. 29+60.0	Lt./Rt.	836.00								0.16				22						
Sta. 21+25.20 to Sta. 23+28.48	Rt.																185.3			
Sta. 21+30.0 to Sta. 29+60.0	Lt./Rt.	840.00				17		17										490	350	
Sta. 21+60.0 to Sta. 28+90.0	Rt.	730.00							0.14					22						
Sta. 21+27.0 to Sta. 29+98.0	Lt./Rt.	871.00								0.17				22						
Sta. 26+63.20 to Sta. 30+02.25	Rt.																234.0			
Sta. 30+22.0 to Sta. 34+08.0	Rt.	386.00								0.08				22						
Sta. 30+24.0 to Sta. 33+09.0	Rt.	290.00	1			6		6										290		
Sta. 31+00.0 to Sta. 35+78.11	Rt.																265.7			
Sta. 31+20.0 to Sta. 35+78.11	Rt.	458.11							0.09					11						
Sta. 10+00.0 (Ramp A) to Sta. 35+78.11	Lt./Rt.	1,910.00	1			39		39						22				1,910		
Sta. 10+00.0 (Ramp A) to Sta. 35+78.11	Lt./Rt.	1,910.00																		
Ramp B										0.02	0.01			28						
Ramp D											0.05	246		51	3	3				
Sub-Totals						28		28		1.05	0.06				3	3				
Totals Carried to Location 1b Summary			7		56	84	56	84	0.28	1.11	246		222	6	3		798	6,550	350	
S.R. 310																				
Sta. 35+78.11 to Sta. 36+00.0	Rt.	21.89								0.01				11						
Sta. 35+78.11 to Sta. 42+50.0	Rt.																475.5			
Sta. 35+78.11 to Sta. 43+00.0	Rt.	721.89								0.14				22						
Sta. 37+18.50 to Sta. 42+50.0	Rt.																384.8			
Sta. 37+50.0 to Sta. 43+00.0	CL/Rt.	550.00							0.11					11						
Sta. 37+50.0 to Sta. 43+00.0	Rt.	550.00								0.11				22						
Etna Crest Blvd.						2		2	0.03	0.06				45				40		
Commercial Drive									0.01					17						
Totals Carried to Location 1c Summary						2		2	0.16	0.31				128				861	40	
Totals (Phase 1 Construction) (For Information Only)			7		56	90	56	90	0.59	1.64	0.06	246	120	362	3	3	2,083	6,780	350	

MAINTENANCE OF TRAFFIC SUBSUMMARY (PHASE 1)

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Location	Side	Length (by Computer)	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) (Type 2 Design 35 mph, 24" Wide)	BARRIER REFLECTOR, TYPE B		BARRIER REFLECTOR, TYPE B2 (White/White)	OBJECT MARKER, ONE WAY	OBJECT MARKER, TWO WAY	WORK ZONE CENTER LINE, CLASS I, 642 PAINT (Double Solid)	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT		WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT (White)	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT			WORK ZONE WORD ON PAVEMENT, 72", CLASS I, 642 PAINT "Only"	622		
				(White)	(Yellow)					(White)	(Yellow)				(Left)	(Right)	(Comb.) (Thru/Lt.)		PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED	PORTABLE BARRIER, "Y" CONNECTOR
Phase 2 Construction	CL/Lt./Rt.	Lin. Ft.	EACH	EACH	EACH	EACH	EACH	EACH	MILE	MILE	MILE	FT	FT	FT	EACH	EACH	EACH	EACH	FT	FT	FT
S.R. 310																					
Sta. 12+00.0 to Sta. 13+50.0	CL	150.00							0.03												
Sta. 12+00.0 to Sta. 0+72.0 (Columbus Pkwy.)	Lt.	468.25								0.09											
Sta. 12+00.0 to Sta. 18+40.0	Rt.	640.00								0.13											
Sta. 13+50.0 to Sta. 18+40.0	Lt.	490.00									0.10										
Sta. 13+50.0 to Sta. 18+40.0	Rt.	490.00									0.10										
Sta. 17+20.0 to Sta. 18+40.0	Lt.	120.00										120									
Sta. 0+94.0 (Columbus Pkwy.) to Sta. 18+40.0	Lt.	254.94								0.05											
Columbus Pkwy.																					
									0.01	0.04				12							
Sub-Totals																					
									0.31	0.20											
Totals Carried to Location 1a Summary																					
									0.04	0.51		120		12							
S.R. 310																					
Sta. 18+40.0 to Sta. 20+18.23	Lt.	178.23								0.04											
Sta. 18+40.0 to Sta. 20+68.0	Lt.	228.00									0.05										
Sta. 18+40.0 to Sta. 20+68.0	Rt.	228.00									0.05										
Sta. 18+40.0 to Sta. 20+68.0	Rt.	228.00										228		33		2					
Sta. 18+40.0 to Sta. 20+68.0	Rt.	228.00								0.05											
Sta. 20+94.68 to Sta. 29+70.11	Lt.	875.43								0.17											
Sta. 21+30.0 to Sta. 23+25.0	Lt.	195.00										195		22	2						
Sta. 21+30.0 to Sta. 29+50.0	Lt.	820.00									0.16										
Sta. 21+85.0 to Sta. 28+18.0	Lt./Rt.	1,270.00	2		26			26											570	700	2
Sta. 21+30.0 to Sta. 29+50.0	Rt.	820.00									0.16										
Sta. 21+30.0 to Sta. 29+97.35	Rt.	867.35								0.17											
Sta. 26+25.0 to Sta. 29+50.0	Rt.	325.00										325		22	2						
Sta. 30+19.26 to Sta. 32+77.0	Lt.	257.74								0.05											
Sta. 30+42.0 to Sta. 35+78.11	Lt.	536.11									0.11			11							
Sta. 30+42.0 to Sta. 35+78.11	Rt.	536.11									0.11										
Sta. 30+83.59 to Sta. 35+78.11	Rt.	494.52								0.10											
Sta. 33+85.78 to Sta. 35+78.11	Lt.	192.33								0.04											
Ramp A																					
										0.21	0.20	93									
Ramp B																					
										0.02	0.01			28							
Ramp D																					
										0.19	0.18	563			2	3	1				
Ramp E																					
										0.04	0.04										
Sub-Totals																					
									1.08	1.07				4	4	3					
Totals Carried to Location 1b Summary																					
			2	26			26			2.15		1,404		116		11		1	570	700	2
S.R. 310																					
Sta. 35+78.11 to Sta. 36+00.0	Lt.	21.89									0.01										
Sta. 35+78.11 to Sta. 36+00.0	Rt.	21.89									0.01										
Sta. 35+78.11 to Sta. 43+00.0	Rt.	721.89								0.14				11							
Sta. 37+29.15 to Sta. 43+00.0	Lt.	570.85								0.11				11							
Sta. 37+25.0 to Sta. 42+50.0	Lt.	525.00									0.10										
Sta. 37+25.0 to Sta. 42+50.0	Rt.	525.00									0.10										
Sta. 42+50.0 to Sta. 43+00.0	Lt.	50.00							0.01												
Etna Crest Blvd.																					
									0.02	0.04		89		36	1	1					
Commercial Drive																					
									0.01					17							
Sub-Totals																					
									0.29	0.22				1	1						
Totals Carried to Location 1c Summary																					
									0.04	0.51		89		75		2					
Totals (Phase 2 Construction) (For Information Only)																					
			2	26			26		0.08	1.68	1.49	1,613		203	5	5	3	1	570	700	2

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Location	Side	Length (by Computer)	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) (Type 2 Design 35 mph, 24" Wide)	BARRIER REFLECTOR, TYPE B		BARRIER REFLECTOR, TYPE B2 (White/White)	OBJECT MARKER, ONE WAY	OBJECT MARKER, TWO WAY	WORK ZONE CENTER LINE, CLASS I, 642 PAINT (Double Solid)	614			WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT (White)	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT			WORK ZONE WORD ON PAVEMENT, 72", CLASS I, 642 PAINT "Only"	622		
				(White)	(Yellow)					(White)	(Yellow)	(White)				(Yellow)	(Left)	(Right)		(Comb.) (Thru/Lt.)	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED
				EACH	EACH					EACH	EACH	EACH				EACH	EACH	EACH		EACH	EACH	FT
Phase 3 Construction			CL/Lt./Rt.	Lin. Ft.																		
S.R. 310																						
Sta. 12+00.0 to Sta. 18+40.0			CL/Lt.	640.00					0.13													
Sta. 12+00.0 to Sta. 15+96.75			Lt.	396.75						0.08												
Sta. 12+00.0 to Sta. 18+40.0			Lt./Rt.	640.00						0.13												
Sta. 15+96.75 to Sta. 17+04.03			Lt.	107.28									108									
Sta. 17+04.03 to Sta. 18+40.0			Lt.	135.97						0.03												
Sta. 17+58.0 to Sta. 18+40.0			Lt./Rt.		2																90	
Columbus Pkwy.									0.01	0.03				11								
Sub-Totals					2					0.27												
Totals Carried to Location 1a Summary					2			2	0.14	0.27			108	11							90	
S.R. 310																						
Sta. 18+40.0 to Sta. 20+20.23			Lt.	180.23						0.04												
Sta. 18+40.0 to Sta. 20+10.0			Lt.	170.00					0.04													
Sta. 18+40.0 to Sta. 20+62.40			Lt.	232.20						0.05					11							
Sta. 18+40.0 to Sta. 20+62.40			Lt./Rt.		5			5													230	
Sta. 20+97.80 to Sta. 29+72.48			Lt.	874.68						0.17					11							
Sta. 22+00.0 to Sta. 29+00.0			Lt.	700.00					0.14													
Sta. 21+34.16 to Sta. 29+36.0			Lt./Rt.	802.25						0.16					11							
Sta. 21+40.0 to Sta. 29+80.0			Lt./Rt.	840.00		17		17													490	350
Sta. 30+17.47 to Sta. 32+21.0			Lt.	203.53						0.04					11							
Sta. 31+00.0 to Sta. 35+75.0			Lt.	475.00					0.09													
Sta. 31+60.0 to Sta. 35+75.0			Lt.	415.00						0.08					11							
Sta. 31+60.0 to Sta. 36+00.0			Lt.	440.00		9		9													440	
Ramp A										0.21	0.20	93										
Ramp B					1	18		18		0.17	0.02				23							870
Ramp D										0.19	0.18	563				2	3	1				
Ramp E										0.04	0.04											
Sub-Totals					1	49		49		1.15	0.44				2	3						
Totals Carried to Location 1b Summary					1	49		49		0.27	1.59	656		78		5		1			2,030	350
S.R. 310																						
Sta. 37+09.09 to Sta. 43+00.0			Lt.	590.91						0.12					12							
Sta. 37+25.0 to Sta. 43+00.0			Lt.	575.00					0.11													
Sta. 37+25.0 to Sta. 43+00.0			Lt./Rt.	575.00						0.11												
Sta. 37+29.15 to Sta. 43+00.0			Lt.	570.85						0.11												
Etna Crest Blvd.										0.02	0.04	89		36	1	1						
Commercial Drive										0.01				17								
Sub-Totals										0.38					1	1						
Totals Carried to Location 1c Summary									0.14	0.38	89		65		2							
Totals (Phase 3 Construction) (For Information Only)					1	51		51		0.55	1.80	0.44	745	154	1	3	3	1			2,120	350

CALCULATED
JLS
CHECKED
JSL

**MAINTENANCE OF TRAFFIC SUBSUMMARY
(PHASE 3)**

LIC-310-0.74

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Location	Side	Length (by Computer)	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) (Type 2 Design 35 mph, 24" Wide)	BARRIER REFLECTOR, TYPE B		BARRIER REFLECTOR, TYPE B2 (White/White)	OBJECT MARKER, ONE WAY	OBJECT MARKER, TWO WAY	WORK ZONE CENTER LINE, CLASS I, 642 PAINT (Double Solid)	614			WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT (White)	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT			WORK ZONE WORD ON PAVEMENT, 72", CLASS I, 642 PAINT "Only"	PORTABLE BARRIER, 32"	622
				(White)	(Yellow)					(White)	(Yellow)	(Left)				(Right)	(Comb.) (Thru/Lt.)				
				EACH	EACH					EACH	EACH	EACH				EACH	EACH	EACH			
Phase 4 Construction																					
S.R. 310																					
Sta. 16+90.54 to Sta. 18+00.0		Lt.	109.46																		
Sta. 17+00.0 to Sta. 18+00.0		Lt.	100.00							0.02	0.03										
Sta. 17+00.0 to Sta. 18+00.0		Lt.	100.00								0.02										
Columbus Pkwy.										0.01	0.03				11						
Sub-Totals																					
Totals Carried to Location 1a Summary																					
										0.03	0.08				11						
S.R. 310																					
Sta. 37+04.55 to Sta. 40+50.0		Lt.	345.45								0.07				10						
Sta. 37+50.0 to Sta. 41+00.0		Lt.	350.00							0.07	0.08										
Sta. 37+00.0 to Sta. 41+00.0		Lt.	400.00								0.08										
Etna Crest Blvd.										0.02	0.04		89		36	1	1				
Commercial Drive										0.01					17						
Sub-Totals																					
Totals Carried to Location 1c Summary																					
										0.10	0.19		89		63		2				
Totals (Phase 4 Construction) (For Information Only)																					
										0.13	0.27		89		74	1	1				

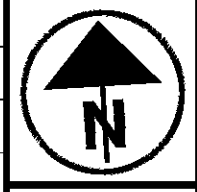
Location	Side	Length (by Computer)	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) (Type 2 Design 35 mph, 24" Wide)	BARRIER REFLECTOR, TYPE B		BARRIER REFLECTOR, TYPE B2 (White/White)	OBJECT MARKER, ONE WAY	OBJECT MARKER, TWO WAY	WORK ZONE CENTER LINE, CLASS I, 642 PAINT (Double Solid)	614			WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT (White)	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT			WORK ZONE WORD ON PAVEMENT, 72", CLASS I, 642 PAINT "Only"	PORTABLE BARRIER, 32"	622	
				(White)	(Yellow)					(White)	(Yellow)	(Left)				(Right)	(Comb.) (Thru/Lt.)					
				EACH	EACH					EACH	EACH	EACH				EACH	EACH	EACH				EACH
Phase 5 Construction																						
S.R. 310																						
Sta. 37+00.0 to Sta. 45+90.0		Lt./Rt.	890.00								0.17				10							
Sta. 37+00.0 to Sta. 49+20.0		CL/Rt.	1,220.00							0.24												
Sta. 37+00.0 to Sta. 45+90.0		Rt.	890.00								0.17											
Etna Crest Blvd.										0.02	0.04		89		36	1	1					
Commercial Drive										0.01					17							
Sub-Totals																						
Totals Carried to Location 1c Summary																						
										0.27	0.38		89		63		2					
Totals (Phase 5 Construction) (For Information Only)																						
										0.27	0.38		89		63	1	1					

CALCULATED
JLS
CHECKED
JSL

**MAINTENANCE OF TRAFFIC SUBSUMMARY
(PHASES 4 AND 5)**

LIC-310-0.74

CROSS REFERENCES	
SHEETS	DESCRIPTION
41	MOT TYPICALS
45	MOT SUBSUMMARY

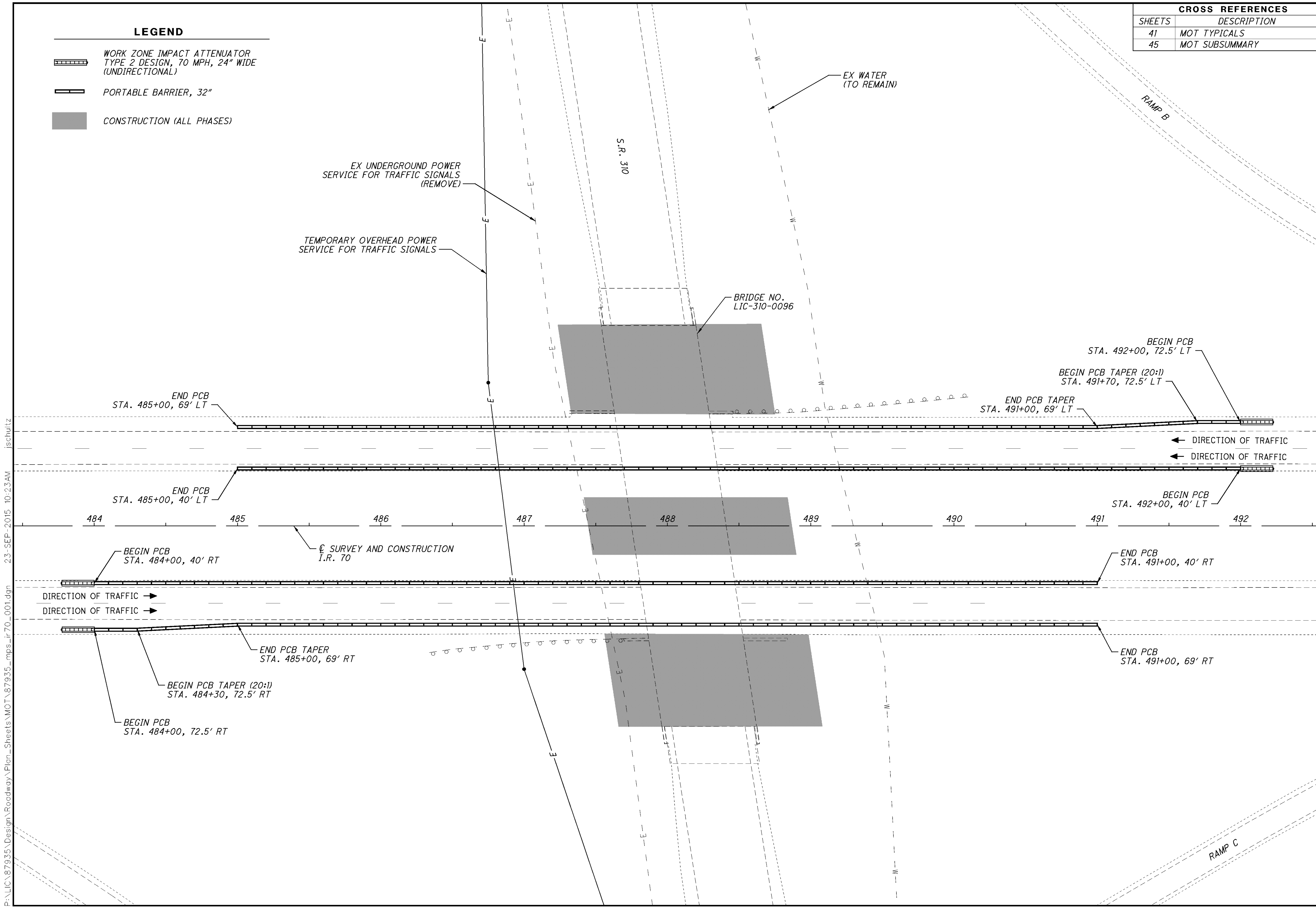


0 30 60
 1:5 HORIZONTAL
 SCALE IN FEET

CALCULATED JLS
 CHECKED JLS

LEGEND

- WORK ZONE IMPACT ATTENUATOR
TYPE 2 DESIGN, 70 MPH, 24" WIDE
(UNDIRECTIONAL)
- PORTABLE BARRIER, 32"
- CONSTRUCTION (ALL PHASES)



MAINTENANCE OF TRAFFIC - ALL PHASES
STA. 484+00 TO STA. 492+00 (I.R. 70)

LIC-310-0.74

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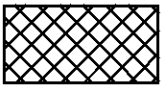




CROSS REFERENCES	
SHEETS	DESCRIPTION
42	MOT TYPICALS
45	MOT SUBSUMMARY





 HORIZONTAL SCALE IN FEET

LEGEND

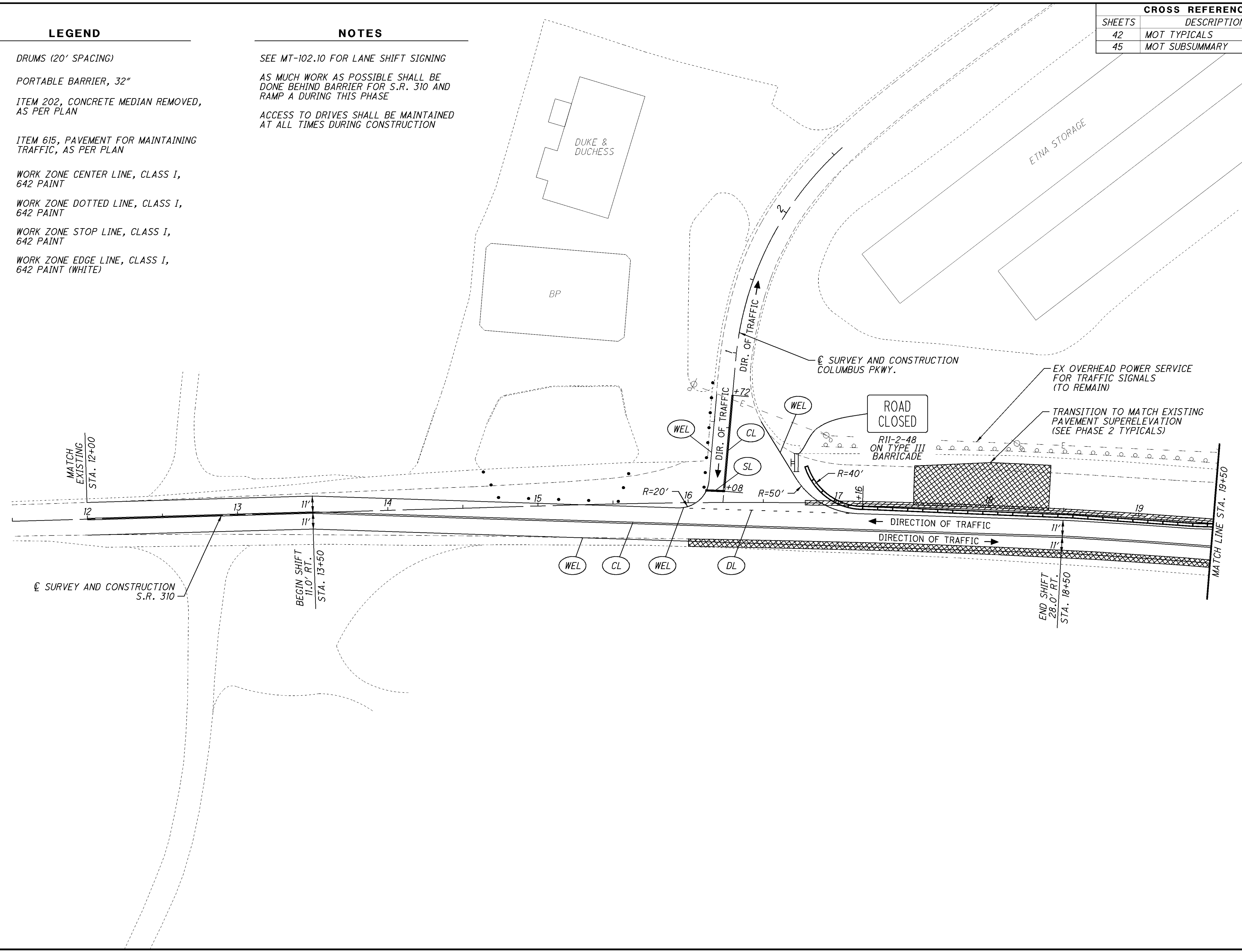
- • DRUMS (20' SPACING)
-  PORTABLE BARRIER, 32"
-  ITEM 202, CONCRETE MEDIAN REMOVED, AS PER PLAN
-  ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN
-  CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
-  DL WORK ZONE DOTTED LINE, CLASS I, 642 PAINT
-  SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
-  WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)

NOTES

SEE MT-102.10 FOR LANE SHIFT SIGNING

AS MUCH WORK AS POSSIBLE SHALL BE DONE BEHIND BARRIER FOR S.R. 310 AND RAMP A DURING THIS PHASE

ACCESS TO DRIVES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION

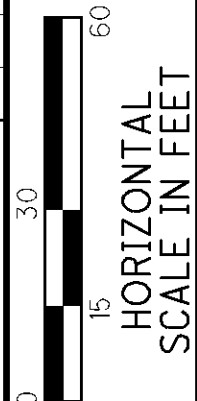
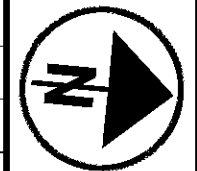


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MAINTENANCE OF TRAFFIC (PHASE 1A)
STA. 12+00 TO STA. 19+50 (S.R. 310)








LIC-310-0.74

CROSS REFERENCES	
SHEETS	DESCRIPTION
37 & 40	MOT SIGNAL DETAILS
42	MOT TYPICALS
45	MOT SUBSUMMARY
55	MOT RAMP D



CALCULATED JLS
CHECKED JLS

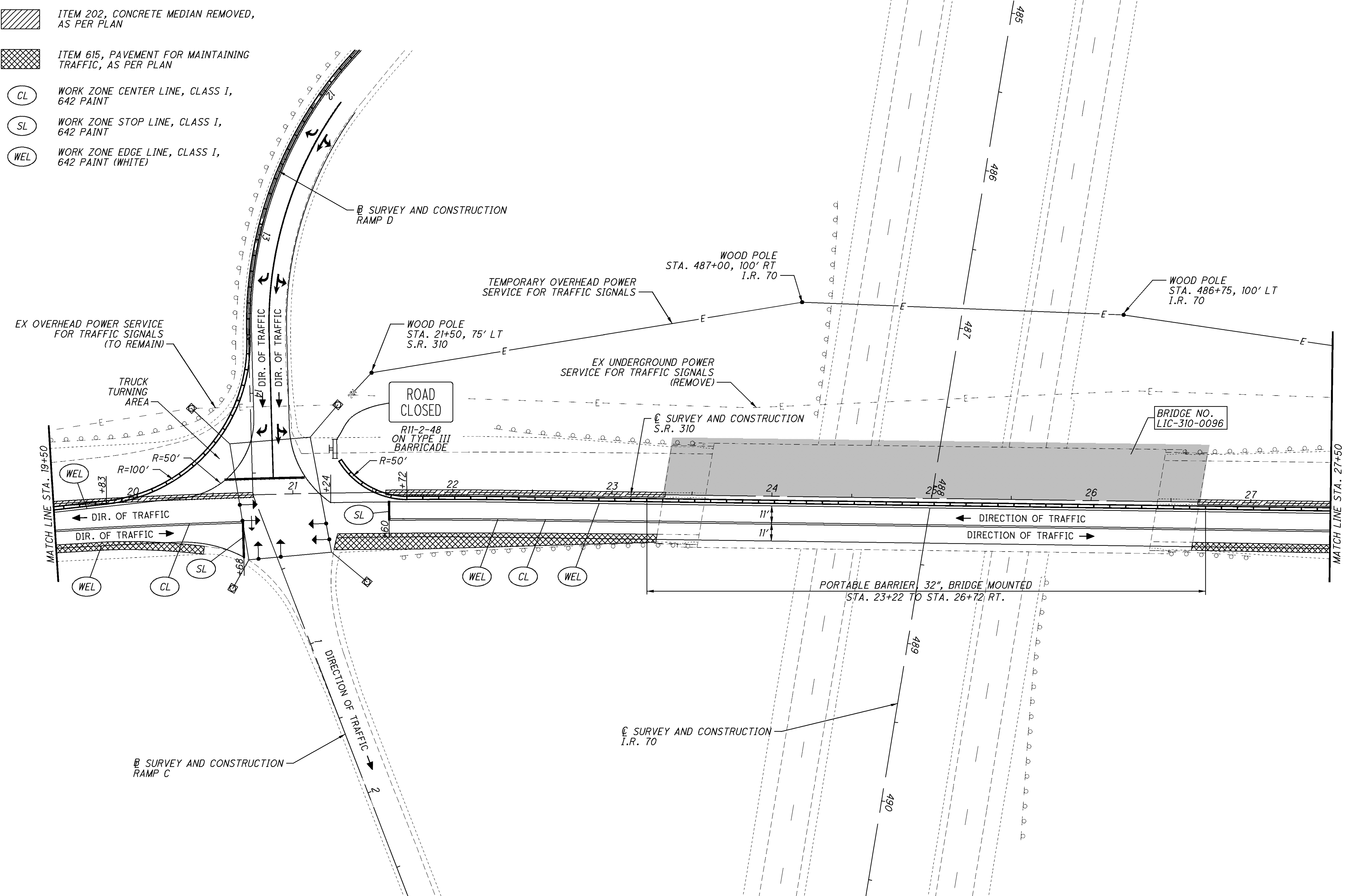
LEGEND

-  PORTABLE BARRIER, 32"
-  CONSTRUCTION (PHASE 1A)
-  ITEM 202, CONCRETE MEDIAN REMOVED, AS PER PLAN
-  ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN
-  WORK ZONE CENTER LINE, CLASS I, 642 PAINT
-  WORK ZONE STOP LINE, CLASS I, 642 PAINT
-  WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)

NOTES

AS MUCH WORK AS POSSIBLE SHALL BE DONE BEHIND BARRIER FOR S.R. 310 AND RAMP A DURING THIS PHASE

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**MAINTENANCE OF TRAFFIC (PHASE 1A)
STA. 19+50 TO STA. 27+50 (S.R. 310)**



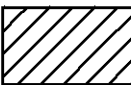





LIC-310-0.74

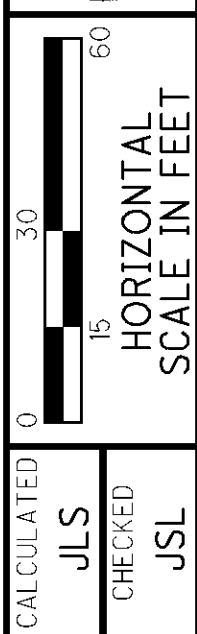
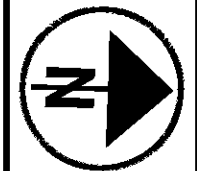
GROSS REFERENCES	
SHEETS	DESCRIPTION
37 & 40	MOT SIGNAL DETAILS
42	MOT TYPICALS
45	MOT SUBSUMMARY

NOTES

AS MUCH WORK AS POSSIBLE SHALL BE DONE BEHIND BARRIER FOR S.R. 310 AND RAMP A DURING THIS PHASE

LEGEND

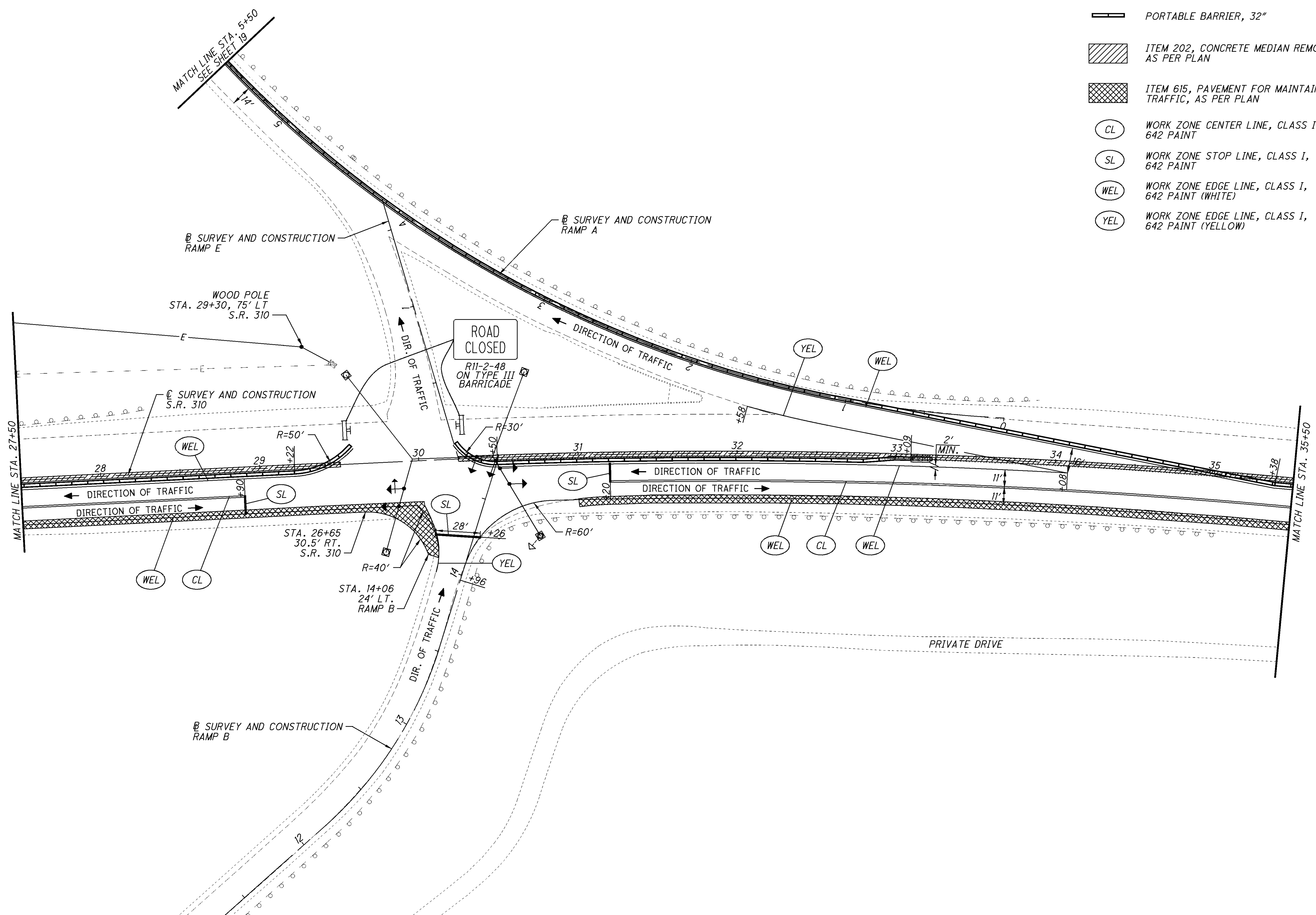
-  WORK ZONE IMPACT ATTENUATOR TYPE 2 DESIGN, 40 MPH, 24" WIDE (UNDIRECTIONAL)
-  PORTABLE BARRIER, 32"
-  ITEM 202, CONCRETE MEDIAN REMOVED, AS PER PLAN
-  ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN
-  CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
-  SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
-  WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)
-  YEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)



MAINTENANCE OF TRAFFIC (PHASE 1A)
STA. 27+50 TO STA. 35+50 (S.R. 310)

LIC-310-0.74

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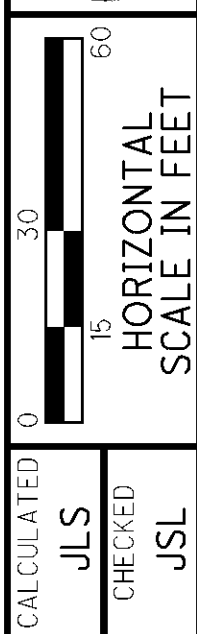
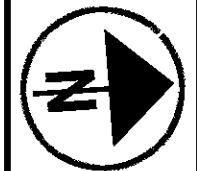
CROSS REFERENCES	
SHEETS	DESCRIPTION
37 & 40	MOT SIGNAL DETAILS
42	MOT TYPICALS
45	MOT SUBSUMMARY

NOTES

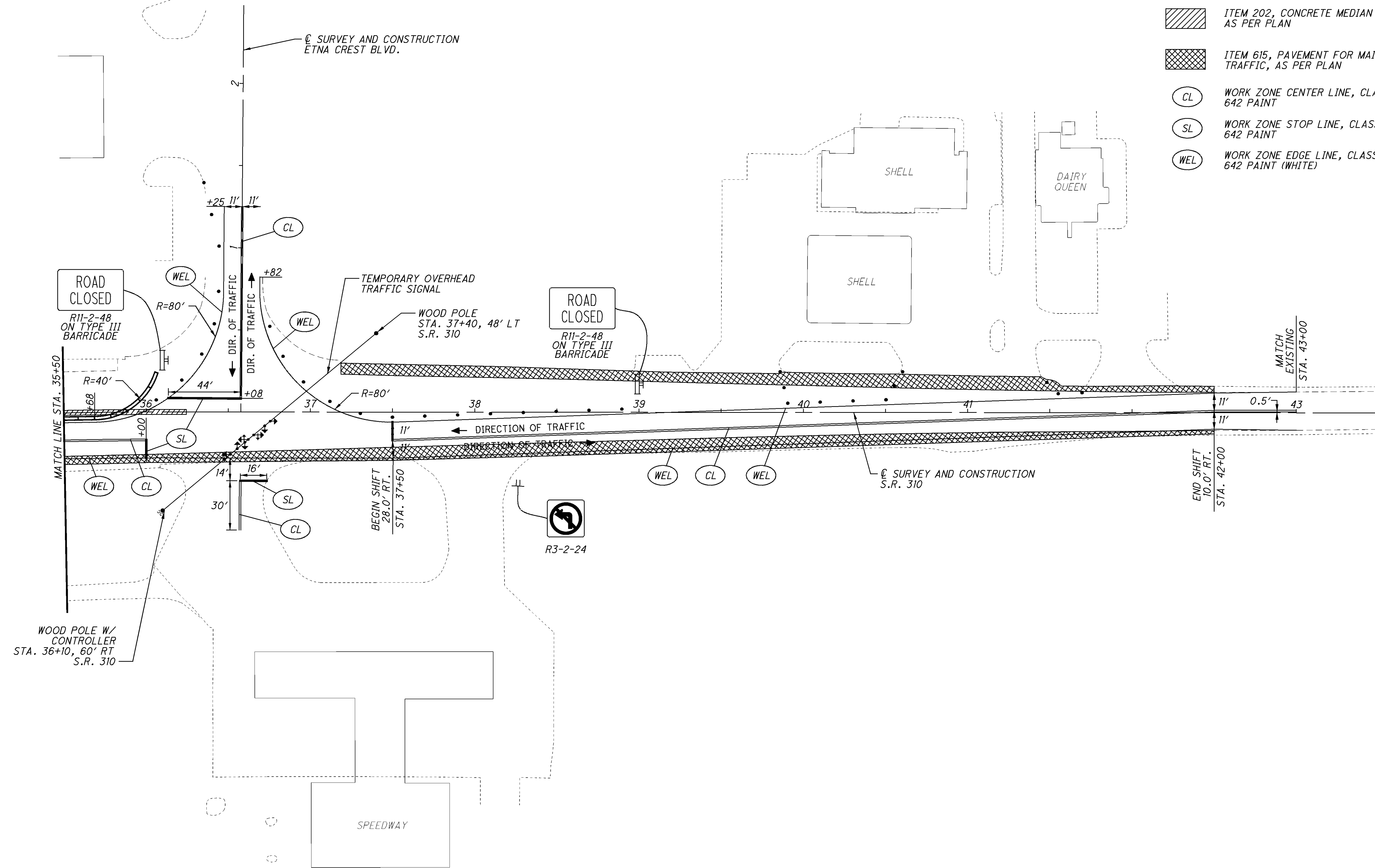
SEE MT-102.10 FOR LANE SHIFT SIGNING
 ACCESS TO DRIVES SHALL BE MAINTAINED
 AT ALL TIMES DURING CONSTRUCTION

LEGEND

- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- ▨ ITEM 202, CONCRETE MEDIAN REMOVED, AS PER PLAN
- ▩ ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN
- CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)



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MAINTENANCE OF TRAFFIC (PHASE 1A)
STA. 35+50 TO STA. 43+50 (S.R. 310)

LIC-310-0.74

CROSS REFERENCES	
SHEETS	DESCRIPTION
42	MOT TYPICALS
45	MOT SUBSUMMARY



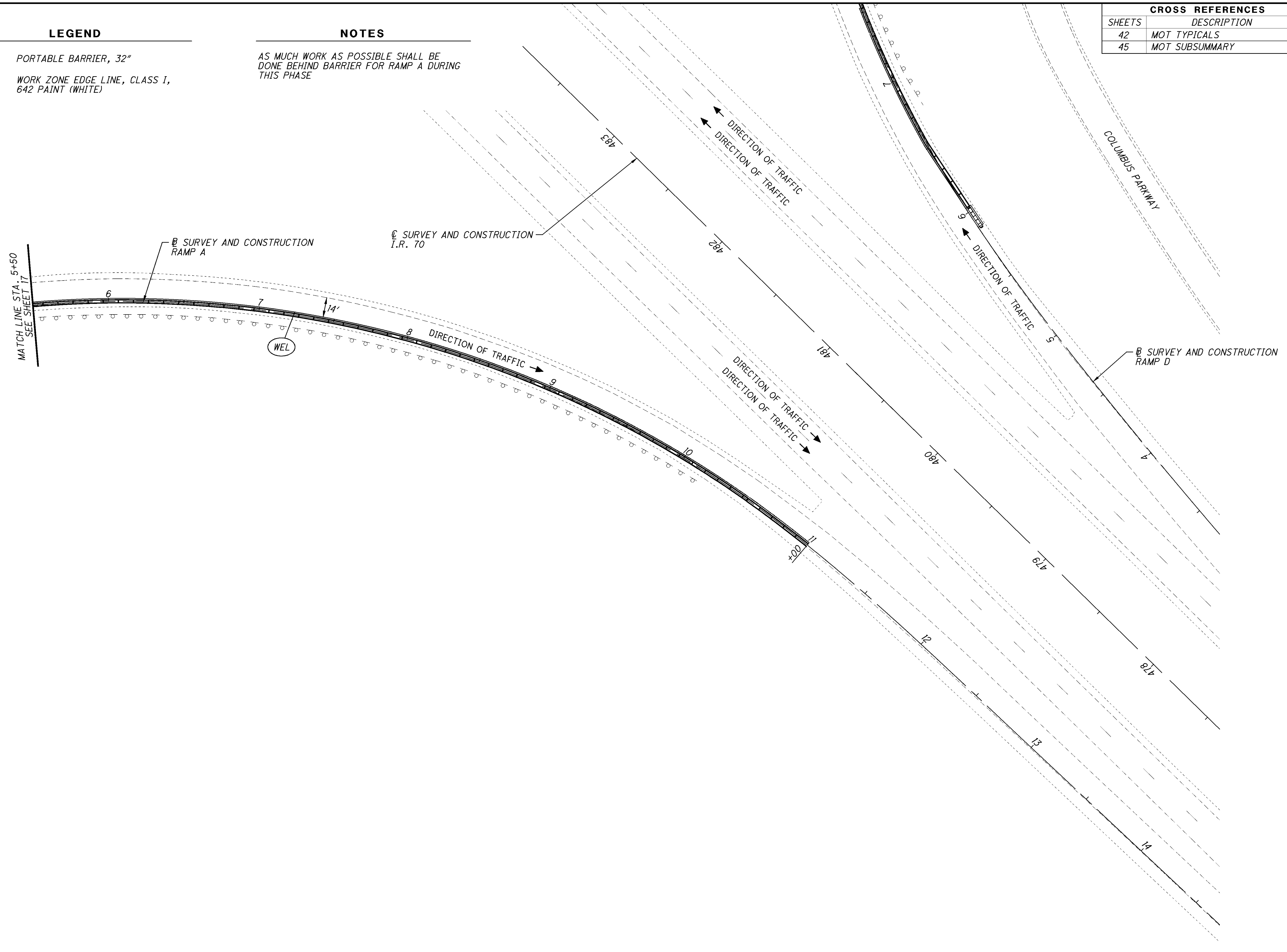
0 15 30 45 60
 HORIZONTAL
 SCALE IN FEET
 CALCULATED JLS
 CHECKED JSL

LEGEND

- PORTABLE BARRIER, 32"
- WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)

NOTES

AS MUCH WORK AS POSSIBLE SHALL BE DONE BEHIND BARRIER FOR RAMP A DURING THIS PHASE



MAINTENANCE OF TRAFFIC (PHASE 1A)
STA. 5+50 TO STA. 12+50 (RAMP A)

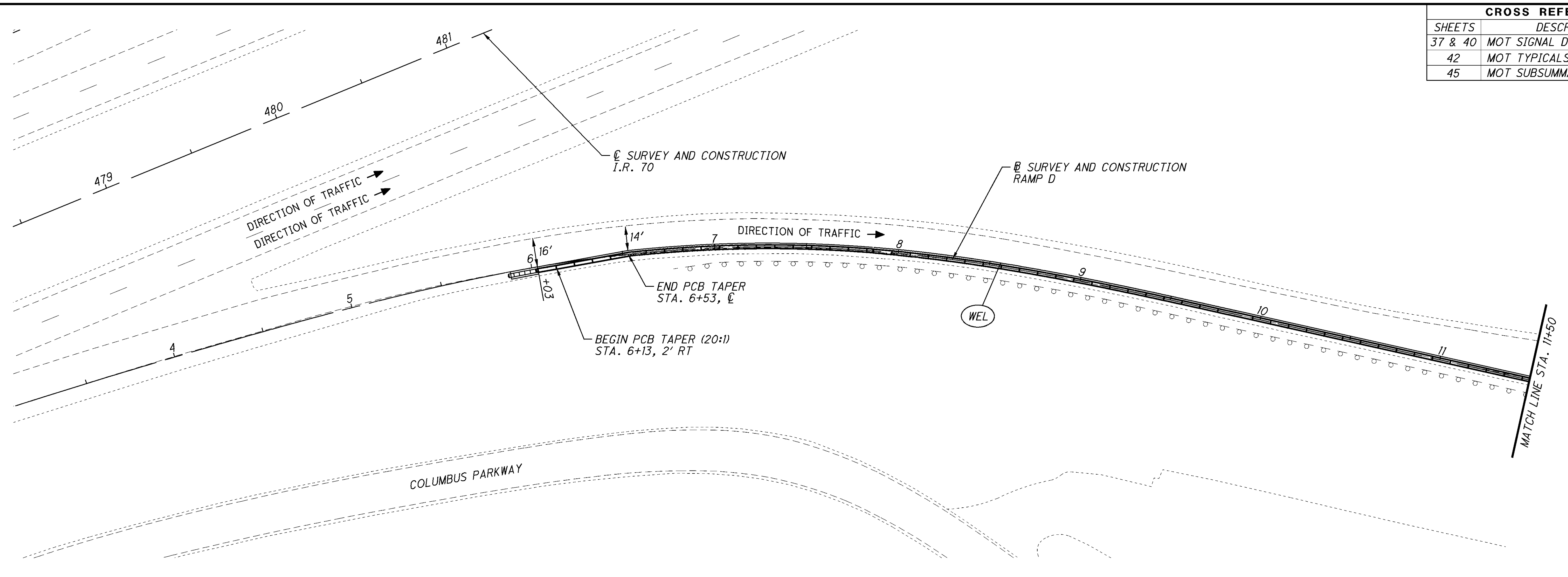
LIC-310-0.74

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CROSS REFERENCES	
SHEETS	DESCRIPTION
37 & 40	MOT SIGNAL DETAILS
42	MOT TYPICALS
45	MOT SUBSUMMARY



0 30 60
 1" = 60'
 HORIZONTAL
 SCALE IN FEET
 CALCULATED JLS
 CHECKED JLS

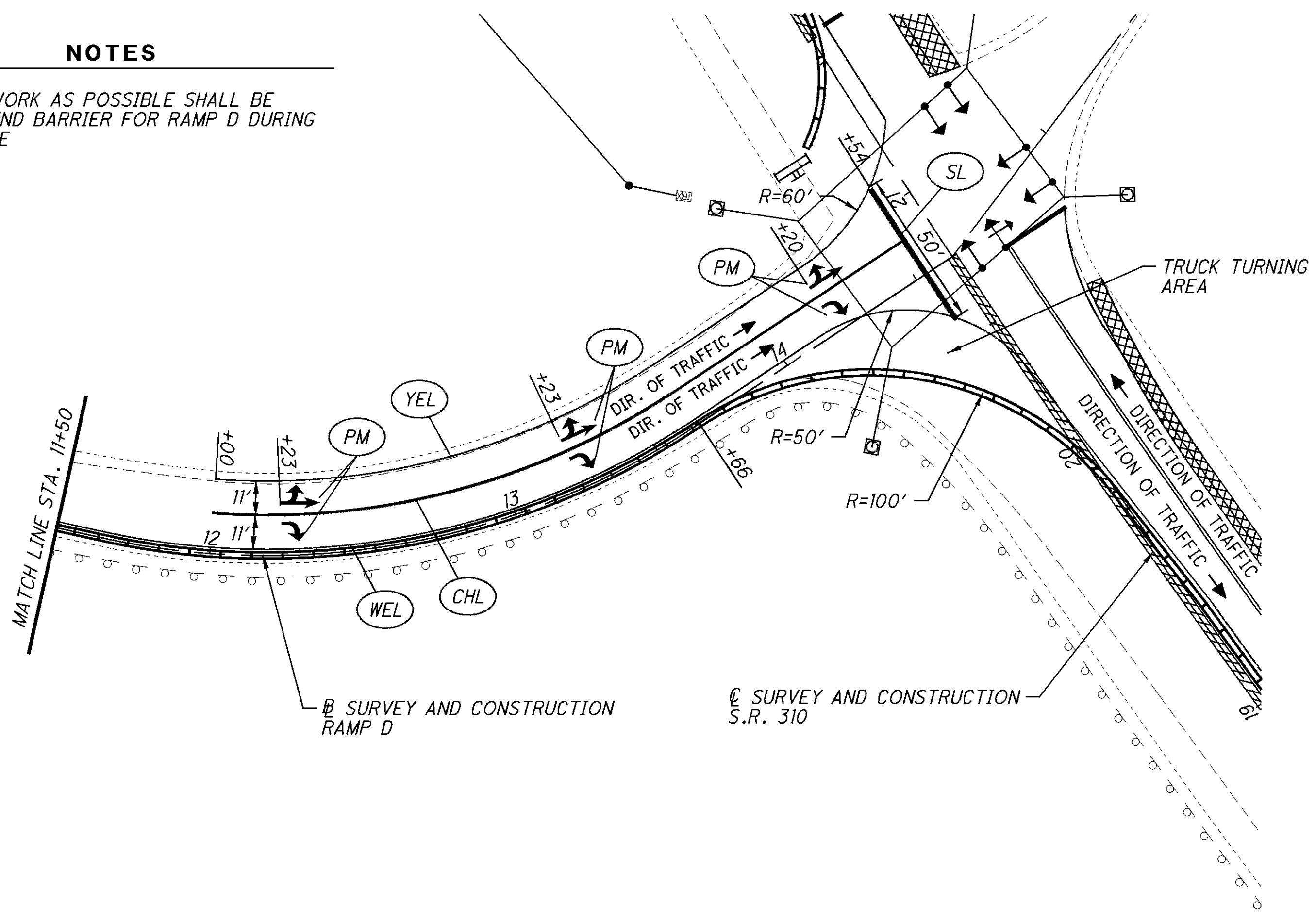


LEGEND

- WORK ZONE IMPACT ATTENUATOR TYPE 2 DESIGN, 60 MPH, 24" WIDE (UNDIRECTIONAL)
- PORTABLE BARRIER, 32"
- ITEM 202, CONCRETE MEDIAN REMOVED, AS PER PLAN
- ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN
- CHL WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
- PM WORK ZONE PAVEMENT MARKING, CLASS I, 642 PAINT
- SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)
- YEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)

NOTES

AS MUCH WORK AS POSSIBLE SHALL BE DONE BEHIND BARRIER FOR RAMP D DURING THIS PHASE



MAINTENANCE OF TRAFFIC (PHASE 1A)
 STA. 3+50 TO STA. 14+63.65 (RAMP D)




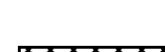
LIC-310-0.74

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 425

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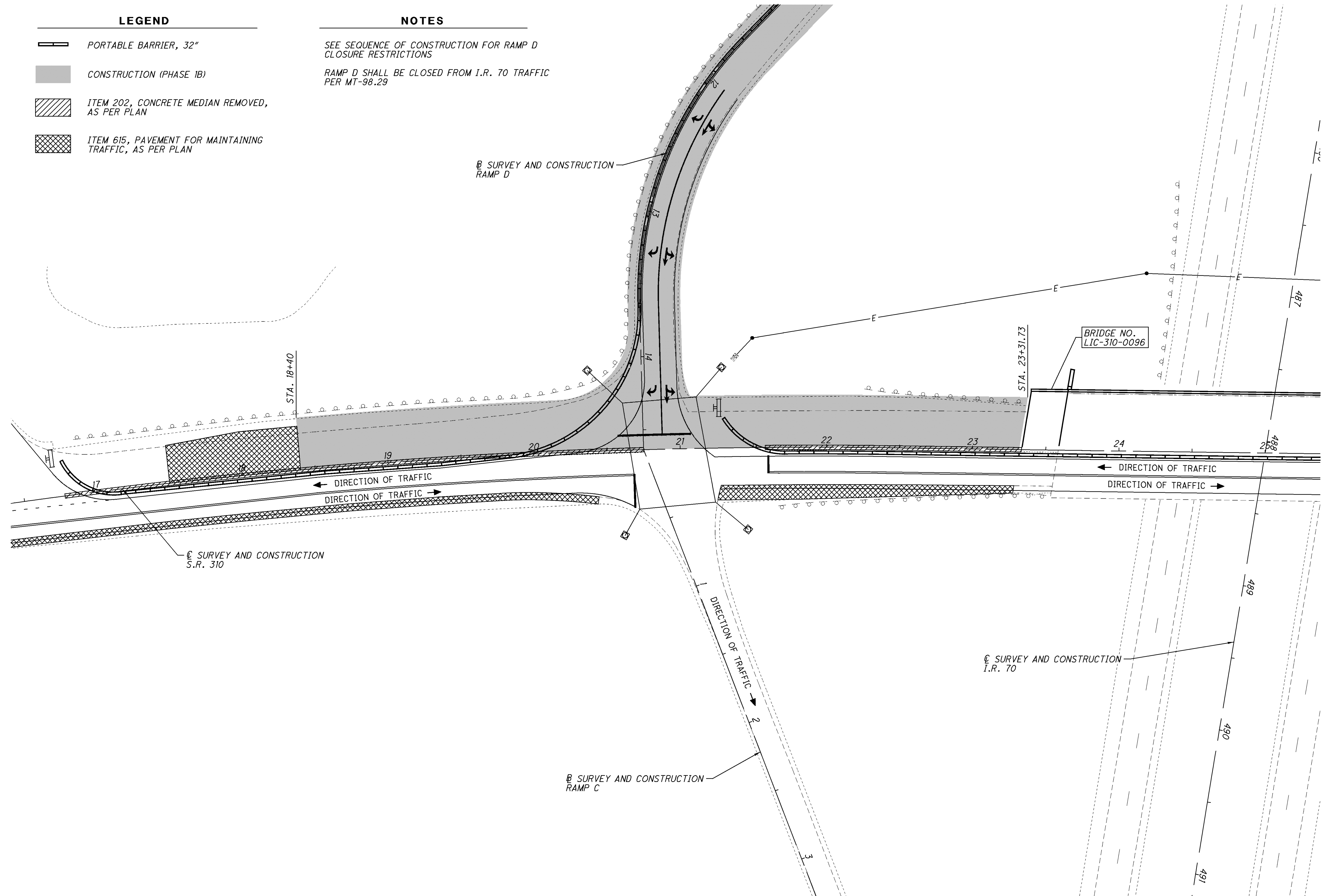
LEGEND

-  PORTABLE BARRIER, 32"
-  CONSTRUCTION (PHASE 1B)
-  ITEM 202, CONCRETE MEDIAN REMOVED, AS PER PLAN
-  ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN

NOTES

SEE SEQUENCE OF CONSTRUCTION FOR RAMP D CLOSURE RESTRICTIONS

RAMP D SHALL BE CLOSED FROM I.R. 70 TRAFFIC PER MT-98.29



CALCULATED JLS
CHECKED JLS

0 15 30 60
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC (PHASE 1B)
STA. 18+40 TO STA. 23+31.73 (S.R. 310)






LIC-310-0.74

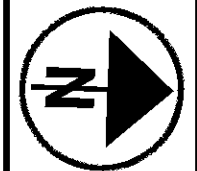
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NOTES

SEE SEQUENCE OF CONSTRUCTION FOR RAMP A
CLOSURE RESTRICTIONS

LEGEND

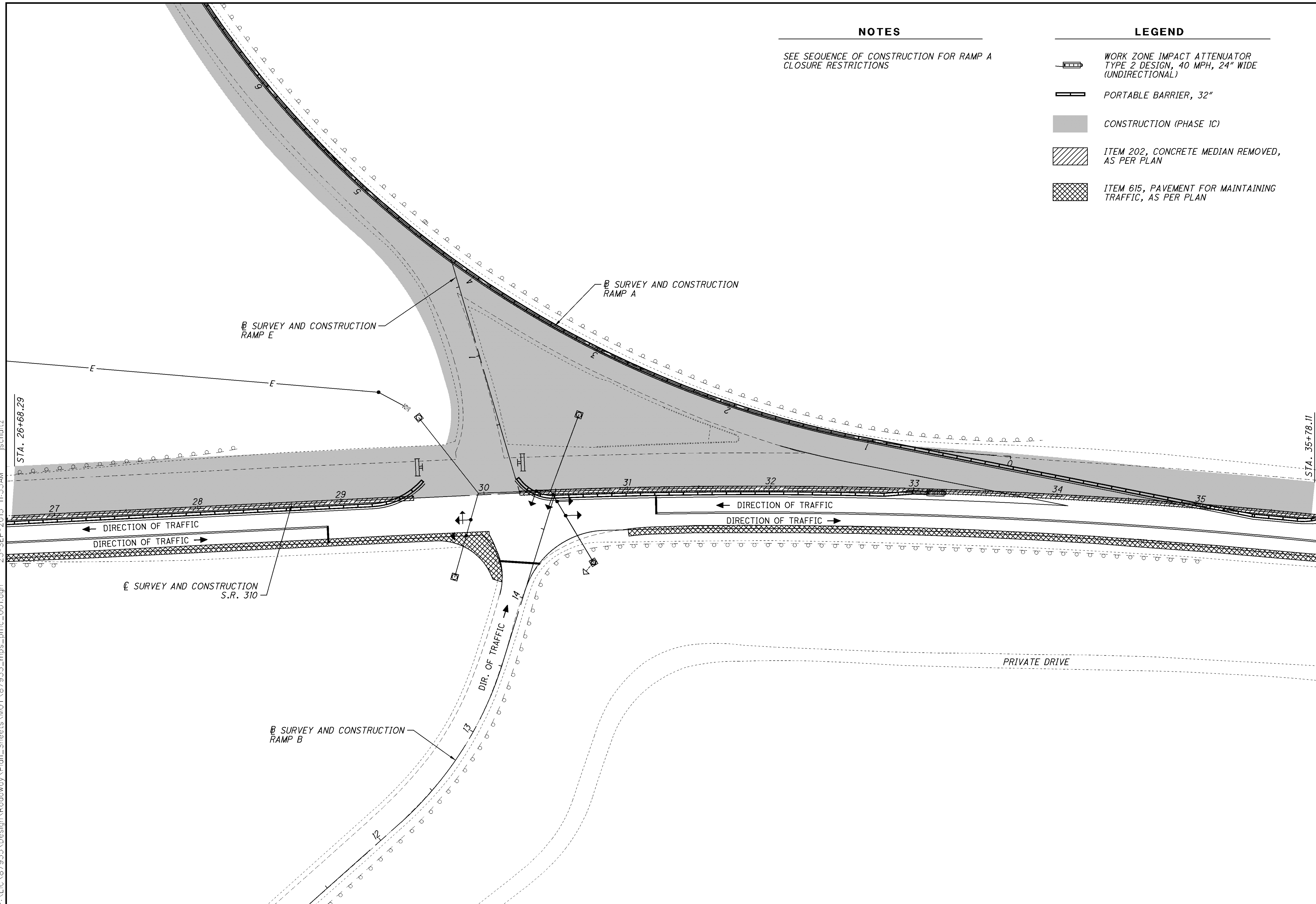
-  WORK ZONE IMPACT ATTENUATOR
TYPE 2 DESIGN, 40 MPH, 24" WIDE
(UNDIRECTIONAL)
-  PORTABLE BARRIER, 32"
-  CONSTRUCTION (PHASE 1C)
-  ITEM 202, CONCRETE MEDIAN REMOVED,
AS PER PLAN
-  ITEM 615, PAVEMENT FOR MAINTAINING
TRAFFIC, AS PER PLAN



CALCULATED JLS
CHECKED JLS

MAINTENANCE OF TRAFFIC (PHASE 1C)
STA. 26+68.29 TO STA. 35+78.11 (S.R. 310)

LIC-310-0.74



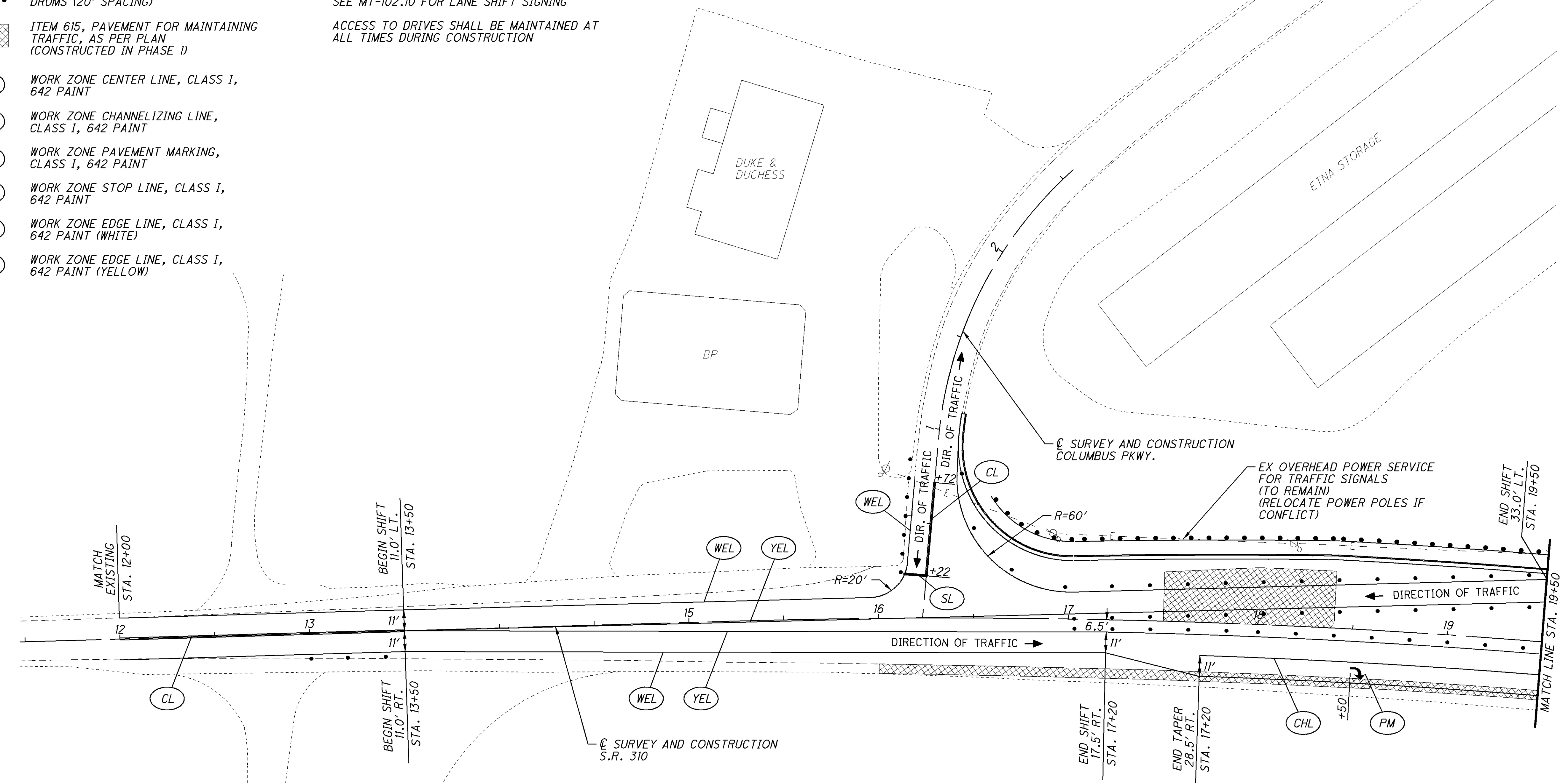
CROSS REFERENCES	
SHEETS	DESCRIPTION
43	MOT TYPICALS
46	MOT SUBSUMMARY

LEGEND

- • DRUMS (20' SPACING)
- ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (CONSTRUCTED IN PHASE 1)
- WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
- WORK ZONE PAVEMENT MARKING, CLASS I, 642 PAINT
- WORK ZONE STOP LINE, CLASS I, 642 PAINT
- WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)
- WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)

NOTES

SEE MT-102.10 FOR LANE SHIFT SIGNING
 ACCESS TO DRIVES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION




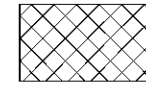








**MAINTENANCE OF TRAFFIC (PHASE 2)
 STA. 12+00 TO STA. 19+50 (S.R. 310)**

LIC-310-0.74

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LEGEND

-  WORK ZONE IMPACT ATTENUATOR
TYPE 2 DESIGN, 40 MPH, 24" WIDE
(UNDIRECTIONAL)
-  DRUMS (20' SPACING)
-  PORTABLE BARRIER, 32"
-  ITEM 615, PAVEMENT FOR MAINTAINING
TRAFFIC, AS PER PLAN
(CONSTRUCTED IN PHASE 1)
-  WORK ZONE CENTER LINE, CLASS I,
642 PAINT
-  WORK ZONE CHANNELIZING LINE,
CLASS I, 642 PAINT
-  WORK ZONE PAVEMENT MARKING,
CLASS I, 642 PAINT
-  WORK ZONE STOP LINE, CLASS I,
642 PAINT
-  WORK ZONE EDGE LINE, CLASS I,
642 PAINT (WHITE)
-  WORK ZONE EDGE LINE, CLASS I,
642 PAINT (YELLOW)

NOTES

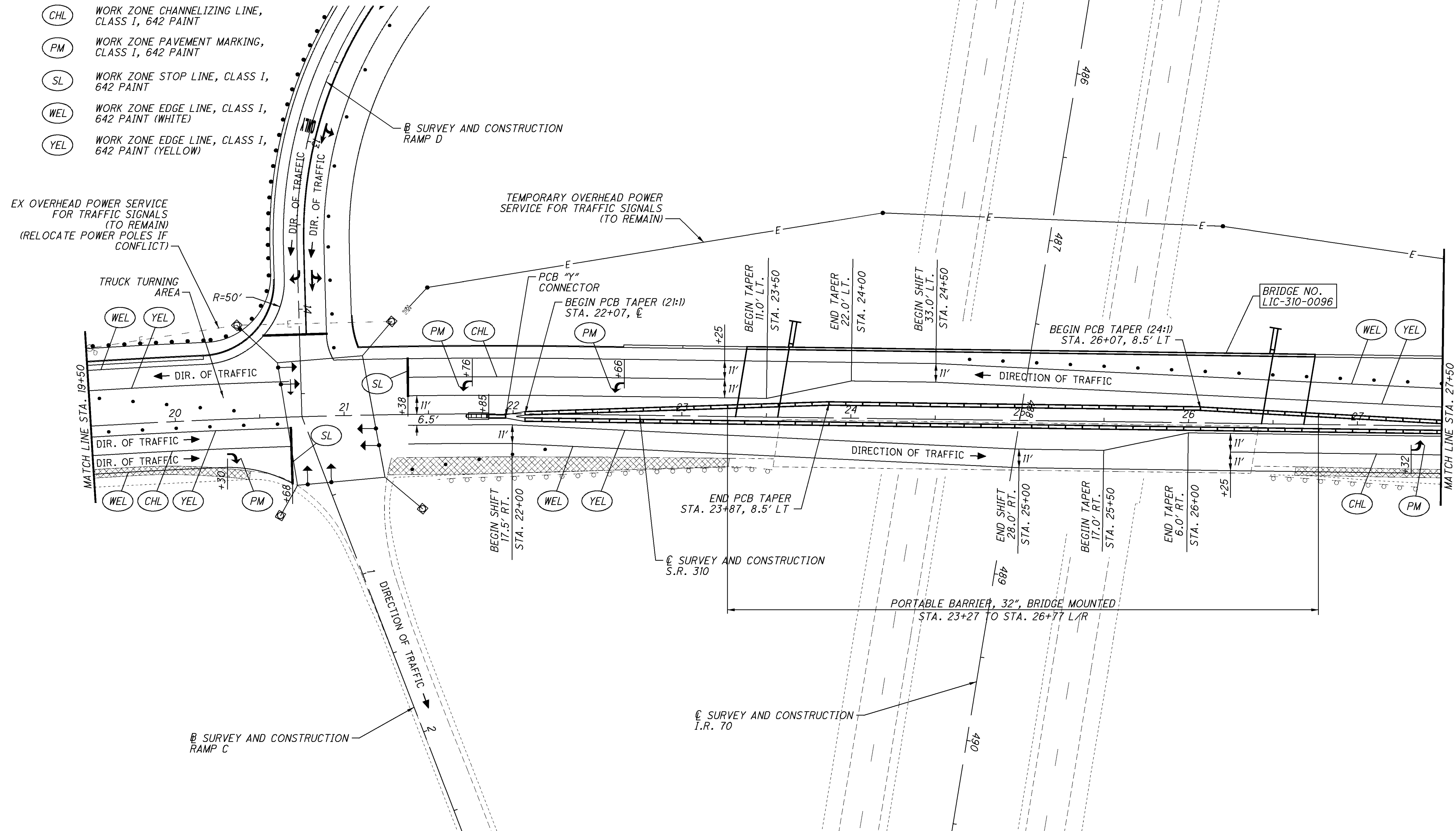
SEE MT-102.10 FOR LANE SHIFT SIGNING

CROSS REFERENCES	
SHEETS	DESCRIPTION
38 & 40	MOT SIGNAL DETAILS
43	MOT TYPICALS
46	MOT SUBSUMMARY
63	MOT RAMP D




60
15
HORIZONTAL
SCALE IN FEET

CALCULATED JLS
CHECKED JLS



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**MAINTENANCE OF TRAFFIC (PHASE 2)
STA. 19+50 TO STA. 27+50 (S.R. 310)**










LIC-310-0.74

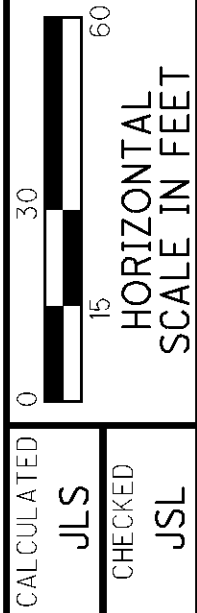
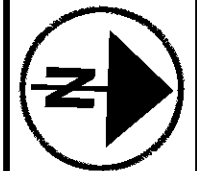
CROSS REFERENCES	
SHEETS	DESCRIPTION
38 & 40	MOT SIGNAL DETAILS
43	MOT TYPICALS
46	MOT SUBSUMMARY

NOTES

SEE MT-102.10 FOR LANE SHIFT SIGNING
 WORK ZONE MARKINGS SHOWN ON THIS SHEET FOR RAMP A/E SHALL BE PLACED IN LOCATION OF PERMANENT MARKINGS (SEE TRAFFIC CONTROL SHEETS FOR DETAILS)

LEGEND

-  WORK ZONE IMPACT ATTENUATOR TYPE 2 DESIGN, 40 MPH, 24" WIDE (UNDIRECTIONAL)
-  DRUMS (20' SPACING)
-  PORTABLE BARRIER, 32"
-  ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (CONSTRUCTED IN PHASE 1)
-  CHL WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
-  PM WORK ZONE PAVEMENT MARKING, CLASS I, 642 PAINT
-  SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
-  WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)
-  YEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)

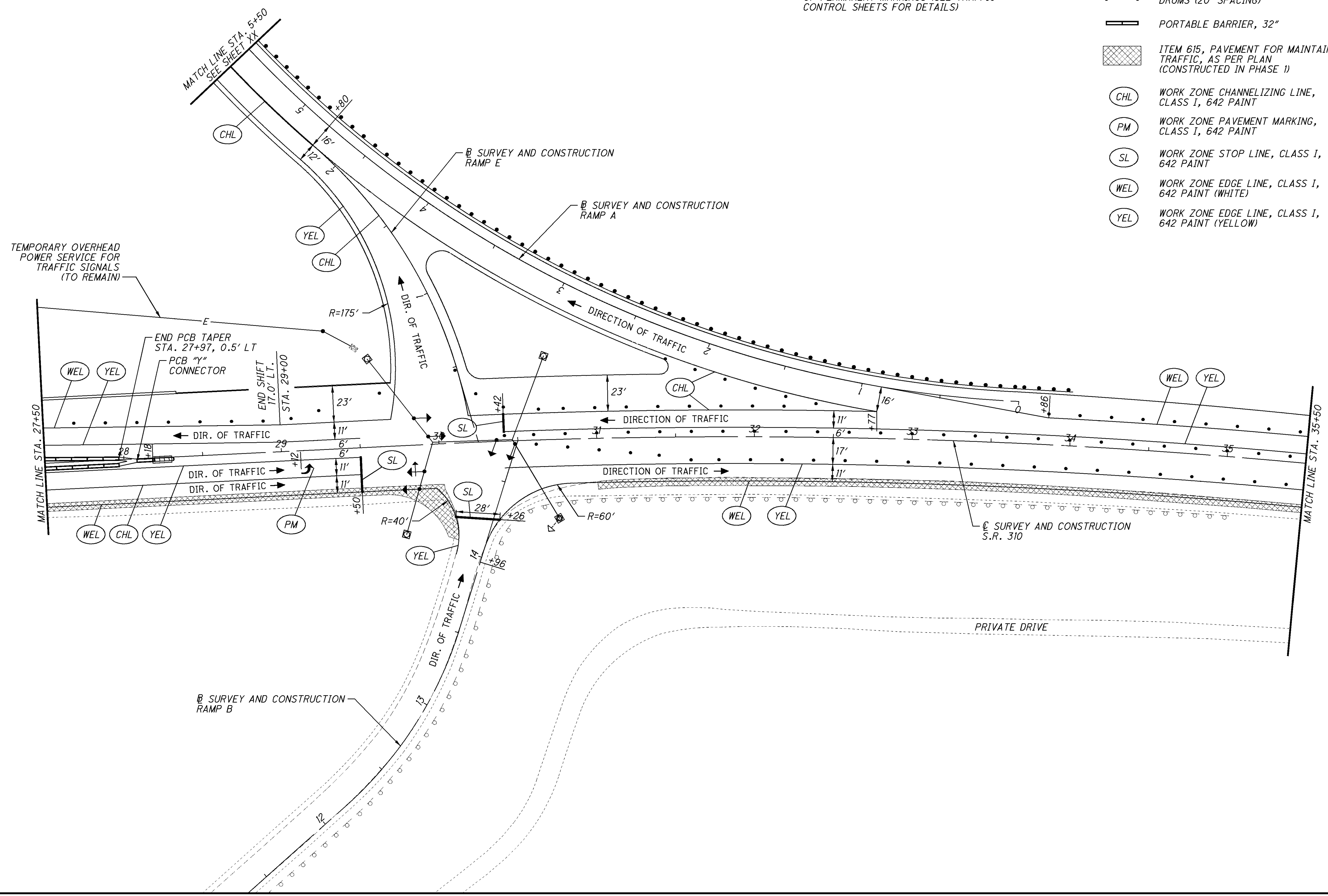


MAINTENANCE OF TRAFFIC (PHASE 2)
STA. 27+50 TO STA. 35+50 (S.R. 310)

LIC-310-0.74

60
425

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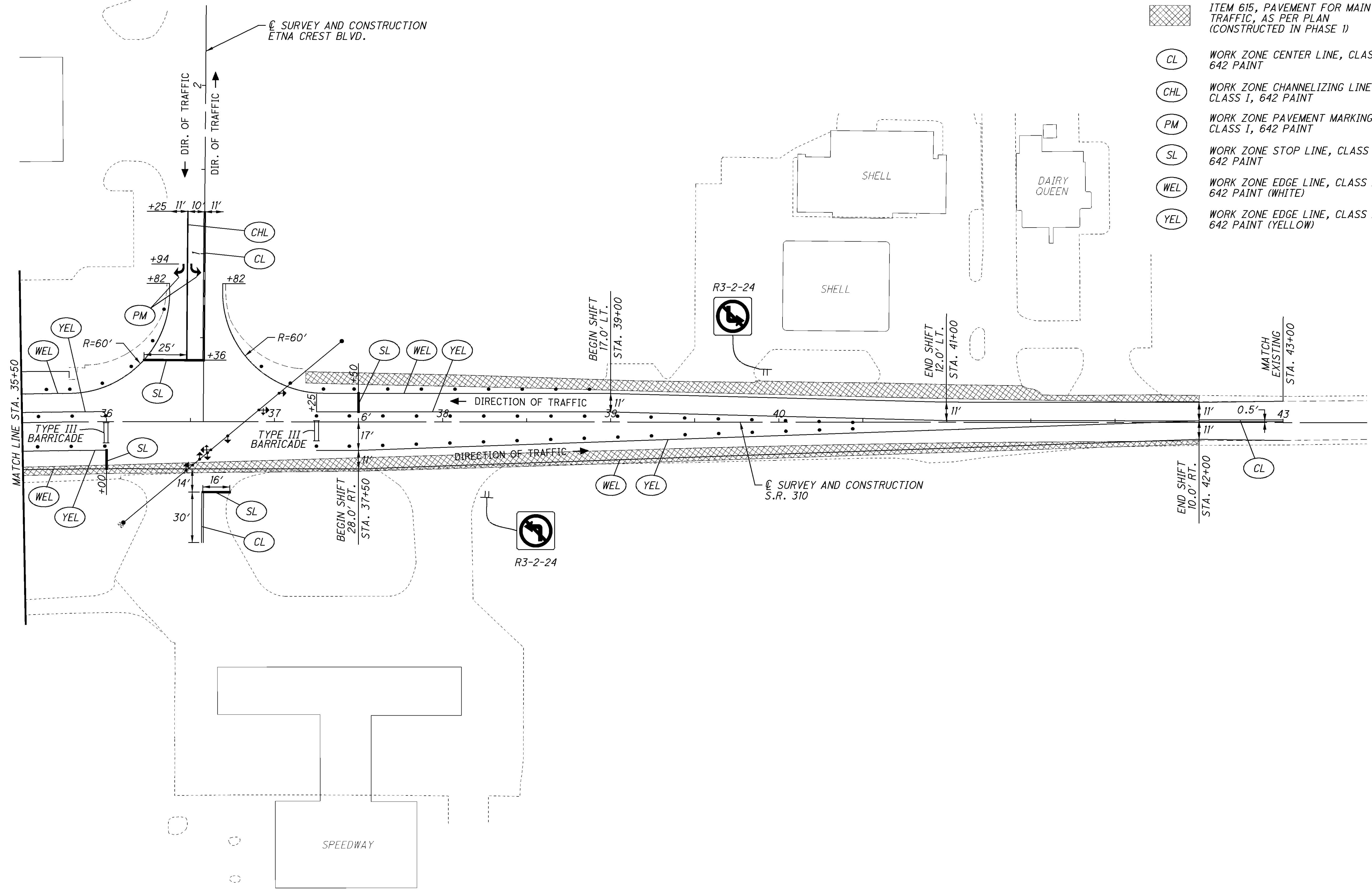
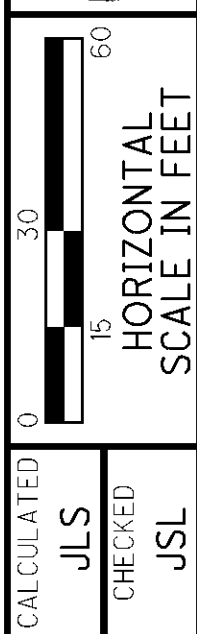
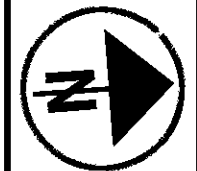
CROSS REFERENCES	
SHEETS	DESCRIPTION
38 & 40	MOT SIGNAL DETAILS
43	MOT TYPICALS
46	MOT SUBSUMMARY

NOTES

SEE MT-102.10 FOR LANE SHIFT SIGNING
 ACCESS TO DRIVES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION

LEGEND

- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- ▨ ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (CONSTRUCTED IN PHASE 1)
- CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- CHL WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
- PM WORK ZONE PAVEMENT MARKING, CLASS I, 642 PAINT
- SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)
- YEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)



MAINTENANCE OF TRAFFIC (PHASE 2)
STA. 35+50 TO STA. 43+50 (S.R. 310)

LIC-310-0.74

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CROSS REFERENCES	
SHEETS	DESCRIPTION
46	MOT SUBSUMMARY



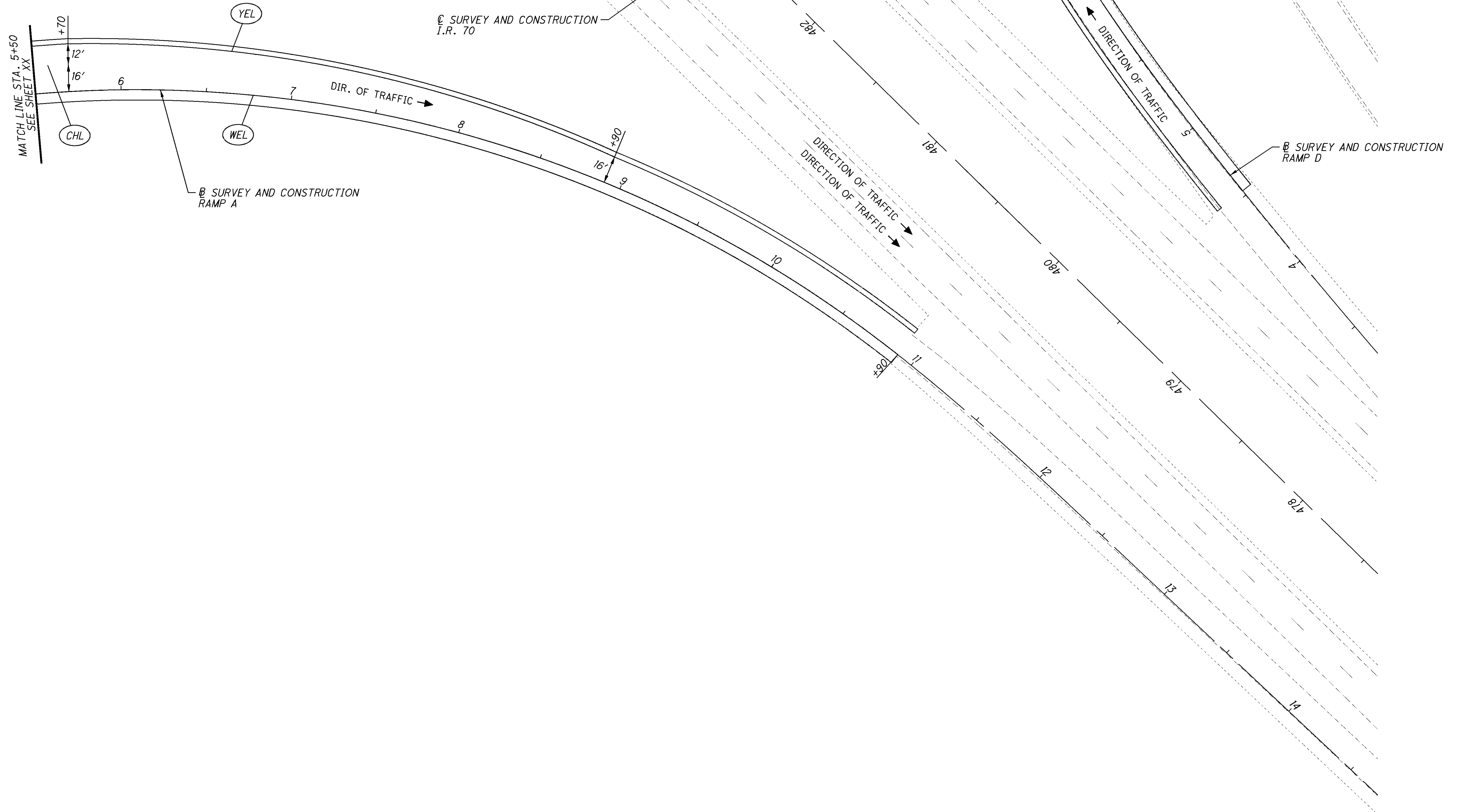
CALCULATED JLS
CHECKED JLS

LEGEND

- (CHL) WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
- (WEL) WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)
- (YEL) WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)

NOTES

WORK ZONE MARKINGS SHOWN ON THIS SHEET FOR RAMP A SHALL BE PLACED IN LOCATION OF PERMANENT MARKINGS (SEE TRAFFIC CONTROL SHEETS FOR DETAILS)



MAINTENANCE OF TRAFFIC (PHASE 2)
STA. 5+50 TO STA. 12+50 (RAMP A)

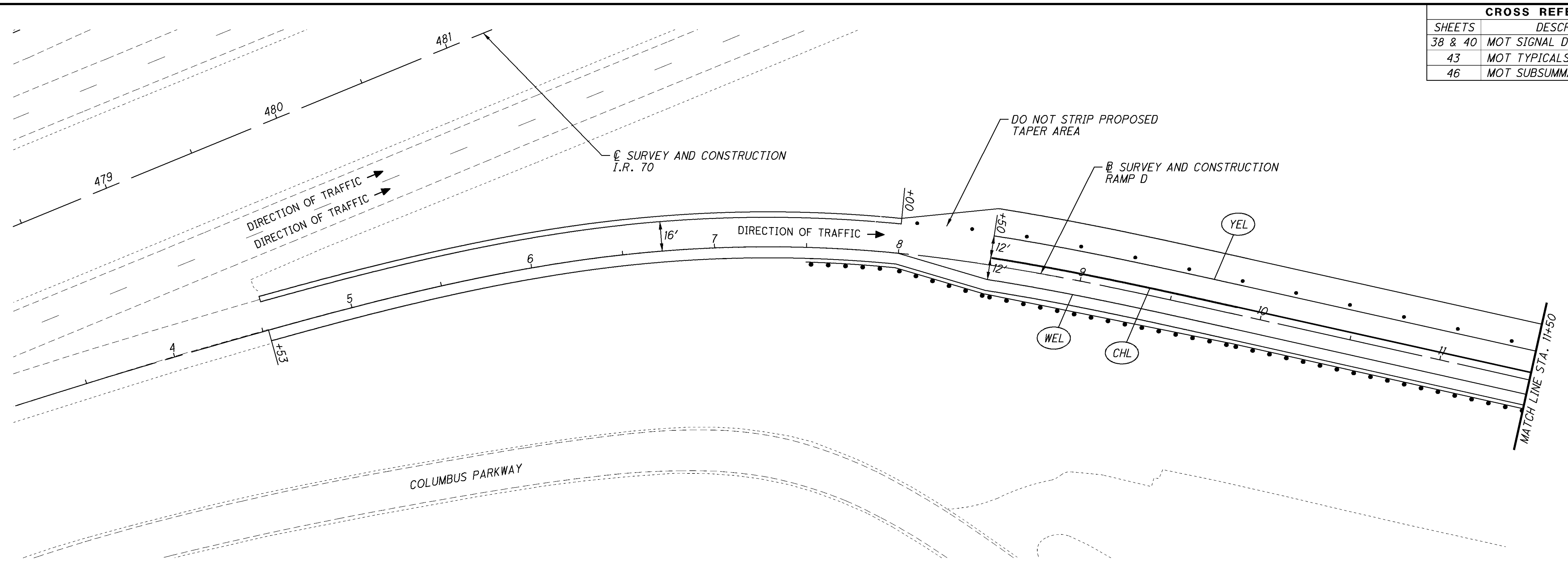
LIC-310-0.74

CROSS REFERENCES	
SHEETS	DESCRIPTION
38 & 40	MOT SIGNAL DETAILS
43	MOT TYPICALS
46	MOT SUBSUMMARY



0 30 60
 1" = 60'
 HORIZONTAL
 SCALE IN FEET

CALCULATED JLS
 CHECKED JLS



COLUMBUS PARKWAY

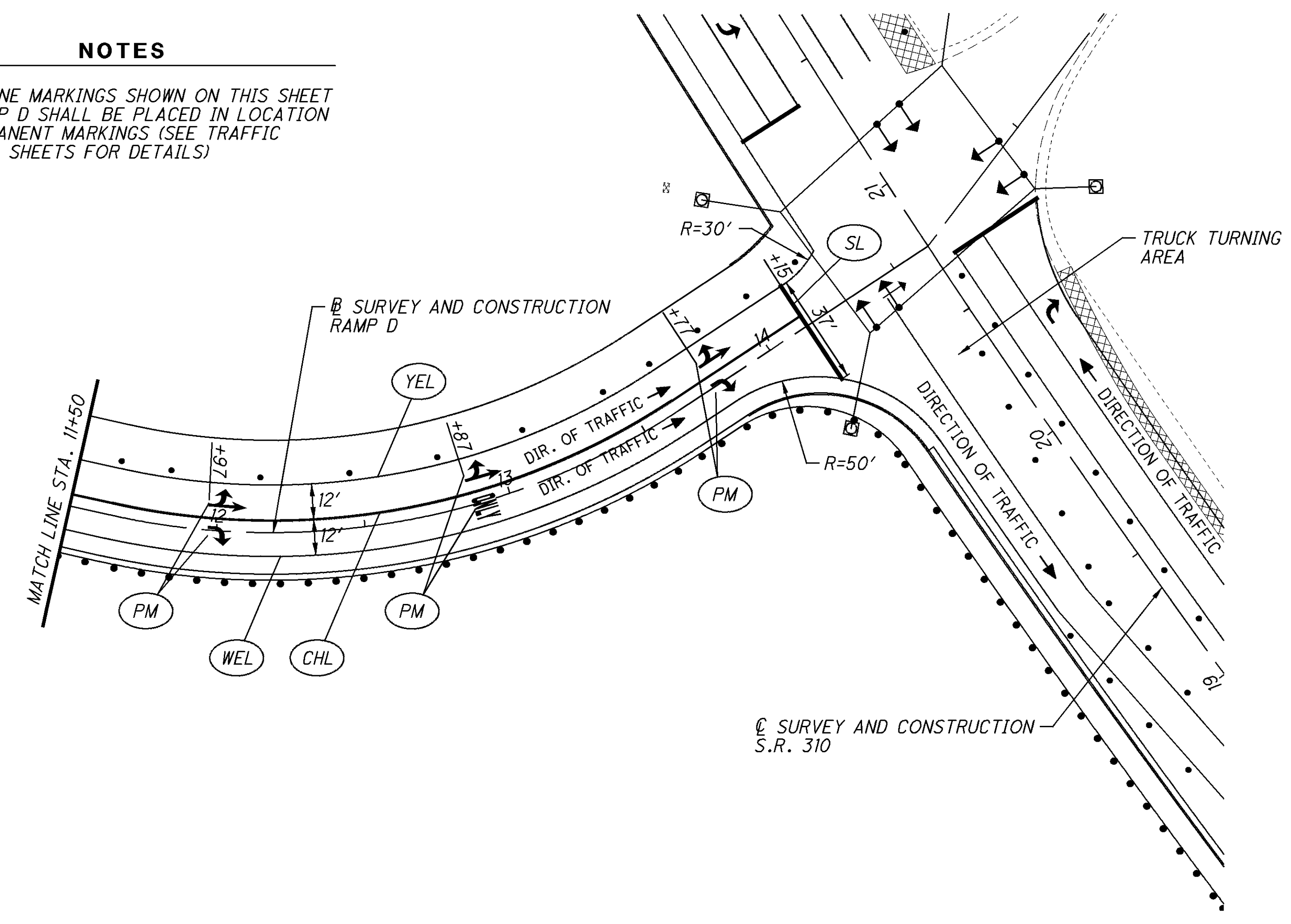
MATCH LINE STA. 11+50

LEGEND

- (CHL) WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
- (PM) WORK ZONE PAVEMENT MARKING, CLASS I, 642 PAINT
- (SL) WORK ZONE STOP LINE, CLASS I, 642 PAINT
- (WEL) WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)
- (YEL) WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)

NOTES

WORK ZONE MARKINGS SHOWN ON THIS SHEET FOR RAMP D SHALL BE PLACED IN LOCATION OF PERMANENT MARKINGS (SEE TRAFFIC CONTROL SHEETS FOR DETAILS)



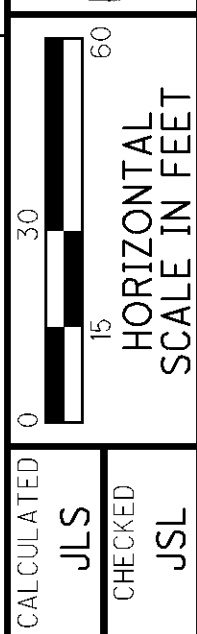
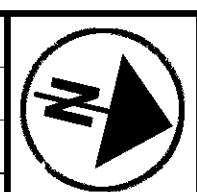
MAINTENANCE OF TRAFFIC (PHASE 2)
 STA. 3+50 TO STA. 14+63.65 (RAMP D)

LIC-310-0.74

63
 425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
44	MOT TYPICALS
47	MOT SUBSUMMARY



LEGEND

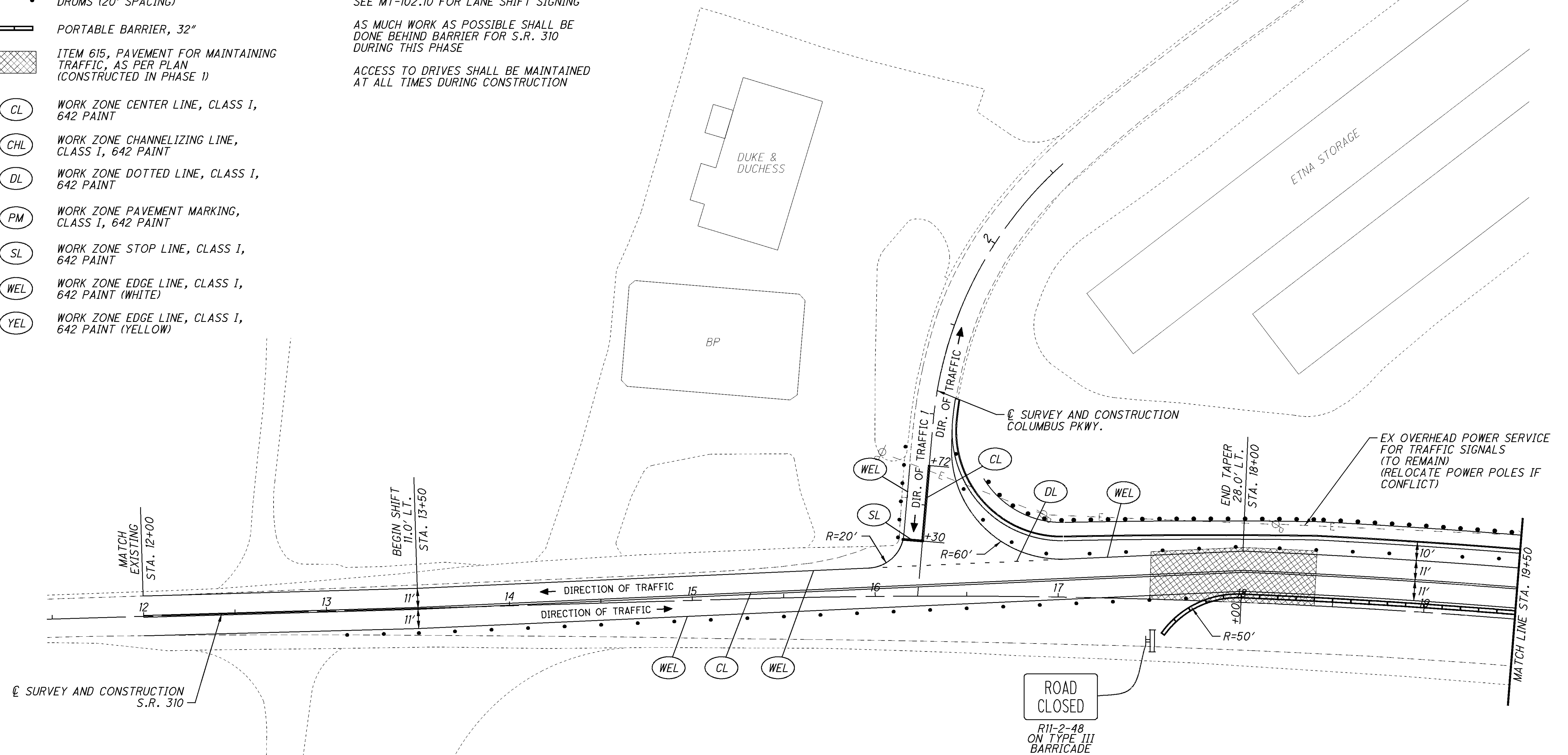
- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- ▨ ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (CONSTRUCTED IN PHASE 1)
- CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- CHL WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
- DL WORK ZONE DOTTED LINE, CLASS I, 642 PAINT
- PM WORK ZONE PAVEMENT MARKING, CLASS I, 642 PAINT
- SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)
- YEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)

NOTES

SEE MT-102.10 FOR LANE SHIFT SIGNING

AS MUCH WORK AS POSSIBLE SHALL BE DONE BEHIND BARRIER FOR S.R. 310 DURING THIS PHASE

ACCESS TO DRIVES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION

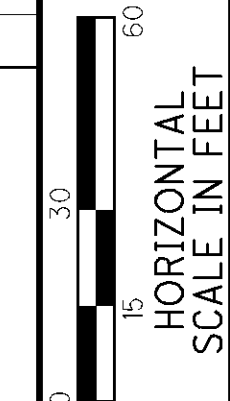
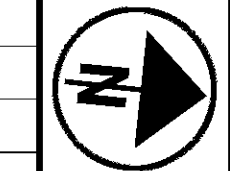


MAINTENANCE OF TRAFFIC (PHASE 3A)
STA. 12+00 TO STA. 19+50 (S.R. 310)

LIC-310-0.74

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CROSS REFERENCES	
SHEETS	DESCRIPTION
39 & 40	MOT SIGNAL DETAILS
44	MOT TYPICALS
47	MOT SUBSUMMARY



CALCULATED JLS
CHECKED JLS

LEGEND

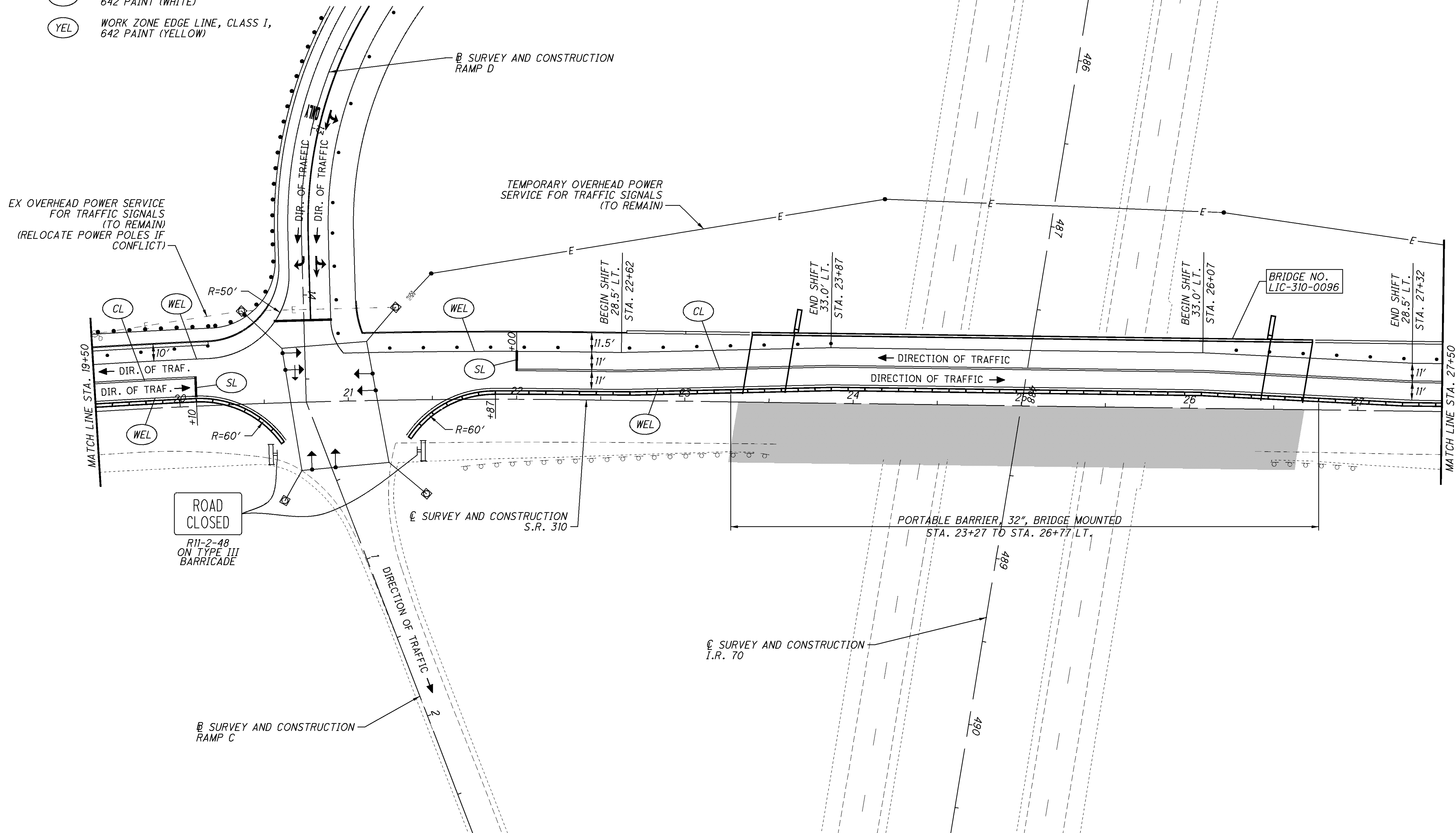
- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- CONSTRUCTION (PHASE 3A)
- CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)
- YEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)

NOTES

SEE MT-102.10 FOR LANE SHIFT SIGNING

AS MUCH WORK AS POSSIBLE SHALL BE DONE BEHIND BARRIER FOR S.R. 310 DURING THIS PHASE

PHASE 2 WORK ZONE MARKINGS FOR RAMP D SHALL REMAIN IN PLACE FOR PHASE 3. QUANTITIES HAVE BEEN ADDED IN PLANS FOR RE-APPLICATION IF DEEMED NECESSARY BY ENGINEER



MAINTENANCE OF TRAFFIC (PHASE 3A)
STA. 19+50 TO STA. 27+50 (S.R. 310)

LIC-310-0.74

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CROSS REFERENCES	
SHEETS	DESCRIPTION
39 & 40	MOT SIGNAL DETAILS
44	MOT TYPICALS
47	MOT SUBSUMMARY
68	MOT RAMP B

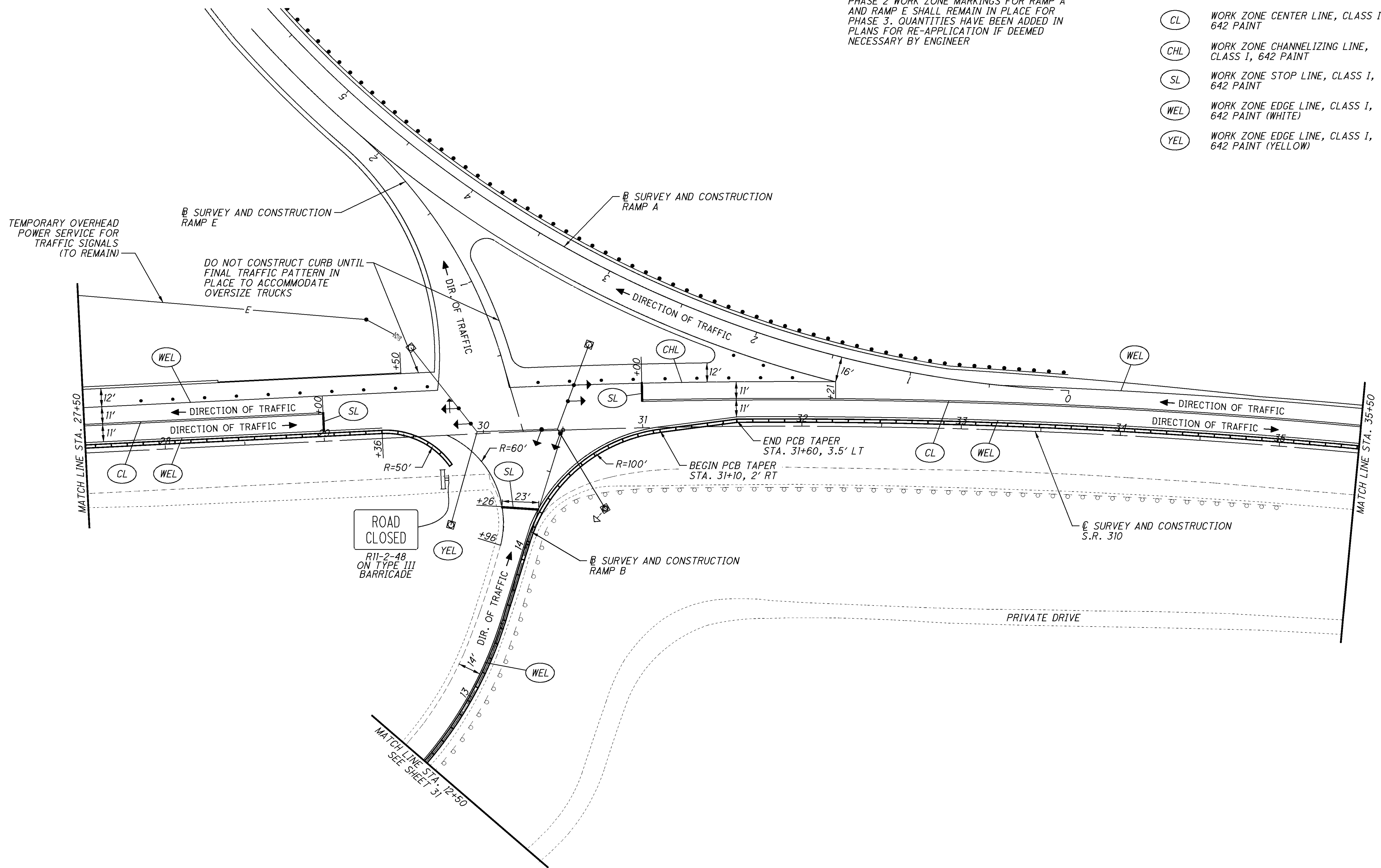
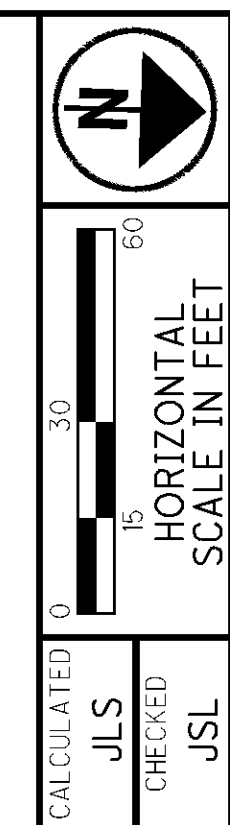
NOTES

AS MUCH WORK AS POSSIBLE SHALL BE DONE BEHIND BARRIER FOR S.R. 310 AND RAMP B DURING THIS PHASE

PHASE 2 WORK ZONE MARKINGS FOR RAMP A AND RAMP E SHALL REMAIN IN PLACE FOR PHASE 3. QUANTITIES HAVE BEEN ADDED IN PLANS FOR RE-APPLICATION IF DEEMED NECESSARY BY ENGINEER

LEGEND

- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- CHL WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
- SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)
- YEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)



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**MAINTENANCE OF TRAFFIC (PHASE 3A)
STA. 27+50 TO STA. 35+50 (S.R. 310)**

LIC-310-0.74

CROSS REFERENCES	
SHEETS	DESCRIPTION
39 & 40	MOT SIGNAL DETAILS
44	MOT TYPICALS
47	MOT SUBSUMMARY

NOTES

SEE MT-102.10 FOR LANE SHIFT SIGNING
 ACCESS TO DRIVES SHALL BE MAINTAINED
 AT ALL TIMES DURING CONSTRUCTION

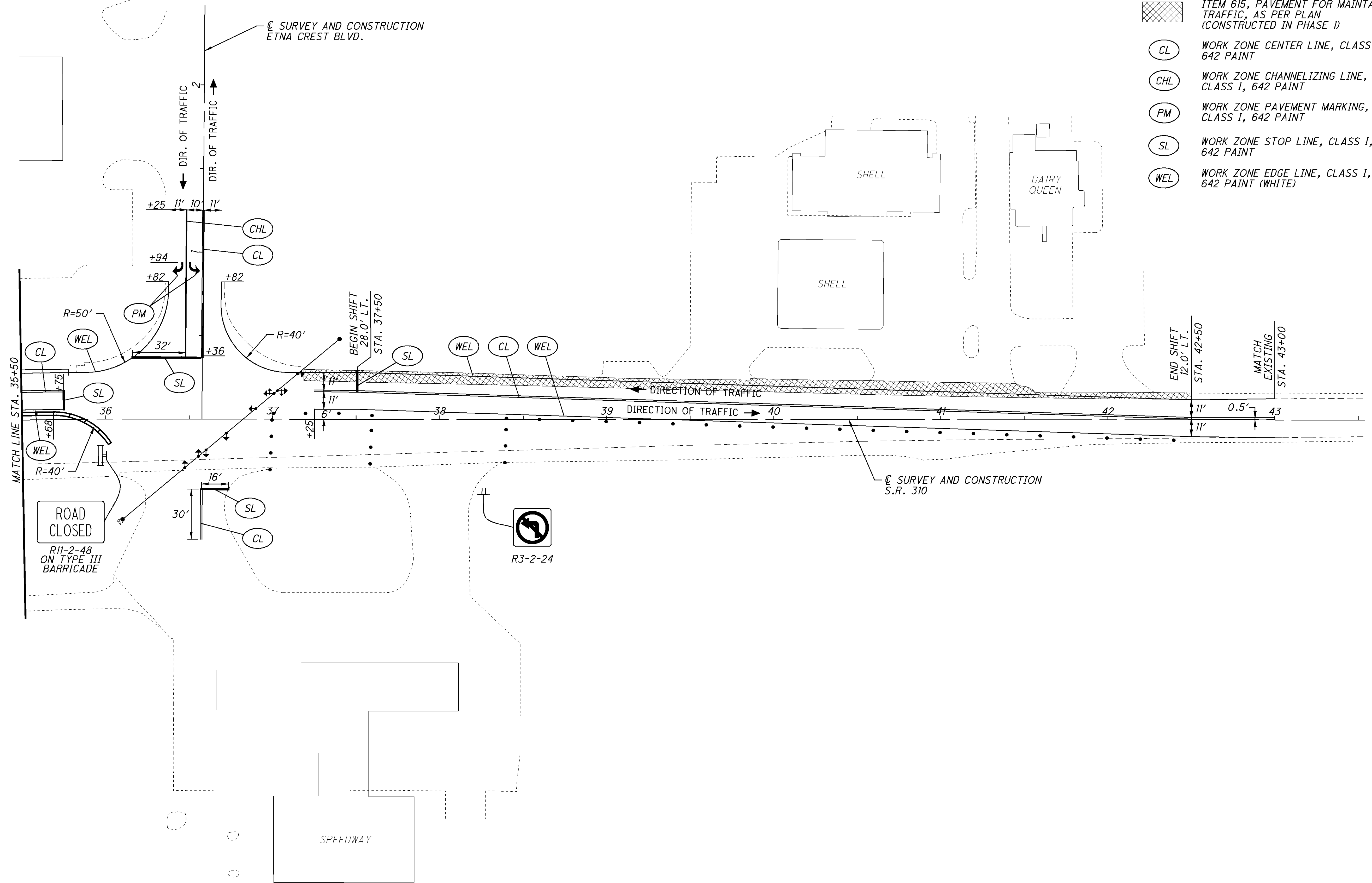
LEGEND

- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- ▨ ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (CONSTRUCTED IN PHASE I)
- CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- CHL WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
- PM WORK ZONE PAVEMENT MARKING, CLASS I, 642 PAINT
- SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)

N

60
15
0
HORIZONTAL
SCALE IN FEET

CALCULATED JLS
CHECKED JSL



MAINTENANCE OF TRAFFIC (PHASE 3A)
 STA. 35+50 TO STA. 42+00 (S.R. 310)

LIC-310-0.74





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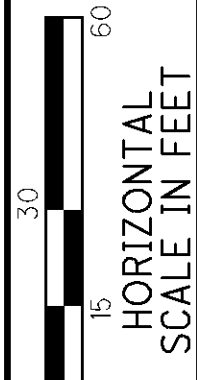
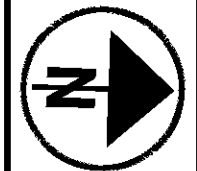
GROSS REFERENCES	
SHEETS	DESCRIPTION
44	MOT TYPICALS
47	MOT SUBSUMMARY

NOTES

AS MUCH WORK AS POSSIBLE SHALL BE DONE BEHIND BARRIER FOR RAMP B DURING THIS PHASE

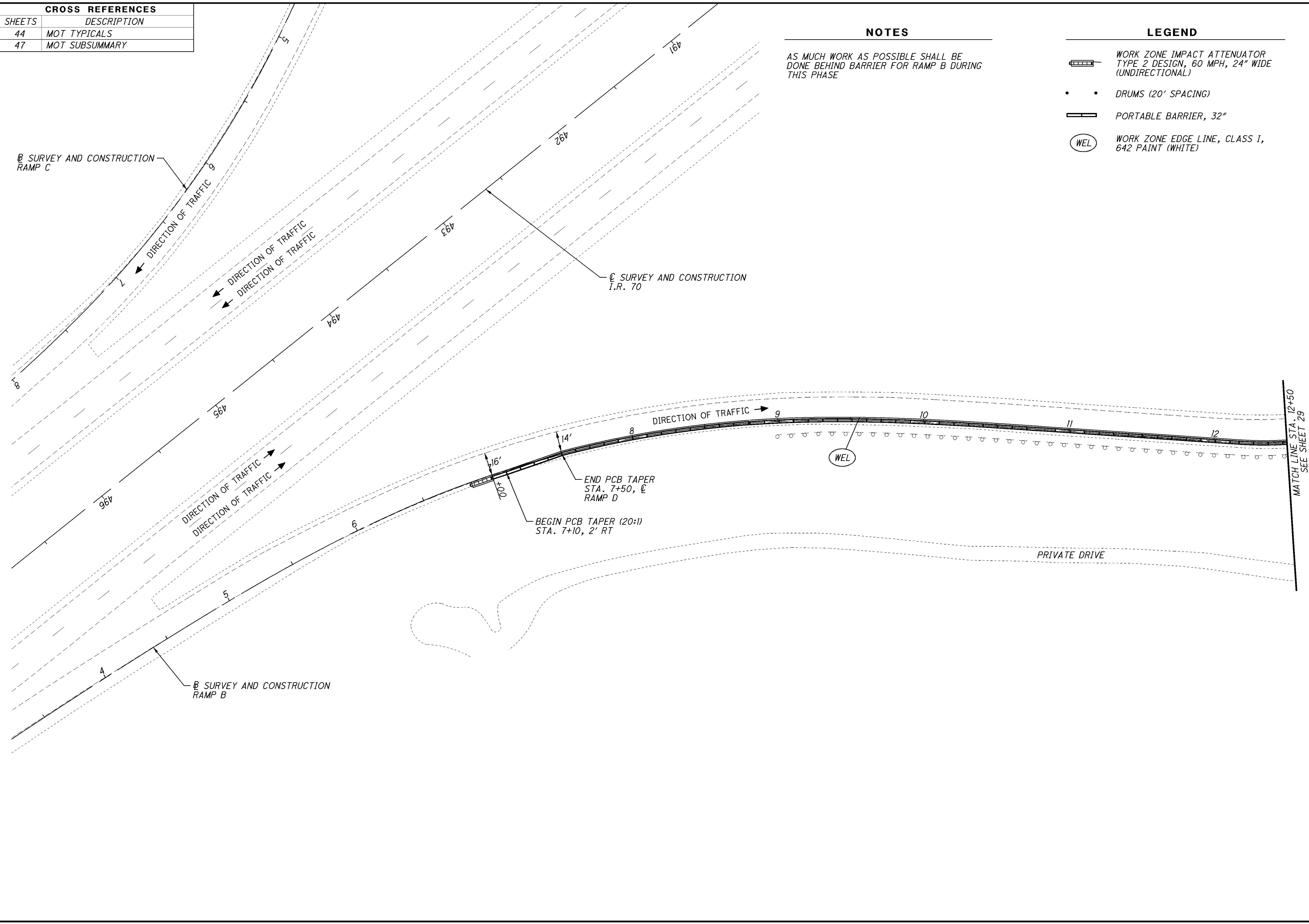
LEGEND

-  WORK ZONE IMPACT ATTENUATOR TYPE 2 DESIGN, 60 MPH, 24" WIDE (UNDIRECTIONAL)
-  DRUMS (20' SPACING)
-  PORTABLE BARRIER, 32"
-  WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE)



CALCULATED JLS
CHECKED JLS

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**MAINTENANCE OF TRAFFIC (PHASE 3A)
STA. 3+50 TO STA. 12+50 (RAMP B)**

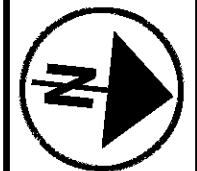
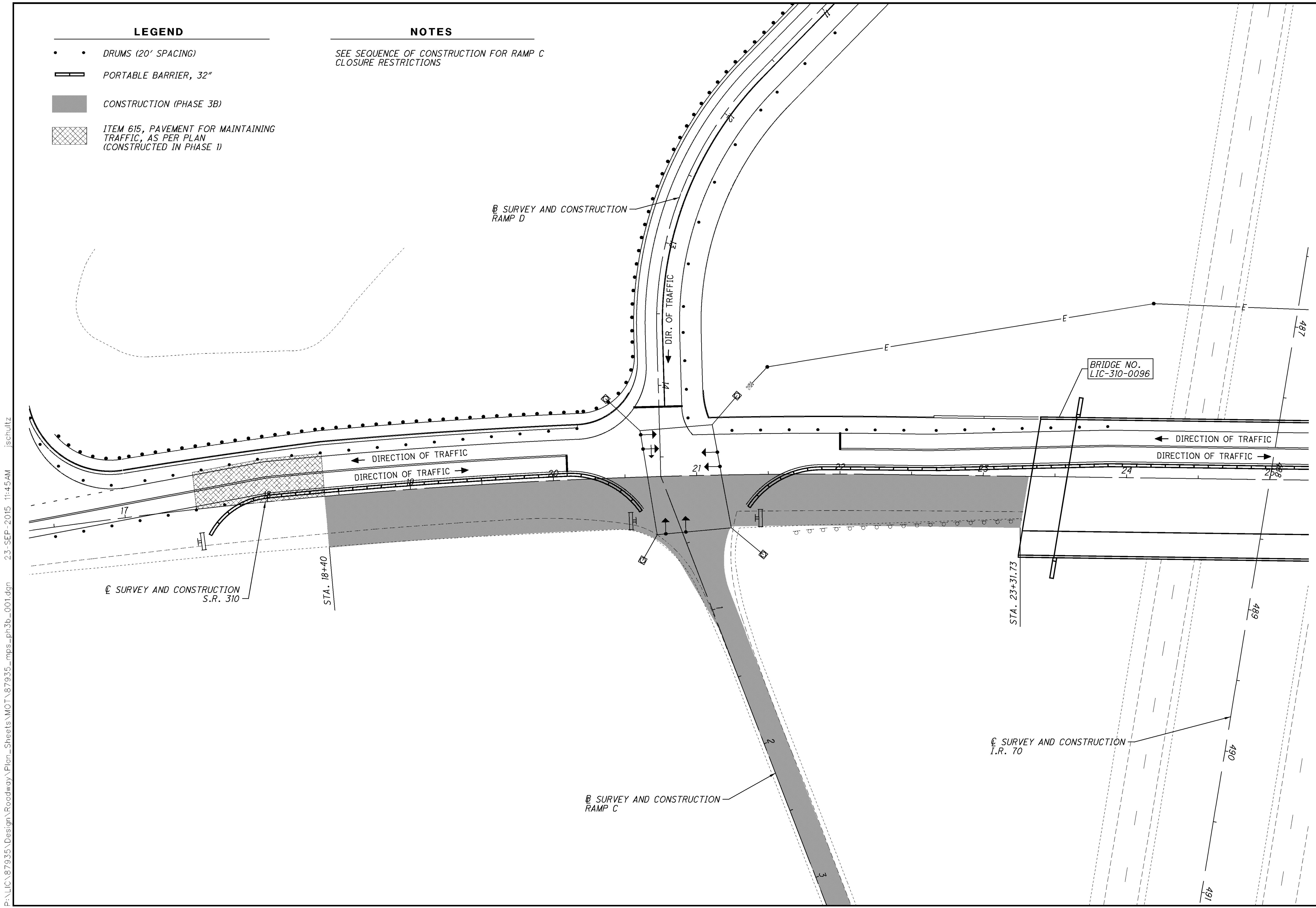
LIC-310-0.74

LEGEND

- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- CONSTRUCTION (PHASE 3B)
- ▨ ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (CONSTRUCTED IN PHASE 1)

NOTES

SEE SEQUENCE OF CONSTRUCTION FOR RAMP C CLOSURE RESTRICTIONS



0 30 60
HORIZONTAL SCALE IN FEET

CALCULATED JLS
CHECKED JLS

**MAINTENANCE OF TRAFFIC (PHASE 3B)
STA. 18+40 TO STA. 23+31.73 (S.R. 310)**

LIC-310-0.74

69
425

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STA. 26+68.29

STA. 35+78.11

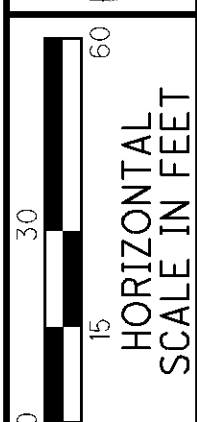
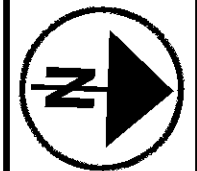
NOTES

SEE SEQUENCE OF CONSTRUCTION FOR RAMP D
CLOSURE RESTRICTIONS

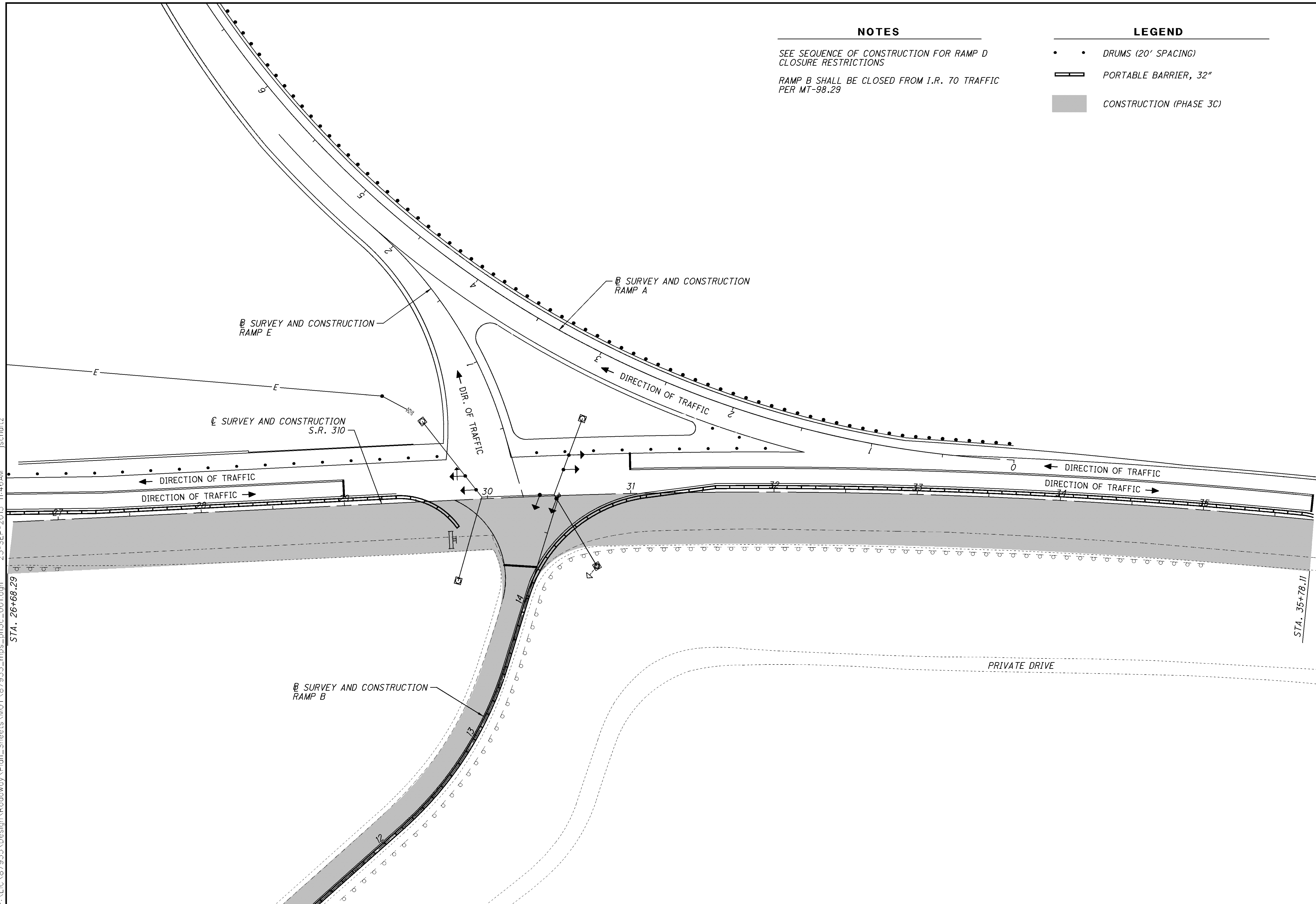
RAMP B SHALL BE CLOSED FROM I.R. 70 TRAFFIC
PER MT-98.29

LEGEND

- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- CONSTRUCTION (PHASE 3C)



CALCULATED JLS
CHECKED JLS

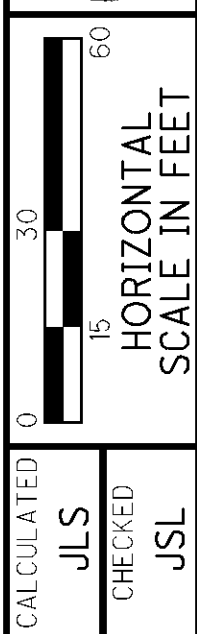
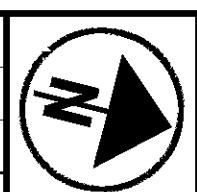


MAINTENANCE OF TRAFFIC (PHASE 3C)
STA. 26+68.29 TO STA. 35+78.11 (S.R. 310)

LIC-310-0.74

70
425

CROSS REFERENCES	
SHEETS	DESCRIPTION
48	MOT SUBSUMMARY



CALCULATED JLS
CHECKED JLS

LEGEND

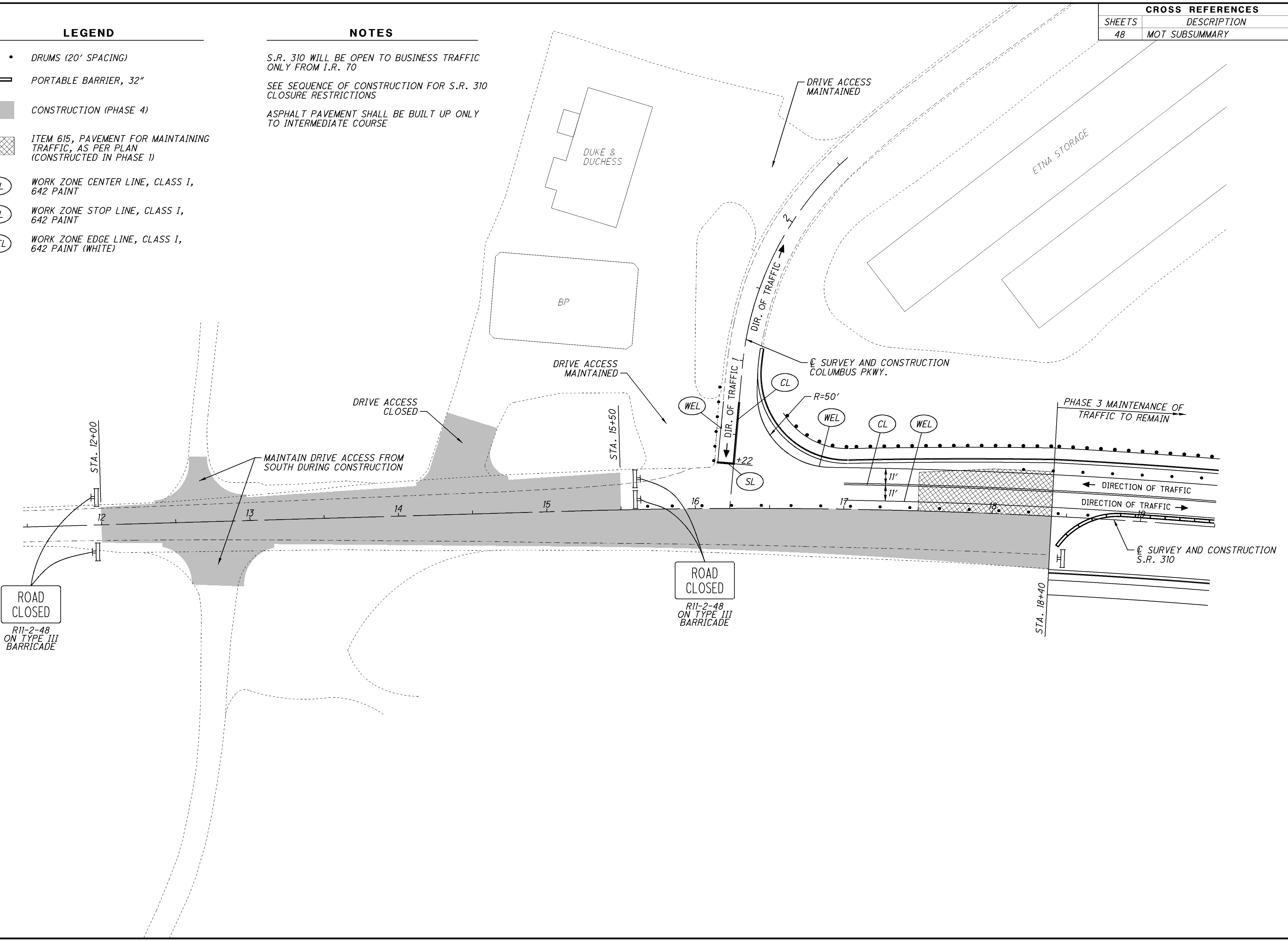
- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- CONSTRUCTION (PHASE 4)
- ▨ ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (CONSTRUCTED IN PHASE 1)
- CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- SL WORK ZONE STOP LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)

NOTES

S.R. 310 WILL BE OPEN TO BUSINESS TRAFFIC ONLY FROM I.R. 70

SEE SEQUENCE OF CONSTRUCTION FOR S.R. 310 CLOSURE RESTRICTIONS

ASPHALT PAVEMENT SHALL BE BUILT UP ONLY TO INTERMEDIATE COURSE



MAINTENANCE OF TRAFFIC (PHASE 4)
STA. 12+00 TO STA. 18+40 (S.R. 310)

LIC-310-0.74

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CROSS REFERENCES	
SHEETS	DESCRIPTION
48	MOT SUBSUMMARY

NOTES

S.R. 310 WILL BE OPEN TO BUSINESS TRAFFIC ONLY FROM I.R. 70
 SEE SEQUENCE OF CONSTRUCTION FOR S.R. 310 CLOSURE RESTRICTIONS
 ASPHALT PAVEMENT SHALL BE BUILT UP ONLY TO INTERMEDIATE COURSE

LEGEND

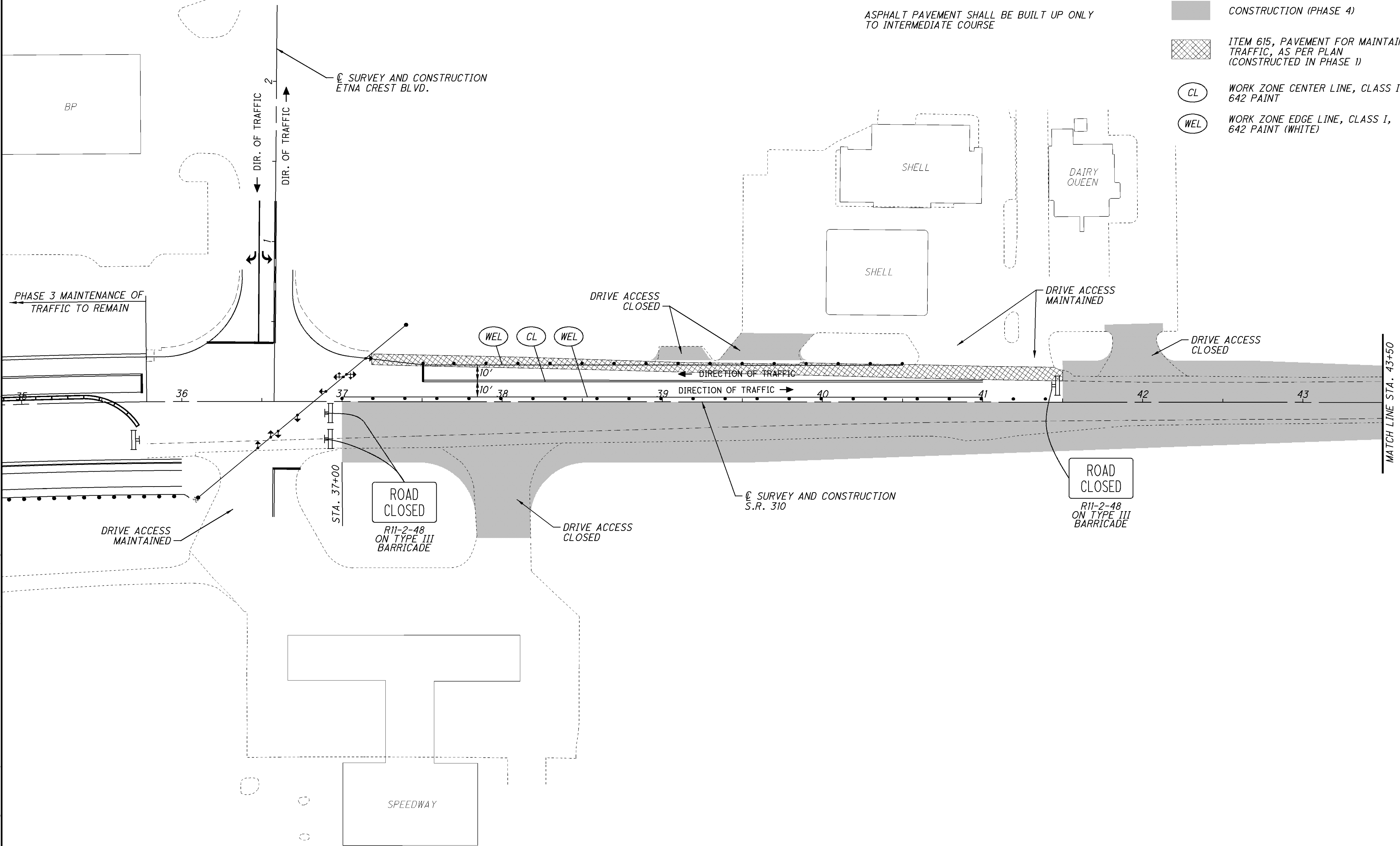
- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- CONSTRUCTION (PHASE 4)
- ▨ ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN (CONSTRUCTED IN PHASE 1)
- CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)





 1" = 30' HORIZONTAL SCALE IN FEET

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MAINTENANCE OF TRAFFIC (PHASE 4)
STA. 37+00 TO STA. 43+50 (S.R. 310)

LIC-310-0.74

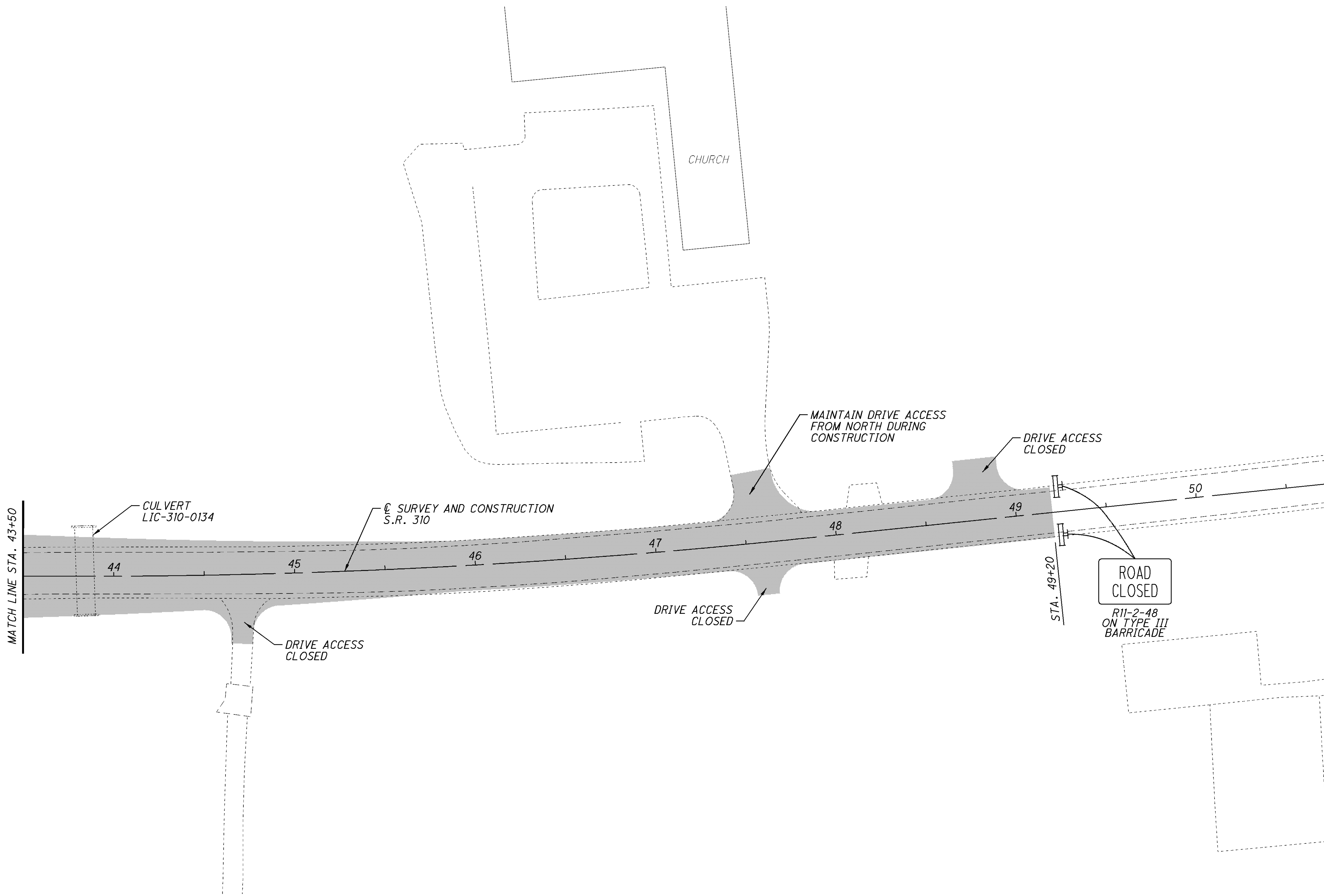
LEGEND

- • DRUMS (20' SPACING)
- CONSTRUCTION (PHASE 4)

NOTES

SEE SEQUENCE OF CONSTRUCTION FOR S.R. 310
CLOSURE RESTRICTIONS

ASPHALT PAVEMENT SHALL BE BUILT UP ONLY
TO INTERMEDIATE COURSE



CALCULATED JLS
CHECKED JLS

0 30 60
15
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC (PHASE 4)
STA. 43+50 TO STA. 49+20 (S.R. 310)**

LIC-310-0.74

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CROSS REFERENCES	
SHEETS	DESCRIPTION
48	MOT SUBSUMMARY



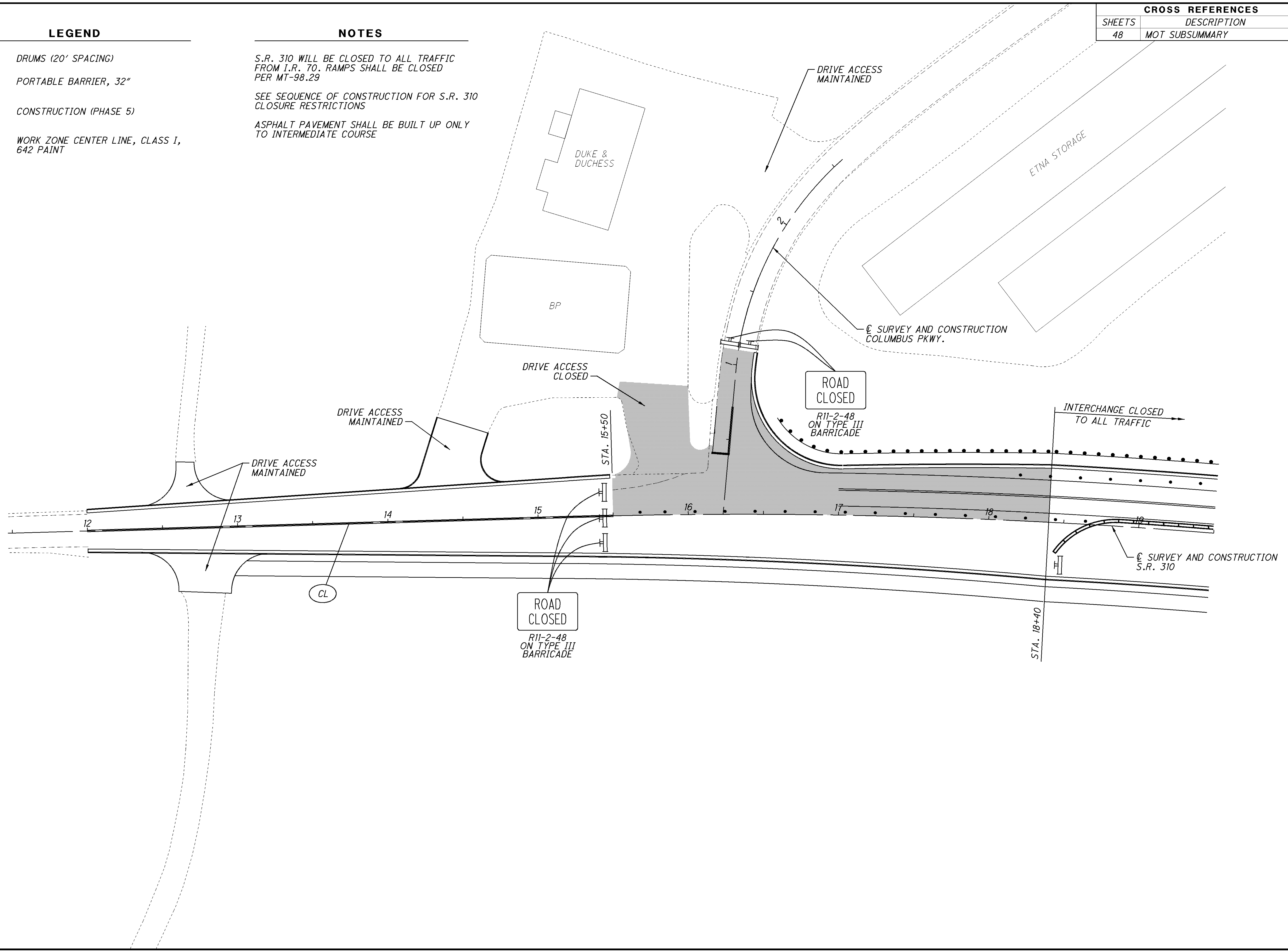
CALCULATED JLS
 CHECKED JLS
 HORIZONTAL SCALE IN FEET
 0 15 30 60

LEGEND

- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- CONSTRUCTION (PHASE 5)
- ⊙ CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT

NOTES

S.R. 310 WILL BE CLOSED TO ALL TRAFFIC FROM I.R. 70. RAMPS SHALL BE CLOSED PER MT-98.29
 SEE SEQUENCE OF CONSTRUCTION FOR S.R. 310 CLOSURE RESTRICTIONS
 ASPHALT PAVEMENT SHALL BE BUILT UP ONLY TO INTERMEDIATE COURSE



MAINTENANCE OF TRAFFIC (PHASE 5)
STA. 15+50 TO STA. 18+40 (S.R. 310)

LIC-310-0.74

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CROSS REFERENCES	
SHEETS	DESCRIPTION
48	MOT SUBSUMMARY

NOTES

S.R. 310 WILL BE CLOSED TO ALL TRAFFIC FROM I.R. 70. RAMPS SHALL BE CLOSED PER MT-98.29

SEE SEQUENCE OF CONSTRUCTION FOR S.R. 310 CLOSURE RESTRICTIONS

ASPHALT PAVEMENT SHALL BE BUILT UP ONLY TO INTERMEDIATE COURSE

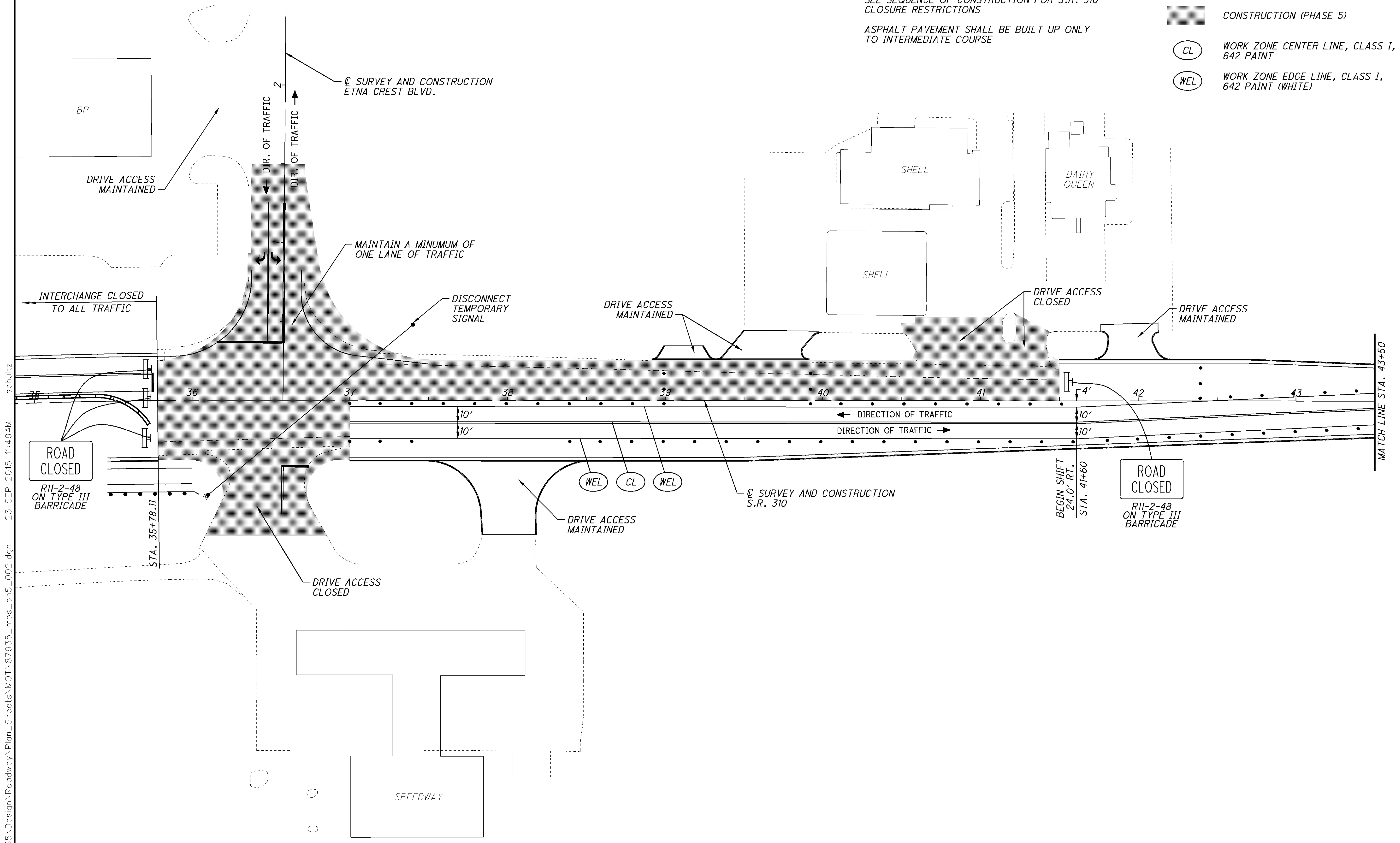
LEGEND

- • DRUMS (20' SPACING)
- ▬ PORTABLE BARRIER, 32"
- CONSTRUCTION (PHASE 5)
- CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)

N

0 30 60
15
HORIZONTAL
SCALE IN FEET

CALCULATED JLS
CHECKED JLS



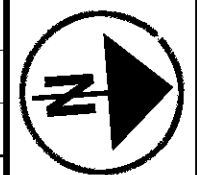
MAINTENANCE OF TRAFFIC (PHASE 5)
STA. 35+78.11 TO STA. 43+50 (S.R. 310)

LIC-310-0.74

75
425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
48	MOT SUBSUMMARY



0 30 60
 1" = 30'
 HORIZONTAL SCALE IN FEET

CALCULATED JLS
 CHECKED JLS

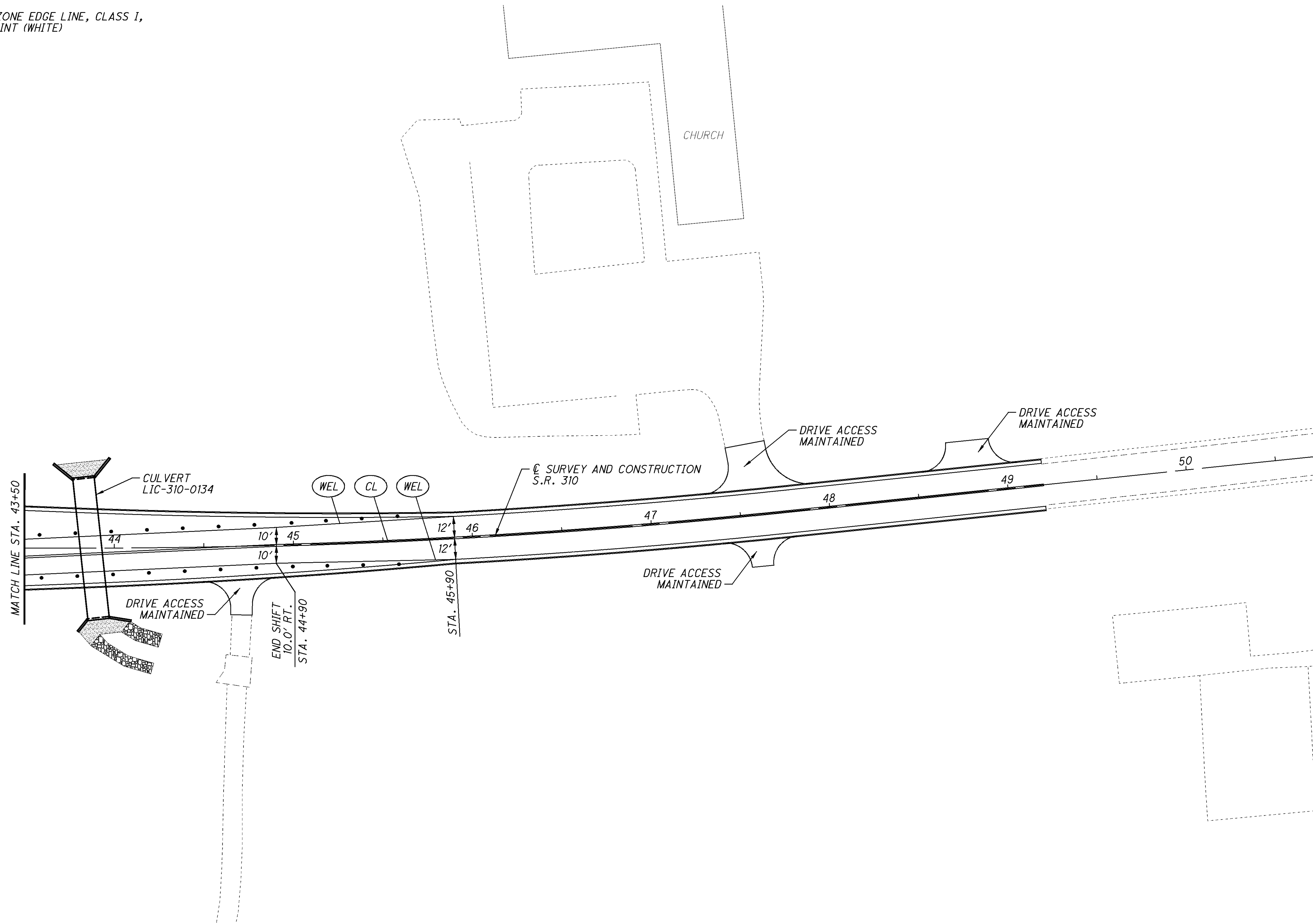
LEGEND

- • DRUMS (20' SPACING)
- CONSTRUCTION (PHASE 5)
- CL WORK ZONE CENTER LINE, CLASS I, 642 PAINT
- WEL WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)

NOTES

SEE SEQUENCE OF CONSTRUCTION FOR S.R. 310 CLOSURE RESTRICTIONS

ASPHALT PAVEMENT SHALL BE BUILT UP ONLY TO INTERMEDIATE COURSE



LIC-310-0.74
 MAINTENANCE OF TRAFFIC (PHASE 5)
 STA. 43+50 TO STA. 49+20 (S.R. 310)

LIC-310-0.74

76
425

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SHEET NUMBER							PARTICIPATION							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
15	16	19	86	88	92	416	01/BRO	02/STR	03/IMS	04/NHS	05/NHS	06/NHS/OT/ETNA	07/NHS/OT/SWLC						
								LUMP	LUMP	LUMP				201	11000	LUMP		CLEARING AND GRUBBING	
														202	30700	230	FT	CONCRETE BARRIER REMOVED	
				230										202	38000	3,612.5	FT	GUARDRAIL REMOVED	
			150.0	3,462.5					150.0	3,462.5				202	53100	5	EACH	MAILBOX REMOVED	
			3		2				3		2			202	75000	5,366	FT	FENCE REMOVED	
			353	5,013					353	5,013				202	98100	1	EACH	REMOVAL MISC.: PRIVATE CONCRETE PAD	16
	1													202	98100	2	EACH	REMOVAL MISC.: PRIVATE LIGHT POLE	16
	2													202	98100	1	EACH	REMOVAL MISC.: PRIVATE PULL BOX	16
	1													202	98100	2	EACH	REMOVAL MISC.: PRIVATE SIGN FRAME	16
	2																		
														203	10000	35,382	CY	EXCAVATION	
														203	20000	42,813	CY	EMBANKMENT	
														204	13000	6,759	CY	EXCAVATION OF SUBGRADE	
														204	30010	11,025	CY	GRANULAR MATERIAL, TYPE B	
														204	50000	13,528	SY	GEO TEXTILE FABRIC	
														606	15050	2,950.0	FT	GUARDRAIL, TYPE MGS	
														606	26150	5	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
														606	26550	3	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
														606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
														607	15000	5,540	FT	FENCE, TYPE 47	
														622	24000	296	FT	CONCRETE BARRIER, TYPE D	
														622	24001	464	FT	CONCRETE BARRIER, TYPE D, AS PER PLAN	20
														622	25000	2	EACH	CONCRETE BARRIER END SECTION, TYPE D	
														622	25050	2	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
														622	25051	4	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D, AS PER PLAN	20
								3	14	4				623	40520	21	EACH	RIGHT-OF-WAY MONUMENT	
														SPECIAL	69050100	5	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	22
														SPECIAL	69050200	1	EACH	MAILBOX SUPPORT SYSTEM, DOUBLE	22
														SPECIAL	69065016	405	TON	WORK INVOLVING PETROLEUM CONTAMINATED SOIL	19
														SPECIAL	69098400	LUMP		MISC.: ASBESTOS ABATEMENT	19

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SHEET NUMBER							PARTICIPATION							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
15	17	86	88	92			01/BRO /BR	02/STR /PV	03/IMS /PV	04/NHS /PV	05/NHS /CV	06/NHS/ OT/ETNA	07/NHS/ OT/SWLC						
			1,001						1,001					601	20000	1,001	SY	EROSION CONTROL CRUSHED AGGREGATE SLOPE PROTECTION	
	5	6	30					7	32	2				601	21050	41	SY	TIED CONCRETE BLOCK MAT, TYPE 1	
			21						21					601	52000	21	SY	CHANNEL PROTECTION, MISC.: TYPE B REMOVAL	18
			737						737					653	10000	737	CY	TOPSOIL FURNISHED AND PLACED	
		7,439	61,228	8,156				7,439	61,228	8,156				659	00510	76,823	SY	SEEDING AND MULCHING, CLASS 2	
3,841								384	3,073	384				659	14000	3,841	SY	REPAIR SEEDING AND MULCHING	
3,841								384	3,073	384				659	15000	3,841	SY	INTER-SEEDING	
10.71								1.07	8.57	1.07				659	20000	10.71	TON	COMMERCIAL FERTILIZER	
15.87								1.59	12.69	1.59				659	31000	15.87	ACRE	LIME	
425								42	340	43				659	35000	425	MGAL	WATER	
			1,316						1,316					670	00720	1,316	SY	DITCH EROSION PROTECTION MAT, TYPE B	
								LUMP	LUMP	LUMP				832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
								50,000	125,000	75,000				832	30000	250,000	EACH	EROSION CONTROL	

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SHEET NUMBER							PARTICIPATION							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
17	86	88	92				01/BRO /BR	02/STR /PV	03/IMS /PV	04/NHS /PV	05/NHS /CV	06/NHS/ OT/ETNA	07/NHS/ OT/SWLC						
		2							2					202	20010	2	EACH	HEADWALL REMOVED	
	484	89	1,006					484	89	1,006				202	35100	1,579	FT	PIPE REMOVED, 24" AND UNDER	
		10							10					202	35200	10	FT	PIPE REMOVED, OVER 24"	
	3	1	5					3	1	5				202	58100	9	EACH	CATCH BASIN REMOVED	
	116							116						SPECIAL	20270000	116	FT	FILL AND PLUG EXISTING CONDUIT	18
	1.1	10.8	1.9					1.1	10.8	1.9				602	20000	13.8	CU YD	CONCRETE MASONRY	
50		137						10	162	15				605	13300	187	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
	925	9,458	2,164					925	9,458	2,164				605	14000	12,547	FT	6" BASE PIPE UNDERDRAINS, 18" DEEP (PERFORATED) 707.31 OR 707.41	
50	26							36	25	15				605	31100	76	FT	AGGREGATE DRAINS	
50								10	25	15				611	00100	50	FT	4" CONDUIT, TYPE B	
50			21					10	25	36				611	00200	71	FT	4" CONDUIT, TYPE C	
		169	24						169	24				611	00510	193	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33, 707.42, OR 707.45	
100								20	50	30				611	00900	100	FT	6" CONDUIT, TYPE B	
50								10	25	15				611	01100	50	FT	6" CONDUIT, TYPE C	
50								10	25	15				611	01400	50	FT	6" CONDUIT, TYPE E	
100								20	50	30				611	01500	100	FT	6" CONDUIT, TYPE F	
	822	1,583	637					822	1,583	637				611	04400	3,042	FT	12" CONDUIT, TYPE B	
		104							104					611	05200	104	FT	12" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21	
			537							537				611	05900	537	FT	15" CONDUIT, TYPE B	
		24	160						24	160				611	07400	184	FT	18" CONDUIT, TYPE B	
			599							599				611	10400	599	FT	24" CONDUIT, TYPE B	
		36							36					611	13200	36	FT	30" CONDUIT, TYPE A (706.01)	
			147							147				611	13400	147	FT	30" CONDUIT, TYPE B	
	140							140						611	96600	140	FT	CONDUIT, BORED OR JACKED: 12" TYPE B	
			95							95				611	96600	95	FT	CONDUIT, BORED OR JACKED: 18" TYPE B	
			63							63				611	96600	63	FT	CONDUIT, BORED OR JACKED: 24" TYPE B	
			2							2				611	98150	2	EACH	CATCH BASIN, NO. 3	
	6	14	8					6	14	8				611	98180	28	EACH	CATCH BASIN, NO. 3A	
			3							3				611	98370	3	EACH	CATCH BASIN, NO. 6	
	1		1					1		1				611	98450	2	EACH	CATCH BASIN, NO. 2-2A	
	2	1	2					2	1	2				611	98470	5	EACH	CATCH BASIN, NO. 2-2B	
			1							1				611	98510	1	EACH	CATCH BASIN, NO. 2-3	
		1	7						1	7				611	99574	8	EACH	MANHOLE, NO. 3, 48"	
2		4						1	4	1				611	99710	6	EACH	PRECAST REINFORCED CONCRETE OUTLET	

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SHEET NUMBER							PARTICIPATION							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
17	86	89	93				01/BRO /BR	02/STR /PV	03/IMS /PV	04/NHS /PV	05/NHS /CV	06/NHS/ OT/ETNA	07/NHS/ OT/SWLC						
			479							479				202	23000	479	SY	PAVEMENT REMOVED	
	4,516	13,640	6,958					4,516	13,640	6,958				202	23010	25,114	SY	PAVEMENT REMOVED, ASPHALT	
		6,683							6,683					202	23901	6,683	SY	CONCRETE BASE REMOVED, AS PER PLAN	16
	53	433	15					53	433	15				202	30601	501	SY	CONCRETE MEDIAN REMOVED, AS PER PLAN	16
		150	515						150	515				202	32000	665	FT	CURB REMOVED	
	5,609	28,001	9,142					5,609	28,001	9,142				204	10000	42,752	SY	SUBGRADE COMPACTION	
	4	17	5					4	17	5				204	45000	26	HOUR	PROOF ROLLING	
25	793	149	1,393					798	149	1,413				301	46000	2,360	CY	ASPHALT CONCRETE BASE, PG64-22	
	67		44					67		44				301	48000	111	CY	ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)	
	875	4,539	1,376					875	4,539	1,376				304	20000	6,790	CY	AGGREGATE BASE	
	351	118	567					351	118	567				SPECIAL	40720500	1,036	GAL	TACK COAT, TRACKLESS TACK	16
	191		368					191		368				SPECIAL	40720510	559	GAL	TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE	16
	154	55	257					154	55	257				441	50100	466	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M	
	186		358					186		358				441	50300	544	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
	17		12					17		12				441	50400	29	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	
			767							767				452	12010	767	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1	
		24,009							24,009					452	14020	24,009	SY	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1 WITH QC/QA	
	67	255	60					67	255	60				608	10000	382	SF	4" CONCRETE WALK	
	26	111	24					26	111	24				608	53021	161	SF	DETECTABLE WARNING, AS PER PLAN	18
	1,297	1,426	2,678					1,297	1,426	2,678				609	12000	5,401	FT	COMBINATION CURB AND GUTTER, TYPE 2	
	212	1,089	641					212	1,089	641				609	26000	1,942	FT	CURB, TYPE 6	

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SHEET NUMBER							PARTICIPATION							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
247							01/BRO /BR	02/STR /PV	03/IMS /PV	04/NHS /PV	05/NHS /CV	06/NHS/ OT/ETNA	07/NHS/ OT/SWLC						
WATER WORK																			
1,160													1,160	202	35100	1,160	FT	PIPE REMOVED, 24" AND UNDER	
1													1	202	75610	1	EACH	VALVE BOX REMOVED	
66													66	638	01131	66	FT	6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18, AS PER PLAN	243
1,240													1,240	638	02731	1,240	FT	12" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18, AS PER PLAN	243
455													455	638	05301	455	FT	3/4" POLYETHYLENE SERVICE BRANCH, AS PER PLAN	244
25													25	638	05501	25	FT	1-1/2" POLYETHYLENE SERVICE BRANCH, AS PER PLAN	244
6													6	638	08101	6	EACH	12" GATE VALVE AND VALVE BOX, AS PER PLAN	244
2													2	638	10201	2	EACH	6" FIRE HYDRANT, AS PER PLAN	245
2													2	638	10701	2	EACH	FIRE HYDRANT REMOVED AND DISPOSED OF, AS PER PLAN	245
2													2	638	10800	2	EACH	VALVE BOX ADJUSTED TO GRADE	
SANITARY SEWER																			
205													205	202	35100	205	FT	PIPE REMOVED, 24" AND UNDER	
215													215	611	02001	215	FT	8" CONDUIT, TYPE C, AS PER PLAN	246
3													3	611	99575	3	EACH	MANHOLE, NO. 3, AS PER PLAN	246
2													2	611	99654	2	EACH	MANHOLE ADJUSTED TO GRADE	
1													1	611	99690	1	EACH	MANHOLE, MISC.: DRILLED AND PLUGGED	245

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SHEET NUMBER						PARTICIPATION							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	JLS	CHECKED	JSL
89	90	330	335			01/BRO /BR	02/STR /PV	03/IMS /PV	04/NHS /PV	05/NHS /CV	06/NHS/ OT/ETNA	07/NHS/ OT/SWLC										
		300						200			100			611	00400	300	FT	4" CONDUIT, TYPE E				
			51								51			625	00450	51	EACH	CONNECTION, FUSED PULL APART				
54			21						54		21			625	00480	75	EACH	CONNECTION, UNFUSED PERMANENT				
			17								17			625	10481	17	EACH	LIGHT POLE, DECORATIVE, AS PER PLAN			332	
16								16						625	13400	16	EACH	LIGHT TOWER, BBBBBB100				
			17								17			625	14000	17	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP				
16								16						625	15200	16	EACH	LIGHT TOWER FOUNDATION, 36" X 25' DEEP				
		1						1						625	20000	1	EACH	PORTABLE WINCH DRIVE POWER UNIT				
2,788								2,788						625	23300	2,788	FT	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE				
			2,616								2,616			625	23302	2,616	FT	NO. 6 AWG 5000 VOLT DISTRIBUTION CABLE				
			640								640			625	23400	640	FT	NO. 10 AWG POLE AND BRACKET CABLE				
6,950								6,950						625	24400	6,950	FT	DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 2 AWG 5000 VOLT CABLES			330	
			1,795								1,795			625	24400	1,795	FT	DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 6 AWG 5000 VOLT CABLES			330	
			305								305			625	25500	305	FT	CONDUIT, 3", 725.04				
426			349					426			349			625	25902	775	FT	CONDUIT, 3", JACKED OR DRILLED, 725.04				
84								84						625	26261	84	EACH	LUMINAIRE, HIGH MAST, AS PER PLAN (400W, HPS, 480V, TYPE V)			330	
6								6						625	27501	6	EACH	LUMINAIRE, UNDERPASS, AS PER PLAN (100W, HPS, 240V, TYPE IV)			333	
			17								17			625	27551	17	EACH	LUMINAIRE, DECORATIVE, AS PER PLAN (150W, LED, 240V, TYPE III)			332	
6,525			1,885					6,525			1,885			625	29002	8,410	FT	TRENCH, 24" DEEP				
2			7					2			7			625	30700	9	EACH	PULL BOX, 725.08, 18"				
8								8						625	30706	8	EACH	PULL BOX, 725.08, 24"				
32			17					32			17			625	32000	49	EACH	GROUND ROD				
2			2					2			2			625	34001	4	EACH	POWER SERVICE, AS PER PLAN			330	
6,525			1,760					6,525			1,760			625	36000	8,285	FT	PLASTIC CAUTION TAPE				
2								2						625	37101	2	EACH	SERVICE TO UNDERPASS LIGHTING, AS PER PLAN			333	
		1,050						1,050						625	23200	1,050	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE				
		350						350						625	25402	350	FT	CONDUIT, 2", 725.05				
		350						350						625	25750	350	FT	CONDUIT, 4", MULTICELL, 725.20 , EPC-40			304	
		350						350						625	29010	350	FT	TRENCH, 30" DEEP				
		1						1						625	30700	1	EACH	PULL BOX, 725.08, 18"				
		1						1						625	30711	1	EACH	PULL BOX, 725.08, 32", AS PER PLAN			304	
		2						2						625	32000	2	EACH	GROUND ROD				
		350						350						625	36000	350	FT	PLASTIC CAUTION TAPE				
		1						1						633	67000	1	EACH	CABINET RISER				
		1						1						633	67100	1	EACH	CABINET FOUNDATION				
		1						1						809	60000	1	EACH	CCTV IP-CAMERA SYSTEM, DOME-TYPE			304	
		1						1						809	61000	1	EACH	CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET			304	
		1						1						809	65000	1	EACH	ITS CABINET - GROUND MOUNTED			304	

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SHEET NUMBER							PARTICIPATION							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
87	90	94					01/BRO /BR	02/STR /PV	03/IMS /PV	04/NHS /PV	05/NHS /CV	06/NHS/ OT/ETNA	07/NHS/ OT/SWLC						
TRAFFIC CONTROL																			
29	280	57						29	280	57				621	00100	366	EACH	RPM	
36	50	28						36	50	28				621	54000	114	EACH	RAISED PAVEMENT MARKER REMOVED	
77.0	972.5	114.5						77.0	972.5	114.5				630	03100	1,164.0	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
	63.0								63.0					630	06400	63.0	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7	
86.5	262.1							86.5	262.1					630	07600	348.6	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
	2								2					630	08200	2	EACH	GROUND MOUNTED SUPPORT, PIPE	
1	19							1	19					630	08600	20	EACH	SIGN POST REFLECTOR	
4	16							4	16					630	09000	20	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
	2								2					630	09050	2	EACH	TRIANGULAR SLIP BASE CONNECTION	
	7								7					630	79500	7	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
	4								4					630	79611	4	EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN	
43.5	526.7	40.0						43.5	526.7	40.0				630	80100	610.2	SF	SIGN, FLAT SHEET	
115.0	445.0	15.0						115.0	445.0	15.0				630	80200	575.0	SF	SIGN, GROUND MOUNTED EXTRUSHEET	
4	16							4	16					630	84500	20	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
	2								2					630	84600	2	EACH	GROUND MOUNTED PIPE SUPPORT FOUNDATION	
7	82	24						7	82	24				630	84900	113	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
1	3	1						1	3	1				630	85100	5	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
1	11	1						1	11	1				630	85400	13	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
9	68	23						9	68	23				630	86002	100	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
	16	2							16	2				630	86103	18	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL, AS PER PLAN	
	2								2					630	86272	2	EACH	REMOVAL OF GROUND MOUNTED PIPE SUPPORT AND DISPOSAL	
11		116						11		116				644	00500	127	FT	STOP LINE	
234		247						234		247				644	00700	481	FT	TRANSVERSE/DIAGONAL LINE	
84								84						644	00900	84	SF	ISLAND MARKING	
		8								8				644	01300	8	EACH	LANE ARROW	
		1								1				644	01410	1	EACH	WORD ON PAVEMENT, 96"	
	0.58								0.58					646	10000	0.58	MILE	EDGE LINE, 4"	
	1.46								1.46					646	10010	1.46	MILE	EDGE LINE, 6"	
	0.57								0.57					646	10100	0.57	MILE	LANE LINE, 4"	
	0.41								0.41					646	10200	0.41	MILE	CENTER LINE	
	1,890								1,890					646	10300	1,890	FT	CHANNELIZING LINE, 8"	
	1,171								1,171					646	10310	1,171	FT	CHANNELIZING LINE, 12"	
	230								230					646	10400	230	FT	STOP LINE	
	195								195					646	10500	195	FT	CROSSWALK LINE	
	690								690					646	10600	690	FT	TRANSVERSE/DIAGONAL LINE	
	482								482					646	10800	482	SF	ISLAND MARKING	
	29								29					646	20300	29	EACH	LANE ARROW	
	11								11					646	20410	11	EACH	WORD ON PAVEMENT, 96"	
	117								117					646	20500	117	FT	DOTTED LINE	
0.27		0.54						0.27		0.54				648	00100	0.81	MILE	EDGE LINE, 4"	
0.10		0.15						0.10		0.15				648	00200	0.25	MILE	LANE LINE, 4"	
0.17		0.39						0.17		0.39				648	00300	0.56	MILE	CENTER LINE	
		331								331				648	00400	331	FT	CHANNELIZING LINE, 8"	

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SHEET NUMBER							PARTICIPATION							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
91	95	308	311				01/BRO /BR	02/STR /PV	03/IMS /PV	04/NHS /PV	05/NHS /CV	06/NHS/ OT/ETNA	07/NHS/ OT/SWLC						
		300							200	100				611	00400	300	FT	TRAFFIC SIGNALS 4" CONDUIT, TYPE E	
653	68								653	68				625	25402	721	FT	CONDUIT, 2", 725.05	
51									51					625	25502	51	FT	CONDUIT, 3", 725.05	
892	202								892	202				625	25902	1,094	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"	
704	68								704	68				625	29002	772	FT	TRENCH, 24" DEEP	
6	1								6	1				625	30700	7	EACH	PULL BOX, 725.08, 18"	
6	2								6	2				625	30706	8	EACH	PULL BOX, 725.08, 24"	
8	4								8	4				625	32000	12	EACH	GROUND ROD	
1	4								1	4				630	75000	5	EACH	SIGN ATTACHMENT ASSEMBLY	
6.3	29.6								6.3	29.6				630	80100	35.9	SF	SIGN, FLAT SHEET	
16	6								16	6				632	04911	22	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 3-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN	309
	2									2				632	04921	2	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 5-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN	309
1									1					632	04925	1	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 4-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN	309
4									4					632	20731	4	EACH	PEDESTRIAN SIGNAL HEAD (LED) , (COUNTDOWN), TYPE D2, AS PER PLAN	310
17	8								17	8				632	25000	25	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
4									4					632	25010	4	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
4									4					632	26001	4	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN	310
3,689									3,689					632	40500	3,689	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
	763									763				632	40700	763	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
6	3								6	3				632	64010	9	EACH	SIGNAL SUPPORT FOUNDATION	
4									4					632	64020	4	EACH	PEDESTAL FOUNDATION	
	50									50				632	67300	50	FT	POWER CABLE, 3 CONDUCTOR, NO. 8 AWG	
906									906					632	69300	906	FT	POWER CABLE, 3 CONDUCTOR, NO. 4 AWG	
2	1								2	1				632	70001	3	EACH	POWER SERVICE, AS PER PLAN	309
	1									1				632	75450	1	EACH	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 9 POLE, WITH MAST ARMS TC-81.21 DESIGN 13 AND DESIGN 12	
1									1					632	77231	1	EACH	SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH), AS	310
1									1					632	80203	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 2, AS PER PLAN	308
1									1					632	80503	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11, AS PER PLAN	308
2	1								2	1				632	80603	3	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 12, AS PER PLAN	308
1	1								1	1				632	80621	2	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 13, AS PER PLAN	308
1									1					632	80629	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 14, AS PER PLAN	308
4									4					632	89905	4	EACH	PEDESTAL, 10', TRANSFORMER BASE, AS PER PLAN	308
2									2					632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	309
2	1								2	1				633	01661	3	EACH	CONTROLLER UNIT, TYPE 2070E, WITH CABINET, TYPE 332, AS PER PLAN	311
2	1								2	1				633	67000	3	EACH	CABINET RISER	
2	1								2	1				633	67101	3	EACH	CABINET FOUNDATION, AS PER PLAN	314
2	1								2	1				633	67201	3	EACH	CONTROLLER WORK PAD, AS PER PLAN	314
2	1								2	1				633	75001	3	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	311
6	2								6	2				809	69001	8	EACH	ADVANCE RADAR DETECTION, AS PER PLAN	312
4	4								4	4				809	69101	8	EACH	STOP-BAR RADAR DETECTION, AS PER PLAN	312
																		TRAFFIC SIGNALS ALTERNATES	
			6							6				633	99000	6	EACH	CONTROLLER ITEM, MISC.: SPREAD SPECTRUM RADIO, FURNISH RADIO ONLY	311
										6				633	99000	6	EACH	CONTROLLER ITEM, MISC.: SPREAD SPECTRUM RADIO, FURNISH RADIO ONLY (INTUICOM EB-6 PLUS) (ALTERNATE)	311
2	1								2	1				815	30001	3	EACH	SPREAD SPECTRUM RADIO, AS PER PLAN	312
									2	1				815	30001	3	EACH	SPREAD SPECTRUM RADIO, AS PER PLAN (INTUICOM EB-6 PLUS) (ALTERNATE)	312

GENERAL SUMMARY

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SHEET NUMBER								PARTICIPATION							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.				
24	25	26	27	28	87	91	95	01/BRO/BR	02/STR/PV	03/IMS/PV	04/NHS/PV	05/NHS/ CV	06/NHS/ OT/ETNA	07/NHS/ OT/SWLC										
													100%								STRUCTURE UNDER 20 FOOT SPAN (LIC-310-0134) SEE SHEET 342 FOR ESTIMATED QUANTITIES			
								100%														STRUCTURE 20 FOOT SPAN AND OVER (LIC-310-0096) SEE SHEETS 355-356 FOR ESTIMATED QUANTITIES		
																						MAINTENANCE OF TRAFFIC		
				2						2						209	60500	2	MILE			LINEAR GRADING		
				1,000						1,000						253	01001	1,000	SY			PAVEMENT REPAIR, AS PER PLAN	28	
				50						50						407	10000	50	GAL			TACK COAT		
				100						100						410	12000	100	CY			TRAFFIC COMPACTED SURFACE, TYPE A OR B		
				100						100						410	13000	100	CY			TRAFFIC COMPACTED SURFACE, TYPE C		
				150						150						441	50000	150	CY			ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22		
		200							25	100	75					614	11110	200	hour			LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE		
			24						4	12	8					614	11500	24	MNTH			WORKSITE TRAFFIC SUPERVISOR		
						10				10						614	12346	10	EACH			WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)		
	LUMP								LUMP	LUMP	LUMP					614	12421	LUMP				DETOUR SIGNING, AS PER PLAN	25	
	50									50						614	12600	50	EACH			REPLACEMENT DRUM		
				100						100						614	13000	100	CY			ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		
				2	131	2			2	131	2					614	13300	135	EACH			BARRIER REFLECTOR, TYPE B		
				4	84				4	84						614	13302	88	EACH			BARRIER REFLECTOR, TYPE B2		
				2	131				2	131						614	13350	133	EACH			OBJECT MARKER, ONE WAY		
				4	84	2			4	84	2					614	13360	90	EACH			OBJECT MARKER, TWO WAY		
	720									140	360	220				614	18401	720	DAY			PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	25	
				0.36	0.55	0.71			0.36	0.55	0.71					614	21100	1.62	MILE			WORK ZONE CENTER LINE, CLASS I, 642 PAINT		
				1.14	4.85	1.77			1.14	4.85	1.77					614	22100	7.76	MILE			WORK ZONE EDGE LINE, CLASS I, 642 PAINT		
				120	2,306	356			120	2,306	356					614	23200	2,782	FT			WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT		
				228					228							614	24200	228	FT			WORK ZONE DOTTED LINE, CLASS I, 642 PAINT		
				46	416	394			46	416	394					614	26200	856	FT			WORK ZONE STOP LINE, CLASS I, 642 PAINT		
					22	8				22	8					614	30200	30	EACH			WORK ZONE ARROW, CLASS I, 642 PAINT		
					2					2						614	31650	2	EACH			WORK ZONE WORD ON PAVEMENT, 96", CLASS I, 642 PAINT		
	6									6						614	40051	6	EACH			BUSINESS ENTRANCE SIGN, AS PER PLAN	25	
				LUMP					LUMP	LUMP	LUMP					615	10001	LUMP				ROADS FOR MAINTAINING TRAFFIC, AS PER PLAN	28	
					424	798	861			424	798	861				615	35001	2,083	SY			PAVEMENT FOR MAINTAINING TRAFFIC, AS PER PLAN	28	
	310			5						55	160	100				616	10000	315	MGAL			WATER		
				250						250						617	10100	250	CY			COMPACTED AGGREGATE		
	1,000				280	9,150	40			430	9,500	540				622	41000	10,470	FT			PORTABLE BARRIER, 32"		
						1,400					1,400					622	41020	1,400	FT			PORTABLE BARRIER, 32", BRIDGE MOUNTED		
						2					2					622	41050	2	EACH			PORTABLE BARRIER, "Y" CONNECTOR		
				2.00						2.00						642	00090	2.00	MILE			EDGE LINE, 4"		
				1.00						1.00						642	00290	1.00	MILE			CENTER LINE		
				36						36						642	00490	36	FT			STOP LINE		
																							INCIDENTALS	
								LUMP	LUMP	LUMP	LUMP	LUMP				103	05000	LUMP					PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND	
								LUMP	LUMP	LUMP	LUMP	LUMP				SPECIAL	10810000	LUMP					CPM PROGRESS SCHEDULE	
								LUMP	LUMP	LUMP	LUMP	LUMP				614	11000	LUMP					MAINTAINING TRAFFIC	
								LUMP	4	12	8	LUMP	LUMP			619	16020	24	MNTH				FIELD OFFICE, TYPE C	
								LUMP	LUMP	LUMP	LUMP	LUMP				623	10001	LUMP					CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	18
								LUMP	LUMP	LUMP	LUMP	LUMP				624	10000	LUMP					MOBILIZATION	

GENERAL SUMMARY

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LOCATION 1a (02/STR/PV)													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
22	96	97	99	102	103	201	210	211	213	412							
ROADWAY																	
	150.0												202	38000	150.0	FT	GUARDRAIL REMOVED
3													202	53100	3	EACH	MAILBOX REMOVED
										353			202	75000	353	FT	FENCE REMOVED
		2,890				45							203	10000	2,935	CY	EXCAVATION
		4,693				27							203	20000	4,720	CY	EMBANKMENT
		433											204	13000	433	CY	EXCAVATION OF SUBGRADE
		433											204	30010	433	CY	GRANULAR MATERIAL, TYPE B
		861											204	50000	861	SY	GEO TEXTILE FABRIC
	162.5												606	15050	162.5	FT	GUARDRAIL, TYPE MGS
	1												606	26550	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T
										536			607	15000	536	FT	FENCE, TYPE 47
3													SPECIAL	69050100	3	EACH	MAILBOX SUPPORT SYSTEM, SINGLE
EROSION CONTROL																	
								6					601	21050	6	SY	TIED CONCRETE BLOCK MAT, TYPE 1
		7,439											659	00510	7,439	SY	SEEDING AND MULCHING, CLASS 2
DRAINAGE																	
							484						202	35100	484	FT	PIPE REMOVED, 24" AND UNDER
							3						202	58100	3	EACH	CATCH BASIN REMOVED
							116						SPECIAL	20270000	116	FT	FILL AND PLUG EXISTING CONDUIT
								1.1					602	20000	1.1	CU YD	CONCRETE MASONRY
									925				605	14000	925	FT	6" BASE PIPE UNDERDRAINS, 18" DEEP (PERFORATED) 707.31 OR 707.41
									26				605	31100	26	FT	AGGREGATE DRAINS
								822					611	04400	822	FT	12" CONDUIT, TYPE B
								140					611	96600	140	FT	CONDUIT, BORED OR JACKED: 12" TYPE B
								6					611	98180	6	EACH	CATCH BASIN, NO. 3A
								1					611	98450	1	EACH	CATCH BASIN, NO. 2-2A
								2					611	98470	2	EACH	CATCH BASIN, NO. 2-2B
PAVEMENT																	
				4,006		510							202	23010	4,516	SY	PAVEMENT REMOVED, ASPHALT
				53									202	30601	53	SY	CONCRETE MEDIAN REMOVED, AS PER PLAN
			4,567		375	667							204	10000	5,609	SY	SUBGRADE COMPACTION
			3		1								204	45000	4	HOUR	PROOF ROLLING
			789		4								301	46000	793	CY	ASPHALT CONCRETE BASE, PG64-22
						67							301	48000	67	CY	ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)
			749		76	50							304	20000	875	CY	AGGREGATE BASE
			329		2	20							SPECIAL	40720500	351	GAL	TACK COAT, TRACKLESS TACK
			190		1								SPECIAL	40720510	191	GAL	TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE
			153		1								441	50100	154	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
			185		1								441	50300	186	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
						17							441	50400	17	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)
			67										608	10000	67	SF	4" CONCRETE WALK
			26										608	53021	26	SF	DETECTABLE WARNING, AS PER PLAN
						1,297							609	12000	1,297	FT	COMBINATION CURB AND GUTTER, TYPE 2
						212							609	26000	212	FT	CURB, TYPE 6

CALCULATED JLS
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LOCATION 1a SUMMARY
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LOCATION 1a (02/STR/PV)													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
45	46	47	48	254	258	260											
TRAFFIC CONTROL																	
				29									621	00100	29	EACH	RPM
				36									621	54000	36	EACH	RAISED PAVEMENT MARKER REMOVED
													630	03100	77.0	FT	GROUND MOUNTED SUPPORT, NO. 3 POST
													630	07600	86.5	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12
													630	08600	1	EACH	SIGN POST REFLECTOR
													630	09000	4	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION
													630	80100	43.5	SF	SIGN, FLAT SHEET
													630	80200	115.0	SF	SIGN, GROUND MOUNTED EXTRUSHEET
													630	84500	4	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION
					7								630	84900	7	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
					1								630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
					1								630	85400	1	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL
						9							630	86002	9	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
				11									644	00500	11	FT	STOP LINE
				234									644	00700	234	FT	TRANSVERSE/DIAGONAL LINE
				84									644	00900	84	SF	ISLAND MARKING
				0.27									648	00100	0.27	MILE	EDGE LINE, 4"
				0.10									648	00200	0.10	MILE	LANE LINE, 4"
				0.17									648	00300	0.17	MILE	CENTER LINE
MAINTENANCE OF TRAFFIC																	
			2										614	13300	2	EACH	BARRIER REFLECTOR, TYPE B
4													614	13302	4	EACH	BARRIER REFLECTOR, TYPE B2
			2										614	13350	2	EACH	OBJECT MARKER, ONE WAY
4													614	13360	4	EACH	OBJECT MARKER, TWO WAY
0.15	0.04	0.14	0.03										614	21100	0.36	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT
0.28	0.51	0.27	0.08										614	22100	1.14	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT
	120												614	23200	120	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
120		108											614	24200	228	FT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT
12	12	11	11										614	26200	46	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT
424													615	20000	424	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
190		90											622	41000	280	FT	PORTABLE BARRIER, 32"

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LOCATION 1a SUMMARY

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LOCATION 1b (03/IMS/PV)													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
96	97	98	210	211	213	355	412										
													ROADWAY				
230													202	30700	230	FT	CONCRETE BARRIER REMOVED
3,462.5													202	38000	3,462.5	FT	GUARDRAIL REMOVED
							5,013						202	75000	5,013	FT	FENCE REMOVED
	9,060	21,020				54							203	10000	30,134	CY	EXCAVATION
	18,985	16,998											203	20000	35,983	CY	EMBANKMENT
	2,557	1,376											204	13000	3,933	CY	EXCAVATION OF SUBGRADE
	6,823	1,376											204	30010	8,199	CY	GRANULAR MATERIAL, TYPE B
	5,082	2,781											204	50000	7,863	SY	GEOTEXTILE FABRIC
2,787.5													606	15050	2,787.5	FT	GUARDRAIL, TYPE MGS
5													606	26150	5	EACH	ANCHOR ASSEMBLY, MGS TYPE E
2													606	26550	2	EACH	ANCHOR ASSEMBLY, MGS TYPE T
2													606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1
							5,004						607	15000	5,004	FT	FENCE, TYPE 47
296													622	24000	296	FT	CONCRETE BARRIER, TYPE D
464													622	24001	464	FT	CONCRETE BARRIER, TYPE D, AS PER PLAN
2													622	25000	2	EACH	CONCRETE BARRIER END SECTION, TYPE D
2													622	25050	2	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D
4													622	25051	4	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D, AS PER PLAN
													EROSION CONTROL				
						1,001							601	20000	1,001	SY	CRUSHED AGGREGATE SLOPE PROTECTION
				6	24								601	21050	30	SY	TIED CONCRETE BLOCK MAT, TYPE 1
			21										601	52000	21	SY	CHANNEL PROTECTION, MISC.: TYPE B REMOVAL
185	552												653	10000	737	CY	TOPSOIL FURNISHED AND PLACED
17,533	43,695												659	00510	61,228	SY	SEEDING AND MULCHING, CLASS 2
				1,316									670	00720	1,316	SY	DITCH EROSION PROTECTION MAT, TYPE B
													DRAINAGE				
			2										202	20010	2	EACH	HEADWALL REMOVED
			117										202	35100	117	FT	PIPE REMOVED, 24" AND UNDER
			10										202	35200	10	FT	PIPE REMOVED, OVER 24"
			1										202	58100	1	EACH	CATCH BASIN REMOVED
				10.8									602	20000	10.8	CU YD	CONCRETE MASONRY
					184								605	13300	184	FT	6" UNCLASSIFIED PIPE UNDERDRAINS
					9,421								605	14000	9,421	FT	6" BASE PIPE UNDERDRAINS, 18" DEEP (PERFORATED) 707.31 OR 707.41
						169							611	00510	169	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33, 707.42, OR 707.45
				1,583									611	04400	1,583	FT	12" CONDUIT, TYPE B
				104									611	05200	104	FT	12" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21
				24									611	07400	24	FT	18" CONDUIT, TYPE B
				36									611	13200	36	FT	30" CONDUIT, TYPE A (706.01)
				14									611	98180	14	EACH	CATCH BASIN, NO. 3A
				1									611	98470	1	EACH	CATCH BASIN, NO. 2-2B
				1									611	99574	1	EACH	MANHOLE, NO. 3, 48"
					4								611	99710	4	EACH	PRECAST REINFORCED CONCRETE OUTLET

CALCULATED JLS
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LOCATION 1b SUMMARY
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LOCATION 1b (03/IMS/PV)													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
255	256	259	261	262	306												
					1,050								625	23200	1,050	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE
					350								625	25402	350	FT	CONDUIT, 2", 725.05
					350								625	25750	350	FT	CONDUIT, 4", MULTICELL, 725.20, EPC-40
					350								625	29010	350	FT	TRENCH, 30" DEEP
					1								625	30700	1	EACH	PULL BOX, 725.08, 18"
					1								625	30711	1	EACH	PULL BOX, 725.08, 32", AS PER PLAN
					2								625	32000	2	EACH	GROUND ROD
					350								625	36000	350	FT	PLASTIC CAUTION TAPE
					1								633	67000	1	EACH	CABINET RISER
					1								633	67100	1	EACH	CABINET FOUNDATION
					1								809	60000	1	EACH	CCTV IP-CAMERA SYSTEM, DOME-TYPE
					1								809	61000	1	EACH	CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET
					1								809	65000	1	EACH	ITS CABINET - GROUND MOUNTED
173	107												621	00100	280	EACH	RPM
50													621	54000	50	EACH	RAISED PAVEMENT MARKER REMOVED
			351.5	621.0									630	03100	972.5	FT	GROUND MOUNTED SUPPORT, NO. 3 POST
			63.0										630	06400	63.0	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7
			181.3	80.8									630	07600	262.1	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12
				2									630	08200	2	EACH	GROUND MOUNTED SUPPORT, PIPE
			7	12									630	08600	19	EACH	SIGN POST REFLECTOR
			12	4									630	09000	16	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION
				2									630	09050	2	EACH	TRIANGULAR SLIP BASE CONNECTION
			7										630	79500	7	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED
			4										630	79611	4	EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN
			230.0	296.7									630	80100	526.7	SF	SIGN, FLAT SHEET
			295.0	150.0									630	80200	445.0	SF	SIGN, GROUND MOUNTED EXTRUSHEET
			12	4									630	84500	16	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION
				2									630	84600	2	EACH	GROUND MOUNTED PIPE SUPPORT FOUNDATION
		82											630	84900	82	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
		3											630	85100	3	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
		11											630	85400	11	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL
		68											630	86002	68	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
		16											630	86103	16	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL, AS PER PLAN
		2											630	86272	2	EACH	REMOVAL OF GROUND MOUNTED PIPE SUPPORT AND DISPOSAL
0.58													646	10000	0.58	MILE	EDGE LINE, 4"
	1.46												646	10010	1.46	MILE	EDGE LINE, 6"
0.57													646	10100	0.57	MILE	LANE LINE, 4"
0.41													646	10200	0.41	MILE	CENTER LINE
1,890													646	10300	1,890	FT	CHANNELIZING LINE, 8"
	1,171												646	10310	1,171	FT	CHANNELIZING LINE, 12"
159	71												646	10400	230	FT	STOP LINE
195													646	10500	195	FT	CROSSWALK LINE
690													646	10600	690	FT	TRANSVERSE/DIAGONAL LINE
482													646	10800	482	SF	ISLAND MARKING
15	14												646	20300	29	EACH	LANE ARROW
7	4												646	20410	11	EACH	WORD ON PAVEMENT, 96"
117													646	20500	117	FT	DOTTED LINE

CALCULATED JLS
 CHECKED JLS
LOCATION 1b SUMMARY
LIC-310-0.74
 90
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LOCATION 1b (03/IMS/PV)											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
45	46	47	317	318											
															TRAFFIC SIGNALS
			516	137							625	25402	653	FT	CONDUIT, 2", 725.05
			20	31							625	25502	51	FT	CONDUIT, 3", 725.05
			365	527							625	25902	892	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"
			536	168							625	29002	704	FT	TRENCH, 24" DEEP
			3	3							625	30700	6	EACH	PULL BOX, 725.08, 18"
			2	4							625	30706	6	EACH	PULL BOX, 725.08, 24"
			4	4							625	32000	8	EACH	GROUND ROD
			1								630	75000	1	EACH	SIGN ATTACHMENT ASSEMBLY
			6.3								630	80100	6.3	SF	SIGN, FLAT SHEET
			8	8							632	04911	16	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 3-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN
			1								632	04925	1	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 4-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN
			2	2							632	20731	4	EACH	PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN
			9	8							632	25000	17	EACH	COVERING OF VEHICULAR SIGNAL HEAD
			2	2							632	25010	4	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD
			2	2							632	26001	4	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN
			1,870	1,819							632	40500	3,689	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
			3	3							632	64010	6	EACH	SIGNAL SUPPORT FOUNDATION
			2	2							632	64020	4	EACH	PEDESTAL FOUNDATION
			547	359							632	69300	906	FT	POWER CABLE, 3 CONDUCTOR, NO. 4 AWG
			1	1							632	70001	2	EACH	POWER SERVICE, AS PER PLAN
				1							632	77231	1	EACH	SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN
				1							632	80203	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 2, AS PER PLAN
				1							632	80503	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11, AS PER PLAN
			2								632	80603	2	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 12, AS PER PLAN
			1								632	80621	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 13, AS PER PLAN
				1							632	80629	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 14, AS PER PLAN
			2	2							632	89905	4	EACH	PEDESTAL, 10', TRANSFORMER BASE, AS PER PLAN
			1	1							632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN
			1	1							633	01661	2	EACH	CONTROLLER UNIT, TYPE 2070E, WITH CABINET, TYPE 332, AS PER PLAN
			1	1							633	67000	2	EACH	CABINET RISER
			1	1							633	67101	2	EACH	CABINET FOUNDATION, AS PER PLAN
			1	1							633	67201	2	EACH	CONTROLLER WORK PAD, AS PER PLAN
			1	1							633	75001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN
			3	3							809	69001	6	EACH	ADVANCE RADAR DETECTION, AS PER PLAN
			2	2							809	69101	4	EACH	STOP-BAR RADAR DETECTION, AS PER PLAN
			1	1							815	30001	2	EACH	SPREAD SPECTRUM RADIO, AS PER PLAN
															MAINTENANCE OF TRAFFIC
7	2	1									614	12346	10	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)
56	26	49									614	13300	131	EACH	BARRIER REFLECTOR, TYPE B
84											614	13302	84	EACH	BARRIER REFLECTOR, TYPE B2
56	26	49									614	13350	131	EACH	OBJECT MARKER, ONE WAY
84											614	13360	84	EACH	OBJECT MARKER, TWO WAY
0.28		0.27									614	21100	0.55	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT
1.11	2.15	1.59									614	22100	4.85	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT
246	1,404	656									614	23200	2,306	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
222	116	78									614	26200	416	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT
6	11	5									614	30200	22	EACH	WORK ZONE ARROW, CLASS I, 642 PAINT
											614	31650	2	EACH	WORK ZONE WORD ON PAVEMENT, 96", CLASS I, 642 PAINT
798											615	20000	798	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
6,550	570	2,030									622	41000	9,150	FT	PORTABLE BARRIER, 32"
350	700	350									622	41020	1,400	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED
	2										622	41050	2	EACH	PORTABLE BARRIER, "Y" CONNECTOR

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CALCULATED JLS
 CHECKED JLS
LOCATION 1b SUMMARY
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LOCATION 1c (04/NHS/PV)													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
22	97	201	210	212	213												
													ROADWAY				
2													202	53100	2	EACH	MAILBOX REMOVED
	2,269	44											203	10000	2,313	CY	EXCAVATION
	1,986	124											203	20000	2,110	CY	EMBANKMENT
	2,393												204	13000	2,393	CY	EXCAVATION OF SUBGRADE
	2,393												204	30010	2,393	CY	GRANULAR MATERIAL, TYPE B
	4,804												204	50000	4,804	SY	GEO TEXTILE FABRIC
2													SPECIAL	69050100	2	EACH	MAILBOX SUPPORT SYSTEM, SINGLE
1													SPECIAL	69050200	1	EACH	MAILBOX SUPPORT SYSTEM, DOUBLE
													EROSION CONTROL				
	8,156												659	00510	8,156	SY	SEEDING AND MULCHING, CLASS 2
													DRAINAGE				
			1,006										202	35100	1,006	FT	PIPE REMOVED, 24" AND UNDER
			5										202	58100	5	EACH	CATCH BASIN REMOVED
				1.9									602	20000	1.9	CU YD	CONCRETE MASONRY
					2,164								605	14000	2,164	FT	6" BASE PIPE UNDERDRAINS, 18" DEEP (PERFORATED) 707.31 OR 707.41
				21									611	00200	21	FT	4" CONDUIT, TYPE C
					24								611	00510	24	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33, 707.42, OR 707.45
				637									611	04400	637	FT	12" CONDUIT, TYPE B
				537									611	05900	537	FT	15" CONDUIT, TYPE B
				160									611	07400	160	FT	18" CONDUIT, TYPE B
				599									611	10400	599	FT	24" CONDUIT, TYPE B
				147									611	13400	147	FT	30" CONDUIT, TYPE B
				95									611	96600	95	FT	CONDUIT, BORED OR JACKED: 18" TYPE B
				63									611	96600	63	FT	CONDUIT, BORED OR JACKED: 24" TYPE B
				2									611	98150	2	EACH	CATCH BASIN, NO. 3
				8									611	98180	8	EACH	CATCH BASIN, NO. 3A
				3									611	98370	3	EACH	CATCH BASIN, NO. 6
				1									611	98450	1	EACH	CATCH BASIN, NO. 2-2A
				2									611	98470	2	EACH	CATCH BASIN, NO. 2-2B
				1									611	98510	1	EACH	CATCH BASIN, NO. 2-3
				7									611	99574	7	EACH	MANHOLE, NO. 3, 48"

CALCULATED	JLS	CHECKED	JSL
LOCATION 1c SUMMARY			
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LOCATION 1c (04/NHS/PV)

101	102	103	201	247										ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
			479											202	23000	479	SY	PAVEMENT REMOVED
	6,172		786											202	23010	6,958	SY	PAVEMENT REMOVED, ASPHALT
	15													202	30601	15	SY	CONCRETE MEDIAN REMOVED, AS PER PLAN
			515											202	32000	515	FT	CURB REMOVED
7,164		778	1,200											204	10000	9,142	SY	SUBGRADE COMPACTION
4		1												204	45000	5	HOUR	PROOF ROLLING
1,386		7												301	46000	1,393	CY	ASPHALT CONCRETE BASE, PG64-22
			44											301	48000	44	CY	ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)
1,194		157	25											304	20000	1,376	CY	AGGREGATE BASE
550		3	14											SPECIAL	40720500	567	GAL	TACK COAT, TRACKLESS TACK
366		2												SPECIAL	40720510	368	GAL	TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE
255		2												441	50100	257	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
356		2												441	50300	358	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
			12											441	50400	12	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)
			767											452	12010	767	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1
60														608	10000	60	SF	4" CONCRETE WALK
24														608	53021	24	SF	DETECTABLE WARNING, AS PER PLAN
		2,678												609	12000	2,678	FT	COMBINATION CURB AND GUTTER, TYPE 2
		97	544											609	26000	641	FT	CURB, TYPE 6

CALCULATED	JLS
CHECKED	JSL
LOCATION 1c SUMMARY	
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LOCATION 1c (04/NHS/PV)

257	258	260												ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
TRAFFIC CONTROL																		
57														621	00100	57	EACH	RPM
28														621	54000	28	EACH	RAISED PAVEMENT MARKER REMOVED
		114.5												630	03100	114.5	FT	GROUND MOUNTED SUPPORT, NO. 3 POST
		40.0												630	80100	40.0	SF	SIGN, FLAT SHEET
		15.0												630	80200	15.0	SF	SIGN, GROUND MOUNTED EXTRUSHEET
	24													630	84900	24	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
	1													630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
	1													630	85400	1	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL
	23													630	86002	23	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
	2													630	86103	2	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL, AS PER PLAN
116														644	00500	116	FT	STOP LINE
247														644	00700	247	FT	TRANSVERSE/DIAGONAL LINE
8														644	01300	8	EACH	LANE ARROW
1														644	01410	1	EACH	WORD ON PAVEMENT, 96"
0.54														648	00100	0.54	MILE	EDGE LINE, 4"
0.15														648	00200	0.15	MILE	LANE LINE, 4"
0.39														648	00300	0.39	MILE	CENTER LINE
331														648	00400	331	FT	CHANNELIZING LINE, 8"

CALCULATED JLS	CHECKED JSL
LOCATION 1c SUMMARY	
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94 425	

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LOCATION 1c (04/NHS/PV)														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
45	46	47	48	319														
				68										625	25402	68	FT	CONDUIT, 2", 725.05
				202										625	25902	202	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"
				68										625	29002	68	FT	TRENCH, 24" DEEP
				1										625	30700	1	EACH	PULL BOX, 725.08, 18"
				2										625	30706	2	EACH	PULL BOX, 725.08, 24"
				4										625	32000	4	EACH	GROUND ROD
				4										630	75000	4	EACH	SIGN ATTACHMENT ASSEMBLY
				29.6										630	80100	29.6	SF	SIGN, FLAT SHEET
				6										632	04911	6	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 3-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN
				2										632	04921	2	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 5-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN
				8										632	25000	8	EACH	COVERING OF VEHICULAR SIGNAL HEAD
				763										632	40700	763	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
				3										632	64010	3	EACH	SIGNAL SUPPORT FOUNDATION
				50										632	67300	50	FT	POWER CABLE, 3 CONDUCTOR, NO. 8 AWG
				1										632	70001	1	EACH	POWER SERVICE, AS PER PLAN
				1										632	75450	1	EACH	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 9 POLE, WITH MAST ARMS TC-81.21 DESIGN 13 AND DESIGN 12
				1										632	80603	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 12, AS PER PLAN
				1										632	80621	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 13, AS PER PLAN
				1										633	01661	1	EACH	CONTROLLER UNIT, TYPE 2070E, WITH CABINET, TYPE 332, AS PER PLAN
				1										633	67000	1	EACH	CABINET RISER
				1										633	67101	1	EACH	CABINET FOUNDATION, AS PER PLAN
				1										633	67201	1	EACH	CONTROLLER WORK PAD, AS PER PLAN
				1										633	75001	1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN
				2										809	69001	2	EACH	ADVANCE RADAR DETECTION, AS PER PLAN
				4										809	69101	4	EACH	STOP-BAR RADAR DETECTION, AS PER PLAN
				1										815	30001	1	EACH	SPREAD SPECTRUM RADIO, AS PER PLAN
																		MAINTENANCE OF TRAFFIC
				2										614	13302	2	EACH	BARRIER REFLECTOR, TYPE B2
				2										614	13360	2	EACH	OBJECT MARKER, TWO WAY
	0.16	0.04	0.14	0.37										614	21100	0.71	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT
	0.31	0.51	0.38	0.57										614	22100	1.77	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT
		89	89	178										614	23200	356	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT
	128	75	65	126										614	26200	394	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT
		2	2	4										614	30200	8	EACH	WORK ZONE ARROW, CLASS I, 642 PAINT
	861													615	20000	861	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
	40													622	41000	40	FT	PORTABLE BARRIER, 32"

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CALCULATED	JLS	CHECKED	JSL
LOCATION 1c SUMMARY			
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95 425			

Reference No.	Sheet No.	Location (Station to Station)	Side	202		606			622						
				CONCRETE BARRIER REMOVED	GUARDRAIL REMOVED	GUARDRAIL, TYPE MGS	ANCHOR ASSEMBLY, MGS TYPE E	ANCHOR ASSEMBLY, MGS TYPE T	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	CONCRETE BARRIER, TYPE D	CONCRETE BARRIER, TYPE D, AS PER PLAN	CONCRETE BARRIER, END SECTION, TYPE D	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D, AS PER PLAN	
			Lt./Rt.	FT	FT	FT	EACH	EACH	EACH	FT	FT	EACH	EACH	EACH	
S.R. 310															
GR-1	112	Sta. 16+69.5 to Sta. 18+40.0	Lt.			162.5		1							
R-1	112	Sta. 16+88.28 to Sta. 18+40.0	Lt.		150.0										
Totals (Carried to Location 1a Summary)					150.0	162.5		1							
S.R. 310															
R-2	112-113, 171	Sta. 18+40.0 to Sta. 6+77.05 (Ramp D)	Lt.		850.0										
R-3	113	Sta. 21+66.39 to Sta. 23+57.85	Rt.		187.5										
R-4	113	Sta. 22+25.55 to Sta. 23+50.67	Lt.		137.5										
GR-2	112-113, 171	Sta. 18+40.0 to Sta. 7+48.3 (Ramp D)	Lt./Rt.			837.5	1								
BR-1	113	Sta. 22+15.0 to Sta. 23+25.17	Rt.								94.8			1	
BR-2	113	Sta. 22+65.0 to Sta. 23+39.54	Lt.								59.6			1	
BR-3	113	Sta. 26+58.19 to Sta. 28+35.0	Rt.								161.9			1	
BR-4	113	Sta. 26+72.56 to Sta. 28+35.0	Lt.								147.5			1	
R-5	113	Sta. 26+58.76 to Sta. 28+33.08	Lt.		187.5										
R-6	113	Sta. 26+48.67 to Sta. 27+00.26	Rt.		62.5										
Ramp A															
GR-3	113-114, 147	Sta. 34+13.5 (S.R. 310) to Sta. 9+00.0	Lt./Rt.			875.0	1	1							
R-7	113-114, 147	Sta. 33+88.15 (S.R. 310) to Sta. 10+15.46	Rt.		1,037.5										
Ramp B															
GR-4	113-114, 156	Sta. 9+05.7 to Sta. 36+00.0 (S.R. 310)	Lt./Rt.			1,000.0	1	1							
R-8	113-114, 156	Sta. 8+99.28 to Sta. 35+04.04 (S.R. 310)	Rt.		687.5										
I.R. 70															
GR-5	146	Sta. 486+33.1 to Sta. 487+47.5	Rt.			37.5	1		1						
GR-6	146	Sta. 488+83.5 to Sta. 489+97.9	Lt.			37.5	1		1						
BR-5	146	Sta. 487+45.0 to Sta. 488+95.0	Rt.							121.0		1	1		
BR-6	146	Sta. 486+82.0 to Sta. 488+86.0	Lt.							175.0		1	1		
R-9	146	Sta. 486+33.51 to Sta. 487+69.95	Rt.		137.5										
R-10	146	Sta. 487+31.63 to Sta. 488+45.75	Lt.	115											
R-11	146	Sta. 487+69.46 to Sta. 488+83.81	Rt.	115											
R-12	146	Sta. 488+45.70 to Sta. 490+12.91	Lt.		175.0										
Totals (Carried to Location 1b Summary)					230	3,462.5	2,787.5	5	2	2	296	464	2	2	4

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Sheet No.	Location	203		204			653	659
		EXCAVATION	EMBANKMENT	EXCAVATION OF SUBGRADE	GRANULAR MATERIAL, TYPE B	GEOTEXTILE FABRIC	TOPSOIL FURNISHED AND PLACED	SEEDING AND MULCHING, CLASS 2
		CY	CY	CY	CY	SY	CY	SY
	S.R. 310							
120	Sta. 11+50 to Sta. 12+50	171	25					594
121	Sta. 13+00 to Sta. 14+00	259	161					956
122	Sta. 14+50 to Sta. 15+50	351	520					1,327
123	Sta. 16+00 to Sta. 17+00	649	947					1,261
124	Sta. 17+25 to Sta. 18+50	1,377	2,626	433	433	861		2,792
180	Columbus Pkwy.	83	414					509
Totals (Carried to Location 1a Summary)		2,890	4,693	433	433	861		7,439
	S.R. 310							
125	Sta. 19+00 to Sta. 20+00	887	2,215	648	648	1,285		2,506
126	Sta. 20+50 to Sta. 22+00	713	1,478	646	646	1,294		1,425
127	Sta. 22+50 to Sta. 23+50	1,102	1,664		1,960		82	1,419
	<i>Lic-310-0096 (Sta. 23+59.50 to Sta. 26+40.50)</i>							
128	Sta. 26+50 to Sta. 27+00	1,978	2,690		2,306		103	1,801
129	Sta. 27+50 to Sta. 28+00	628	1,922					1,547
130	Sta. 28+50 to Sta. 29+00	102	775					1,125
131	Sta. 29+50 to Sta. 30+50	367	813					905
132	Sta. 31+00 to Sta. 31+50	531	1,699	423	423	850		809
133	Sta. 32+00 to Sta. 32+50	523	1,733	424	424	820		992
134	Sta. 33+00 to Sta. 33+50	732	1,538	416	416	833		1,575
135	Sta. 34+00 to Sta. 34+50	713	1,281					1,400
136	Sta. 35+00 to Sta. 36+00	784	1,177					2,029
Sub-Totals (Location 1b)(Carried to Location 1b Summary)		9,060	18,985	2,557	6,823	5,082	185	17,533
	S.R. 310							
137	Sta. 37+00 to Sta. 38+00	282	257	184	184	369		823
138	Sta. 38+50 to Sta. 39+50	233	257	548	548	1,100		742
139	Sta. 40+00 to Sta. 41+00	313	52	512	512	1,029		803
140	Sta. 41+50 to Sta. 42+50	276	232	465	465	930		1,227
141	Sta. 43+00 to Sta. 44+00	280	608	389	389	781		1,428
142	Sta. 44+50 to Sta. 45+50	188	392	295	295	595		1,291
143	Sta. 46+00 to Sta. 47+00	405	101					914
144	Sta. 47+50 to Sta. 48+50	188	79					653
145	Sta. 49+00 to Sta. 49+20	20	8					82
182	Etna Crest Blvd.	84	0					193
Totals (Carried to Location 1c Summary)		2,269	1,986	2,393	2,393	4,804		8,156

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EARTHWORK AND SEEDING SUBSUMMARY

LIC-310-0.74

Sheet No.	Location	203			204				653		659
		EXCAVATION	EMBANKMENT		EXCAVATION OF SUBGRADE	GRANULAR MATERIAL, TYPE B	GEOTEXTILE FABRIC		TOPSOIL FURNISHED AND PLACED		SEEDING AND MULCHING, CLASS 2
		CY	CY		CY	CY	SY		CY		SY
Ramp A											
148	Sta. 1+00 to Sta. 2+00	963	762		129	129	261			1,785	
149	Sta. 2+50 to Sta. 3+50	1,530	1,780		217	217	439			1,912	
150	Sta. 4+00 to Sta. 5+00	1,808	1,787							2,047	
151	Sta. 5+50 to Sta. 6+50	1,744	1,103					54		1,750	
152	Sta. 7+00 to Sta. 8+00	965	28		81	81	158	84		1,748	
153	Sta. 8+50 to Sta. 9+50	648	34		224	224	453	80		1,834	
154	Sta. 10+00 to Sta. 11+50	484	5		133	133	270	96		1,764	
155	Sta. 12+00 to Sta. 13+50	163	13					19		1,034	
Totals (Ramp A)		8,305	5,512		784	784	1,581	333		13,874	
Ramp B											
157	Sta. 3+50 to Sta. 4+50	62	9							916	
158	Sta. 5+00 to Sta. 6+00	200	5							1,101	
159	Sta. 6+50 to Sta. 7+50	169	5							1,252	
160	Sta. 8+00 to Sta. 9+00	188	141		222	222	450			1,275	
161	Sta. 9+50 to Sta. 10+50	608	761		178	178	360			1,117	
162	Sta. 10+70 to Sta. 11+50	732	1,114		192	192	390			1,211	
163	Sta. 12+00 to Sta. 13+00	802	1,582							1,497	
164	Sta. 13+50 to Sta. 14+00	391	942							595	
Totals (Ramp B)		3,152	4,559		592	592	1,200			8,964	
Ramp C											
166	Sta. 1+00 to Sta. 2+00	277	766							2,958	
167	Sta. 2+50 to Sta. 3+50	663	2							1,866	
168	Sta. 4+00 to Sta. 5+00	642	0							1,642	
169	Sta. 5+50 to Sta. 7+00	341	4							1,691	
170	Sta. 7+50 to Sta. 9+00	133	0							1,081	
Totals (Ramp C)		2,056	772							9,238	
Ramp D											
172	Sta. 2+50 to Sta. 4+00	257	3					38		1,166	
173	Sta. 4+50 to Sta. 6+00	323	33					72		1,980	
174	Sta. 6+50 to Sta. 7+50	324	11					63		1,594	
175	Sta. 8+00 to Sta. 9+00	1,182	809					46		1,661	
176	Sta. 9+50 to Sta. 10+50	1,664	1,458							1,728	
177	Sta. 11+00 to Sta. 12+00	1,752	1,978							1,774	
178	Sta. 12+50 to Sta. 14+00	2,005	1,863							1,716	
Totals (Ramp D)		7,507	6,155					219		11,619	
Totals (Carried to Location 1b Summary)		21,020	16,998		1,376	1,376	2,781	552		43,695	

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Location (Station to Station)	Side	Length (L)	Pavement Width (W)	Pavement Area (A) (* - Area by Computer)	204		301			304		407		441		452	608		
					PROOF ROLLING S/2000	SUBGRADE COMPACTION S=A	D=3.00"	D=3.00"	D=7.00"	D=6.00"	D=6.00"	SPECIAL - TACK COAT, TRACKLESS TACK 0.075*A	SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE 0.050*A	D=1.75"	D=1.25"	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1 WITH QC/QA	4" CONCRETE WALK	DETECTABLE WARNING, AS PER PLAN	
							ASPHALT CONCRETE BASE, PG64-22 L*W*(D/12)/27	STEP=26.00"	ASPHALT CONCRETE BASE, PG64-22 (BARRIER) L*(STEP/12+W)*(D/12)/27	ASPHALT CONCRETE BASE, PG64-22 (BARRIER) L*W*(D/12)/27	AGGREGATE BASE L*W*(D/12)/27			AGGREGATE BASE (BARRIER) L*(STEP/12+W)*(D/12)/27	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) L*W*(D/12)/27				ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M L*W*(D/12)/27
Lt/Rt.	Lin. Ft.	Ft.	Sq. Yd.	HOUR	SY	CY	CY	CY	CY	CY	GAL	GAL	CY	CY	SY	SF	SF		
S.R. 310																			
12+00.00 to 18+40.00	Lt.	640.00	24.00 (Avg.)	1,706.7	0.86	1,706.7			331.9	284.5		128.1	85.4	83.0	59.3				
12+00.00 to 18+40.00	Rt.	640.00	24.00 (Avg.)	1,706.7	0.86	1,706.7			331.9	284.5		128.1	85.4	83.0	59.3				
Shared Use Path																			
12+97.19 to 13+10.02	Rt.	at Drive			0.01	14.6*					1.8*						66.7	25.5	
13+10.02 to 18+40.00	Rt.	529.98	10.0	588.9	0.39	765.6*	52.4*			114.6*		44.2			20.5				
Columbus Pkwy.																			
Extra Area (Radius)	Lt.			35.5 (*)	0.02	35.5			7.0	6.0		2.7	1.8	1.8	1.3				
0+48.55 to 1+16.40	Lt.	67.85	10.5	79.2	0.04	79.2			15.4	13.2		6.0	4.0	3.9	2.8				
Extra Area (Radius)	Rt.			258.4 (*)	0.13	258.4			50.3	43.1		19.4	13.0	12.6	9.0				
*Steps Included in Calculations Per Typical Sections and 204.03																			
Sub-Totals					2.31	4,566.7	52.4		736.5	748.7		328.5	189.6	184.3	152.2		66.7	25.5	
Totals Carried to Location 1a Summary					3	4,567		789		749		329	190	185	153		67	26	
S.R. 310																			
18+40.00 to 23+33.49	Lt.	493.49	36.0	1,974.0	0.99	1,974.0				329.0							1,974.0		
23+33.49 to 26+66.51	Lt.	333.02					Bridge Limits (Including Approach Slabs)												
26+66.51 to 31+40.84	Lt.	474.33	36.0	1,897.4	0.95	1,897.4				316.3							1,897.4		
31+40.84 to 35+78.11	Lt.	Varies		1,376.6 (*)	0.69	1,376.6				229.5							1,376.6		
S.R. 310/Ramp A Gore/Decel. Lane	Lt.			231.1 (*)	0.12	231.1				38.6							231.1		
18+40.00 to 23+33.49	Rt.	493.49	36.0	1,974.0	0.99	1,974.0				329.0							1,974.0		
23+33.49 to 26+66.51	Rt.	333.02					Bridge Limits (Including Approach Slabs)												
26+66.51 to 35+78.11	Rt.	911.60	36.0	3,646.4	1.83	3,646.4				607.8							3,646.4		
Shared Use Path																			
18+40.00 to 20+55.97	Rt.	215.97	10.0	240.0	0.16	312.0*	21.4*			46.7*		18.0			8.4				
20+55.97 to 20+74.70	Rt.	at Intersection			0.02	20.5*				2.4*							94.6	32.9	
21+21.99 to 21+28.37	Rt.	at Intersection			0.01	8.6*				1.1*							32.8	24.6	
21+28.37 to 22+15.00	Rt.	86.63	10.0	96.3	0.07	125.2*	8.6*			18.8*		7.3			3.4				
22+15.00 to 23+10.17	Rt.	95.17	12.0	126.9	0.08	158.6*		12.5				9.6			4.5				
23+10.17 to 23+33.49	Rt.	23.32	12.0	31.1	0.02	38.9*	2.8*					2.4			1.1				
23+33.49 to 26+66.51	Rt.	333.02					Bridge Limits (Including Approach Slabs)												
26+66.51 to 26+73.19	Rt.	6.68	12.0	9.0	0.01	11.2*	0.8*					0.7			0.4				
26+73.19 to 28+35.00	Rt.	161.81	12.0	215.8	0.14	269.7*		21.3				16.2			7.5				
28+35.00 to 29+97.27	Rt.	162.27	10.0	180.3	0.12	234.4*	16.1*			35.1*		13.6			6.3				
29+97.27 to 30+03.59	Rt.	at Intersection			0.01	8.0*				1.0*							32.5	20.5	
30+41.88 to 30+60.59	Rt.	at Intersection			0.02	20.4*				2.4*							94.4	32.9	
30+60.59 to 35+78.11	Rt.	517.52	10.0	575.1	0.38	747.6*	51.2*			111.9*		43.2			20.0				
*Steps Included in Calculations Per Typical Sections and 204.03																			
Sub-Totals					6.61	13,054.7	100.9	33.8		2,069.6	78.2	111.0			51.6	11,099.5	254.3	110.9	
Totals Carried to Location 1b Summary					7	13,055		135		2,148		111		52	11,100	255	111		

PAVEMENT CALCULATIONS

LIC-310-0.74

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Location (Station to Station)	Side	Length (L) Lin. Ft.	Pavement Width (W) Ft.	Pavement Area (A) (*) - Area by Computer Sq. Yd.	204		301		304	407		441		452
					PROOF ROLLING S/2000 HOUR	SUBGRADE COMPACTION S=A SY	D=3.00"	D=7.00"	D=6.00"	SPECIAL - TACK COAT, TRACKLESS TACK 0.075*A GAL	SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE 0.050*A GAL	D=1.75"	D=1.25"	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1 WITH QC/QA SY
							ASPHALT CONCRETE BASE, PG64-22 L*W*(D/12)/27 CY	ASPHALT CONCRETE BASE, PG64-22 L*W*(D/12)/27 CY	AGGREGATE BASE L*W*(D/12)/27 CY			ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) L*W*(D/12)/27 CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M L*W*(D/12)/27 CY	
Ramp A														
2+24.26 to 4+79.50	Lt.	255.24	16.0	453.8	0.23	453.8			75.7					453.8
Ramp A/E Gore	Lt.			103.2 (*)	0.06	103.2			17.2					103.2
4+79.50 to 5+70.00	Lt.	90.50	28.0	281.6	0.15	281.6			47.0					281.6
5+70.00 to 8+90.00	Lt.	320.00	22.00 (Avg.)	782.3	0.40	782.3			130.4					782.3
8+90.00 to 10+90.00	Lt.	200.00	16.0	355.6	0.18	355.6			59.3					355.6
Ramp B														
4+53.12 to 13+86.29	Lt.	933.17	16.0	1,659.0	0.83	1,659.0			276.5					1,659.0
Extra Area (Radius)	Lt./Rt.			143.6 (*)	0.08	143.6			24.0					143.6
Ramp C														
Extra Area (Radius)	Lt.			120.3 (*)	0.07	120.3			20.1					120.3
0+91.91 to 7+46.00	Lt.	654.09	16.0	1,162.9	0.59	1,162.9			193.9					1,162.9
Extra Area (Radius)	Rt.			46.5 (*)	0.03	46.5			7.8					46.5
0+63.17 to 1+13.17	Rt.	50.00	4.00 (Avg.)	22.3	0.02	22.3			3.8					22.3
Ramp D														
4+53.04 to 8+00.00	Lt.	346.96	16.0	616.9	0.31	616.9			102.9					616.9
8+00.00 to 8+50.00	Lt.	50.00	22.00 (Avg.)	122.3	0.07	122.3			20.4					122.3
8+50.00 to 14+04.62	Lt.	554.62	28.0	1,725.5	0.87	1,725.5			287.6					1,725.5
Extra Area (Radius)	Lt.			75.7 (*)	0.04	75.7			12.7					75.7
8+00.00 to 8+50.00	Rt.	50.00	4.00 (Avg.)	22.3	0.02	22.3			3.8					22.3
8+50.00 to 13+78.06	Rt.	528.06	8.0	469.4	0.24	469.4			78.3					469.4
Extra Area (Radius)	Rt.			102.3 (*)	0.06	102.3			17.1					102.3
Ramp E														
0+37.09 to 2+19.43	Lt.	182.34	Varies	426.8 (*)	0.22	426.8			71.2					426.8
Sub-Totals					4.47	8,692.3			1,449.7					8,692.3
Totals Carried to Location 1b Summary					5	8,693			1,450					8,693

PAVEMENT CALCULATIONS

LIC-310-0.74

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Location (Station to Station)	Side	Length	Pavement Width	Pavement Area (* - Area by Computer)	204		301			304		407		441		452	608	
					PROOF ROLLING S/2000	SUBGRADE COMPACTION S=A	D=3.00"	D=3.00"	D=7.00"	D=6.00"	D=6.00"	SPECIAL - TACK COAT, TRACKLESS TACK 0.075*A	SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE 0.050*A	D=1.75"	D=1.25"	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1 WITH QC/OA	4" CONCRETE WALK	DETECTABLE WARNING, AS PER PLAN
							ASPHALT CONCRETE BASE, PG64-22 L*W*(D/12)/27	STEP=26.00" ASPHALT CONCRETE BASE, PG64-22 (BARRIER) L*(STEP/12+W)*(D/12)/27	ASPHALT CONCRETE BASE, PG64-22 L*W*(D/12)/27	AGGREGATE BASE L*W*(D/12)/27	AGGREGATE BASE (BARRIER) L*(STEP/12+W)*(D/12)/27			ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) L*W*(D/12)/27	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M L*W*(D/12)/27			
Lt/Rt.	Lin. Ft.	Ft.	Sq. Yd.	HOUR	SY	CY	CY	CY	CY	CY	GAL	GAL	CY	CY	SY	SF	SF	
S.R. 310																		
35+78.11 to 42+70.00	Lt.	691.89	24.0	1,845.1	0.93	1,845.1			358.8	307.6		138.4	92.3	89.7	64.1			
42+70.00 to 45+90.00	Lt.	320.00	18.00 (Avg.)	640.0	0.32	640.0			124.5	106.7		48.0	32.0	31.2	22.3			
45+90.00 to 49+20.00	Lt.	330.00	12.0	440.0	0.22	440.0			85.6	73.4		33.0	22.0	21.4	15.3			
35+78.11 to 39+50.00	Rt.	371.89	36.0	1,487.6	0.75	1,487.6			289.3	248.0		111.6	74.4	72.4	51.7			
39+50.00 to 45+90.00	Rt.	640.00	24.00 (Avg.)	1,706.7	0.86	1,706.7			331.9	284.5		128.1	85.4	83.0	59.3			
45+90.00 to 49+20.00	Rt.	330.00	12.0	440.0	0.22	440.0			85.6	73.4		33.0	22.0	21.4	15.3			
Shared Use Path																		
35+78.11 to 36+07.37	Rt.	29.26	10.0	32.6	0.03	42.4*	2.9*			6.4*		2.5			1.2			
36+07.37 to 36+18.30	Rt.		at Drive		0.01	12.9*				1.6*							59.4	23.8
Etna Crest Blvd.																		
Extra Area (Radius)	Lt.			222.9 (*)	0.12	222.9			43.4	37.2		16.8	11.2	10.9	7.8			
0+83.23 to 0+95.00	Lt.	11.77	21.0	27.5	0.02	27.5			5.4	4.6		2.1	1.4	1.4	1.0			
0+95.00 to 1+50.00	Lt.	55.00	21.0	128.4								9.7	6.5	6.3	4.5			
Extra Area (Radius)	Rt.			268.6 (*)	0.14	268.6			52.3	44.8		20.2	13.5	13.1	9.4			
0+95.00 to 1+39.02	Rt.	44.02	5.52 (Avg.)	27.0	0.02	27.0			5.3	4.5		2.1	1.4	1.4	1.0			
1+39.02 to 1+50.00	Rt.	10.98	2.0	2.5	0.01	2.5			0.5	0.5		0.2	0.2	0.2	0.1			
0+95.00 to 1+50.00	Rt.	55.00	9.0	55.0								4.2	2.8	2.7	2.0			
*Steps Included in Calculations Per Typical Sections and 204.03																		
Sub-Totals					3.65	7,163.2	2.9		1,382.6	1,193.2		549.9	365.1	355.1	255.0		59.4	23.8
Totals Carried to Location 1c Summary					4	7,164		1,386		1,194		550	366	356	255		60	24

Location (Station to Station)	Side	202			
		PAVEMENT REMOVED, ASPHALT	CONCRETE BASE REMOVED, AS PER PLAN	CONCRETE MEDIAN REMOVED, AS PER PLAN	CURB REMOVED
		Lt./Rt.	SY	SY	SY
S.R. 310					
Sta. 12+00.0 to Sta. 18+40.0	Lt./Rt.	4,005.8			
Sta. 16+78.43 to Sta. 18+40.0	Lt./Rt.			53.0	
Sub-Totals		4,005.8		53.0	
Totals Carried to Location 1a Summary		4,006		53	
S.R. 310					
Sta. 18+40.0 to Sta. 23+32.23	Lt./Rt.	3,491.8			
Sta. 18+40.0 to Sta. 20+75.46	Lt./Rt.			79.4	
Sta. 21+58.14 to Sta. 23+32.23	Lt./Rt.			58.5	
Sta. 26+67.78 to Sta. 35+78.11	Lt./Rt.	6,505.9			
Sta. 26+67.78 to Sta. 29+50.80	Lt./Rt.			95.0	
Sta. 30+24.52 to Sta. 35+78.11	Lt./Rt.			182.5	
Sta. 30+79.07 to Sta. 31+78.24	Lt.				150
Sta. 31+56.81 to Sta. 31+78.24	Lt.			16.9	
Ramp A					
Sta. 0+00.0 to Sta. 10+00.0	Lt./Rt.	706.5	1,610.7		
Sta. 10+00.0 to Sta. 10+90.0	Lt./Rt.	236.9			
Ramp B					
Sta. 4+53.12 to Sta. 6+25.0	Lt./Rt.	477.2			
Sta. 6+25.0 to Sta. 14+47.83	Lt./Rt.	587.1	1,537.1		
Ramp C					
Sta. 0+38.20 to Sta. 6+75.0	Lt./Rt.	436.4	1,296.3		
Sta. 6+75.0 to Sta. 7+46.0	Lt./Rt.	177.0			
Ramp D					
Sta. 4+53.04 to Sta. 5+78.07	Lt./Rt.	364.7			
Sta. 5+78.07 to Sta. 14+27.64	Lt./Rt.	655.6	1,855.4		
Ramp E					
Sta. 0+28.28 to Sta. 1+76.41	Lt./Rt.		382.9		
Sub-Totals		13,639.1	6,682.4	432.3	150.0
Totals Carried to Location 1b Summary		13,640	6,683	433	150
S.R. 310					
Sta. 35+78.11 to Sta. 49+20.0	Lt./Rt.	6,171.2			
Sta. 35+78.11 to Sta. 35+25.10	Lt./Rt.			14.7	
Sub-Totals		6,171.2		14.7	
Totals Carried to Location 1c Summary		6,172		15	

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Location (Station to Station)	Side	Length (L) (#) - Length by Computer	Shoulder Width (W) Ft.	Shoulder Area (A) (*) - Area by Computer Sq. Yd.	204		301		304				407		441		452	609		
					PROOF ROLLING S/2000 HOUR	SUBGRADE COMPACTION S=A SY	D=7.00"	D=6.00"	D=6.00"	D=6.00"	SPECIAL - TACK COAT, TRACKLESS TACK 0.075*A GAL	SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE 0.050*A GAL	D=1.75"	D=1.25"	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1 WITH QC/QA SY	COMBINATION CURB AND GUTTER, TYPE 2 FT	CURB, TYPE 6 FT			
							STEP=4.00"	STEP=6.00"	STEP=10.00"	STEP=12.00"			ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) L*W*(D/12)/27 CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M L*W*(D/12)/27 CY						
S.R. 310																				
12+00.00 to 15+93.54	Lt.	393.54	2.5	109.4	0.06	109.4													393.54	
17+14.11 to 18+40.00	Lt.	125.89	2.5	35.0	0.02	35.0													125.89	
12+00.00 to 18+40.00	Rt.	640.00	2.5	177.8	0.09	177.8													640.00	
Columbus Pkwy.																				
Extra Area (Radius)					Lt.	32.97 (#)	2.5	9.2	0.01	9.2										32.97
0+48.55 to 0+85.00	Lt.	36.45	2.5	10.2	0.01	10.2													36.45	
0+85.00 to 1+16.40	Lt.	31.40	2.0	7.0	0.01	7.0	1.6			1.7		0.6	0.4	0.4	0.3					
Extra Area (Radius)					Rt.	68.00 (#)	2.5	18.9	0.01	18.9										68.00
0+85.00 to 1+16.40	Rt.	31.40	2.0	7.0	0.01	7.0	1.6			1.7		0.6	0.4	0.4	0.3					
Sub-Totals						0.22	374.5	3.2	72.3	3.4		1.2	0.8	0.8	0.6				1,296.85	
Totals Carried to Location 1a Summary						1	375	4		76		2	1	1	1				1,297	
S.R. 310																				
18+40.00 to 20+18.25	Lt.	178.25	2.5	49.6	0.03	49.6													178.25	
21+08.98 to 22+65.00	Lt.	156.02	4.0	69.4	0.04	69.4					14.5							69.4	156.02	
22+65.00 to 23+24.54	Lt.	59.54	5.7	37.8	0.02	37.8				6.9								37.8		
23+24.54 to 23+39.54	Lt.	15.00	4.0	6.7	0.01	6.7				1.3								6.7		
23+39.54 to 26+72.56	Lt.	333.02					Bridge Limits (Including Approach Slabs)													
26+72.56 to 26+87.56	Lt.	15.00	4.0	6.7	0.01	6.7				1.3									6.7	
26+87.56 to 28+35.00	Lt.	147.44	5.7	93.4	0.05	93.4				17.0									93.4	
28+35.00 to 29+71.04	Lt.	136.04	4.0	60.5	0.04	60.5						12.6							60.5	
30+28.97 to 31+40.84	Lt.	111.87	4.0	49.8	0.03	49.8						10.4							49.8	
33+66.38 to 35+78.11	Lt.	211.73	6.0	141.2	0.08	141.2				25.5									141.2	
18+40.00 to 20+41.70	Rt.	201.70	2.5	56.1	0.03	56.1				11.3									201.70	
21+25.62 to 23+27.74	Rt.	202.12	2.5	56.2	0.03	56.2				11.3									202.12	
23+27.74 to 26+60.76	Rt.	333.02					Bridge Limits (Including Approach Slabs)													
26+60.76 to 30+00.04	Rt.	339.28	2.5	94.3	0.05	94.3				18.9									339.28	
30+73.48 to 35+78.11	Rt.	504.63	2.5	140.2	0.08	140.2				28.1									504.63	
Sub-Totals						0.50	861.9		131.6		37.5							465.5	1,425.98	403.93
Totals Carried to Location 1b Summary						1	862			170								466	1,426	404
S.R. 310																				
37+47.26 to 49+20.00	Lt.	1,172.74	2.5	325.8	0.17	325.8				65.2									1,172.74	
35+78.11 to 49+20.00	Rt.	1,341.89	2.5	372.8	0.19	372.8				74.6									1,341.89	
Etna Crest Blvd.																				
Extra Area (Radius)					Lt.	84.73 (#)	Varies	32.3*	0.02	32.3	6.3**		7.0	2.5	1.7	1.6	1.2		84.73	
0+83.53 to 0+95.00	Lt.	11.47	Varies	1.8*	0.01	1.8	0.4**			0.6		0.6	0.2	0.1	0.1	0.1			11.47	
Extra Area (Radius)					Rt.	96.47 (#)	2.5	26.8	0.02	26.8		5.4							96.47	
0+83.53 to 1+50.00	Rt.	66.47	2.5	18.5	0.01	18.5				3.7									66.47	
**NO STEP INCLUDED																				
Sub-Totals						0.42	778.0	6.7	148.9		7.6	2.7	1.8	1.7	1.3			2,677.57	96.20	
Totals Carried to Location 1c Summary						1	778	7		157		3	2	2	2			2,678	97	

CALCULATED
JLS
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SHOULDER CALCULATIONS

LIC-310-0.74

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Location (Station to Station)	Side	Length (L) (#) - Length by Computer	Shoulder Width (W) Ft.	Shoulder Area (A) (*) - Area by Computer Sq. Yd.	204		301		304		407		441		452	609	
					PROOF ROLLING S/2000 HOUR	SUBGRADE COMPACTION S=A*(STEP/12*L/9) SY	D=3.00"	D=7.00"	D=6.00"	D=6.00"	SPECIAL - TACK COAT, TRACKLESS TACK 0.075*A GAL	SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE 0.050*A GAL	D=1.75"	D=1.25"	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1 WITH QC/QA SY	COMBINATION CURB AND GUTTER, TYPE 2 FT	CURB, TYPE 6 FT
							STEP=18.00"	STEP=26.00"	STEP=4.00"	STEP=6.00"			STEP=12.00"	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) L*W*(D/12)/27 CY			
Lt./Rt.	Lin. Ft.	Ft.	Sq. Yd.	PROOF ROLLING S/2000 HOUR	SY	CY	CY	CY	CY	GAL	GAL	CY	CY	SY	FT	FT	
I.R. 70																	
486+82.00 to 488+86.00	Lt.	204.00	2.0	45.4	0.03	45.4**	7.9			3.5			1.6				
487+45.00 to 488+95.00	Rt.	150.00	2.0	33.4	0.02	33.4**	5.8			2.6			1.2				
Ramp A																	
Extra Area (Gore Radius)	Lt.															13.86	
2+24.26 to 3+71.25	Lt.	146.99	3.0	49.0	0.03	49.0**		9.6						49.0		146.99	
4+79.50 to 10+90.00	Lt.	610.50	3.0	203.5	0.16	305.3		39.6						203.5			
0+00.00 to 10+90.00	Rt.	1,090.00	6.0	726.7	0.46	908.4			131.3					726.7			
Ramp B																	
4+53.12 to 13+86.29	Lt.	933.17	3.0	311.1	0.24	466.6			60.5					311.1			
Extra Area (Radius)	Lt.	42.48 (#)	3.0	14.2	0.01	14.2**				3.2				14.2		42.48	
4+53.12 to 13+86.29	Rt.	933.17	6.0	622.2	0.39	777.7			112.4					622.2			
13+86.29 to 14+07.91	Rt.	21.62	6.0	14.5	0.01	14.5**				2.9				14.5		21.62	
Extra Area (Radius)	Rt.	54.64 (#)	Varies	22.3*	0.02	22.3**				4.8				22.3		54.64	
Ramp C																	
Extra Area (Radius)	Lt.	43.06 (#)	3.0	14.4	0.01	14.4**				3.2				14.4		43.06	
0+91.91 to 7+46.00	Lt.	654.09	3.0	218.1	0.17	327.1			42.4					218.1			
Extra Area (Radius)	Rt.	47.57 (#)	Varies	20.0*	0.01	20.0**				4.3				20.0		47.57	
0+59.64 to 0+91.82	Rt.	32.18	6.0	21.5	0.02	21.5**				4.2				21.5		32.18	
0+91.82 to 7+46.00	Rt.	654.18	6.0	436.2	0.28	545.2			78.8					436.2			
Ramp D																	
4+53.04 to 13+82.06	Lt.	929.02	3.0	309.7	0.24	464.5			60.3					309.7			
13+82.06 to 14+04.62	Lt.	22.56	3.0	7.6	0.01	7.6**				1.7				7.6		22.56	
Extra Area (Radius)	Lt.	19.55 (#)	3.0	6.6	0.01	6.6**				1.5				6.6		19.55	
4+53.04 to 13+82.06	Rt.	929.02	6.0	619.4	0.39	774.2			111.9					619.4			
Extra Area (Radius)	Rt.	68.42 (#)	Varies	26.8*	0.02	26.8**				5.8				26.8		68.42	
Ramp E																	
0+52.30 to 1+19.78	Lt.	67.48	3.0	22.5	0.02	22.5**				5.0				22.5		67.48	
1+19.78 to 2+19.43	Lt.	99.65	3.0	33.3	0.03	49.9			6.5					33.3			
Extra Area (Radius)	Rt.	13.25 (#)	5.00 (Avg.)	7.4	0.01	7.4**				1.5				7.4		13.25	
0+47.54 to 1+10.53	Rt.	64.24 (#)	6.0	42.9	0.03	42.9**				8.4				42.9		64.24	
Extra Area (Gore Radius)	Rt.															26.29	
**NO STEP INCLUDED																	
Sub-Totals					2.62	4,967.5	13.7		653.3	46.5	6.1			2.8	3,749.9	684.19	
Totals Carried to Location 1b Summary					3	4,968	14		700		7		3	3,750	685		

SHOULDER CALCULATIONS

LIC-310-0.74

CALCULATED
JLS
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RAMP A											
LEFT EDGE OF SHOULDER	LEFT SHOULDER WIDTH	LEFT SHOULDER SLOPE	LEFT EDGE OF PAVEMENT	PAVEMENT SLOPE	PAVEMENT WIDTH	PROFILE GRADE	BASELINE SURVEY & CONSTRUCTION	RIGHT SHOULDER SLOPE	RIGHT SHOULDER WIDTH	RIGHT EDGE OF SHOULDER	COMMENTS
SEE INTERSECTION DETAIL			1081.78	0.016	16.0	1081.52	1+65.62	-0.040	6.0	1081.28	BEGIN GORE
SEE INTERSECTION DETAIL			1082.07	0.016	16.0	1081.81	1+75.00	-0.040	6.0	1081.57	
SEE INTERSECTION DETAIL			1082.80	0.016	16.0	1082.54	2+00.00	-0.040	6.0	1082.30	
1083.28	3.0	-0.040	1083.40	0.016	16.0	1083.14	2+24.26	-0.040	6.0	1082.90	END GORE
1083.30	3.0	-0.040	1083.42	0.016	16.0	1083.16	2+25.00	-0.040	6.0	1082.92	
1083.81	3.0	-0.040	1083.93	0.016	16.0	1083.67	2+50.00	-0.040	6.0	1083.43	
1084.08	3.0	-0.040	1084.20	0.016	16.0	1083.94	2+65.00	-0.040	6.0	1083.70	END NORMAL CROWN
1084.28	3.0	-0.040	1084.40	0.019	16.0	1084.09	2+75.00	-0.040	6.0	1083.85	
1084.72	3.0	-0.040	1084.84	0.028	16.0	1084.40	3+00.00	-0.040	6.0	1084.16	
1085.09	3.0	-0.034	1085.19	0.036	16.0	1084.61	3+25.00	-0.040	6.0	1084.37	
1085.35	3.0	-0.026	1085.42	0.044	16.0	1084.71	3+50.00	-0.044	6.0	1084.44	
1085.51	3.0	-0.017	1085.56	0.053	16.0	1084.72	3+74.02	-0.053	6.0	1084.40	BEGIN GORE
SEE INTERSECTION DETAIL			1085.57	0.053	16.0	1084.72	3+75.00	-0.053	6.0	1084.40	
SEE INTERSECTION DETAIL			1085.59	0.061	16.0	1084.61	4+00.00	-0.061	6.0	1084.24	
SEE INTERSECTION DETAIL			1085.52	0.070	16.0	1084.41	4+25.00	-0.070	6.0	1083.99	
SEE INTERSECTION DETAIL			1085.35	0.078	16.0	1084.10	4+50.00	-0.078	6.0	1083.63	BEGIN FULL SUPER
SEE INTERSECTION DETAIL			1084.94	0.078	16.0	1083.69	4+75.00	-0.078	6.0	1083.22	
1086.03	3.0	0.078	1085.79	0.078	28.0	1083.61	4+79.49	-0.078	6.0	1083.14	END GORE
1085.60	3.0	0.078	1085.36	0.078	28.0	1083.18	5+00.00	-0.078	6.0	1082.71	
1084.98	3.0	0.078	1084.74	0.078	28.0	1082.56	5+25.00	-0.078	6.0	1082.09	
1084.31	3.0	0.078	1084.07	0.078	28.0	1081.89	5+50.00	-0.078	6.0	1081.42	
1083.78	3.0	0.078	1083.54	0.078	28.0	1081.36	5+70.00	-0.078	6.0	1080.89	BEGIN LANE TAPER
1083.62	3.0	0.078	1083.39	0.078	27.8	1081.22	5+75.00	-0.078	6.0	1080.75	
1082.88	3.0	0.078	1082.65	0.078	26.9	1080.55	6+00.00	-0.078	6.0	1080.08	
1082.14	3.0	0.078	1081.90	0.078	25.9	1079.88	6+25.00	-0.078	6.0	1079.41	
1081.40	3.0	0.078	1081.17	0.078	25.0	1079.22	6+50.00	-0.078	6.0	1078.75	
1080.66	3.0	0.078	1080.43	0.078	24.1	1078.55	6+75.00	-0.078	6.0	1078.08	
1079.92	3.0	0.078	1079.68	0.078	23.1	1077.88	7+00.00	-0.078	6.0	1077.41	
1079.17	3.0	0.078	1078.94	0.078	22.2	1077.21	7+25.00	-0.078	6.0	1076.74	
1078.45	3.0	0.078	1078.22	0.078	21.3	1076.56	7+50.00	-0.078	6.0	1076.09	
1077.79	3.0	0.078	1077.55	0.078	20.3	1075.97	7+75.00	-0.078	6.0	1075.50	
1077.17	3.0	0.078	1076.93	0.078	19.4	1075.42	8+00.00	-0.078	6.0	1074.95	
1076.58	3.0	0.078	1076.35	0.078	18.4	1074.91	8+25.00	-0.078	6.0	1074.44	
1076.06	3.0	0.078	1075.83	0.078	17.5	1074.46	8+50.00	-0.078	6.0	1073.99	
1075.58	3.0	0.078	1075.34	0.078	16.6	1074.05	8+75.00	-0.078	6.0	1073.58	
1075.30	3.0	0.078	1075.07	0.078	16.0	1073.82	8+90.00	-0.078	6.0	1073.35	END LANE TAPER
1075.16	3.0	0.078	1074.93	0.078	16.0	1073.68	9+00.00	-0.078	6.0	1073.21	
1074.85	3.0	0.078	1074.62	0.078	16.0	1073.37	9+25.00	-0.078	6.0	1072.90	
1074.58	3.0	0.078	1074.35	0.078	16.0	1073.10	9+50.00	-0.078	6.0	1072.63	
1074.36	3.0	0.078	1074.13	0.078	16.0	1072.88	9+75.00	-0.078	6.0	1072.41	
1074.19	3.0	0.078	1073.96	0.078	16.0	1072.71	10+00.00	-0.078	6.0	1072.24	
1074.06	3.0	0.078	1073.83	0.078	16.0	1072.58	10+25.00	-0.078	6.0	1072.11	
1074.03	3.0	0.078	1073.80	0.078	16.0	1072.55	10+34.00	-0.078	6.0	1072.08	END FULL SUPER
1073.89	3.0	0.073	1073.67	0.073	16.0	1072.50	10+50.00	-0.073	6.0	1072.06	
1073.89	3.0	0.073	1073.67	0.073	16.0	1072.50	10+50.19	-0.073	6.0	1072.06	CS
1073.73	3.0	0.066	1073.53	0.066	16.0	1072.47	10+75.00	-0.066	6.0	1072.07	
1073.65	3.0	0.062	1073.47	0.062	16.0	1072.48	10+90.00	-0.062	6.0	1072.11	BEGIN GORE (END CONC.PVMT.)

RAMP B											
LEFT EDGE OF SHOULDER	LEFT SHOULDER WIDTH	LEFT SHOULDER SLOPE	LEFT EDGE OF PAVEMENT	PAVEMENT SLOPE	PAVEMENT WIDTH	PROFILE GRADE	BASELINE SURVEY & CONSTRUCTION	RIGHT SHOULDER SLOPE	RIGHT SHOULDER WIDTH	RIGHT EDGE OF SHOULDER	COMMENTS
1069.77	3.0	-0.040	1069.89	0.025	16.0	1069.49	4+53.12	-0.040	6.0	1069.25	CS (END GORE/BEGIN CONC. PVMT.)
1069.92	3.0	-0.039	1070.04	0.031	16.0	1069.55	4+75.00	-0.040	6.0	1069.31	
1070.12	3.0	-0.033	1070.22	0.037	16.0	1069.62	5+00.00	-0.040	6.0	1069.38	
1070.30	3.0	-0.026	1070.38	0.044	16.0	1069.68	5+25.00	-0.044	6.0	1069.42	
1070.50	3.0	-0.019	1070.56	0.051	16.0	1069.75	5+50.00	-0.051	6.0	1069.45	
1070.69	3.0	-0.013	1070.73	0.057	16.0	1069.81	5+75.00	-0.057	6.0	1069.47	
1071.09	3.0	0.064	1070.90	0.064	16.0	1069.88	6+00.00	-0.064	6.0	1069.50	
1071.28	3.0	0.071	1071.07	0.071	16.0	1069.94	6+25.00	-0.071	6.0	1069.52	
1071.50	3.0	0.077	1071.26	0.077	16.0	1070.03	6+50.00	-0.077	6.0	1069.57	
1071.53	3.0	0.078	1071.30	0.078	16.0	1070.05	6+53.12	-0.078	6.0	1069.58	SC (BEGIN FULL SUPER)
1071.64	3.0	0.078	1071.41	0.078	16.0	1070.16	6+75.00	-0.078	6.0	1069.69	
1071.81	3.0	0.078	1071.58	0.078	16.0	1070.33	7+00.00	-0.078	6.0	1069.86	
1072.03	3.0	0.078	1071.80	0.078	16.0	1070.55	7+25.00	-0.078	6.0	1070.08	
1072.29	3.0	0.078	1072.06	0.078	16.0	1070.81	7+50.00	-0.078	6.0	1070.34	
1072.59	3.0	0.078	1072.36	0.078	16.0	1071.11	7+75.00	-0.078	6.0	1070.64	
1072.93	3.0	0.078	1072.70	0.078	16.0	1071.45	8+00.00	-0.078	6.0	1070.98	
1073.31	3.0	0.078	1073.08	0.078	16.0	1071.83	8+25.00	-0.078	6.0	1071.36	
1073.67	3.0	0.078	1073.44	0.078	16.0	1072.19	8+45.94	-0.078	6.0	1071.72	END FULL SUPER
1073.72	3.0	0.077	1073.49	0.077	16.0	1072.26	8+50.00	-0.077	6.0	1071.80	
1074.03	3.0	0.068	1073.82	0.068	16.0	1072.73	8+75.00	-0.068	6.0	1072.32	
1074.11	3.0	0.066	1073.91	0.066	16.0	1072.85	8+80.94	-0.066	6.0	1072.45	CS
1074.38	3.0	0.060	1074.20	0.060	16.0	1073.24	9+00.00	-0.060	6.0	1072.88	
1074.57	3.0	-0.018	1074.63	0.052	16.0	1073.80	9+25.00	-0.052	6.0	1073.49	
1075.02	3.0	-0.027	1075.10	0.043	16.0	1074.40	9+50.00	-0.043	6.0	1074.14	
1075.50	3.0	-0.035	1075.60	0.035	16.0	1075.04	9+75.00	-0.040	6.0	1074.80	
1076.01	3.0	-0.040	1076.13	0.027	16.0	1075.70	10+00.00	-0.040	6.0	1075.46	
1076.54	3.0	-0.040	1076.66	0.019	16.0	1076.36	10+25.00	-0.040	6.0	1076.12	
1077.07	3.0	-0.040	1077.19	0.010	16.0	1077.03	10+50.00	-0.040	6.0	1076.79	
1077.60	3.0	-0.040	1077.72	0.002	16.0	1077.69	10+75.00	-0.040	6.0	1077.45	
1077.73	3.0	-0.040	1077.85	0.000	16.0	1077.85	10+80.94	-0.040	6.0	1077.61	ST (BEGIN RUNOUT)
1078.13	3.0	-0.040	1078.25	-0.006	16.0	1078.35	11+00.00	-0.040	6.0	1078.11	
1078.66	3.0	-0.040	1078.78	-0.015	16.0	1079.01	11+25.00	-0.040	6.0	1078.77	
1078.74	3.0	-0.040	1078.86	-0.016	16.0	1079.12	11+28.94	-0.040	6.0	1078.88	BEGIN NORMAL CROWN
1079.29	3.0	-0.040	1079.41	-0.016	16.0	1079.67	11+50.00	-0.040	6.0	1079.43	
1079.96	3.0	-0.040	1080.08	-0.016	16.0	1080.34	11+75.00	-0.040	6.0	1080.10	
1080.62	3.0	-0.040	1080.74	-0.016	16.0	1081.00	12+00.00	-0.040	6.0	1080.76	
1081.07	3.0	-0.040	1081.19	-0.016	16.0	1081.45	12+17.09	-0.040	6.0	1081.21	PC
1081.28	3.0	-0.040	1081.40	-0.016	16.0	1081.66	12+25.00	-0.040	6.0	1081.42	
1081.94	3.0	-0.040	1082.06	-0.016	16.0	1082.32	12+50.00	-0.040	6.0	1082.08	
1082.61	3.0	-0.040	1082.73	-0.016	16.0	1082.99	12+75.00	-0.040	6.0	1082.75	
1083.27	3.0	-0.040	1083.39	-0.016	16.0	1083.65	13+00.00	-0.040	6.0	1083.41	
1083.93	3.0	-0.040	1084.05	-0.016	16.0	1084.31	13+25.00	-0.040	6.0	1084.07	
1084.38	3.0	-0.040	1084.50	-0.016	16.0	1084.76	13+42.00	-0.040	6.0	1084.52	END NORMAL CROWN
1084.70	3.0	-0.040	1084.82	-0.009	16.0	1084.97	13+50.00	-0.040	6.0	1084.73	
1084.80	3.0	-0.040	1084.92	-0.008	16.0	1085.04	13+52.40	-0.040	6.0	1084.80	PT
1085.64	3.0	-0.040	1085.76	0.011	16.0	1085.59	13+75.00	-0.040	6.0	1085.35	
1085.99	3.0	-0.040	1086.11	0.020	16.0	1085.79	13+86.29	-0.040	6.0	1085.55	
						1085.96	14+00.00	-0.040	6.0	1085.72	
						1085.99	14+03.68	-0.040	6.0	1085.75	
						1086.11	14+25.00				
						1086.19	14+39.26				
SEE INTERSECTION DETAIL								SEE INTERSECTION DETAIL			

RAMP C											
LEFT EDGE OF SHOULDER	LEFT SHOULDER WIDTH	LEFT SHOULDER SLOPE	LEFT EDGE OF PAVEMENT	PAVEMENT SLOPE	PAVEMENT WIDTH	PROFILE GRADE	BASELINE SURVEY & CONSTRUCTION	RIGHT SHOULDER SLOPE	RIGHT SHOULDER WIDTH	RIGHT EDGE OF SHOULDER	COMMENTS
SEE INTERSECTION DETAIL						1090.39	0+38.20	SEE INTERSECTION DETAIL			
						1090.27	0+50.00				
						1089.94	0+75.00				
1089.61	3.0	-0.040	1089.73	0.016	16.0	1089.47	0+91.91				
1089.32	3.0	-0.040	1089.44	0.016	16.0	1089.18	1+00.00				
1088.74	3.0	-0.040	1088.86	0.016	16.0	1088.60	1+13.17				
1088.18	3.0	-0.040	1088.30	0.016	16.0	1088.04	1+25.00	-0.040	6.0	1087.80	
1087.01	3.0	-0.040	1087.13	0.016	16.0	1086.87	1+50.00	-0.040	6.0	1086.63	
1085.84	3.0	-0.040	1085.96	0.016	16.0	1085.70	1+75.00	-0.040	6.0	1085.46	
1084.67	3.0	-0.040	1084.79	0.016	16.0	1084.53	2+00.00	-0.040	6.0	1084.29	
1083.50	3.0	-0.040	1083.62	0.016	16.0	1083.36	2+25.00	-0.040	6.0	1083.12	
1082.33	3.0	-0.040	1082.45	0.016	16.0	1082.19	2+50.00	-0.040	6.0	1081.95	
1081.17	3.0	-0.040	1081.29	0.016	16.0	1081.03	2+75.00	-0.040	6.0	1080.79	
1080.05	3.0	-0.040	1080.17	0.016	16.0	1079.91	3+00.00	-0.040	6.0	1079.67	
1078.99	3.0	-0.040	1079.11	0.016	16.0	1078.85	3+25.00	-0.040	6.0	1078.61	
1078.55	3.0	-0.040	1078.67	0.016	16.0	1078.41	3+35.77	-0.040	6.0	1078.17	TS (END NORMAL CROWN)
1078.05	3.0	-0.040	1078.17	0.020	16.0	1077.84	3+50.00	-0.040	6.0	1077.60	
1077.21	3.0	-0.040	1077.33	0.028	16.0	1076.88	3+75.00	-0.040	6.0	1076.64	
1076.45	3.0	-0.034	1076.55	0.036	16.0	1075.98	4+00.00	-0.040	6.0	1075.74	
1075.75	3.0	-0.026	1075.83	0.044	16.0	1075.13	4+25.00	-0.044	6.0	1074.87	
1075.10	3.0	-0.019	1075.15	0.051	16.0	1074.33	4+50.00	-0.051	6.0	1074.02	
1074.50	3.0	-0.011	1074.54	0.059	16.0	1073.59	4+75.00	-0.059	6.0	1073.24	
1074.17	3.0	0.067	1073.97	0.067	16.0	1072.90	5+00.00	-0.067	6.0	1072.50	
1073.68	3.0	0.075	1073.45	0.075	16.0	1072.26	5+25.00	-0.075	6.0	1071.81	
1073.48	3.0	0.078	1073.25	0.078	16.0	1072.00	5+35.77	-0.078	6.0	1071.53	SC (BEGIN FULL SUPER)
1073.16	3.0	0.078	1072.93	0.078	16.0	1071.68	5+50.00	-0.078	6.0	1071.21	
1072.62	3.0	0.078	1072.39	0.078	16.0	1071.14	5+75.00	-0.078	6.0	1070.67	
1072.15	3.0	0.078	1071.92	0.078	16.0	1070.67	6+00.00	-0.078	6.0	1070.20	
1071.72	3.0	0.078	1071.49	0.078	16.0	1070.24	6+25.00	-0.078	6.0	1069.77	
1071.41	3.0	0.078	1071.18	0.078	16.0	1069.93	6+46.00	-0.078	6.0	1069.46	END FULL SUPER
1071.33	3.0	0.077	1071.10	0.077	16.0	1069.87	6+50.00	-0.077	6.0	1069.41	
1070.89	3.0	0.070	1070.68	0.070	16.0	1069.56	6+75.00	-0.070	6.0	1069.14	
1070.48	3.0	0.063	1070.30	0.063	16.0	1069.29	7+00.00	-0.063	6.0	1068.91	
1070.45	3.0	0.062	1070.27	0.062	16.0	1069.27	7+02.01	-0.062	6.0	1068.90	CS
1069.93	3.0	-0.014	1069.97	0.056	16.0	1069.08	7+25.00	-0.056	6.0	1068.74	
1069.69	3.0	-0.020	1069.75	0.050	16.0	1068.95	7+46.00	-0.050	6.0	1068.65	BEGIN GORE (END CONC. PVMT.)

RAMP D														
LEFT EDGE OF SHOULDER	LEFT SHOULDER WIDTH	LEFT SHOULDER SLOPE	LEFT EDGE OF PAVEMENT	LEFT PAVEMENT WIDTH	LEFT PAVEMENT SLOPE	BASELINE SURVEY & CONSTRUCTION	PROFILE GRADE	RIGHT PAVEMENT SLOPE	RIGHT PAVEMENT WIDTH	RIGHT EDGE OF PAVEMENT	RIGHT SHOULDER SLOPE	RIGHT SHOULDER WIDTH	RIGHT EDGE OF SHOULDER	COMMENTS
1073.68	3.0	-0.040	1073.80	16.0	0.030	4+53.04	1073.32	0.000	0.0	1073.32	-0.040	6.0	1073.08	CS (END GORE/BEGIN CONC. PAVEMENT)
1073.78	3.0	-0.035	1073.88	16.0	0.035	4+75.00	1073.32	0.000	0.0	1073.32	-0.040	6.0	1073.08	
1073.94	3.0	-0.029	1074.03	16.0	0.041	5+00.00	1073.37	0.000	0.0	1073.37	-0.040	6.0	1073.13	
1074.14	3.0	-0.023	1074.21	16.0	0.047	5+25.00	1073.45	0.000	0.0	1073.45	-0.040	6.0	1073.21	
1074.38	3.0	-0.017	1074.43	16.0	0.053	5+50.00	1073.58	0.000	0.0	1073.58	-0.040	6.0	1073.34	
1074.68	3.0	-0.011	1074.71	16.0	0.059	5+75.00	1073.76	0.000	0.0	1073.76	-0.040	6.0	1073.52	
1075.22	3.0	0.065	1075.02	16.0	0.065	6+00.00	1073.98	0.000	0.0	1073.98	-0.040	6.0	1073.74	
1075.60	3.0	0.071	1075.39	16.0	0.071	6+25.00	1074.25	0.000	0.0	1074.25	-0.040	6.0	1074.01	
1076.03	3.0	0.077	1075.80	16.0	0.077	6+50.00	1074.56	0.000	0.0	1074.56	-0.040	6.0	1074.32	
1076.08	3.0	0.078	1075.85	16.0	0.078	6+53.04	1074.60	0.000	0.0	1074.60	-0.040	6.0	1074.36	SC (BEGIN FULL SUPER)
1076.39	3.0	0.078	1076.16	16.0	0.078	6+75.00	1074.91	0.000	0.0	1074.91	-0.040	6.0	1074.67	
1076.79	3.0	0.078	1076.56	16.0	0.078	7+00.00	1075.31	0.000	0.0	1075.31	-0.040	6.0	1075.07	
1077.23	3.0	0.078	1077.00	16.0	0.078	7+25.00	1075.75	0.000	0.0	1075.75	-0.040	6.0	1075.51	
1077.62	3.0	0.078	1077.39	16.0	0.078	7+45.00	1076.14	0.000	0.0	1076.14	-0.040	6.0	1075.90	END FULL SUPER
1077.70	3.0	0.077	1077.47	16.0	0.077	7+50.00	1076.24	0.000	0.0	1076.24	-0.040	6.0	1076.00	
1078.14	3.0	0.072	1077.93	16.0	0.072	7+75.00	1076.77	0.000	0.0	1076.77	-0.040	6.0	1076.53	
1078.35	3.0	0.070	1078.14	16.0	0.070	7+86.15	1077.02	0.000	0.0	1077.02	-0.040	6.0	1076.78	CS
1078.63	3.0	0.067	1078.43	16.0	0.0674	8+00.00	1077.35	-0.067	0.0	1077.35	-0.067	6.0	1076.95	BEGIN LANE TAPER
1079.53	3.0	0.063	1079.35	22.0	0.0626	8+25.00	1077.97	-0.063	4.0	1077.72	-0.063	6.0	1077.34	
1080.21	3.0	-0.012	1080.25	28.0	0.058	8+50.00	1078.63	-0.058	8.0	1078.17	-0.058	6.0	1077.82	END LANE TAPER
1080.77	3.0	-0.017	1080.82	28.0	0.053	8+75.00	1079.34	-0.053	8.0	1078.92	-0.053	6.0	1078.60	
1081.38	3.0	-0.022	1081.45	28.0	0.048	9+00.00	1080.10	-0.048	8.0	1079.71	-0.048	6.0	1079.43	
1082.03	3.0	-0.027	1082.11	28.0	0.043	9+25.00	1080.90	-0.043	8.0	1080.55	-0.043	6.0	1080.29	
1082.72	3.0	-0.031	1082.82	28.0	0.039	9+50.00	1081.74	-0.039	8.0	1081.43	-0.040	6.0	1081.19	
1083.46	3.0	-0.036	1083.57	28.0	0.034	9+75.00	1082.63	-0.034	8.0	1082.36	-0.040	6.0	1082.12	
1083.81	3.0	-0.038	1083.92	28.0	0.032	9+86.15	1083.04	-0.032	8.0	1082.79	-0.040	6.0	1082.55	ST
1084.25	3.0	-0.040	1084.37	28.0	0.029	10+00.00	1083.56	-0.029	8.0	1083.33	-0.040	6.0	1083.09	
1085.06	3.0	-0.040	1085.18	28.0	0.024	10+25.00	1084.51	-0.024	8.0	1084.32	-0.040	6.0	1084.08	
1085.89	3.0	-0.040	1086.01	28.0	0.019	10+50.00	1085.47	-0.019	8.0	1085.32	-0.040	6.0	1085.08	
1086.70	3.0	-0.040	1086.82	28.0	0.014	10+75.00	1086.42	-0.014	8.0	1086.30	-0.040	6.0	1086.06	
1087.53	3.0	-0.040	1087.65	28.0	0.010	11+00.00	1087.38	-0.010	8.0	1087.30	-0.040	6.0	1087.06	
1088.34	3.0	-0.040	1088.46	28.0	0.005	11+25.00	1088.33	-0.005	8.0	1088.29	-0.040	6.0	1088.05	
1089.07	3.0	-0.040	1089.19	28.0	0.000	11+50.00	1089.19	0.000	8.0	1089.19	-0.040	6.0	1088.95	BEGIN RUNOUT
1089.38	3.0	-0.040	1089.50	28.0	-0.003	11+63.71	1089.57	0.003	8.0	1089.59	-0.040	6.0	1089.35	PC
1089.60	3.0	-0.040	1089.72	28.0	-0.005	11+75.00	1089.85	0.005	8.0	1089.89	-0.040	6.0	1089.65	
1089.93	3.0	-0.040	1090.05	28.0	-0.010	12+00.00	1090.32	0.010	8.0	1090.40	-0.040	6.0	1090.16	
1090.07	3.0	-0.040	1090.19	28.0	-0.014	12+25.00	1090.59	0.014	8.0	1090.71	-0.040	6.0	1090.47	
1090.07	3.0	-0.040	1090.19	28.0	-0.016	12+33.00	1090.64	0.016	8.0	1090.77	-0.040	6.0	1090.53	BEGIN NORMAL CROWN
1090.11	3.0	-0.040	1090.23	28.0	-0.016	12+50.00	1090.68	0.016	8.0	1090.81	-0.040	6.0	1090.57	
1089.99	3.0	-0.040	1090.11	28.0	-0.016	12+75.00	1090.56	0.016	8.0	1090.69	-0.040	6.0	1090.45	
1089.84	3.0	-0.040	1089.96	28.0	-0.016	12+93.00	1090.41	0.016	8.0	1090.54	-0.040	6.0	1090.30	END NORMAL CROWN
1089.84	3.0	-0.040	1089.96	28.0	-0.014	13+00.00	1090.36	0.014	8.0	1090.47	-0.040	6.0	1090.23	
1089.79	3.0	-0.040	1089.91	28.0	-0.009	13+25.00	1090.15	0.009	8.0	1090.22	-0.040	6.0	1089.98	
1089.74	3.0	-0.040	1089.86	28.0	-0.003	13+50.00	1089.94	0.003	8.0	1089.96	-0.040	6.0	1089.72	
1089.71	3.0	-0.040	1089.83	28.0	0.000	13+63.65	1089.82	0.000	8.0	1089.82	-0.040	6.0	1089.58	PT
1089.72	3.0	-0.040	1089.84	28.0	0.003	13+75.00	1089.75	-0.003	8.0	1089.73	-0.040	6.0	1089.49	
1089.69	4.0	-0.040	1089.85	29.0	0.004	13+78.06	1089.74	-0.004	8.0	1089.71	-0.040	6.0	1089.47	
1089.95	3.0	-0.040	1090.07	28.0	0.009	14+00.00	1089.82							
1090.02	3.0	-0.040	1090.14	28.0	0.010	14+04.62	1089.86							
						14+25.00	1090.16							
						14+27.64	1090.20							
														SEE INTERSECTION DETAIL

RAMP E											
LEFT EDGE OF SHOULDER	LEFT SHOULDER WIDTH	LEFT SHOULDER SLOPE	LEFT EDGE OF PAVEMENT	PAVEMENT SLOPE	PAVEMENT WIDTH	PROFILE GRADE	BASELINE SURVEY & CONSTRUCTION	RIGHT SHOULDER SLOPE	RIGHT SHOULDER WIDTH	RIGHT EDGE OF SHOULDER	COMMENTS
SEE INTERSECTION DETAIL			1087.53	0.025	41.5	1086.50	0+47.07	-0.040	6.0	1086.26	
1087.30	3.0	-0.040	1087.42	0.027	38.1	1086.40	0+57.89	-0.040	6.0	1086.16	
1087.20	3.0	-0.040	1087.32	0.029	34.8	1086.30	0+68.65	-0.040	6.0	1086.06	
1087.10	3.0	-0.038	1087.21	0.032	31.8	1086.20	0+79.37	-0.040	6.0	1085.96	
1086.99	3.0	-0.035	1087.10	0.035	29.0	1086.10	0+90.04	-0.040	6.0	1085.86	
1086.90	3.0	-0.032	1087.00	0.038	26.4	1086.00	1+00.66	-0.040	6.0	1085.76	END RT. SHLD. AT STA. 1+10.53
1086.80	3.0	-0.029	1086.89	0.041	24.0	1085.90	1+11.25	SEE INTERSECTION DETAIL			
1086.71	3.0	-0.025	1086.78	0.045	21.8	1085.80	1+21.81				
1086.62	3.0	-0.021	1086.68	0.049	19.8	1085.70	1+32.34				
1086.52	3.0	-0.016	1086.57	0.054	18.1	1085.60	1+42.85				
1086.42	3.0	-0.012	1086.46	0.058	16.5	1085.50	1+53.33				
1086.55	3.0	0.063	1086.36	0.063	15.2	1085.40	1+63.79				
1086.45	3.0	0.067	1086.25	0.067	14.1	1085.30	1+74.24				
1086.37	3.0	0.072	1086.15	0.072	13.3	1085.20	1+84.68				
1086.26	3.0	0.074	1086.04	0.074	12.6	1085.10	1+95.10				
1086.16	3.0	0.076	1085.93	0.076	12.2	1085.00	2+05.52				
1086.02	3.0	0.078	1085.79	0.078	12.0	1084.86	2+19.43				

PROJECT DESCRIPTION

STRUCTURE LIC-310-0096 OVER I.R. 70 WILL BE WIDENED TO ACCOMMODATE 6 LANES OF TRAFFIC AND A SHARED USE PATH. S.R. 310 PAVEMENT WILL BE WIDENED WITH NEW CONCRETE RAMPS FROM GAS STATION ON THE SOUTH SIDE OF I.R. 70 TO DAIRY QUEEN ON THE NORTH WITH THREE SIGNALIZED INTERSECTIONS.

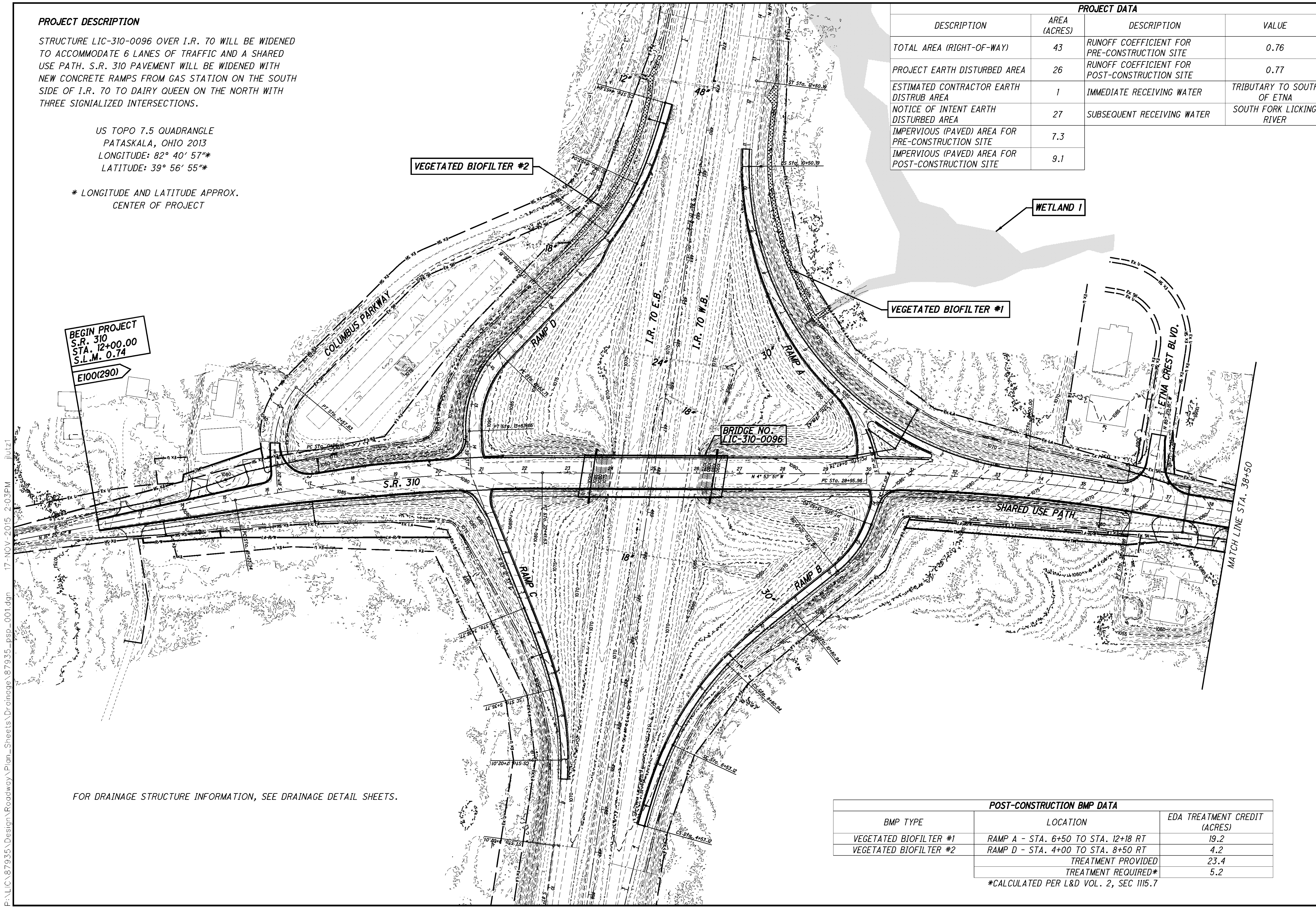
US TOPO 7.5 QUADRANGLE
PATASKALA, OHIO 2013
LONGITUDE: 82° 40' 57"*
LATITUDE: 39° 56' 55"*

* LONGITUDE AND LATITUDE APPROX.
CENTER OF PROJECT

PROJECT DATA			
DESCRIPTION	AREA (ACRES)	DESCRIPTION	VALUE
TOTAL AREA (RIGHT-OF-WAY)	43	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.76
PROJECT EARTH DISTURBED AREA	26	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.77
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	1	IMMEDIATE RECEIVING WATER	TRIBUTARY TO SOUTH OF ETNA
NOTICE OF INTENT EARTH DISTURBED AREA	27	SUBSEQUENT RECEIVING WATER	SOUTH FORK LICKING RIVER
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	7.3		
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE	9.1		

CALCULATED BY: JLS
CHECKED BY: JSL

0 50 100 200
HORIZONTAL SCALE IN FEET



BEGIN PROJECT
S.R. 310
STA. 12+00.00
S.L.M. 0.74
E100(290)

BRIDGE NO.
LIC-310-0096

WETLAND 1

VEGETATED BIOFILTER #1

VEGETATED BIOFILTER #2

FOR DRAINAGE STRUCTURE INFORMATION, SEE DRAINAGE DETAIL SHEETS.

POST-CONSTRUCTION BMP DATA		
BMP TYPE	LOCATION	EDA TREATMENT CREDIT (ACRES)
VEGETATED BIOFILTER #1	RAMP A - STA. 6+50 TO STA. 12+18 RT	19.2
VEGETATED BIOFILTER #2	RAMP D - STA. 4+00 TO STA. 8+50 RT	4.2
	TREATMENT PROVIDED	23.4
	TREATMENT REQUIRED*	5.2

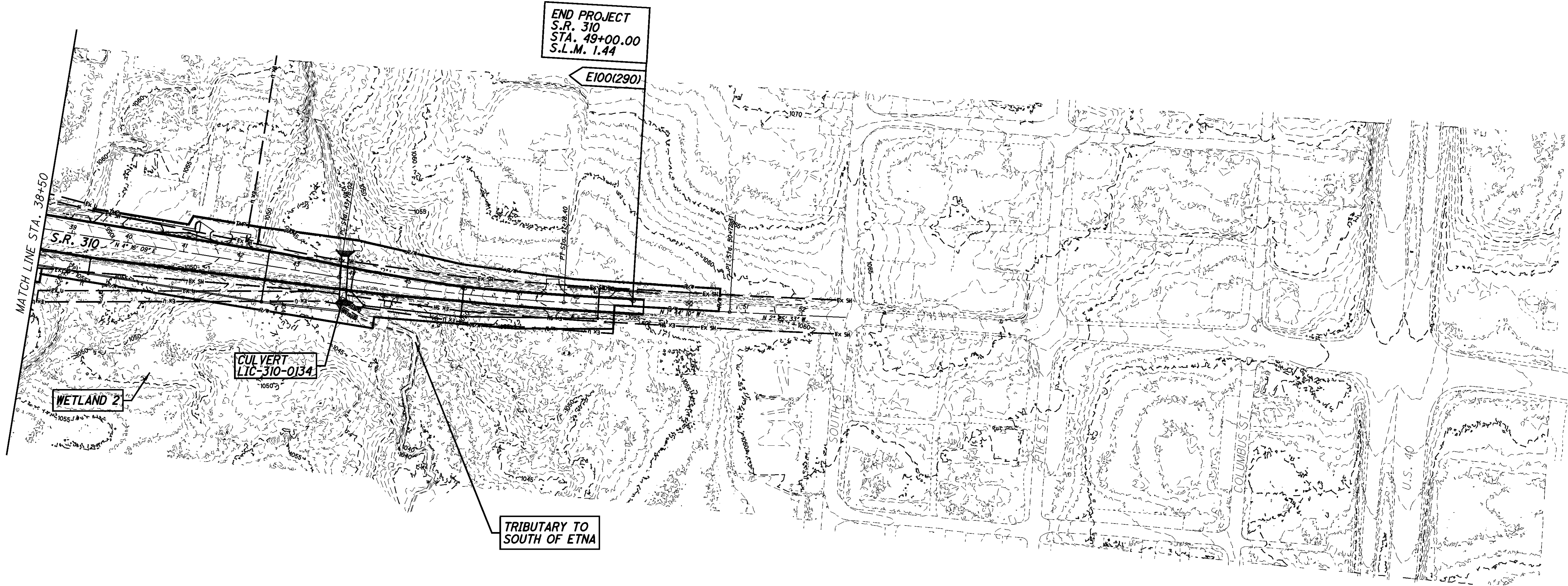
*CALCULATED PER L&D VOL. 2, SEC 1115.7

PROJECT SITE PLAN
STA. 12+00 TO STA. 38+50

LIC-310-0.74

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FOR DRAINAGE STRUCTURE INFORMATION, SEE DRAINAGE DETAIL SHEETS.


CALCULATED
JLS
CHECKED
JSL


0 100 200
50
HORIZONTAL
SCALE IN FEET

PROJECT SITE PLAN
STA. 38+50 TO STA. 49+00

LIC-310-0.74

GROSS REFERENCES	
SHEETS	DESCRIPTION
96	ROADWAY SUBSUMMARY
201-209	DRIVE DETAILS
210-243	DRAINAGE DETAILS



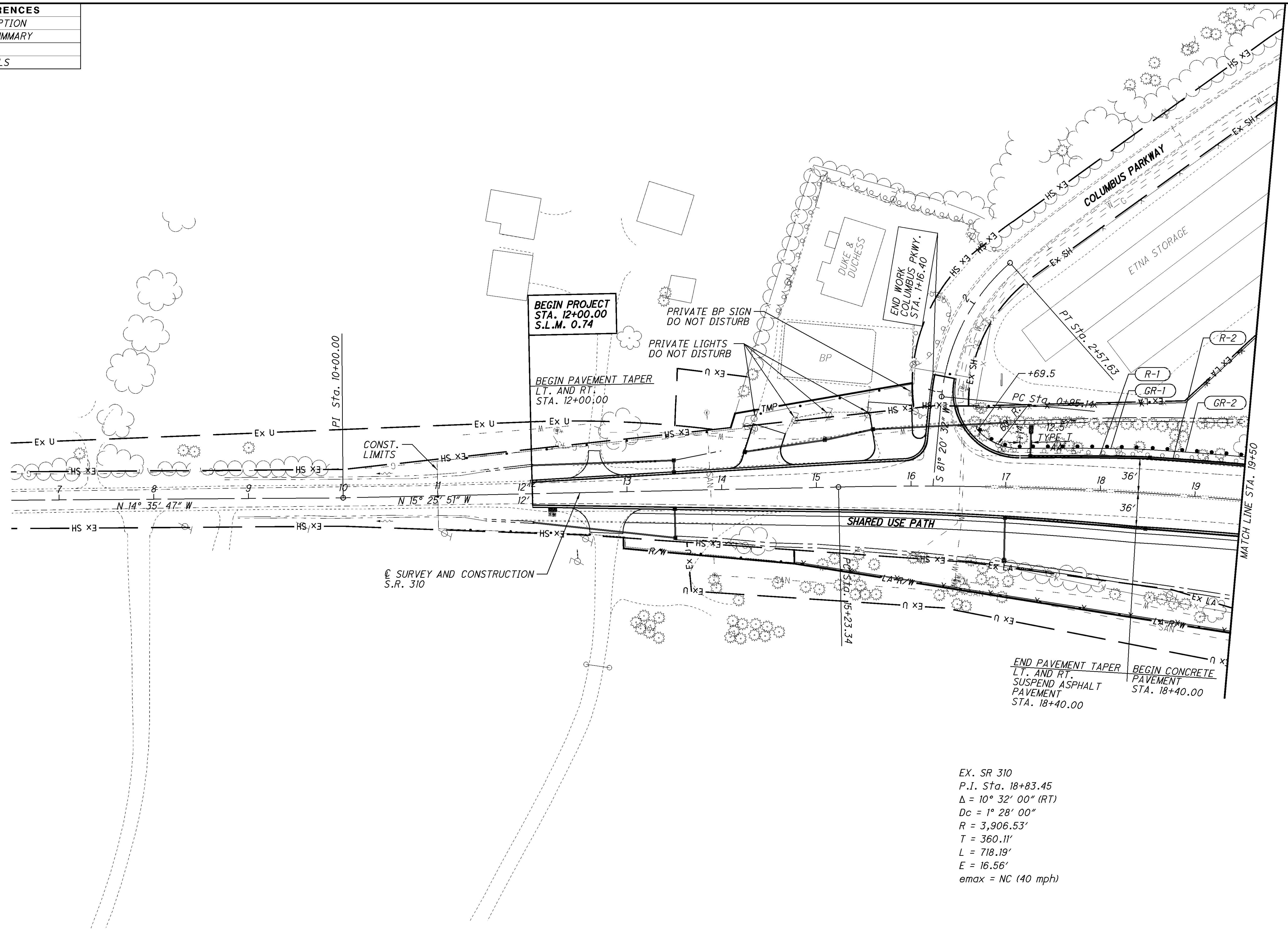


 HORIZONTAL SCALE IN FEET

CALCULATED JLS
 CHECKED JSL

PLAN SHEET (S.R. 310)
STA. 12+00 TO STA. 19+50

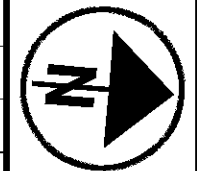
LIC-310-0.74



EX. SR 310
 P.I. Sta. 18+83.45
 $\Delta = 10^\circ 32' 00''$ (RT)
 $D_c = 1^\circ 28' 00''$
 $R = 3,906.53'$
 $T = 360.11'$
 $L = 718.19'$
 $E = 16.56'$
 $e_{max} = NC$ (40 mph)

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CROSS REFERENCES	
SHEETS	DESCRIPTION
96	ROADWAY SUBSUMMARY
201-243	DRAINAGE DETAILS



0 50 100
 25
 HORIZONTAL
 SCALE IN FEET

CALCULATED
 JLS
 CHECKED
 JSL

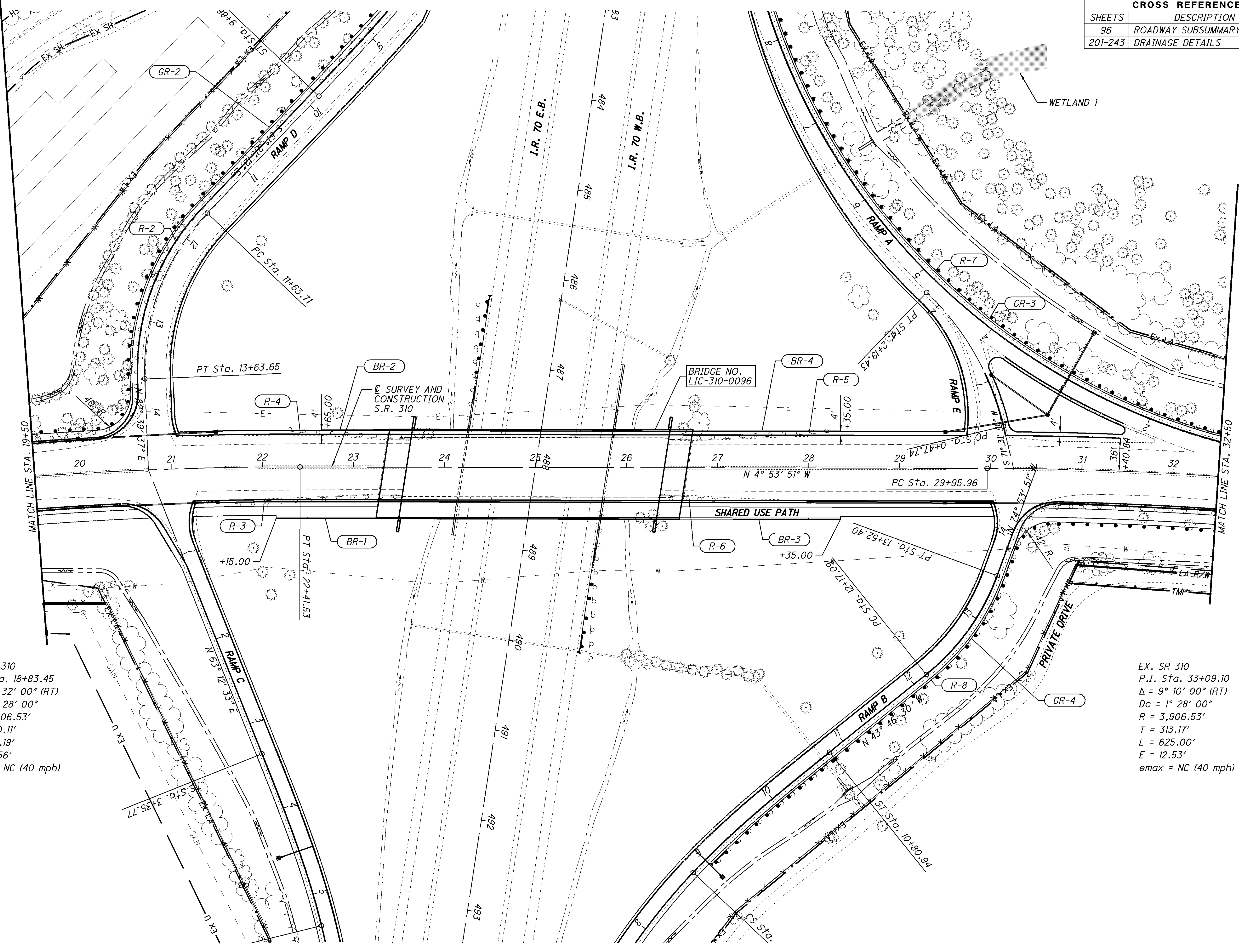
PLAN SHEET (S.R. 310)
 STA. 19+50 TO STA. 32+50

LIC-310-0.74

113
 425

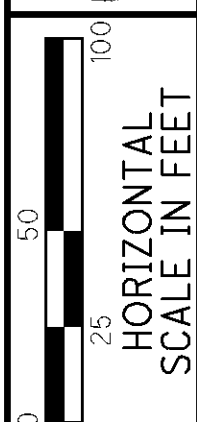
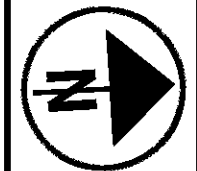
EX. SR 310
 P.I. Sta. 18+83.45
 $\Delta = 10^\circ 32' 00''$ (RT)
 $D_c = 1^\circ 28' 00''$
 $R = 3,906.53'$
 $T = 360.11'$
 $L = 718.19'$
 $E = 16.56'$
 $e_{max} = NC$ (40 mph)

EX. SR 310
 P.I. Sta. 33+09.10
 $\Delta = 9^\circ 10' 00''$ (RT)
 $D_c = 1^\circ 28' 00''$
 $R = 3,906.53'$
 $T = 313.17'$
 $L = 625.00'$
 $E = 12.53'$
 $e_{max} = NC$ (40 mph)



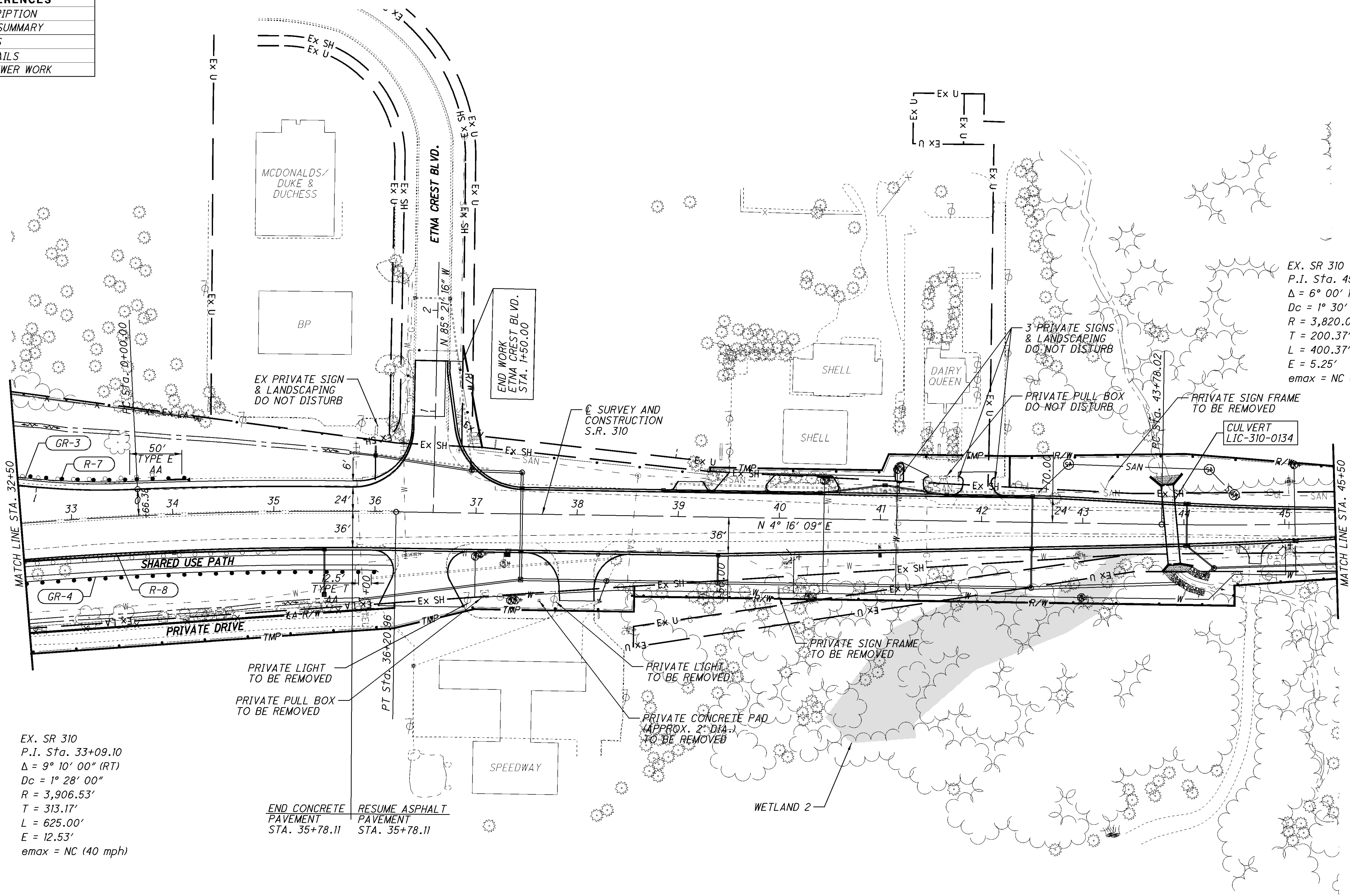
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CROSS REFERENCES	
SHEETS	DESCRIPTION
96	ROADWAY SUBSUMMARY
201-209	DRIVE DETAILS
210-243	DRAINAGE DETAILS
243-252	WATER AND SEWER WORK



CALCULATED
JLS
CHECKED
JSL

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EX. SR 310
P.I. Sta. 33+09.10
 $\Delta = 9^\circ 10' 00''$ (RT)
 $Dc = 1^\circ 28' 00''$
 $R = 3,906.53'$
 $T = 313.17'$
 $L = 625.00'$
 $E = 12.53'$
emax = NC (40 mph)

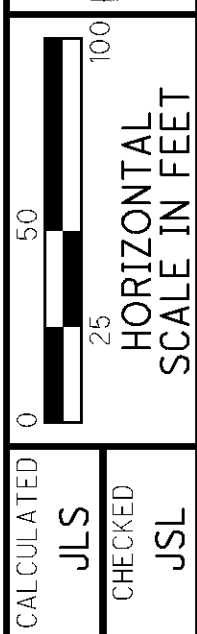
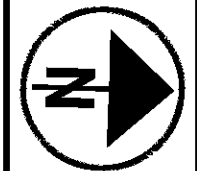
END CONCRETE PAVEMENT STA. 35+78.11
RESUME ASPHALT PAVEMENT STA. 35+78.11

EX. SR 310
P.I. Sta. 45+78.21
 $\Delta = 6^\circ 00' 19''$ (LT)
 $Dc = 1^\circ 30' 00''$
 $R = 3,820.00'$
 $T = 200.37'$
 $L = 400.37'$
 $E = 5.25'$
emax = NC (40 mph)

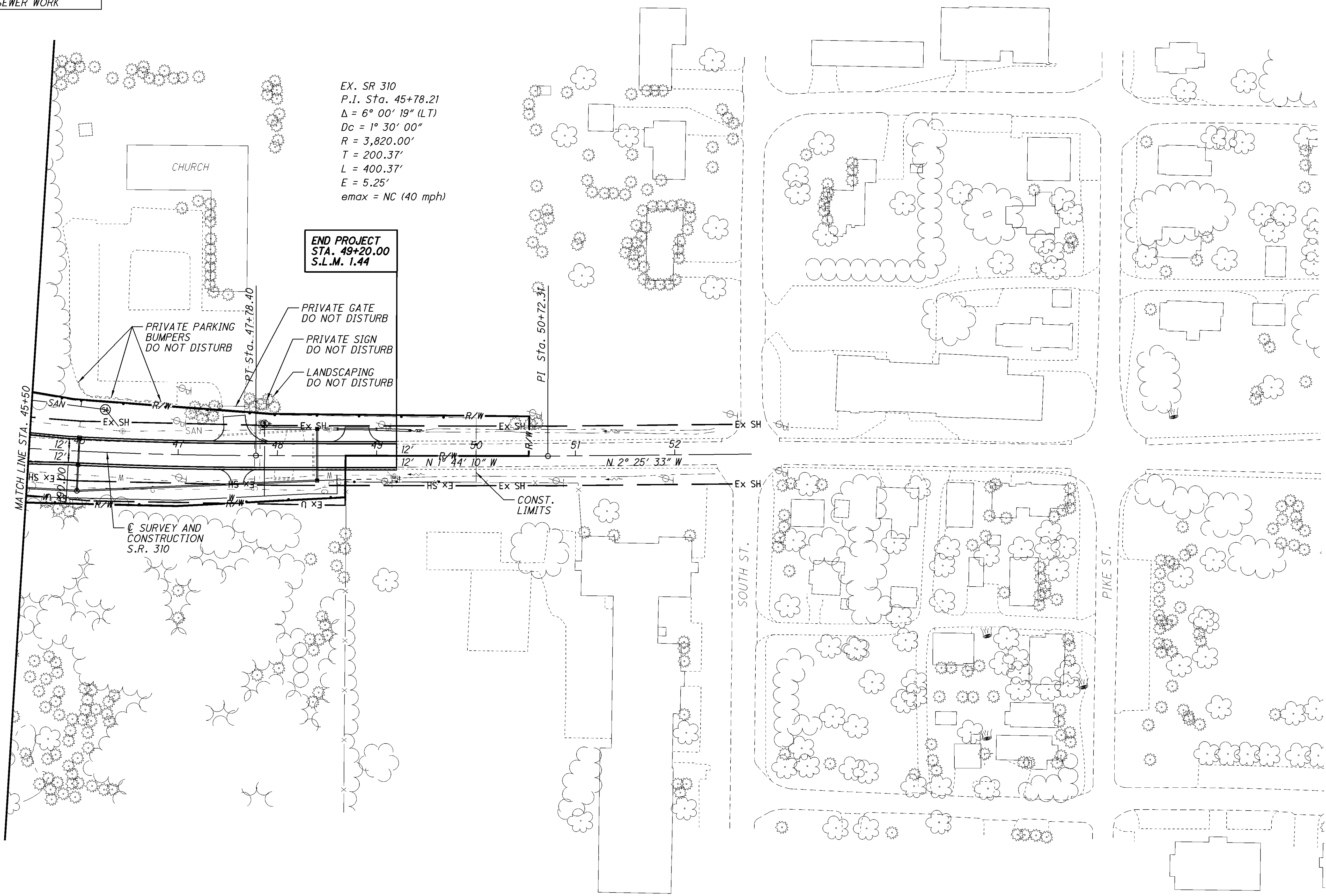
PLAN SHEET (S.R. 310)
STA. 32+50 TO STA. 45+50

LIC-310-0.74

CROSS REFERENCES	
SHEETS	DESCRIPTION
96	ROADWAY SUBSUMMARY
201-209	DRIVE DETAILS
210-243	DRAINAGE DETAILS
243-252	WATER AND SEWER WORK



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EX. SR 310
 P.I. Sta. 45+78.21
 $\Delta = 6^\circ 00' 19''$ (LT)
 $Dc = 1^\circ 30' 00''$
 $R = 3,820.00'$
 $T = 200.37'$
 $L = 400.37'$
 $E = 5.25'$
 $e_{max} = NC$ (40 mph)

END PROJECT
STA. 49+20.00
S.L.M. 1.44

- PRIVATE PARKING BUMPERS DO NOT DISTURB
- PRIVATE GATE DO NOT DISTURB
- PRIVATE SIGN DO NOT DISTURB
- LANDSCAPING DO NOT DISTURB

Q SURVEY AND CONSTRUCTION S.R. 310

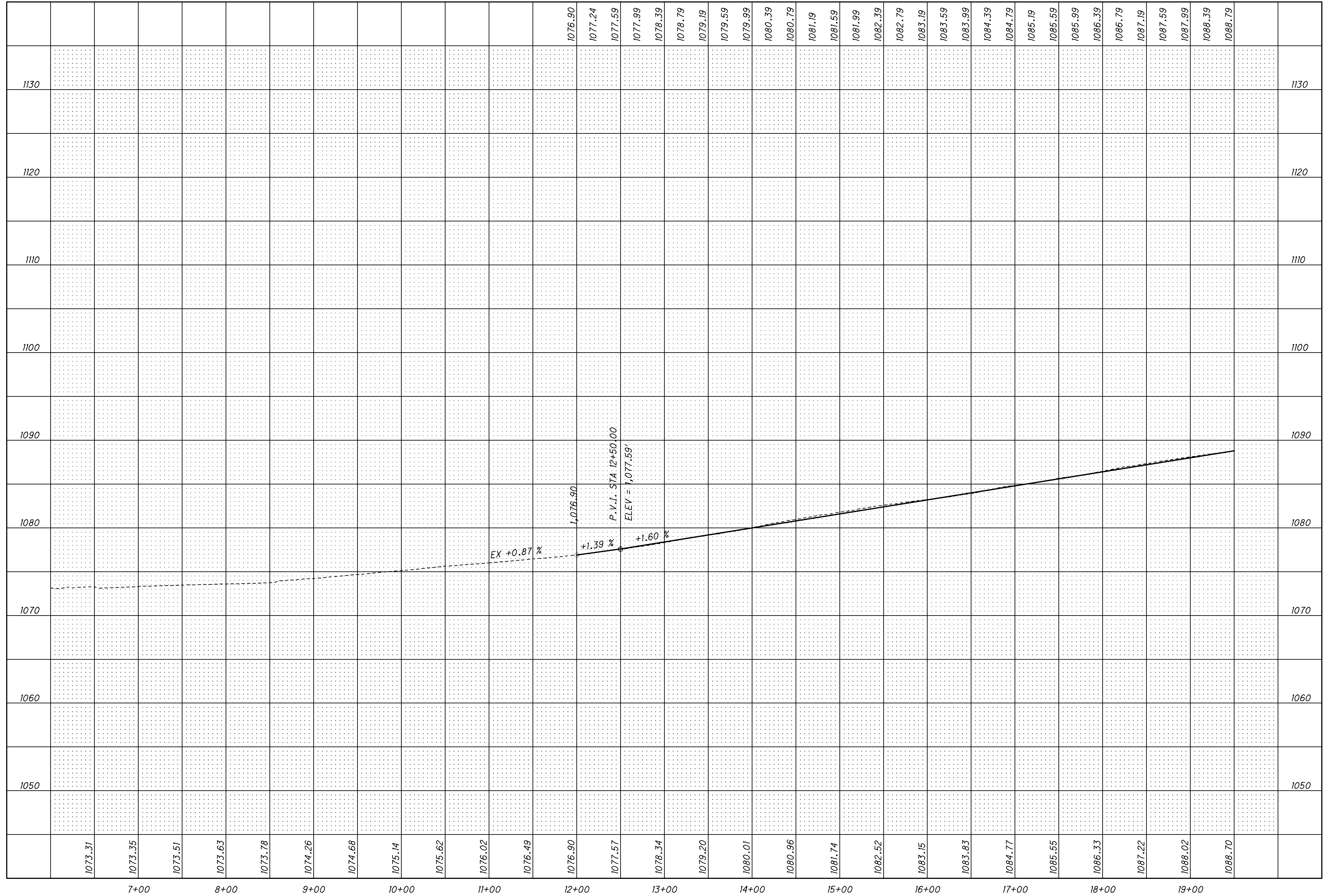
CONST. LIMITS

SOUTH ST.

PIKE ST.

PLAN SHEET (S.R. 310)
STA. 45+50 TO STA. 49+00

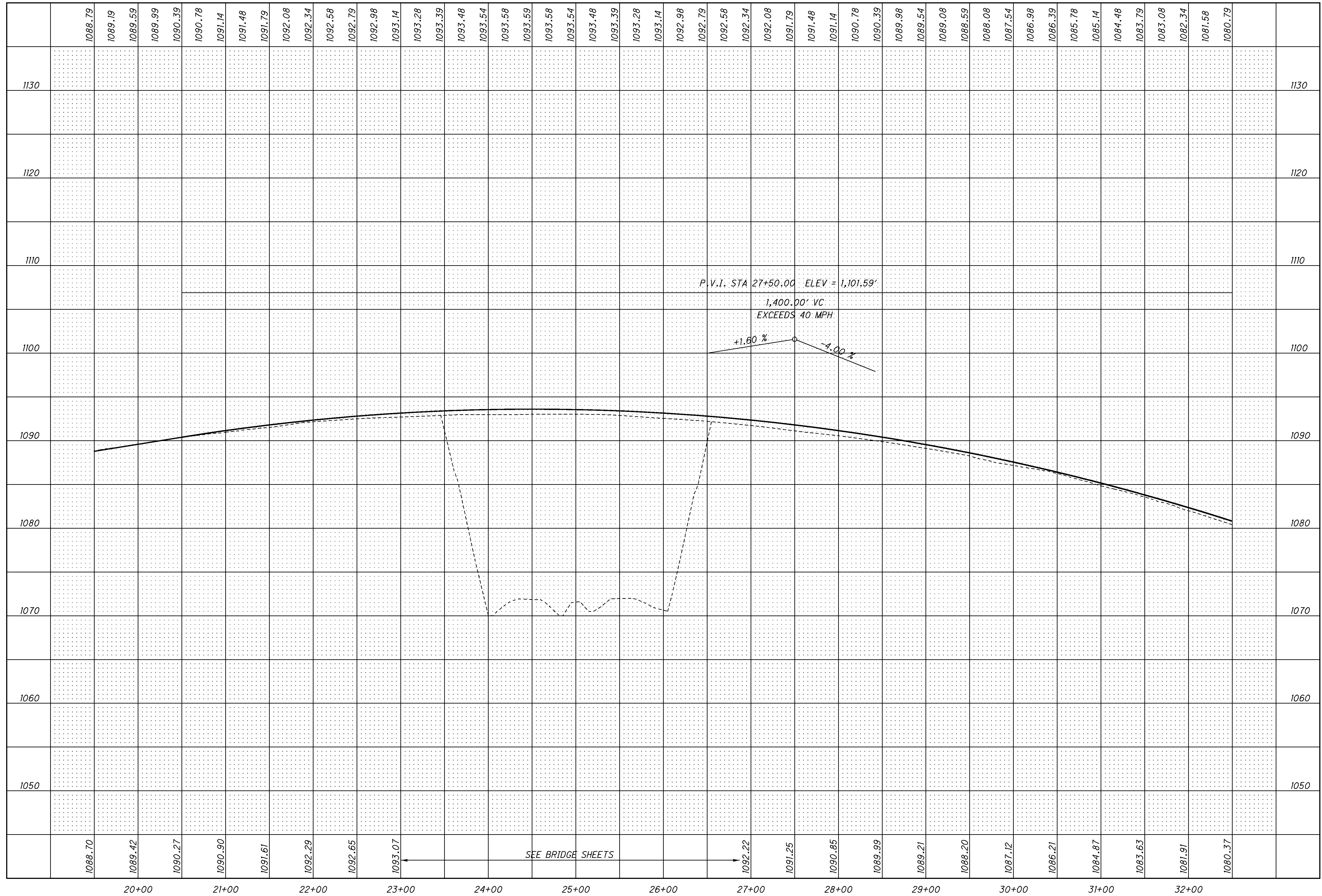
LIC-310-0.74



CALCULATED
JLS
CHECKED
JSL

**PROFILE SHEET (S.R. 310)
STA. 12+00 TO STA. 19+50**

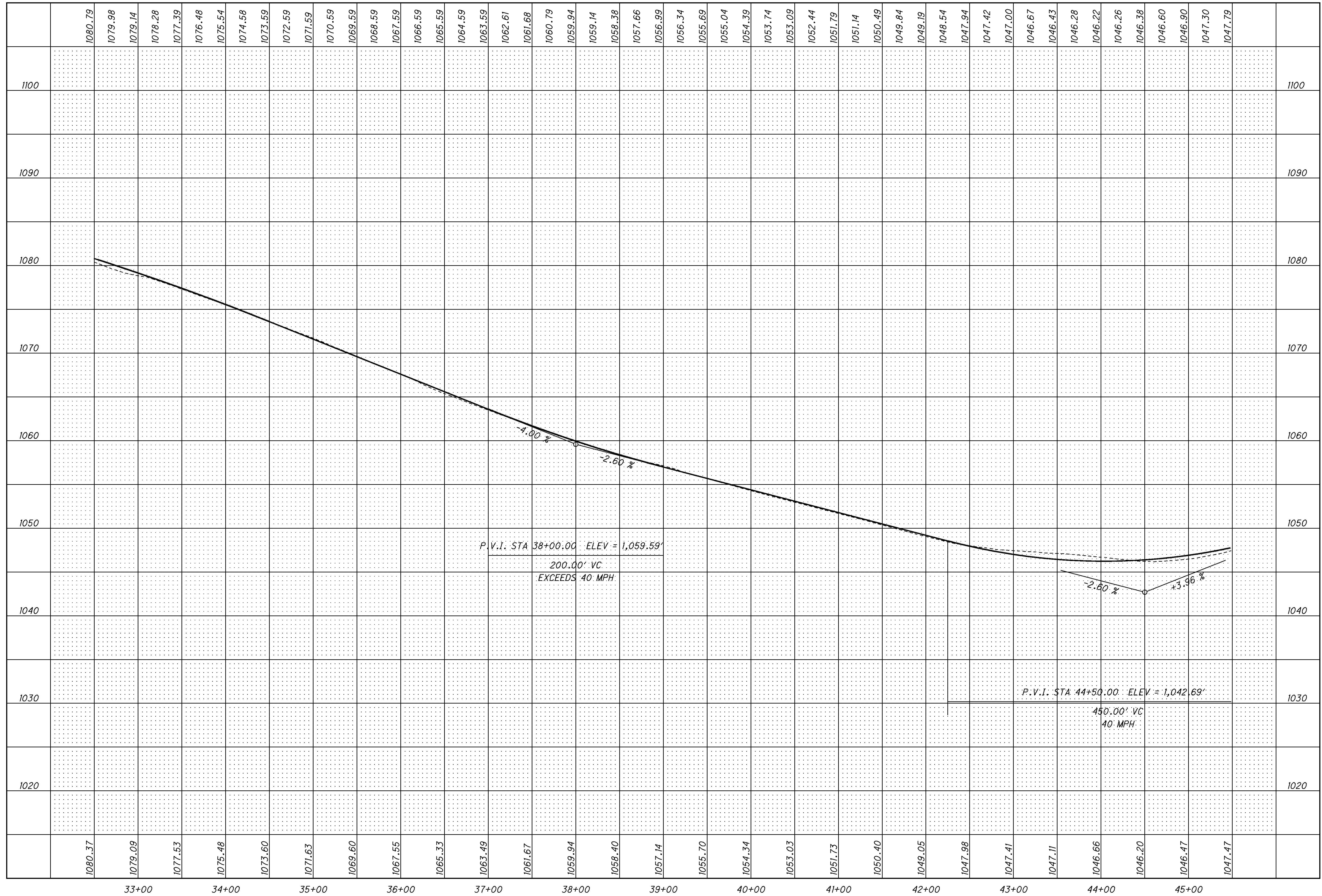
LIC-310-0.74



PROFILE SHEET (S.R. 310)
STA. 19+50 TO STA. 32+50

LIC-310-0.74

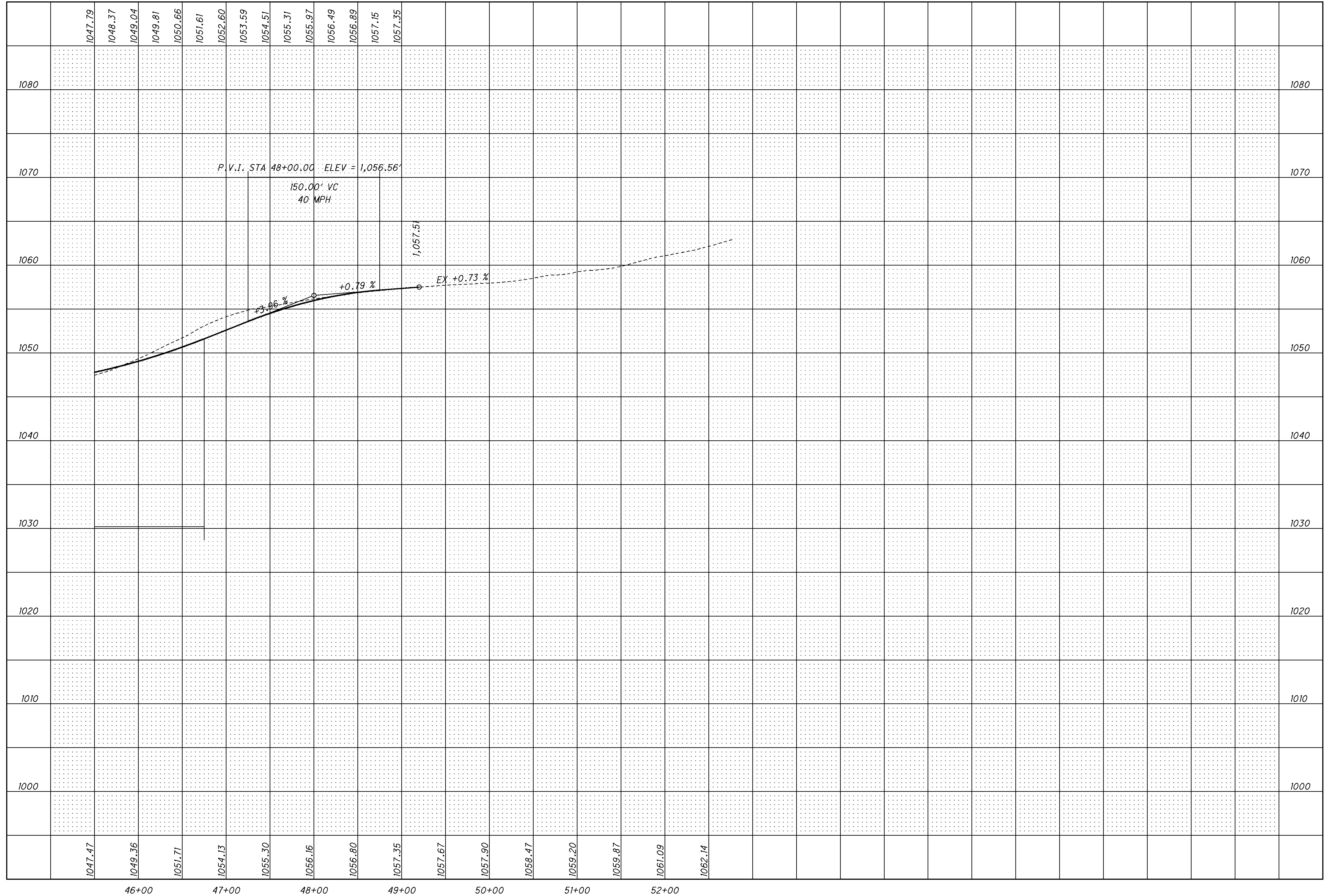
CALCULATED
JLS
CHECKED
JSL



PROFILE SHEET (S.R. 310)
STA. 32+50 TO STA. 45+50

CALCULATED
JLS
CHECKED
JSL

LIC-310-0.74

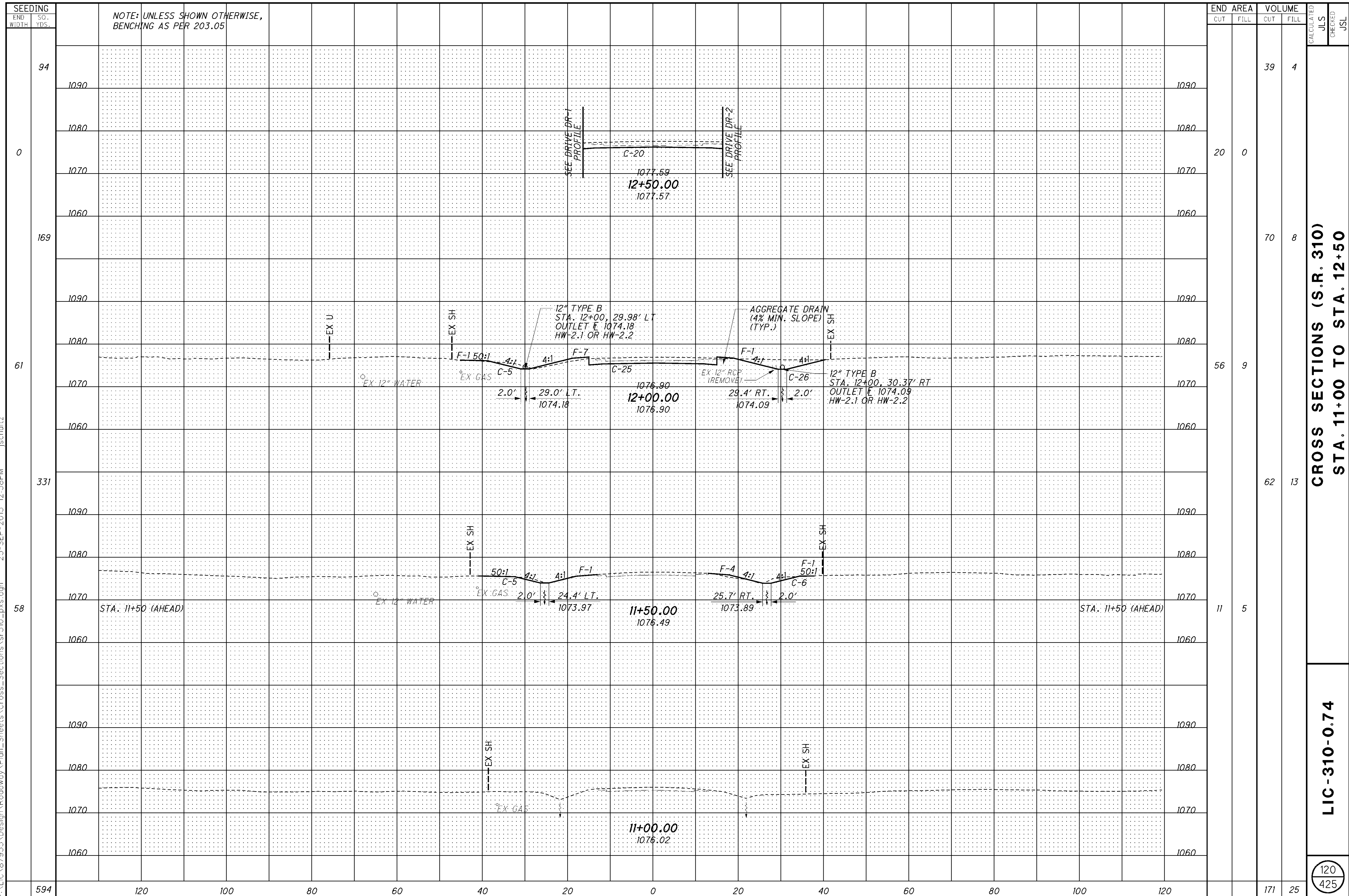


CALCULATED
 JLS
 CHECKED
 JSL

**PROFILE SHEET (S.R. 310)
 STA. 45+50 TO STA. 49+00**

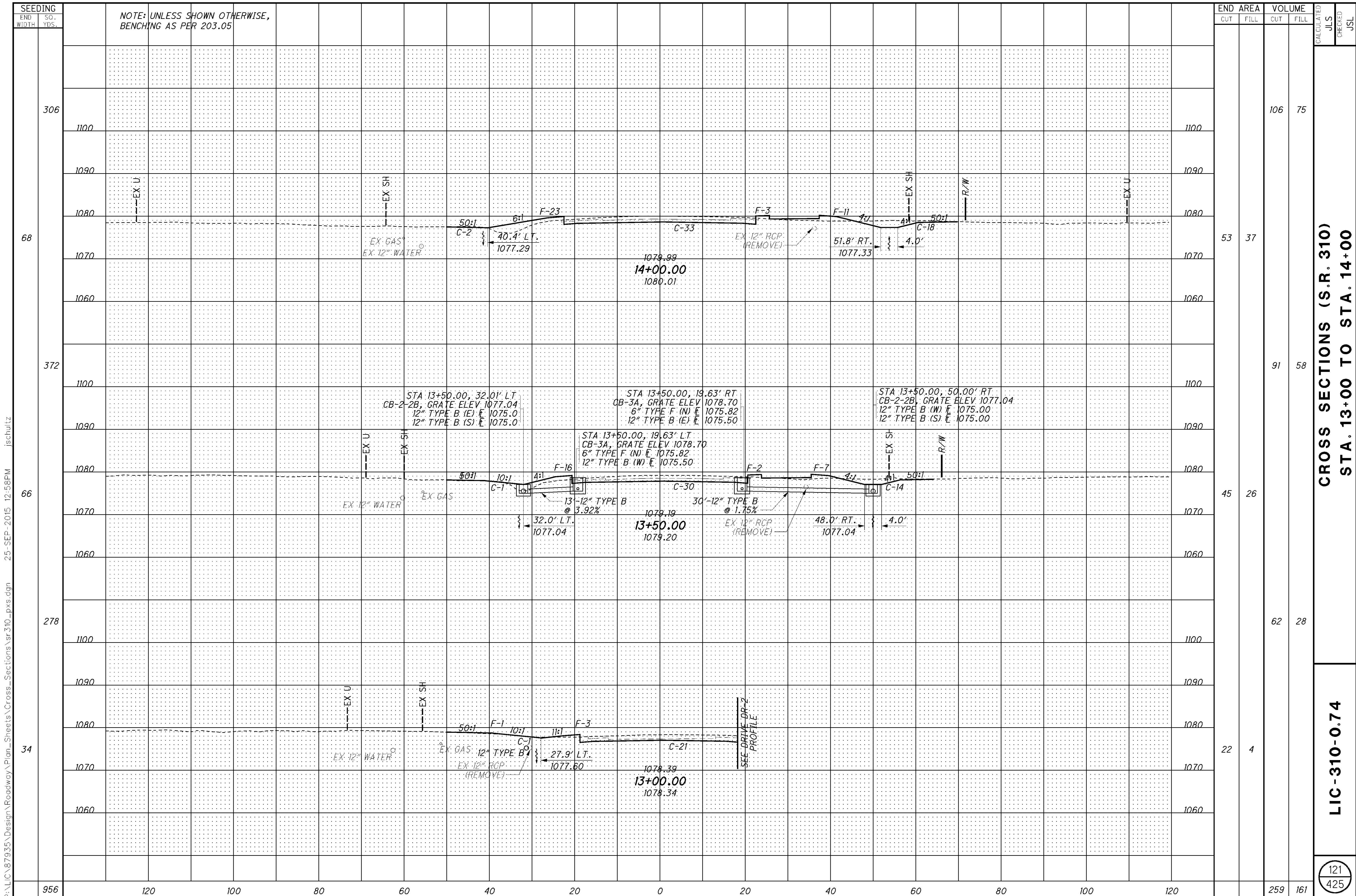
LIC-310-0.74

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**CROSS SECTIONS (S.R. 310)
 STA. 11+00 TO STA. 12+50**

LIC-310-0.74



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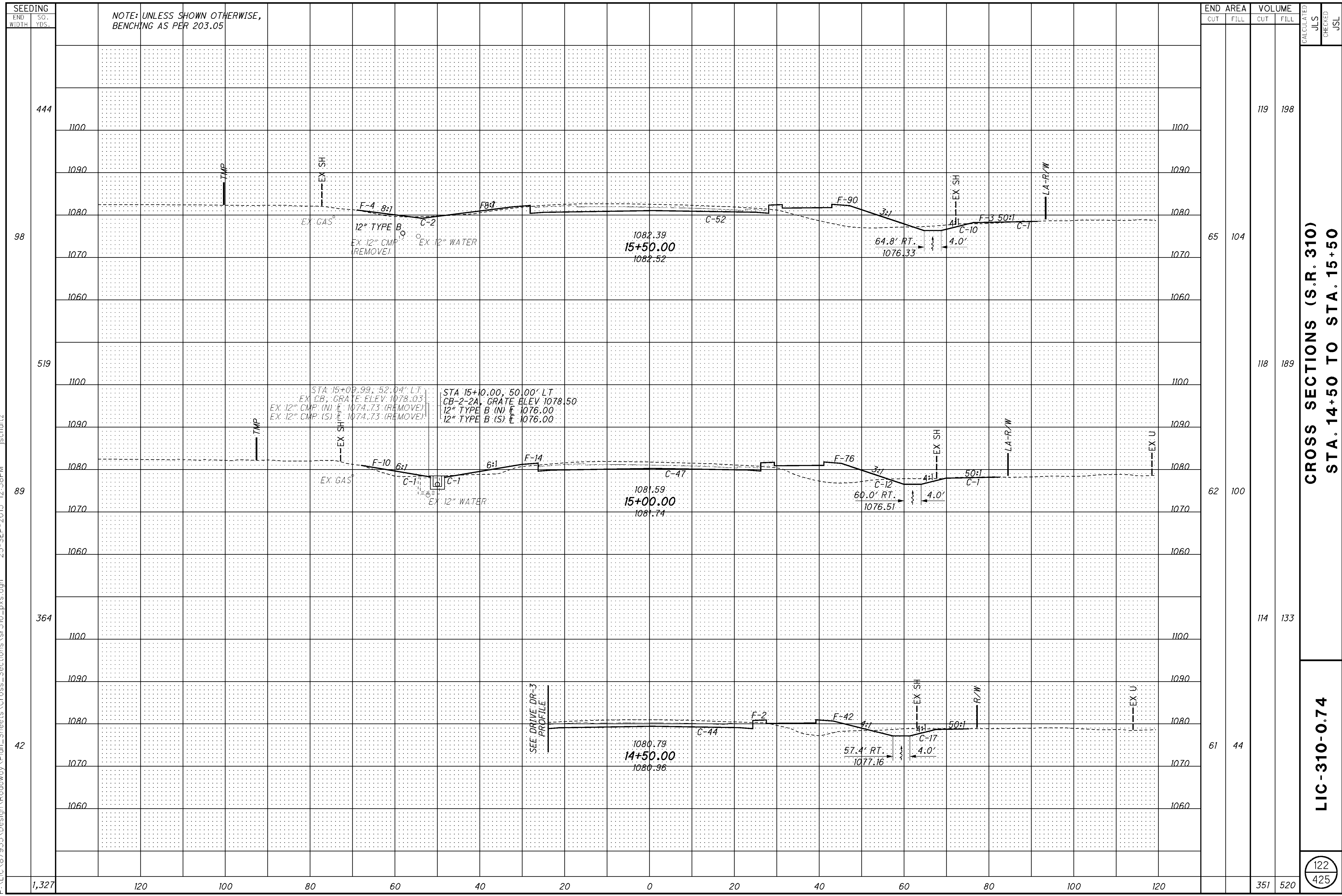
SEEDING	END WIDTH	SO. YDS.	NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05												END AREA		VOLUME		CALCULATED JLS	CHECKED JLS	
															CUT	FILL	CUT	FILL			
	306																106	75			
															53	37					
	68																				
															91	58					
	372																				
															45	26					
	66																				
															62	28					
	278																				
															22	4					
	34																				
	956		120	100	80	60	40	20	0	20	40	60	80	100	120			259	161		

CROSS SECTIONS (S.R. 310)
STA. 13+00 TO STA. 14+00

LIC-310-0.74

121
425

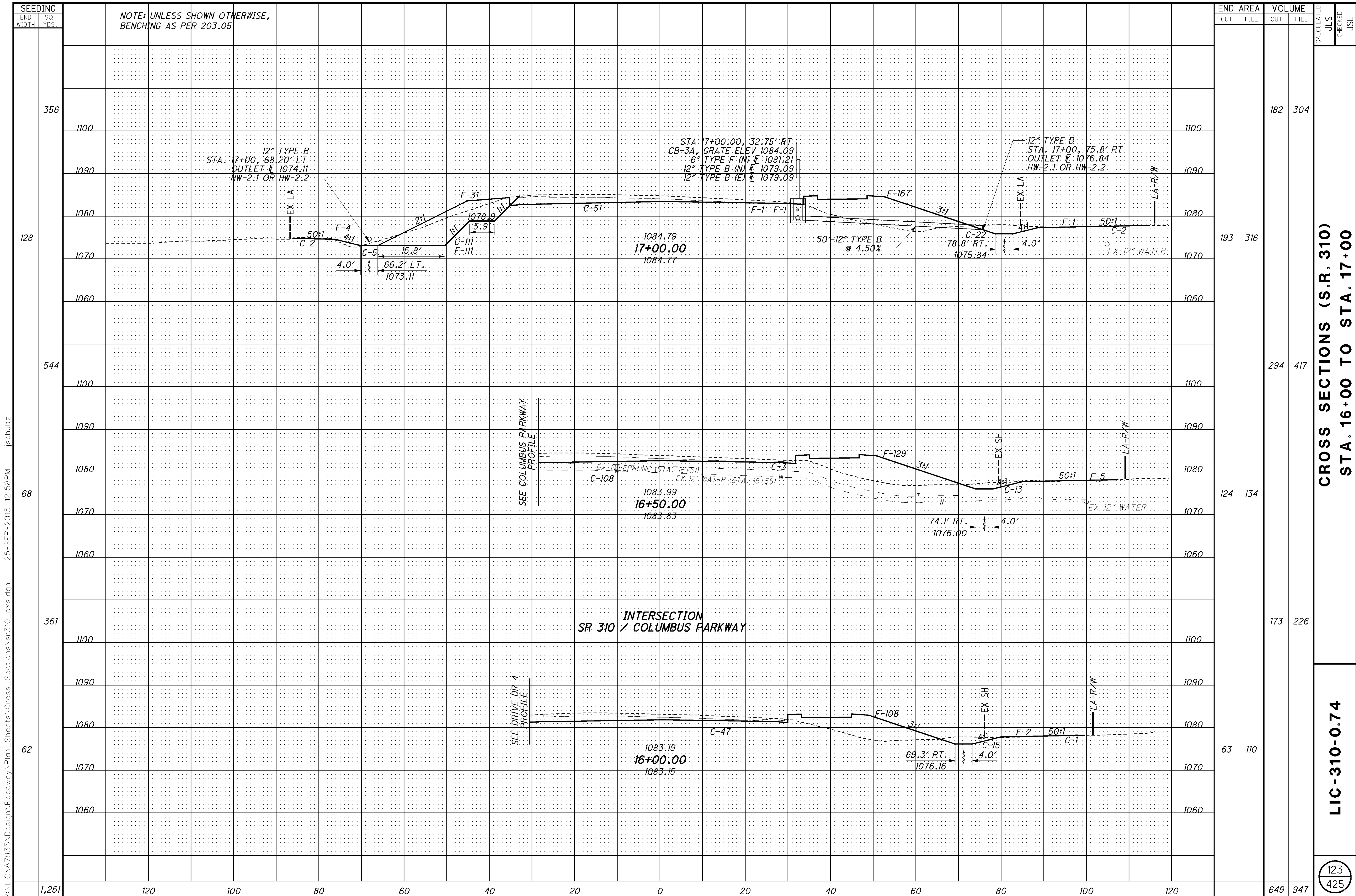
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**CROSS SECTIONS (S.R. 310)
 STA. 14+50 TO STA. 15+50**

LIC-310-0.74

122
425



NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

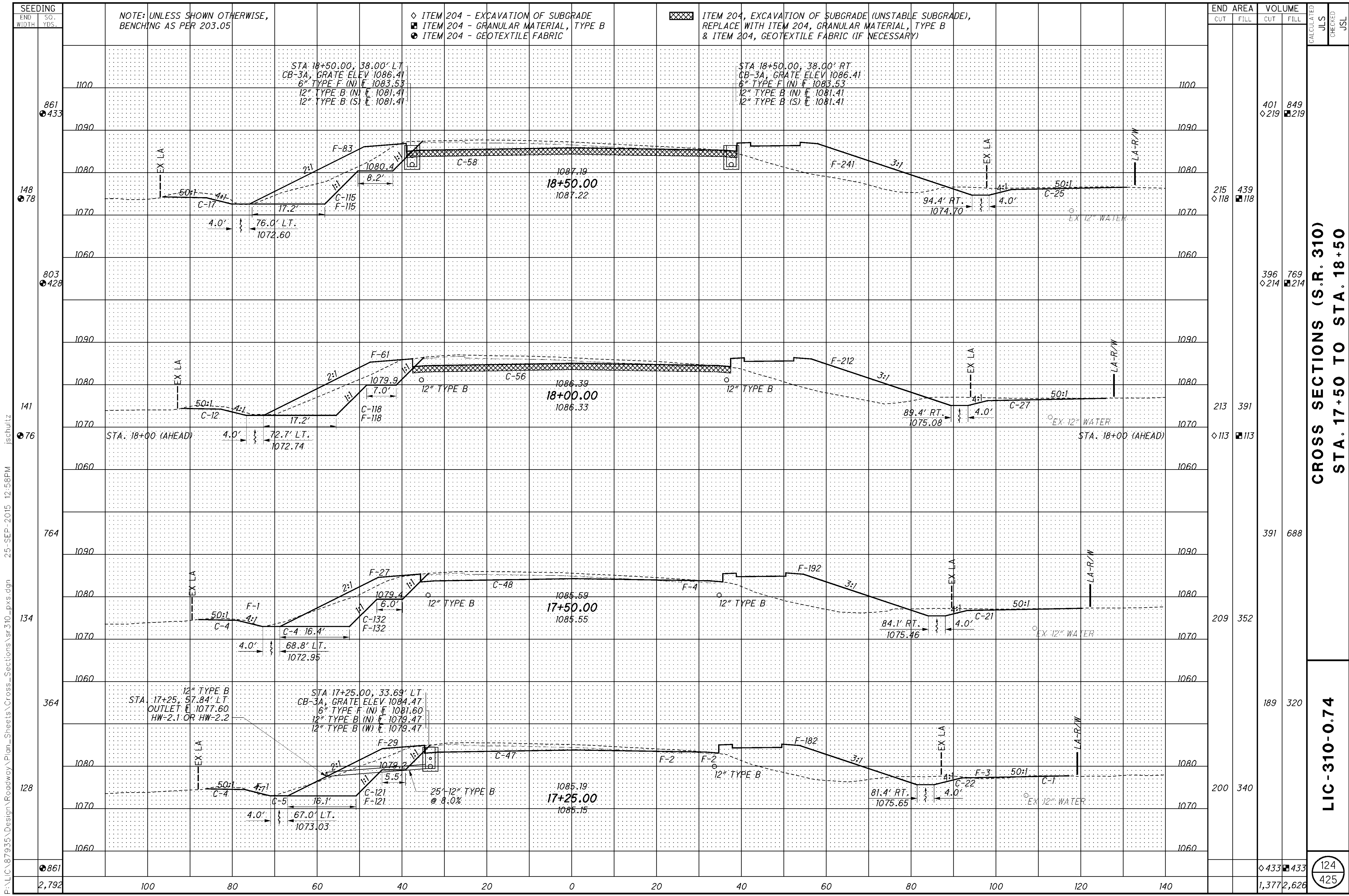
SEEDING	
END WIDTH	SO. YDS.
128	356
68	544
62	361
1,261	

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	JLS	JSL
193	316	182	304		
124	134	294	417		
63	110	173	226		
		649	947		

CROSS SECTIONS (S.R. 310)
STA. 16+00 TO STA. 17+00

LIC-310-0.74

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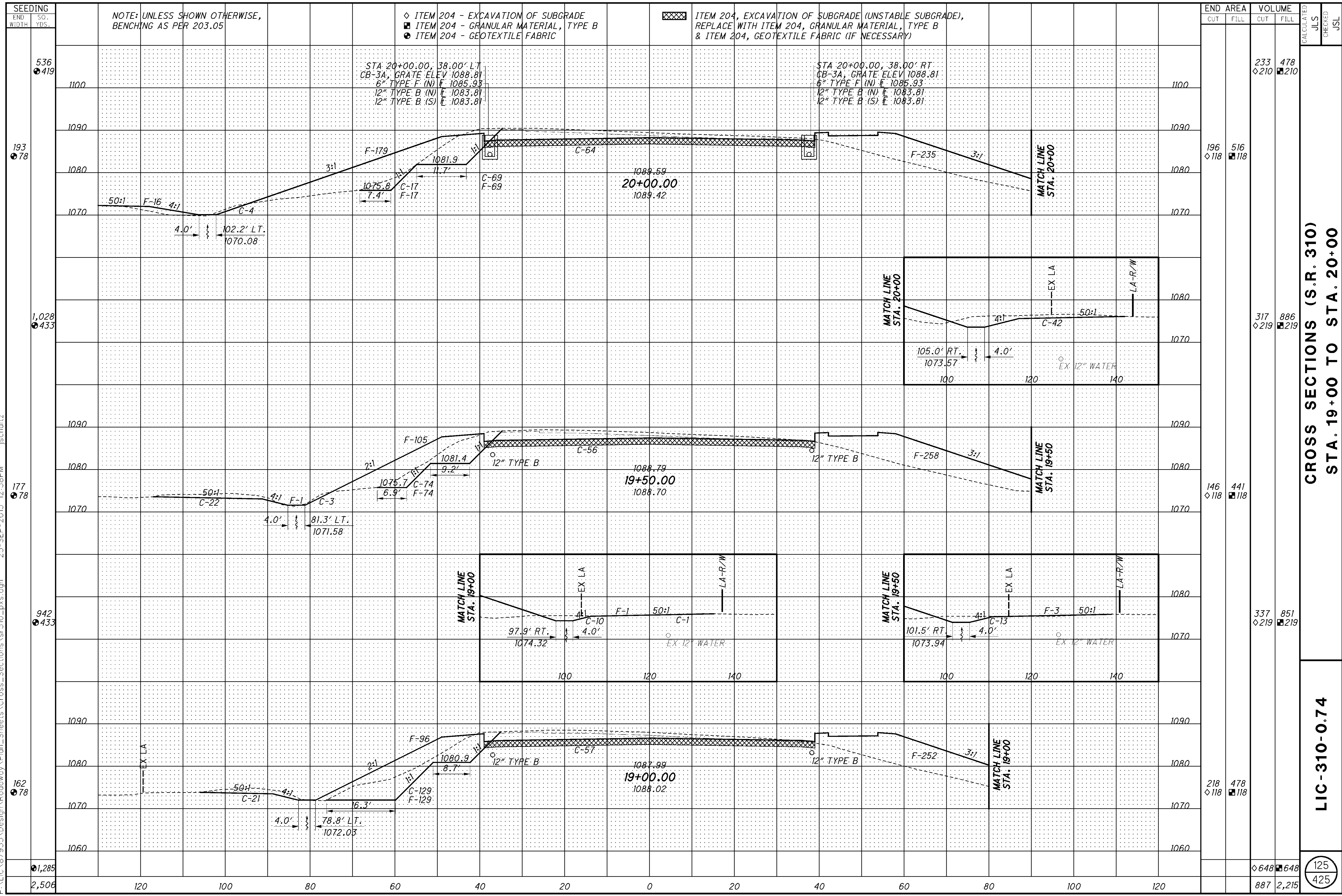


**CROSS SECTIONS (S.R. 310)
 STA. 17+50 TO STA. 18+50**

LIC-310-0.74

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NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

- ◇ ITEM 204 - EXCAVATION OF SUBGRADE
- ITEM 204 - GRANULAR MATERIAL, TYPE B
- ITEM 204 - GEOTEXTILE FABRIC

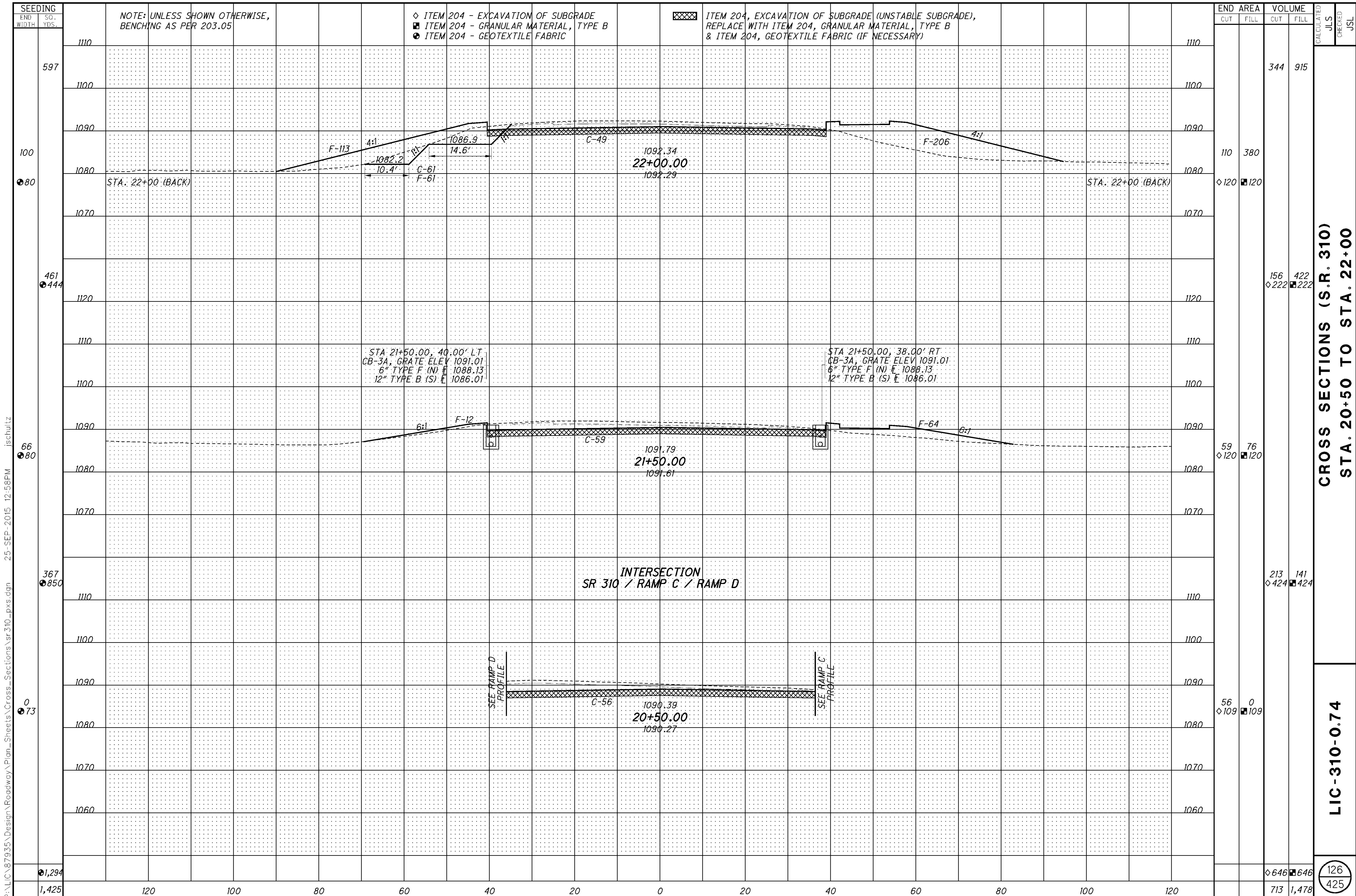
ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE), REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B & ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

END AREA	VOLUME		CALCULATED	CHECKED	JSL
	CUT	FILL			
233 ◇210	478 ■210				
196 ◇118	516 ■118				
317 ◇219	886 ■219				
146 ◇118	441 ■118				
337 ◇219	851 ■219				
218 ◇118	478 ■118				
◇648	■648				
887	2,215				

CROSS SECTIONS (S.R. 310)
STA. 19+00 TO STA. 20+00

LIC-310-0.74

125
425



SEEDING
 END WIDTH SO. YDS.
 597
 100
 80
 461
 444
 66
 80
 367
 850
 0
 73
 1,294
 1,425

NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

◇ ITEM 204 - EXCAVATION OF SUBGRADE
 ■ ITEM 204 - GRANULAR MATERIAL, TYPE B
 ● ITEM 204 - GEOTEXTILE FABRIC

▨ ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE), REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B & ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

STA. 22+00 (BACK)
 STA. 21+50.00, 40.00' LT
 CB-3A, GRATE ELEV 1091.01
 6" TYPE F (N) E 1088.13
 12" TYPE B (S) E 1086.01

STA. 21+50.00, 38.00' RT
 CB-3A, GRATE ELEV 1091.01
 6" TYPE F (N) E 1088.13
 12" TYPE B (S) E 1086.01

INTERSECTION
 SR 310 / RAMP C / RAMP D

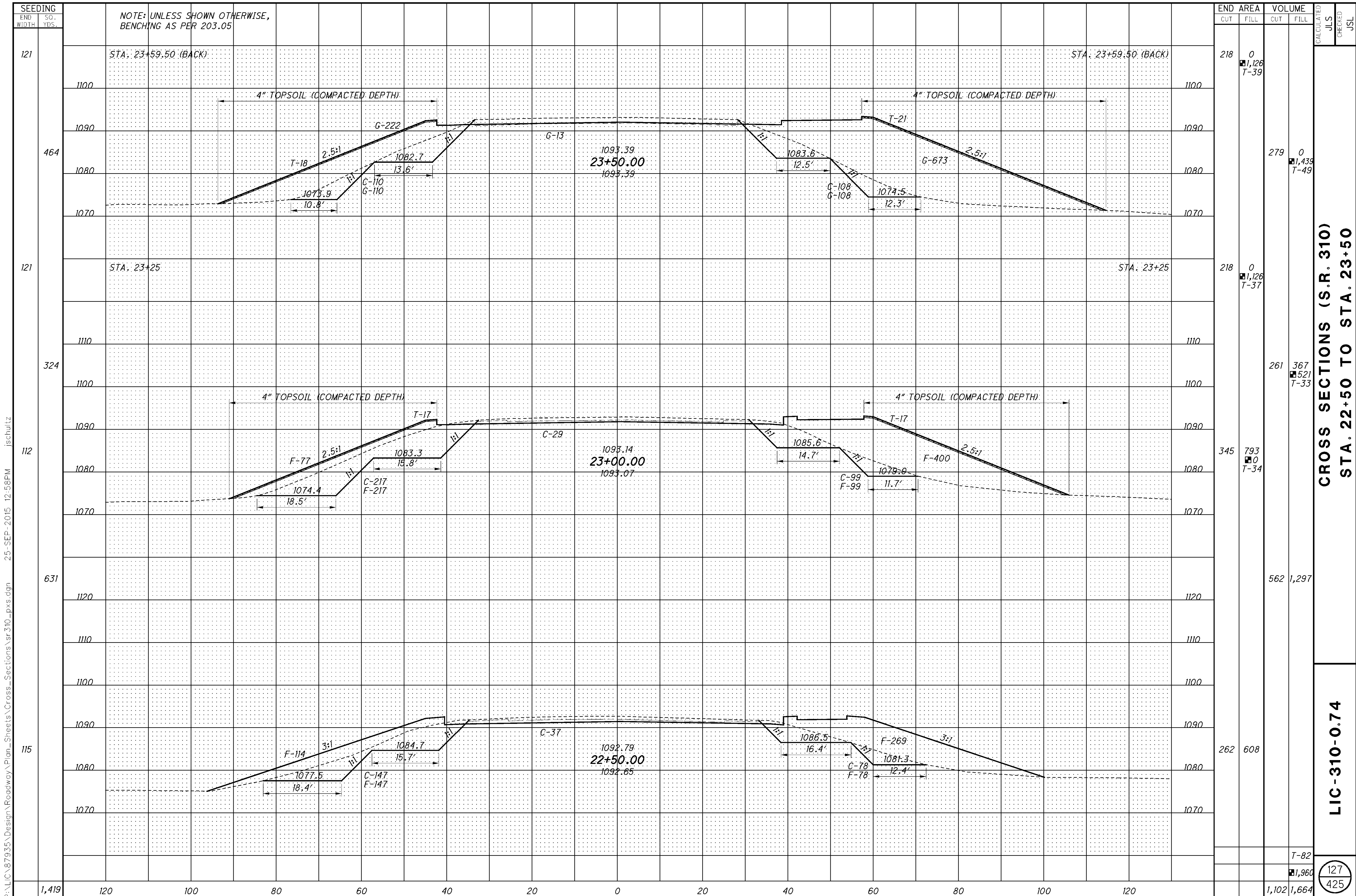
SEE RAMP D PROFILE
 SEE RAMP C PROFILE

END AREA	VOLUME		CALCULATED	CHECKED	
	CUT	FILL			JLS
1110					
1100					
1090					
1080	110	380			
1070					
1120	156	422			
1110					
1100					
1090	59	76			
1080					
1070					
1110	213	141			
1100					
1090					
1080	56	0			
1070					
1060					
	646	646			
	713	1,478			

CROSS SECTIONS (S.R. 310)
 STA. 20+50 TO STA. 22+00

LIC-310-0.74

126
425



NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

STA. 23+59.50 (BACK)

STA. 23+59.50 (BACK)

STA. 23+25

STA. 23+25

STA. 22+50.00

1093.39
23+50.00
1093.39

1093.14
23+00.00
1093.07

1092.79
22+50.00
1092.65

END CUT	AREA FILL	VOLUME		CALCULATED JLS	CHECKED JLS
		CUT	FILL		
218	0	1,126	7-39	279	0
218	0	1,126	7-37	261	367
345	793	0	7-34	562	1,297
262	608				
		1,102	1,664		

CROSS SECTIONS (S.R. 310)
STA. 22+50 TO STA. 23+50

LIC-310-0.74

127
425

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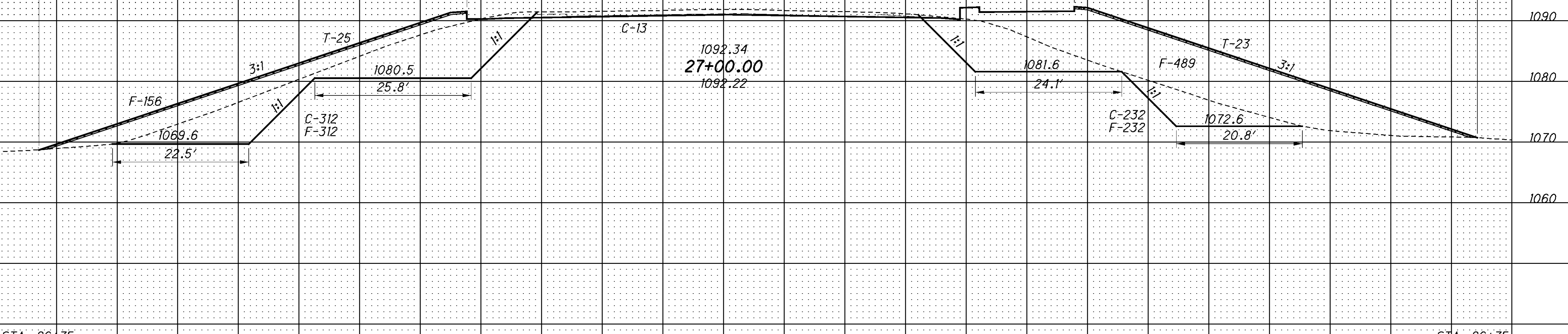
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SEEDING	END WIDTH	SO. YDS.	864	1110	1100	1090	1080	1070	1060	139	1110	1100	1090	1080	1070	1060	533	139	1110	1100	1090	1080	1070	1060	139	1110	1100	1090	1080	1070	1060	1,801	120	100	80	60	40	20	0	20	40	60	80	100	120	1,978	2,690	END AREA		VOLUME		CALCULATED JLS	CHECKED JLS
																																																CUT	FILL	CUT	FILL		

NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

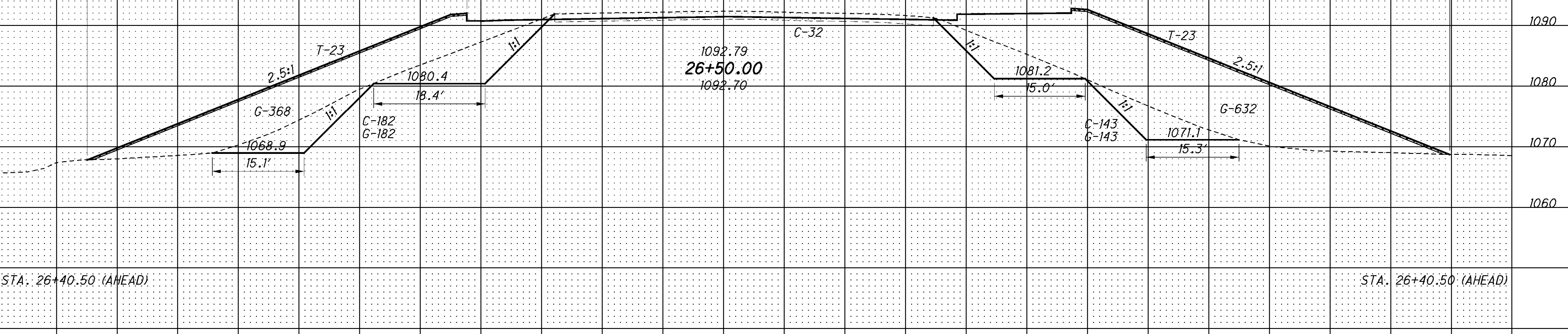
4" TOPSOIL (COMPACTED DEPTH)

4" TOPSOIL (COMPACTED DEPTH)



4" TOPSOIL (COMPACTED DEPTH)

4" TOPSOIL (COMPACTED DEPTH)



STRUCTURE LIC-310-0096
STA. 23+59.50 TO STA. 26+40.50

CROSS SECTIONS (S.R. 310)
STA. 26+50 TO STA. 27+00

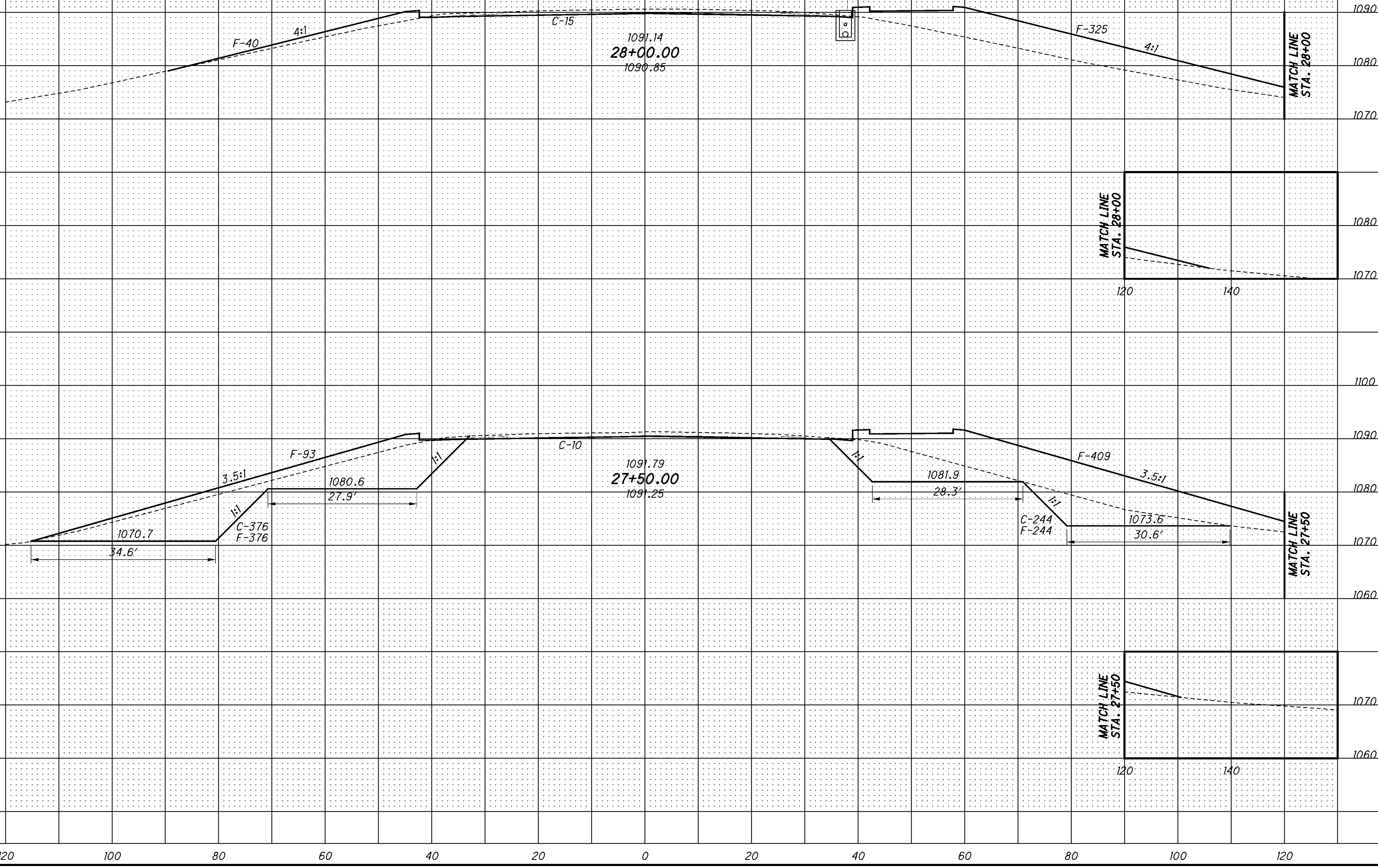
LIC-310-0.74

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SEEDING	END WIDTH	SO. YDS.	725	137	822	159	1,547
			1110	1070	1070	1070	120
			1100	1080	1080	1080	100
			1090	1090	1090	1090	80
			1080	1080	1080	1080	60
			1070	1070	1070	1070	40
			1060	1060	1060	1060	20
							0
							20
							40
							60
							80
							100
							120

NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

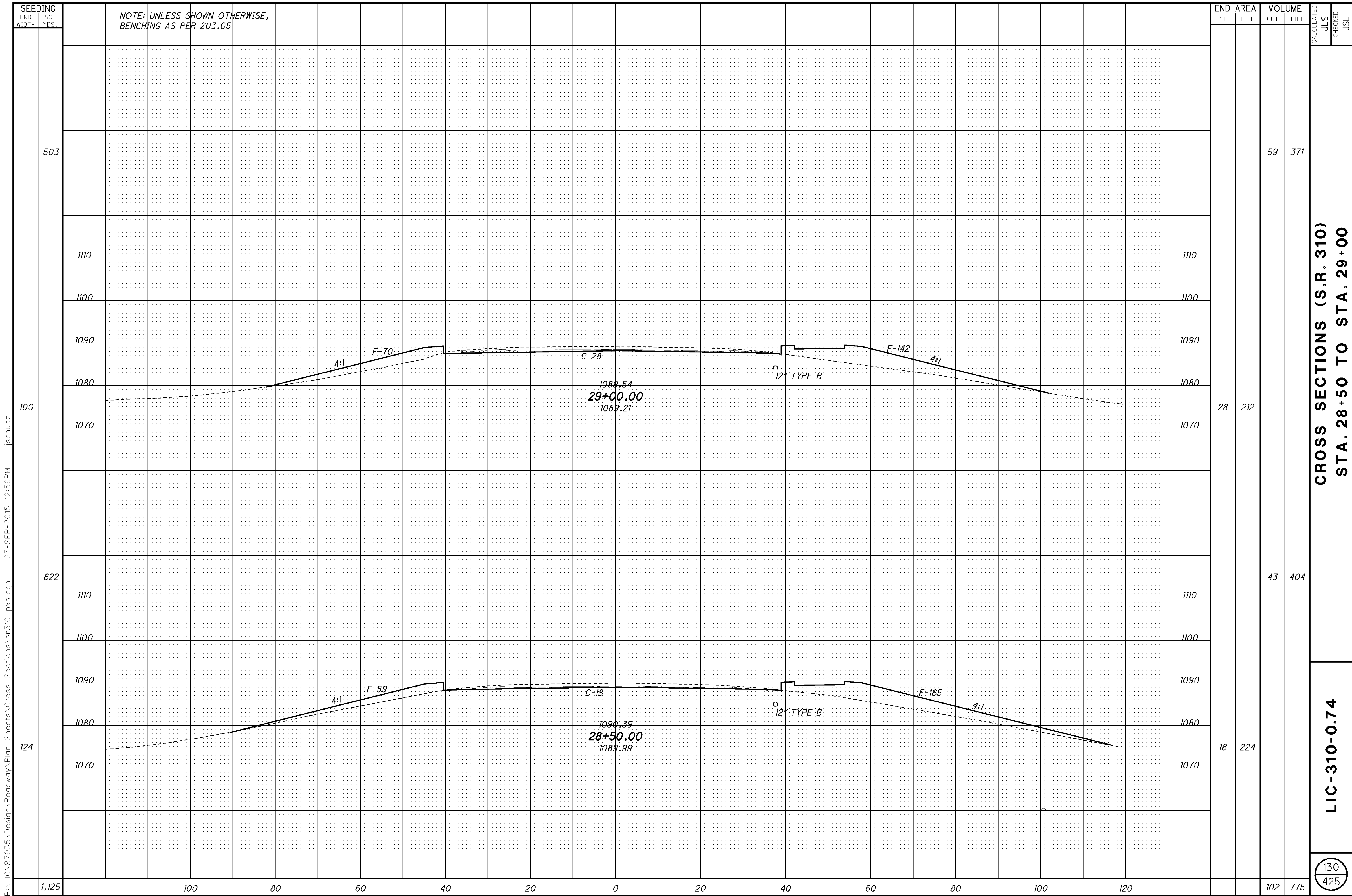
STA 28+00.00, 38.00' RT
CB-3A, GRATE ELEV 1090.36
6" TYPE F (S) E 1087.48
12" TYPE B (N) E 1085.38



END AREA	VOLUME	CALCULATED	CHECKED				
				CUT	FILL	CUT	FILL
15	365			31	545		
630	1,122	597	1,377				
628	1,922						

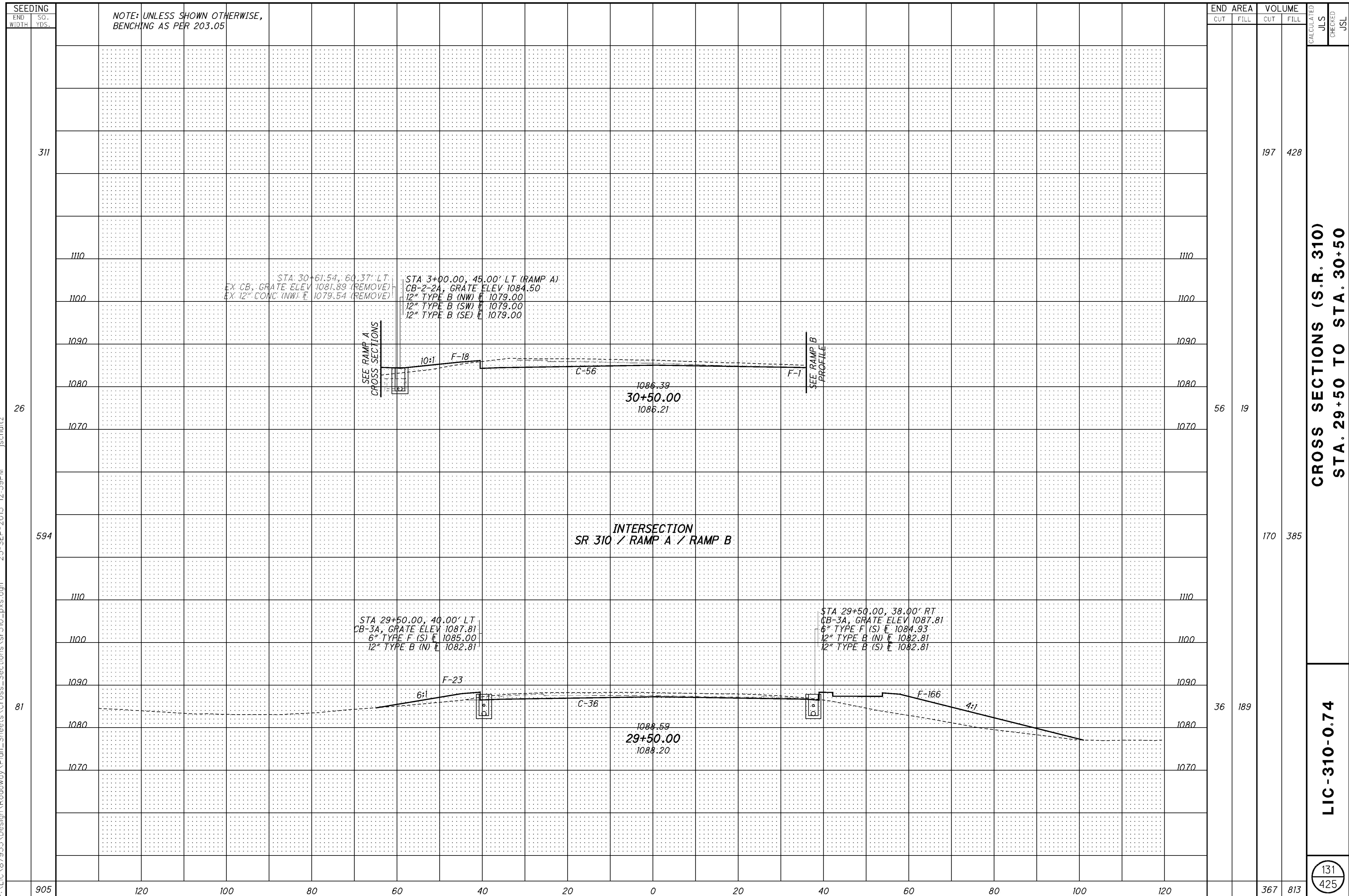
CROSS SECTIONS (S.R. 310)
STA. 27+50 TO STA. 28+00

LIC-310-0.74



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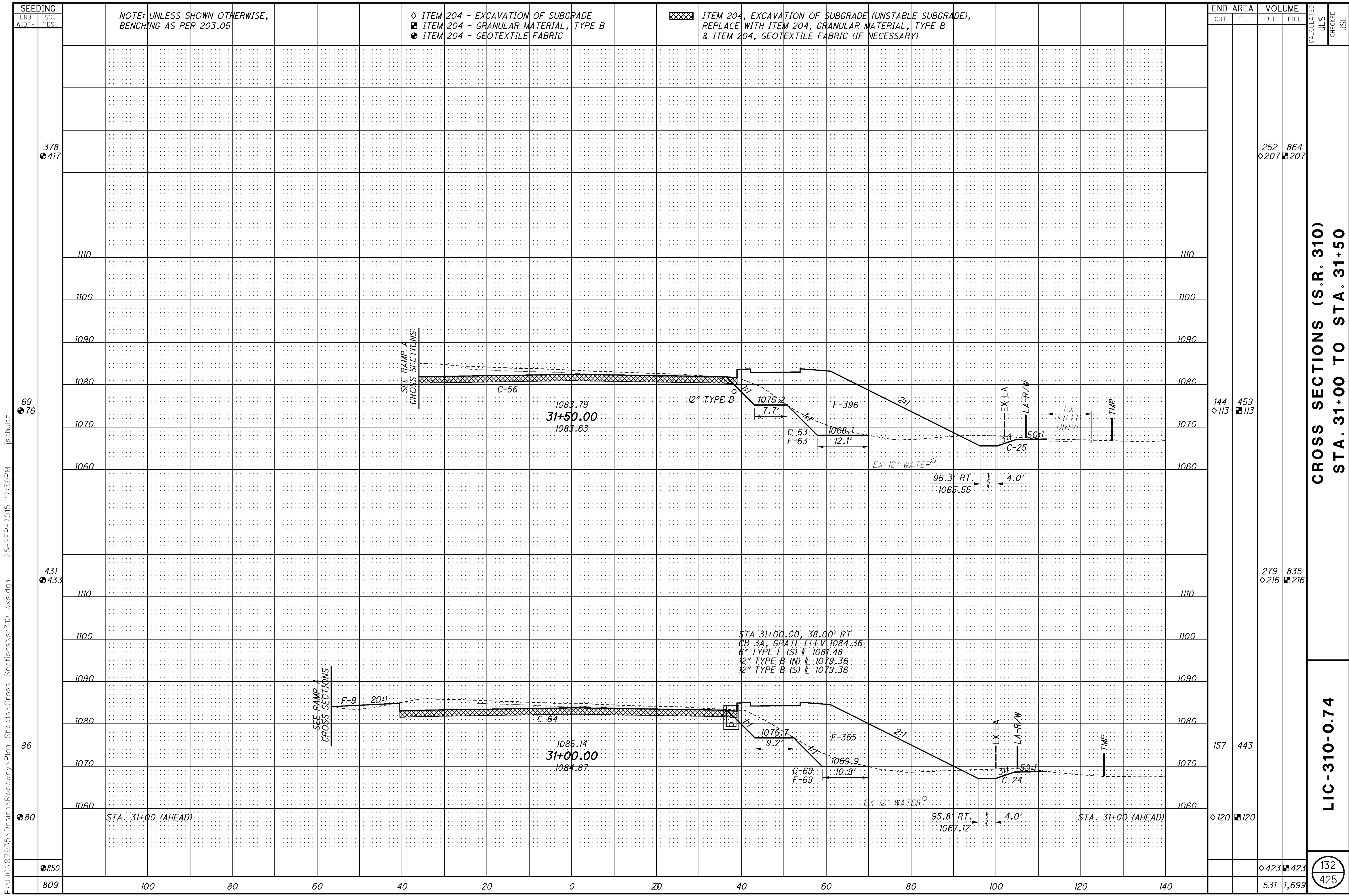
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**CROSS SECTIONS (S.R. 310)
 STA. 29+50 TO STA. 30+50**

LIC-310-0.74

131
 425



NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

- ◇ ITEM 204 - EXCAVATION OF SUBGRADE
- ITEM 204 - GRANULAR MATERIAL, TYPE B
- ITEM 204 - GEOTEXTILE FABRIC

▨ ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE),
REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B
& ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

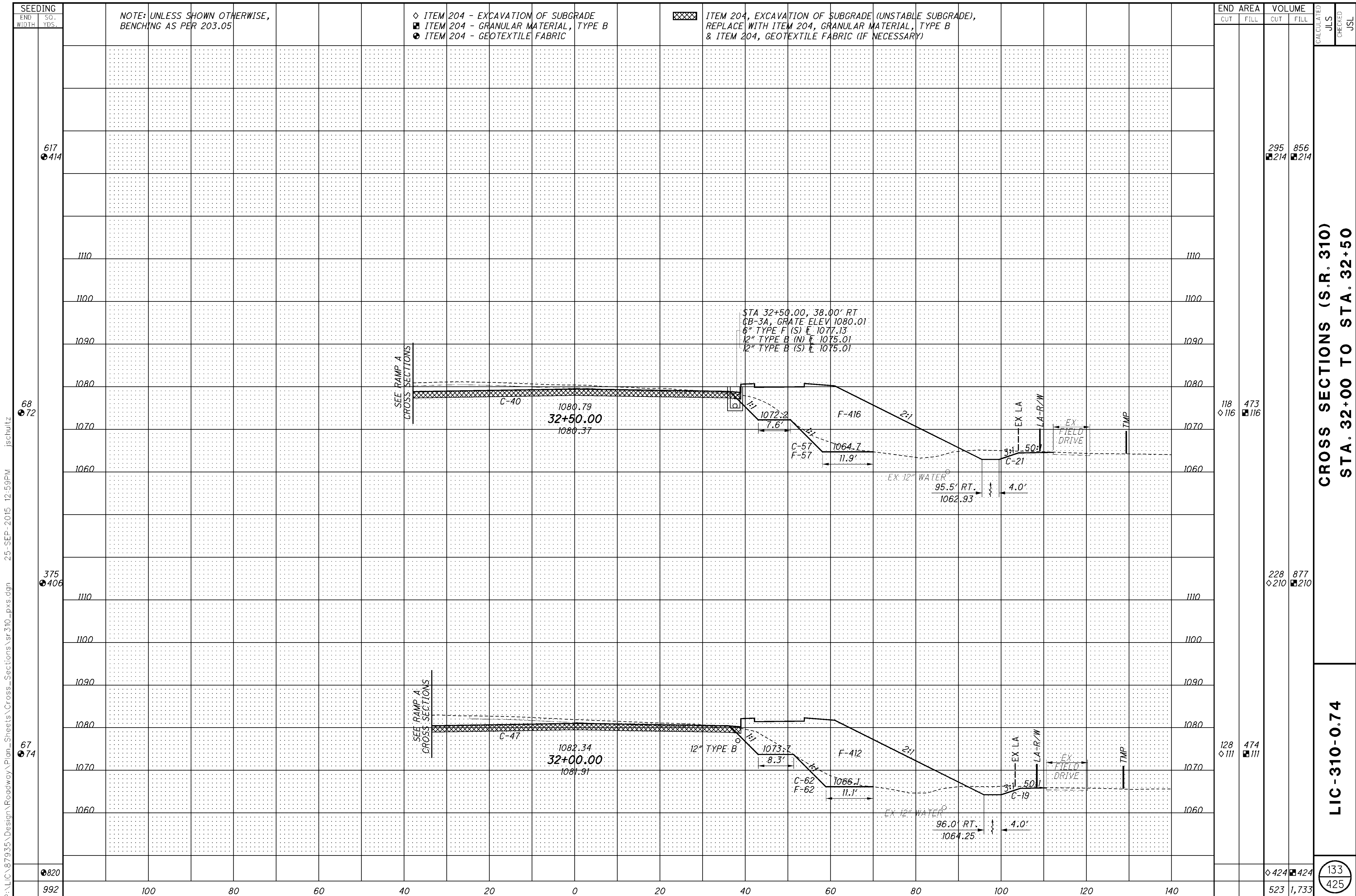
SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	JLS	JSL
378	417			252	864		
		◇ 207	■ 207				
69	76	144	459				
		◇ 113	■ 113				
431	433			279	835		
		◇ 216	■ 216				
86		157	443				
		◇ 120	■ 120				
80							
		◇ 423	■ 423				
850							
		531	1,699				

CROSS SECTIONS (S.R. 310)
STA. 31+00 TO STA. 31+50

LIC-310-0.74

132
425

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SEEDING
 END WIDTH SO. YDS.
 617 414
 68 72
 375 406
 67 74
 820
 992

NOTE: UNLESS SHOWN OTHERWISE,
 BENCHING AS PER 203.05

◇ ITEM 204 - EXCAVATION OF SUBGRADE
 ■ ITEM 204 - GRANULAR MATERIAL, TYPE B
 ● ITEM 204 - GEOTEXTILE FABRIC

▨ ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE),
 REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B
 & ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

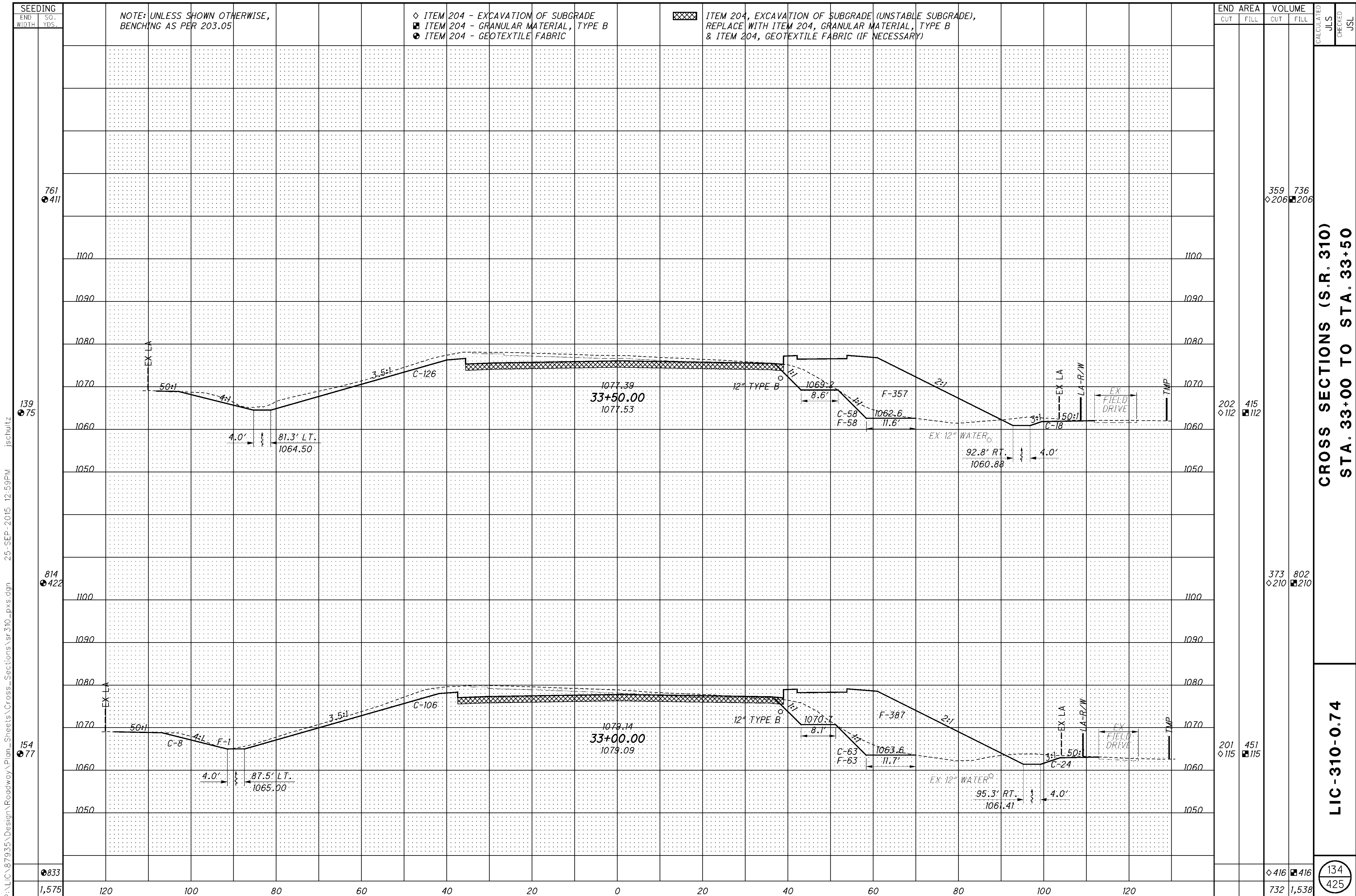
END AREA		VOLUME		CALCULATED JLS	CHECKED JSL
CUT	FILL	CUT	FILL		
		295	856		
		214	214		
118	473				
◇ 116	■ 116				
		228	877		
		210	210		
128	474				
◇ 111	■ 111				
		424	424		
		523	1,733		

CROSS SECTIONS (S.R. 310)
 STA. 32+00 TO STA. 32+50

LIC-310-0.74

133
 425

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NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

- ◇ ITEM 204 - EXCAVATION OF SUBGRADE
- ITEM 204 - GRANULAR MATERIAL, TYPE B
- ITEM 204 - GEOTEXTILE FABRIC

▨ ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE),
REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B
& ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

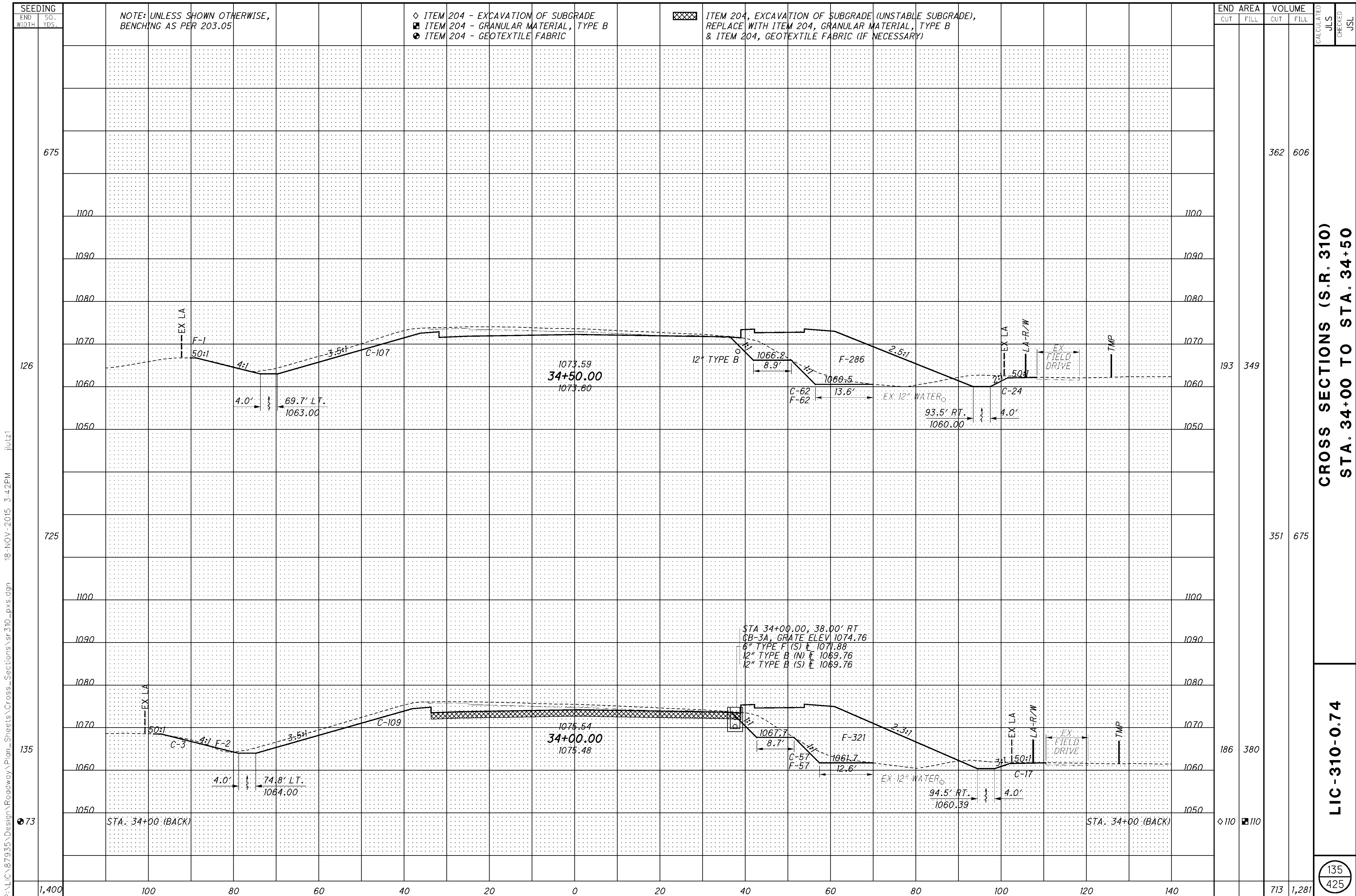
END AREA	VOLUME	CALCULATED	CHECKED						
				CUT	FILL	CUT	FILL	JLS	JSL
761 411									
1100									
1090									
1080									
1070									
1060									
1050									
814 422									
1100									
1090									
1080									
1070									
1060									
1050									
154 77									
1100									
1090									
1080									
1070									
1060									
1050									
833									
1,575									
120									
100									
80									
60									
40									
20									
0									
20									
40									
60									
80									
100									
120									
202 112	415 112	359 206	736 206						
201 115	451 115	373 210	802 210						
416	416	416	416						
732	1,538	732	1,538						

CROSS SECTIONS (S.R. 310)
STA. 33+00 TO STA. 33+50

LIC-310-0.74

134
425

P:\LIC\87935\Design\Roadway\Plan_Sheets\Cross_Sections\sr310_pxs.dgn 25-SEP-2015 12:59PM jschultz



SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
675			362	606
126	193	349		
725			351	675
135	186	380		
73	110	110		
1,400	713	1,281		

NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

- ◇ ITEM 204 - EXCAVATION OF SUBGRADE
- ITEM 204 - GRANULAR MATERIAL, TYPE B
- ITEM 204 - GEOTEXTILE FABRIC

▨ ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE), REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B & ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

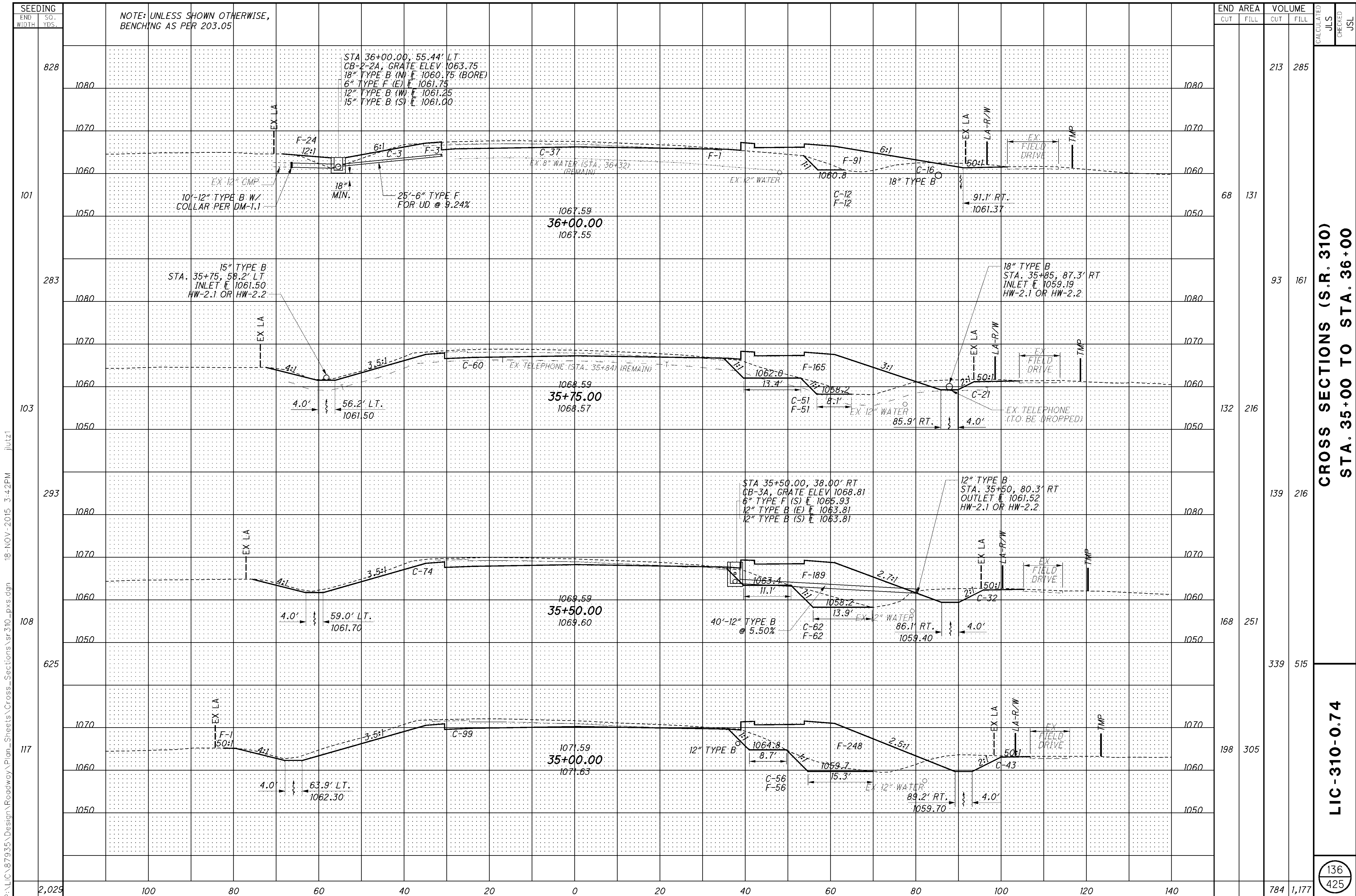
END AREA	VOLUME	CALCULATED		JLS	CHECKED	JSL
		CUT	FILL			
193	349					
186	380					
110	110					
713	1,281					

CROSS SECTIONS (S.R. 310)
STA. 34+00 TO STA. 34+50

LIC-310-0.74

135
425

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NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

STA 36+00.00, 55.44' LT
CB-2-2A, GRATE ELEV. 1063.75
18" TYPE B (N) F. 1060.75 (BORE)
6" TYPE F (E) F. 1061.75
12" TYPE B (W) F. 1061.25
15" TYPE B (S) F. 1061.00

15" TYPE B
STA. 35+75, 58.2' LT
INLET F. 1061.50
HW-2.1 OR HW-2.2

18" TYPE B
STA. 35+85, 87.3' RT
INLET F. 1059.19
HW-2.1 OR HW-2.2

STA 35+50.00, 38.00' RT
CB-3A, GRATE ELEV. 1068.81
6" TYPE F (S) F. 1065.93
12" TYPE B (E) F. 1063.81
12" TYPE B (S) F. 1063.81

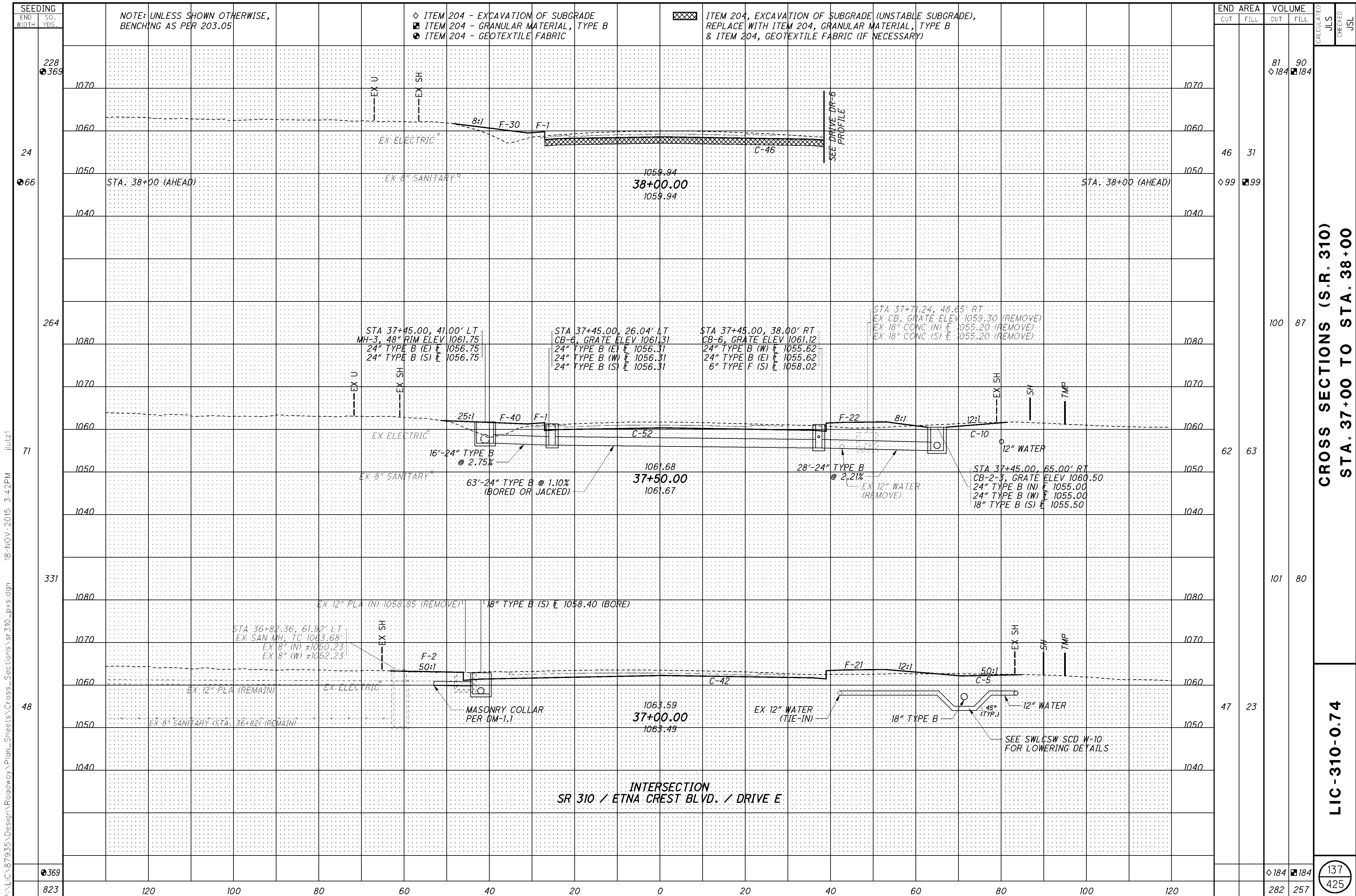
12" TYPE B
STA. 35+50, 80.3' RT
OUTLET F. 1061.52
HW-2.1 OR HW-2.2

END AREA	VOLUME	CALCULATED	CHECKED	JSL
213	285			
68	131			
93	161			
132	216			
139	216			
168	251			
339	515			
198	305			
784	1,177			

CROSS SECTIONS (S.R. 310)
STA. 35+00 TO STA. 36+00

LIC-310-0.74

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NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

- ◇ ITEM 204 - EXCAVATION OF SUBGRADE
- ITEM 204 - GRANULAR MATERIAL, TYPE B
- ITEM 204 - GEOTEXTILE FABRIC

ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE), REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B & ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

END AREA	VOLUME	CALCULATED	CHECKED				
				CUT	FILL	CUT	FILL
81	90	184	184				
46	31	99	99				
100	87						
62	63						
101	80						
47	23						
282	257	184	184				

CROSS SECTIONS (S.R. 310)
STA. 37+00 TO STA. 38+00

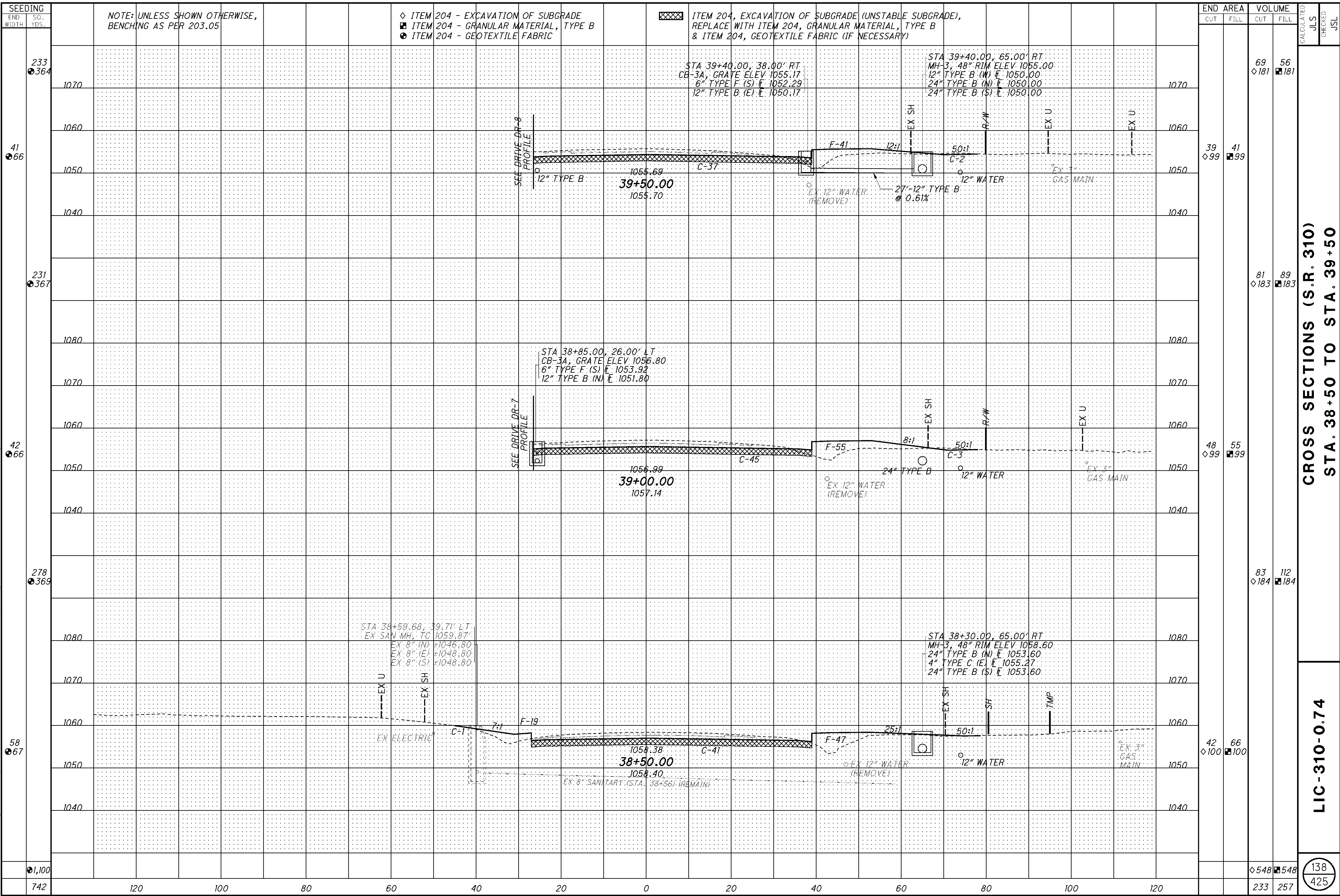
LIC-310-0.74

137
425

INTERSECTION
SR 310 / ETNA CREST BLVD. / DRIVE E

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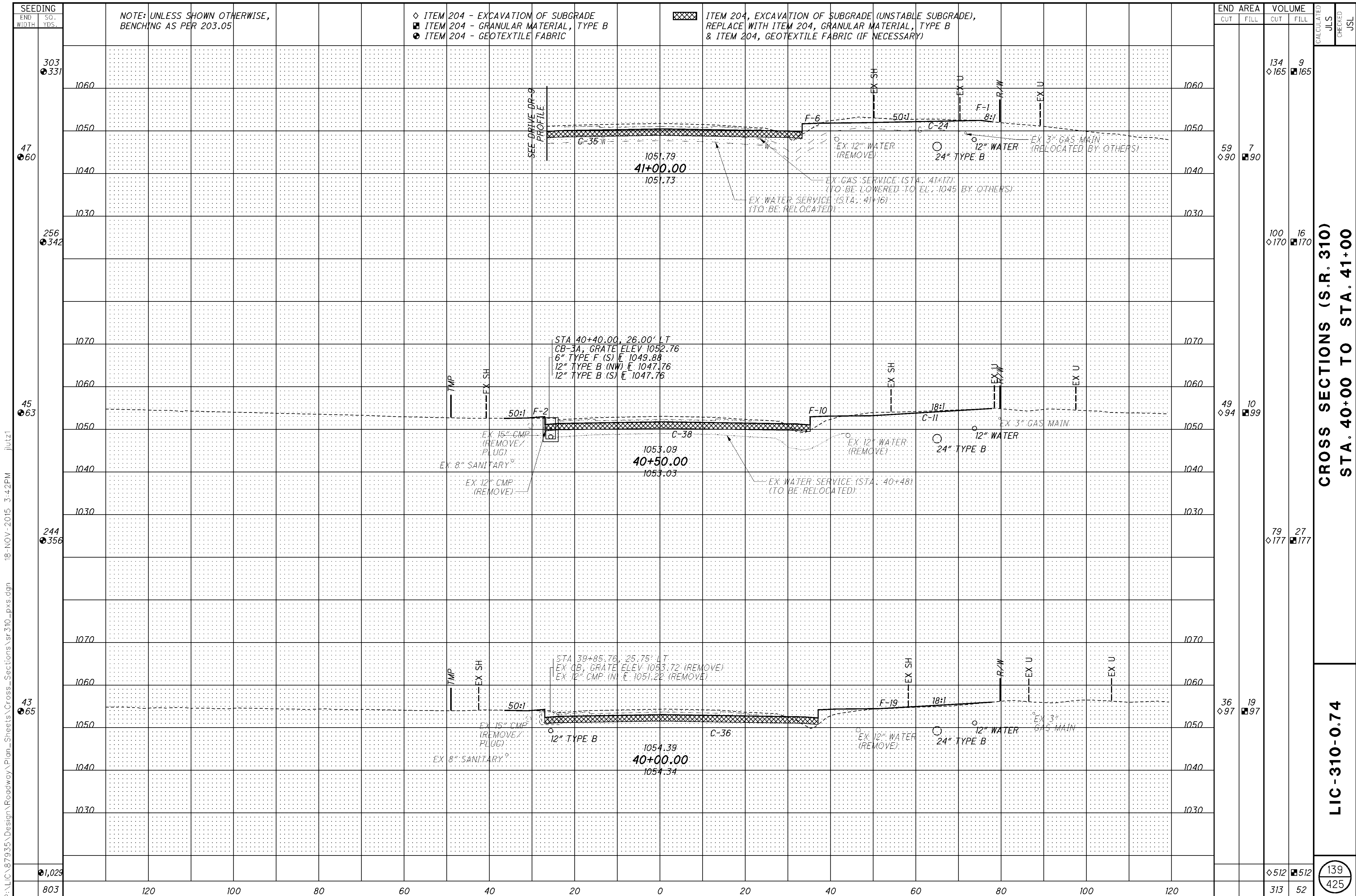
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CROSS SECTIONS (S.R. 310)
STA. 38+50 TO STA. 39+50

LIC-310-0.74

138
425



NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

- ◇ ITEM 204 - EXCAVATION OF SUBGRADE
- ITEM 204 - GRANULAR MATERIAL, TYPE B
- ITEM 204 - GEOTEXTILE FABRIC

ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE),
REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B
& ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

END AREA	VOLUME	CALCULATED	CHECKED				
				CUT	FILL	CUT	FILL
134	9	134	9				
◇165	■165						
59	7	59	7				
◇90	■90						
100	16	100	16				
◇170	■170						
49	10	49	10				
◇94	■99						
79	27	79	27				
◇177	■177						
36	19	36	19				
◇97	■97						
◇512	■512						
313	52	313	52				

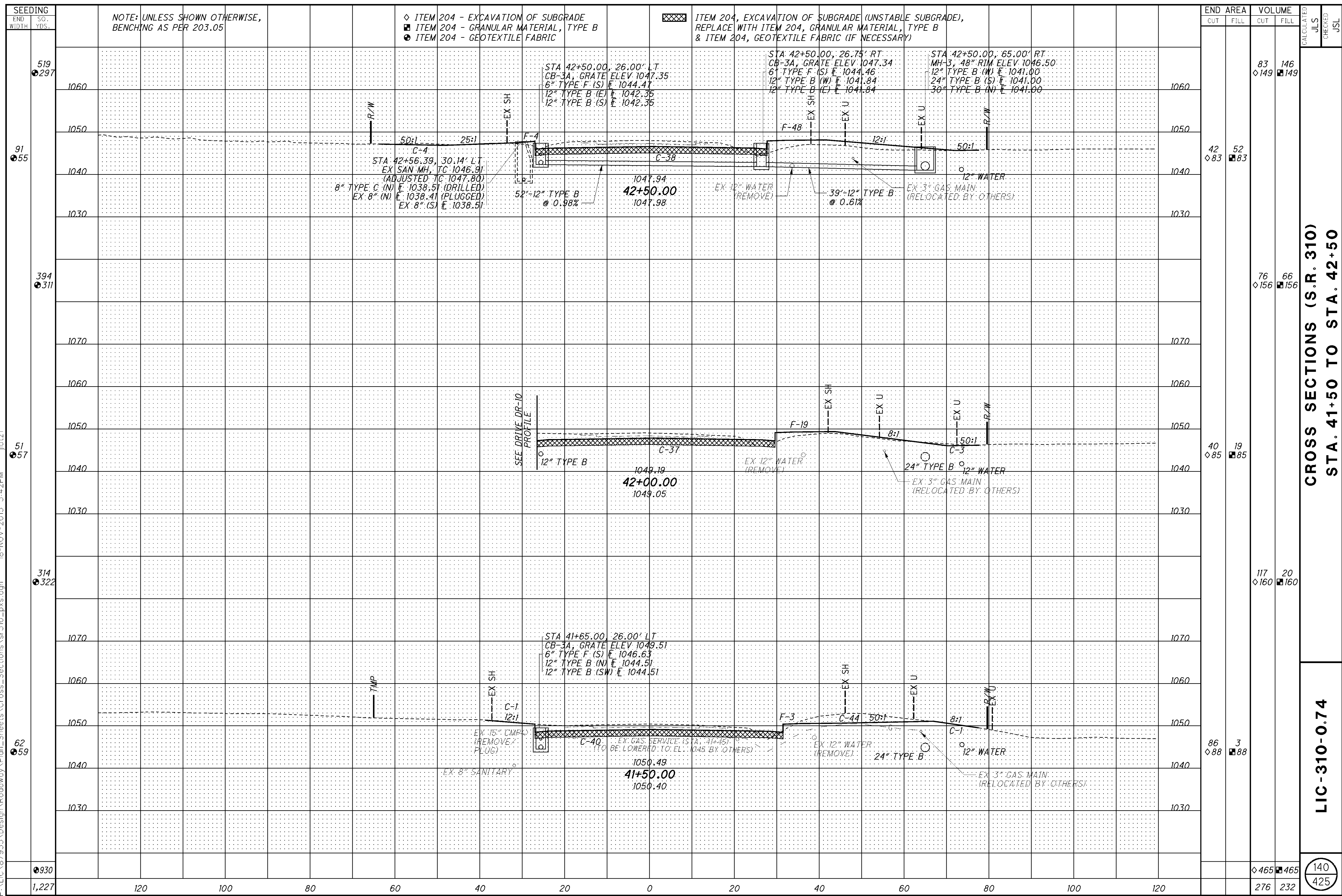
CROSS SECTIONS (S.R. 310)
STA. 40+00 TO STA. 41+00

LIC-310-0.74

139
425

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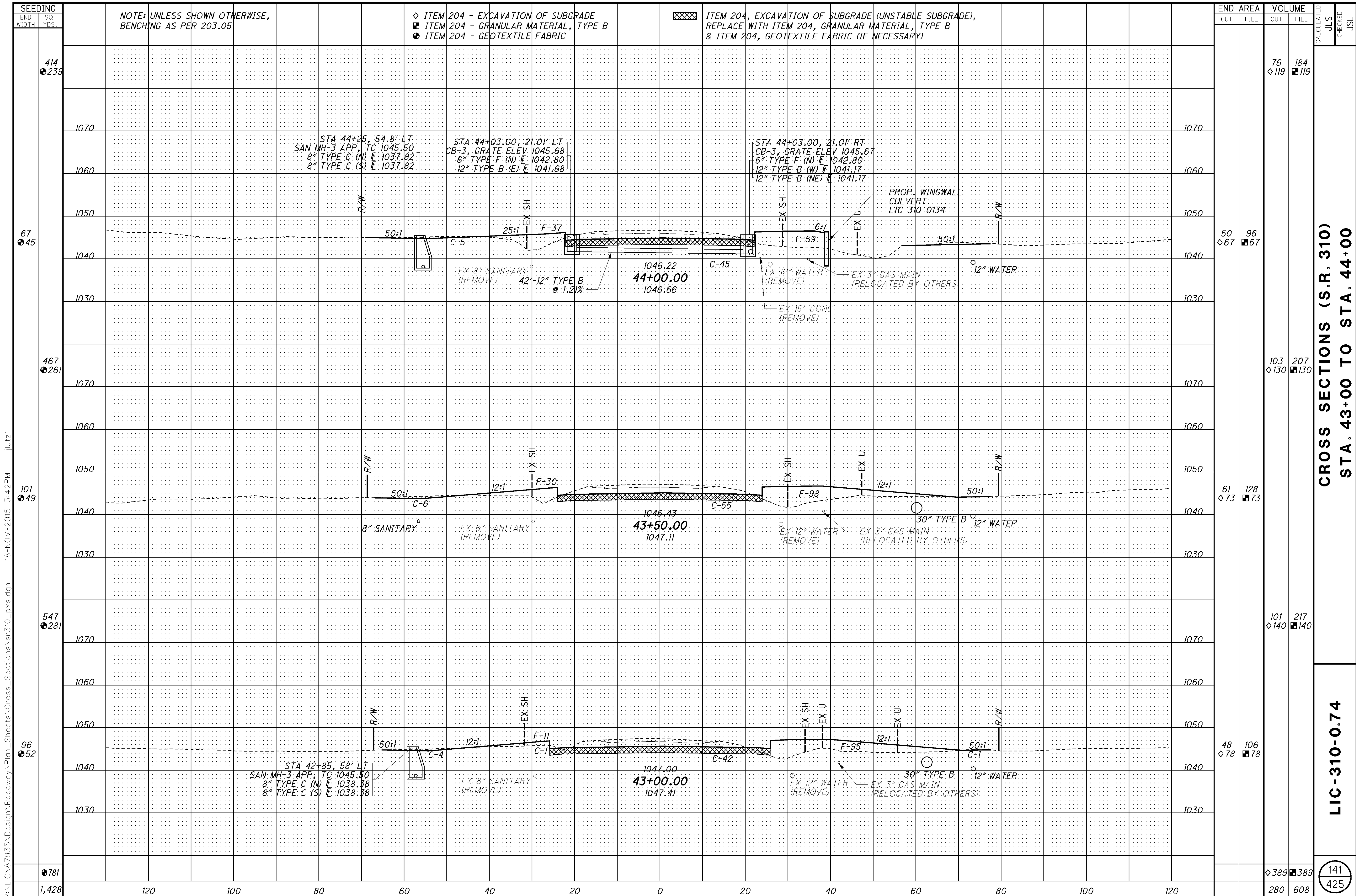
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**CROSS SECTIONS (S.R. 310)
 STA. 41+50 TO STA. 42+50**

LIC-310-0.74

140
425



NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

- ◇ ITEM 204 - EXCAVATION OF SUBGRADE
- ITEM 204 - GRANULAR MATERIAL, TYPE B
- ITEM 204 - GEOTEXTILE FABRIC

▨ ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE),
REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B
& ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

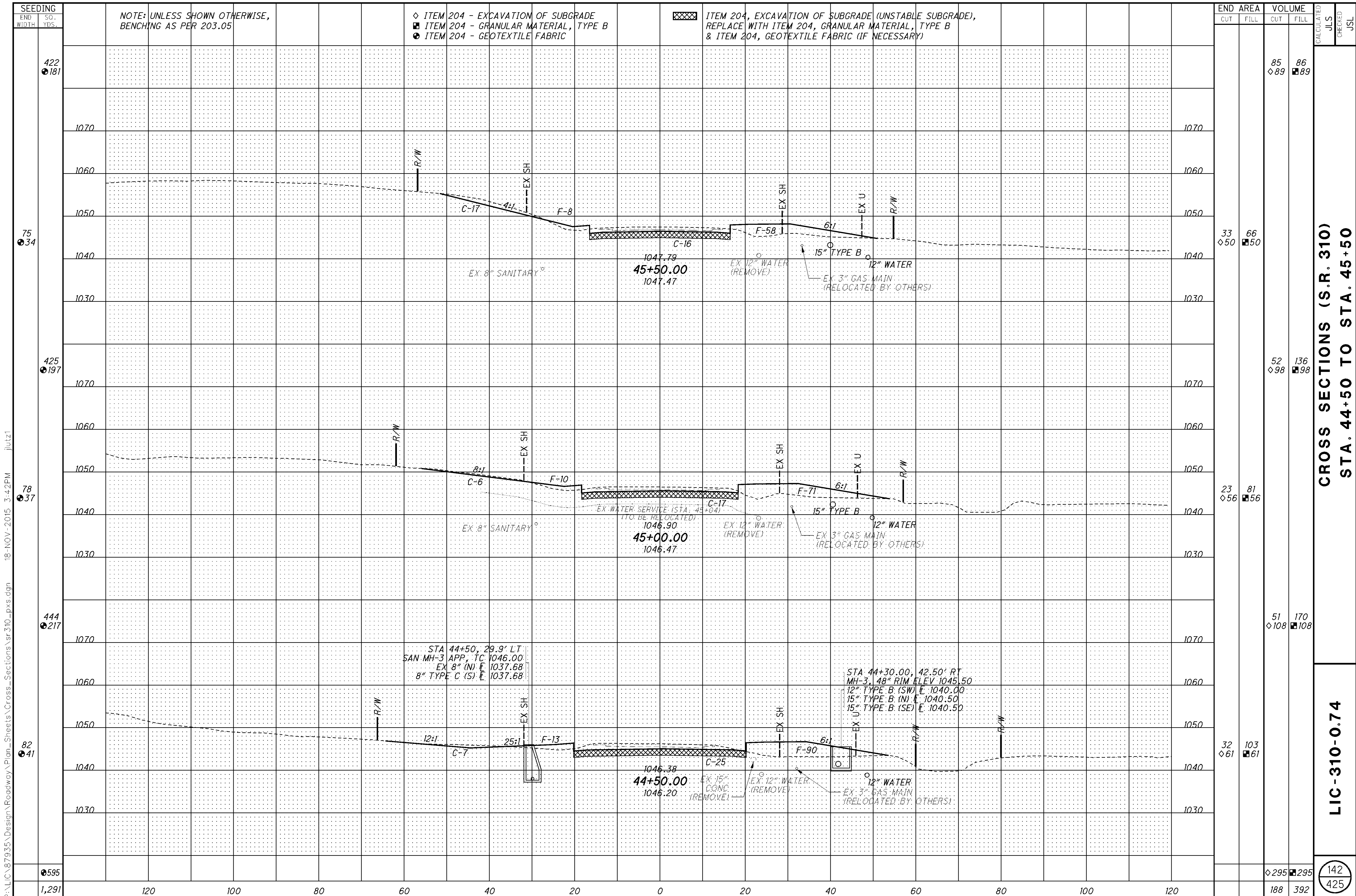
END AREA	VOLUME		CALCULATED	CHECKED	JSL
	CUT	FILL			
76 ◇ 119	184 ■ 119				
50 ◇ 67	96 ■ 67				
103 ◇ 130	207 ■ 130				
61 ◇ 73	128 ■ 73				
101 ◇ 140	217 ■ 140				
48 ◇ 78	106 ■ 78				
◇ 389	■ 389				
280	608				

CROSS SECTIONS (S.R. 310)
STA. 43+00 TO STA. 44+00

LIC-310-0.74

141
425

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NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

- ◇ ITEM 204 - EXCAVATION OF SUBGRADE
- ITEM 204 - GRANULAR MATERIAL, TYPE B
- ITEM 204 - GEOTEXTILE FABRIC

▨ ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE),
REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B
& ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

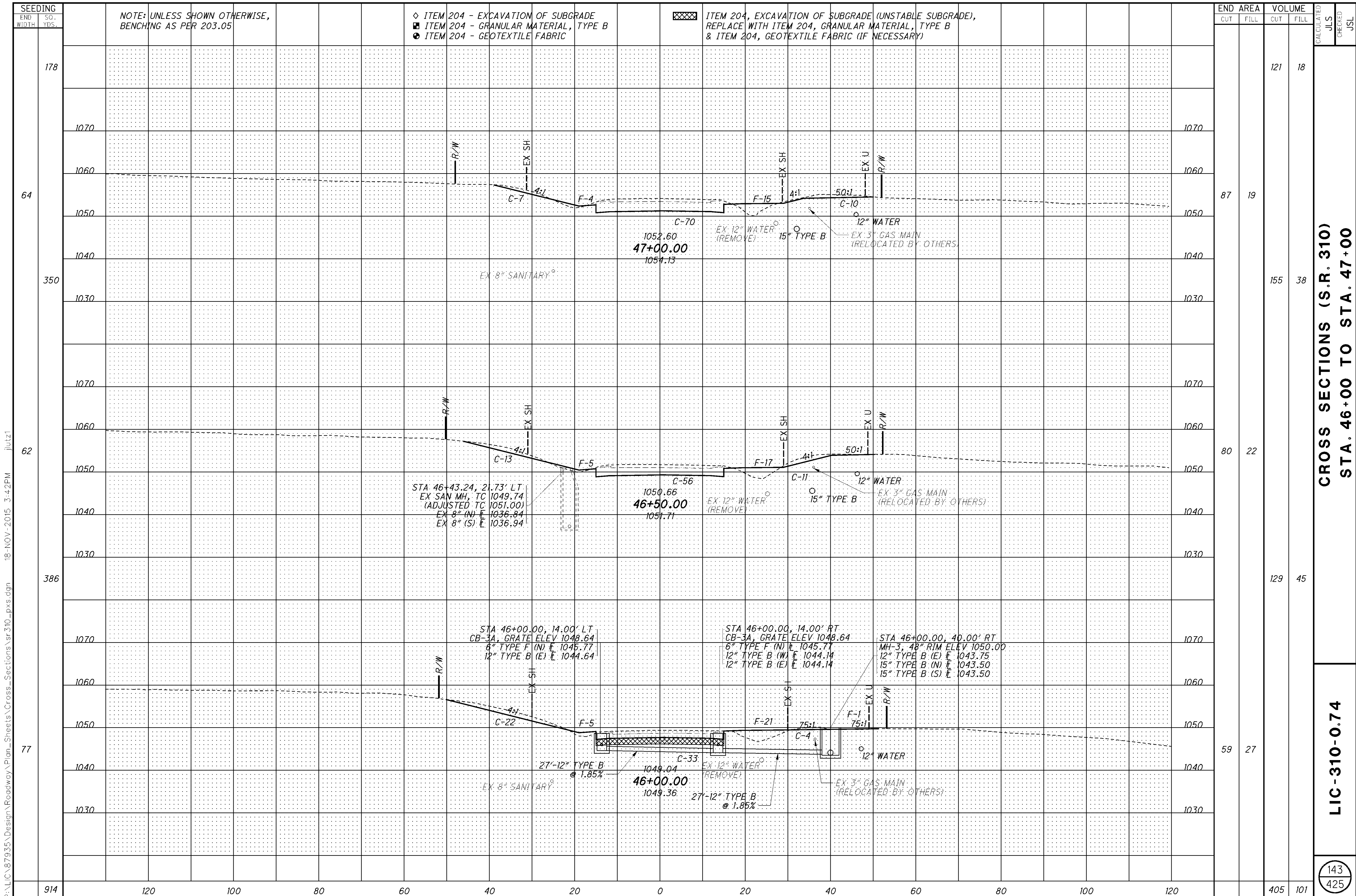
END AREA	VOLUME	CALCULATED		CHECKED	JSL
		CUT	FILL		
33 ◇50	66 ■50	85 ◇89	86 ■89		
52 ◇98	136 ■98				
23 ◇56	81 ■56				
51 ◇108	170 ■108				
32 ◇61	103 ■61				
◇295	■295				
188	392				

CROSS SECTIONS (S.R. 310)
STA. 44+50 TO STA. 45+50

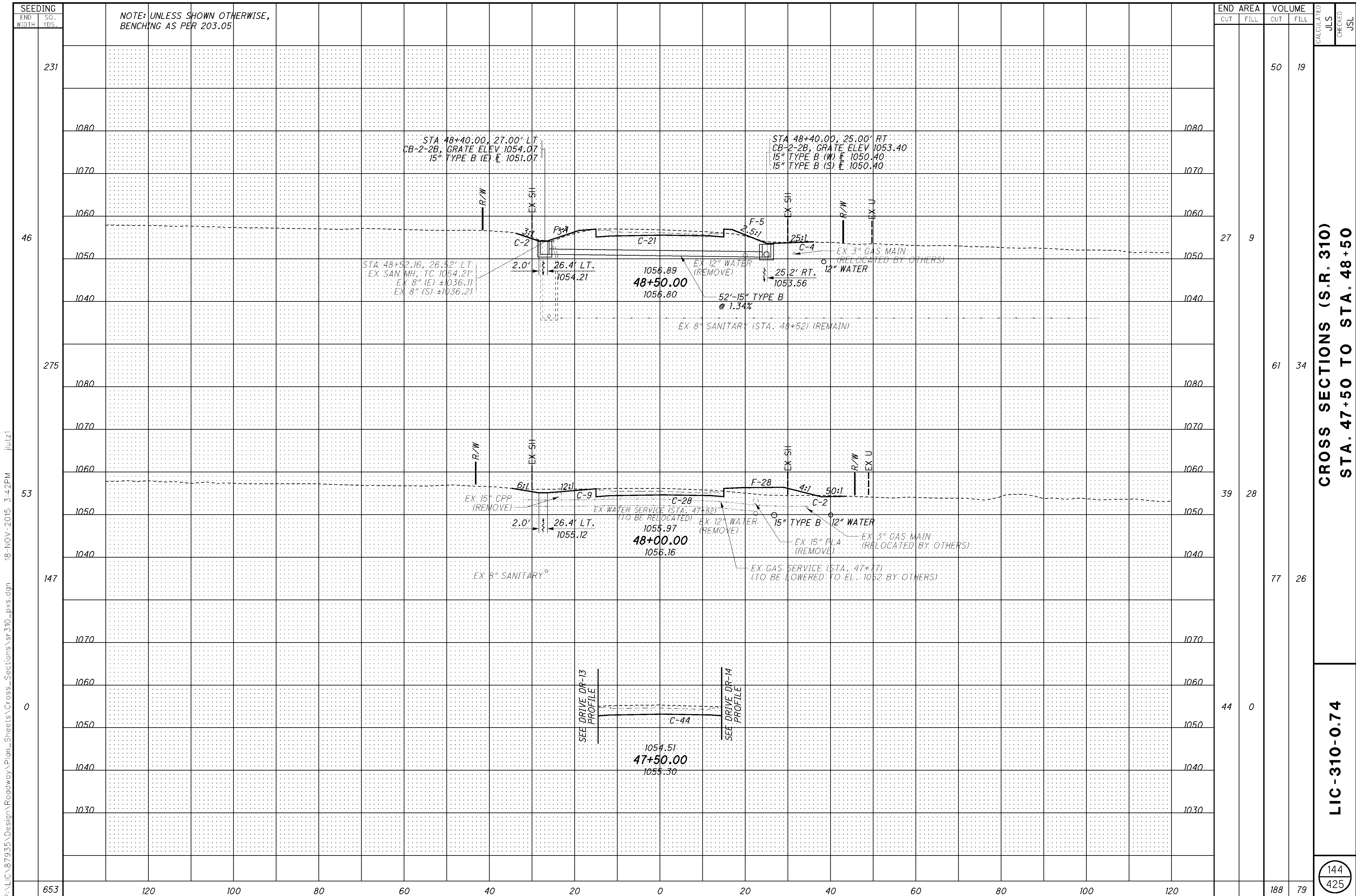
LIC-310-0.74

142
425

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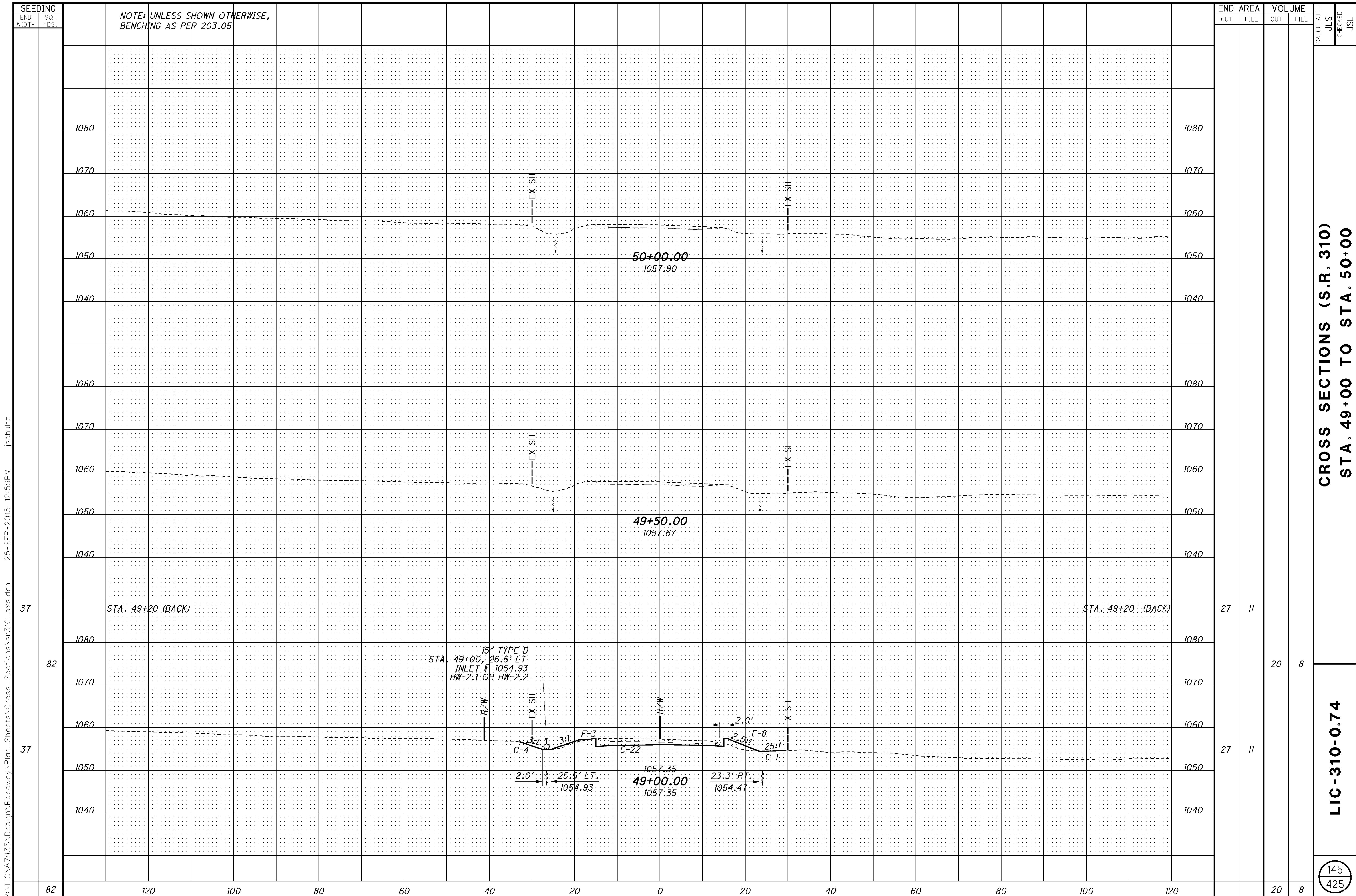


END AREA	VOLUME	CALCULATED	CHECKED		
				CUT	FILL
50	19				
27	9				
61	34				
39	28				
77	26				
44	0				
188	79				

CROSS SECTIONS (S.R. 310)
STA. 47+50 TO STA. 48+50

LIC-310-0.74

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NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

SEEDING
END SO.
WIDTH YDS.

END AREA
CUT FILL
VOLUME
CUT FILL
CALCULATED
CHECKED
JLS
JSL

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37
82
37

STA. 49+20 (BACK)

STA. 49+20 (BACK)

15" TYPE D
STA. 49+00, 26.6' LT.
INLET E 1054.93
HW-2.1 OR HW-2.2

50+00.00
1057.90

49+50.00
1057.67

49+00.00
1057.35

2.0' 25.6' LT. 1054.93 23.3' RT. 1054.47 2.0'

CROSS SECTIONS (S.R. 310)
STA. 49+00 TO STA. 50+00

LIC-310-0.74

145
425

27 11
20 8
27 11
20 8

120 100 80 60 40 20 0 20 40 60 80 100 120

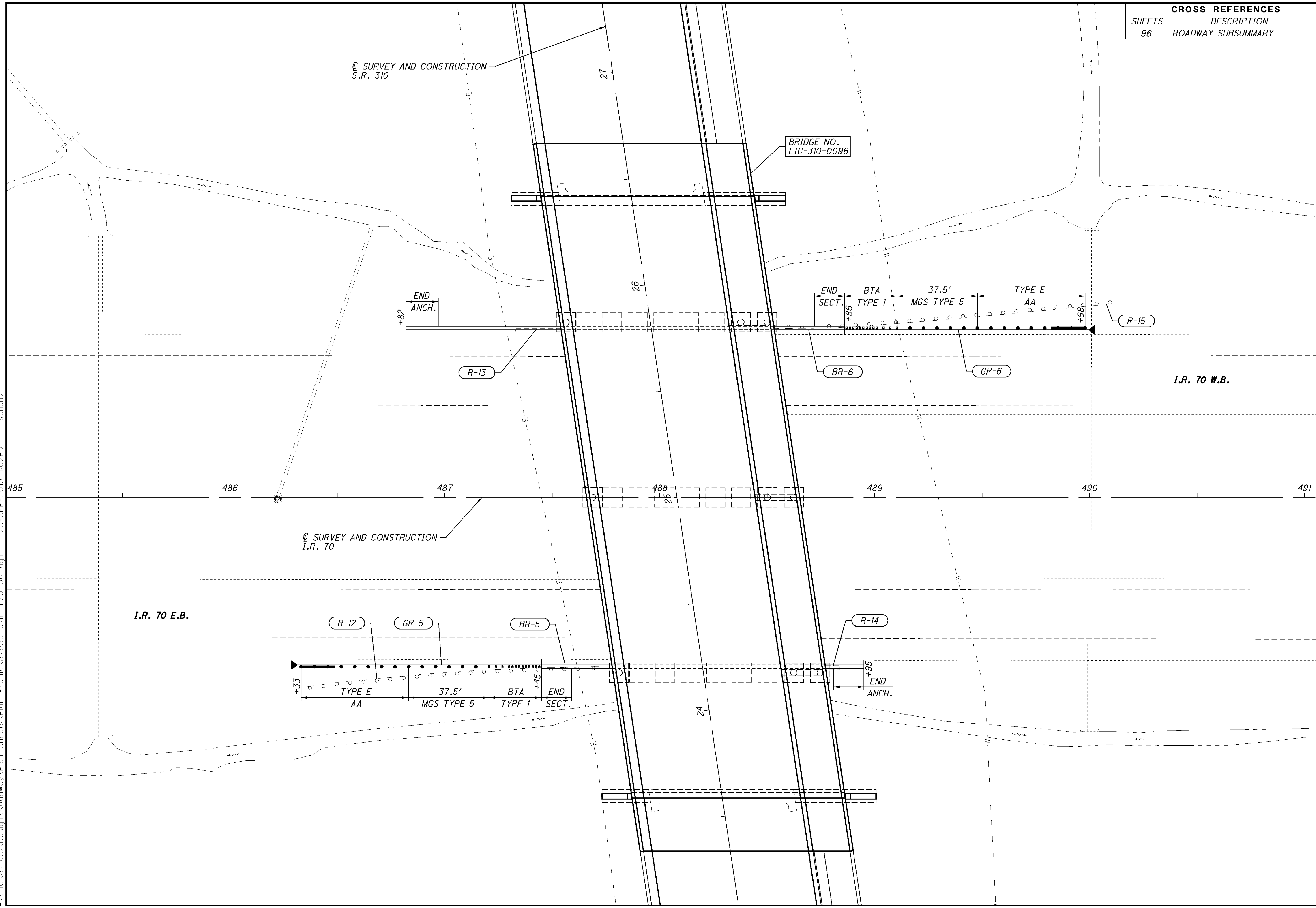
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CROSS REFERENCES	
SHEETS	DESCRIPTION
96	ROADWAY SUBSUMMARY



CALCULATED JLS
 CHECKED JLS

0 10 20 40
 HORIZONTAL SCALE IN FEET



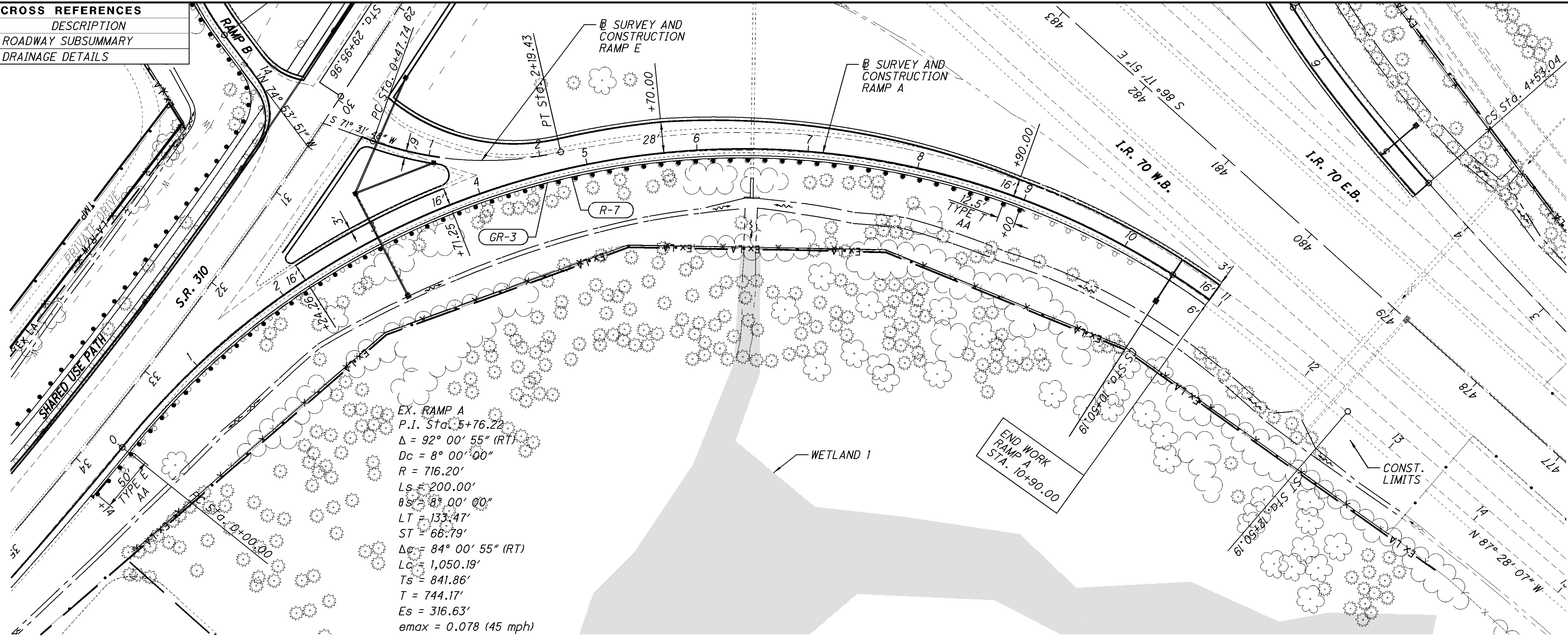
PLAN SHEET (I.R. 70)
 STA. 485+00 TO STA. 491+00

LIC-310-0.74

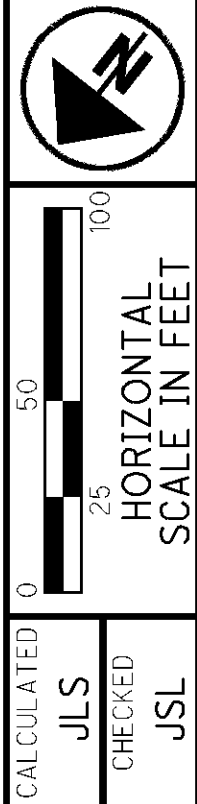
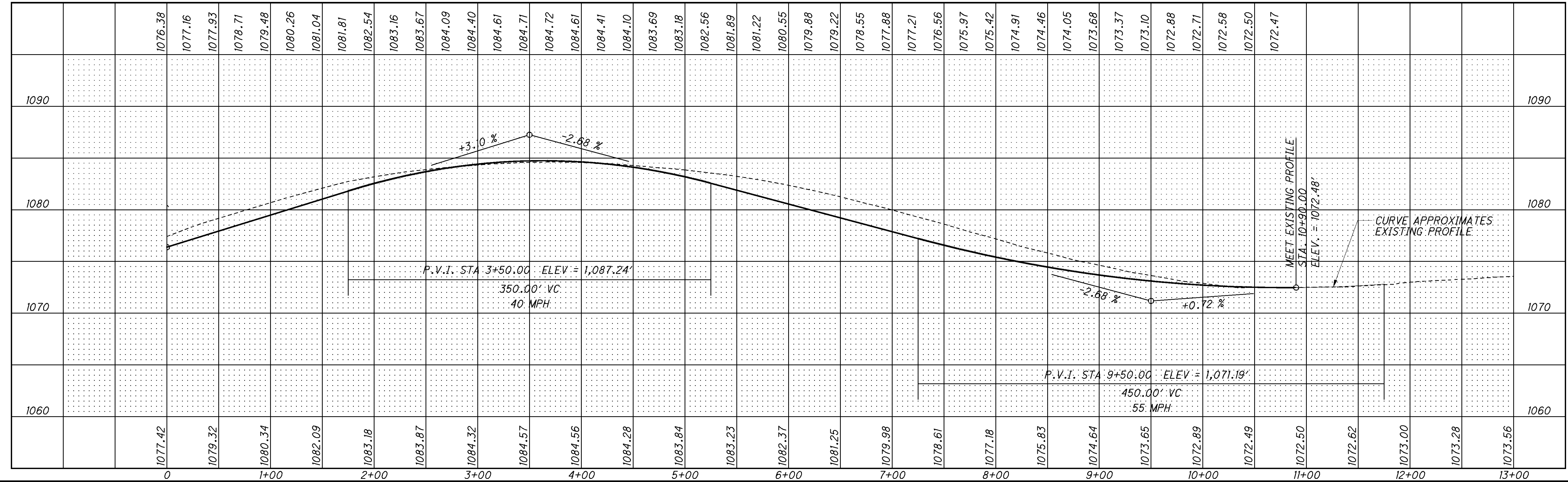
146
 425

GROSS REFERENCES	
SHEETS	DESCRIPTION
96	ROADWAY SUBSUMMARY
210-243	DRAINAGE DETAILS

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EX. RAMP A
 P.I. Sta. 5+76.22
 $\Delta = 92^\circ 00' 55''$ (RT)
 $Dc = 8^\circ 00' 00''$
 $R = 716.20'$
 $Ls = 200.00'$
 $\theta_s = 8^\circ 00' 00''$
 $LT = 133.47'$
 $ST = 66.79'$
 $\Delta_c = 84^\circ 00' 55''$ (RT)
 $Lc = 1,050.19'$
 $Ts = 841.86'$
 $T = 744.17'$
 $Es = 316.63'$
 $emax = 0.078$ (45 mph)

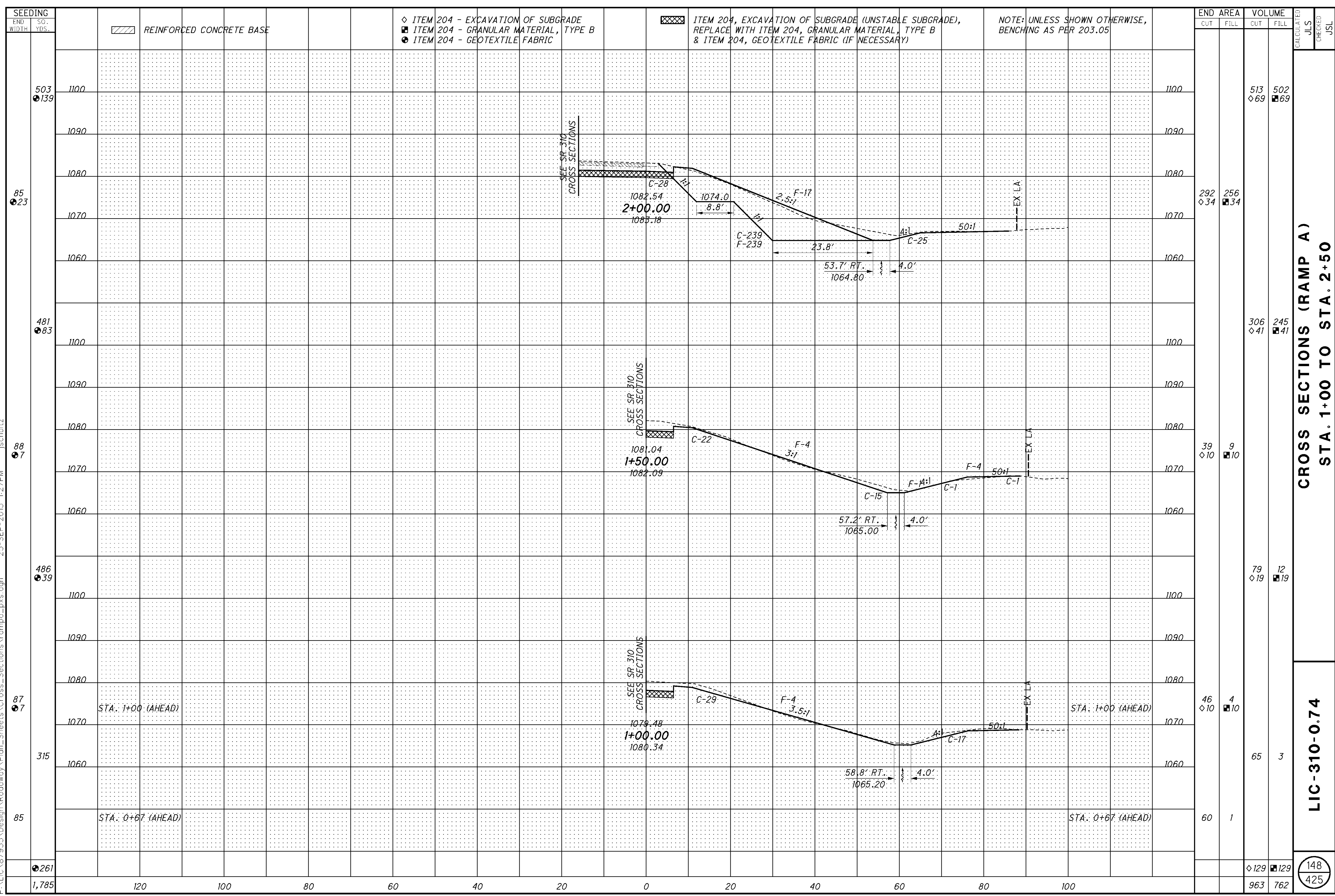


PLAN AND PROFILE (RAMP A)
 STA. 0+00 TO STA. 10+90

LIC-310-0.74

147
425

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SEEDING		END WIDTH	SO. YDS.
END WIDTH	SO. YDS.		
503	139	1100	
		1090	
		1080	
85	23	1070	
		1060	
481	83	1100	
		1090	
		1080	
88	7	1070	
		1060	
486	39	1100	
		1090	
		1080	
87	7	1070	
		1060	
315		1060	
85			
261			
1,785			

◆ ITEM 204 - EXCAVATION OF SUBGRADE
 ■ ITEM 204 - GRANULAR MATERIAL, TYPE B
 ● ITEM 204 - GEOTEXTILE FABRIC

▨ ITEM 204, EXCAVATION OF SUBGRADE (UNSTABLE SUBGRADE), REPLACE WITH ITEM 204, GRANULAR MATERIAL, TYPE B & ITEM 204, GEOTEXTILE FABRIC (IF NECESSARY)

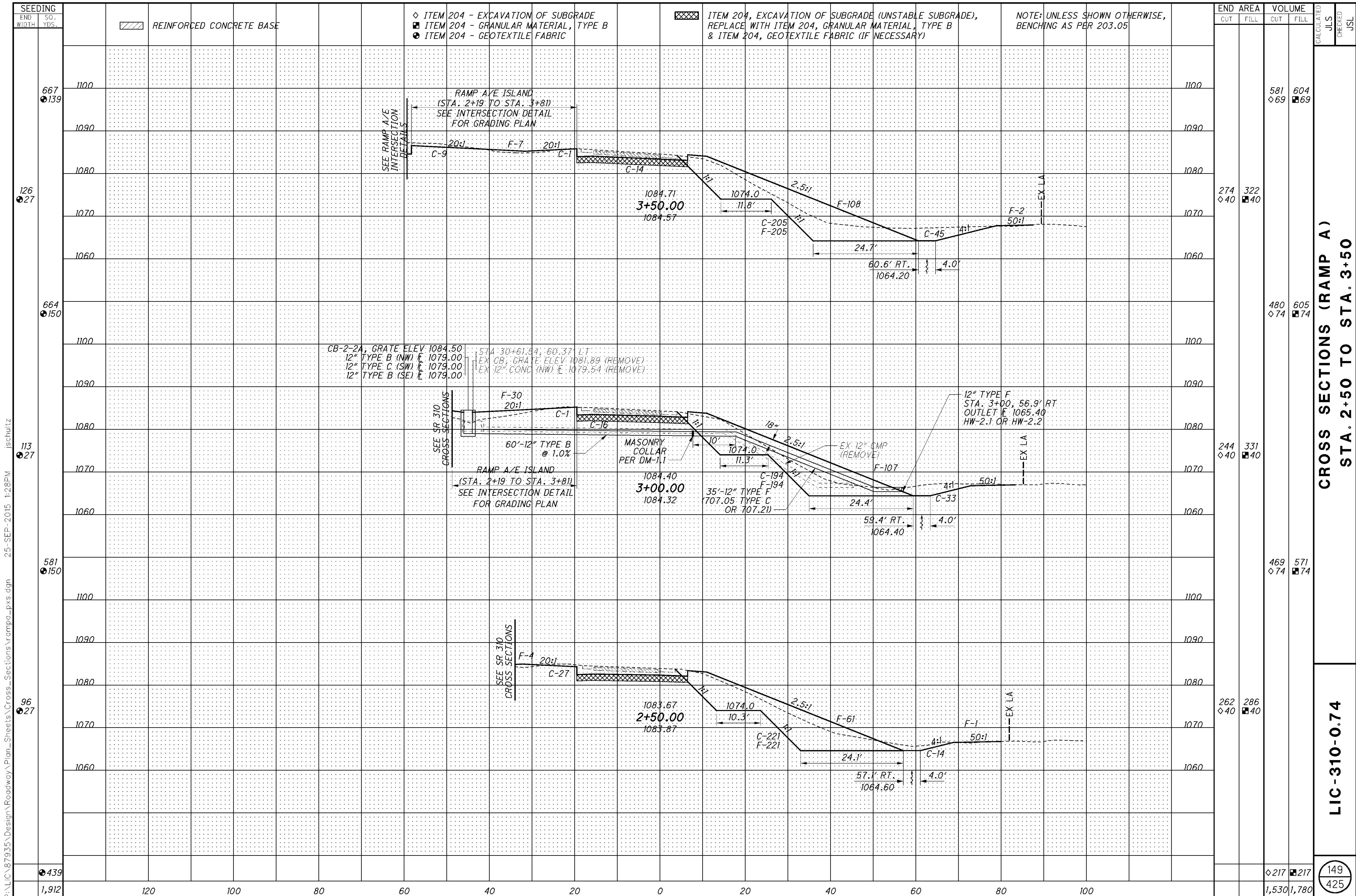
NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

END AREA		VOLUME		CALCULATED JLS	CHECKED JLS
CUT	FILL	CUT	FILL		
		513	502		
		69	69		
292	256				
34	34				
		306	245		
		41	41		
39	9				
10	10				
		79	12		
		19	19		
46	4				
10	10				
		65	3		
60	1				
		129	129		
		963	762		

CROSS SECTIONS (RAMP A)
 STA. 1+00 TO STA. 2+50

LIC-310-0.74

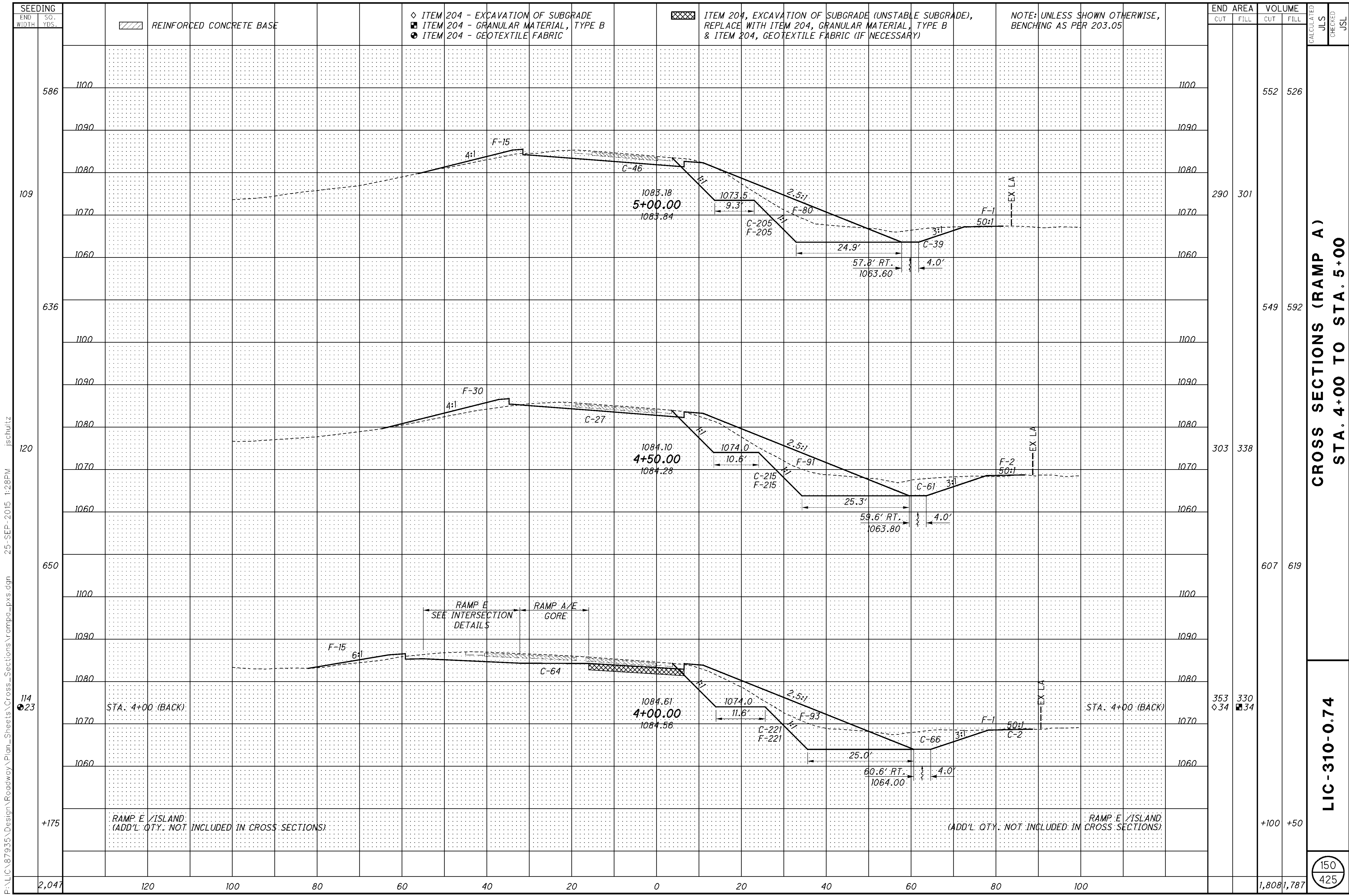
148
 425



**CROSS SECTIONS (RAMP A)
 STA. 2+50 TO STA. 3+50**

LIC-310-0.74

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586
109
636
120
650
114
+175

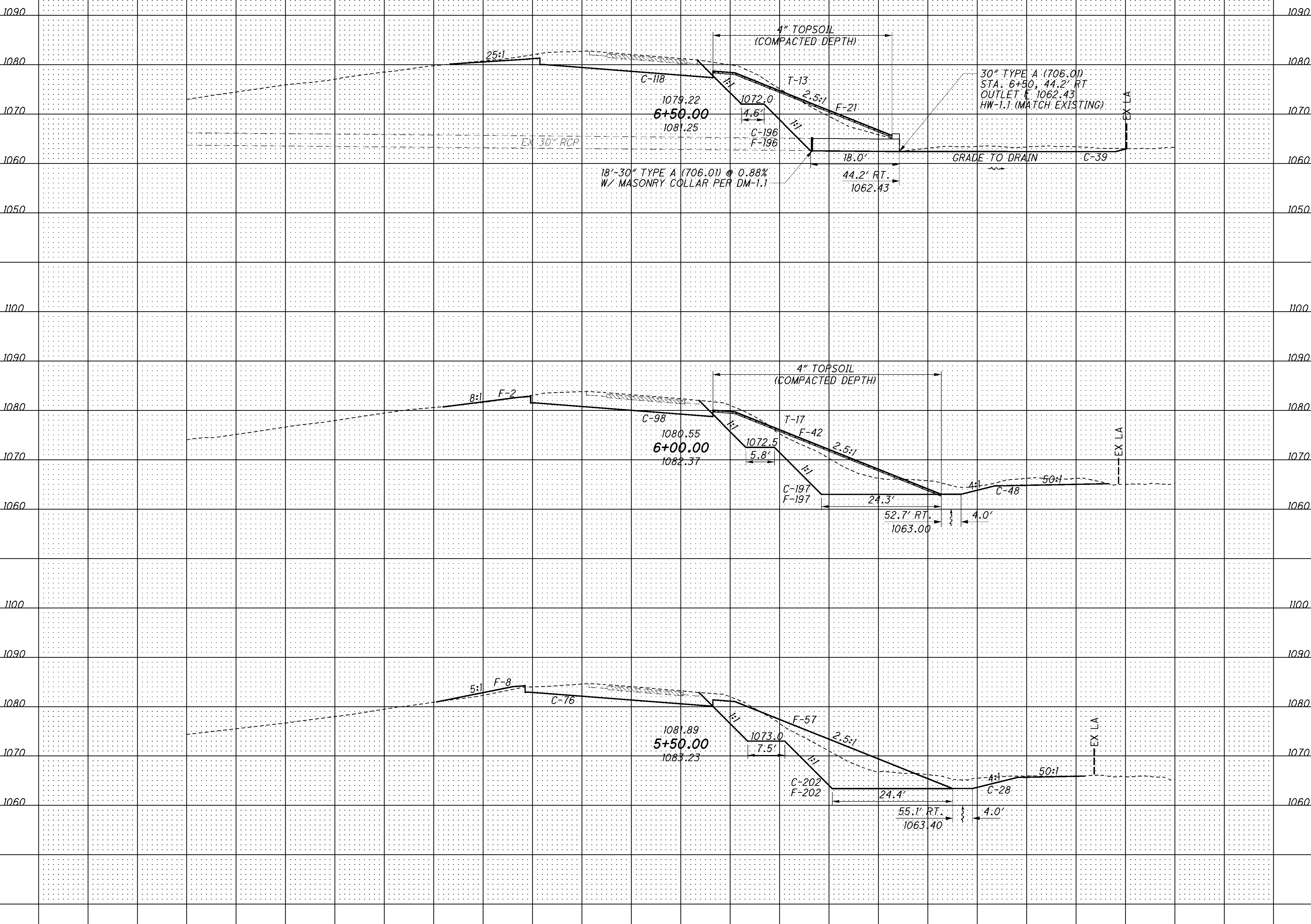
STATION	ELEVATION	CUT	FILL	CUT	FILL
586	1100			552	526
	1090				
	1080				
109	1070	290	301		
	1060				
636	1100			549	592
	1090				
	1080				
120	1070	303	338		
	1060				
650	1100			607	619
	1090				
	1080				
114	1070	353	330		
	1060				
+175				+100	+50
2,047				1,808	1,787

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SEEDING	END WIDTH	SO. YDS.											END AREA		VOLUME		CALCULATED JLS	CHECKED JLS		
													CUT	FILL	CUT	FILL				
583	1090												353	217	499	209	T-26			
106	1080																			
1070																				
1060																				
1050																				
589	1100												343	241	644	424	T-28			
1090																				
1080																				
1070																				
1060																				
578	1100												306	267	601	470				
1090																				
1080																				
1070																				
1060																				
102	1070																			
1060																				
1,750			120	100	80	60	40	20	0	20	40	60	80	100			1,744	1,103		

REINFORCED CONCRETE BASE

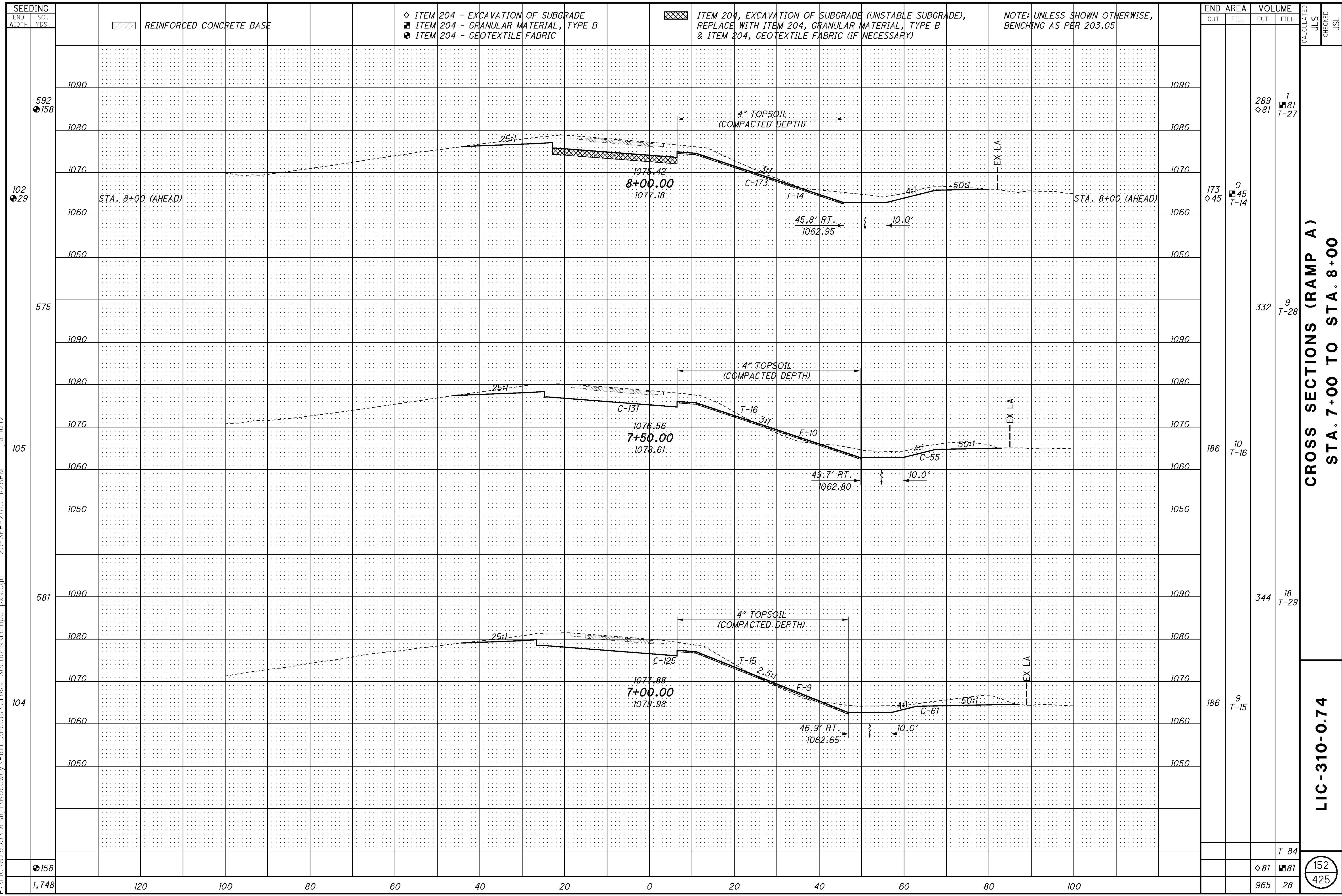
NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05



CROSS SECTIONS (RAMP A)
STA. 5+50 TO STA. 6+50

LIC-310-0.74

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592
 158

102
 29

575

105

581

104

158

1,748

120

100

80

60

40

20

0

20

40

60

80

100

173
 45

186

186

965

0
 45
 T-14

10
 T-16

9
 T-15

28

289
 81

332

344

925

1
 81
 T-27

9
 T-28

18
 T-29

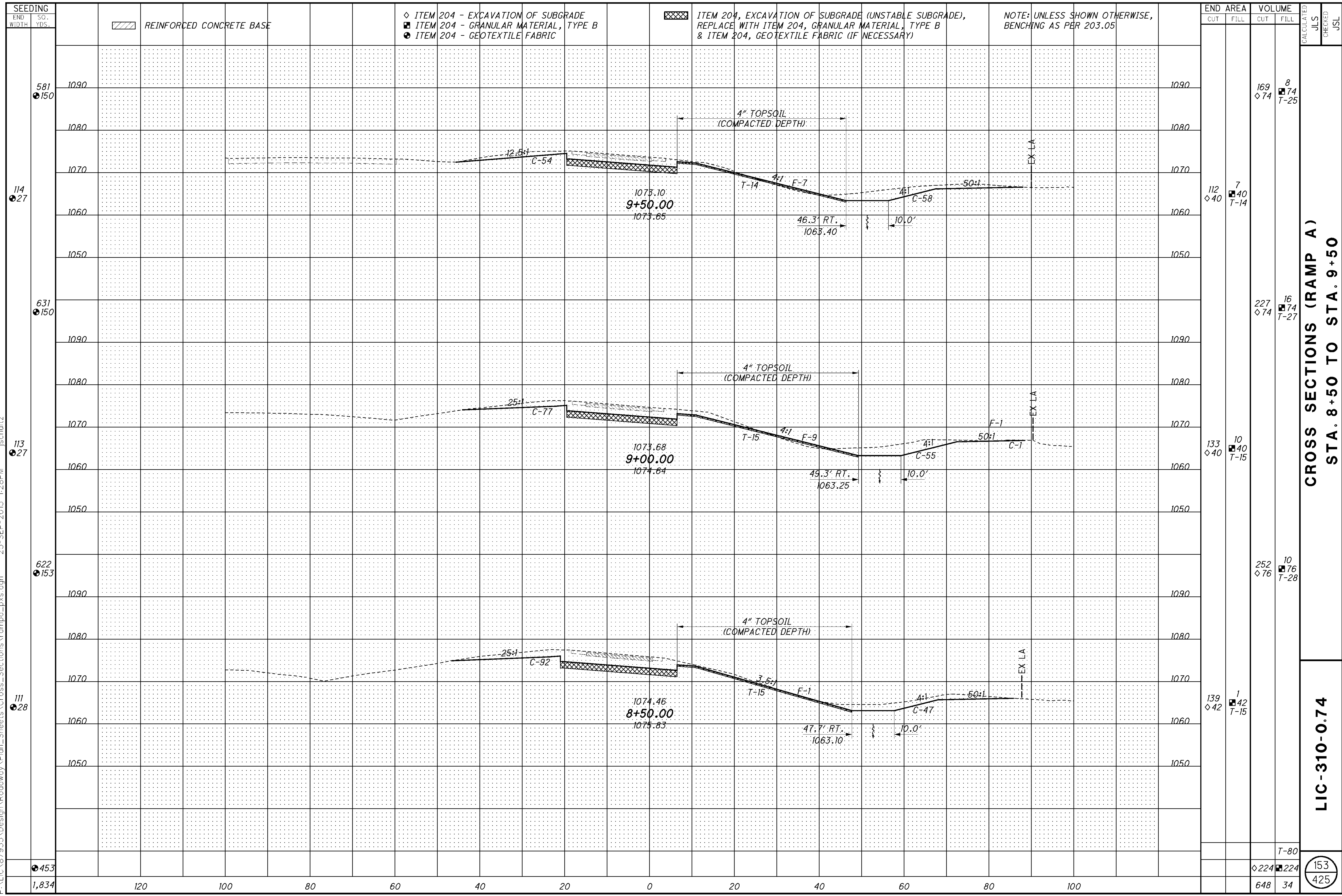
81

**CROSS SECTIONS (RAMP A)
 STA. 7+00 TO STA. 8+00**

LIC-310-0.74

152
 425

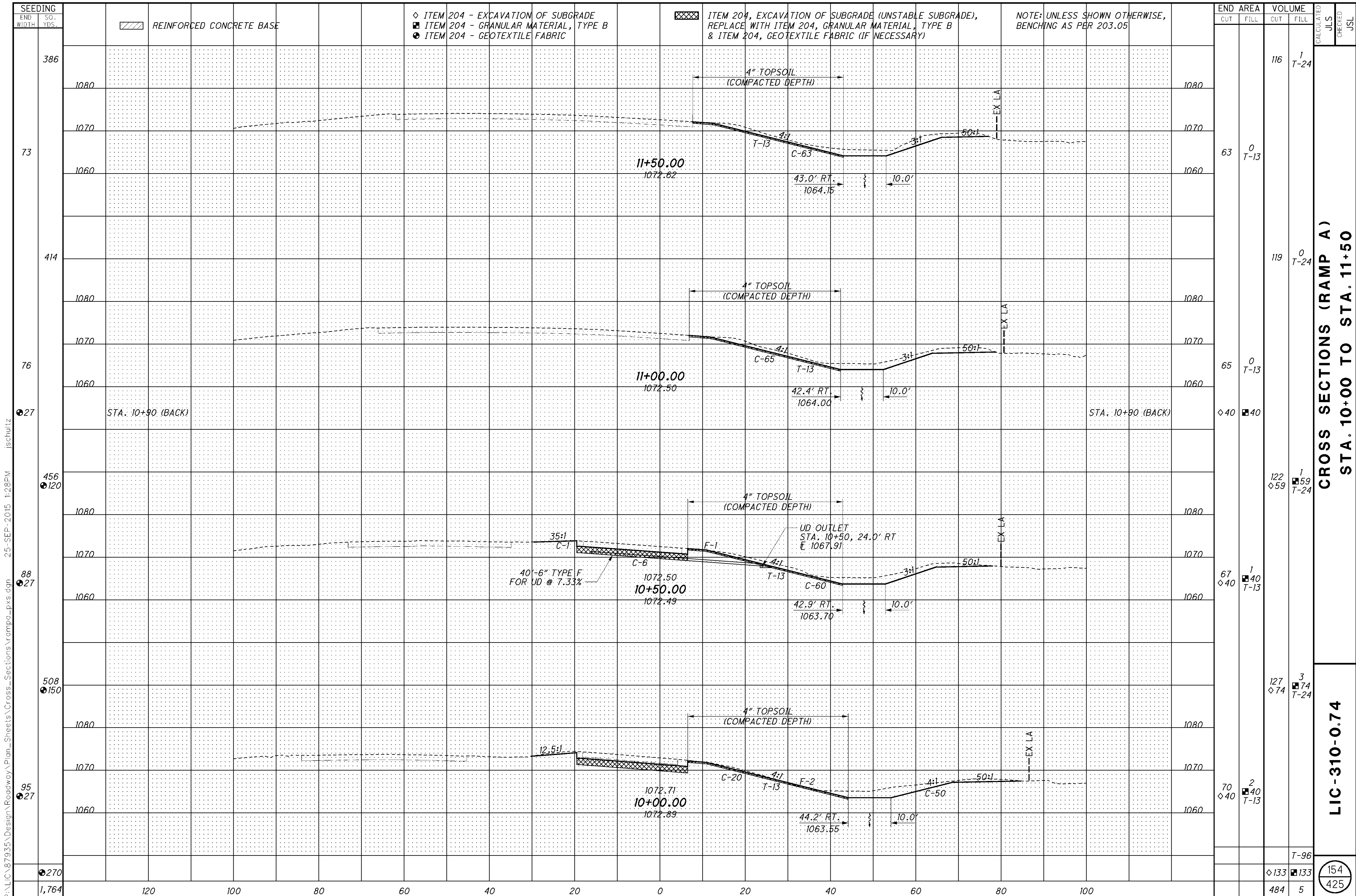
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END AREA	VOLUME		CALCULATED	CHECKED
	CUT	FILL		
112 ◇ 40	169 ◇ 74	8 ■ 74 T-25		
113 ◇ 40	227 ◇ 74	16 ■ 74 T-27		
133 ◇ 40	252 ◇ 76	10 ■ 40 T-15		
139 ◇ 42	1 ■ 42 T-15			
153 ◇ 224	34 ■ 224			
		T-80		
		153 425		

**CROSS SECTIONS (RAMP A)
STA. 8+50 TO STA. 9+50**

LIC-310-0.74



END AREA	VOLUME	CALCULATED	CHECKED		
				CUT	FILL
116	1	T-24			
63	0	T-13			
119	0	T-24			
65	0	T-13			
40	40				
122	59	T-24			
67	40	T-13			
127	74	T-24			
70	40	T-13			
133	133				
484	5				

CROSS SECTIONS (RAMP A)
STA. 10+00 TO STA. 11+50

LIC-310-0.74

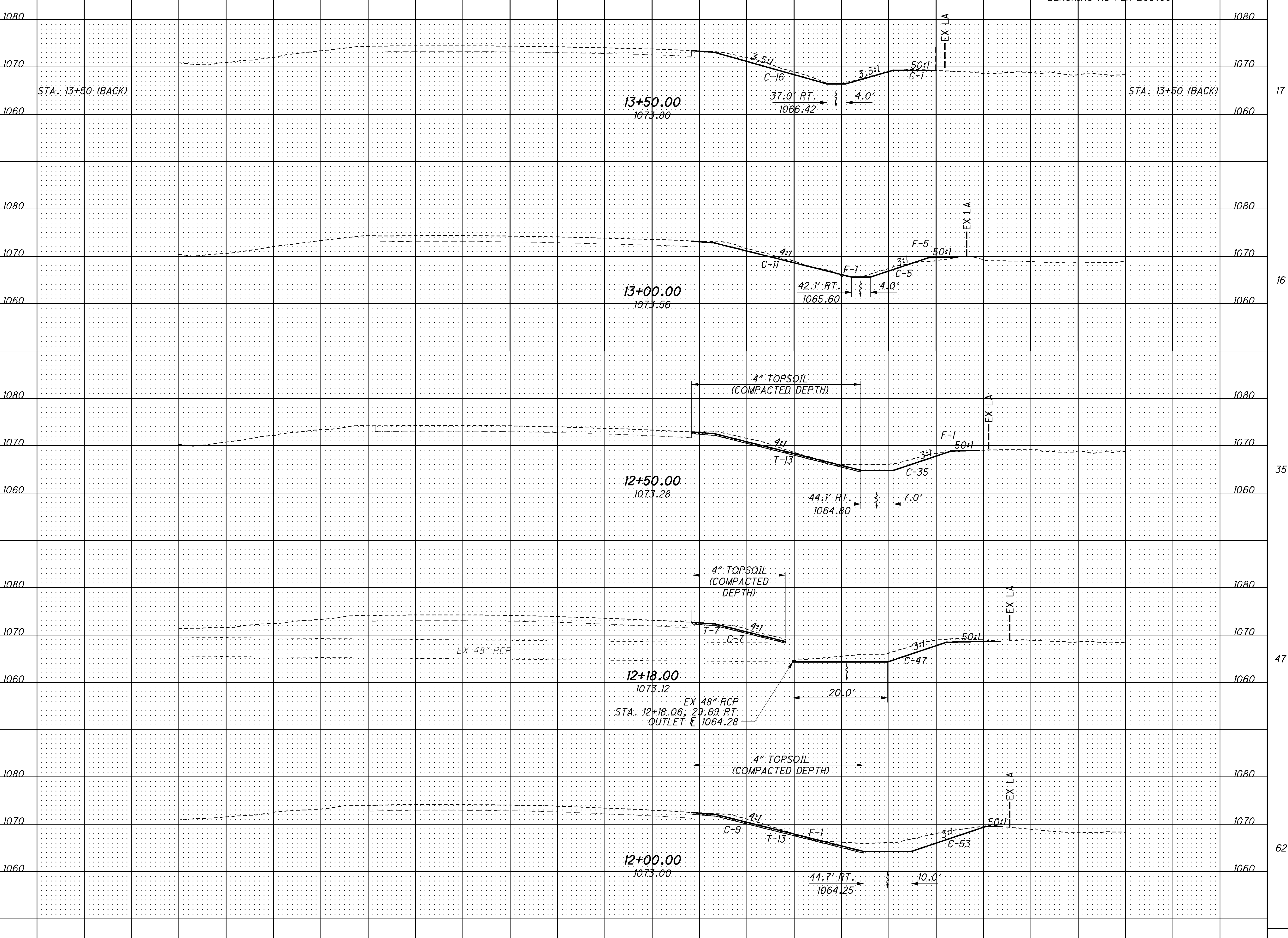
154
425

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SEEDING	END WIDTH	SO. YDS.	1080	1070	1060	1080	1070	1060	1080	1070	1060	1080	1070	1060	END AREA		VOLUME		CALCULATED JLS	CHECKED JLS	
															CUT	FILL	CUT	FILL			
55																17	0				
319																		31	6		
60																16	6				
347																		47	6		
65																35	1	1	T-13		
235																		49	1	T-12	
67																47	0	0	T-7		
133																		36	0	T-7	
66																62	1	1	T-13		
1,034	120	100	80	60	40	20	0	20	40	60	80	100						163	13		

NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

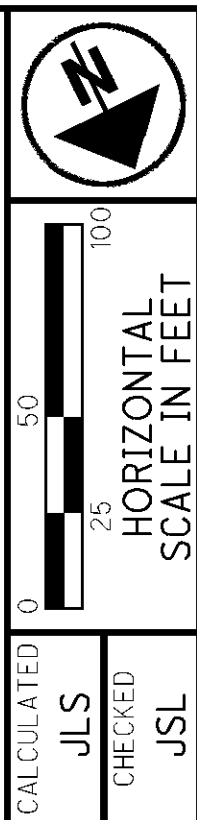
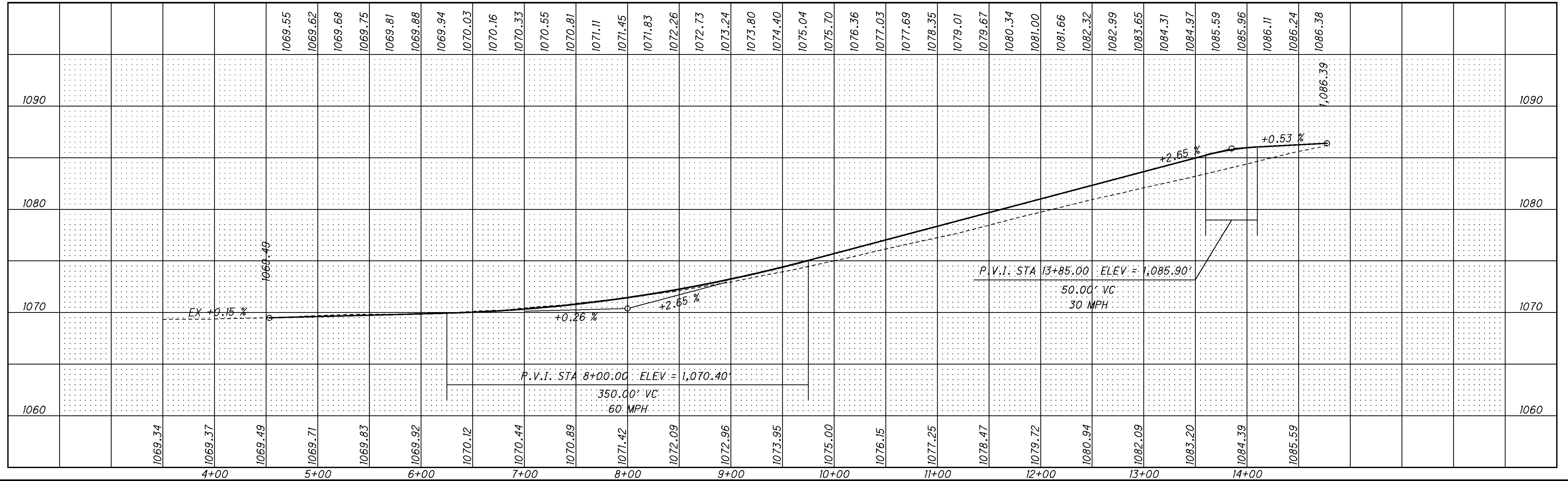
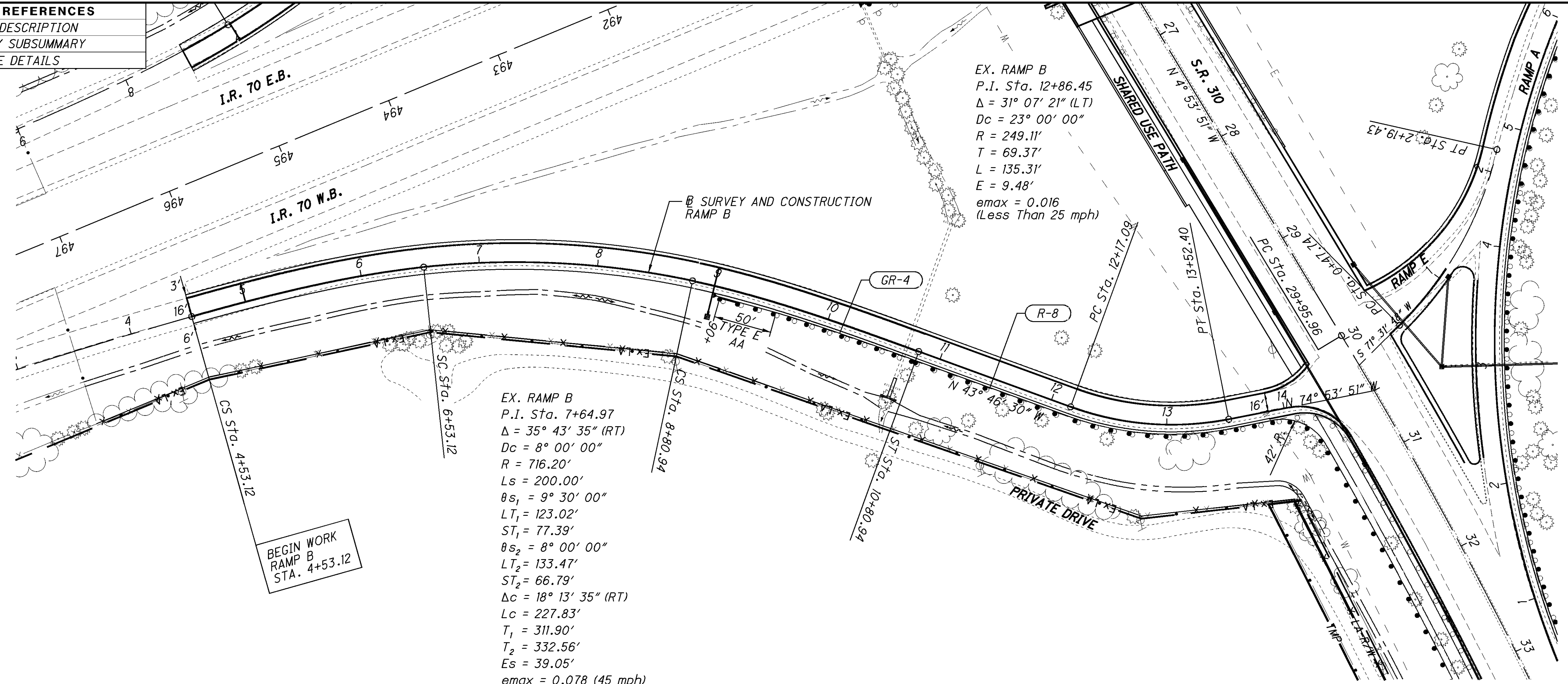


CROSS SECTIONS (RAMP A)
STA. 12+00 TO STA. 13+50

LIC-310-0.74

155
425

GROSS REFERENCES	
SHEETS	DESCRIPTION
96	ROADWAY SUBSUMMARY
210-243	DRAINAGE DETAILS

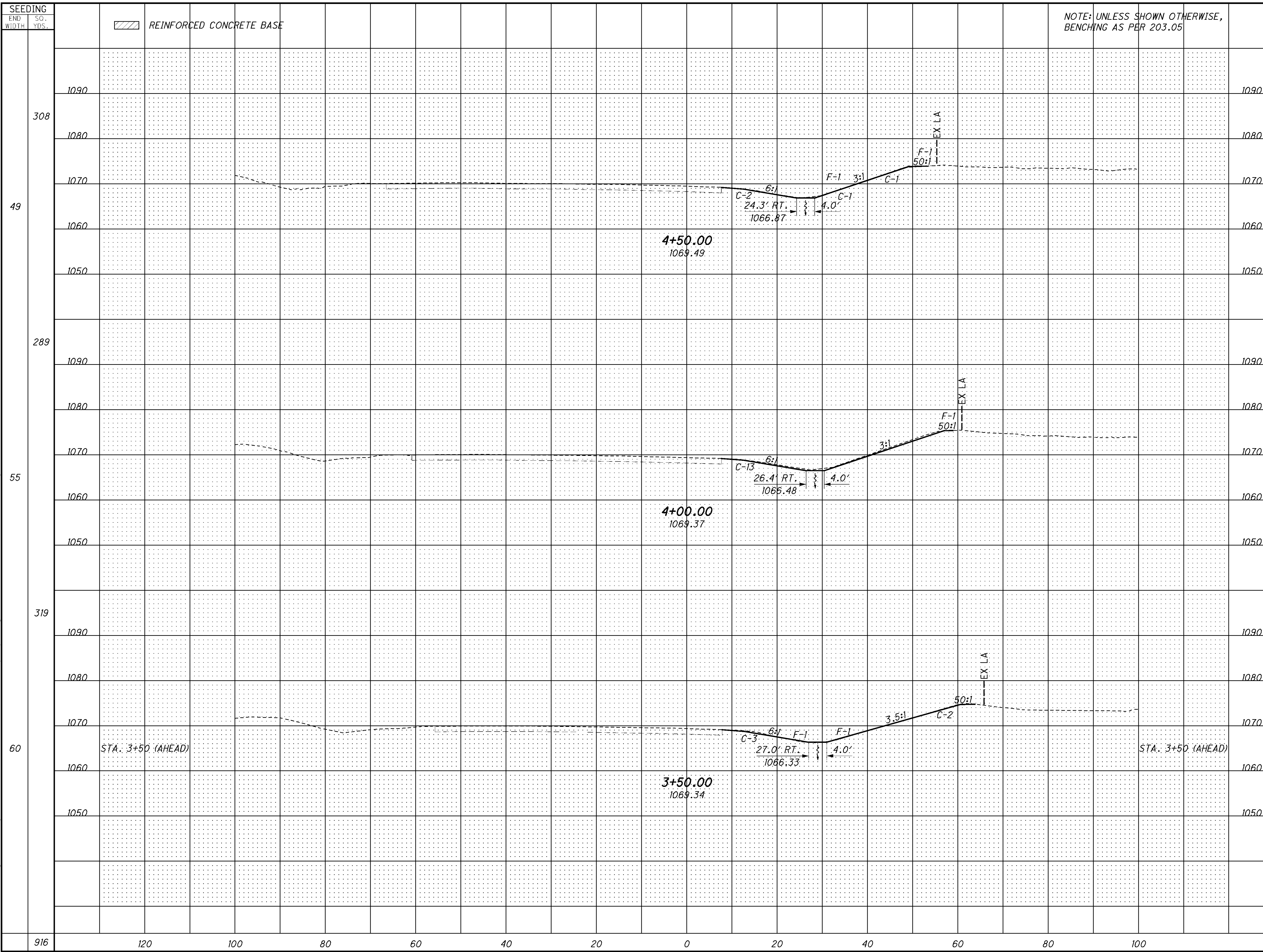


PLAN AND PROFILE (RAMP B)
 STA. 4+53.12 TO STA. 14+77.40

LIC-310-0.74

P:\LIC\87935\Design\Roadway\Plan_Sheets\Plan_Profile\87935_ppp_rampb_001.dgn 25-SEP-2015 1:32PM jschultz

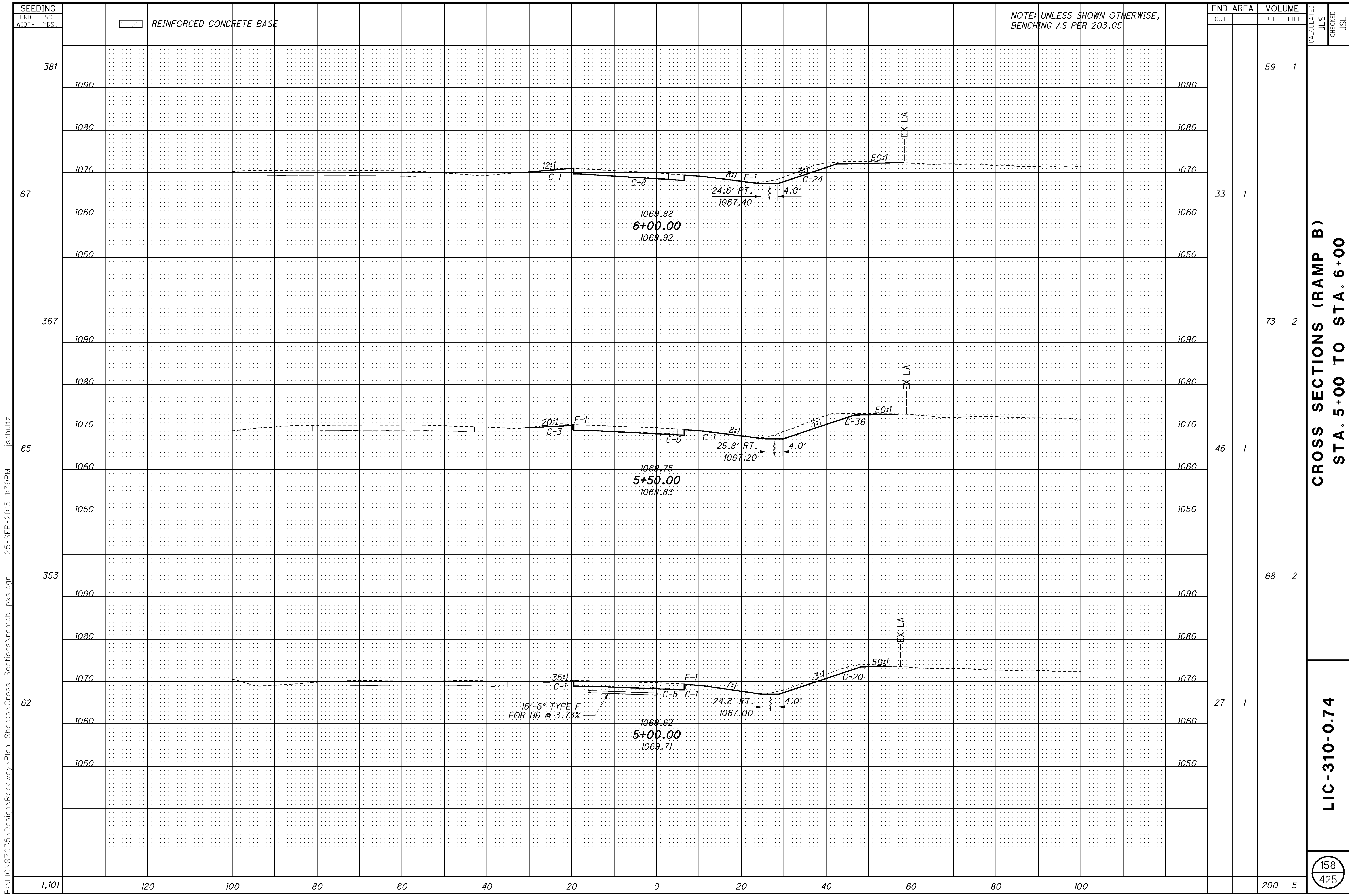
P:\LIC\87935\Design\Roadway\Plan_Sheets\Cross_Sections\Rampb_pxs.dgn 25-SEP-2015 1:39PM jschultz



END AREA	VOLUME	CALCULATED	
		CUT	FILL
29	3		
4	2		
16	3		
13	1		
17	3		
5	2		
62	9		

CROSS SECTIONS (RAMP B)
STA. 3+50 TO STA. 4+50

LIC-310-0.74



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SEEDING	
END WIDTH	SO. YDS.
1,101	120
62	100
353	80
65	60
367	40
67	20
381	0

NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

END AREA	VOLUME	CALCULATED	CHECKED				
				CUT	FILL	CUT	FILL
33	1	59	1				
46	1	73	2				
27	1	68	2				
		200	5				

CROSS SECTIONS (RAMP B)
STA. 5+00 TO STA. 6+00

LIC-310-0.74

158
425

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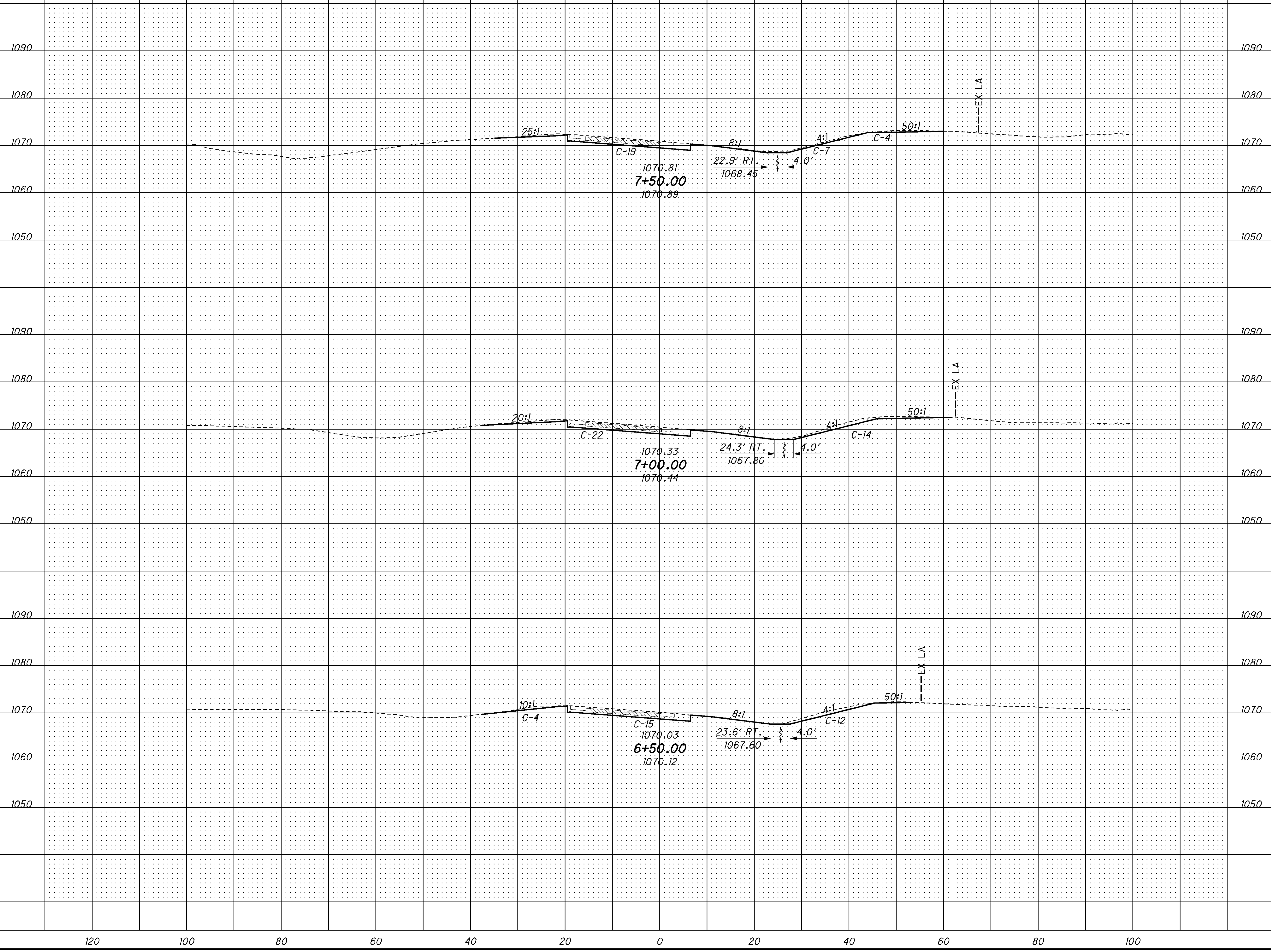
SEEDING	SO. YDS.	END WIDTH	SEEDING	
			CUT	FILL
419	1090	120	46	5
74	1080	100	30	0
422	1070	100	61	0
78	1060	100	36	0
411	1050	100	62	0
70	1040	100	31	0
1,252	1030	120	169	5

REINFORCED CONCRETE BASE

NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

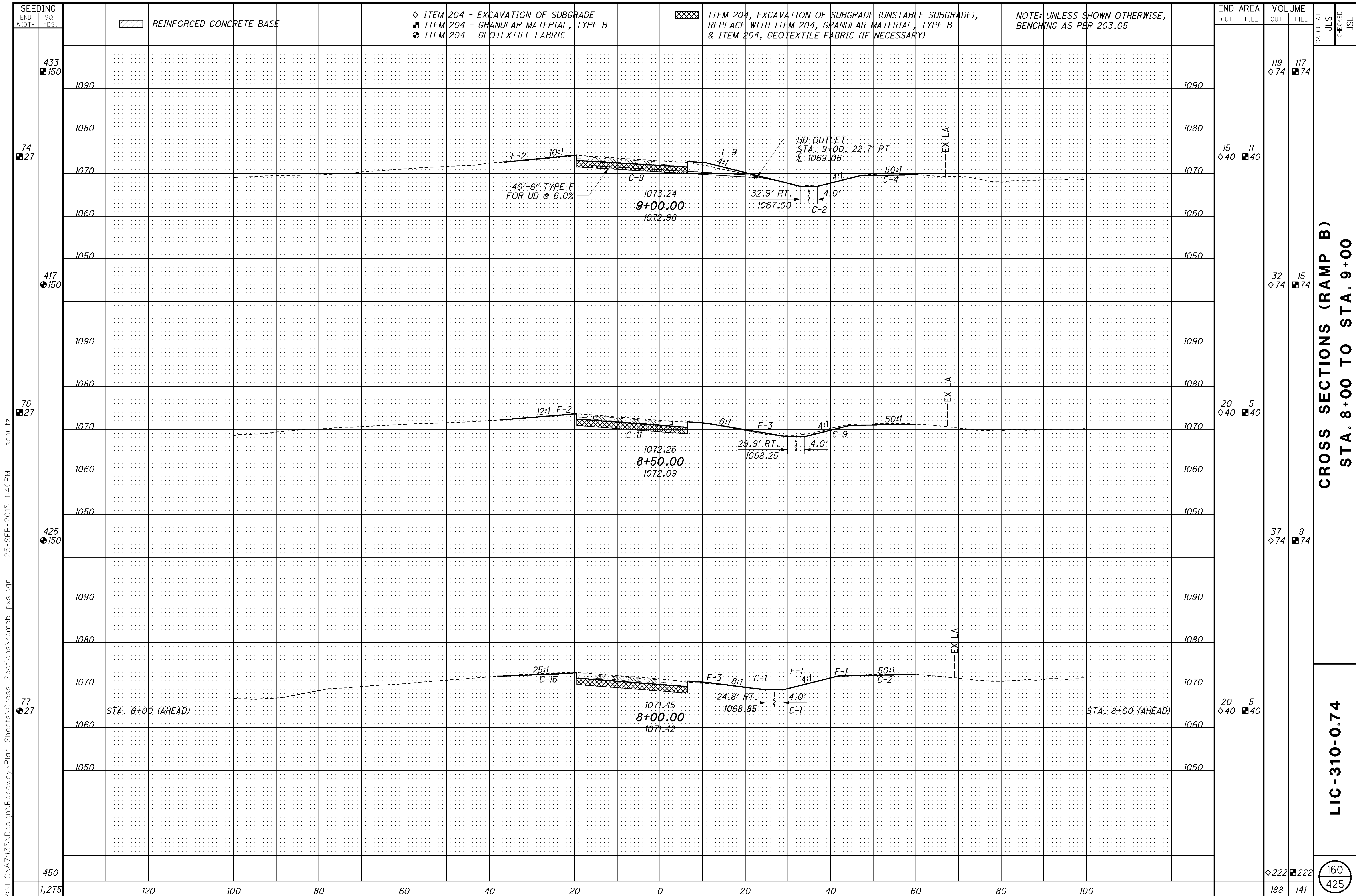
CALCULATED
JLS
CHECKED
JSL

74
78
70

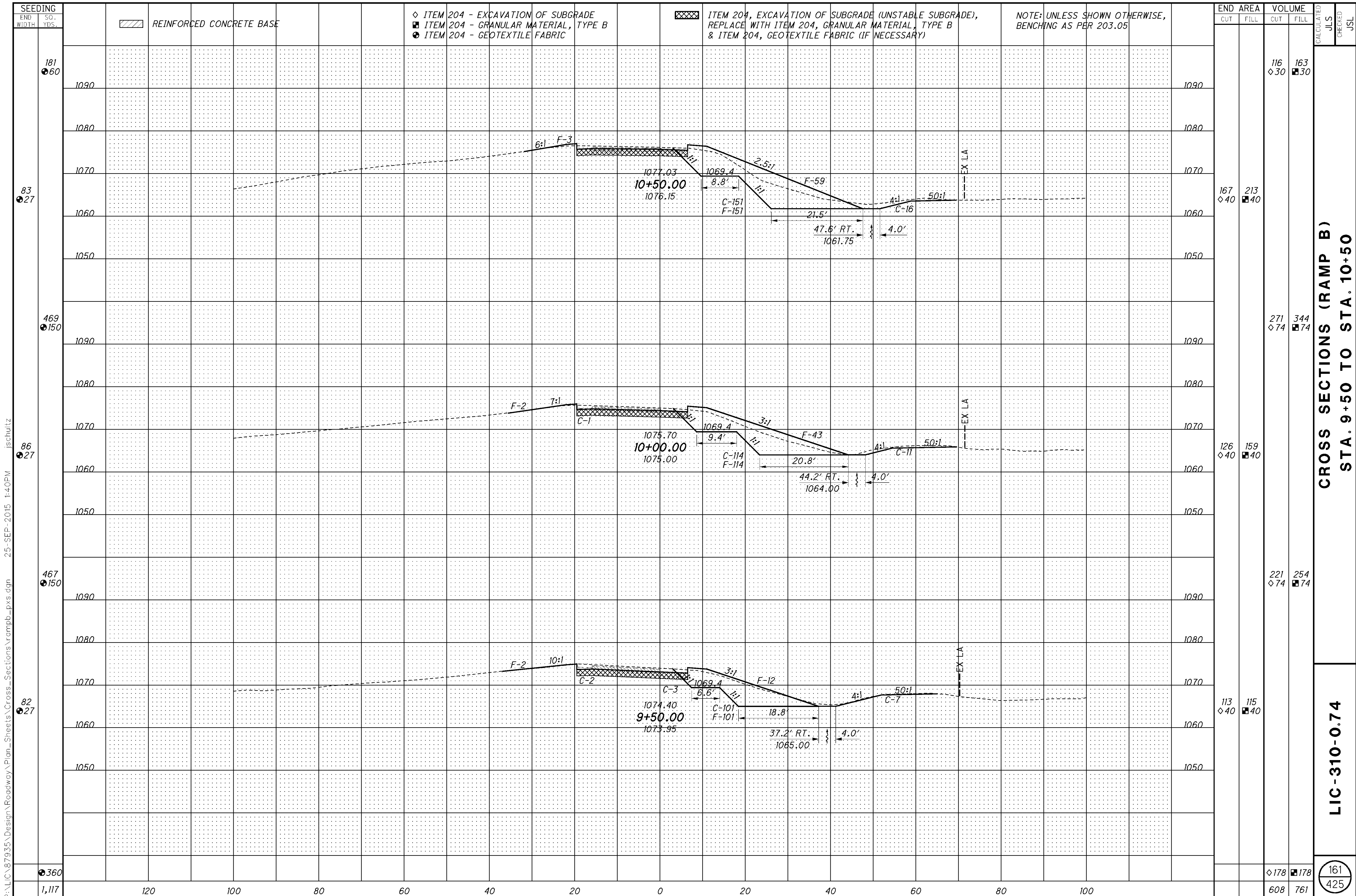


CROSS SECTIONS (RAMP B)
STA. 6+50 TO STA. 7+50

LIC-310-0.74



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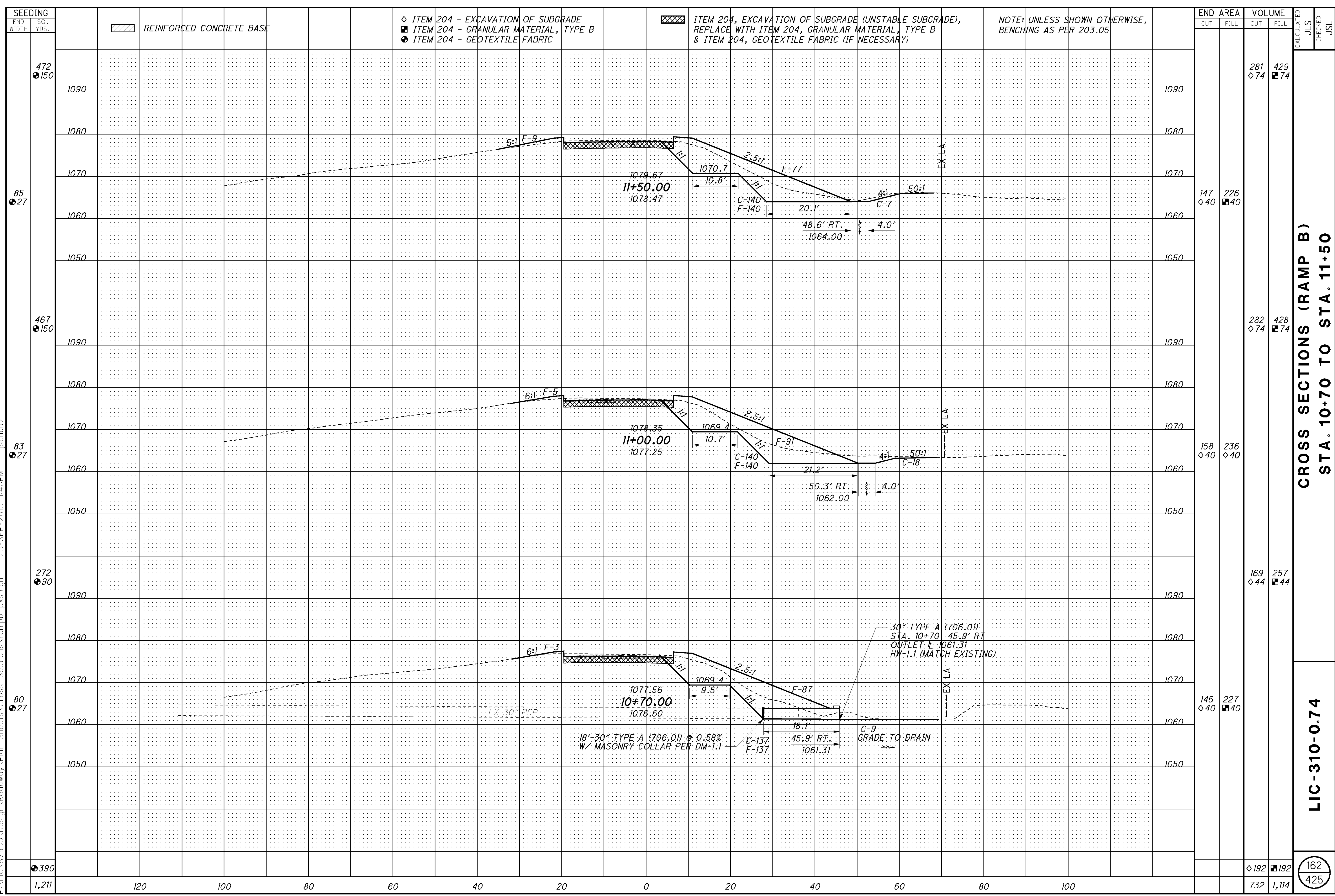
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CROSS SECTIONS (RAMP B)
STA. 9+50 TO STA. 10+50

LIC-310-0.74

CALCULATED JLS
 CHECKED JSL
 161
 425

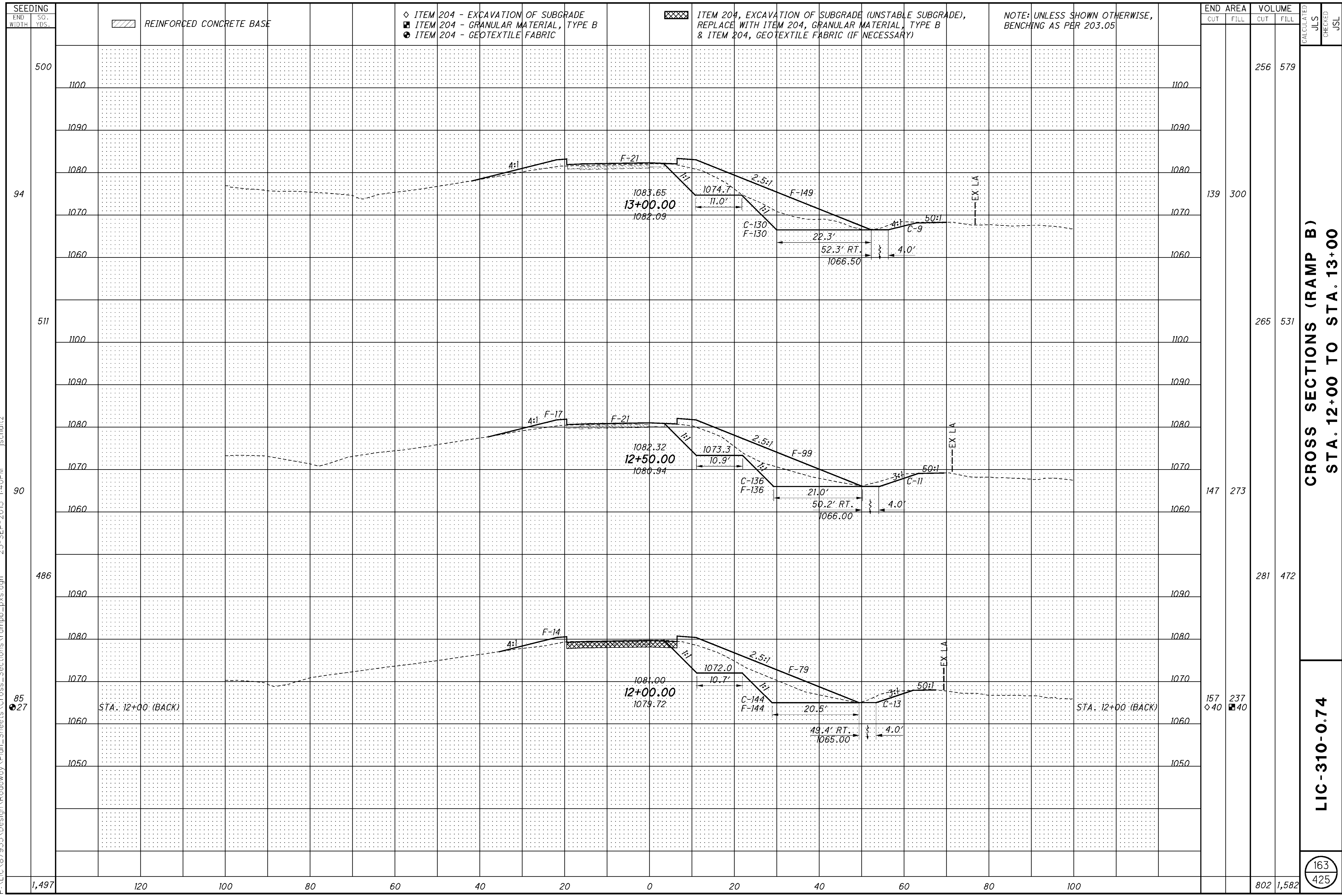
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**CROSS SECTIONS (RAMP B)
 STA. 10+70 TO STA. 11+50**

LIC-310-0.74

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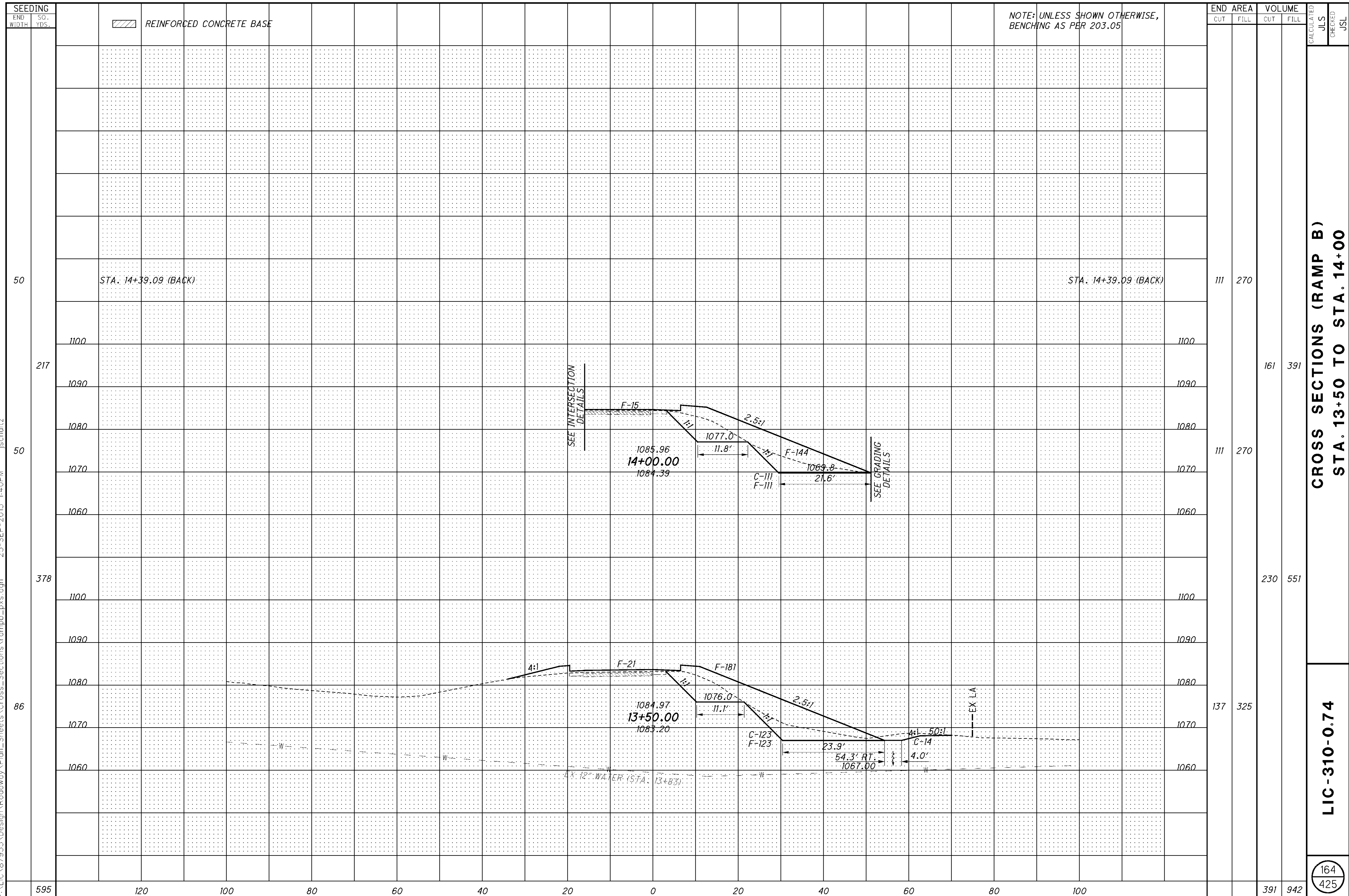


CROSS SECTIONS (RAMP B)
STA. 12+00 TO STA. 13+00

LIC-310-0.74

163
 425

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NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

REINFORCED CONCRETE BASE

SEEDING
END WIDTH SO. YDS.

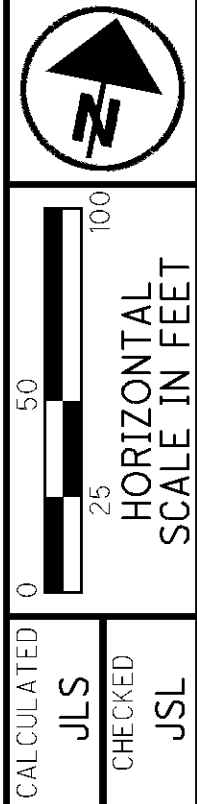
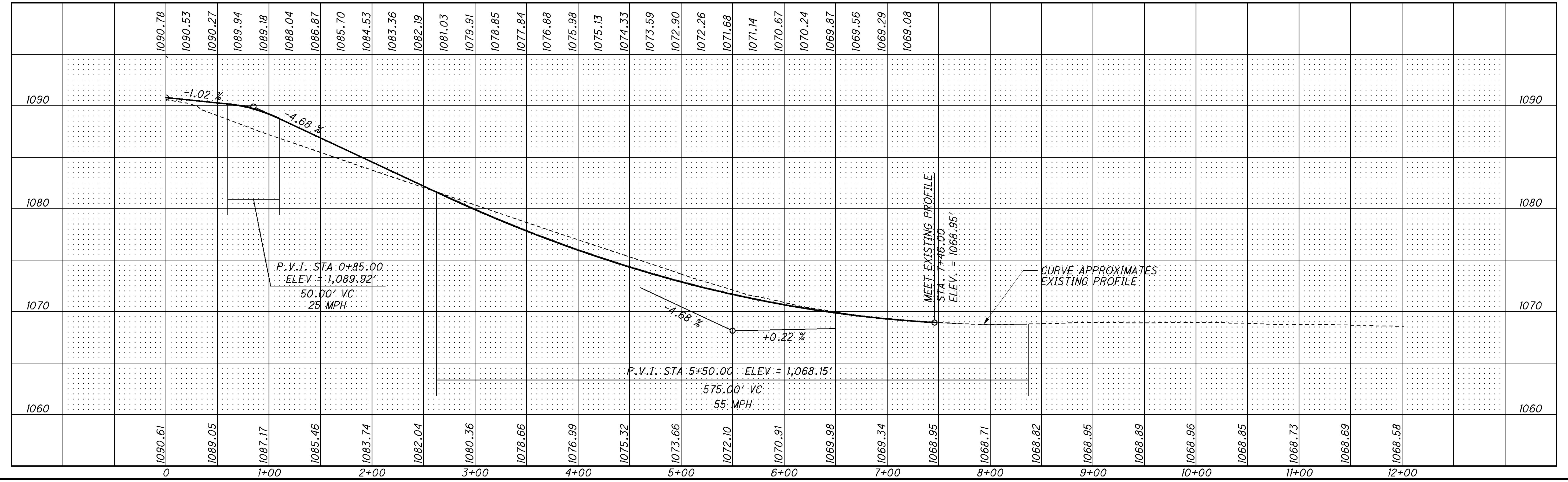
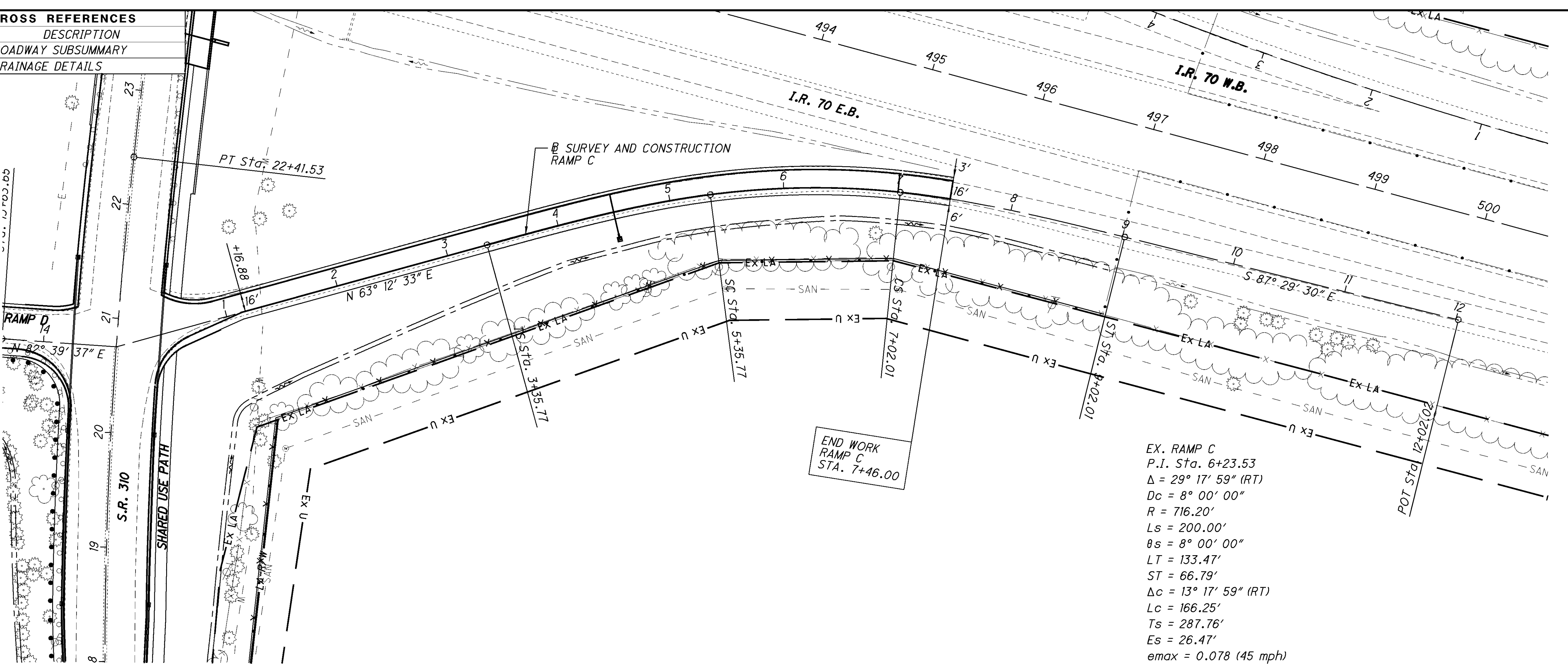
END AREA	VOLUME	CALCULATED	CHECKED				
				CUT	FILL	CUT	FILL
111	270	111	270				
1100		1100					
1090		1090					
1080		1080					
1070		1070					
1060		1060					
1100		1100					
1090		1090					
1080		1080					
1070		1070					
1060		1060					
137	325	137	325				
391	942	391	942				

CROSS SECTIONS (RAMP B)
STA. 13+50 TO STA. 14+00

LIC-310-0.74

164
425

GROSS REFERENCES	
SHEETS	DESCRIPTION
96	ROADWAY SUBSUMMARY
210-243	DRAINAGE DETAILS



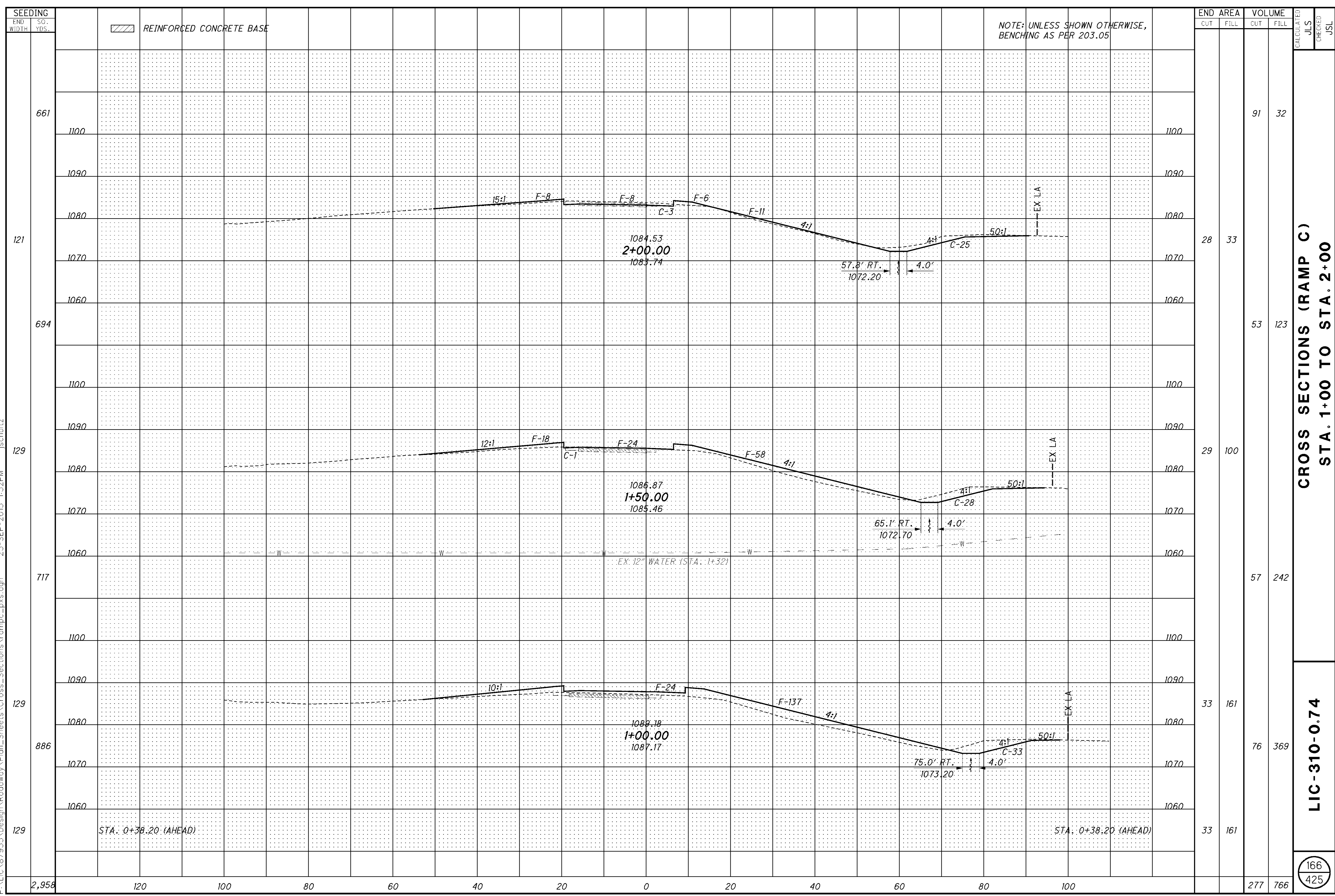
PLAN AND PROFILE (RAMP C)
STA. 0+00 TO STA. 7+46

LIC-310-0.74

165
425

P:\LIC\87935\Design\Roadway\Plan_Sheets\Profile\87935_ppp_rampc_001.dgn 25-SEP-2015 1:47PM jschultz

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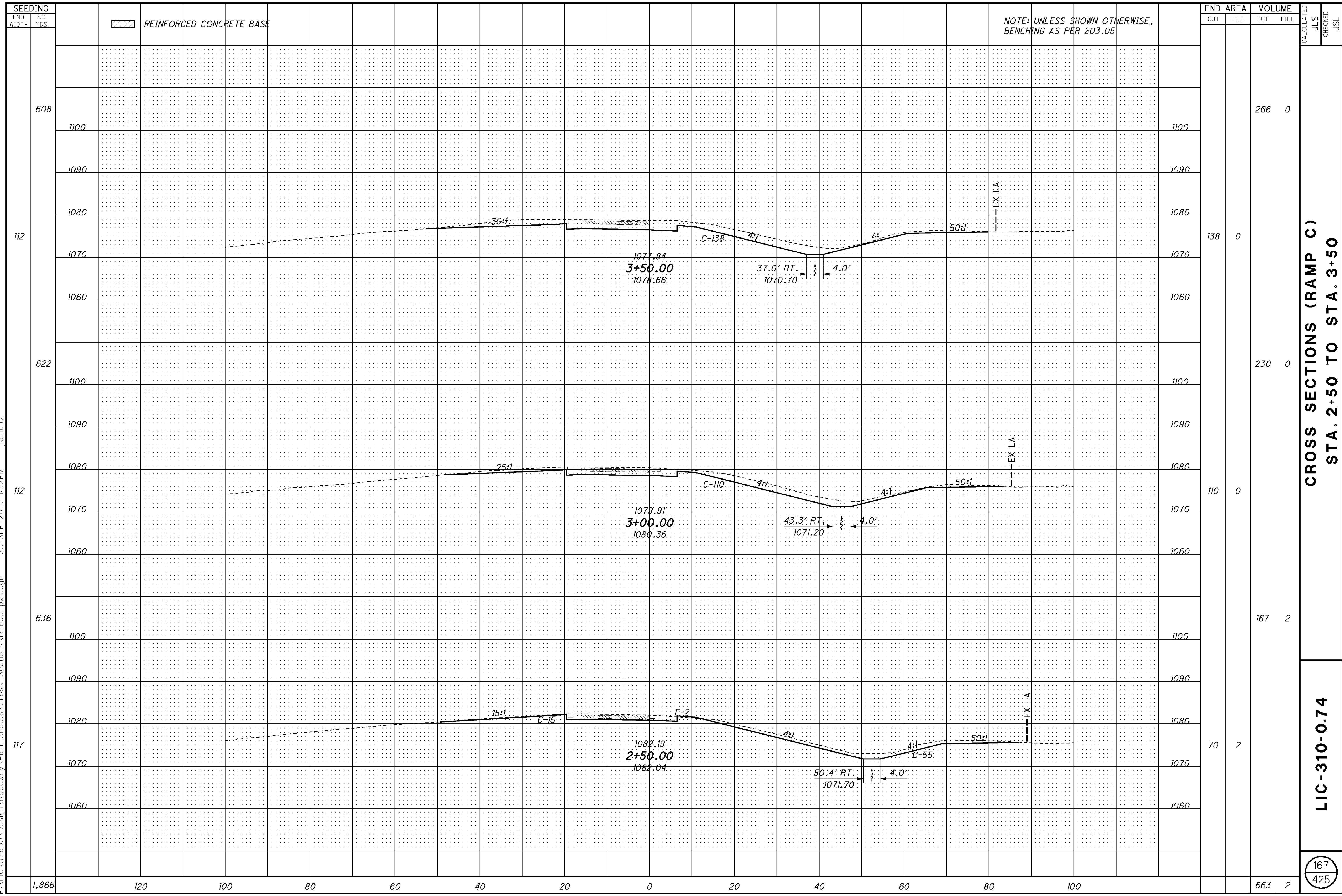


**CROSS SECTIONS (RAMP C)
 STA. 1+00 TO STA. 2+00**

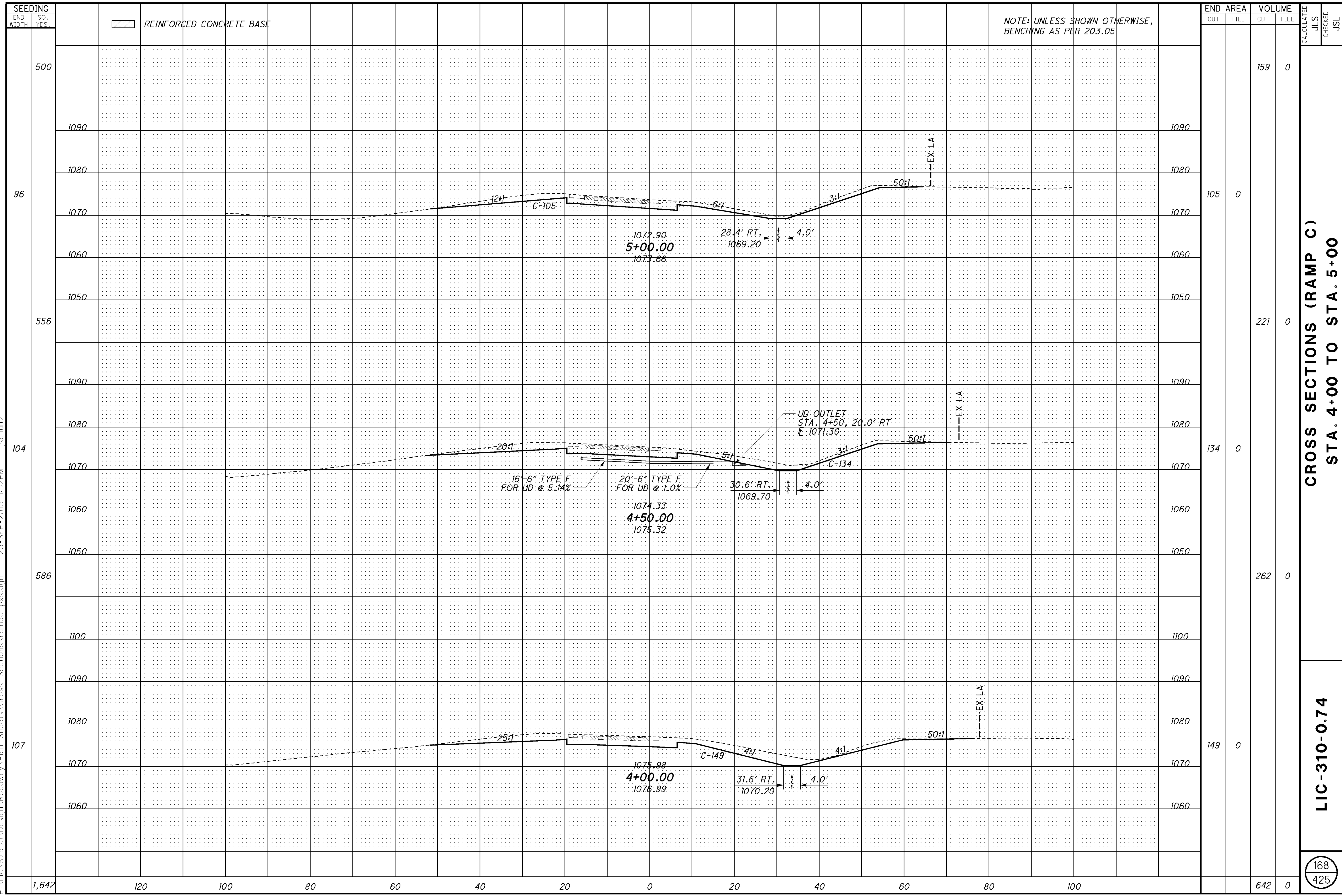
LIC-310-0.74

166
425

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**CROSS SECTIONS (RAMP C)
 STA. 4+00 TO STA. 5+00**

LIC-310-0.74

168
 425

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SEEDING	SO. YDS.	END AREA		VOLUME	
		CUT	FILL	CUT	FILL
358				50	1
66				43	1
403				81	2
79				44	1
458				94	1
86				58	0
472				116	0
84				67	0
1,691				341	4

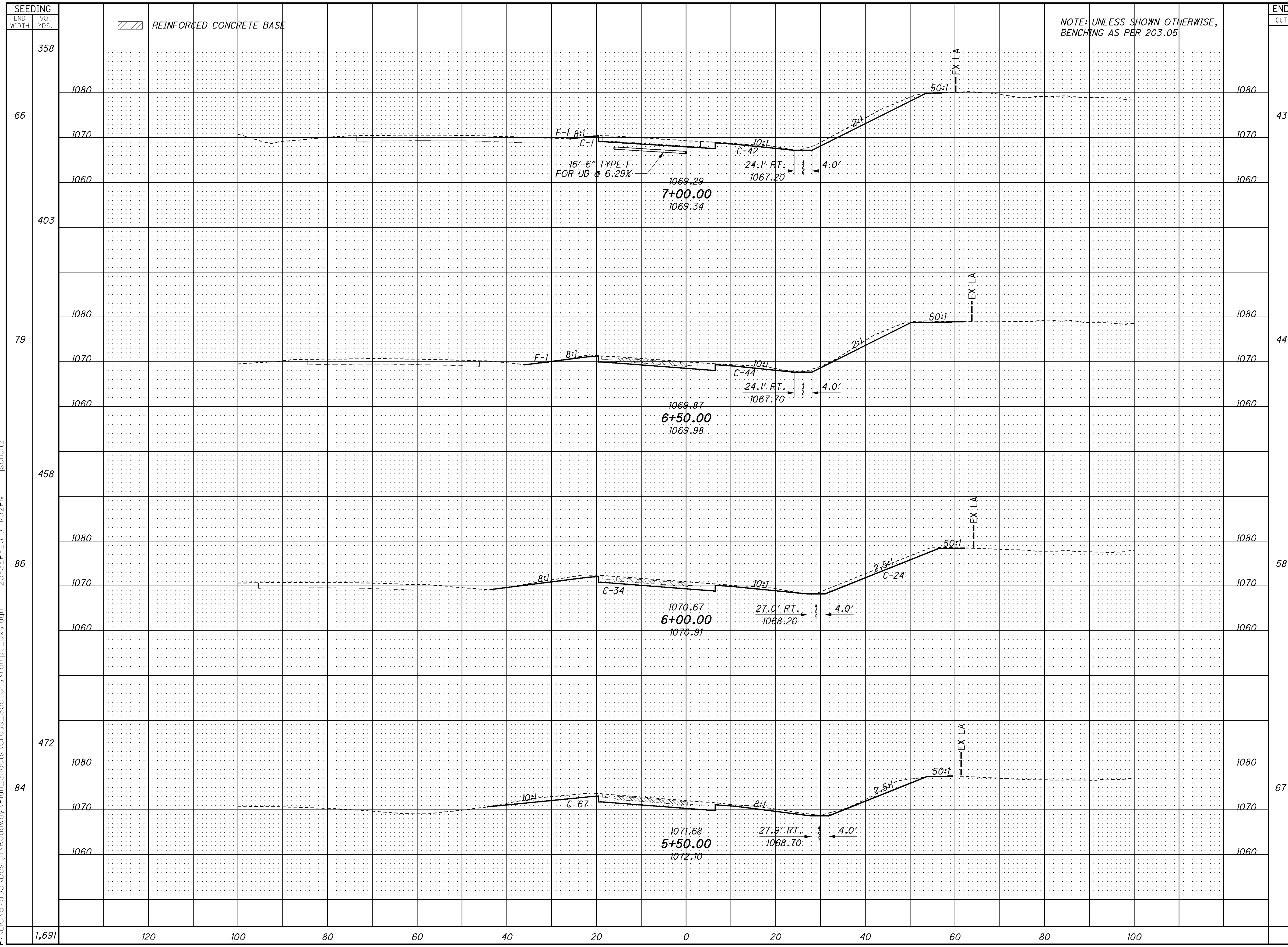
REINFORCED CONCRETE BASE

NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

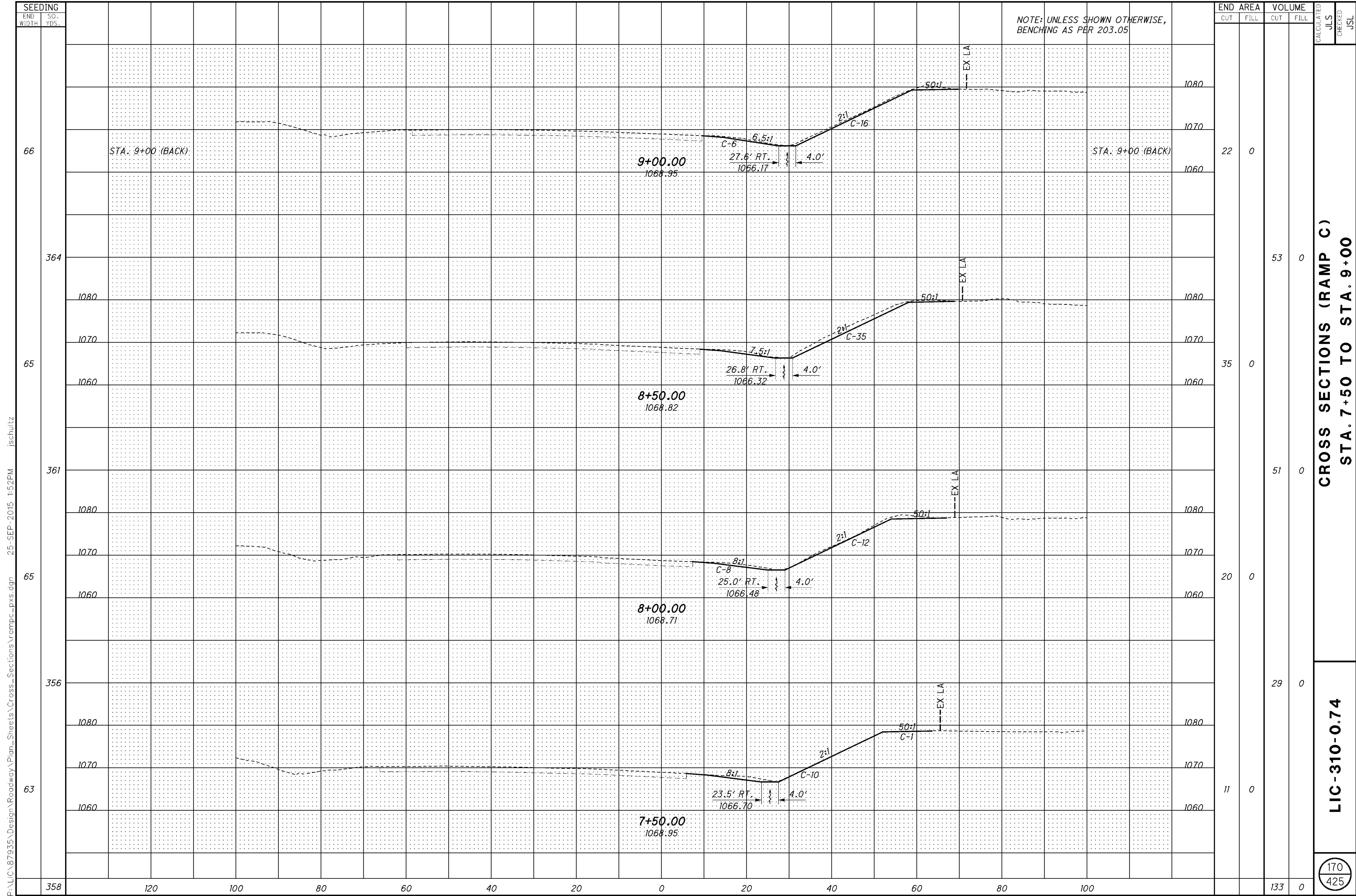
CROSS SECTIONS (RAMP C)
STA. 5+50 TO STA. 7+00

LIC-310-0.74

169
425



END AREA	VOLUME	CALCULATED	JLS	CHECKED	JSL
50	1				
43	1				
81	2				
44	1				
94	1				
58	0				
116	0				
67	0				
341	4				



NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

SEEDING		END AREA		VOLUME		CALCULATED		CHECKED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	JLS	JLS	JSL	JSL
66	364	22	0	53	0				
65	361	35	0	51	0				
65	356	20	0	29	0				
63		11	0						
358		133	0						

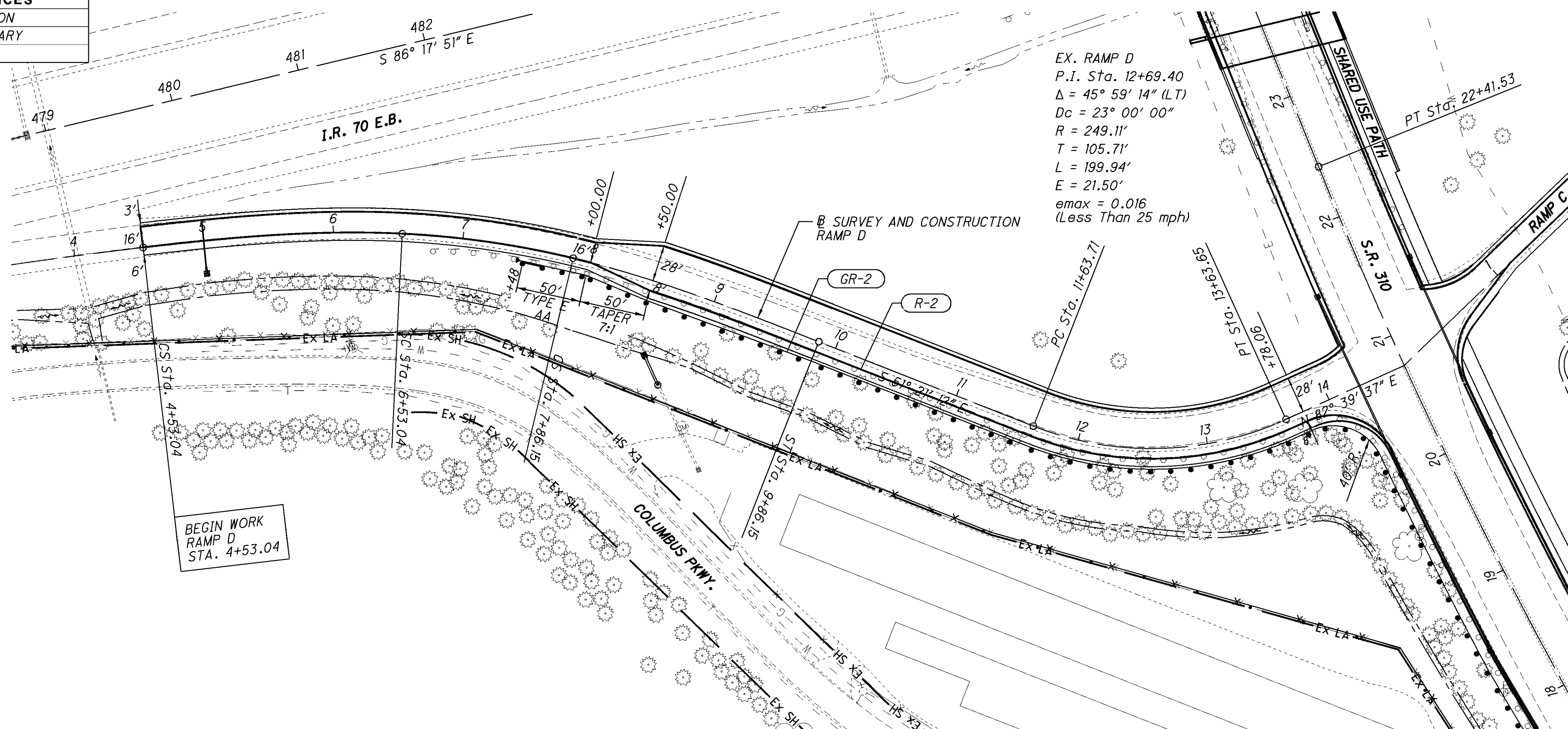
CROSS SECTIONS (RAMP C)
STA. 7+50 TO STA. 9+00

LIC-310-0.74

170
425

P:\LIC\87935\Design\Roadway\Plan_Sheets\Cross_Sections\Rampc_pxs.dgn 25-SEP-2015 1:52PM jschultz

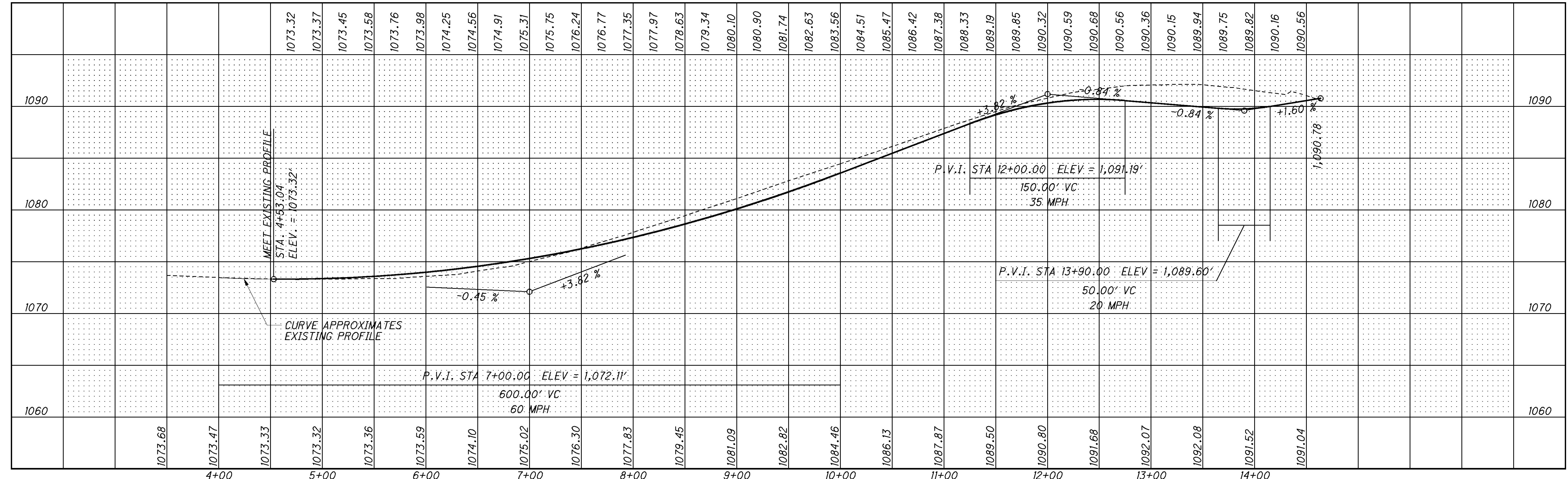
CROSS REFERENCES	
SHEETS	DESCRIPTION
96	ROADWAY SUBSUMMARY
210-243	DRAINAGE DETAILS



EX. RAMP D
P.I. Sta. 12+69.40
 $\Delta = 45^\circ 59' 14''$ (LT)
 $D_c = 23^\circ 00' 00''$
 $R = 249.11'$
 $T = 105.71'$
 $L = 199.94'$
 $E = 21.50'$
 $e_{max} = 0.016$
(Less Than 25 mph)

EX. RAMP D
P.I. Sta. 7+13.25
 $\Delta = 28^\circ 08' 56''$ (RT)
 $D_c = 8^\circ 00' 00''$
 $R = 716.20'$
 $L_s = 200.00'$
 $\theta_{s_1} = 9^\circ 30' 00''$
 $LT_1 = 123.02'$
 $ST_1 = 77.39'$
 $\theta_{s_2} = 8^\circ 00' 00''$
 $LT_2 = 133.47'$
 $ST_2 = 66.79'$
 $\Delta_c = 10^\circ 38' 56''$ (RT)
 $L_c = 133.11'$
 $T_1 = 260.18'$
 $T_2 = 281.37'$
 $E_s = 24.89'$
 $e_{max} = 0.078$ (45 mph)

BEGIN WORK
RAMP D
STA. 4+53.04

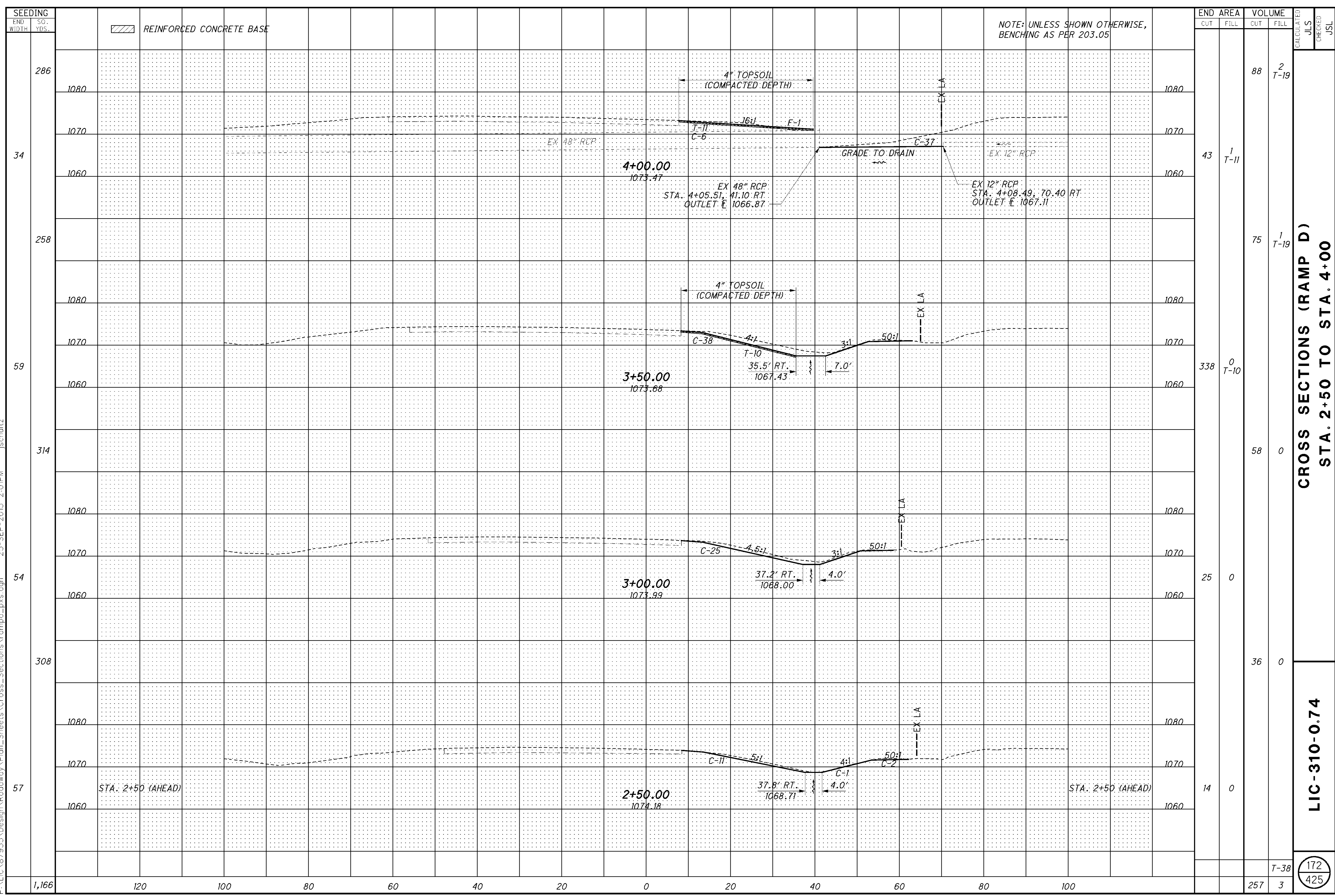


PLAN AND PROFILE (RAMP D)
STA. 4+53.04 TO STA. 14+63.65

LIC-310-0.74

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NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

REINFORCED CONCRETE BASE

SEEDING
END WIDTH SO. YDS.

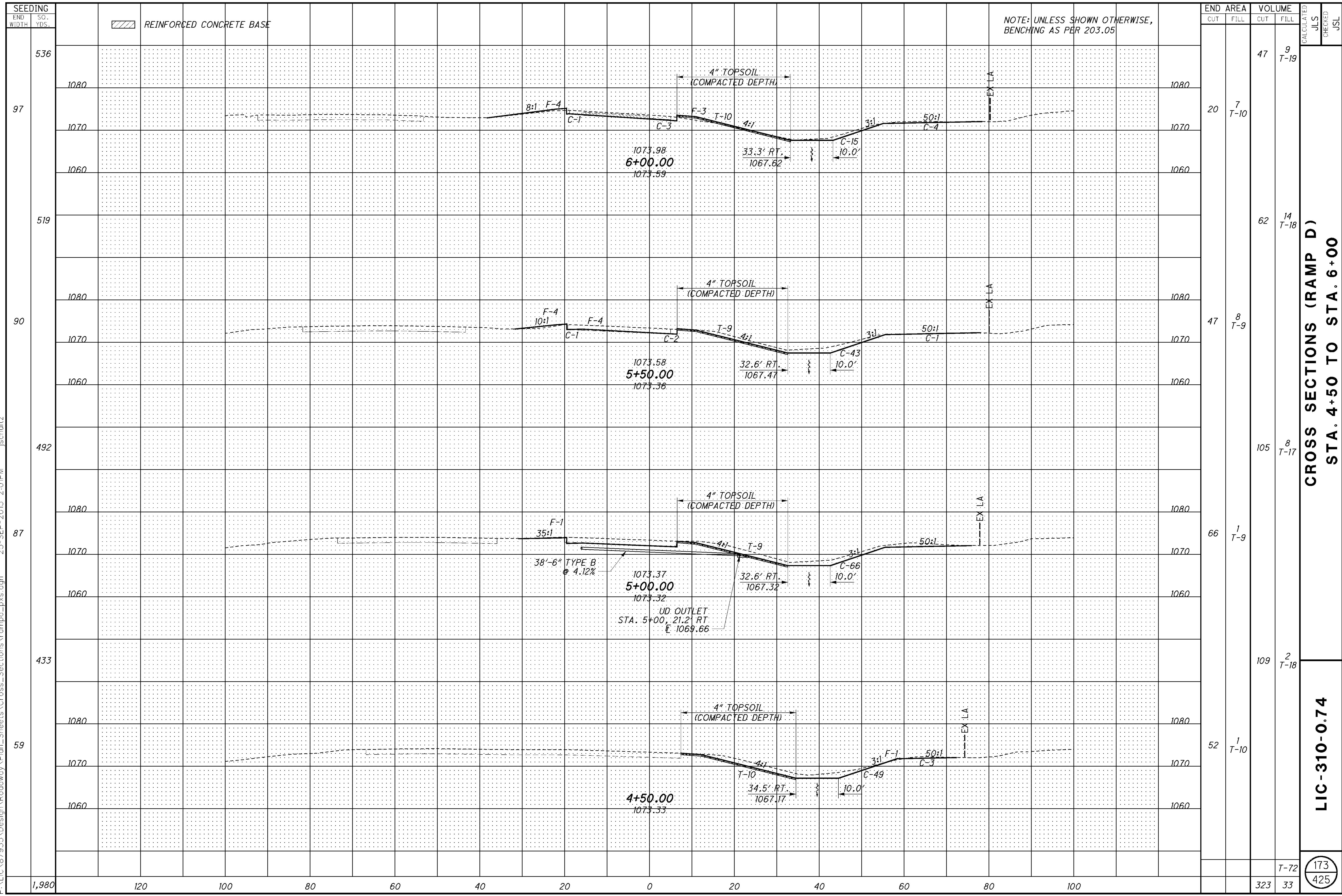
END AREA	VOLUME	CALCULATED	CHECKED		
				CUT	FILL
88	2	T-19			
43	1	T-11			
75	1	T-19			
338	0	T-10			
58	0				
25	0				
36	0				
14	0				
1,166	257	3			

CROSS SECTIONS (RAMP D)
STA. 2+50 TO STA. 4+00

LIC-310-0.74

172
425

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**CROSS SECTIONS (RAMP D)
 STA. 4+50 TO STA. 6+00**

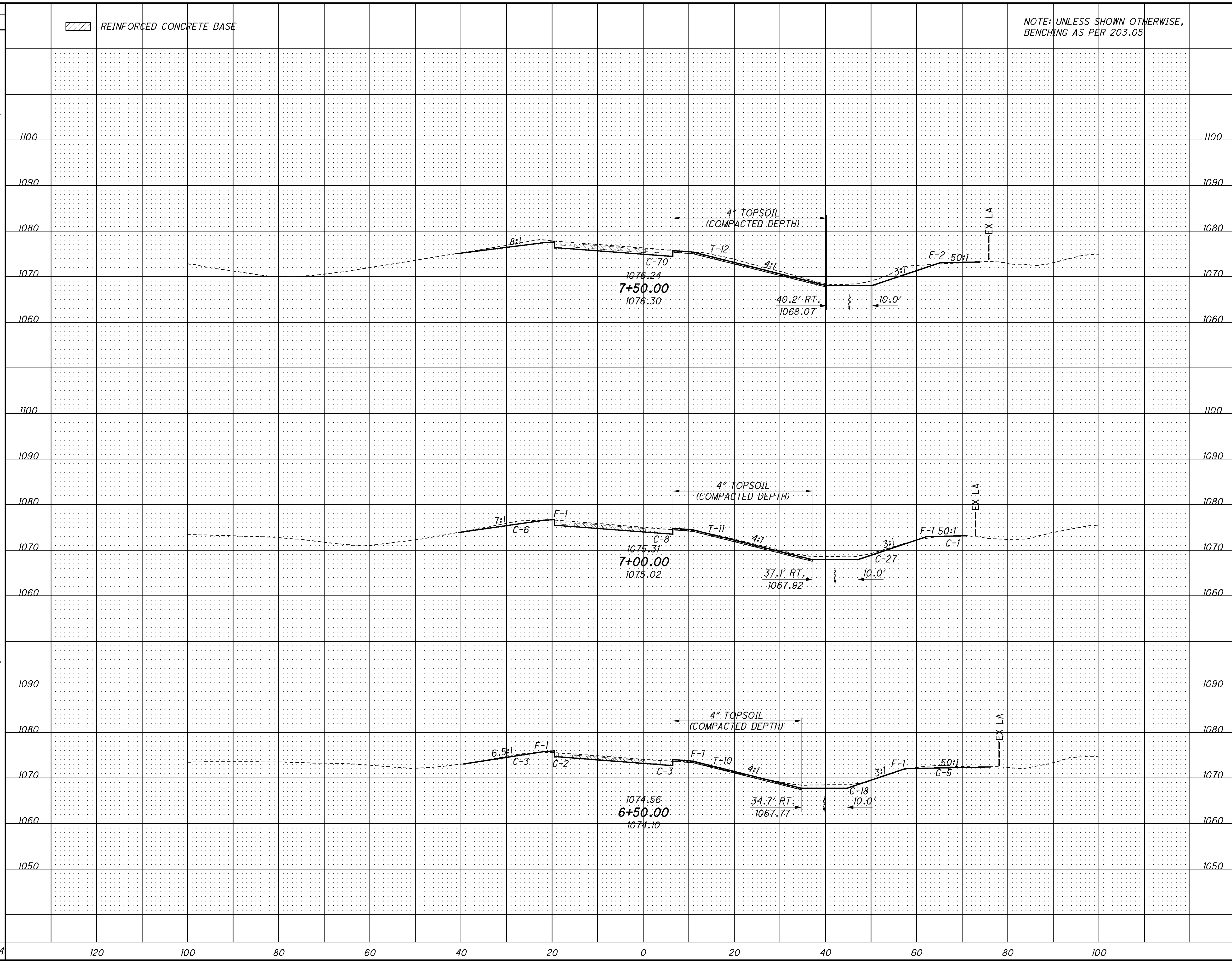
LIC-310-0.74

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SEEDING	END SO.	
	WIDTH	YDS.
553	1100	1100
95	1090	1090
	1080	1080
	1070	1070
	1060	1060
519	1100	1100
	1090	1090
	1080	1080
92	1070	1070
	1060	1060
522	1090	1090
	1080	1080
96	1070	1070
	1060	1060
	1050	1050
1,594		

REINFORCED CONCRETE BASE

NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

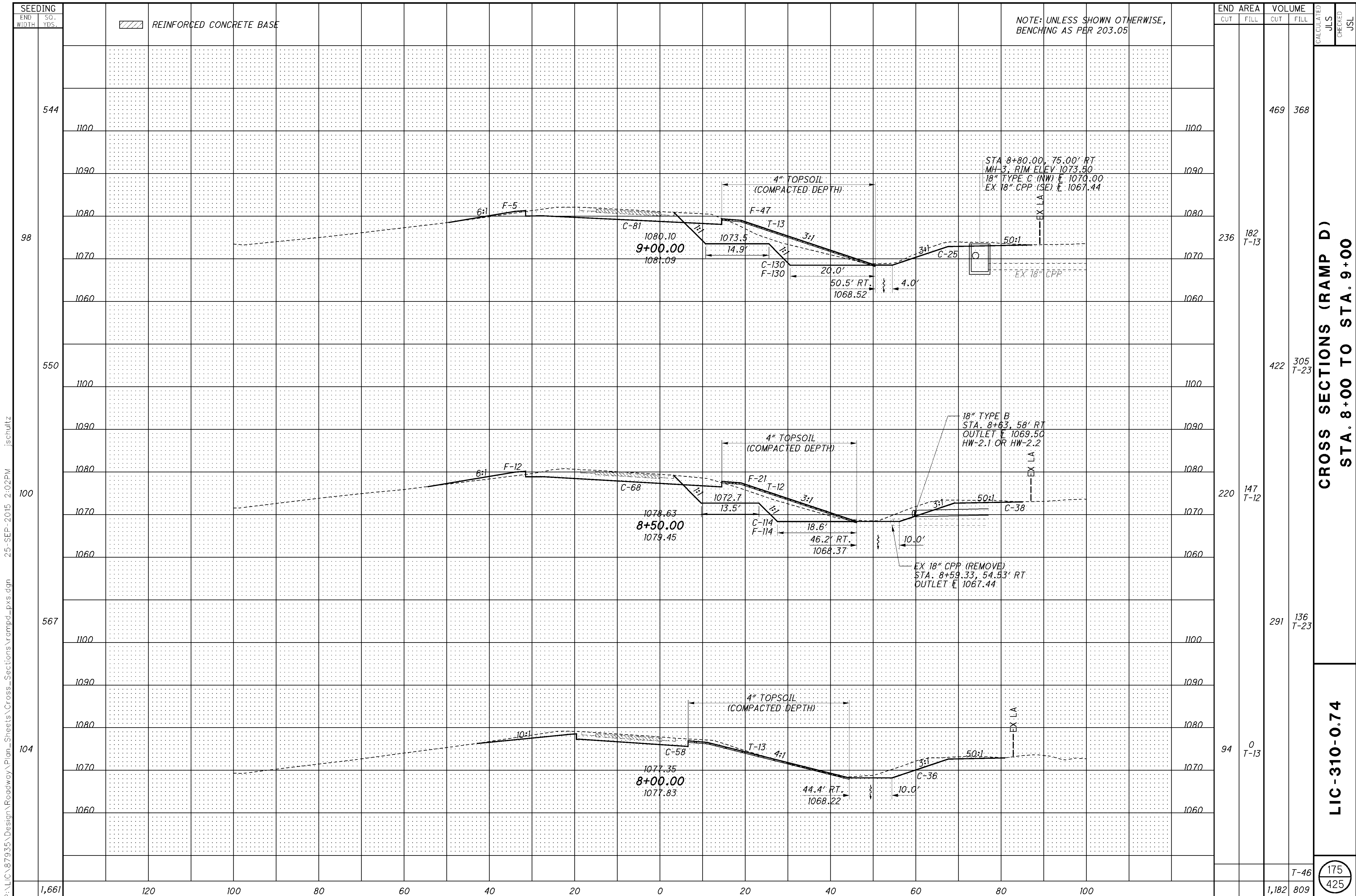


END AREA	VOLUME	CALCULATED	CHECKED				
				CUT	FILL	CUT	FILL
70	2	T-12		152	2	T-23	
42	2	T-11		104	4	T-21	
31	3	T-10		68	5	T-19	
				324	11		

CROSS SECTIONS (RAMP D)
STA. 6+50 TO STA. 7+50

LIC-310-0.74

174
425

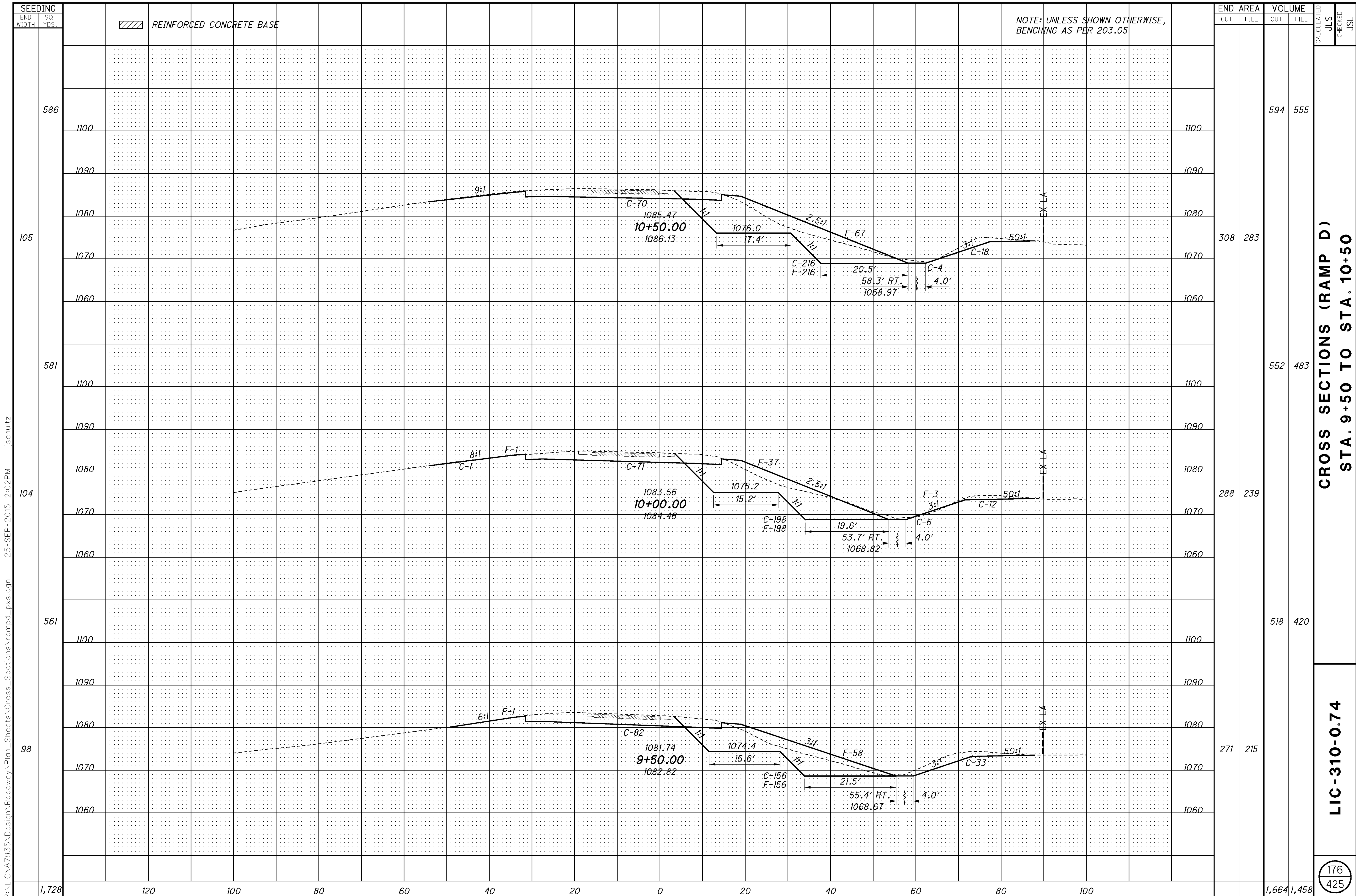


END AREA	VOLUME		CALCULATED	CHECKED
	CUT	FILL		
236	182	368	T-13	JSL
220	147	305	T-23	JSL
94	0	136	T-13	JSL
1,661	1,182	809	T-46	JSL

**CROSS SECTIONS (RAMP D)
 STA. 8+00 TO STA. 9+00**

LIC-310-0.74

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NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

SEEDING	
END WIDTH	SO. YDS.
1,728	

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	JLS	JSL
308	283	594	555		
288	239	552	483		
271	215	518	420		
		1,664	1,458		

CROSS SECTIONS (RAMP D)
STA. 9+50 TO STA. 10+50

LIC-310-0.74

176
425

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SEEDING	END WIDTH	SO. YDS.											END AREA		VOLUME		CALCULATED JLS	CHECKED JLS		
													CUT	FILL	CUT	FILL				
	583												291	373	579	690				
	594												321	351	567	670				
	597												334	316	606	618				
	105																			
	106																			
	109																			
	1774		120	100	80	60	40	20	0	20	40	60	80	100			1,752	1,978		

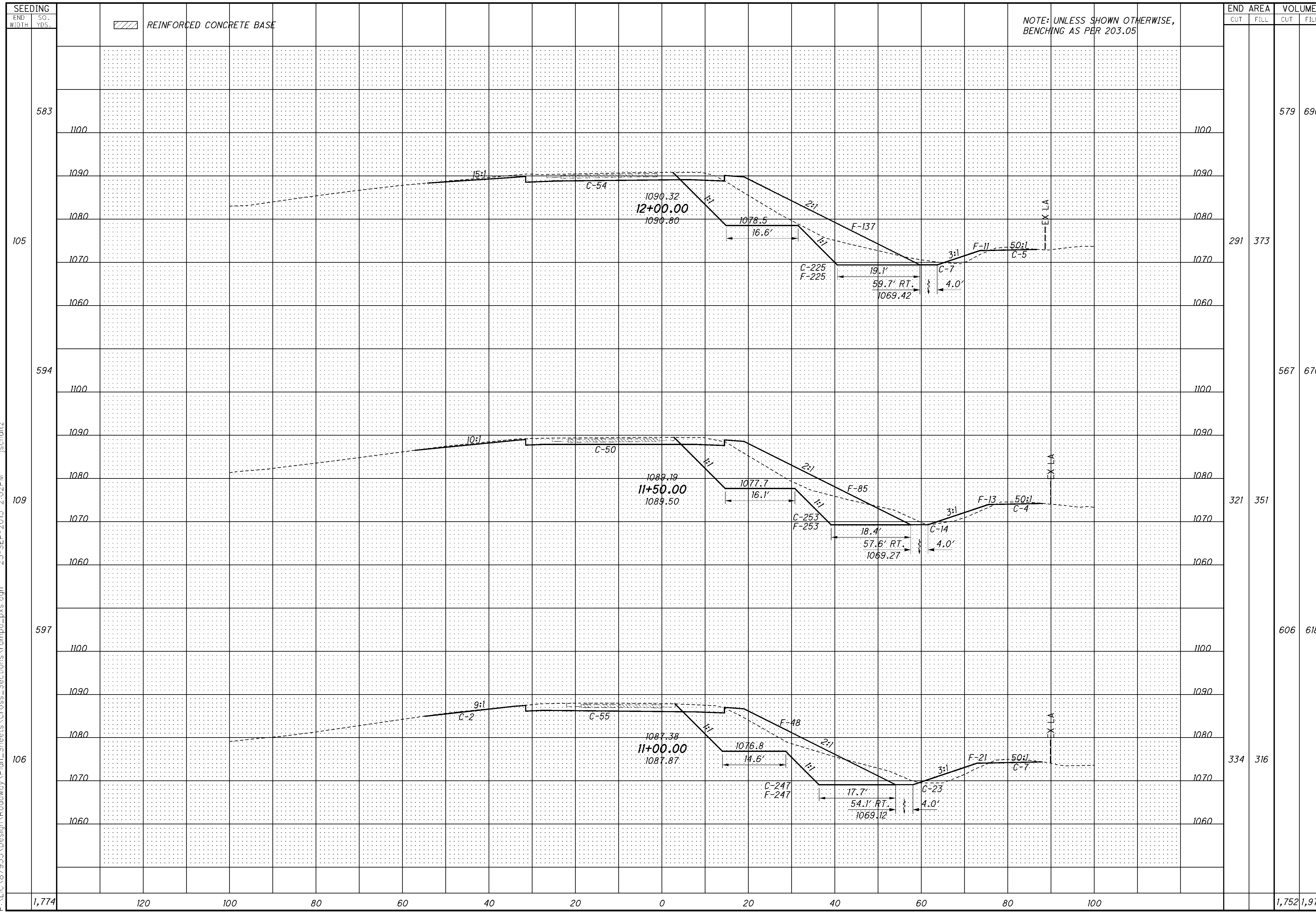
REINFORCED CONCRETE BASE

NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

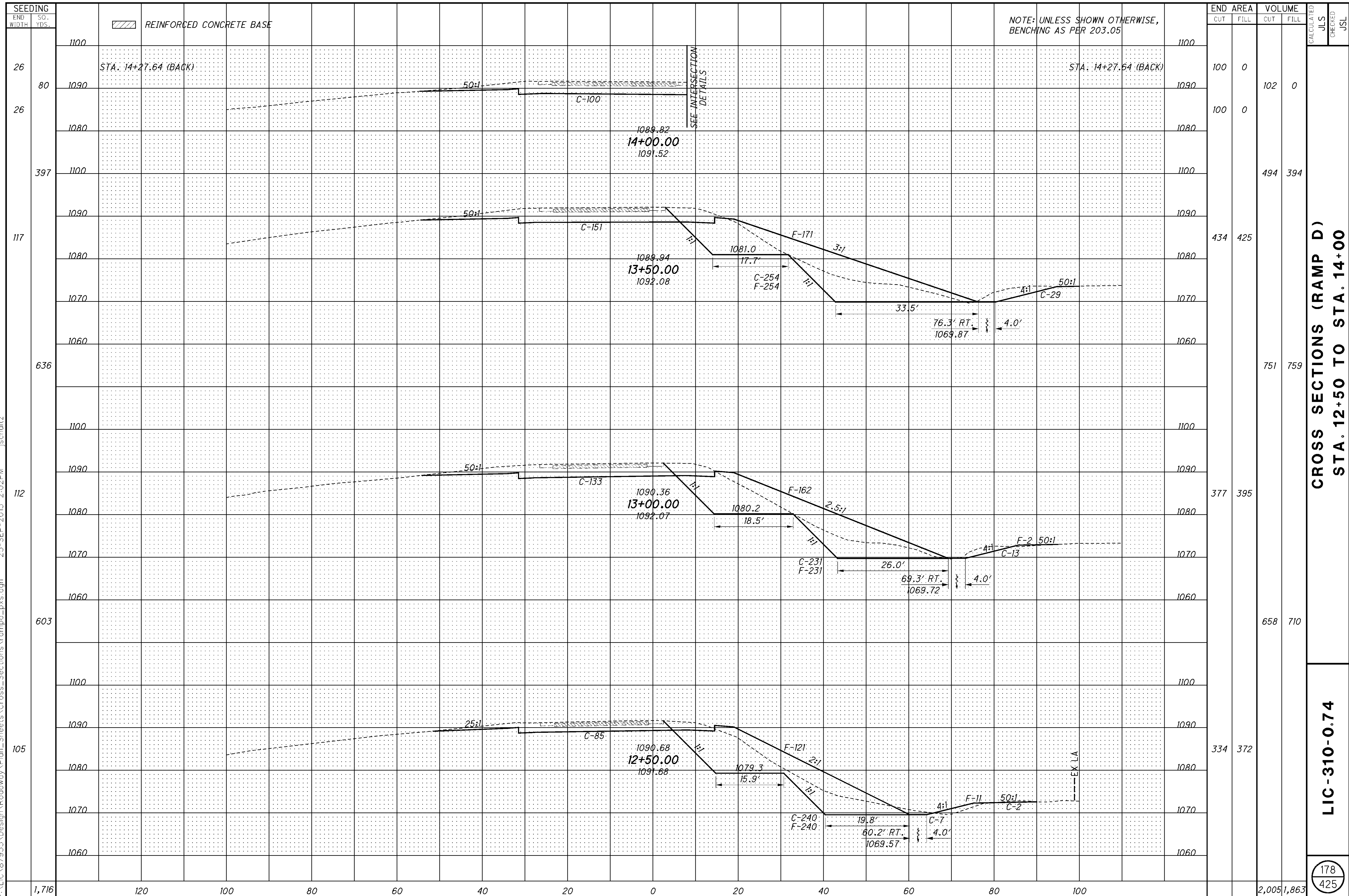
CROSS SECTIONS (RAMP D)
STA. 11+00 TO STA. 12+00

LIC-310-0.74

177
425



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NOTE: UNLESS SHOWN OTHERWISE, BENCHING AS PER 203.05

REINFORCED CONCRETE BASE

SEE INTERSECTION DETAILS

STA. 14+27.64 (BACK)

STA. 14+27.64 (BACK)

CROSS SECTIONS (RAMP D)
STA. 12+50 TO STA. 14+00

LIC-310-0.74

178
425

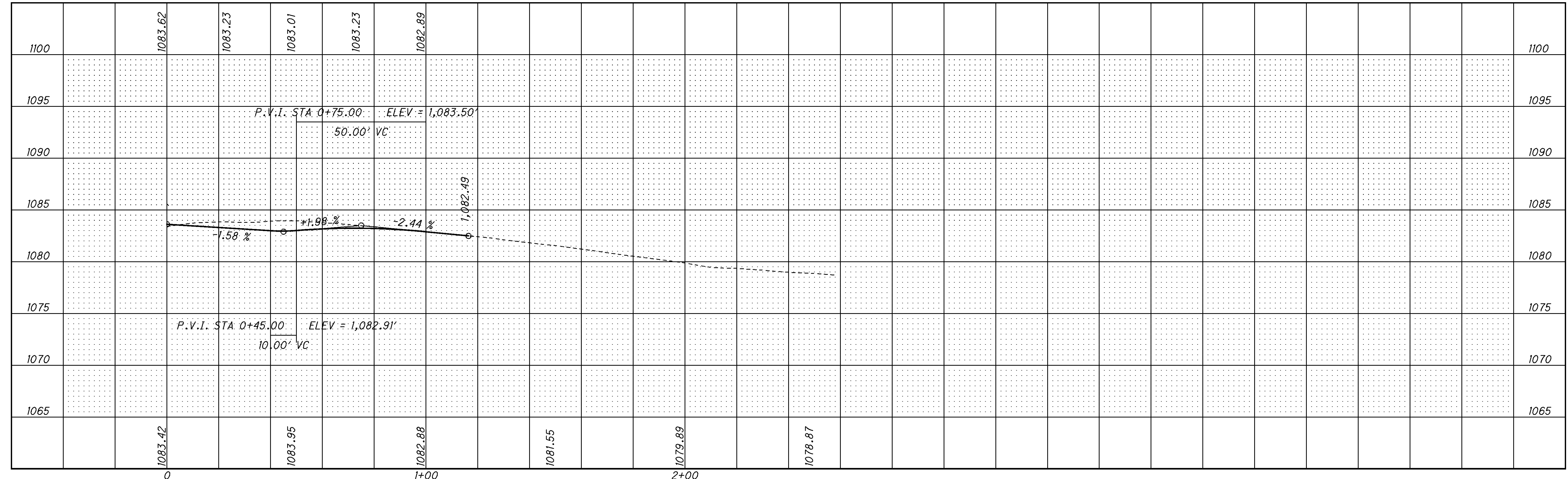
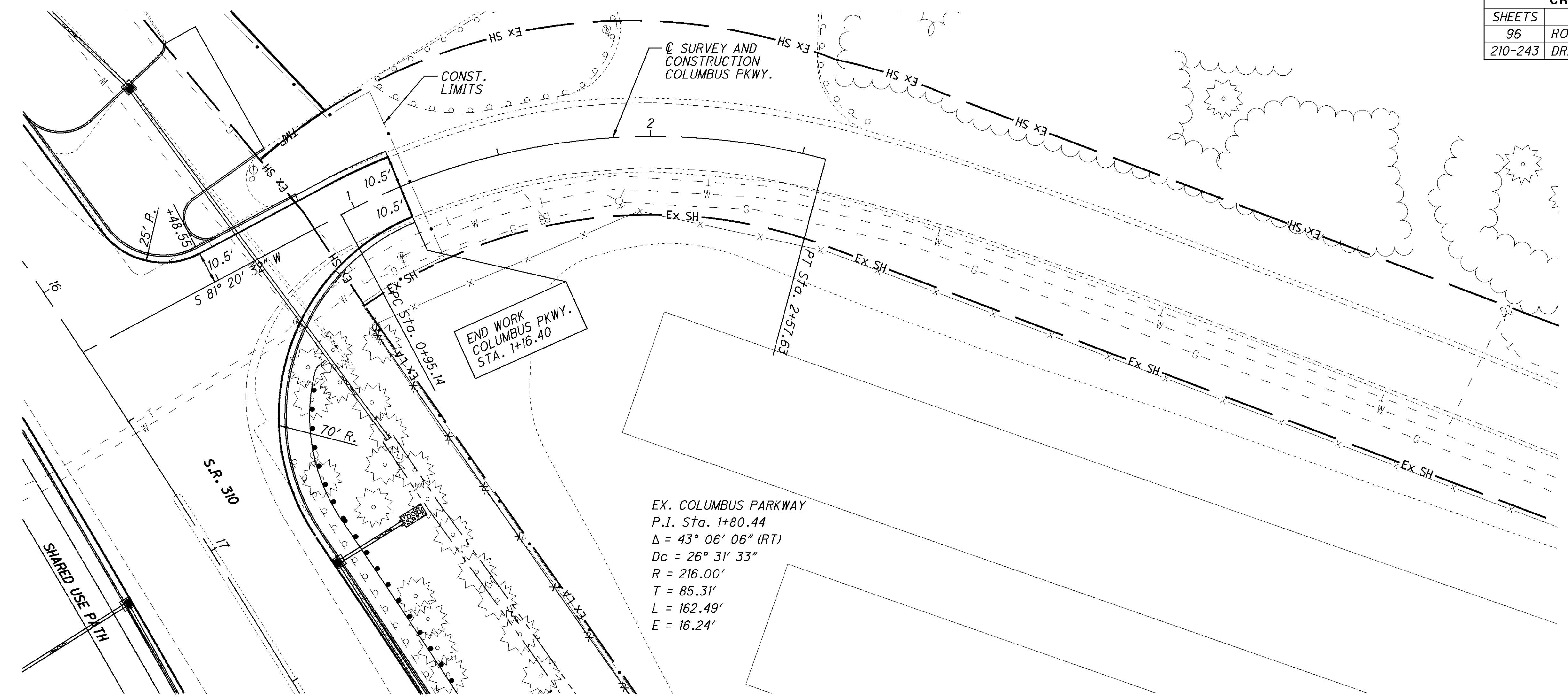
END STA.	AREA		VOLUME		CALCULATED JLS	CHECKED JLS
	CUT	FILL	CUT	FILL		
1100						
1090	100	0	102	0		
1080	100	0				
1100			494	394		
1090						
1080	434	425				
1070						
1060			751	759		
1100						
1090						
1080	377	395				
1070						
1060			658	710		
1100						
1090						
1080	334	372				
1070						
1060						
1,716			2,005	1,863		

CROSS REFERENCES	
SHEETS	DESCRIPTION
96	ROADWAY SUBSUMMARY
210-243	DRAINAGE DETAILS



CALCULATED
JLS
CHECKED
JLS

0 10 20 40
HORIZONTAL
SCALE IN FEET

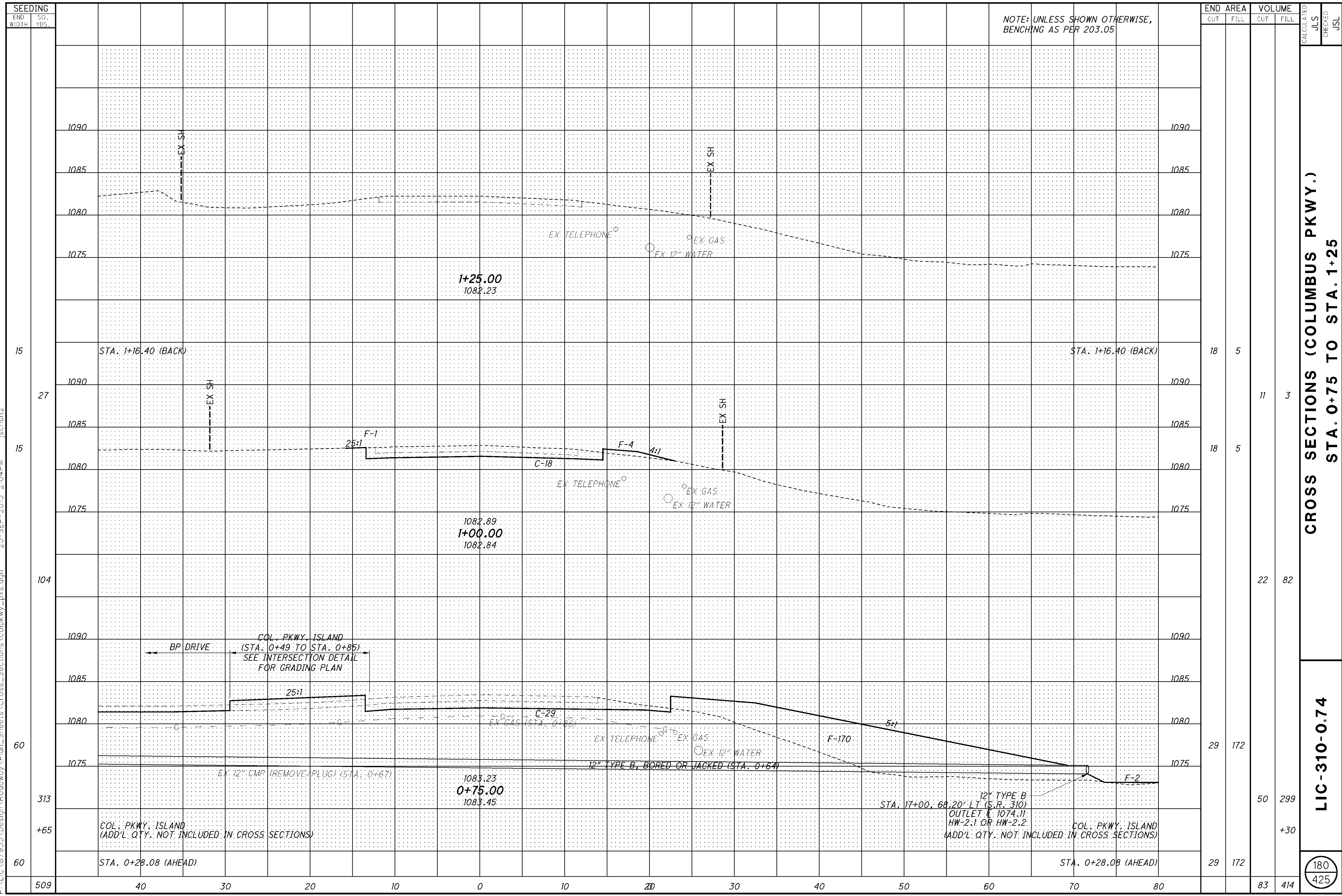


PLAN AND PROFILE (COLUMBUS PKWY.)
STA. 0+00 TO STA. 1+16.40

LIC-310-0.74

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NOTE: UNLESS SHOWN OTHERWISE,
BENCHING AS PER 203.05

END AREA	VOLUME	CALCULATED	CHECKED				
				CUT	FILL	CUT	FILL
18	5	11	3				
18	5						
22	82						
29	172						
29	172	50	299				
29	172						
83	414						

CROSS SECTIONS (COLUMBUS PKWY.)
STA. 0+75 TO STA. 1+25

LIC-310-0.74

180
425

1090
1085
1080
1075

1+25.00
1082.23

STA. 1+16.40 (BACK)

1090
1085
1080
1075

1082.89
1+00.00
1082.84

BP DRIVE

COL. PKWY. ISLAND
(STA. 0+49 TO STA. 0+85)
SEE INTERSECTION DETAIL
FOR GRADING PLAN

25:1

C-18

EX. TELEPHONE

EX. GAS

EX. 12" WATER

1090
1085
1080
1075

EX. 12" CMP (REMOVE/PLUG) (STA. 0+67)

1083.23
0+75.00
1083.45

COL. PKWY. ISLAND
(ADD'L QTY. NOT INCLUDED IN CROSS SECTIONS)

STA. 0+28.08 (AHEAD)

1090
1085
1080
1075

EX. TELEPHONE

EX. GAS

EX. 12" WATER

12" TYPE B, BORED OR JACKED (STA. 0+64)

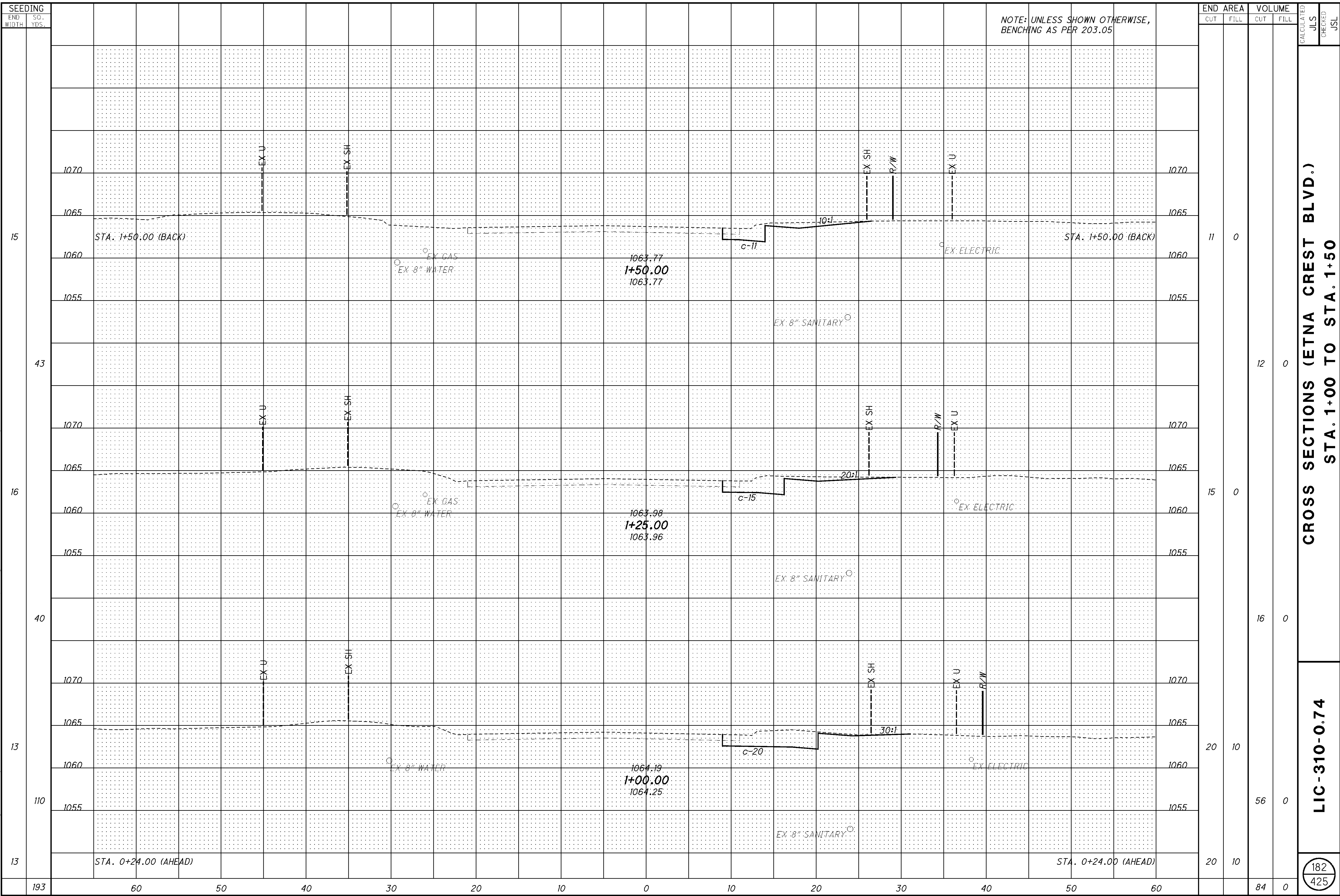
12" TYPE B
OUTLET LT. 1074.11
HW-2.1 OR HW-2.2
(ADD'L QTY. NOT INCLUDED IN CROSS SECTIONS)

COL. PKWY. ISLAND
(ADD'L QTY. NOT INCLUDED IN CROSS SECTIONS)

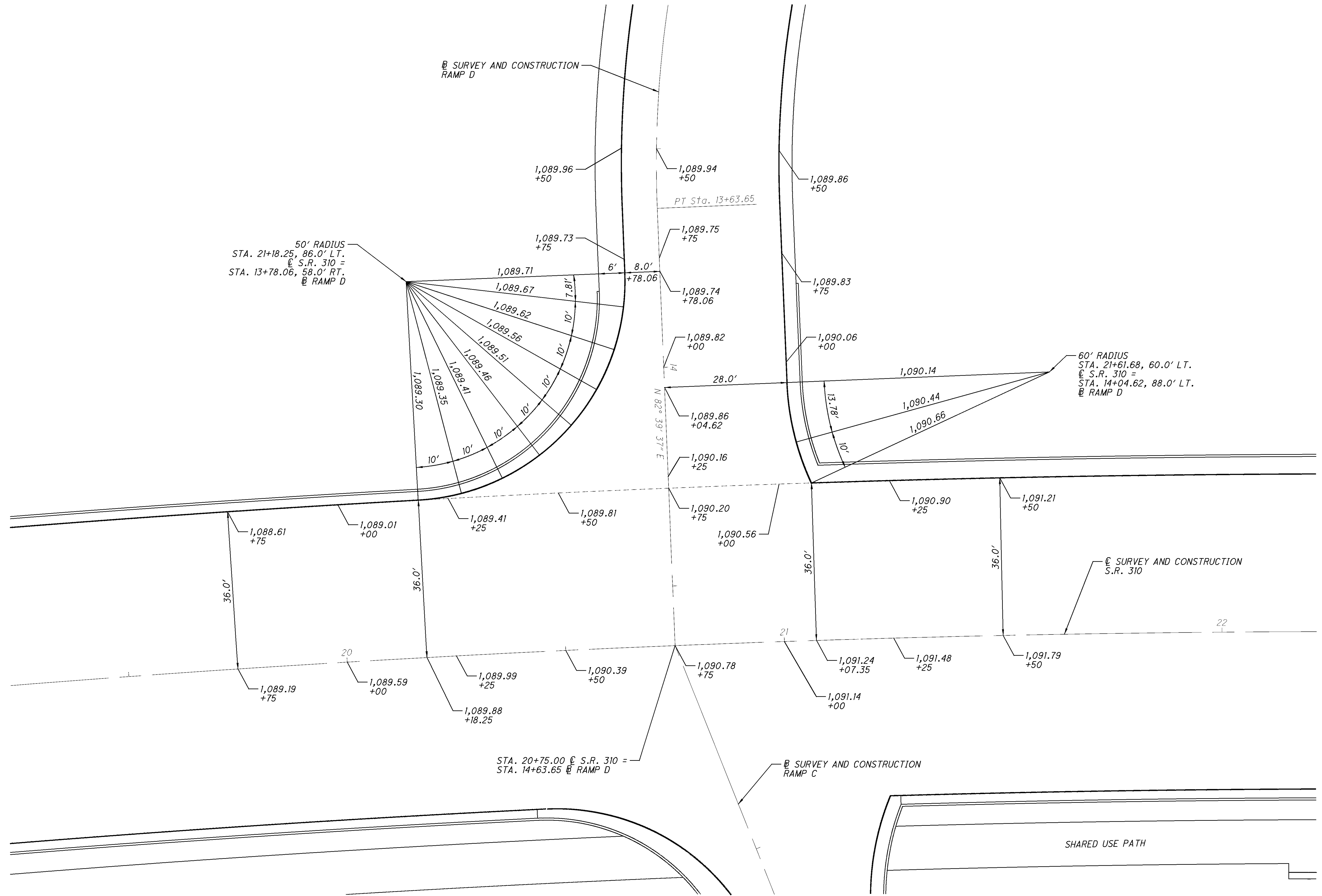
STA. 0+28.08 (AHEAD)

1090
1085
1080
1075

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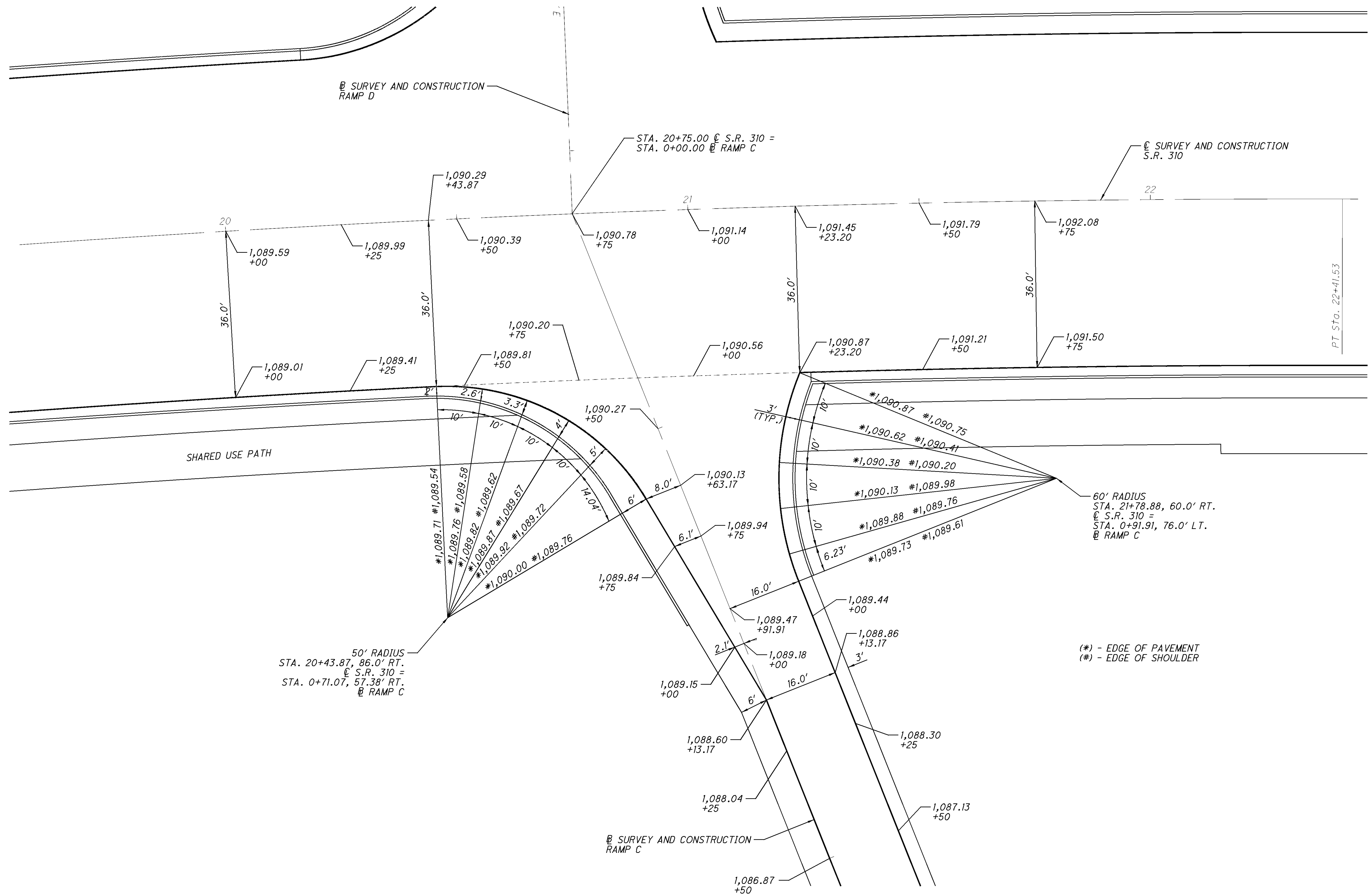
CALCULATED JLS
 CHECKED JLS

0 10 20
 HORIZONTAL SCALE IN FEET

INTERSECTION DETAIL SHEET
S.R. 310 AND RAMP D

LIC-310-0.74

P:\LIC\87935\Design\Roadway\Plan_Sheets\General\87935_det_003.dgn 25-SEP-2015 2:29PM jschultz



50' RADIUS
 STA. 20+43.87, 86.0' RT.
 C S.R. 310 =
 STA. 0+71.07, 57.38' RT.
 B RAMP C

(*) - EDGE OF PAVEMENT
 (#) - EDGE OF SHOULDER

CALCULATED JLS
 CHECKED JLS

0 5 10 20
 HORIZONTAL SCALE IN FEET

INTERSECTION DETAIL SHEET
 S.R. 310 AND RAMP C

LIC-310-0.74

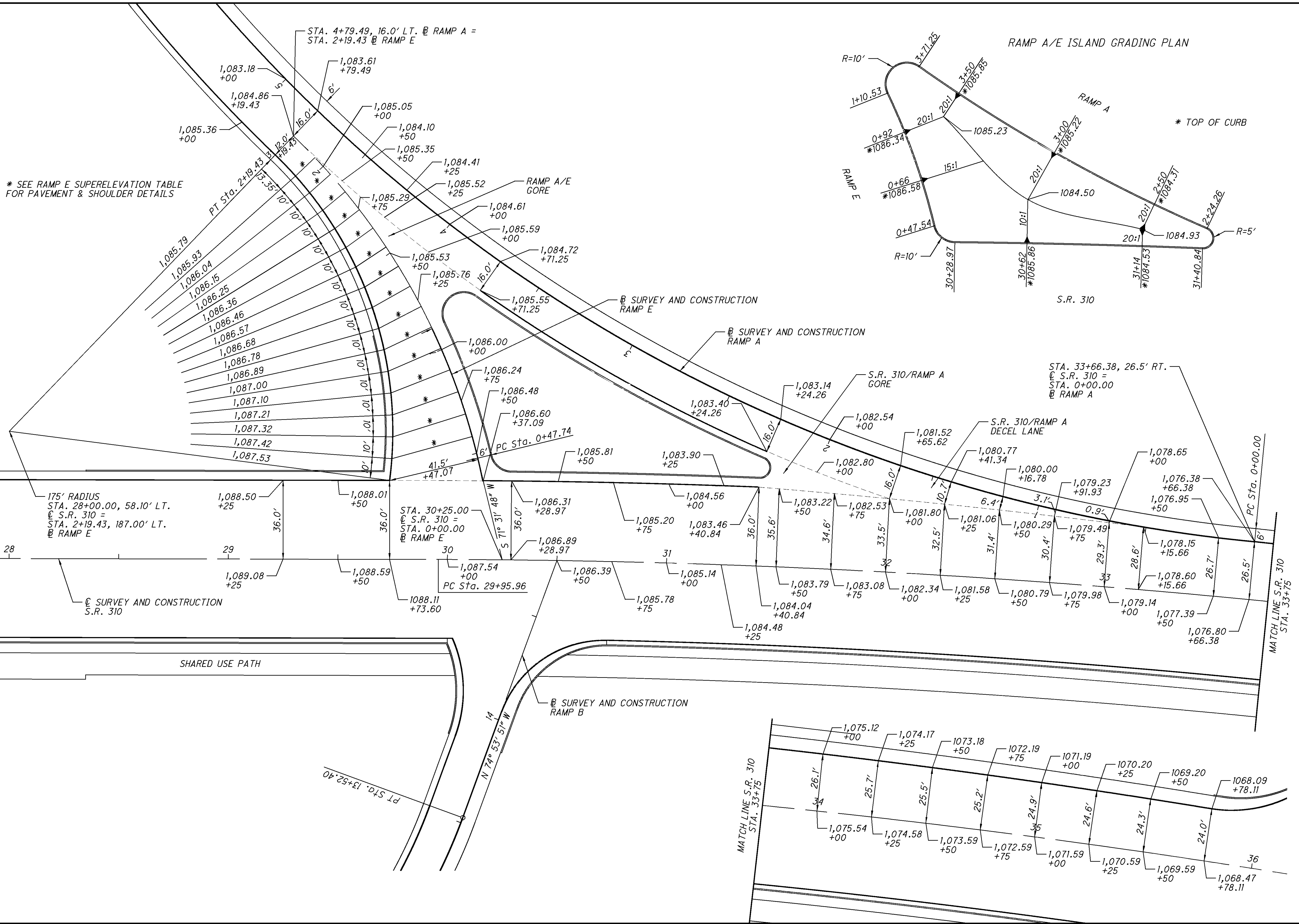
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* SEE RAMP E SUPERELEVATION TABLE FOR PAVEMENT & SHOULDER DETAILS

RAMP A/E ISLAND GRADING PLAN

CALCULATED JLS
CHECKED JSL

HORIZONTAL SCALE IN FEET



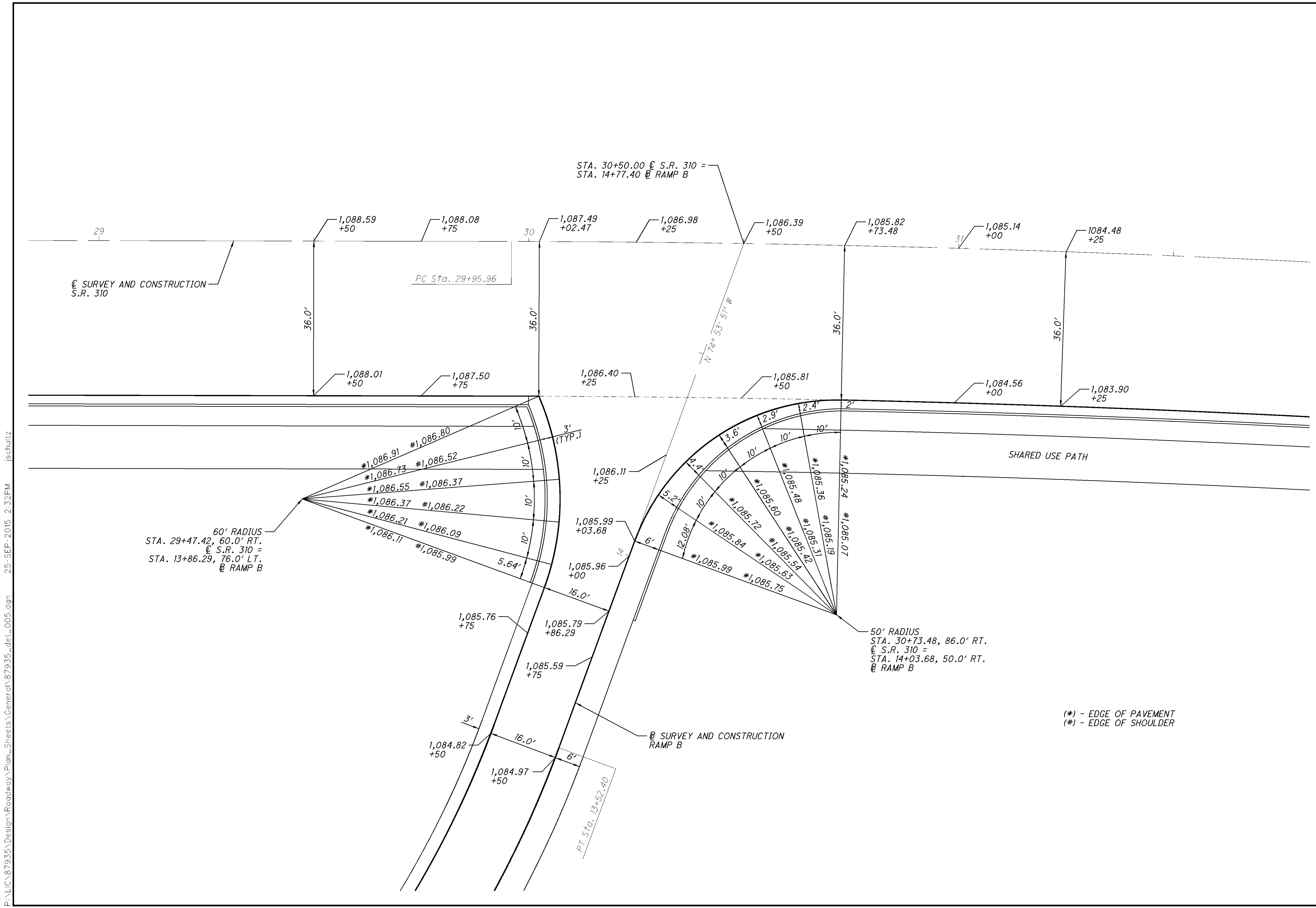
STA. 33+66.38, 26.5' RT.
 C S.R. 310 = STA. 0+00.00
 B RAMP A

INTERSECTION DETAIL SHEET
S.R. 310 AND RAMP A/E

LIC-310-0.74

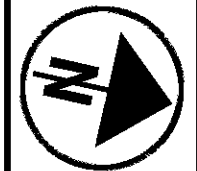
**INTERSECTION DETAIL SHEET
S.R. 310 AND RAMP B**

LIC-310-0.74



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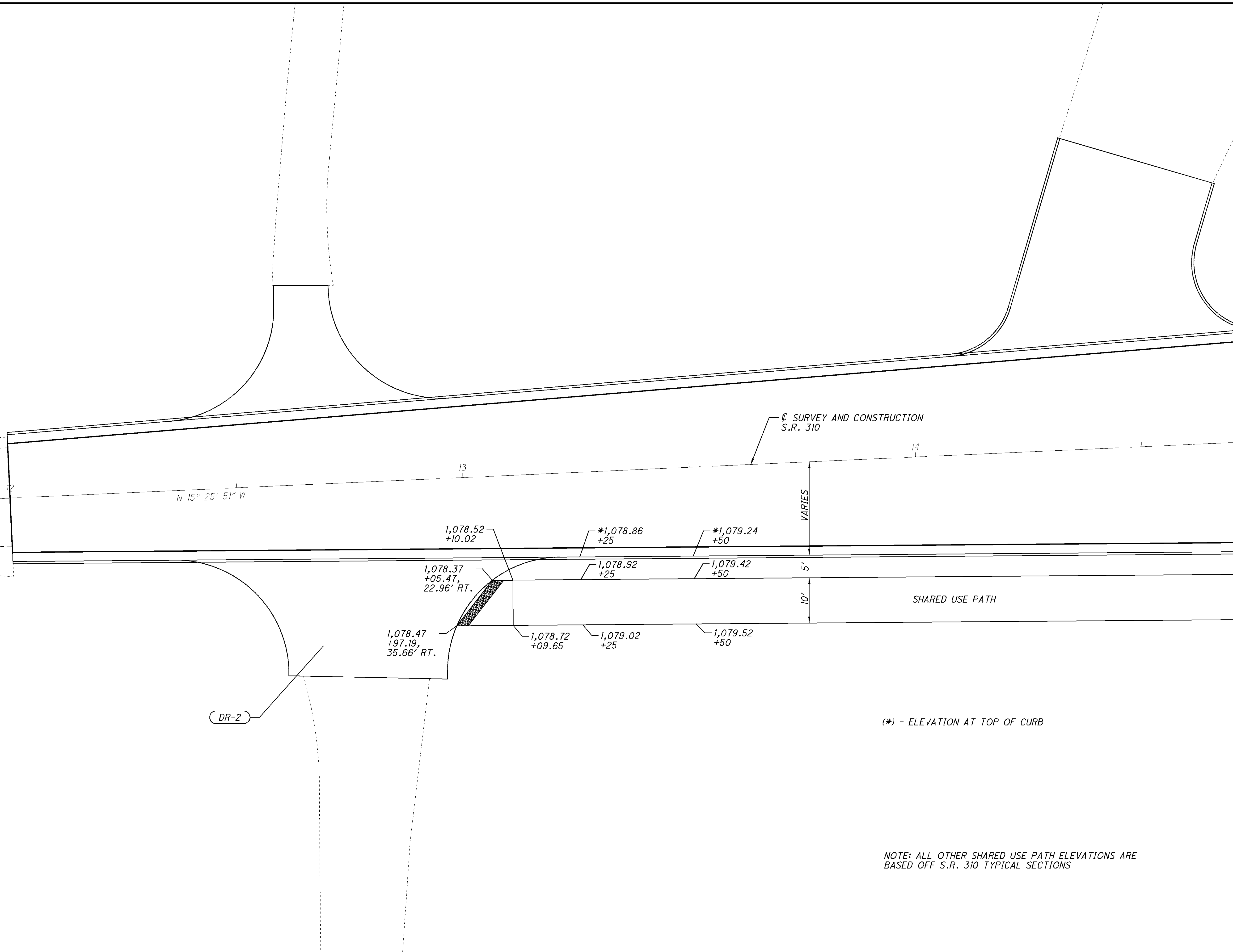
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HORIZONTAL
SCALE IN FEET

CALCULATED
JLS
CHECKED
JLS

INTERSECTION DETAIL SHEET
SHARED USE PATH AND DRIVE DR-2

LIC-310-0.74

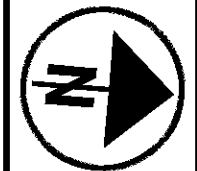
189
425



(*) - ELEVATION AT TOP OF CURB

NOTE: ALL OTHER SHARED USE PATH ELEVATIONS ARE BASED OFF S.R. 310 TYPICAL SECTIONS

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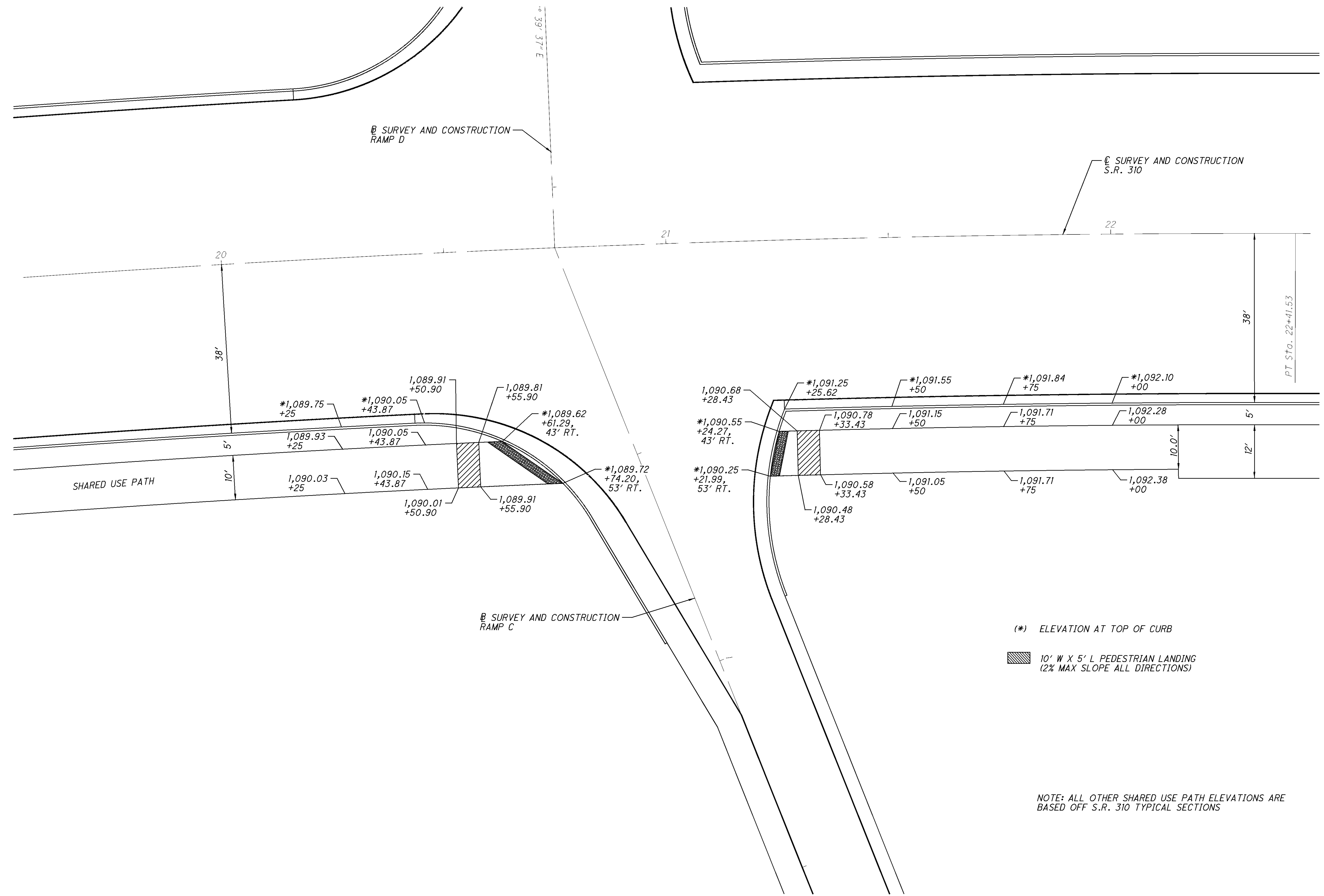
0 5 10 20
HORIZONTAL
SCALE IN FEET

CALCULATED JLS
CHECKED JSL

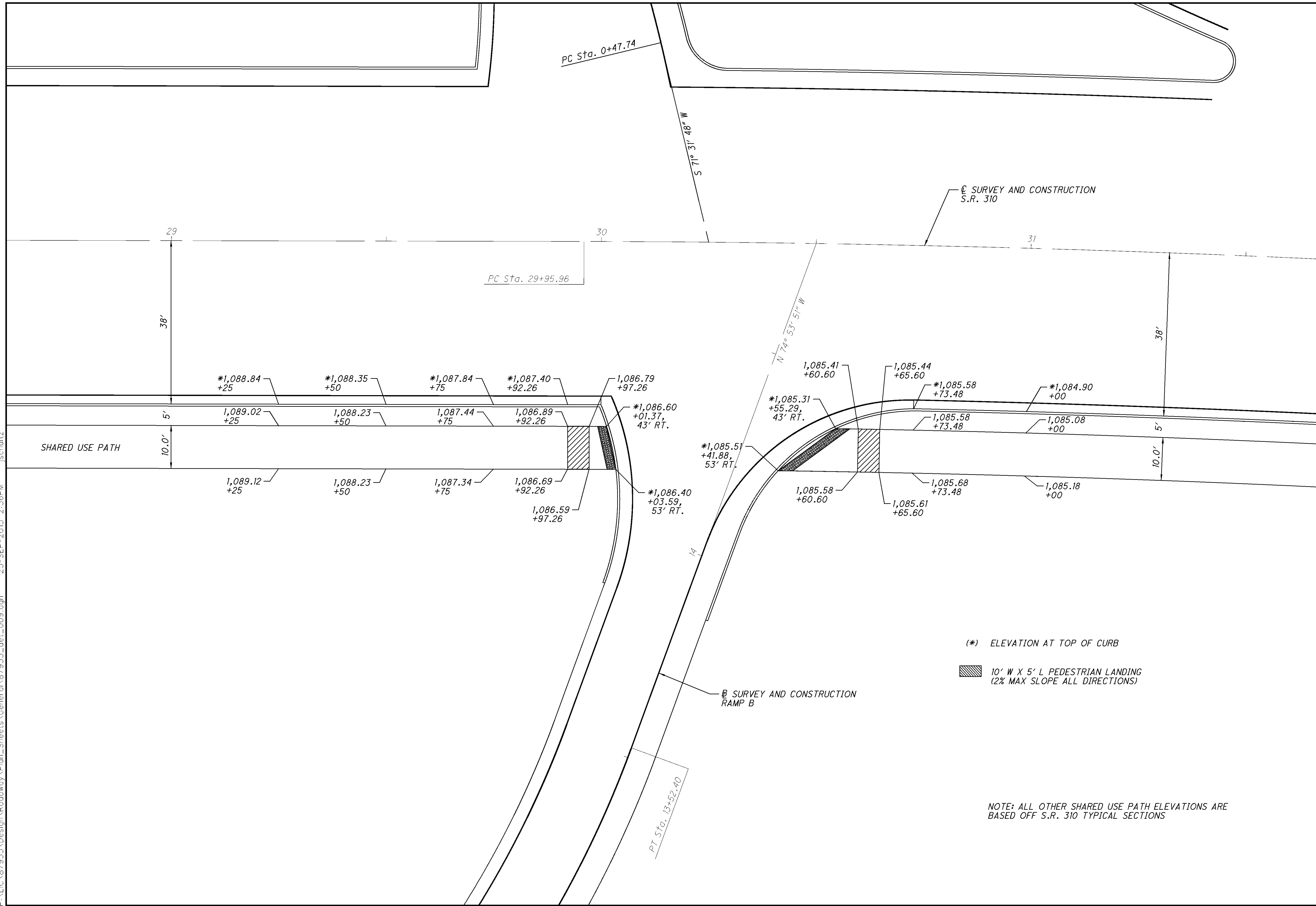
**INTERSECTION DETAIL SHEET
SHARED USE PATH AND RAMP C**

LIC-310-0.74

190
425



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CALCULATED JLS
 CHECKED JLS


0 5 10 20
 HORIZONTAL SCALE IN FEET

INTERSECTION DETAIL SHEET
 SHARED USE PATH AND RAMP B

LIC-310-0.74

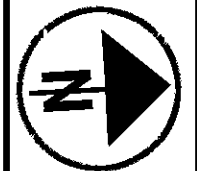
191
 425

(*) ELEVATION AT TOP OF CURB

 10' W X 5' L PEDESTRIAN LANDING
 (2% MAX SLOPE ALL DIRECTIONS)

NOTE: ALL OTHER SHARED USE PATH ELEVATIONS ARE BASED OFF S.R. 310 TYPICAL SECTIONS

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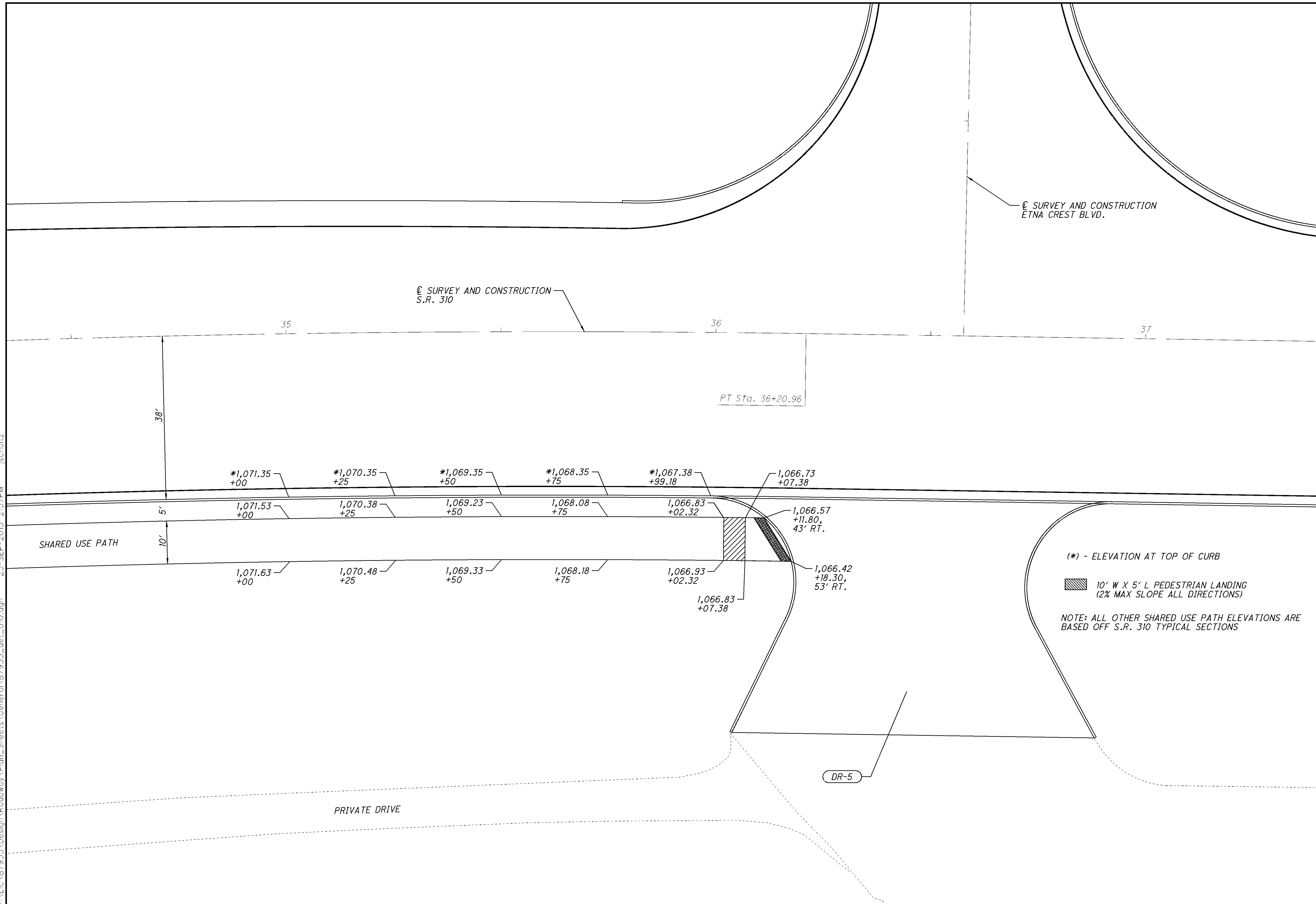
0 5 10 20
HORIZONTAL
SCALE IN FEET

CALCULATED JLS
CHECKED JLS

INTERSECTION DETAIL SHEET
SHARED USE PATH AND DRIVE DR-5

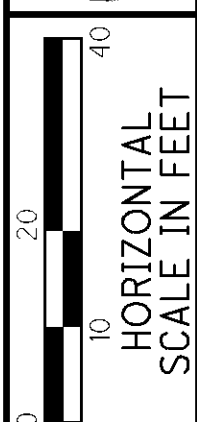
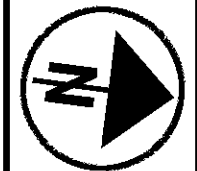
LIC-310-0.74

192
425



LEGEND

- (C) CONTRACTION JOINT PER BP-2.2
- (L) STANDARD LONGITUDINAL JOINT PER BP-2.1
- (S) STANDARD LONGITUDINAL JOINT PER BP-2.1 WITHOUT TIE BARS
- (W) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS
- (X) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS AND P-E.J.F. (2" DEEP SAWCUT WITH 705.04 JOINT SEAL)
- (*) 2' MINIMUM



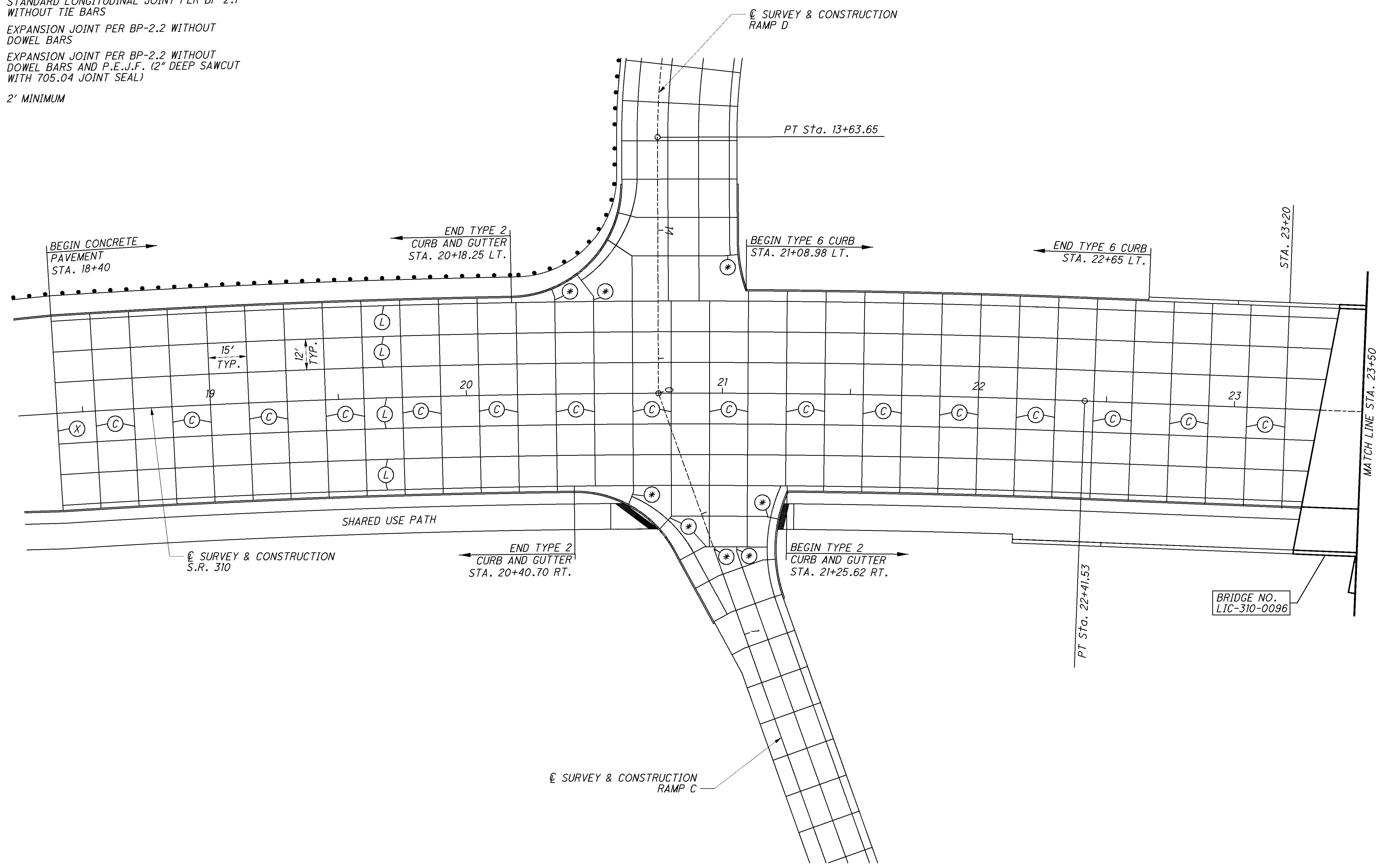
CALCULATED BRH CHECKED JSJ

**PAVEMENT JOINT DETAILS (S.R. 310)
STA. 18+25 TO STA. 23+50**

LIC-310-0.74

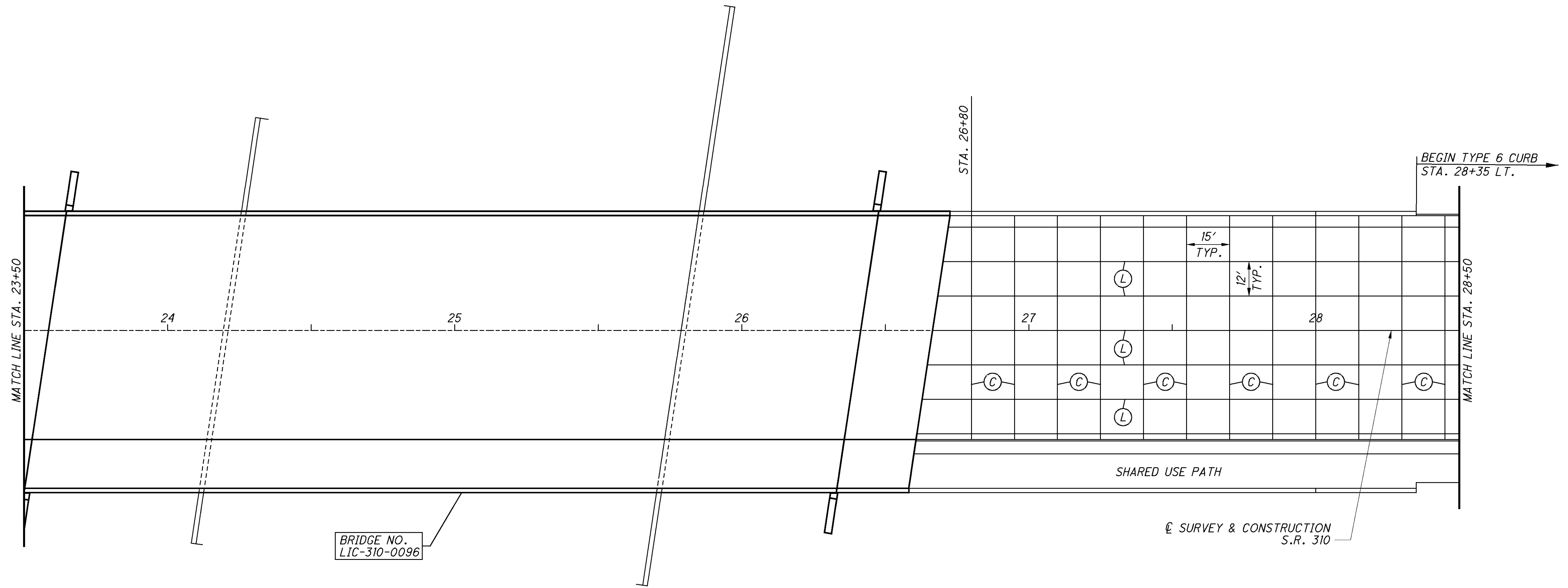
193
425

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LEGEND

- (C) CONTRACTION JOINT PER BP-2.2
- (L) STANDARD LONGITUDINAL JOINT PER BP-2.1
- (S) STANDARD LONGITUDINAL JOINT PER BP-2.1 WITHOUT TIE BARS
- (W) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS
- (X) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS AND P.E.J.F. (2" DEEP SAWCUT WITH 705.04 JOINT SEAL)
- (*) 2' MINIMUM



BRIDGE NO.
LIC-310-0096

SHARED USE PATH

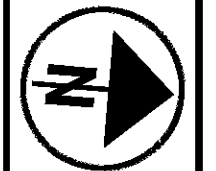
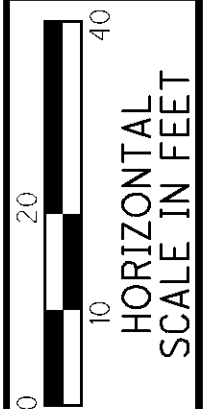
© SURVEY & CONSTRUCTION
S.R. 310

PAVEMENT JOINT DETAILS (S.R. 310)
STA. 23+50 TO STA. 28+50

LIC-310-0.74

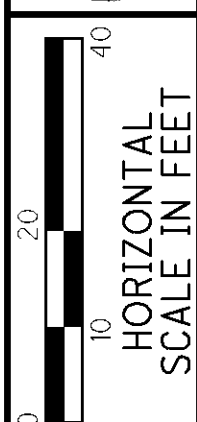
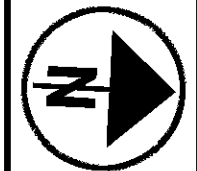
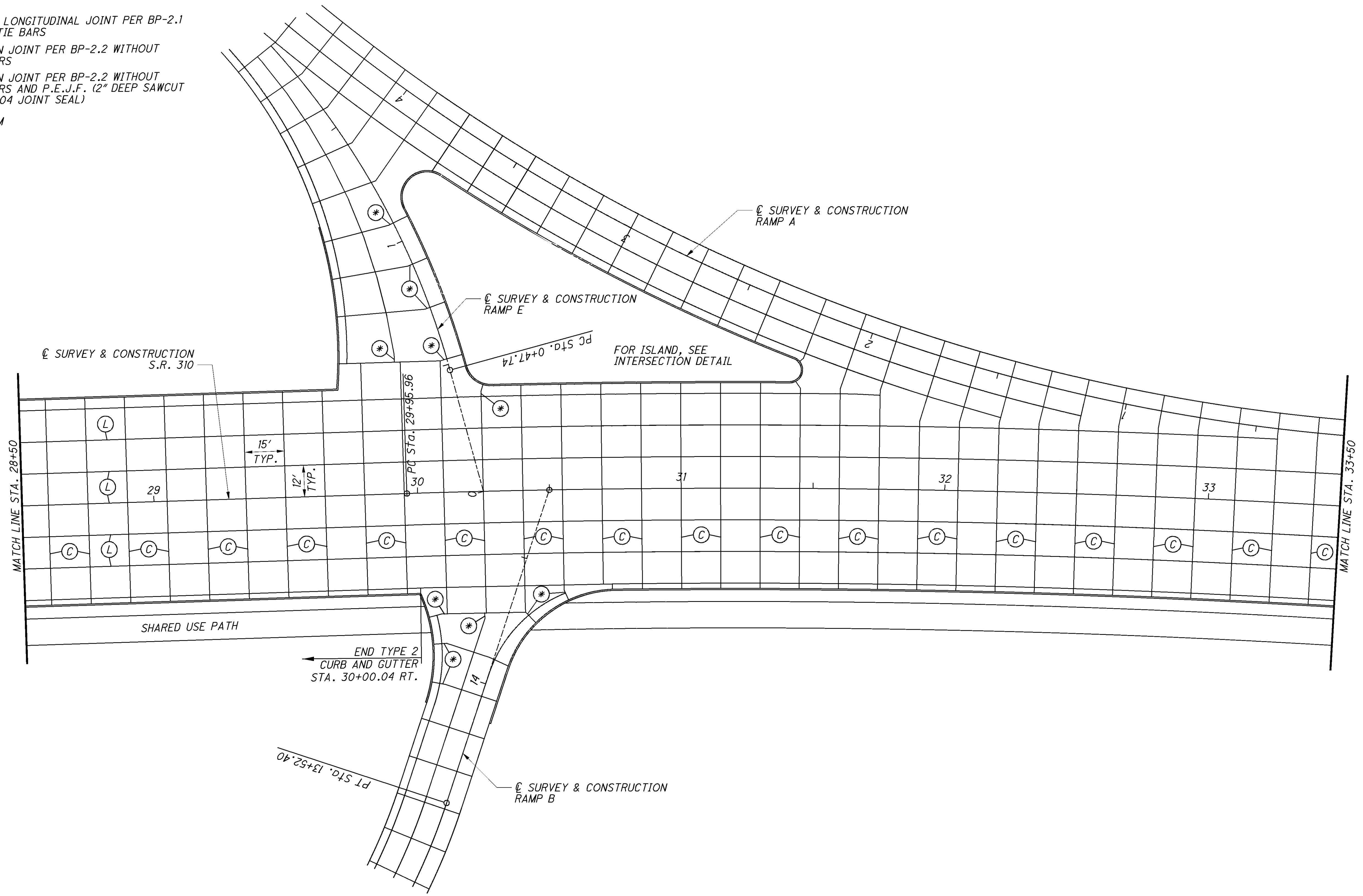
194
425

CALCULATED
BRH
CHECKED
JSJ



LEGEND

- (C) CONTRACTION JOINT PER BP-2.2
- (L) STANDARD LONGITUDINAL JOINT PER BP-2.1
- (S) STANDARD LONGITUDINAL JOINT PER BP-2.1 WITHOUT TIE BARS
- (W) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS
- (X) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS AND P-E.J.F. (2" DEEP SAWCUT WITH 705.04 JOINT SEAL)
- (*) 2' MINIMUM



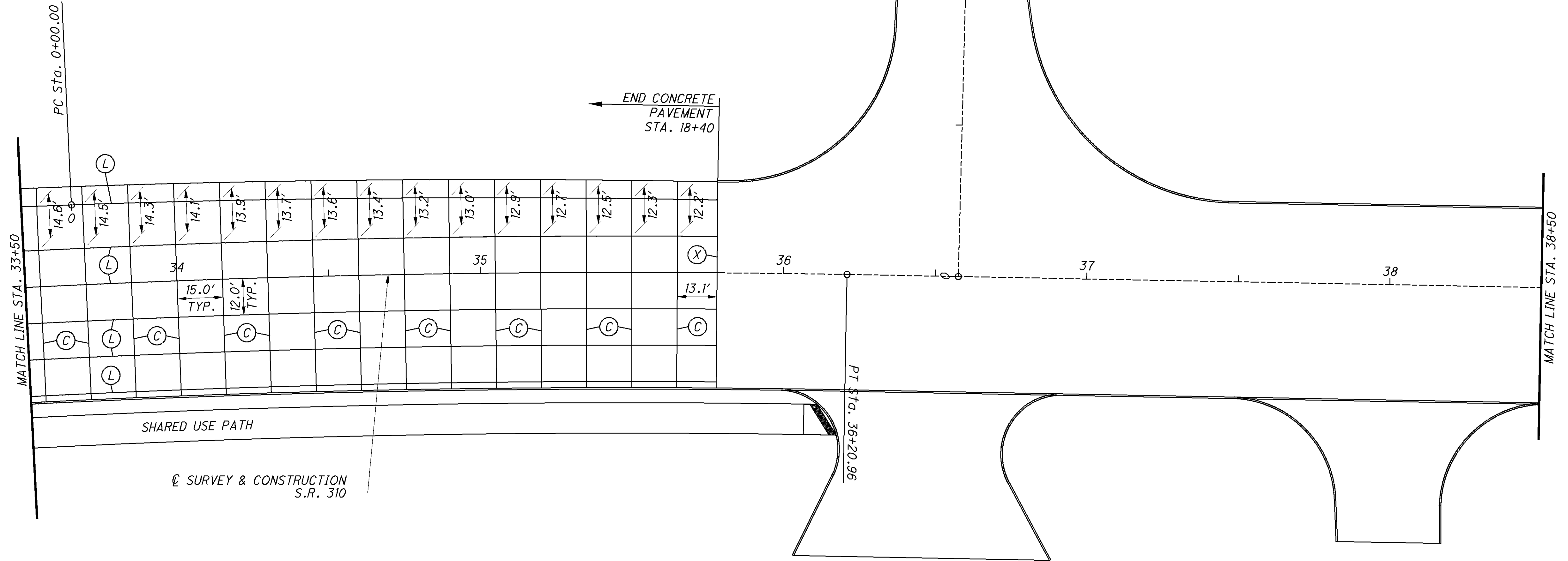
CALCULATED BY BRH
CHECKED BY JSJ

**PAVEMENT JOINT DETAILS (S.R. 310)
STA. 28+50 TO STA. 33+50**

LIC-310-0.74

LEGEND

- (C) CONTRACTION JOINT PER BP-2.2
- (L) STANDARD LONGITUDINAL JOINT PER BP-2.1
- (S) STANDARD LONGITUDINAL JOINT PER BP-2.1 WITHOUT TIE BARS
- (W) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS
- (X) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS AND P-E.J.F. (2" DEEP SAWCUT WITH 705.04 JOINT SEAL)
- (*) 2' MINIMUM



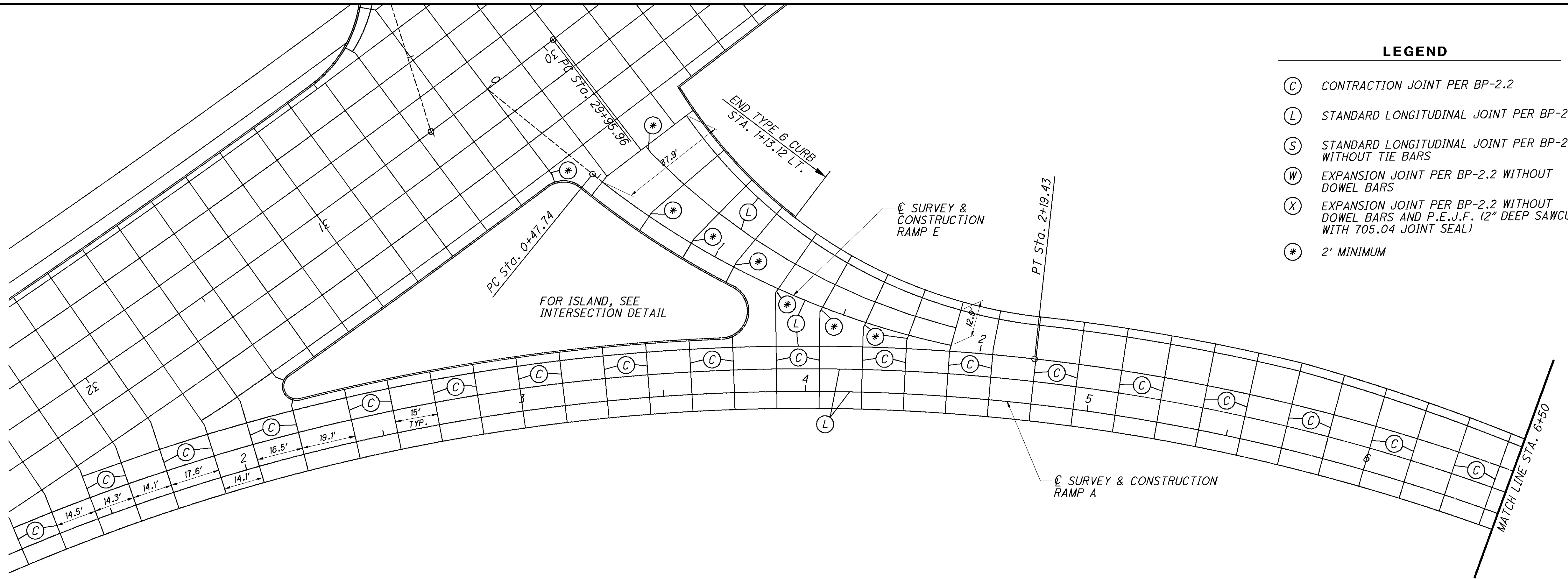
CALCULATED
BRH
CHECKED
JSJ

0 20 40
HORIZONTAL
SCALE IN FEET

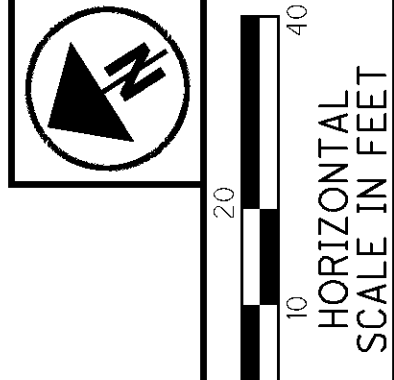
PAVEMENT JOINT DETAILS (S.R. 310)
STA. 33+50 TO STA. 38+50

LIC-310-0.74

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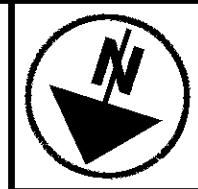
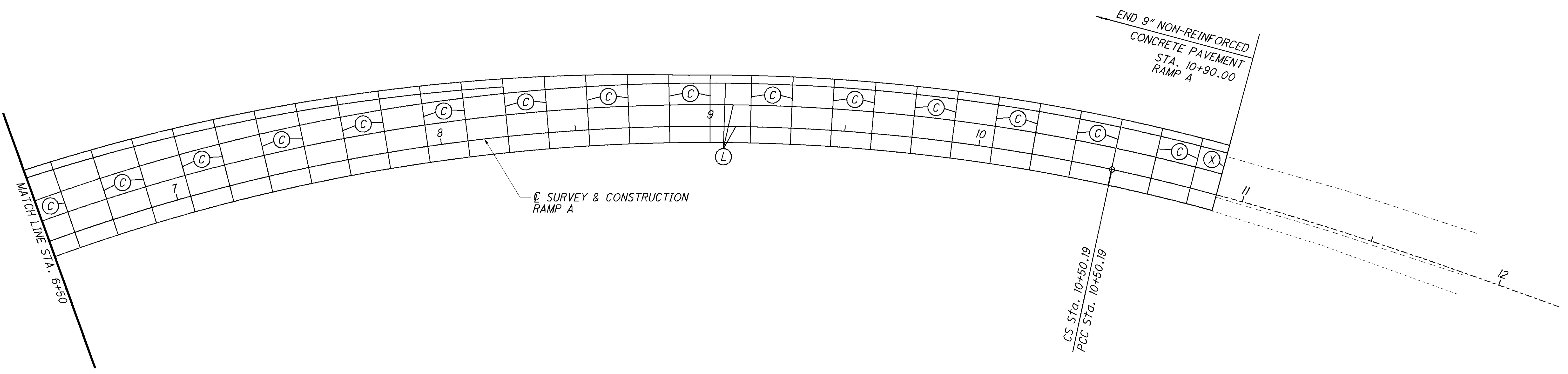


- LEGEND**
- (C) CONTRACTION JOINT PER BP-2.2
 - (L) STANDARD LONGITUDINAL JOINT PER BP-2.1
 - (S) STANDARD LONGITUDINAL JOINT PER BP-2.1 WITHOUT TIE BARS
 - (W) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS
 - (X) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS AND P.E.J.F. (2" DEEP SAWCUT WITH 705.04 JOINT SEAL)
 - (*) 2' MINIMUM



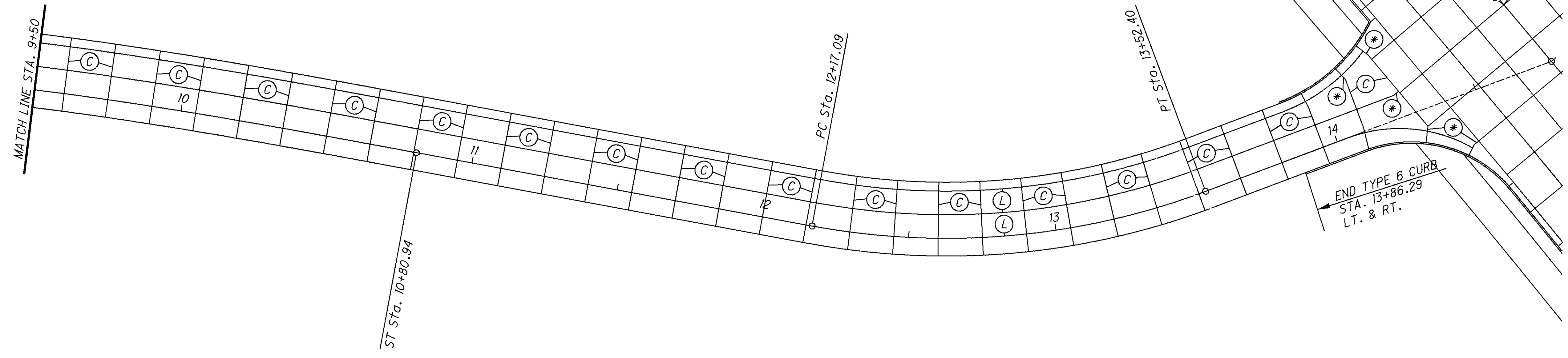
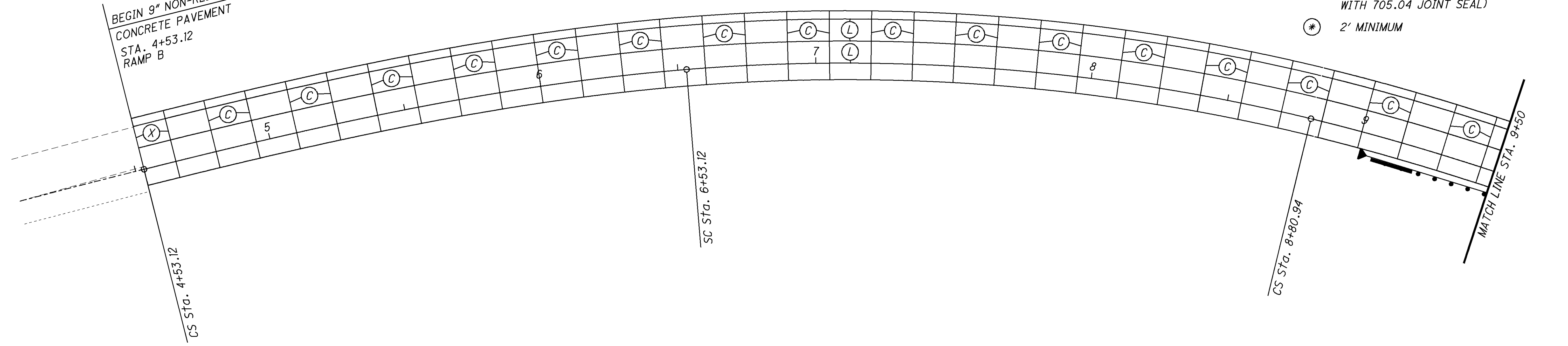
**PAVEMENT JOINT DETAILS
RAMPS A & E**

CALCULATED
BRH
CHECKED
JSL



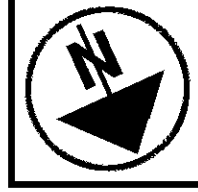
LIC-310-0.74

BEGIN 9" NON-REINFORCED
CONCRETE PAVEMENT
STA. 4+53.12
RAMP B

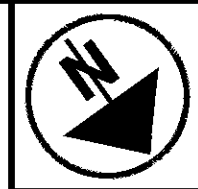


LEGEND

- (C) CONTRACTION JOINT PER BP-2.2
- (L) STANDARD LONGITUDINAL JOINT PER BP-2.1
- (S) STANDARD LONGITUDINAL JOINT PER BP-2.1 WITHOUT TIE BARS
- (W) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS
- (X) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS AND P.E.J.F. (2" DEEP SAWCUT WITH 705.04 JOINT SEAL)
- (*) 2' MINIMUM

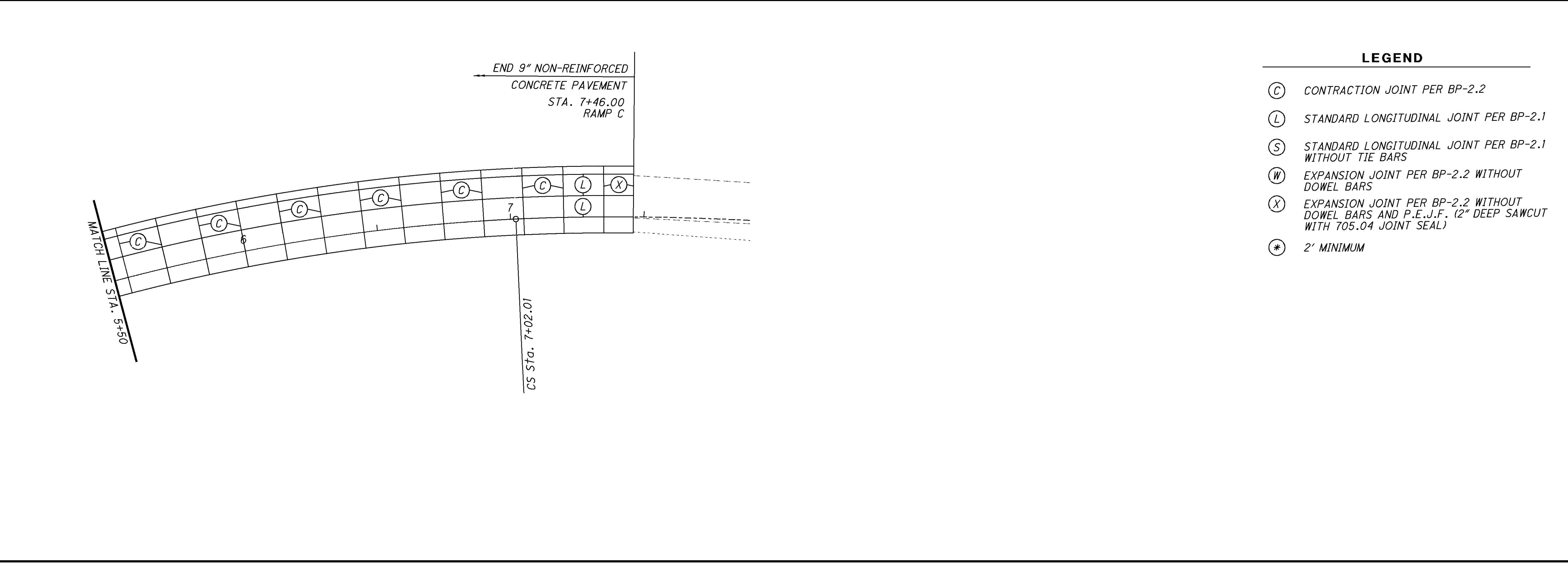
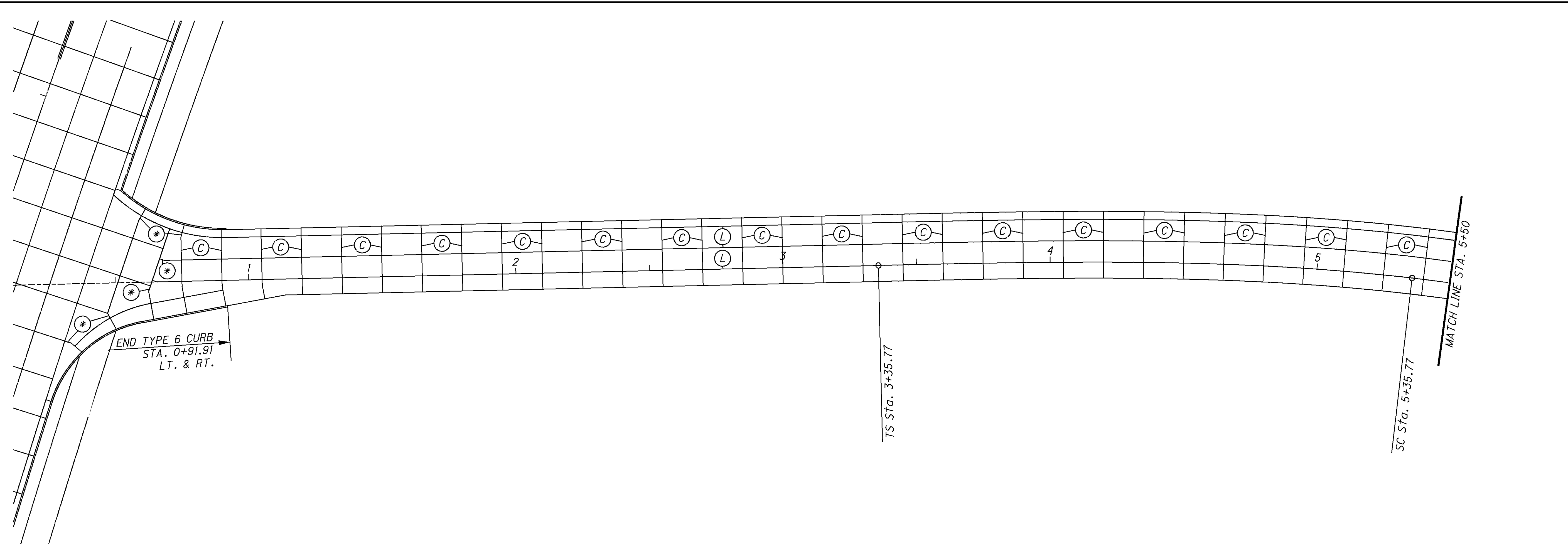


CALCULATED	BRH	CHECKED	JSL

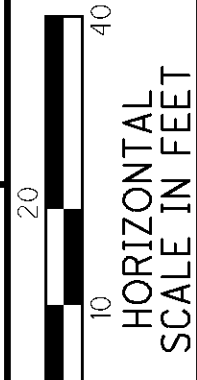
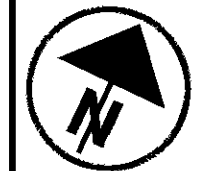


**PAVEMENT JOINT DETAILS
RAMP B**

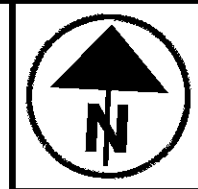
LIC-310-0.74



- LEGEND**
- (C) CONTRACTION JOINT PER BP-2.2
 - (L) STANDARD LONGITUDINAL JOINT PER BP-2.1
 - (S) STANDARD LONGITUDINAL JOINT PER BP-2.1 WITHOUT TIE BARS
 - (W) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS
 - (X) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS AND P.E.J.F. (2" DEEP SAWCUT WITH 705.04 JOINT SEAL)
 - (*) 2' MINIMUM



CALCULATED
BRH
CHECKED
JSL

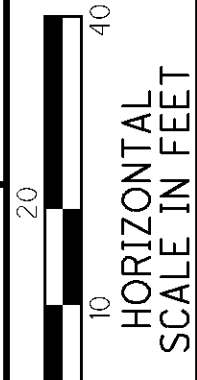
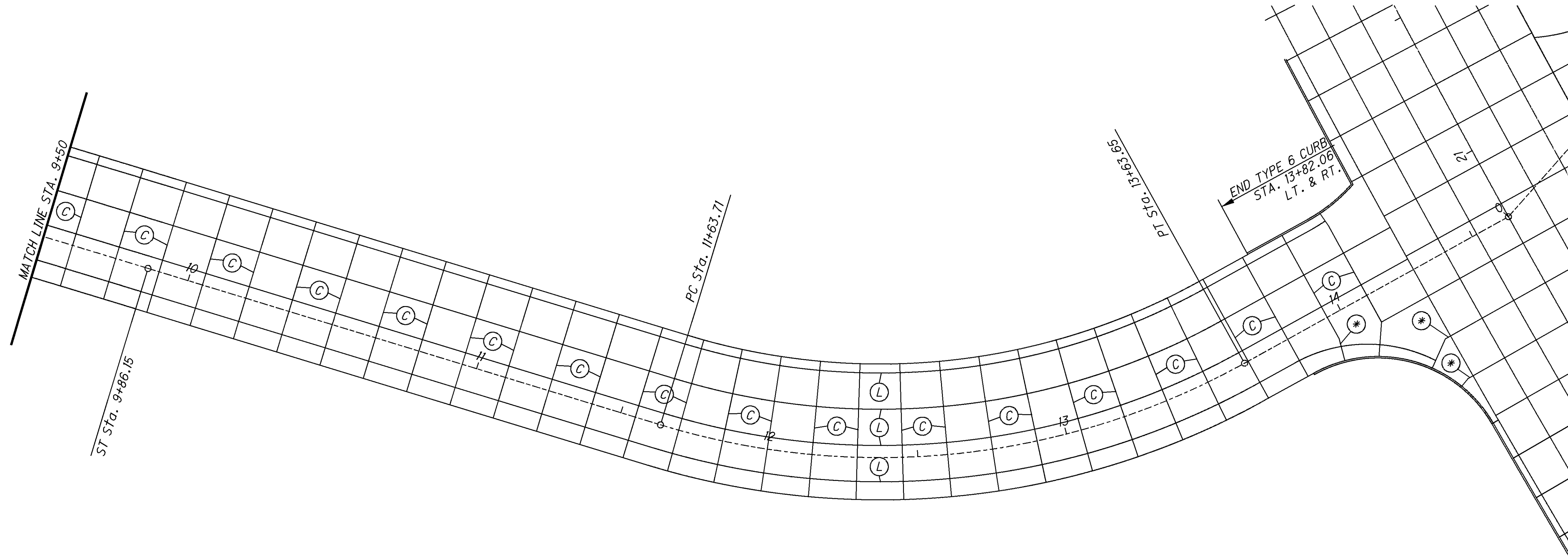
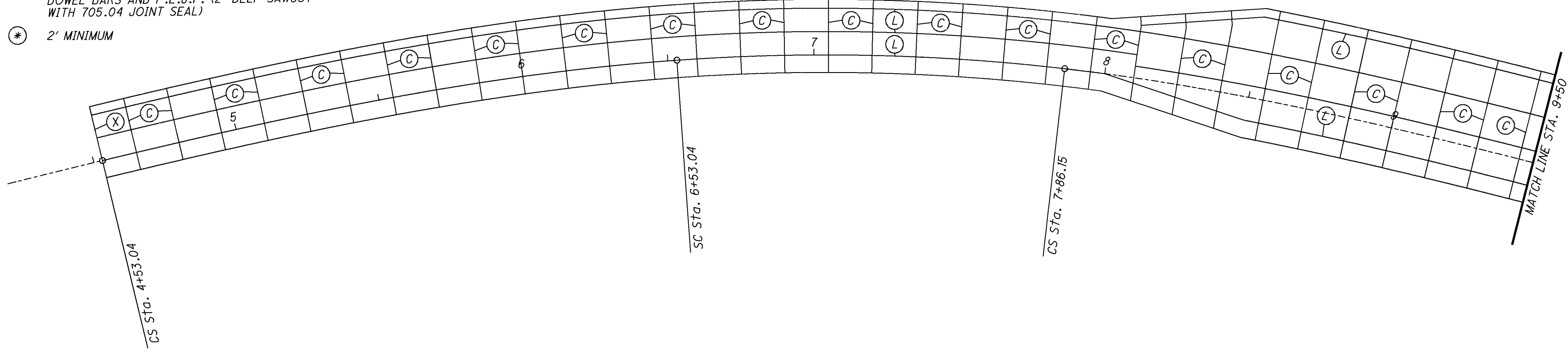


**PAVEMENT JOINT DETAILS
RAMP C**

LIC-310-0.74

LEGEND

- (C) CONTRACTION JOINT PER BP-2.2
- (L) STANDARD LONGITUDINAL JOINT PER BP-2.1
- (S) STANDARD LONGITUDINAL JOINT PER BP-2.1 WITHOUT TIE BARS
- (W) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS
- (X) EXPANSION JOINT PER BP-2.2 WITHOUT DOWEL BARS AND P.E.J.F. (2" DEEP SAWCUT WITH 705.04 JOINT SEAL)
- (*) 2' MINIMUM



CALCULATED	BRH	CHECKED	JSL
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**PAVEMENT JOINT DETAILS
RAMP D**

LIC-310-0.74

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Reference No.	Sheet No.	Location	Side	Description	Existing Surface	Drive Area (Calculated by Computer)	202			203		204	301		304		407	441	452	609
							PAVEMENT REMOVED	PAVEMENT REMOVED, ASPHALT	CURB REMOVED	EXCAVATION	EMBANKMENT	SUBGRADE COMPACTION	D=3.50"	D=5.00"	D=8.00"	D=10.00"	SPECIAL-TACK COAT, TRACKLESS TACK @0.075 GAL./SQ. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (DRIVEWAYS)	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1	CURB, TYPE 6
													ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)	ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)	AGGREGATE BASE	AGGREGATE BASE				
			Lt./Rt.			Sq. Yd.	SY	SY	FT	CY	CY	SY	CY	CY	CY		CY	SY	FT	
S.R. 310																				
DR-1	202 & 206	Sta. 12+64.3	Lt.	Residential	Aggregate	64.0				4.1		64.0			14.3					
DR-2	202 & 206	Sta. 12+80.0	Rt.	Commercial	Aggregate	127.5				29.8		127.5			35.5					
DR-3	202 & 206	Sta. 14+30.0	Lt.	Commercial	Asphalt	176.1		165.4			16.9	176.1		24.5		7.1	6.2		100	
DR-4	202 & 206	Sta. 15+85.4	Lt.	Commercial	Asphalt	299.0		344.6		10.2	10.1	299.0		41.6		12.0	10.4		112	
Sub-Totals								510.0		44.1	27.0	666.6		66.1	14.3	35.5	19.1	16.6		
Totals (Carried to Location 1a Summary)								510		45	27	667		67	50	20	17		212	
S.R. 310																				
DR-5	203 & 207	Sta. 36+45.6	Rt.	Commercial	Concrete	392.1	147.1	280.5	134	9.4	68.6	392.1							392.1	125
DR-6	203 & 207	Sta. 38+00.7	Rt.	Commercial	Concrete	230.8	135.6	126.3	105	0.6	24.3	230.8							230.8	134
DR-7	204 & 207	Sta. 39+11.7	Lt.	Field	Asphalt	26.6		35.4	12		1.2	26.6	2.6			1.1	1.0		25	
DR-8	204 & 207	Sta. 39+35.3	Lt.	Commercial	Asphalt	93.6		104.2	52	0.6	3.7	93.6		13.0		3.8	3.3		52	
EA-1	204 & 208	Extra Area (Sta. 39+97.5 to Sta. 40+49.7)	Lt.	Commercial	Asphalt	5.9		5.9	53			5.9		0.9		0.3	0.3		53	
DR-9	204 & 208	Sta. 40+82.8	Lt.	Commercial	Asphalt	113.2		138.4	31	3.1	0.8	113.2		15.8		4.6	4.0		31	
EA-2	204 & 208	Extra Area (Sta. 41+12.8 to Sta. 41+23.3)	Lt.	Commercial	Asphalt	2.1		2.1	23			2.1		0.3		0.1	0.1		23	
DR-10	204 & 208	Sta. 41+32.0	Lt.	Commercial	Concrete	63.5	68.3	4.7	51	7.3		63.5							63.5	47
DR-11	204 & 208	Sta. 41+95.6	Lt.	Commercial	Concrete	80.6	127.6	3.7	54	8.0		80.6							80.6	54
DR-12	205 & 208	Sta. 44+72.0	Rt.	Field	Grass	35.3				0.1	3.7	35.3			7.9					
DR-13	205 & 209	Sta. 47+59.8	Lt.	Commercial	Asphalt	79.6		84.2		9.9		79.6		11.1		3.2	2.8			
DR-14	205 & 209	Sta. 47+59.8	Rt.	Field	Grass	28.6				1.7	7.4	28.6			6.4					
DR-15	205 & 209	Sta. 48+80.0	Lt.	Field	Grass	48.1				2.4	13.7	48.1			10.7					
Sub-Totals							478.6	785.4	515.0	43.1	123.4	1,200.0	2.6	41.1	25.0		13.1	11.5	767.0	
Totals (Carried to Location 1c Summary)							479	786	515	44	124	1,200	44	25	14	12	767	544		

DRIVE CALCULATIONS

LIC-310-0.74

CALCULATED
JLS
CHECKED
JSL

CROSS REFERENCES	
SHEETS	DESCRIPTION
22	MAILBOX DETAILS
201	DRIVE QUANTITIES
206-209	DRIVE PROFILES



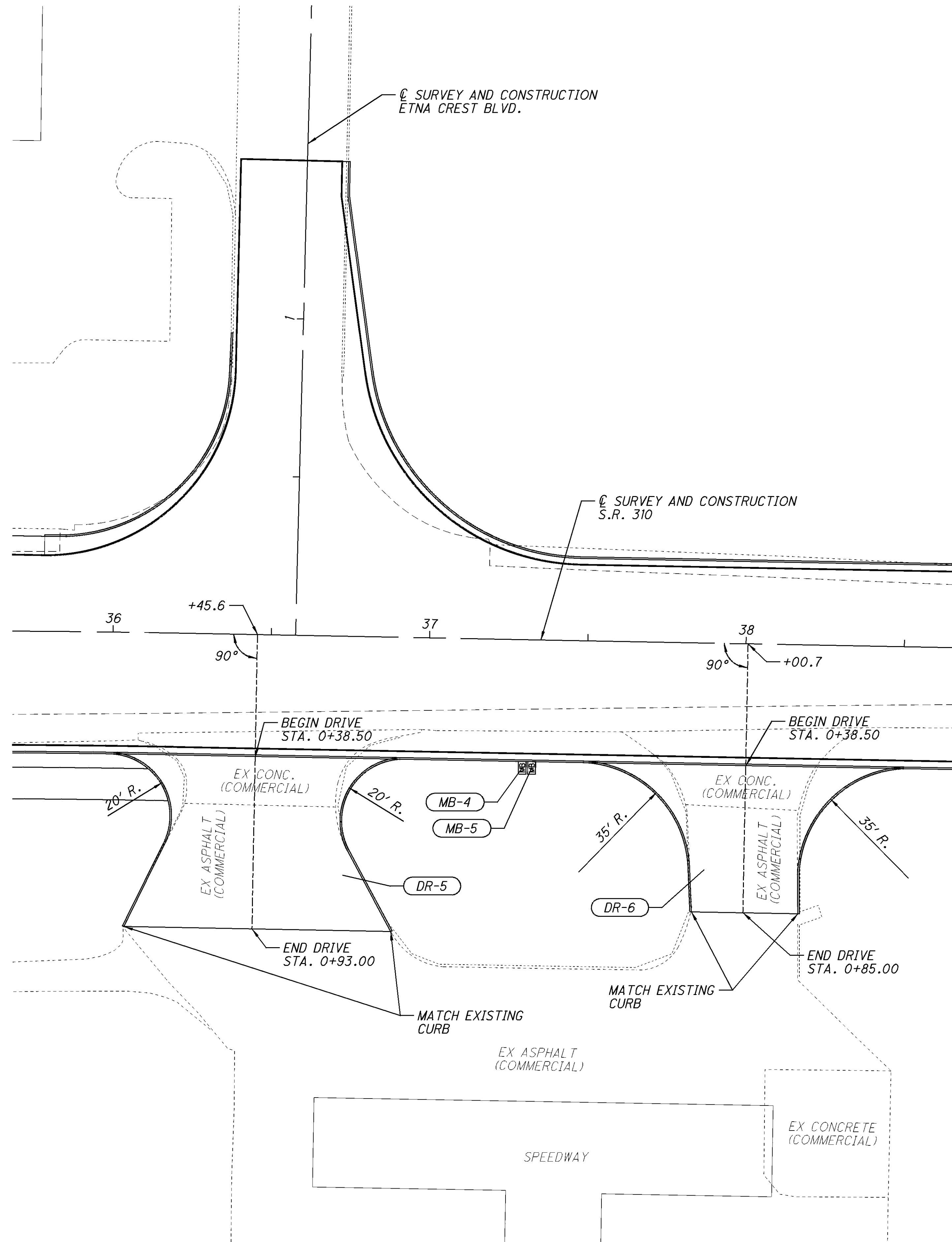
0 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED
JLS
CHECKED
JSL

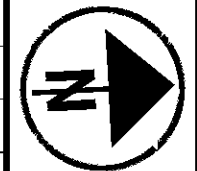
DRIVE DETAIL SHEET
STA. 36+45.6 TO STA. 38+00.7

LIC-310-0.74

203
425

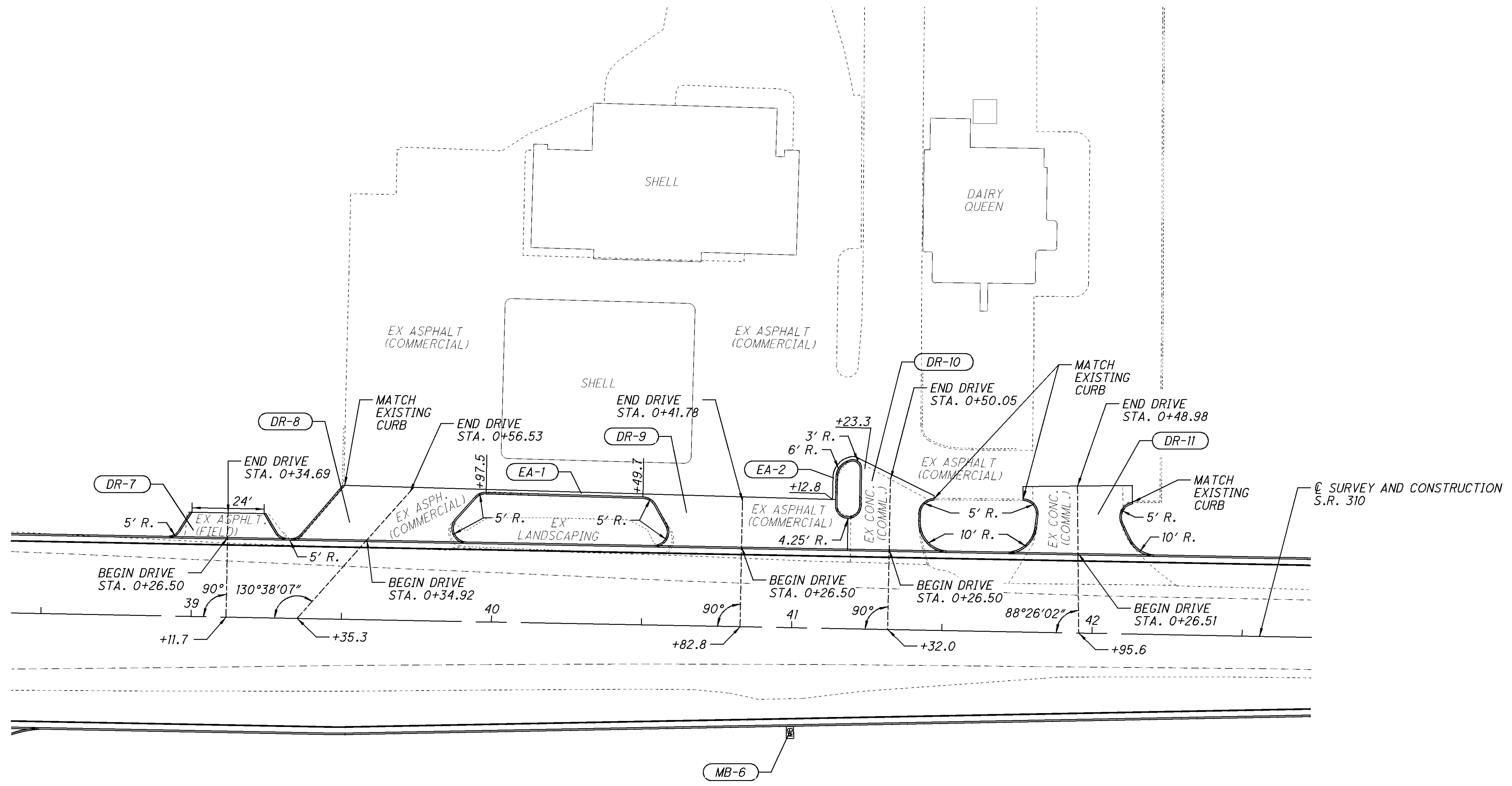


CROSS REFERENCES	
SHEETS	DESCRIPTION
22	MAILBOX DETAILS
201	DRIVE QUANTITIES
206-209	DRIVE PROFILES



0 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED
JLS
CHECKED
JLS



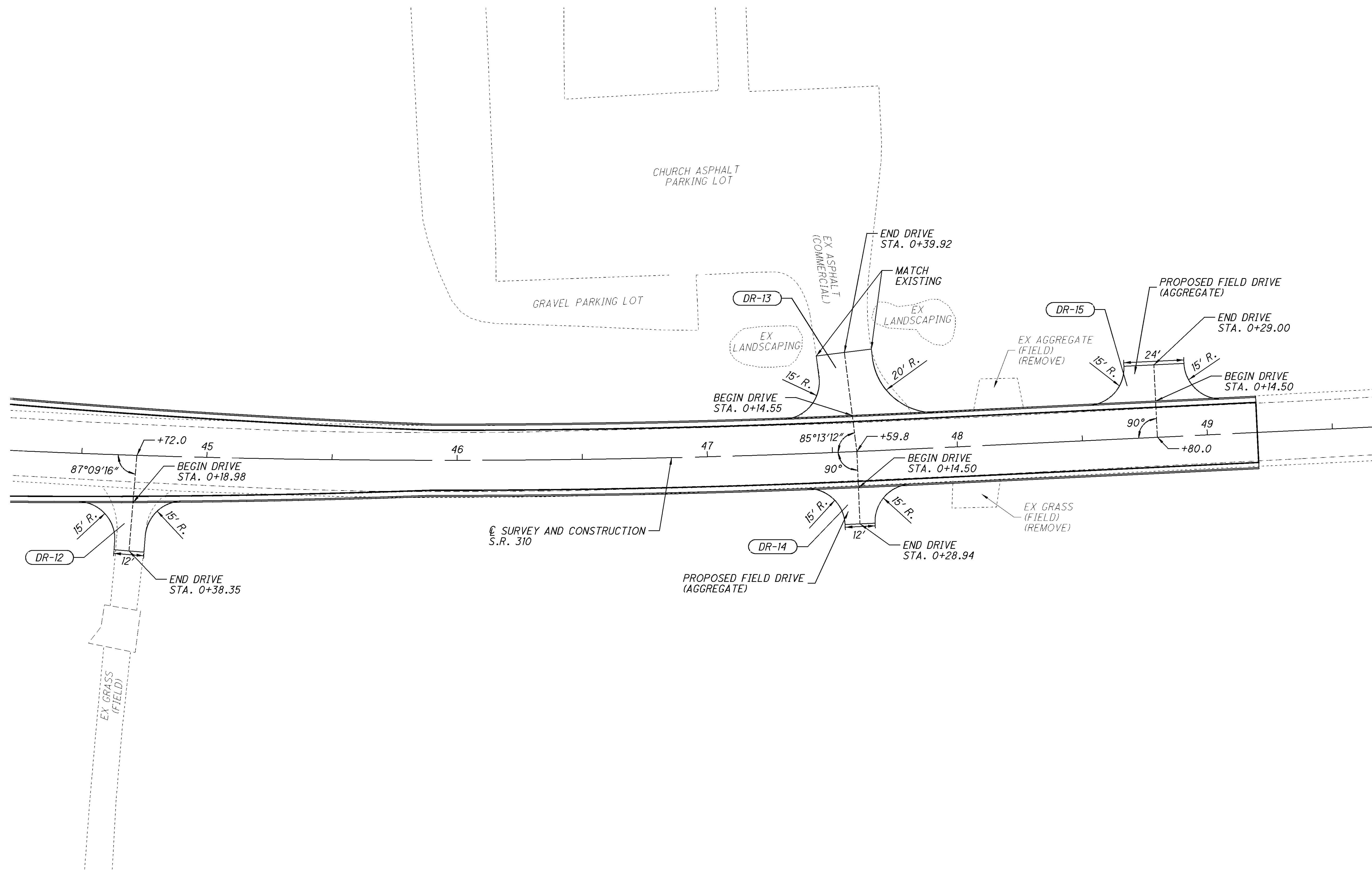
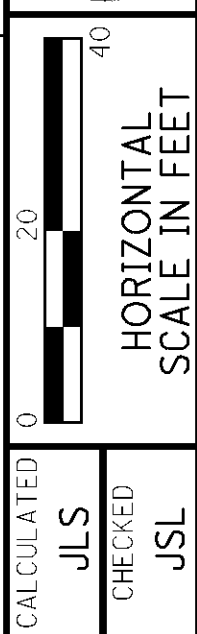
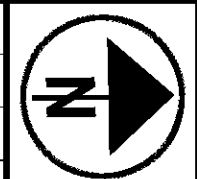
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DRIVE DETAIL SHEET
STA. 39+11.7 TO STA. 41+95.6

LIC-310-0.74

204
425

CROSS REFERENCES	
SHEETS	DESCRIPTION
201	DRIVE QUANTITIES
206-209	DRIVE PROFILES



DRIVE DETAIL SHEET
STA. 44+72.0 TO STA. 48+80.0

LIC-310-0.74

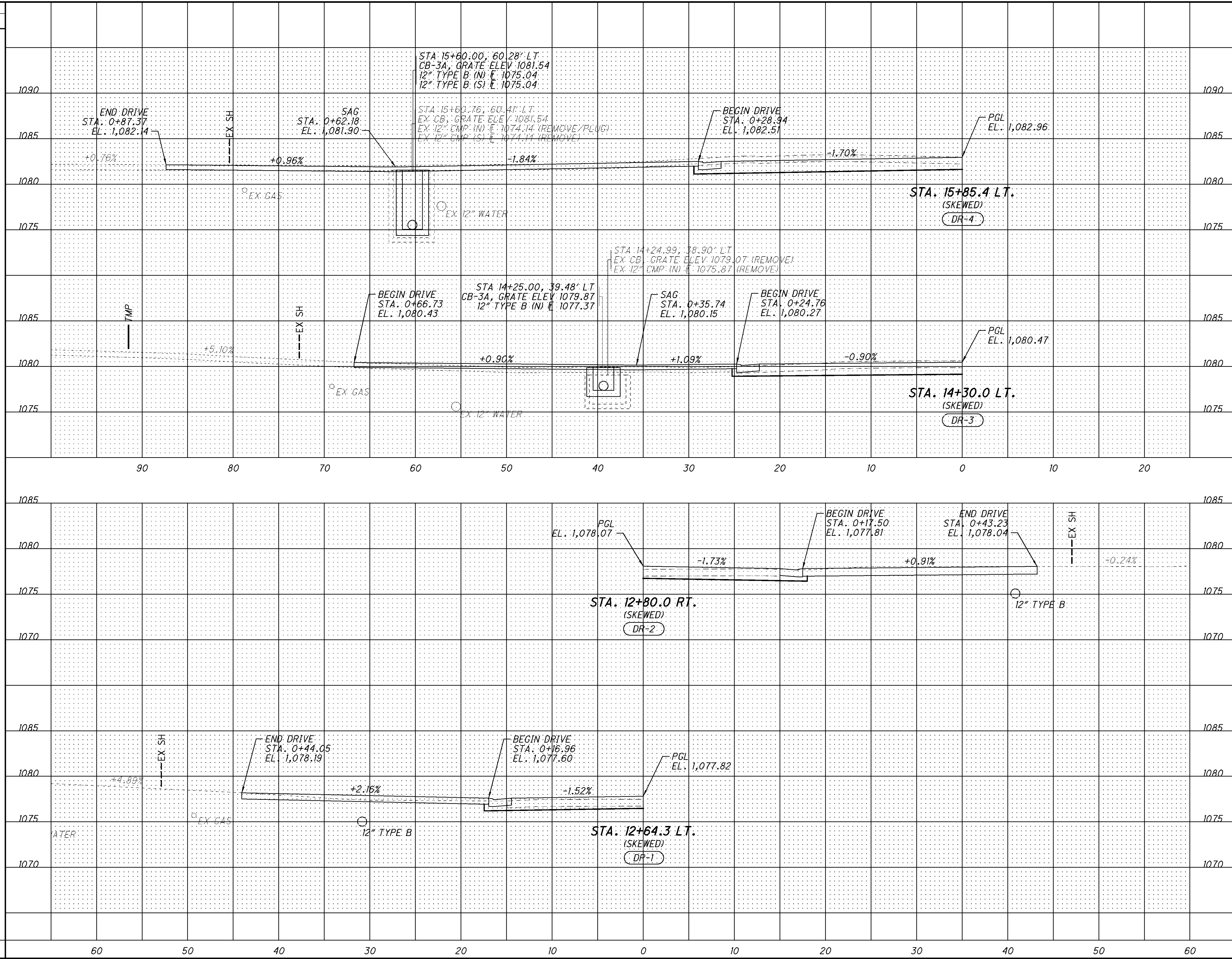
205
 425

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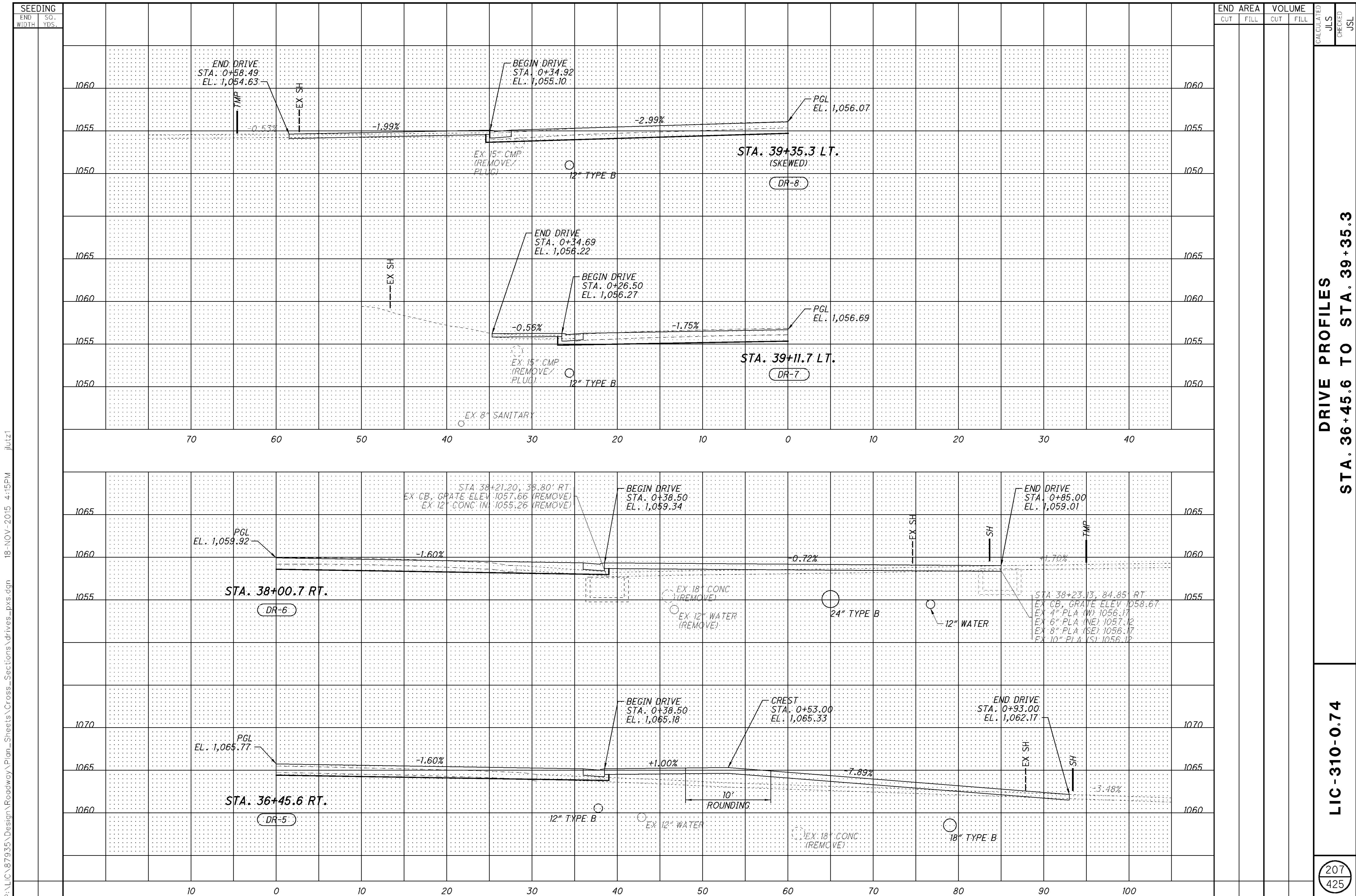
SEEDING
END WIDTH SO. YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED JLS
CHECKED JLS



DRIVE PROFILES
STA. 12+64.3 TO STA. 15+85.4

LIC-310-0.74

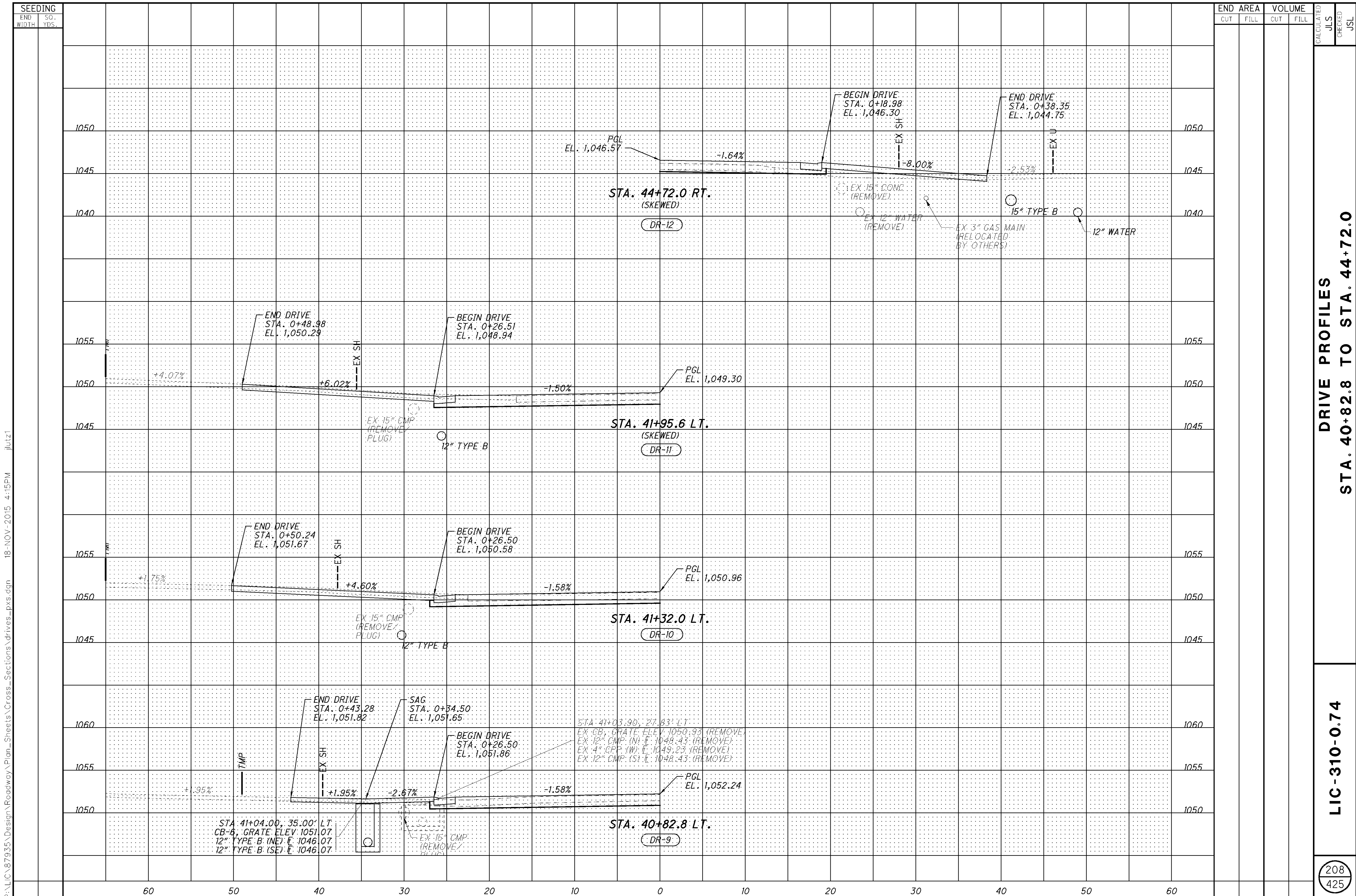


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SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	JLS	JSL

DRIVE PROFILES
STA. 36+45.6 TO STA. 39+35.3

LIC-310-0.74



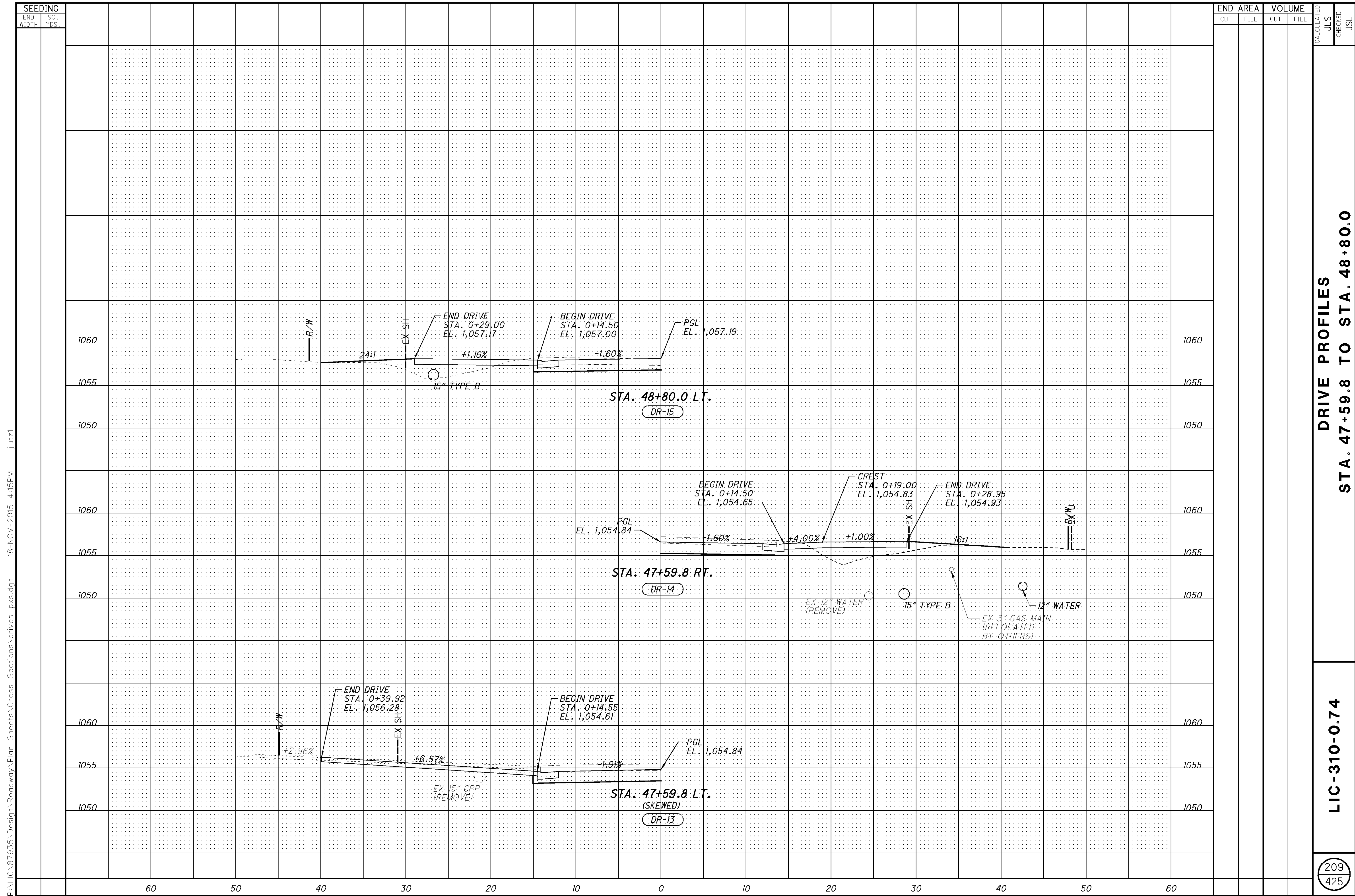
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SEEDING		END AREA		VOLUME	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL

CALCULATED		CHECKED	
JLS	JSL	JLS	JSL

**DRIVE PROFILES
STA. 40+82.8 TO STA. 44+72.0**

LIC-310-0.74



DRIVE PROFILES
STA. 47+59.8 TO STA. 48+80.0

LIC-310-0.74

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REF. NO.	SHEET NO.	STATION		SIDE	202				601	SPECIAL
					HEADWALL REMOVED	PIPE REMOVED, 24" AND UNDER	PIPE REMOVED, OVER 24"	CATCH BASIN REMOVED	CHANNEL PROTECTION MISC.: TYPE B REMOVAL	FILL AND PLUG EXISTING CONDUIT
		FROM	TO							
		S.R. 310								
R-1	214-215	11+81	14+41	RT		261				
R-2	214-215	12+43	13+31	LT		88				
R-3	215	14+25	15+10	LT		85	1			
R-4	215	15+10	15+60	LT		50	1			
R-5	215	15+60	16+75	LT			1		116	
TOTALS CARRIED TO LOCATION 1a SUMMARY						484		3		116
		RAMP A								
R-19	218,232	3+00		LT		89	1			
R-20	233	6+50		RT	1		5			
		RAMP B								
R-21	237	10+70		RT	1		5			
		RAMP D								
R-22	241	8+60	8+80	RT		28		21		
TOTALS CARRIED TO LOCATION 1b SUMMARY					2	117	10	1	21	
		S.R. 310								
R-6	219	35+95	37+70	RT		175				
R-7	219	36+00	36+95	LT		95				
R-8	219	36+95	37+13	LT		18	1			
R-9	219	37+70	38+38	RT		67	1			
R-10	219	38+21		RT			1			
R-11	219	38+23	38+39	RT		41				
R-12	220	38+92	42+33	LT		342				
R-13	220	39+86	41+04	LT			1			
R-14	220	41+04	UNKNOWN	LT		15	1			
R-15	221	43+93	44+88	RT		96				
R-16	221	47+38	48+28	LT		90				
R-17	221	47+94	48+17	RT		23				
R-18	222	48+36		LT & RT		44				
TOTALS CARRIED TO LOCATION 1c SUMMARY						1,006		5		

DRAINAGE REMOVAL SUBSUMMARY

LIC-310-0.74

CALCULATED
JLS
CHECKED
JSL

REF. NO.	SHEET NO.	STATION		SIDE	601										670	
					TIED CONCRETE BLOCK MAT, TYPE 1	CONCRETE MASONRY	12" CONDUIT, TYPE B	12" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21	18" CONDUIT, TYPE B	30" CONDUIT, TYPE A (706.01)	CONDUIT, BORED OR JACKED: 12" TYPE B	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 2-2A	CATCH BASIN, NO. 2-2B	MANHOLE, NO. 3, 48"	DITCH EROSION PROTECTION MAT, TYPE B
		FROM	TO		SY	CY	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	SY
S.R. 310																
D-1	214	12+00	13+50	LT		0.21	150							1		
D-2	214	12+00	13+50	RT		0.21	150							1		
D-3	214	13+50		LT			13					1				
D-4	214	13+50		RT			30					1				
D-5	215	14+25	15+10	LT			85					1				
D-6	215	15+10	15+60	LT			50						1			
D-7	215	15+60	17+00	LT		0.21					140	1				
D-8	215	17+00		RT	2	0.21	44					1				
D-9	215	17+00	18+50	RT			150									
D-10	215	17+25		LT	4	0.21	25					1				
D-11	215	17+25	18+50	LT			125									
SUB-TOTALS						1.05										
TOTALS CARRIED TO LOCATION 1a SUMMARY					6	1.1	822				140	6	1	2		
S.R. 310																
D-12	215-216	18+50	20+00	LT			150					1				
D-13	215-216	18+50	20+00	RT			150					1				
D-14	216	20+00	21+50	LT			150					2				
D-15	216	20+00	21+50	RT			150					2				
D-16	217-218	28+00	29+50	RT			150					1				
D-17	218,232	29+50	30+61	LT			114					1				
D-18	218	29+50	31+00	RT			150					1				
D-19	218	31+00	32+50	RT			150					1				
D-20	218-219	32+50	34+00	RT			150					1				
D-21	219	34+00	35+50	RT			150					1				
D-22	219	35+50		RT	2	0.21	43					1				
RAMP A																
D-53	218,232	3+00		LT & RT	2	0.21		104					1			
D-54	218,232	3+00	3+71	LT			76					1				
D-55	233-234	6+00	12+50	RT												737
D-56	233	6+50		RT		5.00				18						
RAMP B																
D-57	237	10+70		RT		5.00				18						
RAMP D																
D-58	240-241	3+50	9+00	RT												579
D-59	241	8+63	8+80	RT	2	0.33			24					1		
SUB-TOTALS						10.75										
TOTALS CARRIED TO LOCATION 1b SUMMARY					6	10.8	1,583	104	24	36		14	1		1	1,316

DRAINAGE SUBSUMMARY

LIC-310-0.74

CALCULATED
JLS
CHECKED
JSL

REF. NO.	SHEET NO.	STATION		SIDE	602										611						
					CONCRETE MASONRY	4" CONDUIT, TYPE C	12" CONDUIT, TYPE B	15" CONDUIT, TYPE B	18" CONDUIT, TYPE B	24" CONDUIT, TYPE B	30" CONDUIT, TYPE B	CONDUIT, BORED OR JACKED: 18" TYPE B	CONDUIT, BORED OR JACKED: 24" TYPE B	CATCH BASIN, NO. 3	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 6	CATCH BASIN, NO. 2-2A	CATCH BASIN, NO. 2-2B	CATCH BASIN, NO. 2-3	MANHOLE, NO. 3, 48"	
					CY	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
		FROM	TO																		
		S.R. 310																			
D-23	219	35+75	36+00	LT	0.27			25													
D-24	219	35+85	37+45	RT	0.33		10		160												
D-25	219	36+00		LT																	
D-26	219	36+00	36+95	LT							95					1					
D-27	219	36+95		LT			11														
D-28	219	36+95	37+45	LT						50									1		
D-29	219	37+45		LT						16									1		
D-30	219	37+45		LT & RT								63			1						
D-31	219	37+45		RT						28					1						
D-32	219	37+45	38+30	RT						85								1			
D-33	219	38+23	38+30	RT		21															
D-34	219-220	38+30	39+40	RT						110									1		
D-35	220	38+85	40+40	LT			155							1							
D-36	220	39+40		RT			28							1							
D-37	220	39+40	42+50	RT						310									1		
D-38	220	40+40	41+04	LT			64							1							
D-39	220	41+04	41+65	LT			61								1						
D-40	220	41+65	42+50	LT			85							1							
D-41	220	42+50		LT & RT			52							1							
D-42	220	42+50		RT			39							1							
D-43	220-221	42+50	43+97	RT	0.60						147								1		
D-44	221	44+03		LT & RT			42							1							
D-45	221	44+03	44+30	RT			35							1							
D-46	221	44+20	44+30	RT	0.21			10													
D-47	221	44+30	46+00	RT				170											1		
D-48	221	46+00		LT & RT			28							1							
D-49	221	46+00		RT			27							1							
D-50	221-222	46+00	48+40	RT				240											1		
D-51	222	48+40		LT & RT				52									2				
D-52	222	48+60	49+00	LT	0.42			40													
SUB-TOTALS					1.83																
TOTALS CARRIED TO LOCATION 1c SUMMARY					1.9	21	637	537	160	599	147	95	63	2	8	3	1	2	1	7	

DRAINAGE SUBSUMMARY

LIC-310-0.74

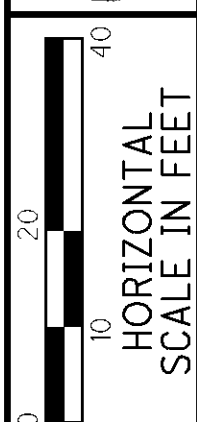
REF. NO.	SHEET NO.	STATION		SIDE	601		605		611		BENDS & BRANCHES FOR INFORMATION ONLY			
		FROM	TO		TIED CONCRETE BLOCK MAT, TYPE 1 SY	6" BASE PIPE UNDERDRAINS, 18" DEEP (PERFORATED) 707.31 OR 707.41 FT	6" UNCLASSIFIED PIPE UNDERDRAINS FT	AGGREGATE DRAINS FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33, 707.42, OR 707.45 FT	PRECAST REINFORCED CONCRETE OUTLET EACH	6" X 6" CROSS EACH	6" X 90° BEND EACH	6" TEE EACH	6" END CAP EACH
S.R. 310														
U-1	214	12+00		LT				13						
U-2	214	12+00		RT				13						
U-3	214-215	13+50	0+75 (COL. PKWY.)	LT		300								1
U-4	214-215	13+50	17+00	RT		350								1
U-5	215	17+00	18+50	RT		150								1
U-6	215	17+25	18+50	LT		125								1
TOTALS CARRIED TO LOCATION 1a SUMMARY						925		26						4
S.R. 310														
U-7	215-216	18+50	20+00	LT		150								1
U-8	215-216	18+50	20+00	RT		150								1
U-9	216	20+00	20+35	LT		35								
U-10	216	20+00	20+61	RT		61								
U-11	216	21+05	21+50	LT		45						1		1
U-12	216	21+22	21+50	RT		28								1
U-13	216	21+50	23+45	LT		195								
U-14	216	21+50	23+32	RT		182								
U-15	216	23+29		LT & RT		82							2	
U-16	216	23+38		LT & RT		82						2		
U-17	217	26+56	28+00	RT		144								
U-18	217	26+62		LT & RT		82						2		
U-19	217-218	26+68	29+50	LT		282								
U-20	217	26+71		LT & RT		82						2		
U-21	217-218	28+00	29+50	RT		150								1
U-22	218	29+50	29+74	LT		24						1		1
U-23	218	29+50	30+04	RT		54						1		1
U-24	218	30+56	31+00	RT		44								
U-25	218	31+00	32+50	RT		150								1
U-26	218-219	32+50	34+00	RT		150								1
U-27	219	33+66	36+00	LT		234								
U-28	219	34+00	35+50	RT		150								1
RAMP A														
U-41	232-234	0+00	10+50	RT		1,050								
U-42	232-234	4+80	10+50	LT		588								
U-43	234	10+50		LT & RT	2			40	1	1	1			
U-44	234	10+50	10+90	RT			40							
RAMP B														
U-45	235	4+53	5+00	RT			47							
U-46	235	5+00		LT				17			1	1		
U-47	235-237	5+00	14+25	LT		930								
U-48	235-237	5+00	14+43	RT		951								
U-49	236	9+00		LT & RT	2			39	1	1		1		
RAMP C														
U-50	238-239	0+32	7+00	RT		675								
U-51	238-239	0+52	7+00	LT		657								
U-52	238	4+50		LT & RT	2			36	1	1		1		
U-53	239	7+00		LT	16							2		
U-54	235	7+00	7+46	RT			47							1
RAMP D														
U-55	240	4+53	5+00	RT			50							
U-56	240	5+00		LT	2			37	1		1	1		
U-57	240-242	5+00	14+23	LT		911								
U-58	240-242	5+00	14+25	RT		945								
RAMP E														
U-59	232	0+52	2+20	LT		158								
TOTALS CARRIED TO LOCATION 1b SUMMARY					24	9,421	184		169	4	3	10	10	11
S.R. 310														
U-29	219	35+50	37+45	RT		195								1
U-30	219	36+00		LT				24			1			
U-31	219-220	37+45	38+85	LT		140								
U-32	220	37+45	39+40	RT		195								1
U-33	220	38+85	40+40	LT		165								1
U-34	220	39+40	42+50	RT		310								1
U-35	220	40+40	41+65	LT		125								1
U-36	220	41+65	42+50	LT										1
U-37	221	44+03	46+00	LT		197								1
U-38	221	44+03	46+00	RT		197								1
U-39	221-222	46+00	49+20	LT		320								1
U-40	221-222	46+00	49+20	RT		320								1
TOTALS CARRIED TO LOCATION 1c SUMMARY						2,164			24			1		10

CALCULATED
JLS
CHECKED
JSL

UNDERDRAIN SUBSUMMARY

LIC-310-0.74

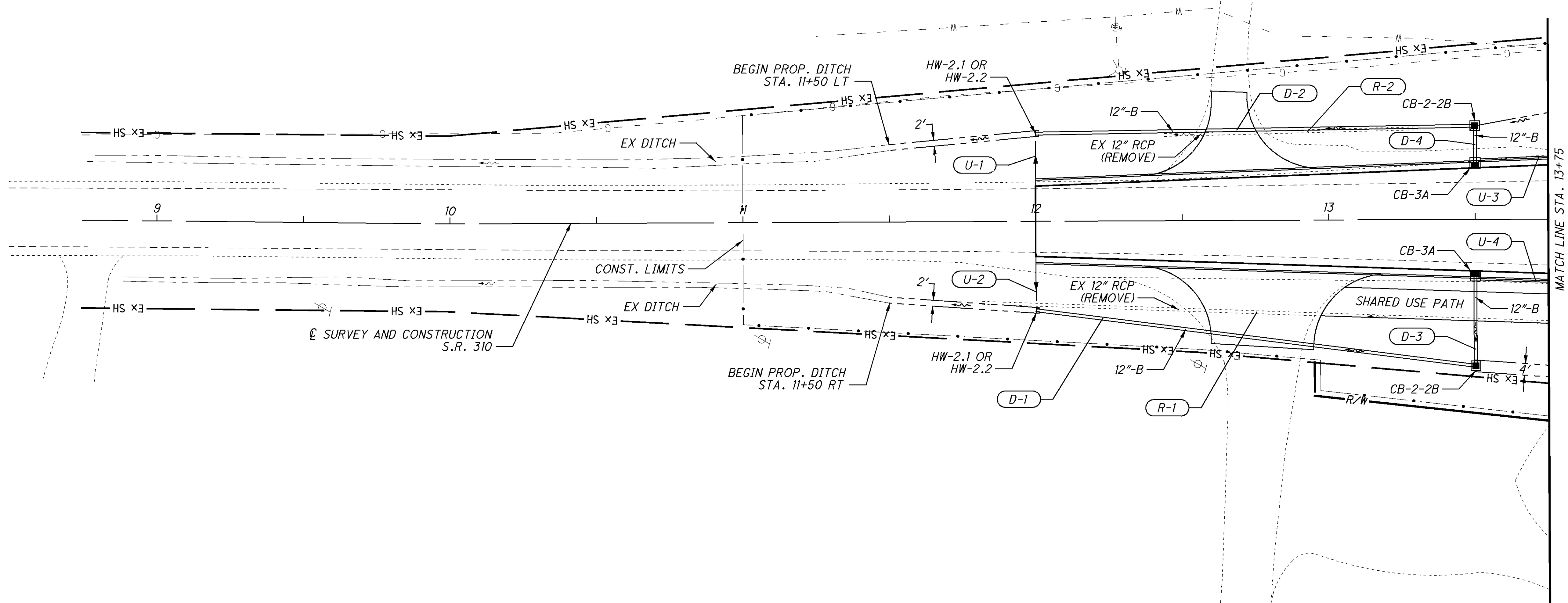
CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



CALCULATED
BRH
CHECKED
JSL

LEGEND

← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41

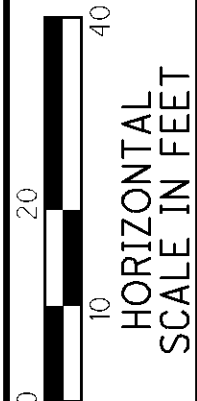


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DRAINAGE PLAN SHEET (S.R. 310)
STA. 8+75 TO STA. 13+75

LIC-310-0.74

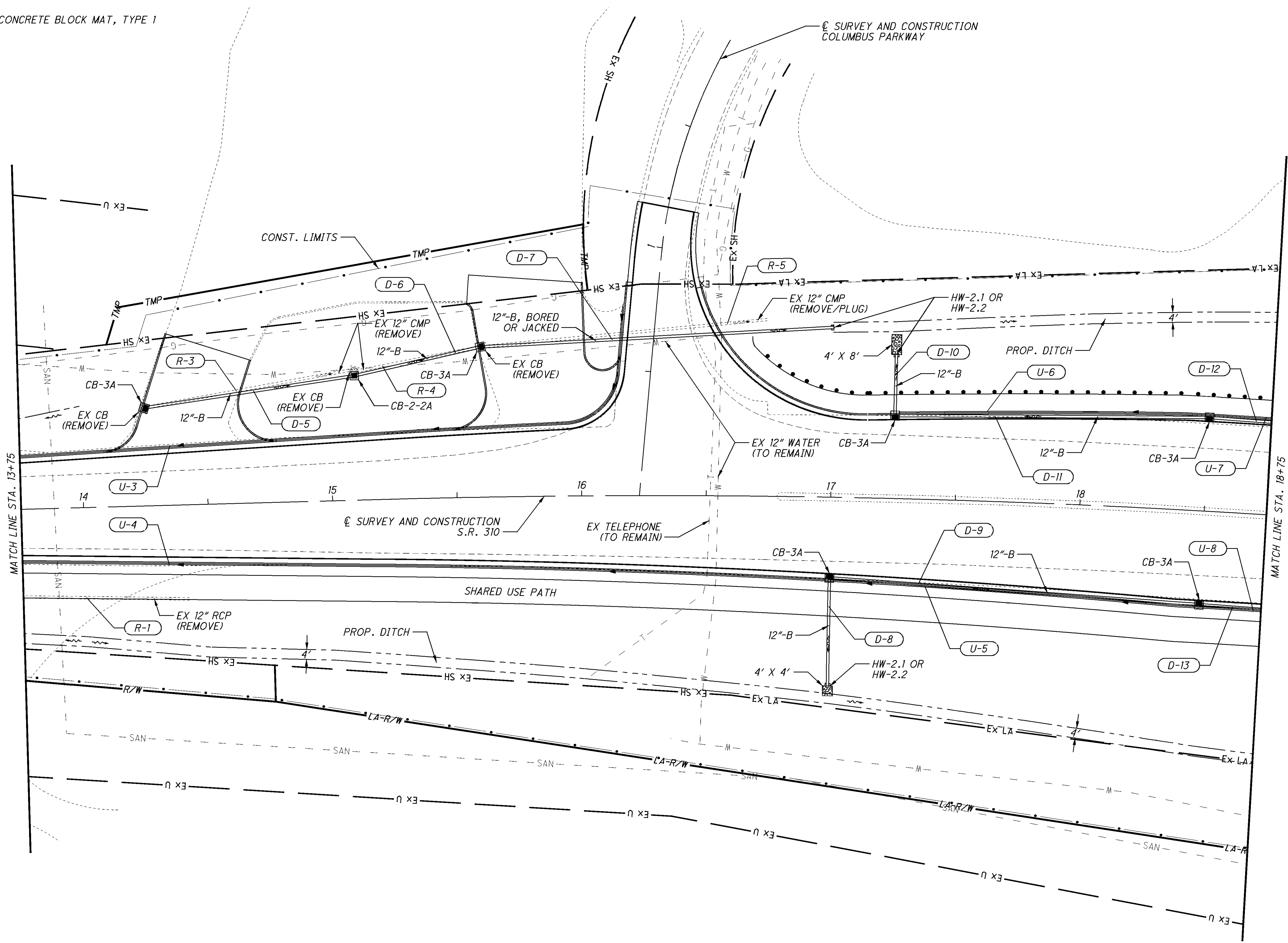
CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



CALCULATED
BRH
CHECKED
JSL

LEGEND

- ← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- ▨ TIED CONCRETE BLOCK MAT, TYPE 1

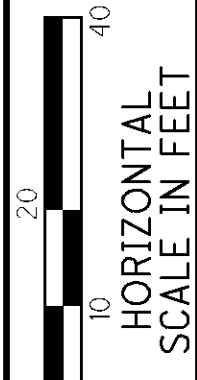
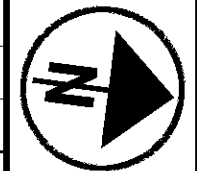


DRAINAGE PLAN SHEET (S.R. 310)
STA. 13+75 TO STA. 18+75

LIC-310-0.74

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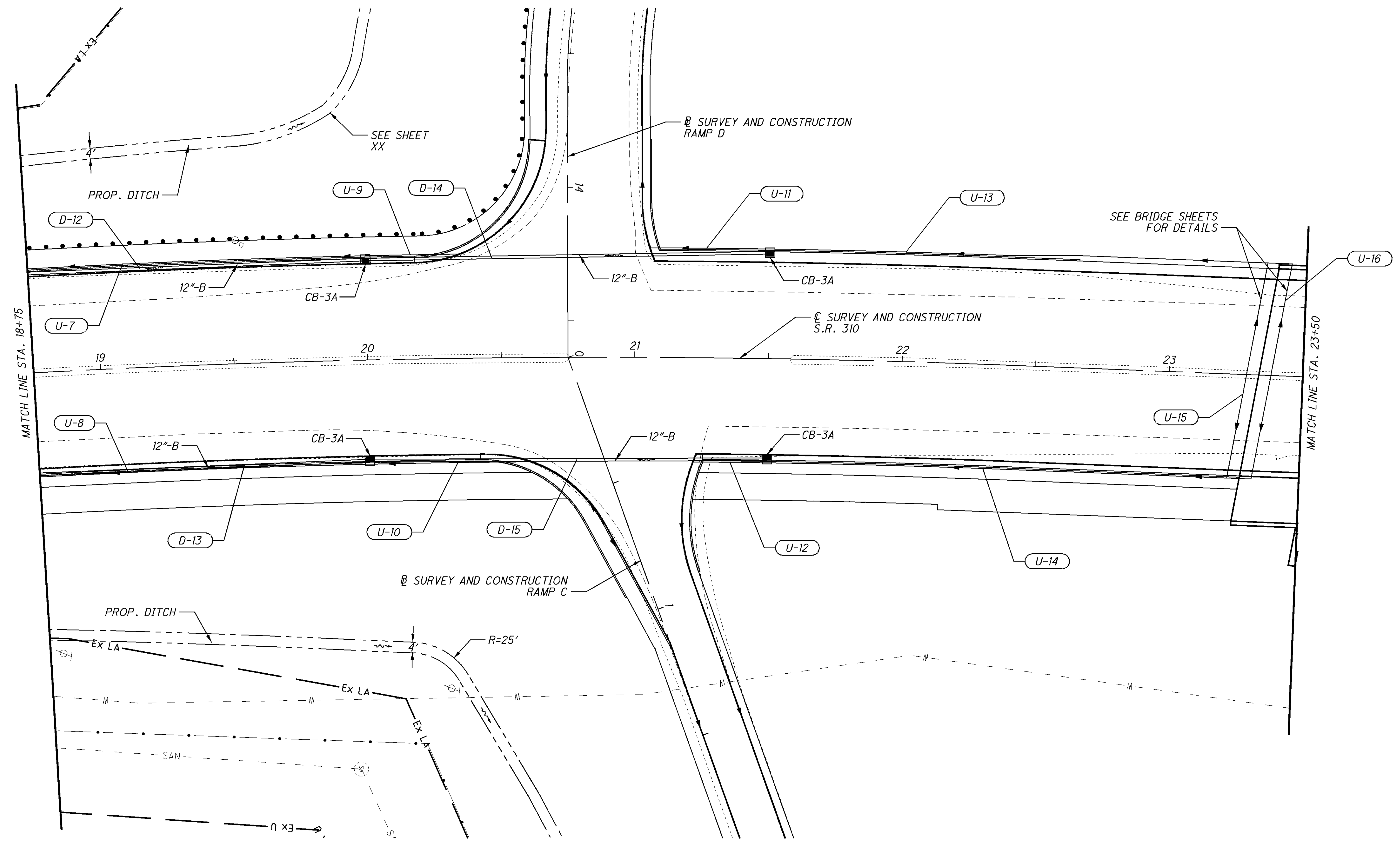
CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



CALCULATED
BRH
CHECKED
JSL

LEGEND

← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41

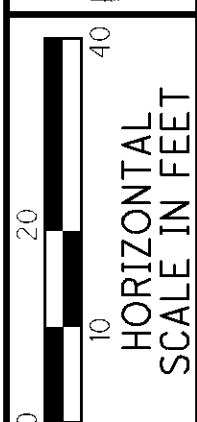
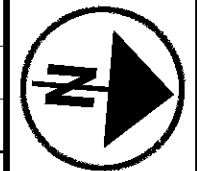


DRAINAGE PLAN SHEET (S.R. 310)
STA. 18+75 TO STA. 23+50

LIC-310-0.74

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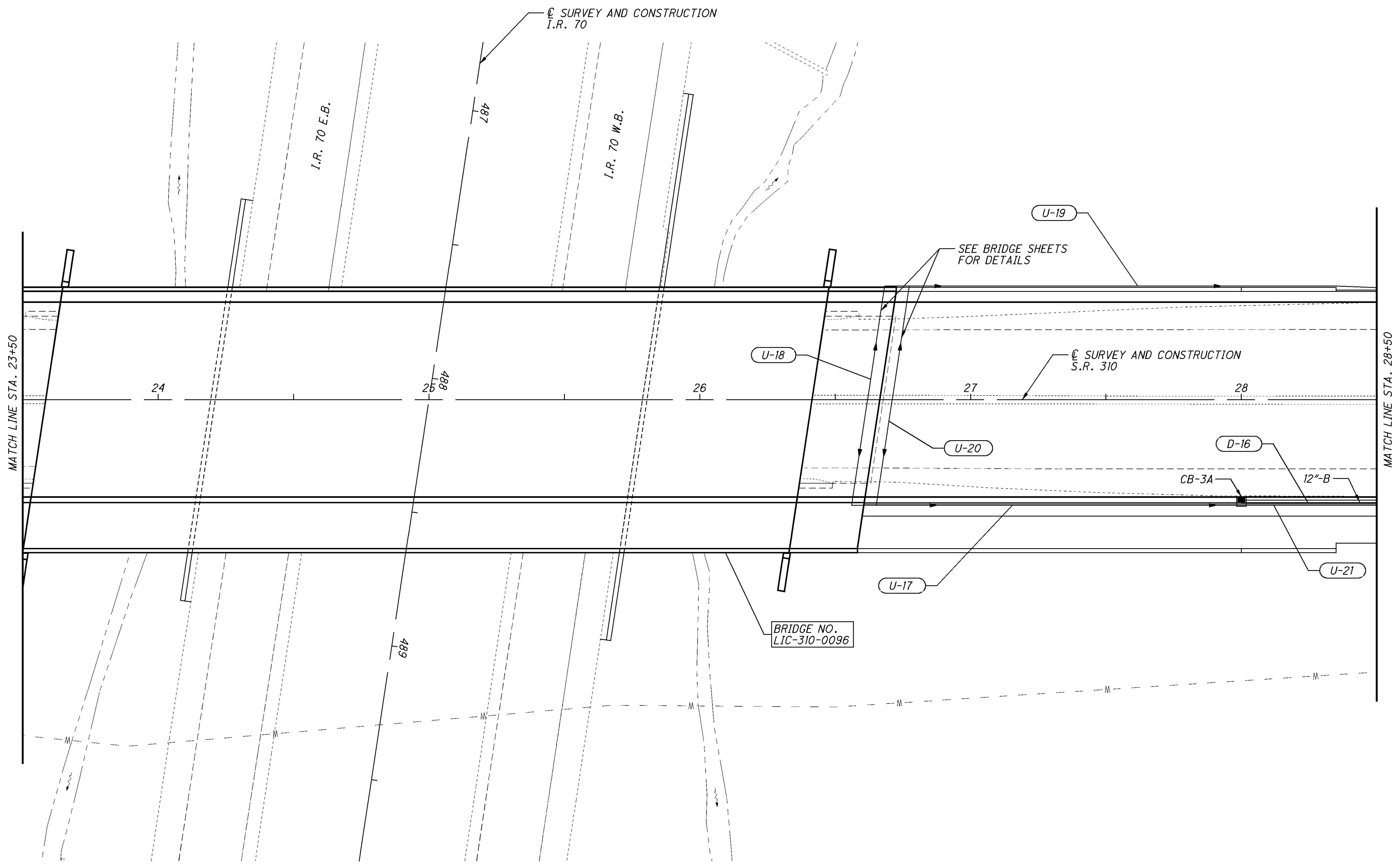
CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



CALCULATED
BRH
CHECKED
JSL

LEGEND

← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41

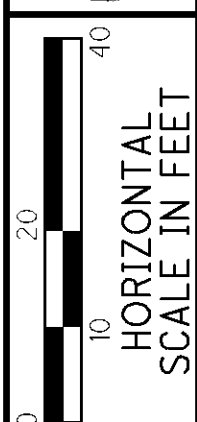
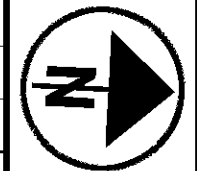


DRAINAGE PLAN SHEET (S.R. 310)
STA. 23+50 TO STA. 28+50

LIC-310-0.74

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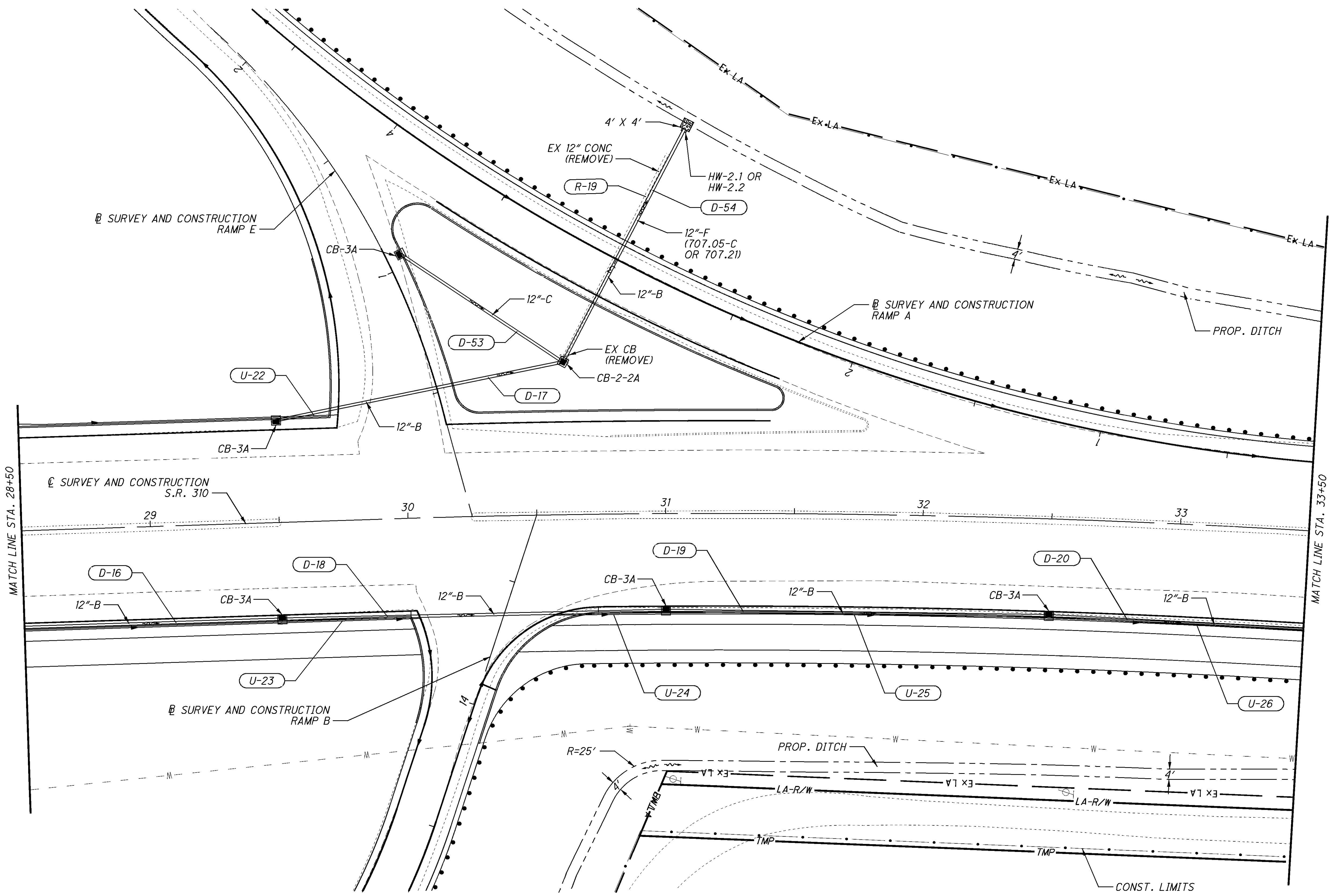
CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



CALCULATED
BRH
CHECKED
JSL

LEGEND

- ← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- ▨ TIED CONCRETE BLOCK MAT, TYPE 1

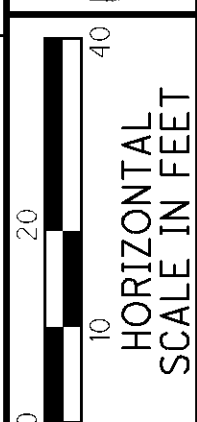
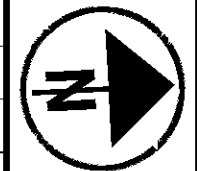


DRAINAGE PLAN SHEET (S.R. 310)
STA. 28+50 TO STA. 33+50

LIC-310-0.74

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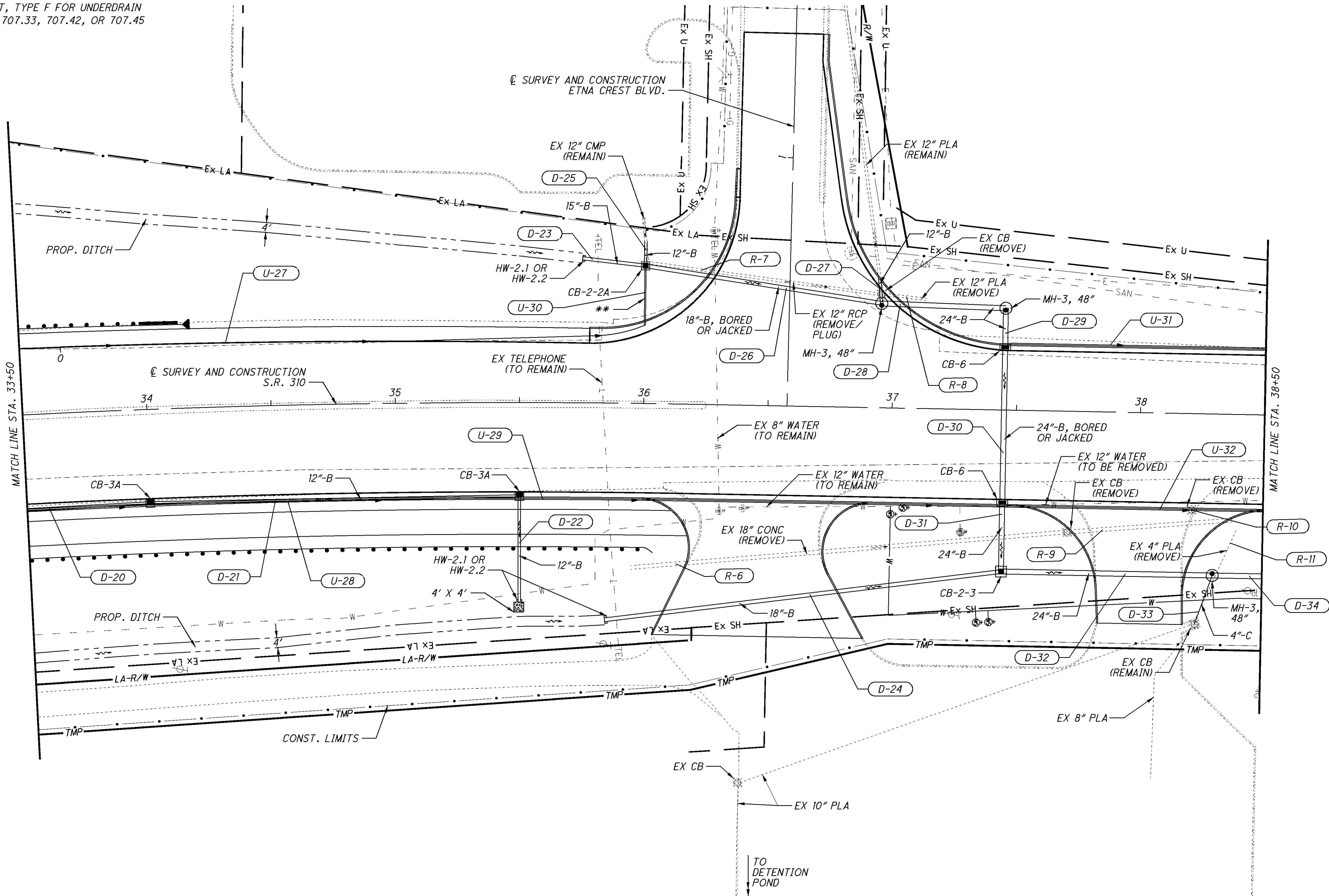
CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY
248	WATER WORK



CALCULATED
BRH
CHECKED
JSL

LEGEND

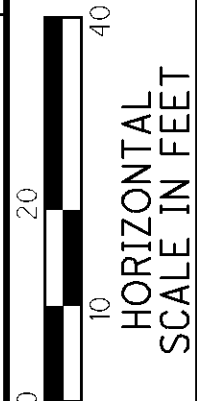
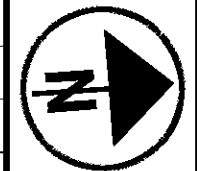
- ← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- ▨ TIED CONCRETE BLOCK MAT, TYPE 1
- ** 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33, 707.42, OR 707.45



DRAINAGE PLAN SHEET (S.R. 310)
STA. 33+50 TO STA. 38+50

LIC-310-0.74

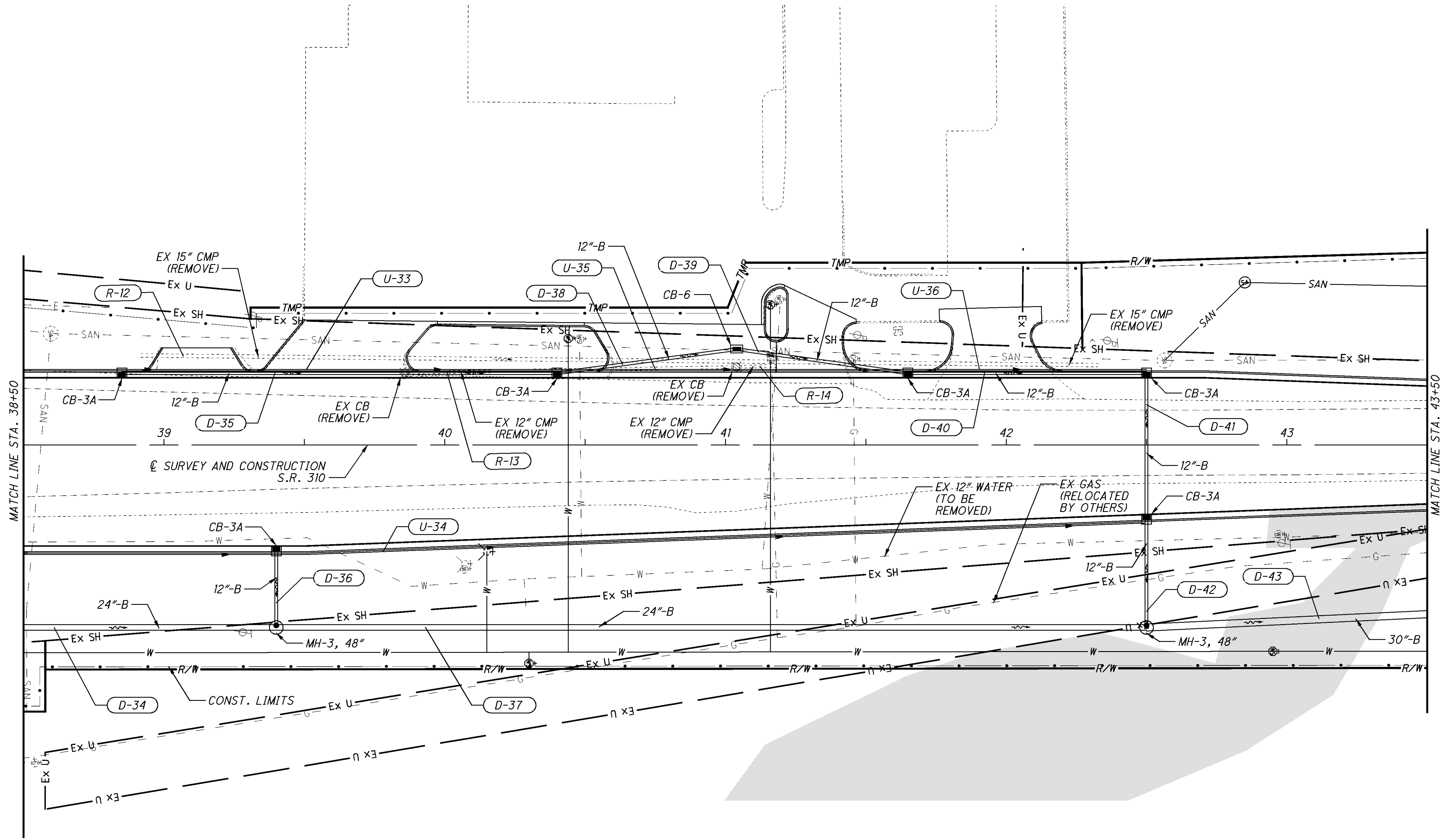
CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY
249	WATER WORK



CALCULATED
BRH
CHECKED
JSJ

LEGEND

- 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- WETLAND 2



MATCH LINE STA. 38+50

MATCH LINE STA. 43+50

☉ SURVEY AND CONSTRUCTION
S.R. 310

CONST. LIMITS

DRAINAGE PLAN SHEET (S.R. 310)
STA. 38+50 TO STA. 43+50

LIC-310-0.74

220
425

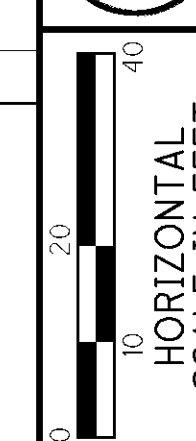
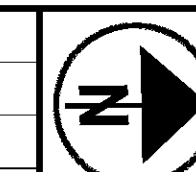
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LEGEND

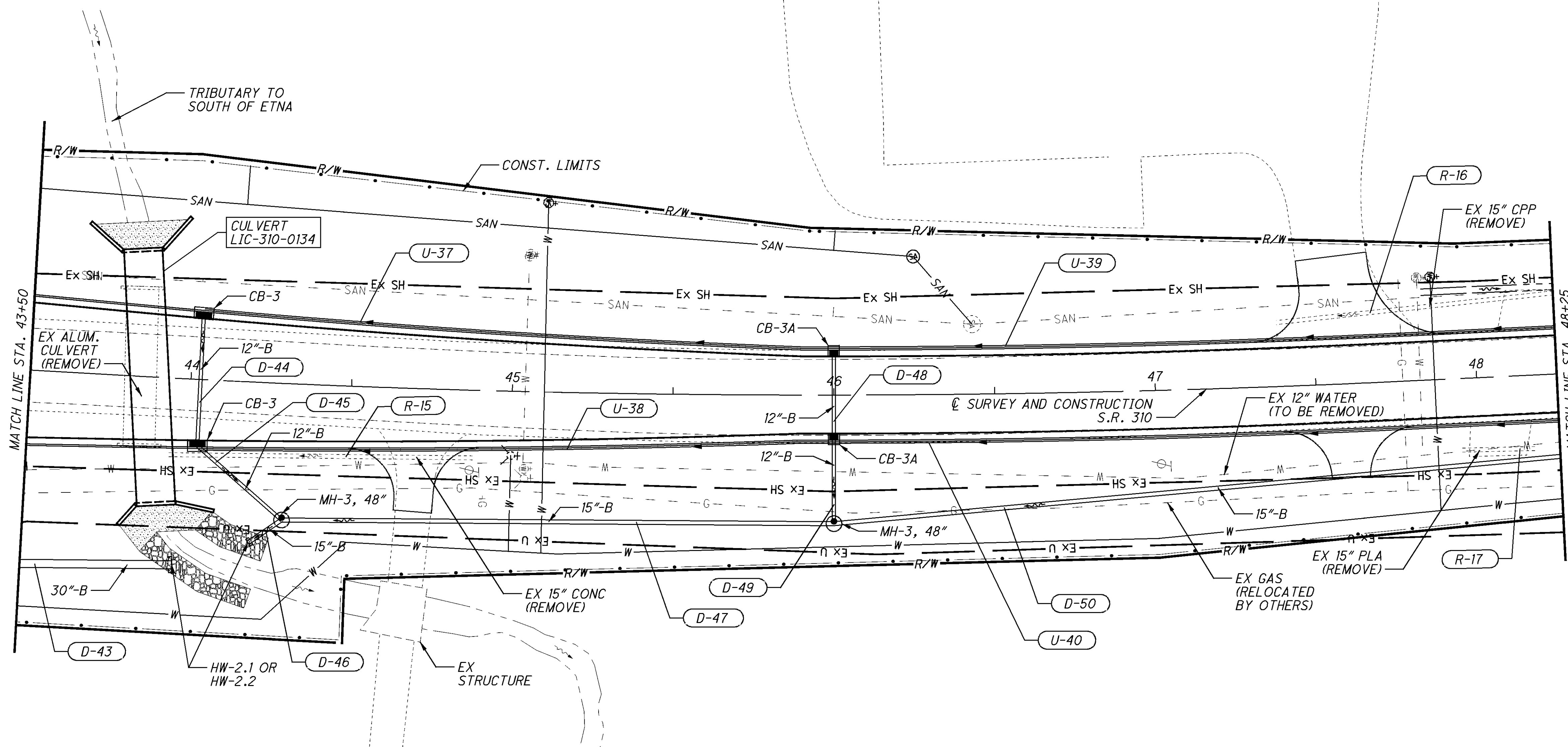
← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41

CROSS REFERENCES

SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY
250	WATER WORK
341-349	CULVERT DETAILS



CALCULATED
BRH
CHECKED
JSL

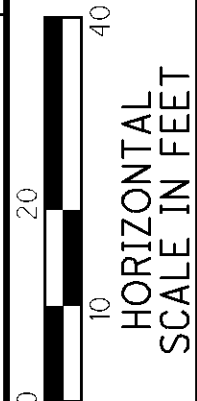
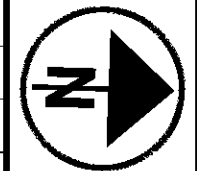


DRAINAGE PLAN SHEET (S.R. 310)
STA. 43+50 TO STA. 48+25

LIC-310-0.74

221
425

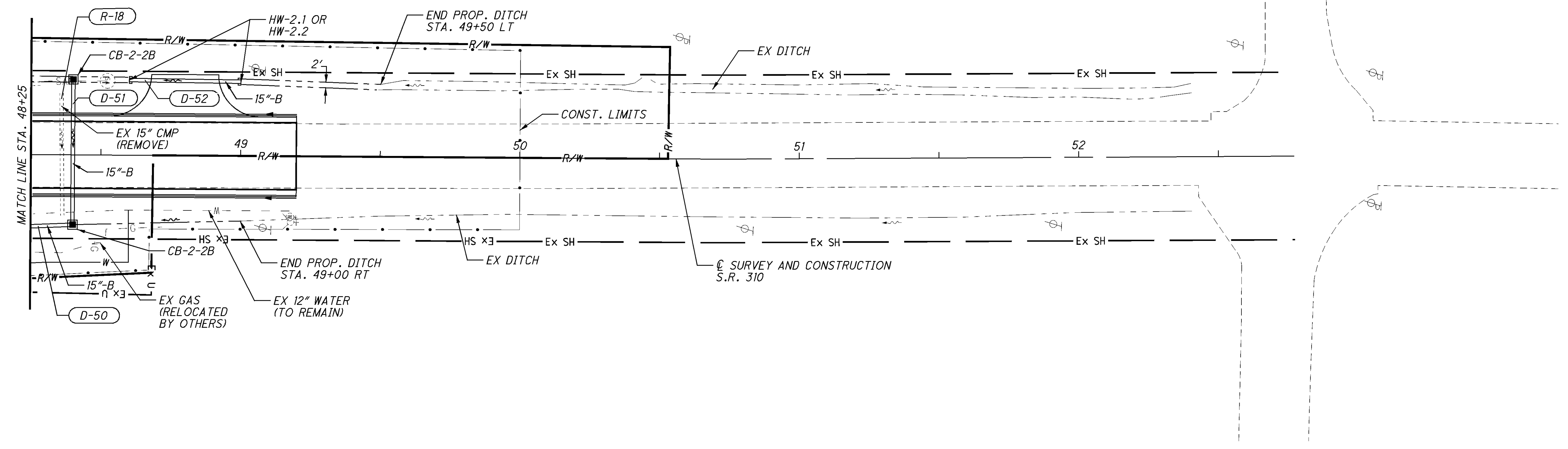
CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY
251	WATER WORK



CALCULATED
BRH
CHECKED
JSL

LEGEND

← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41



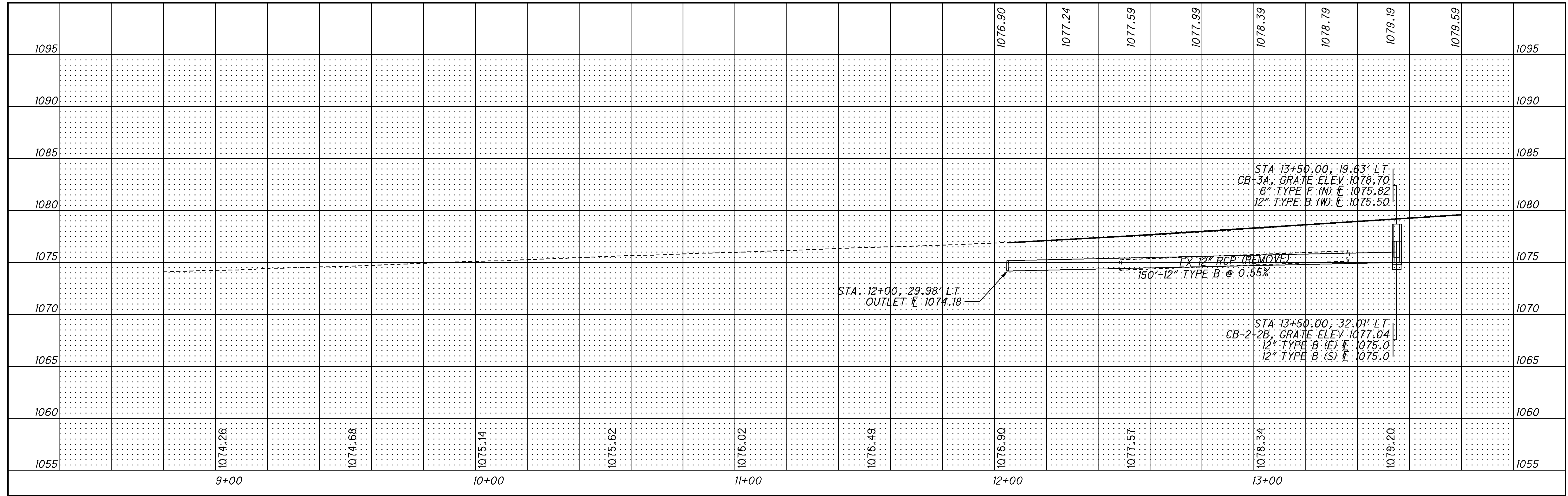
DRAINAGE PLAN SHEET (S.R. 310)
STA. 48+25 TO STA. 52+77.07

LIC-310-0.74

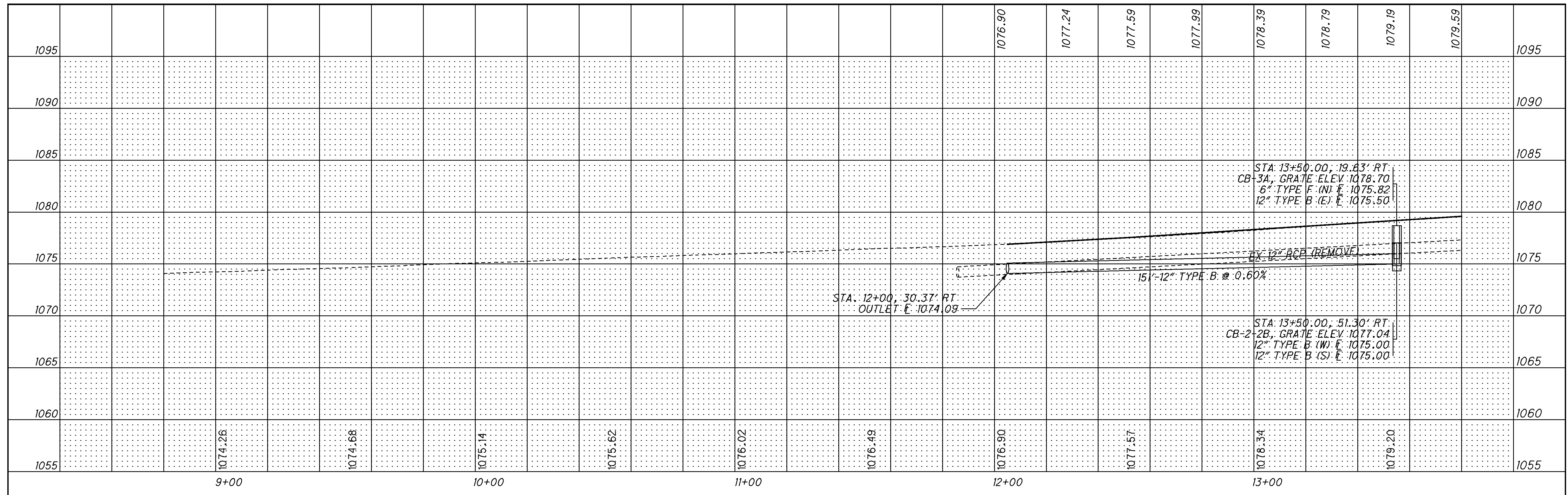
222
425

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LEFT SIDE PROFILE



RIGHT SIDE PROFILE

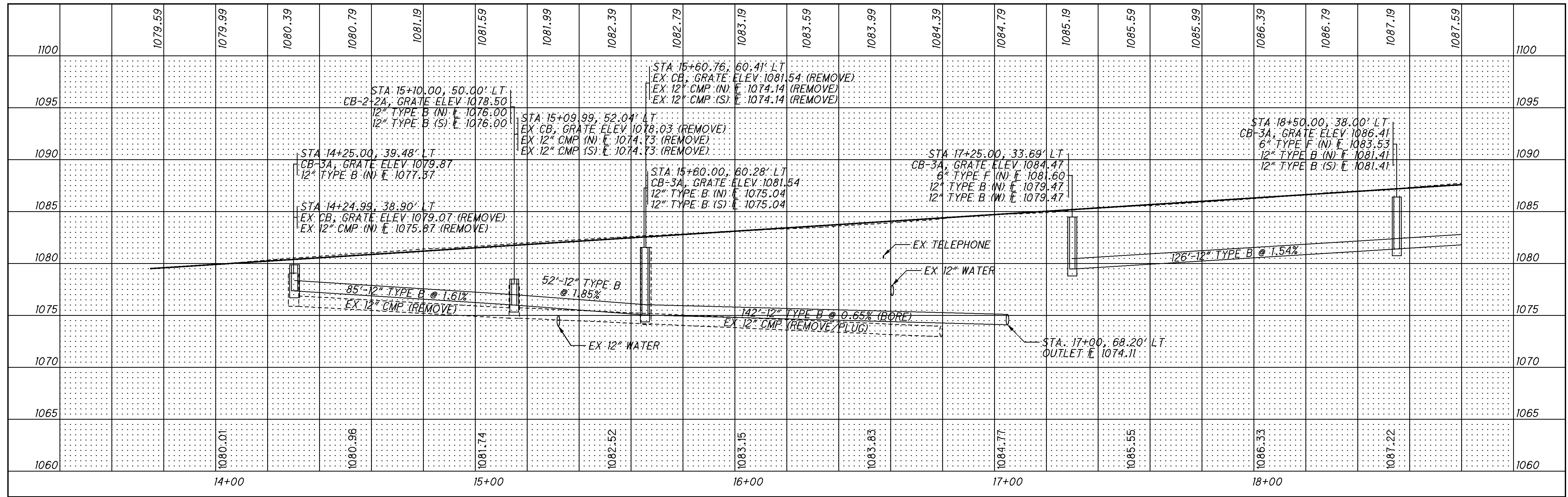


CALCULATED
BRH
CHECKED
JSL

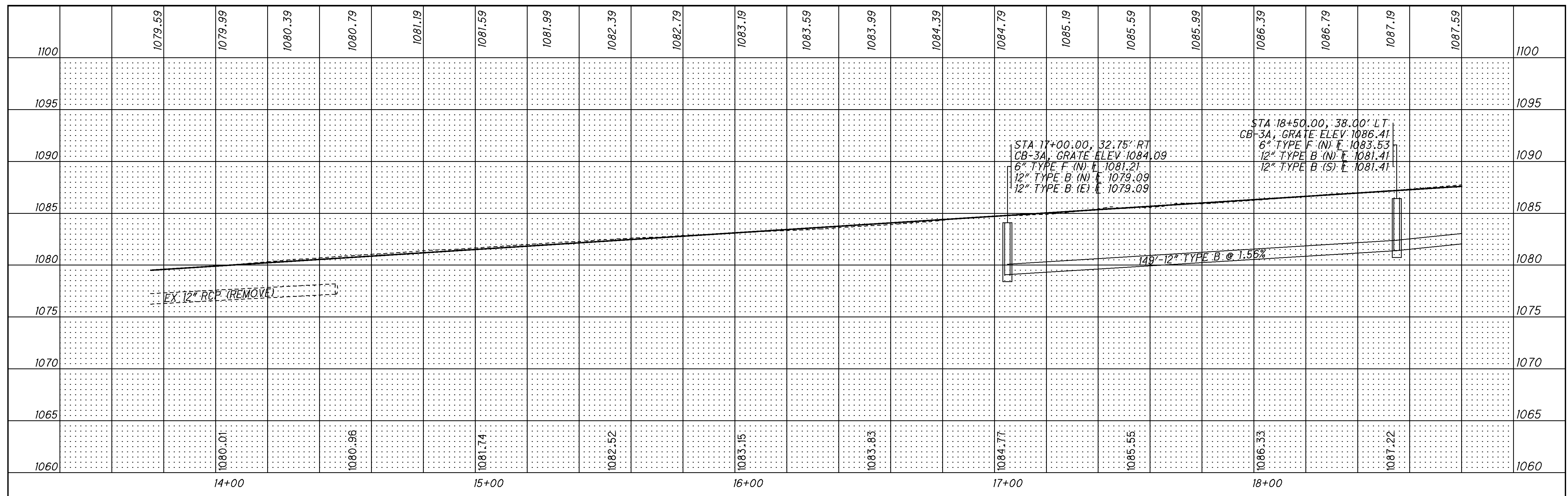
DRAINAGE PROFILE SHEET (S.R. 310)
STA. 8+75 TO STA. 13+75

LIC-310-0.74

LEFT SIDE PROFILE



RIGHT SIDE PROFILE

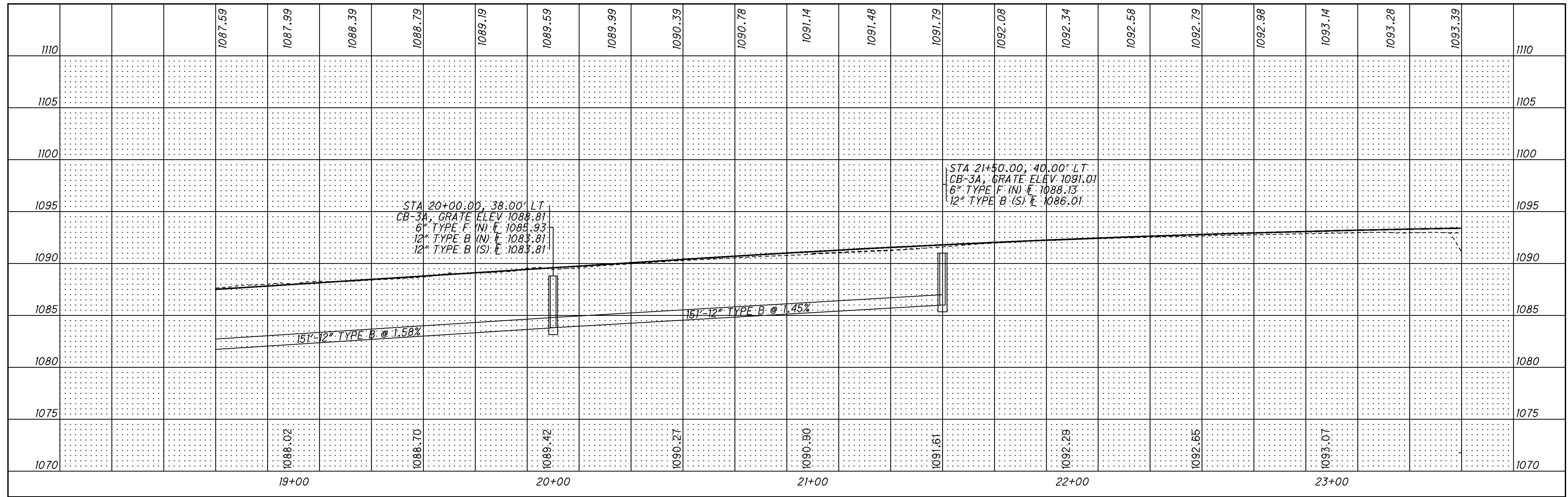


CALCULATED
BRH
CHECKED
JSL

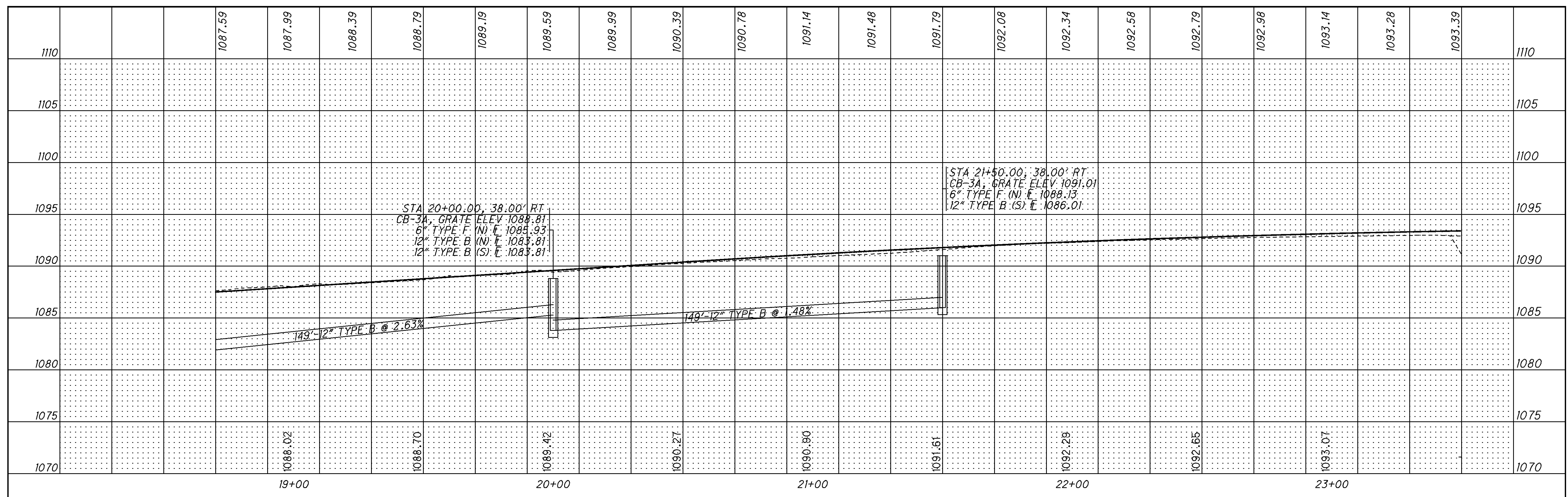
DRAINAGE PROFILE SHEET (S.R. 310)
STA. 13+75 TO STA. 18+75

LIC-310-0.74

LEFT SIDE PROFILE



RIGHT SIDE PROFILE



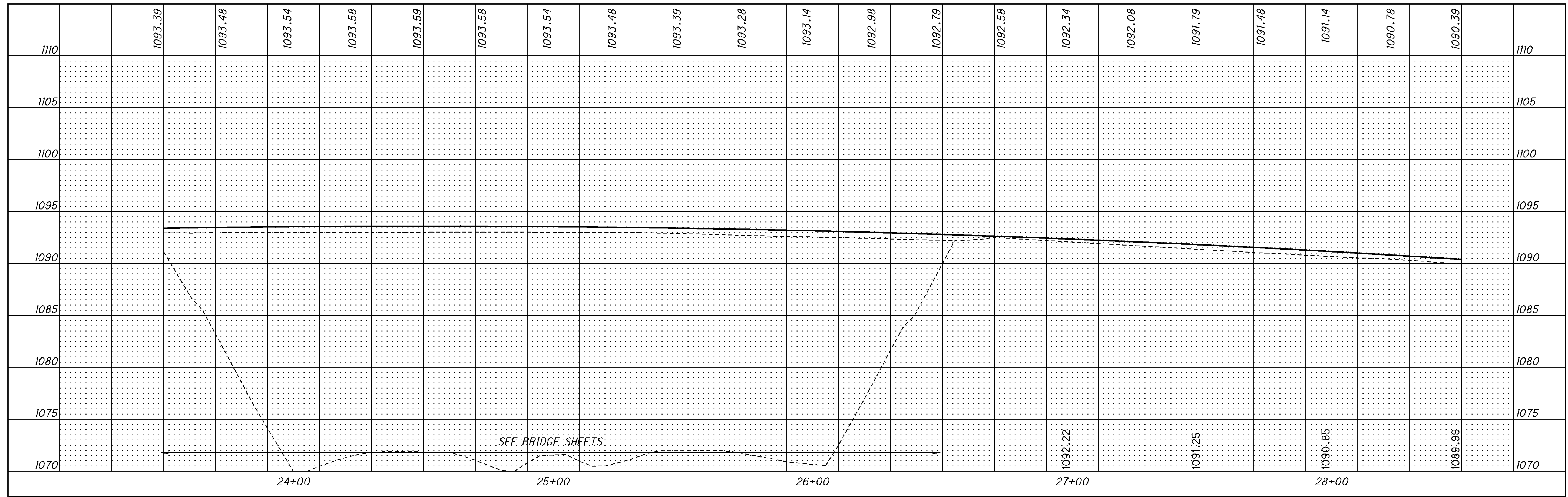
CALCULATED
BRH
CHECKED
JSL

DRAINAGE PROFILE SHEET (S.R. 310)
STA. 18+75 TO STA. 23+50

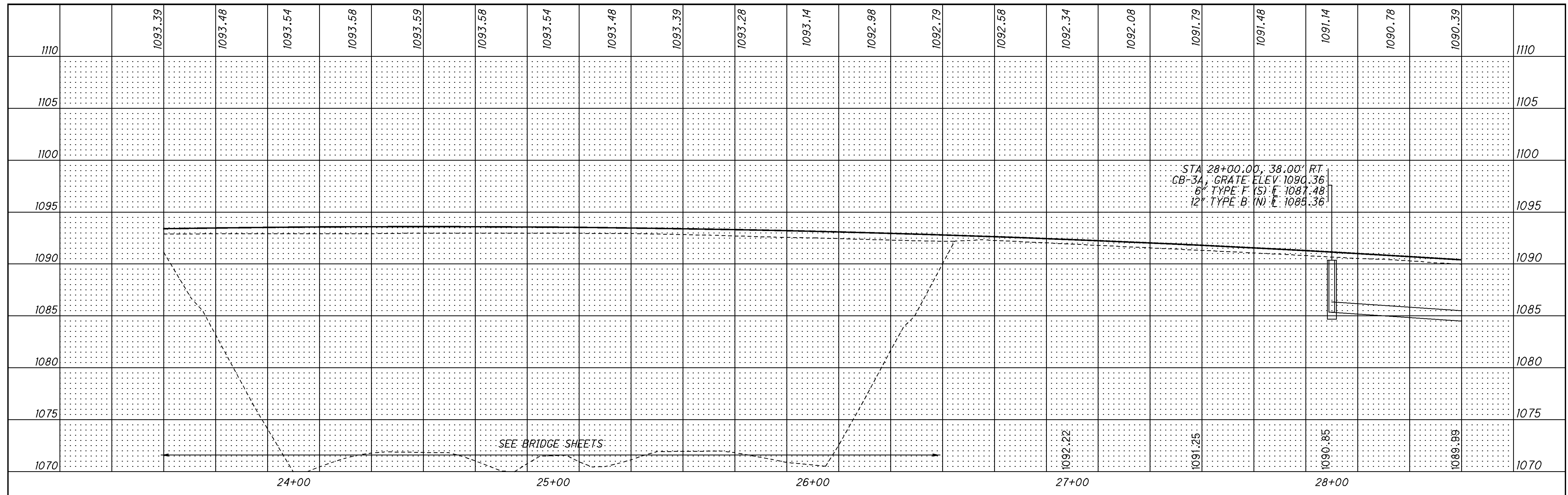
LIC-310-0.74

225
425

LEFT SIDE PROFILE



RIGHT SIDE PROFILE



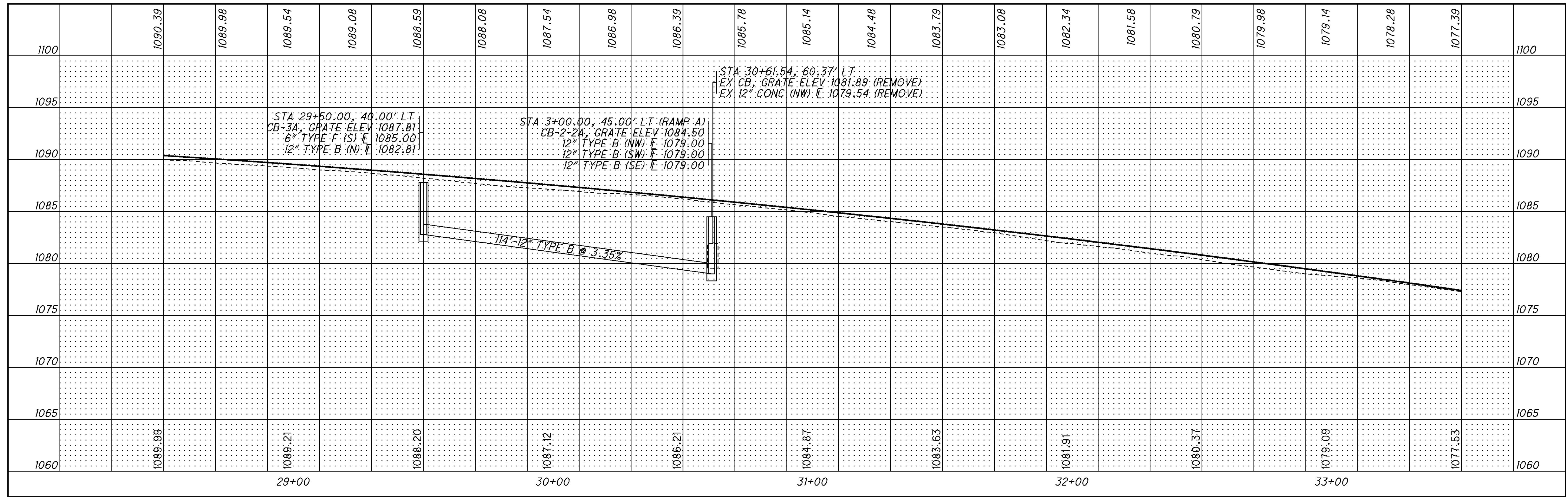
CALCULATED
BRH
CHECKED
JSL

DRAINAGE PROFILE SHEET (S.R. 310)
STA. 23+50 TO STA. 28+50

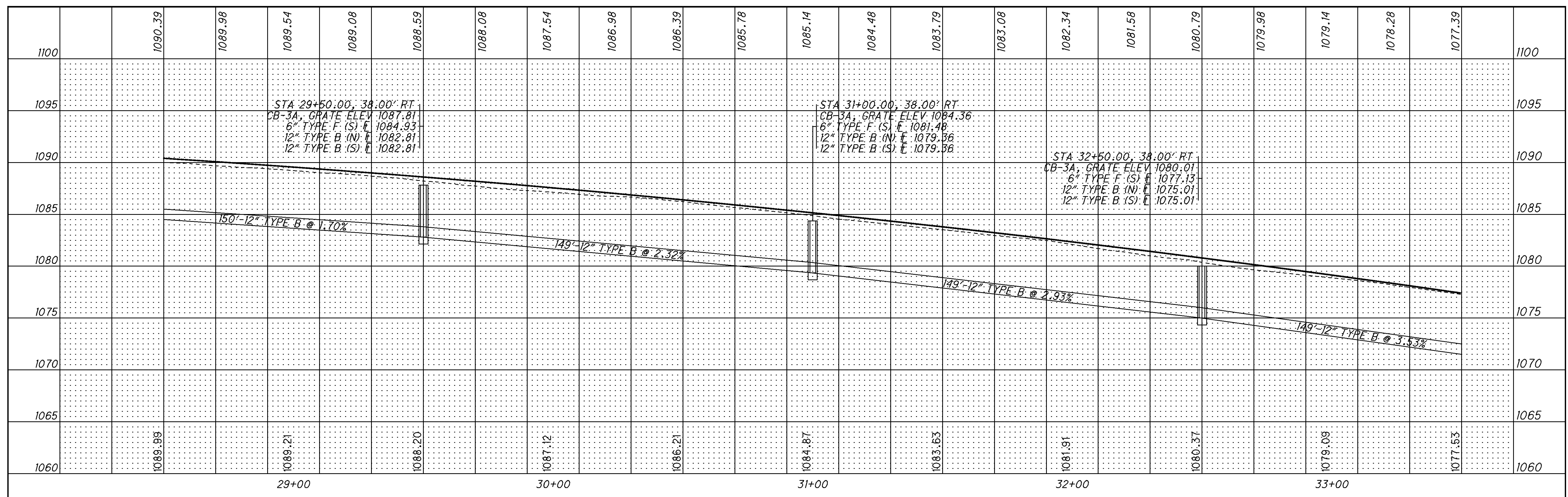
LIC-310-0.74

226
425

LEFT SIDE PROFILE



RIGHT SIDE PROFILE

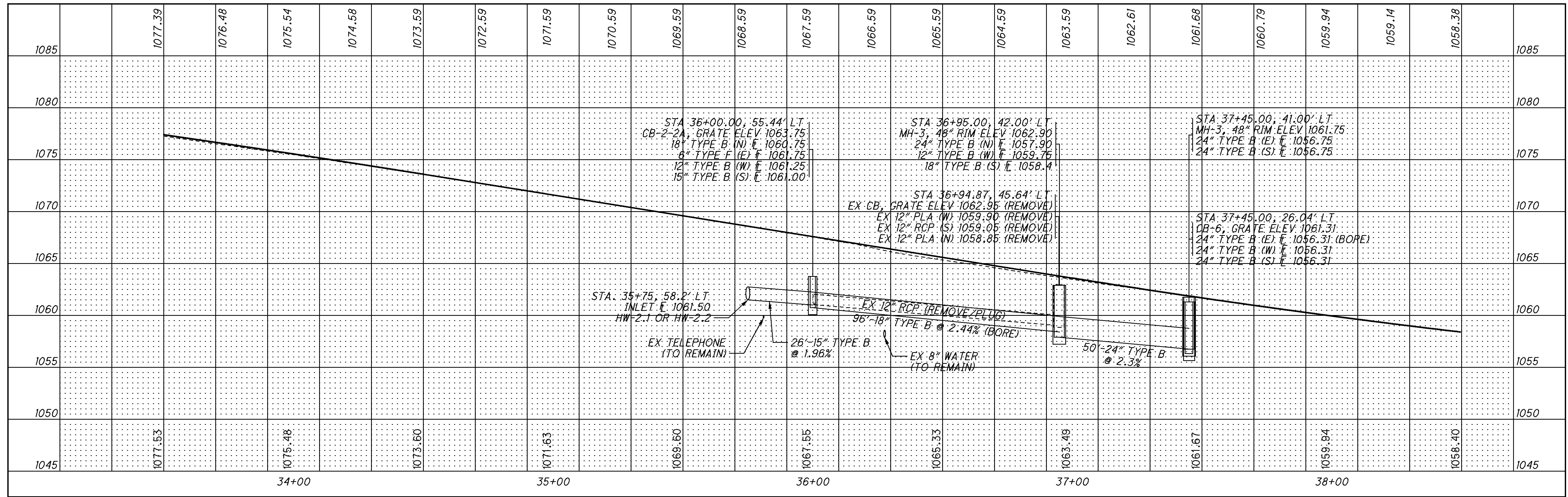


CALCULATED
BRH
CHECKED
JSL

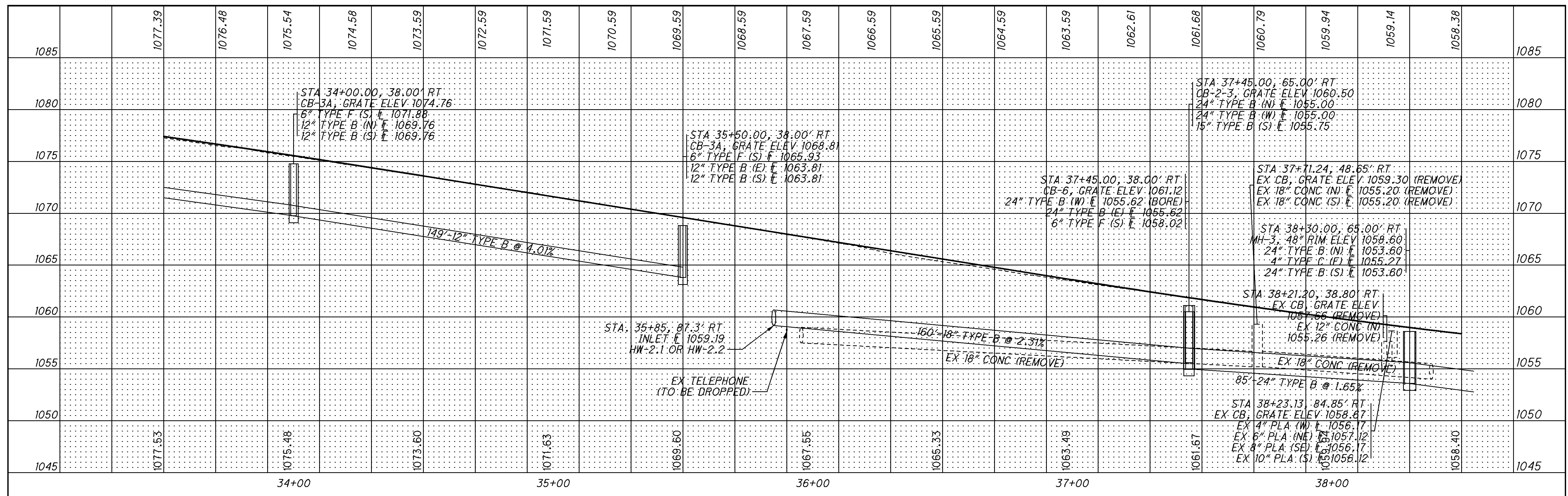
DRAINAGE PROFILE SHEET (S.R. 310)
STA. 28+50 TO STA. 33+50

LIC-310-0.74

LEFT SIDE PROFILE



RIGHT SIDE PROFILE



CALCULATED
BRH
CHECKED
JSL

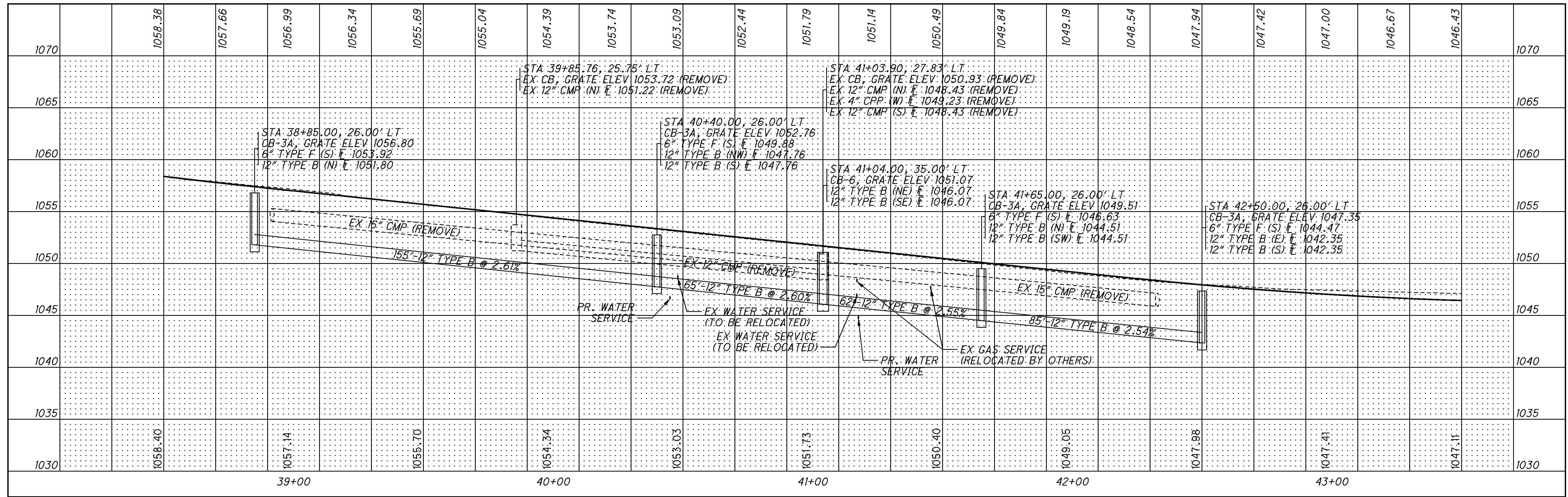
DRAINAGE PROFILE SHEET (S.R. 310)
STA. 33+50 TO STA. 38+50

LIC-310-0.74

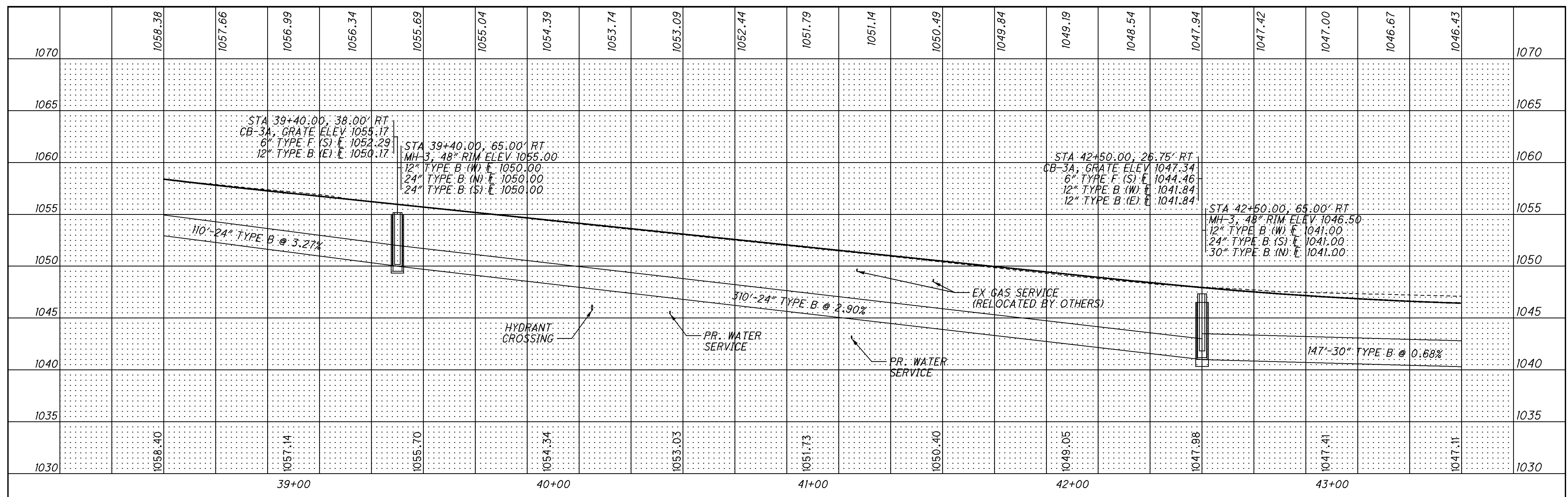
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LEFT SIDE PROFILE



RIGHT SIDE PROFILE



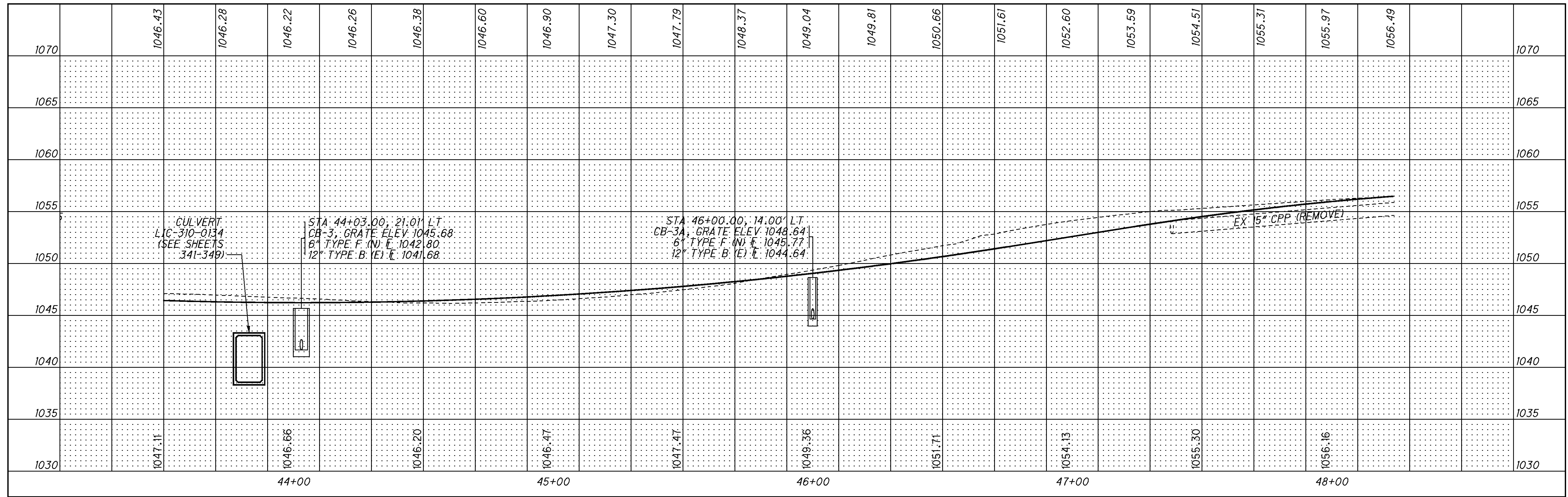
CALCULATED
BRH
CHECKED
JSL

DRAINAGE PROFILE SHEET (S.R. 310)
STA. 38+50 TO STA. 43+50

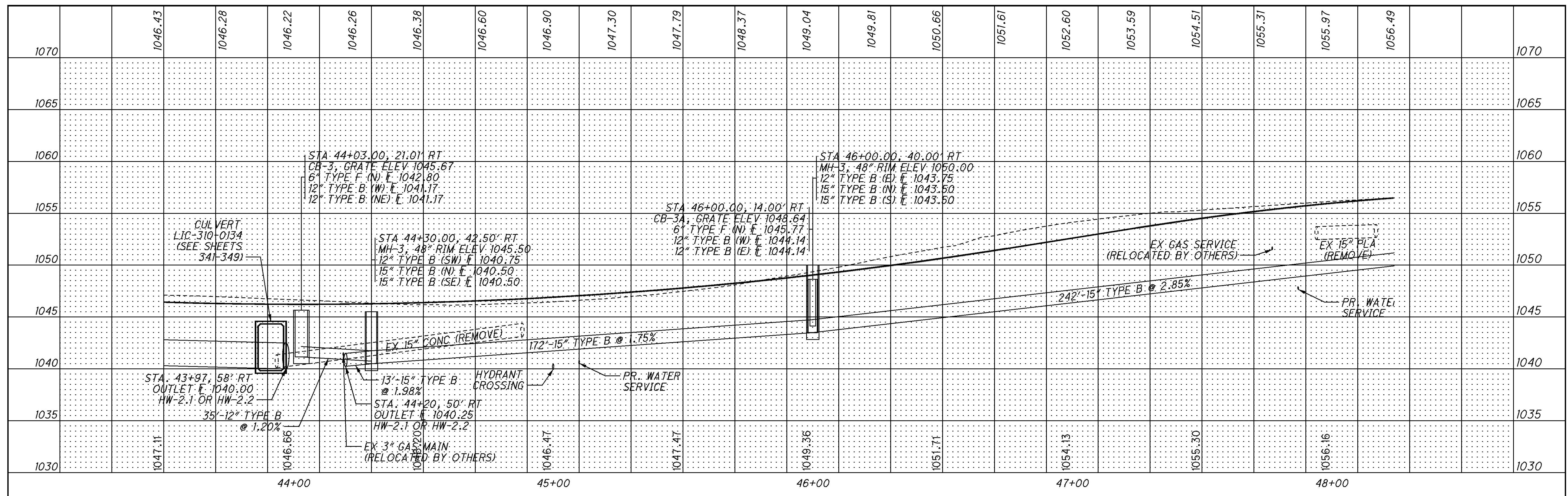
LIC-310-0.74

229
425

LEFT SIDE PROFILE



RIGHT SIDE PROFILE



DRAINAGE PROFILE SHEET (S.R. 310)
STA. 43+50 TO STA. 48+25

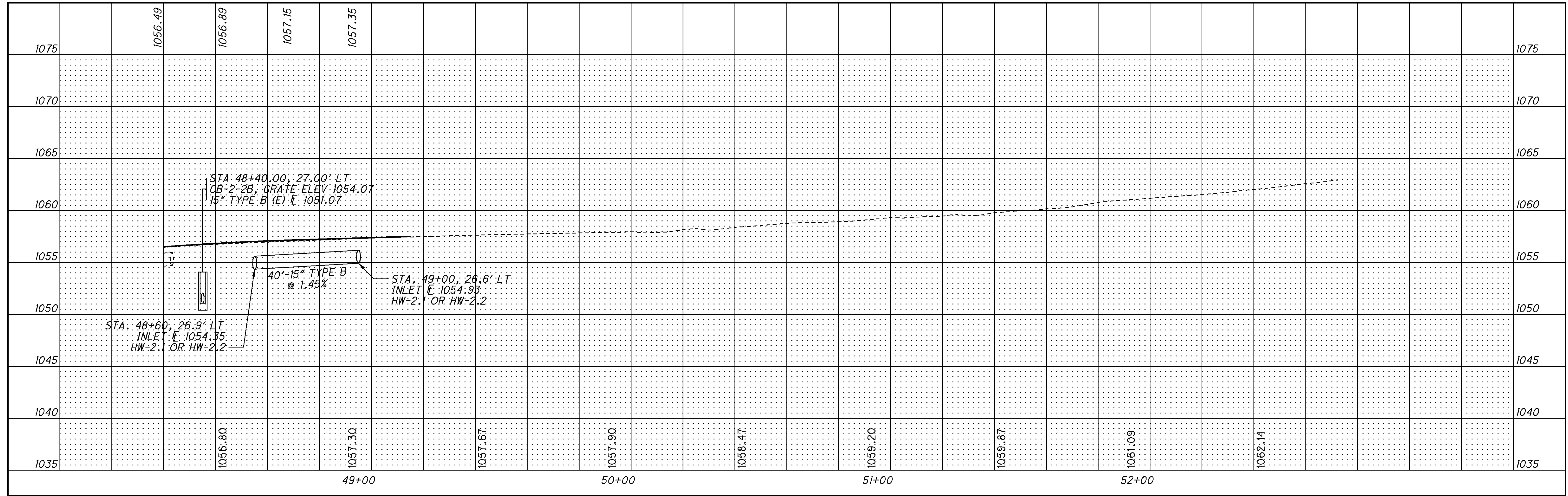
LIC-310-0.74

CALCULATED
BRH
CHECKED
JSL

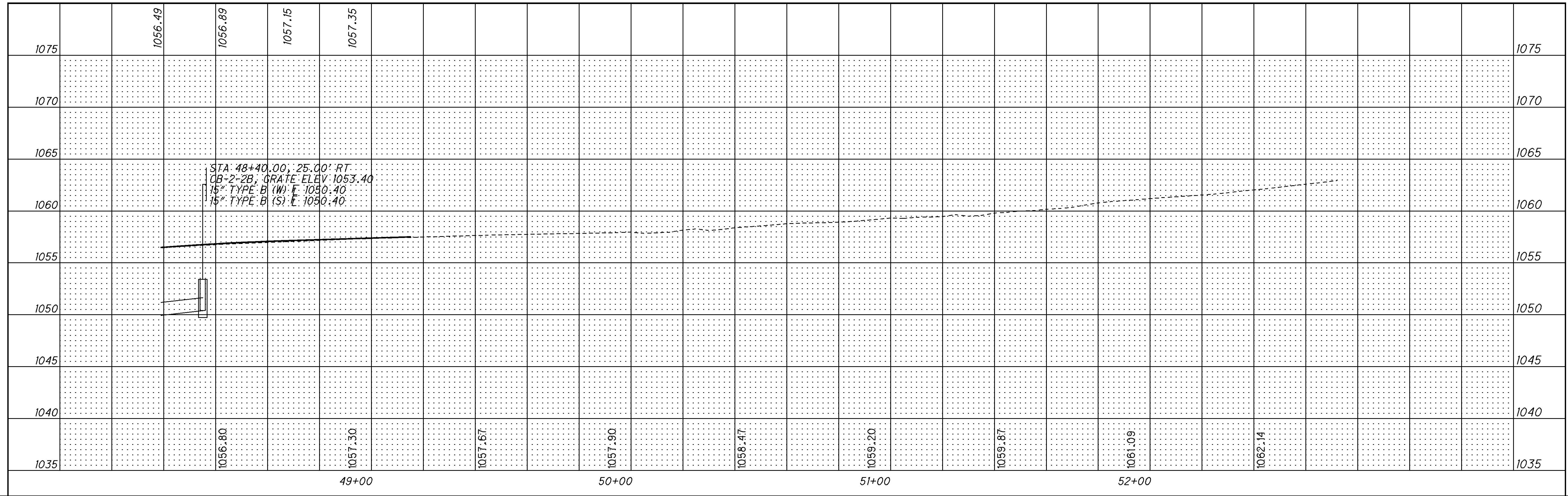
230
425

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LEFT SIDE PROFILE



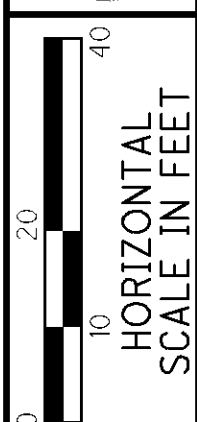
RIGHT SIDE PROFILE



CALCULATED
 BRH
 CHECKED
 JSL
DRAINAGE PROFILE SHEET (S.R. 310)
STA. 48+25 TO STA. 52+77.07

LIC-310-0.74
 231
 425

CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY

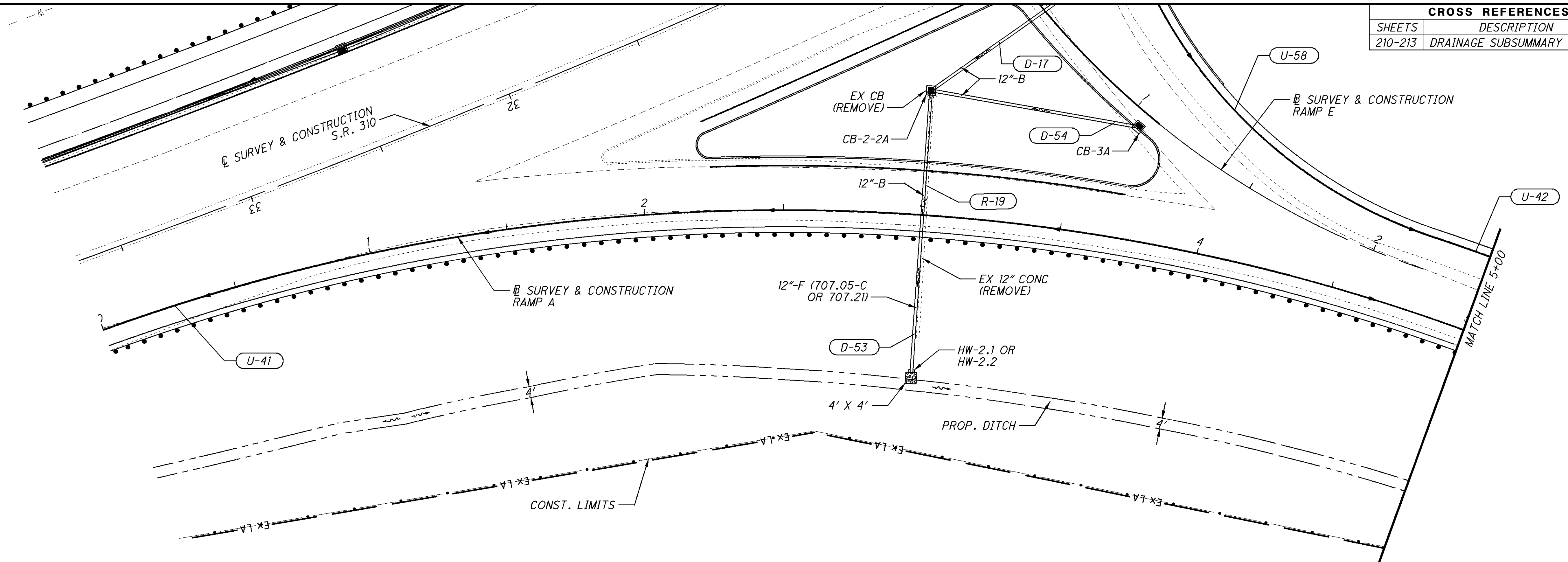


CALCULATED
BRH
CHECKED
JSL

DRAINAGE PLAN AND PROFILE (RAMP A)
STA. 0+00 TO STA. 5+00

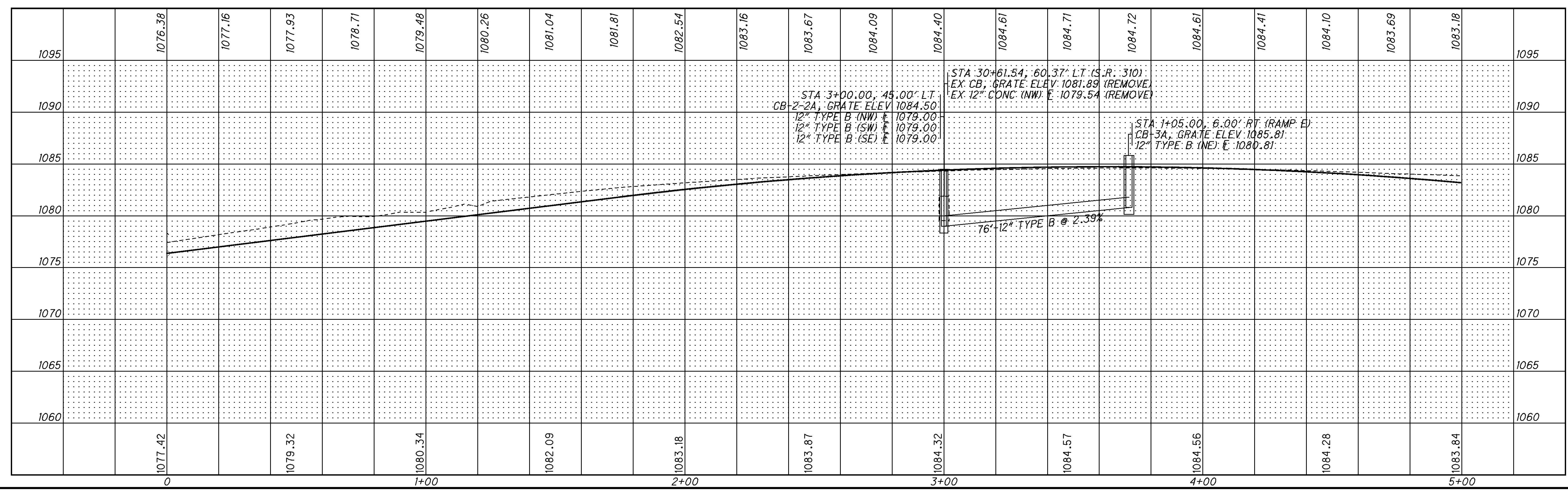
LIC-310-0.74

232
425



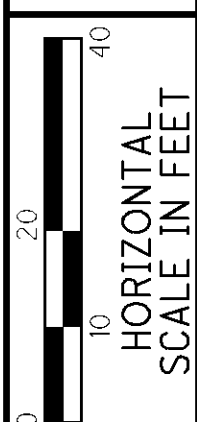
LEGEND

- 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- TIED CONCRETE BLOCK MAT, TYPE 1



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CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY

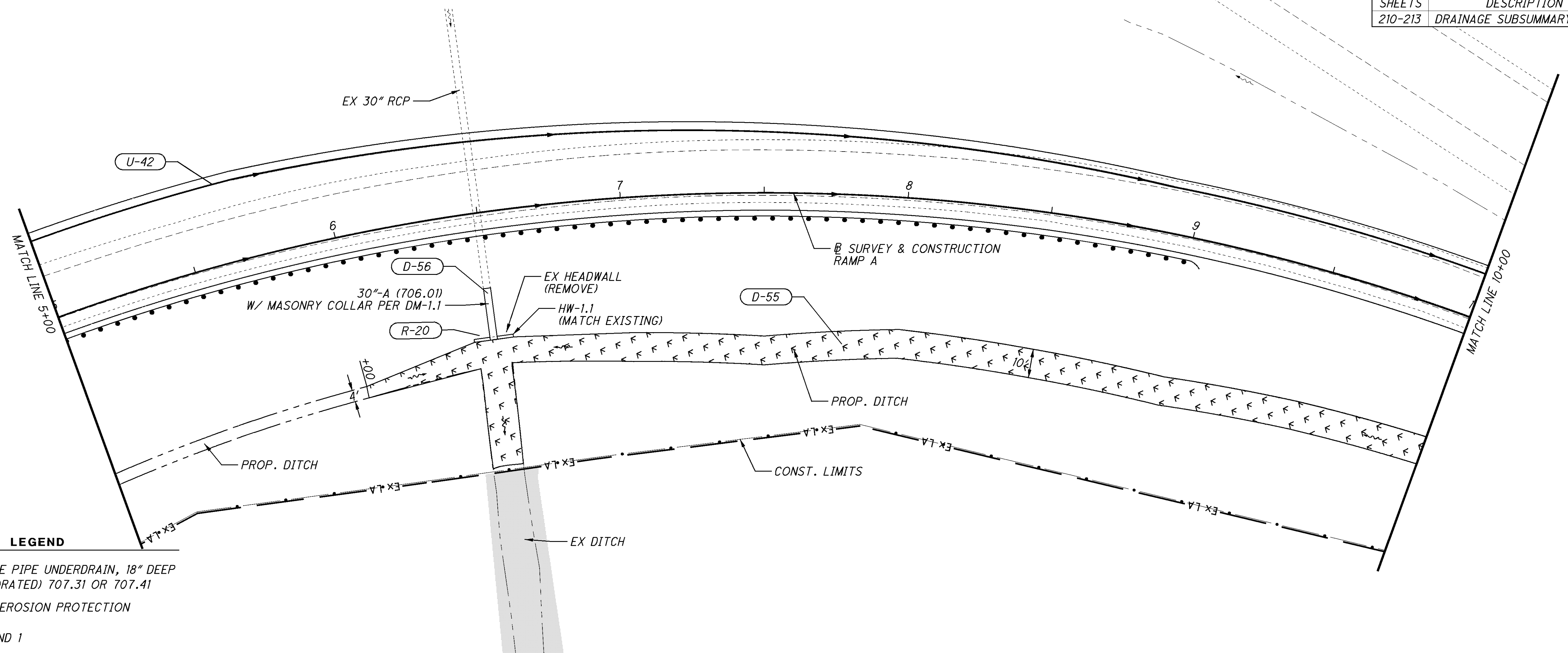


CALCULATED
BRH
CHECKED
JSL

DRAINAGE PLAN AND PROFILE (RAMP A)
STA. 5+00 TO STA. 10+00

LIC-310-0.74

233
425



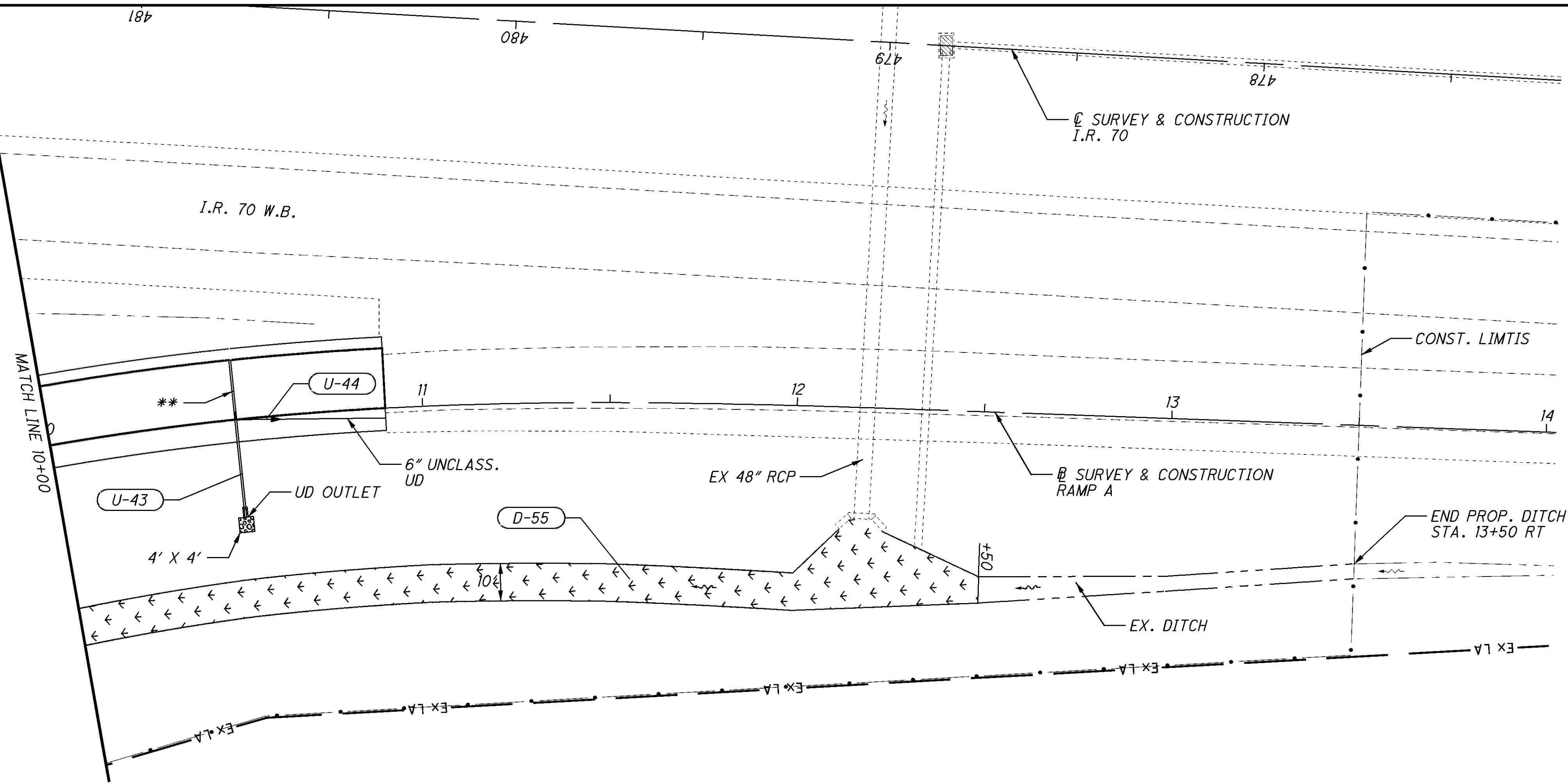
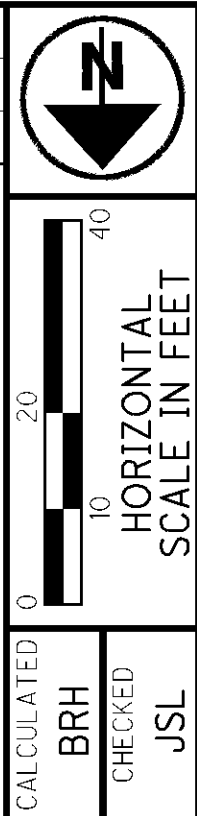
- LEGEND**
- 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
 - DITCH EROSION PROTECTION
 - WETLAND 1

1095	1083.18	1082.56	1081.89	1081.22	1080.55	1079.88	1079.22	1078.55	1077.88	1077.21	1076.56	1075.97	1075.42	1074.97	1074.46	1074.05	1073.68	1073.37	1073.10	1072.88	1072.71	1095	
1090																							1090
1085																							1085
1080																							1080
1075																							1075
1070																							1070
1065																							1065
1060																							1060
	1083.84		1083.23		1082.37		1081.25		1079.98		1078.61		1077.18		1075.83		1074.64		1073.65		1072.89		
	5+00				6+00				7+00				8+00				9+00				10+00		

EX 30" RCP
STA. 6+50, 39.2' RT
OUTLET E. 1062.48

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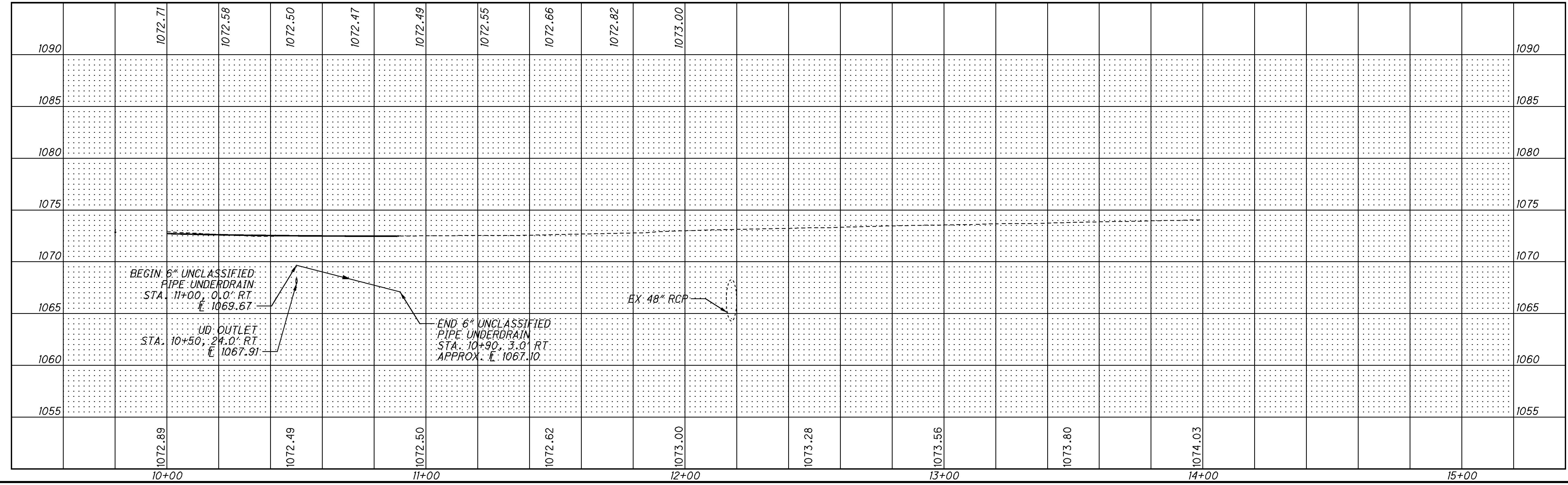
CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



LEGEND

- 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- ▨ TIED CONCRETE BLOCK MAT, TYPE I
- ⌞ DITCH EROSION PROTECTION
- WETLAND 1

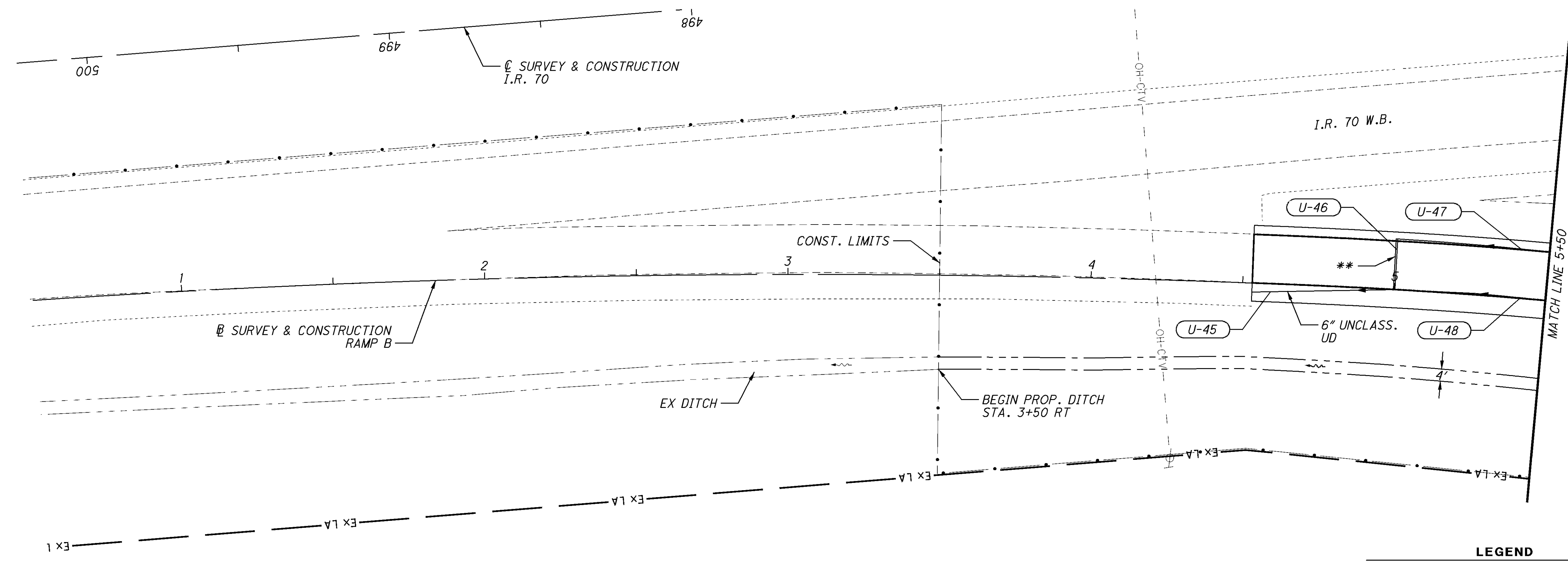
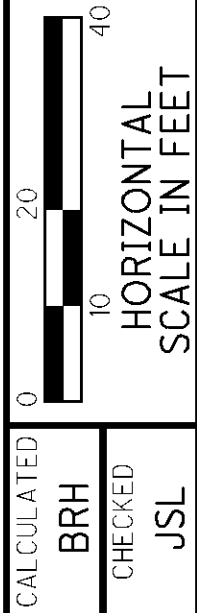
** 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33, 707.42, OR 707.45



**DRAINAGE PLAN AND PROFILE (RAMP A)
STA. 10+00 TO STA. 14+00**

LIC-310-0.74

CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



LEGEND

- 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- ** 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33, 707.42, OR 707.45

																					1069.55	1069.62	1069.68	1069.75	1085																																																																																																														
																									1080																																																																																																														
																									1075																																																																																																														
																									1070																																																																																																														
																									1065																																																																																																														
																									1060																																																																																																														
																									1055																																																																																																														
																									1050																																																																																																														
	1068.81			1068.92		1069.06		1069.13		1069.15						1069.26		1069.34					1069.37		1069.49								1069.71				1069.83																																																																																																		
	1+00																											2+00																											3+00																											4+00																											5+00																										

BEGIN 6" UNCLASSIFIED PIPE UNDERDRAIN STA. 4+53.12; 3.0' RT APPROX. E 1063.35

END 6" UNCLASSIFIED PIPE UNDERDRAIN STA. 5+00; 0.0' RT E 1066.78

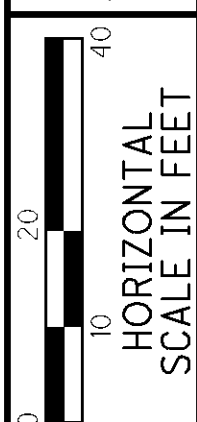
DRAINAGE PLAN AND PROFILE (RAMP B)
 STA. 0+50 TO STA. 5+50

LIC-310-0.74

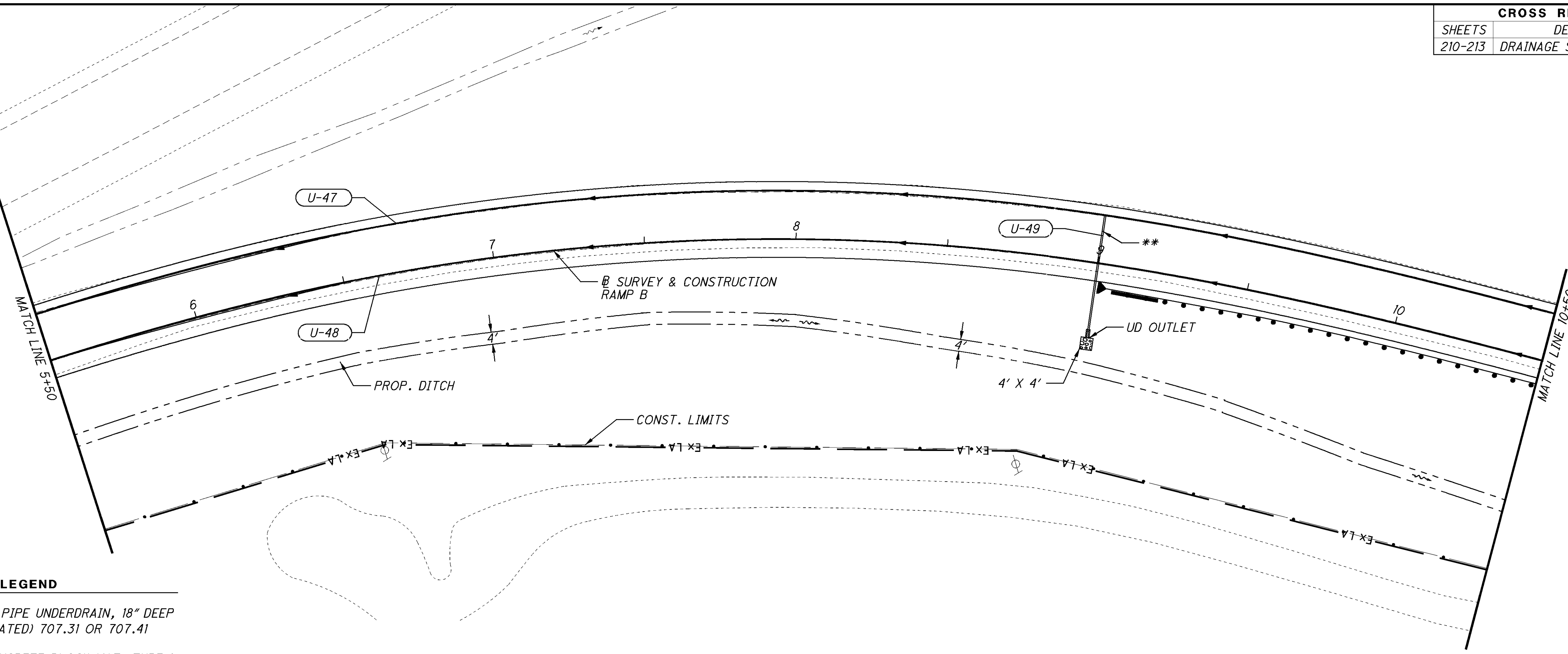
235
 425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



CALCULATED BRH
CHECKED JSL



LEGEND

- 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- TIED CONCRETE BLOCK MAT, TYPE 1
- ** 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33, 707.42, OR 707.45

1090	1069.75	1069.81	1069.88	1069.94	1070.03	1070.16	1070.33	1070.55	1070.81	1071.11	1071.45	1071.83	1072.26	1072.73	1073.24	1073.80	1074.40	1075.04	1075.70	1076.36	1077.03	1090
1085																						1085
1080																						1080
1075																						1075
1070																						1070
1065																						1065
1060																						1060
1055																						1055
	1069.83		1069.92		1070.12		1070.44		1070.89		1071.42		1072.09		1072.96		1073.95		1075.00		1076.15	
		6+00					7+00				8+00				9+00				10+00			

UD OUTLET
STA. 9+00.22 7' RT
E 1069.06

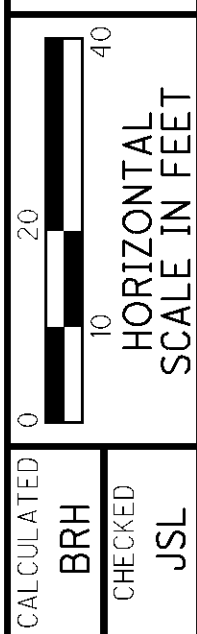
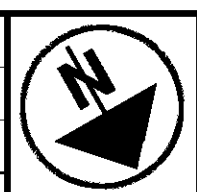
DRAINAGE PLAN AND PROFILE (RAMP B)
STA. 5+50 TO STA. 10+50

LIC-310-0.74

236
425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY

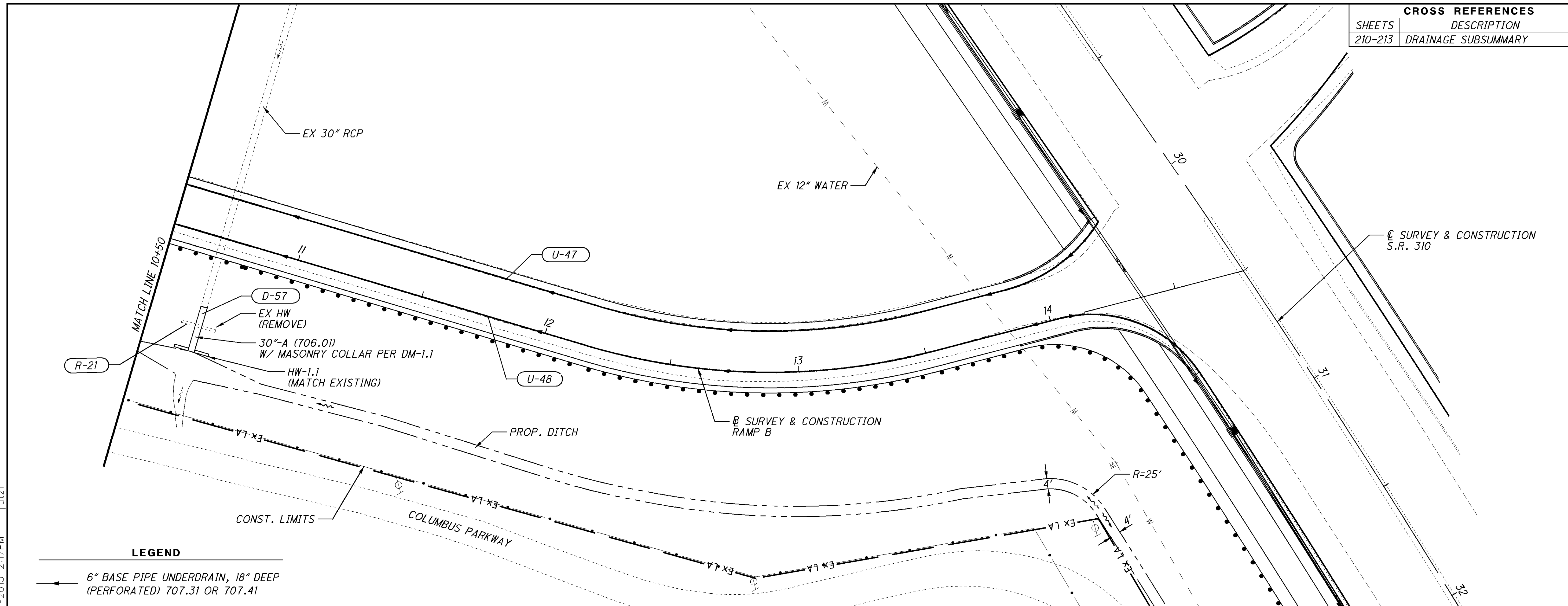


CALCULATED
BRH
CHECKED
JSL

DRAINAGE PLAN AND PROFILE (RAMP B)
STA. 10+50 TO STA. 14+77.40

LIC-310-0.74

237
425



LEGEND
 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41

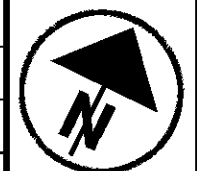
1095	1077.03	1077.69	1078.35	1079.01	1079.67	1080.34	1081.00	1081.66	1082.32	1082.99	1083.65	1084.31	1084.97	1085.59	1085.96	1086.11	1086.24	1086.38	1095
1090																			1090
1085																			1085
1080																			1080
1075																			1075
1070																			1070
1065																			1065
1060																			1060
	1076.15		1077.25		1078.47		1079.72		1080.94		1082.09		1083.20		1084.39		1085.59		
		11+00				12+00					13+00				14+00				

30" TYPE A
STA. 10+70; 38.6' RT.
OUTLET E. 1061.36

EX 12" WATER

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CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



CALCULATED
BRH
CHECKED
JSL

DRAINAGE PLAN AND PROFILE (RAMP C)
STA. 0+00 TO STA. 5+00

LIC-310-0.74

238
425

Q SURVEY & CONSTRUCTION
S.R. 310

EX 12" WATER

U-51

U-52

U-50

B SURVEY & CONSTRUCTION
RAMP C

4' X 4'

UD OUTLET

MATCH LINE 5+00

PROP. DITCH

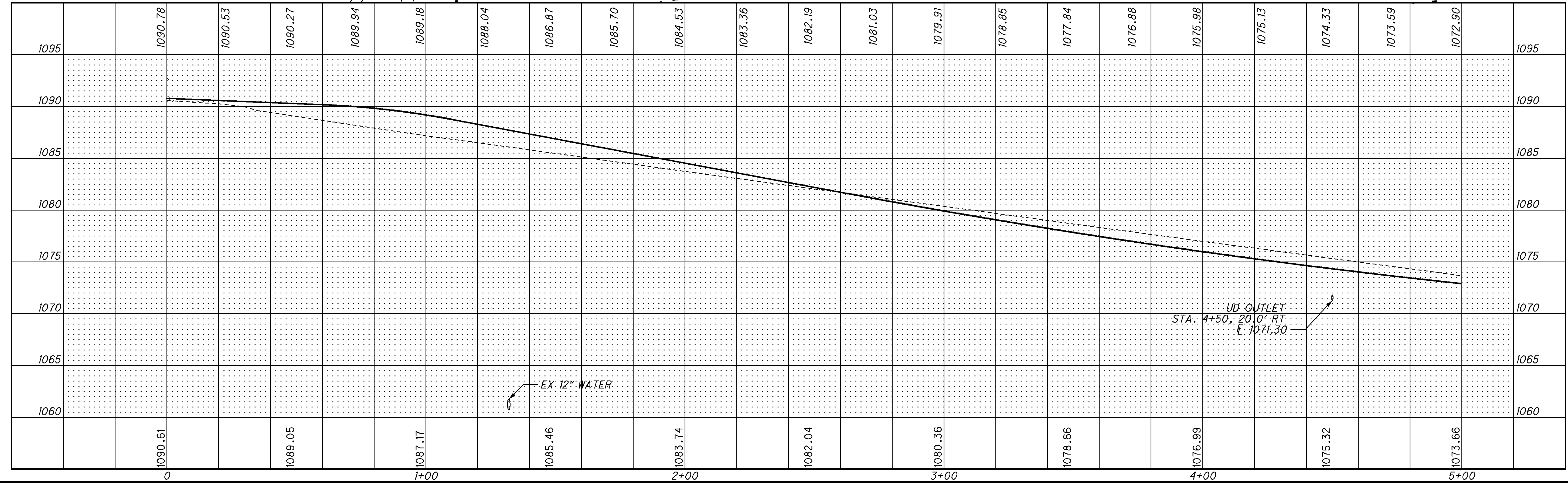
R=25'

CONST. LIMITS

EX 8" SANITARY

LEGEND

- ← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
- TIED CONCRETE BLOCK MAT, TYPE 1
- ** 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33, 707.42, OR 707.45



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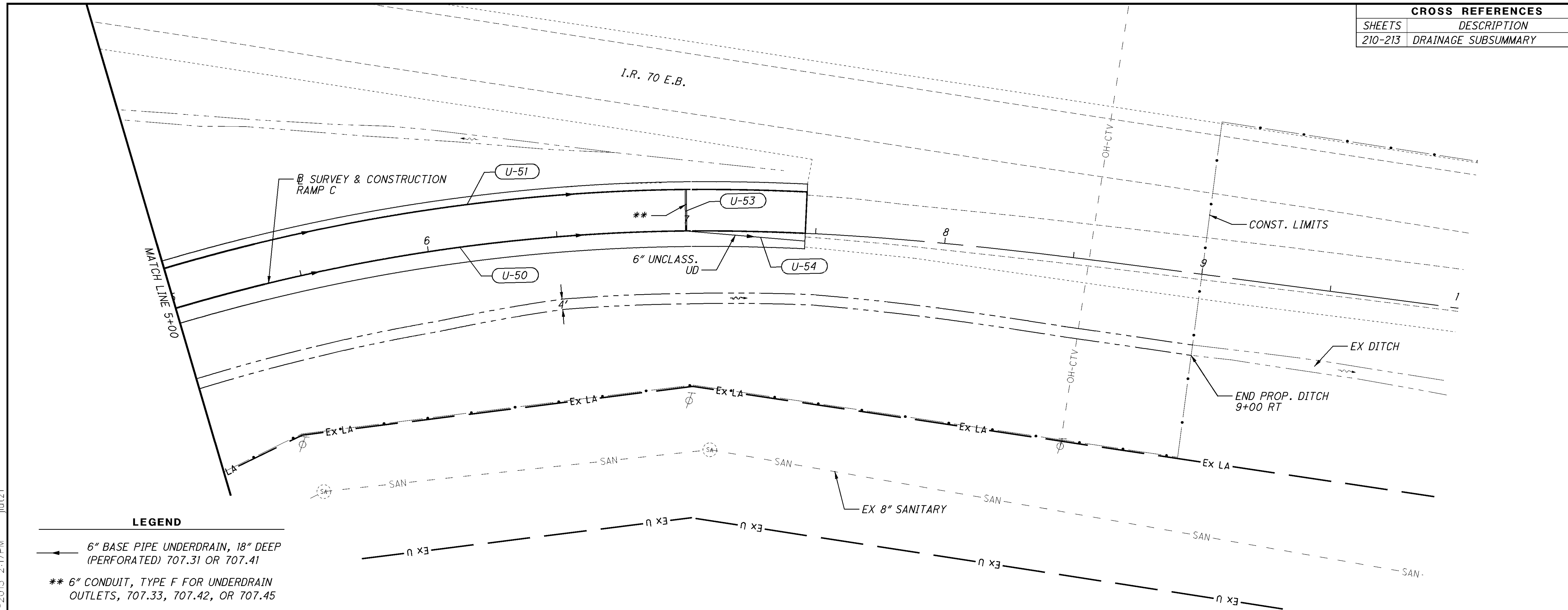
CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



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CHECKED BY JSL

DRAINAGE PLAN AND PROFILE (RAMP C)
STA. 5+00 TO STA. 10+00

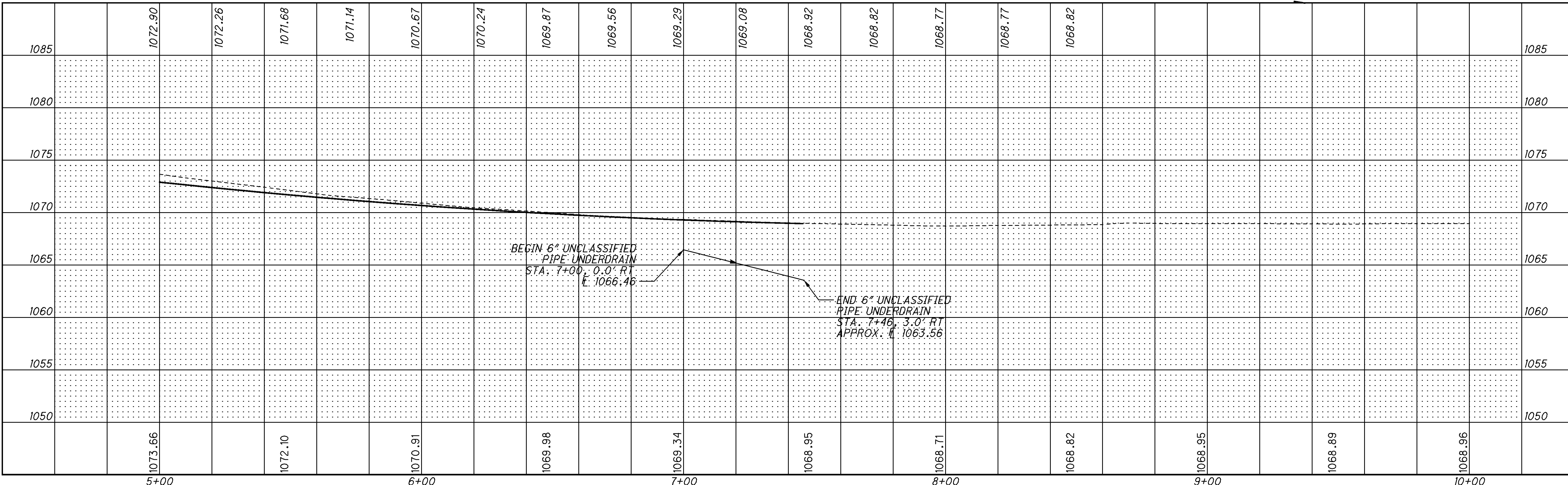
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LEGEND

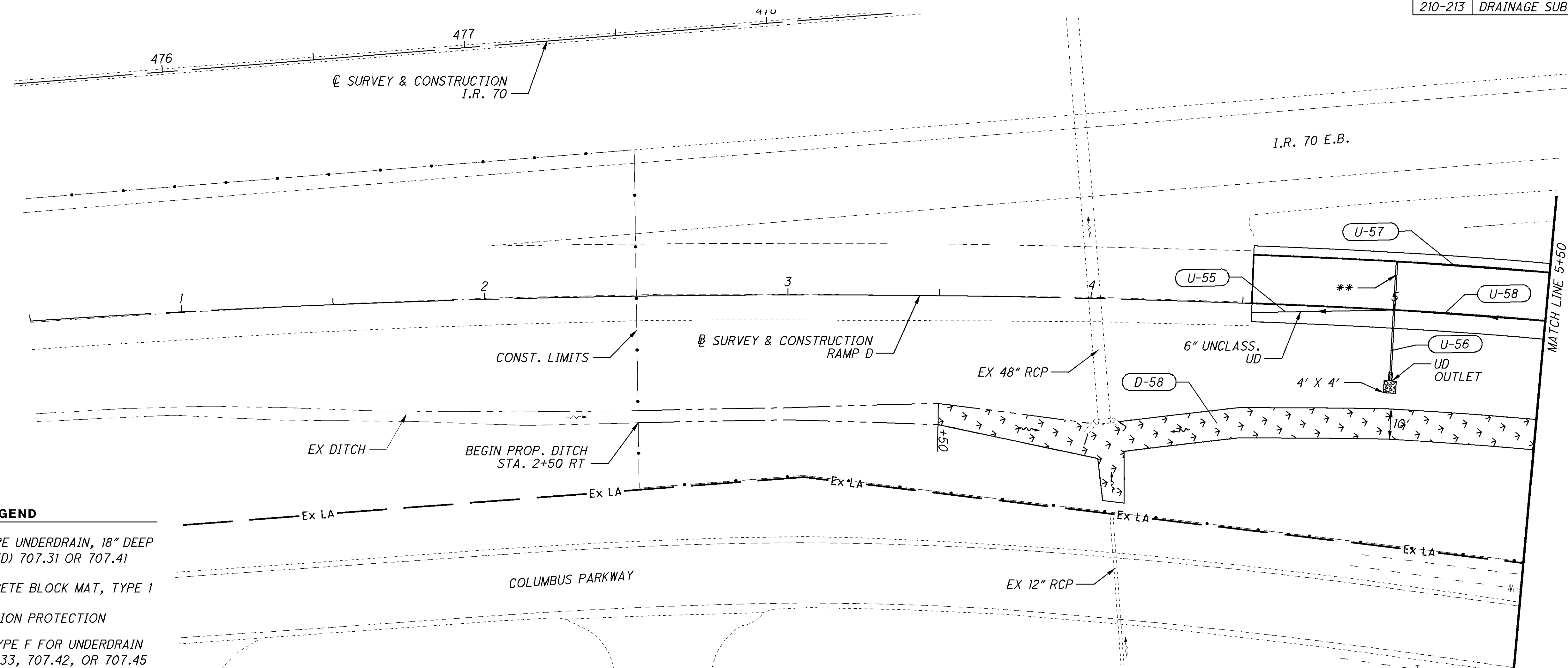
← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41

** 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS, 707.33, 707.42, OR 707.45



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CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY



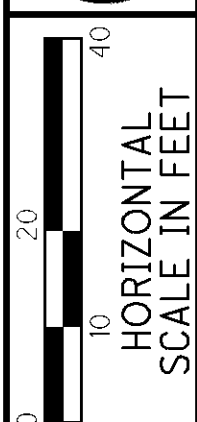
- LEGEND**
- 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41
 - TIED CONCRETE BLOCK MAT, TYPE 1
 - DITCH EROSION PROTECTION
- ** 6" CONDUIT, TYPE F FOR UNDERDRAIN
OUTLETS, 707.33, 707.42, OR 707.45

															1073.68		1073.57	1073.46	1073.37	1073.32		1073.32	1073.37	1073.45	1073.58			
1090																											1090	
1085																											1085	
1080																											1080	
1075																											1075	
1070																											1070	
1065																		EX 48" RCP								END 6" UNCLASSIFIED PIPE UNDERDRAIN STA. 5+00, 0.0' RT. E. 1070.53	1065	
1060																		BEGIN 6" UNCLASSIFIED PIPE UNDERDRAIN STA. 4+53.04, 3.0' RT. APPROX. E. 1068.81				UD OUTLET STA. 5+00, 21.2' RT. E. 1069.66					1060	
1055																												1055
	1074.69		1074.57		1074.51		1074.35		1074.18		1073.99		1073.68		1073.47		1073.33		1073.32		1073.36							
	1+00		2+00		3+00		4+00		5+00																			

DRAINAGE PLAN AND PROFILE (RAMP D)
STA. 0+50 TO STA. 5+50

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CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY

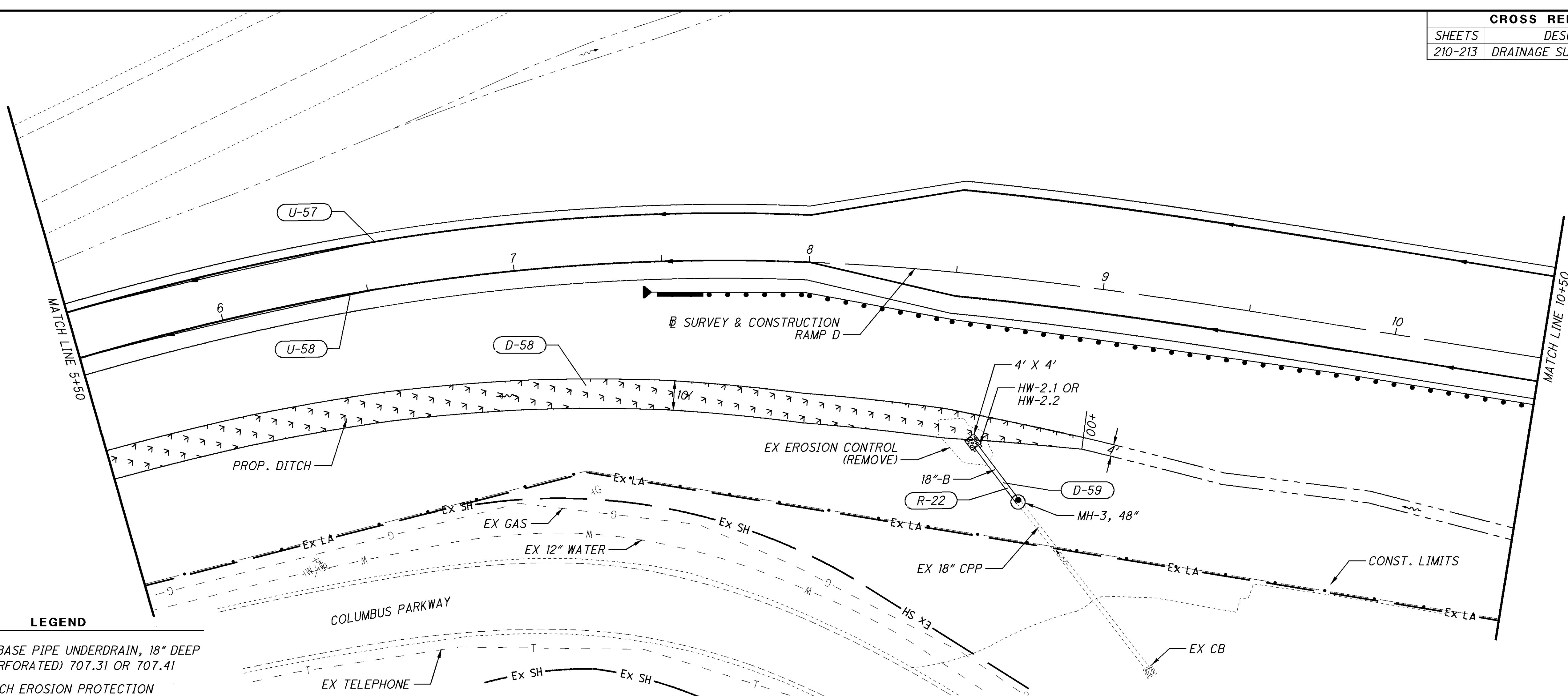


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**DRAINAGE PLAN AND PROFILE (RAMP D)
STA. 5+50 TO STA. 10+50**

LIC-310-0.74

241
425



LEGEND

6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41

DITCH EROSION PROTECTION

1095	1073.58	1073.76	1073.98	1074.25	1074.56	1074.91	1075.31	1075.75	1076.24	1076.77	1077.35	1077.97	1078.63	1079.34	1080.10	1080.90	1081.74	1082.63	1083.56	1084.51	1085.47	1095
1090																						1090
1085																						1085
1080																						1080
1075																						1075
1070																						1070
1065																						1065
1060																						1060
	1073.36		1073.59		1074.10		1075.02		1076.30		1077.83		1079.45		1081.09		1082.82		1084.46		1086.13	
		6+00				7+00					8+00				9+00				10+00			

STA. 8+80.00, 75.00' RT.
MH-3, RIM ELEV. 1073.50
18" TYPE B (NW) F. 1070.00
EX 18" CPP (SE) F. 1067.44

STA. 8+63, 58' RT.
OUTLET F. 1069.50
HW-2.1 OR HW-2.2

23'-18" TYPE B @ 2.14%

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CROSS REFERENCES	
SHEETS	DESCRIPTION
210-213	DRAINAGE SUBSUMMARY

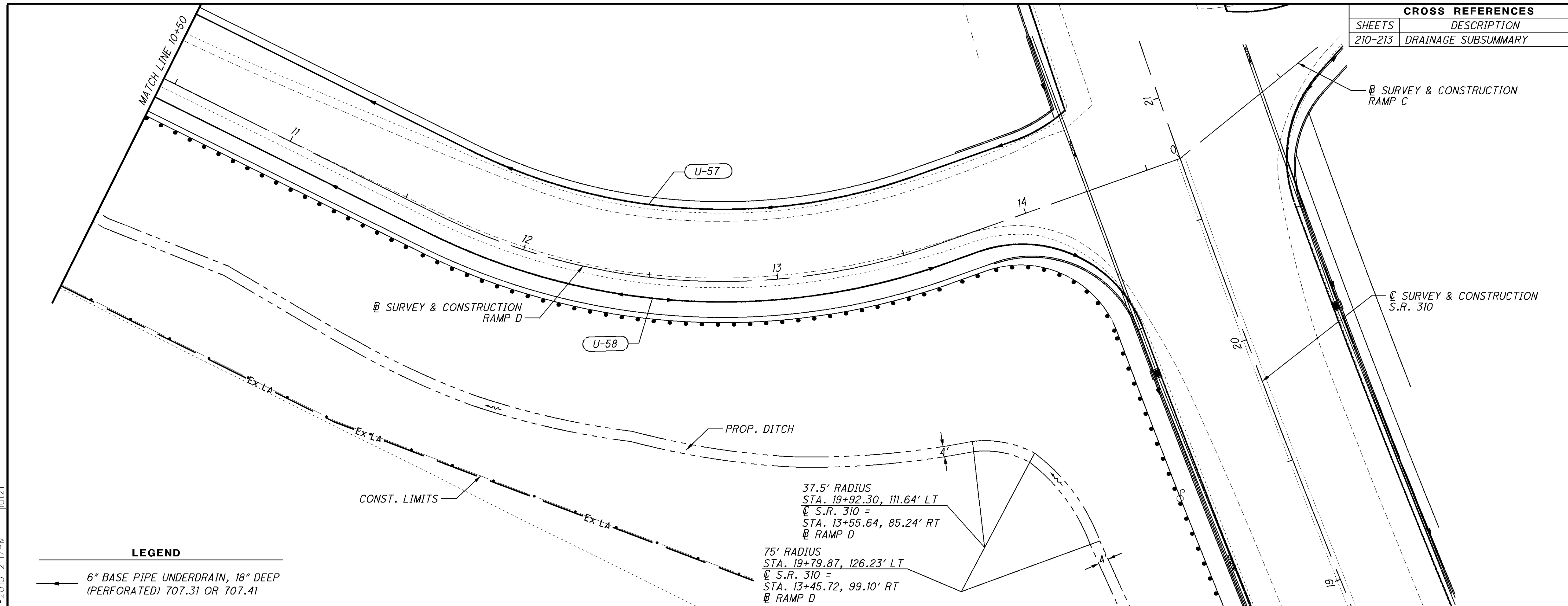


CALCULATED
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DRAINAGE PLAN AND PROFILE (RAMP D)
STA. 10+50 TO STA. 14+63.65

LIC-310-0.74

242
425

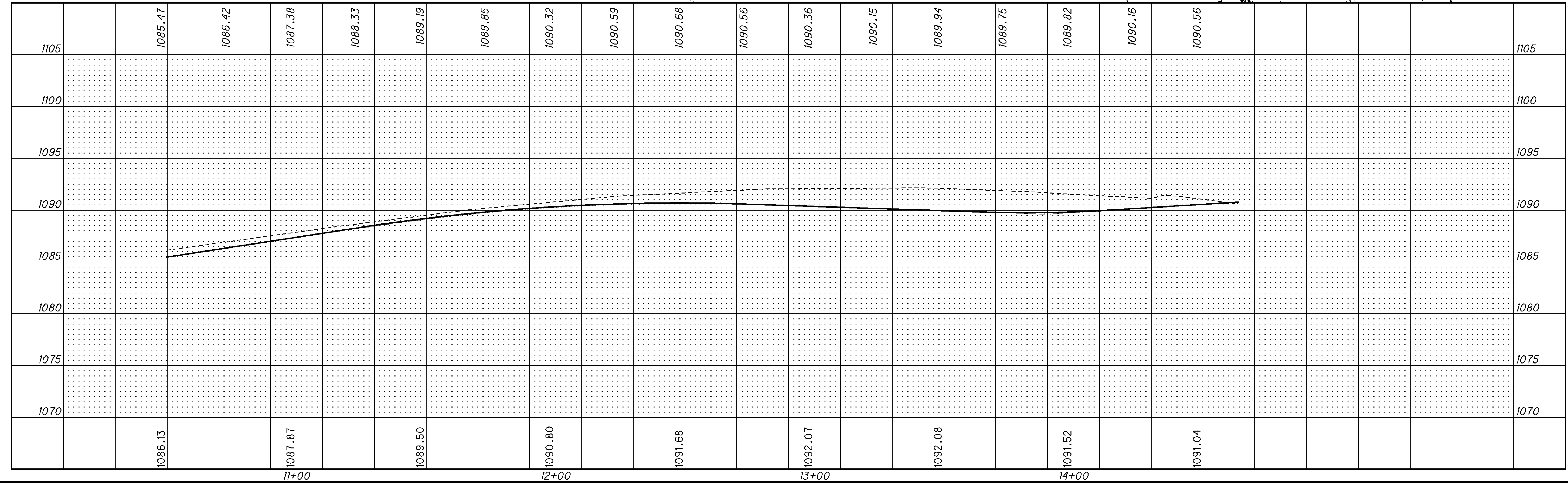


LEGEND

← 6" BASE PIPE UNDERDRAIN, 18" DEEP (PERFORATED) 707.31 OR 707.41

37.5' RADIUS
STA. 19+92.30, 111.64' LT
☉ S.R. 310 =
STA. 13+55.64, 85.24' RT
☉ RAMP D

75' RADIUS
STA. 19+79.87, 126.23' LT
☉ S.R. 310 =
STA. 13+45.72, 99.10' RT
☉ RAMP D



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GENERAL

THE DISTRICT IN THE NOTES BELOW SHALL BE READ AS SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT AND CAN BE CONTACTED AT THE ADDRESS BELOW:

SOUTHWEST LICKING COMMUNITY
WATER AND SEWER DISTRICT
69 ZELLERS LANE
PATASKALA, OHIO 43062
ATTN: DON RECTOR
740.927.0410 EXT. 110

REFERENCE TO DISTRICT STANDARD CONSTRUCTION DRAWINGS HAVE BEEN MADE IN THE NOTES BELOW. THESE DRAWINGS CAN BE FOUND IN THE SPECIAL PROVISIONS OF THE PLANS. ALL QUESTIONS REGARDING THE DRAWINGS AND NOTES SHALL BE DIRECTED TO THE DISTRICT AT APPROVAL OF THE PROJECT ENGINEER.

ITEM 638, (6")(12") WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18, AS PER PLAN

MATERIAL

WATER MAIN PIPE SHALL BE PVC PLASTIC, AWWA C900, DR 18. ALL PIPE SHALL BE FURNISHED WITH MECHANICAL OR PUSH-ON TYPE JOINTS SUCH AS TYTON, FASTITE, OR APPROVED EQUAL. JOINTS SHALL BE IN ACCORDANCE WITH C111/A21.11 AND COMPLETE WITH ALL NECESSARY ACCESSORIES.

FITTINGS ARE TO BE INCLUDED IN THE UNIT BID PRICE FOR THE PIPE AND SHALL BE DUCTILE IRON CONFORMING TO EITHER ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. FITTINGS SHALL ALSO HAVE A STANDARD ASPHALTIC COATING ON THE EXTERIOR. FITTINGS SHALL ALSO HAVE A CEMENT MORTOR LINING ON THE INTERIOR IN ACCORDANCE WITH ANSI/AWWA C104/A21.4.

WHERE PIPE RESTRAINERS ARE REQUIRED, JCM "SURE GRIP" RESTRAINERS OR APPROVED EQUAL SHALL BE USED. MEGALUG RESTRAINERS MAY BE USED FOR DUCTILE IRON PIPE OR PVC PIPE; FOSTER ADAPTERS MAY BE USED AS APPROVED EQUAL.

DUCTILE IRON PIPE CLASS 53, AWWA C151, CEMENT LINED AWWA C104, WITH JOINTS CONFORMING TO AWWA C111 IS AN ACCEPTABLE ALTERNATE AND SHALL BE USED WHERE DISTRICT STANDARD CONSTRUCTION DRAWINGS INDICATE.

PIPES AND PIPE FITTINGS CONTAINING MORE THAN 8% LEAD SHALL NOT BE USED.

JOINT SUPPORT

ALL MECHANICAL FITTINGS, TEE'S, BENDS, AND JOINT DEFLECTIONS EXCEEDING THE MANUFACTURER'S RECOMMENDATION SHALL BE BACKED WITH CONCRETE AS PER DISTRICT STANDARD CONSTRUCTION DRAWINGS **W-3, W-4, AND W-5.**

CONNECTING WATERLINES

THE CONNECTION OF PROPOSED WATER LINES TO EXISTING WATERLINES SHALL BE DONE IN A MANNER THAT WILL CAUSE A MINIMUM INCONVENIENCE TO THOSE WITH AFFECTED SERVICES. WORK CONCERNING THE DISCONNECTION AND RE-CONNECTION OF EXISTING WATER LINES SHALL BE DONE BETWEEN THE HOURS OF 10:00 PM AND 5:00 AM, OR AS DIRECTED BY THE DISTRICT. NO SUCH WORK SHALL BEGIN UNTIL THE FIRE DEPARTMENT, DISTRICT, COUNTY SHERIFF'S OFFICE, AND RESIDENTS WHOSE SERVICES WILL BE AFFECTED ARE ALL NOTIFIED AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE CONNECTION, OF THE EXTENT, NATURE AND TIME OF THE ANTICIPATED WORK, NOR UNTIL THE METHOD AND SCHEDULE OF SUCH WORK HAS BEEN APPROVED BY THE DISTRICT.

ITEM 638, (6")(12") WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18, AS PER PLAN, (CONT'D)

SERVICE LOCATIONS

ALL WATER SERVICE CONNECTIONS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM THE SANITARY SEWER SERVICE AND IN A SEPARATE TRENCH. A PERMIT FOR EACH WATER SERVICE MUST BE OBTAINED FROM THE DISTRICT, PRIOR TO MAKING ANY CONNECTION FROM THE WATER MAIN OR WATER SERVICE BOX TO ANY EXISTING OR PROPOSED BUILDING.

CONFLICTS

WHEN CONFLICTS IN GRADE BETWEEN WATER LINES AND SEWERS ARE FOUND DURING CONSTRUCTION, THE WATER LINES SHALL BE LOWERED PER DISTRICT STANDARD CONSTRUCTION DRAWING **W-10**, UNLESS DIRECTED OTHERWISE BY THE DISTRICT. A MINIMUM VERTICAL SEPARATION OF 18 INCHES, MEASURED FROM THE OUTSIDE OF EACH PIPE, SHALL BE MAINTAINED.

MINIMUM DEPTH

WATER LINES SHALL BE LAID WITH A MINIMUM OF FOUR (4) FEET OF COVER FROM THE FINAL PROPOSED GROUND OR PAVEMENT GRADE TO TOP OF THE WATER LINE.

DISINFECTION

ALL WATER MAINS SHALL BE CLEANED AND DISINFECTED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF AWWA SPECIFICATION C651. SPECIAL ATTENTION IS DIRECTED TO THE REQUIREMENTS OF FLUSHING AND CHLORINATING VALVES AND FIRE HYDRANTS. RESULTS OF DISINFECTION TESTS SHALL BE FURNISHED TO THE DISTRICT PRIOR TO ACCEPTANCE OF THE SYSTEM. TESTING FOR ACCEPTANCE TO BE CONDUCTED NO MORE THAN 2 WEEKS BEFORE FINAL PLAT APPROVAL.

LINE CROSSINGS

ALL WATER MAIN PIPE SHALL BE LAID WITH STONE OR GRAVEL BEDDING AS SHOWN ON DISTRICT STANDARD CONSTRUCTION DRAWING **W-1**. AT ALL POINTS OF CROSSING WATER MAINS AND SEWERS, THE BACKFILL SHALL BE GRANULAR MATERIAL BETWEEN THE DEEPER AND SHALLOWER PIPE. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATER MAINS AND ALL SEWERS SHALL BE TEN (10) FEET MEASURED FROM THE OUTSIDE OF EACH PIPE. THE MINIMUM VERTICAL SEPARATION AT CROSSINGS OF WATER MAINS AND ALL SEWERS SHALL BE 18 INCHES MEASURED FROM THE OUTSIDE OF EACH PIPE.

TESTING

A HYDROSTATIC TEST, AS REQUIRED IN SECTION 7.3 AWWA SPECIFICATION C605 FOR PVC PIPE OR SECTION 5.2 OF AWWA SPECIFICATION C600 FOR DUCTILE IRON PIPE AS APPLICABLE, SHALL BE APPLIED TO THE WATER MAIN. IF THERE ARE INDICATIONS OF LEAKS UNDER THIS PRESSURE TEST, THE CONTRACTOR SHALL LOCATE AND REPAIR ALL LEAKS AT OWN EXPENSE UNTIL THE LEAKAGE IS WITHIN THE SPECIFIED ALLOWANCE. ALL BENDS, JOINT DEFLECTIONS, AND HYDRANTS SHALL HAVE CONCRETE BACKING, AND ALL VALVES SHALL HAVE CONCRETE SUPPORTS, IN ACCORDANCE WITH DISTRICT DRAWINGS. TESTING FOR ACCEPTANCE TO BE CONDUCTED NO MORE THAN 2 WEEKS BEFORE FINAL PLAT APPROVAL.

WATER SYSTEM PRESSURE

ALL WATER MAINS INCLUDING THOSE NOT DESIGNED TO PROVIDE FIRE PROTECTION, SHALL BE SIZED AFTER A HYDRAULIC ANALYSIS BASED ON FLOW DEMANDS AND PRESSURE REQUIREMENTS. THE SYSTEM SHALL BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI (140 KPA) AT GROUND LEVEL AT ALL POINTS IN THE DISTRIBUTION SYSTEM UNDER ALL CONDITIONS OF FLOW. THE NORMAL WORKING PRESSURE IN THE DISTRIBUTION SYSTEM SHOULD BE APPROXIMATELY 60 TO 80 PSI (410-550 KPA) AND NOT LESS THAN 35 PSI (240 KPA).

ITEM 638, (6")(12") WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18, AS PER PLAN, (CONT'D)

INSTALLATION IN EMBANKMENT

WHERE WATER MAINS ARE TO BE INSTALLED IN EMBANKMENT AREAS, THE EMBANKMENT SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO THE INSTALLATION OF THE WATER MAIN. THE WATER MAIN SHALL BE INSTALLED WITH A MINIMUM OF FOUR (4) FEET OF COVER IN ALL DIRECTIONS.

STREAM CROSSINGS

ALL STREAM CROSSINGS SHALL BE CONCRETE ENCASED AT THE LIMITS SHOWN IN THE PLANS. CONCRETE SHALL COMPLETELY SURROUND THE PIPE AND SHALL HAVE A MINIMUM THICKNESS OF 1/6" OF THE INSIDE DIAMETER OF THE PIPE OR 6", WHICHEVER IS GREATER. CLASS C CONCRETE SHALL BE USED WITH AN ULTIMATE COMPRESSIVE STRENGTH OF NO LESS THAN 4000 PSI AT 28 DAYS.

LOCATER TAPE / TRACER WIRE

BLUE METALLIC FIELD LOCATOR TAPE OF SIX (6) INCH WIDTH SHALL BE PLACED OVER ALL WATER MAINS, WITHIN 12 TO 18 INCHES OF FINISHED GRADE. TWELVE (12) GAUGE TRACER WIRE SHALL BE LAID IN THE PIPE TRENCH AND EXTENDED INTO EACH VALVE OPENING. TRACER WIRE CONNECTIONS SHALL BE MADE WITH COPPERHEAD SNAKEBITE WATERPROOF DIRECT BURY LUGS #3WB-01.

TOOLS AND SPARE PARTS

THE FOLLOWING TOOLS AND SPARE PARTS SHALL BE DELIVERED TO THE DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT:

- (1) MAINLINE WRENCH
- (1) PROBE (SIX FEET)

EXISTING SERVICE

THE DISCONNECTION AND RE-CONNECTION OF SERVICE SHALL BE DONE AS DIRECTED BY THE DISTRICT. NO SUCH WORK SHALL BEGIN UNTIL THE FIRE DEPARTMENT, COUNTY SHERIFF'S OFFICE, AND RESIDENTS WHOSE SERVICES WILL BE AFFECTED ARE ALL NOTIFIED AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE CONNECTION, OF THE EXTENT, NATURE AND TIME OF THE ANTICIPATED WORK, NOR UNTIL THE METHOD AND SCHEDULE OF SUCH WORK HAS BEEN APPROVED BY THE DISTRICT.

PAYMENT

PAYMENT FOR THE AFOREMENTIONED WORK ALONG WITH ALL LABOR, EQUIPMENT, MATERIALS, AND NECESSARY INCIDENTALS SHALL BE INCLUDED IN PAYMENT FOR PIPE AND FITTINGS, TESTED AND ACCEPTED BY DISTRICT.

CALCULATED
JSL
CHECKED
JSL

WATER AND SANITARY NOTES

LIC-310-0.74

243
425

ITEM 638, (3/4")(1-1/2") POLYETHYLENE SERVICE BRANCH, AS PER PLAN

MATERIAL

WATER SERVICE LINE PIPE SHALL BE AWWA C901, PE 3048, DR9, COPPER TUBE SIZE ASTM D2737 AND SHALL BE INSTALLED WITH A COVER OF FOUR (4) FEET. SEE DISTRICT STANDARD CONSTRUCTION DRAWING **W-30** FOR DETAILS.

CURB STOP

CURB STOPS SHALL BE EQUIVALENT TO MUELLER H-15209 WITH A BOX EQUIVALENT TO BINGHAM & TAYLOR NO. 4901-B SIZE 94E.

LOCATION

CURB BOXES SHALL BE LOCATED APPROXIMATELY TWO (2) FEET FROM THE PROPERTY LINE OR EASEMENT LINE. ALL CURB BOX TOPS SHALL BE ADJUSTED TO BE 3" ABOVE FINAL SURFACE GRADES. THE CONTRACTOR SHALL FURNISH AND PLACE, AS DIRECTED, A STAKE MADE OF 4" X 4" HARDWOOD LUMBER AT ALL CURB BOXES AND VALVE BOXES, EXTENDING A MINIMUM OF 3 FEET ABOVE FINAL SURFACE GRADES WITH THE TOP 2 FEET OF THE 4" X 4" BEING PAINTED SAFETY BLUE. ALL CURB BOX LIDS SHALL BE PAINTED SAFETY BLUE.

CURB BOX EXTENSION ROD

A FORD ROD-42 EXTENSION ROD WITH CENTERING RING SHALL BE INSTALLED ON ALL CURB BOXES.

CORPORATION STOP AND SADDLE

CORPORATION STOPS SHALL BE EQUIVALENT TO MUELLER H-15008. TAPPING SADDLES SHALL BE EQUIVALENT TO FORD STYLE FS313 FOR 3/4" TO 2" SERVICES WITH CC (AWWA) THREAD.

EXISTING SERVICE

THE DISCONNECTION AND RE-CONNECTION OF SERVICE SHALL BE DONE AS DIRECTED BY THE DISTRICT. NO SUCH WORK SHALL BEGIN UNTIL THE FIRE DEPARTMENT, COUNTY SHERIFF'S OFFICE, AND RESIDENTS WHOSE SERVICES WILL BE AFFECTED ARE ALL NOTIFIED AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE CONNECTION, OF THE EXTENT, NATURE AND TIME OF THE ANTICIPATED WORK, NOR UNTIL THE METHOD AND SCHEDULE OF SUCH WORK HAS BEEN APPROVED BY THE DISTRICT.

REMOVAL

AFTER NEW SERVICE HAS BEEN ESTABLISHED THE EXISTING SERVICE INCLUDING SERVICE LINE, SERVICE BOX, CURB STOP, AND ALL OTHER ASSOCIATED ITEMS CONNECTED TO THE EXISTING WATER MAIN SHALL BE REMOVED AND DISPOSED OF OFF SITE AT THE CONTRACTOR'S EXPENSE.

TOOLS AND SPARE PARTS

THE FOLLOWING TOOLS AND SPARE PARTS SHALL BE DELIVERED TO THE DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT:

- (1) CURB BOX WRENCH (SROD-2)
- (1) COMPLETE CURB BOX

PAYMENT

PAYMENT FOR THE AFOREMENTIONED WORK ALONG WITH ALL LABOR, EQUIPMENT, MATERIALS, AND NECESSARY INCIDENTALS SHALL BE INCLUDED IN PAYMENT FOR THE SERVICE, TESTED AND ACCEPTED BY DISTRICT.

ITEM 638, 12" GATE VALVE AND VALVE BOX, AS PER PLAN

MATERIAL

WATER MAIN VALVES SHALL BE AWWA C509, RESILIENT WEDGE WITH 250 PSI WORKING PRESSURE, NON-RISING STEM, LEFT HAND OPEN VALVE WITH RUBBER "O" PACKING SEALS. BOLTS AND LUGS TO BE STAINLESS STEEL.

VALVE BOX

VALVE BOXES SHALL BE OF THE 5 1/4" SHAFT TWO-PIECE SCREW TYPE EQUIVALENT TO BINGHAM & TAYLOR MODEL 4905, SIZE 22. VALVE BOXES IN TRAFFIC AREAS SHALL BE HEAVY DUTY TYPE AND MARKED "WATER". ALL VALVE BOX TOPS SHALL BE ADJUSTED TO BE 3" ABOVE FINAL SURFACE GRADES. THE CONTRACTOR SHALL FURNISH AND PLACE, AS DIRECTED, A STAKE MADE OF 4" X 4" HARDWOOD LUMBER AT ALL VALVE BOXES, EXTENDING A MINIMUM OF 3 FEET ABOVE FINAL SURFACE GRADES WITH THE TOP 2 FEET OF THE 4" X 4" BEING PAINTED SAFETY BLUE. ALL VALVE BOX LIDS SHALL BE PAINTED SAFETY BLUE. SEE DISTRICT STANDARD DRAWINGS **W-14, W-15** FOR DETAILS.

VALVE SUPPORT

ALL VALVES SHALL BE BACKED WITH CONCRETE PER DISTRICT STANDARD CONSTRUCTION DRAWING **W-6**.

VALVE EXTENSION

IF THE TOP OF THE OPERATING NUT IS LOWER THAN 36 INCHES BELOW FINISHED GRADE, AN EXTENSION STEM SHALL BE FURNISHED TO BRING THE TOP OF THE OPERATING NUT TO BETWEEN 24 INCHES AND 36 INCHES OF FINISHED GRADE ELEVATION.

VALVE OPERATION

EXISTING VALVES SHALL BE OPERATED BY THE DISTRICT PERSONNEL ONLY.

END-OF-LINE STUBS

EXISTING AND PROPOSED END-OF-LINE STUBS SHOWN IN THE PLANS SHALL BE TWO FOOT MINIMUM AND CAPPED AND BACKED PER DISTRICT STANDARD CONSTRUCTION DRAWING **W-7**.

PAYMENT

PAYMENT FOR THE AFOREMENTIONED WORK ALONG WITH ALL LABOR, EQUIPMENT, MATERIALS, AND NECESSARY INCIDENTALS SHALL BE INCLUDED IN PAYMENT FOR THE VALVE, TESTED AND ACCEPTED BY DISTRICT.

CALCULATED
JSL
CHECKED
JSL

WATER AND SANITARY NOTES

LIC-310-0.74

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ITEM 638, 6' FIRE HYDRANT, AS PER PLAN

MATERIAL

FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 250 MODEL A-421 OR APPROVED EQUAL, AS SHOWN ON DISTRICT STANDARD DRAWING **W-20**, AND BE INSTALLED AS PER DISTRICT STANDARD CONSTRUCTION DRAWINGS **W-21, W-22, W-23, W-24 AND W-25**. WEST LICKING FIRE DEPARTMENT REQUIRES ALL FIRE HYDRANTS TO HAVE A "SCREW ON" TYPE STORTZ FITTING. FIRE HYDRANTS SHALL BE PAINTED FIRE PROTECTION RED FROM THE MANUFACTURER AND THE LIDS OF WATCH VALVE BOXES PAINTED FIRE PROTECTION RED IN THE FIELD. FIRE HYDRANTS ON A PRIVATE WATER SYSTEM SHALL BE PAINTED FIRE PROTECTION RED WITH A BLUE BONNET.

LOCATION

FIRE HYDRANTS SHALL BE PLACED A MINIMUM OF TWO (2) FEET FROM THE BACK OF CURB AS SHOWN IN DISTRICT STANDARD DRAWING **W-18**.

EXISTING SERVICE

THE DISCONNECTION AND RE-CONNECTION OF FIRE HYDRANTS SHALL BE DONE BETWEEN THE HOURS OF 10:00 PM AND 5:00 AM, OR AS DIRECTED BY THE DISTRICT. NO SUCH WORK SHALL BEGIN UNTIL THE FIRE DEPARTMENT, DISTRICT, COUNTY SHERIFF'S OFFICE, AND RESIDENTS WHOSE SERVICES WILL BE AFFECTED ARE ALL NOTIFIED AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE CONNECTION, OF THE EXTENT, NATURE AND TIME OF THE ANTICIPATED WORK, NOR UNTIL THE METHOD AND SCHEDULE OF SUCH WORK HAS BEEN APPROVED BY THE DISTRICT.

TOOLS AND SPARE PARTS

THE FOLLOWING TOOLS AND SPARE PARTS SHALL BE DELIVERED TO THE DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT:

- (1) FIRE HYDRANT WRENCH
- (1) STRAIGHT STORTZ FITTING

PAYMENT

PAYMENT FOR THE AFOREMENTIONED WORK ALONG WITH ALL LABOR, EQUIPMENT, MATERIALS, AND NECESSARY INCIDENTALS SHALL BE INCLUDED IN PAYMENT FOR HYDRANT, TESTED AND ACCEPTED BY DISTRICT.

ITEM 638, FIRE HYDRANT REMOVED AND DISPOSED OF, AS PER PLAN

AFTER INSTALLATION OF NEW HYDRANT THE EXISTING HYDRANT, FITTINGS, VALVES, BLOCKING AND ALL ASSOCIATED ITEMS CONNECTED TO THE EXISTING WATER MAIN SHALL BE REMOVED AND DISPOSED OF OFF SITE.

PAYMENT SHALL BE AT THE UNTIL PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND NECESSARY INCIDENTALS TO REMOVE AND DISPOSE OF HYDRANT.

ITEM 611, MANHOLE MISC.: DRILLED AND PLUGGED

THIS ITEM INCLUDES THE DRILLING OF A NEW OPENING INTO AN EXISTING SANITARY MANHOLE FOR INSTALLATION OF NEW 8" CONDUIT AT THE ELEVATION AND ALIGNMENT SHOWN IN THE PLANS.

SEWER PIPE SHALL BE SECURED THROUGH THE MANHOLE WALL BY KOR-N-SEAL BOOT, PRESS WEDGE 2 GASKET OR APPROVED EQUAL BY DISTRICT MEETING ASTM C923.

THE SEWER PIPE SHALL BE CONNECTED TO THE MANHOLE WITH A FLEXIBLE WATERTIGHT JOINT OF APPROVED MANUFACTURER USING A RUBBER SLEEVE WITH STAINLESS STEEL BANDING OR A RUBBER GASKET THAT SEALS THROUGH COMPRESSION OR EXPANSION, CONFORMING TO ASTM C925.

THE ANNULAR SPACE BETWEEN THE OUTSIDE WALL OF THE PIPE AND THE WALL OPENING OF THE MANHOLE SHALL BE FILLED TO THE SPRING LINE OF THE PIPE WITH TROWELABLE EAST STICK OR APPROVED EQUAL BY DISTRICT. GROUT ON THE INTERIOR OF THE MANHOLE IS NOT PERMITTED TO MAKE THE MANHOLE STRUCTURE WATERTIGHT.

THE EXISTING OPENING SHALL BE PLUGGED AND CAPPED AT THE APPROVAL OF THE DISTRICT.

PAYMENT FOR THE AFOREMENTIONED WORK ALONG WITH ALL LABOR, EQUIPMENT, MATERIALS, AND NECESSARY INCIDENTALS SHALL BE INCLUDED IN PAYMENT FOR CONNECTION OF PIPE, TESTED AND ACCEPTED BY THE DISTRICT.

CALCULATED
JSL
CHECKED
JSL

WATER AND SANITARY NOTES

LIC-310-0.74

245
425

ITEM 611, MANHOLE, NO. 3, AS PER PLAN

MANHOLE SEALING

SANITARY MANHOLE FRAME SEALING SHALL MEET THE FOLLOWING SPECIFICATIONS:

- A. FRAME SEAL SHALL BE MANUFACTURED BY CRETEX SPECIALTY PRODUCTS OR SHALL MEET THE REQUIREMENTS CONTAINED IN NASSCO SPECIFICATION FOR MANUFACTURED FRAME SEAL OR APPROVED EQUAL.
- B. AREA WHERE THE SEAL IS TO BE ATTACHED MUST BE FREE OF ANY DIRT, GREASE, RUST, OR ANY LOOSE MORTAR.
- C. WITH THE SEAL IN THE APPROPRIATE POSITION, STAINLESS STEEL BANDS ARE EXPANDED INTO GROOVES OF THE SEAL TO MECHANICALLY ATTACH THE SEAL TO BOTH THE FRAME AND MANHOLE STRUCTURE. AFTER BANDS ARE FULLY EXPANDED, THE TAB MUST ENGAGE THE SLOTS TO HOLD THE SEAL IN PLACE.
- D. BANDS USED FOR COMPRESSING THE SLEEVE AND EXTENSIONS SHALL BE MADE OF 16 GAUGE STAINLESS STEEL CONFORMING TO ASTM A 240, TYPE 304, AND SHALL HAVE A MINIMUM WIDTH OF ONE AND THREE QUARTERS INCH (1-3/4"). BANDS SHALL BE SELF LOCKING SLOTTED WITH INTEGRAL TAB, EASILY RELEASED FOR REMOVAL AND REINSTALLATION WITHOUT DAMAGE TO THE BAND.
- E. THE FLEXIBLE PORTION OF THE SEAL SHALL REMAIN FREE, ALLOWING REPEATED VERTICAL OR HORIZONTAL MOVEMENTS OF THE FRAME DUE TO FROST HEAVE, THERMAL EXPANSION, OR OTHER GROUND MOVEMENT. THE FLEXIBLE PORTION OF THE SEAL SHALL BE MADE FROM HIGH GRADE RUBBER COMPOUND CONFORMING TO ASTM C923, WITH A MINIMUM 1500 PSI TENSILE STRENGTH, MAXIMUM 19% COMPRESSION SET AND HARDNESS DUROMETER OF 48 +/-5, AND SHALL HAVE A MINIMUM THICKNESS OF THREE SIXTEENTHS INCH (3/16"). THE SEAL SHALL HAVE A MINIMUM UNEXPANDED HEIGHT OF EIGHT INCHES (8") AND HAVE TWO OR MORE PLEATS CAPABLE OF VERTICAL EXPANSION OF NOT LESS THAN TWO INCHES (2") WHEN INSTALLED. EXTENSIONS USED IN CONJUNCTION WITH THE SLEEVE TO INCREASE COVERAGE SHALL BE THE SAME MATERIAL DESIGNED TO MECHANICALLY ATTACH TO THE SEAL.
- F. ALL MANHOLES WITH FORCE MAINS DISCHARGING INTO THEM SHALL BE COATED ACCORDING AS SPECIFIED BELOW:

SPRAYROQ PROTECTIVE LINING SYSTEMS AS DISTRIBUTED BY SPRAYROQ, PELHAM, ALABAMA IS SPECIFIED AS THE STANDARD OF QUALITY FOR PROTECTIVE COATING OF NEW MANHOLES. OTHER POLYMER COATING SYSTEMS OF EQUAL OR BETTER QUALITY AS DETERMINED BY THE DISTRICT MAY BE UTILIZED.

THE MATERIAL SHALL BE IMPERMEABLE, HIGH STRENGTH, CORROSION-RESISTANT, FIBER OR AGGREGATE FILLED EPOXY MATERIAL SPECIFICALLY DESIGNED TO PROTECT CONCRETE SURFACES OF WASTEWATER TREATMENT STRUCTURES AND COLLECTION SYSTEMS FROM CHEMICAL ATTACK AND PHYSICAL ABUSE. THE MATERIAL SHALL PROHIBIT WATER INFILTRATION AND SHALL HAVE PROTEIN RESISTANCE TO A BROAD RANGE OF CORROSIVE CHEMICALS, INCLUDING SULFURIC ACID CREATED BY HYDROGEN SULFIDE GAS AS WELL AS OTHER CHEMICALS TYPICALLY FOUND IN SANITARY SEWERS. THE MATERIAL SHALL BE SUITABLE FOR APPLICATION OVER DAMP OR DRY CONCRETE SURFACES WITHOUT THE USE OF A PRIMER. THE MATERIAL SHALL HAVE A NON-SAGGING CONSISTENCY TO PERMIT APPLICATION ON VERTICAL AND OVERHEAD SURFACES.

INSTALLATION SHALL BE PERFORMED BY AN INSTALLER APPROVED BY THE MATERIAL'S MANUFACTURER USING WORKERS EXPERIENCED IN THE APPLICATION OF THE COATING TO BE USED.

- G. THE CONTRACTOR IS RESPONSIBLE FOR ALL MEASUREMENTS AND SUPPLYING ALL NECESSARY SPECIAL TOOLS.

ITEM 611, MANHOLE, NO. 3, AS PER PLAN, (CONT'D)

INFLOW PROTECTION DISH

AN INFLOW PROTECTION DISH AS MANUFACTURED BY "NO FLOW IN FLOW" OR EQUIVALENT

MANHOLE TOPS AND CASTINGS

ALL MANHOLE CASTINGS, FRAMES, COVERS, AND STEPS SHALL BE IN ACCORDANCE WITH DISTRICT STANDARD CONSTRUCTION DRAWINGS SA.S-2, SA.S-3, AND SA.S-5

WHERE MANHOLES ARE LOCATED WITHIN ROADWAY GRADING LIMITS, THE TOPS SHALL BE BUILT TO ELEVATIONS SHOWN IN THE PLANS OR AS DIRECTED BY THE DISTRICT. ELSEWHERE, MANHOLES SHALL BE BUILT OR SUBSEQUENTLY ADJUSTED TO BE THREE (3) TO SIX (6) INCHES ABOVE FINAL SURFACE GRADES.

LOCATER TAPE / TRACER WIRE

GREEN METALLIC FIELD LOCATOR TAPE OF SIX (6) INCH WIDE SHALL BE PLACED OVER ALL SANITARY SEWER AND FORCE MAIN LINES, WITHIN 12 TO 18 INCHES OF FINISHED GRADE. TWELVE (12) GAUGE TRACER WIRE SHALL ALSO BE INSTALLED ON ALL SANITARY FORCE MAINS.

PAYMENT

PAYMENT FOR THE AFOREMENTIONED WORK ALONG WITH ALL LABOR, EQUIPMENT, MATERIALS, AND NECESSARY INCIDENTALS SHALL BE INCLUDED IN PAYMENT FOR THE MANHOLE, TESTED AND ACCEPTED BY DISTRICT.

ITEM 611, 8" CONDUIT, TYPE C, AS PER PLAN

MATERIAL

GRAVITY SEWER PIPE SHALL BE PVC PLASTIC, CONFORMING TO ASTM D 3034 SDR 35, WITH A CELL CLASSIFICATION OF ASTM B 12454 OR ASTM C 12454 AND JOINTS MEETING ASTM D 3212 AND GASKETS MEETING ASTM F 477.

PVC PIPE FITTINGS ARE INCLUDED IN THE UNIT BID PRICE FOR THE PIPE AND SHALL CONFORM TO SDR 26 GASKETED HEAVY WALL SEWER FITTINGS MEETING ASTM D 3034 AND ASTM F 1336, WITH A CELL CLASSIFICATION OF ASTM B OR C 12454. FOR SIZES TEN (10) INCHES AND SMALLER, A ONE-PIECE MOLDED FITTING IS REQUIRED.

DUCTILE IRON PIPE CONFORMING TO C151, WITH JOINTS CONFORMING TO AWWA C111 IS AN ACCEPTABLE ALTERNATE.

WYE POLES

THE CONTRACTOR SHALL FURNISH AND PLACE, AS DIRECTED, APPROVED WYE POLES MADE OF 4" X 4" HARDWOOD LUMBER AT ALL WYE LOCATIONS, ENDS OF EXTENDED SERVICES, OR AT THE END OF EACH RISER WHERE RISERS ARE REQUIRED, EXTENDING A MINIMUM OF THREE (3) FEET ABOVE FINAL SURFACE GRADES WITH THE TOP TWO (2) FEET BEING PAINTED GREEN.

RISERS

RISERS SHALL BE PLACED ON ALL WYES WHERE THE FLOW LINE DEPTH IS GREATER THAN TWELVE (12) FEET. TOPS OF RISERS ARE TO BE TEN (10) FEET BELOW GROUND, PLUS OR MINUS ONE FOOT, OR AS OTHERWISE DIRECTED BY THE DISTRICT. SEE DISTRICT STANDARD CONSTRUCTION DRAWING SA.S-9 FOR DETAILS.

SERVICE LOCATIONS

SEWER PIPE FOR ALL HOUSE SERVICES SHALL BE SIX (6) INCHES NOMINAL DIAMETER PVC PLASTIC, ASTM D3034, SDR 35. ALL SERVICE EXTENSIONS SHALL BE LAID AT A MINIMUM GRADE OF 1/4 INCH PER FOOT (2.08%) PER DISTRICT STANDARD CONSTRUCTION DRAWING SA.S-7.

ITEM 611, 8" CONDUIT, TYPE C, AS PER PLAN, (CONT'D)

STORM WATER CONNECTIONS

NO FOUNDATION DRAINS, ROOF DRAINS, OR OTHER STORM WATER DRAINS OF ANY KIND SHALL BE CONNECTED INTO THE SANITARY SEWER SYSTEM.

TRENCH DAMS

THE CONTRACTOR SHALL PLACE A CUT OFF TRENCH DAM OF NATIVE CLAY OR IMPERVIOUS SOIL ACROSS AND ALONG THE TRENCH UPSTREAM FROM THE MAIN LINE SEWER CONNECTION TO RETARD AND RESIST THE MOVEMENT OF GROUNDWATER THROUGH THE TRENCH GRANULAR BEDDING AND BACKFILL MATERIAL. THE TRENCH DAMS SHALL BE CAREFULLY COMPACTED AND SHALL BE SIX (6) FEET IN THICKNESS AS MEASURED ALONG THE SERVICE CENTER LINE AND SHALL BE CONSTRUCTED AGAINST THE UNDISTURBED TRENCH SIDES FROM THE SUBGRADE OR BOTTOM OF THE STONE FOUNDATION, WHICHEVER IS LOWER, TO THE LIMIT OF 36 INCHES OVER THE TOP OF THE PIPE, NO MORE THAN TEN (10) FEET FROM THE MAIN SANITARY SEWER. SEE DISTRICT STANDARD CONSTRUCTION DRAWING SA.S-9 FOR DETAILS.

LINE CROSSINGS

ALL SEWER PIPE SHALL BE LAID WITH STONE OR GRAVEL BEDDING AS SHOWN ON DISTRICT STANDARD CONSTRUCTION DRAWING SA.S-1. WHERE THE SANITARY SEWER CROSSES UNDER A PROPOSED STORM SEWER, THE TRENCH SHALL BE BACKFILLED TO THE BOTTOM OF THE PROPOSED STORM SEWER TEN (10) FEET CENTERED ON THE STORM SEWER. WHERE THE SANITARY SEWER CROSSES UNDER A PROPOSED PAVEMENT THE TRENCH SHALL BE BACKFILLED FROM THE BOTTOM OF THE TRENCH TO A PLANE SIX (6) INCHES BELOW THE SUBGRADE.

STREAM CROSSINGS

ALL STREAM CROSSINGS SHALL BE CONCRETE ENCASED AT THE LIMITS SHOWN IN THE PLANS. CONCRETE SHALL COMPLETELY SURROUND THE PIPE AND SHALL HAVE A MINIMUM THICKNESS OF 1/6" OF THE INSIDE DIAMETER OF THE PIPE OR 6", WHICHEVER IS GREATER. CLASS C CONCRETE SHALL BE USED WITH AN ULTIMATE COMPRESSIVE STRENGTH OF NO LESS THAN 4000 PSI AT 28 DAYS.

TESTING

AN INFILTRATION OR EXFILTRATION TEST SHALL BE MADE IN ACCORDANCE WITH THE DISTRICT SPECIFICATIONS WITH MAXIMUM TEST SECTIONS OF 400 FEET. LEAKAGE THROUGH JOINTS SHALL NOT EXCEED 100 GALLONS PER DAY PER INCH OF SEWER DIAMETER PER MILE OF PIPE. AIR TESTING IS AN ACCEPTABLE ALTERNATE TESTING METHOD FOR LEAKAGE AND SHALL BE MADE IN ACCORDANCE WITH DISTRICT SPECIFICATIONS AND ASTM F1417-92. SANITARY SEWERS SHALL BE MANDREL TESTED AND LEAKAGE TESTED PRIOR TO BEING PUT IN SERVICE. ALL SANITARY MANHOLES SHALL BE VACUUM TESTED, IN ACCORDANCE WITH ASTM C1244-93. EXISTING STRUCTURES THAT ARE DISTURBED SHALL BE RE-TESTED AND CORRECTED IF NEEDED PER DISTRICT SPECIFICATIONS. ALL TEST REPORTS SHALL BE FURNISHED TO THE DISTRICT PRIOR TO ACCEPTANCE OF THE SYSTEM.

BYPASS PUMPING

BYPASS PUMPING MAY BE NECESSARY IN ORDER TO MAINTAIN EXISTING SEWER SERVICE DURING CONSTRUCTION AND SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE PIPE.

PAYMENT

PAYMENT FOR THE AFOREMENTIONED WORK ALONG WITH ALL LABOR, EQUIPMENT, MATERIALS, AND NECESSARY INCIDENTALS SHALL BE INCLUDED IN PAYMENT FOR THE PIPE, TESTED AND ACCEPTED BY DISTRICT.

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WATER AND SANITARY NOTES

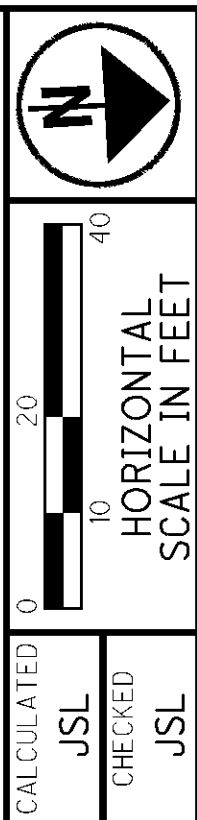
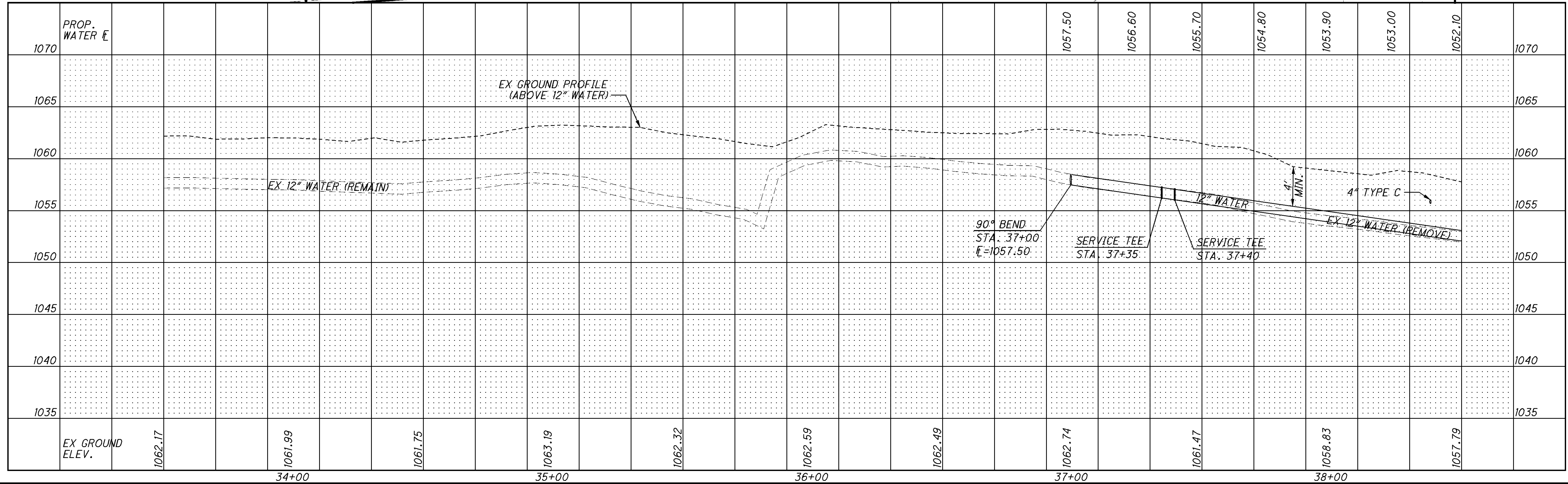
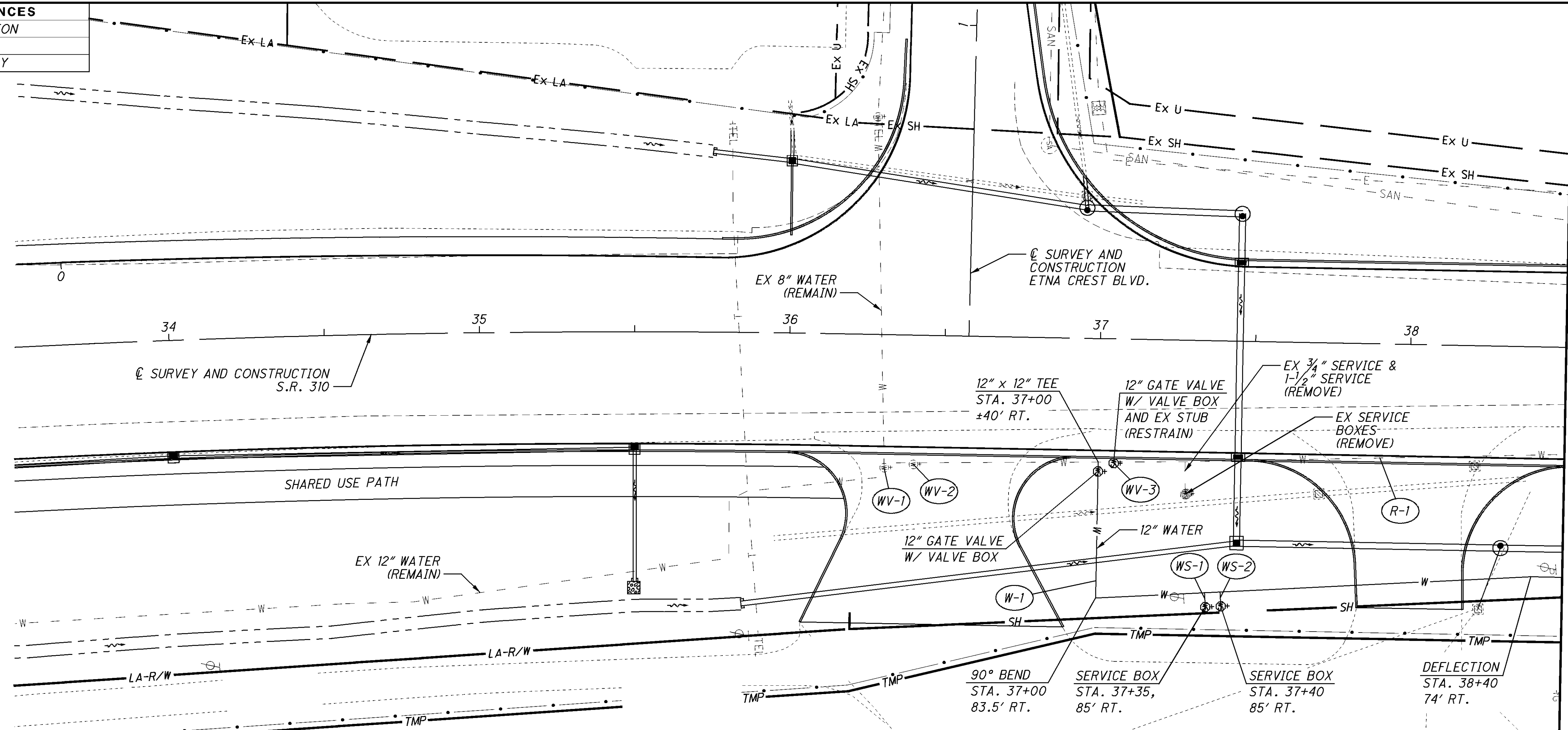
LIC-310-0.74

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425

		WATER WORK																				
REF. NO.	SHEET NO.	STATION		SIDE	202		638						BENDS & TEES									
					FOR INFORMATION ONLY		PIPE REMOVED, 24" AND UNDER	VALVE BOX REMOVED	6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18, AS PER PLAN	12" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18, AS PER PLAN	3/4" POLYETHYLENE SERVICE BRANCH, AS PER PLAN	1-1/2" POLYETHYLENE SERVICE BRANCH, AS PER PLAN	12" GATE VALVE AND VALVE BOX, AS PER PLAN	6" FIRE HYDRANT, AS PER PLAN	FIRE HYDRANT REMOVED AND DISPOSED OF, AS PER PLAN	VALVE BOX ADJUSTED TO GRADE	22.5° BEND	45° BEND	90° BEND	12" X 12" TEE	12" X 6" HYDRANT TEE	SERVICE TEE
					FROM	TO																
		SR 310																				
R-1	248-251	37+00	48+60	RT	1160																	
R-2	248	40+07		RT								1										
R-3	249	42+97		RT		1																
R-4	250	45+04		RT								1										
W-1	248-251	37+00	48+60	RT			1240							4	4	1	3	2	7			
FH-1	249	40+15		RT			36					1										
FH-2	250	45+00		RT			30					1										
WS-1	248	37+35		RT				25														
WS-2	248	37+40		RT					25													
WS-3	249	40+30		RT				5														
WS-4	249	40+44		RT				115														
WS-5	249	41+16		RT				125														
WS-6	250	45+10		RT				110														
WS-7	250	47+87		RT				75														
WV-1	248	36+31		RT									1									
WV-2	248	36+41		RT									1									
WV-3	248	37+05		RT						1												
WV-4	251	48+55		RT						1												
WV-5	251	48+65		RT						1												
TOTALS CARRIED TO GENERAL SUMMARY					1160	1	66	1240	455	25	6	2	2	2	4	4	1	3	2	7		

		SANITARY WORK									
REF. NO.	SHEET NO.	STATION		SIDE	202		611				
					FOR INFORMATION ONLY		PIPE REMOVED, 24" AND UNDER	8" CONDUIT, TYPE C, AS PER PLAN	MANHOLE, NO. 3, AS PER PLAN	MANHOLE ADJUSTED TO GRADE	MANHOLE, MISC.: DRILLED AND PLUGGED
					FROM	TO					
		SR 310									
R-1	252	42+56	46+43	LT	195						
R-2	252	44+02 (APPROX.)		LT	10						
S-1	252	42+56	42+85	LT		35		1	1	1	
S-2	252	42+85	44+25	LT		140	1				
S-3	252	44+25	44+50	LT		40	2	1			
TOTALS CARRIED TO GENERAL SUMMARY					205	215	3	2	1		

CROSS REFERENCES	
SHEETS	DESCRIPTION
219	DRAINAGE DETAILS
247	WATER SUBSUMMARY

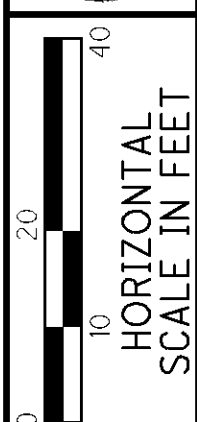
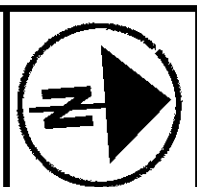
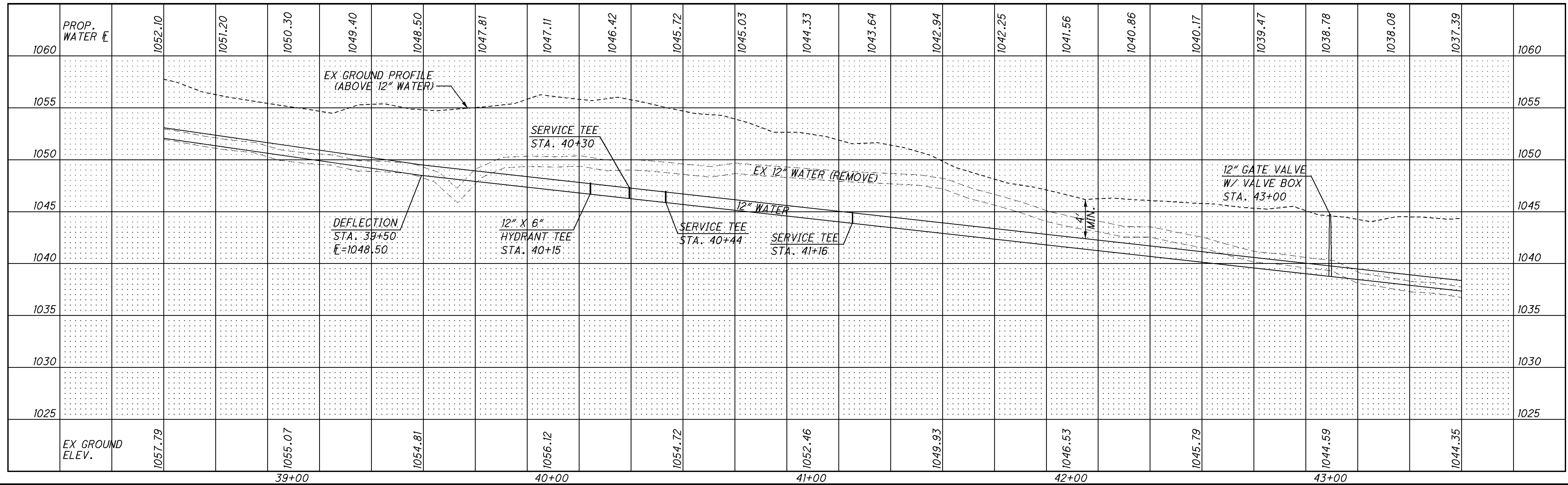
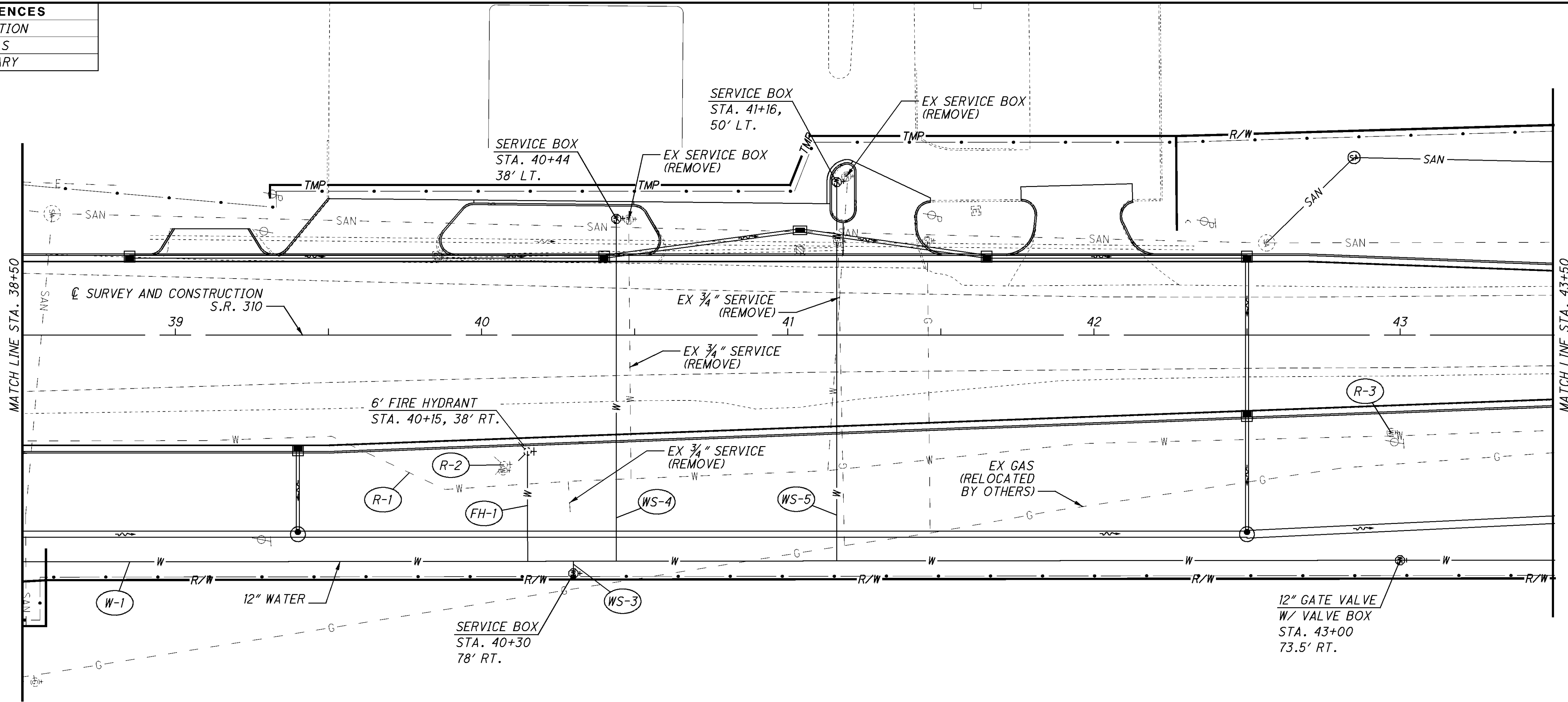


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WATER PLAN AND PROFILE - S.R. 310
STA. 33+50 TO STA. 38+50

LIC-310-0.74
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CROSS REFERENCES	
SHEETS	DESCRIPTION
220	DRAINAGE DETAILS
247	WATER SUBSUMMARY



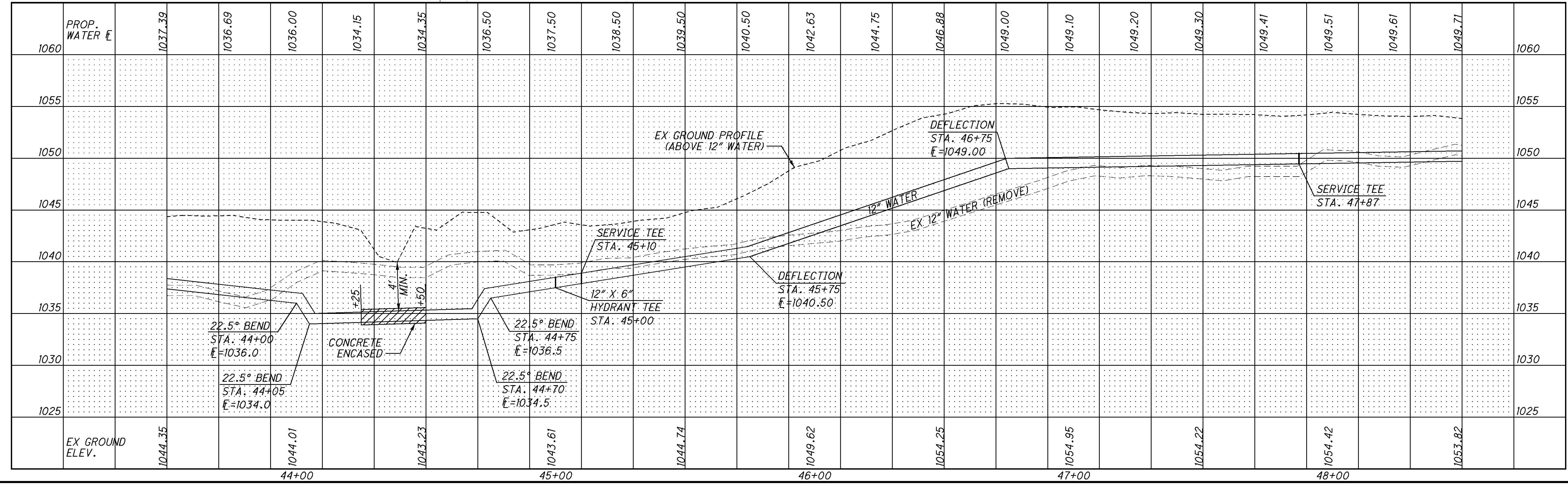
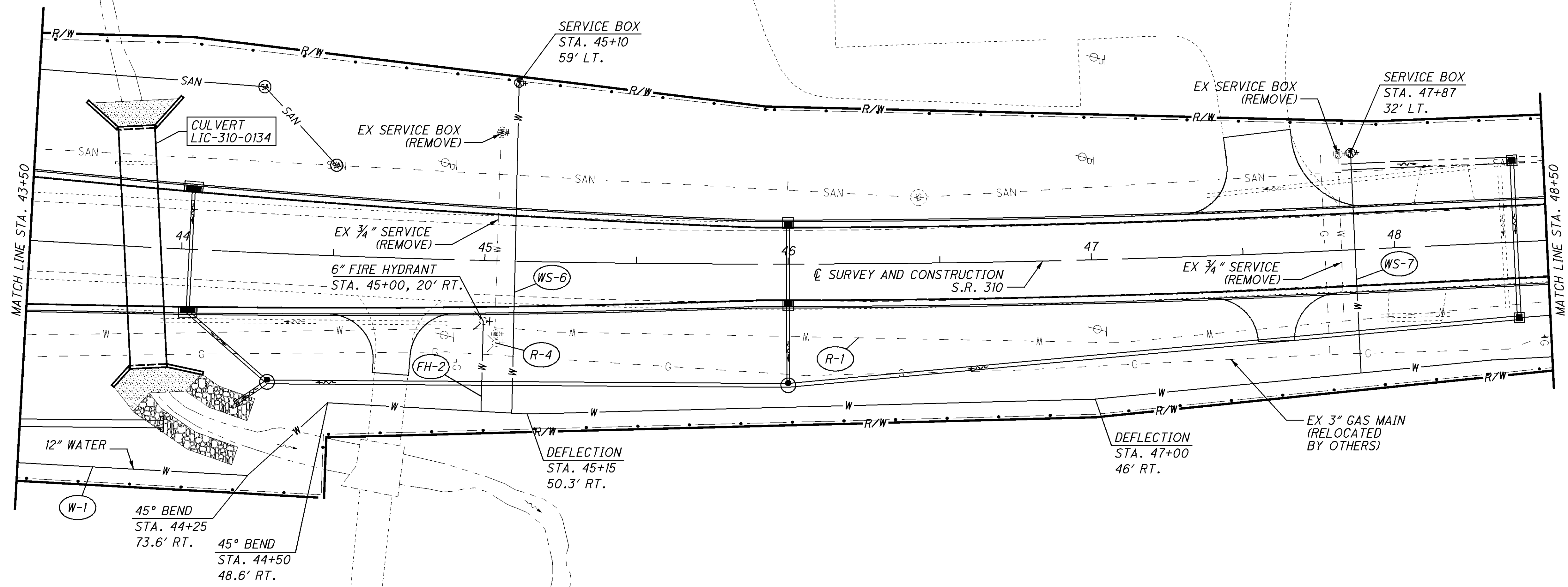
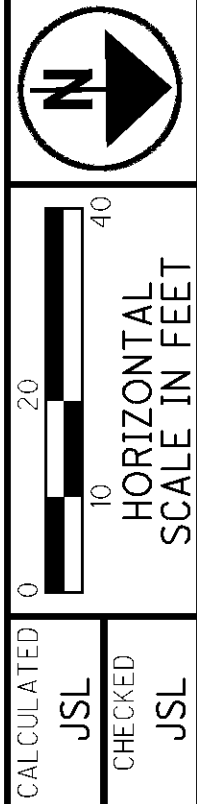
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**WATER PLAN AND PROFILE - S.R. 310
STA. 38+50 TO STA. 43+50**

LIC-310-0.74

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CROSS REFERENCES	
SHEETS	DESCRIPTION
221	DRAINAGE DETAILS
247	WATER SUBSUMMARY



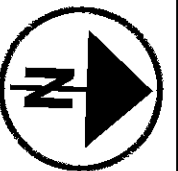
WATER PLAN AND PROFILE - S.R. 310
STA. 43+50 TO STA. 48+50

LIC-310-0.74

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 425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
221	DRAINAGE DETAILS
247	WATER SUBSUMMARY



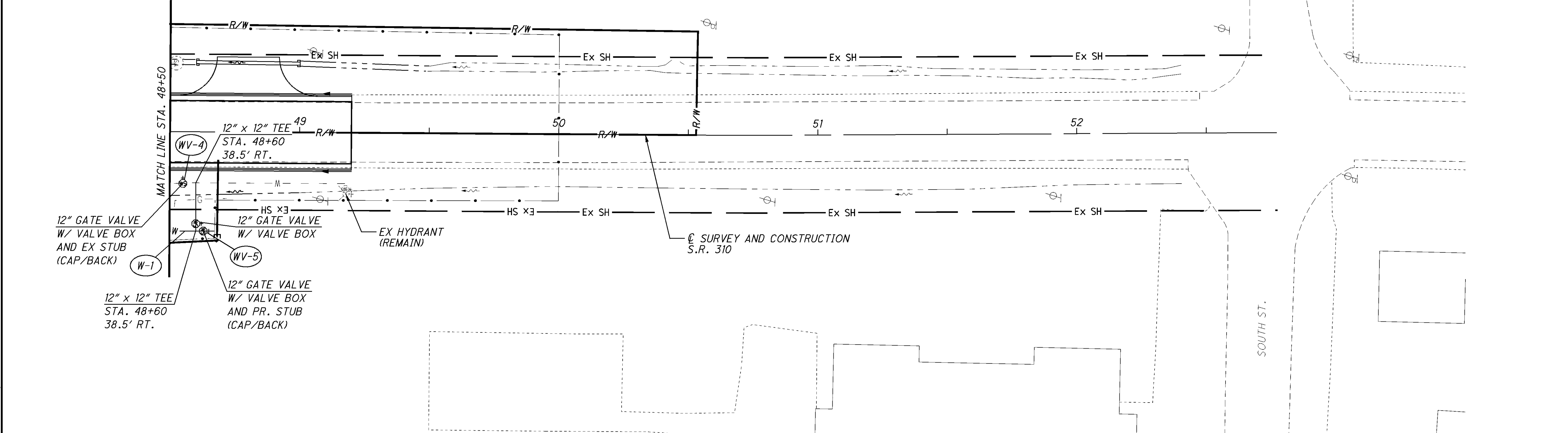
0 10 20
HORIZONTAL SCALE IN FEET

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WATER PLAN AND PROFILE - S.R. 310
STA. 48+50 TO STA. 52+77.07

LIC-310-0.74

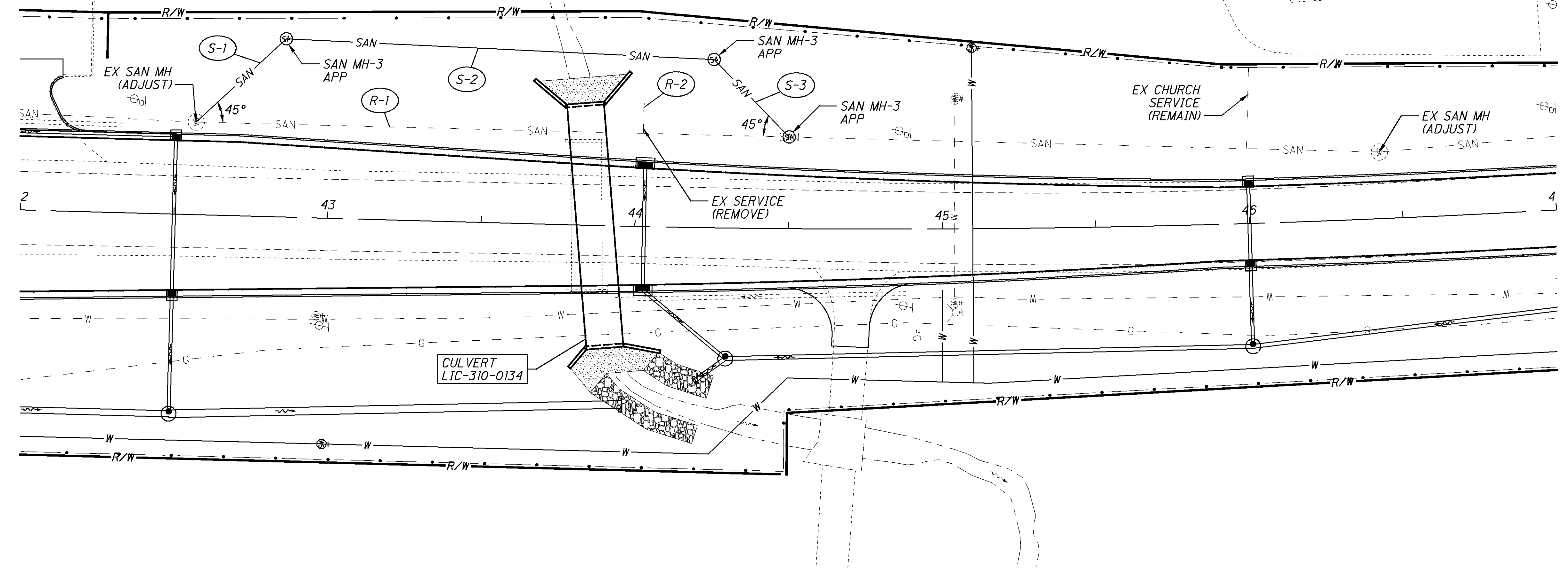
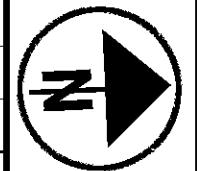
251
425



1060	PROP. WATER E	1049.71																				1060
1055																						1055
1050																						1050
1045																						1045
1040																						1040
1035																						1035
1030																						1030
1025																						1025
	EX GROUND ELEV.	1053.82																				
					1054.85																	
				49+00				50+00														

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CROSS REFERENCES	
SHEETS	DESCRIPTION
247	SANITARY SUBSUMMARY



1065	PROP. SANITARY \bar{E}																				1065	
1060																					1060	
1055																					1055	
1050		STA 42+56.39, 30.14' LT EX SAN MH, TC 1046.91 (ADJUSTED TC 1047.80) 8" TYPE C (N) \bar{E} 1038.51 (DRILLED) EX 8" (N) \bar{E} 1038.41 (PLUGGED) EX 8" (S) \bar{E} 1038.51																				1050
1045																					1045	
1040																					1040	
1035																					1035	
1030																					1030	
	EX GROUND ELEV.	1049.25		1047.19		1045.05		1044.24		1044.35		1046.23		1050.53		1055.13		1056.00		1050.72		1053.58
		42+00		43+00		44+00		45+00		46+00		47+00										

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**SANITARY PLAN AND PROFILE - S.R. 310
STA. 42+00 TO STA. 47+00**

LIC-310-0.74

252
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ITEM 630, REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL, AS PER PLAN

ALL OF THE REQUIREMENTS OF CMS 630.12 SHALL BE MET EXCEPT THAT THE ENTIRE SUPPORT FOUNDATION SHALL BE REMOVED. BACKFILL THE RESULTANT HOLE AND COMPACT THE SOIL AND RESTORE THE DISTURBED AREA.

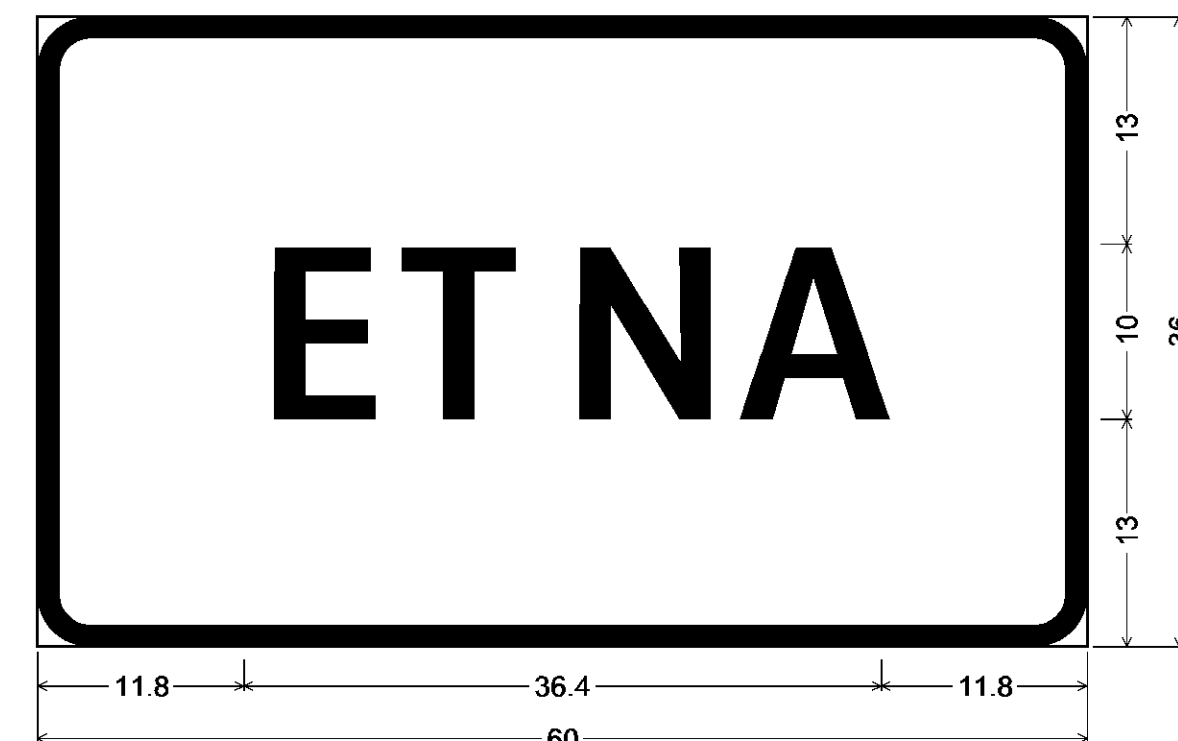
PAYMENT SHALL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 630, REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL, AS PER PLAN FOR EACH FOUNDATION REMOVED. ALL LABOR, MATERIALS, BACKFILL, AND INCIDENTALS REQUIRED TO COMPLETE THE ITEM.

ITEM 630, SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN

THIS ITEM SHALL CONSIST OF BARRIER MOUNTING SIGN(S) AS SHOWN IN THE DETAILS BELOW AT THE LOCATIONS SHOWN IN THE PLANS.

NOTES:

1. THE C7 X 9.8 GALVANIZED STEEL CHANNEL SHALL BE WELDED TO THE C15 X 50 GALVANIZED STEEL CHANNEL.
2. THE NO. 3 POST SHALL BE ATTACHED TO THE C7 X 9.8 GALVANIZED STEEL CHANNEL WITH TWO 5/16" STEEL HEX HEAD BOLTS. THE HOLES IN THE C7 X 9.8 STEEL CHANNEL SHALL BE DRILLED BEFORE GALVANIZING. THE HOLES SHALL BE 9" CENTER TO CENTER.
3. THE 5/8" THREADED STEEL BOLTS SHALL BE ATTACHED TO THE CONCRETE BARRIER WITH GROUT MEETING THE REQUIREMENTS OF CMS 255.02.



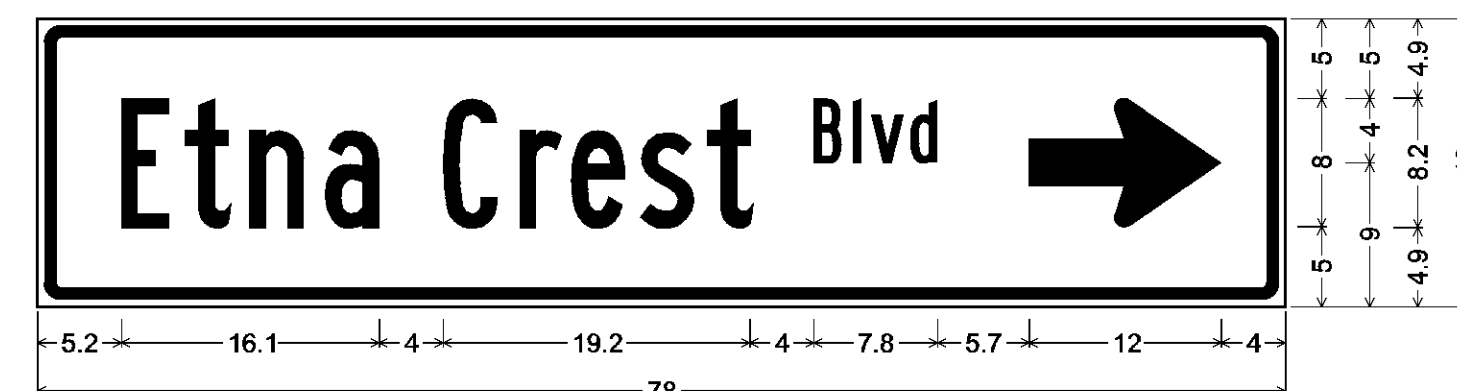
3.0" Radius, 1.3" Border, White on Green; [ETNA] ClearviewHwy-4-W;

NOTE: FOR PLACEMENT DETAILS SEE SHEET 295



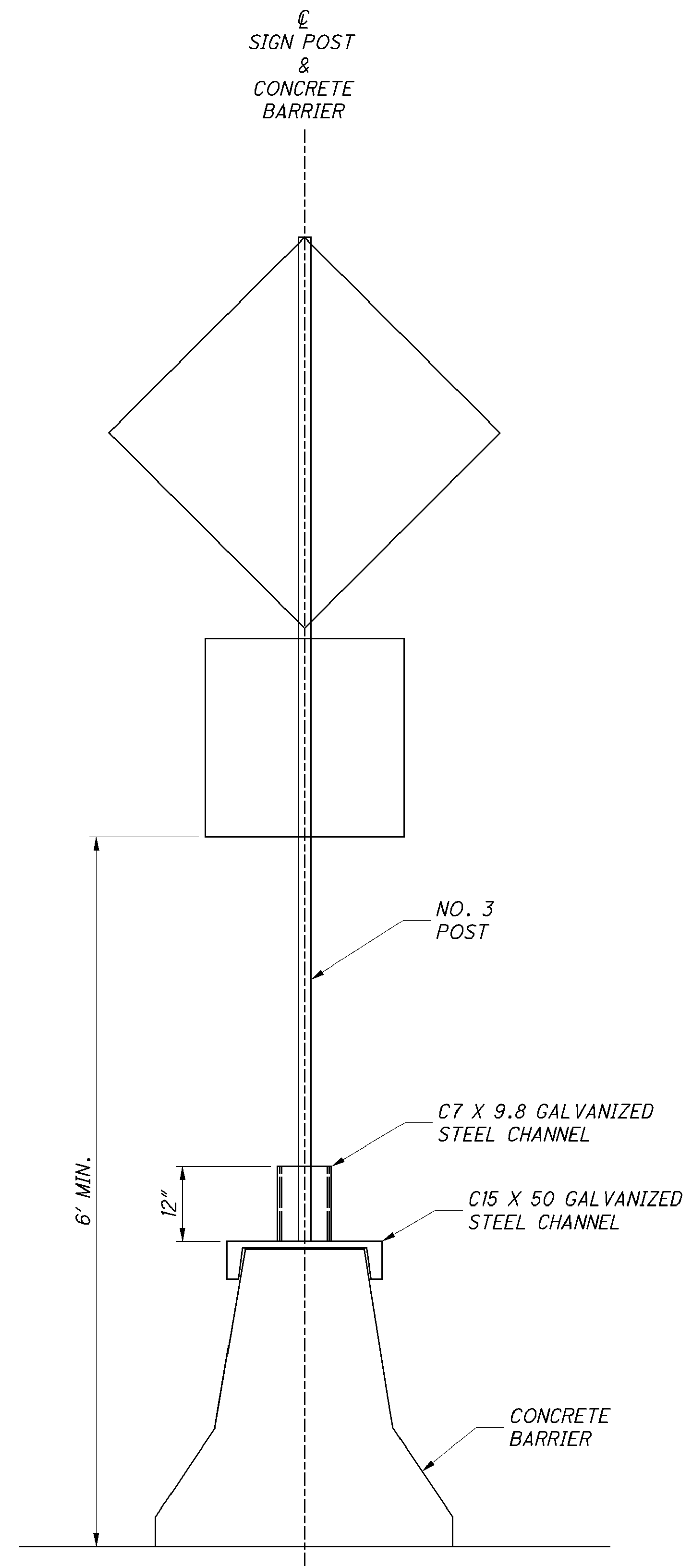
1.5" Radius, 0.8" Border, 0.4" Indent, White on Green; Standard Arrow Custom 12.0" X 8.1" 180°; [Etna] B 75% spacing; [Crest] B 75% spacing; [Blvd] B 75% spacing;

NOTE: FOR PLACEMENT DETAILS SEE SHEET 326

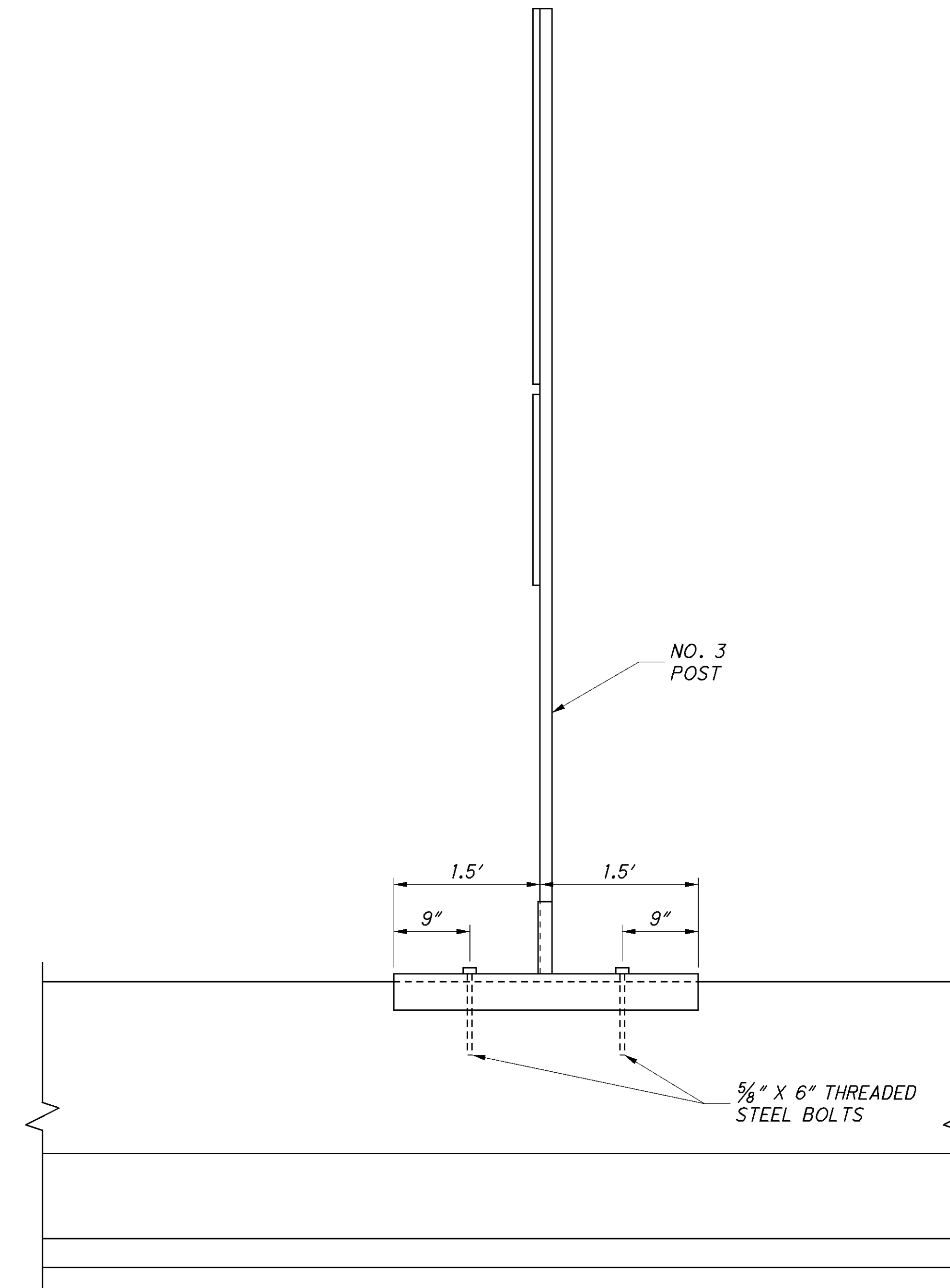


1.5" Radius, 0.8" Border, 0.4" Indent, White on Green; [Etna] B 75% spacing; [Crest] B 75% spacing; [Blvd] B 75% spacing; Standard Arrow Custom 12.0" X 8.1" 0°;

NOTE: FOR PLACEMENT DETAILS SEE SHEET 326



REAR VIEW



SIDE VIEW

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TRAFFIC CONTROL NOTES

LIC-310-0.74

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SHEET NO.	REFERENCE NO.	STATION		SIDE	621			644			648			
					RAISED PAVEMENT MARKER REMOVED	RPM 1-WAY (WHITE)	RPM 2-WAY (WHITE/RED)	RPM 2-WAY (YELLOW/YELLOW)	STOP LINE	TRANSVERSE/DIAGONAL LINE	ISLAND MARKING	EDGE LINE, 4" (WHITE)	LANE LINE, 4"	CENTER LINE (DOUBLE SOLID)
					EACH	EACH	EACH	EACH	FT	FT	SF	MILE	MILE	MILE
		FROM	TO											
		S.R. 310												
263-264	WEL-1	12+00	15+93.62	LT								0.075		
263-264	CL-1	12+00	16+00	CL				7						0.076
263-264	WEL-2	12+00	18+40	RT		10						0.121		
264	LL-1	15+20	16+00	LT			1						0.015	
264	CL-2	15+20	16+00	CL				2						0.015
264	LL-2	15+20	16+00	RT			1						0.015	
264	TL-1	15+20	16+00	CL					29					
264	IM-1	16+00		CL						20				
264	IM-2	16+75		CL						64				
264	LL-3	16+75	18+40	LT			2						0.031	
264	CL-3	16+75	18+40	LT				2						0.031
264	CL-4	16+75	18+40	RT				2						0.031
264	LL-4	16+75	18+40	RT			2						0.031	
264	TL-2	16+75	18+40	CL					205					
264	WEL-3	17+14.18	18+40	LT								0.024		
		12+00	18+40		36									
		COLUMBUS PKWY.												
264	WEL-4	0+23.78	1+16.40	LT								0.024		
264	WEL-5	0+38.57	1+16.40	RT								0.020		
264	CL-5	0+55	1+16.40	CL										0.012
264	SL-1	0+55		LT					11					
		SUB-TOTALS				10	6	13				0.264	0.093	0.165
		TOTALS CARRIED TO LOCATION 1a SUMMARY			36	29			11	234	84	0.27	0.10	0.17

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SHEET NO.	REFERENCE NO.	STATION		SIDE	621				646										96"		
					RAISED PAVEMENT MARKER REMOVED	RPM 1-WAY (WHITE)	RPM 2-WAY (WHITE/RED)	RPM 2-WAY (YELLOW/YELLOW)	EDGE LINE, 4" (WHITE)	LANE LINE, 4"	CENTER LINE (DOUBLE SOLID)	CHANNELIZING LINE, 8"	STOP LINE	CROSSWALK LINE	TRANSVERSE/ DIAGONAL LINE	ISLAND MARKING	LANE ARROW	WORD ON PAVEMENT, 96"	DOTTED LINE		
					EACH	EACH	EACH	EACH	MILE	MILE	MILE	FT	FT	FT	FT	SF	EACH	EACH	FT		
		S.R. 310																			
265	WEL-6	18+40	20+18.25	LT				0.034													
265	LL-5	18+40	20+53	LT			3		0.040												
265	CL-6	18+40	20+53	LT				3		0.040											
265	CL-7	18+40	20+53	RT				3		0.040											
265	LL-6	18+40	20+53	RT			3		0.040												
265	WEL-7	18+40	20+43.87	RT		5			0.039												
265	TL-3	18+40	20+53	CL											365						
265	IM-3		20+53	CL											236						
265	SL-2		20+53	RT									25								
265	CW-1	20+62.41	21+23.74	RT										61.33							
265	CW-2	20+75.38	21+21.48	RT										46.10							
265	DL-1	20+90.80	21+65	LT & RT														117			
265-267	WEL-8	21+07.35	29+73.60	LT		16			0.164												
265-267	WEL-9	21+23.20	30+02.47	RT		16			0.167												
265	SL-3		21+65	LT									37								
265-267	LL-7	21+65	29+35	LT			10			0.146											
265-267	CH-1	21+65	29+35	LT			19					770									
265-267	CL-8	21+65	29+35	CL				10			0.146										
265-267	CH-2	21+65	29+35	RT			19					770									
265-267	LL-8	21+65	29+35	RT			10			0.146											
265	LA-1		21+85	RT											1						
265	LA-2		21+95	LT											1						
265	LA-3		22+75	RT											1						
265	WD-1		22+85	LT												1					
266	LA-4		23+65	RT											1						
266	LA-5		23+75	LT											1						
266	WD-2		24+55	RT												1					
266	WD-3		24+65	LT												1					
266	LA-6		25+45	RT											1						
266	LA-7		25+55	LT											1						
266	WD-4		26+35	RT												1					
266	WD-5		26+45	LT												1					
266	LA-8		27+25	RT											1						
266	LA-9		27+35	LT											1						
266	WD-6		28+15	RT												1					
266	LA-10		28+25	LT											1						
267	LA-11		29+05	RT											1						
267	LA-12		29+15	LT											1						
267	SL-4		29+35	RT									37								
267	CW-3	30+01.89	30+54.17	RT										50.07							
267	CW-4	30+04.10	30+41.20	RT										37.10							
267	WEL-10	30+15.92	31+95.21	LT		3			0.034												
267	IM-4		30+65	CL												246					
267	SL-5		30+65	LT									24								
267-268	LL-9	30+65	35+75	LT			7			0.097											
267-268	CL-9	30+65	34+85	LT				5			0.080										
267-268	CL-10	30+65	35+75	RT				9			0.097										
267-268	LL-10	30+65	35+75	RT			7			0.097											
267-268	TL-4	30+65	34+85	CL											325						
267-268	WEL-11	30+73.48	35+78.11	RT		12			0.096												
267-268	CH-3	32+25	35+75	RT			9					350									
267	LA-13		32+75	RT											1						
268	LA-14		33+65	RT											1						
268	WEL-12	33+66.38	35+78.11	LT		4			0.040												
268	WD-7		34+55	RT												1					
268	LA-15		35+45	RT												1					
268	SL-6		35+75	RT									36								
		18+40	35+78.11		50																
SUB-TOTALS						56	87	30	0.573	0.566	0.403			194.60							
TOTALS CARRIED TO LOCATION 1b SUMMARY					50	173			0.58	0.57	0.41	1890	159	195	690	482	15	7	117		

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PAVEMENT MARKING SUBSUMMARY

LIC - 310 - 0.74

SHEET NO.	REFERENCE NO.	STATION		SIDE	621		646					
					RPM 2-WAY (WHITE/RED) EACH	RPM 2-WAY (YELLOW/RED) EACH	EDGE LINE, 6" (WHITE) MILE	EDGE LINE, 6" (YELLOW) MILE	CHANNELIZING LINE, 12" FT	STOP LINE FT	96"	
											LANE ARROW EACH	WORD ON PAVEMENT, 96" EACH
		FROM	TO									
RAMP A												
272	WEL-13	0+00	10+90	RT			0.206					
272	YEL-1	1+70.46	4+79.49	LT		4		0.059				
272	YEL-2	4+79.49	10+90	LT		8		0.116				
272	CH-4	4+79.49	5+70	LT					91			
RAMP B												
273	WEL-14	4+53.12	14+51	RT	16		0.189					
273	YEL-3	4+53.12	14+27.65	LT		12		0.185				
273	SL-7	14+08		LT					21			
RAMP C												
274	WEL-15	0+23.79	7+46	RT			0.137					
274	YEL-4	0+50.12	7+46	LT		9		0.132				
RAMP D												
275	YEL-5	4+53.04	14+27.78	LT		12		0.185				
275	WEL-16	4+53.04	14+28.06	RT	16		0.185					
275	CH-5	8+75	14+15	LT	14				540			
275	CH-6	8+75	14+15	LT	14				540			
275	LA-16	9+35		LT						1		
275	LA-17	9+35		LT						1		
275	LA-18	9+35		RT						1		
275	LA-19	10+25		LT						1		
275	LA-20	10+25		LT						1		
275	LA-21	10+25		RT						1		
275	WD-8	11+15		LT							1	
275	LA-22	11+15		LT						1		
275	WD-9	11+15		RT							1	
275	LA-23	12+05		LT						1		
275	LA-24	12+05		LT						1		
275	LA-25	12+05		RT						1		
275	WD-10	12+95		LT							1	
275	LA-26	12+95		LT						1		
275	WD-11	12+95		RT							1	
275	LA-27	13+85		LT						1		
275	LA-28	13+85		LT						1		
275	LA-29	13+85		RT						1		
275	SL-8	14+15		LT & RT					50			
RAMP E												
272	WEL-17	0+37.14	2+19.43	RT			0.035					
272	YEL-6	0+47.26	2+19.43	LT		2		0.033				
SUB-TOTALS					60	47	0.751	0.708				
TOTALS CARRIED TO LOCATION 1b SUMMARY					107		1.46		1,171	71	14	

SHEET NO.	REFERENCE NO.	STATION		SIDE	621				644				648				
					RAISED PAVEMENT MARKER REMOVED	RPM 1-WAY (WHITE)	RPM 2-WAY (WHITE/RED)	RPM 2-WAY (YELLOW/YELLOW)	STOP LINE	TRANSVERSE/DIAGONAL LINE	96"	WORD ON PAVEMENT, 96"	EDGE LINE, 4" (WHITE)	LANE LINE, 4"	CENTER LINE (DOUBLE SOLID)	CENTER LINE (PASSING PROHIBITED RIGHT)	CHANNELIZING LINE, 8"
FROM	TO																
		S.R. 310															
268-271	WEL-18	35+78.11	49+20	RT									0.254				
268	SL-9	37+25		LT				40									
268-269	LL-11	37+25	42+70	LT			7						0.103				
268-269	CH-7	37+25	39+00	LT			5									175	
268-269	CL-11	37+25	39+62	RT										0.045			
268-269	LL-12	37+25	39+50	RT			3	4					0.043				
268-271	WEL-19	37+47.26	49+20	LT		16							0.222				
268	LA-30	37+55		RT						1							
268	WD-12	38+15		RT							1						
269	LA-31	38+75		RT						1							
268-271	CL-12	39+00	49+20	CL			15						0.193				
269	TL-5	39+00	39+62	RT					66								
269	CP-1	39+62	42+34	RT			3								0.052		
269-270	CL-13	42+34	45+90	RT			4						0.067				
269-270	TL-6	42+34	45+90	RT					181								
		35+78.11	49+20		28												
		ETNA CREST BLVD.															
268	WEL-20	0+23.24	1+50	LT									0.030				
268	WEL-21	0+24.59	1+50	RT									0.032				
268	CL-14	0+33.88	1+50	CL										0.022			
268	CH-8	0+33.88	1+50	LT													116
268	SL-10	0+33.88		LT				48									
268	LA-32	0+55		LT						1							
268	LA-33	0+55		LT						1							
268	LA-34	1+20		LT						1							
268	LA-35	1+20		LT						1							
		SPEEDWAY DRIVE (DR-5)															
268	CL-15	0+46	0+86	CL										0.008			
268	CH-9	0+46	0+86	LT													40
268	SL-11	0+46		LT				28									
268	LA-36	0+56		LT						1							
268	LA-37	0+56		LT						1							
SUB-TOTALS						16	15	26					0.538	0.146	0.335	0.052	
TOTALS CARRIED TO LOCATION 1c SUMMARY					28	57			116	247	8	1	0.54	0.15	0.39		331

SHEET NO.	REFERENCE NO.	STATION	SIDE	COMMENTS	630			
					REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH
S.R. 310								
276	ES-1	9+12	RT	REMAIN IN PLACE				
276	ES-2	11+76	RT		1			1
276	ES-3	11+76	RT		1			
277	ES-4	14+08	LT		1			1
277	ES-5	14+86	RT				1	2
277	ES-6	15+77	RT		1			1
277	ES-7	16+64	LT	TO BE REERECTED		1		1
277	ES-8	16+64	LT	TO BE REERECTED				
277	ES-9	16+89	CL		1			1
277	ES-10	17+93	LT		1			1
COLUMBUS PKWY.								
277	ES-11	0+78	LT		1			1
TOTALS CARRIED TO LOCATION 1a SUMMARY					7	1	1	9

SHEET NO.	REFERENCE NO.	STATION	SIDE	COMMENTS	630				
					REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL, AS PER PLAN EACH
S.R. 310									
281	ES-109	35+91	LT				1		2
281	ES-110	36+08	RT		1			1	
281	ES-111	36+25	LT		1			1	
281	ES-112	36+25	LT		1				
282	ES-113	38+53	LT		1			1	
282	ES-114	38+67	RT		1			1	
282	ES-115	39+33	LT		1			1	
282	ES-116	39+39	RT		1			1	
282	ES-117	40+30	LT		1			1	
282	ES-118	40+31	RT		1			1	
282	ES-119	41+54	LT		1			1	
282	ES-120	41+54	LT		1			1	
282	ES-121	41+56	RT		1			1	
282	ES-122	41+94	RT		1			2	
282	ES-123	41+94	RT		1				
282	ES-124	41+94	RT	TO BE REERECTED		1			
282	ES-125	42+62	LT		1			1	
282	ES-126	42+63	RT		1			1	
282	ES-127	43+23	RT		1			1	
283	ES-128	44+84	LT		1			1	
283	ES-129	44+85	RT		1			1	
283	ES-130	44+86	RT		1			1	
283	ES-131	45+79	LT		1			1	
283	ES-132	45+79	LT		1			1	
283	ES-133	48+42	LT		1			1	
284	ES-134	48+68	RT					1	
ETNA CREST BLVD.									
281	ES-135	0+62	LT		1			1	
TOTALS CARRIED TO LOCATION 1c SUMMARY					24	1	1	23	2

SHEET NO.	REFERENCE NO.	STATION	SIDE	COMMENTS	630				
					REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL, AS PER PLAN EACH
		S.R. 310							
278	ES-12	19+92	LT		1			1	
278	ES-13	19+92	LT		1				
278	ES-14	20+43	LT						2
278	ES-15	20+52	RT		1		1		
278	ES-16	20+66	CL		1		1		
278	ES-17	20+66	CL		1				
278	ES-18	20+66	CL		1				
278	ES-19	20+69	RT		1		1		
278	ES-20	20+69	RT		1				
278	ES-21	21+40	LT		1		1		
278	ES-22	21+50	LT		1				
278	ES-23	21+50	LT		1				
278	ES-24	21+50	LT		1				
278	ES-25	21+50	LT						2
278	ES-26	21+53	RT						2
278	ES-27	23+04	LT		1		1		
278	ES-28	23+24	CL		1		1		
278	ES-29	23+24	CL		1				
278	ES-30	23+24	CL		1				
278	ES-31	23+41	RT		1		1		
278	ES-32	23+41	RT		1		1		
278	ES-33	23+41	RT		1				
278	ES-34	23+41	RT		1				
279	ES-35	26+60	LT		1		1		
279	ES-36	26+70	LT		1		1		
279	ES-37	26+71	RT		1		1		
279	ES-38	27+26	RT		1		1		
279	ES-39	28+00	LT		1		1		
279	ES-40	28+00	LT		1				
279	ES-41	28+00	LT		1				
279	ES-42	28+02	CL		1		1		
279	ES-43	28+02	CL		1				
279	ES-44	28+02	CL		1				
280	ES-45	29+68	RT		1				
280	ES-46	29+68	RT		1				
280	ES-47	29+68	RT		1				
280	ES-48	29+68	RT			1			2
280	ES-49	30+36	CL		1		1		
280	ES-50	30+36	CL		1				
280	ES-51	30+36	CL		1				
280	ES-52	30+56	LT		1		1		
280	ES-53	30+56	LT		1				
280	ES-54	30+62	RT			1			2
280	ES-55	31+21	LT			1	2		
280	ES-56	31+22	RT		1		1		
280	ES-57	31+22	RT		1				
280	ES-58	33+47	LT			1			2
281	ES-59	34+61	RT		1		1		
281	ES-60	35+62	LT		1		1		
		RAMP A							
285	ES-61	2+43	RT		1		1		
285	ES-62	3+35	LT		1		1		
285	ES-63	3+88	RT		1		2		
285	ES-64	4+74	LT	TO BE REERECTED		1	2		
285	ES-65	4+76	RT		1		2		
TOTALS CARRIED TO NEXT TABLE					46	1	7	30	12

SHEET NO.	REFERENCE NO.	STATION	SIDE	COMMENTS	630					
					REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL, AS PER PLAN EACH	REMOVAL OF GROUND MOUNTED PIPE SUPPORT AND DISPOSAL EACH
		RAMP A								
285	ES-66	6+11	LT		1			1		
285	ES-67	8+04	LT		1			1		
285	ES-68	9+11	LT		1			2		
285	ES-69	10+23	RT		1			1		
285	ES-70	11+97	RT		1			2		
		RAMP B								
286	ES-71	4+72	RT		1			1		
286	ES-72	5+26	RT		1			2		
286	ES-73	5+26	LT							1
286	ES-74	6+85	RT	TO BE REERECTED		1		2		
286	ES-75	6+85	RT		1			1		
286	ES-76	10+54	RT						2	
286	ES-77	12+86	LT		1			1		
286	ES-78	12+87	RT		1			1		
286	ES-79	13+90	LT		1			1		
286	ES-80	13+90	LT		1					
286	ES-81	13+90	LT		1					
286	ES-82	14+10	RT		1			1		
286	ES-83	14+10	RT		1					
286	ES-84	14+10	RT		1					
286	ES-85	14+15	LT		1			1		
286	ES-86	14+26	RT		1			1		
		RAMP C								
287	ES-87	0+62	RT		1			1		
287	ES-88	1+53	LT	TO BE REERECTED		1		2		
287	ES-89	1+87	RT		1			2		
287	ES-90	2+64	RT		1			1		
287	ES-91	4+59	RT		1			1		
287	ES-92	5+41	LT		1			2		
287	ES-93	7+87	RT		1			2		
287	ES-94	8+45	RT	REMAIN IN PLACE						
		RAMP D								
288	ES-95	5+15	RT		1			2		
288	ES-96	5+46	LT							1
288	ES-97	11+08	RT		1					
288	ES-98	11+08	RT		1				2	
288	ES-99	11+08	RT							
288	ES-100	12+57	LT		1			1		
288	ES-101	12+59	RT		1			1		
288	ES-102	13+62	LT		1			2		
288	ES-103	13+62	LT		1					
288	ES-104	13+62	LT		1					
288	ES-105	13+78	RT		1			1		
288	ES-106	13+78	RT		1					
288	ES-107	13+78	RT		1					
		RAMP E								
285	ES-108	1+28	LT		1			1		
TOTALS FROM THIS SHEET					36	2	4	38	4	2
TOTALS CARRIED FROM PREVIOUS TABLE					46	1	7	30	12	
TOTALS CARRIED TO LOCATION 1b SUMMARY					82	3	11	68	16	2

EXISTING SIGNING SUBSUMMARY

LIC - 310 - 0.74

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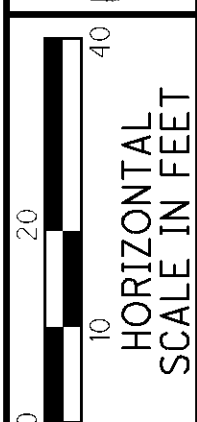
SHEET NO.	REFERENCE NO.	STATION	SIDE	CODE	SIZE	630						
						GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	SIGN POST REFLECTOR	BREAKAWAY STRUCTURAL BEAM CONNECTION	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION
						FT	FT	EACH	EACH	SF	SF	EACH
		S.R. 310										
289	PS-1	11+50	LT	R2-1-30	30 x 36	13.5				7.50		
289	PS-2	11+50	RT	M2-1-21	21 x 15	14.0				2.19		
289	PS-3	11+50	RT	M1-1-24-2	24 x 24					4.00		
289	PS-3A	13+13	RT	R1-1-18	18 x 18	9.0				2.25		
290	PS-4	14+50	RT	LEVEL 3	120 x 66		43.3		2		55	2
290	PS-5	14+50	RT	R3-H8BM-36	36 x 30					7.50		
290	PS-6	15+25	LT	W4-2R-30	30 x 30	13.5				6.25		
290	PS-7	16+95	LT	ES-7 REERECTED		14.0						
290	PS-8	16+95	LT	ES-8 REERECTED								
290	PS-9	17+50	RT	LEVEL 3	144 x 60		43.3		2		60	2
290	PS-10	17+50	RT	R3-H8BK-36	36 x 30					7.50		
		COLUMBUS PKWY.										
290	PS-11	0+55	LT	R1-1-30	30 x 30	13.0			1		6.25	
SUB-TOTALS										43.44		
TOTALS CARRIED TO LOCATION 1a SUMMARY						77.0	86.5	1	4	43.5	115	4

SHEET NO.	REFERENCE NO.	STATION	SIDE	CODE	SIZE	630		
						GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET
						FT	SF	SF
		S.R. 310						
294	PS-104A	36+05	RT	R1-1-18	18 x 18	9.0	2.25	
294	PS-105	38+40	RT	R3-2-24	24 x 24	11.5	4.00	
295	PS-106	39+00	RT	W4-2R-30	30 x 30	13.5	6.25	
295	PS-107	40+50	RT	R2-1-30	30 x 36	13.5	7.50	
295	PS-108	42+00	RT	SEE SHEET 253		26.0		15
295	PS-109	42+00	RT	ES-124 REERECTED				
296	PS-110	45+00	RT	W11-H13-30	30 x 30	13.0	6.25	
296	PS-111	46+00	LT	M2-1-21	21 x 15	14.5	2.19	
296	PS-112	46+00	LT	M1-1-24-2	24 x 24		4.00	
297	PS-113	48+55	LT	R2-1-30	30 x 36	13.5	7.50	
SUB-TOTALS							39.94	
TOTALS CARRIED TO LOCATION 1c SUMMARY						114.5	40.0	15

SHEET NO.	REFERENCE NO.	STATION	SIDE	CODE	SIZE	630												
						GROUND MOUNTED SUPPORT, NO. 3 POST FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7 FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	SIGN POST REFLECTOR EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN EACH	SIGN, FLAT SHEET SF	SIGN, GROUND MOUNTED EXTRUSHEET SF	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH			
		S.R. 310																
291	PS-12	19+00	LT	W2-2R-30	30 x 30						1		6.25					
291	PS-13	20+00	LT	M3-3-24	24 x 12	12.5							2.00					
291	PS-14	20+00	LT	M1-5-24-3	30 x 24								5.00					
291	PS-15	20+00	LT	W9-1R-30	30 x 30	13.5							6.25					
291	PS-16	20+00	LT	W16-2AP-24	24 x 12								2.00					
291	PS-17	20+45	RT	LEVEL 3	108 x 36		35.0			2				27		2		
291	PS-18	20+45	RT	R3-H8BK-36	36 x 30								7.50					
291	PS-19	20+60	RT	M1-5-24-3	30 x 24	13.0							5.00					
291	PS-20	20+60	RT	M6-4-21	21 x 15								2.19					
291	PS-21	20+68	RT	M3-2-24	24 x 12	14.5							2.00					
291	PS-22	20+68	RT	M1-1-24-2	24 x 24								4.00					
291	PS-23	20+68	RT	M6-1-21	21 x 15								2.19					
291	PS-24	21+65	LT	LEVEL 3	108 x 84			47.0		2				63		2		
291	PS-25	21+65	LT	R3-H8CA-48	48 x 30								10.00					
291	PS-26	22+00	RT	R3-H8CA-48	48 x 30	28.0							10.00					
291	PS-27	23+00	RT	M3-4-24	24 x 12						1		2.00					
291	PS-28	23+00	RT	M1-1-24-2	24 x 24								4.00					
291	PS-29	23+00	RT	M5-1-21	21 x 15								2.19					
292	PS-30	26+75	LT	D10-H8-12	12 x 12						1		1.00					
292	PS-31	26+75	RT	D10-H8-12	12 x 12						1		1.00					
292	PS-32	27+00	LT	M3-2-24	24 x 12						1		2.00					
292	PS-33	27+00	LT	M1-1-24-2	24 x 24								4.00					
292	PS-34	27+00	LT	M5-1-21	21 x 15								2.19					
293	PS-35	29+00	LT	R3-H8CA-48	48 x 30	28.0							10.00					
293	PS-36	29+35	RT	LEVEL 3	108 x 84			46.8		2				63		2		
293	PS-37	29+35	RT	R3-H8CA-48	48 x 30								10.00					
293	PS-38	30+30	LT	M3-4-24	24 x 12	15.5							2.00					
293	PS-39	30+30	LT	M1-1-24-2	24 x 24								4.00					
293	PS-40	30+30	LT	M6-1-21	21 x 15								2.19					
293	PS-41	30+50	LT	M1-5-24-3	30 x 24	14.5							5.00					
293	PS-42	30+50	LT	M6-4-21	21 x 15								2.19					
293	PS-43	30+65	LT	R3-H8BC-30	30 x 30	13.0							6.25					
293	PS-44	31+25	LT	LEVEL 3	108 x 36		28.0		2					27		2		
293	PS-45	31+25	RT	M3-1-24	24 x 12					1			2.00					
293	PS-46	31+25	RT	M1-5-24-3	30 x 24						1		5.00					
293	PS-47	32+75	RT	R3-H8CG-48	48 x 30						1		10.00					
294	PS-48	34+00	LT	LEVEL 3	144 x 60			41.0		2				60		2		
294	PS-49	34+25	RT	W9-1R-30	30 x 30						1		6.25					
294	PS-50	34+25	RT	W16-2AP-24	24 x 12						1		2.00					
294	PS-51	35+50	LT	LEVEL 3	120 x 66			46.5		2				55		2		
294	PS-52	35+50	LT	R3-H8BK-36	36 x 30								7.50					
294	PS-53	35+75	RT	R3-H8CG-48	48 x 30						1		10.00					
		RAMP A																
298	PS-54	2+50	RT	R5-H10D-36	36 x 36	15.0							9.00					
298	PS-55	4+50	RT	R1-2-48	48 x 48	29.0				2			6.93					
298	PS-56	5+70	LT	W4-2L-36	36 x 36	16.5				1			9.00					
298	PS-57	6+25	RT	R8-7-48	48 x 36	31.5							12.00					
298	PS-58	7+00	LT	ES-64 REERECTED		27.0												
298	PS-59	8+50	LT	R7-1-12	12 x 18	12.0							1.50					
298	PS-60	9+11	LT	W4-1R-48	48 x 48	27.0				2			16.00					
298	PS-61	10+00	RT	R7-1-12	12 x 18	12.0							1.50					
298	PS-62	11+50	RT	R1-2-48	48 x 48	29.0				2			6.93					
SUB-TOTALS													229.99					
TOTALS CARRIED TO LOCATION 1b SUMMARY						351.5	63.0	181.3	7	12	7	4	230.0	295	12			

SHEET NO.	REFERENCE NO.	STATION	SIDE	CODE	SIZE	630									
						GROUND MOUNTED SUPPORT, NO. 3 POST FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	GROUND MOUNTED SUPPORT, PIPE EACH	SIGN POST REFLECTOR EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	TRIANGULAR SLIP BASE CONNECTION EACH	SIGN, FLAT SHEET SF	SIGN, GROUND MOUNTED EXTRUSHEET SF	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	GROUND MOUNTED PIPE SUPPORT FOUNDATION EACH
		RAMP B													
299	PS-63	4+75	RT	R7-1-12	12 x 18	12.0						1.50			
299	PS-64	4+75	RT	R8-7-48	48 x 36	31.0						12.00			
299	PS-65	5+25	LT	E5-HIC-84	84 x 60			1			1	35			1
299	PS-66	6+75	RT	R7-1-12	12 x 18	12.0						1.50			
299	PS-67	6+75	RT	ES-74 REERECTED		28.0									
299	PS-68	10+50	RT	LEVEL 3	120 x 48		39.8			2		40	2		
299	PS-69	12+90	LT	R5-1A-42	42 x 30	31.0			2			8.75			
299	PS-70	12+90	RT	R5-1A-42	42 x 30	30.0			2			8.75			
299	PS-71	13+90	LT	R5-1-48	48 x 48	31.0						16.00			
299	PS-72	13+90	LT	R6-1L-54	54 x 18							6.75			
299	PS-73	13+90	LT	R6-1R-54	54 x 18							6.75			
299	PS-74	14+08	RT	R5-1-48	48 x 48	34.0						16.00			
299	PS-75	14+08	RT	R6-1L-54	54 x 18							6.75			
299	PS-76	14+08	RT	R6-1R-54	54 x 18							6.75			
299	PS-77	14+08	RT	W11-15-48	48 x 48							16.00			
299	PS-78	14+08	RT	W16-7PL-30	30 x 18							3.75			
		RAMP C													
300	PS-79	1+25	RT	R7-1-12	12 x 18	12.0						1.50			
300	PS-80	1+50	LT	ES-88 REERECTED		30.5									
300	PS-81	2+25	RT	R8-7-48	48 x 36	30.0						12.00			
300	PS-82	3+25	RT	R7-1-12	12 x 18	12.0						1.50			
300	PS-83	4+25	RT	R7-1-12	12 x 18	12.0						1.50			
300	PS-84	5+25	RT	R7-1-12	12 x 18	12.0						1.50			
300	PS-85	5+40	LT	W4-1R-48	48 x 48	27.0			2			16.00			
300	PS-86	6+25	RT	R7-1-12	12 x 18	12.0						1.50			
300	PS-87	7+86	RT	R1-2-48	48 x 48	27.0			2			6.93			
		RAMP D													
301	PS-88	5+25	RT	R8-7-48	48 x 36	29.0						12.00			
301	PS-89	5+25	RT	R7-1-12	12 x 18	12.0						1.50			
301	PS-90	5+46	LT	E5-HIC-84	84 x 60			1			1	35			1
301	PS-91	8+50	LT	R3-H8A-48	48 x 30	29.5						12.00			
301	PS-92	8+50	RT	R3-H8A-48	48 x 30	30.0						12.00			
301	PS-93	11+00	RT	LEVEL 3	120 x 48		41.0			2		40	2		
301	PS-94	12+60	LT	R5-1A-42	42 x 30	28.0			2			8.75			
301	PS-95	12+60	RT	R5-1A-42	42 x 30	30.5			2			8.75			
301	PS-96	13+75	LT	R5-1-48	48 x 48	31.0						16.00			
301	PS-97	13+75	LT	R6-1L-54	54 x 18							6.75			
301	PS-98	13+75	LT	R6-1R-54	54 x 18							6.75			
301	PS-99	13+75	LT	R3-H8A-48	48 x 30							10.00			
301	PS-100	13+75	RT	R5-1-48	48 x 48	34.0						16.00			
301	PS-101	13+75	RT	R6-1L-54	54 x 18							6.75			
301	PS-102	13+75	RT	R6-1R-54	54 x 18							6.75			
301	PS-103	13+75	RT	R3-H8A-48	48 x 30							10.00			
		RAMPE													
298	PS-104	1+25	LT	R5-H10D-36	36 x 36	13.5						9.00			
SUB-TOTALS												296.68			
TOTALS CARRIED TO LOCATION 1b SUMMARY						621.0	80.8	2	12	4	2	296.7	150	4	2

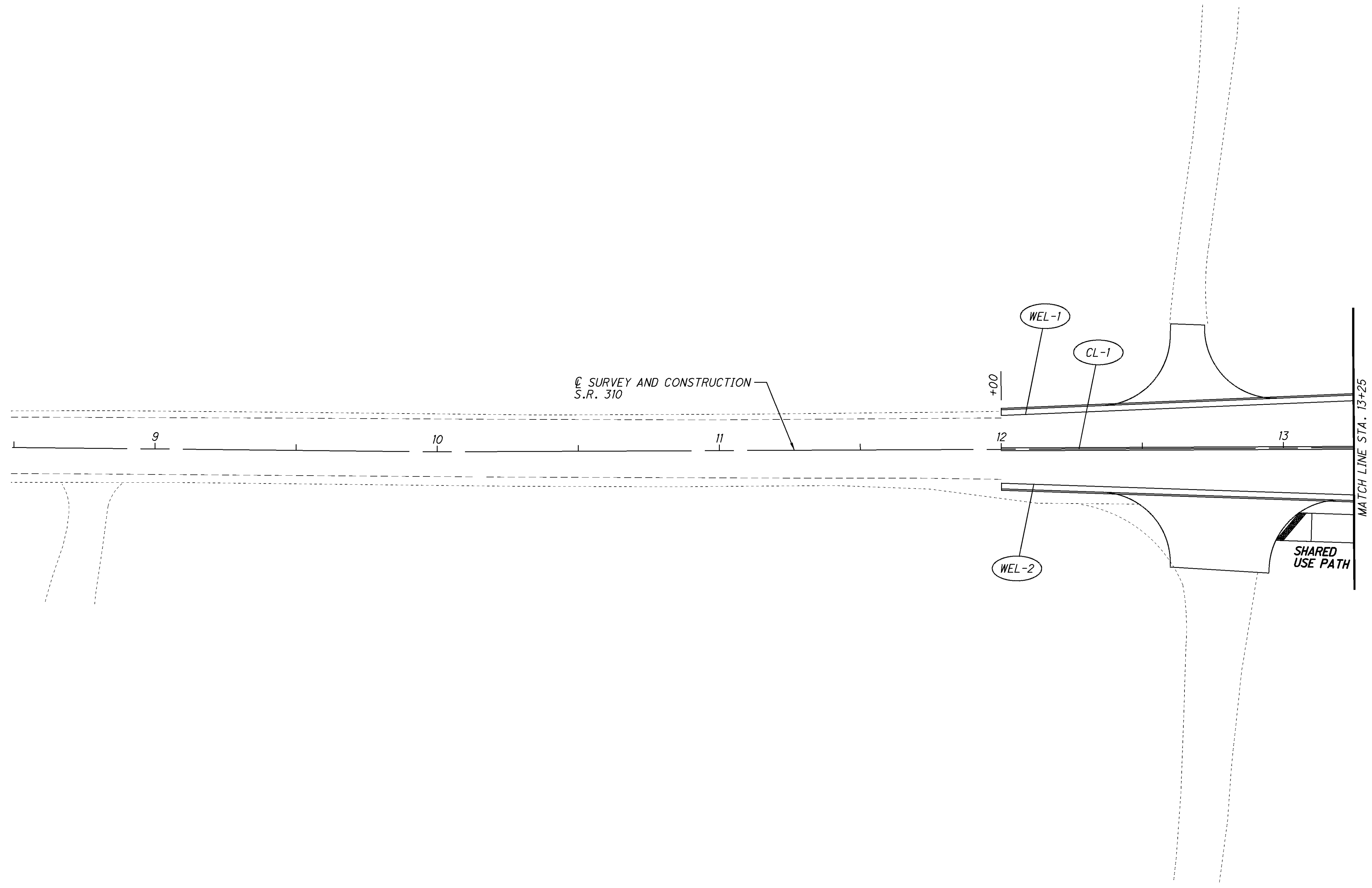
CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

- CL-X CENTER LINE, 648
- WEL-X EDGE LINE, 4", 648 (WHITE)



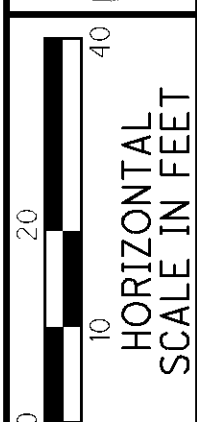
PAVEMENT MARKINGS (S.R. 310)
STA. 12+00 TO STA. 13+25

LIC-310-0.74

263
425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



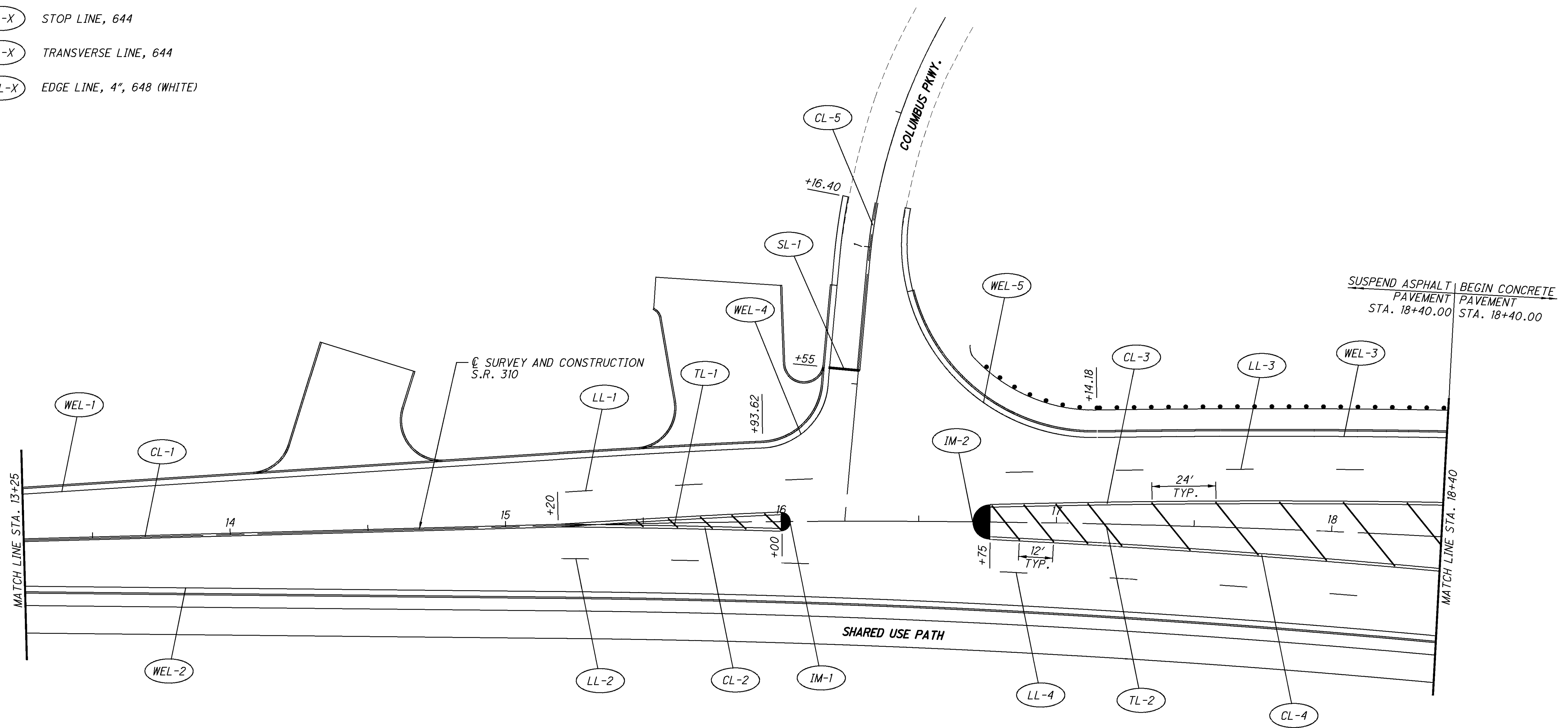
CALCULATED
BRH
CHECKED
JSL

LEGEND

- CL-X CENTER LINE, 648
- IM-X ISLAND MARKING, 644
- LL-X LANE LINE, 4", 648
- SL-X STOP LINE, 644
- TL-X TRANSVERSE LINE, 644
- WEL-X EDGE LINE, 4", 648 (WHITE)

NOTES

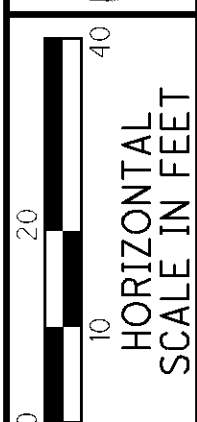
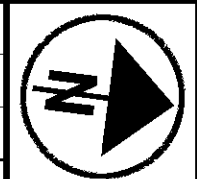
DO NOT PLACE RPM'S FROM STA. 16+00 TO STA. 16+75



PAVEMENT MARKINGS (S.R. 310)
STA. 13+25 TO STA. 18+40

LIC-310-0.74

CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



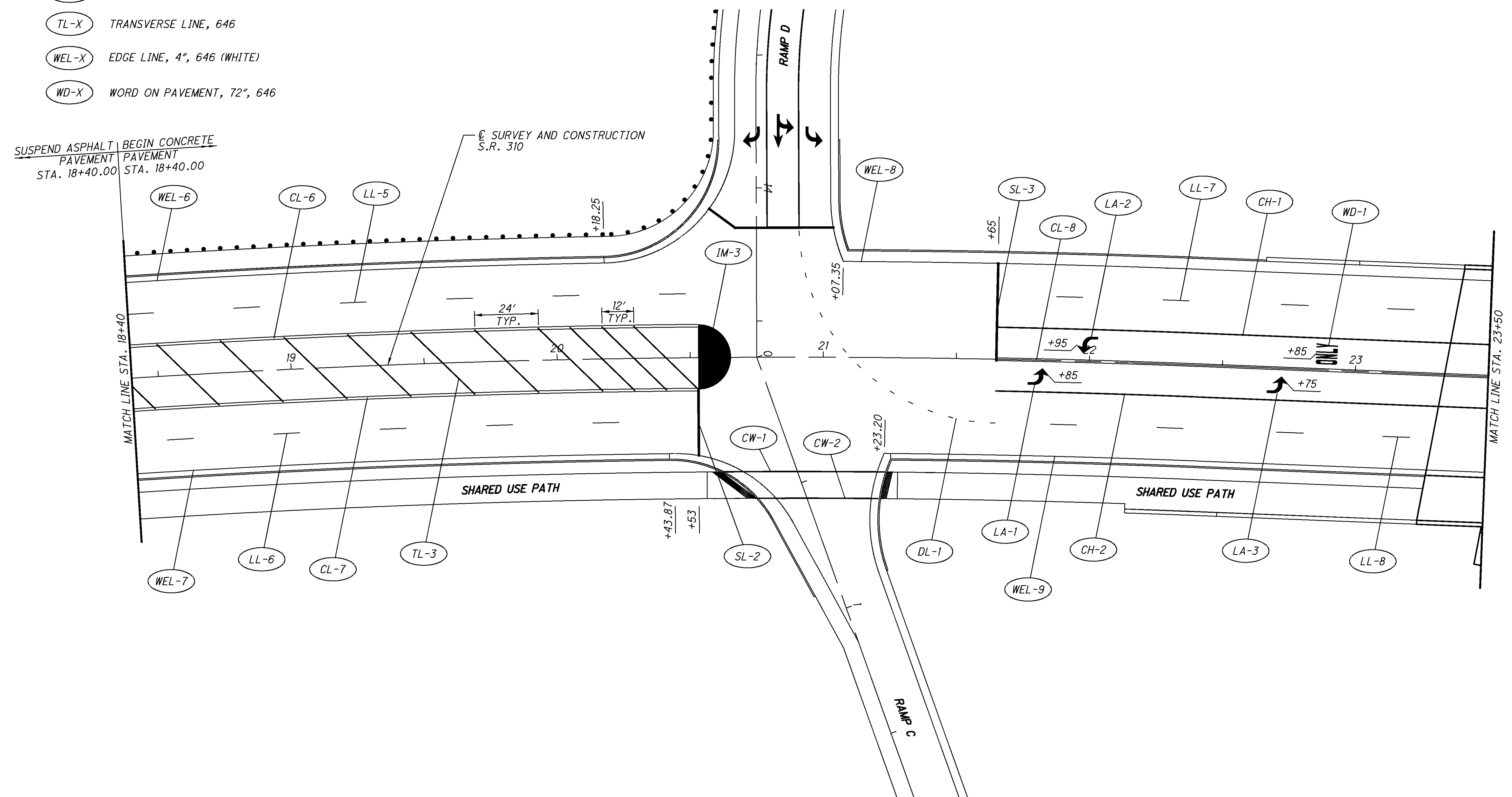
CALCULATED
BRH
CHECKED
JSL

LEGEND

- (CL-X) CENTER LINE, 646
- (CH-X) CHANNELIZING LINE, 8", 646
- (CW-X) CROSSWALK LINE, 646
- (DL-X) DOTTED LINE, 646
- (IM-X) ISLAND MARKING, 646
- (LA-X) LANE ARROW, 4", 646
- (LL-X) LANE LINE, 4", 646
- (SL-X) STOP LINE, 646
- (TL-X) TRANSVERSE LINE, 646
- (WEL-X) EDGE LINE, 4", 646 (WHITE)
- (WD-X) WORD ON PAVEMENT, 72", 646

NOTES

RPM SPACING BEGINS FROM STOP LINES PER TC-65.11



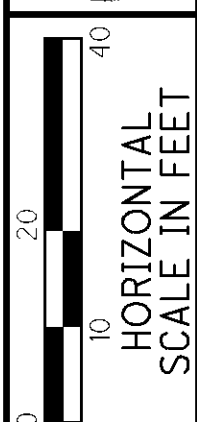
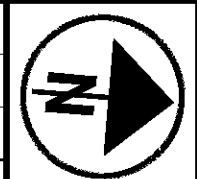
PAVEMENT MARKINGS (S.R. 310)
STA. 18+40 TO STA. 23+50

LIC-310-0.74

265
425

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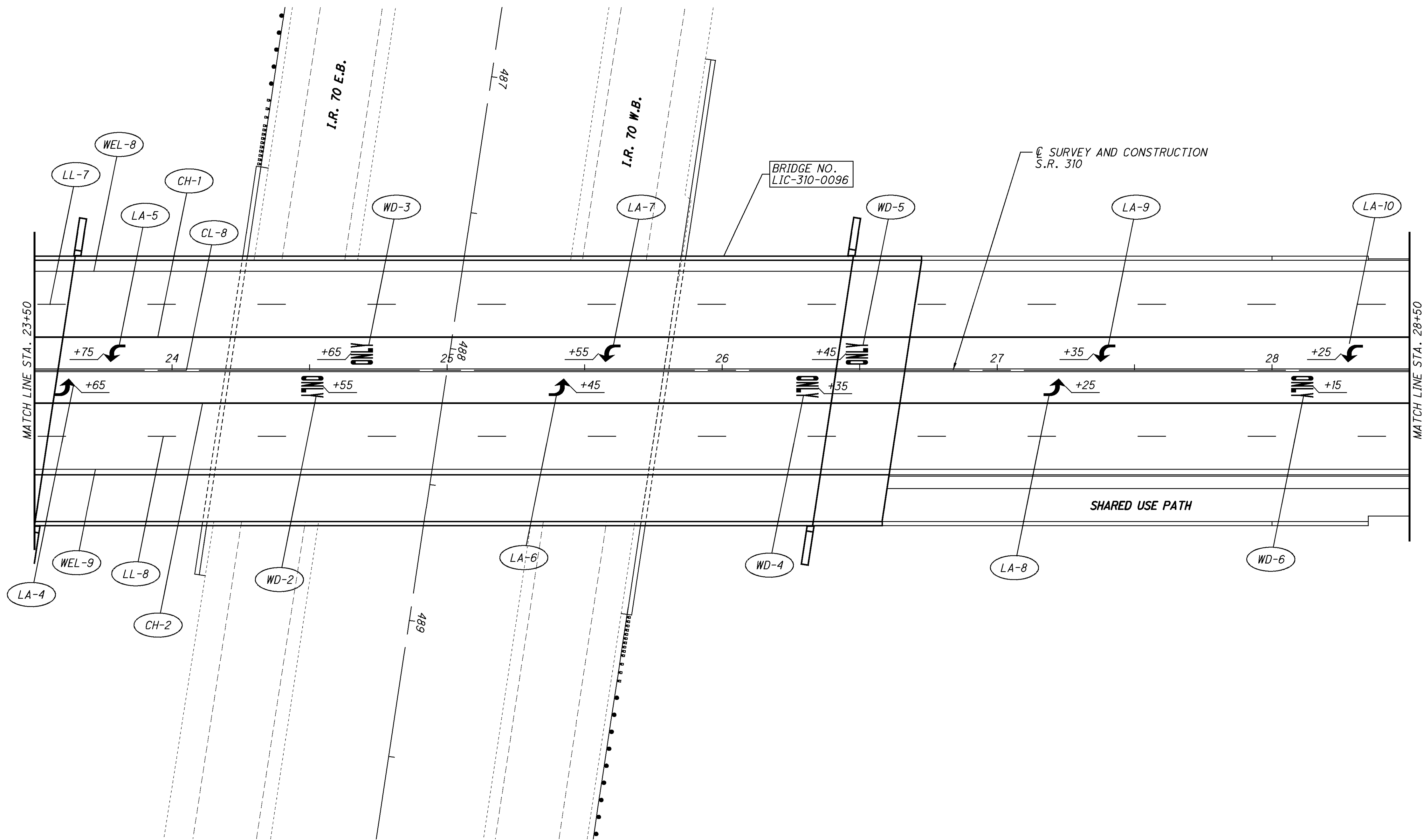
CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

- CL-X CENTER LINE, 646
- CH-X CHANNELIZING LINE, 8", 646
- LA-X LANE ARROW, 4", 646
- LL-X LANE LINE, 4", 646
- WEL-X EDGE LINE, 4", 646 (WHITE)
- WD-X WORD ON PAVEMENT, 72", 646



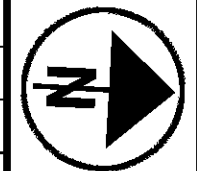
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PAVEMENT MARKINGS (S.R. 310)
STA. 23+50 TO STA. 28+50

LIC-310-0.74

266
425

CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



0 10 20 40
HORIZONTAL
SCALE IN FEET

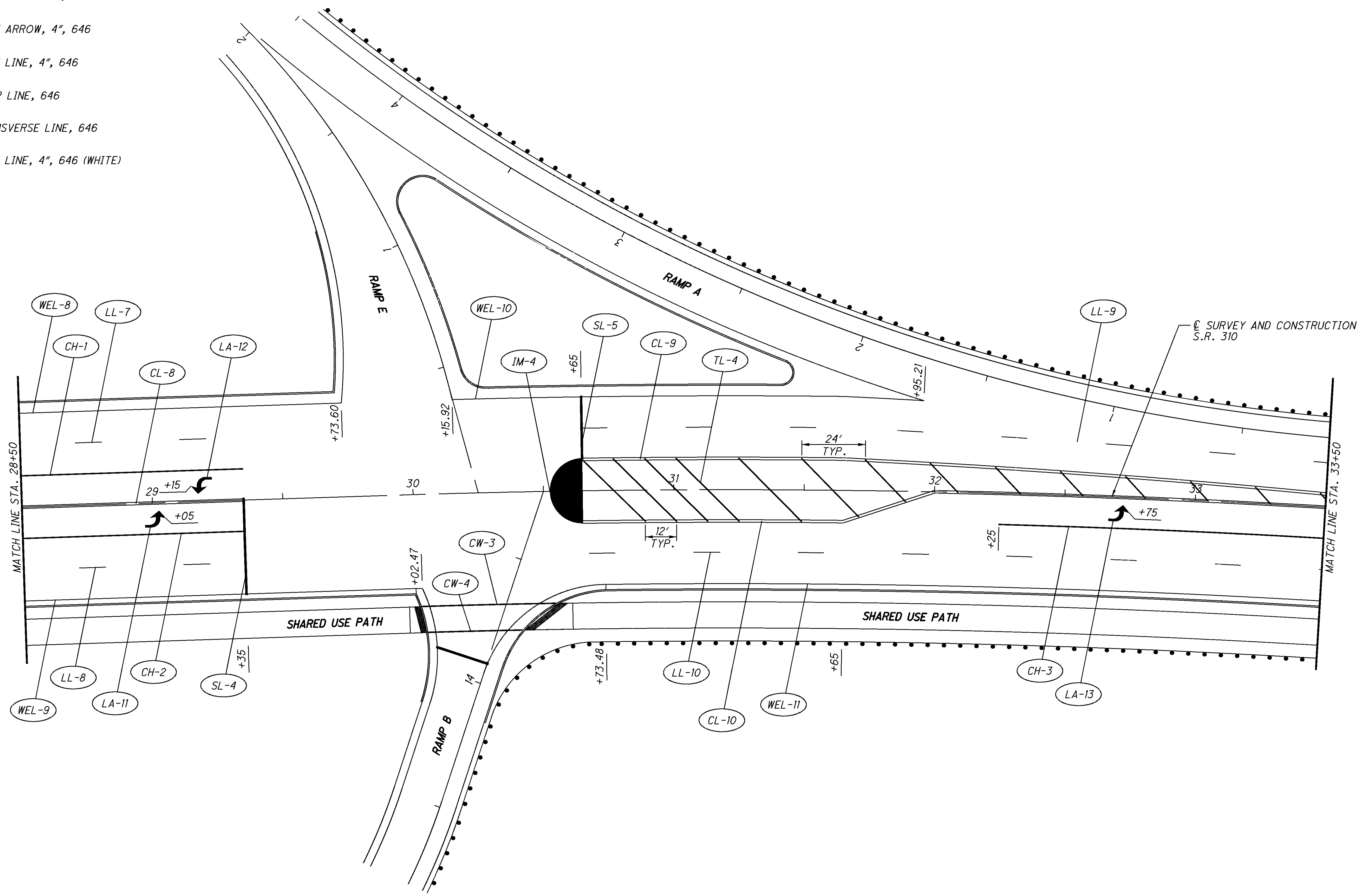
CALCULATED
BRH
CHECKED
JSL

LEGEND

- (CL-X) CENTER LINE, 646
- (CH-X) CHANNELIZING LINE, 8", 646
- (CW-X) CROSSWALK LINE, 646
- (IM-X) ISLAND MARKING, 646
- (LA-X) LANE ARROW, 4", 646
- (LL-X) LANE LINE, 4", 646
- (SL-X) STOP LINE, 646
- (TL-X) TRANSVERSE LINE, 646
- (WEL-X) EDGE LINE, 4", 646 (WHITE)

NOTES

RPM SPACING BEGINS FROM STOP LINES PER TC-65.11



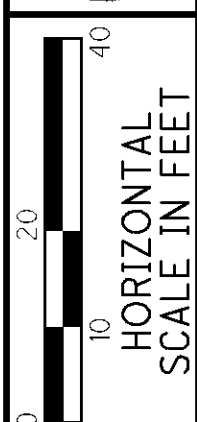
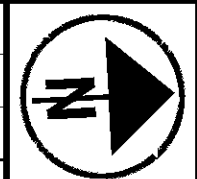
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PAVEMENT MARKINGS (S.R. 310)
STA. 28+50 TO STA. 33+50

LIC-310-0.74

267
425

CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



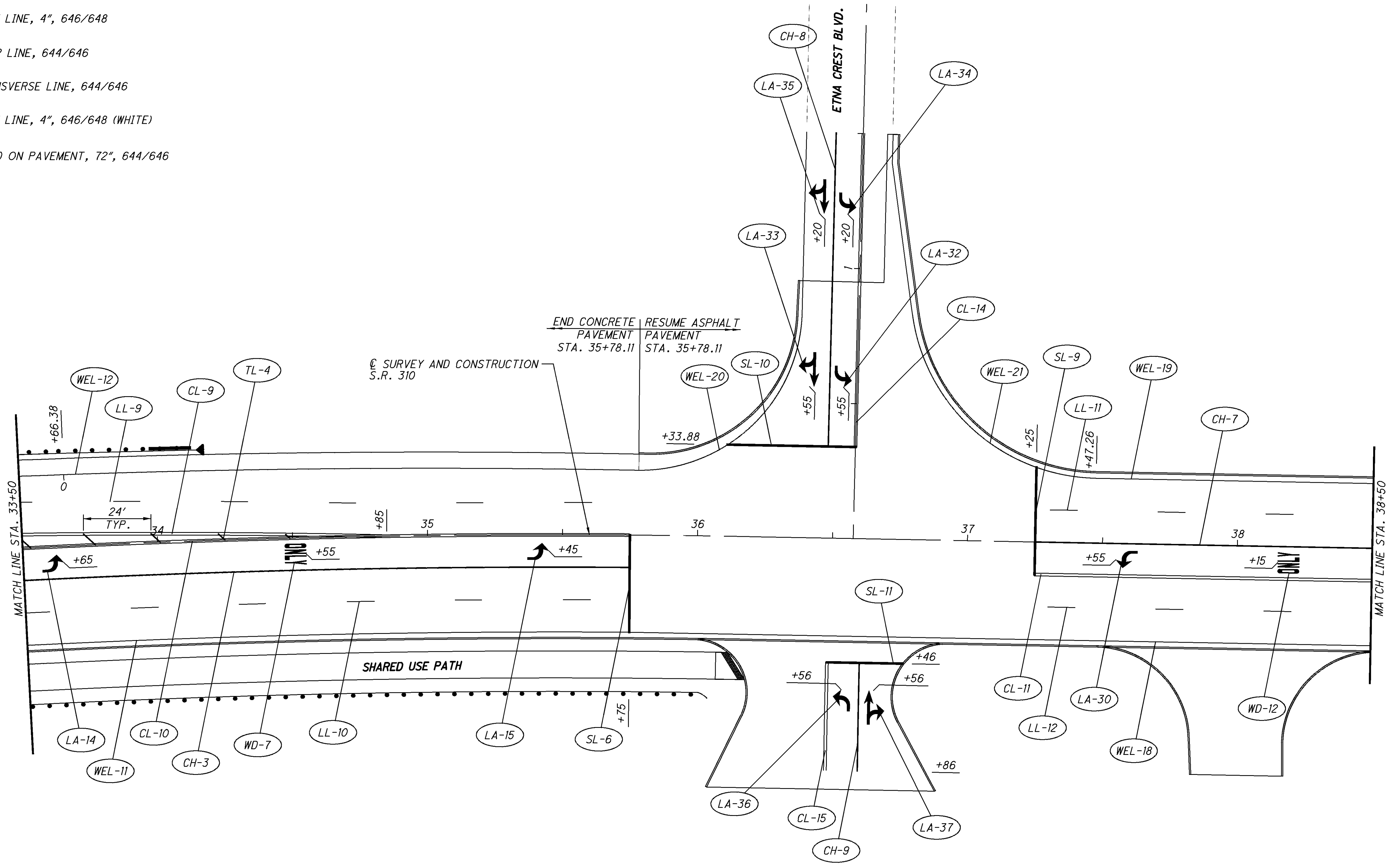
CALCULATED
BRH
CHECKED
JSL

LEGEND

- CL-X CENTER LINE, 646/648
- CH-X CHANNELIZING LINE, 8", 646/648
- LA-X LANE ARROW, 4", 644/646
- LL-X LANE LINE, 4", 646/648
- SL-X STOP LINE, 644/646
- TL-X TRANSVERSE LINE, 644/646
- WEL-X EDGE LINE, 4", 646/648 (WHITE)
- WD-X WORD ON PAVEMENT, 72", 644/646

NOTES

RPM SPACING BEGINS FROM STOP LINES PER TC-65.11

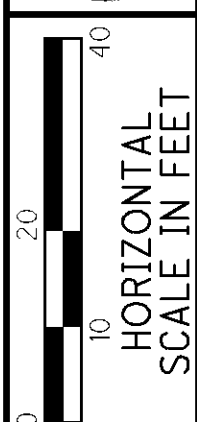
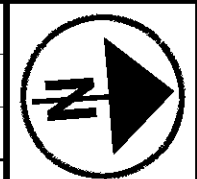


PAVEMENT MARKINGS (S.R. 310)
STA. 33+50 TO STA. 38+50

LIC-310-0.74

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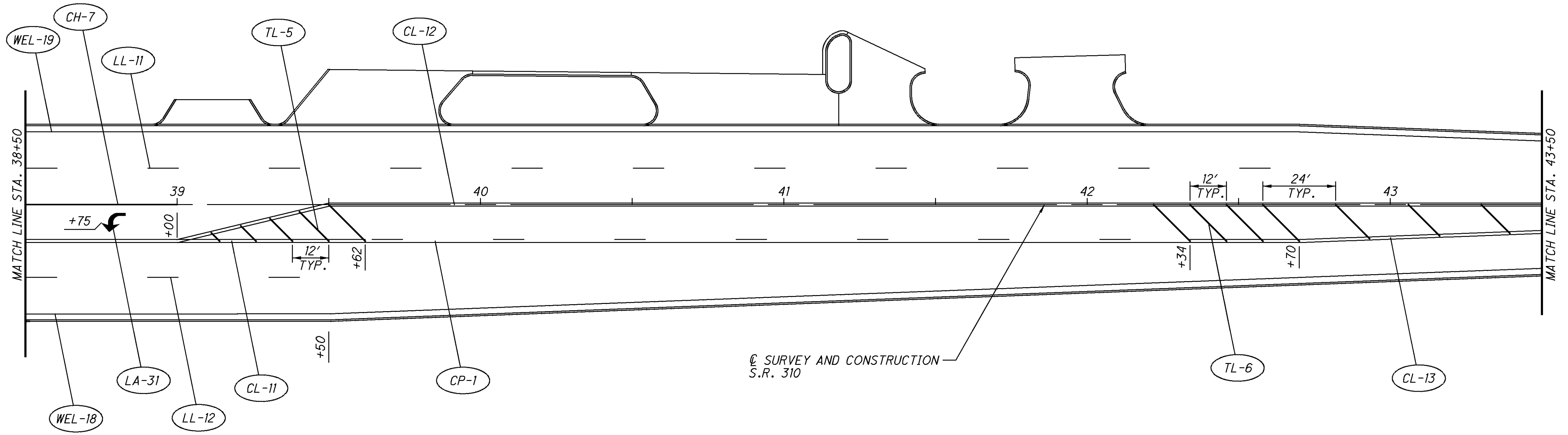
CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

- CL-X CENTER LINE, 648
- CH-X CHANNELIZING LINE, 8", 648
- LA-X LANE ARROW, 4", 644
- LL-X LANE LINE, 4", 648
- TL-X TRANSVERSE LINE, 644
- WEL-X EDGE LINE, 4", 648 (WHITE)

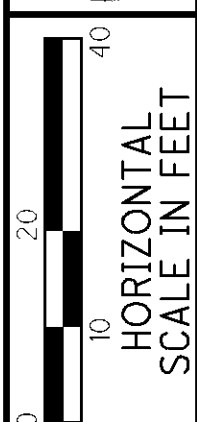
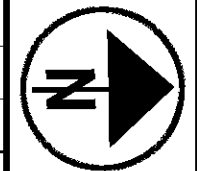


PAVEMENT MARKINGS (S.R. 310)
STA. 38+50 TO STA. 43+50

LIC-310-0.74

269
425

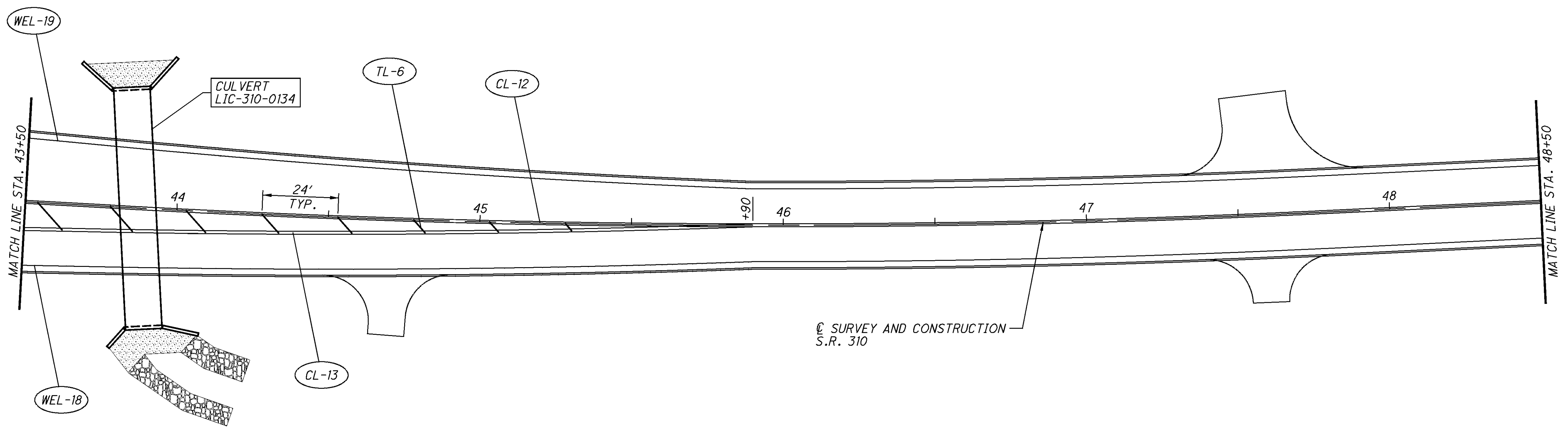
CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



CALCULATED	BRH
	CHECKED
	JSL

LEGEND

- CL-X CENTER LINE, 648
- TL-X TRANSVERSE LINE, 644
- WEL-X EDGE LINE, 4", 648 (WHITE)



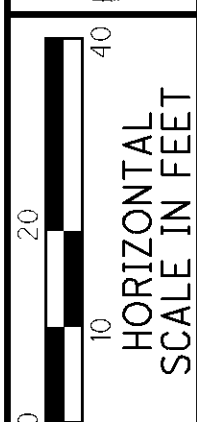
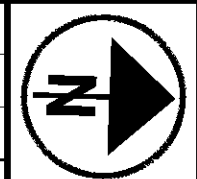
PAVEMENT MARKINGS (S.R. 310)
STA. 43+50 TO STA. 48+50

LIC-310-0.74

270
 425

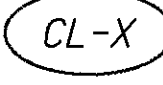


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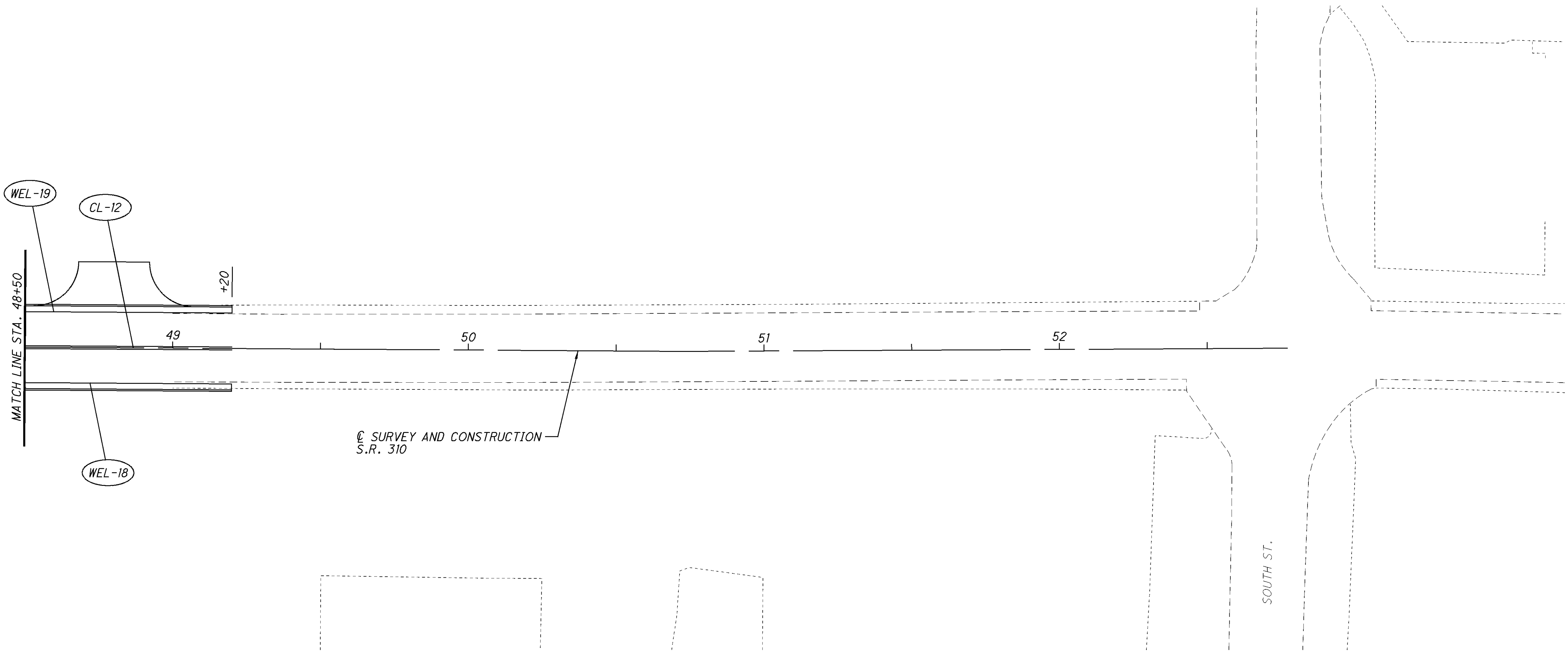
CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



CALCULATED	BRH
	CHECKED
	JSL

LEGEND

-  CENTER LINE, 648
-  TRANSVERSE LINE, 644
-  EDGE LINE, 4", 648 (WHITE)



PAVEMENT MARKINGS (S.R. 310)
STA. 48+50 TO STA. 49+00

LIC-310-0.74

271
425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



CALCULATED
BRH
CHECKED
JSL

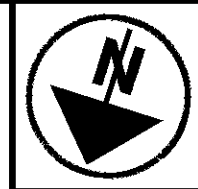
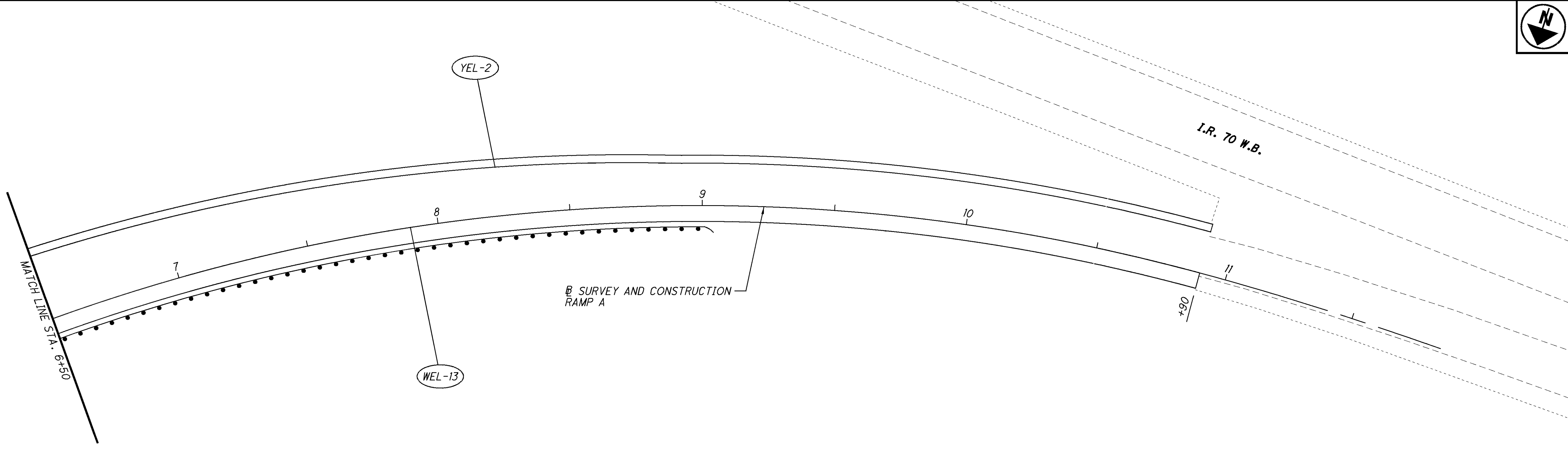
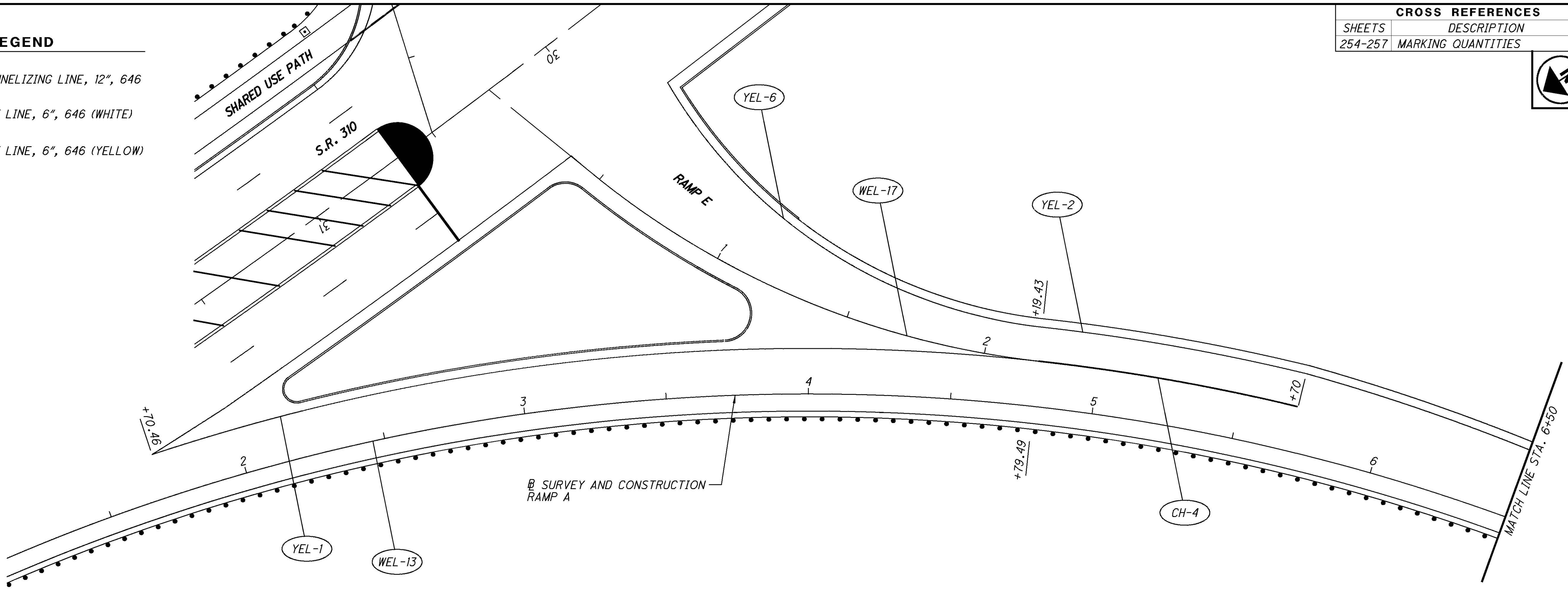
PAVEMENT MARKINGS (RAMP A)
STA. 0+00 TO STA. 10+90

LIC-310-0.74

272
425

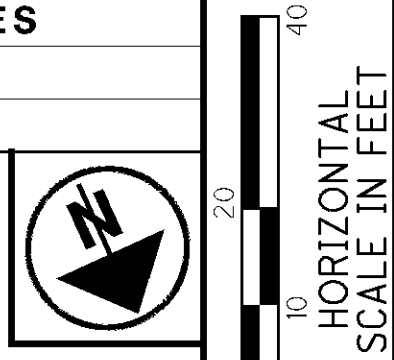
LEGEND

- CH-X CHANNELIZING LINE, 12", 646
- WEL-X EDGE LINE, 6", 646 (WHITE)
- YEL-X EDGE LINE, 6", 646 (YELLOW)



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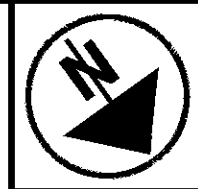
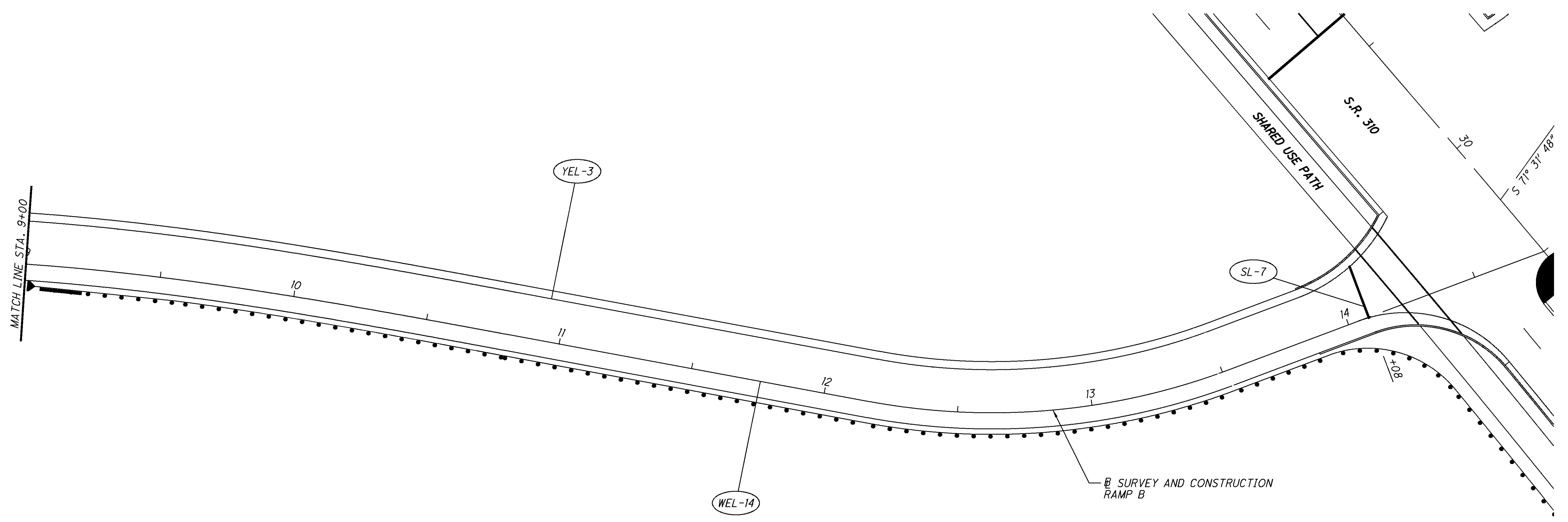
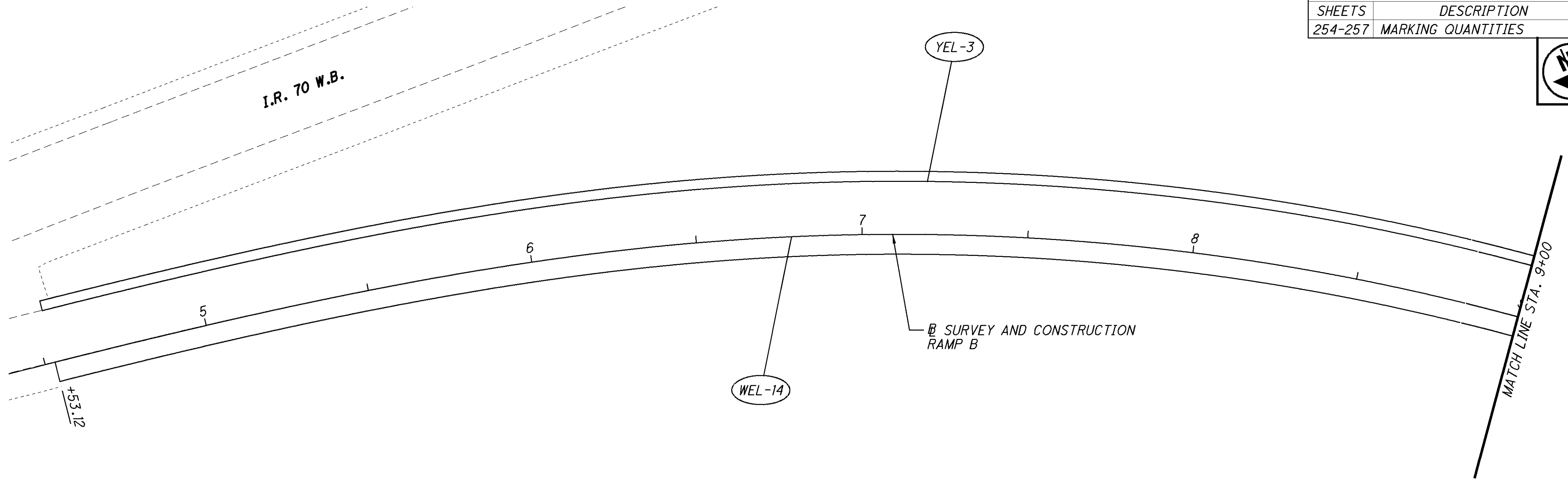
CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

- SL-X STOP LINE, 644
- WEL-X EDGE LINE, 6", 646 (WHITE)
- YEL-X EDGE LINE, 6", 646 (YELLOW)



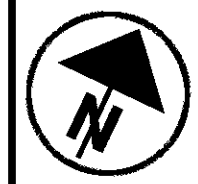
PAVEMENT MARKINGS (RAMP B)
STA. 4+53.12 TO STA. 14+77.40

LIC-310-0.74

273
425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES

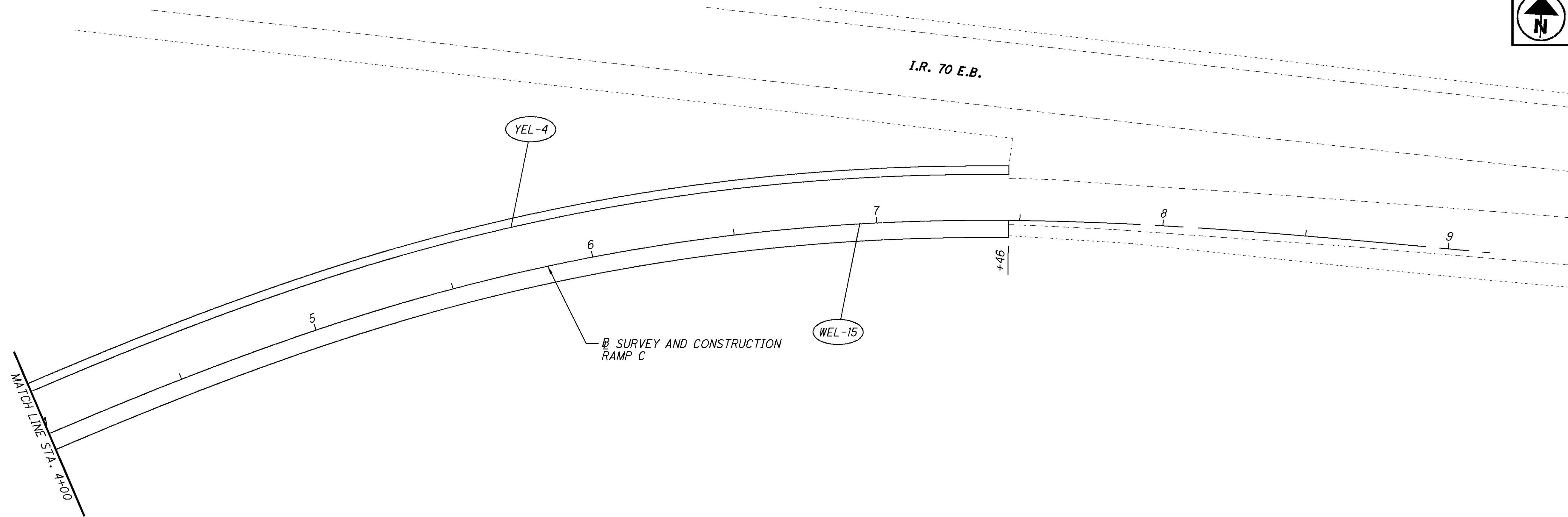
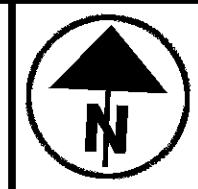
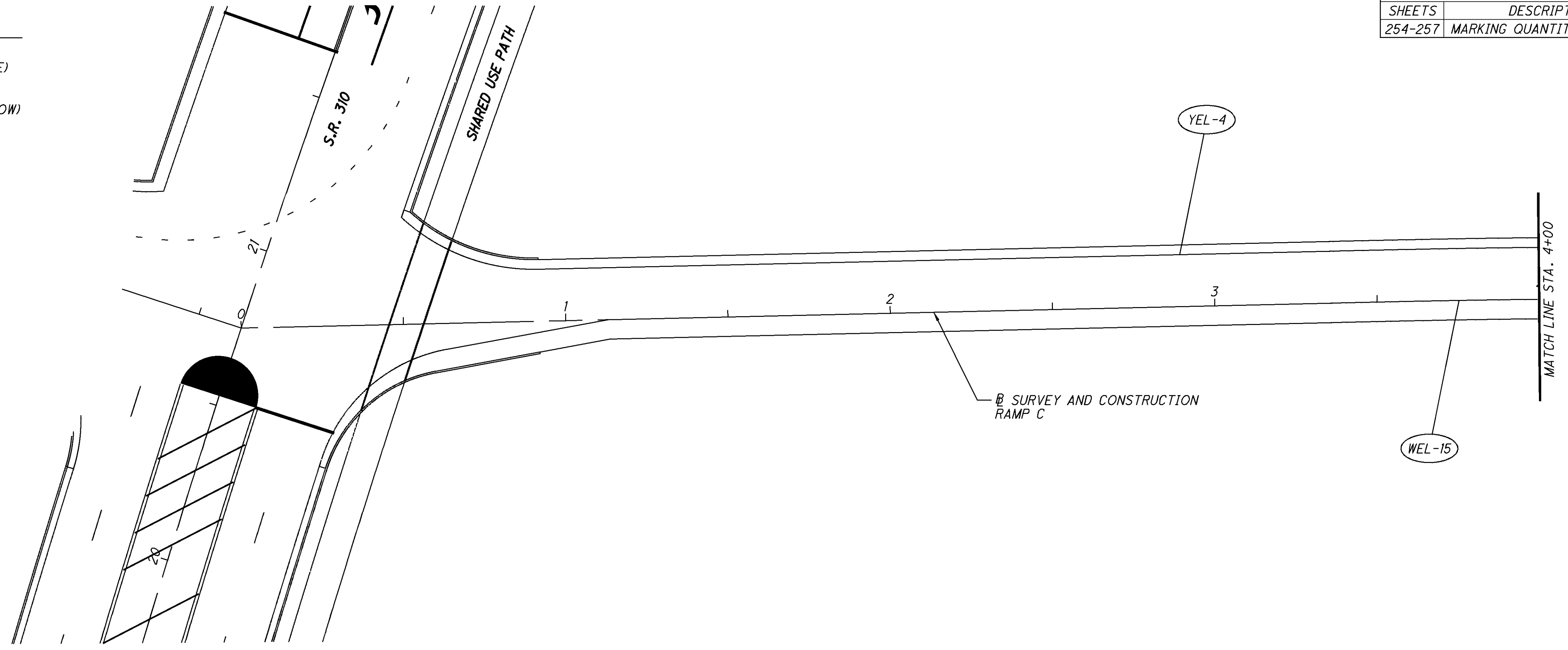


CALCULATED
BRH
CHECKED
JSL

0 10 20 40
HORIZONTAL
SCALE IN FEET

LEGEND

- (WEL-X) EDGE LINE, 6", 646 (WHITE)
- (YEL-X) EDGE LINE, 6", 646 (YELLOW)



PAVEMENT MARKINGS (RAMP C)
STA. 0+00 TO STA. 7+46

LIC-310-0.74

274
425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
254-257	MARKING QUANTITIES

CALCULATED
BRH
CHECKED
JSL

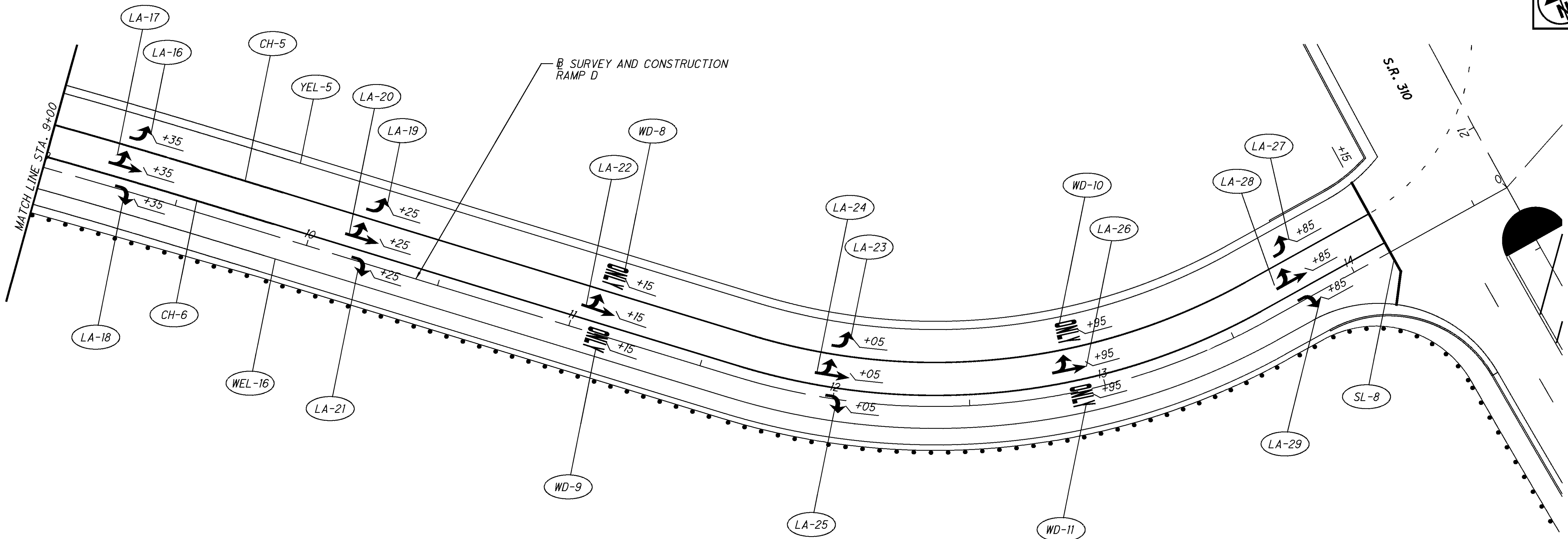
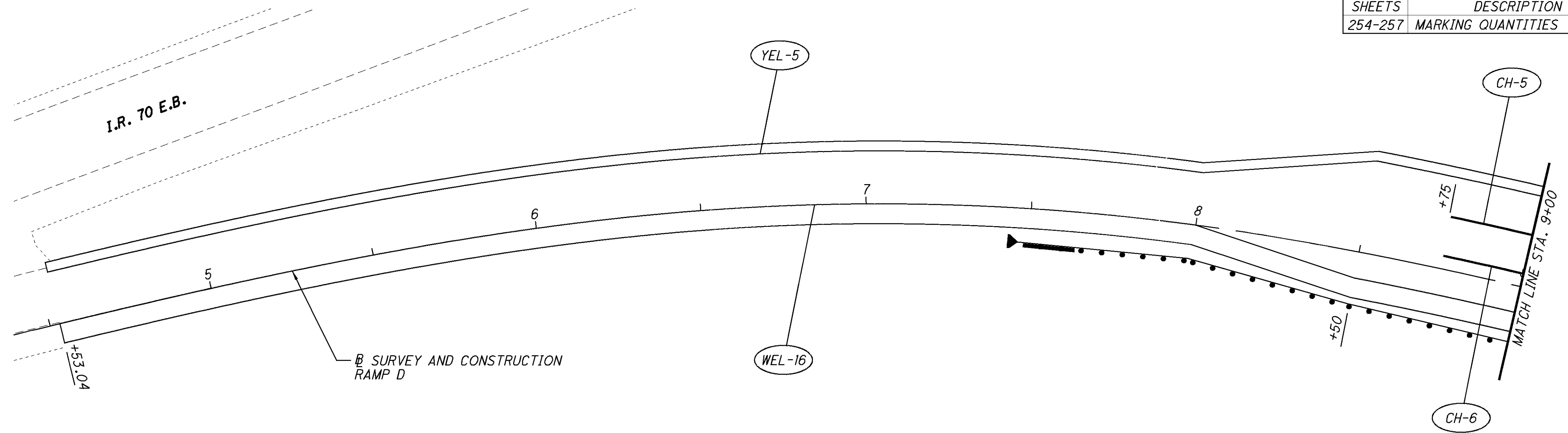
PAVEMENT MARKINGS (RAMP D)
STA. 4+53.04 TO STA. 14+63.65

LIC-310-0.74

275
425

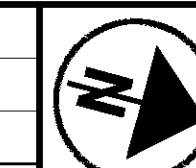
LEGEND

- CH-X CHANNELIZING LINE, 12", 646
- LA-X LANE ARROW, 646
- WEL-X EDGE LINE, 6", 646 (WHITE)
- WD-X WORD ON PAVEMENT, 72", 646
- YEL-X EDGE LINE, 6", 646 (YELLOW)


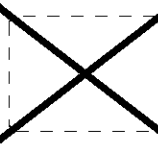



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CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES

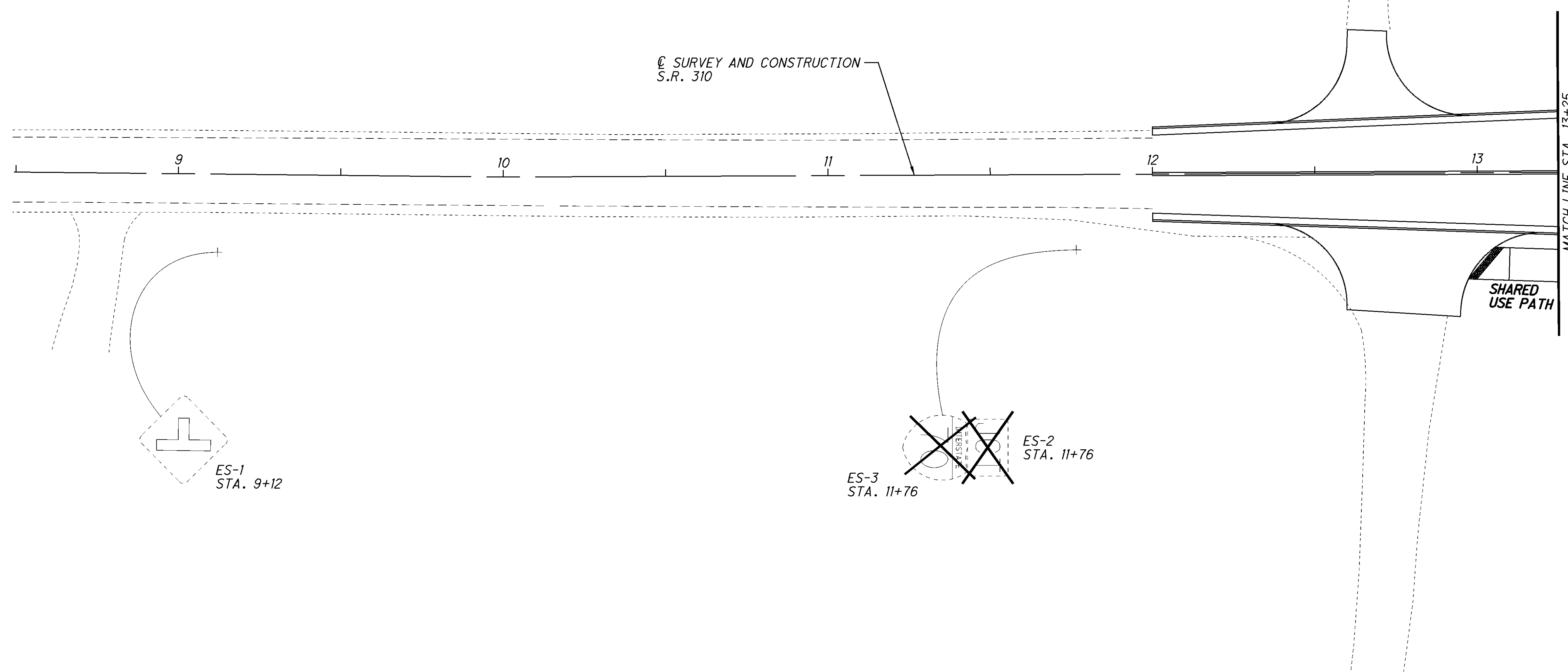


LEGEND

-  - EXISTING SIGN TO REMAIN IN PLACE
-  - EXISTING SIGN TO BE REMOVED
-  - EXISTING SIGN TO BE REERECTED

CALCULATED
BRH
CHECKED
JSL

0 10 20 40
HORIZONTAL
SCALE IN FEET



☞ SURVEY AND CONSTRUCTION
S.R. 310

ES-1
STA. 9+12

ES-3
STA. 11+76

ES-2
STA. 11+76

SHARED
USE PATH

MATCH LINE STA. 13+25

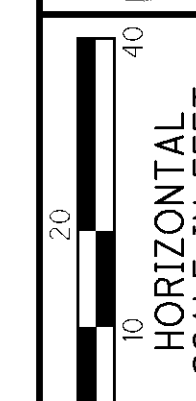
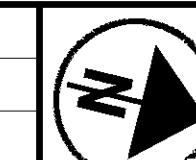
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EXISTING SIGNS (S.R. 310)
STA. 12+00 TO STA. 13+25

LIC-310-0.74

276
425

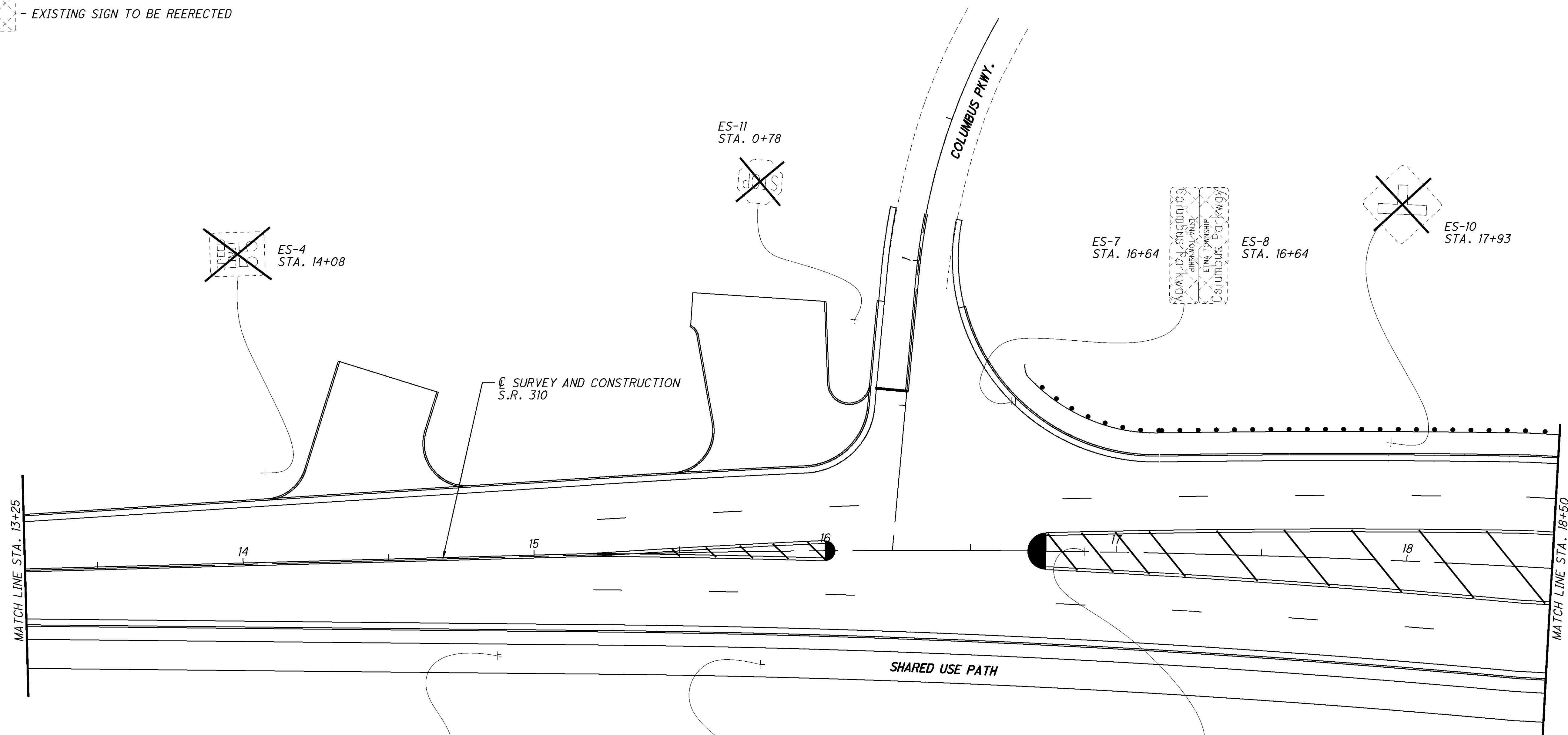
CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

- EXISTING SIGN TO REMAIN IN PLACE
- EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO BE REERECTED






**EXISTING SIGNS (S.R. 310)
STA. 13+25 TO STA. 18+50**

LIC-310-0.74

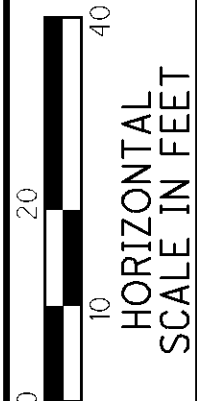
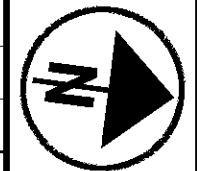
277
425

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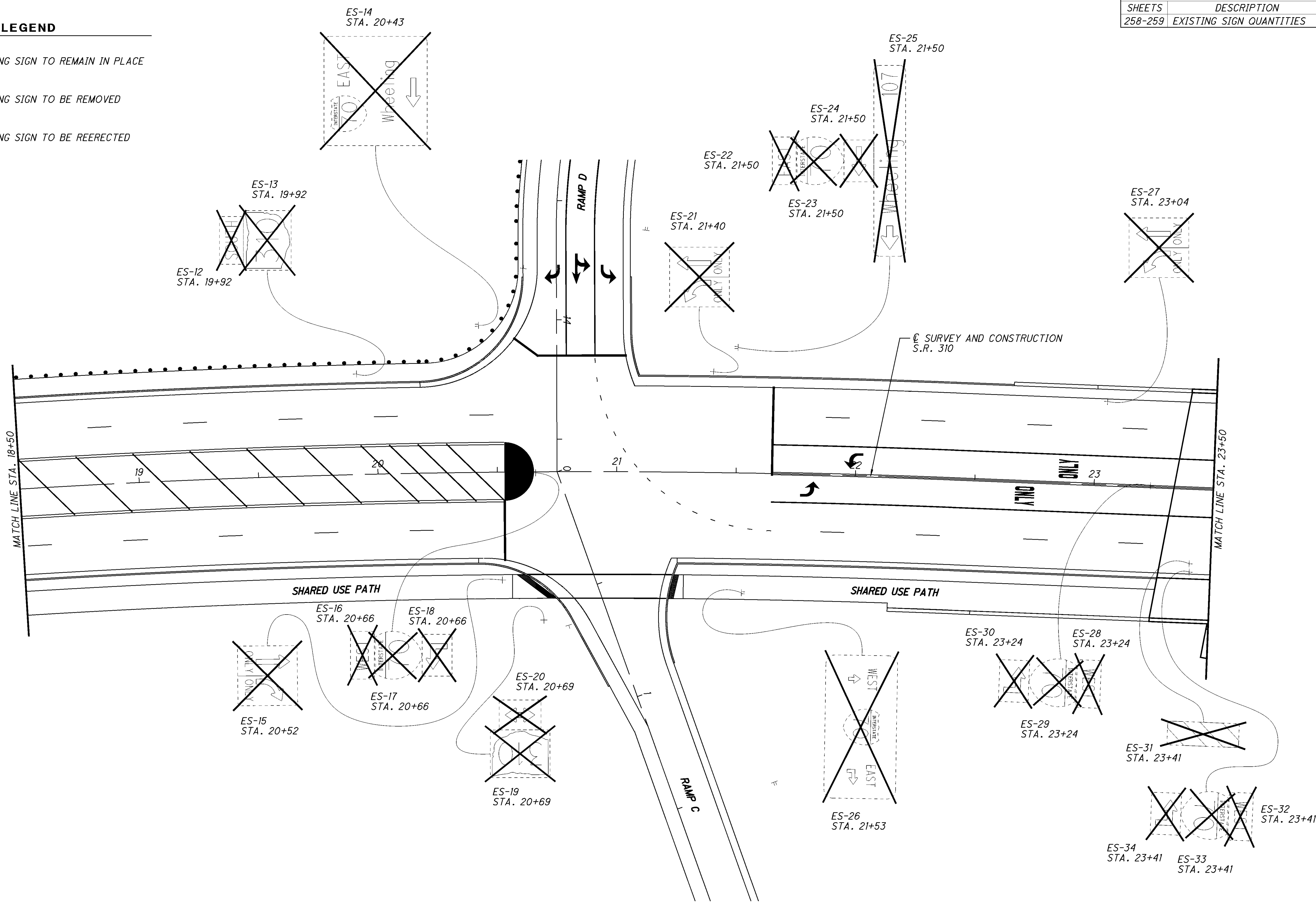
LEGEND

-  - EXISTING SIGN TO REMAIN IN PLACE
-  - EXISTING SIGN TO BE REMOVED
-  - EXISTING SIGN TO BE REERECTED

CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES



CALCULATED BY BRH
CHECKED BY JSL

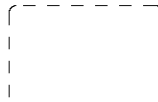
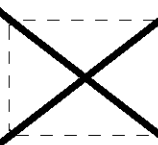
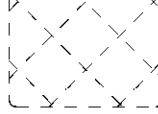


EXISTING SIGNS (S.R. 310)
STA. 18+50 TO STA. 23+50

LIC-310-0.74

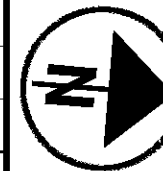
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LEGEND

-  - EXISTING SIGN TO REMAIN IN PLACE
-  - EXISTING SIGN TO BE REMOVED
-  - EXISTING SIGN TO BE REERECTED

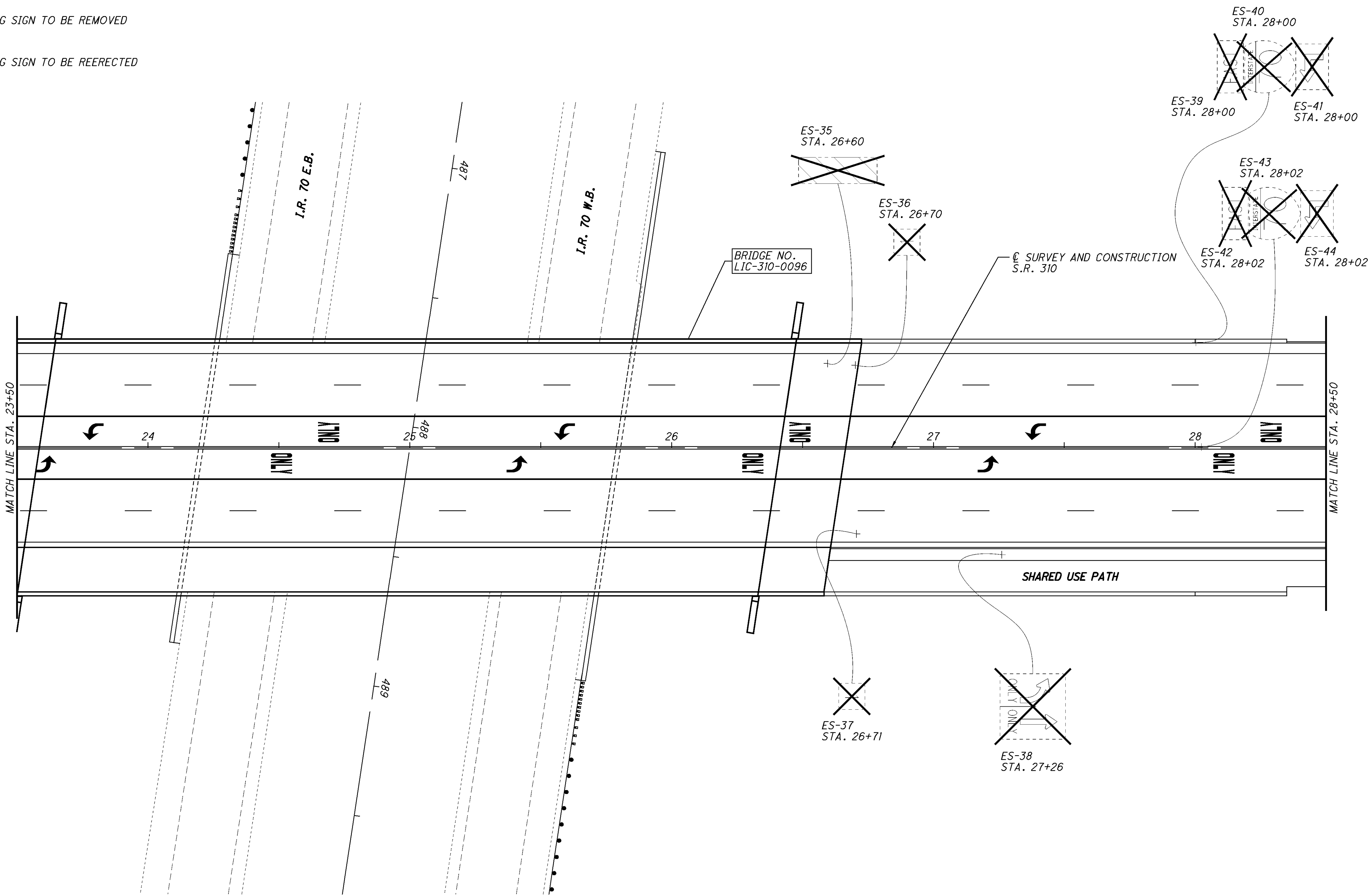
CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES

N



0 20 40
HORIZONTAL
SCALE IN FEET

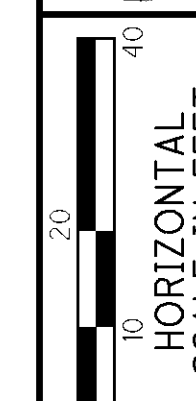
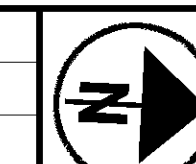
CALCULATED
BRH
CHECKED
JSL



EXISTING SIGNS (S.R. 310)
STA. 23+50 TO STA. 28+50

LIC-310-0.74

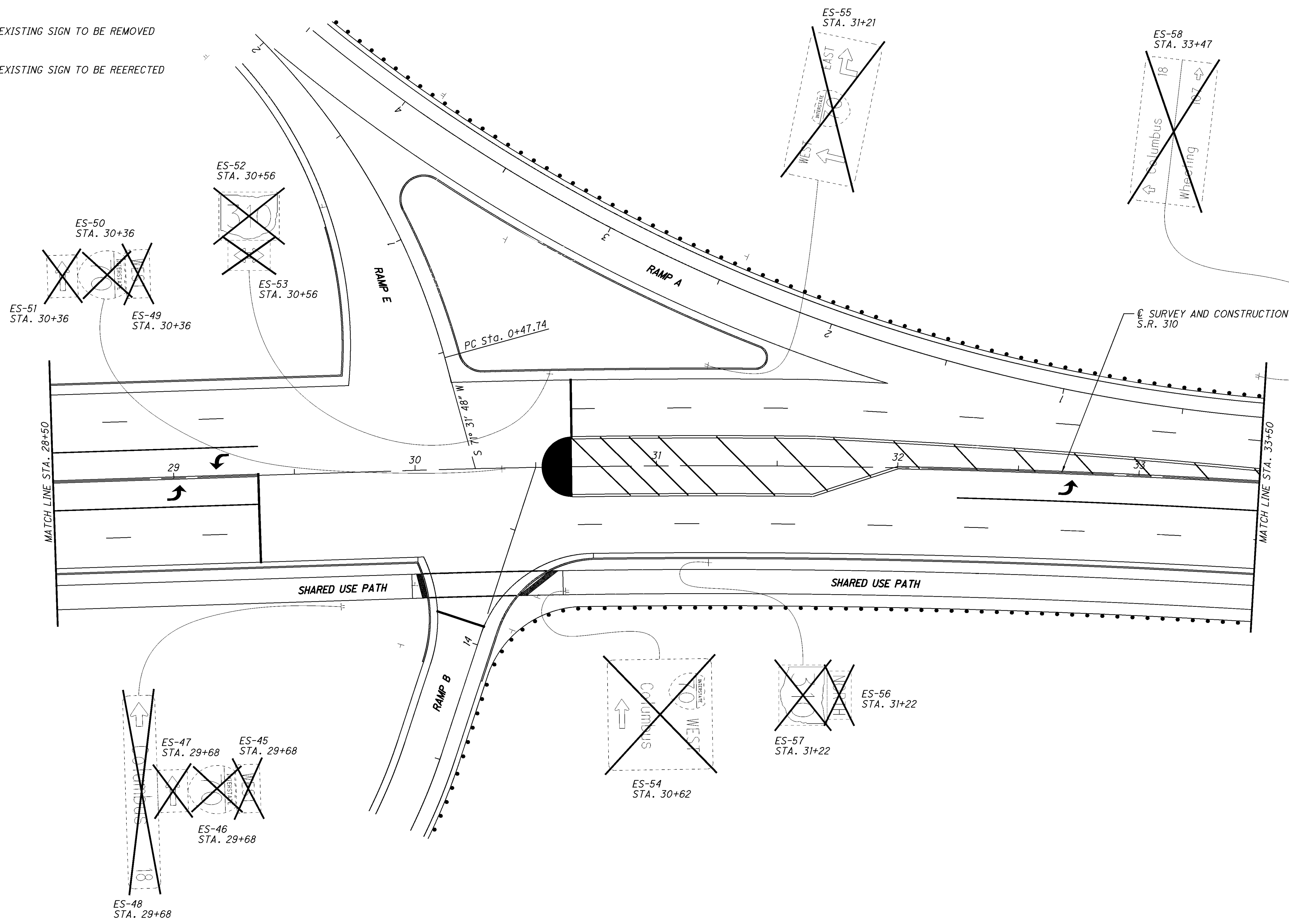
CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

- EXISTING SIGN TO REMAIN IN PLACE
- EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO BE REERECTED

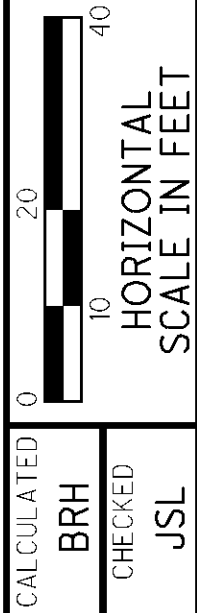
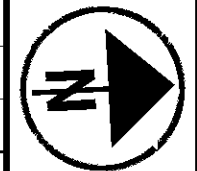


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**EXISTING SIGNS (S.R. 310)
STA. 28+50 TO STA. 33+50**

LIC-310-0.74

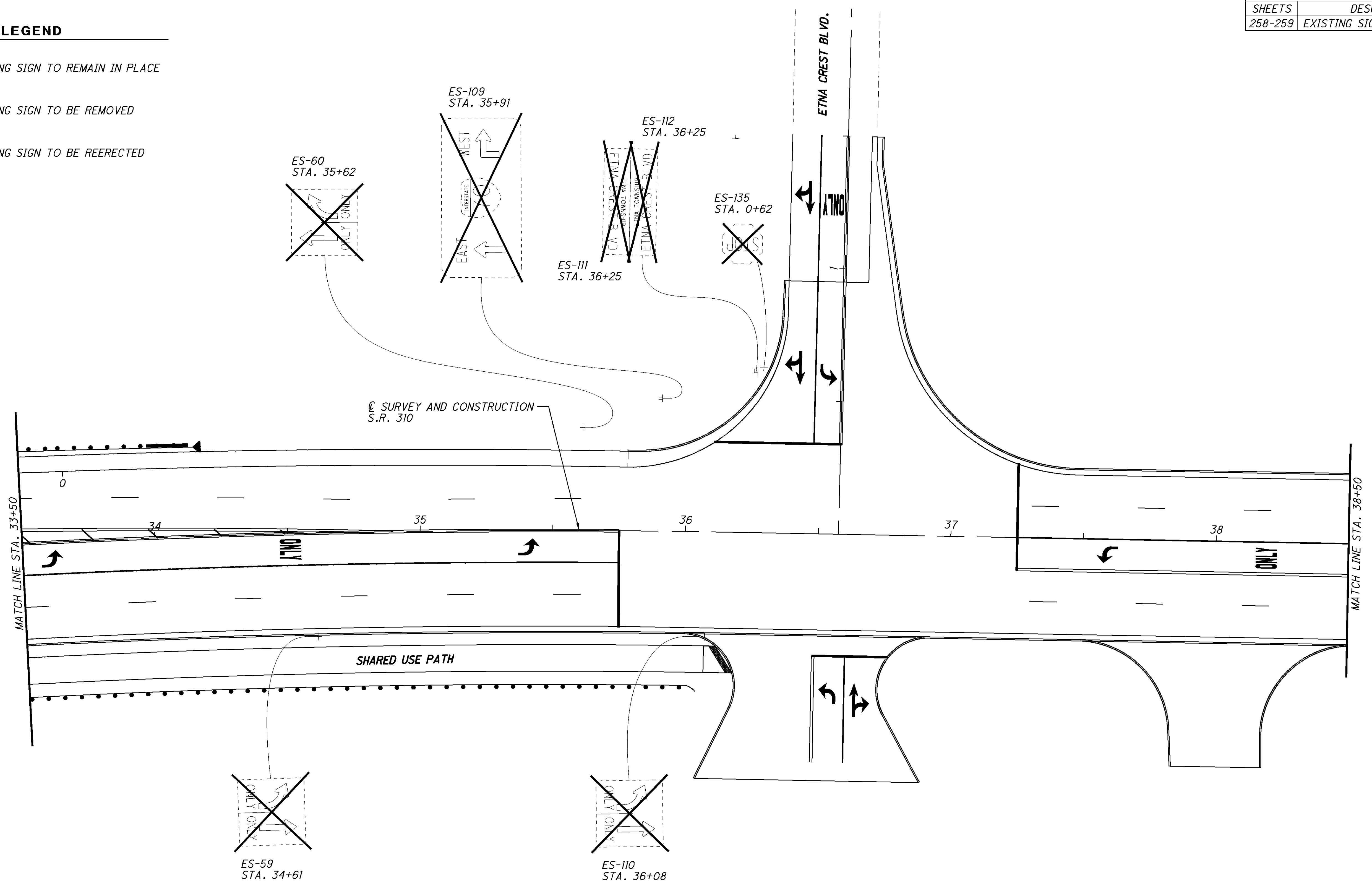
CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

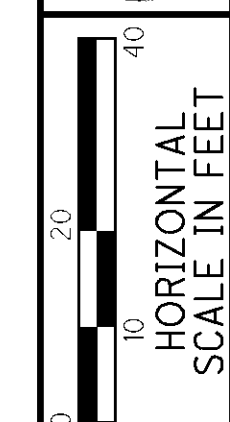
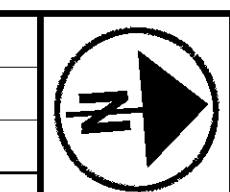
- EXISTING SIGN TO REMAIN IN PLACE
- EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO BE REERECTED



EXISTING SIGNS (S.R. 310)
STA. 33+50 TO STA. 38+50

LIC-310-0.74

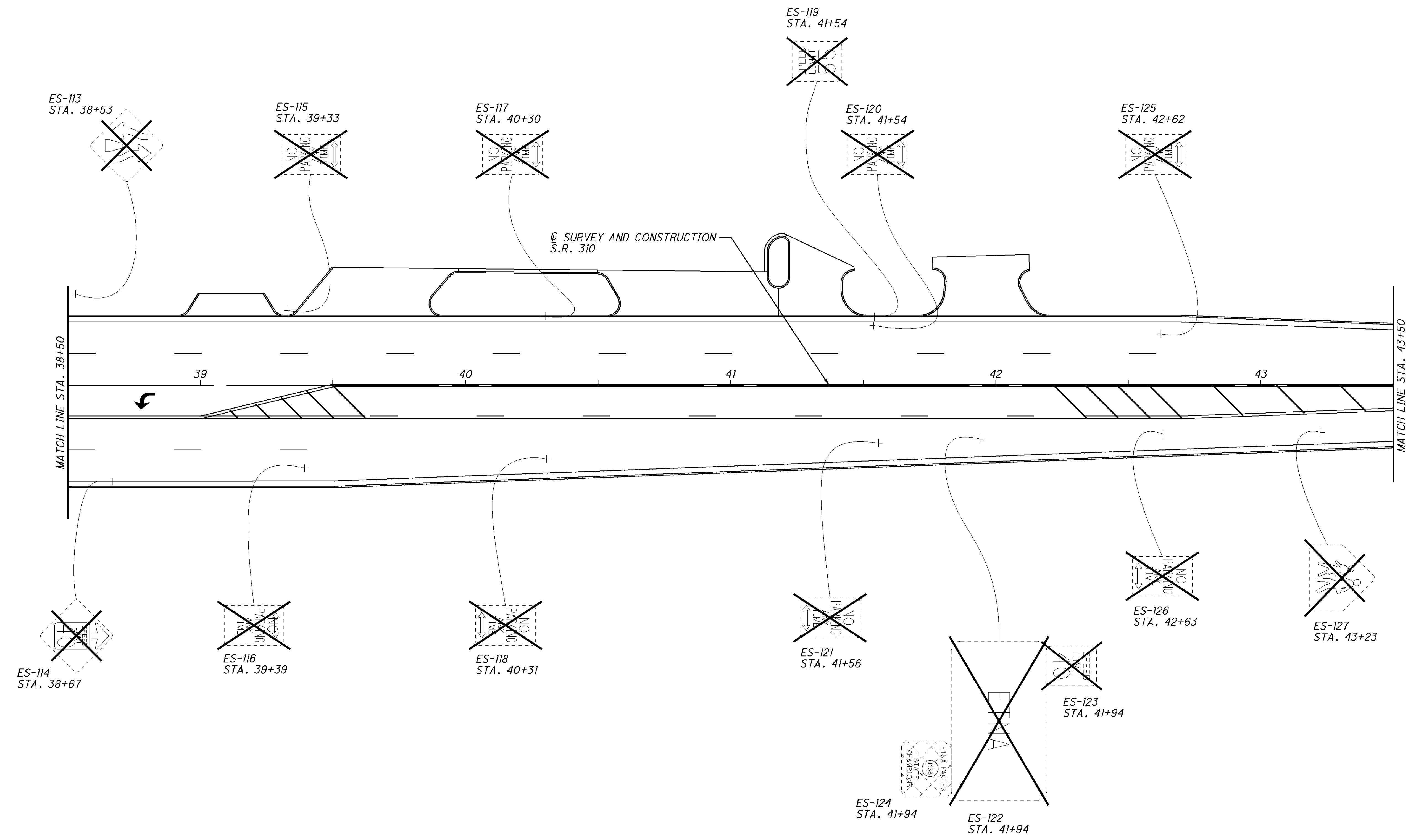
CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

- EXISTING SIGN TO REMAIN IN PLACE
- EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO BE REERECTED

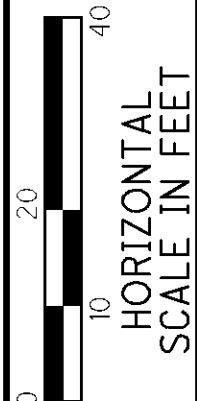
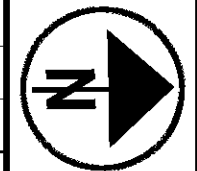


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**EXISTING SIGNS (S.R. 310)
STA. 38+50 TO STA. 43+50**


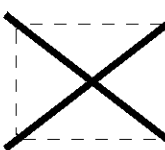
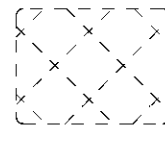
LIC-310-0.74

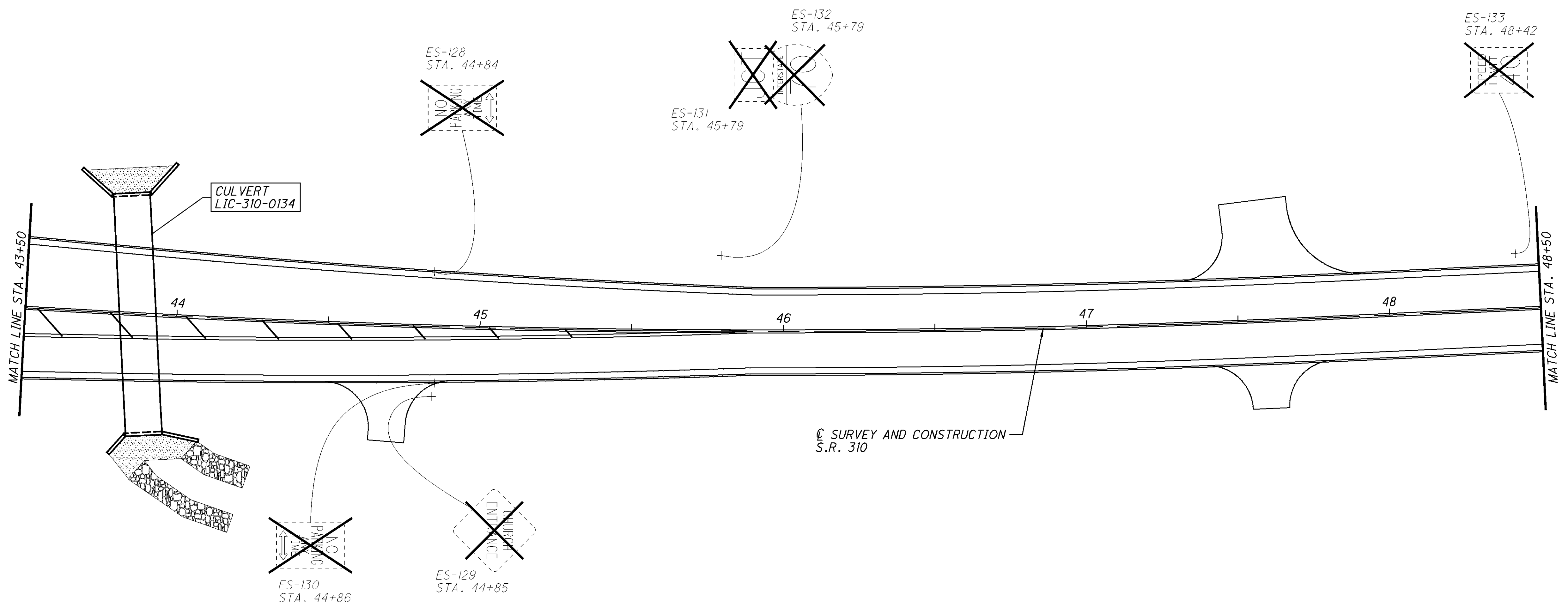
CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES



CALCULATED	BRH	CHECKED	JSL
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LEGEND

-  - EXISTING SIGN TO REMAIN IN PLACE
-  - EXISTING SIGN TO BE REMOVED
-  - EXISTING SIGN TO BE REERECTED

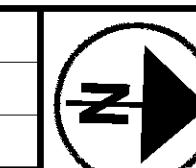


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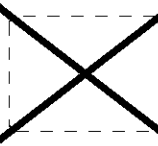
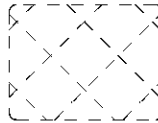
EXISTING SIGNS (S.R. 310)
STA. 43+50 TO STA. 48+50

LIC-310-0.74

CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES

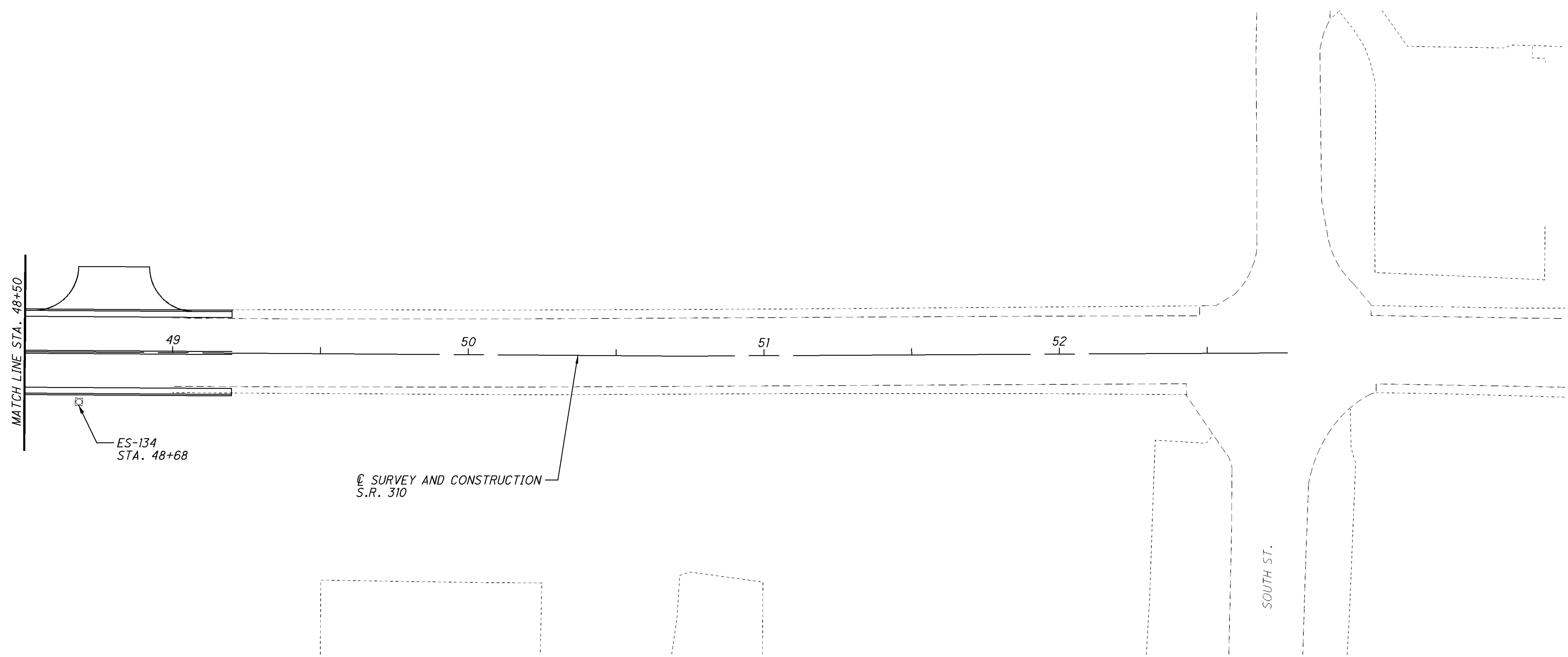


LEGEND

-  - EXISTING SIGN TO REMAIN IN PLACE
-  - EXISTING SIGN TO BE REMOVED
-  - EXISTING SIGN TO BE REERECTED



CALCULATED	BRH
	CHECKED
	JSL




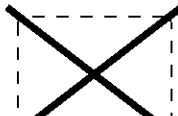
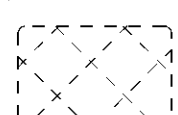
**EXISTING SIGNS (S.R. 310)
STA. 48+50 TO STA. 49+00**

LIC-310-0.74

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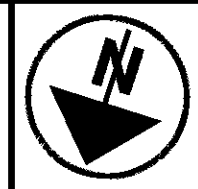
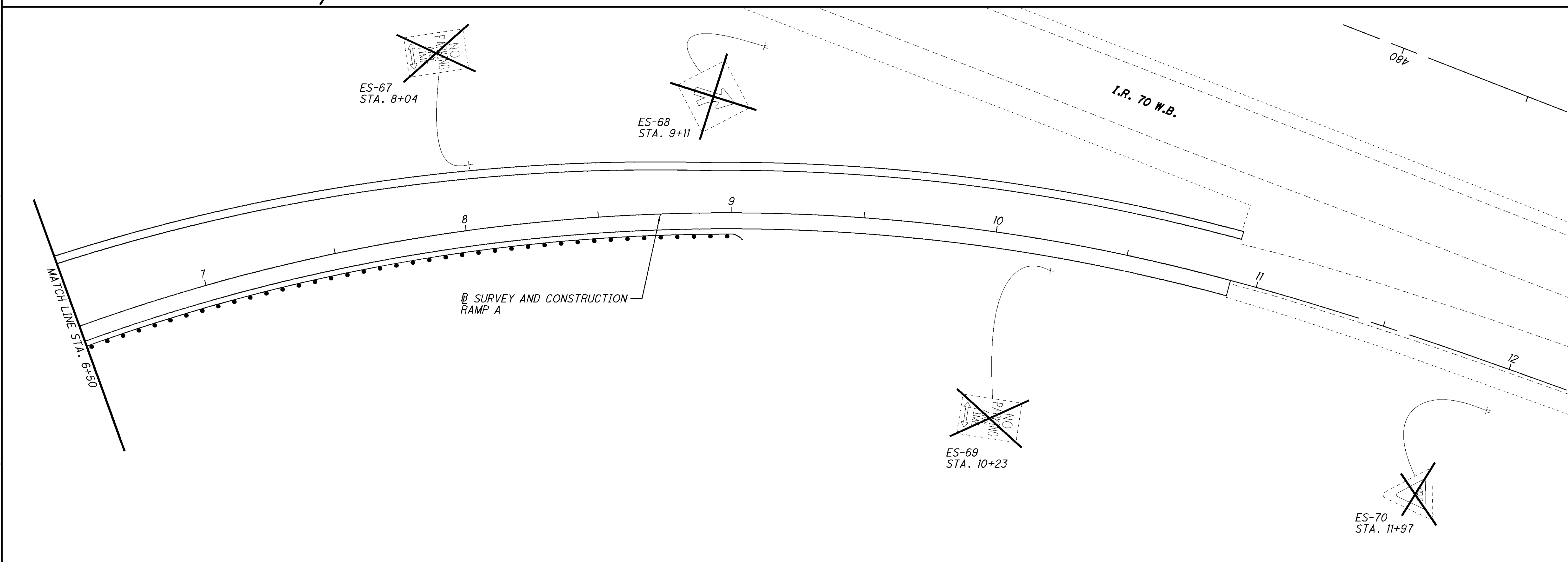
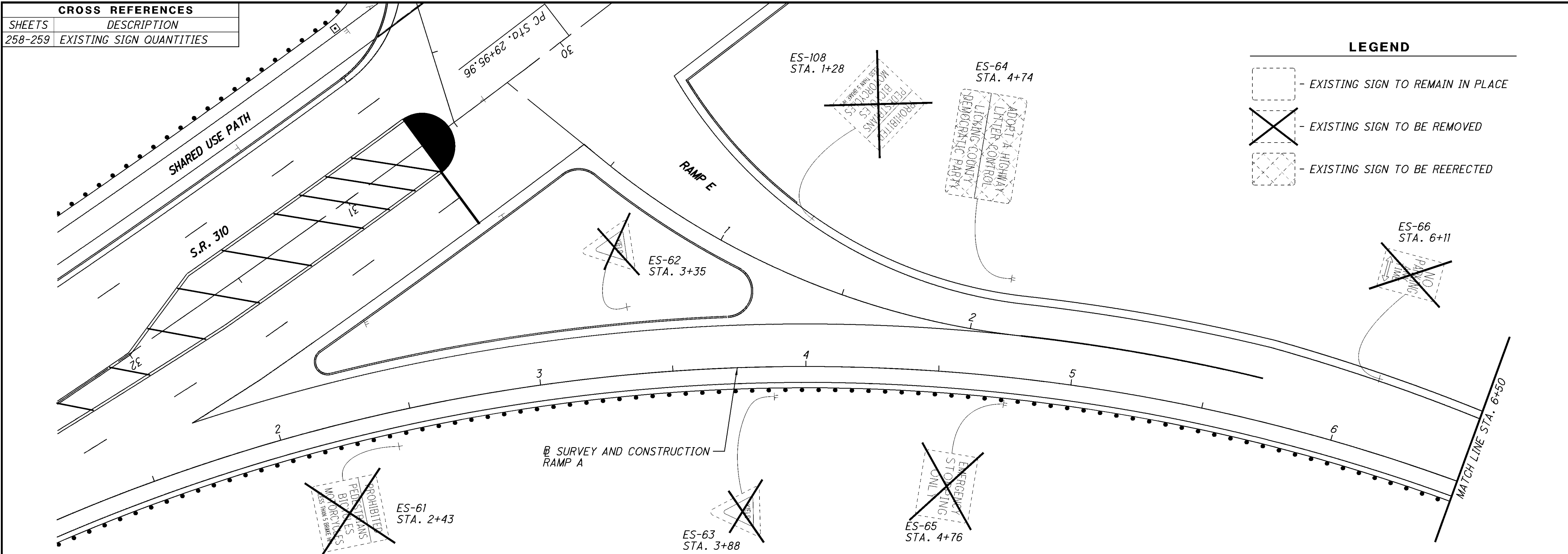
GROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES

LEGEND

-  - EXISTING SIGN TO REMAIN IN PLACE
-  - EXISTING SIGN TO BE REMOVED
-  - EXISTING SIGN TO BE REERECTED



CALCULATED BY BRH
 CHECKED BY JSL
 HORIZONTAL SCALE IN FEET
 0 10 20 40



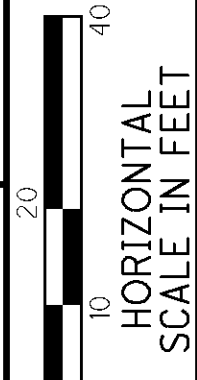
EXISTING SIGNS (RAMP A)
 STA. 0+00 TO STA. 10+90

LIC-310-0.74


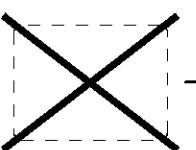
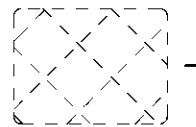
285
425

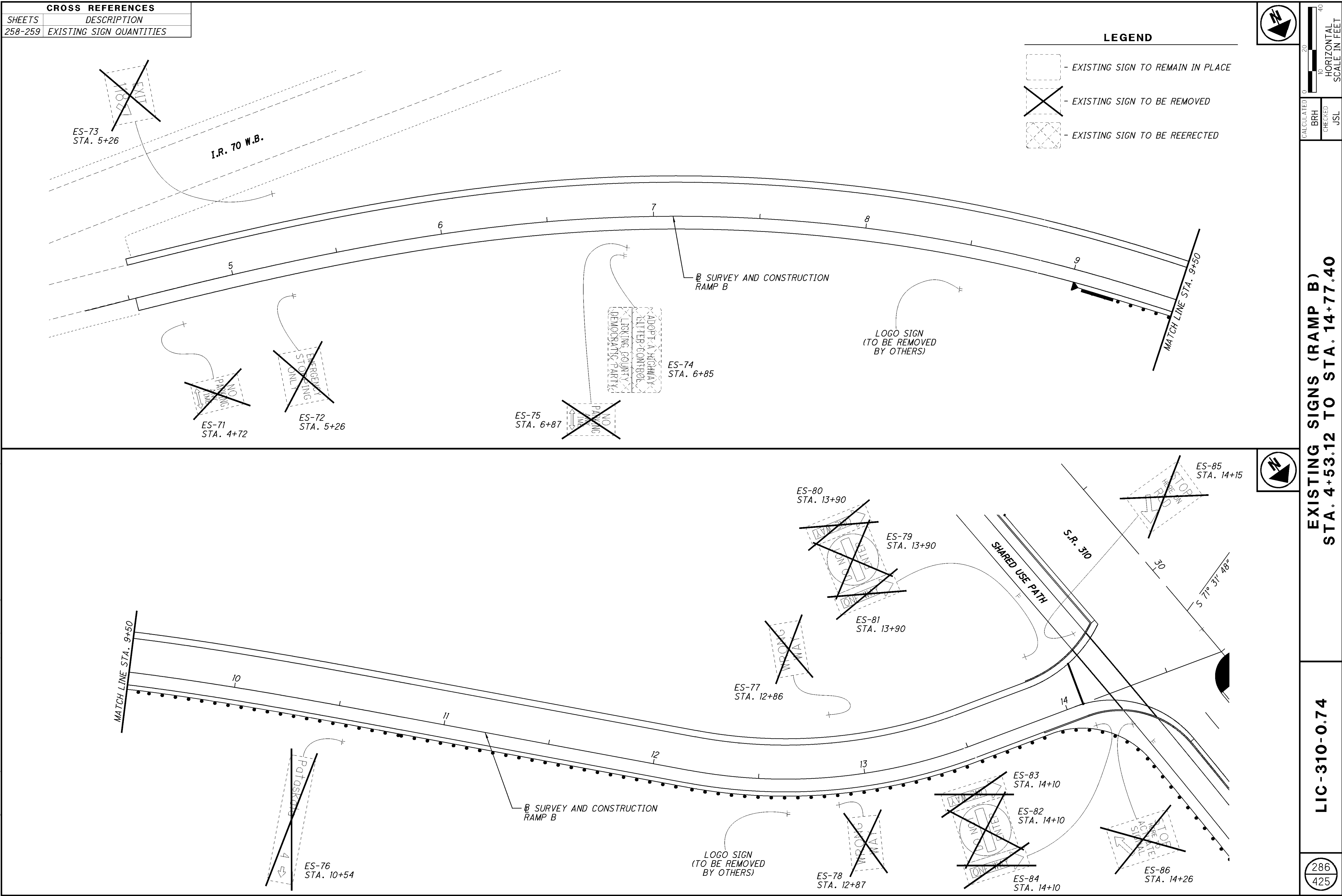
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GROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES



LEGEND

-  - EXISTING SIGN TO REMAIN IN PLACE
-  - EXISTING SIGN TO BE REMOVED
-  - EXISTING SIGN TO BE REERECTED



EXISTING SIGNS (RAMP B)
STA. 4+53.12 TO STA. 14+77.40

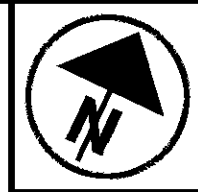


LIC-310-0.74

286
 425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES



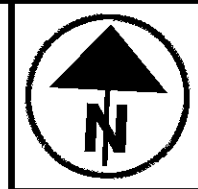
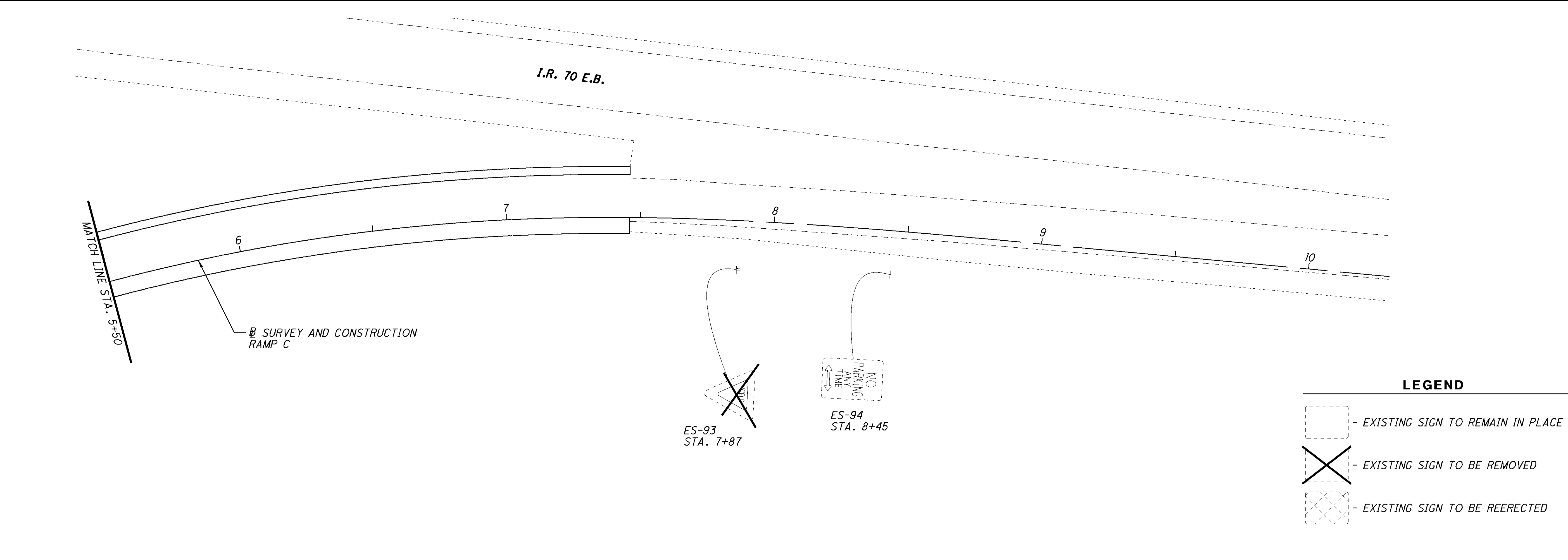
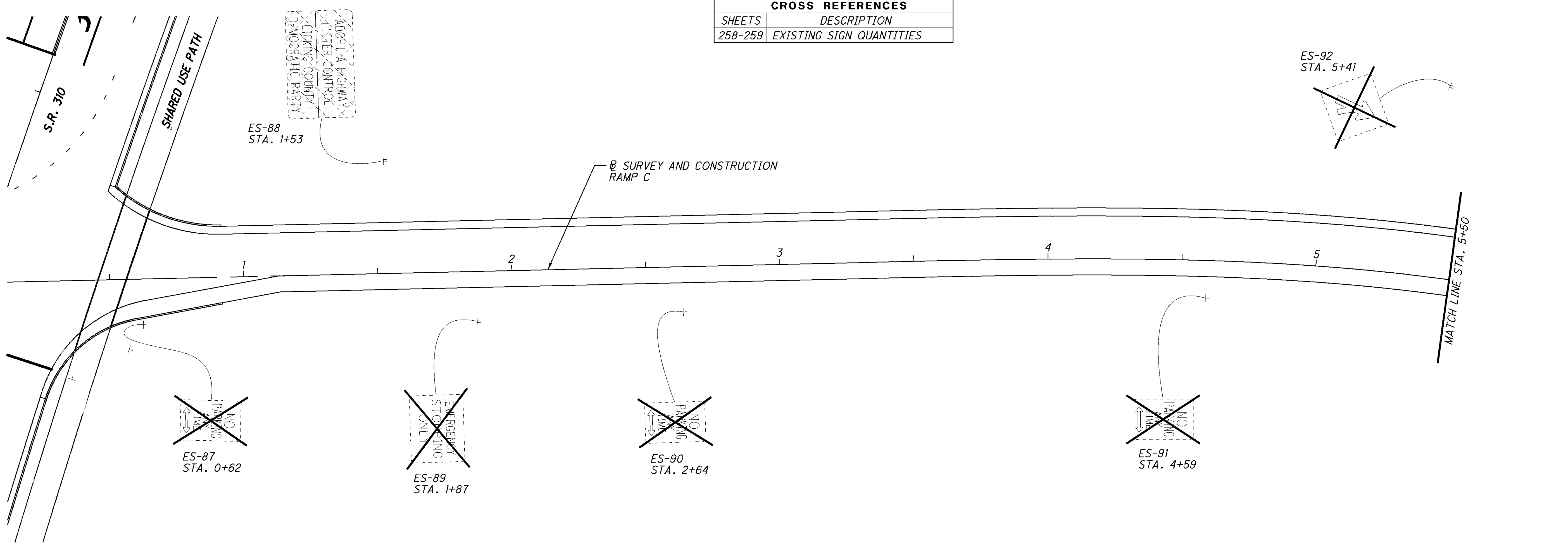
0 20 40
HORIZONTAL SCALE IN FEET

CALCULATED
BRH
CHECKED
JSL

EXISTING SIGNS (RAMP C)
STA. 0+00 TO STA. 7+46

LIC-310-0.74

287
425




LEGEND

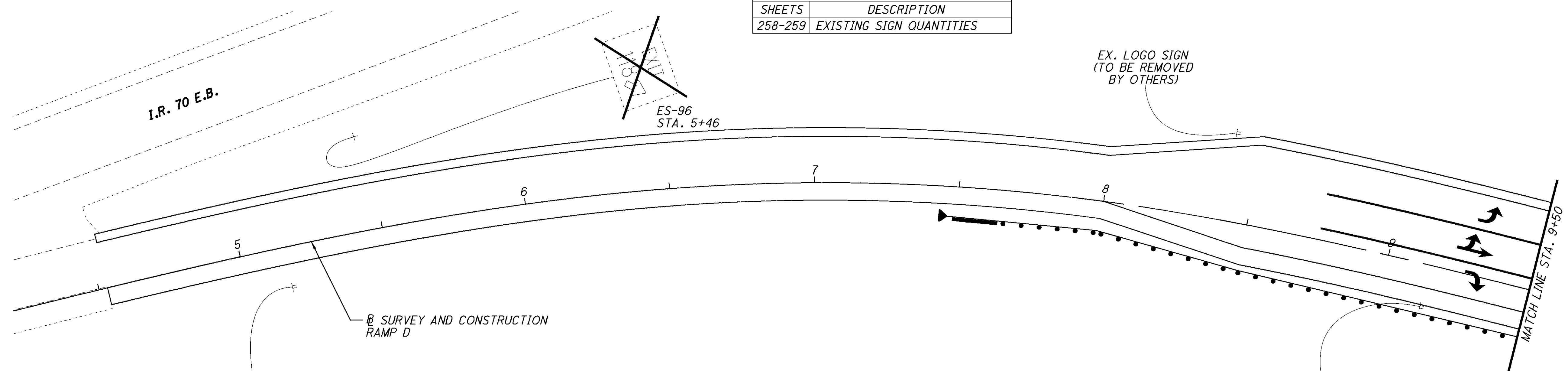
	- EXISTING SIGN TO REMAIN IN PLACE
	- EXISTING SIGN TO BE REMOVED
	- EXISTING SIGN TO BE REERECTED

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CROSS REFERENCES	
SHEETS	DESCRIPTION
258-259	EXISTING SIGN QUANTITIES



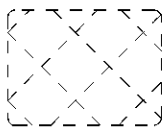


 CALCULATED BY BRH
 CHECKED BY JSL
 HORIZONTAL SCALE IN FEET
 0 10 20 40



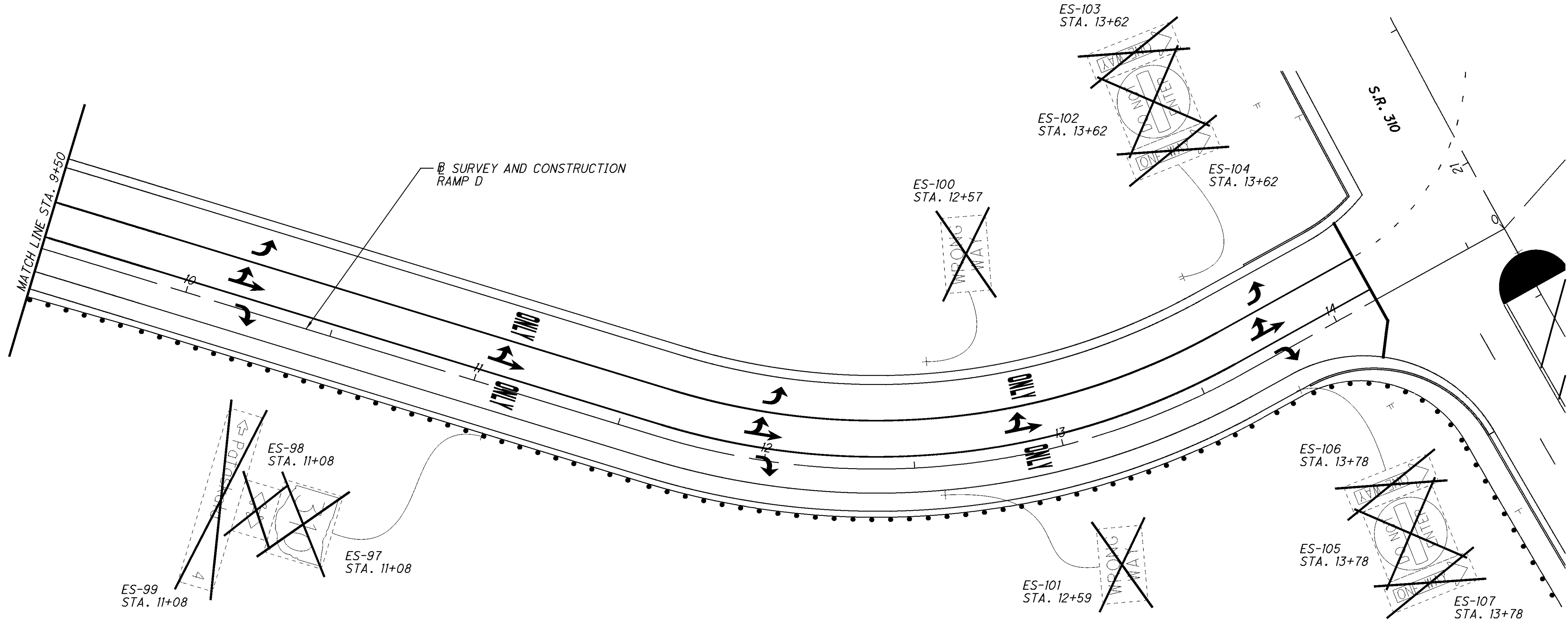
B SURVEY AND CONSTRUCTION RAMP D

LEGEND


	- EXISTING SIGN TO REMAIN IN PLACE
	- EXISTING SIGN TO BE REMOVED
	- EXISTING SIGN TO BE REERECTED

EX. LOGO SIGN (TO BE REMOVED BY OTHERS)

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B SURVEY AND CONSTRUCTION RAMP D



 CALCULATED BY BRH
 CHECKED BY JSL
 HORIZONTAL SCALE IN FEET
 0 10 20 40

EXISTING SIGNS (RAMP D)
STA. 4+53.04 TO STA. 14+63.65

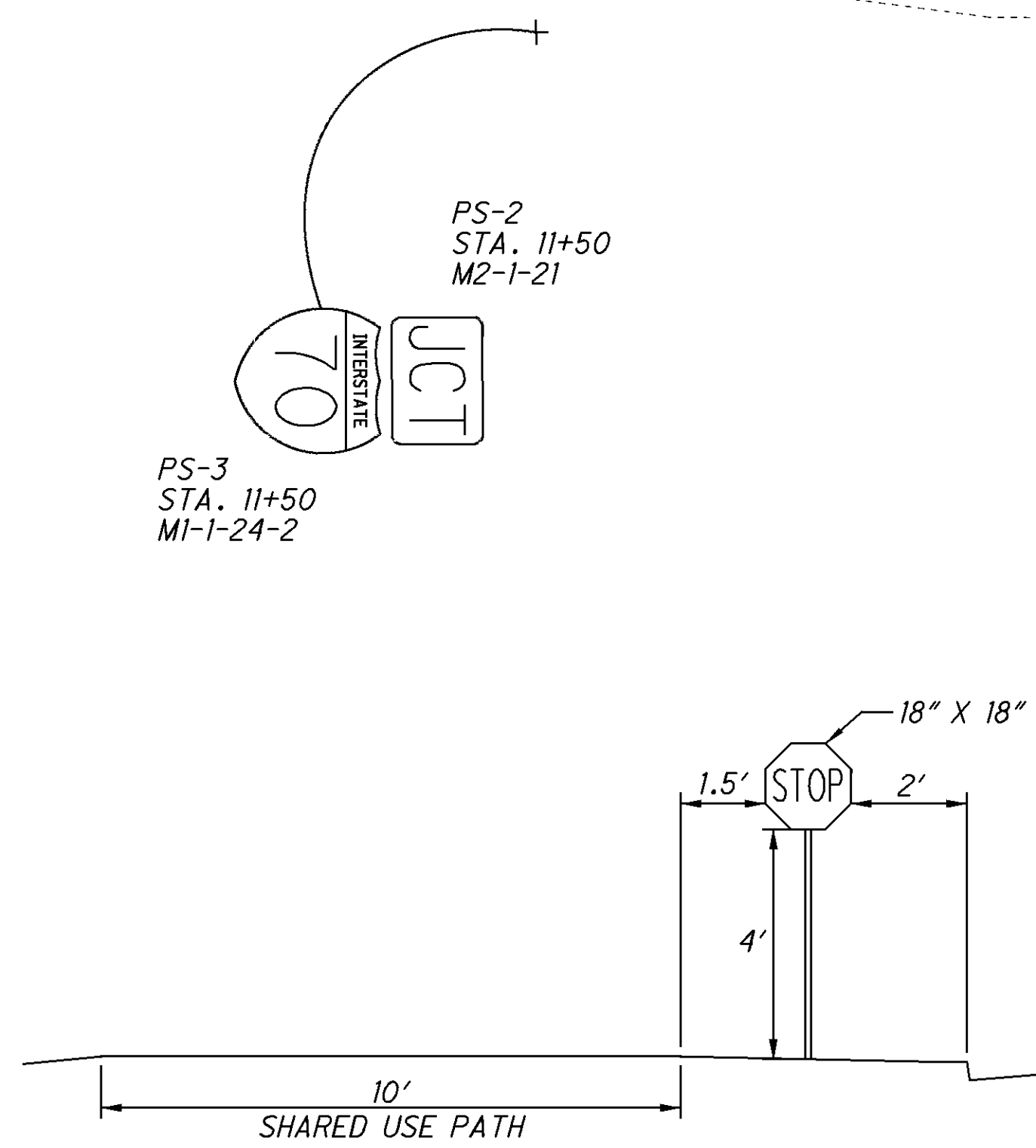
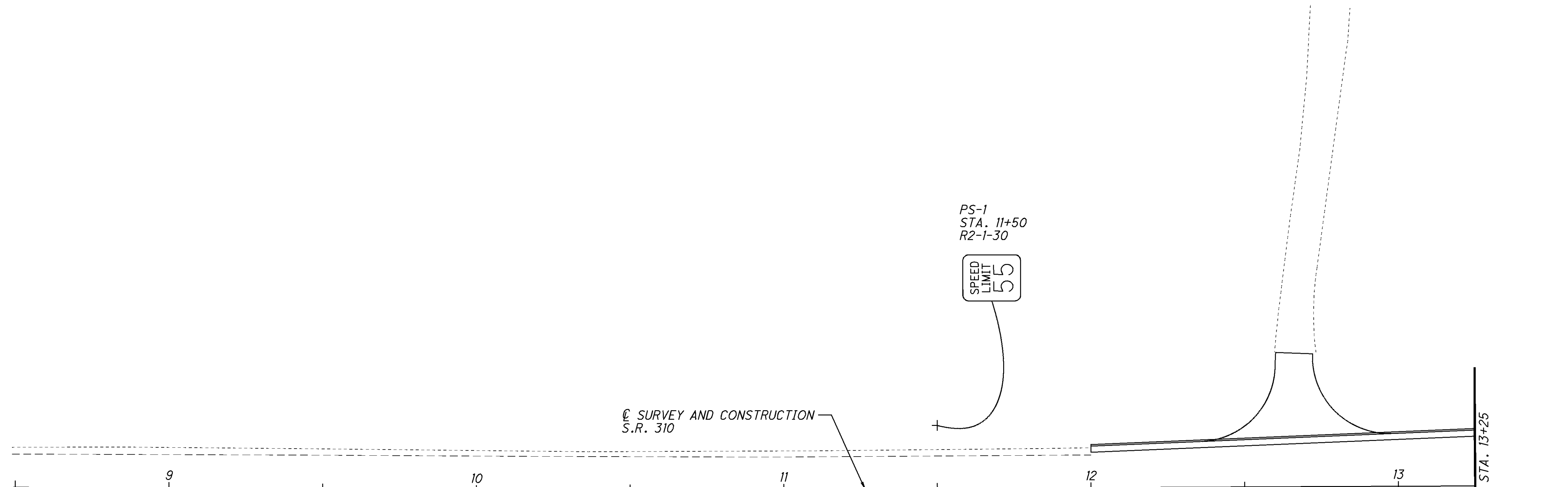
CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO BE REERECTED



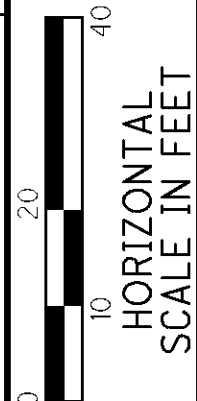
SECTION A-A
NOT TO SCALE

PROPOSED SIGNS (S.R. 310)
STA. 12+00 TO STA. 13+25

LIC-310-0.74

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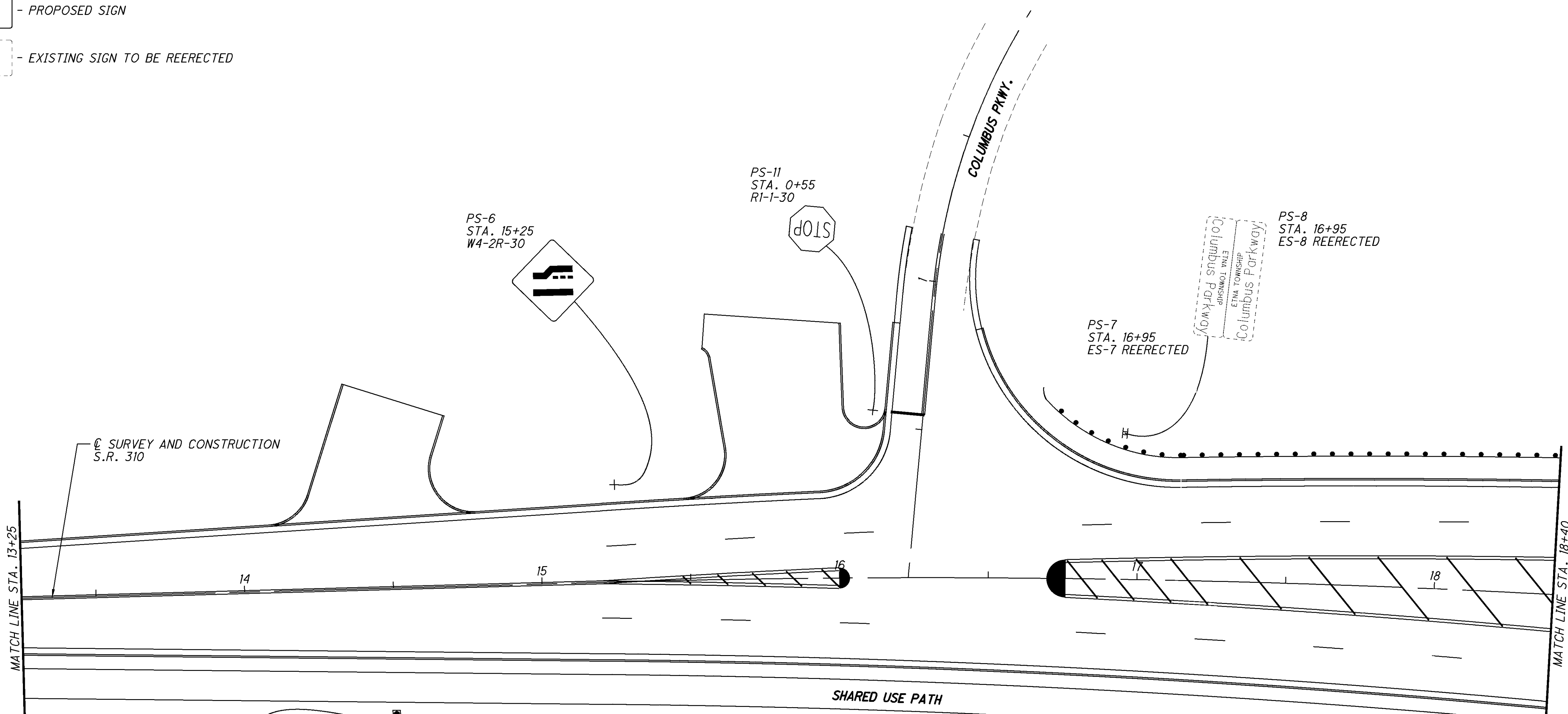
CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES
302-303	PROPOSED ELEVATION VIEWS



CALCULATED
BRH
CHECKED
JSL

LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO BE REERECTED

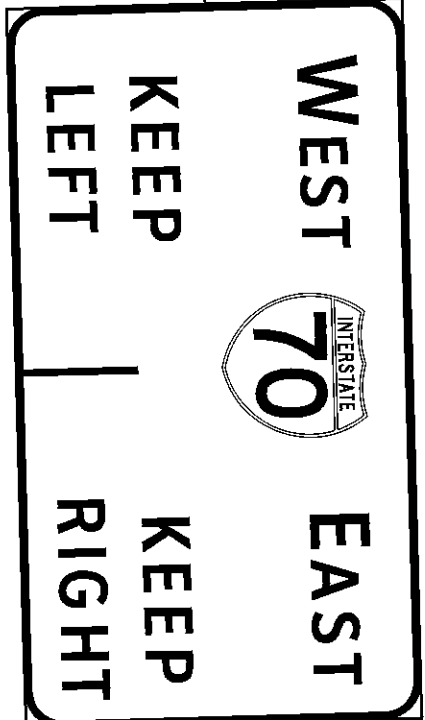
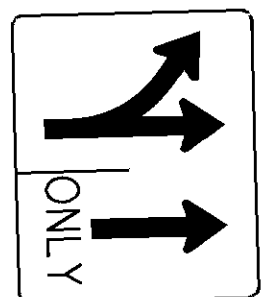


☉ SURVEY AND CONSTRUCTION
S.R. 310

MATCH LINE STA. 13+25

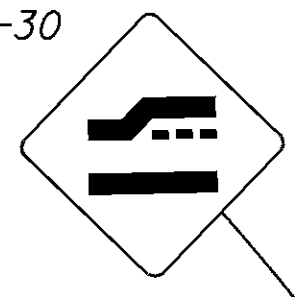
MATCH LINE STA. 18+40

PS-5
STA. 14+50
R3-H8BM-36



PS-4
STA. 14+50
LEVEL 3 SIGN
10' x 5.5'

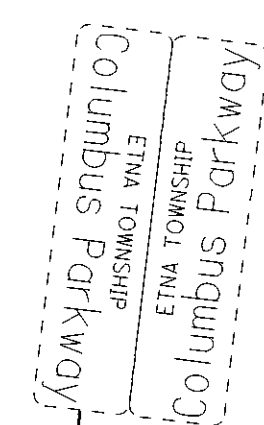
PS-6
STA. 15+25
W4-2R-30



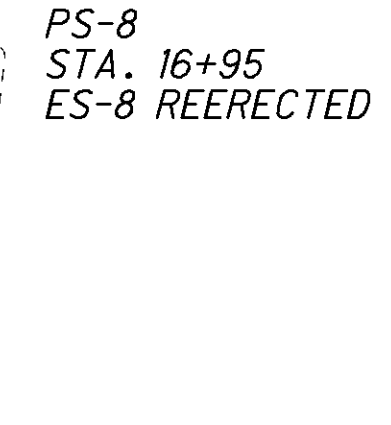
PS-11
STA. 0+55
RI-1-30



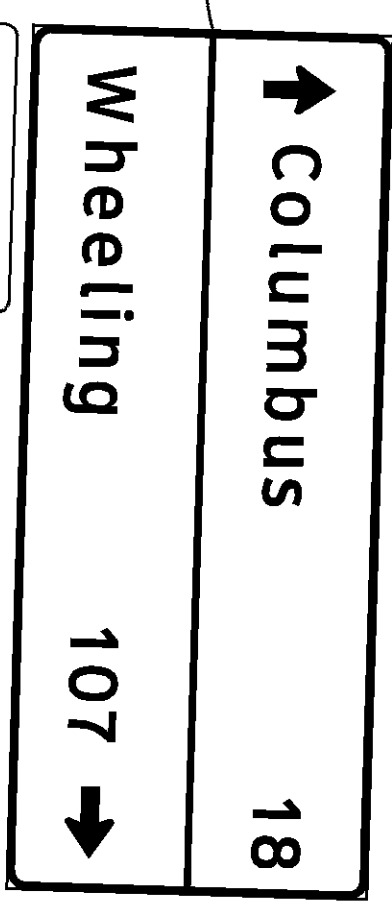
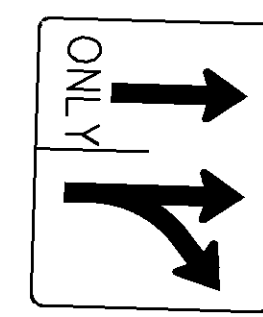
PS-7
STA. 16+95
ES-7 REERECTED



PS-8
STA. 16+95
ES-8 REERECTED



PS-10
STA. 17+50
R3-H8BK-36

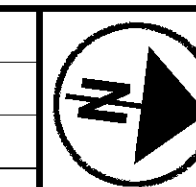


PS-9
STA. 17+50
LEVEL 3 SIGN
12' x 5'

PROPOSED SIGNS (S.R. 310)
STA. 13+25 TO STA. 18+40

LIC-310-0.74

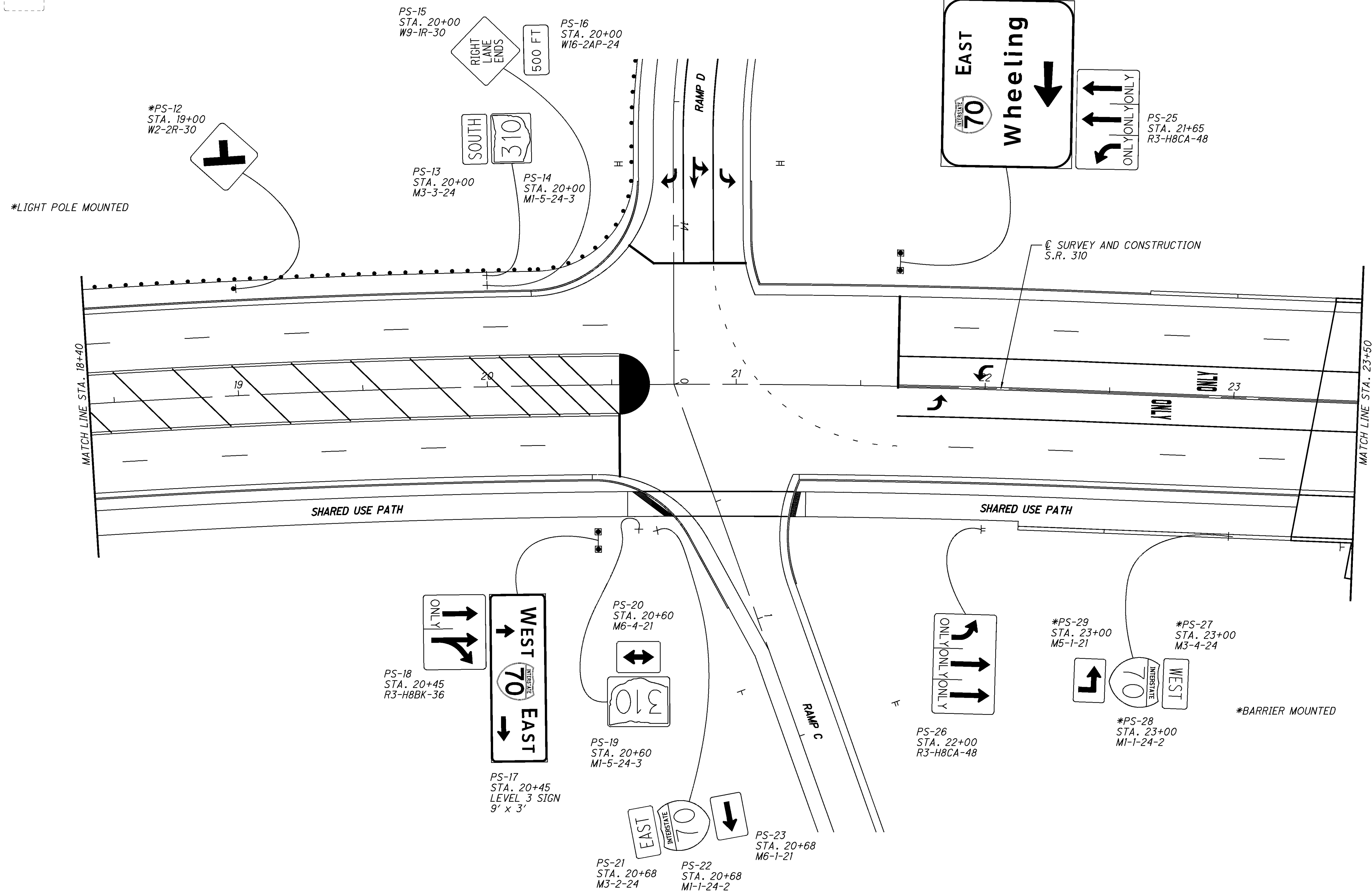
CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES
302-303	PROPOSED ELEVATION VIEWS



CALCULATED BY BRH
CHECKED BY JSL

LEGEND

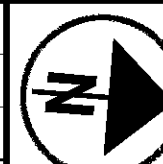
- PROPOSED SIGN
- EXISTING SIGN TO BE REERECTED



PROPOSED SIGNS (S.R. 310)
STA. 18+40 TO STA. 23+50

LIC-310-0.74

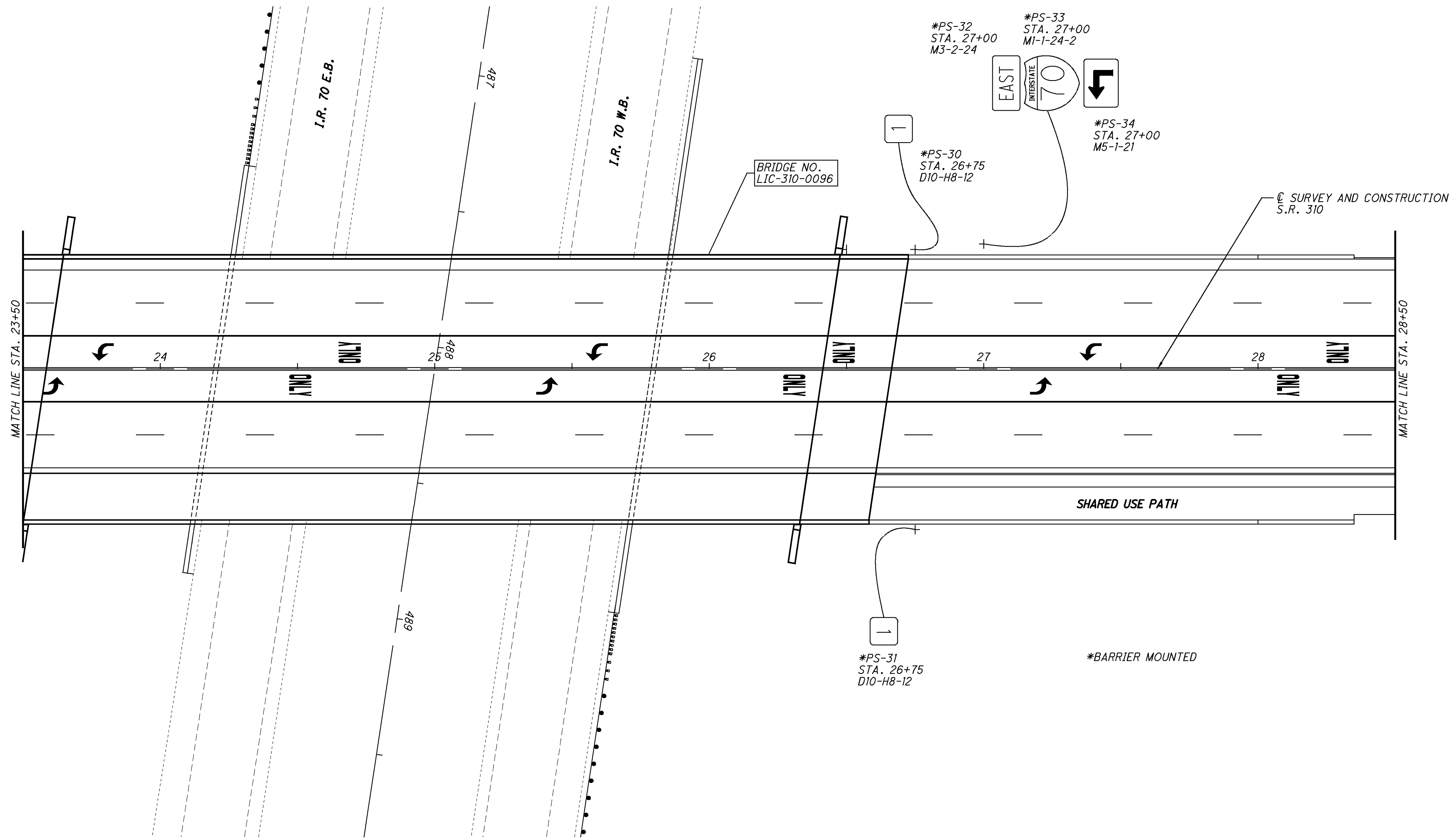
CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

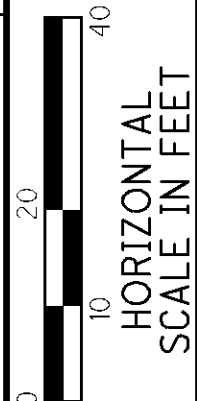
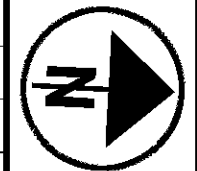
- PROPOSED SIGN
- EXISTING SIGN TO BE REERECTED



PROPOSED SIGNS (S.R. 310)
STA. 23+50 TO STA. 28+50

LIC-310-0.74

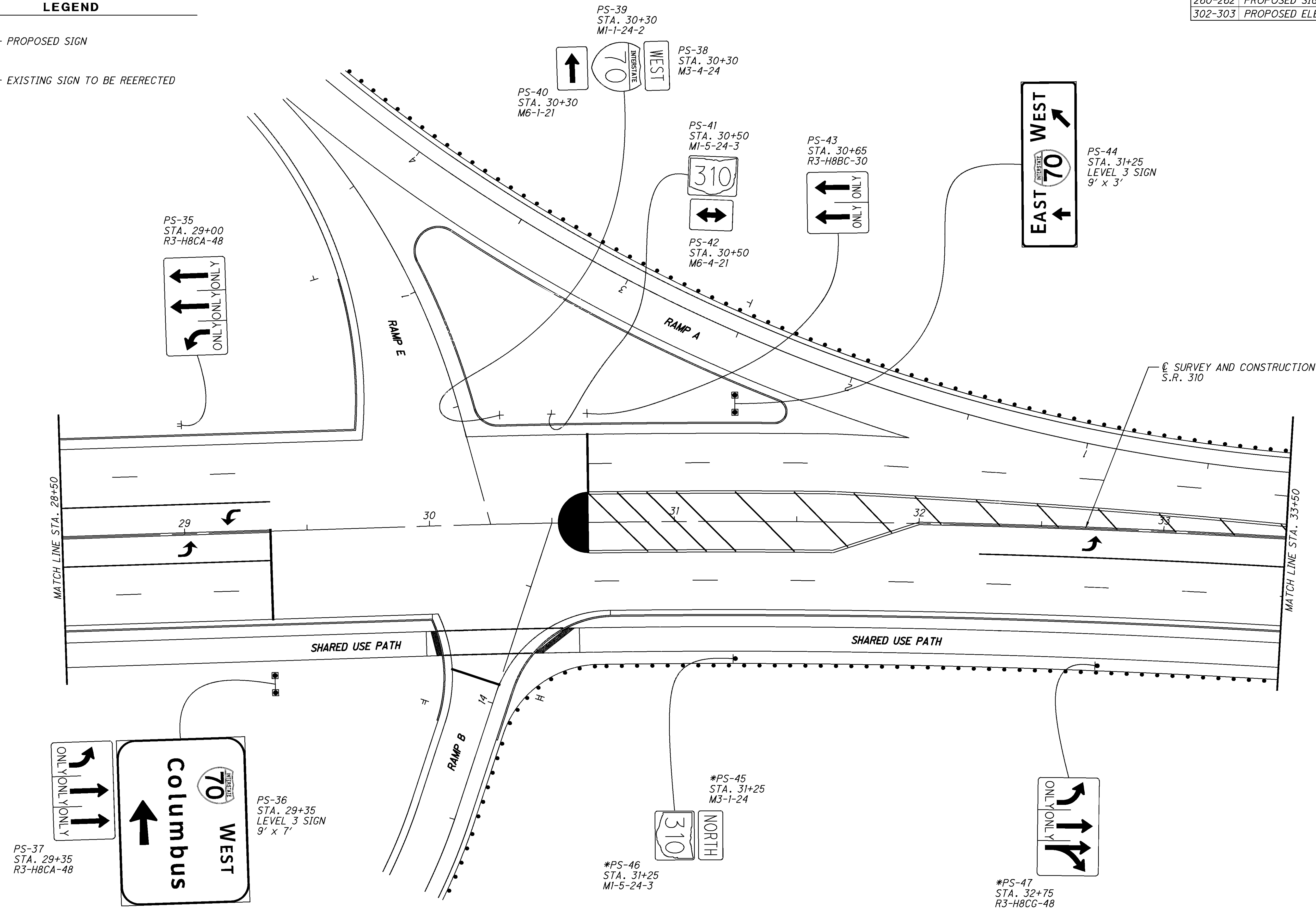
CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES
302-303	PROPOSED ELEVATION VIEWS



CALCULATED BY BRH
CHECKED BY JSL

LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO BE REERECTED



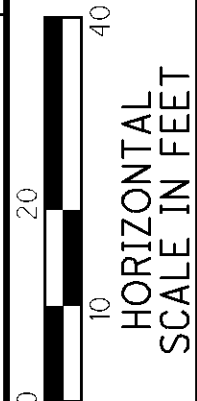
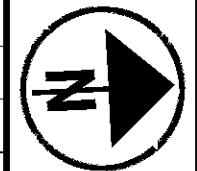
PROPOSED SIGNS (S.R. 310)
STA. 28+50 TO STA. 33+50

LIC-310-0.74

*LIGHT POLE MOUNTED

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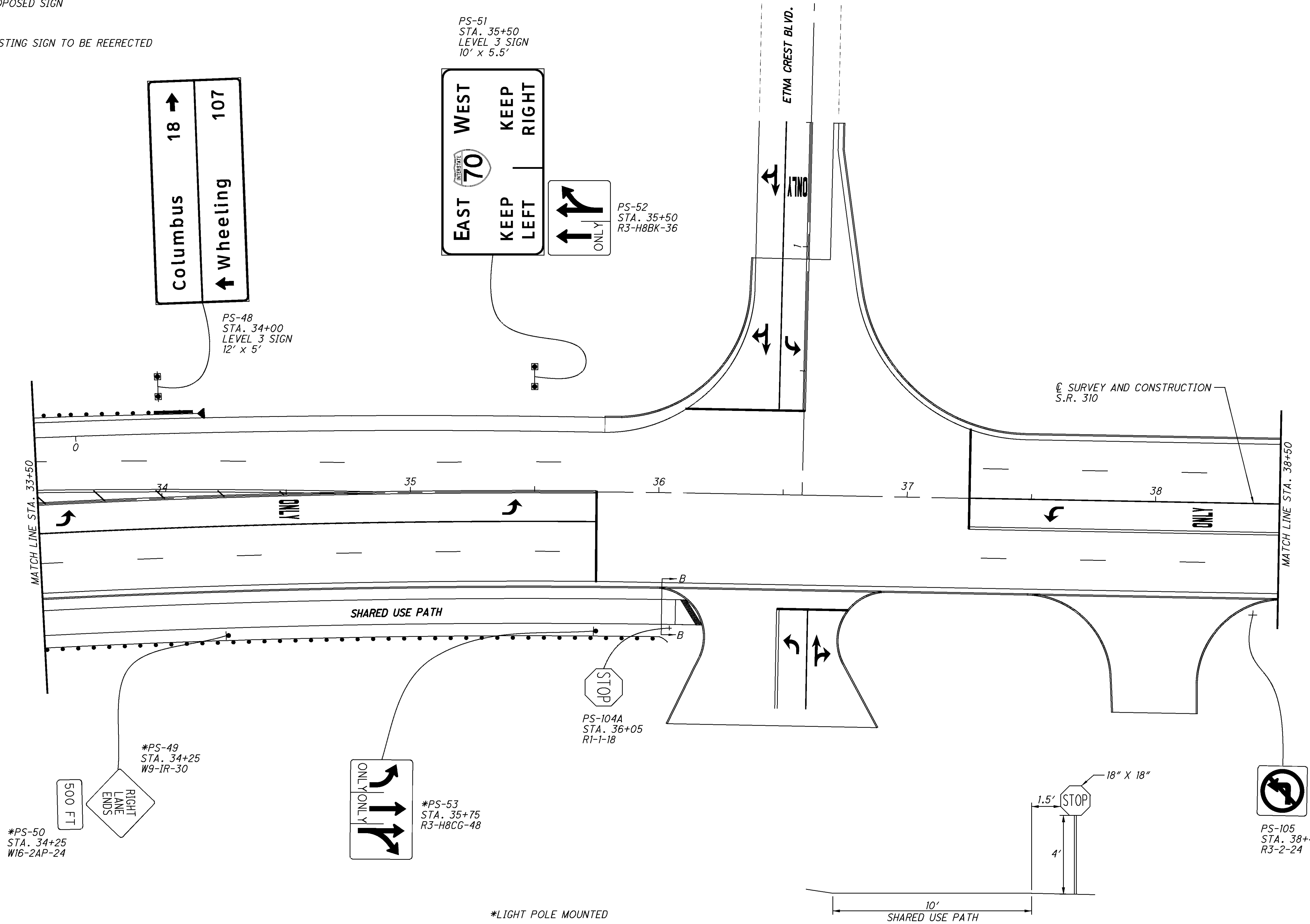
CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES
302-303	PROPOSED ELEVATION VIEWS



CALCULATED
BRH
CHECKED
JSL

LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO BE REERECTED



PS-51
STA. 35+50
LEVEL 3 SIGN
10' x 5.5'

18 →
Columbus
← 107
Wheeling

PS-48
STA. 34+00
LEVEL 3 SIGN
12' x 5'

WEST
KEEP RIGHT
70
EAST
KEEP LEFT

PS-52
STA. 35+50
R3-H8BK-36

ONLY

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S.R. 310

MATCH LINE STA. 33+50

MATCH LINE STA. 38+50

SHARED USE PATH

ONLY

PS-104A
STA. 36+05
R1-1-18

STOP

*PS-49
STA. 34+25
W9-IR-30

500 FT

*PS-50
STA. 34+25
W16-2AP-24

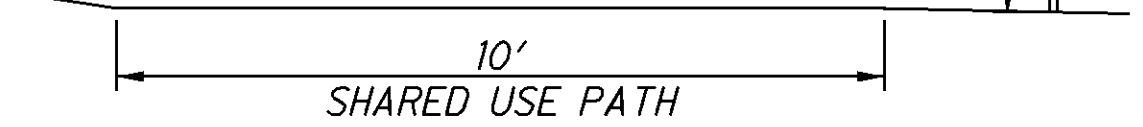
ONLY ONLY

*PS-53
STA. 35+75
R3-H8CG-48

*LIGHT POLE MOUNTED

18" X 18"
STOP

PS-105
STA. 38+40
R3-2-24



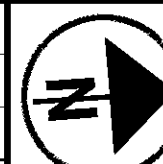
SECTION B-B
NOT TO SCALE

PROPOSED SIGNS (S.R. 310)
STA. 33+50 TO STA. 38+50

LIC-310-0.74

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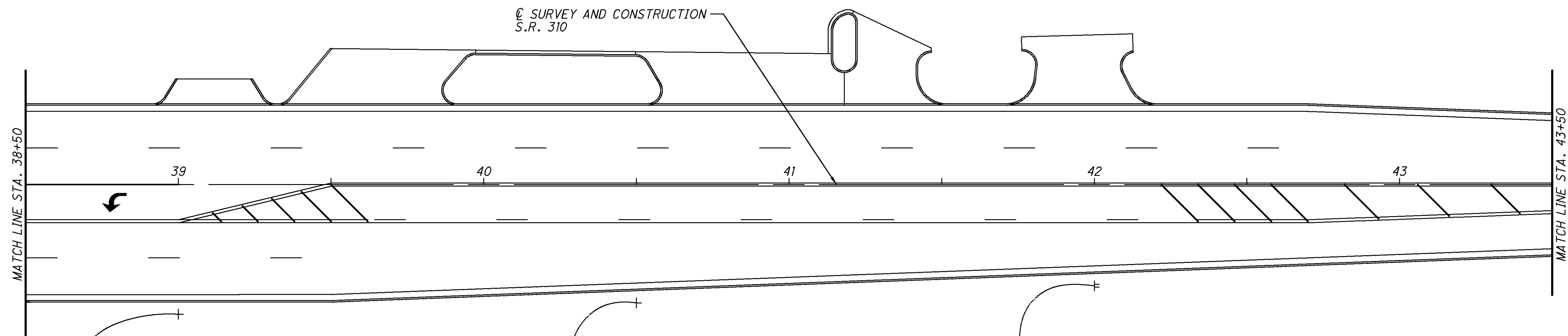
CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES



CALCULATED
BRH
CHECKED
JSL

LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO BE REERECTED



PS-106
STA. 39+00
W4-2R-30

PS-107
STA. 40+50
R2-1-30

PS-109
STA. 42+00
ES-124 REERECTED

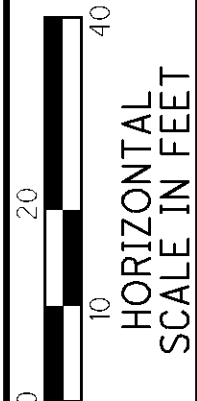
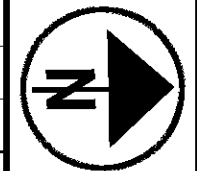
PS-108
STA. 42+00
5' x 3'
(SEE SHEET 253)

PROPOSED SIGNS (S.R. 310)
STA. 38+50 TO STA. 43+50

LIC-310-0.74

295
425

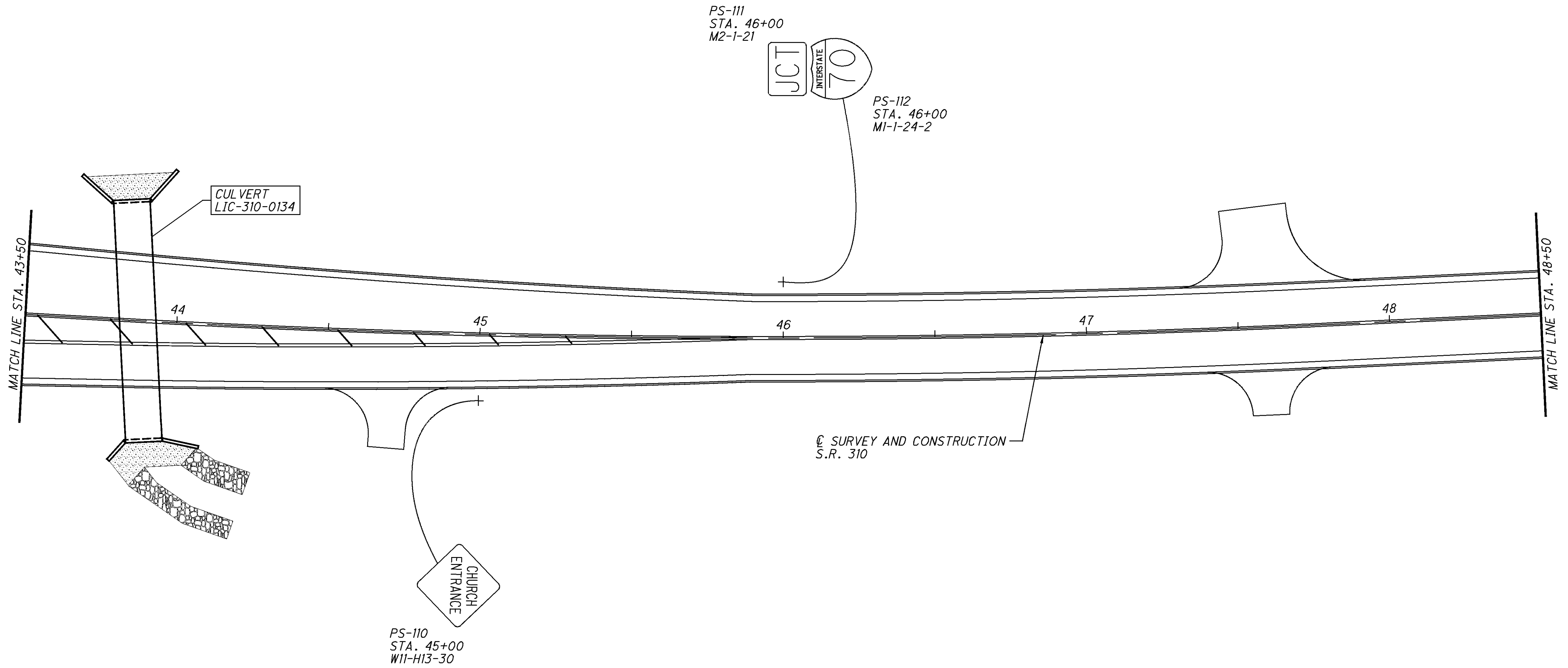
CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES



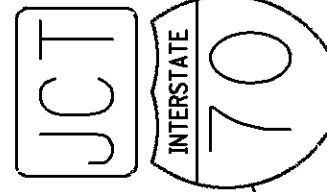
CALCULATED
BRH
CHECKED
JSL

LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO BE REERECTED



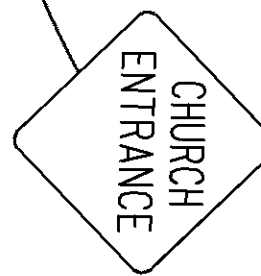
PS-111
STA. 46+00
M2-1-21



PS-112
STA. 46+00
M1-1-24-2

CULVERT
LIC-310-0134

PS-110
STA. 45+00
W11-H13-30



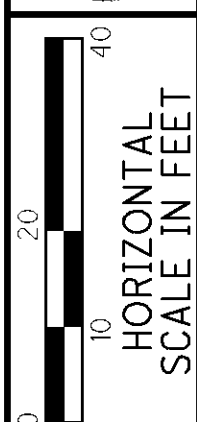
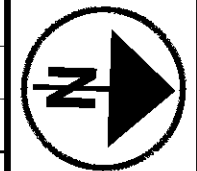
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S.R. 310

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**PROPOSED SIGNS (S.R. 310)
STA. 43+50 TO STA. 48+50**

LIC-310-0.74

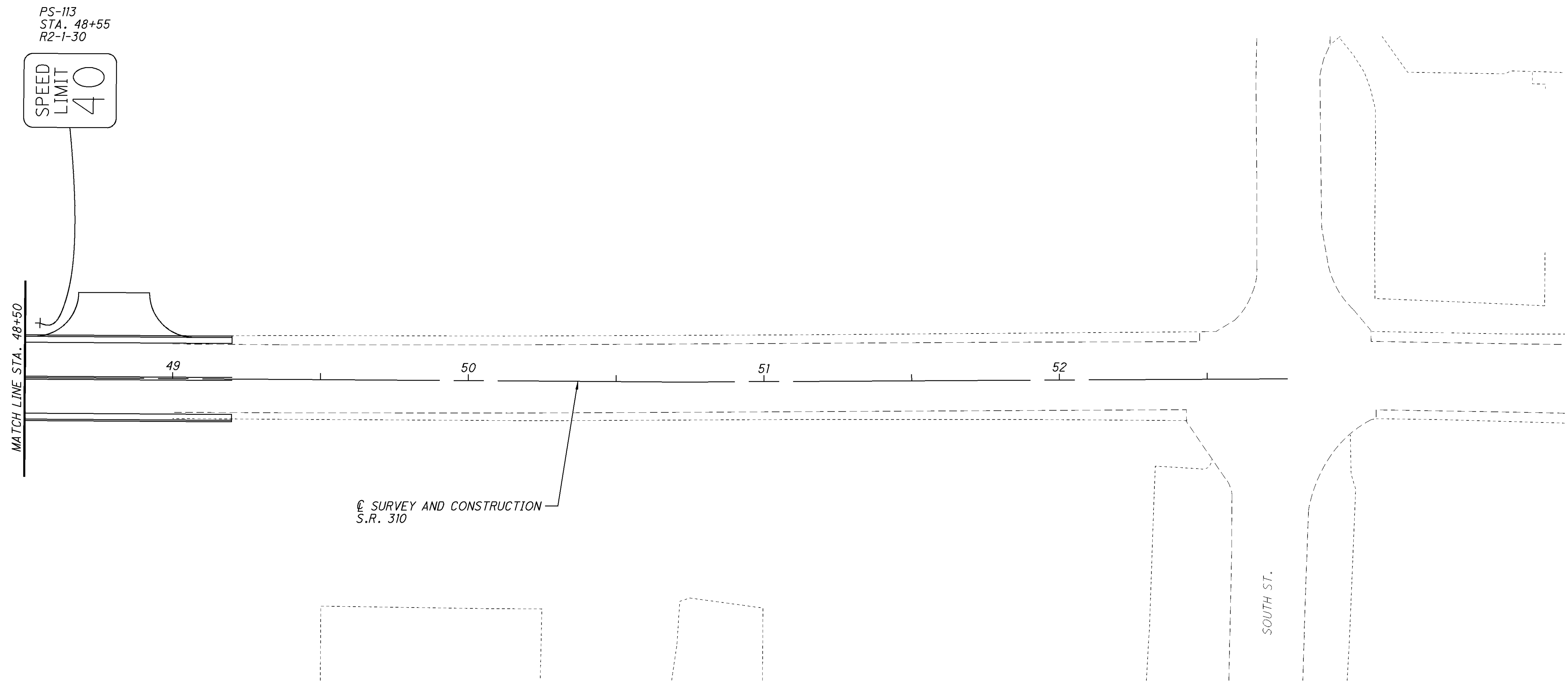
CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES



CALCULATED	BRH	CHECKED	JSL
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LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO BE REERECTED

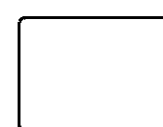



**PROPOSED SIGNS (S.R. 310)
STA. 48+50 TO STA. 49+00**

LIC-310-0.74


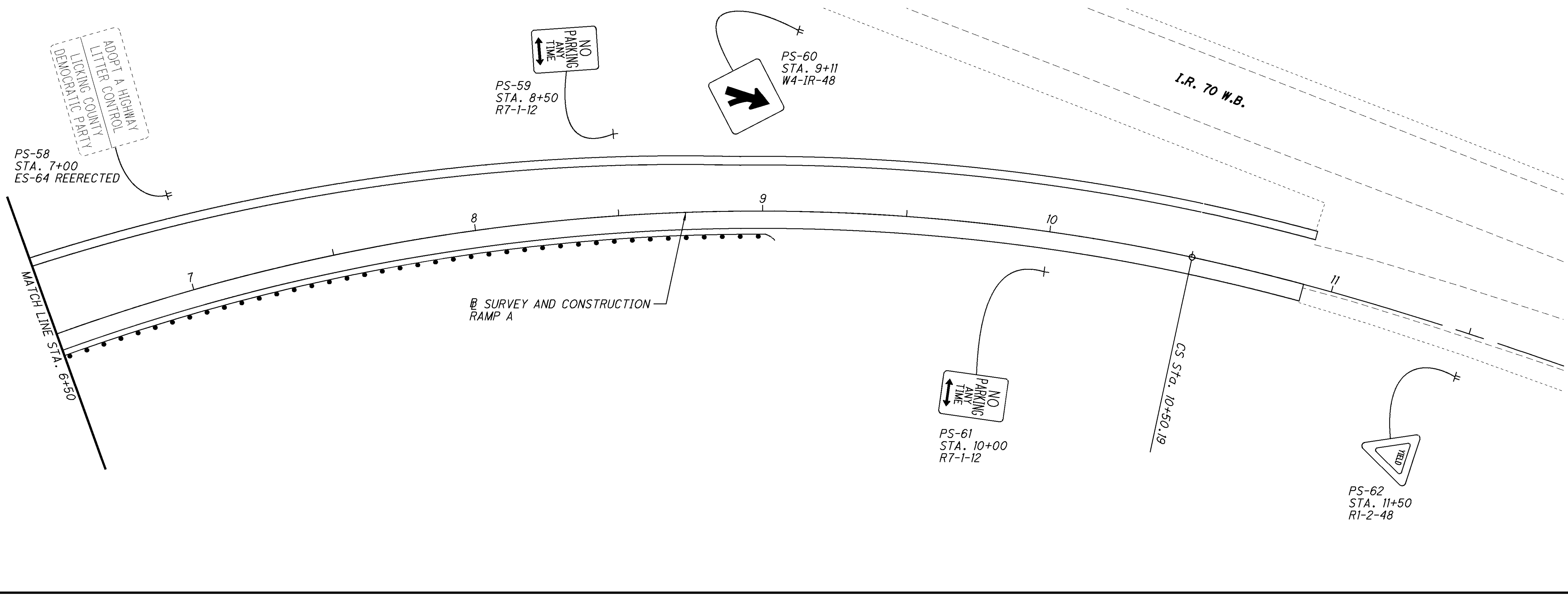
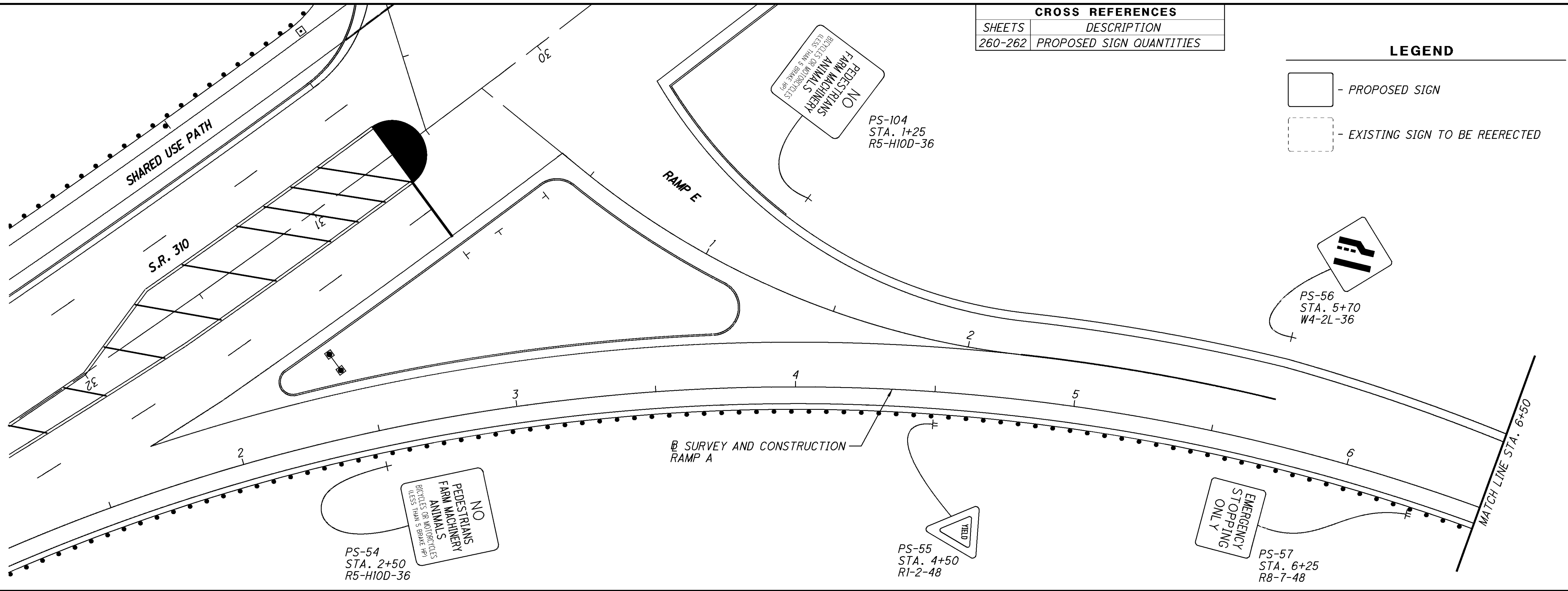
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CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES

LEGEND	
	- PROPOSED SIGN
	- EXISTING SIGN TO BE REERECTED

CALCULATED
BRH
CHECKED
JSL


0 20 40
HORIZONTAL
SCALE IN FEET

PROPOSED SIGNS (RAMP A)
STA. 0+00 TO STA. 10+90

LIC-310-0.74

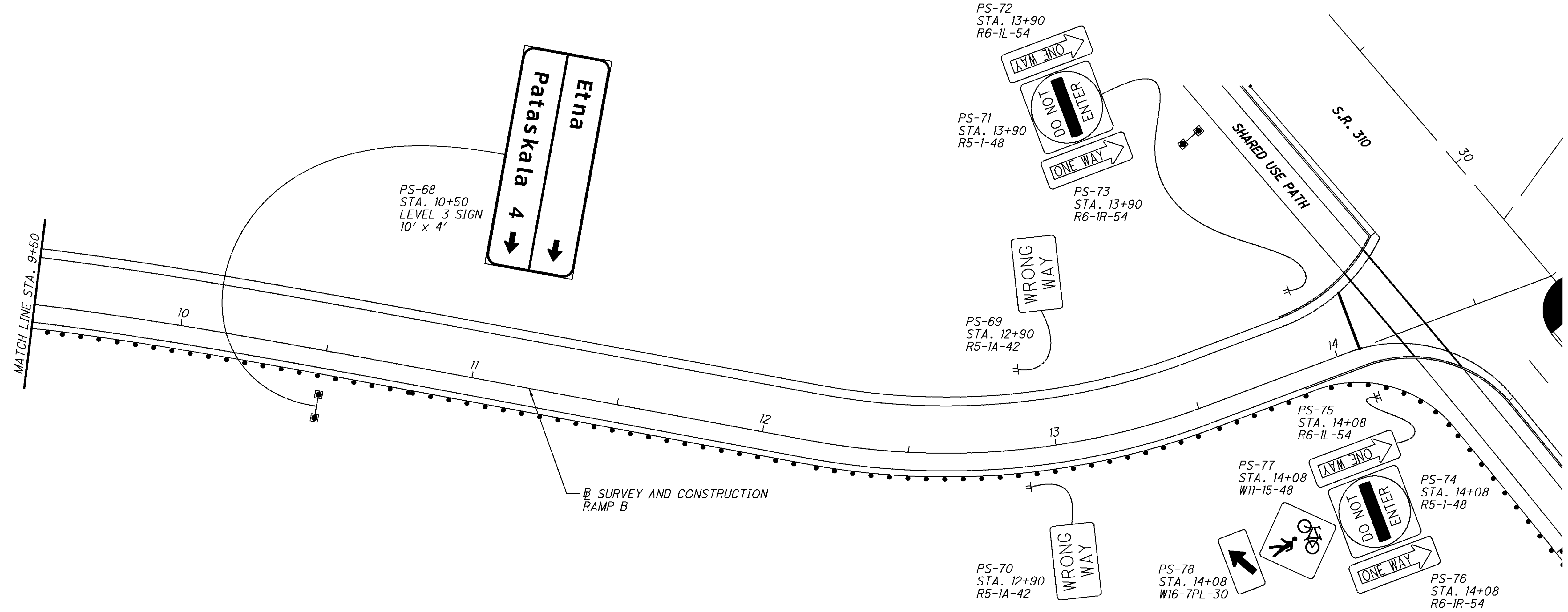
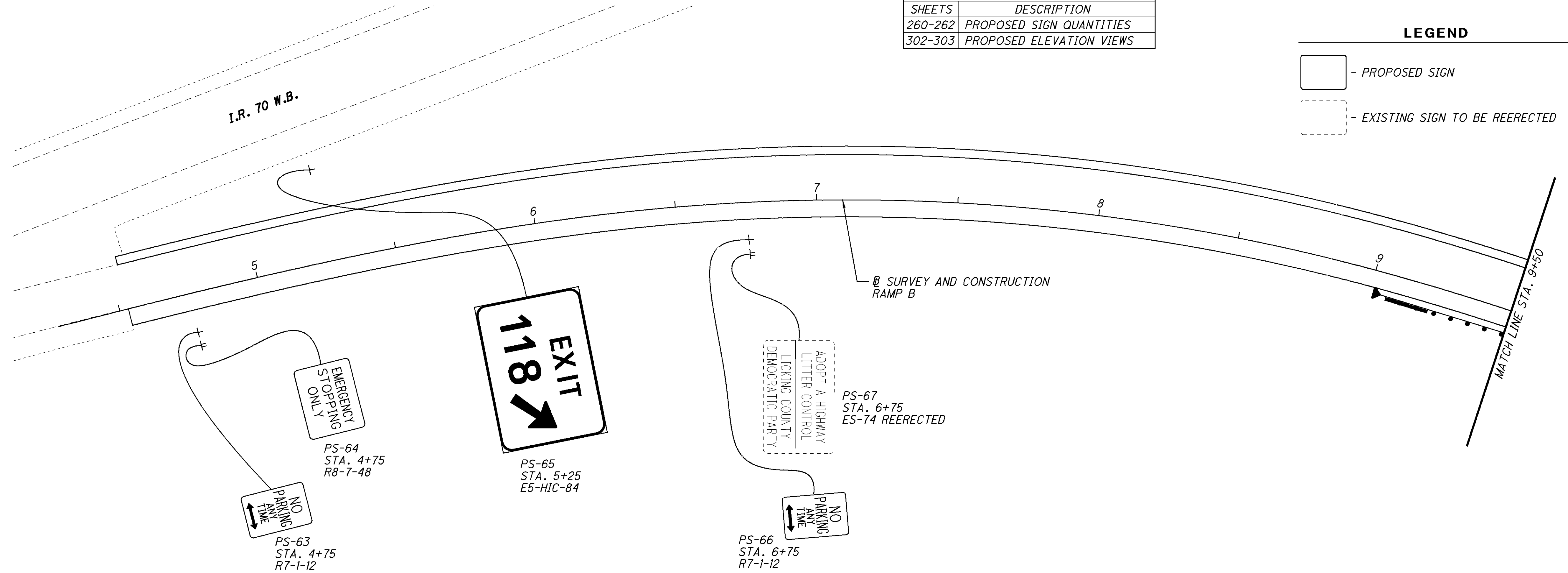
298
425



CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES
302-303	PROPOSED ELEVATION VIEWS

LEGEND	
	PROPOSED SIGN
	EXISTING SIGN TO BE REERECTED

CALCULATED BY BRH
 CHECKED BY JSL
 HORIZONTAL SCALE IN FEET
 0 20 40



PROPOSED SIGNS (RAMP B)
 STA. 4+53.12 TO STA. 14+77.40


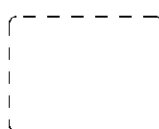
LIC-310-0.74

299
 425

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CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES

LEGEND

-  - PROPOSED SIGN
-  - EXISTING SIGN TO BE REERECTED



0 10 20 40
HORIZONTAL
SCALE IN FEET

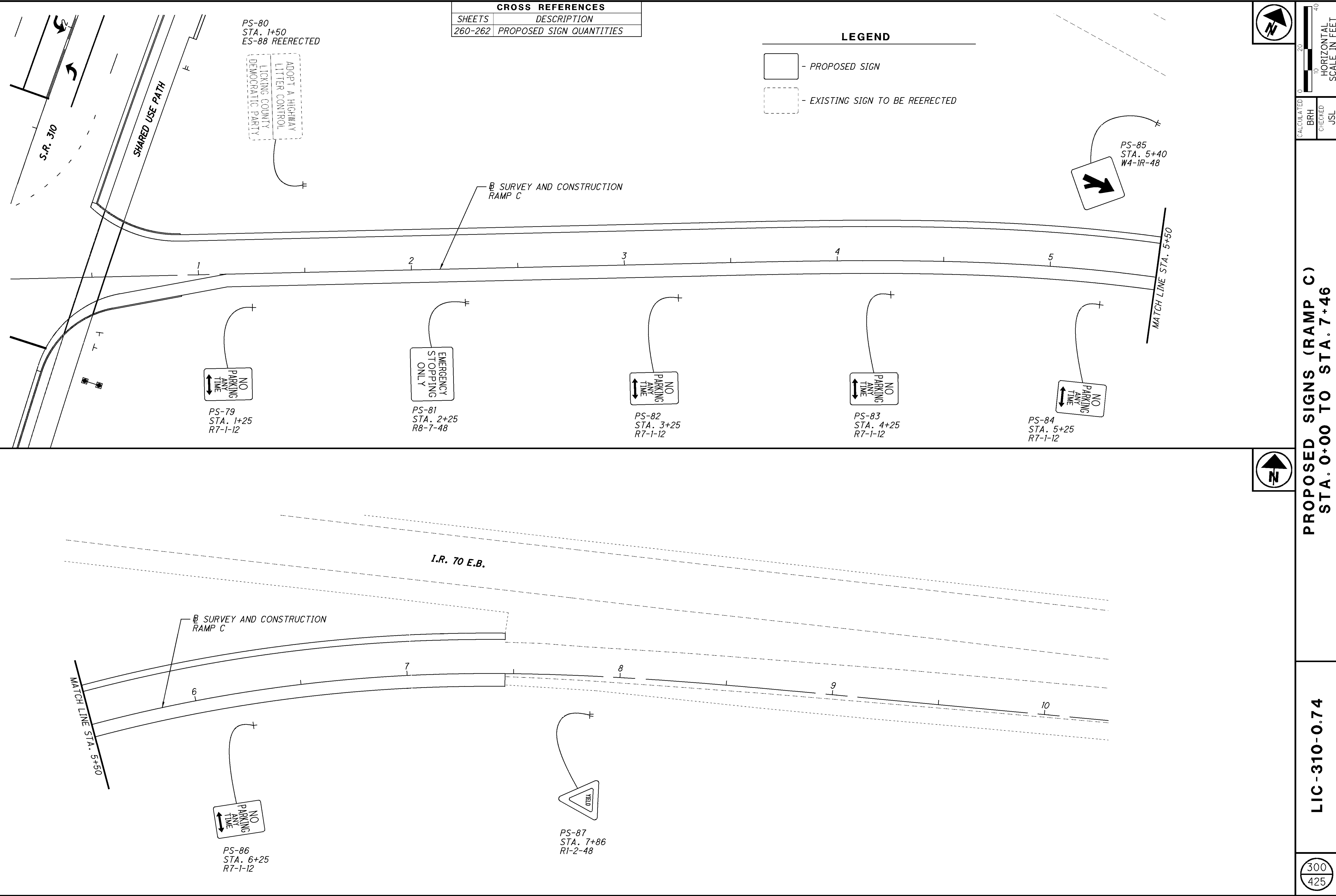
CALCULATED
BRH
CHECKED
JSL

**PROPOSED SIGNS (RAMP C)
STA. 0+00 TO STA. 7+46**

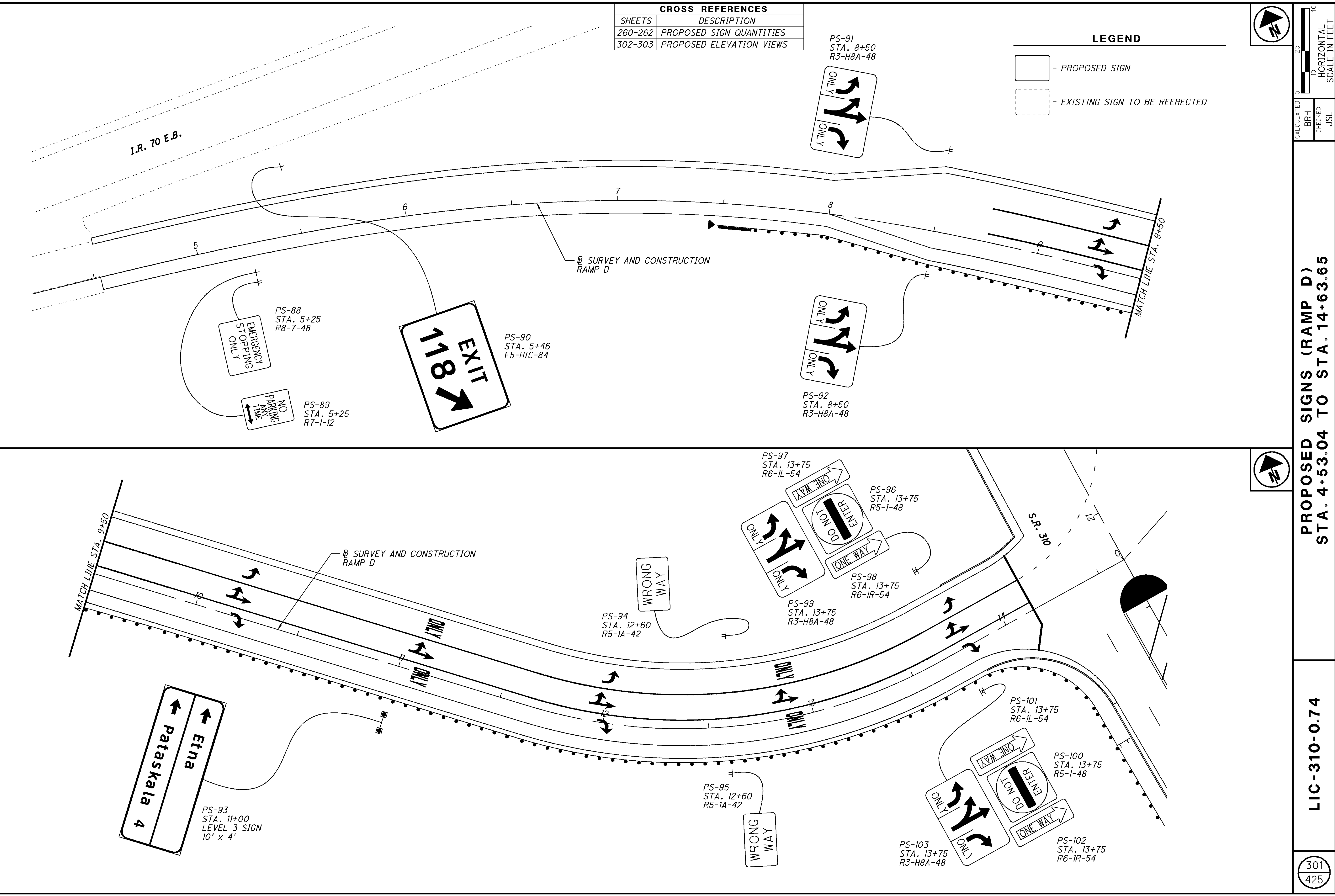
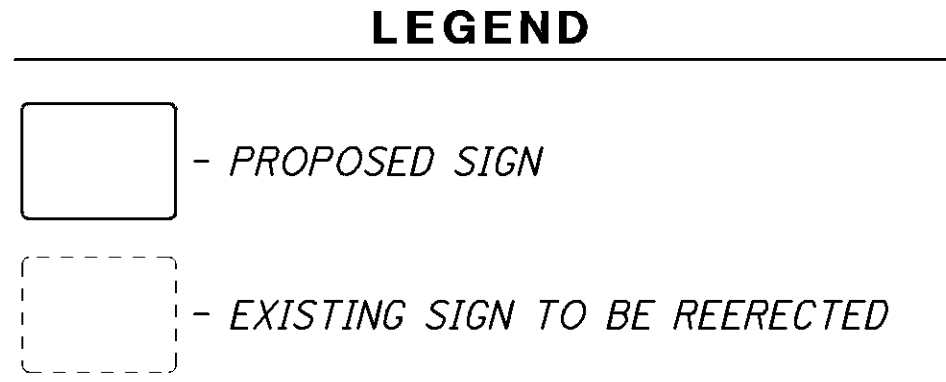
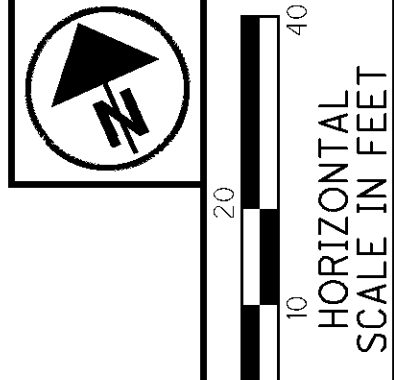


LIC-310-0.74

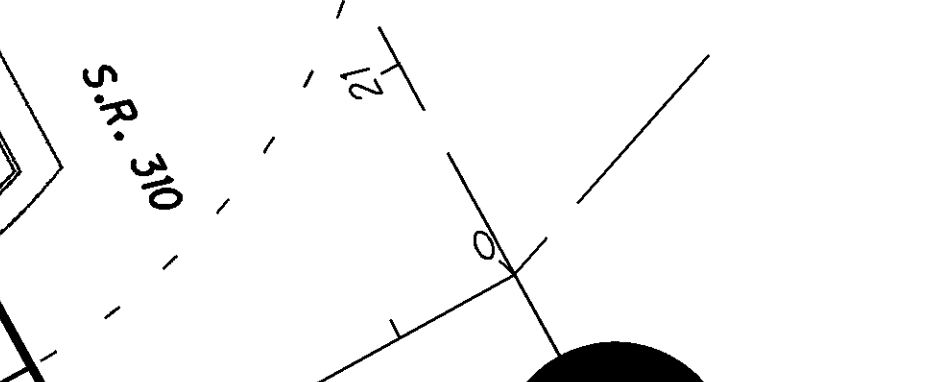
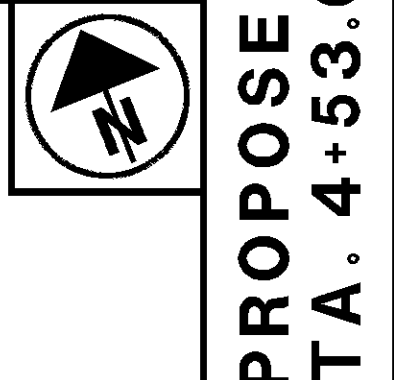
300
425



CROSS REFERENCES	
SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES
302-303	PROPOSED ELEVATION VIEWS



SHEETS	DESCRIPTION
260-262	PROPOSED SIGN QUANTITIES
302-303	PROPOSED ELEVATION VIEWS



CALCULATED
BRH
CHECKED
JSL

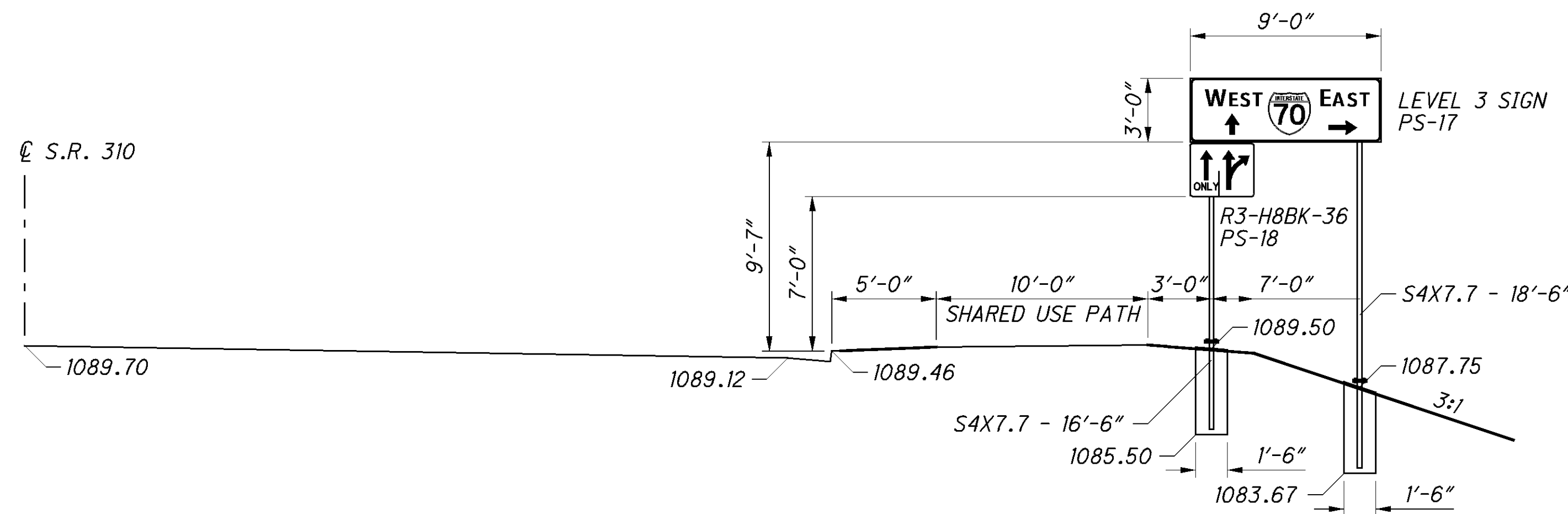
PROPOSED SIGNS (RAMP D)
STA. 4+53.04 TO STA. 14+63.65

LIC-310-0.74

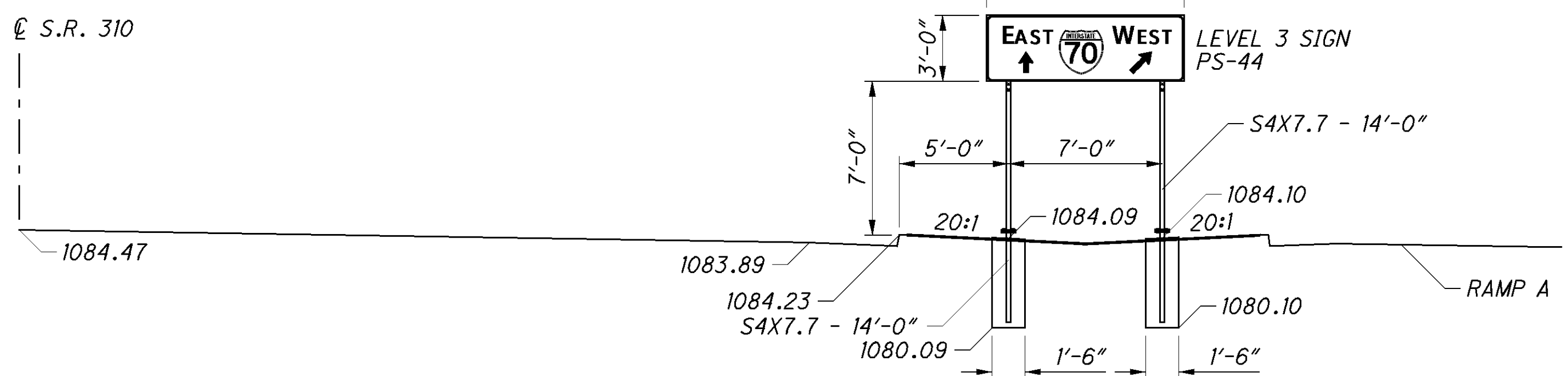
301
425

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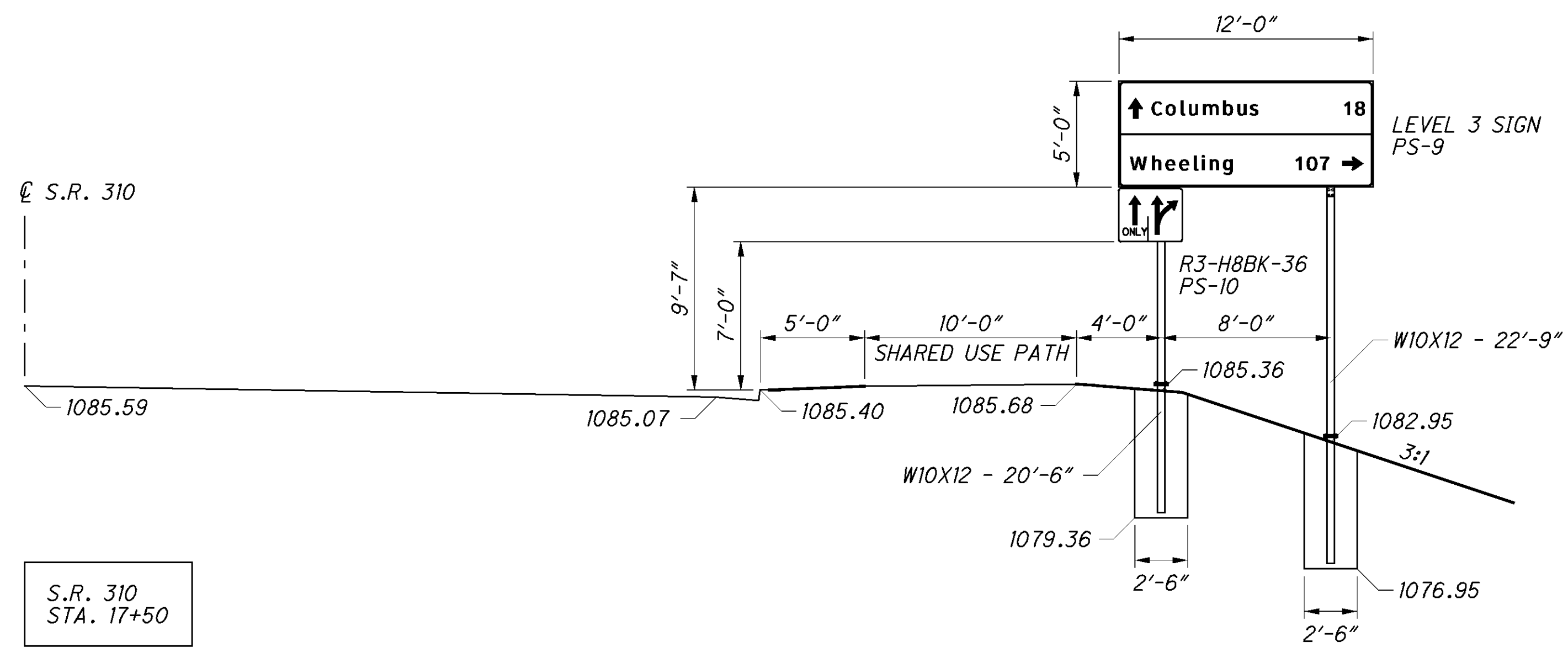
VIEW HAS BEEN MIRRORED TO SHOW SIGN FACES IN THE DIRECTION OF TRAFFIC



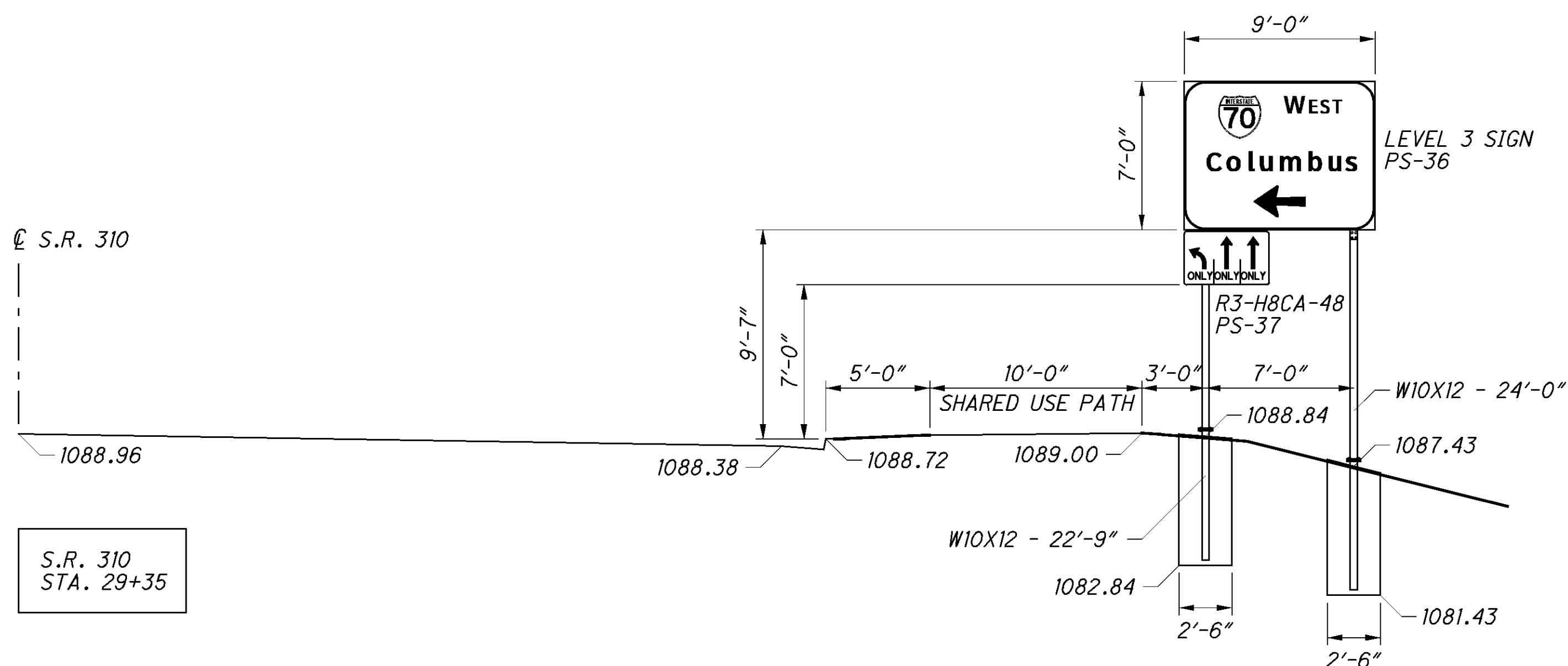
S.R. 310
STA. 20+45



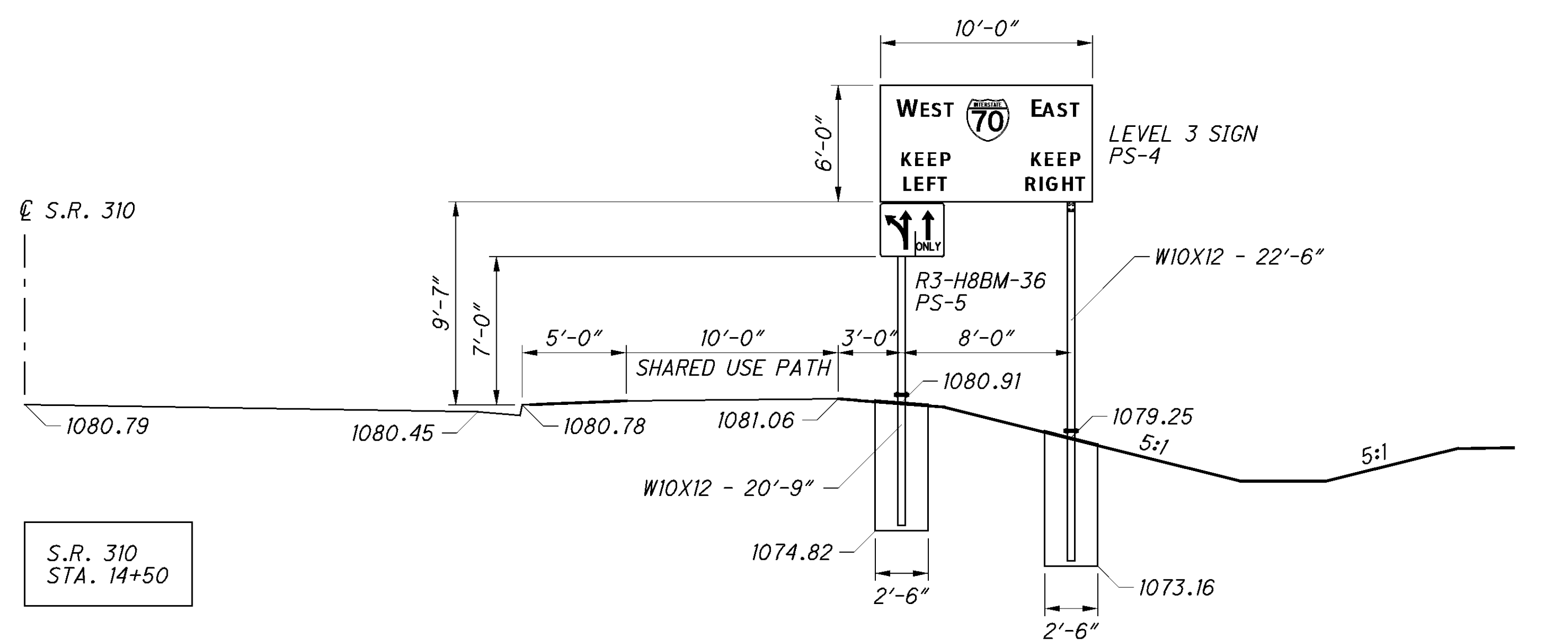
S.R. 310
STA. 31+25



S.R. 310
STA. 17+50

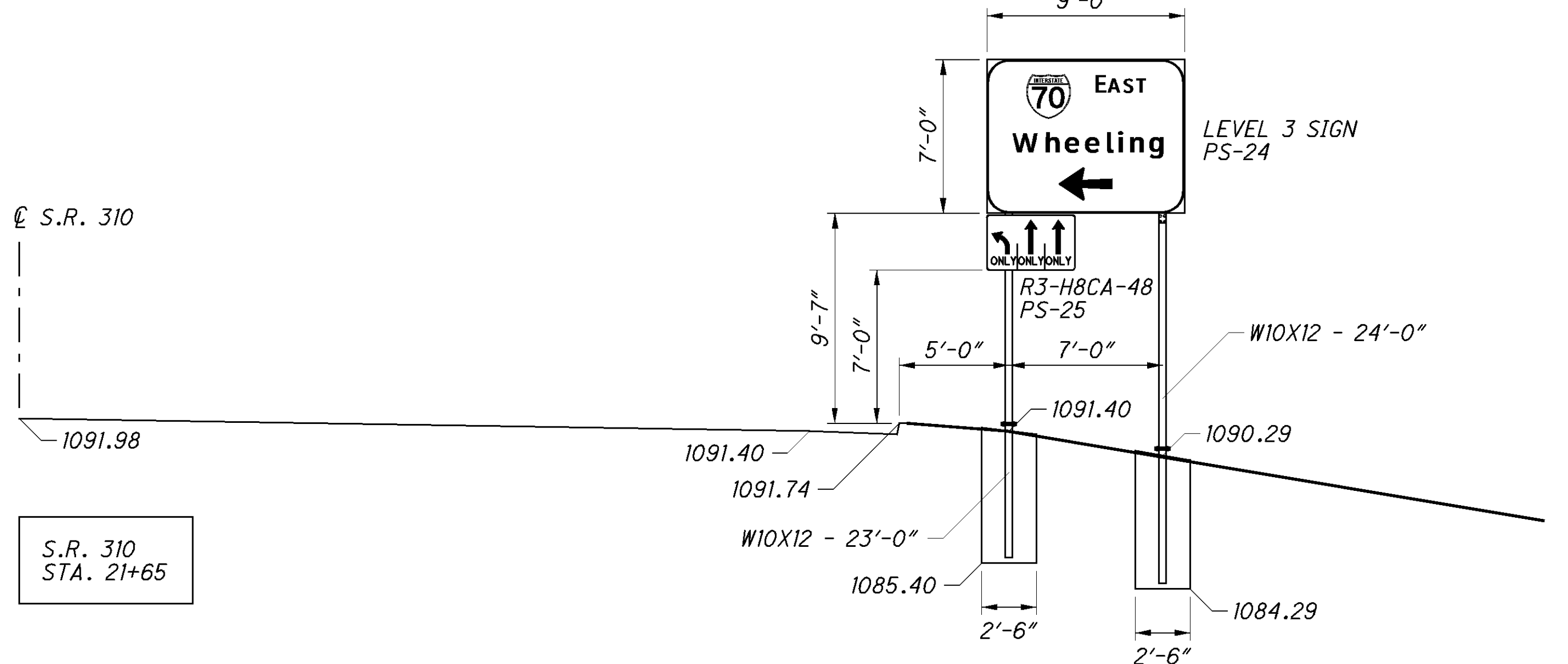


S.R. 310
STA. 29+35



S.R. 310
STA. 14+50

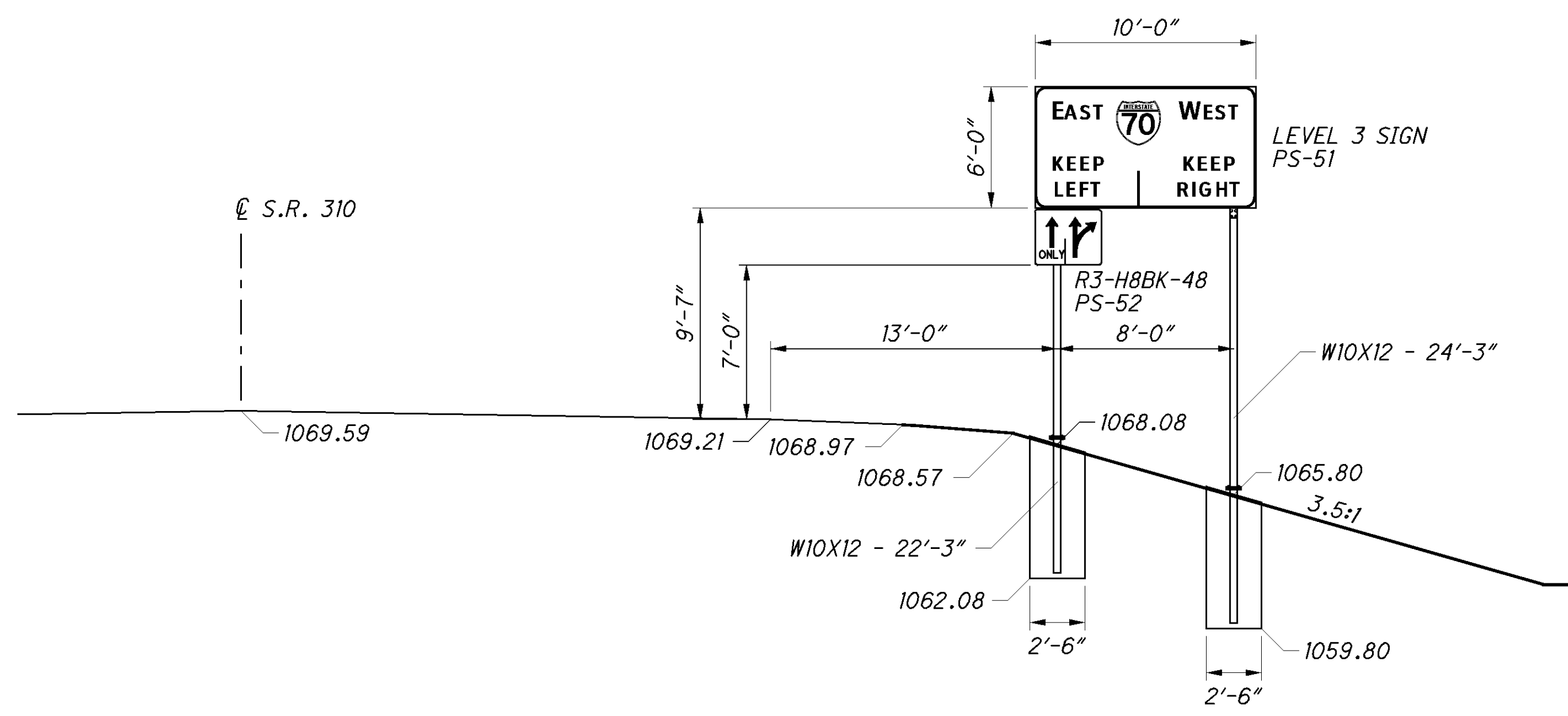
VIEW HAS BEEN MIRRORED TO SHOW SIGN FACES IN THE DIRECTION OF TRAFFIC



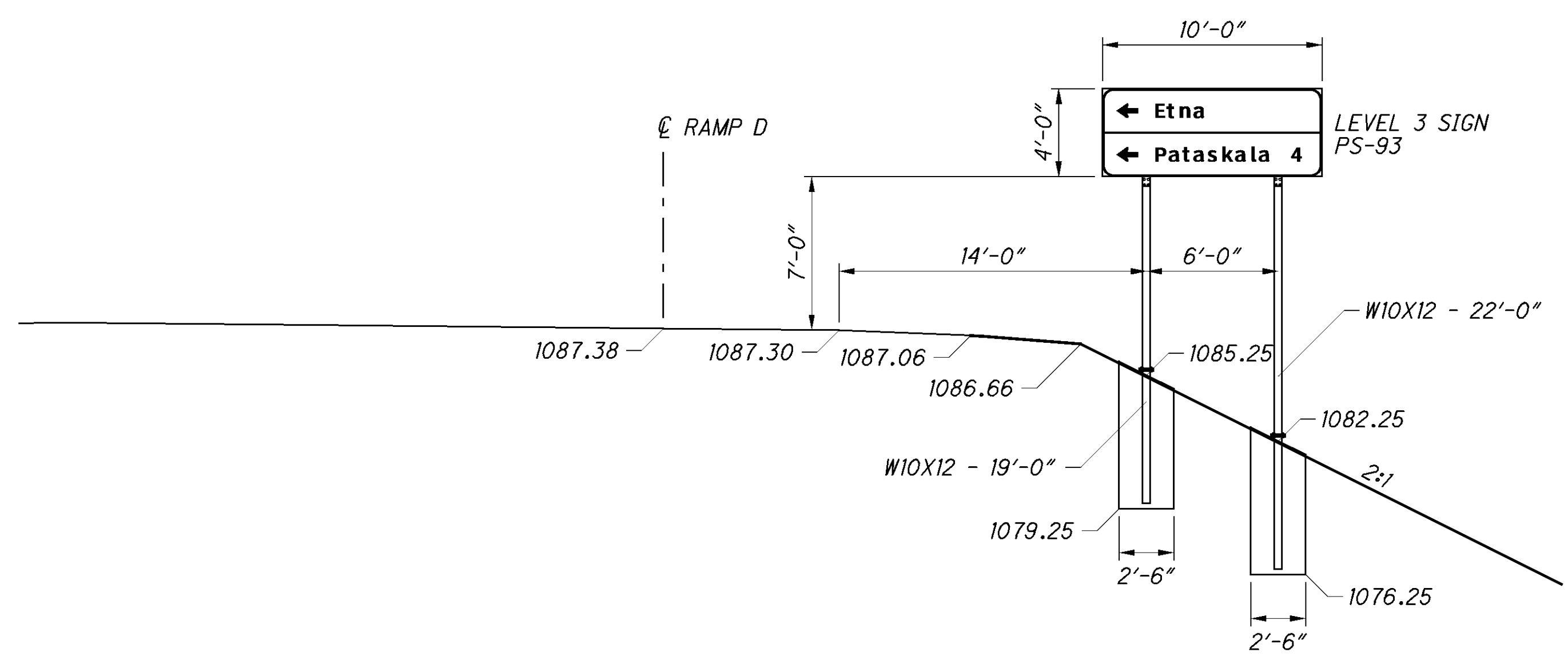
S.R. 310
STA. 21+65

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VIEW HAS BEEN MIRRORED TO SHOW SIGN FACES IN THE DIRECTION OF TRAFFIC

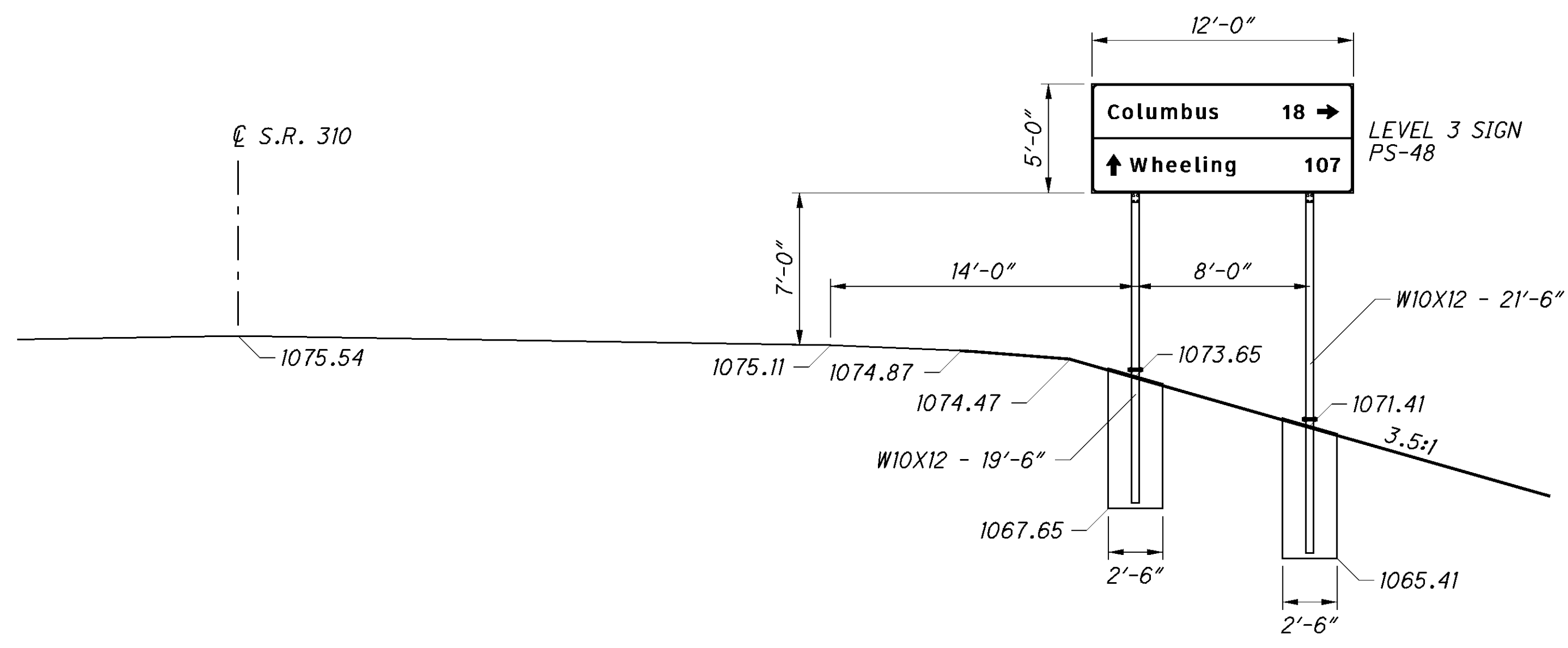


S.R. 310
STA. 35+50

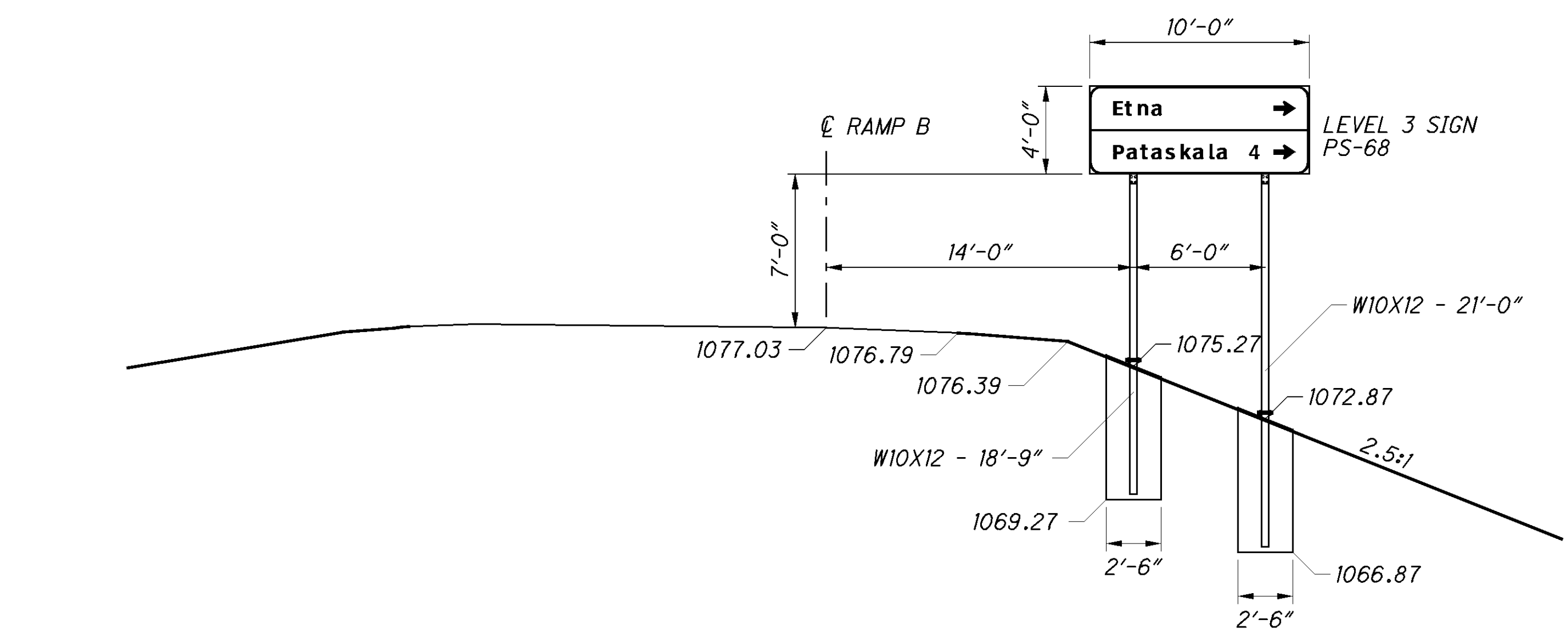


RAMP D
STA. 11+00

VIEW HAS BEEN MIRRORED TO SHOW SIGN FACES IN THE DIRECTION OF TRAFFIC



S.R. 310
STA. 34+00



RAMP B
STA. 10+50

PROPOSED SIGN ELEVATION VIEWS

LIC-310-0.74

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ITEM 809, ITS CABINET-GROUND MOUNTED

1/2" PREFORMED JOINT FILLER PER 705.03 SHALL BE USED BETWEEN CONCRETE POLE, CABINET FOUNDATION AND ADJACENT PAVED AREAS

A 6" THICK WORK PAD WITH DIMENSIONS SHOWN ON DETAILS BELOW. IN LEVEL AREAS, THE TOP OF THE PAD SHALL BE 1" ABOVE THE GROUND LINE. IN STEEPLY SLOPED AREAS, THE PAD'S DESIGN SHALL BE ADJUSTED TO PROVIDE ACCESS, DRAINAGE, AND SAFETY, AS APPROVED BY THE ENGINEER.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED WITH ITEM 809, ITS CABINET - GROUND MOUNTED ALONG WITH ALL CONDUIT RUNS UNDER WORK PAD AS SHOWN IN DETAILS ON THIS SHEET.

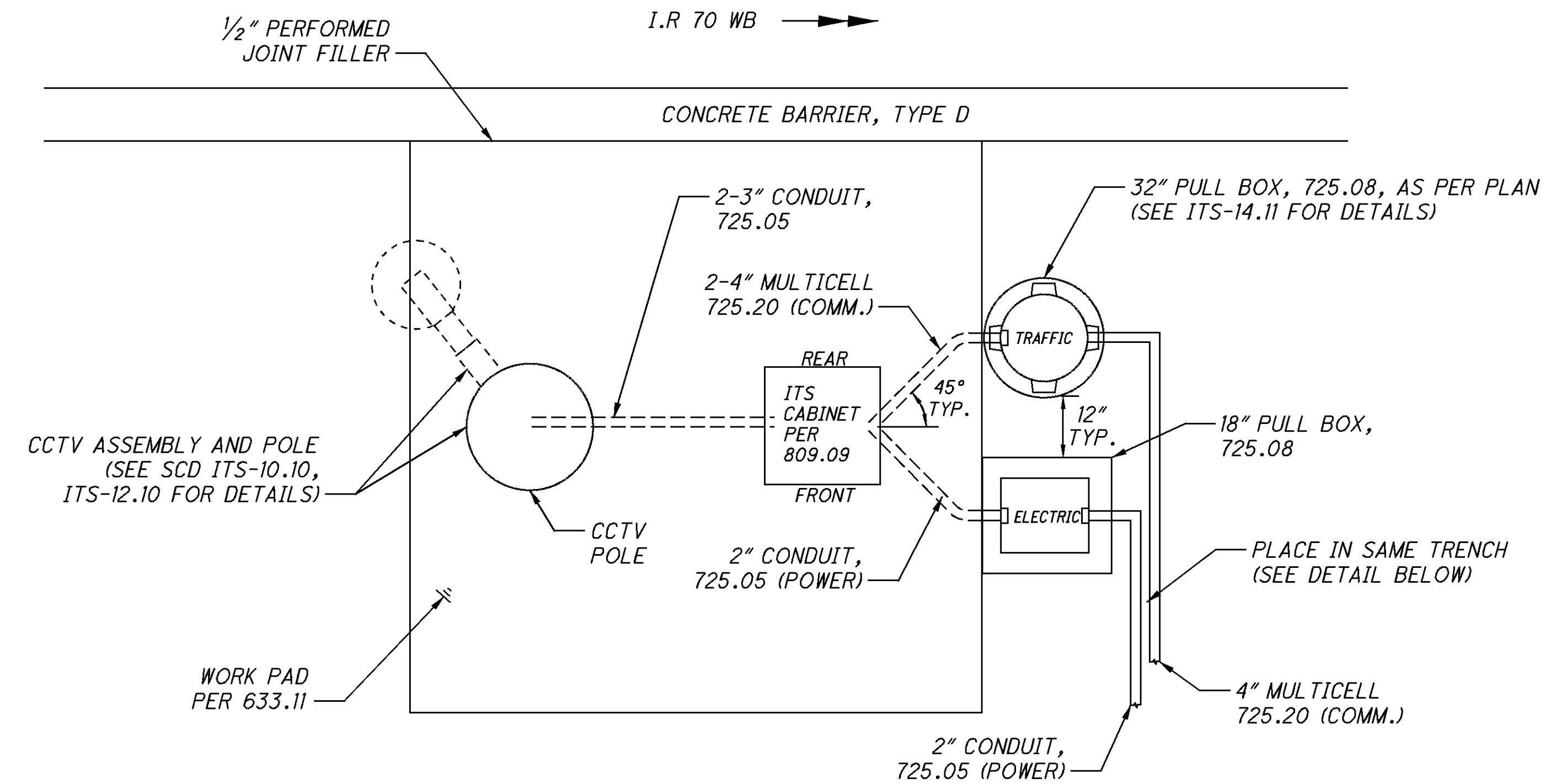
ITEM 625, CONDUIT, 4" MULTICELL, 725.20, EPC-40

THE TRAFFIC SURVEILLANCE RACEWAY SHALL CONSIST OF A FACTORY-ASSEMBLED SYSTEM OF (4) INNERDUCTS ASSEMBLED WITHIN A PROTECTIVE OUTER DUCT. THE INNERDUCTS SHALL BE NOMINAL 1.25 INCH DIAMETER, TYPE DB PVC PER NEMA TC-8 WITH A BELL INSERTION DEPTH OF 1.75 INCHES MINIMUM. THE OUTERDUCT SHALL BE NOMINAL 4 INCH (INSIDE DIAMETER), TYPE SCHEDULE 40 PVC. CARLON TYPE SCHEDULE 40 AND 80 OR APPROVED EQUIVALENT.

THE COUPLING SHALL BE DESIGNED IN A MANNER TO PERMIT EASY FIELD ASSEMBLY. THE COUPLING SHALL BE MARKED OR KEYED IN A MANNER TO ENSURE THE INNERDUCTS ARE PROPERLY ALIGNED, ANY COLOR CODES ARE CONTINUED AND THE ADJOINING SECTION IS INSERTED TO THE PROPER DEPTH IN THE BELL. ALL KEYS AND/OR MARKINGS SHALL BE VISIBLE AFTER ASSEMBLY, TO ALLOW THE INSPECTION OF EACH JOINT FOR PROPER ASSEMBLY BEFORE BURIAL. THE SEALING SYSTEM SHALL BE DESIGNED TO ASSURE AIR INTEGRITY OF EACH INDIVIDUAL INNERDUCT AND WATER INTEGRITY OF THE ENTIRE SYSTEM.

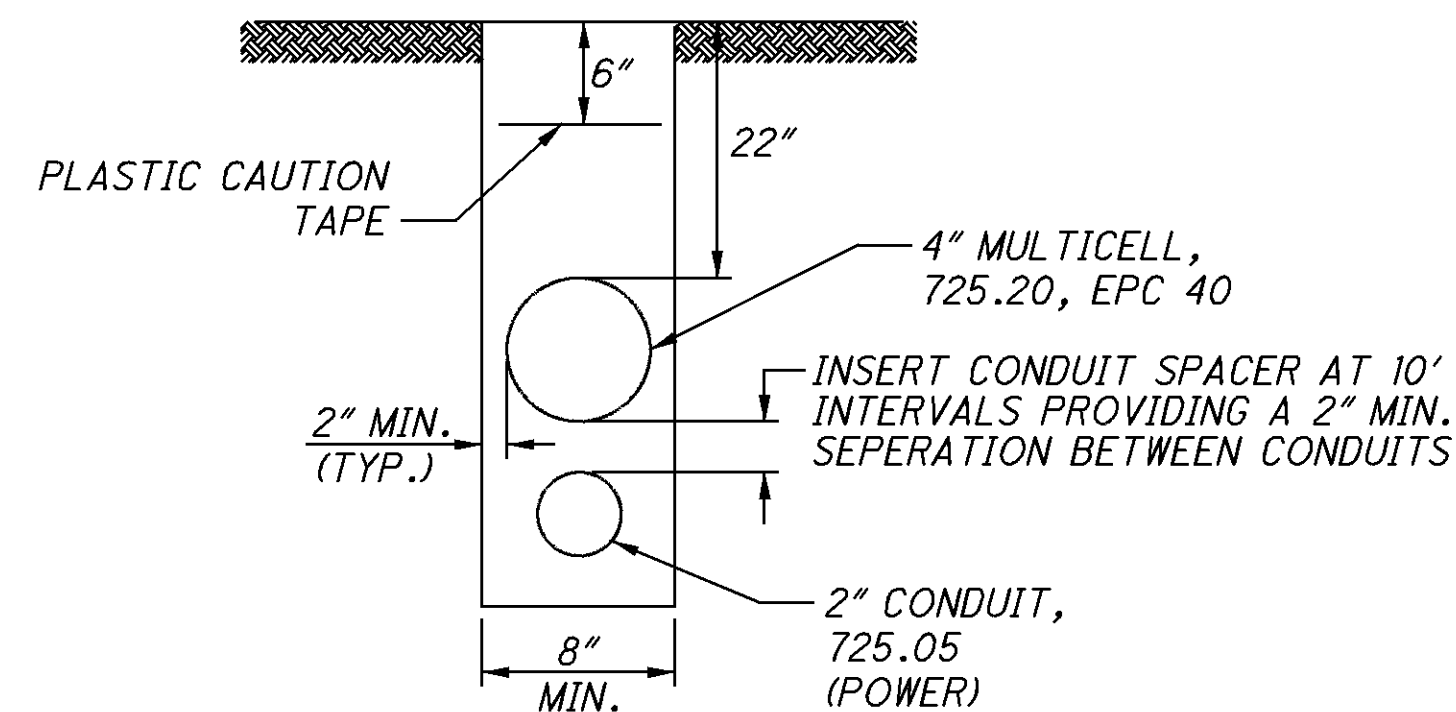
WHERE INNERDUCT(S) WITHIN A MULTI-CELL DUCT ARE TO REMAIN EMPTY, ONE 1/4" NYLON ROPE SHALL BE INSTALLED IN EACH OF THE OPEN INNERDUCTS, THE ROPE WILL REMAIN TO BE USED FOR A FUTURE CABLE INSTALLATION. ALSO EACH INNERDUCT SHALL BE PLUGGED TO MAINTAIN THE AIR AND WATER INTEGRITY. IN ADDITION THE OUTER DUCT SHALL BE CAPPED TO MAINTAIN THE AIR AND WATER INTEGRITY OF THE ENTIRE SYSTEM.

CONDUIT SPACERS SHALL BE CONSIDERED INCIDENTAL TO THE CONDUIT.

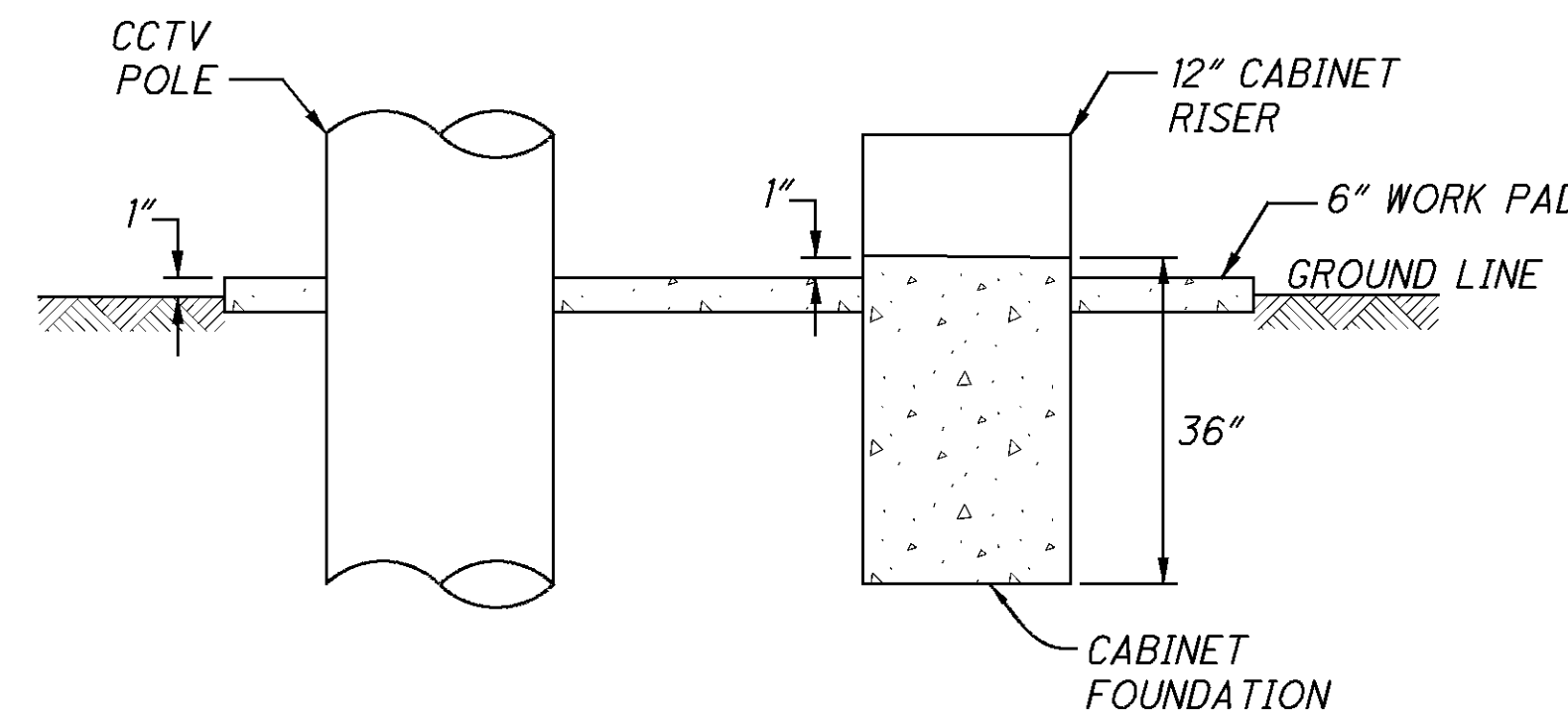


**WORK PAD PLAN VIEW
(116"Wx116"Lx6"D)**

NOTE: SEE PLANS FOR EXACT CABINET, CCTV POLE, AND PULL BOX LOCATIONS



TRENCH WITH TWO OR MORE CONDUITS



**WORK PAD ELEVATION VIEW
(116"Wx116"Lx6"D)**

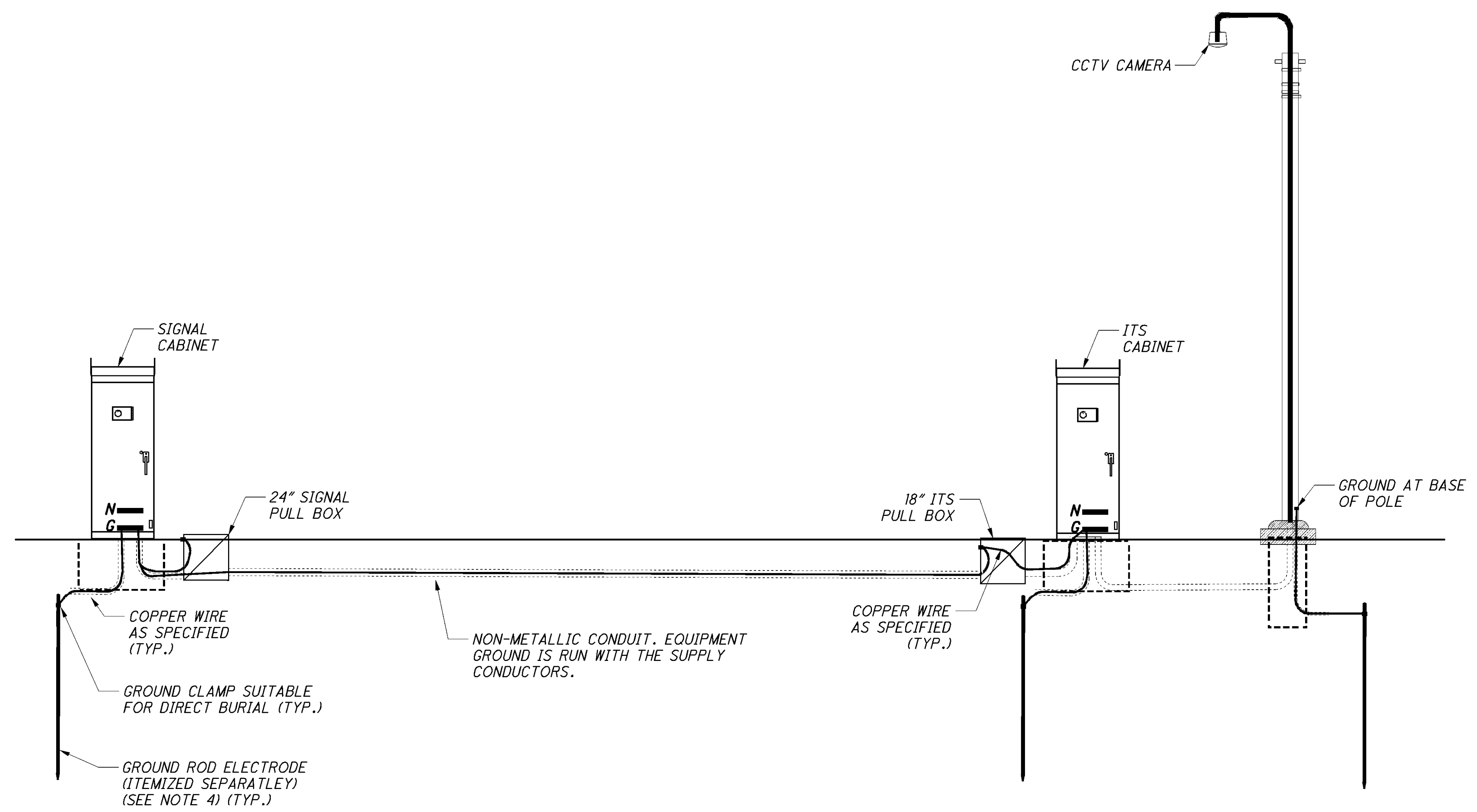
SEPERATE BID ITEMS:

- 633, CABINET RISER
- 633, CABINET FOUNDATION
- 809, ITS CABINET - GROUND MOUNTED
- 809, CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET

CALCULATED
JSL
CHECKED
BRC

TRAFFIC SURVEILLANCE NOTES
ITS CABINET AND WORK PAD DETAILS

LIC-310-0.74



SITE GROUND RING

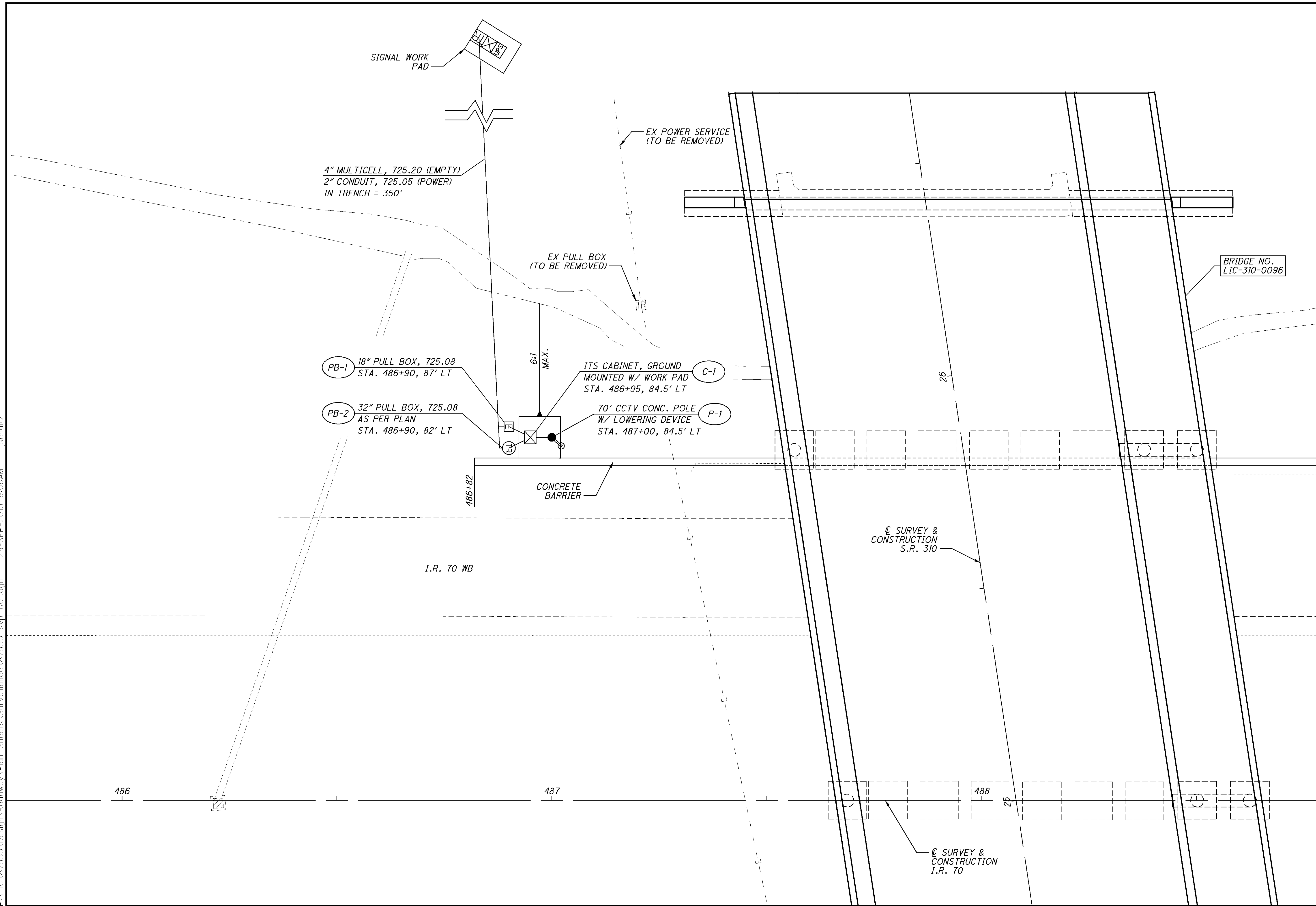
NOTES:

- ADDITIONAL GROUND ROD ELECTRODES SHALL BE ADDED TO GROUNDING CONDUCTOR AS REQUIRED UNTIL RESISTANCE TO GROUND IS 5 OHMS OR LESS FOR DEVICE LOCATIONS AND 25 OHMS OR LESS AT POWER SERVICE AND PULL BOX. IF ADDITIONAL GROUND ROD ELECTRODES ARE REQUIRED IN ORDER TO ACHIEVE REQUIRED RESISTANCE THEY SHALL RADIATE OUT FROM EXISTING GROUND ROD ELECTRODES, SHALL BE CONNECTED WITH COPPER CONDUCTOR AS SPECIFIED IN THE PLANS, AND SHALL BE 30' FROM CONNECTED GROUND ROD. ALL COMMUNICATION EQUIPMENT GROUNDING SITES SHALL BE TESTED FOR RESISTANCE TO GROUND USING THE THREE- POINT/FALL-OF-POTENTIAL TEST PER ANSI/IEEE STD 81. SEE GROUNDING SPECIFICATIONS.
- GROUND ROD ELECTRODES SHALL NOT BE ROUTED THROUGH FOUNDATIONS.
- FENCES AND OTHER METALLIC STRUCTURES WITH PATHS TO GROUND SHALL BE CONNECTED TO THE GROUNDING CONDUCTOR IF THEY ARE LOCATED WITHIN 10' OF THE GROUNDING ELECTRODE SYSTEM OR ANY OBJECT GROUND TO THE GROUNDING ELECTRODE SYSTEM. SEE STANDARD CONSTRUCTION DRAWING HL-50.11.
- GROUND ROD ELECTRODES SHALL BE BURIED TO A MINIMUM DEPTH OF 36 INCHES BELOW FINISHED GRADE, WHERE POSSIBLE.
- CCTV CAMERA AND ASSOCIATED PULL BOX SHALL BE CONNECTED TO THE DMS SITE GROUND RING ONLY WHEN EITHER THE DMS TRUSS OR THE DMS CONTROL CABINET IS LOCATED CLOSER TO THE BASE OF THE CCTV POLE THAN THE LENGTH OF THE CCTV POLE.
- ALL EQUIPMENT GROUNDS SHALL BE PROPERLY CONNECTED TO A CHASSIS; ALL PAINT AND OTHER COATINGS, INCLUDING GALVANIZATION, SHALL BE REMOVED PRIOR TO TERMINATION OF A GROUND. AFTER THE GROUND IS TERMINATED A NON-OXIDIZING COATING SHALL BE PAINTED OVER THE EXPOSED METAL SURFACES.
- GROUNDING ELECTRODE SYSTEM CONNECTIONS TO FENCING SHALL BE MADE USING HEAVY DUTY TINNED LISTED PIPE CLAMPS DESIGNED FOR GROUNDING AND STAINLESS STEEL HARDWARE. SEE STANDARD CONSTRUCTION DRAWING HL- 50.11.
- ALL GROUNDING DIAGRAMS ARE SCHEMATIC ONLY.
- ALL METALLIC MEMBERS OF THE DMS TRUSS AND THE DMS SIGN WITHIN 6 FEET OF EACH OTHER SHALL BE BONDED TOGETHER. WELDS SHALL BE CONSIDERED AN ACCEPTABLE BONDING METHOD. U-BOLT CONNECTIONS SHALL NOT BE CONSIDERED AN ACCEPTABLE BONDING METHOD.
- AT LEAST AN 8 INCH MINIMUM BENDING RADIUS SHALL BE MAINTAINED ON ALL GROUNDING ELECTRODE CONDUCTORS. THE ANGLE OF ANY BEND SHALL NOT BE LESS THEN 90°.
- GROUNDING CONDUCTORS SHALL ALWAYS ROUTE AS STRAIGHT AS POSSIBLE. "U" FORM JUMPERS SHALL BE ACCEPTABLE ONLY FOR GATES AND DOORS.
- THE QUANTITY OF GROUNDING ELECTRODE CONDUCTORS CONNECTED TO A GROUND ROD ELECTRODE SHALL BE LIMITED TO FOUR.
- WHENEVER POSSIBLE, GROUND ROD ELECTRODES SHALL BE INSTALLED NO CLOSER THAN 16.5' FROM A FOUNDATION.
- GROUNDING ELECTRODE CONDUCTORS SHALL BE INSTALLED IN ONE CONTINUOUS LENGTH. SPLICING SHALL BE PERMITTED ONLY BY IRREVERSIBLE COMPRESSION-TYPE CONNECTORS LISTED AS GROUNDING AND BONDING EQUIPMENT OR BY EXOTHERMIC WELDING PROCESS.
- PAYMENT FOR ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT. GROUND RODS HAVE BEEN ITEMIZED SEPARATELY.

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SHEET NO.	LOCATION	625								633		809		
		NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE FT	CONDUIT, 2", 725.05 FT	CONDUIT, 4", MULTICELL, 725.20, EPC-40 FT	TRENCH, 30" DEEP FT	ELECTRIC	TRAFFIC	GROUND ROD EACH	PLASTIC CAUTION TAPE FT	CABINET RISER EACH	CABINET FOUNDATION EACH	CCTV IP-CAMERA SYSTEM, DOME-TYPE EACH	CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET EACH	ITS CABINET - GROUND MOUNTED EACH
						PULL BOX, 725.08, 18" EACH	PULL BOX, 725.08, 32", AS PER PLAN EACH							
307	PULL BOX PB-1, PB-2					1	1							
307	ITS CABINET C-1							1		1	1			1
307	CONCRETE POLE P-1							1			1	1		
307	SIGNAL WORK PAD TO ITS WORK PAD	1050	350	350	350				350					
TOTALS CARRIED TO LOCATION 1b SUMMARY		1050	350	350	350	1	1	2	350	1	1	1	1	1

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CALCULATED JSL
 CHECKED BRC

0 5 10 20
 HORIZONTAL SCALE IN FEET

TRAFFIC SURVEILLANCE PLAN
I.R. 70

LIC-310-0.74

GENERAL

THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC CONTROL EQUIPMENT AND MATERIALS IN CONFORMANCE TO THESE PLANS AND SPECIFICATIONS, THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), SUPPLEMENTAL SPECIFICATIONS (SS), STANDARD CONSTRUCTION DRAWINGS (SCD) AND PLAN INSERT SHEETS (PIS).

BEFORE ANY EQUIPMENT IS ORDERED OR INSTALLATION HAS BEGUN, THREE SETS OF A COMPLETE SCHEDULE OF EQUIPMENT INCLUDING CATALOG CUTS, DIAGRAMS, DRAWINGS, BROCHURES OR OTHER DESCRIPTIVE DATA SHALL BE SUBMITTED TO THE ENGINEER. ONE COPY WILL BE RETURNED MARKED "APPROVED" IF FOUND SATISFACTORY. WORK MAY BEGIN WHEN THE APPROVED COPY IS RECEIVED BY THE CONTRACTOR.

ANY EQUIPMENT OR MATERIAL NOT SPECIFICALLY CALLED FOR IN THESE SPECIFICATIONS BUT NECESSARY TO PROVIDE A COMPLETE AND SUCCESSFULLY OPERATING SYSTEM SHALL BE FURNISHED AS INCIDENTAL TO THE CONTRACT. PAYMENT FOR SUCH ITEMS WILL BE MADE UNDER THE APPROPRIATE RELATED ITEM AT THE CONTRACT BID PRICE, COMPLETE AND IN PLACE.

ALL NECESSARY SIGNS AND PAVEMENT MARKINGS SHALL BE IN PLACE BEFORE ANY SIGNAL MAY BE PLACED IN OPERATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF **180 DAYS** FOLLOWING COMPLETION OF THE TEN DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL, AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLERS, RADAR DETECTION, SPREAD SPECTRUM RADIO AND ALL ASSOCIATED EQUIPMENT.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE OR THE MAINTAINING AGENCY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM SHALL BE INCIDENTAL TO AND INCLUDED IN THE UNIT PRICE BID OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

UNDERDRAINS FOR PULL BOXES

SEE **SCD HL-30.11** FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED WHERE FEASIBLE, AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY:

ITEM 611, 4" CONDUIT, TYPE E.....300 FT

STEEL PAINTING REQUIREMENTS

IN ADDITION TO THE REQUIREMENTS OF **CMS 514 & 708**, ALL ITEMS BEING PAINTED SHALL USE FEDERAL COLOR **FS 27038 (SEMI GLOSS BLACK)** AND SHALL BE PAINTED IN A CONTROLLED ENVIRONMENT PRIOR TO SHIPPING TO THE FIELD. THE PAINTING SHALL BE A FIVE-PART PROCESS CONSISTING OF A TWO PART SURFACE PREPARATION FOLLOWED BY A THREE-COAT PAINT SYSTEM. NEW, UN-WEATHERED GALVANIZED STEEL SHALL BE PREPARED FOR COATING BY A SOLVENT CLEANING FOLLOWED BY A BRUSH-OFF BLAST CLEANING. THE THREE-COAT PAINT SYSTEM SHALL CONSIST OF AN ORGANIC ZINC PRIME COAT, AN EPOXY INTERMEDIATE COAT, AND A URETHANE FINISH COAT.

SIGNAL SUPPORT FOUNDATION ELEVATIONS

ELEVATIONS SHOWN IN THE PLANS FOR SIGNAL SUPPORT FOUNDATIONS ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF THE FOUNDATION SHALL BE IN ACCORDANCE WITH **SCD TC-21.20** PROVIDED THE EXISTING SLOPE IS LESS THAN 6:1.

AT LOCATIONS WHERE THE EXISTING SLOPE IS 6:1 OR GREATER, THE BURIED DEPTH OF FOUNDATION, AS SHOWN IN **SCD TC-21.20** SHALL APPLY TO THE LOW SIDE OF THE SLOPE. THE TOP OF THE FOUNDATION SHALL BE SET 2 INCHES ABOVE THE EXISTING SURFACE ON THE HIGH SIDE OF THE SLOPE. THE ADDITIONAL DEPTH OF FOUNDATION NECESSARY TO MEET THESE REQUIREMENTS SHALL BE ADDED TO THE FORMED TOP.

VARMINT GUARDS

VARMINT GUARDS SHALL BE INSTALLED ON ALL SIGNAL SUPPORTS. ATTACH VARMINT SCREEN WITH STAINLESS STEEL BAND AND MINIMUM 2" OVERLAP. TIE OVERLAPPING SCREEN WITH STAINLESS STEEL WIRE TIES. SCREEN SHALL BE WELDED WIRE MESH OR EXPANDED METAL SHEET, STAINLESS STEEL OR GALVANIZED, WITH OPENINGS NO LARGER THAN 3/8" OR APPROVED EQUAL. SEE **SCD HL-10.31** FOR DETAILS. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE SUPPORT.

ITEM 632, PEDESTAL, 10', TRANSFORMER BASE, AS PER PLAN

THIS ITEM INCLUDES FURNISHING AND INSTALLING AN ALUMINUM PEDESTAL AND TRANSFORMER BASE PER **CMS 732.15** AND **SCD TC-83.20**. THE ALUMINUM PEDESTAL AND TRANSFORMER BASE SHALL BE **POWDER COATED SEMI GLOSS BLACK** TO MATCH SIGNAL SUPPORTS.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO ERECT THE PEDESTAL.

ITEM 632, SIGNAL SUPPORT, BY TYPE, BY DESIGN, WITH MAST ARMS, BY DESIGN, AS PER PLAN

IN ADDITION TO **CMS 632.15 & 732.11**, THIS ITEM INCLUDES THE PAINTING OF THE SIGNAL SUPPORT AND MAST ARM(S) PER THE STEEL PAINTING REQUIREMENTS NOTE ON THIS SHEET.

THE SIGNAL SUPPORT DESIGNER SHALL PROVIDE DRAWINGS FOR ALL SIGNAL SUPPORTS IN THESE PLANS, WITH STRUCTURAL ASPECTS OF THE DESIGN AND MATERIALS IN COMPLIANCE WITH THE 2001 AASHTO STANDARD SPECIFICATIONS, WITH 2006 INTERIM REVISIONS. THE SIGNAL SUPPORT SHALL BE ASTM A595 GRADE A WITH A MINIMUM YIELD STRENGTH OF 50 KSI. THE FOLLOWING DESIGN PARAMETERS SHALL BE USED:

1. BASIC WIND SPEED = 90 MPH
2. DESIGN LIFE = 25 YEARS
3. FATIGUE CATEGORY = III
4. GALLOPING: NO
5. TRUCK INDUCED GUST: NO

SUBMIT, TO THE ENGINEER PRIOR TO INCORPORATION: TWO COPIES OF THE SIGNAL SUPPORT DRAWINGS AND SHOP DRAWINGS, WHICH IDENTIFY AND DESCRIBE EACH MANUFACTURED SIGNAL SUPPORT AND SIGNAL SUPPORT WHICH IS BEING INCORPORATED INTO THE CONSTRUCTION. THE SIGNAL SUPPORT DRAWINGS AND SHOP DRAWINGS SHALL EACH BE REVIEWED, SEALED, SIGNED, AND DATED BY TWO OHIO REGISTERED PROFESSIONAL ENGINEERS.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO ERECT THE PAINTED SIGNAL SUPPORT IN COMPLIANCE WITH THE SPECIFICATIONS STATED ABOVE.

SIGNAL SUPPORT TABLE (FOR INFORMATION ONLY)					
INTERSECTION	POLE #	TYPE	DESIGN #	POLE HEIGHT (FT)	ARM LENGTH (FT)
S.R. 310/ RAMP D	1	TC-81.21	13	24	52
	2	TC-81.21	12	22.5	46
	3	TC-81.21	12	22.5	46
S.R. 310/ RAMP B	1	TC-81.21	11	22.5	40
	2	TC-81.21	2	22.5	32
	3	TC-81.21	14	25.5	62
S.R. 310/ ETNA CREST BLVD.	1	TC-81.21	12	22.5	48
	2	TC-81.21	13	22.5	50
	3A	TC-12.30	9	22	48
	3B				53

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ITEM 632, POWER SERVICE, AS PER PLAN

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

AMERICAN ELECTRIC POWER
SOLUTION CENTER
PHONE: 1-800-672-2231

ALL POWER SERVICES SHALL BE POLE MOUNTED UNLESS STATED AS GROUND MOUNTED IN PLANS AND SHALL BE INSTALLED AS SPECIFIED IN **CMS 632.24, 732.20, AND SCD TC-83.10** AT EACH INTERSECTION SHOWN IN THE TRAFFIC SIGNAL PLANS.

THE CONTRACTOR SHALL SUPPLY **120 VOLT, SINGLE PHASE, 3-WIRE** POWER WITH DISCONNECTS INSTALLED FOR EACH INTERSECTION AS DESCRIBED BELOW:

S.R. 310 & RAMP B

THE POWER SERVICE SHALL CONTAIN **TWO 60 AMP** RATED DISCONNECT ENCLOSURES (ONE ON POWER SERVICE POLE AND ONE ON SIGNAL POLE) HOUSING **TWO 30 AMP** WATERPROOF DISCONNECT SWITCHES (ONE FOR SIGNAL AND ONE FOR SURVEILLANCE CAMERA). POWER SERVICE TO THE CAMERA SHALL BYPASS THE UPS AND RUN DIRECTLY INTO THE SIGNAL CABINET PULL BOX THEN TO THE ITS CABINET.

S.R. 310 & RAMP D

THE POWER SERVICE SHALL CONTAIN **TWO 60 AMP** RATED DISCONNECT ENCLOSURES (ONE ON POWER SERVICE POLE AND ONE MOUNTED ON UPS CABINET WITH WATERTIGHT SEAL) HOUSING **ONE 30 AMP** WATERPROOF DISCONNECT SWITCH FOR SIGNAL. THE CONTRACTOR SHALL VERIFY THE UPS CABINET MOUNT LOCATION WITH THE MANUFACTURER REPRESENTATIVE. IF MOUNTING OF ENCLOSURE IS NOT FEASIBLE THEN THE DISCONNECT ENCLOSURE SHALL BE GROUND MOUNTED ADJACENT TO THE UPS CABINET ON GALVANIZED STEEL FRAME.

S.R. 310 & ETNA CREST BLVD.

THE POWER SERVICE SHALL CONTAIN **ONE 60 AMP** RATED DISCONNECT ENCLOSURE ON GROUND MOUNTED FRAME (**SEE LIGHTING SHEET XX**) HOUSING **ONE 30 AMP** WATERPROOF DISCONNECT SWITCH FOR SIGNAL.

THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. **A MINIMUM OF THREE (3) MONTHS NOTICE SHALL BE GIVEN TO THE POWER COMPANY FOR NEW INSTALLATIONS.** THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE SERVICE CABLE INTO THE POWER COMPANY'S CIRCUITS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES ASSOCIATED WITH THE SERVICE. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL SERVICE IS ACCEPTED BY THE MAINTAINING AGENCY.

POWER CABLE AND CONDUIT QUANTITIES FOR UNDERGROUND SERVICE HAVE BEEN ITEMIZED SEPARATELY IN THE PLANS FOR CONNECTION BETWEEN POWER SERVICE POLE AND THE CONTROLLER CABINET. IF THE PROPOSED POWER SERVICE LOCATION SHOWN IN PLANS IS NOT FEASIBLE THEN THE CONTRACTOR SHALL MOVE THE POWER SERVICE LOCATION AT APPROVAL OF THE ENGINEER. ITEMIZED QUANTITIES SHALL BE ADJUSTED.

ITEM 632, POWER SERVICE, AS PER PLAN (CONT'D)

THE CONTRACTOR WILL BE RESPONSIBLE FOR SUPPLYING OR REQUESTING FROM POWER COMPANY A WOOD POLE (CONFORMING TO **CMS 632.17 & 732.13**) BE INSTALLED AT EACH LOCATION SHOWN IN THE PLANS FOR OVERHEAD POWER SERVICE CONNECTION AND MOUNTING OF THE METER BASE AND DISCONNECT SWITCH ENCLOSURE. UNDERGROUND SERVICE WILL RUN FROM THE POLE MOUNTED METER BASE AND DISCONNECT SWITCH ENCLOSURE TO EITHER THE SIGNAL POLE MOUNTED DISCONNECT SWITCH ENCLOSURE OR TO THE UPS CABINET WITH CONDUIT AND CABLE ITEMIZED SEPARATELY AS STATED ABOVE.

DISCONNECT SWITCH ENCLOSURES SHALL BE PER **CMS 732.21** AND INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND SHALL BE KEYED IN ACCORDANCE WITH **CMS 631.06**. EACH ENCLOSURE SHALL HAVE A SAFETY SWITCH DISCONNECT.

PAYMENT FOR THE AFOREMENTIONED WORK SHALL BE MADE AT THE UNIT PRICE BID FOR EACH POWER SERVICE, COMPLETE IN PLACE, INCLUDING WEATHER-HEAD, CONDUIT RISER, FITTINGS, CLAMPS, DISCONNECT SWITCH WITH ENCLOSURE, METER BASE, GROUND RODS, MOUNTING HARDWARE, PADLOCK AND KEY, AND ALL OTHER INCIDENTALS (UNLESS ITEMIZED SEPARATELY) NECESSARY FOR COMPLETE SERVICE AS SHOWN IN PLANS, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 632, REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

THE EXISTING TRAFFIC SIGNALS AT S.R. 310/I.R 70 INTERCHANGE RAMPS SHALL BE REMOVED IN ACCORDANCE WITH **CMS 632.26** AND INCLUDE REMOVAL OF ALL PULL BOXES, DETECTOR LOOPS, CONDUIT, AND CABLES ASSOCIATED WITH THE EXISTING TRAFFIC SIGNAL.

THIS ITEM ALSO INCLUDES THE DISCONNECTION, REMOVAL, AND DISPOSAL OF THE EXISTING UNDERGROUND POWER SERVICE BETWEEN THE INTERCHANGE RAMPS. THIS SHALL INCLUDE ALL CABLE, CONDUIT, AND PULL BOXES ASSOCIATED WITH THE EXISTING SERVICE. THE EXISTING CONDUIT UNDER I.R 70 SHALL BE ABANDONED IN PLACE WITH THE ENDS OF CONDUIT BEING PLUGGED OR SEALED.

BEFORE DISCONNECTION TAKES PLACE, TEMPORARY OVERHEAD SERVICE SHALL BE INSTALLED. SEE MAINTENANCE OF TRAFFIC SHEETS FOR DETAILS.

THE FOLLOWING ITEMS SHALL BE STORED FOR SALVAGE BY THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 5:

- CONTROLLER CABINET WITH ALL EQUIPMENT INSIDE
- UNINTERRUPTIBLE POWER SUPPLY AND CABINET
- YAGI DIRECTIONAL ANTENNA'S WITH ALL EQUIPMENT

CONTACT **RON MILLER AT 740.323.5286** TO ARRANGE FOR PICKUP OF THESE ITEMS FROM THE JOB SITE. IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE STATE ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

REMOVAL OF ITEMS MENTIONED ABOVE SHALL BE INCLUDED WITH PAYMENT FOR ITEM 632, REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

ITEM 632, VEHICULAR SIGNAL HEAD, (LED) BLACK, BY SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF **CMS 632 & 732**, THE FOLLOWING SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC WITH VISORS AS SPECIFIED AND MEET ITE SPECIFICATIONS.
2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
3. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL.
4. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
5. ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE YELLOW LENS LOCATED IN FRONT OF THE MAST ARM.
6. ALUMINUM BACKPLATES SHALL BE IN ACCORDANCE WITH **CMS 732.22** AND INCLUDE A FLUORESCENT YELLOW REFLECTIVE BORDER.
7. THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF **CMS 732.04-C**. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.
8. SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.117 INCHES.
9. SIGNAL HEADS SHALL INCLUDE CUTAWAY TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS.
10. APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO, FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.
11. BALANCE ADJUSTERS SHALL NOT BE USED ON ONE-WAY HEADS OR TETHERED HEADS.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH COMPLETE SIGNAL HEAD, FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

ITEM 632, PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF **CMS 632 & 732**, THE FOLLOWING SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
3. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
4. THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.
5. NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED
6. THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF **CMS 732.04-C**. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.
7. THE PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED ON PEDESTAL A MINIMUM OF 8' FROM BIKE PATH SURFACE. SEE PLANS FOR DETAILS.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH COMPLETE SIGNAL HEAD, FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

ITEM 632, PEDESTRIAN PUSHBUTTON, AS PER PLAN

THE PEDESTRIAN PUSHBUTTONS SHALL ADHERE TO THE REQUIREMENTS OF **CMS 632.09 & 732.06**. THE PUSHBUTTON SHALL FACE THE BIKE PATH AND BE MOUNTED ON PEDESTAL NO HIGHER THAN 4' FROM BIKE PATH SURFACE. SEE PLANS FOR DETAILS.

PUSHBUTTONS SHALL INCLUDE THE COST TO PROVIDE PEDESTRIAN CROSSING SIGNS PER **CMS 632.29**. PEDESTRIAN CROSSING SIGNS SHALL BE OMUTCD **R10-3E** SIGNS AND HAVE NOMINAL DIMENSIONS OF 9" X 15". PEDESTRIAN CROSSING SIGNS SHALL BE CAST ALUMINUM AND SHALL BE INTEGRAL TO THE PUSHBUTTON. SIGNS SHALL BE BOLTED 6" ABOVE PUSHBUTTON (WITH STAINLESS STEEL HARDWARE) ON THE POLES, NO BANDING WILL ACCEPTED. THE CONTRACTOR SHALL FIELD DRILL AND TAP INTO THE PEDESTALS IN TWO PLACES TO ACCOMMODATE THE INSTALLATION OF THE SIGNS.

ALL COSTS INCLUDING TOOLS, MATERIALS, AND LABOR TO PROVIDE AND INSTALL A PEDESTRIAN PUSHBUTTON WITH INTEGRAL SIGN IN ACCORDANCE WITH THIS NOTE AND THE PLAN DETAILS SHALL BE INCLUDED IN THE BID ITEM PRICE.

ITEM 632, SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN

THIS ITEM SHALL CONSIST OF THE CONTRACTOR INSTALLING A TUNED MECHANICAL STOCKBRIDGE OR MASS-SPRING TYPE DAMPER ON **SCD TC-81.21** MAST ARM SIGNAL SUPPORT TO REDUCE THE POSSIBILITY OF HARMONIC VIBRATIONS CAUSED BY WIND LOADS. A MECHANICAL DAMPER SHALL BE APPLIED TO ALL MAST ARMS OVER 59 FEET IN LENGTH. THE INSTALLED DAMPER SHALL BE CAPABLE OF REDUCING THE LOADED MAXIMUM VERTICAL MOVEMENT AT THE TIP OF THE ARM TO 8 INCHES MEASURED FROM THE HIGHEST TO THE LOWEST POINT OF DEFLECTION AT WIND SPEEDS OF 5-20 MPH.

ALL ATTACHMENT HARDWARE CONNECTIONS SHALL BE STAINLESS STEEL. STOCKBRIDGE-TYPE DAMPERS SHALL HAVE A STAINLESS STEEL SAFETY CHAIN ANCHORED TO THE MAST ARM TO PREVENT WEIGHTS FROM FALLING SHOULD THEY BECOME SEPARATED FROM THE REST OF THE ASSEMBLY. THE DAMPER SHALL BE ATTACHED TO THE ARM WITHIN 8 FEET OF MAST ARM TIP. INSTALLATION SHALL BE PER THE MANUFACTURER'S GUIDELINES. STATIC DAMPERS SUCH AS HORIZONTAL FLAT SIGN MOUNTINGS SHALL NOT BE USED. ACCEPTABLE DEVICES INCLUDE THE FOLLOWING OR APPROVED EQUAL:

1. UNION METAL ALCOA DAMPER DEVICE - DWG. NO. 2G-1817-C1
2. VALMONT STRUCTURES ALCOA DEVICE - DWG. NO. OH104242P1
3. FLORIDA DOT SPRING-MASS DAMPER - DRAWING INDEX NO. 17749
4. PATH MASTER DAMPER ASSEMBLY - DWG. U2G-1817-C

PAYMENT FOR ITEM 632, SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN SHALL BE MADE AT THE UNIT PRICE BID PER EACH COMPLETE AND IN PLACE, AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY

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ITEM 633, UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF **CMS 633 & 733**, THE CONTRACTOR SHALL PROVIDE A 12" CABINET RISER AND ANCHOR BOLTS FOR THE GROUND MOUNTED UNINTERRUPTIBLE POWER SUPPLY (UPS). SEE **PIS 208320** FOR MOUNTING DETAILS.

THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST UPS STATUS INDICATOR LAMPS THAT ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. A 1-INCH WATERPROOF NEMA 4X OR IP66 LAMP WITH A DOMED RED LENS SHALL BE USED TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS LAMP SHALL BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACK- UP POWER STATUS DISPLAY," WITH WIRE POLARITY INDICATED. THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THE STATUS DISPLAY SHALL BE SOLID 100% DUTY CYCLE (NOT FLASHING). THE LAMP SHALL BE PLACED IN THE UPS CABINET WALL (NOT THE ROOF) IN SUCH A MANNER AS TO BE SEALED FROM WATER INTRUSION AND VISIBLE FROM A VEHICLE AT THE STOP LINE IN THE CLOSEST LANE OF AT LEAST ONE APPROACH TO THE SIGNALIZED INTERSECTION. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC.

DURING A POWER OUTAGE, THE UPS SHALL BE PROGRAMMED TO RUN THE INTERSECTION CONTINUOUSLY UNTIL POWER RUNS OUT. THE INTERSECTION SHALL NOT GO INTO FLASH.

THE GENERATOR POWER PANEL SHALL BE CONSTRUCTED IN ACCORDANCE WITH **PIS 203012**.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH UNIT, COMPLETE IN PLACE, INCLUDING WIRE FOR ALARM OUTPUT TO CONTROLLER AND ALL OTHER INCIDENTALS NECESSARY FOR A FULLY OPERATIONAL UPS, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 633, CONTROLLER UNIT, TYPE 2070E, WITH CABINET, TYPE 332, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF **CMS 633 & 733**, THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE CONTROLLER UNIT SHALL BE EQUIPMENT MANUFACTURED IN CONFORMANCE TO THE CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) SPECIFICATIONS TITLES "TRANSPORTATION ELECTRICAL EQUIPMENT SPECIFICATIONS (TEES)." THE CONTROLLER UNIT, MODEL 2070E, SHALL BE COMPLIANT WITH THE 2070E MANUFACTURER AND BUILD AS PER THE OTO APPROVED LIST.

THE 2070E CONTROLLER UNIT SHALL INCLUDE THE FOLLOWING:

1. UNIT CHASSIS
2. 2070-1E CPU MODULE
3. 2070-2A FIELD I/O MODULE
4. 2070-3B FRONT PANEL
5. 2070-4A POWER SUPPLY
6. 2070-7A SERIAL COMMUNICATION MODULE

THE CONTROLLER SHALL BE SUPPLIED WITHOUT TRAFFIC SIGNAL INTERSECTION CONTROL SOFTWARE. THE CONTROLLER SHALL BE SUPPLIED WITH MICROWARE EMBEDDED OS-9 RELEASE 1.3 OR LATER WITH KERNEL EDITION #376 OR LATER, AS REQUIRED BY CALTRANS TEES. FOR WARRANTY PURPOSES, A VENDOR-SPECIFIC DECAL, AS PER ODOT CMS 733.02 SHALL BE APPLIED TO ITEMS 1 THROUGH 4 OF THE LIST ABOVE AT TIME OF DELIVERY TO THE PROJECT.

THE CONTROLLER SHALL BE SHIPPED BY THE CONTRACTOR TO THE ODOT SIGNAL SHOP, 1606 WEST BROAD STREET, COLUMBUS, OHIO 43223 A MINIMUM OF **14 DAYS** IN ADVANCE OF WHEN THE SOFTWARE IS NEEDED. THE CONTRACTOR SHALL NOTIFY **BRIAN BOSCH, DISTRICT 5 TRAFFIC ENGINEER AT 740.323.5182** OF THE CONTROLLER SHIPMENT.

ODOT WILL INSTALL THE INTERSECTION CONTROL SOFTWARE AND TIMING PLAN. THE CONTROLLER WILL THEN BE PERFORMANCE TESTED BY THE ODOT SIGNAL SHOP. EVERY EFFORT SHALL BE MADE TO HAVE LOADING AND PERFORMANCE TESTING COMPLETED BY THE ODOT SIGNAL SHOP WITHIN 2 WEEKS OF RECEIPT OF AN INDIVIDUAL CONTROLLER; LARGER GROUPS OF CONTROLLERS SUBMITTED AT THE SAME TIME MAY TAKE LONGER. SHOULD ANY CONTROLLER FAIL THIS PERFORMANCE TEST AFTER BEING LOADED WITH ODOT-LICENSED SOFTWARE, THE SOFTWARE WILL BE REMOVED BY THE ODOT SIGNAL SHOP AND THE CONTROLLER REJECTED. REJECTED CONTROLLERS WILL BE RETURNED, EITHER DIRECTLY TO THE CONTRACTOR OR TO THE ODOT DISTRICT OFFICE. CONTROLLERS PASSING THE PERFORMANCE TEST WILL BE LABELED BY THE ODOT SIGNAL SHOP WITH THE OS IMAGE NUMBER, CPU SERIAL NUMBER, SOFTWARE REVISION NUMBER, AND UPLOAD DATE. THIS LABEL IS NOT TO BE REMOVED BY THE CONTRACTOR AND SERVES AS PROOF THAT THE CONTROLLER HAS BEEN LOADED, TESTED AND APPROVED FOR INITIAL INSTALLATION ON THE PROJECT. SUCH PROOF DOES NOT ALTER THE REQUIRED 10-DAY PERFORMANCE TEST OUTLINED IN CMS SECTIONS 632 AND 633.

THE CONTRACTOR SHALL NOT REASSIGN THE CABINET DETECTOR INPUTS IN ORDER TO REDUCE THE NUMBER OF 2-CHANNEL DETECTOR UNITS SUPPLIED, BUT SHALL USE THE STANDARD CALTRANS INPUT FILE DESIGNATIONS.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH UNIT, COMPLETE IN PLACE, INCLUDING ALL LABOR, EQUIPMENT, MATERIAL, CABINET & MOUNTING HARDWARE, AND ALL OTHER INCIDENTALS NECESSARY FOR A FULLY OPERATIONAL CONTROLLER CABINET, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 633, CONTROLLER ITEM, MISC.: SPREAD SPECTRUM RADIO, FURNISH RADIO ONLY

THIS ITEM SHALL CONSISTS OF FURNISHING A COMPLETE RADIO AND POWER SUPPLY IN CONFORMANCE WITH **SS 815 & SS 906** WITH ALL NECESSARY ACCESSORIES FOR OPERATION IN THE SIGNAL CABINET. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH RADIO AND POWER SUPPLY FURNISHED.

THE FOLLOWING QUANTITY IS BEING CARRIED TO THE GENERAL SUMMARY:

ITEM 633, CONTROLLER ITEM, MISC.: SPREAD SPECTRUM RADIO, FURNISH RADIO ONLY6 EACH

ITEM 633, CONTROLLER ITEM, MISC.: SPREAD SPECTRUM RADIO, FURNISH RADIO ONLY (INTUICOM EB-6 PLUS) (ALTERNATE)

THIS ITEM SHALL CONSISTS OF ONLY FURNISHING AN **INTUICOM EB-6 PLUS WIRELESS ETHERNET TRANSCEIVER RADIO AND POWER SUPPLY** WITH ALL ACCESSORIES AS REQUIRED IN THE STANDARD BID ITEM.

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ITEM 809, STOP BAR RADAR DETECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR MATRIX DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

- POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
- ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
- THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
- SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
- THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
- A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MIN. 7 FEET)
- THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, AND ALL OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM, ALL CONNECTIONS TESTED AND ACCEPTED

ITEM 809, ADVANCE RADAR DETECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR ADVANCE DETECTION UNIT (MODEL SS-200E). THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

- POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
- ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
- THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
- SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
- THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
- A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MIN. 7 FEET)
- THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, AND ALL OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM, ALL CONNECTIONS TESTED AND ACCEPTED

ITEM 815, SPREAD SPECTRUM RADIO, AS PER PLAN

THIS ITEM SHALL CONSISTS OF FURNISHING AND INSTALLING A COMPLETE AND OPERATIONAL ETHERNET RADIO IN CONFORMANCE WITH **SS 815 & SS 906** AND ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR, BUT NOT LIMITED TOO, SUPPLYING AND INSTALLING THE RADIO UNIT, MANUFACTURER RECOMMENDED COAXIAL CABLE FROM THE ANTENNA TO A TERMINATION POINT IN THE TRAFFIC CONTROL CABINET, YAGI / OMNI-DIRECTIONAL ANTENNA, PHASERS, GROUND STRAPS, TERMINATION CONNECTORS, AND ALL OTHER COMPONENTS NECESSARY TO INSTALL A ETHERNET RADIO COMPLETE IN PLACE THAT IS FULLY FUNCTIONAL WITH THE TRAFFIC SIGNAL INSTALLATION.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH RADIO INSTALLED AT THE INTERSECTION, COMPLETE IN PLACE, INCLUDING ALL MATERIALS STATED ABOVE, LABOR, EQUIPMENT, AND ALL OTHER INCIDENTALS NECESSARY FOR A FULLY OPERATIONAL ETHERNET RADIO, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 815, SPREAD SPECTRUM RADIO, AS PER PLAN (INTUICOM EB-6 PLUS) (ALTERNATE)

THIS ITEM SHALL CONSISTS OF FURNISHING AND INSTALLING AN **INTUICOM EB-6 PLUS WIRELESS ETHERNET TRANSCEIVER RADIO** WITH ALL THE EQUIPMENT AND ACCESSORIES AS REQUIRED IN THE STANDARD BID ITEM.

GROUNDING AND BONDING

IN ADDITION TO THE REQUIREMENTS OF **CMS 625 & 725**, THE FOLLOWING SHALL APPLY:

- 1) ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
 - A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
 - B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
 - C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
 - D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
 - E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
 - F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2) CONDUITS.

- A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
- B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
- C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
- D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3) WIRE FOR GROUNDING AND BONDING.

- A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
 - I) USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
 - II) USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
 - III) USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
 - IV) THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
- B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4) GROUND ROD.

- A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
- B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5) THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND. NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	# 2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED

6) POWER SERVICE AND DISCONNECT SWITCH.

- A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.
- B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
 - I) NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
 - II) IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7) PAYMENT

ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT. GROUND RODS HAVE BEEN ITEMIZED SEPARATELY.

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ITEM 633, CONTROLLER WORK PAD, AS PER PLAN

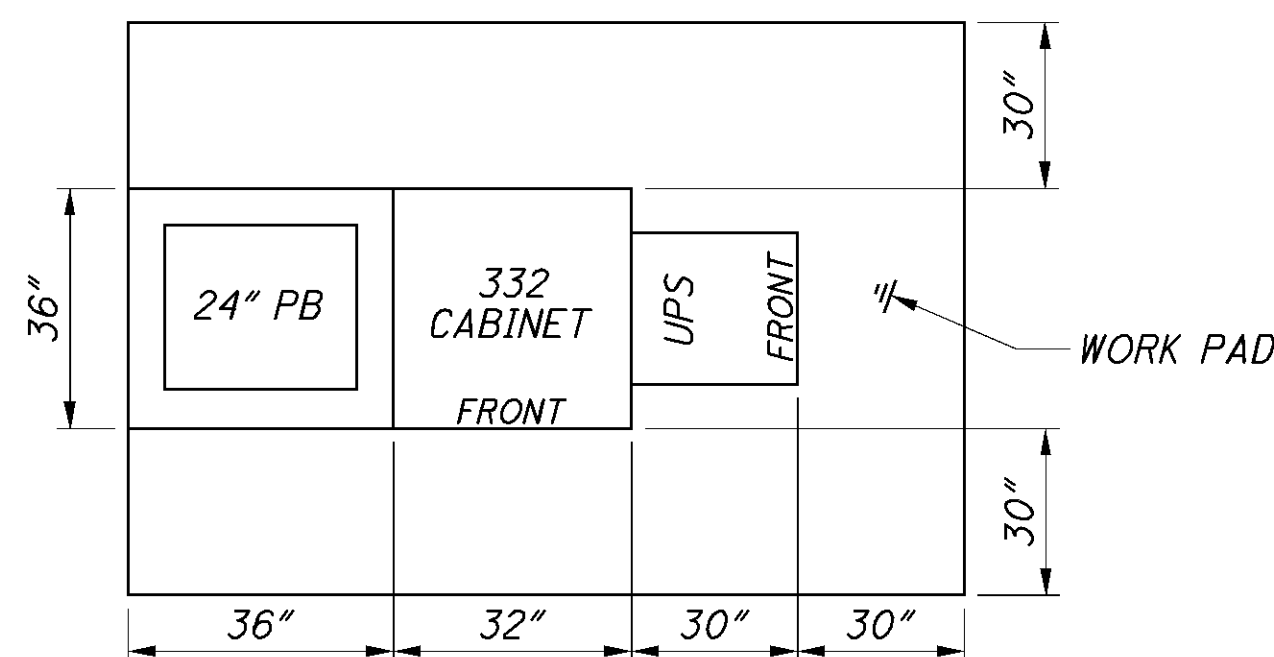
THIS ITEM SHALL INCLUDE THE ADDITIONAL EXCAVATION, EMBANKMENT, AND CONCRETE NECESSARY TO EXTEND THE CONTROLLER WORK PAD TO THE DIMENSIONS SHOWN BELOW AND PROVIDE A LEVEL WORK PAD.

THE CONTROLLER WORK PAD SHALL BE IN ACCORDANCE WITH CMS 633.11, TC-83.20, PIS 208320, AND THE DETAILS ON THIS SHEET.

THE CONTRACTOR SHALL CONSTRUCT THE WORK PAD AS FOLLOWS:

- EXCAVATE A MINIMUM OF 9" BELOW GRADE
- PLACE AND COMPACT 6" OF MATERIAL CONFORMING TO CMS 304.02
- INSTALL A CAST-IN-PLACE WORK PAD THAT IS A MINIMUM OF 4" THICK

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO CONSTRUCT THE CONCRETE WORK PAD.



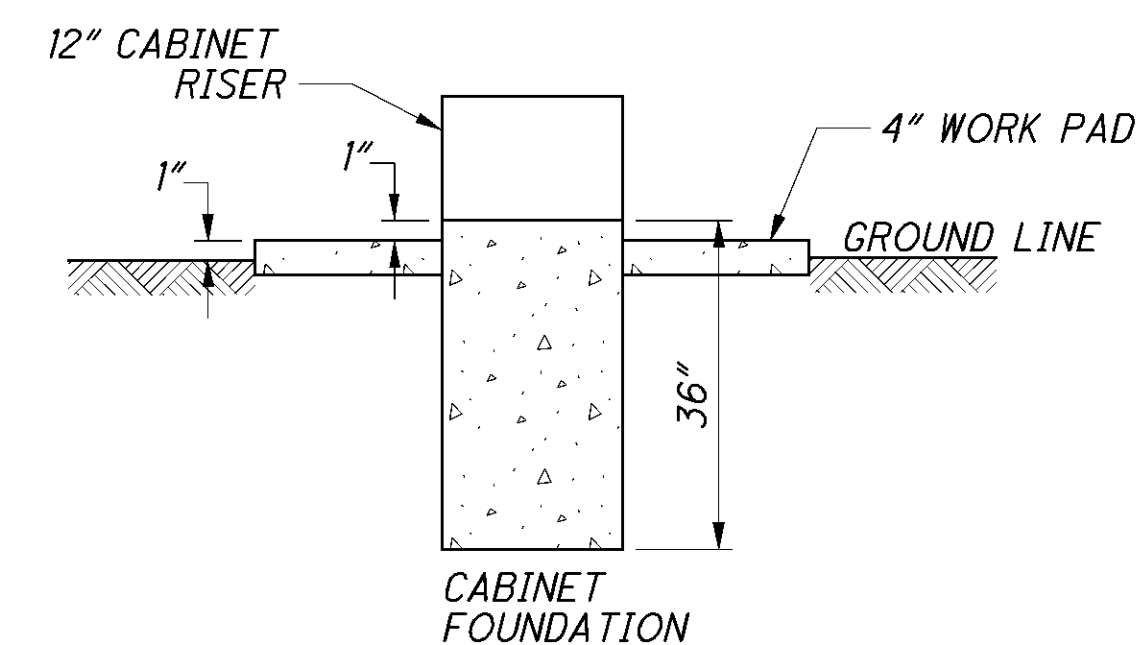
**WORK PAD PLAN VIEW
(96"Wx128"Lx4"D)**

ITEM 633, CABINET FOUNDATION, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ADDITIONAL EXCAVATION AND CONCRETE NECESSARY TO EXTEND THE CONTROLLER CABINET FOUNDATION IN ORDER TO SUPPORT THE UNINTERRUPTIBLE POWER SUPPLY (UPS) CABINET.

THE CONTROLLER AND UPS CABINET FOUNDATION SHALL BE IN ACCORDANCE WITH CMS 633.10, TC-83.20, PIS 208320, AND THE DETAILS SHOWN BELOW. SEE PIS 208320 FOR CONCRETE FOUNDATION QUANTITY.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO CONSTRUCT THE FOUNDATION, INCLUDING CONDUIT ELLS AND ANCHOR BOLTS, RESTORATION OF DISTURBED AREA AND DISPOSAL OF SURPLUS MATERIAL AS PER CMS 104.04.



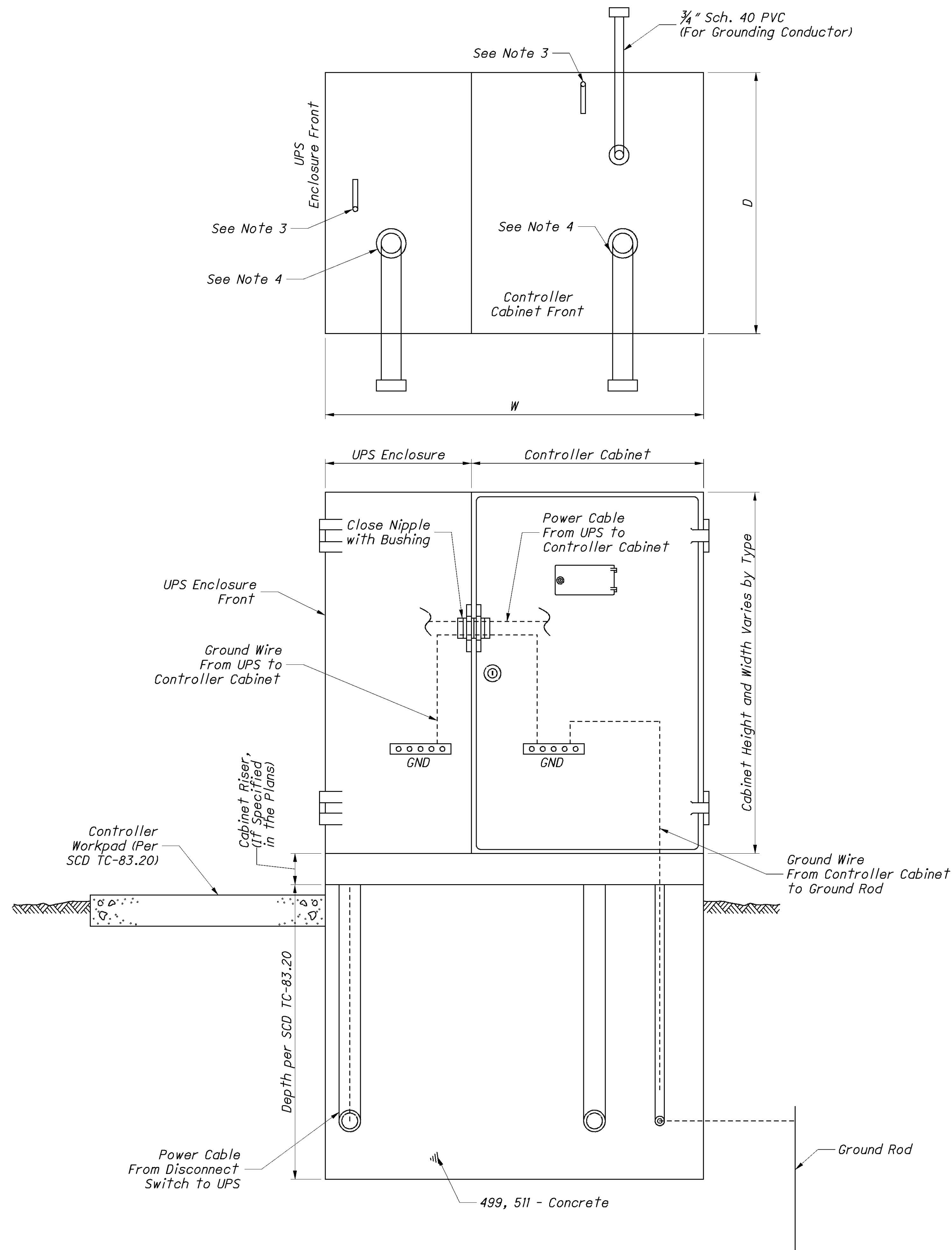
**WORK PAD ELEVATION VIEW
(96"Wx128"Lx4"D)**

SEPERATE BID ITEMS

- 633 CABINET RISER
- 633 CONTROLLER WORK PAD, AS PER PLAN
- 633 CABINET FOUNDATION, AS PER PLAN
- 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN
- 633 CONTROLLER UNIT, TYPE 2070L, WITH CABINET, TYPE 332, AS PER PLAN

NOTES

- 1) THE SIZE OF THE UPS FOUNDATION MAY VARY BASED ON THE CABINET SIZE PROVIDED.
- 2) UPS FOUNDATION ELEVATION SHOULD MATCH CABINET FOUNDATION ELEVATION.
- 3) THE UPS CABINET SHALL BE MOUNTED FLUSH UP AGAINST THE SIGNAL CABINET AND SEALED.
- 4) CONDUIT AND WIRING FROM THE SIGNAL CABINET TO THE UPS SHALL BE INSTALLED THROUGH THE CABINET RISER.
- 5) 1/2" P.E.J.F SHALL BE INSTALLED BETWEEN CABINET/ UPS FOUNDATION AND WORK PAD PER CMS 705.03
- 6) THE 24" PULLBOX SHALL BE PLACED ON OPPOSITE SIDE OF DOOR HINGE



NOTES:

1. The Uninterruptible Power Supply (UPS) enclosure shall be mounted flush up against the traffic signal cabinet and sealed with silicone. The Contractor shall be responsible for providing the necessary power cable between the UPS unit and signal cabinet.
2. The UPS should be placed on the opposite side of the pull box on a 332/336 cabinet (per Standard Construction Drawing (SCD) TC-83.20). The UPS placement for a NEMA cabinet varies, placement should provide adequate access with respect to slope, guardrail spacing, etc.
3. The size, number, and location of anchor bolts shall be in accordance with the manufacturer's recommendations.
4. The size, number, and orientation of conduit ells shall be as shown in the plan, except that a 3/4" schedule 40 PVC shall be installed in each foundation.
5. 1/2" preformed joint filler as per CMS 705.03 shall be used between foundations and adjacent paved areas.
6. See SCD TC-83.20 for further details.

TYPE	W (IN.)	D (IN.)	FOUNDATION CONCRETE (CU. YD.)
TS-1	60	24	1.23
TS-2	70	36	2.16
2070/170	50	36	1.54

THIS DRAWING REPLACES PIS 208320 DATED 04-20-2012.

MATERIAL SPECIFICATIONS FOR BBS GENERATOR POWER PANEL EQUIPMENT

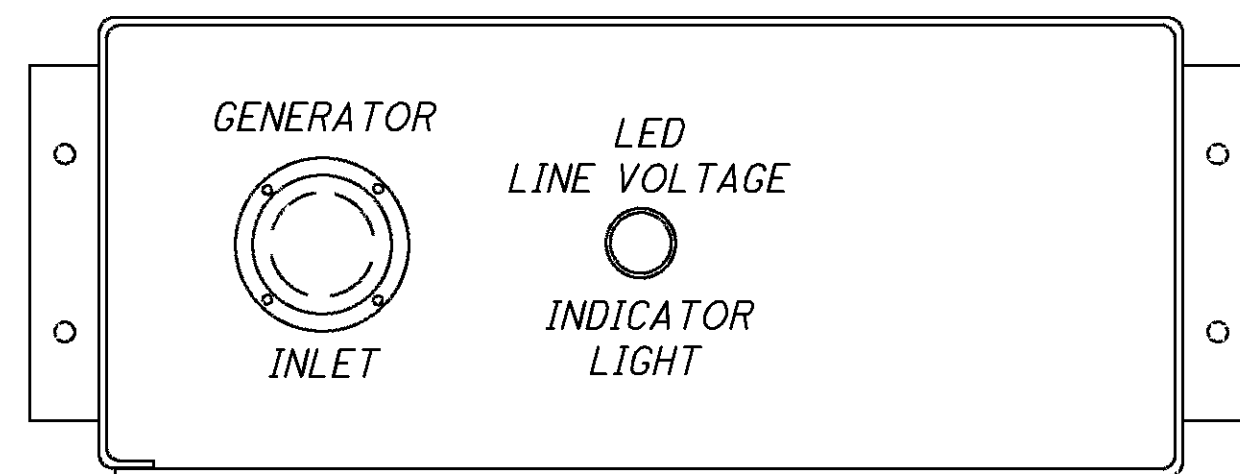
GENERATOR INLET - The inlet shall be 30 amp, 125/250V, locking, four (4) wire grounding and meet the NEMA configuration number L14-30-P 30A 125/250V specification. The inlet shall be a Hubbell catalog #2715.

LINE VOLTAGE GENERATOR SWITCH - The switch shall be 30 amp, 125/250V AC, two (2) pole, three (3) position (On, Off, On). The switch shall be a Hubbell catalog #1388.

LINE VOLTAGE INDICATOR LIGHT - The indicator light shall be 125V AC light emitting diode with a red lens.

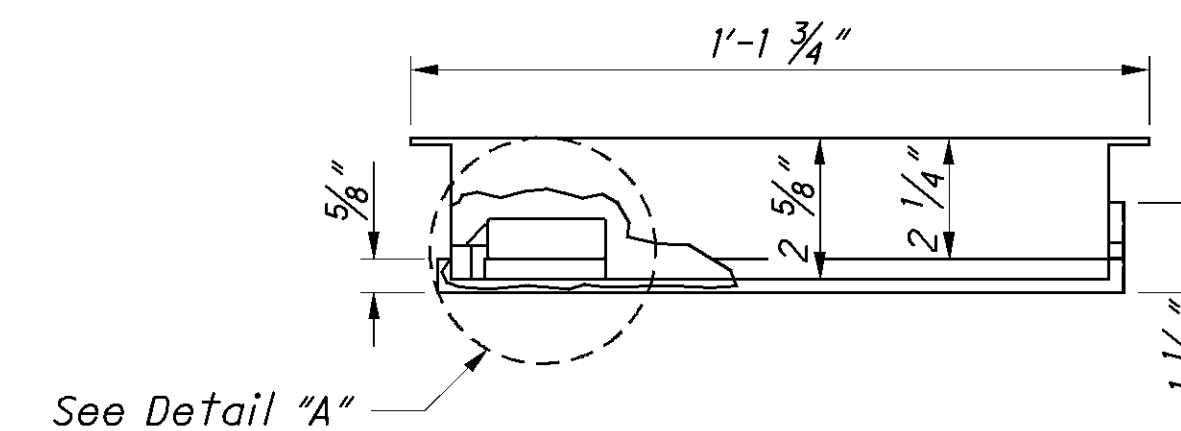
LINE VOLTAGE CIRCUIT BREAKER - The circuit breaker shall be single pole single throw and a minimum of 30 amps. The amperage shall be increased to accommodate greater loads, if necessary. The gauge of the power cable shall be of proper size per N.E.C.

EXTERNAL LINE VOLTAGE INDICATOR LIGHT - The indicator light shall be a 1" waterproof NEMA 4X or IP66 LED lamp with a green lens.

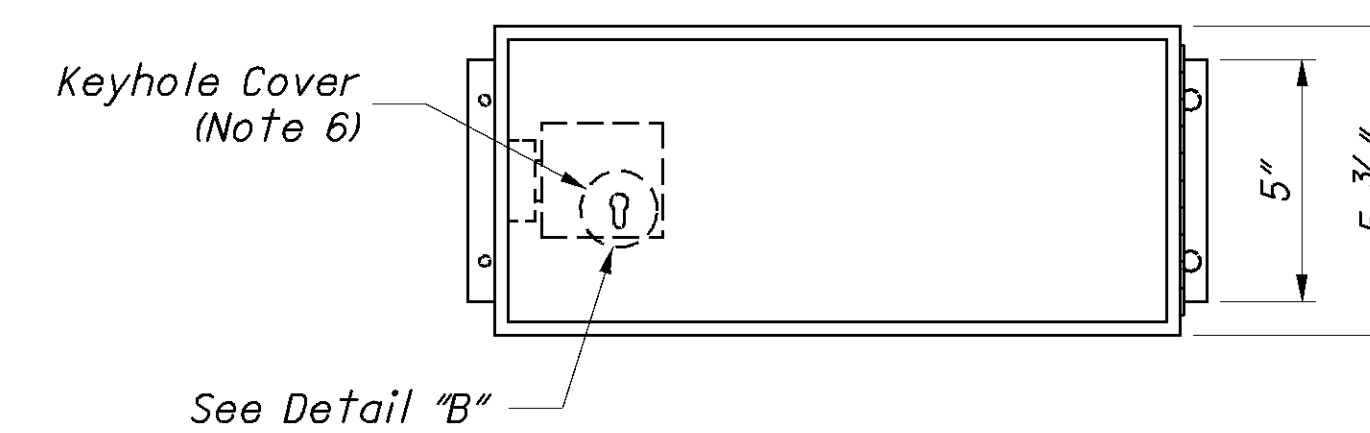


FRONT VIEW OF GENERATOR POWER PANEL

GENERATOR POWER PANEL ENCLOSURE



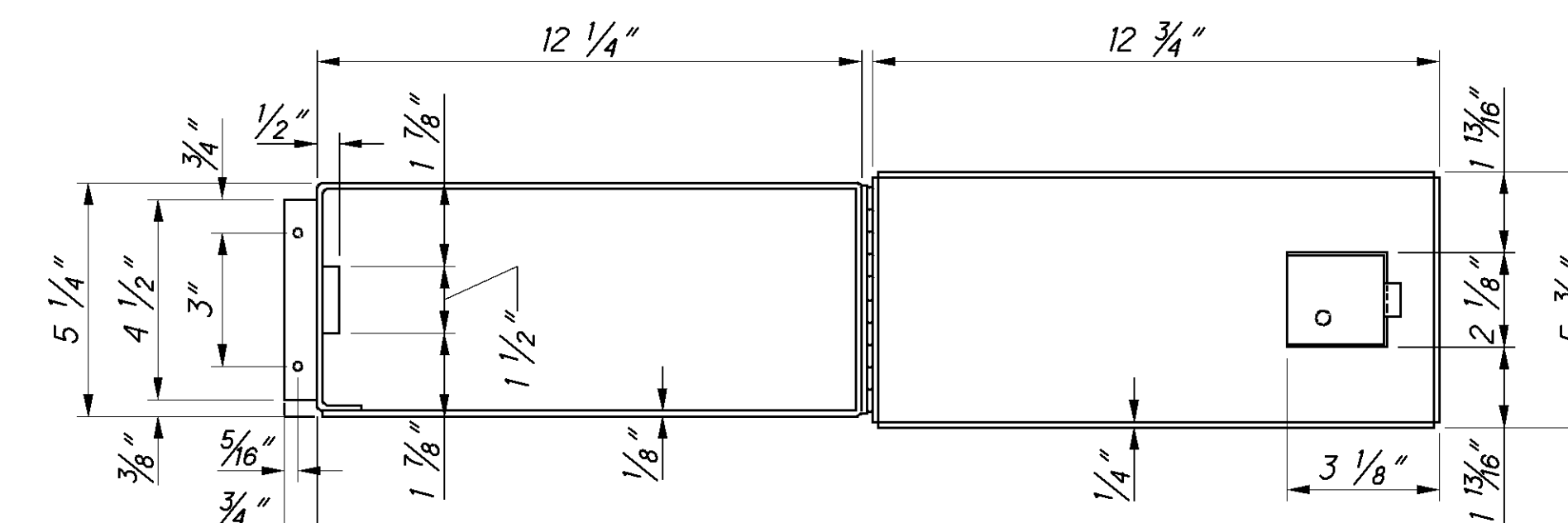
TOP VIEW



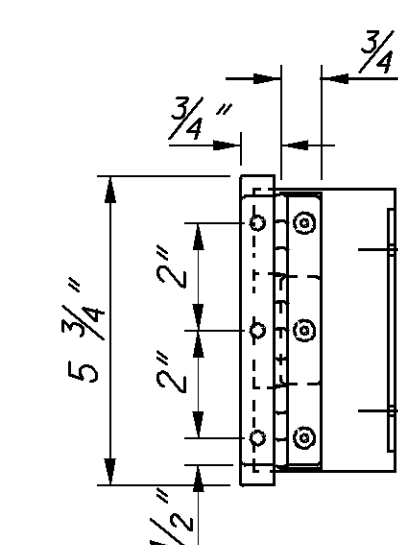
FRONT VIEW CLOSED DOOR

NOTES:

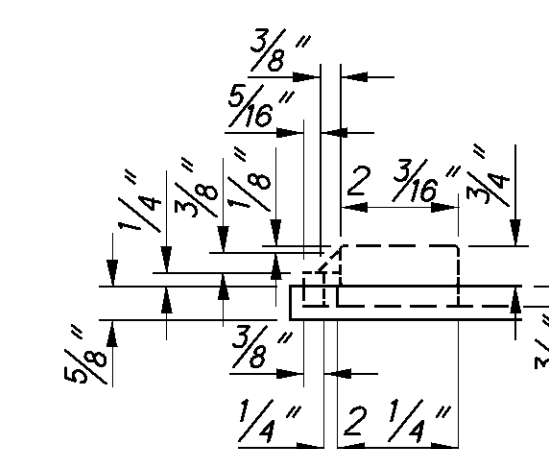
1. The enclosure shall be constructed of 1/8" thick aluminum.
2. The lock shall be the standard police door type, keyed with the standard flasher door skeleton key.
3. The door shall be sealed with a foam rubber gasket to prevent moisture from entering the enclosure.
4. The enclosure shall be mounted onto the outside of the controller cabinet with non-accessible bolts and sealed with a high quality silicon caulk at all surfaces touching the cabinet.
5. The hinge shall be of stainless steel or equivalent corrosive-resistant material.
6. Keyhole shall be covered with a movable circular aluminum or brass cover with top pivot pin.



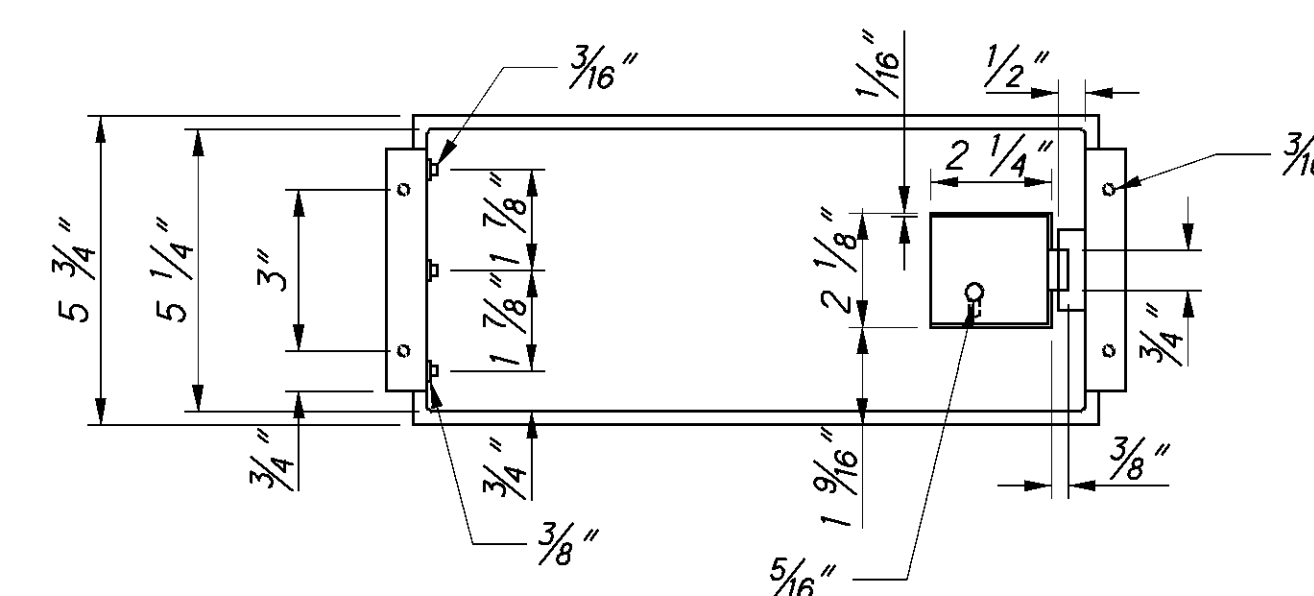
FRONT VIEW OPEN DOOR



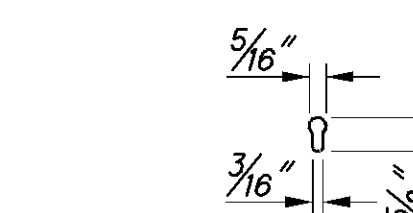
RIGHT SIDE VIEW
CLOSED DOOR



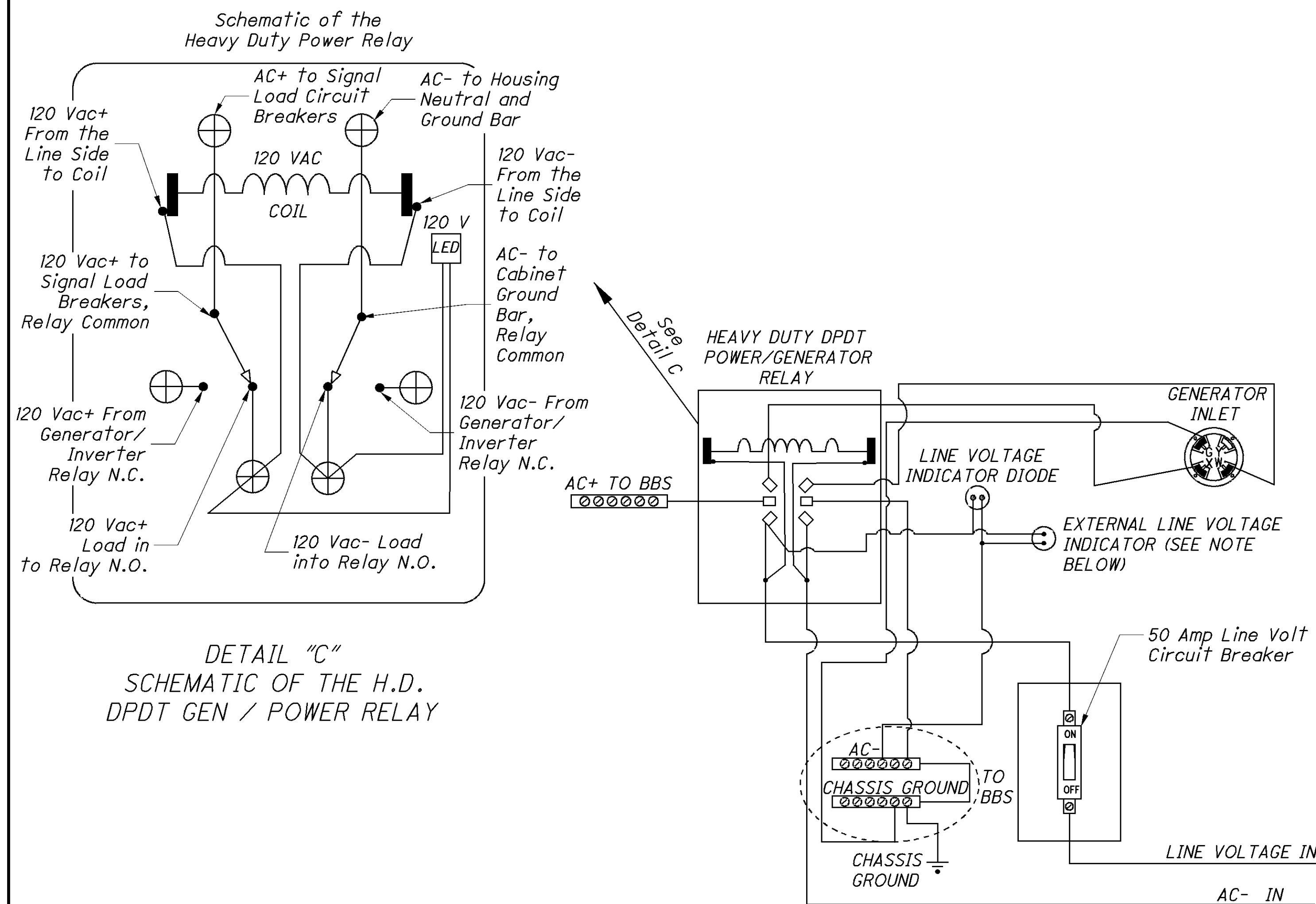
DETAIL "A"



BACK VIEW CLOSED DOOR



DETAIL "B"



DETAIL "C"
SCHEMATIC OF THE H.D.
DPDT GEN / POWER RELAY

ELECTRICAL HOOKUP DETAIL FOR THE BBS GENERATOR POWER PANEL

NOTE: EXTERNAL LINE VOLTAGE INDICATOR LIGHT required when called for in the plans.
EXTERNAL LINE VOLTAGE INDICATOR LIGHT shall be located on the enclosure exterior for visibility from the adjacent roadway when all cabinet, and generator panel doors are closed.

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SHEET NO.	LOCATION	625							630		632								
		CONDUIT, 2", 725.05	CONDUIT, 3", 725.05	CONDUIT, JACKED OR DRILLED, 725.04, 3"	TRENCH, 24" DEEP	ELECTRIC	TRAFFIC	TRAFFIC	SIGN ATTACHMENT ASSEMBLY	SIGN, FLAT SHEET	VEHICULAR SIGNAL HEAD, (LED) BLACK, 3-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED) BLACK, 4-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN	PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN	COVERING OF VEHICULAR SIGNAL HEAD	COVERING OF PEDESTRIAN SIGNAL HEAD	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	POWER CABLE, 3 CONDUCTOR, NO. 4 AWG	POWER SERVICE, AS PER PLAN	
						PULL BOX, 725.08, 18"	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"											EACH
320	P-1 TO PB-1	12			12														
320	PB-1 TO PB-5			118				1											
320	P-2 TO PED-1	9			9														
320	PED-1 TO PED-2			79															
320	PED-2 TO PB-6	23			23														
320	P-3 TO PB-6	10			10														
320	PB-6 TO PB-5			108															
320	PB-5 TO PB-4		20		20														
320	PS-1 TO PB-2	430			430														
320	PB-2 TO PB-3			60				1											
320	PB-3 TO C-1	32			32			1											
320	S3								1	6.3									
320	A TO C-1																		
320	B,C TO C-1																		
320	D TO C-1																		
320	E,F TO C-1																		
320	G TO C-1																		
320	H,I TO C-1																		
320	J,K TO C-1																		
320	PS-1 TO C-1																	547	1
SUB-TOTAL								2	1										
TOTALS CARRIED TO LOCATION 1b SUMMARY		516	20	365	536	3	2	1	6.3	8	1	2	9	2	1,870	547	1		

SHEET NO.	LOCATION	625				632				633				809		815	
		GROUND ROD	PEDESTRIAN PUSHBUTTON, AS PER PLAN	SIGNAL SUPPORT FOUNDATION	PEDESTAL FOUNDATION	SIGNAL SUPPORT, TYPE TC 81.21, DESIGN 12, AS PER PLAN	SIGNAL SUPPORT, TYPE TC 81.21, DESIGN 13, AS PER PLAN	PEDESTAL, 10', TRANSFORMER BASE, AS PER PLAN	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	CONTROLLER UNIT, TYPE 2070E, WITH CABINET, TYPE 332, AS PER PLAN	CABINET RISER	CABINET FOUNDATION, AS PER PLAN	CONTROLLER WORK PAD, AS PER PLAN	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	ADVANCE RADAR DETECTION, AS PER PLAN	STOP-BAR RADAR DETECTION, AS PER PLAN	SPREAD SPECTRUM RADIO, AS PER PLAN
320	EX SIGNAL								1								
320	C-1	1							1	1	1	1	1				
320	P-1	1		1													
320	P-2	1		1													
320	P-3	1		1													1
320	PED-1, PED-2				2			2									
320	RD-1, RD-3, RD-5													3			
320	RD-2, RD-4														2		
TOTALS CARRIED TO LOCATION 1b SUMMARY		4	2	3	2	2	1	2	1	1	1	1	1	3	2	1	

CALCULATED
BRH
CHECKED
JSL

TRAFFIC SIGNAL SUBSUMMARY
S.R. 310/ RAMP D

LIC-310-0.74

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SHEET NO.	LOCATION	625						632									
		CONDUIT, 2", 725.05 FT	CONDUIT, 3", 725.05 FT	CONDUIT, JACKED OR DRILLED, 725.04, 3" FT	TRENCH, 24" DEEP FT	ELECTRIC		TRAFFIC		VEHICULAR SIGNAL HEAD, (LED) BLACK, 3-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN EACH	PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN EACH	COVERING OF VEHICULAR SIGNAL HEAD EACH	COVERING OF PEDESTRIAN SIGNAL HEAD EACH	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG FT	POWER CABLE, 3 CONDUCTOR, NO. 4 AWG FT	POWER SERVICE, AS PER PLAN EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN EACH
						PULL BOX, 725.08, 18" EACH	PULL BOX, 725.08, 24" EACH										
323	EX SIGNAL															1	
323	P-1 TO PB-2	28			28												
323	PED-1 TO PED-2			71													
323	P-3 TO PED-2	10			10												
323	PED-2 TO PB-6		15		15												
323	PB-6 TO PB-4			103				2									
323	PB-4 TO P-2	10			10												
323	PB-4 TO PB-2			123				1									
323	PB-2 TO PB-1		16		16			1									
323	PS-1 TO PB-7	50			50												
323	PB-7 TO PB-5			99		2											
323	PB-5 TO PB-3			131		1											
323	PB-3 TO P-1	26			26												
323	P-1 TO C-1	13			13												
323	A,B TO C-1								2		2		121				
323	C,D TO C-1								2		2		238				
323	E TO C-1								1		1		384				
323	F,G TO C-1								2		2		382				
323	H TO C-1								1		1		311				
323	I,J TO C-1									2		2	383				
323	PS-1 TO C-1													359	1		
TOTALS CARRIED TO LOCATION 1b SUMMARY		137	31	527	168	3	4	8	2	8	2	1,819	359	1	1		

SHEET NO.	LOCATION	625					632					633					809		815
		GROUND ROD EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN EACH	SIGNAL SUPPORT FOUNDATION EACH	PEDESTAL FOUNDATION EACH	SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN EACH	SIGNAL SUPPORT, TYPE TC- 81.21, DESIGN 2, AS PER PLAN EACH	SIGNAL SUPPORT, TYPE TC- 81.21, DESIGN 11, AS PER PLAN EACH	SIGNAL SUPPORT, TYPE TC- 81.21, DESIGN 14, AS PER PLAN EACH	PEDESTAL, 10', TRANSFORMER BASE, AS PER PLAN EACH	CONTROLLER UNIT, TYPE 2070E, WITH CABINET, TYPE 332, AS PER PLAN EACH	CABINET RISER EACH	CABINET FOUNDATION, AS PER PLAN EACH	CONTROLLER WORK PAD, AS PER PLAN EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN EACH	ADVANCE RADAR DETECTION, AS PER PLAN EACH	STOP-BAR RADAR DETECTION, AS PER PLAN EACH	SPREAD SPECTRUM RADIO, AS PER PLAN EACH	
323	C-1	1								1	1	1	1	1					
323	P-1	1		1			1										1		
323	P-2	1		1															
323	P-3	1		1		1													
323	PED-1, PED-2				2						2								
323	RD-1, RD-4															2			
323	RD-2, RD-3, RD-5														3				
TOTALS CARRIED TO LOCATION 1b SUMMARY		4	2	3	2	1	1	1	1	2	1	1	1	1	3	2	1		

CALCULATED
BRH
CHECKED
JSL

TRAFFIC SIGNAL SUBSUMMARY
S.R. 310/ RAMP B

LIC-310-0.74

SHEET NO.	LOCATION	625					630		632						
		CONDUIT, 2", 725.05	CONDUIT, JACKED OR DRILLED, 725.04, 3"	TRENCH, 24" DEEP	TRAFFIC	TRAFFIC	SIGN ATTACHMENT ASSEMBLY	SIGN, FLAT SHEET	VEHICULAR SIGNAL HEAD, (LED) BLACK, 3-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED) BLACK, 5-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN	COVERING OF VEHICULAR SIGNAL HEAD	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	POWER CABLE, 3 CONDUCTOR, NO. 8 AWG	POWER SERVICE, AS PER PLAN	
					PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"									EACH
326	P-1 TO PB-1	8		8											
326	PB-1 TO PB-2		96		1										
326	P-2 TO PB-2	10		10											
326	PB-2 TO PB-3		106			1									
326	P-3 TO PB-3	20		20		1									
326	S1						1	9.8							
326	S2						1	9.8							
326	S3						1	5.0							
326	S4						1	5.0							
326	A,B TO C-1								1	1	2	315			
326	C,D TO C-1								2		2	215			
326	E,F TO C-1								1	1	2	114			
326	G,H TO C-1								2		2	119			
326	PS-1 TO C-1	30		30									50	1	
TOTALS CARRIED TO LOCATION 1c SUMMARY		68	202	68	1	2	4	29.6	6	2	8	763	50	1	

SHEET NO.	LOCATION	625		632			633					809		815
		GROUND ROD	SIGNAL SUPPORT FOUNDATION	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 9 POLE, WITH MAST ARMS TC-81.21 DESIGN 13 AND DESIGN 12	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 12, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 13, AS PER PLAN	CONTROLLER UNIT, TYPE 2070E, WITH CABINET, TYPE 332, AS PER PLAN	CABINET RISER	CABINET FOUNDATION, AS PER PLAN	CONTROLLER WORK PAD, AS PER PLAN	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	ADVANCE RADAR DETECTION, AS PER PLAN	STOP-BAR RADAR DETECTION, AS PER PLAN	SPREAD SPECTRUM RADIO, AS PER PLAN
326	C-1	1				1	1	1	1	1				
326	P-1	1	1		1									
326	P-2	1	1		1									
326	P-3	1	1	1										1
326	RD-1, RD-4										2			
326	RD-2, RD-3, RD-5, RD-6											4		
TOTALS CARRIED TO LOCATION 1c SUMMARY		4	3	1	1	1	1	1	1	1	2	4	1	

LEGEND

- 5 SECTION SIGNAL HEAD, 1-WAY, W/ BACKPLATE
- 3 SECTION SIGNAL HEAD, 1-WAY, W/ BACKPLATE
- RADAR DETECTION UNIT
- SPREAD SPECTRUM RADIO (REMOVE AND REUSE)
- RADAR DETECTION ZONE

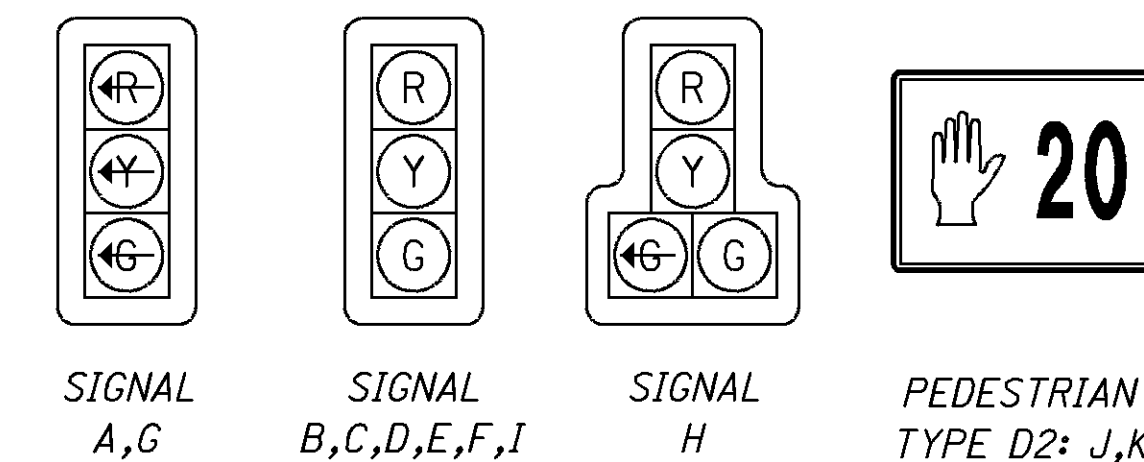
NOTES

RADAR DETECTION UNIT LOCATIONS ARE FOR INFORMATIONAL PURPOSES ONLY. VERIFY LOCATIONS WITH MANUFACTURER REPRESENTATIVE FOR OPTIMAL PERFORMANCE

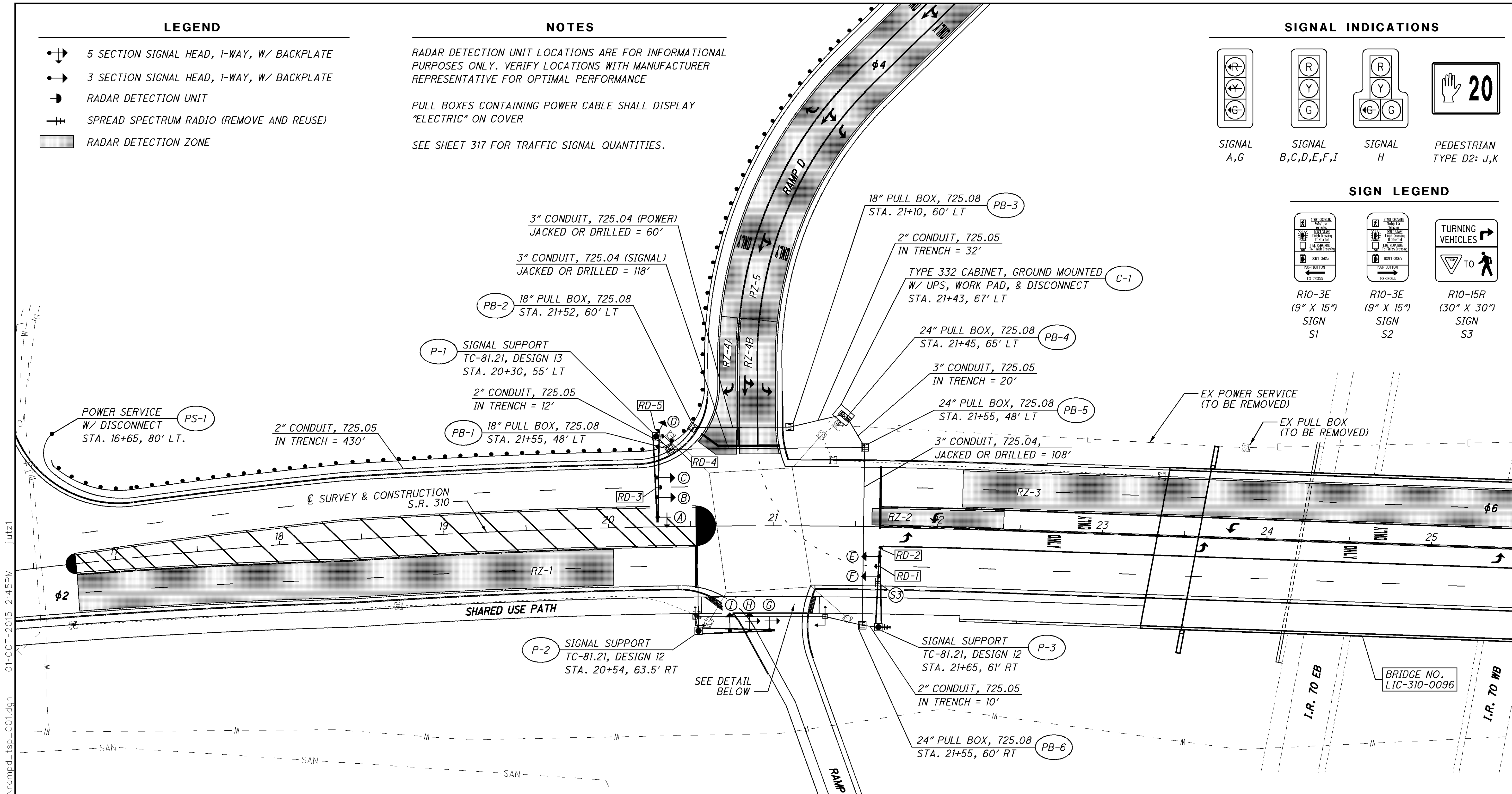
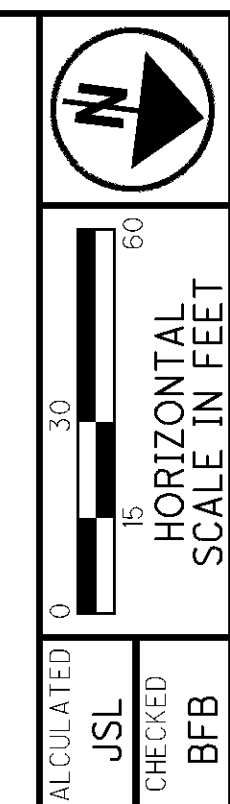
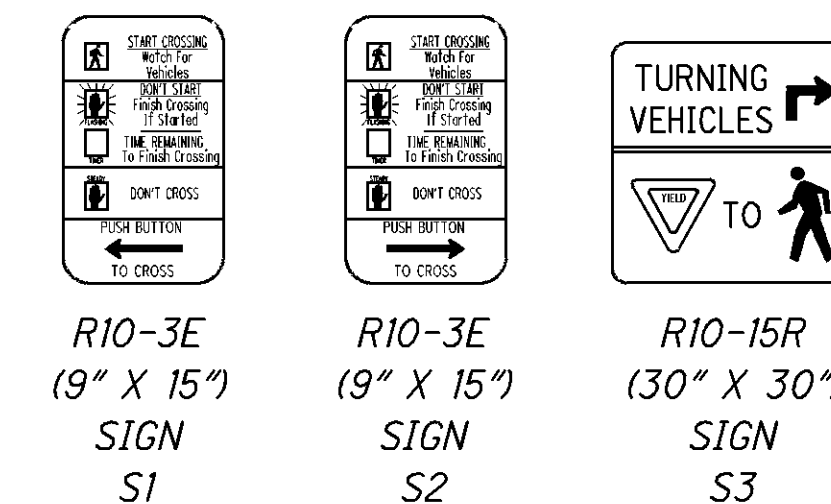
PULL BOXES CONTAINING POWER CABLE SHALL DISPLAY "ELECTRIC" ON COVER

SEE SHEET 317 FOR TRAFFIC SIGNAL QUANTITIES.

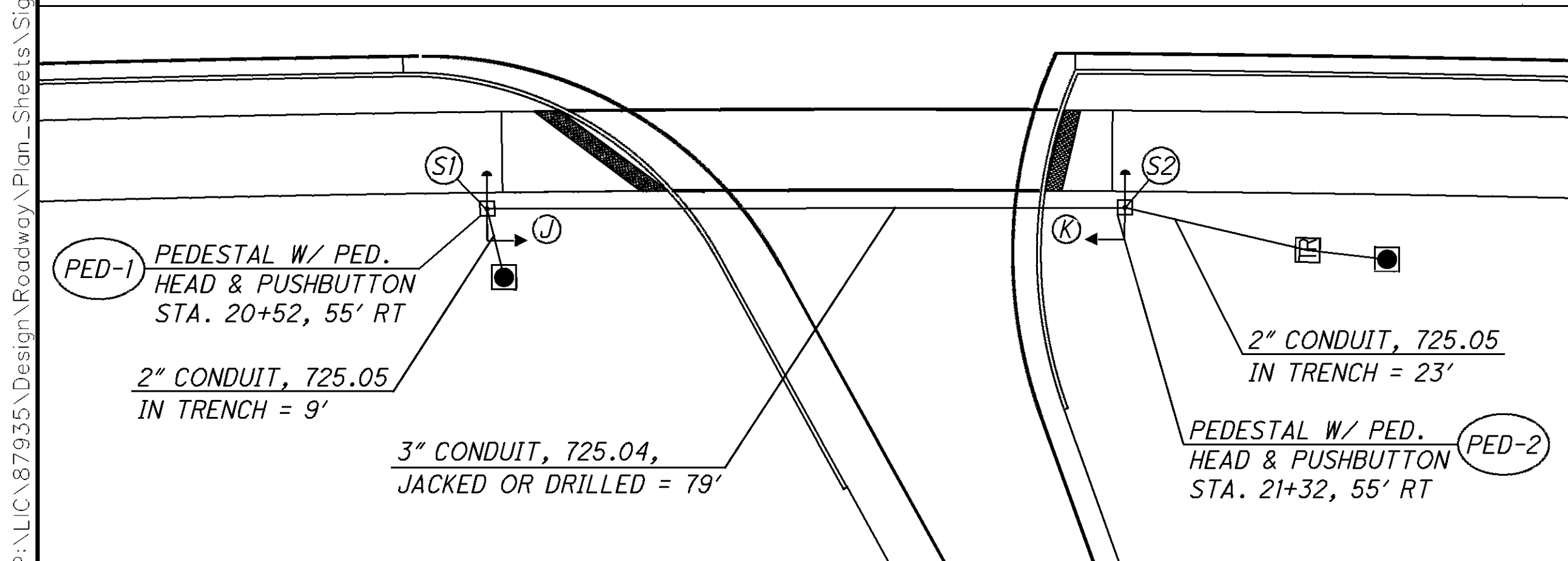
SIGNAL INDICATIONS



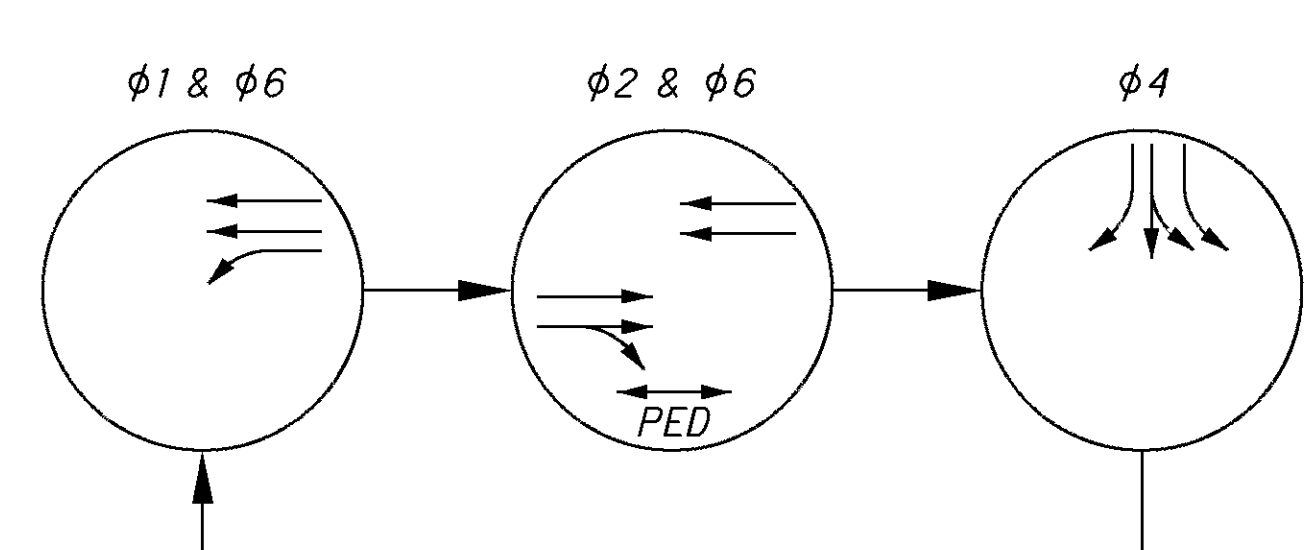
SIGN LEGEND



DETAIL FROM ABOVE (NOT TO SCALE)



SIGNAL PHASING DIAGRAM

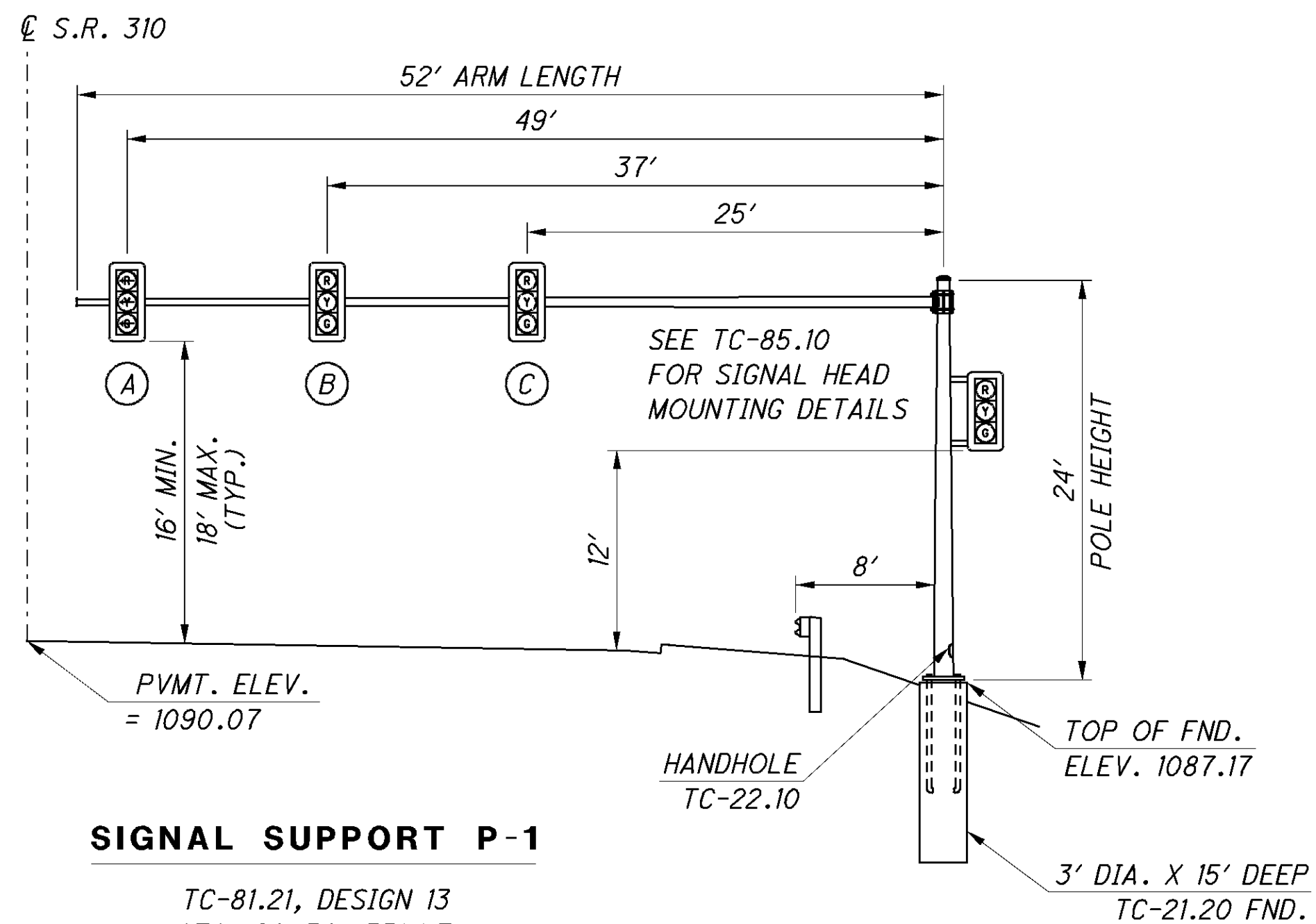


TRAFFIC SIGNAL PLAN SHEET
S.R. 310/RAMP D

LIC-310-0.74

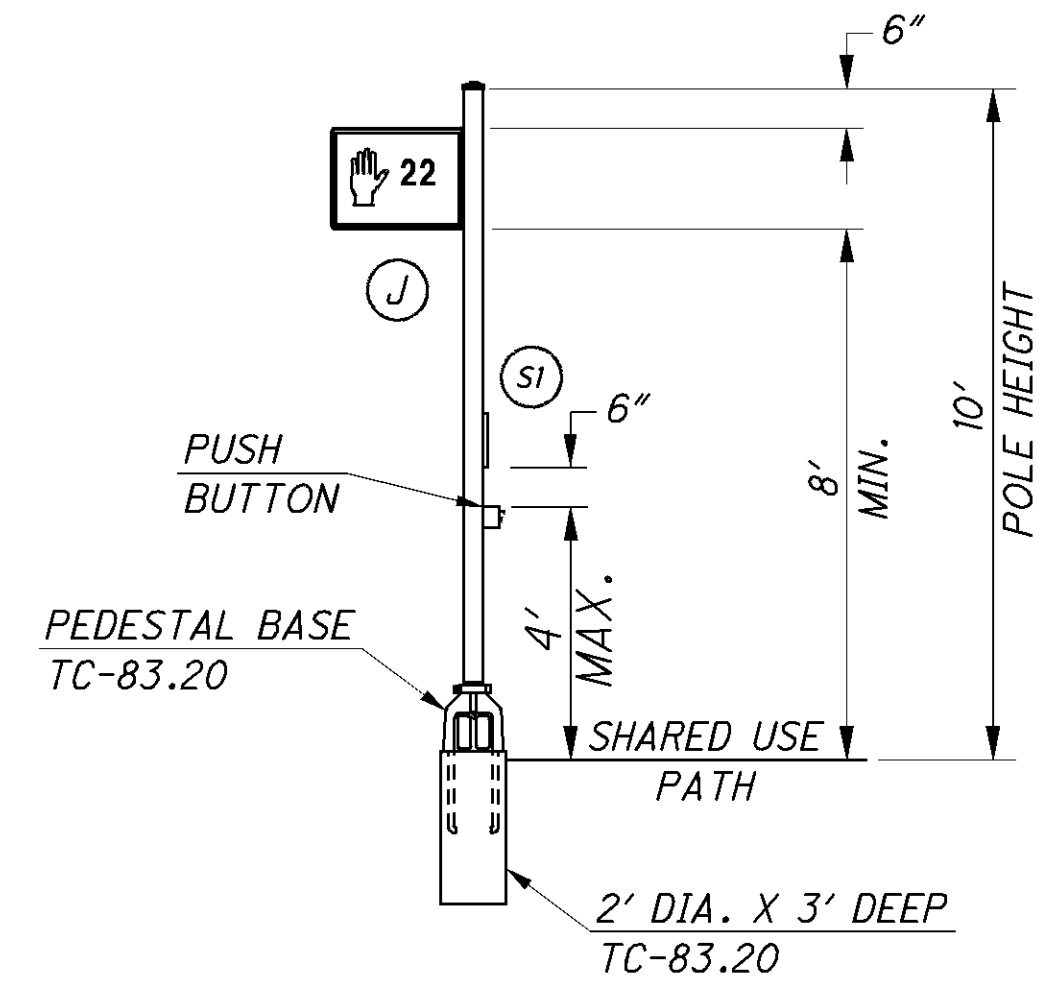
320
425

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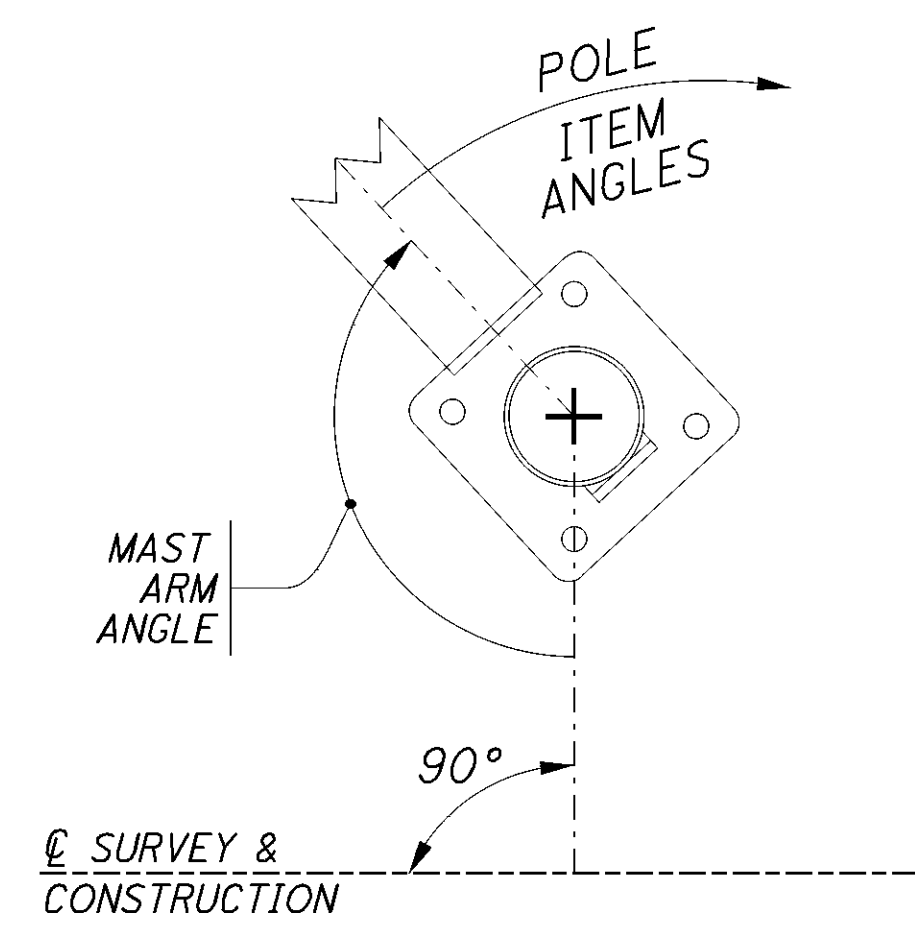
SIGNAL SUPPORT P-1

TC-81.21, DESIGN 13
STA. 20+30, 55' LT
S.R. 310
LOOKING SOUTH



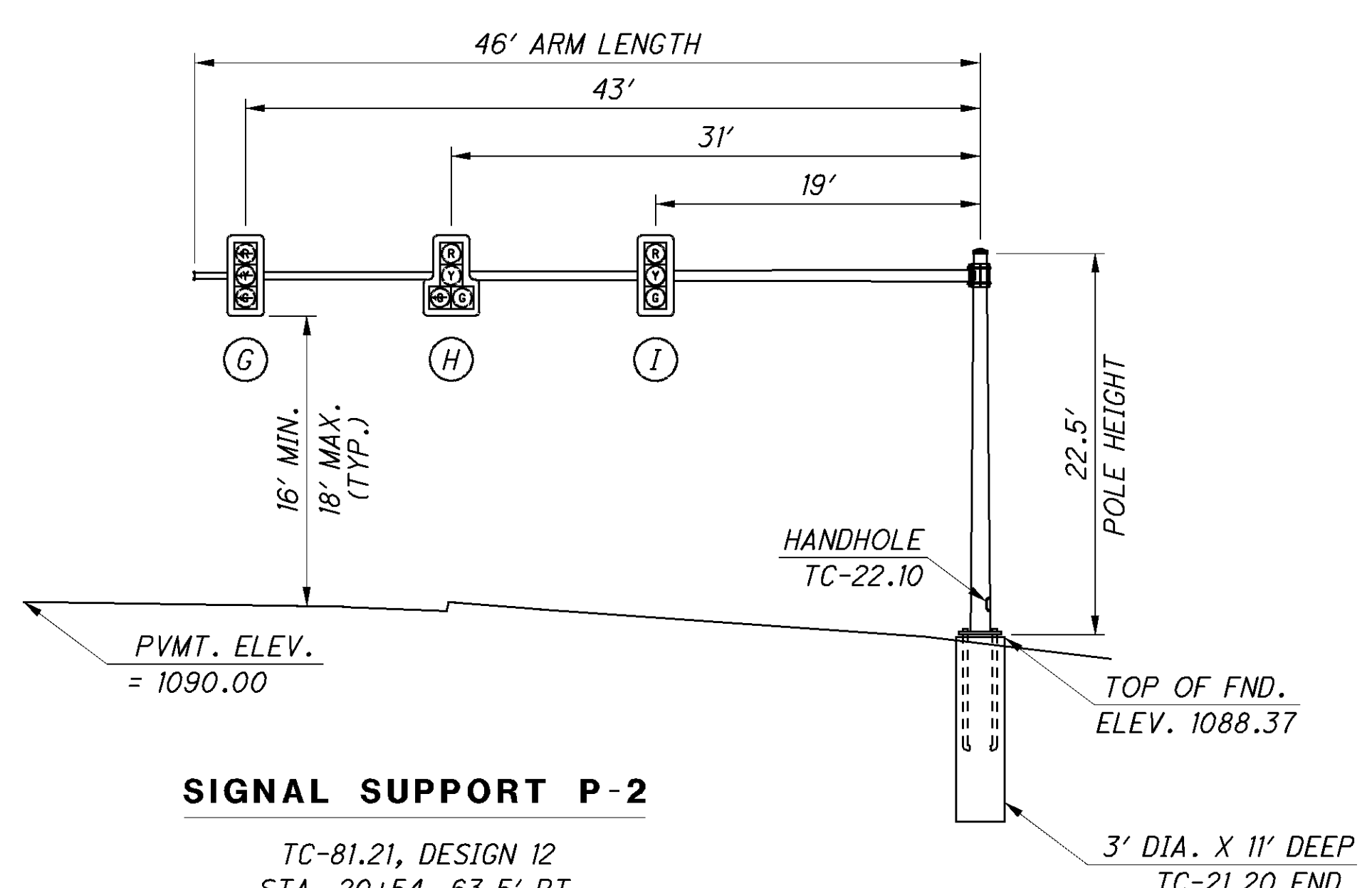
PEDESTAL PED-1

STA. 20+52, 55' RT.
S.R. 310
LOOKING SOUTH



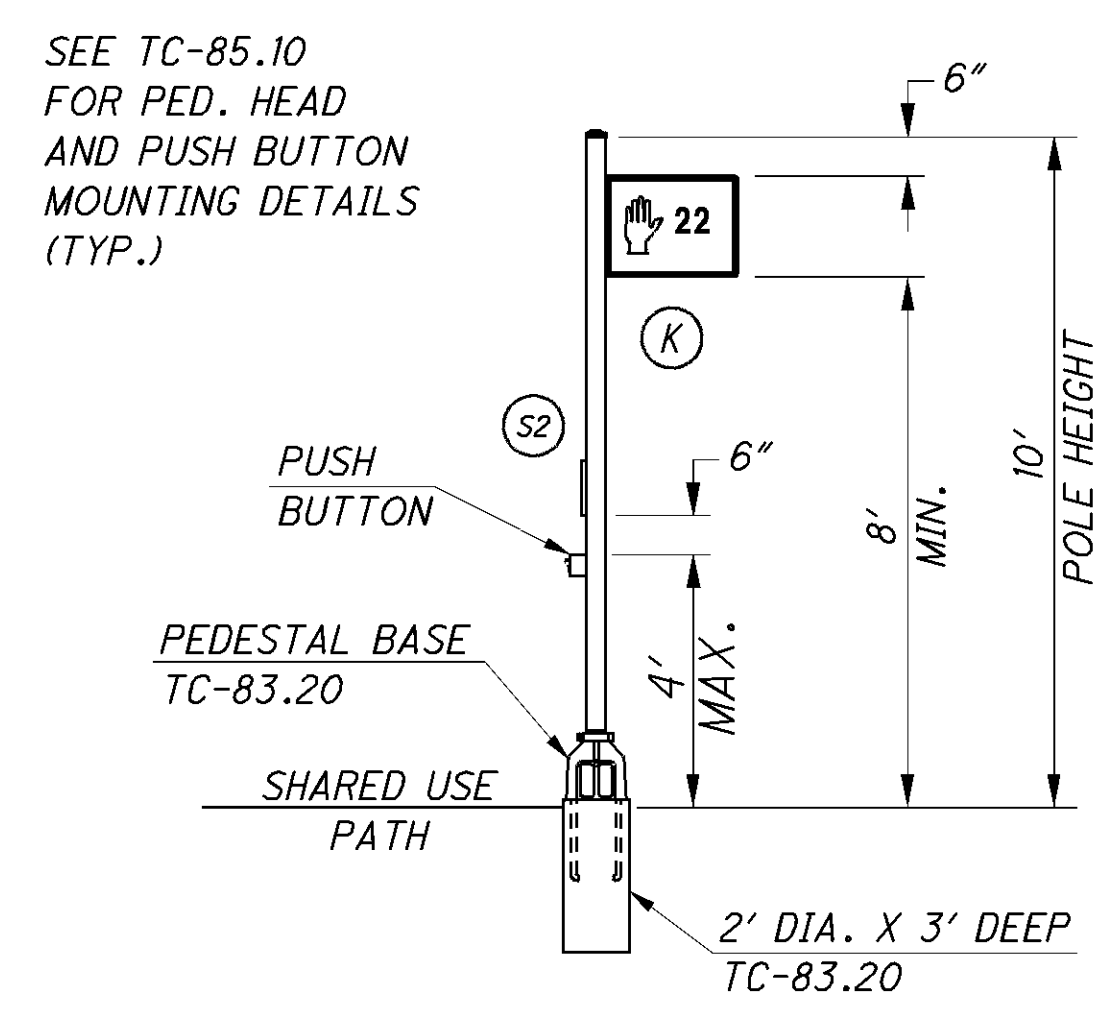
SUPPORT NO./ MAST ARM	MAST ARM ANGLE	ANGLE FROM MAST ARM	
		DISCONNECT	HANDLE
		DEGREES	
P-1	0		180
P-2	270		180
P-3	0		180

NOTES
1. ALL ANGLES MEASURED CLOCKWISE FROM S.R. 310
2. BASE PLATE IS ORIENTED SQUARE TO MAST ARM



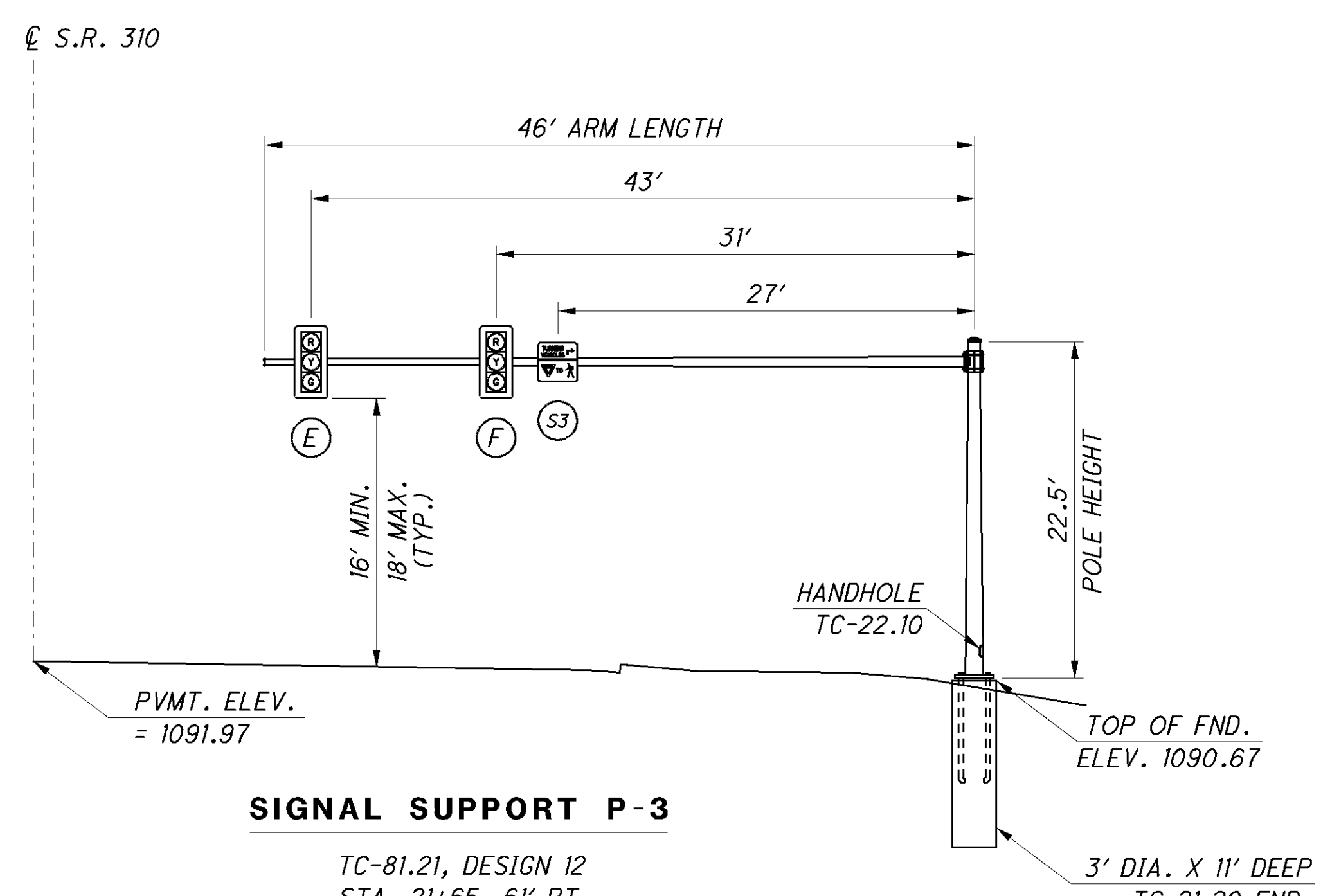
SIGNAL SUPPORT P-2

TC-81.21, DESIGN 12
STA. 20+54, 63.5' RT
S.R. 310
LOOKING EAST



PEDESTAL PED-2

STA. 21+32, 55' RT.
S.R. 310
LOOKING NORTH



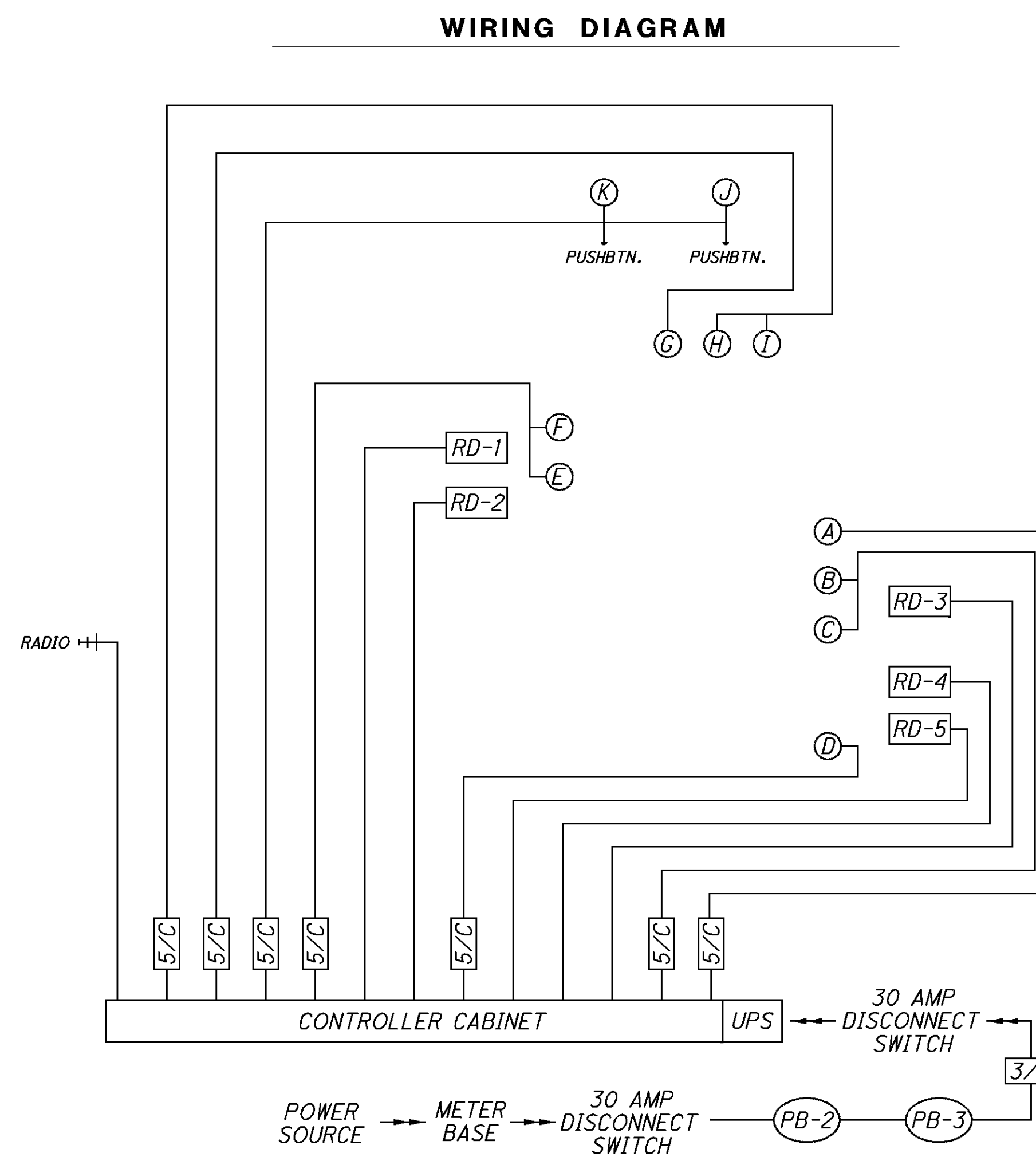
SIGNAL SUPPORT P-3

TC-81.21, DESIGN 12
STA. 21+65, 61' RT
S.R. 310
LOOKING NORTH

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TRAFFIC SIGNAL TIMING CHART							
INTERSECTION:		S.R. 310 / RAMP D					
MAINTAINING AGENCY:		ODOT					
START UP		DUAL ENTRY:	YES	PHASES:		2 & 6, 4	
		REST IN RED:		RING 1		RING 2	
START IN:	ALL RED	OVERLAP		A	B	C	D
TIME FOR FLASH OR ALL RED:	5 SEC.						
FIRST PHASE(S):	2 & 6						
COLOR DISPLAYED:	GREEN	PHASES					
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.					
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6
DIRECTION		SB LT	NB		EB	SB	
MINIMUM GREEN (INITIAL) (SEC.)		8	15		15	15	
ADDED INITIAL* (SEC./ACTUATION)							
MAXIMUM INITIAL (SEC.)							
PASSAGE TIME (PRESET GAP) (SEC.)		3	3.5		3	3.5	
TIME BEFORE REDUCTION* (SEC.)							
MINIMUM GAP* (SEC.)							
TIME TO REDUCE* (SEC.)							
MAXIMUM GREEN I (SEC.)		25	40		40	40	
MAXIMUM GREEN II (SEC.)							
YELLOW CHANGE (SEC.)		4	4.5		4	4.5	
ALL RED CLEARANCE (SEC.)		1.5	1.5		1.5	1.5	
WALK (SEC.)			12			12	
PEDESTRIAN CLEARANCE (SEC.)			12			12	
RECALL	MAXIMUM (ON/OFF)						
	MINIMUM (ON/OFF)		X			X	
	PEDESTRIAN (ON/OFF)						
MEMORY (ON/OFF)							

*VOLUME DENSITY CONTROLS
SEE SHEET 329 FOR COORDINATION PLANS.



NOTE: POWER CABLE SHALL BE #4 AWG WITH ALL SIGNAL AND PEDESTRIAN CABLE BEING #14 AWG

FIELD WIRING HOOKUP CHART							
SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
A (SB LT)	<--R--	φ1 R	R	G (EB LT)	<--R--	φ4 R	R
	<--Y--	φ1 Y			<--Y--	φ4 Y	
	<--G--	φ1 G			<--G--	φ4 G	
B,C (SB)	R	φ6 R	R	H (EB)	R	φ4 R	R
	Y	φ6 Y			Y	φ4 Y	
	G	φ6 G			G	φ4 G	
D,I (EB)	R	φ4 R	R	PEDESTRIAN MOVEMENTS			OUT
	Y	φ4 Y		J, K (NS)	W	LS 9/φ2 G	
	G	φ4 G		DW	LS 9/φ2 R		
E,F (NB)	<--R--	φ2 R	R	LS = LOAD SWITCH			
	<--Y--	φ2 Y					
	<--G--	φ2 G					

RADAR DETECTION CHART					
RADAR DETECTION UNIT NO.	RADAR DETECTION ZONE	RADAR TYPE	DELAY (SEC.)	EXTENSION (SEC.)	ASSOCIATED CONTROLLER PHASE
RD-1	RZ-1	DILEMMA		2.0-7.5	φ2
RD-2	RZ-2	STOP BAR			φ1
RD-3	RZ-3	DILEMMA		2.0-7.5	φ6
RD-4A	RZ-4	STOP BAR	8		φ4
RD-4B	RZ-4	STOP BAR			φ4
RD-5	RZ-5	DILEMMA		2.0-7.5	φ4

LEGEND

- 5 SECTION SIGNAL HEAD, 1-WAY, W/ BACKPLATE
- 3 SECTION SIGNAL HEAD, 1-WAY, W/ BACKPLATE
- RADAR DETECTION UNIT
- SPREAD SPECTRUM RADIO (REMOVE AND REUSE)
- RADAR DETECTION ZONE

NOTES

RADAR DETECTION UNIT LOCATIONS ARE FOR INFORMATIONAL PURPOSES ONLY. VERIFY LOCATIONS WITH MANUFACTURER REPRESENTATIVE FOR OPTIMAL PERFORMANCE

PULL BOXES CONTAINING POWER CABLE SHALL DISPLAY "ELECTRIC" ON COVER

SEE SHEET 318 FOR TRAFFIC SIGNAL QUANTITIES.

SIGN LEGEND

- R10-3E-9 SIGN S1
- R10-3E-9 SIGN S2

SIGNAL INDICATIONS

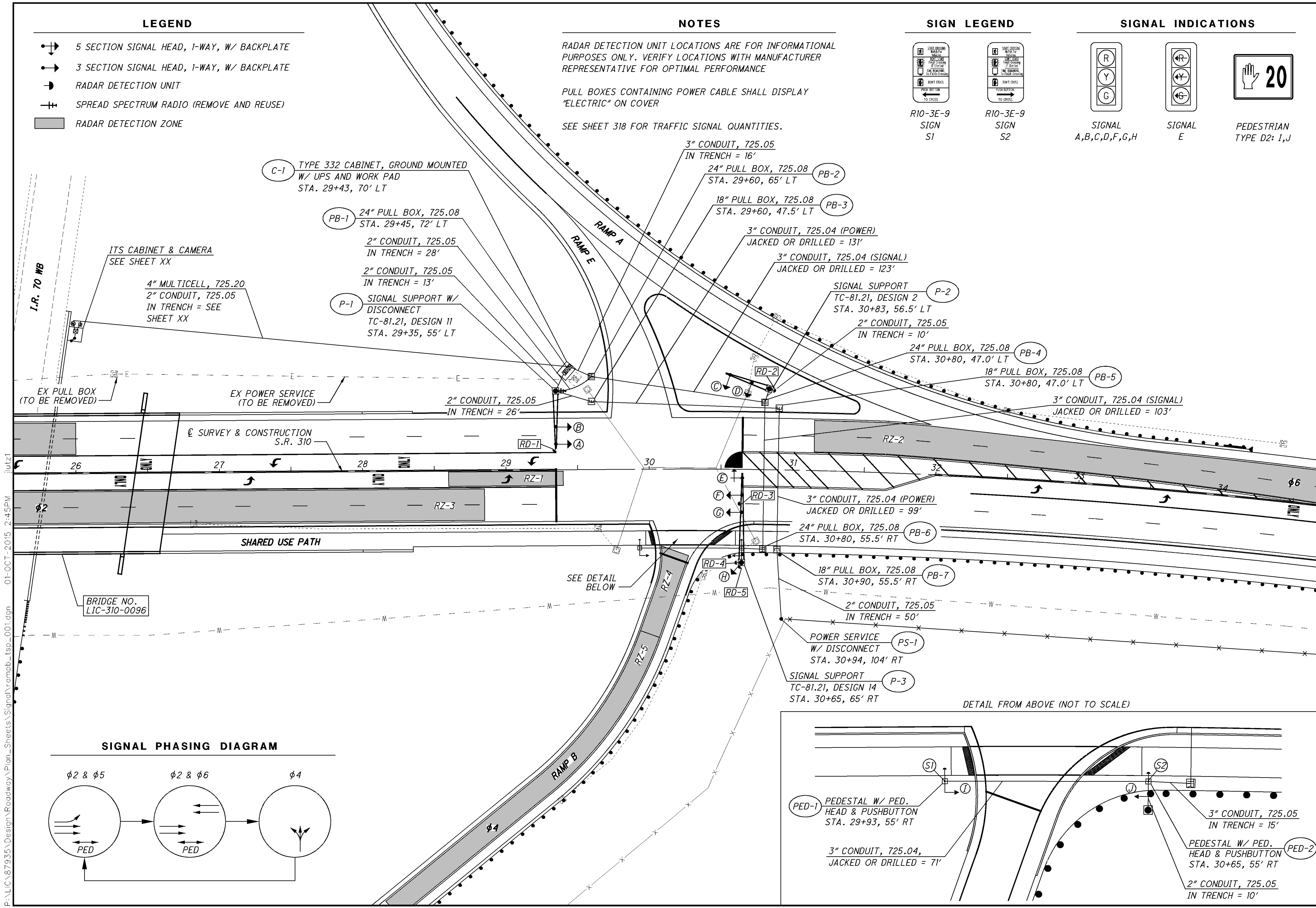
- SIGNAL A,B,C,D,F,G,H
- SIGNAL E
- PEDESTRIAN TYPE D2: I,J

CALCULATED BY: JSL
 CHECKED BY: BFB

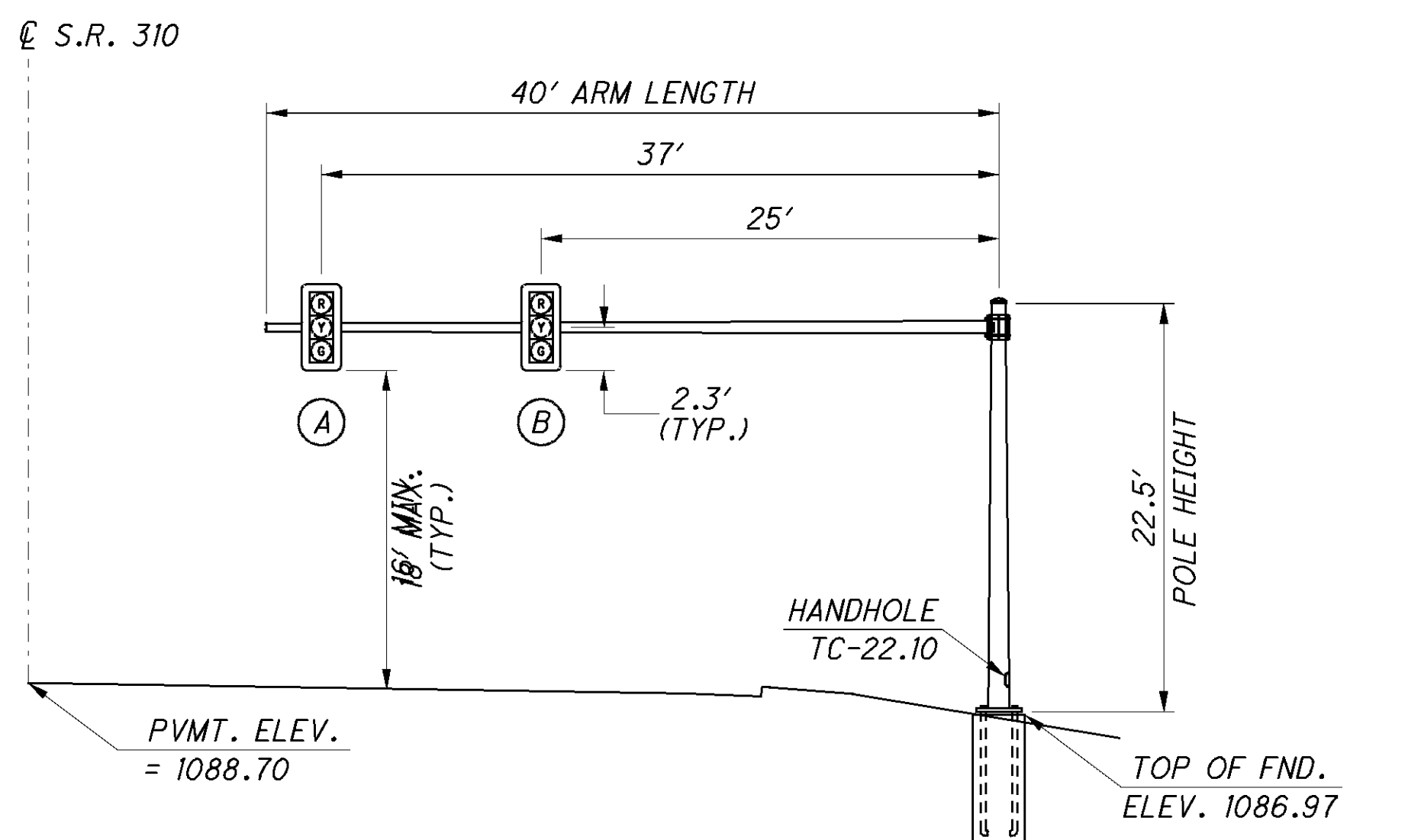
0 30 60
 15' HORIZONTAL SCALE IN FEET

TRAFFIC SIGNAL PLAN SHEET S.R. 310/ RAMP B

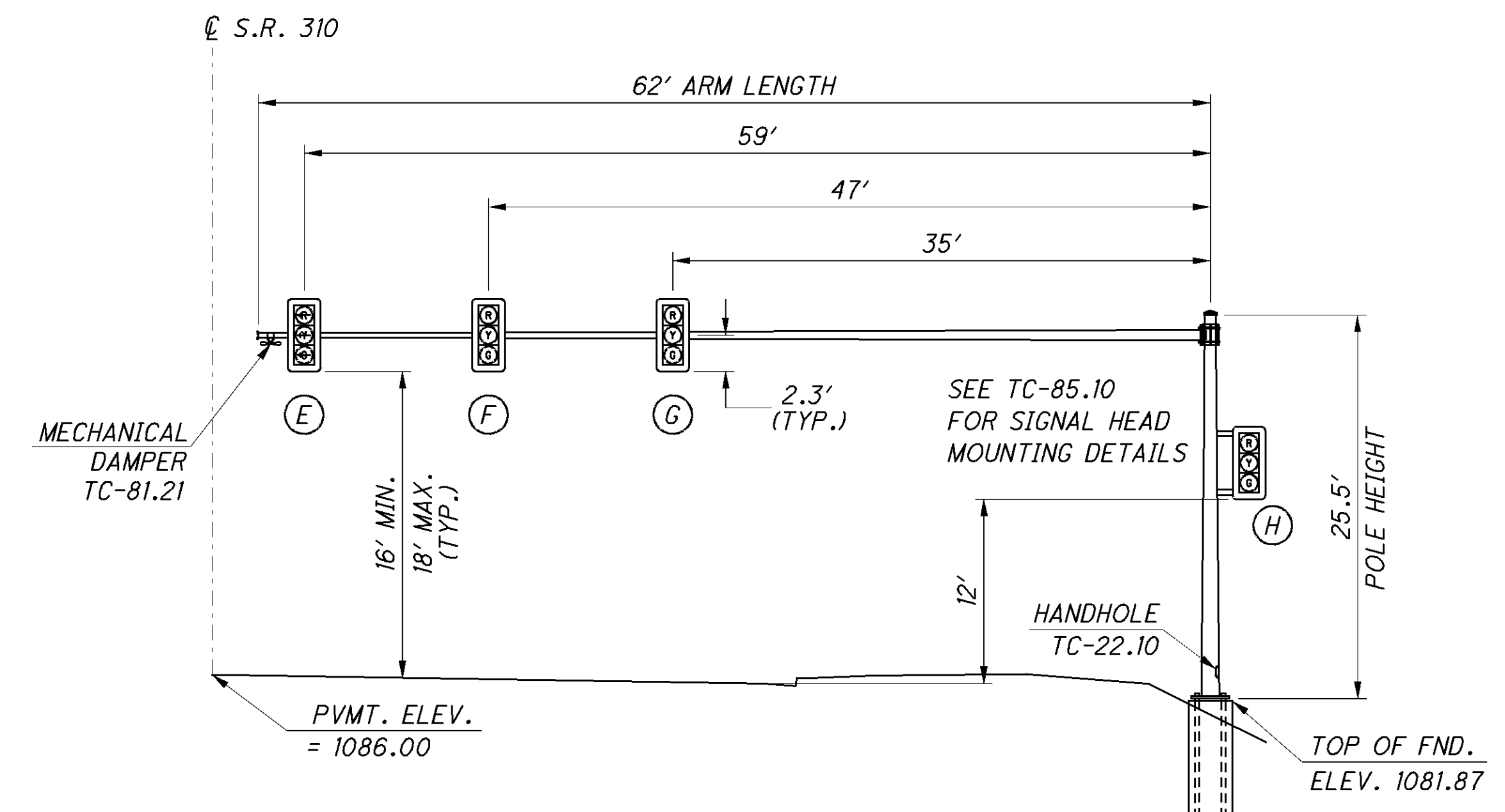
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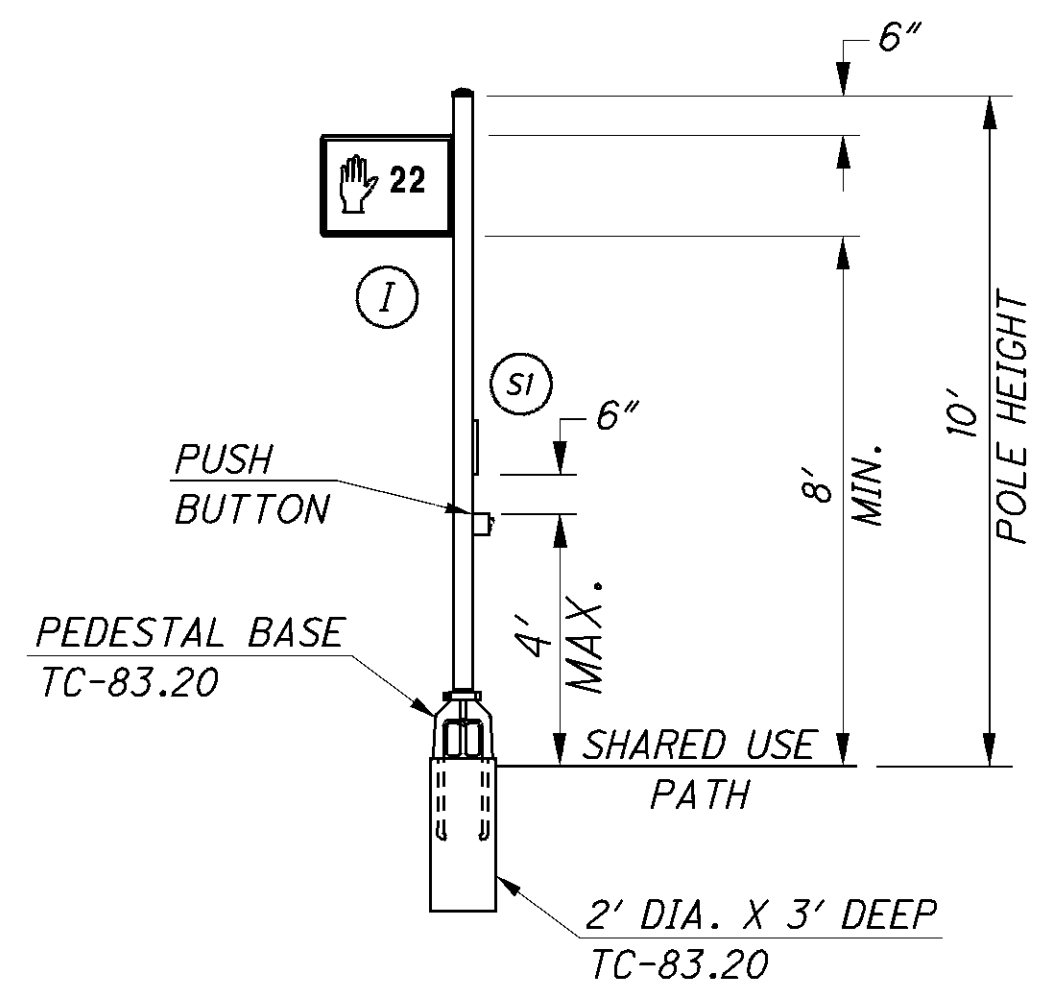
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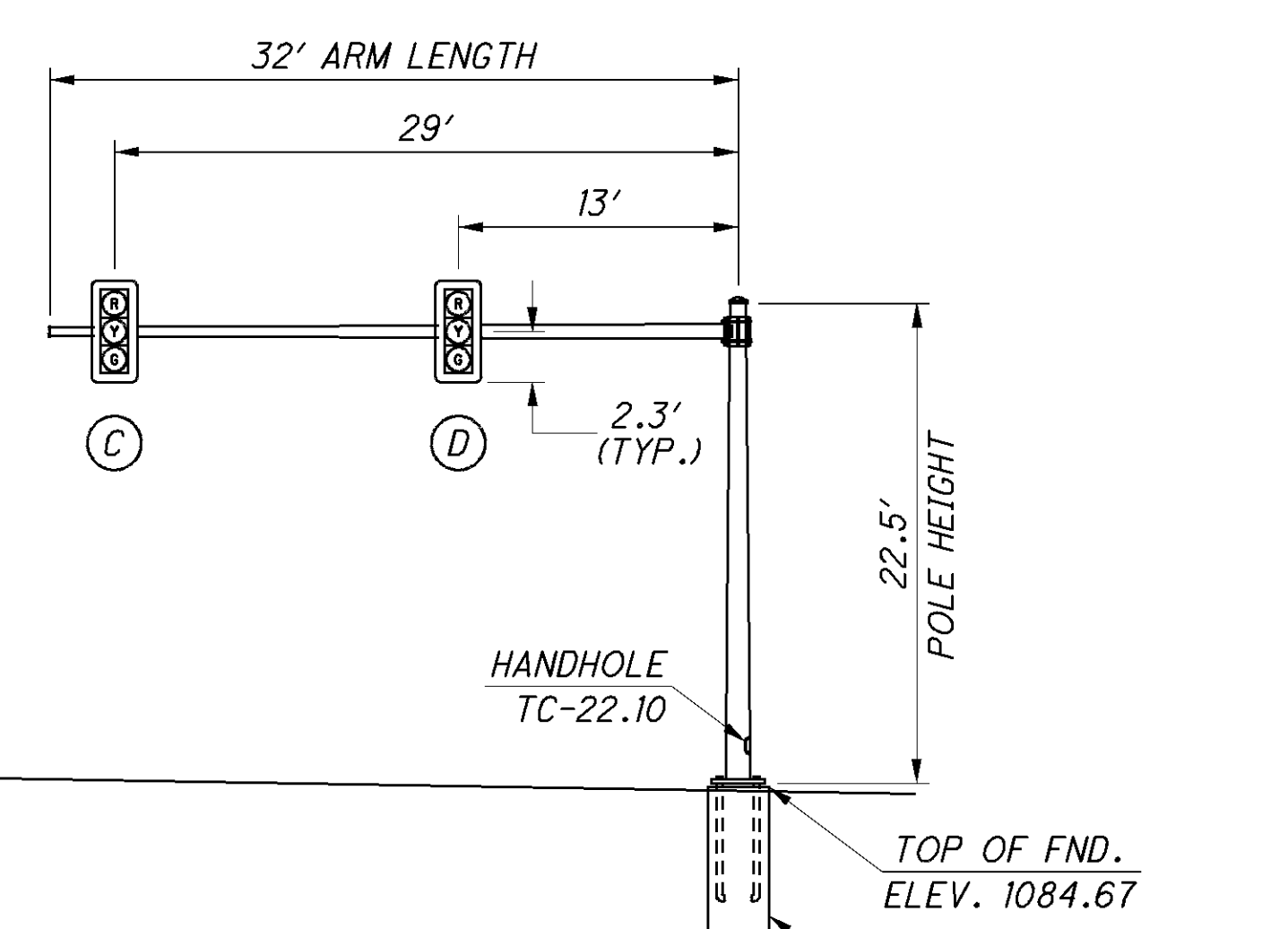
SIGNAL SUPPORT P-1
TC-81.21, DESIGN 11
STA. 29+35, 55' LT
S.R. 310
LOOKING SOUTH



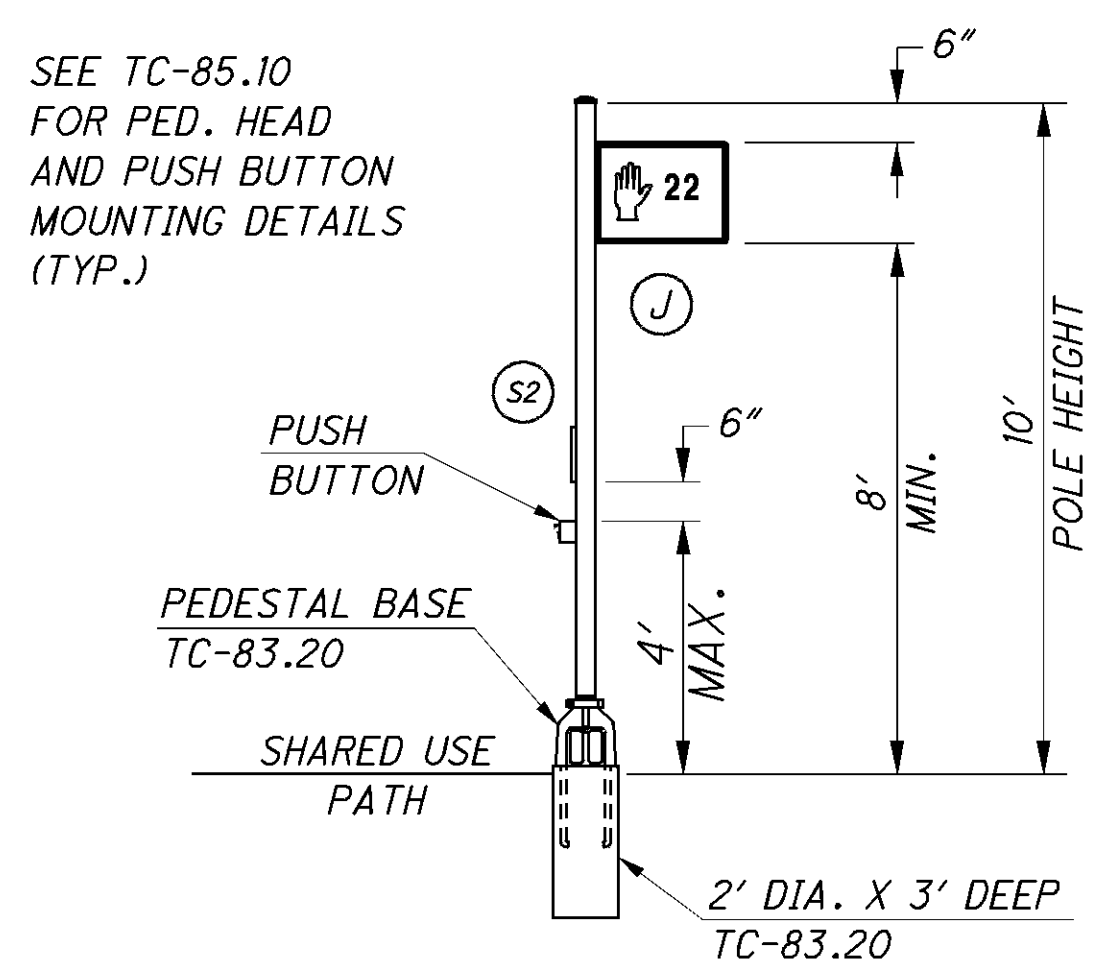
SIGNAL SUPPORT P-3
TC-81.21, DESIGN 14
STA. 30+65, 65' RT
S.R. 310
LOOKING NORTH



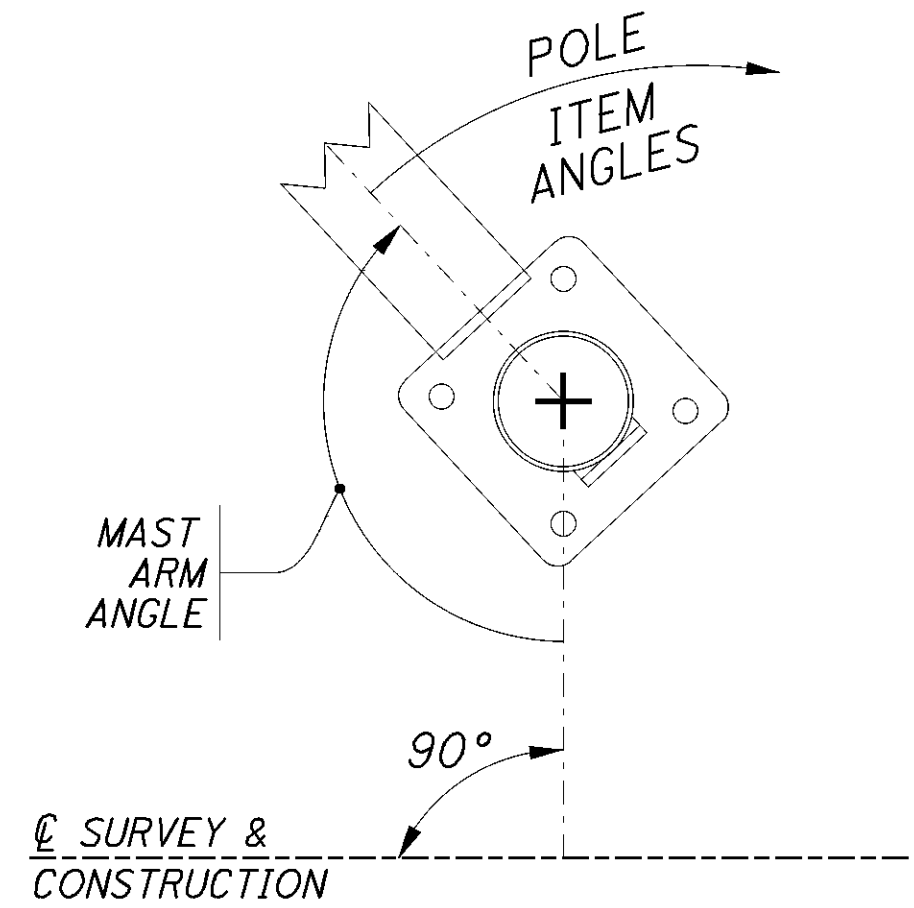
PEDESTAL PED-1
STA. 29+93, 55' RT.
S.R. 310
LOOKING SOUTH



SIGNAL SUPPORT P-2
TC-81.21, DESIGN 2
STA. 30+83, 56.5' LT
S.R. 310
LOOKING WEST



PEDESTAL PED-2
STA. 30+65, 55' RT.
S.R. 310
LOOKING NORTH



SUPPORT NO./ MAST ARM	MAST ARM ANGLE	ANGLE FROM MAST ARM	
		DISCONNECT	HANDHOLE
		DEGREES	
P-1	0	180	180
P-2	250		180
P-3	0		180

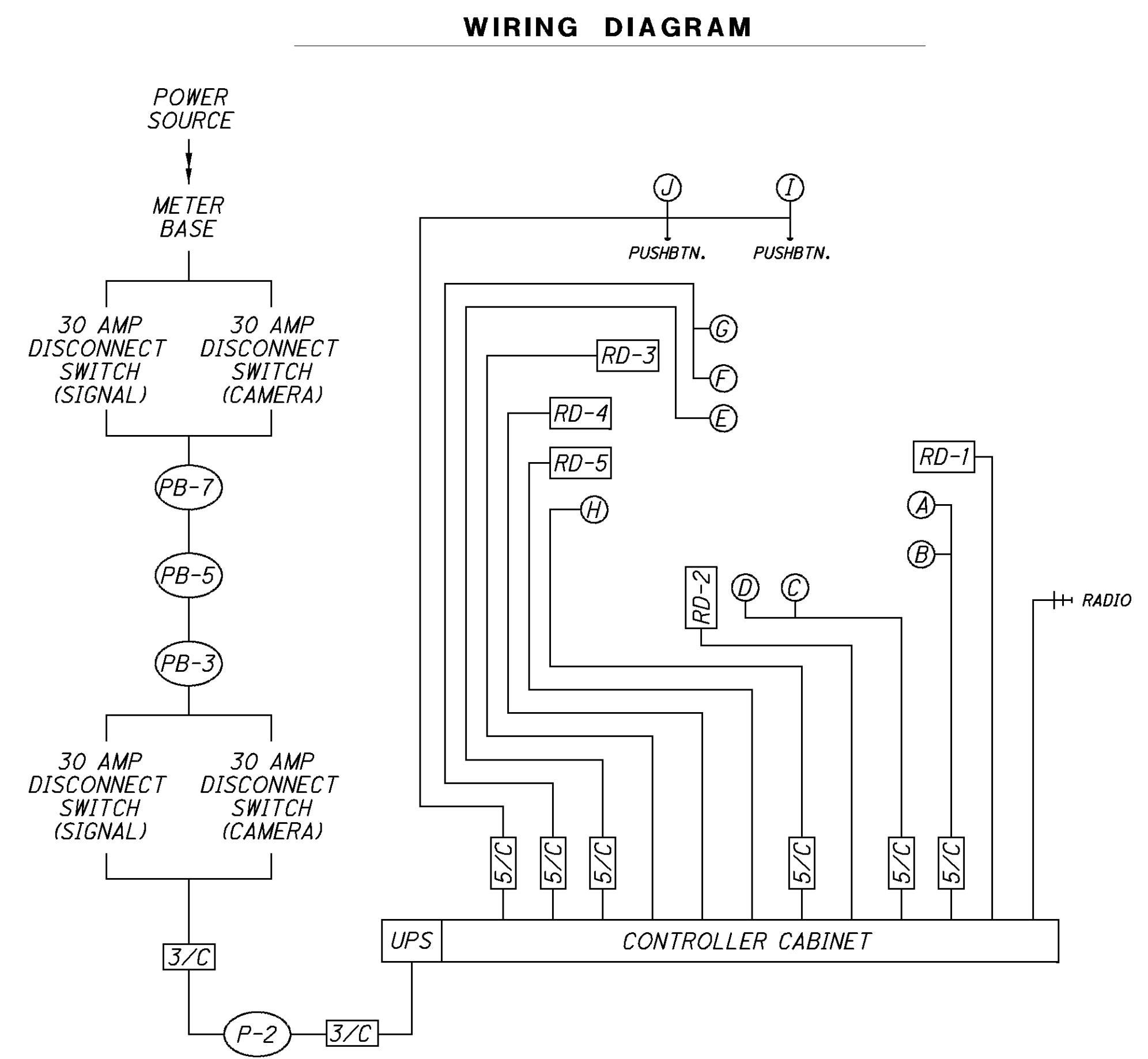
NOTES
1. ALL ANGLES MEASURED CLOCKWISE FROM S.R. 310
2. BASE PLATE IS ORIENTED SQUARE TO MAST ARM

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TRAFFIC SIGNAL TIMING CHART									
INTERSECTION: S.R. 310 / RAMP B									
MAINTAINING AGENCY: ODOT									
START UP		DUAL ENTRY:	YES	PHASES:		2 & 6, 4			
		REST IN RED:		RING 1		RING 2			
START IN:	ALL RED			OVERLAP		A	B	C	D
TIME FOR FLASH OR ALL RED:	5 SEC.								
FIRST PHASE(S):	2 & 6								
COLOR DISPLAYED:	GREEN								
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION			NB		WB	NB LT	SB		
MINIMUM GREEN (INITIAL) (SEC.)			15		15	8	15		
ADDED INITIAL* (SEC./ACTUATION)									
MAXIMUM INITIAL (SEC.)									
PASSAGE TIME (PRESET GAP) (SEC.)			3.5		3	3	3.5		
TIME BEFORE REDUCTION* (SEC.)									
MINIMUM GAP* (SEC.)									
TIME TO REDUCE* (SEC.)									
MAXIMUM GREEN I (SEC.)			40		40	25	40		
MAXIMUM GREEN II (SEC.)									
YELLOW CHANGE (SEC.)			4.5		4	4	4.5		
ALL RED CLEARANCE (SEC.)			1.5		1.5	1.5	1.5		
WALK (SEC.)			12				12		
PEDESTRIAN CLEARANCE (SEC.)			12				12		
RECALL	MAXIMUM (ON/OFF)								
	MINIMUM (ON/OFF)		X				X		
	PEDESTRIAN (ON/OFF)								
MEMORY (ON/OFF)									

*VOLUME DENSITY CONTROLS
SEE SHEET 329 FOR COORDINATION PLANS.

FIELD WIRING HOOKUP CHART							
SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
A, B (SB)	R	φ6 R	R	F, G (NB)	R	φ2 R	R
	Y	φ6 Y			Y	φ2 Y	
	G	φ6 G			G	φ2 G	
C, D, H (WB)	R	φ4 R	R	PEDESTRIAN MOVEMENTS			
	Y	φ4 Y		I, J (N/S)	W	LS 9/φ2 G	OUT
	G	φ4 G			DW	LS 9/φ2 R	
E (NB)	<--R--	φ2 R	R	LS = LOAD SWITCH			
	<--Y--	φ2 Y					
	<--G--	φ2 G					



NOTE: POWER CABLE SHALL BE #4 AWG WITH ALL SIGNAL AND PEDESTRIAN CABLE BEING #14 AWG

RADAR DETECTION CHART					
RADAR DETECTION UNIT NO.	RADAR DETECTION ZONE	RADAR TYPE	DELAY (SEC.)	EXTENSION (SEC.)	ASSOCIATED CONTROLLER PHASE
RD-1	RZ-1	STOP BAR			φ5
RD-2	RZ-2	DILEMMA		2.0-7.5	φ6
RD-3	RZ-3	DILEMMA		2.0-7.5	φ2
RD-4	RZ-4	STOP BAR			φ4
RD-5	RZ-5	DILEMMA		2.0-7.5	φ4

LEGEND

- 5 SECTION SIGNAL HEAD, 1-WAY, W/ BACKPLATE
- 3 SECTION SIGNAL HEAD, 1-WAY, W/ BACKPLATE
- RADAR DETECTION UNIT
- SPREAD SPECTRUM RADIO
- RADAR DETECTION ZONE

NOTES

RADAR DETECTION UNIT LOCATIONS ARE FOR INFORMATIONAL PURPOSES ONLY. VERIFY LOCATIONS WITH MANUFACTURER REPRESENTATIVE FOR OPTIMAL PERFORMANCE

SEE SHEET 319 FOR TRAFFIC SIGNAL QUANTITIES.

SIGN LEGEND

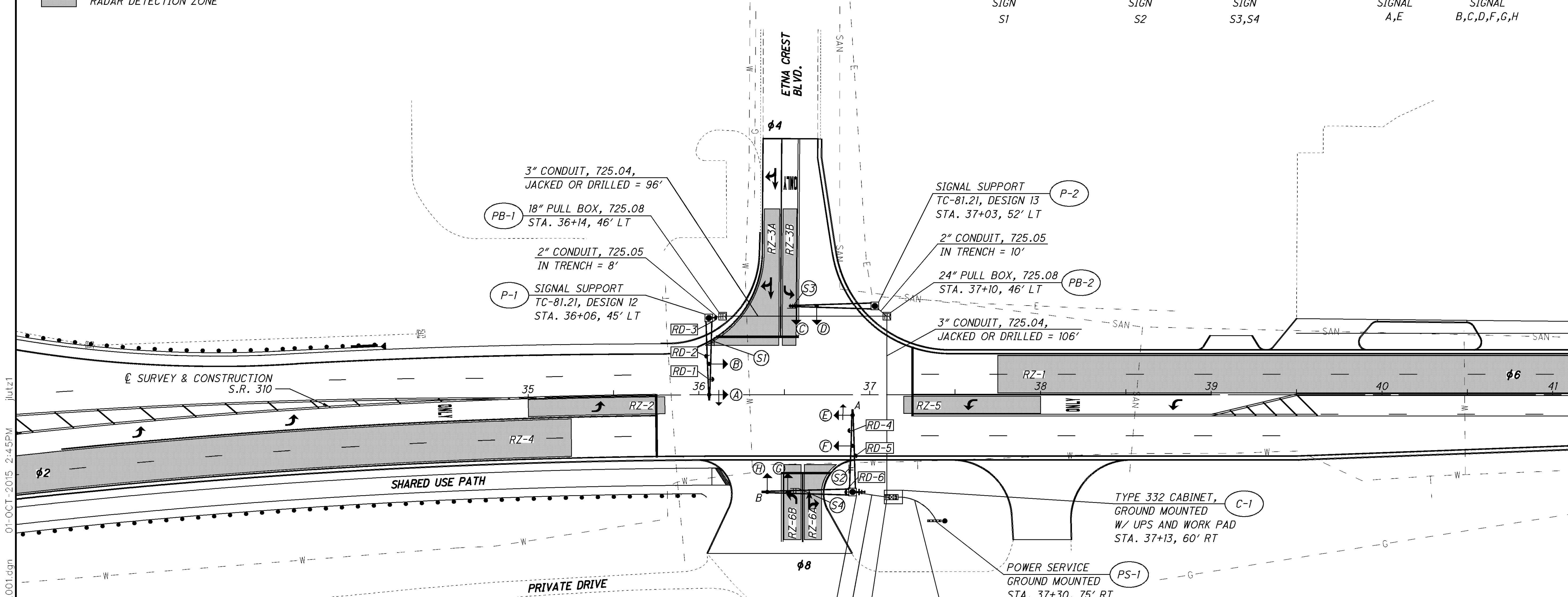
- Etna Crest Blvd →
SEE SHEET 253 (78" X 18")
SIGN S1
- ← Etna Crest Blvd
SEE SHEET 253 (78" X 18")
SIGN S2
- LEFT TURN YIELD ON GREEN
R10-12 (24" X 30")
SIGN S3,S4

SIGNAL INDICATIONS

- SIGNAL A,E
- SIGNAL B,C,D,F,G,H

0 30 60
15
HORIZONTAL SCALE IN FEET

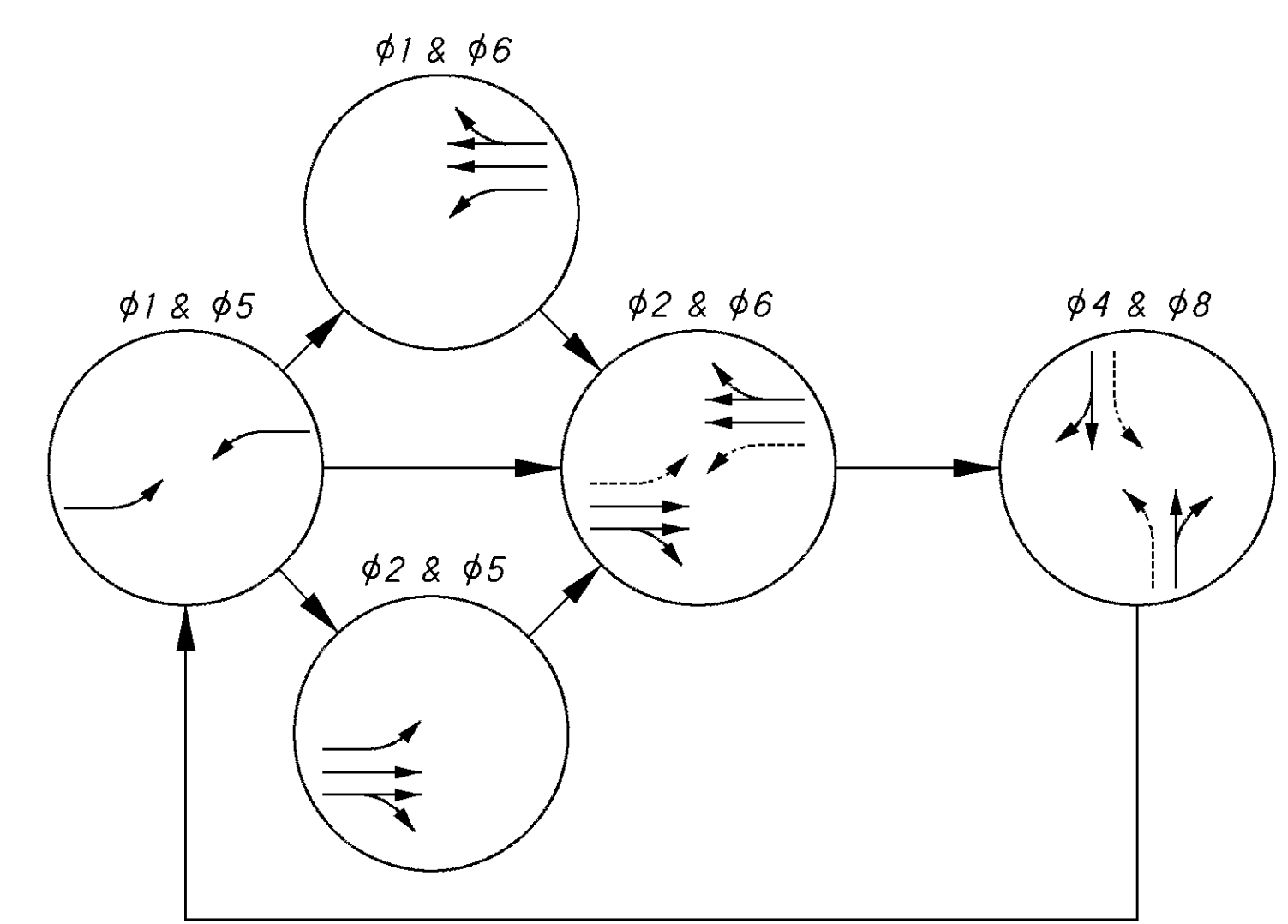
CALCULATED JSL
CHECKED BFB



TYPE 332 CABINET, GROUND MOUNTED W/ UPS AND WORK PAD STA. 37+13, 60' RT (C-1)

POWER SERVICE GROUND MOUNTED STA. 37+30, 75' RT (SEE SHEET 331) (PS-1)

SIGNAL PHASING DIAGRAM

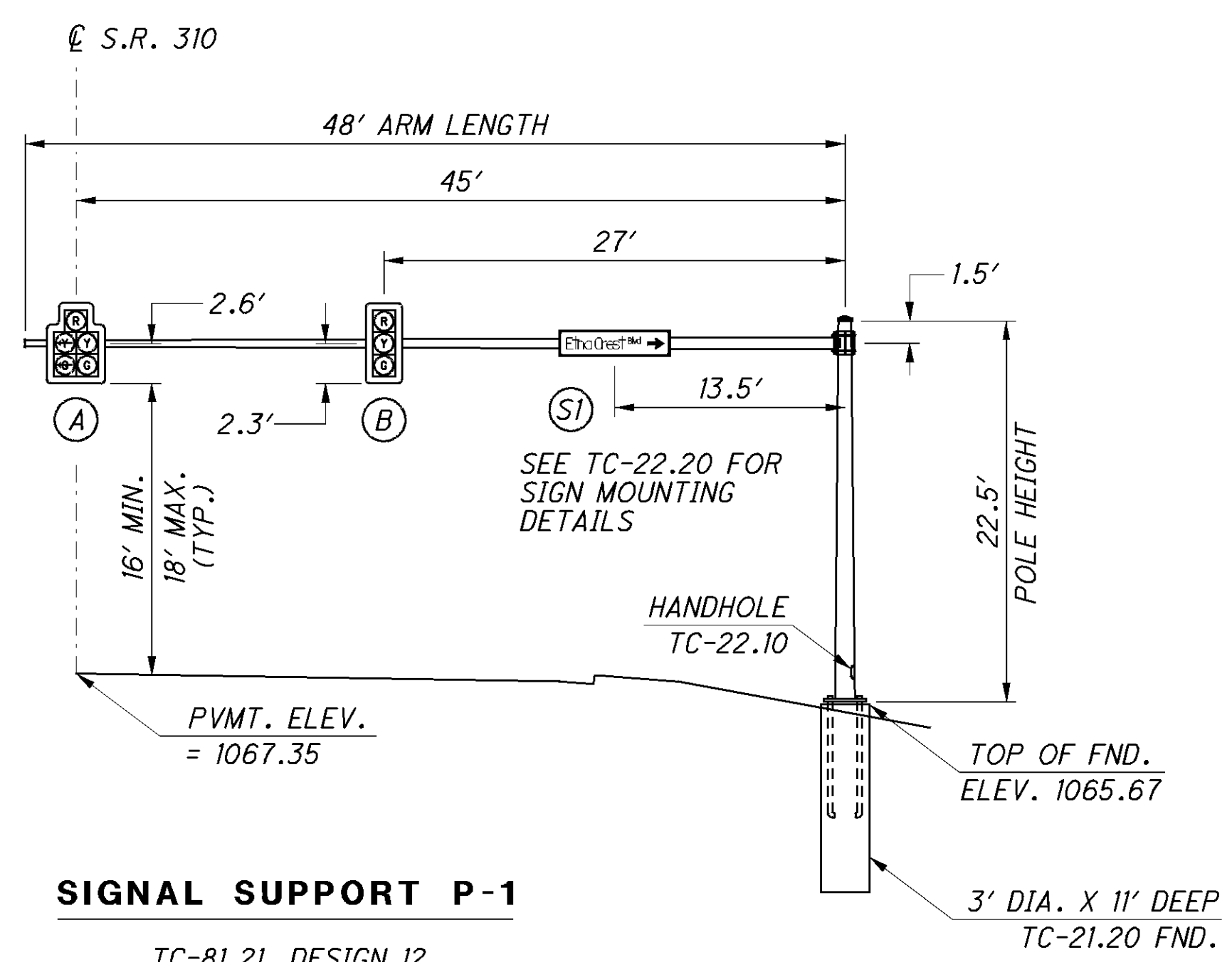


TRAFFIC SIGNAL PLAN SHEET
S.R. 310/ETNA CREST BLVD.

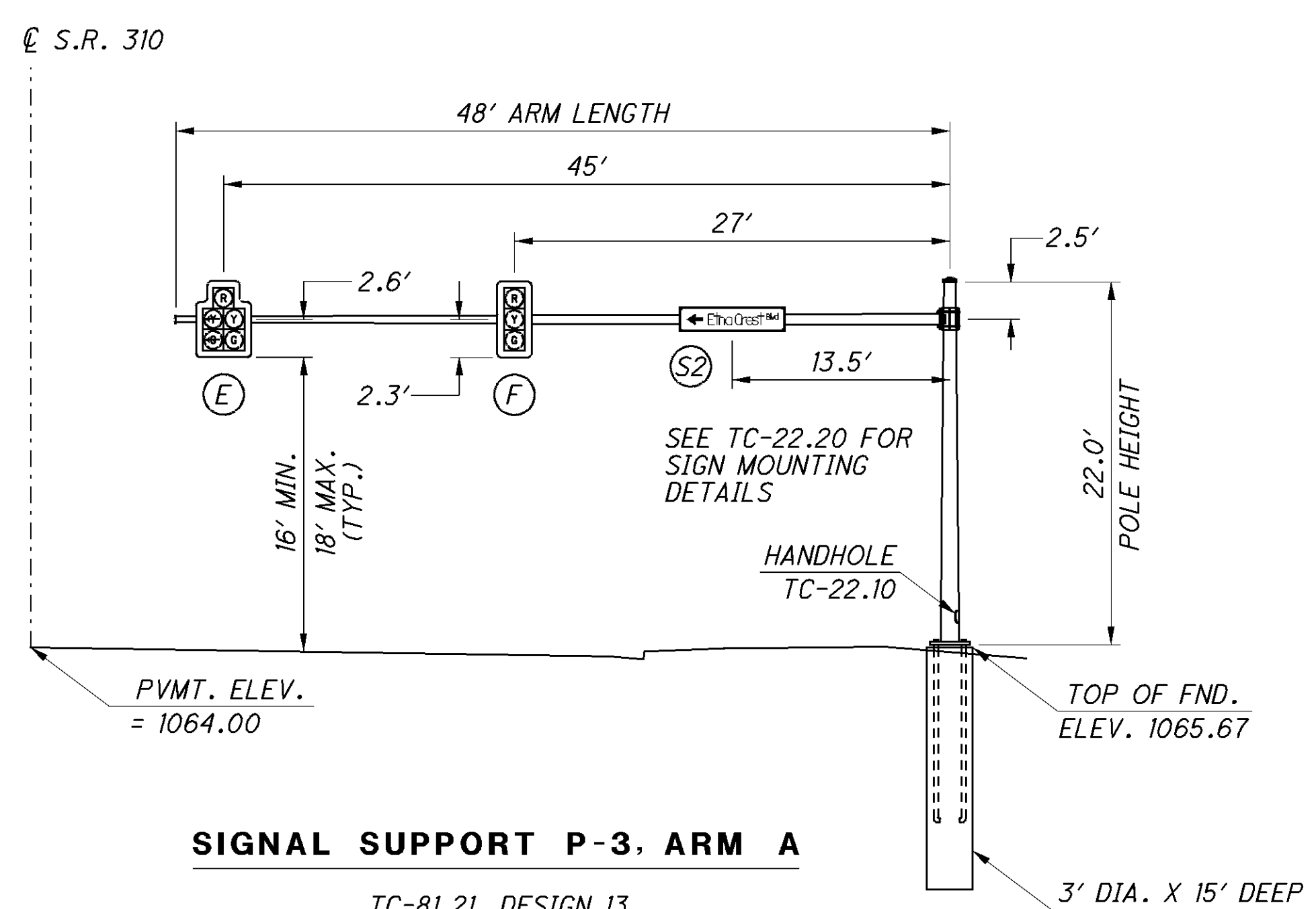
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326
425

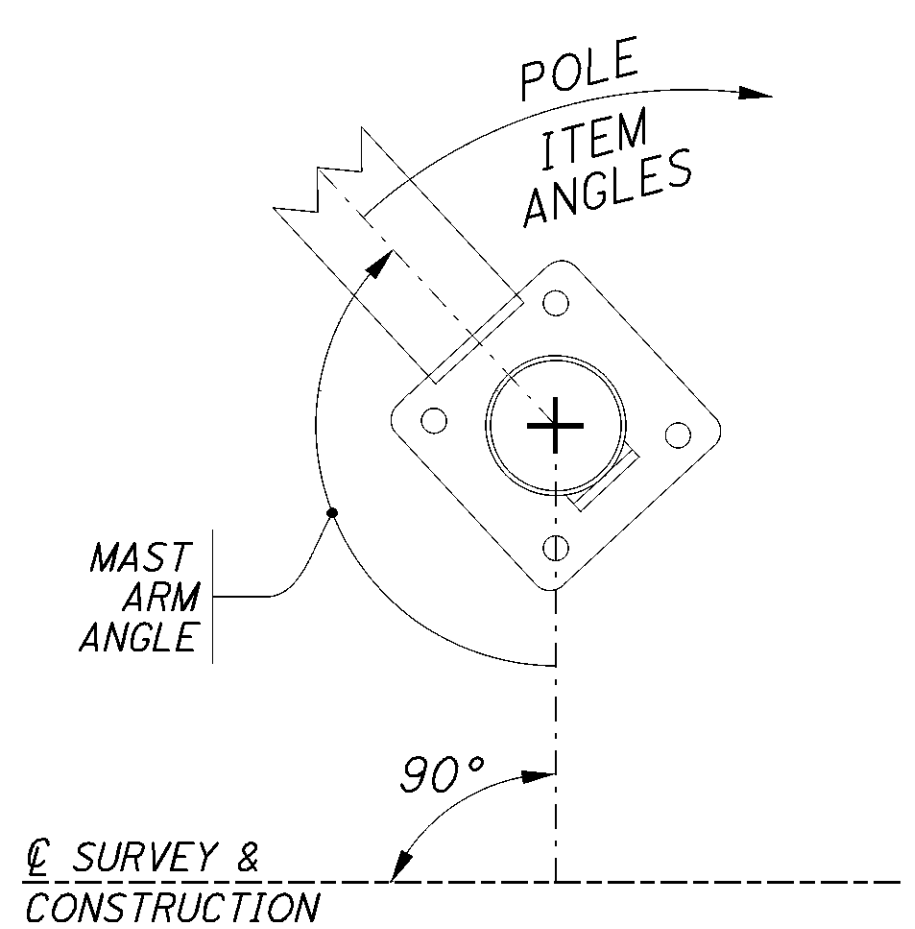
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SIGNAL SUPPORT P-1
TC-81.21, DESIGN 12
STA. 36+06, 46' LT
S.R. 310
LOOKING SOUTH

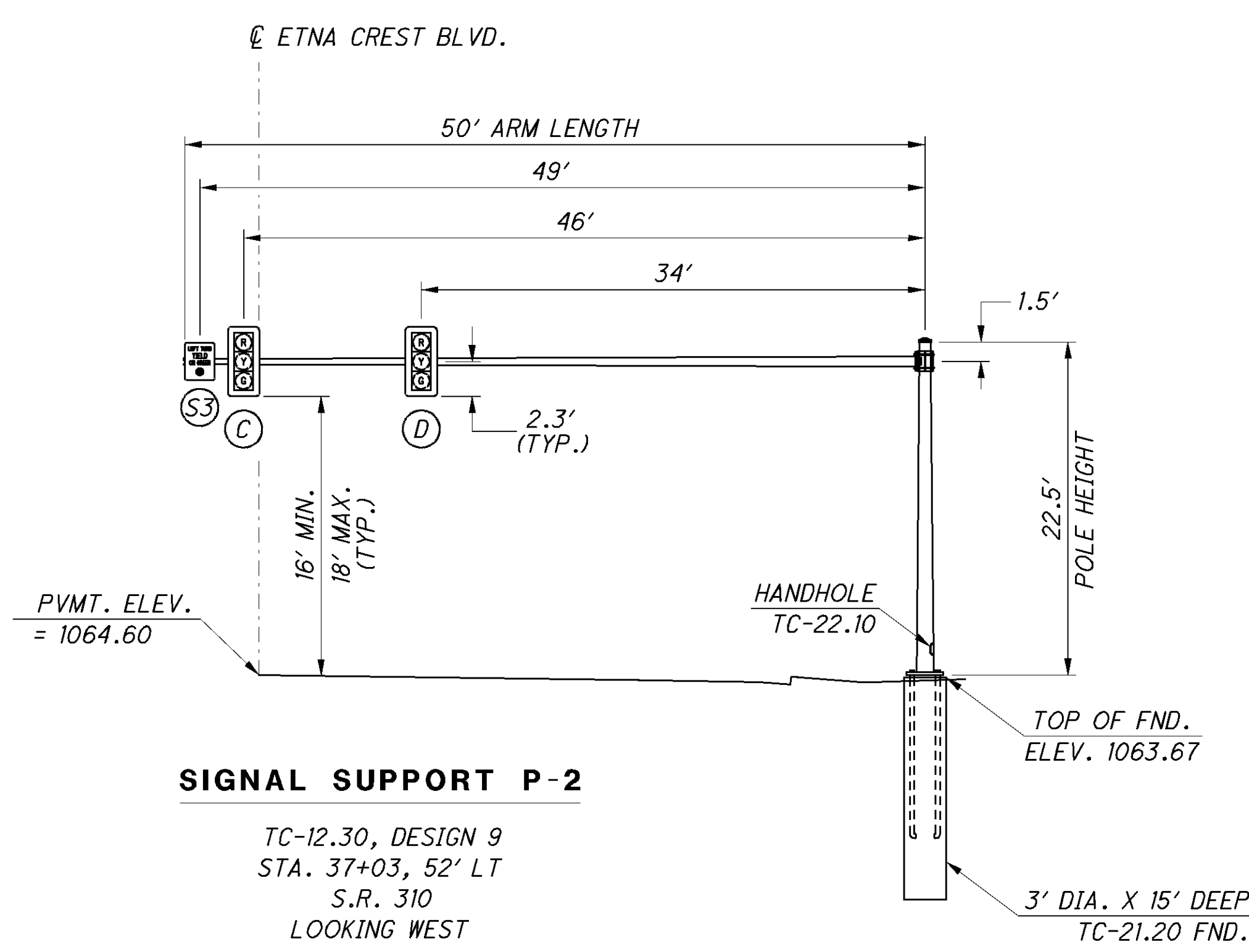


SIGNAL SUPPORT P-3, ARM A
TC-81.21, DESIGN 13
STA. 37+90, 57' RT
S.R. 310
LOOKING NORTH

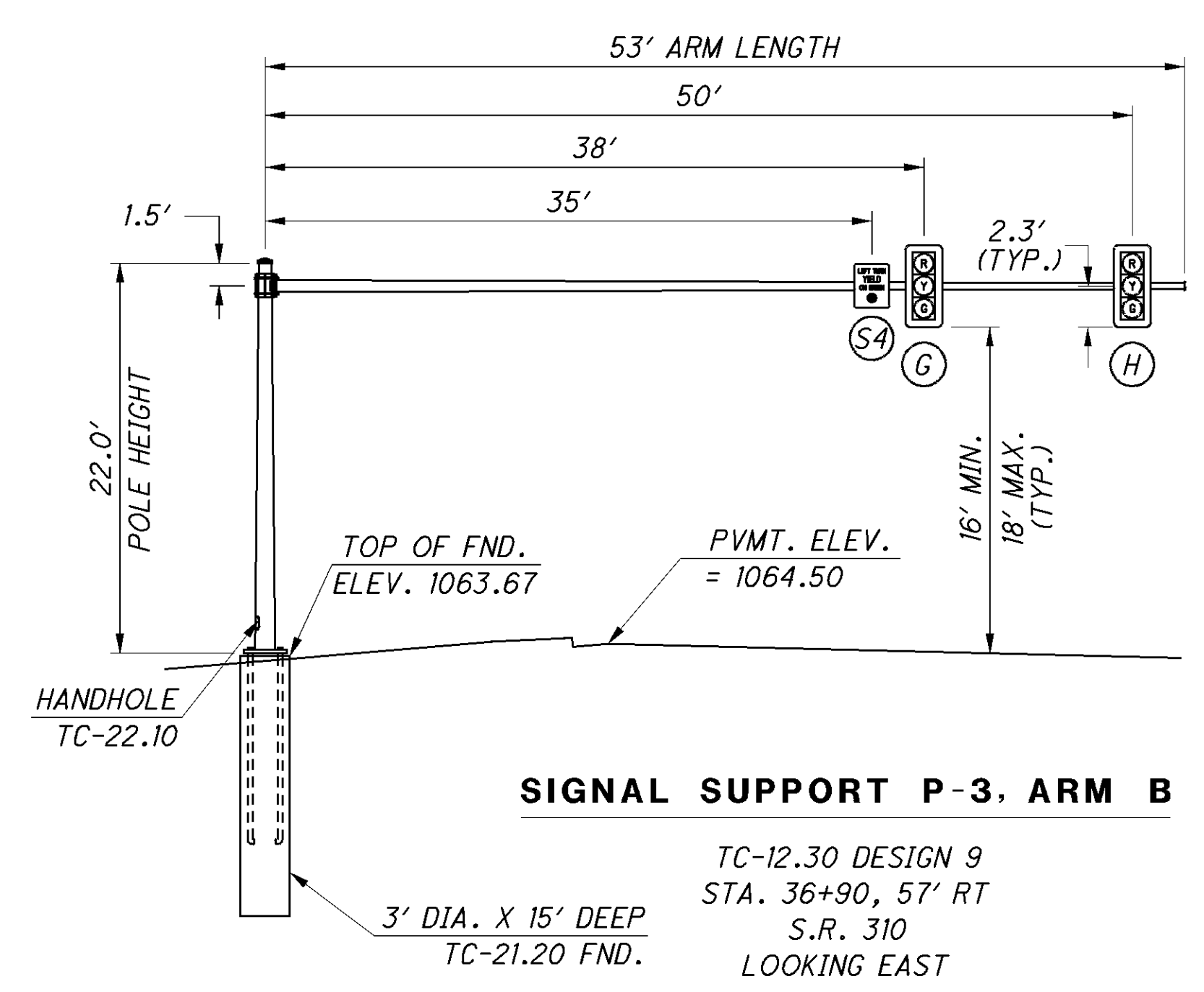


SUPPORT NO./ MAST ARM	MAST ARM ANGLE	ANGLE FROM MAST ARM	
		DISCONNECT	HANDHOLE
		DEGREES	
P-1	0		180
P-2	270		180
P-3A	0	180	
P-3B	270		180

NOTES
1. ALL ANGLES MEASURED CLOCKWISE FROM S.R. 310
2. BASE PLATE IS ORIENTED SQUARE TO MAST ARM



SIGNAL SUPPORT P-2
TC-12.30, DESIGN 9
STA. 37+03, 52' LT
S.R. 310
LOOKING WEST

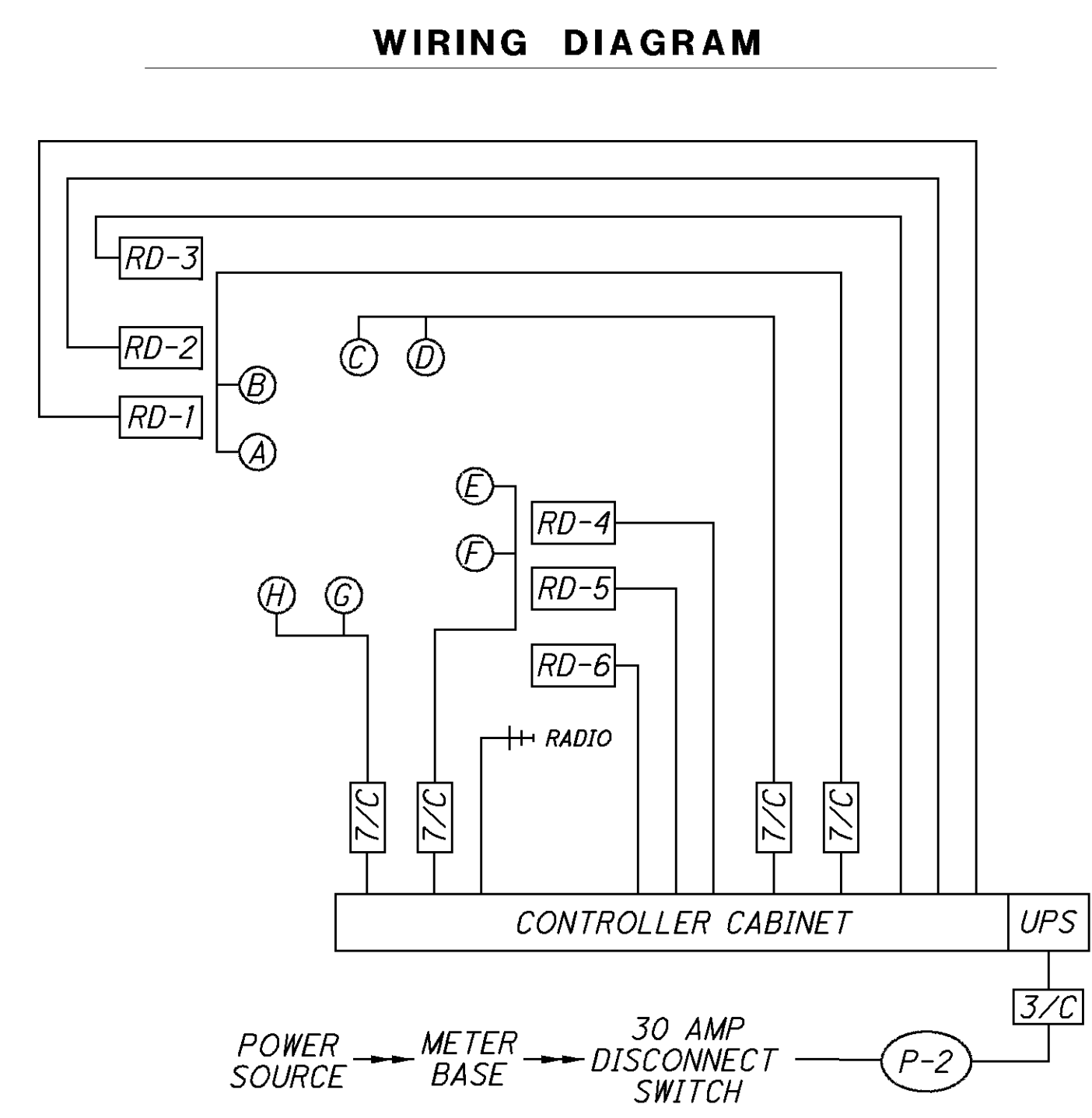


SIGNAL SUPPORT P-3, ARM B
TC-12.30 DESIGN 9
STA. 36+90, 57' RT
S.R. 310
LOOKING EAST

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TRAFFIC SIGNAL TIMING CHART									
INTERSECTION: S.R. 310 / ETNA CREST BLVD.									
MAINTAINING AGENCY: ODOT									
START UP		DUAL ENTRY:	YES	PHASES:		2 & 6, 4 & 8			
		REST IN RED:		RING 1		RING 2			
START IN:	ALL RED	OVERLAP		A	B	C	D		
TIME FOR FLASH OR ALL RED:	5 SEC.								
FIRST PHASE(S):	2 & 6								
COLOR DISPLAYED:	GREEN	PHASES							
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION		SB LT	NB		EB	NB LT	SB		WB
MINIMUM GREEN (INITIAL) (SEC.)		8	15		8	8	15		8
ADDED INITIAL* (SEC./ACTUATION)									
MAXIMUM INITIAL (SEC.)									
PASSAGE TIME (PRESET GAP) (SEC.)		3	3.5		3	3	3.5		3
TIME BEFORE REDUCTION* (SEC.)									
MINIMUM GAP* (SEC.)									
TIME TO REDUCE* (SEC.)									
MAXIMUM GREEN I (SEC.)		15	40		15	25	40		15
MAXIMUM GREEN II (SEC.)									
YELLOW CHANGE (SEC.)		4	4.5		4	4	4.5		4
ALL RED CLEARANCE (SEC.)		1.5	1.5		1.5	1.5	1.5		1.5
WALK (SEC.)			12				12		
PEDESTRIAN CLEARANCE (SEC.)			12				12		
RECALL	MAXIMUM (ON/OFF)								
	MINIMUM (ON/OFF)		X				X		
	PEDESTRIAN (ON/OFF)								
MEMORY (ON/OFF)									

*VOLUME DENSITY CONTROLS
SEE SHEET 329 FOR COORDINATION PLANS.



NOTE: POWER CABLE SHALL BE #8 AWG WITH ALL SIGNAL CABLE BEING #14 AWG

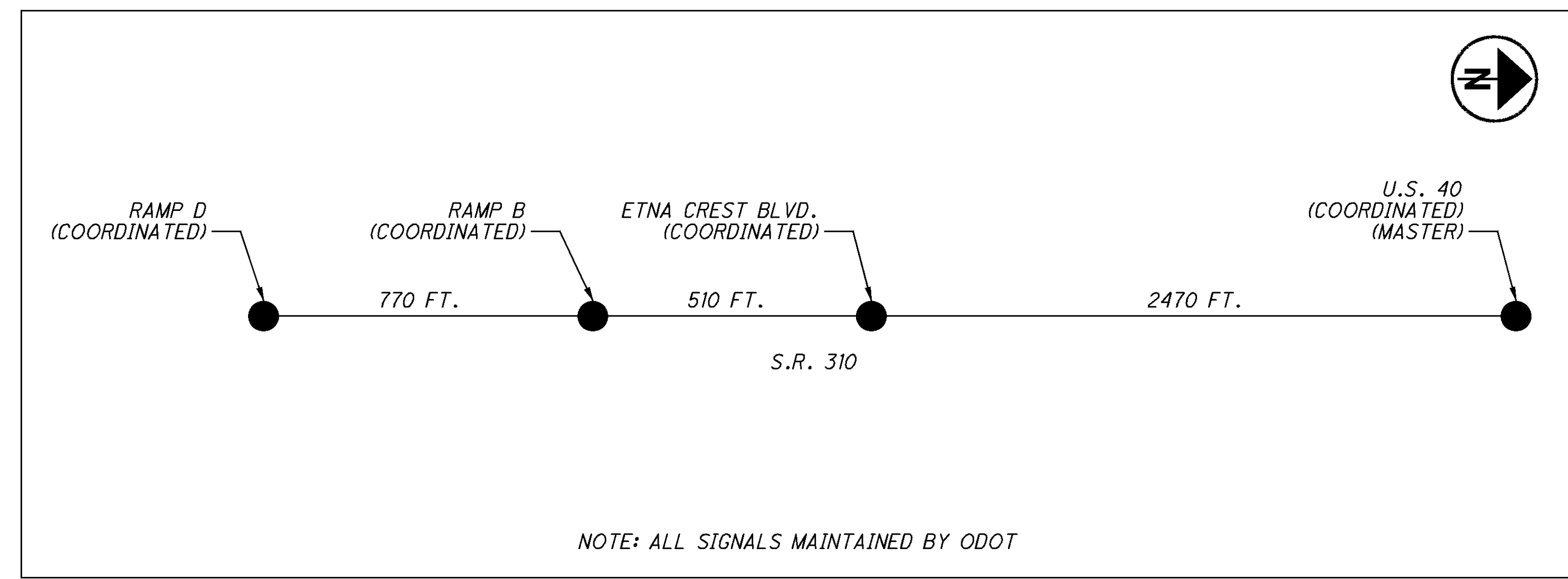
FIELD WIRING HOOKUP CHART							
SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
A (SB)	R	φ6 R	R	E (NB)	R	φ2 R	R
	Y	φ6 Y			Y	φ2 Y	
	G	φ6 G			G	φ2 G	
	<--Y--	φ6 Y			<--Y--	φ2 Y	
	<--G--	φ6 G			<--G--	φ2 G	
B (SB)	R	φ6 R	R	F (NB)	R	φ2 R	R
	Y	φ6 Y			Y	φ2 Y	
	G	φ6 G			G	φ2 G	
C, D (WB)	R	φ8 R	R	G, H (EB)	R	φ4 R	R
	Y	φ8 Y			Y	φ4 Y	
	G	φ8 G			G	φ4 G	

LS = LOAD SWITCH

RADAR DETECTION CHART					
RADAR DETECTION UNIT NO.	RADAR DETECTION ZONE	RADAR TYPE	DELAY (SEC.)	EXTENSION (SEC.)	ASSOCIATED CONTROLLER PHASE
RD-1	RZ-1	DILEMMA		2.0-7.5	φ6
RD-2	RZ-2	STOP BAR			φ1
RD-3	RZ-3A	STOP BAR	8		φ4
	RZ-3B	STOP BAR			φ4
RD-4	RZ-4	DILEMMA		2.0-7.5	φ2
RD-5	RZ-5	STOP BAR			φ5
RD-6	RZ-6A	STOP BAR	8		φ8
	RZ-6B	STOP BAR			φ8

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CORRIDOR LAYOUT



COORDINATION TIMING CHARTS										
SPLITS (G+Y+AR)										
PHASE	1	2	3	4	5	6	7	8	OFFSET 1	OFFSET 2
DIRECTION	SB LT	NB		EB		SB				
CYCLE/SPLIT	S.R. 310 / RAMP D									
1/1	21	36		23		57			42	
1/2	21	30		29		51			18	
SPLITS (G+Y+AR)										
PHASE	1	2	3	4	5	6	7	8	OFFSET 1	OFFSET 2
DIRECTION		NB		WB	NB LT	SB				
CYCLE/SPLIT	S.R. 310 / RAMP B									
1/1		59		21	29	30			2	
1/2		55		25	19	36			8	
SPLITS (G+Y+AR)										
PHASE	1	2	3	4	5	6	7	8	OFFSET 1	OFFSET 2
DIRECTION	SB LT	NB		EB	NB LT	SB		WB		
CYCLE/SPLIT	S.R. 310 / ETNA CREST BLVD.									
1/1	14	45		21	24	35		21	0	
1/2	14	45		21	24	35		21	78	

ALL TIMING IN SECONDS

COORDINATION TIMING PLANS				
DAY(S) OF WEEK	PLAN NAME	HOURS	CYCLE/SPLIT/OFFSET	CYCLE LENGTH (SEC)
MON-SUN	FREE	0:00-5:30	FREE	
	AM PEAK	5:30-9:00	1/1/1	80
	FREE	9:00-15:00	FREE	
	PM PEAK	15:00-20:30	1/2/1	80
	FREE	20:30-0:00	FREE	

- NOTES
- OFFSETS ARE MEASURED FROM REFERENCE PHASE(S) NUMBERED 2 & 6 "END OF GREEN/BEGINNING OF YELLOW."
 - MASTER INTERSECTION OFFSET REFERENCE IS ALWAYS EQUAL TO ZERO.

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ITEM 625, POWER SERVICE, AS PER PLAN

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

AMERICAN ELECTRIC POWER
SOLUTION CENTER
PHONE: 1-800-672-2231

ALL POWER SERVICES SHALL BE POLE MOUNTED UNLESS STATED AS GROUND MOUNTED IN THE PLANS AND SHALL BE INSTALLED AS SPECIFIED IN **CMS 625.15, 725.19, AND SCD HL-40.10** AT EACH LOCATION SHOWN IN THE PLANS. THE CONTRACTOR SHALL SUPPLY POWER AS SHOWN IN THE TABLE BELOW:

POWER SERVICE DATA									
POWER SERVICE	LINE VOLTS	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CONDUCTOR SIZE NO. (AWG)	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT FUSE SIZE (AMPS)	CIRCUIT CABLE SIZE NO. (AWG)	MAINTAINING AGENCY
1	240/480V 1 PHASE 4-WIRE 3-COND. W/ GND.	32	2	100	A	26	40	2	ODOT
					B	24	40	2	
2	240/480V 1 PHASE 4-WIRE 3-COND. W/ GND.	14	2	100	C	17	40	2	ODOT
					D	26	40	2	
3	120/240V 1 PHASE 4-WIRE 3-COND. W/ GND.	1	4	60	E	5	20	6	ETNA TOWNSHIP
4	120/240V 1 PHASE 4-WIRE 3-COND. W/ GND.	1	4	60	F	7	20	6	ETNA TOWNSHIP

THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. **A MINIMUM OF THREE (3) MONTHS NOTICE SHALL BE GIVEN TO THE POWER COMPANY FOR NEW INSTALLATIONS.** THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE SERVICE CABLE INTO THE POWER COMPANY'S CIRCUITS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES ASSOCIATED WITH THE SERVICE. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE LIGHTING SERVICE IS ACCEPTED BY THE MAINTAINING AGENCY.

THE CONTRACTOR WILL BE RESPONSIBLE FOR SUPPLYING OR REQUESTING FROM POWER COMPANY A WOOD POLE (CONFORMING TO **CMS 632.17 & 732.13**) BE INSTALLED AT EACH LOCATION SHOWN IN THE PLANS FOR OVERHEAD POWER SERVICE CONNECTION AND MOUNTING OF METER BASE AND DISCONNECT SWITCH ENCLOSURE. SERVICE WILL THEN RUN FROM POLE MOUNTED METER BASE AND DISCONNECT SWITCH ENCLOSURE INTO 2" CONDUIT (CONFORMING TO **CMS 725.04**) DOWN POLE INTO ADJACENT PULL BOX WITH ALL INCLUDED IN PAYMENT FOR SERVICE PER **CMS 625.22**. IF THE PROPOSED POWER SERVICE LOCATION SHOWN IN PLANS IS NOT FEASIBLE THEN THE CONTRACTOR SHALL MOVE THE POWER SERVICE LOCATION AT APPROVAL OF THE ENGINEER. ITEMIZED QUANTITIES SHALL BE ADJUSTED.

THE PHOTO-CELL SHALL ADHERE TO **CMS 725.19E** AND BE MOUNTED PER **SCD HL-40.10, HL-40.20**. THE PHOTO-CELL SHALL BE PLACED CLEAR OF ALL OBSTRUCTIONS INCLUDING TREE BRANCHES. ALL INTEGRAL PHOTO-CELLS ON LUMINAIRE FIXTURES SHALL BE COVERED.

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYPED IN ACCORDANCE WITH **CMS 631.06**. EACH ENCLOSURE SHALL HAVE A SAFETY SWITCH DISCONNECT.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH POWER SERVICE, COMPLETE IN PLACE, INCLUDING ADJACENT PULL BOX, PHOTO-CELL, CONDUIT RISER, ALL CABLE, CONDUIT, FITTINGS, CONNECTIONS, CLAMPS, DISCONNECT SWITCH WITH ENCLOSURE, METER BASE, GROUND RODS, PADLOCK AND KEY, AND ALL OTHER INCIDENTALS NECESSARY FOR COMPLETE SERVICE, ALL CONNECTIONS TESTED AND ACCEPTED.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE LIGHTING SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF **180 DAYS** FOLLOWING COMPLETION OF THE TEN DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL, AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE LIGHTING SYSTEM: LIGHT TOWERS, DECORATIVE LIGHT POLES/ARMS, LUMINAIRES, CABLES, CONNECTIONS AND ALL ASSOCIATED EQUIPMENT.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE OR THE MAINTAINING AGENCY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE LIGHTING SYSTEM SHALL BE INCIDENTAL TO AND INCLUDED IN THE UNIT PRICE BID OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX," OSRAM SYLVANIA "LUMALUX," PHILIPS "CERAMALUX," OR EQUAL APPROVED BY THE ENGINEER.

HIGH VOLTAGE TEST WAIVED

THE HIGH VOLTAGE TEST SHALL NOT BE PERFORMED ON THE CIRCUITS CONSTRUCTED BY THIS PROJECT, SINCE THE TEST COULD DAMAGE THE PORTION OF THE COMPLETED CIRCUIT WHICH HAS BEEN IN SERVICE PRIOR TO THIS PROJECT.

CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLETON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE 4 INCHES TOTAL MOVEMENT AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, APPLETON TYPE DF, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER.

THE COST OF FITTINGS AND COUPLINGS SHALL BE INCIDENTAL TO AND INCLUDED IN THE UNIT PRICE BID FOR THE CONDUIT BEING INSTALLED PER **CMS 625.22**.

UNDERDRAINS FOR PULL BOXES

SEE **SCD HL-30.11** FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED WHERE FEASIBLE, AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY:

ITEM 611, 4" CONDUIT, TYPE E = 300 FT

VARMINT GUARDS

VARMINT GUARDS SHALL BE INSTALLED ON ALL LIGHT TOWERS. ATTACH VARMINT SCREEN WITH STAINLESS STEEL BAND AND MINIMUM 2" OVERLAP. TIE OVERLAPPING SCREEN WITH STAINLESS STEEL WIRE TIES. SCREEN SHALL BE WELDED WIRE MESH OR EXPANDED METAL SHEET, STAINLESS STEEL OR GALVANIZED, WITH OPENINGS NO LARGER THAN 3/8", OR APPROVED EQUAL. SEE **SCD HL-10.31** FOR DETAILS. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE TOWER.

ITEM 625, PORTABLE WINCH DRIVE POWER UNIT

THIS ITEM WILL CONSIST OF FURNISHING A PORTABLE WINCH DRIVE POWER UNIT TO ALLOW FOR THE OPERATION OF THE HOISTING AND LOWERING DEVICE FOR THE RING OF LUMINAIRES ON A LIGHT TOWER. THE PORTABLE WINCH DRIVE POWER UNIT WILL BE AS SPECIFIED PER **CMS 725.21**. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 625, PORTABLE WINCH DRIVE POWER UNIT 1 EACH

ITEM 625, DUCT CABLE MISC.: 1-1/2" DUCT CABLE WITH FOUR (NO. 2)/(NO.6) AWG 5000 VOLT CABLES

THE DUCT CABLE FOR THIS ITEM SHALL BE A 4-WIRE, 3-CONDUCTOR, WITH GROUND SYSTEM AND ADHERE TO THE REQUIREMENTS OF **CMS 725.03**.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE FURNISHING AND INSTALLING THE DUCT CABLE AND ANY INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

ITEM 625, LUMINAIRE, HIGH MAST, AS PER PLAN (400W, HPS, 480V, TYPE V)

THE LUMINAIRE ARRAYS AND ASSOCIATED ILLUMINATION TEST AREAS SPECIFIED IN **CMS 725.11** ARE HEREBY WAIVED. INSTEAD, THE LUMINAIRES FOR HIGH MAST LIGHTING SHALL MEET THE FOLLOWING REQUIREMENTS:

LUMINAIRES FOR HIGH MAST LIGHTING UNITS WITH SYMMETRIC DISTRIBUTION SHALL BE HOLOPHANE "HMST" WITH PHOTOMETRIC DISTRIBUTION 36383, GENERAL ELECTRIC "HM" WITH PHOTOMETRIC DISTRIBUTION 6312, OR COOPER "HMX" WITH PHOTOMETRIC DISTRIBUTION HMX4SDW, OR EQUAL AS APPROVED BY THE ENGINEER.

IN ADDITION, OTHER LUMINAIRES WILL BE CONSIDERED IF THE DESIGNED INTENSITY AND UNIFORMITY ARE PROVIDED USING THE DESIGNED POLE LOCATIONS AND THE DESIGNED NUMBER AND TYPE OF FIXTURES PER POLE.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

CALCULATED
JSL
CHECKED
JSL

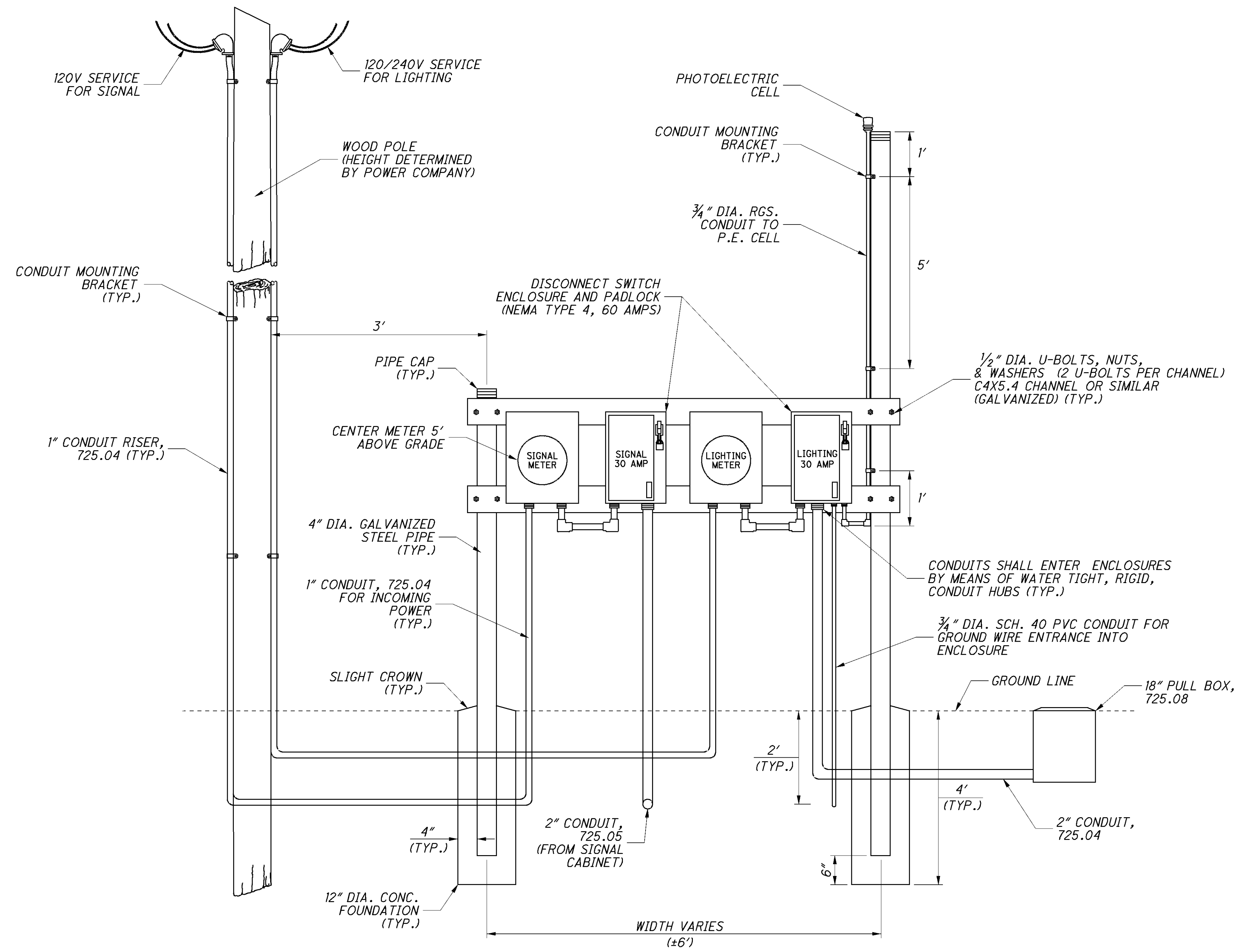
LIGHTING NOTES

LIC-310-0.74

330
425

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NOTE: SIGNAL AND LIGHTING POWER SERVICES HAVE BEEN ITEMIZED SEPARATELY IN THE PLANS BUT SHALL BE CONSTRUCTED TOGETHER AS SHOWN IN DETAIL ABOVE

CALCULATED
JSL
CHECKED
JSL

GROUND MOUNTED POWER SERVICE DETAIL
S.R. 310/ ETNA CREST BLVD.

LIC-310-0.74

**ITEM 625, LUMINAIRE, DECORATIVE, AS PER PLAN
(150W, LED, 240V, TYPE III)**

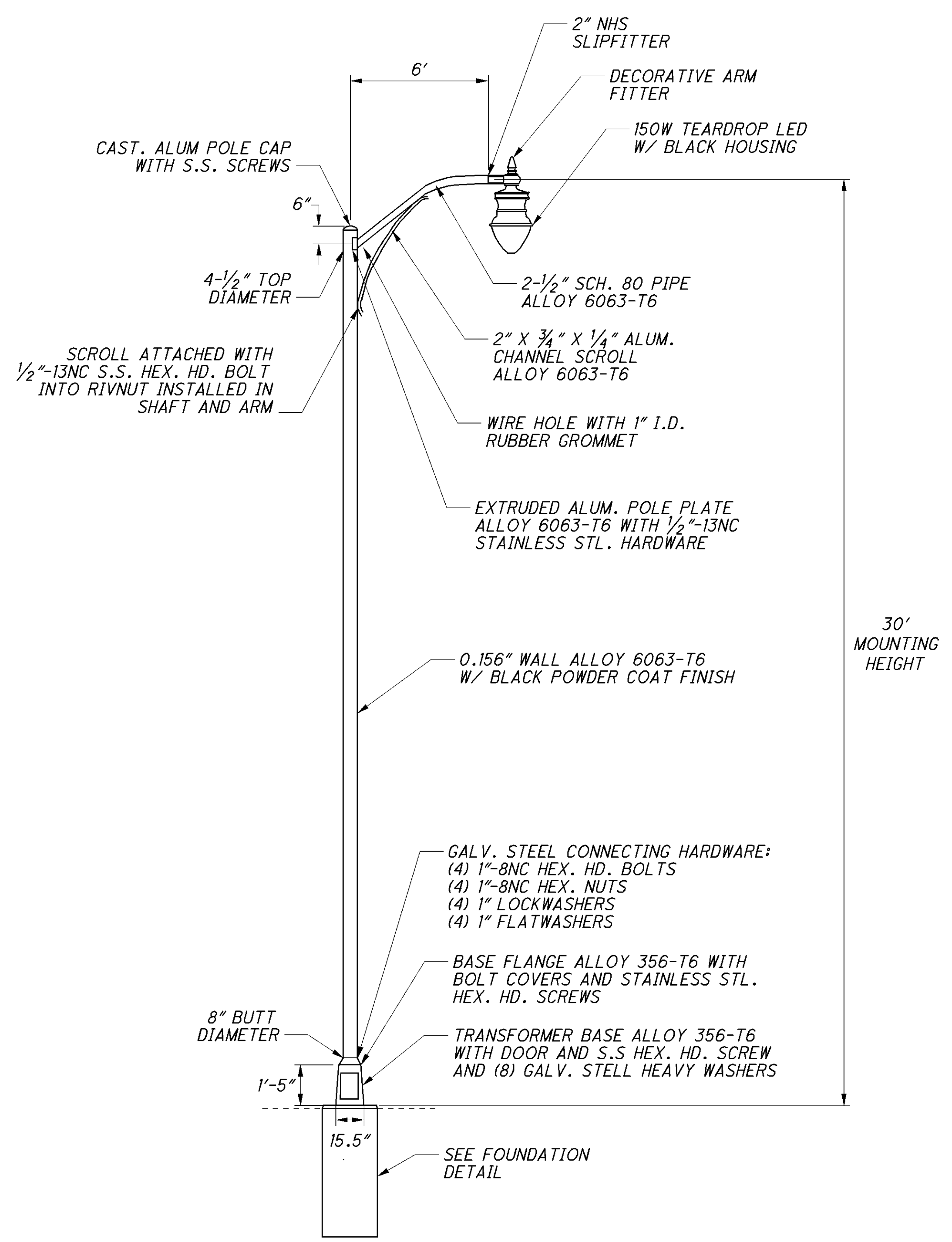
THIS ITEM INCLUDES FURNISHING AND INSTALLING A HOLOPHANE LED TEARDROP LUMINAIRE (CATALOG# ESL_150_4K_AS_S_B_4) OR APPROVED EQUAL AS DETAILED ON THIS SHEET.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO INSTALL THE LUMINAIRE.

ITEM 625, LIGHT POLE, DECORATIVE, AS PER PLAN

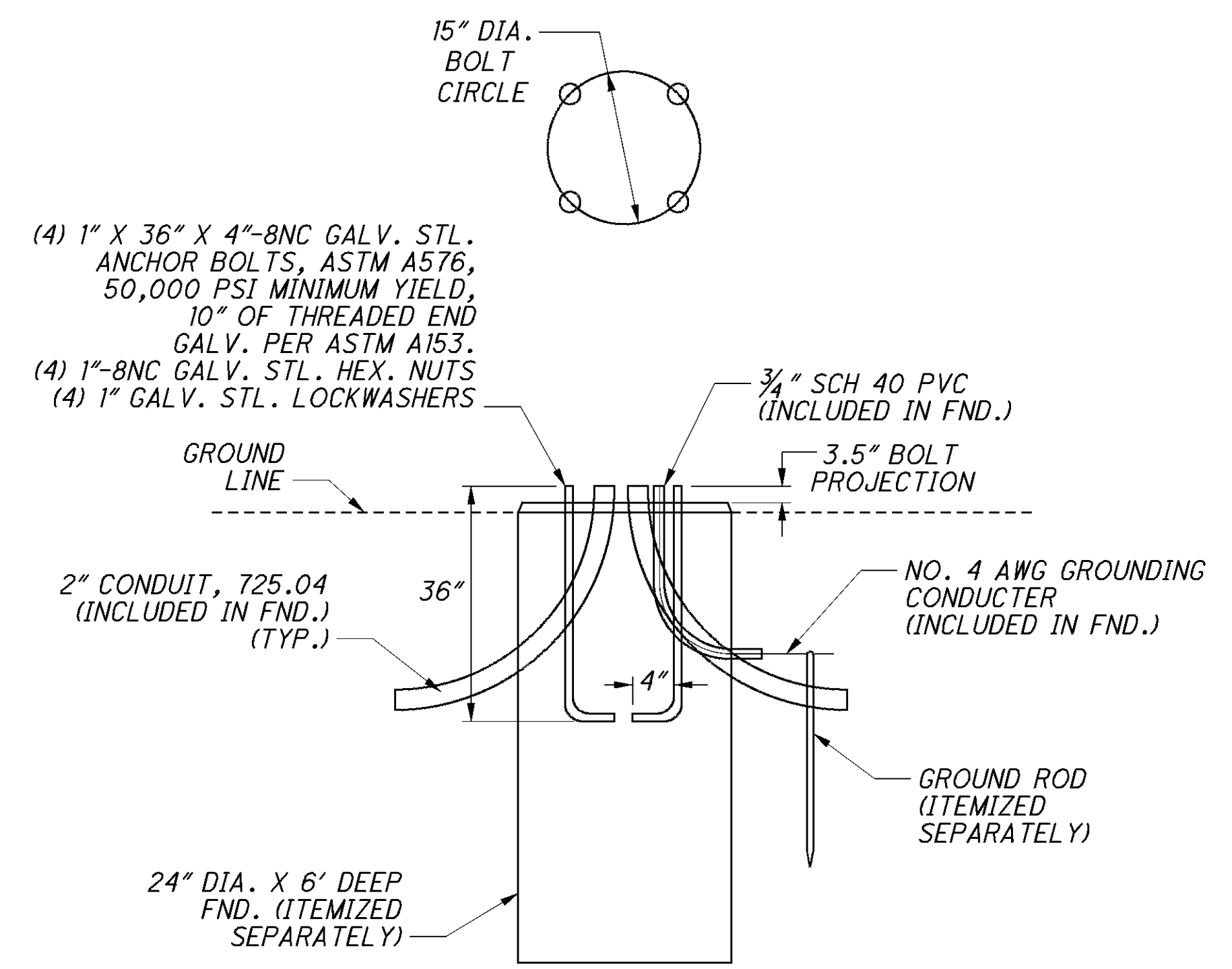
THIS ITEM INCLUDES FURNISHING AND INSTALLING A GROUND MOUNTED HAPCO DECORATIVE LIGHT POLE WITH BREAKAWAY BASE (CATALOG# RTA30C8BFM16BA) OR APPROVED EQUAL AS DETAILED ON THIS SHEET.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND ALL INCIDENTALS NECESSARY (UNLESS ITEMIZED SEPARATELY) TO ERECT THE LIGHT POLE.



LIGHT POLE DETAIL

NOTE: ALL ALLOY PARTS SHALL HAVE A BLACK POWDER COST FINISH



FOUNDATION DETAIL

NOTE: SEE HL-20.11 FOR ADDITIONAL FOUNDATION DETAILS

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**ITEM 625, LUMINAIRE, UNDERPASS, AS PER PLAN
(100W, HPS, 240V, TYPE IV)**

IN ADDITION TO THE REQUIREMENTS OF CMS 725.11, LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE AMERICAN ELECTRIC "SIDELIGHT SERIES 582" WITH PHOTOMETRIC DISTRIBUTION AE2081I, COOPER "WALL LIGHT" WITH PHOTOMETRIC DISTRIBUTION WPK15SXX, GENERAL ELECTRIC "VERSA-FLOOD II WALLIGHTER" WITH PHOTOMETRIC DISTRIBUTION 8578, HOLOPHANE "WALLPACK II" TEST WITH PHOTOMETRIC DISTRIBUTION 33263, OR EQUAL AS APPROVED BY THE ENGINEER.

LUMINAIRES FOR UNDERPASS LIGHTING UNIT WHICH ARE WALL MOUNTED SHALL BE FURNISHED WITH AN INTEGRAL FUSE HOLDER AND 10-AMPERE FUSES.

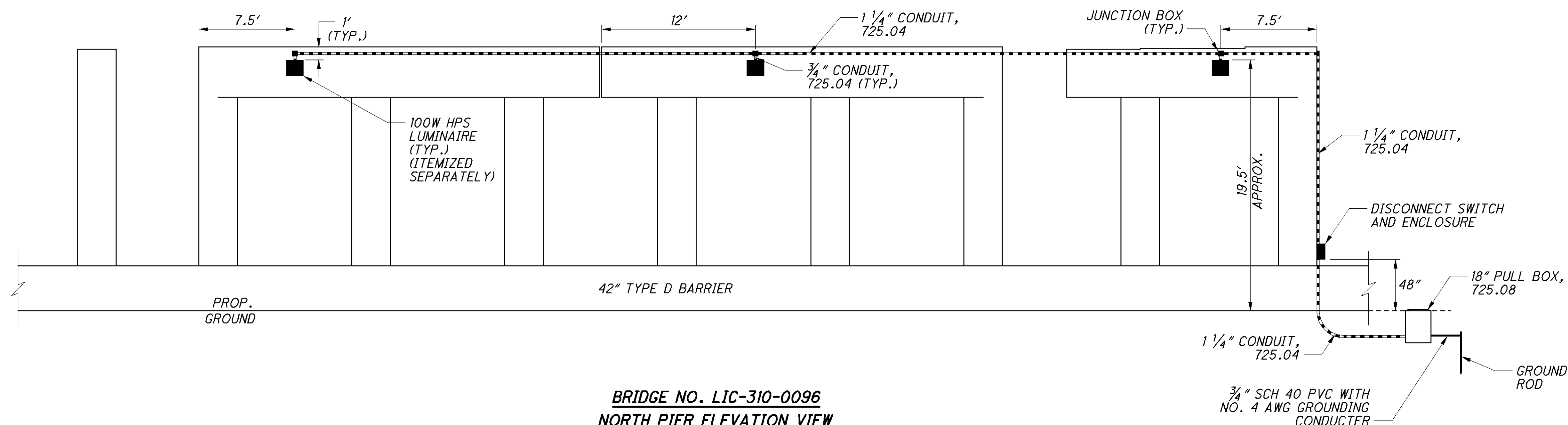
LUMINAIRES FOR UNDERPASS LIGHTING SHALL BE MOUNTED ON THE PROPOSED LIC-310-0096 BRIDGE PIERS AS SHOWN BELOW.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

ITEM 625, SERVICE TO UNDERPASS LIGHTING, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL SERVICE FOR THE UNDERPASS LIGHTING SYSTEM ON THE OUTSIDE PIER FOR BRIDGE NO. LIC-310-0096. THE INSTALLATION WORK SHALL INCLUDE CONDUITS, MOUNTINGS, FITTINGS, CONNECTIONS, CABLES, JUNCTION BOXES, DISCONNECT SWITCH WITH ENCLOSURE, 18" PULL BOX, GROUND ROD, AND ALL INCIDENTALS (UNLESS ITEMIZED SEPARATELY) NECESSARY TO COMPLETE THE SERVICE AS SHOWN IN THE DETAILS BELOW.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID AND INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY FOR COMPLETE SERVICE, ALL CONNECTIONS TESTED AND ACCEPTED.

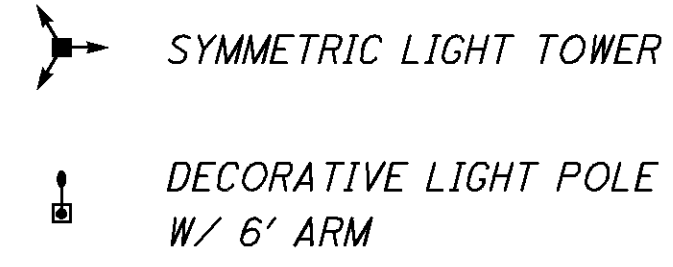


**BRIDGE NO. LIC-310-0096
NORTH PIER ELEVATION VIEW**
NOTE: DETAIL ALSO APPLIES TO SOUTH PIER

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SHEET NO.	LOCATION	625														
		CONNECTION, UNFUSED PERMANENT	LIGHT TOWER, BBBB100	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 2 AWG 5000 VOLT CABLES	CONDUIT, 3", JACKED OR DRILLED, 725.04	LUMINAIRE, HIGH MAST, AS PER PLAN (400W, HPS, 480V, TYPE V)	LUMINAIRE, UNDERPASS, AS PER PLAN (100W, HPS, 240V, TYPE IV)	TRENCH, 24" DEEP	LIGHTING	LIGHTING	GROUND ROD	POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE	SERVICE TO UNDERPASS LIGHTING, AS PER PLAN
		EACH	EACH	EACH	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	FT	EACH
	CIRCUITS A,B															
336	A-1 TO A-2		1	1		460		6		450		2			450	
336	A-2 TO A-3		1	1		460		6		450		2			450	
336-337	A-3 TO A-4		1	1		460		6		450		2			450	
337	A-4 TO PB-2		1	1		310		6		300		2			300	
337	B-1 TO B-2		1	1		375		4		365		2			365	
337	B-2 TO PB-1		1	1		95		4		90		2			90	
337	PB-1 TO PB-2	3			380		90				1					
337	B-3 TO PB-2		1	1		410		6		400		2			400	
337	PB-2 TO PB-3	6			760		90					1				
337	B-4 TO B-5		1	1		395		4		390		2			390	
337	B-5 TO PB-3		1	1		155		4		150		2			150	
337	PB-3 TO PB-4	6				410				200			1		200	
337	PB-4 TO PB-5	6			304		33						1			
337	PB-5 TO PS-1	6				130				60			1		60	
	CIRCUITS C,D															
337	C-1 TO C-2		1	1		340		4		335		2			335	
337	C-2 TO PB-7		1	1		95		4		90		2			90	
337	C-3 TO PB-10		1	1		220		6		215		2			215	
337	UP-2 TO PB-10					415			3	410					410	1
337	PB-10 TO PB-9	3			480		115				1					
338	D-4 TO D-3		1	1		460		6		450		2			450	
338	D-3 TO D-2		1	1		460		6		450		2			450	
338	D-2 TO D-1		1	1		460		6		450		2			450	
337-338	D-1 TO PB-9		1	1		260		6		250		2			250	
337	PB-9 TO PB-8	6			560		65					1				
337	UP-1 TO PB-8					445			3	435					435	1
337	PB-8 TO PB-7	6				95				90			1		90	
337	PB-7 TO PB-6	6			304		33						1			
337	PB-6 TO PS-2	6				40				45			1		45	
													1			
	TOTALS CARRIED TO LOCATION 1b SUMMARY	54	16	16	2,788	6,950	426	84	6	6,525	2	8	32	2	6,525	2

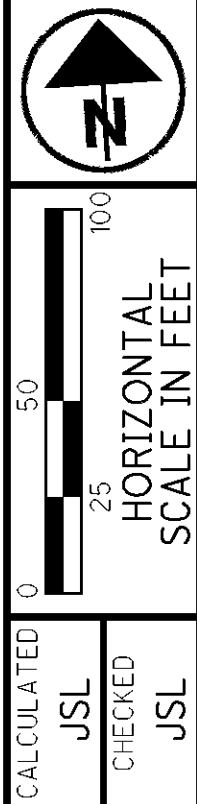
SHEET NO.	LOCATION	625														
		CONNECTION, FUSED PULL APART	CONNECTION, UNFUSED PERMANENT	LIGHT POLE, DECORATIVE, AS PER PLAN	LIGHT POLE FOUNDATION, 24" X 6" DEEP	NO. 6 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 10 AWG POLE AND BRACKET CABLE	DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 6 AWG 5000 VOLT CABLES	CONDUIT, 3", 725.04	CONDUIT, 3", JACKED OR DRILLED, 725.04	LUMINAIRE, DECORATIVE, AS PER PLAN (150W, LED, 240V, TYPE III)	TRENCH, 24" DEEP	LIGHTING PULL BOX, 725.08, 18"	GROUND ROD	POWER SERVICE, AS PER PLAN	PLASTIC CAUTION TAPE
		EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	EACH	FT	EACH	EACH	EACH	EACH
	CIRCUIT E															
339	E-1 TO E-2	3		1	1		40	155			1	150		1		150
339	E-2 TO E-3	3		1	1		40	155			1	150		1		150
339	E-3 TO E-4	3		1	1		40	155			1	150		1		150
339	E-4 TO E-5	3		1	1		40	155			1	150		1		150
339	E-5 TO PB-13	3		1	1		40	15			1	10		1		10
339	PB-13 TO PB-12		3			396				99			1			
339	PB-12 TO E-6		3					90				85	1			85
339	E-6 TO E-7	3		1	1		40	155			1	150		1		150
339	E-7 TO PS-3	3		1	1		40	120			1	115		1		115
339	E-8 TO PB-11	3		1	1	40	40		10		1	5		1		
339	PB-11 TO PS-3		3			212				53			1		1	
	CIRCUIT F															
340	F-1 TO F-2	3		1	1		40	155			1	150		1		150
340	F-2 TO F-3	3		1	1		40	155			1	150		1		150
340	F-3 TO PB-15	3		1	1		40	55			1	50		1		50
340	F-4 TO F-5	3		1	1		40	155			1	150		1		150
340	F-5 TO PB-14	3		1	1		40	125			1	125		1		125
340	F-7 TO F-6	3		1	1	480	40		120		1	115		1		
340	F-6 TO PB-14	3		1	1		40	45			1	40		1		40
340	PB-14 TO PB-15		3			368				92			1			
340	PB-15 TO F-8		3					105				100	1			100
340	F-8 TO PB-16	3		1	1	160			40		1	35		1		35
340	PB-16 TO PS-4		3			500			125				1			
340	F-9 TO PB-17	3		1	1	40	40		10		1	5		1		
340	PB-17 TO PS-4		3			420				105			1		1	
TOTALS CARRIED TO GENERAL SUMMARY		51	21	17	17	2616	640	1795	305	349	17	1885	7	17	2	1760



LEGEND

- /// 1 1/2" DUCT-CABLE WITH 4 NO. 2 AWG 5000 VOLT CABLES
- 3" CONDUIT, 725.04 WITH 4 NO. 2 AWG 5000 VOLT DISTRIBUTION CABLES
- PULLBOX
- POWER SERVICE

SEE SHEET 334 FOR LIGHTING QUANTITIES.

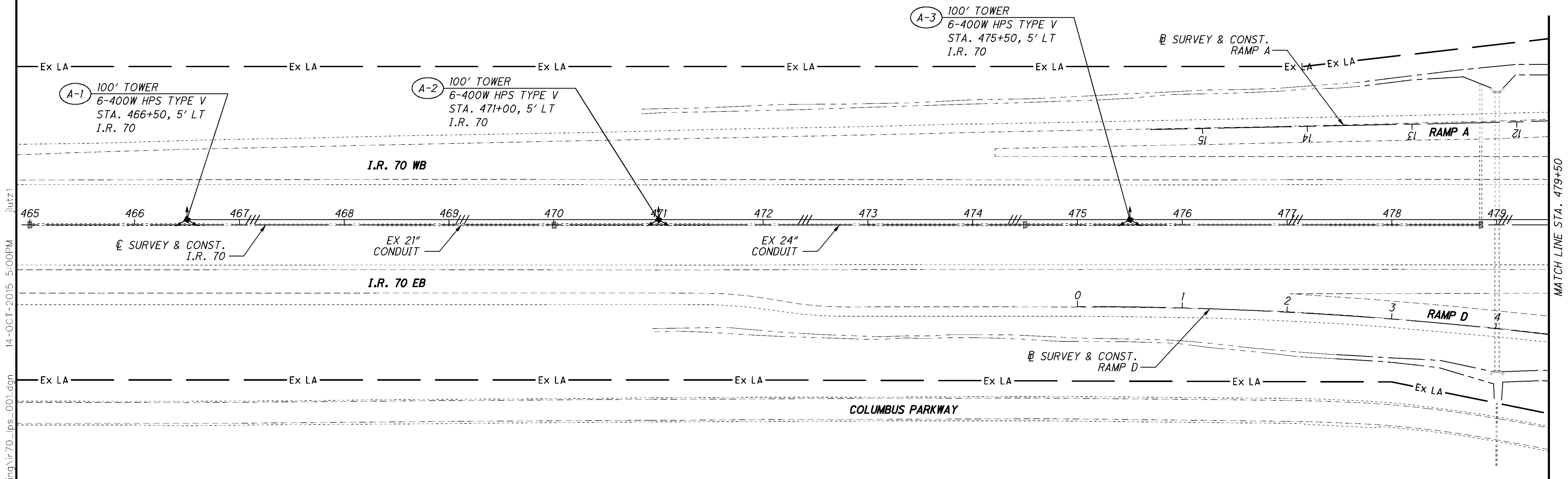


CALCULATED JSL
CHECKED JSL

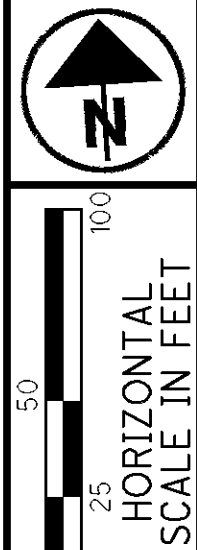
LIGHTING PLAN SHEET - I.R. 70
STA. 465+50 TO STA. 479+00

LIC-310-0.74

336
425



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CALCULATED JSL
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LIGHTING PLAN SHEET - I.R. 70
STA. 479+50 TO STA. 493+50

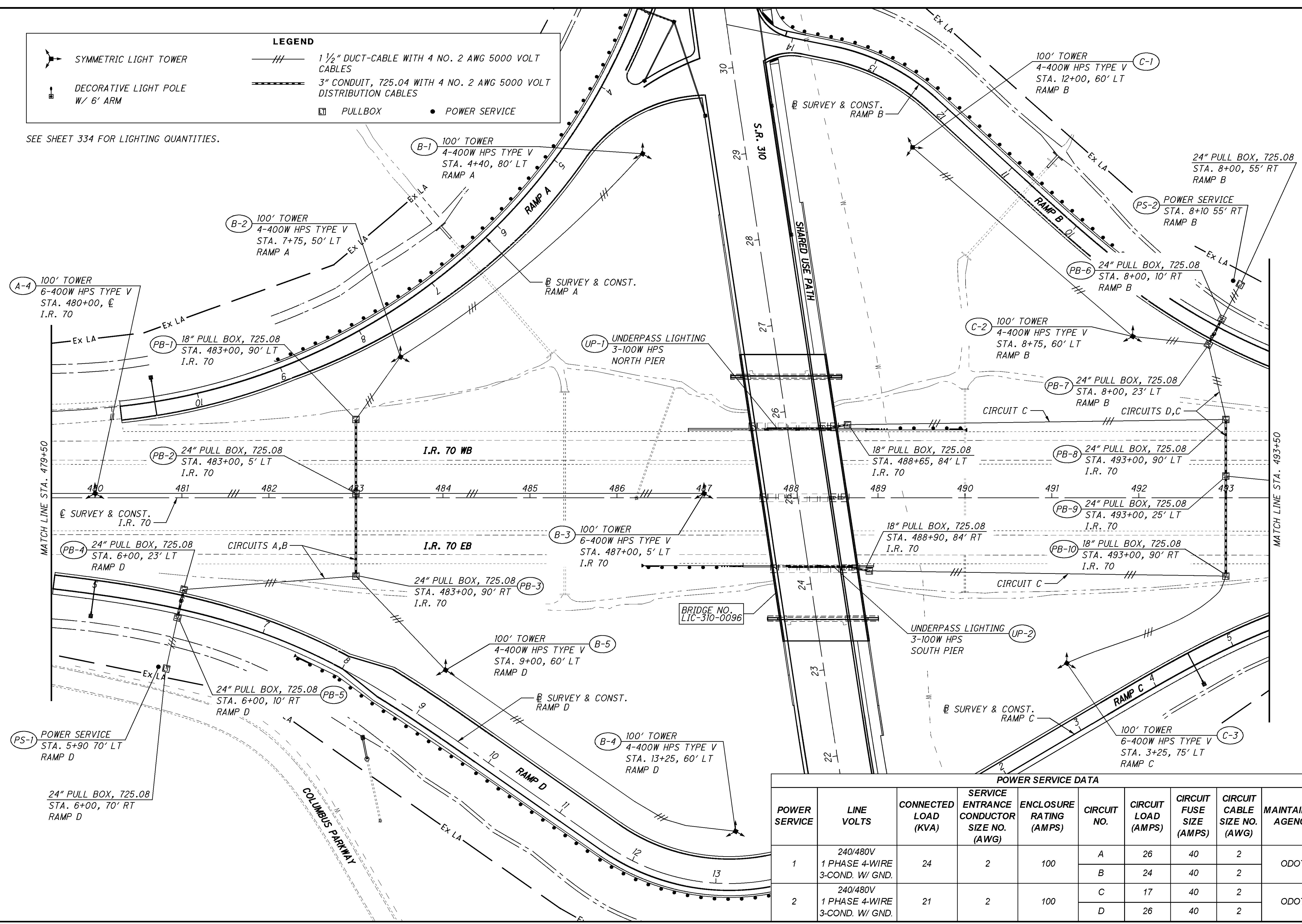
LIC-310-0.74

337
425

LEGEND

- SYMMETRIC LIGHT TOWER
- DECORATIVE LIGHT POLE W/ 6' ARM
- 1 1/2" DUCT-CABLE WITH 4 NO. 2 AWG 5000 VOLT CABLES
- 3" CONDUIT, 725.04 WITH 4 NO. 2 AWG 5000 VOLT DISTRIBUTION CABLES
- PULLBOX
- POWER SERVICE

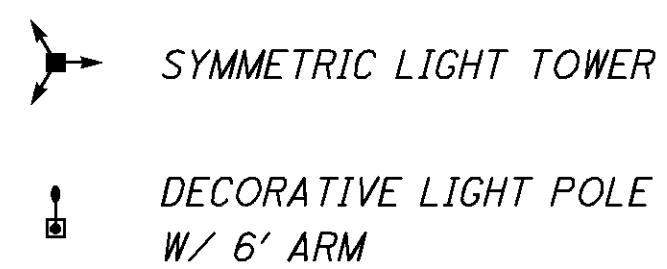
SEE SHEET 334 FOR LIGHTING QUANTITIES.



POWER SERVICE DATA

POWER SERVICE	LINE VOLTS	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CONDUCTOR SIZE NO. (AWG)	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT FUSE SIZE (AMPS)	CIRCUIT CABLE SIZE NO. (AWG)	MAINTAINING AGENCY
1	240/480V 1 PHASE 4-WIRE 3-COND. W/ GND.	24	2	100	A	26	40	2	ODOT
					B	24	40	2	
2	240/480V 1 PHASE 4-WIRE 3-COND. W/ GND.	21	2	100	C	17	40	2	ODOT
					D	26	40	2	

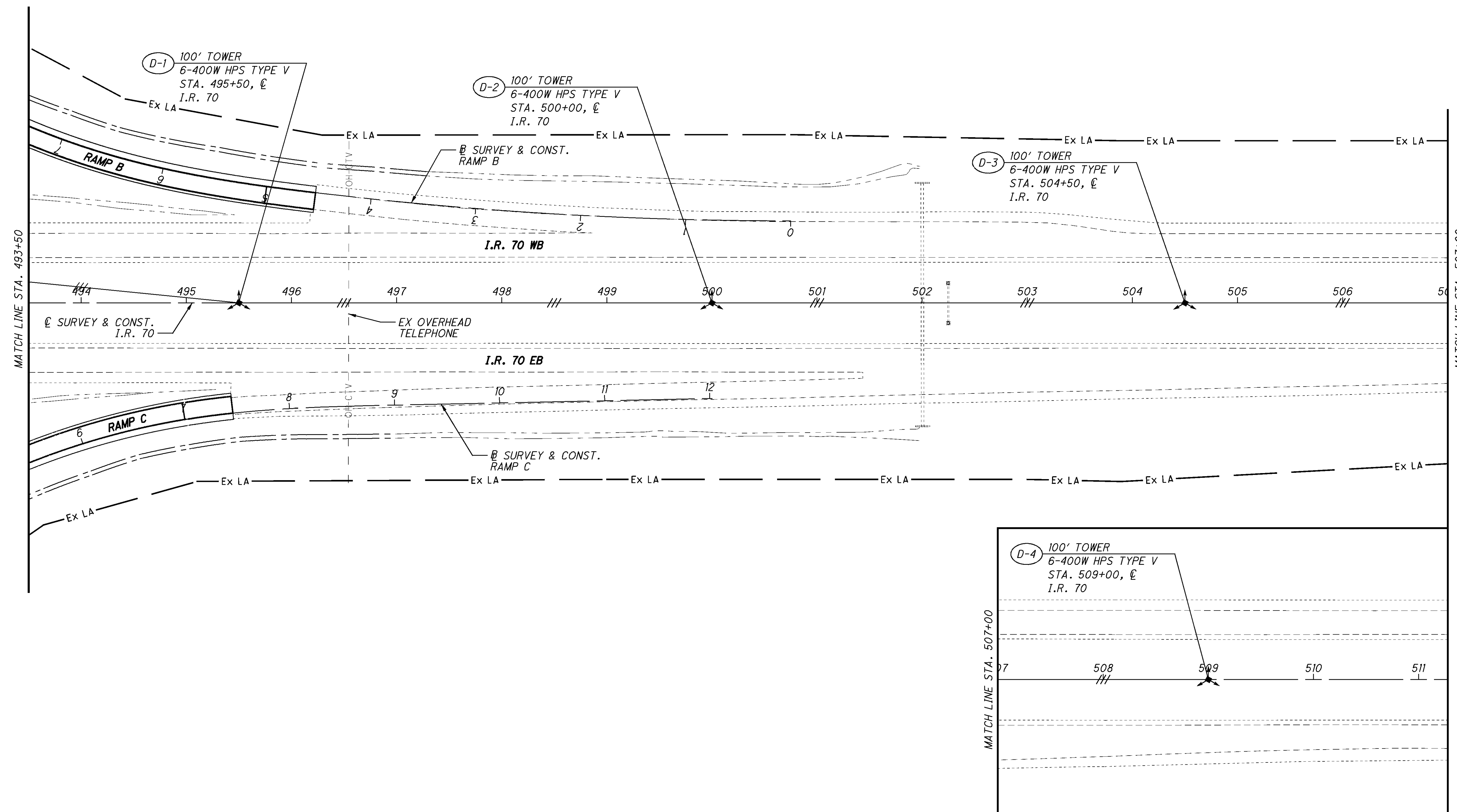
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LEGEND

- /// 1 1/2" DUCT-CABLE WITH 4 NO. 2 AWG 5000 VOLT CABLES
- 3" CONDUIT, 725.04 WITH 4 NO. 2 AWG 5000 VOLT DISTRIBUTION CABLES
- PULLBOX
- POWER SERVICE

SEE SHEET XXX FOR LIGHTING QUANTITIES



CALCULATED JSL
CHECKED JSL

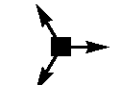

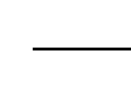



0 25 50 100
HORIZONTAL SCALE IN FEET

LIGHTING PLAN SHEET - I.R. 70
STA. 493+50 TO STA. 511+00

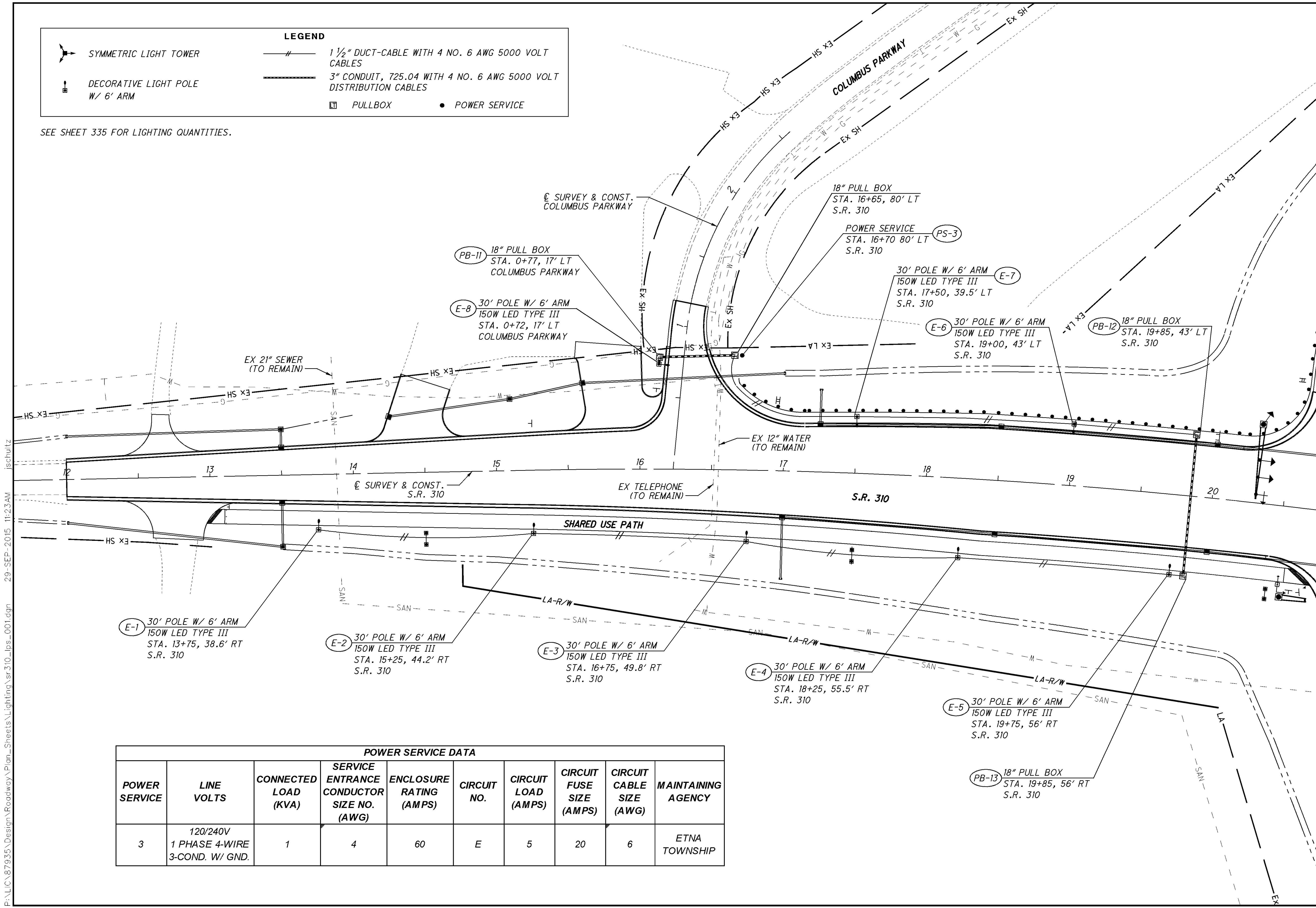
LIC-310-0.74

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LEGEND

-  SYMMETRIC LIGHT TOWER
-  DECORATIVE LIGHT POLE W/ 6' ARM
-  1 1/2" DUCT-CABLE WITH 4 NO. 6 AWG 5000 VOLT CABLES
-  3" CONDUIT, 725.04 WITH 4 NO. 6 AWG 5000 VOLT DISTRIBUTION CABLES
-  PULLBOX
-  POWER SERVICE

SEE SHEET 335 FOR LIGHTING QUANTITIES.



POWER SERVICE DATA

POWER SERVICE	LINE VOLTS	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CONDUCTOR SIZE NO. (AWG)	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT FUSE SIZE (AMPS)	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
3	120/240V 1 PHASE 4-WIRE 3-COND. W/ GND.	1	4	60	E	5	20	6	ETNA TOWNSHIP

N

0 15 30 45 60
HORIZONTAL SCALE IN FEET

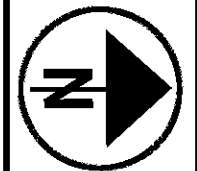
CALCULATED JSL
CHECKED JSL

LIC-310-0.74

LIGHTING PLAN SHEET - S.R. 310
STA. 12+00 TO STA. 20+50

LIC-310-0.74

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0 30 60
HORIZONTAL
SCALE IN FEET

CALCULATED JSL
CHECKED JSL

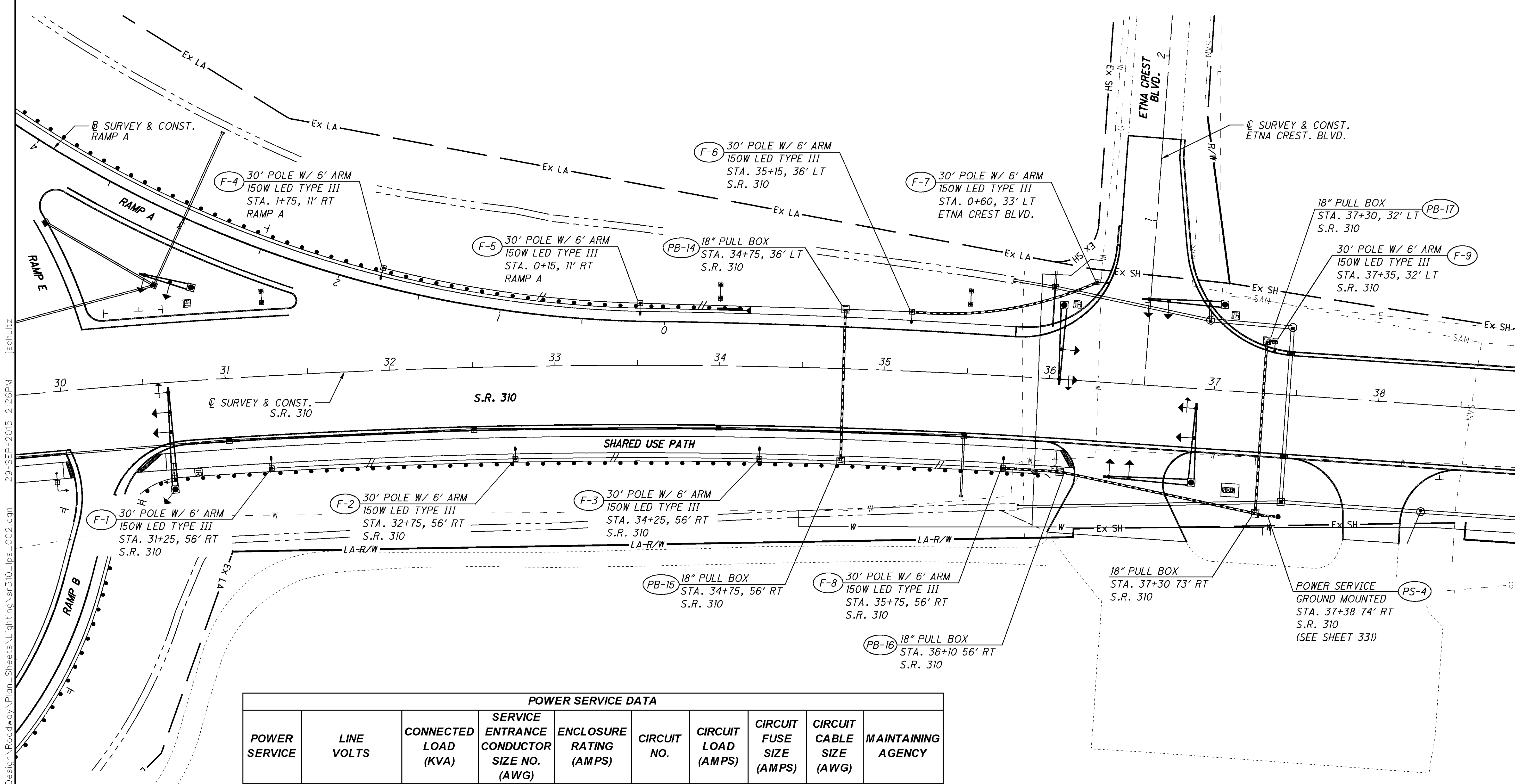
LIGHTING PLAN SHEET - S.R. 310
STA. 30+00 TO STA. 38+50

LIC-310-0.74

340
425

LEGEND	
	SYMMETRIC LIGHT TOWER
	DECORATIVE LIGHT POLE W/ 6' ARM
	1 1/2" DUCT-CABLE WITH 4 NO. 6 AWG 5000 VOLT CABLES
	3" CONDUIT, 725.04 WITH 4 NO. 6 AWG 5000 VOLT DISTRIBUTION CABLES
	PULLBOX
	POWER SERVICE

SEE SHEET 335 FOR LIGHTING QUANTITIES.



POWER SERVICE DATA									
POWER SERVICE	LINE VOLTS	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CONDUCTOR SIZE NO. (AWG)	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT FUSE SIZE (AMPS)	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
4	120/240V 1 PHASE 4-WIRE 3-COND. W/ GND.	1	4	60	F	6	20	6	ETNA TOWNSHIP

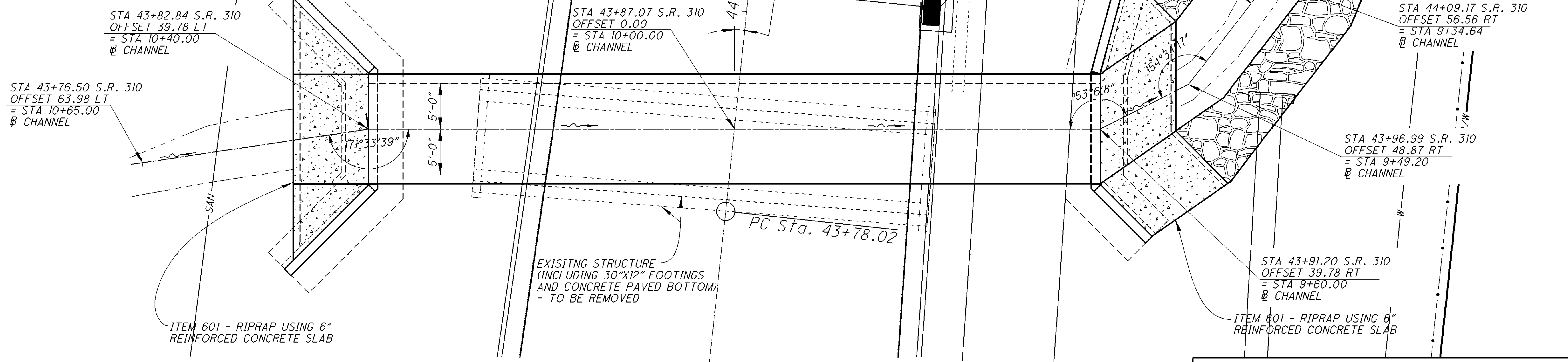
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EXISTING STRUCTURE: LIC-310-0134
 10'-0" SPAN X 4'-10" RISE 3 SIDED
 ALUMINUM BOX CULVERT WITH
 CONCRETE PAVED BOTTOM
 SKEW: NONE
 ALIGNMENT: 1° 30' 0" CURVE LT.
 DATE BUILT: 1983

PROPOSED STRUCTURE: LIC-310-0134
 10'-0" X 5'-0" X 80' PRECAST CONCRETE BOX CULVERT
 SKEW: 6° 0' 0" R.F.
 DESIGN LOADING: HL-93
 ALIGNMENT: 1° 30' 0" CURVE LT.

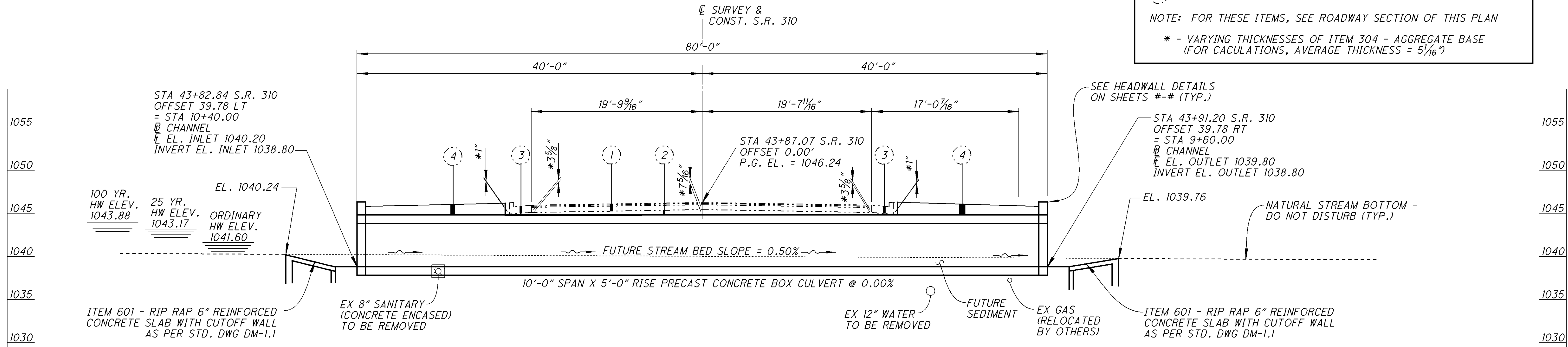
HYDRAULIC DATA:

DRAINAGE AREA = 250 ACRES		
YEAR	Q (cf/s)	V (f/s)
25	142	7.7
100	192	8.5



PLAN

- ① - 10" ASPHALT (SEE ROADWAY TYPICALS)
 - ② - VARIABLE THICKNESS ITEM 304 - AGGREGATE BASE
 - ③ - CURB AND GUTTER
 - ④ - EMBANKMENT
- NOTE: FOR THESE ITEMS, SEE ROADWAY SECTION OF THIS PLAN
- * - VARYING THICKNESSES OF ITEM 304 - AGGREGATE BASE (FOR CALCULATIONS, AVERAGE THICKNESS = 5 1/16")



ELEVATION

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DATE	10-01-15
REVIEWED TAG	STRUCTURE FILE NUMBER
4505646	
DRAWN JDR	REVISED
DESIGNED JDR	CPS

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2012 INCLUDING ERRATA AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

DESIGN LOADING: HL-93

DESIGN DATA

THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION = 30°
 COEFFICIENT OF FRICTION = 0.30
 UNIT WEIGHT OF SOIL = 120 PCF
 UNIT WEIGHT OF CONCRETE = 150 PCF
 SLOPE OF BACKFILL = 2:1
 MAXIMUM FOUNDATIONS BEARING PRESSURE = 2000 P.S.F

CONCRETE CLASS QC1 - COMPRESS. STRENGTH = 4000 PSI
 (FOOTING, WINGWALL, AND FORESLOPE WALL)

REINFORCING STEEL - ASTM A615, A616, OR A617
 GRADE 60 MINIMUM YIELD STRENGTH
 60,000 PSI (ALL REINFORCING SHALL BE EPOXY COATED)

PRECAST CONCRETE

AT THE OPTION OF THE CONTRACTOR, PRECAST HEADWALLS MAY BE FURNISHED PER ITEM 602.03 PRECAST STRUCTURES, PROVIDED THEY ARE SIZED TO MEET THE SOIL LOADING AND RESISTANCE PARAMETERS, AND MEET OR EXCEED THE MATERIAL STRENGTHS AND WALL LIMITS AS SHOWN AND SPECIFIED. FULL COMPENSATION FOR THE PRECAST SUBSTITUTION IS THE VOLUME OF CONCRETE AND THE WEIGHT OF THE REINFORCING STEEL FOR THE CORRESPONDING CAST-IN-PLACE STRUCTURE.

POROUS BACKFILL WITH FILTER FABRIC

POROUS BACKFILL WITH FILTER FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE.

FORESLOPE WALL ANCHOR DOWELS

ANCHOR PER CMS 510 WITH NONSHRINK, NONMETALLIC GROUT CONFORMING TO CMS 705.20 AND TO A DEPTH OF 9". PAYMENT FOR DOWEL HOLES, GROUT, AND INSTALLATION SHALL BE INCLUDED WITH ITEM 511.

AS AN ALTERNATIVE TO RESIN BONDING, THREADED INSERTS OR NONPROTRUDING MECHANICAL CONNECTORS CAST INTO THE CULVERT BY THE MANUFACTURER MAY BE USED PROVIDED THEY CAN RESIST AN ULTIMATE PULL-OUT STRENGTH OF 12 KIPS AND MAINTAIN A MINIMUM COVER OF 3 INCHES AT THE BOTTOM OF THE CULVERT SLAB. MECHANICAL CONNECTORS MUST PROVIDE AN "L-SHAPED" BAR INSIDE THE CULVERT WITH A MINIMUM HORIZONTAL LENGTH OF 12 INCHES. PAYMENT FOR INSERTS OR MECHANICAL CONNECTORS SHALL BE INCLUDED WITH ITEM 603.

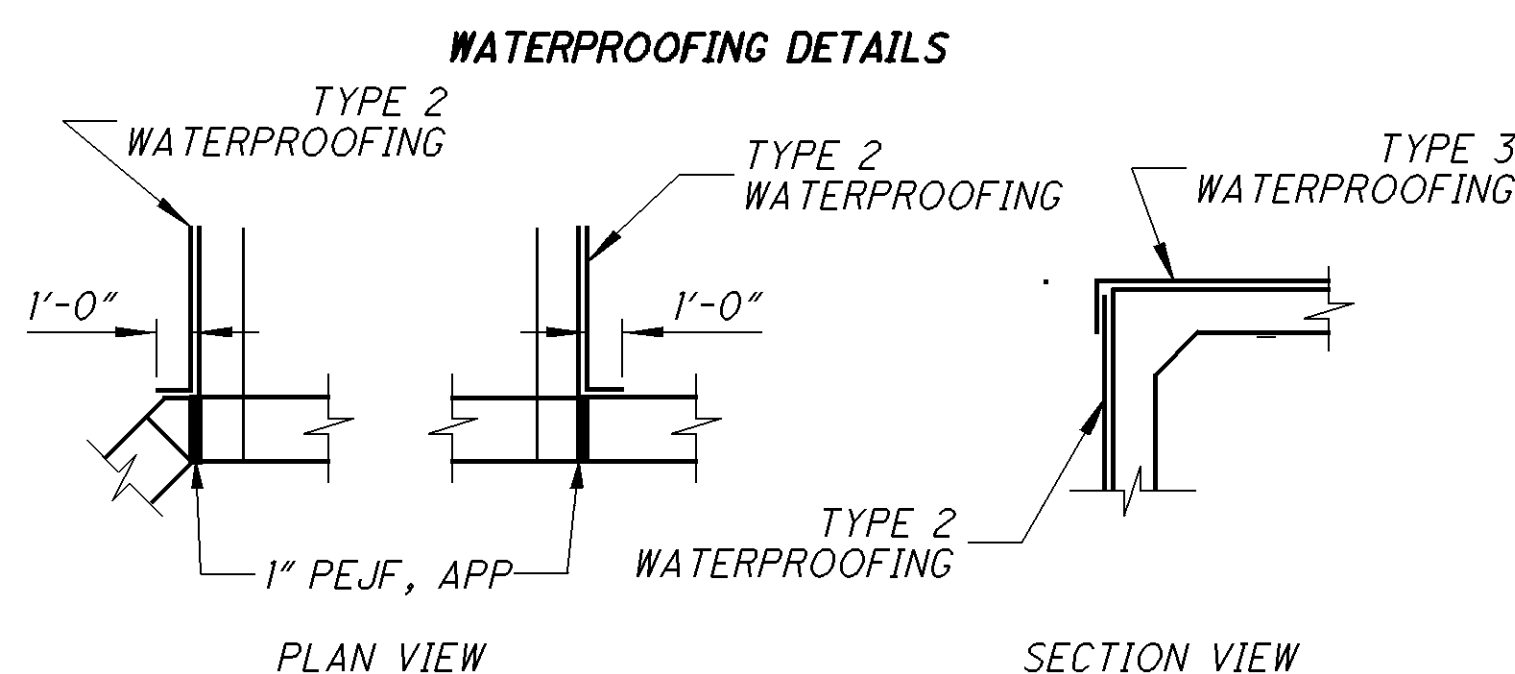
BACKFILL LIMITATION

WHEN THE DESIGN HEIGHT IS GREATER THAN 10 FT, THE BACKFILL BEHIND THE WINGWALLS SHALL NOT BE PLACED HIGHER THAN THE ELEVATION OF THE SOIL ABOVE THE TOE. WHEN THE SOIL ABOVE THE TOE IS AT ITS FINISHED ELEVATION, THE REMAINDER OF THE BACKFILL MAY BE PLACED.

WATERPROOFING

TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

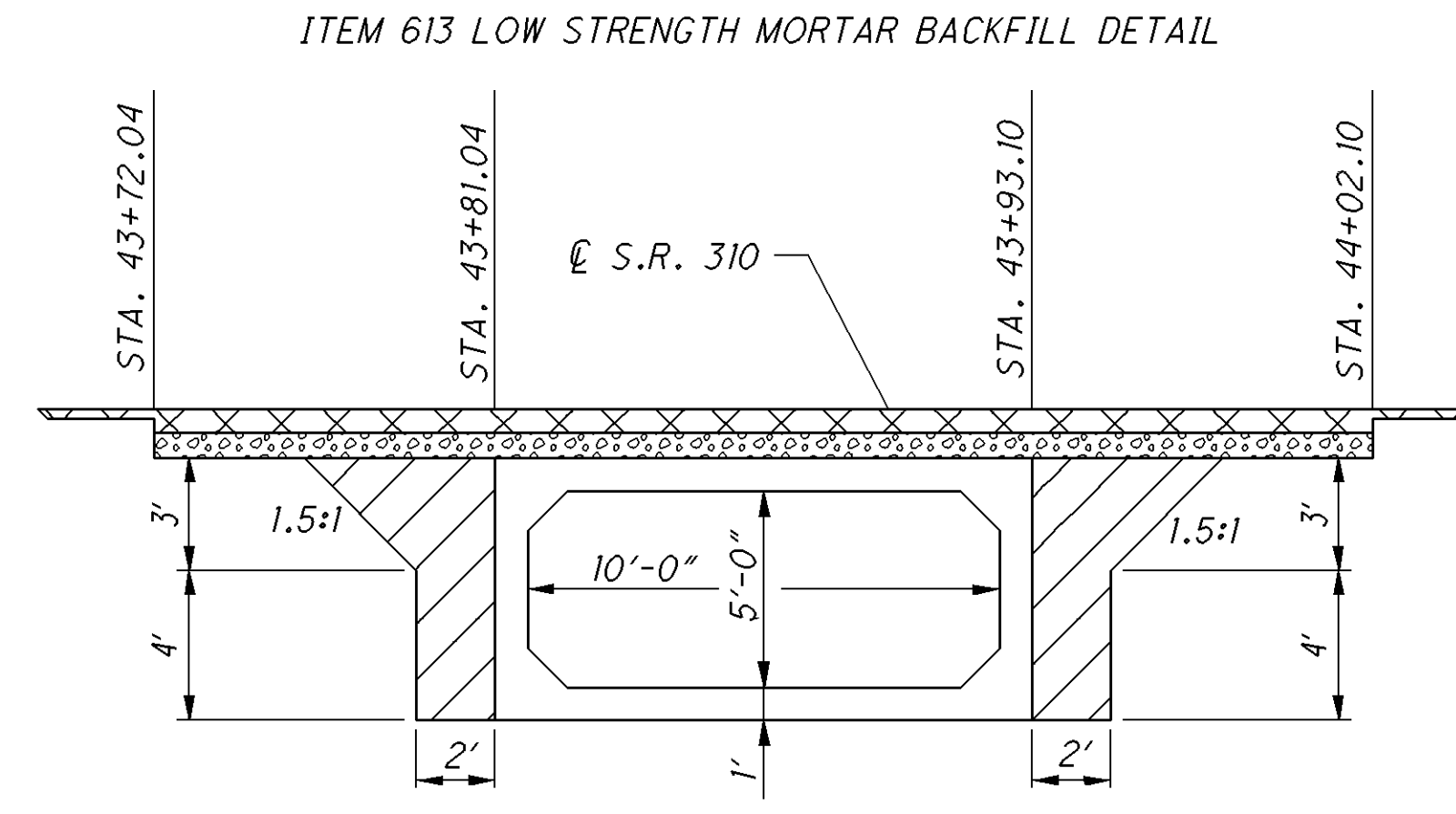
TYPE 3 WATERPROOFING, PER CMS 512.10 AND 711.29 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 3 WATERPROOFING.



LOW STRENGTH MORTAR BACKFILL

LOW STRENGTH MORTAR BACKFILL SHALL BE PLACED UP TO THE BOTTOM OF THE PROPOSED SUB-BASE MATERIAL IN THE FULL DEPTH SECTIONS LOCATED BEFORE AND AFTER THE CONCRETE BOX CULVERT AS SHOWN ON THIS SHEET.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 613, LOW STRENGTH MORTAR, CU.YD., AND SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK DESCRIBED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING SAFE EXCAVATION AND EARTHWORKS PER OSHA REGULATIONS. THE APPROXIMATE EXCAVATION LIMITS SHOWN HEREIN SHALL BE ADJUSTED AND PRESENTED TO THE FIELD ENGINEER. THE ESTIMATED QUANTITY SHOWN SHALL BE ADJUSTED BASED ON ANY CHANGES TO THE ESTIMATED EXCAVATION LIMITS, SHOWN BELOW, FOR FINAL PAYMENT.



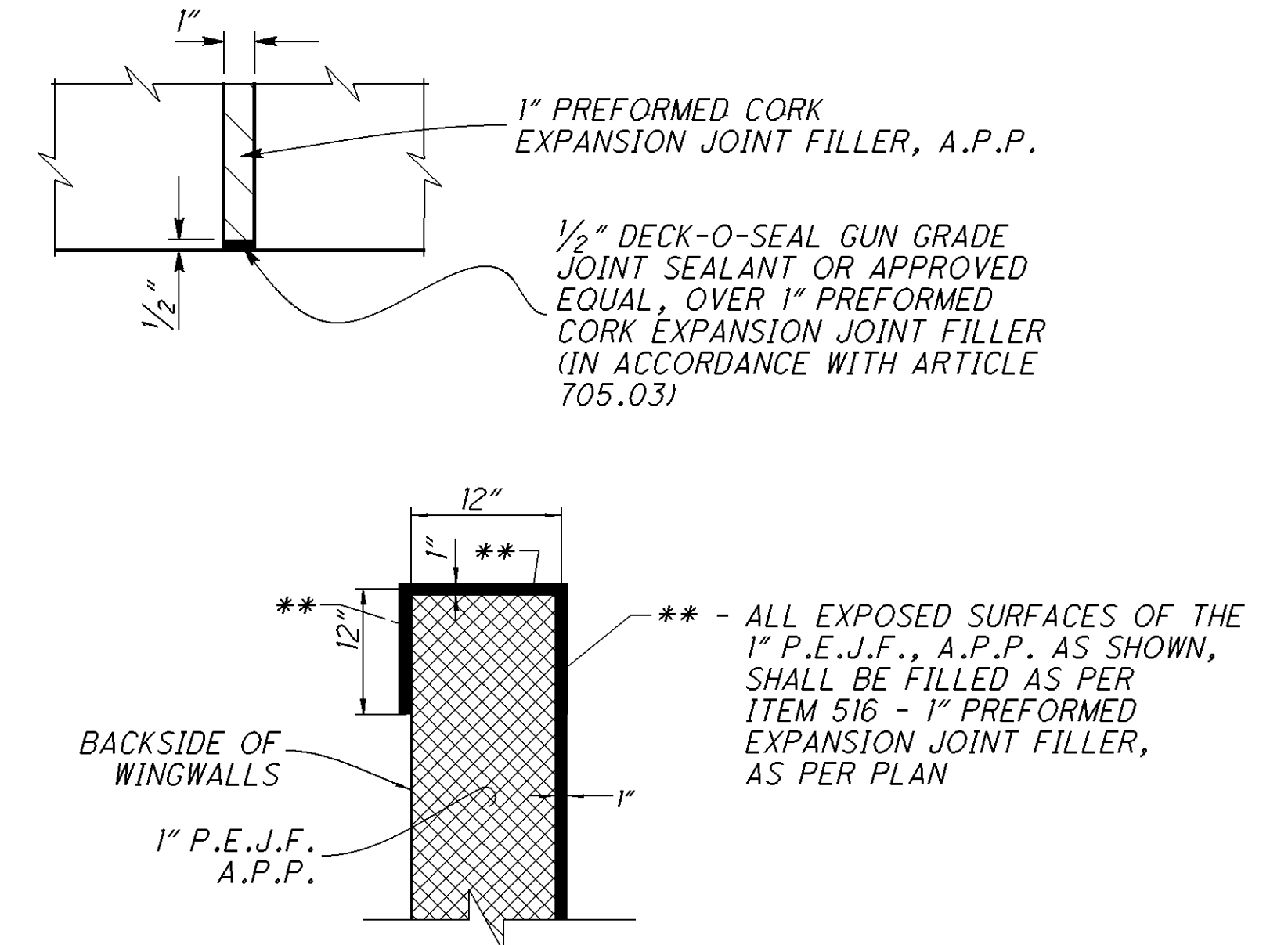
- ▣ PAVEMENT (SEE TYPICALS)
- ▣ ITEM 203 EMBANKMENT
- ▣ LOW STRENGTH MORTAR

ESTIMATED CALCULATION TO BE FIELD ADJUSTED FOR FINAL PAYMENT:
 AREA = ((2.0' X 7.0') + (4.5' X 3.0' X 1/2)) X 2 = 41.5 SQ FT
 (41.5 SQ FT X 45.0' (SECTION UNDER PAVEMENT) / 27 = 69.2 CU YD
 USE 69 CU YD

ITEM 516 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN

ALL 1" P.E.J.F. CALLED FOR IN THE PLANS SHALL BE PREFORMED CORK JOINT FILLER (IN ACCORDANCE WITH ARTICLE 705.03). RECESS JOINT FILLER (IN ACCORDANCE WITH ARTICLE 705.03). RECESS JOINT FILLER 1#2" FOR ALL JOINTS (SEE DETAIL). SEAL ALL JOINTS THAT ARE ABOVE GRADE WITH DECK-O-SEAL GUN GRADE-JOINT SEALANT OR AN APPROVED EQUAL. THE COLOR SHALL BE STONE GRAY. APPROVED MANUFACTURER'S APPLICATION METHODS SHALL BE FOLLOWED DURING SURFACE PREPARATION AND APPLICATION FOR MAXIMUM EFFECTIVENESS.

DECK-O-SEAL
 P.O. BOX 397
 HAMPSHIRE, IL 60140
 PHONE: 800-542-7665

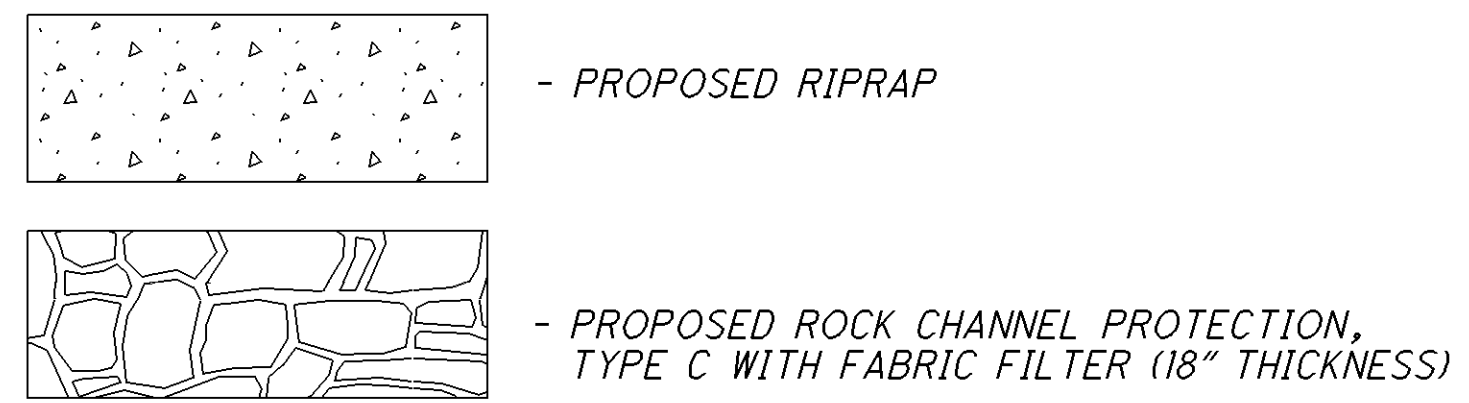


(WINGWALL AND CULVERT INTERFACE)
 PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 516 - 1" PEJF, A.P.P., SQ.FT., AND SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK DESCRIBED.

PLAN SPLIT		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
05/NHS/CV							
						STRUCTURE UNDER 20 FOOT SPAN (BRIDGE NO. LIC-310-0134)	
	LUMP	202	11000	LUMP		STRUCTURE REMOVED	
	LUMP	503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING	
	LUMP	503	21300	LUMP		UNCLASSIFIED EXCAVATION	
		4804	509	10000	4804	POUND	EPOXY COATED REINFORCING STEEL
		13	511	46010	13	CU. YD.	CLASS QC1 CONCRETE
		36	511	46510	36	CU. YD.	CLASS QC1 CONCRETE, FOOTING
		2	511	46610	2	CU. YD.	CLASS QC1 CONCRETE, HEADWALL
		31	512	10050	31	SQ. YD.	SEALING OF CONCRETE SURFACES (NON-EPOXY)
		91	512	33000	91	SQ. YD.	TYPE 2 WATERPROOFING
		107	512	33010	107	SQ. YD.	TYPE 3 WATERPROOFING
		34	516	13601	34	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN 2/9
		16	518	21200	16	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC
		39	601	11000	39	SQ. YD.	RIPRAP USING 6" REINFORCED CONCRETE SLAB
		24	601	32204	24	CU. YD.	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER
		80	611	95000	80	FT.	10' X 5' CONDUIT, TYPE A, 706.05
		69	613	41200	69	CU. YD.	LOW STRENGTH MORTAR BACKFILL

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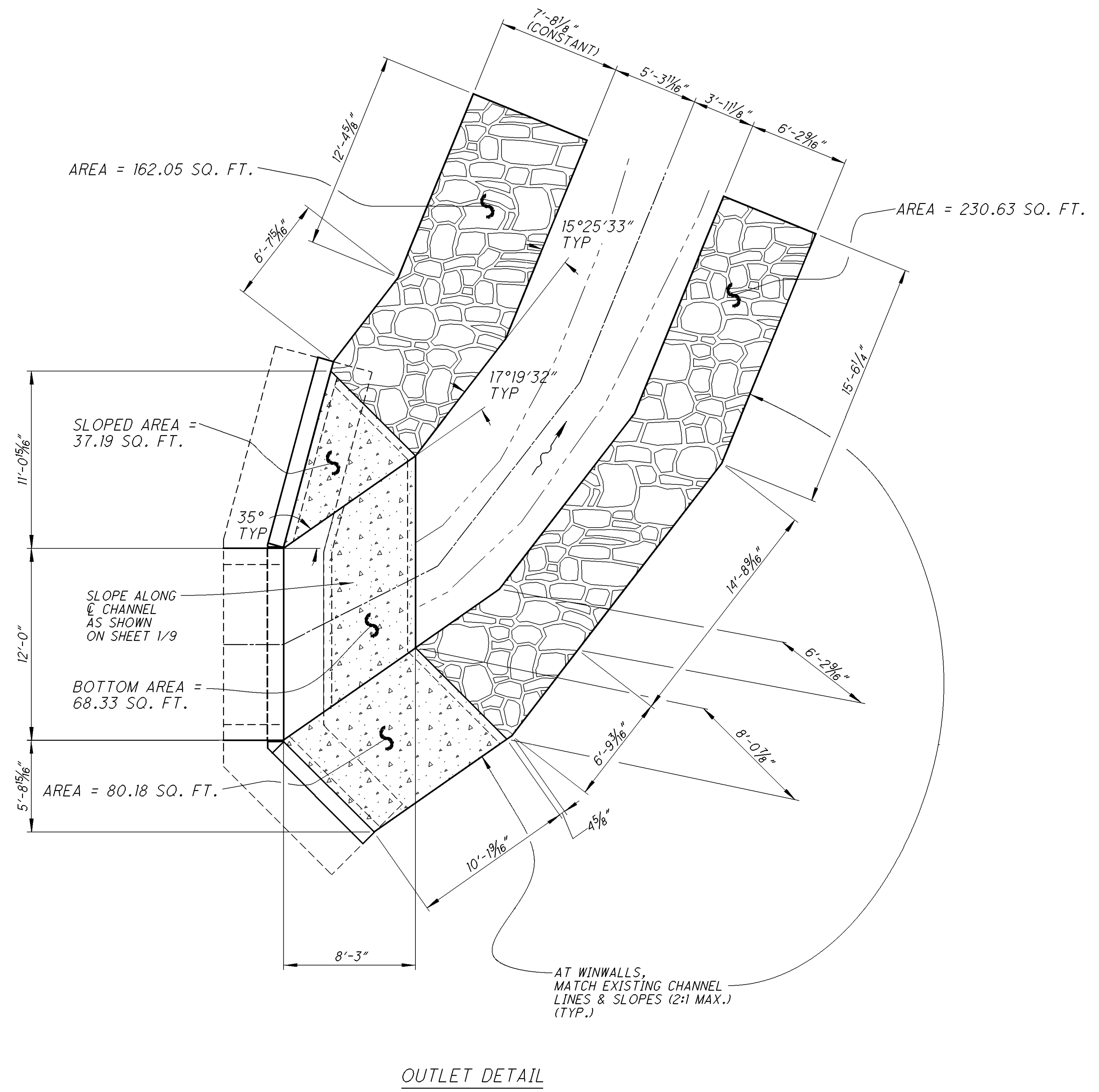
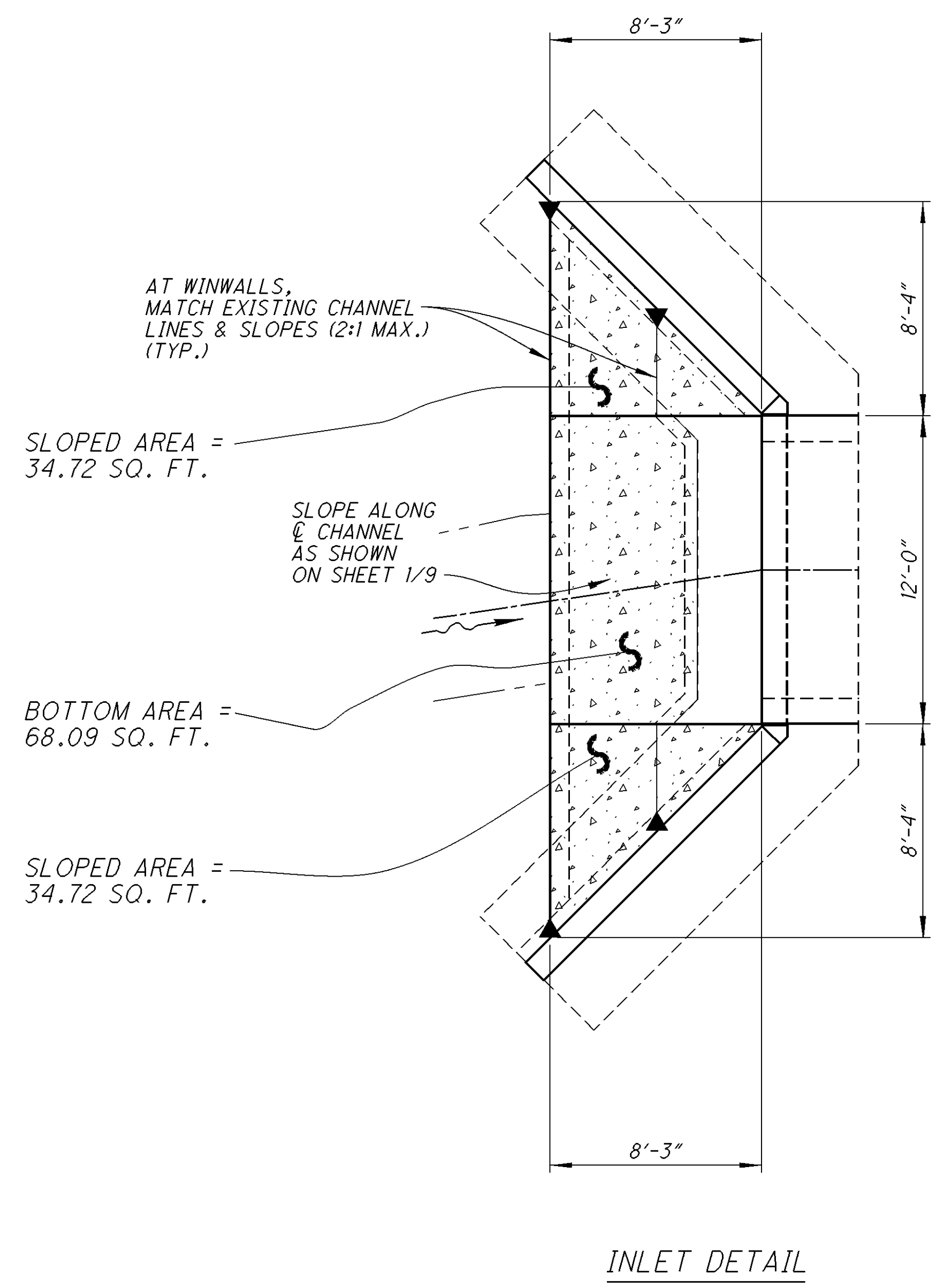
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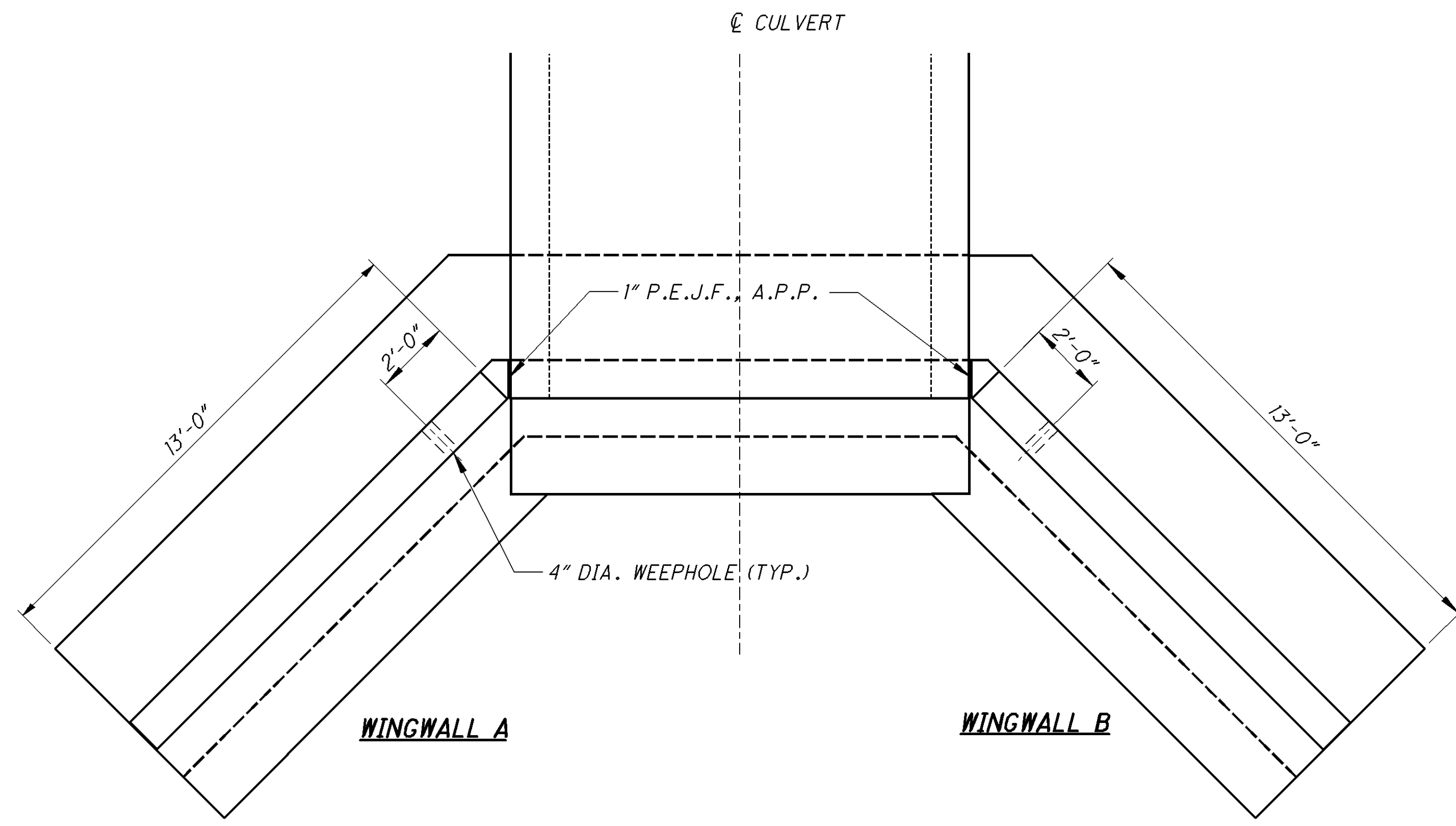
NOTE: PLACE ROCK CHANNEL PROTECTION AS SHOWN HEREIN AND AS FURTHER DEFINED BY THE PROJECT ENGINEER.

RIPRAP QUANTITY:
 $(34.72 + 34.72 + 37.19 + 80.18) \times (1.118 \text{ 2:1 FACTOR}) / 9 = 23.21 \text{ SQ. YD.}$
 $(68.09 + 68.33) / 9 = 15.16 \text{ SQ. YD.}$
 TOTAL = 39 S.Y.

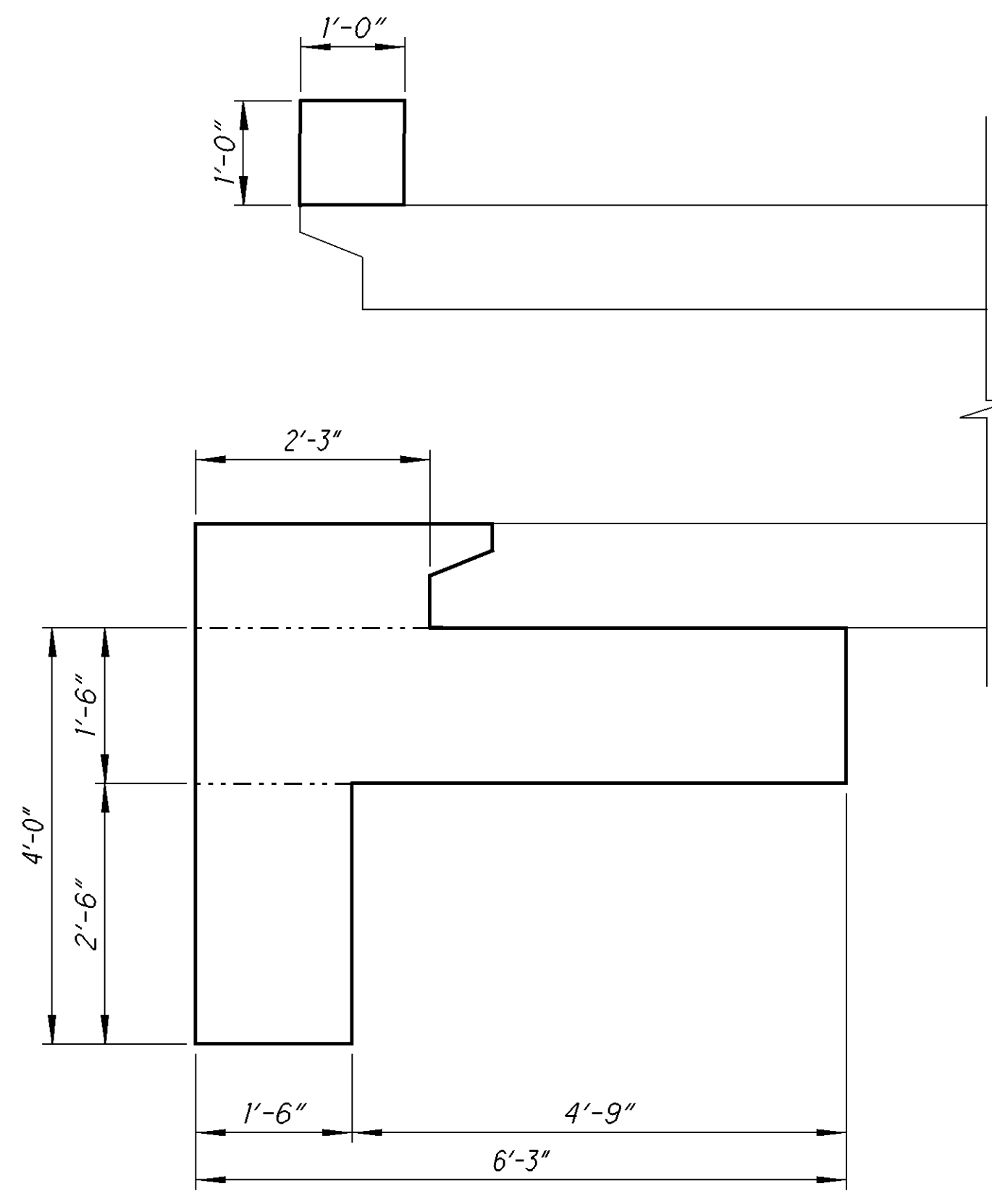
ROCK CHANNEL PROTECTION QUANTITY:
 TOTAL = $(162.05 + 230.63) \times (1.5' \text{ THICK.}) \times (1.118 \text{ 2:1 FACTOR}) / 27 = 24 \text{ CU. YD.}$



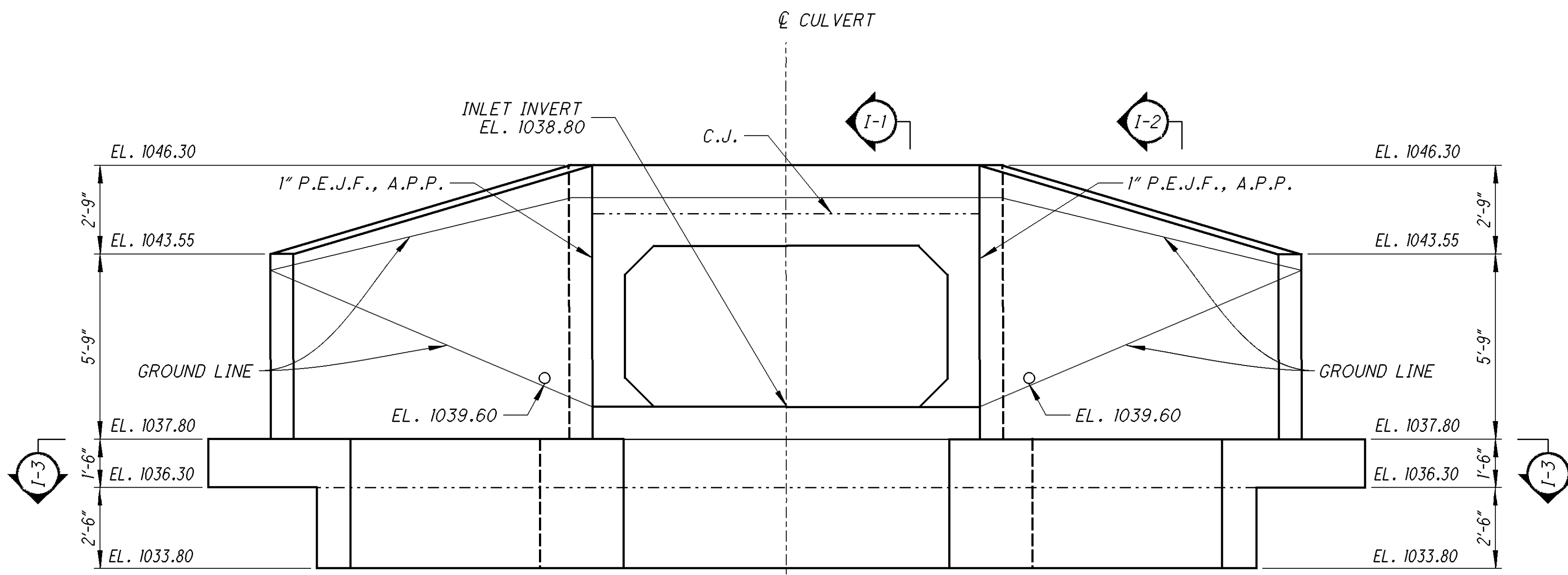
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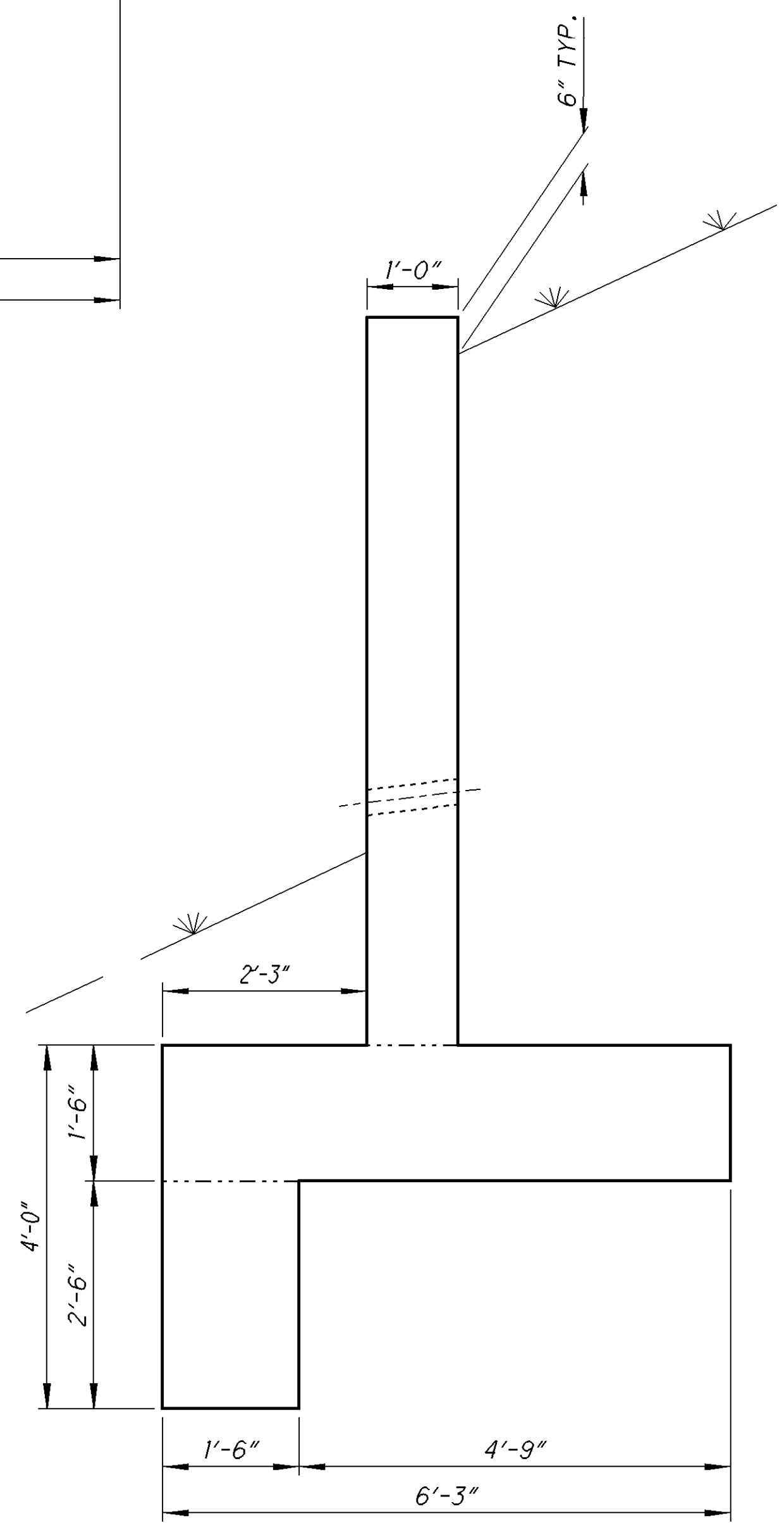
INLET PLAN



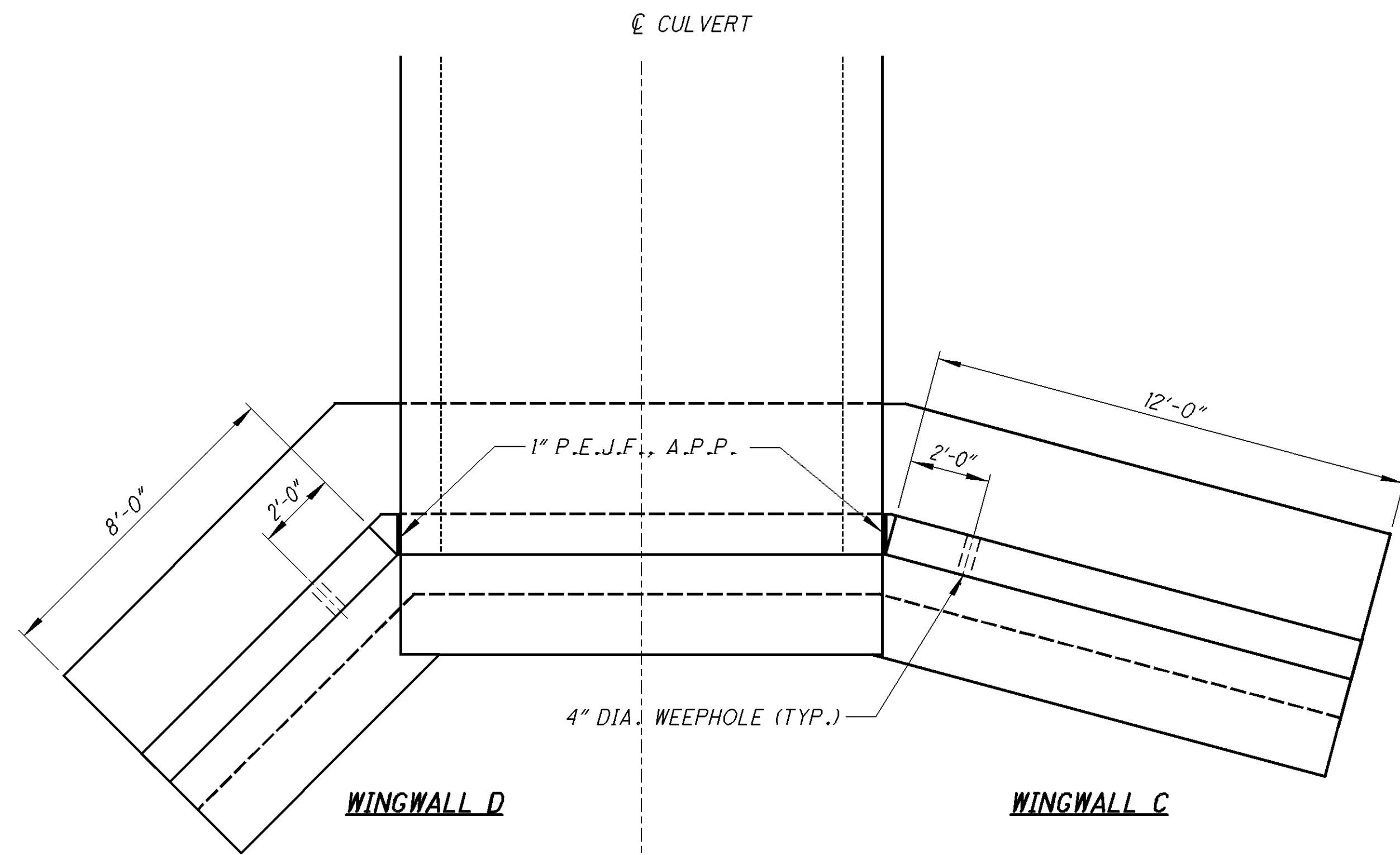
SECTION I-1



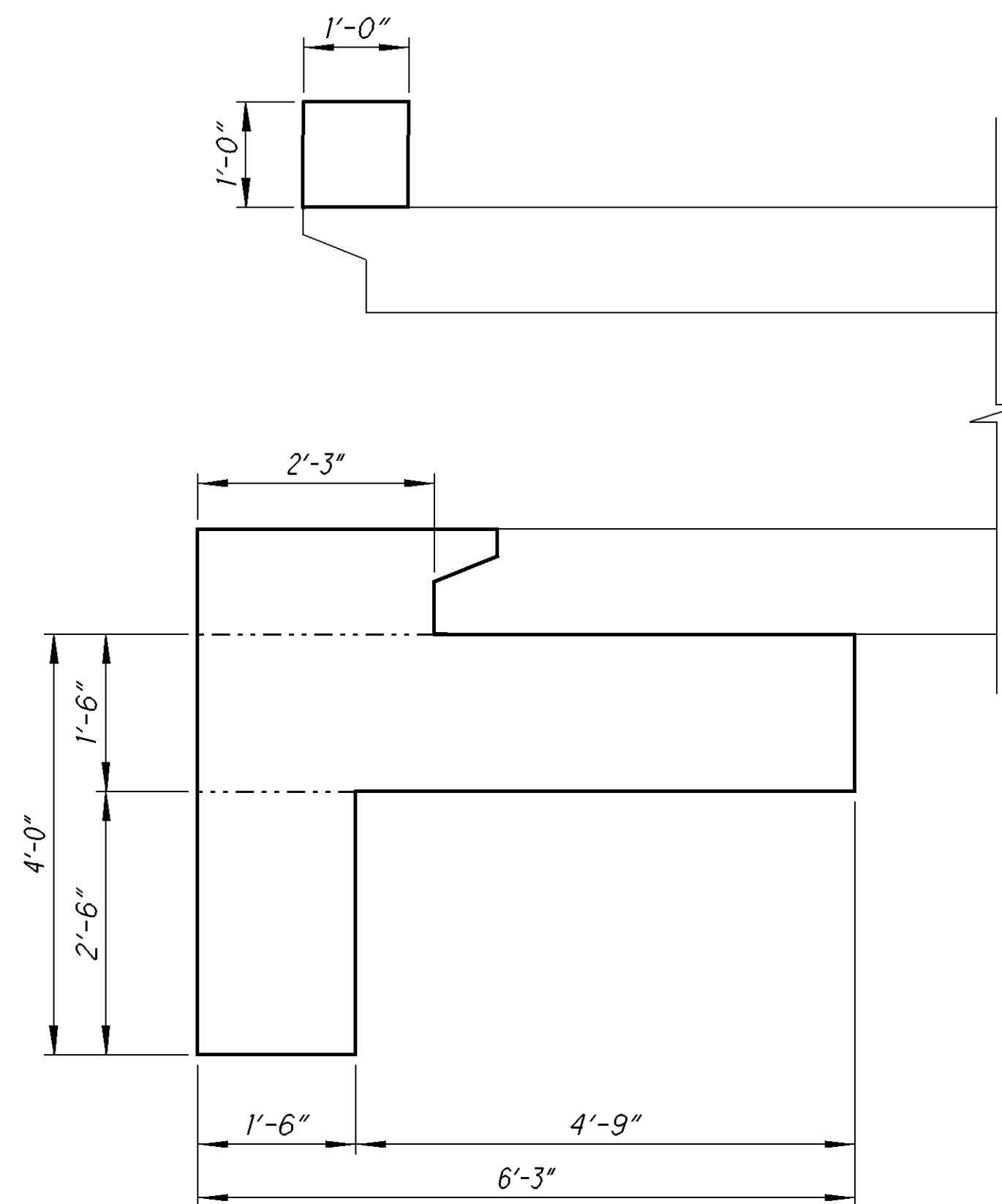
INLET ELEVATION



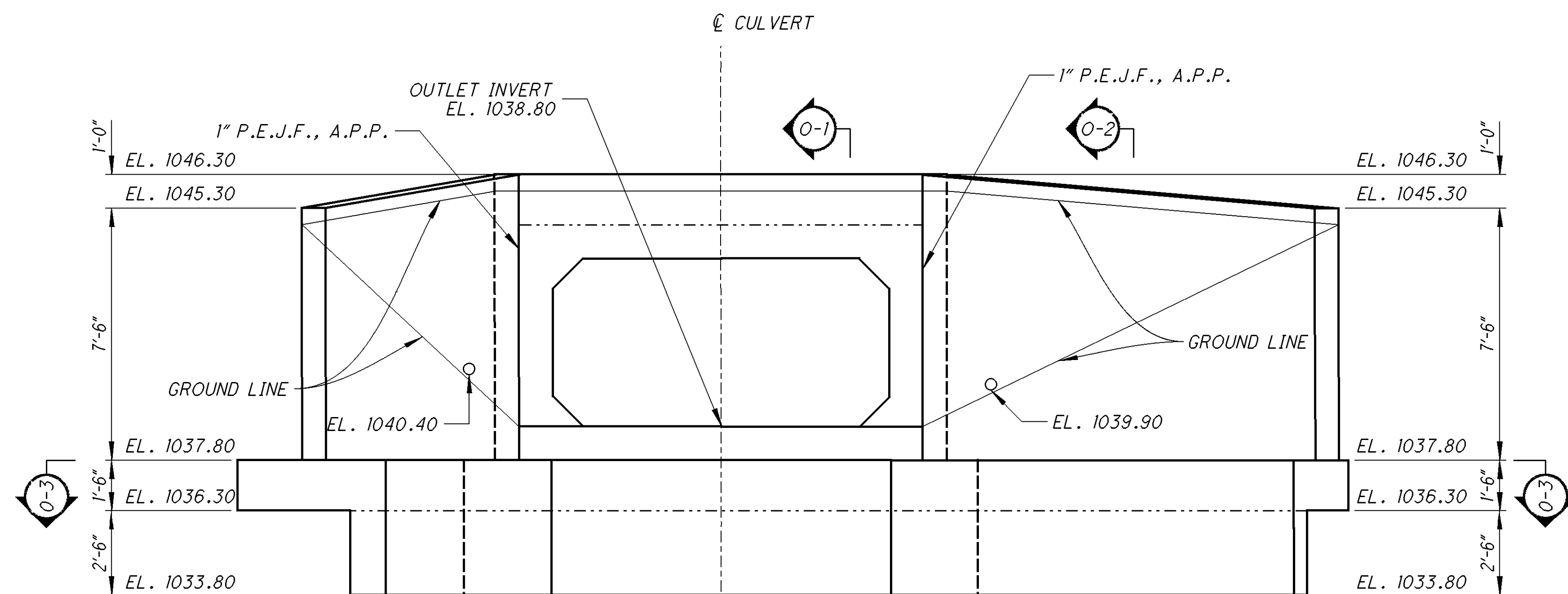
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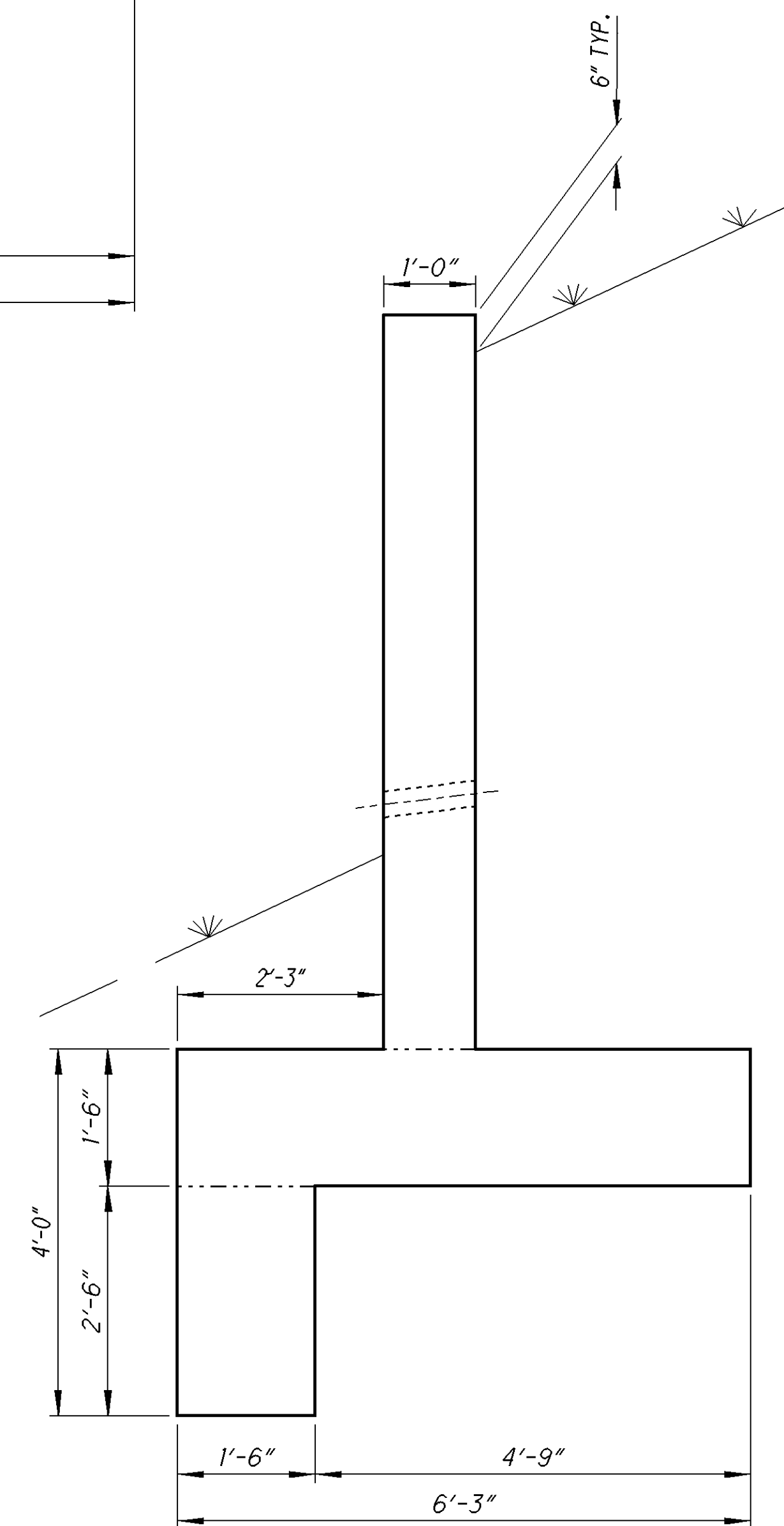
OUTLET PLAN



SECTION 0-1

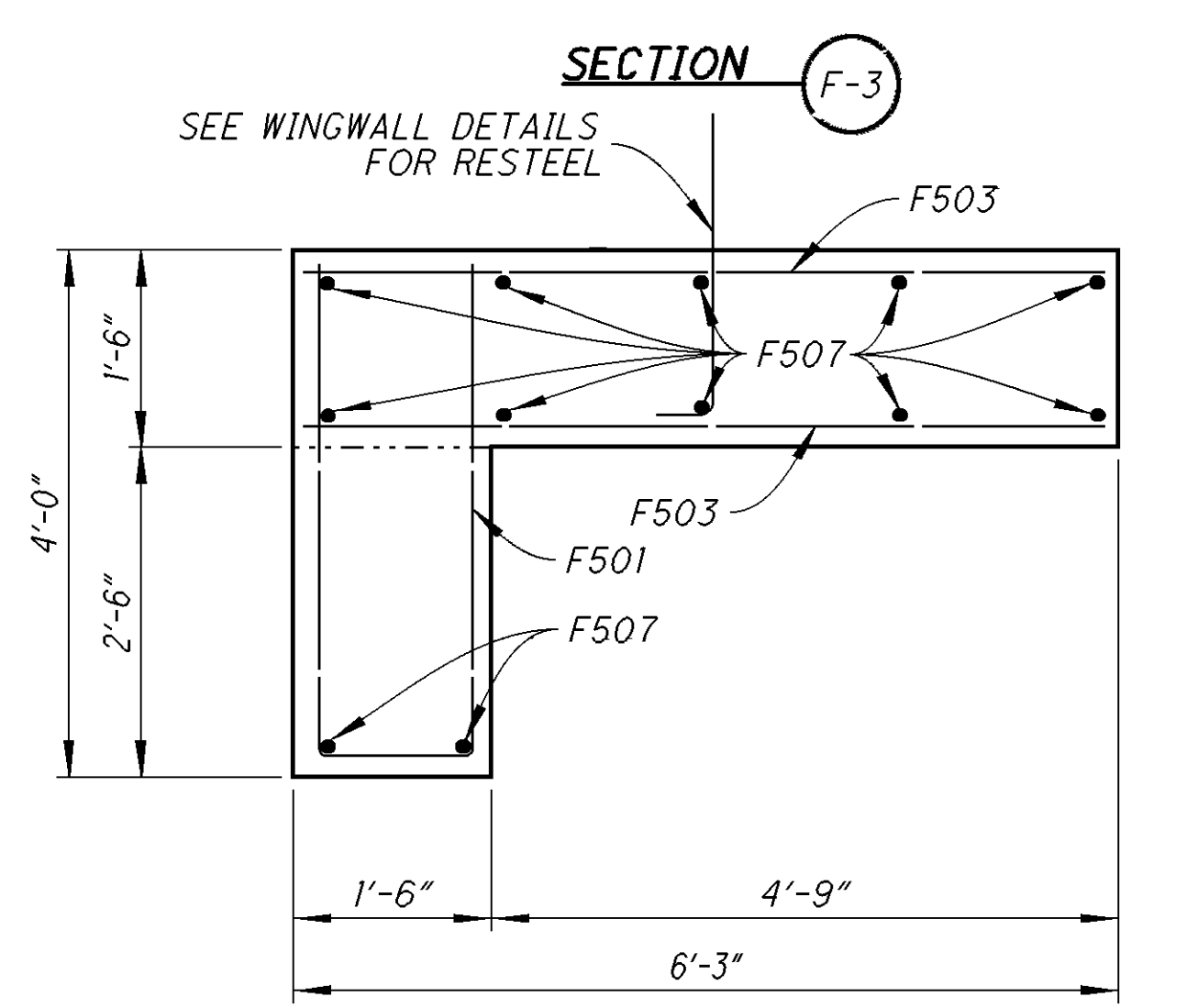
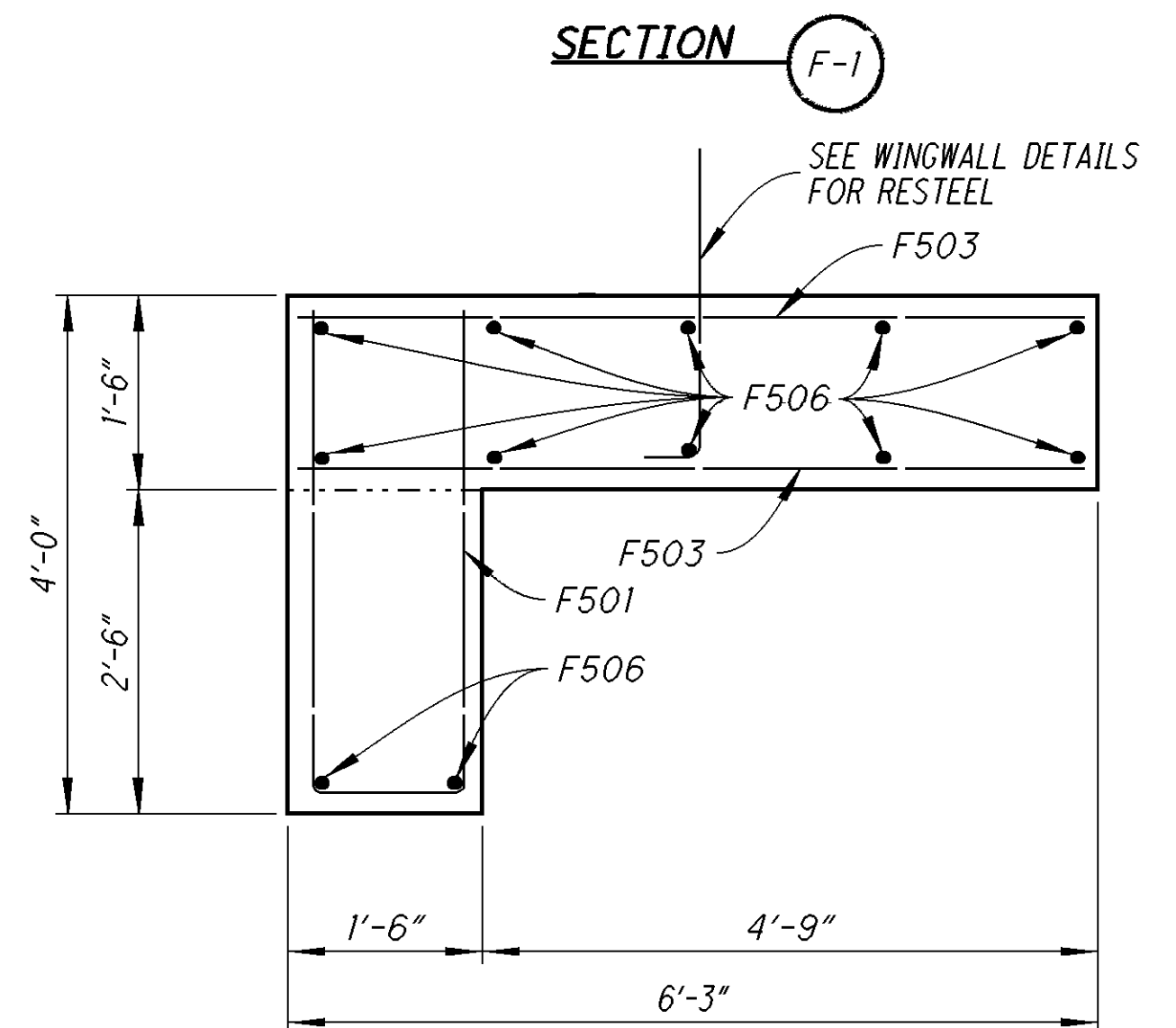
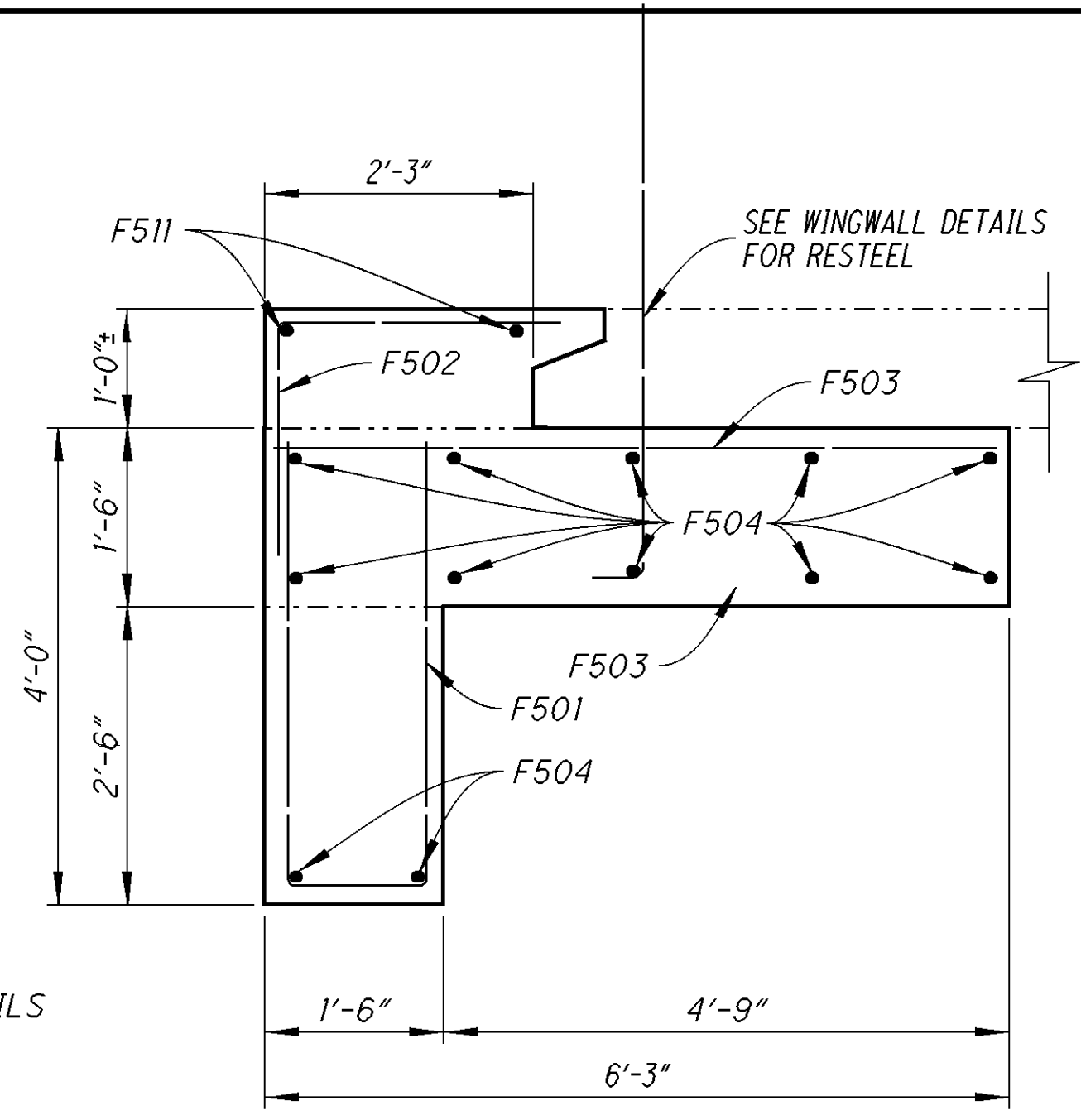
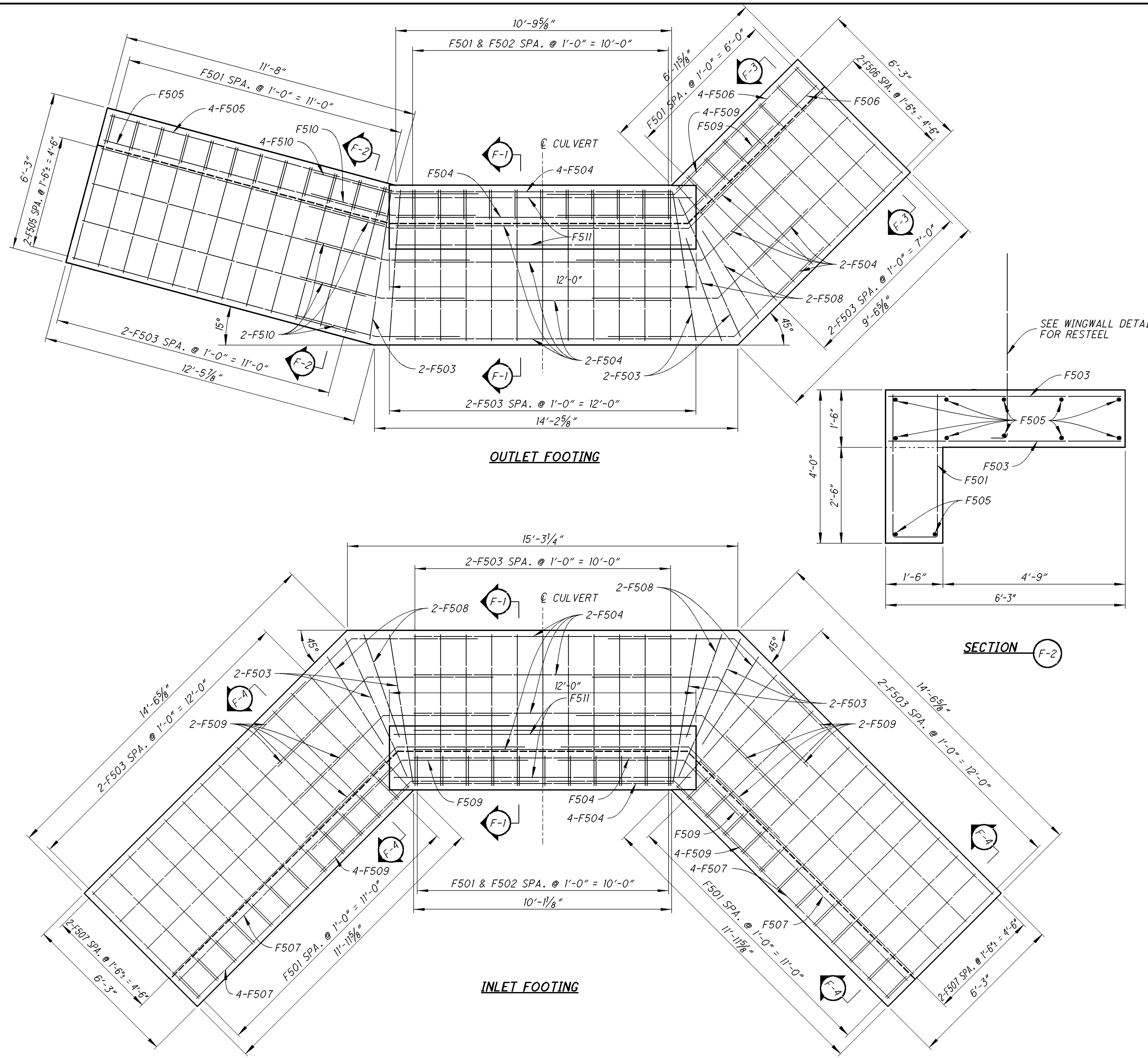


OUTLET ELEVATION

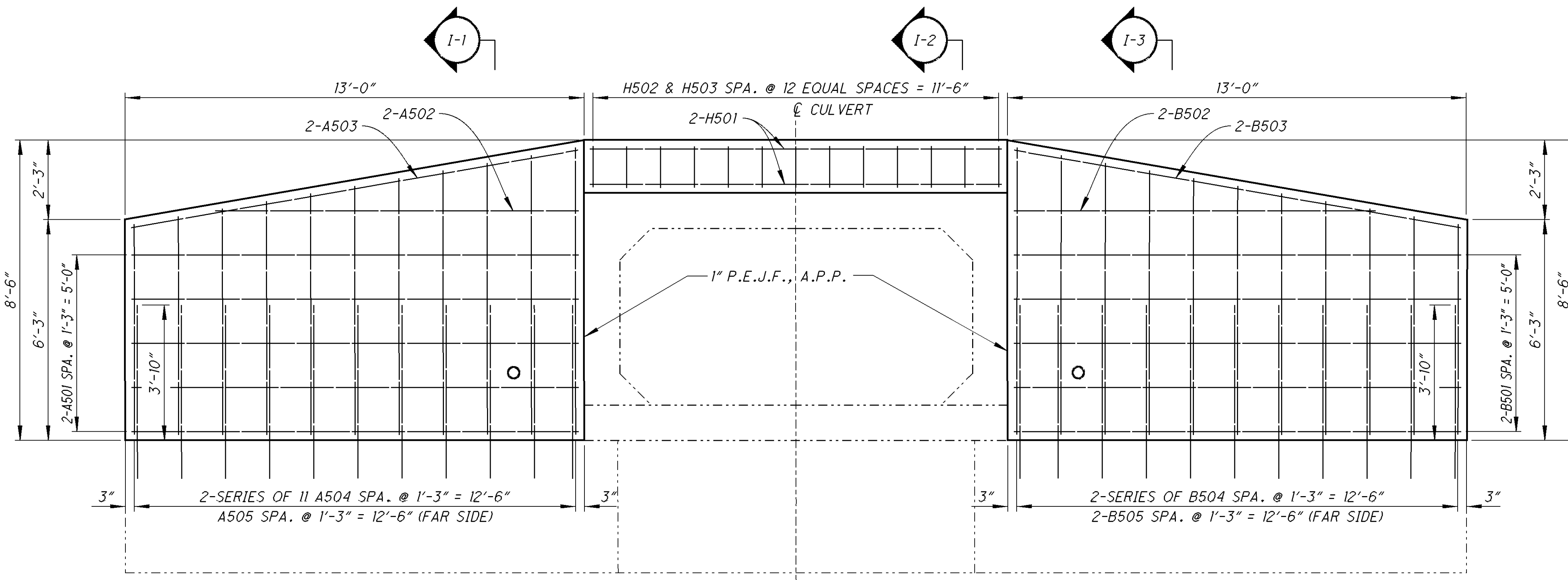


SECTION 0-2

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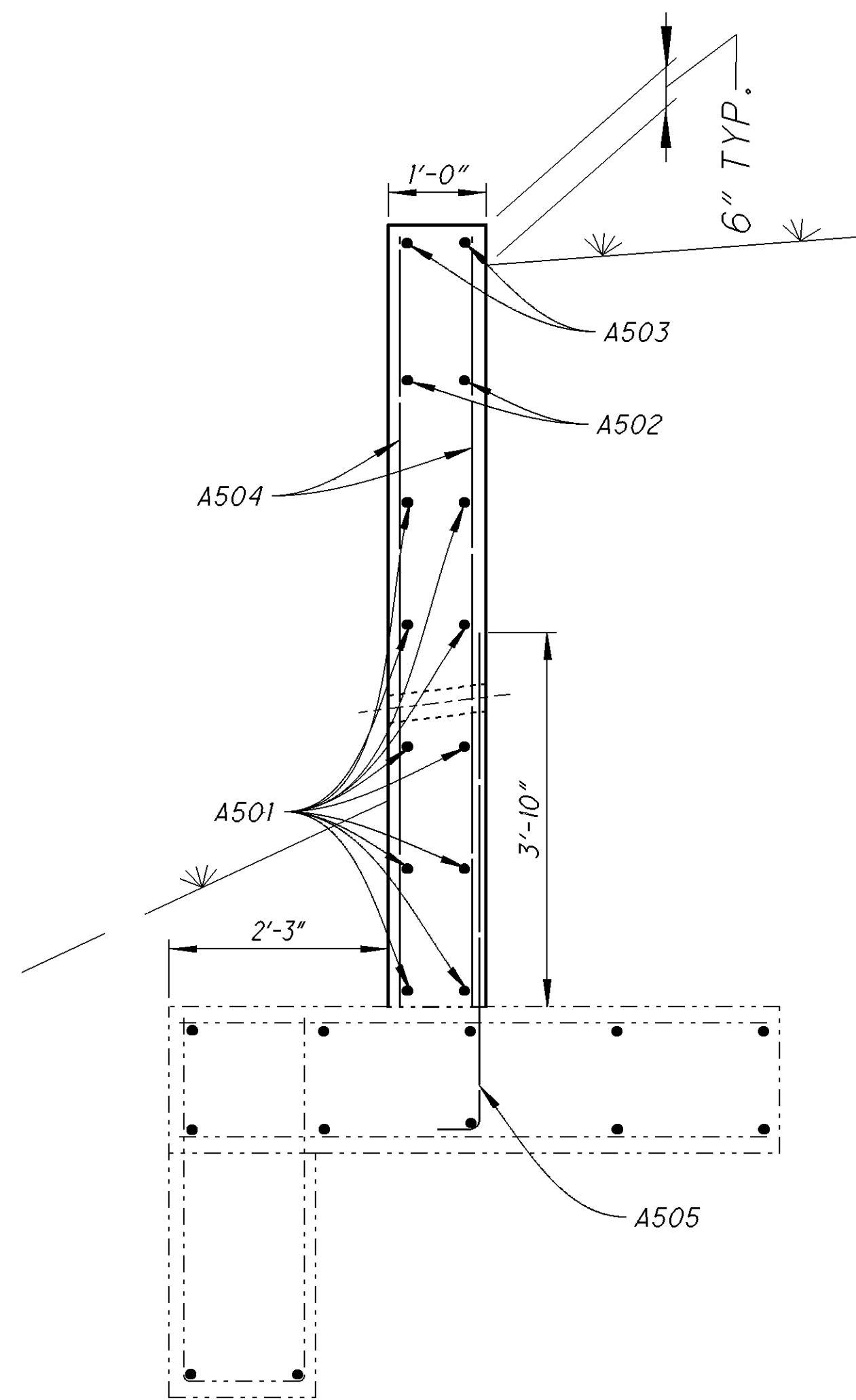
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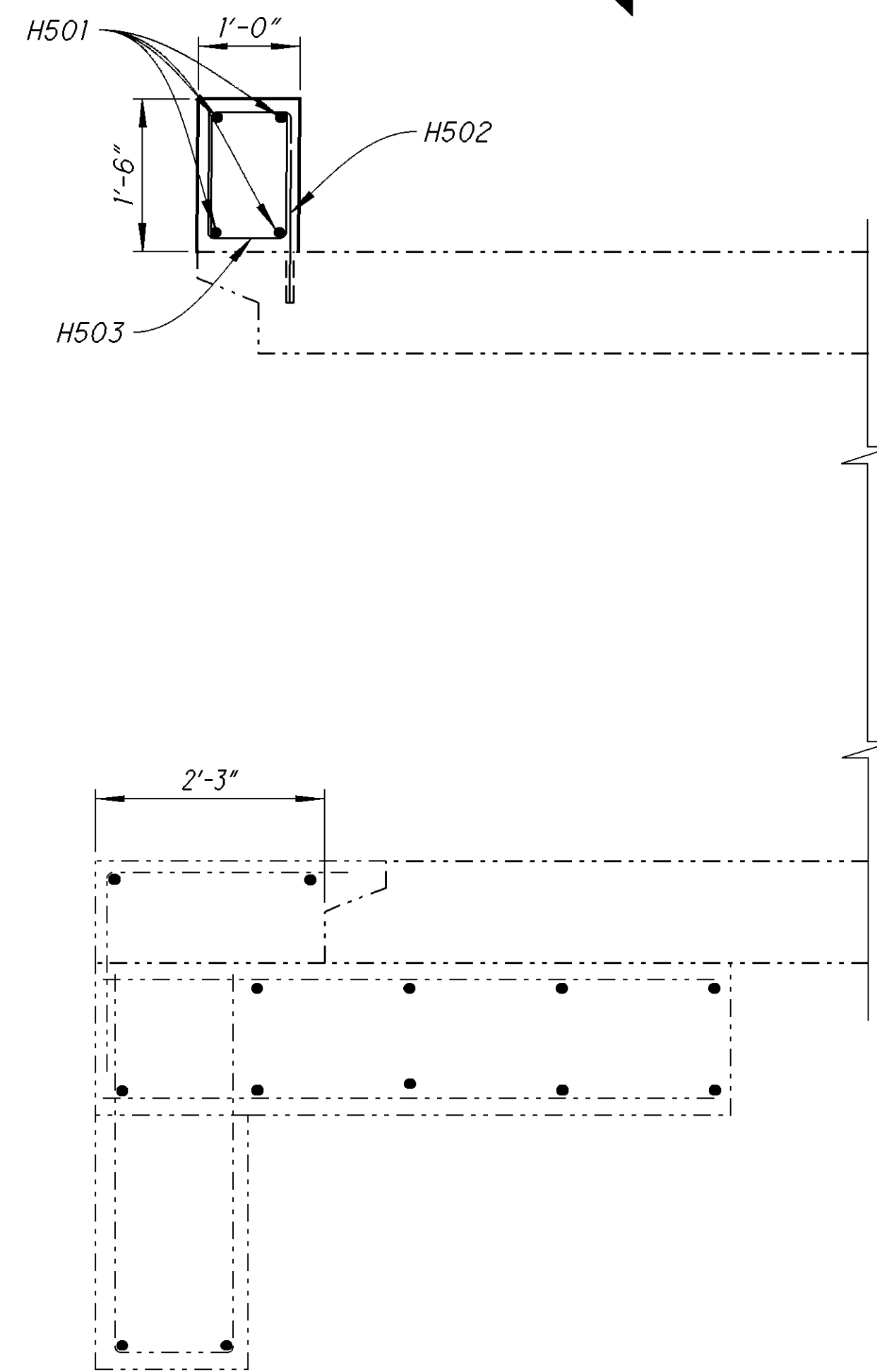
WINGWALL A

INLET ELEVATION

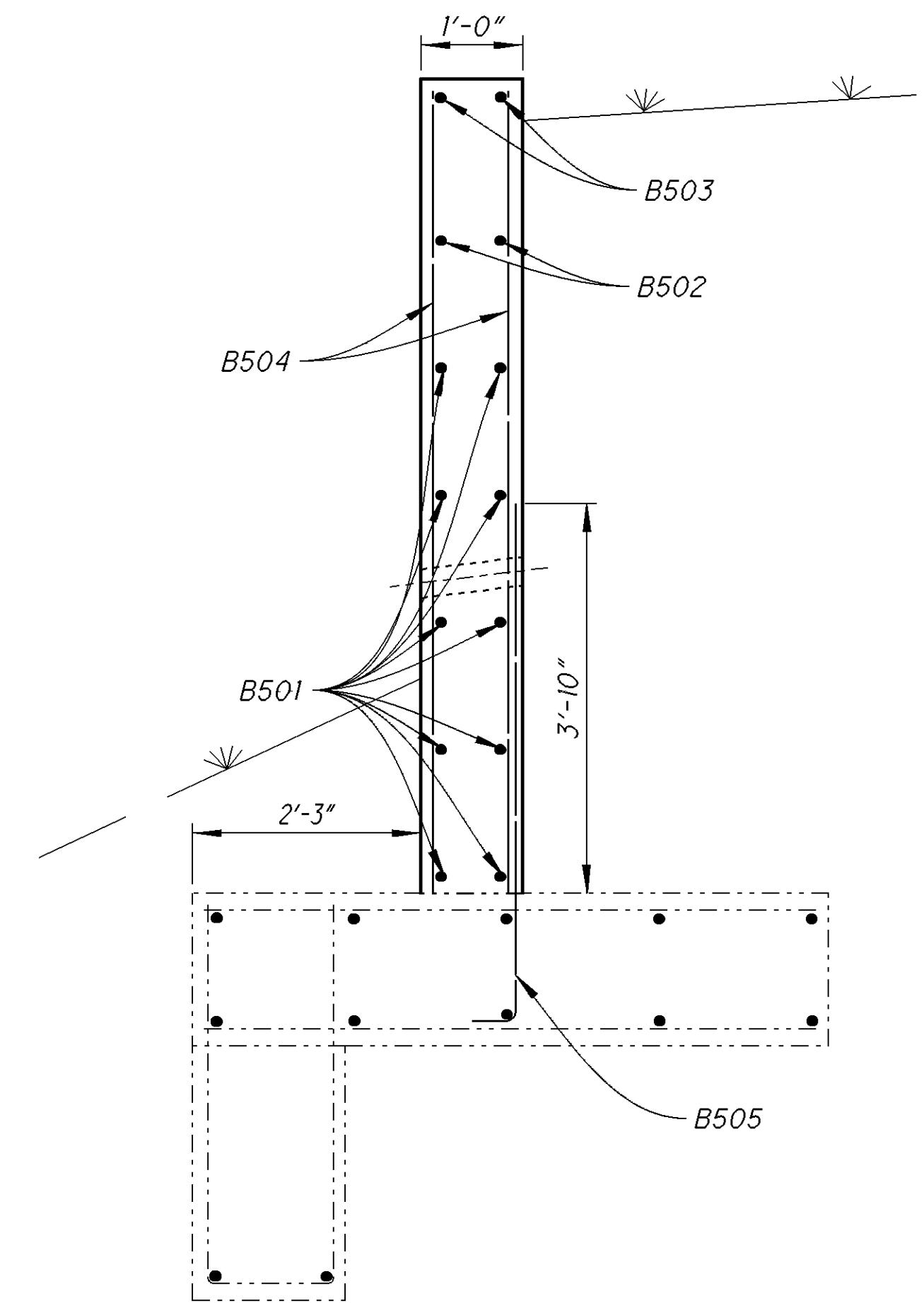
WINGWALL B



SECTION I-1

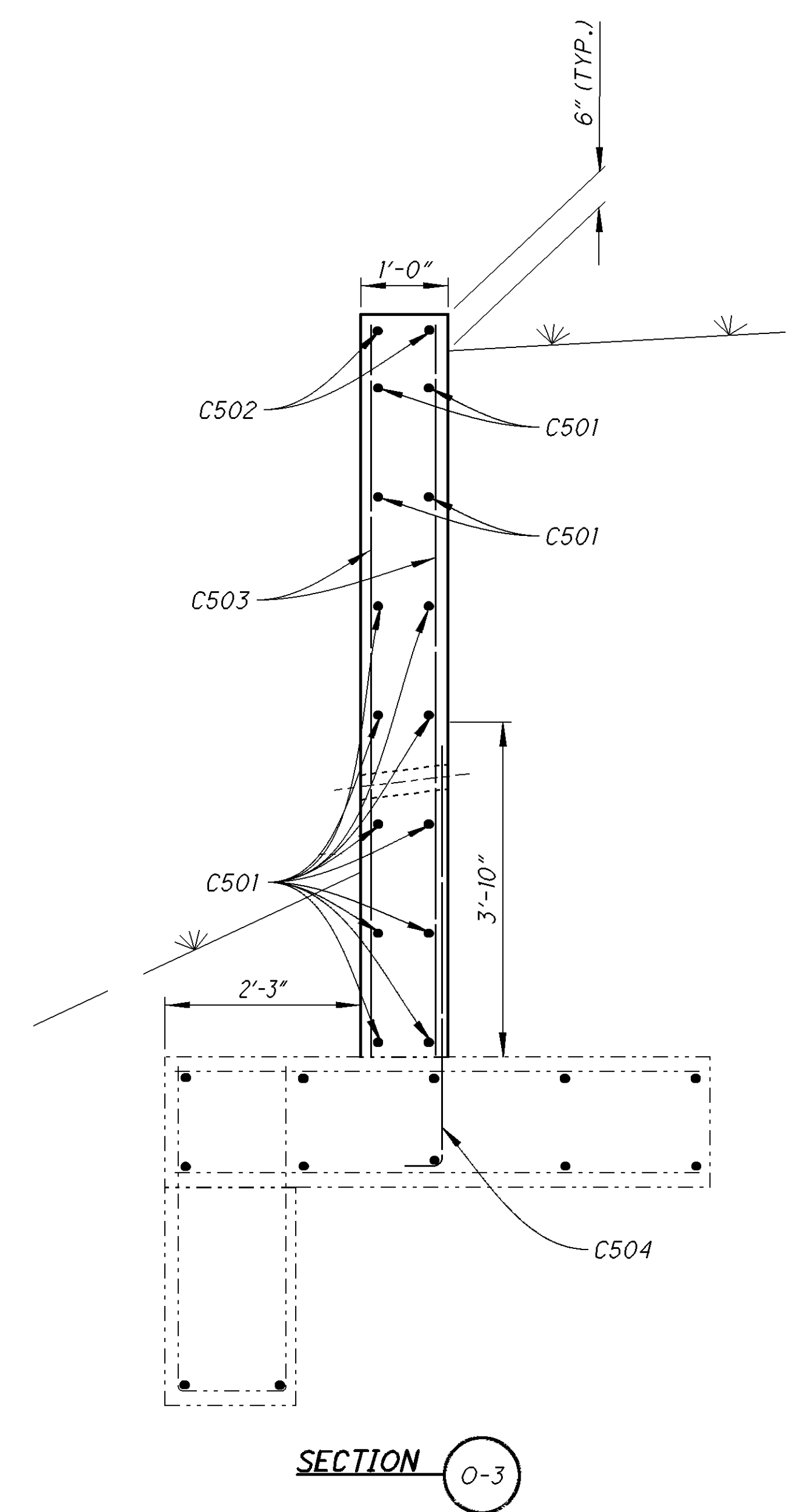
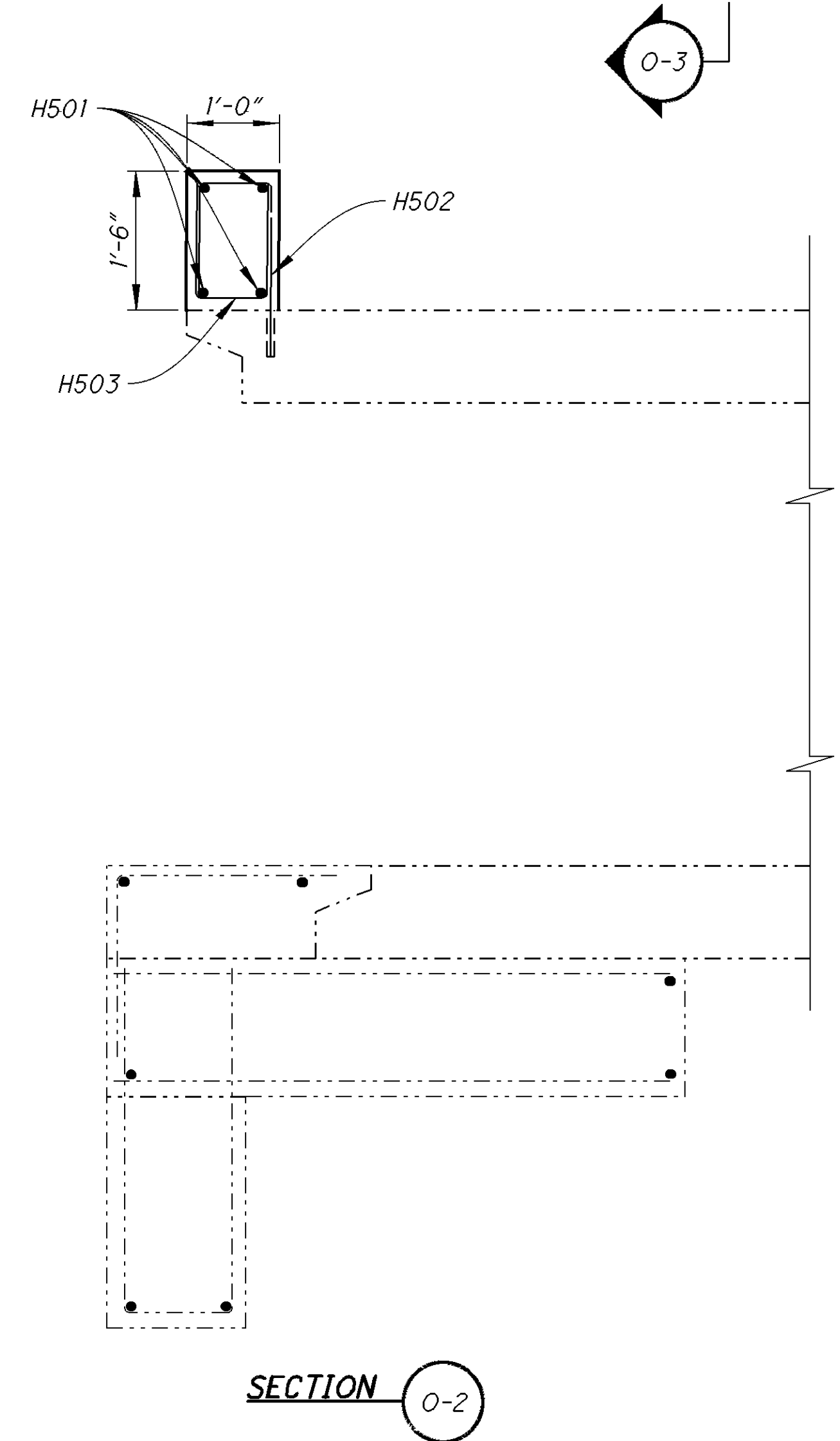
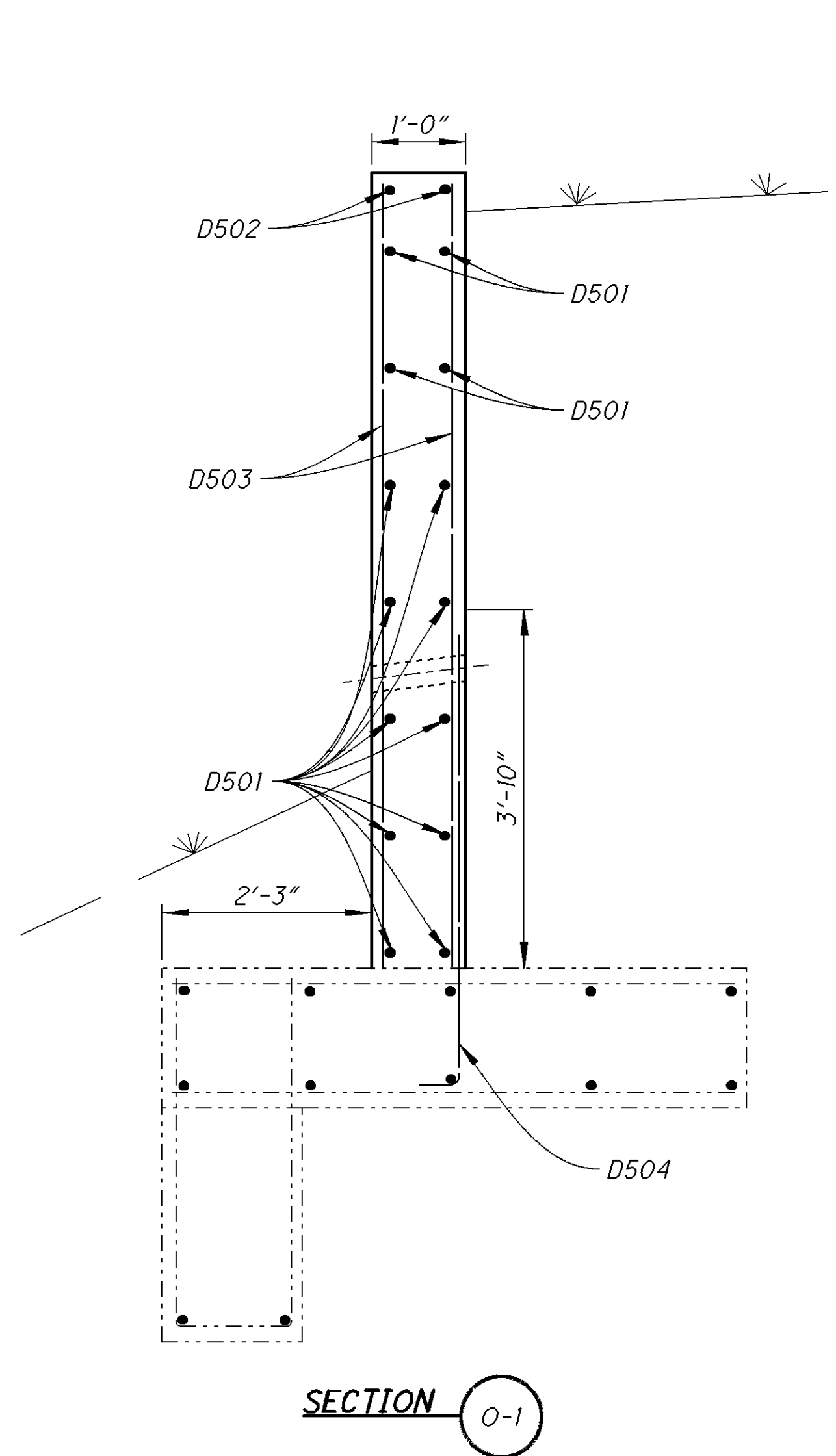
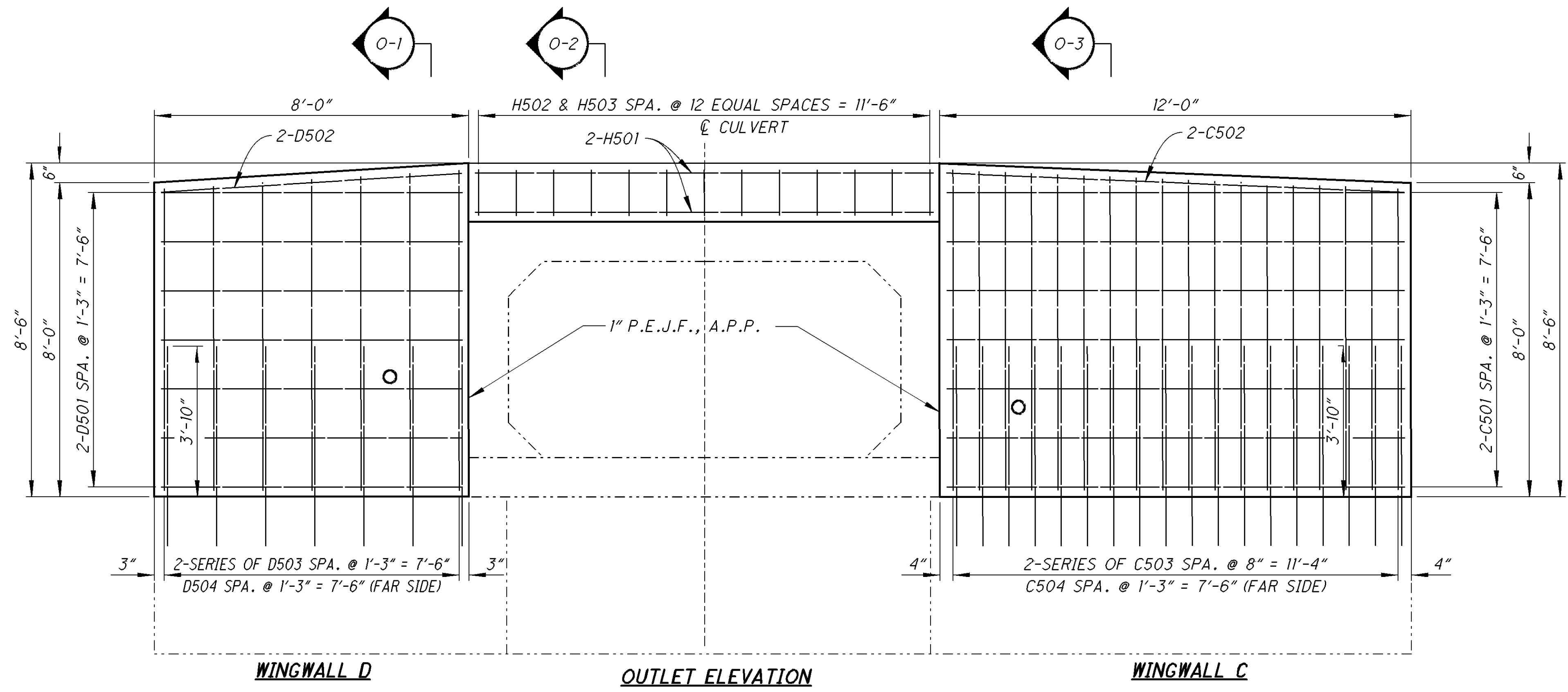


SECTION I-2



SECTION I-3

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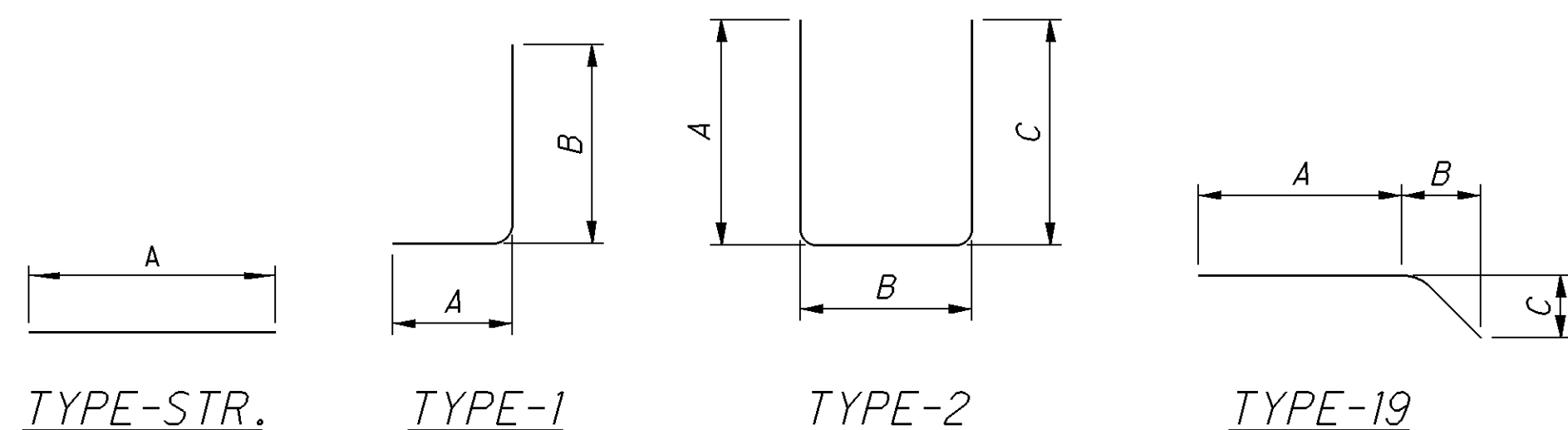


DESIGN AGENCY		OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5	
DATE	10-01-15	REVIEWED TAG	4505646
STRUCTURE FILE NUMBER	4505646	DRAWN JDR	REVISOR
DESIGNED JDR	CHECKED CPS		
OUTLET WINGWALL REINFORCING STEEL LAYOUT			
BRIDGE NO. LIC-310-0134			
S.R. 310 OVER DITCH			
LIC-310-0.74			
8 / 9		348 425	

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MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL				A	B	C	D	E	R
INLET FOOTING										
F501	35	7'-11"	289	2	3'-7"	1'-0"	3'-7"			
F502	11	4'-1"	47	1	2'-1"	2'-1"				
F503	82	5'-9"	492	STR						
F504	13	10'-10"	147	STR						
F505	-	11'-6"	-	STR						
F506	-	6'-9"	-	STR						
F507	26	11'-9"	319	STR						
F508	8	4'-0"	33	STR						
F509	26	9'-11"	269	19	4'-11"	3'-7"	3'-7"			
F510	-	6'-6"	-	19	3'-3"	3'-2"	10"			
F511	2	11'-6"	24	STR	11'-6"					
INLET FOOTING SUB-TOTAL =			1620							
OUTLET FOOTING										
F501	30	7'-11"	248	2	3'-7"	1'-0"	3'-7"			
F502	11	4'-1"	47	1	2'-1"	2'-1"				
F503	66	5'-9"	264	STR						
F504	13	10'-10"	147	STR						
F505	13	11'-6"	156	STR						
F506	13	6'-9"	92	STR						
F507	-	11'-9"	-	STR						
F508	4	4'-0"	17	STR						
F509	13	9'-11"	134	19	4'-11"	3'-7"	3'-7"			
F510	13	6'-6"	88	19	3'-3"	3'-2"	10"			
F511	2	11'-6"	24	STR	11'-6"					
OUTLET FOOTING SUB-TOTAL =			1217							
WINGWALL A										
A501	10	12'-8"	132	STR	12'-8"					
A502	2	7'-6"	16	STR	7'-6"					
A503	2	12'-10"	27	STR	12'-10"					
A504	2 SERIES OF 11	5'-5" TO 8'-1"	155	STR	5'-5" TO 8'-1"					
A505	11	6'-9"	77	1	5'-10"	1'-0"				
WINGWALL A SUB-TOTAL =			407							
WINGWALL B										
B501	10	12'-8"	132	STR	12'-8"					
B502	2	7'-6"	16	STR	7'-6"					
B503	2	12'-10"	27	STR	12'-10"					
B504	2 SERIES OF 11	5'-5" TO 8'-1"	155	STR	5'-5" TO 8'-1"					
B505	11	6'-9"	77	1	5'-10"	1'-0"				
WINGWALL B SUB-TOTAL =			407							

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL				A	B	C	D	E	R
WINGWALL C										
C501	14	11'-7"	169	STR	11'-7"					
C502	2	11'-8"	24	STR	11'-8"					
C503	2 SERIES OF 18	7'-2" TO 8'-1"	286	STR	7'-2" TO 8'-1"					
C504	18	6'-9"	127	1	5'-10"	1'-0"				
WINGWALL C SUB-TOTAL =			606							
WINGWALL D										
D501	14	7'-7"	111	STR	11'-7"					
D502	2	7'-8"	16	STR	11'-8"					
D503	2 SERIES OF 7	7'-2" TO 8'-1"	111	STR	7'-2" TO 8'-1"					
D504	7	6'-9"	49	1	5'-10"	1'-0"				
WINGWALL D SUB-TOTAL =			287							
INLET HEADWALL										
H501	4	11'-6"	48	STR						
H502	13	3'-5"	49	2	8"	1'-4"	1'-10"			
H503	13	2'-5"	33	2	1'-0"	8"	8"			
INLET HEADWALL SUB-TOTAL =			130							
OUTLET HEADWALL										
H501	4	11'-6"	48	STR						
H502	13	3'-5"	49	2	8"	1'-4"	1'-10"			
H503	13	2'-5"	33	2	1'-0"	8"	8"			
OUTLET HEADWALL SUB-TOTAL =			130							
INLET FOOTING SUB-TOTAL =			1620							
OUTLET FOOTING SUB-TOTAL =			1217							
WINGWALL A SUB-TOTAL =			407							
WINGWALL B SUB-TOTAL =			407							
WINGWALL C SUB-TOTAL =			606							
WINGWALL D SUB-TOTAL =			287							
INLET HEADWALL SUB-TOTAL =			130							
OUTLET HEADWALL SUB-TOTAL =			130							
TOTAL =			4804							

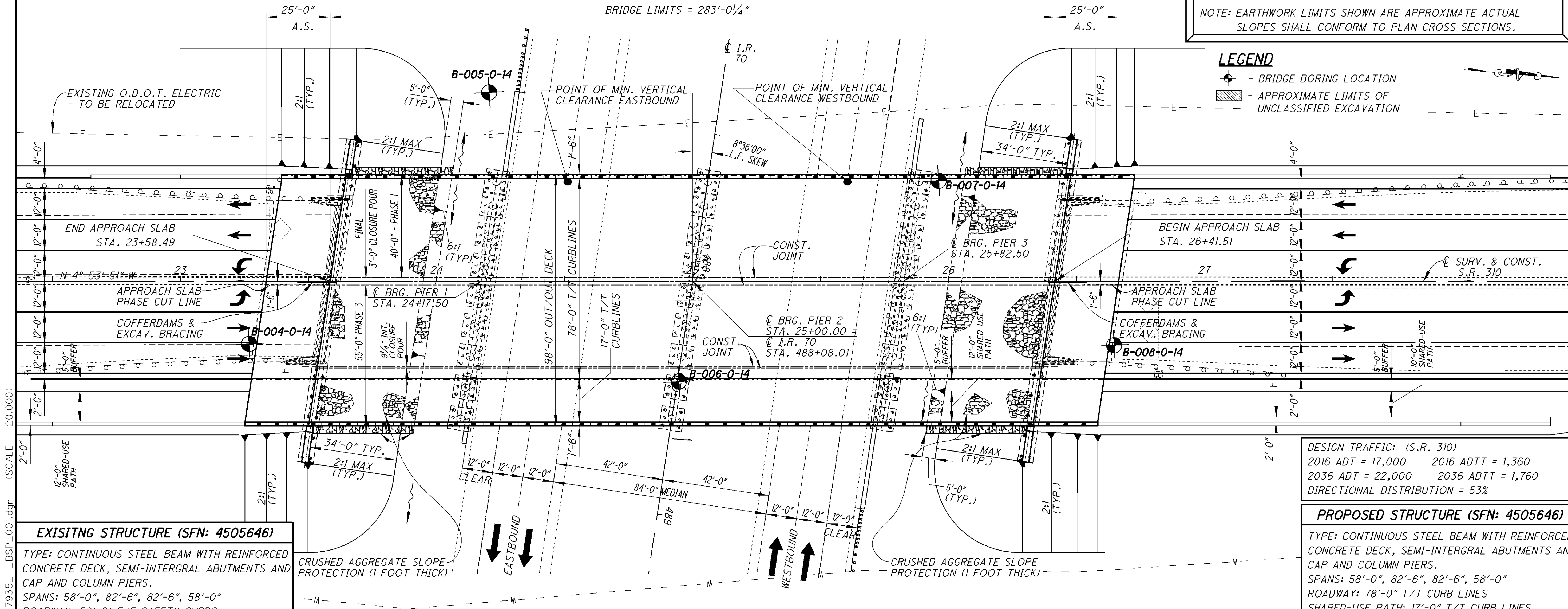


NOTE:
EXISTING SUPERSTRUCTURE NOT SHOWN FOR CLARITY.

16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
 ● - 16'-7" PROPOSED MINIMUM VERTICAL CLEARANCE (SPAN 2)
 ● - 16'-10" PROPOSED MINIMUM VERTICAL CLEARANCE (SPAN 3)

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

LEGEND
 ● - BRIDGE BORING LOCATION
 --- E --- APPROXIMATE LIMITS OF UNCLASSIFIED EXCAVATION



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EXISTING STRUCTURE (SFN: 4505646)

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK, SEMI-INTERGRAL ABUTMENTS AND CAP AND COLUMN PIERS.
 SPANS: 58'-0", 82'-6", 82'-6", 58'-0"
 ROADWAY: 59'-0" F/F SAFETY CURBS
 LOAD FREQUENCY: HS20
 SKEW: 8°-36'-00" LEFT FORWARD
 WEARING SURFACE: 1" MONOLITHIC CONCRETE WITH 3" ASPHALT TOPPING
 APPROACH SLABS: 25 FEET LONG
 ALIGNMENT: TANGENT
 CROWN: 0.0156 FT/FT

PIER 1 - 12" CAST-IN-PLACE REINFORCED CONCRETE PILES
 TOTAL ESTIMATED DRIVEN PILE LENGTH = 55'
 TOTAL FURNISHED PILE LENGTH = 60'

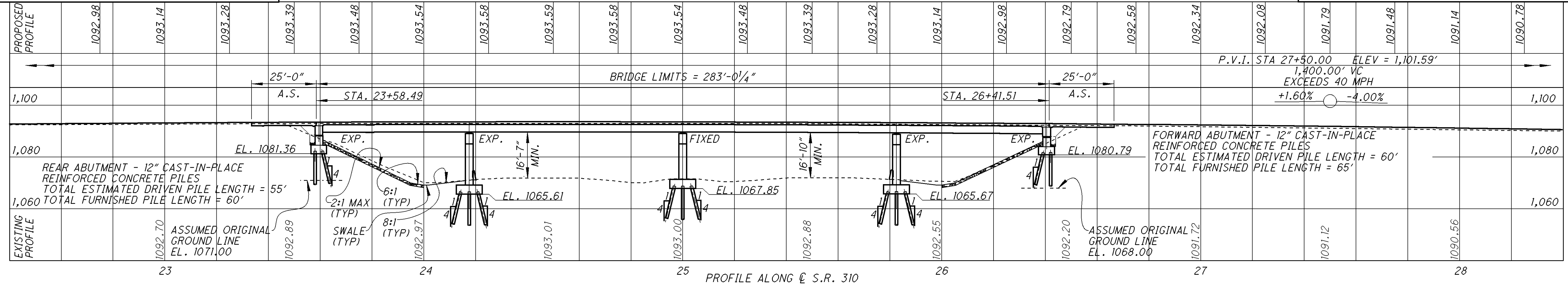
PIER 2 - 12" CAST-IN-PLACE REINFORCED CONCRETE PILES
 TOTAL ESTIMATED DRIVEN PILE LENGTH = 60'
 TOTAL FURNISHED PILE LENGTH = 65'

PIER 3 - 12" CAST-IN-PLACE REINFORCED CONCRETE PILES
 TOTAL ESTIMATED DRIVEN PILE LENGTH = 65'
 TOTAL FURNISHED PILE LENGTH = 70'

DESIGN TRAFFIC: (S.R. 310)
 2016 ADT = 17,000 2016 ADTT = 1,360
 2036 ADT = 22,000 2036 ADTT = 1,760
 DIRECTIONAL DISTRIBUTION = 53%

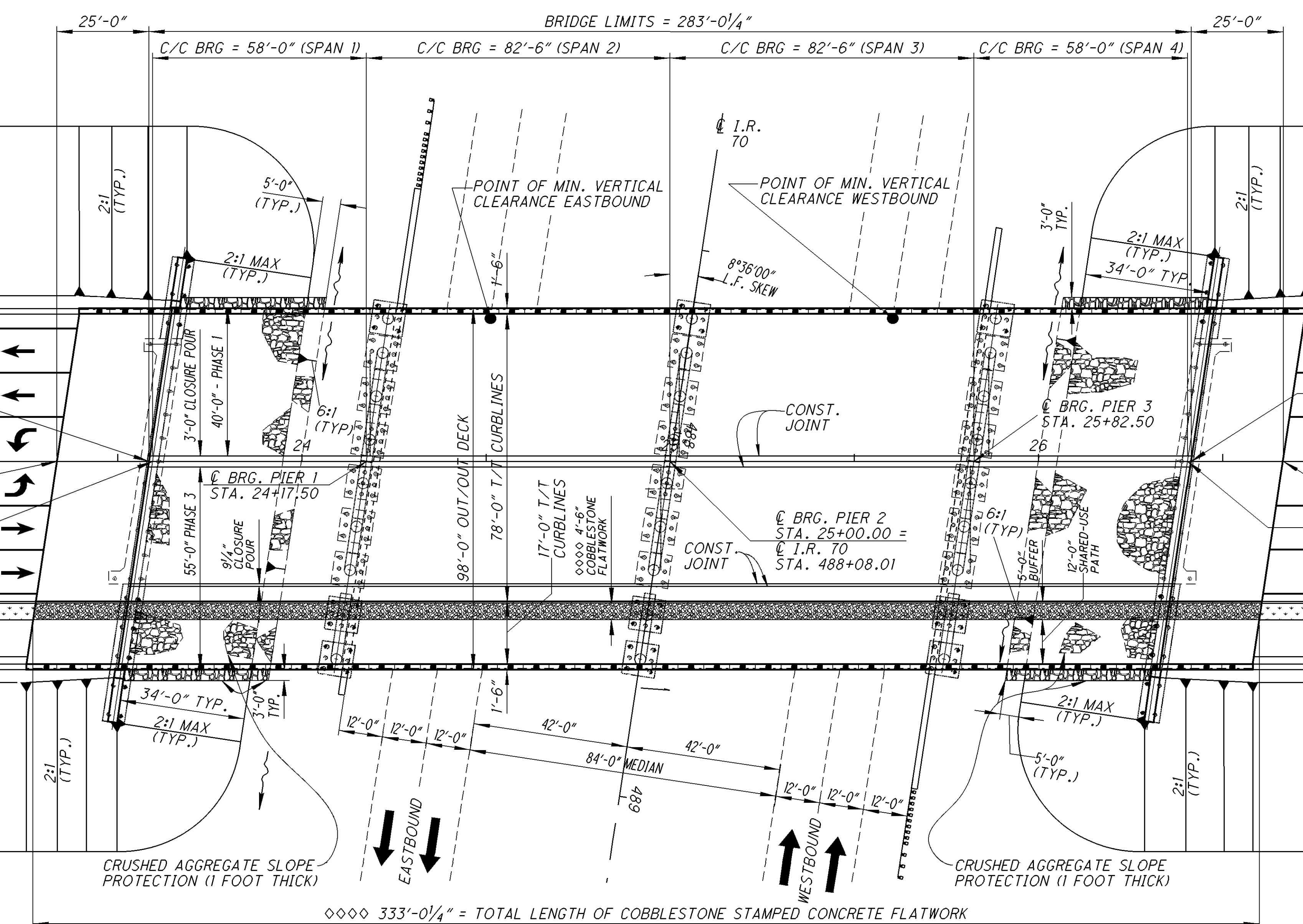
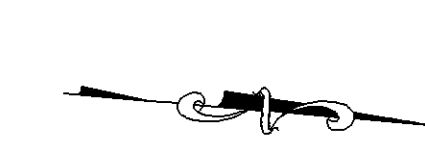
PROPOSED STRUCTURE (SFN: 4505646)

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK, SEMI-INTERGRAL ABUTMENTS AND CAP AND COLUMN PIERS.
 SPANS: 58'-0", 82'-6", 82'-6", 58'-0"
 ROADWAY: 78'-0" T/T CURB LINES
 SHARED-USE PATH: 17'-0" T/T CURB LINES
 LOAD FREQUENCY: HS20-44 WITH ALTERNATE MILITARY LOADING
 SKEW: 8°-36'-00" LEFT FORWARD
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: 25 FEET LONG (AS-1-81)
 ALIGNMENT: TANGENT
 CROWN: 0.0156 FT/FT



DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
 DATE: 10-01-15
 REVIEWED: JDR
 DRAWN: JDR
 DESIGNED: TAG
 CHECKED: NEM
 STA. 22+50.00 TO STA. 28+00.00
 STRUCTURE FILE NUMBER: 4505646
 SITE PLAN
 BRIDGE NO. LIC-310-0096
 S.R. 310 OVER I.R. 70
 LIC-310-0.74
 1 / 62
 350 / 425

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16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
 ● - 16'-7" PROPOSED MINIMUM VERTICAL CLEARANCE (SPAN 2)
 ● - 16'-10" PROPOSED MINIMUM VERTICAL CLEARANCE (SPAN 3)

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

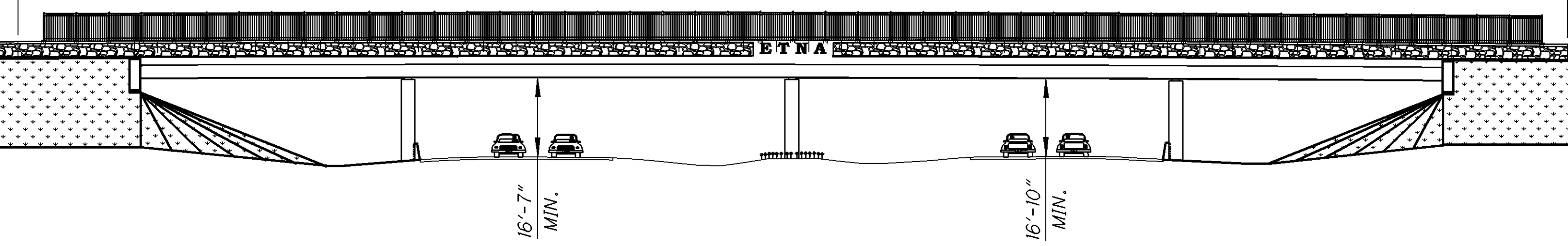
◇◇◇◇ - APPLY ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY) WITH INTEGRATED SILICA SAND AS PER 512.03,G,2,f.

PROPOSED STRUCTURE (SFN: 4505646)

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK, SEMI-INTERGRAL ABUTMENTS AND CAP AND COLUMN PIERS.
 SPANS: 58'-0", 82'-6", 82'-6", 58'-0"
 ROADWAY: 78'-0" T/T CURB LINES
 SHARED-USE PATH: 17'-0" T/T CURB LINES
 LOAD FREQUENCY: HS20-44 WITH ALTERNATE MILITARY LOADING
 SKEW: 8°-36'-00" LEFT FORWARD
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: 25 FEET LONG (AS-1-81)
 ALIGNMENT: TANGENT
 CROWN: 0.0156 FT/FT

P.V.I. STA 27+50.00 ELEV = 1,101.59'
 1,400.00' VC
 EXCEEDS 40 MPH
 +1.60% -4.00%

PARAPET LENGTHS = 333'-0 1/4" EACH
 (SEE SHEETS 47/62 - 50/62 FOR PARAPET DETAILS)



ELEVATION

DESIGN AGENCY
 OHIO DEPARTMENT OF
 TRANSPORTATION, DISTRICT 5

DATE
 9-24-2015
 REVIEWED
 JDR
 STRUCTURE FILE NUMBER
 4505646
 DRAWN
 JDR
 DESIGNED
 TAG
 CHECKED
 NEW

GENERAL PLAN & ELEVATION
 BRIDGE NO. LIC-310-0096
 S.R. 310 OVER I.R. 70

LIC-310-0.74

2 / 62

351
 425

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

- A-1-69 DATED: 07-19-02
- AS-1-81 DATED: 01-18-13
- BR-2-15 DATED: 07/15/15
- GSD-1-96 DATED: 07-19-02
- PCB-91 DATED: 01-18-13
- SICD-1-96 DATED: 01-17-14
- SICD-2-14 DATED: 07-18-15
- VPF-1-90 DATED: 07-17-15

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:
NONE

REFERENCE

EXISTING BRIDGE PLANS MAY BE INSPECTED AND ARE PROVIDED WITH THIS PROJECT'S BIDDING DOCUMENTS .

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION (2002), AND THE ODOT BRIDGE DESIGN MANUAL, 2004.

DESIGN LOADING

HS-20 CASE II AND THE ALTERNATE MILITARY LOADING, WITH 60 LBS./S.F. FUTURE WEARING SURFACE (FWS).

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709, GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN

FURNISH APPROACH SLABS CONFORMING TO CMS 526. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALS, WATERPROOFING, AND ANY OTHER INCIDENTALS SHOWN ON THE APPROACH SLAB DETAIL SHEETS. IN ADDITION TO 511.07, DO NOT PLACE APPROACH SLAB CONCRETE ABOVE THE APPROACH SLAB SEAT UNTIL AFTER THE DECK AND DIAPHRAGM CONCRETE FOR THE SUPERSTRUCTURE HAS BEEN PLACED. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS.

SEE NOTES ON SHEET 5/62 FOR ADDITIONAL WORK TO/ON THE APPROACH SLABS THAT IS NOT INCIDENTAL TO THIS ITEM.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER
PARAPETS AND SCUPPERS

CONSTRUCTION SEQUENCE

SEE SHEET 8/62, GENERAL NOTES FOR MAINTENANCE OF TRAFFIC NOTES, AND MAINTENANCE OF TRAFFIC DETAIL SHEETS TO PLAN SEQUENCE OF OPERATIONS.

FOR THIS STRUCTURE, THE FOLLOWING ITEMS SHALL NOT COMMENCE UNTIL AFTER THE FINAL DECK CLOSURE POUR IS CAST AND THE PHASE 3 BRIDGE PARAPET AND ADJOINT BARRIER IS CURED:

1. ITEM 514 - (ALL PAINTING ITEMS)
2. CONCRETE STAINING AS PER ITEM 530 - STRUCTURE, MISC.: AESTHETIC TREATMENT
3. ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
4. ITEM 607 - VANDAL PROTECTION FENCE (DECORATIVE)

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, SUPERSTRUCTURE (CONCRETE)

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF THE CONCRETE DECK INCLUDING PARAPETS AND MEDIAN ISLAND FROM STEEL SUPPORTING SYSTEMS (BEAMS, CROSSFRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF TRAFFIC: THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) AS PER CMS 2010.501.05.B.2. DUE TO THE CONDITION OF THE EXISTING BRIDGE DECK, THIS SUBMISSION SHALL OCCUR WITHIN TWO WEEKS OF THE AWARDED CONTRACT. THE INSTALLATION OF TEMPORARY PROTECTION OF TRAFFIC SHALL OCCUR WITHIN SIX WEEKS OF THE AWARDED CONTRACT FOR THIS PROJECT AND SHALL REMAIN IN PLACE FOR ALL PHASES OF THE PROJECT UNTIL THE NEED FOR IT IS GONE DUE TO THE PLACEMENT OF THE PROPOSED BRIDGE DECK PLACEMENT. THE INSTALLATION SHALL, AT A MINIMUM, SHALL PROVIDE PROTECTION OVER ALL AREAS OF EXISTING I-70 ASPHALT (INCLUDING SHOULDERS) UNDER THE DECK EXTENTS OF BRIDGE NO. LIC-310-0096.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL BEAMS), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE ENTIRE PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF CONCRETE REMOVALS ON A CUBIC YARD BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, SUPERSTRUCTURE (CONCRETE).

CUT LINE CONSTRUCTION JOINT PREPARATION

FOR ABUTMENT BREASTWALL REMOVALS, SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, SUBSTRUCTURE

THERE SHALL BE NO SAWCUTS BELOW THE TOP OF FOOTING ELEVATION AT ANY LOCATION EXCEPT AS DETAILED IN THE PLAN. ALL CONCRETE REMOVED DOWN TO THE TOP OF FOOTING SHALL BE REMOVED BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

INSPECTION OF EXISTING STRUCTURAL STEEL

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511, QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

DECK SLAB CONCRETE QUANTITY

THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ± 3 INCHES.

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS, THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

WELDED ATTACHMENTS

WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 3/8" FOR GREATER THAN 3/4" THICK.

BRIDGE PAINTING LIMITATIONS

PRIOR TO THE ARRIVAL OF THE BRIDGE PAINTERS THE PRIME CONTRACTOR SHALL COMPLETE ALL CLEARING AND GRUBBING FROM ABUTMENT TO ABUTMENT AND RIGHT-OF-WAY FENCE TO RIGHT-OF-WAY FENCE INCLUDING REMOVAL OF ALL TREES. PAYMENT FOR THE CLEARING AND GRUBBING IS INCLUDED IN ITEM 201 CLEARING AND GRUBBING.

PAINTING OF STRUCTURAL STEEL

ALL STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SECTION 514 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE FINISH COAT COLOR SHALL BE FEDERAL COLOR NUMBER FS-595B-11136 (SCARLET). AT ALL STEEL TO CONCRETE INTERFACES, THE CONTRACTOR SHALL MASK THE CONCRETE WITH EDGES PARALLEL TO THE ADJACENT STEEL TO BE PAINTED. THE MAXIMUM OFFSET OF THIS MASK LINE WILL BE 1/2". ANY PAINT OVERSPRAY BEYOND THIS LIMIT SHALL BE REMOVED AT THE CONTRACTOR'S COST. THE REMOVAL METHOD WILL BE APPROVED BY THE FIELD ENGINEER.

SCUPPERS - BRIDGE PAINTING

BRIDGE PAINTING WILL EXCLUDE SCUPPERS TO BE GALVANIZED.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN: ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PREQUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, 501.06, TO THE ENGINEER. PROVIDE SHOP DRAWINGS ACCORDING TO 513.06 OR SUPPLY THE ENGINEER WITH "AS-BUILT" DRAWINGS MEETING 513.06 AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER WILL REVIEW THE SUBMITTED DRAWINGS FOR CONCURRENCE WITH THE FINAL AS-BUILT CONDITION. IF NECESSARY, THE ENGINEER MAY CONTACT THE OFFICE OF STRUCTURAL ENGINEERING FOR TECHNICAL ASSISTANCE. IF THE ENGINEER IS SATISFIED WITH THE "AS-BUILT" DRAWINGS AND THE DELIVERED MATERIALS, SUPPLY A COPY OF THE DRAWINGS, STAMPED AND DATED, ALONG WITH A DIGITAL COPY, TO THE OFFICE OF STRUCTURAL ENGINEERING FOR RECORD PURPOSES. THE FOLLOWING MEMBERS ARE INCLUDED IN THIS ITEM: STIFFENER PLATES ON NEW AND EXISTING BEAMS AND ALL INTERMEDIATE CROSS FRAMES. ALL MATERIAL SHALL BE SHOP PRIMED ACCORDING TO C.M.S. 513.30.

BRIDGE SEAT ELEVATIONS

BRIDGE SEAT ELEVATIONS AND PIER FILL PLATE THICKNESSES HAVE BEEN ADJUSTED UPWARD 0.0693 INCHES AT THE REAR AND FORWARD ABUTMENTS AND 0.1085 INCHES AT PIERS 1 & 3 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

ELASTOMERIC BEARINGS

ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

P:\LIC\87935\Design\bridge\4505646 - LIC-310-0096\Plan Sheets\General\87935_BNS_001.dgn (SCALE = 1:000)

DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5	DATE 9-24-2015	STRUCTURE FILE NUMBER 4505646
	REVIEWED JDR	
DESIGNED TAG	DRAWN JDR	CHECKED NEM
	REVISIONS	
BRIDGE NOTES BRIDGE NO. LIC-310-0096 S.R. 310 OVER I.R. 70		
LIC-310-0.74		
3 / 62		
352 425		

ITEM 516. JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING THE EXISTING STRUCTURE TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

THIS ITEM SHALL BE USED TO SET THE PROPOSED BEARINGS AT ALL SUBSTRUCTURES. IT WILL ALSO BE USED TO SUPPORT INDIVIDUAL BEAMS WHILE RESETTING BEARINGS, IF NECESSARY.

AT EVERY SUBSTRUCTURE, ALL EXISTING BEAMS WILL REQUIRE A LIFT OF 6"± TO INCREASE VERTICAL CLEARANCE AND INSTALL THE THICKER PROPOSED BEARINGS. TO ACCOMPLISH THIS IN A UNIFORM MANNER AND TO CAUSE NO DAMAGE TO THE EXISTING STEEL SUPERSTRUCTURE, THE JACKING OPERATION SHALL LIFT ALL EXISTING BEAMS, WITH ATTACHED CROSS FRAMES, SIMULTANEOUSLY. ALL JACKING BEARING POINTS SHALL BE ON EXISTING GROUND OR TOP OF FOOTINGS. DO NOT USE TEMPORARY HANGER SYSTEMS REQUIRING DOWELS, OR THROUGH HOLES, ON THE EXISTING SUBSTRUCTURE COMPONENTS TO REMAIN.

ALL PLANNED JACKING OPERATIONS FOR THIS PROJECT SHALL OCCUR PER PHASE AFTER THE EXISTING DECK HAS BEEN REMOVED AND PRIOR TO PLACEMENT OF THE PROPOSED DECK FOR EACH RESPECTIVE PHASE.

IF UNFORSEEN NEED EXISTS AFTER PLACEMENT OF THE PROPOSED DECK, THE FOLLOWING SPECIFICATIONS SHALL APPLY.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

WELDED ATTACHMENT REMOVALS

WHEN REMOVING THE EXPANSION JOINTS, END CROSSFRAMES, SCUPPERS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, CROSSFRAMES, ETC.) THE ITEM ALONG WITH ITS SUPPORTS SHALL BE COMPLETELY REMOVED. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PERFORM WORK CAREFULLY DURING CUTTING OF THE WELDED ATTACHMENTS TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G. FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE ENTIRE PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE/WEB SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES/WEBS.

PAYMENT FOR THE ABOVE WORK TO BE INCLUDED WITH THEIR RESPECTIVE PAY ITEMS: ITEM 202 REMOVAL MISC.: DETERIORATED END CROSSFRAMES, ITEM 202 REMOVAL MISC.: SCUPPERS WITH ATTACHMENTS, REMOVAL MISC.: EXPANSION JOINT, OR REMOVAL MISC.: STEEL BULB ANGLE GUTTER.

STEEL NOTCH TOUGHNESS REQUIREMENT (CHARPY V-NOTCH)

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN). FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01

HIGH STRENGTH BOLTS

HIGH STRENGTH BOLTS SHALL BE 1 1/8" DIAMETER A325, TYPE 1.

FILL UNDER APPROACH SLABS

ITEM 304, AGGREGATE BASE SHALL BE USED TO BRING THE SUBBASE TO GRADE FOR THE NEW APPROACH SLABS AS DETAILED ON THE APPROACH SLAB DETAIL SHEETS AND SHALL EXTEND 1'-6" ON BOTH SIDES OF EACH APPROACH SLAB OR TO THE INSIDE OF TURNED BACK WINGWALLS.

POROUS BACKFILL WITH FILTER FABRIC

POROUS BACKFILL WITH FILTER FABRIC, THE THICKNESS AS DETAILED IN THIS PLAN, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

ITEM 202 REMOVAL MISC: BEARINGS

THIS ITEM SHALL INCLUDE THE REMOVAL OF ALL ABUTMENT AND PIER BEARING COMPONENTS AS WELL AS REMOVING RUST, WELDS AND ANY OTHER DEBRIS FROM THE BEAMS TO PREPARE THEM FOR THE ATTACHMENT OF THE NEW BEARINGS. DRILL OUT EXISTING ANCHOR BARS AND ENSURE THAT THE NEW BEARINGS HAVE A LEVEL SURFACE TO REST ON. THE CONTRACTOR SHALL BE CAREFUL WHEN REMOVING THE BEARINGS AND WELDS FROM THE BEAMS SO NO DAMAGE IS DONE TO THE BEAMS. ANY DAMAGE TO THE BEAMS SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

ALL WORK REQUIRED TO PERFORM THE ABOVE WORK SHALL BE PAID AT THE UNIT PRICE FOR ITEM 202 REMOVAL MISC: BEARINGS.

ITEM 202 REMOVAL MISC.: DETERIORATED END CROSSFRAMES

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE END CROSSFRAMES AND WELDS FROM THE BEAMS, TRIMMING THE BEAM ENDS AT THE ABUTMENTS, AND DRILLING HOLES IN THE BEAM WEBS AS DETAILED IN THE PLAN. THE CONTRACTOR SHALL BE CAREFUL WHEN REMOVING THE END CROSSFRAMES AND WELDS FROM THE BEAMS SO NO DAMAGE IS DONE TO THE BEAMS. ANY DAMAGE DONE TO THE BEAMS SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

ITEM 202 REMOVAL MISC.: SCUPPERS WITH ATTACHMENTS

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE SCUPPERS, ATTACHMENTS AND WELDS. THE CONTRACTOR SHALL BE CAREFUL WHEN REMOVING THE SCUPPERS, ATTACHMENTS AND WELDS FROM THE BEAMS SO NO DAMAGE IS DONE TO THE BEAMS. ANY DAMAGE DONE TO THE BEAMS SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

ITEM 202 REMOVAL MISC.: EXPANSION JOINT

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXPANSION JOINTS. THE CONTRACTOR SHALL BE CAREFUL WHEN REMOVING THE EXPANSION JOINTS FROM THE BEAMS SO NO DAMAGE IS DONE TO THE BEAMS. ANY DAMAGE DONE TO THE BEAMS SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

ITEM 202 REMOVAL MISC.: STEEL BULB ANGLE GUTTER

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE STEEL BULB ANGLE GUTTERS AND STEEL SUPPORTS AS SHOWN IN THIS PLAN. THE CONTRACTOR SHALL BE CAREFUL WHEN REMOVING THE STEEL BULB ANGLE GUTTERS AND STEEL SUPPORTS FROM THE BEAMS SO NO DAMAGE IS DONE TO THE BEAMS. ANY DAMAGE DONE TO THE BEAMS SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

ITEM 202 - BRIDGE RAILING REMOVED FOR STORAGE. AS PER PLAN

CARE SHALL BE TAKEN WHEN REMOVING THE EXISTING BRIDGE ALUMINUM RAILING, INCLUDING BRACKETS, SO AS TO NOT DAMAGE THE RAILING AND BRACKETS. THE ODOT DISTRICT 5 ROADWAY SERVICES MANAGER SHALL BE NOTIFIED AT 740-323-5270 ONE WEEK PRIOR TO AND INFORMED WHEN THE RAILING WILL BE DELIVERED TO AN ODOT FACILITY IN ORDER TO COORDINATE A SPECIFIC UNLOADING AGREEMENT/LOCATION. ONCE REMOVED, THE RAILING AND BRACKETS SHALL BE TRANSPORTED IMMEDIATELY, BY THE CONTRACTOR, FROM THE JOB SITE TO THE ODOT - DISTRICT 5 FACILITY LOCATED AT:

9600 JACKSONTOWN ROAD, S.E. JACKSONTOWN, OH 43030

THE CONTRACTOR SHALL EXERCISE CAUTION WHILE LOADING, TRANSPORTING, AND UNLOADING THE RAILING COMPONENTS SO AS TO NOT DAMAGE THEM.

ITEM 202 - WEARING COURSE REMOVED

FROM APPROACH SLABS ON BRIDGE NO. LIC-310-0096:
- STA 23+32.22 TO STA 23+57.22
QUANTITY = (25'x58.65' AVG.)/9 = 162.92 S.Y.
- STA 26+42.78 TO STA 26+67.78
QUANTITY = (25'x58.65' AVG.)/9 = 162.92 S.Y.

FROM DECK & BACKWALLS ON BRIDGE NO. LIC-310-0096:
- STA 23+57.22 TO STA 26+42.78
QUANTITY = (285.56'x56' AVG.)/9 = 1,776.82 S.Y.

TOTAL QUANTITY CARRIED TO BRIDGE SUMMARY:
162.92 S.Y. + 162.92 S.Y. + 1,776.82 S.Y. = 2,103 S.Y.

ITEM 516 - BEARING DEVICE, MISC: FIXED BEARING

THIS WORK CONSISTS OF THE INSTALLATION OF NEW FIXED BEARINGS AT THE PIER 2. THE PROVISIONS OF ITEM 516 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES AND DETAILS IN THIS PLAN.

THE CONTRACTOR MUST INSTALL ALL BEARINGS BEFORE ATTACHING THE PROPOSED CROSS FRAMES AND PRIOR TO THE DIAPHRAGM AND DECK POURS.

DOWEL HOLES FOR THE NEW ANCHOR BARS SHALL INCLUDE NONSHRINK NONMETALLIC GROUT AND FOLLOW THE PROVISIONS FOR 510 IN THE C&MS.

STEEL: PLATES AND ANCHOR BARS SHALL CONFORM TO ASTM DESIGNATION A709 GR. 50

SHEET LEAD: A MAXIMUM OF TWO (2) SHEETS OF LEAD MAY BE USED AS DIRECTED BY THE ENGINEER FOR SHIMMING PURPOSES. SHEET LEAD USED FOR SHIMMING PURPOSES ARE CONSIDERED INCIDENTAL TO THE INSTALLATION OF ITEM 516 BEARING DEVICE, MISC: FIXED BEARING

ALL WORK REQUIRED TO PREFORM THE ABOVE WORK AND DETAILS SHALL BE PAID AT THE UNIT PRICE FOR ITEM 516 BEARING PAD, MISC: FIXED BEARING

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.5 KIPS FOR A TOTAL MACHINE LOAD OF 20.0 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

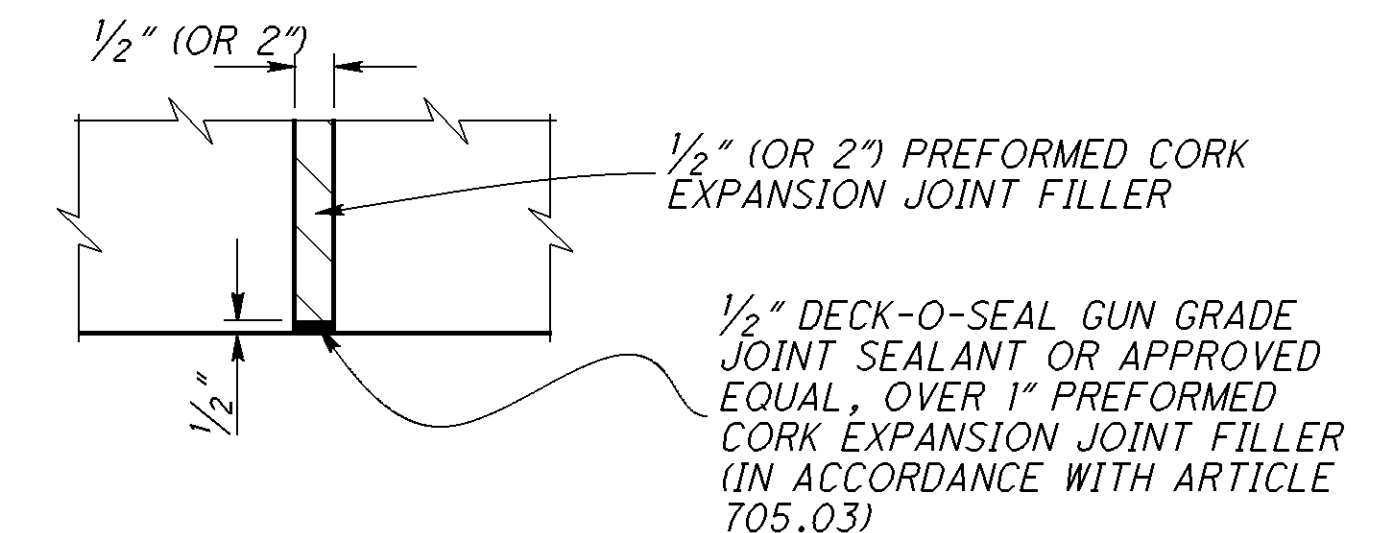
A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

ITEM 516 - 1/2" (OR 2") PREFORMED EXPANSION JOINT FILLER, AS PER PLAN

ALL 1/2" (OR 2") P.E.J.F. CALLED FOR IN THE PLANS SHALL BE PREFORMED CORK JOINT FILLER (IN ACCORDANCE WITH ARTICLE 705.03). RECESS JOINT FILLER 1/2" FOR ALL JOINTS (SEE DETAIL). SEAL ALL JOINTS THAT ARE ABOVE GRADE WITH DECK-O-SEAL GUN GRADE JOINT SEALANT OR AN APPROVED EQUAL. THE COLOR SHALL BE STONE GRAY. APPROVED MANUFACTURER'S APPLICATION METHODS SHALL BE FOLLOWED DURING SURFACE PREPARATION AND APPLICATION FOR MAXIMUM EFFECTIVENESS.

DECK-O-SEAL
P.O. BOX 397
HAMPSHIRE, IL 60140
PHONE: 800-542-7665



PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 516 - 1/2" (OR 2") PEJF, A.P.P., SQ.FT., AND SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK DESCRIBED.

SURFACE SMOOTHNESS FOR BRIDGES AND APPROACHES

AT THE COMPLETION OF WORK FOR ALL PHASES OF CONSTRUCTION THE CONTRACTOR SHALL PERFORM THE FOLLOWING AS PER PROPOSAL NOTE 555:

- 1. CLEAN, SWEEP, AND PREPARE THE FINAL DECK AND FINAL ROADWAY SURFACE.
- 2. MEASURE, GRIND, AND RE-MEASURE THE BRIDGE AND/OR ROADWAY AS NECESSARY.
- 3. PERFORM GROOVING OR RE-GROOVING OF THE BRIDGE DECK.

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DESIGN AGENCY
OHIO DEPARTMENT OF
TRANSPORTATION, DISTRICT 5

DATE
9-24-2015
REVIEWED
JDR
DRAWN
JDR
STRUCTURE FILE NUMBER
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DESIGNED
TAG
CHECKED
NEW

BRIDGE NOTES
BRIDGE NO. LIC-310-0096
S.R. 310 OVER I.R. 70

LIC-310-0.74

4 / 62

353
425

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):
THE ULTIMATE BEARING VALUE IS 194 KIPS PER PILE FOR THE ABUTMENT PILES.
THE ULTIMATE BEARING VALUE IS 244 KIPS PER PILE FOR THE PIER PILES.

REAR ABUTMENT PILES:
12" C.I.P. PILES 60 FEET LONG, FURNISHED LENGTH
1 DYNAMIC LOAD TESTING ITEMS

PIERS 1 PILES:
12" C.I.P. PILES 60 FEET LONG, FURNISHED LENGTH
1 DYNAMIC LOAD TESTING ITEMS

PIERS 2 PILES:
12" C.I.P. PILES 65 FEET LONG, FURNISHED LENGTH
1 DYNAMIC LOAD TESTING ITEMS

PIERS 3 PILES:
12" C.I.P. PILES 70 FEET LONG, FURNISHED LENGTH
1 DYNAMIC LOAD TESTING ITEMS

FORWARD ABUTMENT PILES:
12" C.I.P. PILES 65 FEET LONG, FURNISHED LENGTH
1 DYNAMIC LOAD TESTING ITEMS

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

PREBORED HOLES

PREBORED HOLES THROUGH THE ENTIRE NEW FILL MATERIAL SHALL BE PERFORMED PRIOR TO PLACING ALL PROPOSED ABUTMENT PILING.

ALL PROVISIONS OF CMS 507 SHALL APPLY.

THE CONTRACTOR SHALL PREBORE BATTER HOLES OR PLUM HOLES TO MATCH THE PROPOSED PILING INSTALLATION GEOMETRY.

THE CONTRACTOR SHALL BORE FROM THE BOTTOM OF PROPOSED ABUTMENT FOOTINGS TO THE ASSUMED ORIGINAL GROUND ELEVATION SHOWN ON THE BRIDGE SITE PLAN. THE TOTAL LENGTH IS THEREFORE ESTIMATED AT 10.36 FEET PER PREBORED HOLE AT THE REAR ABUTMENT AND 12.79 FEET PER PREBORED HOLE AT THE FORWARD ABUTMENT.

ALL SKIN FRICTION HAS BEEN DISCOUNTED FOR THE ANTICIPATED PREBORE LENGTHS ALONG EACH PILE.

ALL TIME, LABOR, AND MATERIALS REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED WITH THE ITEMIZED PAYMENT FOR ITEM 507 - PREBORED HOLES.

A TOTAL QUANTITY OF
(16 HOLES X 10.36 FEET PER HOLE = 165.76 FEET) +
(16 HOLES X 12.79 FEET PER HOLE = 204.64 FEET) = 371 FEET (TOTAL)

IS CARRIED IN THE BRIDGE SUMMARY FOR THIS ITEM.

DECK END DIAPHRAGM CONCRETE, PHASED CONSTRUCTION:

PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE. DO NOT PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM, BELOW THE APPROACH SLAB SEAT. PLACE THE CLOSURE POUR CONCRETE IN THE DIAPHRAGM, ABOVE THE APPROACH SLAB SEAT. PLACE THE DECK CLOSURE POURS, AS SHOWN IN THE PLAN, AFTER BOTH RESPECTIVE LEFT/RIGHT MAIN DECK POURS HAVE BEEN PLACED.

THE CONTRACTOR SHALL PROVIDE A CONCRETE PLACEMENT SUBMITTAL THAT WILL ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET. THIS SUBMITTAL SHALL BE SUPPLIED TO THE ENGINEER IN SUFFICIENT TIME FOR HIS REVIEW FOR APPROVAL.

**ITEM SPECIAL - 530 - STRUCTURE, MISC.: AESTHETIC TREATMENT
ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE
DECK (PARAPET), AS PER PLAN &
ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT
(INCLUDING FOOTING), AS PER PLAN**

THE SURFACE FINISH, WHERE DESIGNATED IN THE PLAN, SHALL BE ONE OF THE PATTERNS DESCRIBED BELOW IN THE ARCHITECTURAL SURFACE ELEVATION AND TABLE FROM AN APPROVED COMPANY MEETING THE DETAILS SHOWN ON THIS PAGE.

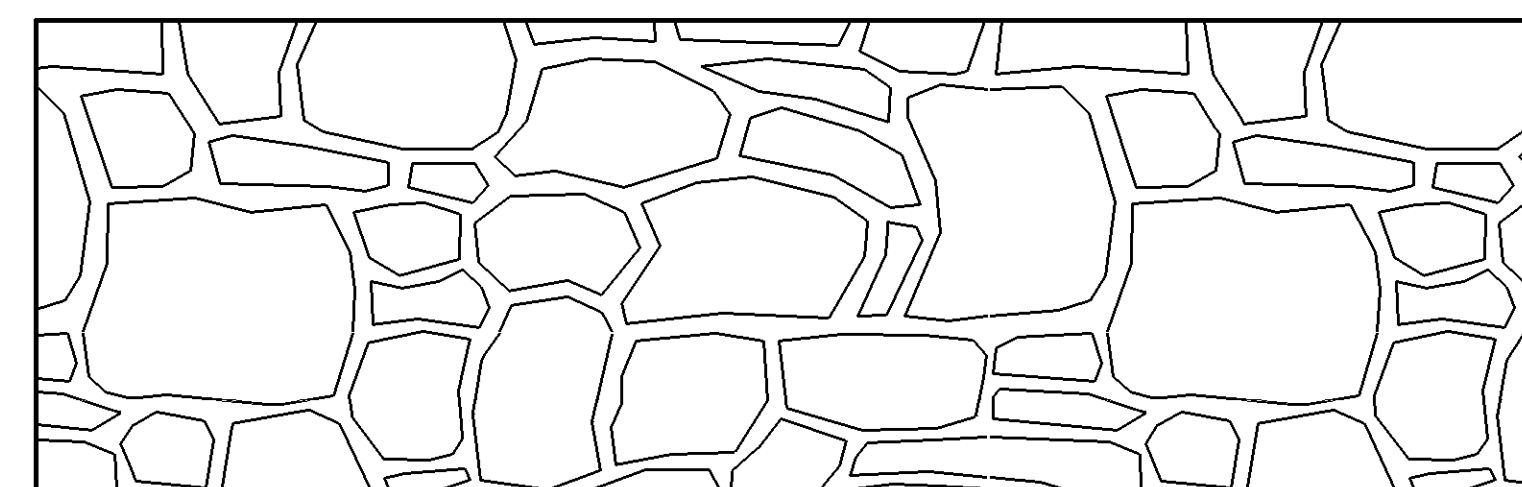
THE SURFACE TREATMENTS REFERENCED BELOW ARE INTENDED FOR PROCEDURE, TEXTURE, AND APPEARANCE REFERENCE. THE APPLICATION, AS SHOWN IN THE PLAN, IS TO BE FORMLINED VERTICAL IN THIS CASE.

STAINING OF THE PATTERNED CONCRETE SURFACES SHALL BE DONE PRIOR TO APPLICATION OF ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY). THE STAIN COLORED CONCRETE, USING LITHOCHROME TINTURA STAIN, SHALL BE COLOR 2626 LIGHT GRAY AS SHOWN IN CHARTS BY L.M. SCOFIELD COMPANY, DOUGLASVILLE, GEORGIA (800) 800-9900 OR APPROVED EQUAL. THE STAIN SHALL BE APPLIED BY AN EVEN AND CONTROLLED METHOD AS RECOMMENDED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER. THE CONTRACTOR WILL NOT ALLOW OVERSPRAY OR RUNS TO RUIN THE APPEARANCE OF THE ADJACENT CONCRETE, WHICH SHALL REMAIN UNSTAINED.

TWO FULL SCALE, DIFFERENTLY PATTERNED, STAINED AND SEALED, PRECONSTRUCTION TEST PANELS SHALL BE PROVIDED FOR APPROVAL BY THE DISTRICT 5 BRIDGE SECTION. IF THE TEST PANELS DO NOT MEET THE APPROVAL OF THE DISTRICT 5 BRIDGE SECTION, THE RESULTS MAY BE GROUNDS TO REJECT THE PROPOSED PANEL SURFACE CHOSEN. THE TEST PANELS WILL BE PROVIDED REPEATEDLY, AS NECESSARY, UNTIL APPROVAL IS GRANTED. FIVE FEET BY FIVE FEET TEST PANELS SHALL BE PROVIDED. THE MOCK-UPS SHALL HAVE THE SAME ARCHITECTURAL RELIEF, THICKNESS, PATTERN, AND COLOR/SEALANT INTENDED TO BE USED ON THE PROJECT. THE PANELS SHALL BE OF THE SAME CEMENT, AGGREGATE SOURCE, AND CONCRETE SEALANT THAT WILL BE USED TO CONSTRUCT THE PROJECT. AFTER APPROVAL THE CONCRETE TEST PANELS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

MEASUREMENT: ITEM 530 SPECIAL - STRUCTURE MISC.: AESTHETIC TREATMENT SHALL BE MEASURED IN SQ. YD.'S AND SHALL BE DEFINED BY THE AREAS THAT ARE DETAILED FOR THE APPROVED PATTERNED AREA.

ALL AESTHETIC TREATMENT INCLUDING THE SURFACE FINISH, STAIN, ADDITIONAL CONCRETE REQUIRED, HAND FORMWORK, TEST PANELS, AND ALL OTHER MATERIALS REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED WITH THE ITEMIZED PAYMENT FOR ITEM 530 SPECIAL - STRUCTURE MISC.: AESTHETIC TREATMENT. FOR ESTIMATING PURPOSES, THE ADDITIONAL REQUIRED CONCRETE TO PLACE THIS ITEM AS SHOWN IS 26 CU. YD. FOR THE PARAPETS, 3 CU. YD. FOR THE WINGWALLS, AND 19 CU. YD. FOR THE ROADWAY BARRIER SECTIONS DETAILED IN THIS PLAN. ALL WORK INCLUDING THE CORE CONCRETE AND OTHER MATERIALS REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED WITH THE ITEMIZED PAYMENT FOR ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN & ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT (INCLUDING FOOTING), AS PER PLAN.



ARCHITECTURAL SURFACE - ELEVATION

THE FOLLOWING SHALL BE USED:

COMPANY NAME:	FORMLINED SURFACE TREATMENT:	SPECIFICATIONS:
CUSTOM ROCK INTERNATIONAL	NEW ENGLAND DRYSTACK # 12003	MAX RELIEF 1 3/8" LINER THICKNESS 2 1/4" STONE SIZE 3" TO 24"
SPEC FORMLINERS, INC.	WASHINGTON DRYSTACK # 1581	MAX RELIEF 1 1/2" LINER THICKNESS 2 5/8" STONE SIZE 4" TO 24"
APPROVED EQUAL	APPROVED EQUAL	APPROVED EQUAL

**ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE
DECK, AS PER PLAN &
ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"),
AS PER PLAN**

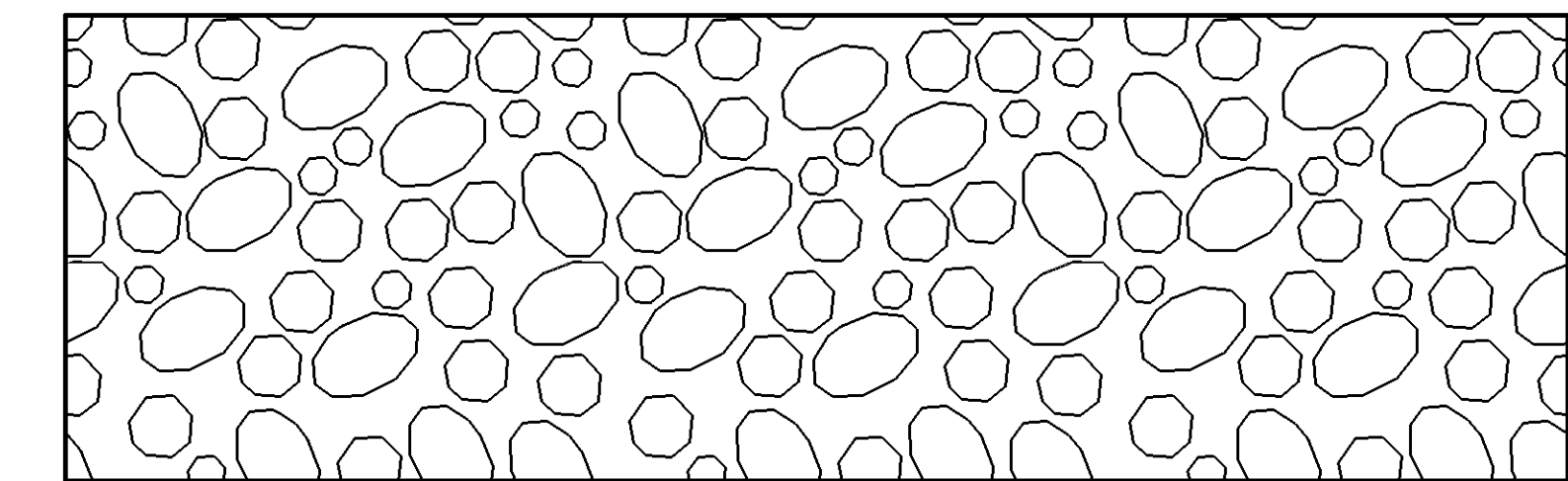
THE SURFACE FINISH, WHERE DESIGNATED IN THE PLAN, SHALL BE ONE OF THE PATTERNS DESCRIBED BELOW IN THE ARCHITECTURAL SURFACE ELEVATION AND TABLE FROM AN APPROVED COMPANY MEETING THE DETAILS SHOWN ON THIS PAGE.

THE SURFACE TREATMENTS REFERENCED BELOW ARE INTENDED FOR PROCEDURE, TEXTURE, AND APPEARANCE REFERENCE. THE APPLICATION, AS SHOWN IN THE PLAN, IS TO BE STAMPED CONCRETE FLATWORK IN THIS CASE.

STAINING OF THE PATTERNED CONCRETE SURFACES SHALL BE DONE PRIOR TO APPLICATION OF ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY). THE STAIN COLORED CONCRETE, USING LITHOCHROME TINTURA STAIN, SHALL BE COLOR 5050, SPANISH TILE, AS SHOWN IN CHARTS BY L.M. SCOFIELD COMPANY, DOUGLASVILLE, GEORGIA (800) 800-9900 OR APPROVED EQUAL. THE STAIN SHALL BE APPLIED BY AN EVEN AND CONTROLLED METHOD AS RECOMMENDED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER. THE CONTRACTOR WILL NOT ALLOW OVERSPRAY OR RUNS TO RUIN THE APPEARANCE OF THE ADJACENT CONCRETE, WHICH SHALL REMAIN UNSTAINED.

TWO FULL SCALE, DIFFERENTLY PATTERNED, STAINED AND SEALED, PRECONSTRUCTION TEST PANELS SHALL BE PROVIDED FOR APPROVAL BY THE DISTRICT 5 BRIDGE SECTION. IF THE TEST PANELS DO NOT MEET THE APPROVAL OF THE DISTRICT 5 BRIDGE SECTION, THE RESULTS MAY BE GROUNDS TO REJECT THE PROPOSED PANEL SURFACE CHOSEN. THE TEST PANELS WILL BE PROVIDED REPEATEDLY, AS NECESSARY, UNTIL APPROVAL IS GRANTED. FIVE FEET BY FIVE FEET TEST PANELS SHALL BE PROVIDED. THE MOCK-UPS SHALL HAVE THE SAME ARCHITECTURAL RELIEF, THICKNESS, PATTERN, AND COLOR/SEALANT INTENDED TO BE USED ON THE PROJECT. THE PANELS SHALL BE OF THE SAME CEMENT, AGGREGATE SOURCE, AND CONCRETE SEALANT THAT WILL BE USED TO CONSTRUCT THE PROJECT. AFTER APPROVAL THE CONCRETE TEST PANELS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

ALL AESTHETIC TREATMENT INCLUDING THE CONCRETE, SURFACE FINISH, STAIN, TEST PANELS, AND ALL OTHER MATERIALS REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED WITH THE ITEMIZED PAYMENT FOR ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN & ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN



ARCHITECTURAL SURFACE - ELEVATION

THE FOLLOWING SHALL BE USED:

COMPANY NAME:	STAMPED SURFACE TREATMENT:	SPECIFICATIONS:
BRICKFORM (A DIVISION OF SOLOMON COLORS, INC.)	EDINBURGH COBBLE # FM-520	MAX RELIEF 1/4" LINER THICKNESS N/A STONE SIZE 6" TO 6"
PARADISE MASONRY LLC	OLD COBBLESTONE # CS100	MAX RELIEF 1/4" LINER THICKNESS N/A STONE SIZE 5" TO 8 1/2"
APPROVED EQUAL	APPROVED EQUAL	APPROVED EQUAL

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DESIGN AGENCY
OHIO DEPARTMENT OF
TRANSPORTATION, DISTRICT 5

DATE
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JDR
STRUCTURE FILE NUMBER
4505646

DRAWN
JDR
REVISED

DESIGNED
TAG
CHECKED
NEW

BRIDGE NOTES
BRIDGE NO. LIC-310-0096
S.R. 310 OVER I.R. 70

LIC-310-0.74

5 / 62

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425

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PLAN SPLIT CODE		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GENERAL	SEE SHEET NUMBER
01/BRO/BR	06/NHS/OT/ETNA										
						ROADWAY					
		202	10000	54	CU YD	EXCAVATION **				54	
		204	10000	423	SQ YD	SUBGRADE COMPACTION **				423	
		204	45000	0.21	HOURL	PROOF ROLLING **				0.21	
						EROSION CONTROL					
		601	20000	1,001	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION **				1,001	
						PAVEMENT					
		304	20000	71	CU YD	AGGREGATE BASE **				71	
						STRUCTURE 20 FOOT SPAN AND OVER (BRIDGE NO. LIC-310-0096)					
591		202	11301	591	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, SUPERSTRUCTURE (CONCRETE)	591				3/62
125		202	11301	125	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, SUBSTRUCTURE		125			3/62
343		202	22900	343	SQ YD	APPROACH SLAB REMOVED				343	
2,103		202	23500	2,103	SQ YD	WEARING COURSE REMOVED				2,103	
613		202	38601	613	FT	BRIDGE RAILING REMOVED FOR STORAGE, AS PER PLAN	565	48			4/62
LUMP		202	98000	LUMP		REMOVAL MISC.: DETERIORATED END CROSSFRAMES	LUMP				4/62
40		202	98100	40	EACH	REMOVAL MISC.: BEARINGS		40			4/62
24		202	98100	24	EACH	REMOVAL MISC.: SCUPPERS WITH ATTACHMENTS	24				4/62
565		202	98200	565	FT	REMOVAL MISC.: STEEL BULB ANGLE GUTTER	565				4/62
115		202	98200	115	FT	REMOVAL MISC.: EXPANSION JOINT	115				4/62
LUMP		503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING					
LUMP		503	21300	LUMP		UNCLASSIFIED EXCAVATION					
LUMP		505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION					
5,620		507	00500	5,620	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	3,780	1,840			
6,095		507	00550	6,095	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	4,095	2,000			
371		507	92200	371	FT	PREBORED HOLES		371			
314,482		509	10000	314,482	POUND	EPOXY COATED REINFORCING STEEL	271,407	11,417	31,658		
220		510	10000	220	EACH	DOWELS HOLES WITH NONSHRINK, NONMETALLIC GROUT		220			
2		511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE		2			
1,021		511	34447	1,021	CU YD	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK, AS PER PLAN	1,021				5/62
86		511	34451	86	CU YD	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK (PARAPET), AS PER PLAN	86				5/62
63		511	41012	63	CU YD	CLASS QC1 CONCRETE WITH QC/OA, PIER ABOVE FOOTINGS			63		
193		511	43513	193	CU YD	CLASS QC1 CONCRETE WITH QC/OA, ABUTMENT INCLUDING FOOTING, AS PER PLAN		193			5/62
81		511	46512	81	CU YD	CLASS QC1 CONCRETE WITH QC/OA, FOOTING			81		
6.7		511	71100	6.7	CU YD	CONCRETE MISC: SPECIAL - DECK CLOSURE POUR USING ULTRA HIGH PERFORMANCE CONCRETE	6.7				SPEC. PROV.
2,533		512	10050	2,533	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)	1,148	161	792	432	
154		512	33000	154	SQ YD	TYPE 2 WATERPROOFING		154			
20,676		513	10201	20,676	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	20,676				3/62
246,553		513	10240	246,553	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 2	246,553				
9,540		513	20000	9,540	EACH	WELDED STUD SHEAR CONNECTORS	9,540				
24,469		514	00050	24,469	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	24,469				
24,469		514	00056	24,469	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	24,469				
37,477		514	00060	37,477	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	37,477				
37,477		514	00066	37,477	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	37,477				
37		514	00504	37	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	37				
36		514	10000	36	EACH	FINAL INSPECTION REPAIR	36				
17		516	13201	17	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	17				4/62
116		516	13901	116	SQ FT	2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN		95		21	4/62
233		516	14020	233	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL		233			
194		516	14600	194	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: JEENE SEAL WITH SLEEPER SLAB				194	60/62 - 62/62

DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
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DESIGNED	TAG
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LIC-310-0.74	
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PLAN SPLIT CODE		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	** - QUANTITY CARRIED IN LOCATION 1B SUMMARY	SUPER.	ABUT.	PIER	GENERAL	SEE SHEET NUMBER
01/BRO/BR	06/NHS/OT/ETNA											
24		516	44300	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-4" x 1'-1" x 4.1479")		24				
24		516	44300	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-6" x 1'-3" x 4.1479")		24				
12		516	46900	12	EACH	BEARING DEVICE, MISC.: FIXED BEARING		12				4/62
LUMP		516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN		LUMP				4/62
16		518	12201	16	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN		16				37/62
176		518	21200	176	CU YD	POROUS BACKFILL WITH FILTER FABRIC			176			
255		518	40000	255	FT	6" PERFORATED CORRUGATED PLASTIC PIPE			255			
24		518	40010	24	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS			24			
2		523	20000	2	EACH	DYNAMIC LOAD TESTING			1	1		
544		526	25011	544	SQ YD	REINFORCED CONCRETE APPROACH SLABS WITH QC/OA (T=15"), AS PER PLAN					544	3/62
	721	SPECIAL	530E00800	721	SQ YD	STRUCTURE, MISC.: AESTHETIC TREATMENT		418	22		281	5/62
97	547	SPECIAL	607E40000	644	FT	VANDAL PROTECTION FENCE (DECORATIVE)		644				5/62 - 57/62

BRIDGE SUMMARY
 BRIDGE NO. LIC-310-0096
 S.R. 310 OVER I.R. 70

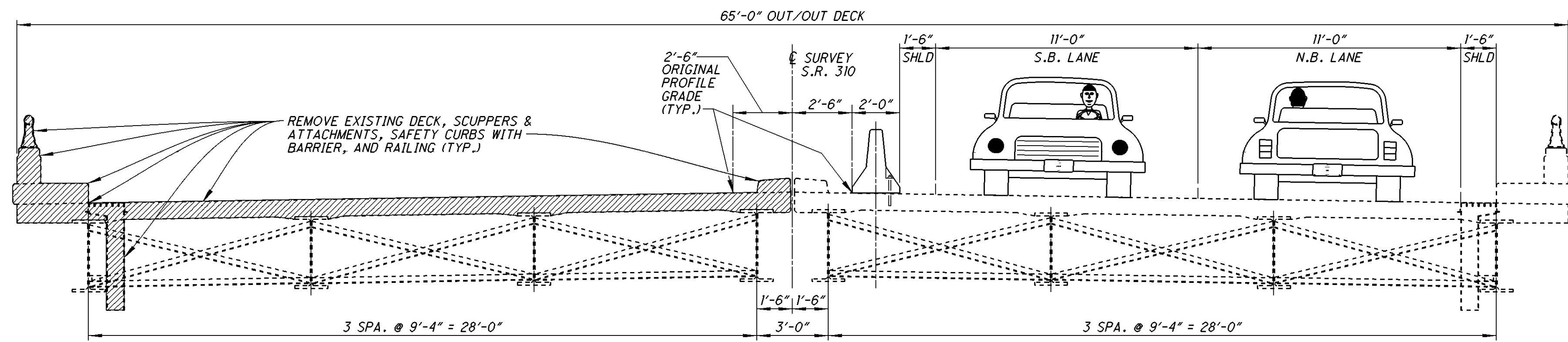
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TAG	9-24-2015	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
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NEW	JDR	4505646
	REVISED	
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	REVISED	

LIC-310-0.74

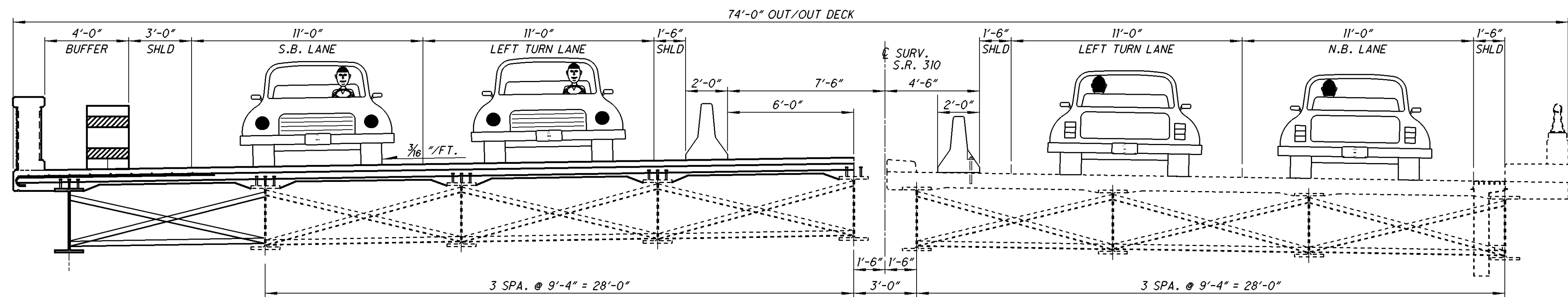
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356
425

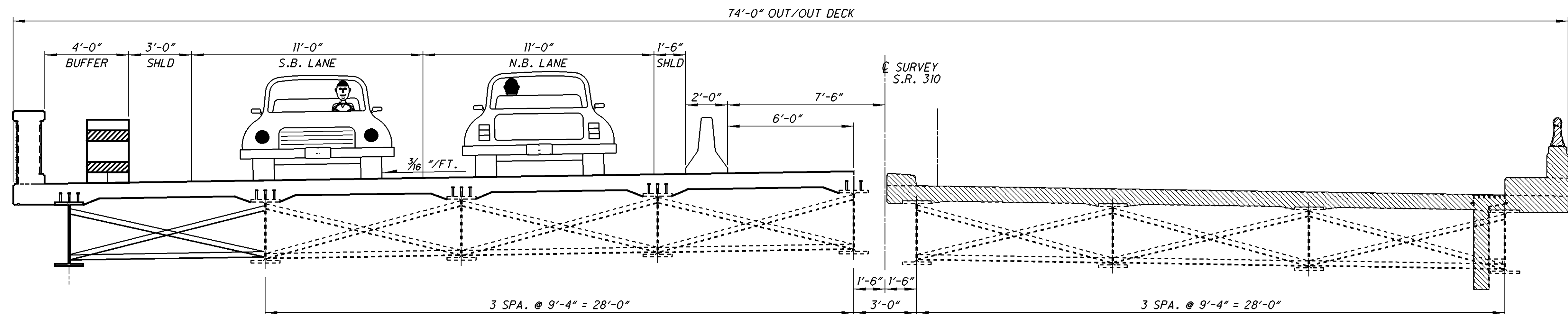
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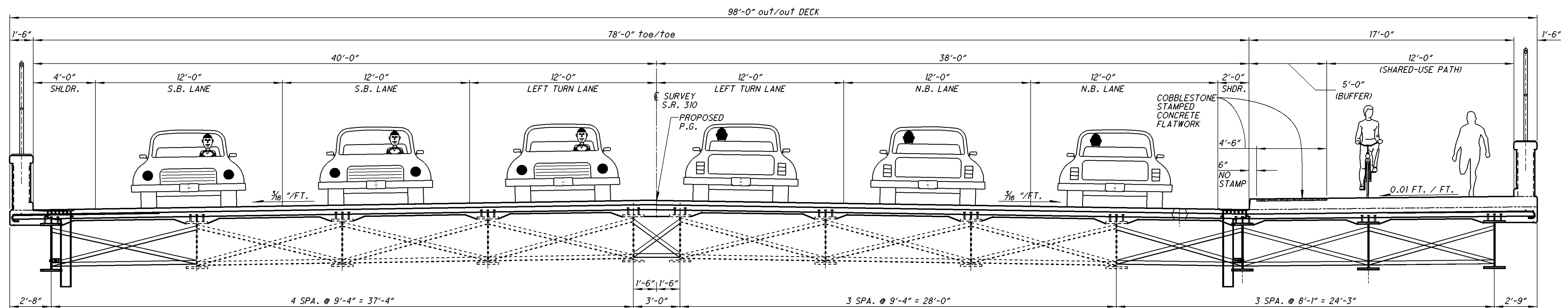
PHASE 1 (2 LANES OF TRAFFIC MAINTAINED)



PHASE 2 (WINTER - NO WORK - EXISTING TRAFFIC MAINTAINED)



PHASE 3 (2 LANES OF TRAFFIC MAINTAINED)



PROPOSED TRANSVERSE SECTION (16 LANES TRAFFIC WITH SHARED-USE PATH)

REMOVALS

DESIGN AGENCY
OHIO DEPARTMENT OF
TRANSPORTATION, DISTRICT 5

DATE
9-24-2015

REVIEWED
JDR

STRUCTURE FILE NUMBER
4505646

DRAWN
JDR

CHECKED
NEW

DESIGNED
TAG

MAINTENANCE OF TRAFFIC PHASES
BRIDGE NO. LIC-310-0096
S.R. 310 OVER I.R. 70

LIC-310-0.74

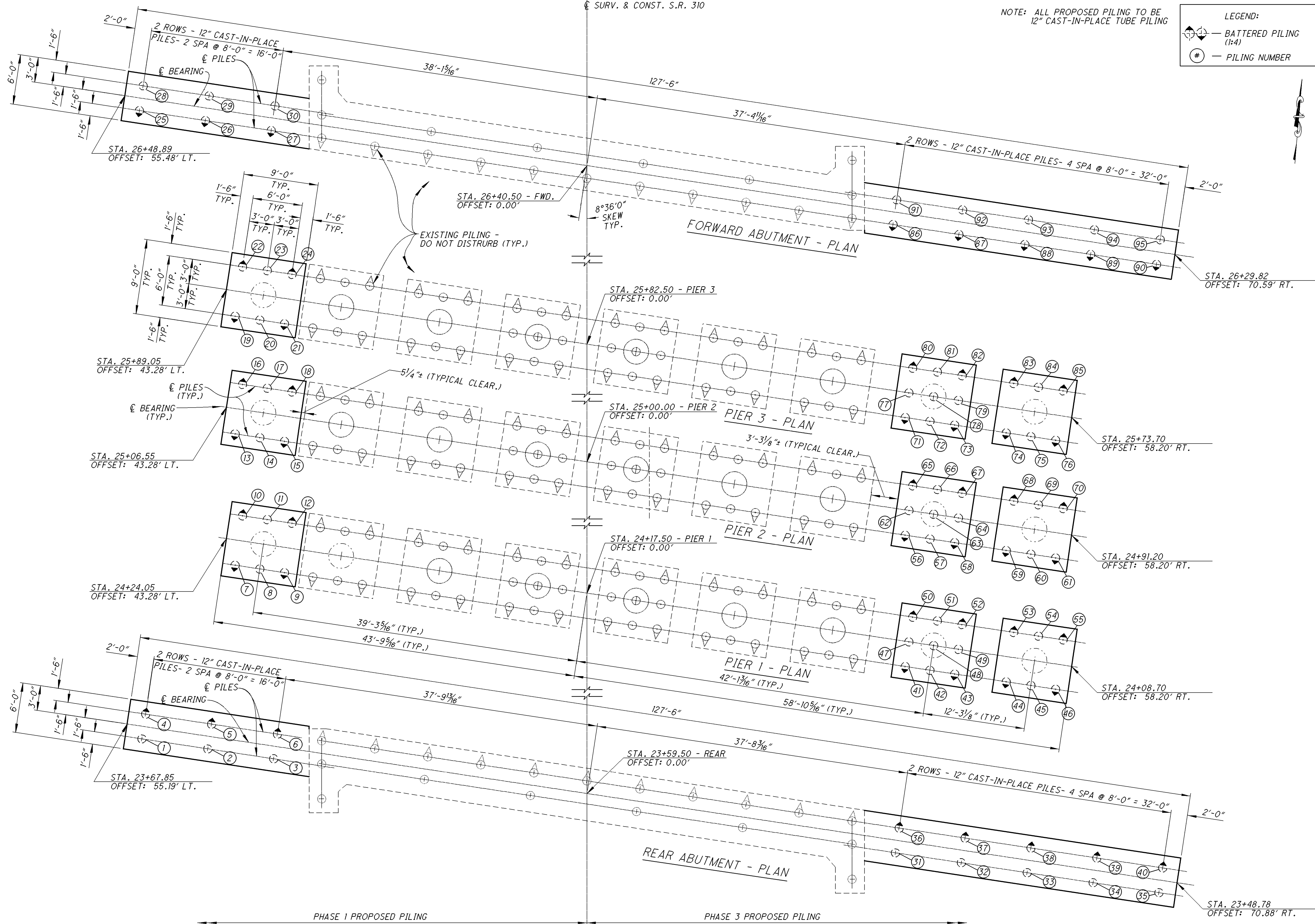
8 / 62

357
425

NOTE: ALL PROPOSED PILING TO BE 12" CAST-IN-PLACE TUBE PILING

LEGEND:

- BATTERED PILING (1:4)
- PILING NUMBER



P:\LIC\87935\Design\bridge\4505646 - LIC-310-0096\Plan Sheets\General\87935_BPL_001.dgn (SCALE = 5.000)

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DATE: 9-24-2015

REVIEWED: JDR

DRAWN: JDR

DESIGNED: TAG

CHECKED: NEM

STRUCTURE FILE NUMBER: 4505646

PILING LAYOUT

BRIDGE NO. LIC-310-0096

S.R. 310 OVER I.R. 70

LIC-310-0.74

9 / 62

358

425

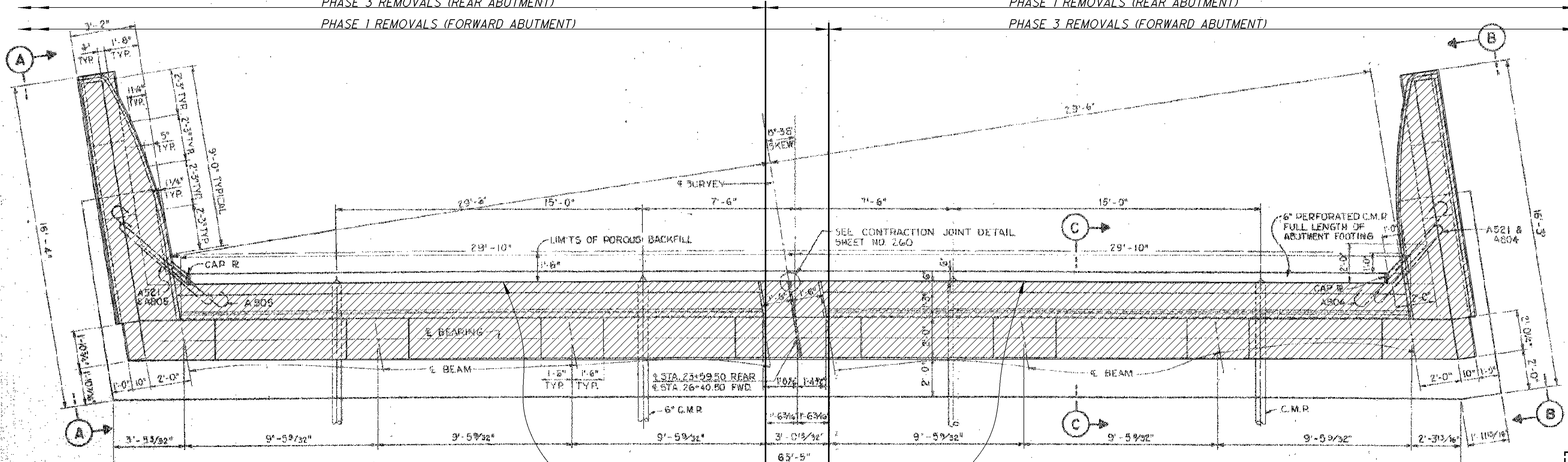
NOTE: THIS SHEET SHOWS ORIGINAL DETAILS OF THE STRUCTURE.

= WORK TO BE DONE BY THIS PROJECT

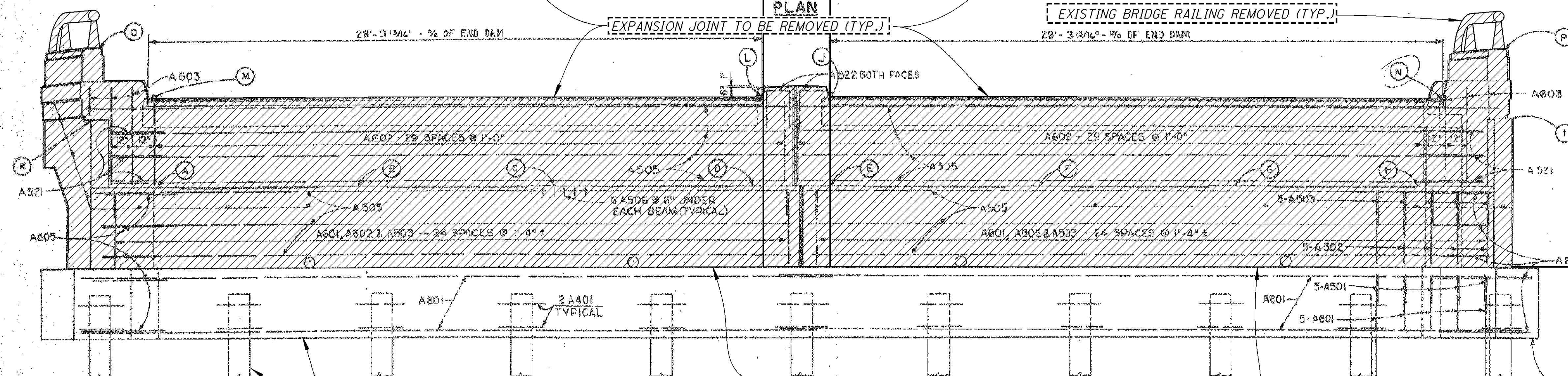
SEE FOLLOWING SHEET FOR SECTIONS A-A, B-B, & C-C

PHASE 3 REMOVALS (REAR ABUTMENT)
PHASE 1 REMOVALS (FORWARD ABUTMENT)

PHASE 1 REMOVALS (REAR ABUTMENT)
PHASE 3 REMOVALS (FORWARD ABUTMENT)



PLAN



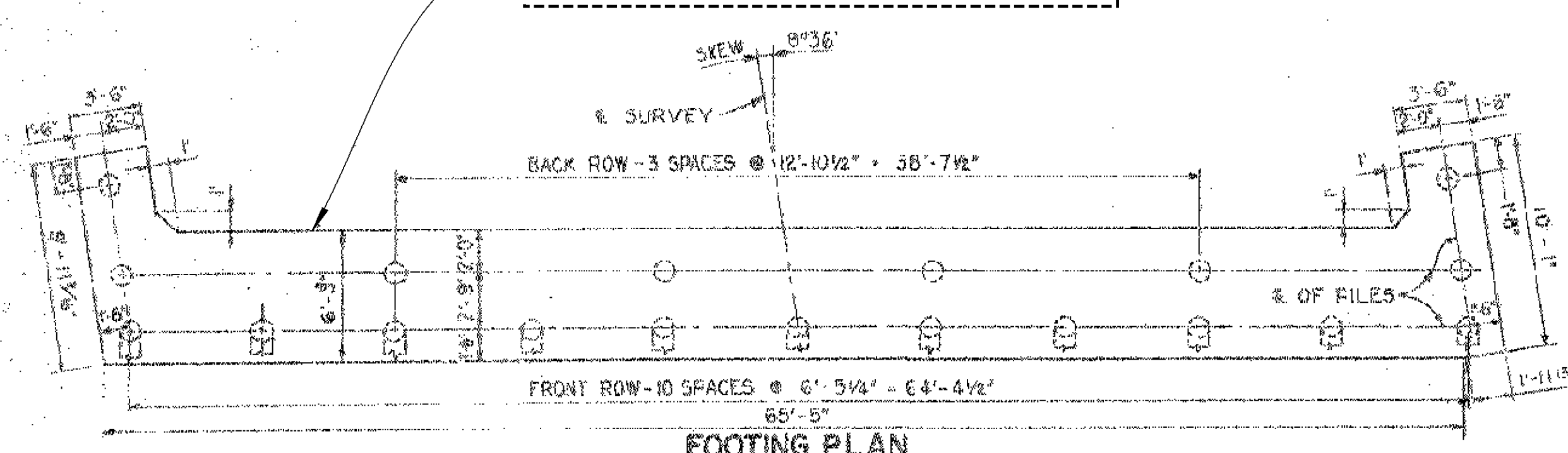
ELEVATION

* NOTE: AFTER REMOVALS HAVE BEEN MADE TOP PORTIONS OF FOOTINGS TO REMAIN SHALL BE SCARIFIED 1/4"

- ITEM 202 REMOVALS

EXISTING SURVEYED ELEVATIONS:
REAR ABUT. EL. = 1084.36
FWD. ABUT. EL. = 1083.79

REMOVAL LINE *
(TOP OF FRONT OF FOOTING - TYPICAL)
ALL VERTICAL RE-STEEL ENCOUNTERED TO BE MECHANICALLY CUT AT THE REMOVAL LINE



FOOTING PLAN

ORIGINAL PLAN ELEVATIONS (FOR ESTIMATING PURPOSES ONLY)

LOCATION	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
FORWARD ABUTMENT	1088.72	1088.38	1089.04	1089.19	1089.20	1089.92	1088.97	1089.79	1091.92	1093.27	1091.86	1089.23	1092.76	1092.83	1095.15	1095.27	1081.29
REAR ABUTMENT	1089.30	1089.45	1089.61	1089.76	1089.75	1089.82	1089.48	1083.34	1092.48	1093.80	1092.45	1093.80	1093.34	1093.37	1095.78	1092.81	1082.2

NOTES

FOR VIEWS A-A, B-B AND SECTION C-C, SEE SHEET NO 260
ALL REINFORCING STEEL SHALL BE 2" CLEAR EXCEPT WHERE OTHERWISE SHOWN.
ALL PILING SHALL BE 12" CAST-IN-PLACE CONCRETE.

GODSON, KINNEY & LINDBLOM
CONSULTING ENGINEERS
COLUMBUS, OHIO

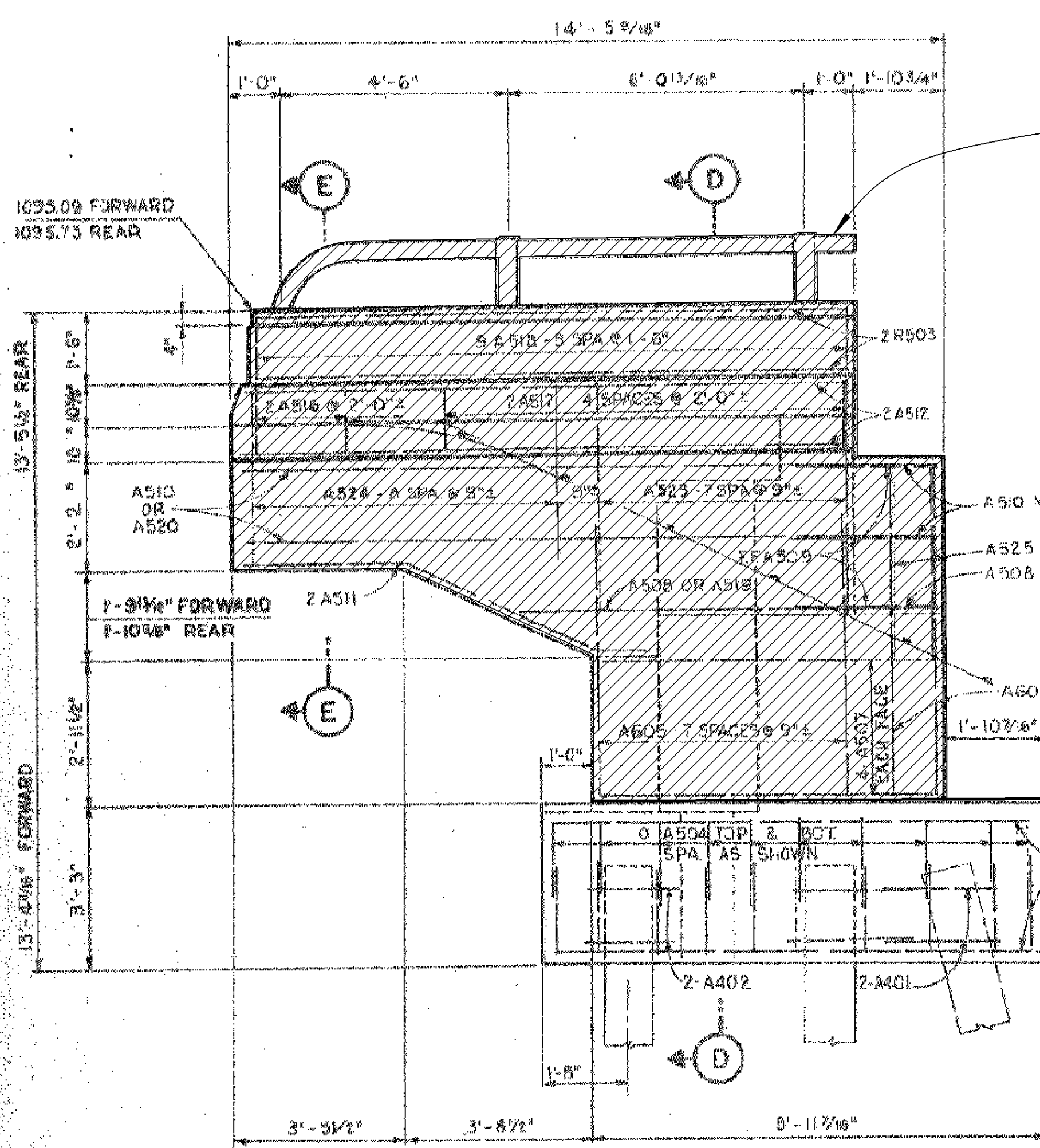
ABUTMENT DETAILS
BRIDGE NO. LIC-70-0484
PROPOSED LR 70 UNDER
STATE ROAD 310

LICKING COUNTY
DESIGNED: T.E.W.M. CHECKED: W.S. CONSTRUCTION: M.B.M. DATE: 9/24/2015
PROPOSED LR 70
STL. AREA: 484

W.S. C.J.L. C.C.L. W.B. C.T.L.

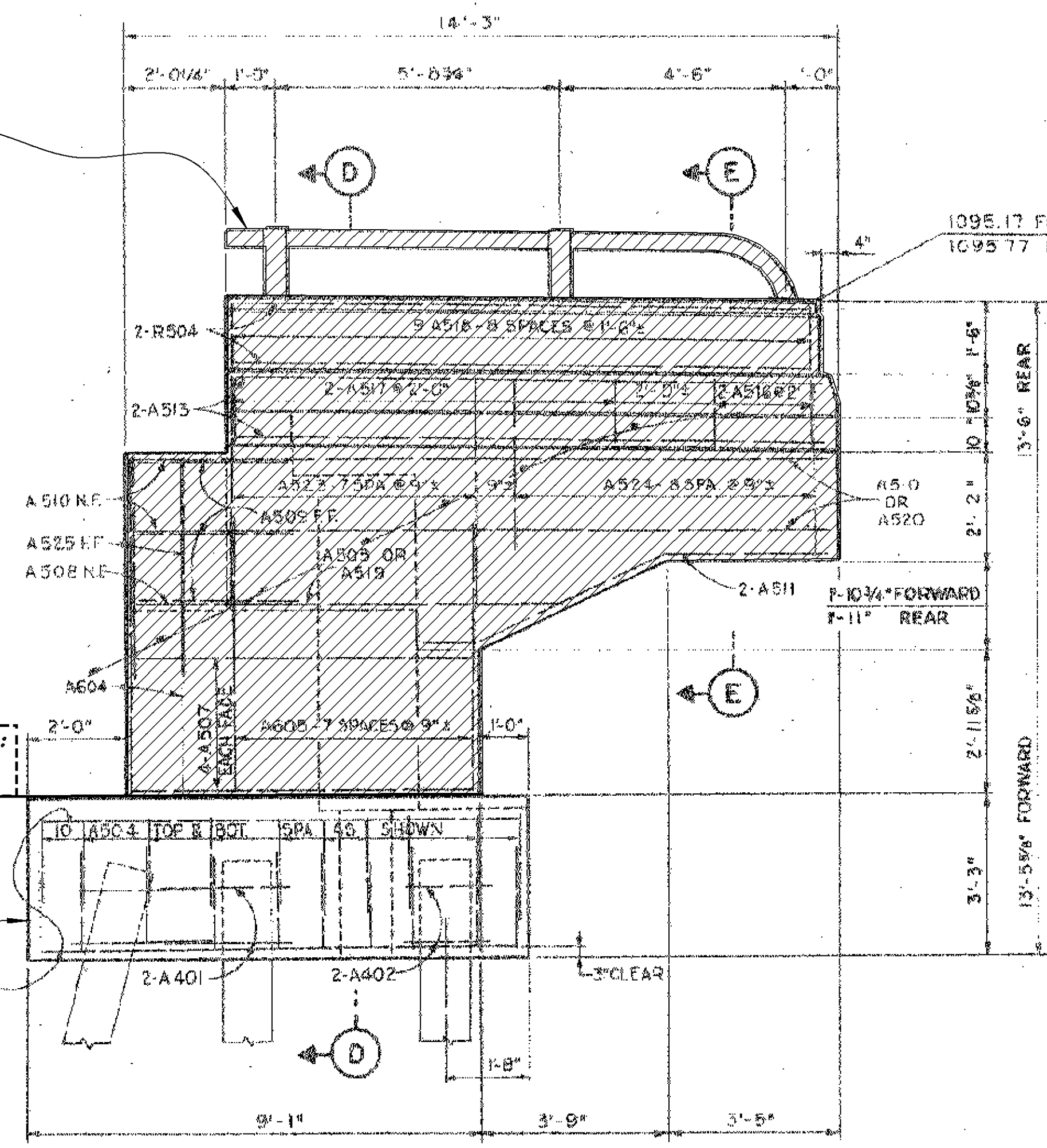
NOTE: THIS SHEET SHOWS ORIGINAL DETAILS OF THE STRUCTURE.

***** = WORK TO BE DONE BY THIS PROJECT



VIEW A-A

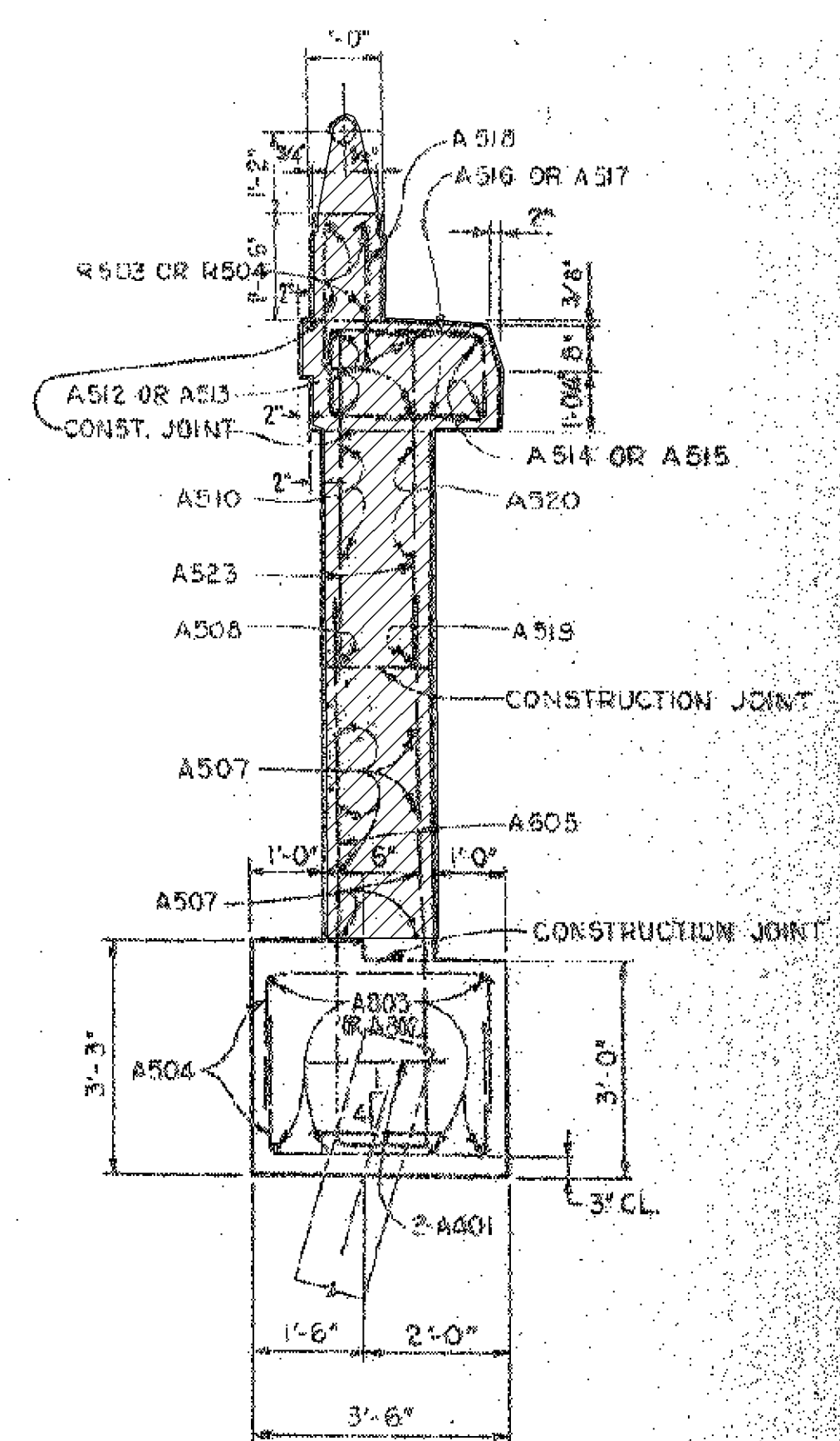
EXISTING BRIDGE RAILING REMOVED (TYP.)



VIEW B-B

EXISTING SURVEYED ELEVATIONS:
REAR ABUT. EL. = 1084.36
FWD. ABUT. EL. = 1083.79

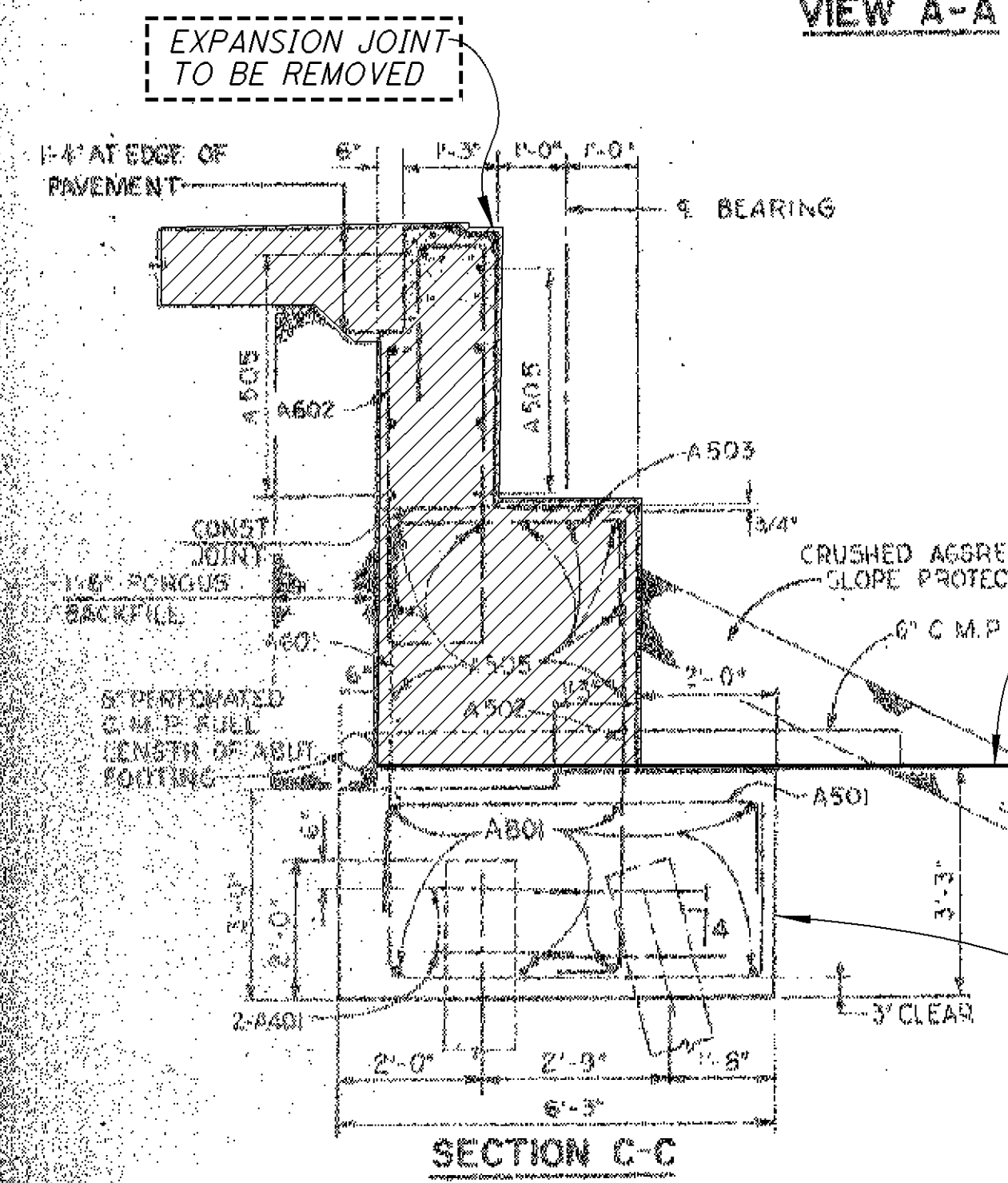
ENTIRE EXISTING FOOTING AND ALL EXISTING PILING TO SALVAGED IN PLACE (TYP.)



SECTION D-D

* NOTE:
AFTER REMOVALS HAVE BEEN MADE,
TOP PORTIONS OF FOOTINGS TO
REMAIN SHALL BE SCARIFIED 1/4\"

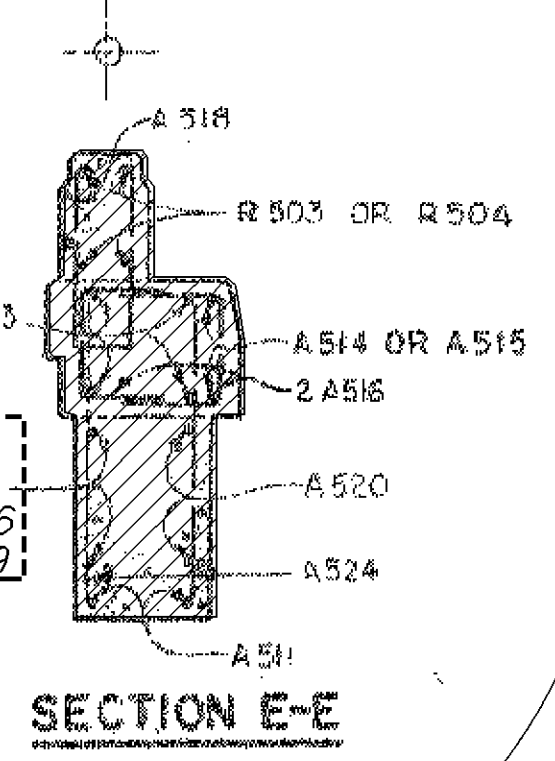
ITEM 202 REMOVALS



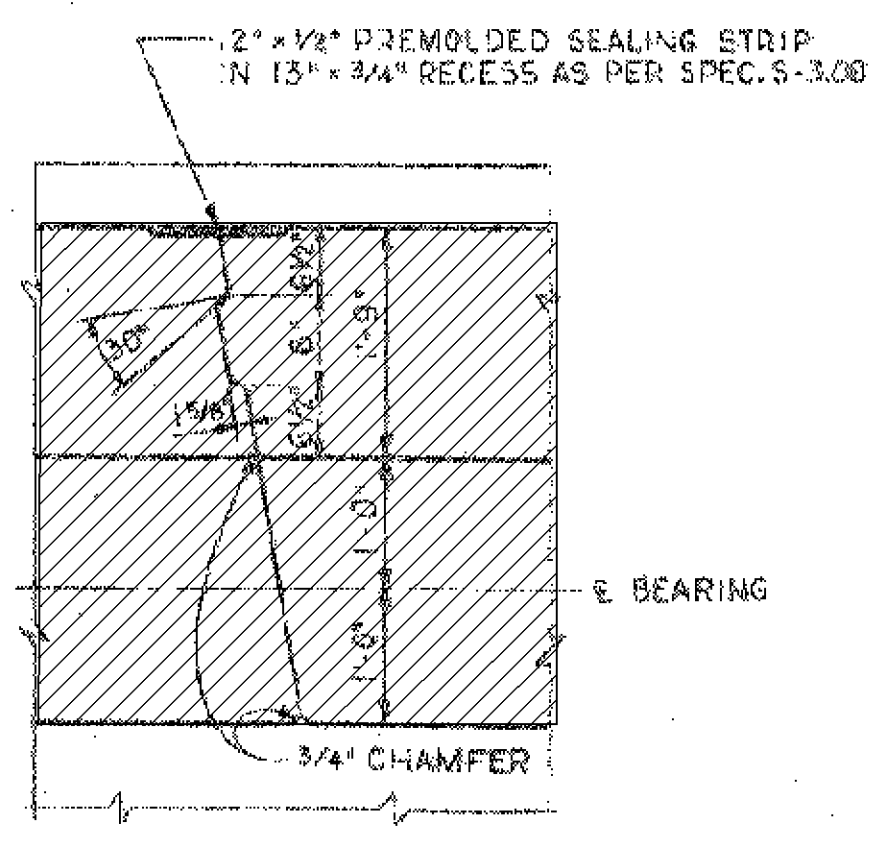
SECTION C-C

REMOVAL LINE *
(TOP OF FRONT OF FOOTING - TYPICAL)
ALL VERTICAL RE-STEEL ENCOUNTERED
TO BE MECHANICALLY CUT AT THE REMOVAL LINE

EXISTING SURVEYED
ELEVATIONS:
REAR ABUT. EL. = 1084.36
FWD. ABUT. EL. = 1083.79



SECTION E-E



CONTRACTION JOINT DETAIL

NOTES

- 1) ALL REINFORCING STEEL SHALL BE 2" CLEAR EXCEPT WHERE OTHERWISE SHOWN.
- 2) PROCEDURE: THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL-WAY SLOPE AND TO THE LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS FOR A PERIOD OF 60 DAYS BEFORE CONSTRUCTION IS STARTED ON THE ABUTMENTS.
- 3) EXCAVATION QUANTITY INCLUDES THE REMOVAL OF FILL MATERIAL REQUIRED FOR CONSTRUCTION OF THE ABUTMENTS.
- 4) CONCRETE SHALL BE CLASS "C"

DODSON, KINNEY & LINDBLOM
CONSULTING ENGINEERS
COLUMBUS, OHIO

ABUTMENT DETAILS
BRIDGE NO. LIC-70-0484
PROPOSED I.R. 70 UNDER
STATE ROUTE 310

LICKING COUNTY

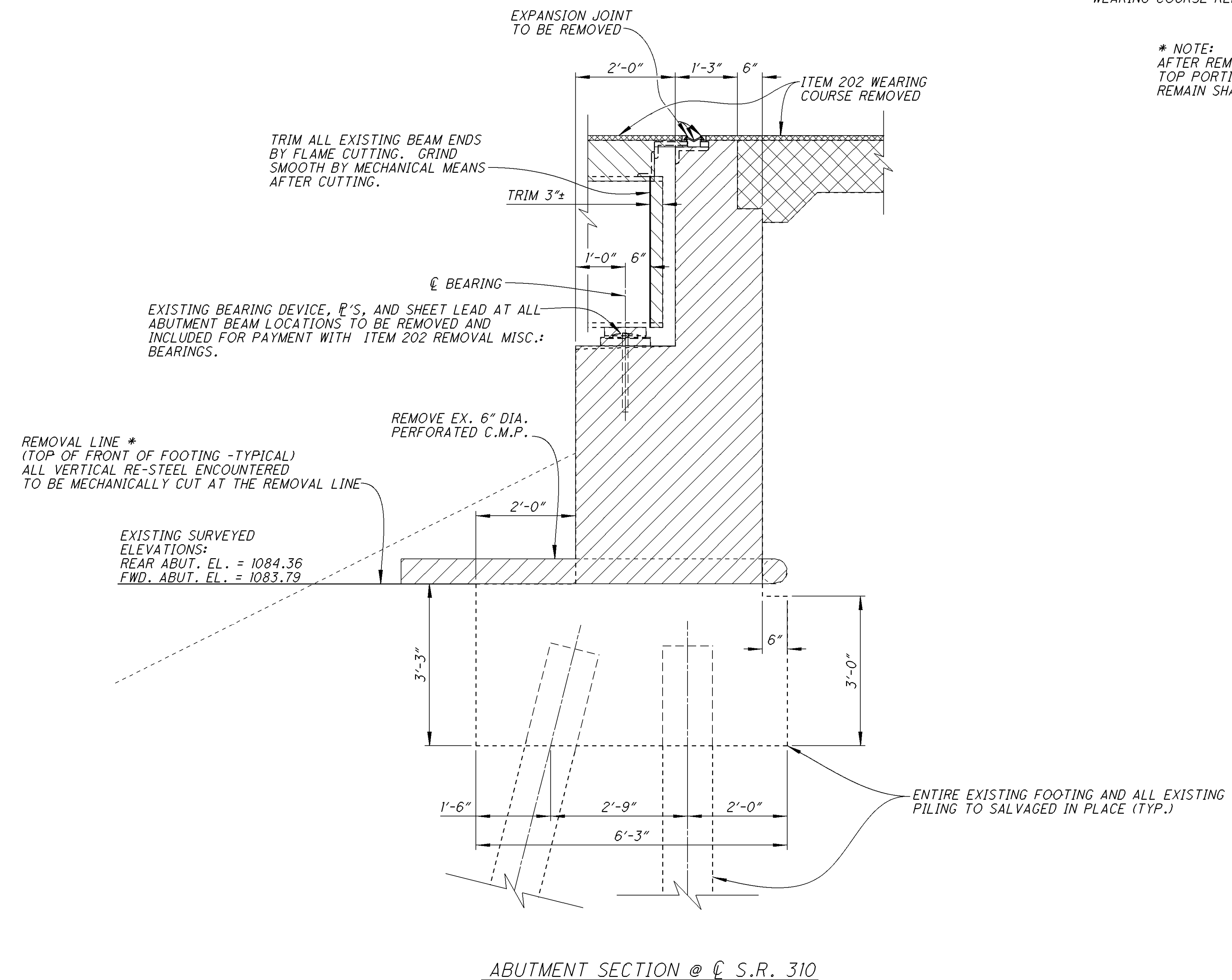
DESIGNED	DRAWN	CHECKED	IN CHARGE	DATE
W.G.	C.J.L.	C.J.L.	W.B.	C.T.L.

PROPOSED BY: STA. 484+00.00

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- SUBSTRUCTURE REMOVALS -
- SUPERSTRUCTURE REMOVALS -
- APPROACH SLAB REMOVALS -
- WEARING COURSE REMOVED -

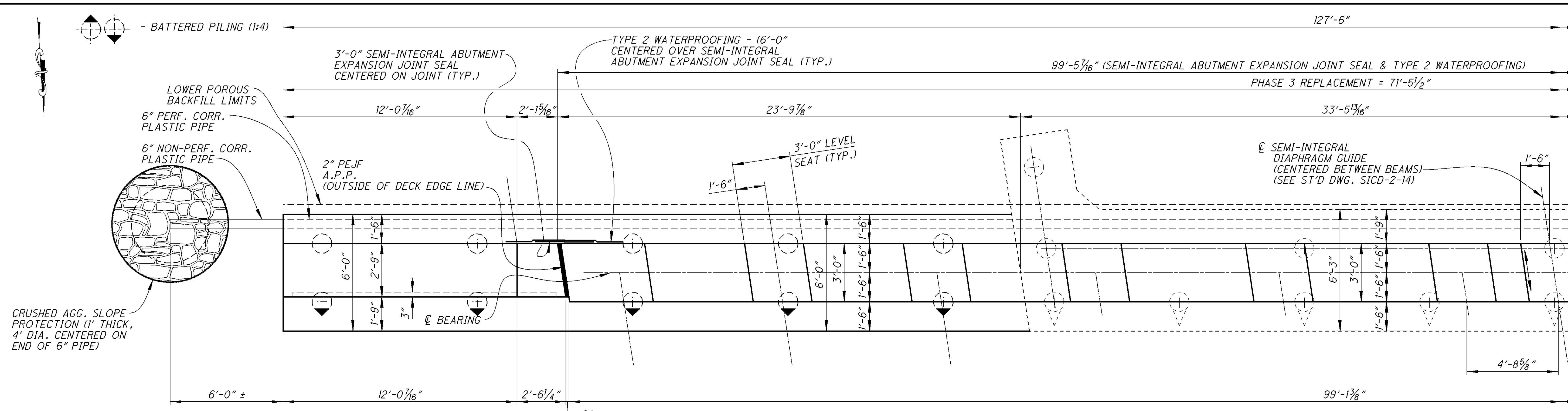
* NOTE:
AFTER REMOVALS HAVE BEEN MADE,
TOP PORTIONS OF FOOTINGS TO
REMAIN SHALL BE SCARIFIED 1/4".



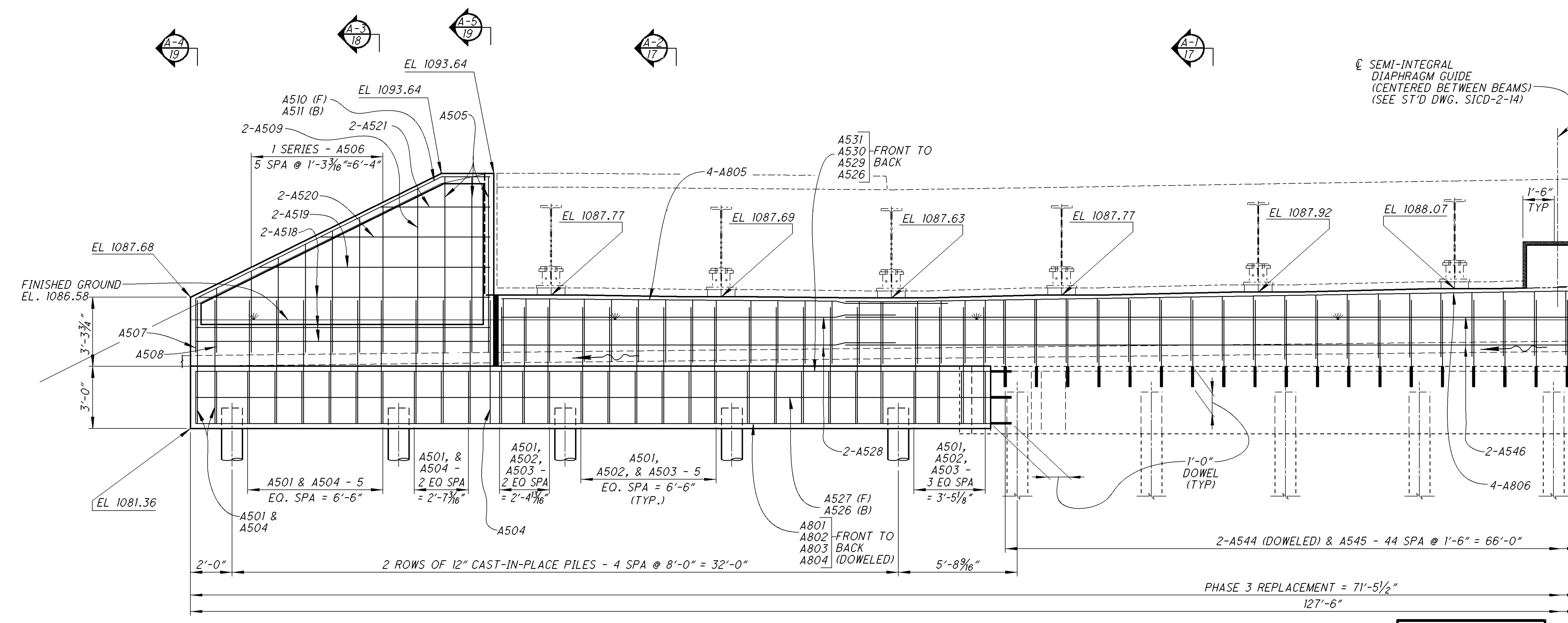
DATE	9-24-2015
REVIEWED	JDR
STRUCTURE FILE NUMBER	4505646
DRAWN	JDR
CHECKED	NEW
DESIGNED	TAG

EXISTING ABUTMENT DETAILS
BRIDGE NO. LIC-310-0096
S.R. 310 OVER I.R. 70

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PLAN



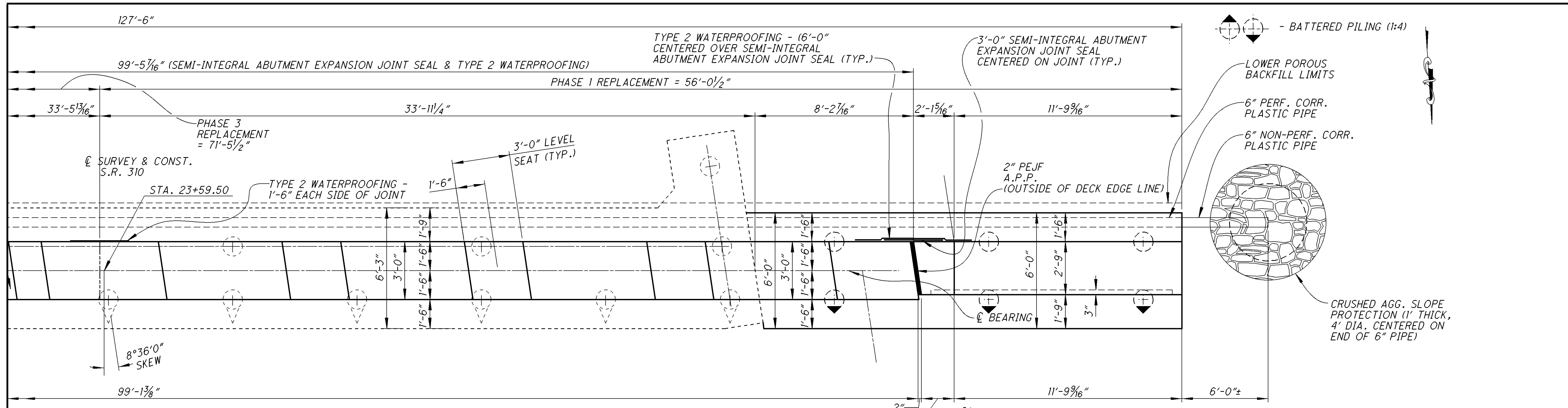
REAR ELEVATION (RIGHT)

LEGEND:
 (F) = FRONT SIDE
 (B) = BACK SIDE
 ** - SEE SHEET 9/62 FOR PILING LAYOUT AND NUMBERING

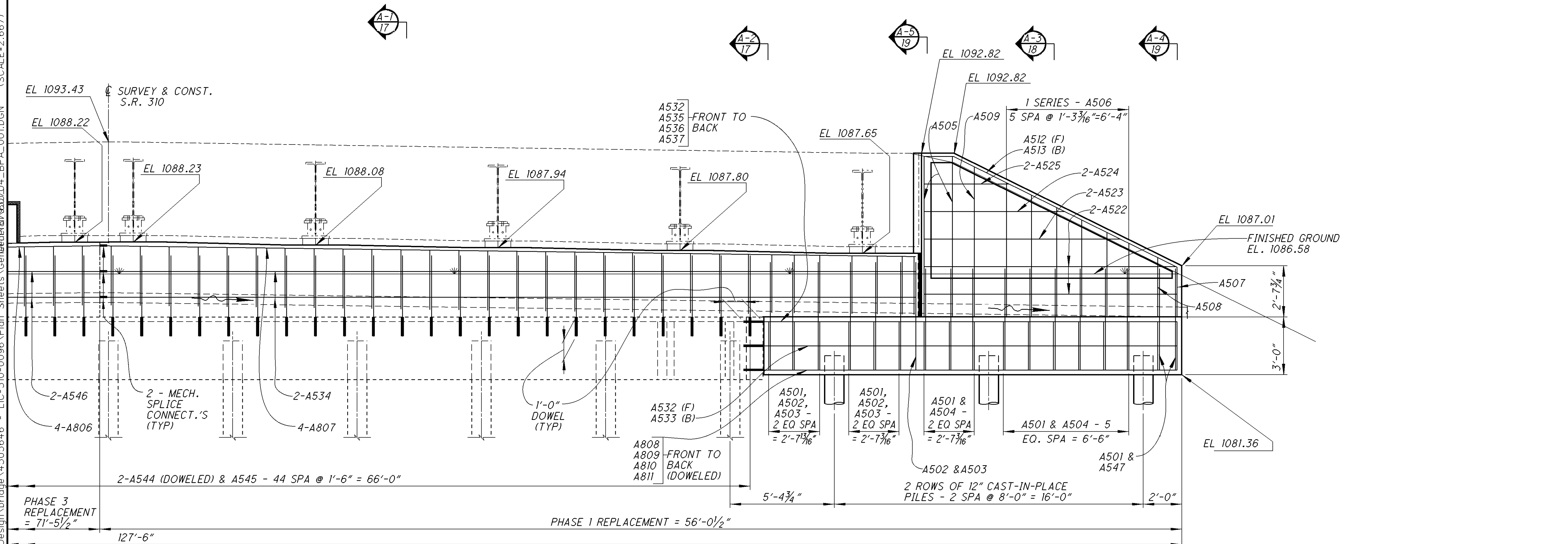
NO. 5 BAR LAP = 2'-5"
 NO. 8 BAR LAP = 4'-11"

DESIGNED TAG	CHECKED NEW	DRAWN JDR	REVIEWED JDR	DATE 9-24-2015	STRUCTURE FILE NUMBER 4505646	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
LIC-310-0.74						PROPOSED ABUTMENT DETAILS (REAR) BRIDGE NO. LIC-310-0096 S.R. 310 OVER I.R. 70
13 / 62						362 / 425

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PLAN



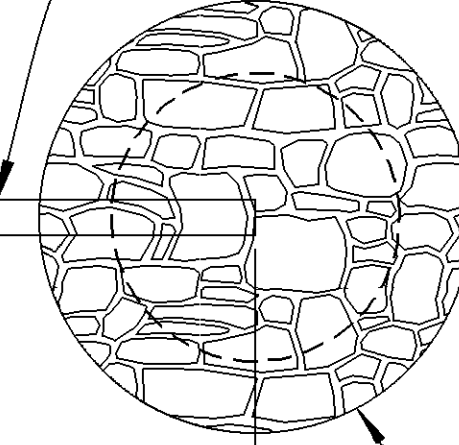
REAR ELEVATION (LEFT)

⊕ - BATTERED PILING (1:4)

LOWER POROUS BACKFILL LIMITS

6" PERF. CORR. PLASTIC PIPE

6" NON-PERF. CORR. PLASTIC PIPE



CRUSHED AGG. SLOPE PROTECTION (1' THICK, 4' DIA. CENTERED ON END OF 6" PIPE)

NO. 5 BAR LAP = 2'-5"
NO. 8 BAR LAP = 4'-11"

LEGEND:
(F) = FRONT SIDE
(B) = BACK SIDE

** - SEE SHEET 9/62 FOR PILING LAYOUT AND NUMBERING

DESIGN AGENCY
OHIO DEPARTMENT OF
TRANSPORTATION, DISTRICT 5

DATE
9-24-2015

REVIEWED
JDR

DESIGNED
TAG

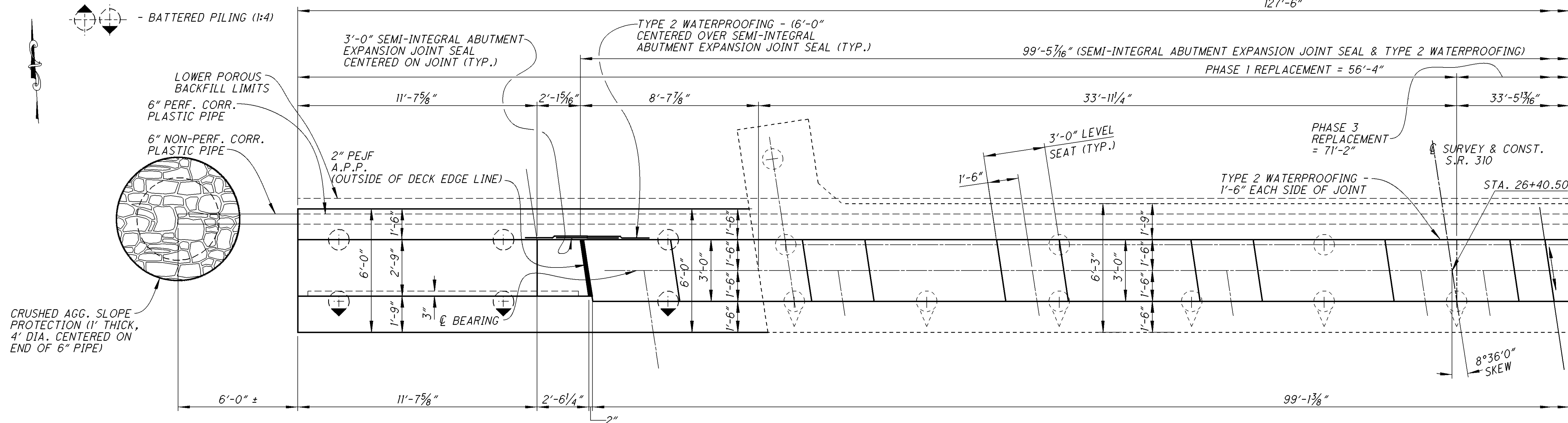
CHECKED
NEW

PROPOSED ABUTMENT DETAILS (REAR)
BRIDGE NO. LIC-310-0096
S.R. 310 OVER I.R. 70

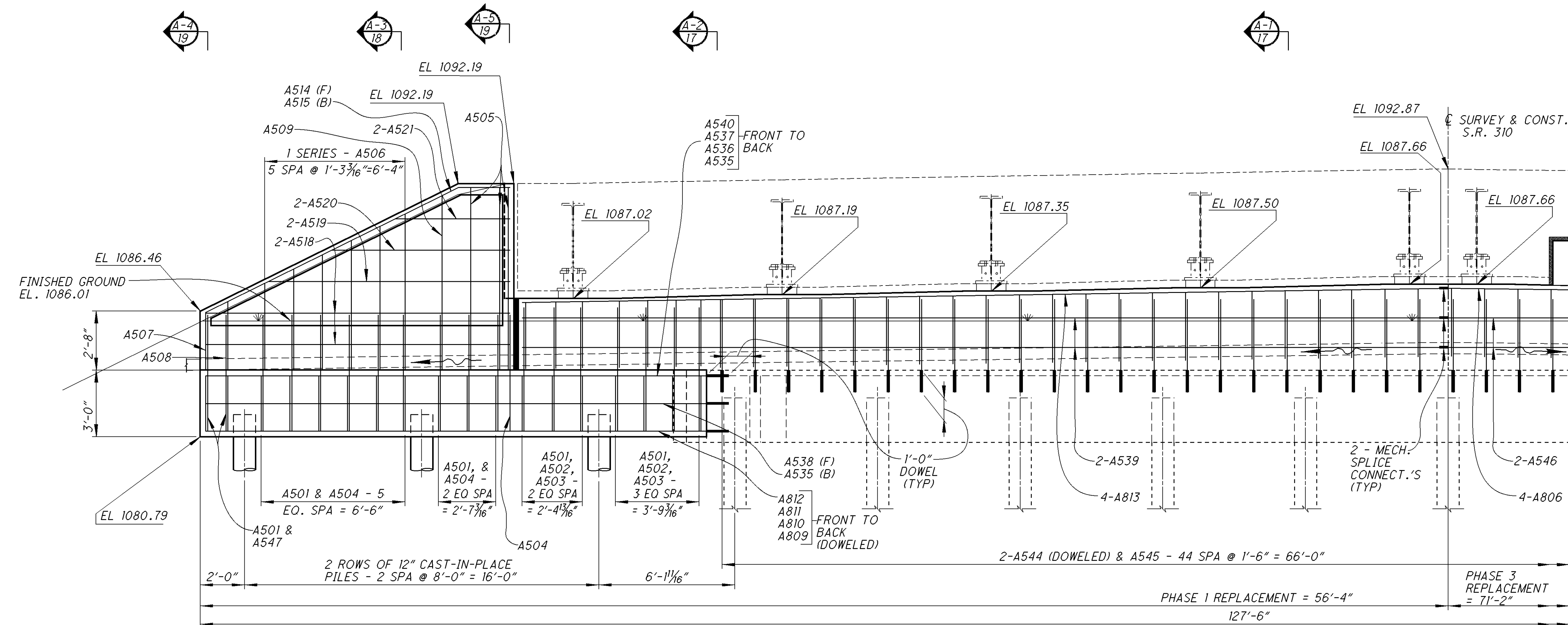
LIC-310-0.74

14 / 62

363
425



PLAN



FORWARD ELEVATION
(LEFT)

LEGEND:
(F) = FRONT SIDE
(B) = BACK SIDE

NO. 5 BAR LAP = 2'-5"
NO. 8 BAR LAP = 4'-11"
** - SEE SHEET 9/62 FOR PILING LAYOUT AND NUMBERING

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DESIGNED	TAG	CHECKED	NEW
DRAWN	JDR	REVISED	
REVIEWED	JDR	STRUCTURE FILE NUMBER	4505646
DATE	9-24-2015		

OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

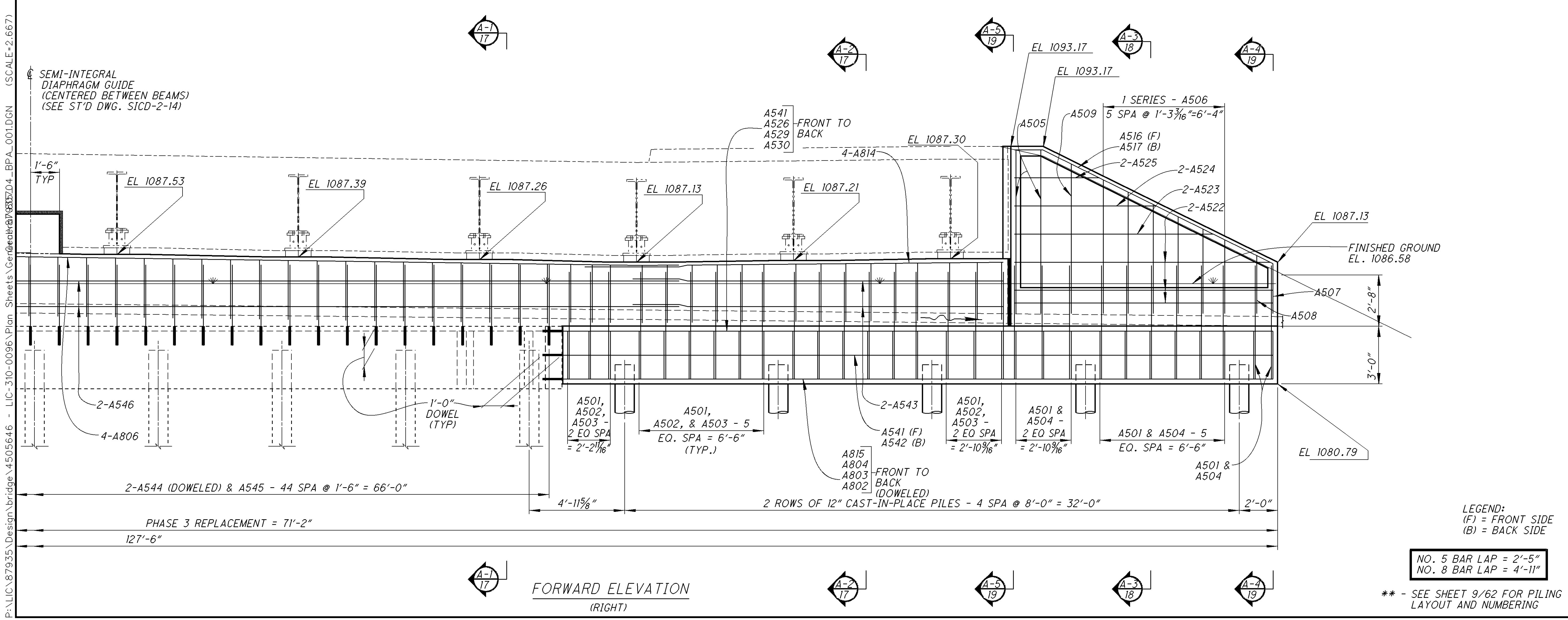
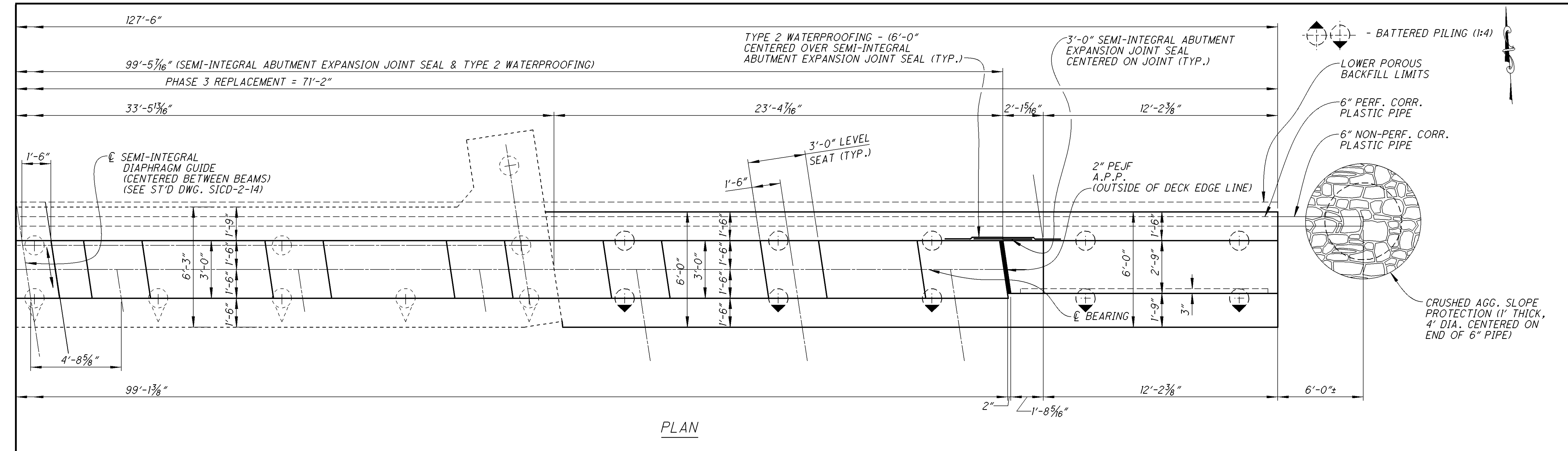
PROPOSED ABUTMENT DETAILS (FORWARD)
BRIDGE NO. LIC-310-0096
S.R. 310 OVER I.R. 70

LIC-310-0.74

15 / 62

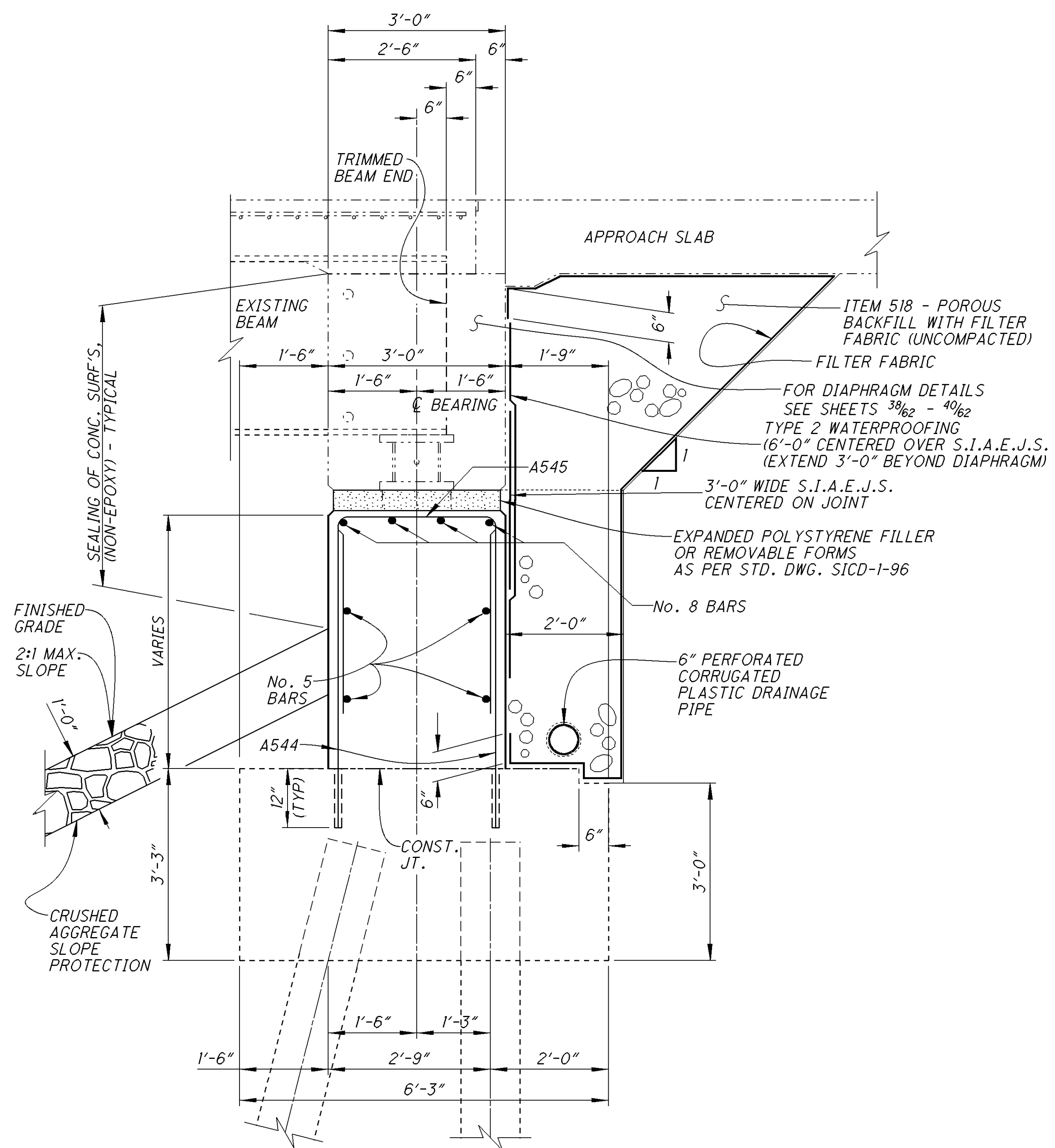
364 / 425

P:\LIC\87935\Design\bridge\4505646 - LIC-310-0096 - Plan Sheets\Gen\BPA_001.DGN (SCALE=2.667)

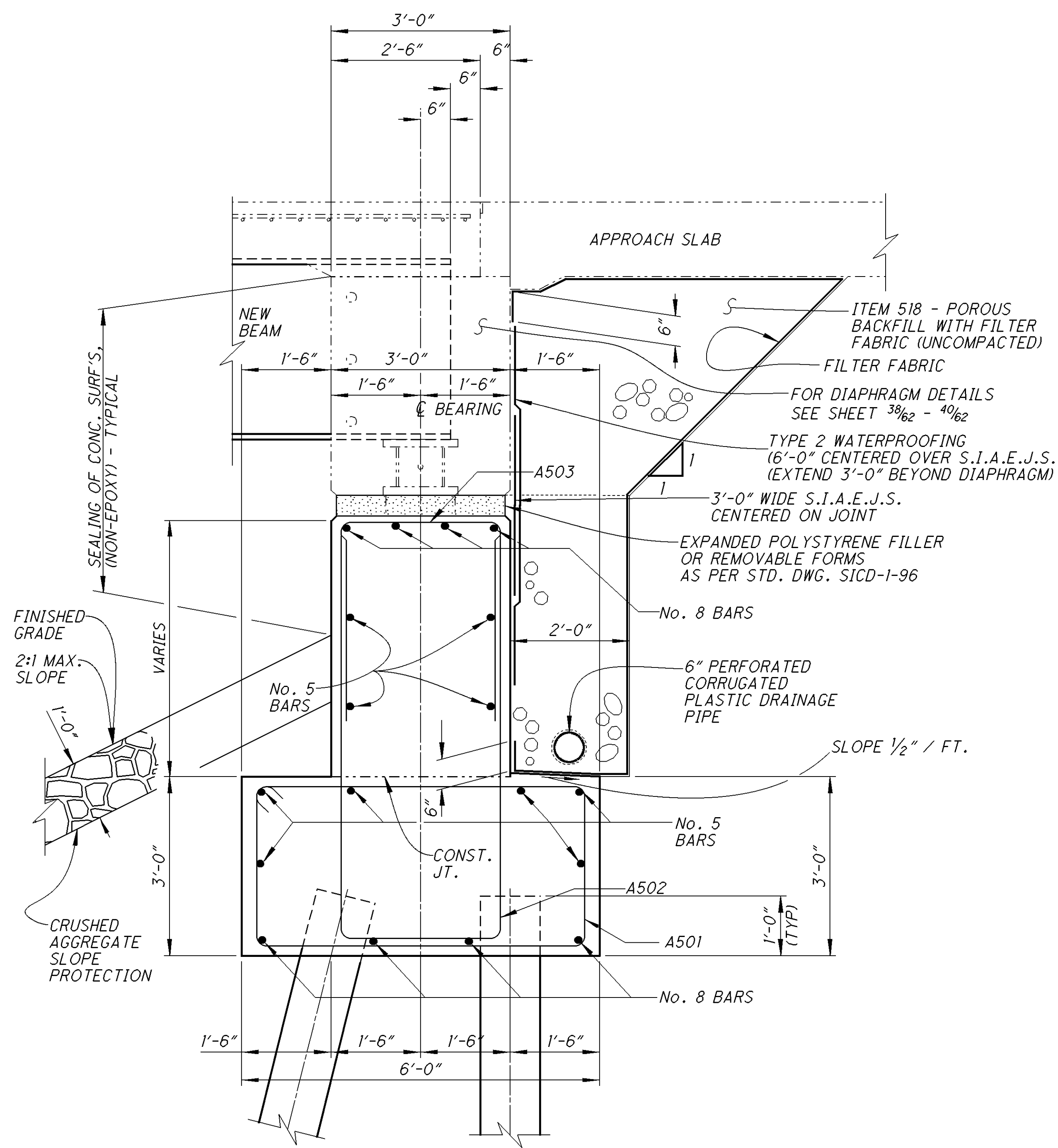


DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
DATE	9-24-2015
REVIEWED	JDR
STRUCTURE FILE NUMBER	4505646
DRAWN	JDR
DESIGNED	TAG
CHECKED	NEW
REVISIONS	REVISED
PROPOSED ABUTMENT DETAILS (FORWARD)	
BRIDGE NO. LIC-310-0096 S.R. 310 OVER I.R. 70	
LIC-310-0.74	
16	62
365	425

NOTE:
S.I.A.E.J.S. = SEMI-INTEGRAL
ABUTMENT EXPANSION JOINT SEAL



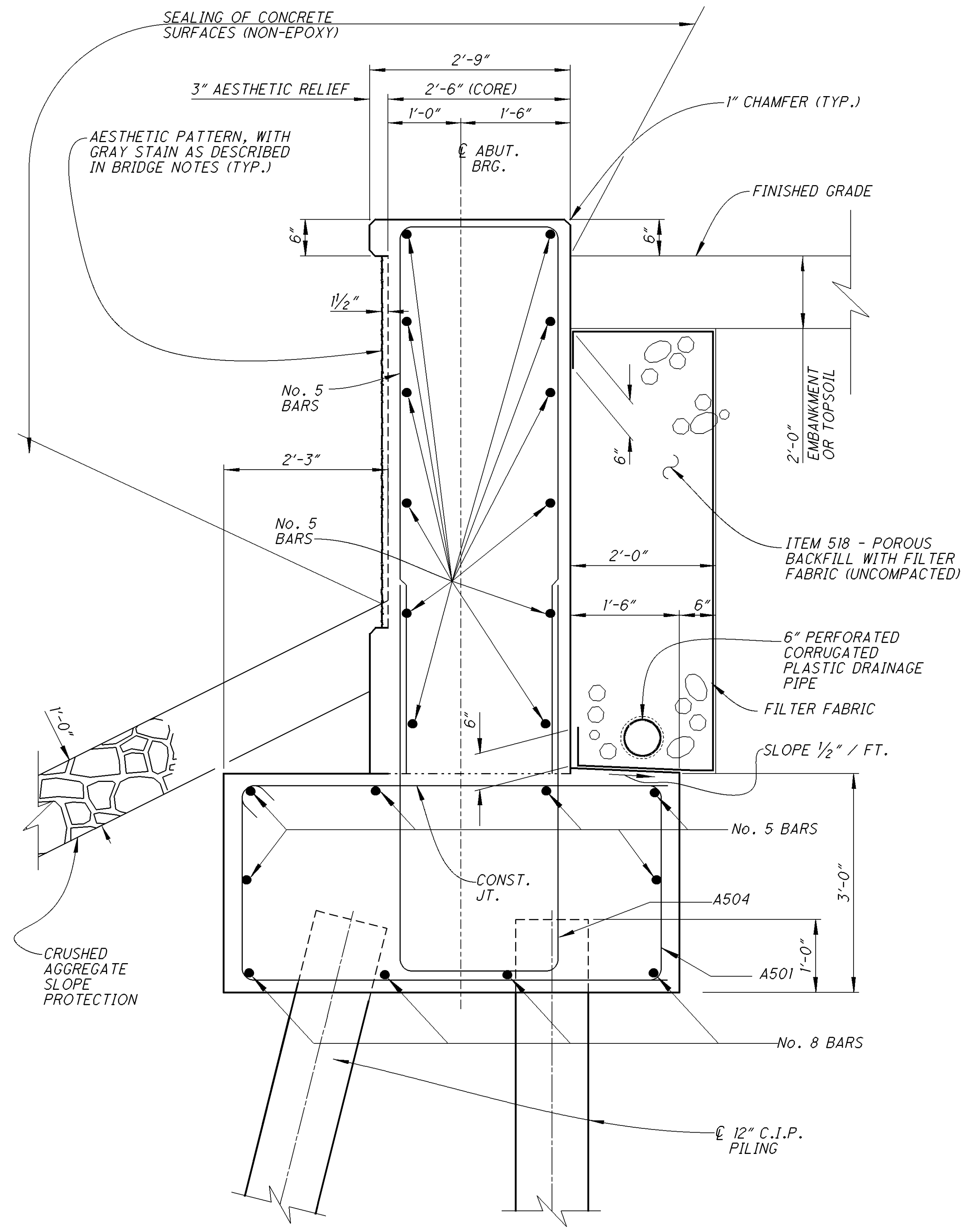
SECTION A-1
13 - 16



SECTION A-2
13 - 16

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DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
DATE	9-24-2015
REVIEWED	JDR
DRAWN	JDR
DESIGNED	TAG
CHECKED	NEW
STRUCTURE FILE NUMBER	4505646
PROPOSED ABUTMENT DETAILS	
BRIDGE NO. LIC-310-0096	
S.R. 310 OVER I.R. 70	
LIC-310-0.74	
17	62
366	425

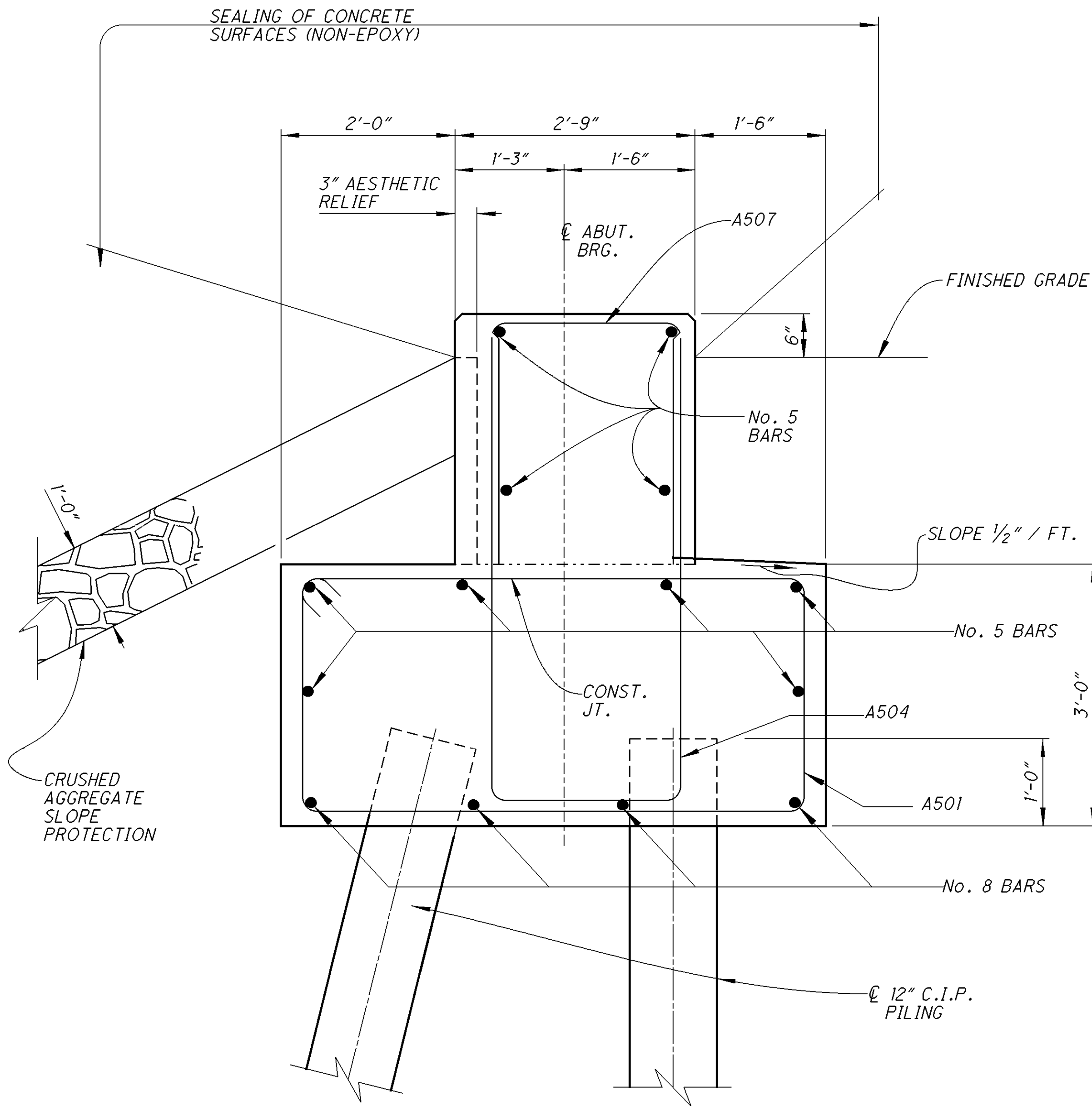


SECTION A-3
13 - 16

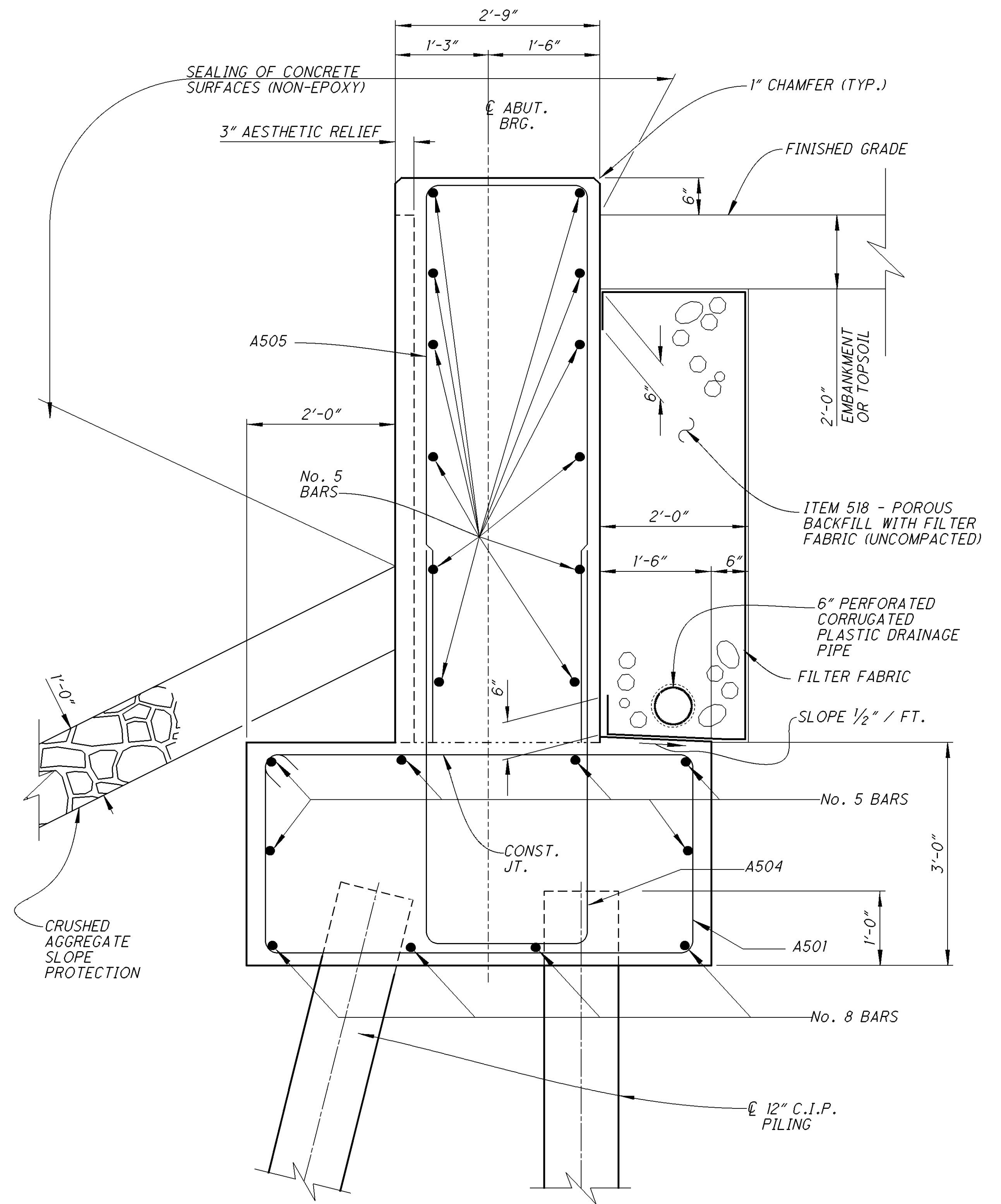
(WINGWALL DETAIL)

DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5	DATE 9-24-2015	STRUCTURE FILE NUMBER 4505646
DRAWN JDR	REVISION JDR	REVISION JDR
DESIGNED TAG	CHECKED NEW	REVISION NEW
ABUTMENT DETAILS BRIDGE NO. LIC-310-0096 S.R. 310 OVER I.R. 70		
LIC-310-0.74		
18 / 62		
367 425		

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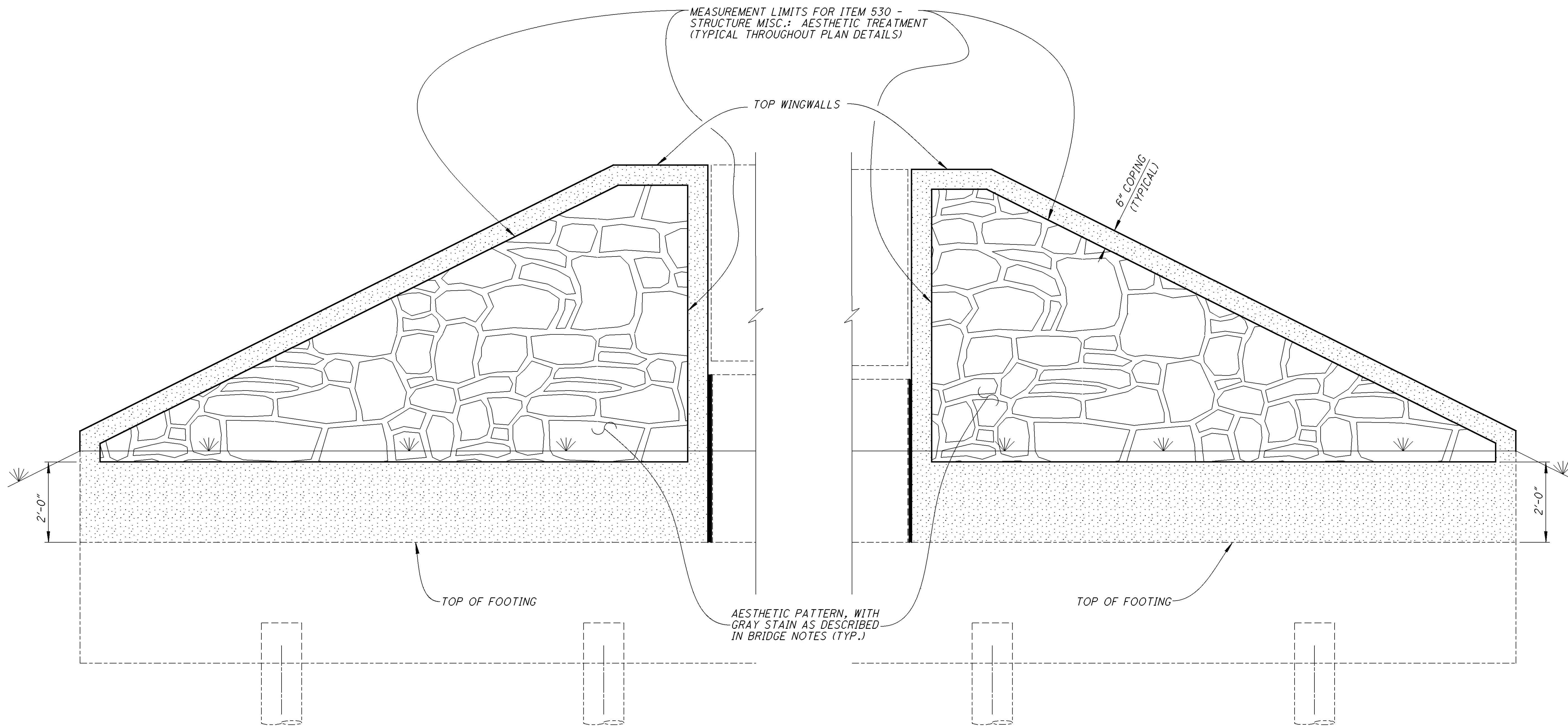
SECTION A-4
13 - 16
(WINGWALL DETAIL)



SECTION A-5
13 - 16
(WINGWALL DETAIL)

DESIGN AGENCY		OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5	
DESIGNED	TAG	CHECKED	NEW
DRAWN	JDR	REVIEWED	JDR
DATE	9-24-2015	STRUCTURE FILE NUMBER	4505646
LIC-310-0.74		S.R. 310 OVER I.R. 70	
368		425	
19		62	

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(REAR RIGHT & FWD. LEFT WINGWALL FACE)

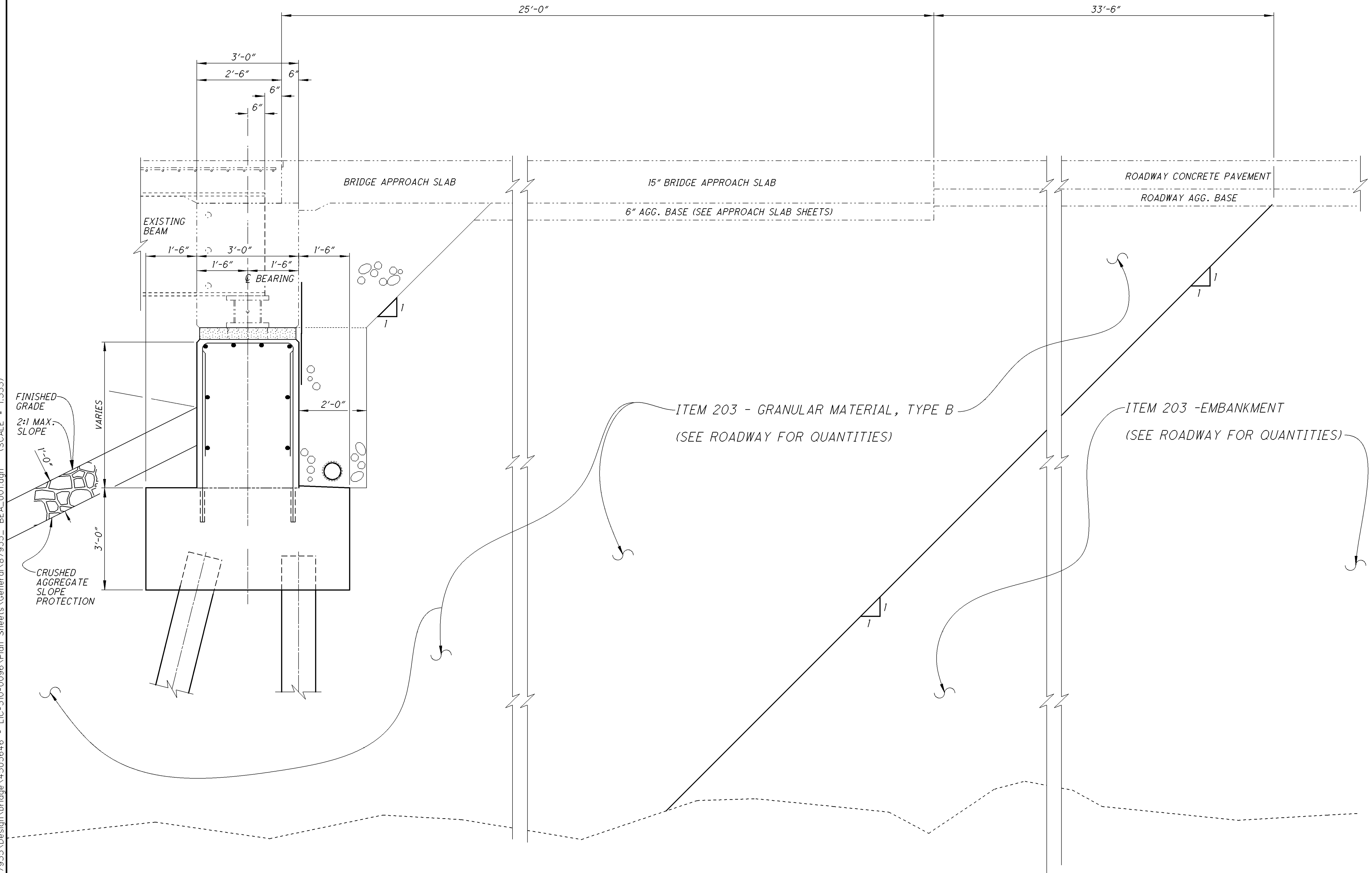
(REAR LEFT & FWD. RIGHT WINGWALL FACE)

TYPICAL WINGWALL AESTHETIC TREATMENT

- FLUSH CONCRETE SURFACES (NO STAIN)

DESIGNED TAG		DRAWN JDR		REVIEWED JDR	DATE 9-24-2015	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
CHECKED NEW		REVISED		STRUCTURE FILE NUMBER 4505646		
LIC-310-0.74				PROPOSED ABUTMENT DETAILS BRIDGE NO. LIC-310-0096 S.R. 310 OVER I.R. 70		
20 / 62		369		425		

P:\LIC\87935\Design\bridge\4505646 - LIC-310-0096\Plan_Sheets\General\87935_BEA_001.dgn (SCALE = 1:333)



TYPICAL PROFILE OF EMBANKMENT WIDENING @ BRIDGE NO. LIC-310-0096

DESIGN AGENCY
OHIO DEPARTMENT OF
TRANSPORTATION, DISTRICT 5

DATE
10-01-15
REVIEWED
JDR
STRUCTURE FILE NUMBER
4505646

DRAWN
JDR
REVISED

DESIGNED
TAG
CHECKED
NEM

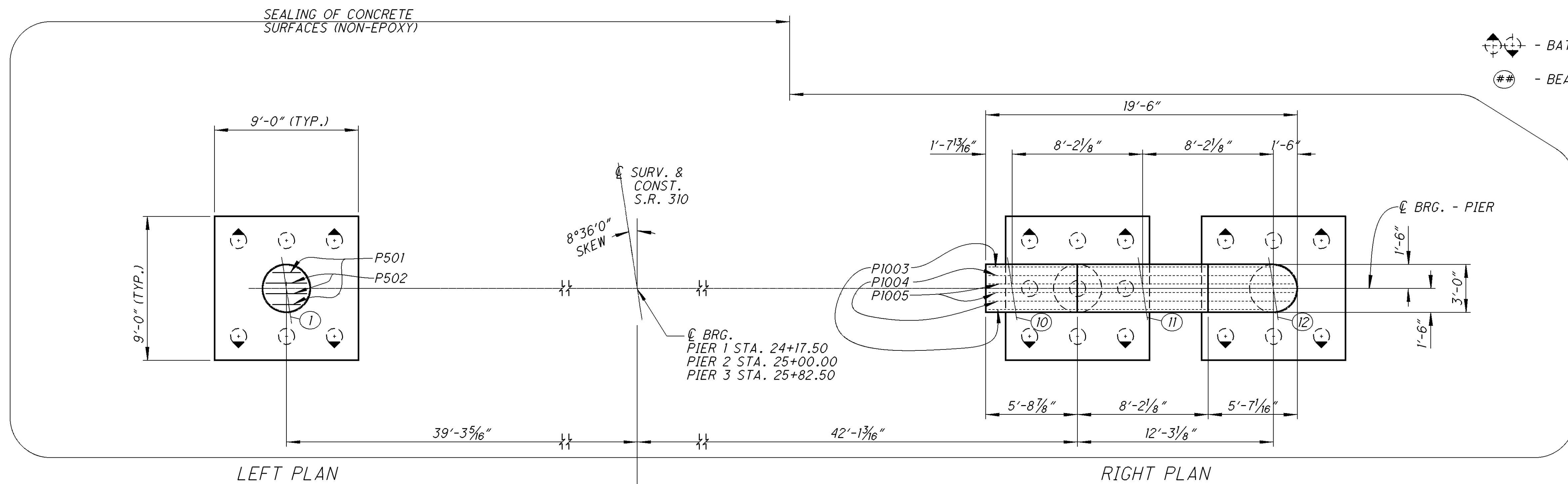
GENERAL DETAILS
BRIDGE NO. LIC-310-0096
S.R. 310 OVER I.R. 70

LIC-310-0.74

21 / 62

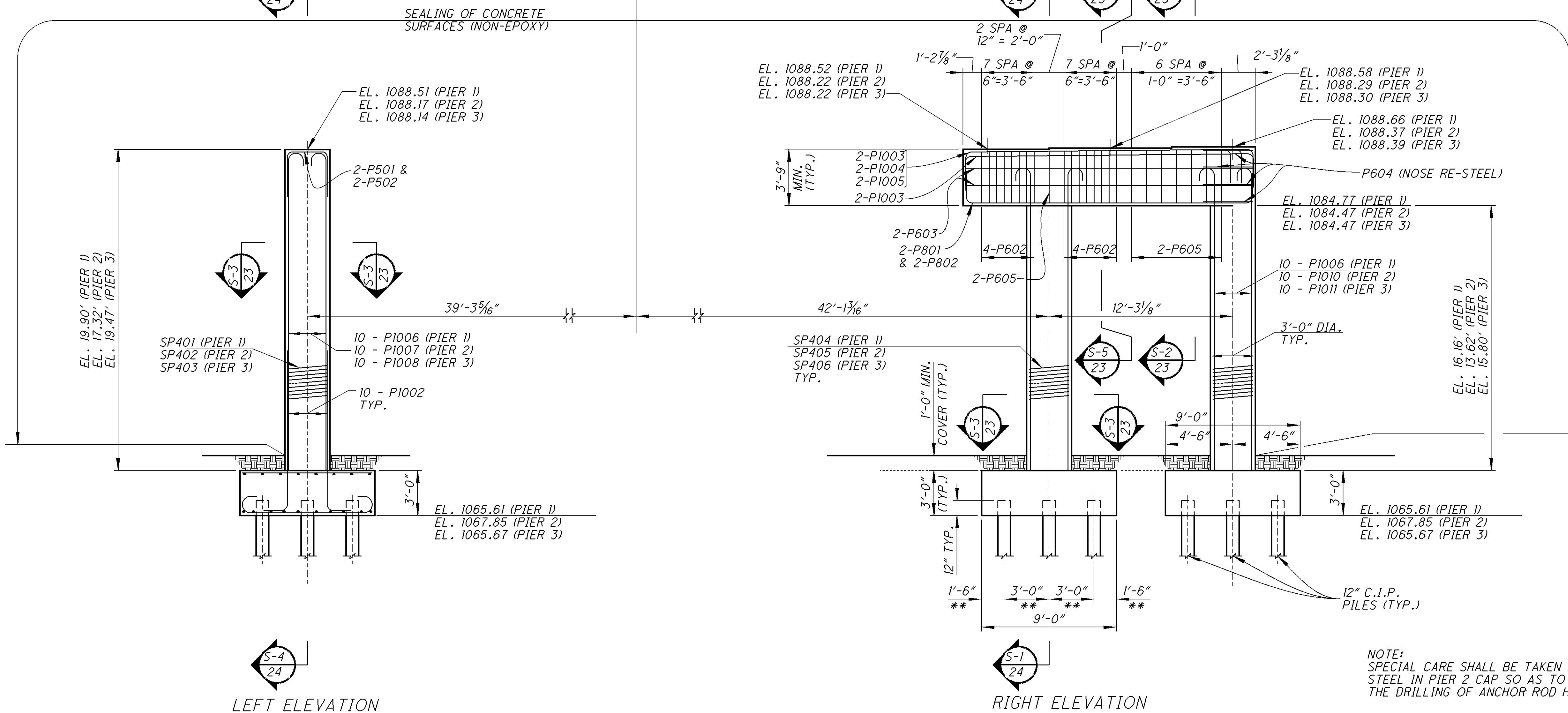
370
425

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LEFT PLAN

RIGHT PLAN



LEFT ELEVATION

RIGHT ELEVATION

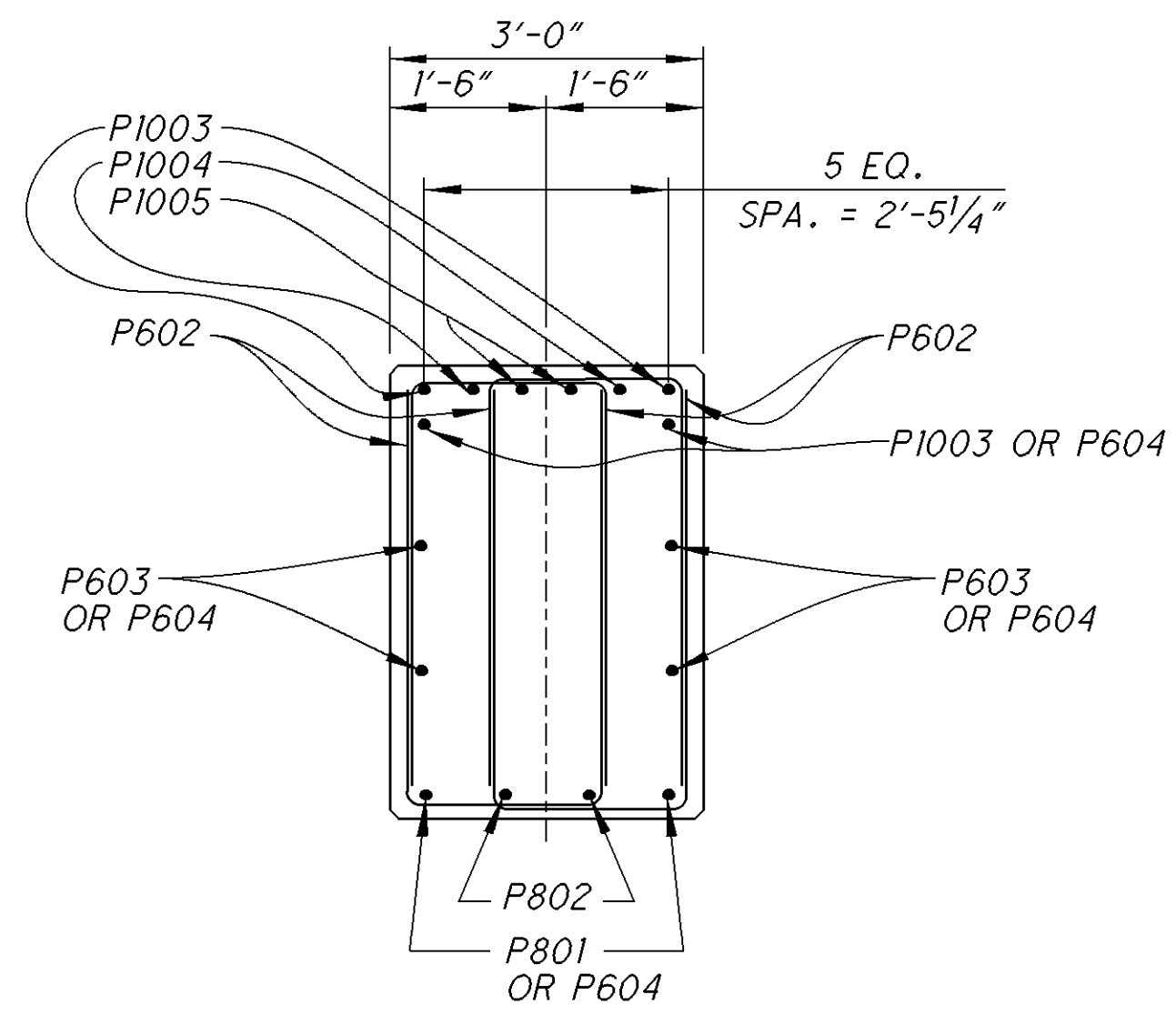
NOTE:
SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING
STEEL IN PIER 2 CAP SO AS TO AVOID INTERFERENCE WITH
THE DRILLING OF ANCHOR ROD HOLES.

** - SEE SHEET ??? FOR PILING LAYOUT AND NUMBERING.

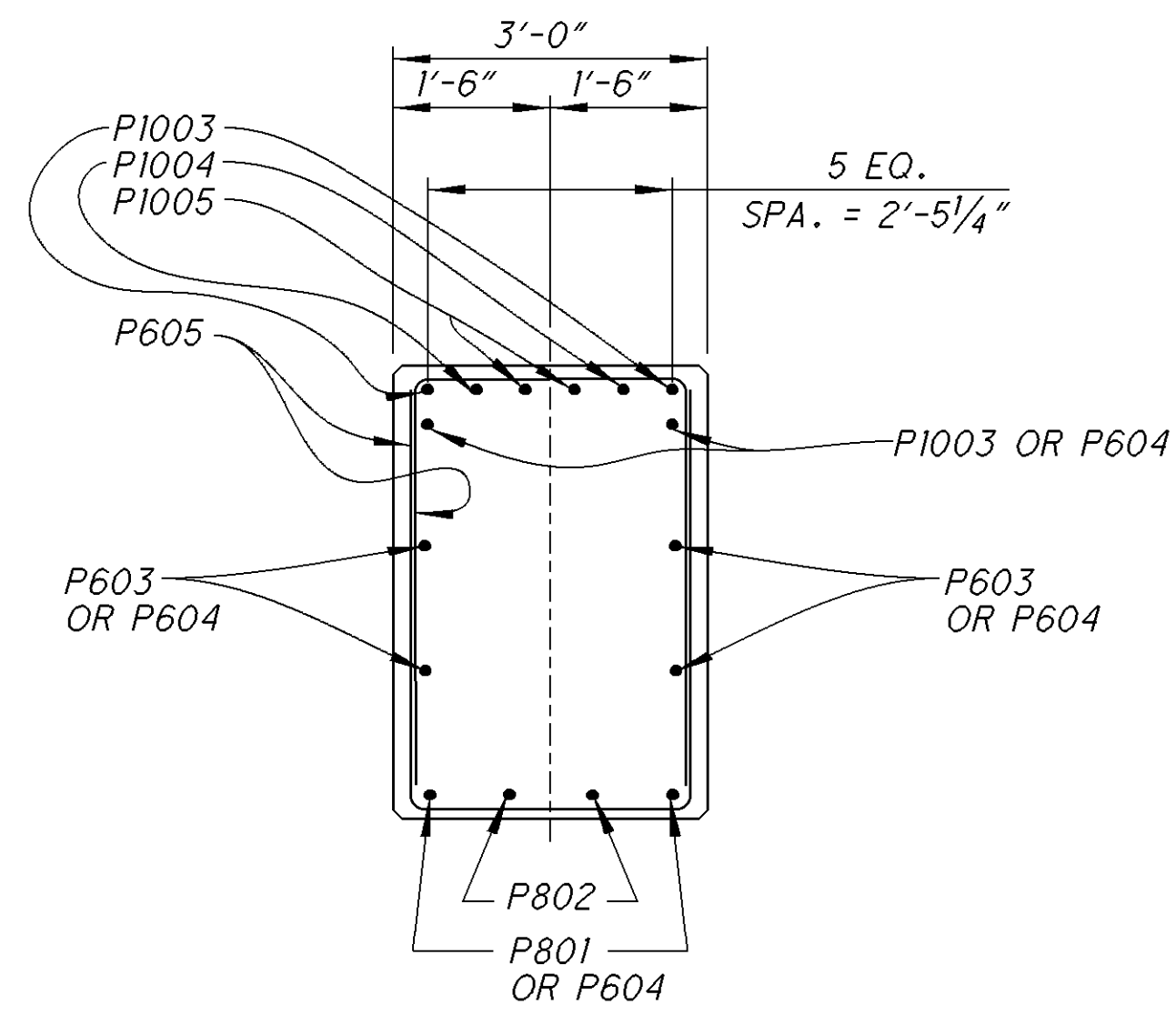
⊕ - BATTERED PILING (1:4)
- BEAM NUMBER

DESIGN AGENCY		OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5	
DESIGNED	TAG	DRAWN	JDR
CHECKED	NEW	REVIEWED	JDR
DATE		9-24-2015	
STRUCTURE FILE NUMBER		4505646	
PIERS 1, 2, & 3 DETAILS BRIDGE NO. LIC-310-0096 S.R. 310 OVER I.R. 70			
LIC-310-0.74			
22		62	
371		425	

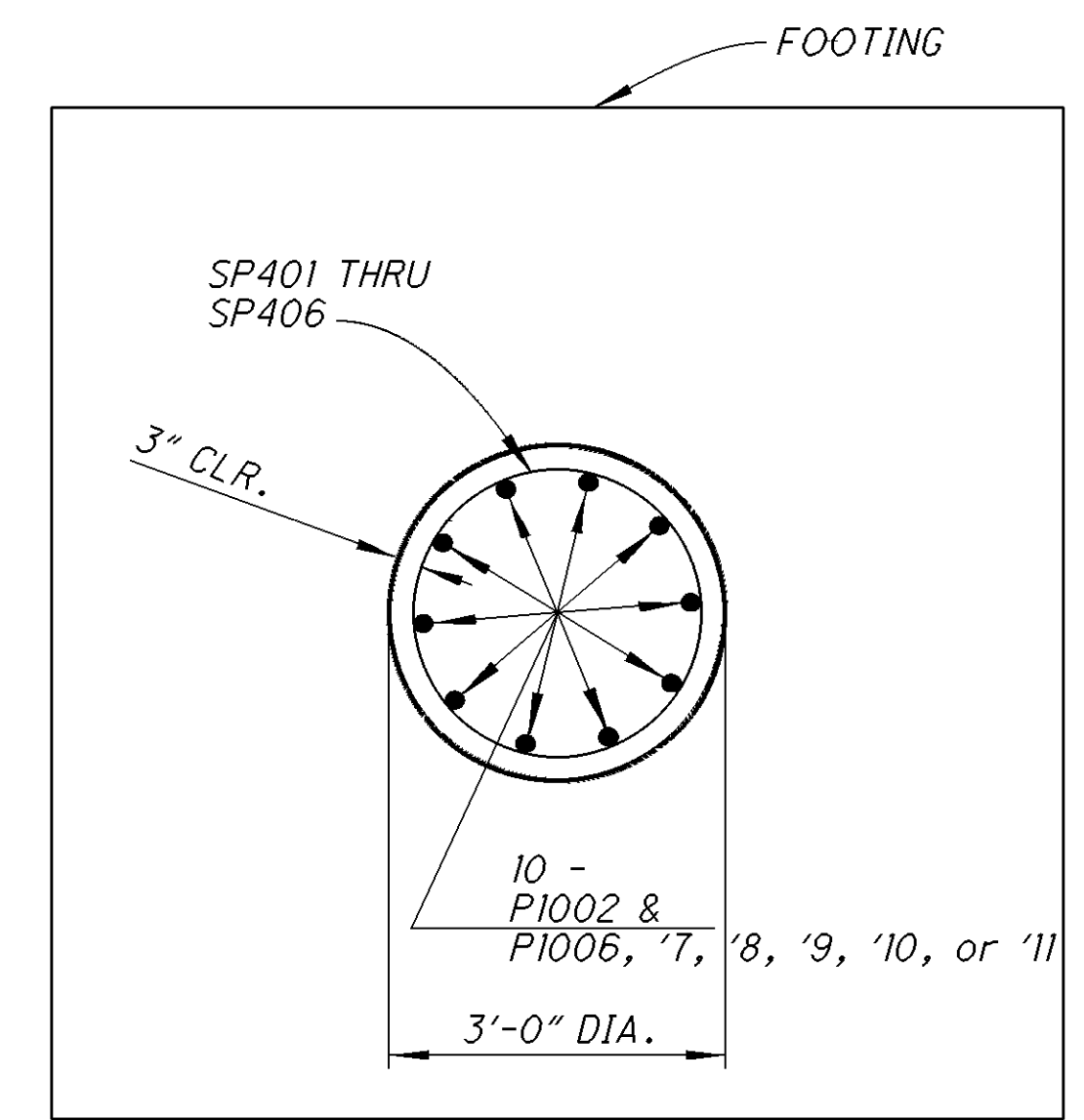
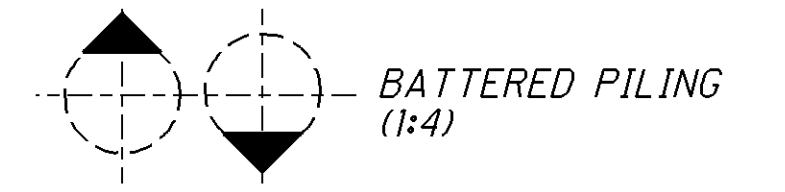
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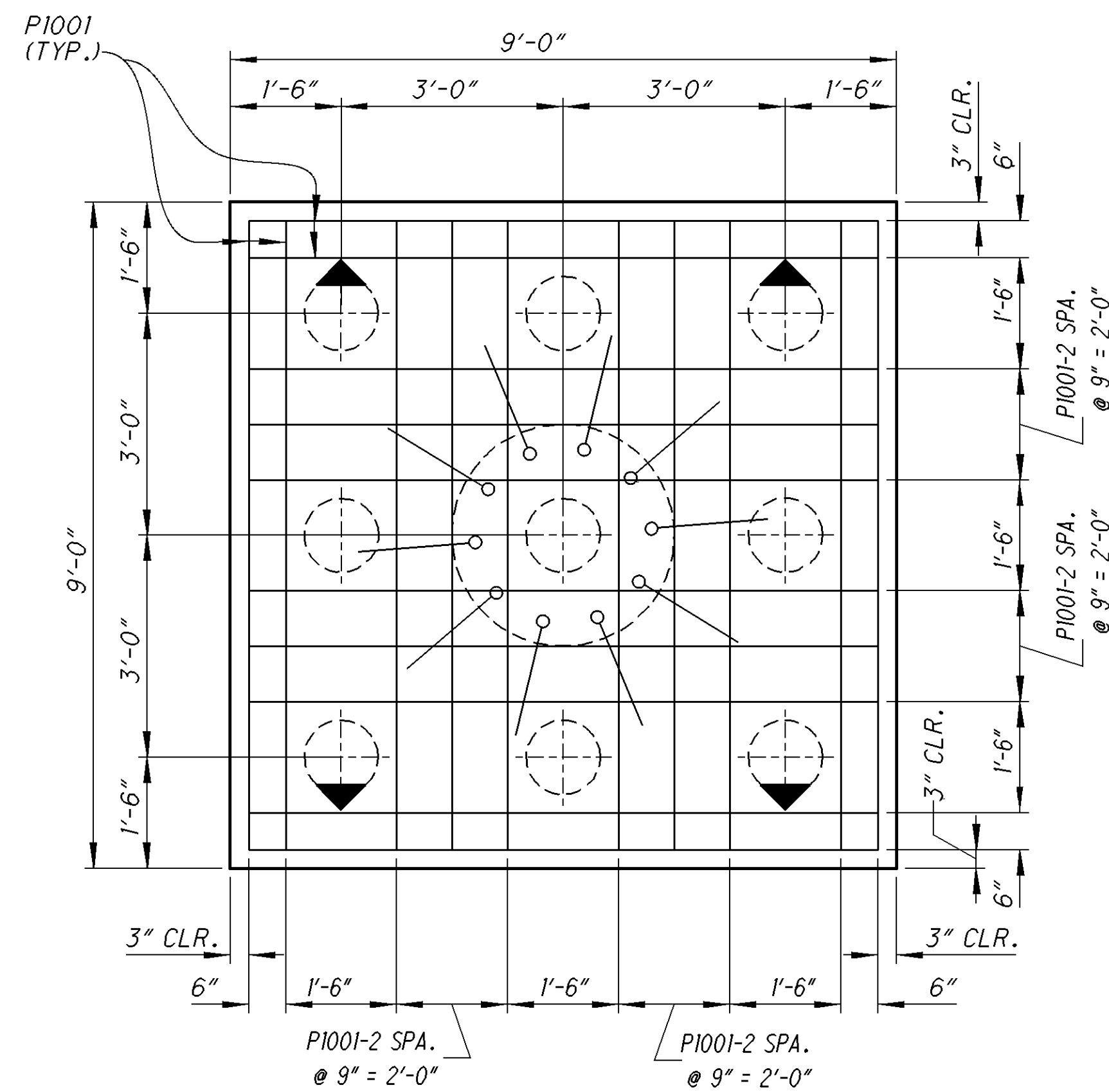
SECTION S-2
22



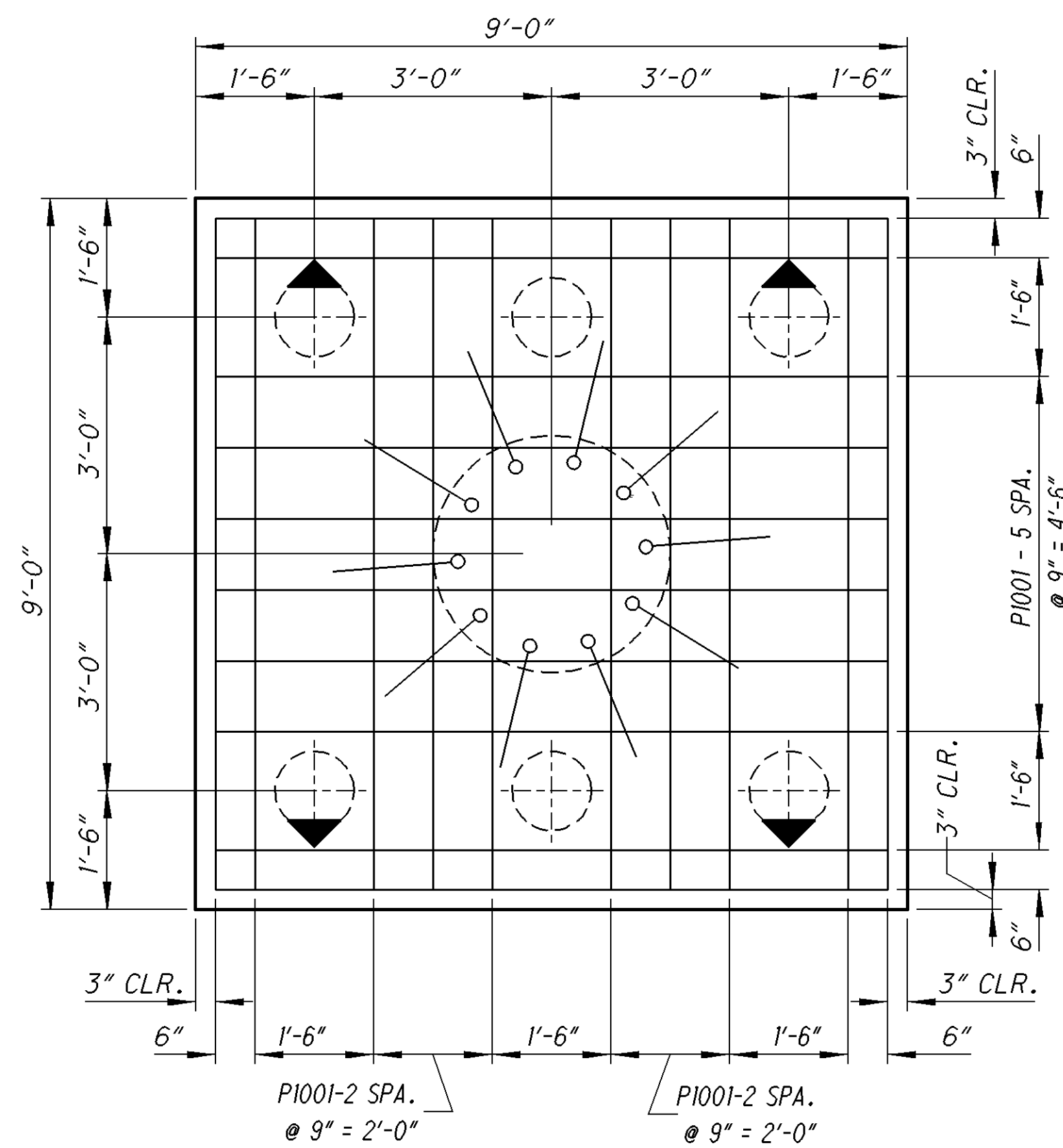
SECTION S-5
22



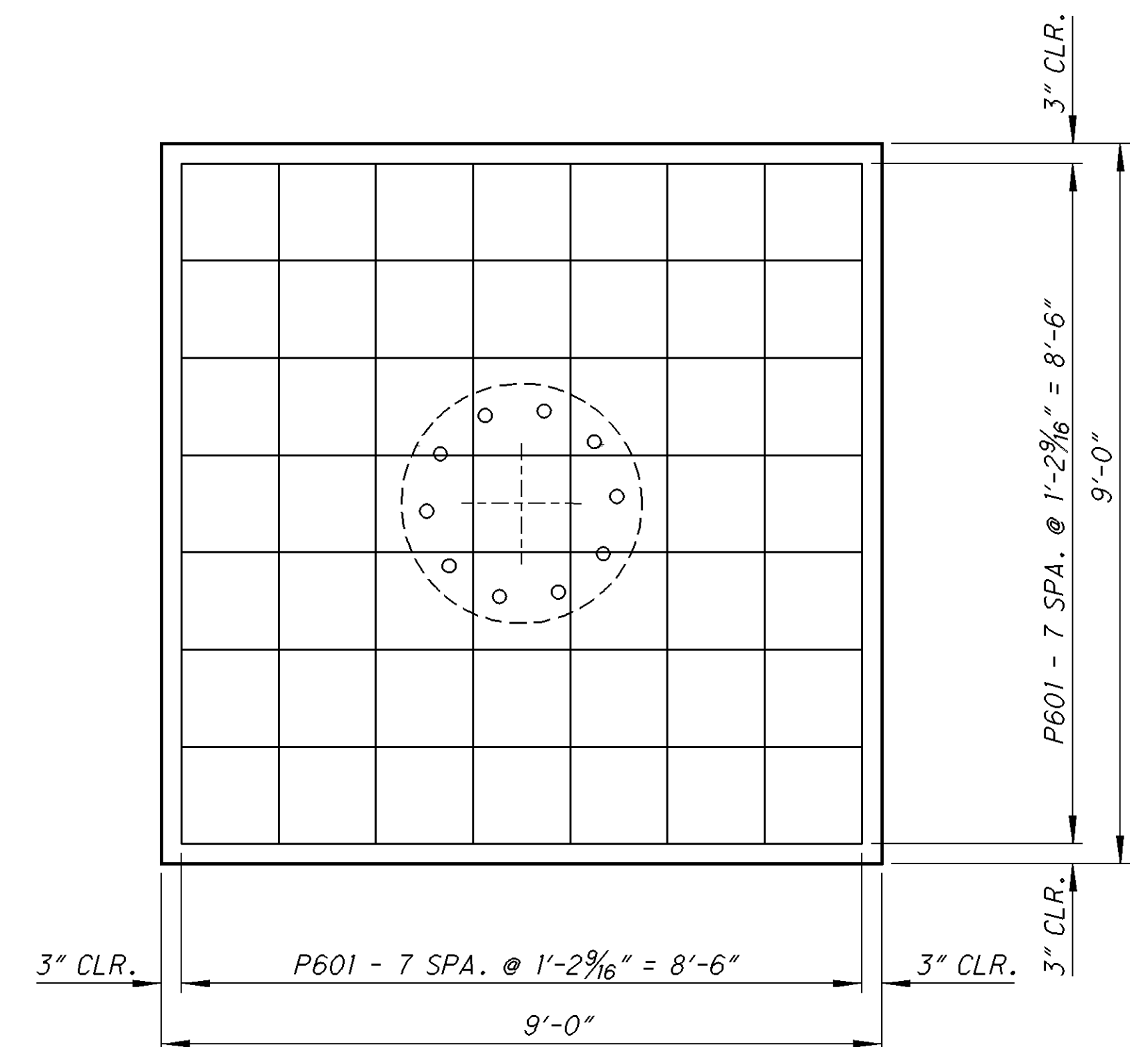
SECTION S-3
22



FOOTING 1 PLAN (BOTTOM MAT)

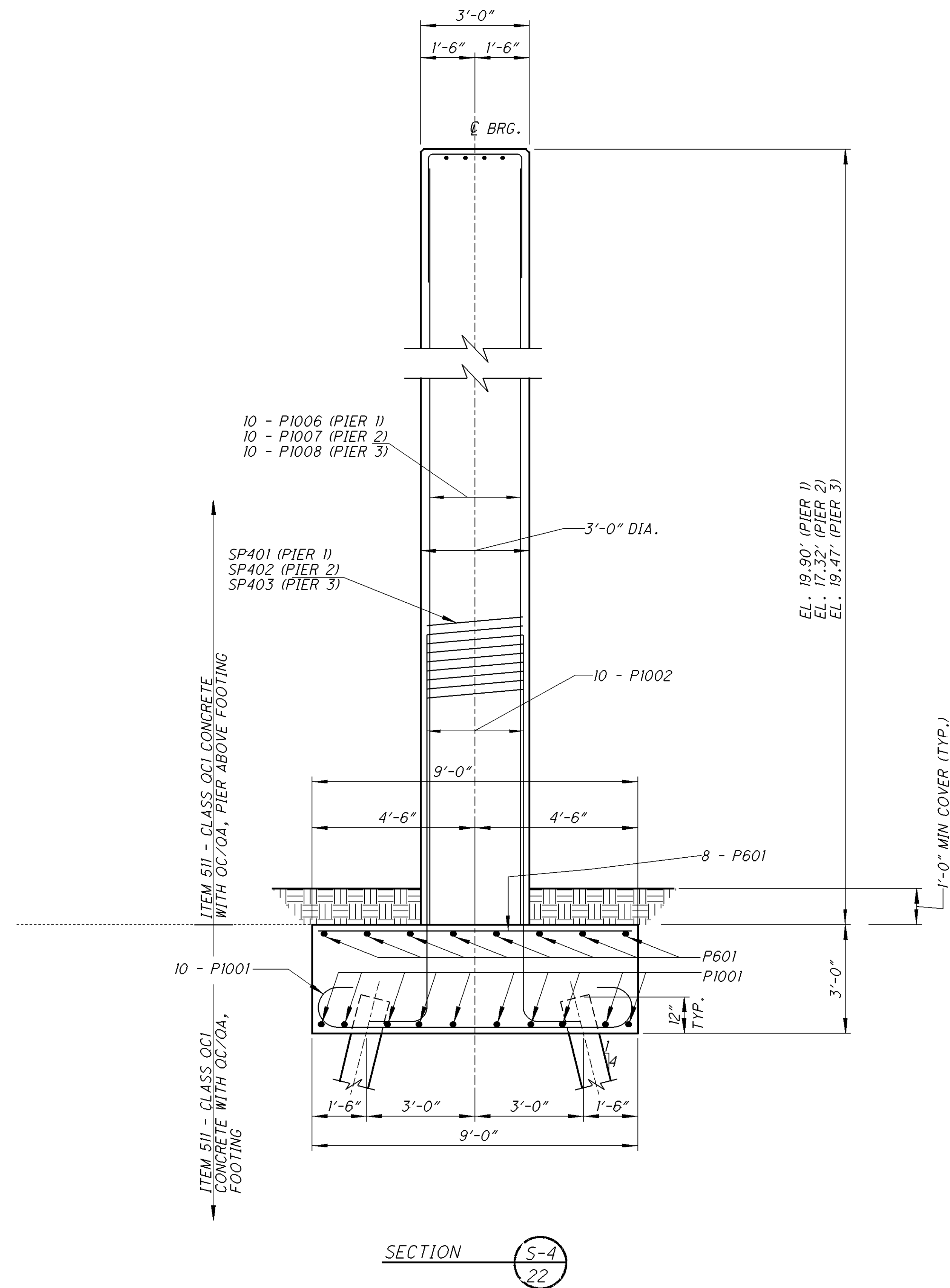


FOOTING 2 PLAN (BOTTOM MAT)

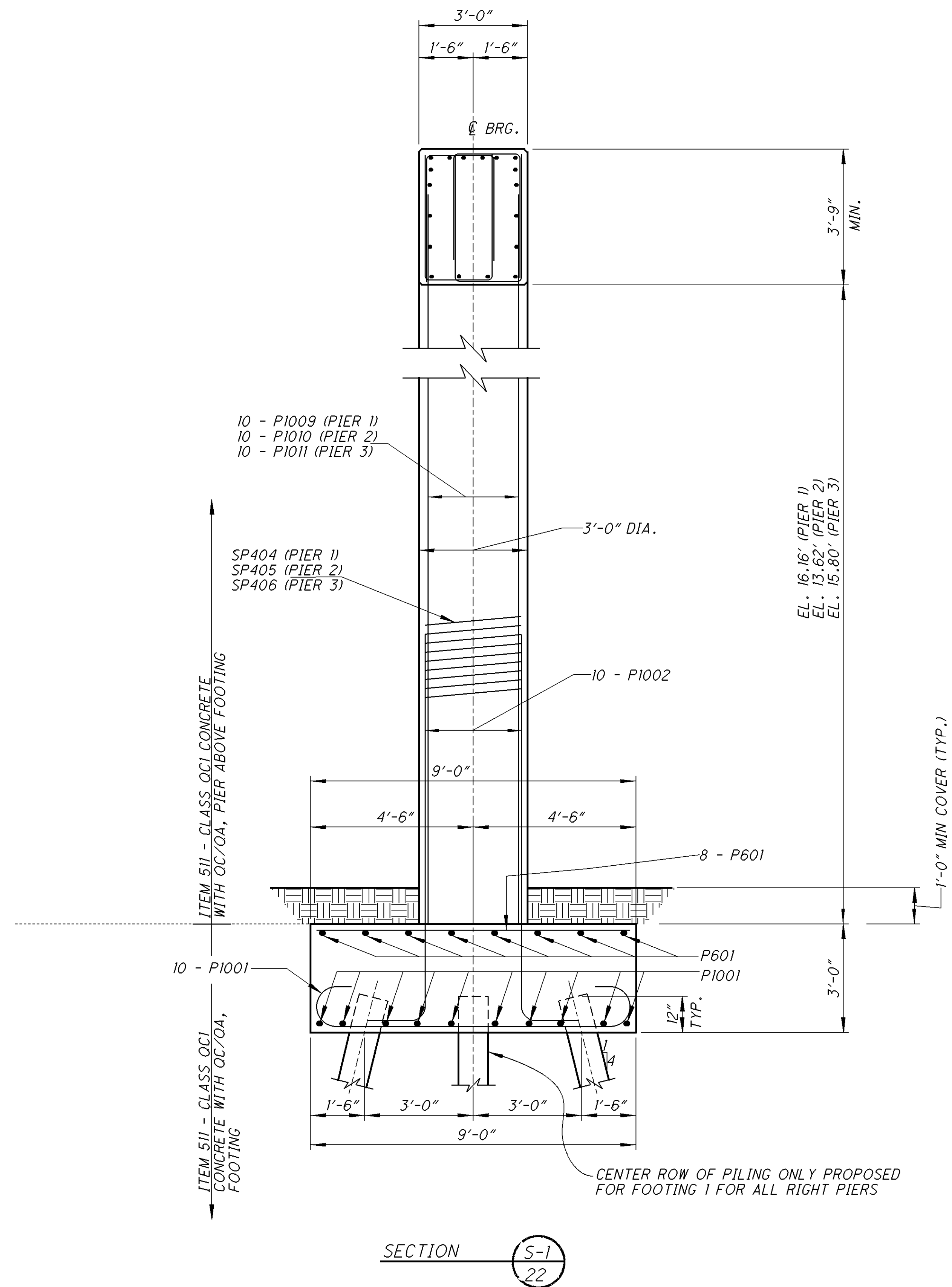


FOOTING PLAN (TOP MAT)

DESIGN AGENCY		OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5	
DESIGNED	TAG	DRAWN	JDR
CHECKED	NEW	REVIEWED	JDR
DATE	9-24-2015	STRUCTURE FILE NUMBER	4505646
LIC-310-0.74		PIERS 1, 2, & 3 DETAILS	
BRIDGE NO. LIC-310-0096		S.R. 310 OVER I.R. 70	
23	62	372	
		425	



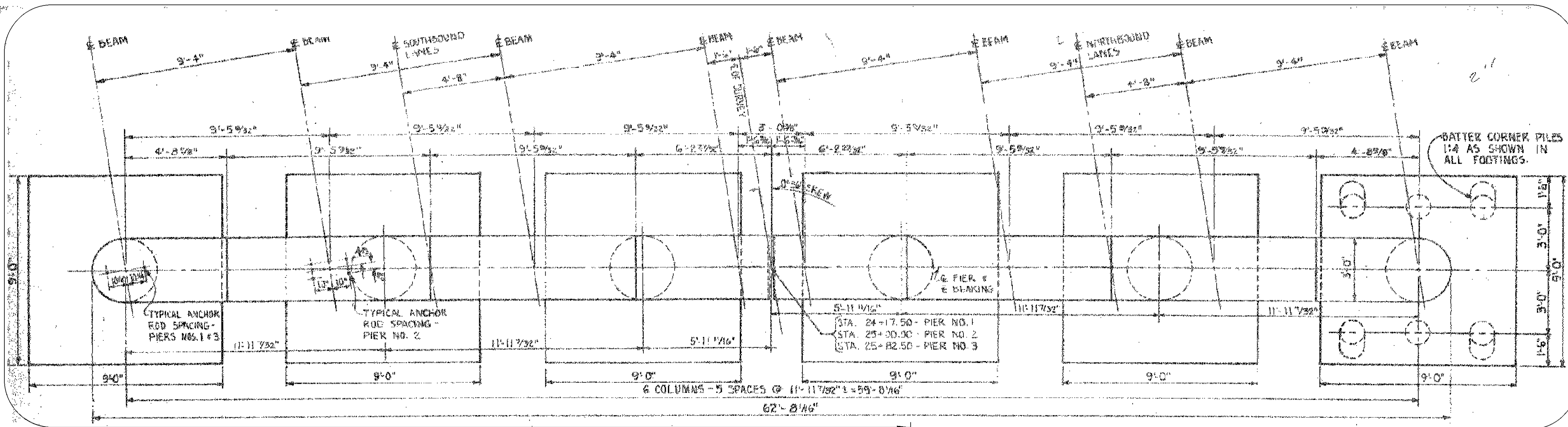
SECTION S-4
22



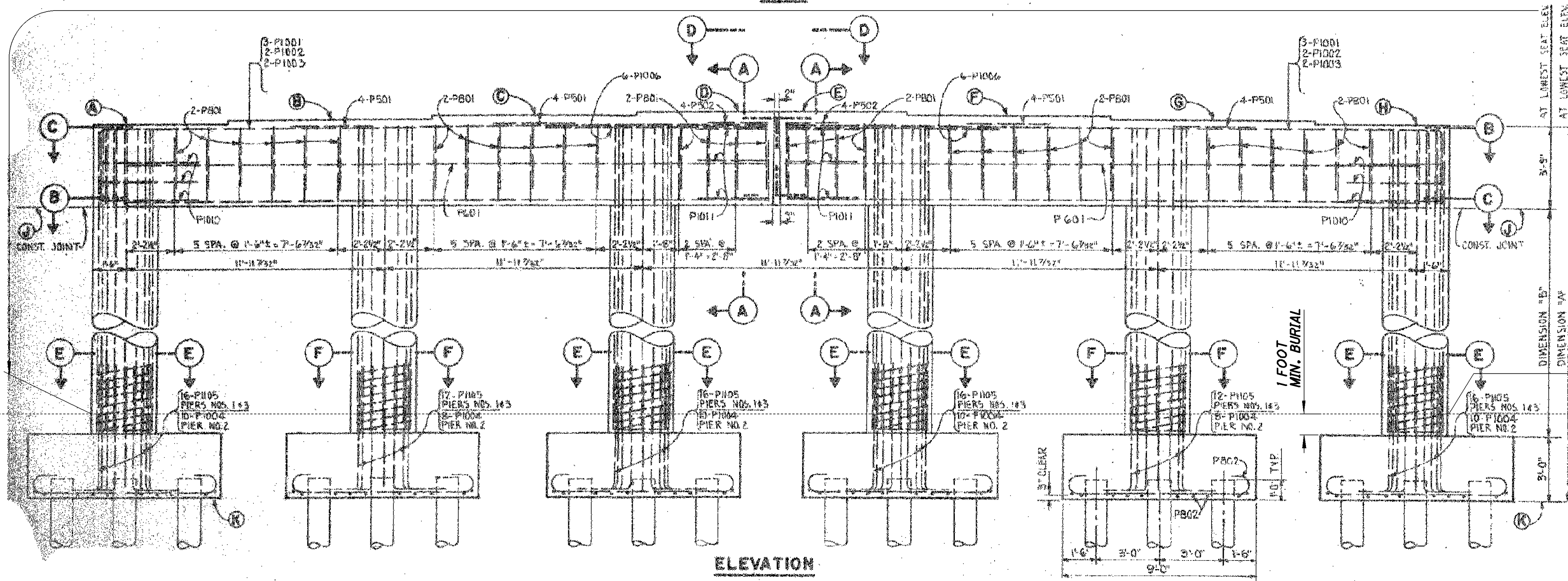
SECTION S-1
22

NOTE: THIS SHEET SHOWS ORIGINAL DETAILS OF THE STRUCTURE.

= WORK TO BE DONE BY THIS PROJECT



PLAN



ELEVATION

SEALING OF CONCRETE SURFACES (NON-EPOXY)

ALL PILING SHALL BE 12" CAST-IN-PLACE CONCRETE

(ORIGINAL ELEVATIONS FOR ESTIMATING PURPOSES ONLY)

	ELEV. A	ELEV. B	ELEV. C	ELEV. D	ELEV. E	ELEV. F	ELEV. G	ELEV. H	ELEV. I	ELEV. J	DIM. "A"	DIM. "B"
PIER NO. 1	1089.35	1089.42	1089.64	1089.78	1089.78	1089.65	1089.48	1089.34	1089.59	1066.76	22'-7"	5'-10"
PIER NO. 2	1089.01	1089.16	1089.51	1089.46	1089.46	1089.32	1089.17	1089.03	1089.24	1049.00	20'-0 1/2"	13'-3 1/2"
PIER NO. 3	1089.99	1089.14	1089.30	1089.45	1089.45	1089.31	1089.17	1089.04	1089.24	1066.82	22'-2"	15'-5"

DOBSON, KINNEY & LINDBLOM
CONSULTING ENGINEERS
COLUMBUS, OHIO

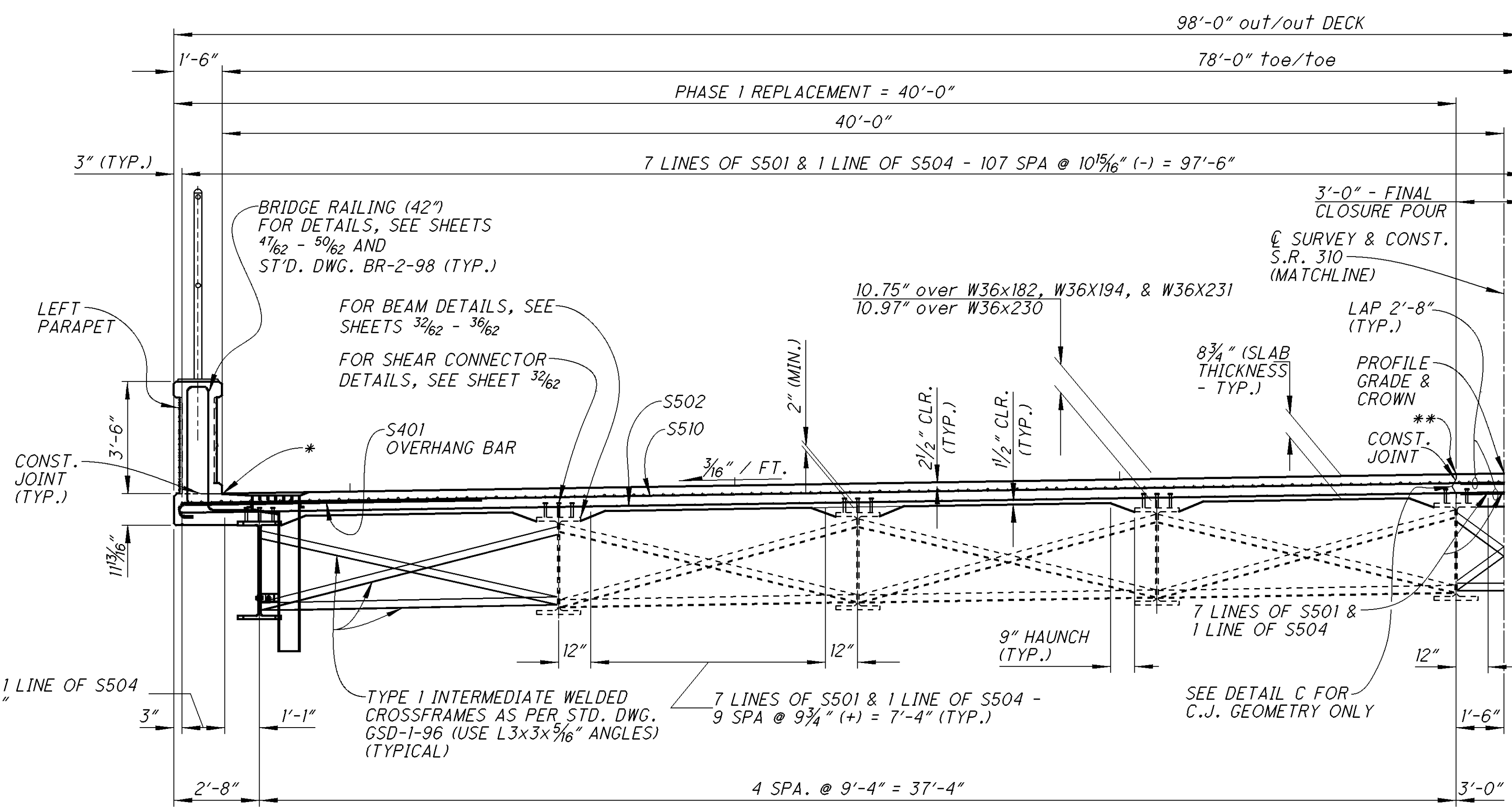
PIER DETAILS
BRIDGE NO. LIC-70-0484
PROPOSED I.R. 70 UNDER
STATE ROUTE 310

LICKING COUNTY
PROPOSED I.R. 70
STA. 409+00.00

DATE: 9-24-2015
REVIEWED: JDR
DRAWN: JDR
DESIGNED: TAG
CHECKED: NEM

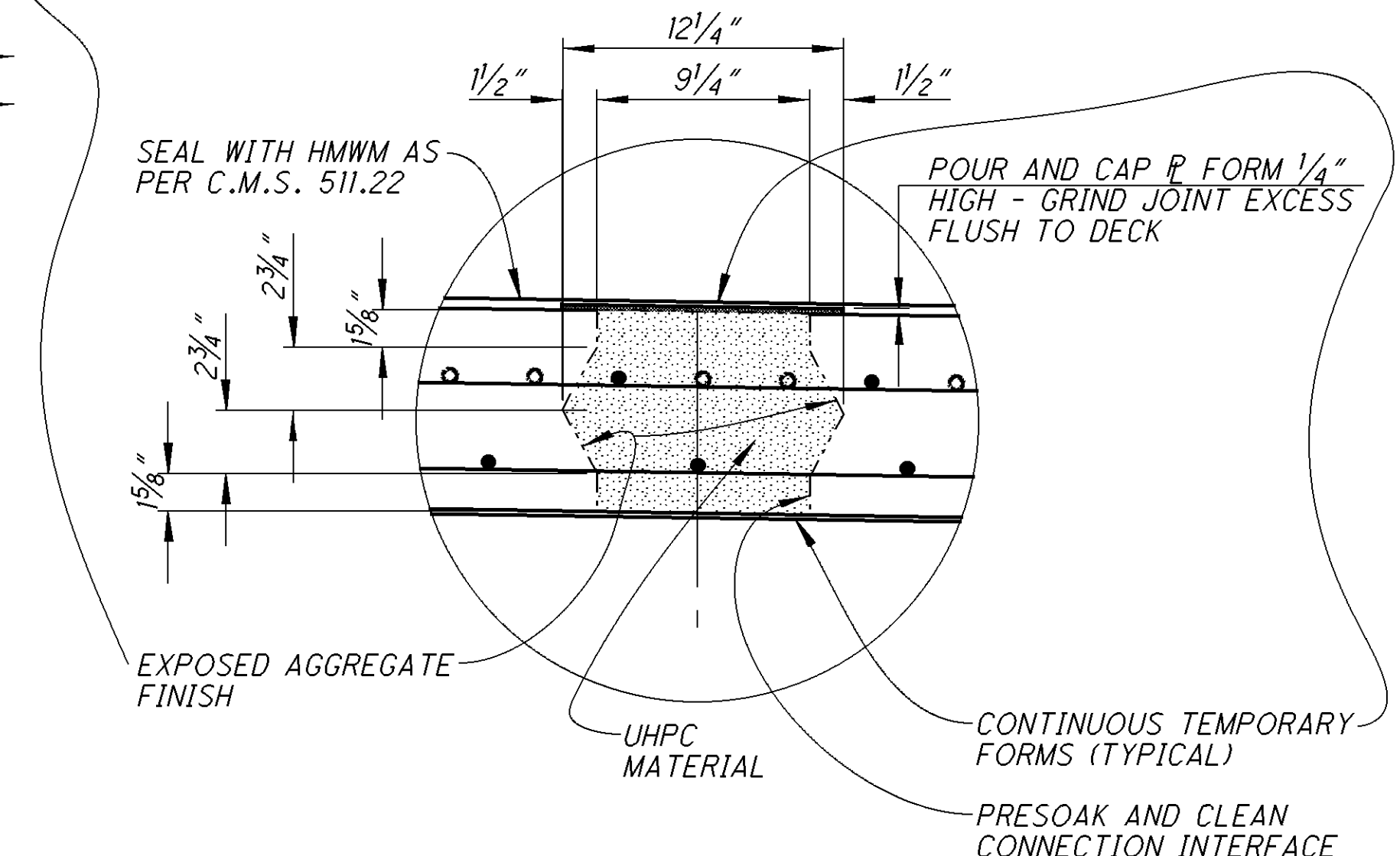
DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
 DATE: 9-24-2015
 REVISED: JDR
 DRAWN: JDR
 DESIGNED: TAG
 CHECKED: NEM
 STRUCTURE FILE NUMBER: 4505646
 EXISTING PIER DETAILS AND PROPOSED SEALING
 BRIDGE NO. LIC-310-0096
 S.R. 310 OVER I.R. 70
 LIC-310-0.74
 25 / 62
 374
 425

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PROPOSED TRANSVERSE SECTION

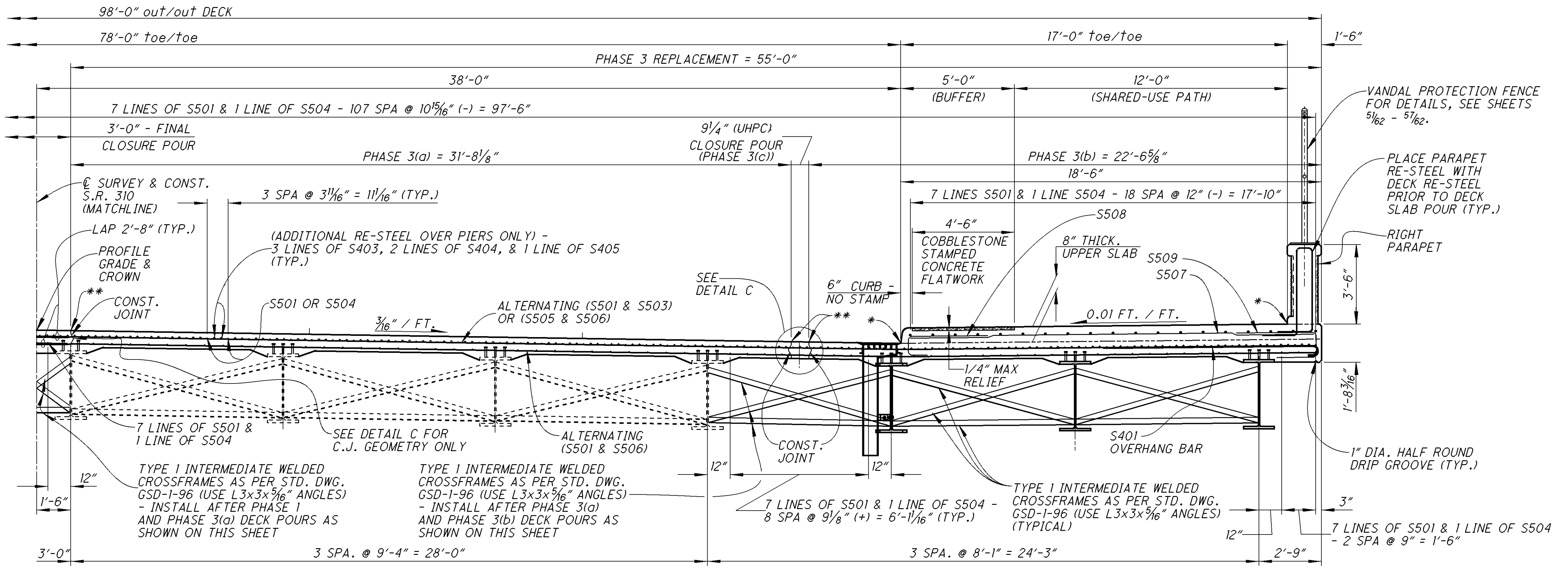
AN EXPOSED AGGREGATE FINISH FOR THE C.J. FACES OF THE CAST-IN-PLACE DECK POURS IS REQUIRED PRIOR TO PLACEMENT OF THE UHPC CLOSURE POUR. OBTAIN THIS BY UTILIZING A CONCRETE RETARDING AGENT APPLIED TO THE INSIDE OF THE CAST-IN-PLACE FORMWORK AT THIS SURFACE, OR ANOTHER APPROVED METHOD AS ACCEPTED BY THE FIELD ENGINEER. THE CHOSEN RETARDER MUST BE PROVEN TO PENETRATE INTO THE FRESH POURS AND PROVIDE A MINIMUM OF 1/4" AMPLITUDE OF ROUGHNESS. AIR SAND BLASTING MAY NOT BE USED AS A METHOD FOR ACHIEVEMENT.



DETAIL C

NOTES: AFTER THE DECK AND SHARED-USE PATH CONCRETE HAS BEEN PLACED AND CURED IN PHASES 3 (a) and 3 (b), PHASE 3 (c)'S (UHPC) CLOSURE POUR WILL BE PLACED AND CURED.

IN LIEU OF THE SPECIFICATIONS CONTAINED WITHIN THE SPECIAL PROVISION PERTAINING TO THE UHPC ITEM, FOR THIS STRUCTURE, THE WATERTIGHT INTEGRITY TEST MAY NOT BE USED FOR NON-PERFORMANCE OF JOINT SEALING. SEAL JOINTS, AS NOTED, WITH HMW AS PER C.M.S. 511.22. ALSO, THE ITEM WILL BE MEASURED IN CUBIC YARDS IN LIEU OF CUBIC FEET.



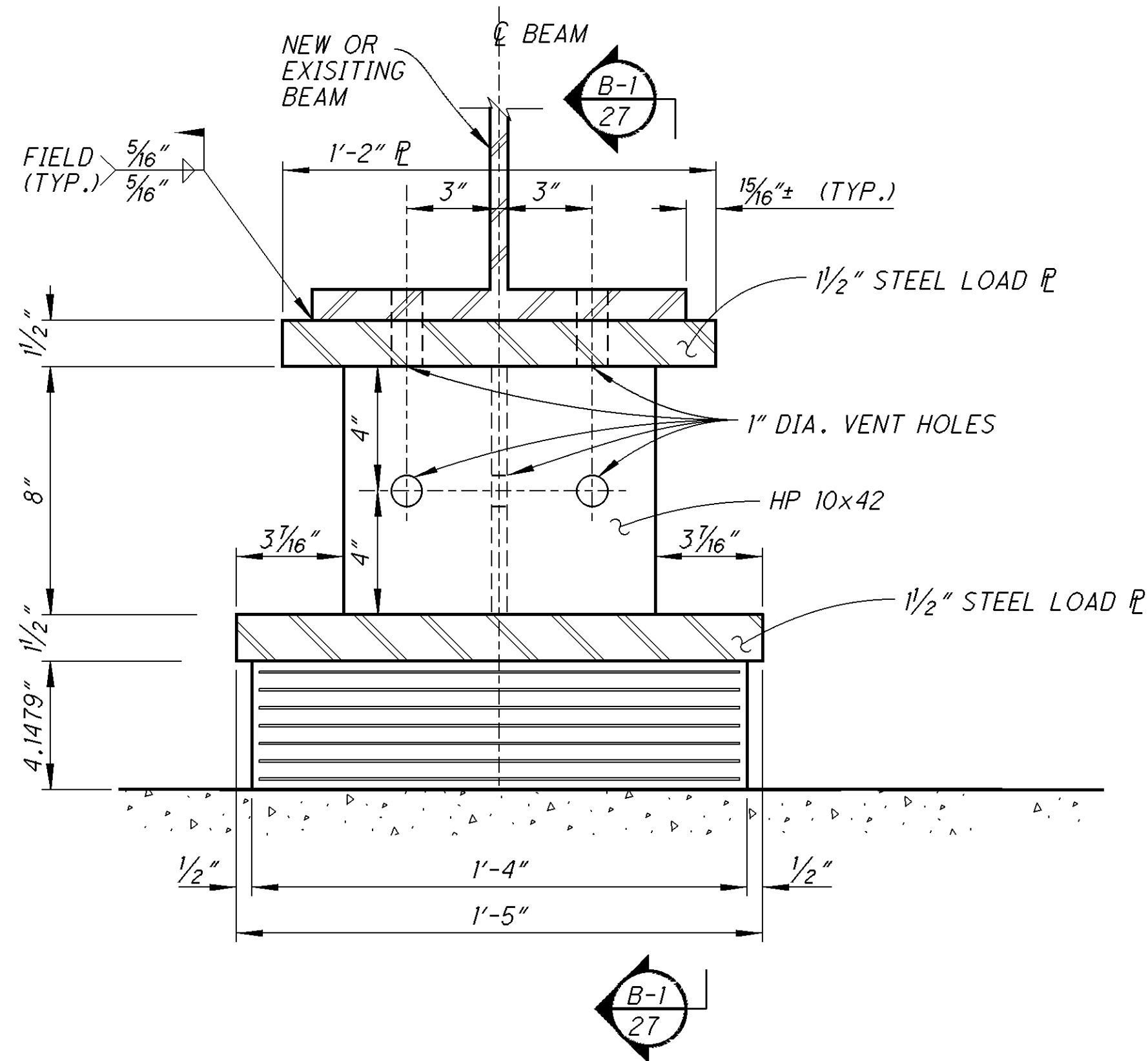
PROPOSED TRANSVERSE SECTION

* SEALING OF CONSTRUCTION JOINTS WITH HMW AS PER C.M.S. 511.22. PROVIDE A MINIMUM BAND WIDTH OF 1'-0" CENTERED ON EACH JOINT SEALED.

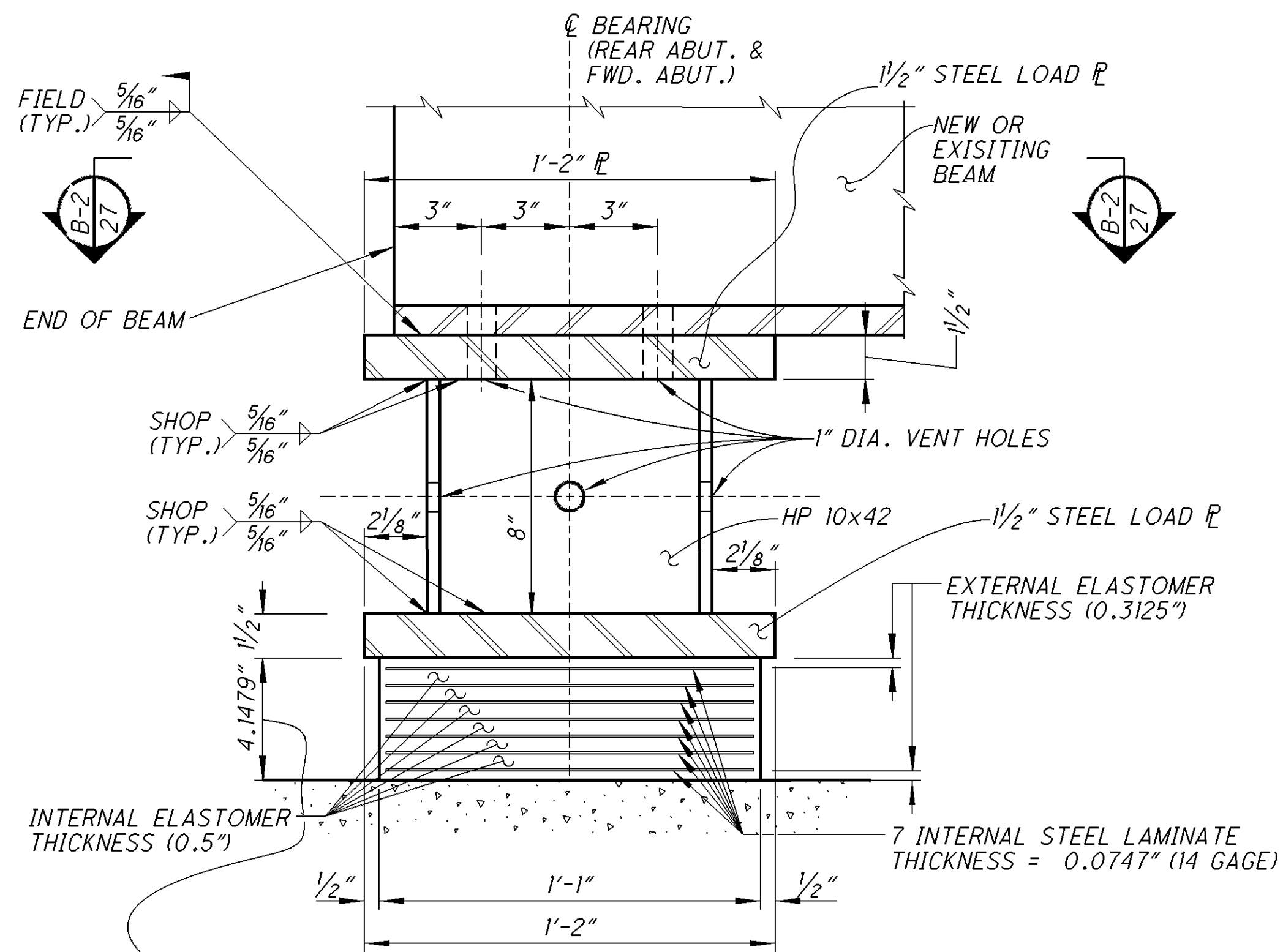
** SEALING OF CONSTRUCTION JOINTS WITH HMW AS PER C.M.S. 511.22. PROVIDE A MINIMUM BAND WIDTH OF 2'-0" CENTERED ON EACH JOINT SEALED.

DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
DATE	9-24-2015
REVIEWED	JDR
STRUCTURE FILE NUMBER	4505646
DRAWN	JDR
DESIGNED	TAG
CHECKED	NEW
TRANSVERSE SECTION	LIC-310-0.74
BRIDGE NO. LIC-310-0096	S.R. 310 OVER I.R. 70
26	62
375	425

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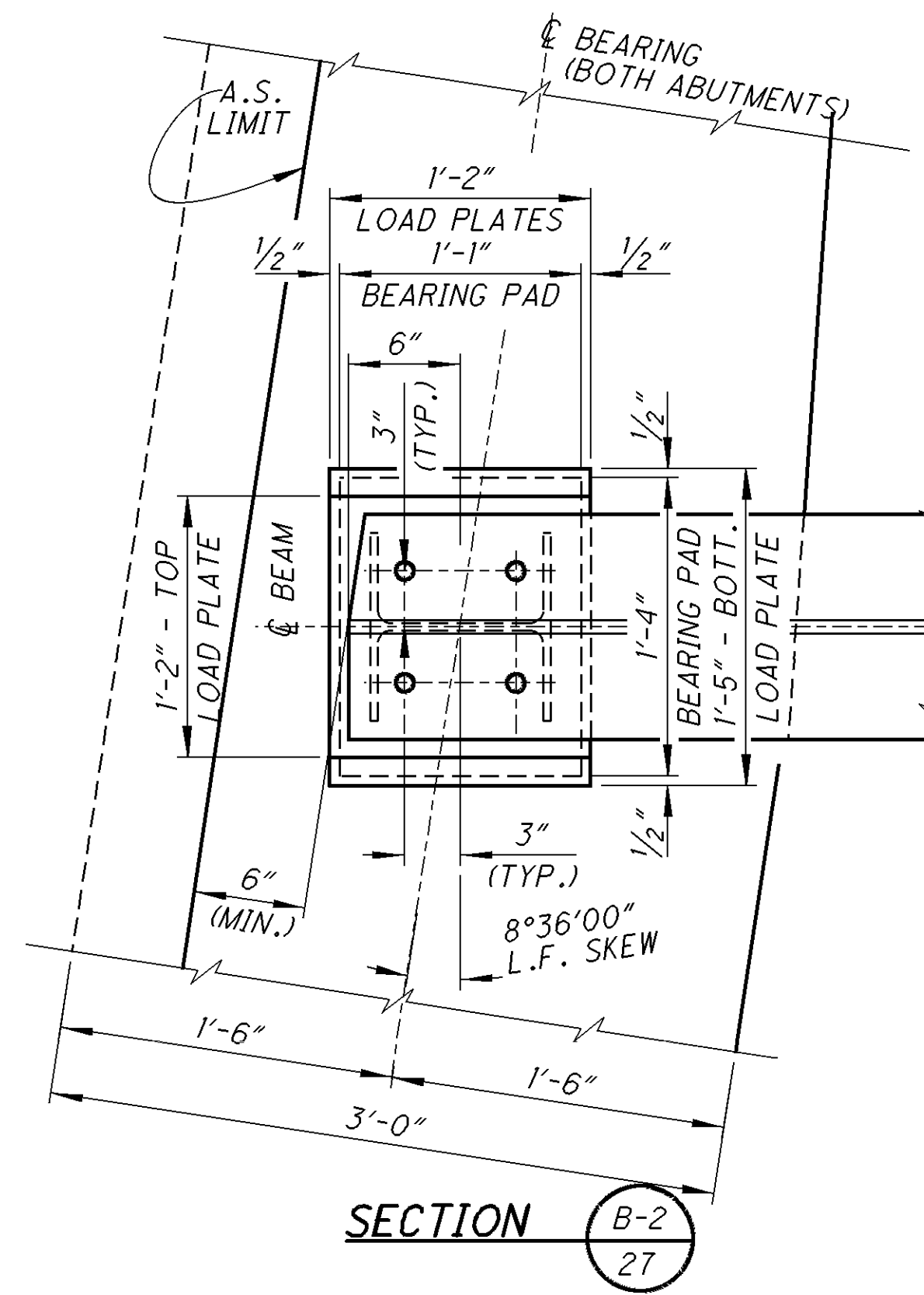


LAMINATED ELASTOMERIC EXPANSION BEARINGS - BOTH ABUTMENTS: (ALL BEAMS)

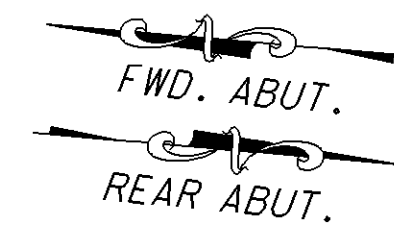


NOTE: THIS DIMENSION IS THE RAW HEIGHT OF THE BEARING PAD. AFTER APPLYING DEAD LOADS, THE ELASTOMER DEFLECTION = 0.0693"

SECTION B-1
BOTH ABUTMENTS: (ALL BEAMS)

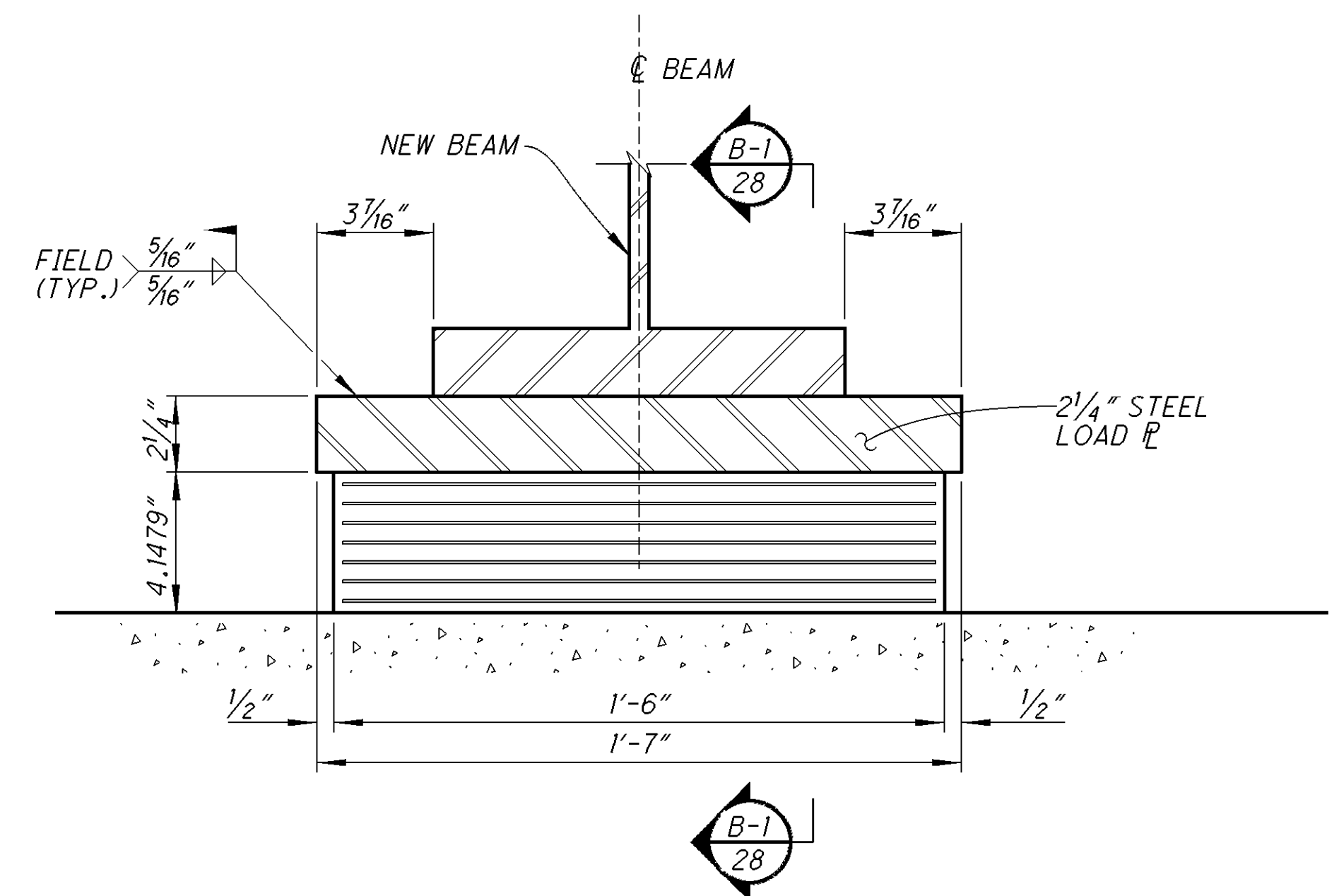


(N.T.S.)

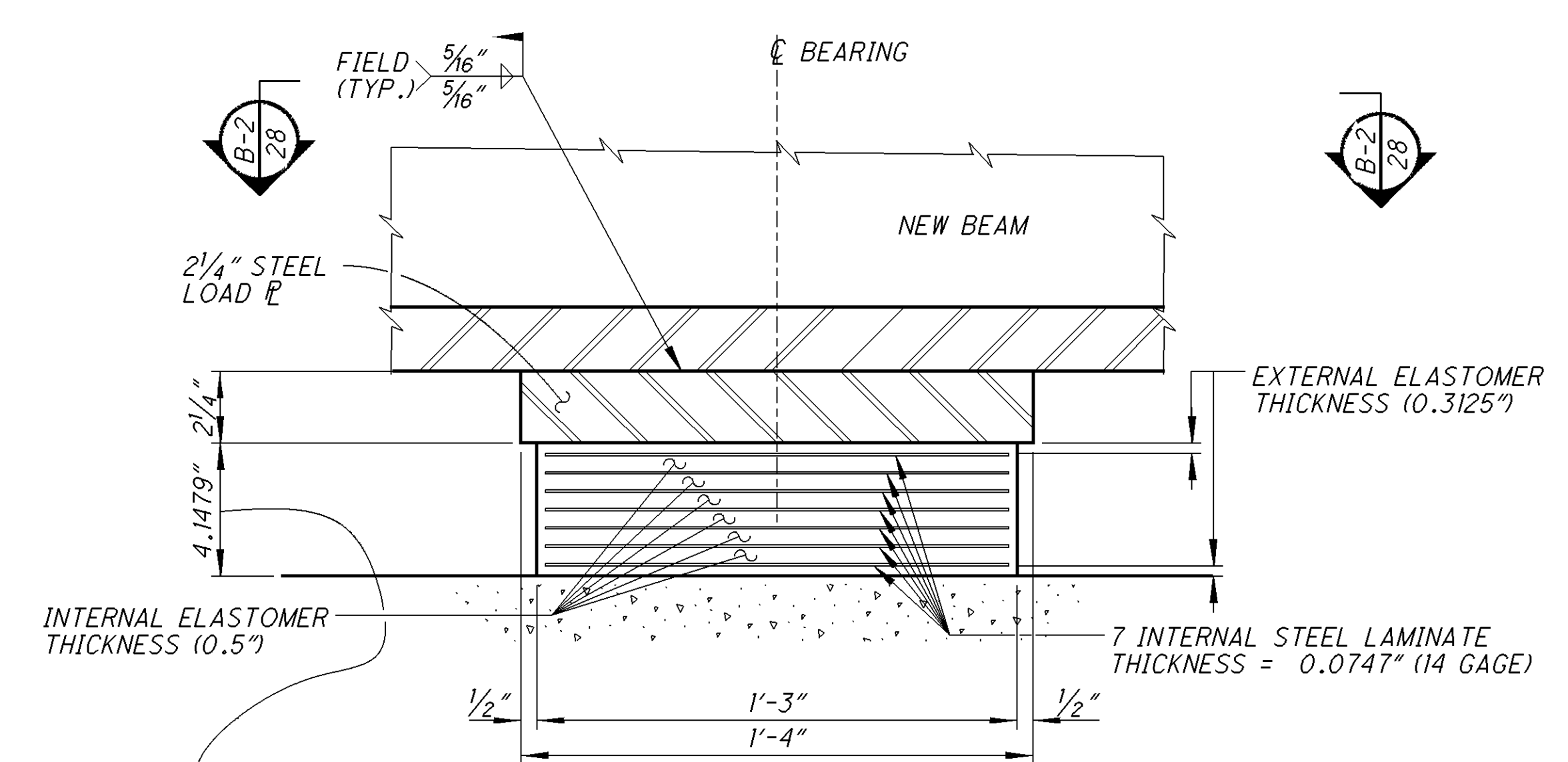


BEVEL TABLE		
BEVEL OF STEEL LOAD PLATES AT EACH SUBSTRUCTURE UNIT:		
LOCATION	BEVEL %	DIM. "A"
REAR ABUT	NONE	N/A
FWD ABUT	NONE	N/A

BEVEL TABLE		
BEVEL OF STEEL LOAD PLATES AT EACH SUBSTRUCTURE UNIT:		
LOCATION	BEVEL %	DIM. "A"
PIER 1	NONE	N/A
PIER 3	NONE	N/A



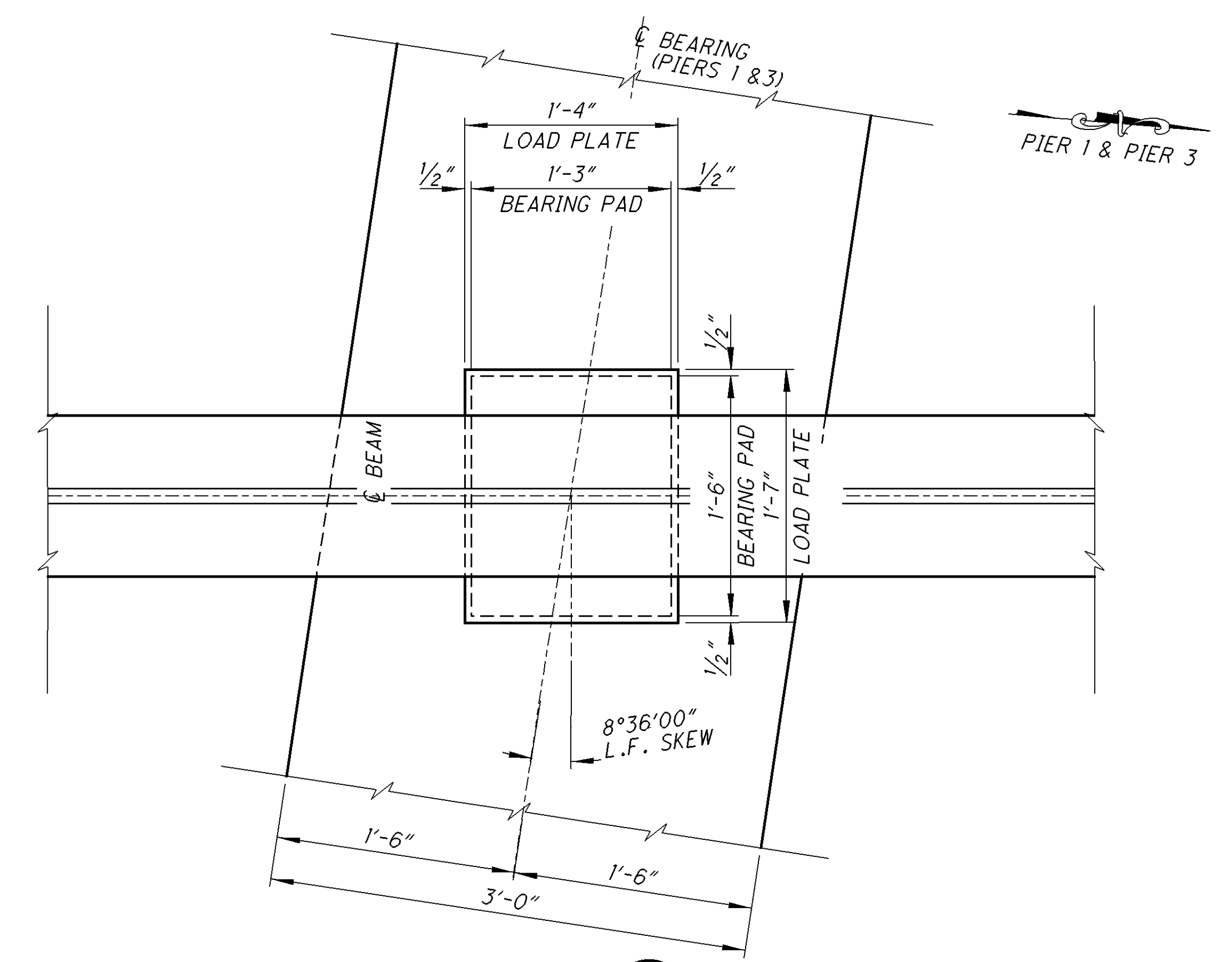
LAMINATED ELASTOMERIC EXPANSION BEARINGS - PIER 1 & 3: (BEAMS 1, 10, 11, & 12)



NOTE: THIS DIMENSION IS THE RAW HEIGHT OF THE BEARING PAD. AFTER APPLYING DEAD LOADS, THE ELASTOMER DEFLECTION = 0.1085"

SECTION B-1
28

UP-STATION - PIER 1 & 3: (BEAMS 1, 10, 11, & 12)

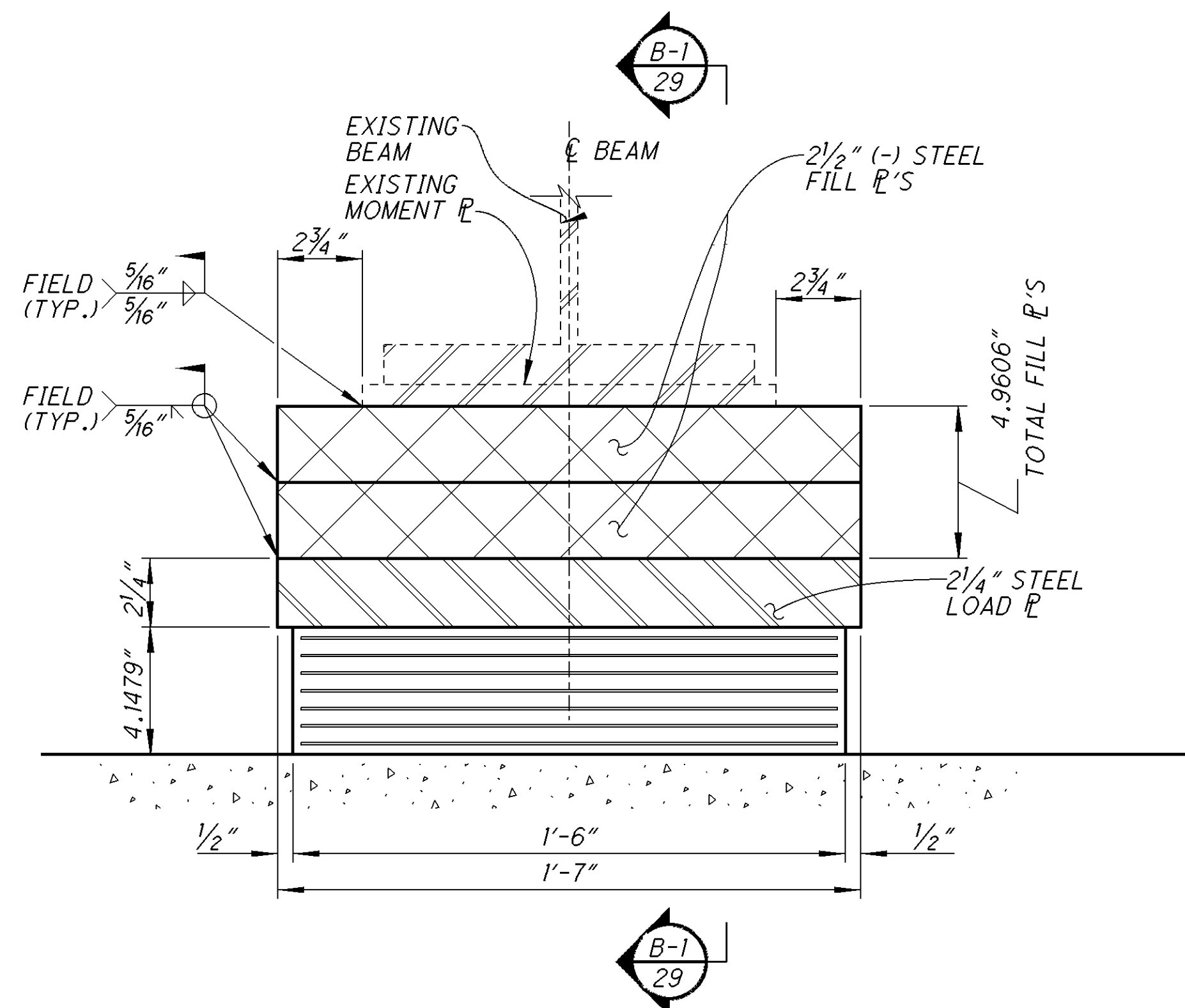


SECTION B-2
28

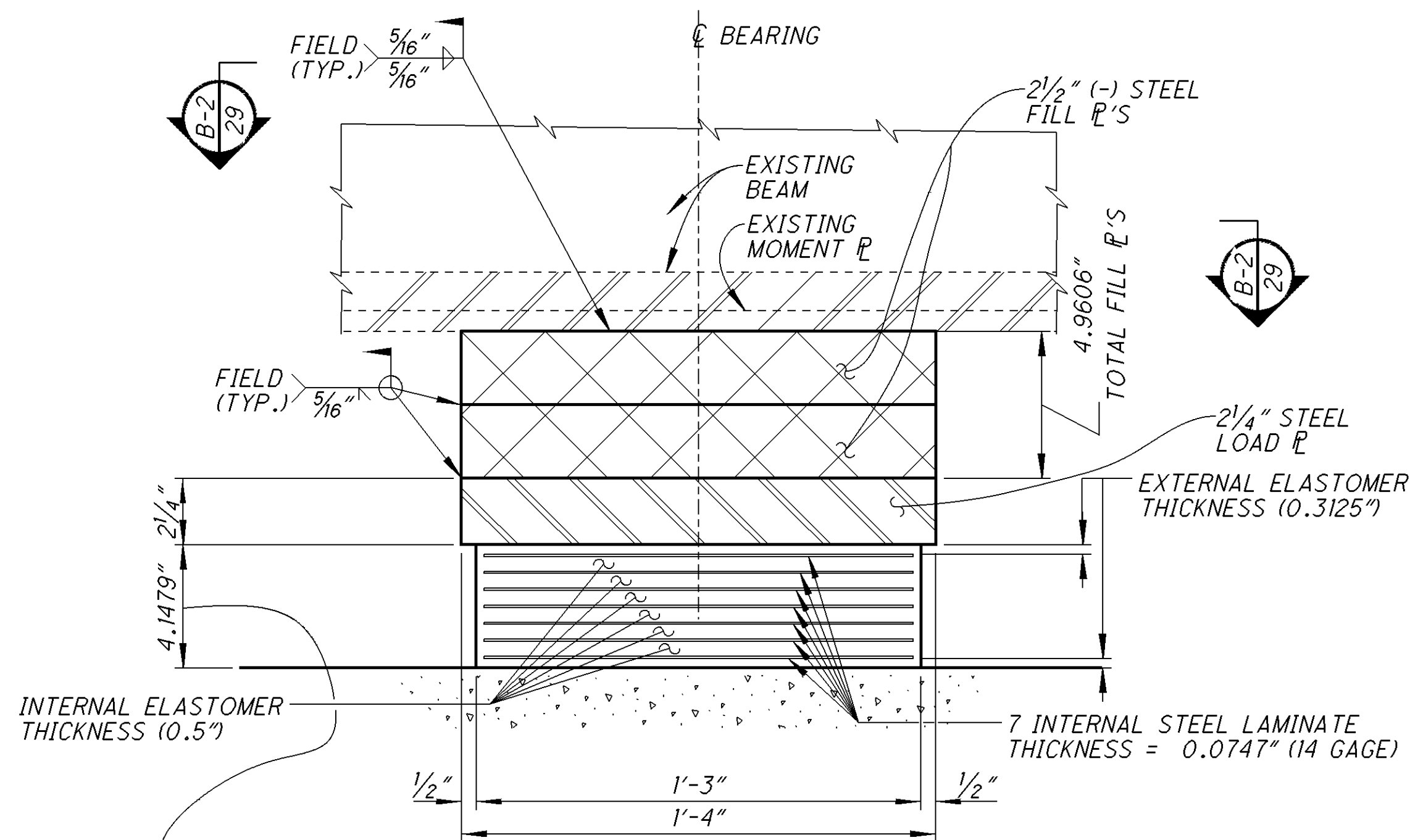
(N.T.S.)

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LAMINATED ELASTOMERIC EXPANSION BEARINGS - PIERS 1 & 3: (BEAMS 2 THROUGH 9)



NOTE: THIS DIMENSION IS THE RAW HEIGHT OF THE BEARING PAD. AFTER APPLYING DEAD LOADS, THE ELASTOMER DEFLECTION = 0.1085"

SECTION B-1

UP-STATION - PIERS 1 & 3: (BEAMS 2 THROUGH 9)

LOAD PLATE:
THE STEEL LOAD PLATES SHALL BE MADE OF A709 STEEL. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING:
WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BEARING REPOSITIONING:
IF THE LONGITUDINAL MOVEMENT OF THE BOTTOM BEAM FLANGES DUE TO CONSTRUCTION CAUSES BEARING SHEAR DEFLECTIONS TO EXCEED ONE-SIXTH OF THE BEARING HEIGHT AT 60°F +/- 10° OR THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ONE-SIXTH OF THE BEARING HEIGHT AT 60°F +/- 10°F, THE BEAMS OR GIRDERS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F +/- 10°F.

NOTES:
ADDITIONAL UPPER LOAD PLATES AT THE ABUTMENTS AND ALL HP STEEL SHAPES SHALL BE INCLUDED WITH ITEM 516 ELASTOMERIC BEARING FOR PAYMENT.

FOR ADDITIONAL DETAILS, SEE STD. DWG. SICD-I-96

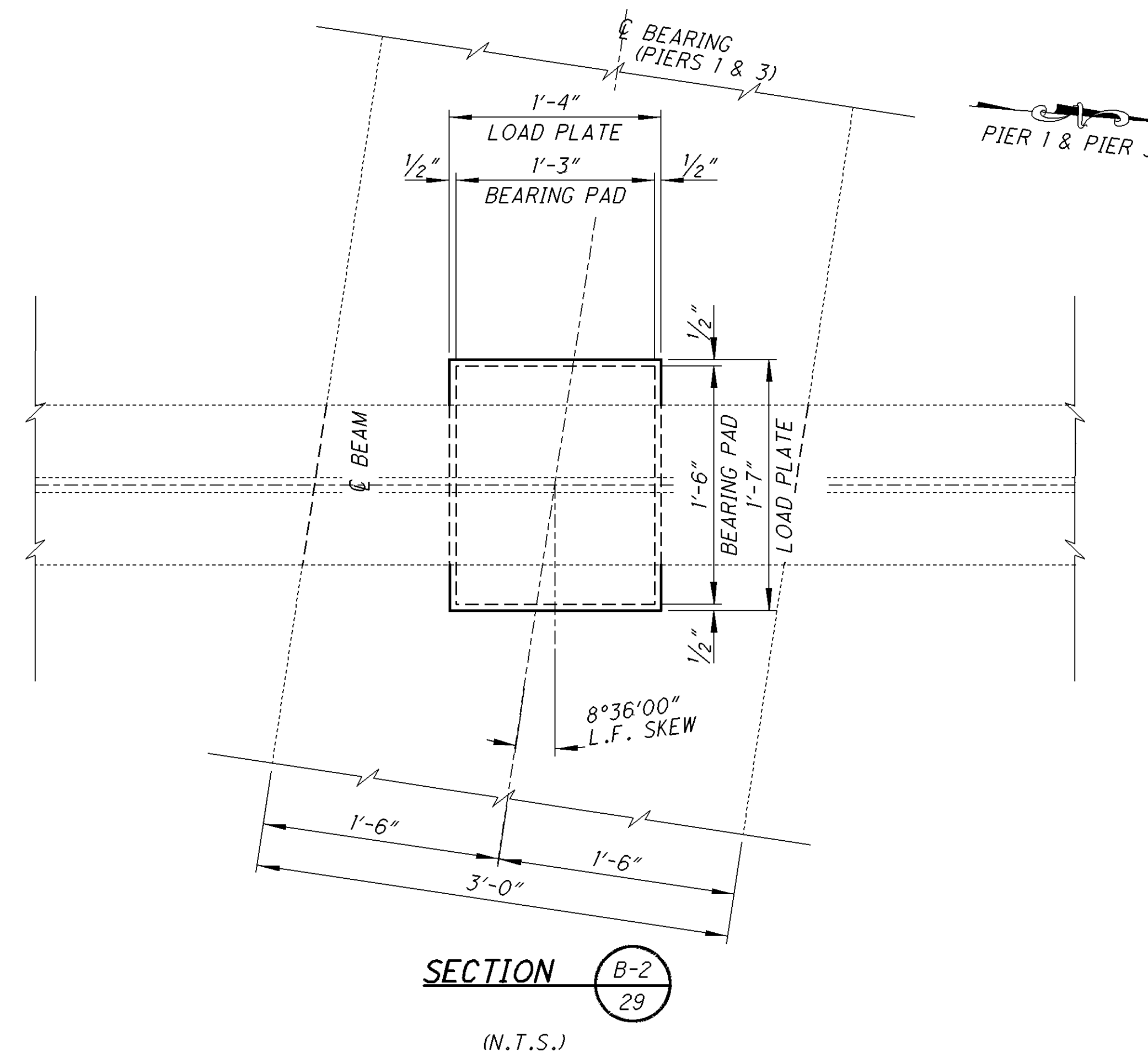
MARKINGS:
ALL BEARINGS AND LOAD PLATES SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS, AND IS LABELED, UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

BASIS OF PAYMENT:
THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS, EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE).

REAR ABUTMENT BEARING PAD: 1'-4" x 1'-1" x 4.1479" (50 DUROMETER)
LOAD PLATE (BOTTOM): 1'-5" x 1'-2" x 1.500"
PIER 1 BEARING PAD: 1'-6" x 1'-3" x 4.1479" (50 DUROMETER)
LOAD PLATE: 1'-7" x 1'-4" x 2.250"
PIER 3 BEARING PAD: 1'-6" x 1'-3" x 4.1479" (50 DUROMETER)
LOAD PLATE: 1'-7" x 1'-4" x 2.250"
FWD. ABUTMENT BEARING PAD: 1'-4" x 1'-1" x 4.1479" (50 DUROMETER)
LOAD PLATE (BOTTOM): 1'-5" x 1'-2" x 1.500"

ELASTOMERIC BEARING PAD DESIGN DATA, (KIPS)			
LOCATION	DL	LL	DL & LL
REAR ABUTMENT	76	66	142
PIER 1	166	85	251
PIER 2	N/A	N/A	N/A
PIER 3	166	85	251
FWD. ABUTMENT	76	66	142

BEVEL TABLE		
BEVEL OF STEEL LOAD P'S AT EACH SUBSTRUCTURE UNIT:		
LOCATION	BEVEL %	DIM. "A"
PIER 1	NONE	N/A
PIER 3	NONE	N/A



SECTION B-2

(N.T.S.)

SPECIFICATION FOR SELF-LUBRICATING BRONZE BEARING PLATES

Self-Lubricating bronze bearing plates shall be made by an established manufacturer of these products and shall conform to the following requirements:

(a) Cast phosphor bronze shall conform to Sec. M-7.11 of the Construction and Material Specifications, ASTM Designation B22, Alloy B, and shall have an allowable unit stress of 2,500 psi in compression.

(b) The lubricant shall be of the solid type and shall consist of graphite, metallic substances having lubricating properties and a lubricating binder. Materials which do not have lubricating qualities or which promote chemical or electrolytic reactions, will not be acceptable. The lubricant shall be compressed into the lubrication recesses with hydraulic pressure of at least five times the design unit loading to form a dense, non-plastic lubricant.

(c) The recesses for the lubricant shall consist either (1) of annular rings with or without central circular recess with a depth at least equal to the width of the ring or diameter of hole or (2) of circular recesses approximately $\frac{3}{16}$ in diameter and $\frac{1}{8}$ to $\frac{1}{4}$ deep.

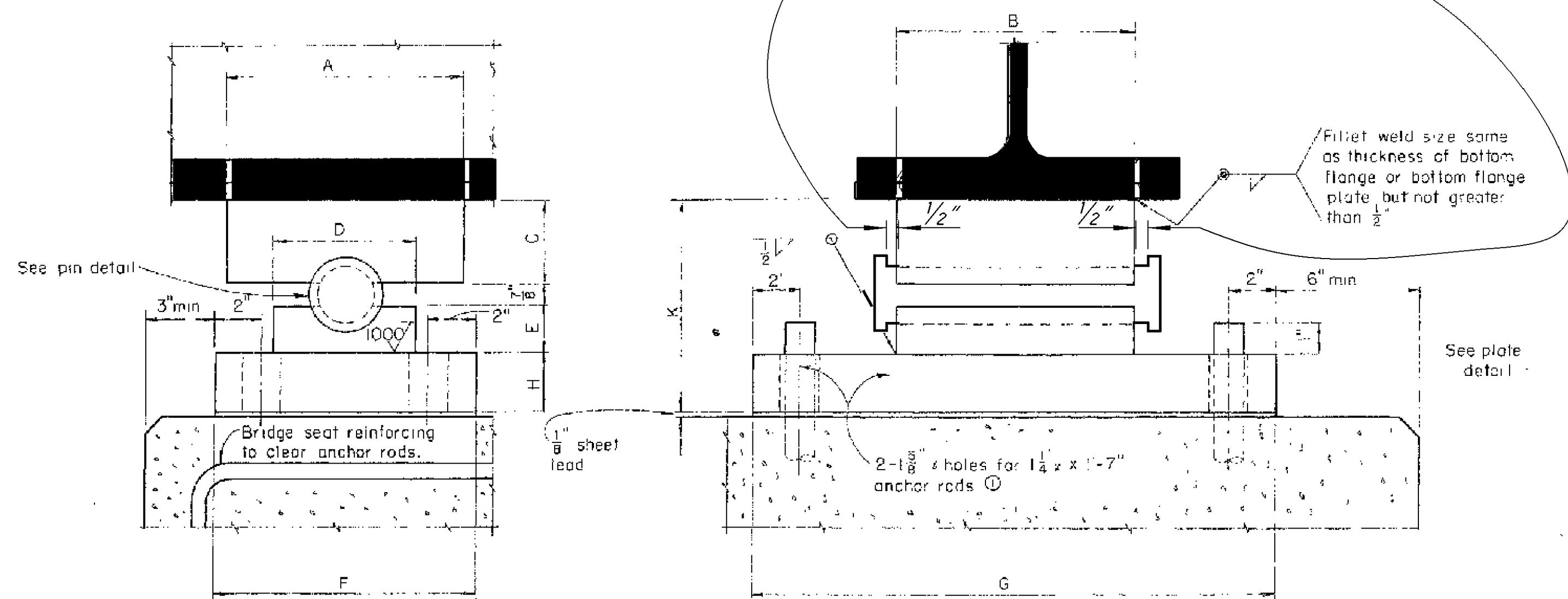
(d) The recesses shall be arranged in a geometric pattern such that successive rows shall overlap in the direction of motion and the distance between extremities of recesses shall be closer in the direction of motion than that perpendicular to motion. The entire bearing area of all surfaces which have provision for motion shall be lubricated by means of these lubricant filled recesses. The total area of these recesses shall comprise not less than 25 per cent nor more than 35 per cent of the total bearing area of the plate.

(e) Bearing surfaces of the bronze bearing plates and opposing steel plates shall be machine finished to the surface roughness shown on this Standard Drawing. The lay of the tool marks shall be in the direction of motion. All machine surfaces shall be flat within 0.005 inch per inch of length and width.

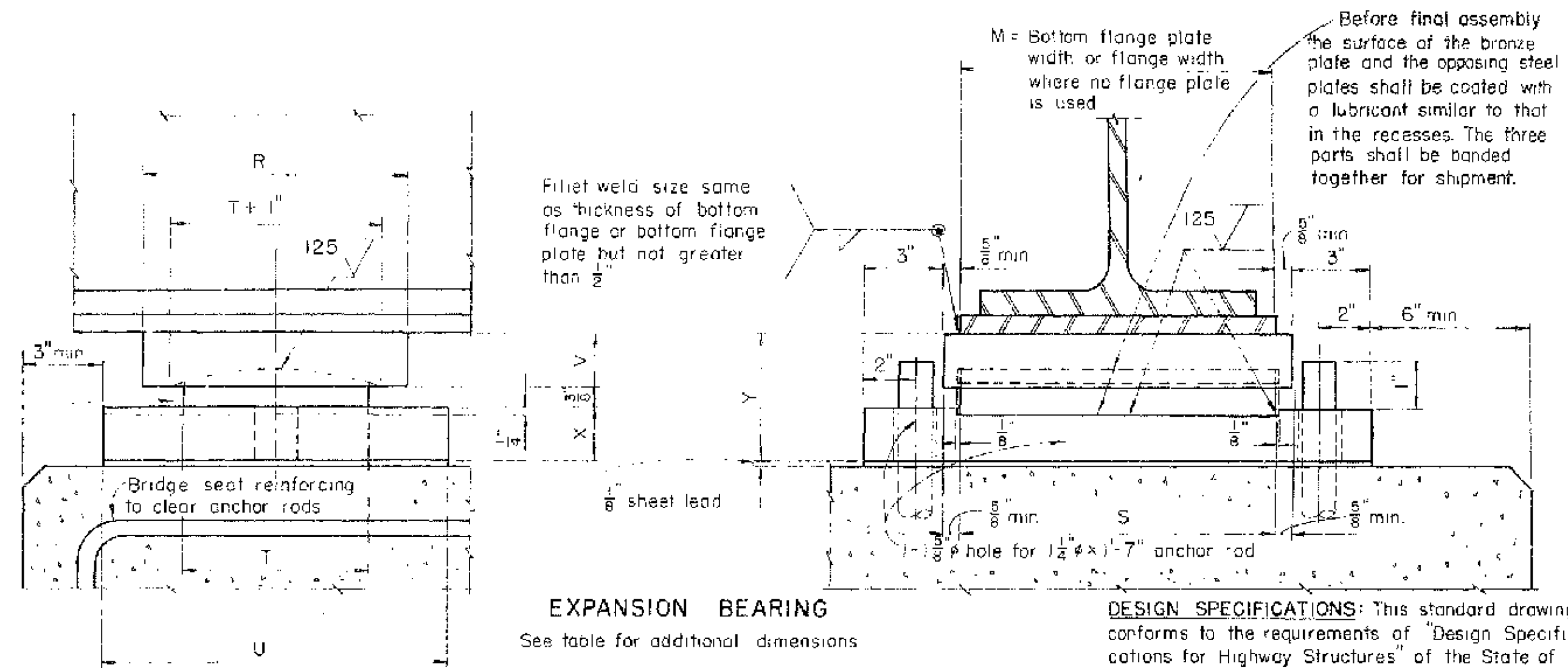
(f) For mating curved surfaces of steel and bronze, the concave surface shall have a positive tolerance not exceeding .010 inch and the convex surface a negative tolerance of .010 inch.

(g) The coefficient of friction between the bronze self-lubricating plates and the steel plates in contact with them shall not exceed 0.10 when subjected to the design loading.

NOTE: MODIFICATION



FIXED BEARING
See table for additional dimensions

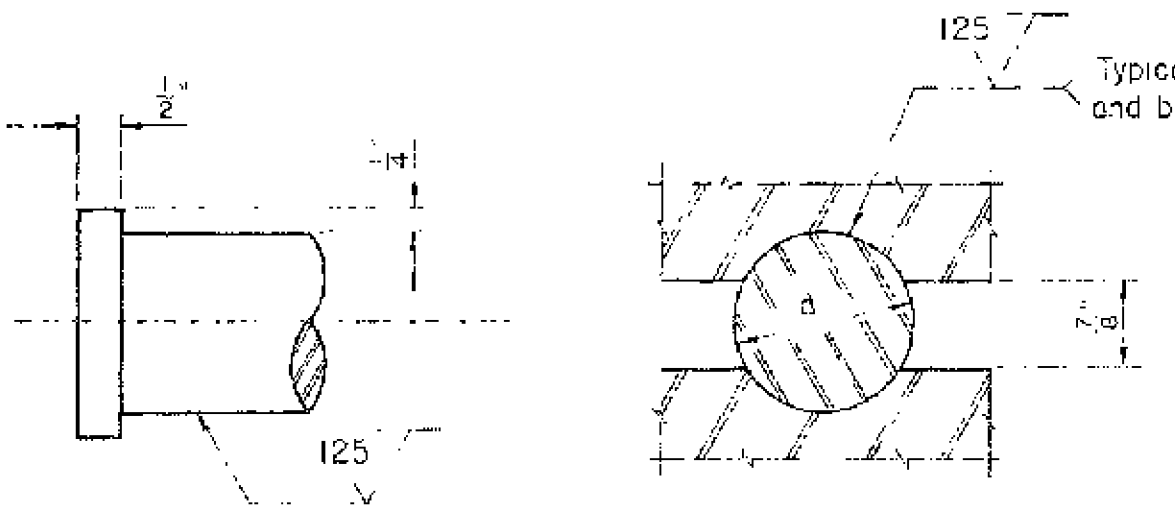


EXPANSION BEARING
See table for additional dimensions

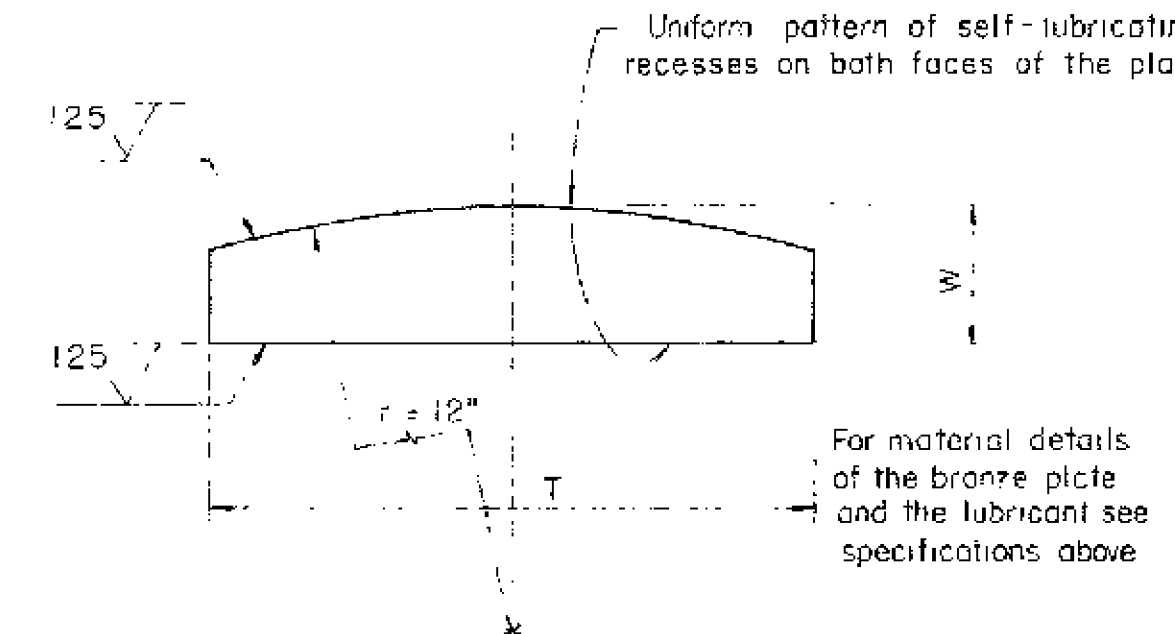
Fixed Bearing No.	Expansion Bearing No.	Fixed Bearings										Weight ea. (lb.)	Expansion Bearings										Maximum Load (lb.)
		A	B	C	D	E	F	G	H	K	d		R	S	T	U	V	W	X	Y	Weight ea. (lb.)		
F-50	E-50	6	6	1 1/2	3	1 1/4	8	16	1 1/2	5 3/8	2	100	10	6	6	12	2	1 1/8	2	4 3/8	152 + 13.10 (M-S)	50,000	
F-100	E-100	7	9	1 3/4	4	1 1/2	9	18	1 1/2	5 3/8	2	143	10	8	6	12	2	1 1/8	2	4 3/8	180 + 13.10 (M-S)	100,000	
F-150	E-150	9	9	2 1/2	5	1 1/2	11	20	2	6 7/8	2 1/2	244	10	9	7	13	2	1 5/16	2	4 3/8	205 + 13.72 (M-S)	150,000	
F-200	F-200	10	10	3	6	2	11	22	2	7 7/8	2 1/2	300	10	12	7	13	2	1 5/16	2	4 3/8	250 + 13.72 (M-S)	200,000	
F-250	E-250	11	10	3 1/2	7	2	12	24	2 1/2	8 7/8	3	400	12	13	8	14	2 1/2	1 1/2	2 1/4	5 1/8	337 + 18.16 (M-S)	250,000	
F-300	E-300	12	11	3 3/4	8	2 1/2	14	25	2 1/2	9 3/8	3	502	12	15	8	15	2 1/2	1 1/2	2 1/4	5 1/8	389 + 18.85 (M-S)	300,000	
F-350	E-350	12	11	3 3/4	8	2 1/2	16	25	2 1/2	9 3/8	3	540	12	16	9	17	2 1/2	1 3/4	2 1/4	5 1/8	443 + 20.23 (M-S)	350,000	
F-400	E-400	12	12	3 3/4	8	2 1/2	18	26	2 1/2	9 3/8	3	610	12	17	10	18	2 1/2	1 15/16	2 1/4	5 1/8	484 + 20.92 (M-S)	400,000	

① Only 2 anchor rods required, placed in diagonally opposite corners
② Bearing stiffeners are required.

Weights given are for one complete bearing (including sheet lead, anchor rods and self-lubricating bronze plate for the expansion bearing).



BEARING PIN DETAIL



SELF-LUBRICATING BRONZE PLATE DETAIL

DESIGN SPECIFICATIONS: This standard drawing conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated September 1, 1957, together with revisions thereof dated February 21, 1958, and February 15, 1961, except that the masonry plates for the fixed bearings are designed on the basis of a 50% increase in allowable bending stress assuming uniform distribution of bearing on the concrete.

STEEL: Plates and rods shall conform to ASTM Designation A 36-62 T, and pins to ASTM A-108.

LIMITATIONS: The expansion bearings shall not be used where the anticipated total movement (expansion plus contraction) exceeds 3 inches. When the roadway gradient at a bearing is over 4.0%, the top of the upper steel plate shall be beveled to match the roadway gradient.

COEFFICIENT OF FRICTION: For design purposes a value of 0.10 shall be used.

LATERAL EXPANSION: All bearings must be accurately placed in order that proper clearance will be provided at all bearings for lateral expansion of the superstructure.

REVISIONS 1-15-63	STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES
STANDARD FIXED AND SLIDING BEARINGS FOR STEEL BEAM AND GIRDER BRIDGES REACTIONS 50,000 lb. TO 400,000 lb.	
APPROVED: DATE: 4-19-62 PREPARED: JIM	ENGINEER OF BRIDGES DRAWING NO. FSB-1-62

PIER 2: (BEAMS 1, 10, 11, & 12) -
UTILIZE F-300 AS SHOWN & MODIFIED ABOVE.

P:\LIC\87935\Design\bridge\4505646 - LIC-310-0096\Plan Sheets\General\87935_BGN_002.dgn (SCALE = 1:000)

DESIGN AGENCY
OHIO DEPARTMENT OF
TRANSPORTATION, DISTRICT 5

DATE
9-24-2015

REVIEWED
JDR

DRAWN
JDR

DESIGNED
TAG

CHECKED
NEW

STRUCTURE FILE NUMBER
4505646

BEARING DETAILS (PIER 2)
BRIDGE NO. LIC-310-0096

S.R. 310 OVER I.R. 70

LIC-310-0.74

SPECIFICATION FOR SELF-LUBRICATING BRONZE BEARING PLATES

Self-Lubricating bronze bearing plates shall be made by an established manufacturer of these products and shall conform to the following requirements:

(a) Cast phosphor bronze shall conform to Sec. M-7.11 of the Construction and Material Specifications, ASTM Designation B22, Alloy B, and shall have an allowable unit stress of 2,500 psi in compression.

(b) The lubricant shall be of the solid type and shall consist of graphite, metallic substances having lubricating properties and a lubricating binder. Materials which do not have lubricating qualities or which promote chemical or electrolytic reactions, will not be acceptable. The lubricant shall be compressed into the lubrication recesses with hydraulic pressure of at least five times the design unit loading to form a dense, non-plastic lubricant.

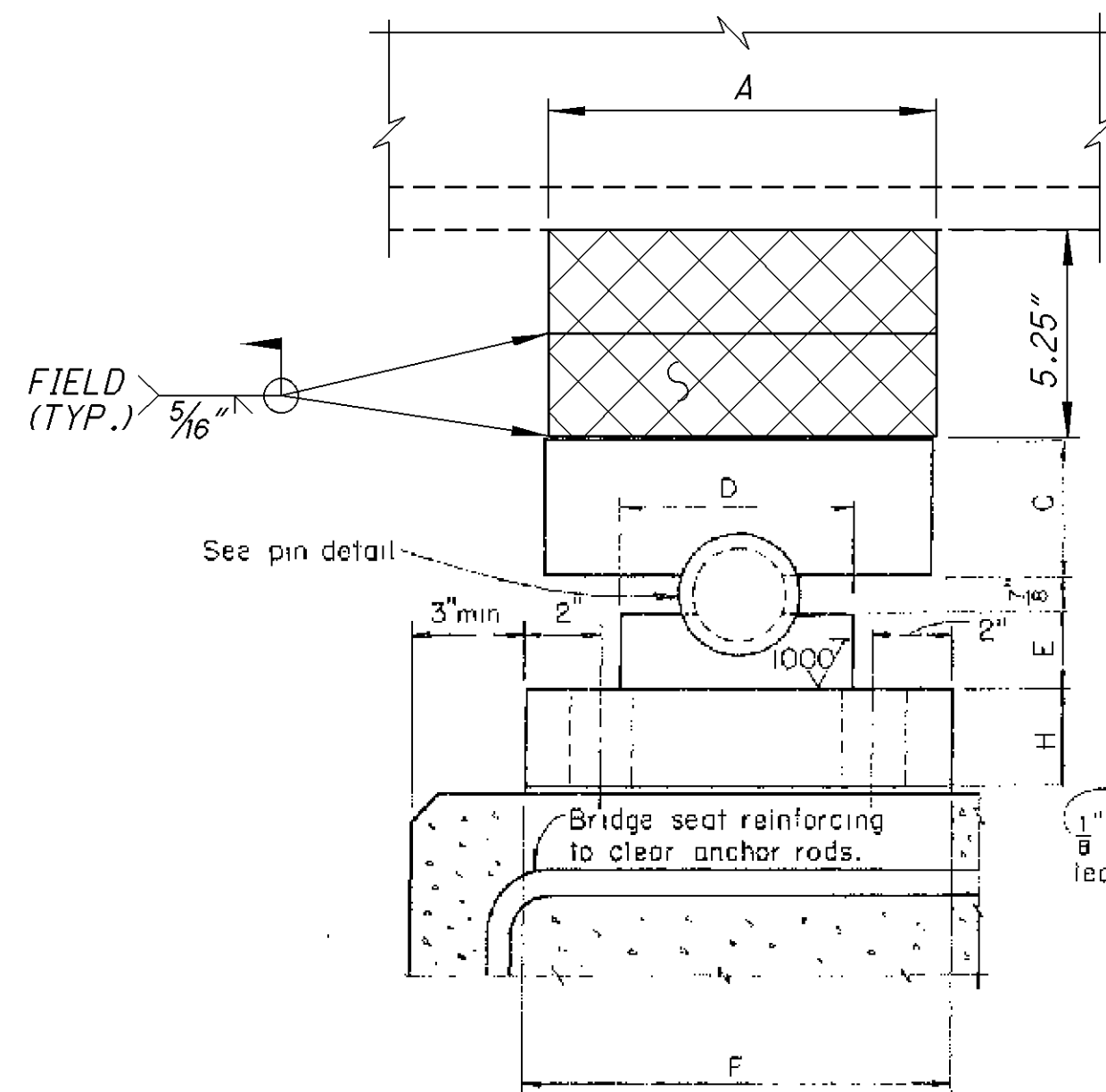
(c) The recesses for the lubricant shall consist either (1) of annular rings with or without central circular recess with a depth at least equal to the width of the ring or diameter of hole or (2) of circular recesses approximately $\frac{3}{16}$ in diameter and $\frac{1}{8}$ to $\frac{1}{4}$ deep.

(d) The recesses shall be arranged in a geometric pattern such that successive rows shall overlap in the direction of motion and the distance between extremities of recesses shall be closer in the direction of motion than that perpendicular to motion. The entire bearing area of all surfaces which have provision for motion shall be lubricated by means of these lubricant filled recesses. The total area of these recesses shall comprise not less than 25 per cent nor more than 35 per cent of the total bearing area of the plate.

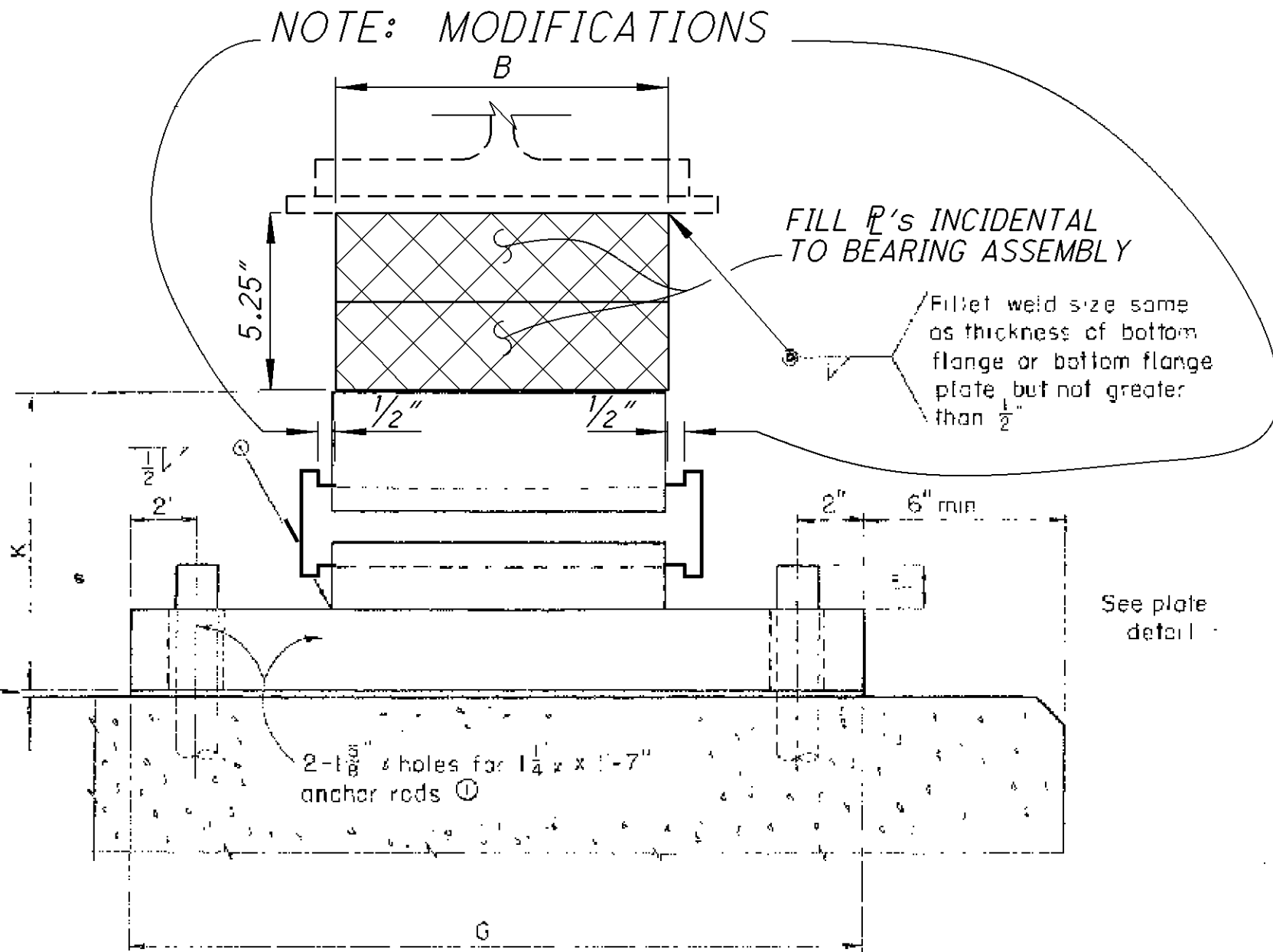
(e) Bearing surfaces of the bronze bearing plates and opposing steel plates shall be machine finished to the surface roughness shown on this Standard Drawing. The lay of the tool marks shall be in the direction of motion. All machine surfaces shall be flat within 0.005 inch per inch of length and width.

(f) For mating curved surfaces of steel and bronze, the concave surface shall have a positive tolerance not exceeding .017 inch and the convex surface a negative tolerance of .010 inch.

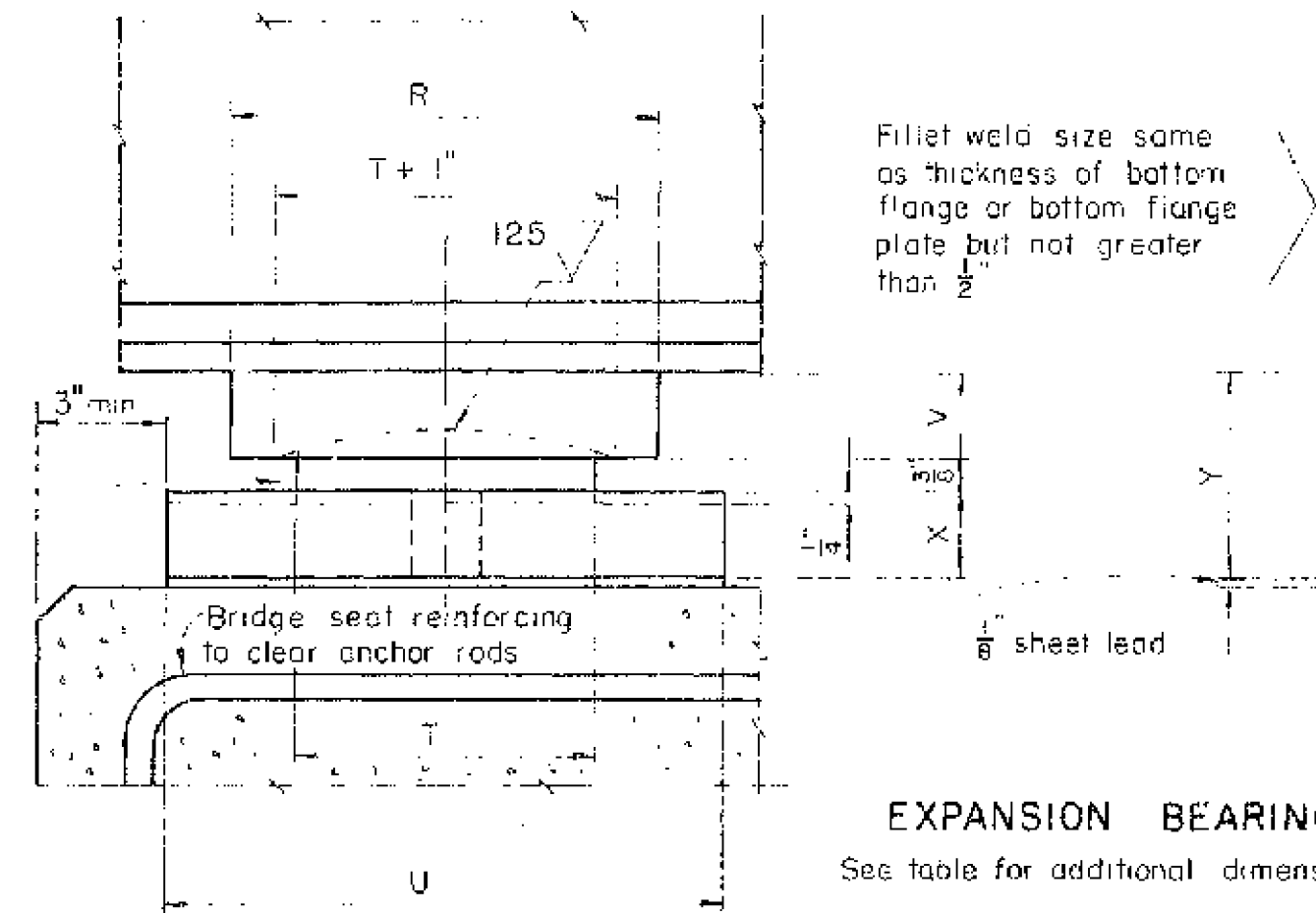
(g) The coefficient of friction between the bronze self-lubricating plates and the steel plates in contact with them shall not exceed 0.10 when subjected to the design loading.



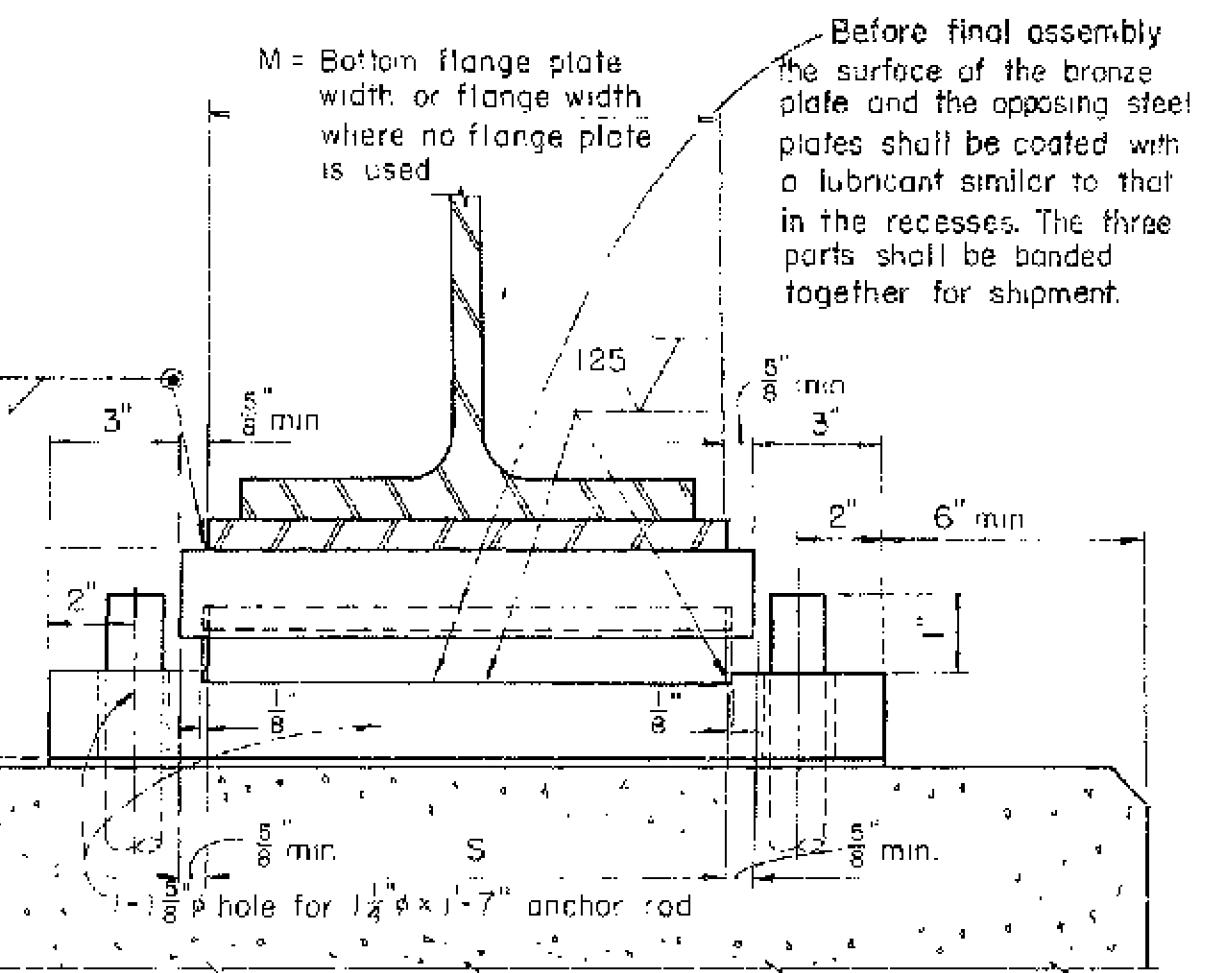
FIXED BEARING
See table for additional dimensions



See plate detail



EXPANSION BEARING
See table for additional dimensions



DESIGN SPECIFICATIONS: This standard drawing conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated September 1, 1957, together with revisions thereof dated February 21, 1958, and February 15, 1961, except that the masonry plates for the fixed bearings are designed on the basis of a 50% increase in allowable bending stress assuming uniform distribution of bearing on the concrete.

STEEL: Plates and rods shall conform to ASTM Designation A36-62 T, and pins to ASTM A-108.

LIMITATIONS: The expansion bearings shall not be used where the anticipated total movement (expansion plus contraction) exceeds 3 inches. When the roadway gradient at a bearing is over 4.0%, the top of the upper steel plate shall be beveled to match the roadway gradient.

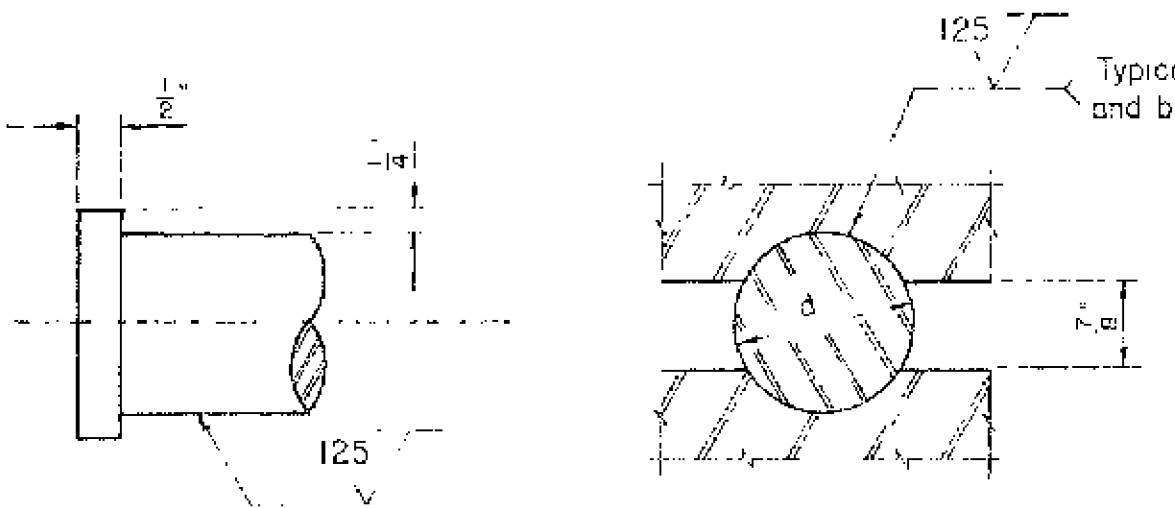
COEFFICIENT OF FRICTION: For design purposes a value of 0.10 shall be used.

LATERAL EXPANSION: All bearings must be accurately placed in order that proper clearance will be provided at all bearings for lateral expansion of the superstructure.

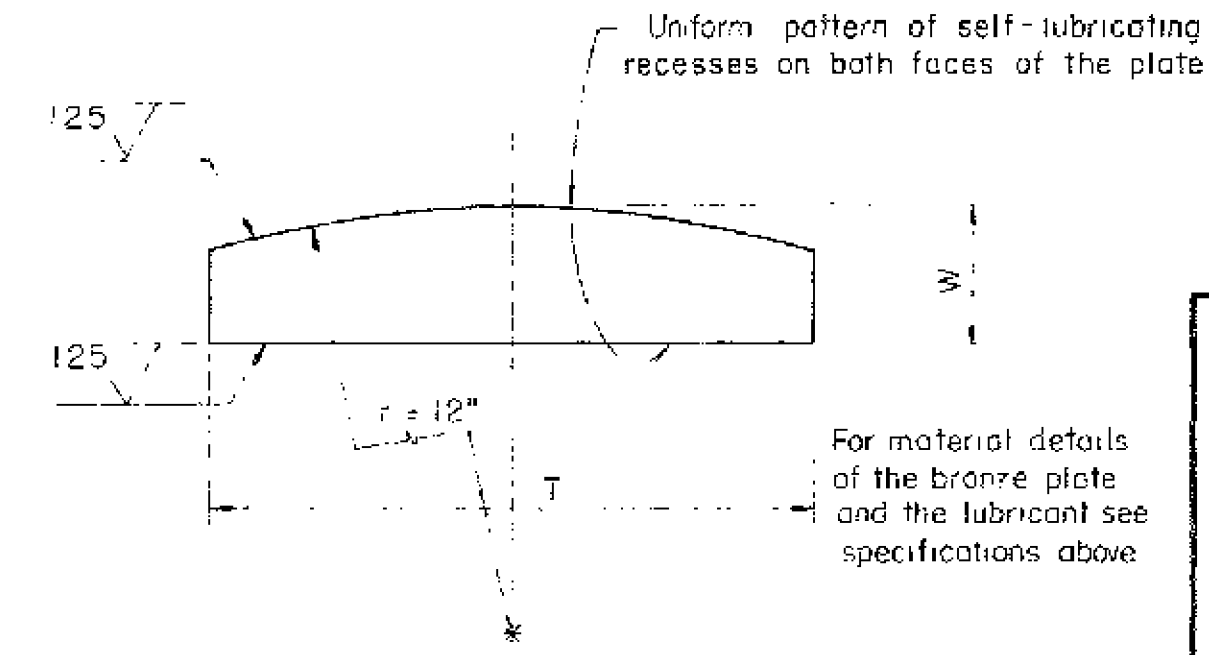
Fixed Bearing No.	Expansion Bearing No.	Fixed Bearings										Weight ea. (lb.)	Expansion Bearings										Maximum Load (lb.)
		Dimensions (inches)											Dimensions (inches)										
		A	B	C	D	E	F	G	H	K	d		R	S	T	U	V	W	X	Y			
F-50	E-50	6	6	1 1/2	3	1 1/4	8	16	1 1/2	5 3/8	2	100	10	6	6	12	2	1 1/8	2	4 3/8	152 + 13.10 (M-S)	50,000	
F-100	E-100	7	9	1 3/4	4	1 1/2	9	18	1 1/2	5 3/8	2	143	10	8	6	12	2	1 1/8	2	4 3/8	180 + 13.10 (M-S)	100,000	
F-150	E-150	9	9	2 1/2	5	1 1/2	11	20	2	6 7/8	2 1/2	244	10	9	7	13	2	1 5/16	2	4 3/8	205 + 13.72 (M-S)	150,000	
F-200	E-200	10	10	3	6	2	11	22	2	7 7/8	2 1/2	300	10	12	7	13	2	1 5/16	2	4 3/8	250 + 13.72 (M-S)	200,000	
F-250	E-250	11	10	3 1/2	7	2	12	24	2 1/2	8 7/8	3	400	12	13	8	14	2 1/2	1 1/2	2 1/4	5 1/8	337 + 18.16 (M-S)	250,000	
F-300	E-300	12	11	3 3/4	8	2 1/2	14	25	2 1/2	9 3/8	3	502	12	15	8	15	2 1/2	1 1/2	2 1/4	5 1/8	389 + 18.85 (M-S)	300,000	
F-350	E-350	12	11	3 3/4	8	2 1/2	16	25	2 1/2	9 3/8	3	540	12	16	9	17	2 1/2	1 3/4	2 1/4	5 1/8	443 + 20.23 (M-S)	350,000	
F-400	E-400	12	12	3 3/4	8	2 1/2	18	26	2 1/2	9 3/8	3	610	12	17	10	18	2 1/2	1 1/2	2 1/4	5 1/8	484 + 20.92 (M-S)	400,000	

- ① Only 2 anchor rods required, placed in diagonally opposite corners
- ② Bearing stiffeners are required.

Weights given are for one complete bearing (including sheet lead, anchor rods and self-lubricating bronze plate for the expansion bearing).



BEARING PIN DETAIL



SELF-LUBRICATING BRONZE PLATE DETAIL

REVISIONS 1-15-63	STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES
STANDARD FIXED AND SLIDING BEARINGS FOR STEEL BEAM AND GIRDER BRIDGES REACTIONS 50,000 lb. TO 400,000 lb.	
APPROVED: DATE: 4-19-62 PREPARED: JM	ENGINEER OF BRIDGES DRAWING NO. FSB-1-62

PIER 2: (BEAMS 2 THROUGH 9) -
UTILIZE F-300 AS SHOWN & MODIFIED ABOVE.

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DESIGN AGENCY
OHIO DEPARTMENT OF
TRANSPORTATION, DISTRICT 5

DATE
9-24-2015

DESIGNED
TAG

DRAWN
JDR

BEARING DETAILS (PIER 2)
BRIDGE NO. LIC-310-0096
S.R. 310 OVER I.R. 70

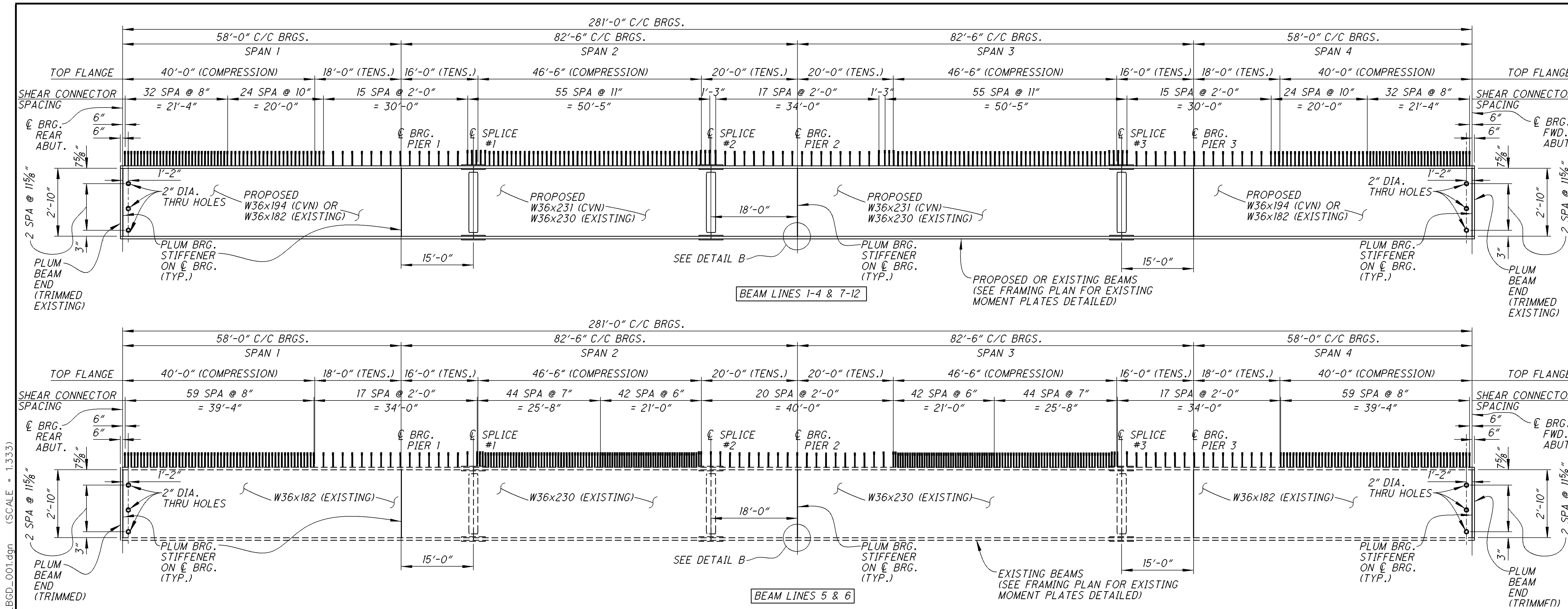
REVIEWED
JDR

CHECKED
NEW

STRUCTURE FILE NUMBER
4505646

LIC-310-0.74

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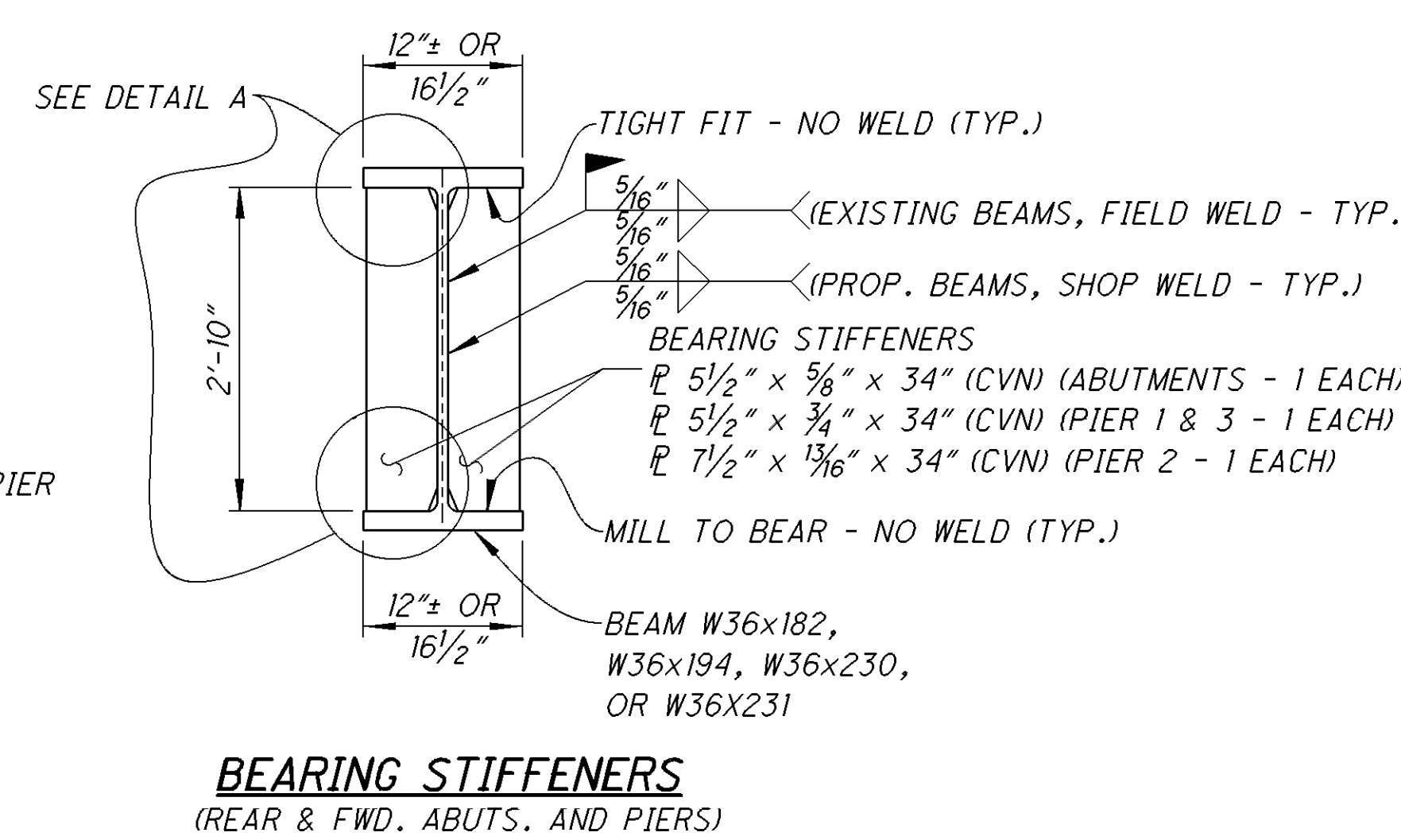
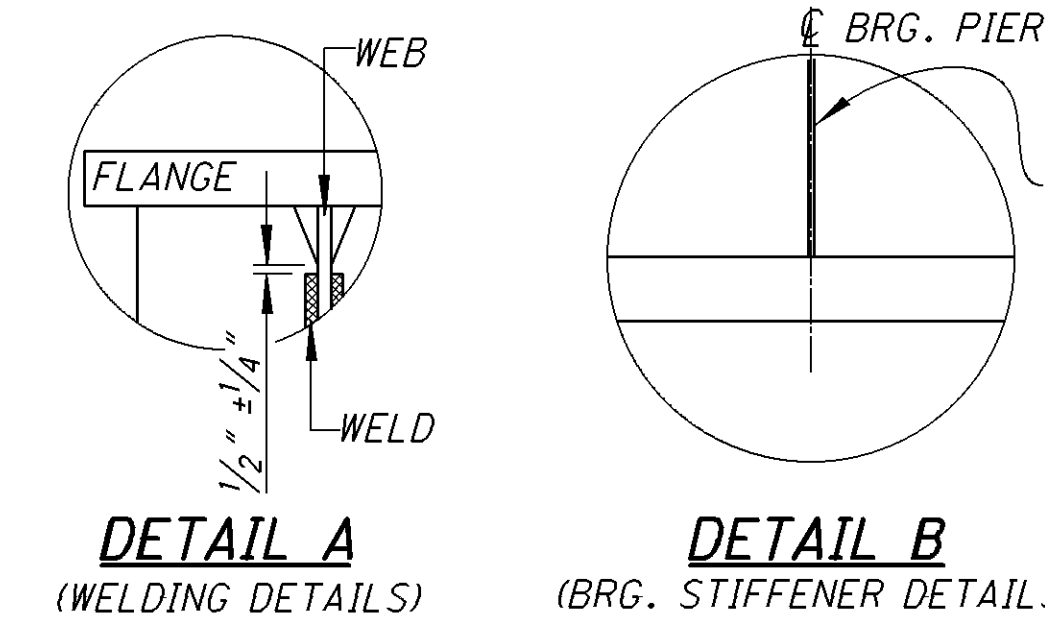
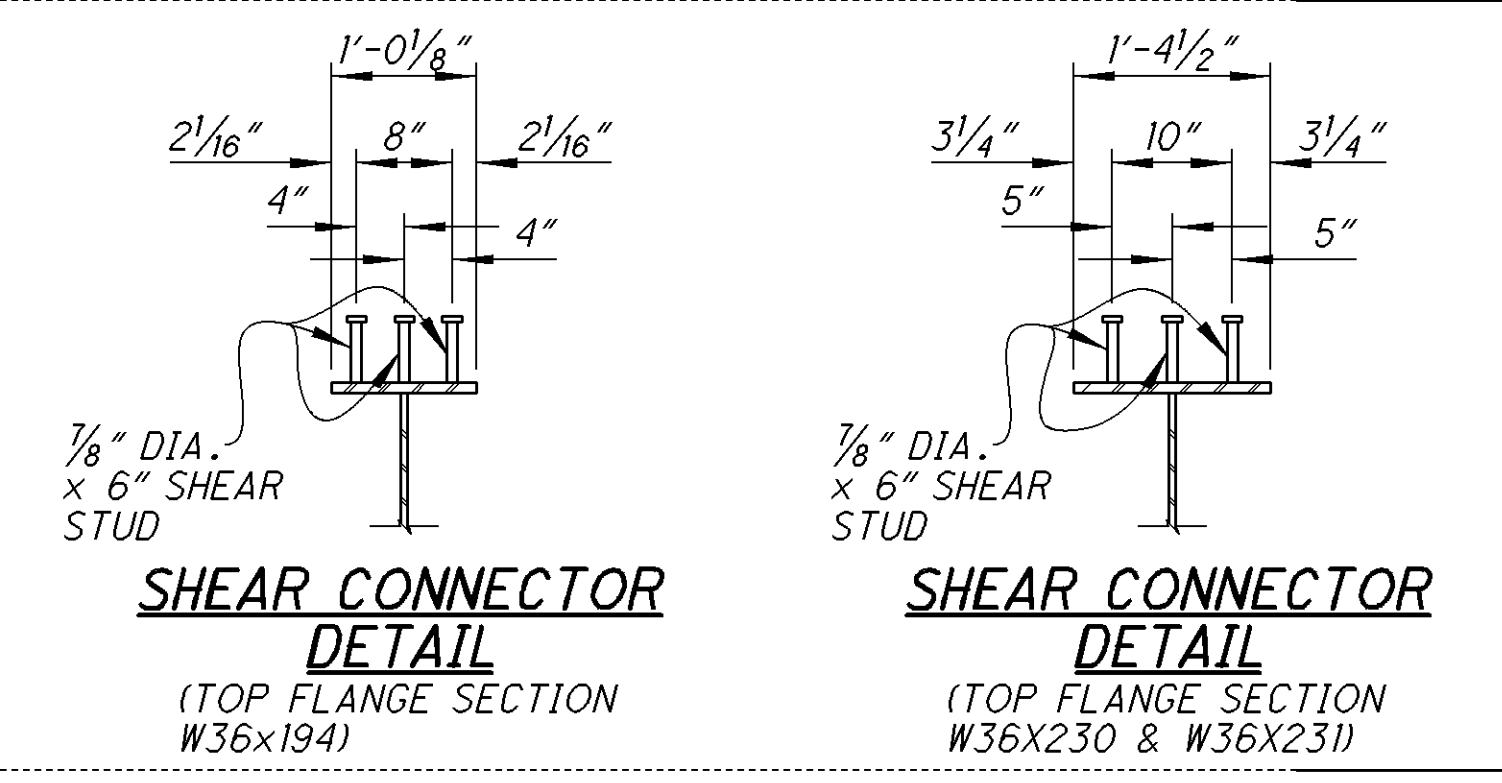
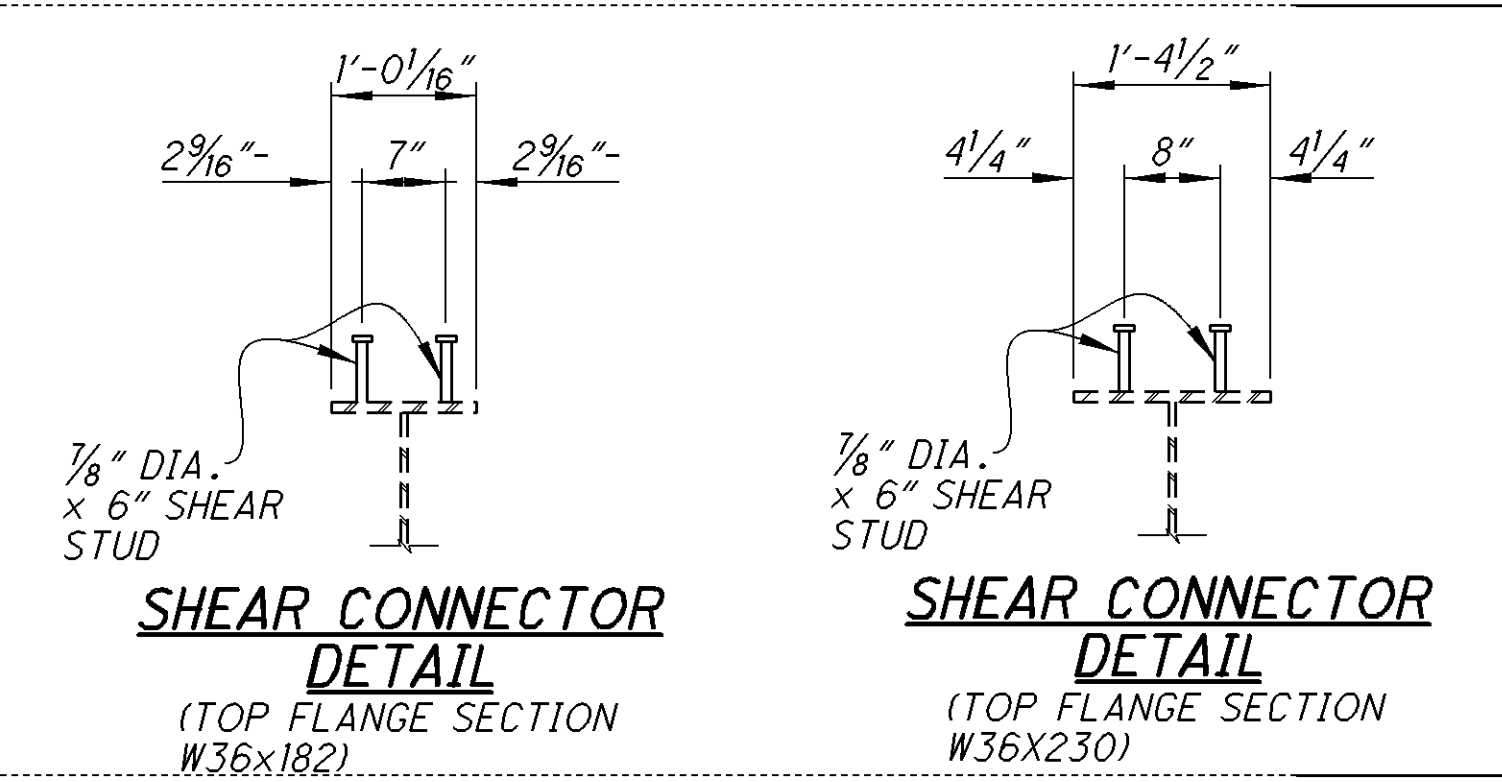
BEAM ELEVATIONS / SHEAR CONNECTOR SPACINGS
(NO CAMBER SHOWN & N.T.S.)

NOTES:
WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE AT LEAST 2" LONG AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.

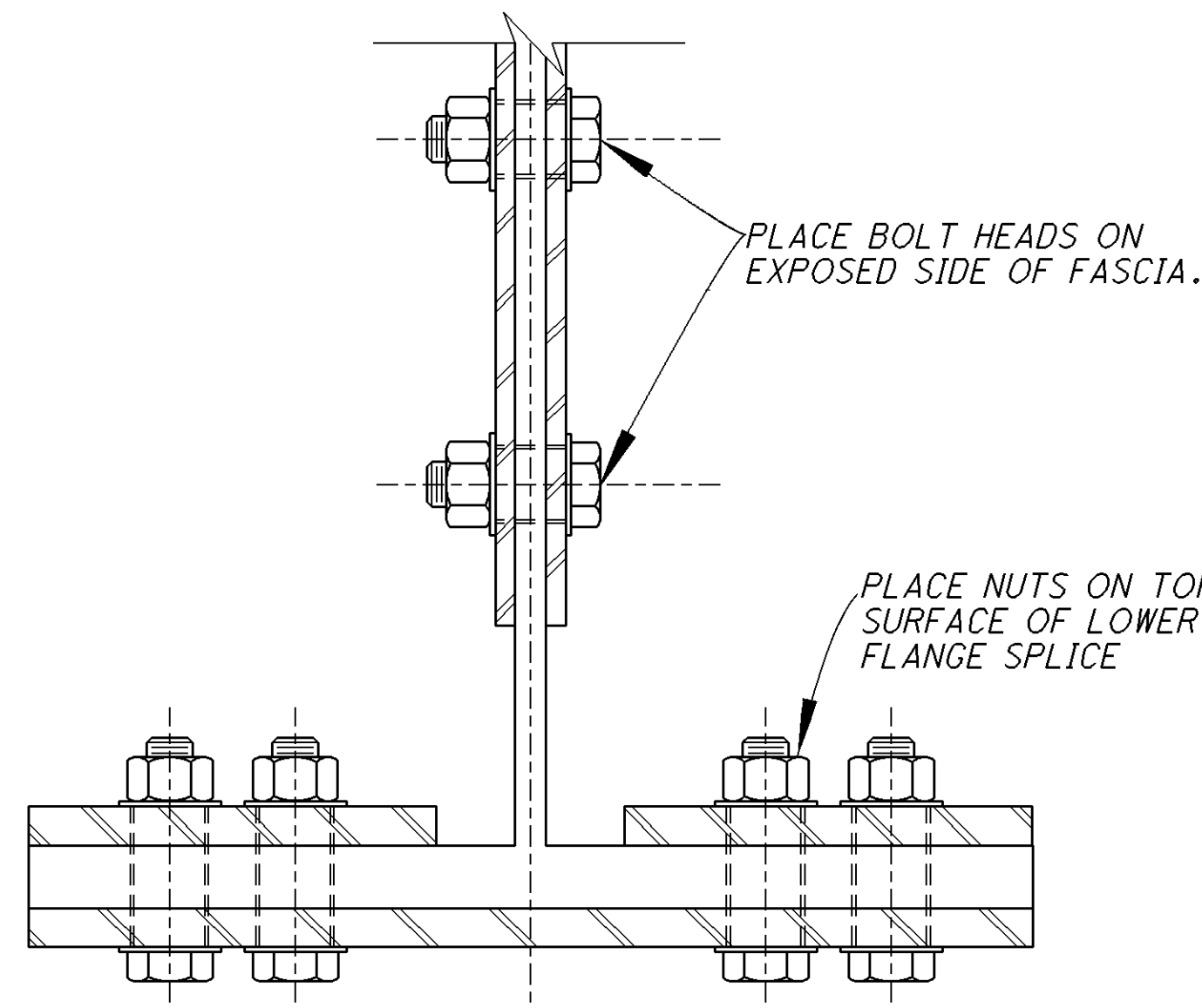
ALL SPLICE PLATES EXCEPT FILL PLATES SHALL BE CVN.

FOR CROSSFRAME LOCATIONS, SEE SHEET 36/62.

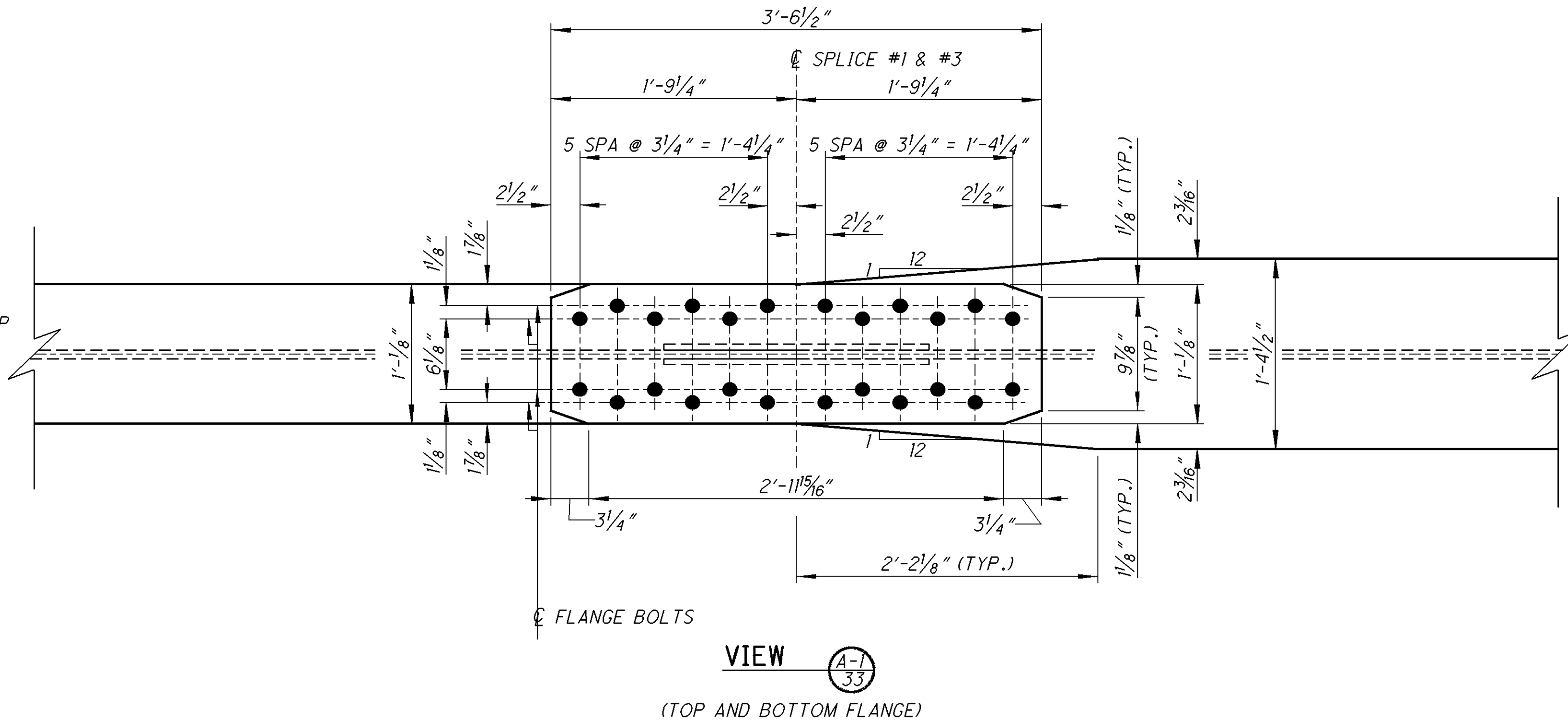
FOR ADDITIONAL DETAILS, SEE STANDARD DRAWING GSD-1-96.



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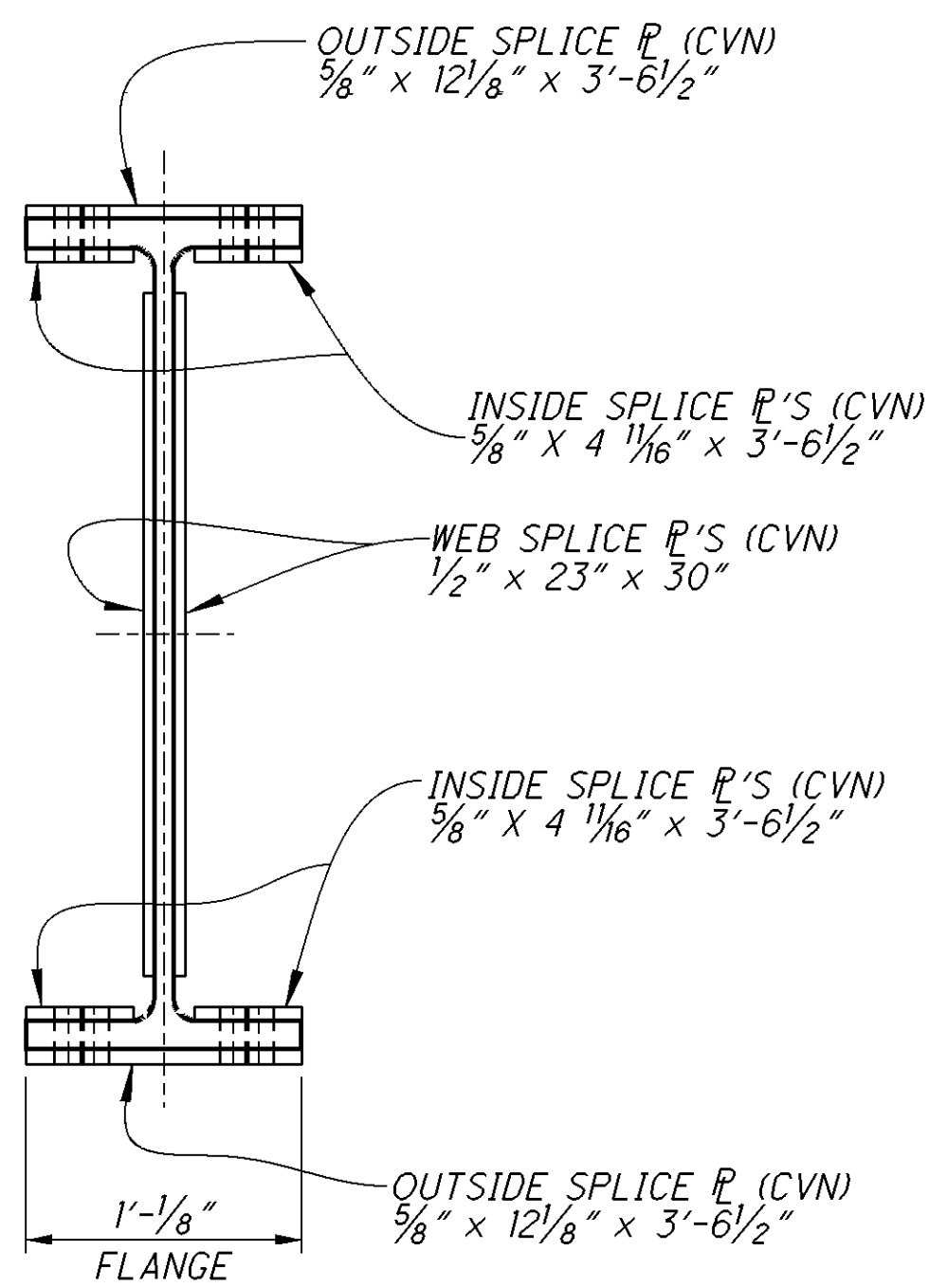


PARTIAL SECTION
(AT C OF SPLICE)
(NOT TO SCALE)

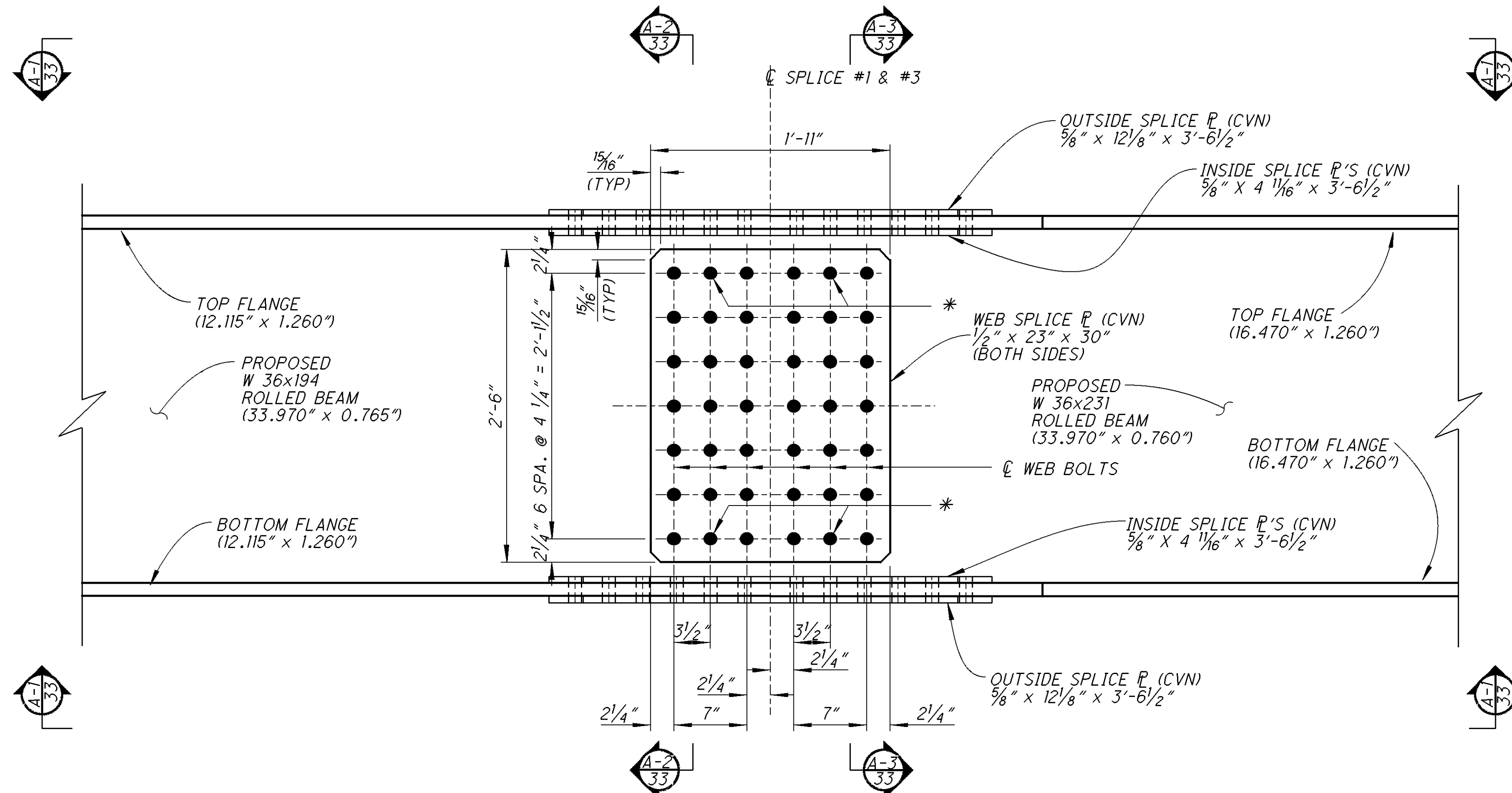


VIEW (A-1/A-3)
(TOP AND BOTTOM FLANGE)

NOTE:
EXCLUDE THE BOLT THREADS FROM THE SHEAR PLANES. (THE BOLT SHEAR STRENGTH FOR THE FLANGE AND WEB SPLICES HAS BEEN DESIGNED ASSUMING THAT THE THREADS ARE EXCLUDED FROM THE SHEAR PLANES.)
ALL BOLTS USED SHALL BE 1/8" DIAMETER.
ALL BOLT HOLES SHALL BE 1 7/16" DIAMETER.
BOLT SPECIFICATIONS SHALL CONFORM TO A325, TYPE I.

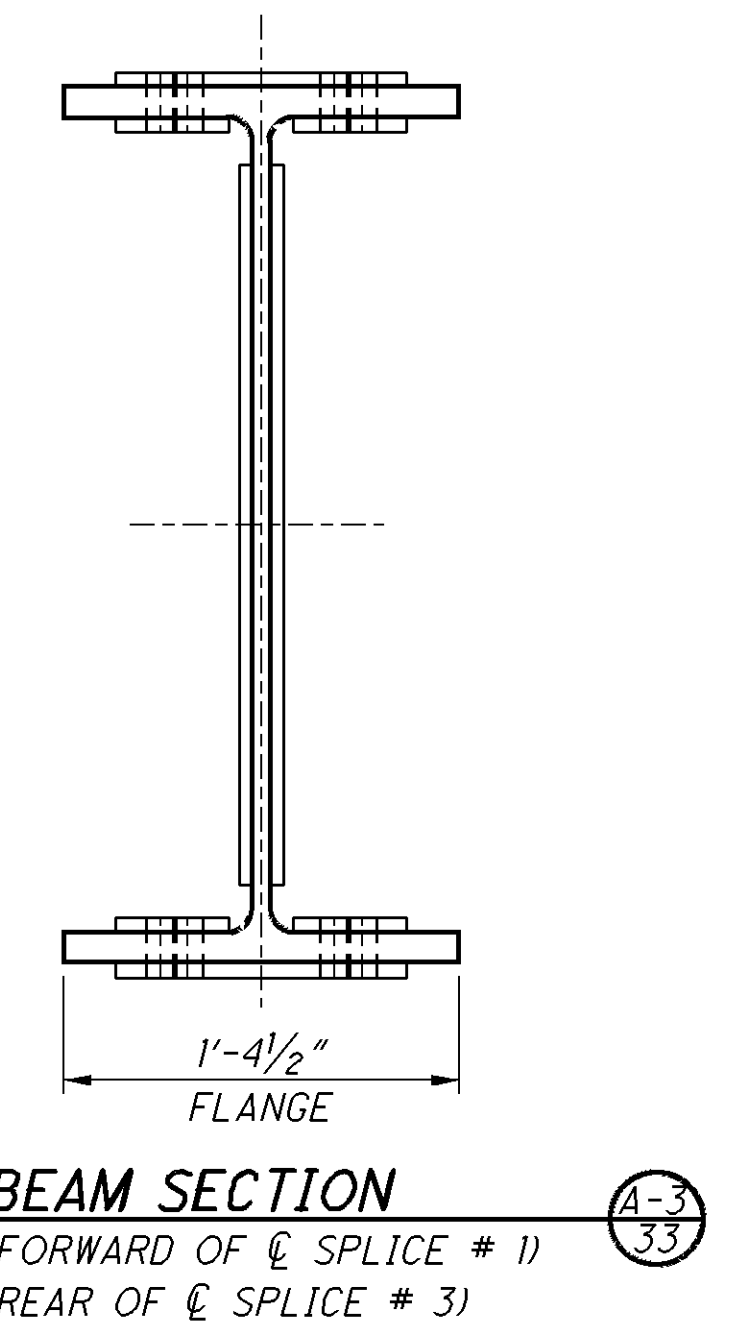


BEAM SECTION (A-2/A-3)
(REAR OF C SPLICE # 1)
(FORWARD OF C SPLICE # 3)



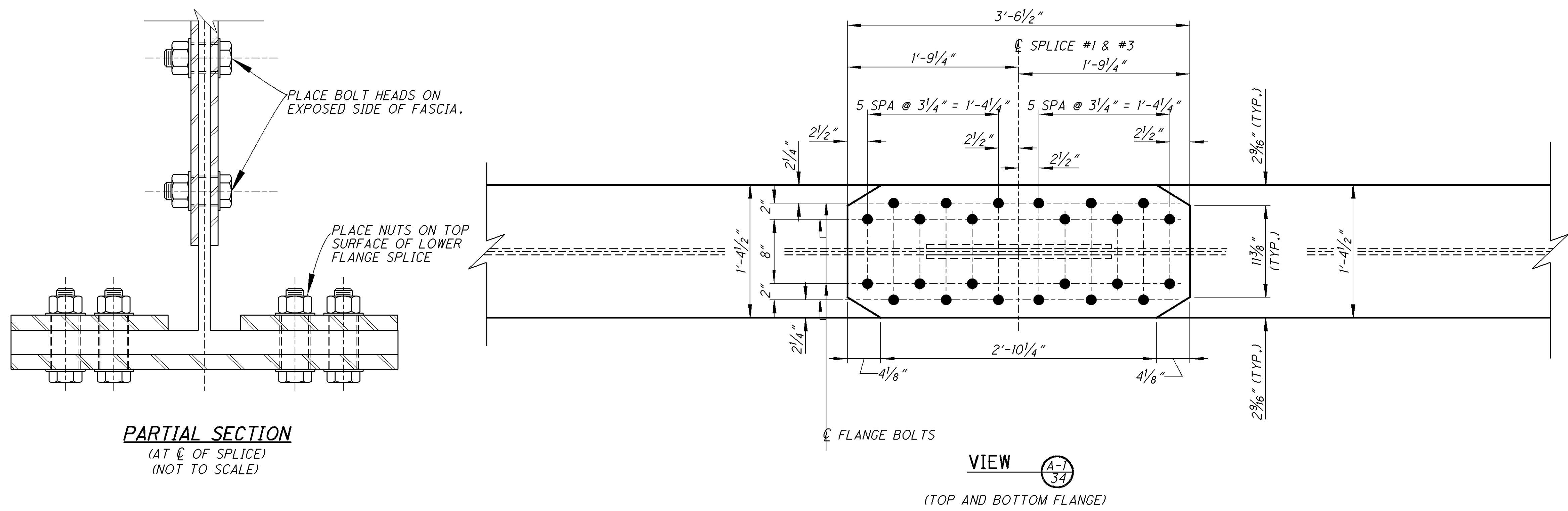
BOLTED SPLICE DETAIL
(SEE FRAMING PLAN FOR LOCATION IN SPANS 2 & 3)

* - BOLT AND NUT LOCATIONS TO BE PLACED AND TIGHTENED LAST



BEAM SECTION (A-3/33)
(FORWARD OF C SPLICE # 1)
(REAR OF C SPLICE # 3)

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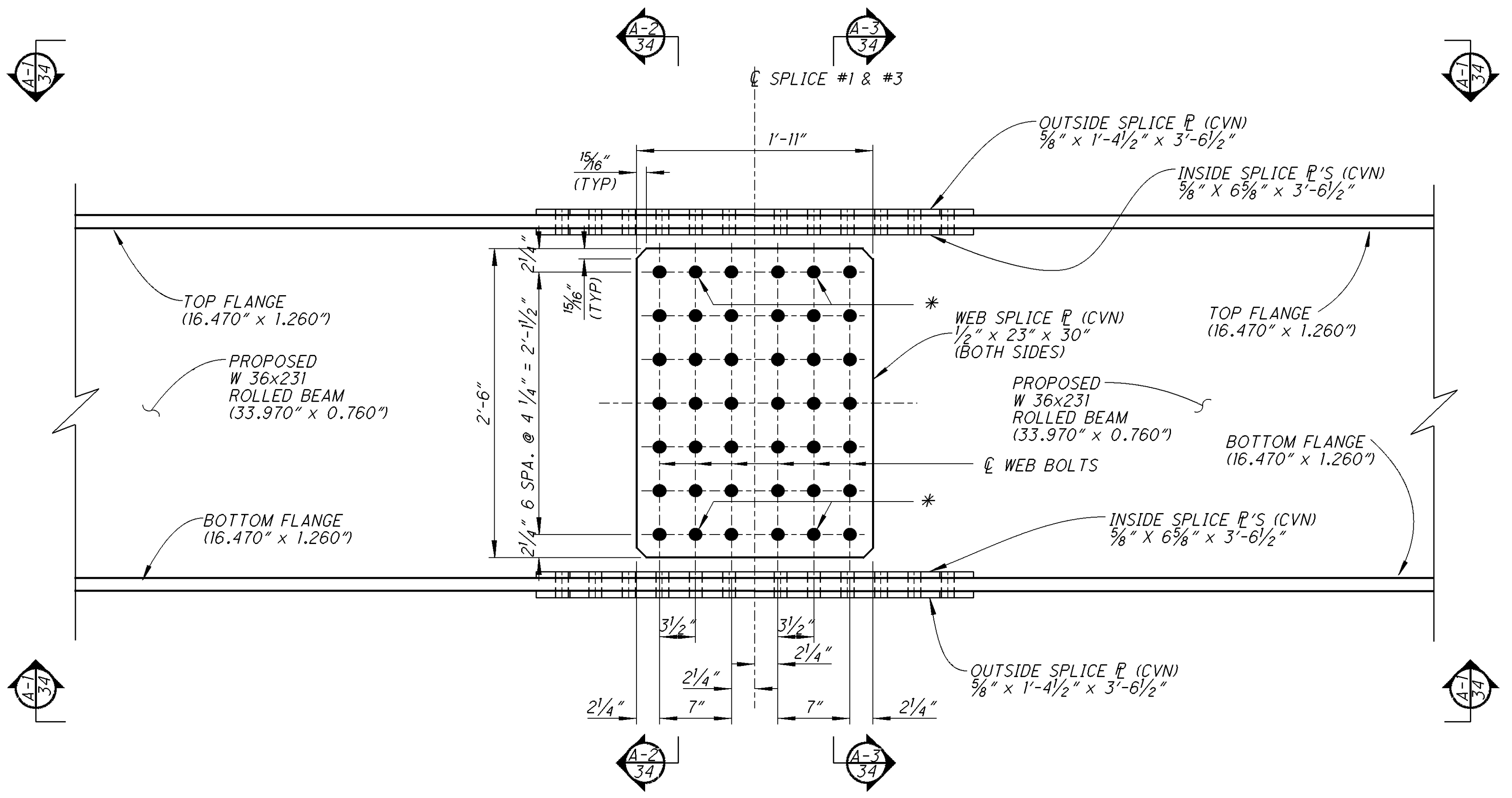
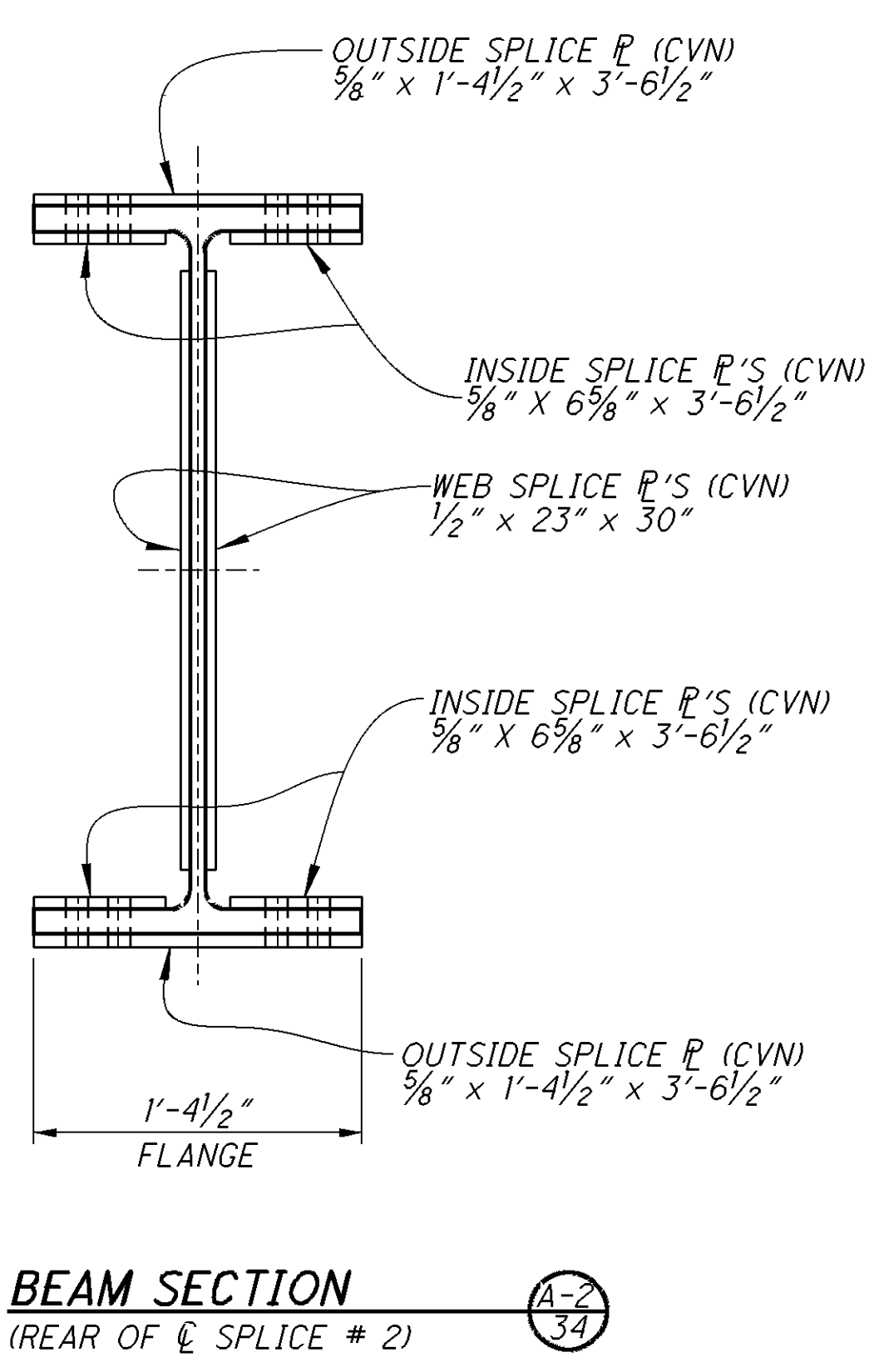


NOTE:
EXCLUDE THE BOLT THREADS FROM THE SHEAR PLANES. (THE BOLT SHEAR STRENGTH FOR THE FLANGE AND WEB SPLICES HAS BEEN DESIGNED ASSUMING THAT THE THREADS ARE EXCLUDED FROM THE SHEAR PLANES.)

ALL BOLTS USED SHALL BE 1/8" DIAMETER.

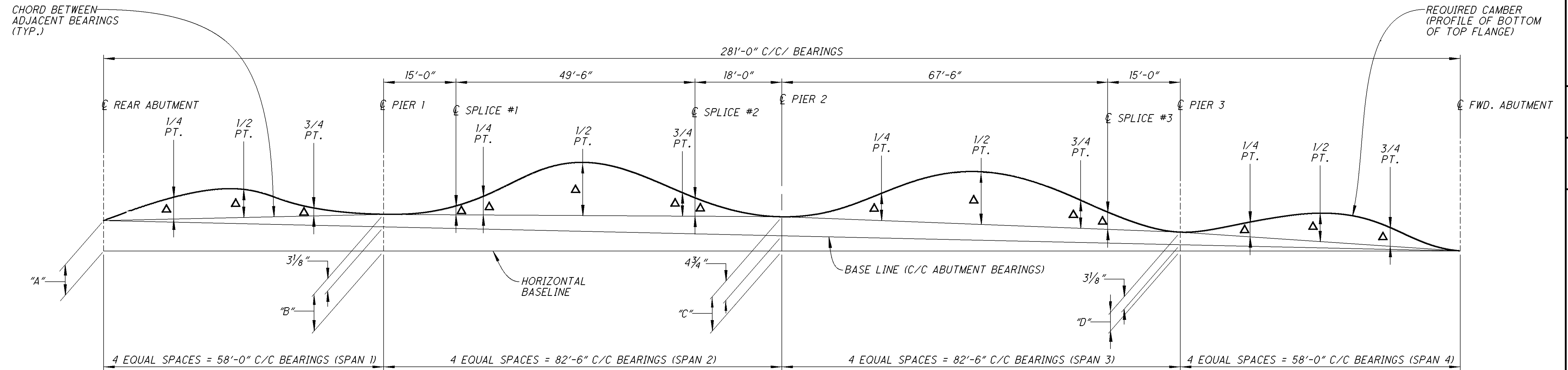
ALL BOLT HOLES SHALL BE 1 3/16" DIAMETER.

BOLT SPECIFICATIONS SHALL CONFORM TO A325, TYPE I.



* - BOLT AND NUT LOCATIONS TO BE PLACED AND TIGHTENED LAST

DIMENSION TABLE				
DIMENSION " "	A	B	C	D
BEAM 1	7 ⁹ / ₁₆ "	9 ¹ / ₈ "	8 ¹ / ₂ "	4 ¹ / ₁₆ "
BEAM 10	6"	7 ¹³ / ₁₆ "	7 ¹ / ₁₆ "	4 ⁵ / ₁₆ "
BEAM 11	5 ³ / ₄ "	7 ¹ / ₁₆ "	7 ⁹ / ₁₆ "	4 ⁵ / ₁₆ "
BEAM 12	5 ⁵ / ₈ "	7 ⁹ / ₁₆ "	7 ⁹ / ₁₆ "	4 ³ / ₁₆ "



DEFLECTION / CAMBER DIAGRAM

(N.T.S.)

Δ = REQUIRED CAMBER

DEFLECTIONS & CAMBER TABLE for BEAM #1 ONLY

POINT	1/4	1/2	3/4	SPLICE #1	1/4	1/2	3/4	SPLICE #2	1/4	1/2	3/4	SPLICE #3	1/4	1/2	3/4	
DEFLECTION DUE TO WEIGHT OF STEEL	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	0"	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	1 ⁸ / ₈ "	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	1 ⁸ / ₈ "	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	0"	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	
DEFLECTION DUE TO REMAINING DEAD LOAD	1 ¹ / ₄ "	1 ¹ / ₄ "	1 ¹ / ₈ "	5 ¹ / ₁₆ "	7 ¹ / ₁₆ "	1 ¹ / ₁₆ "	3 ¹ / ₈ "	5 ¹ / ₁₆ "	3 ¹ / ₈ "	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	5 ¹ / ₁₆ "	1 ¹ / ₈ "	1 ¹ / ₄ "	1 ¹ / ₄ "	
VERTICAL CURVE ADJUSTMENT	1 ¹ / ₈ "	1 ¹ / ₄ "	1 ¹ / ₈ "	1 ¹ / ₄ "	3 ¹ / ₈ "	3 ¹ / ₈ "	3 ¹ / ₈ "	1 ¹ / ₄ "	3 ¹ / ₈ "	3 ¹ / ₈ "	3 ¹ / ₈ "	1 ¹ / ₄ "	1 ¹ / ₈ "	1 ¹ / ₄ "	1 ¹ / ₈ "	
REQUIRED CAMBER = Δ	7 ¹ / ₁₆ "	9 ¹ / ₁₆ "	1 ¹ / ₄ "	5 ¹ / ₈ "	7 ¹ / ₈ "	13 ¹ / ₁₆ "	13 ¹ / ₁₆ "	5 ¹ / ₈ "	13 ¹ / ₁₆ "	13 ¹ / ₁₆ "	7 ¹ / ₈ "	5 ¹ / ₈ "	1 ¹ / ₄ "	9 ¹ / ₁₆ "	7 ¹ / ₁₆ "	
	SPAN 1				SPAN 2				SPAN 3				SPAN 4			

DEFLECTIONS & CAMBER TABLE for BEAMS #10, #11, & #12 ONLY

POINT	1/4	1/2	3/4	SPLICE #1	1/4	1/2	3/4	SPLICE #2	1/4	1/2	3/4	SPLICE #3	1/4	1/2	3/4	
DEFLECTION DUE TO WEIGHT OF STEEL	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	0"	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	1 ⁸ / ₈ "	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	1 ⁸ / ₈ "	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	0"	1 ¹ / ₁₆ "	1 ¹ / ₁₆ "	
DEFLECTION DUE TO REMAINING DEAD LOAD	5 ¹ / ₁₆ "	5 ¹ / ₁₆ "	1 ¹ / ₈ "	3 ¹ / ₈ "	9 ¹ / ₁₆ "	7 ¹ / ₈ "	7 ¹ / ₁₆ "	3 ¹ / ₈ "	7 ¹ / ₁₆ "	7 ¹ / ₈ "	9 ¹ / ₁₆ "	3 ¹ / ₈ "	1 ¹ / ₈ "	5 ¹ / ₁₆ "	5 ¹ / ₁₆ "	
VERTICAL CURVE ADJUSTMENT	1 ¹ / ₈ "	1 ¹ / ₄ "	1 ¹ / ₈ "	1 ¹ / ₄ "	3 ¹ / ₈ "	3 ¹ / ₈ "	3 ¹ / ₈ "	1 ¹ / ₄ "	3 ¹ / ₈ "	3 ¹ / ₈ "	3 ¹ / ₈ "	1 ¹ / ₄ "	1 ¹ / ₈ "	1 ¹ / ₄ "	1 ¹ / ₈ "	
REQUIRED CAMBER = Δ	1 ¹ / ₂ "	5 ¹ / ₈ "	1 ¹ / ₄ "	1 ¹ / ₁₆ "	1"	13 ¹ / ₁₆ "	7 ¹ / ₈ "	1 ¹ / ₁₆ "	7 ¹ / ₈ "	13 ¹ / ₁₆ "	1"	1 ¹ / ₁₆ "	1 ¹ / ₄ "	5 ¹ / ₈ "	1 ¹ / ₂ "	
	SPAN 1				SPAN 2				SPAN 3				SPAN 4			

DEFLECTIONS TABLE for BEAMS #2, #3, #4, #7, #8, & #9 ONLY

POINT	1/4	1/2	3/4	SPLICE #1	1/4	1/2	3/4	SPLICE #2	1/4	1/2	3/4	SPLICE #3	1/4	1/2	3/4	
DEFLECTION DUE TO REMAINING DEAD LOAD	1 ¹ / ₄ "	1 ¹ / ₄ "	1 ¹ / ₈ "	3 ¹ / ₁₆ "	5 ¹ / ₁₆ "	1 ¹ / ₂ "	1 ¹ / ₄ "	3 ¹ / ₁₆ "	1 ¹ / ₄ "	1 ¹ / ₂ "	5 ¹ / ₁₆ "	3 ¹ / ₁₆ "	1 ¹ / ₈ "	1 ¹ / ₄ "	1 ¹ / ₄ "	
	SPAN 1				SPAN 2				SPAN 3				SPAN 4			

DEFLECTIONS TABLE for BEAMS #5 & #6 ONLY

POINT	1/4	1/2	3/4	SPLICE #1	1/4	1/2	3/4	SPLICE #2	1/4	1/2	3/4	SPLICE #3	1/4	1/2	3/4	
DEFLECTION DUE TO REMAINING DEAD LOAD	3 ¹ / ₁₆ "	3 ¹ / ₁₆ "	1 ¹ / ₁₆ "	3 ¹ / ₁₆ "	1 ¹ / ₄ "	1 ¹ / ₁₆ "	3 ¹ / ₁₆ "	3 ¹ / ₁₆ "	3 ¹ / ₁₆ "	1 ¹ / ₁₆ "	1 ¹ / ₄ "	3 ¹ / ₁₆ "	1 ¹ / ₁₆ "	3 ¹ / ₁₆ "	3 ¹ / ₁₆ "	
	SPAN 1				SPAN 2				SPAN 3				SPAN 4			

(SCALE = 10.667)

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DESIGN AGENCY
OHIO DEPARTMENT OF
TRANSPORTATION, DISTRICT 5

DATE
9-24-2015

REVIEWED
JDR

DRAWN
JDR

DESIGNED
TAG

CHECKED
NEW

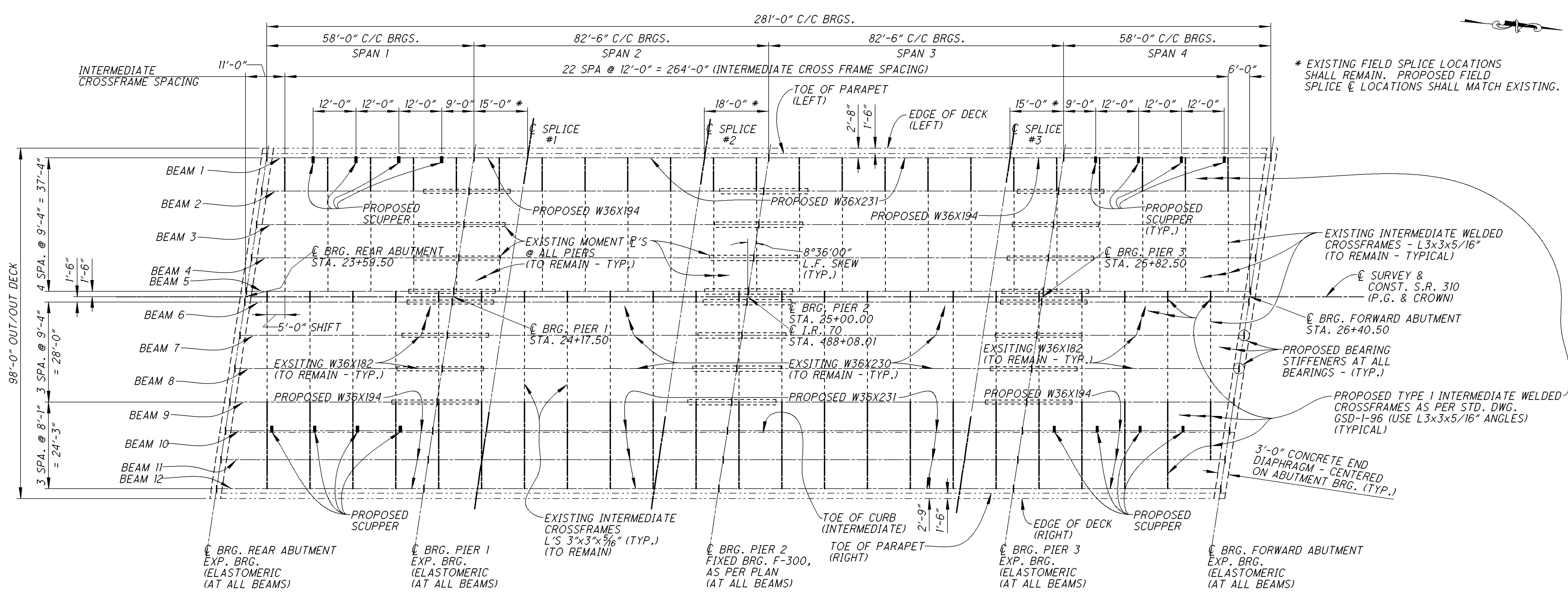
BRIDGE NO. LIC-310-0096

S.R. 310 OVER I.R. 70

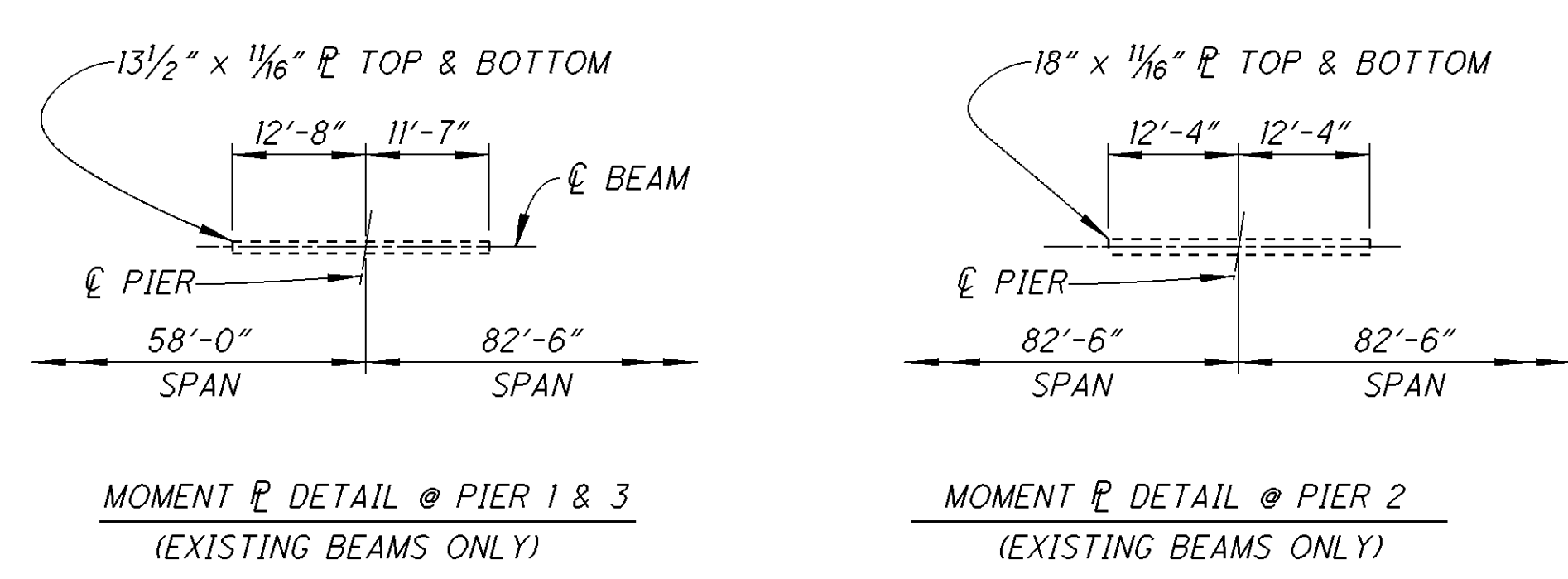
LIC-310-0.74

35 / 62

384
425



PROPOSED FULL STEEL FRAMING PLAN

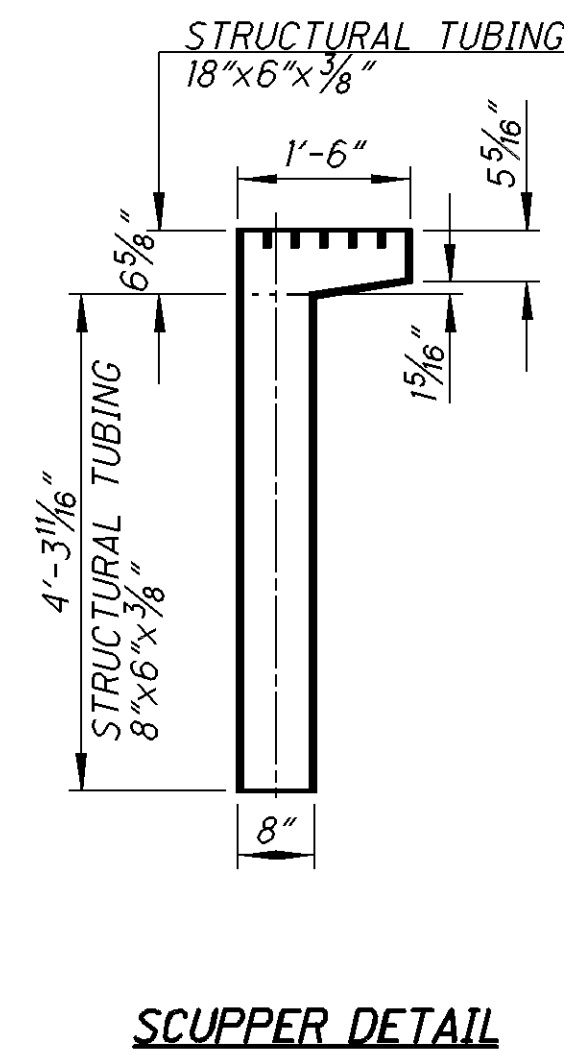
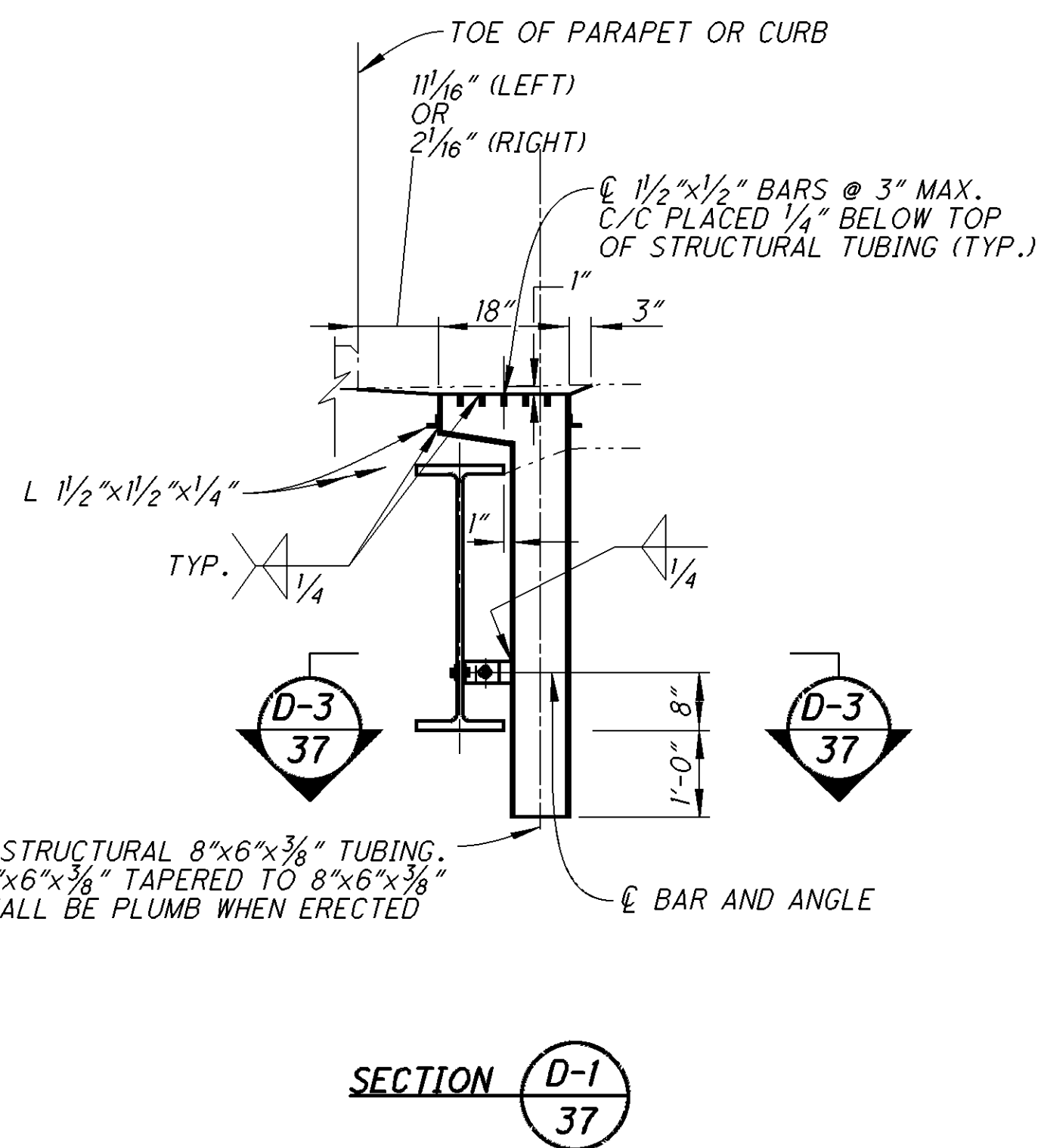
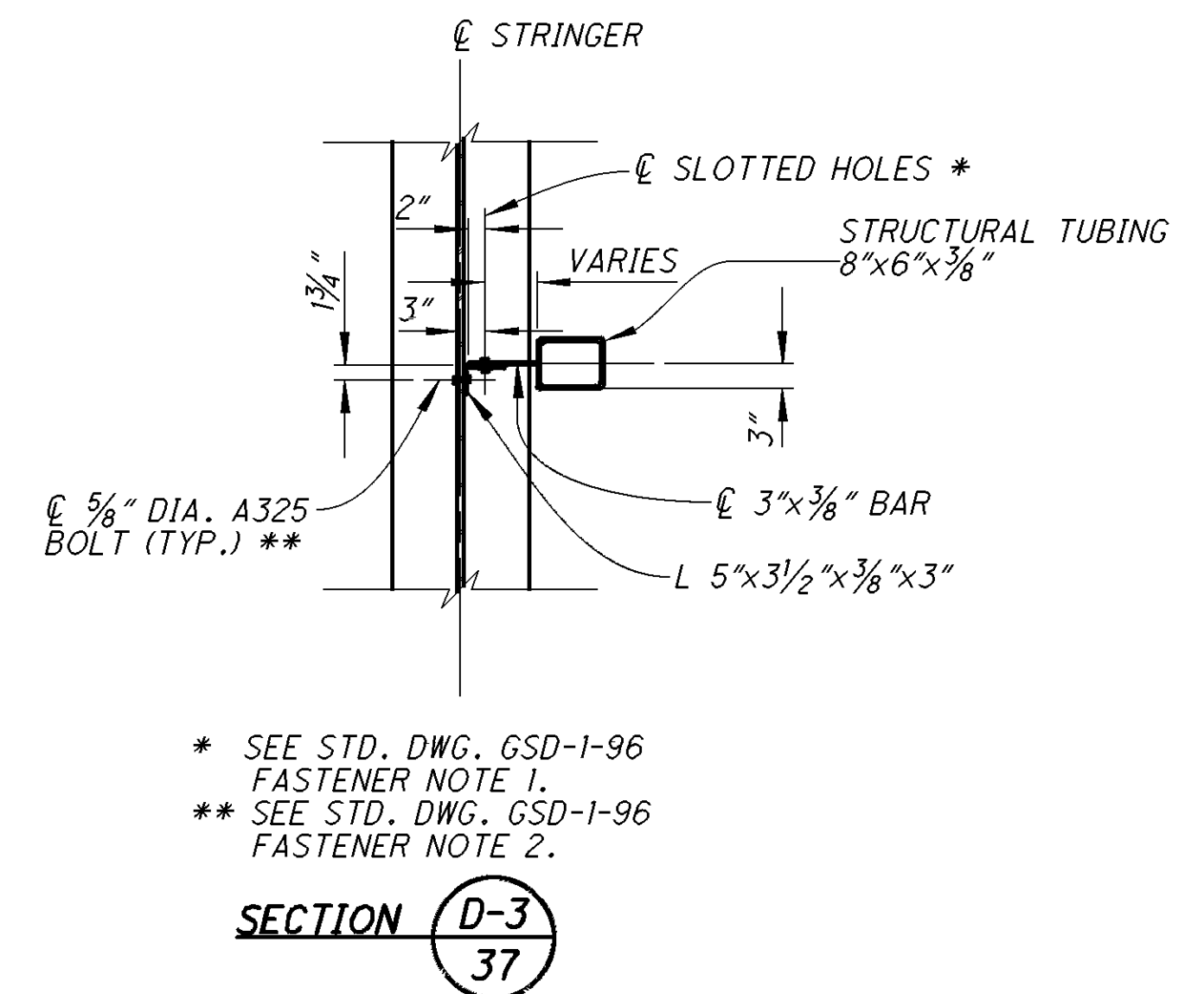
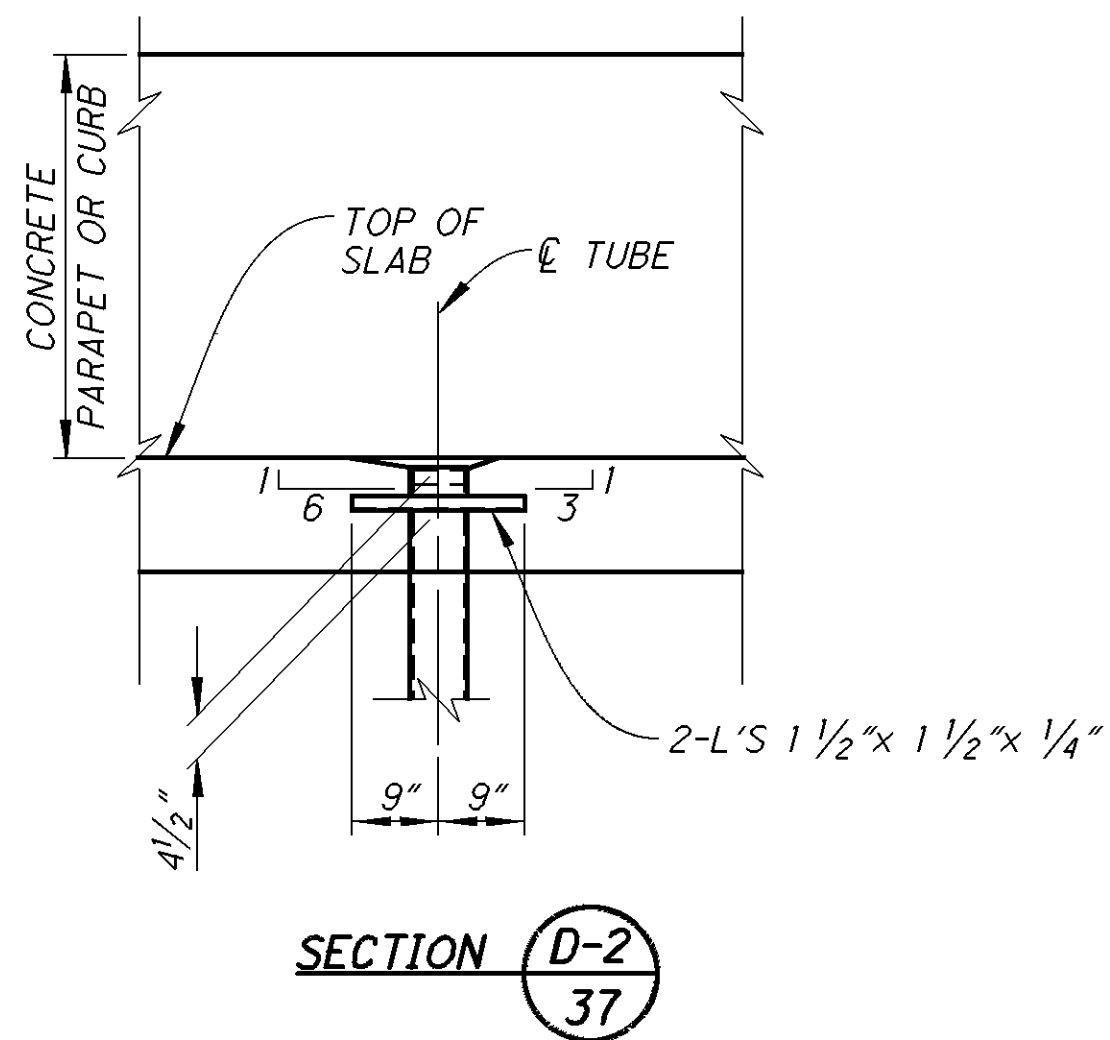
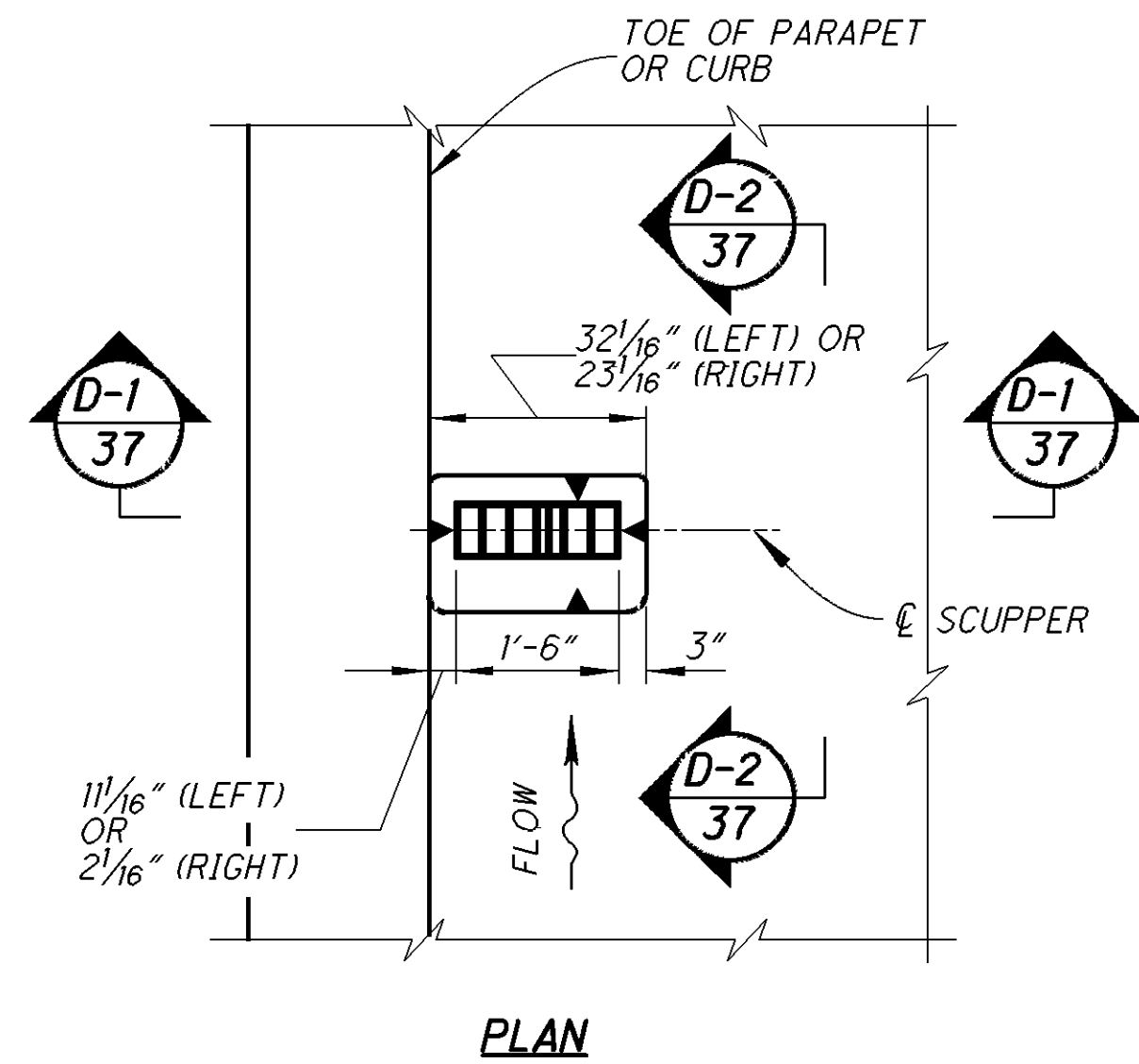


ITEM 513 STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN				
LOCATION	STEEL COMPONENT	SIZE OR LENGTHS	NUMBER	POUNDS
ALL BEAMS @ ABUTMENTS	BEARING STIFFENER P	5.5" x 0.625" x 34"	48	1,591
ALL BEAMS @ PIERS 1 & 3	BEARING STIFFENER P	5.5" x 0.75" x 34"	48	1,910
ALL BEAMS @ PIER 2	BEARING STIFFENER P	7.5" x 0.8125" x 34"	24	1,410
LEFT BAY (#1)	CROSS FRAME w/ L3x3x5/16's	(9.54'+9.62'+9.26')	23	3,987
MIDDLE BAY (#5)	CROSS FRAME w/ L3x3x5/16's	(3.82'+3.82'+2.93')	23	1,483
RIGHT BAYS (#9, #10, & #11)	CROSS FRAME w/ L3x3x5/16's	(8.43'+8.37'+8.02')	68	10,295
TOTAL				20,676

FINAL QUANTITIES FOR ITEM 513 STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN SHALL BE DETERMINED IN THE FIELD

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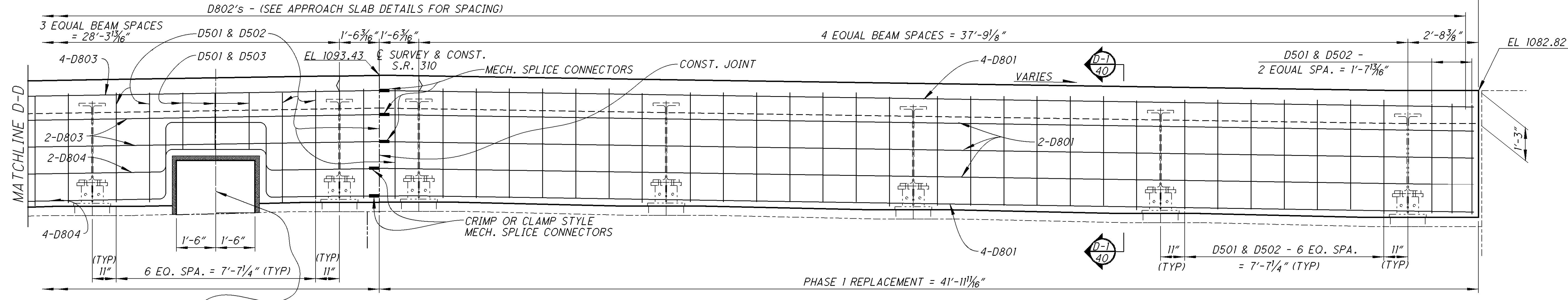
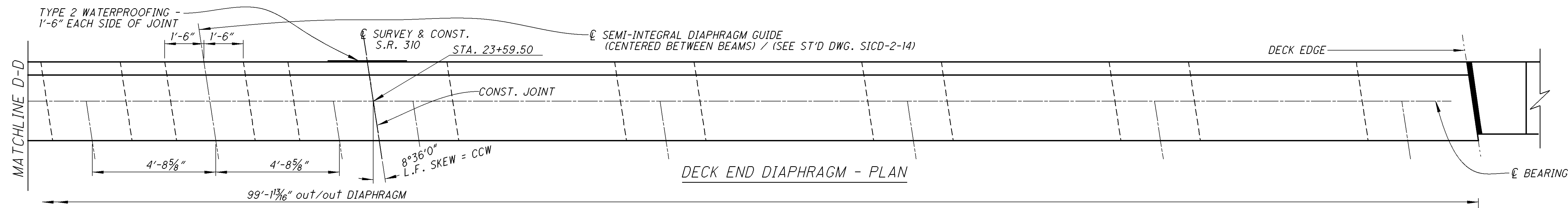
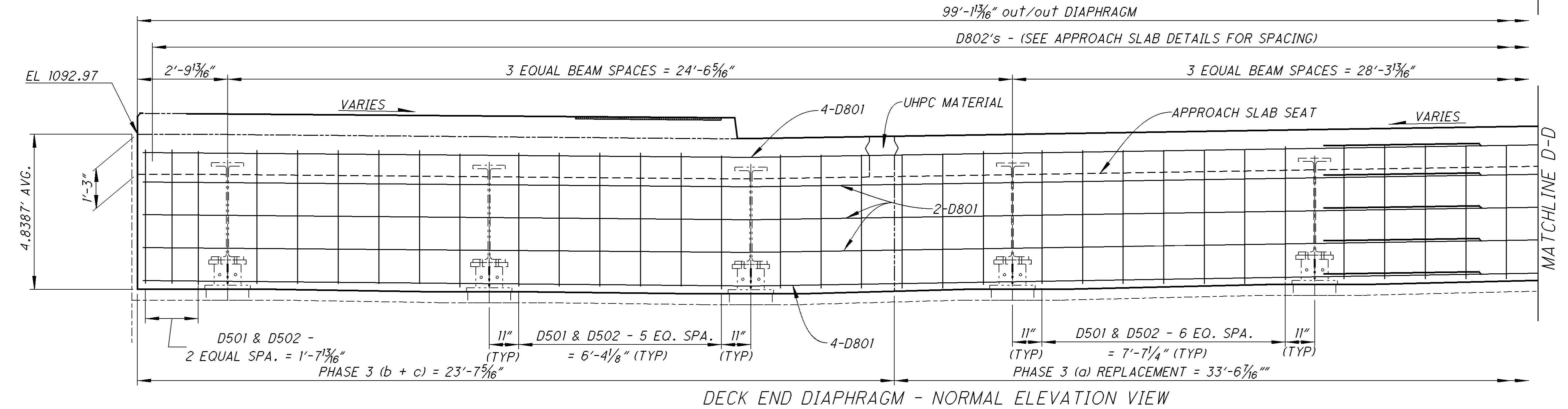
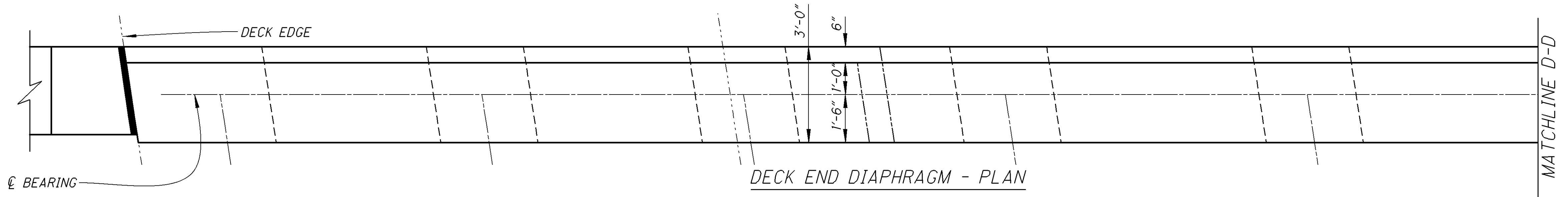


* SEE STD. DWG. GSD-1-96 FASTENER NOTE 1.
 ** SEE STD. DWG. GSD-1-96 FASTENER NOTE 2.

NOTE:
 SEE STD. DWG. GSD-1-96
 FOR ANY REQUIRED DETAILS
 NOT SHOWN HEREIN.

DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5	
DATE 9-24-2015	REVIEWED JDR
STRUCTURE FILE NUMBER 4505646	DESIGNED TAG
DRAWN JDR	CHECKED NEW
REVISIONS	REVISIONS
SCUPPER DETAILS BRIDGE NO. LIC-310-0096 S.R. 310 OVER I.R. 70	
LIC-310-0.74	
37	62
386	425

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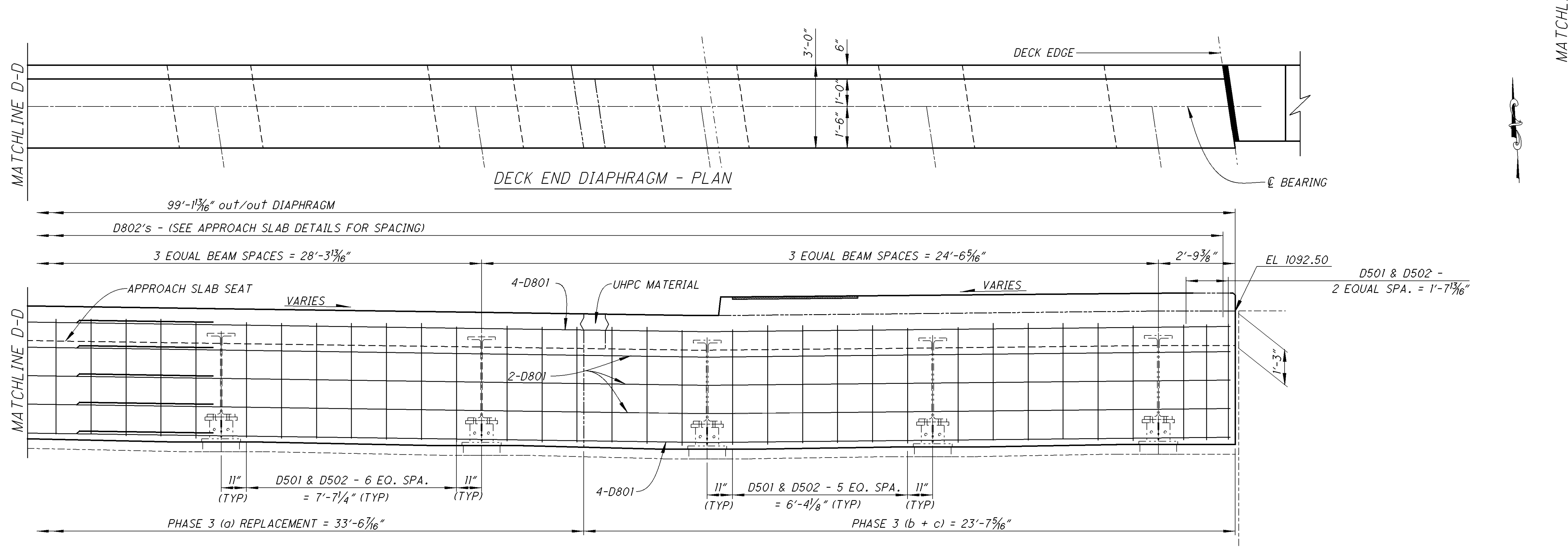
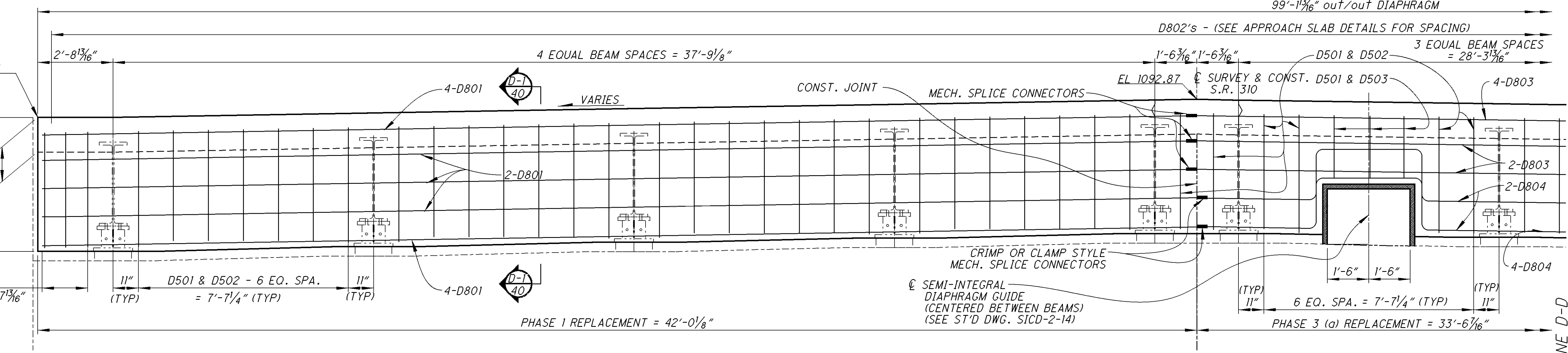
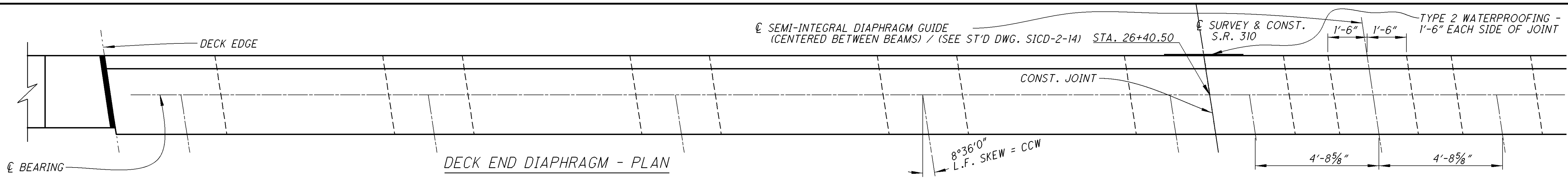
SEMI-INTEGRAL DIAPHRAGM GUIDE (CENTERED BETWEEN BEAMS) (SEE ST'D DWG. SICD-2-14)

RE-STEEL LAP SPLICE: NO. 8 BAR = 4'-11"

NOTES: - SEE DECK FINISH ELEVATIONS FOR ELEVATIONS. - DIMENSIONS GIVEN ALONG DIAPHRAGM FACE.

DESIGNED	TAG	CHECKED	NEW
DRAWN	JDR	REVISED	
REVIEWED	JDR	STRUCTURE FILE NUMBER	4505646
DATE	9-24-2015	DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
REAR DECK END DIAPHRAGM DETAILS			
BRIDGE NO. LIC-310-0096			
S.R. 310 OVER I.R. 70			
LIC-310-0.74			
38 / 62		387 / 425	

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DECK END DIAPHRAGM - NORMAL ELEVATION VIEW

RE-STEEL LAP SPLICE:
NO. 8 BAR = 4'-11"

NOTES: - SEE DECK FINISH ELEVATIONS FOR ELEVATIONS.
- DIMENSIONS GIVEN ALONG DIAPHRAGM FACE.

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DATE: 9-24-2015

REVIEWED: JDR

STRUCTURE FILE NUMBER: 4505646

DRAWN: JDR

DESIGNED: TAG

CHECKED: NEW

BRIDGE NO. LIC-310-0096

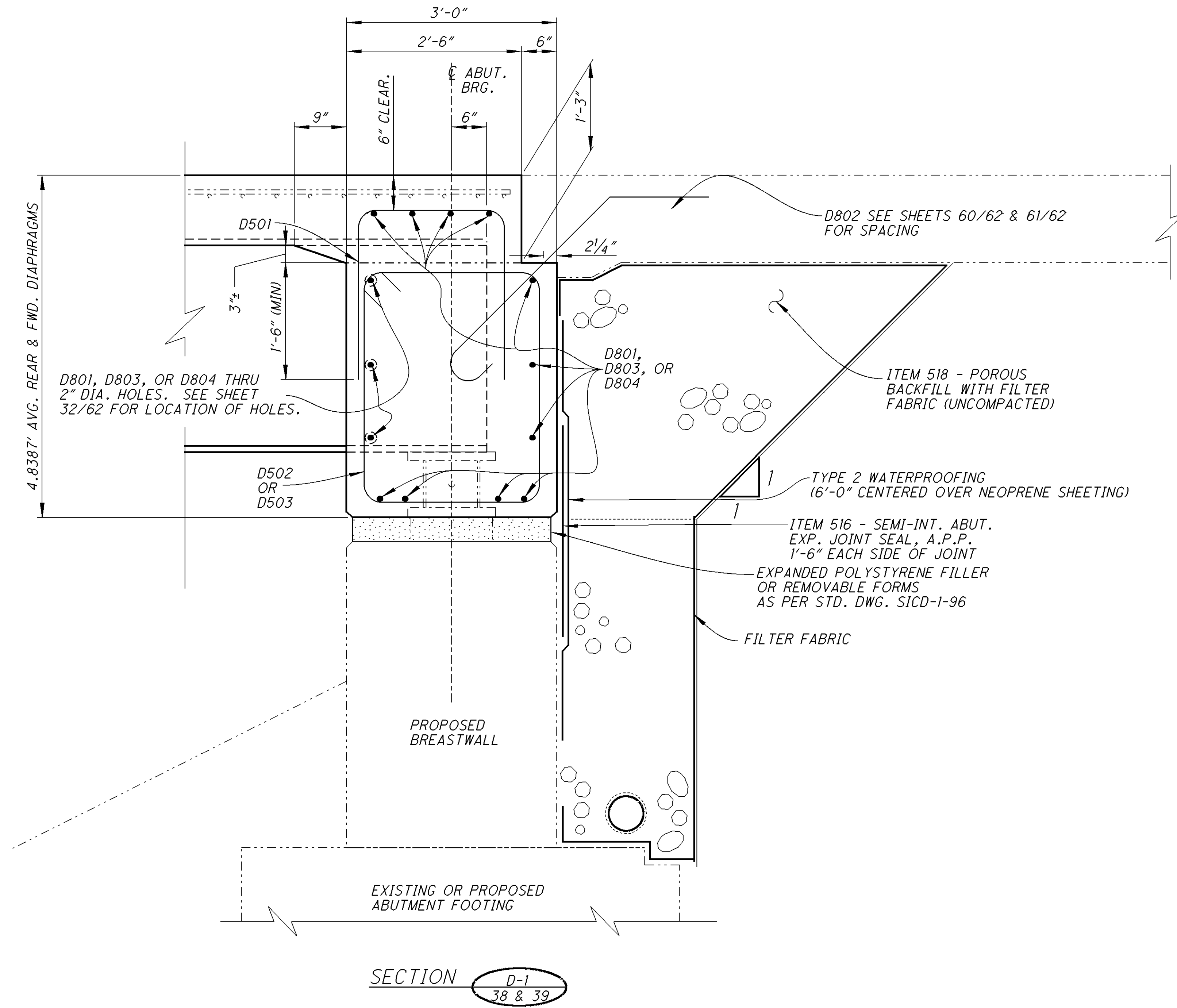
S.R. 310 OVER I.R. 70

LIC-310-0.74

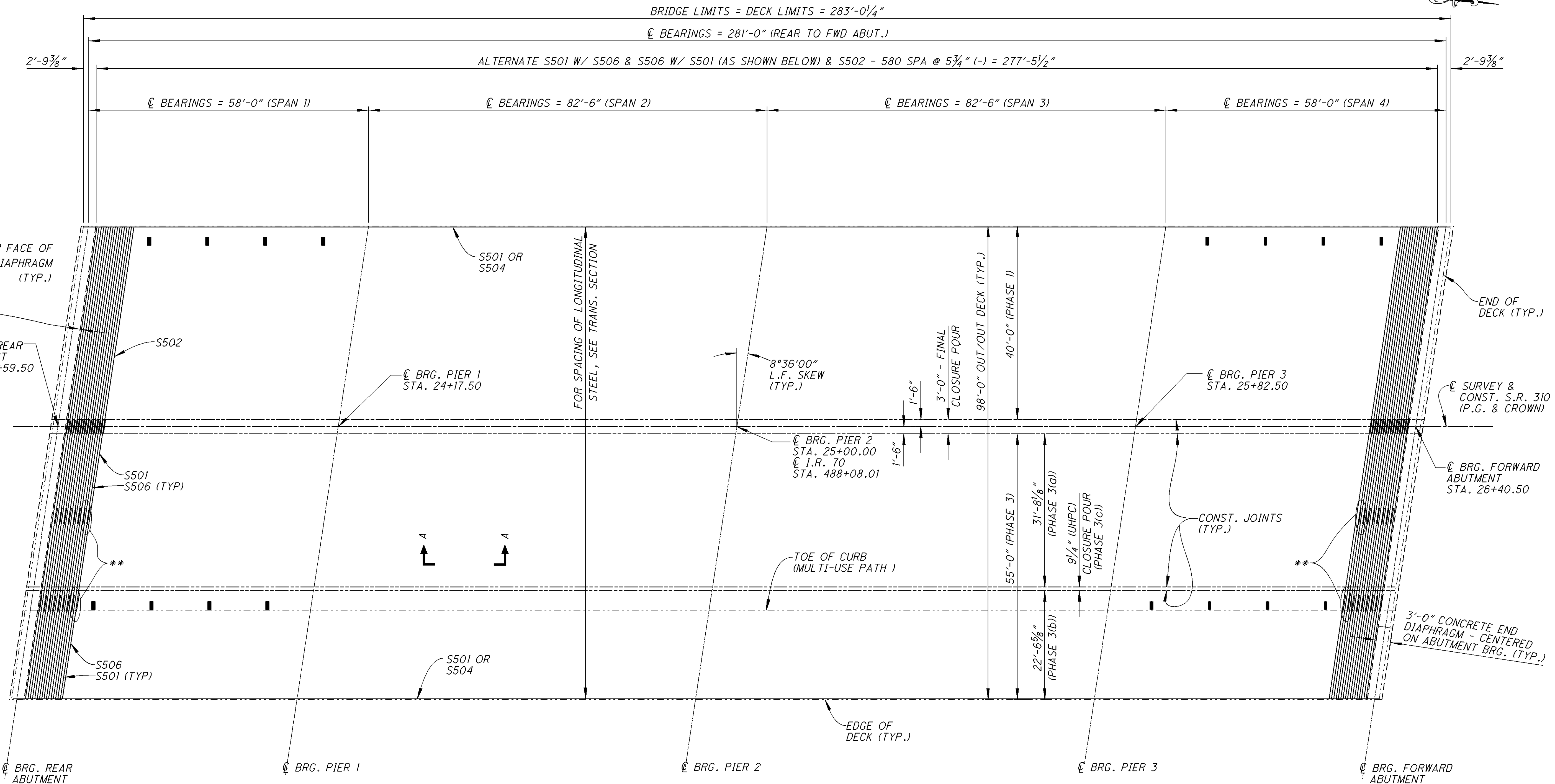
39 / 62

388

425



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BRIDGE LIMITS = DECK LIMITS = 283'-0 1/4"

CL BEARINGS = 281'-0" (REAR TO FWD ABUT.)

ALTERNATE S501 W/ S506 & S506 W/ S501 (AS SHOWN BELOW) & S502 - 580 SPA @ 5 3/4" (-) = 277'-5 1/2"

CL BEARINGS = 58'-0" (SPAN 1)

CL BEARINGS = 82'-6" (SPAN 2)

CL BEARINGS = 82'-6" (SPAN 3)

CL BEARINGS = 58'-0" (SPAN 4)

CLEAR FACE OF END DIAPHRAGM BY 3" (TYP.)

CL BRG. REAR ABUTMENT STA. 23+59.50

CL BRG. PIER 1 STA. 24+17.50

CL BRG. PIER 2 STA. 25+00.00
CL I.R. 70 STA. 488+08.01

CL BRG. PIER 3 STA. 25+82.50

CL SURVEY & CONST. S.R. 310 (P.G. & CROWN)

CL BRG. FORWARD ABUTMENT STA. 26+40.50

FOR SPACING OF LONGITUDINAL STEEL, SEE TRANS. SECTION

TOE OF CURB (MULTI-USE PATH)

EDGE OF DECK (TYP.)

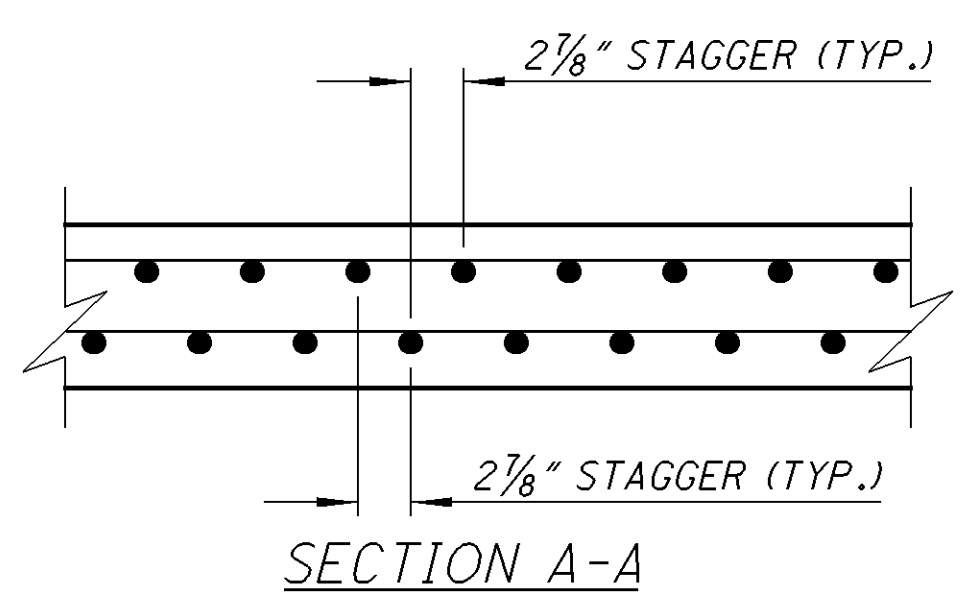
END OF DECK (TYP.)

CONST. JOINTS (TYP.)

3'-0" CONCRETE END DIAPHRAGM - CENTERED ON ABUTMENT BRG. (TYP.)

** - NOTE:
ALTERNATE BAR PLACEMENT IN ADJACENT LONGITUDINAL AND TRANSVERSE ROWS IN ORDER TO STAGGER LAPS SHOWN OR REQUIRED (TYP.)

DECK REINFORCING PLAN (BOTTOM MAT)

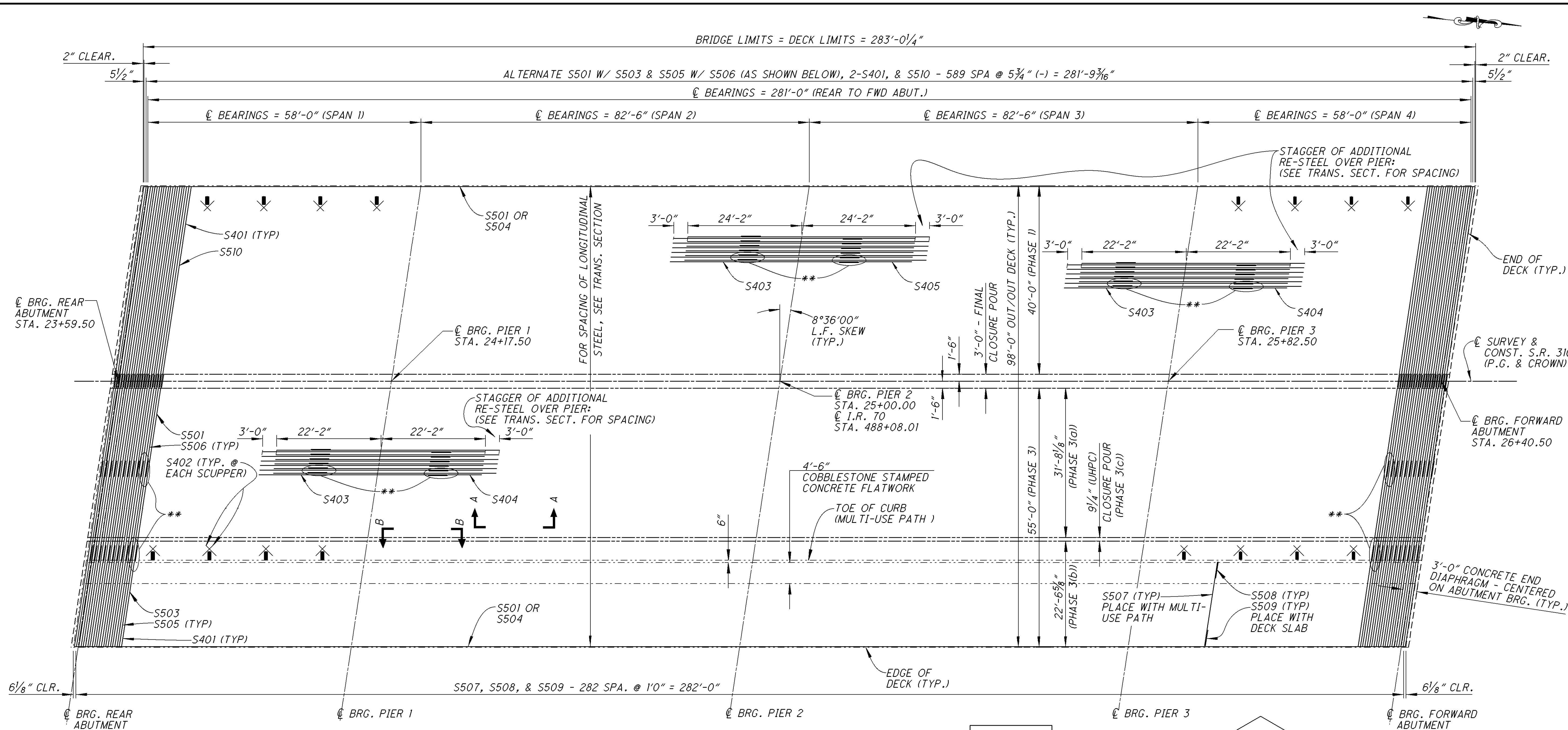


LAP LENGTHS	
No. 4	= 2'-9"
No. 5	= 3'-5"
No. 6	= 4'-1"

BRIDGE LIMITS = DECK LIMITS = 283'-0 1/4"

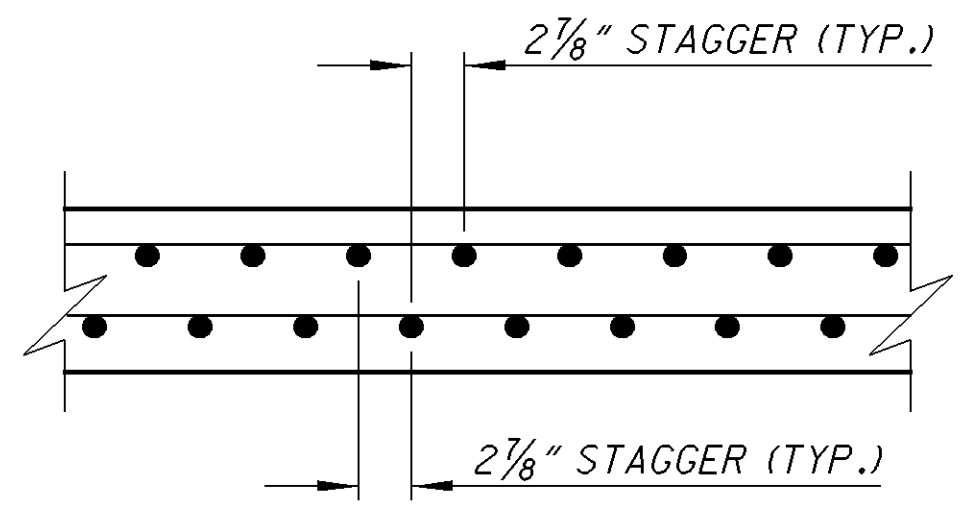
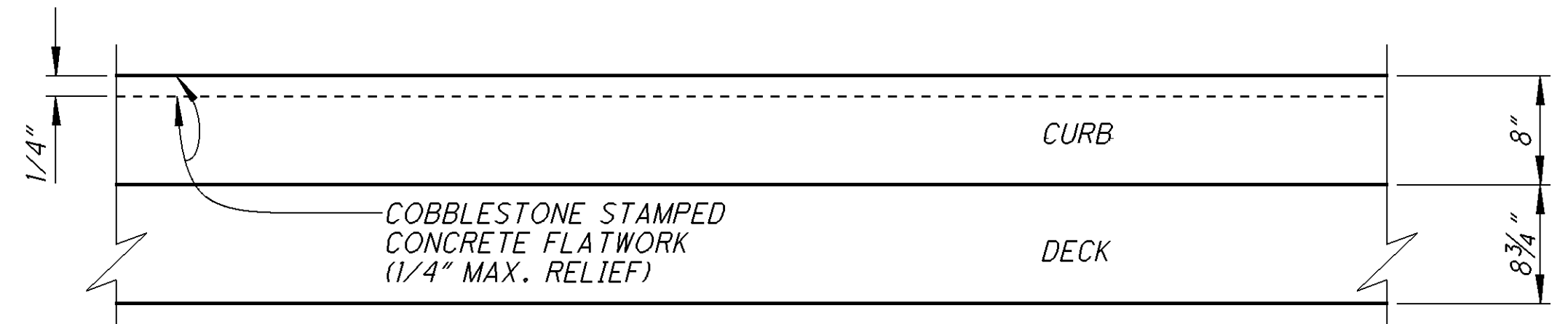
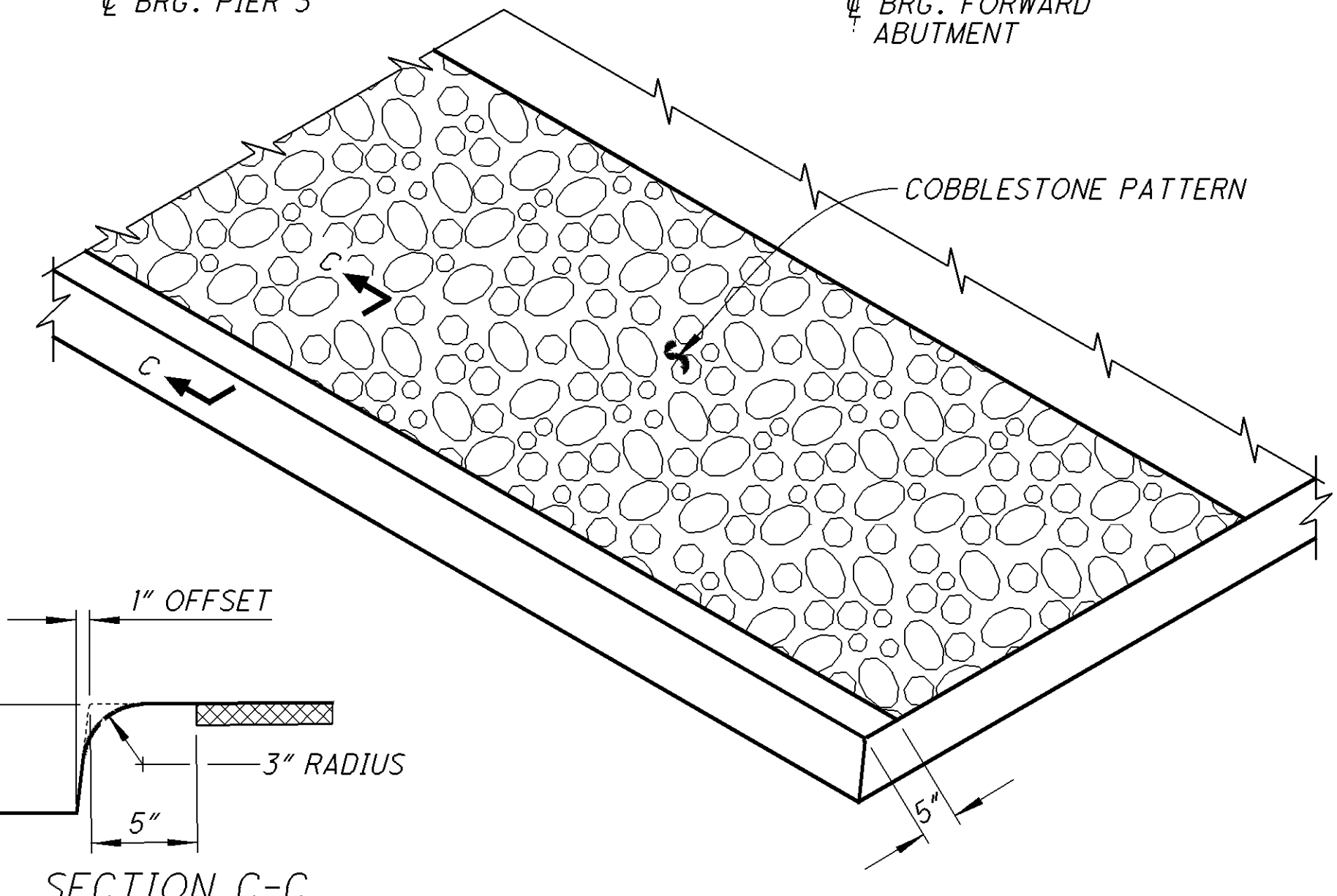
ALTERNATE S501 W/ S503 & S505 W/ S506 (AS SHOWN BELOW), 2-S401, & S510 - 589 SPA @ 5 3/4" (-) = 281'-9 3/16"

CL BEARINGS = 281'-0" (REAR TO FWD ABUT.)



DECK REINFORCING PLAN (TOP MAT)

LAP LENGTHS	
No. 4	= 2'-9"
No. 5	= 3'-5"
No. 6	= 4'-1"

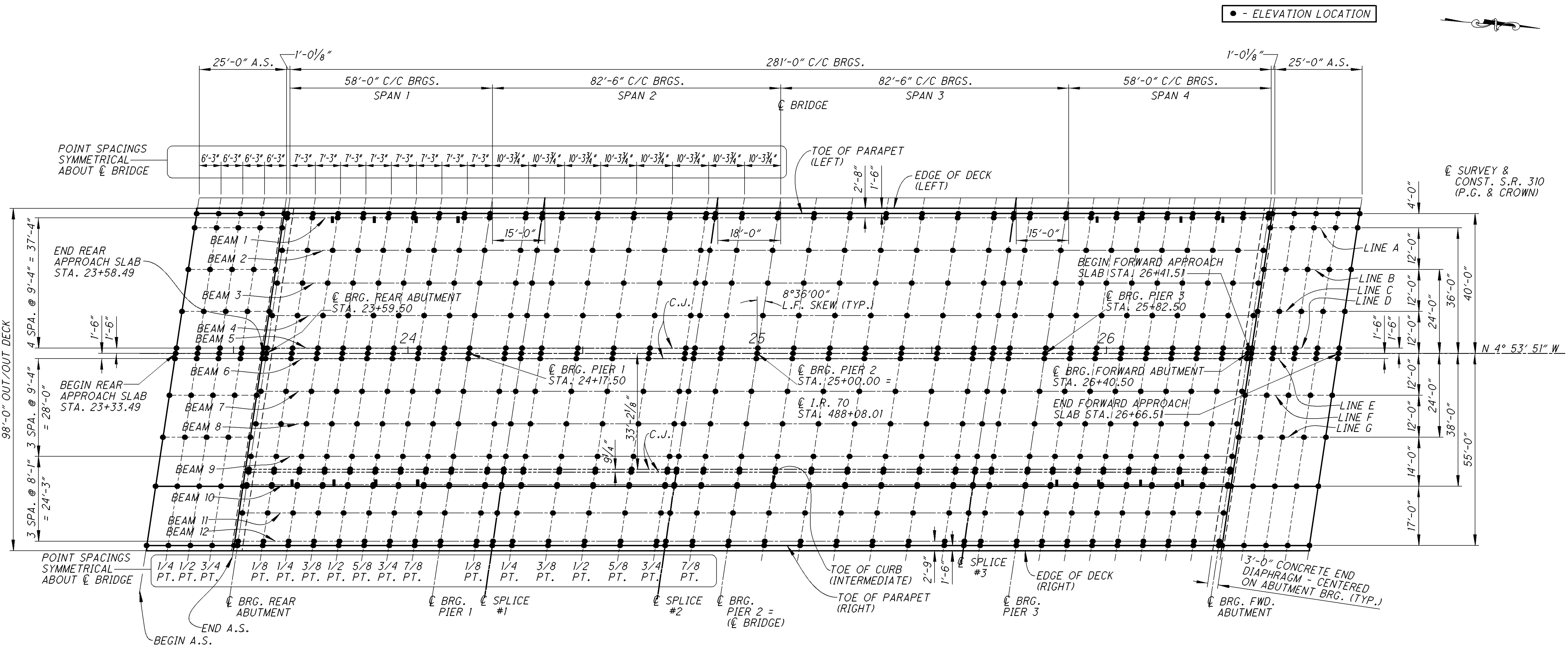


** - NOTE:
ALTERNATE BAR PLACEMENT IN ADJACENT LONGITUDINAL AND TRANSVERSE ROWS IN ORDER TO STAGGER LAPS SHOWN OR REQUIRED (TYP.)

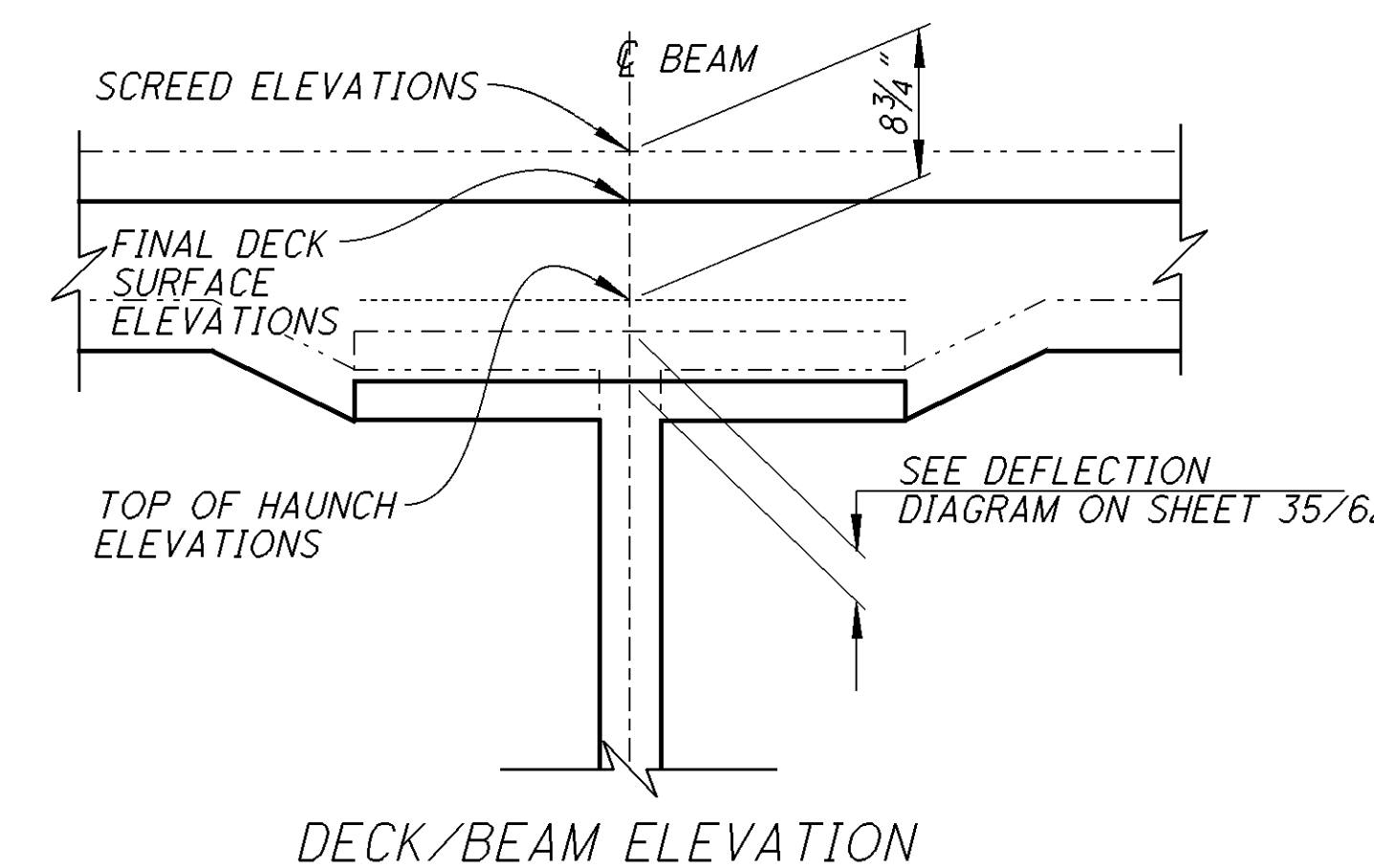
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DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
DATE	9-24-2015
REVIEWED	JDR
STRUCTURE FILE NUMBER	4505646
DRAWN	JDR
CHECKED	NEW
DESIGNED	TAG
TAG	NEW
DECK REINFORCING STEEL LAYOUT (TOP MAT)	
BRIDGE NO. LIC-310-0096	
S.R. 310 OVER I.R. 70	
LIC-310-0.74	
42 / 62	391
	425

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ELEVATION LOCATIONS - PLAN



TOP OF HAUNCH ELEVATIONS
 TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

SCREED ELEVATIONS
 SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

FINAL DECK SURFACE ELEVATIONS
 FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

• - ELEVATION LOCATION



DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
DATE	9-24-2015
REVIEWED	JDR
STRUCTURE FILE NUMBER	4505646
DRAWN	JDR
CHECKED	NEW
DESIGNED	NEW
TAG	NEW
DECK AND APPROACH SLAB ELEVATION LOCATIONS	
BRIDGE NO. LIC-310-0096	
S.R. 310 OVER I.R. 70	
LIC-310-0.74	
43	62
392	425

DECK ELEVATIONS

LOCATION	CLBRG. REAR ABUT.				1/8 PT.			1/4 PT.			3/8 PT.			1/2 PT.			5/8 PT.			3/4 PT.			7/8 PT.			C.L. PIER 1										
	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.				
TOE OF PARAPET (LT.)	23+65.55	1092.82	1092.82	1092.10	23+72.80	1092.85	1092.86	1092.13	23+80.05	1092.87	1092.89	1092.16	23+87.30	1092.89	1092.91	1092.19	23+94.55	1092.91	1092.93	1092.20	24+01.80	1092.92	1092.94	1092.21	24+09.05	1092.93	1092.94	1092.21	24+16.30	1092.94	1092.96	1092.23	24+23.55	1092.95	1092.95	1092.22
BEAM 1	23+65.37	1092.84	1092.84	1092.11	23+72.62	1092.87	1092.88	1092.15	23+79.87	1092.89	1092.91	1092.18	23+87.12	1092.91	1092.93	1092.20	23+94.37	1092.92	1092.95	1092.22	24+01.62	1092.94	1092.96	1092.23	24+08.87	1092.95	1092.96	1092.23	24+16.12	1092.96	1092.98	1092.25	24+23.37	1092.97	1092.97	1092.24
BEAM 2	23+63.95	1092.98	1092.98	1092.25	23+71.21	1093.01	1093.02	1092.29	23+76.46	1093.03	1093.05	1092.32	23+85.71	1093.05	1093.07	1092.34	23+92.96	1093.07	1093.09	1092.36	24+00.21	1093.08	1093.10	1092.37	24+07.46	1093.10	1093.10	1092.37	24+14.71	1093.11	1093.11	1092.38	24+21.96	1093.12	1093.12	1092.39
BEAM 3	23+62.55	1093.12	1093.12	1092.39	23+69.80	1093.15	1093.16	1092.43	23+77.05	1093.17	1093.19	1092.46	23+84.30	1093.19	1093.22	1092.49	23+91.55	1093.21	1093.23	1092.50	23+98.80	1093.22	1093.24	1092.51	24+06.05	1093.24	1093.25	1092.52	24+13.30	1093.25	1093.25	1092.52	24+20.55	1093.26	1093.26	1092.53
BEAM 4	23+61.14	1093.26	1093.26	1092.54	23+68.39	1093.29	1093.30	1092.57	23+75.64	1093.31	1093.33	1092.60	23+82.89	1093.33	1093.36	1092.63	23+90.14	1093.35	1093.37	1092.64	23+97.39	1093.37	1093.38	1092.65	24+04.64	1093.38	1093.39	1092.66	24+11.89	1093.39	1093.40	1092.67	24+19.14	1093.40	1093.40	1092.67
BEAM 5 & PHASE LINE	23+59.73	1093.41	1093.41	1092.68	23+66.98	1093.43	1093.44	1092.71	23+74.23	1093.45	1093.47	1092.74	23+81.48	1093.47	1093.49	1092.76	23+88.73	1093.49	1093.51	1092.78	23+95.98	1093.51	1093.52	1092.79	24+03.23	1093.52	1093.53	1092.80	24+10.48	1093.54	1093.54	1092.81	24+17.73	1093.55	1093.55	1092.82
P.G. & CROWN	23+59.50	1093.43	1093.43	1092.70	23+66.75	1093.45	1093.46	1092.73	23+74.00	1093.48	1093.49	1092.76	23+81.25	1093.50	1093.52	1092.79	23+88.50	1093.52	1093.53	1092.80	23+95.75	1093.53	1093.55	1092.82	24+03.00	1093.55	1093.55	1092.82	24+10.25	1093.56	1093.56	1092.83	24+17.50	1093.57	1093.57	1092.84
BEAM 5 & PHASE LINE	23+59.27	1093.40	1093.40	1092.67	23+66.52	1093.43	1093.44	1092.71	23+73.77	1093.45	1093.47	1092.74	23+81.02	1093.47	1093.49	1092.76	23+88.27	1093.49	1093.51	1092.78	23+95.52	1093.51	1093.52	1092.79	24+02.77	1093.52	1093.53	1092.80	24+10.02	1093.54	1093.54	1092.81	24+17.27	1093.55	1093.55	1092.82
BEAM 7	23+57.86	1093.25	1093.25	1092.52	23+65.11	1093.26	1093.29	1092.56	23+72.36	1093.30	1093.32	1092.59	23+79.61	1093.32	1093.35	1092.62	23+86.86	1093.34	1093.37	1092.64	23+94.11	1093.36	1093.38	1092.65	24+01.36	1093.38	1093.38	1092.65	24+08.61	1093.39	1093.39	1092.66	24+15.86	1093.40	1093.40	1092.67
BEAM 8	23+56.45	1093.10	1093.10	1092.37	23+63.70	1093.13	1093.14	1092.41	23+70.95	1093.15	1093.17	1092.44	23+78.20	1093.17	1093.20	1092.47	23+85.45	1093.19	1093.22	1092.49	23+92.70	1093.21	1093.23	1092.50	23+99.95	1093.23	1093.24	1092.51	24+07.20	1093.24	1093.24	1092.51	24+14.45	1093.25	1093.25	1092.52
BEAM 9	23+55.04	1092.95	1092.95	1092.22	23+62.29	1092.98	1092.99	1092.26	23+69.54	1093.00	1093.02	1092.29	23+76.79	1093.02	1093.05	1092.32	23+84.04	1093.04	1093.07	1092.34	23+91.29	1093.06	1093.08	1092.35	23+98.54	1093.08	1093.09	1092.36	24+05.79	1093.09	1093.09	1092.36	24+13.04	1093.10	1093.10	1092.37
C.J. (1)	23+54.48	1092.89	1092.89	1092.16	23+61.73	1092.92	1092.93	1092.20	23+68.98	1092.94	1092.96	1092.23	23+76.23	1092.97	1092.99	1092.26	23+83.48	1092.99	1093.01	1092.28	23+90.73	1093.00	1093.02	1092.29	23+97.98	1093.02	1093.03	1092.30	24+05.23	1093.03	1093.04	1092.31	24+12.48	1093.05	1093.05	1092.32
C.J. (2)	23+54.57	1092.88	1092.88	1092.15	23+61.62	1092.91	1092.92	1092.19	23+68.87	1092.93	1092.95	1092.22	23+76.12	1092.95	1092.98	1092.26	23+83.37	1092.97	1093.00	1092.27	23+90.62	1092.99	1093.01	1092.28	23+97.87	1093.01	1093.02	1092.29	24+05.12	1093.02	1093.02	1092.29	24+12.37	1093.03	1093.03	1092.30
BEAM 10	23+53.82	1092.82	1092.82	1092.09	23+61.07	1092.85	1092.86	1092.13	23+68.32	1092.87	1092.90	1092.17	23+75.57	1092.89	1092.93	1092.20	23+82.62	1092.91	1092.94	1092.22	23+90.07	1092.93	1092.96	1092.23	23+97.32	1092.95	1092.96	1092.23	24+04.57	1092.96	1092.97	1092.24	24+11.82	1092.98	1092.98	1092.25
TOE OF CURB (INT.)	23+53.75	1092.81	1092.81	1092.08	23+61.00	1092.84	1092.86	1092.13	23+68.25	1092.87	1092.89	1092.16	23+75.50	1092.89	1092.92	1092.19	23+82.75	1092.91	1092.94	1092.21	23+90.00	1092.93	1092.96	1092.22	23+97.25	1092.94	1092.95	1092.23	24+04.50	1092.96	1092.96	1092.23	24+11.75	1092.97	1092.97	1092.24
BEAM 11	23+52.59	1092.89	1092.89	1092.16	23+59.84	1092.91	1092.93	1092.20	23+67.09	1092.94	1092.96	1092.24	23+74.34	1092.96	1092.99	1092.26	23+81.59	1092.98	1093.01	1092.28	23+88.84	1093.00	1093.02	1092.29	23+96.09	1093.02	1093.03	1092.30	24+03.34	1093.03	1093.03	1092.30	24+10.59	1093.04	1093.04	1092.32
BEAM 12	23+51.37	1092.96	1092.96	1092.23	23+58.62	1092.99	1093.00	1092.28	23+66.87	1093.01	1093.04	1092.31	23+73.12	1093.04	1093.07	1092.34	23+80.37	1093.06	1093.09	1092.36	23+87.62	1093.08	1093.10	1092.37	23+94.87	1093.10	1093.11	1092.38	24+02.12	1093.11	1093.11	1092.38	24+09.37	1093.12	1093.12	1092.39
TOE OF PARAPET (RT.)	23+51.15	1092.97	1092.97	1092.24	23+58.43	1093.00	1093.02	1092.29	23+66.68	1093.03	1093.05	1092.32	23+72.93	1093.05	1093.08	1092.35	23+80.18	1093.07	1093.10	1092.37	23+87.43	1093.09	1093.11	1092.38	23+94.68	1093.11	1093.12	1092.39	24+01.93	1093.12	1093.12	1092.40	24+09.18	1093.14	1093.14	1092.41

DECK ELEVATIONS

LOCATION	1/8 PT.			FIELD SPLICE 1			1/4 PT.			3/8 PT.			1/2 PT.			5/8 PT.			3/4 PT.			FIELD SPLICE 2			7/8 PT.											
	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.				
TOE OF PARAPET (LT.)	24+33.86	1092.96	1092.98	1092.25	24+38.55	1092.96	1092.99	1092.26	24+44.17	1092.97	1093.00	1092.27	24+54.49	1092.97	1093.02	1092.29	24+64.60	1092.98	1093.02	1092.29	24+75.11	1092.95	1093.00	1092.27	24+95.42	1092.94	1092.97	1092.24	24+98.05	1092.94	1092.96	1092.23	24+95.74	1092.93	1092.94	1092.21
BEAM 1	24+33.69	1092.98	1092.99	1092.27	24+38.37	1092.98	1093.01	1092.28	24+44.00	1092.98	1093.02	1092.29	24+54.31	1092.99	1093.04	1092.31	24+64.42	1092.98	1093.04	1092.31	24+74.94	1092.91	1093.02	1092.29	24+95.25	1092.96	1092.99	1092.26	24+97.87	1092.96	1092.98	1092.25	24+95.56	1092.94	1092.95	1092.22
BEAM 2	24+32.27	1093.13	1093.14	1092.41	24+36.96	1093.13	1093.15	1092.42	24+42.59	1093.13	1093.16	1092.43	24+52.90	1093.13	1093.17	1092.44	24+63.21	1093.13	1093.17	1092.44	24+73.52	1093.12	1093.16	1092.43	24+93.84	1093.11	1093.13	1092.40	24+96.46	1093.10	1093.12	1092.39	24+94.15	1093.09	1093.10	1092.37
BEAM 3	24+30.86	1093.27	1093.28	1092.55	24+35.55	1093.27	1093.29	1092.56	24+41.17	1093.28	1093.30	1092.57	24+51.49	1093.28	1093.32	1092.59	24+61.60	1093.27	1093.32	1092.59	24+72.11	1093.27	1093.30	1092.57	24+92.42	1093.26	1093.28	1092.55	24+95.05	1093.25	1093.27	1092.54	24+92.74	1093.24	1093.25	1092.52
BEAM 4	24+29.45	1093.41	1093.42	1092.69	24+34.14	1093.42	1093.43	1092.71	24+39.76	1093.42	1093.45	1092.72	24+50.08	1093.42	10																					

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DECK ELEVATIONS																																				
LOCATION	C.L. PER 2				1/8 PT.				1/4 PT.				3/8 PT.				1/2 PT.				5/8 PT.				3/4 PT.				FIELD SPLICE 3				7/8 PT.			
	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.				
TOE OF PARAPET (LT.)	25+06.05	1092.90	1092.90	1092.18	25+16.36	1092.88	1092.89	1092.16	25+26.67	1092.85	1092.85	1092.15	25+36.99	1092.82	1092.86	1092.13	25+47.30	1092.78	1092.83	1092.10	25+57.61	1092.74	1092.79	1092.06	25+67.92	1092.69	1092.72	1091.99	25+78.24	1092.64	1092.65	1091.92				
BEAM 1	25+06.87	1092.92	1092.92	1092.19	25+16.19	1092.90	1092.91	1092.18	25+26.50	1092.87	1092.90	1092.17	25+36.81	1092.83	1092.88	1092.15	25+47.12	1092.80	1092.85	1092.12	25+57.44	1092.75	1092.81	1092.08	25+67.75	1092.71	1092.74	1092.01	25+78.06	1092.66	1092.67	1091.94				
BEAM 2	25+04.46	1093.07	1093.07	1092.34	25+14.77	1093.05	1093.05	1092.33	25+25.09	1093.02	1093.04	1092.31	25+35.40	1092.99	1093.02	1092.29	25+45.71	1092.95	1092.99	1092.26	25+56.02	1092.91	1092.95	1092.22	25+66.34	1092.86	1092.89	1092.16	25+76.65	1092.81	1092.82	1092.09				
BEAM 3	25+03.05	1093.22	1093.22	1092.49	25+13.36	1093.20	1093.20	1092.47	25+23.67	1093.17	1093.19	1092.46	25+33.99	1093.14	1093.17	1092.44	25+44.30	1093.10	1093.14	1092.41	25+54.61	1093.06	1093.10	1092.37	25+64.92	1093.01	1093.04	1092.31	25+75.24	1092.96	1092.97	1092.24				
BEAM 4	25+01.64	1093.37	1093.37	1092.64	25+11.95	1093.35	1093.35	1092.62	25+22.26	1093.32	1093.34	1092.61	25+32.58	1093.29	1093.32	1092.59	25+42.89	1093.25	1093.29	1092.56	25+53.20	1093.21	1093.25	1092.52	25+63.51	1093.16	1093.19	1092.46	25+73.83	1093.12	1093.13	1092.40				
BEAM 5 & PHASE LINE	25+00.23	1093.52	1093.52	1092.79	25+10.54	1093.49	1093.50	1092.77	25+20.85	1093.47	1093.48	1092.76	25+31.16	1093.44	1093.46	1092.74	25+41.48	1093.40	1093.43	1092.71	25+51.79	1093.36	1093.39	1092.66	25+62.10	1093.32	1093.34	1092.61	25+72.41	1093.27	1093.28	1092.55				
P.G. & CROWN	25+00.00	1093.54	1093.54	1092.81	25+10.31	1093.52	1093.52	1092.79	25+20.63	1093.49	1093.51	1092.78	25+30.94	1093.46	1093.49	1092.76	25+41.25	1093.42	1093.46	1092.73	25+51.56	1093.39	1093.42	1092.69	25+61.88	1093.34	1093.36	1092.63	25+72.50	1093.32	1093.33	1092.57				
BEAM 5 & PHASE LINE	24+99.77	1093.52	1093.52	1092.79	25+10.09	1093.50	1093.50	1092.77	25+20.40	1093.47	1093.49	1092.76	25+30.71	1093.44	1093.47	1092.74	25+41.02	1093.40	1093.44	1092.71	25+51.34	1093.36	1093.39	1092.66	25+61.65	1093.32	1093.34	1092.61	25+72.27	1093.29	1093.31	1092.58				
BEAM 7	24+98.36	1093.38	1093.38	1092.65	25+08.67	1093.35	1093.35	1092.63	25+18.99	1093.33	1093.35	1092.62	25+29.30	1093.30	1093.33	1092.60	25+39.61	1093.26	1093.31	1092.58	25+49.92	1093.22	1093.26	1092.53	25+60.24	1093.18	1093.21	1092.48	25+70.55	1093.13	1093.14	1092.41				
BEAM 8	24+96.95	1093.23	1093.23	1092.50	25+07.26	1093.21	1093.22	1092.49	25+17.58	1093.19	1093.21	1092.48	25+27.89	1093.16	1093.19	1092.46	25+38.20	1093.12	1093.16	1092.44	25+48.51	1093.08	1093.12	1092.39	25+58.83	1093.04	1093.07	1092.34	25+69.14	1093.00	1093.01	1092.27				
BEAM 9	24+95.54	1093.09	1093.09	1092.36	25+05.85	1093.07	1093.08	1092.35	25+16.16	1093.04	1093.07	1092.34	25+26.48	1093.01	1093.05	1092.32	25+36.79	1092.98	1093.02	1092.30	25+47.10	1092.94	1092.98	1092.25	25+57.41	1092.90	1092.93	1092.20	25+67.73	1092.85	1092.86	1092.14				
C.J. (1)	24+94.98	1093.03	1093.03	1092.30	25+05.29	1093.01	1093.02	1092.29	25+15.61	1092.99	1093.01	1092.28	25+25.92	1092.96	1093.00	1092.27	25+36.23	1092.93	1092.97	1092.24	25+46.54	1092.89	1092.93	1092.20	25+56.86	1092.85	1092.87	1092.14	25+67.17	1092.80	1092.81	1092.08				
C.J. (2)	24+94.67	1093.02	1093.02	1092.29	25+05.18	1093.00	1093.01	1092.28	25+15.49	1092.98	1093.01	1092.28	25+25.80	1092.95	1093.01	1092.28	25+36.12	1092.91	1092.98	1092.25	25+46.43	1092.88	1092.94	1092.21	25+56.74	1092.83	1092.86	1092.15	25+67.05	1092.79	1092.81	1092.08				
BEAM 10	24+94.32	1092.97	1092.97	1092.24	25+04.63	1092.95	1092.96	1092.23	25+14.94	1092.92	1092.96	1092.23	25+25.25	1092.89	1092.95	1092.22	25+35.57	1092.86	1092.93	1092.20	25+45.88	1092.82	1092.88	1092.18	25+56.19	1092.78	1092.82	1092.09	25+66.50	1092.73	1092.75	1092.02				
TOE OF CURB (INT.)	24+94.25	1092.96	1092.96	1092.23	25+04.57	1092.94	1092.95	1092.22	25+14.88	1092.91	1092.95	1092.22	25+25.19	1092.89	1092.95	1092.22	25+35.50	1092.85	1092.92	1092.19	25+45.82	1092.82	1092.88	1092.15	25+56.13	1092.77	1092.82	1092.09	25+66.44	1092.73	1092.75	1092.02				
BEAM 11	24+93.09	1093.04	1093.04	1092.31	25+03.41	1093.02	1093.03	1092.30	25+13.72	1092.99	1093.03	1092.30	25+24.03	1092.97	1093.03	1092.30	25+34.34	1092.93	1093.00	1092.27	25+44.66	1092.90	1092.96	1092.23	25+54.97	1092.85	1092.90	1092.17	25+65.59	1092.83	1092.86	1092.10				
BEAM 12	24+91.87	1093.12	1093.12	1092.39	25+02.18	1093.10	1093.11	1092.39	25+12.50	1093.08	1093.12	1092.39	25+22.81	1093.05	1093.11	1092.38	25+33.12	1093.02	1093.09	1092.36	25+43.43	1092.98	1093.05	1092.32	25+53.75	1092.94	1092.98	1092.26	25+64.06	1092.90	1092.91	1092.18				
TOE OF PARAPET (RT.)	24+91.66	1093.13	1093.13	1092.40	25+01.99	1093.11	1093.13	1092.40	25+12.31	1093.09	1093.13	1092.40	25+22.62	1093.06	1093.12	1092.39	25+32.93	1093.03	1093.10	1092.37	25+43.24	1092.99	1093.06	1092.33	25+53.56	1092.95	1093.00	1092.27	25+64.18	1092.93	1092.96	1092.20				

DECK ELEVATIONS																																				
LOCATION	C.L. PER 3				1/8 PT.				1/4 PT.				3/8 PT.				1/2 PT.				5/8 PT.				3/4 PT.				7/8 PT.				CL BRG. FORWARD ABUT.			
	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.	STATION	FINISHED DECK ELEV.	TOP OF DECK SCREED ELEV.	TOP OF HAUNCH SCREED ELEV.				
TOE OF PARAPET (LT.)	25+88.55	1092.58	1092.58	1091.85	25+95.80	1092.54	1092.56	1091.83	26+03.05	1092.50	1092.51	1091.78	26+10.30	1092.45	1092.47	1091.74	26+17.55	1092.41	1092.43	1091.70	26+24.80	1092.36	1092.38	1091.65	26+32.05	1092.30	1092.33	1091.60	26+39.30	1092.25	1092.28	1091.53	26+46.55	1092.19	1092.19	1091.47
BEAM 1	25+88.37	1092.60	1092.60	1091.87	25+95.62	1092.56	1092.56	1091.85	26+02.87	1092.52	1092.53	1091.80	26+10.12	1092.47	1092.49	1091.76	26+17.37	1092.43	1092.45	1091.72	26+24.62	1092.38	1092.40	1091.67	26+31.87	1092.32	1092.35	1091.62	26+38.12	1092.27	1092.29	1091.55	26+46.37	1092.21	1092.21	1091.49
BEAM 2	25+86.96	1092.76	1092.76	1092.03	25+94.21	1092.72	1092.72	1091.99	26+01.46	1092.67	1092.68	1091.95	26+08.71	1092.63	1092.64	1091.92	26+15.96	1092.58	1092.60	1091.87	26+23.21	1092.53	1092.56	1091.83	26+30.46	1092.48	1092.50	1091.77	26+37.71	1092.43	1092.44	1091.71	26+44.96	1092.37	1092.37	1091.64
BEAM 3	25+85.55	1092.91	1092.91	1092.18	25+92.80	1092.87	1092.87	1092.14	26+00.05	1092.83	1092.84	1092.11	26+07.30	1092.78	1092.80	1092.07	26+14.55	1092.74	1092.76	1092.03	26+21.80	1092.69	1092.71	1091.98	26+29.05	1092.64	1092.66	1091.93	26+36.30	1092.58	1092.59	1091.87	26+43.55	1092.53	1092.53	1091.80
BEAM 4	25+84.14	1093.06	1093.06	1092.33	25+91.39	1093.02	1093.02	1092.30	25+98.64	1092.98	1092.99	1092.26	26+05.89	1092.94	1092.95	1092.22	26+13.14	1092.89	1092.91	1092.18	26+20.39	1092.84	1092.87	1092.14	26+27.64	1092.79	1092.81	1092.08	26+34.89	1092.74	1092.75	1092.02	26+42.14	1092.68	1092.68	1091.95
BEAM 5 & PHASE LINE	25+82.73	1093.22	1093.22	1092.49	25+89.98	1093.18	1093.18	1092.45	25+97.23	1093.13	1093.14	1092.41	26+04.48	1093.09	1093.10	1092.37	26+11.73	1093.04	1093.06	1092.33	26+19.98	1093.00	1093.02	1092.29	26+26.23	1092.95	1092.96	1092.23	26+33.48	1092.89	1092.90	1092.18	26+40.73	1092.84	1092.84	1092.11
P.G. & CROWN	25+82.50	1093.24	1093.24	1092.51	25+89.75	1093.20																														

REAR APPROACH SLAB FINISH ELEVATIONS

LOCATION	BEGN APPR. SLAB		1/4 PT.		1/2 PT.		3/4 PT.		END APPR. SLAB	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
	TOE OF PARAPET (LT.)	23+39.54	1092.72	23+45.79	1092.75	23+52.04	1092.76	23+58.29	1092.80	23+64.54
LINE A (36' LT.)	23+38.93	1092.78	23+45.18	1092.81	23+51.43	1092.84	23+57.68	1092.86	23+63.93	1092.88
LINE B (24' LT.)	23+37.12	1092.96	23+43.37	1092.99	23+49.62	1093.02	23+55.87	1093.04	23+62.12	1093.06
LINE C (12' LT.)	23+35.30	1093.14	23+41.55	1093.17	23+47.80	1093.20	23+54.05	1093.22	23+60.30	1093.24
LINE D (1.5' LT.)	23+33.72	1093.30	23+39.97	1093.33	23+46.22	1093.35	23+52.47	1093.38	23+58.72	1093.40
P.G. & CROWN	23+33.49	1093.32	23+39.74	1093.35	23+45.99	1093.38	23+52.24	1093.40	23+58.49	1093.42
LINE E (1.5' RT.)	23+33.26	1093.30	23+39.51	1093.32	23+45.76	1093.35	23+52.01	1093.38	23+58.26	1093.40
LINE F (12' RT.)	23+31.68	1093.12	23+37.93	1093.15	23+44.18	1093.18	23+50.43	1093.21	23+56.68	1093.23
LINE G (38' RT.)	23+29.86	1092.93	23+36.11	1092.96	23+42.36	1092.99	23+48.61	1093.01	23+54.86	1093.04
TOE OF CURB (INT.)	23+27.74	1092.70	23+33.99	1092.73	23+40.24	1092.76	23+46.49	1092.78	23+52.74	1092.81
TOE OF PARAPET (RT.)	23+25.17	1092.86	23+31.42	1092.89	23+37.67	1092.92	23+43.92	1092.94	23+50.17	1092.97

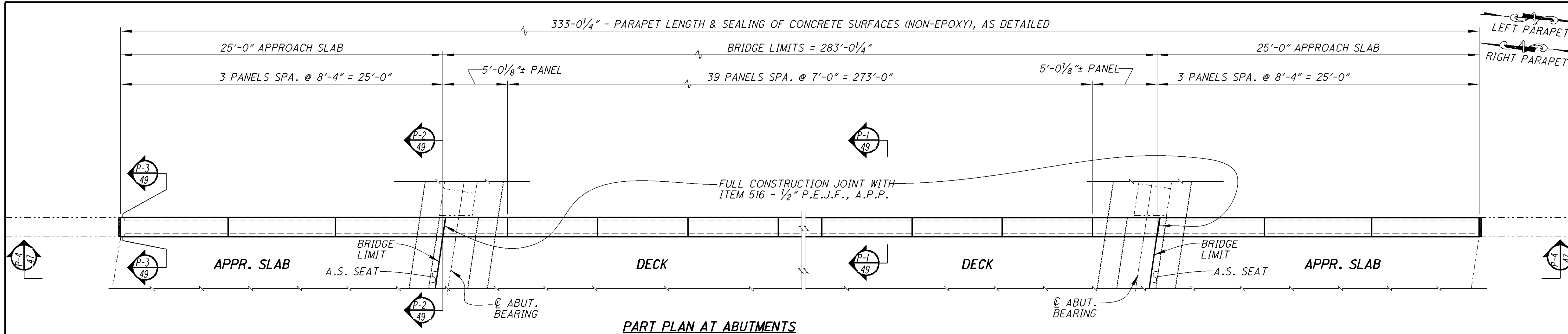
FORWARD APPROACH SLAB FINISH ELEVATIONS

LOCATION	BEGN APPR. SLAB		1/4 PT.		1/2 PT.		3/4 PT.		END APPR. SLAB	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
	TOE OF PARAPET (LT.)	26+47.56	1092.19	26+53.81	1092.14	26+60.06	1092.09	26+66.31	1092.03	26+72.56
LINE A (36' LT.)	26+46.95	1092.25	26+53.20	1092.20	26+59.45	1092.15	26+65.70	1092.10	26+71.95	1092.04
LINE B (24' LT.)	26+45.14	1092.46	26+51.39	1092.41	26+57.64	1092.35	26+63.89	1092.30	26+70.14	1092.25
LINE C (12' LT.)	26+43.32	1092.66	26+49.57	1092.61	26+55.82	1092.56	26+62.07	1092.50	26+68.32	1092.45
LINE D (1.5' LT.)	26+41.74	1092.83	26+47.99	1092.78	26+54.24	1092.73	26+60.49	1092.68	26+66.74	1092.63
P.G. & CROWN	26+41.51	1092.85	26+47.76	1092.81	26+54.01	1092.76	26+60.26	1092.71	26+66.51	1092.65
LINE E (1.5' RT.)	26+41.28	1092.84	26+47.53	1092.79	26+53.78	1092.74	26+60.03	1092.69	26+66.28	1092.63
LINE F (12' RT.)	26+39.70	1092.68	26+45.95	1092.64	26+52.20	1092.59	26+58.45	1092.54	26+64.70	1092.48
LINE G (38' RT.)	26+37.88	1092.51	26+44.13	1092.46	26+50.38	1092.41	26+56.63	1092.36	26+62.88	1092.31
TOE OF CURB (INT.)	26+35.76	1092.31	26+42.01	1092.26	26+48.26	1092.21	26+54.51	1092.16	26+60.76	1092.11
TOE OF PARAPET (RT.)	26+33.19	1092.50	26+39.44	1092.45	26+45.69	1092.40	26+51.94	1092.35	26+58.19	1092.30

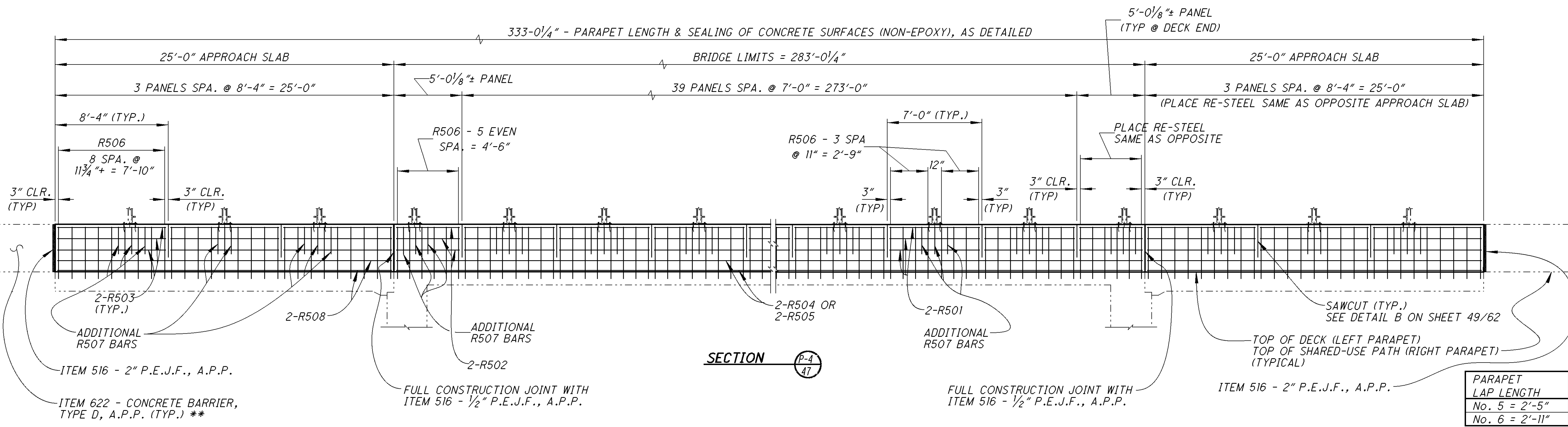
<p>APPROACH SLAB ELEVATIONS BRIDGE NO. LIC-310-0096 S.R. 310 OVER I.R. 70</p>	<p>DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5</p>
<p>DESIGNED TAG</p>	<p>DATE 9-24-2015</p>
<p>CHECKED NEW</p>	<p>STRUCTURE FILE NUMBER 4505646</p>
<p>DRAWN JDR</p>	<p>REVIEWED JDR</p>
<p>REVISIONS</p>	<p>DATE</p>
<p>NO.</p>	<p>BY</p>
<p>DESCRIPTION</p>	<p>DATE</p>

LIC-310-0.74

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PART PLAN AT ABUTMENTS



SECTION P-4 / 47

PARAPET LAP LENGTH	
No. 5	= 2'-5"
No. 6	= 2'-11"

FOR ITEM AND QUANTITIES:
** - SEE ROADWAY PLANS

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DATE: 9-24-2015

REVIEWED: JDR

STRUCTURE FILE NUMBER: 4505646

DRAWN: JDR

DESIGNED: TAG

CHECKED: NEW

PARAPET DETAILS

BRIDGE NO. LIC-310-0096

S.R. 310 OVER I.R. 70

LIC-310-0.74

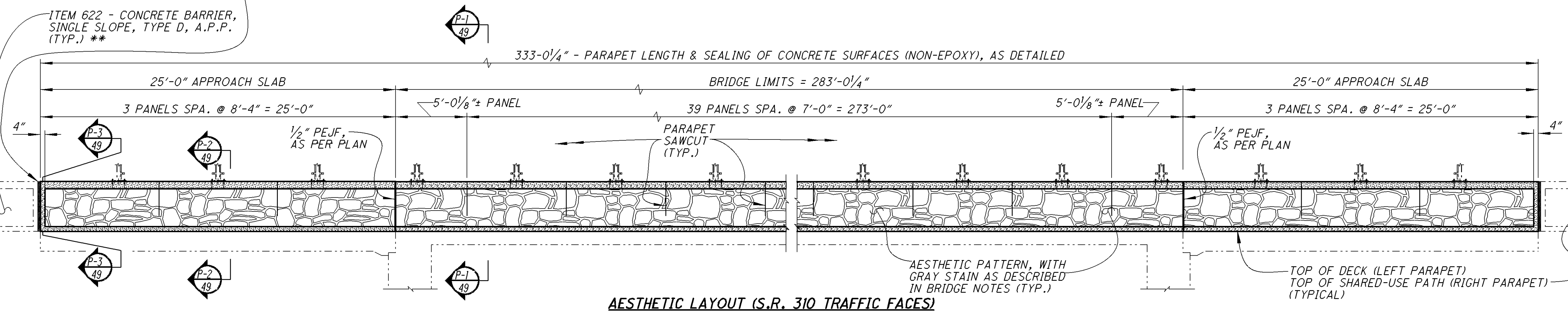
47 / 62

396 / 425

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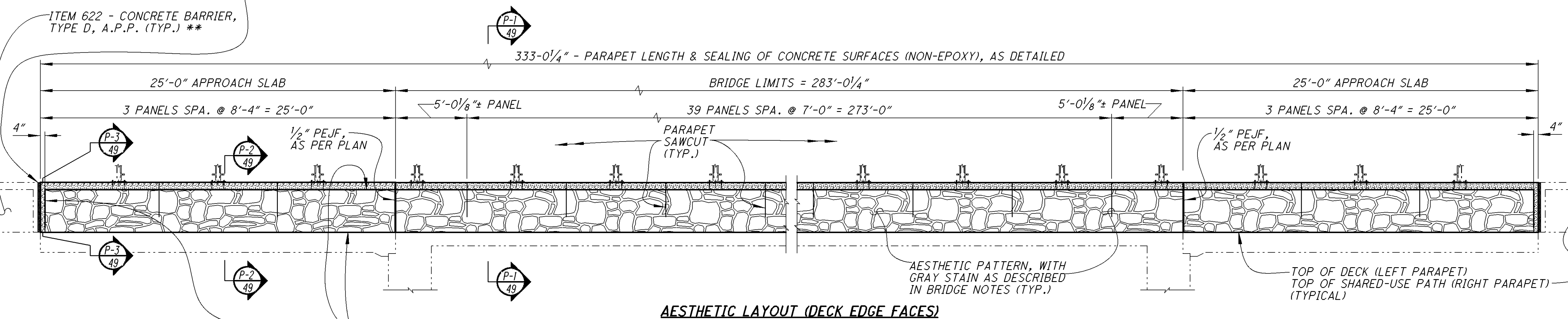
ITEM 516 - 2" P.E.J.F., A.P.P. (TYP.)

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, A.P.P. (TYP.) **



ITEM 516 - 2" P.E.J.F., A.P.P. (TYP.)

ITEM 622 - CONCRETE BARRIER, TYPE D, A.P.P. (TYP.) **

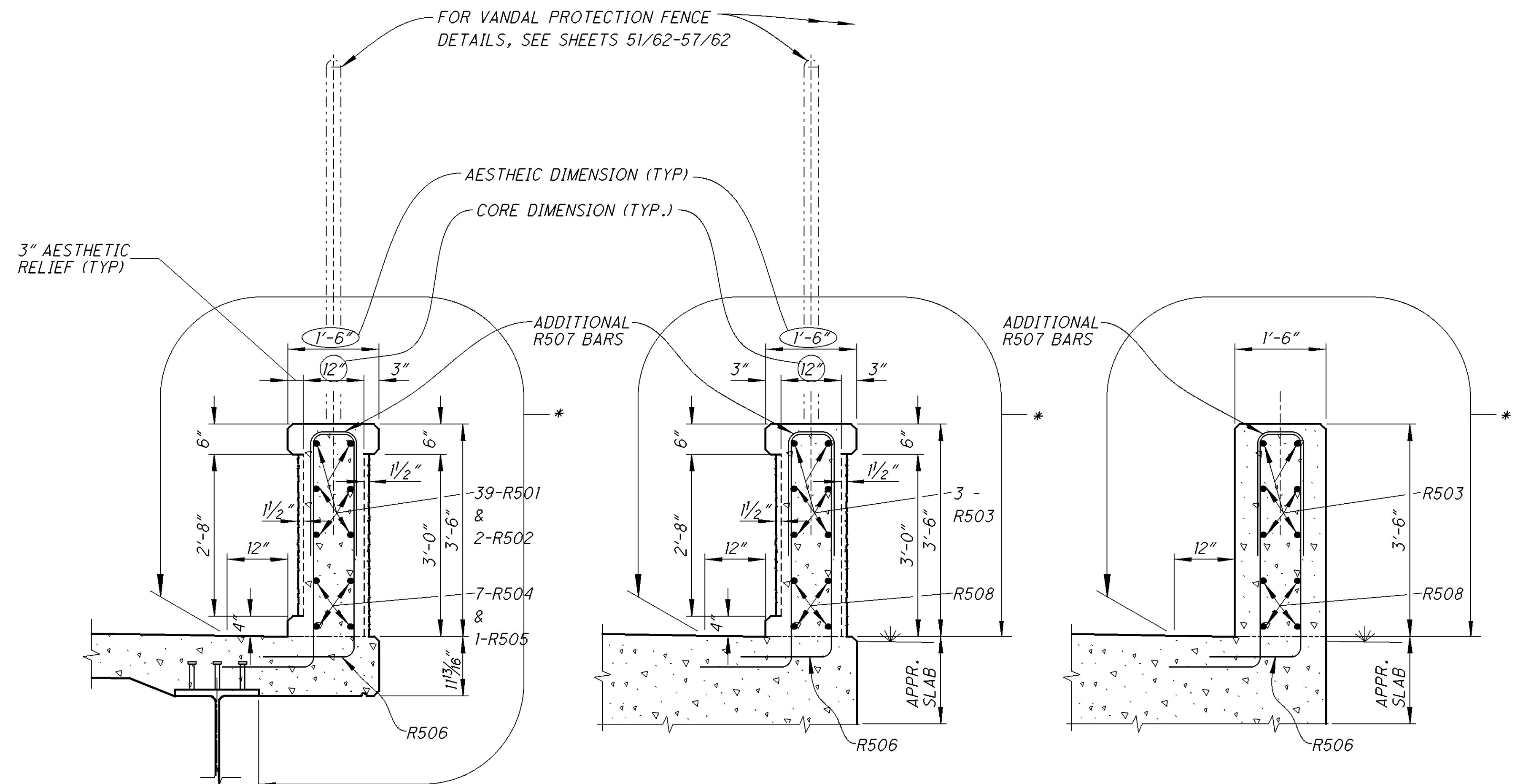


MEASUREMENT LIMITS FOR ITEM 530 -
STRUCTURE MISC.: AESTHETIC TREATMENT
(TYPICAL THROUGHOUT PLAN DETAILS)

FLUSH CONCRETE SURFACES (NO STAIN)

FOR ITEM AND QUANTITIES:
** - SEE ROADWAY PLANS

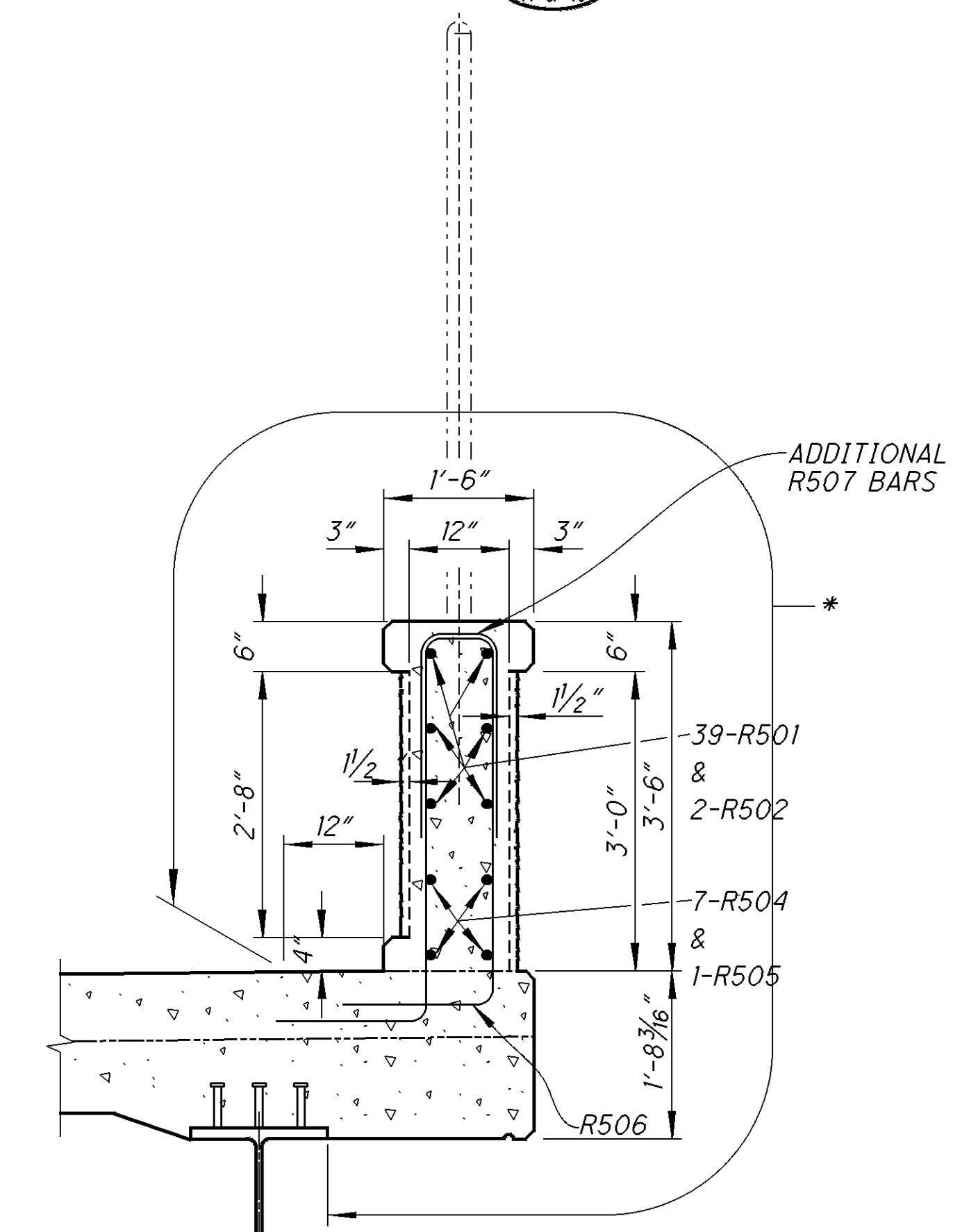
NOTE: FOR PARAPET SAWCUTS,
SEE DETAIL B ON SHEET 49/62



SECTION P-1 (LEFT PARAPET)
47 & 48

SECTION P-2
47 & 48

SECTION P-3
47 & 48

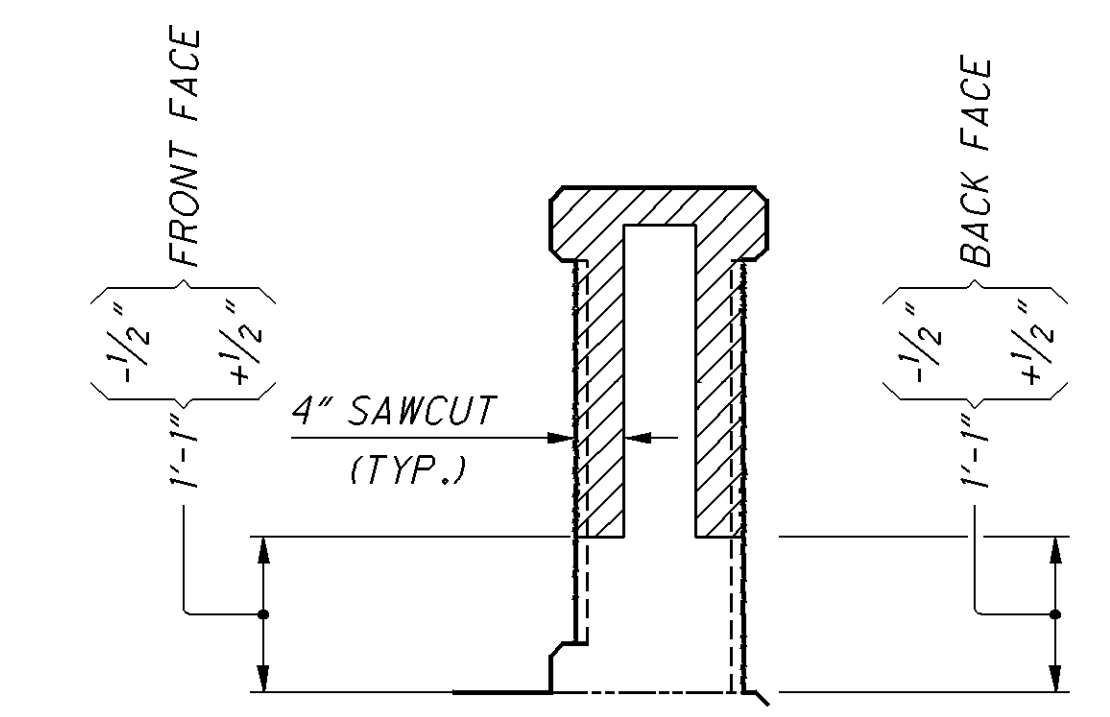


SECTION P-1 (RIGHT PARAPET)
47 & 48

NOTE:
-ALL REINFORCING STEEL TO BE EPOXY COATED.
-FIELD BEND BARS WHERE NECESSARY
-FOR ADDITIONAL DETAILS SEE STD. DWG. BR-2-98.

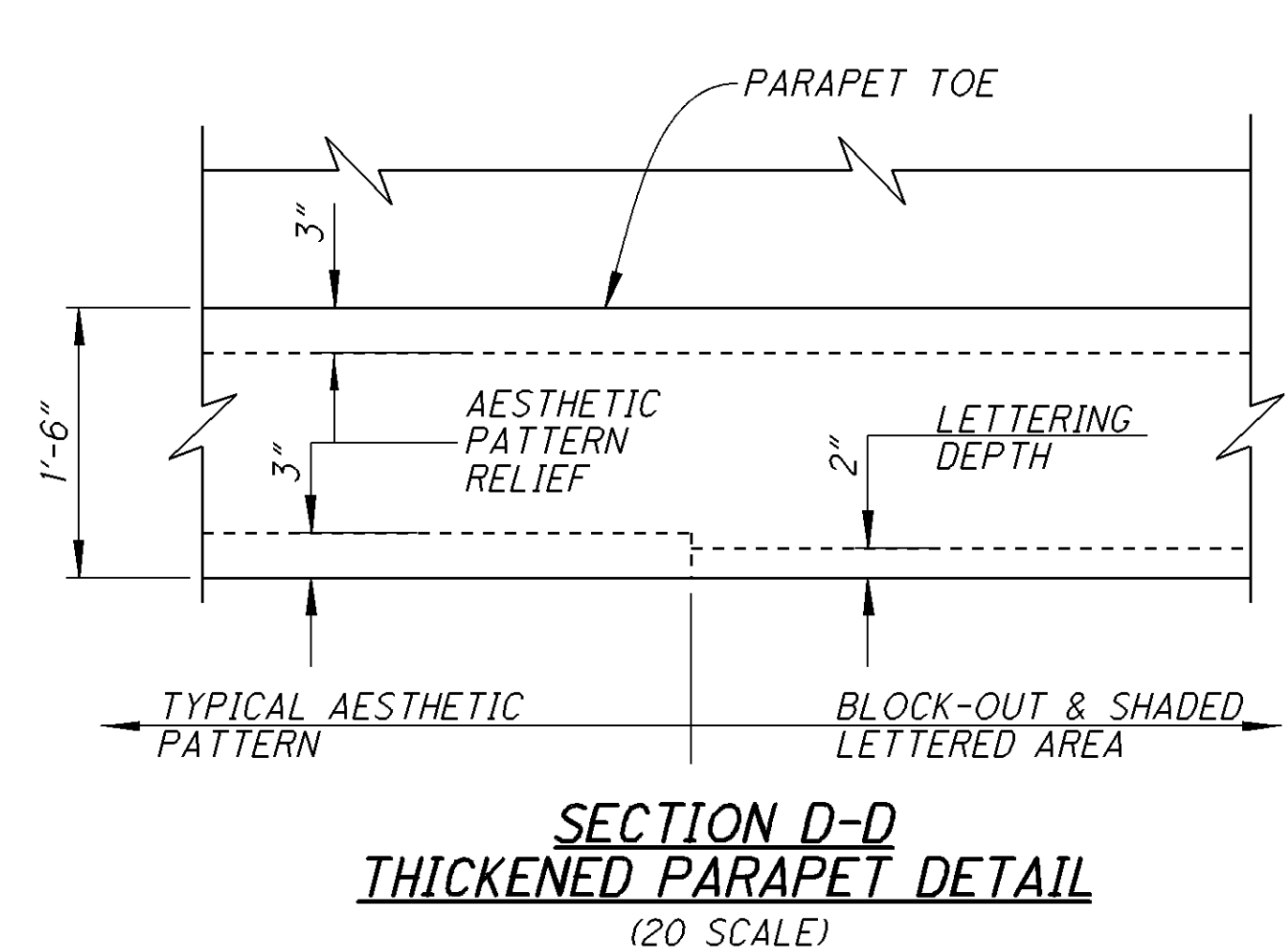
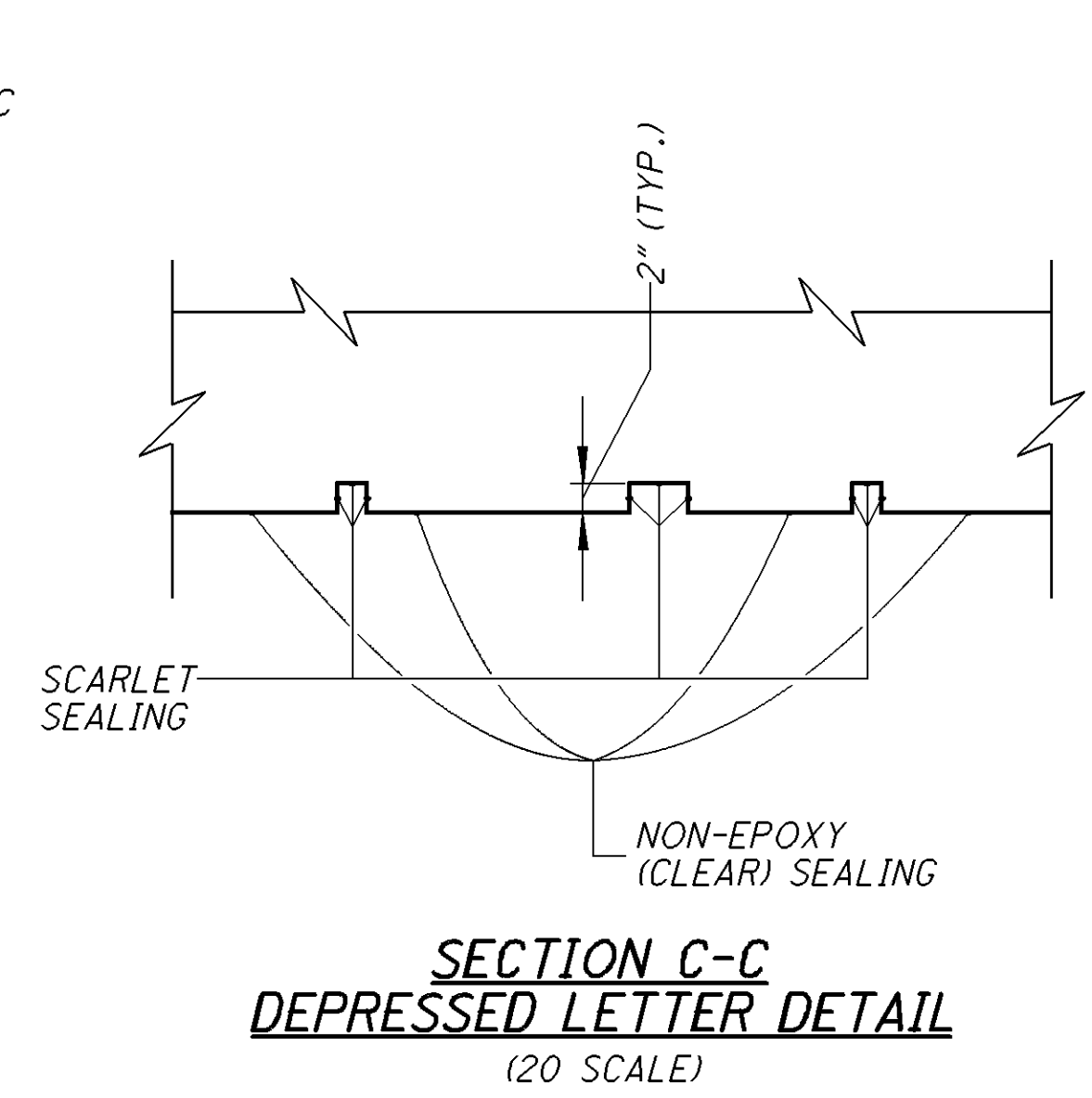
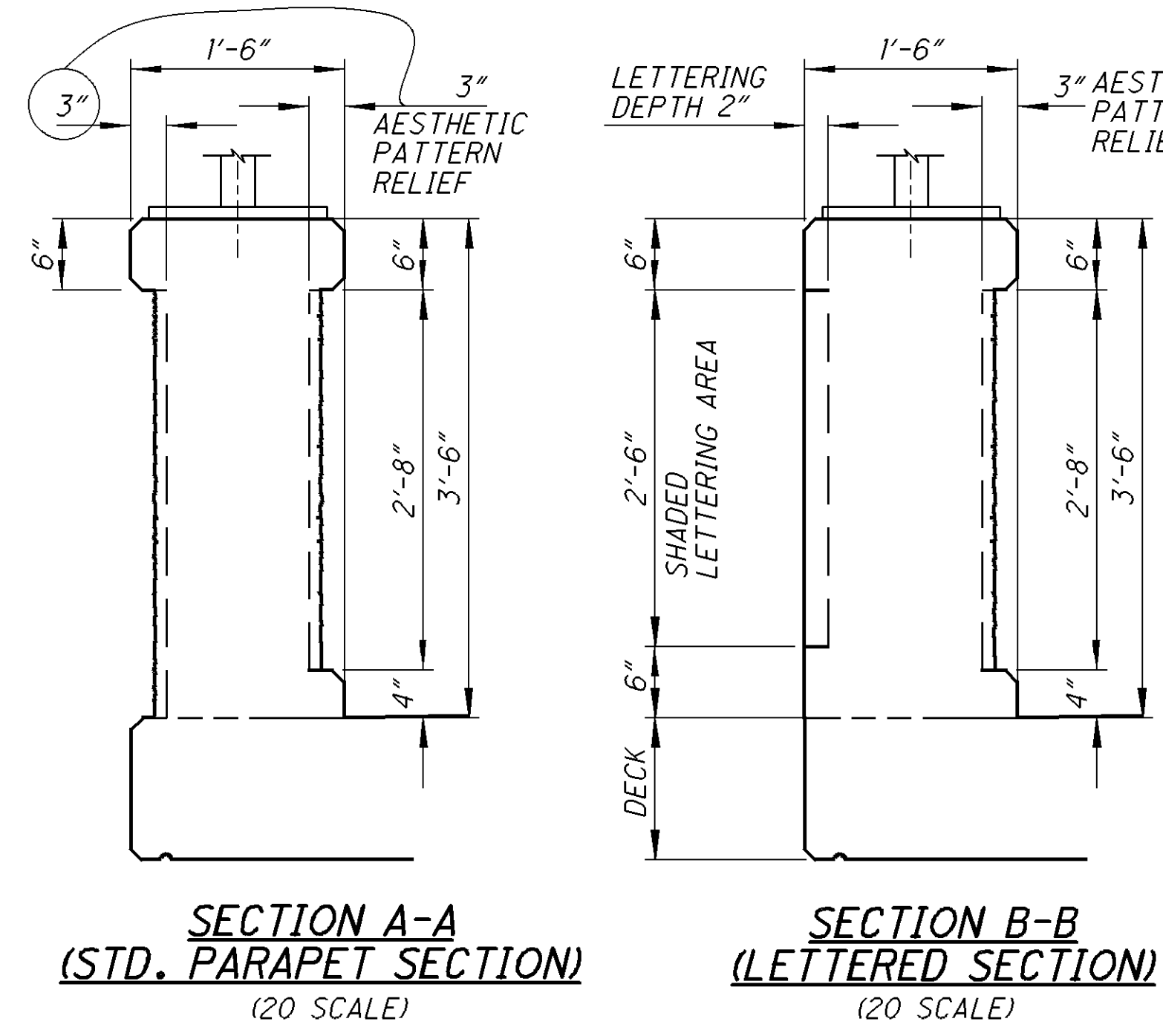
PARAPET LAP LENGTH	
No. 5	= 2'-5"
No. 6	= 2'-11"

LEGEND
* ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY) = CLEAR COATING.



DETAIL B
SECTION THROUGH SAWCUT
SAWCUT PERIMETER = 6'-8"

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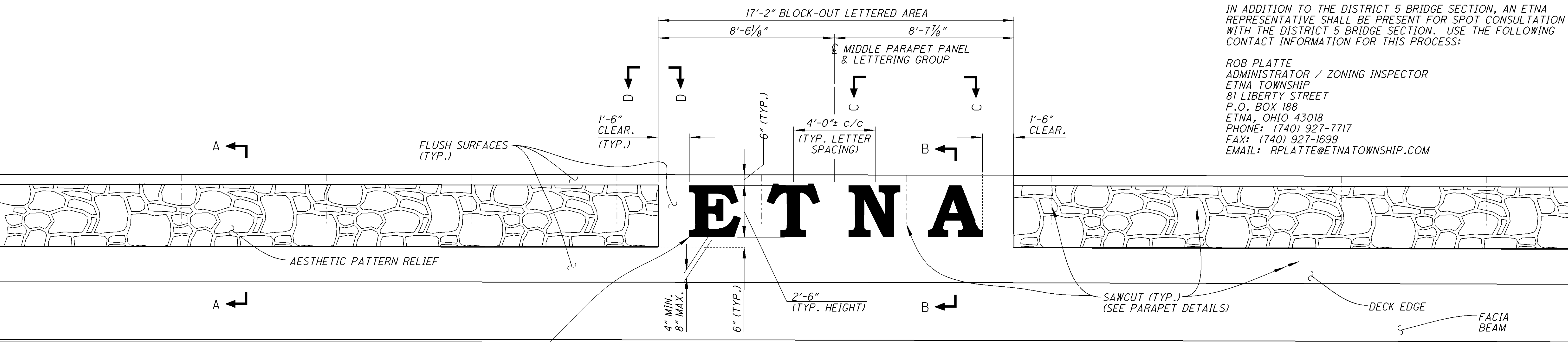


NOTE:
 ALL ADDITIONAL COSTS ASSOCIATED WITH THE LETTERING, SYMBOLS, PROVIDING AND DIFFERING TYPES AND COLORS OF CONCRETE SEALING IS TO BE INCLUDED WITH ITEM 530 SPECIAL- STRUCTURE, MISC.: AESTHETIC TREATMENT FOR PAYMENT. LOCATION OF SAWCUT JOINTS SHALL BE SO AS TO AVOID INTERSECTING DEPRESSED LETTERING. LETTERS SHALL BE CAST INTO PARAPET CONCRETE AT AN EMBEDMENT DEPTH OF 2 INCHES. THE MATERIAL USED TO FORM THE LETTERS INTO THE CONCRETE SHALL BE APPROVED BY THE ENGINEER. THE SPECIFICATIONS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), SHALL BE USED TO APPLY FEDERAL COLOR NUMBER FS-595B-11136 (SCARLET) TO THE DEPRESSED SURFACES OF THE LETTERS. LASTLY, ALL REMAINING PARAPET SURFACES SHALL BE SEALED, AS DETAILED IN THE PLAN, WITH ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY), CLEAR SEALER. THE CONTRACTOR SHALL CREATE A MOCKUP TEST POUR OF THE PROPOSED LETTERING, AND SEALING PATTERN USING APPROVED FORMLINERS AND SEALING MATERIAL.

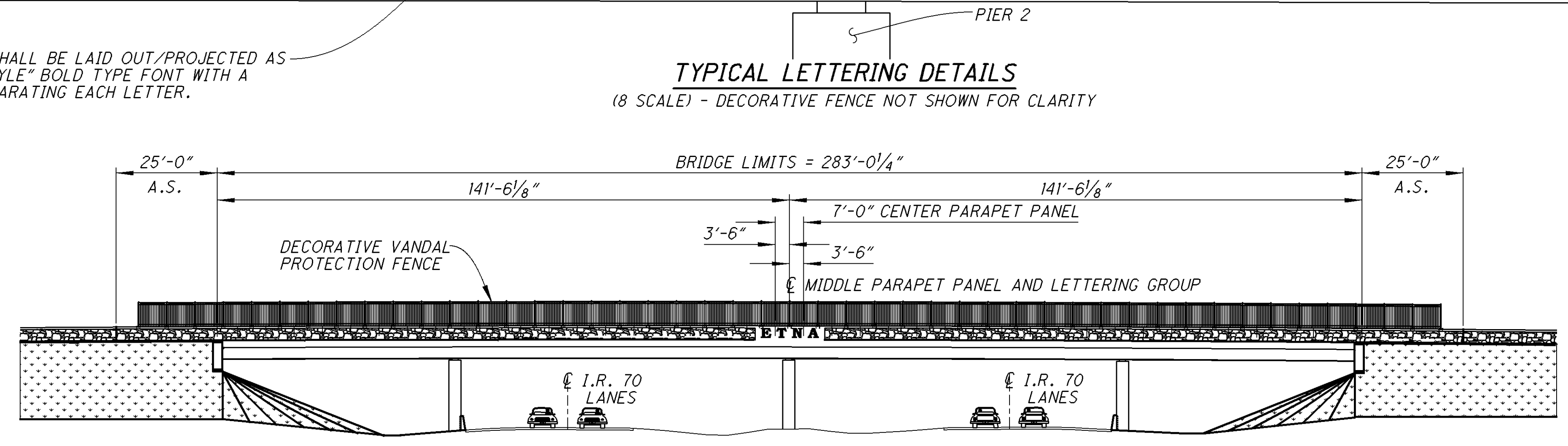
THE MOCKUP SHALL BE APPROVED BY THE DISTRICT 5 BRIDGE SECTION. IF THE TEST PANELS DO NOT MEET THE APPROVAL OF THE DISTRICT 5 BRIDGE SECTION, THE RESULTS MAY BE GROUNDS TO REJECT THE PROPOSED PANEL SURFACE CHOSEN. THE MOCKUP WILL BE PROVIDED REPEATEDLY, AS NECESSARY, UNTIL APPROVAL IS GRANTED. A MINIMUM OF ONE FULL SCALE LETTER WITH FLUSH FRAMING MOCKUP SHALL BE PROVIDED. THE MOCK-UPS SHALL HAVE THE SAME ARCHITECTURAL RELIEF, THICKNESS, PATTERN, AND COLOR/ SEALANT INTENDED TO BE USED ON THE PROJECT. THE MOCKUP SHALL BE OF THE SAME CEMENT, AGGREGATE SOURCE, AND CONCRETE SEALANT THAT WILL BE USED TO CONSTRUCT THE PROJECT. AFTER APPROVAL THE CONCRETE MOCKUP SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

IN ADDITION TO THE DISTRICT 5 BRIDGE SECTION, AN ETNA REPRESENTATIVE SHALL BE PRESENT FOR SPOT CONSULTATION WITH THE DISTRICT 5 BRIDGE SECTION. USE THE FOLLOWING CONTACT INFORMATION FOR THIS PROCESS:

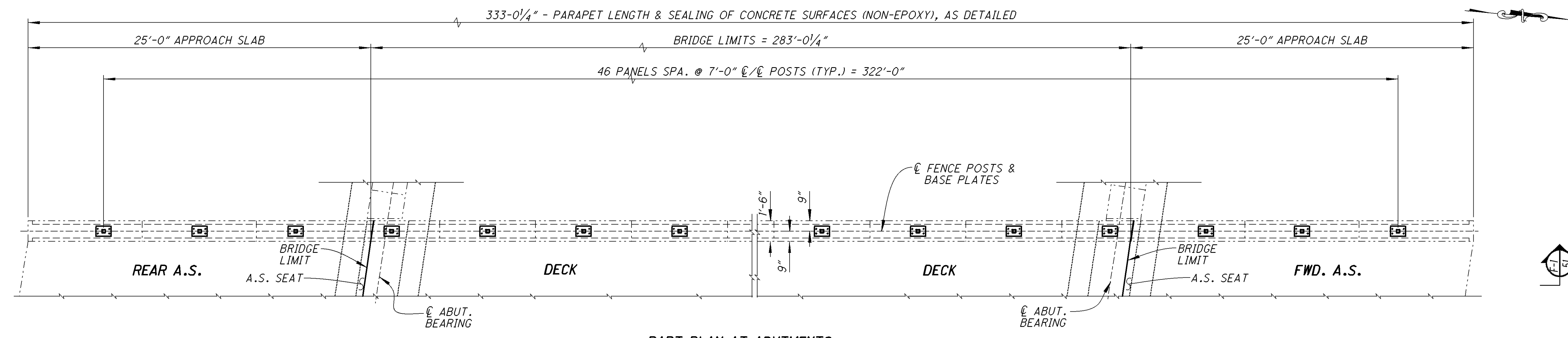
ROB PLATTE
 ADMINISTRATOR / ZONING INSPECTOR
 ETNA TOWNSHIP
 81 LIBERTY STREET
 P.O. BOX 188
 ETNA, OHIO 43018
 PHONE: (740) 927-7717
 FAX: (740) 927-1699
 EMAIL: RPLATTE@ETNATOWNSHIP.COM



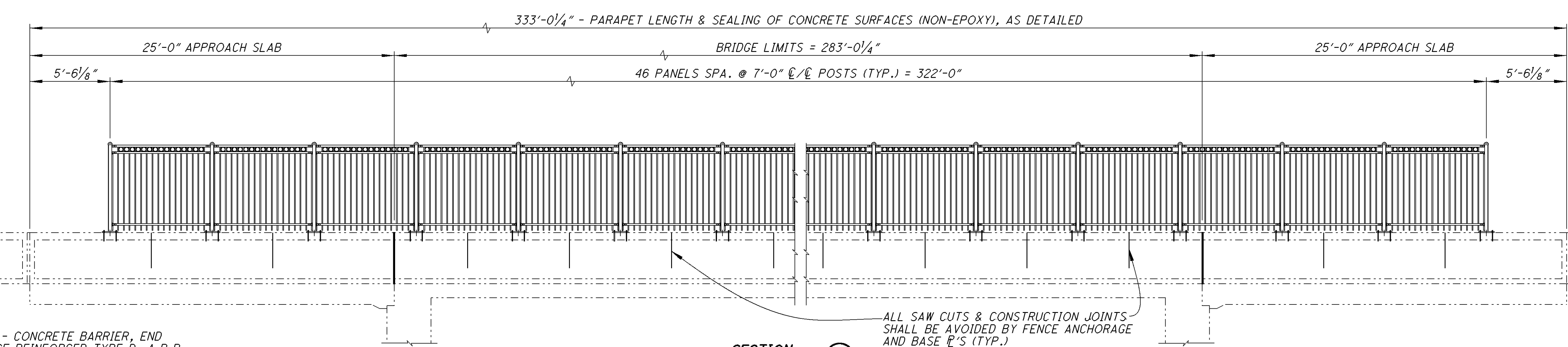
CAST LETTERING SHALL BE LAID OUT/PROJECTED AS "BOOKMAN OLD STYLE" BOLD TYPE FONT WITH A SINGLE SPACE SEPARATING EACH LETTER.



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PART PLAN AT ABUTMENTS
 (LEFT DECK EDGE PARAPET SHOWN, RIGHT IS OPPOSITE HAND)
 (NOTE: RAILS, PICKETS, MESH, ETC. NOT SHOWN FOR CLARITY)



SECTION F-1 / 51

VANDAL PROTECTION FENCE LAYOUT
 (NOTE: EXPANDED METAL MESH NOT SHOWN FOR CLARITY)

DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
DATE	9-24-2015
REVIEWED	JDR
STRUCTURE FILE NUMBER	4505646
DRAWN	JDR
REVISED	
DESIGNED	TAG
CHECKED	NEW
VANDAL PROTECTION FENCE DETAILS	
BRIDGE NO. LIC-310-0096	
S.R. 310 OVER I.R. 70	
LIC-310-0.74	
51	62
400	425

VANDAL PROTECTION FENCE (DECORATIVE) NOTES

DESCRIPTION:

THIS ITEM CONSISTS OF FURNISHING AND INSTALLING VANDAL FENCING ON NEW OR EXISTING CONCRETE BRIDGE RAILINGS. CONSTRUCT IN A MANNER THAT PROVIDES A RIGID, TAUT FENCE CLOSELY CONFORMING TO THE TOP SURFACE OF THE CONCRETE PARAPET. THIS PAY ITEM SHALL INCLUDE ANY AND ALL WORK NECESSARY TO FABRICATE AND INSTALL THE DECORATIVE STEEL VANDAL PROTECTION FENCE DESCRIBED HEREIN. THIS WILL INCLUDE STRUCTURAL STEEL AS DETAILED IN THE PLANS, SUCH AS POSTS, RAIL ELEMENTS, PICKETS, POST CAPS, DECORATIVE ORNAMENTS, BOLTS, WASHERS, NUTS, CONNECTIONS TO THE BARRIER, BASE PLATES, ANCHOR BOLTS, SHIMS, CAULKING, EXPANDED METAL, CLIPS, MISC. STEEL, AND ALL OTHER COMPONENTS AS DETAILED IN THIS PLAN. ALL FABRICATION AND WORK OF THIS ITEM SHALL BE SHOP PERFORMED.

MATERIALS:

ALL MATERIALS USED FOR THIS ITEM SHALL, AT A MINIMUM, MEET THE REQUIREMENTS OF STD. DWG. VPF-1-90. TUBE STEEL POSTS SHALL MEET ASTM A500, GRADE B (MINIMUM YIELD STRENGTH = 46,000 PSI). IF NOT OTHERWISE SPECIFIED, STEEL MATERIAL SHALL BE ASTM A36.

STEEL COATING:

ALL STEEL COMPONENTS OF THIS ITEM, EXCEPT AS OTHERWISE NOTED IN THIS PLAN, SHALL BE GALVANIZED AS PER STD. DWG. VPF-1-90 AND MODIFIED FOR A BLACK SHOP PAINT SYSTEM DESCRIBED AS FOLLOWS. PROPER SURFACE PREPARATION PRIOR TO GALVANIZING AND PAINTING IS MANDATORY. VENT HOLES MAY BE ADDED AS NEEDED FOR PROPER GALVANIZING. ALL MATERIAL SHALL BE FREE OF PAINT MARKS. AFTER GALVANIZING, THE STEEL SHALL NOT BE QUENCHED. THE GALVANIZING SURFACE SHALL BE FREE FROM ALL CONTAMINANTS AND THE SURFACE ADEQUATELY ROUGHENED BEFORE PAINTING. PRIOR TO PAINTING, THE GALVANIZED SURFACE SHALL BE GIVEN AN ACID WASH WITH A CLEAN, WARM WATER RINSE, THEN A LIGHT SWEEP BLAST IN THE SHOP AND SHALL BE PAINTED WITHIN 12 HOURS OF SWEEP BLASTING. THE SWEEP BLAST SHOULD BE SOFT (FRIABLE) MATERIAL SIMILAR TO MAGNESIUM/ALUMINUM SILICATE ABRASIVE. THE SWEEP BLAST SHALL BE TO SUCH AN EXTENT TO SUFFICIENTLY ROUGHEN THE SURFACE TO AID IN PAINT ADHESION BUT NOT REMOVING MORE THAN 10 MICRONS OF ZINC. FIELD CONNECTION AREAS SHALL HAVE A UNIFORM GALVANIZED COATING FREE OF LOCAL EXCESSIVE ROUGHNESS WHICH WOULD PREVENT THE FIELD CONNECTIONS FROM MAKING INTIMATE CONTACT. ALL DAMAGED GALVANIZING SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780, METHOD A1 OR A3.

THE PAINT SHALL BE SHOP APPLIED. (IF PAINTED WITHIN 48 HOURS AFTER GALVANIZING, AN ACID WASH WILL NOT BE NECESSARY, ONLY THE LIGHT SWEEP BLAST.) THE PAINT SYSTEM SHALL BE PER C.M.S. 514, IZEU, A TIE COAT OF EPOXY PAINT, AND TOP COAT OF URETHANE PAINT. THE INORGANIC ZINC PRIMER SHALL BE NON-PERFORMED. ALL EXPOSED AREAS OF THE FENCING SHALL BE PAINTED, EXCEPT AS FOLLOWS. THE BASE PLATE ANCHORS, NUTS, AND WASHERS SHALL NOT BE PAINTED BUT REMAIN GALVANIZED ONLY. TOUCH UP OF ANY DAMAGED PAINT DURING HANDLING AND ERECTION IS REQUIRED AND SHALL BE AS DIRECTED BY THE PROJECT ENGINEER. THE COLOR OF THE FINISHED FENCING SHALL BE GLOSS BLACK. THE COLOR SHALL BE COORDINATED THROUGH THE DISTRICT AND SHALL MATCH THE COLOR OF ANY DECORATIVE LIGHTING POSTS ON THE PROJECT.

POSTS:

POSTS SHALL BE AS DETAILED IN THIS PLAN WITH A WELD ATTACHED PRESSED STEEL CAP.

HORIZONTAL MEMBERS:

HORIZONTAL MEMBERS SHALL BE 1/2"x1 1/2" SQUARE CHANNEL WITH 3/16" WALL THICKNESS.

PICKETS:

PICKETS SHALL BE 3/4" SQUARE SOLID STEEL.

BASE PLATES:

BASE PLATES SHALL BE AS DETAILED IN THIS PLAN.

BASE PLATE ANCHORS:

USE 1/2" ANCHORS AS PER STD. DWG. VPF-1-90. CAST-IN-PLACE MECHANICAL ANCHORS SHALL NOT BE USED. ANCHORS SHALL BE GALVANIZED ONLY.

FILLET WELDS:

FILLET WELDS SHALL CONFORM TO CMS 513.

SHIM PLATES:

SHIM PLATES SHALL BE AS PER STD. DWG. VPF-1-90 AND AS DETAILED IN THIS PLAN. USE SHIMS AS REQUIRED TO ERECT THE POSTS PERPENDICULAR TO THE ROADWAY PROFILE.

TRAFFIC MAINTENANCE:

MAINTAIN TRAFFIC ACCORDING TO THE PROJECT PLANS.

VANDAL PROTECTION MESH:

WHERE DETAILED IN THE PLAN, PROVIDE THE FOLLOWING MATERIAL AS VANDAL PROTECTION MESH (3/4" #16 FLATTENED EXPANDED METAL AS SPECIFIED BY):

McNICHOLS -
3470 EAST KEMPER ROAD
CINCINNATI, OH 45241-2007
<http://www.mcnichols.com>
PHONE: 1-877-884-4653

DIRECT METALS -
3380 GRAND AVENUE
WAUKEGAN, IL 60085
<http://www.directmetals.com>
PHONE: 1-800-711-4939

OR

APPROVED EQUAL

EACH MESH ASSEMBLY PANEL, AS DETAILED, SHALL BE ONE UNIT OF SEAMLESS EXPANDED METAL. THE PROTECTIVE COATING OF THE ENTIRE MESH ASSEMBLY, FOR EACH TYPICAL PANEL DETAILED IN THE PLAN, SHALL BE GALVANIZED AND PAINTED BLACK, ACCORDING TO THE STEEL COATING NOTE ON THIS SHEET, TO MATCH FENCE.

MESH EDGE COLLAR:

VANDAL PROTECTION MESH COLLAR SHALL BE SHOP ATTACHED, BY INTERMITTENT WELDING, TO ALL FOUR EDGES OF EACH TYPICAL FENCE PANEL MESH.

MESH ATTACHMENT:

USE INTERMITTENT SPOT WELDING, AS SHOWN IN THE PLAN, TO RIGIDLY ATTACH THE VANDAL PROTECTION MESH FLUSH TO THE PICKETS AND HORIZONTAL MEMEBERS. PROVIDE A SHOP WELD ASSEMBLY PATTERN WHICH WILL KEEP ALL AREAS OF THE PROPOSED MESH SNUG TO THE PICKETS AND ELIMINATE ANY VIBRATING OR CHATTERING ONCE IN SERVICE.

APPROVAL OF PRODUCT:

TWO COMPLETE POST ASSEMBLIES AND ONE COMPLETE PANEL ASSEMBLY SHALL BE PROVIDED AND MOCK ASSEMBLED FOR APPROVAL BY THE DIRECTOR. IF THE TYPICAL TEST FENCE SECTION DOES NOT MEET THE APPROVAL OF THE DIRECTOR, THE RESULTS MAY BE GROUNDS TO REJECT THE PROPOSED TYPICAL FENCE SECTION. THE TEST FENCE SECTION WILL BE PROVIDED REPEATEDLY, AS NECESSARY, UNTIL APPROVAL IS GRANTED. AN UNREINFORCED, ONE FOOT THICK, PLAIN CONCRETE LEVELING PAD SHALL BE USED AS A DEMONSTRATION PLATFORM AT A LOCATION SUITABLE TO THE PROJECT ENGINEER. THE MOCK-UPS SHALL UTILIZE ALL OF THE MATERIALS, ANCHORAGES, AND HARDWARE INTENDED TO BE USED ON THE PROJECT TO DEMONSTRATE OVERALL FITUP AS WELL AS AESTHETIC QUALITIES. AFTER APPROVAL IS GRANTED, THE STEEL FENCE TEST SECTION MAY BE USED ON THE PROJECT.

CONSTRUCTION PROCEDURE:

1. FIELD VERIFY THE PLAN LOCATIONS OF ALL BASE PLATES AND MARK PARAPETS ACCORDINGLY.
2. MARK AND DRILL HOLES FOR THE 1/2" BASE PLATE ANCHORS USING A BASE PLATE TEMPLATE.
3. INSTALL 1/2" DIAMETER BASE PLATE ANCHORS.
4. INSTALL BASE PLATE AND POST ASSEMBLY AND SHIM WHERE REQUIRED. FULLY TIGHTEN ANCHORS TO BASE PLATES AND CHECK PLUMBNESS OF POSTS.
5. CAULK EDGES OF BASE PLATES, SHIMS AND SLEEVES.
6. CONTINUE INSTALLATION OF FENCE BY INSERTING FENCE PANELS AS DETAILED IN THE PLAN.
7. COMPLETE INSTALLATION OF THE FENCE BY FULLY SECURING AND TIGHTENING ALL HARDWARE.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE QUANTITY BY THE FOOT. THE DEPARTMENT WILL MEASURE, ALONG THE BOTTOM OF THE FENCE, FROM CENTER TO CENTER OF END POSTS.

BASIS OF PAYMENT:

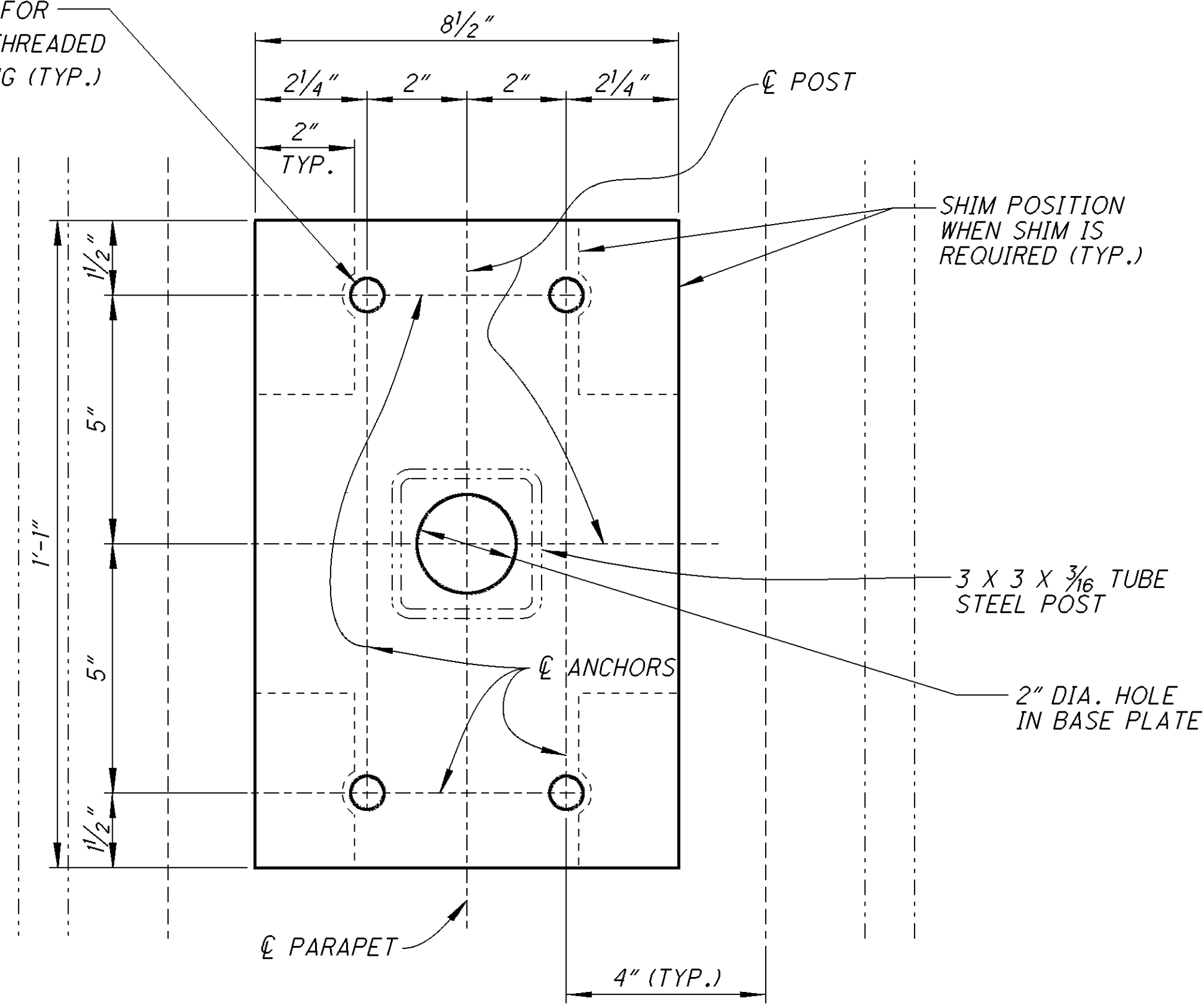
THE DEPARTMENT WILL MAKE PAYMENT FOR THE COMPLETED AND ACCEPTED QUANTITIES OF VANDAL FENCE AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
607	FOOT	SPECIAL - VANDAL PROTECTION FENCE (DECORATIVE)

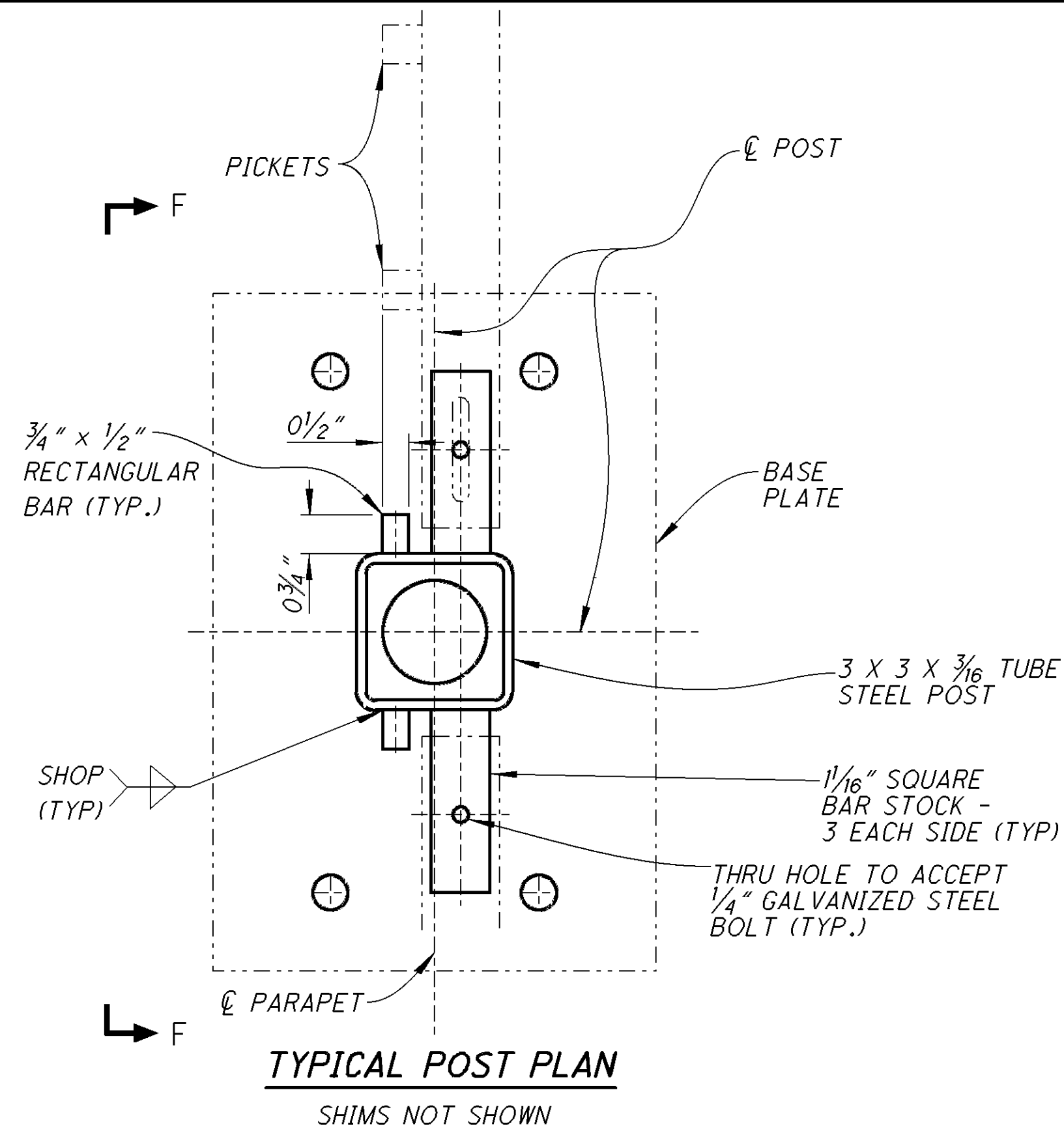
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DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5	DATE 9-24-2015	REVIEWED JDR	DRAWN JDR	DESIGNED TAG	STRUCTURE FILE NUMBER 4505646	CHECKED NEW
VANDAL PROTECTION FENCE NOTES BRIDGE NO. LIC-310-0096 S.R. 310 OVER I.R. 70						
LIC-310-0.74						
52 / 62						
401 425						

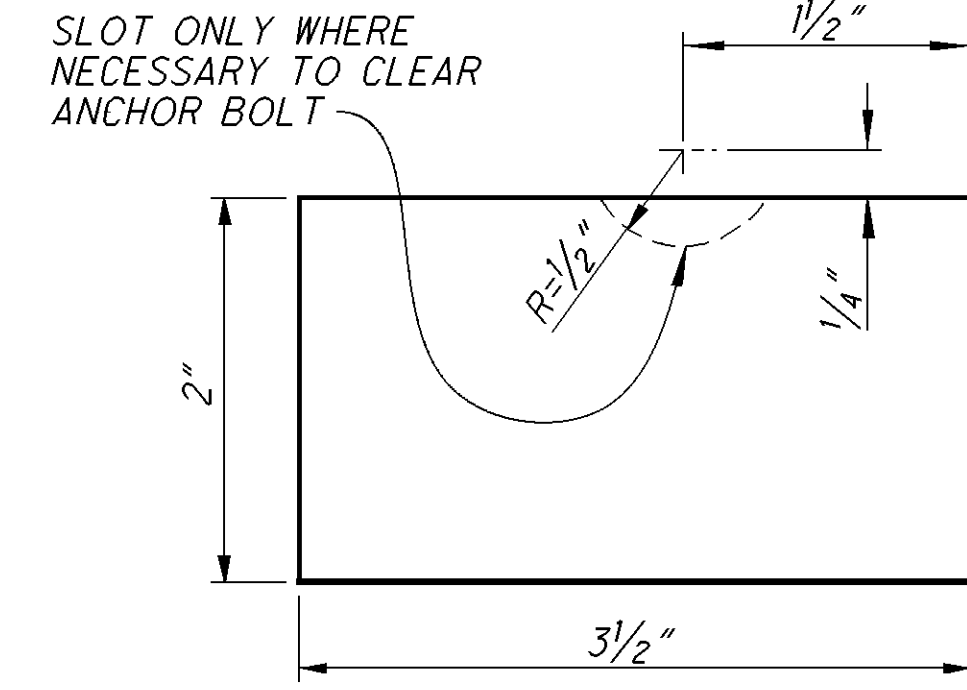
1/16" DIA. HOLE FOR
1/2" DIA. H.S. THREADED
ANCHOR 9" LONG (TYP.)



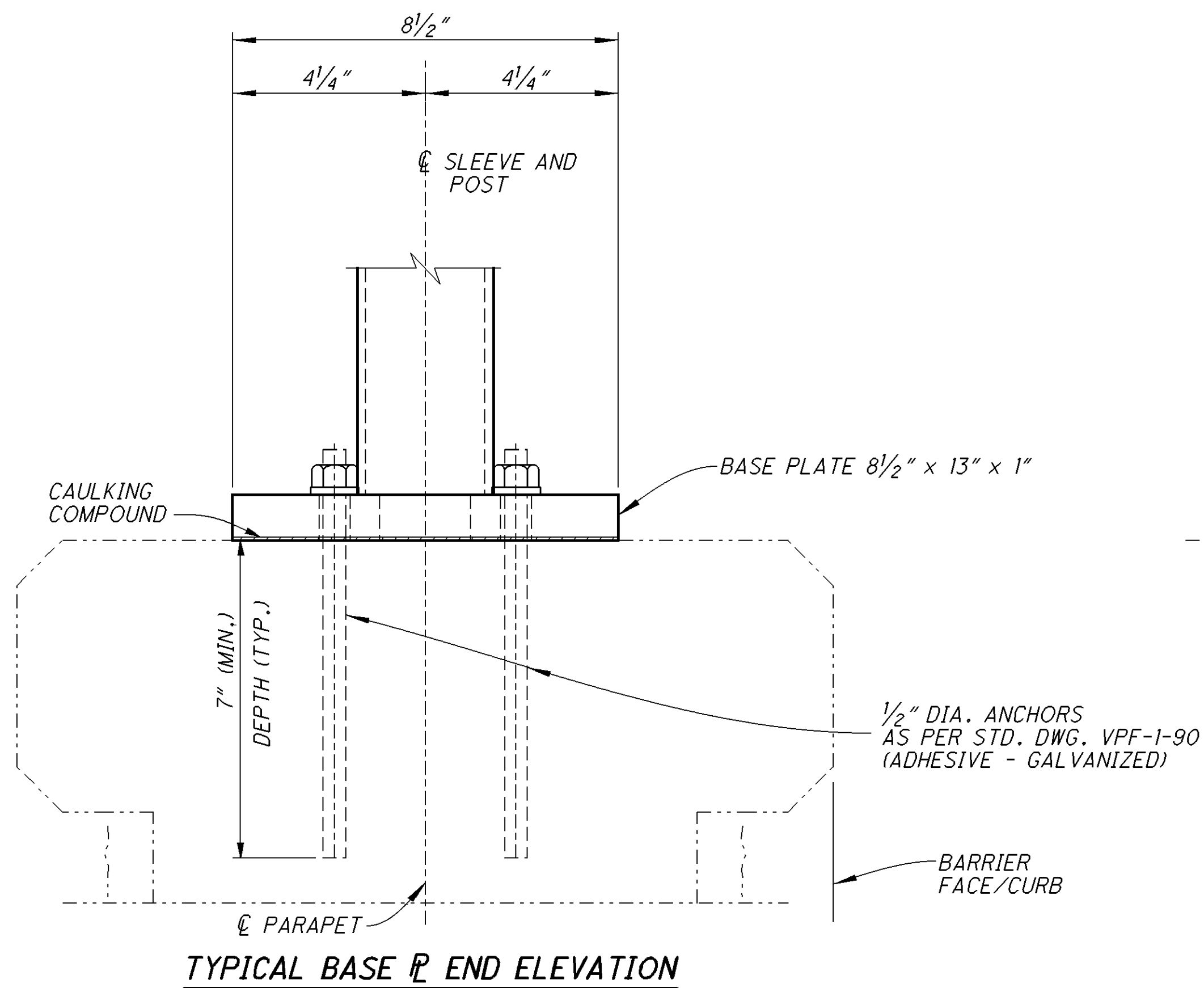
TYPICAL BASE P PLAN
SHIM POSITIONS ARE SHOWN



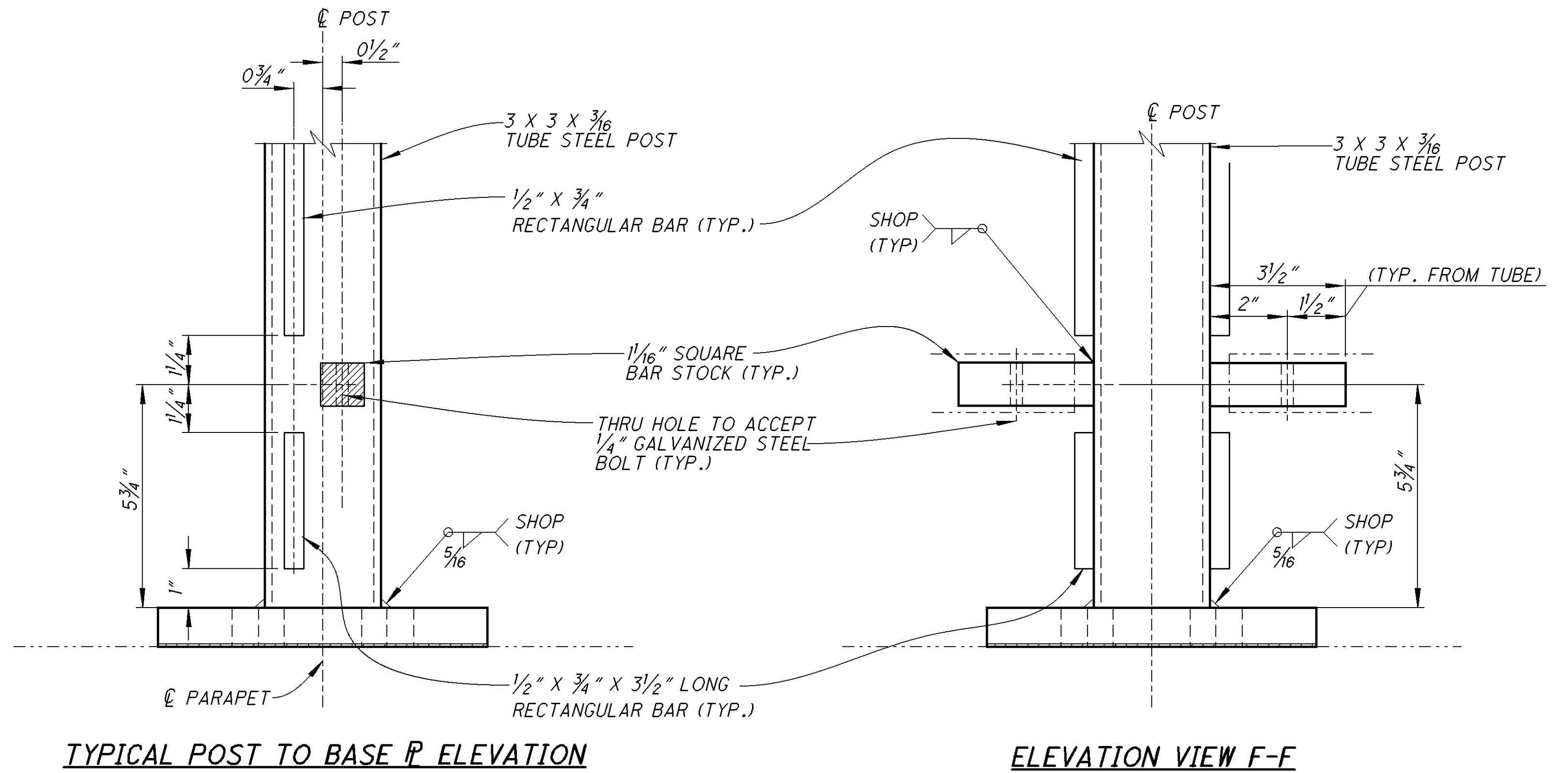
TYPICAL POST PLAN
SHIMS NOT SHOWN



BASE PLATE SHIMS
PROVIDE 1/16", 1/8" AND 1/4" THICK,
WHERE NECESSARY, TO SET ALL
POSTS PLUMB.



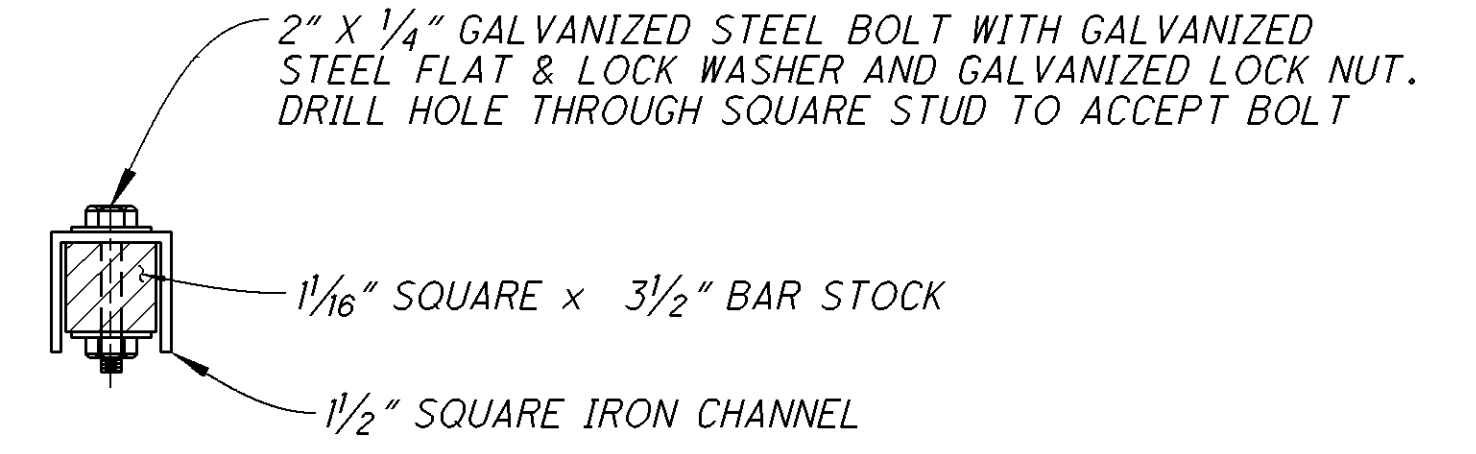
TYPICAL BASE P END ELEVATION



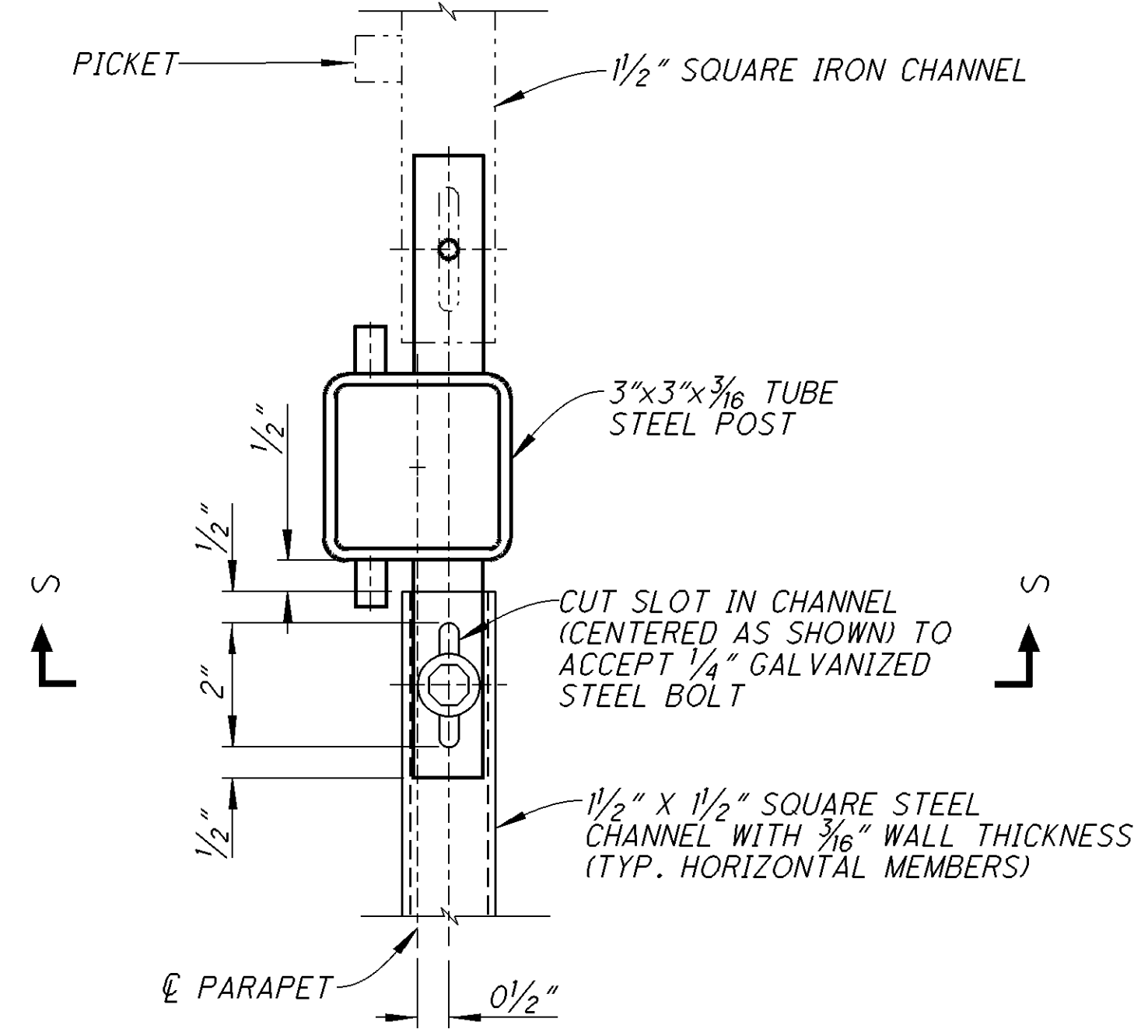
TYPICAL POST TO BASE P ELEVATION

ELEVATION VIEW F-F

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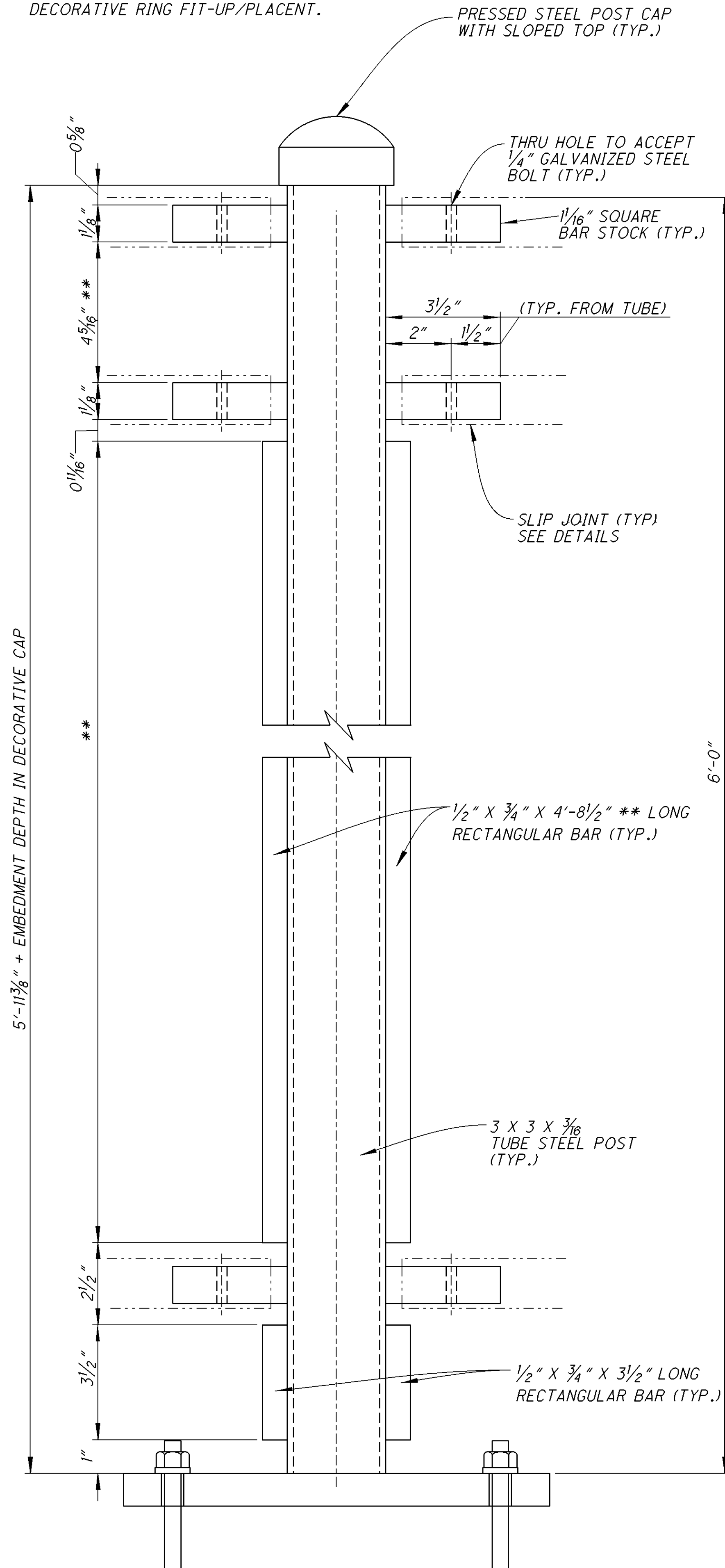


SECTION S-S

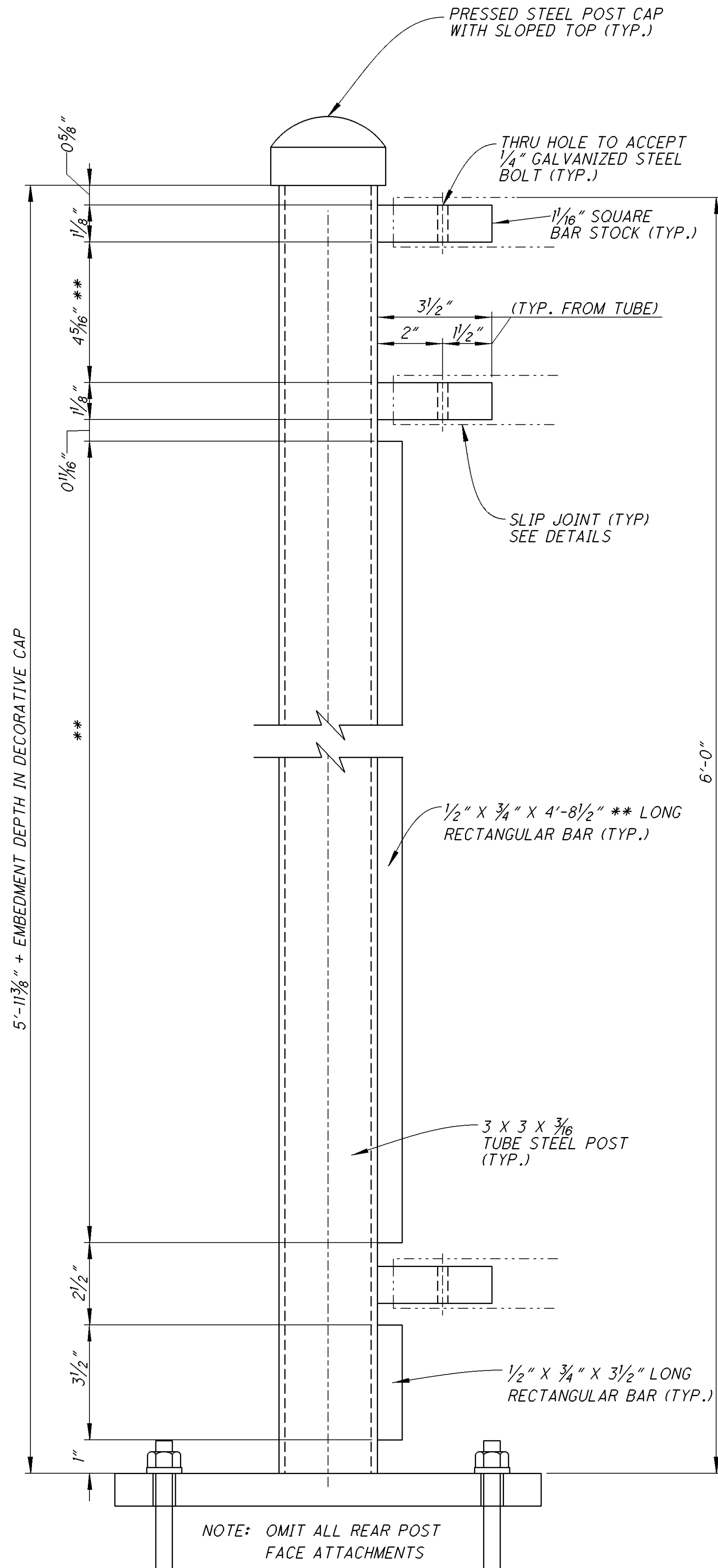


**TYPICAL SLIP JOINT -
TOP PLAN VIEW**

** - ADJUST THESE DIMENSIONS FOR DECORATIVE RING FIT-UP/PLACENT.

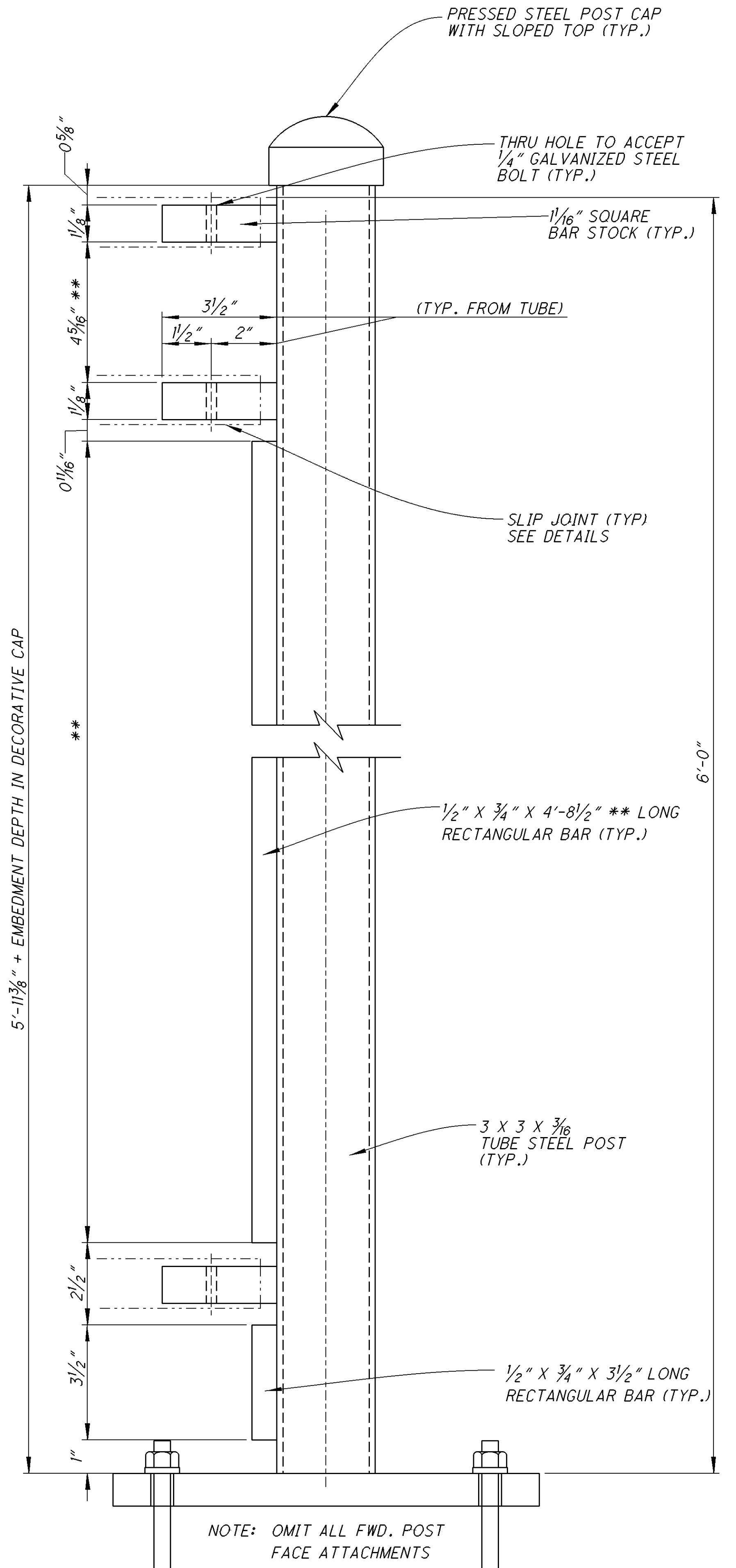


TYPICAL FULL POST ASSEMBLY ELEVATION (90 POSTS)



FULL REAR END POST ASSEMBLY ELEVATION (2 POST)

NOTE: OMIT ALL REAR POST FACE ATTACHMENTS

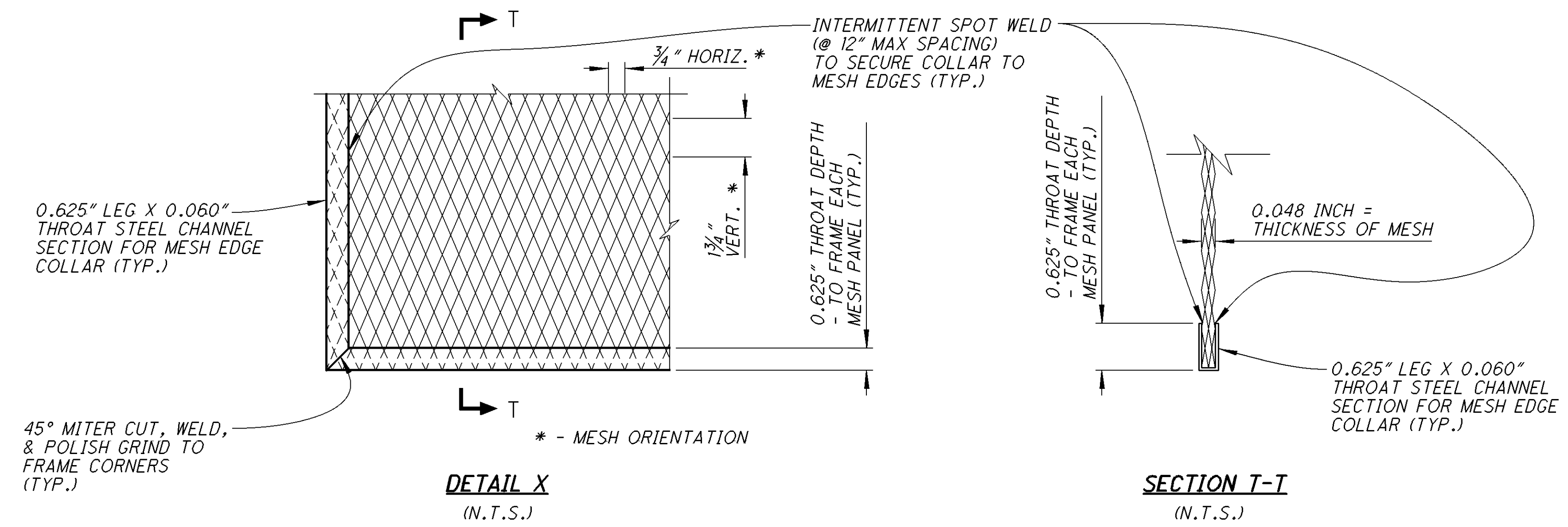
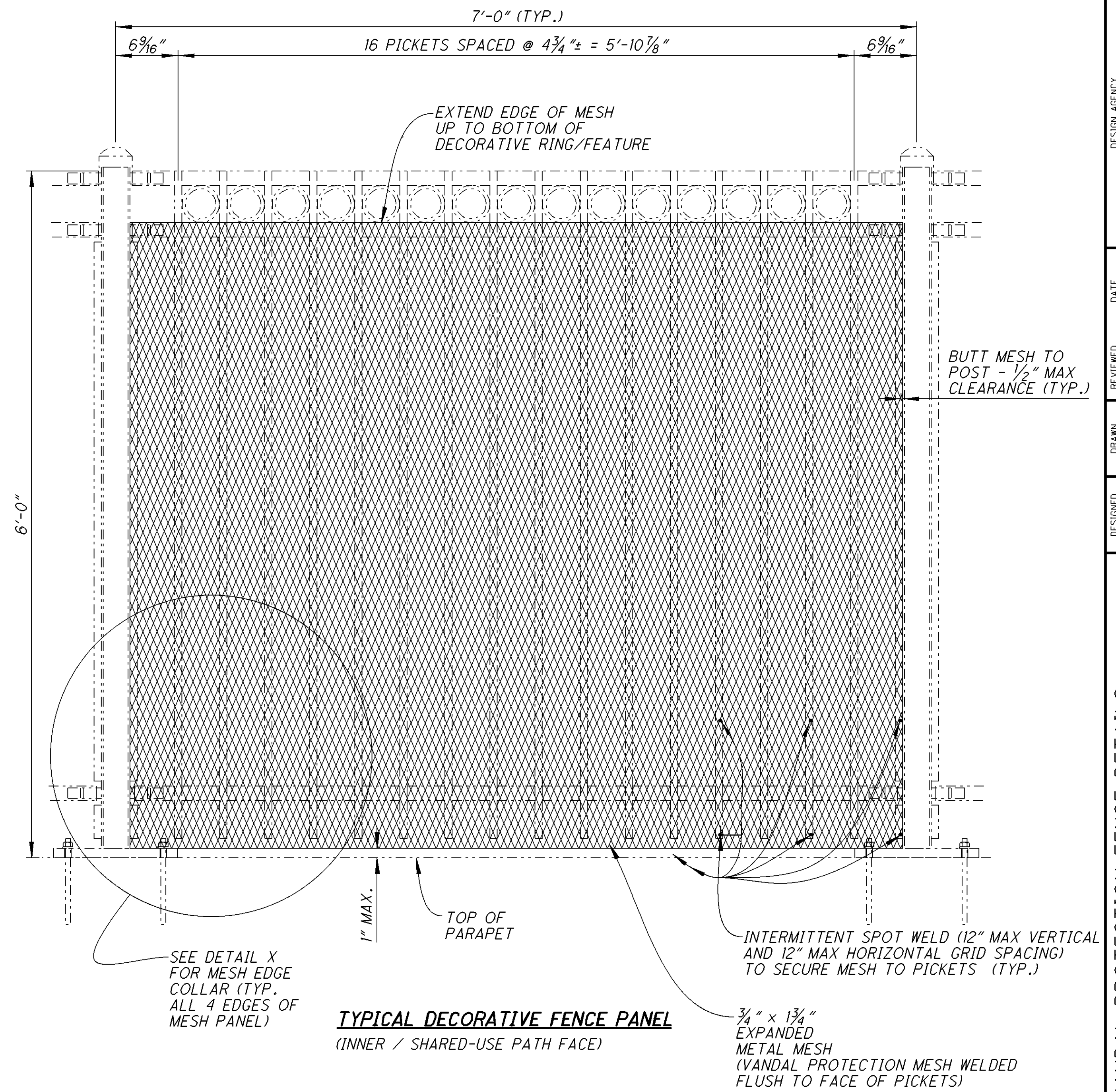
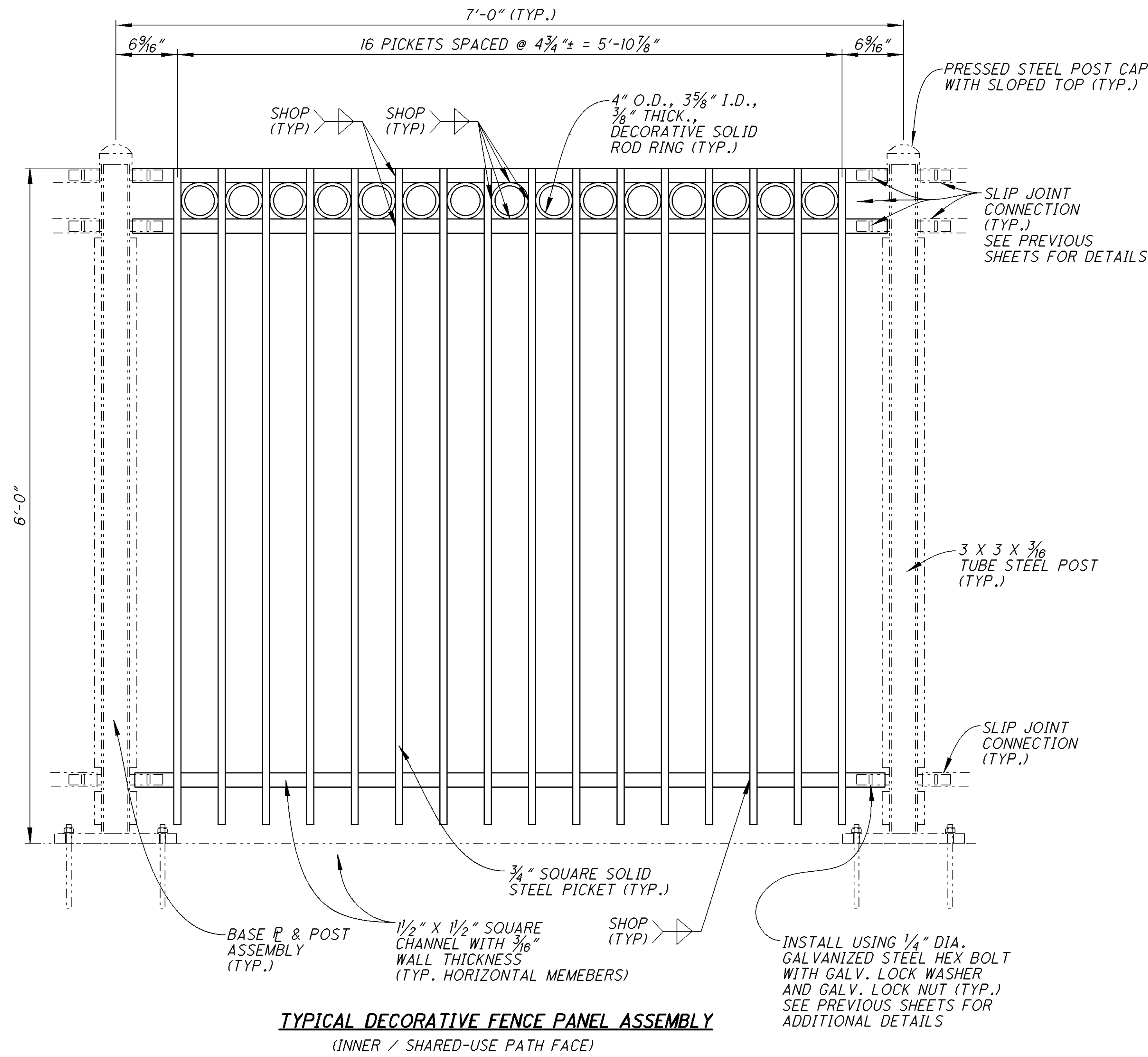


FULL FWD. END POST ASSEMBLY ELEVATION (2 POST)

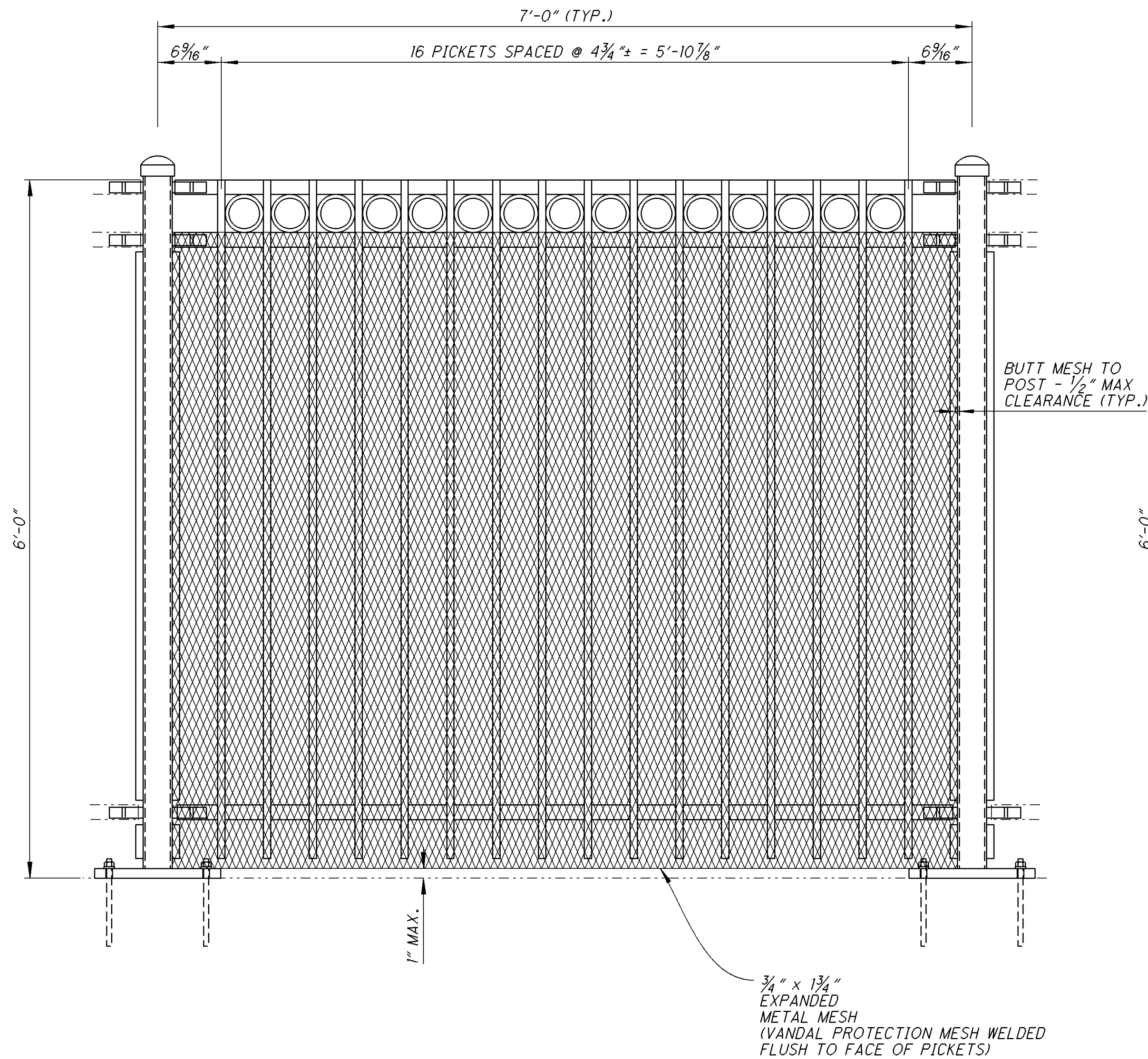
NOTE: OMIT ALL FWD. POST FACE ATTACHMENTS

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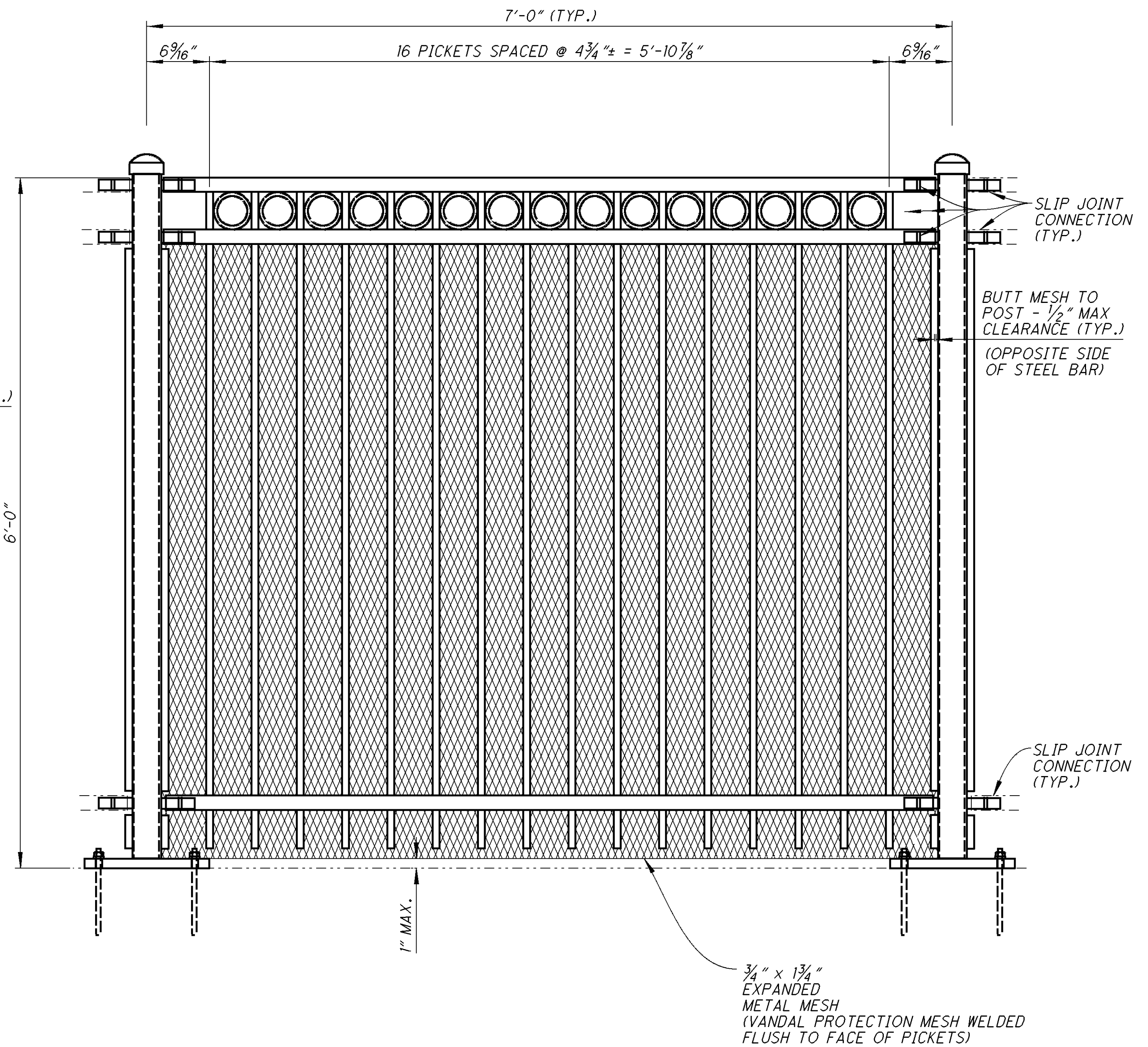
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TYPICAL DECORATIVE FENCE PANEL
(INNER / SHARED-USE PATH FACE)



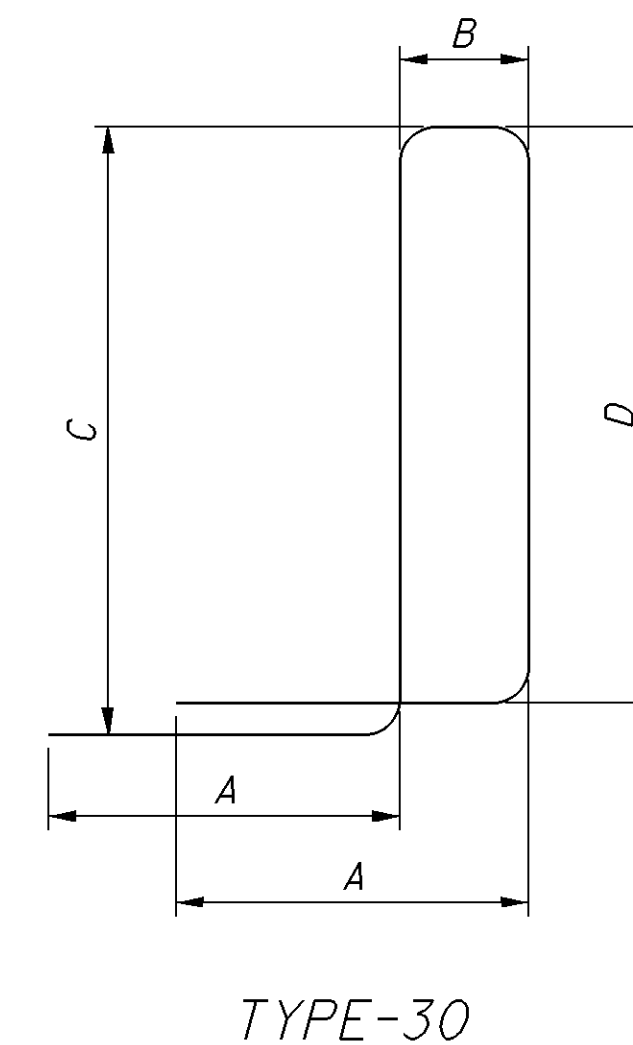
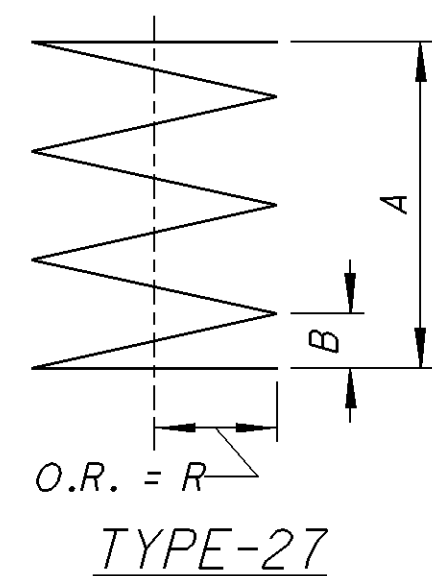
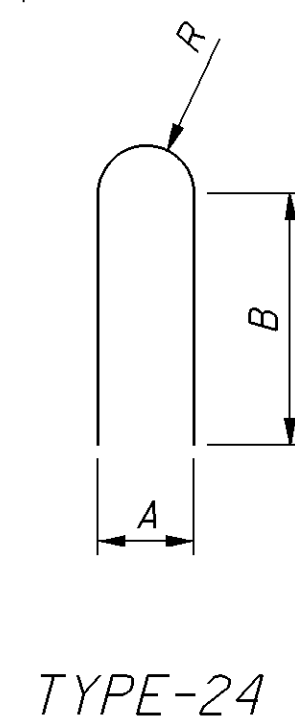
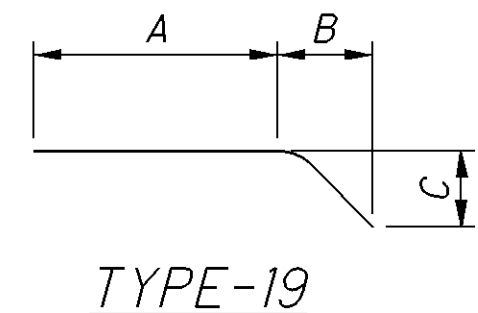
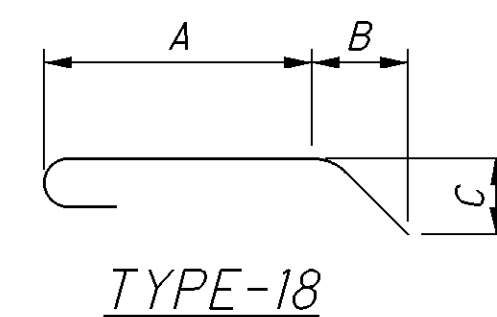
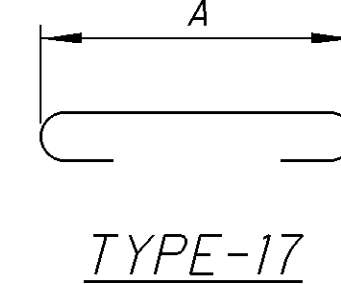
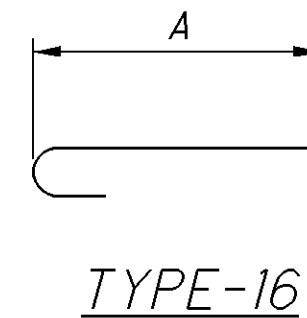
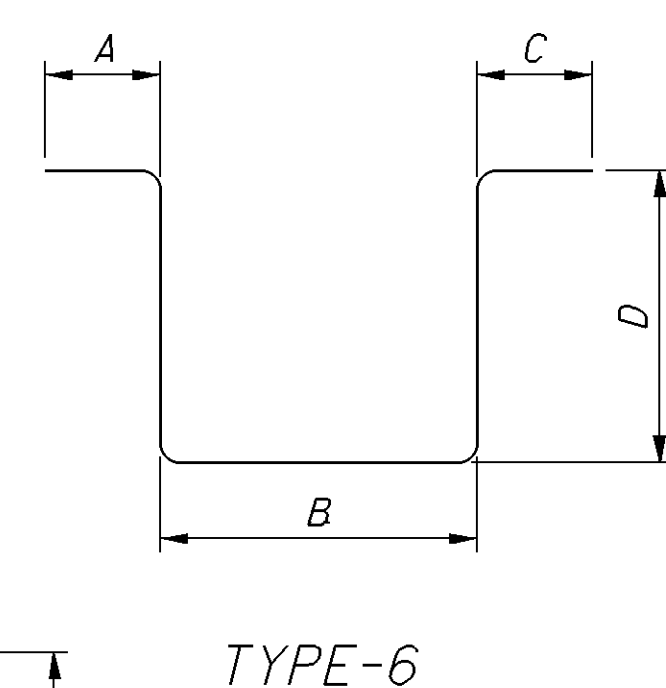
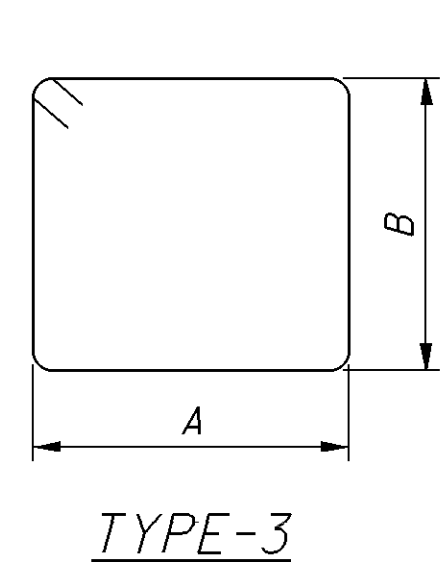
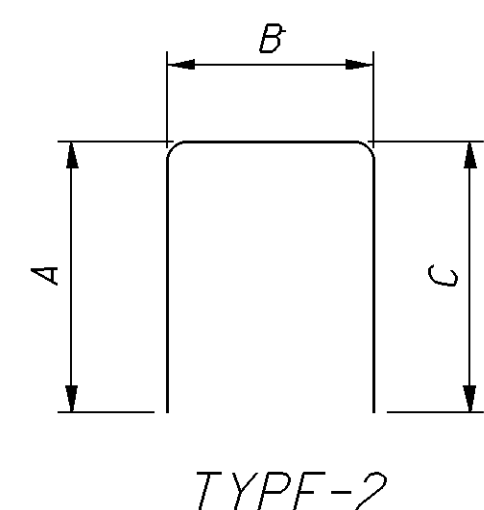
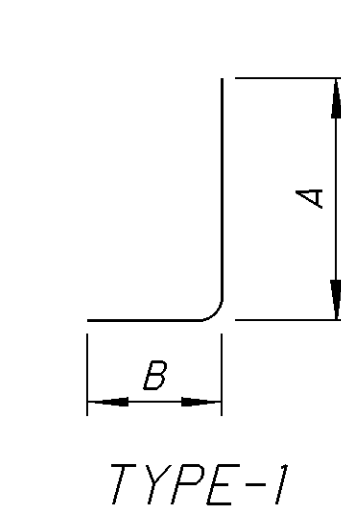
TYPICAL DECORATIVE FENCE PANEL
(OUTER FACE)

DESIGN AGENCY		OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5	
DATE	9-24-2015	REVIEWED	JDR
STRUCTURE FILE NUMBER	4505646	DRAWN	JDR
DESIGNED	TAG	CHECKED	NEM
VANDAL PROTECTION FENCE DETAILS			
BRIDGE NO. LIC-310-0096			
S.R. 310 OVER I.R. 70			
LIC-310-0.74			
57 / 62		406 / 425	

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MARK	NUMBER REQ'D.	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
ABUTMENTS											
A501	94	16'-7"	1,626	3	5'-6"	2'-6"					
A502	52	13'-6"	732	2	5'-7"	2'-7"	5'-7"				
A503	52	8'-4"	452	2	3'-0"	2'-7"	3'-0"				
A504	42	13'-8"	599	2	5'-11"	2'-1"	5'-11"				
A505	10	18'-4"	191	2	8'-3"	2'-1"	8'-3"				
A506	4 SERIES OF 6	15'-8" TO 9'-6"	315	2	6'-11" TO 3'-10"	2'-1"	6'-11" TO 3'-10"				7 3/8"
A507	4	7'-0"	29	2	2'-7"	2'-1"	2'-7"				
A508	4	8'-0"	33	2	3'-1"	2'-1"	3'-1"				
A509	4	17'-4"	72	2	7'-9"	2'-1"	7'-9"				
A510	1	15'-4"	16	19	13'-2"	2'-0"	1'-0"				
A511	1	15'-1"	16	19	13'-2"	1'-9"	10"				
A512	1	14'-4"	15	19	12'-11"	1'-4"	8"				
A513	1	14'-8"	15	19	12'-11"	1'-7"	9"				
A514	1	14'-11"	16	19	12'-9"	2'-0"	1'-0"				
A515	1	14'-8"	15	19	12'-9"	1'-9"	10"				
A516	1	14'-9"	15	19	13'-4"	1'-4"	8"				
A517	1	15'-1"	16	19	13'-4"	1'-7"	9"				
A518	10	13'-10"	144	STR.							
A519	4	10'-11"	46	STR.							
A520	4	8'-0"	33	STR.							
A521	4	5'-1"	21	STR.							
A522	10	13'-2"	137	STR.							
A523	4	10'-3"	43	STR.							
A524	4	7'-3"	30	STR.							
A525	4	4'-4"	18	STR.							
A526	3	38'-3"	120	STR.							
A527	1	39'-2"	41	STR.							
A528	4	19'-0"	79	STR.							
A529	2	38'-7"	80	STR.							
A530	2	38'-11"	81	STR.							
A531	1	39'-2"	41	STR.							
A532	2	22'-6"	47	STR.							

MARK	NUMBER REQ'D.	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
ABUTMENTS (CONTINUED)											
A533	1	23'-3"	24	STR.							
A534	4	42'-3"	176	STR.							
A535	3	22'-8"	71	STR.							
A536	2	23'-0"	48	STR.							
A537	2	23'-3"	48	STR.							
A538	1	23'-7"	25	STR.							
A539	4	41'-9"	174	STR.							
A540	1	23'-7"	25	STR.							
A541	2	38'-0"	79	STR.							
A542	1	38'-10"	41	STR.							
A543	4	19'-4"	81	STR.							
A544	180	4'-2"	782	STR.							
A545	90	8'-6"	798	2	3'-1"	2'-7"	3'-1"				
A546	8	40'-0"	334	STR.							
A547	4	12'-4"	51	2	5'-3"	2'-1"	5'-3"				
A801	1	39'-2"	105	STR.							
A802	2	38'-10"	207	STR.							
A803	2	38'-7"	206	STR.							
A804	2	38'-3"	204	STR.							
A805	4	21'-5"	229	STR.							
A806	8	40'-0"	854	STR.							
A807	4	42'-3"	451	STR.							
A808	1	22'-6"	60	STR.							
A809	2	22'-8"	121	STR.							
A810	2	23'-0"	123	STR.							
A811	2	23'-3"	124	STR.							
A812	1	23'-7"	63	STR.							
A813	4	41'-9"	446	STR.							
A814	4	21'-9"	232	STR.							
A815	1	38'-0"	101	STR.							
ABUTMENT SUB-TOTAL			11,417								
ABUTMENT SUB-TOTAL			11,417								
SHEET TOTAL QUANTITY			11,417								
QUANTITIES CARRIED TO SHEET 59/62											



DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
 DATE: 9-24-2015
 REVISIONS: JDR
 DRAWN: JDR
 CHECKED: NEW
 TAG: NEW
 STRUCTURE FILE NUMBER: 4505646
 REINFORCING STEEL SCHEDULE
 BRIDGE NO. LIC-310-0096
 S.R. 310 OVER I.R. 70
 LIC-310-0.74
 58 / 62
 407
 425

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MARK	NUMBER REQ'D.	LENGTH	WEIGHT	TYPE	DIMENSIONS					
					A	B	C	D	E	R
PIER										
SP401	1	433'-0"	289	27	19'-6"	4 1/2"				1'-3" O.R.
SP402	1	379'-10"	254	27	16'-11"	4 1/2"				1'-3" O.R.
SP403	1	424'-2"	283	27	19'-1"	4 1/2"				1'-3" O.R.
SP404	2	356'-0"	476	27	16'-2"	4 1/2"				1'-3" O.R.
SP405	2	303'-7"	406	27	13'-8"	4 1/2"				1'-3" O.R.
SP406	2	348'-7"	466	27	15'-10"	4 1/2"				1'-3" O.R.
P501	6	4'-6"	28	2	1'-6"	1'-9"	1'-6"			
P502	6	5'-4"	33	2	1'-6"	2'-7"	1'-6"			
P601	144	8'-6"	1,838	STR.						
P602	192	8'-2"	2,355	2	3'-4"	1'-10"	3'-4"			
P603	12	17'-10"	321	STR.						
P604	12	9'-9"	176	24	2'-8"	3'-0"				1'-3" O.R.
P605	48	9'-0"	649	2	3'-4"	2'-8"	3'-4"			
P801	6	21'-11"	351	2	2'-3"	17'-10"	2'-3"			
P802	6	23'-2"	371	2	2'-3"	19'-1"	2'-3"			
P1001	180	11'-4"	8,778	17	8'-6"					
P1002	90	12'-8"	4,905	1	11'-2"	1'-10"				
P1003	12	21'-8"	1,119	2	2'-3"	17'-10"	2'-3"			
P1004	6	22'-8"	585	2	2'-3"	18'-10"	2'-3"			
P1005	6	22'-11"	592	2	2'-3"	19'-1"	2'-3"			
P1006	10	20'-11"	900	16	19'-6"					
P1007	10	18'-4"	789	16	16'-11"					
P1008	10	20'-6"	882	16	19'-1"					
P1009	20	19'-7"	1,685	16	18'-2"					
P1010	20	17'-1"	1,470	16	15'-8"					
P1011	20	19'-3"	1,657	16	17'-10"					
PIER SUB-TOTAL			31,658							

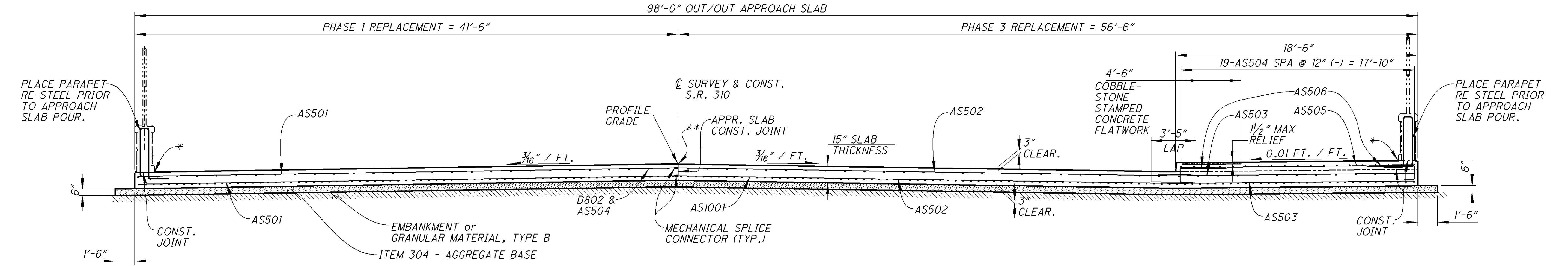
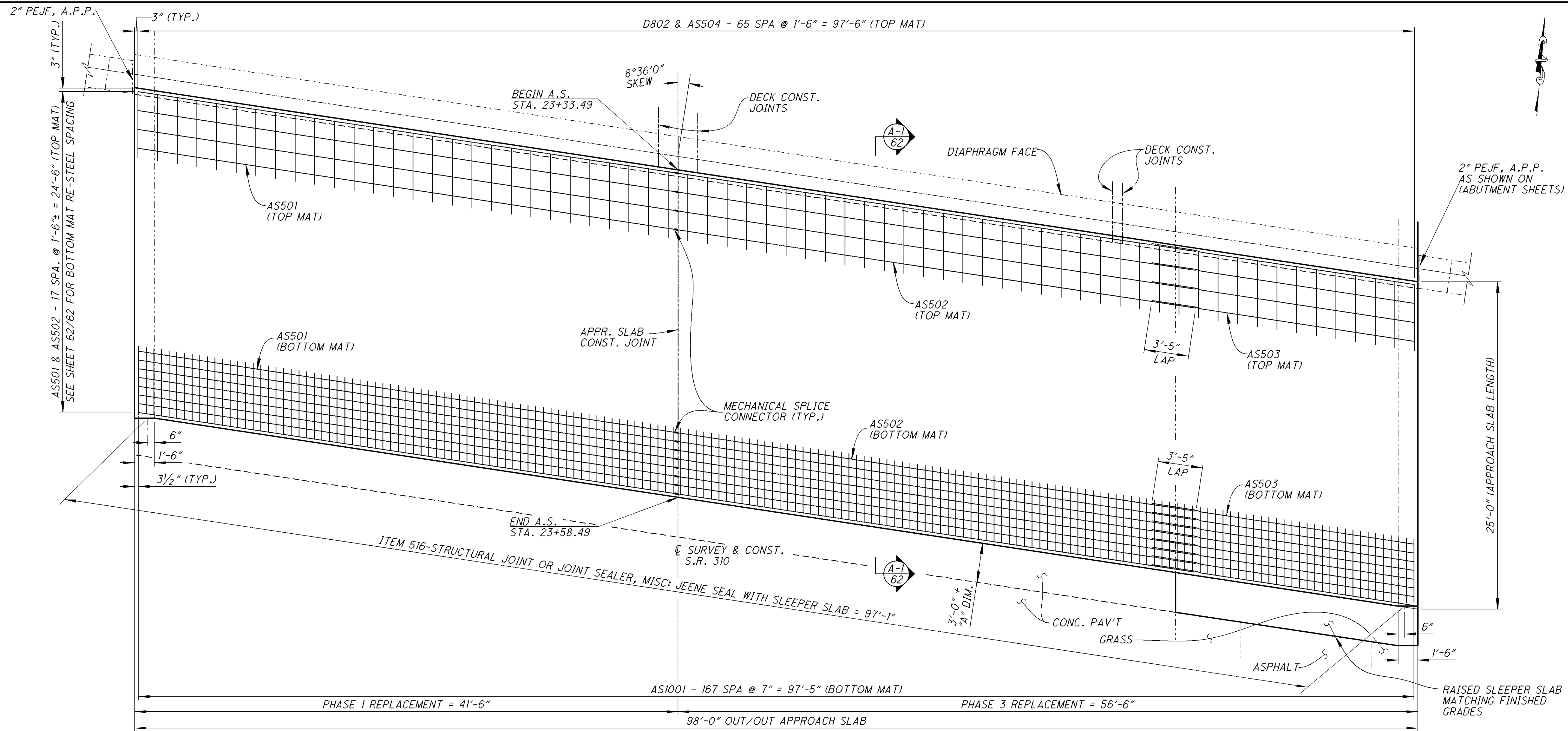
MARK	NUMBER REQ'D.	LENGTH	WEIGHT	TYPE	DIMENSIONS					
					A	B	C	D	E	R
SUPERSTRUCTURE (DIAPHRAGMS)										
D501	150	7'-1"	1,108	2	2'-7"	2'-2"	2'-7"			
D502	144	11'-11"	1,790	3	2'-7"	3'-1"				
D503	6	7'-10"	49	3	2'-7"	1'-1"				
*D801	56	41'-9"	6,242	STR.						
D802	132	5'-0"	1,762	18	2'-8"	1'-0"	1'-0"			
D803	16	20'-2"	862	STR.						
D804	12	23'-1"	740	6	12'-0"	3'-11"	4'-4"	1'-10"		
DIAPHRAGMS SUB-TOTAL			12,553							
SUPERSTRUCTURE (DECK)										
S401	1,180	9'-7"	7,554	16	9'-0"					
S402	32	3'-0"	64	STR.						
S403	642	40'-0"	17,154	STR.						
S404	428	11'-6"	3,288	STR.						
S405	214	15'-6"	2,216	STR.						
S501	2,507	40'-0"	104,592	STR.						
S502	581	43'-1"	26,108	STR.						
S503	295	22'-5"	6,897	16	21'-10"					
S504	233	26'-6"	6,440	STR.						
S505	295	40'-7"	12,487	16	40'-0"					
S506	876	21'-10"	19,948	STR.						
S507	283	18'-1"	5,338	STR.						
S508	283	4'-11"	1,451	2	3'-6"	10"	10"			
S509	283	5'-11"	1,746	2	3'-6"	1'-2"	1'-6"			
S510	590	43'-8"	26,871	16	43'-1"					
DECK SUB-TOTAL			242,154							
PARAPETS										
R501	468	6'-8"	3,254	STR.						
R502	24	4'-8"	117	STR.						
R503	72	7'-11"	595	STR.						
R504	56	40'-0"	2,336	STR.						
R505	8	19'-9"	165	STR.						
R506	756	10'-10"	8,542	30	1'-6"	8"	3'-11"	3'-9"		
R507	278	4'-5"	1,281	2	2'-0"	8"				
R508	16	24'-7"	410	STR.						
PARAPETS SUB-TOTAL			16,700							
PIER SUB-TOTAL			31,658							
DIAPHRAGMS SUB-TOTAL			12,553							
SUPER. (DECK) SUB-TOTAL			242,154							
PARAPETS SUB-TOTAL			16,700							
THIS SHEET TOTAL			303,065							
			+							
PREVIOUS SHEET TOTAL			11,417							
GRAND TOTAL QUANTITY			314,482							

QUANTITY CARRIED TO BRIDGE SUMMARY, SHEET 6/62

**= NOTE: 12 OF THE 56 BARS WILL NEED TO BE PROVIDED LONGER THAN SHOWN TO ACCOMODATE A CRIMP OR CLAMP STYLE MECHANICAL SPLICE CONNECTOR AS SHOWN IN THE DIAPHRAGM DETAILS IN THIS PLAN AND AS PER C.M.S. 509.

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
 DATE: 9-24-2015
 REVISED: JDR
 DRAWN: JDR
 DESIGNED: TAG
 CHECKED: NEM
 STRUCTURE FILE NUMBER: 4505646
 REINFORCING STEEL SCHEDULE
 BRIDGE NO. LIC-310-0096
 S.R. 310 OVER I.R. 70
 LIC-310-0.74
 59 / 62
 408
 425

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* SEALING OF CONSTRUCTION JOINTS WITH HMM AS PER C.M.S. 511.22. PROVIDE A MINIMUM BAND WIDTH OF 1'-0" CENTERED ON EACH JOINT SEALED.

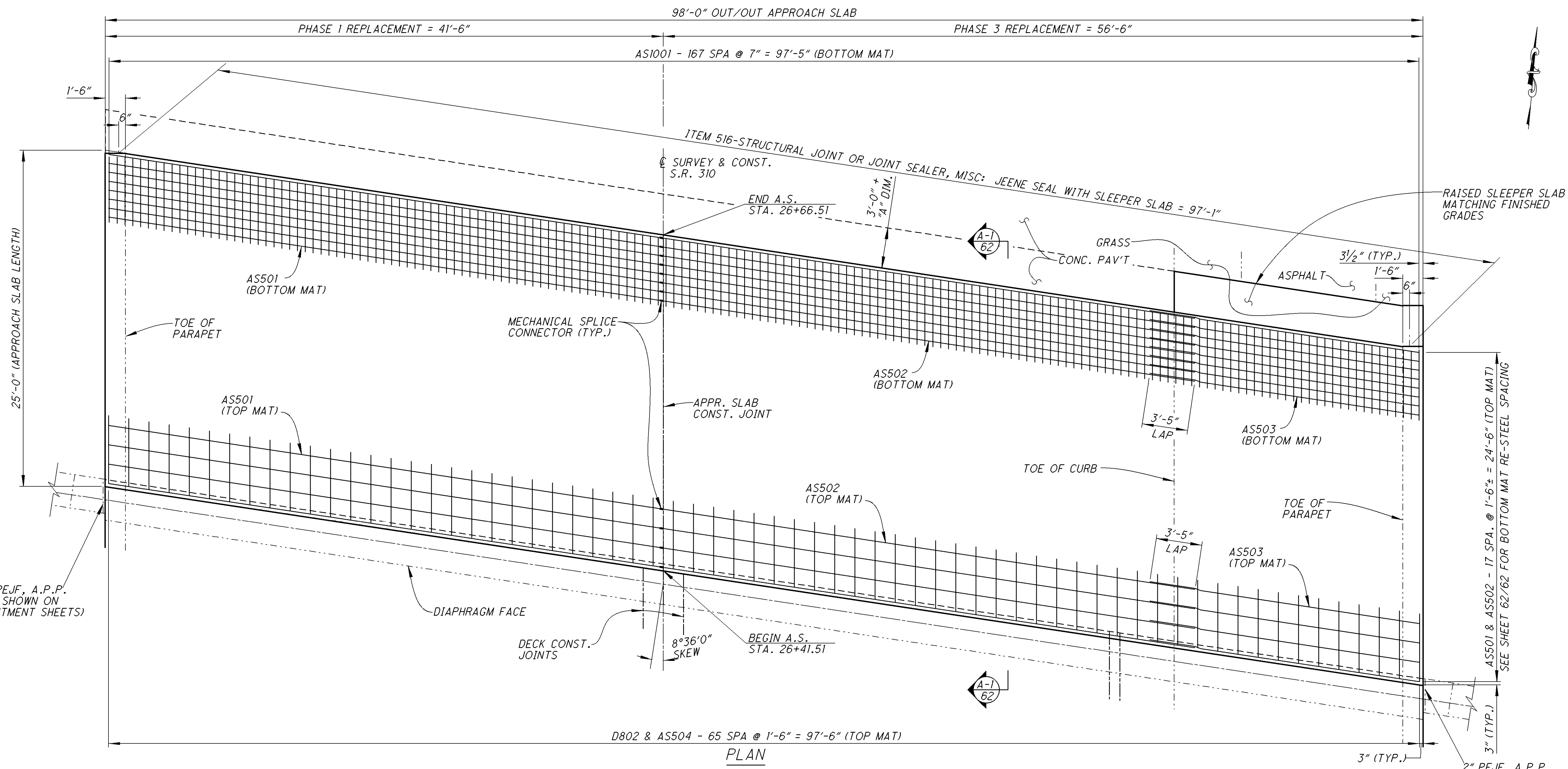
** SEALING OF CONSTRUCTION JOINTS WITH HMM AS PER C.M.S. 511.22. PROVIDE A MINIMUM BAND WIDTH OF 2'-0" CENTERED ON EACH JOINT SEALED.

RE-STEEL LAP LENGTH NO. 5 = 3'-5"

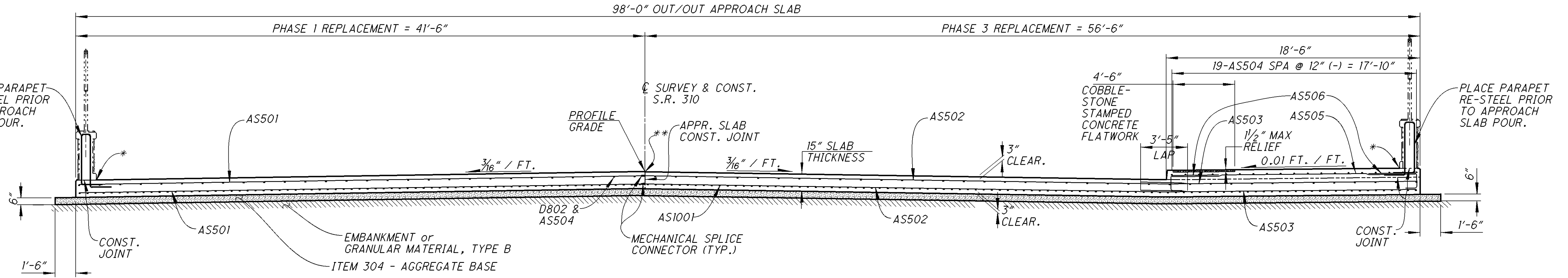
NOTES: - FOR ADDITIONAL DETAILS SEE STANDARD DRAWING AS-1-81.
- FOR APPROACH SLAB FINISH ELEVATIONS, SEE SHEET 46/62.

DESIGNED	TAG	CHECKED	NEW
DRAWN	JDR	REVISED	
REVIEWED	JDR	STRUCTURE FILE NUMBER	4505646
DATE	9-24-2015		
DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5		
REAR APPROACH SLAB DETAILS BRIDGE NO. LIC-310-0096 S.R. 310 OVER I.R. 70			
LIC-310-0.74			
60 / 62			
<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;"> 409 425 </div>			

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PLAN



ELEVATION

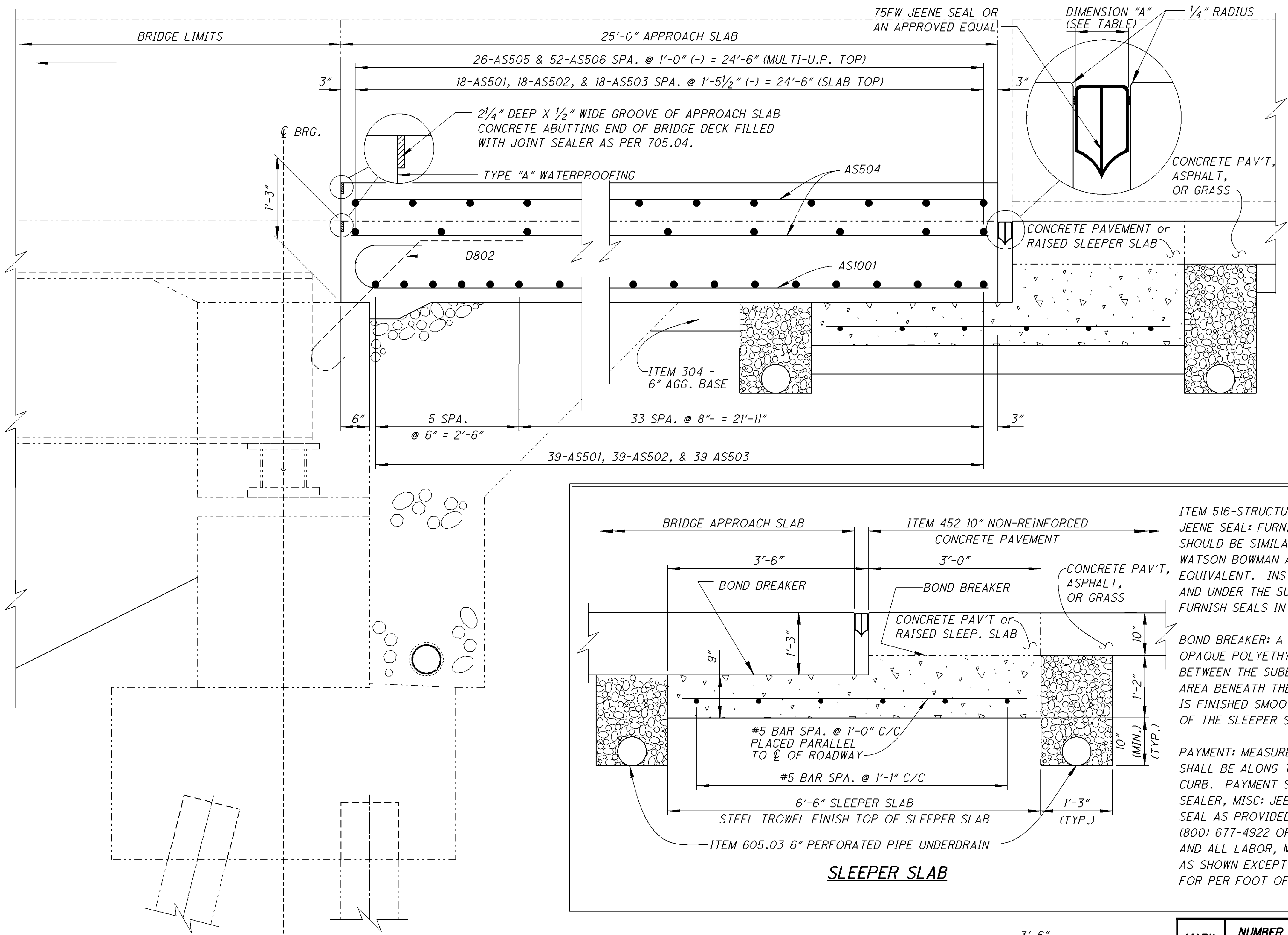
RE-STEEL
LAP LENGTH
NO. 5 = 3'-5"

- * SEALING OF CONSTRUCTION JOINTS WITH HMW AS PER C.M.S. 511.22. PROVIDE A MINIMUM BAND WIDTH OF 1'-0" CENTERED ON EACH JOINT SEALED.
- ** SEALING OF CONSTRUCTION JOINTS WITH HMW AS PER C.M.S. 511.22. PROVIDE A MINIMUM BAND WIDTH OF 2'-0" CENTERED ON EACH JOINT SEALED.

NOTES: - FOR ADDITIONAL DETAILS SEE STANDARD DRAWING AS-1-81.
- FOR APPROACH SLAB FINISH ELEVATIONS, SEE SHEET 46/62.

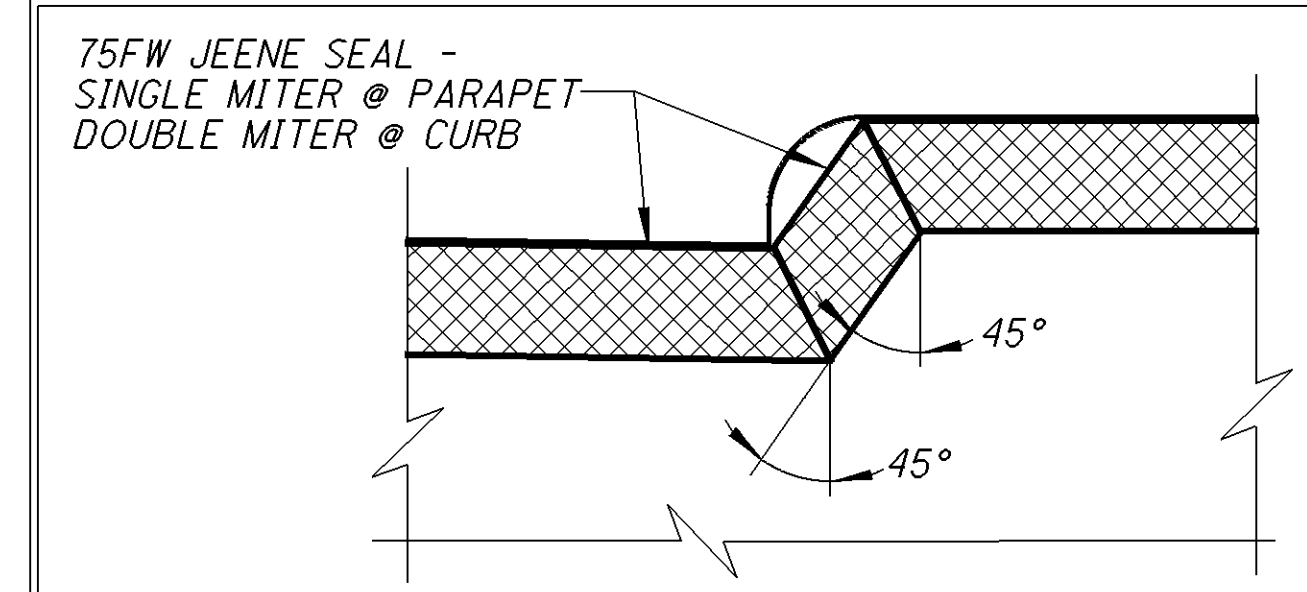
DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
DATE	9-24-2015
REVIEWED	JDR
DRAWN	JDR
DESIGNED	TAG
CHECKED	NEM
STRUCTURE FILE NUMBER	4505646
<p>FORWARD APPROACH SLAB DETAILS</p> <p>BRIDGE NO. LIC-310-0096</p> <p>S.R. 310 OVER I.R. 70</p>	
<p>LIC-310-0.74</p>	
<p>61 / 62</p>	
<p>410</p> <p>425</p>	

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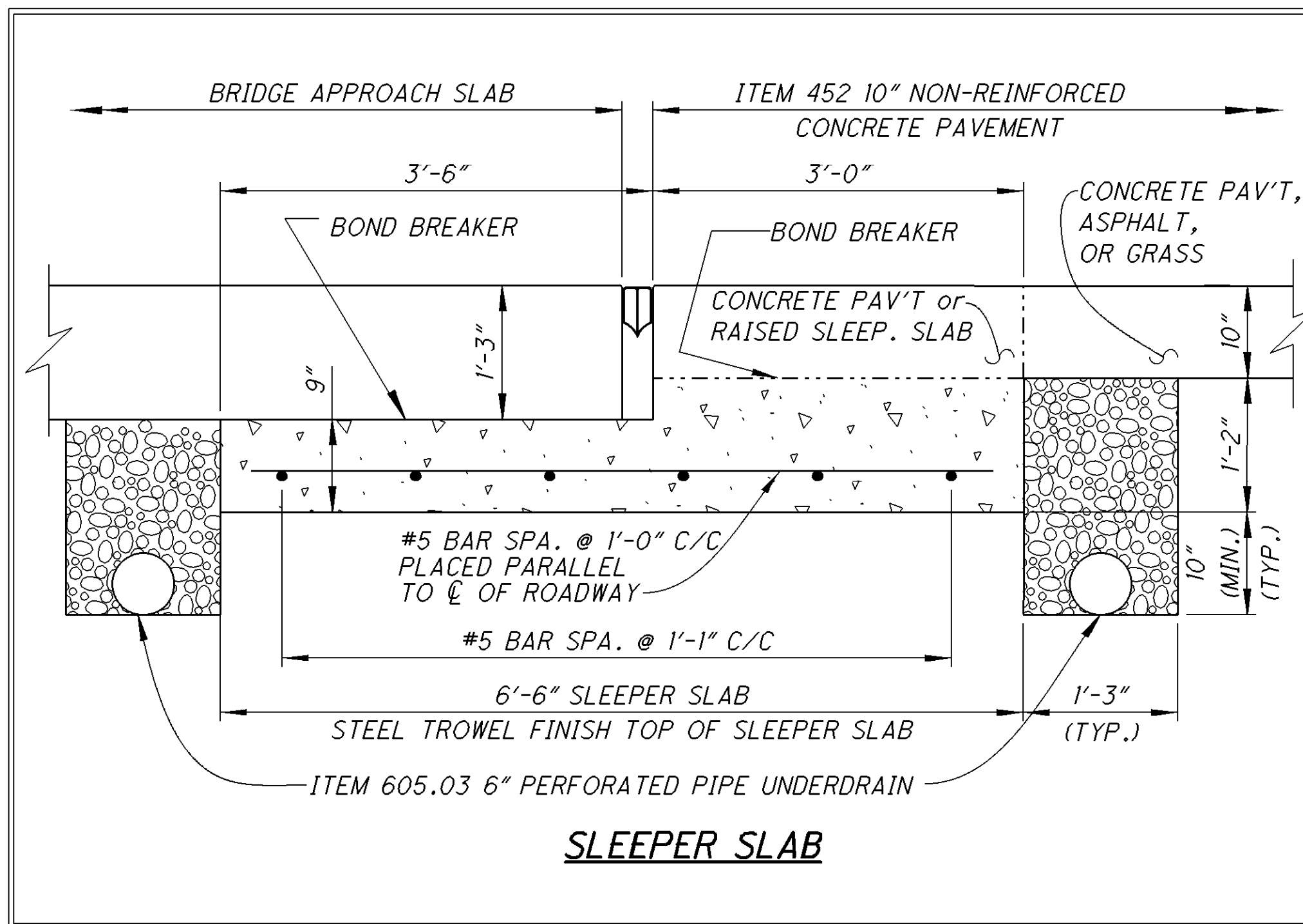


ITEM	DESCRIPTION	QUANT'Y	UNIT
202	* EXCAVATION	54	CU YD
204	* PROOF ROLLING	0.21	HOUR
204	* SUBGRADE COMPACTION	423	SQ YD
304	* AGGREGATE BASE	71	CU YD
516	* STRUCTURAL JOINT OR JOINT SEALER, MISC: JEENE SEAL WITH SLEEPER SLAB	194	FT
526	* REINFORCED CONCRETE APPROACH SLABS WITH QC/OA (T=15"), AS PER PLAN	544	SQ YD

* QUANTITIES CARRIED TO SHEET 7/62 (BRIDGE SUMMARY)



CURB DETAIL



SLEEPER SLAB

ITEM 516-STRUCTURAL JOINT OR JOINT SEALER, MISC: JEENE SEAL WITH SLEEPER SLAB JEENE SEAL: FURNISH MATERIAL CONFORMING TO 705.11. THE SEAL CONFIGURATION SHOULD BE SIMILAR TO THE DETAILS SHOWN HERIN. ACCEPTED MANUFACTURES ARE: WATSON BOWMAN ACME CORP. (MODEL JEENE FW PROFILE 75FW) OR AN APPROVED EQUIVALENT. INSTALL THE SEAL ACCORDING TO THE MANUFACTURE'S SPECIFICATIONS AND UNDER THE SUPERVISION OF THE MANUFACTURER'S DESIGNATED REPRESENTATIVE. FURNISH SEALS IN ONE CONTIUOUS PIECE UNLESS APPROVED BY THE ENGINEER.

BOND BREAKER: A BOND BREAKER CONSISTING OF TWO 4 FOOT SHEETS OF CLEAR OR OPAQUE POLYETHYLENE FILM, ITEM 705.06, SHALL BE CENTERED ABOVE THE JOINT BETWEEN THE SUBBASE AND THE SLEEPER SLAB. CARE SHALL BE TAKEN IN THE AREA BENEATH THE POLYETHYLENE FILM TO ENSURE THE SURFACE OF THE SUBBASE IS FINISHED SMOOTH AND IS FLUSH WITH OR SLIGHTLY HIGHER THAN THE SURFACE OF THE SLEEPER SLAB. THE FILM SHALL HAVE A NOMINAL THICKNESS OF 4 MILS.

PAYMENT: MEASUREMENT OF THE EXPANSION JOINT FOR PAYMENT PURPOSES SHALL BE ALONG THE CENTERLINE OF THE SLEEPER SLAB AND BETWEEN THE BACKS OF CURB. PAYMENT SHALL BE PER FOOT OF ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC: JEENE SEAL WITH SLEEPER SLAB AND SHALL INCLUDE 65W JEENE SEAL AS PROVIDED BY WATSON BOWMAN ACME CORPORATION, AMHERST, NEW YORK (800) 677-4922 OR AN APPROVED EQUAL, CONCRETE SLEEPER SLAB, RESTEEL AND ALL LABOR, MATERIALS AND INCIDENTALS NEEDED TO CONSTRUCT THE JOINT AS SHOWN EXCEPT FOR THE PIPE UNDERDRAIN. THE UNDERDRAINS SHALL BE PAID FOR PER FOOT OF ITEM 605 - 6" BASE PIPE UNDERDRAIN, ITEM 707.31.

SECTION A-1
60 & 61

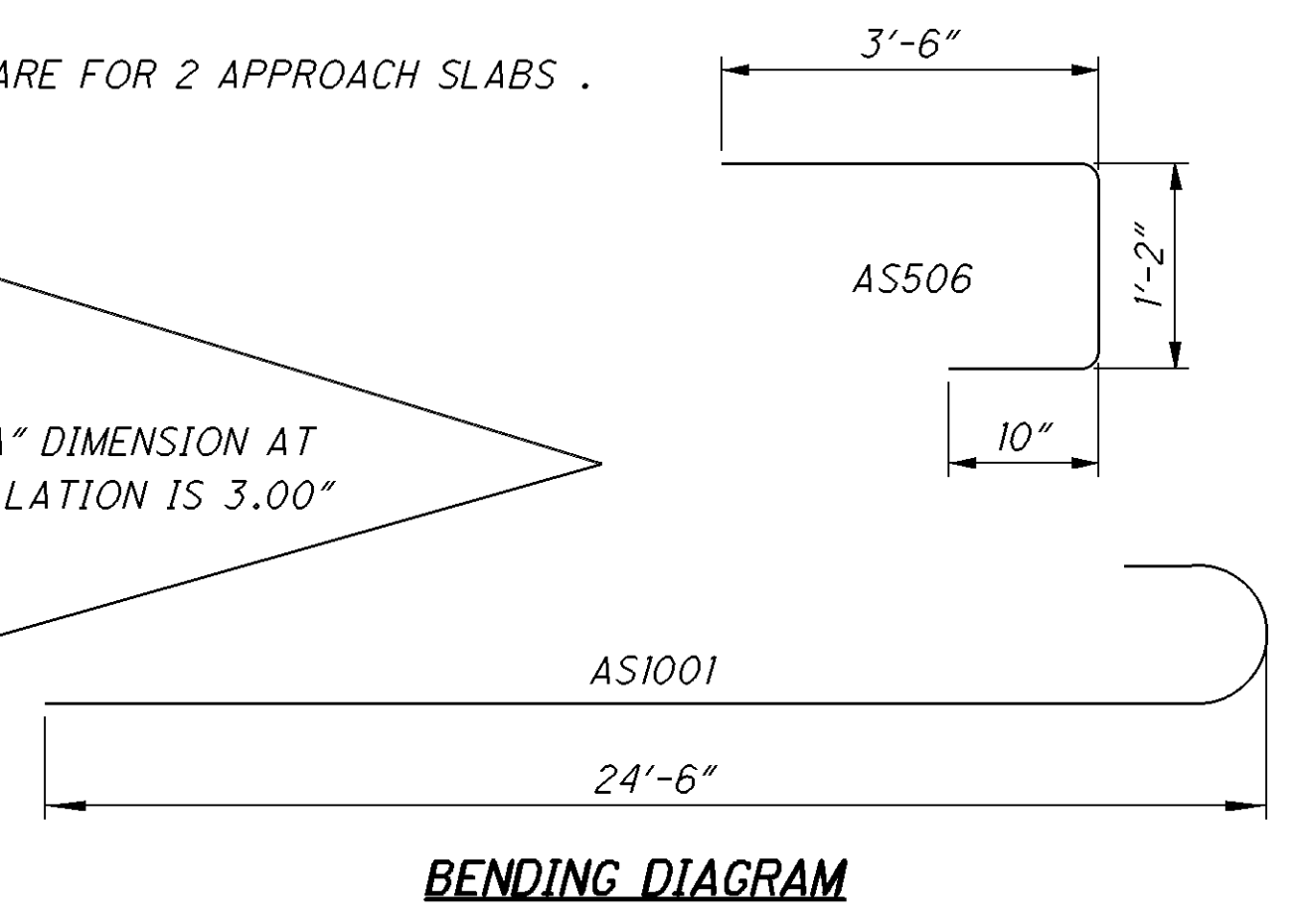
NOTE:
TYPE "A" WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE CUT GROOVE IN WHICH THE HOT APPLIED JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.

NOTE:
FOR ADDITIONAL DETAILS SEE STANDARD DRAWING AS-1-81.

NOTE:
FOR APPROACH SLAB FINISH ELEVATIONS, SEE SHEET 46/62.

AMBIENT TEMP. (°F)	DIMENSION "A"
90°	2 7/16"
80°	2 9/16"
70°	2 11/16"
60°	2 13/16"
50°	2 15/16"
40°	3 1/8"

NOTE:
THE MAXIMUM "A" DIMENSION AT TIME OF INSTALLATION IS 3.00"



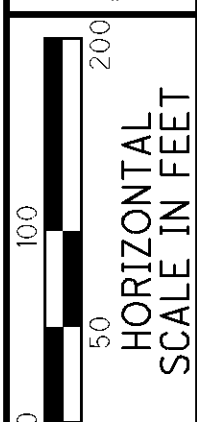
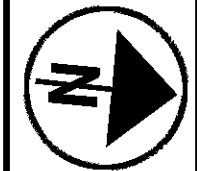
BENDING DIAGRAM

MARK	NUMBER REQ'D.	LENGTH	TYPE	DIMENSIONS				
				A	B	C	R	INC.
APPROACH SLABS								
AS501	114	41'-8"	STR.					
AS502	114	40'-0"	STR.					
AS503	114	20'-4"	STR.					
AS504	170	24'-6"	STR.					
AS505	52	18'-1"	STR.					
AS506	104	5'-3"	BENT					
AS1001	336	25'-11"	BENT					

CURB AND RE-STEEL IS INCLUDED FOR PAYMENT WITH ITEM 526 REINFORCED CONCRETE APPROACH SLABS WITH QC/OA (T=17"), AS PER PLAN

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
 DATE: 9-24-2015
 STRUCTURE FILE NUMBER: 4505646
 DRAWN: JDR
 CHECKED: NEM
 DESIGNED: TAG
 REVISIONS:
 REAR & FORWARD APPROACH SLAB DETAILS
 BRIDGE NO. LIC-310-0096
 S.R. 310 OVER I.R. 70
 LIC-310-0.74
 62 / 62
 411
 425

Reference No.	Sheet No.	Location (Station to Station)	Side	202	607				
				FENCE REMOVED	FENCE, TYPE 47	(*) Information Only			
						Corner Post Assembly	End Post Assembly	Future Maintenance Opening (As Per SCD F-3.4)	Intermediate Anchor Post Assembly
Lt./Rt.	FT	FT	Each	Each	Each	Each			
S.R. 310									
F-1	413	Sta. 14+77.00 to Sta. 18+40.00	Rt.		363		1		
F-2	413	Sta. 16+67.07 to Sta. 18+40.00	Lt.		173		1		
R-1	413	Sta. 16+60.52 to Sta. 18+40.00	Rt.	180					
R-2	413	Sta. 16+67.07 to Sta. 18+40.00	Lt.	173					
Totals (Carried to Location 1a Summary)				353	536		2 (*)		
S.R. 310									
F-3	413	Sta. 18+40.00 to Sta. 9+00.00 (Ramp C)	Rt.		934	1	1		2
F-4	413	Sta. 18+40.00 to Sta. 2+50.00 (Ramp D)	Lt./Rt.		1,246	1	3	1	3
F-5	413	Sta. 13+50.00 (Ramp A) to Sta. 34+30.00	Lt./Rt.		1,287		2		4
F-6	413	Sta. 3+50.00 (Ramp B) to Sta. 36+00.00	Rt.		1,537	1	4	1	4
R-3	413	Sta. 18+40.0 to Sta. 9+00.00 (Ramp C)	Rt.	940					
R-4	413	Sta. 18+40.0 to Sta. 2+50.00 (Ramp D)	Lt./Rt.	1,246					
R-5	413	Sta. 13+50.00 (Ramp A) to Sta. 34+30.00	Lt./Rt.	1,287					
R-6	413	Sta. 3+50.00 (Ramp B) to Sta. 36+00.00	Rt.	1,540					
Totals (Carried to Location 1b Summary)				5,013	5,004	3 (*)	10 (*)	2 (*)	13 (*)

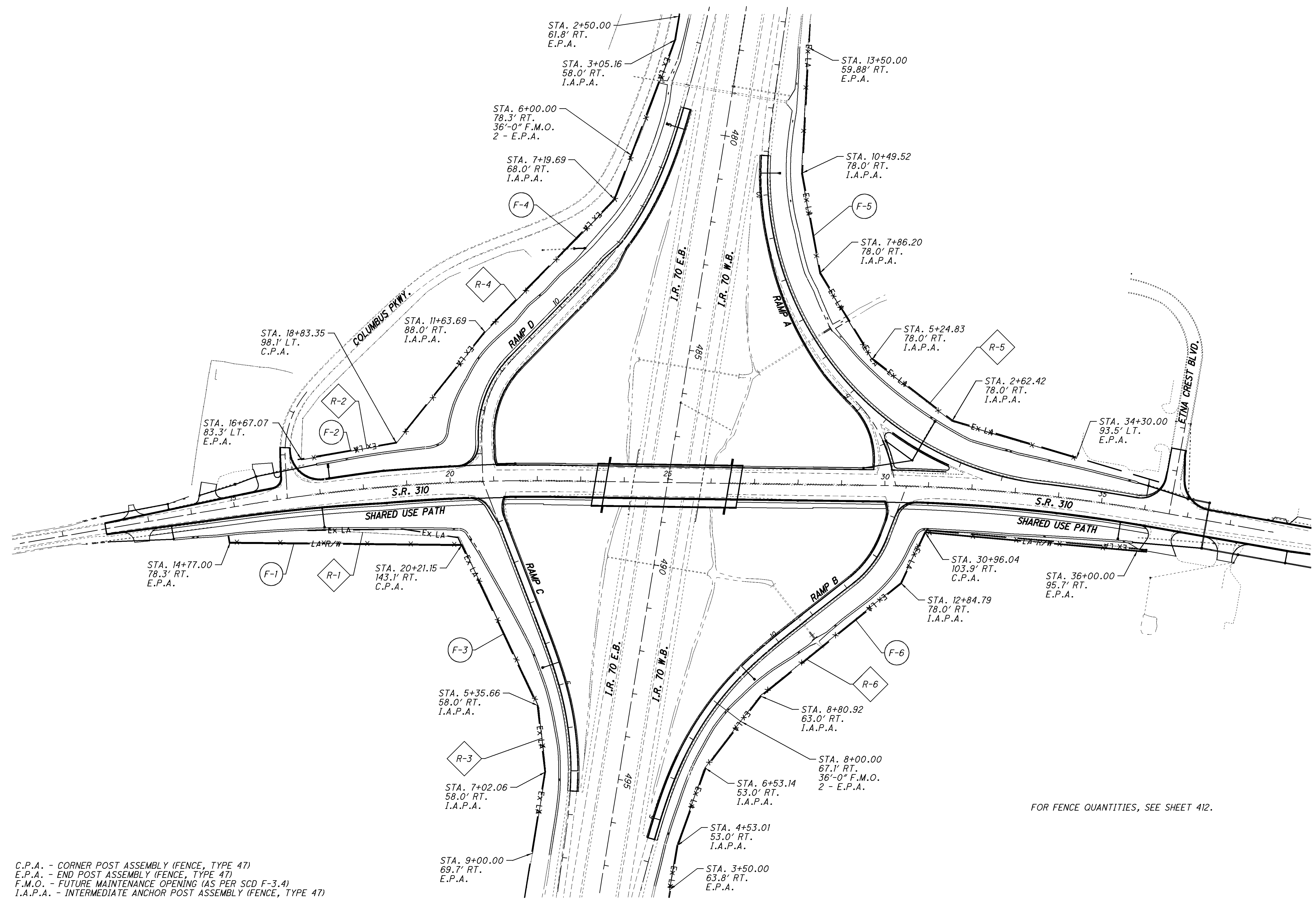


CALCULATED
JLS
CHECKED
JSL

FENCE PLAN

LIC-310-0.74

413
425



C.P.A. - CORNER POST ASSEMBLY (FENCE, TYPE 47)
 E.P.A. - END POST ASSEMBLY (FENCE, TYPE 47)
 F.M.O. - FUTURE MAINTENANCE OPENING (AS PER SCD F-3.4)
 I.A.P.A. - INTERMEDIATE ANCHOR POST ASSEMBLY (FENCE, TYPE 47)

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STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
**RIGHT OF WAY
LEGEND SHEET**

LIC-310-0.74

**SECTION 7, LOTS 7 & 8
SECTION 17, LOT 28
SECTION 18, LOTS 29 & 30
T17N, R19W, REFUGEE LANDS
ETNA TOWNSHIP
LICKING COUNTY**

PROJECT DESCRIPTION

STRUCTURE LIC-310-0096 OVER I.R. 70 WILL BE WIDENED TO ACCOMODATE 6 LANES OF TRAFFIC. S.R. 310 PAVEMENT WILL BE WIDENED WITH NEW CONCRETE RAMPS FROM GAS STATION ON SOUTH SIDE OF I.R. 70 TO DAIRY QUEEN ON THE NORTH WITH 3 SIGNALIZED INTERSECTIONS.

PROJECT CONTROL

NORTH AMERICAN VERTICAL DATUM (NAVD 88) AND STATE PLANE GRID COORDINATES, SOUTH ZONE, NAD 1983 (CONUS) GEOID 09 (OHIO).

PLAN PREPARED BY:

FIRM NAME: ODOT, DISTRICT 5
PLANS PREPARED BY: CANDY SHOEMAKER
FIELD REVIEW BY: CHARLES PRICE, JR. & CANDY SHOEMAKER
OWNERSHIP VERIFIED BY: CHARLES PRICE, JR.
DATE COMPLETED: AUGUST 19, 2014

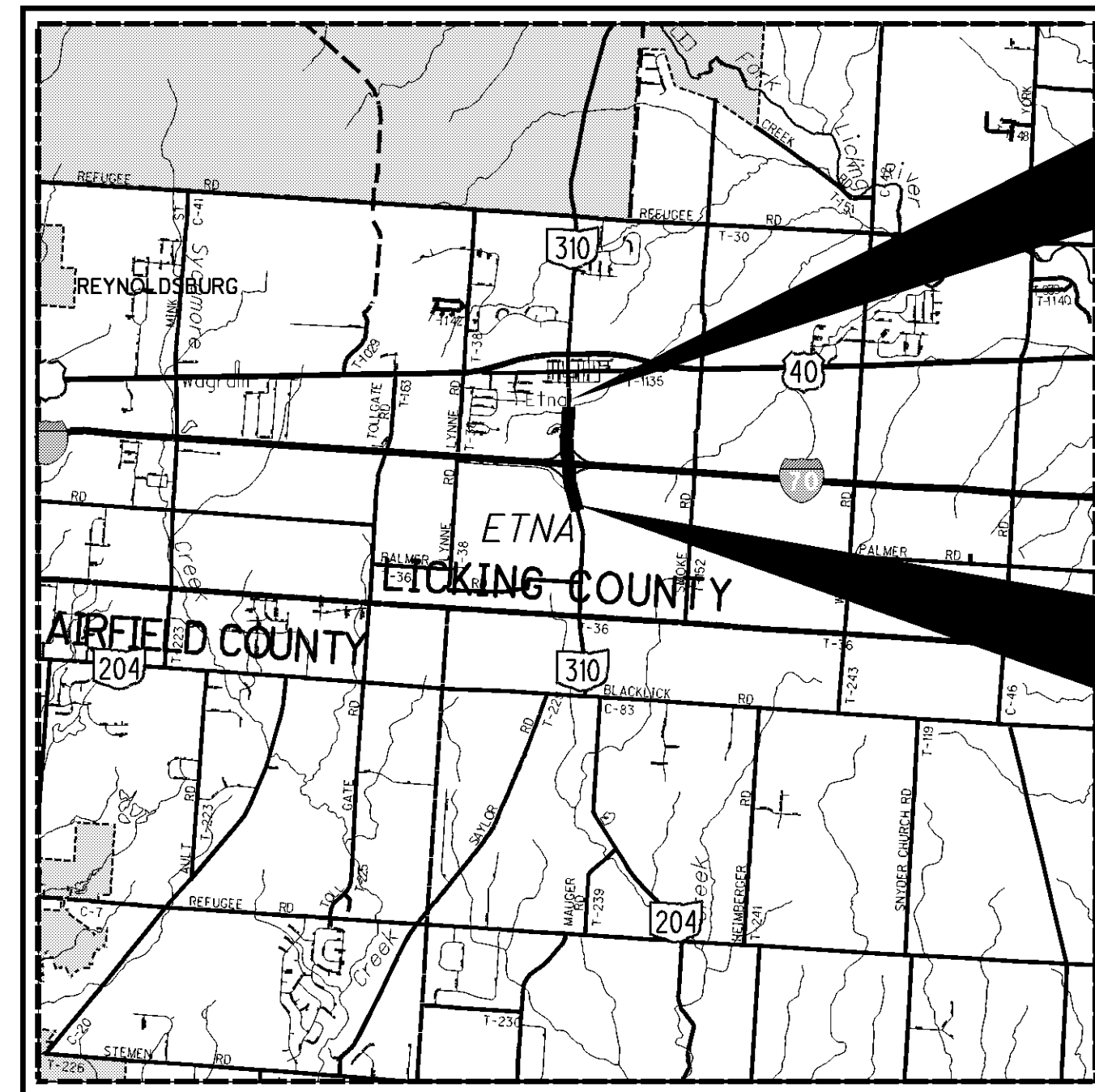
UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: **1-800-925-0988**



LOCATION MAP

LATITUDE: 39°56'53" LONGITUDE: 82°40'57"



NOTE:

THE LOCATION OF THE UNDERGROUND UTILITES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

UTILITY OWNERS

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

TIME WARNER CABLE 3760 INTERCHANGE DRIVE COLUMBUS, OHIO 43204 ATTN: RAY MAURER 614-481-5262	AMERICAN ELECTRIC POWER CO. (DISTRIBUTION) 850 TECH CENTER DRIVE GAHANNA, OHIO 43230 ATTN: PAUL PAXTON 614-883-6831	NATIONAL GAS & OIL COOPERATIVE 120 O'NEIL DRIVE HEBRON, OHIO 43025 ATTN: GREG WILSON 740-348-5412
COLUMBIA GAS OF OHIO 3550 JOHNNY APPLESEED COLUMBUS, OHIO 43215 ATTN: BRIAN KOPACHY 614-818-2133	CENTURY LINK CORP. 441 WEST BROAD STREET PATASKALA, OHIO 43062 ATTN: DEE REED 740-927-8282	SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT 69 ZELLERS LANE PATASKALA, OHIO 43062 ATTN: DON RECTOR 740-927-0410

INDEX OF SHEETS:

PROPERTY MAPS	2-3
SUMMARY OF ADDITIONAL RIGHT OF WAY	4
DETAIL SHEETS.	5-12

LEGEND:

WL = FEE SIMPLE WITH LIMITATION OF ACCESS
WD = WARRANTY DEED
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT

I, Charles W. Price, Jr., P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in November, 2013. The results of that survey are contained herein.

Underground utility locations are shown for informational purposes only. Though they are believed to be accurate, their location is as marked on the ground by the utility company per OUPS Confirmation Number A328200851 & A330100116 & OGPUPS #106780 and those markings subsequently being surveyed as a part of this project.

The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates system, Grid Coordinates, NAVD 88, South Zone, NAD 1983 (Conus) GEOID 09 (OHIO).

As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein.

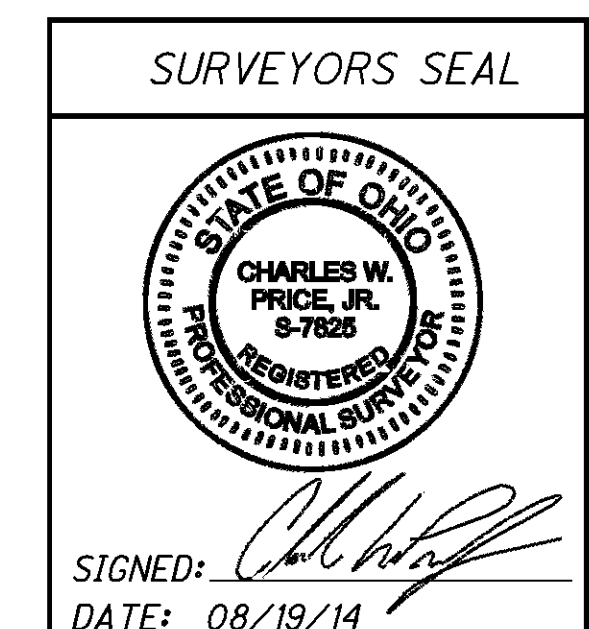
As a part of this project I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein.

As a part of this work I have set monuments at the proposed property corners, and other points shown herein. The iron pins and caps will be 3/4" x 30" rebar with aluminum cap stamped "Odot R/W District 5". All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "A Minimum Standards for Boundary Surveys in the State of Ohio" unless so noted.

The words I and my as used herein are to mean that either myself or someone working under my direct supervision.

Charles W. Price, Jr., Professional Land Surveyor # 7825

Date: 08/19/14



CONVENTIONAL SYMBOLS

County Line	-----	Ditch / Creek (Ex)	-----
Township Line	-----	Ditch / Creek (Pr)	-----
Section Line	-----	Tree Line (Ex)	~~~~~
Corporation Line	----- or -----	Ownership Hook Symbol	∟, Example ∟
Fence Line (Ex)	-----x-----x-----x-----x-----	Property Line Symbol	ℙ, Example ℙ
Center Line	-----	Break Line Symbol	∟, Example ∟
Right of Way (Ex)	-----Ex R/W-----	Tree (Pr)	⊗, Tree (Ex) ⊗, Shrub (Ex) ⊗
Right of Way (Pr)	-----R/W-----	Tree (Remove)	⊗, Shrub (Remove) ⊗
Standard Highway Ease.(Ex)	-----Ex SH-----	Evergreen (Ex)	⊗, Stump ⊗
Temporary Right of Way	-----TMP-----	Evergreen (Remove)	⊗, Stump (Remove) ⊗
Channel Ease. (Pr)	-----CH-----	Wetland (Pr)	⊗, Grass (Pr) ⊗, Aerial Target ⊗
Utility Ease. (Ex)	-----Ex U-----	Post (Ex)	⊙, Mailbox (Ex) ⊗, Mailbox (Pr) ⊗
Railroad	===== or =====	Light (Ex)	⊙, Telephone Marker (Ex) TEL
Guardrail (Ex)	-----⊗-----⊗-----⊗-----⊗-----⊗-----	Fire Hydrant (Ex)	⊙, Water Meter (Ex) ⊗
Construction Limits	-----	Water Valve (Ex)	⊙, Utility Valve Unknown (Ex.) ⊙
Edge of Pavement (Ex)	-----	Telephone Pole (Ex)	⊙, Power Pole (Ex) ⊙
Edge of Pavement (Pr)	-----	Light Pole (Ex)	⊙
Edge of Shoulder (Ex)	-----		
Edge of Shoulder (Pr)	-----		

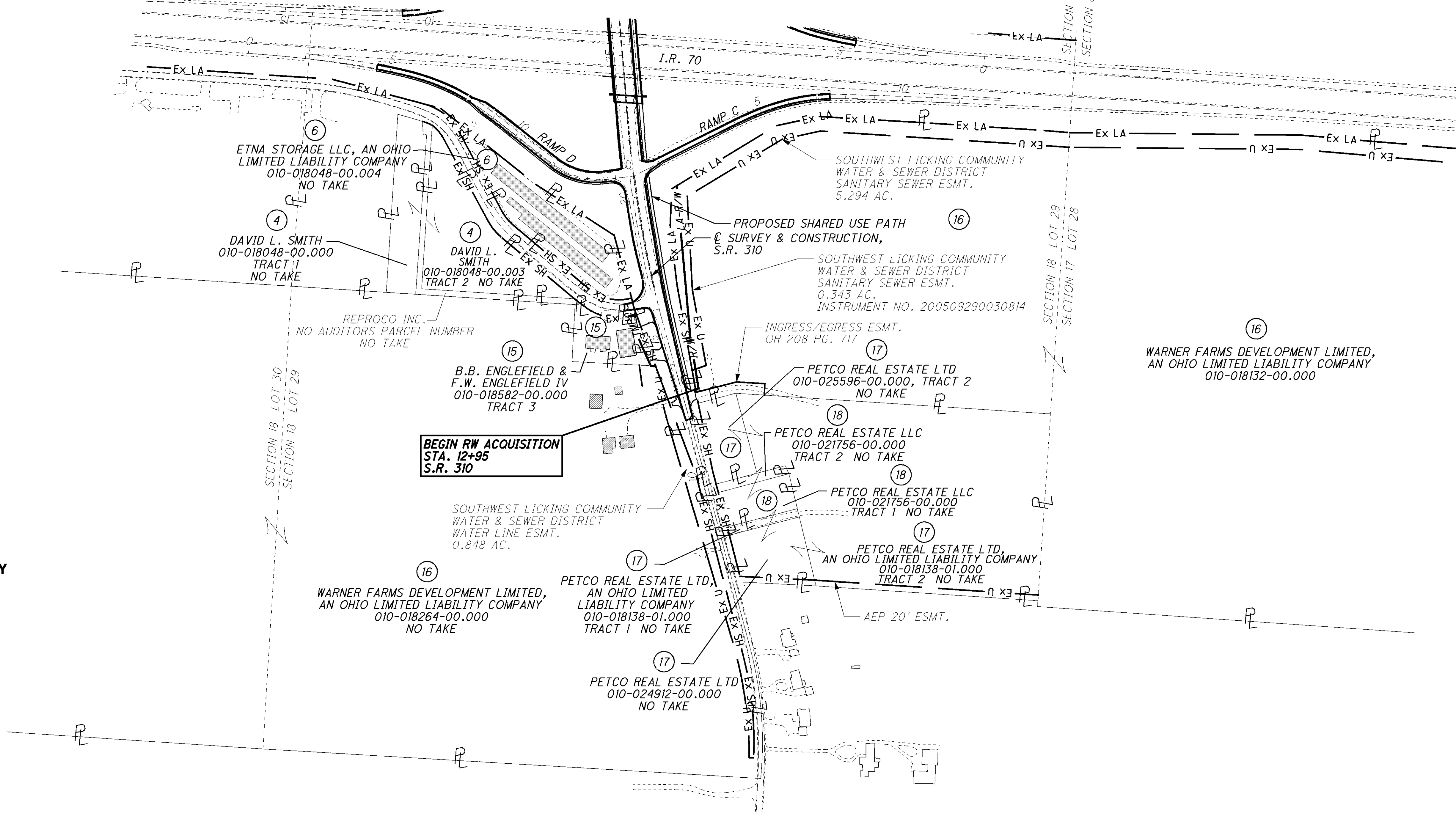
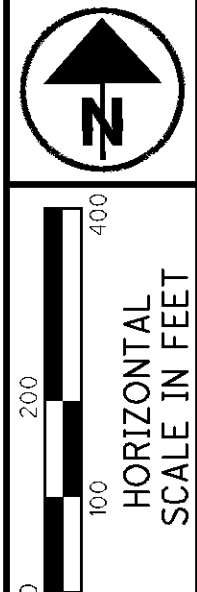
STRUCTURE KEY

	RESIDENTIAL
	COMMERCIAL
	OUT-BUILDING

FEDERAL PROJECT NO. E100(290)
RAILROAD INVOLVEMENT NONE
PID NO. 87935
R/W DESIGNER CS
R/W REVIEWER CP
**RIGHT OF WAY
LEGEND SHEET**
LIC-310-0.74
1/12
414
425

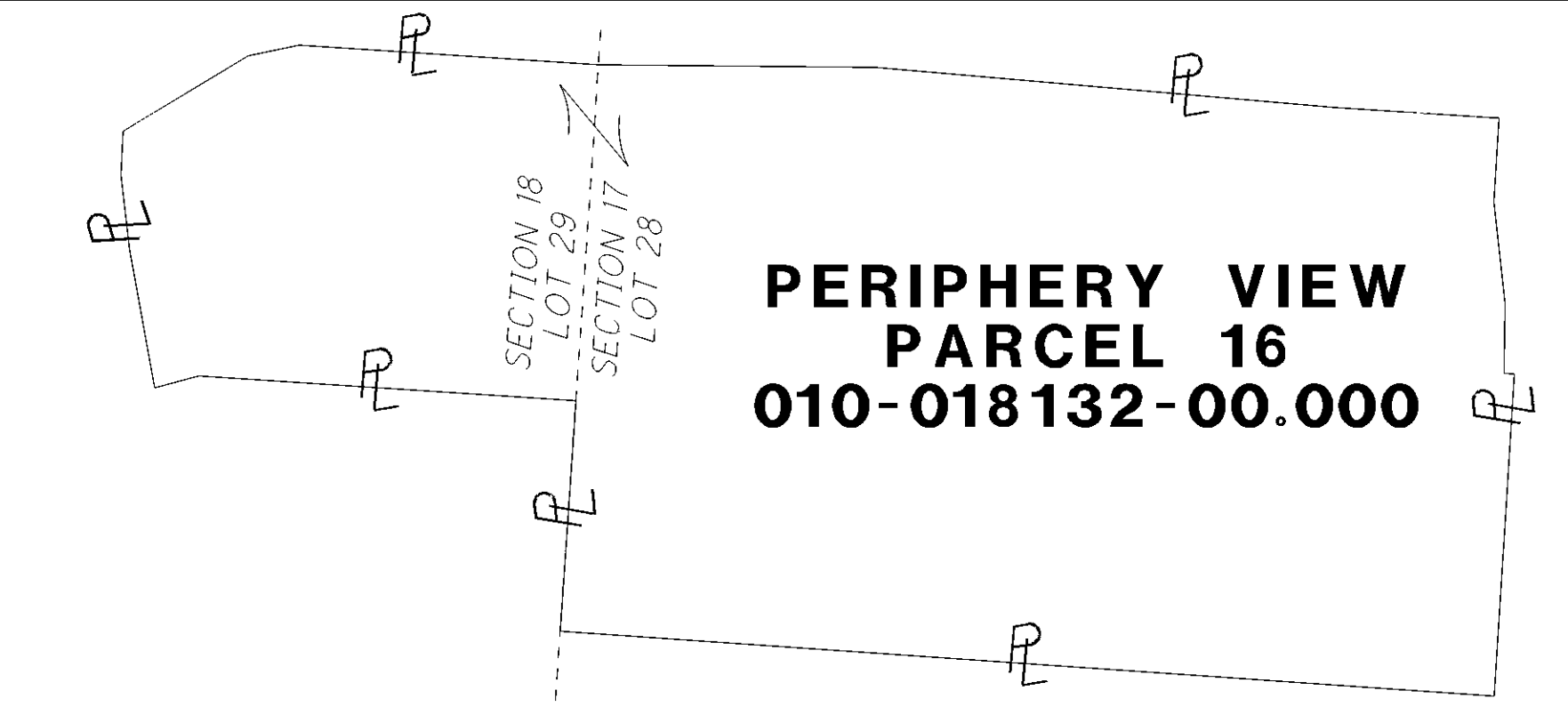
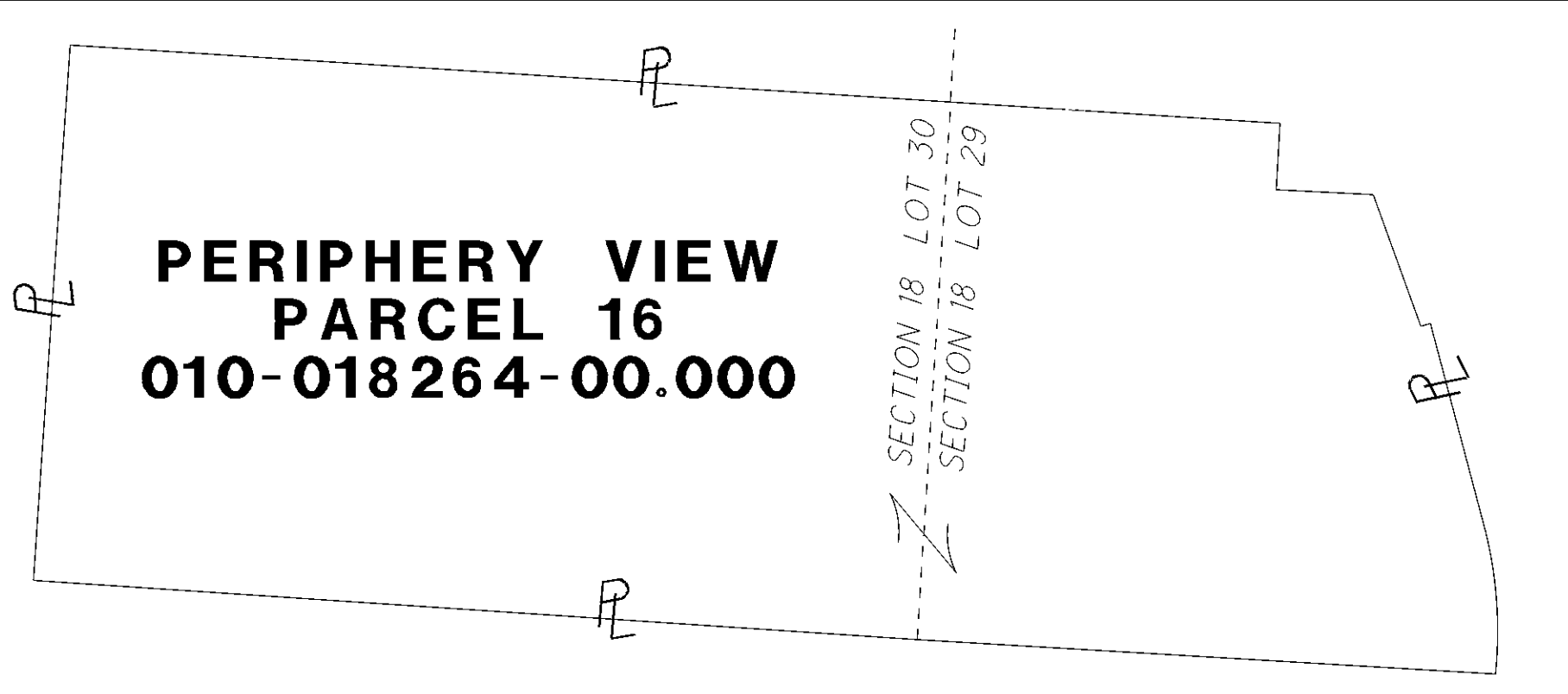
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**SECTION 17, LOT 28
SECTION 18, LOTS 29 & 30
T17N, R19W, REFUGEE LANDS
ETNA TOWNSHIP
LICKING COUNTY**



STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING



REV. BY	DATE	DESCRIPTION
CS	06/02/15	REVISED PARCEL 16-WL, ADDED 16-WD PER REAL ESTATE
FIELD REVIEW BY: CS & CP		
OWNERSHIP VERIFIED BY: CP		
DATE COMPLETED: 08/19/14		

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PID NO.
87935

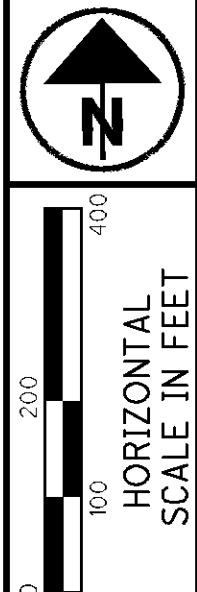
R/W DESIGNER
C.S.
R/W REVIEWER
C.P.

PROPERTY MAP

LIC-310-0.74

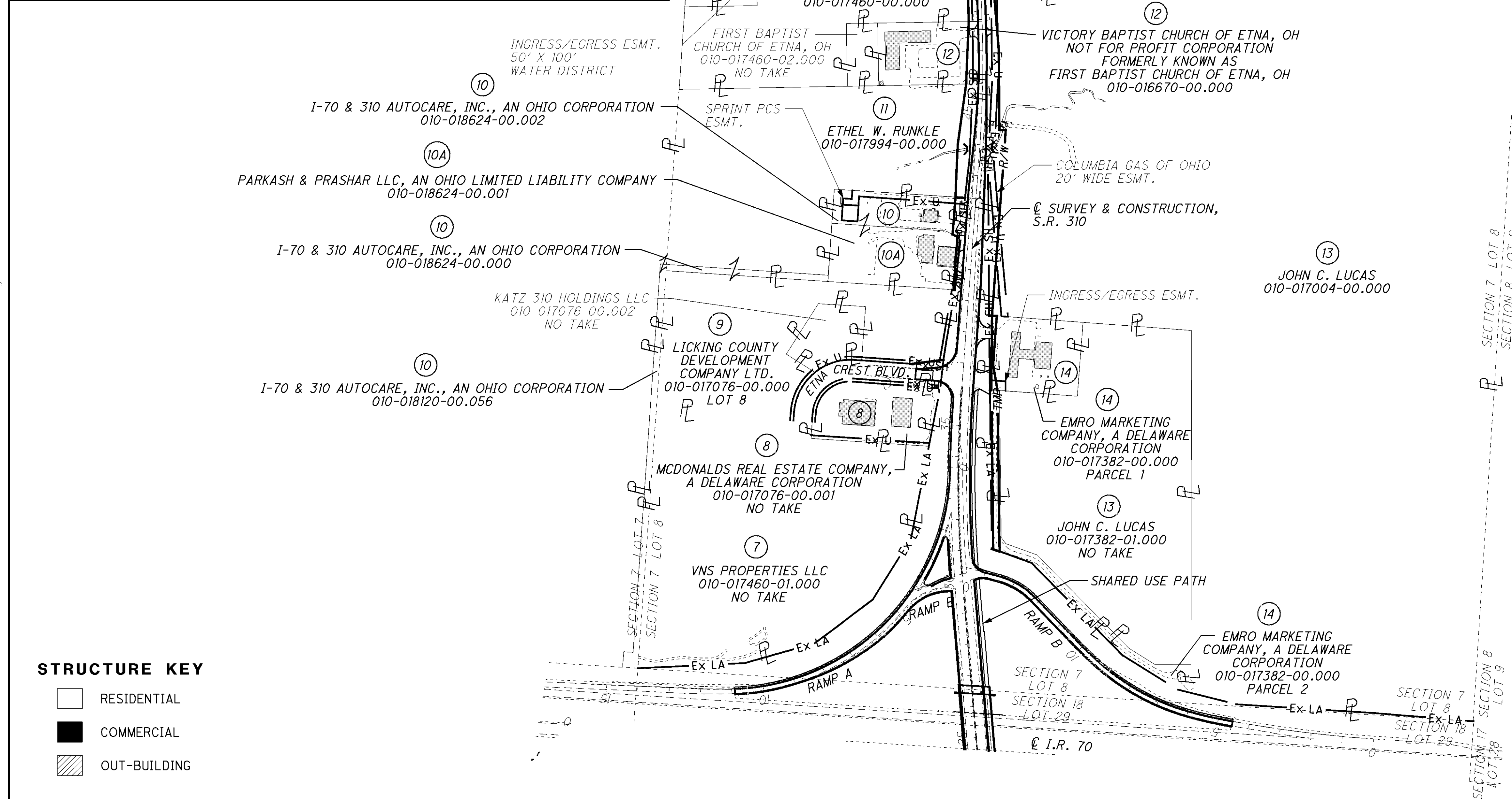
2 / 12
415
425

**SECTION 7, LOT 7 & 8
T17N, R19W, REFUGEE LANDS
ETNA TOWNSHIP
LICKING COUNTY**



MONUMENT TABLE					
☉ OF PROP. R/W S.R. 310		PROJECT COORDINATES SEE SURVEY CERTIFICATION		R/W MON. EXPECTED TO BE DISTURBED	
STATION	OFFSET	NORTHING (Y)	EASTING (X)	RW MON.	DESCRIPTION
STA. 14+75	65.38' RT.	708,825.4392	1,917,533.9780	1	
STA. 16+60.10	79.92' RT.	709,005.6354	1,917,501.7482	1	
STA. 16+60.14	85.15' LT.	708,967.3457	1,917,341.1868	1	
STA. 18+82.42	100.16' LT.	709,187.0037	1,917,279.9832	1	
STA. 18+82.64	103.34' RT.	709,223.1264	1,917,480.2514	1	
STA. 29+67.77	291.19' LT.	710,259.2932	1,916,979.3989	1	
STA. 30+43.86	223.74' RT.	710,376.3557	1,917,486.4604	1	
STA. 31+00	100.00' RT.	710,421.8858	1,917,359.4425	1	PIN SET INSIDE CONSTRUCTION LIMITS
STA. 31+46.95	154.63' RT.	710,455.6549	1,917,102.6788	1	
STA. 34+30.92	95.18' LT.	710,749.2417	1,917,159.0079	1	
STA. 36+20.93	90.00' RT.	710,929.8338	1,917,353.4398	1	PIN SET INSIDE CONSTRUCTION LIMITS
STA. 36+20.93	95.00' RT.	710,929.4609	1,917,358.4259	1	PIN SET INSIDE CONSTRUCTION LIMITS
STA. 38+57.74	69.76' RT.	711,167.4927	1,917,350.8840	1	PIN SET INSIDE CONSTRUCTION LIMITS
STA. 42+27.17	34.39' LT.	711,543.6526	1,917,274.5268	1	PIN SET INSIDE CONSTRUCTION LIMITS
☉ OF PROP. R/W I.R. 70		PROJECT COORDINATES SEE SURVEY CERTIFICATION		R/W MON. EXPECTED TO BE DISTURBED	
STATION	OFFSET	NORTHING (Y)	EASTING (X)	RW MON.	DESCRIPTION
STA. 481+26.80	215.70' RT.	709,646.8351	1,916,615.7398	1	
STA. 481+85.63	227.66' RT.	709,631.1004	1,916,673.6750	1	
STA. 485+35.09	472.03' RT.	709,364.6768	1,917,006.6284	1	
STA. 492+58.31	291.97' LT.	710,080.3843	1,917,777.6703	1	
STA. 493+63.81	211.68' RT.	709,570.9760	1,917,850.4336	1	
STA. 494+42.64	193.27' LT.	709,969.9871	1,917,955.2486	1	
STA. 494+82.95	185.91' LT.	709,960.0366	1,917,994.9904	1	
TOTAL TO GENERAL SUMMARY				21	

END RW ACQUISITION
STA. 50+53.55
S.R. 310



STRUCTURE KEY

□	RESIDENTIAL
■	COMMERCIAL
▨	OUT-BUILDING

REV. BY	DATE	DESCRIPTION
CS	05/05/15	PARCEL 19 DRIVE WIDENED PER REAL ESTATE
CS	03/25/15	ADDED 14-SH, REVISED 14-T
CS	12/03/14	PARCEL 10 SPLIT, 10A NEW PARCEL
FIELD REVIEW BY: CS & CP		
OWNERSHIP VERIFIED BY: CP		
DATE COMPLETED: 08/19/14		

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PID NO.
87935

R/W DESIGNER
C.S.
R/W REVIEWER
C.P.

PROPERTY MAP

LIC-310-0.74

3 / 12
416
425

TOTAL NUMBER OF :

10 - OWNERSHIPS
 13 - PARCELS
 0 - TOTAL TAKES
 0 - OWNERSHIPS WITH STRUCTURES INVOLVED
 3 - OWNERSHIPS WITH "P" ITEMS

NET RESIDUE = RECORD AREA - TOTAL P.R.O. - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
 ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
 STATE OF OHIO UNLESS OTHERWISE SHOWN.

*DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD	AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED
											LEFT	RIGHT			INSTRUMENT NUMBER
1-3	NOT USED												STATE		
4	DAVID L. SMITH		200006160019237	010-018048-00.003 010-018048-00.000	2.974 1.438									TRACT 2; NO TAKE TRACT 1; NO TAKE	
5	NOT USED														
6	ETNA STORAGE LLC, AN OHIO LIMITED LIABILITY COMPANY		200801110000869	010-018048-00.004	2.566									NO TAKE	
7	VNS PROPERTIES LLC		201310240026455	010-017460-01.000	13.368									NO TAKE	
8	MCDONALD'S REAL ESTATE COMPANY, A DELAWARE CORPORATION		200511180036842	010-017076-00.001	1.702									NO TAKE	
9-WD	LICKING COUNTY DEVELOPMENT COMPANY LTD.	9-10	200103070007063	010-017076-00.000	5.902	0.000	0.023	0.000	0.023	NO		5.879		LOT 8	
10-T	I-70 & 310 AUTOCARE, INC., AN OHIO CORPORATION	9-10	20030306007000	010-018624-00.002	1.062		0.082	0.000	0.082	NO				TRACT 1; TO CONSTRUCT DRIVES	
10A-T	PARKASH & PRASHAR, LLC, AN OHIO LIMITED LIABILITY COMPANY	9-10	201411200023116	010-018624-00.001	1.744		0.027	0.000	0.027	NO				FOR GRADING	
11-WD	ETHEL W. RUNKLE	9-12	DB 647 PG. 643	010-017994-00.000	10.43	0.266	0.540	0.266	0.274	S (I)		10.175		PRIVATE SIGN TO BE REMOVED	
12-WD	VICTORY BAPTIST CHURCH OF ETNA, OH NOT FOR PROFIT CORPORATION FORMERLY KNOWN AS FIRST BAPTIST CHURCH OF ETNA, OH 010-016670-00.000	11-12	200111260042275	010-016670-00.000	1.519	0.141	0.220	0.141	0.079	S (I)		1.299		PRIVATE SIGN TO BE REMOVED	
13-WD	JOHN C. LUCAS	9-12	OR 859 PG. 111	010-017004-00.000 010-017382-01.000	68.588 11.464	0.347	1.018	0.347	0.671	NO			67.570	NO TAKE	
14-WL	EMRO MARKETING COMPANY, A DELAWARE CORPORATION	7-10	199711210007920	010-017382-00.000	0.976	0.000	0.059	0.000	0.059	NO				PARCEL 2	
14-SH		9-10			1.576	0.000	0.041	0.000	0.041	P				PARCEL 1; 2 PRIVATE LIGHT POLES & CONCRETE PAD TO BE REMOVED; *ENCROACHING ELECTRIC COVER TO BE REMOVED	
14-T		7-10						0.059	0.000	0.059	NO			PARCEL 1; TO CONSTRUCT DRIVE	
							0.238	0.000	0.238	NO				PARCEL 2	
15-T	B.B. ENGLEFIELD & F.W. ENGLEFIELD IV	5-6	199709240000489	010-018582-00.000	1.575		0.089	0.000	0.089	NO				TO CONSTRUCT DRIVE, TRACT 3; *ENCROACHING PRIVATE SIGN TO BE REMOVED	
16-WL	WARNER FARMS DEVELOPMENT LIMITED, AN OHIO LIMITED LIABILITY COMPANY	5-8	200604210011161	010-018132-00.000	134.382	0.000	0.337	0.000	0.337	NO			133.991		
16-WD		5-6	200403260010347	010-018264-00.000	155.286			0.054	0.000	0.054	NO				NO TAKE
17	PETCO REAL ESTATE, LTD., AN OHIO LIMITED LIABILITY COMPANY		199912300052363 200009270030459 & 199912300052364 200010030031299	010-025596-00.000 010-018138-01.000 010-024912-00.000	0.908 14.128 1.373									NO TAKE; TRACT 2 NO TAKE (TRACT 1 = 0.176 AC.; TRACT 2 = 14.08 AC.) NO TAKE	
18	PETCO REAL ESTATE, LLC		20051200002027	010-021756-00.000	1.000									NO TAKE (TRACT 1 = 0.823 AC.; TRACT 2 = 0.176 AC.)	
19-WD	JANICE L. & RICHARD F. KUHN, TRUSTEES	11-12	199804300015952	010-017460-00.000	7.03	0.179	0.244	0.179	0.065	NO		6.786			
20	ETNA SCHOOL		DB 34 PG. 161	010-016702-00.000	4.00									NO TAKE	

LEGEND:

WL = FEE SIMPLE WITH LIMITATION OF ACCESS
 WD = WARRANTY DEED
 SH = STANDARD HIGHWAY EASEMENT
 LA = LIMITED ACCESS EASEMENT
 T = TEMPORARY EASEMENT
 CH = CHANNEL EASEMENT

NOTE:
 UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS ACQUIRED FOR THE PURPOSE OF STRUCTURE REMOVAL TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR. UPON COMPLETION OF THE WORK REQUIRED FOR SUCH REMOVAL AND SUBSEQUENT RECLAMATION, THE EASEMENT SHALL BE VACATED IMMEDIATELY.

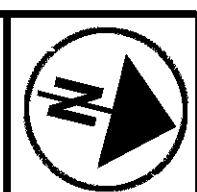
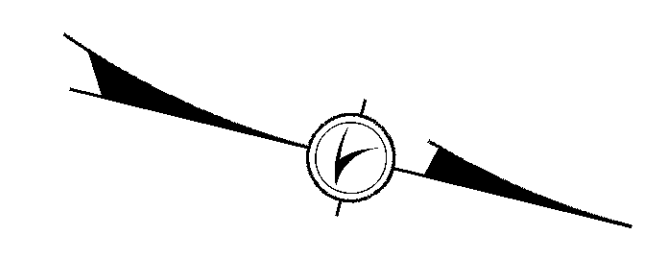
NOTE:
 ALL TEMPORARY PARCELS TO BE OF 24 MONTHS DURATION.

CS	06/02/15	REVISED PARCEL 16-WL, ADDED 16-WD PER REAL ESTATE
CS	04/22/15	REVISED NET RESIDUE PARCEL 14-SH
CS	04/08/15	REVISED REMOVALS & ENCROACHMENTS PARCEL 14
CS	04/07/15	ADDED PRIVATE SIGN TO BE REMOVED PARCEL 12
CS	03/25/15	ADDED 14-SH, REVISED 14-T
CS	10/20/14	PARCEL 10 SPLIT, 10A NEW PARCEL
CS	10/20/14	CHANGED PRIVATE SIGN REMOVAL ON PARCELS 10 & 12
REV BY:	DATE	DESCRIPTION
		FIELD REVIEW BY: CS & CP
		OWNERSHIP VERIFIED BY: CP
		DATE COMPLETE: 08/19/14

FEDERAL PROJECT NO. E100(290)
 RAILROAD INVOLVEMENT NONE
 PID NO. 87935
 R/W DESIGNER CS
 R/W REVIEWER CP
 SUMMARY OF ADDITIONAL RIGHT OF WAY
 LIC-310-0.74
 4/12
 417
 425

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**SECTION 18, LOT 29
T17N, R19W, REFUGEE LANDS
ETNA TOWNSHIP
LICKING COUNTY**



0 25 50
HORIZONTAL
SCALE IN FEET

PID NO. 87935

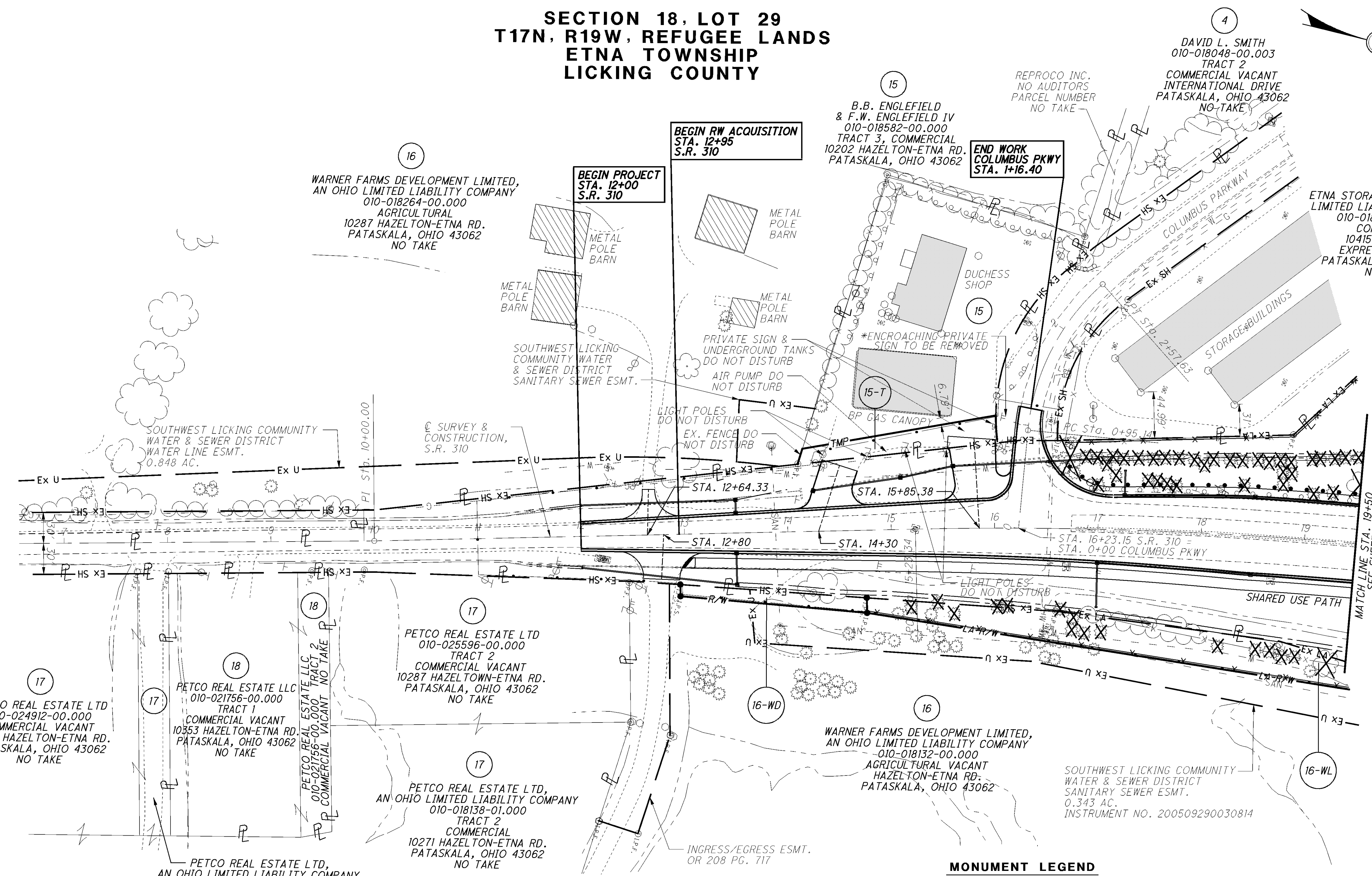
C.S. CHECKED
C.P.

**RIGHT OF WAY TOPO SHEET
STA. 7+00 TO STA. 19+50 S.R. 310**

LIC-310-0.74

5 / 12

418
425



MONUMENT LEGEND

- ▣ EXISTING R/W MONUMENT BOX
- ▣ PROPOSED R/W MONUMENT BOX
- ⊙ EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- ⚡ RAILROAD SPIKE FOUND
- ⚡ RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- ⊙ I.P.F. IRON PIPE FOUND
- ⊙ I.P.S. IRON PIPE SET
- ⊙ P.K.F. P.K. NAIL FOUND
- ⊙ P.K.S. P.K. NAIL SET

NOTES:
ALL EXISTING FENCE LOCATED INSIDE OF PROPOSED RIGHT OF WAY IS TO BE REMOVED.

THE DISPOSITION OF EXISTING CONSTRUCTION ITEMS WITHIN WORK LIMITS ARE SHOWN ON THE CONSTRUCTION PLANS.

NOTE:
ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY AND CONSTRUCTION, S.R. 310 UNLESS OTHERWISE STATED.

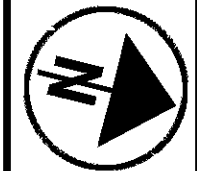
NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5 OFFICE, JACKSONTOWN, OHIO.

CO. RD. AND TWP RD. RIGHT OF WAY DETERMINED FROM THE LICKING COUNTY ENGINEERS OFFICE LICKING COUNTY, OHIO

REV	DATE	DESCRIPTION
4	06/02/15	REVISED PARCEL 16-WL, ADDED 16-WD PER REAL ESTATE
3	10/30/14	DND ADDED TO AIR PUMP PARCEL 15 PER REAL ESTATE
2	10/20/14	CHANGED END WORK COLUMBUS PKWY PER DESIGN
1	10/15/14	DND ADDED TO POLES PARCEL 15 PER REAL ESTATE
COMPLETION DATE: 08/19/14		

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**SECTION 18, LOT 29
T17N, R19W, REFUGEE LANDS
ETNA TOWNSHIP
LICKING COUNTY**



PID NO. **87935**

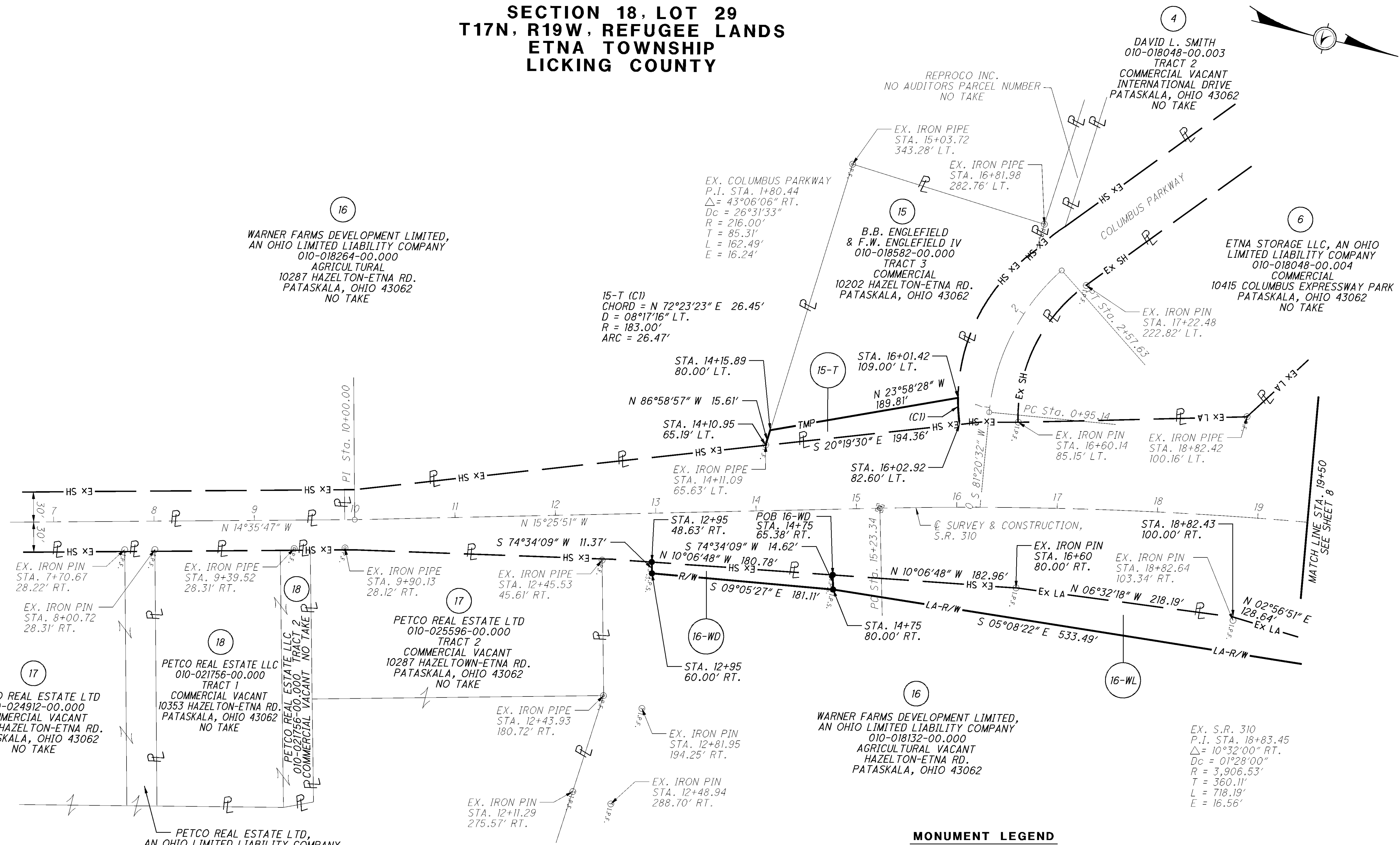
CALCULATED C.S. CHECKED C.P.

**RIGHT OF WAY BOUNDARY SHEET
STA. 7+00 TO STA. 19+50 S.R. 310**

LIC-310-0.74

6 / 12

419
425



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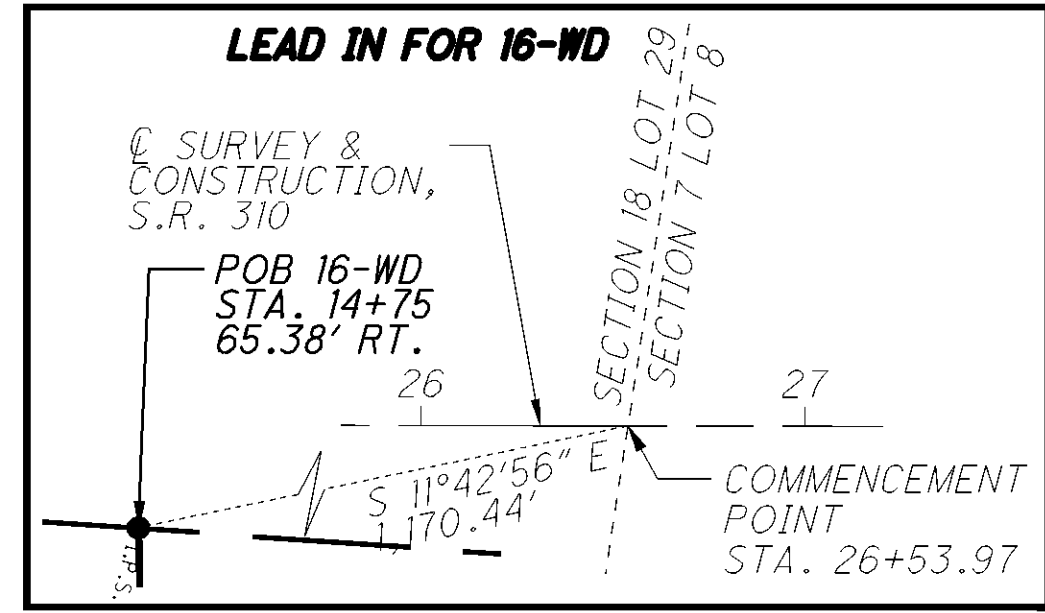
NOTES:
ALL EXISTING FENCE LOCATED INSIDE OF PROPOSED RIGHT OF WAY IS TO BE REMOVED.

THE DISPOSITION OF EXISTING CONSTRUCTION ITEMS WITHIN WORK LIMITS ARE SHOWN ON THE CONSTRUCTION PLANS.

NOTE:
ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY AND CONSTRUCTION, S.R. 310 UNLESS OTHERWISE STATED.

NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5 OFFICE, JACKSONTOWN, OHIO.

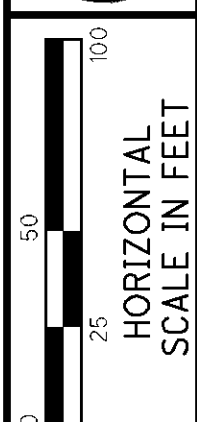
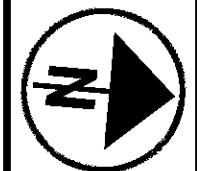
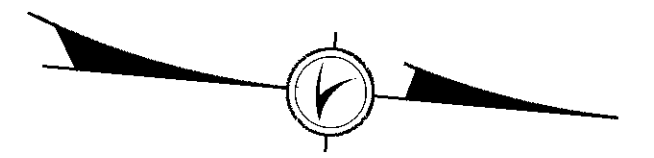
CO. RD. AND TWP RD. RIGHT OF WAY DETERMINED FROM THE LICKING COUNTY ENGINEERS OFFICE LICKING COUNTY, OHIO



- MONUMENT LEGEND**
- ☐ EXISTING R/W MONUMENT BOX
 - ▣ PROPOSED R/W MONUMENT BOX
 - ⊙ EXISTING CONCRETE MONUMENT
 - PROPOSED CONCRETE MONUMENT
 - ⊙ RAILROAD SPIKE FOUND
 - ⊙ RAILROAD SPIKE SET
 - I.P.F. IRON PIN FOUND
 - I.P.F. IRON PIN FOUND W/ ID CAP
 - I.P.S. IRON PIN SET W/ ID CAP
 - ⊙ I.P.S. IRON PIPE SET
 - ⊙ P.K. P.K. NAIL FOUND
 - ⊙ P.K.S. P.K. NAIL SET

REV	DATE	DESCRIPTION
1	06/02/15	REVISED PARCEL 16-WL, ADDED 16-WD PER REAL ESTATE
COMPLETION DATE: 08/19/14		

SECTION 18, LOT 29
SECTION 7, LOT 8
T17N, R19W, REFUGEE LANDS
ETNA TOWNSHIP
LICKING COUNTY



PID NO. 87935

CALCULATED C.S. CHECKED C.P.

RIGHT OF WAY TOPO SHEET
STA. 19+50 TO STA. 32+50 S.R. 310

LIC-310-0.74

7 / 12

420
425

7
VNS PROPERTIES LLC
010-017460-01.000
COMMERCIAL VACANT
HAZELTON-ETNA RD.
PATASKALA, OHIO 43062
NO TAKE

6
ETNA STORAGE LLC, AN OHIO
LIMITED LIABILITY COMPANY
010-018048-00.004
COMMERCIAL
10415 COLUMBUS EXPRESSWAY PARK
PATASKALA, OHIO 43062
NO TAKE

16
WARNER FARMS DEVELOPMENT LIMITED,
AN OHIO LIMITED LIABILITY COMPANY
010-018132-00.000
AGRICULTURAL VACANT
HAZELTON-ETNA RD.
PATASKALA, OHIO 43062

14
EMRO MARKETING COMPANY,
A DELAWARE CORPORATION
010-017382-00.000
PARCEL 2
COMMERCIAL
HAZELTON-ETNA RD.
PATASKALA, OHIO 43062

13
JOHN C. LUCAS
010-017382-01.000
AGRICULTURAL VACANT
HAZELTON-ETNA RD.
PATASKALA, OHIO 43062

SOUTHWEST LICKING COMMUNITY
WATER & SEWER DISTRICT
SANITARY SEWER ESMT.
5.294 AC.

MONUMENT LEGEND

- ◻ EXISTING R/W MONUMENT BOX
- ◻ PROPOSED R/W MONUMENT BOX
- ⊙ EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- ⚡ RAILROAD SPIKE FOUND
- ⚡ RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
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- ⊙ I.P.S. IRON PIPE SET
- ⊙ P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

NOTES:
ALL EXISTING FENCE LOCATED INSIDE OF
PROPOSED RIGHT OF WAY IS TO BE REMOVED.

THE DISPOSITION OF EXISTING CONSTRUCTION
ITEMS WITHIN WORK LIMITS ARE SHOWN ON
THE CONSTRUCTION PLANS.

NOTE:
ALL STATIONS AND OFFSETS ARE FROM THE
CENTERLINE OF SURVEY AND CONSTRUCTION,
S.R. 310 UNLESS OTHERWISE STATED.

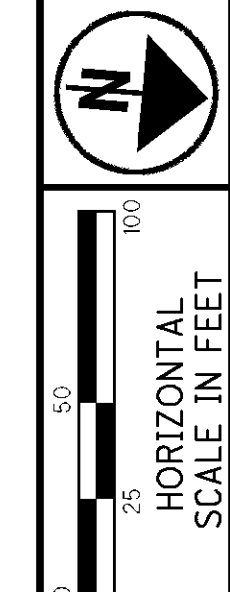
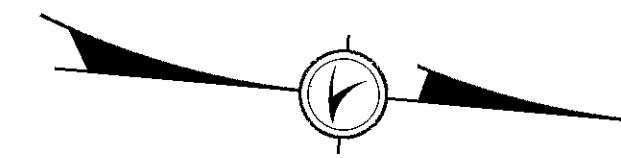
NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION
WERE DETERMINED USING DOCUMENTATION ON FILE
FROM THE OHIO DEPARTMENT OF TRANSPORTATION,
DISTRICT 5 OFFICE, JACKSONTOWN, OHIO.

CO. RD. AND TWP RD. RIGHT OF WAY DETERMINED
FROM THE LICKING COUNTY ENGINEERS OFFICE
LICKING COUNTY, OHIO

REV	DATE	DESCRIPTION
1	05/28/15	REVISED PARCEL 16 PER REAL ESTATE
COMPLETION DATE: 08/19/14		

P:\LIC\87935\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\87935_0002_RDS.dgn 09/23/15

SECTION 18, LOT 29
SECTION 7, LOT 8
T17N, R19W, REFUGEE LANDS
ETNA TOWNSHIP
LICKING COUNTY



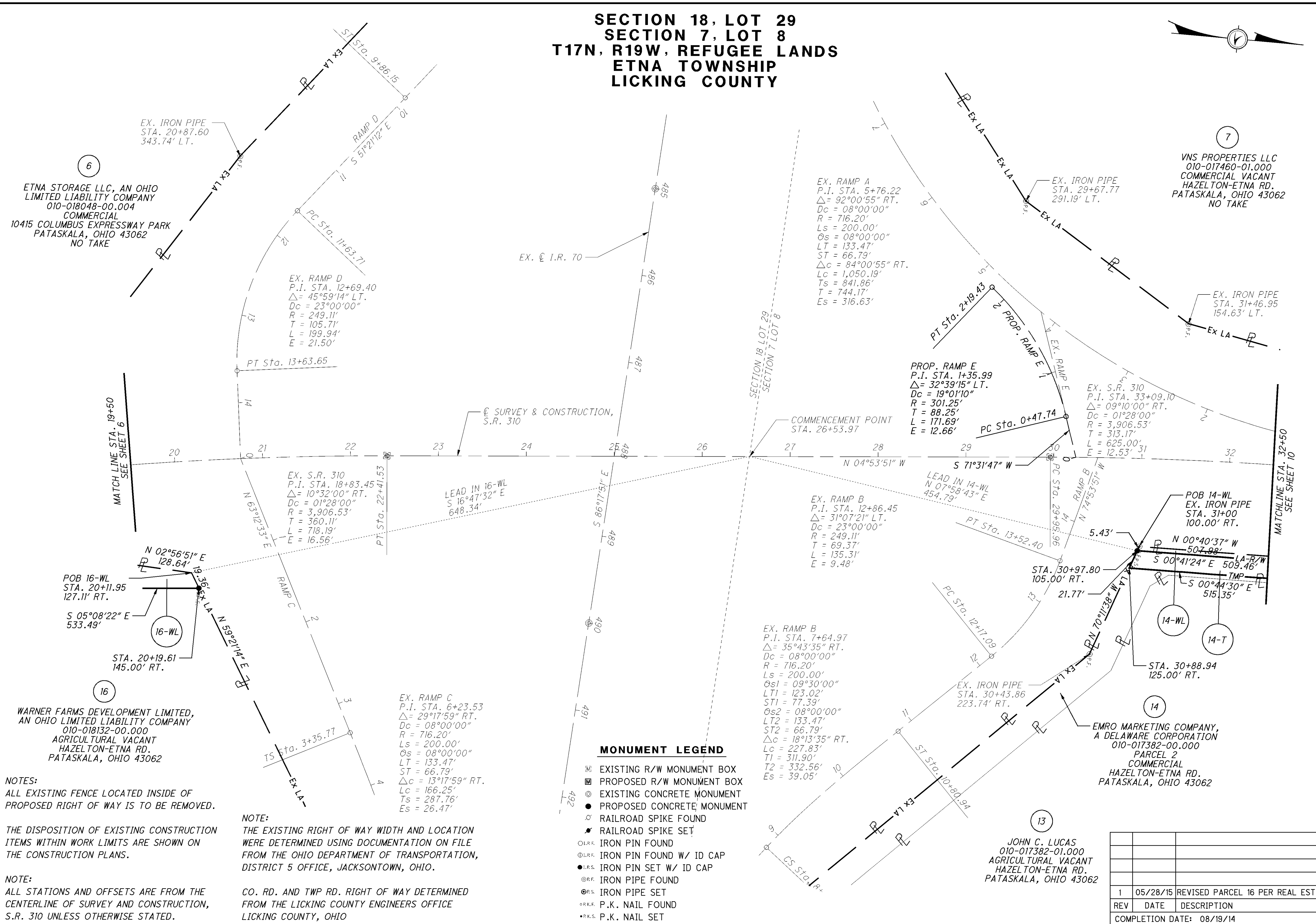
PID NO. 87935
CALCULATED C.S.
CHECKED C.P.

RIGHT OF WAY BOUNDARY SHEET
STA. 19+50 TO STA. 32+50 S.R. 310

LIC-310-0.74

8 / 12

421
425



P:\LIC\87935\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\87935-002D_RD5.dgn 09/23/15

NOTES:
ALL EXISTING FENCE LOCATED INSIDE OF PROPOSED RIGHT OF WAY IS TO BE REMOVED.
THE DISPOSITION OF EXISTING CONSTRUCTION ITEMS WITHIN WORK LIMITS ARE SHOWN ON THE CONSTRUCTION PLANS.
NOTE:
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NOTE:
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CO. RD. AND TWP RD. RIGHT OF WAY DETERMINED FROM THE LICKING COUNTY ENGINEERS OFFICE LICKING COUNTY, OHIO

- MONUMENT LEGEND**
- ◻ EXISTING R/W MONUMENT BOX
 - ◻ PROPOSED R/W MONUMENT BOX
 - EXISTING CONCRETE MONUMENT
 - PROPOSED CONCRETE MONUMENT
 - ⊗ RAILROAD SPIKE FOUND
 - ⊗ RAILROAD SPIKE SET
 - I.P.F. IRON PIN FOUND
 - I.P.F. IRON PIN FOUND W/ ID CAP
 - I.P.S. IRON PIN SET W/ ID CAP
 - I.P.F. IRON PIPE FOUND
 - I.P.S. IRON PIPE SET
 - P.K.F. P.K. NAIL FOUND
 - P.K.S. P.K. NAIL SET

1	05/28/15	REVISED PARCEL 16 PER REAL ESTATE
REV	DATE	DESCRIPTION
COMPLETION DATE: 08/19/14		

**SECTION 7, LOT 8
T17N, R19W, REFUGEE LANDS
ETNA TOWNSHIP
LICKING COUNTY**

N

HORIZONTAL SCALE IN FEET

PID NO. **87935**

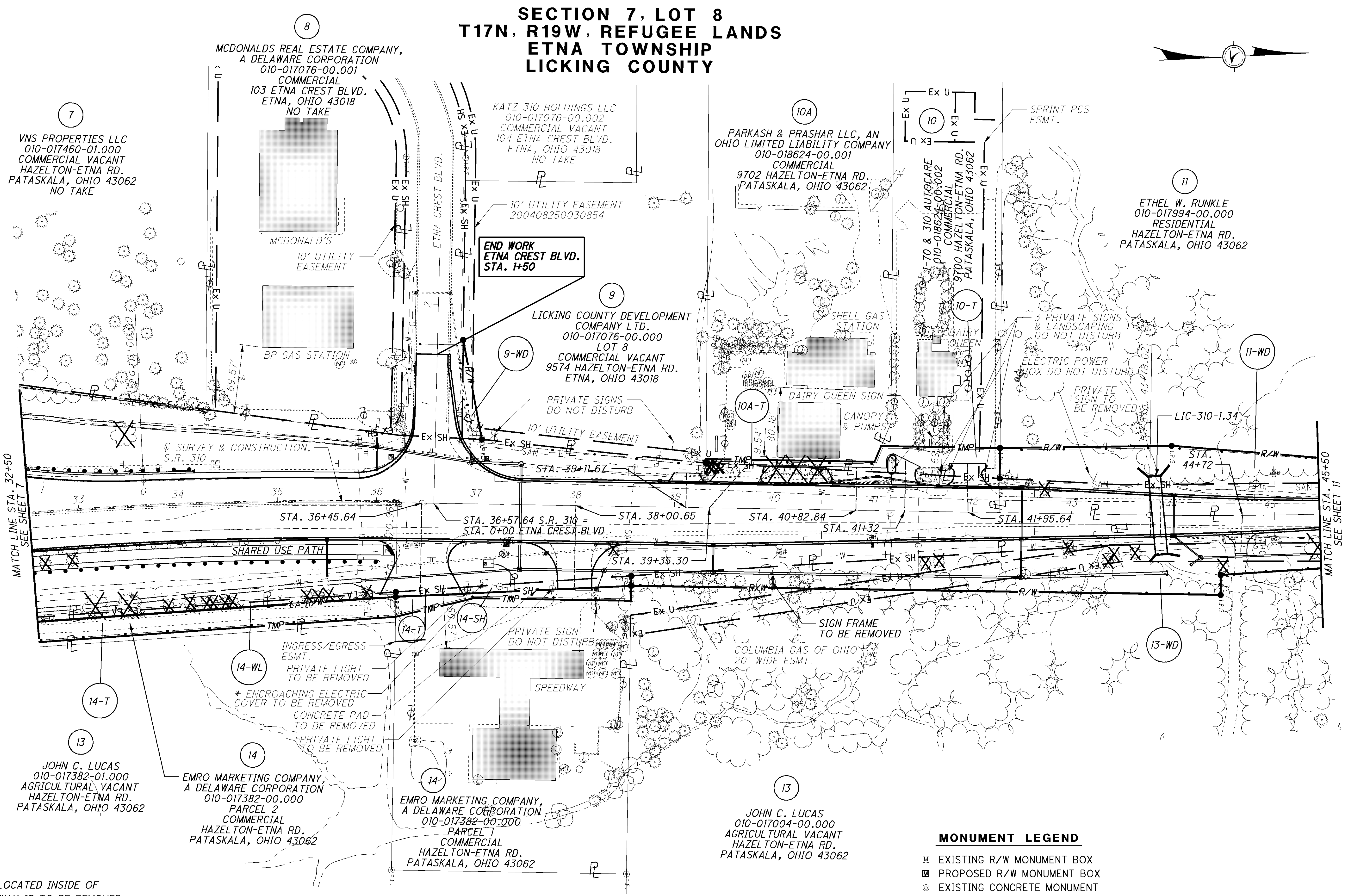
CALCULATED C.S. CHECKED C.P.

**RIGHT OF WAY TOPO SHEET
STA. 32+50 TO STA. 45+50 S.R. 310**

LIC-310-0.74

9 / 12

422
425



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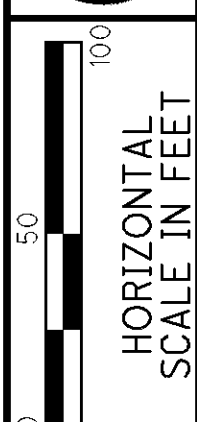
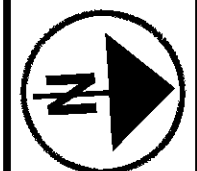
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- P.K.S. P.K. NAIL SET

REV	DATE	DESCRIPTION
6	04/07/15	ADDED PERSONALTY ITEMS TO PARCEL 14 PER REAL ESTATE
5	04/01/15	REVISED DISPOSITION LIGHT POLES PARCEL 14
4	03/25/15	ADDED 14-SH, REVISED 14-T
3	12/03/14	PARCEL 10 SPLIT, 10A NEW PARCEL
2	10/20/14	DND ADDED TO SIGNS ON PARCEL 10 PER DESIGN
1	10/15/14	DND ADDED TO POLES PARCEL 14 PER REAL ESTATE
COMPLETION DATE:	08/19/14	

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**SECTION 7, LOT 8
T17N, R19W, REFUGEE LANDS
ETNA TOWNSHIP
LICKING COUNTY**



PID NO. **87935**

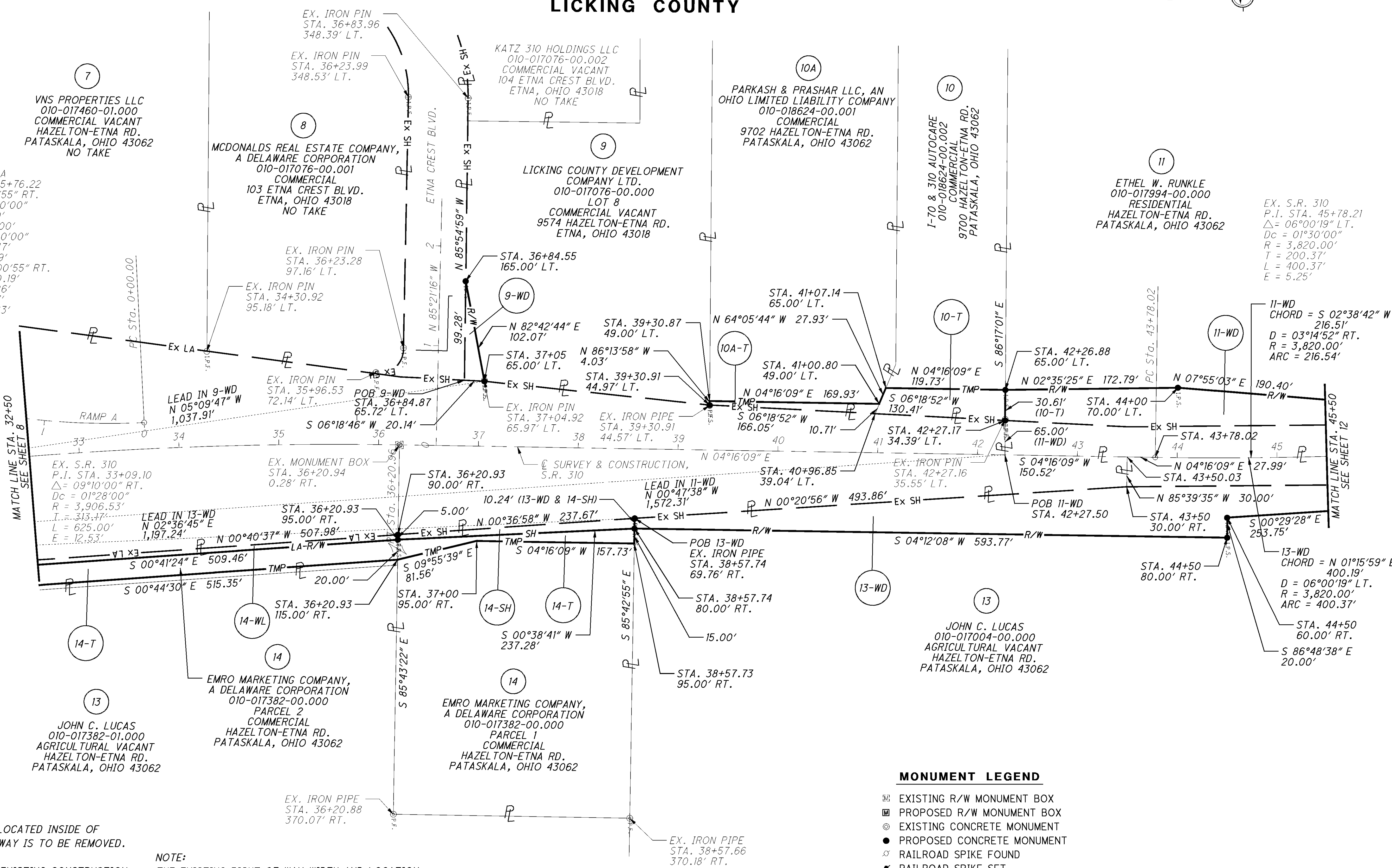
CALCULATED C.S. CHECKED C.P.

**RIGHT OF WAY BOUNDARY SHEET
STA. 32+50 TO STA. 45+50 S.R. 310**

LIC-310-0.74

10 / 12

423
425



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MONUMENT LEGEND

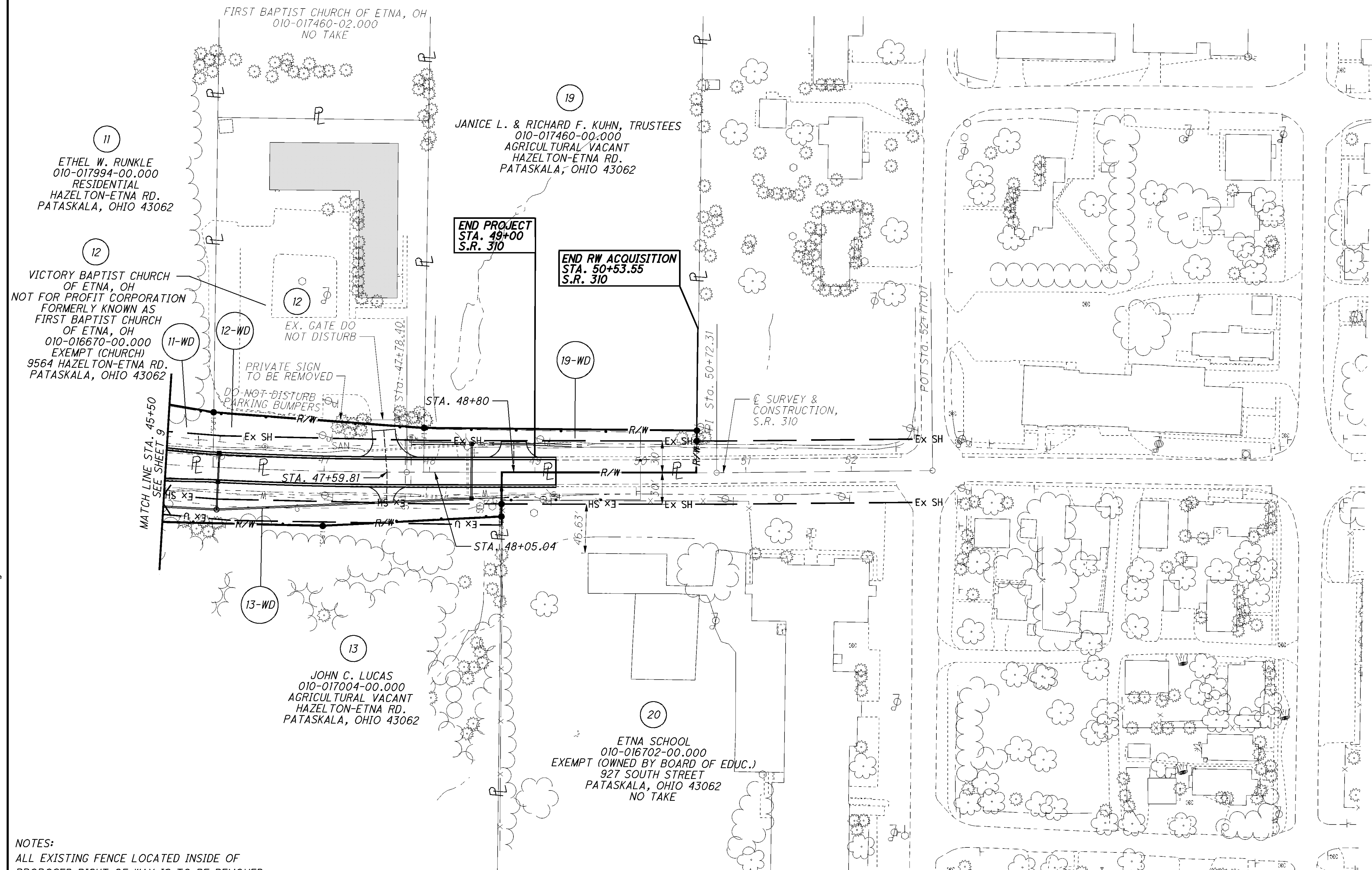
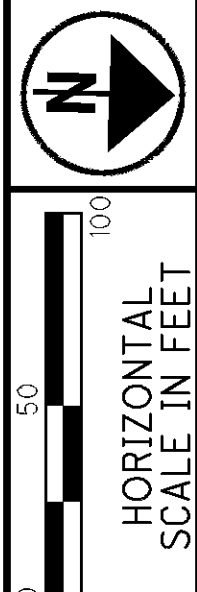
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- I.P.S. IRON PIPE SET
- ⊙ P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

REV	DATE	DESCRIPTION
2	03/25/15	ADDED 14-SH, REVISED 14-T
1	12/03/14	PARCEL 10 SPLIT, 10A NEW PARCEL

COMPLETION DATE: 08/19/14

P:\LIC\87935\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\87935_003D_RDS.dgn 09/23/15

**SECTION 7, LOT 8
T17N, R19W, REFUGEE LANDS
ETNA TOWNSHIP
LICKING COUNTY**



MONUMENT LEGEND

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PID NO. 87935
CALCULATED C.S. CHECKED C.P.

**RIGHT OF WAY TOPO SHEET
STA. 45+50 TO STA. 52+00 S.R. 310**

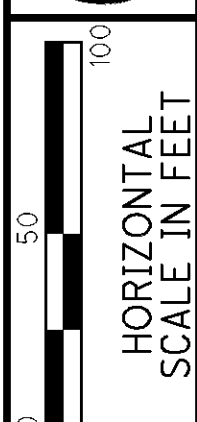
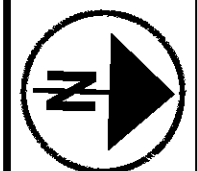
LIC-310-0.74

REV	DATE	DESCRIPTION
3	05/05/15	PARCEL 19 DRIVE WIDENED PER REAL ESTATE
2	04/07/15	TO BE REMOVED ADDED TO SIGN ON PARCEL 12 PER REAL ESTATE
1	10/20/14	DND ADDED TO SIGN ON PARCEL 12 PER DESIGN
COMPLETION DATE:	08/19/14	

11 / 12
424
425

P:\LIC\87935\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\87935_0004_RDS.dgn 09/23/15

**SECTION 7, LOT 8
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ETNA TOWNSHIP
LICKING COUNTY**



PID NO. **87935**

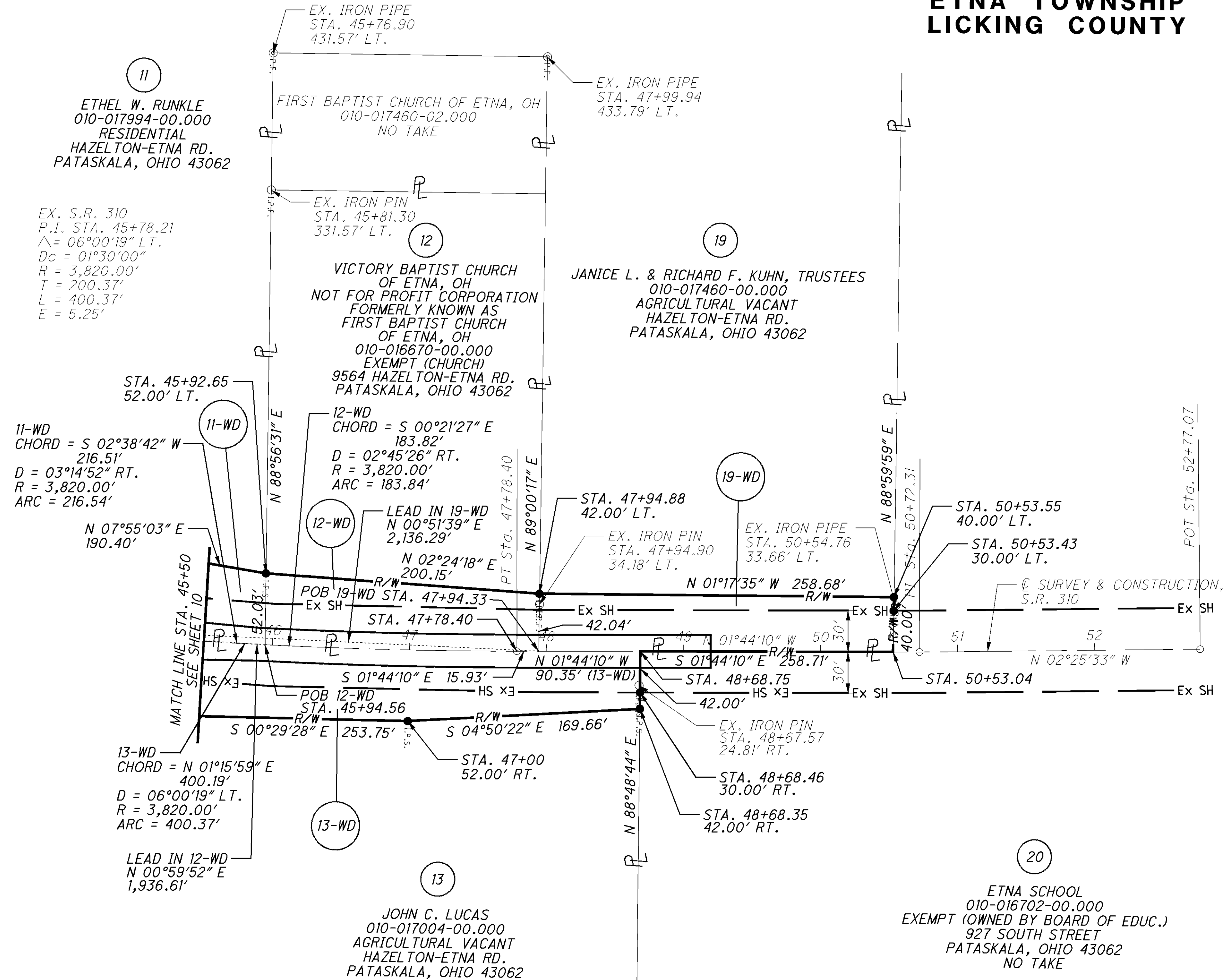
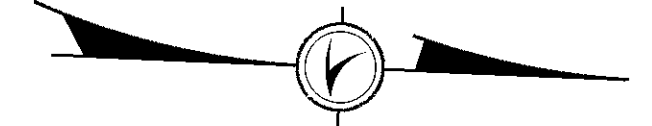
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12 / 12

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REV	DATE	DESCRIPTION
COMPLETION DATE: 08/19/14		

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PROJECT DESCRIPTION

WIDENING OF S.R. 310 TO SIX LANES, WIDENING OF STRUCTURE LIC-310-0096 OVER I.R. 70 TO SIX LANES AND WIDENING OF THE RAMPS AT THE INTERCHANGE OF S.R. 310 & I.R. 70.

HISTORIC RECORDS

A HISTORIC CONSTRUCTION PLAN SET AND SOIL PROFILE, LIC-310-0.47, DATED 1963, WERE REVIEWED FOR THIS PROJECT. THE RECORDS DID NOT PROVIDE ADEQUATE INFORMATION FOR USE ON THE DESIGN OF THIS PROJECT THEREFORE NO HISTORIC DATA HAS BEEN PRESENT ON THIS SOIL PROFILE.

GEOLOGY

THE PROJECT IS LOCATED IN THE GALION GLACIATED LOW PLATEAU OF THE CENTRAL LOWLAND TILL PLAINS. THE AREA IS CHARACTERIZED BY ROLLING TERRAIN WITH MODERATE RELIEF ASSOCIATED WITH THE TRANSITION FROM THE TILL PLAINS TO THE WEST TO THE HILLY GLACIATED ALLEGHENY PLATEAU TO THE EAST. THICK DEPOSITS OF WISCONSIAN AGED COHESIVE TILLS COVER MISSISSIPPIAN AGED SHALE AND SANDSTONE BEDROCK.

RECONNAISSANCE

DURING THE FIELD WORK THE PAVEMENT WAS NOTED AS BEING IN GOOD CONDITION WITH CRACKING DUE TO AGE. THE APPROACH EMBANKMENTS APPEAR TO BE IN GOOD CONDITION WITH NO SIGNS OF INSTABILITY AND MINOR SURFACE EROSION AROUND THE GUARD RAIL POSTS. THE STRUCTURE OVER I.R. 70 (LIC-310-0096) WAS NOTED AS BEING IN FAIR CONDITION DUE TO AGE. THE CULVERT STRUCTURE OVER AN UN-NAMED DITCH (LIC-310-0134) WAS NOTED AS BEING IN FAIR TO GOOD CONDITION. SCOUR WAS NOTED AROUND THE ENDS OF THE CULVERT BEING ADDRESSED WITH THE ADDITION OF SCOUR PROTECTION MEASURES.

THE SURROUNDING LAND USE WAS NOTED AS BEING A MIX OF COMMERCIAL PROPERTIES AND AGRICULTURAL LAND.

SUBSURFACE EXPLORATION

TWO PHASES OF DRILLING WAS COMPLETED FOR THIS PROJECT. THE ROADWAY EXPLORATION WAS COMPLETED BY STANTEC, INC. AND THE STRUCTURE EXPLORATION WAS COMPLETED BY TETRA TECH, INC. AND BARR AND PREVOST.

EIGHTEEN (18) BORINGS, B-001-0-14 THROUGH B-003-0-14, B-003-1-14, B-003-2-14, B-004-1-14, B-004-2-14, B-006-1-14, B-008-1-14, B-008-2-14, B-008-3-14, AND B-009-0-14 THROUGH B-014-0-14 WERE DRILLED FOR THE ROADWAY EXPLORATION. THESE BORINGS WERE COMPLETED BETWEEN AUGUST 12 AND 14, 2014, WITH A TRUCK MOUNTED ROTARY DRILL RIG, USING 3/4-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS THROUGH THE SOIL. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT CONTINUOUS AND 2.5 FOOT INTERVALS FOR THE FULL DEPTH OF THE BORINGS. THE HAMMER SYSTEM USED WAS LAST CALIBRATED ON AUGUST 6, 2014, AND THE AVERAGE DRILL ROD ENERGY RATIO (ER) WAS 84.6%. ONE UNDISTURBED SOIL SAMPLE WAS ADVANCED IN BORING B-013-0-14, IN ACCORDANCE WITH ASSHTO T 207, BUT NO RECOVERY AS ACHIEVED.

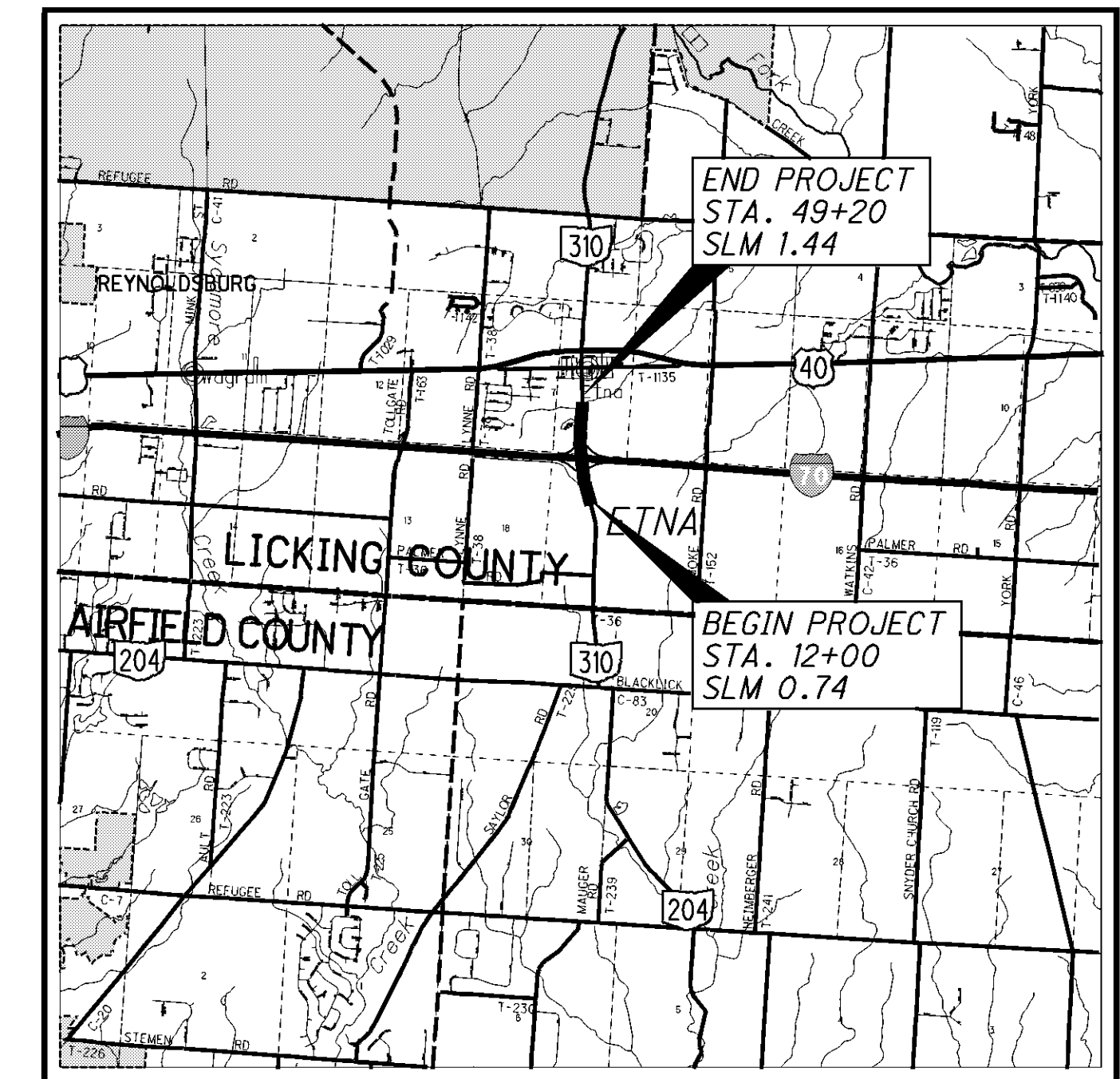
FIVE (5) BORINGS, B-004-0-14 THROUGH B-008-0-14 WERE DRILLED FOR THE STRUCTURE FOUNDATION EXPLORATION BETWEEN AUGUST 9 AND 15, 2014, WITH A TRUCK MOUNTED ROTARY DRILL RIG, USING 3/4-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS THROUGH THE SOIL. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT CONTINUOUS, 2.5 AND 5.0 FOOT INTERVALS FOR THE FULL DEPTH OF THE BORINGS. THE HAMMER SYSTEM USED WAS LAST CALIBRATED ON JANUARY 1, 2014, AND THE AVERAGE DRILL ROD ENERGY RATIO (ER) WAS 92.2%.

EXPLORATION FINDINGS

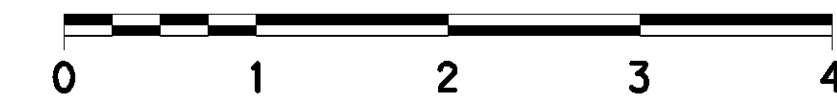
THE ROADWAY EXPLORATION ENCOUNTERED PREDOMINATELY COHESIVE SOILS RANGING FROM SANDY SILT (A-4A) TO CLAY (A-7-6). THESE SOILS WERE ENCOUNTERED IN MEDIUM STIFF TO VERY STIFF CONSISTENCY AND TYPICALLY IN EITHER DAMP OR MOIST CONDITION. THE PREDOMINATE SOILS ENCOUNTERED WERE EITHER SILT AND CLAY (A-6A) OR SILTY CLAY (A-6B). B-004-4-14 ENCOUNTERED A-2-4 IN LOOSE TO MEDIUM DENSE COMPACTNESS AND DAMP CONDITION FROM THE GROUND SURFACE TO A DEPTH OF 6.5 FEET, ELEVATION 1062.0 FEET. B-014-0-14 ENCOUNTERED GRAVEL AND STONE FRAGMENTS WITH SAND, SILT AND CLAY (A-2-6) CONSISTING OF RUBBILIZED ASPHALT PARTICLES IN MEDIUM DENSE COMPACTNESS TO A DEPTH OF 4 FEET, ELEVATION 1051.7 FEET. PAVEMENT AND BASE WAS REPORTED IN TEN (10) BORINGS, B-002, B-003-0, B-008-1, B-008-2, B-008-3, B-010, B-011, B-012, B013, AND B-014 RANGING IN THICKNESS BETWEEN 1.0 AND 1.7 FEET. B-006-1 ENCOUNTERED 0.4 FEET OF TOPSOIL AT THE GROUND SURFACE.

SULFATE TEST RESULTS FROM THE ROADWAY BORINGS WERE BELOW 3,000 PPM, EXCEPT FOR B-014-0-14. WITHIN B-014-0-14 FROM 1 FT TO 2 FT THE SAMPLE HAD A TEST RESULT OF 3,027 PPM.

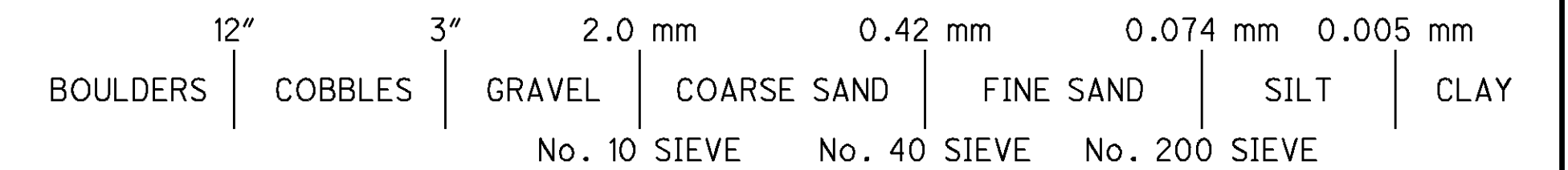
LEGEND		ODOT CLASS	CLASSIFIED MECH./VISUAL	
DESCRIPTION				
	COARSE AND FINE SAND	A-3a (0)	1	1
	GRAVEL AND/OR STONE FRAGS. WITH SAND & SILT	A-2-4 (0)	2	5
	GR. AND/OR ST. FRAGS. WITH SAND, SILT & CLAY	A-2-6	-	2
	SANDY SILT	A-4a (4)	18	102
	SILT AND CLAY	A-6a (7)	20	34
	SILTY CLAY	A-6b (10)	10	20
	CLAY	A-7-6 (14)	1	4
	TOTAL		52	168
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	TOTAL		
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	TOTAL		
	BORING LOCATION - PLAN VIEW.			
	DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
WC	INDICATES WATER CONTENT IN PERCENT.			
N ₆₀	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.			
X/Y/D"	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR 6 INCHES (UNCORRECTED). Y/D"= NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.			
	INDICATES STATIC WATER ELEVATION.			
	INDICATES FREE WATER ELEVATION.			
●	INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.			
*	INDICATES A SAMPLE TAKEN WITHIN 3 FT OF PROPOSED GRADE.			
SS	INDICATES A SPLIT SPOON SAMPLE.			
ST	INDICATES A SHELBY TUBE SAMPLE.			
NP	INDICATES A NON-PLASTIC SAMPLE.			



LOCATION MAP
SCALE IN MILES



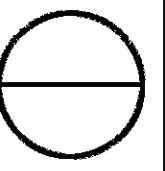
PARTICLE SIZE DEFINITIONS



INDEX OF SHEETS					
SUMMARY OF SOIL TEST DATA, SHEETS 3 & 4.					
LOCATION FROM STA. TO STA.	PLAN VIEW SHEET	PROFILE SHEET	STRUCTURES INCLUDED		
			BRIDGE NO.	SFN	
S.R. 310					
12+00 22+40	5	5			
22+40 28+00	6	7	LIC-310-0096	4505646 (E)	
28+00 39+20	8	8			
39+20 50+00	9	9			
RAMP A					
0+00 10+90	10	10			
RAMP B					
4+53.12 14+77.40	11	11			
RAMP C					
0+00 7+46	12	12			
RAMP D					
4+53.04 14+63.65	13	13			
	14	14	LIC-310-0134	4505654 (E)	
BORING LOGS, SHEETS 15 - 24.					

RECON. -
 DRILLING - BARR & PREVOST 08/09/14 - 08/15/14
 DRILLING - STANTEC 08/12/14 - 08/14/14
 DRAWN - BKL 09/15
 REVIEWED - ST 09/15

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EXPLORATION FINDINGS (CONT.)

LIC-310-0096:

THE STRUCTURE FOUNDATION EXPLORATION FOR THE REPLACEMENT OF LIC-310-0096 OVER I.R.70 ENCOUNTERED PREDOMINATELY COHESIVE SOILS. B-004 AND B-008 ENCOUNTERED SILT AND CLAY (A-6A) AND SILTY CLAY (A-6B) SOIL PLACED AS EMBANKMENT FILL IN STIFF TO VERY STIFF CONSISTENCY AND DAMP TO MOIST CONDITION. NATURAL SOIL ENCOUNTERED BY ALL THE BORINGS WAS SANDY SILT (A-4A) IN MEDIUM STIFF TO STIFF CONSISTENCY NEAR THE GROUND SURFACE BECOMING VERY STIFF TO HARD WITH DEPTH. THE BORINGS ENCOUNTERED ISOLATED LAYERS OF GRANULAR MATERIALS AND OCCASIONAL COBBLES. ORGANIC LAYERS WITH ROOTS WERE ENCOUNTERED IN B-004 AND B-007 AT ELEVATION 1075.4 FEET AND ELEVATION 1068.0 FEET, RESPECTIVELY. STATIC WATER WAS ENCOUNTERED IN ALL THE STRUCTURE EXPLORATION BORINGS RANGING IN ELEVATION FROM 1068.7 TO 1067.4 FEET.

LIC-310-0134:

BORING B-013-0-14 WAS ADVANCED TO A DEPTH OF 41.5 FEET FOR THE REPLACEMENT OF THE CULVERT STRUCTURE. THIS BORING ENCOUNTERED ALTERNATING COHESIVE AND NON-COHESIVE SOILS. BENEATH THE PAVEMENT. THE BORING FIRST ENCOUNTERED SANDY SILT (A-4A) IN MEDIUM STIFF TO STIFF CONSISTENCY AND MOIST CONDITION TO ELEVATION 1037.7 FEET. GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT IN LOOSE TO DENSE COMPACTNESS AND DAMP TO MOIST CONDITION WAS ENCOUNTERED FROM ELEVATION 1037.7 TO 1024.8 FEET AT WHICH TIME A SANDY SILT LAYER IN STIFF TO VERY STIFF CONSISTENCY AND DAMP CONDITION WAS ENCOUNTERED. FROM ELEVATION 1014.8 TO 1008.8 FEET, COARSE AND FINE SAND (A-3A) IN MEDIUM DENSE TO DENSE COMPACTNESS AND WET CONDITION WAS ENCOUNTERED. THE BORING WAS THEN TERMINATED IN A VERY STIFF SANDY SILT. FREE WATER WAS REPORTED AT ELEVATION 1037.3 FEET.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED AUGUST 2013.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE OR THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1980 WEST BROAD STREET.

jutz1

21-SEP-2015 1:42PM

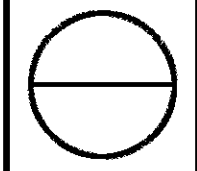
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SOIL PROFILE
EXPLORATION NOTES (CONT.)

LIC-310-0.74

2 / 24



SUMMARY OF SOIL TEST DATA
S.R. 310

EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N60	% REC	HP	tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GT)	ppm SO ₄
B-001-0-14 STA. 12+00, 15' LT. LATITUDE = 39.945192 LONGITUDE = -82.681789	00.00 - 01.50	SS-1	23	61	-	-	-	-	-	-	SAME AS SS-2	38	15	23	11	A-6b (VISUAL) *	<100
	02.50 - 04.00	SS-2	7	94	-	-	29	15	8	25	23	38	15	23	20	A-6b (7)	
	05.00 - 06.50	SS-3	7	100	-	-	-	-	-	-	SAME AS SS-2	-	-	-	21	A-6b (VISUAL)	
	07.50 - 09.00	SS-4	8	100	-	-	-	-	-	-	SAME AS SS-5	-	-	-	17	A-6a (VISUAL)	
	10.00 - 11.50	SS-5	24	100	-	-	18	12	14	33	23	24	11	13	13	A-6a (5)	
B-002-0-14 STA. 16+40, 28' RT. LATITUDE = 39.946386 LONGITUDE = -82.682055	01.00 - 02.50	SS-1	14	67	-	-	16	8	15	34	27	31	15	16	14	A-6b (8) *	187
	02.50 - 04.00	SS-2	32	94	-	-	18	10	13	32	27	31	17	14	10	A-6a (6)	
	05.00 - 06.50	SS-3	11	56	-	-	-	-	-	SAME AS SS-2	-	-	-	-	12	A-6a (VISUAL)	
	07.50 - 09.00	SS-4	8	28	-	-	-	-	-	SAME AS SS-2	-	-	-	-	21	A-6a (VISUAL)	
	10.00 - 11.50	SS-5	17	61	-	-	-	-	-	SAME AS SS-2	-	-	-	-	20	A-6a (VISUAL)	
B-003-0-14 STA. 20+01, 32' LT. LATITUDE = 39.947327 LONGITUDE = -82.682513	01.00 - 02.50	SS-1	11	39	-	-	-	-	-	SAME AS SS-2	-	-	-	-	8	A-6b (VISUAL) *	<100
	02.50 - 04.00	SS-2	24	94	-	-	9	6	11	38	36	35	15	20	20	A-6b (12) *	
	05.00 - 06.50	SS-3	13	67	-	-	-	-	-	SAME AS SS-2	-	-	-	-	19	A-6b (VISUAL)	
	07.50 - 09.00	SS-4	16	89	-	-	8	6	9	41	36	34	13	21	20	A-6b (12)	
	10.00 - 11.50	SS-5	27	89	-	-	-	-	-	SAME AS SS-4	-	-	-	-	18	A-6b (VISUAL)	
FOR BORINGS B-004-0-14 THROUGH B-008-0-14 SEE THE BORING LOGS ON SHEETS 15 TO 23.																	
B-009-0-14 STA. 13+97, 23' LT. LATITUDE = 39.950089 LONGITUDE = -82.682498	00.00 - 01.50	SS-1	16	72	-	-	-	-	-	SAME AS SS-2	-	-	-	-	10	A-6a (VISUAL)	340
	02.50 - 04.00	SS-2	17	100	-	-	10	9	13	38	30	29	17	12	13	A-6a (7)	
	05.00 - 06.50	SS-3	25	72	-	-	-	-	-	SAME AS SS-2	-	-	-	-	13	A-6a (VISUAL)	
	07.50 - 09.00	SS-4	35	100	-	-	10	8	13	38	31	30	17	13	16	A-6a (8)	
	10.00 - 11.50	SS-5	24	100	-	-	-	-	-	SAME AS SS-4	-	-	-	-	15	A-6a (VISUAL)	
B-010-0-14 STA. 1+99, 1' RT. LATITUDE = 39.950537 LONGITUDE = -82.682991	01.00 - 02.50	SS-1	6	33	-	-	-	-	-	SAME AS SS-3	-	-	-	-	9	A-6b (VISUAL) *	<100
	02.50 - 04.00	SS-2	10	22	-	-	-	-	-	SAME AS SS-3	-	-	-	-	11	A-6b (VISUAL)	
	05.00 - 06.50	SS-3	21	56	-	-	15	8	12	36	29	31	14	17	13	A-6b (9)	
	07.50 - 09.00	SS-4	18	89	-	-	14	7	13	40	26	27	13	14	15	A-6a (8)	
	10.00 - 11.50	SS-5	25	72	-	-	-	-	-	SAME AS SS-4	-	-	-	-	13	A-6a (VISUAL)	
B-011-0-14 STA. 36+01, 34' LT. LATITUDE = 39.951723 LONGITUDE = -82.682880	01.00 - 02.50	SS-1	13	44	-	-	-	-	-	SAME AS SS-2	-	-	-	-	16	A-6a (VISUAL) *	300
	02.50 - 04.00	SS-2	17	67	-	-	9	7	13	39	32	30	17	13	12	A-6a (8)	
	05.00 - 06.50	SS-3	17	67	-	-	-	-	-	SAME AS SS-2	-	-	-	-	24	A-6a (VISUAL)	
	07.50 - 09.00	SS-4	14	72	-	-	6	8	13	40	33	29	17	12	18	A-6a (8)	
	10.00 - 11.50	SS-5	16	72	-	-	-	-	-	SAME AS SS-4	-	-	-	-	15	A-6a (VISUAL)	
B-012-0-14 STA. 40+00, 21' RT. LATITUDE = 39.952806 LONGITUDE = -82.682583	01.00 - 02.50	SS-1	11	61	-	-	-	-	-	SAME AS SS-2	-	-	-	-	11	A-4a (VISUAL) *	<100
	02.50 - 04.00	SS-2	8	94	-	-	1	5	27	43	24	27	17	10	19	A-4a (6)	
	05.00 - 06.50	SS-3	18	67	-	-	-	-	-	SAME AS SS-2	-	-	-	-	14	A-6a (VISUAL)	
	07.50 - 09.00	SS-4	24	100	-	-	13	9	14	38	26	25	13	12	11	A-6a (7)	
	10.00 - 11.50	SS-5	18	100	-	-	-	-	-	SAME AS SS-4	-	-	-	-	13	A-6a (VISUAL)	
B-013-0-14 STA. 44+02, 11' LT. LATITUDE = 39.953913 LONGITUDE = -82.682593	01.50 - 03.00	SS-1	6	78	-	-	12	9	15	44	20	26	17	9	18	A-4a (6) *	<100
	05.00 - 06.50	SS-2	8	94	-	-	-	-	-	SAME AS SS-1	-	-	-	-	21	A-4a (VISUAL)	
	07.50 - 09.00	SS-3	11	100	-	-	-	-	-	SAME AS SS-1	-	-	-	-	12	A-4a (VISUAL)	
	10.00 - 11.50	SS-4	14	67	-	-	-	-	-	SAME AS SS-6	-	-	-	-	19	A-2-4 (VISUAL)	
	12.50 - 13.10	ST-5	ST	0	-	-	-	-	-	SAME AS SS-5	-	-	-	-	16	A-2-4 (VISUAL)	
	15.00 - 16.50	SS-6	32	78	-	-	60	15	8	12	5	21	11	10	10	A-2-4 (0)	
	17.50 - 19.00	SS-7	17	100	-	-	-	-	-	SAME AS SS-6	-	-	-	-	11	A-2-4 (VISUAL)	
	20.00 - 21.50	SS-8	25	56	-	-	-	-	-	SAME AS SS-6	-	-	-	-	14	A-2-4 (VISUAL)	
	22.50 - 24.00	SS-9	23	100	-	-	-	-	-	SAME AS SS-6	-	-	-	-	13	A-4a (2)	
	25.00 - 26.50	SS-10	17	72	-	-	28	12	13	28	19	23	13	10	13	A-4a (VISUAL)	
	27.50 - 29.00	SS-11	21	22	-	-	-	-	-	SAME AS SS-9	-	-	-	-	15	A-4a (VISUAL)	
	30.00 - 31.50	SS-12	14	67	-	-	-	-	-	SAME AS SS-9	-	-	-	-	15	A-4a (VISUAL)	
	32.50 - 34.00	SS-13	34	67	-	-	18	25	42	10	5	NP	NP	NP	19	A-3a (0)	
35.00 - 36.50	SS-14	23	100	-	-	-	-	-	SAME AS SS-13	-	-	-	-	12	A-3a (VISUAL)		
37.50 - 39.00	SS-15	28	89	-	-	14	17	16	35	18	19	14	5	12	A-4a (4)		
40.00 - 41.50	SS-16	20	100	-	-	-	-	-	SAME AS SS-15	-	-	-	-	15	A-4a (VISUAL)		
B-014-0-14 STA. 47+98, 9' RT. LATITUDE = 39.954999 LONGITUDE = -82.682499	01.00 - 02.50	SS-1	13	17	-	-	-	-	-	-	-	-	-	-	1	A-2-6 (VISUAL) *	3027
	02.50 - 04.00	SS-2	6	22	-	-	-	-	-	-	-	-	-	-	6	A-2-6 (VISUAL)	
	05.00 - 06.50	SS-3	18	67	-	-	15	8	14	36	27	25	16	9	14	A-4a (6)	
	07.50 - 09.00	SS-4	49	89	-	-	11	10	15	37	27	25	13	12	14	A-4a (VISUAL)	
10.00 - 11.50	SS-5	21	89	-	-	-	-	-	-	-	-	-	-	10	A-6a (7)		

SUMMARY OF SOIL TEST DATA

RAMP A

EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N60	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GT)	ppm SO ₄
B-008-3-14 STA. 5+95, 2' RT. LATITUDE = 39.949632 LONGITUDE = -82.683736	01.00 - 02.50 02.50 - 04.00 05.00 - 06.50 07.50 - 09.00 10.00 - 11.50	SS-1 SS-2 SS-3 SS-4 SS-5	20 13 23 20 16	89 67 72 78 89	- - - - -	- - 13 4 -	- - 4 9 -	- - 9 38 -	- - 38 36 -	- - 36 38 -	- - 15 23 -	- - 15 23 -	- - 23 23 -	5 8 18 15 17	A-6b (VISUAL) * A-6b (VISUAL) * A-6b (VISUAL) A-6b (13) A-6b (VISUAL)	<100
B-008-1-14 STA. 9+97, 2' RT. LATITUDE = 39.949157 LONGITUDE = -82.685004	01.00 - 02.50 02.50 - 04.00 05.00 - 06.50 07.50 - 09.00 10.00 - 11.50	SS-1 SS-2 SS-3 SS-4 SS-5	10 14 14 13 14	44 72 89 17 100	- - - - -	27 8 -	8 12 -	12 -	30 23 -	23 28 -	13 28 -	13 28 -	15 15 -	9 17 20 20 23	A-6a (VISUAL) * A-6a (6) A-6b (VISUAL) A-6b (VISUAL) A-6b (9)	447

SUMMARY OF SOIL TEST DATA

RAMP B

EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N60	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GT)	ppm SO ₄
B-006-3-14 STA. 6+00, 23' LT. LATITUDE = 39.948876 LONGITUDE = -82.680192	00.00 - 01.50 02.50 - 04.00 05.00 - 06.50 07.50 - 09.00 10.00 - 11.50	SS-1 SS-2 SS-3 SS-4 SS-5	18 31 25 13 8	67 72 100 78 100	- - - - -	17 13 9 -	13 9 -	14 15 -	32 36 -	24 24 -	28 26 -	12 14 -	16 12 -	14 8 13 13 16	A-6b (VISUAL) * A-6b (7) * A-6a (6) A-6a (VISUAL) A-6a (VISUAL)	380
B-008-2-14 STA. 10+00, 3' RT. LATITUDE = 39.949509 LONGITUDE = -82.681367	01.00 - 02.50 02.50 - 04.00 05.00 - 06.50 07.50 - 09.00 10.00 - 11.50	SS-1 SS-2 SS-3 SS-4 SS-5	16 8 18 13 17	67 89 72 67 89	- - - - -	19 6 -	6 13 -	13 -	36 36 -	26 28 -	28 -	16 -	12 -	8 8 10 18 20	A-6a (VISUAL) * A-6a (VISUAL) A-6a (6) A-6a (VISUAL) A-6a (VISUAL)	580

SUMMARY OF SOIL TEST DATA

RAMP C

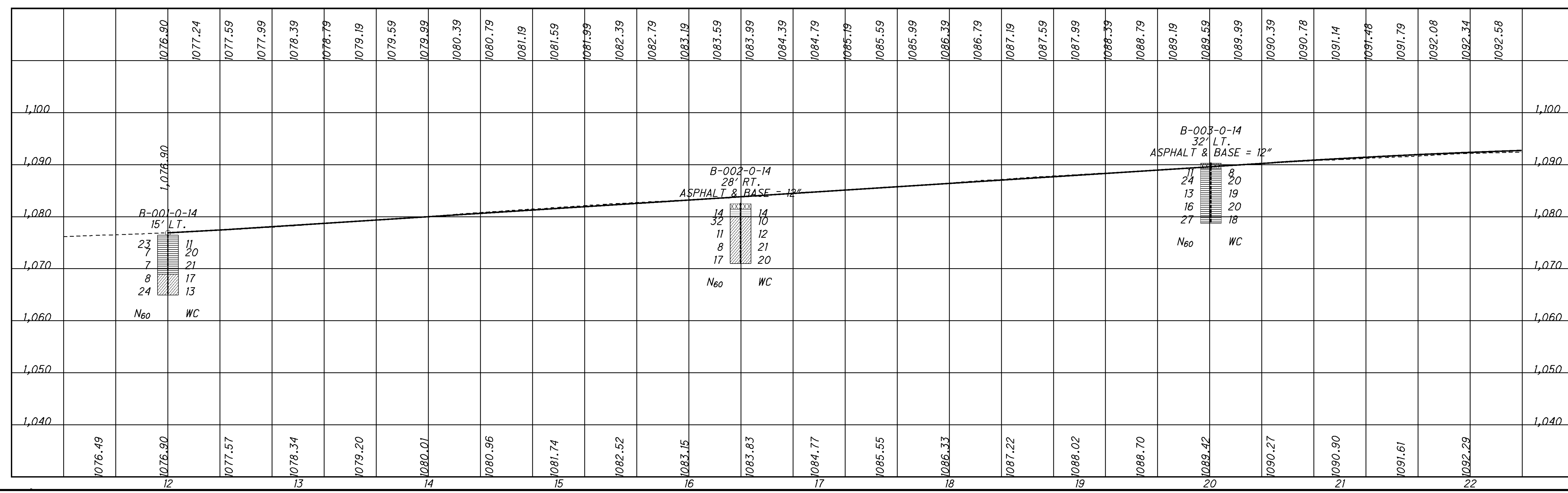
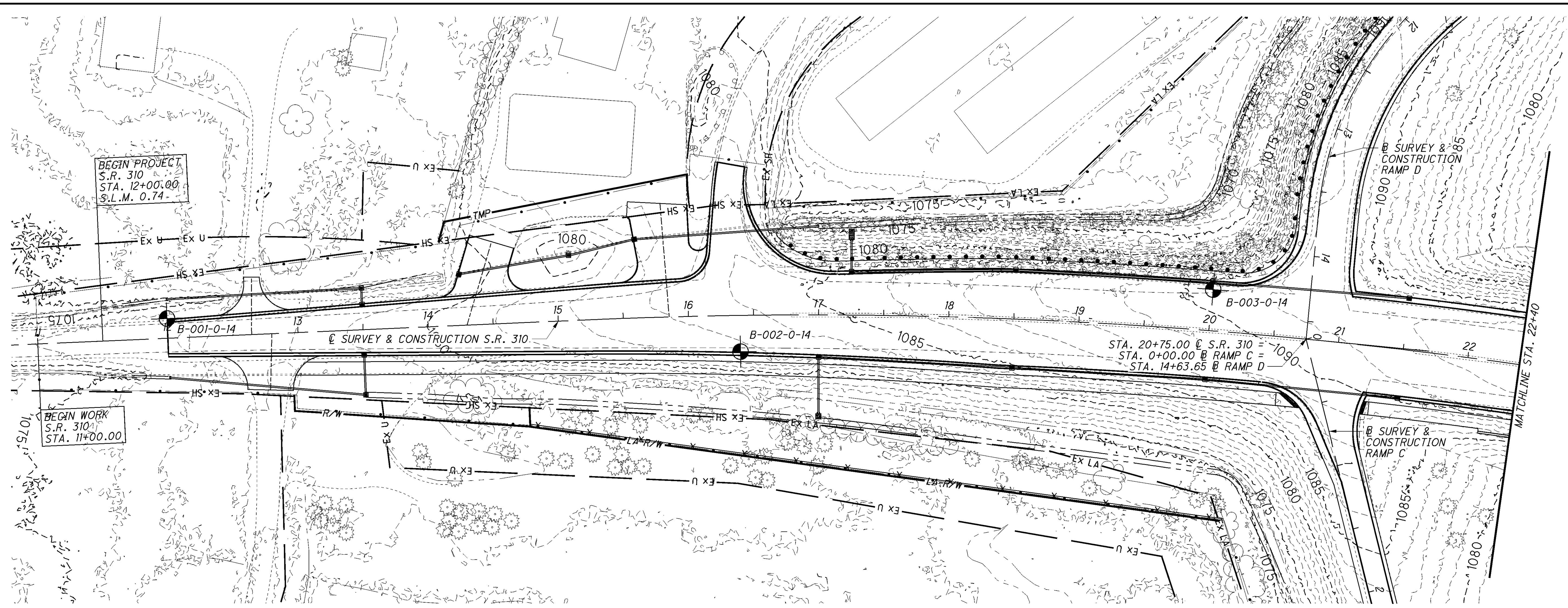
EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N60	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GT)	ppm SO ₄
B-003-2-14 STA. 4+00, 7' RT. LATITUDE = 39.948021 LONGITUDE = -82.681156	00.00 - 01.50 02.50 - 04.00 05.00 - 06.50 07.50 - 09.00 10.00 - 11.50	SS-1 SS-2 SS-3 SS-4 SS-5	30 16 16 23 18	67 94 100 89 89	- - - - -	5 -	5 -	9 -	45 -	36 -	32 -	15 -	17 -	8 13 14 14 14	A-6b (VISUAL) * A-6b (11) * A-6b (VISUAL) A-6a (VISUAL) A-6a (5)	1113
B-004-1-14 STA. 7+44, 10' RT. LATITUDE = 39.948262 LONGITUDE = -82.679993	00.00 - 01.50 02.50 - 04.00 05.00 - 06.50 07.50 - 09.00 10.00 - 11.50	SS-1 SS-2 SS-3 SS-4 SS-5	34 24 11 14 11	78 67 78 28 67	- - - - -	42 14 -	15 14 -	12 14 -	18 35 -	13 23 -	23 23 -	14 12 -	9 11 -	6 12 11 12 11	A-2-4 (0) * A-2-4 (VISUAL) A-6a (5) A-6a (VISUAL) A-6a (VISUAL)	1047

SUMMARY OF SOIL TEST DATA

RAMP D

EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N60	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GT)	ppm SO ₄
B-004-2-14 STA. 6+00, 7' RT. LATITUDE = 39.948454 LONGITUDE = -82.685150	00.00 - 01.50 02.50 - 04.00 05.00 - 06.50 07.50 - 09.00 10.00 - 11.50	SS-1 SS-2 SS-3 SS-4 SS-5	24 20 23 14 35	67 72 89 94 44	- - - - -	4 -	3 -	14 -	38 -	41 -	42 -	18 -	24 -	9 12 16 14 16	A-7-6 (VISUAL) * A-7-6 (14) A-7-6 (VISUAL) A-7-6 (VISUAL) A-7-6 (VISUAL)	1093
B-003-1-14 STA. 10+00, 22' LT. LATITUDE = 39.947976 LONGITUDE = -82.683868	00.00 - 01.50 02.50 - 04.00 05.00 - 06.50 07.50 - 09.00 10.00 - 11.50	SS-1 SS-2 SS-3 SS-4 SS-5	14 28 18 17 18	28 100 89 100 100	- - - - -	8 -	8 -	15 -	37 -	32 -	31 -	17 -	14 -	13 12 11 16 17	A-6a (VISUAL) * A-6a (VISUAL) * A-6a (8) A-6a (VISUAL) A-6a (VISUAL)	<100

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HORIZONTAL SCALE IN FEET

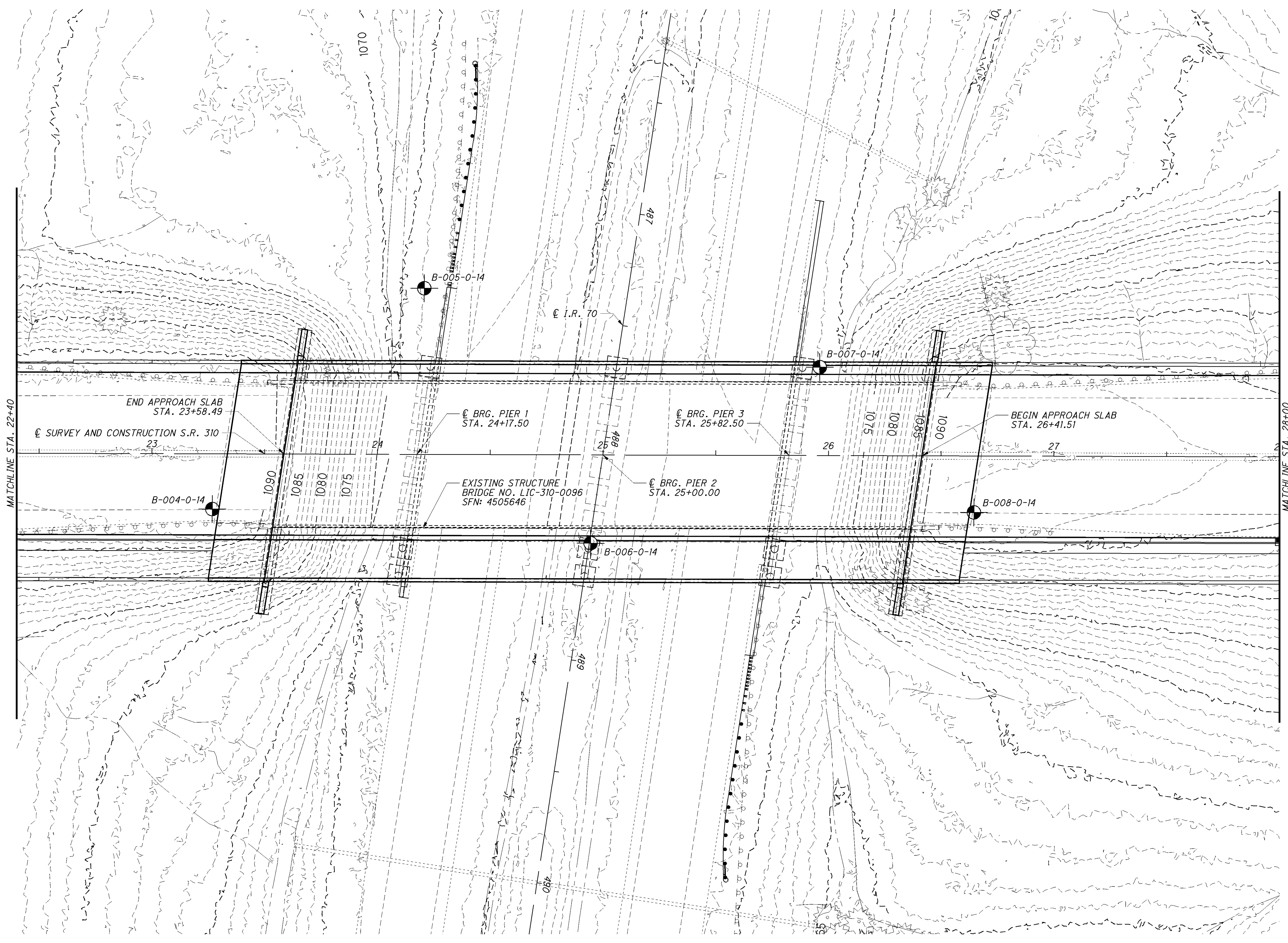
SOIL PROFILE

STA. 12+00 TO STA. 22+40 S.R. 310

DRAWN: BKL
CHECKED: ST

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21-SEP-2015 1:36PM jutzl



DRAWN: BKL
 CHECKED: ST

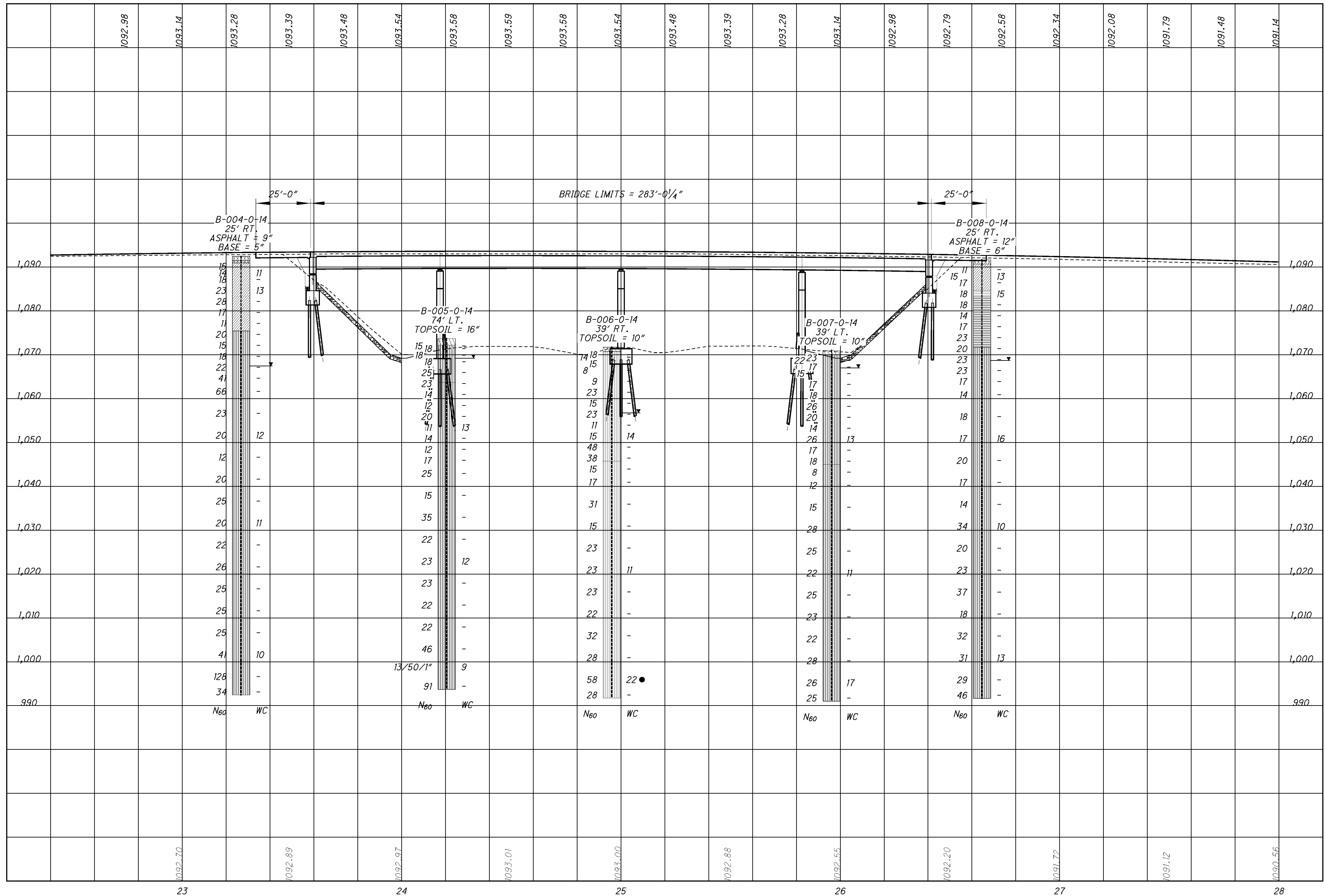
0 10 20 40
 HORIZONTAL SCALE IN FEET

N

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. LIC-310-0096 OVER I.R. 70

LIC-310-0.74

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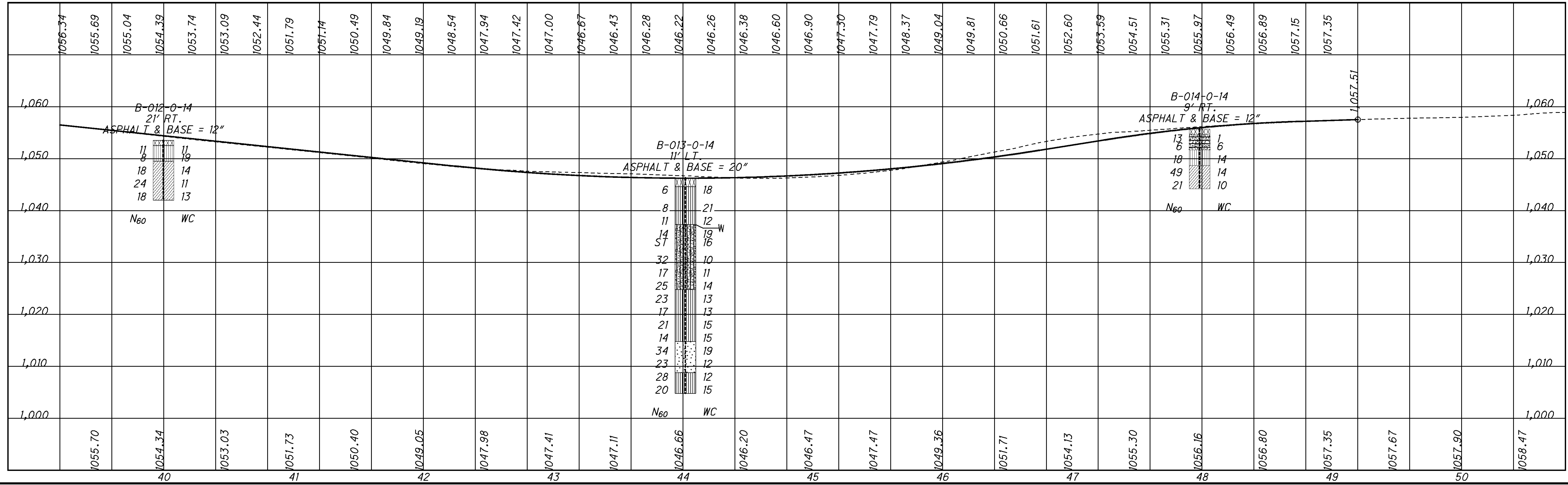
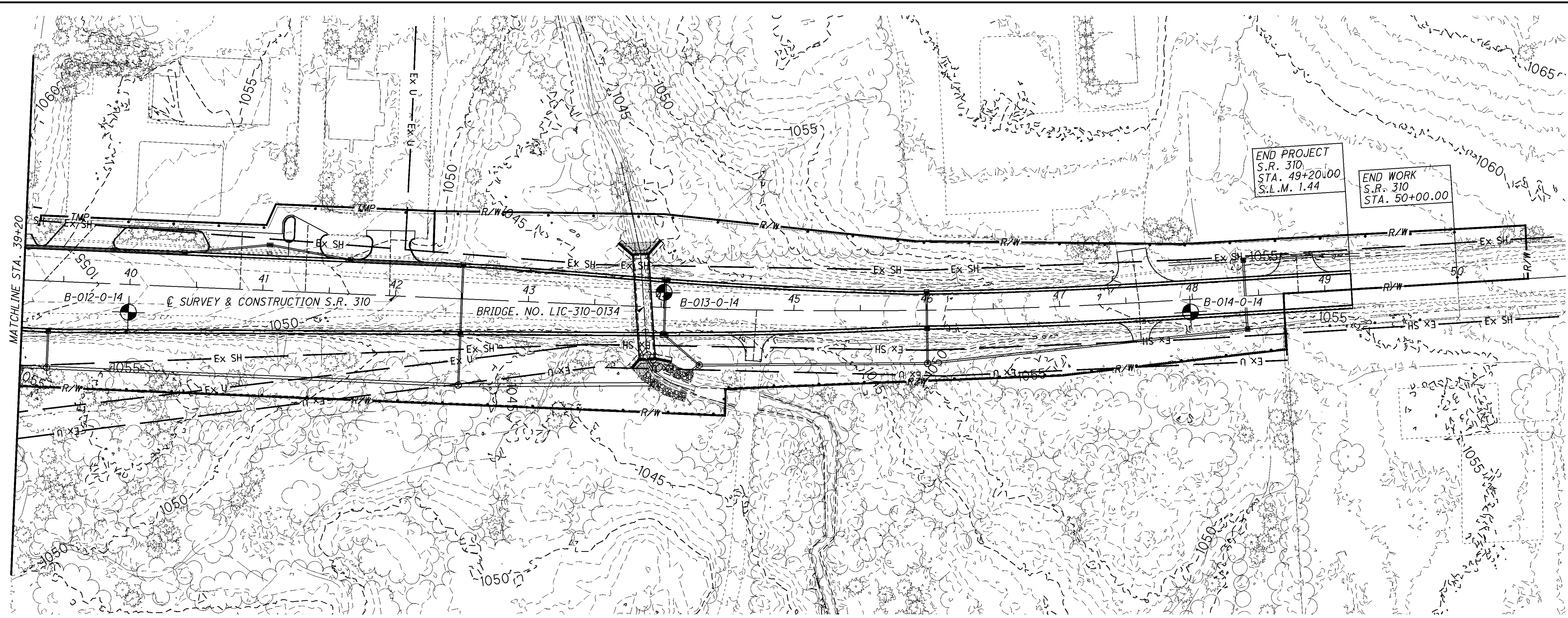
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BKL

CHECKED
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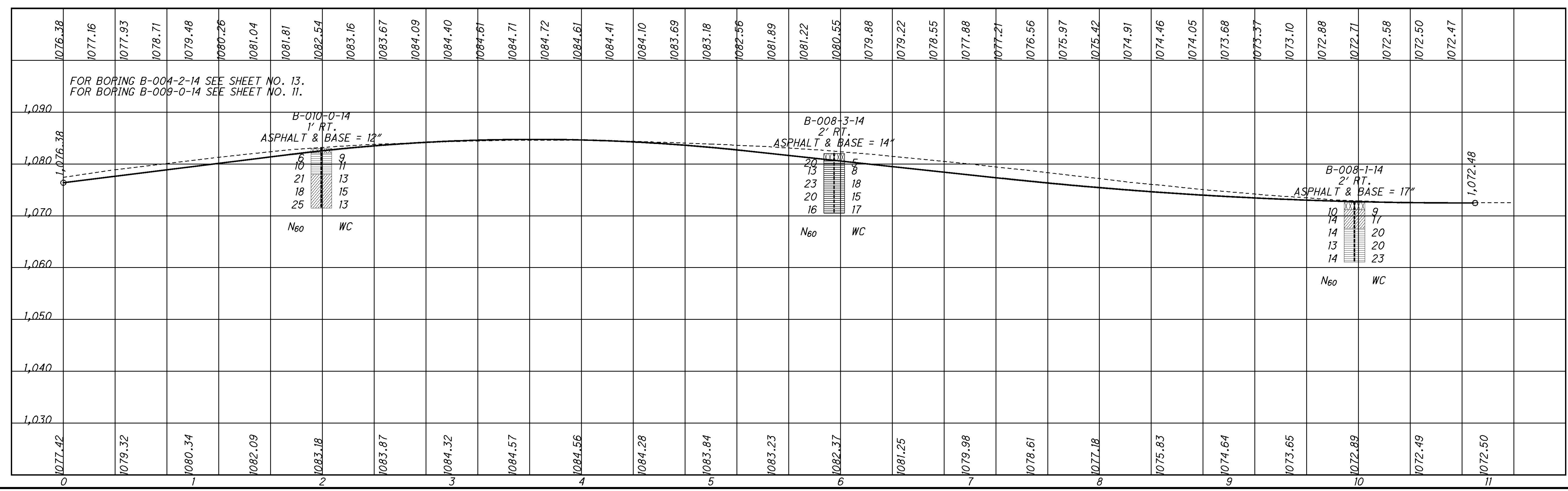
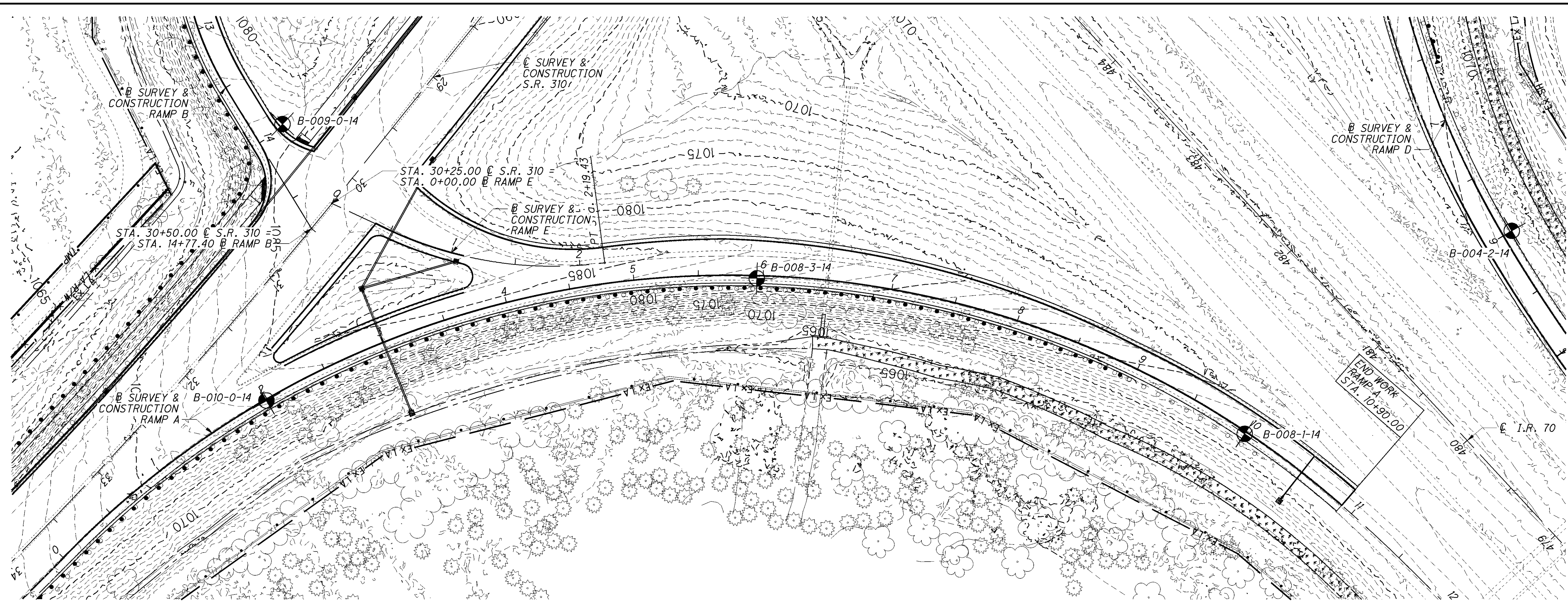
0 10 20 40
HORIZONTAL
SCALE IN FEET

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. LIC-310-0096 OVER I.R. 70

LIC-310-0.74



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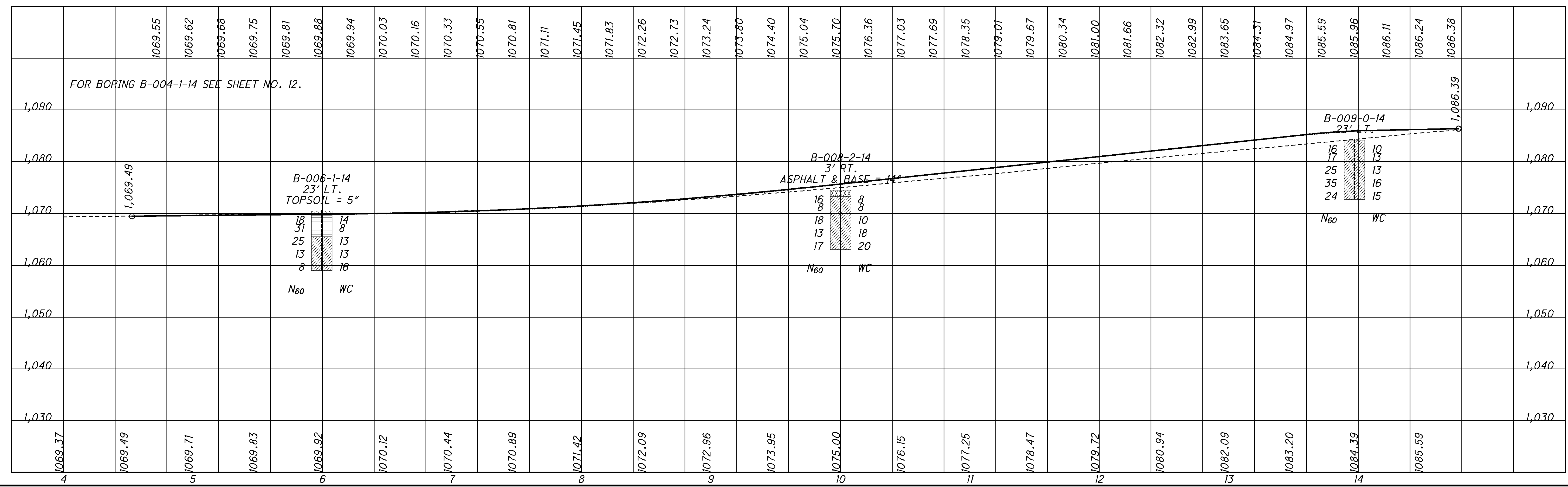
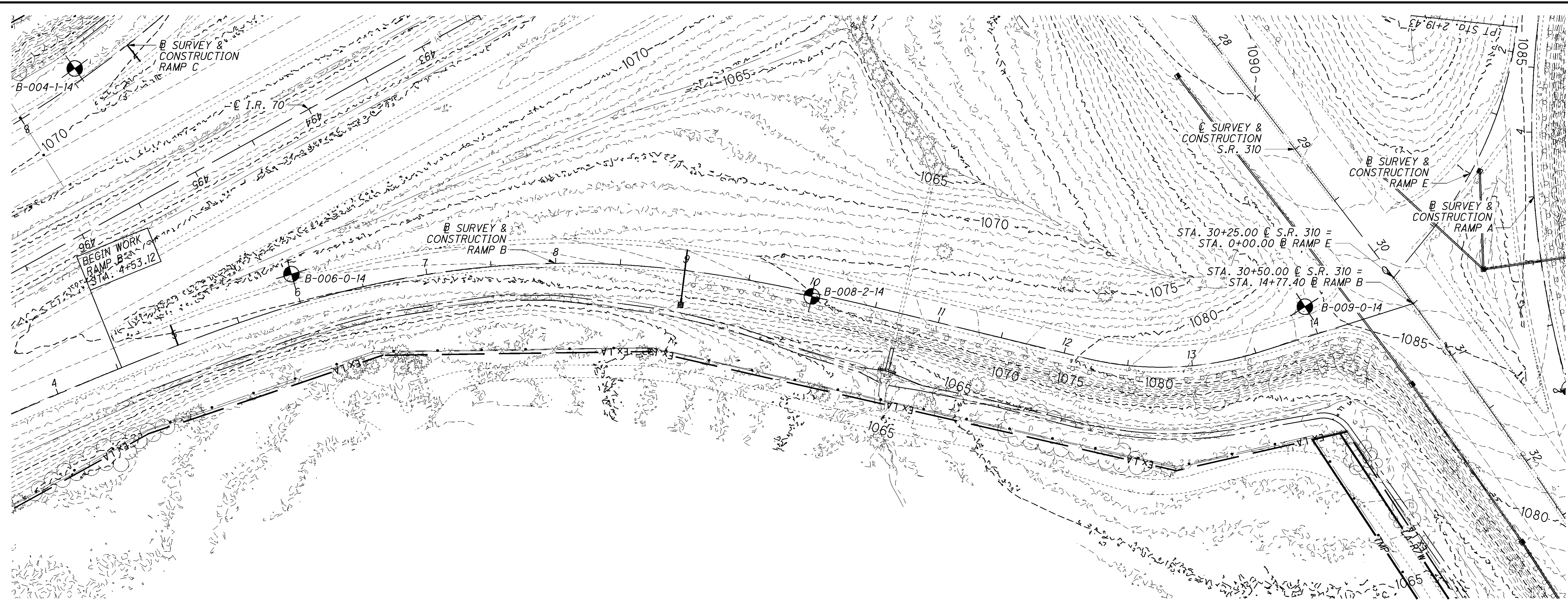
SOIL PROFILE
STA. 0+00 TO STA. 10+90 RAMP A

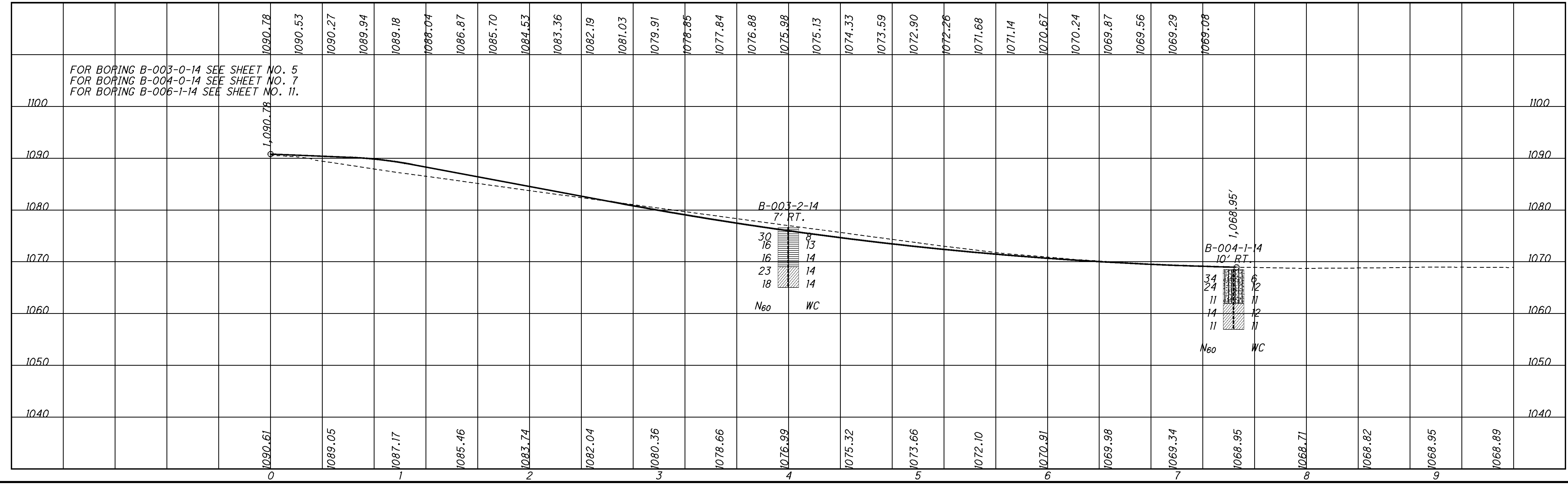
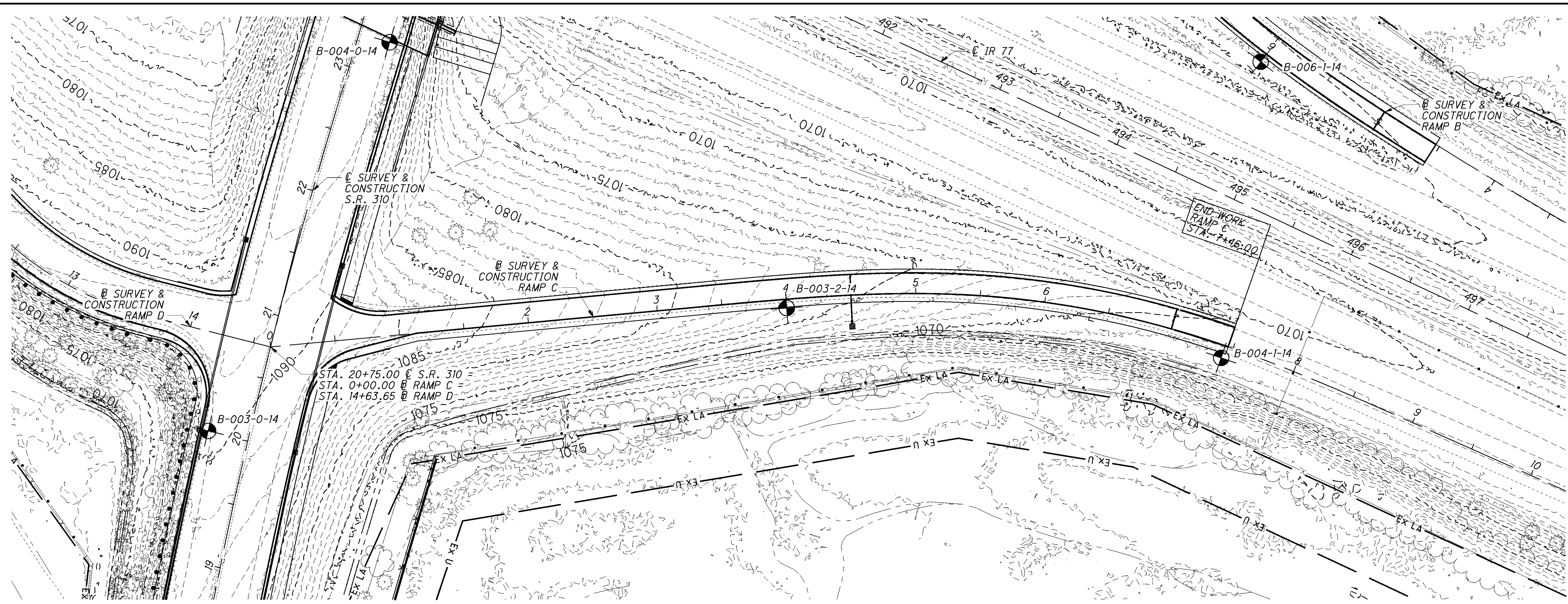
LIC-310-0.74

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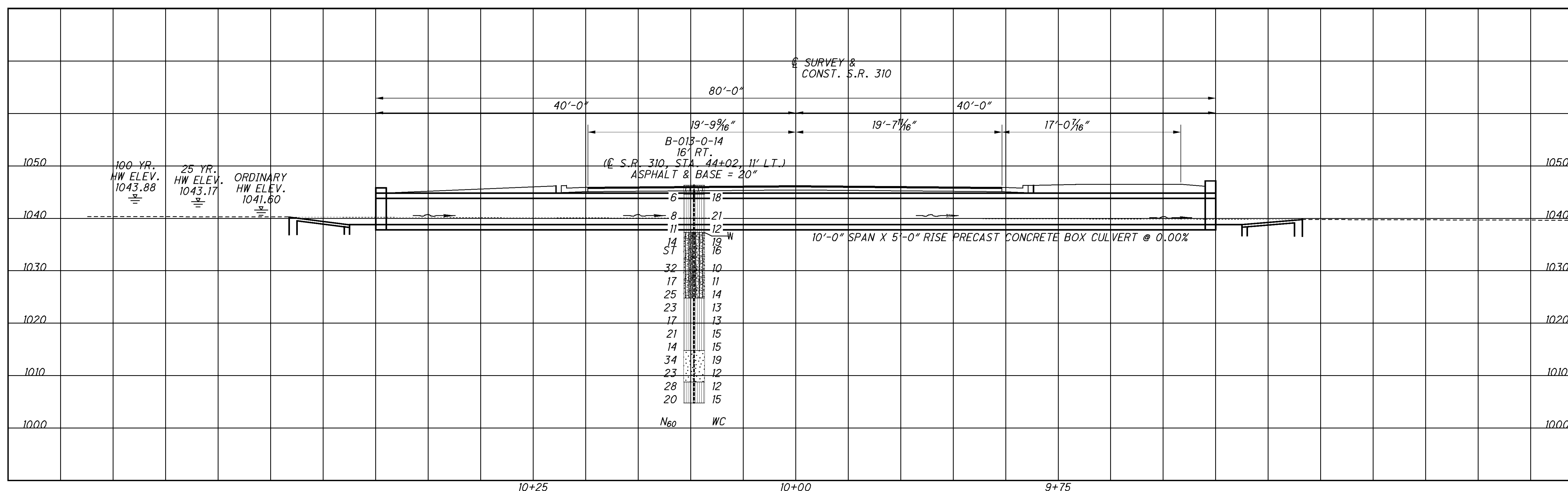
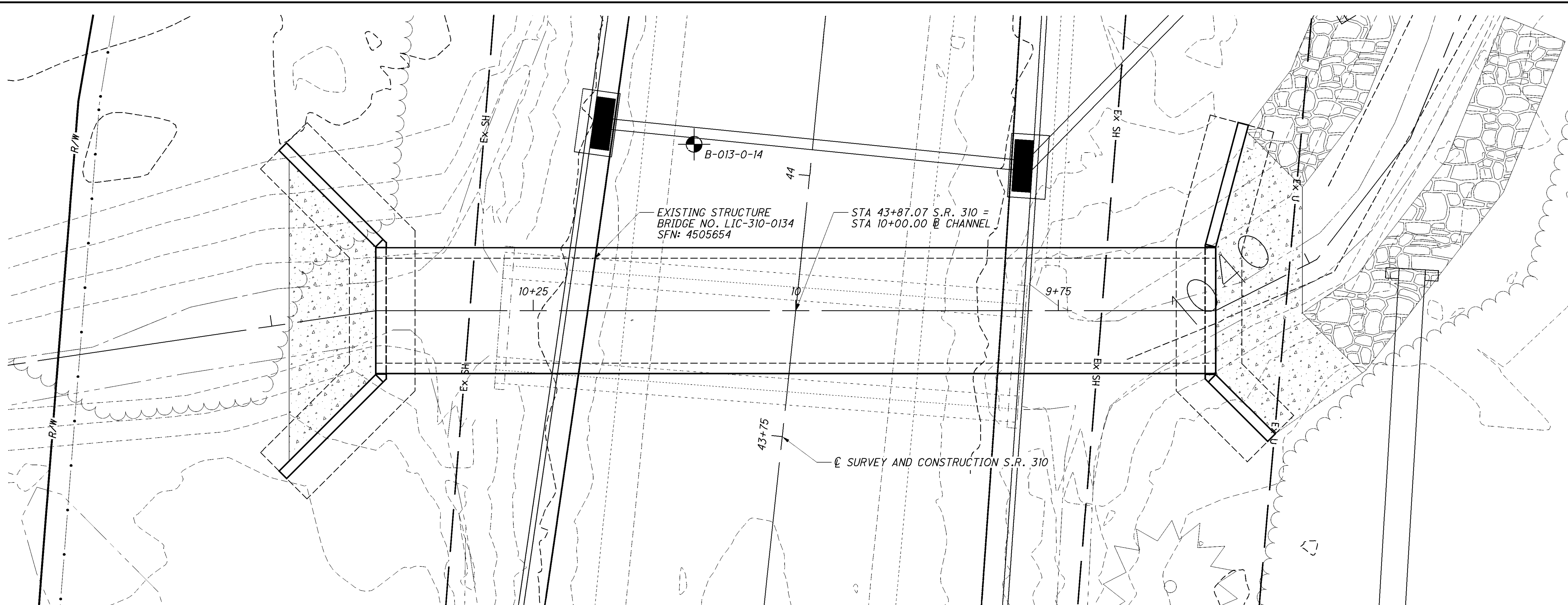
DRAWN: BKJ
CHECKED: ST

0 20 40 80
HORIZONTAL SCALE IN FEET





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PROJECT: LIC-310-00.74 DRILLING FIRM / OPERATOR: BARR & PRE / PATRICK DRILL RIG: MOBILE 58 - TRUCK STATION / OFFSET: 23+27, 25' RT. EXPLORATION ID: B-004-0-14
 TYPE: STRUCTURE FOUNDATION SAMPLING FIRM / LOGGER: BARR/PRE / K. TURNER HAMMER: MOBILE AUTOMATIC ALIGNMENT: SR 310
 PID: 87935 SFN: 4505646 (E) DRILLING METHOD: 4.25" HSA CALIBRATION DATE: 1/1/14 ELEVATION: 1092.4 (MSL) EOB: 100.0 ft. PAGE: 1 OF 2
 START: 8/9/14 END: 8/15/14 ENERGY RATIO (%): 92.2 LAT / LONG: 39.948235, -82.682442

DEPTH	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				WC	HOLE CLASS (GI)	HOLE SEALED
					GR	CS	FS	SI	CL	LL	PL	PI			
1															
2	3	15	67	SS-1											
3	4														
4	5	14	83	SS-2	14	11	12	36	27	28	14	14			A-6a (V)
5	5														
6	3	18	89	SS-3											A-6a (V)
7	5														
8	4	23	100	SS-4	13	8	14	34	31	30	16	14			A-6a (8)
9	4														
10	15	28	22	SS-5											A-6a (V)
11	10														
12	5	17	89	SS-6											A-6a (V)
13	6														
14	5														
15	3	11	89	SS-7											A-6a (V)
16	3														
17	6	20	100	SS-8											A-4a (V)
18	6														
19	7														
20	3	15	100	SS-9											A-4a (V)
21	5														
22	3	18	100	SS-10											A-4a (V)
23	4														
24	3														
25	5	22	100	SS-11											A-4a (V)
26	6														
27	6														
28	12	41	100	SS-12											A-4a (V)
29	15														
30	30	66	33	SS-13											A-4a (V)
31	28														
32	15														
33															
34															
35	5	23	78	SS-14											A-4a (V)
36	7														
37	8														
38															
39															
40	5	20	89	SS-15	44	8	8	24	16	23	15	8			A-4a (1)
41	6														
42	7														
43															
44															
45	5	12	78	SS-16											A-4a (V)
46	4														
47	4														
48															
49															
50	3	20	72	SS-17											A-4a (V)
51	6														
52	7														
53															
54															
55	6	25	100	SS-18											A-4a (V)
56	7														
57	9														
58															
59															

ASPHALT - 97' BASE - 5"

(FILL) STIFF TO HARD, MOTTLED BROWN AND GRAY, SILT AND CLAY (A-6A), TRACE GRAVEL, DAMP

STIFF TO HARD, GRAY, SANDY SILT (A-4A), LITTLE GRAVEL, DAMP TO MOIST @ 17' - SLIGHTLY ORGANIC MATERIAL (ROOTS)

PID: 87935	SFN: 4505646 (E)	PROJECT: LIC-310-00.74	STATION / OFFSET: 23+27, 25' RT.	START: 8/9/14		END: 8/15/14		PG 2 OF 2		B-004-0-14					
				GR	CS	FS	SI	CL	LL		PL	PI	WC		
MATERIAL DESCRIPTION AND NOTES			REC SAMPLE ID	HP (tsf)	GRADATION (%)			ATTERBERG		ODOT CLASS (GI)	HOLE SEALED				
STIFF TO HARD, GRAY, SANDY SILT (A-4A), LITTLE GRAVEL, DAMP TO MOIST (continued)			SS-19	-	GR	CS	FS	SI	CL	LL	PL	PI	WC	CLASS (GI)	SEALED
SPT/ RQD	N ₆₀	REC (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	CLASS (GI)	SEALED	
4 6 7	20	94	SS-19	-	20	11	15	31	23	25	14	11	11	A-6a (4)	
4 7 7	22	78	SS-20	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
4 7 10	26	100	SS-21	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
4 7 9	25	100	SS-22	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
5 7 9	25	100	SS-23	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
4 6 10	25	100	SS-24	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
6 10 17	41	100	SS-25	-	15	17	20	30	18	19	13	6	10	A-4a (3)	
12 33 50	128	100	SS-26	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
4 10 12	34	100	SS-27	-	-	-	-	-	-	-	-	-	-	A-4a (V)	

@ 90' - LITTLE GRAVEL
 @ 91' - 1.5" THICK SAND SEAM
 @ 95' - HARD

992.4

EOB

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BENTONITE CHIPS

PROJECT: LIC-310-00.74 DRILLING FIRM / OPERATOR: BARR & PRE / PATRICK DRILL RIG: MOBILE 58 - TRUCK STATION / OFFSET: 24+21.74' LT. EXPLORATION ID: B-005-0-14
 TYPE: STRUCTURE FOUNDATION SAMPLING FIRM / LOGGER: BARR/PRE / K. TURNER HAMMER: MOBILE AUTOMATIC ALIGNMENT: SR 310
 PID: 87935 SFN: 4505646 (E) DRILLING METHOD: 4.25" HSA CALIBRATION DATE: 1/1/14 ELEVATION: 1071.0 (MSL) EOB: 80.0 ft. PAGE: 1 OF 2
 START: 8/9/14 END: 8/15/14 SAMPLING METHOD: SPT ENERGY RATIO (%): 92.2 LAT / LONG: 39.948468, -82.682805

DEPTH	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				WC	HOLE CLASS (GI)	HOLE SEALED	
					CS	FS	SI	CL	LL	PL	PI					
1	2	5	15	100	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
2	3	6	18	89	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
3	3	5	18	78	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
4	5	5	18	100	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
5	5	7														
6																
7	4	7	25	100	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
8	4	7	25	100	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
9																
10	3	7	23	100	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
11																
12																
13	3	4	14	100	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
14																
15	3	3	12	100	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
16																
17																
18	4	6	20	61	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
19																
20	4	3	11	78	-	-	-	-	-	-	-	-	-	-	-	A-4a (2)
21																
22																
23	4	4	14	22	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
24																
25	2	3	12	22	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
26																
27	4	5	17	11	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
28																
29																
30																
31	4	7	25	78	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
32																
33																
34																
35																
36	5	1	15	78	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
37																
38																
39																
40																
41	8	9	35	100	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
42																
43																
44																
45	4	6	22	89	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
46																
47																
48																
49																
50	5	7	23	100	-	-	-	-	-	-	-	-	-	-	-	A-4a (5)
51																
52																
53																
54																
55	3	7	23	100	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
56																
57																
58																
59																

TOPSOIL - 16"

MEDIUM STIFF TO STIFF, MOTTLED BROWN AND GRAY, SANDY SILT (A-4A), DAMP

STIFF TO HARD, GRAY, SANDY SILT (A-4A), SOME GRAVEL, DAMP TO MOIST

@ 21' - 4" THICK SILTY SAND SEAM

@ 41' - THIN SAND SEAM

@ 50' - LITTLE GRAVEL

PROJECT: LIC-310-00.74 DRILLING FIRM / OPERATOR: BARR & PRE / PATRICK DRILL RIG; MOBILE 58 - TRUCK STATION / OFFSET: 24+95, 39' RT. EXPLORATION ID B-006-0-14
 TYPE: STRUCTURE FOUNDATION SAMPLING FIRM / LOGGER: BARR/PRE / K. TURNER HAMMER: MOBILE AUTOMATIC ALIGNMENT: SR 310
 PID: 87935 SFN: 4505646 (E) DRILLING METHOD: 4.25" HSA CALIBRATION DATE: 1/1/14 ELEVATION: 1071.7 (MSL) EOB: 80.0 ft. PAGE 1 OF 2
 START: 8/9/14 END: 8/15/14 SAMPLING METHOD: SPT ENERGY RATIO (%): 92.2 LAT / LONG: 39.948697, -82.682443

SPT/ RQD	N ₆₀	REC SAMPLE ID (%)	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (GI)	HOLE SEALED	
				CS	FS	SI	CL	LL	PL	PI					
4	18	56	SS-1	-	-	-	-	-	-	-	-	-	-	-	-
3	14	100	SS-2	-	-	-	-	-	-	-	-	-	-	-	-
4	15	78	SS-3	-	-	-	-	-	-	-	-	-	-	-	-
2	8	78	SS-4	-	-	-	-	-	-	-	-	-	-	-	-
2	9	89	SS-5	-	-	-	-	-	-	-	-	-	-	-	-
3	23	100	SS-6	-	-	-	-	-	-	-	-	-	-	-	-
4	15	100	SS-7	-	-	-	-	-	-	-	-	-	-	-	-
3	23	100	SS-8	-	-	-	-	-	-	-	-	-	-	-	-
3	11	100	SS-9	-	-	-	-	-	-	-	-	-	-	-	-
3	15	100	SS-10	-	-	-	-	-	-	-	-	-	-	-	-
12	48	33	SS-11	-	-	-	-	-	-	-	-	-	-	-	-
7	38	67	SS-12	-	-	-	-	-	-	-	-	-	-	-	-
3	15	22	SS-13	-	-	-	-	-	-	-	-	-	-	-	-
3	17	100	SS-14	-	-	-	-	-	-	-	-	-	-	-	-
5	31	100	SS-15	-	-	-	-	-	-	-	-	-	-	-	-
1	15	28	SS-16	-	-	-	-	-	-	-	-	-	-	-	-
5	23	100	SS-17	-	-	-	-	-	-	-	-	-	-	-	-
5	23	100	SS-18	-	-	-	-	-	-	-	-	-	-	-	-
4	23	100	SS-19	-	-	-	-	-	-	-	-	-	-	-	-

DEPTHS	ELEV.
1	1071.7
2	1070.7
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	1045.7
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
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45	
46	
47	
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51	
52	
53	
54	
55	
56	
57	
58	
59	

TOPSOIL - 10"
 MEDIUM STIFF TO STIFF, MOTTLED BROWN AND GRAY, SANDY SILT (A-4A), TRACE GRAVEL, DAMP

STIFF TO HARD, GRAY, SANDY SILT (A-4A), SOME GRAVEL, DAMP TO MOIST

PID: 87935	SFN: 4505646 (E)	PROJECT: LIC-310-00.74	STATION / OFFSET: 24+21.74' LT.	START: 8/9/14										END: 8/15/14			PG 2 OF 2	B-005-0-14	
				GRADATION (%)					ATTERBERG					WC	HOLE CLASS (GI)	SEAL			
MATERIAL DESCRIPTION AND NOTES		ELEV. 1011.0	DEPTHS	SPT/RQD	REC (%)	N ₆₀	HP (tsf)	GR	CS	FS	SI	CL	LL				PL	PI	
STIFF TO HARD, GRAY, SANDY SILT (A-4A), SOME GRAVEL, DAMP TO MOIST (continued)		1011.0	61	4	100	22	-	-	-	-	-	-	-	-	-	-			
			62																
			63																
			64																
			65																
			66																
			67																
			68																
			69																
			70																
@ 70' TO 80' - LIMESTONE COBBLES		1011.0	71	17	61	46	-	-	-	-	-	-	-	-	-	-			
			72																
			73																
			74																
			75																
			76																
			77																
			78																
			79																
			80																
@ 75' - SOME GRAVEL		991.0	75	13	100	50	-	24	12	15	30	19	20	13	7	9			
			76																
			77																
			78																
			79																
			80																

NOTES: NONE
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BENTONITE CHIPS

PID: 87935	SFN: 4505646 (E)	PROJECT: LIC-310-00.74	STATION / OFFSET: 24+95.39' RT.	START: 8/9/14										END: 8/15/14			PG 2 OF 2	B-006-0-14	
				GRADATION (%)					ATTERBERG					WC	HOLE CLASS (GI)	SEAL			
MATERIAL DESCRIPTION AND NOTES		ELEV. 1011.7	DEPTHS	SPT/RQD	REC (%)	N ₆₀	HP (tsf)	GR	CS	FS	SI	CL	LL				PL	PI	
STIFF TO HARD, GRAY, SANDY SILT (A-4A), SOME GRAVEL, DAMP TO MOIST (continued)		1011.7	61	5	100	22	-	-	-	-	-	-	-	-	-	-			
			62																
			63																
			64																
			65																
			66																
			67																
			68																
			69																
			70																
@ 75' - LITTLE GRAVEL		991.7	71	4	100	28	-	-	-	-	-	-	-	-	-	-			
			72																
			73																
			74																
			75																
			76																
			77																
			78																
			79																
			80																

NOTES: NONE
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BENTONITE CHIPS

PROJECT: LIC-310-00.74 DRILLING FIRM / OPERATOR: BARR & PRE / PATRICK DRILL RIG: MOBILE 58 - TRUCK STATION / OFFSET: 25+96, 39' LT. EXPLORATION ID B-007-0-14
 TYPE: STRUCTURE FOUNDATION SAMPLING FIRM / LOGGER: BARR/PRE / K. TURNER HAMMER: MOBILE AUTOMATIC ALIGNMENT: SR 310
 PID: 87935 SFN: 4505646 (E) DRILLING METHOD: 4.25" HSA CALIBRATION DATE: 1/1/14 ELEVATION: 1071.0 (MSL) EOB: 80.0 ft. PAGE 1 OF 2
 START: 8/9/14 END: 8/15/14 SAMPLING METHOD: SPT ENERGY RATIO (%): 92.2 LAT / LONG: 39.948956, -82.682753

SPT/RQD	N ₆₀	REC SAMPLE ID (%)	HP (tsf)	GRADATION (%)				ATTERBERG			WC	HOLE CLASS (GI)	HOLE SEALED
				CS	FS	SI	CL	LL	PL	PI			
5	7	23	89	SS-1	-	-	-	-	-	-	-	-	
5	7	22	100	SS-2	-	-	-	-	-	-	-	A-4a (V)	
4	5	17	100	SS-3	-	-	-	-	-	-	-	A-4a (V)	
3	4	15	89	SS-4	-	-	-	-	-	-	-	A-4a (V)	
4	5	17	33	SS-5	-	-	-	-	-	-	-	A-4a (V)	
2	5	18	61	SS-6	-	-	-	-	-	-	-	A-4a (V)	
5	7	26	100	SS-7	-	-	-	-	-	-	-	A-4a (V)	
4	6	20	89	SS-8	-	-	-	-	-	-	-	A-4a (V)	
2	3	14	94	SS-9	-	-	-	-	-	-	-	A-4a (V)	
2	10	26	61	SS-10	-	14	11	15	35	24	15	9	A-4a (5)
3	5	17	11	SS-11	-	-	-	-	-	-	-	-	A-4a (V)
3	5	18	78	SS-12	-	-	-	-	-	-	-	-	A-4a (V)
2	2	8	89	SS-13	-	-	-	-	-	-	-	-	A-4a (V)
2	4	12	100	SS-14	-	-	-	-	-	-	-	-	A-4a (V)
3	5	15	100	SS-15	-	-	-	-	-	-	-	-	A-4a (V)
7	9	28	67	SS-16	-	-	-	-	-	-	-	-	A-4a (V)
4	7	25	100	SS-17	-	-	-	-	-	-	-	-	A-4a (V)
4	6	22	100	SS-18	-	17	12	16	33	22	14	11	A-6a (4)
5	8	25	100	SS-19	-	-	-	-	-	-	-	-	A-4a (V)

DEPTHS	ELEV.
1	1071.0
2	1070.0
3	1070.0
4	1070.0
5	1070.0
6	1070.0
7	1070.0
8	1070.0
9	1070.0
10	1070.0
11	1070.0
12	1070.0
13	1070.0
14	1070.0
15	1070.0
16	1070.0
17	1070.0
18	1070.0
19	1070.0
20	1070.0
21	1070.0
22	1070.0
23	1070.0
24	1070.0
25	1070.0
26	1070.0
27	1070.0
28	1070.0
29	1070.0
30	1070.0
31	1070.0
32	1070.0
33	1070.0
34	1070.0
35	1070.0
36	1070.0
37	1070.0
38	1070.0
39	1070.0
40	1070.0
41	1070.0
42	1070.0
43	1070.0
44	1070.0
45	1070.0
46	1070.0
47	1070.0
48	1070.0
49	1070.0
50	1070.0
51	1070.0
52	1070.0
53	1070.0
54	1070.0
55	1070.0
56	1070.0
57	1070.0
58	1070.0
59	1070.0

MATERIAL DESCRIPTION AND NOTES

TOPSOIL - 10"

MEDIUM STIFF TO STIFF, MOTTLED BROWN AND GRAY, SANDY SILT (A-4A), LITTLE GRAVEL, DAMP

@ 3' - BLACK ORGANIC LAYER (ROOTS)

1045.0

STIFF TO HARD, GRAY, SANDY SILT (A-4A), LITTLE GRAVEL, DAMP TO MOIST

NEW BORING LOG (11 X 17) - OH DOT.GDT - 9/16/15 08:47 - I:\GTPROJECTS\ID05\LICKING\LIC-310-0.74\GEOTECHNICAL\LAB DATA\LIC-310.GPJ

PID: 87935	SFN: 4505646 (E)	PROJECT: LIC-310-00.74	STATION / OFFSET: 25+96.39' LT.	START: 8/9/14	END: 8/15/14	PG 2 OF 2		B-007-0-14								
						WC	PL									
MATERIAL DESCRIPTION AND NOTES		ELEV. 1011.0	DEPTHS	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)			ATTERBERG			HOLE CLASS (GI)	HOLE SEALED		
STIFF TO HARD, GRAY, SANDY SILT (A-4A), LITTLE GRAVEL, DAMP TO MOIST (continued)							GR	CS	FS	SI	CL	LL			PL	WC
					61	4	100	-	-	-	-	-	-	-	-	-
			62	7	23											
			63	8												
			64													
			65													
			66	4	78	-	-	-	-	-	-	-	-	-	-	A-4a (V)
			67	6	22											
			68	8												
			69													
			70													
			71	5	61	-	-	-	-	-	-	-	-	-	-	A-4a (V)
			72	8	28											
			73	10												
			74													
			75													
			76	5	67	-	-	-	-	-	-	-	-	-	-	A-4a (5)
			77	8	26											
			78	9												
			79													
			80	4	89	-	-	-	-	-	-	-	-	-	-	A-4a (V)
		991.0	EOB	7	25											

NOTES: NONE
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BENTONITE CHIPS

PROJECT: LIC-310-00.74 DRILLING FIRM / OPERATOR: BARR & PRE / PATRICK DRILL RIG: MOBILE 58 - TRUCK STATION / OFFSET: 26+65, 25' RT. EXPLORATION ID B-008-0-14
 TYPE: STRUCTURE FOUNDATION SAMPLING FIRM / LOGGER: BARR/PRE / K. TURNER HAMMER: MOBILE AUTOMATIC ALIGNMENT: SR 310
 PID: 87935 SFN: 4505646 (E) DRILLING METHOD: 4.25" HSA CALIBRATION DATE: 1/1/14 ELEVATION: 1091.7 (MSL) EOB: 100.0 ft. PAGE 1 OF 2
 START: 8/9/14 END: 8/15/14 ENERGY RATIO (%): 92.2 LAT / LONG: 39.949159, -82.682546

SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG			WC	HOLE CLASS (GI)	HOLE SEALED
				GR	CS	FS	SI	CL	LL	PL			
1													
2	11	100	SS-1										
3	5												
4	15	78	SS-2	10	9	15	35	31	26	15	11	A-6a (7)	
5	6	17	SS-3									A-6a (V)	
6	5												
7	18	67	SS-4	9	7	14	38	32	33	16	17	A-6b (10)	
8	7												
9													
10	18	78	SS-5									A-6b (V)	
11	7												
12	4	14	SS-6									A-6b (V)	
13	5												
14													
15	17	89	SS-7									A-6b (V)	
16	4												
17	7												
18	23	100	SS-8									A-6b (V)	
19	8												
20	20	22	SS-9									A-4a (V)	
21	7												
22	7												
23	23	100	SS-10									A-4a (V)	
24	8												
25	23	100	SS-11									A-4a (V)	
26	7												
27	3	17	SS-12									A-4a (V)	
28	5												
29	6												
30													
31	14	100	SS-13									A-4a (V)	
32	4												
33													
34													
35	18	100	SS-14									A-4a (V)	
36	6												
37													
38													
39													
40	17	100	SS-15	7	12	13	39	29	26	17	9	A-4a (7)	
41	6												
42													
43													
44													
45	20	89	SS-16									A-4a (V)	
46	8												
47													
48													
49													
50													
51	17	67	SS-17									A-4a (V)	
52	7												
53													
54													
55	14	100	SS-18									A-4a (V)	
56	5												
57													
58													
59													

ASPHALT - 12" BASE - 6"
 (FILL) MEDIUM STIFF TO STIFF, MOTTLED BROWN AND GRAY, SILT AND CLAY (A-6A), TRACE TO LITTLE GRAVEL, DAMP TO MOIST

(FILL) MEDIUM STIFF TO STIFF, MOTTLED BROWN AND GRAY, SILTY CLAY (A-6B), TRACE GRAVEL, DAMP TO MOIST

STIFF TO VERY STIFF, GRAY, SANDY SILT (A-4A), TRACE TO SOME GRAVEL, DAMP TO MOIST

PROJECT: LIC-310-00.74 TYPE: CULVERT		DRILLING FIRM / OPERATOR: STANTEC / M. MARTIN		DRILL RIG: CME 55 #2 TRUCK HAMMER: CME AUTOMATIC		STATION / OFFSET: 44+02, 11' LT.		EXPLORATION ID: B-013-0-14										
PID: 87935 SFN: 4505654 (E)		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 8/6/14		ALIGNMENT: SR 310		ELEVATION: 1046.3 (MSL) EOB: 41.5 ft.										
START: 8/13/14 END: 8/13/14		SAMPLING METHOD: SPT		ENERGY RATIO (%): 84.6		LAT / LONG: 39.953913, -82.682593		PAGE: 1 OF 1										
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
PAVEMENT AND BASE		1046.3	1															
MEDIUM STIFF, LIGHT GRAY, SANDY SILT, LITTLE CLAY, LITTLE GRAVEL, MOIST		1044.6	2	3	6	78	-	12	9	15	44	20	26	17	9	18	A-4a (6)	
			3															
			4															
			5	2	8	94	-	-	-	-	-	-	-	-	-	21	A-4a (V)	
			6	2	4													
			7															
			8	3	11	100	-	-	-	-	-	-	-	-	-	12	A-4a (V)	
		1037.3	9	3	5													
LOOSE TO MEDIUM DENSE, LIGHT GRAY, GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT, TRACE CLAY, DAMP TO MOIST			10	3	5	67	-	-	-	-	-	-	-	-	-	19	A-2-4 (V)	
			11	5														
			12															
			13			0	-	-	-	-	-	-	-	-	-	16	A-2-4 (V)	
			14															
			15															
			16	9	11	32	78	60	15	8	12	5	21	11	10	10	A-2-4 (0)	
			17	12														
			18	8	6	17	100	-	-	-	-	-	-	-	-	11	A-2-4 (V)	
			19	6														
			20	7	9	25	56	-	-	-	-	-	-	-	-	14	A-2-4 (V)	
		1024.8	21	9														
			22															
			23	7	7	23	100	-	28	12	13	28	19	23	10	13	A-4a (2)	
			24	9														
			25	4	4	17	72	-	-	-	-	-	-	-	-	13	A-4a (V)	
			26	5	7													
			27															
			28	5	8	21	22	-	-	-	-	-	-	-	-	15	A-4a (V)	
			29	7														
			30	2	4	14	67	-	-	-	-	-	-	-	-	15	A-4a (V)	
		1014.8	31	6														
			32															
MEDIUM DENSE, GRAY, COARSE AND FINE SAND, TRACE CLAY, LITTLE SILT, LITTLE GRAVEL, WET			33	11	14	34	67	-	18	25	42	10	5	NP	NP	19	A-3a (0)	
			34	10														
			35	7	8	23	100	-	-	-	-	-	-	-	-	12	A-3a (V)	
			36	8														
			37															
			38	9	10	28	89	-	14	17	16	35	18	19	14	5	A-4a (4)	
			39	10														
			40	6	8	20	100	-	-	-	-	-	-	-	-	15	A-4a (V)	
		1004.8	41	6														

NOTES: NONE
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS

NEW BORING LOG (11 X 17) - OH DOT.GDT - 9/16/15 08:52 - I:\GTPROJECTS\ID05\LICKING\LIC-310-0.74\GEO\TECHNICAL\LAB DAT\17\534013 SUBSURFACE LOGS.GPJ

UTILITIES

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ITEM 621, RAISED PAVEMENT MARKER REMOVED

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE PLANS TO REMOVE RAISED PAVEMENT MARKERS FOR DISPOSAL BY THE CONTRACTOR. RPM REMOVAL SHALL NOT OCCUR SOONER THAN 10 DAYS PRIOR TO RESURFACING OF THE ROADWAY. ALL RPM'S REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

NOTIFICATION OF ROAD CLOSURE OR RESTRICTION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF TWENTY ONE (21) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (614) 887-4510 OR EMAIL AT D05.PIO@DOT.STATE.OH.US

DISTRICT PERMIT SECTION BY FAX AT (614) 887-4525 OR EMAIL AT BRIAN.BOSCH@DOT.STATE.OH.US

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.STATE.OH.US

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

PAVEMENT MARKING

STOP LINES, CROSSWALK LINES, CHANNELIZING LINES, ETC., SHOWN IN THE PLANS ARE TAKEN FROM EXISTING MARKINGS. THE CONTRACTOR SHALL DOCUMENT ALL OF THE EXISTING PAVEMENT MARKING LOCATIONS THAT WILL BE REMOVED/OBLITERATED DURING THIS PROJECT. THE CONTRACTOR SHALL PLACE NEW PAVEMENT MARKINGS AT THE LOCATION OF THE EXISTING MARKINGS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. DOCUMENTATION OF PAVEMENT MARKING SHALL BE SUPPLIED TO THE ENGINEER BEFORE COMMENCEMENT OF ANY OPERATION WHICH WILL REMOVE/OBLITERATE MARKINGS. THE METHOD OF DOCUMENTATION SHALL BE APPROVED BY THE ENGINEER IN ORDER TO PROVIDE AN ACCEPTABLE TOLERANCE BETWEEN THE EXISTING AND PROPOSED PAVMENT MARKINGS.

ITEM 209, PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH ACCORDING TO 209.06 OF THE CMS.

PRIOR TO PAVING THE SAFETY EDGE, GRADE AN AREA 10 INCHES WIDE, BEGINNING AT THE EDGE OF THE PAVED ROADWAY, TO PROVIDE A LEVEL SURFACE FREE OF VEGETATION FOR CONSTRUCTION OF THE SAFETY EDGE. IF NECESSARY, EXCAVATE THE GRADED AREA TO THE DEPTH NECESSARY TO CONSTRUCT THE SAFETY EDGE. COMPACT THE GRADED SHOULDER ACCORDING TO 617.05, OR AS DIRECTED BY THE ENGINEER.

IN ADDITION TO PREPARING THE SHOULDER FOR PAVING, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE FROM THE ROADWAY SURFACE TO THE SHOULDER BREAK, THE EXISTING ROADWAY SHOULDERS SHALL BE GRADED AND SHAPED USING A GRADER OF ADEQUATE SIZE TO PERFORM THE WORK TO THE SATISFACTION OF THE ENGINEER. ALL LINEAR GRADING WORK BEYOND THE 10 INCH WIDE STRIP FOR THE SAFETY EDGE, SHALL BE DONE BEFORE PLACING THE ASPHALT SURFACE COURSE.

ALL EXCESS MATERIAL REMAINING AROUND GUARDRAIL AND OTHER AREAS AFTER THE GRADER WORK IS COMPLETED AND NOT DISPOSED OF ON THE SITE, SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. ALL EQUIPMENT, LABOR, OR INCIDENTALS REQUIRED TO COMPLETE THIS ITEM SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR ITEM 209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN.

THIS WORK MAY BE INTERMITTENT AND SPREAD THROUGHOUT THE PROJECT LIMITS, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL ONLY BE PAID FOR INTERSECTIONS AND GAPS IF THEY ARE WITHIN THE LIMITS OF A SECTION MARKED BY THE ENGINEER FOR GRADING.

ITEM 253, PAVEMENT REPAIR

AN ESTIMATED QUANTITY FOR PAVEMENT REPAIR HAS BEEN INCLUDED IN THE PLAN TO BE USED AS DIRECTED BY THE ENGINEER. REPAIRS SHALL TAKE PLACE PRIOR TO THE PAVEMENT PLANING OPERATION. THE INTENT OF THIS OPERATION IS TO REPAIR THOSE AREAS OF PAVEMENT WHICH HAVE COMPLETELY FAILED. DEPTH OF EXCAVATION SHALL BE APPROXIMATELY 7". THE MINIMUM WIDTH OF THE REPAIRS SHALL BE 4'.

AFTER EXCAVATION HAS BEEN COMPLETED, THE FACE OF THE REPAIR SHALL BE COATED WITH 407 TACK COAT. REPLACEMENT MATERIAL WILL BE 7" OF ITEM 301 ASPHALT CONCRETE BASE, PG64-22.

REPAIR QUANTITIES MAY BE USED ON MAINLINE PAVEMENT OR ON PAVED SHOULDERS. ALL EXCAVATION, MATERIALS, LABOR, EQUIPMENT, TOOLS, TRAFFIC CONTROL AND INCIDENTALS NEEDED TO COMPLETE THE WORK DESCRIBED ABOVE SHALL BE PAID FOR UNDER ITEM 253 PAVEMENT REPAIR.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE SUB-SUMMARIES FOR THE ABOVE DESCRIBED PURPOSE.

ITEM 253, PAVEMENT REPAIR
LOCATION 1 - 10 CU.YD.
LOCATION 2A - 10 CU.YD.
LOCATION 2B - 20 CU.YD.

ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE

DEPTH OF PLANING SHALL BE 1.25" OR AS SHOWN ON PAVEMENT DATA TABLE. THE ROADWAY SHALL BE PLANED SUCH THAT POSITIVE DRAINAGE IS CREATED FROM THE CENTER LINE TO THE EDGE OF PAVEMENT IN TANGENT SECTIONS AND SHALL FOLLOW EXISTING SUPERELEVATIONS WHERE APPLICABLE. ALL REQUIREMENTS OF ITEM 254 SHALL APPLY.

ITEM SPECIAL, TACK COAT, TRACKLESS TACK
ITEM SPECIAL, TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE

DESCRIPTION: THIS WORK CONSISTS OF PREPARING AND TREATING A PAVED SURFACE WITH A TRACKLESS TACK ASPHALT EMULSION. FURNISH MATERIALS ACCORDING TO THE DEPARTMENT'S APPROVED LIST. MEET ALL REQUIREMENTS OF ITEM 407 TACK COAT IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRED BY THE CONTRACT, EXCEPT AS NOTED BELOW.

MATERIAL: MEET ALL PROPERTIES OF THE APPROVED MANUFACTURER'S TRACKLESS TACK SPECIFICATION REQUIREMENTS ON FILE WITH THE LABORATORY AT TIME OF PLACEMENT.

ACCEPTANCE AND SAMPLING OF MATERIALS: SUPPLY CERTIFIED TEST DATA TO THE ENGINEER AND TO THE DISTRICT LABORATORY DEMONSTRATING THE TRACKLESS TACK SUPPLIED WAS TESTED FOR AND MEETS ALL MATERIAL PROPERTIES SHOWN ON THE DEPARTMENT'S APPROVED LIST. DURING CONSTRUCTION, ODOT PERSONNEL WILL SAMPLE FROM THE DISTRIBUTOR AND SUPPLY TO THE DISTRICT TEST LAB A MINIMUM OF ONE QUART OF TRACKLESS TACK FOR EVERY 25,000 GALLONS USED ON THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE PROPER PLASTIC QUART SAMPLING CONTAINER. CLEARLY MARK ON THE SAMPLE WITH THE MANUFACTURER'S NAME, PROJECT NUMBER, AND THE WORDS "TRACKLESS TACK".

EQUIPMENT: FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR CORRECT DISTRIBUTOR SETTINGS. THOROUGHLY CLEAN ALL EQUIPMENT IF PREVIOUSLY USED MATERIAL CHARGE IS DIFFERENT THAN THE PROPOSED MATERIAL.

APPLICATION OF ASPHALT MATERIAL: UNIFORMLY APPLY THE TRACKLESS TACK WITH A DISTRIBUTOR ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. IF TRACKLESS TACK IS STORED FOR AN EXTENDED PERIOD OF TIME, PRIOR TO APPLICATION, AGITATE OR GENTLY CIRCULATE THE MATERIAL. ENSURE ALL NOZZLES AND SPRAY PATTERNS ARE IDENTICAL TO ONE ANOTHER ALONG THE DISTRIBUTOR SPRAY BAR. PLACE THE ANGLE OF THE NOZZLE AT A 15 TO 30 DEGREE ANGLE TO THE SPRAY BAR AXIS TO MAXIMIZE OVERLAP OR AS RECOMMENDED BY THE NOZZLE MANUFACTURER. CONTACT THE MANUFACTURER'S REPRESENTATIVE FOR REQUIRED SPRAY NOZZLE SIZE AND DISTRIBUTOR AND NOZZLE SETTINGS. APPLY AT A RATE OF 0.04 TO 0.1 GALLONS PER SQUARE YARD. DO NOT DILUTE TRACKLESS TACK. RECOMMENDED APPLICATION TEMPERATURE IS 160 °F TO 180 °F. DO NOT EXCEED 180 °F. THE ENGINEER WILL APPROVE THE QUANTITY, RATE OF APPLICATION, TEMPERATURE, DISTRIBUTOR SETTINGS, AND AREAS TO BE TREATED BEFORE APPLICATION OF THE TRACKLESS TACK COAT. THE ENGINEER WILL DETERMINE THE ACTUAL APPLICATION IN GALLONS PER SQUARE YARD BY A CHECK ON THE PROJECT.

PERFORMANCE OF TRACKLESS TACK: DETERMINE THE TIME TO SET FOR THE MATERIAL TO BECOME TRACKLESS. THE ENGINEER WILL REPORT ANY ISSUES WITH EXCESSIVE TIME TO SET, OR AFTER SET ISSUES WITH STICKINESS, OR PICKUP OF THE TACK TO THE DISTRICT TESTING ENGINEER AND NEW PRODUCT ENGINEER, BRAD YOUNG 614-351-2882. IF THE CERTIFIED TEST DATA FAILS TO MEET THE LAB TESTING CRITERIA, OR FIELD SAMPLES FAIL TO MEET THE LAB TEST CRITERIA, OR THE TRACKLESS TACK FAILS TO PERFORM SATISFACTORILY IN THE FIELD, AS NOTED ABOVE, THE CONTRACTOR WILL BE REQUIRED TO REPLACE AND SUPPLY ANOTHER APPROVED TRACKLESS TACK PRODUCT FOR THE REMAINDER OF THE PROJECT AT NO ADDITIONAL COST TO THE DEPARTMENT. ANY FAILING TRACKLESS TACK PRODUCT WILL BE REMOVED FROM THE DEPARTMENT'S APPROVED LIST.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
SPECIAL	GALLON (LITER)	TACK COAT, TRACKLESS TACK
SPECIAL	GALLON (LITER)	TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE

CALCULATED
LIME
CHECKED
DNM

GENERAL NOTES

FAI / LIC - 310 - 0.00 / 0.00

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ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD FOR ESTIMATING PURPOSES ONLY.

ITEM 407, TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT FOR INTERMEDIATE COURSE SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.05 GALLONS PER SQUARE YARD FOR ESTIMATING PURPOSES ONLY.

ITEM 408, PRIME COAT, AS PER PLAN

THE CONTRACTOR SHALL APPLY ONE COAT OF MC-30 OR MC-70 (AS PER SECTION 702) AT A RATE OF 0.40 GALLON PER SQUARE YARD TO THE COMPLETED AGGREGATE SHOULDER (ITEM 617) AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID BITUMINOUS MATERIAL ONTO THE EDGE OF PAVEMENT OR EDGE LINE. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO 107.10 OF THE SPECIFICATIONS.

MAILBOX TURN OUTS

A QUANTITY OF ASPHALT CONCRETE HAS BEEN PROVIDED IN THE PLAN TO COVER MAILBOX TURN-OUTS. TURN-OUTS SHALL BE PAVED AS SHOWN IN THE DETAIL IN DRAWING BP-4.1. ANY EXTRA GRADING OF THE SHOULDERS, PRIME OR TACK COAT, MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE MAILBOX TURN OUTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEMS LISTED BELOW.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE SUB-SUMMARIES FOR THE ABOVE PURPOSES.

ITEM 202, WEARING COURSE REMOVED

LOCATION 2A - 170 SQ. YD.

ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (448)

LOCATION 2A - 5 CU. YD.

ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG 70-22M

LOCATION 2A - 6 CU. YD.

ITEM 632 DETECTOR LOOP, AS PER PLAN

ALL STOP LINE INDUCTANCE DETECTOR LOOPS SHALL BE THE POWER HEAD CONFIGURATION SHOWN ON TC-82.10. THE WIDTH AND DEPTH SHALL BE AS SPECIFIED ON TC-82.10 AND THE LENGTH SHALL BE 35'. THE STOP LINE DETECTOR LOOPS SHALL NOT BE WIRED TO ANY OTHER LOOPS AND SHALL HAVE ITS OWN DETECTOR CHANNEL. ALL STOP LINE DETECTION SHALL BE TESTED FOR A BICYCLE TARGET AND ALL DILEMMA DETECTION ZONES SHALL BE TESTED FOR A MOTORCYCLE TARGET.

THE CONTRACTOR SHALL TEST ALL LEAD-IN CABLES PRIOR TO MAKING THE FINAL SPLICE. PLACEMENT SHALL BE AS PER SPECIFICATION 632.10.

ITEM 632 DETECTOR LOOP, AS PER PLAN (CONTINUED)

INSTALL 1 STOP BAR POWERHEAD LOOP CENTERED IN THE LEFT TURN, THROUGH AND RIGHT TURN LANES JUST SOUTH OF U.S. 40 (NORTH BOUND DIRECTION). LOCATE LOOPS 2-8 INCHES BEHIND STOP BAR.

ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, TRAFFIC CONTROL AND INCIDENTALS NECESSARY TO PERFORM THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 632, DETECTOR LOOP, AS PER PLAN.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE SUB-SUMMARY FOR THE ABOVE PURPOSES.

**ITEM 632 DETECTOR LOOP, AS PER PLAN
LOCATION 2B - 3 EACH (3-POWERHEAD AT U.S. 40)**

SAFETY EDGE

IN ADDITION TO THE REQUIREMENTS OF 401.12, ATTACH A DEVICE TO THE SCREED OF THE PAVER THAT CONFINES THE MATERIAL AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A COMPACTED WEDGE SHAPE PAVEMENT EDGE OF APPROXIMATELY 30 DEGREES (NOT STEEPER THAN 40 DEGREES). ENSURE THE DEVICE MAINTAINS CONTACT WITH THE EXISTING SURFACE, AND ALLOW FOR AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. DO NOT USE CONVENTIONAL SINGLE PLATE STRIKE OFF.

CONSTRUCTION OF SAFETY EDGE CAN BE OMITTED AT LOCATIONS WHERE EXISTING WIDTH OF GRADED SHOULDER OR BERM IS LESS THAN 12". PROJECTS WITH VARYING CONDITIONS SHOULD USE SAFETY EDGE WHERE POSSIBLE. PLAN PREPARATION HAS MADE EVERY REASONABLE ATTEMPT TO IDENTIFY POSSIBLE SAFETY EDGE LOCATIONS.

USE THE TRANS TECH SHOULDER WEDGE MAKER, THE CARLSON SAFETY EDGE END GATE, THE ADVANT-EDGER, THE TROXLER SAFETASLOPE OR A SIMILAR APPROVED-EQUAL DEVICE THAT PRODUCES THE SAME WEDGE CONSOLIDATION RESULTS. CONTACT INFORMATION FOR THESE WEDGE SHAPE COMPACTION DEVICES IS THE FOLLOWING:

TransTech Systems, Inc.
1594 State Street
Schenectady, NY 12304
1-800-724-6306
www.transtechsys.com

Advant-Edge Paving Equipment, LLC.
P.O. Box 9163
Niskayuna, NY 12309-0163
518-280-6090
www.advantaedgепaving.com

Carlson Safety Edge End Gate
18425 50th Avenue East
Tacoma, WA 98446
253-875-8000

Troxler Electronics Laboratories, Inc.
3008 E. Cornwallis Rd.
Research Triangle Park, NC 27709
1-877-TROXLER
www.troxlerlabs.com

IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TUENOUTRS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

IN ADDITION TO THE REQUIREMENTS OF 401.16, MAKE THE FIRST ROLLER PASS 8 TO 12 INCHES (200 TO 300 mm) AWAY FROM TAPERED EDGE. DO NOT ROLL THE TAPER.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE SUB-SUMMARIES TO PROVIDE EXTRA ASPHALT FOR CONSTRUCTION OF THE SAFETY EDGE:

ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 70-22M

LOCATION 1 - 6 CU. YD.
LOCATION 2B - 3 CU. YD.

LOCATION 2A - 8 CU. YD.

RESIDENTIAL AND COMMERCIAL DRIVES

AN ESTIMATED QUANTITY OF ITEM 441 ASPHALT CONCRETE, HAS BEEN INCLUDED IN THE PLAN TO BE USED AS DIRECTED BY THE ENGINEER TO PAVE APPROACH AREAS TO EXISTING DRIVEWAYS. PAVING SHALL EXTEND AN AVERAGE OF 4' INTO THE DRIVEWAY (MEASURED FROM THE EDGE OF PAVEMENT OR PAVED SHOULDER IF PRESENT), WITH THE MAXIMUM DISTANCE TO BE DIRECTED BY THE ENGINEER, IN ORDER TO PROVIDE A SMOOTH TRANSITION AND/OR ELIMINATE SHORT DISTANCES OF UNDESIRABLE PROFILE. ABRUPT CHANGES IN DRIVEWAY PROFILE ARE NOT PERMITTED.

FIELD DRIVES AND OIL WELL DRIVES SHALL NOT BE PAVED. GRAVEL DRIVES SHALL BE PAVED BACK AN AVERAGE OF 4' INTO THE DRIVEWAY UNLESS OTHERWISE DIRECTED BY THE ENGINEER. CONCRETE AND ASPHALT DRIVES SHALL HAVE BUTT JOINTS OR AS SHORT AN ASPHALT TAPER AS POSSIBLE (AVERAGE OF 4') AS DIRECTED BY THE ENGINEER SO AS TO PROVIDE A SMOOTH TRANSITION. GRAVEL DRIVES WITH ASPHALT APRONS SHALL ALSO HAVE BUTT JOINTS OR AS SHORT AN ASPHALT TAPER AS POSSIBLE (AVERAGE OF 4') BUT ONLY IF THE EXISTING ASPHALT APRON IS IN AN ACCEPTABLE CONDITION TO BE PAVED OVER AS DIRECTED BY THE ENGINEER. IF THE ASPHALT APRON CANNOT BE PAVED OVER (FOR EXAMPLE, BROKEN INTO SMALL PIECES) AS DETERMINED BY THE ENGINEER, IT SHALL BE REMOVED BEFORE BEING PAVED BACK 4' INTO THE DRIVEWAY. ALL GRADING, PRIME OR TACK COAT, MATERIALS, LABOR, EQUIPMENT TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE DRIVES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEMS LISTED BELOW.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE SUB-SUMMARY FOR THE ABOVE DESCRIBED PURPOSE.

ITEM 202, WEARING COURSE REMOVED

LOCATION 1 - 10 SQ. YD.
LOCATION 2A - 120 SQ. YD.
LOCATION 2B - 130 SQ. YD.

ITEM 304, AGGREGATE BASE

LOCATION 1 - 1 CU. YD.
LOCATION 2A - 2 CU. YD.

ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)

LOCATION 1 - 1 CU. YD.
LOCATION 2A - 5 CU. YD.
LOCATION 2B - 5 CU. YD.

ITEM 617, COMPACTED AGGREGATE, AS PER PLAN

ALL AGGREGATE SHALL BE 100% CRUSHED LIMESTONE. ALL QUALITY REQUIREMENTS EXCEPT SHALE SHALL BE WAIVED. OTHER GRADATION REQUIREMENTS SHALL BE AS SPECIFIED EXCEPT THE INDEX SHALL BE WAIVED. IF SO PERMITTED, THE CONTRACTOR MAY USE RECYCLED ASPHALT CONCRETE PAVEMENT (RACP MEETING REQUIREMENTS OF 617.02) IN LIEU OF CRUSHED LIMESTONE.

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ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF 1 LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT AND STANDARD DRAWINGS MT-97.10 AND MT-97.12.

AT NO TIME SHALL TRAFFIC BE MAINTAINED ON THE PLANED SURFACE, AT LEAST ONE COURSE OF ASPHALT CONCRETE SHALL BE IN PLACE BEFORE OPENING TO TRAFFIC.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT, IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

BUTT JOINT

A BUTT JOINT WILL BE REQUIRED AT LOCATIONS SPECIFIED BELOW AND AT THE EXTRA AREAS WITH WEARING COURSE REMOVED.

BUTT JOINTS SHALL BE AS PER STANDARD CONSTRUCTION DRAWING BP-3.1 UNLESS OTHERWISE SHOWN IN THE PLANS.

MINIMUM LENGTH FOR ASPHALT WEDGE AT BUTT JOINTS SHALL BE 10'.

LOCATION	ROUTE	DESCRIPTION	S.L.M.	ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC CU. YD.
1	S.R. 310	BEGIN WORK @ S.R. 204	0.00	1.0
1	S.R. 310	TOTAL		1.0
2A	S.R. 310	SUSPEND WORK	0.74	1.0
2A	S.R. 310	TOTAL		1.0
2B	S.R. 310	RESUME WORK	1.44	1.0
2B	S.R. 310	END WORK @ U.S. 40	1.71	3.0
2B	S.R. 310	TOTAL		4.0

THE GRINDING FOR BUTT JOINTS SHALL BE INCLUDED WITH ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE

ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT,

THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE SUB-SUMMARIES.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE
LOCATION 1 - 10 HOURS **LOCATION 2B - 40 HOURS**

ITEM 614, WORK ZONE MARKING SIGN

IN ACCORDANCE WITH CMS SECTION 614.04, THE QUANTITIES OF WORK ZONE MARKING SIGN HAVE BEEN CARRIED TO THE SUB-SUMMARIES TO BE USED AS DIRECTED BY THE ENGINEER.

W8-H12a (NO EDGE LINES): R4-1 (DO NOT PASS):
 LOCATION 1: 2 EACH LOCATION 1: 5 EACH
 LOCATION 2A: 4 EACH LOCATION 2A: 5 EACH
 LOCATION 2B: 8 EACH LOCATION 2B: 8 EACH

R4-2 (PASS WITH CARE):
 LOCATION 1: 3 EACH
 LOCATION 2A: 5 EACH

ITEM 614, WORK ZONE MARKING SIGN

LOCATION 1 - 10 EACH
LOCATION 2A - 14 EACH
LOCATION 2B - 16 EACH

IN ADDITION, THE CONTRACTOR SHALL ERECT A "GROOVED PAVEMENT" SIGN 250 FEET IN ADVANCE OF ANY SECTION OF ROADWAY WHERE TRAFFIC MUST TRAVEL ON A PLANED SURFACE. ENSURE THESE SIGNS ARE IN PLACE BEFORE OPENING THE ROADWAY TO TRAFFIC. ERECT THESE SIGNS AT INTERSECTIONS OF THROUGH ROUTES TO WARN TRAFFIC OF THIS SURFACE CONDITION. "GROOVED PAVEMENT" SIGNS SHALL BE INCLUDED FOR PAYMENT WITH THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AS PER CMS SECTION 614.055.

DROPOFFS IN WORK ZONES

DROPOFFS THAT DEVELOP DURING CONSTRUCTION OPERATIONS AND THAT ARE NOT OTHERWISE PROVIDED FOR IN THE PLANS SHALL BE TREATED AS SHOWN ON STANDARD DRAWING MT-101.90. WHERE THE PLANS DO NOT PROVIDE SPECIFIC ITEMS FOR LABOR, EQUIPMENT, OR MATERIALS TO IMPLEMENT THE DROP-OFF TREATMENTS SPECIFIED, THEY SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

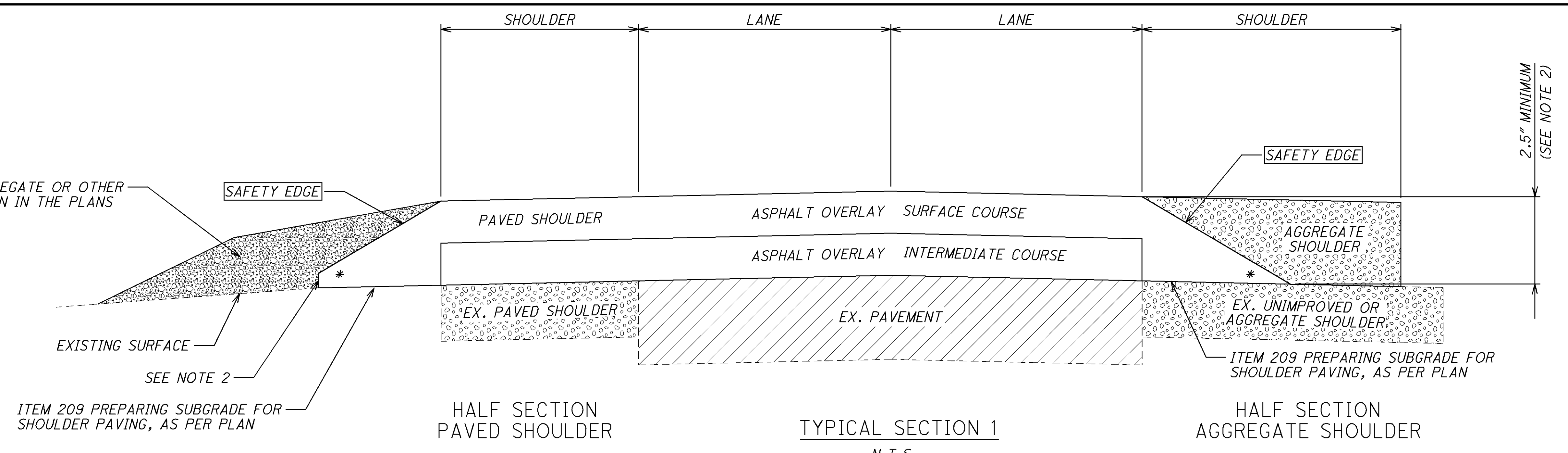
PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

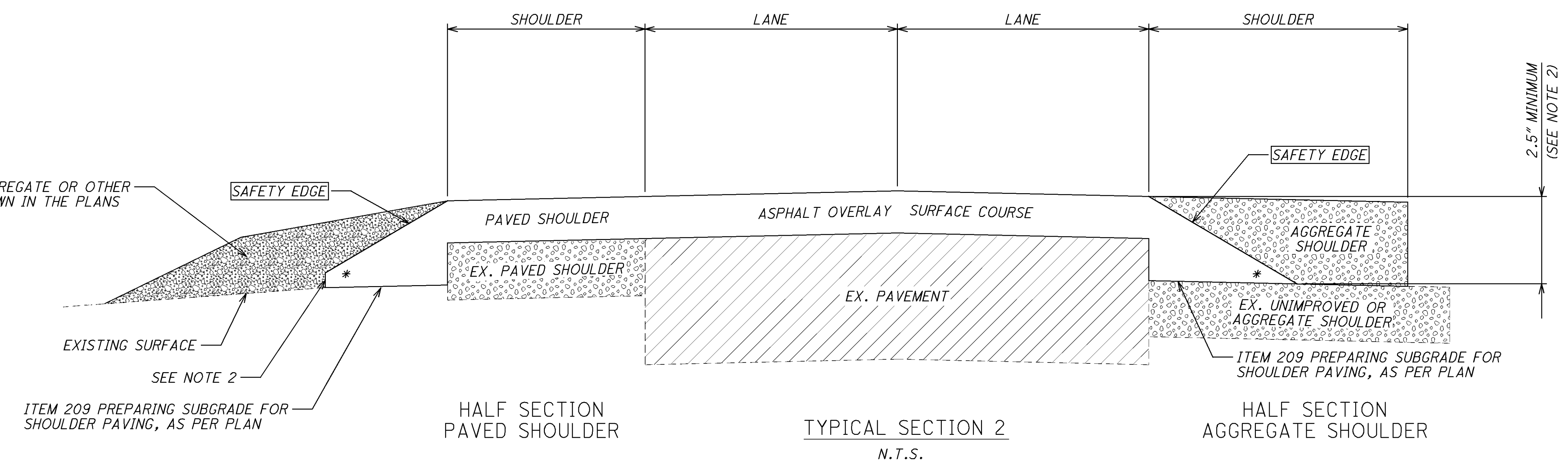
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HALF SECTION
PAVED SHOULDER

TYPICAL SECTION 1
N.T.S.

HALF SECTION
AGGREGATE SHOULDER



HALF SECTION
PAVED SHOULDER

TYPICAL SECTION 2
N.T.S.

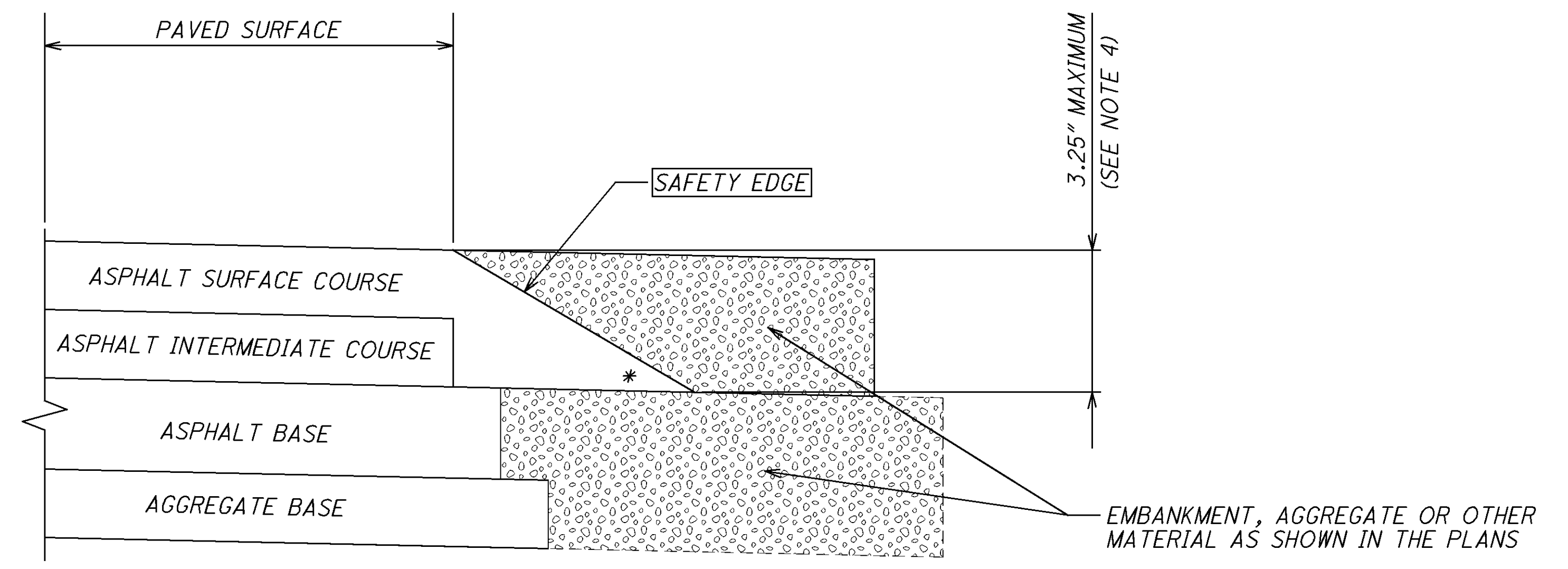
HALF SECTION
AGGREGATE SHOULDER

NOTES:

- 1.) SAFETY EDGES ARE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER).
- 2.) CONSTRUCT THE SAFETY EDGE THE FULL ASPHALT CONCRETE OVERLAY THICKNESS OR 2.5" (63MM) WHICHEVER IS GREATER, NOT TO EXCEED THE MAXIMUM SAFETY EDGE THICKNESS OF 6" (150MM). CONSTRUCT A NEAR-VERTICAL FACE BELOW THE SAFETY EDGE FOR THICKNESS GREATER THAN 6" (150 MM).
- 3.) BLADE AND SHAPE EXISTING SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE SAFETY EDGE PRIOR TO PLACEMENT OF THE ASPHALT CONCRETE OVERLAY.
- 4.) FOR NEW PAVEMENT CONSTRUCT THE SAFETY EDGE THE FULL THICKNESS OF THE SURFACE AND INTERMEDIATE COURSES, NOT TO EXCEED 3.25" (82 MM).

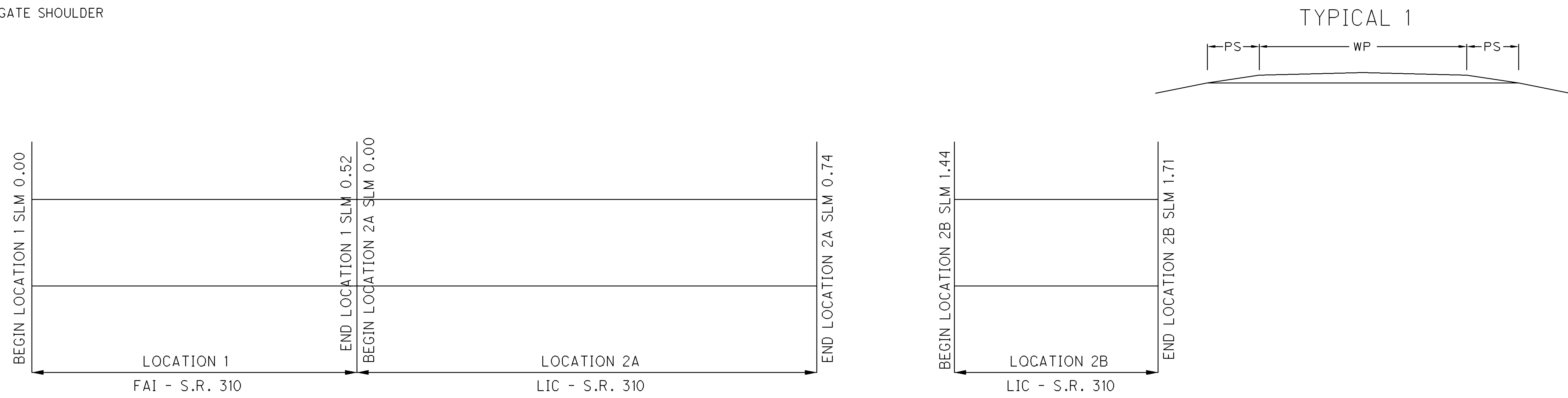
* 40° MAX

HALF SECTION
NEW CONSTRUCTION
TYPICAL SECTION 3
N.T.S.



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WP = WIDTH OF PAVEMENT
 PS = PAVED SHOULDER
 AS = AGGREGATE SHOULDER



PAVEMENT DATA

CALCULATION	COUNTY	ROUTE	BEGIN LOG POINT SLM	END LOG POINT SLM	LENGTH		PAVEMENT WIDTH (FEET)	TYPICAL	PAVEMENT AREA	254		407		441 ASPHALT CONCRETE			614	614	
					MILES	LIN. FT.				THICKNESS	PAVEMENT PLANING, ASPHALT CONCRETE	TACK COAT, TRACKLESS TACK @ 0.075 GAL./S.Y.	TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE @ 0.05 GAL./S.Y.	THICKNESS	INTERMEDIATE COURSE, TYPE 1, (448)	THICKNESS	SURFACE COURSE, TYPE 1, (448), PG 70-22M	WORK ZONE CENTER LINE, CLASS II	WORK ZONE CENTER LINE, CLASS III, 642 PAINT
1	FAI	S.R. 310	0.00	0.52	0.52	2,745.6	24.0	1	7,321.6	1.25	7,321.6	549.2	366.1	1.00	203.4	1.25	254.3	1.04	0.52
LOCATION 1 TOTALS (CARRIED TO SUB-SUMMARY)											7,321.6	549.2	366.1		203.4		254.3	1.04	0.52
2A	LIC	S.R. 310	0.00	0.74	0.74	3,907.2	24.0	1	10,419.2	1.25	10,419.2	781.5	521.0	1.00	289.5	1.25	361.8	1.48	0.74
LOCATION 2A TOTALS (CARRIED TO SUB-SUMMARY)											10,419.2	781.5	521.0		289.5		361.8	1.48	0.74
2B	LIC	S.R. 310	1.44	1.60	0.16	844.8	24.0	1	2,252.8	1.25	2,252.8	169.0	112.7	1.00	62.6	1.25	78.3	0.32	0.16
2B	LIC	S.R. 310	1.60	1.64	0.04	211.2	30.0 (AVG)	1	704.0	1.25	704.0	52.8	35.2	1.00	19.6	1.25	24.5	0.08	0.04
2B	LIC	S.R. 310	1.64	1.67	0.03	158.4	36.0 (AVG)	1	633.6	1.25	633.6	47.6	31.7	1.00	17.6	1.25	22.0	0.06	0.03
2B	LIC	S.R. 310	1.67	1.71	0.04	211.2	48.0 (AVG)	1	1,126.4	1.25	1,126.4	84.5	56.4	1.00	31.3	1.25	39.2	0.08	0.04
LOCATION 2B TOTALS (CARRIED TO SUB-SUMMARY)											4,716.8	353.9	236.0		131.1		164.0	0.54	0.27

TYPICAL 1

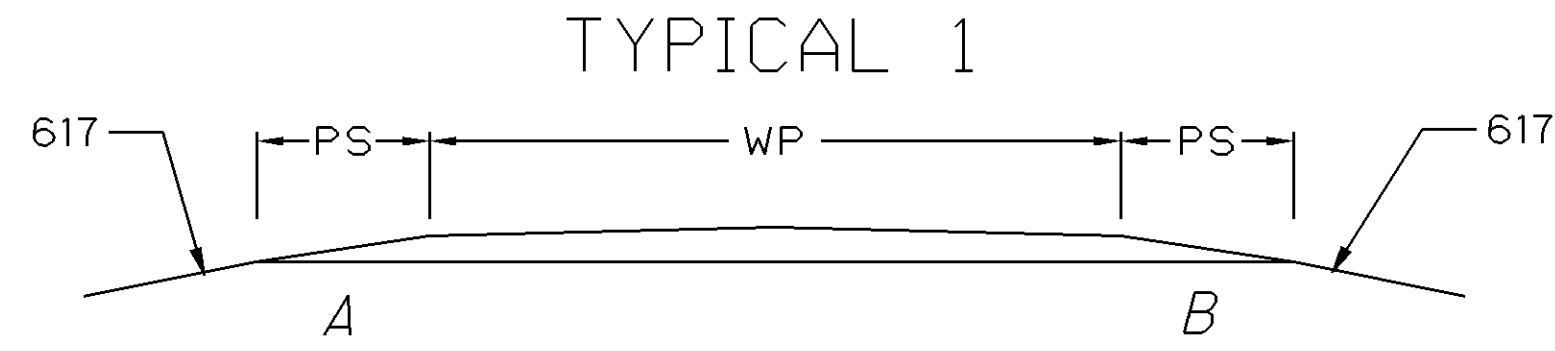
PAVEMENT TREATMENT DATA

FAI / LIC - 310 - 0.00 / 0.00

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CALCULATED
LME
CHECKED
DNM

AS = AGGREGATE SHOULDER
 PS = PAVED SHOULDER
 PW = PAVEMENT WIDTH



SHOULDER DATA

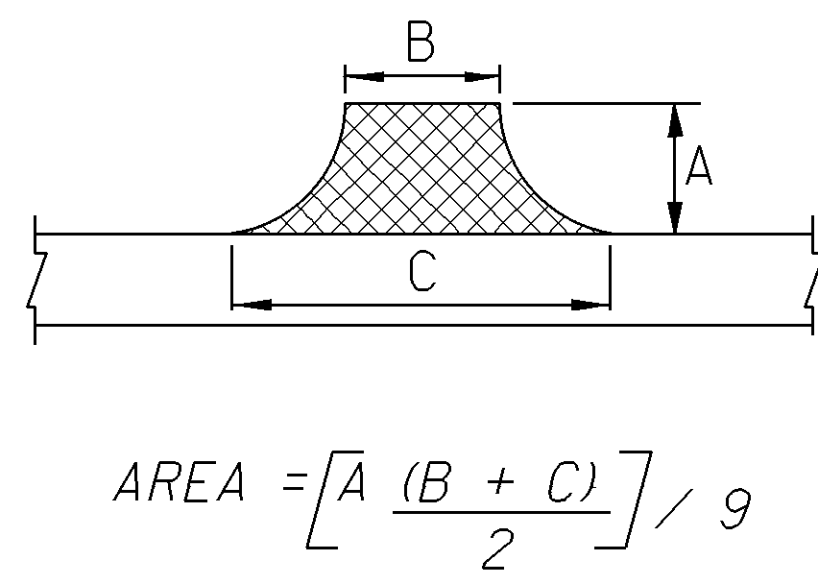
LOCATION	COUNTY	ROUTE	BEGIN LOG POINT SLM	END LOG POINT SLM	LENGTH		TYPICAL	PROPOSED WIDTH (FT.) (WIDTHS ARE AVERAGE THROUGHOUT SECTION)				SHOULDER AREA	209		254		407		408	441 ASPHALT CONCRETE			617			
													SQ. YD.	MILE	INCHES	SQ. YD.	GAL.	GAL.	GAL.	INCHES	CU. YD.	INCHES	CU. YD.	INCHES	CU. YD.	SQ. YD.
1	FAI	S.R. 310	0.00	0.52	0.52	2745.6	1	1.5	1.5			915.2	1.04	1.25	915.2	68.7	45.8	488.2	1.00	25.5	1.25	31.8	0.75 (AVG)	25.5	1,220.3	
LOCATION 1 TOTALS (CARRIED TO SUB-SUMMARY)													1.04		915.2	68.7	45.8	488.2		25.5		31.8		25.5	1,220.3	
2A	LIC	S.R. 310	0.00	0.74	0.74	3907.2	1	1.5	1.5			1,302.4	1.48	1.25	1302.4	97.7	65.2	694.7	1.00	36.2	1.25	45.3	0.75 (AVG)	36.2	1,736.6	
LOCATION 2A TOTALS (CARRIED TO SUB-SUMMARY)													1.48		1,302.4	97.7	65.2	694.7		36.2		45.3		36.2	1,736.6	
2B	LIC	S.R. 310	1.44	1.60	0.16	844.8	1	2.5	2.5			469.3	0.32	1.25	469.3	35.2	23.5	150.2	1.00	13.1	1.25	16.3	0.75 (AVG)	7.9	375.5	
2B	LIC	S.R. 310	1.60	1.71	0.11	580.8	1	6	6			774.4	0.22	1.25	774.4	58.1	38.8	103.3	1.00	21.6	1.25	26.9	0.75 (AVG)	5.4	258.2	
LOCATION 2B TOTALS (CARRIED TO SUB-SUMMARY)													0.54		1,243.7	93.3	62.3	253.5		34.7		43.2		13.3	633.7	

CALCULATED
 LME
 CHECKED
 DNM

SHOULDER TREATMENT DATA

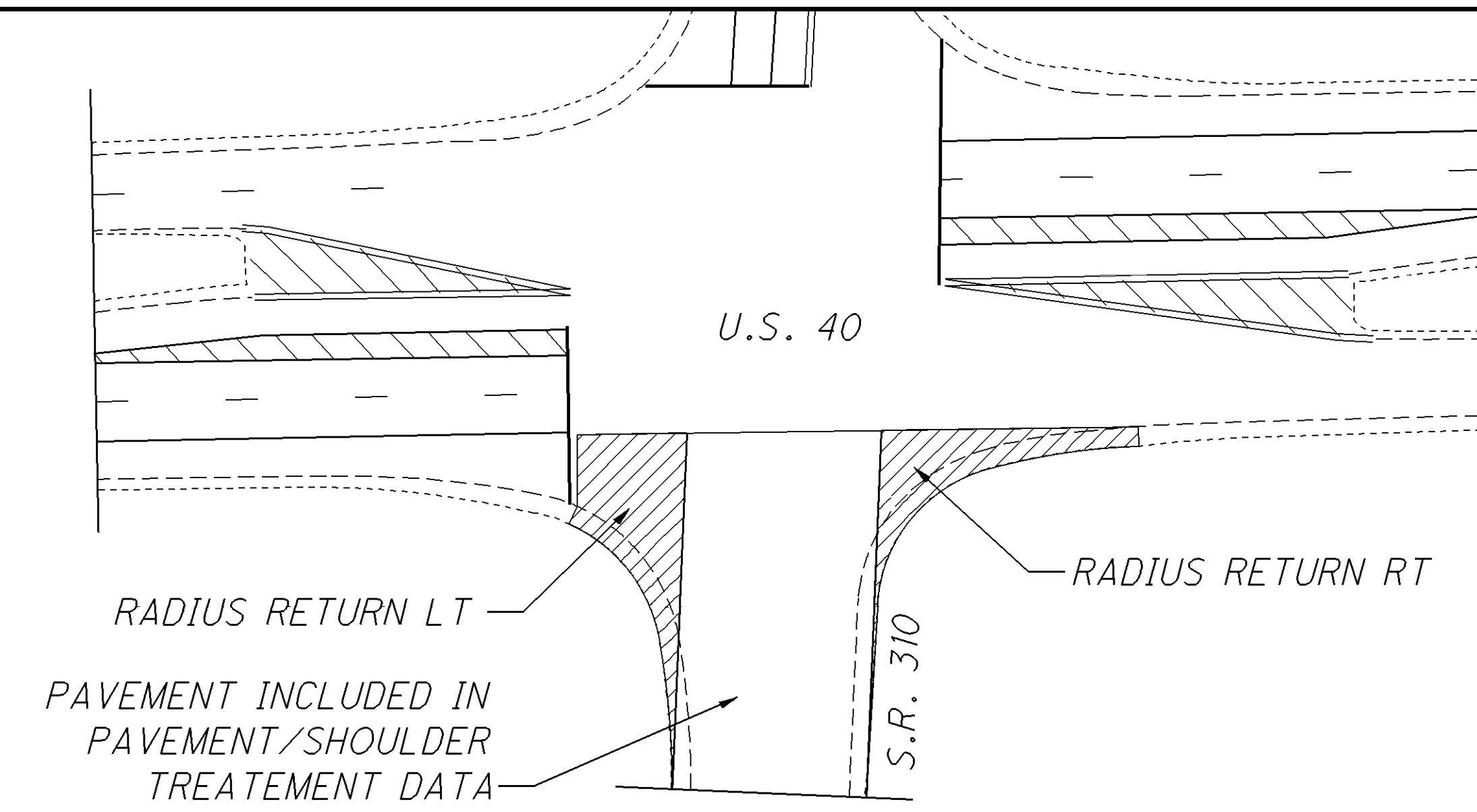
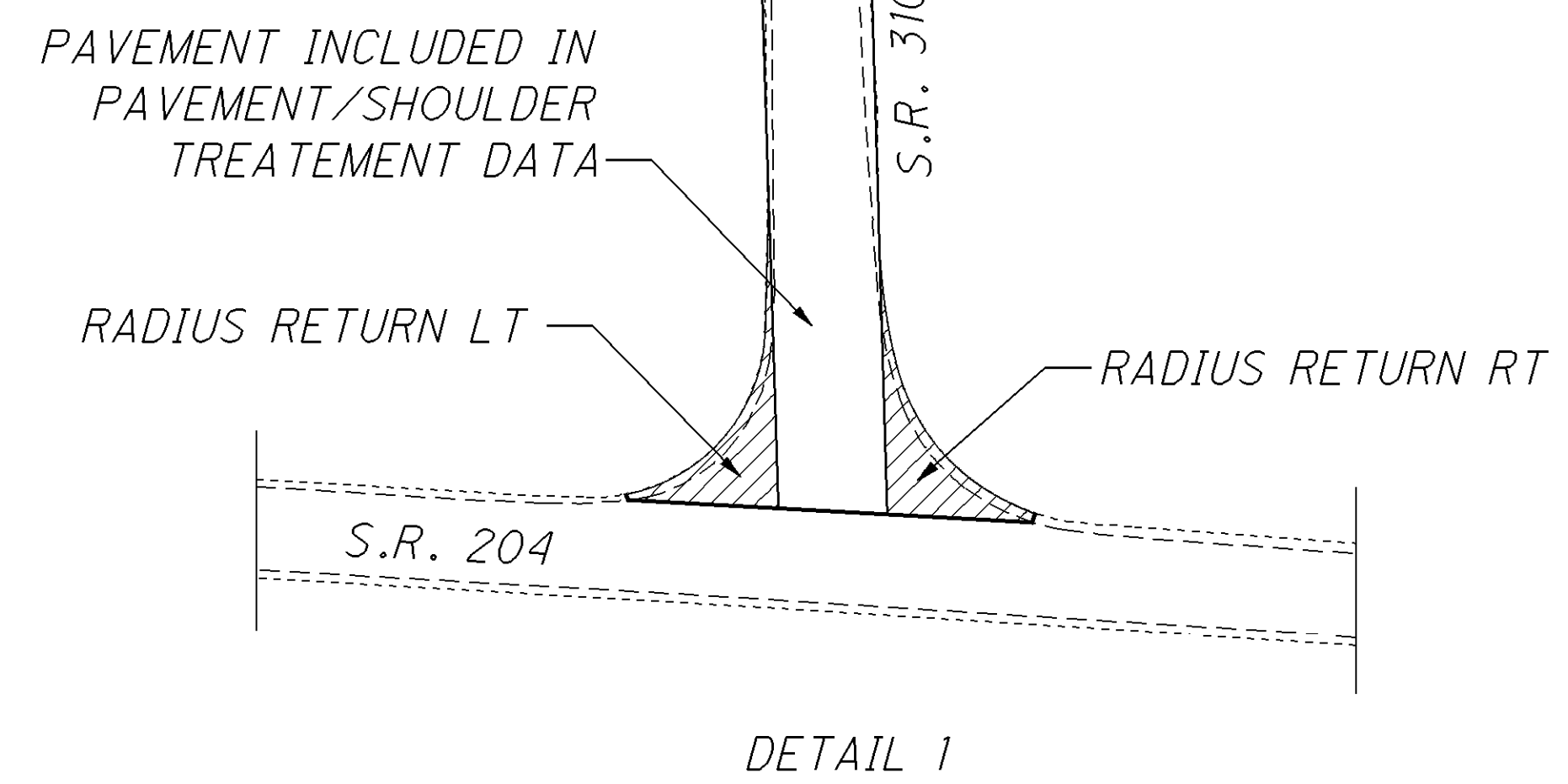
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$$AREA = \left[A \frac{(B + C)}{2} \right] / 9$$

- WEARING COURSE REMOVED



EXTRA AREAS

LOCATION	COUNTY	ROUTE	SIDE	A3	INTERSECTIONS		AREA	202		407		441 ASPHALT CONCRETE				
					DETAIL DIMENSION			WEARING COURSE REMOVED	TACK COAT, TRACKLESS TACK @ 0.075 GAL./S.Y.	TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE @ 0.05 GAL./S.Y.	S E P A R A T E	INTERMEDIATE COURSE, TYPE 1, (448)	S E P A R A T E	SURFACE COURSE, TYPE 1, (448), PG 64-22	SURFACE COURSE, TYPE 1, (448), PG 70-22M	
					A	B										C
					FT.	FT.		FT.	SQ. YD.	SQ. YD.	GAL.	GAL.	IN.	CU. YD.	IN.	CU. YD.
1	FAI	S.R. 310	RT	AT S.R. 204 (RADIUS RETURN RT) DETAIL 1	AREA BY COMPUTER			66.9	66.9	5.1	3.3	1.00	1.9	1.25	2.4	
1	FAI	S.R. 310	LT	AT S.R. 204 (RADIUS RETURN LT) DETAIL 1	AREA BY COMPUTER			64.4	64.4	4.9	3.2	1.00	1.8	1.25	2.3	
1	FAI	S.R. 310	RT	PALMER RD.	30	19	49	113.4	113.4	8.6				1.25	4.0	
LOCATION 1 TOTALS (CARRIED TO SUB-SUMMARY)									244.7	18.6	6.5		3.7		4.0	4.7
2A	LIC	S.R. 310	LT	PALMER RD.	30	20	56	126.7	126.7	9.6				1.25	4.4	
LOCATION 2A TOTALS (CARRIED TO SUB-SUMMARY)									126.7	9.6				4.4		
2B	LIC	S.R. 310	LT	SOUTH ST.	35	22	58	155.6	155.6	11.7				1.25	5.5	
2B	LIC	S.R. 310	RT	SOUTH ST.	30	26	64	150.0	150.0	11.3				1.25	5.3	
2B	LIC	S.R. 310	RT	ALLEY	25	14	31	62.5	62.5	4.7				1.25	2.2	
2B	LIC	S.R. 310	LT	PIKE ST.	35	28	86	221.7	221.7	16.7				1.25	7.7	
2B	LIC	S.R. 310	RT	PIKE ST.	35	26	88	221.7	221.7	16.7				1.25	7.7	
2B	LIC	S.R. 310	LT	COLUMBUS ST. (SUBTRACT 6.7 SQ. YD. FOR ISLAND)	30	22	60	130.0	130.0	9.8				1.25	4.6	
2B	LIC	S.R. 310	RT	COLUMBUS ST. (SUBTRACT 9.2 SQ. YD. FOR ISLAND)	25	24	67	117.2	117.2	8.8				1.25	4.1	
2B	LIC	S.R. 310	RT	AT U.S. 40 (RADIUS RETURN RT) DETAIL 3	AREA BY COMPUTER			126.3	126.3	9.5	6.3	1.00	3.6	1.25	4.4	
2B	LIC	S.R. 310	LT	AT U.S. 40 (RADIUS RETURN LT) DETAIL 4	AREA BY COMPUTER			172.7	172.7	13.0	8.6	1.00	4.8	1.25	6.0	
LOCATION 2B TOTALS (CARRIED TO SUB-SUMMARY)									1,357.7	102.2	14.9		8.4		37.1	10.4

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ITEM 648 EDGE LINE, 4"										
LOCATION	COUNTY	ROUTE	S.L.M.		TOTAL LENGTH (MILES)	INFORMATION ONLY			TOTAL EDGE LINE (4")	REMARKS
			FROM	TO		WHITE EDGE LINE QUANTITIES				
			TOTAL MILES	HIGHWAY MILES		RAMP MILES	MILES			
1	FAI	S.R. 310	0.00	0.52	0.52	1.04	1.04		1.04	S.R. 204 TO LICKING COUNTY
LOCATION 1 TOTALS (CARRIED TO SUB-SUMMARY)									1.04	
2A	LIC	S.R. 310	0.00	0.74	0.74	1.48	1.48		1.48	FAIRFIELD COUNTY TO SLM
LOCATION 2A TOTALS (CARRIED TO SUB-SUMMARY)									1.48	
2B	LIC	S.R. 310	1.44	1.71	0.27	0.54	0.54		0.54	SLM TO U.S. 40
LOCATION 2B TOTALS (CARRIED TO SUB-SUMMARY)									0.54	

ITEM 648 CENTER LINE										
LOCATION	COUNTY	ROUTE	S.L.M.		TOTAL LENGTH (MILES)	INFORMATION ONLY		TOTAL CENTER LINE MILES	REMARKS	
			FROM	TO		CENTER LINE QUANTITIES				
			TOTAL MILES	EQUIVALENT SOLID LINE						
1	FAI	S.R. 310	0.00	0.52	0.52	0.52	0.910	0.52	S.R. 204 TO LICKING COUNTY	
LOCATION 1 TOTALS (CARRIED TO SUB-SUMMARY)									0.52	
2A	LIC	S.R. 310	0.00	0.74	0.74	0.74	0.985	0.74	FAIRFIELD COUNTY TO SLM	
LOCATION 2A TOTALS (CARRIED TO SUB-SUMMARY)									0.74	
2B	LIC	S.R. 310	1.44	1.71	0.27	0.27	0.640	0.32	SLM TO U.S. 40, INCLUDES EXTRA FOR TRANSITION	
LOCATION 2B TOTALS (CARRIED TO SUB-SUMMARY)									0.32	

CALCULATED	LME	CHECKED	DNM
LONG LINE PAVEMENT MARKING DATA			
FAI / LIC - 310 - 0.00 / 0.00			
9 / 16			

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ITEM 644 AUXILIARY MARKING

LOCATION	COUNTY	ROUTE	SIDE	DESCRIPTION	SLM	8" CHANNELIZING LINE FEET	STOP LINE (24") FT.	12" CROSSWALK LINE FT.	TRANVERSE/ DIAGONAL LINES (24")		SCHOOL SYMBOL MARKING		LANE ARROW		WORD ON PAVEMENT		REMARKS
									WHITE FT.	YELLOW FT.	72" EACH	96" EACH	LT. EACH	RT. EACH	ONLY		
															72" EACH	96" EACH	
1	FAI	S.R. 310		AT S.R. 204			27										PLACE 22' FROM CL S.R. 204
1	FAI	S.R. 310	RT	PALMER RD.			21										PLACE 19' FROM CL S.R. 310
LOCATION 1 TOTALS (CARRIED TO SUB-SUMMARY)							48										
2A	LIC	S.R. 310	LT	PALMER RD.			19										PLACE 20' FROM CL S.R. 310
LOCATION 2A TOTALS (CARRIED TO SUB-SUMMARY)							19										
2B	LIC	S.R. 310	LT	SOUTH ST.			18										PLACE 26' FROM CL S.R. 310
2B	LIC	S.R. 310	RT	SOUTH ST.			23										PLACE 22' FROM CL S.R. 310
2B	LIC	S.R. 310		SLM 1.55				58									
2B	LIC	S.R. 310	LT	PIKE ST.			30										PLACE 27' FROM CL S.R. 310
2B	LIC	S.R. 310	RT	PIKE ST.			34										PLACE 29' FROM CL S.R. 310
2B	LIC	S.R. 310		TURN LANE TRANSITION					98	1							SEE SHEET 11
2B	LIC	S.R. 310	LT	COLUMBUS ST.			12										PLACE AS DIRECTED
2B	LIC	S.R. 310	RT	COLUMBUS ST.			18										PLACE AS DIRECTED
2B	LIC	S.R. 310		LEFT TURN LANE AT U.S. 40		260						2			1		SEE SHEET 11
2B	LIC	S.R. 310		RIGHT TURN LANE AT U.S. 40		95							2				SEE SHEET 11
2B	LIC	S.R. 310		AT U.S. 40			49										PLACE AS DIRECTED
SUBTOTALS										98			2	2		1	
LOCATION 2B TOTALS (CARRIED TO SUB-SUMMARY)						355	222	58	98		1		4			1	

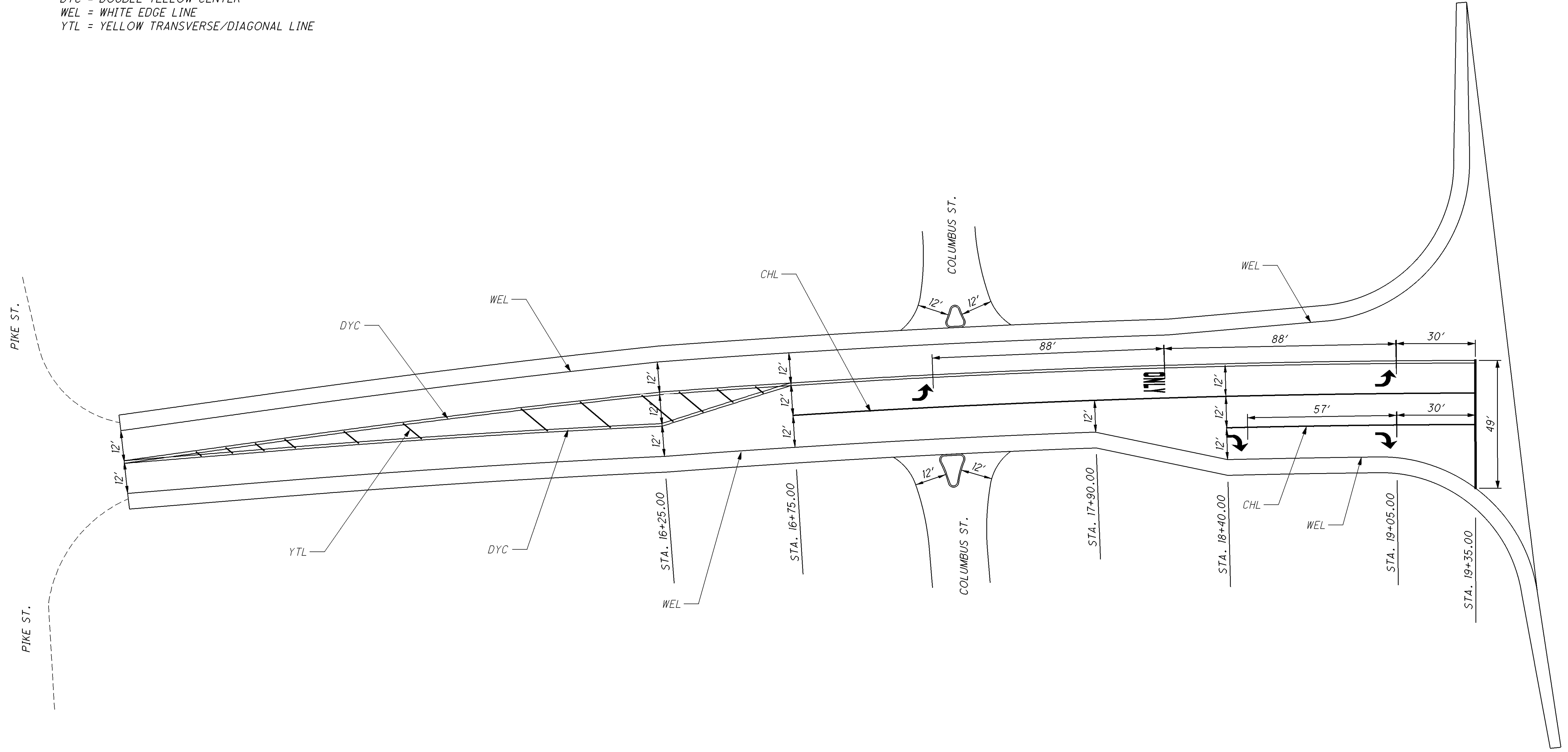
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AUXILIARY PAVEMENT MARKING DATA

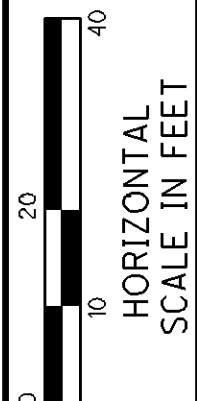
FAI / LIC - 310 - 0.00 / 0.00

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CHL = CHANNELIZING LINE
DYC = DOUBLE YELLOW CENTER
WEL = WHITE EDGE LINE
YTL = YELLOW TRANSVERSE/DIAGONAL LINE



CALCULATED
LME
CHECKED
DMM



PAVEMENT MARKING PLAN SHEET

FAI / LIC - 310 - 0.00 / 0.00

11
16

SEE SHEETS 9-10 FOR PAVEMENT MARKING QUANTITIES

DETAIL	SEE STD. DWG. TC-65.11
1	ENTRANCE RAMP
2	EXIT RAMP
3	MULTI-LANE DIVIDED HIGHWAY

DETAIL	SEE STD. DWG. TC-65.11
4	4 LANE DIVIDED TO 2 LANE TRANSITION
5	4 LANE UNDIVIDED TO 2 LANE TRANSITION
6	ONE-LANE BRIDGE
7	STOP APPROACH
8	THROUGH APPROACH
9	TWO-WAY LEFT TURN LANE

DETAIL	SEE STD. DWG. TC-65.11
10	APPROACH WTH LEFT-TURN LANE
11	HORIZONTAL CURVE 40'
12	HORIZONTAL CURVE ALT.
GAP	CENTERLINE AT 80' TYP.

REM=REMARKS

ITEM 621 RPM SUB-SUMMARY

LOCATION	COUNTY	ROUTE	BEGIN LOG POINT SLM	END LOG POINT SLM	LENGTH		DETAIL	621		PRISMATIC RETRO-REFLECTOR COLORS					REMARKS
								RAISED PAVEMENT MARKER REMOVED	RPM	INFORMATION ONLY					
										ONE-WAY	TWO-WAY				
					MILES	LIN.FT.			WHITE	YELLOW	YELLOW / YELLOW	WHITE / RED	YELLOW / RED		
1	FAI	S.R. 310	0.00	0.16	0.16	845	7	27	27	16		11			STOP AT S.R. 204
1	FAI	S.R. 310	0.16	0.52	0.36	1,901	GAP	24	24			24			END AT LICKING COUNTY
SUB-TOTALS										16		35			
LOCATION 1 TOTALS (CARRIED TO SUB-SUMMARY)								51	51						
2A	LIC	S.R. 310	0.00	0.50	0.50	2,640	GAP	33	33			33			
2A	LIC	S.R. 310	0.50	0.56	0.06	317	11	8	8			8			PC 0.50 PT 0.56 L=317' DEG 6
2A	LIC	S.R. 310	0.56	0.74	0.18	950	GAP	12	12			12			SUSPEND AT SLM (BEGIN PART 1)
SUB-TOTALS												53			
LOCATION 2A TOTALS (CARRIED TO SUB-SUMMARY)								53	53						
2B	LIC	S.R. 310	1.44	1.55	0.11	581	GAP	7	7			7			RESUME AT SLM (END OF PART 1)
2B	LIC	S.R. 310	1.55	1.71	0.16	845	7	43	43	16		17	10		STOP AT U.S. 40
SUB-TOTALS										16		24	10		
LOCATION 2B TOTALS (CARRIED TO SUB-SUMMARY)								50	50						

RAISED PAVEMENT MARKER DATA

FAI / LIC - 310 - 0.00 / 0.00

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LOCATION 1 SHEET TOTALS									ITEM	ITEM EXT.	GRAND TOTALS	UNIT	DESCRIPTION
2	3	4	6	7	8	9	10	12					
													ROADWAY
	10				245				202	23500	255	SY	WEARING COURSE REMOVED
				1.04					209	72051	1.04	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN
													PAVEMENT
10									253	02000	10	CY	PAVEMENT REPAIR
			7,322	916					254	01000	8,238	SY	PAVEMENT PLANING, ASPHALT CONCRETE
	1								304	20000	1	CY	AGGREGATE BASE
			550	69	19				407	20500	638	GAL	SPECIAL - TACK COAT, TRACKLESS TACK
			367	46	7				407	20510	420	GAL	SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE
				489					408	10001	489	GAL	PRIME COAT, AS PER PLAN
					4				441	50000	4	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
	6		255	32	5				441	50100	298	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
			204	26	4				441	50200	234	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)
	1								441	50400	1	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)
				26					617	10101	26	CY	COMPACTED AGGREGATE, AS PER PLAN
				1,221					617	20000	1,221	SY	SHOULDER PREPARATION
													TRAFFIC CONTROL
								51	621	00100	51	EACH	RPM
								51	621	54000	51	EACH	RAISED PAVEMENT MARKER REMOVED
							48		644	00500	48	FT	STOP LINE
						1.04			648	00100	1.04	MILE	EDGE LINE, 4"
						0.52			648	00300	0.52	MILE	CENTER LINE
													MAINTENANCE OF TRAFFIC
		10							614	11110	10	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE
		10							614	12460	10	EACH	WORK ZONE MARKING SIGN
		1.0							614	13000	1.0	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
			1.04						614	21400	1.04	MILE	WORK ZONE CENTER LINE, CLASS II
			0.52						614	21550	0.52	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT

CALCULATED
LME
CHECKED
DNM

LOCATION 1 SUB-SUMMARY

FAI / LIC - 310 - 0.00 / 0.00

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LOCATION 2A SHEET TOTALS									ITEM	ITEM EXT.	GRAND TOTALS	UNIT	DESCRIPTION
2	3	4	6	7	8	9	10	12					
													ROADWAY
	290				127				202	23500	417	SY	WEARING COURSE REMOVED
				1.48					209	72051	1.48	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN
													PAVEMENT
10									253	02000	10	CY	PAVEMENT REPAIR
			10,420	1,303					254	01000	11,723	SY	PAVEMENT PLANING, ASPHALT CONCRETE
	2								304	20000	2	CY	AGGREGATE BASE
			782	98	10				407	20500	890	GAL	SPECIAL - TACK COAT, TRACKLESS TACK
			521	66					407	20510	587	GAL	SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE
				695					408	10001	695	GAL	PRIME COAT, AS PER PLAN
					5				441	50000	5	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
	14		362	46					441	50100	422	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
	5		290	37					441	50200	332	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)
	5								441	50400	5	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)
				37					617	10101	37	CY	COMPACTED AGGREGATE, AS PER PLAN
				1,737					617	20000	1,737	SY	SHOULDER PREPARATION
													TRAFFIC CONTROL
								53	621	00100	53	EACH	RPM
								53	621	54000	53	EACH	RAISED PAVEMENT MARKER REMOVED
							19		644	00500	19	FT	STOP LINE
						1.48			648	00100	1.48	MILE	EDGE LINE, 4"
						0.74			648	00300	0.74	MILE	CENTER LINE
													MAINTENANCE OF TRAFFIC
		14							614	12460	14	EACH	WORK ZONE MARKING SIGN
		1.0							614	13000	1.0	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
			1.48						614	21400	1.48	MILE	WORK ZONE CENTER LINE, CLASS II
			0.74						614	21550	0.74	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT

CALCULATED
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LOCATION 2A SUB-SUMMARY

FAI / LIC - 310 - 0.00 / 0.00

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LOCATION 2B SHEET TOTALS									ITEM	ITEM EXT.	GRAND TOTALS	UNIT	DESCRIPTION
2	3	4	6	7	8	9	10	12					
													ROADWAY
	130				1,358				202	23500	1,488	SY	WEARING COURSE REMOVED
				0.54					209	72051	0.54	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN
													PAVEMENT
20									253	02000	20	CY	PAVEMENT REPAIR
			4,717	1,244					254	01000	5,961	SY	PAVEMENT PLANING, ASPHALT CONCRETE
			354	94	103				407	20500	551	GAL	SPECIAL - TACK COAT, TRACKLESS TACK
			236	63	15				407	20510	314	GAL	SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE
				254					408	10001	254	GAL	PRIME COAT, AS PER PLAN
					38				441	50000	38	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
	3		164	44	11				441	50100	222	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
			132	35	9				441	50200	176	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)
	5								441	50400	5	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)
				14					617	10101	14	CY	COMPACTED AGGREGATE, AS PER PLAN
				634					617	20000	634	SY	SHOULDER PREPARATION
													TRAFFIC CONTROL
								50	621	00100	50	EACH	RPM
								50	621	54000	50	EACH	RAISED PAVEMENT MARKER REMOVED
							355		644	00400	355	FT	CHANNELIZING LINE, 8"
							222		644	00500	222	FT	STOP LINE
							58		644	00600	58	FT	CROSSWALK LINE
							98		644	00700	98	FT	TRANSVERSE/DIAGONAL LINE
							1		644	01110	1	EACH	SCHOOL SYMBOL MARKING, 96"
							4		644	01300	4	EACH	LANE ARROW
							1		644	01410	1	EACH	WORD ON PAVEMENT, 96"
						0.54			648	00100	0.54	MILE	EDGE LINE, 4"
						0.32			648	00300	0.32	MILE	CENTER LINE
													TRAFFIC SIGNALS
	3								632	26501	3	EACH	DETECTOR LOOP, AS PER PLAN
													TRAFFIC CONTROL
		40							614	11110	40	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE
		16							614	12460	16	EACH	WORK ZONE MARKING SIGN
		4.0							614	13000	4.0	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
			0.54						614	21400	0.54	MILE	WORK ZONE CENTER LINE, CLASS II
			0.27						614	21550	0.27	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT

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LOCATION 2B SUB - SUMMARY

FAI / LIC - 310 - 0.00 / 0.00

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LOCATION TOTALS			FUNDING		ITEM	ITEM EXT.	GRAND TOTALS	UNIT	DESCRIPTION	SEE SHEET
1	2A	2B	08/STR/PV	09/NHS/PV						
ROADWAY										
255	417	1,488	672	1,488	202	23500	2,160	SY	WEARING COURSE REMOVED	
1.04	1.48	0.54	2.52	0.54	209	72051	3.06	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	2
PAVEMENT										
10	10	20	20	20	253	02000	40	CY	PAVEMENT REPAIR	
8,238	11,723	5,961	19,961	5,961	254	01000	25,922	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
1	2		3		304	20000	3	CY	AGGREGATE BASE	
638	890	551	1,528	551	407	20500	2,079	GAL	SPECIAL - TACK COAT, TRACKLESS TACK	2
420	587	314	1,007	314	407	20510	1,321	GAL	SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE	2
489	695	254	1,184	254	408	10001	1,438	GAL	PRIME COAT, AS PER PLAN	3
4	5	38	9	38	441	50000	47	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
298	422	222	720	222	441	50100	942	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M	
234	332	176	566	176	441	50200	742	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)	
1	5	5	6	5	441	50400	11	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	
26	37	14	63	14	617	10101	77	CY	COMPACTED AGGREGATE, AS PER PLAN	3
1,221	1,737	634	2,958	634	617	20000	3,592	SY	SHOULDER PREPARATION	
TRAFFIC CONTROL										
51	53	50	104	50	621	00100	154	EACH	RPM	
51	53	50	104	50	621	54000	154	EACH	RAISED PAVEMENT MARKER REMOVED	
48	19	355	67	355	644	00400	355	FT	CHANNELIZING LINE, 8"	
		222		222	644	00500	289	FT	STOP LINE	
		58		58	644	00600	58	FT	CROSSWALK LINE	
		98		98	644	00700	98	FT	TRANSVERSE/DIAGONAL LINE	
		1		1	644	01110	1	EACH	SCHOOL SYMBOL MARKING, 96"	
		4		4	644	01300	4	EACH	LANE ARROW	
		1		1	644	01410	1	EACH	WORD ON PAVEMENT, 96"	
1.04	1.48	0.54	2.52	0.54	648	00100	3.06	MILE	EDGE LINE, 4"	
0.52	0.74	0.32	1.26	0.32	648	00300	1.58	MILE	CENTER LINE	
TRAFFIC SIGNALS										
		3		3	632	26501	3	EACH	DETECTOR LOOP, AS PER PLAN	3
MAINTENANCE OF TRAFFIC										
10		40	10	40	614	11110	50	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
10	14	16	24	16	614	12460	40	EACH	WORK ZONE MARKING SIGN	
1	1	4	2	4	614	13000	6	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
1.04	1.48	0.54	2.52	0.54	614	21400	3.06	MILE	WORK ZONE CENTER LINE, CLASS II	
0.52	0.74	0.27	1.26	0.27	614	21550	1.53	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
INCIDENTALS										
			LUMP	LUMP	103	05000	LUMP		PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND	
			LUMP	LUMP	SPECIAL	10810000	LUMP		CPM PROGRESS SCHEDULE	
			LUMP	LUMP	614	11000	LUMP		MAINTAINING TRAFFIC	
			LUMP	LUMP	623	10001	LUMP		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN (SEE PART 1)	
			LUMP	LUMP	624	10000	LUMP		MOBILIZATION	

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GENERAL SUMMARY

FAI / LIC - 310 - 0.00 / 0.00