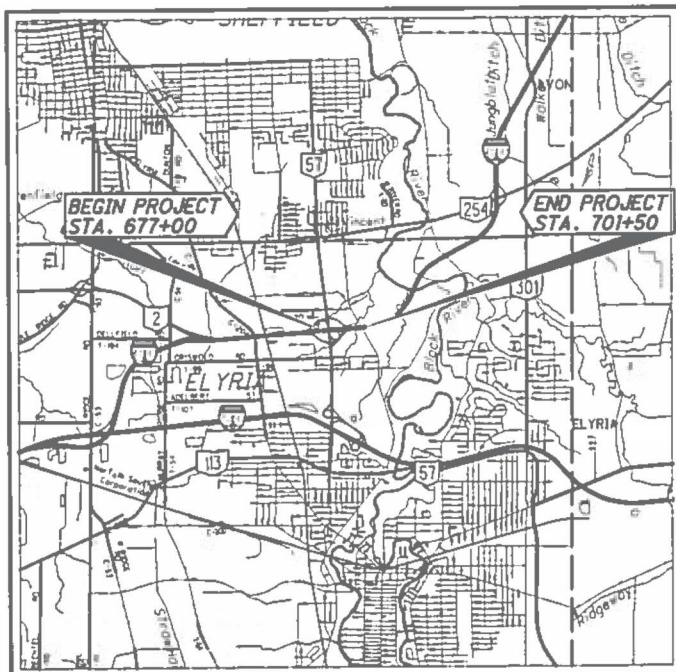


STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LOR-90-13.20

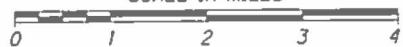
**EQUATION
SLM 12.703 BACK=
SLM 12.179 AHEAD
CITY OF ELYRIA
ELYRIA TOWNSHIP
LORAIN COUNTY**



LOCATION MAP

LATITUDE: 41°24'17" LONGITUDE: 82°07'01"

SCALE IN MILES



PORTION TO BE IMPROVED	=====
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	=====
STATE ROUTES	-----
COUNTY & TOWNSHIP ROADS	-----
OTHER ROADS	-----

DESIGN DESIGNATION

CURRENT ADT (2016)	55230
DESIGN YEAR ADT (2036)	62720
DESIGN HOURLY VOLUME (2036)	6270
DIRECTIONAL DISTRIBUTION	53%
TRUCKS (24 HOUR B&C)	13%
DESIGN SPEED	70 MPH
LEGAL SPEED	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
01 INTERSTATE (URBAN)	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE REQUIRED

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

OHIO Utilities Protection Service
Call Before You Dig
1-800-362-2784
(Non-members must be called directly)

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

PLAN PREPARED BY:



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ENGINEERS SEAL:



SIGNED: [Signature]
DATE: 7/01/16

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2
TYPICAL SECTIONS	3-8
GENERAL NOTES	9-10
MAINTENANCE OF TRAFFIC	11-87
GENERAL SUMMARY	88-89, 89A
ESTIMATED QUANTITIES	90-95
PROJECT SITE PLAN	96
PLAN PROFILE SHEETS I-90	97-112
CROSS SECTIONS I-90	113-143
PLAN PROFILE SHEETS RAMP C	144-145
PLAN PROFILE SHEETS RAMP D	146-148
CROSS SECTIONS RAMP D	149-151
PLAN PROFILE SHEET W. RIVER ROAD	152
SUPERELEVATION TABLE	153
TRAFFIC CONTROL	154-177
LIGHTING	178-182
MSE WALLS	183-194
STRUCTURE LOR-90-1320	195-247
STRUCTURE LOR-90-1355	248-301
S.U.E. FIBER OPTIC DUCT BANK INVESTIGATION	
SOIL PROFILES	

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	7/18/14	MGS-3.2	1/18/13	HL-10.13	1/15/16	MT-99.30	1/16/15	TC-22.20	1/17/14	800	
BP-5.1	7/19/13	MGS-4.2	7/19/13	HL-10.31	7/17/15	MT-100.00	1/15/16	TC-41.10	7/19/13	832	1/17/14
BP-9.1	7/19/13	MGS-5.3	7/19/13	HL-20.21	1/15/16	MT-101.60	7/19/13	TC-41.20	10/18/13	840	4/15/16
		MGS-6.1	7/19/13	HL-30.11	1/15/16	MT-101.70	1/17/14	TC-41.30	10/18/13	878	10/18/13
CB-1.1	1/15/16			HL-30.31	1/17/14	MT-101.80	1/16/15	TC-42.10	10/18/13	908	1/29/16
CB-3.1	1/15/16	RM-4.3	7/18/14	HL-30.32	1/17/14	MT-101.90	7/17/15	TC-42.20	10/18/13		
		RM-4.4	7/18/14	HL-30.33	1/17/14	MT-102.10	7/18/14	TC-51.11	1/15/16		
HW-2.1	1/15/16	RM-4.5	7/18/14	HL-50.21	1/16/15	MT-102.30	10/16/15	TC-51.12	1/15/16		
HW-2.2	1/15/16			HL-60.21	1/16/15	MT-103.10	1/16/15	TC-52.10	10/18/13		
		AS-1-15	7/17/15			MT-104.10	10/16/15	TC-52.20	7/18/14		
F-1.1	7/19/13	PCB-91	1/18/13	MT-95.30	7/18/14	MT-105.10	7/19/13	TC-61.10	1/17/14		
F-3.1	7/19/13	PSID-1-13	1/16/15	MT-95.50	10/16/15			TC-61.30	7/18/14		
		SBR-1-13	1/17/14	MT-95.71	7/19/13			TC-64.10	7/17/15		
MGS-1.1	7/19/13	SICD-1-96	7/18/14	MT-97.10	7/18/14	TC-12.30	10/18/13	TC-65.10	1/17/14		
MGS-2.1	7/19/13	VPF-1-90	7/17/15	MT-98.10	7/18/14	TC-21.10	1/15/16	TC-65.11	7/18/14		
MGS-3.1	7/18/14			MT-98.20	7/18/14	TC-21.20	1/15/16	TC-71.10	1/17/14		
								TC-72.20	7/18/14		

PROJECT DESCRIPTION

REPLACEMENT OF TWO TWIN BRIDGES ON I-90 OVER SR-57 AND WEST RIVER ROAD, INCREASING VERTICAL CLEARANCE OVER SR-57, WITH ASSOCIATED PAVEMENT REPLACEMENT. THE BRIDGES WILL ACCOMMODATE A FUTURE 12 FOOT LANE.

PROJECT EARTH DISTURBED AREA: 17.7 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 1.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 18.7 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 5511.02 OF THE OHIO REVISED CODE.

2016 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 APPROVED THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) OF THE OHIO REVISED CODE, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OF LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

APPROVED: [Signature]
DATE: 7/28/16 DISTRICT DEPUTY DIRECTOR

APPROVED: _____
DATE: _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

160576 Conformed Set
Dist 3

7/1/2016 8:32:29 AM dbruno

FEDERAL PROJECT NO.

E090328

PID NO.

83449

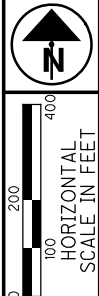
CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

NONE

LOR-90-13.20

1
301



SCHEMATIC PLAN

LOR-90-13.20

RAMP A, CURVE-A1
 PI Sta. 57+12.40
 $\Delta = 47^\circ 00' 15''$ (LT)
 $Dc = 8^\circ 00' 00''$
 $R = 716.20'$
 $Ls = 200.00'$
 $\theta s = 8^\circ 00' 00''$
 $LT = 133.47'$
 $ST = 66.79'$
 $x = 199.61'$
 $y = 9.30'$
 $k = 99.94'$
 $p = 2.33'$
 $\Delta c = 31^\circ 00' 15''$ (LT)
 $Lc = 387.55'$
 $Ts = 412.39'$
 $Es = 67.32'$
 $C = 382.84'$
 $C1 = C2 = 199.83'$
 C.B. 1 = N 81° 22' 11" E
 C.B. = N 60° 32' 02" E
 C.B. 2 = S 39° 41' 53" W
 $eMax = 0.055$

RAMP A, CURVE-A2
 PI Sta. 63+26.70
 $\Delta = 45^\circ 50' 13''$ (RT)
 $Dc = 15^\circ 00' 00''$
 $R = 381.97'$
 $Ls = 150.00'$
 $\theta s = 11^\circ 15' 00''$
 $LT = 100.20'$
 $ST = 50.18'$
 $x = 149.42'$
 $y = 9.79'$
 $k = 74.90'$
 $p = 2.45'$
 $\Delta c = 23^\circ 20' 13''$ (RT)
 $Lc = 155.58'$
 $Ts = 237.44'$
 $Es = 35.40'$
 $C = 154.51'$
 $C1 = C2 = 149.74'$
 C.B. 1 = N 40° 46' 50" E
 C.B. = N 59° 57' 01" E
 C.B. 2 = S 79° 07' 12" W
 $eMax = 0.06$

RAMP C, CURVE-C1
 PI Sta. 54+40.26
 $\Delta = 48^\circ 39' 24''$ (RT)
 $Dc = 15^\circ 54' 56''$
 $R = 360.00'$
 $Ls = 200.00'$
 $\theta s = 15^\circ 54' 56''$
 $LT = 133.88'$
 $ST = 67.16'$
 $x = 198.46'$
 $y = 18.42'$
 $k = 99.74'$
 $p = 4.62'$
 $\Delta c = 16^\circ 49' 32''$ (RT)
 $Lc = 105.72'$
 $Ts = 264.59'$
 $Es = 40.15'$
 $C = 105.34'$
 $C1 = C2 = 199.31'$
 C.B. 1 = N 88° 10' 14" E
 C.B. = S 72° 48' 10" E
 C.B. 2 = N 53° 46' 35" W
 $eMax = 0.06$

RAMP C, CURVE-C2
 PI Sta. 61+27.30
 $\Delta = 30^\circ 00' 00''$ (LT)
 $Dc = 8^\circ 00' 00''$
 $R = 716.20'$
 $T = 191.90'$
 $L = 375.00'$
 $E = 25.26'$
 $C = 370.73'$
 C.B. = S 71° 28' 28" E

RAMP C, CURVE-C3
 PI Sta. 65+87.42
 $\Delta = 8^\circ 17' 46''$ (LT)
 $Dc = 1^\circ 30' 00''$
 $R = 3,819.72'$
 $T = 277.02'$
 $L = 553.07'$
 $E = 10.03'$
 $C = 552.59'$
 C.B. = N 89° 22' 40" E
 $eMax = 0.037$

I-90
 PI Sta. 719+72.20
 $\Delta = 59^\circ 48' 25''$ (LT)
 $Dc = 2^\circ 00' 00''$
 $R = 2,864.79'$
 $Ls = 300.00'$
 $\theta s = 3^\circ 00' 00''$
 $LT = 200.03'$
 $ST = 100.03'$
 $x = 299.92'$
 $y = 5.23'$
 $k = 149.99'$
 $p = 1.31'$
 $\Delta c = 53^\circ 48' 25''$ (LT)
 $Lc = 2,690.35'$
 $Ts = 1,798.30'$
 $Es = 441.48'$
 $C = 2,592.57'$
 $C1 = C2 = 299.96'$
 C.B. 1 = N 84° 13' 50" E
 C.B. = N 55° 19' 37" E
 C.B. 2 = S 26° 25' 25" W
 $eMax = N/C$

RAMP D, CURVE-D2
 PI Sta. 58+78.19
 $\Delta = 24^\circ 28' 49''$ (RT)
 $Dc = 6^\circ 44' 26''$
 $R = 850.00'$
 $Ls = 200.00'$
 $\theta s = 6^\circ 44' 26''$
 $LT = 133.43'$
 $ST = 66.75'$
 $x = 199.72'$
 $y = 7.84'$
 $k = 99.95'$
 $p = 1.96'$
 $\Delta c = 10^\circ 59' 56''$ (RT)
 $Lc = 163.17'$
 $Ts = 284.78'$
 $Es = 21.78'$
 $C = 162.92'$
 $C1 = C2 = 199.88'$
 C.B. 1 = N 62° 59' 46" E
 C.B. = N 72° 59' 22" E
 C.B. 2 = S 82° 58' 59" W
 $eMax = 0.06$

CENTERLINE MONUMENTATION AND BENCH MARKS - CENTERLINE OF RIGHT OF WAY I-90

NAME	STATION	OFFSET	RT/LT	NORTHING	EASTING	FEATURE	DESCRIPTION	ELEVATION
S017	STA. 598+30.34	0.08'	LT	633,006.733	2,068,131.352	CMON	3" DEEP	729.04
S013	STA. 636+99.68	0.11'	RT	633,328.260	2,071,987.312	CMON	8" DEEP	694.78
S012	STA. 674+68.22	0.20'	RT	633,411.284	2,072,983.387	CMON	3" DEEP	700.93
S001	STA. 683+99.55	0.14'	RT	633,488.780	2,073,911.493	CMON	6" DEEP	706.64
S002	STA. 692+99.87	0.15'	RT	633,563.626	2,074,808.695	CMON	4" DEEP	696.94
S003	STA. 701+73.89	0.18'	RT	633,636.267	2,075,679.687	CMON	1" DEEP	688.19
S004	STA. 704+73.85	0.04'	RT	633,666.558	2,075,978.085	CMON	SURFACE	688.07
S005	STA. 718+00.02	0.06'	LT	634,138.313	2,077,204.855	CMON	3" DEEP	661.92
CALC1	STA. 725+05.83	14.84'	LT	634,613.234	2,077,722.304	CMON	SURFACE	
CALC2	STA. 725+05.77	15.14'	RT	634,593.287	2,077,744.686	CMON	SURFACE	

RAMP F, CURVE-F1
 PI Sta. 39+76.73
 $\Delta = 6^\circ 47' 46''$ (RT)
 $Dc = 1^\circ 30' 00''$
 $R = 3,819.72'$
 $T = 226.80'$
 $L = 453.07'$
 $E = 6.73'$
 $C = 452.81'$
 C.B. = N 88° 37' 40" E
 $eMax = 0.037$

RAMP F, CURVE-F2
 PI Sta. 51+39.71
 $\Delta = 18^\circ 40' 06''$ (RT)
 $Dc = 6^\circ 44' 26''$
 $R = 850.00'$
 $T = 139.71'$
 $L = 276.95'$
 $E = 11.41'$
 $C = 275.73'$
 C.B. = S 78° 38' 24" E
 $eMax =$

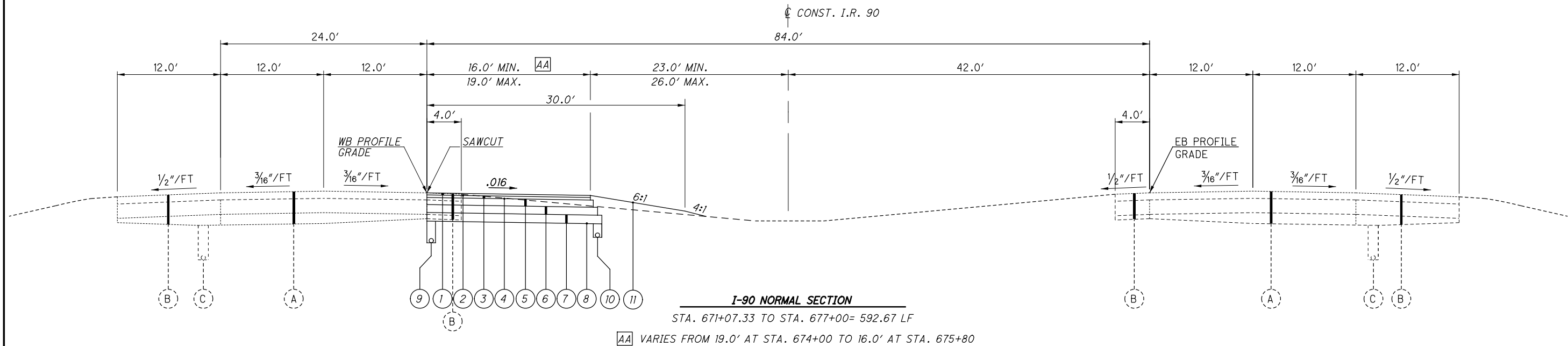
RAMP F, CURVE-F3
 PI Sta. 56+95.31
 $\Delta = 27^\circ 44' 19''$ (LT)
 $Dc = 15^\circ 29' 07''$
 $R = 370.00'$
 $T = 91.36'$
 $L = 179.13'$
 $E = 11.11'$
 $C = 177.38'$
 C.B. = S 83° 10' 31" E
 $eMax = 0.06$

SR-57
 PI Sta. 131+89.45
 $\Delta = 8^\circ 18' 00''$ (LT)
 $Dc = 0^\circ 20' 00''$
 $R = 17,188.74'$
 $T = 1,247.18'$
 $L = 2,490.00'$
 $E = 45.19'$
 $C = 2,487.82'$
 C.B. = N 2° 59' 30" W
 $eMax = N/C$

RAMP D, CURVE-D1
 PI Sta. 53+15.61
 $\Delta = 22^\circ 12' 22''$ (LT)
 $Dc = 15^\circ 29' 07''$
 $R = 370.00'$
 $T = 72.61'$
 $L = 143.40'$
 $E = 7.06'$
 $C = 142.50'$
 C.B. = N 71° 51' 09" E
 $eMax = 0.06$

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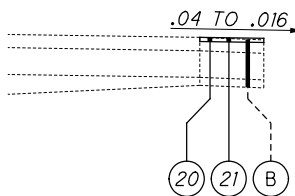


I-90 NORMAL SECTION
 STA. 671+07.33 TO STA. 677+00= 592.67 LF

AA VARIES FROM 19.0' AT STA. 674+00 TO 16.0' AT STA. 675+80

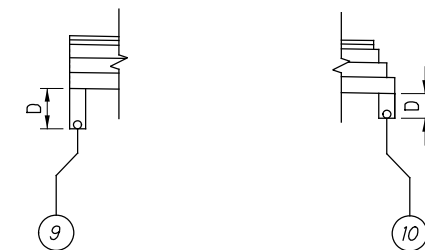
LEGEND

- ① ITEM 442 - 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
- ② ITEM 407 - NON-TRACKING TACK COAT, @ 0.04 GAL. / S.Y.
- ③ ITEM 442 - 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM TYPE A (446)
- ④ ITEM 407 - TACK COAT @ 0.075 GAL. / S.Y.
- ⑤ ITEM 302 - 5" ASPHALT CONCRETE BASE, PG 64-22
- ⑥ ITEM 302 - 5 1/2" ASPHALT CONCRETE BASE, PG 64-22
- ⑦ ITEM 304 - 6" AGGREGATE BASE
- ⑧ ITEM 204 - SUBGRADE COMPACTION
- ⑨ ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN (24" DEPTH), 707.31
- ⑩ ITEM 605 - 6" BASE PIPE UNDERDRAIN (18" DEPTH), 707.31
- ⑪ ITEM 659 - SEEDING AND MULCHING
- ⑫ ITEM 302 - 4 1/2" ASPHALT CONCRETE BASE, PG 64-22
- ⑬ ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17")
- ⑭ ITEM 609 - CURB, TYPE 4-C
- ⑮ ITEM 606 - GUARDRAIL, TYPE MGS
- ⑯ ITEM 442 - 4 1/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448)
- ⑰ ITEM 452 - 9" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1
- ⑱ ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B
- ⑲ ITEM 203 - ROADWAY MISC.: AESTHETIC RIVER ROCK
- ⑳ ITEM 254 - VARIABLE MILLING (1.5" MAX.)
- ㉑ ITEM 302 - VARIABLE DEPTH ASPHALT CONCRETE BASE
- ㉒ ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, 3" THICKNESS



SHOULDER CROSS SLOPE TRANSITION

670+25.00 TO 671+07.33 WB
 701+50.00 TO 701+75.00 WB
 701+50.00 TO 701+75.00 EB



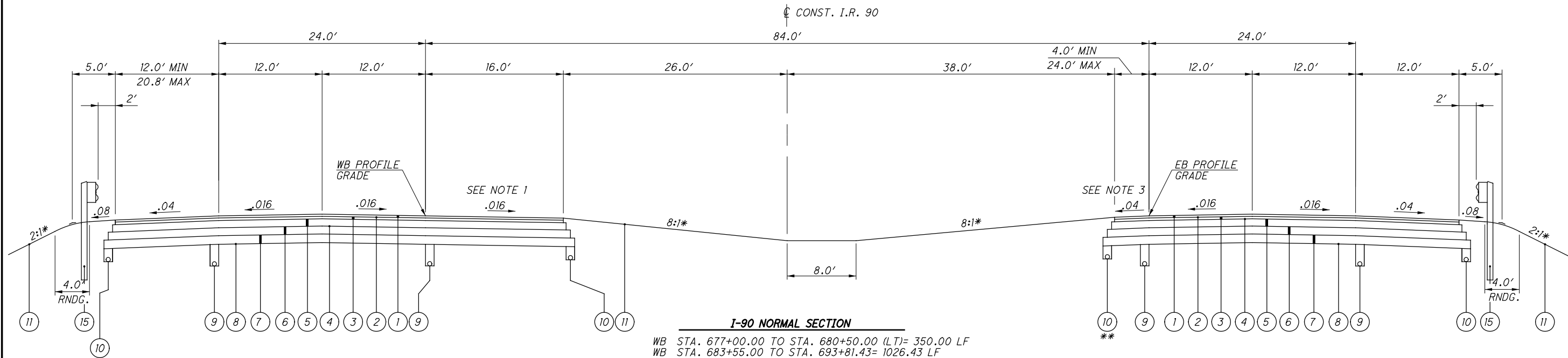
UNDERDRAIN DETAIL

THE DEPTH "D" IS SHOWN NEXT TO THE ITEM DESCRIPTION LOCATED IN THE LEGEND

- Ⓐ I-90 EXISTING PAVEMENT - 5" ASPHALT CONCRETE
 10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
 3" TO 7 1/2" SUBBASE
- Ⓑ I-90 EXISTING SHOULDER - 5" ASPHALT CONCRETE
 3" BITUMINOUS AGGREGATE BASE
 6" AGGREGATE BASE
 3" SUBBASE
- Ⓒ EXISTING UNDERDRAIN
- Ⓓ US-57 EXISTING PAVEMENT - 5 3/4" ASPHALT CONCRETE
 9" NON-REINFORCED CONCRETE PAVEMENT
 6" AGGREGATE BASE

* OR AS SHOWN ON THE CROSS SECTIONS

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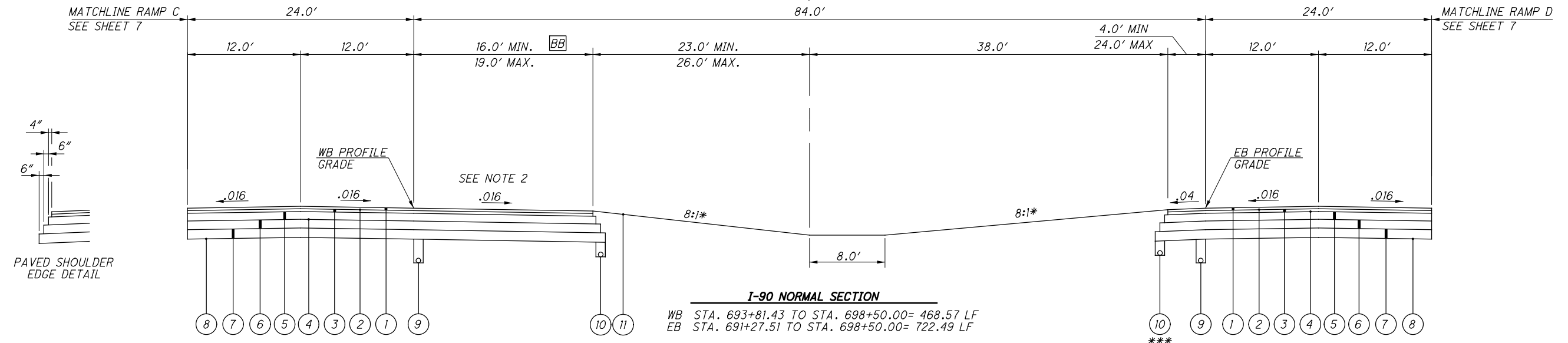
I-90 NORMAL SECTION

WB STA. 677+00.00 TO STA. 680+50.00 (LT)= 350.00 LF
 WB STA. 683+55.00 TO STA. 693+81.43= 1026.43 LF
 EB STA. 676+00.00 TO STA. 680+50.00= 450.00 LF
 EB STA. 683+55.00 TO STA. 691+27.51= 772.51 LF
 EB STA. 676+00.00 TO STA. 680+50.00 (RT)= 450.00 LF

NOTE 1
 TRANSITION THE 16' WIDE PAVEMENT FROM
 0.016'/' AT STATION 680+25 TO 12' WIDE AT 0.016'/'
 PLUS 4' WIDE AT 0.04'/' , AT STATION 680+50

** UNDERDRAIN TRANSITIONS FROM BASE PIPE UNDERDRAIN TO
 SHALLOW PIPE UNDERDRAIN AT STATION 687+42 TEE

NOTE 3
 EB TRANSITION FROM 4 FEET AT 0.04, AT 680+25, TO 0.016 AT 680+50
 AND FROM 4 FEET AT 0.04, AT 683+30, TO 0.016 AT 683+55.
 ALSO THE EB TRANSITION FROM 4 FEET AT 0.016, AT 698+25, TO 0.04 AT 698+50



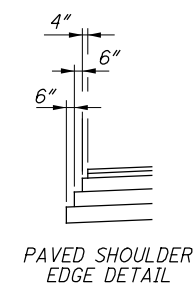
I-90 NORMAL SECTION

WB STA. 693+81.43 TO STA. 698+50.00= 468.57 LF
 EB STA. 691+27.51 TO STA. 698+50.00= 722.49 LF

BB VARIES FROM 16.0' AT STA. 694+00 TO 19.0' AT STA. 696+00

NOTE 2
 TRANSITION THE 19' AT STATION 698+08 FROM
 0.016'/' TO 12' AT 0.016'/' PLUS 7' AT 0.04'/'
 AT STATION 698+50

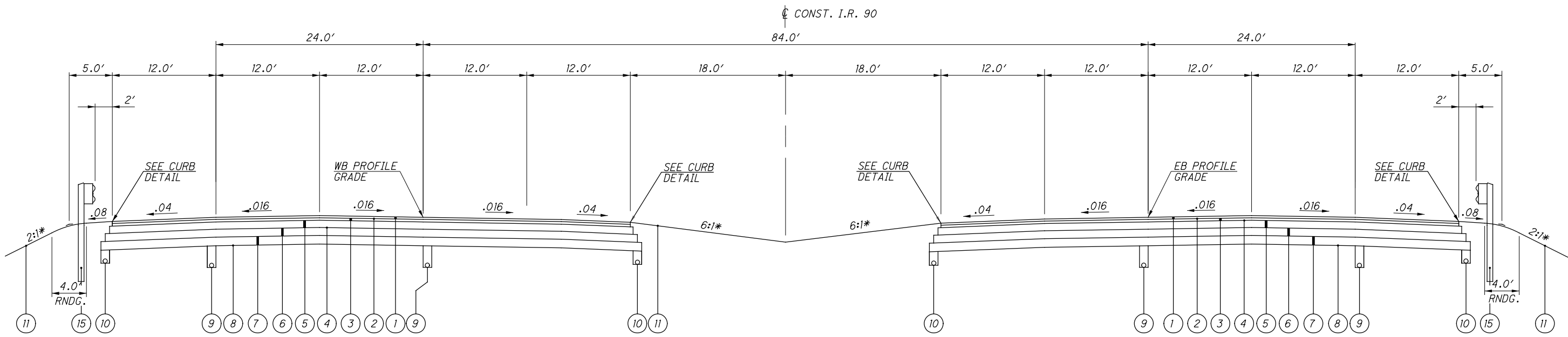
*** UNDERDRAIN TRANSITIONS FROM BASE PIPE UNDERDRAIN TO
 SHALLOW PIPE UNDERDRAIN BETWEEN STATION 694+00 AND STATION 694+50



TYPICAL SECTIONS

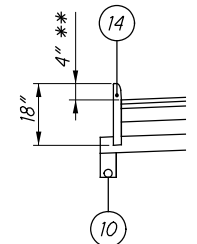
LOR-90-13.20

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I-90 NORMAL SECTION

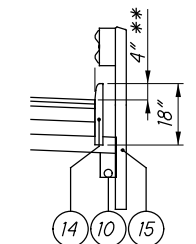
WB STA. 680+50.00 TO STA. 680+78.96= 28.96 LF
 WB STA. 683+20.97 TO STA. 683+55.00= 34.03 LF
 EB STA. 680+50.00 TO STA. 680+82.44= 32.44 LF
 EB STA. 683+24.45 TO STA. 683+55.00= 30.55 LF



CURB DETAIL LEFT SIDE

680+57.47 TO 680+77.47 WB, LT
 680+61.44 TO 680+81.44 EB, LT
 683+19.41 TO 683+39.41 WB, LT
 683+23.38 TO 683+43.38 EB, LT
 700+31.58 TO 700+51.58 WB, LT
 700+79.71 TO 700+99.71 EB, LT

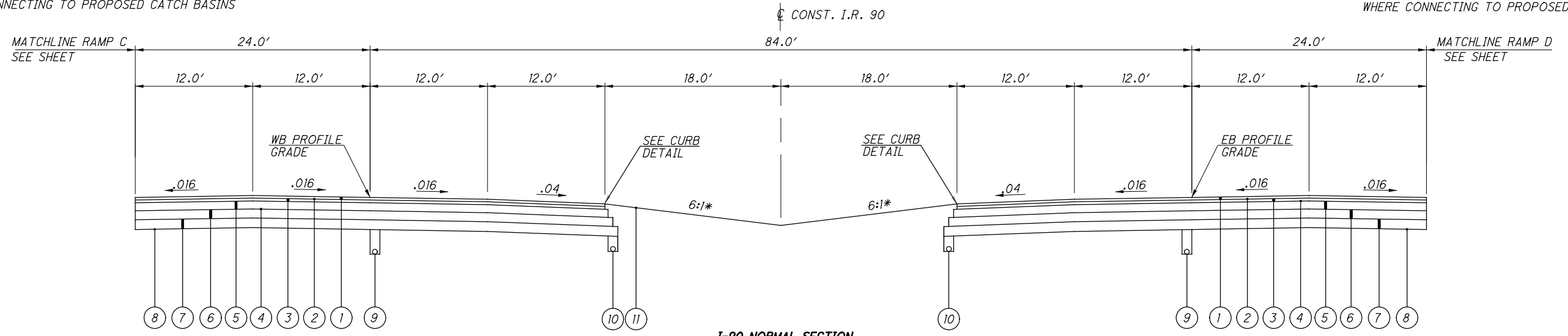
**CURB SHALL TRANSITION FROM 4" TO 6" IN 2'
 WHERE CONNECTING TO PROPOSED CATCH BASINS



CURB DETAIL RIGHT SIDE

680+60.03 TO 680+80.03 WB, RT
 680+64.00 TO 680+84.00 EB, RT
 683+21.96 TO 683+41.96 WB RT
 683+25.93 TO 683+45.93 EB, RT
 700+63.82 TO 700+83.82 WB, RT
 701+17.69 TO 701+37.69 EB, RT

**CURB SHALL TRANSITION FROM 4" TO 6" IN 2'
 WHERE CONNECTING TO PROPOSED CATCH BASINS



I-90 NORMAL SECTION

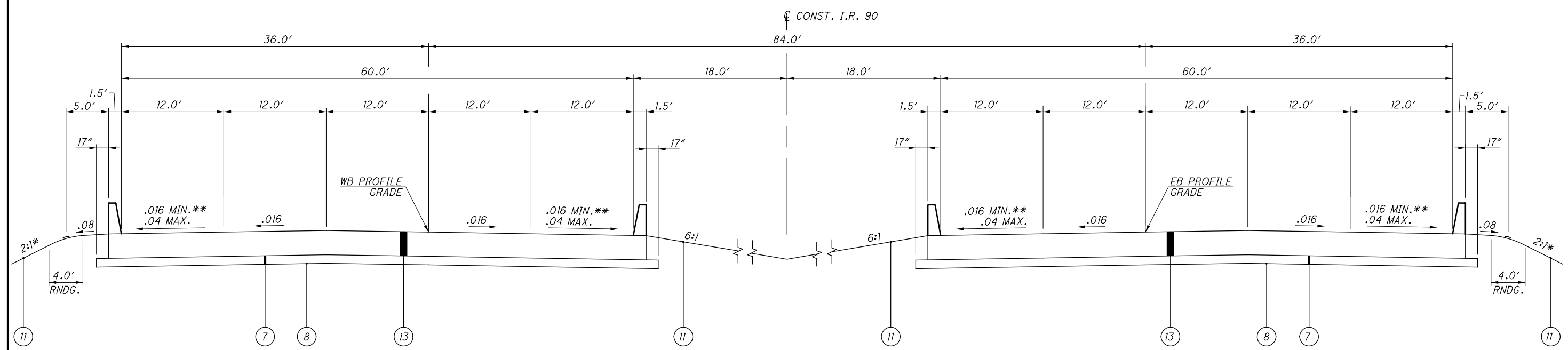
WB STA. 698+50.00 TO STA. 698+94.62= 44.62 LF
 WB STA. 700+52.71 TO STA. 701+50.00= 97.29 LF
 EB STA. 698+50.00 TO STA. 699+33.49= 83.49 LF
 EB STA. 700+91.58 TO STA. 701+50.00= 58.42 LF

BB VARIES FROM 16.0' AT STA. 694+00 TO 19.0' AT STA. 696+00

TYPICAL SECTIONS

LOR-90-13.20

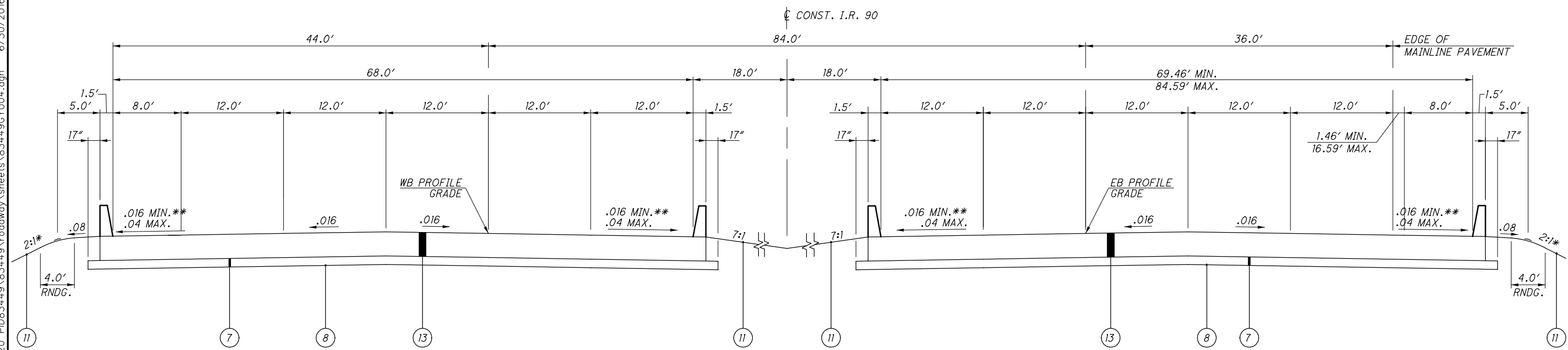
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APPROACH SLAB - SR-57 BRIDGES

WB STA. 680+78.96 TO STA. 681+08.96 = 30.00 LF
 WB STA. 682+90.97 TO STA. 683+20.97 = 30.00 LF
 EB STA. 680+82.44 TO STA. 681+12.44 = 30.00 LF
 EB STA. 682+94.45 TO STA. 683+24.45 = 30.00 LF

**CROSS SLOPE SHALL TRANSITION FROM .04'/'
 AT THE ROADWAY LIMIT TO .016'/' AT THE BRIDGE



APPROACH SLAB - RIVER ROAD BRIDGES

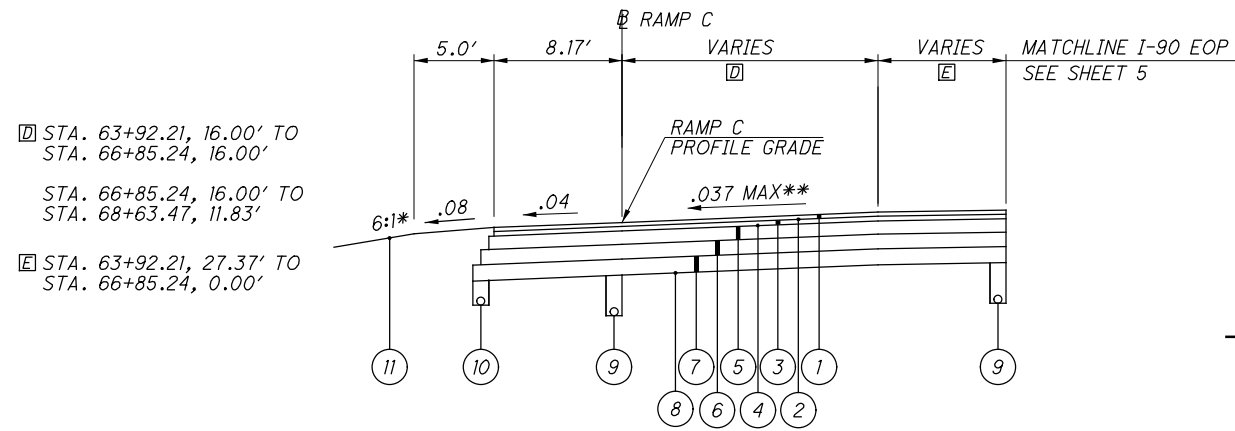
WB STA. 698+94.62 TO STA. 699+24.62 = 30.00 LF
 WB STA. 700+22.71 TO STA. 700+52.71 = 30.00 LF
 EB STA. 699+33.49 TO STA. 699+63.49 = 30.00 LF
 EB STA. 700+61.58 TO STA. 700+91.58 = 30.00 LF

**CROSS SLOPE SHALL TRANSITION FROM .04'/'
 AT THE ROADWAY LIMIT TO .016'/' AT THE BRIDGE

TYPICAL SECTIONS

LOR-90-13.20

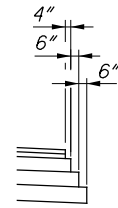
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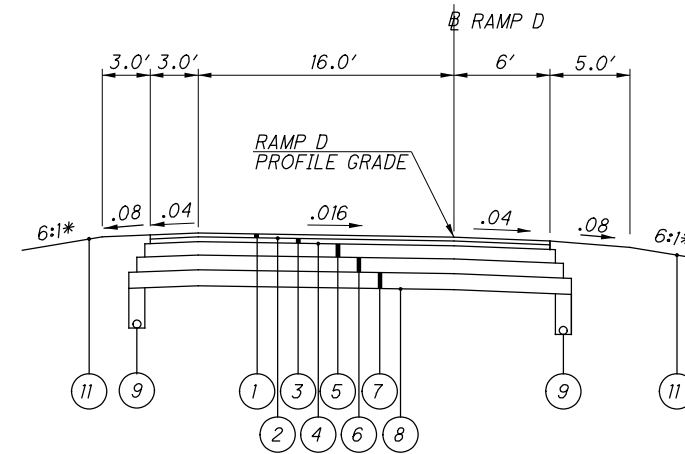
RAMP C SUPERELEVATED SECTION

STA. 63+75.00 TO STA. 68+68.95= 493.95 LF

**TRANSITION CROSS SLOPE
 FROM 0.037 AT STA. 67+97.76
 TO 0.016 AT STA. 68+72.35

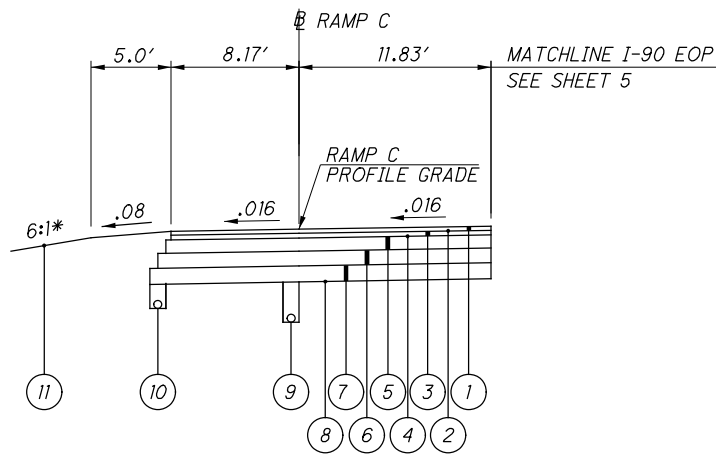


PAVEMENT EDGE DETAIL



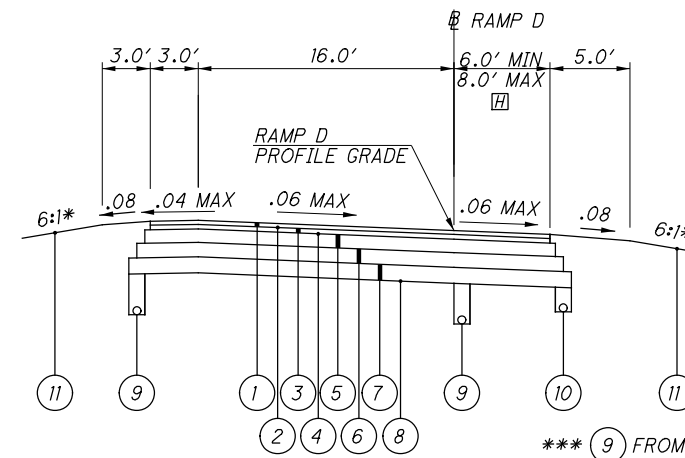
RAMP D NORMAL SECTION

STA. 53+90.00 TO STA. 55+93.41= 203.41 LF



RAMP C NORMAL SECTION

STA. 70+27.04 TO STA. 71+13.47= 86.43 LF

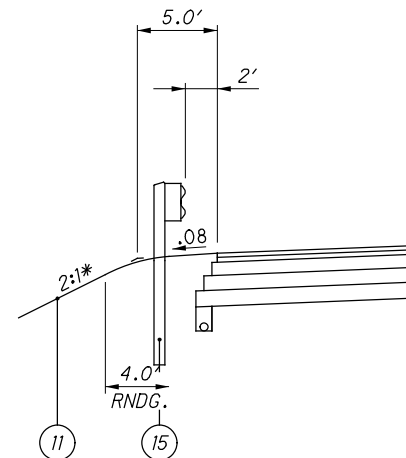


RAMP D SUPERELEVATED SECTION

STA. 55+93.41 TO STA. 61+56.58= 563.17 LF
 FOR SUPERELEVATION TABLE SEE SHEET 153

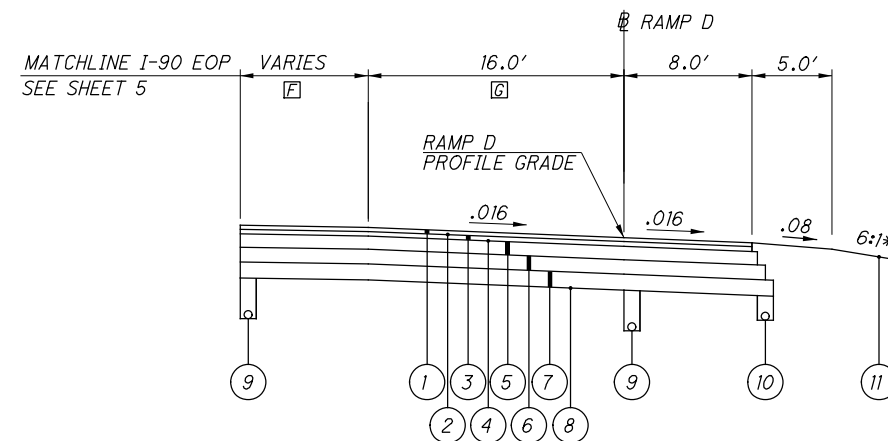
STA. 61+09.12, 6.0' TO
 STA. 61+56.58, 8.0'

*** (9) FROM STA. 55+93.41 TO STA. 59+72.00



RAMP C AND RAMP D GUARDRAIL GRADING DETAIL

SEE PLANS FOR LOCATIONS



RAMP D NORMAL SECTION

STA. 61+56.58 TO STA. 67+79.48= 622.90 LF
 STA. 69+36.15 TO STA. 69+77.24= 41.09 LF

STA. 59+56.58, 17.24' TO
 STA. 61+56.58, 9.18'

STA. 63+50.58, 9.18' TO
 STA. 68+09.35, 0.00'

STA. 68+09.35, 16.00' TO
 STA. 69+27.68, 13.63'

STA. 69+27.68, 13.63' TO
 STA. 69+77.24, 15.55'

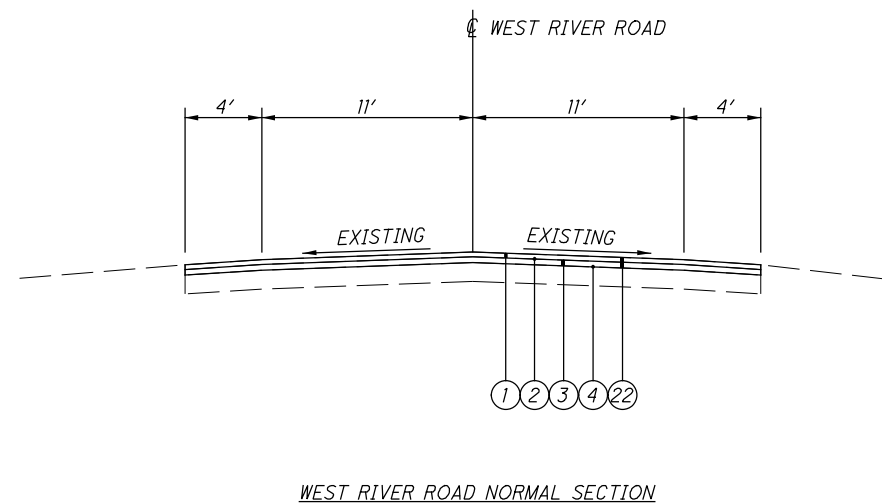
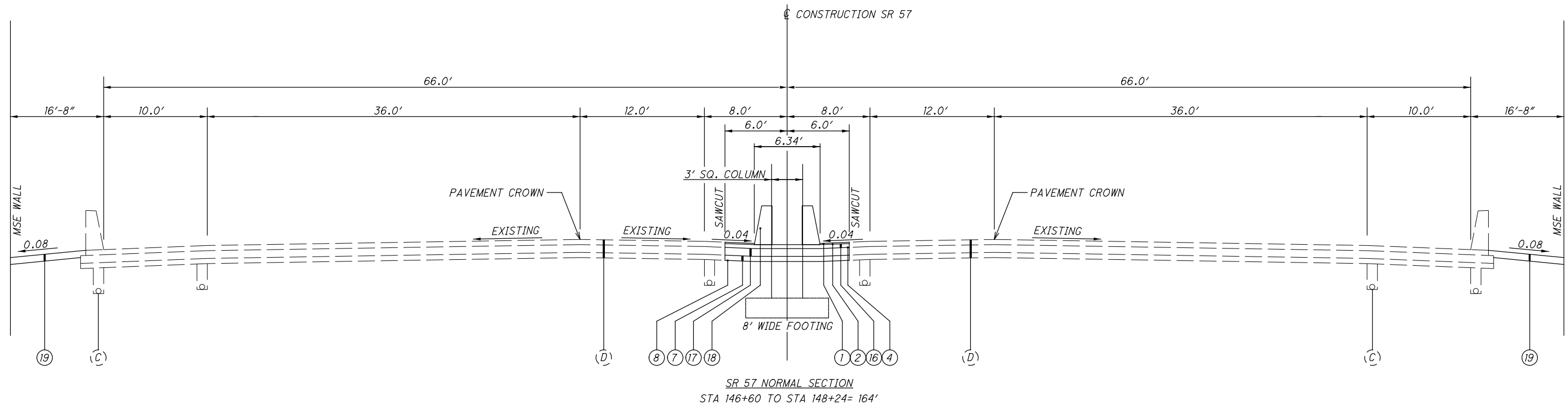
FOR LEGEND SEE SHEET 3
 FOR SHOULDER PAVEMENT BUILDUP SEE SHEET 4

TYPICAL SECTIONS

LOR-90-13.20

7/301

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TYPICAL SECTIONS

LOR-90-13.20

8
301

FOR LEGEND SEE SHEET 3

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:

TELEPHONE

AT&T
HLG CONSULTING
TONY LYLE
5980-G WILCOX PLACE
DUBLIN, OHIO 43016
(614) 760-8320

TELEPHONE

OHIO EDISON TRANSMISSION
76 SOUTH MAIN STREET
AKRON, OHIO 44308
(330) 384-5773

ELECTRIC

OHIO EDISON TRANSMISSION
76 SOUTH MAIN STREET
AKRON, OHIO 44308
(330) 384-5773

TELEPHONE

OHIO EDISON COMPANY
DOUG LINN
6326 LAKE AVE.
ELYRIA, OHIO 44035
(440) 326-3268

TRAFFIC

CITY OF LORAIN (TRAFFIC)
DAVE BUSCH
1106 WEST 1ST STREET
LORIAN, OHIO 44052
(440) 204-2046

ELECTRIC

WINDSTREAM OHIO
GEOFFREY HAMM
560 TERNES AVE.
ELYRIA, OHIO 44035
(440) 329-4245

CABLE

CHARTER COMMUNICATION
PAUL SILVESTRO
8150 DOW CIRCLE
STRONGSVILLE, OHIO 44136
(216) 575-8016 (CELL)
(216) 575-5034 (OFFICE)

GAS

COLUMBIA GAS OF OHIO
ADAM WOODIE
3101 N. RIDGEWOOD ROAD E.
LORAIN, OHIO 44055
(440) 240-6144

WATER

CITY OF LORAIN (WATER)
MARY GARZA
1106 WEST 1ST STREET
LORIAN, OHIO 44053
(440) 204-2500

SEWER

CITY OF LORAIN (SEWER)
DALE VANDERSOMMEN
1106 WEST 1ST STREET
LORIAN, OHIO 44052
(440) 204-2005

WATER

CITY OF ELYRIA
JOHN SCHNEIDER
131 COURT STREET, SUITE 303
ELYRIA, OHIO 44036
(440) 326-1444

TRAFFIC

CITY OF ELYRIA
TIM UJVARI
131 COURT STREET, SUITE 303
ELYRIA, OHIO 44035
(440) 326-1444

STORM

CITY OF ELYRIA
JOHN SCHNEIDER
131 COURT STREET, SUITE 303
ELYRIA, OHIO 44036
(440) 326-1444

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET ___ OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: ----- VRS
MONUMENT TYPE: ----- VARIOUS, CONCRETE MONUMENTS, IRON PINS

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: ----- NAVD88
GEOID: ----- GEOID 2012A

HORIZONTAL POSITIONING

REFERENCE FRAME: ----- NAD83 (NSRS 2011)
ELLIPSOID: ----- GRS80
MAP PROJECTION: ----- LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: ----- OHIO STATE PLANE, NORTH ZONE
COMBINED SCALE FACTOR: ----- 0.999922599 (GRID TO GROUND)
ORIGIN OF COORDINATE SYSTEM: ----- 0.0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

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 THESE WORK LIMITS.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS OF 10' WIDE AND 1:1 SLOPES 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

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.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

- SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
- 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 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.

- COMPACT THE SUBGRADE ACCORDING TO 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 204.06.

5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.

- PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.

- 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.

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.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

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CALCULATED
GKB
CHECKED
JWB

GENERAL NOTES

LOR-90-13.20

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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 611 CONDUIT ITEM.

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.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED

ALL CASTINGS SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT OF WAY FOR SALVAGE BY STATE FORCES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

TEMPORARY DRAINAGE ITEMS

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN SHEETS ARE QUANTIFIED ON THE MOT PLANS AS FOR INFORMATION ONLY. PAYMENT FOR THE LABOR, MATERIAL, INSTALLATION, AND EVENTUAL REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	15688 CU. YD.
659, SEEDING AND MULCHING	141327 SQ. YD.
659, REPAIR SEEDING AND MULCHING	7067 SQ. YD.
659, INTER-SEEDING	7067 SQ. YD.
659, COMMERCIAL FERTILIZER	19.71 TON
659, LIME	29.20 ACRES
659, WATER	802 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES ALONG I-90, AND OF A TOTAL WIDTH OF 305 FEET WHERE RIGHT OF WAY WIDENS TO INCLUDE RAMPS, AND ALONG RAMP RIGHT OF WAY WITHIN EARTH DISTURBED AREAS. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

ITEM 203 EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN THE FOLLOWING STATIONS.

LOR-90-1320L/R: FROM STATION 680+25 TO LIMITS OF MSE WALL EMBANKMENT AND FROM LIMITS OF MSE WALL EMBANKMENT TO STATION 683+75

LOR-90-1355L/R: FROM STATION 698+50 TO LIMITS OF MSE WALL EMBANKMENT AND FROM LIMITS OF MSE WALL EMBANKMENT TO STATION 701+50

GUARDRAIL POST BLOCKOUT

WHERE GUARDRAIL POST IS TO BE SET BEHIND CB-3, ADDITIONAL BLOCKOUT SHALL BE INSTALLED TO THE POST BEHIND THE CATCH BASIN. ADDITIONAL HARDWARE AND BLOCKING REQUIRED TO OFFSET THE POST FROM THE CATCH BASIN SHALL BE INCIDENTAL TO THE COST OF THE GUARDRAIL.

AESTHETIC RIVER ROCK

PROVIDE A RIVER ROCK STONE BERM IN LIEU OF TURF ALONG THE OUTSIDE LANES OF SR 57 FROM THE MSE WALL TO THE EDGE OF SHOULDER. STONE IS TO BE WASHED SIZE #2 PER TABLE 703.01-1 OF THE 2016 C&MS (4" LIFT) ON ODOT 304 (4" LIFT). RIVER ROCK IS TO BE PLACED ALONG THE ENTIRE LENGTH OF THE MSE WALL. RIVER ROCK SHALL BE PLACED AT 1 INCH PER FOOT CROSS SLOPE.

ALL WORK REQUIRED FOR THE PROPER PLACEMENT INCLUDING ALL LABOR EQUIPMENT AND METRIAL SHALL BE PAID FOR AS:

ITEM 203 - ROADWAY, MISC.: AESTHETIC RIVER ROCK -----181 CY

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 611 CONDUIT ITEM.

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.

PAVEMENT RESTORATION FOR DRAINAGE STRUCTURE INSTALLATIONS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.
ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 ----- 60.2 CU. YDS.
ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446) --6.8 CU YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 13.25 INCHES AND 442 THICKNESS OF 1.50 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

CONTRACTOR'S USE OF ODOT RIGHT-OF-WAY

THE CONTRACTOR SHALL NOT BORROW FROM A SITE KNOWN OR SUSPECTED OF HAVING CONTAMINATED SOIL OR WATER.

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.
ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 ----- 1.8 CU. YDS.
ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446) --0.2 CU YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 13.25 INCHES AND 442 THICKNESS OF 1.50 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 8:00 PM AND 7:00 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE RESONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN

A TOP BARRIER WIDTH OF 72" SHALL BE CONSTRUCTED TO MATCH THE EXISTING SINGLE SLOPE BARRIER OF 72".

PAYMENT FOR ALL WORK REQUIRED INCLUDING ALL LABOR, EQUIPMENT, AND MATERIAL SHALL BE PAID FOR AS ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN.

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GENERAL NOTES

LOR-90-13.20

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ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF 2 LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, AND ITEM 615 ROADS FOR MAINTAINING TRAFFIC.

LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS
NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING
(OTHER HOLIDAY OR EVENT)	

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:

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

NO EXTENSIONS OF TIME SHALL BE GRANTED 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 IN THE AMOUNT OF \$75 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

TRAFFIC SIGNAGE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. UNLESS QUANTIFIED ELSEWHERE IN THESE PLANS, ALL ASSOCIATED LABOR, MATERIALS, AND INCIDENTALS ASSOCIATED WITH MAINTAINING SIGNS SHALL BE INCLUDED WITH ITEM 614, MAINTAINING TRAFFIC.

ITEM 614, MAINTAINING TRAFFIC (ESTIMATED QUANTITIES)

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 614, ASPHALT CONCRETE	
FOR MAINTAINING TRAFFIC	500 CU. YD.
ITEM 616, WATER	50 M. GAL.

ITEM 614, MAINTAINING TRAFFIC (WINTER TIME LIMITATIONS)

ALL EXISTING LANES, INCLUDING RAMPS, SHALL BE OPEN AND AVAILABLE TO TRAFFIC IN THE ORIGINAL OR PROPOSED FINAL ALIGNMENT BETWEEN OCTOBER 30 AND APRIL 1. SHOULD THE CONTRACTOR FAIL TO MEET THESE REQUIREMENTS, A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$3000 PER CALENDAR DAY.

THE FOLLOWING ITEMS HAVE BEEN INCLUDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR USE IN PLACING TRAFFIC BACK INTO THE ORIGINAL CONFIGURATION AS DESCRIBED ABOVE FOR WINTER TIME LIMITATIONS.

- ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN
- ITEM 614 - WORK ZONE LANE LINE, CLASS I
- ITEM 614 - WORK ZONE EDGE LINE, CLASS I
- ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I
- ITEM 614 - WORK ZONE DOTTED LINE, CLASS I
- ITEM 614 - WORK ZONE STOP LINE, CLASS I
- ITEM 614 - WORK ZONE ARROW, CLASS I

THE ESTIMATED TOTALS ON THE MAINTENANCE OF TRAFFIC SUBSUMMARY INCLUDE ALL MOT PHASES AND THE TRAFFIC CHANGE FOR WINTER TIME LIMITATIONS (FOR PAY ITEMS NOTED ABOVE).

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.

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.

PERMITTED LANE CLOSURE TIMES

LANE CLOSURES SHALL ONLY BE IMPLEMENTED AT THE TIMES LISTED ON ODOT'S PERMITTED LANE CLOSURE WEBSITE: <http://plcm.dot.state.oh.us/>

THE PERMITTED CLOSURE TIMES LISTED ON THE WEBSITE, 14 CALENDAR DAYS PRIOR TO THE BID LETTING DATE, SHALL BE IN EFFECT FOR THIS PROJECT.

NO WORK WITHIN ACTIVE TRAVEL LANES OR WHICH WILL SLOW TRAFFIC IS PERMITTED AT ANY OTHER TIMES.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$75 FOR EACH MINUTE THE REQUIREMENTS ARE VIOLATED.

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 1.5 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UN-COMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

DUST CONTROL

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

ITEM 616, WATER	50 M. GAL
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WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

ADVANCED NOTICE TO PAVE

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COURSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

ALTERNATE MAINTENANCE OF TRAFFIC PLANS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THERE FROM. NO ALTERNATE PLANS SHALL BE PLACED IN EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING BY THE ODOT DISTRICT CONSTRUCTION ENGINEER.

REMOVAL OF EXISTING SUPERSTRUCTURE AND BEAM ERECTION: LOR-90-1320L AND LOR-90-1320R

REMOVAL OF SUPERSTRUCTURE SHALL REQUIRE TEMPORARY CLOSURE OF SR-57. CONTRACTOR SHALL FOLLOW ODOT PIS 209960 FOR SHORT-DURATION CLOSURE OF MULTILANE DIVIDED HIGHWAY. DURATION OF THE TEMPORARY CLOSURE SHOULD NOT EXCEED 15 MINUTES.

ERECTION OF STRUCTURAL BEAMS SHALL REQUIRE TEMPORARY CLOSURE OF SR-57. CONTRACTOR SHALL FOLLOW ODOT PIS 209960 FOR SHORT-DURATION CLOSURE OF MULTILANE DIVIDED HIGHWAY. DURATION OF THE TEMPORARY CLOSURE SHOULD NOT EXCEED 15 MINUTES.

WEST RIVER ROAD TEMPORARY CLOSURE

FOR BEAM ERECTION AND DEMOLITION OF LOR-90-1355L AND LOR-90-1355R, WEST RIVER ROAD WILL REQUIRE TEMPORARY CLOSURE WHILE WORK IS PERFORMED.

DETOUR PHASE

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.

ROAD WILL BE CLOSED "DATE" FOR XX DAYS INFO:

W20-H13-60

THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN TYPE III BARRICADES - LIGHTED WITH ROAD CLOSED SIGNS AT COUNTY ROAD 48 (DURING REQUIRED CLOSURE).

THE CONTRACTOR WILL PROVIDE AND INSTALL THE DETOUR SIGNAGE, AND PROVIDE THE COUNTY NOTICE AT LEAST TWO WEEKS IN ADVANCE OF THE CLOSURE DATE.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS 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.

EARTHWORK FOR MAINTAINING TRAFFIC

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY:

EXCAVATION FOR MAINTAINING TRAFFIC	5000 CU. YD.
EMBANKMENT FOR MAINTAINING TRAFFIC	5500 CU. YD.

WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

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 CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC (SECTION 642-2).

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MAINTENANCE OF TRAFFIC GENERAL NOTES

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ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM

THIS WORK SHALL CONSIST OF FURNISHING, ERECTING, OPERATING, MAINTAINING AND REMOVING A WORK ZONE LIGHTING SYSTEM FOR A SINGLE CROSSOVER, OR OVERLAPPING A PAIR OF CROSSOVERS. THE SYSTEM SHALL BE AS SHOWN ON SCD MT-100.00. THE CONTRACTOR SHALL ARRANGE FOR AND PAY FOR POWER. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH APPLICABLE PORTIONS OF 625 AND 725 EXCEPT: THE PERFORMANCE TEST OF 625.19F, AND CERTIFIED DRAWING REQUIREMENT OF 625.04, ARE WAIVED AND USED MATERIALS IN GOOD CONDITION ARE ACCEPTABLE.

POLES WHICH ARE NOT PROTECTED BY GUARDRAIL OR PORTABLE BARRIER SHALL BE LOCATED OUTSIDE THE CLEAR ZONE, AND SHOULD BE LOCATED AT LEAST 30 FT (PREFERABLY 40 FEET) FROM THE EDGE OF PAVEMENT WHEN POSSIBLE. ADDITIONAL POLE LINES, CABLES AND APPURTENANCES NECESSARY TO FURNISH POWER TO THE LIGHTING SYSTEM SHALL BE INCLUDED IN THIS ITEM. SERVICE POLES SHALL BE POSITIONED WITH THE SAME CONSTRAINTS AS THE LIGHTING POLES AS A MINIMUM.

EXISTING INTERCHANGE LIGHTING SHOULD SERVE TO LIGHT THE AREA EXCEPT IN PREPHASE AND PHASE 1 WHERE AN EXISTING HIGH MAST LIGHT POLE MUST BE REMOVED FOR CONSTRUCTION OF TEMPORARY RAMP C. DUE TO REMOVAL OF THIS LIGHT, SUPPLEMENTAL LIGHTING SHOULD BE PROVIDED VIA ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM UNTIL SUCH TIME THAT THE TEMPORARY RAMP C PAVEMENT IS REMOVED AND THE HIGH MAST POLE IS RE-INSTALLED.

PAYMENT WILL BE MADE AT THE UNIT PRICE PER EACH FOR ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM THROUGHOUT ALL PHASES OF WORK WHEN THE CROSSOVER ROADWAYS ARE USED.

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO CMS 614 OR CMS 621 AS SPECIFIED HEREIN.

RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621.

RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 THROUGH MARCH 31.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO CMS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER CMS 621.08.

RESURFACING OF THE TRANSITION AREAS SHALL BE PERFORMED AT THE TIME THAT THE SURFACE COURSE IS BEING APPLIED TO THE ENTIRE PROJECT. PRIOR TO APPLICATION OF THE SURFACE COURSE ON THE PROJECT, THE EXISTING PAVEMENT WITHIN THE TRANSITION AREA SHALL BE REMOVED TO A DEPTH NECESSARY TO REACH THE LEVEL OF THE INTERMEDIATE COURSE OF THE PAVEMENT, AS DETERMINED BY THE ENGINEER.

THE FOLLOWING BID ITEMS SHOULD BE INCLUDED IN THE PLANS:

- ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE 425 SQUARE YARDS
- ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN 153 EACH

PAYMENT FOR RESURFACING WITHIN THE TRANSITION AREA SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THE WORK REQUIRED, AS PROVIDED FOR IN THE PLANS.

RUMBLE STRIPS

EXISTING SHOULDER RUMBLE STRIPS IN THE PATH OF THE TRAVELING PUBLIC SHALL BE MILLED AND REPLACED WITH ASPHALT CONCRETE FOR MAINTAINING TRAFFIC. THE MILLING SHALL BE 2" DEEP AND 2' WIDE.

PAYMENT FOR THE ABOVE DESCRIBED SHALL BE AT THE UNIT PRICE BID FOR ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC, AS PER PLAN

PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO PERFORM THE WORK AS DESCRIBED ABOVE.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY:

- ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC, AS PER PLAN 260 CU. YDS.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN 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. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH CMS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET(S) OF THE PLAN. 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 AWAY FROM ALL TRAFFIC.

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.

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN X HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

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 SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.)

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 FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 2 SIGN MONTH

ITEM 622, PORTABLE BARRIER, 50", AS PER PLAN

THIS WORK SHALL CONSIST OF FURNISHING, MAINTAINING, AND SUBSEQUENTLY REMOVING A 50-INCH PORTABLE BARRIER AT THE LOCATIONS SHOWN ON THE PLANS. FOR DETAILS, SEE SCD RM-4.1.

PORTABLE STEEL BARRIER IS AN APPROVED ALTERNATIVE TO PORTABLE CONCRETE BARRIER. FOR INFORMATION ON APPROVED VENDORS, SEE THE APPROVED PRODUCTS LIST MAINTAINED BY ROADWAY ENGINEERING.

PORTABLE BARRIER, 32 INCHES HIGH WITH AN 18-INCH MINIMUM HEIGHT GLARE SCREEN MAY BE USED AT THE OPTION OF THE CONTRACTOR. THE GLARE SCREEN SHALL BE CONSTRUCTED USING ONE OF THE SCREENS PROVIDED ON THE APPROVED LIST, AVAILABLE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

PADDLE OR INTERMITTENT TYPE GLARE SCREENS SHALL BE DESIGNED USING A 20 DEGREE CUT-OFF ANGLE BASED ON TANGENT ALIGNMENT. THAT SPACING SHALL BE USED THROUGHOUT THE BARRIER LENGTH WITHOUT REGARD TO BARRIER CURVATURE.

THE GLARE SCREEN SYSTEM SHALL BE SECURELY FASTENED TO THE 32-INCH PORTABLE BARRIER USING THE HARDWARE AND PROCEDURES SPECIFIED BY THE MANUFACTURER.

FOR DIRECTIONS ON HOW TO INSTALL THE GLARE SCREEN AND THE BARRIER, SEE THE MANUFACTURER'S INSTRUCTIONS.

PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM 622, PORTABLE BARRIER, 50". AS PER PLAN

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MAINTENANCE OF TRAFFIC GENERAL NOTES

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ITEM 622, PORTABLE BARRIER PLACEMENT

DURING THE PLACEMENT OF THE PORTABLE BARRIER, TRAFFIC WILL BE PROHIBITED FROM OCCUPYING THE TRAVEL LANE ADJACENT TO THE BARRIER. THE BARRIER WILL BE PLACED AT NIGHT PER THE WORK HOUR RESTRICTION NOTE AND IN ACCORDANCE WITH THE PERMITTED LANE CLOSURE MAP. THE CLOSURE OF THE ADJACENT LANE WILL BE PER THE STANDARD DRAWING MT-95.30.

THE CONTRACTOR WILL SUBMIT A PLAN TO THE ENGINEER FOR APPROVAL SEVEN (7) DAYS IN ADVANCE OF THE PLANNED LANE CLOSURE. WORK WILL NOT BEGIN UNTIL APPROVAL OF THE PLANS HAS BEEN GRANTED.

ALL COSTS INVOLVED IN PLACING THE PORTABLE BARRIER WILL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 622 PORTABLE BARRIER.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL AND ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE MAINTENANCE OF TRAFFIC SUBSUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE B	558 EACH
ITEM 614, OBJECT MARKER, ONE-WAY	216 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

PORTABLE BARRIER TO PERMANENT BARRIER TRANSITIONS

PORTABLE BARRIER TO PERMANENT BARRIER TRANSITIONS SUCH AS BRIDGE PARAPET SHALL FOLLOW ODOT STD DWG MT-101.80.

GUARDRAIL DELINEATION

OBJECT MARKERS SHALL BE INSTALLED ON ALL GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKER SPACING SHALL BE APPROXIMATELY 50 FEET.

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

AN ESTIMATED QUANTITY OF 7 EACH OF ITEM 614 OBJECT MARKERS, ONE-WAY HAS BEEN PROVIDED AND CARRIED TO THE MAINTENANCE OF TRAFFIC SUBSUMMARY.

ITEM 614, MAINTAINING TRAFFIC, MISC.: BRIDGE TERMINAL ASSEMBLY, TYPE 2

ITEM 614, MAINTAINING TRAFFIC, MISC.: ANCHOR ASSEMBLY, TYPE E

THIS WORK AND MATERIALS SHALL COMPLY WITH ITEM 606 FOR PERMANENT GUARDRAIL, EXCEPT THAT USED TYPE 5 RAILS AND POSTS MAY BE USED IF IN GOOD CONDITION AND APPROVED BY THE ENGINEER. FOR EXISTING GUARDRAIL RUNS WHICH REQUIRE AN EXTENSION, THE EXISTING END TERMINAL ASSEMBLY SHALL BE REMOVED AND RESET TO THE NEW LOCATIONS, AS SHOWN ON THE PLANS. NEW RUNS, FOR BRIDGE PARAPET PROTECTION SHALL HAVE THE APPROPRIATE BRIDGE TERMINAL ASSEMBLIES INSTALLED. UPON COMPLETION OF THE PHASE WHICH REQUIRES THE TEMPORARY GUARDRAIL, ALL WORK ZONE GUARDRAIL SHALL BE REMOVED AND THE POST HOLES BACKFILLED (UNLESS PERMANENT GRADING TO BE PERFORMED LATER WOULD REPAIR THE HOLES), ALL TERMINAL ASSEMBLIES REMOVED, AND END TERMINAL ASSEMBLIES RESET TO THEIR ORIGINAL LOCATION.

PAYMENT SHALL INCLUDE ALL WORK FOR PROVIDING AND/OR RESETTING TERMINAL ASSEMBLIES, NEW GUARDRAIL, GUARDRAIL EXTENSIONS, AND REMOVAL AND RESTORATION UPON COMPLETION OF THE PHASE WHICH REQUIRES THE TEMPORARY GUARDRAIL. THE LENGTH OF MEASUREMENT FOR PAYMENT SHALL BE PER ITEM 606 FOR PERMANENT GUARDRAIL, EXCLUDING THE LENGTH OF TERMINAL ASSEMBLIES AND END TREATMENTS. PAYMENT SHALL BE AT THE UNIT PRICE BID, PER FOOT FOR ITEM SPECIAL - WORK ZONE GUARDRAIL.

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'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS WEB PAGE FOR ROADWAY STANDARDS APPROVED PRODUCTS.

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 FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 614 WORK ZONE IMPACT ATTENUATOR AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS 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, WORK ZONE IMPACT ATTENUATOR, FOR HAZARDS OVER 24" AND LESS THAN 36" WIDE, (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, FROM THE ROADWAY STANDARDS WEB PAGE FOR ROADWAY STANDARDS APPROVED PRODUCTS.

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.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 614 WORK ZONE IMPACT ATTENUATOR AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS 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.

WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUTDOWNS.

(THE SIGNS ON THE MAINLINE SHALL BE DUAL MOUNTED UNLESS NOT PHYSICALLY POSSIBLE. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-)SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. SIGNS USED ON THE RAMPS SHALL BE R11-H5A-24. R11-H5A-24 SIGNS MAY BE USED IN THE MEDIAN IN LIEU OF R11-H5A-48 SIGNS IF IT IS NOT PHYSICALLY POSSIBLE TO PROVIDE R11-H5A-48 SIGNS IN THE MEDIAN.)

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF C&MS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 8 EACH

WORK ZONE INCREASED PENALTIES SIGNS WILL BE PLACED AT THE FOLLOWING LOCATIONS: SEE MAINTENANCE OF TRAFFIC PLAN SHEETS FOR PRE-PHASE THROUGH PHASE 2B.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

LOR-090-13.20

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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 PLAYBOOK;
 - B. REMOVE TRAFFIC DEMAND FROM IMPACTED ROADWAY(S);
 - C. DIVERT TRAFFIC TO ROUTES THAT CAN ACCOMMODATE DEMANDS;
 - D. DETOUR TRAFFIC AWAY FROM SENSITIVE AREAS (SUCH AS SCHOOLS, HOSPITALS, ETC.);
 - E. DISCUSS METHODS OF DETERMINING A STAGING AREA FOR RESPONDERS WITHIN OR NEAR THE CONSTRUCTION ZONE;
 - F. DISCUSS METHODS OF DEVELOPING INGRESS AND EGRESS SITES WITHIN THE CONSTRUCTION ZONE.

THE RESPONSE/ACTION PLAN SHALL BE SUBMITTED TO ODOT FOR ACCEPTANCE BEFORE THE CONTRACTOR'S FIRST DAY OF WORK.
17. PERFORM, AT A MINIMUM, THE FOLLOWING FUNCTIONS IN INCIDENT DETECTION AND VERIFICATION:
 - A. CALL 911/ NOTIFY TRAFFIC MANAGEMENT CENTER AND PROVIDE THE FOLLOWING:
 - I. LOCATION INCLUDING MILEPOST NUMBER AND DIRECTION OF TRAVEL.
 - II. NUMBER AND TYPE OF VEHICLES INVOLVED.
 - III. ESTIMATED EXTENT OF DAMAGE OR INJURY.
 - IV. ESTIMATED NUMBER OF PATIENTS INVOLVED.
 - V. ANY POTENTIAL HAZARDOUS CONDITIONS.
 - VI. THE PLACARD NUMBER ON ANY HAZARDOUS MATERIALS PLACARD FROM A SAFE DISTANCE.
 - B. INITIATE TRAFFIC MANAGEMENT / PROVIDE TRAFFIC CONTROL.
 - C. ASSIST MOTORIST WITH DISABLED VEHICLES.
 - D. RECOMMEND ROADWAY REPAIR NEEDS.
 - E. PROVIDE REPAIR RESOURCES.
18. ATTEND POST-INCIDENT DEBRIEFINGS IF REQUIRED.

THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT OF 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 C&MS 108.05.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614, WORKSITE TRAFFIC SUPERVISOR 18 MONTHS

DESIGNATED LOCAL DETOUR ROUTE

FOR THIS PROJECT, THE LOCAL DETOUR ROUTE AND THE OFFICIAL DETOUR ROUTE HAVE BEEN DETERMINED TO BE THE SAME ROUTE. THIS ROUTE IS SHOWN ON SHEET NO. 24. THIS ROUTE UTILIZED BOTH STATE AND LOCALLY MAINTAINED ROADWAYS. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE 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 DETOUR ROUTE 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.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DETERMINED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE. THESE QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 202, PAVEMENT REMOVED	670 SQ. YD
ITEM 254, PAVEMENT PLANING	187 SQ. YD.
ITEM 407, TACK COAT	14 GALLONS
ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	7 CU. YD.
ITEM 452, 6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1	670 SQ. YD.
ITEM 642, CENTER LINE	0.04 MILE
ITEM 642, LANE LINE, 4"	0.07 MILE

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MAINTENANCE OF TRAFFIC GENERAL NOTES

LOR-090-13.20

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 C&MS 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.

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).

IN ADDITION TO THE REQUIREMENT OF C&MS 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) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

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.

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED 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.

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 MAINTENANCE OF TRAFFIC SUBSUMMARY.

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.

ITEM 614, REPLACEMENT SIGN

FLATSHEET SIGNS 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 SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 20 EACH HAS BEEN PROVIDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY.

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 CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL 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 100 EACH HAS BEEN PROVIDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY.

ITEM 614, WORK ZONE SPEED ZONES (WZSZS)

THE FOLLOWING WORK ZONE SPEED ZONE (WZSZ) SPEED LIMIT REVISION(S) HAVE BEEN APPROVED FOR USE ON THIS PROJECT WHEN WORK ZONE CONDITIONS AND FACTORS ARE MET AS DESCRIBED BELOW:

WZSZ REVISION NUMBER	COUNTY & ROUTE	DIRECTION
WZ-20470	LOR-90	EB & WB
WZ-20471	LOR-90	EB & WB
WZ-20472	LOR-90	EB & WB
WZ-20473	LOR-90	EB & WB

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRE-CONSTRUCTION) POSTED SPEED LIMIT OF =55 MPH, A QUALIFYING WORK ZONE CONDITION OF AT LEAST 0.5 MILE IN LENGTH, AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS, AND A WORK ZONE CONDITION IN PLACE THAT REDUCES THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS (I.E., LANE CLOSURE, LANE SHIFT, CROSSOVER, CONTRAFLOW AND/OR SHOULDER CLOSURE). THE LENGTH OF THE WORK ZONE CONDITION IS MEASURED FROM THE BEGINNING OF THE TAPER FOR THE SUBJECT WORK ZONE CONDITION IMPACTING THE TRAVEL LANES AND/OR SHOULDER TO THE END OF THE DOWNSTREAM TAPER, WHERE DRIVERS ARE RETURNED TO TYPICAL ALIGNMENT. AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS IS REQUIRED TO BALANCE THE ADDITIONAL EXPOSURE CREATED BY INSTALLING AND REMOVING WZSZ SIGNING WITH THE TIME NEEDED TO COMPLETE THE WORK.

IF THE WORK ZONE MEETS THESE MINIMUM CRITERIA, IT SHALL BE ANALYZED FURTHER USING TABLE 1 BELOW TO DETERMINE IF AND WHEN IT QUALIFIES FOR A SPEED LIMIT REDUCTION. DEPENDING ON THE ORIGINAL POSTED SPEED LIMIT, THE TYPE OF TEMPORARY TRAFFIC CONTROL USED, AND WHETHER OR NOT WORKERS ARE PRESENT, A WARRANTED WZSZ WILL VARY IN THE APPROVED SPEED LIMIT TO BE POSTED OVER TIME.

C&MS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED LIMIT REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION. EACH DIRECTION SHALL BE ANALYZED INDEPENDENTLY FROM EACH OTHER.

ALL WZSZS FLUCTUATE BETWEEN TWO APPROVED REDUCED SPEED LIMITS OR BETWEEN AN APPROVED REDUCED SPEED LIMIT AND THE ORIGINAL POSTED SPEED LIMIT. ONLY ONE OF TWO SIGNING STRATEGIES SHALL BE USED TO IMPLEMENT A WZSZ. THE PRIMARY SIGNING STRATEGY USES DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLIES. THE SECONDARY STRATEGY USES TEMPORARY FLATSHEET SPEED LIMIT SIGNS (R2-1) FOR WHEN THERE ARE NO DSL SIGN ASSEMBLIES ON THE APPROVED LIST, OR DSL SIGN ASSEMBLIES ARE NOT AVAILABLE.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THIS NOTE, SUPPLEMENTAL SPECIFICATION (SS) 808, AND TRAFFIC SCD MT-104.10. WZSZS USING TEMPORARY FLATSHEET SPEED LIMIT SIGNS SHALL BE IN ACCORDANCE WITH THIS NOTE AND SCD MT-104.10. ADDITIONALLY PAYMENT MAY BE REMOVED, OR A DISINCENTIVE APPLIED, FOR WZSZS USING TEMPORARY FLATSHEET SPEED LIMIT SIGNS THE SAME AS DESCRIBED IN THE MOST RECENT PUBLICATION OF SS 808 IN REGARDS TO WZSZS USING DSL SIGN ASSEMBLIES (SEE SS 808.06 PARAGRAPHS 4 THROUGH 7, INCLUDING TABLE 1).

ONLY ONE WARRANTED SPEED LIMIT APPLIES AT ANY ONE TIME; SPEED LIMIT REDUCTIONS ARE NOT CUMULATIVE. WZSZS SHALL NOT BE USED FOR MOVING/MOBILE ACTIVITIES, AS DEFINED IN OMUTCD PART 6.

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRE-CONSTRUCTION, POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT WORK ZONE SPEED LIMIT AS A LOOK UP VALUE IN THE TABLE. POSITIVE PROTECTION IS GENERALLY REGARDED AS PORTABLE BARRIER OR OTHER RIGID BARRIER IN USE ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WITHOUT POSITIVE PROTECTION IS GENERALLY REGARDED AS USING DRUMS, CONES, SHADOW VEHICLE, ETC., ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WORKERS ARE CONSIDERED AS BEING PRESENT WHEN ON-SITE, WORKING WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WHEN THE WORK ZONE CONDITION REDUCING THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS IS REMOVED, THE SPEED LIMIT DISPLAYED SHALL RETURN TO THE ORIGINAL POSTED SPEED LIMIT.

TABLE 1: WARRANTED WORK ZONE SPEED LIMITS (MPH) FOR WORK ZONES ON HIGH-SPEED (=55 MPH) MULTI-LANE HIGHWAYS

ORIGINAL POSTED SPEED LIMIT	WITH POSITIVE PROTECTION		WITHOUT POSITIVE PROTECTION	
	WORKERS PRESENT	WORKERS NOT PRESENT	WORKERS PRESENT	WORKERS NOT PRESENT
70	60	65	55	65
65	55	60	55	60
60	55	60	50	60
55	50	55	45	55

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE MAINTENANCE OF TRAFFIC SUBSUMMARY.

ITEM 614, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY 148 SIGN MNTH

ASSUMING 16 DSL SIGN ASSEMBLIES FOR 9 MONTHS AND 4 DSL SIGN ASSEMBLIES FOR 1 MONTH

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MAINTENANCE OF TRAFFIC GENERAL NOTES

LOR-090-13.20

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SEQUENCE OF CONSTRUCTION

THE FOLLOWING SEQUENCE OF CONSTRUCTION SHALL BE USED TO CONSTRUCT THE PROJECT.

PRE-PHASE

WORK:

- CONSTRUCT TEMPORARY PAVEMENT ON I-90 AND RAMP D.
- CONSTRUCT CROSSOVERS ON EITHER END OF THE PROJECT, INCLUDING EMBANKMENT, TEMPORARY DRAINAGE, AND TEMPORARY PAVEMENT.
- CONSTRUCT EMBANKMENT AND TEMPORARY RAMP C CONNECTION WHERE OUTSIDE THE LIMITS OF WB I-90.
- REMOVE EXISTING LIGHT POLE NEAR STA 693+20 AND ADD TEMPORARY LIGHT SYSTEM TO SUPPLEMENT AREA IMPACTED BY TEMPORARY REMOVAL OF HIGH MAST LIGHT

MAINTENANCE OF TRAFFIC:

- SINGLE LANE NIGHT TIME CLOSURES ADJACENT TO WORK ZONE SHALL BE UTILIZED ALONG I-90 IN ACCORDANCE WITH THE PERMITTED TIMES OUTLINED IN ODOT'S PERMITTED LANE CLOSURE MAP. THE CONTRACTOR SHALL COORDINATE AND OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO IMPLEMENTING LANE CLOSURES
- ALL TRAVEL LANES AND RAMPS TO REMAIN OPEN DURING NON-PERMITTED HOURS
- SHOULDERS WILL BE CLOSED WHERE INDICATED IN THE PLANS.
- RAMPS SHALL BE MAINTAINED AT ALL TIMES

PHASE 1A

WORK:

- AS WB TRAFFIC IS SHIFTED ONTO THE CROSSOVER, EXISTING PAVEMENT IS REMOVED FROM STA. 690+50 TO STA. 692+50 AND REMAINDER OF TEMPORARY RAMP C CONNECTION IS CONSTRUCTED.
- WITH TEMPORARY RAMP C OPEN AND CROSSOVERS OPERATIONAL, WORK WILL BEGIN ON BRIDGE NO. LOR-90-1320 L AND BRIDGE NO. LOR-90-1355 L. (NOT INCLUDING SURFACE COURSE)
- PAVING BETWEEN STA. 692+50 WB AND THE EASTERN PROJECT TERMINUS TO BE COMPLETED IN THIS PHASE.
- BRIDGE NO. LOR-90-1355 L SHALL ALSO BE COMPLETED THIS PHASE.

MAINTENANCE OF TRAFFIC:

- TWO LANES WILL BE MAINTAINED IN BOTH DIRECTIONS ON I-90 VIA THE CROSSOVER
- ALL EXIT RAMPS WILL REMAIN OPEN, INCLUDING RAMP C VIA TEMPORARY RAMP C
- TWO LANES OF TRAFFIC MAINTAINED IN BOTH DIRECTIONS OF SR-57 AND TURN LANES. LANES SHIFT TOWARD OUTSIDE EDGE OF EXISTING PAVEMENT TO ACCOMMODATE WORK ZONE NEAR BRIDGE PIERS.

PHASE 1B

WORK:

- TEMPORARY RAMP C PAVEMENT IS REMOVED
- WORK TO BE COMPLETED ON BRIDGE NO. LOR-90-1320 L (NOT INCLUDING SURFACE COURSE)
- PAVING ON WB I-90 BETWEEN WESTERN PROJECT LIMITS AND STA. 692+50
- RE-ERECT HIGH MAST LIGHT NEAR STA 693+20

PHASE 1B CONT'

MAINTENANCE OF TRAFFIC:

- TWO LANES WILL BE MAINTAINED FOR BOTH DIRECTIONS OF I-90 VIA THE CROSSOVER.
- ALL EXIT RAMPS WILL REMAIN OPEN.
- RAMP C WHICH WILL TRAVEL ON NEWLY CONSTRUCTED ROADWAY AND BRIDGE NO. LOR-90-1355 L SIMILAR TO FINAL CONDITION.
- TWO LANES OF TRAFFIC MAINTAINED IN BOTH DIRECTIONS OF SR-57 AND TURN LANES. LANES SHIFT TOWARD OUTSIDE EDGE OF EXISTING PAVEMENT TO ACCOMMODATE WORK ZONE NEAR BRIDGE PIERS FOR LOR-90-1320 L.

PHASE 2A

WORK:

- WITH CROSSOVERS FULLY CONSTRUCTED AND OPERATIONAL, WORK WILL BEGIN ON BRIDGE NO. LOR-90-1320 R AND THE INSIDE OF BRIDGE NO. LOR-90-1355 R.
- BRIDGE NO. LOR-90-1355 R BEAMS 11 THROUGH 17, DECK, ABUTMENTS & MSE WALL TO BE COMPLETED THIS PHASE (NOT INCLUDING SURFACE COURSE)
- PAVING BETWEEN STA. 690+86 EB AND THE EASTERN PROJECT TERMINUS TO BE COMPLETED IN THIS PHASE, WHILE MAINTAINING EXISTING PAVEMENT FOR RAMP D TRAFFIC
- RAMP D PAVEMENT AND GRADING LEFT OF THE BASELINE OF RAMP- TWO LANES OF TRAFFIC MAINTAINED IN BOTH DIRECTIONS OF SR-57 AND TURN LANES. LANES SHIFT TOWARD OUTSIDE EDGE OF EXISTING PAVEMENT TO ACCOMMODATE WORK ZONE NEAR BRIDGE PIERS FOR LOR-90-1320 R

MAINTENANCE OF TRAFFIC:

- TWO LANES WILL BE MAINTAINED IN BOTH DIRECTIONS ON I-90 VIA THE CROSSOVER
- ALL EXIT RAMPS WILL REMAIN OPEN, INCLUDING RAMP D UNDER PART WIDTH CONSTRUCTION
- RAMP D TRAFFIC TO DRIVE ON TEMPORARY PAVEMENT
- RAMP F REMAINS IN EXISTING CONFIGURATION AS CROSSOVER DEVELOPS ADJACENT TO THE RAMP LANE
- TWO LANES OF TRAFFIC MAINTAINED IN BOTH DIRECTIONS OF SR-57 AND TURN LANES. LANES SHIFT TOWARD OUTSIDE EDGE OF EXISTING PAVEMENT TO ACCOMMODATE WORK ZONE NEAR BRIDGE PIERS FOR LOR-90-1320 R

PHASE 2B

WORK:

- WORK TO BE COMPLETED ON BRIDGE NO. LOR-90-1355 R.
- BRIDGE NO. LOR-90-1355 R BEAMS 18 THROUGH 21 AND DECK TO BE COMPLETED THIS PHASE (NOT INCLUDING SURFACE COURSE)
- PAVING BETWEEN STA. 676+00 EB AND THE STA. 690+86 EB TO BE COMPLETED IN THIS PHASE
- RAMP D PAVING AND GRADING FOR RIGHT SHOULDER PAVEMENT
- REMAINING PAVEMENT BETWEEN RAMP D AND BRIDGE NO. LOR-90-1355 R

MAINTENANCE OF TRAFFIC:

- TWO LANES WILL BE MAINTAINED IN BOTH DIRECTIONS ON I-90 VIA THE CROSSOVER
- ALL EXIT RAMPS WILL REMAIN OPEN, INCLUDING RAMP DRIVING ON PAVEMENT CONSTRUCTED IN PHASE 2A
- RAMP F REMAINS IN EXISTING CONFIGURATION AS CROSSOVER DEVELOPS ADJACENT TO THE RAMP LANE

POST-PHASE

WORK:

- REMOVE CROSSOVERS AND EMBANKMENT
- SURFACE ASPHALT TO BE PLACED

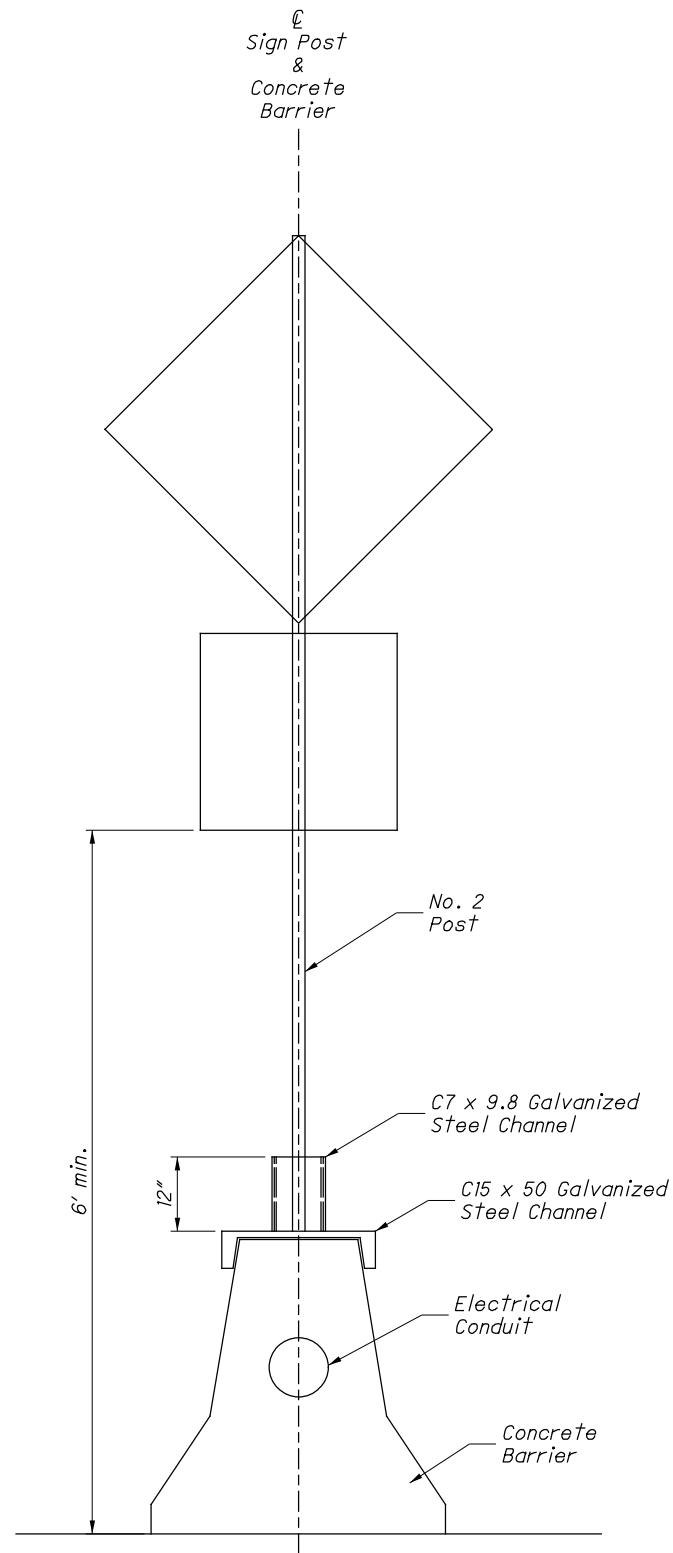
MAINTENANCE OF TRAFFIC:

- SAME AS PRE-PHASE

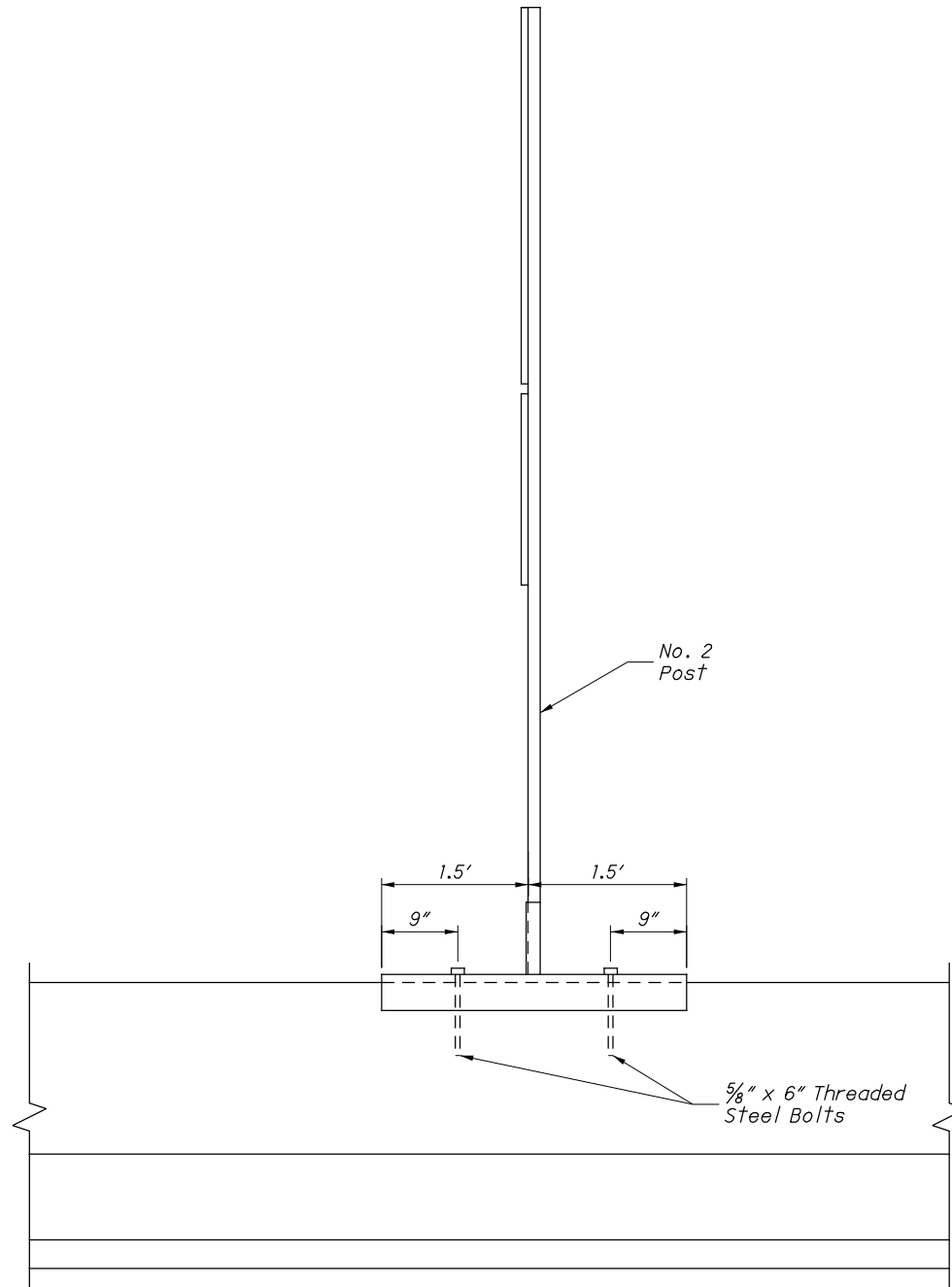
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MAINTENANCE OF TRAFFIC GENERAL NOTES

LOR-090-13.20



REAR VIEW



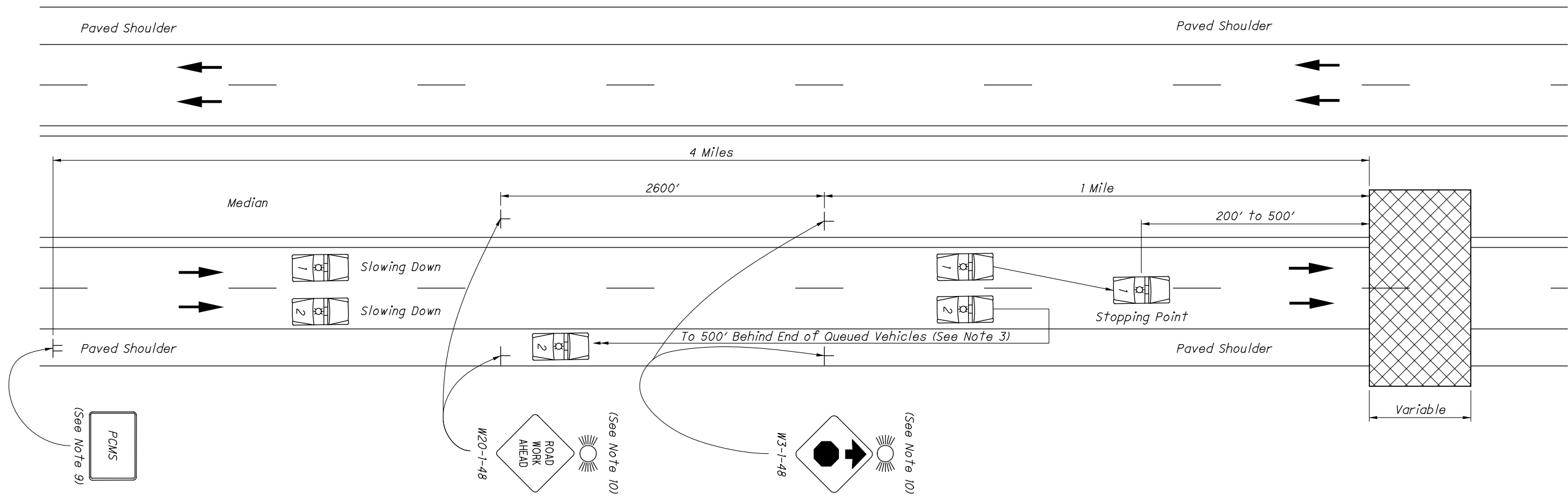
SIDE VIEW

NOTES:

1. The C7 x 9.8 galvanized steel channel shall be welded to the C15 x 50 galvanized steel channel.
2. The No. 2 post shall be attached to the C7 x 9.8 galvanized steel channel with two 5/8" 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.

THIS DRAWING REPLACES PIS 202020 DATED 11-27-2006.

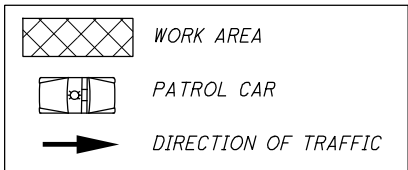
DESIGNED GF	REVIEWED JME	PIS NUMBER	PLAN INSERT SHEET	OFFICE OF ROADWAY ENGINEERING
CONCRETE BARRIER MOUNTED SIGN SUPPORT DETAIL, METHOD A			LOR-090-13.20	
1 / 1			17 301	



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



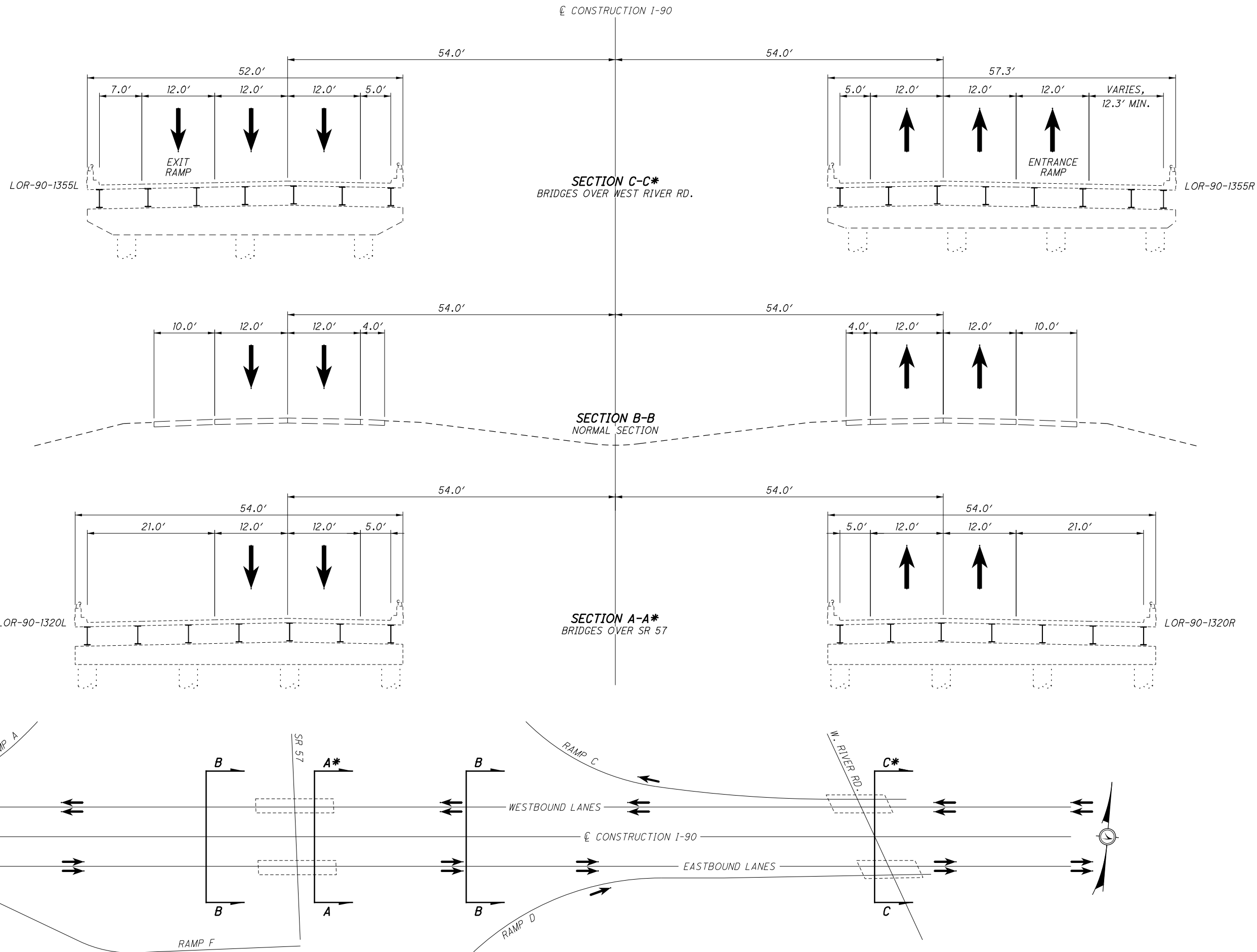
TO BE USED ON SR-57 DURING
DEMOLITION AND BEAM ERECTION
OF LOR-90-1320R AND LOR-90-1320L

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PHASE	254				614													615				616	622							
	SY	HOUR	MONTH	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SNMT	SNMT	MILE	MILE	FT	FT	FT	EACH	LUMP	SY	MGAL	FT	FT	FT	
MOT GENERAL NOTES	425	200	18				20	100					500	260		2								LS		100				
PRE				275		8			1						7		4							13032						
1A				63								975			235	55	36	0.82	3.88	6234	902						3200	3910		
1B																	36		0.74		236									
WINTER													153				1.98	3.78	4043	2133										
2A					1						717				266	104	36	1.07	4.90	5679	391						5830	3400		
2B														36	36	36		0.92								1660		100		
S.R. 57 - 1					1						123				21	21		0.31	0.64	2391		99	17				1000			
S.R. 57 - WINTER											123							0.57	0.66	1887		108	12							
S.R. 57 - 2					1						123				21	21		0.31	0.64	2391		99	17				1000			
TOTALS CARRIED TO GENERAL SUMMARY	425	200	18	338	3	8	20	100	1	1938	276	500	260	579	244	2	148	5.06	16.16	22625	3662	306	46	LUMP	13032	100	12690	7310	100	

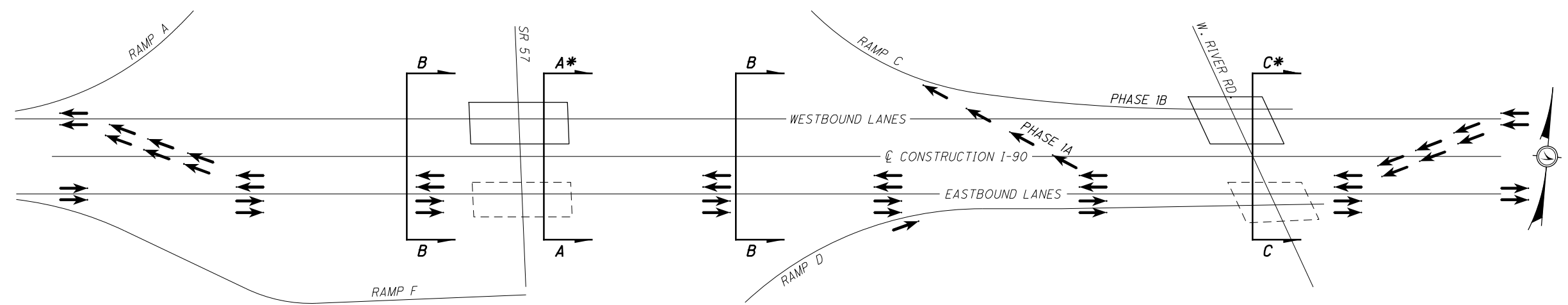
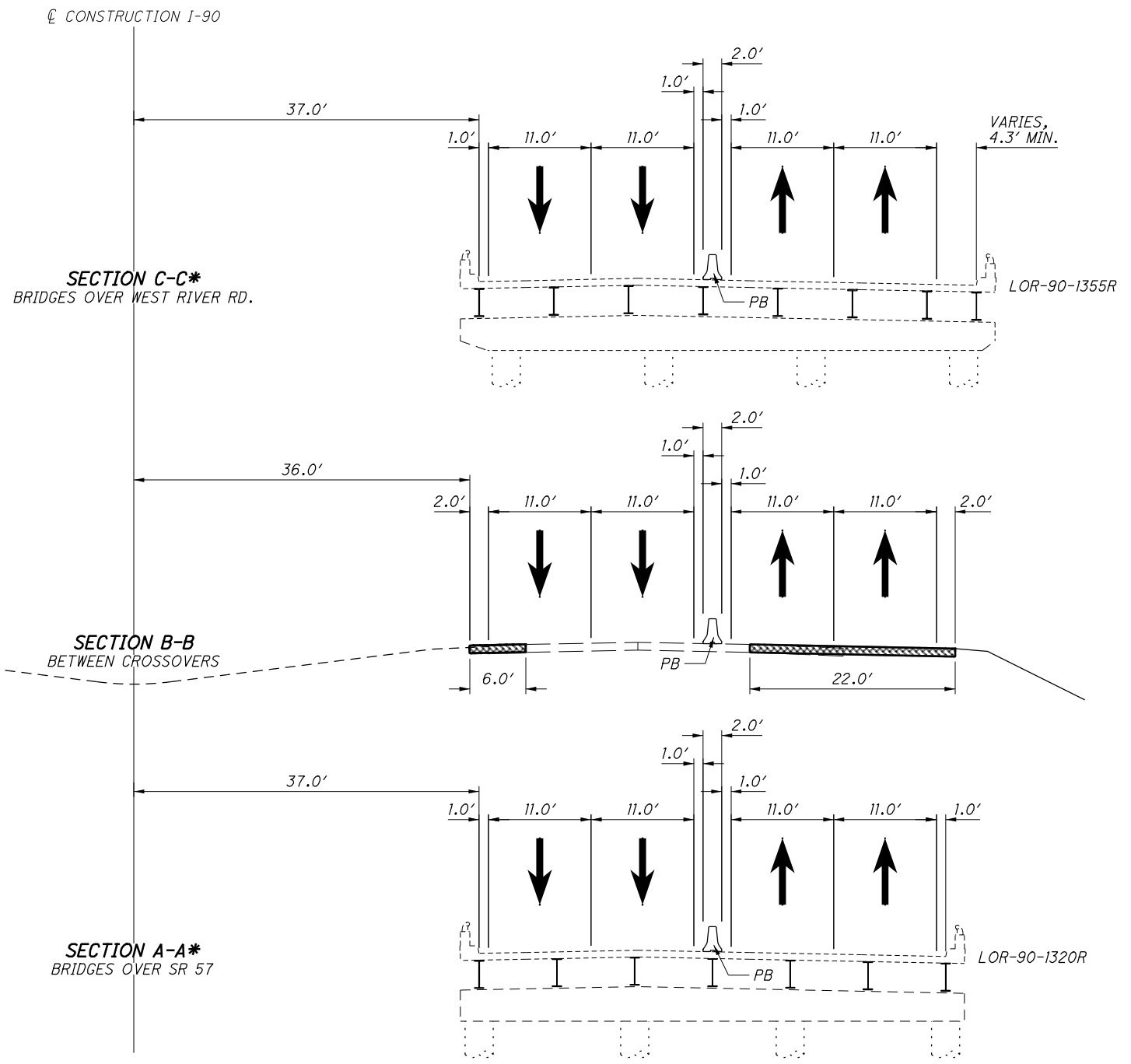
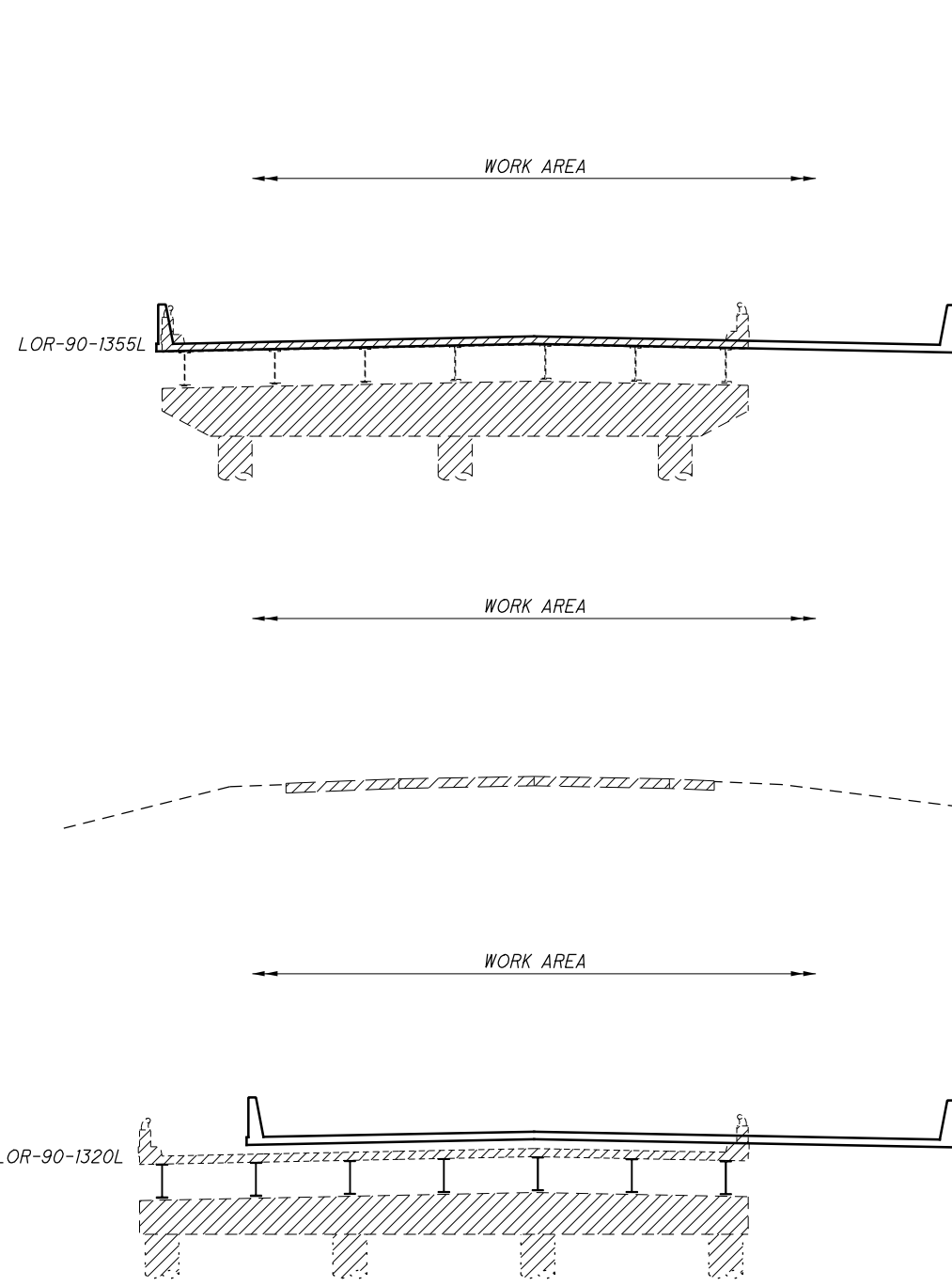
CALCULATED GF	CHECKED JME	LOR - 090 - 13.20	19 301	MAINTENANCE OF TRAFFIC SUBSUMMARY

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* FOR DETAILS SEE STRUCTURE DETAIL SHEETS, THIS PLAN SET.

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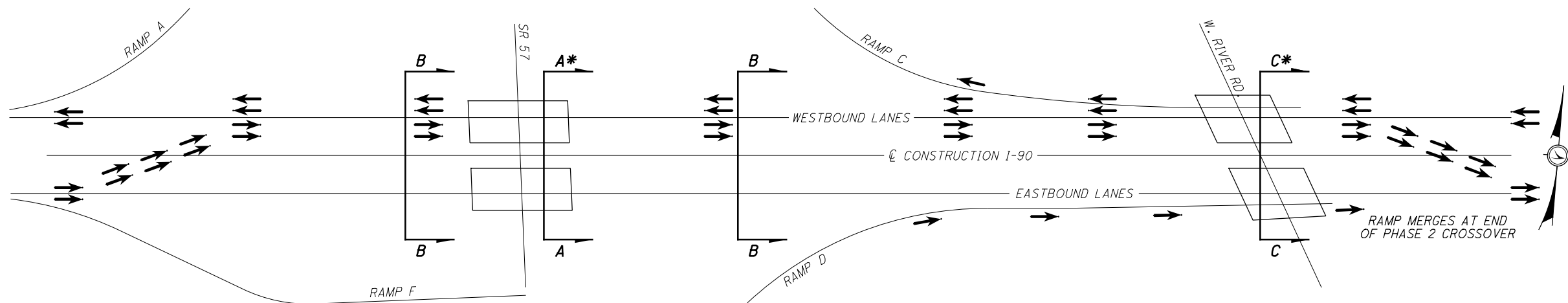
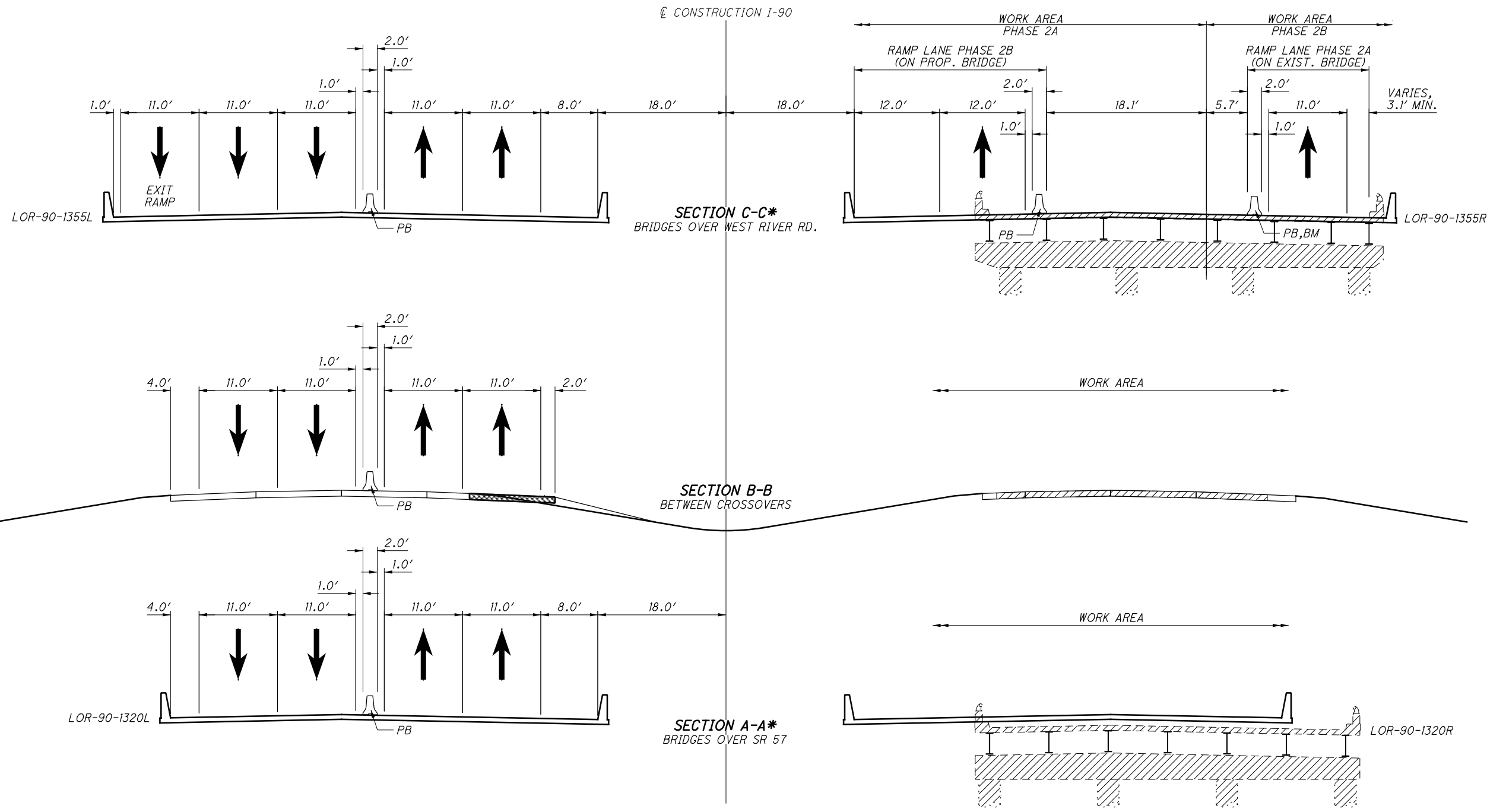


LEGEND

	ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
	REMOVED DURING PHASE
	PORTABLE BARRIER
	PORTABLE BARRIER, BRIDGE MOUNTED (SEE STRUCTURE SHEETS FOR ANCHORING)

* FOR DETAILS SEE STRUCTURE DETAIL SHEETS, THIS PLAN SET.

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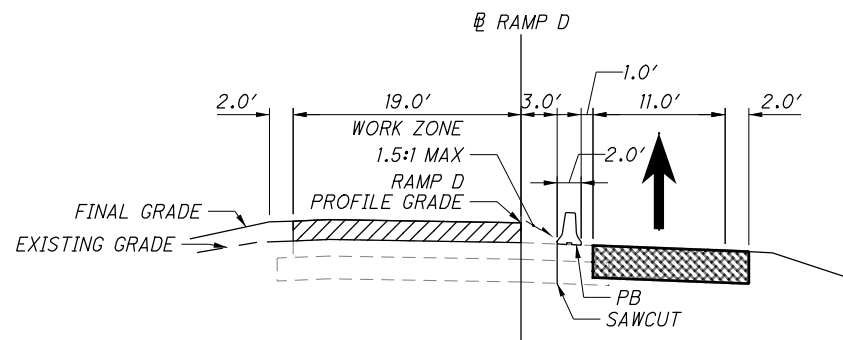


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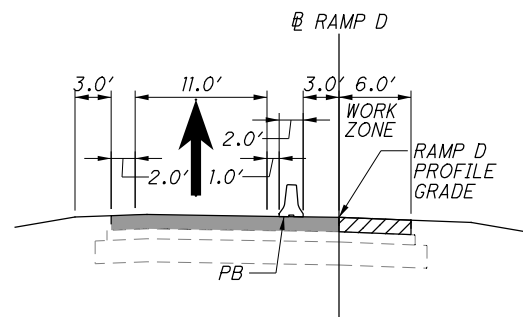
	ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
	REMOVED DURING PHASE
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* FOR DETAILS SEE STRUCTURE DETAIL SHEETS, THIS PLAN SET.

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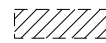


RAMP D NORMAL SECTION - PHASE 2A

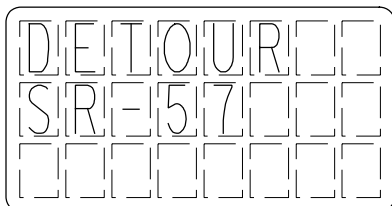
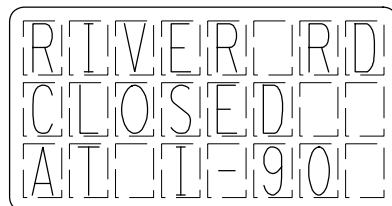
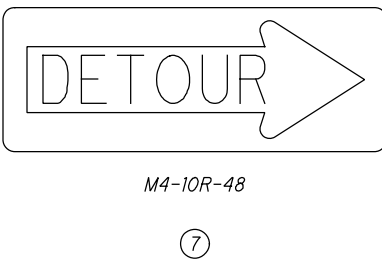
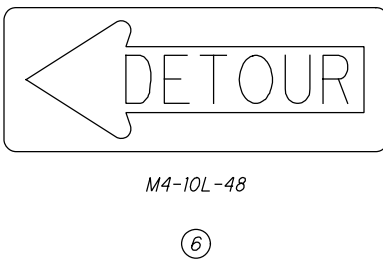
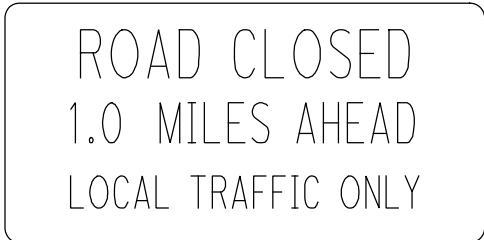
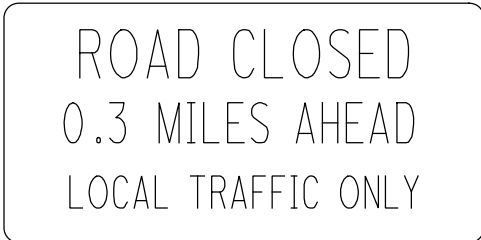
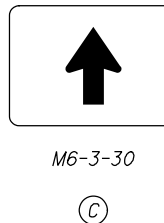
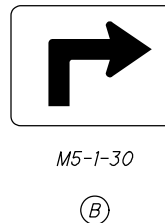
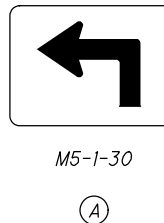
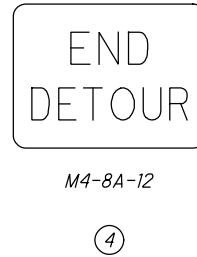
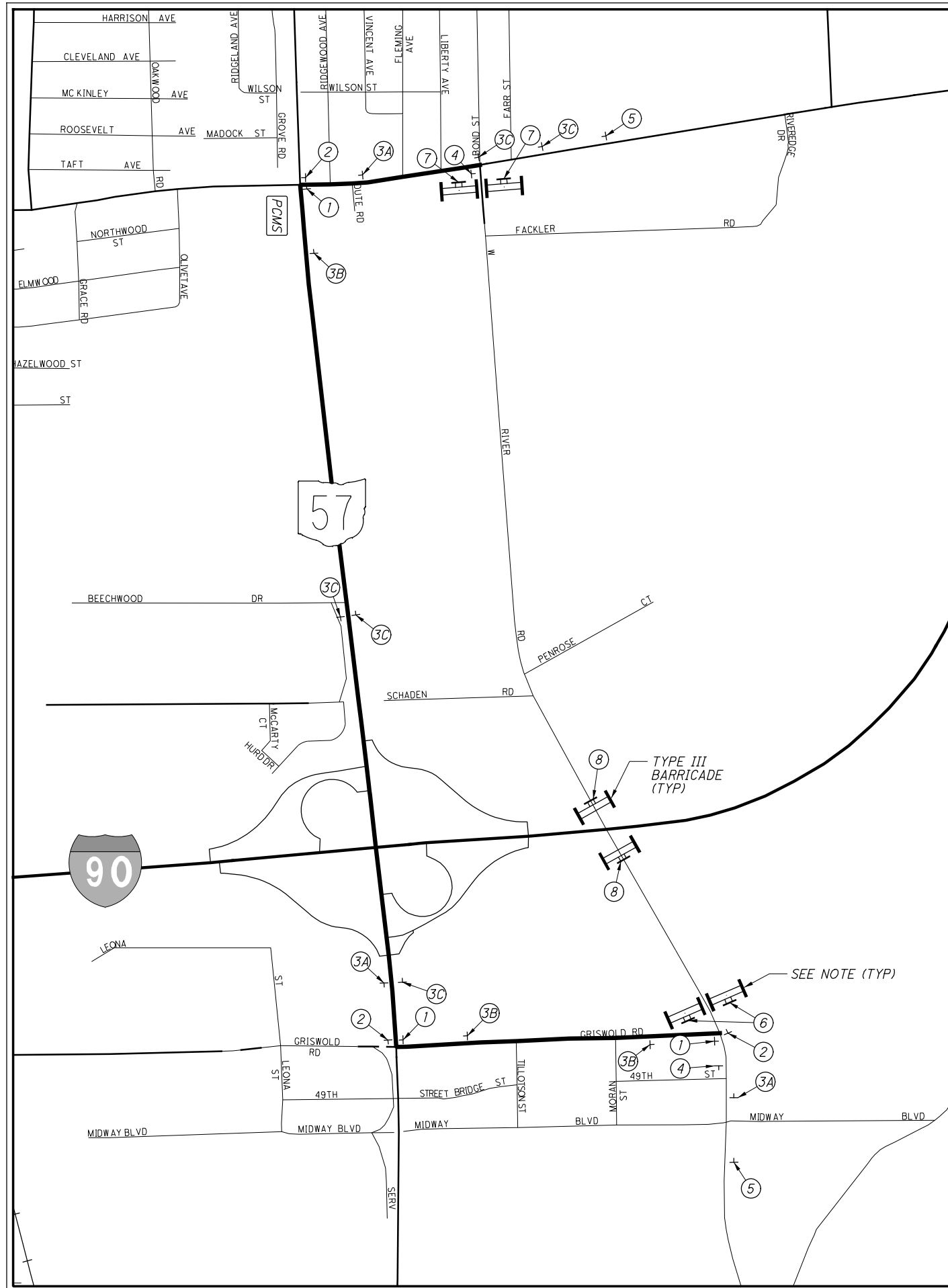


RAMP D NORMAL SECTION - PHASE 2B

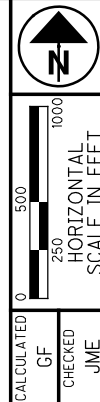
LEGEND

-  ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
-  REMOVED DURING PHASE
- PB PORTABLE BARRIER

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NOTE: ROAD CLOSURE SIGNS USING BARRICADES PER SCD MT-101.60



**MAINTENANCE OF TRAFFIC
DETOUR PLAN - W. RIVER ROAD**

LOR-090-13.20

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LEGEND

-  TEMPORARY PAVEMENT
-  DIRECTION OF TRAFFIC

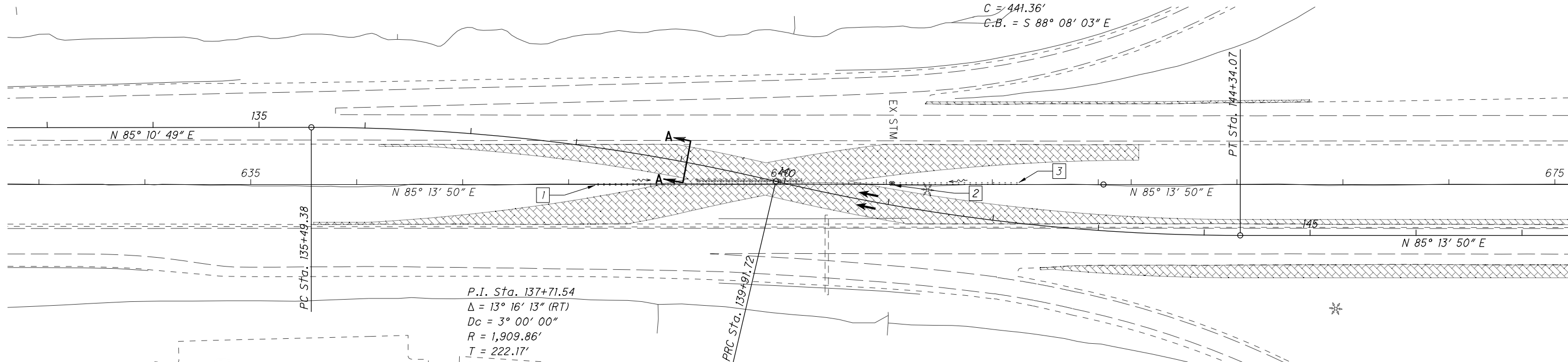
P.I. Sta. 142+13.89
 $\Delta = 13^\circ 16' 13''$ (LT)
 $Dc = 3^\circ 00' 00''$
 $R = 1,909.86'$
 $T = 222.17'$
 $L = 442.35'$
 $E = 12.88'$
 $C = 441.36'$
 $C.B. = S 88^\circ 08' 03'' E$

- 1 18" CONDUIT
638+25, 0' RT
- 2 MANHOLE,
RECONSTRUCTED TO GRADE
641+05, 0' RT
- 3 18" CONDUIT
642+25, 1' LT

CALCULATED GF CHECKED JME

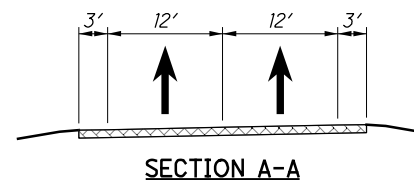


0 50 100
 25
 HORIZONTAL
 SCALE IN FEET

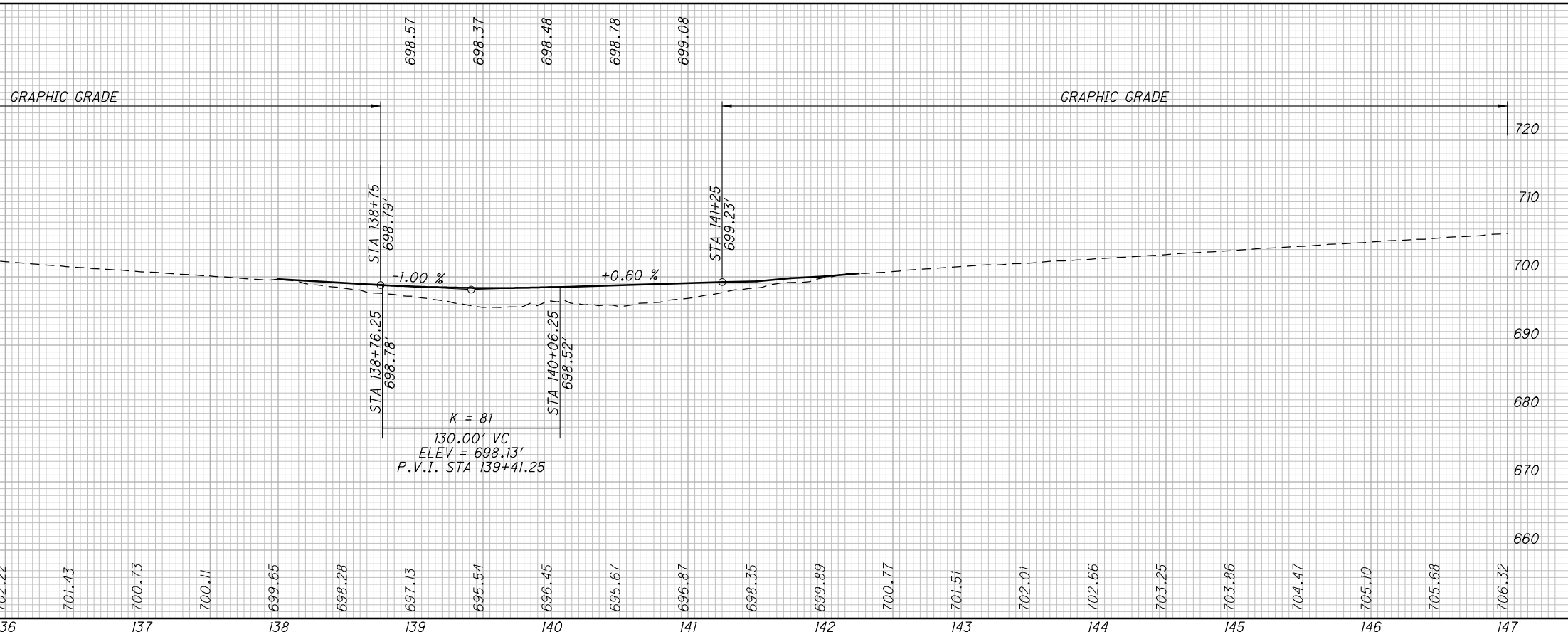


P.I. Sta. 137+71.54
 $\Delta = 13^\circ 16' 13''$ (RT)
 $Dc = 3^\circ 00' 00''$
 $R = 1,909.86'$
 $T = 222.17'$
 $L = 442.35'$
 $E = 12.88'$
 $C = 441.36'$
 $C.B. = S 88^\circ 08' 03'' E$

NOTE:
 THIS SHEET FOR CROSSOVER GEOMETRIC DETAILS ONLY.
 FOR MAINTENANCE OF TRAFFIC SIGNING, MARKING, AND
 OTHER DETAILS, SEE MAINTENANCE OF TRAFFIC PLAN
 SHEETS.





PAVEMENT CROSS SLOPE TABLE		
WESTERN CROSSOVER: WESTBOUND TRAFFIC		
LT X-SLOPE	CROSSOVER	RT X-SLOPE
0.03	138+50	-0.03
0.025	138+75	-0.025
0.02	139+00	-0.02
0.015	139+25	-0.015
0.01	139+50	-0.01
0.005	139+75	-0.005
0	140+00	0
-0.005	140+25	0.005
-0.01	140+50	0.01
-0.015	140+75	0.015
-0.02	141+00	0.02
-0.025	141+25	0.025
-0.03	141+50	0.03
-0.03	142+25	0.03

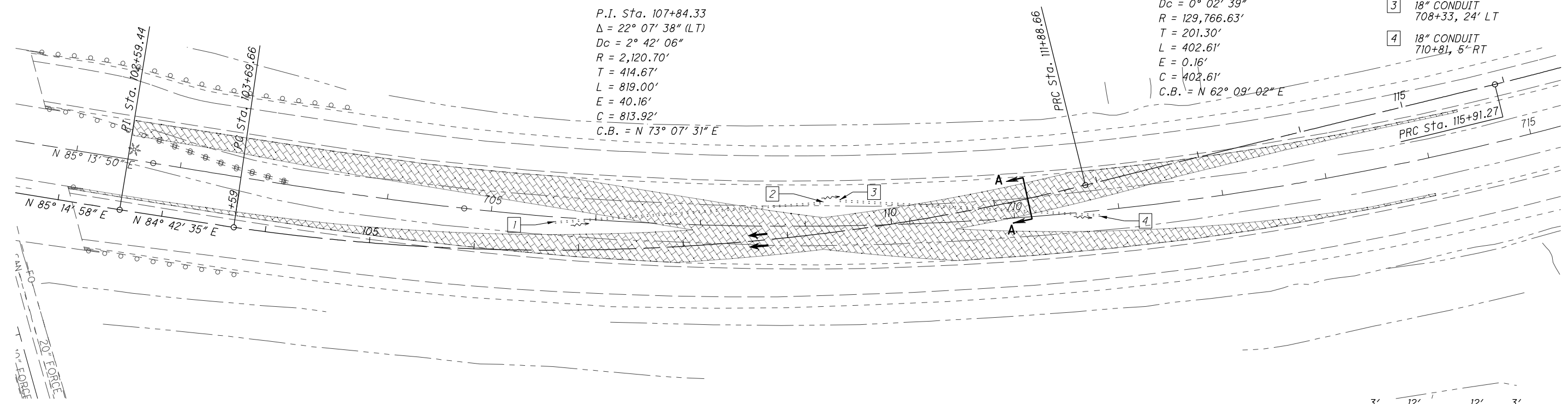


**MAINTENANCE OF TRAFFIC DETAIL
 PHASE 1 - WEST CROSSOVER**

LOR-090-13.20

LEGEND

-  TEMPORARY PAVEMENT
-  DIRECTION OF TRAFFIC

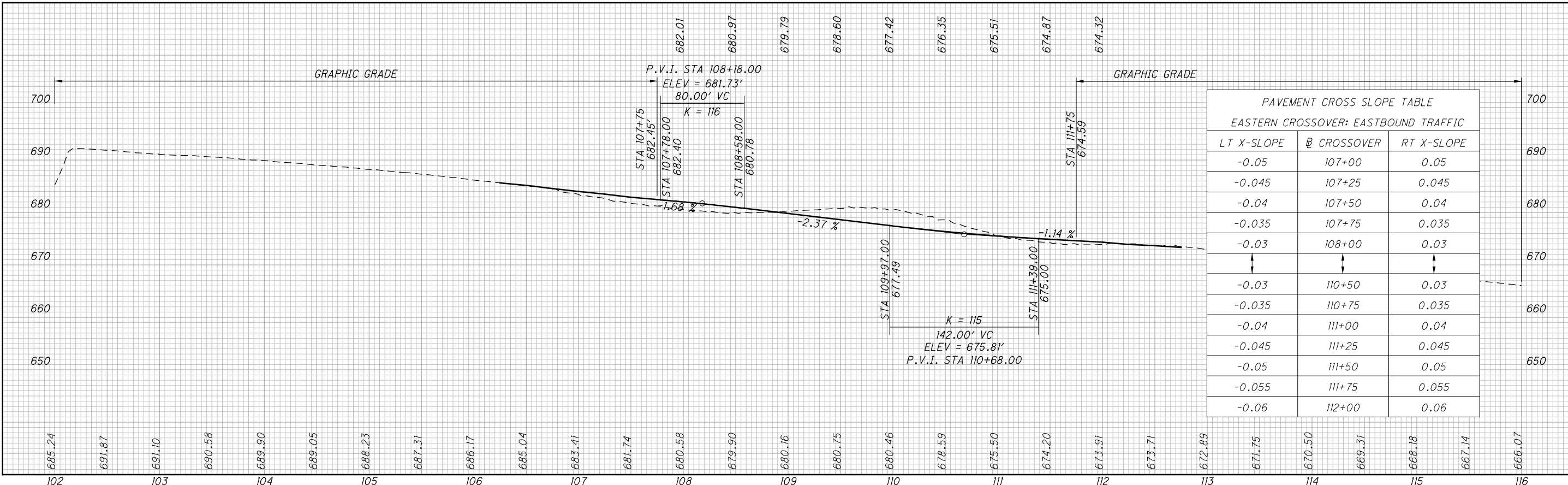
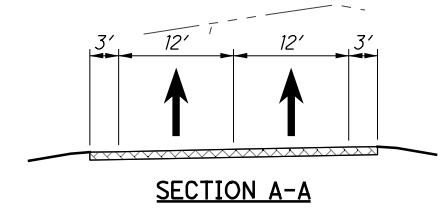


P.I. Sta. 107+84.33
 $\Delta = 22^\circ 07' 38''$ (LT)
 $D_c = 2^\circ 42' 06''$
 $R = 2,120.70'$
 $T = 414.67'$
 $L = 819.00'$
 $E = 40.16'$
 $C = 813.92'$
 $C.B. = N 73^\circ 07' 31'' E$

P.I. Sta. 113+89.97
 $\Delta = 0^\circ 10' 40''$ (RT)
 $D_c = 0^\circ 02' 39''$
 $R = 129,766.63'$
 $T = 201.30'$
 $L = 402.61'$
 $E = 0.16'$
 $C = 402.61'$
 $C.B. = N 62^\circ 09' 02'' E$

- 1 18" CONDUIT 705+61, 5' RT
- 2 18" CONDUIT 708+18, 22' LT
- 3 18" CONDUIT 708+33, 24' LT
- 4 18" CONDUIT 710+81, 5' RT

NOTE:
 THIS SHEET FOR CROSSOVER GEOMETRIC DETAILS ONLY.
 FOR MAINTENANCE OF TRAFFIC SIGNING, MARKING, AND
 OTHER DETAILS, SEE MAINTENANCE OF TRAFFIC PLAN
 SHEETS.



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LEGEND

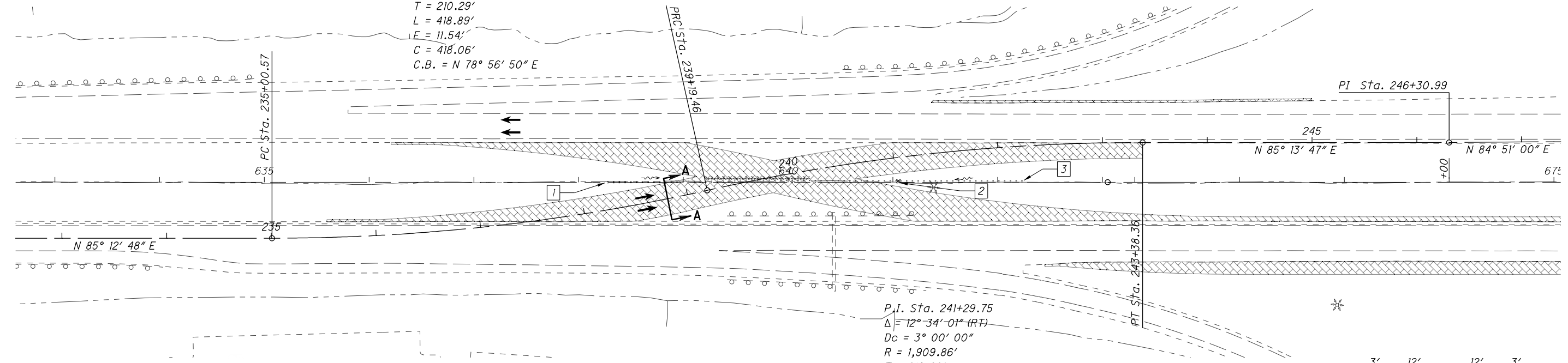
- TEMPORARY PAVEMENT
- DIRECTION OF TRAFFIC

- 1 18" CONDUIT
638+25, 0' RT
- 2 MANHOLE,
RECONSTRUCTED TO GRADE
641+05, 0' RT
- 3 18" CONDUIT
642+25, 1' LT

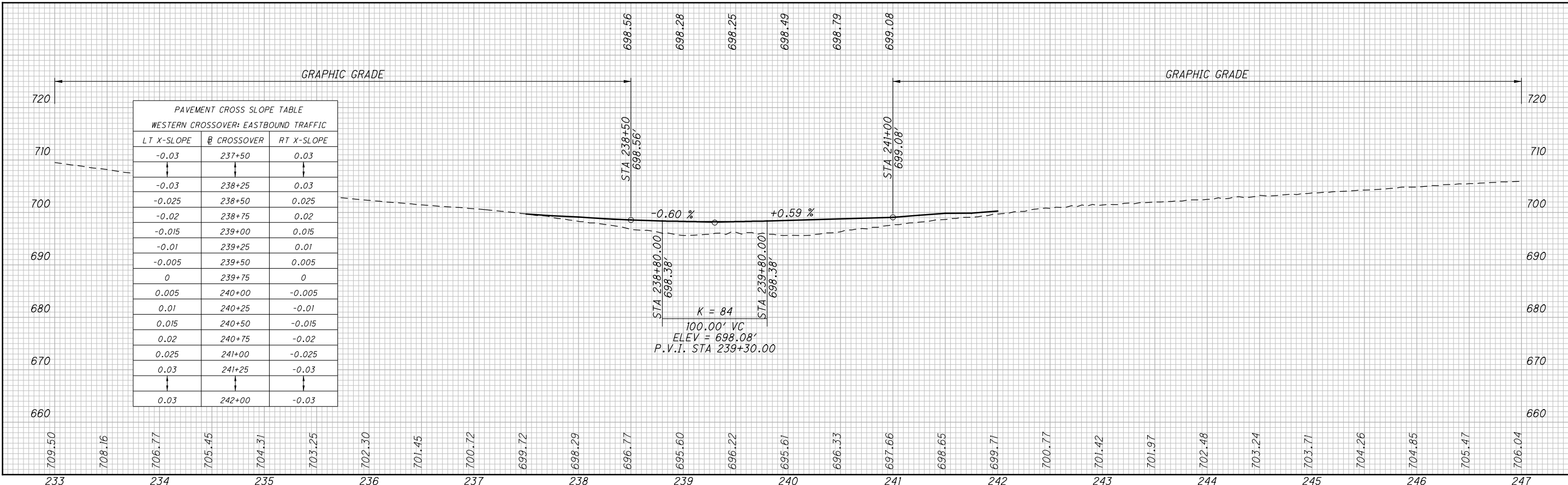
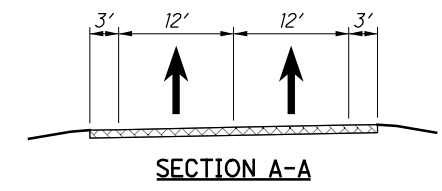
CALCULATED GF
 CHECKED JME

P.I. Sta. 237+10.86
 $\Delta = 12^\circ 34' 01''$ (LT)
 $Dc = 3^\circ 00' 00''$
 $R = 1,909.86'$
 $T = 210.29'$
 $L = 418.89'$
 $E = 11.54'$
 $C = 418.06'$
 $C.B. = N 78^\circ 56' 50'' E$

P.I. Sta. 241+29.75
 $\Delta = 12^\circ 34' 01''$ (RT)
 $Dc = 3^\circ 00' 00''$
 $R = 1,909.86'$
 $T = 210.29'$
 $L = 418.89'$
 $E = 11.54'$
 $C = 418.06'$
 $C.B. = N 78^\circ 56' 50'' E$



NOTE:
 THIS SHEET FOR CROSSOVER GEOMETRIC DETAILS ONLY.
 FOR MAINTENANCE OF TRAFFIC SIGNING, MARKING, AND
 OTHER DETAILS, SEE MAINTENANCE OF TRAFFIC PLAN
 SHEETS.



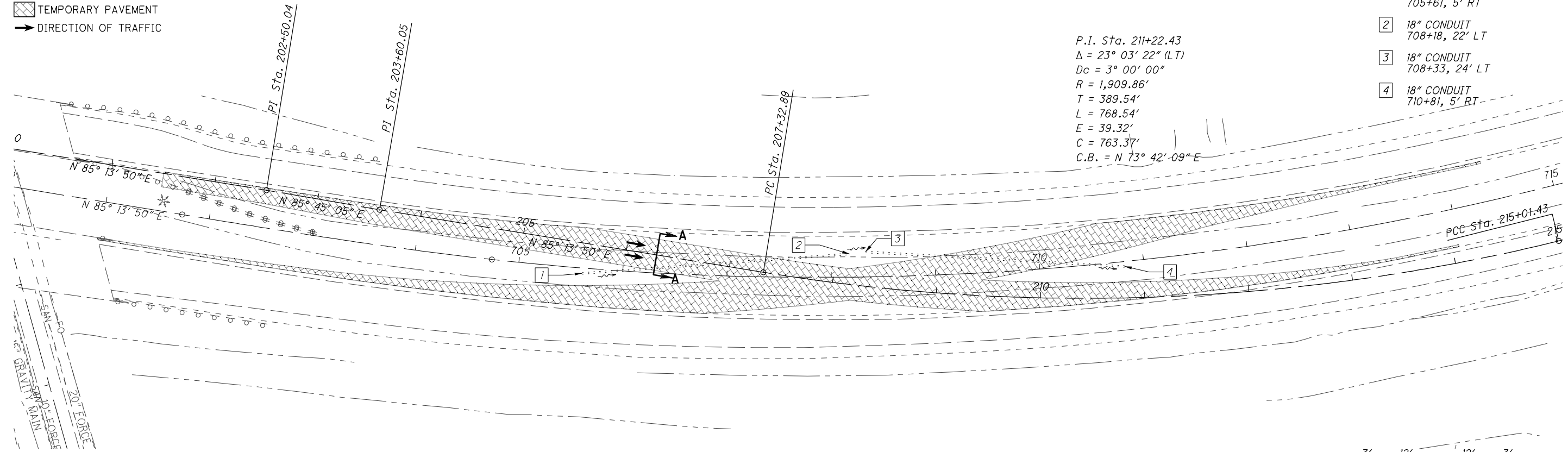
**MAINTENANCE OF TRAFFIC DETAIL
 PHASE 2 - WEST CROSSOVER**

LOR-090-13.20

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LEGEND

- TEMPORARY PAVEMENT
- DIRECTION OF TRAFFIC

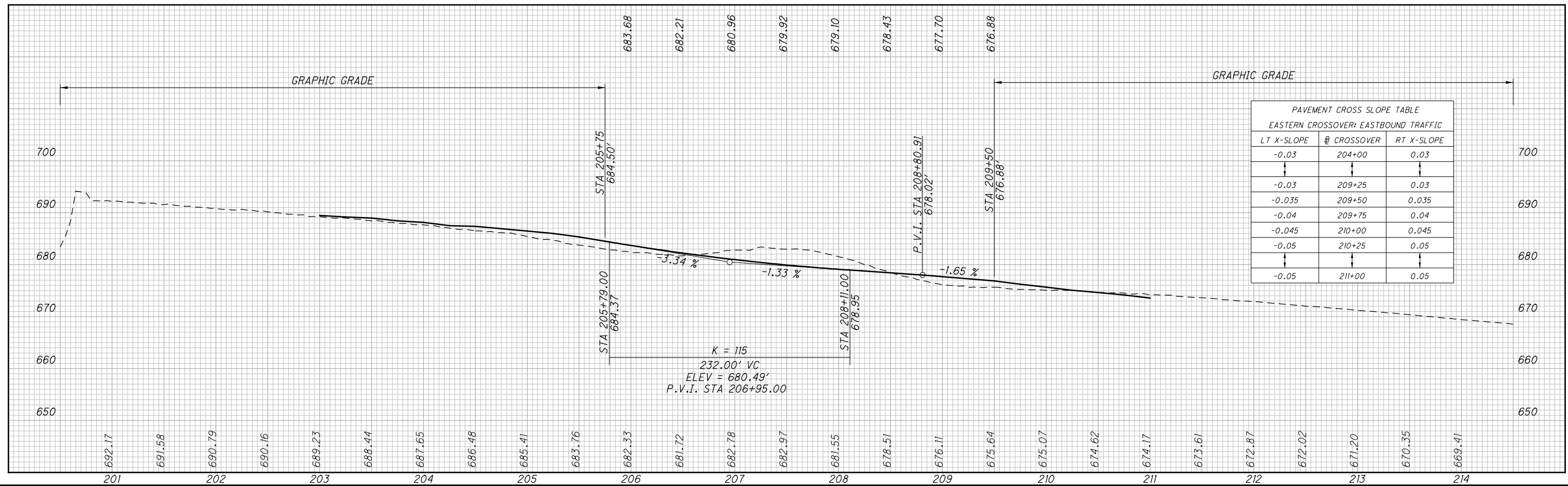
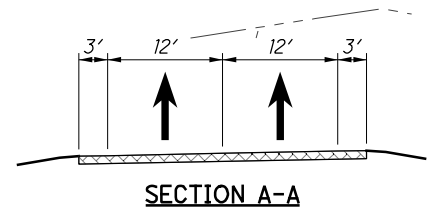


P.I. Sta. 211+22.43
 $\Delta = 23^\circ 03' 22''$ (LT)
 $D_c = 3^\circ 00' 00''$
 $R = 1,909.86'$
 $T = 389.54'$
 $L = 768.54'$
 $E = 39.32'$
 $C = 763.37'$
 $C.B. = N 73^\circ 42' 09'' E$

- 1 18" CONDUIT
705+61, 5' RT
- 2 18" CONDUIT
708+18, 22' LT
- 3 18" CONDUIT
708+33, 24' LT
- 4 18" CONDUIT
710+81, 5' RT

0 50 100
 HORIZONTAL
 SCALE IN FEET
 CALCULATED GF CHECKED JME

NOTE:
 THIS SHEET FOR CROSSOVER GEOMETRIC DETAILS ONLY.
 FOR MAINTENANCE OF TRAFFIC SIGNING, MARKING, AND
 OTHER DETAILS, SEE MAINTENANCE OF TRAFFIC PLAN
 SHEETS.



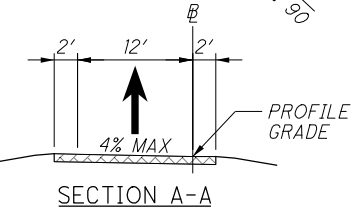
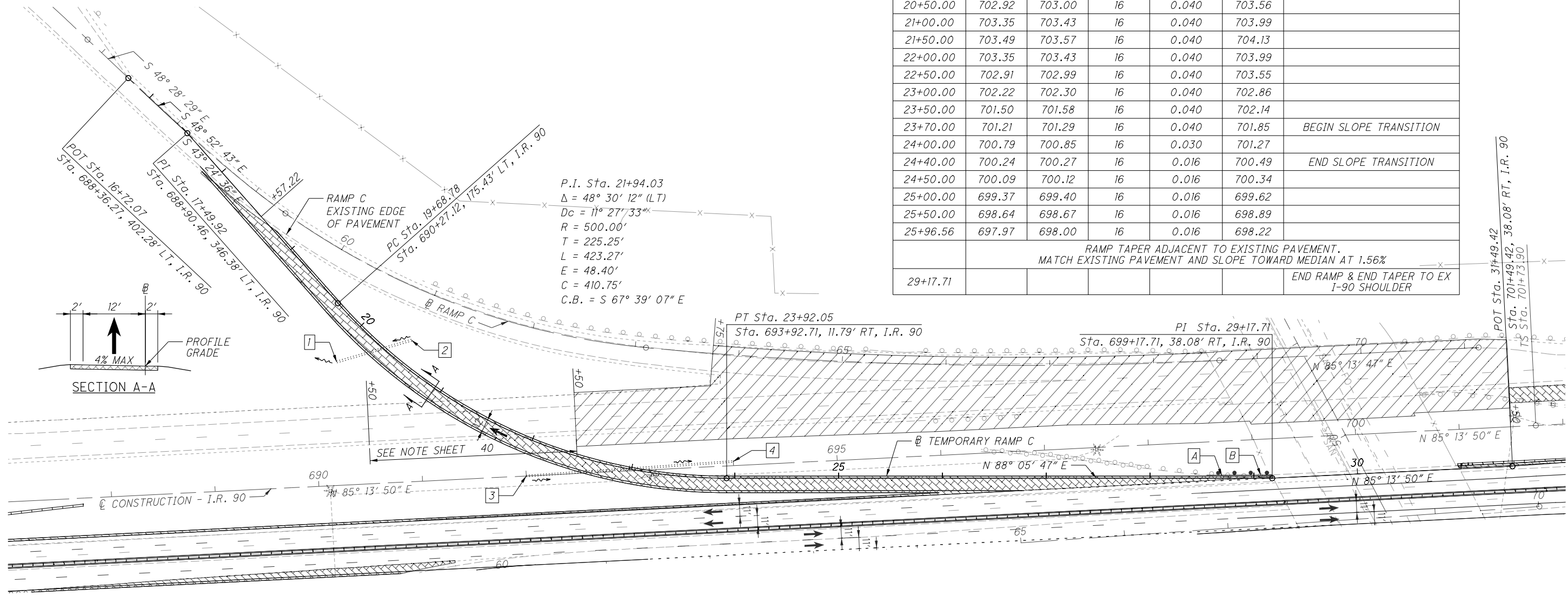
**MAINTENANCE OF TRAFFIC DETAIL
 PHASE 2 - EAST CROSSOVER**

LOR-090-13.20

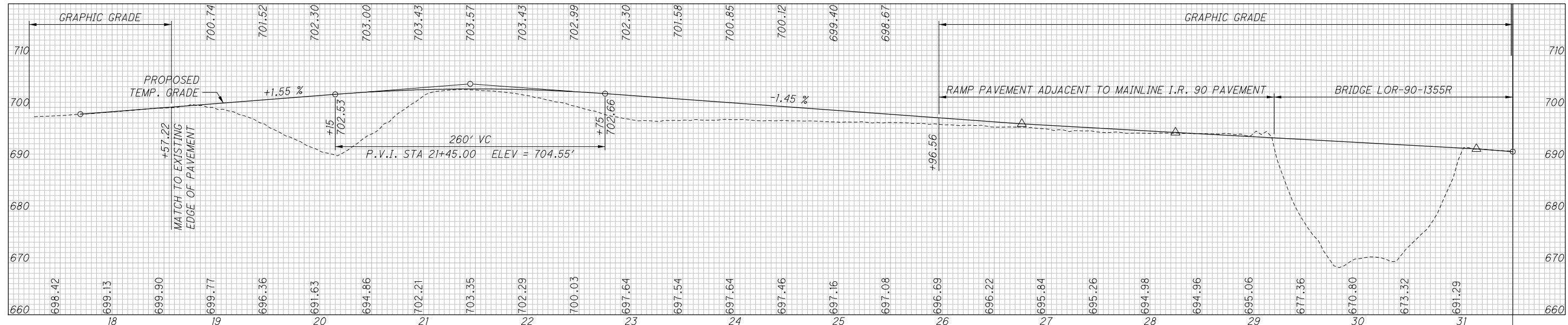
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- LEGEND**
- PROPOSED WORK ZONE
 - WORK COMPLETED
 - TEMPORARY PAVEMENT
 - TEMPORARY PAVEMENT REMOVED
 - PORTABLE BARRIER
 - DIRECTION OF TRAFFIC

- 1 18" CONDUIT
20+07, 40' RT
- 2 18" CONDUIT
20+45, 24' LT
- 3 18" CONDUIT
22+07, 34' RT
- 4 18" CONDUIT
23+99, 16' LT
- A WORK ZONE GUARDRAIL, TYPE 5
(CONNECT TO EXISTING)
- B WORK ZONE BRIDGE TERMINAL ASSEMBLY,
TYPE 2



STATION	LT EDGE OF TEMP PVMT	PROFILE GRADE	PAVEMENT WIDTH	PAVEMENT CROSS SLOPE	RT EDGE OF TEMP PVMT	REMARK
TIE INTO EXISTING RAMP C PAVEMENT. EXISTING CROSS SLOPE APPROXIMATELY 4%						
18+57.22	700.05	700.05	14	0.040	700.61	MEET EX RAMP C PAVEMENT
19+00.00	700.66	700.74	16	0.040	701.30	
19+50.00	701.44	701.52	16	0.040	702.08	
20+00.00	702.22	702.30	16	0.040	702.86	
20+50.00	702.92	703.00	16	0.040	703.56	
21+00.00	703.35	703.43	16	0.040	703.99	
21+50.00	703.49	703.57	16	0.040	704.13	
22+00.00	703.35	703.43	16	0.040	703.99	
22+50.00	702.91	702.99	16	0.040	703.55	
23+00.00	702.22	702.30	16	0.040	702.86	
23+50.00	701.52	701.58	16	0.040	702.14	
23+70.00	701.21	701.29	16	0.040	701.85	BEGIN SLOPE TRANSITION
24+00.00	700.79	700.85	16	0.030	701.27	END SLOPE TRANSITION
24+40.00	700.24	700.27	16	0.016	700.49	
24+50.00	700.09	700.12	16	0.016	700.34	
25+00.00	699.37	699.40	16	0.016	699.62	
25+50.00	698.64	698.67	16	0.016	698.89	
25+96.56	697.97	698.00	16	0.016	698.22	
RAMP TAPER ADJACENT TO EXISTING PAVEMENT. MATCH EXISTING PAVEMENT AND SLOPE TOWARD MEDIAN AT 1.56%						
29+17.71						END RAMP & END TAPER TO EX I-90 SHOULDER



TEMPORARY RAMP C - DETAIL
STA. 16+72.07 TO STA. 31+49.42

LOR-090-13.20

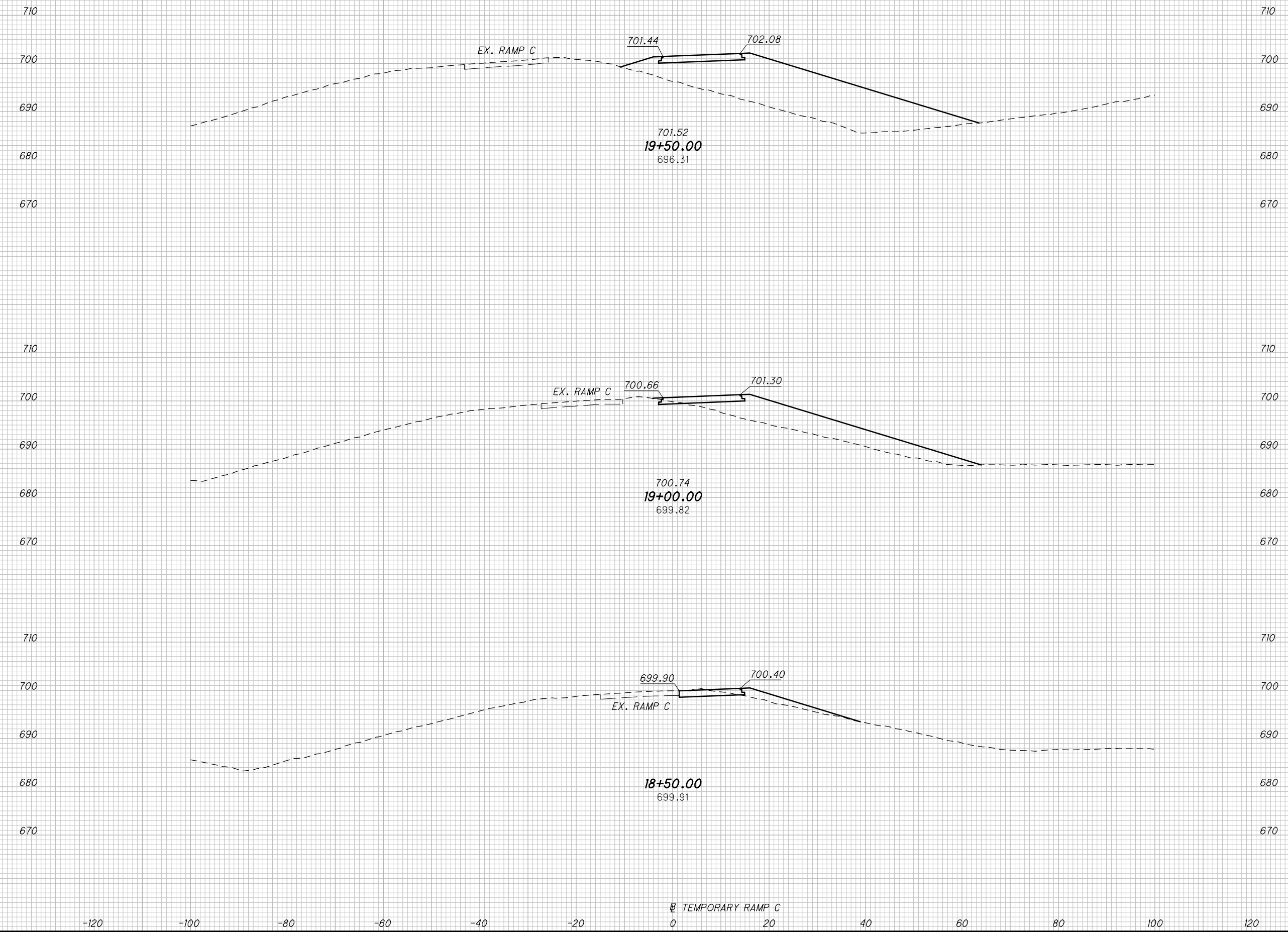
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SEEDING

END WIDTH	SO. YDS.

END AREA VOLUME

CUT	FILL	CUT	FILL	CALCULATED GF	CHECKED JME



CROSS SECTIONS - TEMPORARY RAMP C
STA. 18+50.00 TO STA. 19+50.00

LOR-090-13.20

30
301

TEMPORARY RAMP C

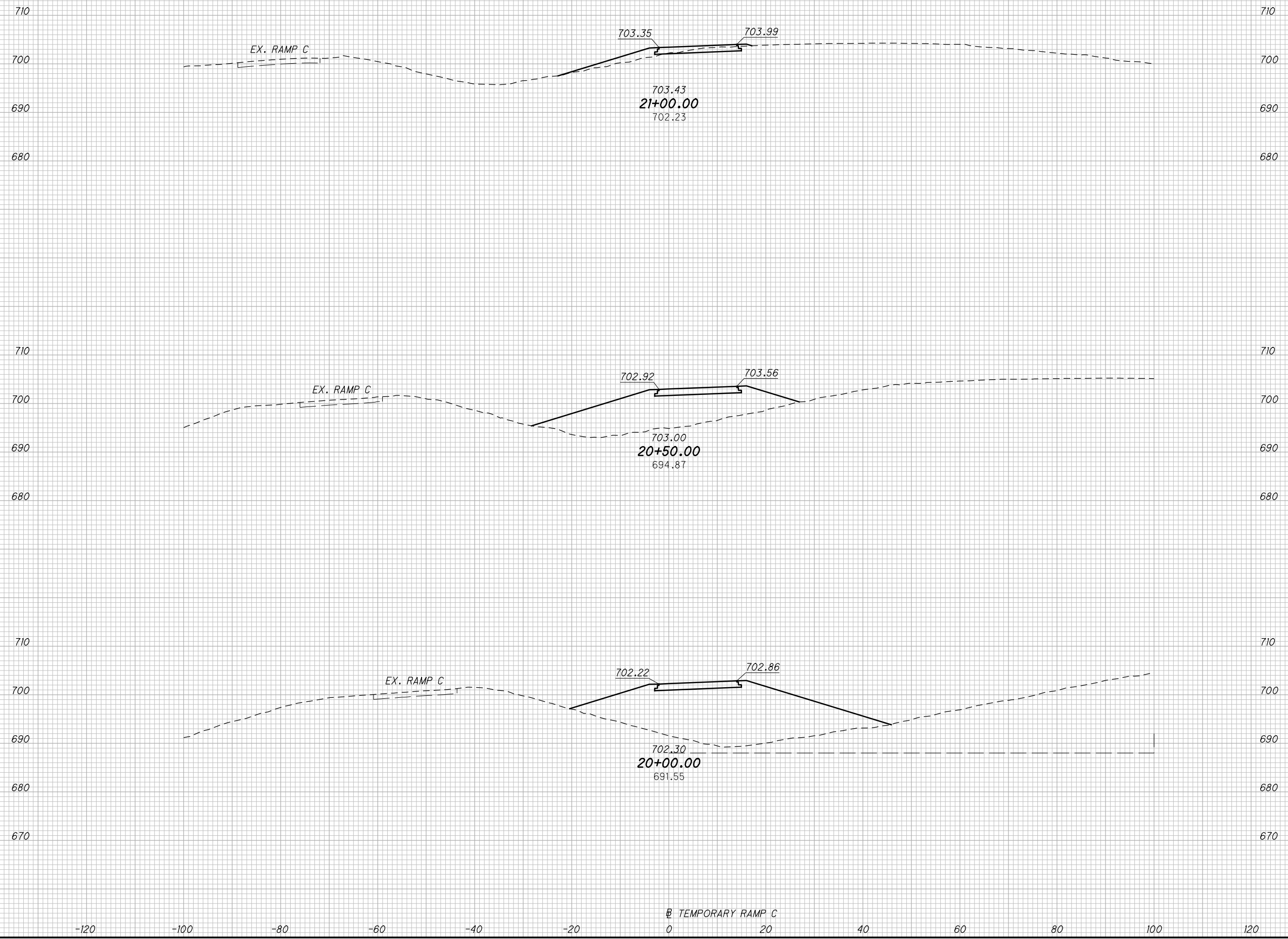
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SEEDING

END WIDTH	SO. YDS.

END AREA VOLUME

CUT	FILL	CUT	FILL	CALCULATED GF	CHECKED JME



CROSS SECTIONS - TEMPORARY RAMP C
 STA. 20+00.00 TO STA. 21+00.00

LOR-090-13.20

31
301

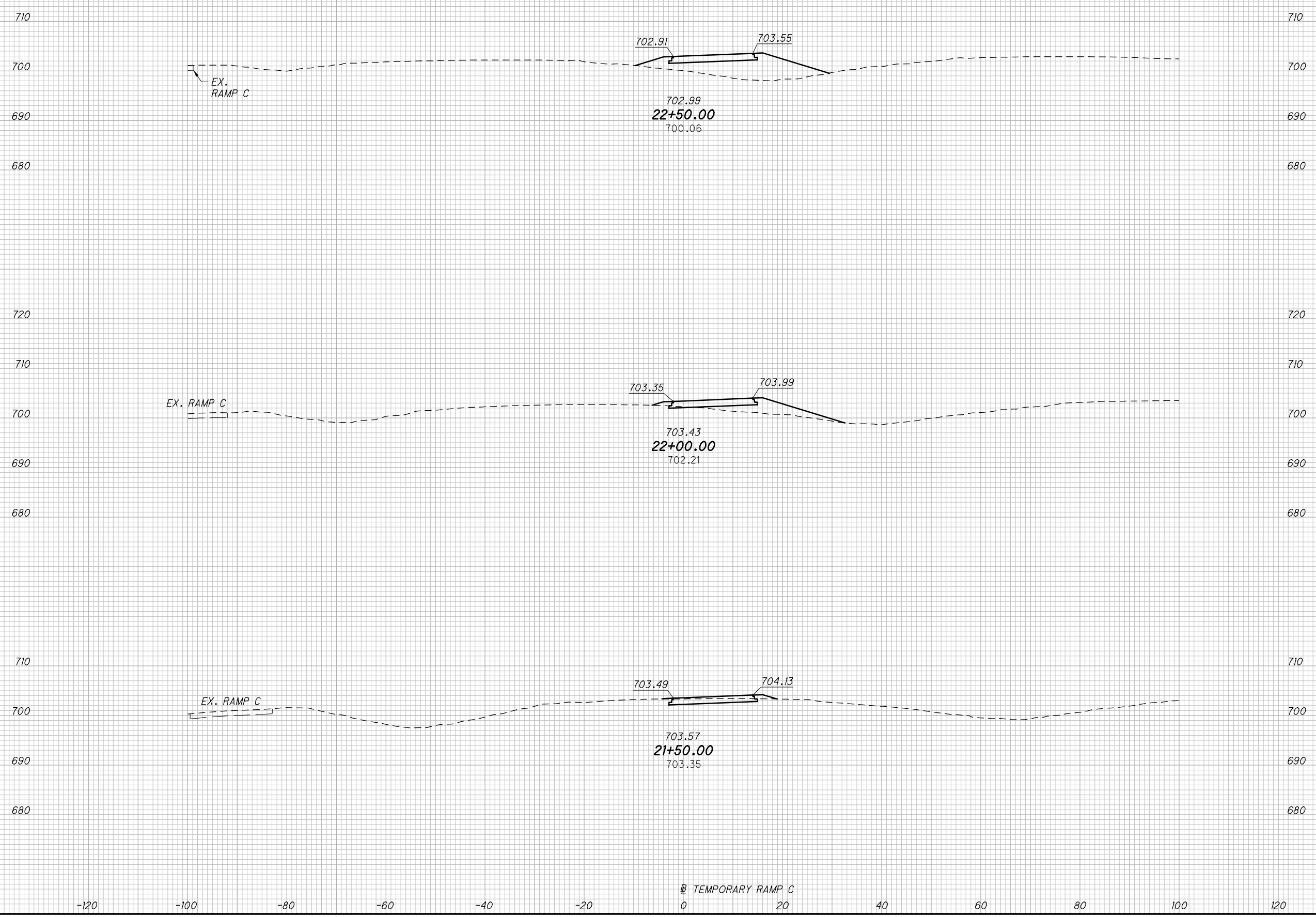
TEMPORARY RAMP C

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SEEDING

END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL	GF	JME



CROSS SECTIONS - TEMPORARY RAMP C
STA. 21+50.00 TO STA. 22+50.00

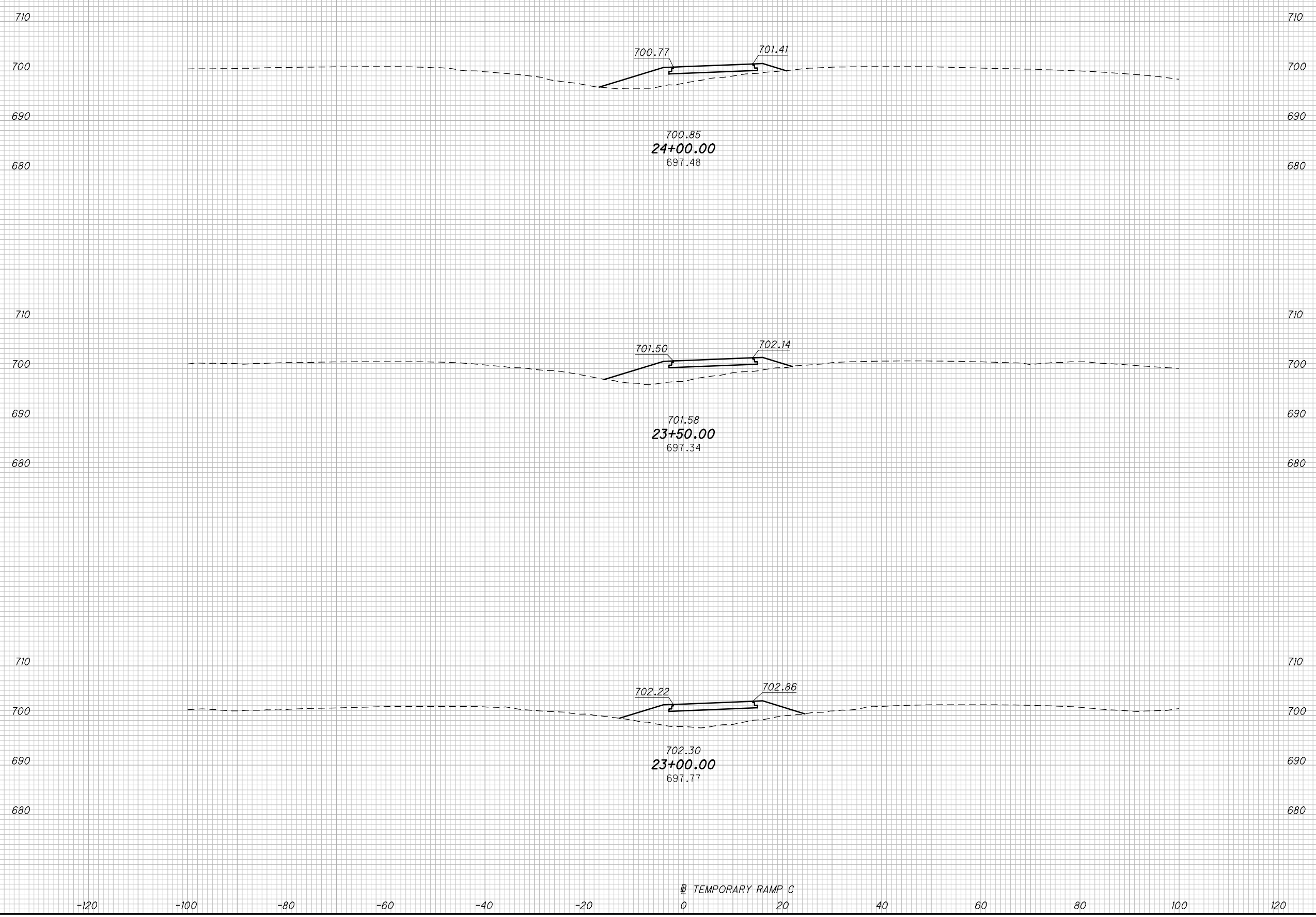
LOR-090-13.20

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SEEDING

END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED GF	CHECKED JME
CUT	FILL	CUT	FILL		



CROSS SECTIONS - TEMPORARY RAMP C
STA. 23+00.00 TO STA. 24+00.00

LOR-090-13.20

33
301

TEMPORARY RAMP C

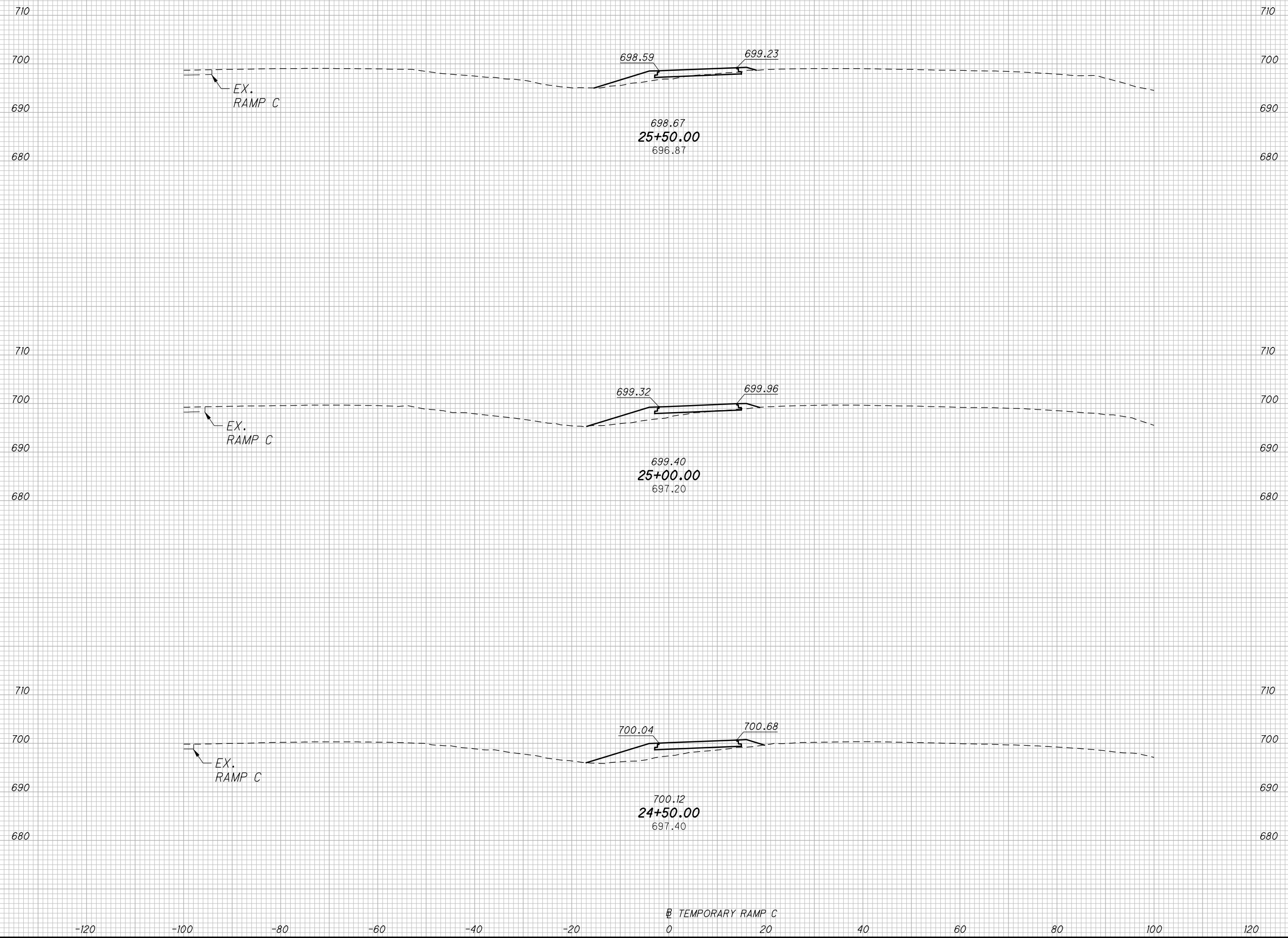
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SEEDING

END WIDTH	SO. YDS.

END AREA VOLUME

CUT	FILL	CUT	FILL	CALCULATED GF	CHECKED JME



CROSS SECTIONS - TEMPORARY RAMP C
STA. 24+50.00 TO STA. 25+50.00

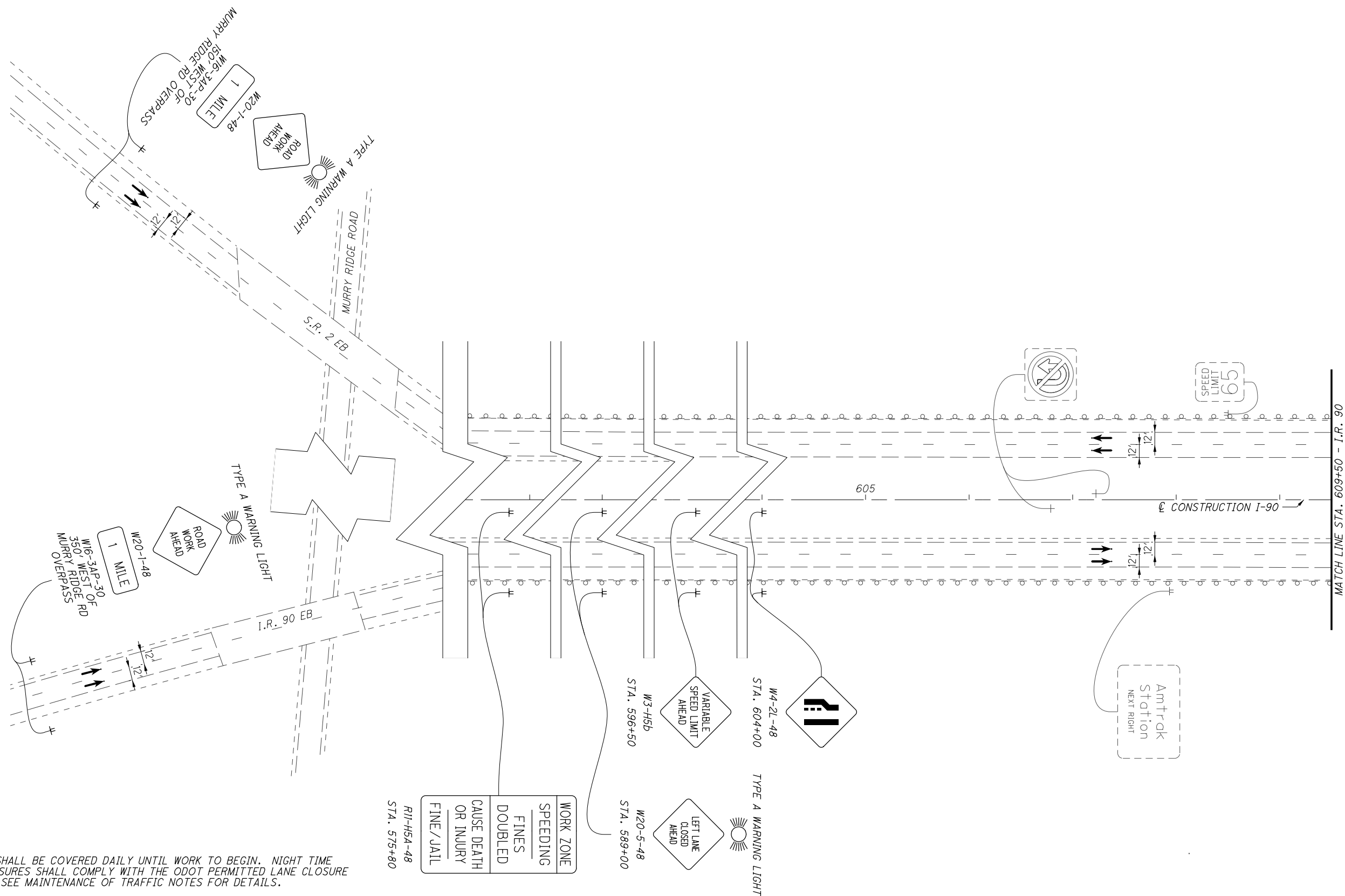
LOR-090-13.20

34
301

TEMPORARY RAMP C

NOTE:
SIGNAGE SHALL BE COVERED DAILY UNTIL WORK TO BEGIN. NIGHT TIME LANE CLOSURES SHALL COMPLY WITH THE ODOT PERMITTED LANE CLOSURE CHARTS. SEE MAINTENANCE OF TRAFFIC NOTES FOR DETAILS.

LEGEND	
	PROPOSED WORK ZONE
	WORK COMPLETED
	TEMPORARY PAVEMENT
	TEMPORARY PAVEMENT REMOVED
	PORTABLE BARRIER
	DIRECTION OF TRAFFIC
	WORK ZONE CHANNELIZING LINE
	WORK ZONE DOTTED LINE
	WORK ZONE EDGE LINE WHITE
	WORK ZONE EDGE LINE YELLOW
	WORK ZONE LANE LINE
	PREVIOUS PHASE MARKINGS















CALCULATED GF CHECKED JME

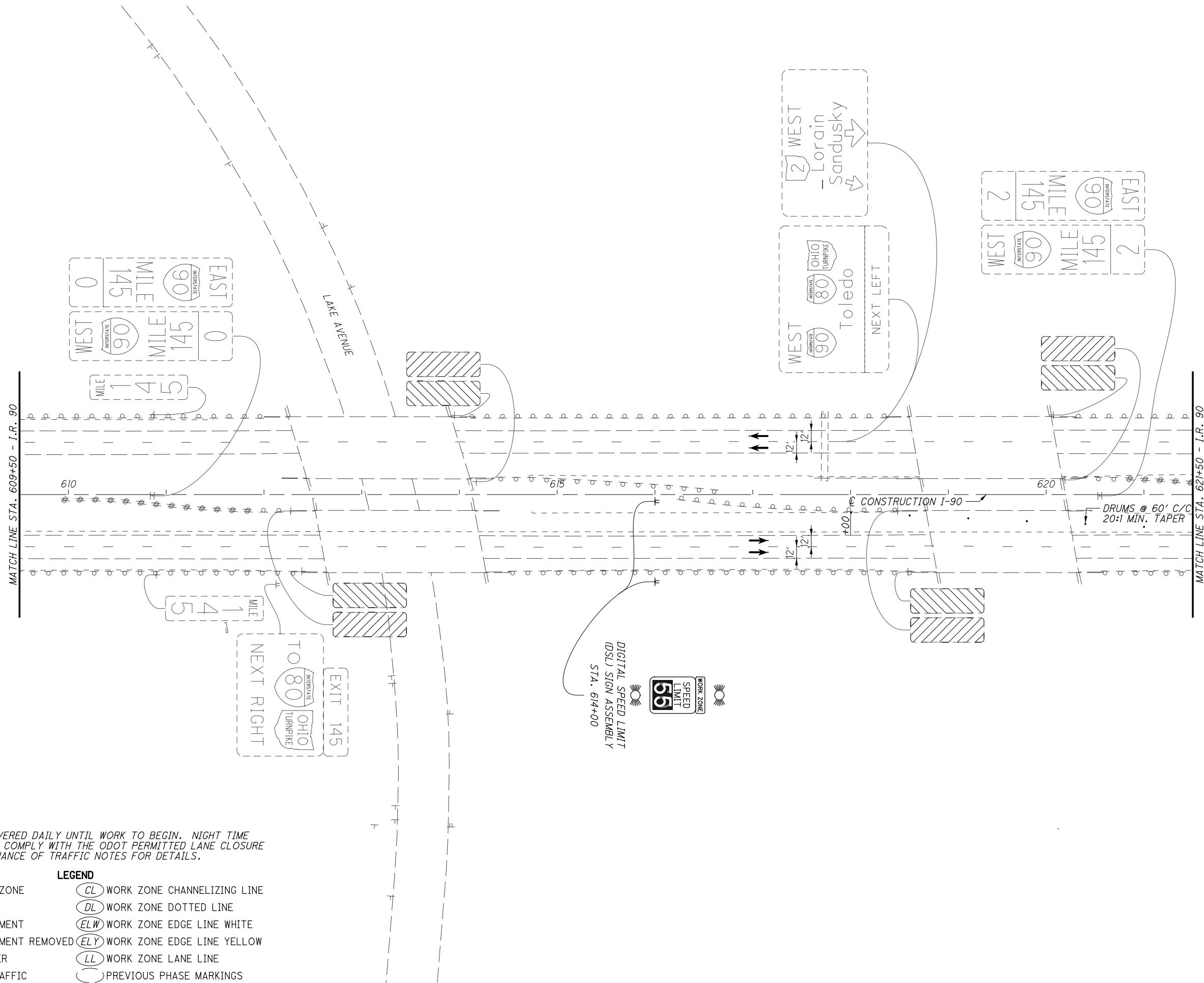
0 50 100
25
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE
BEGIN WORK TO STA. 609+50**

LOR-090-13.20

NOTE:
SIGNAGE SHALL BE COVERED DAILY UNTIL WORK TO BEGIN. NIGHT TIME LANE CLOSURES SHALL COMPLY WITH THE ODOT PERMITTED LANE CLOSURE CHARTS. SEE MAINTENANCE OF TRAFFIC NOTES FOR DETAILS.

LEGEND	
	PROPOSED WORK ZONE
	WORK COMPLETED
	TEMPORARY PAVEMENT
	TEMPORARY PAVEMENT REMOVED
	PORTABLE BARRIER
	DIRECTION OF TRAFFIC
	CL WORK ZONE CHANNELIZING LINE
	DL WORK ZONE DOTTED LINE
	ELW WORK ZONE EDGE LINE WHITE
	ELY WORK ZONE EDGE LINE YELLOW
	LL WORK ZONE LANE LINE
	PREVIOUS PHASE MARKINGS



DIGITAL SPEED LIMIT
(OSL) SIGN ASSEMBLY
STA. 614+00

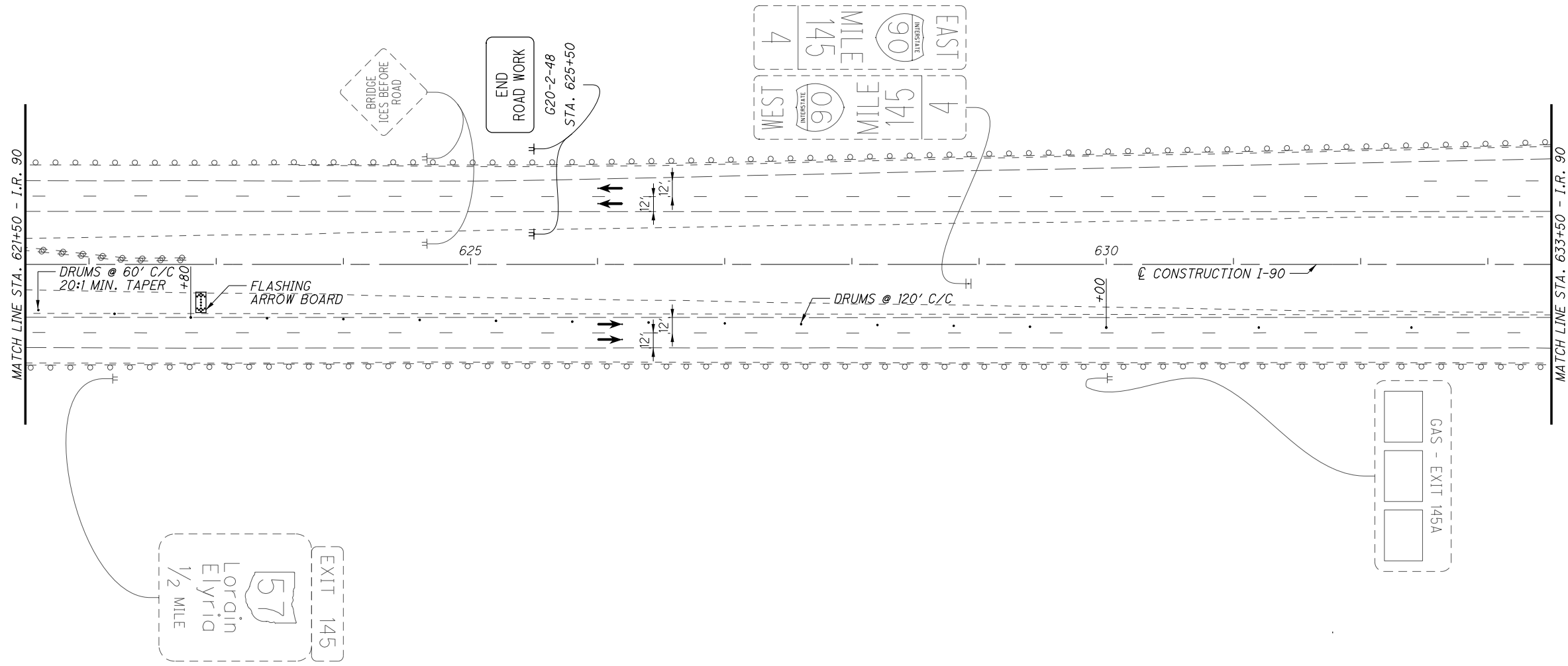


CALCULATED GF CHECKED JME



0 25 50 100
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PRE-PHASE
STA. 609+50 TO STA. 621+50



NOTE:
SIGNAGE SHALL BE COVERED DAILY UNTIL WORK TO BEGIN. NIGHT TIME LANE CLOSURES SHALL COMPLY WITH THE ODOT PERMITTED LANE CLOSURE CHARTS. SEE MAINTENANCE OF TRAFFIC NOTES FOR DETAILS.

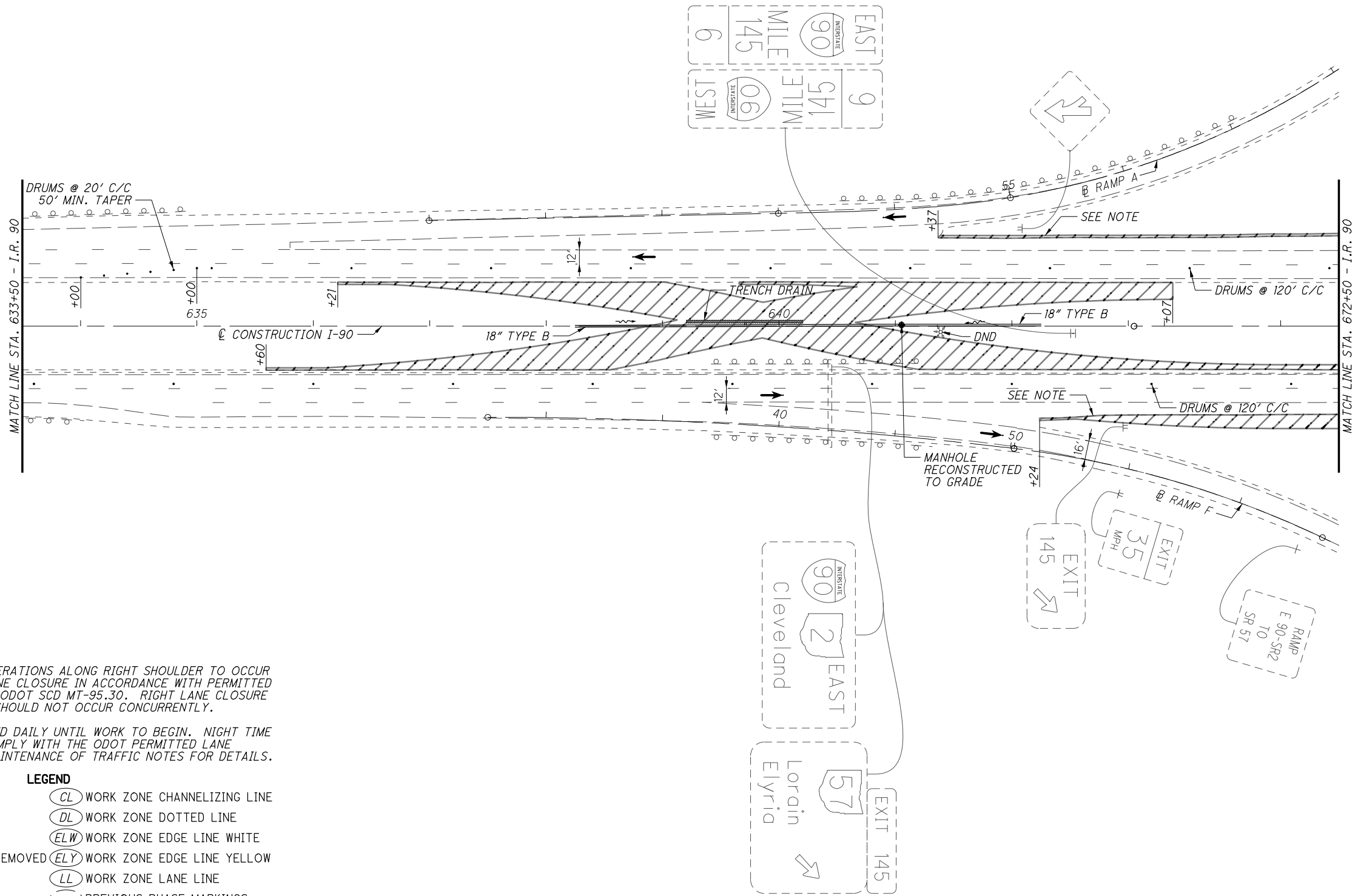
- LEGEND**
- ▨ PROPOSED WORK ZONE
 - WORK COMPLETED
 - ▤ TEMPORARY PAVEMENT
 - ▥ TEMPORARY PAVEMENT REMOVED
 - ▬ PORTABLE BARRIER
 - ➔ DIRECTION OF TRAFFIC
 - (CL) WORK ZONE CHANNELIZING LINE
 - (DL) WORK ZONE DOTTED LINE
 - (ELW) WORK ZONE EDGE LINE WHITE
 - (ELY) WORK ZONE EDGE LINE YELLOW
 - (LL) WORK ZONE LANE LINE
 - () PREVIOUS PHASE MARKINGS

CALCULATED GF CHECKED JME

0 50 100
25
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE
STA. 621+50 TO STA. 633+50**

LOR-090-13.20



- NOTES:**
- TEMPORARY PAVEMENT OPERATIONS ALONG RIGHT SHOULDER TO OCCUR UNDER NIGHTLY SINGLE LANE CLOSURE IN ACCORDANCE WITH PERMITTED LANE CLOSURE TIMES AND ODOT SCD MT-95.30. RIGHT LANE CLOSURE AND LEFT LANE CLOSURE SHOULD NOT OCCUR CONCURRENTLY.
 - SIGNAGE SHALL BE COVERED DAILY UNTIL WORK TO BEGIN. NIGHT TIME LANE CLOSURES SHALL COMPLY WITH THE ODOT PERMITTED LANE CLOSURE CHARTS. SEE MAINTENANCE OF TRAFFIC NOTES FOR DETAILS.

LEGEND

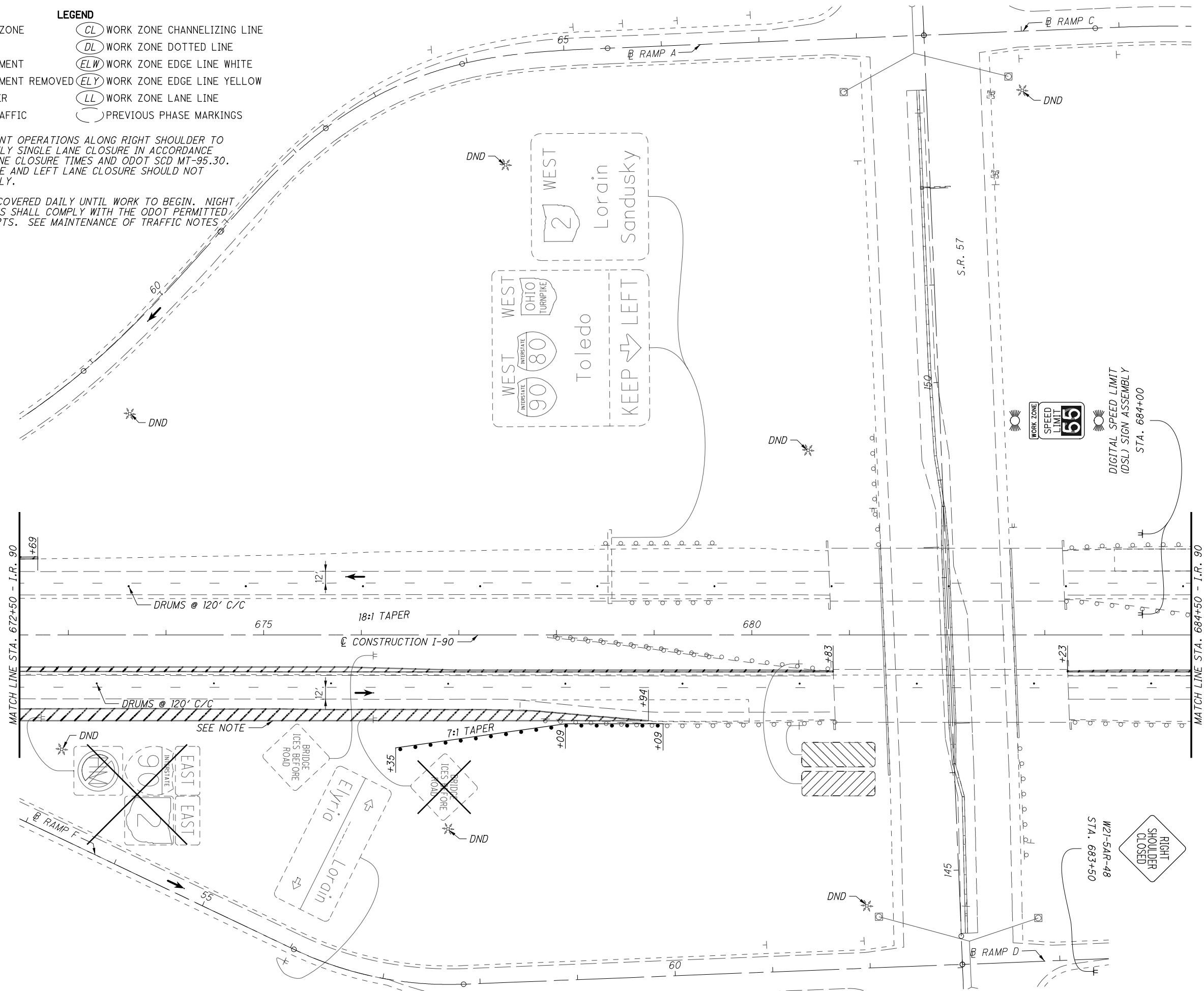
- | | |
|----------------------------|-----------------------------|
| PROPOSED WORK ZONE | WORK ZONE CHANNELIZING LINE |
| WORK COMPLETED | WORK ZONE DOTTED LINE |
| TEMPORARY PAVEMENT | WORK ZONE EDGE LINE WHITE |
| TEMPORARY PAVEMENT REMOVED | WORK ZONE EDGE LINE YELLOW |
| PORTABLE BARRIER | WORK ZONE LANE LINE |
| DIRECTION OF TRAFFIC | PREVIOUS PHASE MARKINGS |

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- LEGEND**
- PROPOSED WORK ZONE
 - WORK COMPLETED
 - TEMPORARY PAVEMENT
 - TEMPORARY PAVEMENT REMOVED
 - PORTABLE BARRIER
 - DIRECTION OF TRAFFIC
 - WORK ZONE CHANNELIZING LINE
 - WORK ZONE DOTTED LINE
 - WORK ZONE EDGE LINE WHITE
 - WORK ZONE EDGE LINE YELLOW
 - WORK ZONE LANE LINE
 - PREVIOUS PHASE MARKINGS

NOTES:

1. TEMPORARY PAVEMENT OPERATIONS ALONG RIGHT SHOULDER TO OCCUR UNDER NIGHTLY SINGLE LANE CLOSURE IN ACCORDANCE WITH PERMITTED LANE CLOSURE TIMES AND ODOT SCD MT-95.30. RIGHT LANE CLOSURE AND LEFT LANE CLOSURE SHOULD NOT OCCUR CONCURRENTLY.
2. SIGNAGE SHALL BE COVERED DAILY UNTIL WORK TO BEGIN. NIGHT TIME LANE CLOSURES SHALL COMPLY WITH THE ODOT PERMITTED LANE CLOSURE CHARTS. SEE MAINTENANCE OF TRAFFIC NOTES FOR DETAILS.



CALCULATED GF CHECKED JME

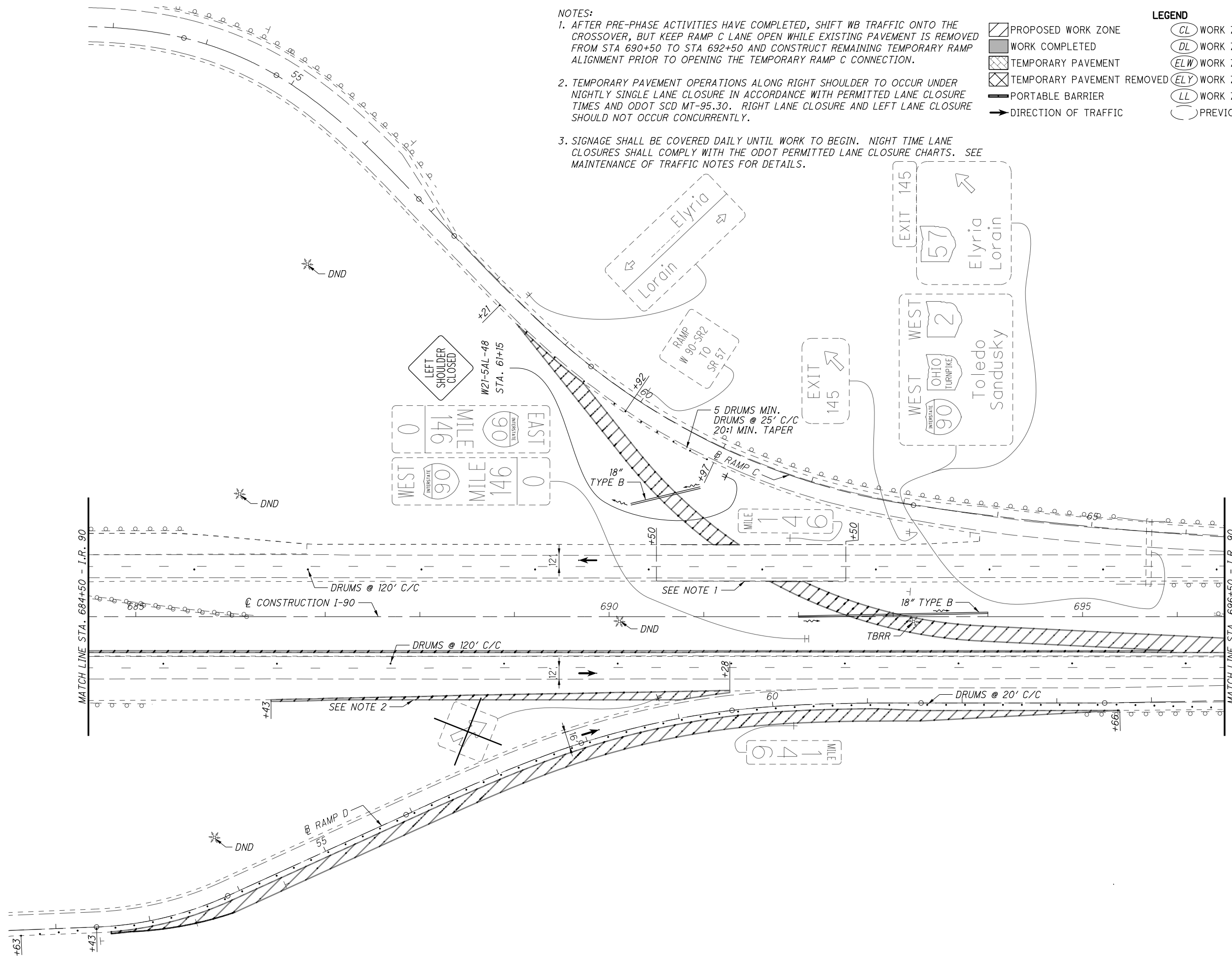
0 25 50 100

HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PRE-PHASE

STA. 672+50 TO STA. 684+50

LOR-090-13.20



- NOTES:**
1. AFTER PRE-PHASE ACTIVITIES HAVE COMPLETED, SHIFT WB TRAFFIC ONTO THE CROSSOVER, BUT KEEP RAMP C LANE OPEN WHILE EXISTING PAVEMENT IS REMOVED FROM STA 690+50 TO STA 692+50 AND CONSTRUCT REMAINING TEMPORARY RAMP ALIGNMENT PRIOR TO OPENING THE TEMPORARY RAMP C CONNECTION.
 2. TEMPORARY PAVEMENT OPERATIONS ALONG RIGHT SHOULDER TO OCCUR UNDER NIGHTLY SINGLE LANE CLOSURE IN ACCORDANCE WITH PERMITTED LANE CLOSURE TIMES AND ODOT SCD MT-95.30. RIGHT LANE CLOSURE AND LEFT LANE CLOSURE SHOULD NOT OCCUR CONCURRENTLY.
 3. SIGNAGE SHALL BE COVERED DAILY UNTIL WORK TO BEGIN. NIGHT TIME LANE CLOSURES SHALL COMPLY WITH THE ODOT PERMITTED LANE CLOSURE CHARTS. SEE MAINTENANCE OF TRAFFIC NOTES FOR DETAILS.

LEGEND

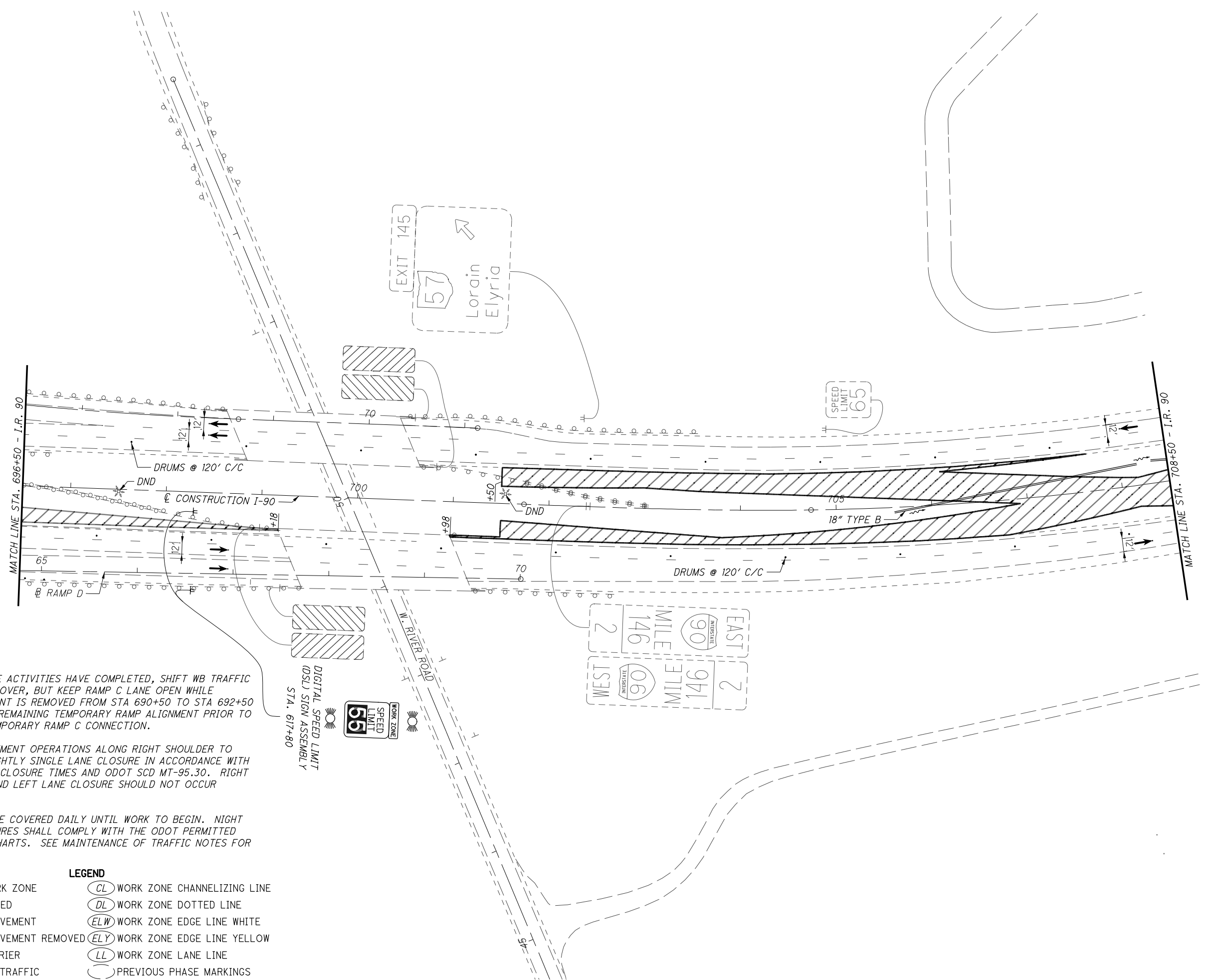
PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS

CALCULATED GF CHECKED JME

0 25 50 100
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PRE-PHASE
STA. 684+50 TO STA. 696+50

LOR-090-13.20

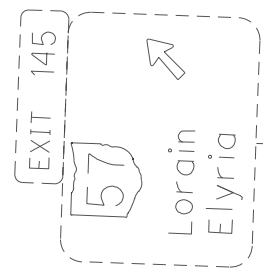
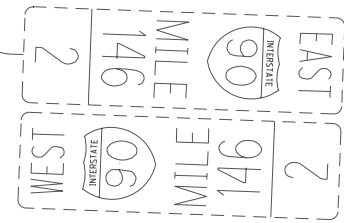


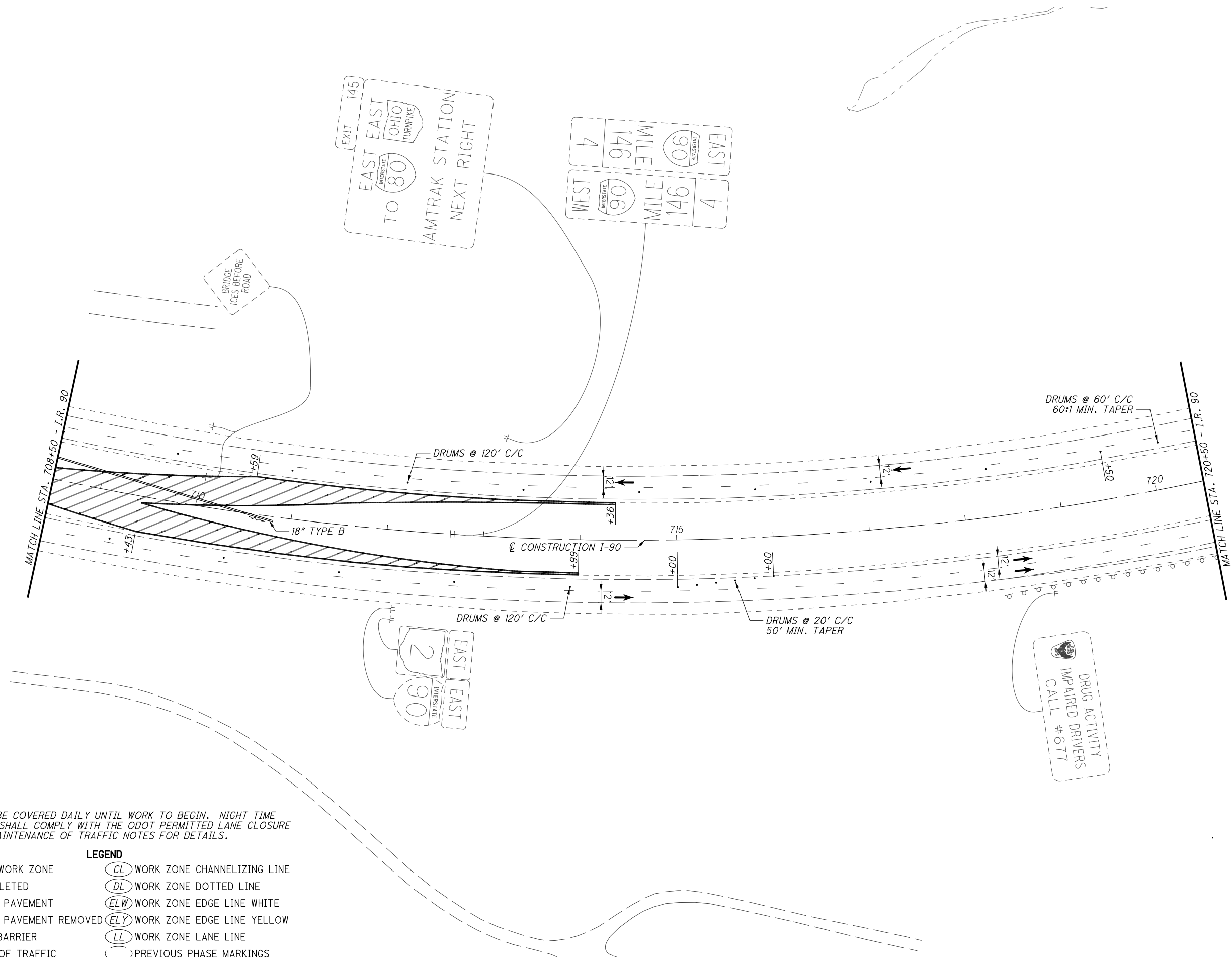
- NOTES:**
1. AFTER PRE-PHASE ACTIVITIES HAVE COMPLETED, SHIFT WB TRAFFIC ONTO THE CROSSOVER, BUT KEEP RAMP C LANE OPEN WHILE EXISTING PAVEMENT IS REMOVED FROM STA 690+50 TO STA 692+50 AND CONSTRUCT REMAINING TEMPORARY RAMP ALIGNMENT PRIOR TO OPENING THE TEMPORARY RAMP C CONNECTION.
 2. TEMPORARY PAVEMENT OPERATIONS ALONG RIGHT SHOULDER TO OCCUR UNDER NIGHTLY SINGLE LANE CLOSURE IN ACCORDANCE WITH PERMITTED LANE CLOSURE TIMES AND ODOT SCD MT-95.30. RIGHT LANE CLOSURE AND LEFT LANE CLOSURE SHOULD NOT OCCUR CONCURRENTLY.
 3. SIGNAGE SHALL BE COVERED DAILY UNTIL WORK TO BEGIN. NIGHT TIME LANE CLOSURES SHALL COMPLY WITH THE ODOT PERMITTED LANE CLOSURE CHARTS. SEE MAINTENANCE OF TRAFFIC NOTES FOR DETAILS.

LEGEND

PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS

DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY STA. 617+80

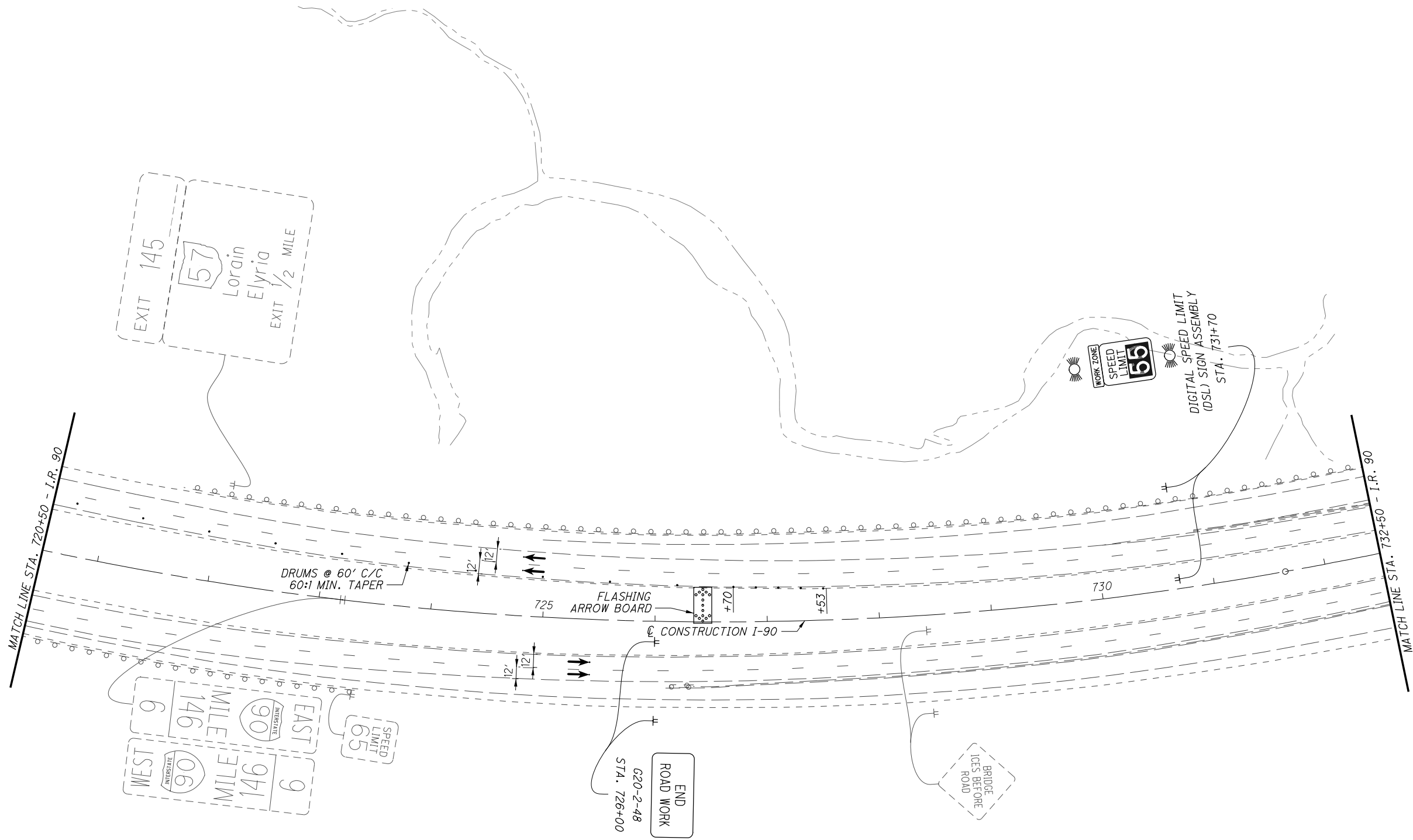




NOTE:
 SIGNAGE SHALL BE COVERED DAILY UNTIL WORK TO BEGIN. NIGHT TIME LANE CLOSURES SHALL COMPLY WITH THE ODOT PERMITTED LANE CLOSURE CHARTS. SEE MAINTENANCE OF TRAFFIC NOTES FOR DETAILS.

LEGEND

PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS



NOTE:
SIGNAGE SHALL BE COVERED DAILY UNTIL WORK TO BEGIN. NIGHT TIME LANE CLOSURES SHALL COMPLY WITH THE ODOT PERMITTED LANE CLOSURE CHARTS. SEE MAINTENANCE OF TRAFFIC NOTES FOR DETAILS.

LEGEND

PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS

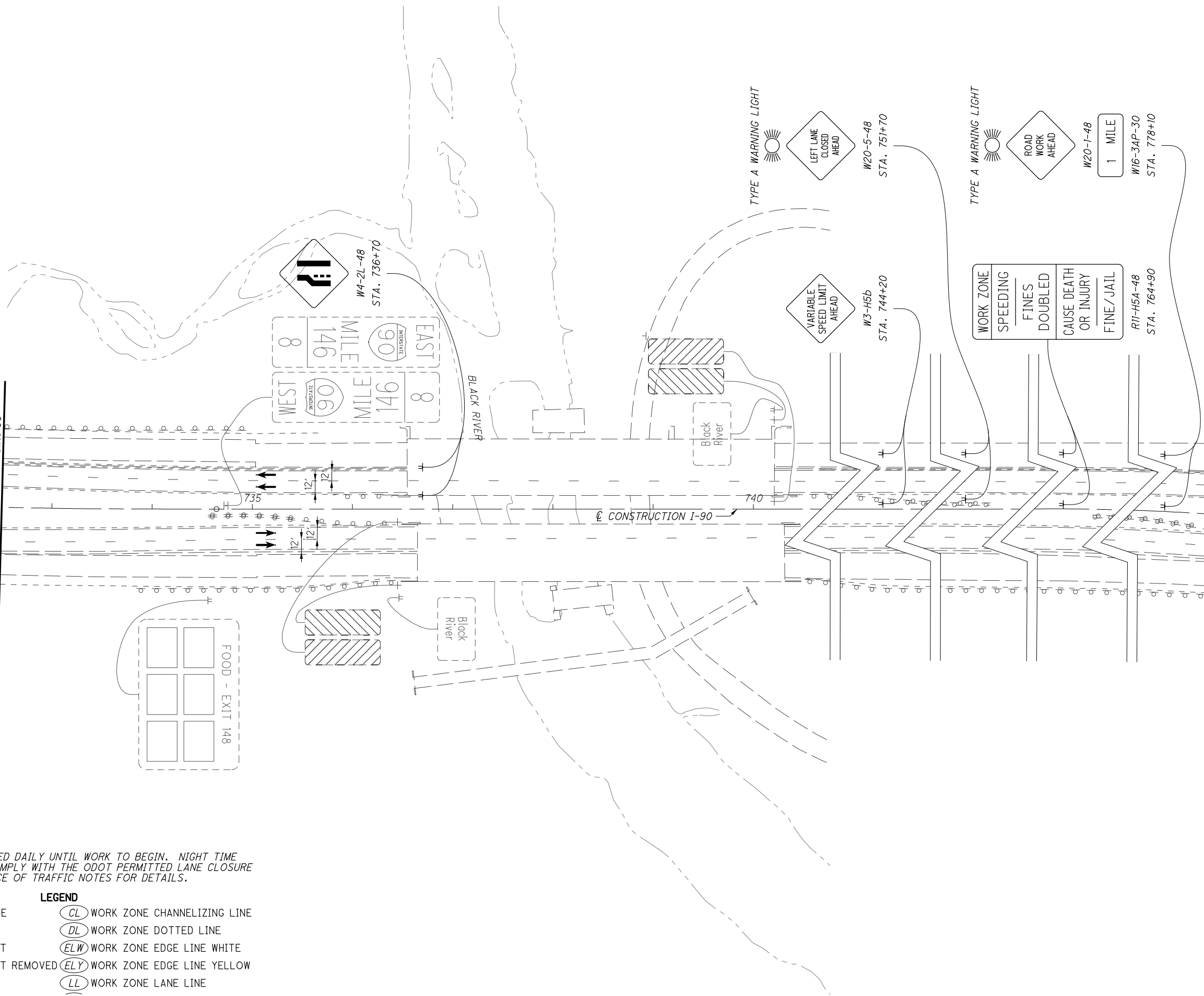
CALCULATED GF
CHECKED JME

HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PRE-PHASE
STA. 720+50 TO STA. 732+50

LOR-090-13.20

MATCH LINE STA. 732+50 - I.R. 90



NOTE:
SIGNAGE SHALL BE COVERED DAILY UNTIL WORK TO BEGIN. NIGHT TIME LANE CLOSURES SHALL COMPLY WITH THE ODOT PERMITTED LANE CLOSURE CHARTS. SEE MAINTENANCE OF TRAFFIC NOTES FOR DETAILS.

LEGEND

- | | |
|----------------------------|-----------------------------|
| PROPOSED WORK ZONE | WORK ZONE CHANNELIZING LINE |
| WORK COMPLETED | WORK ZONE DOTTED LINE |
| TEMPORARY PAVEMENT | WORK ZONE EDGE LINE WHITE |
| TEMPORARY PAVEMENT REMOVED | WORK ZONE EDGE LINE YELLOW |
| PORTABLE BARRIER | WORK ZONE LANE LINE |
| DIRECTION OF TRAFFIC | PREVIOUS PHASE MARKINGS |



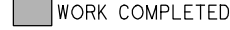

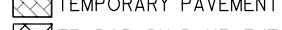

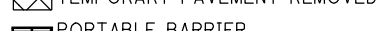





CALCULATED GF
CHECKED JME

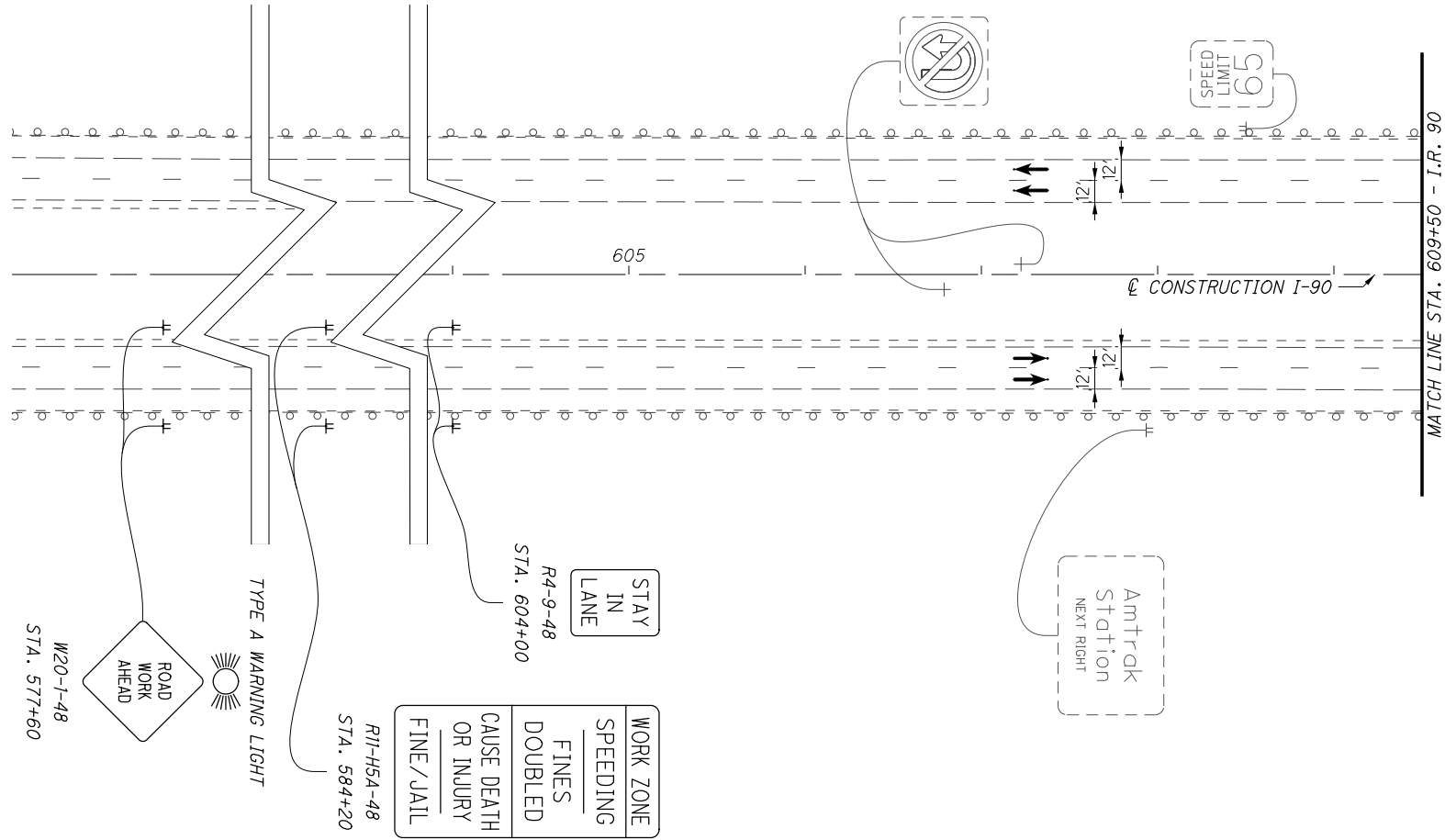
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25
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE
STA. 732+50 TO END WORK**

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

 PROPOSED WORK ZONE	 WORK ZONE CHANNELIZING LINE
 WORK COMPLETED	 WORK ZONE DOTTED LINE
 TEMPORARY PAVEMENT	 WORK ZONE EDGE LINE WHITE
 TEMPORARY PAVEMENT REMOVED	 WORK ZONE EDGE LINE YELLOW
 PORTABLE BARRIER	 WORK ZONE LANE LINE
 DIRECTION OF TRAFFIC	 PREVIOUS PHASE MARKINGS



CALCULATED GF CHECKED JME

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HORIZONTAL SCALE IN FEET

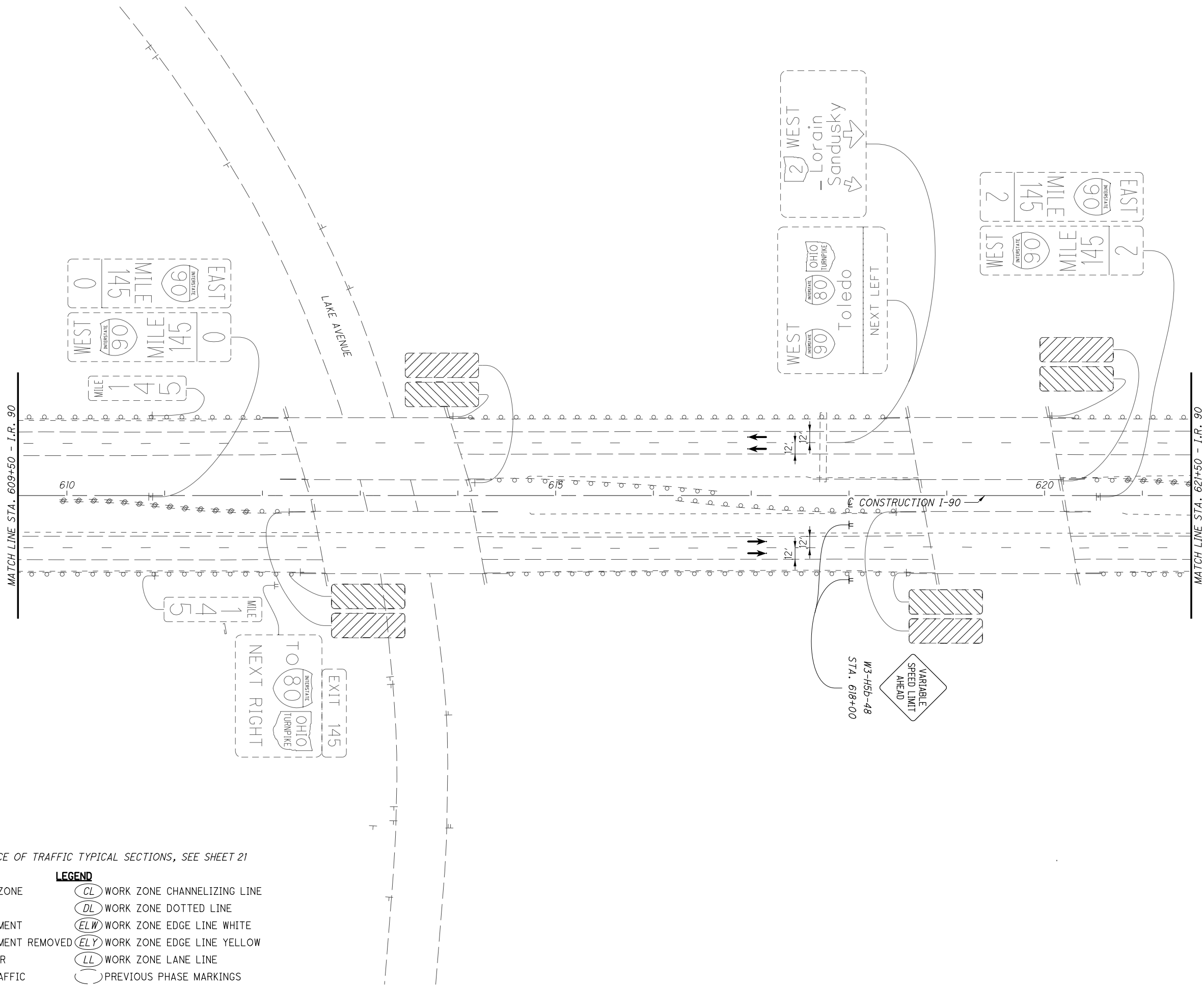


MAINTENANCE OF TRAFFIC - PHASE 1A
BEGIN WORK TO STA. 609+50

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

- LEGEND**
- ▨ PROPOSED WORK ZONE
 - WORK COMPLETED
 - ▩ TEMPORARY PAVEMENT
 - ⊠ TEMPORARY PAVEMENT REMOVED
 - ▬ PORTABLE BARRIER
 - ➔ DIRECTION OF TRAFFIC
 - CL WORK ZONE CHANNELIZING LINE
 - DL WORK ZONE DOTTED LINE
 - ELW WORK ZONE EDGE LINE WHITE
 - ELY WORK ZONE EDGE LINE YELLOW
 - LL WORK ZONE LANE LINE
 - PREVIOUS PHASE MARKINGS

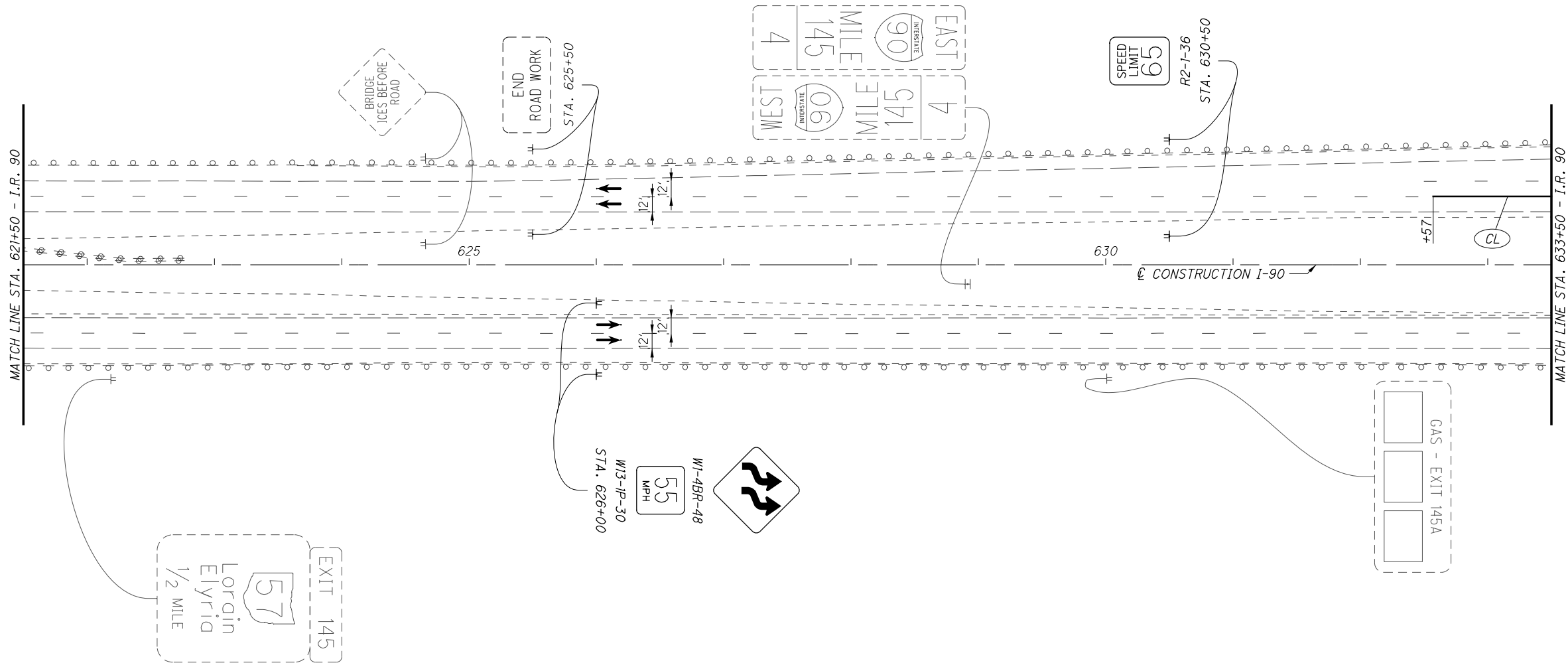


CALCULATED GF CHECKED JME

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25
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1A
STA. 609+50 TO STA. 621+50

LOR-090-13.20



NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

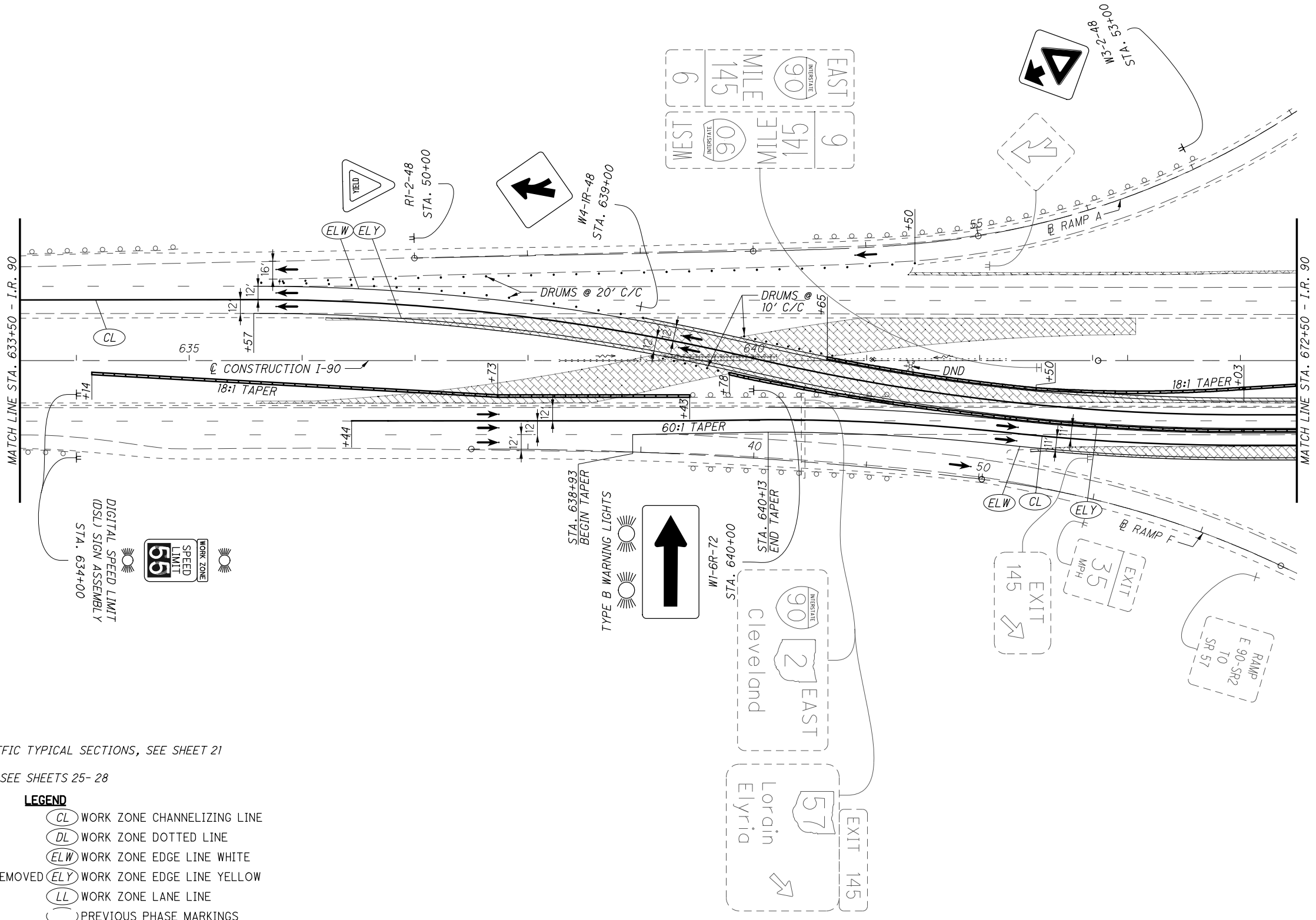
LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS

CALCULATED GF
CHECKED JME

0 50 100
25
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1A
STA. 621+50 TO STA. 633+50













LOR-090-13.20



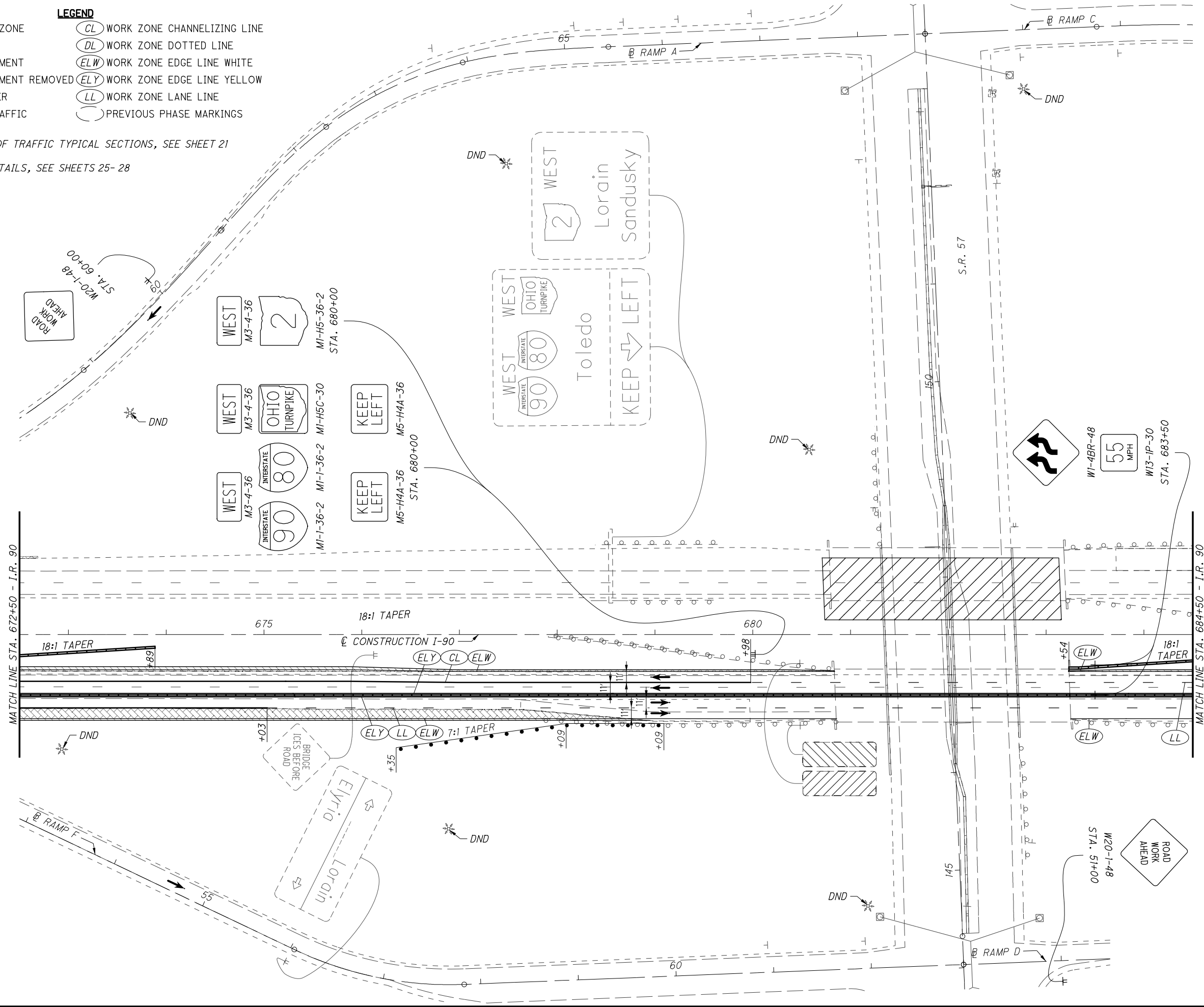
NOTES:
 1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

LEGEND

PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS

- LEGEND**
-  PROPOSED WORK ZONE
 -  WORK COMPLETED
 -  TEMPORARY PAVEMENT
 -  TEMPORARY PAVEMENT REMOVED
 -  PORTABLE BARRIER
 -  DIRECTION OF TRAFFIC
 -  CL WORK ZONE CHANNELIZING LINE
 -  DL WORK ZONE DOTTED LINE
 -  ELW WORK ZONE EDGE LINE WHITE
 -  ELY WORK ZONE EDGE LINE YELLOW
 -  LL WORK ZONE LANE LINE
 -  PREVIOUS PHASE MARKINGS

- NOTES:**
1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28



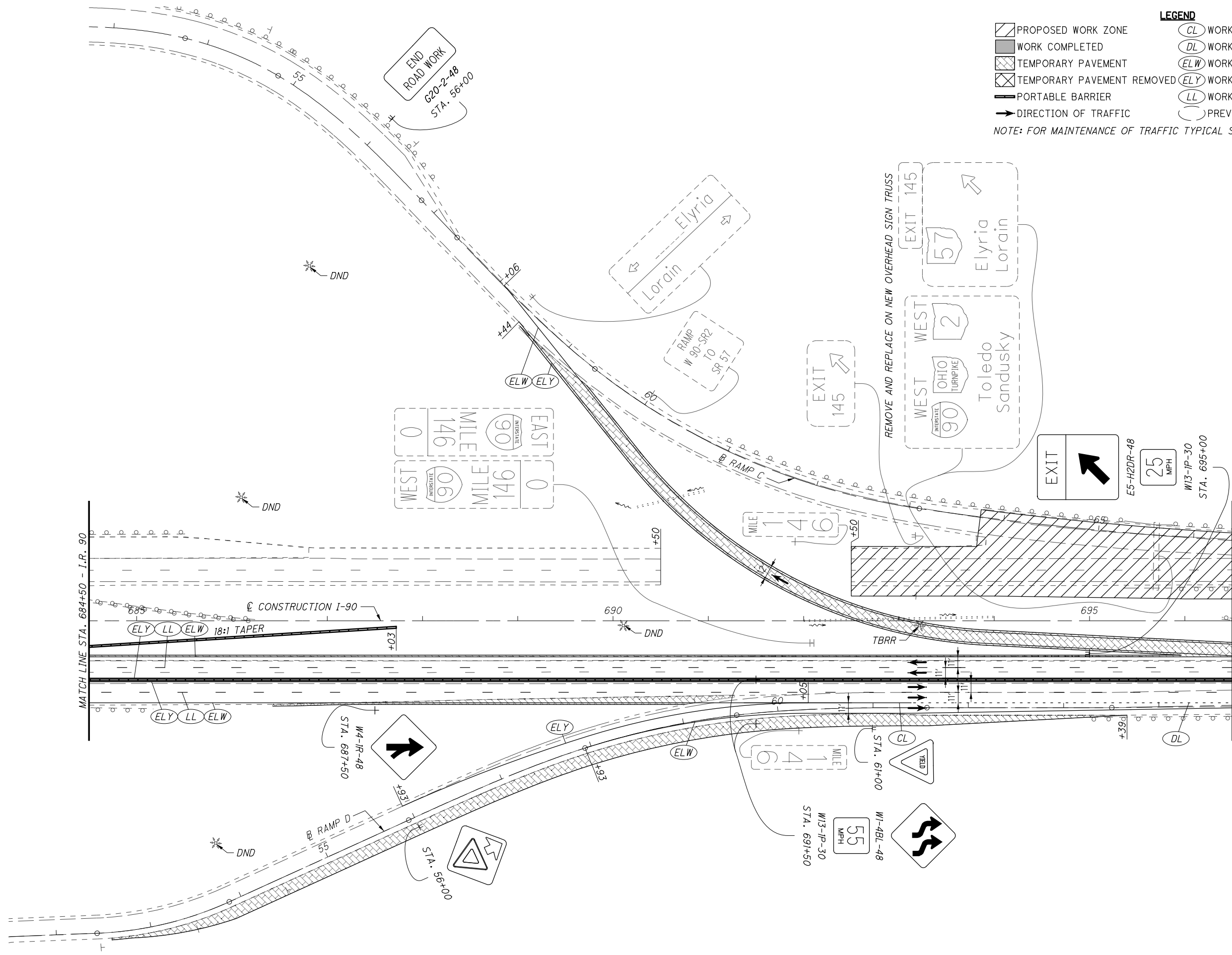
CALCULATED GF CHECKED JME

0 25 50 100

HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1A
STA. 672+50 TO STA. 684+50

LOR-090-13.20



LEGEND

- PROPOSED WORK ZONE
- WORK COMPLETED
- TEMPORARY PAVEMENT
- TEMPORARY PAVEMENT REMOVED
- PORTABLE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE CHANNELIZING LINE
- WORK ZONE DOTTED LINE
- WORK ZONE EDGE LINE WHITE
- WORK ZONE EDGE LINE YELLOW
- WORK ZONE LANE LINE
- PREVIOUS PHASE MARKINGS

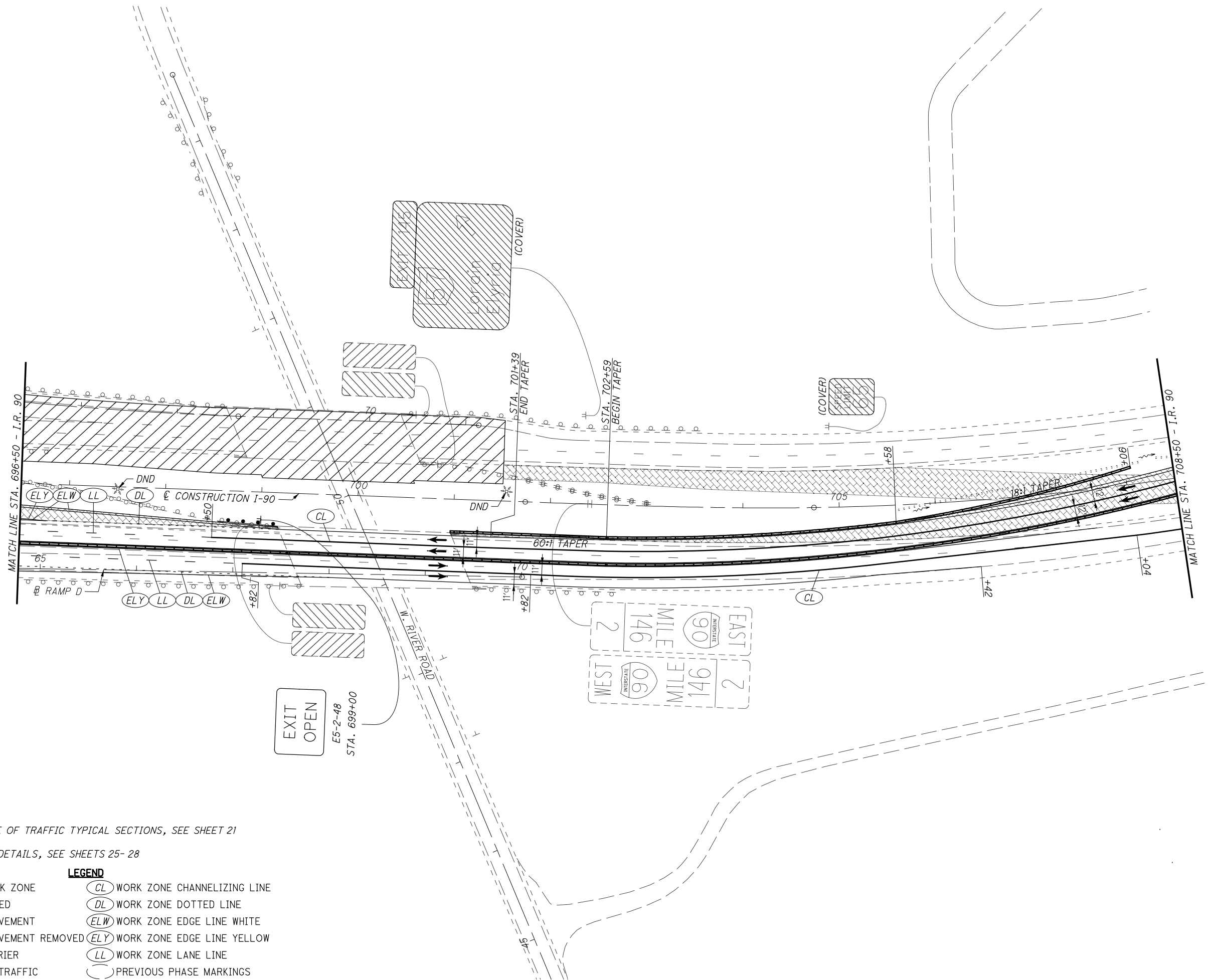
NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

CALCULATED GF CHECKED JME

0 25 50 100
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1A
STA. 684+50 TO STA. 696+50

LOR-090-13.20



- NOTES:
1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

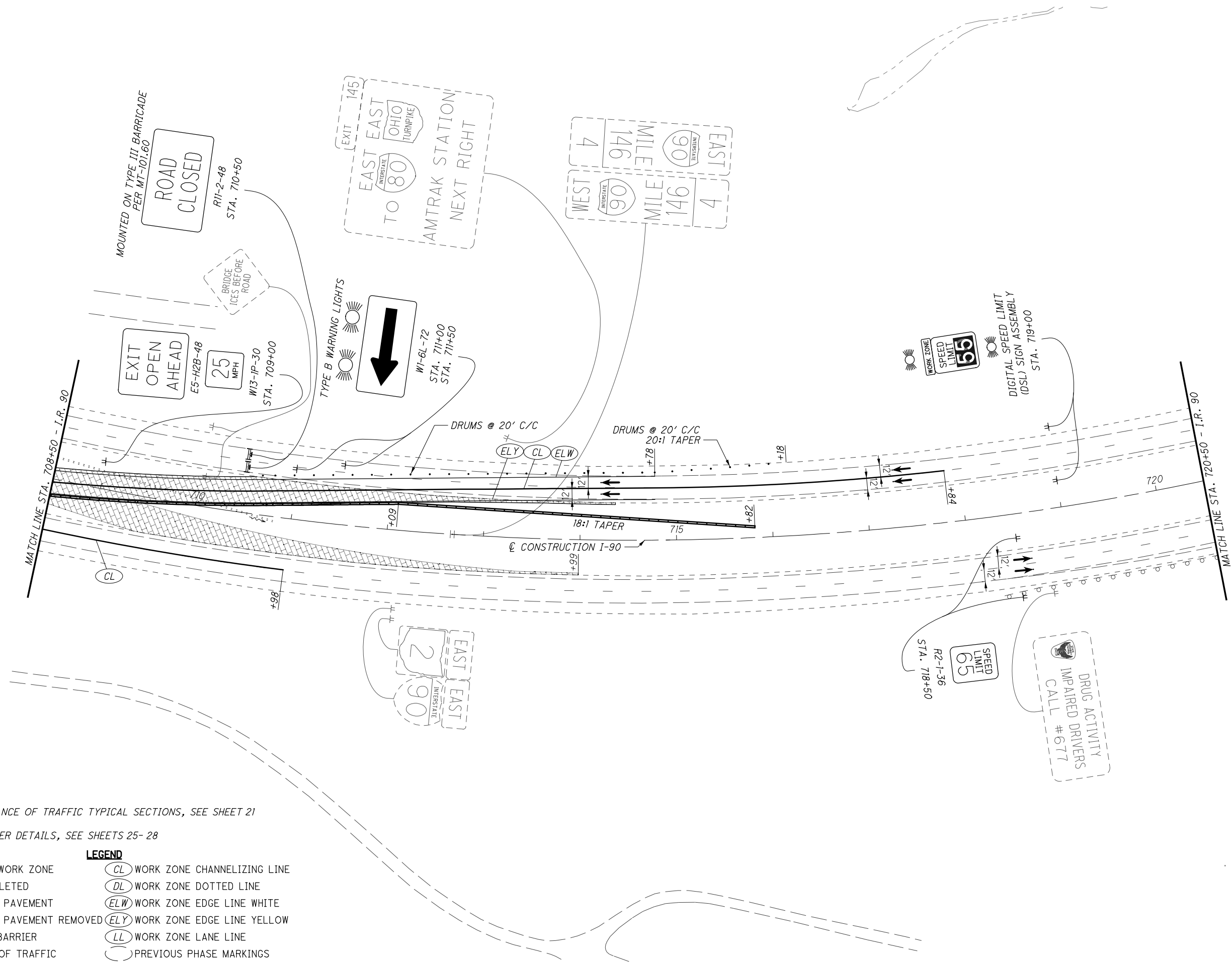
LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS

CALCULATED GF CHECKED JME

0 50 100
25
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1A
STA. 696+50 TO STA. 708+50

LOR-090-13.20



- NOTES:
1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

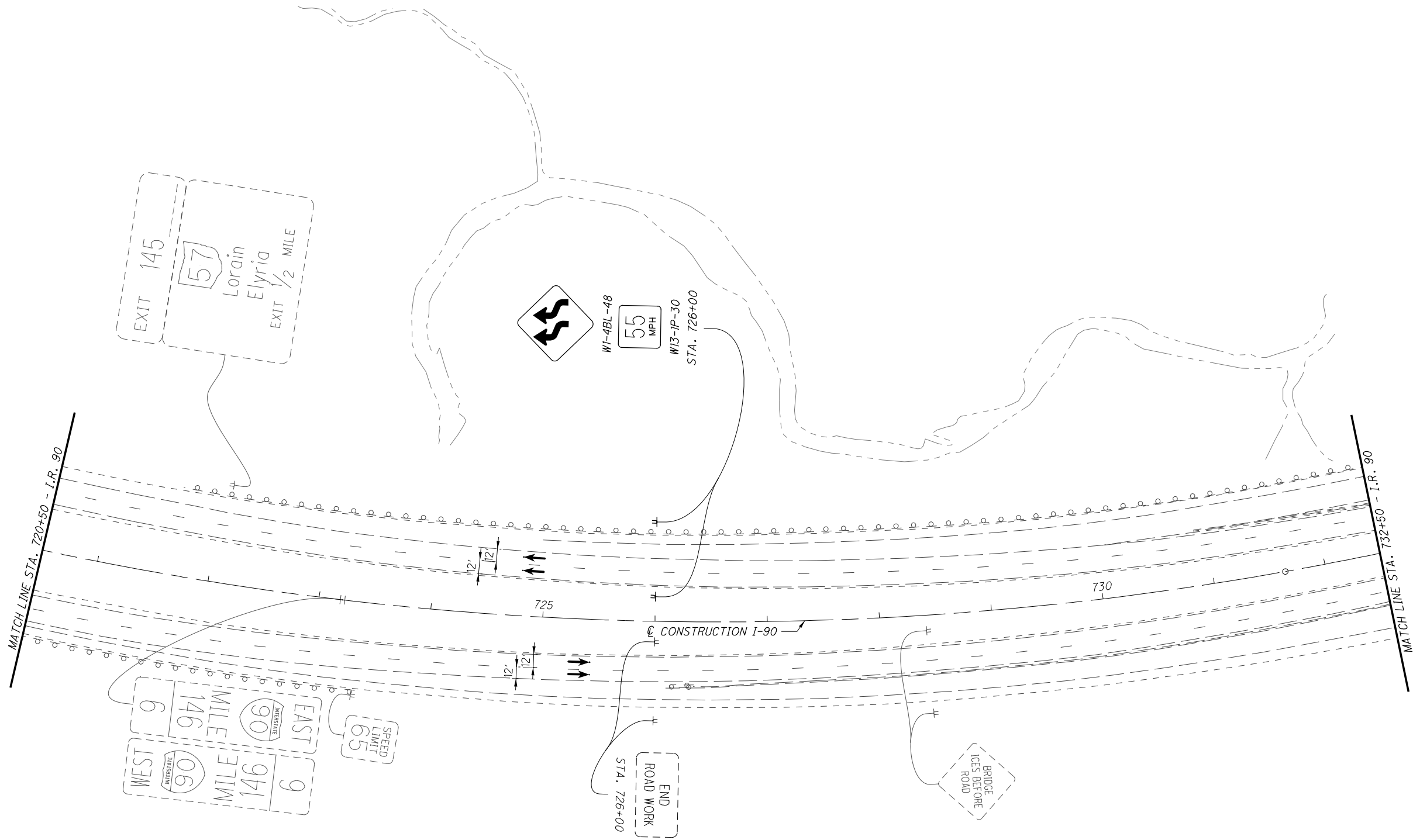
LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS

CALCULATED GF CHECKED JME

25 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1A
STA. 708+50 TO STA. 720+50

LOR-090-13.20



NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS







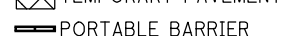

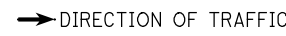



CALCULATED GF
 CHECKED JME

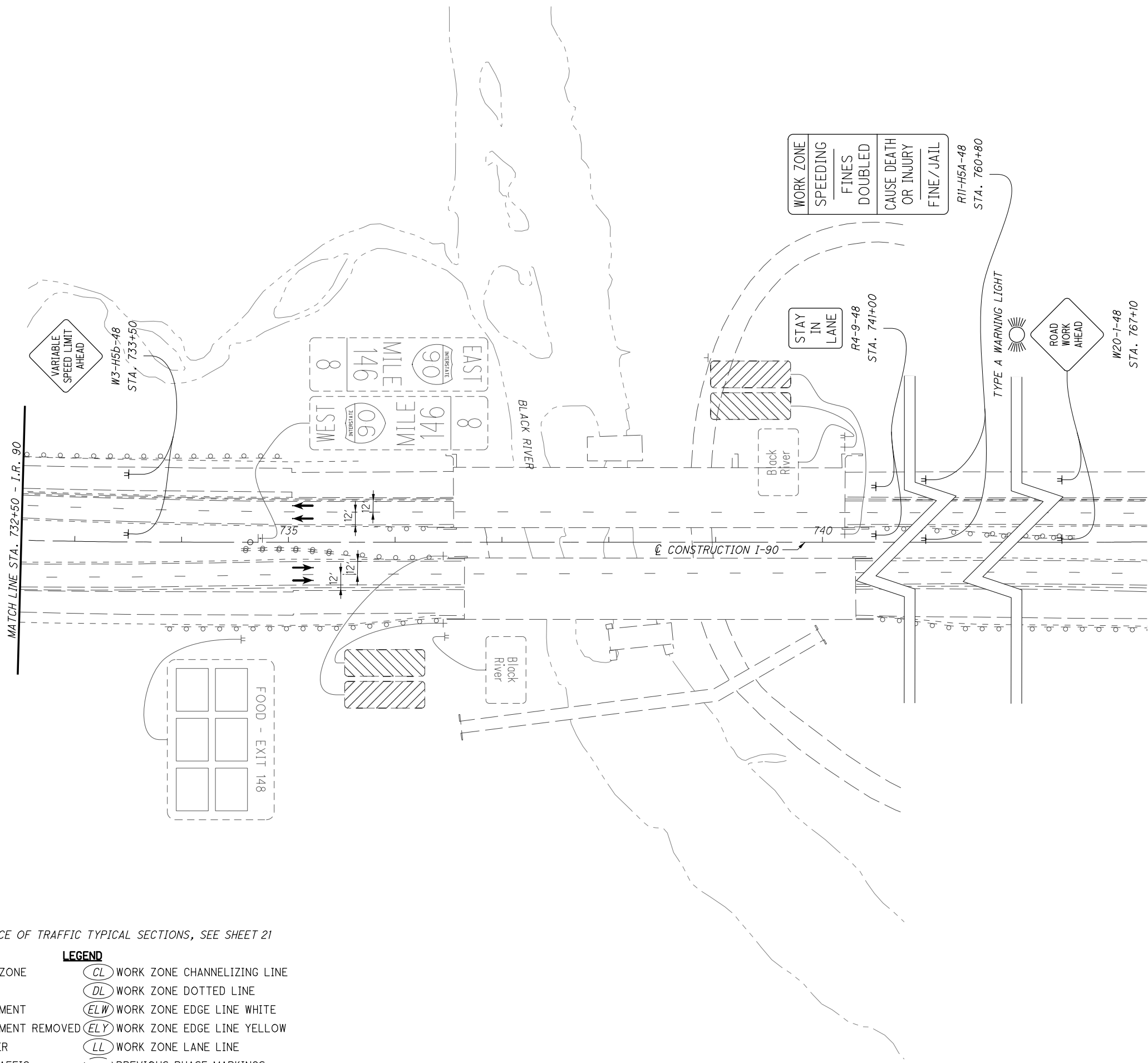
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 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1A
STA. 720+50 TO STA. 732+50

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

- | | |
|--|---|
|  PROPOSED WORK ZONE |  WORK ZONE CHANNELIZING LINE |
|  WORK COMPLETED |  WORK ZONE DOTTED LINE |
|  TEMPORARY PAVEMENT |  WORK ZONE EDGE LINE WHITE |
|  TEMPORARY PAVEMENT REMOVED |  WORK ZONE EDGE LINE YELLOW |
|  PORTABLE BARRIER |  WORK ZONE LANE LINE |
|  DIRECTION OF TRAFFIC |  PREVIOUS PHASE MARKINGS |











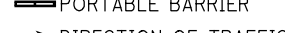

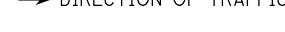

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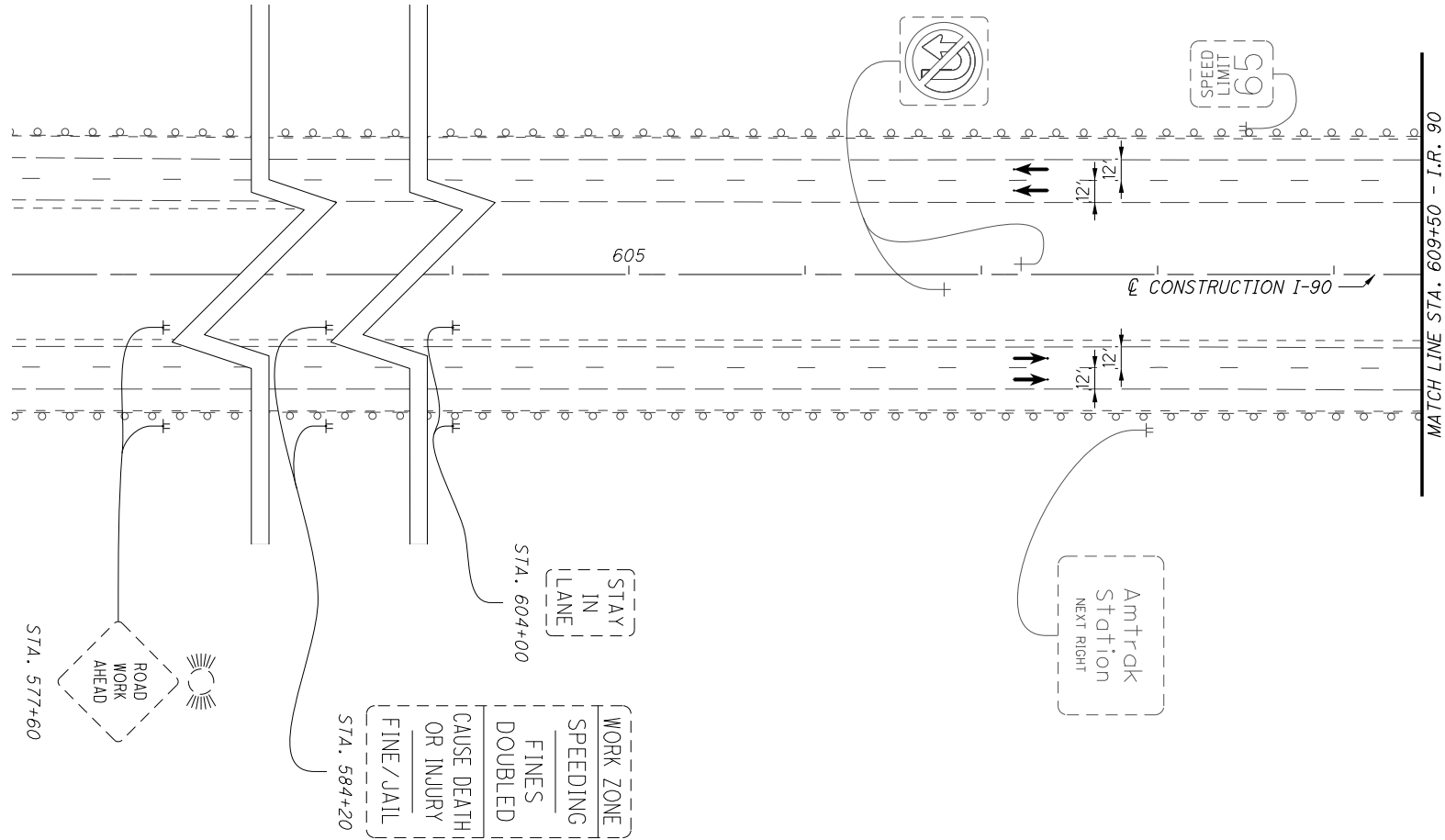
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1A
STA. 732+50 TO END WORK

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS















CALCULATED
GF
CHECKED
JME

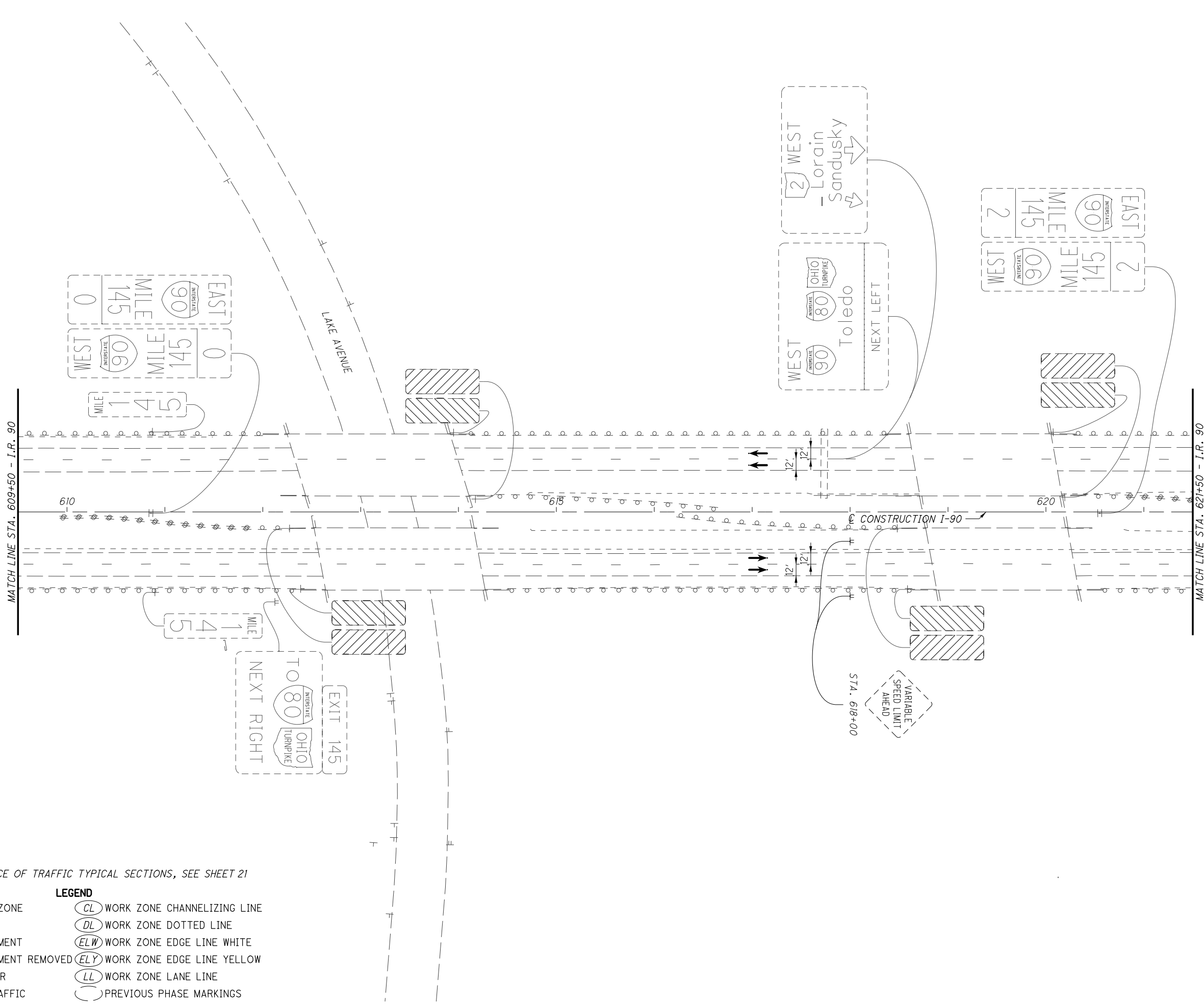
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HORIZONTAL
SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1B
BEGIN WORK TO STA. 609+50

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

- | | |
|--|---|
|  PROPOSED WORK ZONE |  WORK ZONE CHANNELIZING LINE |
|  WORK COMPLETED |  WORK ZONE DOTTED LINE |
|  TEMPORARY PAVEMENT |  WORK ZONE EDGE LINE WHITE |
|  TEMPORARY PAVEMENT REMOVED |  WORK ZONE EDGE LINE YELLOW |
|  PORTABLE BARRIER |  WORK ZONE LANE LINE |
|  DIRECTION OF TRAFFIC |  PREVIOUS PHASE MARKINGS |



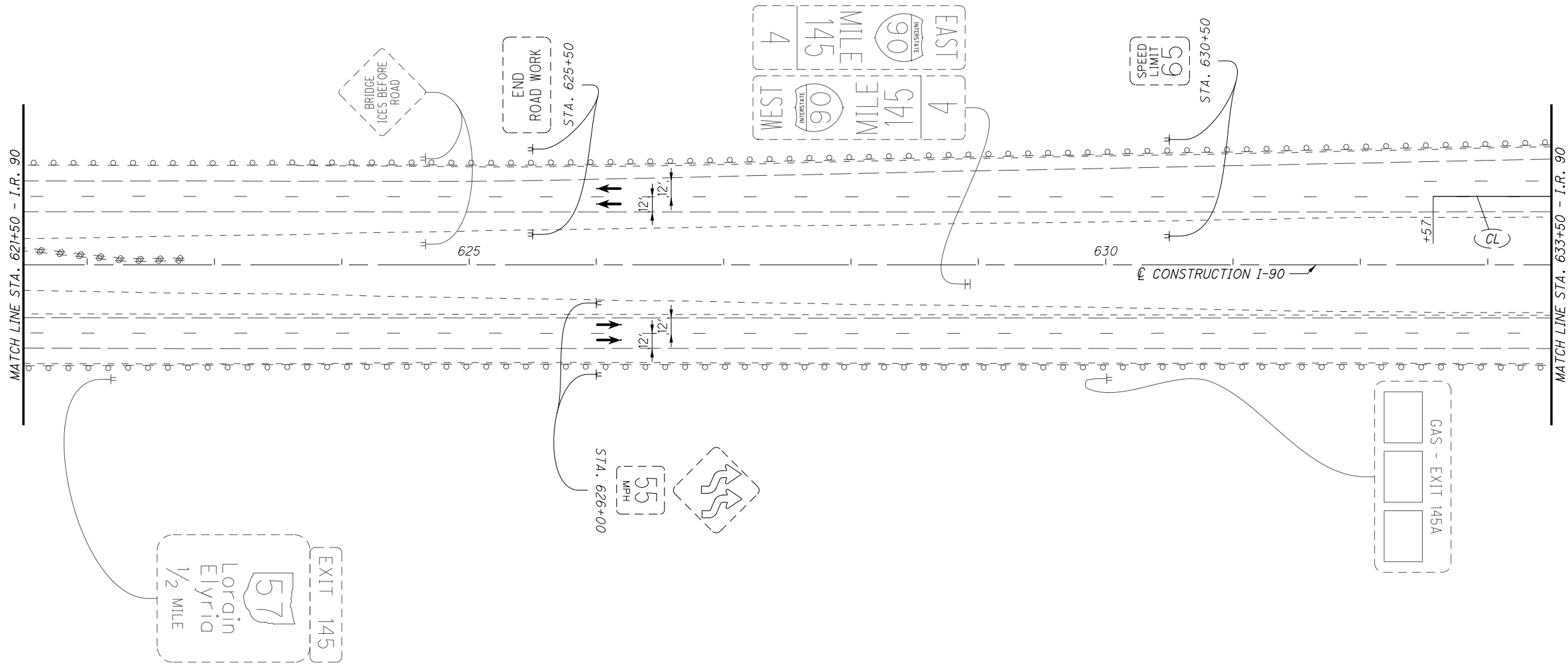
CALCULATED GF CHECKED JME




HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1B
STA. 609+50 TO STA. 621+50

LOR-090-13.20



NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

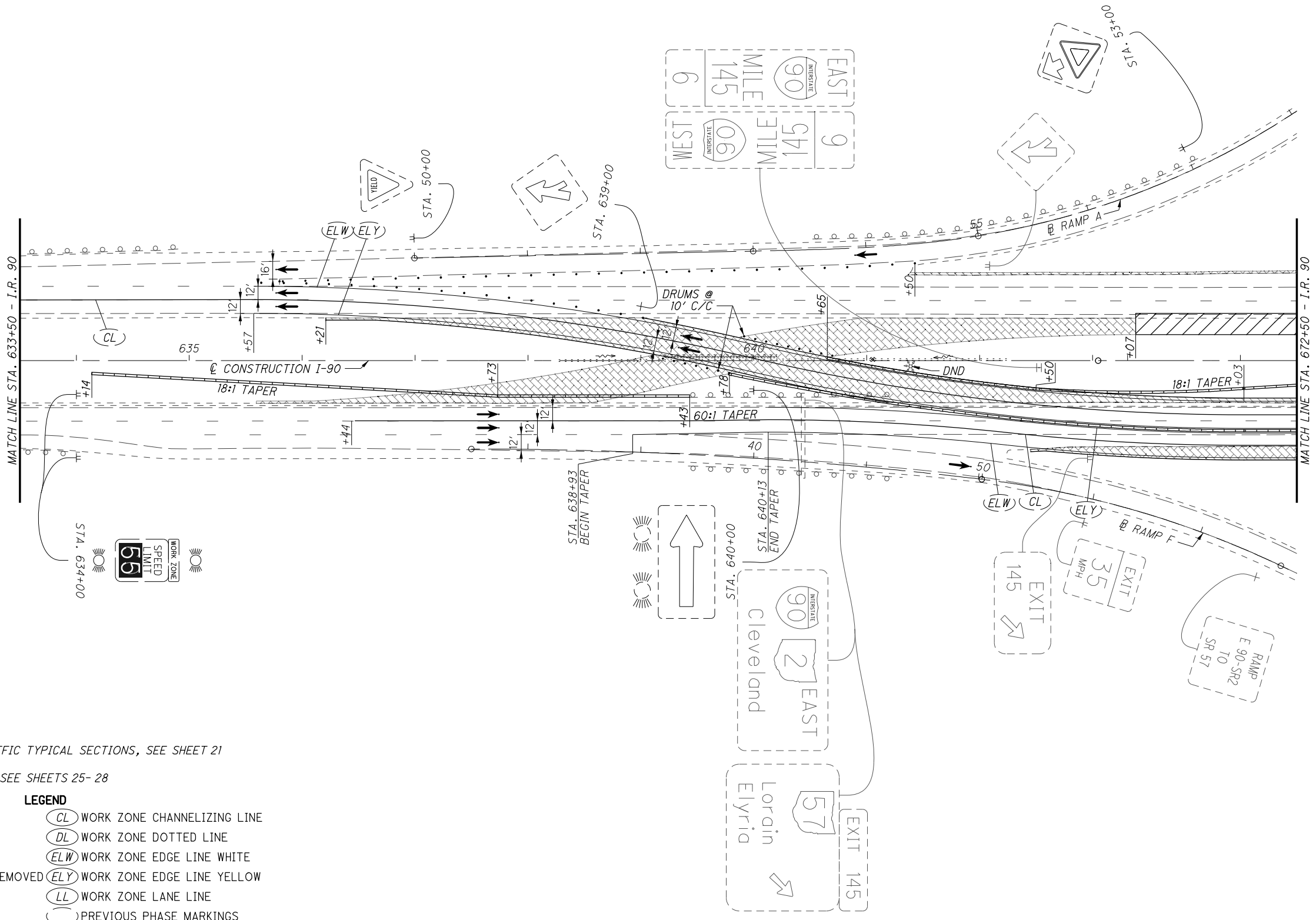
LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS

CALCULATED GF
CHECKED JME

HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1B
STA. 621+50 TO STA. 633+50

LOR-090-13.20



NOTES:
 1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

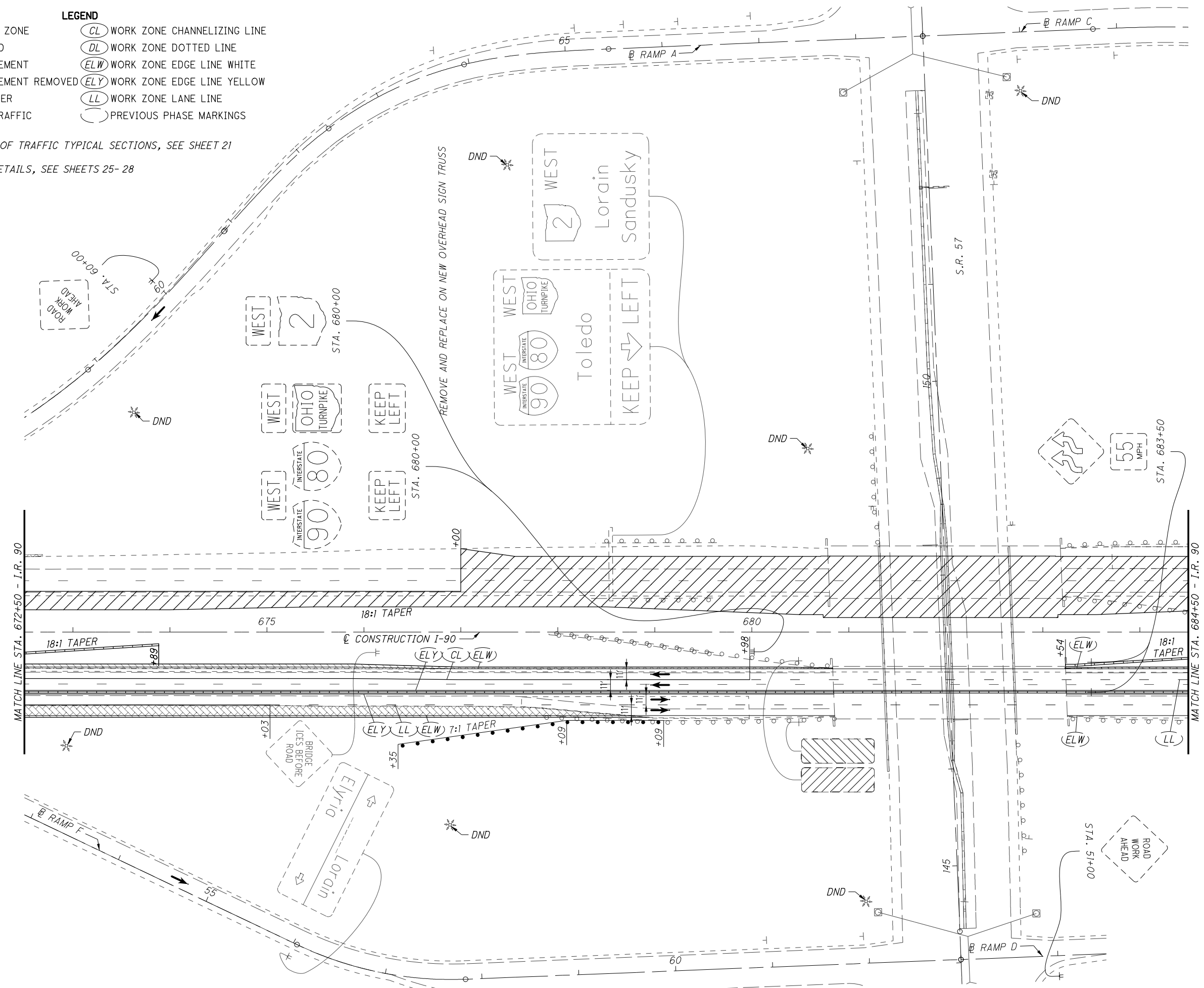
LEGEND

PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS

LEGEND

	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS

NOTES:
 1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28



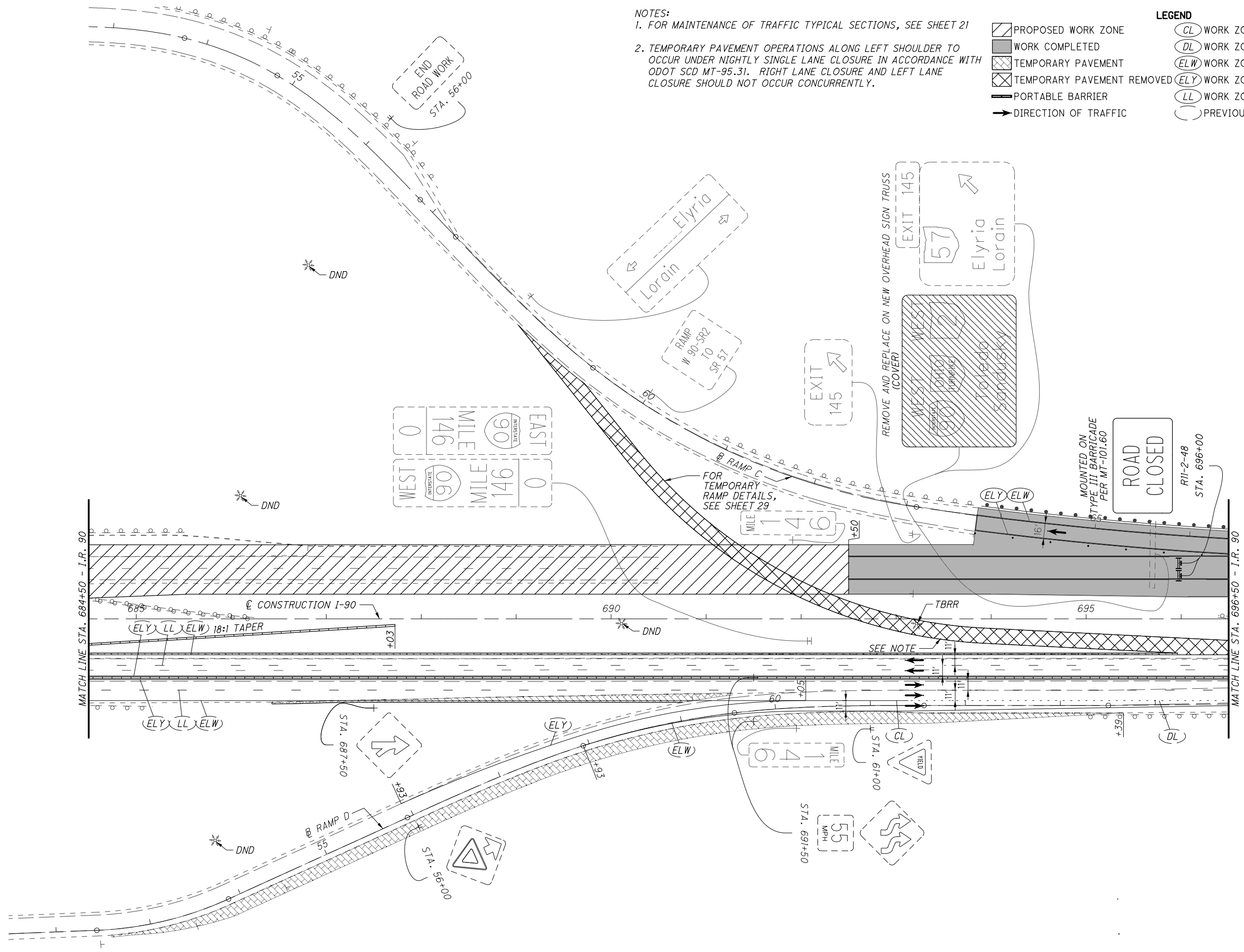
CALCULATED GF CHECKED JME

0 50 100
 25
 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1B
STA. 672+50 TO STA. 684+50

LOR-090-13.20

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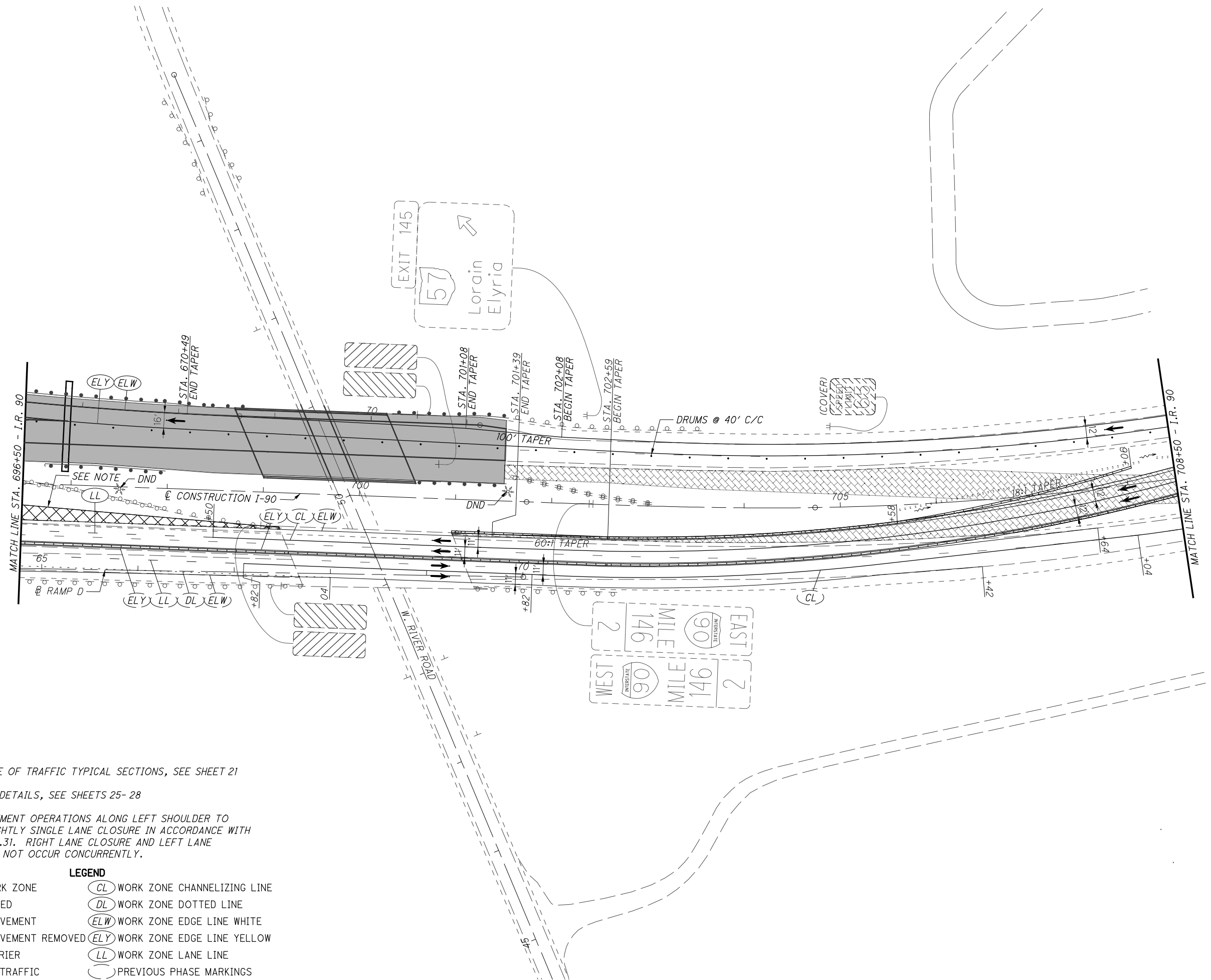


NOTES:
1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21
2. TEMPORARY PAVEMENT OPERATIONS ALONG LEFT SHOULDER TO OCCUR UNDER NIGHTLY SINGLE LANE CLOSURE IN ACCORDANCE WITH ODOT SCD MT-95.31. RIGHT LANE CLOSURE AND LEFT LANE CLOSURE SHOULD NOT OCCUR CONCURRENTLY.

- LEGEND**
- PROPOSED WORK ZONE
 - WORK COMPLETED
 - TEMPORARY PAVEMENT
 - TEMPORARY PAVEMENT REMOVED
 - PORTABLE BARRIER
 - DIRECTION OF TRAFFIC
 - WORK ZONE CHANNELIZING LINE
 - WORK ZONE DOTTED LINE
 - WORK ZONE EDGE LINE WHITE
 - WORK ZONE EDGE LINE YELLOW
 - WORK ZONE LANE LINE
 - PREVIOUS PHASE MARKINGS

CALCULATED GF
CHECKED JME

MAINTENANCE OF TRAFFIC - PHASE 1B
STA. 684+50 TO STA. 696+50



- NOTES:**
1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28
 3. TEMPORARY PAVEMENT OPERATIONS ALONG LEFT SHOULDER TO OCCUR UNDER NIGHTLY SINGLE LANE CLOSURE IN ACCORDANCE WITH ODOT SCD MT-95.31. RIGHT LANE CLOSURE AND LEFT LANE CLOSURE SHOULD NOT OCCUR CONCURRENTLY.

LEGEND

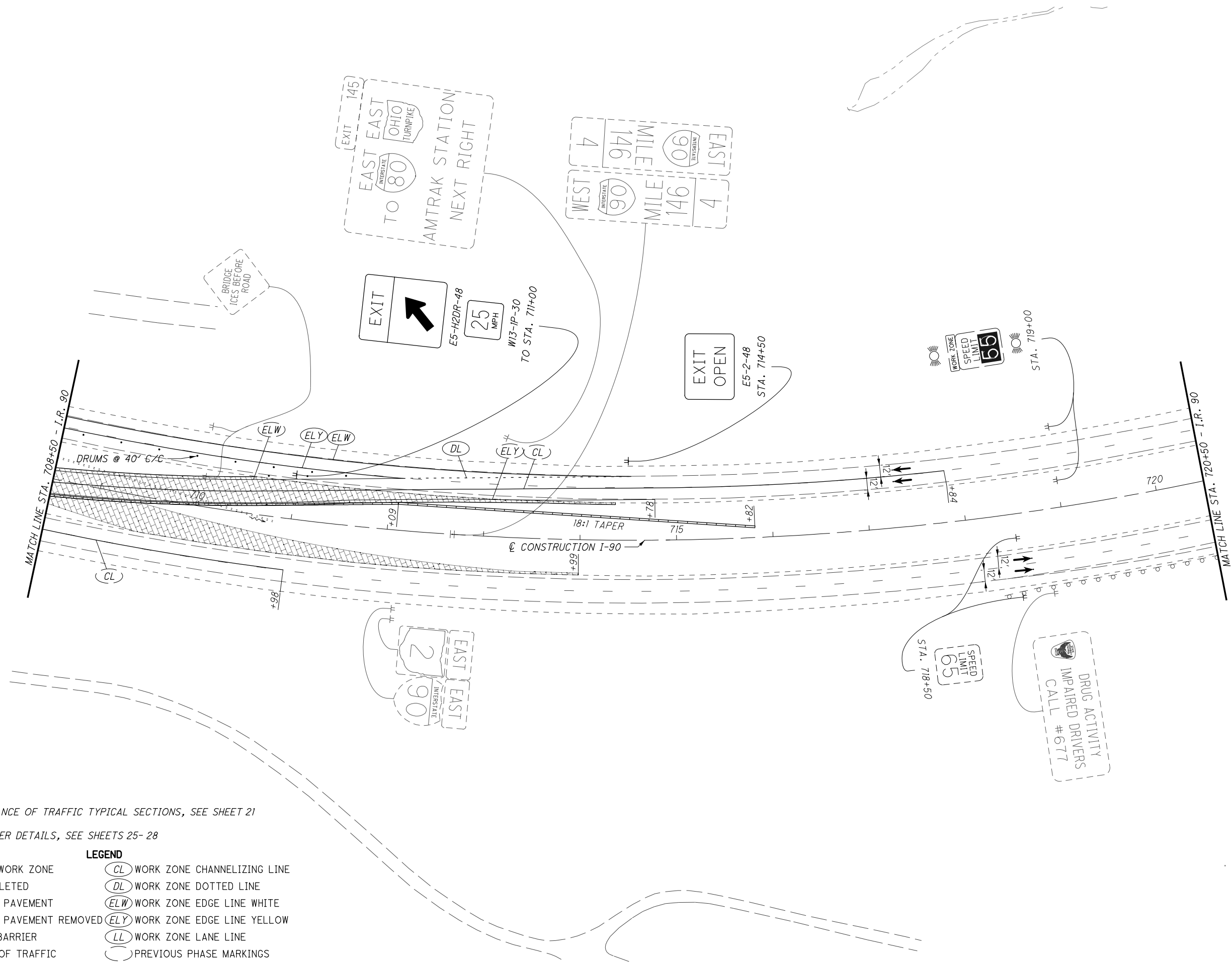
PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS

CALCULATED GF
CHECKED JME

0 50 100
25
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1B
STA. 696+50 TO STA. 708+50

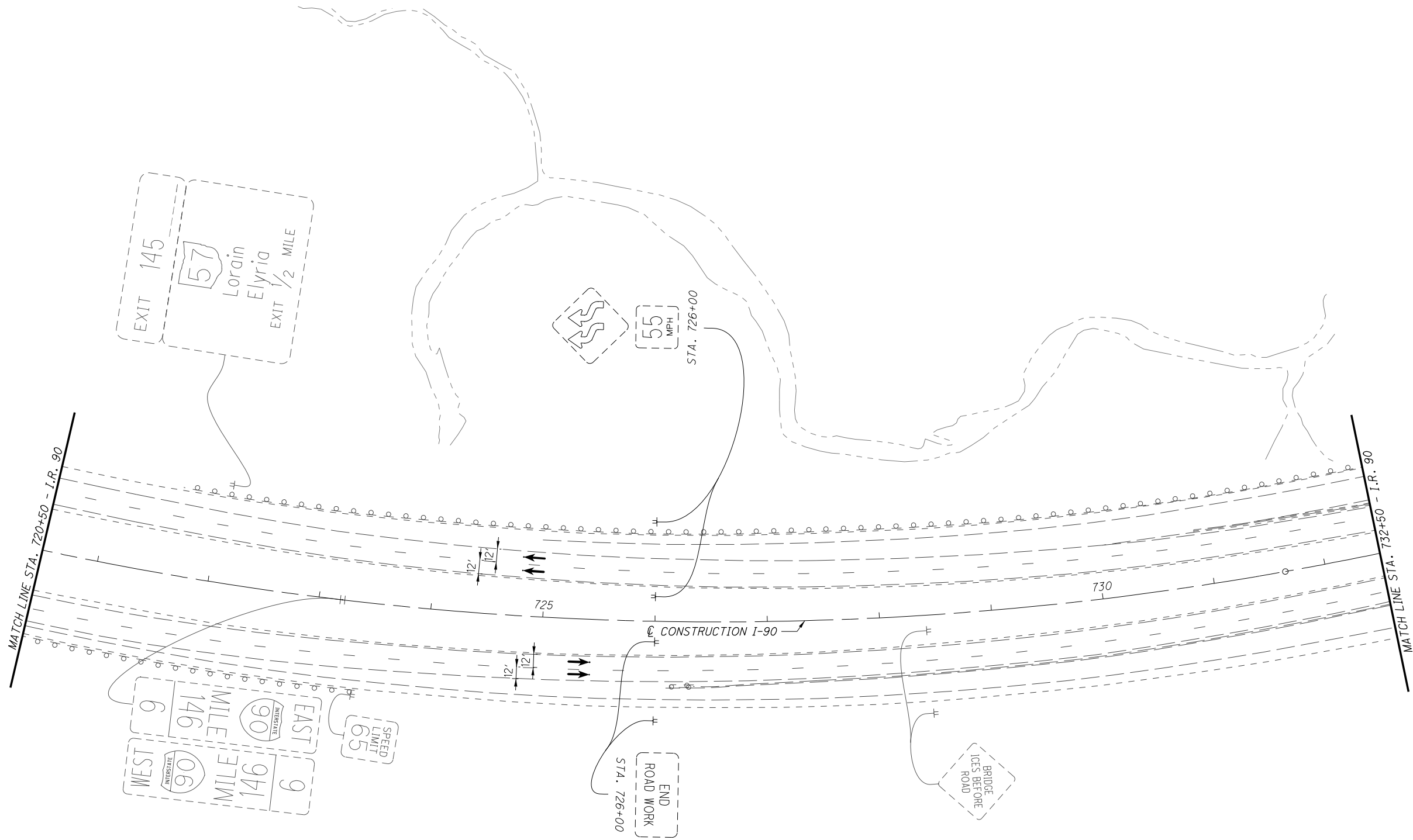
LOR-090-13.20



NOTES:
 1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

LEGEND

PROPOSED WORK ZONE	(CL) WORK ZONE CHANNELIZING LINE
WORK COMPLETED	(DL) WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	(ELW) WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	(ELY) WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	(LL) WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	() PREVIOUS PHASE MARKINGS



NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS









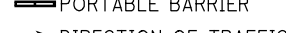

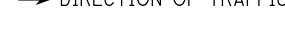

CALCULATED GF
 CHECKED JME

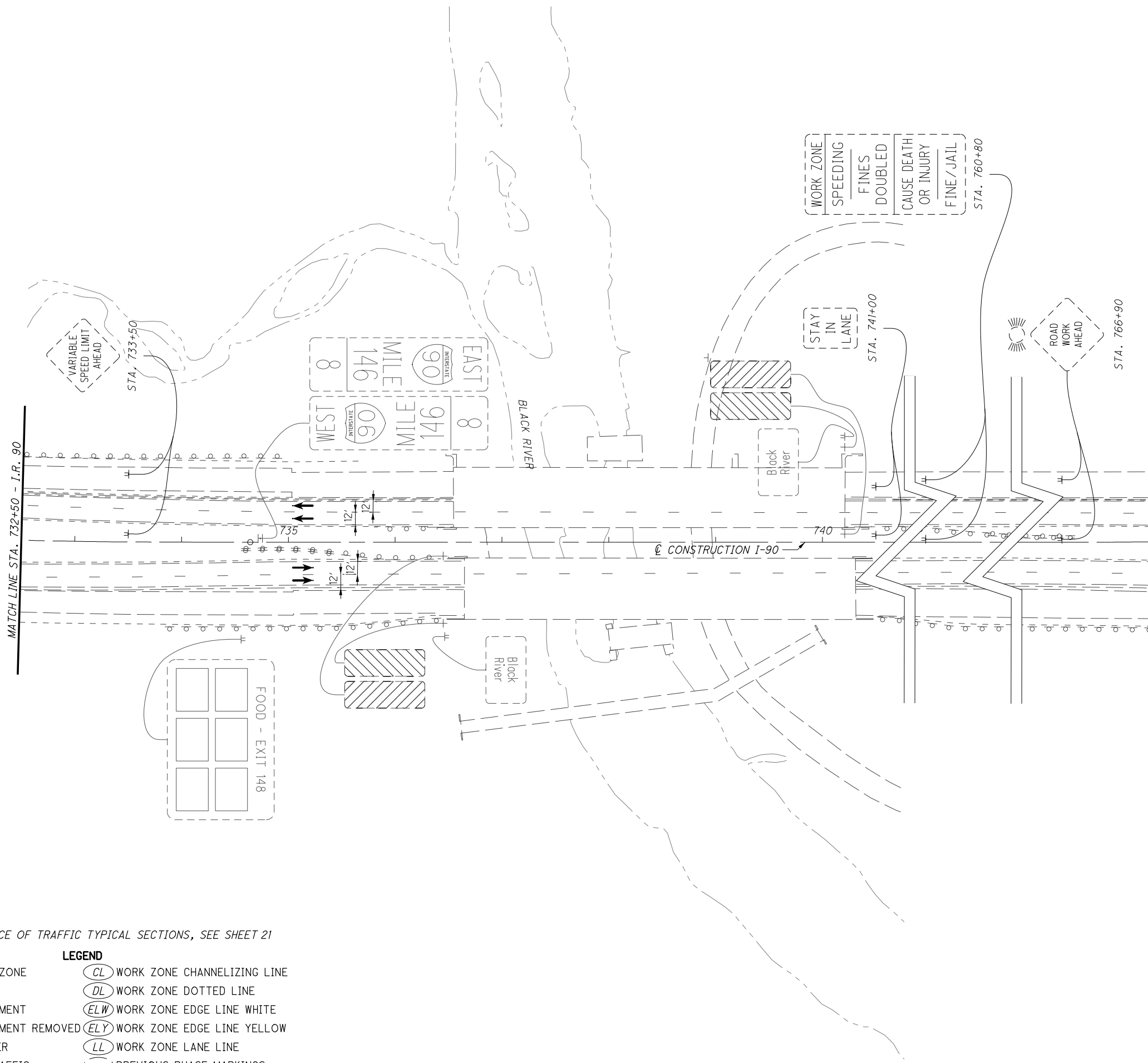
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 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1B
STA. 720+50 TO STA. 732+50

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 21

- | | |
|--|---|
|  PROPOSED WORK ZONE |  WORK ZONE CHANNELIZING LINE |
|  WORK COMPLETED |  WORK ZONE DOTTED LINE |
|  TEMPORARY PAVEMENT |  WORK ZONE EDGE LINE WHITE |
|  TEMPORARY PAVEMENT REMOVED |  WORK ZONE EDGE LINE YELLOW |
|  PORTABLE BARRIER |  WORK ZONE LANE LINE |
|  DIRECTION OF TRAFFIC |  PREVIOUS PHASE MARKINGS |





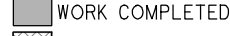

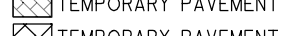



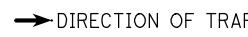



CALCULATED GF
 CHECKED JME

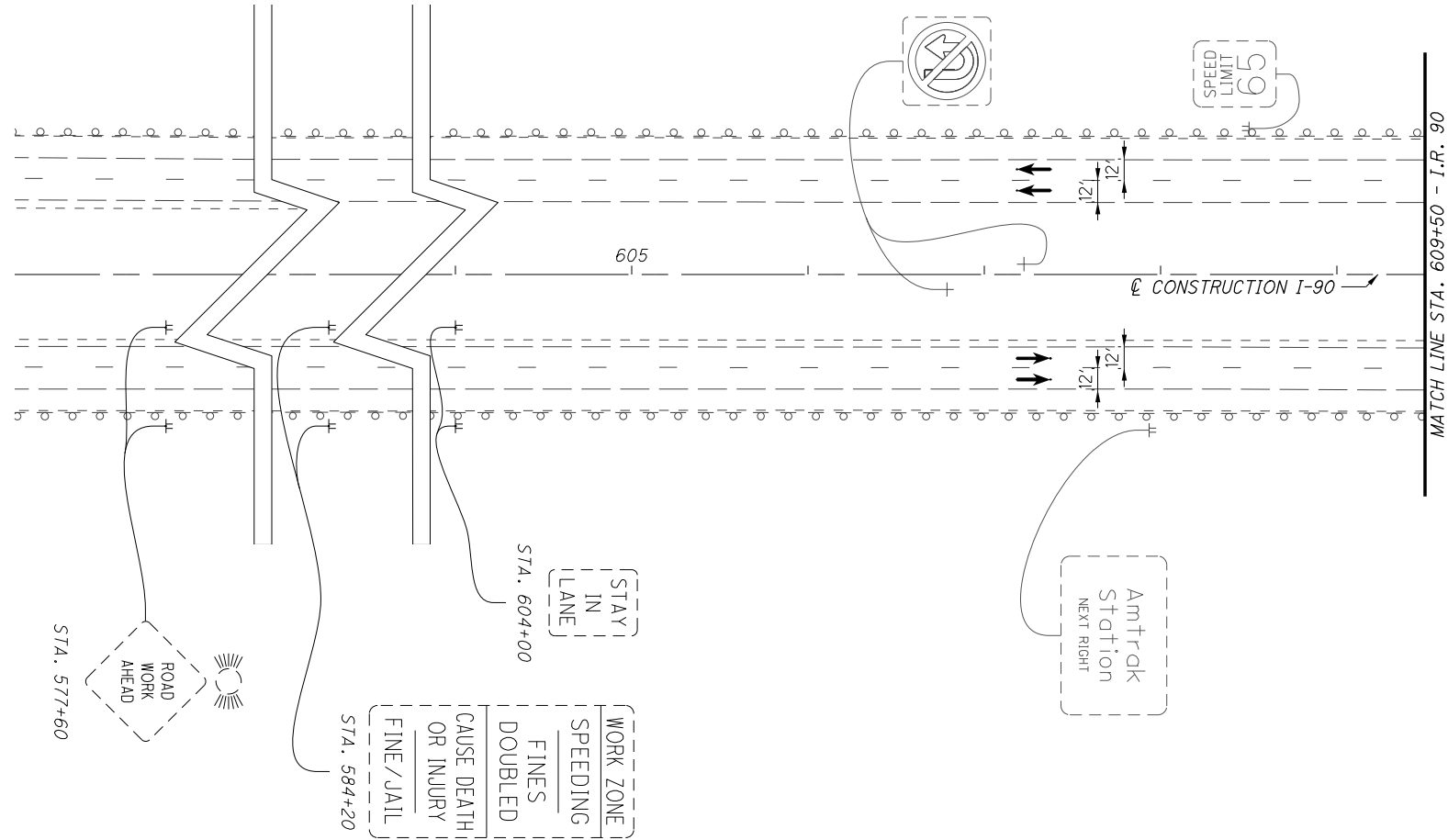
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 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 1B
STA. 732+50 TO END WORK

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

 PROPOSED WORK ZONE	 WORK ZONE CHANNELIZING LINE
 WORK COMPLETED	 WORK ZONE DOTTED LINE
 TEMPORARY PAVEMENT	 WORK ZONE EDGE LINE WHITE
 TEMPORARY PAVEMENT REMOVED	 WORK ZONE EDGE LINE YELLOW
 PORTABLE BARRIER	 WORK ZONE LANE LINE
 DIRECTION OF TRAFFIC	 PREVIOUS PHASE MARKINGS



CALCULATED
GF
CHECKED
JME













0 50 100
25
HORIZONTAL
SCALE IN FEET

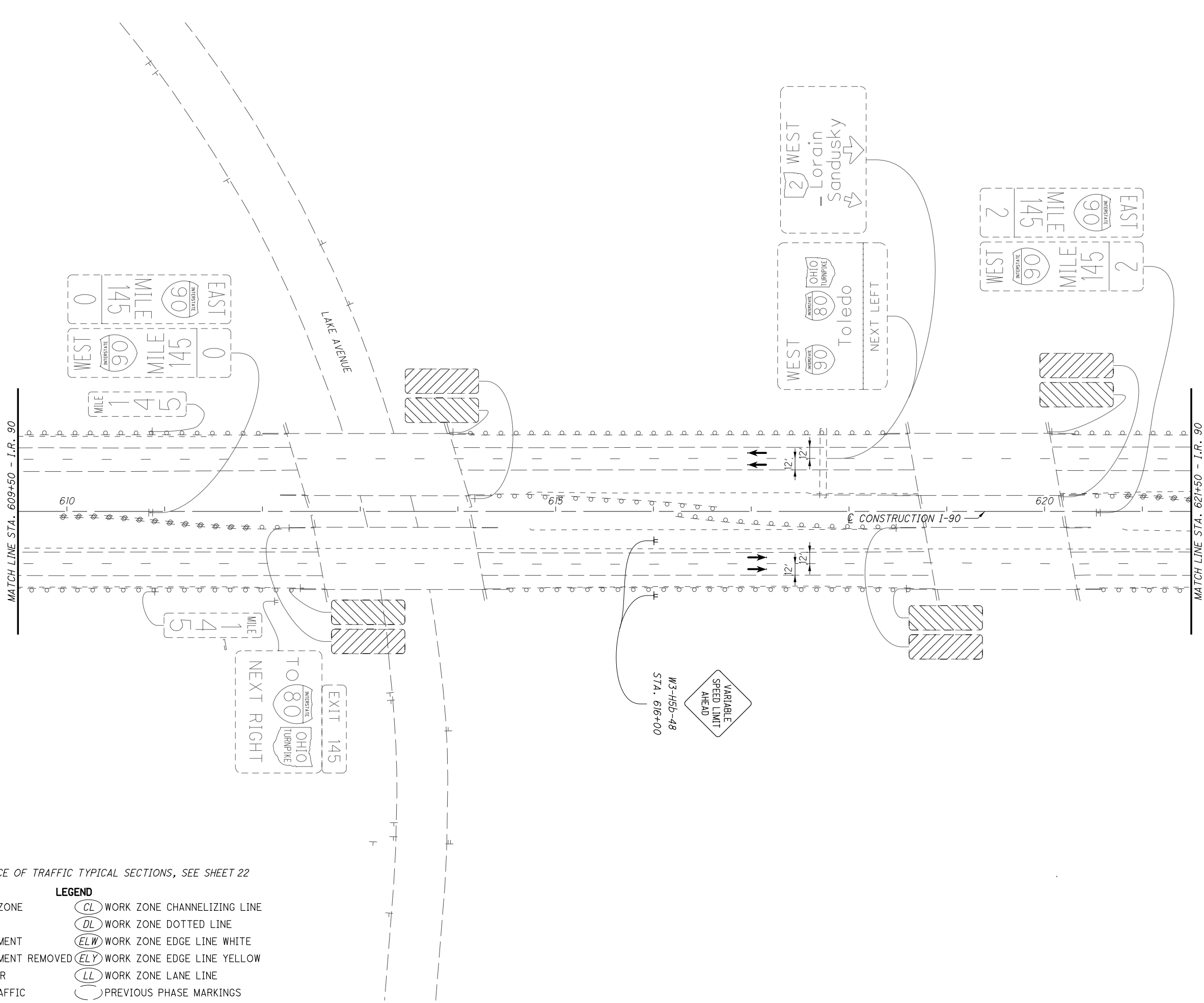


MAINTENANCE OF TRAFFIC - PHASE 2A
BEGIN WORK TO STA. 609+50

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

- | | |
|--|---|
|  PROPOSED WORK ZONE |  WORK ZONE CHANNELIZING LINE |
|  WORK COMPLETED |  WORK ZONE DOTTED LINE |
|  TEMPORARY PAVEMENT |  WORK ZONE EDGE LINE WHITE |
|  TEMPORARY PAVEMENT REMOVED |  WORK ZONE EDGE LINE YELLOW |
|  PORTABLE BARRIER |  WORK ZONE LANE LINE |
|  DIRECTION OF TRAFFIC |  PREVIOUS PHASE MARKINGS |



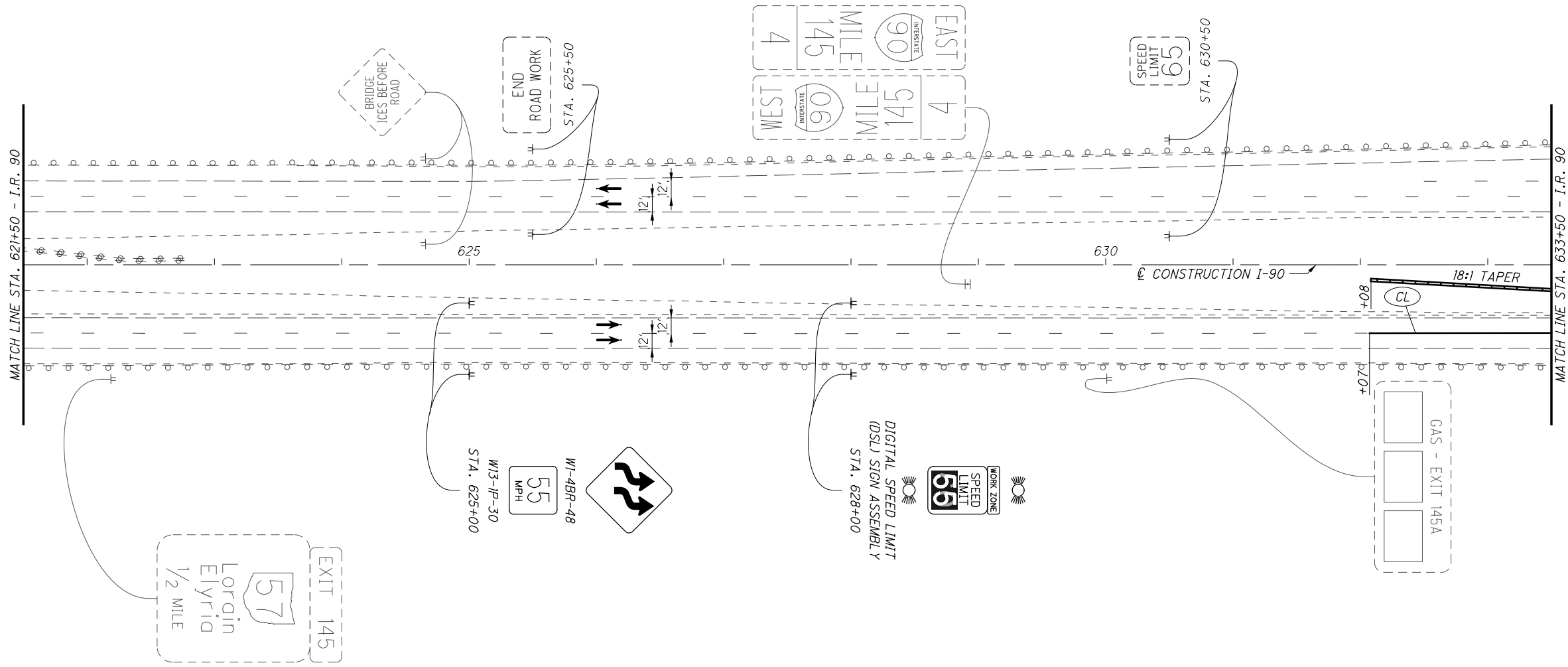
W3-H5B-48
STA. 616+00
VARIABLE
SPEED LIMIT
AHEAD

CALCULATED GF CHECKED JME

0 50 100
25
HORIZONTAL
SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2A
STA. 609+50 TO STA. 621+50

LOR-090-13.20



NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

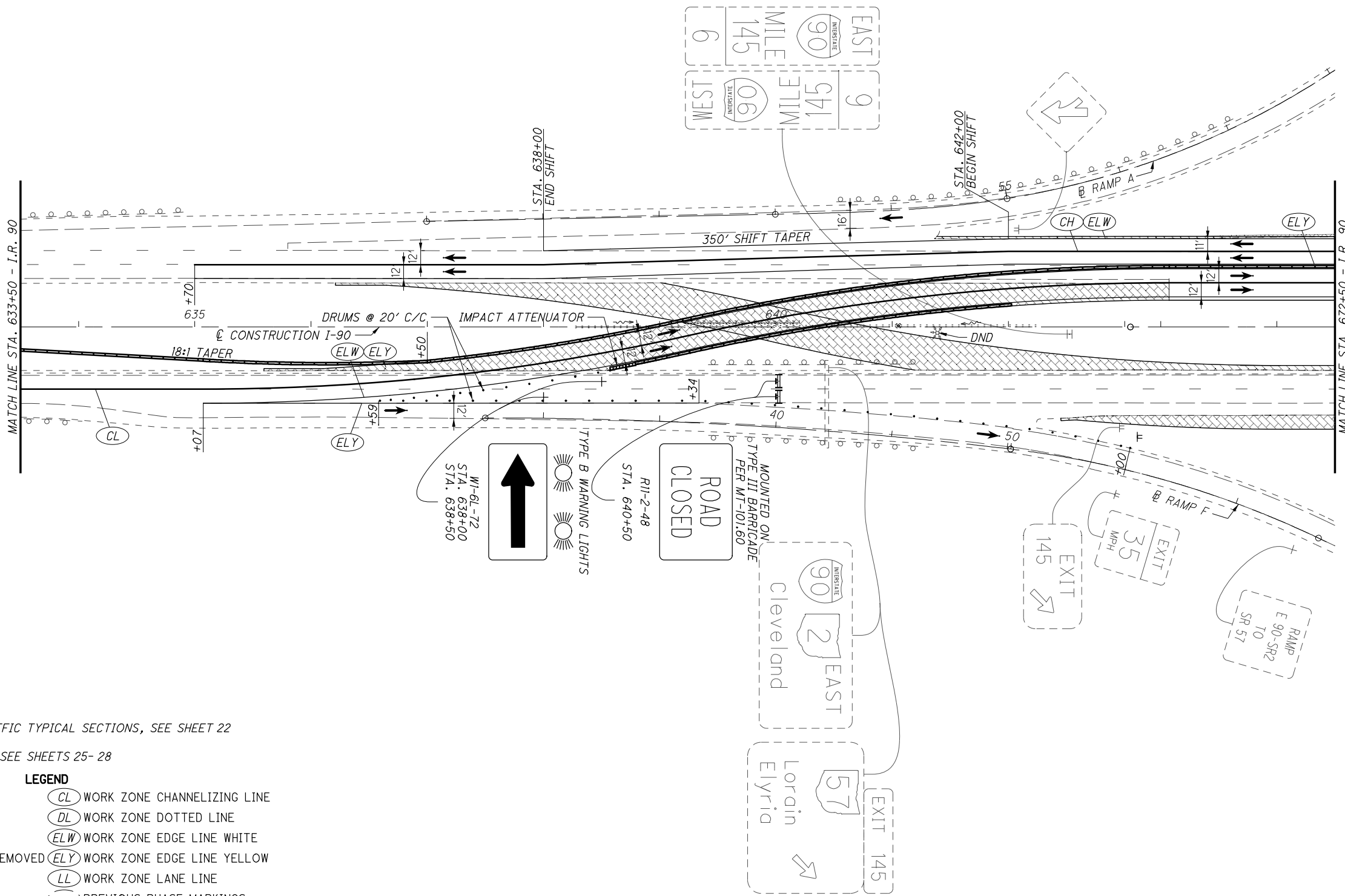
LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS

CALCULATED GF
CHECKED JME

HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2A
STA. 621+50 TO STA. 633+50

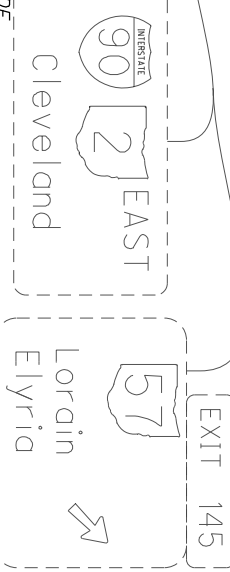
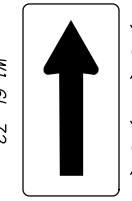
LOR-090-13.20



NOTES:
 1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

LEGEND

PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS

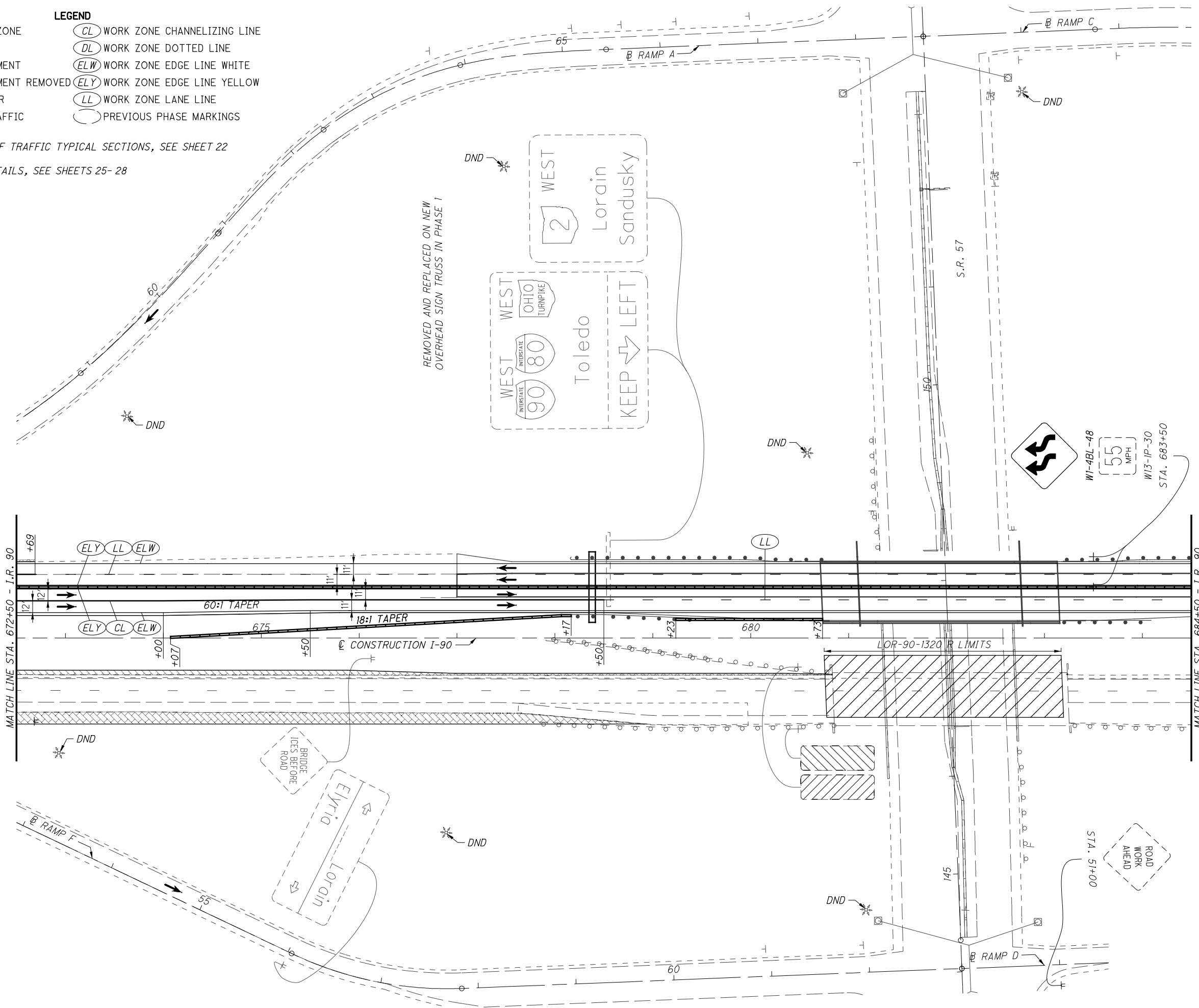


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LEGEND

	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS

NOTES:
 1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28



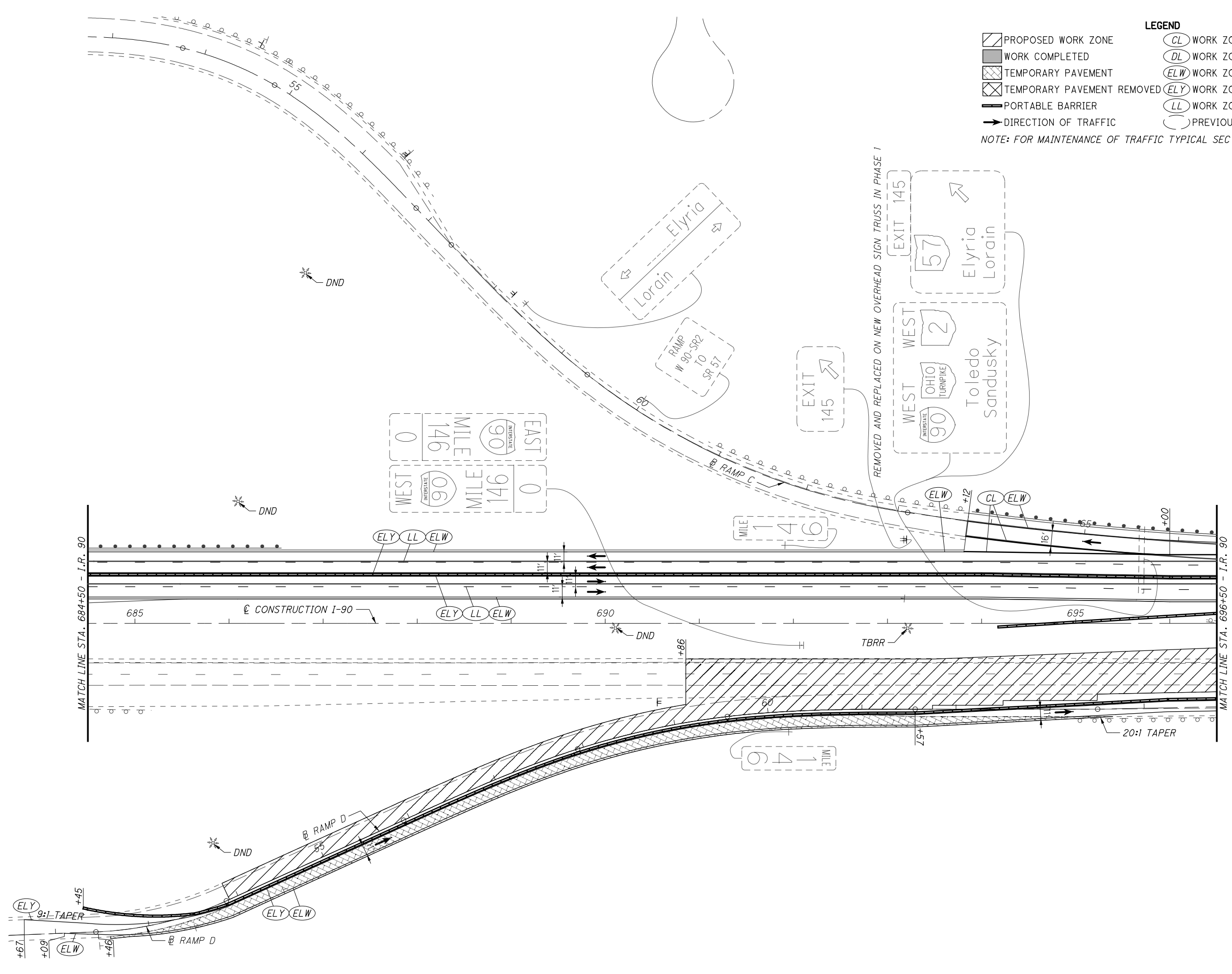
CALCULATED GF CHECKED JME

0 25 50 100
 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2A
STA. 672+50 TO STA. 684+50

LOR-090-13.20

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LEGEND

PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS

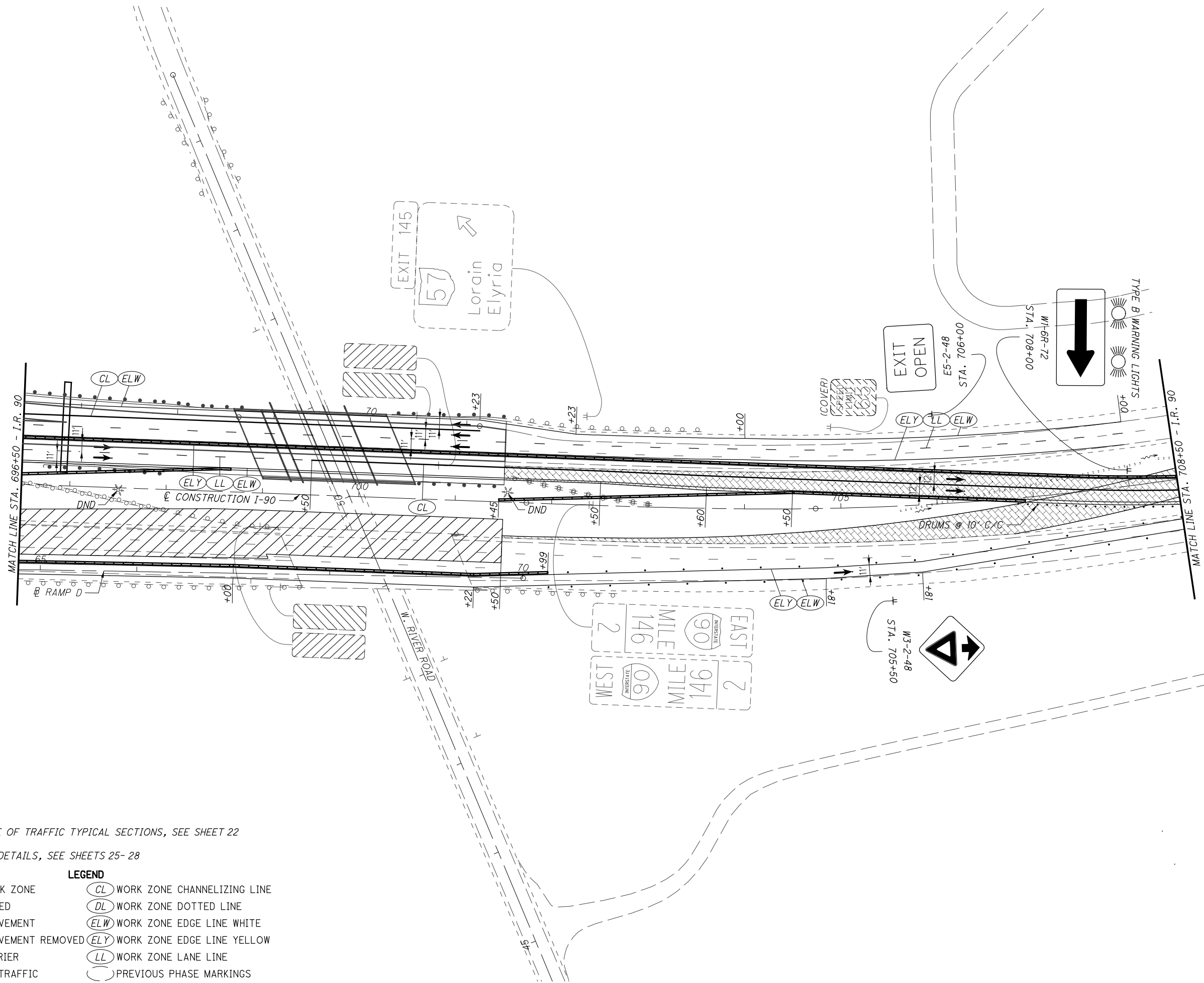
NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

CALCULATED GF CHECKED JME

0 50 100
25
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2A
STA. 684+50 TO STA. 696+50

LOR-090-13.20



- NOTES:
1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

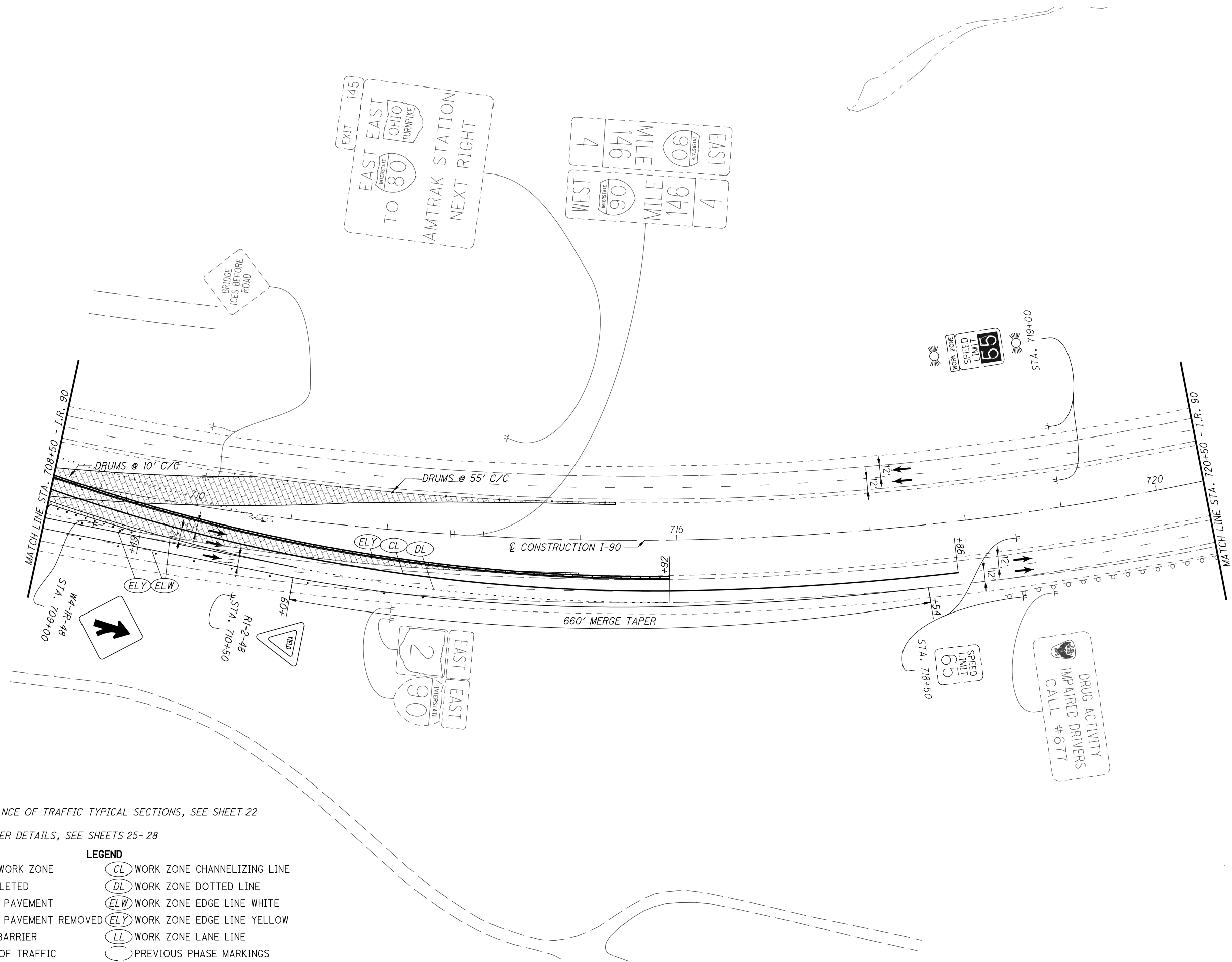
LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS

CALCULATED GF
 CHECKED JME

0 50 100
 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2A
STA. 696+50 TO STA. 708+50

LOR-090-13.20



NOTES:
 1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

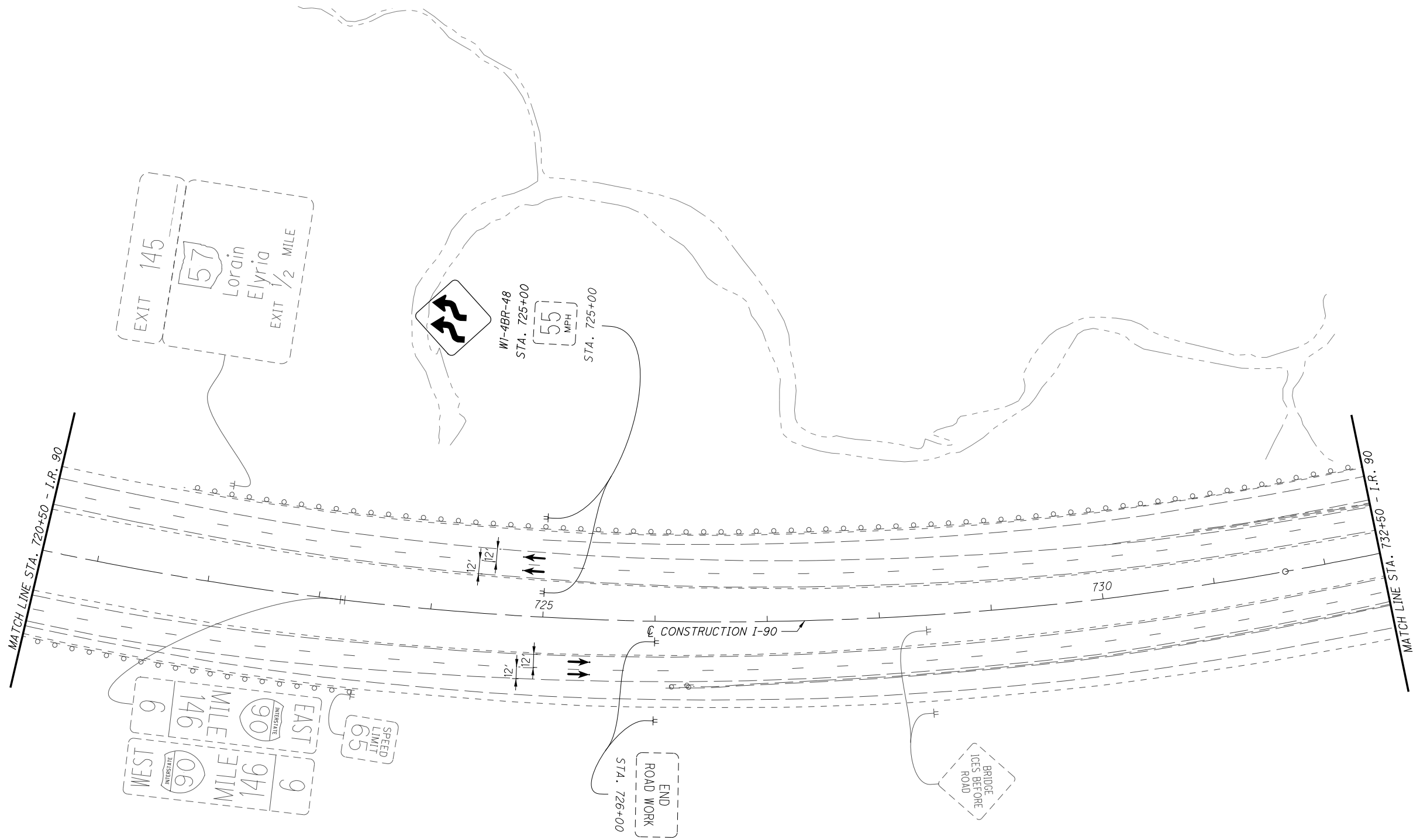
LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS

CALCULATED GF
 CHECKED JME

0 50 100
 25
 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2A
STA. 708+50 TO STA. 720+50

LOR-090-13.20



NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS









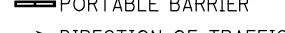

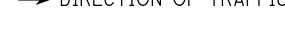

CALCULATED GF
CHECKED JME

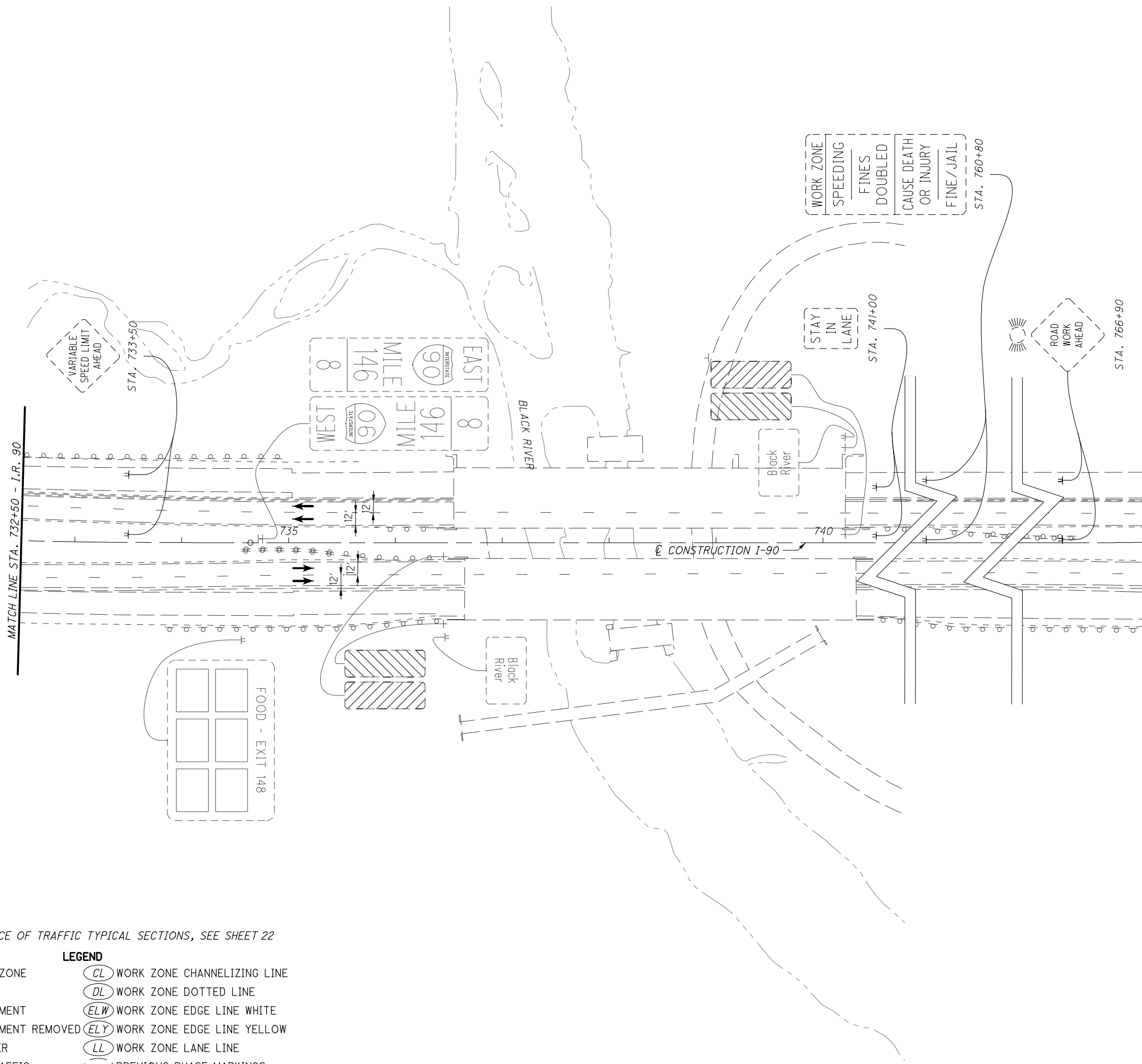
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2A
STA. 720+50 TO STA. 732+50

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

- | | |
|--|---|
|  PROPOSED WORK ZONE |  WORK ZONE CHANNELIZING LINE |
|  WORK COMPLETED |  WORK ZONE DOTTED LINE |
|  TEMPORARY PAVEMENT |  WORK ZONE EDGE LINE WHITE |
|  TEMPORARY PAVEMENT REMOVED |  WORK ZONE EDGE LINE YELLOW |
|  PORTABLE BARRIER |  WORK ZONE LANE LINE |
|  DIRECTION OF TRAFFIC |  PREVIOUS PHASE MARKINGS |











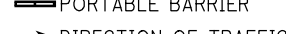

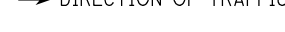

CALCULATED	GF
CHECKED	JME

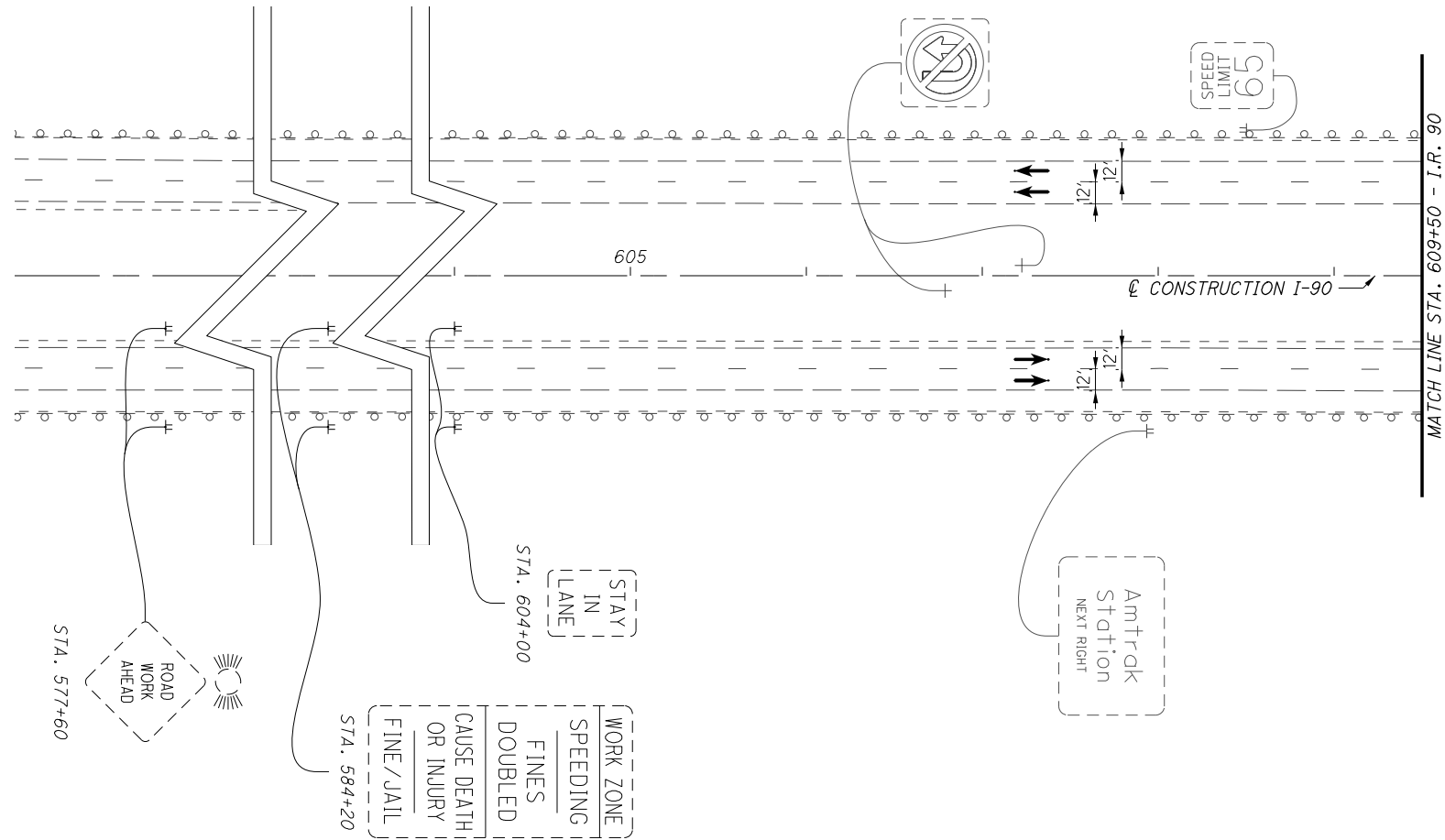
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HORIZONTAL
SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2A
STA. 732+50 TO END WORK

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS



CALCULATED
GF
CHECKED
JME













0 50 100
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HORIZONTAL
SCALE IN FEET

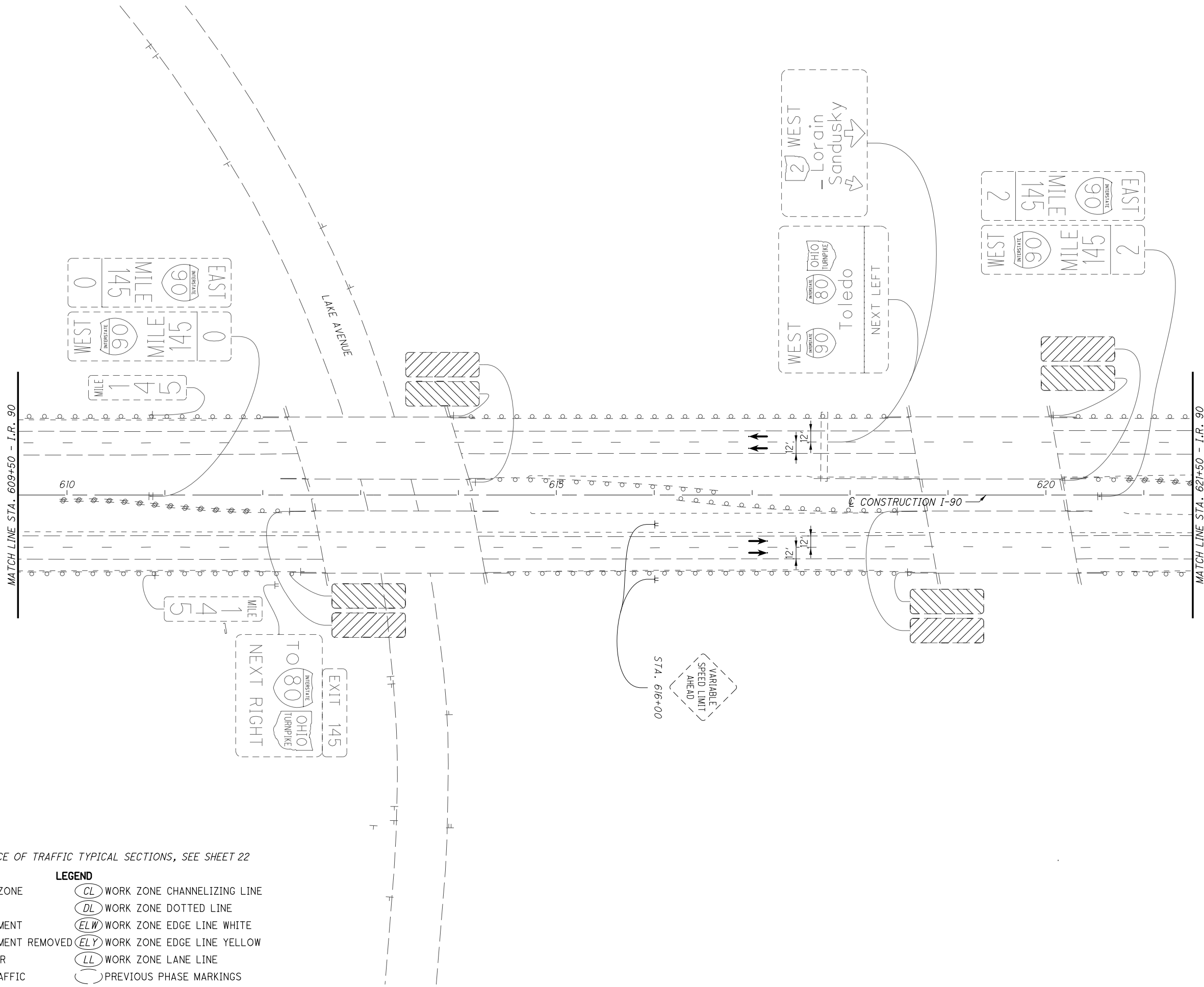


MAINTENANCE OF TRAFFIC - PHASE 2B
BEGIN WORK TO STA. 609+50

LOR-090-13.20

NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

- | | |
|--|---|
|  PROPOSED WORK ZONE |  WORK ZONE CHANNELIZING LINE |
|  WORK COMPLETED |  WORK ZONE DOTTED LINE |
|  TEMPORARY PAVEMENT |  WORK ZONE EDGE LINE WHITE |
|  TEMPORARY PAVEMENT REMOVED |  WORK ZONE EDGE LINE YELLOW |
|  PORTABLE BARRIER |  WORK ZONE LANE LINE |
|  DIRECTION OF TRAFFIC |  PREVIOUS PHASE MARKINGS |



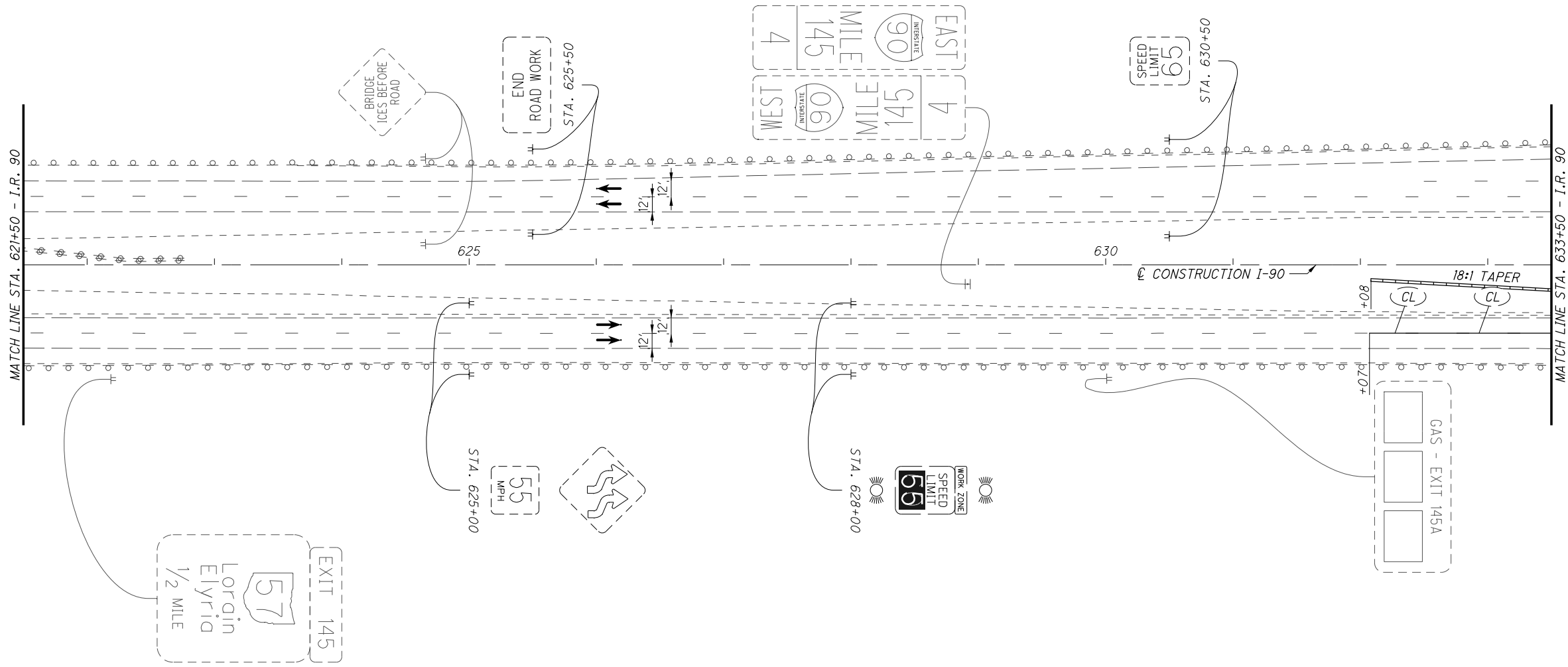
CALCULATED GF
CHECKED JME

0 50 100
25
HORIZONTAL
SCALE IN FEET



MAINTENANCE OF TRAFFIC - PHASE 2B
STA. 609+50 TO STA. 621+50

LOR-090-13.20



NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

- LEGEND**
- PROPOSED WORK ZONE
 - WORK COMPLETED
 - TEMPORARY PAVEMENT
 - TEMPORARY PAVEMENT REMOVED
 - PORTABLE BARRIER
 - DIRECTION OF TRAFFIC
 - WORK ZONE CHANNELIZING LINE
 - WORK ZONE DOTTED LINE
 - WORK ZONE EDGE LINE WHITE
 - WORK ZONE EDGE LINE YELLOW
 - WORK ZONE LANE LINE
 - PREVIOUS PHASE MARKINGS

CALCULATED GF
CHECKED JME

0 50 100
25
HORIZONTAL SCALE IN FEET

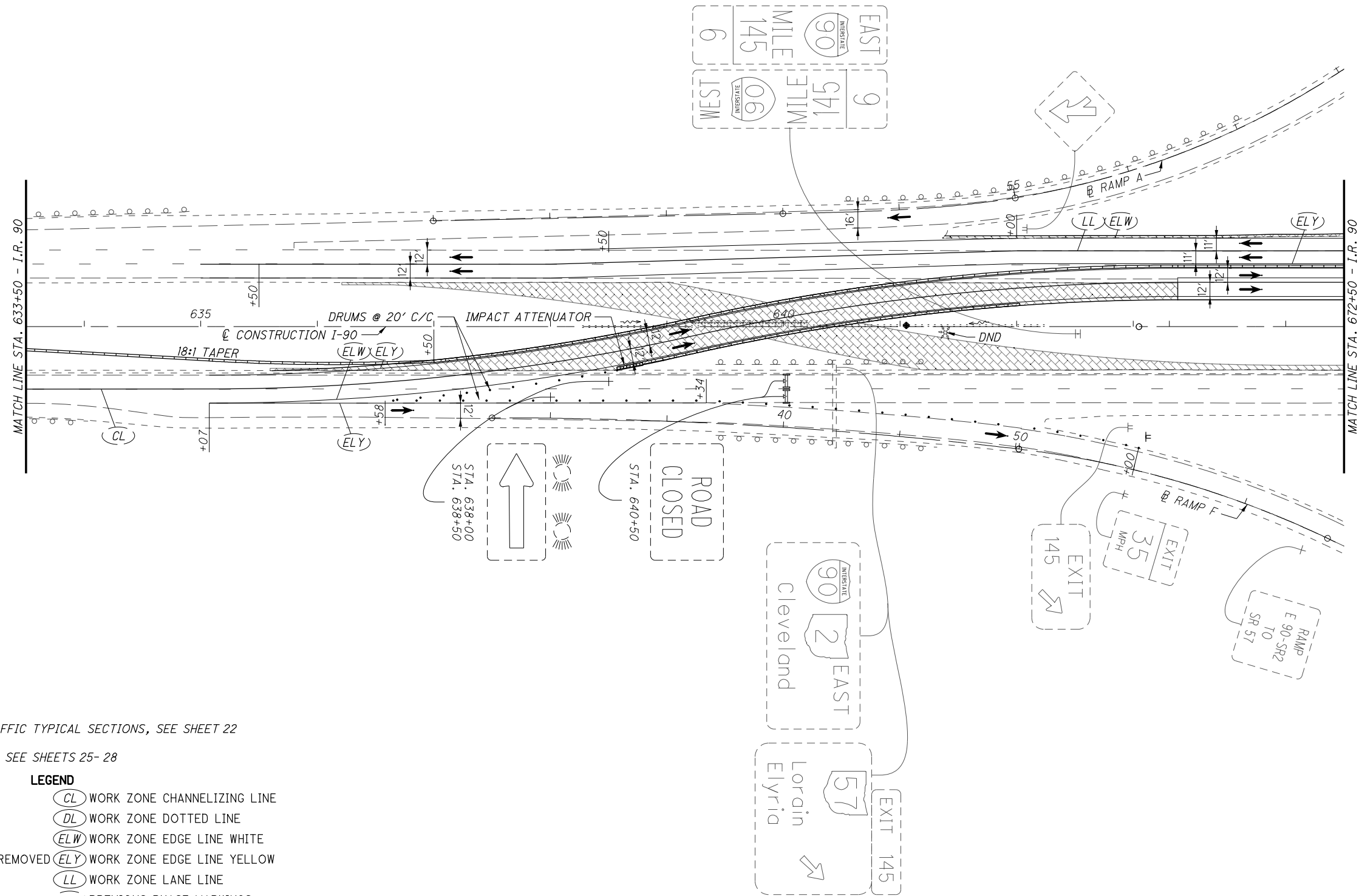
MAINTENANCE OF TRAFFIC - PHASE 2B
STA. 621+50 TO STA. 633+50

LOR-090-13.20

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NOTES:
 1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

LEGEND	
	PROPOSED WORK ZONE
	WORK COMPLETED
	TEMPORARY PAVEMENT
	TEMPORARY PAVEMENT REMOVED
	PORTABLE BARRIER
	DIRECTION OF TRAFFIC
	(CL) WORK ZONE CHANNELIZING LINE
	(DL) WORK ZONE DOTTED LINE
	(ELW) WORK ZONE EDGE LINE WHITE
	(ELY) WORK ZONE EDGE LINE YELLOW
	(LL) WORK ZONE LANE LINE
	() PREVIOUS PHASE MARKINGS















CALCULATED
 GF
 CHECKED
 JME

0 50 100
 HORIZONTAL
 SCALE IN FEET

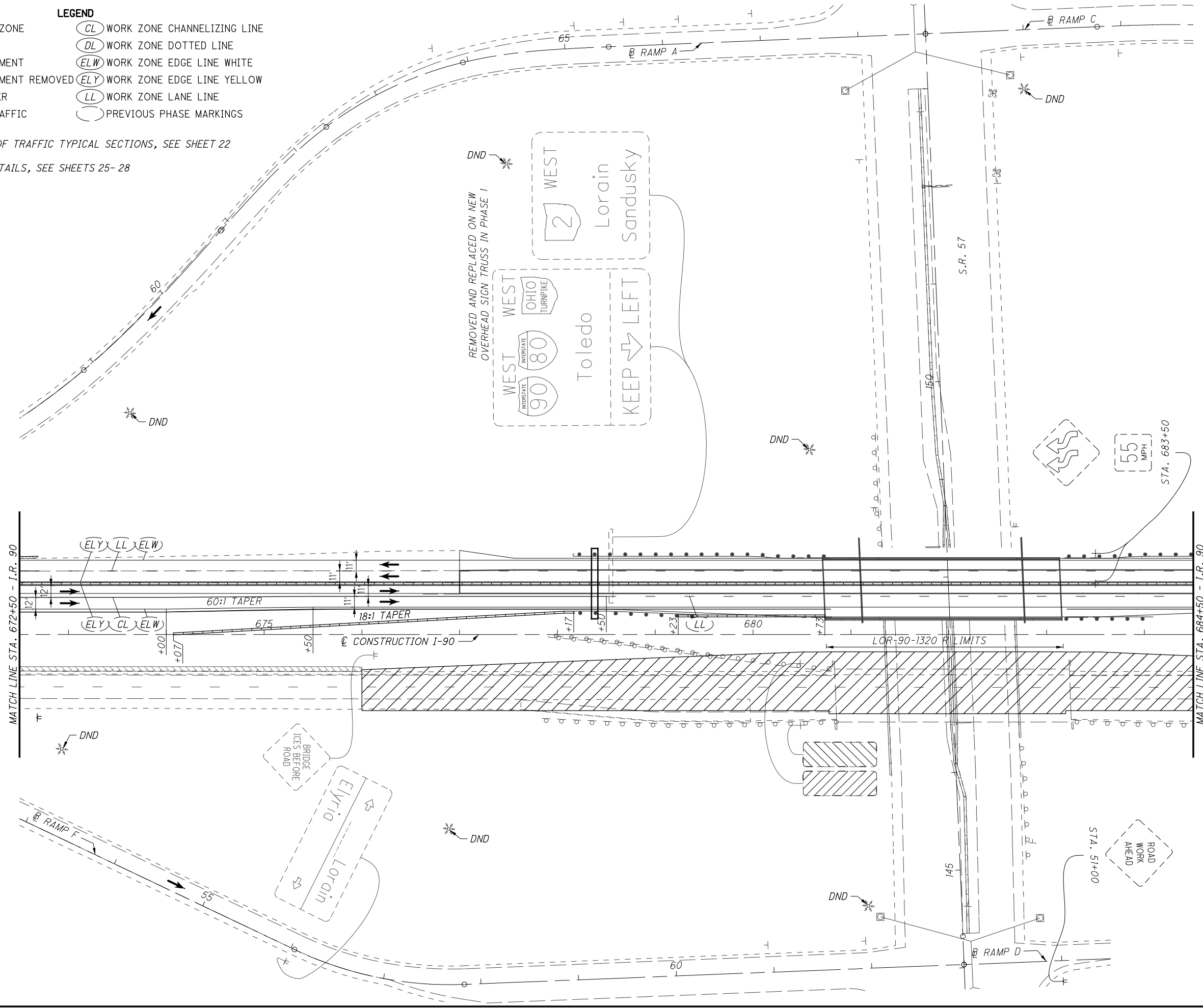
MAINTENANCE OF TRAFFIC - PHASE 2B
STA. 633+50 TO STA. 672+50

LOR-090-13.20

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- LEGEND**
-  PROPOSED WORK ZONE
 -  WORK COMPLETED
 -  TEMPORARY PAVEMENT
 -  TEMPORARY PAVEMENT REMOVED
 -  PORTABLE BARRIER
 -  DIRECTION OF TRAFFIC
 -  CL WORK ZONE CHANNELIZING LINE
 -  DL WORK ZONE DOTTED LINE
 -  ELW WORK ZONE EDGE LINE WHITE
 -  ELY WORK ZONE EDGE LINE YELLOW
 -  LL WORK ZONE LANE LINE
 -  PREVIOUS PHASE MARKINGS

NOTES:
 1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28



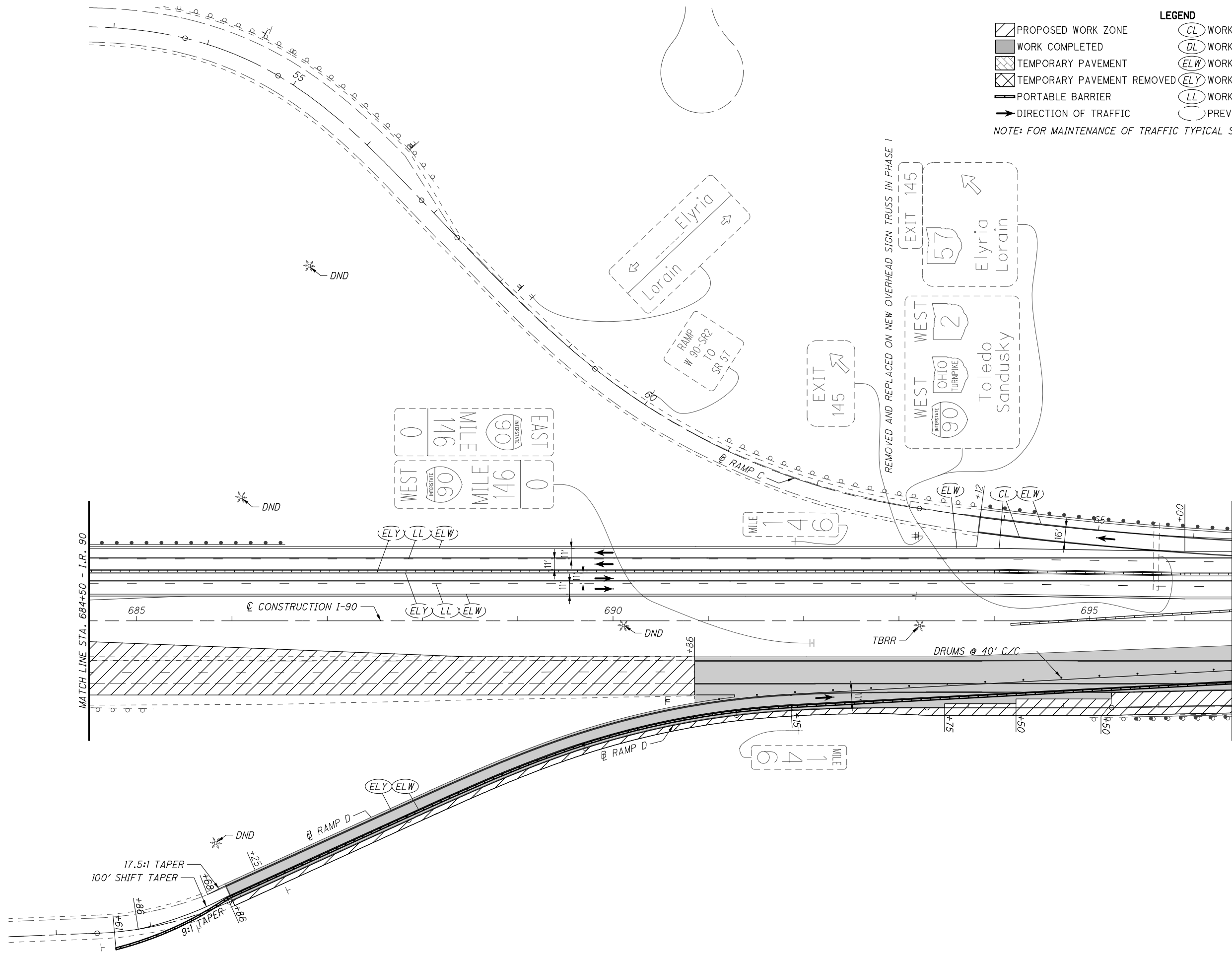
CALCULATED GF CHECKED JME

0 25 50 100
 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2B
STA. 672+50 TO STA. 684+50

LOR-090-13.20

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LEGEND

PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS

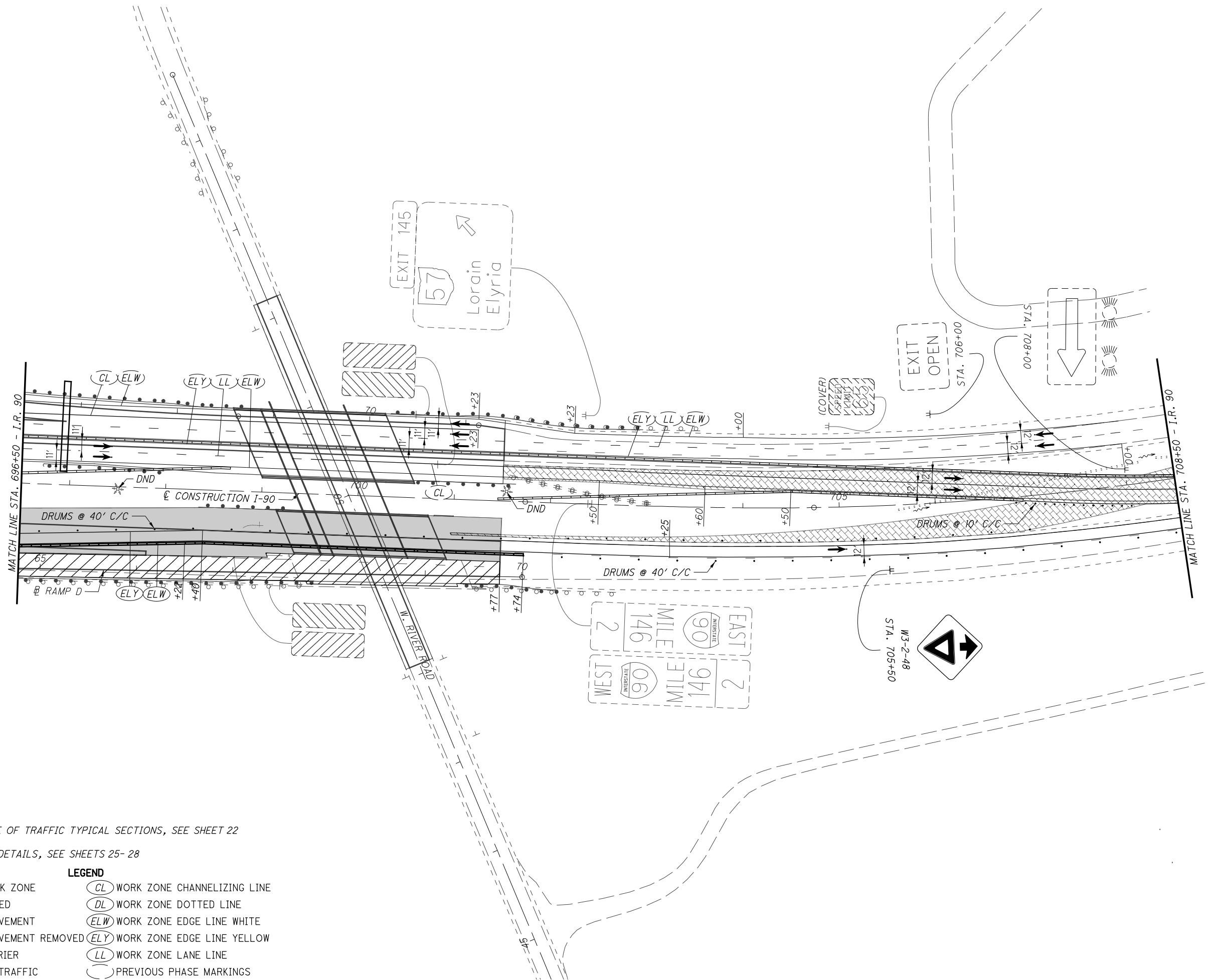
NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

CALCULATED GF CHECKED JME

0 50 100
25
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2B
STA. 684+50 TO STA. 696+50

LOR-090-13.20



- NOTES:
1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

LEGEND

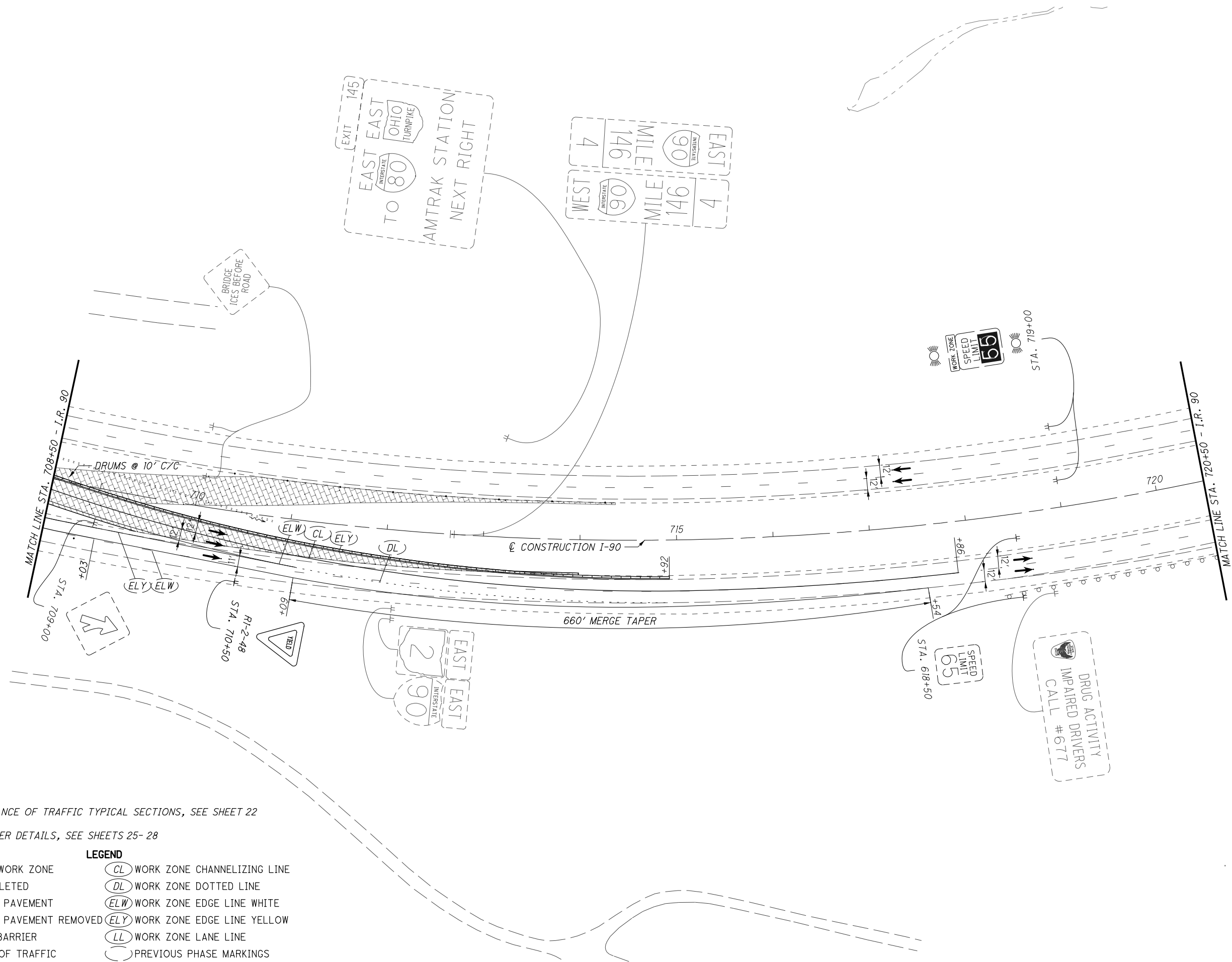
- | | |
|----------------------------|-----------------------------|
| PROPOSED WORK ZONE | WORK ZONE CHANNELIZING LINE |
| WORK COMPLETED | WORK ZONE DOTTED LINE |
| TEMPORARY PAVEMENT | WORK ZONE EDGE LINE WHITE |
| TEMPORARY PAVEMENT REMOVED | WORK ZONE EDGE LINE YELLOW |
| PORTABLE BARRIER | WORK ZONE LANE LINE |
| DIRECTION OF TRAFFIC | PREVIOUS PHASE MARKINGS |

CALCULATED GF CHECKED JME

HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2B
STA. 696+50 TO STA. 708+50

LOR-090-13.20



NOTES:
 1. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22
 2. FOR CROSSOVER DETAILS, SEE SHEETS 25- 28

LEGEND

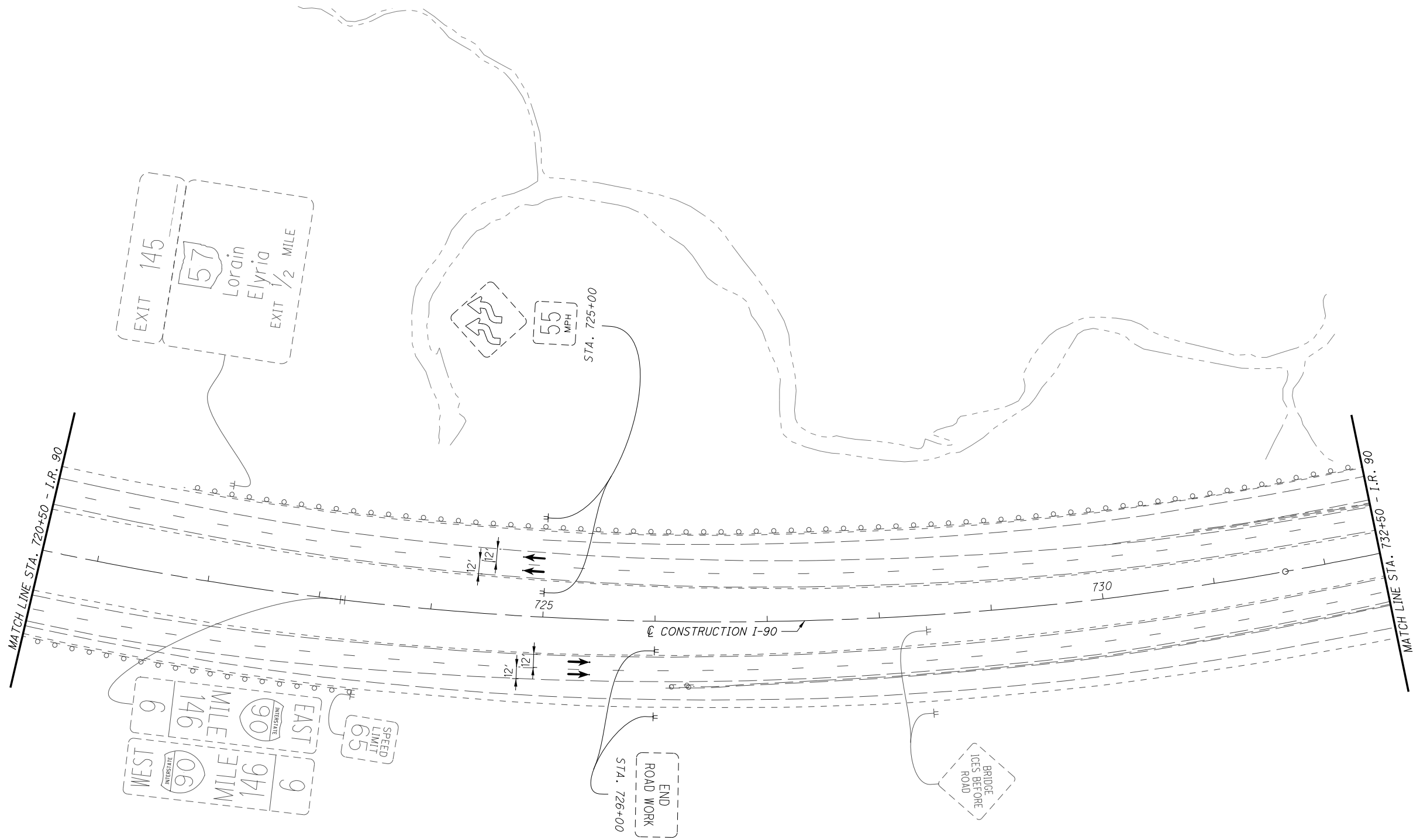
PROPOSED WORK ZONE	WORK ZONE CHANNELIZING LINE
WORK COMPLETED	WORK ZONE DOTTED LINE
TEMPORARY PAVEMENT	WORK ZONE EDGE LINE WHITE
TEMPORARY PAVEMENT REMOVED	WORK ZONE EDGE LINE YELLOW
PORTABLE BARRIER	WORK ZONE LANE LINE
DIRECTION OF TRAFFIC	PREVIOUS PHASE MARKINGS

CALCULATED GF CHECKED JME

HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2B
STA. 708+50 TO STA. 720+50

LOR-090-13.20



NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

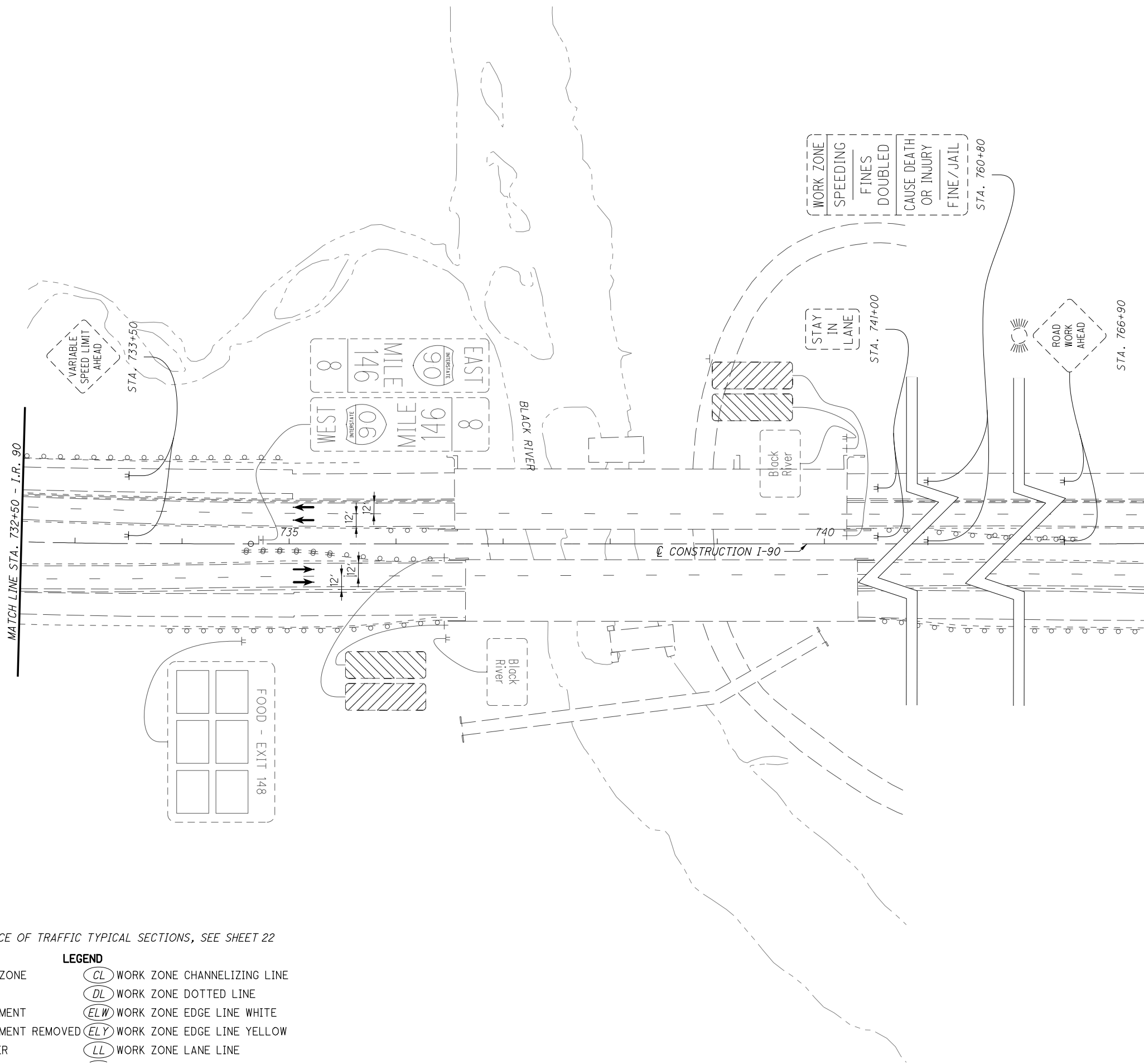
LEGEND			
	PROPOSED WORK ZONE		WORK ZONE CHANNELIZING LINE
	WORK COMPLETED		WORK ZONE DOTTED LINE
	TEMPORARY PAVEMENT		WORK ZONE EDGE LINE WHITE
	TEMPORARY PAVEMENT REMOVED		WORK ZONE EDGE LINE YELLOW
	PORTABLE BARRIER		WORK ZONE LANE LINE
	DIRECTION OF TRAFFIC		PREVIOUS PHASE MARKINGS

CALCULATED GF
CHECKED JME

HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2B
STA. 720+50 TO STA. 732+50

LOR-090-13.20



NOTE: FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEET 22

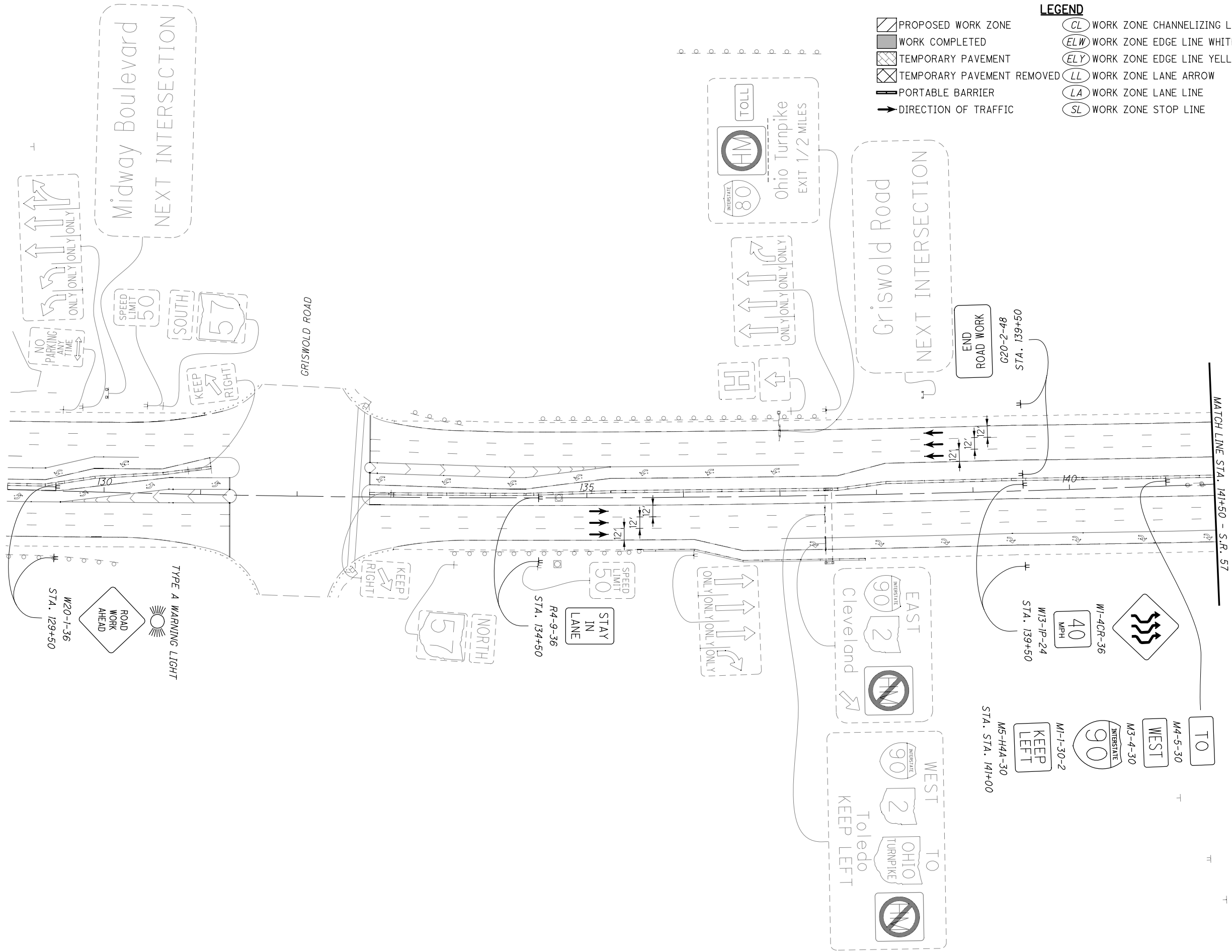
- | | |
|----------------------------|-----------------------------|
| PROPOSED WORK ZONE | WORK ZONE CHANNELIZING LINE |
| WORK COMPLETED | WORK ZONE DOTTED LINE |
| TEMPORARY PAVEMENT | WORK ZONE EDGE LINE WHITE |
| TEMPORARY PAVEMENT REMOVED | WORK ZONE EDGE LINE YELLOW |
| PORTABLE BARRIER | WORK ZONE LANE LINE |
| DIRECTION OF TRAFFIC | PREVIOUS PHASE MARKINGS |

CALCULATED GF
CHECKED JME

0 50 100
25
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2B
STA. 732+50 TO END WORK

LOR-090-13.20



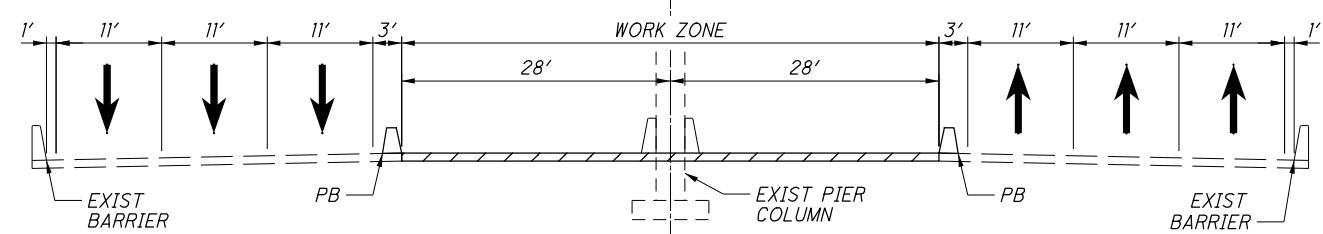
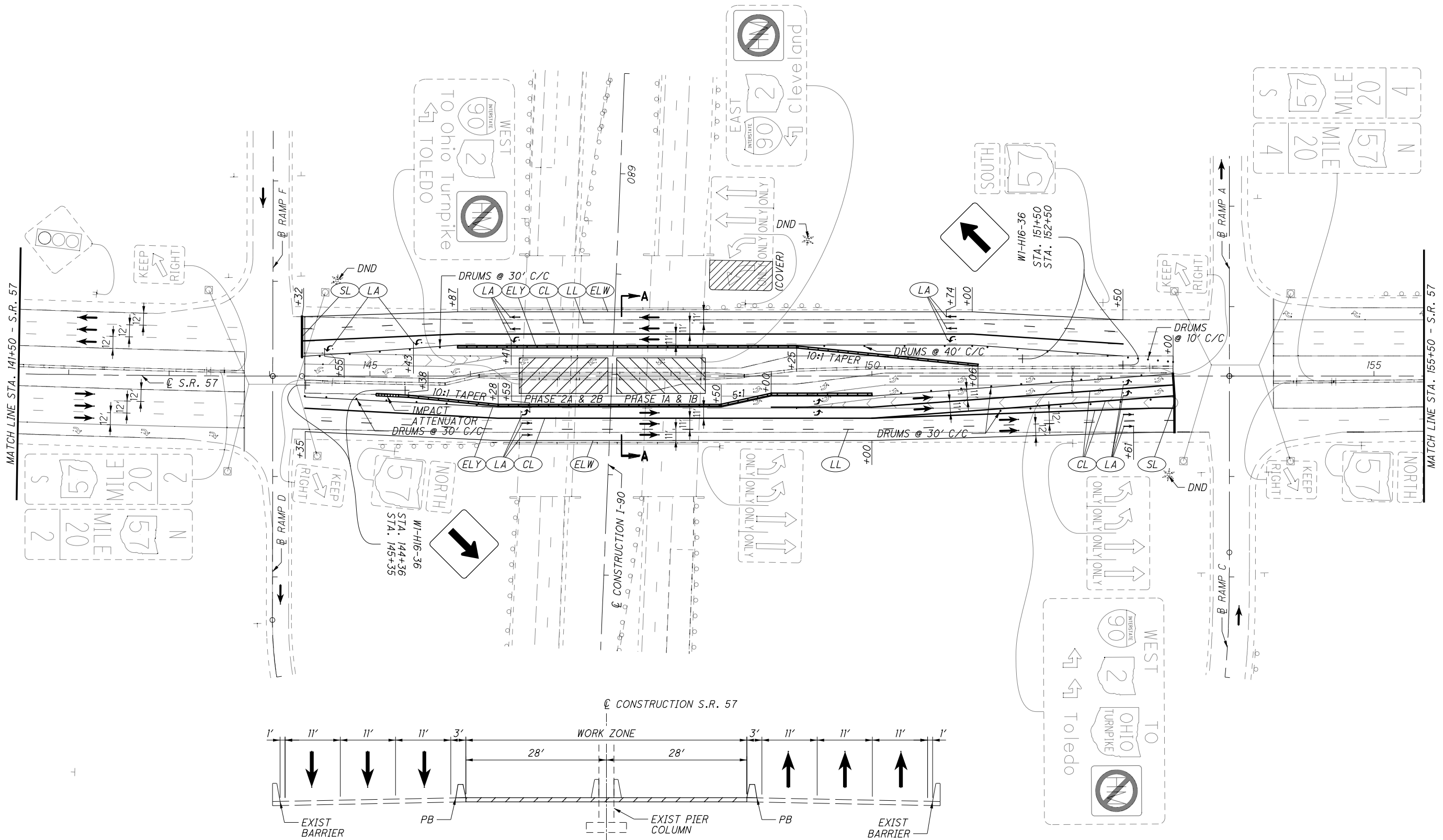
- LEGEND**
- PROPOSED WORK ZONE
 - WORK COMPLETED
 - TEMPORARY PAVEMENT
 - TEMPORARY PAVEMENT REMOVED
 - PORTABLE BARRIER
 - DIRECTION OF TRAFFIC
 - WORK ZONE CHANNELIZING LINE
 - WORK ZONE EDGE LINE WHITE
 - WORK ZONE EDGE LINE YELLOW
 - WORK ZONE LANE ARROW
 - WORK ZONE LANE LINE
 - WORK ZONE STOP LINE

CALCULATED GF
CHECKED JME

0 50 100
25
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - S.R. 57
BEGIN WORK TO STA. 141+50**

LOR-090-13.20

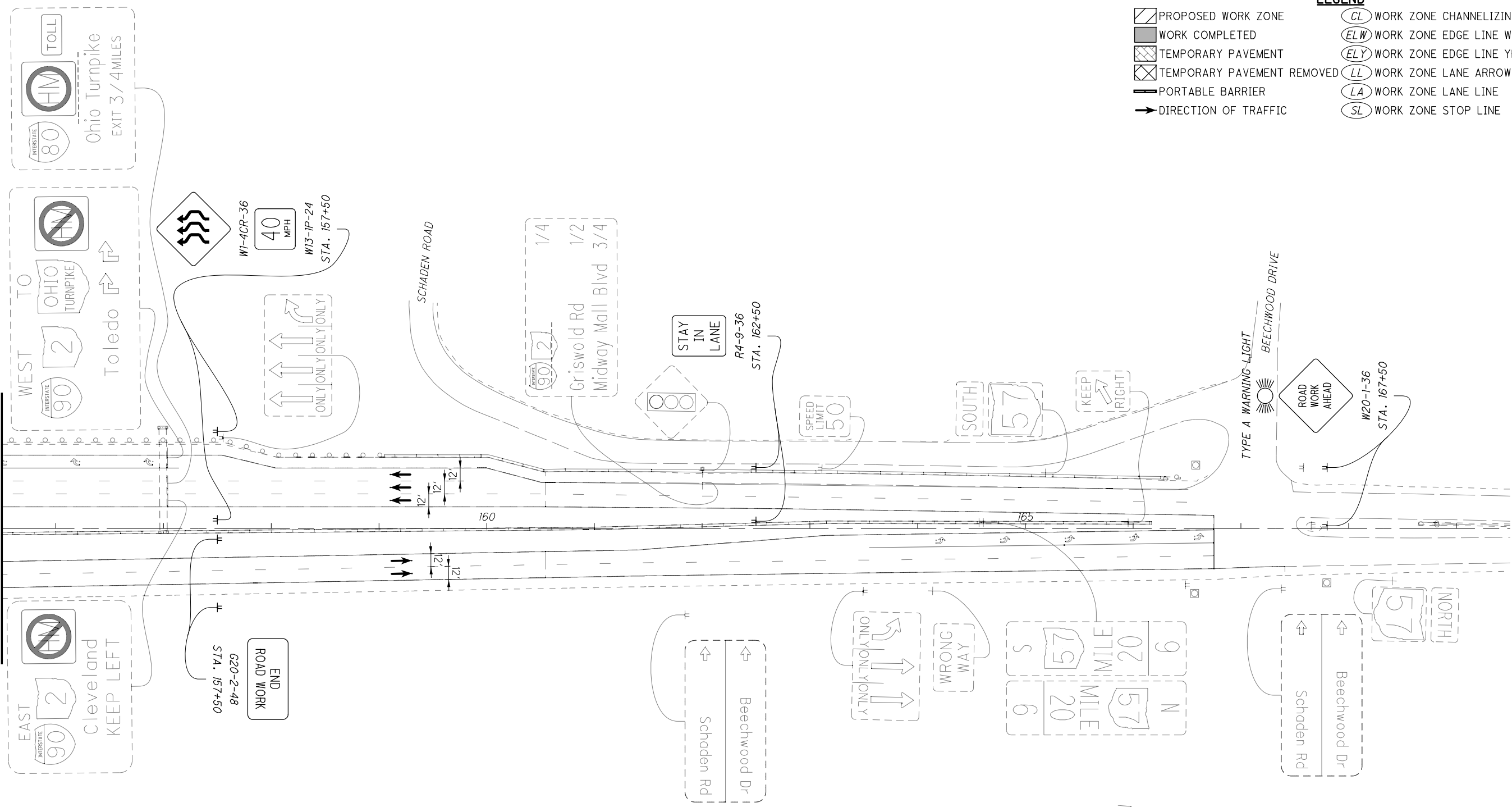


- LEGEND**
- PROPOSED WORK ZONE
 - WORK COMPLETED
 - TEMPORARY PAVEMENT
 - TEMPORARY PAVEMENT REMOVED
 - PORTABLE BARRIER
 - DIRECTION OF TRAFFIC
 - WORK ZONE CHANNELIZING LINE
 - WORK ZONE EDGE LINE WHITE
 - WORK ZONE EDGE LINE YELLOW
 - WORK ZONE LANE ARROW
 - WORK ZONE LANE LINE
 - WORK ZONE STOP LINE



**MAINTENANCE OF TRAFFIC - S.R. 57
STA. 141+50 TO STA. 155+50**

MATCH LINE STA. 155+50 - S.R. 57



- LEGEND**
- PROPOSED WORK ZONE
 - WORK COMPLETED
 - TEMPORARY PAVEMENT
 - TEMPORARY PAVEMENT REMOVED
 - PORTABLE BARRIER
 - DIRECTION OF TRAFFIC
 - WORK ZONE CHANNELIZING LINE
 - WORK ZONE EDGE LINE WHITE
 - WORK ZONE EDGE LINE YELLOW
 - WORK ZONE LANE ARROW
 - WORK ZONE LANE LINE
 - WORK ZONE STOP LINE

CALCULATED GF CHECKED JME

0 50 100
25
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - S.R. 57
STA. 155+50 TO END WORK**

LOR-090-13.20

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SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
		14	19								01/IMS/BR		EXT	TOTAL			
											LS	615	10000	LS		MAINTENANCE OF TRAFFIC	
											13,032	615	20000	13,032	SY	ROADS FOR MAINTAINING TRAFFIC	
											100	616	10000	100	MGAL	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
																WATER	
											12,960	622	41000	12,960	FT	PORTABLE BARRIER, 32"	
											7,310	622	41011	7,310	FT	PORTABLE BARRIER, 50", AS PER PLAN	12
											100	622	41020	100	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED	
											0.07	642	00190	0.07	MILE	LANE LINE, 4"	
											0.04	642	00290	0.04	MILE	CENTER LINE	
											LS	614	11000	LS		INCIDENTALS	
											24	619	16010	24	MNTH	MAINTAINING TRAFFIC	
											LS	623	10000	LS		FIELD OFFICE, TYPE B	
											LS	624	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
																MOBILIZATION	

CALCULATED JRW	CHECKED GKB	GENERAL SUMMARY
		LOR-90-13.20
		89A 301

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REF. NO.	SHEET NO.	STATION		SIDE	202			202		202					202		252	
		FROM	TO		PAVEMENT REMOVED SY	PAVEMENT REMOVED, ASPHALT SY	CONCRETE BARRIER REMOVED FT	PIPE REMOVED, 24" AND UNDER FT	GUARDRAIL REMOVED FT	GUARDRAIL REMOVED, BARRIER DESIGN FT	ANCHOR ASSEMBLY REMOVED, TYPE E EACH	ANCHOR ASSEMBLY REMOVED, TYPE T EACH	BRIDGE TERMINAL ASSEMBLY REMOVED EACH	IMPACT ATTENUATOR REMOVED EACH	FENCE REMOVED FT	FULL DEPTH PAVEMENT SAWING FT		
REMOVALS																		
I-90																		
R-1	97-101	671+07.33	680+80.22	LT	1069	1361												24
R-2	99-101	676+00.00	680+85.32	RT	1682	717												24
R-3	101	677+83.99	680+85.01	RT														
R-4	101	677+90.69	680+83.45	RT														
R-5	101	678+30.99	679+59.93	LT			42											
R-6	101	678+38.98	680+76.11	LT			50											
R-7	103	683+17.93	685+50.88	LT														
R-8	103-109	683+18.30	698+82.47	LT	5484	2779												
R-9	103	683+21.45	686+24.00	LT														
R-10	103-109	683+23.51	699+43.77	RT	4407	3343												
R-11	103	683+27.47	685+17.24	RT														
R-12	107	695+35.38	696+79.17	LT			52											
R-13	107-109	695+93.56	699+44.16	RT														
R-14	109	698+89.07	699+11.57	LT & RT														
R-15	109	700+12.30	700+40.86	LT													60	51
R-16	109-111	700+41.65	703+54.28	LT														
R-17	109	700+41.76	701+50.00	LT	387	129												
R-18	109	700+62.89	700+95.32	LT & RT														
R-19	109-111	700+63.34	703+04.36	LT														
R-20	109	700+97.86	701+10.28	RT														
R-21	109	700+98.01	701+50.00	RT	187	48												
R-22	109-111	701+21.90	702+72.36	RT														
R-23	109	701+23.26	701+26.76	RT														
R-31	108-109	696+38.88	699+20.49	LT & RT														
SR-57																		
R-24	103	145+94.64	148+92.81	RT				298										
R-25	NOT USED																	
R-26	101-103	146+55.00	148+26.00	RT			171											
R-27	101-103	146+60.00	148+24.00	LT	43													
R-28	101-103	146+60.00	148+24.00	RT	43													
RAMP C																		
R-29	144-145	63+78.47	68+51.07	LT			51											
RAMP D																		
R-30	146-148	53+90.00	67+03.11	LT & RT	1466	1986												
TOTALS CARRIED TO GENERAL SUMMARY					14768	10363	366	298	1950	737.5	7	1	18	4		225		501

ESTIMATED QUANTITIES	LOR-90-13.20
CALCULATED JRW CHECKED GKB	90 301

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REF. NO.	SHEET NO.	STATION		SIDE	GUARDRAIL, TYPE MGS	ANCHOR ASSEMBLY, MGS TYPE T	606		MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	607		609		622		CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN		
		FROM	TO				ANCHOR ASSEMBLY, MGS TYPE E	EACH			EACH	FENCE, TYPE CL	FT	FT	FT				
ROADWAY																			
I-90																			
C-1	101	680+45.39	680+44.47	LT										26					
C-2	101	680+50.00	680+80.00	LT										24					
C-3	101	680+50.00	680+81.45	RT										26					
C-4	101	680+51.92	680+84.00	RT										26					
C-5	103	683+19.41	683+51.49	LT										26					
C-6	103	683+21.96	683+54.04	LT										26					
C-7	103	683+23.38	683+55.00	RT										26					
C-8	103	683+25.94	683+58.02	RT										26					
C-9	109	699+04.24	699+22.39	RT										18.5					
C-10	109	699+38.54	699+56.68	RT										18.5					
C-11	109	700+31.58	700+63.67	LT										26					
C-12	109	700+63.82	700+83.82	LT										20					
C-13	109	700+79.71	700+99.71	RT										20					
C-14	109	701+12.59	701+37.69	RT										25					
GR-1	101	677+59.60	680+84.00	RT	250		1	1											
GR-2	101	678+18.00	679+43.00	LT	62.5	1	1												
GR-3	101	678+16.90	680+77.47	LT	250	1			1										
GR-4	101	679+94.48	680+83.68	RT	12.5		1	1											
GR-5	103	683+17.41	686+54.91	LT	262.5		1	1											
GR-6	103	683+19.53	684+04.35	LT	12.5		1	1											
GR-7	103	683+25.94	685+18.53	RT	187.5	1			1										
GR-8	107-109	693+90.16	698+76.26	LT	487.5				1										
GR-9	107-109	695+44.81	699+57.31	RT	337.5		1	1											
GR-10	107-109	696+73.02	697+97.33	RT	62.5	1	1												
GR-11	109	698+34.89	699+22.99	RT	12.5		1	1											
GR-12	109-111	700+30.98	702+93.65	LT	187.5		1	1											
GR-13	109	700+61.32	701+63.22	RT	25		1	1											
GR-14	109-111	700+10.62	702+09.98	RT	87.5	1			1										
F-1	101	680+80.03	680+81.38	LT & RT								33							
F-2	103	683+22.03	683+23.38	LT & RT								33							
F-3	109	699+06.50	699+22.39	LT & RT								36							
F-4	109	700+12.30	700+31.58	LT								46							
F-5	109	700+63.82	700+79.71	LT & RT								36							
F-6	109	701+12.62	701+26.76	RT								44							
GR-15	101	146+55.00	148+26.00	LT													171		
GR-16		NOT USED																	
TOTALS CARRIED TO GENERAL SUMMARY					2237.5	5	10	8	4		228		334		171				

CALCULATED JRW CHECKED GKB	ESTIMATED QUANTITIES	LOR-90-13.20	91 301
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REF. NO.	SHEET NO.	STATION		SIDE	605			611		FOR INFORMATION ONLY							
		FROM	TO		6" SHALLOW PIPE UNDERDRAINS, 707.31	6" UNCLASSIFIED PIPE UNDERDRAINS	6" BASE PIPE UNDERDRAINS	6" CONDUIT, TYPE B	6" CONDUIT, TYPE F	6"X45" BEND	6"X6" WYE	6"X6" TEE	6"X90" CROSS	6"X90" BEND			
					FT	FT	FT	FT	EACH								
		UNDERDRAIN															
UD-91	109	WB 700+87	WB 701+50	LT		63			10								
UD-92	109	EB 700+80	EB 701+00	RT			10		10					1			2
UD-93	109	EB 701+06	EB 701+50	RT			44		10								
UD-94	109	EB 700+87	EB 701+06	RT	44												
UD-95	109	EB 700+91	EB 701+03	RT	12												
UD-96	109	EB 701+03	EB 701+50	RT		47											
UD-97	109	EB 701+03		RT				11	10					1			
UD-98	109	EB 701+06	EB 701+20	RT	34												
UD-99	109	EB 701+03	EB 701+32	RT	29												1
UD-100		NOT USED															2
UD-101	109	RAMP D 69+40	RAMP D 69+59	RT			9		10								
UD-102	109	EB 701+32		RT				10	9								
TOTALS CARRIED TO GENERAL SUMMARY					119	110	63	21	59					3			5

CALCULATED JRW CHECKED GKB	ESTIMATED QUANTITIES	LOR-90-13.20	94 301
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REF. NO.	SHEET NO.	STATION		SIDE	601		611					611				511	
		FROM	TO		TIED CONCRETE BLOCK MAT, TYPE 1 SY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC CY	CATCH BASIN, NO. 2-3 EACH	CATCH BASIN, NO. 3 EACH	CATCH BASIN ADJUSTED TO GRADE EACH	CATCH BASIN RECONSTRUCTED TO GRADE EACH	MANHOLE, NO. 3 EACH	15" CONDUIT, TYPE F FEET	15" CONDUIT, TYPE B FEET	15" CONDUIT, TYPE C FEET	18" CONDUIT, TYPE C FEET	CLASS OCI CONCRETE, HEADWALL CY	
EROSION CONTROL																	
E-1	97	WB 671+07		LT	2												
E-2	99	WB 676+00		LT	2												
E-3	99	EB 676+00		RT	2												
E-4	105	WB 689+00		LT	2												
E-5	105	EB 689+00		RT	2												
E-6	109	WB 699+59		LT	2												
E-7	109	EB 699+43		RT	2												
E-8	101	WB 680+36		LT		2											
E-9	103	WB 683+67		LT		2											
DRAINAGE																	
D-1	101	WB 680+54		LT		2		1			50				0.25		
D-2	101	WB 680+57		LT				1					28				
D-3	101	EB 680+58		RT				1					30				
D-4	101	680+35		LT			1							7			
D-5	101	EB 680+61		RT		2		1			54				0.25		
D-6	105	WB 683+42		LT		2		1			53				0.25		
D-7	105	WB 683+45		LT				1					29				
D-8	105	EB 683+46		RT				1					29				
D-9	105	683+68		LT		2	1						6				
D-10	105	EB 683+50		RT		2		1			51				0.25		
D-11	107	WB 694+18		LT				1							0.25		
D-12	107	696+00		RT					1								
D-13	107	EB 697+00		RT				1									
D-14	109	EB 697+49		RT				1							0.25		
D-15		NOT USED															
D-16	109	698+53		RT					1								
D-17	109	WB 700+55		LT		2		1			40						
D-18	109	WB 700+87		LT				1					39				
D-19	109	EB 701+03		RT				1				75					
D-20	109	EB 701+32		RT		2		1					26				
SR-57																	
D-21	103	145+94.64	148+92.81	RT						1		300					
TOTALS CARRIED TO GENERAL SUMMARY					14	18	2	12	3	2	1	248	375	187	7	1.5	

ESTIMATED QUANTITIES

LOR-90-13.20

CALCULATED
 JRW
 CHECKED
 GKB

95
 301

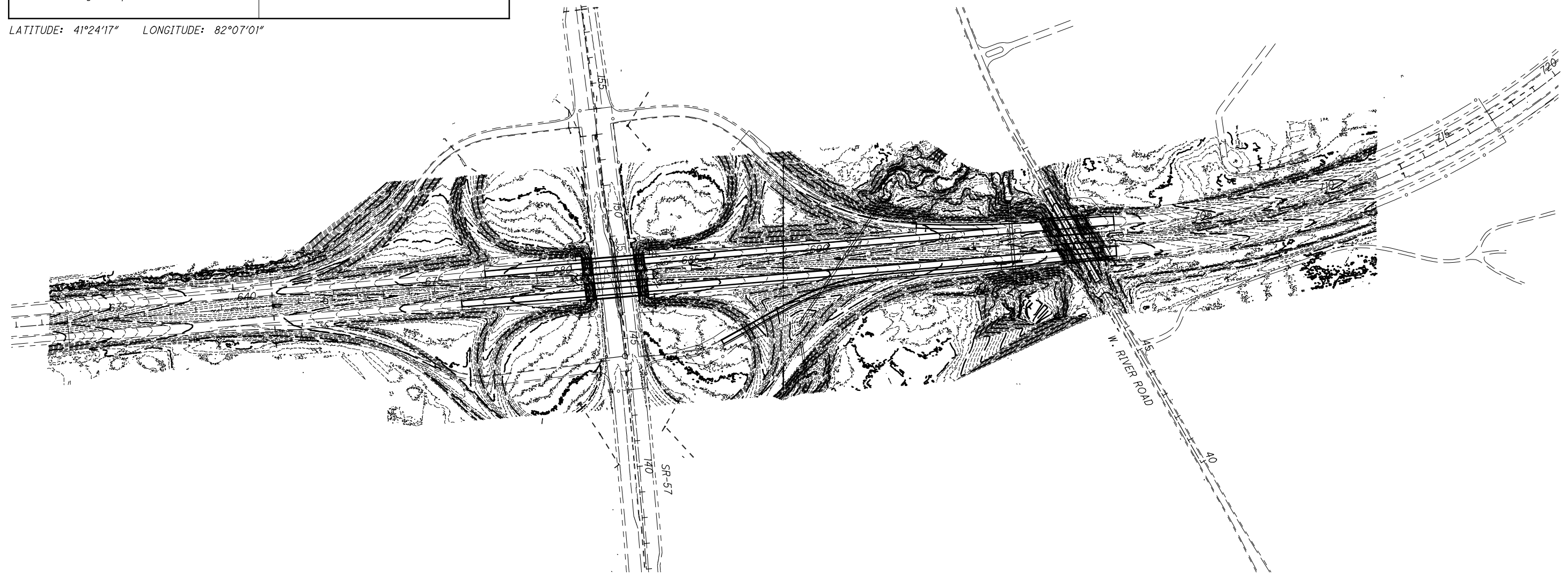
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PROJECT DATA			
Total Area (Right-Of-Way)	73.9 Ac	Runoff Coefficient for Pre-Construction Site	0.59
Project Earth Disturbed Area	17.7 Ac	Runoff Coefficient for Post-Construction Site	0.60
Estimated Contractor Earth Disturbed Area	1.00 Ac	Post-Construction BMP: Vegetated Filter Strip provide sufficient treatment to meet the NPDES post-construction requirements.	
Notice of Intent Earth Disturbed Area	18.7 Ac	Immediate Receiving Waters:	
Impervious (Paved) Area for Pre-Construction Site	xx.xx Ac	BLACK RIVER	
Impervious (Paved) Area for Post-Construction Site	xx.xx Ac	Subsequent Receiving Waters: LAKE ERIE	
USGS Quadrangle Maps	AVON		

LATITUDE: 41°24'17" LONGITUDE: 82°07'01"

BMP Type	LOCATION		EDA Treatment Credit (Acres)
	Station to Station	Side	
Vegetated Filter Strip	676+00	679+00	0.69
Vegetated Filter Strip	671+07	676+00	0.61
Vegetated Filter Strip	658+50	687+50	0.50
Vegetated Filter Strip	687+50	692+00	1.03
Vegetated Filter Strip	692+00	696+00	0.92
Treatment Provided			3.75
Treatment Required*			3.54

*Calculated per L&D, Vol. 2, Sec. 1117.2.1



CALCULATED
 DJB
 CHECKED
 GKB

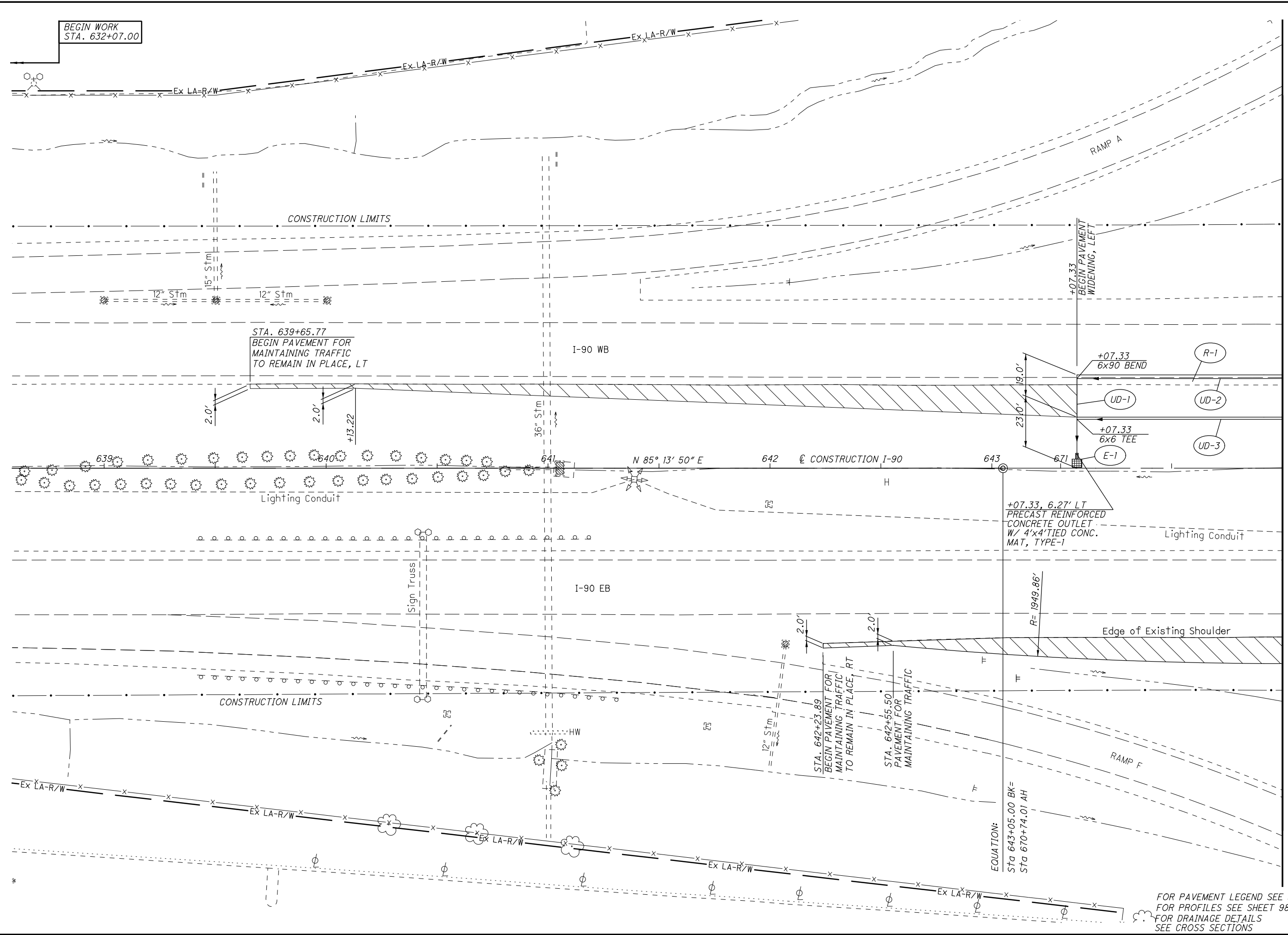
0 200 400
 HORIZONTAL
 SCALE IN FEET

PROJECT SITE PLAN

LOR-90-13.20

PROJECT DESCRIPTION
 REPLACEMENT OF TWO TWIN BRIDGES ON I-90 OVER SR-57 AND WEST RIVER ROAD, INCREASING VERTICAL CLEARANCE OVER SR-57, WITH ASSOCIATED PAVEMENT REPLACEMENT. THE BRIDGES WILL ACCOMODATE A FUTURE 12 FOOT LANE.

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CALCULATED
DJB
CHECKED
GKB

0 20 40
10
HORIZONTAL
SCALE IN FEET

PLAN SHEET I-90
STA. 638+50 TO STA. 672+00

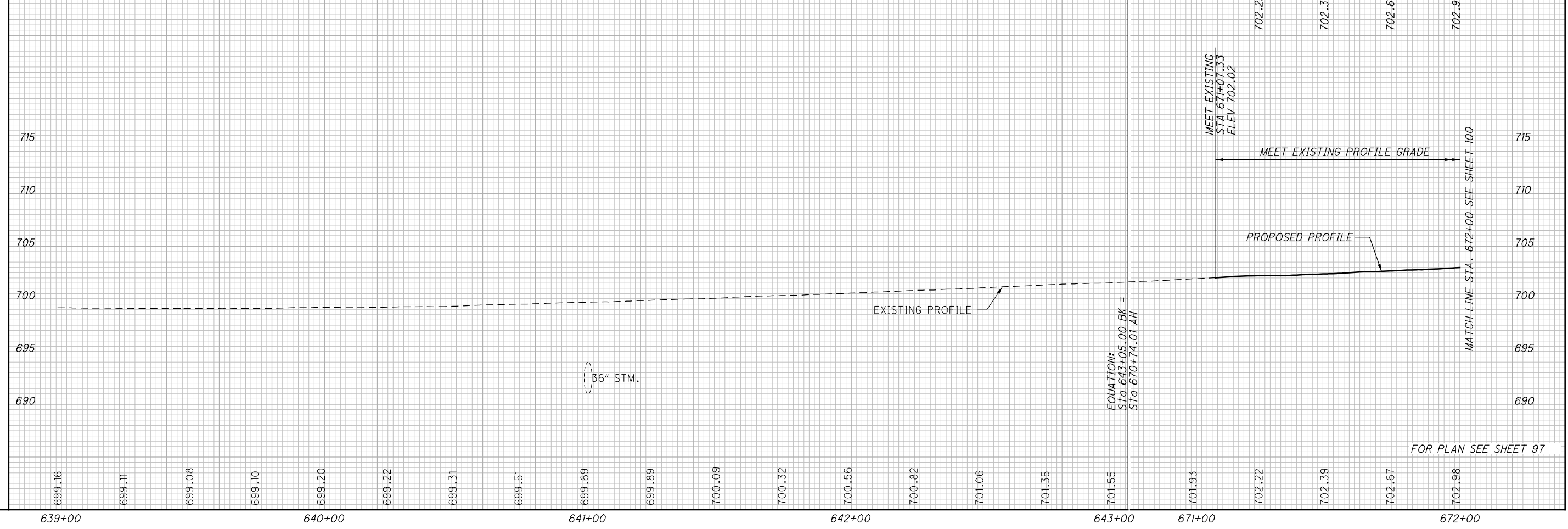
LOR-90-13.20

MATCH LINE STA. 672+00 SEE SHEET 99

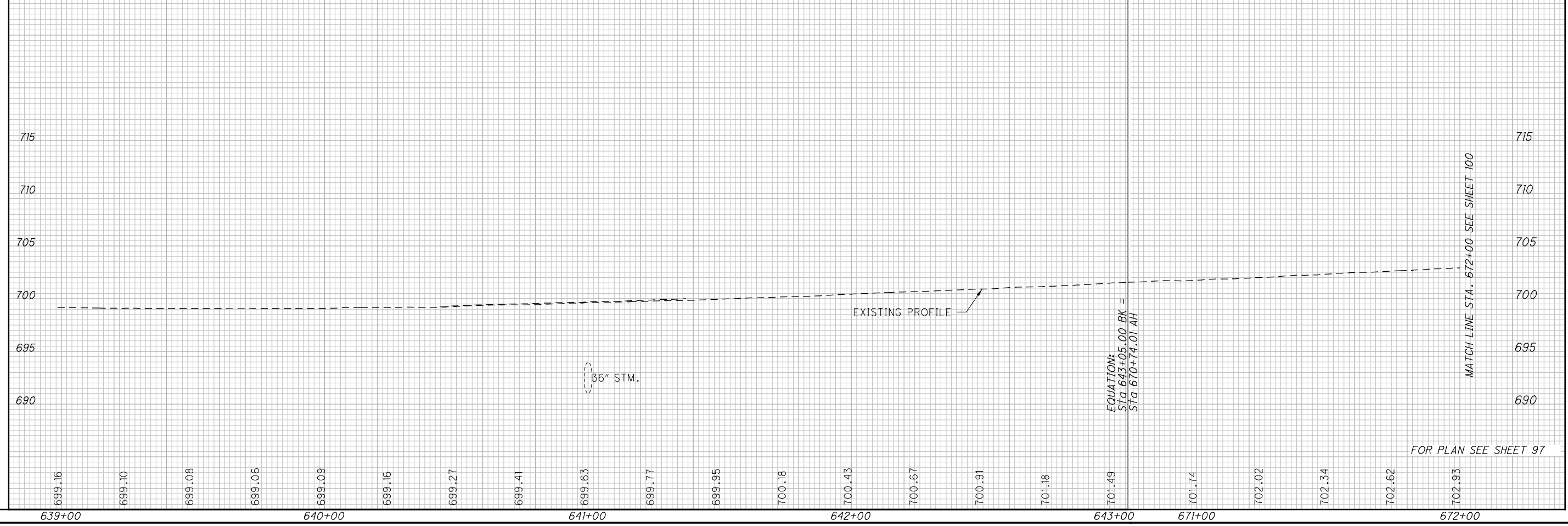
FOR PAVEMENT LEGEND SEE SHEET 99
FOR PROFILES SEE SHEET 98
FOR DRAINAGE DETAILS
SEE CROSS SECTIONS

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WESTBOUND



EASTBOUND



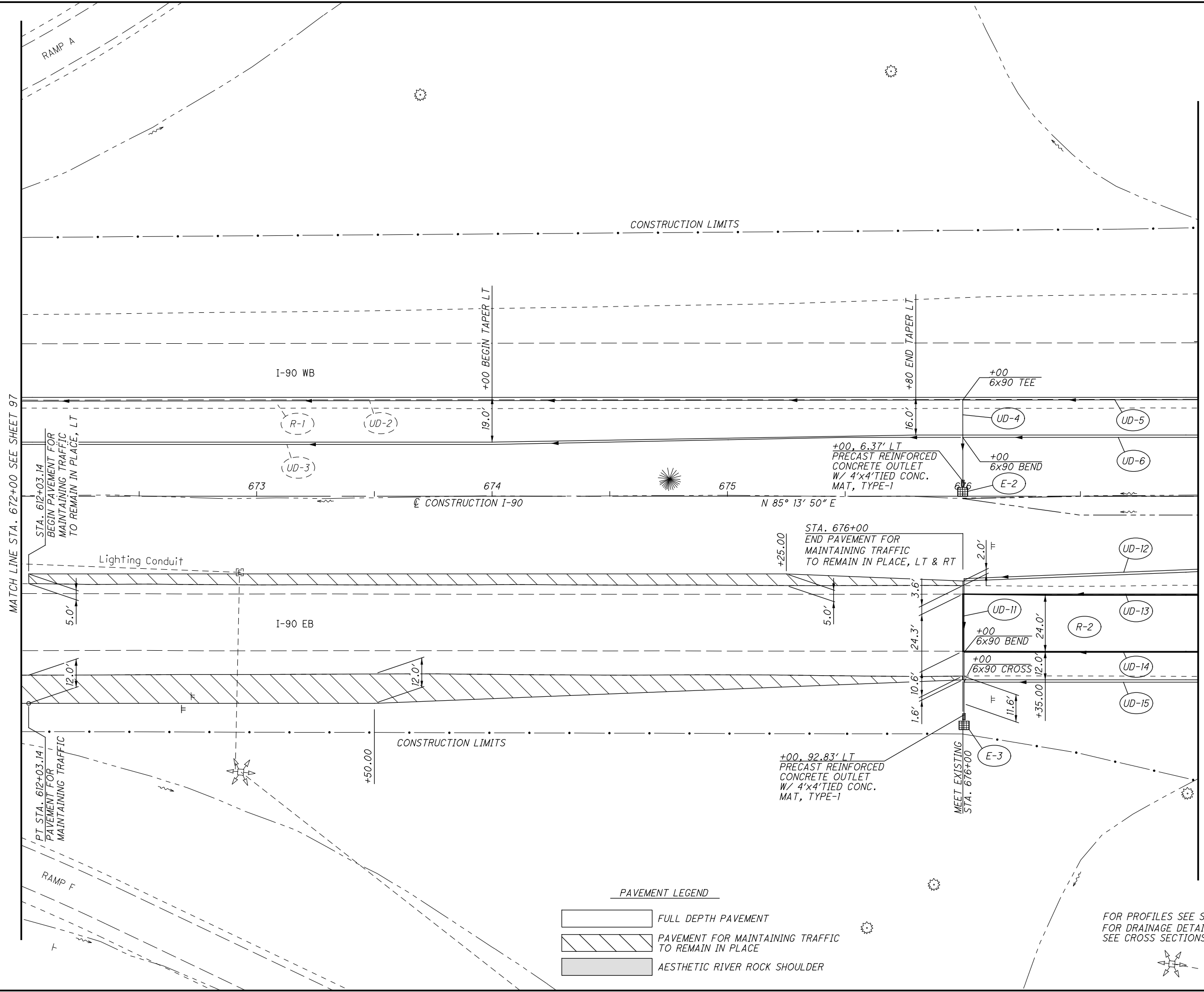
CALCULATED
JWB
CHECKED
GKB

**PROFILE I-90
STA. 639+00 TO STA. 672+00**


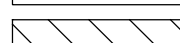

LOR-90-13.20

98
301

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PAVEMENT LEGEND

-  FULL DEPTH PAVEMENT
-  PAVEMENT FOR MAINTAINING TRAFFIC TO REMAIN IN PLACE
-  AESTHETIC RIVER ROCK SHOULDER

FOR PROFILES SEE SHEET 100
FOR DRAINAGE DETAILS
SEE CROSS SECTIONS

CALCULATED
DJB
CHECKED
GKB

0 20 40
10
HORIZONTAL
SCALE IN FEET

PLAN SHEET I-90
STA. 672+00 TO STA. 677+00

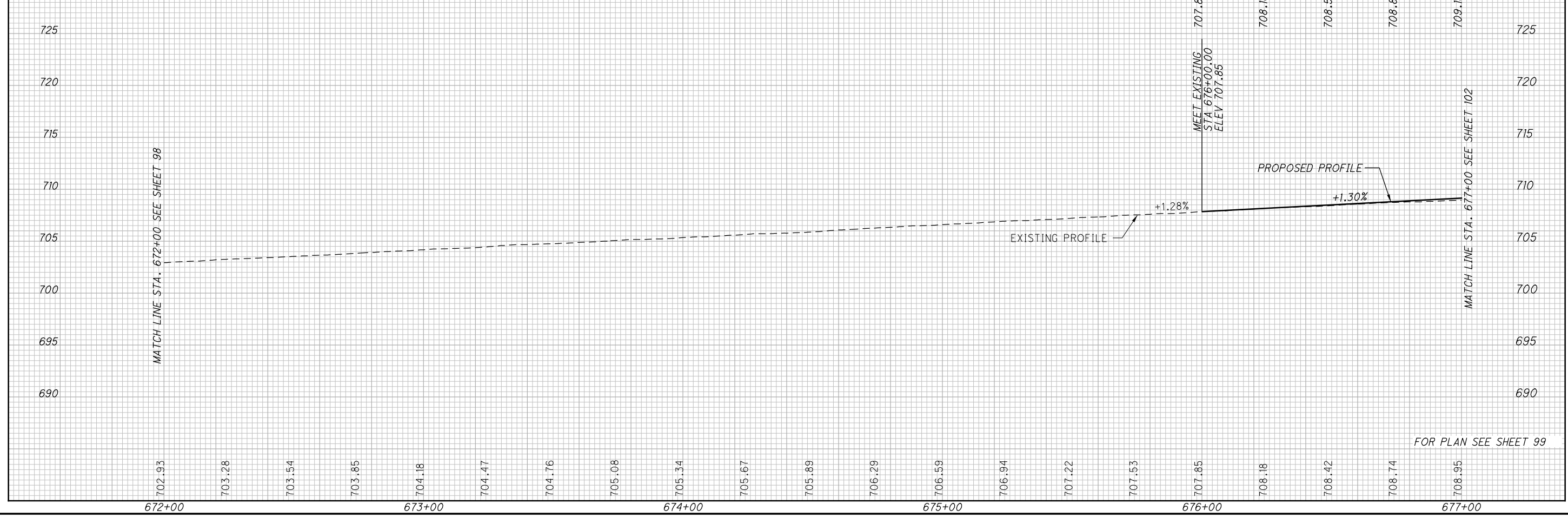
LOR-90-13.20

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WESTBOUND



EASTBOUND



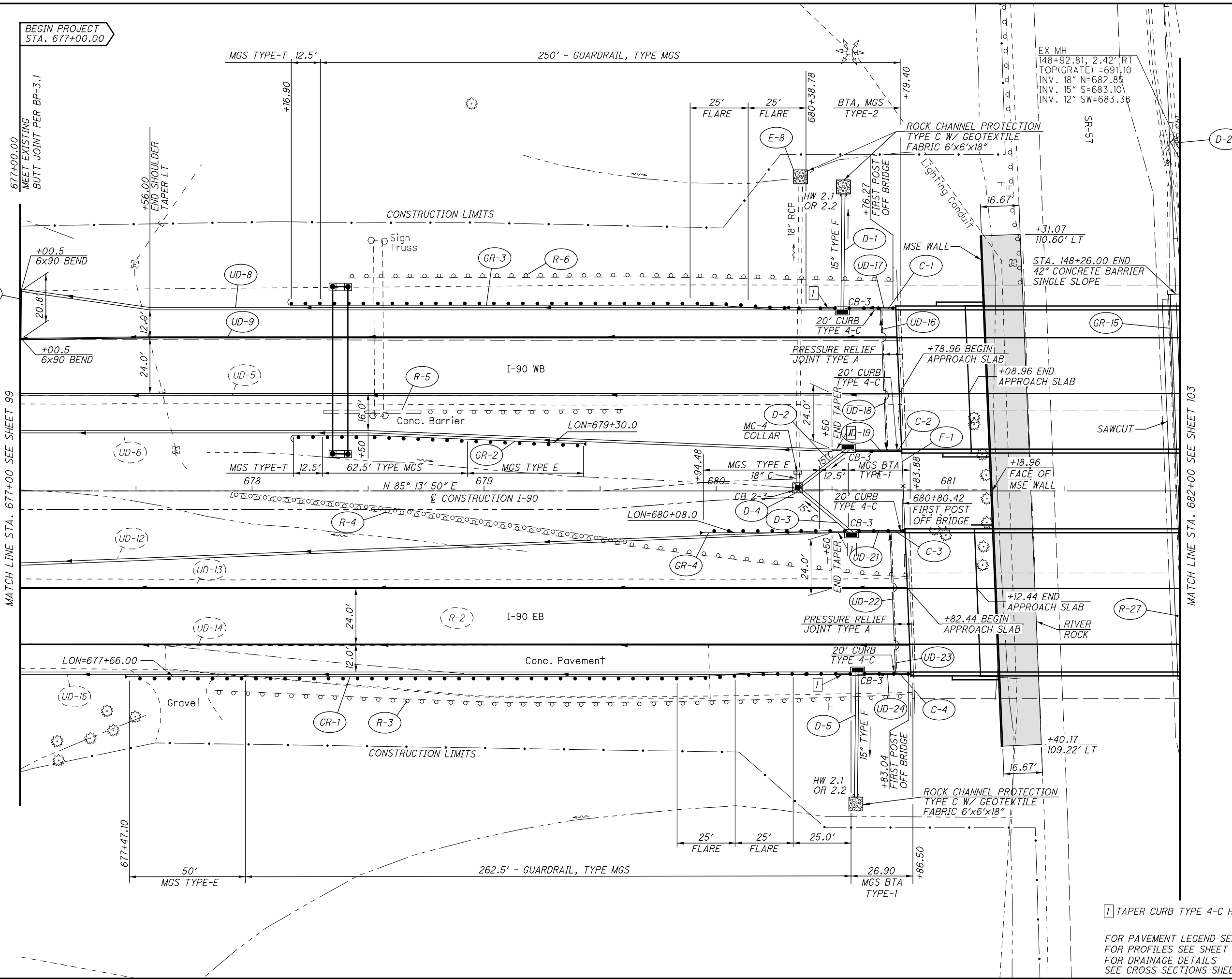
CALCULATED
JWB
CHECKED
GKB

**PROFILE I-90
STA. 672+00 TO STA. 677+00**

LOR-90-13.20

100
301

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BEGIN PROJECT
STA. 677+00.00

677+00.00
MEET EXISTING
BUTT JOINT PER BP-3.1

MATCH LINE STA. 677+00 SEE SHEET 99

MATCH LINE STA. 682+00 SEE SHEET 103

1 TAPER CURB TYPE 4-C HEIGHT TO 1" IN 6'

FOR PAVEMENT LEGEND SEE SHEET 99
FOR PROFILES SEE SHEET 102
FOR DRAINAGE DETAILS
SEE CROSS SECTIONS SHEET 120

EX MH
148+92.81, 2.42' RT
TOP (GRATE) = 691.10
INV. 18" N = 682.85
INV. 15" S = 683.10
INV. 12" SW = 683.38

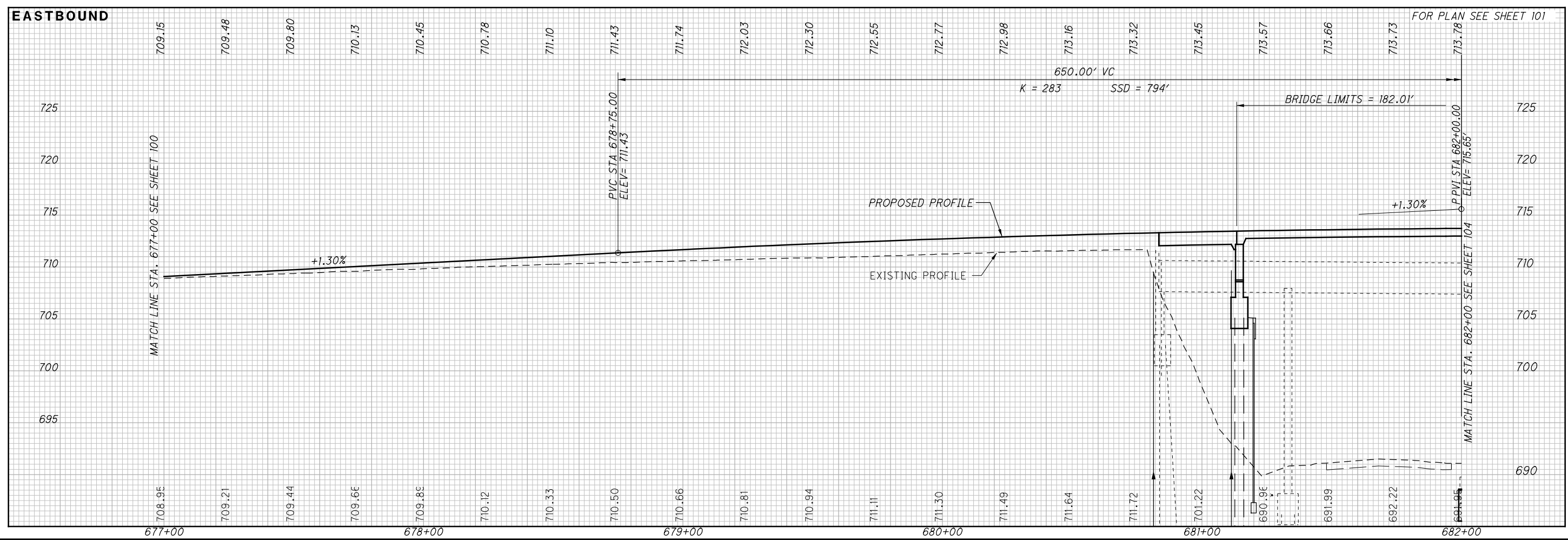
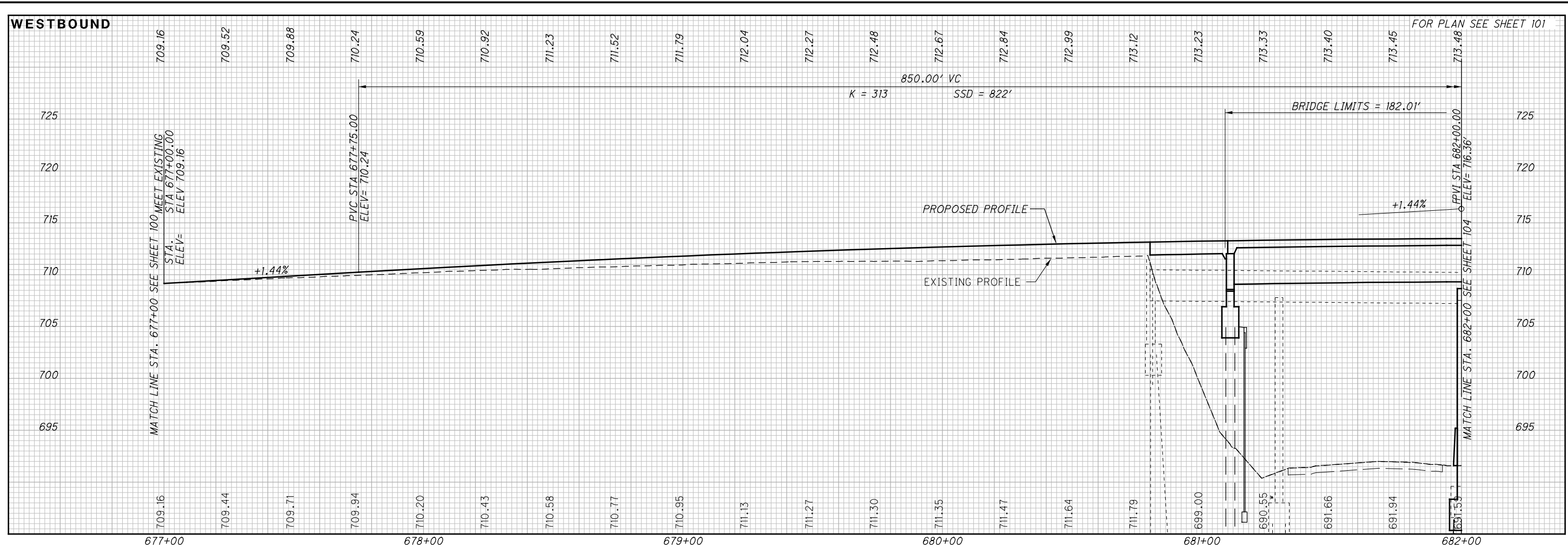
CALCULATED	
DJB	CHECKED
GKB	

10 HORIZONTAL
SCALE IN FEET

PLAN SHEET I-90
STA. 677+00 TO STA. 682+00

LOR-90-13.20

o:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\83449\roadway\sheets\83449GF002.dgn 6/30/2016 8:04:18 AM dbruno



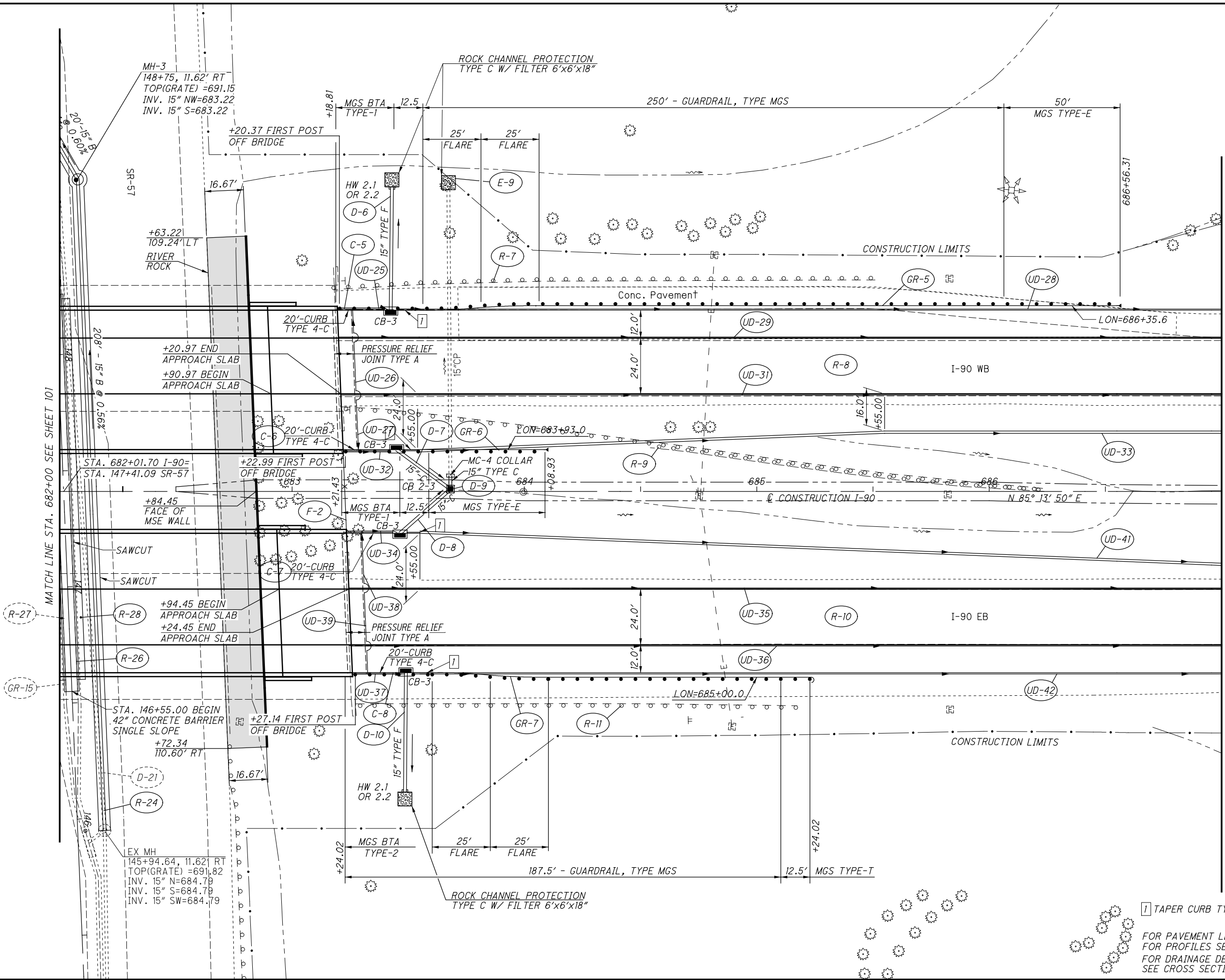
CALCULATED
JWB
CHECKED
GKB

PROFILE I-90
STA. 677+00 TO STA. 682+00

LOR-90-13.20

102
301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheet\83449GP003.dgn 11/14/2016 9:22:55 AM dbruno



CALCULATED
DJB
CHECKED
GKB

0 20 40
10
HORIZONTAL
SCALE IN FEET

PLAN SHEET I-90
STA. 682+00 TO STA. 687+00

LOR-90-13.20

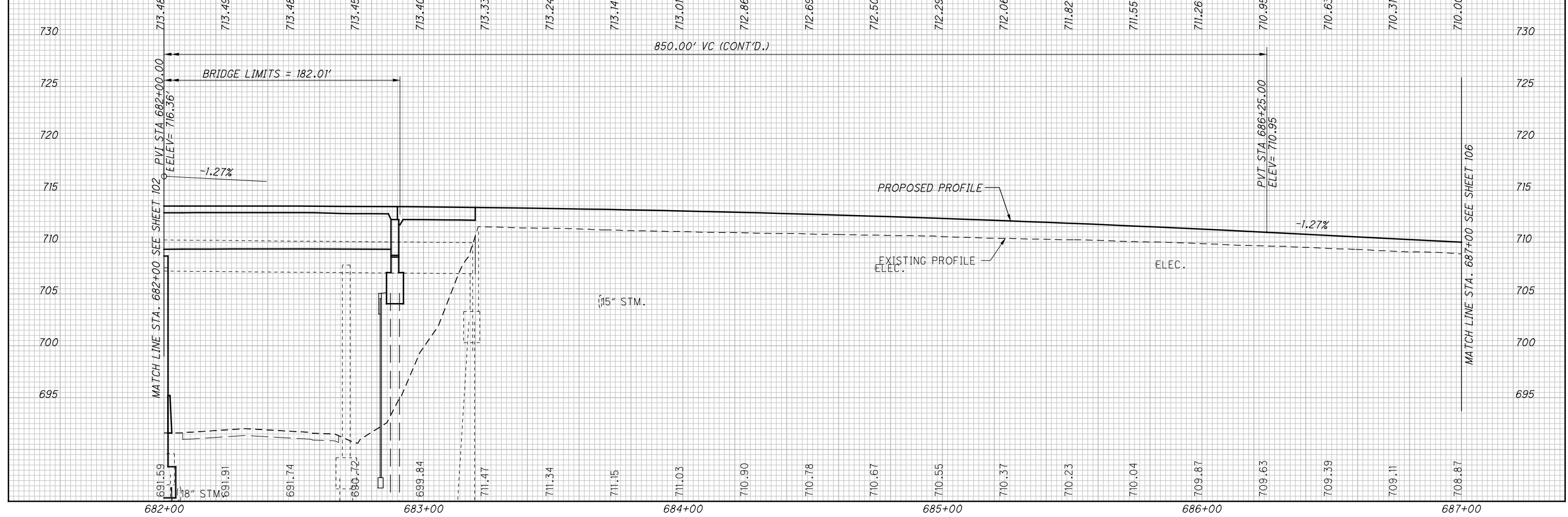
103
301

1 TAPER CURB TYPE 4-C HEIGHT TO 1" IN 6'

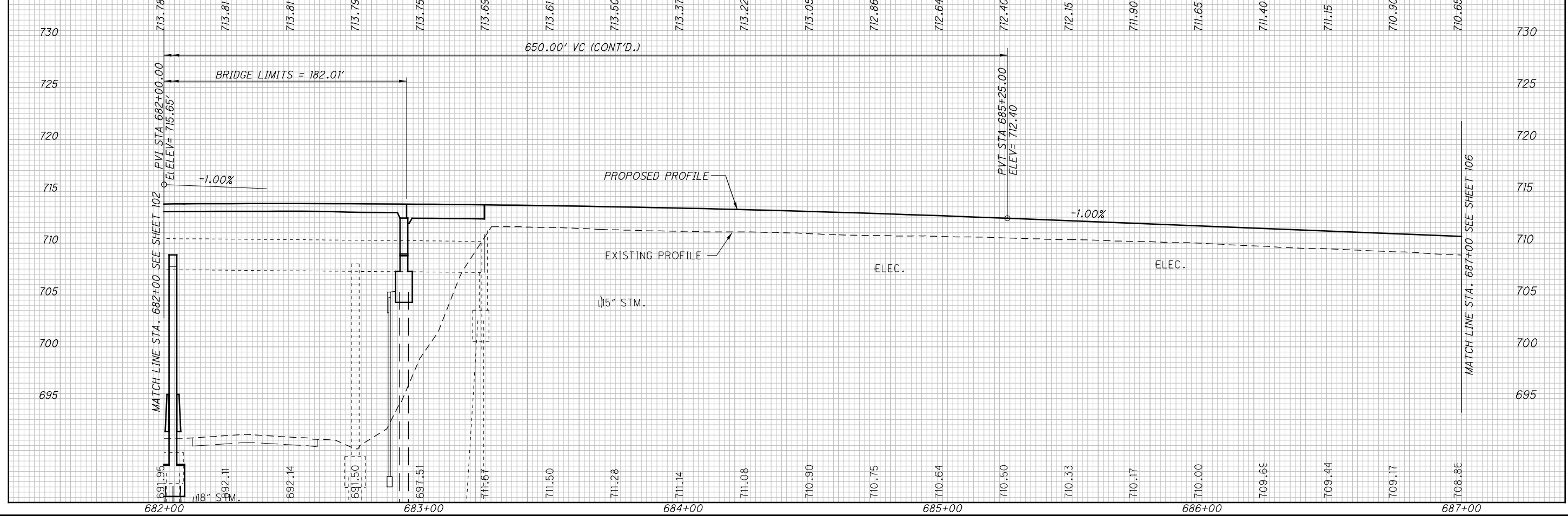
FOR PAVEMENT LEGEND SEE SHEET 99
FOR PROFILES SEE SHEET 104
FOR DRAINAGE DETAILS
SEE CROSS SECTIONS SHEET 123

o:\00DOT_D3\0108086A.00 - LOR-90-1320 PID83449\83449\roadway\sheets\83449GF003.dgn 6/30/2016 8:04:21 AM dbruno

WESTBOUND



EASTBOUND



CALCULATED
JWB
CHECKED
GKB

**PROFILE I-90
STA. 682+00 TO STA. 687+00**

LOR-90-13.20

104
301

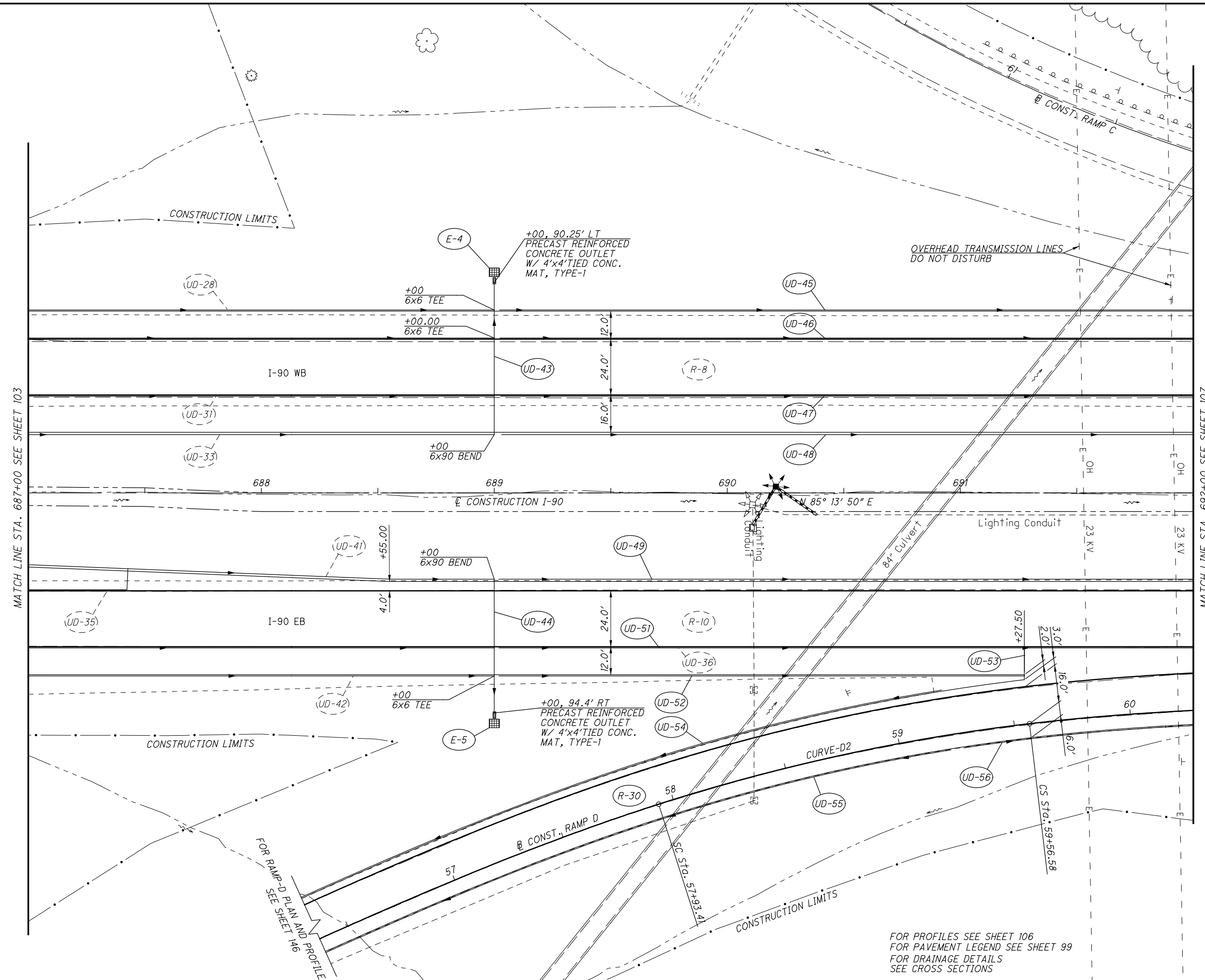
O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449GP004.dgn 6/30/2016 8:04:23 AM dbruno

CALCULATED
DJB
CHECKED
GKB

0 20 40
10
HORIZONTAL
SCALE IN FEET

PLAN SHEET I-90
STA. 687+00 TO STA. 692+00

LOR-90-13.20



MATCH LINE STA. 687+00 SEE SHEET 103

MATCH LINE STA. 692+00 SEE SHEET 107

RAMP D
CURVE-D2
P.I. Sta. 58+78.19
 $\Delta = 24^\circ 28' 49''$ (RT)
Dc = $6^\circ 44' 26''$
R = 850.00'
Ls = 200.00'
 $\theta_s = 6^\circ 44' 26''$
LT = 133.43'
ST = 66.75'
x = 199.72'
y = 7.84'
k = 99.95'
p = 1.96'
 $\Delta c = 10^\circ 59' 56''$ (RT)
Lc = 163.17'
Ts = 284.78'
E = 21.78'
C = 162.92'
C1 = C2 = 199.88'
C.B.1 = N $62^\circ 59' 46''$ E
C.B. = N $72^\circ 59' 22''$ E
C.B.2 = S $82^\circ 58' 59''$ W
eMax = 0.06

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WESTBOUND



EASTBOUND



CALCULATED
JWB
CHECKED
GKB

PROFILE I-90
STA. 687+00 TO STA. 692+00

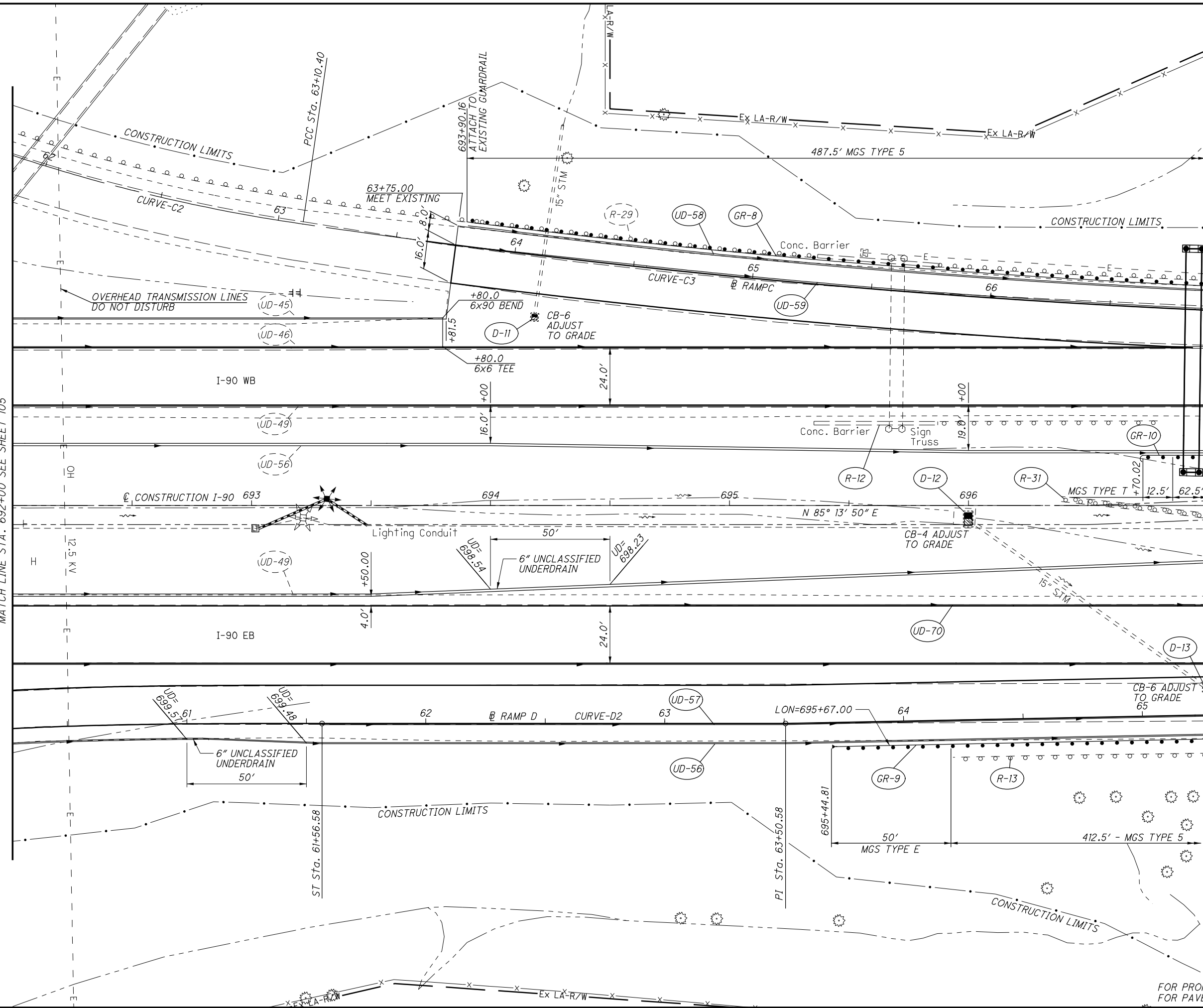
LOR-90-13.20

106
301

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MATCH LINE STA. 692+00 SEE SHEET 105

MATCH LINE STA. 697+00 SEE SHEET 109



RAMP C
 CURVE-C2
 P.I. Sta. 65+87.42
 $\Delta = 8^\circ 17' 46''$ (LT)
 $Dc = 1^\circ 30' 00''$
 $R = 3,819.72'$
 $T = 277.02'$
 $L = 553.07'$
 $E = 10.03'$
 $C = 552.59'$
 C.B. = N 89° 22' 40" E

RAMP C
 CURVE-C3
 P.I. Sta. 65+87.42
 $\Delta = 8^\circ 17' 46''$ (LT)
 $Dc = 1^\circ 30' 00''$
 $R = 3,819.72'$
 $T = 277.02'$
 $L = 553.07'$
 $E = 10.03'$
 $C = 552.59'$
 C.B. = N 89° 22' 40" E



PLAN SHEET I-90
 STA. 692+00 TO STA. 697+00

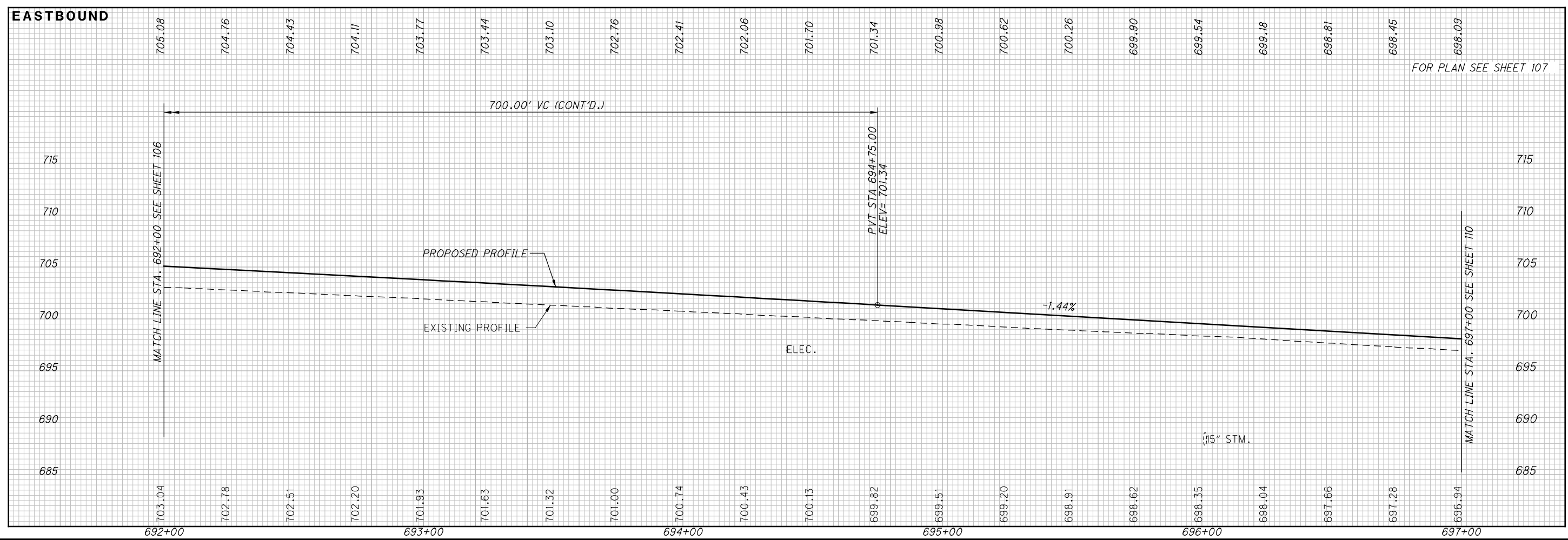
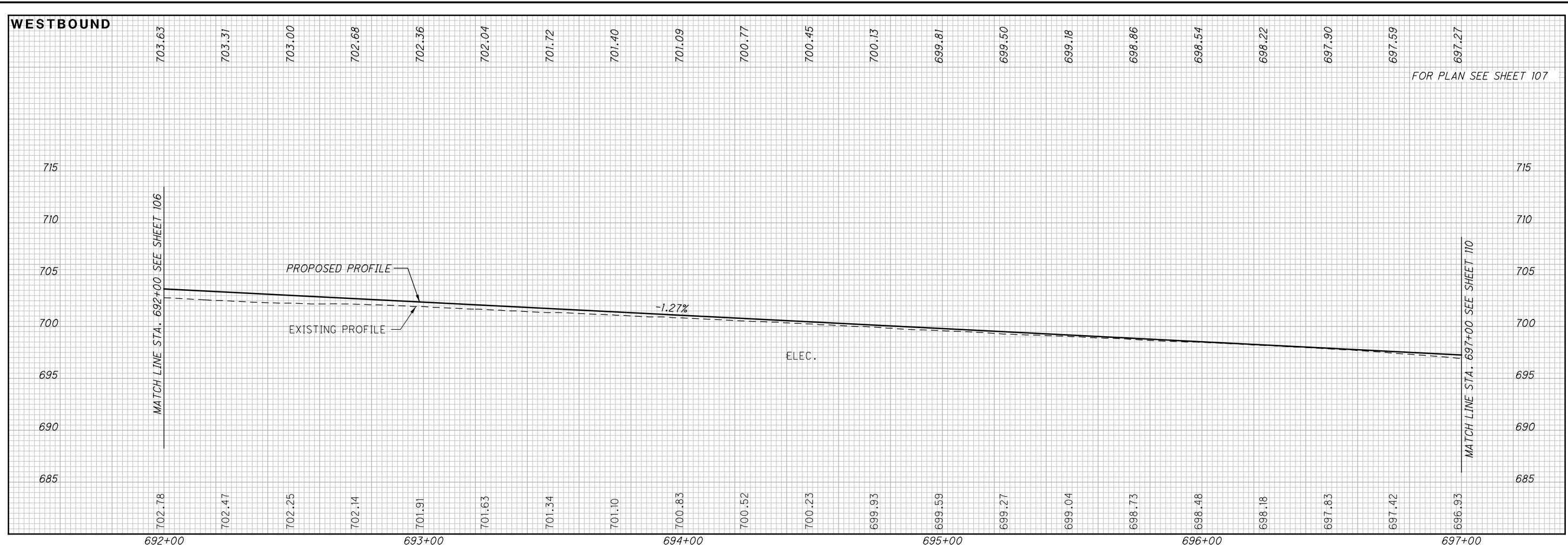
LOR-90-13.20

107
 301

FOR DRAINAGE DETAILS
 SEE CROSS SECTIONS

FOR PROFILES SEE SHEET 108
 FOR PAVEMENT LEGEND SEE SHEET 99

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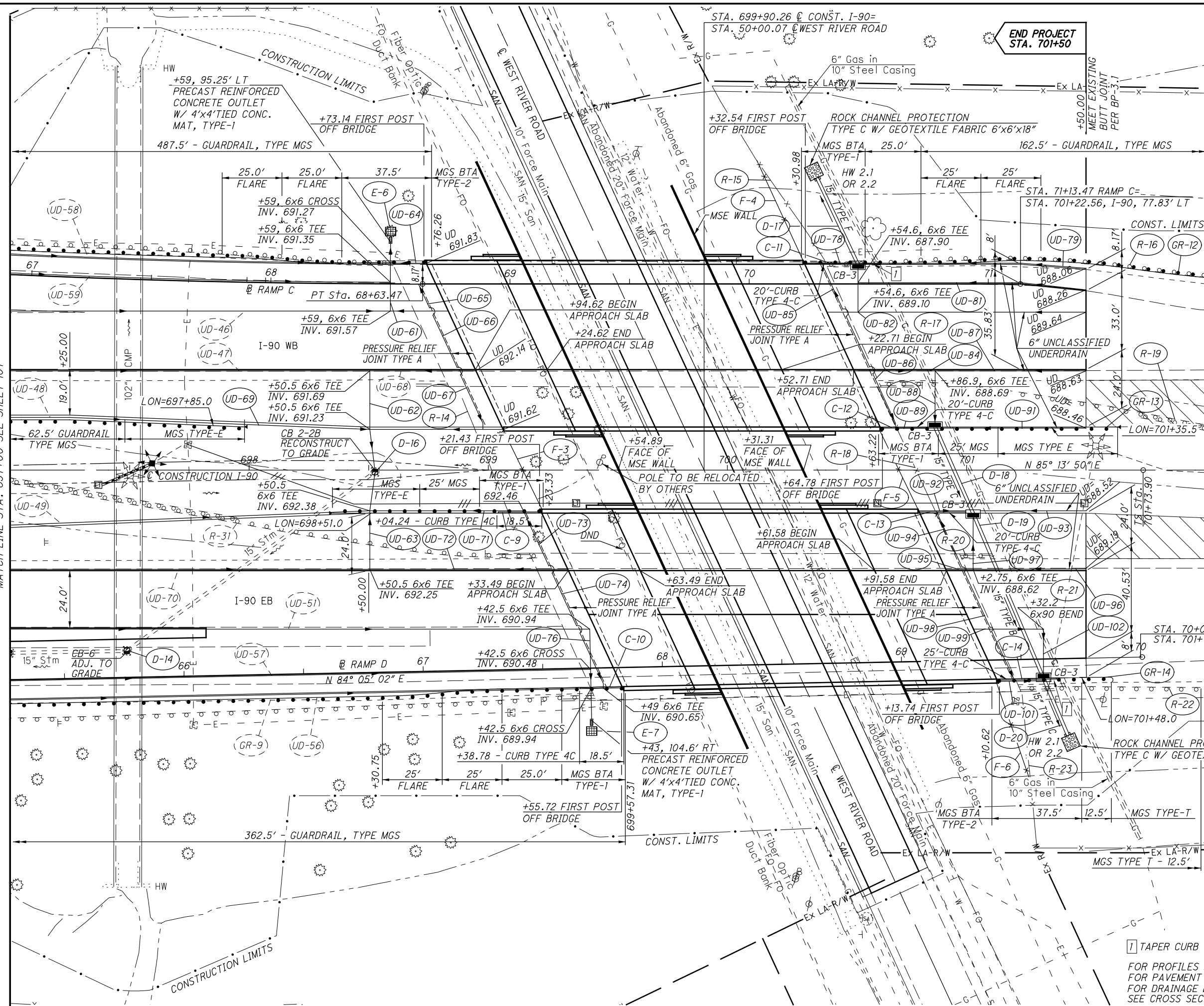


CALCULATED JWB CHECKED GKB	PROFILE I-90 STA. 692+00 TO STA. 697+00
LOR-90-13.20	
108 301	

C:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449GP006.dgn 6/30/2016 8:04:37 AM dbruno

MATCH LINE STA. 697+00 SEE SHEET 107

MATCH LINE STA. 702+00 SEE SHEET 111



I-90
 P.I. Sta. 719+72.20
 $\Delta = 59^\circ 48' 25''$ (LT)
 $D_c = 2^\circ 00' 00''$
 $L_s = 2,864.79'$
 $\theta_s = 3^\circ 00' 00''$
 $LT = 200.03'$
 $ST = 100.03'$
 $x = 299.92'$
 $Y = 5.23'$
 $K = 149.99'$
 $p = 1.31'$
 $\Delta_c = 53^\circ 48' 25''$ (LT)
 $L_c = 2,690.35'$
 $T_s = 1,798.30'$
 $E = 441.48'$
 $C = 2,592.57'$
 $C1 = C2 = 299.96'$
 $C.B.1 = N 84^\circ 13' 50'' E$
 $C.B.2 = S 26^\circ 25' 25'' W$



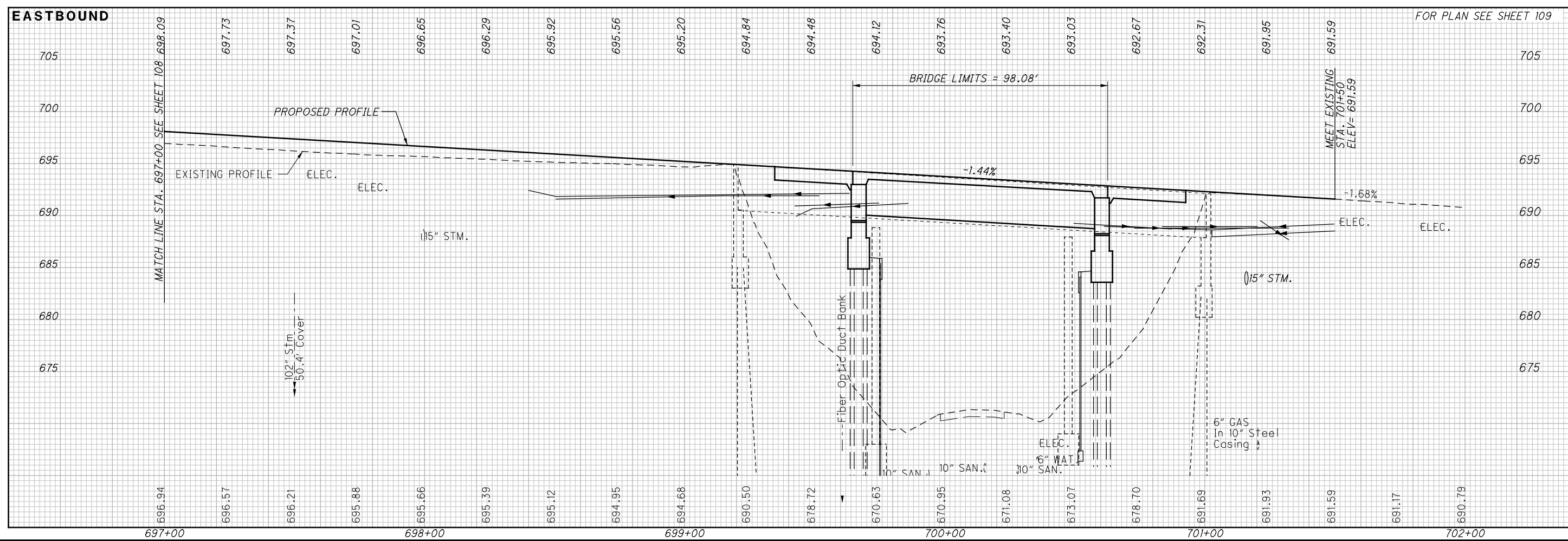
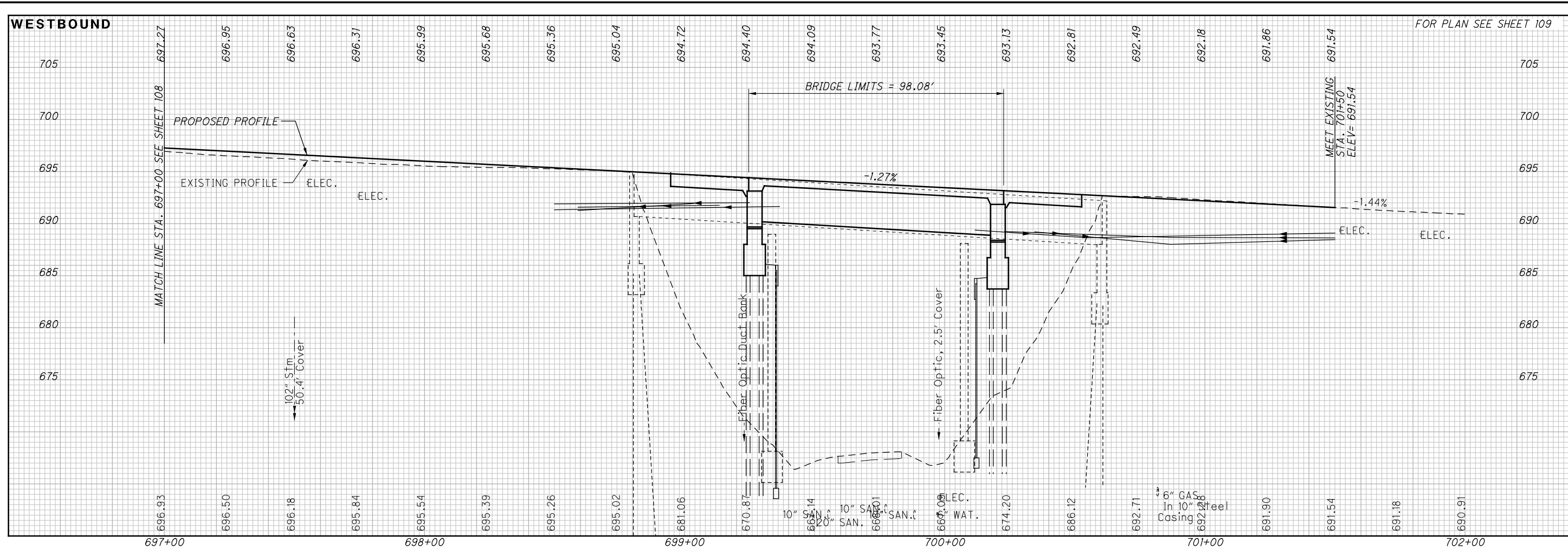
PLAN SHEET I-90
 STA. 697+00 TO STA. 702+00

LOR-90-13.20

109
 301

1 TAPER CURB TYPE 4-C HEIGHT TO 1" IN 6'
 FOR PROFILES SEE SHEET 110
 FOR PAVEMENT LEGEND SEE SHEET 99
 FOR DRAINAGE DETAILS
 SEE CROSS SECTIONS SHEETS 137-138

o:\ODOT_D3\10108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449GF006.dgn 6/30/2016 8:04:39 AM dbruno



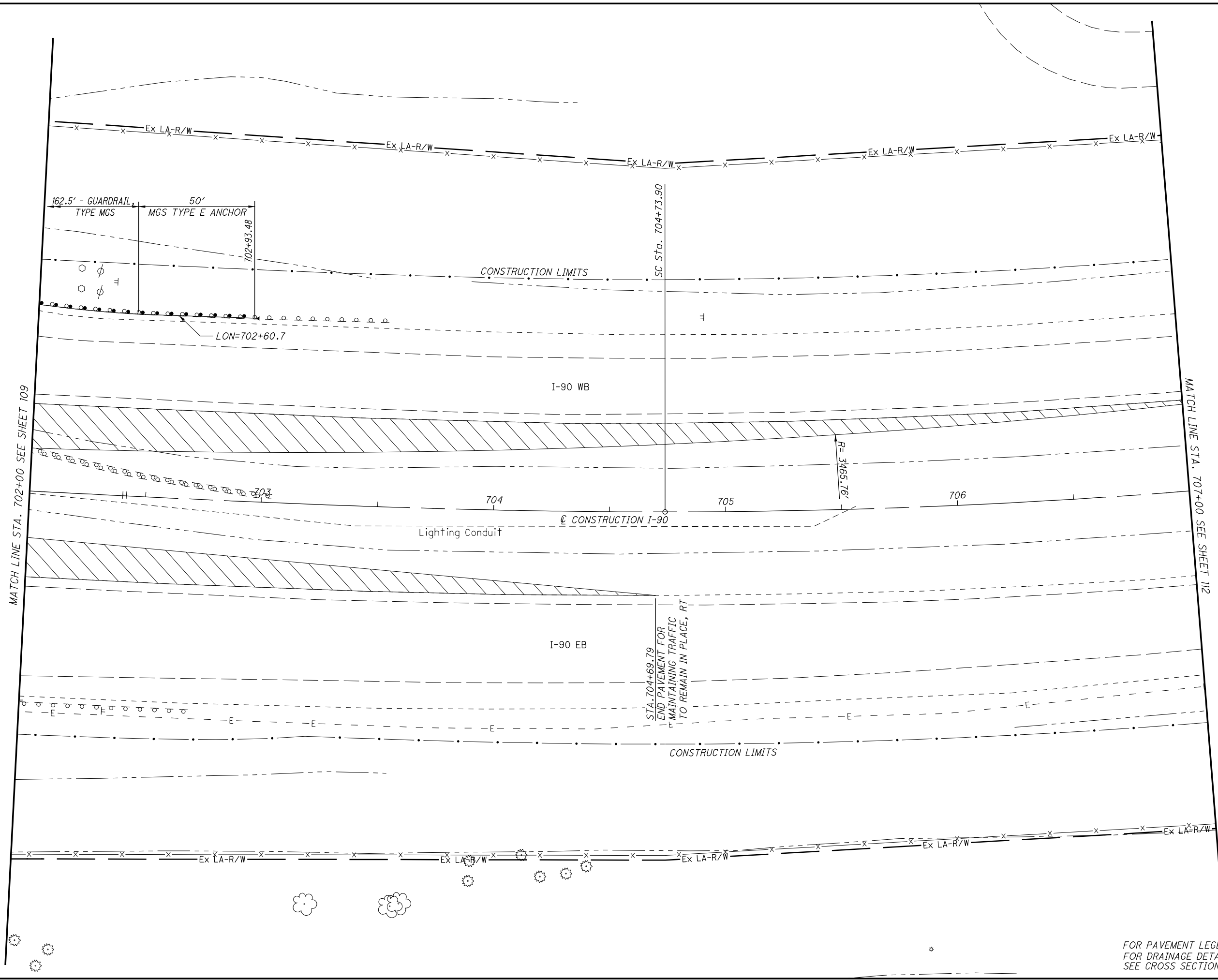
CALCULATED
JWB
CHECKED
GKB

PROFILE I-90
STA. 697+00 TO STA. 702+00

LOR-90-13.20

110
301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449GP007.dgn 6/30/2016 8:04:41 AM dbruno



MATCH LINE STA. 702+00 SEE SHEET 109

MATCH LINE STA. 707+00 SEE SHEET 112

CALCULATED
DJB
CHECKED
GKB

0 20 40
HORIZONTAL
SCALE IN FEET

PLAN SHEET I-90
STA. 702+00 TO STA. 707+00

LOR-90-13.20

FOR PAVEMENT LEGEND SEE SHEET 99
FOR DRAINAGE DETAILS
SEE CROSS SECTIONS

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\83449\roadway\sheets\83449GP008.dgn 6/30/2016 8:04:42 AM dbruno



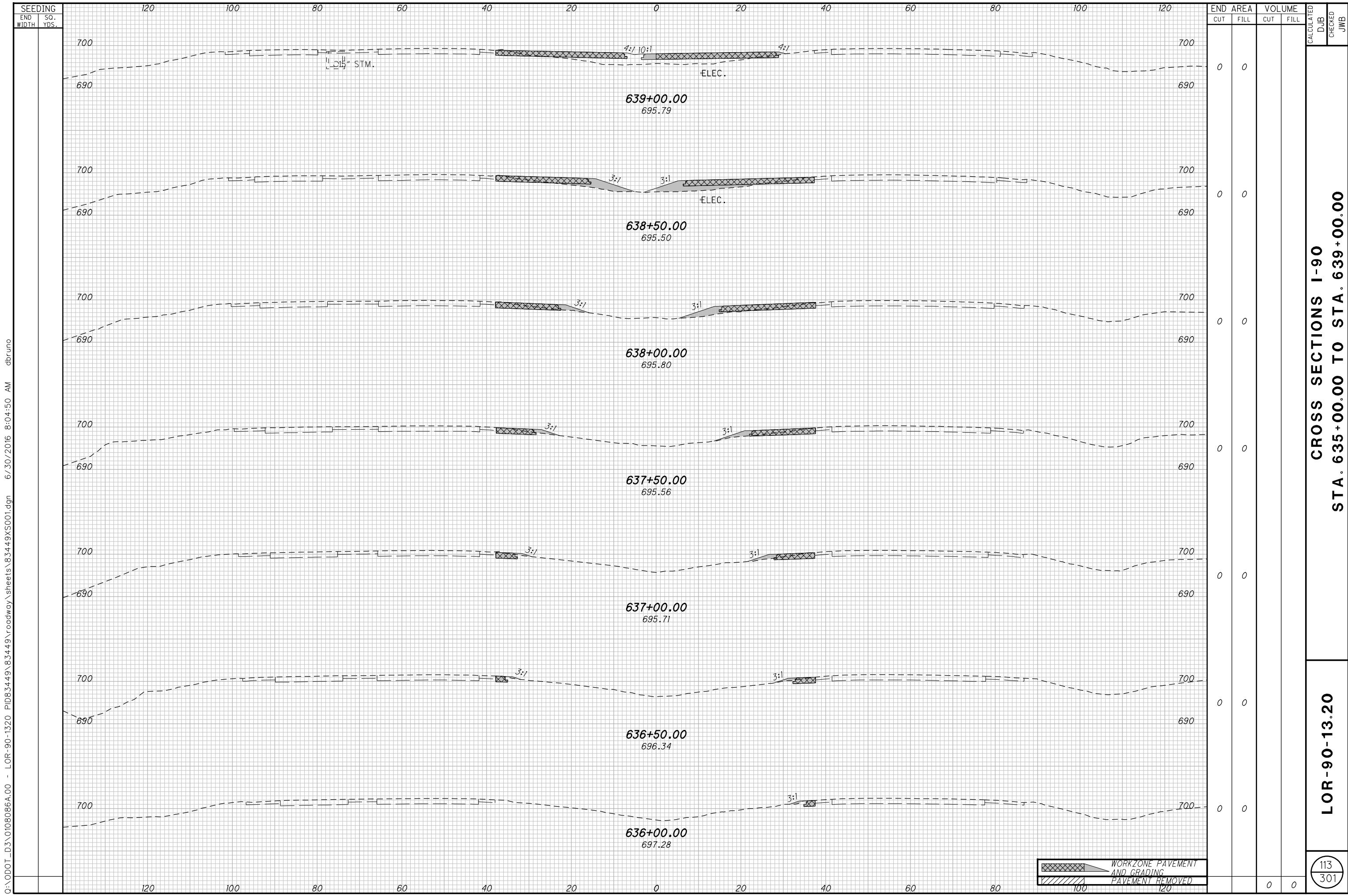
CALCULATED
DJB
CHECKED
GKB

0 20 40
HORIZONTAL
SCALE IN FEET

PLAN SHEET I-90
STA. 707+00 TO STA. 712+50

LOR-90-13.20

FOR PAVEMENT LEGEND SEE SHEET 99
FOR DRAINAGE DETAILS
SEE CROSS SECTIONS

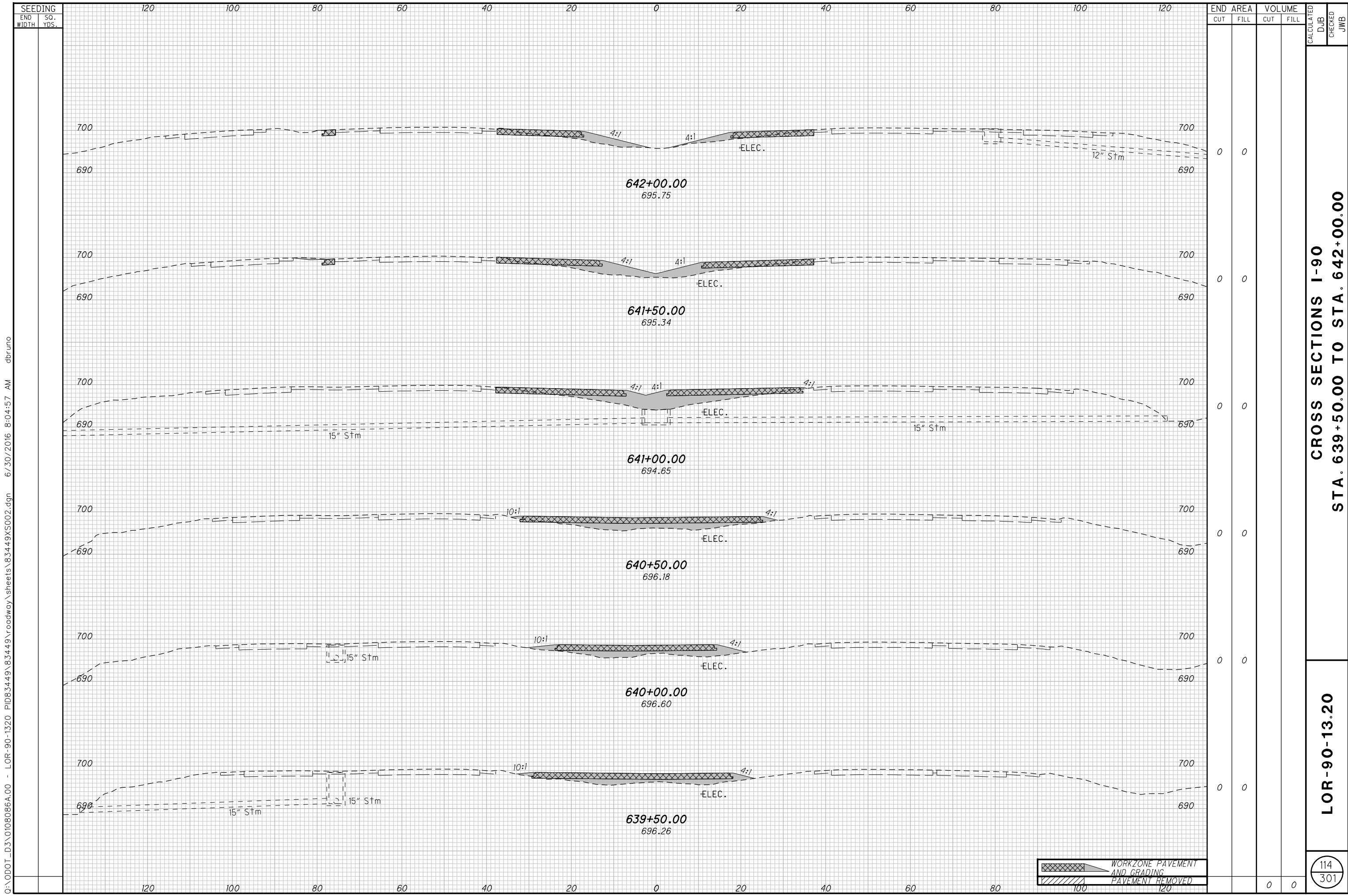


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CROSS SECTIONS I-90
STA. 635+00.00 TO STA. 639+00.00

LOR-90-13.20

113
 301



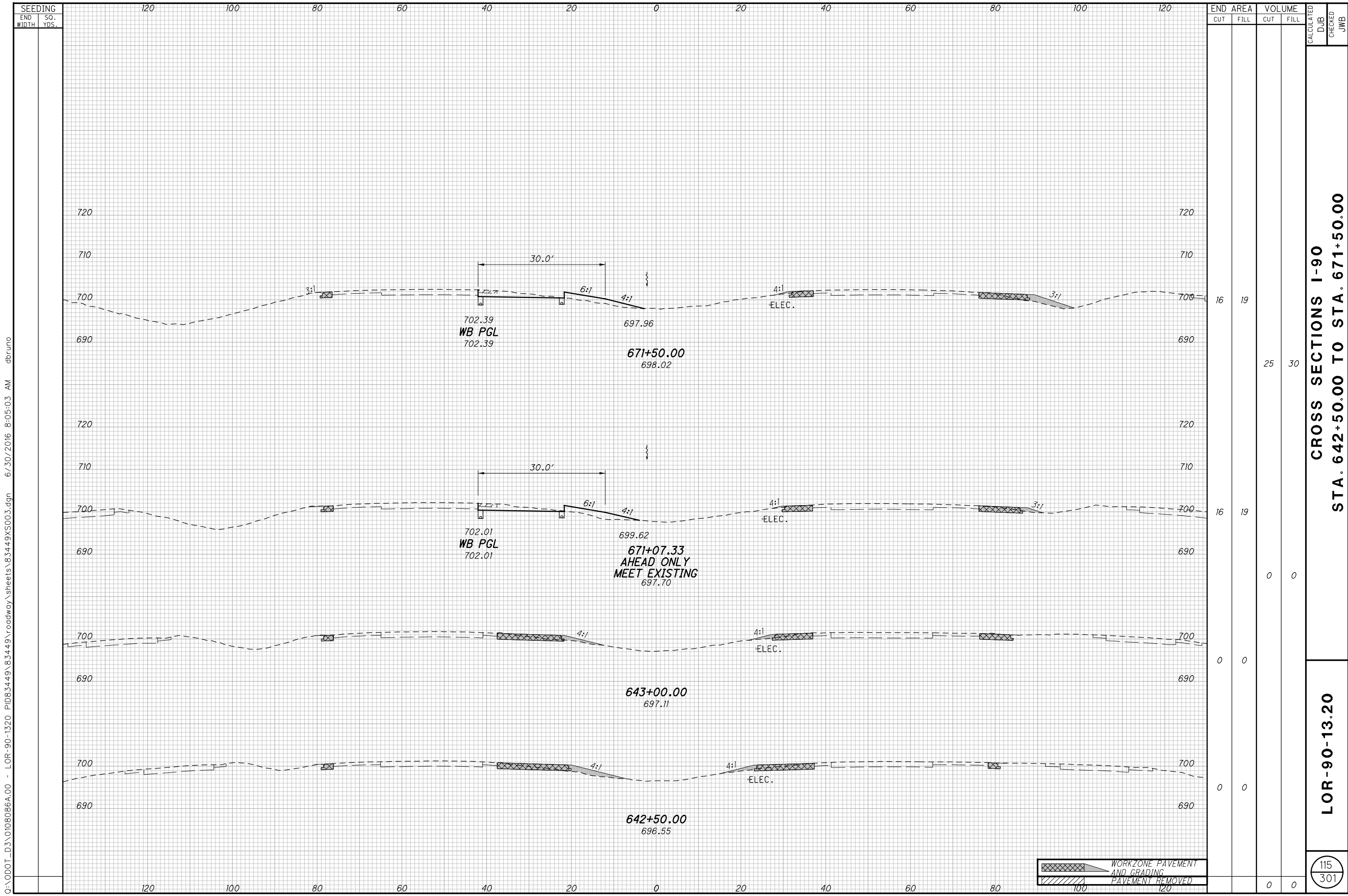
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END STA	AREA		VOLUME		CALCULATED DJB	CHECKED JWB
	CUT	FILL	CUT	FILL		
639+50.00	0	0	0	0		
640+00.00	0	0	0	0		
640+50.00	0	0	0	0		
641+00.00	0	0	0	0		
641+50.00	0	0	0	0		
642+00.00	0	0	0	0		
TOTAL	0	0	0	0		

CROSS SECTIONS I-90
STA. 639+50.00 TO STA. 642+00.00

LOR-90-13.20

WORKZONE PAVEMENT AND GRADING
 PAVEMENT REMOVED



SEEDING	
END WIDTH	SO. YDS.

END AREA	VOLUME	CALCULATED		CHECKED	
		CUT	FILL	DJB	JWB
16	19				
25	30				
16	19				
0	0				
0	0				
0	0				
0	0				

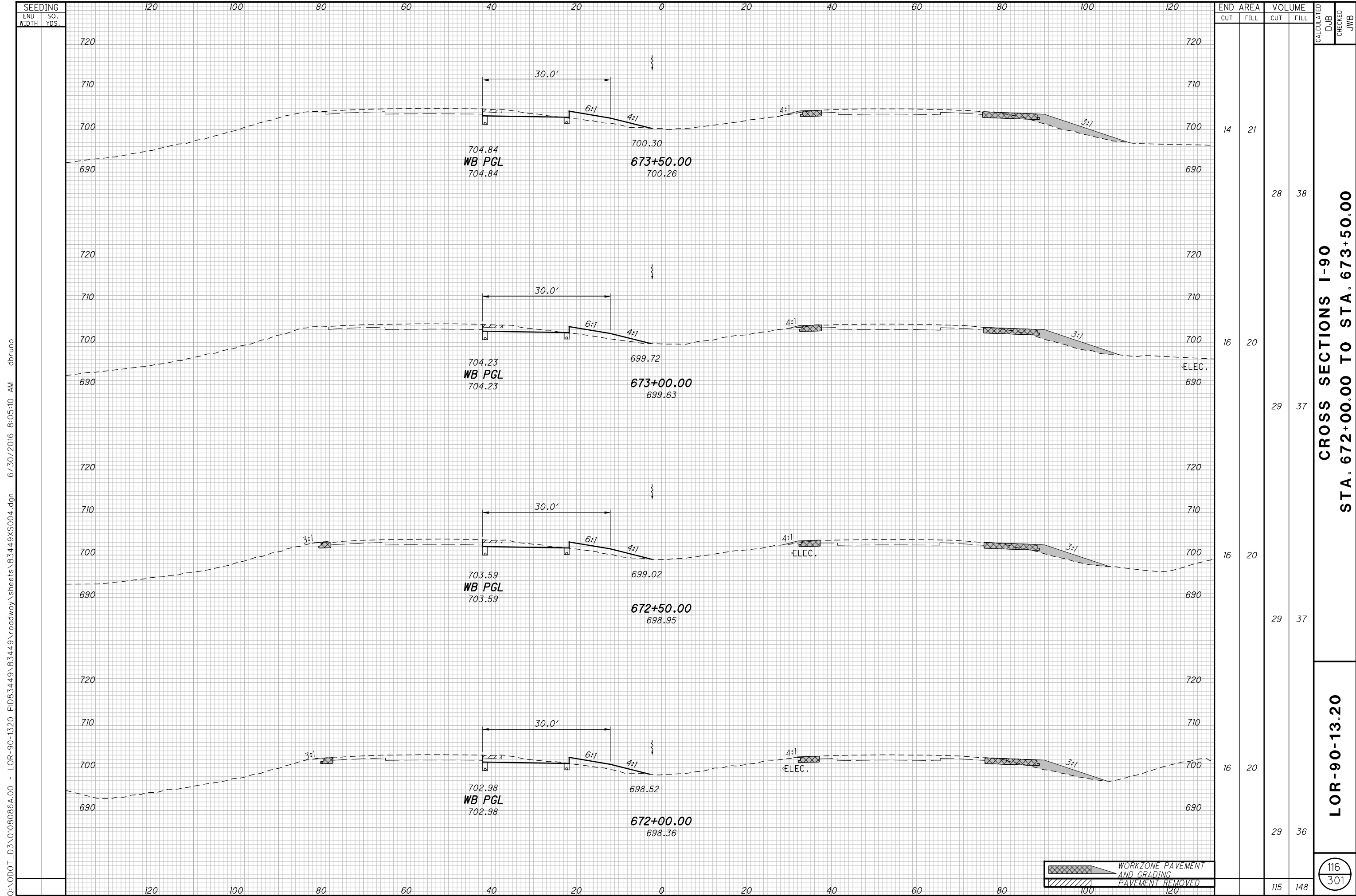
CROSS SECTIONS I-90
STA. 642+50.00 TO STA. 671+50.00

LOR-90-13.20

115
 301

WORKZONE PAVEMENT AND GRADING
 PAVEMENT REMOVED

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449XS003.dgn 6/30/2016 8:05:03 AM dbruno



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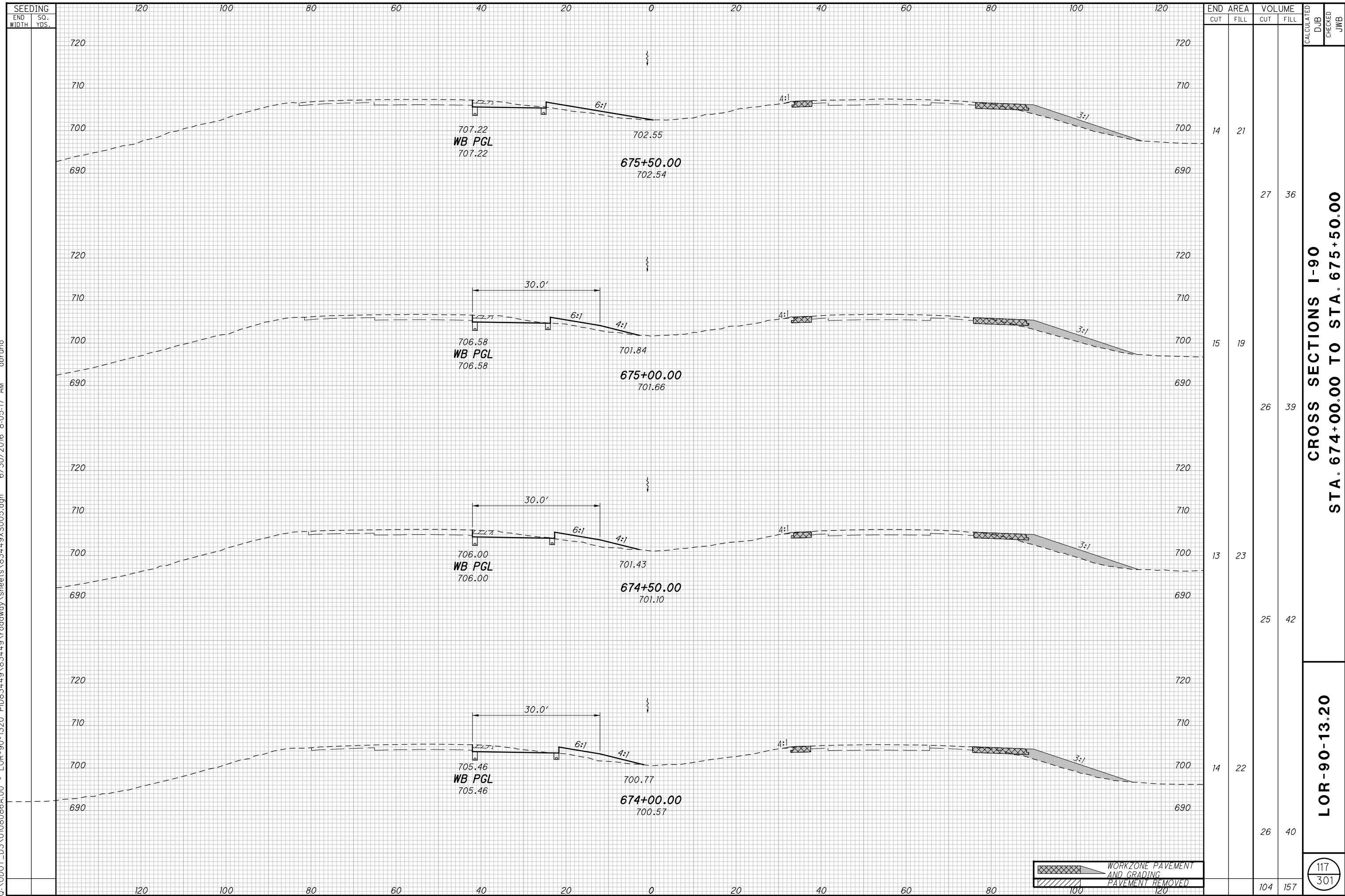
END STA.	AREA		VOLUME		CALCULATED DJB	CHECKED JWB
	CUT	FILL	CUT	FILL		
672+00.00	16	20	29	36		
672+50.00	16	20	29	37		
673+00.00	16	20	29	37		
673+50.00	14	21	28	38		
TOTAL	62	80	115	148		

CROSS SECTIONS I-90
STA. 672+00.00 TO STA. 673+50.00

LOR-90-13.20

116
 301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheet\83449XS005.dgn 6/30/2016 8:05:17 AM dbruno



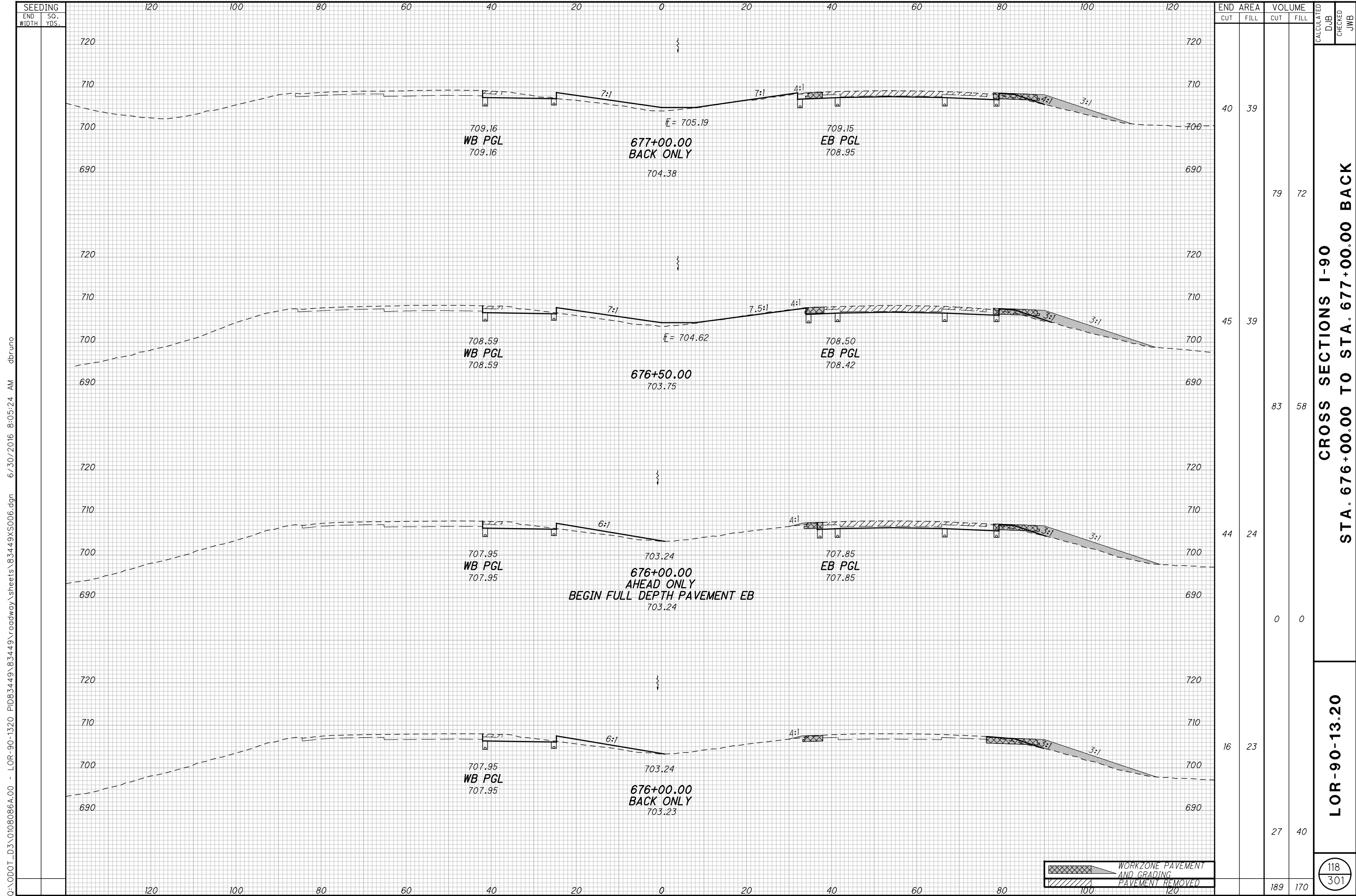
END	AREA		VOLUME		CALCULATED	DJB	CHECKED	JWB
	CUT	FILL	CUT	FILL				
14	21							
			27	36				
15	19							
			26	39				
13	23							
			25	42				
14	22							
			26	40				
			104	157				

CROSS SECTIONS I-90
STA. 674+00.00 TO STA. 675+50.00

LOR-90-13.20

117
 301

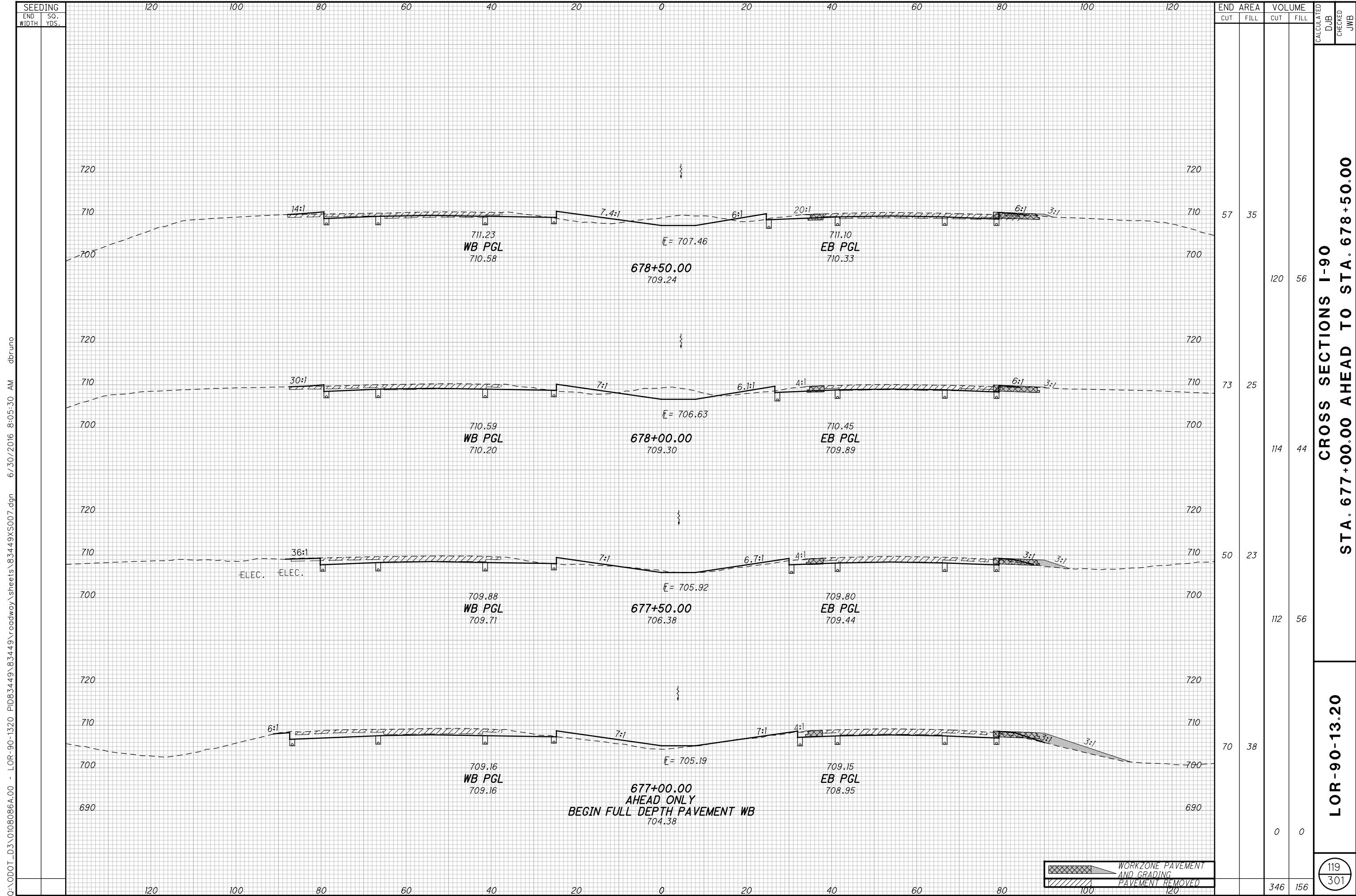
[Cross-hatched box] WORKZONE PAVEMENT AND GRADING
 [Diagonal hatched box] PAVEMENT REMOVED



O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449XS006.dgn 6/30/2016 8:05:24 AM dbruno

**CROSS SECTIONS I-90
 STA. 676+00.00 TO STA. 677+00.00 BACK**

LOR-90-13.20



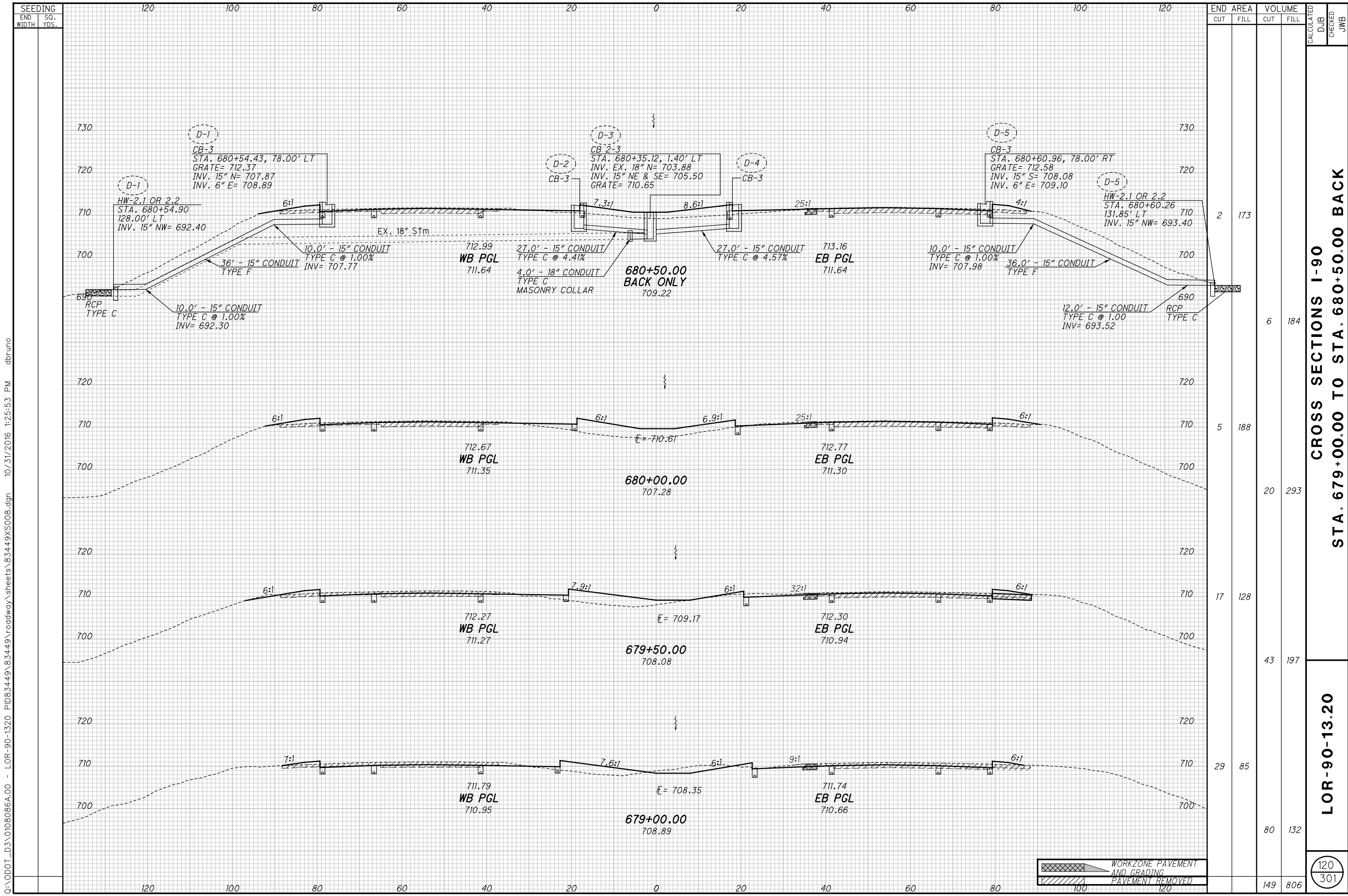
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CROSS SECTIONS I-90
STA. 677+00.00 AHEAD TO STA. 678+50.00

LOR-90-13.20

119
 301





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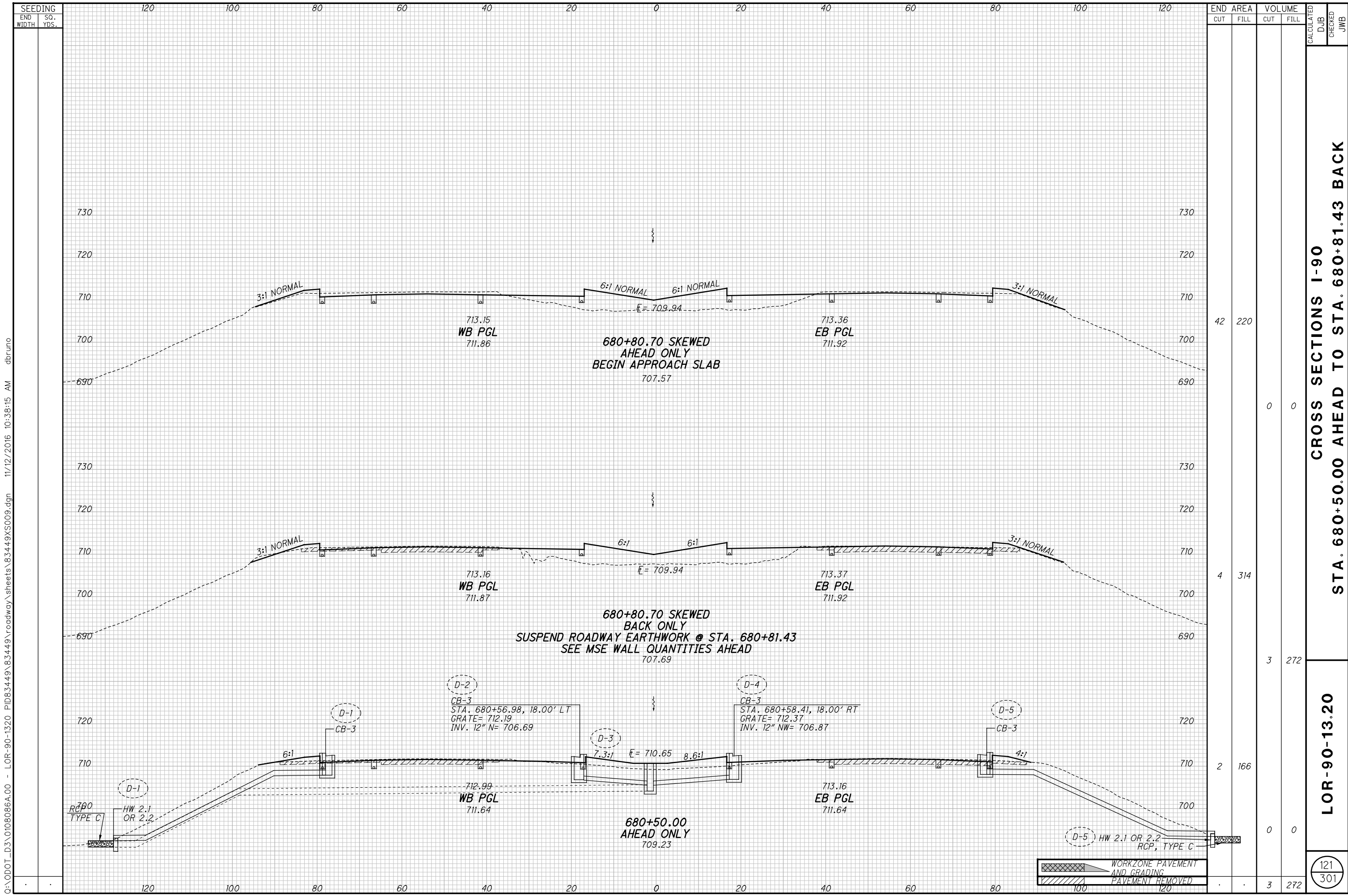
END STA.	AREA		VOLUME		CALCULATED	DJB	CHECKED	JWB
	CUT	FILL	CUT	FILL				
680+50.00	2	173						
680+00.00	6	184						
679+50.00	5	188						
679+00.00	20	293						
	17	128						
	43	197						
	29	85						
	80	132						
	149	806						

CROSS SECTIONS I-90
STA. 679+00.00 TO STA. 680+50.00 BACK

LOR-90-13.20

120
301



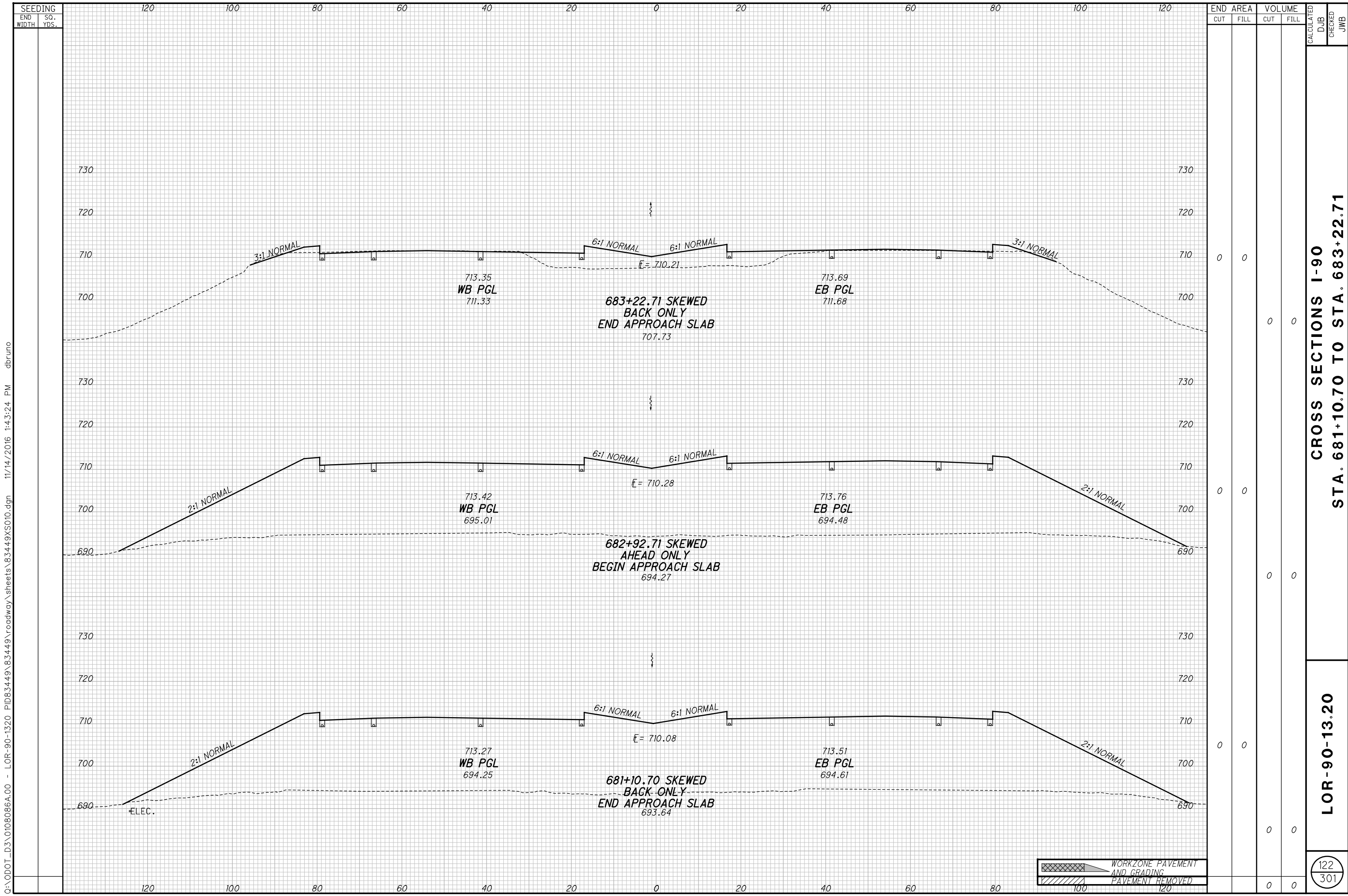


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END AREA	VOLUME	CALCULATED		CHECKED	
		CUT	FILL	DJB	JWB
42	220				
4	314				
3	272				
2	166				
0	0				
3	272				

CROSS SECTIONS I-90
STA. 680+50.00 AHEAD TO STA. 680+81.43 BACK
LOR-90-13.20

121
 301



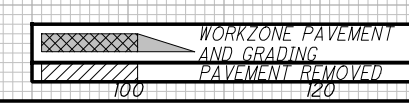
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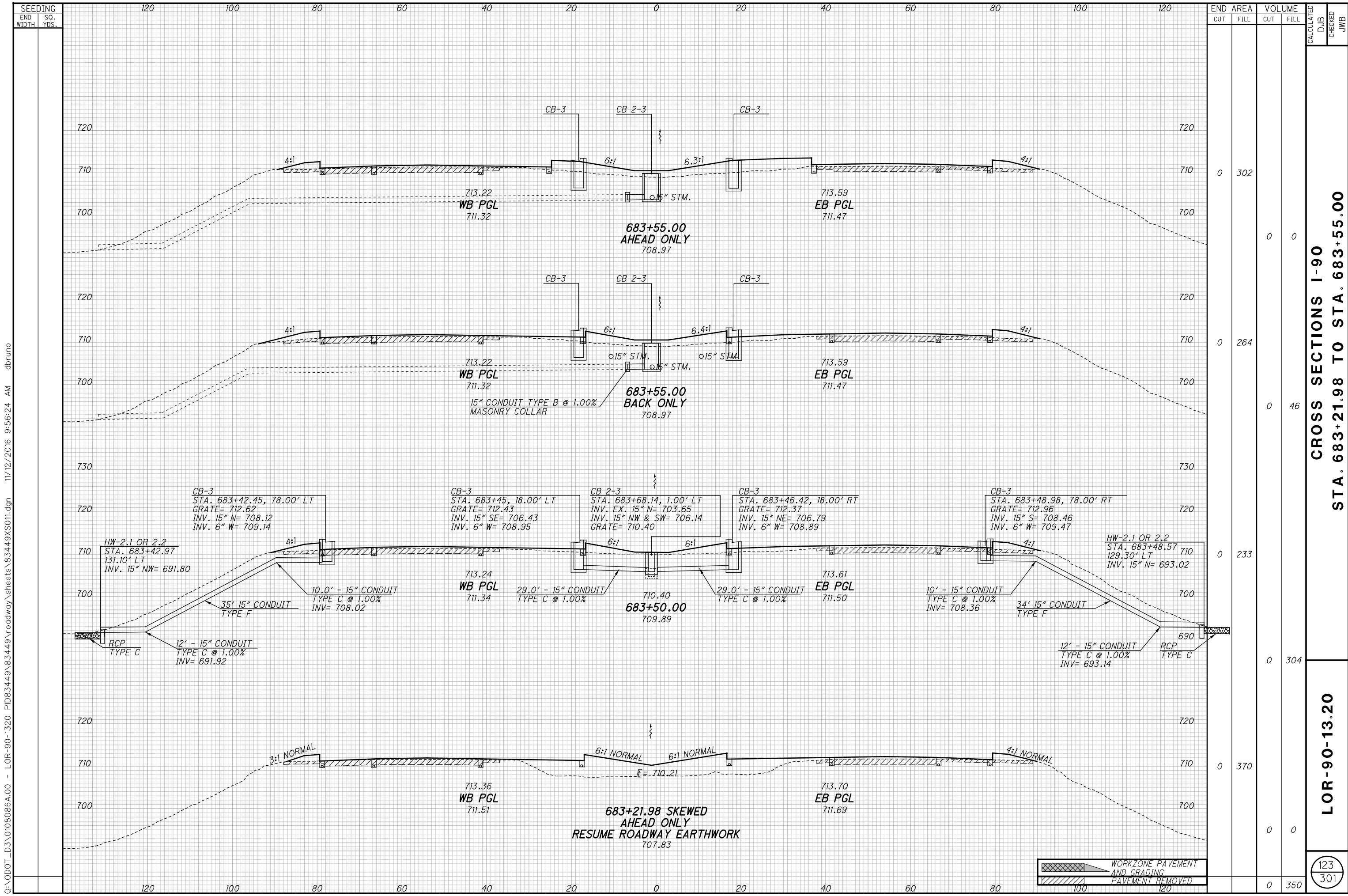
END AREA	VOLUME	CALCULATED		CHECKED	
		CUT	FILL	DJB	JWB
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		

CROSS SECTIONS I-90
STA. 681+10.70 TO STA. 683+22.71

LOR-90-13.20

122
 301





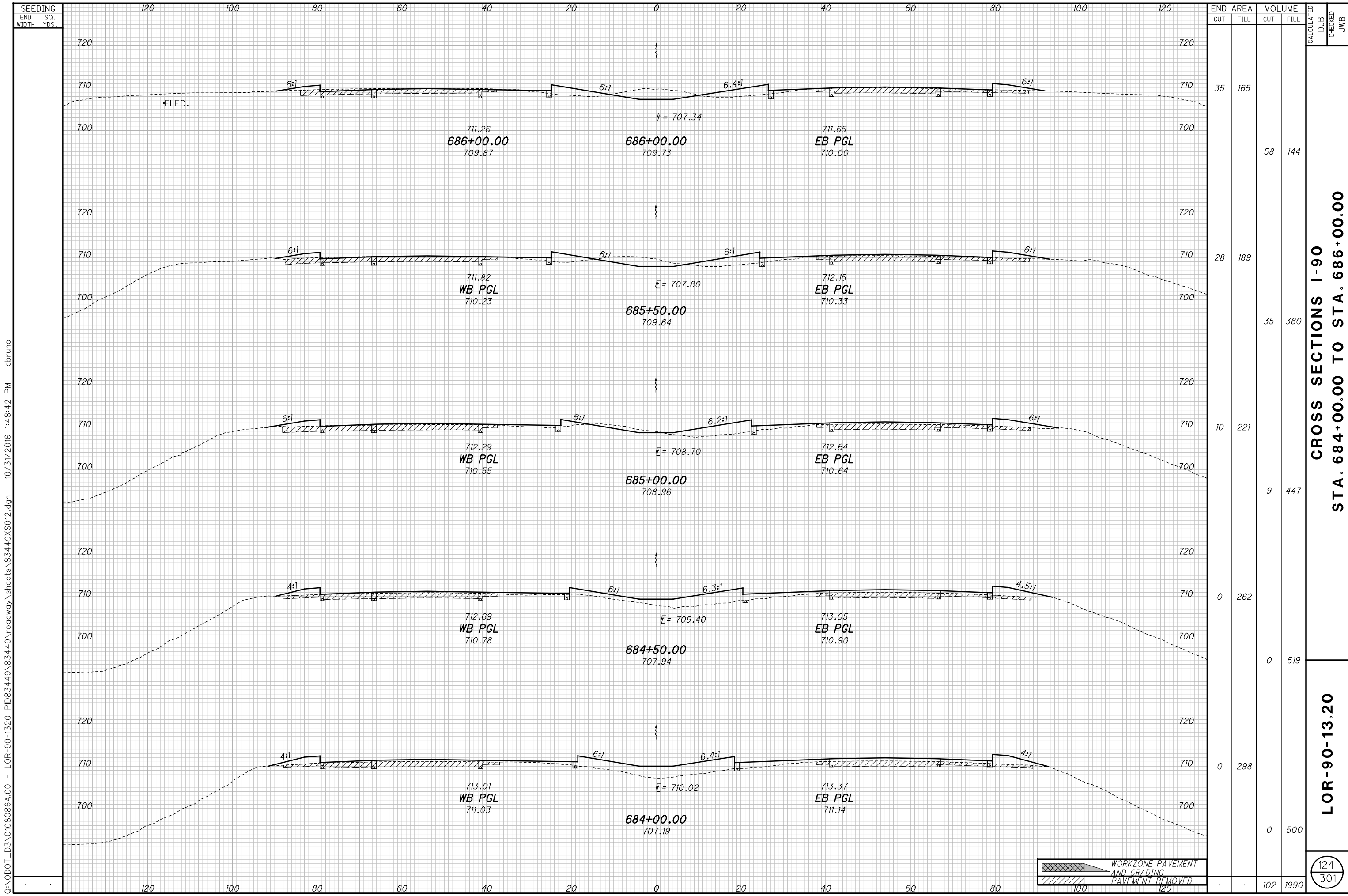
SEEDING
END WIDTH SO. YDS.

END AREA	VOLUME		CALCULATED	DJB	CHECKED	JWB
	CUT	FILL				
0	302	0	0			
0	264	0	46			
0	233	0	304			
0	370	0	0			
0	350	0	123			301

CROSS SECTIONS I-90
STA. 683+21.98 TO STA. 683+55.00

LOR-90-13.20

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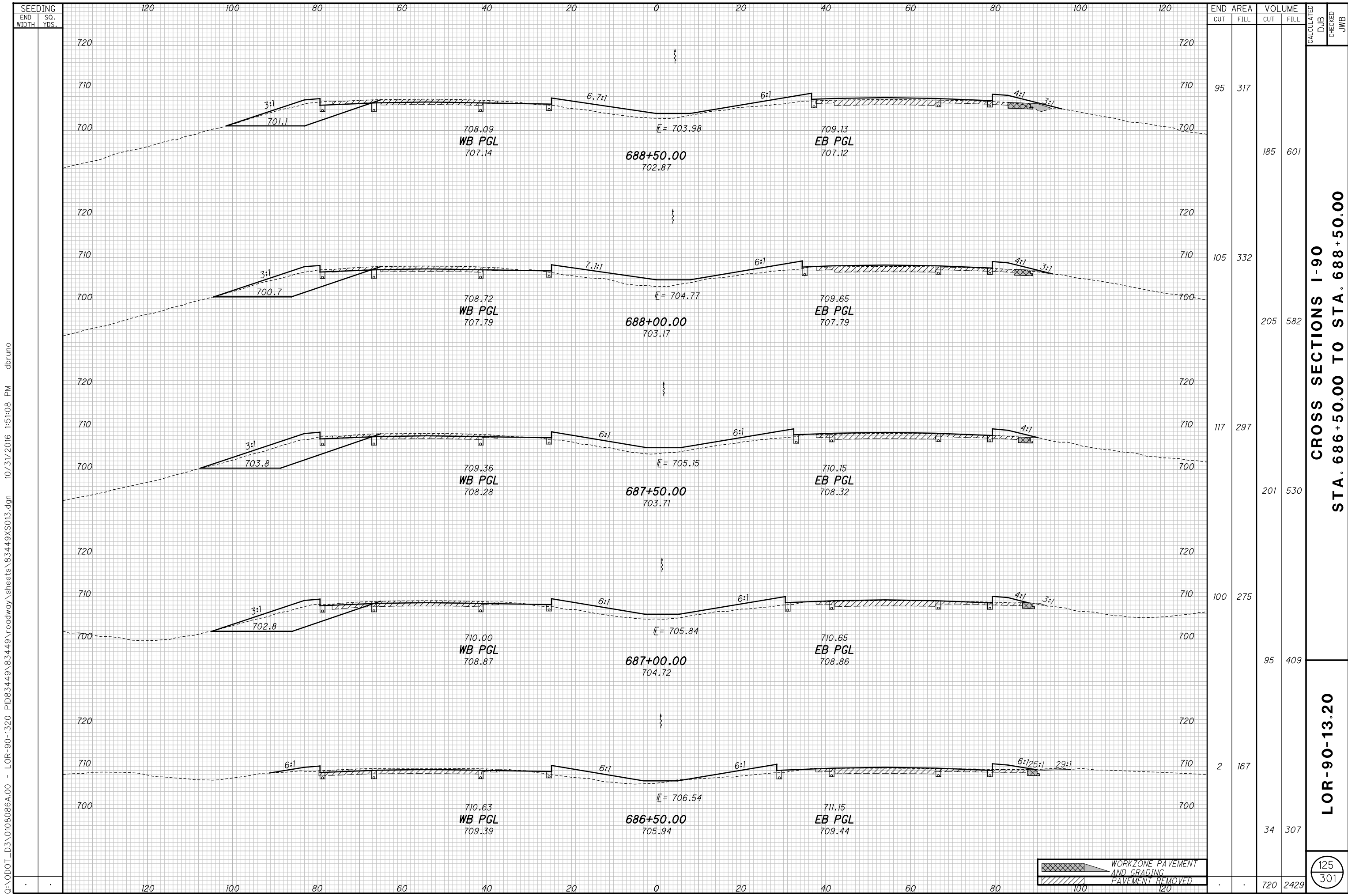


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CROSS SECTIONS I-90
STA. 684+00.00 TO STA. 686+00.00

LOR-90-13.20

124
 301



END AREA	VOLUME	CALCULATED		CHECKED
		CUT	FILL	
95	317	185	601	DJB
105	332	205	582	JWB
117	297	201	530	
100	275	95	409	
2	167	34	307	
		720	2429	

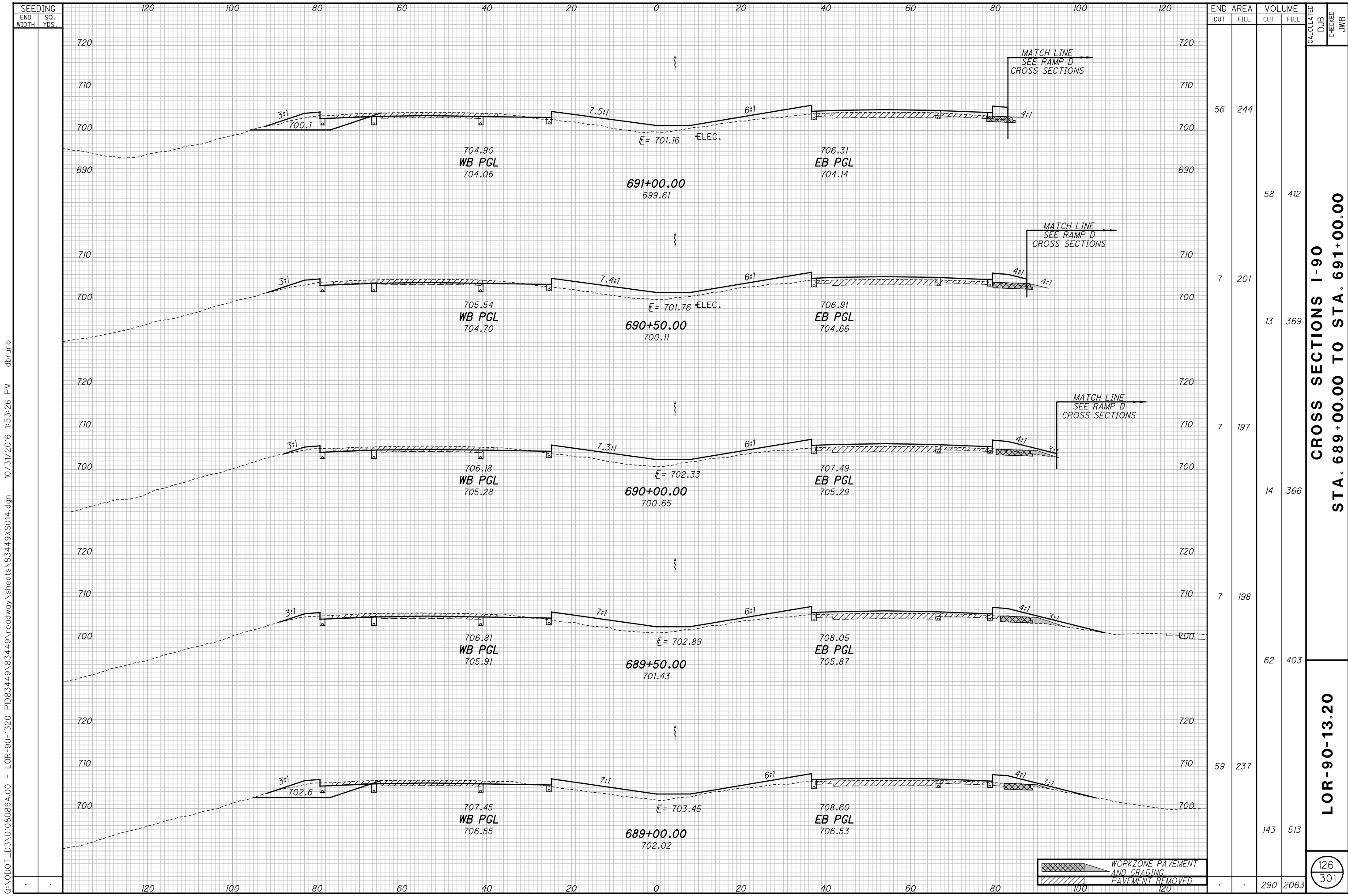
CROSS SECTIONS I-90
STA. 686+50.00 TO STA. 688+50.00

LOR-90-13.20



125
301

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END AREA	VOLUME	CALCULATED	DJB	CHECKED	JWB
56	244				
7	201				
7	197				
7	198				
59	237				
58	412				
13	369				
14	366				
62	403				
143	513				
290	2063				

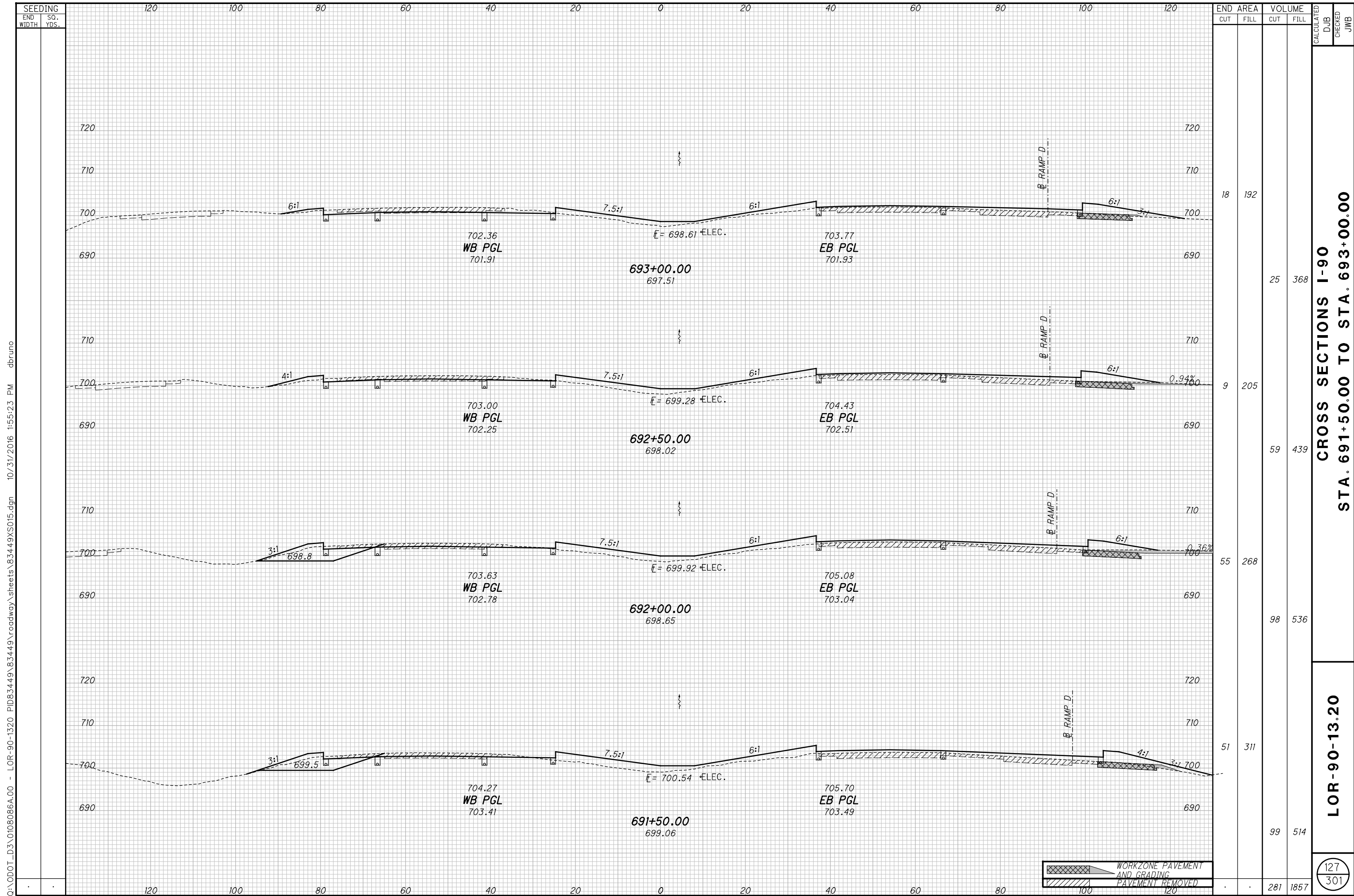
CROSS SECTIONS I-90
STA. 689+00.00 TO STA. 691+00.00

LOR-90-13.20

126
 301



O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449XS014.dgn 10/31/2016 1:53:26 PM dbruno



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CROSS SECTIONS I-90
STA. 691+50.00 TO STA. 693+00.00

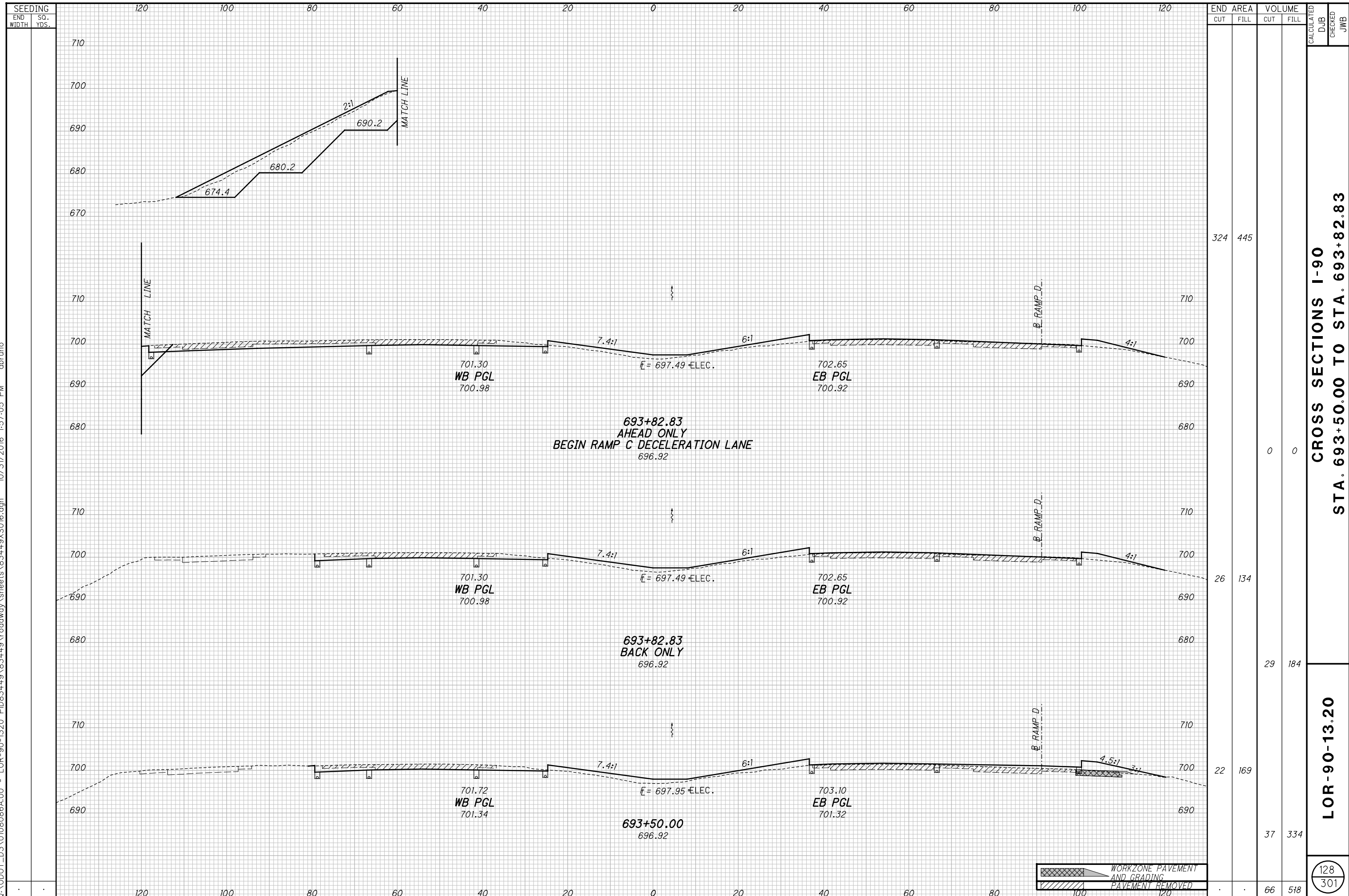
LOR-90-13.20

CALCULATED
 DUB
 CHECKED
 JWB

WORKZONE PAVEMENT AND GRADING
 PAVEMENT REMOVED

281 1857
 127
 301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449XS016.dgn 10/31/2016 1:57:05 PM dbruno

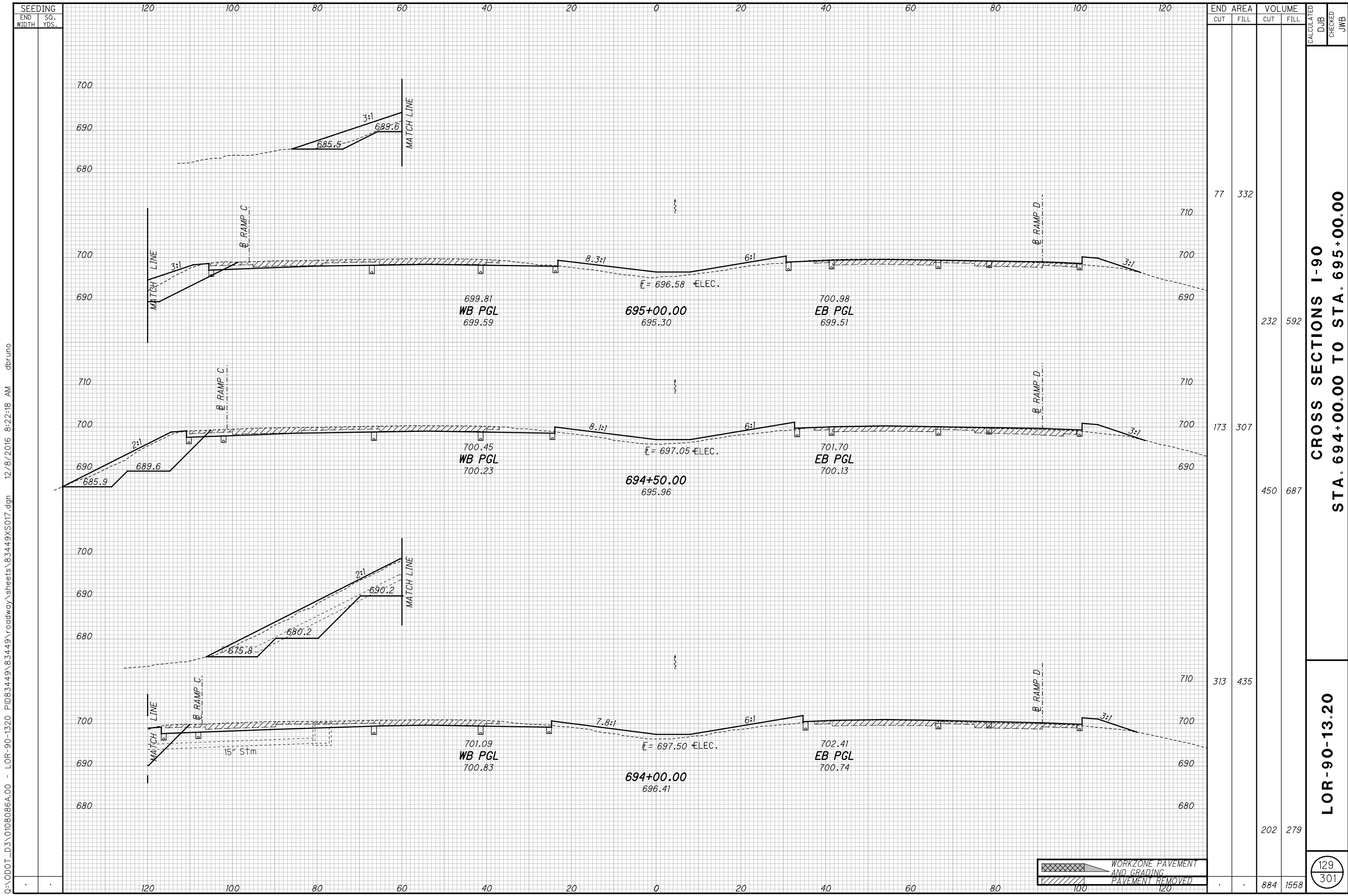


SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	DJB	CHECKED
		324	445	0	0		
		26	134	29	184		
		22	169	37	334		
				66	518		

**CROSS SECTIONS I-90
STA. 693+50.00 TO STA. 693+82.83**

LOR-90-13.20

128
301



SEEDING	
END WIDTH	SO. YDS.

END STA.	AREA		VOLUME	CALCULATED	D.J.B.	CHECKED	J.W.B.
	CUT	FILL					
695+00.00	77	332	232	592			
694+50.00	173	307	450	687			
694+00.00	313	435	202	279			
TOTAL			884	1558			

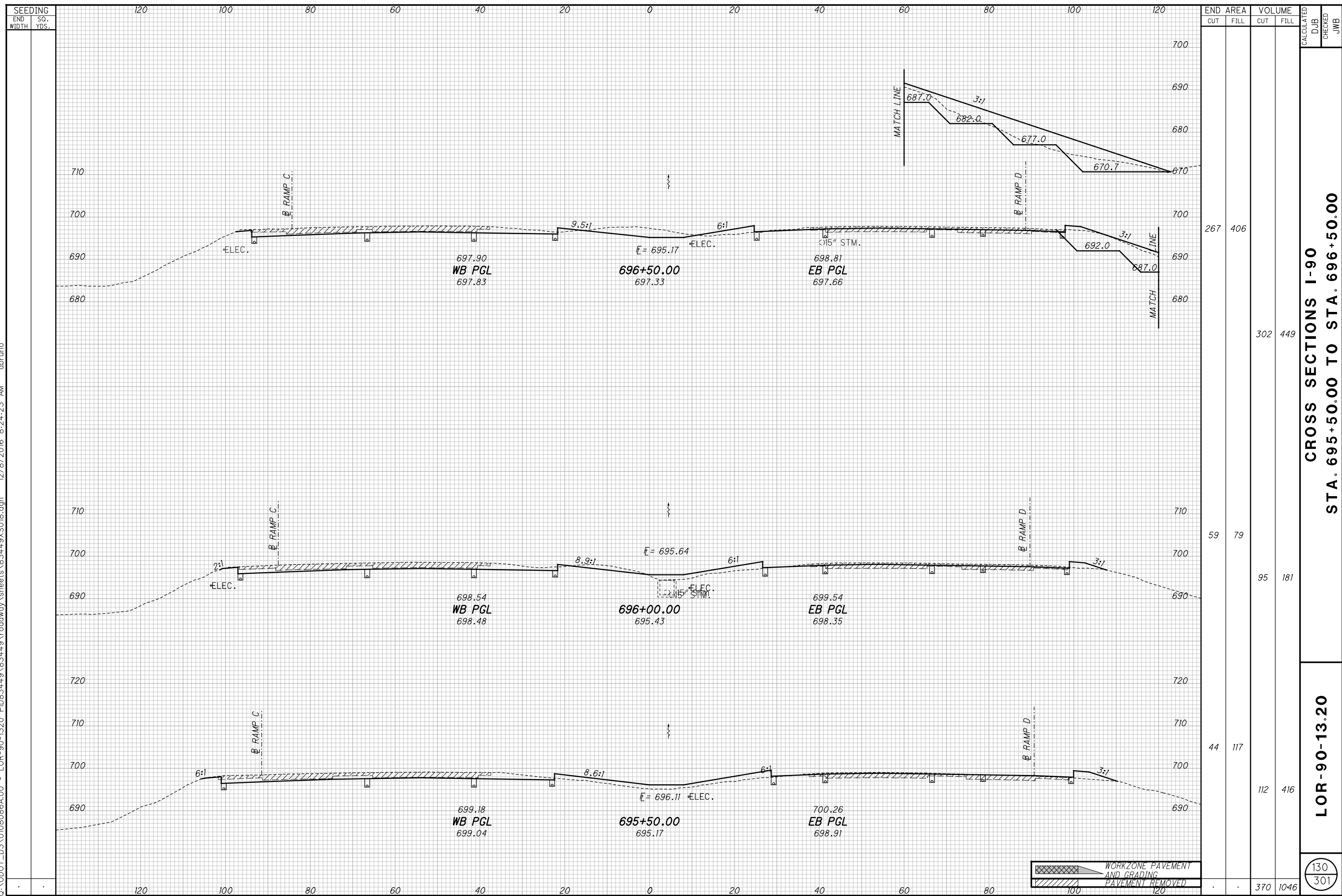
CROSS SECTIONS I-90
STA. 694+00.00 TO STA. 695+00.00

LOR-90-13.20

129
 301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449XS017.dgn 12/8/2016 8:22:18 AM dbruno

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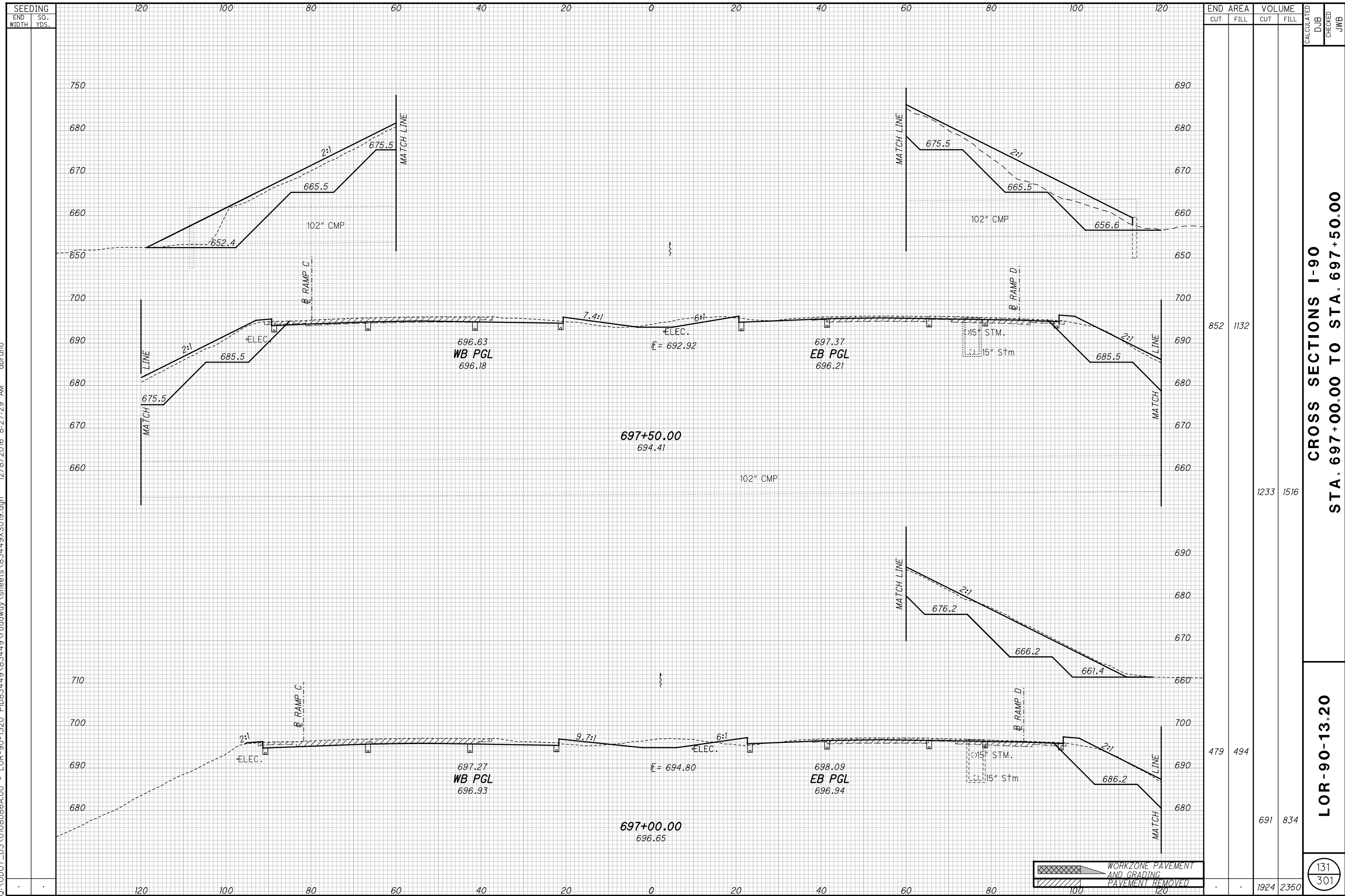
END STA	AREA		VOLUME		CALCULATED	DJB	CHECKED	JWB
	CUT	FILL	CUT	FILL				
695+50.00	44	117	112	416				
696+50.00	59	79	95	181				
696+50.00	267	406	302	449				
TOTAL			370	1046				

CROSS SECTIONS I-90
STA. 695+50.00 TO STA. 696+50.00

LOR-90-13.20

130
301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\83449\roadway\sheet\83449XS019.dgn 12/8/2016 8:27:29 AM dbruno



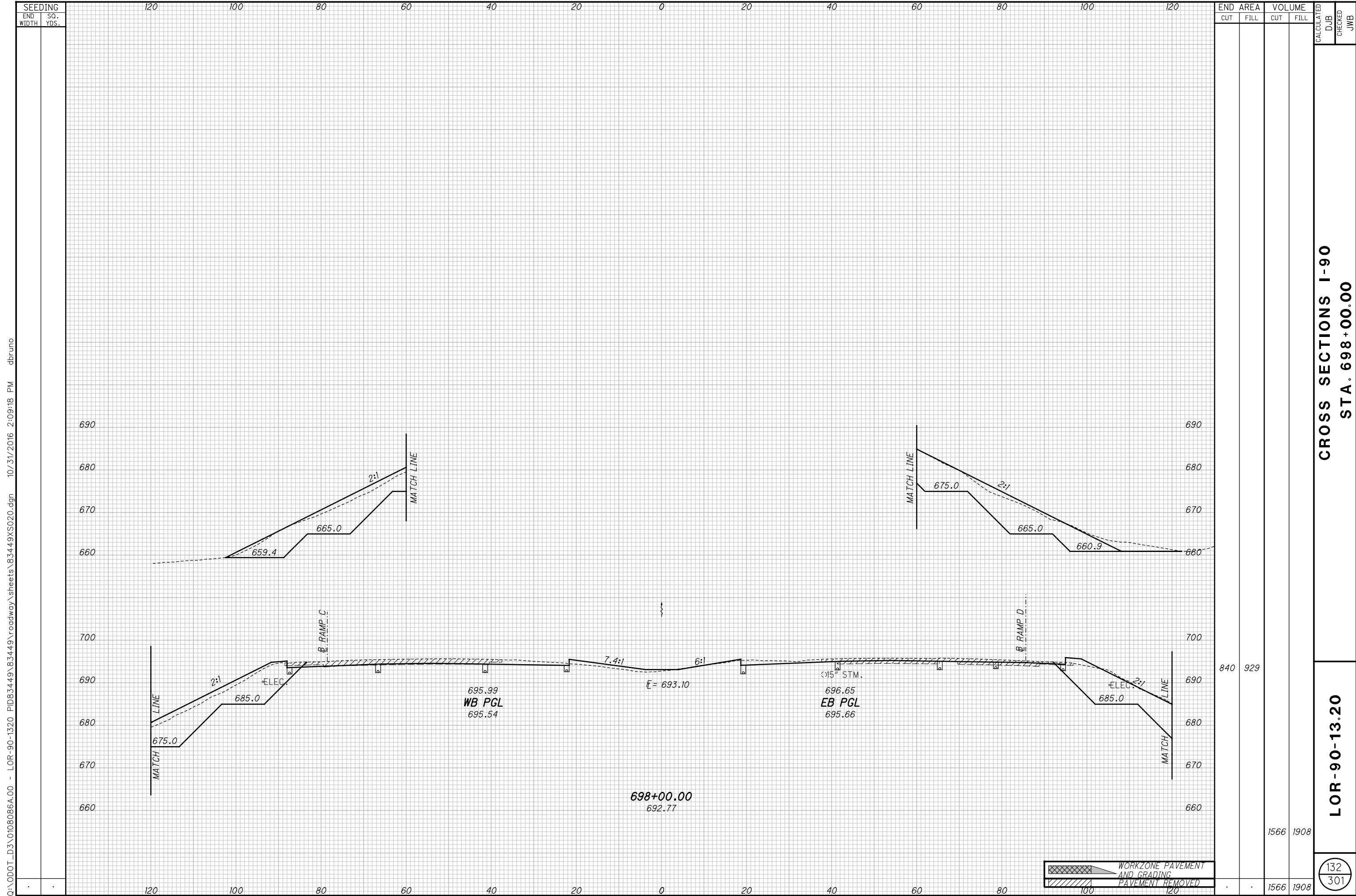
SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	DJB	CHECKED
		852	1132	1233	1516		
		479	494	691	834		
				1924	2350		

CROSS SECTIONS I-90
STA. 697+00.00 TO STA. 697+50.00

LOR-90-13.20

131
301

WORKZONE PAVEMENT AND GRADING
PAVEMENT REMOVED



O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheet\83449XS020.dgn 10/31/2016 2:09:18 PM dbruno

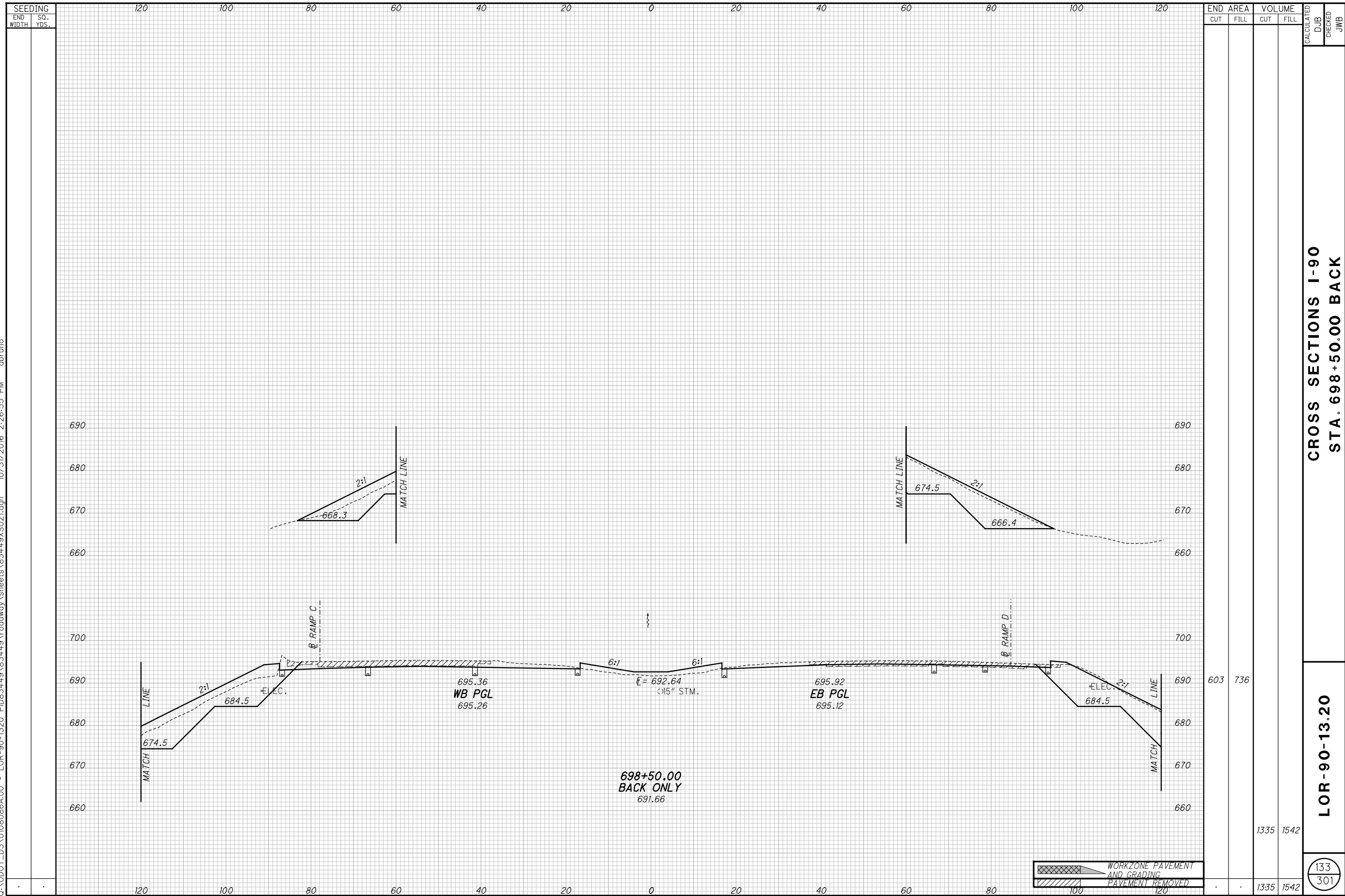
SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	DJB	CHECKED
				1566	1908		
				1566	1908		

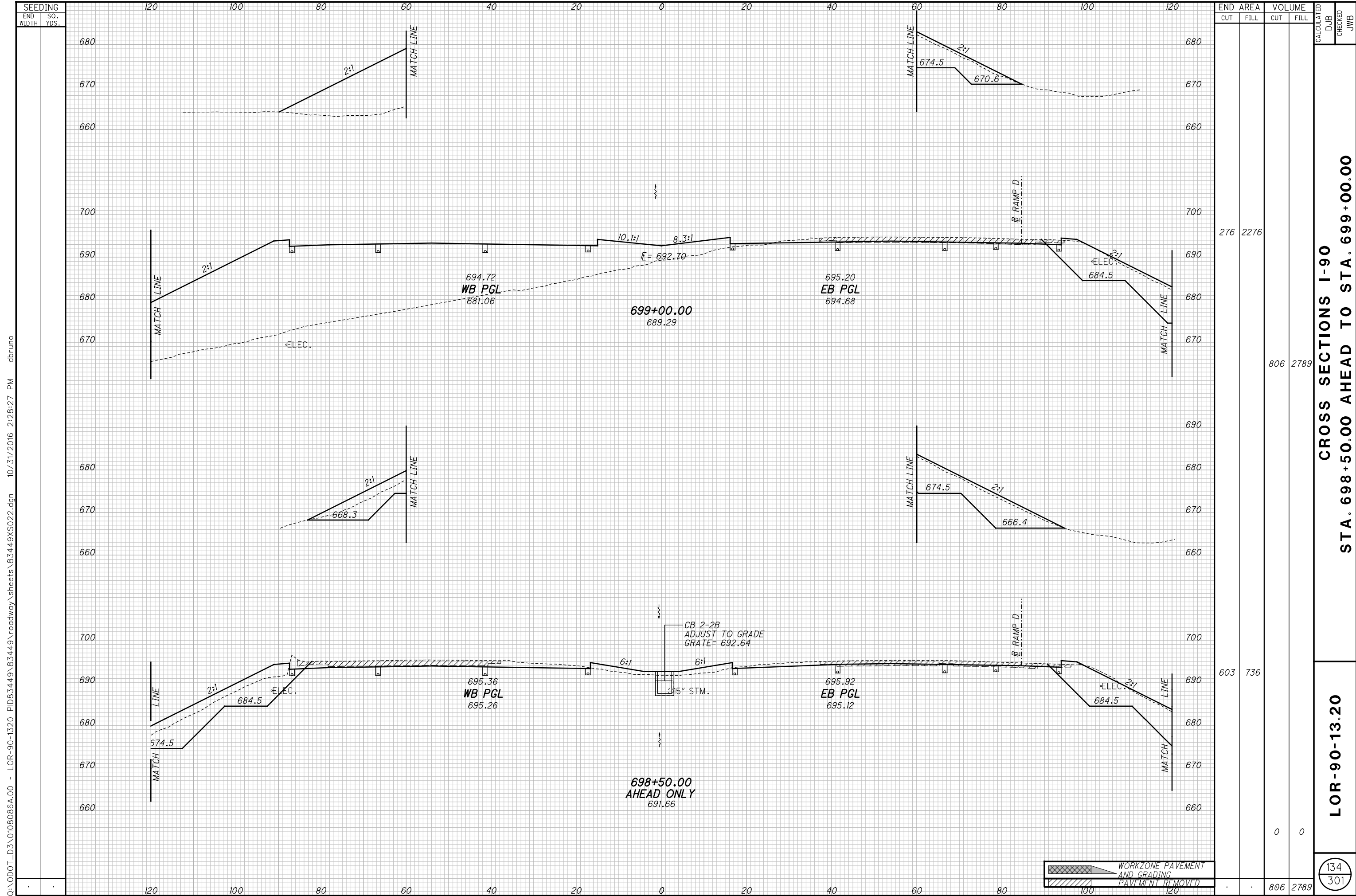
CROSS SECTIONS I-90
STA. 698+00.00

LOR-90-13.20

132
 301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449XS021.dgn 10/31/2016 2:26:55 PM dbruno





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END AREA	VOLUME	CALCULATED	DJB	CHECKED	JWB
276	2276				
806	2789				
603	736				
		0	0	806	2789

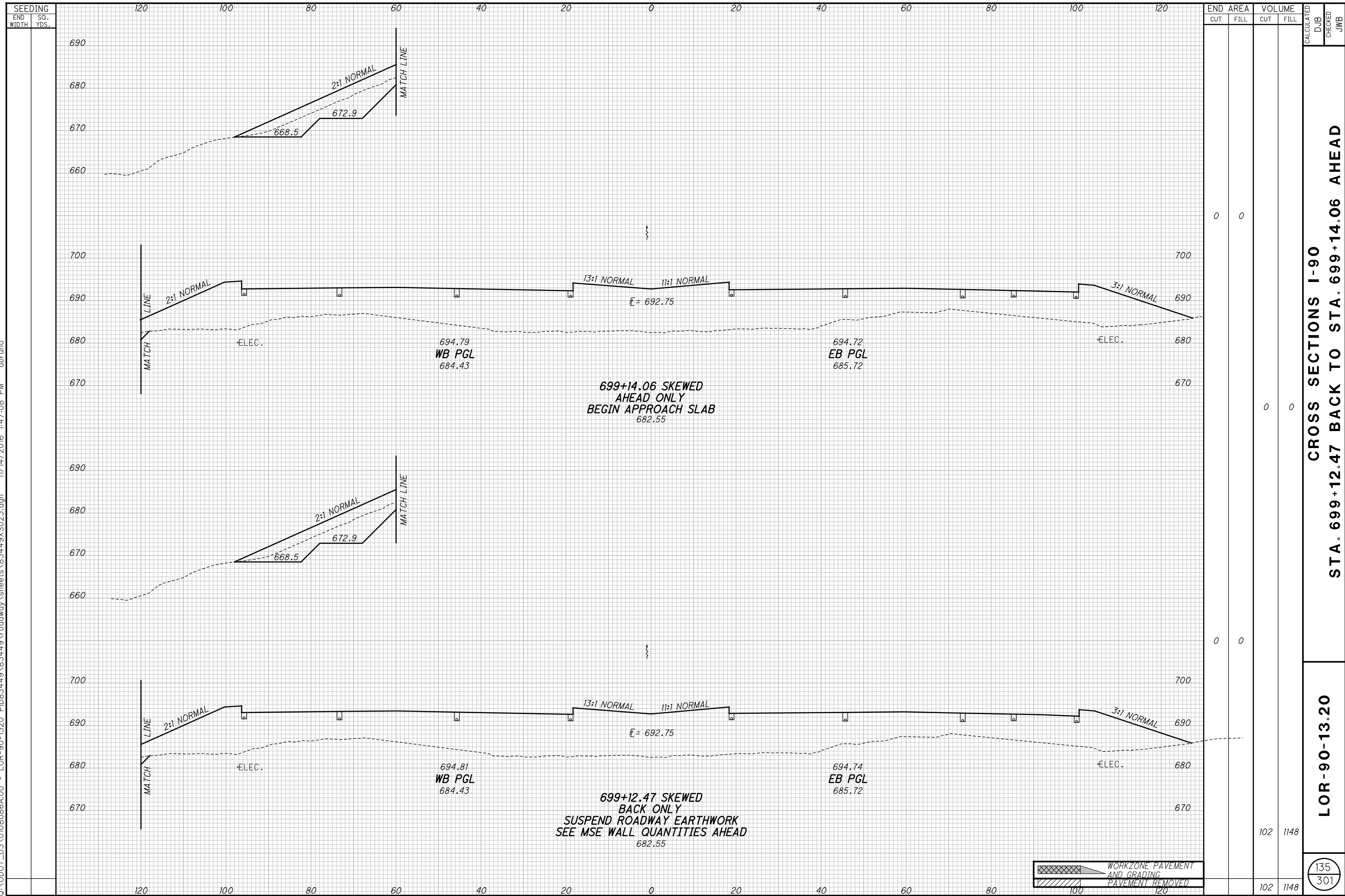
CROSS SECTIONS I-90
STA. 698+50.00 AHEAD TO STA. 699+00.00

LOR-90-13.20

134
 301

WORKZONE PAVEMENT AND GRADING
 PAVEMENT REMOVED

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449XS023.dgn 11/14/2016 1:47:08 PM dbruno



SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	DJB	CHECKED
		0	0	0	0		
				102	1148		

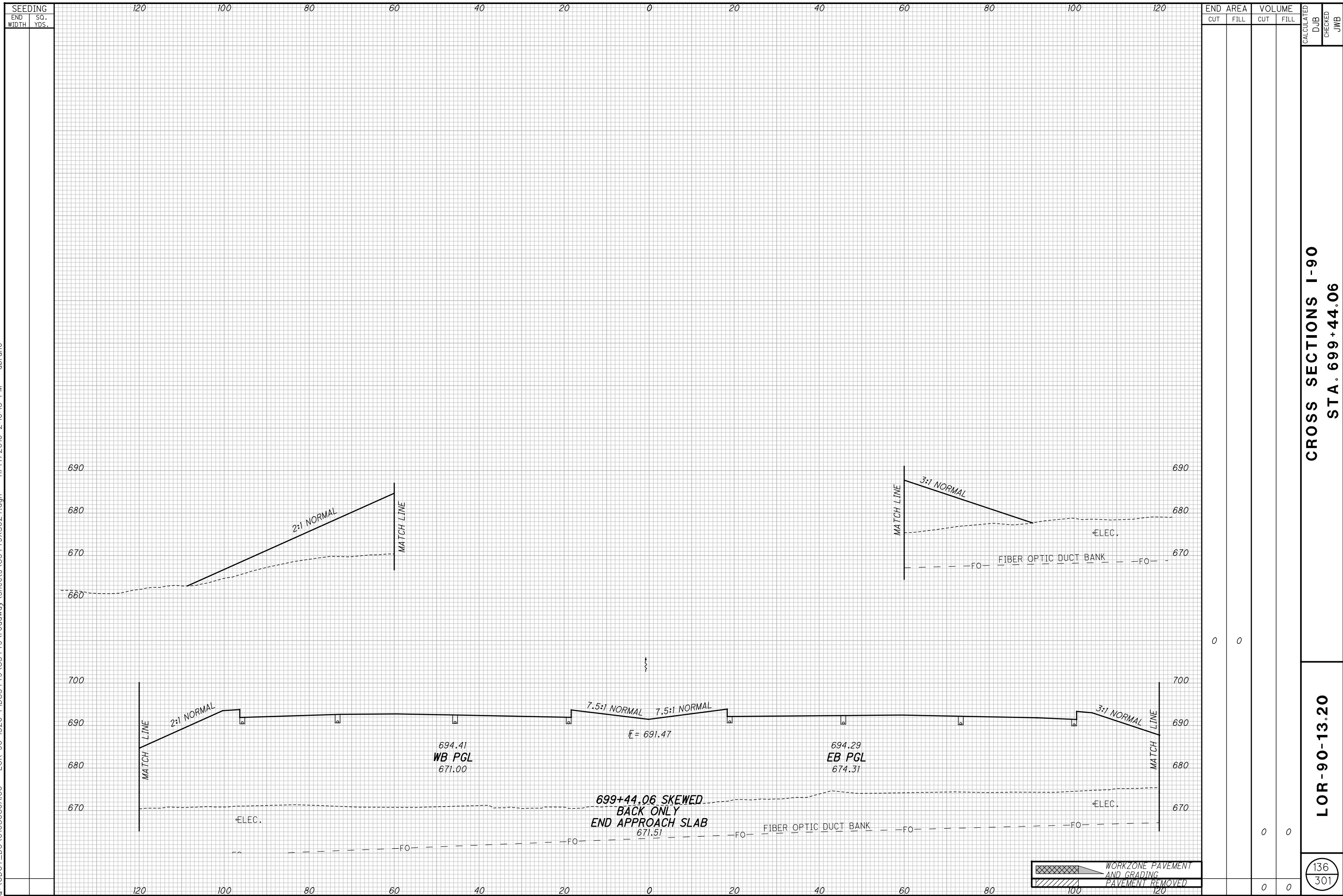
**CROSS SECTIONS I-90
STA. 699+12.47 BACK TO STA. 699+14.06 AHEAD**

LOR-90-13.20

135
301



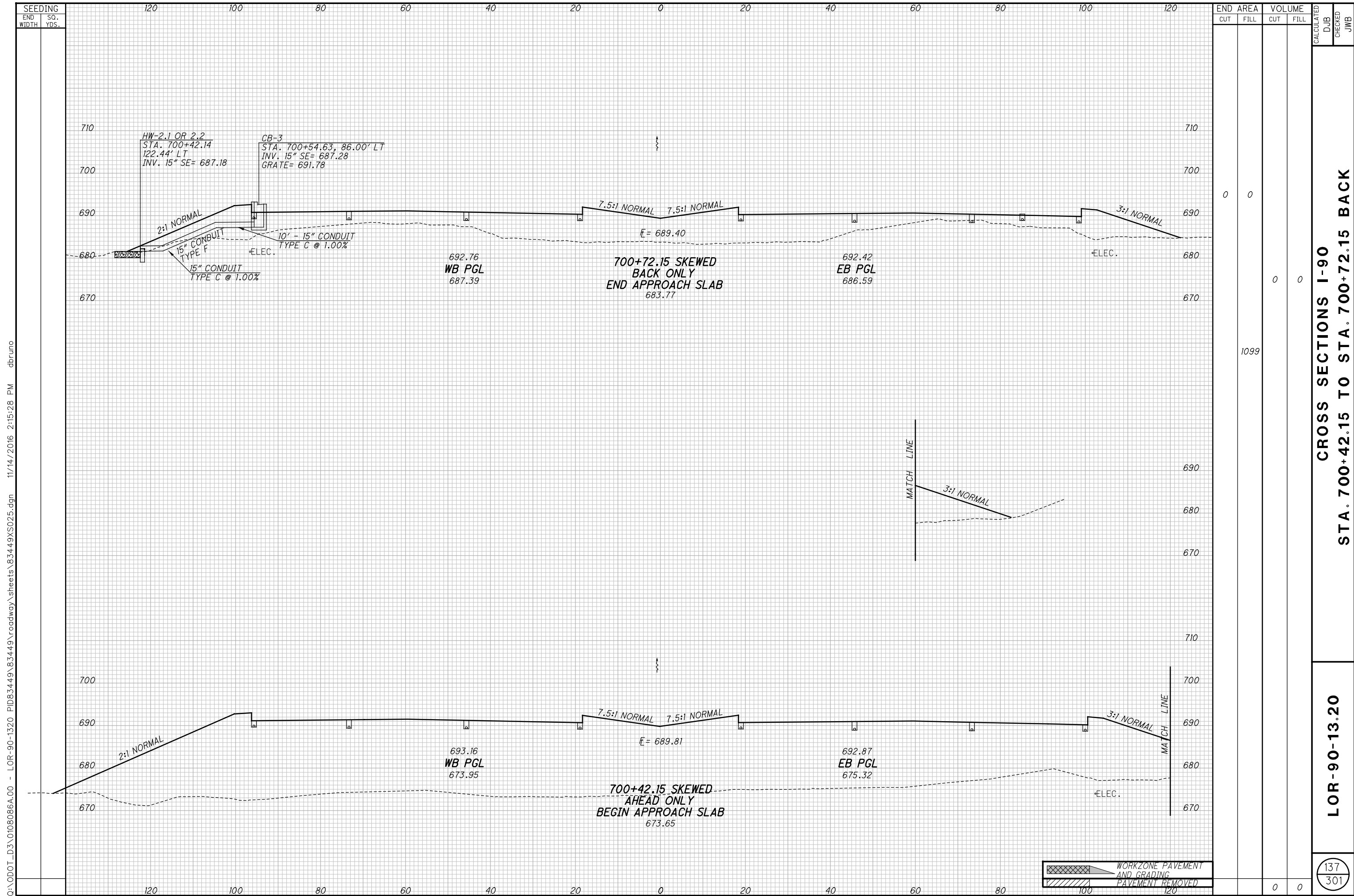
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CROSS SECTIONS I-90
STA. 699 + 44.06

LOR-90-13.20

136
301



END AREA	VOLUME	CALCULATED		CHECKED	
		CUT	FILL	DJB	JWB
0	0				
0	0				
1099					
0	0				
0	0				

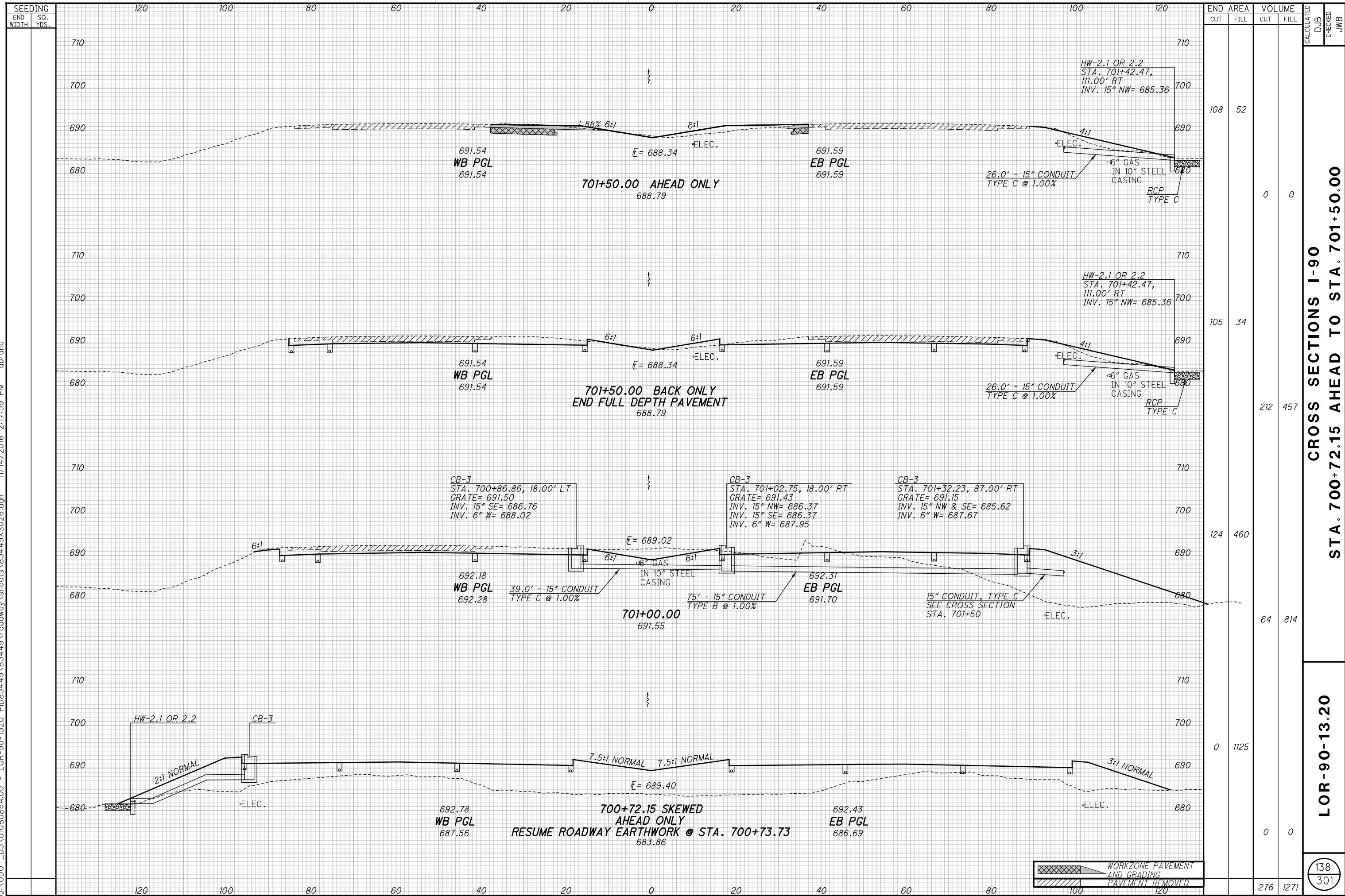
CROSS SECTIONS I-90
STA. 700+42.15 TO STA. 700+72.15 BACK

LOR-90-13.20

137
 301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\83449\roadway\sheets\83449XS025.dgn 11/14/2016 2:15:28 PM dbruno

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\83449\roadway\sheet\83449XS026.dgn 11/14/2016 2:17:59 PM dbruno



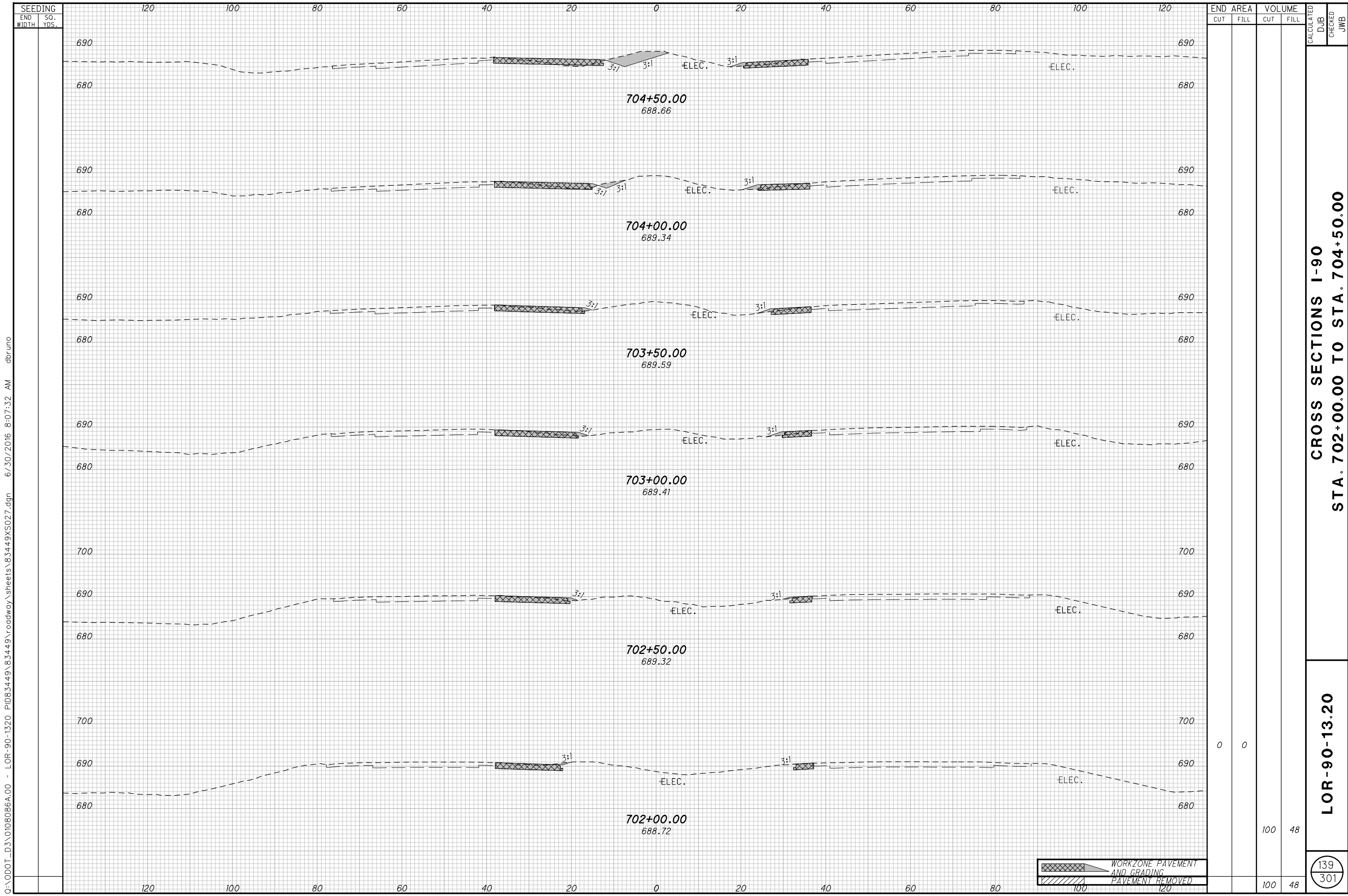
END STA.	AREA		VOLUME		CALCULATED	DJB	CHECKED	JWB
	CUT	FILL	CUT	FILL				
701+50.00	108	52	0	0				
701+00.00	105	34	212	457				
700+72.15	124	460	64	814				
700+73.73	0	1125	0	0				
TOTAL			276	1271				

**CROSS SECTIONS I-90
STA. 700+72.15 AHEAD TO STA. 701+50.00**

LOR-90-13.20

138
301





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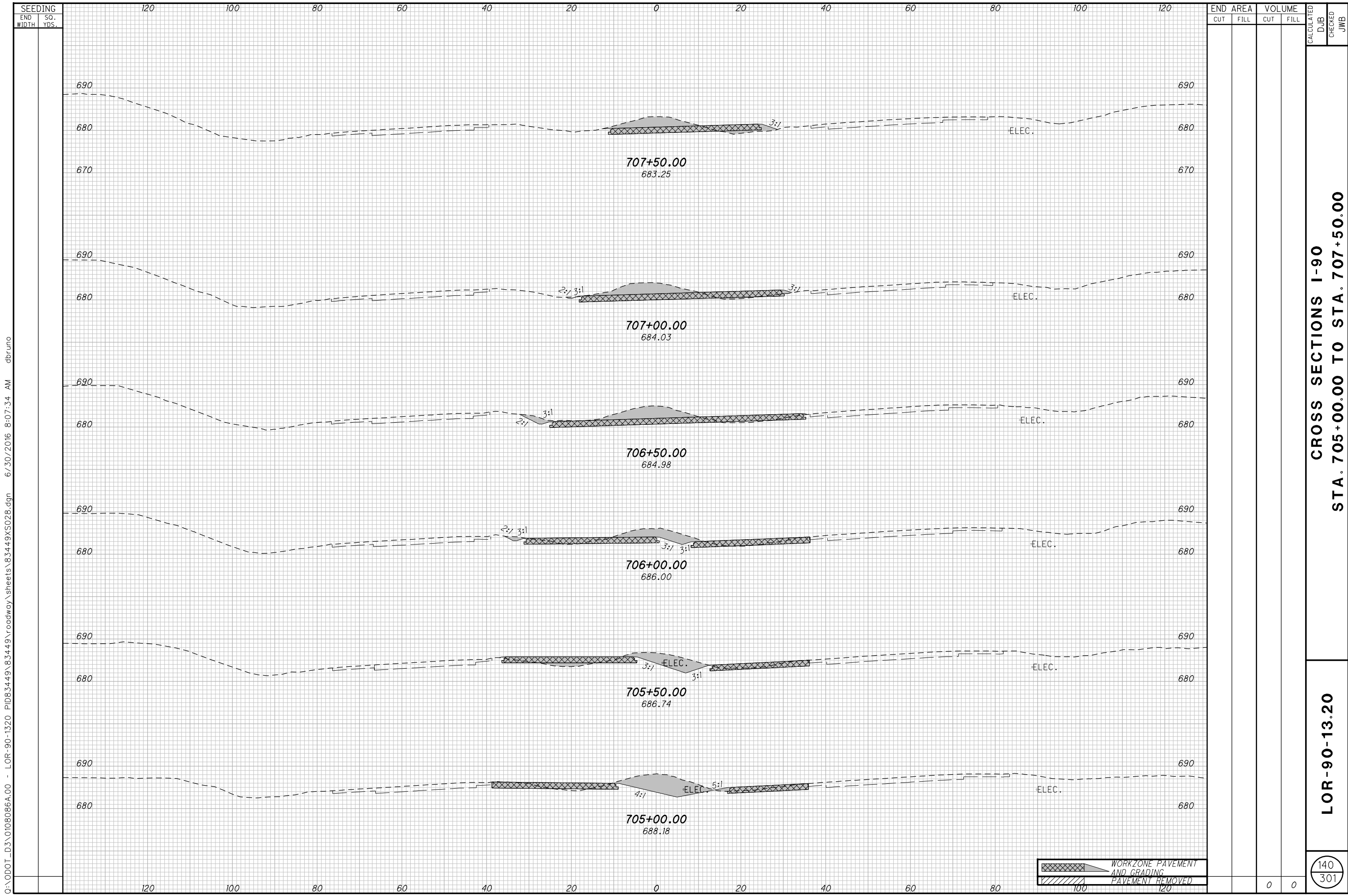
SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	DJB	CHECKED
		0	0	100	48		
				100	48		

CROSS SECTIONS I-90
STA. 702+00.00 TO STA. 704+50.00

LOR-90-13.20

139
 301

WORKZONE PAVEMENT AND GRADING
 PAVEMENT REMOVED



O:\000T_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449XS028.dgn 6/30/2016 8:07:34 AM dbruno

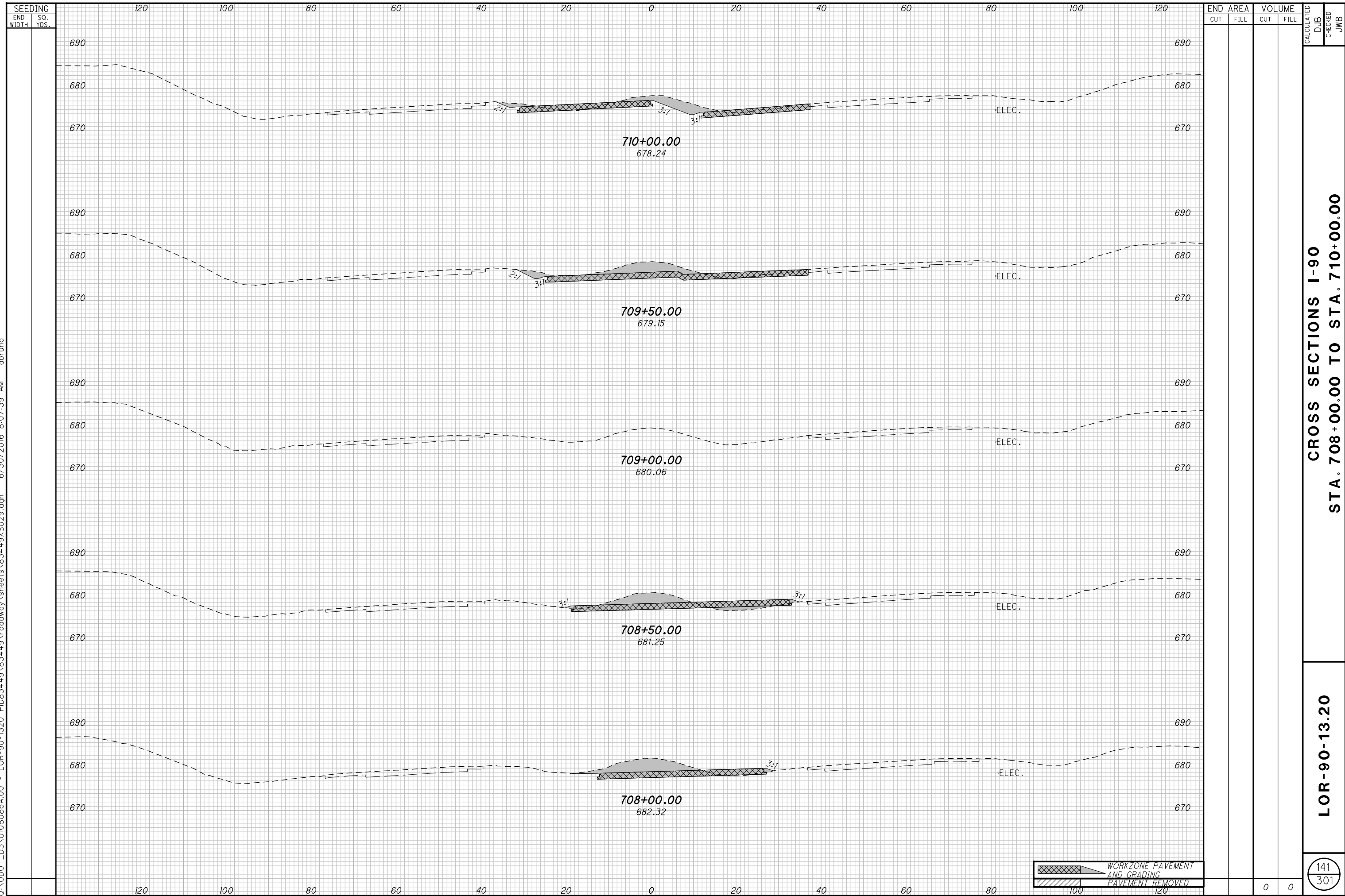
SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	DJB	CHECKED

CROSS SECTIONS I-90
STA. 705+00.00 TO STA. 707+50.00

LOR-90-13.20

140
 301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheet\83449XS029.dgn 6/30/2016 8:07:39 AM dbruno



SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	DJB	CHECKED
CROSS SECTIONS I-90							
STA. 708+00.00 TO STA. 710+00.00							
LOR-90-13.20							
				0	0	141 301	

	WORKZONE PAVEMENT AND GRADING
	PAVEMENT REMOVED



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SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	DJB	CHECKED

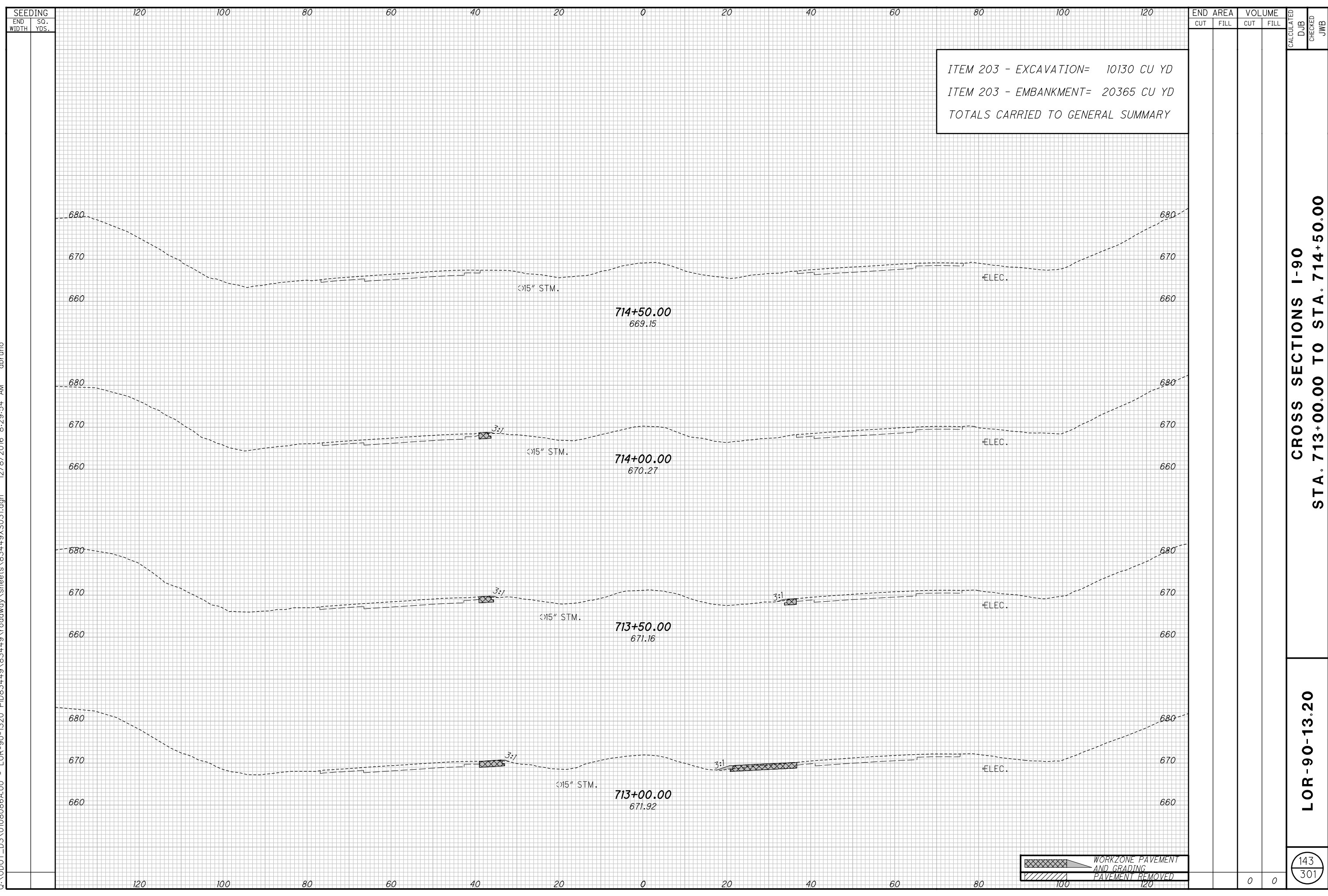
CROSS SECTIONS I-90
STA. 710+50.00 TO STA. 712+50.00

LOR-90-13.20

142
 301

WORKZONE PAVEMENT AND GRADING
 PAVEMENT REMOVED

O:\DOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449XS031.dgn 12/8/2016 8:29:54 AM dbruno



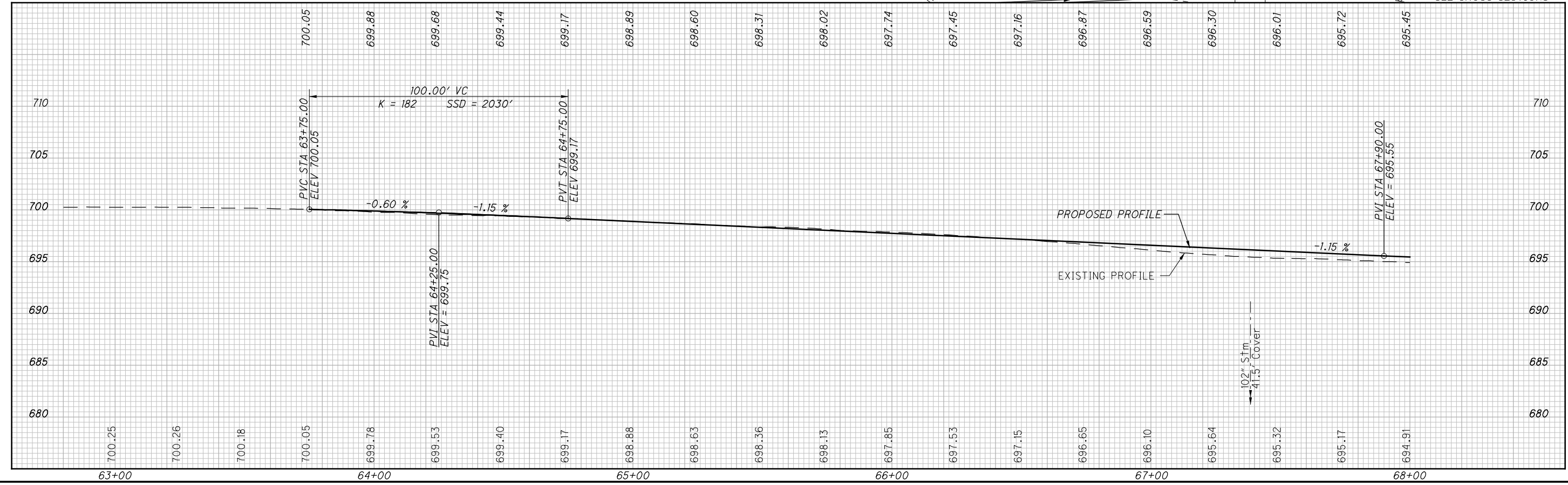
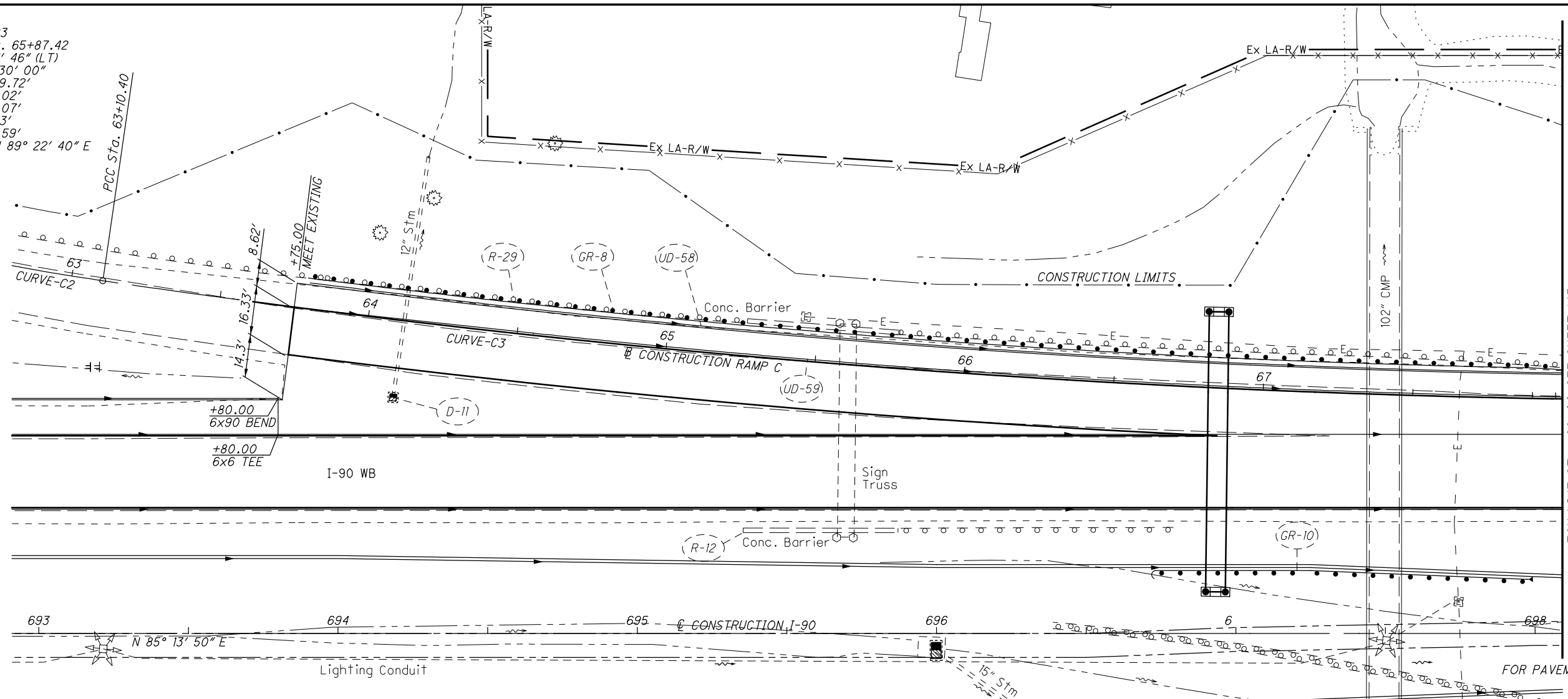
ITEM 203 - EXCAVATION= 10130 CU YD
 ITEM 203 - EMBANKMENT= 20365 CU YD
 TOTALS CARRIED TO GENERAL SUMMARY

SEEDING		END AREA		VOLUME		CALCULATED		CHECKED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	DJB	JWB		
				0	0			CROSS SECTIONS I-90 STA. 713+00.00 TO STA. 714+50.00 LOR-90-13.20 143 301	

WORKZONE PAVEMENT AND GRADING
 PAVEMENT REMOVED

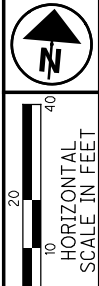
O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheet\83449GP009.dgn 6/30/2016 8:07:54 AM dbruno

RAMP C
CURVE-C3
 P.I. Sta. 65+87.42
 $\Delta = 8^\circ 17' 46''$ (LT)
 $D_c = 1^\circ 30' 00''$
 $R = 3,819.72'$
 $T = 277.02'$
 $L = 553.07'$
 $E = 10.03'$
 $C = 552.59'$
 C.B. = $N 89^\circ 22' 40'' E$



FOR PAVEMENT LEGEND SEE SHEET 99
 FOR DRAINAGE DETAILS SEE CROSS SECTIONS

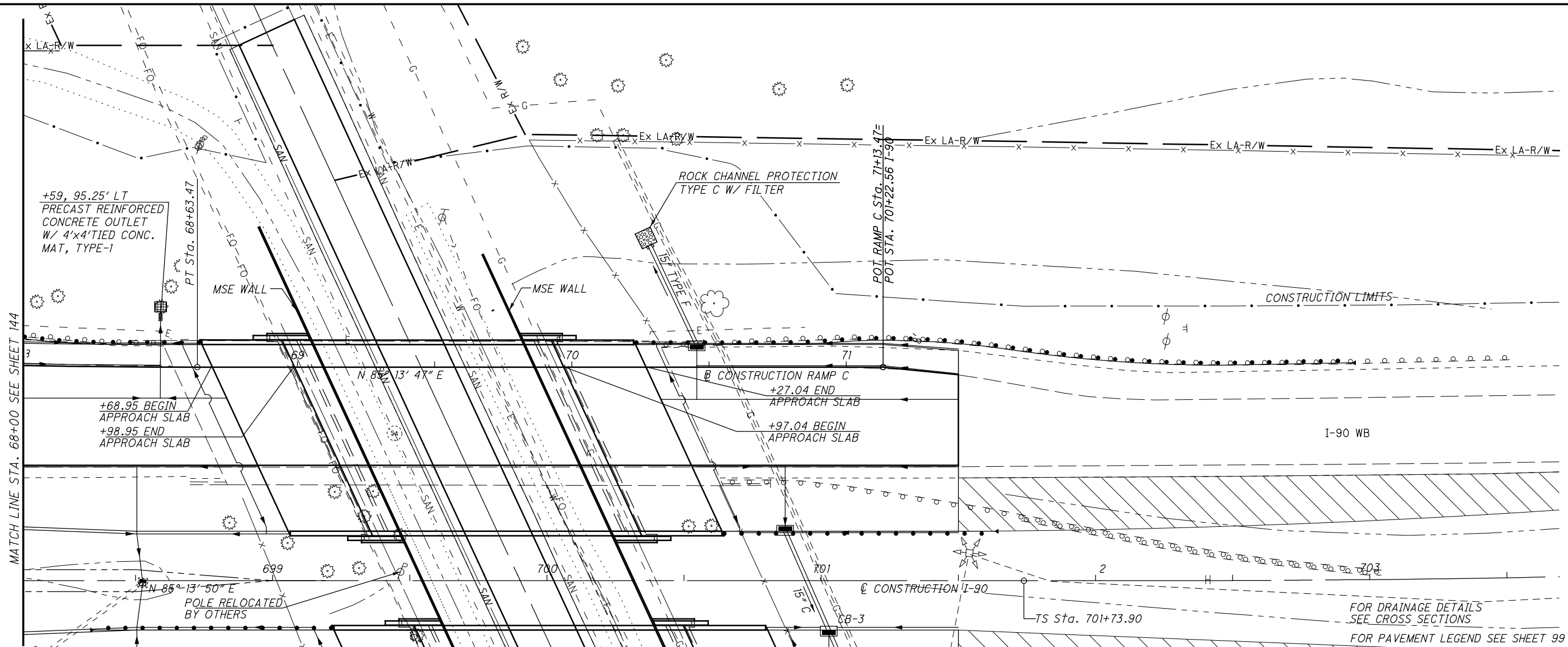
CALCULATED
 DJB
 CHECKED
 GKB



PLAN AND PROFILE
RAMP C STA. 63+00 TO STA. 68+00

LOR-90-13.20

o:\odot_03\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449GP010.dgn 6/30/2016 8:07:57 AM dbruno

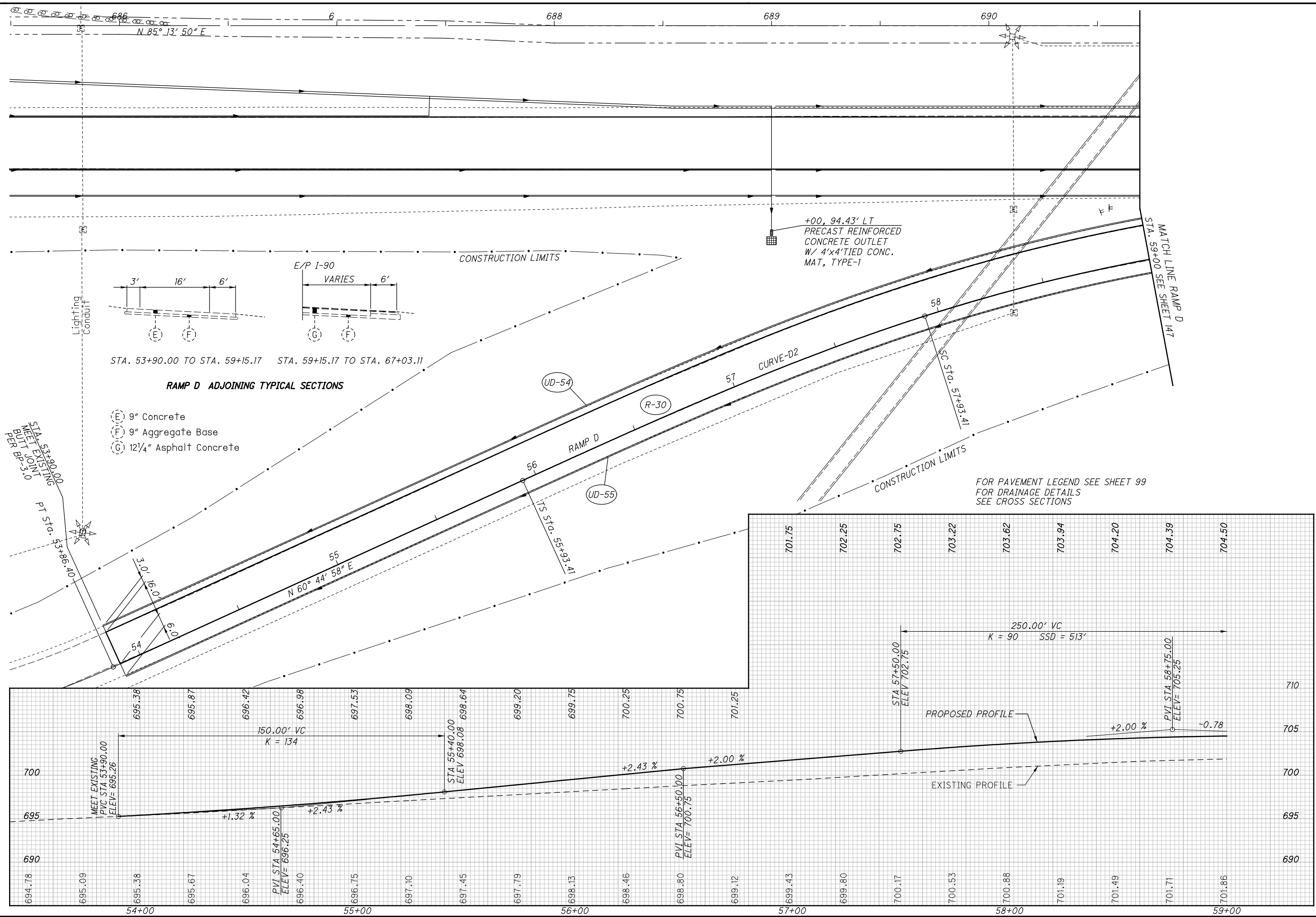


CALCULATED
 DJB
 CHECKED
 GKB

PLAN AND PROFILE
RAMP C STA. 68+00 TO STA. 71+13.47

LOR-90-13.20

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449GP011.dgn 12/8/2016 9:38:33 AM dbruno

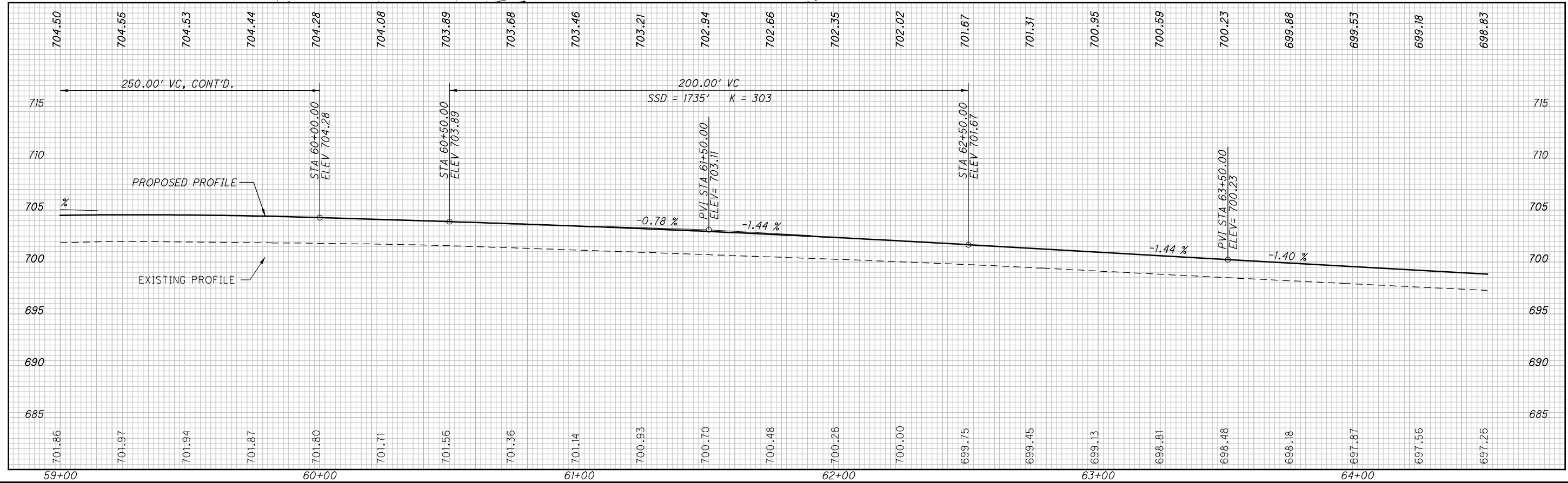
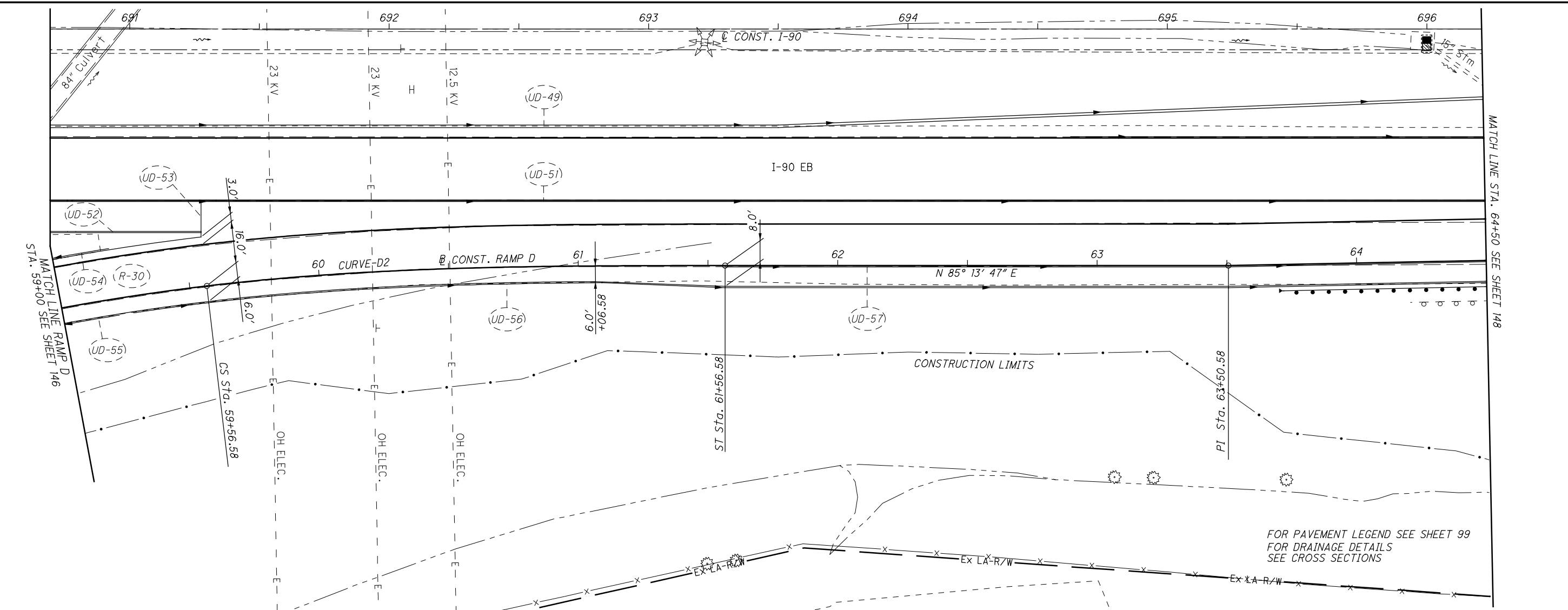


CALCULATED
 DJB
 CHECKED
 GKB

PLAN AND PROFILE
RAMP D STA. 54+00 TO STA. 59+00

LOR-90-13.20

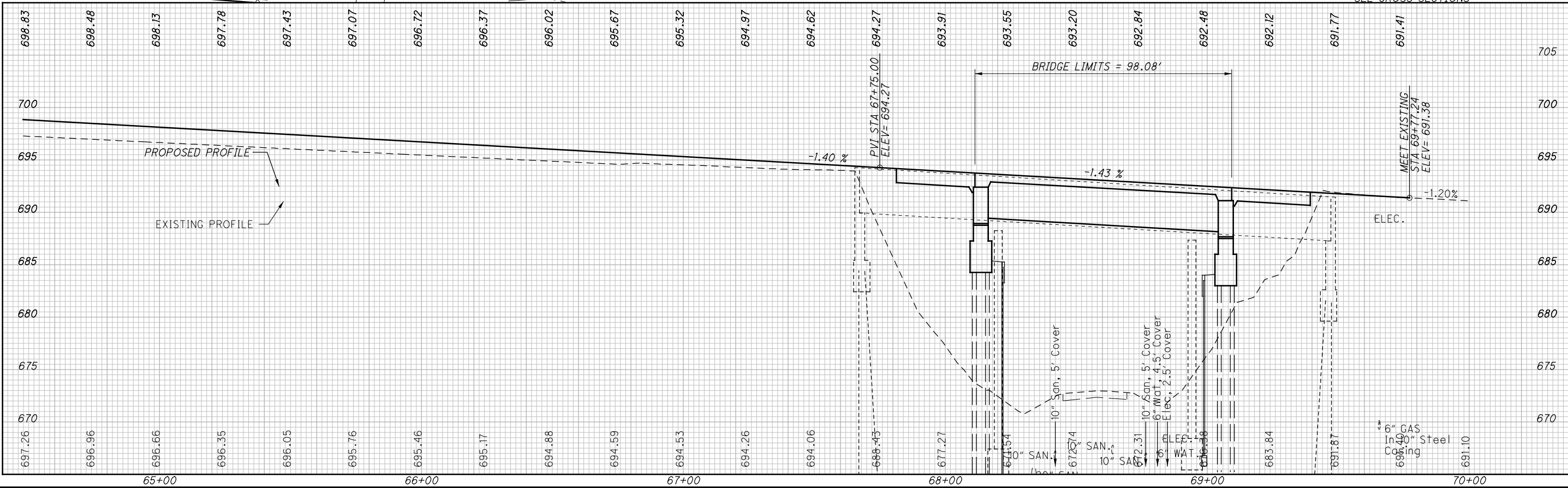
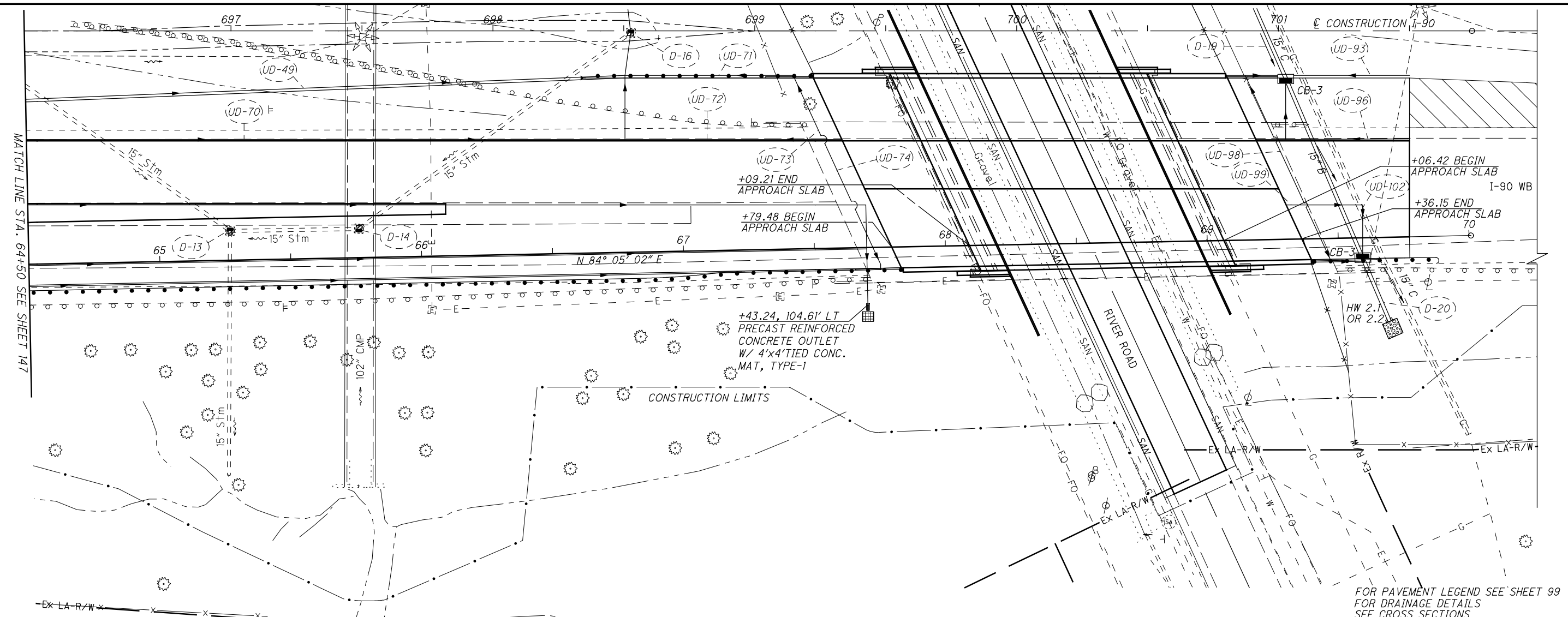
o:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449GP012.dgn 6/30/2016 8:08:01 AM dbruno



CALCULATED
DJB
CHECKED
GKB

PLAN AND PROFILE
RAMP D STA. 59+00 TO STA. 64+50

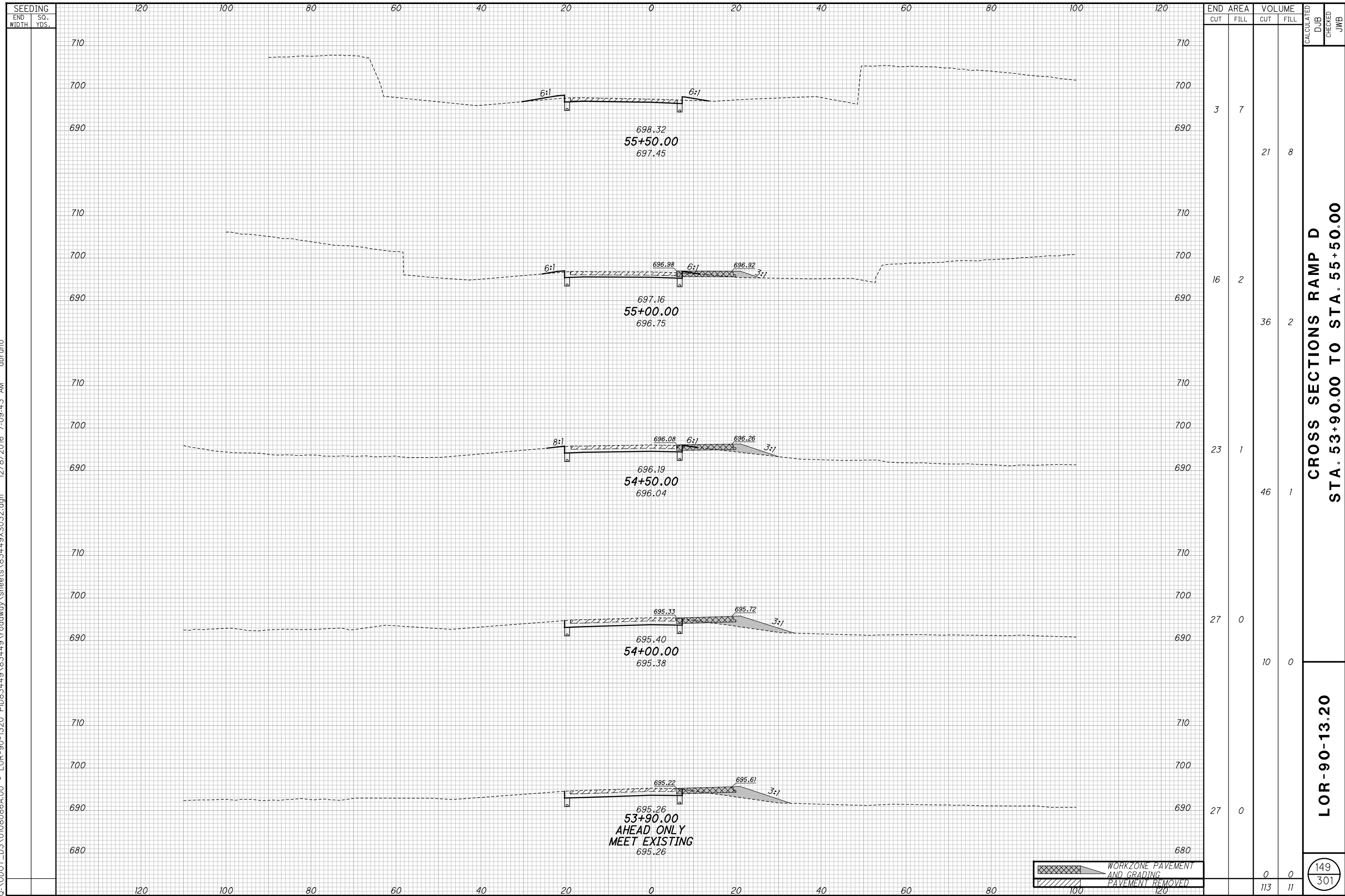
o:\odot_0108086A.00 - LOR-90-1320 PID83449\roadway\sheet\83449GP013.dgn 6/30/2016 8:08:03 AM dbruno



PLAN AND PROFILE
RAMP D STA. 64+50 TO STA. 70+00

FOR PAVEMENT LEGEND SEE SHEET 99
 FOR DRAINAGE DETAILS SEE CROSS SECTIONS

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449XS032.dgn 12/8/2016 7:09:43 AM dbruno



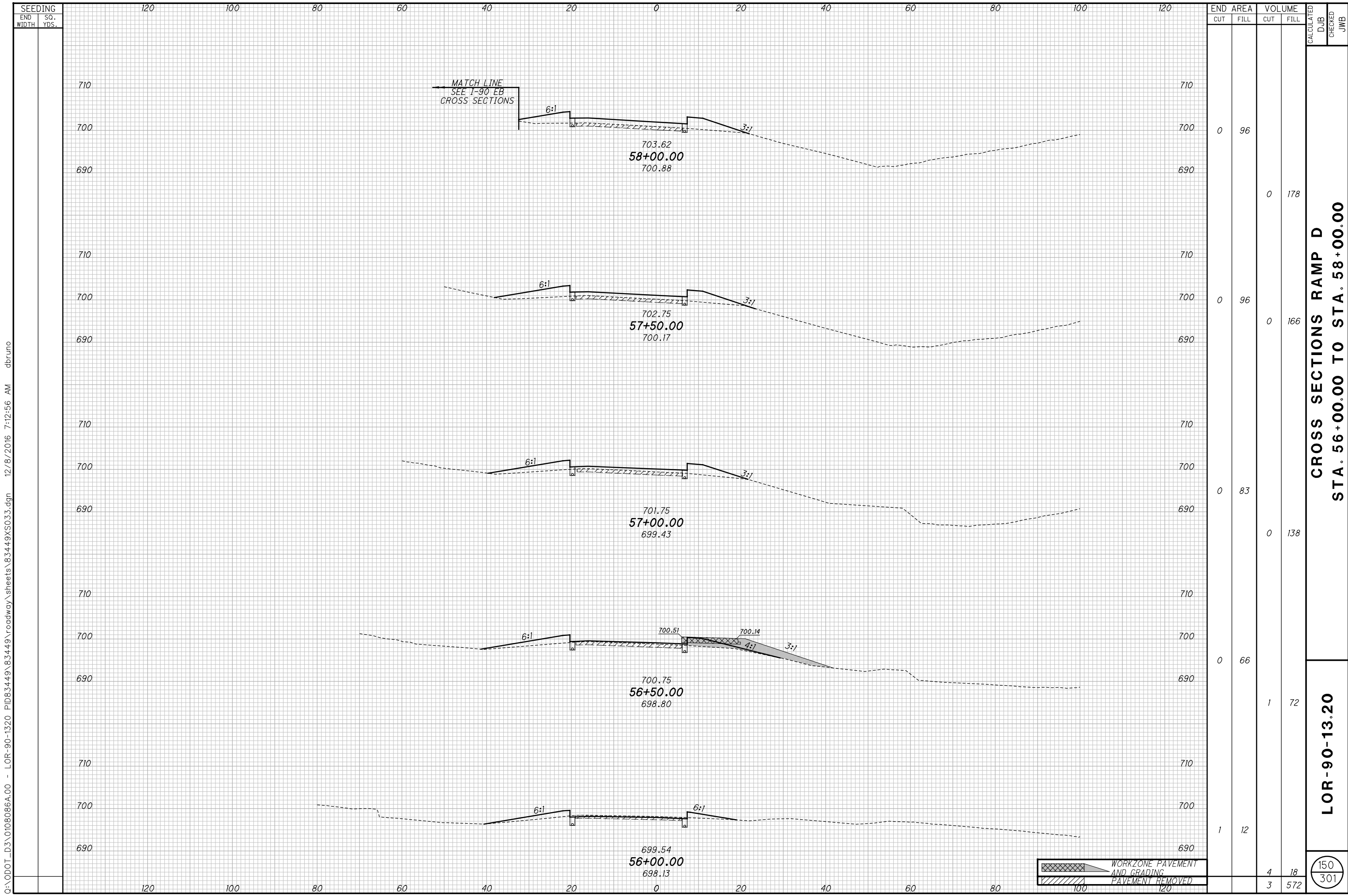
**CROSS SECTIONS RAMP D
STA. 53+90.00 TO STA. 55+50.00**

LOR-90-13.20

149
301

WORKZONE PAVEMENT AND GRADING

 PAVEMENT REMOVED



O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\83449\roadway\sheets\83449XS033.dgn 12/8/2016 7:12:56 AM dbruno

710
700
690
710
700
690
710
700
690
710
700
690
710
700
690
710
700
690

710
700
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690
710
700
690

END AREA	VOLUME		CALCULATED	CHECKED
	CUT	FILL		
0	96	0	178	
0	96	0	166	
0	83	0	138	
0	66	1	72	
1	12	4	18	
		3	572	

703.62
58+00.00
700.88

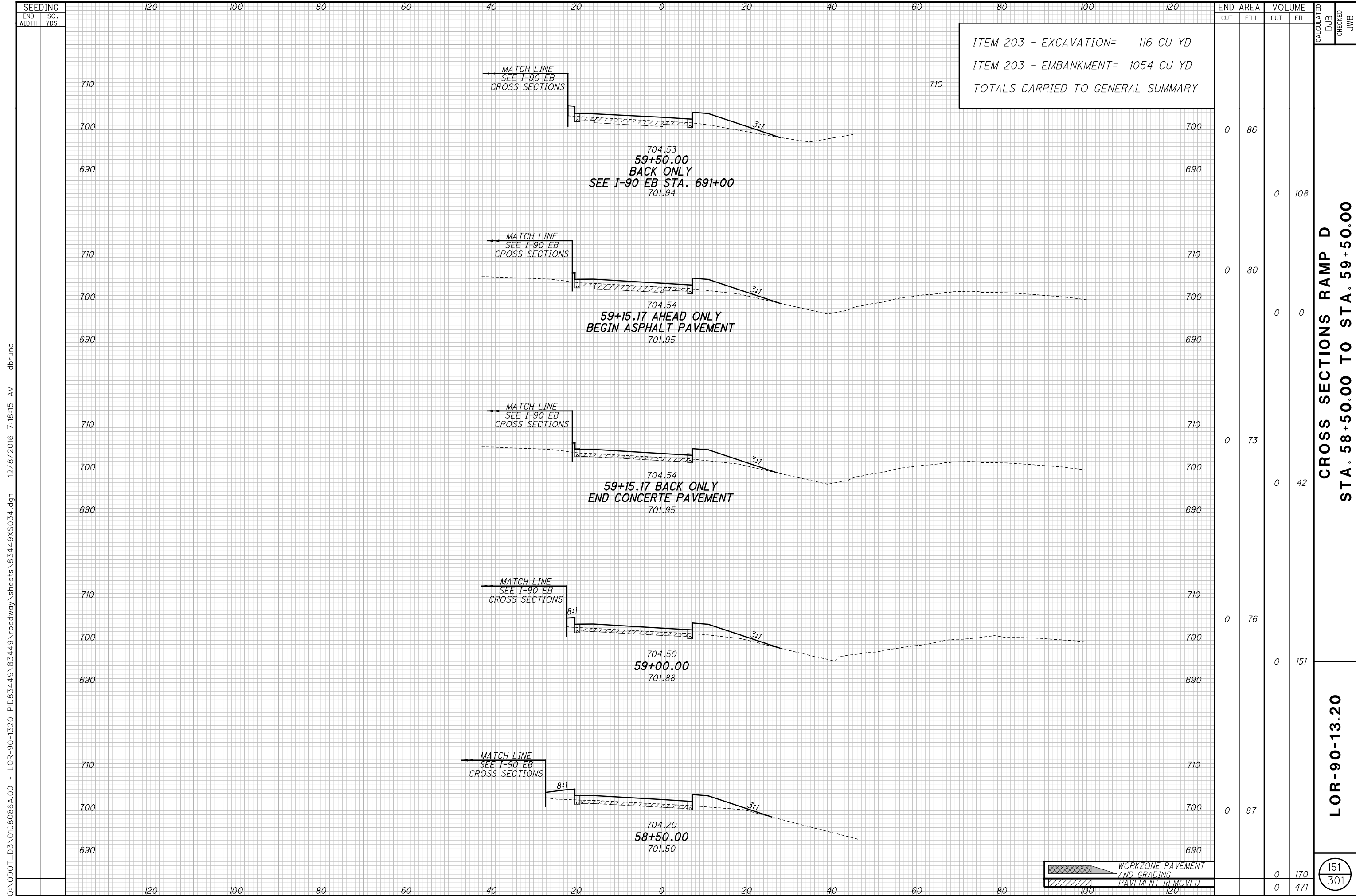
702.75
57+50.00
700.17

701.75
57+00.00
699.43

700.51
700.14
700.75
56+50.00
698.80

699.54
56+00.00
698.13

WORKZONE PAVEMENT AND GRADING
PAVEMENT REMOVED



ITEM 203 - EXCAVATION= 116 CU YD
 ITEM 203 - EMBANKMENT= 1054 CU YD
 TOTALS CARRIED TO GENERAL SUMMARY

END AREA	VOLUME	CALCULATED	DUB	CHECKED	JWB
0	86				
0	108				
0	80				
0	0				
0	73				
0	42				
0	76				
0	151				
0	87				
0	170				
0	471				

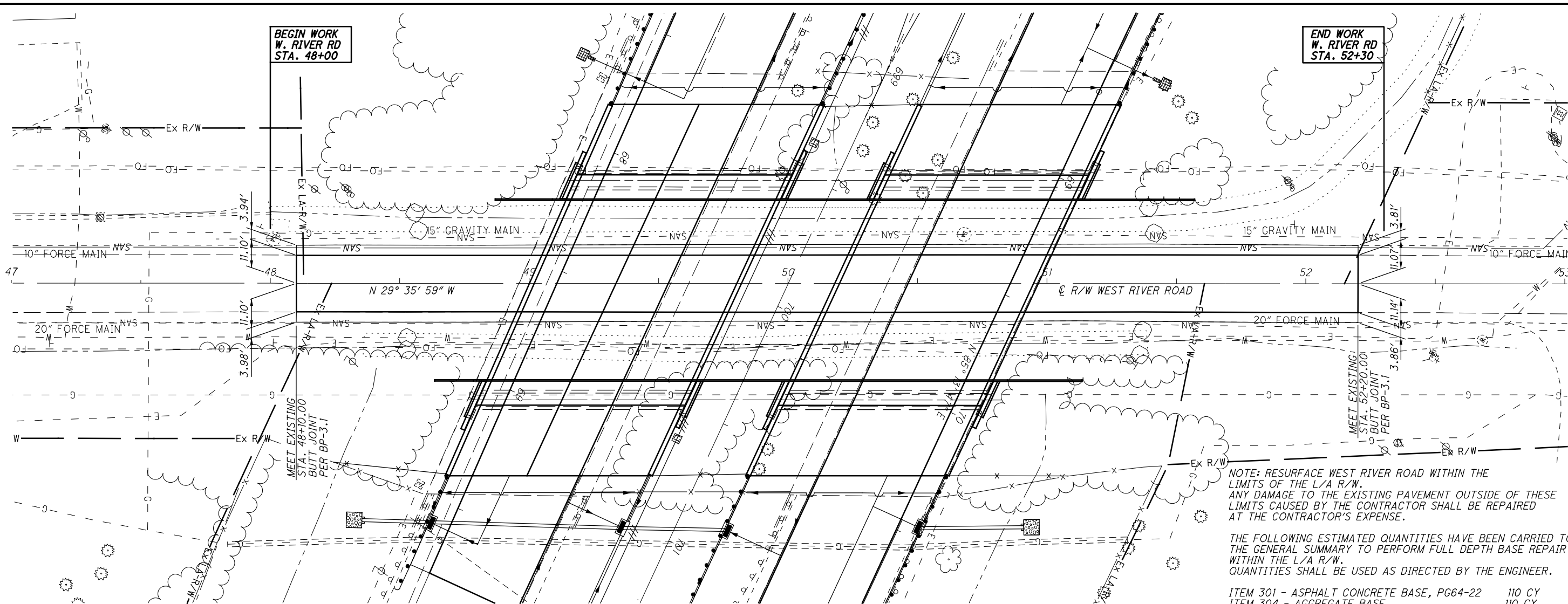
CROSS SECTIONS RAMP D
STA. 58+50.00 TO STA. 59+50.00

LOR-90-13.20

151
301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheet\83449XS034.dgn 12/8/2016 7:18:15 AM dbruno

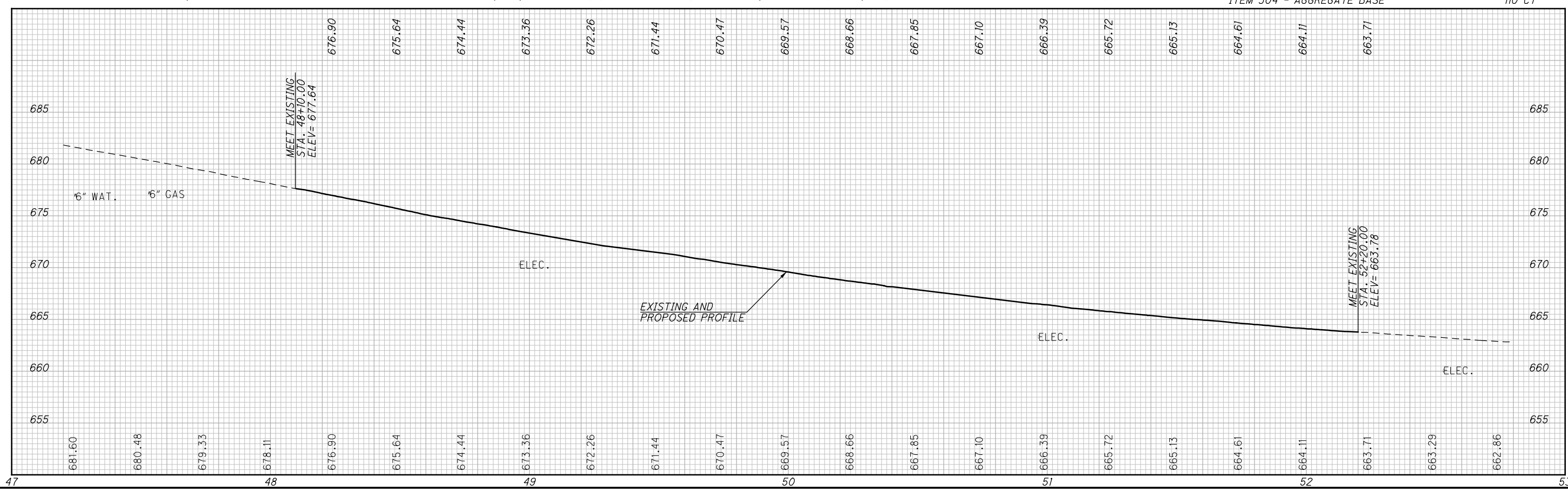
O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\roadway\sheets\83449GP014.dgn 6/30/2016 8:08:19 AM abruno



NOTE: RESURFACE WEST RIVER ROAD WITHIN THE LIMITS OF THE L/A R/W. ANY DAMAGE TO THE EXISTING PAVEMENT OUTSIDE OF THESE LIMITS CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO PERFORM FULL DEPTH BASE REPAIR WITHIN THE L/A R/W. QUANTITIES SHALL BE USED AS DIRECTED BY THE ENGINEER.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 110 CY
 ITEM 304 - AGGREGATE BASE 110 CY



CALCULATED
 DJB
 CHECKED
 GKB

0 20 40
 HORIZONTAL
 SCALE IN FEET

**PLAN AND PROFILE
 WEST RIVER ROAD**

LOR-90-13.20

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SHEET NUM.					PART.		ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE
							EXT	TOTAL			SHEET	
											NO.	
										TRAFFIC CONTROL		
							621	182	EACH	RPM		
							621	135	EACH	RAISED PAVEMENT MARKER REMOVED		
							630	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6		
							630	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8		
							630	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 4		
							630	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10		
							630	4	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION		
							625	6	EACH	GROUND ROD		
							630	2	EACH	CONCRETE BARRIER MEDIAN OVERHEAD SIGN SUPPORT FOUNDATION, TYPE TC-21.50		
							630	2	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL		
							630	4	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION		
							630	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65		
							630	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.24		
							630	70	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9		
							630	4	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION		
							630	4	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION		
							630	4	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL		
							630	16	SF	SIGN, FLAT SHEET		
							630	19	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		
							630	10	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION		
							630	10	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL		
							630	161	SF	SIGN, OVERHEAD EXTRUSHEET		
							630	154	FT	GROUND MOUNTED SUPPORT, NO. 3 POST		
							644	26	EACH	LANE ARROW		
							644	2,133	FT	DOTTED LINE, 6"		
							644	401	FT	DOTTED LINE, 8"		
							644	0.82	MILE	EDGE LINE, 4"		
							644	4.27	MILE	EDGE LINE, 6"		
							644	0.48	MILE	LANE LINE, 4"		
							644	2.05	MILE	LANE LINE, 6"		
							644	1,902	FT	CHANNELIZING LINE, 8"		
							644	3,443	FT	CHANNELIZING LINE, 12"		
							644	107	FT	STOP LINE		
							644	1,084	FT	CHEVRON MARKING		
							630	6	EACH	SIGN POST REFLECTOR		
							646	0.32	MILE	EDGE LINE, 6"		
							646	0.16	MILE	LANE LINE, 6"		
							646	316	FT	DOTTED LINE, 6"		

CALCULATED M.L.S. CHECKED L.A.S.	TRAFFIC CONTROL - GENERAL SUMMARY	LOR-90-13.20	154 301
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o:\odot\13\10108086A.00 - LOR-90-1320 PID83449\traffic\sheets\83449\TS001.dgn 6/30/2016 9:16:23 AM godams

SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	MARKING												
			FROM	TO		EDGE LINE, 6" (WHITE) MILE	EDGE LINE, 6" (YELLOW) MILE	LANE LINE, 6" (WHITE) MILE	CHANNELIZING LINE, 8" FT	CHANNELIZING LINE, 12" FT	CHEVRON MARKING, 24" WHITE FT	DOTTED LINE, 6" FT	STOP LINE FT	LANE ARROW EACH				
159-160	C1	I-90 WESTBOUND MAINLINE	633+50	641+42	LT						492							
159-160	C2	I-90 WESTBOUND MAINLINE	633+50	641+42	LT					492								
159-160	H1	I-90 WESTBOUND MAINLINE	633+50	641+42	LT						363							
159-169	L1	I-90 WESTBOUND MAINLINE	633+50	715+50	LT			1.02										
159-169	Y1	I-90 WESTBOUND MAINLINE	633+50	715+50	LT		1.03											
159-160	E1	I-90 EASTBOUND MAINLINE	633+82	642+05	RT	0.16												
159-169	L2	I-90 EASTBOUND MAINLINE	633+70	715+50	RT			1.03										
159-160	K1	I-90 EASTBOUND MAINLINE	633+82	639+46	RT						564							
159-169	Y2	I-90 EASTBOUND MAINLINE	633+70	715+50	RT		1.03											
160-165	E2	I-90 WESTBOUND MAINLINE	641+42	693+81	LT	0.47												
160	C3	I-90 EASTBOUND MAINLINE	639+46	642+05	RT					261								
160	C4	I-90 EASTBOUND MAINLINE	639+46	642+05	RT					260								
160	H2	I-90 EASTBOUND MAINLINE	639+46	642+05	RT						106							
160-164	E3	I-90 EASTBOUND MAINLINE	642+05	691+27	RT	0.41												
164, 170	E4	RAMP D	53+90	59+60	CL	0.11												
164-169	E4	I-90 EASTBOUND MAINLINE	691+27	715+50	RT	0.46												
164, 170	Y3	RAMP D	53+90	59+60	LT		0.11											
164-166	H3	I-90 EASTBOUND MAINLINE	691+27	697+82	RT						236							
164-166	C5	I-90 EASTBOUND MAINLINE	691+27	697+82	RT					655								
164-166	C6	I-90 EASTBOUND MAINLINE	691+27	697+82	RT					655								
165	C7	I-90 WESTBOUND MAINLINE	693+81	697+00	LT					312								
165	C8	I-90 WESTBOUND MAINLINE	693+81	697+00	LT					316								
165	H4	I-90 WESTBOUND MAINLINE	693+81	697+00	LT						116							
165	Y4	RAMP C	63+32	63+75	RT		0.01											
165	E5	RAMP C	63+32	63+75	CL	0.01												
165-169	E5	I-90 WESTBOUND MAINLINE	693+81	715+50	LT	0.41												
166	K2	I-90 WESTBOUND MAINLINE	697+00	702+00	LT						505							
166-168	K3	I-90 EASTBOUND MAINLINE	697+82	708+34	RT						1064							
170	E6	RAMP C	57+85	59+50	CL	0.03												
170	Y5	RAMP C	57+85	59+50	RT		0.03											
171	A1	S.R. 57 SOUTHBOUND		144+45	LT										1			
171	A2	S.R. 57 SOUTHBOUND		145+13	LT										1			
171	A3	S.R. 57 SOUTHBOUND		145+81	LT										1			
171	A4	S.R. 57 SOUTHBOUND		146+49	LT										1			
171	A5	S.R. 57 SOUTHBOUND		147+17	LT										1			
171	A6	S.R. 57 SOUTHBOUND		147+85	LT										1			
171	A7	S.R. 57 NORTHBOUND		144+82	RT										1			
171	A8	S.R. 57 NORTHBOUND		145+50	RT										1			
171	A9	S.R. 57 NORTHBOUND		146+18	RT										1			
171	A10	S.R. 57 NORTHBOUND		146+86	RT										1			
171	A11	S.R. 57 NORTHBOUND		147+54	RT										1			
171	A12	S.R. 57 NORTHBOUND		148+22	RT										1			
171	S1	S.R. 57 SOUTHBOUND		144+35	LT									59				
171	C9	S.R. 57 SOUTHBOUND	144+35	148+30	LT				395									
171	C10	S.R. 57 SOUTHBOUND	144+35	146+35	LT				201									
171-172	C11	S.R. 57 NORTHBOUND	148+36	153+00	RT				465									
171-172	C12	S.R. 57 NORTHBOUND	148+51	153+00	RT				450									
SUBTOTAL							2.06	2.21	2.05	1511		3443	821	2133	59	12		
TOTALS CARRIED TO GENERAL SUMMARY							4.27	2.05	1511		3443	821	2133	59	12			

TRAFFIC CONTROL - SUBSUMMARY

LOR-90-13.20

CALCULATED
 M.L.S.
 CHECKED
 L.A.S.

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	
							SIGN, FLAT SHEET	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	GROUND MOUNTED SUPPORT, NO. 3 POST		SIGN POST REFLECTOR	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9 BEAM	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	BREAKAWAY STRUCTURAL BEAM CONNECTION	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL					
							SF	EACH	EACH	EACH	FT		EACH	FT	EACH	EACH	EACH					
160	M1	I-90 EASTBOUND MAINLINE	670+80	RT	E5-HIA-108	108X60									34	2	2	2				
165	M4	I-90 WESTBOUND MAINLINE	693+17 TO 693+20	LT	E5-HIA-108	108X60									36	2	2	2				
160	SN1	RAMP F	670+80	RT	R2-1-24			1	1		14											
161	SN2	I-90 EASTBOUND MAINLINE	672+72 TO 672+68	RT	M3-2-24 M1-1-24 R14-3-24			1	1		14											
161	SN3	I-90 EASTBOUND MAINLINE	672+72 TO 672+68	RT	R2-1-24 M1-5-24			1	1		14											
161	SN4	I-90 EASTBOUND MAINLINE	676+12 TO 676+12	RT	W8-13-48			2	1		28		2									
161	SN5	I-90 EASTBOUND MAINLINE	676+12 TO 676+12	RT	W8-13-48			2	1		28		2									
162	SN6	I-90 EASTBOUND MAINLINE	680+49	RT	OM3-R-12			1		1												
162	SN7	I-90 EASTBOUND MAINLINE	680+48	RT	OM3-L-12			1		1												
163	SN8	I-90 WESTBOUND MAINLINE	683+25	LT	OM3-L-12			1		1												
163	SN9	I-90 WESTBOUND MAINLINE	683+23	LT	OM3-R-12			1		1												
164	SN10	I-90 WESTBOUND MAINLINE	690+55	RT	W4-1R-48		16				28		2									
164	SN11	RAMP D	60+21 TO 60+21	RT	D10-3-12			1	1		14											
164	SN12	I-90 WESTBOUND MAINLINE	691+91 TO 691+91	LT	D10-3-12			1	1		14											
166	SN13	I-90 EASTBOUND MAINLINE	698+99	RT	OM3-L-12			1		1												
166	SN14	I-90 EASTBOUND MAINLINE	698+99	RT	OM3-R-12			1		1												
166	SN15	I-90 WESTBOUND MAINLINE	700+81	LT	OM3-L-12			1		1												
166	SN16	I-90 WESTBOUND MAINLINE	700+57	LT	OM3-R-12			1		1												
173	SN17	WEST RIVER RD NORTHBOUND	48+00	RT	W12-2-36			1		1												
173	SN18	WEST RIVER RD SOUTHBOUND	52+00	LT	W12-2-36			1		1												
SUBTOTAL							16	19	10	10	154		6	70	4	4	4					
TOTALS CARRIED TO GENERAL SUMMARY							16	19	10	10	154		6	70	4	4	4					

TRAFFIC CONTROL - SUBSUMMARY

LOR-90-13.20

CALCULATED
 M.L.S.
 CHECKED
 L.A.S.

157
 301

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	625	630	630	630	630	630	630	630	630	630	630			
							GROUND ROD	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6, AS PER PLAN	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8, AS PER PLAN	CANTILEVER OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 4, AS PER PLAN	CANTILEVER OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10, AS PER PLAN		CONCRETE BARRIER MEDIAN O-HEAD SIGN SUPP FOUNDATION, TC-21.50	RIGID OVERHEAD SIGN SUPPORT FOUNDATION, AS PER PLAN	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	REMOVAL OF OVERHEAD SIGN SUPPORT & DISPOSAL, TYPE TC-7.65	REMOVAL OF OVERHEAD SIGN SUPPORT & DISPOSAL, TYPE TC-18.24	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	SIGN, OVERHEAD EXTRUSHEET	
							EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SF		
162	M2	I-90 WESTBOUND MAINLINE	678+54 TO 678+38	LT	SPECIAL	192X120	2	1						2	1	1				
162	M3	I-90 WESTBOUND MAINLINE	678+54 TO 678+38	LT	SPECIAL	156X144									1					
165	M5	I-90 WESTBOUND MAINLINE	695+70 TO 696+93	LT	SPECIAL	192X144	2		1					2	1	1				
165	M6	I-90 WESTBOUND MAINLINE	695+70 TO 696+93	LT	SPECIAL	156X120									1					
				LT	EI-H5P-108	108X30														
171	M7	S.R. 57 NORTHBOUND	146+50	RT	SPECIAL	156X84	1				1		1					91		
171	R1	S.R. 57 NORTHBOUND	146+50	RT	EI-1A-228												1	1		
171	M8	S.R. 57 SOUTHBOUND	148+31	LT	SPECIAL	120X84	1			1			1					70		
171	R2	S.R. 57 SOUTHBOUND	148+31	LT	EI-1A-240												1	1		
SUBTOTAL							6	1	1	1	1		2	4	4	2	2	2	161	
TOTALS CARRIED TO GENERAL SUMMARY							6	1	1	1	1		2	4	4	2	2	2		161

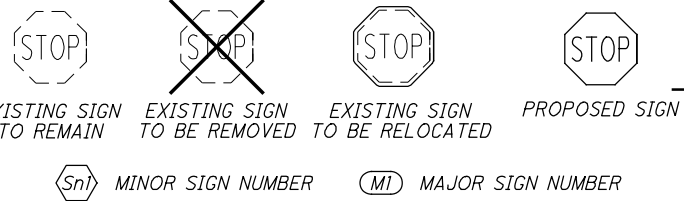
TRAFFIC CONTROL - SUBSUMMARY

LOR-90-13.20

CALCULATED
 M.L.S.
 CHECKED
 L.A.S.

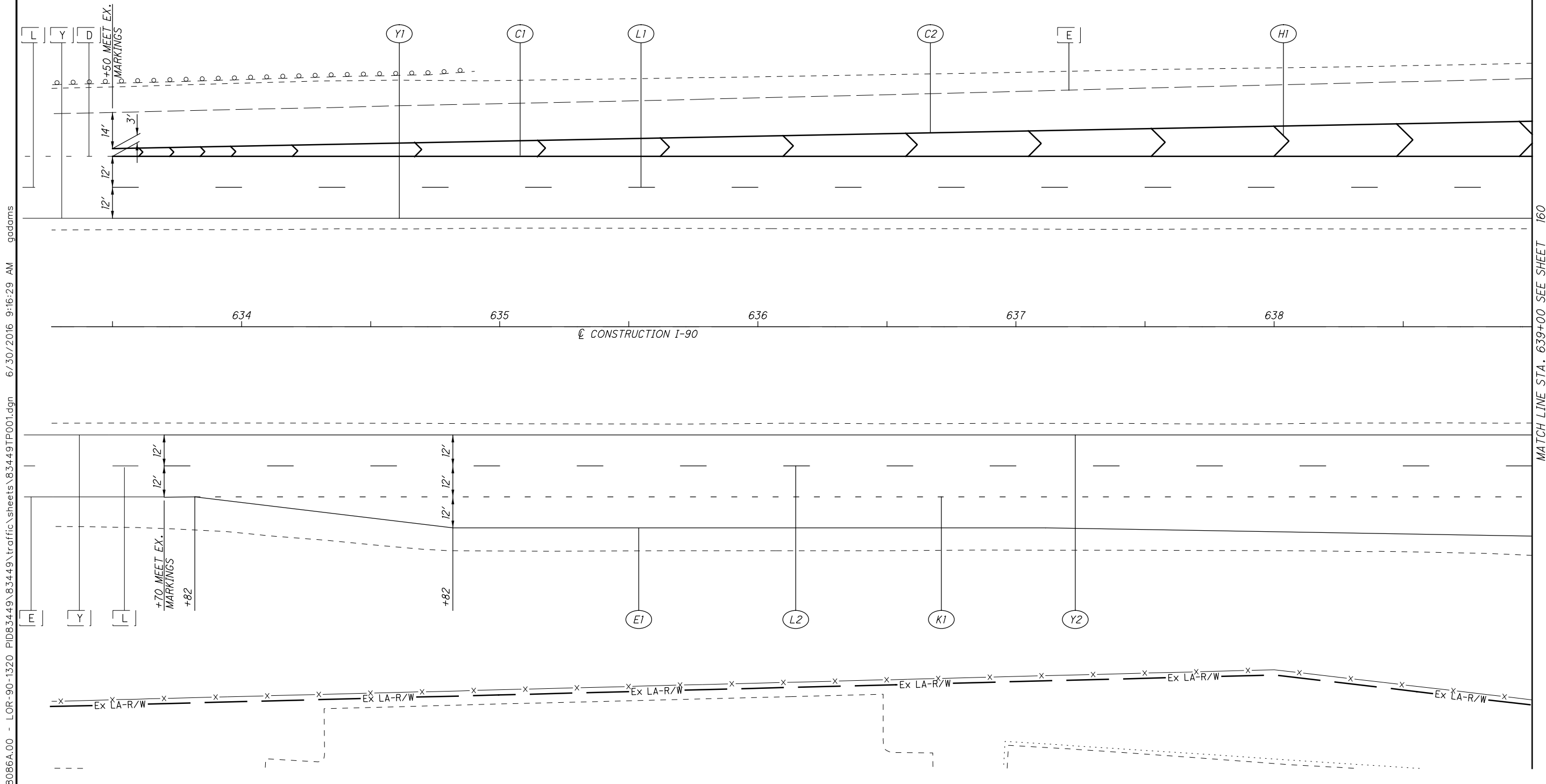
158
 301

SIGN LEGEND



PAVEMENT MARKING LEGEND
(I-90 / SR 57)

- (A) = ARROW ON PAVEMENT (96" WHITE)
- (C) = CHANNELIZING LINE (12" WHITE / 8" WHITE)
- (D) = CENTER LINE DOUBLE SOLID (6" YELLOW)
- (E) = EDGE LINE (6" WHITE / 4" WHITE)
- (H) = CHEVRON MARKING (24" WHITE)
- (L) = LANE LINE, (6" WHITE / 4" WHITE)
- (K) = DOTTED LINE, (6" WHITE, 3' LINE 9' GAP / 8" WHITE, 3' LINE 9' GAP)
- (S) = STOP LINE (24" WHITE)
- (Y) = EDGE LINE (6" YELLOW)
- () = QUANTITY FROM PREVIOUS SHEET
- [Y] = EXISTING PAVEMENT MARKINGS



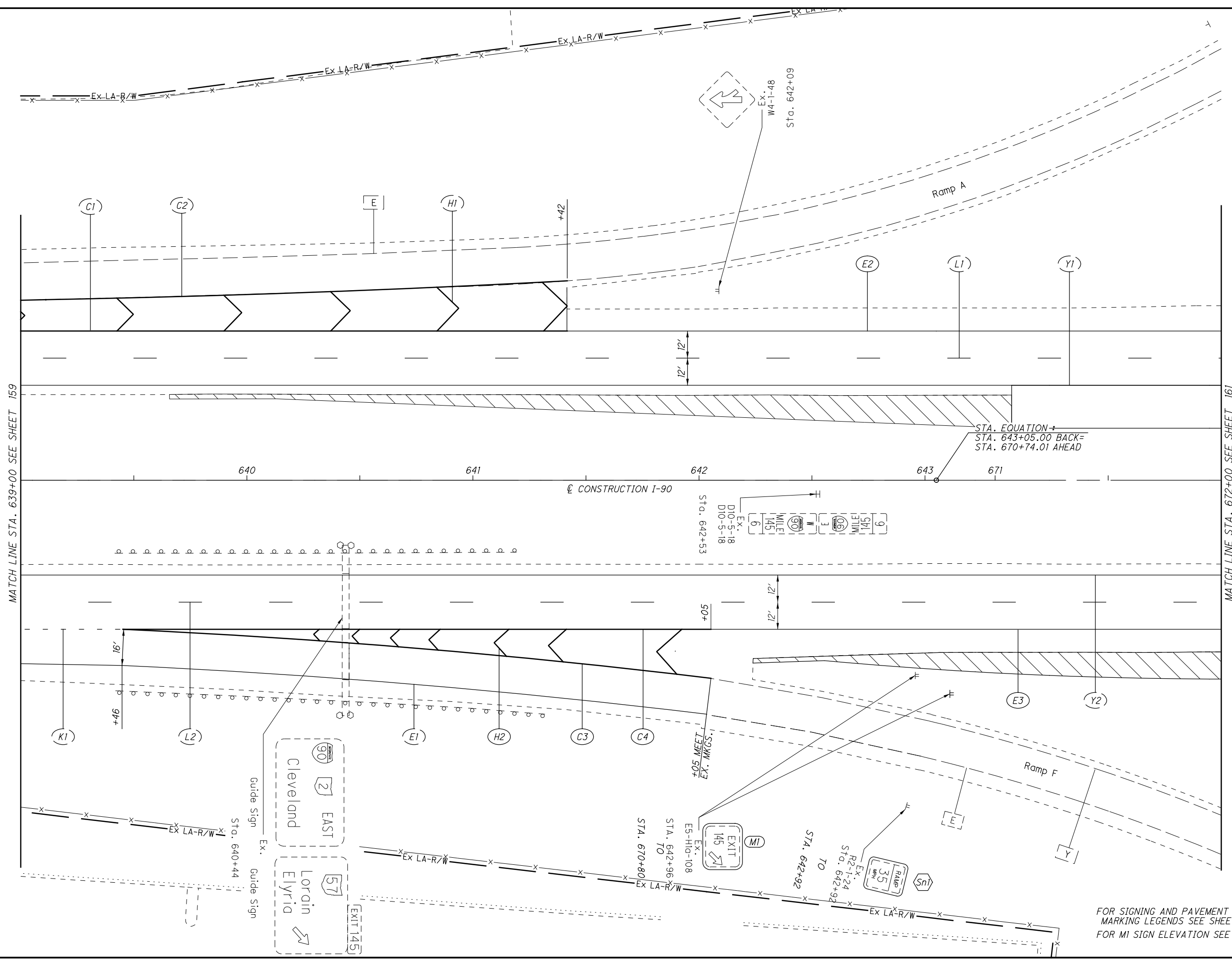
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CALCULATED
 MLS
 CHECKED
 LAS

TRAFFIC CONTROL PLAN - I-90
STA. 633+50 TO STA. 639+00

LOR-90-13.20
 159
 301

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CALCULATED
MLS
CHECKED
LAS

0 20 40
10
HORIZONTAL
SCALE IN FEET

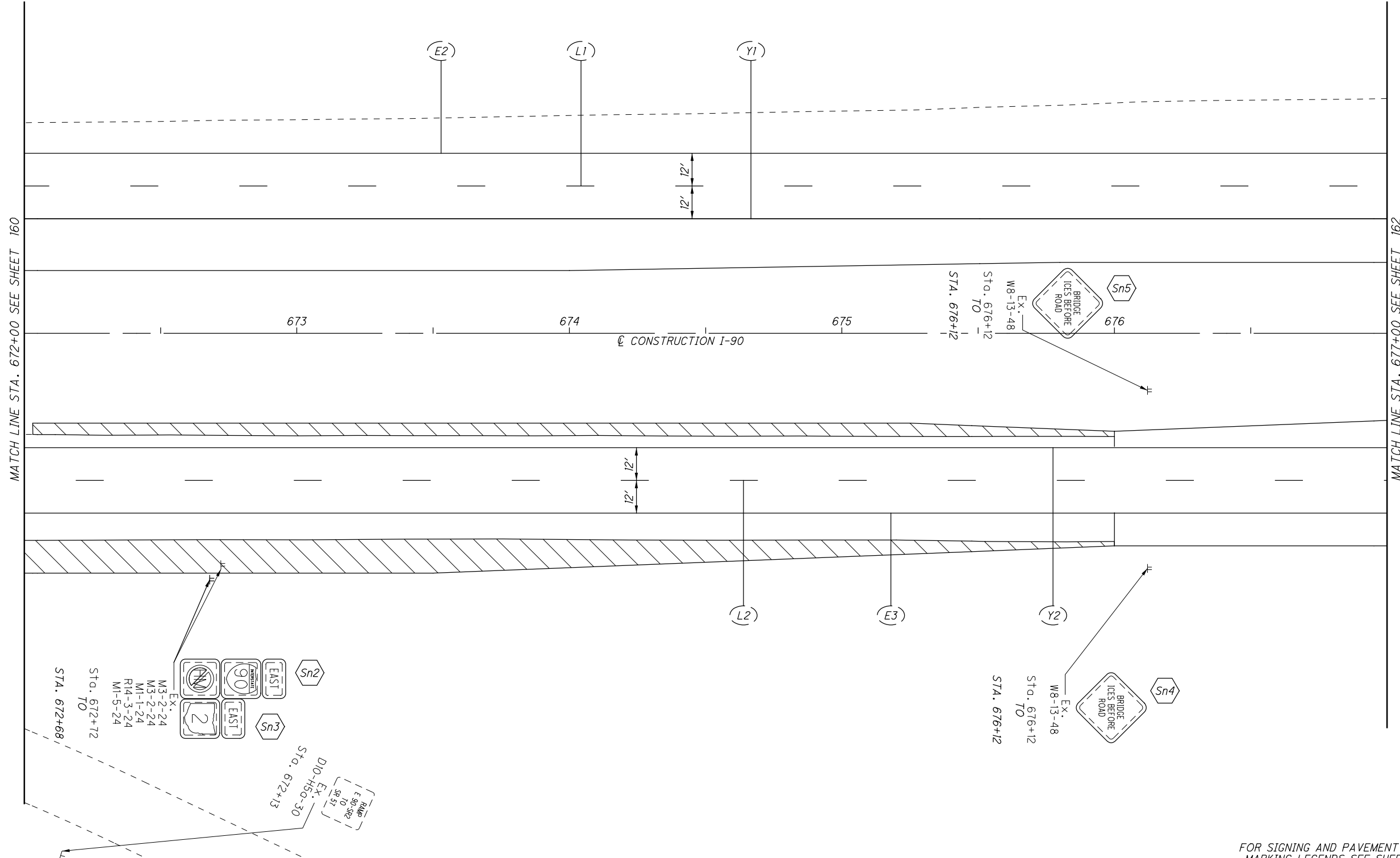
TRAFFIC CONTROL PLAN - I-90
STA. 639+00 TO STA. 672+00

LOR-90-13.20

160
301

FOR SIGNING AND PAVEMENT
MARKING LEGENDS SEE SHEET 159
FOR MI SIGN ELEVATION SEE SHEET 174

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FOR SIGNING AND PAVEMENT
 MARKING LEGENDS SEE SHEET 159
 FOR M2 AND M3 SIGN
 ELEVATIONS SEE SHEET 175

CALCULATED	ML S
CHECKED	LAS

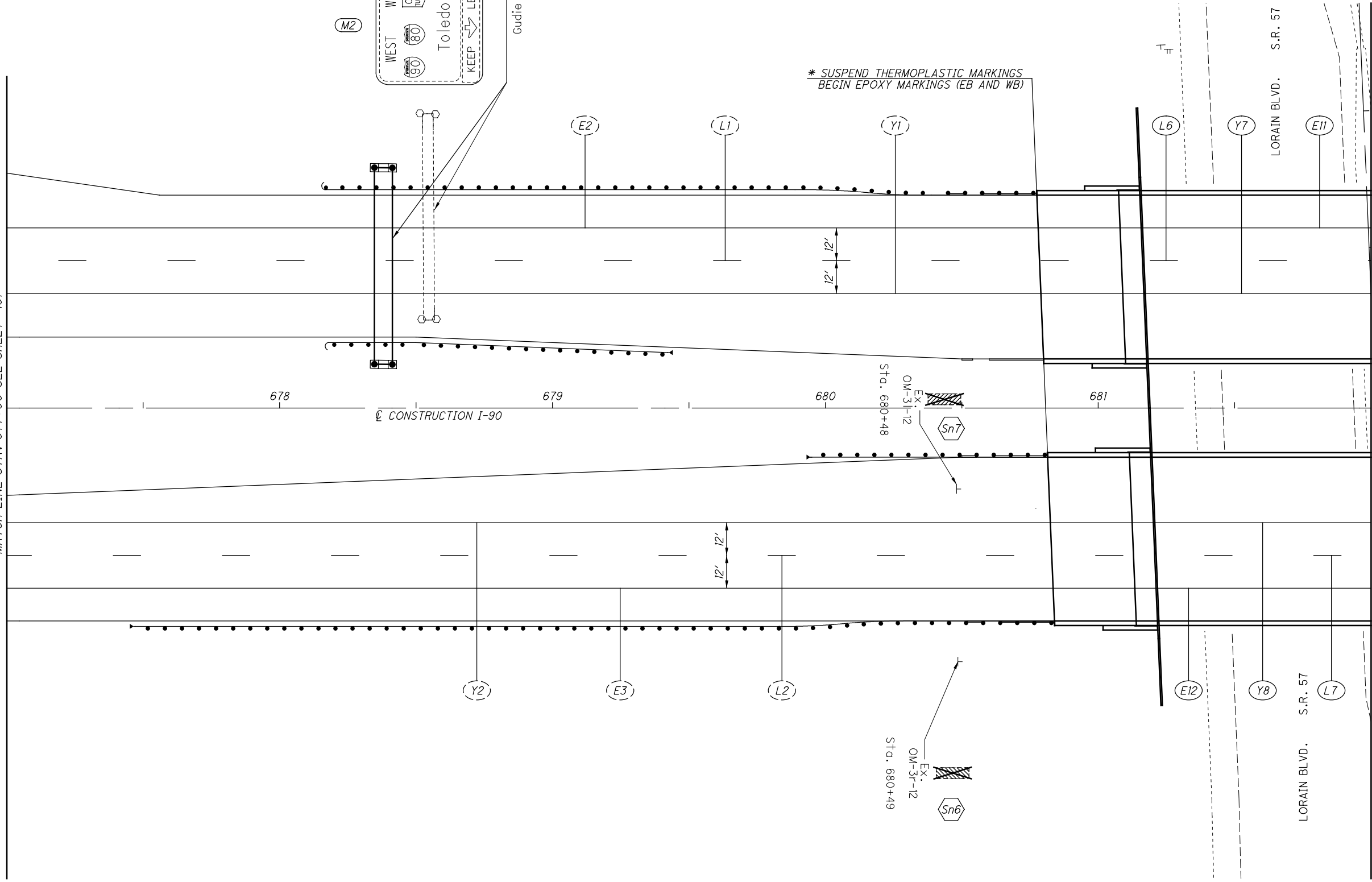
0 20 40
 HORIZONTAL
 SCALE IN FEET

TRAFFIC CONTROL PLAN - I-90
STA. 672+00 TO STA. 677+00

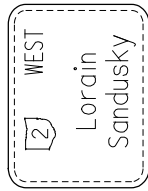
LOR-90-13.20

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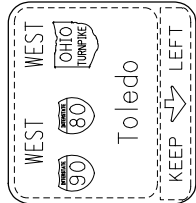
MATCH LINE STA. 677+00 SEE SHEET 161



M3



M2



Ex. Guide Sign
 Sta. 678+54
 TO
 STA. 678+38

* SEE SUBSUMMARY SHEETS 155 AND 156
 FOR EXACT STATIONING

* SUSPEND THERMOPLASTIC MARKINGS
 BEGIN EPOXY MARKINGS (EB AND WB)

CONSTRUCTION I-90

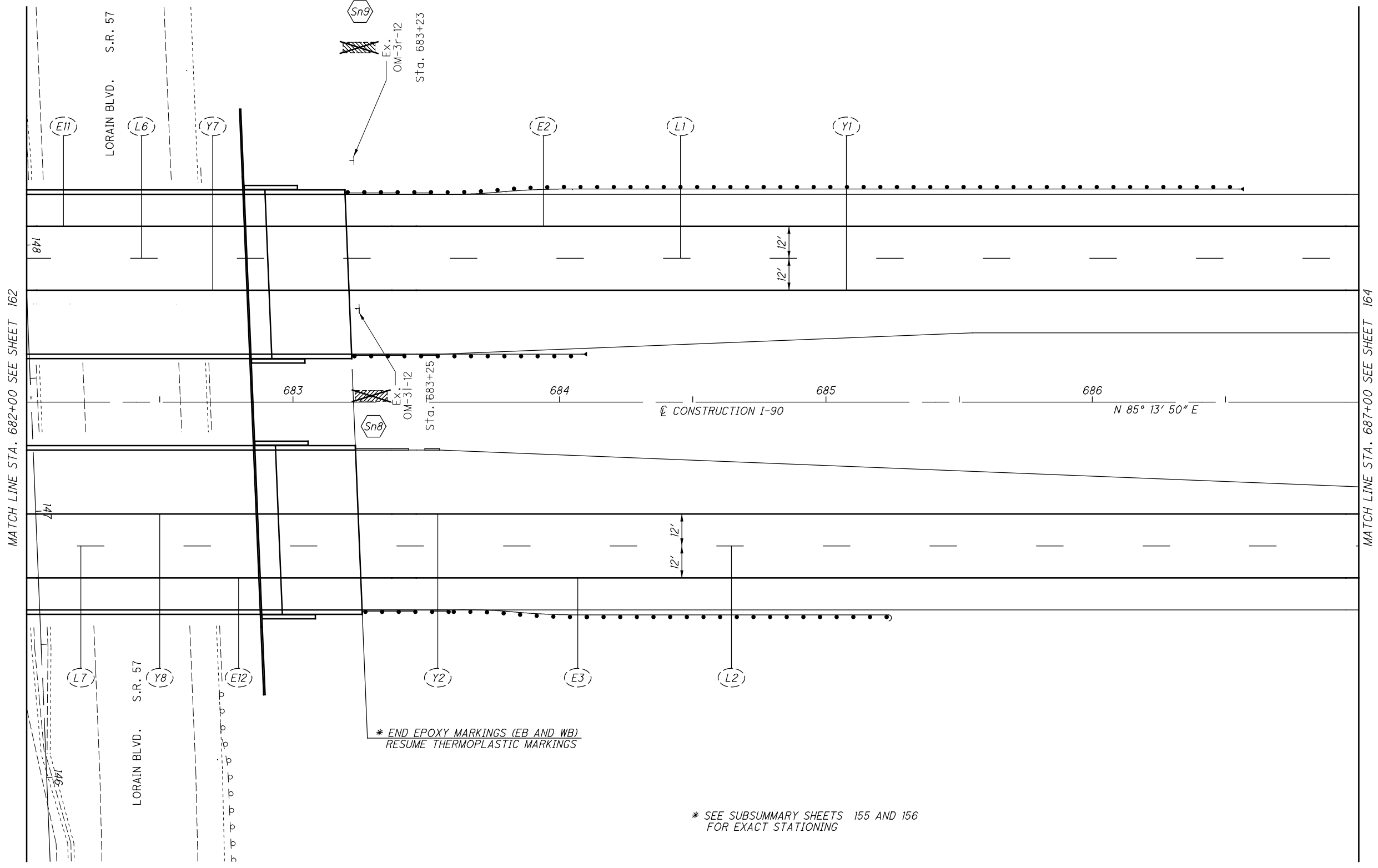
FOR SIGNING AND PAVEMENT
 MARKING LEGENDS SEE SHEET 159

CALCULATED
 M.L.S.
 CHECKED
 L.A.S.

0 20 40
 1" = 40'
 HORIZONTAL
 SCALE IN FEET

TRAFFIC CONTROL PLAN - I-90
STA. 677+00 TO STA. 682+00

LOR-90-13.20



* END EPOXY MARKINGS (EB AND WB)
RESUME THERMOPLASTIC MARKINGS

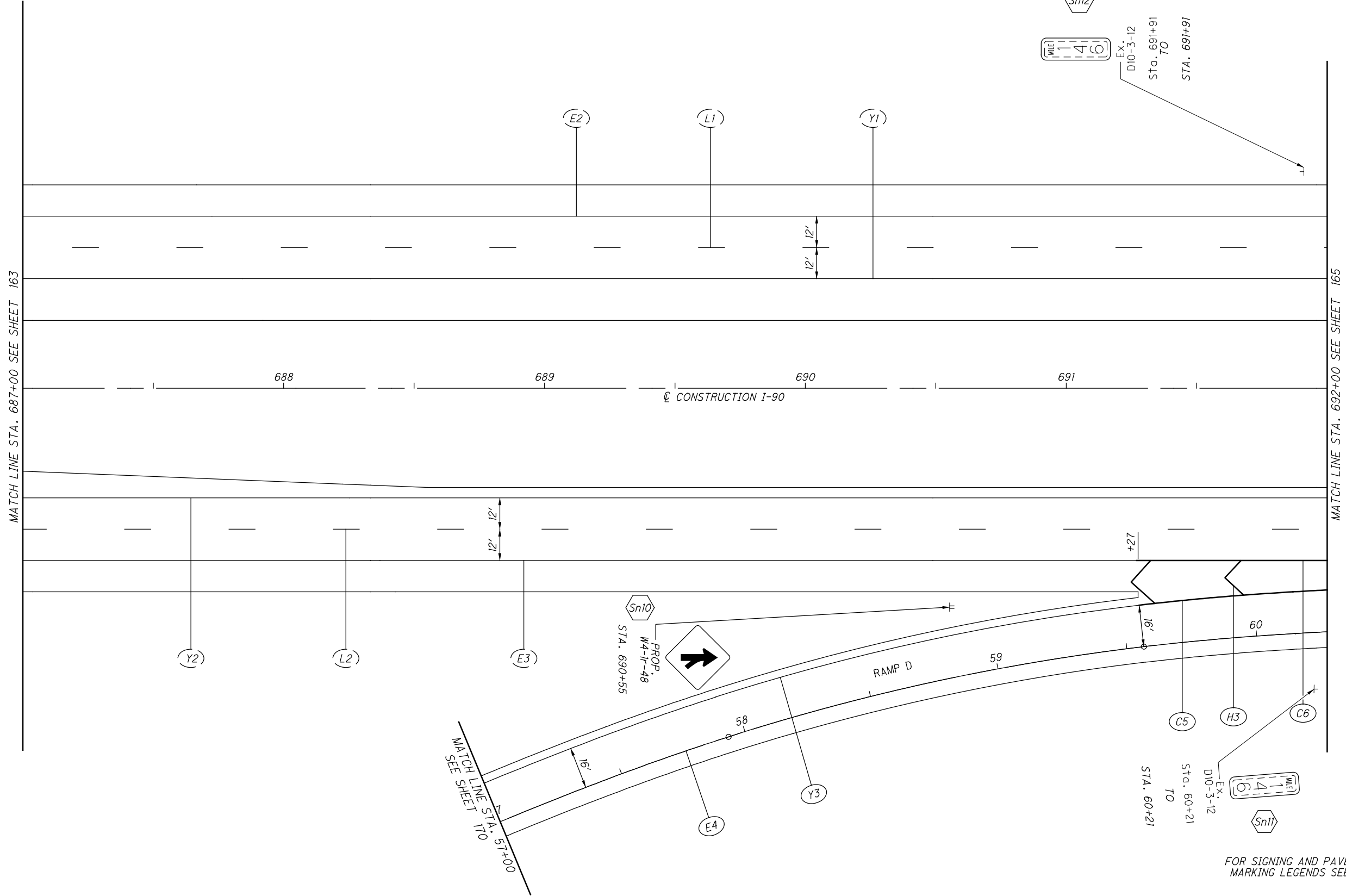
* SEE SUBSUMMARY SHEETS 155 AND 156
FOR EXACT STATIONING

CALCULATED	0
MLS	20
CHECKED	40
LAS	

HORIZONTAL SCALE IN FEET

TRAFFIC CONTROL PLAN - I-90
STA. 682+00 TO STA. 687+00

LOR-90-13.20

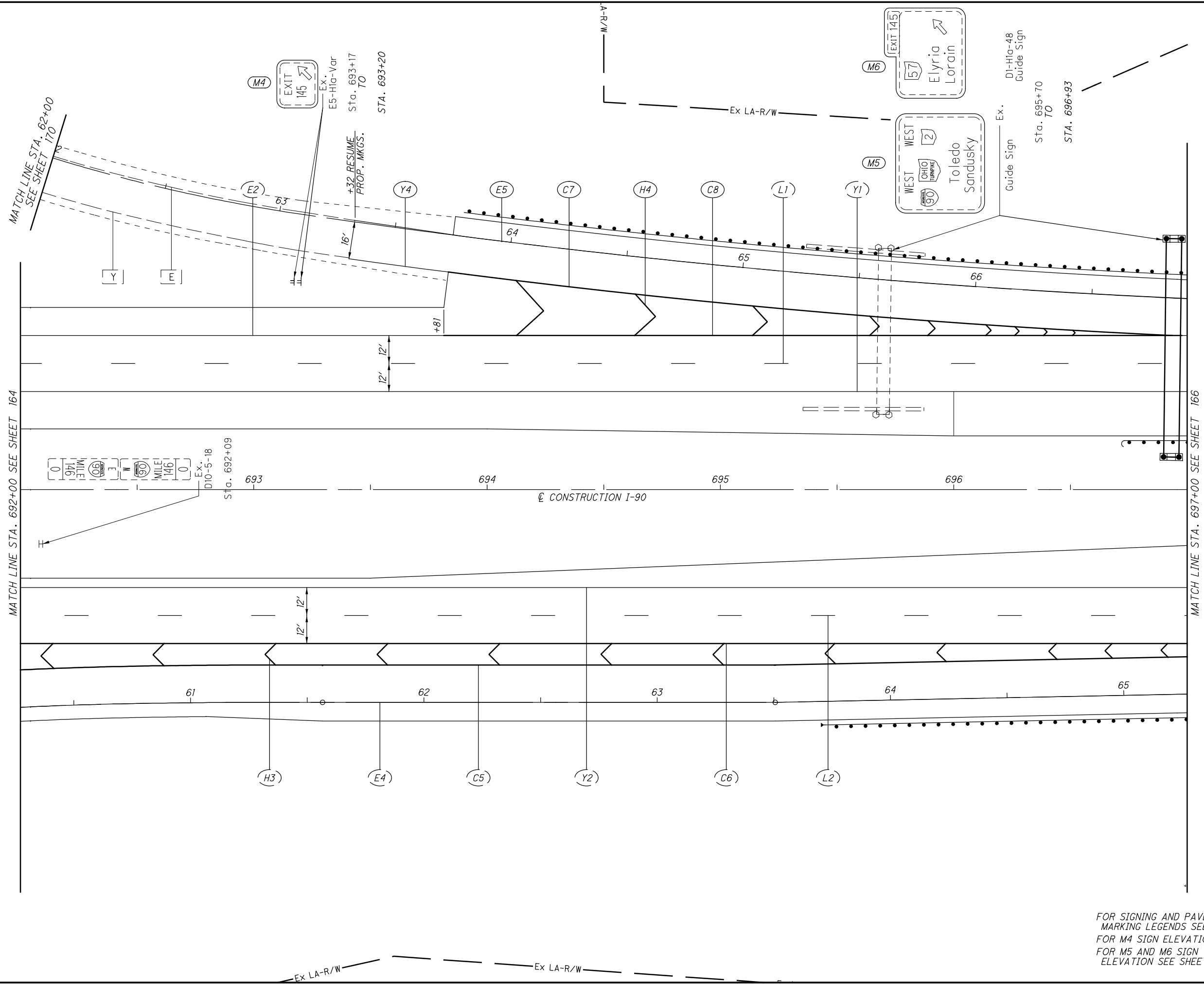


CALCULATED	MLS
CHECKED	LAS

0 20 40
HORIZONTAL SCALE IN FEET

TRAFFIC CONTROL PLAN - I-90
STA. 687+00 TO STA. 692+00

LOR-90-13.20



FOR SIGNING AND PAVEMENT MARKING LEGENDS SEE SHEET 159
 FOR M4 SIGN ELEVATION SEE SHEET 174
 FOR M5 AND M6 SIGN ELEVATION SEE SHEET 176

CALCULATED
 MLS
 CHECKED
 LAS

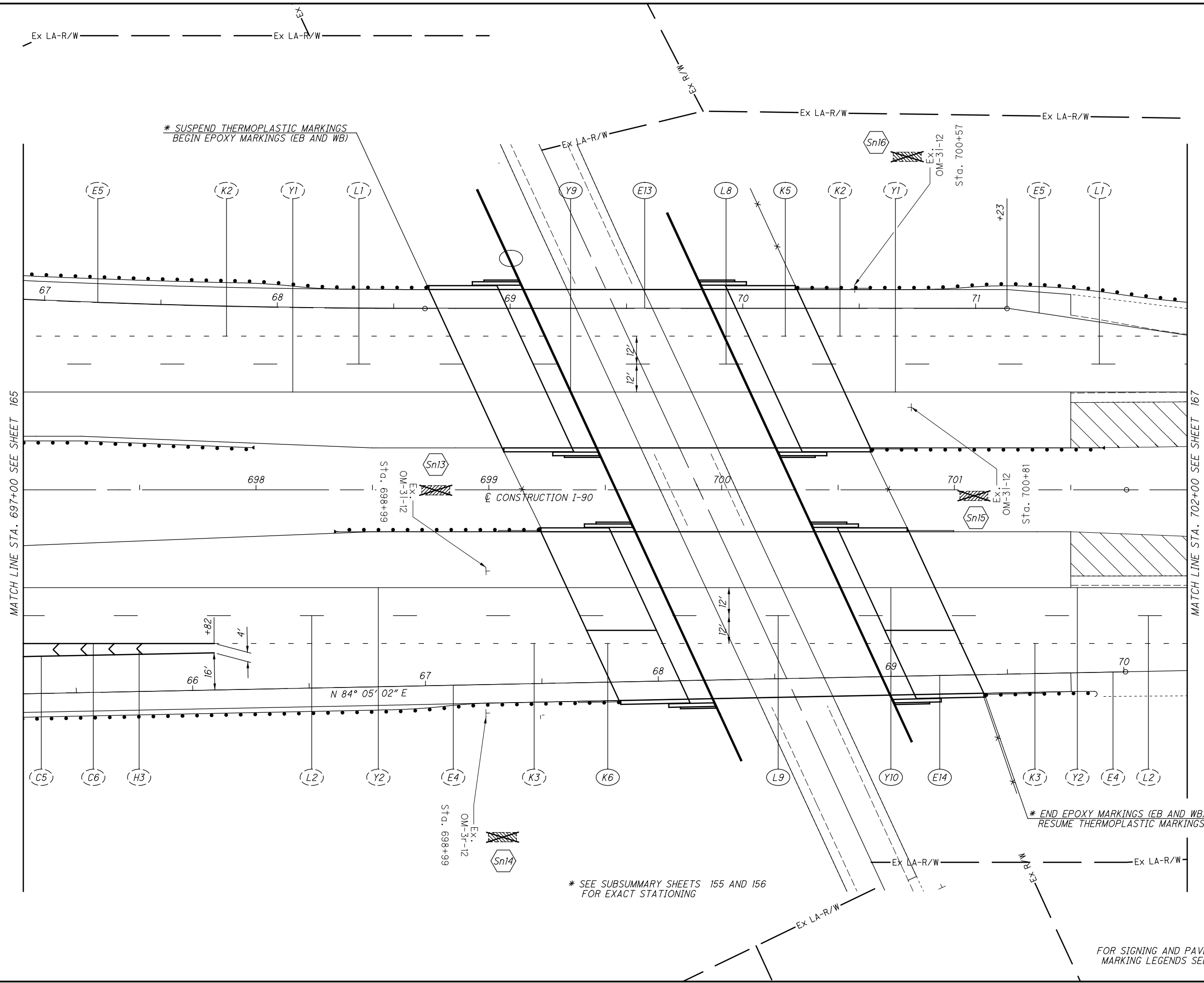
0 20 40
 HORIZONTAL SCALE IN FEET

165
 301

TRAFFIC CONTROL PLAN - I-90
STA. 692+00 TO STA. 697+00

LOR-90-13.20

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* SUSPEND THERMOPLASTIC MARKINGS
BEGIN EPOXY MARKINGS (EB AND WB)

* END EPOXY MARKINGS (EB AND WB)
RESUME THERMOPLASTIC MARKINGS

* SEE SUBSUMMARY SHEETS 155 AND 156
FOR EXACT STATIONING

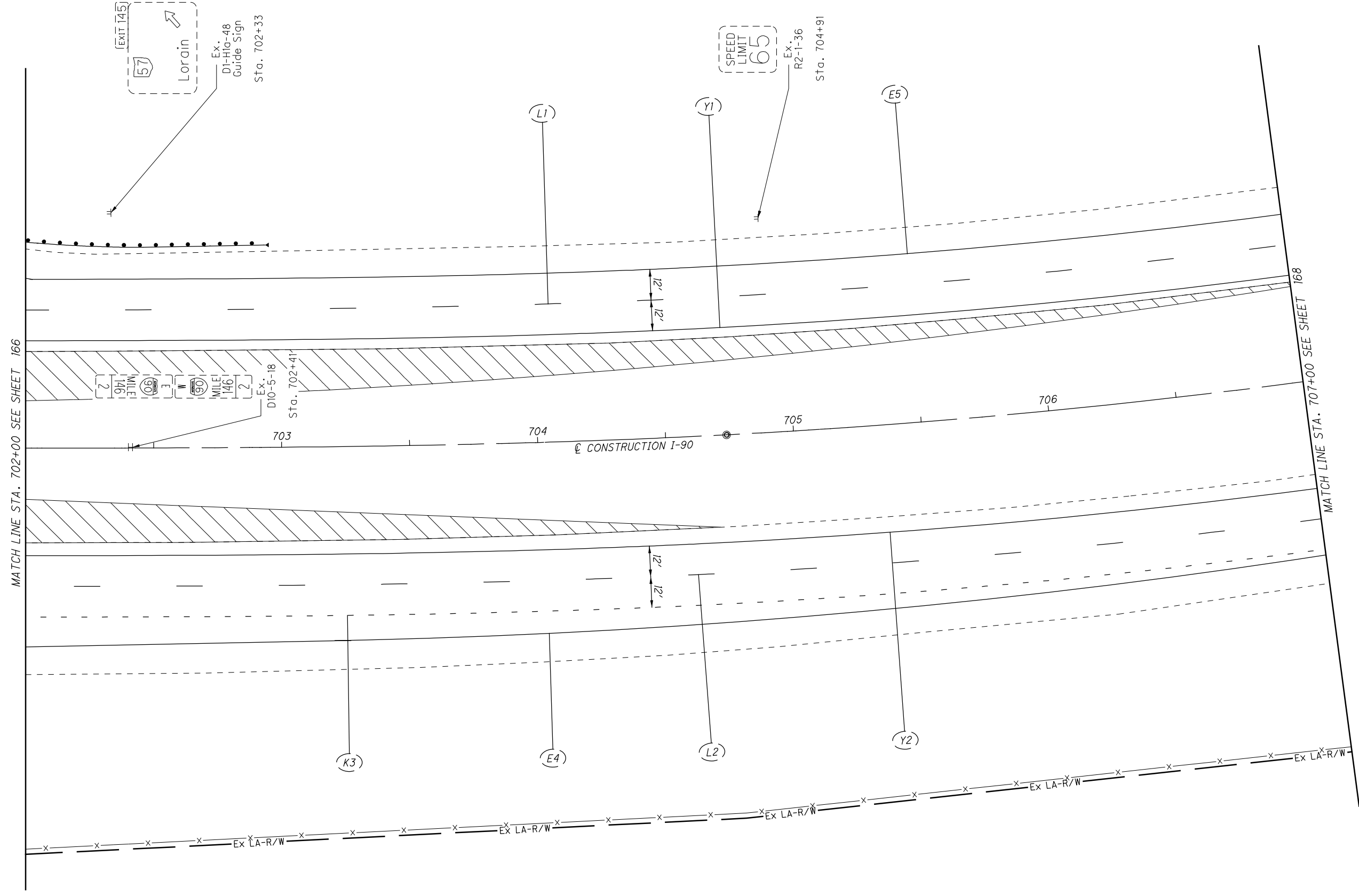
FOR SIGNING AND PAVEMENT
MARKING LEGENDS SEE SHEET 159

CALCULATED
MLS
CHECKED
LAS

0 20 40
HORIZONTAL
SCALE IN FEET

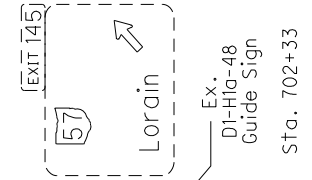
TRAFFIC CONTROL PLAN - I-90
STA. 697+00 TO STA. 702+00

LOR-90-13.20



MATCH LINE STA. 702+00 SEE SHEET 166

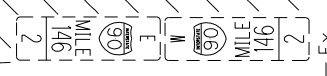
MATCH LINE STA. 707+00 SEE SHEET 168



Ex. DI-HIa-48 Guide Sign Sta. 702+33



Ex. R2-1-36 Sta. 704+91



Ex. D10-5-18 Sta. 702+41

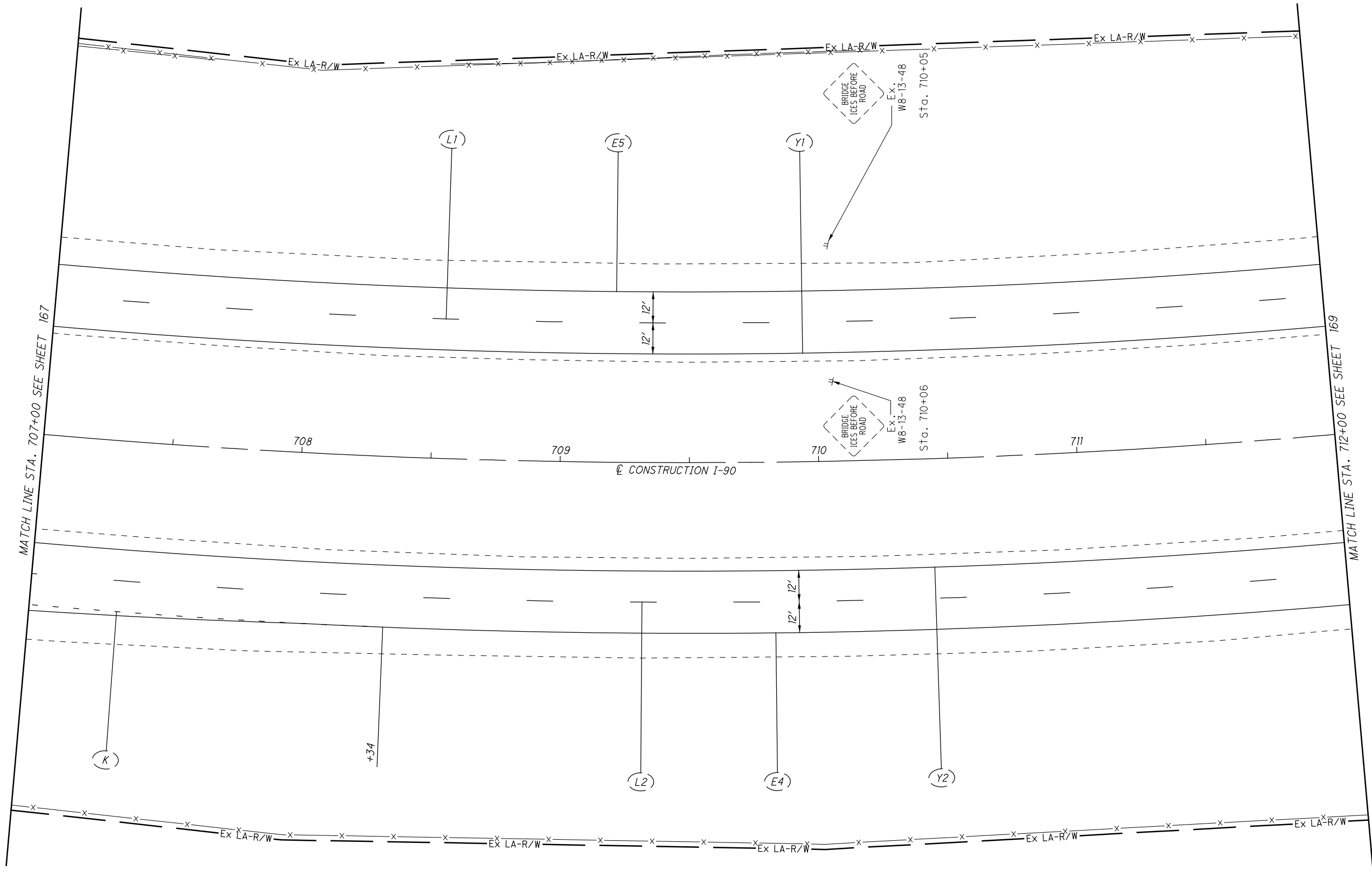
CALCULATED
MLS
CHECKED
LAS

0 20 40
10
HORIZONTAL
SCALE IN FEET

TRAFFIC CONTROL PLAN - I-90
STA. 702+00 TO STA. 707+00

LOR-90-13.20

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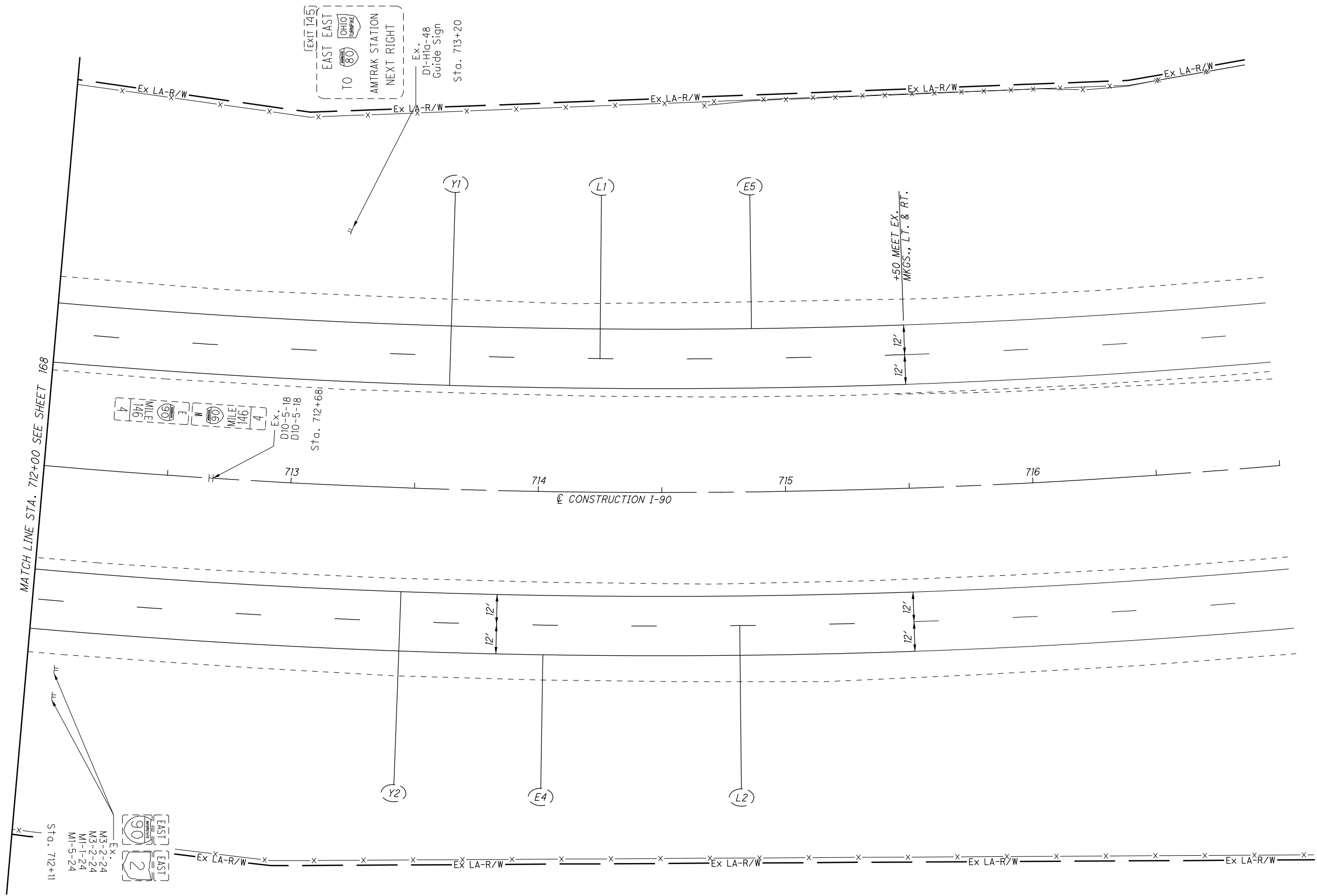
CALCULATED
MLS
CHECKED
LAS

0 20 40
HORIZONTAL
SCALE IN FEET

TRAFFIC CONTROL PLAN - I-90
STA. 707+00 TO STA. 712+00

LOR-90-13.20

FOR SIGNING AND PAVEMENT
MARKING LEGENDS SEE SHEET 159



MATCH LINE STA. 712+00 SEE SHEET 168

Sta. 712+11
 Ex.
 M3-2-24
 M3-2-24
 M1-1-24
 M1-5-24



Ex.
 D10-5-18
 D10-5-18
 Sta. 712+681



Ex.
 D1-Hic-48
 Guide Sign
 Sta. 713+20

CONSTRUCTION I-90

+50 MEET EX.
 MKGS., LT. & RT.

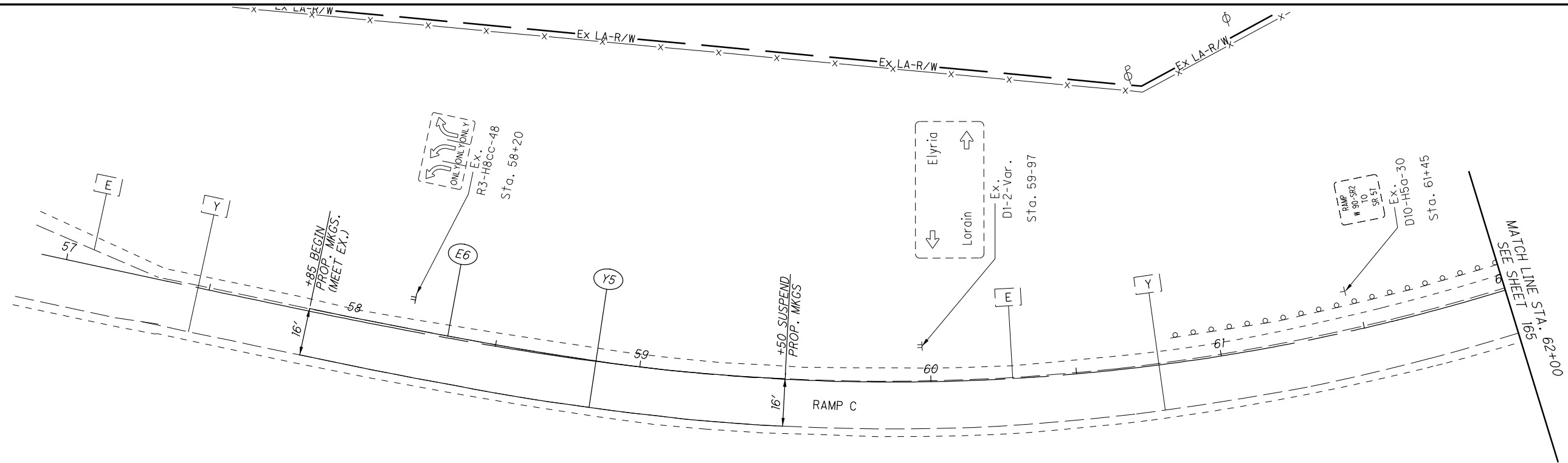
CALCULATED
 MLS
 CHECKED
 LAS

0 20 40
 HORIZONTAL
 SCALE IN FEET

TRAFFIC CONTROL PLAN - I-90
STA. 712+00 TO STA. 717+00

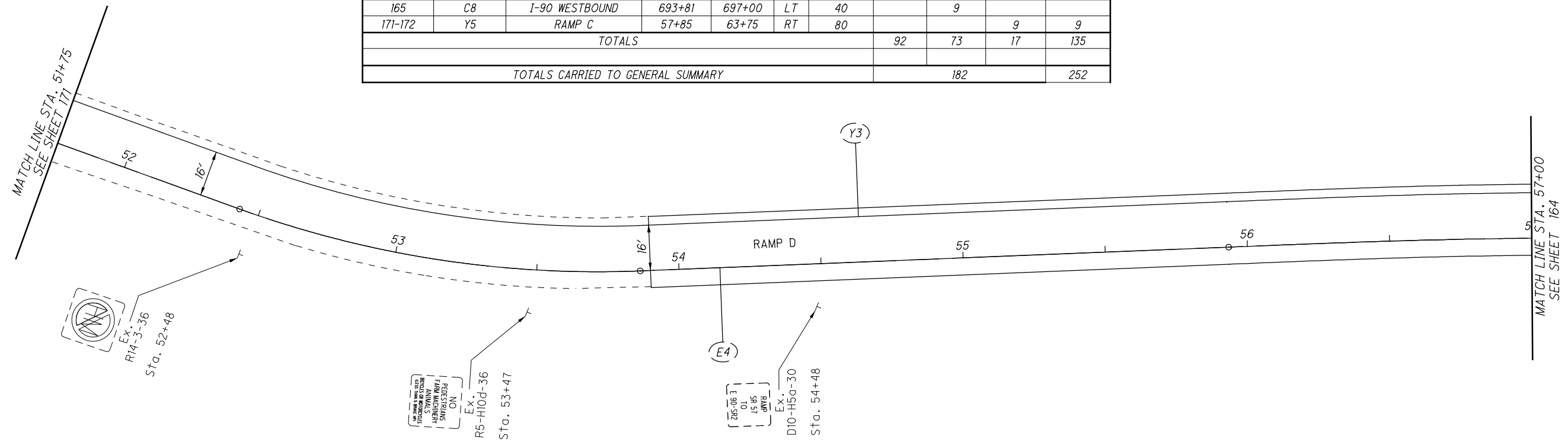
LOR-90-13.20

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ITEM 621 RAISED PAVEMENT MARKER SUB-SUMMARY

SHEET NO.	REFERENCE NO.	ROADWAY	STATION TO STATION		SIDE	INTERVAL FT	1-WAY	2 - WAY	2 - WAY	RPM REMOVED
							WHITE	WH/RED	YEL/RED	
159-160	C2	I-90 WESTBOUND	633+50	641+42	LT	40		21		4
160	C3	I-90 EASTBOUND	639+46	642+05	RT	40		8		14
160	C4	I-90 EASTBOUND	639+46	642+05	RT	40		8		
159-169	L1	I-90 WESTBOUND	633+50	715+50	LT	120	46			46
159-169	L2	I-90 EASTBOUND	633+50	715+50	RT	120	46			46
164-166	C5	I-90 EASTBOUND	691+27	697+82	RT	40		18		8
164, 170-171	Y3	RAMP D	53+90	59+60	LT	80			8	8
165	C7	I-90 WESTBOUND	693+81	697+00	LT	40		9		
165	C8	I-90 WESTBOUND	693+81	697+00	LT	40		9		
171-172	Y5	RAMP C	57+85	63+75	RT	80			9	9
TOTALS							92	73	17	135
TOTALS CARRIED TO GENERAL SUMMARY								182		252



FOR SIGNING AND PAVEMENT MARKING LEGENDS SEE SHEET 159

LOR-90-13.20

TRAFFIC CONTROL PLAN - RAMPS C AND D

STA. 57+00-62+00 RAMP C / STA. 51+75-57+00 RAMP D

CALCULATED
MLS

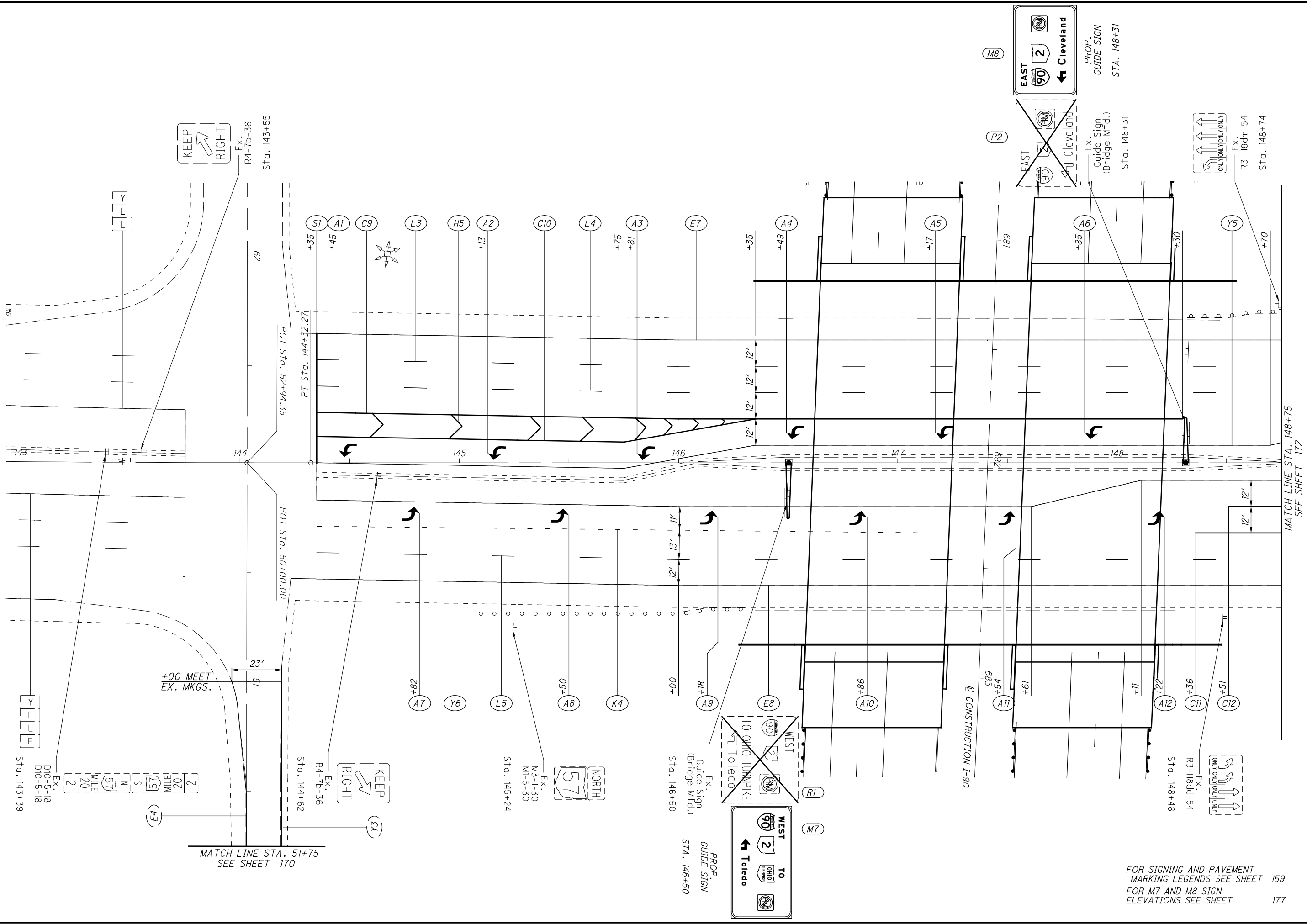
CHECKED
LAS

0 20 40
HORIZONTAL
SCALE IN FEET

170

301

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 CALCULATED 0

 MLS 10

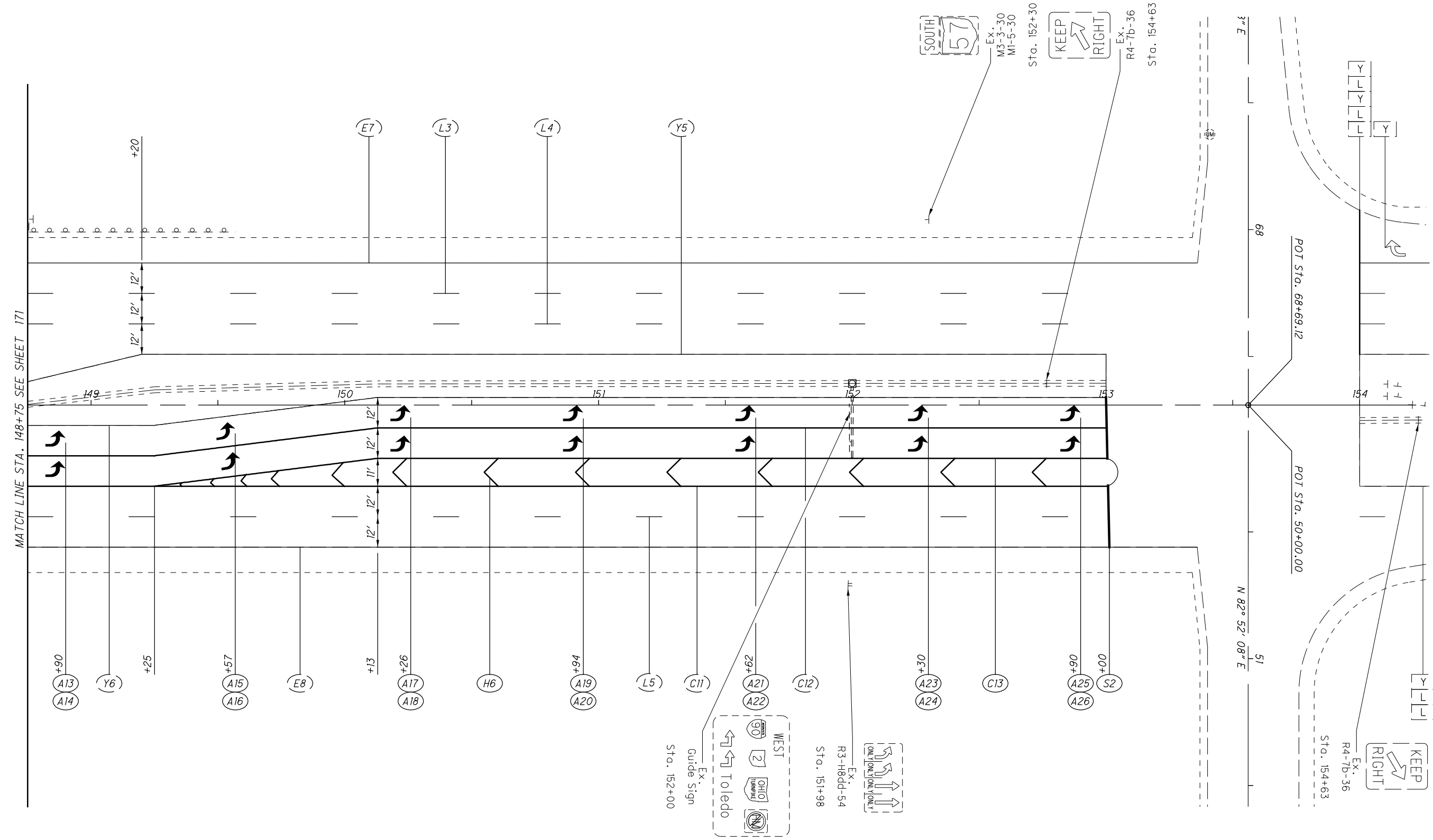
 CHECKED LAS

 HORIZONTAL SCALE IN FEET

TRAFFIC CONTROL PLAN - SR-57
STA. 143+00 TO STA. 148+75

LOR-90-13.20
 171
 301

FOR SIGNING AND PAVEMENT MARKING LEGENDS SEE SHEET 159
 FOR M7 AND M8 SIGN ELEVATIONS SEE SHEET 177



CALCULATED
MLS
CHECKED
LAS

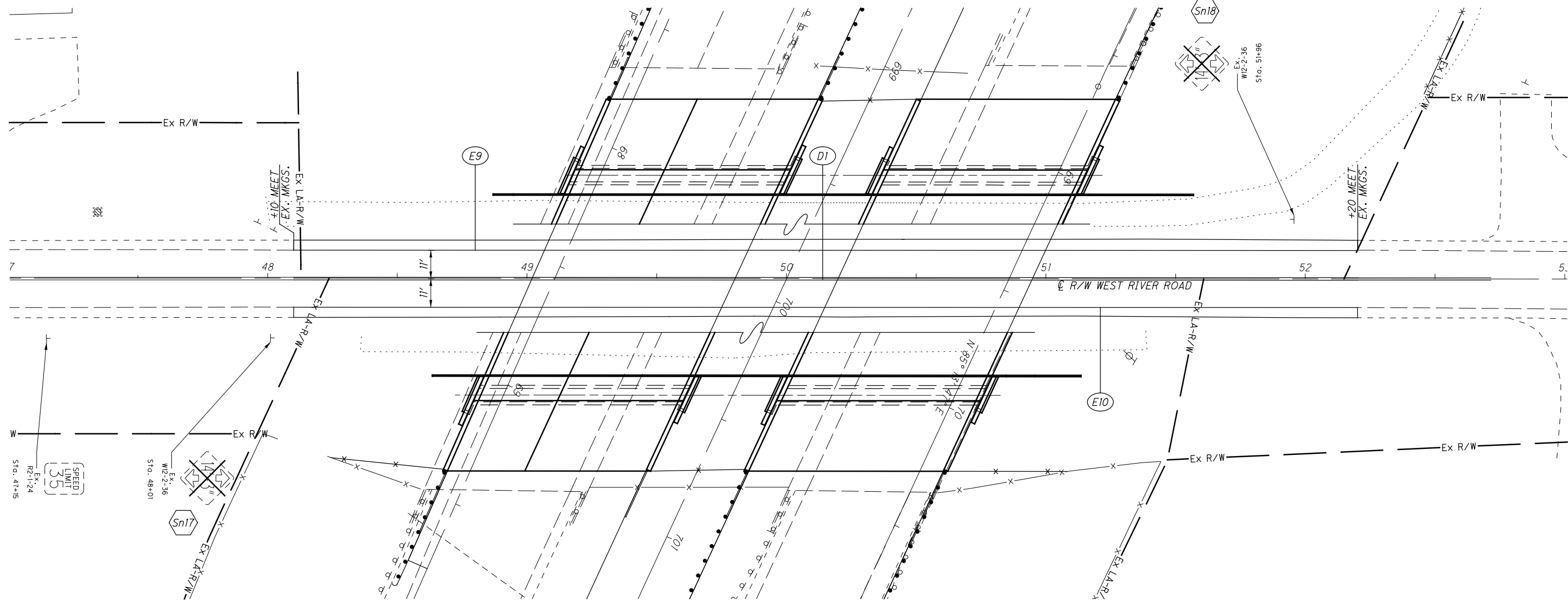
0 20 40
HORIZONTAL
SCALE IN FEET

TRAFFIC CONTROL PLAN - SR-57
STA. 148+75 TO STA. 154+00

LOR-90-13.20

FOR SIGNING AND PAVEMENT
MARKING LEGENDS SEE SHEET 159

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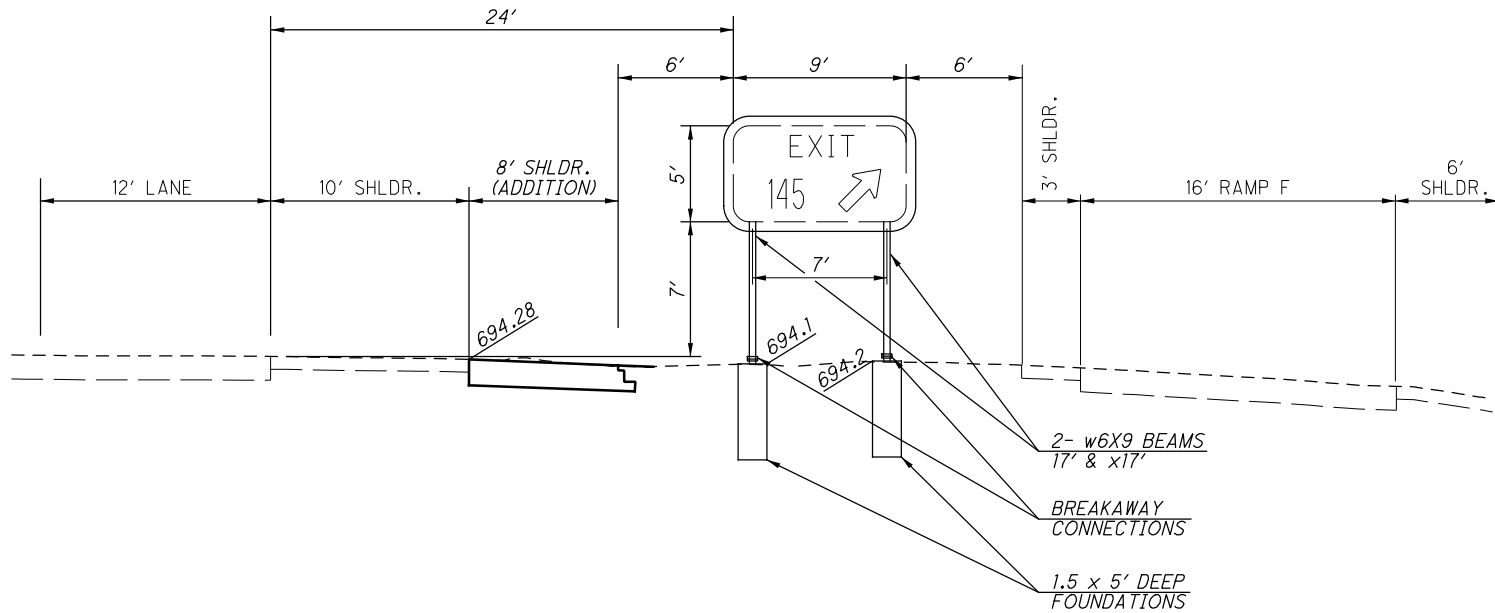
CALCULATED	M.L.S.
CHECKED	L.A.S.
SCALE IN FEET	
0 10 20 40	
HORIZONTAL	
SCALE IN FEET	

TRAFFIC CONTROL PLAN - WEST RIVER ROAD
WEST RIVER ROAD

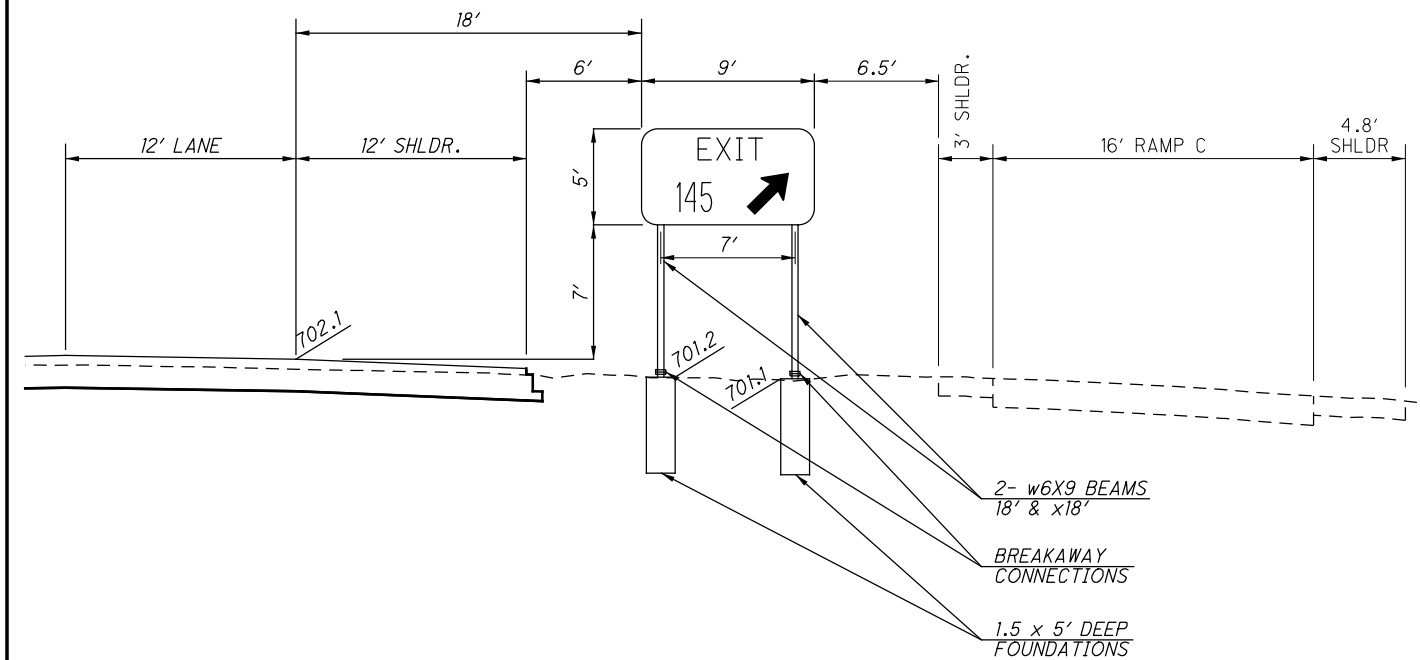
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FOR SIGNING AND PAVEMENT
MARKING LEGENDS SEE SHEET 159

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ROADSIDE SIGN ELEVATION M1
 STA. 670+80 EB I-90
 TC 42.10, W6x9
 FOR PLAN SEE SHEET 160



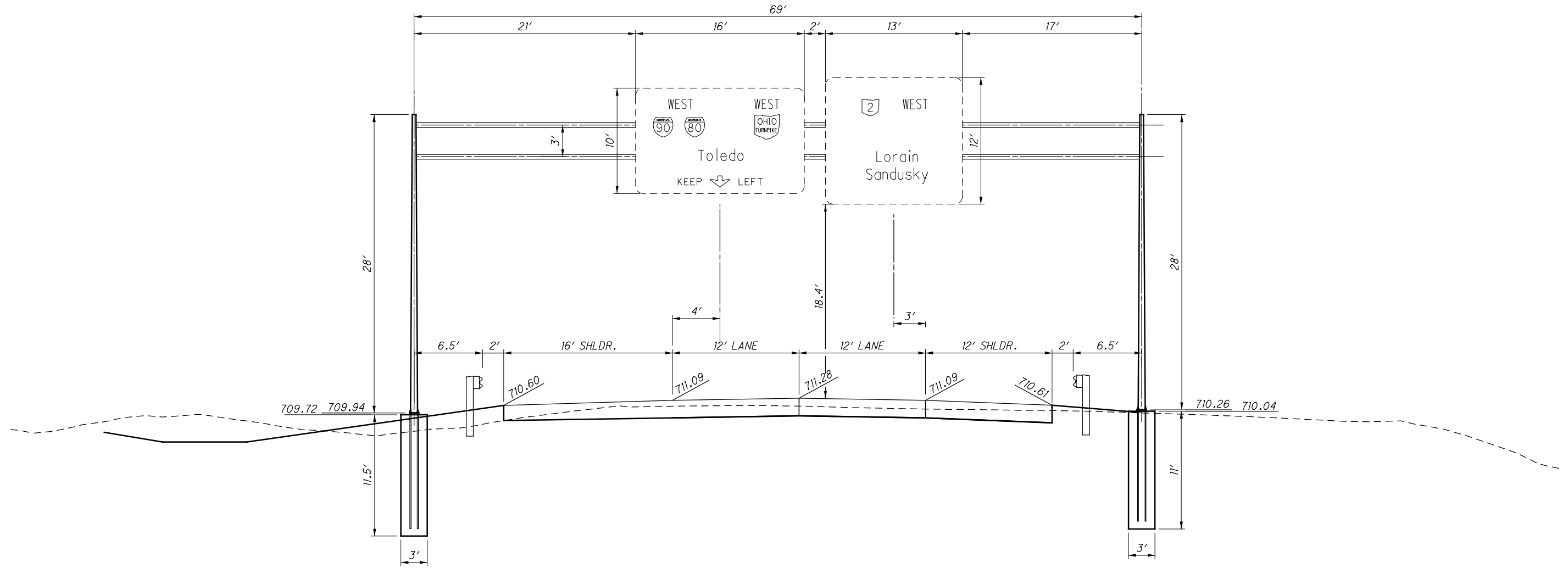
ROADSIDE SIGN ELEVATION M4
 STA. 693+20 WB I-90
 TC 42.10, W6x9
 FOR PLAN SEE SHEET 165

CALCULATED
MLS
CHECKED
LAS

SIGN ELEVATIONS
M1 STA. 642+92 AND M4 STA. 693+20

LOR-90-13.20

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OVERHEAD SIGN SUPPORT M2 AND M3

STA. 678+38 WB I-90
 TC-7.65 DESIGN 6
 SPAN LENGTH = 69'
 DESIGN VERTICAL CLEARANCE :
 MIN. = 17.0'
 ACTUAL = 18.4'
 FOR PLAN SEE SHEET 162

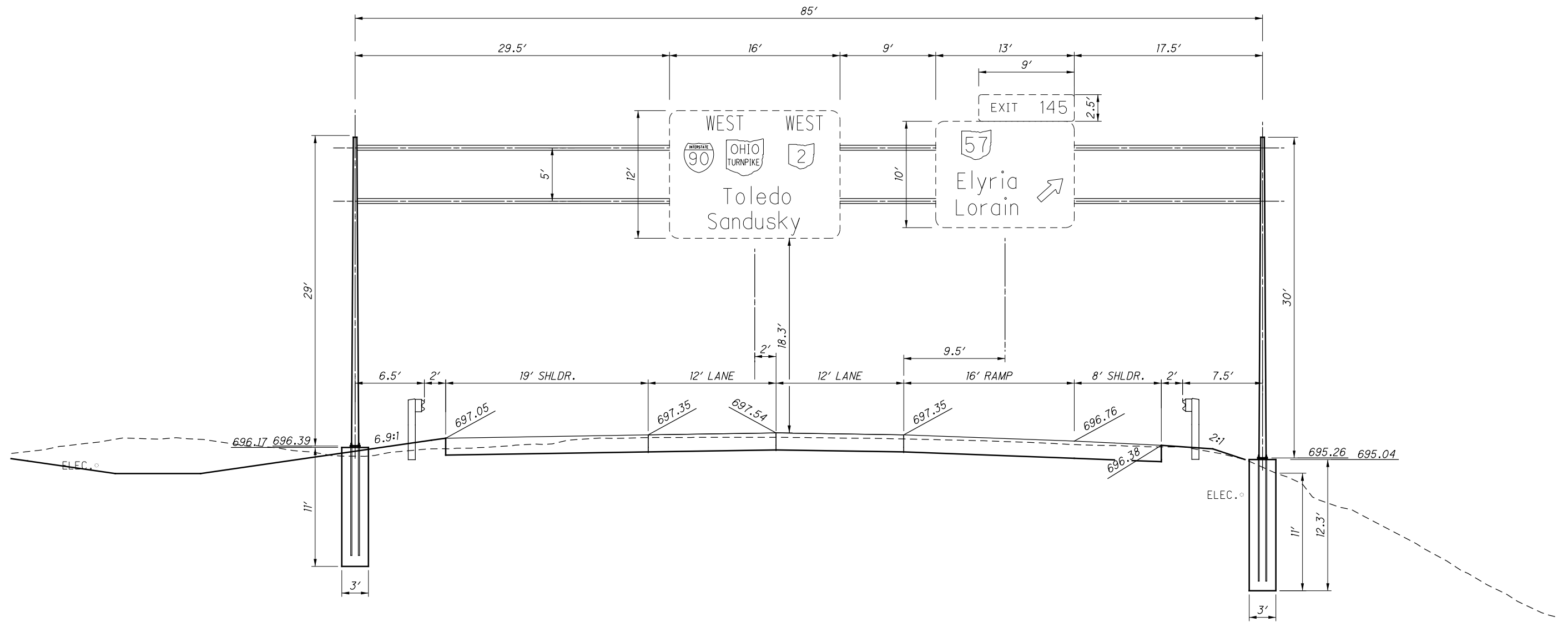
CALCULATED	ML S
CHECKED	LAS

SIGN ELEVATIONS
M2 AND M3 STA. 678+38 WB I-90

LOR-90-13.20

175
301

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OVERHEAD SIGN SUPPORT M5 AND M6

STA. 696+93 WB I-90
TC-7.65 DESIGN 8
SPAN LENGTH = 85'
DESIGN VERTICAL CLEARANCE :
MIN. = 17.00'
ACTUAL = 18.3'
FOR PLAN SEE SHEET 165

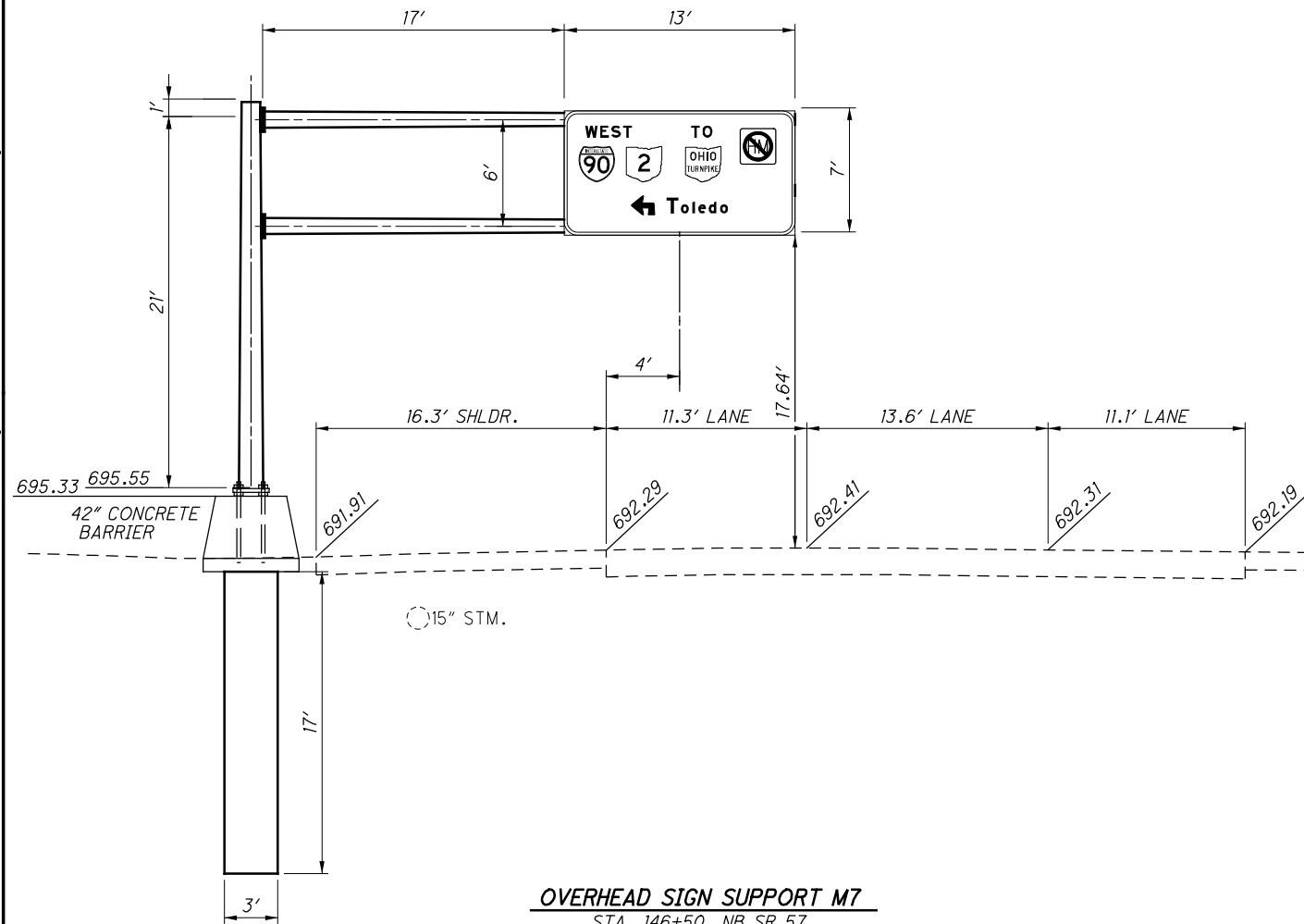
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SIGN ELEVATIONS
M5 AND M6 STA. 696+93 WB I-90

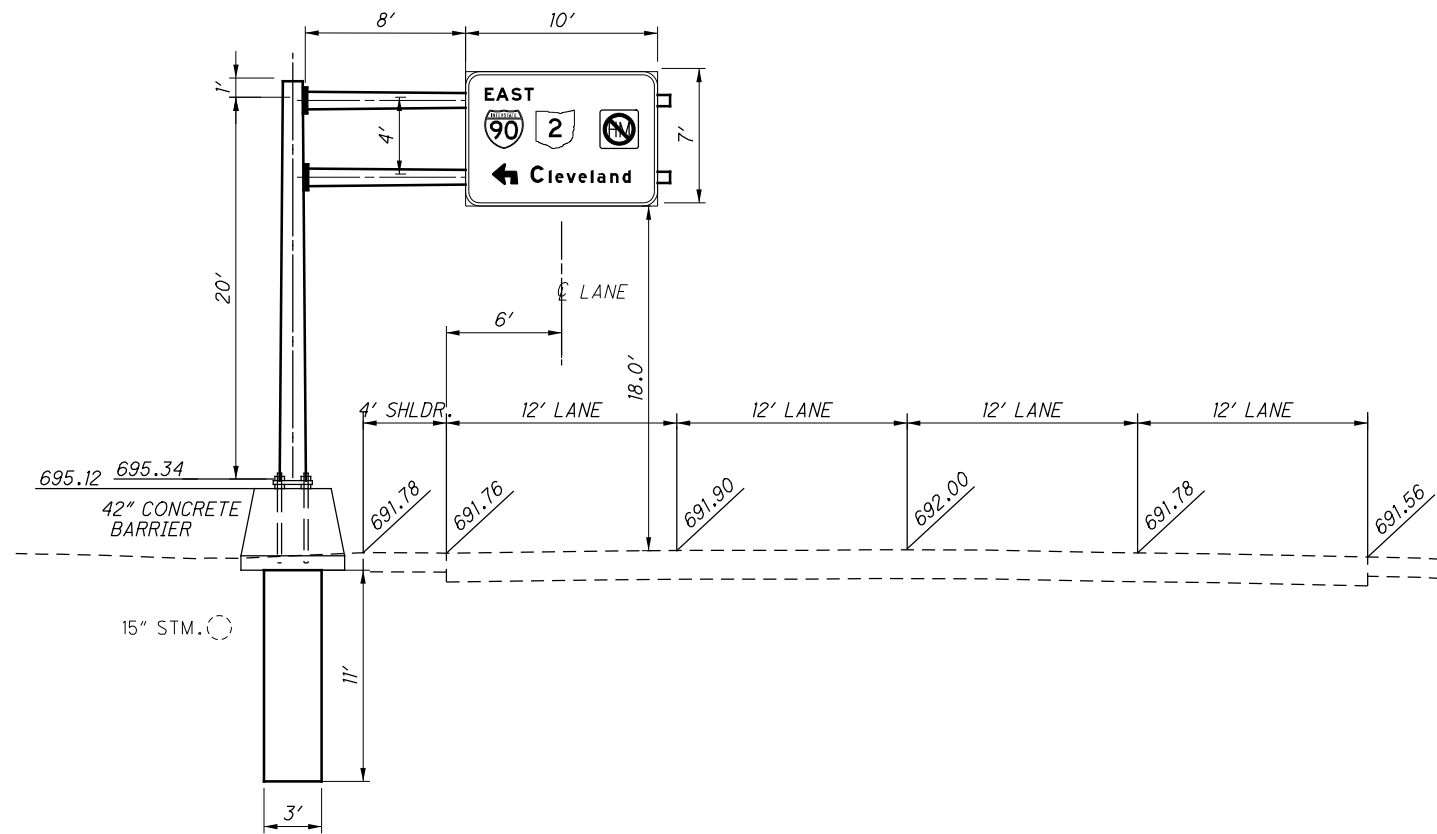
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OVERHEAD SIGN SUPPORT M7
 STA. 146+50, NB SR 57
 TC-12.30 DESIGN 10
 ARM LENGTH = 30'
 DESIGN VERTICAL CLEARANCE :
 MIN. = 17.00'
 ACTUAL = 17.64'
 FOR PLAN SEE SHEET 171



OVERHEAD SIGN SUPPORT M8
 STA. 148+31, SB SR 57
 TC-12.30 DESIGN 4
 ARM LENGTH = 19'
 DESIGN VERTICAL CLEARANCE :
 MIN. = 17.00'
 ACTUAL = 18.10'
 FOR PLAN SEE SHEET 171

CALCULATED
 M.L.S.
 CHECKED
 L.A.S.

SIGN ELEVATIONS SR-57
 M7 STA. 146+50 NB SR 57 M8 STA. 148+31 SB SR 57

LOR-90-13.20

UNUSED CONDUIT ON STRUCTURES

AS A MINIMUM INSTALL 2" CONDUIT IN ALL PARAPETS OF THE FOUR STRUCTURES ON THIS PROJECT EXCEPT WHERE 3" IS CALLED OUT SPECIFICALLY. PERMANENTLY CAP THE ENDS OF THESE UNUSED CONDUITS. EXTEND CONDUITS 3 FEET BEYOND THE APPROACH SLABS OF THE STRUCTURES.

PAYMENT FOR CAPPING THE STRUCTURES WILL BE CONSIDERED INCIDENTAL TO ITEM 625, CONDUIT, 2", 725.051.

ITEM 625 STRUCTURE GROUNDING

THE FOLLOWING STRUCTURES ARE TO BE GROUNDED PER CMS 625.16 AND HL-50.21:

681+99.47, 54' LEFT (WESTBOUND I-90 OVER SR 57, NOT SHOWN)
682+03.94, 54' LEFT (EASTBOUND I-90 OVER SR 57, NOT SHOWN)
699+21.37, 54' LEFT (WESTBOUND I-90 OVER WEST RIVER ROAD, SEE LIGHTING PLAN)
699+71.34, 54' LEFT (EASTBOUND I-90 OVER WEST RIVER ROAD, SEE LIGHTING PLAN)

THE FOLLOWING QUANTITIES ARE FORWARDED TO THE GENERAL SUMMARY:

ITEM 625 STRUCTURE GROUNDING SYSTEM 4 EACH

ITEM 625 SPECIAL, MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWN UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 30 FEET, AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFOREMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

ITEM 625 DISCONNECT CIRCUIT, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION AND RECONNECTION OF AN EXISTING LIGHT CIRCUIT AT A PROPOSED OR EXISTING PULL BOX.

DISCONNECTION AT A PROPOSED PULL BOX SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND PULLING CABLES BACK INTO THE CONDUIT, REMOVING THE CABLE AND INSTALLING SPLICE KITS. SPLICE KITS ARE PAID FOR SEPARATELY.

EXISTING CABLE SHALL BE CUT IN A MANNER SO THAT THERE IS SUFFICIENT CABLE LEFT FOR RECONNECTION.

DEAD ENDED WIRES THAT ARE TO REMAIN ON ACTIVE CIRCUITS SHALL HAVE A WATER-RESISTANT SEAL AT THE CUT END. THE WATER-RESISTANT SEAL SHALL BE ACCOMPLISHED BY INSTALLING A CABLE SPLICE KIT ON THE CUT END OF THE CABLE. THESE SPLICE KITS ARE PAID FOR SEPARATELY.

PAYMENT SHALL INCLUDE FULL COMPENSATION ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 625 DISCONNECT CIRCUIT, AS PER PLAN AT EACH LOCATION WHERE DISCONNECTION IS REQUIRED.

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CHECKED
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GENERAL NOTES - LIGHTING

LOR-90-13.20

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SHEET NUMBER										PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	ML'S	CHECKED	LAS	
								178	180							LIGHTING						
												625	00480	15	EACH	CONNECTION, UNFUSED PERMANENT						
												625	15200	3	EACH	LIGHT TOWER FOUNDATION, 36" X 25' DEEP						
												625	29002	193	FT	TRENCH, 24" DEEP						
												625	22900	1230	FT	NO. 1/0 AWG 2400 VOLT DISTRIBUTION CABLE						178
												625	25408	1047	FT	CONDUIT, 2" 725.051						
												625	25504	649	FT	CONDUIT, 3", 725.051						
												625	30700	6	EACH	PULL BOX, 725.08, 18"						
												625	31510	4	EACH	PULL BOX REMOVED						
												625	32000	6	EACH	GROUND ROD						
										4		625	33000	4	EACH	STRUCTURE GROUNDING SYSTEM						178
												625	35020	3	EACH	RE-ERECT EXISTING LIGHT TOWER						
										LUMP		625	40000	LUMP	LS	SPECIAL - MAINTAIN EXISTING LIGHTING						178
												625	75540	3	EACH	LIGHT TOWER FOUNDATION REMOVED						
												625	75801	5	EACH	DISCONNECT CIRCUIT, AS PER PLAN						178

LIGHTING GENERAL SUMMARY

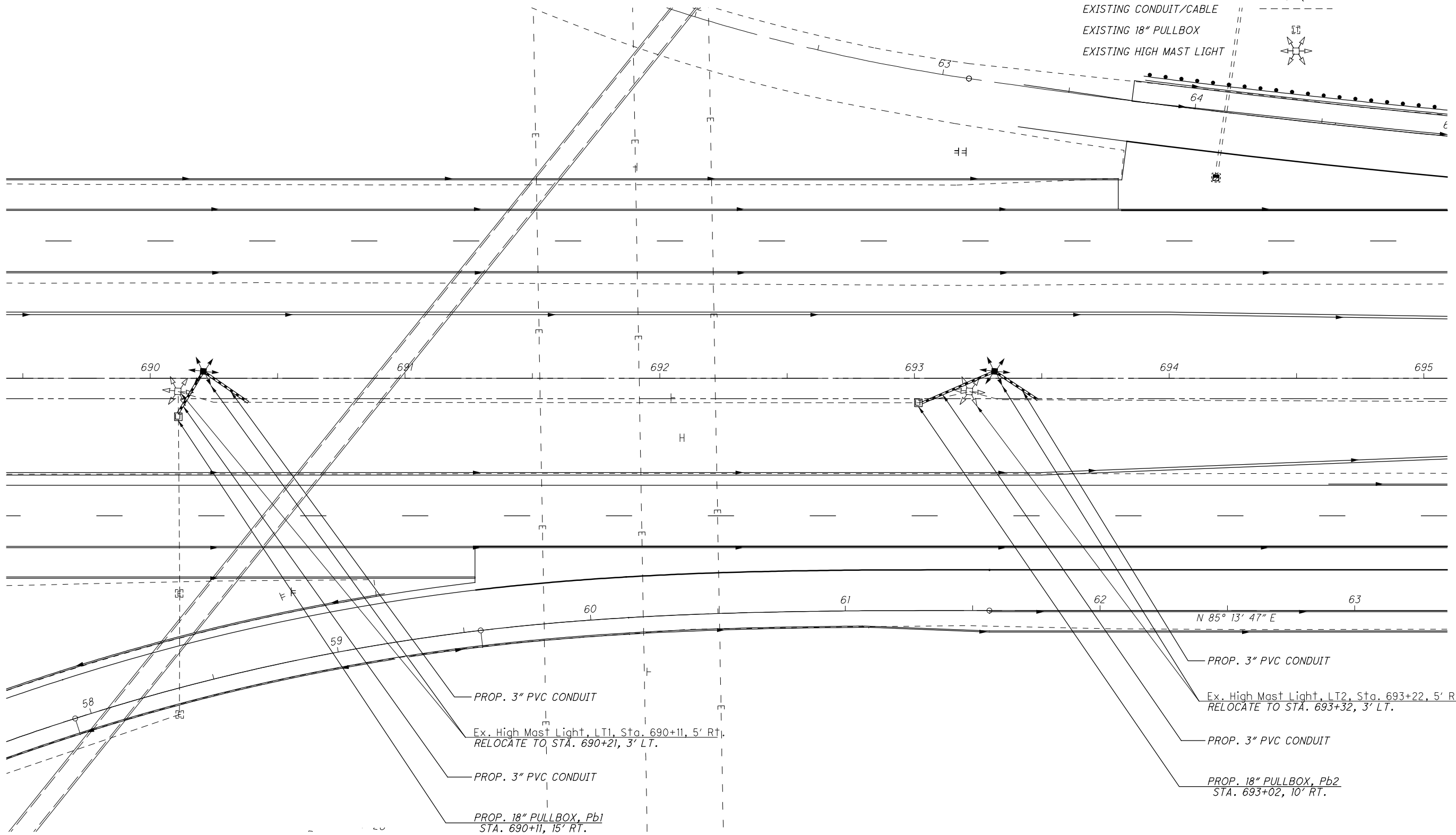
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REF. NO.	SHEET NO.	STATION		SIDE	ITEM DESCRIPTION															
		FROM	TO		625 CONNECTION, UNFUSED PERMANENT EACH	625 LIGHT TOWER FOUNDATION, 36" X 25' DEEP EACH	625 TRENCH, 24" DEEP FT	625 NO. 1/0 AWG 2400 VOLT DISTRIBUTION CABLE FT	625 CONDUIT, 2", 725.051 FT	625 CONDUIT, 3", 725.051 FT	625 PULL BOX, 725.08, 18" EACH	625 PULL BOX REMOVED EACH	625 GROUND ROD EACH	625 RE-ERECT EXISTING LIGHT TOWER EACH	625 LIGHT TOWER FOUNDATION REMOVED EACH	625 DISCONNECT CIRCUIT, AS PER PLAN EACH				
PB1	181	690+11	690+11	RT																
PB1-LT1	181	690+11	690+21	RT-LT																
LT1	181	690+21	690+21	LT	3	1														
LT1	181	690+21	690+31	LT-RT																
PB2	181	693+02		RT																
PB2-LT2	181	693+02	693+32	RT-LT																
LT2	181	693+32	693+32	LT	3	1														
LT2	181	693+32	693+37	LT-RT																
PB3	182	697+37	697+37	RT																
PB3-LT3	182	697+37	697+60	RT-LT																
LT3	182	697+60		LT	3	1														
PB4	182	697+74	697+74	LT	3															
PB4-PB5	182	697+74	699+37	LT-RT				531												
PB8	182	697+77	697+77	RT																
N/A	182	698+70	700+28	LT					158											
N/A	182	699+03	700+62	LT					159											
PB9	182	699+10	699+10	RT																
PB5	182	699+37	699+37	RT																
PB5-PB6	182	699+37	700+63	RT																
PB10	182	699+48	699+48	RT																
N/A	182	699+53	701+16	RT																
PB6	182	700+63	700+63	RT																
PB6-PB7	182	700+63	701+49	RT																
PB11	182	701+20	701+20	RT																
PB7	182	701+49	701+49	RT	3															
N/A	178	681+07	682+90	LT																
N/A	178	681+10	682+92	LT																
N/A	178	681+11	682+94	RT																
N/A	178	681+14	682+96	RT																
TOTALS CARRIED TO GENERAL SUMMARY					15	3	193	1230	1047	649	6	4		6	3	3	5			

CALCULATED M.L.S. CHECKED L.A.S.	LIGHTING - SUBSUMMARY	LOR-90-13.20	180 301
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LEGEND

PROPOSED CONDUIT/CABLE	///
PROPOSED 18" PULLBOX	□
PROPOSED HIGH MAST LIGHT	★
EXISTING CONDUIT/CABLE	==
EXISTING 18" PULLBOX	□
EXISTING HIGH MAST LIGHT	★

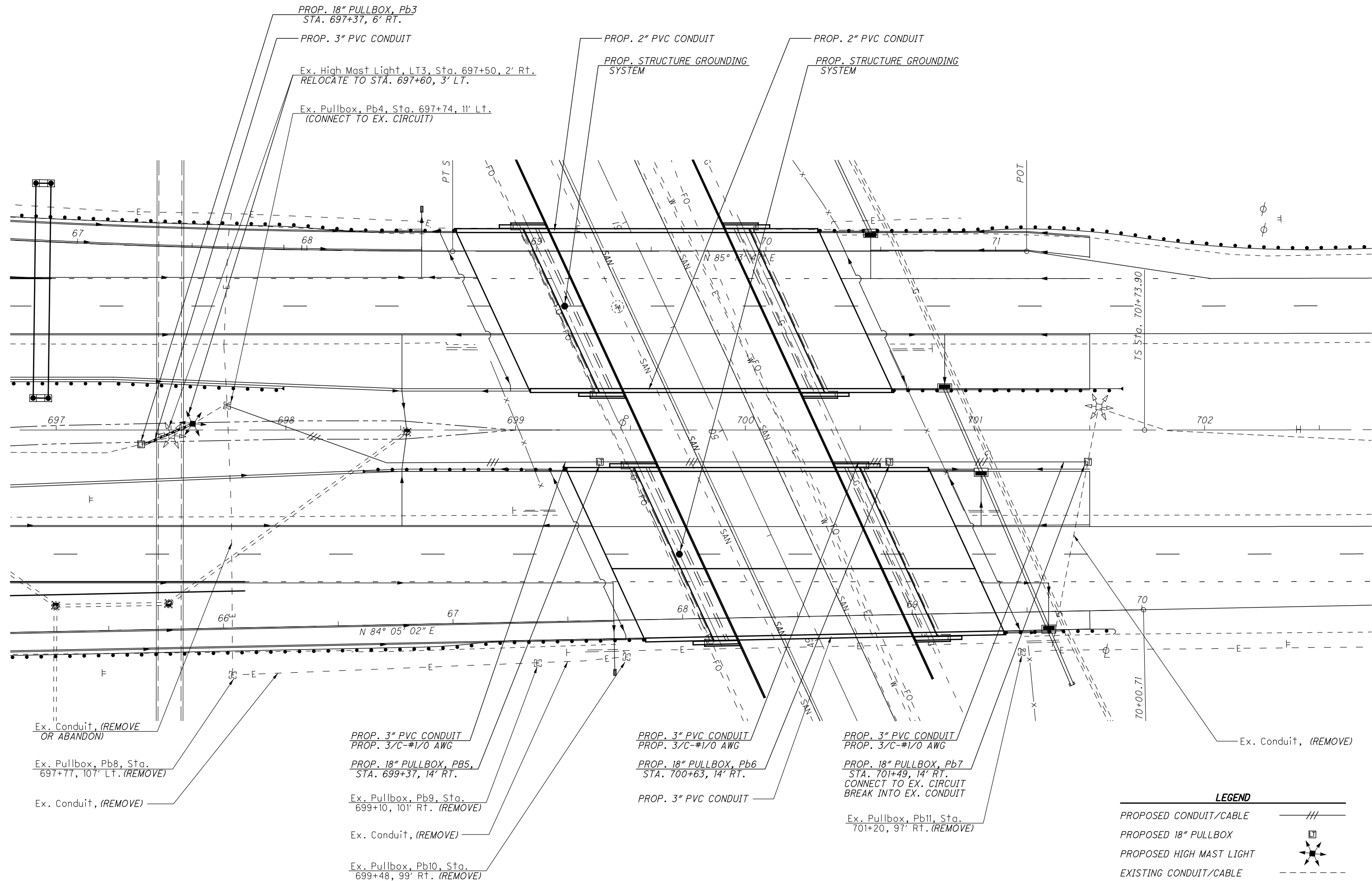
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L.A.S.

0 20 40
HORIZONTAL
SCALE IN FEET

LIGHTING PLAN - I-90
STA. 689+50 TO STA. 695+00

LOR-90-13.20

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PROP. 18" PULLBOX, Pb3
STA. 697+37, 6' RT.

PROP. 3" PVC CONDUIT

Ex. High Mast Light, LT3, Sta. 697+50, 2' Rt.
RELOCATE TO STA. 697+60, 3' LT.

Ex. Pullbox, Pb4, Sta. 697+74, 11' Lt.
(CONNECT TO EX. CIRCUIT)

PROP. 2" PVC CONDUIT

PROP. STRUCTURE GROUNDING SYSTEM

PROP. 2" PVC CONDUIT

PROP. STRUCTURE GROUNDING SYSTEM

Ex. Conduit, (REMOVE OR ABANDON)

Ex. Pullbox, Pb8, Sta. 697+77, 10' Lt. (REMOVE)

Ex. Conduit, (REMOVE)

PROP. 3" PVC CONDUIT
PROP. 3/C-#1/0 AWG

PROP. 18" PULLBOX, Pb5,
STA. 699+37, 14' RT.

Ex. Pullbox, Pb9, Sta. 699+10, 10' Rt. (REMOVE)

Ex. Conduit, (REMOVE)

Ex. Pullbox, Pb10, Sta. 699+48, 99' Rt. (REMOVE)

PROP. 3" PVC CONDUIT
PROP. 3/C-#1/0 AWG

PROP. 18" PULLBOX, Pb6,
STA. 700+63, 14' RT.

PROP. 3" PVC CONDUIT

PROP. 3" PVC CONDUIT
PROP. 3/C-#1/0 AWG

PROP. 18" PULLBOX, Pb7,
STA. 701+49, 14' RT.
CONNECT TO EX. CIRCUIT
BREAK INTO EX. CONDUIT

Ex. Pullbox, Pb11, Sta. 701+20, 97' Rt. (REMOVE)

Ex. Conduit, (REMOVE)

NOTE : SEE STRUCTURE PLANS FOR CONDUIT PLACEMENT ON BRIDGES

LEGEND

PROPOSED CONDUIT/CABLE	///
PROPOSED 18" PULLBOX	□
PROPOSED HIGH MAST LIGHT	★
EXISTING CONDUIT/CABLE	- - -
EXISTING 18" PULLBOX	□
EXISTING HIGH MAST LIGHT	★

CALCULATED
M.L.S.
CHECKED
L.A.S.

0 10 20 40
HORIZONTAL SCALE IN FEET

**LIGHTING PLAN - I-90
STA. 697+00 TO STA. 702+00**

LOR-90-13.20

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MSE WALL GENERAL NOTES:

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION

840 DATED 4-15-16
867 DATED 4-15-16
878 DATED 10-18-13

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, INCLUDING THE 2015 INTERIM REVISIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN DATA

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (CIP COPING)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

WALL DESIGN CRITERIA

THE NOMINAL (ULTIMATE) BEARING CAPACITY FOR MSE WALLS NO. 1 THRU 4 IS 12.5 KSF. THE FOUNDATION SOIL SHALL BE EVALUATED PER SUPPLEMENTAL SPECIFICATION 840.06D.

PROPRIETARY RETAINING WALL DATA

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF MECHANICALLY STABILIZED EARTH (MSE) WALLS IN ACCORDANCE WITH SS840 TO SUPPORT THE ABUTMENTS. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE A NOMINAL (I.E. UNFACTORED) HORIZONTAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURE OF 2.1 K/FT FOR MSE WALLS NO. 1 AND 2 AND 1.5 K/FT FOR MSE WALLS NO. 3 AND 4 APPLIED PERPENDICULAR TO THE FACE OF WALL AT THE BASE OF THE CONCRETE FOOTING. THIS STRIP LOAD DOES NOT INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL. HOWEVER, THE PROPRIETARY WALL SUPPLIER SHALL INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL IN THE DESIGN CALCULATIONS.

ITEM 203, EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT.

ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

SEALING OF MSE WALL PANELS AND COPING SHALL BE PER ITEM 512. THE TOP COAT COLOR FOR THE EPOXY-URETHANE SEALER SHALL MEET THE FOLLOWING STANDARD COLOR NUMBERS:

DAWN GRAY (CIP CONCRETE COPING AND GROUT LINES) FEDERAL COLOR NUMBER FS-595B-16492
DULL RED (BRICK) FEDERAL COLOR NUMBER FS-595B-30109

FINAL COLORS SHALL BE APPROVED BY THE CITY OF ELYRIA PRIOR TO SEALING THE MSE WALLS.

CITY OF ELYRIA:
TIMOTHY J. UJVARI, PE, PS
CITY ENGINEER, CITY OF ELYRIA
131 COURT STREET, SUITE 303
ELYRIA, OHIO 44035
(440) 326-1444
EMAIL: TUJVARI@CITYOFELYRIA.ORG

MINIMUM MSE WALL STRAP LENGTHS

THE FOLLOWING MINIMUM STRAP LENGTHS SHALL BE USED FOR THE MSE WALLS:

MSE WALL NO. 1 22 FEET
MSE WALL NO. 2 21 FEET
MSE WALL NO. 3 25 FEET
MSE WALL NO. 4 23 FEET

ITEM 840, AESTHETIC SURFACE TREATMENT

THIS ITEM OF WORK SHALL CONSIST OF PROVIDING AESTHETIC TREATMENT TO THE CONCRETE SURFACES OF MSE WALLS AS SHOWN IN THE PLANS. IT SHALL INCLUDE BUT NOT BE LIMITED TO FORMLINERS, RUSTICATION GROOVES AND TEXTURED SURFACES.

ALL MSE WALL BASELINES ARE ALONG THE AESTHETIC FRONT FACE OF AN ASSUMED 6" THICK MSE WALL PANEL.

ACCEPTABLE PATTERNED FORMLINERS ARE:

BRICK FORMLINER:

PATTERN	DESCRIPTION	MANUFACTURER
12016	NEW BRICK	CUSTOM ROCK FORMLINER
16941	8" SMOOTH BRICK	FITZGERALD FORMLINERS
1306	8" X 2 1/2" SMOOTH BRICK	SPEC FORMLINERS

THE CONTRACTOR SHALL SUBMIT PRODUCT INFORMATION FOR THE PROPOSED PATTERNED FORMLINER TO THE ENGINEER FOR APPROVAL. ALL OTHER FORMLINERS NEEDED TO PRODUCE THE DESIRED FINISH PRODUCT SHOWN IN THE PLANS SHALL BE CUSTOM DESIGNED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL TO THE ENGINEER FOR ALL CUSTOM DESIGNED FORMLINERS.

FORMLINER MANUFACTURER INFORMATION:

CUSTOM ROCK FORMLINER
2020 WEST 7TH STREET
ST. PAUL, MN 55116
PHONE: (651)699-1345

FITZGERALD FORMLINERS
1500 EAST CHESTNUT AVENUE
SANTA ANA, CA 92701
PHONE: (800)547-7760

SPEC FORMLINERS
530 EAST DYER ROAD
SANTA ANA, CA 92707
PHONE: (888)429-9550

ALL PRODUCT INFORMATION AND SHOP DRAWINGS SHALL BE SUBMITTED PRIOR TO BEGINNING ANY WORK.

FOR LOCATIONS, LIMITS OF SURFACE FINISH PATTERNS AND FURTHER DETAILS, SEE MSE WALL AESTHETIC DETAIL, SHEET 12/12.

PAYMENT FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO PRODUCE THE AESTHETIC TREATMENT AS SHOWN IN THE PLANS SHALL BE INCLUDED WITH ITEM 840, AESTHETIC SURFACE TREATMENT. PAYMENT FOR ALL MSE WALL PANELS SHALL BE INCLUDED IN ITEM 840, MECHANICALLY STABILIZED EARTH WALLS.

MSE WALL GENERAL NOTES

DESIGNED AMT	DRAWN MSD	REVIEWED DWS	DATE 4-16
CHECKED SUM	REVISED	STRUCTURE FILE NUMBER	

LOR-90-1320
PID No. 83449

1 / 12

183
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DESIGN AGENCY
LIB Inc. • 2500 Newmark Drive
Miamisburg, OH 45342
(937) 259-5100 Fax • LIBinc.com

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MSE WALLS NUMBER 1 AND 2 ESTIMATED QUANTITIES

FUNDING 01/IMS/BR	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	MSE WALL NO. 1		MSE WALL NO. 2		GENERAL	AS PER PLAN SHEET NUMBER
						PHASE 1	PHASE 2	PHASE 1	PHASE 2		
980	203	20001	980	CU YD	EMBANKMENT, AS PER PLAN	245	245	245	245		1 / 12
1600	203	35110	1600	CU YD	GRANULAR MATERIAL, TYPE B	400	400	400	400		
LUMP	503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING					LUMP	
648	512	10101	648	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	162	162	162	162		1 / 12
7102	840	20000	7102	SQ FT	MECHANICALLY STABILIZED EARTH WALL	1796	1796	1755	1755		
5435	840	21000	5435	CU YD	WALL EXCAVATION	1270	1290	1450	1425		
1360	840	22000	1360	SQ YD	FOUNDATION PREPARATION	335	340	345	340		
7620	840	23000	7620	CU YD	SELECT GRANULAR BACKFILL	1925	1925	1885	1885		
430	840	23050	430	CU YD	NATURAL SOIL	105	110	110	105		
1080	840	25010	1080	FT	6" DRAINAGE PIPE, PERFORATED	270	270	270	270		
120	840	25020	120	FT	6" DRAINAGE PIPE, NON-PERFORATED	30	30	30	30		
452	840	26000	452	FT	CONCRETE COPING	113	113	113	113		
7102	840	26050	7102	SQ FT	AESTHETIC SURFACE TREATMENT	1796	1796	1755	1755		1 / 12
5	840	27000	5	DAY	ON-SITE ASSISTANCE					5	
LUMP	867	00100	LUMP		TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL					LUMP	

* ALL QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY SHEET

QUANTITIES COMPUTED BY: AMT 4/2016
 QUANTITIES CHECKED BY: DWS 4/2016

MSE WALLS NUMBER 3 AND 4 ESTIMATED QUANTITIES

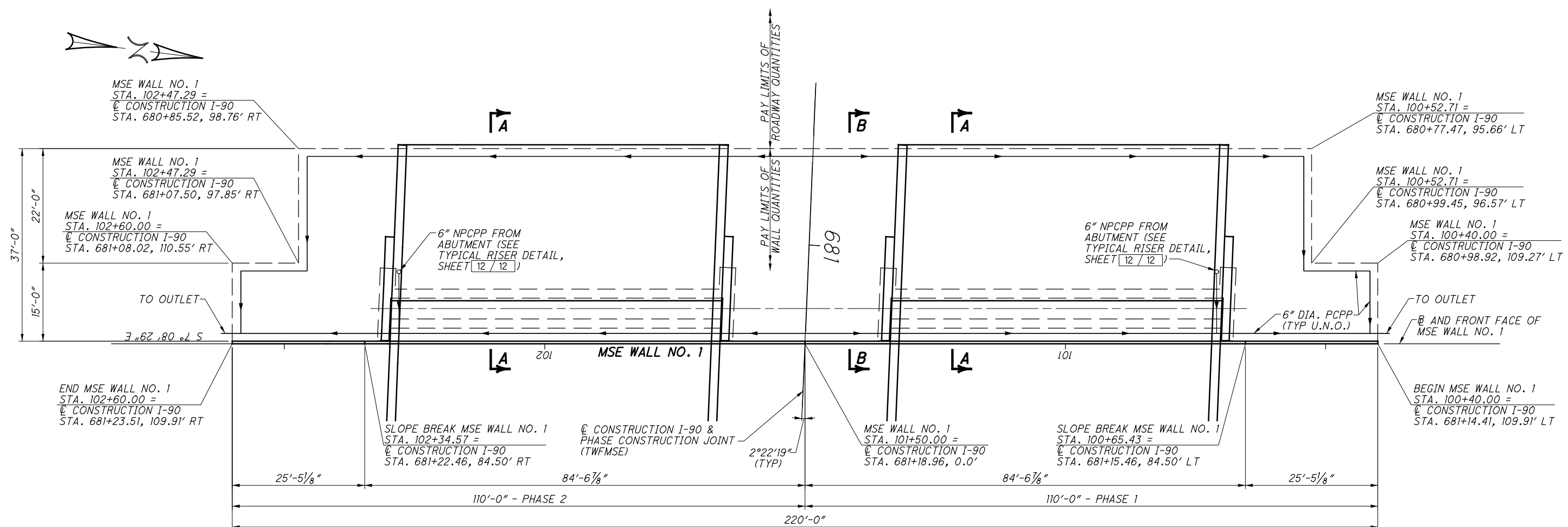
FUNDING 01/IMS/BR	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	MSE WALL NO. 3			MSE WALL NO. 4			GENERAL	AS PER PLAN SHEET NUMBER
						PHASE 1A	PHASE 2A	PHASE 2B	PHASE 1A	PHASE 2A	PHASE 2B		
1915	203	20001	1915	CU YD	EMBANKMENT, AS PER PLAN	570	300	285	450	210	100		1 / 12
2130	203	35110	2130	CU YD	GRANULAR MATERIAL, TYPE B	540	310	220	540	310	210		
LUMP	503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING							LUMP	
735	512	10101	735	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	240	110	75	175	85	50		1 / 12
8840	840	20000	8840	SQ FT	MECHANICALLY STABILIZED EARTH WALL	2775	1275	935	2180	1030	645		
6625	840	21000	6625	CU YD	WALL EXCAVATION	1620	880	860	1805	910	550		
1510	840	22000	1510	SQ YD	FOUNDATION PREPARATION	385	205	190	395	205	130		
9165	840	23000	9165	CU YD	SELECT GRANULAR BACKFILL	2855	1325	970	2260	1080	675		
495	840	23050	495	CU YD	NATURAL SOIL	125	55	85	150	55	25		
1250	840	25010	1250	FT	6" DRAINAGE PIPE, PERFORATED	320	150	175	330	150	125		
120	840	25020	120	FT	6" DRAINAGE PIPE, NON-PERFORATED	30	25	10	25	20	10		
534	840	26000	534	FT	CONCRETE COPING	146	68	64	134	68	54		
8840	840	26050	8840	SQ FT	AESTHETIC SURFACE TREATMENT	2775	1275	935	2180	1030	645		1 / 12
5	840	27000	5	DAY	ON-SITE ASSISTANCE							5	
LUMP	867	00100	LUMP		TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL							LUMP	

* ALL QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY SHEET

QUANTITIES COMPUTED BY: AMT 4/2016
 QUANTITIES CHECKED BY: DWS 4/2016

DESIGN AGENCY: LIB Inc. • 2500 Newmark Drive • Mansburg, OH 45342 • (937) 259-5100 Fax • LibInc.com
 DATE: 4-16
 REVIEWED: DWS
 STRUCTURE FILE NUMBER:
 DRAWN: MSD
 REVISION:
 DESIGNED: AMT
 CHECKED: SUM
 MSE WALL NO. 1 THRU 4 ESTIMATED QUANTITIES
 LOR-90-1320
 PID No. 83449
 2 / 12
 184
 301

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PLAN - MSE WALL NO. 1

LEGEND

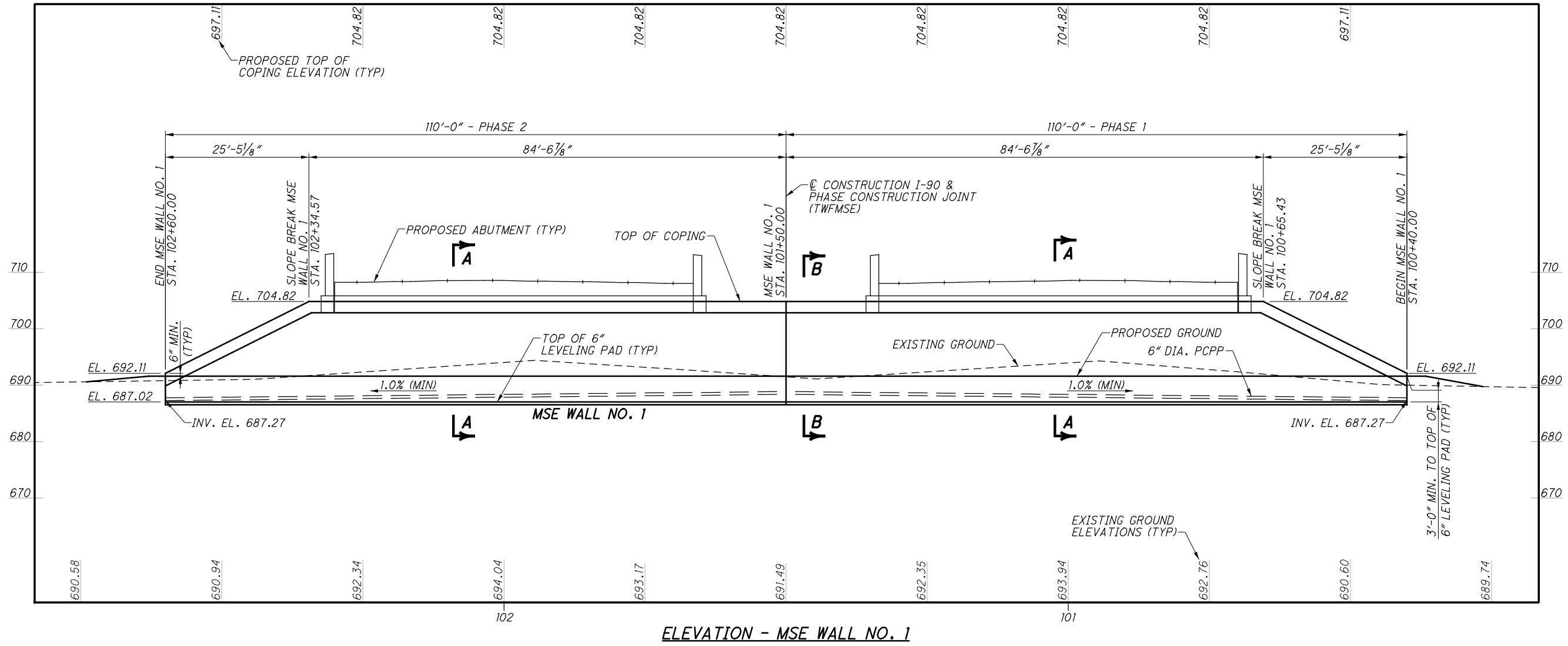
- MSE = MECHANICALLY STABILIZED EARTH
- PCPP = PERFORATED CORRUGATED PLASTIC PIPE
- TWMSE = TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH
- NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
- U.N.O. = UNLESS NOTED OTHERWISE

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 1 / 12.
2. ALL STATIONS ARE GIVEN ALONG FRONT FACE OF WALL AND ASSUME A TOTAL WALL THICKNESS OF 6 INCHES.
3. PAY LIMITS OF WALL QUANTITIES ASSUME A SOIL REINFORCEMENT LENGTH OF 25'-0".
4. FOR MSE WALL NO. 1 ELEVATION, SEE SHEET 4 / 12.
5. FOR TYPICAL WALL SECTIONS AND DRAINAGE DETAILS, SEE SHEETS 11 / 12 AND 12 / 12.


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DATE 4-16
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DRAWN MSD
DESIGNED SJM
CHECKED AMM
STRUCTURE FILE NUMBER 185 301
PLAN - MSE WALL NO. 1
LOR-90-1320 PID No. 83449

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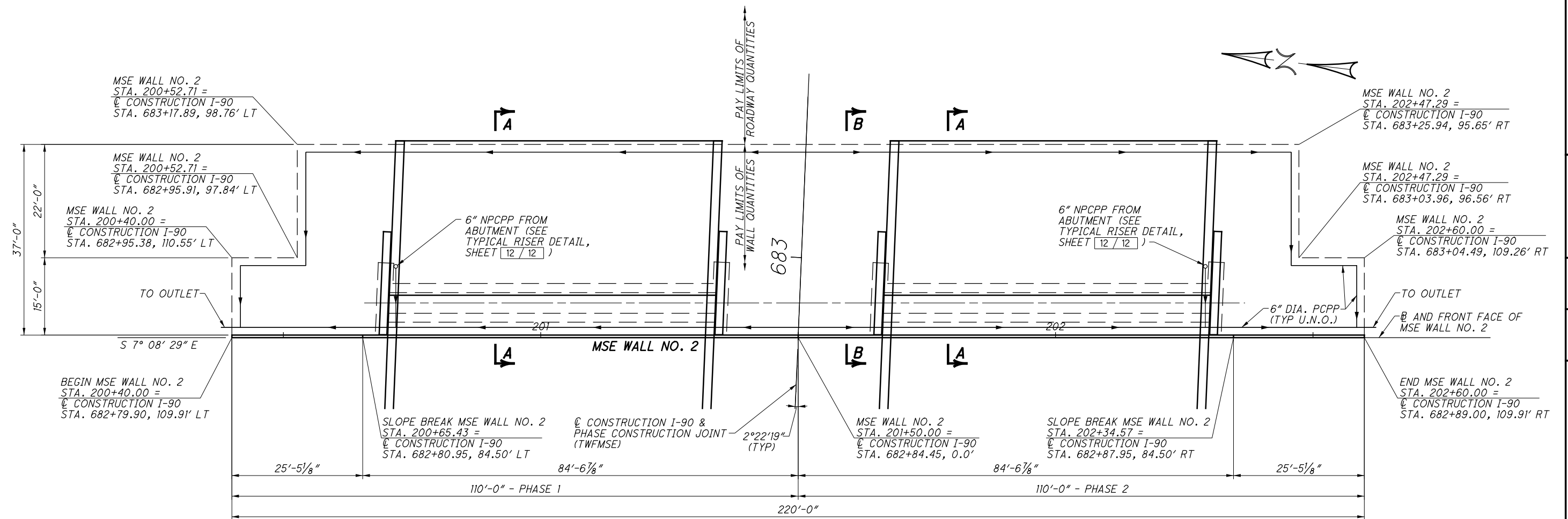
ELEVATION - MSE WALL NO. 1

LEGEND
MSE = MECHANICALLY STABILIZED EARTH
PCPP = PERFORATED CORRUGATED PLASTIC PIPE
TWFMSE = TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH

NOTES:
1. FOR GENERAL NOTES, SEE SHEET 1/12.
2. ABUTMENT PILES NOT SHOWN FOR CLARITY.
3. FOR MSE WALL SECTIONS AND DETAILS, SEE SHEETS 11/12 AND 12/12.
4. FOR LIMITS OF SEALING OF MSE WALLS AND AESTHETIC DETAILS, SEE SHEETS 11/12 AND 12/12.

LOR-90-1320 PID No. 83449	ELEVATION - MSE WALL NO. 1	DESIGNED SJM	DRAWN MSD	REVIEWED DWS	DATE 4-16	STRUCTURE FILE NUMBER
186 301	4/12	CHECKED AWM	REVISED	FILE NUMBER	LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	

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PLAN - MSE WALL NO. 2

LEGEND

MSE = MECHANICALLY STABILIZED EARTH
 PCPP = PERFORATED CORRUGATED PLASTIC PIPE
 TWFMSE = TEMPORARY WIRED FACED MECHANICALLY STABILIZED EARTH
 NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
 U.N.O. = UNLESS NOTED OTHERWISE

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 1/12.
2. ALL STATIONS ARE GIVEN ALONG FRONT FACE OF WALL AND ASSUME A TOTAL WALL THICKNESS OF 6 INCHES.
3. PAY LIMITS OF WALL QUANTITIES ASSUME A SOIL REINFORCEMENT LENGTH OF 25'-0".
4. FOR MSE WALL NO. 2 ELEVATION, SEE SHEET 6/12.
5. FOR TYPICAL WALL SECTIONS AND DRAINAGE DETAILS, SEE SHEETS 11/12 AND 12/12.

PLAN - MSE WALL NO. 2

LOR-90-1320
PID No. 83449

5/12

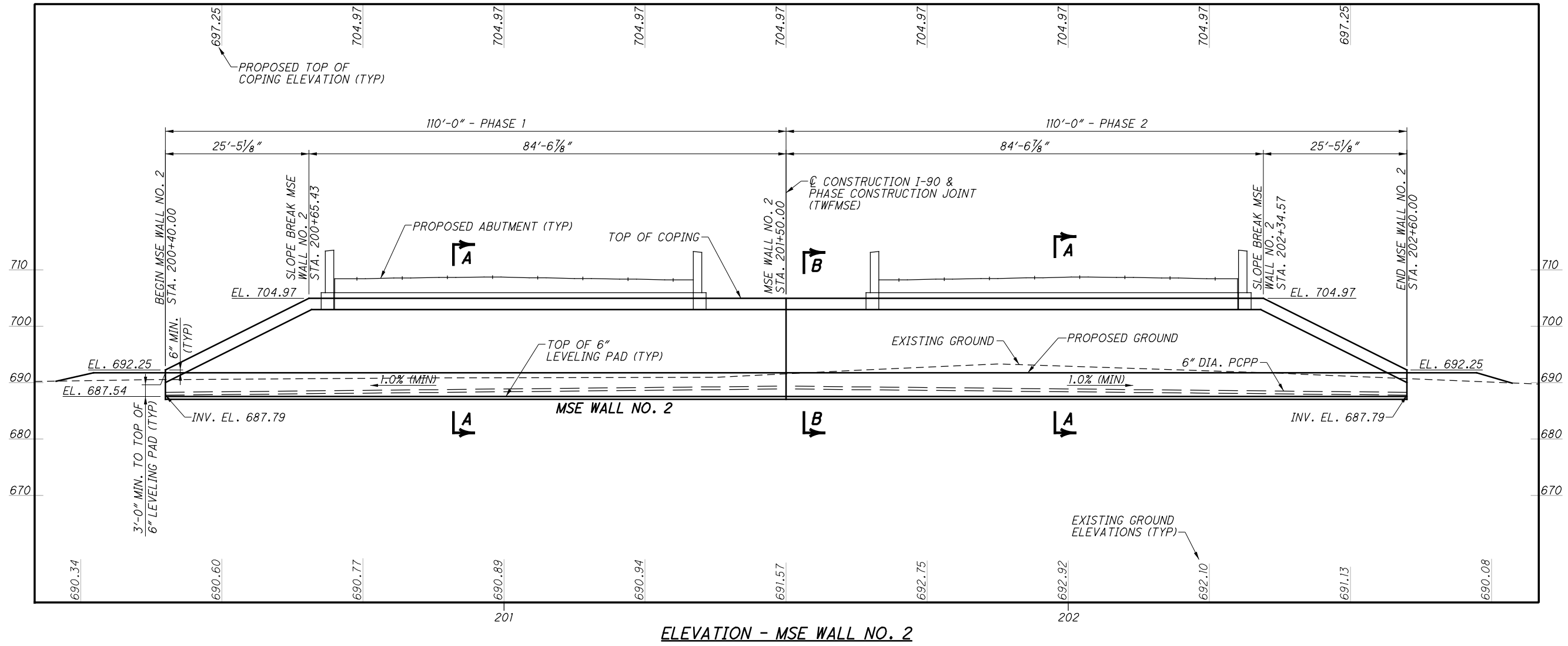
187
301

DESIGNED	SJM	CHECKED	AMM
DRAWN	MSD	REVISED	
REVIEWED	DWS	STRUCTURE FILE NUMBER	
DATE	4-16		



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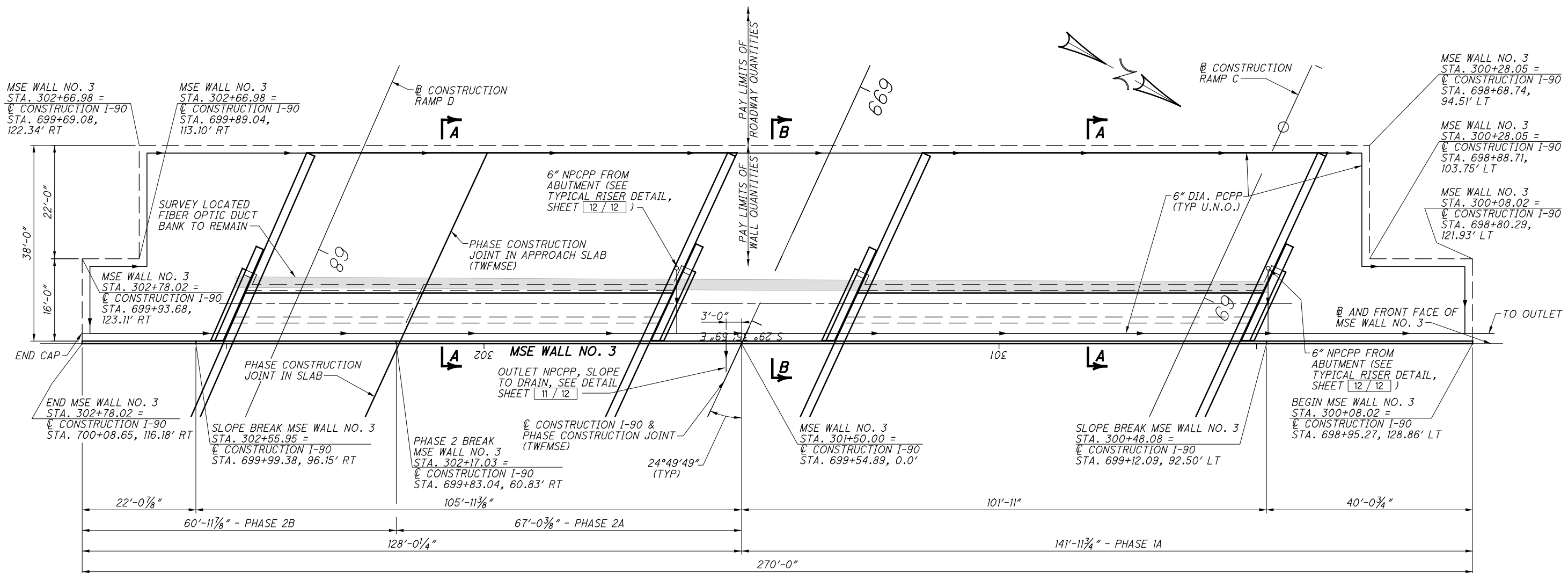
ELEVATION - MSE WALL NO. 2

LEGEND
 MSE = MECHANICALLY STABILIZED EARTH
 PCPP = PERFORATED CORRUGATED PLASTIC PIPE
 TWFMSE = TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH

- NOTES:**
1. FOR GENERAL NOTES, SEE SHEET [1 / 12].
 2. ABUTMENT PILES NOT SHOWN FOR CLARITY.
 3. FOR MSE WALL SECTIONS AND DETAILS, SEE SHEETS [11 / 12] AND [12 / 12].
 4. FOR LIMITS OF SEALING OF MSE WALLS AND AESTHETIC DETAILS, SEE SHEETS [11 / 12] AND [12 / 12].

DESIGNED		DRAWN		REVIEWED		DATE			
SJM		MSD		DWS		4-16			
CHECKED		REVISED		STRUCTURE FILE NUMBER					
AMM									
ELEVATION - MSE WALL NO. 2									
<p>LOR-90-1320 PID No. 83449</p>									
6 / 12									
<table border="1"> <tr> <td>188</td> </tr> <tr> <td>301</td> </tr> </table>								188	301
188									
301									
<p>DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com</p>									

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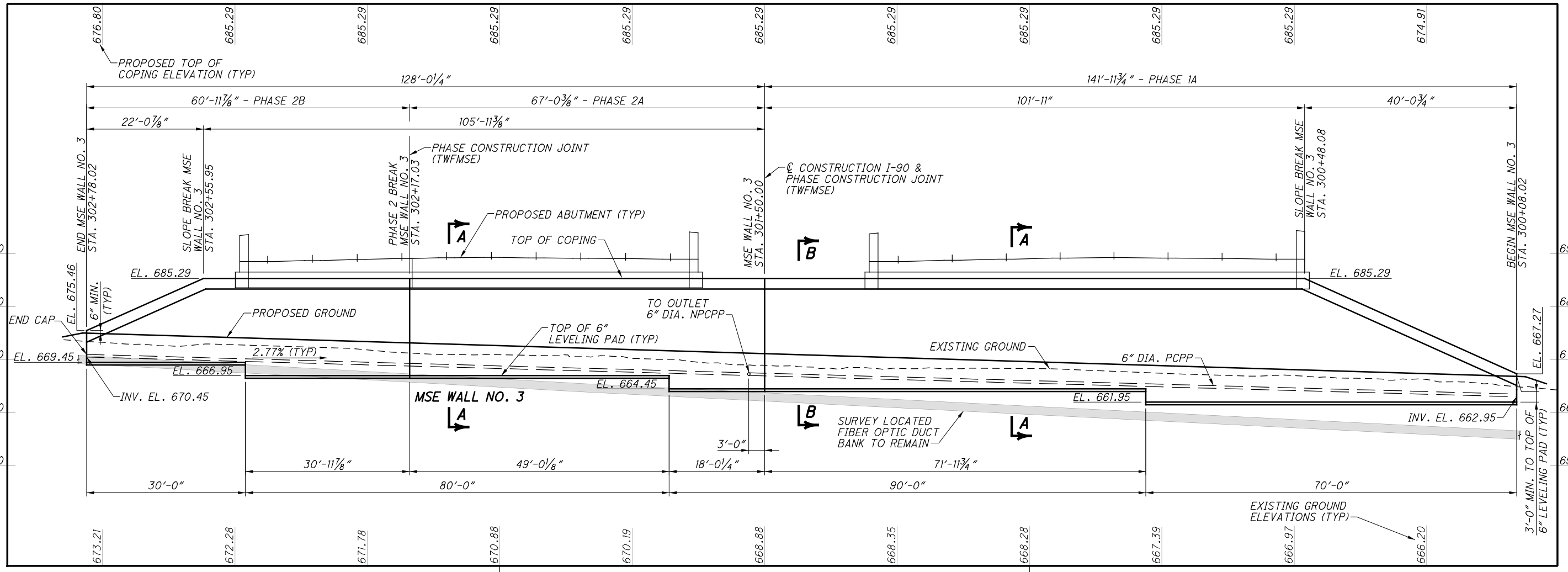
PLAN - MSE WALL NO. 3

LEGEND
 MSE = MECHANICALLY STABILIZED EARTH
 PCPP = PERFORATED CORRUGATED PLASTIC PIPE
 TWMSE = TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH
 NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
 U.N.O. = UNLESS NOTED OTHERWISE

NOTES:
 1. FOR GENERAL NOTES, SEE SHEET 1/12.
 2. ALL STATIONS ARE GIVEN ALONG FRONT FACE OF WALL AND ASSUME A TOTAL WALL THICKNESS OF 6 INCHES.
 3. PAY LIMITS OF WALL QUANTITIES ASSUME A SOIL REINFORCEMENT LENGTH OF 25'-0".
 4. FOR MSE WALL NO. 3 ELEVATION, SEE SHEET 8/12.
 5. FOR TYPICAL WALL SECTIONS AND DRAINAGE DETAILS, SEE SHEETS 11/12 AND 12/12.

LOR-90-1320	PLAN - MSE WALL NO. 3	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (937) 259-5000 fax • (937) 259-5100 fax • LIBinc.com
PID No. 83449	DATE 4-16	REVIEWED DWS
7/12	DRAWN MSD	CHECKED AWM
189	STRUCTURE FILE NUMBER	
301		

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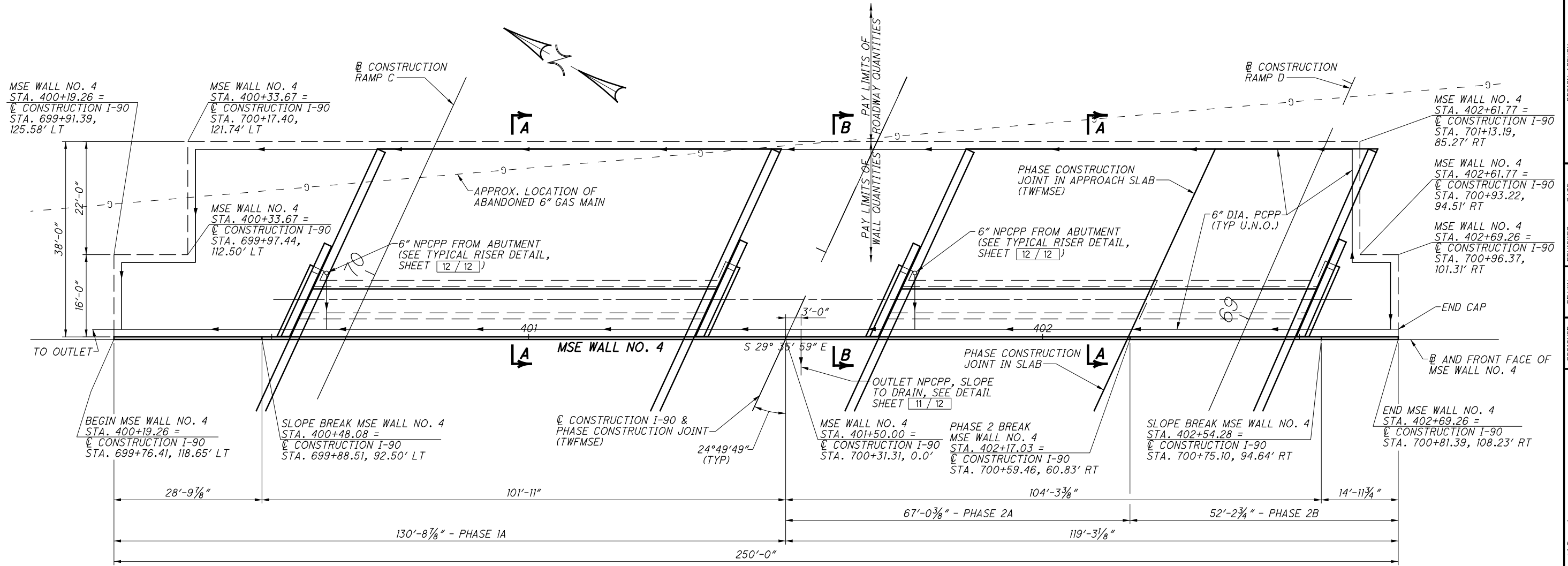
ELEVATION - MSE WALL NO. 3

LEGEND
MSE = MECHANICALLY STABILIZED EARTH
PCPP = PERFORATED CORRUGATED PLASTIC PIPE
TWF MSE = TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH
NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE

NOTES:
1. FOR GENERAL NOTES, SEE [1 / 12].
2. ABUTMENT PILES NOT SHOWN FOR CLARITY.
3. FOR MSE WALL SECTIONS AND DETAILS, SEE SHEETS [11 / 12] AND [12 / 12].
4. FOR LIMITS OF SEALING OF MSE WALLS AND AESTHETIC DETAILS, SEE SHEETS [11 / 12] AND [12 / 12].

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<small>DESIGNED</small> SJM	<small>DATE</small> 4-16
<small>CHECKED</small> AMM	<small>REVIEWED</small> DWS
<small>DRAWN</small> MSD	<small>STRUCTURE FILE NUMBER</small> 4-16
ELEVATION - MSE WALL NO. 3	
LOR-90-1320 PID No. 83449	
8 / 12	
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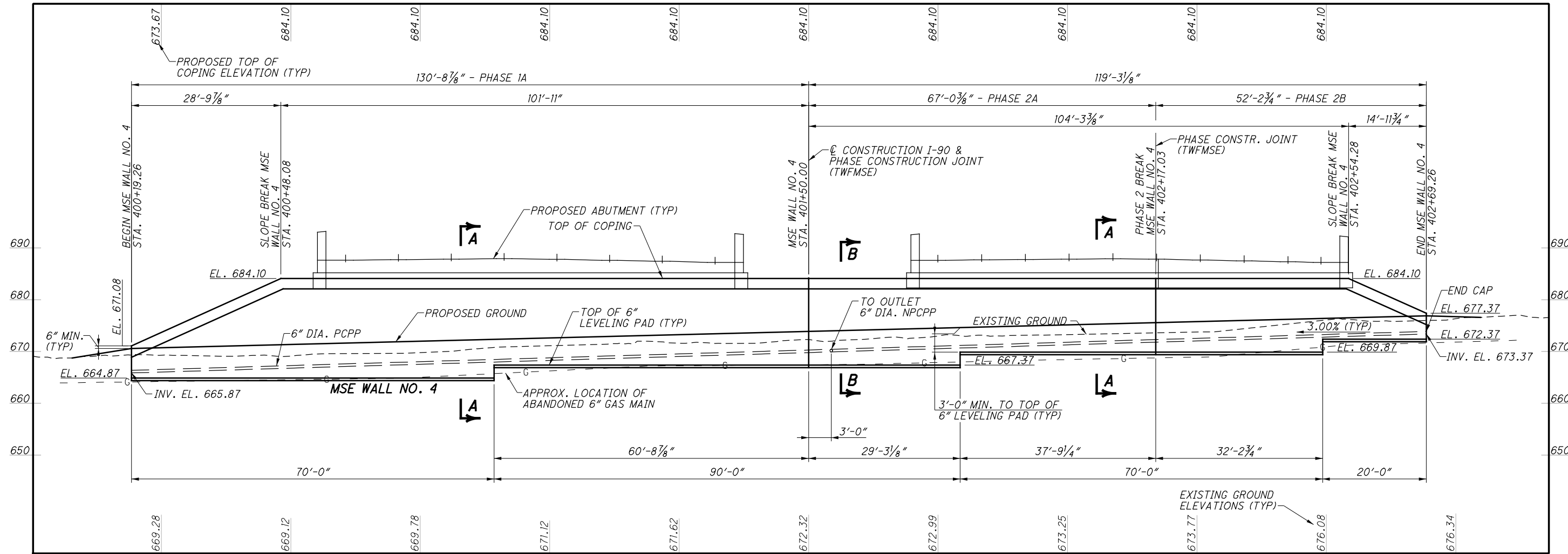
PLAN - MSE WALL NO. 4

LEGEND
MSE = MECHANICALLY STABILIZED EARTH
PCPP = PERFORATED CORRUGATED PLASTIC PIPE
TWF MSE = TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH
NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
U.N.O. = UNLESS NOTED OTHERWISE

NOTES:
1. FOR GENERAL NOTES, SEE SHEET 1/12.
2. ALL STATIONS ARE GIVEN ALONG FRONT FACE OF WALL AND ASSUME A TOTAL WALL THICKNESS OF 6 INCHES.
3. PAY LIMITS OF WALL QUANTITIES ASSUME A SOIL REINFORCEMENT LENGTH OF 25'-0".
4. FOR MSE WALL NO. 4 ELEVATION, SEE SHEET 10/12.
5. FOR TYPICAL WALL SECTIONS AND DRAINAGE DETAILS, SEE SHEETS 11/12 AND 12/12.

LOR-90-1320	PLAN - MSE WALL NO. 4	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 fax • LIBinc.com
PID No. 83449	DESIGNED SJM	DATE 4-16
DRAWN MSD	CHECKED AWM	REVIEWED DWS
STRUCTURE FILE NUMBER		
191 / 301		

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ELEVATION - MSE WALL NO. 4

LEGEND

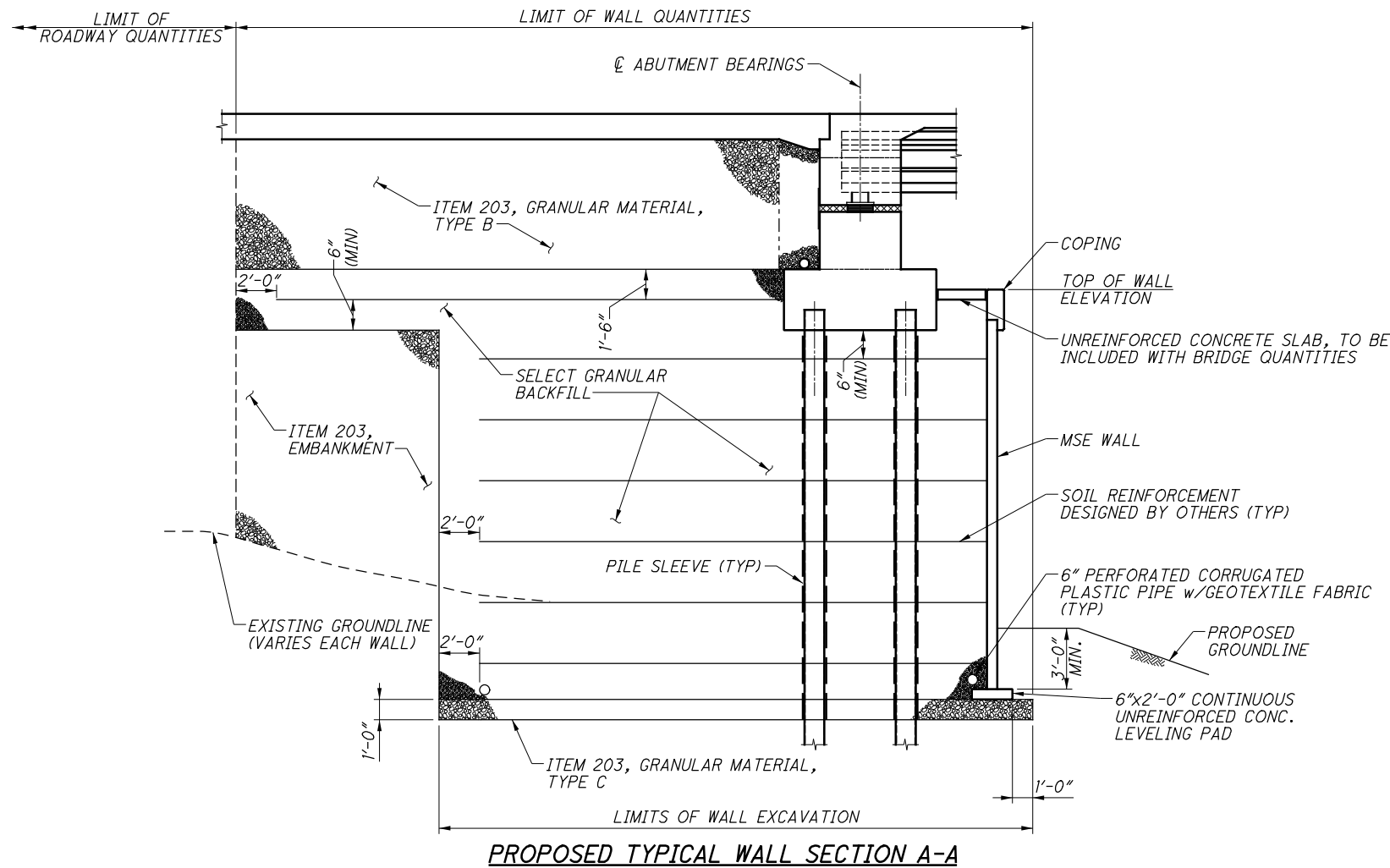
MSE = MECHANICALLY STABILIZED EARTH
 PCPP = PERFORATED CORRUGATED PLASTIC PIPE
 TWFMSE = TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH
 NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE

NOTES:

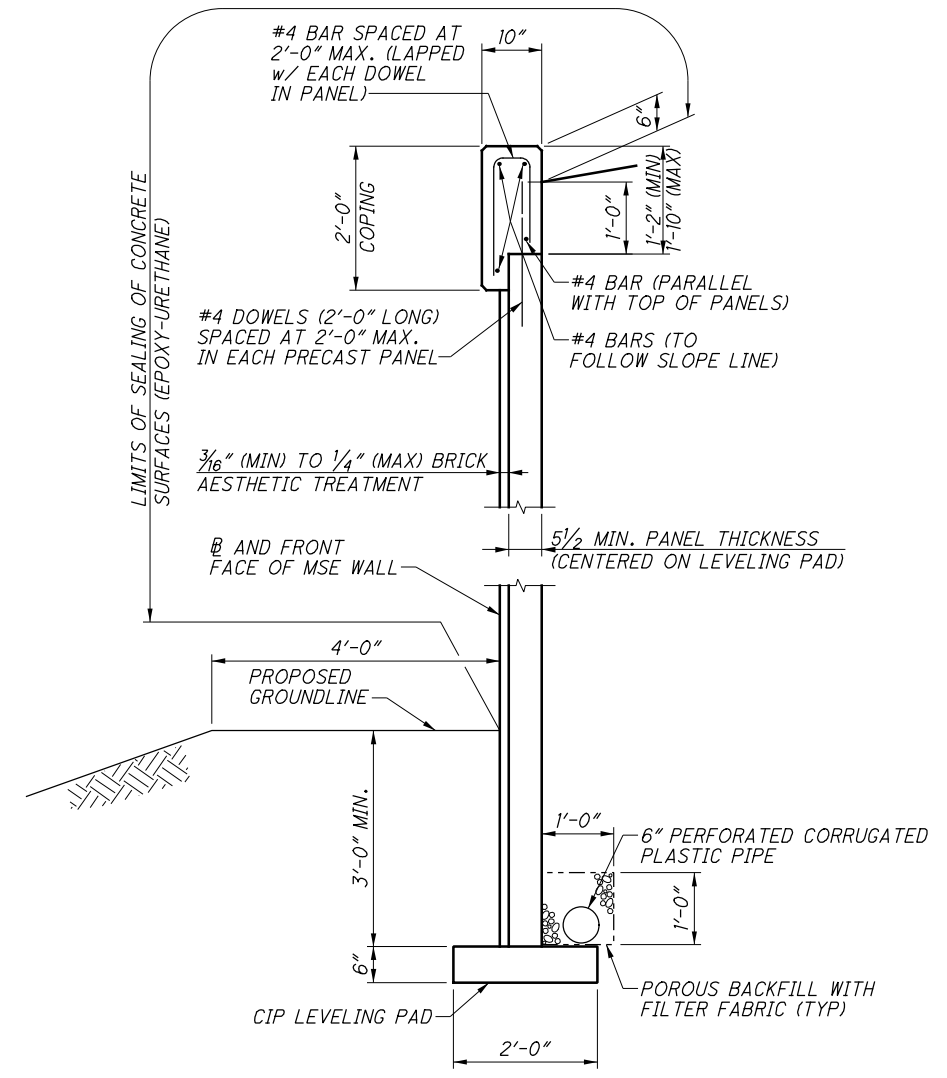
1. FOR GENERAL NOTES, SEE SHEET 1 / 12.
2. ABUTMENT PILES NOT SHOWN FOR CLARITY.
3. FOR MSE WALL SECTIONS AND DETAILS, SEE SHEETS 11 / 12 AND 12 / 12.
4. FOR LIMITS OF SEALING OF MSE WALLS AND AESTHETIC DETAILS, SEE SHEETS 11 / 12 AND 12 / 12.

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DATE 4-16	REVIEWED DWS
DRAWN MSD	STRUCTURE FILE NUMBER
DESIGNED SJM	CHECKED AMM
ELEVATION - MSE WALL NO. 4	
LOR-90-1320 PID No. 83449	
10 / 12	
192 301	

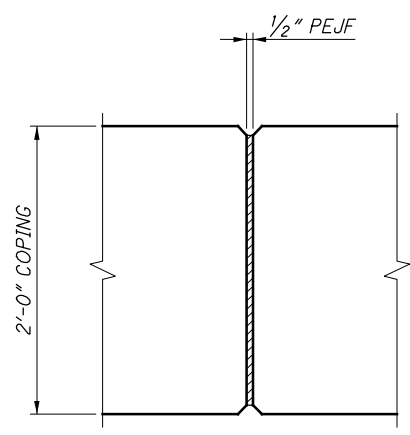
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PROPOSED TYPICAL WALL SECTION A-A

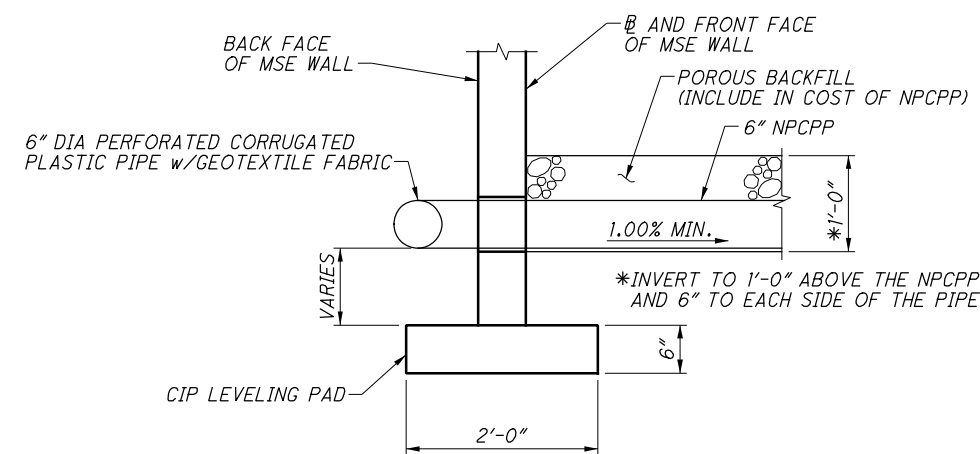


MSE WALL AND COPING DETAIL

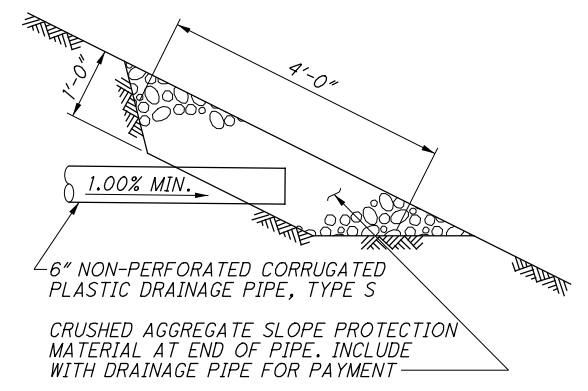


MSE COPING EXPANSION JOINT DETAIL

(THE MSE WALL COPING EXPANSION JOINTS SHALL BE SPACED 20'-0" MAXIMUM AND BE LOCATED DIRECTLY OVER A WALL PANEL JOINT.) (ORIENT THE JOINTS VERTICALLY)



TYPICAL MSE WALL DRAINAGE DETAIL
(MSE WALLS NO. 3 AND NO. 4)

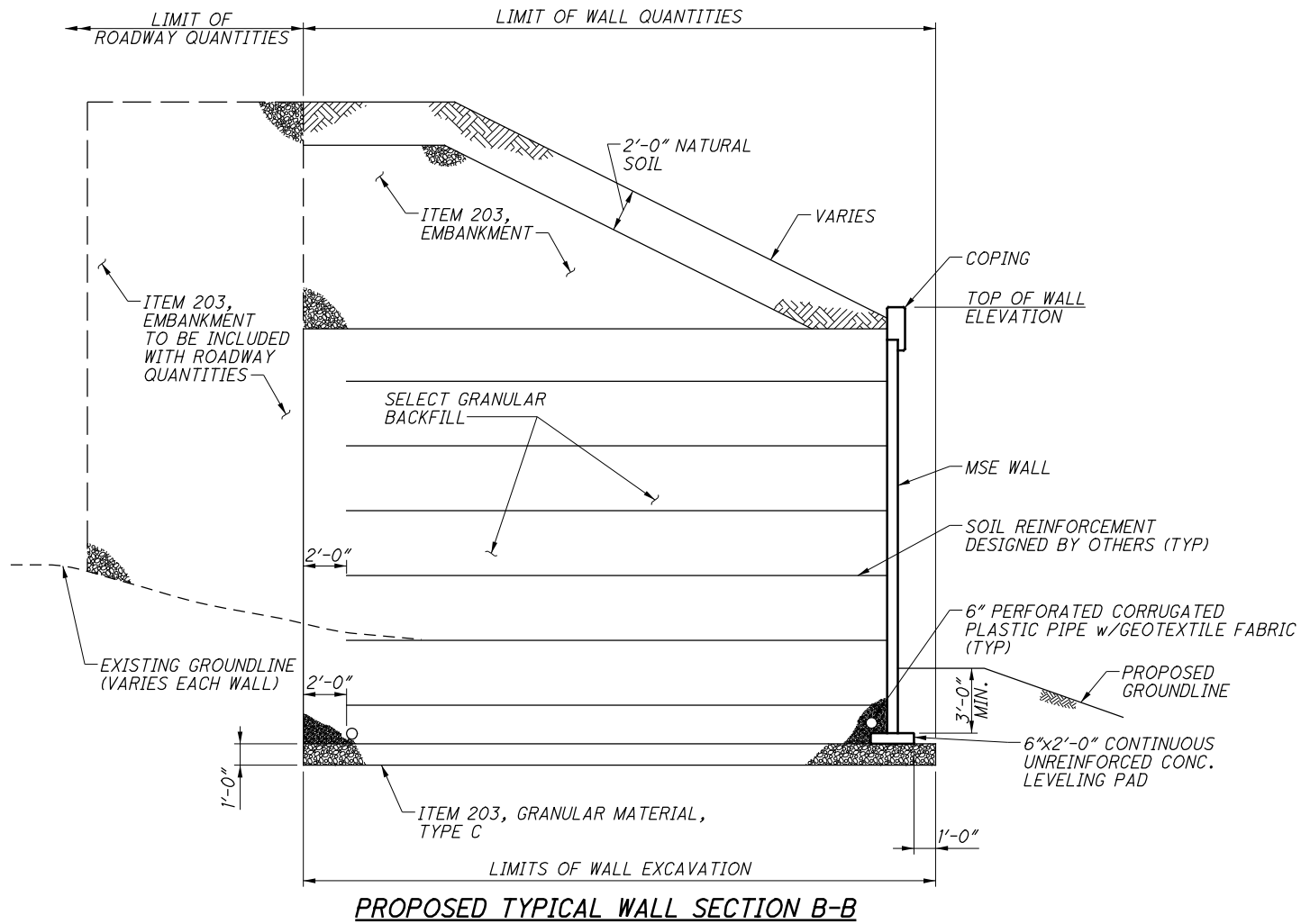


PIPE OUTLET DETAIL

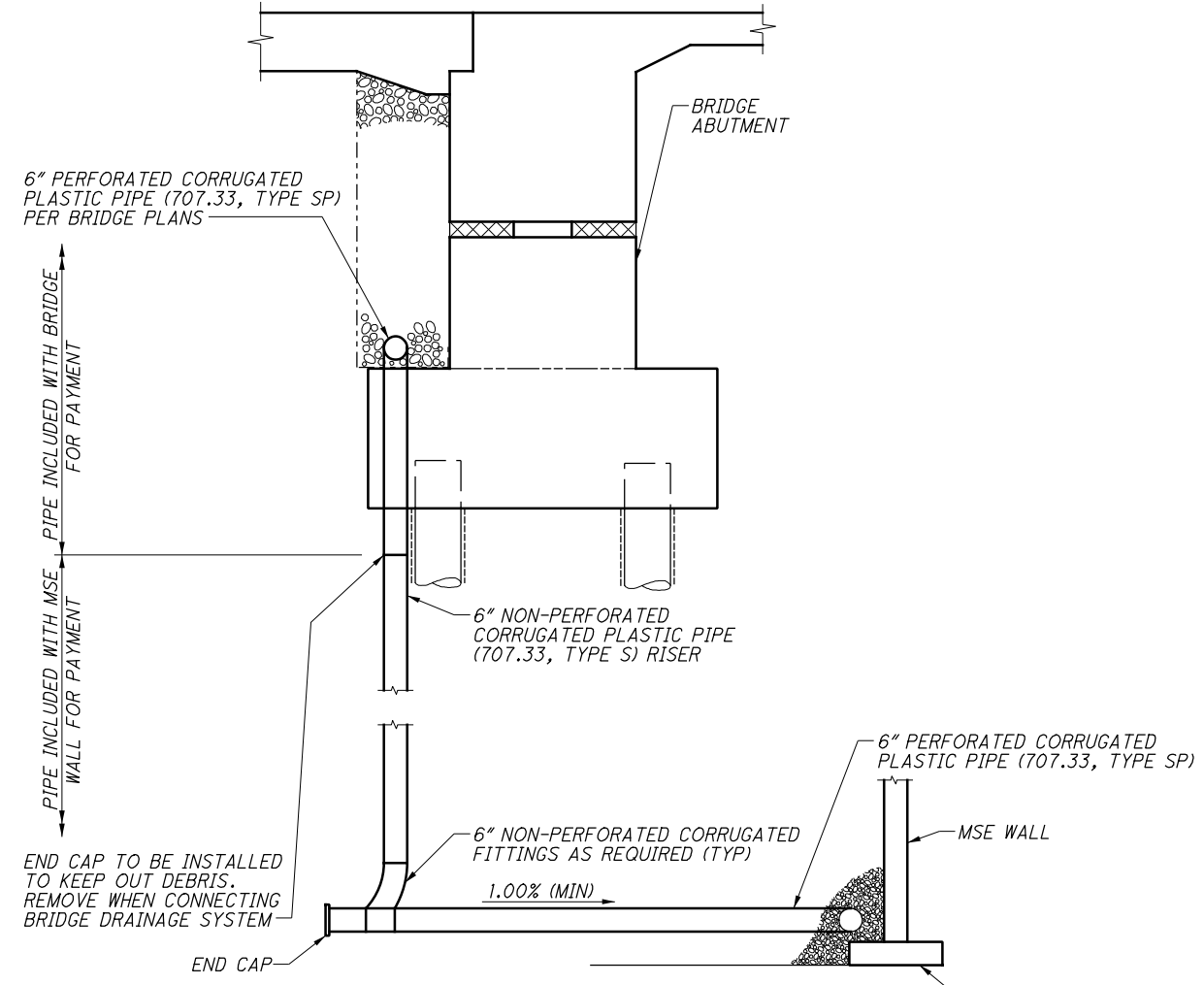
LEGEND
 MSE = MECHANICALLY STABILIZED EARTH
 CIP = CAST-IN-PLACE
 NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE

	DESIGN AGENCY LIB Inc. • 2510 Newmark Drive Mansburg, OH 45342 (837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com	DATE 4-16	STRUCTURE FILE NUMBER
DESIGNED SJM	DRAWN MSD	REVIEWED DWS	DATE 4-16
CHECKED AMM	REVISIONS	FILE NUMBER	DATE 4-16
MSE WALL DETAILS			
LOR-90-1320 PID No. 83449			
11 / 12			
193 301			

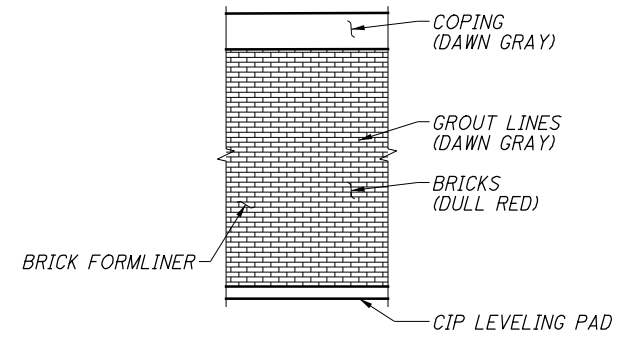
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PROPOSED TYPICAL WALL SECTION B-B



TYPICAL RISER DETAIL
(CONNECTION FROM BRIDGE DRAINAGE SYSTEM TO MSE WALL DRAINAGE)



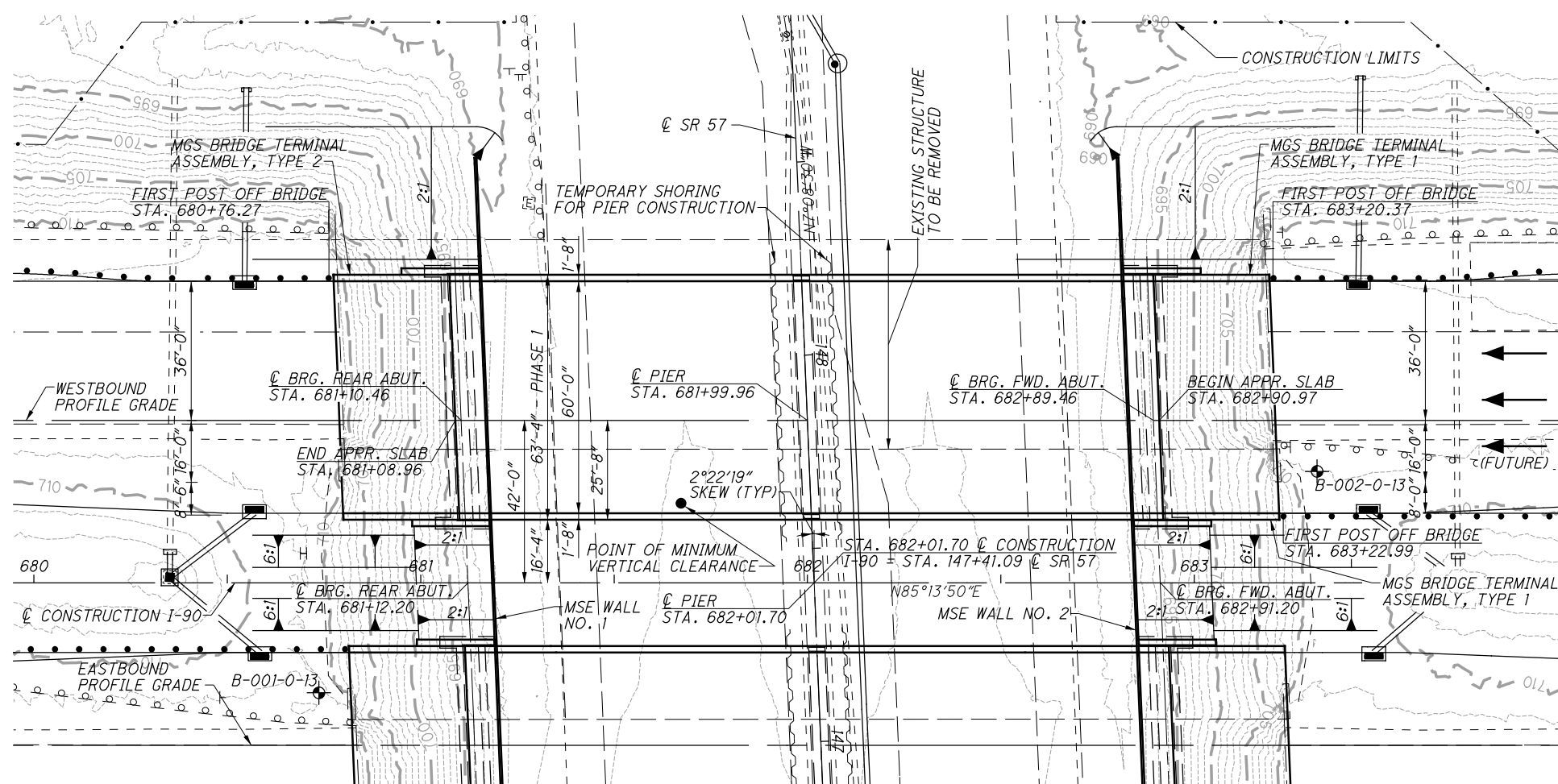
LIMITS OF SEALING OF CONCRETE SURFACES AND AESTHETIC DETAILS

(SEE MSE WALL AND COPING DETAIL ON SHEET 11/12 FOR SEALING LIMITS)

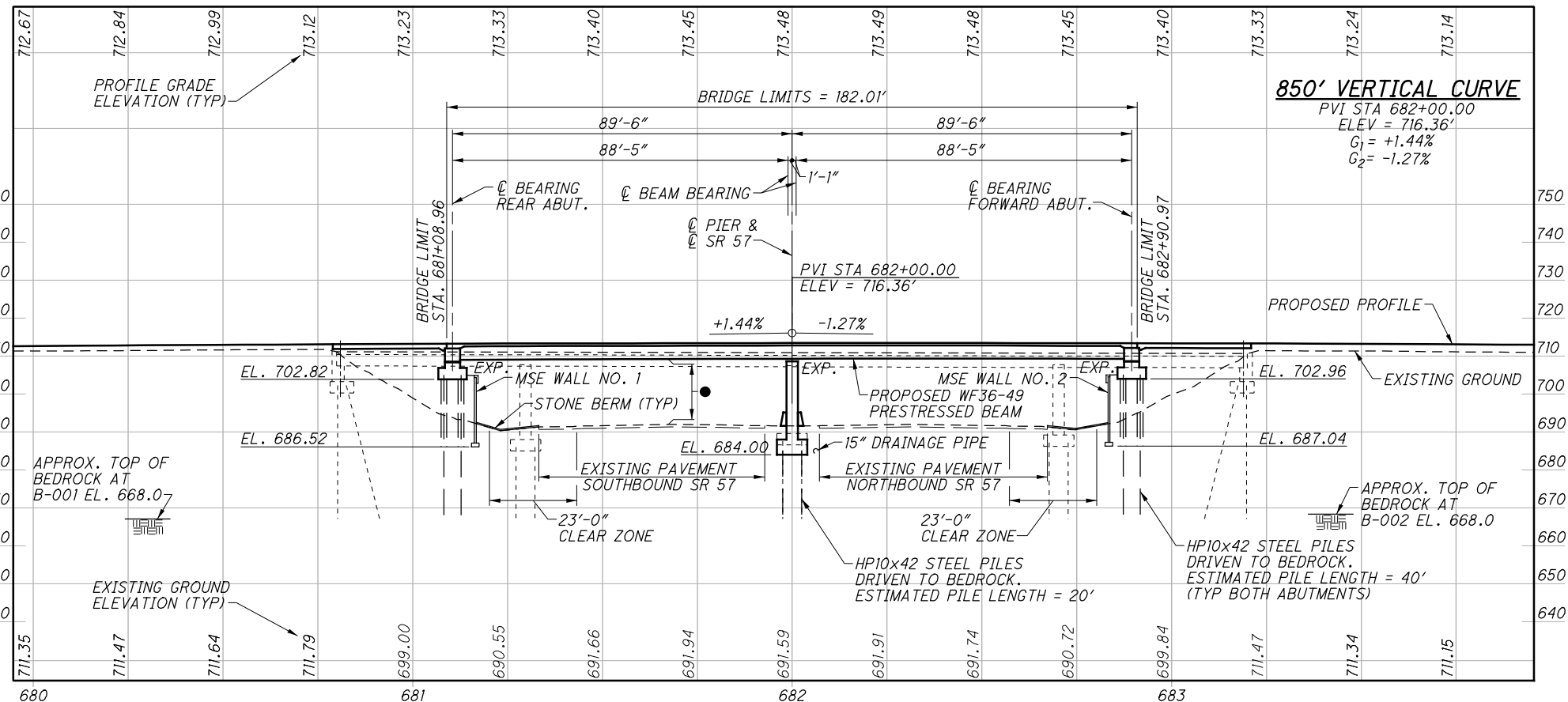
LEGEND
MSE = MECHANICALLY STABILIZED EARTH
CIP = CAST-IN-PLACE

	DESIGN AGENCY	LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com
	DATE	4-16
REVIEWED	DWS	STRUCTURE FILE NUMBER
DRAWN	MSD	REVISED
DESIGNED	SJM	CHECKED
	AWM	
MSE WALL DETAILS		
LOR-90-1320		
PID No. 83449		
12 / 12		
194		
301		

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PLAN - LEFT STRUCTURE



PROFILE ALONG WESTBOUND PROFILE GRADE

BENCHMARK DATA	
SO12:	STA. 674+68.22, 0.20' RT., EL. 700.93, CONCRETE MONUMENT
SO01:	STA. 683+99.55, 0.14' RT., EL. 706.64, CONCRETE MONUMENT

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 2/301.

- NOTES**
- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
 - MAINTAIN EXISTING LIGHTING PER LIGHTING SHEET 178/301.

DESIGN TRAFFIC:
 2016 ADT = 29272 2016 ADTT = 3805
 2036 ADT = 33242 2036 ADTT = 4322

- LEGEND**
- ⊕ BORING LOCATION
 - EXISTING MINIMUM VERTICAL CLEARANCE = 15'-1"
 - REQUIRED MINIMUM VERTICAL CLEARANCE = 17'-0"
 - PROPOSED MINIMUM VERTICAL CLEARANCE = 17'-2"

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 49'-0"±, 70'-3"±, 70'-3"±, 49'-0"± c/c BEARINGS

ROADWAY: 50'-0" FACE/FACE CURB

LOADING: CF 2000(57)

SKEW: 2°21'40"± RIGHT FORWARD

APPROACH SLABS: AS-1-54 (25' LONG)

ALIGNMENT: TANGENT

CROWN: 3/16"± PER FOOT

WEARING SURFACE: 6/4"± ASPHALT CONCRETE

STRUCTURE FILE NUMBER: 4704533

DATE BUILT: 1969

DISPOSITION: STRUCTURE TO BE REPLACED

PROPOSED STRUCTURE

PROPOSED WORK: STRUCTURE REPLACEMENT

TYPE: TWO SPAN CONTINUOUS WIDE FLANGE PRESTRESSED I-BEAM WITH COMPOSITE REINFORCED CONCRETE DECK ON A CAP AND COLUMN PIER AND STUB ABUTMENTS BEHIND MSE WALLS

SPANS: 88'-5", 88'-5" c/c BEARINGS

ROADWAY: 60'-0" TOE/TOE PARAPETS

LOADING: HL-93 AND 60 PSF FUTURE WEARING SURFACE

SKEW: 2°22'19" RIGHT FORWARD

APPROACH SLABS: AS-1-15 (30' LONG)

ALIGNMENT: TANGENT

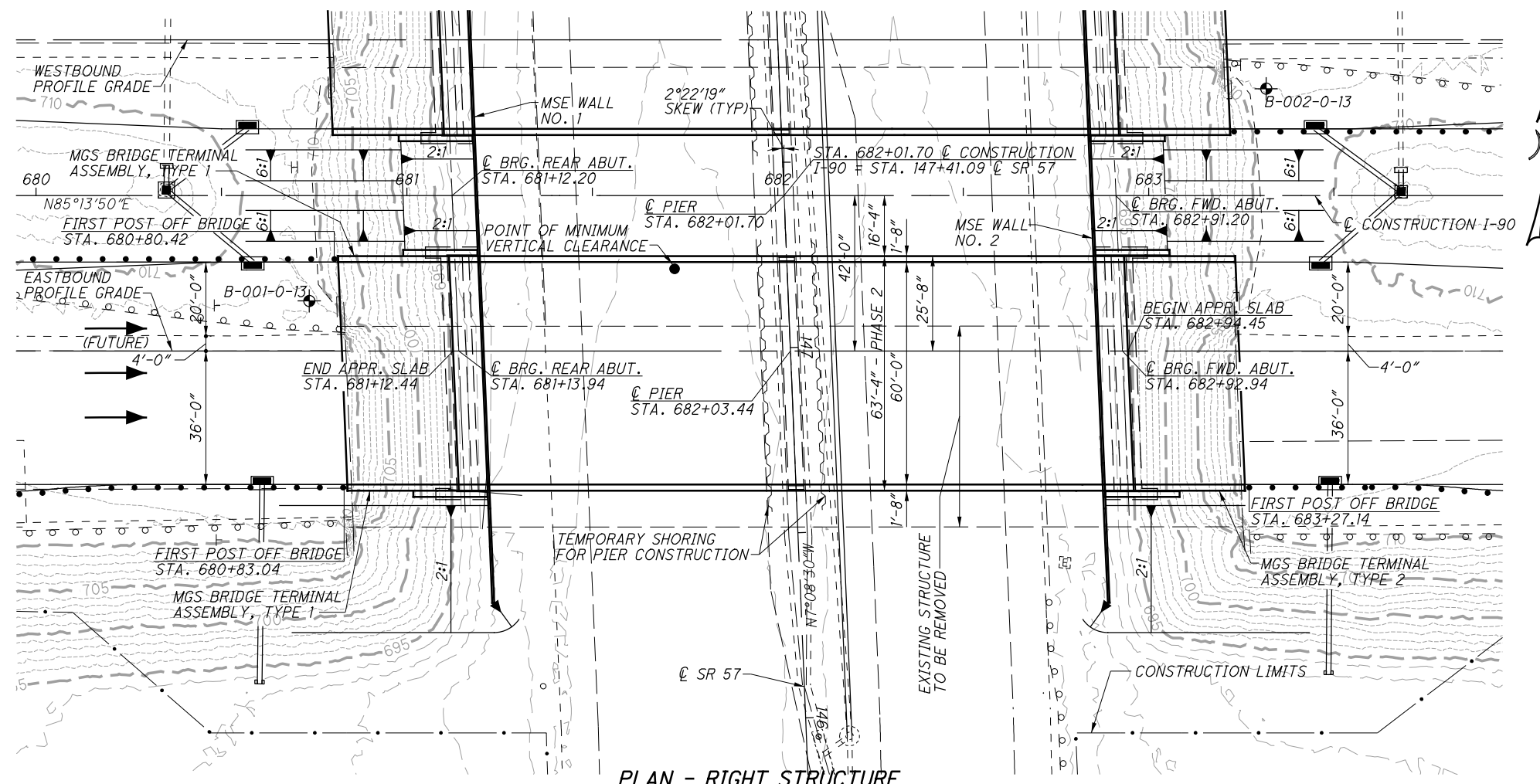
CROWN: 3/16" PER FOOT

WEARING SURFACE: MONOLITHIC CONCRETE

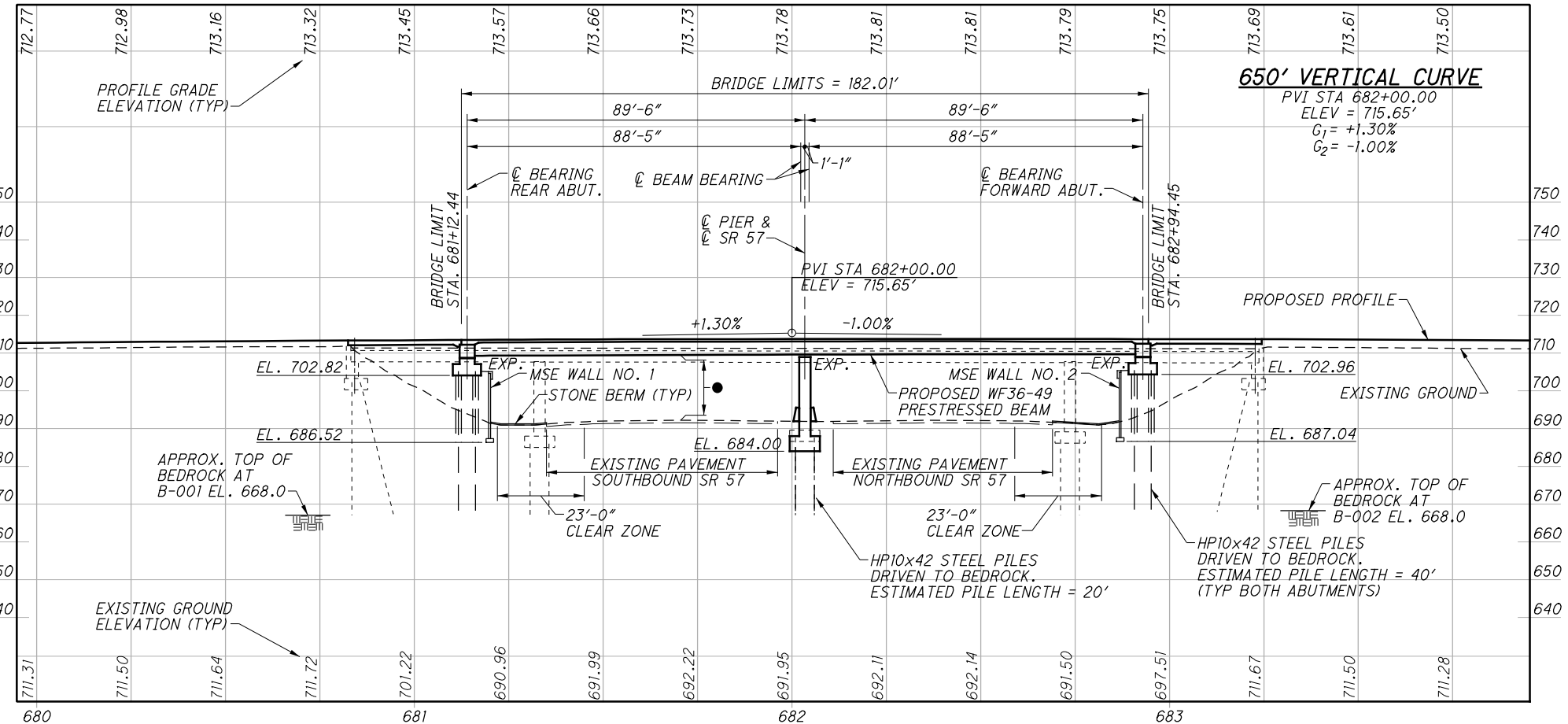
COORDINATES: LATITUDE 41°24'17" N
 LONGITUDE 82°07'02" W

DESIGN AGENCY: LIB Inc. • 2500 Newmark Drive, Mansburg, OH 45342, (687) 259-5100 fax • LIBinc.com
 DATE: 4-16
 REVIEWED: DWS
 DRAWN: MSD
 DESIGNED: AMM
 CHECKED: AMT
 LORAIN COUNTY STA. 681+08.96 STA. 682+90.97
SITE PLAN - LEFT STRUCTURE
 BRIDGE NO. LOR-90-1320/L/R
 I-90 OVER SR 57
LOR-90-1320
 PID No. 83449
 1/53
 195/301

o:\odot_d3\0108086A.00 - LOR-90-1320 PID83449\structures\LOR090_1320C\sp002.dgn 6/24/2016 7:50:49 AM sdilling



PLAN - RIGHT STRUCTURE



PROFILE ALONG EASTBOUND PROFILE GRADE

BENCHMARK DATA	
S012:	STA. 674+68.22, 0.20' RT., EL. 700.93, CONCRETE MONUMENT
S001:	STA. 683+99.55, 0.14' RT., EL. 706.64, CONCRETE MONUMENT

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 301.

- NOTES**
- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
 - MAINTAIN EXISTING LIGHTING PER LIGHTING SHEET 178/301.

DESIGN TRAFFIC:
 2016 ADT = 25958 2016 ADTT = 3375
 2036 ADT = 29478 2036 ADTT = 3832

- LEGEND**
- ⊕ BORING LOCATION
 - EXISTING MINIMUM VERTICAL CLEARANCE = 15'-1"±
 - REQUIRED MINIMUM VERTICAL CLEARANCE = 17'-0"
 - PROPOSED MINIMUM VERTICAL CLEARANCE = 17'-3"±

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 49'-0"±, 70'-3"±, 70'-3"±, 49'-0"± c/c BEARINGS

ROADWAY: 50'-0" FACE/FACE CURB

LOADING: CF 2000(57)

SKEW: 2°21'40"± RIGHT FORWARD

APPROACH SLABS: AS-1-54 (25' LONG)

ALIGNMENT: TANGENT

CROWN: 3/16"± PER FOOT

WEARING SURFACE: 6 1/4"± ASPHALT CONCRETE

STRUCTURE FILE NUMBER: 4704568

DATE BUILT: 1969

DISPOSITION: STRUCTURE TO BE REPLACED

PROPOSED STRUCTURE

PROPOSED WORK: STRUCTURE REPLACEMENT

TYPE: TWO SPAN CONTINUOUS WIDE FLANGE PRESTRESSED I-BEAM WITH COMPOSITE REINFORCED CONCRETE DECK ON A CAP AND COLUMN PIER AND STUB ABUTMENTS BEHIND MSE WALLS

SPANS: 88'-5", 88'-5" c/c BEARINGS

ROADWAY: 60'-0" TOE/TOE PARAPETS

LOADING: HL-93 AND 60 PSF FUTURE WEARING SURFACE

SKEW: 2°22'19" RIGHT FORWARD

APPROACH SLABS: AS-1-15 (30' LONG)

ALIGNMENT: TANGENT

CROWN: 3/16" PER FOOT

WEARING SURFACE: MONOLITHIC CONCRETE

COORDINATES: LATITUDE 41°24'17" N
 LONGITUDE 82°07'02" W

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 DATE: 4-16
 REVIEWED: DWS
 DRAWN: MSD
 CHECKED: AMT
 DESIGNED: AMM
 STRUCTURE FILE NUMBER: L-470000
 R-4710001
 LORAIN COUNTY
 STA. 681+12.44
 STA. 682+94.45
SITE PLAN - RIGHT STRUCTURE
 BRIDGE NO. LOR-90-1320L/R
 I-90 OVER SR 57
LOR-90-1320
 PID No. 83449
 2 / 53
 196 / 301

GENERAL NOTES:

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15 REVISED 7-17-15
PSID-1-13 REVISED 1-16-15
SBR-1-13 REVISED 1-17-14
SICD-1-96 REVISED 7-18-14

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800 DATED 10-21-16
840 DATED 4-15-16

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, INCLUDING THE 2015 INTERIM REVISIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT².

DESIGN DATA

CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 8.0 KSI
COMPRESSIVE STRENGTH (RELEASE) - 7.0 KSI

WELDED WIRE FABRIC: YIELD STRENGTH 70 KSI

PRESTRESSING STRAND FOR PRESTRESSED BEAMS:
AREA = 0.217 IN²
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER
SEALING OF CONCRETE SURFACES

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILES TO BEDROCK

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 256 KIPS PER PILE FOR THE 80 ABUTMENT PILES. THE ABUTMENT PILES INCLUDE AN ADDITIONAL 26 KIPS OF FACTORED LOAD PER PILE TO ACCOUNT FOR POSSIBLE DOWNDRAG LOADING. THE TOTAL FACTORED LOAD IS 285 KIPS PER PILE FOR THE 48 PIER PILES.

ABUTMENT PILES:
HP10x42 PILES, 45 FEET LONG, ORDER LENGTH
PIER PILES:
HP10x42 PILES, 25 FEET LONG, ORDER LENGTH

PILE SPLICES

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

PROPRIETARY RETAINING WALL DATA

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO SUPPORT THE ABUTMENT. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE A NOMINAL (I.E. UNFACTORED) HORIZONTAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURE OF 2.1 K/FT APPLIED PERPENDICULAR TO THE FACE OF WALL AT THE BASE OF THE CONCRETE FOOTING. THIS STRIP LOAD DOES NOT INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL. HOWEVER, THE PROPRIETARY WALL SUPPLIER SHALL INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL IN THE DESIGN CALCULATIONS.

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 2.6 KIPS.

A MAXIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 IN.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65 IN.

ITEM 202, STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

FOLLOW CMS 202 EXCEPT AS NOTED. REMOVE EXISTING PIER PILES AT THE PROPOSED PIERS, LEFT AND RIGHT BRIDGES, TO ELEVATION 683.0.

ITEM 509, EPOXY COATED REINFORCING STEEL, AS PER PLAN

PROVIDE GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING BARS IN THE PARAPETS AND PARAPET TRANSITIONS PER CMS 705.01 AND AS SHOWN IN THE PLANS. INCLUDE GFRP BARS WITH ITEM 509, EPOXY COATED REINFORCING STEEL, AS PER PLAN FOR PAYMENT.

ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN

THIS ITEM SHALL INCLUDE THE END DIAPHRAGMS AND THE EXPANDED POLYSTYRENE FILLERS USED TO FORM THE BOTTOM OF THE DIAPHRAGM.

PROPOSED WORK: LEFT STRUCTURE:

1. REROUTE WESTBOUND TRAFFIC ONTO EASTBOUND BRIDGE PER MAINTENANCE OF TRAFFIC PLANS.
2. REMOVE EXISTING WEARING SURFACE, APPROACH SLABS, REINFORCED CONCRETE SLAB, STEEL BEAMS, ABUTMENTS AND PIERS.
3. CONSTRUCT THE NORTH PORTION OF THE NEW MSE WALL NO. 1 FROM STA. 100+40.00 TO 101+50.00 AND WALL NO. 2 FROM STA. 200+40.00 TO STA. 201+50.00 AND INSTALL TEMPORARY SHORING AS NEEDED.
4. CONSTRUCT NEW ABUTMENTS, WINGWALLS AND PIER.
5. INSTALL NEW ABUTMENT AND PIER BEARINGS.
6. SET WF36-49 PRESTRESSED CONCRETE BEAMS AND CONSTRUCT INTERMEDIATE DIAPHRAGMS.
7. CONSTRUCT END DIAPHRAGMS, PIER DIAPHRAGMS, COMPOSITE REINFORCED CONCRETE DECK, PARAPETS, FENCE AND APPROACH SLABS.
8. SEAL ALL CONCRETE SURFACES.

PROPOSED WORK: RIGHT STRUCTURE:

1. REROUTE EASTBOUND TRAFFIC ONTO WESTBOUND BRIDGE PER MAINTENANCE OF TRAFFIC PLANS.
2. REMOVE EXISTING WEARING SURFACE, APPROACH SLABS, REINFORCED CONCRETE SLAB, STEEL BEAMS, ABUTMENTS AND PIERS.
3. CONSTRUCT THE SOUTH PORTION OF THE NEW MSE WALL NO. 1 FROM STA. 101+50.00 TO STA. 102+60.00 AND WALL NO. 2 FROM STA. 201+50.00 TO STA. 202+60.00.
4. CONSTRUCT NEW ABUTMENTS, WINGWALLS AND PIER.
5. INSTALL NEW ABUTMENT AND PIER BEARINGS.
6. SET WF36-49 PRESTRESSED CONCRETE BEAMS AND CONSTRUCT INTERMEDIATE DIAPHRAGMS.
7. CONSTRUCT END DIAPHRAGMS, PIER DIAPHRAGMS, COMPOSITE REINFORCED CONCRETE DECK, PARAPETS, FENCE AND APPROACH SLABS.
8. SEAL ALL CONCRETE SURFACES.

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DESIGN AGENCY
LIB Inc. 2500 Newmark Drive
Mansfield, OH 44942
(837) 258-5000 ext. (837) 258-5100 fax - L.Blib.com

DATE 4-16
REVIEWED DWS
STRUCTURE FILE NUMBER L-471000
R-4710001

DRAWN MSD
CHECKED REVISED
PRG AMT

GENERAL NOTES
BRIDGE NO. LOR-90-1320L/R
I-90 OVER SR 57

LOR-90-1320
PID No. 83449

3/53
197
301

GENERAL NOTES, CONTINUED:

ITEM 511, CONCRETE MISC.: AESTHETICS TEST PANEL

PROVIDE AN UNREINFORCED CONCRETE TEST PANEL MEASURING 36"x36"x8" THICK WITH THE BRICK FORMLINER APPLIED. APPLY DAWN GRAY (FEDERAL COLOR NUMBER FS-595B-16492) AND DULL RED (FEDERAL COLOR NUMBER FS-595B-30109) EPOXY-URETHANE SEALER TO THE BRICK PATTERN AS SHOWN ON SHEET [35/53]. THE AESTHETICS TEST PANEL SHALL BE APPROVED BY THE CITY OF ELYRIA PRIOR TO SEALING THE STRUCTURE.

CITY OF ELYRIA:
TIMOTHY J. UJVARI, PE, PS
CITY ENGINEER, CITY OF ELYRIA
131 COURT STREET, SUITE 303
ELYRIA, OHIO 44035
(440) 326-1444
EMAIL: TUJVARI@CITYOFELYRIA.ORG

ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN
SEALING OF CONCRETE SURFACES SHALL BE PER ITEM 512 WITH THE TOP COAT COLORS AS INDICATED IN THE PLANS. THE TOP COAT COLORS DESCRIBED IN THE PLANS FOR THE EPOXY-URETHANE SEALER SHALL MEET THE FOLLOWING STANDARD COLOR NUMBERS:

BLACK	FEDERAL COLOR NUMBER FS-595B-17038
GOLD	FEDERAL COLOR NUMBER FS-595B-13591
DAWN GRAY	FEDERAL COLOR NUMBER FS-595B-16492
DULL RED	FEDERAL COLOR NUMBER FS-595B-30109

ITEM SPECIAL, VANDAL PROTECTION FENCE

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING AND INSTALLING VANDAL FENCING ON NEW CONCRETE BRIDGE RAILINGS. CONSTRUCT IN A MANNER THAT PROVIDES A RIGID, TAUT FENCE CLOSELY CONFORMING TO THE TOP SURFACE OF THE CONCRETE PARAPET. UNLESS OTHERWISE SPECIFIED IN THE PLANS, INSTALL POSTS AND POST SLEEVES PLUMB.

POSTS: POSTS SHALL BE 2"x2" SQUARE (OUTSIDE DIMENSION) WITH 1/8" WALL THICKNESS AND WELDED IRON CAP. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE.

HORIZONTAL MEMBERS: HORIZONTAL MEMBERS SHALL BE 1 1/2" x 1 1/2" SQUARE CHANNEL WITH 1/8" WALL THICKNESS. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE.

PICKETS: PICKETS SHALL BE 3/4" SQUARE SOLID IRON. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE.

BASE PLATES: BASE PLATES SHALL BE ASTM A709 GRADE 36 OR 50 STEEL. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE.

FASTENERS: THE 3/4" DIAMETER HIGH STRENGTH THREADED ANCHORS, 3/4" DIAMETER BOLTS, NUTS AND WASHERS SHALL MEET THE REQUIREMENTS OF ASTM A325. ALL HARDWARE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE. DOWEL 3/4" DIAMETER THREADED ANCHORS AT LEAST 6 3/8" INTO NEW CONCRETE. ANCHORS SHALL PROJECT AT LEAST 2 3/4" ABOVE THE TOP OF THE PARAPET. HOLE DIAMETERS SHALL BE 1/8" LARGER THAN THE ANCHORS OR AS RECOMMENDED BY THE MANUFACTURER. PLACE AND CURE ANCHORS ACCORDING TO CMS 510 USING NONSHRINK, NONMETALLIC GROUT, 705.20. THE ANCHORS MAY BE CAST-IN-PLACE WITH A MINIMUM 6 3/8" EMBEDMENT LENGTH.

TENSION BARS: TENSION BARS SHALL BE 3/8" x 1/2" STEEL. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE.

TENSION BANDS: TENSION BANDS SHALL BE 1/8" x 1" STEEL ASSEMBLED WITH 3/8" DIAMETER x 1 1/4" BOLTS. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE. ONE TENSION BAND SHALL BE SUPPLIED FOR EACH FOOT OF FABRIC HEIGHT.

DOUBLE WRAP FABRIC TIES: DOUBLE WRAP FABRIC TIES SHALL BE 0.091 INCH CORE DIAMETER PVC COATED STEEL WIRE 15 1/4" LONG. THE PVC COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE. TO CONNECT THE FABRIC TO THE HORIZONTAL MEMBERS USE DOUBLE WRAP TIES 2-3 INCHES ON EACH SIDE OF THE POSTS AND AT SPACINGS NOT TO EXCEED 12" BETWEEN POSTS.

FABRIC: FABRIC SHALL CONSIST OF A 1" DIAMOND MESH USING 0.120 INCH DIAMETER (11 GAGE) WIRE CONFORMING TO ASTM F668 CLASS 2A OR 2B EXCEPT AS NOTED. THE PVC COATING SHALL BE POWDER COATED BLACK IN COLOR CLOSELY APPROACHING FEDERAL COLOR NUMBER FS-595B-17038. SELVAGES SHALL BE KNUCKLED AT BOTH ENDS. HANDLE ALL PVC COATED FABRIC WITH CARE. IF THE PVC COATING IS DAMAGED, REPLACE THE DAMAGED PORTION OF THE FABRIC AT NO COST TO THE DEPARTMENT.

FILLET WELDS: FILLET WELDS SHALL CONFORM TO CMS 513.

POST SLEEVES: POST SLEEVES SHALL BE 2 1/2"x2 1/2" SQUARE (OUTSIDE DIMENSION), ASTM A53, 25,000 PSI MINIMUM YIELD STRENGTH, 7.11 LB/FT. HEXAGON SOCKET SET SCREWS SHALL BE SAE 4140 ALLOY STEEL, HEAT TREATED, WITH FLAT OR OVAL POINT. THE PROTECTIVE COATING SHALL BE POWDER COATED BLACK TO MATCH FENCE.

SHIM PLATES: SHIM PLATES SHALL BE MADE FROM ANY MULTI-POLYMER PLASTIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI. IN ORDER TO INSTALL POSTS PLUMB, ENDS OF POSTS AND SLEEVES MAY BE CUT ON A BIAS.

TRAFFIC MAINTENANCE: MAINTAIN TRAFFIC ACCORDING TO THE PROJECT PLANS.

CAULKING COMPOUND: CAULKING COMPOUND SHALL CONFORM TO FEDERAL SPECIFICATION TT-S-00230C TYPE II CLASS A, ALUMINUM GRAY. WHEN APPLYING THE CAULK TO THE BASE PLATE, PROVIDE A 1" OPENING THROUGH THE CAULKING ON LOW SIDE OF BASE PLATE.

CONSTRUCTION PROCEDURE:

1. FIELD VERIFY THE PLAN LOCATIONS OF ALL BASE PLATES AND MARK PARAPETS ACCORDINGLY.
2. MARK AND DRILL HOLES FOR THE 3/4" HIGH STRENGTH THREADED ANCHORS, 3/4" BOLTS OR APPROVED 3/4" INSERTS USING A BASE PLATE OR TEMPLATE.
3. INSTALL 3/4" DIAMETER HIGH STRENGTH THREADED ANCHORS, 3/4" BOLTS OR APPROVED 3/4" INSERTS.
4. INSTALL POSTS AND BASE PLATES AND SHIM WHERE REQUIRED.
5. CAULK EDGES OF BASE PLATES, SHIMS AND SLEEVES.
6. COMPLETE INSTALLATION OF FENCE.

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 ITEM SPECIAL, VANDAL PROTECTION FENCE

ITEM SPECIAL, FORMLINER

A FORMLINER IN ACCORDANCE WITH 508.03 SHALL BE USED TO PRODUCE THE ARCHITECTURAL SURFACES ACCORDING TO THE LIMITS SHOWN IN THE PLANS. THE FORMLINER USED TO PRODUCE THE ARCHITECTURAL SURFACE TEXTURE SHALL BE AS FOLLOWS, OR AN EQUAL FORMLINER MATERIAL APPROVED BY THE ENGINEER.

BRICK FORMLINER:

PATTERN	DESCRIPTION	MANUFACTURER
12016	NEW BRICK	CUSTOM ROCK FORMLINER
16941	8" SMOOTH BRICK	FITZGERALD FORMLINERS
1306	8" X 2 1/2" SMOOTH BRICK	SPEC FORMLINERS

CUSTOM FORMLINER: CUSTOM FORMLINER IS REQUIRED FOR THE CITY OF ELYRIA SEAL AS SHOWN ON THIS SHEET AND THE ELYRIA LETTERING AS SHOWN ON SHEET [35/53]. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL TO THE ENGINEER FOR ALL CUSTOM DESIGNED FORMLINERS. ALL PRODUCT INFORMATION AND SHOP DRAWINGS SHALL BE SUBMITTED PRIOR TO BEGINNING ANY WORK.

FORMLINER MANUFACTURER INFORMATION:
CUSTOM ROCK FORMLINER
2020 WEST 7TH STREET
ST. PAUL, MN 55116
PHONE: (651)699-1345

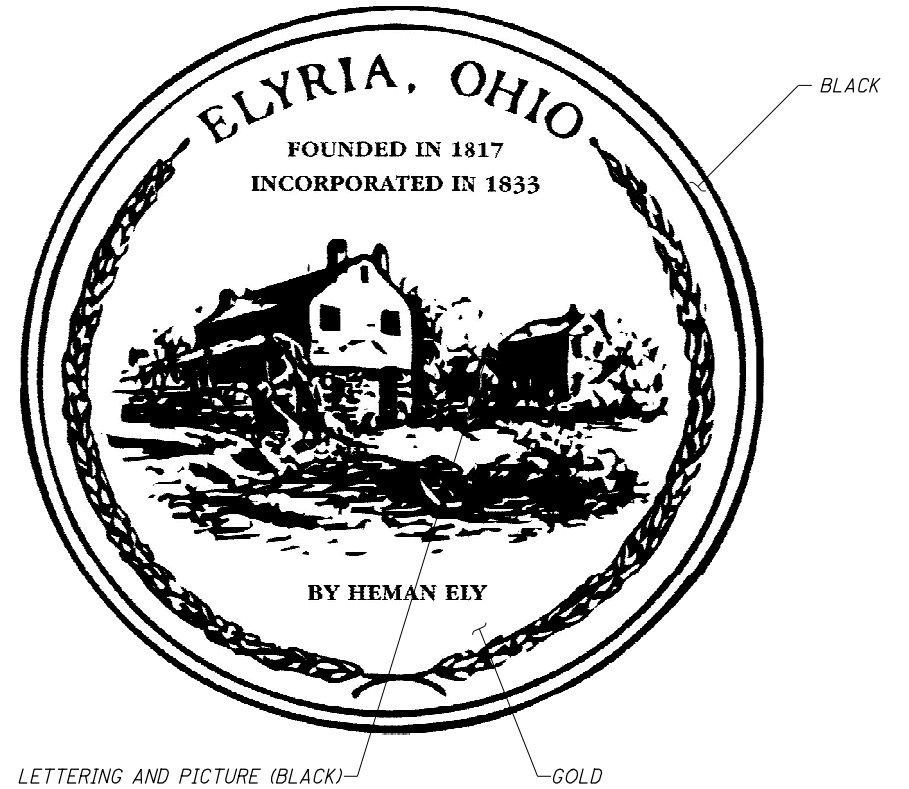
FITZGERALD FORMLINERS
1500 EAST CHESTNUT AVENUE
SANTA ANA, CA 92701
PHONE: (800)547-7760

SPEC FORMLINERS
530 EAST DYER ROAD
SANTA ANA, CA 92707
PHONE: (888)429-9550

THE CONTRACTOR SHALL SUBMIT PRODUCT INFORMATION FOR THE PROPOSED PATTERNED FORMLINER TO THE ENGINEER FOR APPROVAL.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE FORMLINERS BY THE NUMBER OF SQUARE FEET. THE DEPARTMENT WILL DETERMINE THE AREA OF THE FORMLINER FROM NOMINAL PLAN DIMENSIONS.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR FALSEWORK, STRUCTURAL FORMWORK, FURNISHING, PLACING, CONSOLIDATING, FINISHING AND CURING PORTLAND CEMENT CONCRETE SEPARATELY. PAYMENT FOR ITEM SPECIAL, FORMLINER INCLUDES ALL MATERIALS AND LABOR REQUIRED TO PRODUCE THE TEXTURED CONCRETE SURFACES SHOWN ON THE PLANS AND DESCRIBED HEREIN.



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DESIGN AGENCY: LIB Inc. • 2500 Newmark Drive
Mansfield, OH 44842
(937) 259-5000 tel • (937) 259-5100 fax • LIBinc.com

DATE: 4-16

REVIEWED: DWS

STRUCTURE FILE NUMBER: L-4710000
R-4710001

DRAWN: MSD

CHECKED: AMT

DESIGNED: PRG

GENERAL NOTES (CONT'D)

BRIDGE NO. LOR-90-1320L/R

I-90 OVER SR 57

LOR-90-1320

PID No. 83449

4/53

198
301

ESTIMATED QUANTITIES - LOR-90-1320L - LEFT STRUCTURE

FUNDING 01/IMS/BR	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIER	SUPERSTRUCTURE	GENERAL	AS PER PLAN SHEET NUMBER
LUMP	202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	3 / 53
200	202	22900	200	SQ YD	APPROACH SLAB REMOVED				200	
1550	202	23500	1550	SQ YD	WEARING COURSE REMOVED				1550	
120	SPECIAL	45130000	120	FT	PRESSURE RELIEF JOINT, TYPE A				120	45 / 53
LUMP	503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP	
LUMP	503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
LUMP	505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
2400	507	00100	2400	FT	STEEL PILES HP10X42, FURNISHED	1800	600			
2080	507	00150	2080	FT	STEEL PILES HP10X42, DRIVEN	1600	480			
64	507	93300	64	EACH	STEEL POINTS OR SHOES	40	24			
158027	509	10001	158027	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	16065	27570	11158	3234 *	3 / 53
46	511	33419	46	CU YD	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			46		3 / 53
405	511	34446	405	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			405		
73	511	34450	73	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			56	17 *	
66	511	41012	66	CU YD	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		66			
70	511	44112	70	CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	70				
198	511	46512	198	CU YD	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	122	76			
1	511	81300	1	EACH	CONCRETE, MISC.: AESTHETICS TEST PANEL				1	4 / 53
1286	512	10101	1286	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	210	151	820	105 *	4 / 53
16	515	15070	16	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF36-49 (90'-1" LENGTH)			16		
42	515	20000	42	EACH	INTERMEDIATE DIAPHRAGMS			42		
35	516	13600	35	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	18			17 *	
72	516	13900	72	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	72				
82	516	14000	82	SQ FT	PREFORMED EXPANSION JOINT FILLER, MISC: VARIABLE THICKNESS			82		
150	516	14020	150	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	150				
16	516	44100	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (15" x 18" x 2 1/4")			16		
16	516	44200	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (15" x 18" x 3 5/16")			16		
63	518	21200	63	CU YD	POROUS BACKFILL WITH GEOTEXTILE FABRIC	63				
142	518	40000	142	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	142				
10	518	40010	10	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	10				
423	526	30000	423	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=17")				423	
3010	SPECIAL	53013000	3010	SQ FT	FORMLINER	770	572	1276	392 *	4 / 53
35	601	21000	35	SQ YD	CONCRETE SLOPE PROTECTION	35				
345	SPECIAL	60740000	345	FT	VANDAL PROTECTION FENCE			345		4 / 53

* APPROACH SLAB PARAPET TRANSITIONS

QUANTITIES COMPUTED BY: AMT 4/2016
 QUANTITIES CHECKED BY: DWS 4/2016

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DESIGN AGENCY: LIB Inc. • 2500 Newark Drive
 Mansburg, OH 45342
 (837) 259-5000 ext. (837) 259-5100 fax • LibInc.com

 DATE: 4-16
 REVIEWED: DWS
 DRAWN: MSD
 DESIGNED: AMT
 CHECKED: JBR
 STRUCTURE FILE NUMBER: L-4710000
 R-4710001
ESTIMATED QUANTITIES - LEFT STRUCTURE
 BRIDGE NO. LOR-90-1320L/R
 I-90 OVER SR 57
LOR-90-1320
PID No. 83449
 5 / 53
 199
 301

ESTIMATED QUANTITIES - LOR-90-1320R - RIGHT STRUCTURE

FUNDING 01/IMS/BR	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIER	SUPERSTRUCTURE	GENERAL	AS PER PLAN SHEET NUMBER
LUMP	202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	3 / 53
200	202	22900	200	SQ YD	APPROACH SLAB REMOVED				200	
1550	202	23500	1550	SQ YD	WEARING COURSE REMOVED				1550	
120	SPECIAL	45130000	120	FT	PRESSURE RELIEF JOINT, TYPE A				120	45 / 53
LUMP	503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP	
LUMP	503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
LUMP	505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
2400	507	00100	2400	FT	STEEL PILES HP10X42, FURNISHED	1800	600			
2080	507	00150	2080	FT	STEEL PILES HP10X42, DRIVEN	1600	480			
64	507	93300	64	EACH	STEEL POINTS OR SHOES	40	24			
158027	509	10001	158027	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	16065	27570	11158	3234 *	3 / 53
46	511	33419	46	CU YD	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			46		3 / 53
405	511	34446	405	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			405		
73	511	34450	73	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			56	17 *	
66	511	41012	66	CU YD	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		66			
76	511	44112	76	CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	76				
198	511	46512	198	CU YD	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	122	76			
1	511	81300	1	EACH	CONCRETE, MISC.: AESTHETICS TEST PANEL				1	4 / 53
1286	512	10101	1286	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	210	151	820	105 *	4 / 53
16	515	15070	16	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF36-49 (90'-1" LENGTH)			16		
42	515	20000	42	EACH	INTERMEDIATE DIAPHRAGMS			42		
35	516	13600	35	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	18			17 *	
72	516	13900	72	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	72				
82	516	14000	82	SQ FT	PREFORMED EXPANSION JOINT FILLER, MISC: VARIABLE THICKNESS			82		
150	516	14020	150	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	150				
16	516	44100	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (15" x 18" x 2 1/4")			16		
16	516	44200	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (15" x 18" x 3 5/16")			16		
64	518	21200	64	CU YD	POROUS BACKFILL WITH GEOTEXTILE FABRIC	64				
142	518	40000	142	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	142				
10	518	40010	10	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	10				
423	526	30000	423	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=17")				423	
3010	SPECIAL	53013000	3010	SQ FT	FORMLINER	770	572	1276	392 *	4 / 53
35	601	21000	35	SQ YD	CONCRETE SLOPE PROTECTION	35				
345	SPECIAL	60740000	345	FT	VANDAL PROTECTION FENCE			345		4 / 53

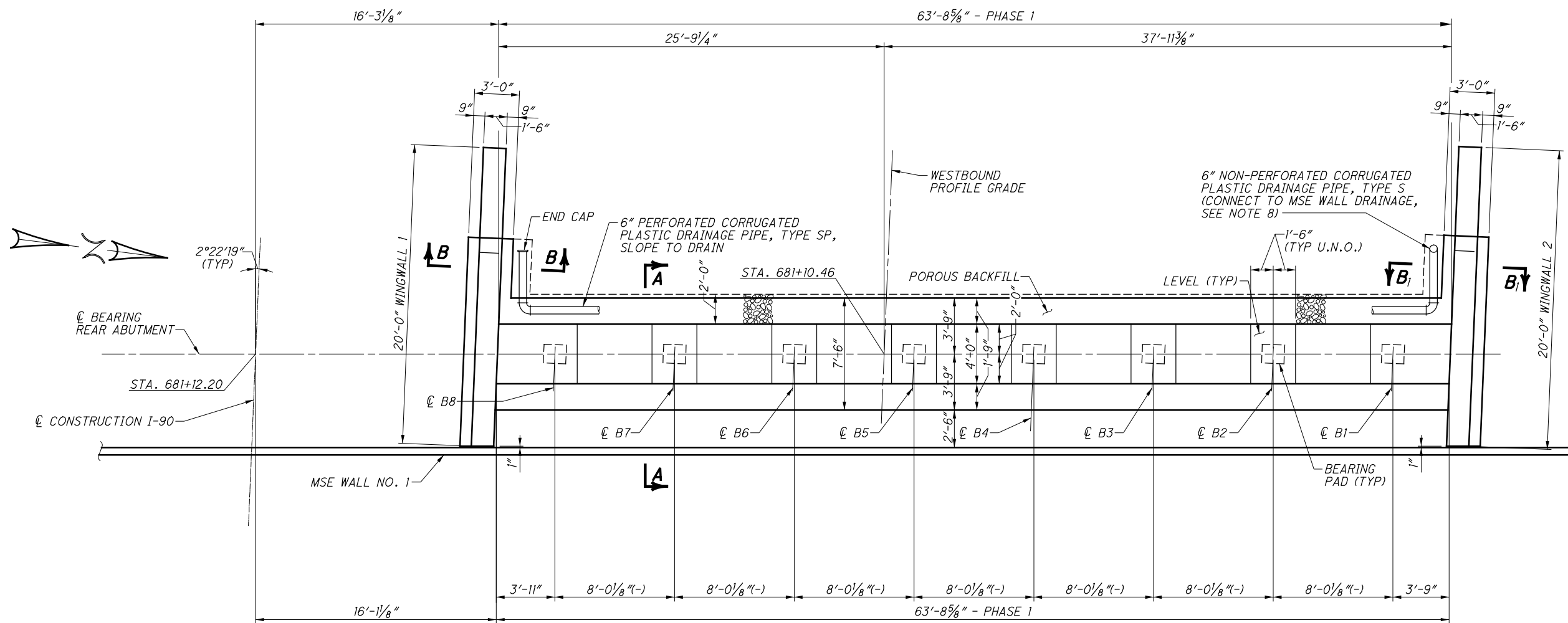
* APPROACH SLAB PARAPET TRANSITIONS

QUANTITIES COMPUTED BY: AMT 4/2016
 QUANTITIES CHECKED BY: DWS 4/2016

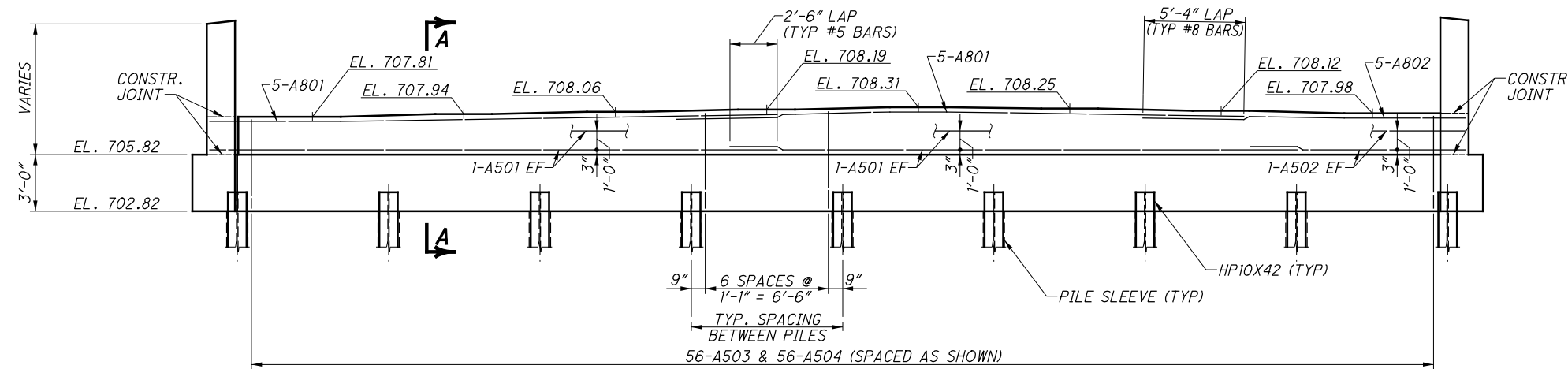
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DESIGN AGENCY: LIB Inc. • 2500 Newmark Drive • Mansburg, OH 45342 • (837) 259-5000 ext. • (837) 259-5100 fax • Libinc.com
 DATE: 4-16
 REVIEWED: DWS
 DRAWN: MSD
 DESIGNED: AMT
 CHECKED: JBR
 STRUCTURE FILE NUMBER: L-4710000
 R-4710001
ESTIMATED QUANTITIES - RIGHT STRUCTURE
 BRIDGE NO. LOR-90-1320L/R
 I-90 OVER SR 57
LOR-90-1320
PID No. 83449
 6 / 53
 200 / 301

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REAR ABUTMENT PLAN - LEFT STRUCTURE



REAR ABUTMENT ELEVATION - LEFT STRUCTURE

(MSE WALL NOT SHOWN FOR CLARITY)

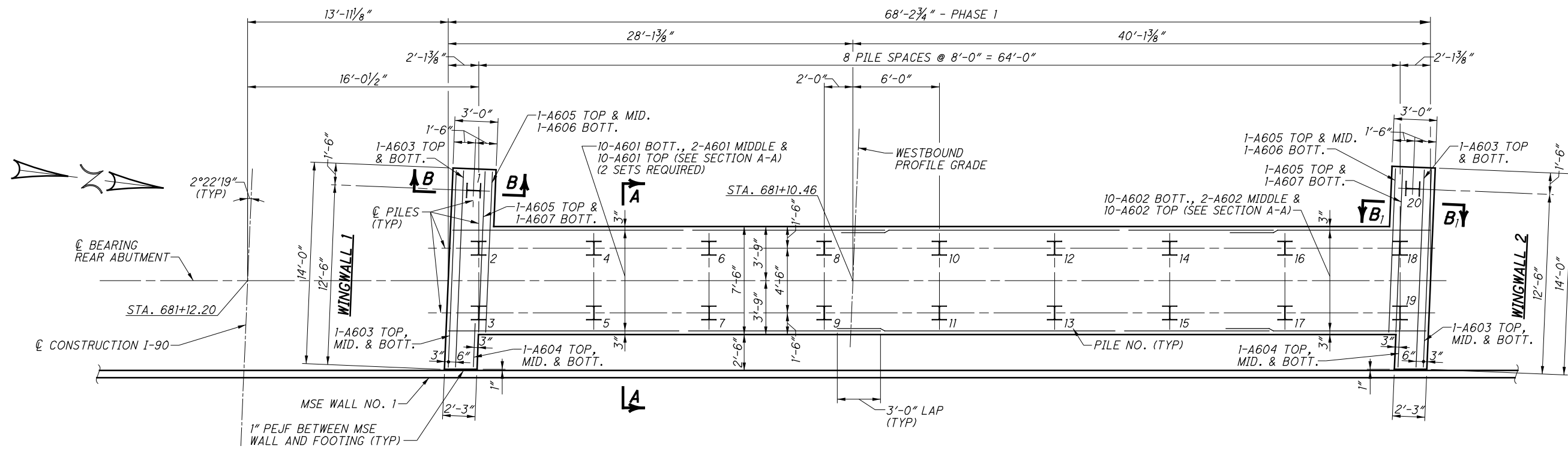
LEGEND
 EF = EACH FACE
 MSE = MECHANICALLY STABILIZED EARTH
 U.N.O. = UNLESS NOTED OTHERWISE

NOTES:

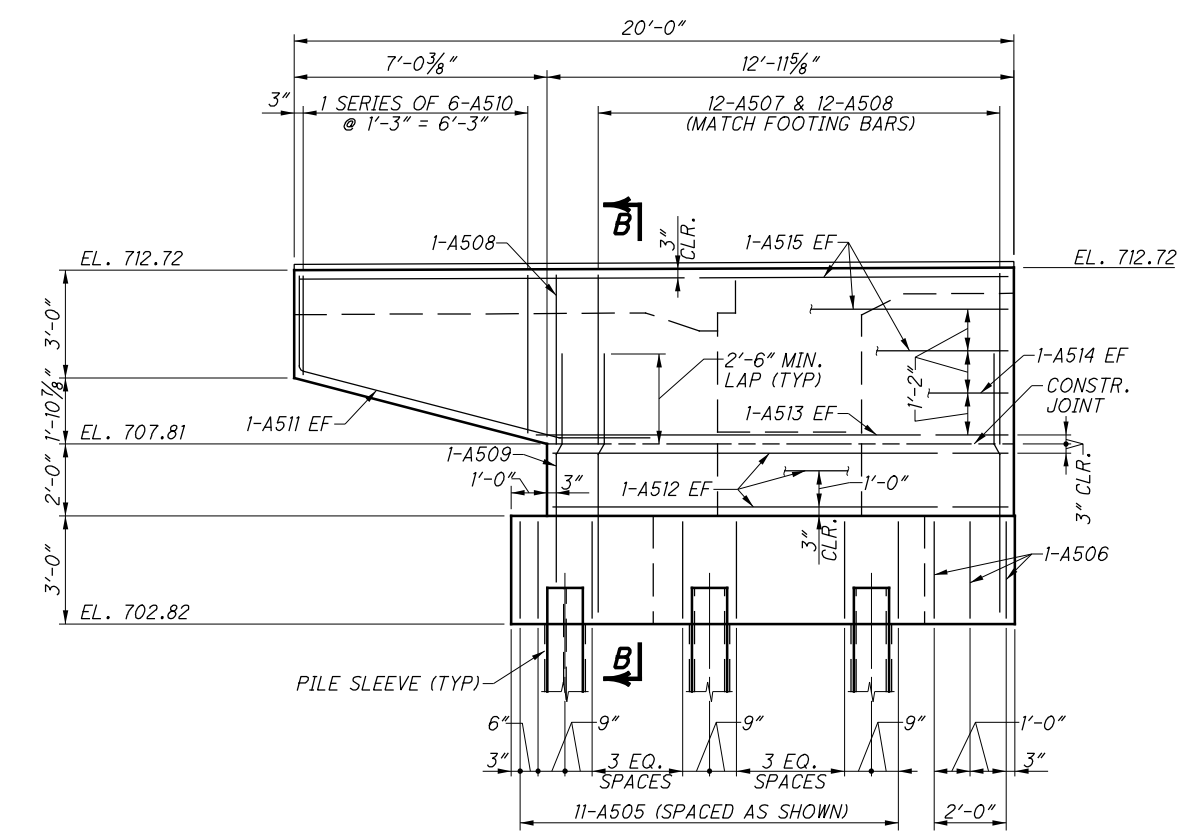
1. FOR GENERAL NOTES, SEE SHEETS 3/53 AND 4/53.
2. FOR REINFORCING STEEL LIST, SEE SHEET 48/53.
3. FOR FOOTING PLAN, SEE SHEET 8/53.
4. FOR SECTIONS A-A, B-B & B₁-B₁, SEE SHEET 15/53.
5. FOR WINGWALL ELEVATIONS, SEE SHEET 8/53.
6. FOR BEARING PAD DETAILS, SEE SHEET 23/53.
7. PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.
8. FOR ABUTMENT DRAINAGE CONNECTION TO MSE WALL DRAINAGE, SEE MSE WALL PLAN SHEETS 193/301 AND 194/301.

LOR-90-1320	REAR ABUTMENT - LEFT STRUCTURE	BRIDGE NO. LOR-90-1320L/R	I-90 OVER SR 57	 <small>DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com</small>																
PID No. 83449	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001	 <small>LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com</small>																
7/53	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">DESIGNED PRG</td> <td style="text-align: center;">CHECKED AWM</td> </tr> <tr> <td style="text-align: center;">DRAWN MSD</td> <td style="text-align: center;">REVISED</td> </tr> </table>	DESIGNED PRG	CHECKED AWM	DRAWN MSD	REVISED	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">DATE 4-16</td> <td style="text-align: center;">REVIEWED DWS</td> </tr> <tr> <td style="text-align: center;">STRUCTURE FILE NUMBER L-4710000 R-4710001</td> <td style="text-align: center;">REVISED</td> </tr> </table>	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001	REVISED	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">DESIGNED PRG</td> <td style="text-align: center;">CHECKED AWM</td> </tr> <tr> <td style="text-align: center;">DRAWN MSD</td> <td style="text-align: center;">REVISED</td> </tr> </table>	DESIGNED PRG	CHECKED AWM	DRAWN MSD	REVISED	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">DATE 4-16</td> <td style="text-align: center;">REVIEWED DWS</td> </tr> <tr> <td style="text-align: center;">STRUCTURE FILE NUMBER L-4710000 R-4710001</td> <td style="text-align: center;">REVISED</td> </tr> </table>	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001	REVISED
DESIGNED PRG	CHECKED AWM																			
DRAWN MSD	REVISED																			
DATE 4-16	REVIEWED DWS																			
STRUCTURE FILE NUMBER L-4710000 R-4710001	REVISED																			
DESIGNED PRG	CHECKED AWM																			
DRAWN MSD	REVISED																			
DATE 4-16	REVIEWED DWS																			
STRUCTURE FILE NUMBER L-4710000 R-4710001	REVISED																			

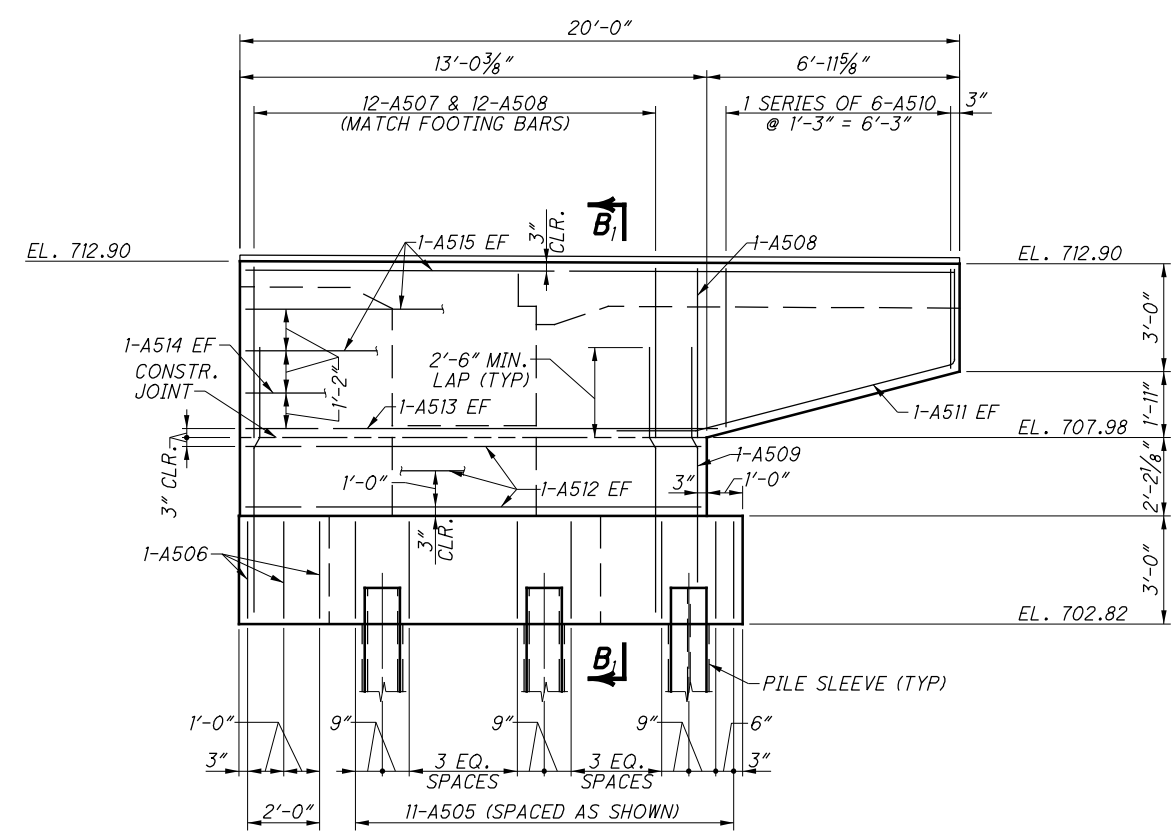
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REAR ABUTMENT FOOTING PLAN - LEFT STRUCTURE



WINGWALL 1
(MSE WALL NOT SHOWN FOR CLARITY)



WINGWALL 2
(MSE WALL NOT SHOWN FOR CLARITY)

LEGEND

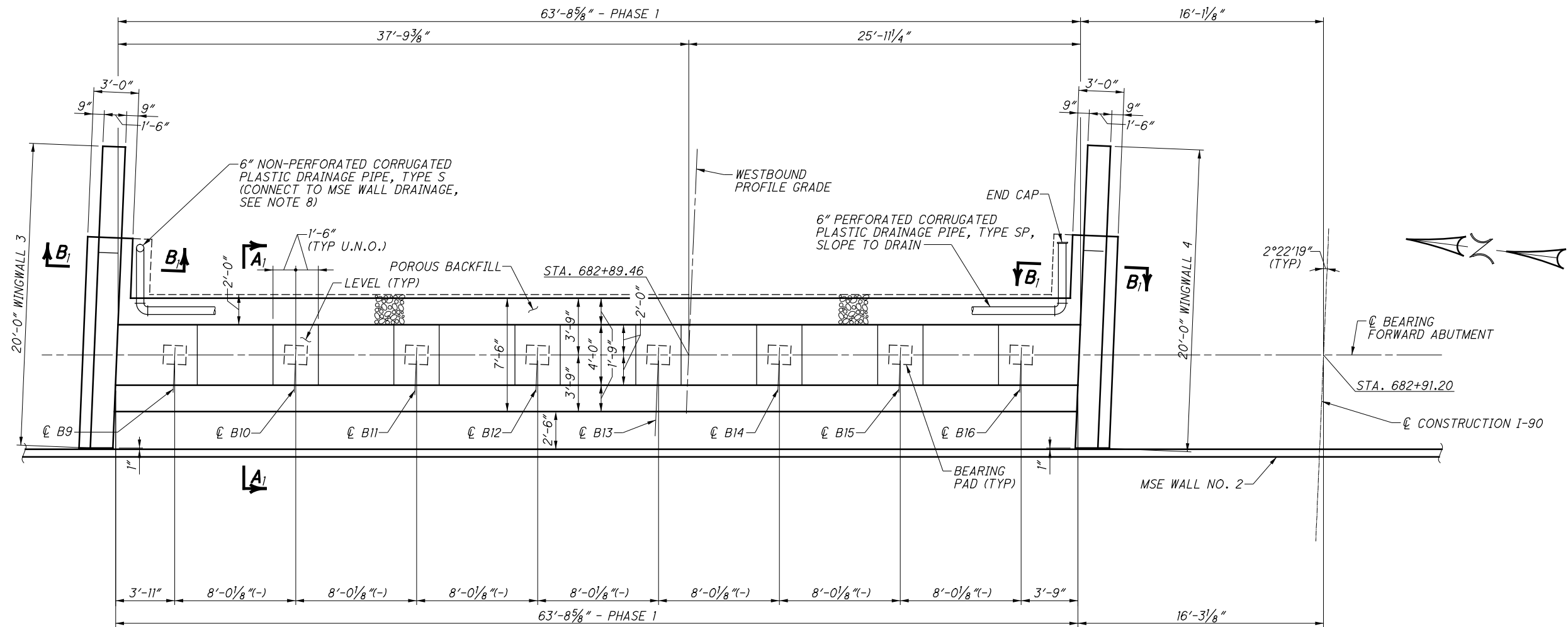
- I = HP10x42 STEEL PILE
- EF = EACH FACE
- PEJF = PREFORMED EXPANSION JOINT FILLER
- MSE = MECHANICALLY STABILIZED EARTH

NOTES:

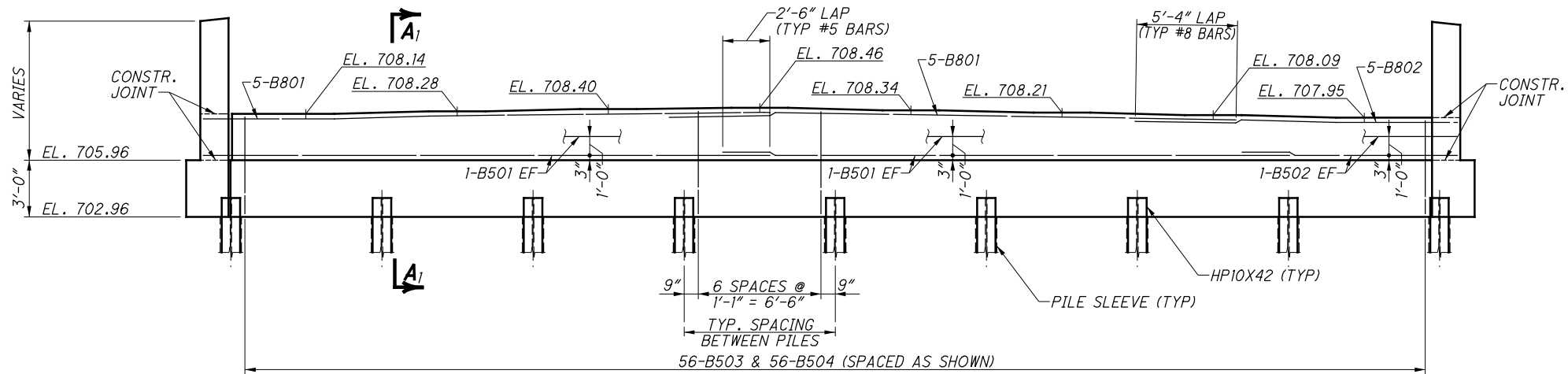
1. FOR GENERAL NOTES, SEE SHEETS 3 / 53 AND 4 / 53.
2. FOR REINFORCING STEEL LIST, SEE SHEET 48 / 53.
3. FOR SECTIONS A-A, B-B & B₁-B₁, SEE SHEET 15 / 53.
4. FOR LIMITS OF SEALING OF CONCRETE SURFACES AND AESTHETIC DETAILS, SEE SHEET 15 / 53.
5. PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.

LOR-90-1320	BRIDGE NO. LOR-90-1320L/R	REAR ABUTMENT FOOTING PLAN - LEFT STRUCTURE	DESIGN AGENCY LIB Inc. • 2510 Newmark Drive Mansfield, OH 44834 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com
PID No. 83449	I-90 OVER SR 57	DATE 4-16	REVIEWED DWS
8 / 53	DRAWN MSD	STRUCTURE FILE NUMBER L-4710000	R-4710001
202	CHECKED AMM	DESIGNED PRG	REVISED
301	DESIGNED AMM	CHECKED AMM	REVISED

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FORWARD ABUTMENT PLAN - LEFT STRUCTURE



FORWARD ABUTMENT ELEVATION - LEFT STRUCTURE
(MSE WALL NOT SHOWN FOR CLARITY)

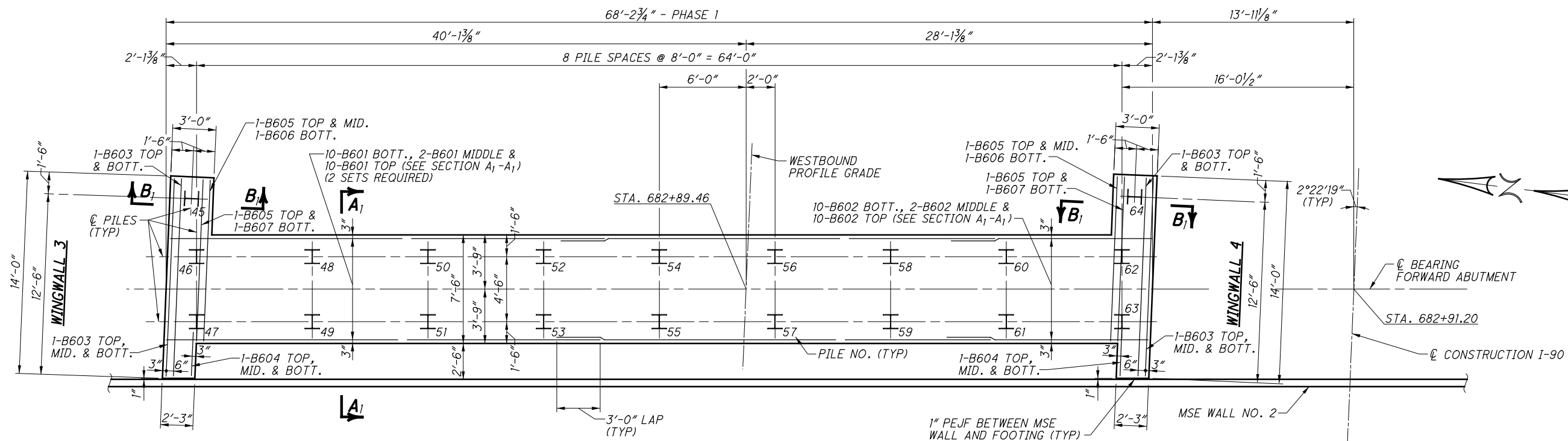
LEGEND
 EF = EACH FACE
 MSE = MECHANICALLY STABILIZED EARTH
 U.N.O. = UNLESS NOTED OTHERWISE

NOTES:

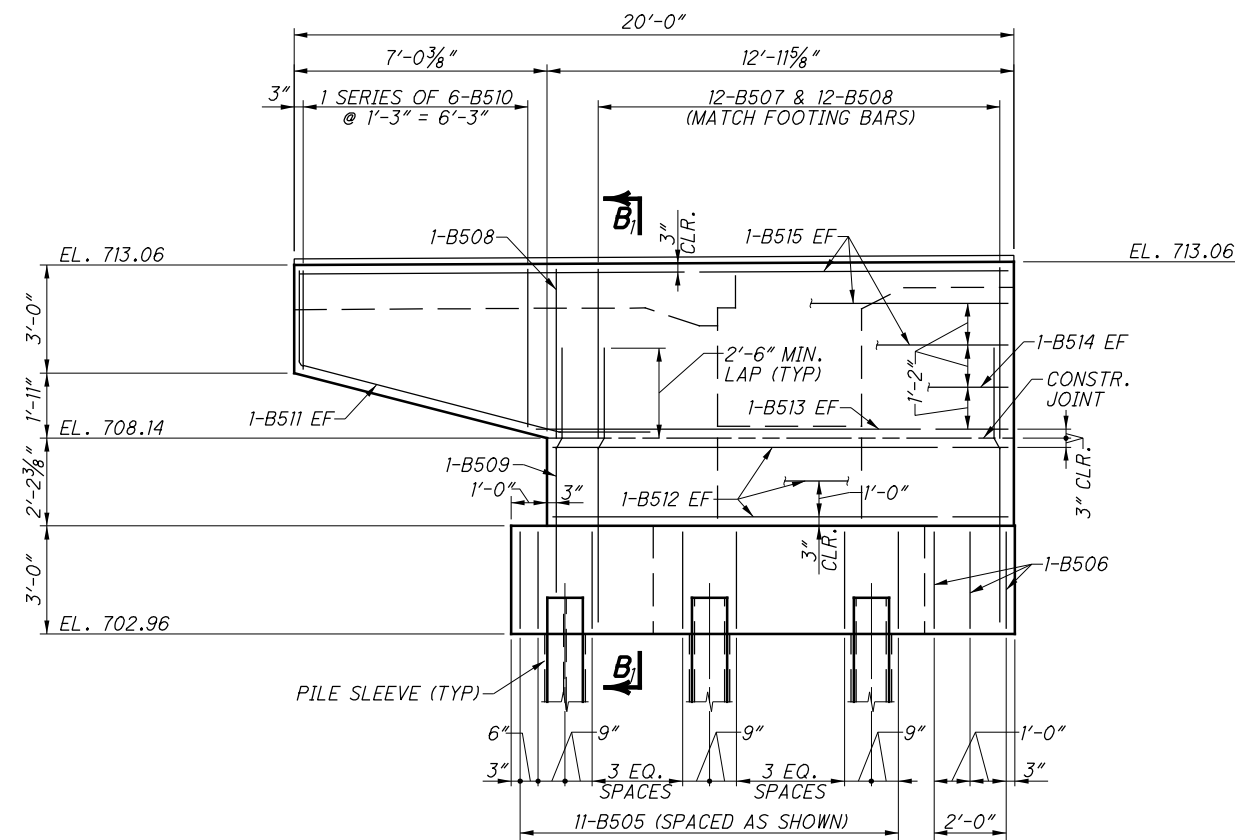
1. FOR GENERAL NOTES, SEE SHEETS 3 / 53 AND 4 / 53.
2. FOR REINFORCING STEEL LIST, SEE SHEET 48 / 53.
3. FOR FOOTING PLAN, SEE SHEET 10 / 53.
4. FOR SECTIONS A₁-A₁ & B₁-B₁, SEE SHEET 15 / 53.
5. FOR WINGWALL ELEVATIONS, SEE SHEET 10 / 53.
6. FOR BEARING PAD DETAILS, SEE SHEET 23 / 53.
7. PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.
8. FOR ABUTMENT DRAINAGE CONNECTION TO MSE WALL DRAINAGE, SEE MSE WALL PLAN SHEETS 193 / 301 AND 194 / 301.

LOR-90-1320 PID No. 83449	FORWARD ABUTMENT - LEFT STRUCTURE BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	DESIGN AGENCY L.B. Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LBIllc.com	DATE 4-16	REVIEWED DWS
203 301	9 / 53		STRUCTURE FILE NUMBER L-4710000 R-4710001	DRAWN MSD
			CHECKED AMM	DESIGNED PRG

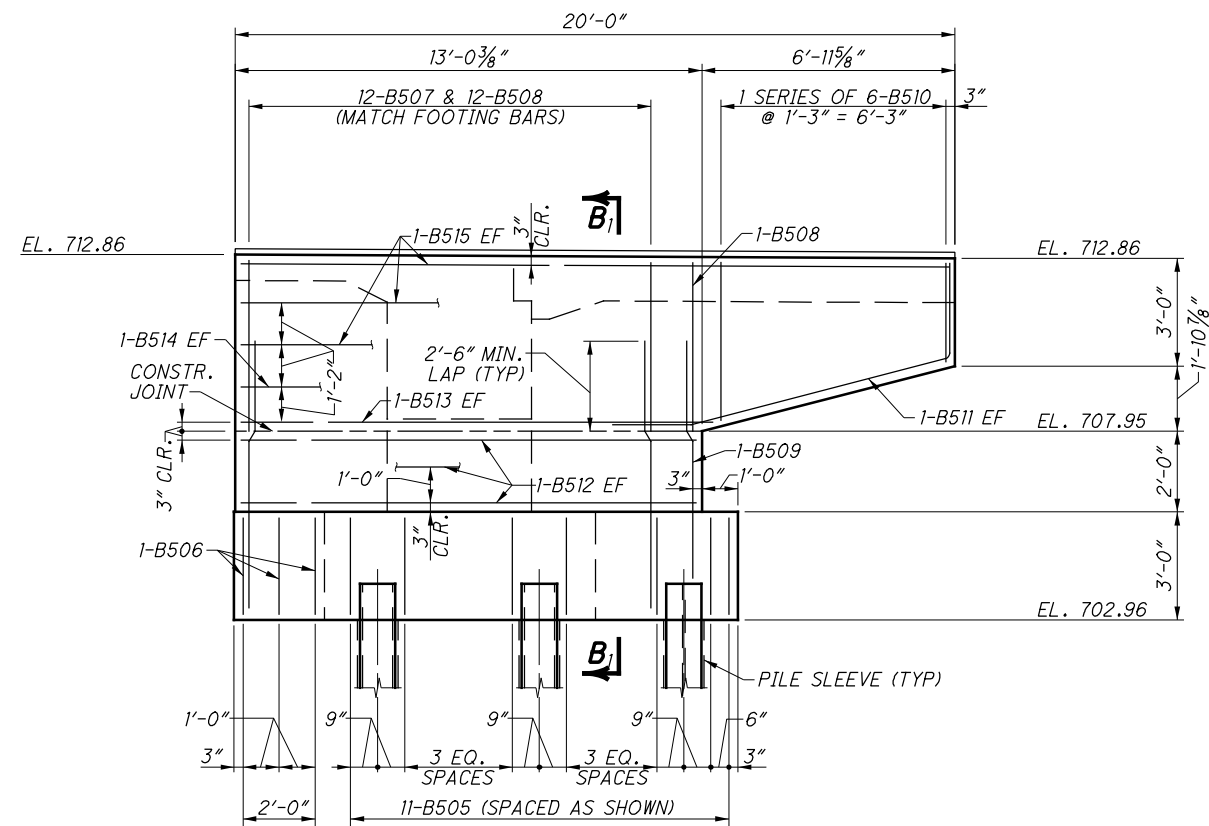
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FORWARD ABUTMENT FOOTING PLAN - LEFT STRUCTURE



WINGWALL 3
(MSE WALL NOT SHOWN FOR CLARITY)



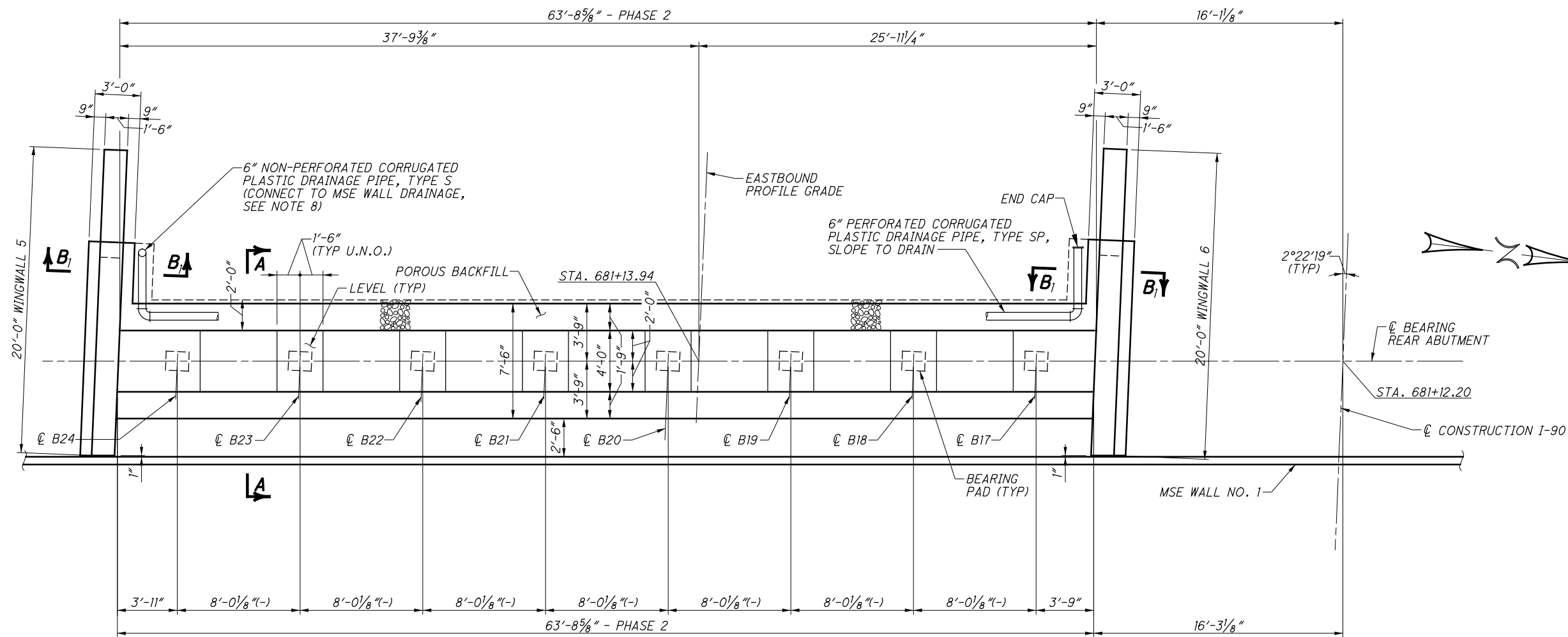
WINGWALL 4
(MSE WALL NOT SHOWN FOR CLARITY)

LEGEND
 I = HP10x42 STEEL PILE
 EF = EACH FACE
 PEJF = PREFORMED EXPANSION JOINT FILLER
 MSE = MECHANICALLY STABILIZED EARTH

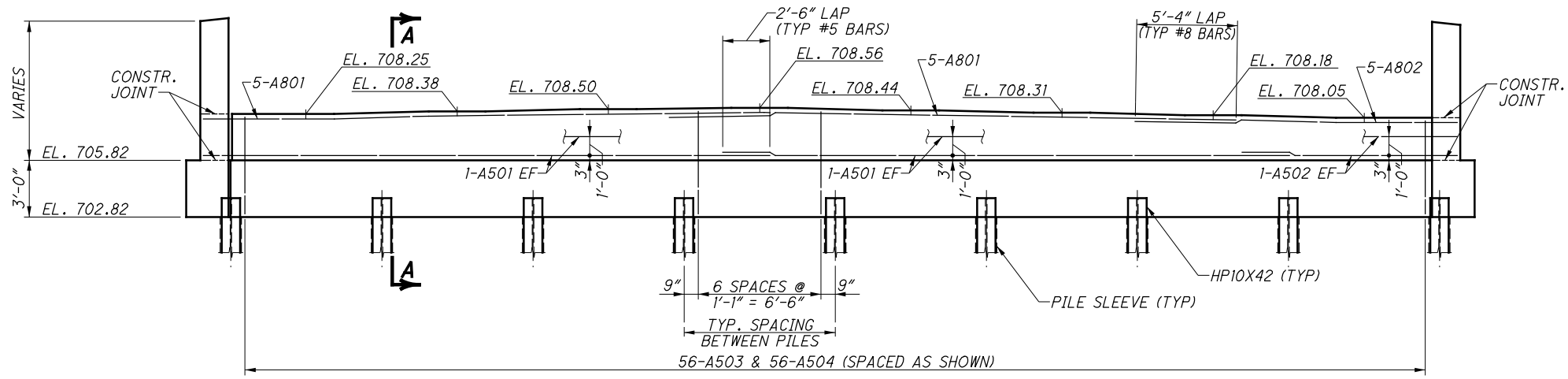
NOTES:
 1. FOR GENERAL NOTES, SEE SHEETS 3/53 AND 4/53.
 2. FOR REINFORCING STEEL LIST, SEE SHEET 48/53.
 3. FOR SECTIONS A₁-A₁ & B₁-B₁, SEE SHEET 15/53.
 4. FOR LIMITS OF SEALING OF CONCRETE SURFACES AND AESTHETIC DETAILS, SEE SHEET 15/53.
 5. PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.

	DESIGN AGENCY LIB Inc. • 2510 Newmark Drive Mansburg, OH 45342 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	DATE 4-16	STRUCTURE FILE NUMBER L-4710000 R-4710001
DESIGNED PRG CHECKED AMM	DRAWN MSD REVISED	REVIEWED DWS	DATE 4-16
FORWARD ABUTMENT FOOTING PLAN - LEFT STRUCTURE			
BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57			
LOR-90-1320 PID No. 83449		10/53	

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REAR ABUTMENT PLAN - RIGHT STRUCTURE



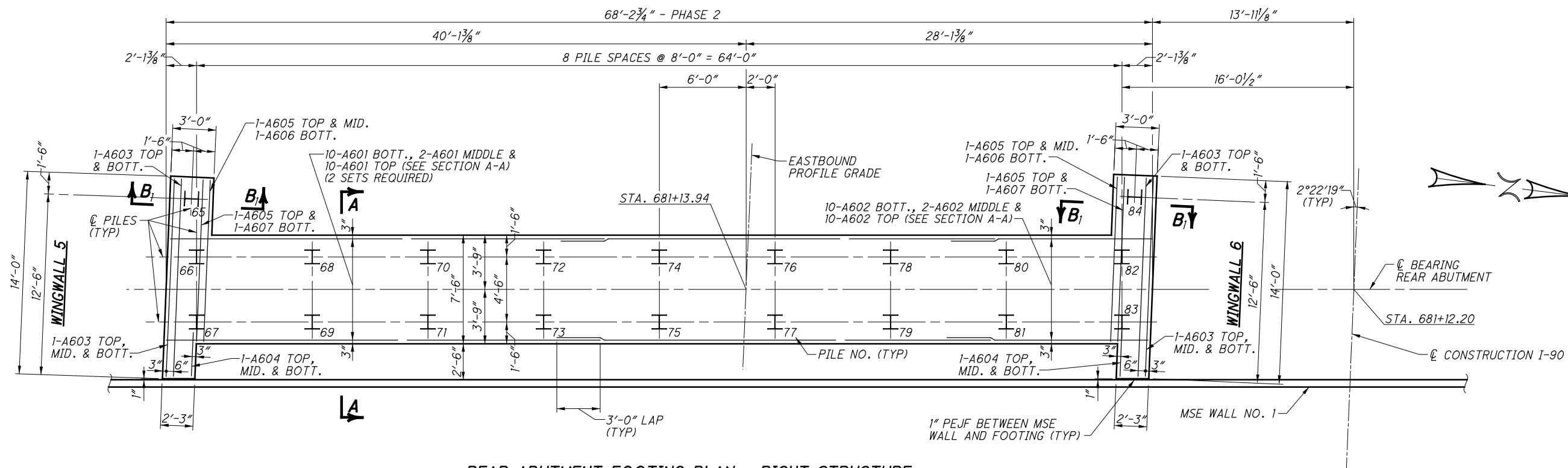
REAR ABUTMENT ELEVATION - RIGHT STRUCTURE
(MSE WALL NOT SHOWN FOR CLARITY)

LEGEND
 EF = EACH FACE
 MSE = MECHANICALLY STABILIZED EARTH
 U.N.O. = UNLESS NOTED OTHERWISE

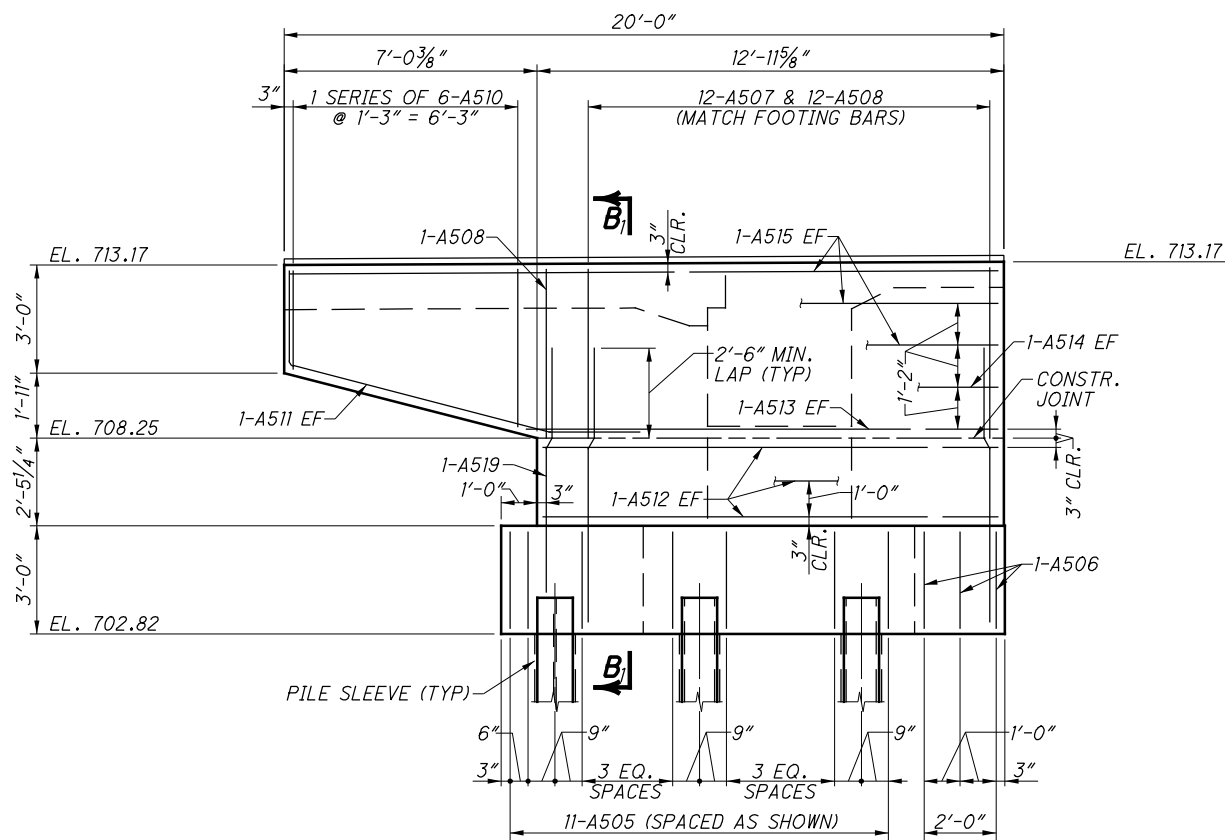
- NOTES:**
- FOR GENERAL NOTES, SEE SHEETS 3 / 53 AND 4 / 53 .
 - FOR REINFORCING STEEL LIST, SEE SHEET 49 / 53 .
 - FOR FOOTING PLAN, SEE SHEET 12 / 53 .
 - FOR SECTIONS A-A & B₁-B₁, SEE SHEET 15 / 53 .
 - FOR WINGWALL ELEVATIONS, SEE SHEET 12 / 53 .
 - FOR BEARING PAD DETAILS, SEE SHEET 23 / 53 .
 - PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.
 - FOR ABUTMENT DRAINAGE CONNECTION TO MSE WALL DRAINAGE, SEE MSE WALL PLAN SHEETS 193 / 301 AND 194 / 301 .

LOR-90-1320 PID No. 83449	REAR ABUTMENT - RIGHT STRUCTURE BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	DESIGNED PRG CHECKED AMM	DRAWN MSD REVISED	REVIEWED DWS	DATE 4-16
		STRUCTURE FILE NUMBER L-4710000 R-4710001		DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	
11 / 53		205 / 301			

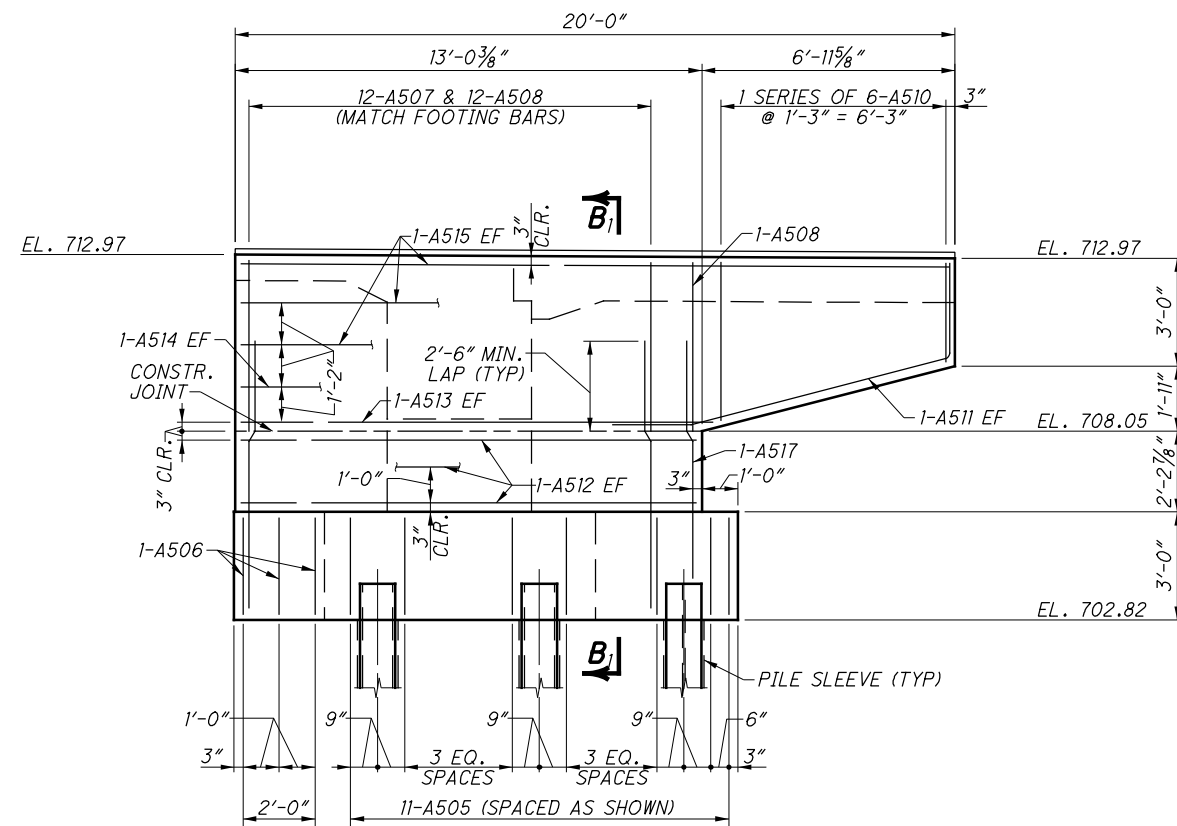
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REAR ABUTMENT FOOTING PLAN - RIGHT STRUCTURE



WINGWALL 5
(MSE WALL NOT SHOWN FOR CLARITY)



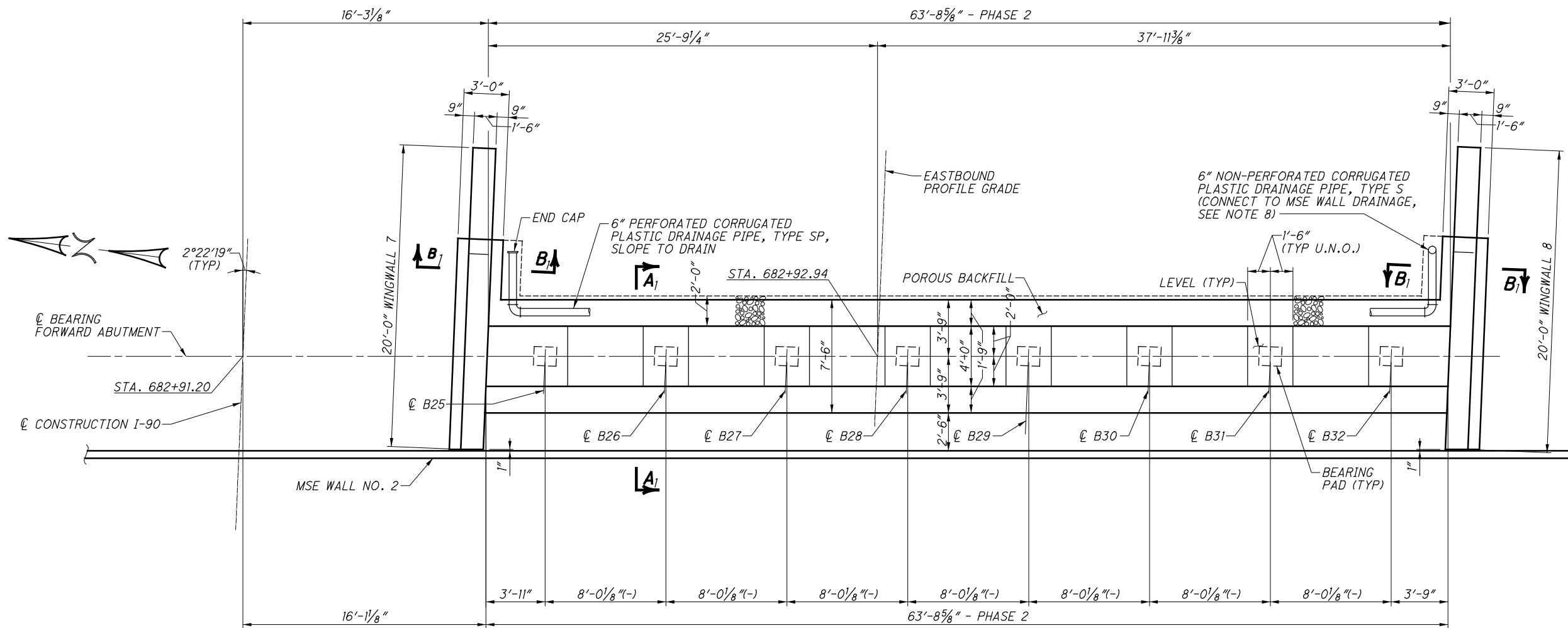
WINGWALL 6
(MSE WALL NOT SHOWN FOR CLARITY)

LEGEND
 I = HP10x42 STEEL PILE
 EF = EACH FACE
 PEJF = PREFORMED EXPANSION JOINT FILLER
 MSE = MECHANICALLY STABILIZED EARTH

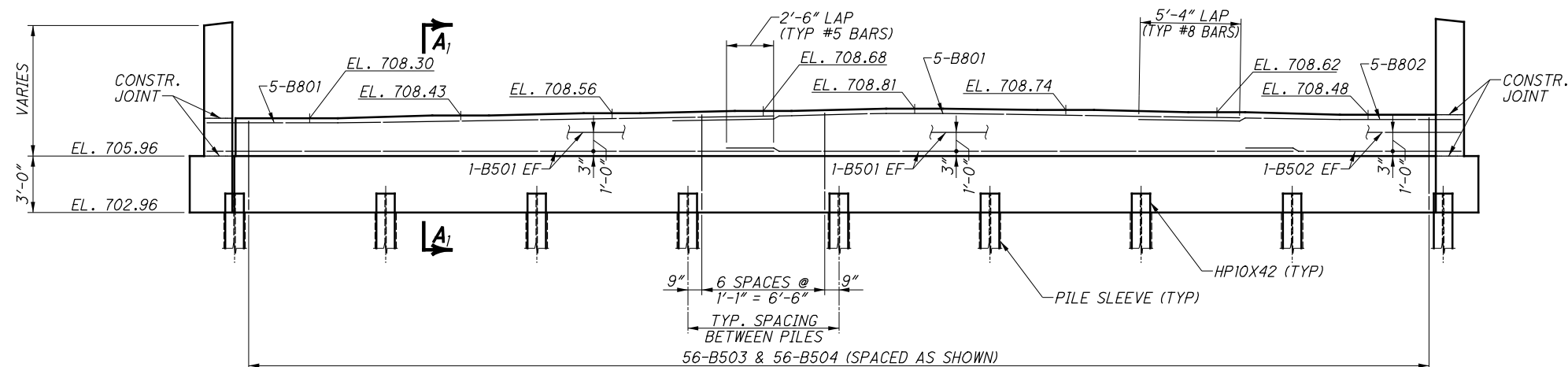
NOTES:
 1. FOR GENERAL NOTES, SEE SHEETS [3 / 53] AND [4 / 53].
 2. FOR REINFORCING STEEL LIST, SEE SHEET [49 / 53].
 3. FOR SECTIONS A-A & B₁-B₁, SEE SHEET [15 / 53].
 4. FOR LIMITS OF SEALING OF CONCRETE SURFACES AND AESTHETIC DETAILS, SEE SHEET [15 / 53].
 5. PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.

	DESIGN AGENCY LIB Inc. • 2510 Newmark Drive Mansburg, OH 45342 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	DATE 4-16	REVIEWED DWS	DRAWN MSD
DESIGNED PRG	CHECKED AMM	STRUCTURE FILE NUMBER L-4710000 R-4710001	BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	REAR ABUTMENT FOOTING PLAN - RIGHT STRUCTURE
LOR-90-1320 PID No. 83449	12 / 53	206 301		

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FORWARD ABUTMENT PLAN - RIGHT STRUCTURE



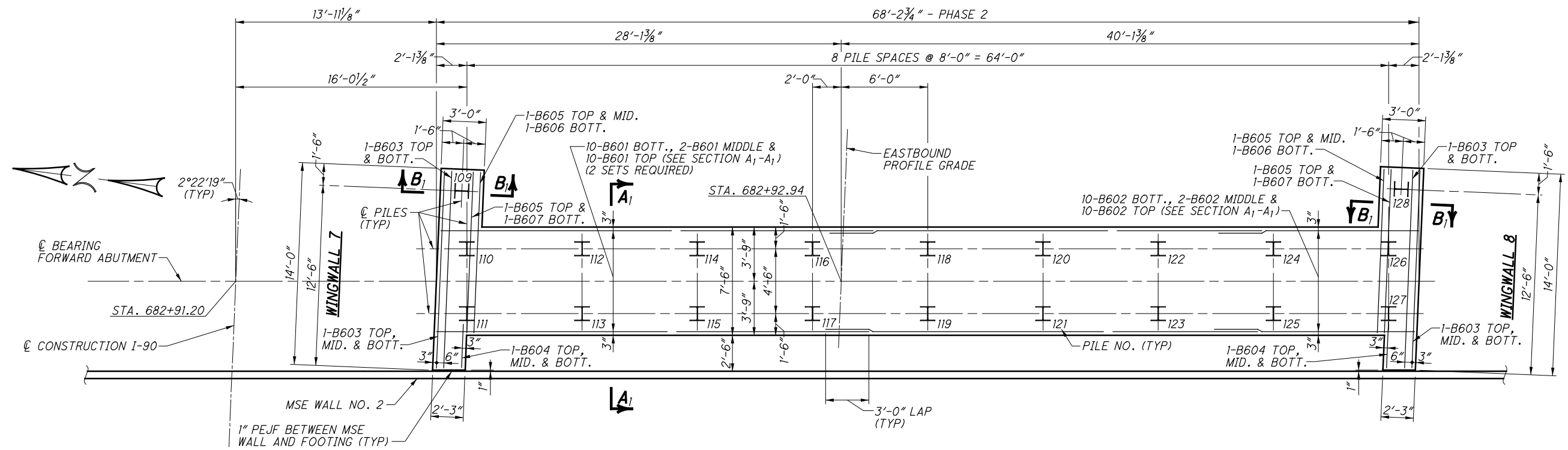
FORWARD ABUTMENT ELEVATION - RIGHT STRUCTURE
(MSE WALL NOT SHOWN FOR CLARITY)

LEGEND
 EF = EACH FACE
 MSE = MECHANICALLY STABILIZED EARTH
 U.N.O. = UNLESS NOTED OTHERWISE

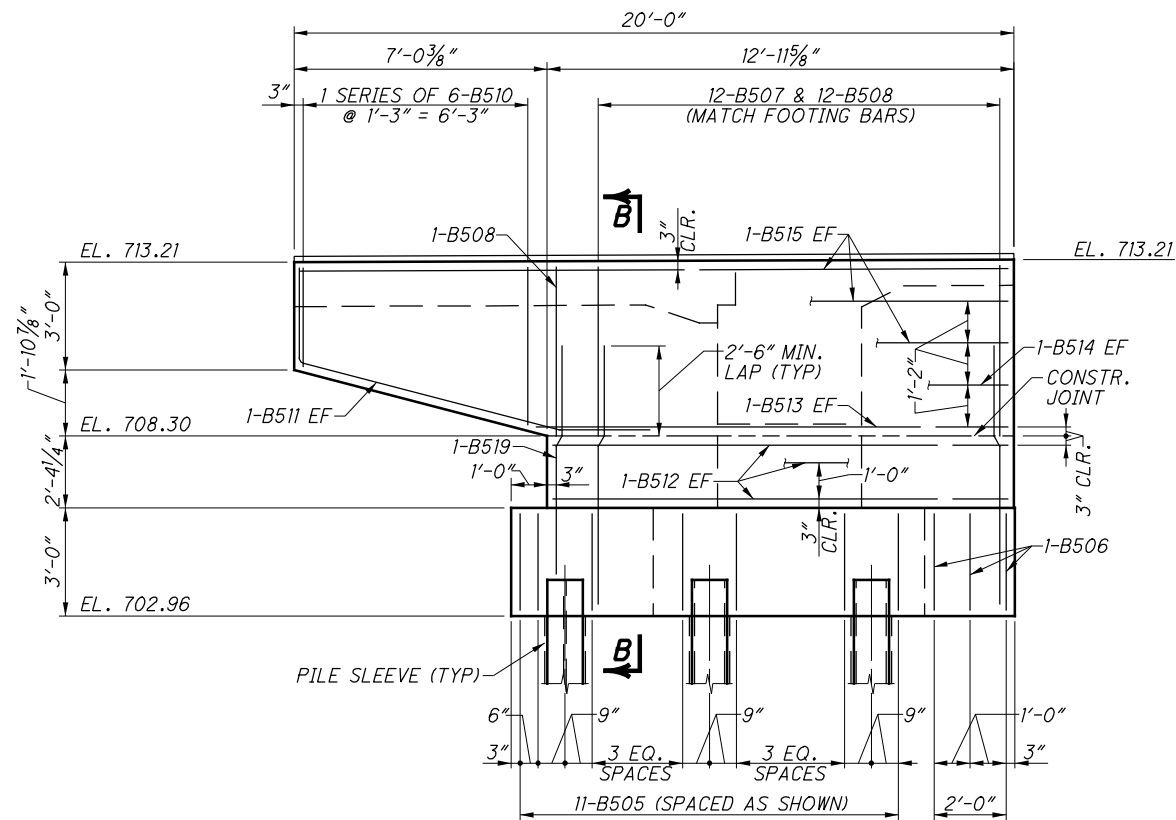
- NOTES:**
- FOR GENERAL NOTES, SEE SHEETS 3 / 53 AND 4 / 53 .
 - FOR REINFORCING STEEL LIST, SEE SHEET 49 / 53 .
 - FOR FOOTING PLAN, SEE SHEET 14 / 53 .
 - FOR SECTIONS A₁-A₁ & B₁-B₁, SEE SHEET 15 / 53 .
 - FOR WINGWALL ELEVATIONS, SEE SHEET 14 / 53 .
 - FOR BEARING PAD DETAILS, SEE SHEET 23 / 53 .
 - PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.
 - FOR ABUTMENT DRAINAGE CONNECTION TO MSE WALL DRAINAGE, SEE MSE WALL PLAN SHEETS 193 / 301 AND 194 / 301 .

LOR-90-1320 PID No. 83449	FORWARD ABUTMENT - RIGHT STRUCTURE BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	DESIGN AGENCY LIB L.B. Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	DATE 4-16 REVIEWED DWS DRAWN MSD DESIGNED PRG CHECKED AMM
13 / 53	207 / 301	STRUCTURE FILE NUMBER L-4710000 R-4710001	REVISIONS

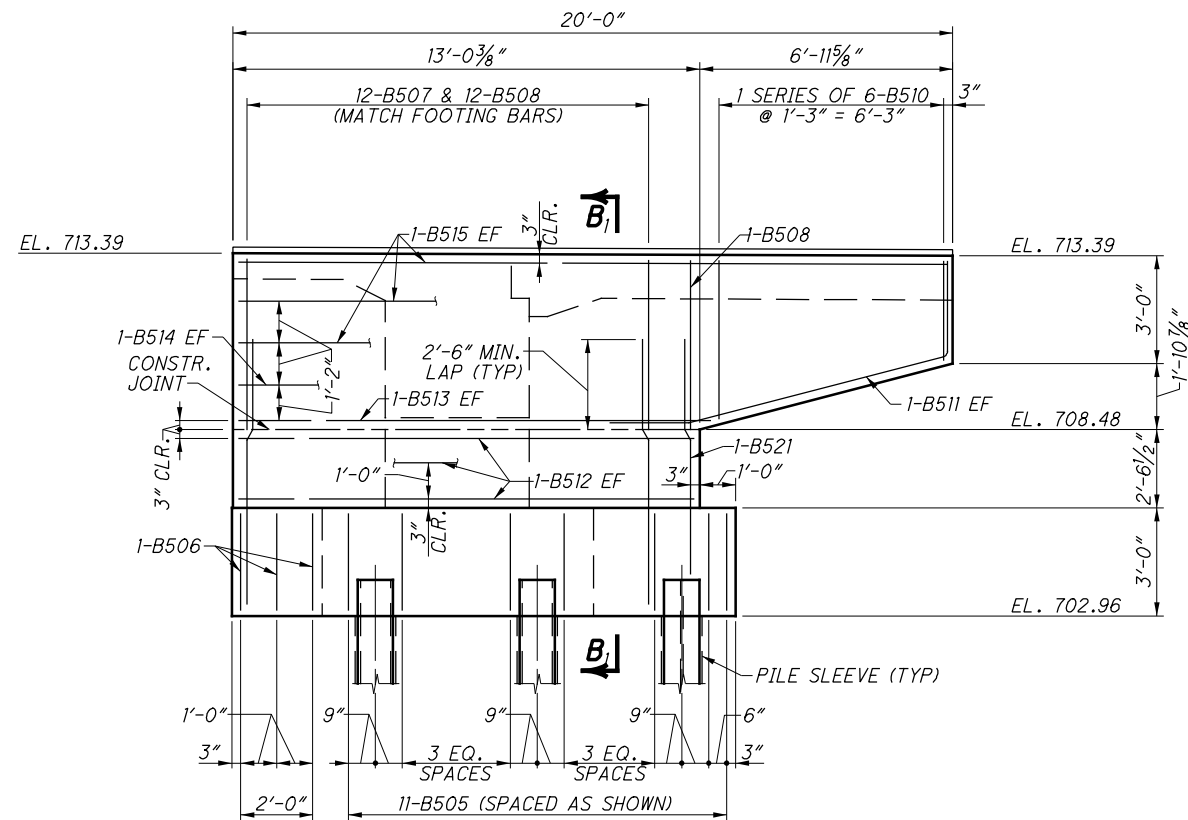
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FORWARD ABUTMENT FOOTING PLAN - RIGHT STRUCTURE



WINGWALL 7
(MSE WALL NOT SHOWN FOR CLARITY)



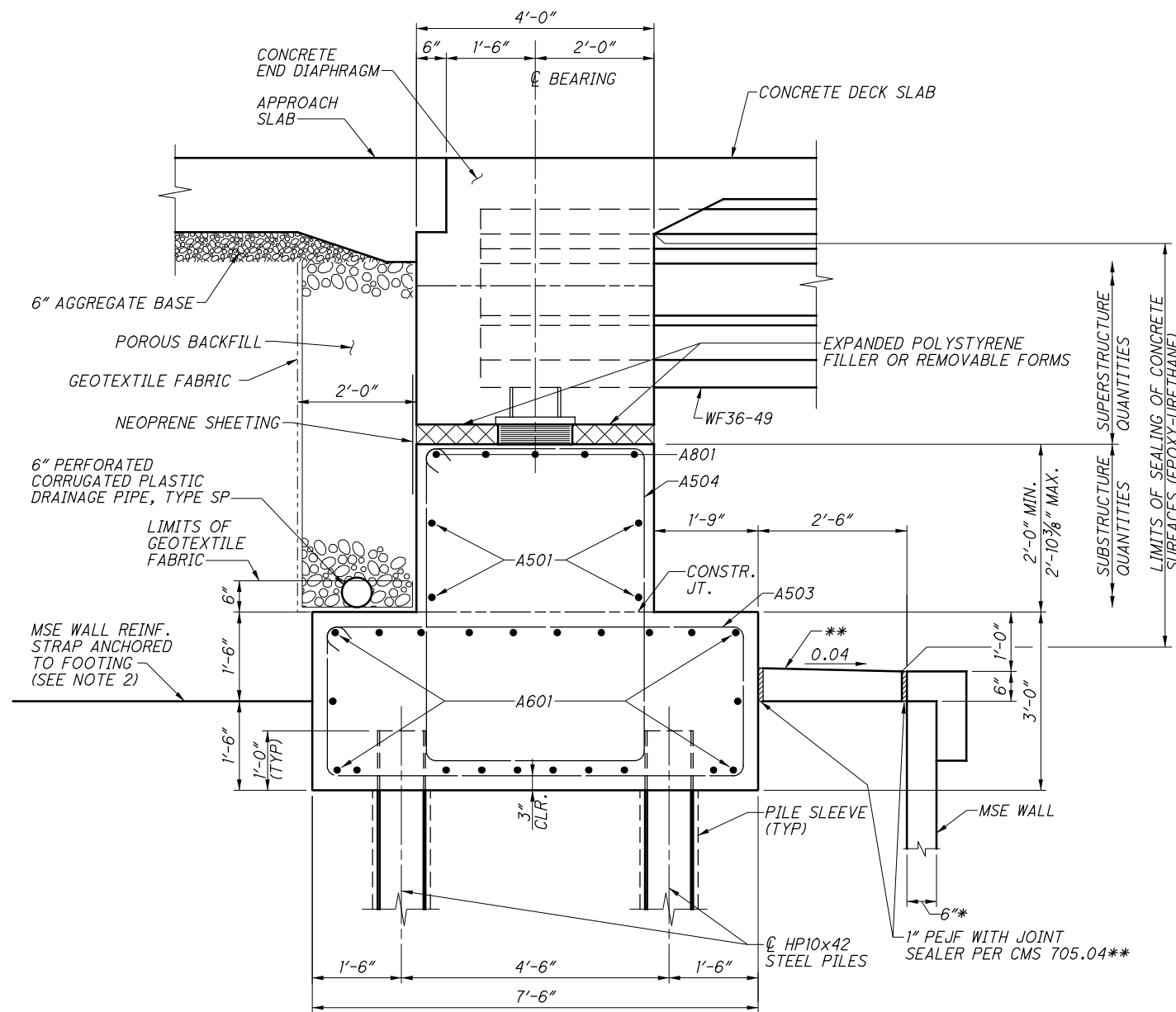
WINGWALL 8
(MSE WALL NOT SHOWN FOR CLARITY)

LEGEND
 = HP10x42 STEEL PILE
 EF = EACH FACE
 PEJF = PREFORMED EXPANSION JOINT FILLER
 MSE = MECHANICALLY STABILIZED EARTH

NOTES:
 1. FOR GENERAL NOTES, SEE SHEETS 3/53 AND 4/53.
 2. FOR REINFORCING STEEL LIST, SEE SHEET 49/53.
 3. FOR SECTIONS A₁-A₁ & B₁-B₁, SEE SHEET 15/53.
 4. FOR LIMITS OF SEALING OF CONCRETE SURFACES AND AESTHETIC DETAILS, SEE SHEET 15/53.
 5. PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.

DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com		DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001	DESIGNED PRG	CHECKED AMM	DRAWN MSD	REVISED
FORWARD ABUTMENT FOOTING PLAN - RIGHT STRUCTURE								
BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57								
LOR-90-1320 PID No. 83449								
14/53								
208 301								

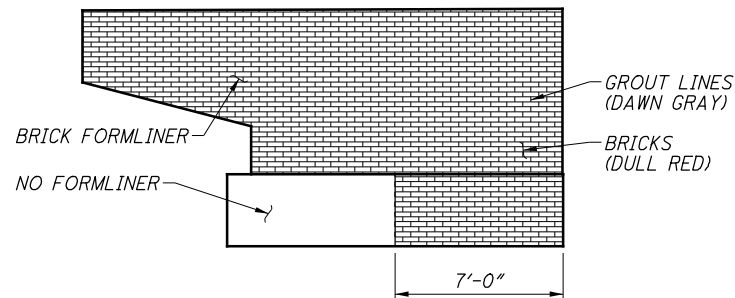
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SECTION A-A
(SECTION A₁-A₁ SIMILAR)

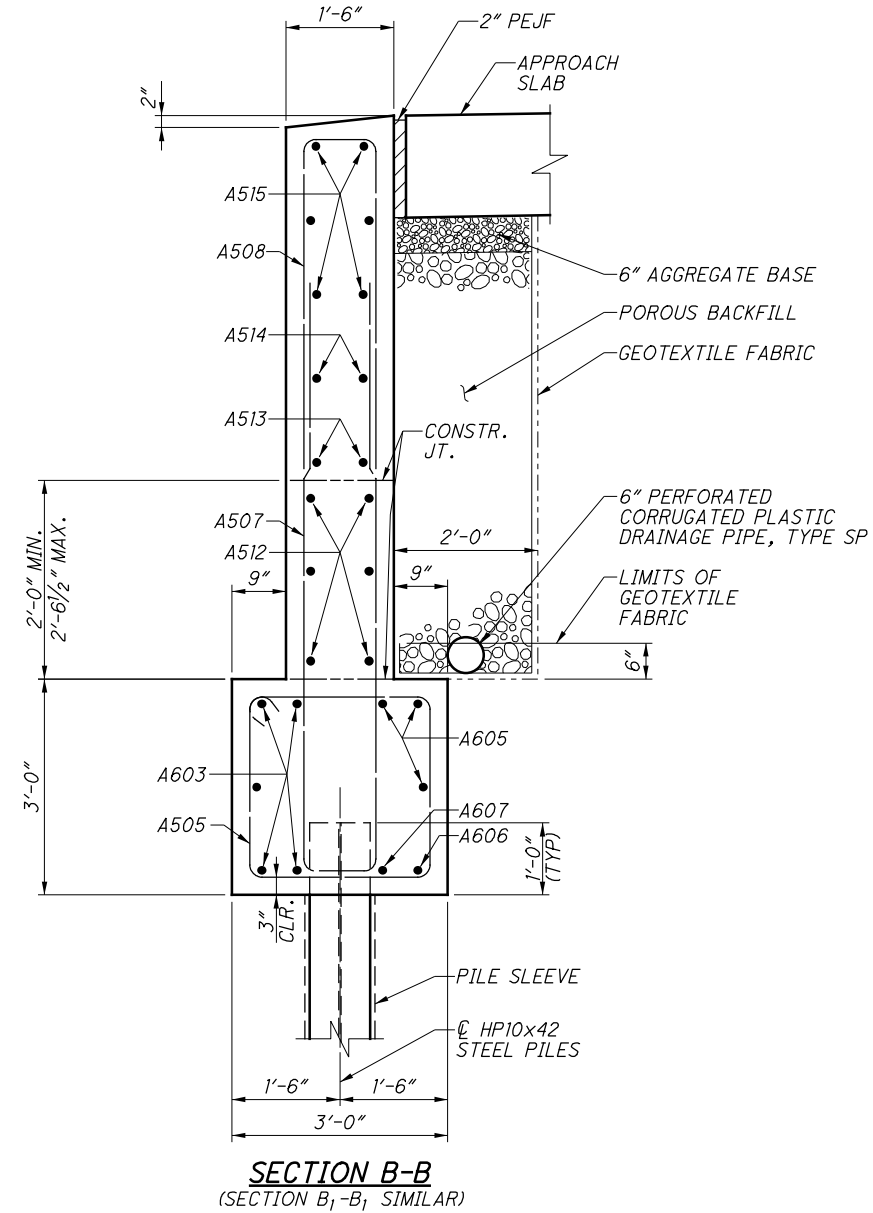
*ASSUMED TOTAL THICKNESS OF MSE WALL PANELS SHOWN, ACTUAL THICKNESS MAY VARY PENDING APPROVED MSE WALL SYSTEM MANUFACTURER

**UNREINFORCED CONCRETE SLAB; PAYMENT FOR CONCRETE, JOINT SEALER AND 1" PEJF ARE INCLUDED IN ITEM 601, CONCRETE SLOPE PROTECTION



LIMITS OF SEALING OF CONCRETE SURFACES AND AESTHETIC DETAILS

SEAL EXPOSED ENDS, TOP AND SIDE SURFACES (EPOXY-URETHANE)



SECTION B-B
(SECTION B₁-B₁ SIMILAR)

LEGEND

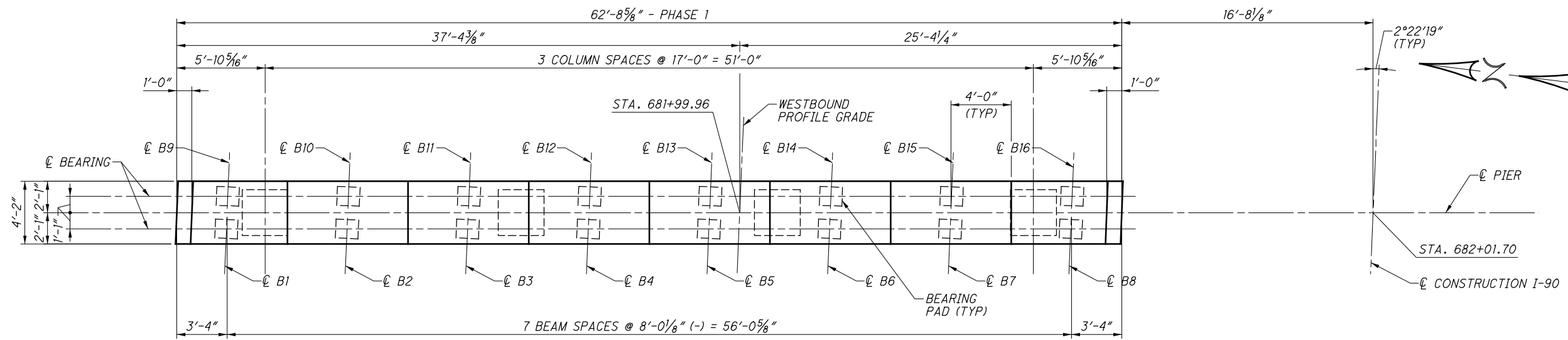
PEJF = PREFORMED EXPANSION JOINT FILLER
MSE = MECHANICALLY STABILIZED EARTH

NOTES:

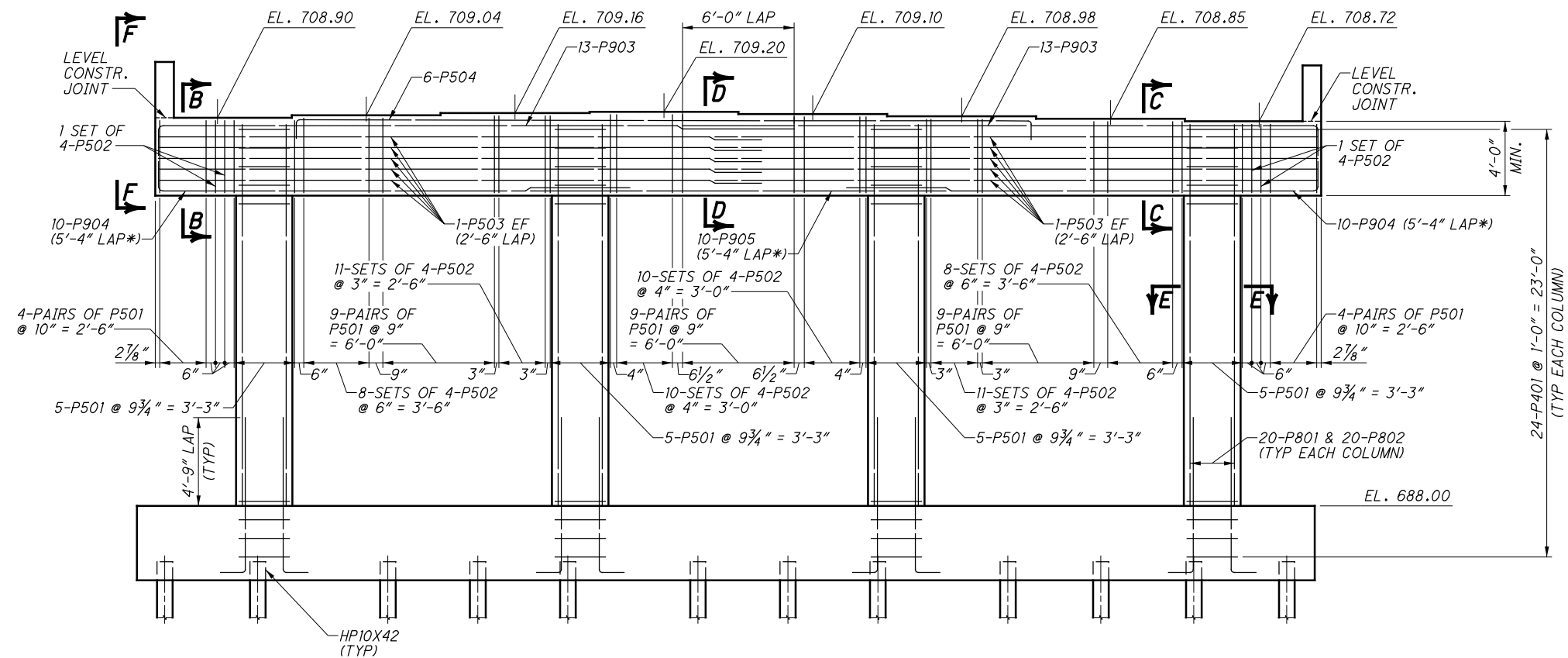
- FOR ABUTMENT PLANS AND ELEVATIONS, SEE SHEETS T/53 THRU 14/53.
- HORIZONTAL MSE WALL STRAPS IN ABUTMENT FOOTING SHALL BE PAID FOR WITH ITEM 840, MECHANICALLY STABILIZED EARTH WALL, SEE SHEET 183/301.

DESIGNED PRG		CHECKED AMM		DESIGN AGENCY	DATE	REVIEWED	DRAWN
BRIDGE NO. LOR-90-1320L/R		I-90 OVER SR 57		LIB Inc. • 2500 Newmark Drive Miamisburg, OH 45342 (937) 259-5000 ext. • (937) 259-5100 fax • LIBInc.com	4-16	DWS	MSD
ABUTMENT SECTIONS AND DETAILS		STRUCTURE FILE NUMBER		L-4710000 R-4710001			
LOR-90-1320		PID No. 83449					
15/53		209/301					

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PIER PLAN - LEFT STRUCTURE



PIER ELEVATION - LEFT STRUCTURE

*-CENTER LAP OVER COLUMN

LEGEND

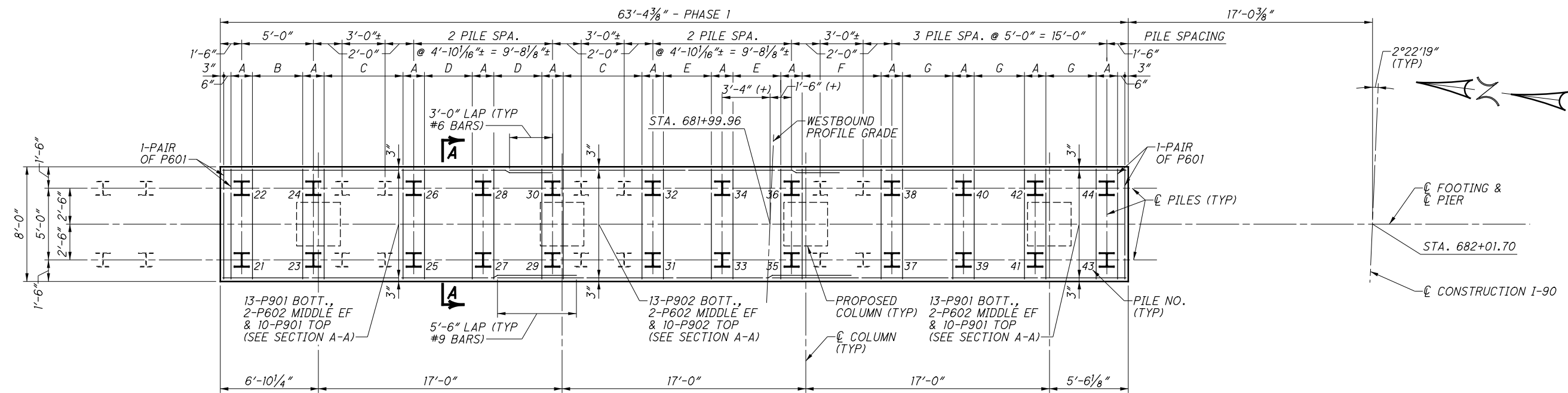
EF = EACH FACE

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS [3/53] AND [4/53].
2. FOR REINFORCING STEEL LIST, SEE SHEET [50/53].
3. FOR SECTIONS B-B, C-C, D-D, E-E AND F-F, SEE SHEET [20/53].
4. FOR FOOTING PLAN, SEE SHEET [17/53].
5. FOR LIMITS OF SEALING OF CONCRETE SURFACES AND AESTHETIC DETAILS, SEE SHEET [20/53].
6. FOR BEARING PAD DETAILS, SEE SHEET [23/53].

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 43142 (837) 259-5000 fax • (837) 259-5100 lib • LIBinc.com	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001
DESIGNED PRG	CHECKED AMT	DRAWN MNM	REVISSED	
PIER - LEFT STRUCTURE BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57				
LOR-90-1320 PID No. 83449				
				16 / 53
				210 301

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PIER FOOTING PLAN - LEFT STRUCTURE

LEGEND

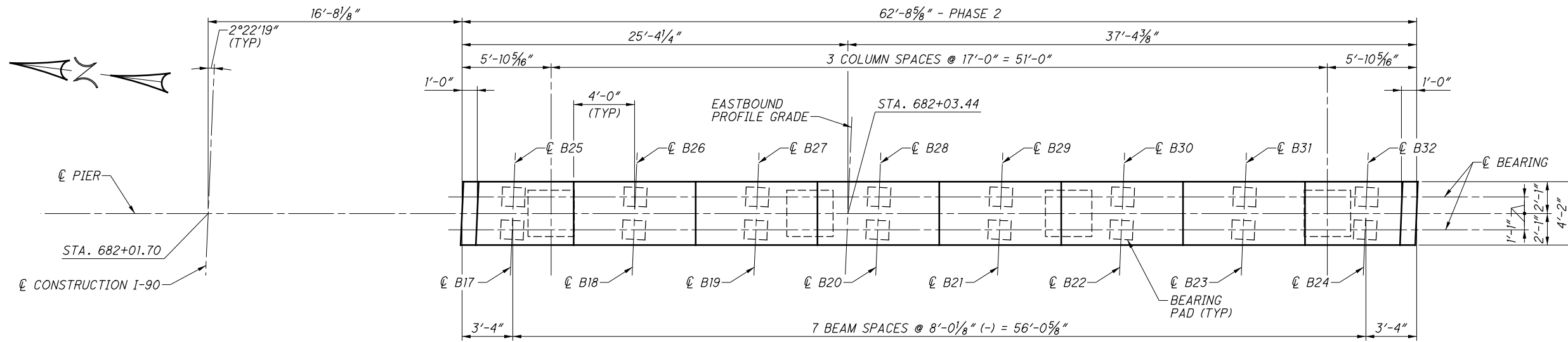
- = EXISTING PILE TO BE CUT
1' BELOW BOTTOM OF FOOTING
- = HP10x42 STEEL PILE
- A = 1'-6"
- B = 7 PAIRS OF P601 @ 7" = 3'-6"
- C = 10 PAIRS OF P601 @ 7 3/8" = 5'-6"
- D = 6 PAIRS OF P601 @ 5 EQ. SPA. = 3'-4 1/16"
- E = 8 PAIRS OF P601 @ 7 EQ. SPA. = 3'-4 1/16"
- F = 12 PAIRS OF P601 @ 6" = 5'-6"
- G = 6 PAIRS OF P601 @ 8 3/8" = 3'-6"

NOTES:

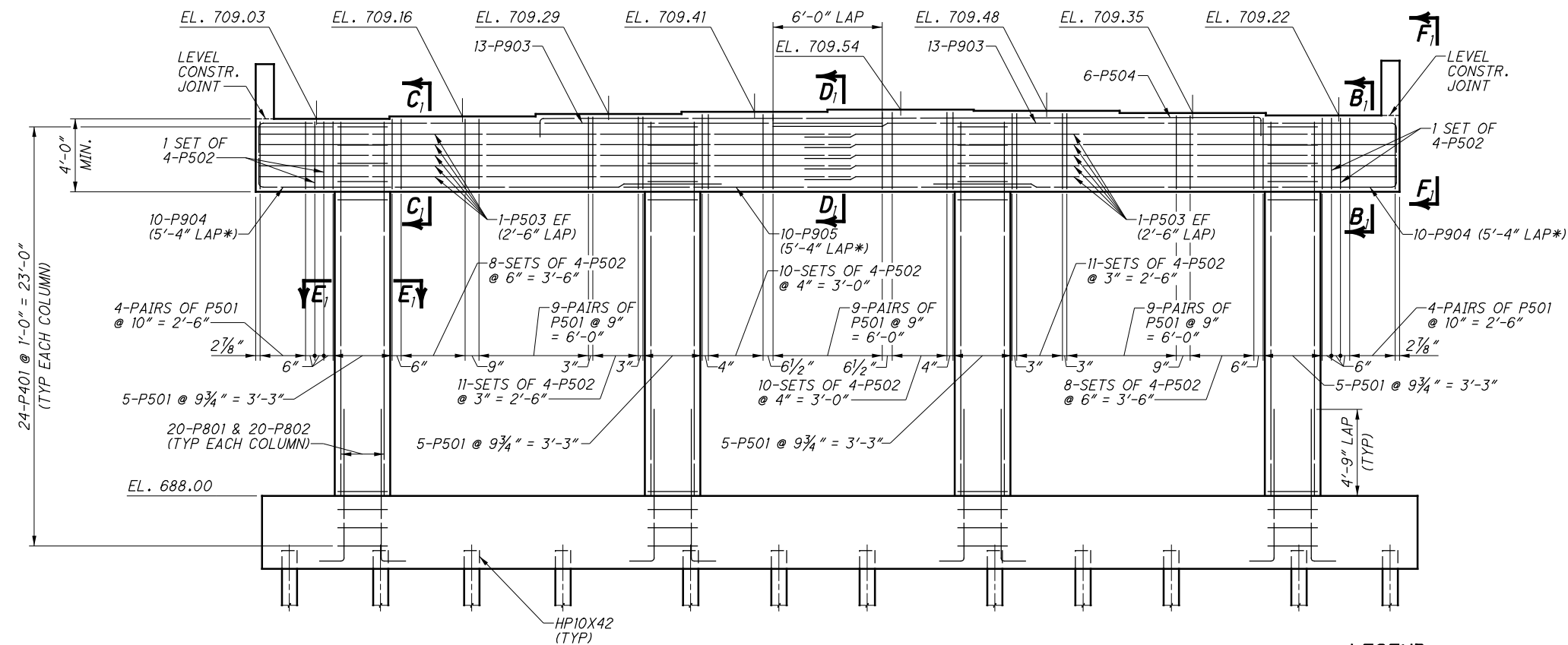
1. FOR GENERAL NOTES, SEE SHEETS [3 / 53] AND [4 / 53].
2. FOR REINFORCING STEEL LIST, SEE SHEET [50 / 53].
3. FOR SECTION A-A, SEE SHEET [20 / 53].

LOR-90-1320 PID No. 83449	PIER FOOTING PLAN - LEFT STRUCTURE BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	DESIGNED PRG CHECKED AMT	DRAWN MNM REVISED	REVIEWED DWS STRUCTURE FILE NUMBER L-4710000 R-4710001	DATE 4-16	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com
17 / 53	211 301					

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PIER PLAN - RIGHT STRUCTURE



PIER ELEVATION - RIGHT STRUCTURE
* - CENTER LAP OVER COLUMN

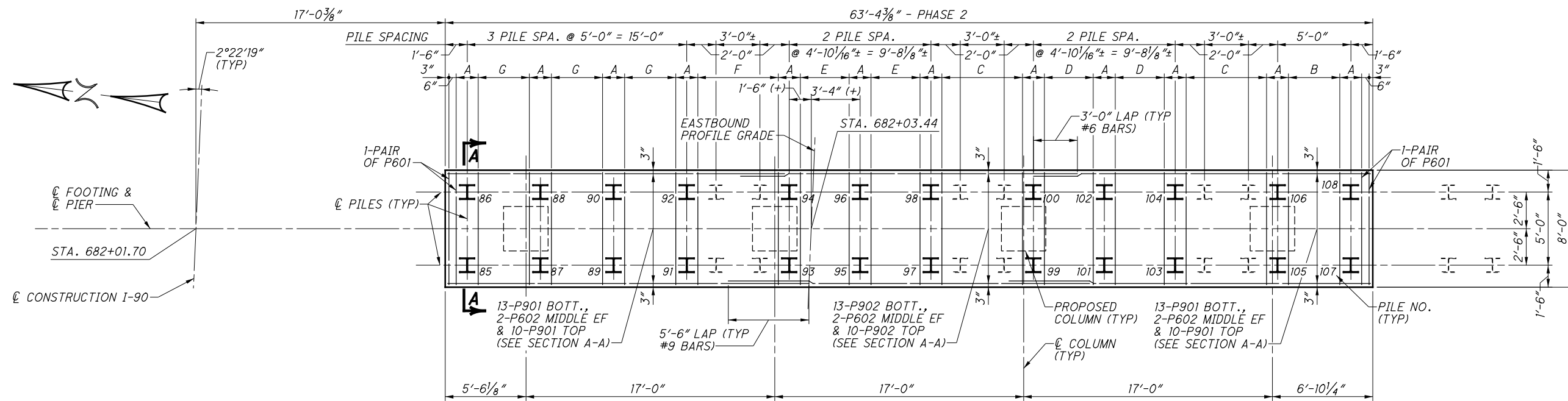
LEGEND
EF = EACH FACE

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 / 53 AND 4 / 53 .
2. FOR REINFORCING STEEL LIST, SEE SHEET 51 / 53 .
3. FOR SECTIONS B₁-B₁, C₁-C₁, D₁-D₁, E₁-E₁ AND F₁-F₁, SEE SHEET 20 / 53 .
4. FOR FOOTING PLAN, SEE SHEET 19 / 53 .
5. FOR LIMITS OF SEALING OF CONCRETE SURFACES AND AESTHETIC DETAILS, SEE SHEET 20 / 53 .
6. FOR BEARING PAD DETAILS, SEE SHEET 23 / 53 .

DESIGN AGENCY	LIB Inc. • 2500 Newmark Drive Miamisburg, OH 45342 (937) 259-5000 ext. (937) 259-5100 fax • LIBinc.com	DATE	4-16
DESIGNED	PRG	REVIEWED	DWS
CHECKED	AMT	DRAWN	MNM
REVISED	REVISED	STRUCTURE FILE NUMBER	L-4710000
R-4710001	R-4710001	PIER - RIGHT STRUCTURE	BRIDGE NO. LOR-90-1320L/R
LOR-90-1320	PID No. 83449	I-90 OVER SR 57	18 / 53
212	301		

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PIER FOOTING PLAN - RIGHT STRUCTURE

LEGEND

- = EXISTING PILE TO BE CUT
1' BELOW BOTTOM OF FOOTING
- = HP10x42 STEEL PILE
- A = 1'-6"
- B = 7 PAIRS OF P601 @ 7" = 3'-6"
- C = 10 PAIRS OF P601 @ 7 3/8" = 5'-6"
- D = 6 PAIRS OF P601 @ 5 EQ. SPA. = 3'-4 1/16"
- E = 8 PAIRS OF P601 @ 7 EQ. SPA. = 3'-4 1/16"
- F = 12 PAIRS OF P601 @ 6" = 5'-6"
- G = 6 PAIRS OF P601 @ 8 3/8" = 3'-6"

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 / 53 AND 4 / 53.
2. FOR REINFORCING STEEL LIST, SEE SHEET 51 / 53.
3. FOR SECTION A-A, SEE SHEET 20 / 53.

LOR-90-1320
PID No. 83449

PIER FOOTING PLAN - RIGHT STRUCTURE

BRIDGE NO. LOR-90-1320L/R
I-90 OVER SR 57



DESIGNED
PRG
CHECKED
AMT

DRAWN
MNM
REVISED

REVIEWED
DWS

DATE
4-16

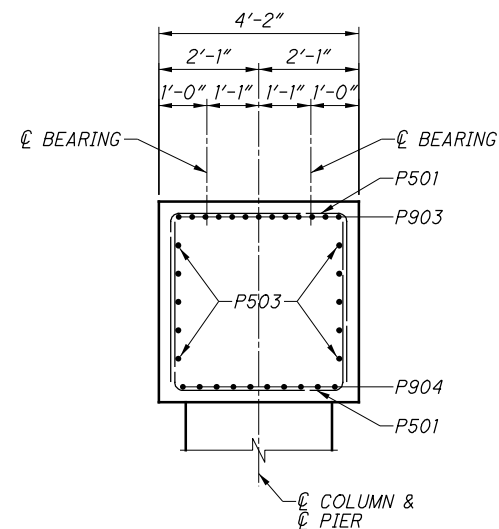
STRUCTURE FILE NUMBER
L-4710000
R-4710001

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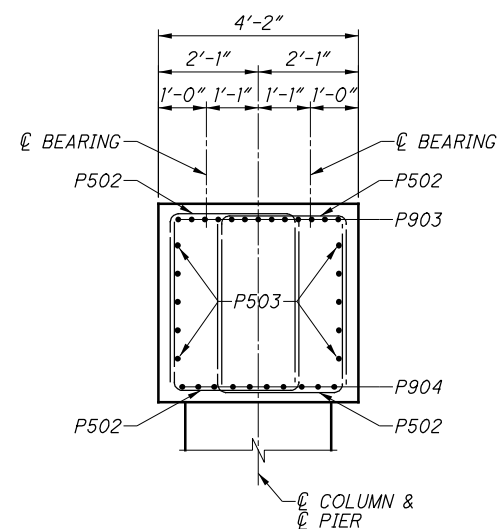
19 / 53

213
301

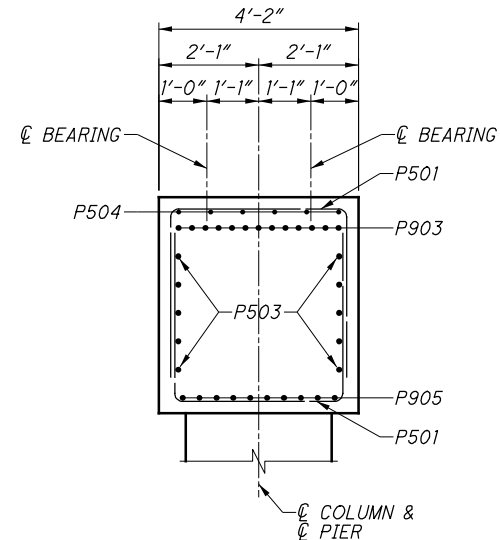
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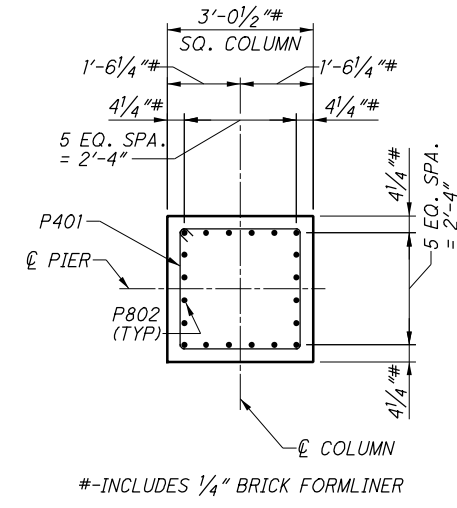
SECTION B-B
(SECTION B₁-B₁ SIMILAR)



SECTION C-C
(SECTION C₁-C₁ SIMILAR)

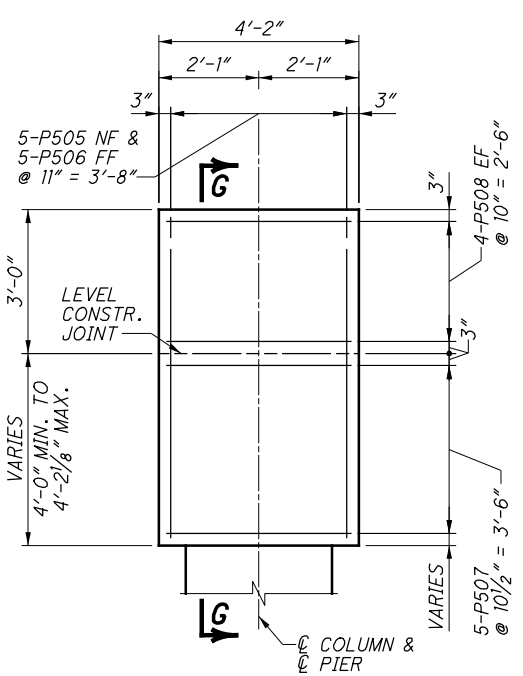


SECTION D-D
(SECTION D₁-D₁ SIMILAR)

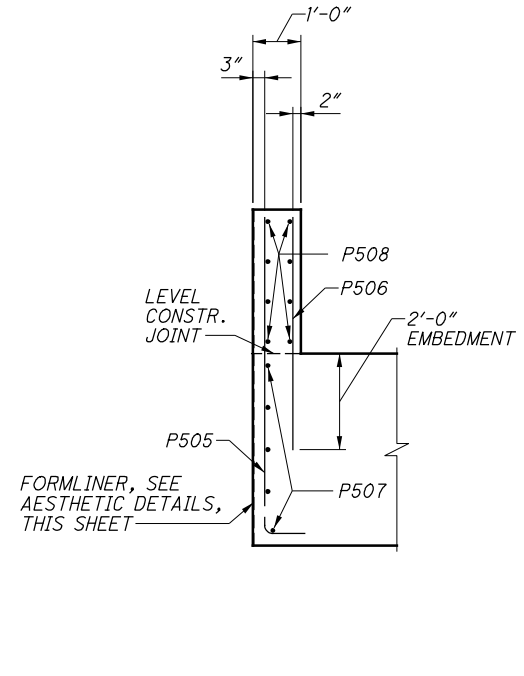


SECTION E-E
(SECTION E₁-E₁ SIMILAR)

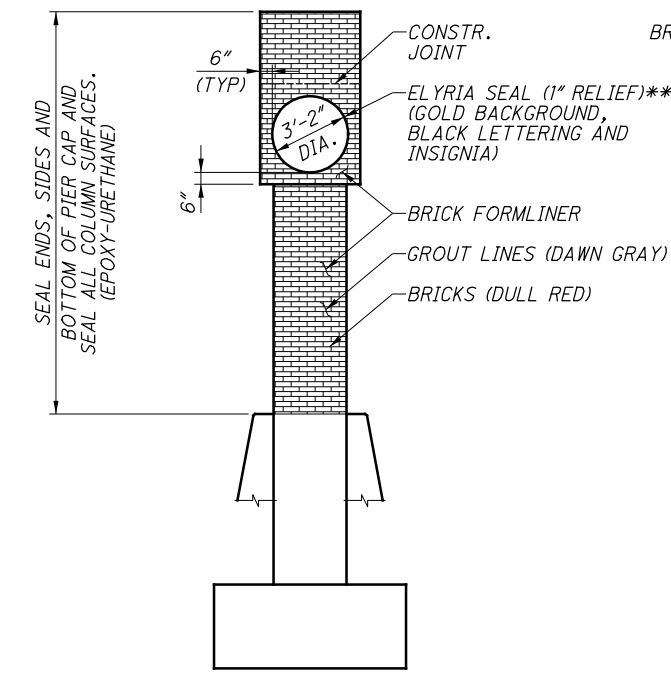
#-INCLUDES 1/4" BRICK FORMLINER



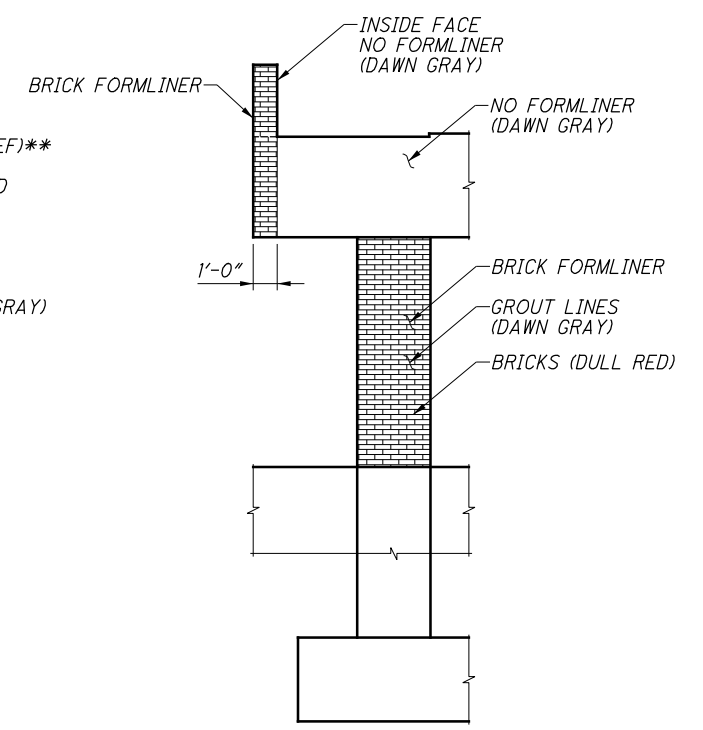
END VIEW F-F
(SECTION F₁-F₁ SIMILAR)



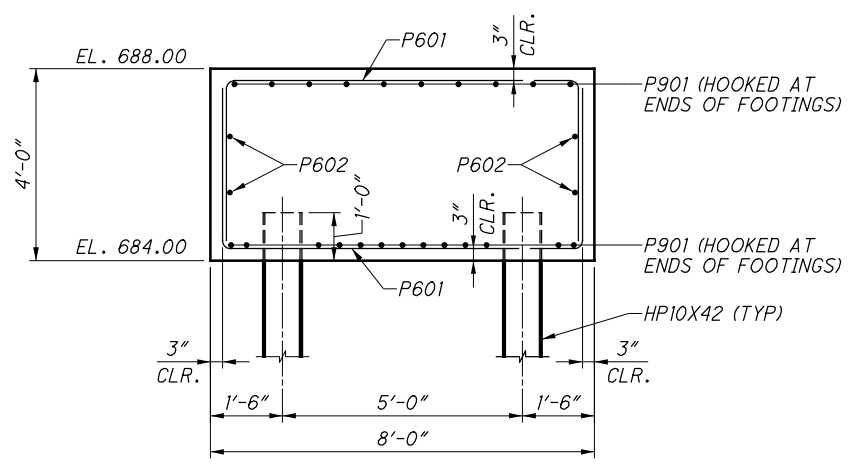
SECTION G-G



PIER END VIEW



PIER SIDE VIEW



SECTION A-A

LIMITS OF SEALING OF CONCRETE SURFACES AND AESTHETIC DETAILS

**ELYRIA SEAL ON NORTH END OF LEFT PIER AND SOUTH END OF RIGHT PIER. OTHER PIER ENDS SHALL ONLY HAVE BRICK FORMLINER

LEGEND

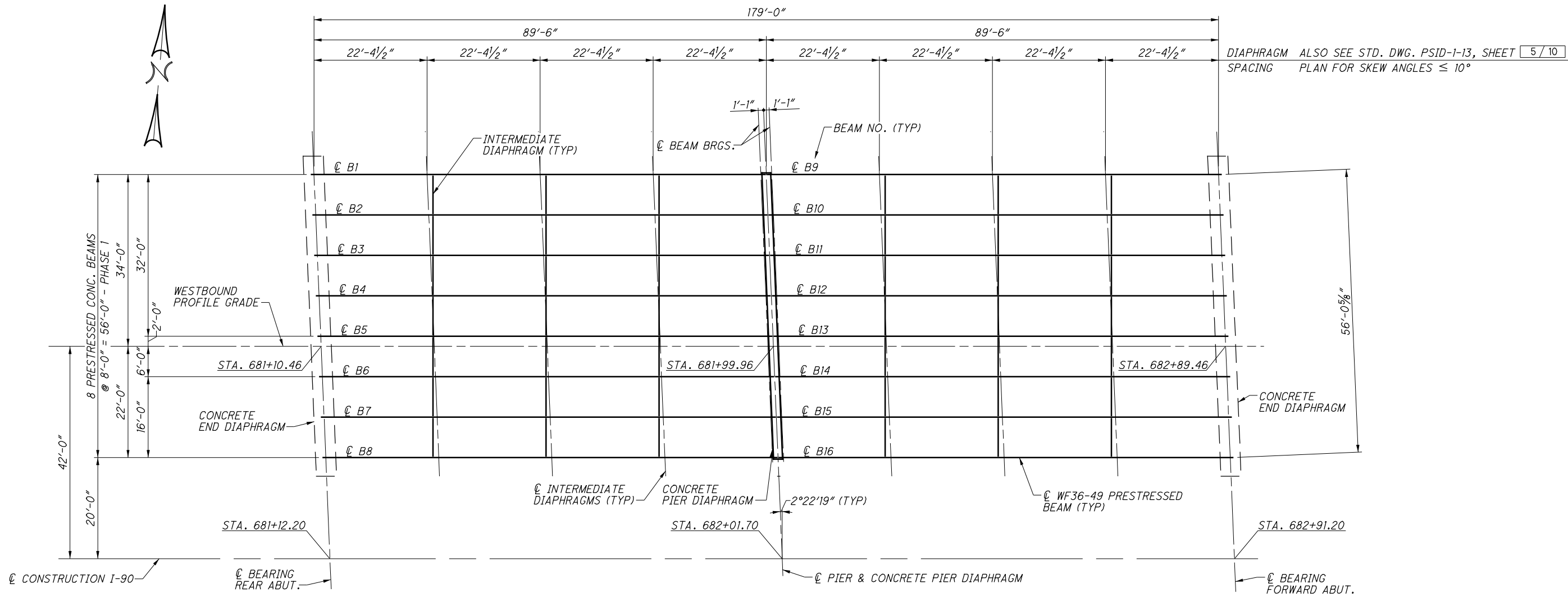
EF = EACH FACE
FF = FAR FACE
NF = NEAR FACE

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS [3 / 53] AND [4 / 53] .
2. FOR REINFORCING STEEL LIST, SEE SHEETS [50 / 53] AND [51 / 53] .
3. FOR ADDITIONAL FORMLINER INFORMATION, SEE GENERAL NOTES.
4. FOR ELYRIA SEAL, SEE SHEET [4 / 53] .

DESIGNED PRG	CHECKED AMT	DRAWN MNM	REVIEWED DWS	DATE 4-16	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Miamisburg, OH 45342 (937) 259-5000 ext. • (937) 259-5100 fax • LIBinc.com
PIER SECTIONS AND DETAILS				STRUCTURE FILE NUMBER L-4710000 R-4710001	
BRIDGE NO. LOR-90-1320L/R					
I-90 OVER SR 57					
LOR-90-1320					
PID No. 83449					
20 / 53					
214					
301					

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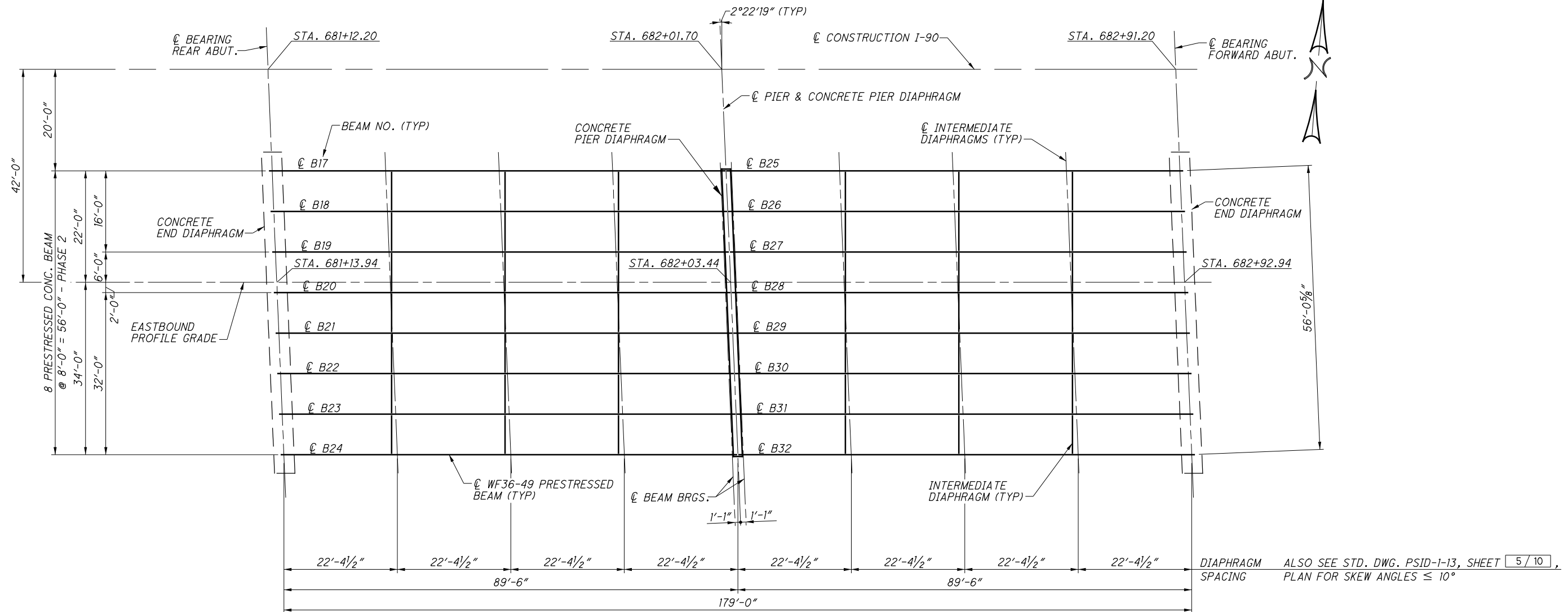
FRAMING PLAN - LEFT STRUCTURE

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 / 53 AND 4 / 53.
2. FOR PRESTRESSED CONCRETE I-BEAM DETAILS, SEE SHEET 24 / 53.
3. FOR PIER DIAPHRAGM DETAILS, SEE SHEET 30 / 53.
4. FOR END DIAPHRAGM DETAILS, SEE SHEETS 25 / 53 THRU 29 / 53.
5. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE STD. DWG. PSID-1-13.
6. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET 23 / 53.
7. FOR ADDITIONAL NOTES AND DETAILS, SEE STD. DWG. PSID-1-13.

LOR-90-1320 PID No. 83449	BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	FRAMING PLAN - LEFT STRUCTURE	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5100 fax • LIBinc.com
21 / 53	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001
215 301	DESIGNED AMT	DRAWN MSD	CHECKED SUM

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FRAMING PLAN - RIGHT STRUCTURE

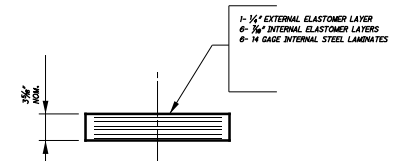
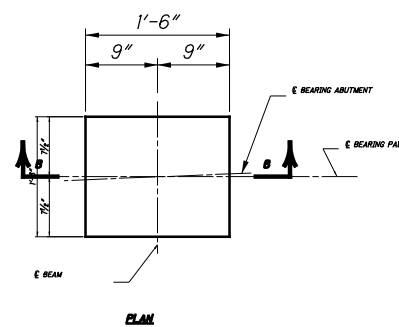
DIAPHRAGM SPACING ALSO SEE STD. DWG. PSID-1-13, SHEET 5 / 10, PLAN FOR SKEW ANGLES ≤ 10°

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 / 53 AND 4 / 53.
2. FOR PRESTRESSED CONCRETE I-BEAM DETAILS, SEE SHEET 24 / 53.
3. FOR PIER DIAPHRAGM DETAILS, SEE SHEET 30 / 53.
4. FOR END DIAPHRAGM DETAILS, SEE SHEETS 25 / 53 THRU 29 / 53.
5. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE STD. DWG. PSID-1-13.
6. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET 23 / 53.
7. FOR ADDITIONAL NOTES AND DETAILS, SEE STD. DWG. PSID-1-13.

LOR-90-1320	FRAMING PLAN - RIGHT STRUCTURE	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com
PID No. 83449	BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	DATE 4-16
22 / 53	DRAWN MSD	REVIEWED DWS
216 301	CHECKED SUM	STRUCTURE FILE NUMBER L-4710000 R-4710001

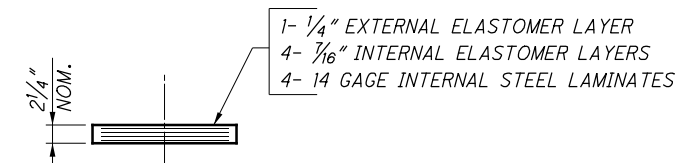
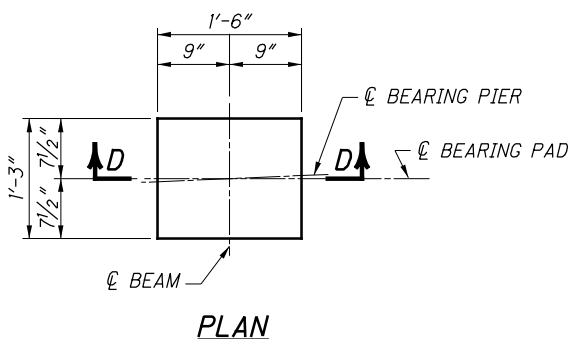
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SECTION B-B AT ABUTMENTS

LIVE LOAD REACTION (W/O IMPACT): 76 KIPS
 DEAD LOAD REACTION: 189 KIPS
 MAXIMUM DESIGN LOAD: 245 KIPS

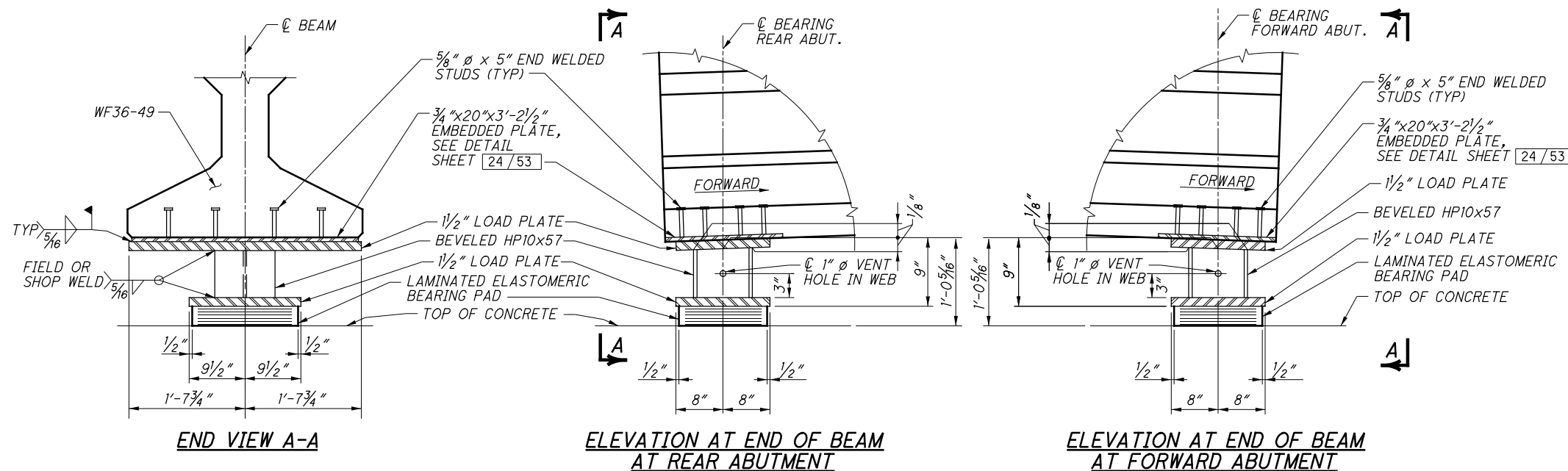
LAMINATED ELASTOMERIC BEARING PAD DETAILS



SECTION D-D AT PIERS

LIVE LOAD REACTION (W/O IMPACT): 76 KIPS
 DEAD LOAD REACTION: 122 KIPS
 MAXIMUM DESIGN LOAD: 198 KIPS

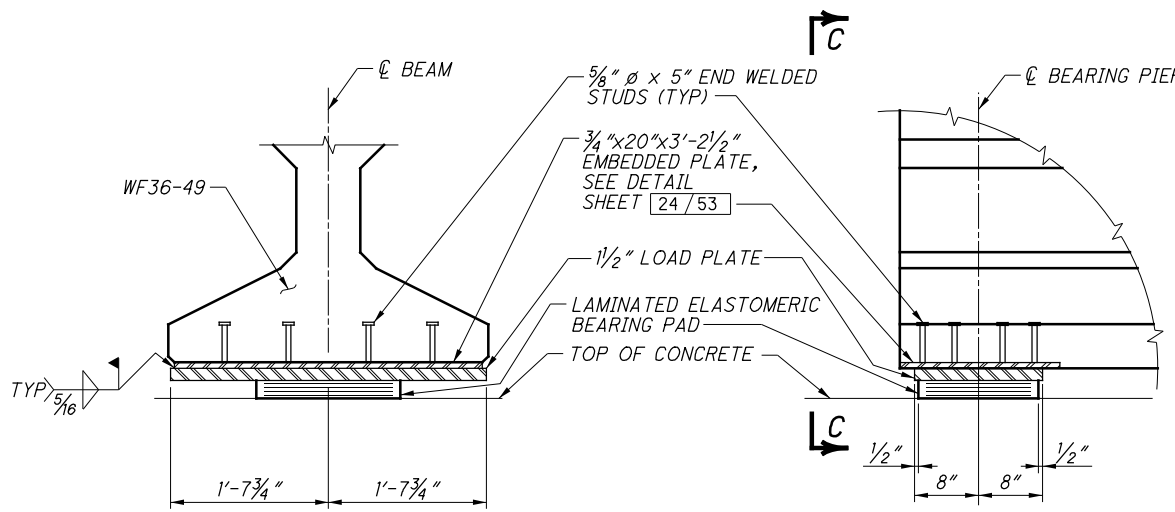
LAMINATED ELASTOMERIC BEARING PAD DETAILS



END VIEW A-A

ELEVATION AT END OF BEAM AT REAR ABUTMENT

ELEVATION AT END OF BEAM AT FORWARD ABUTMENT



END VIEW C-C

ELEVATION AT END OF BEAM AT PIER

(SPAN 2 SHOWN, SPAN 1 SIMILAR)

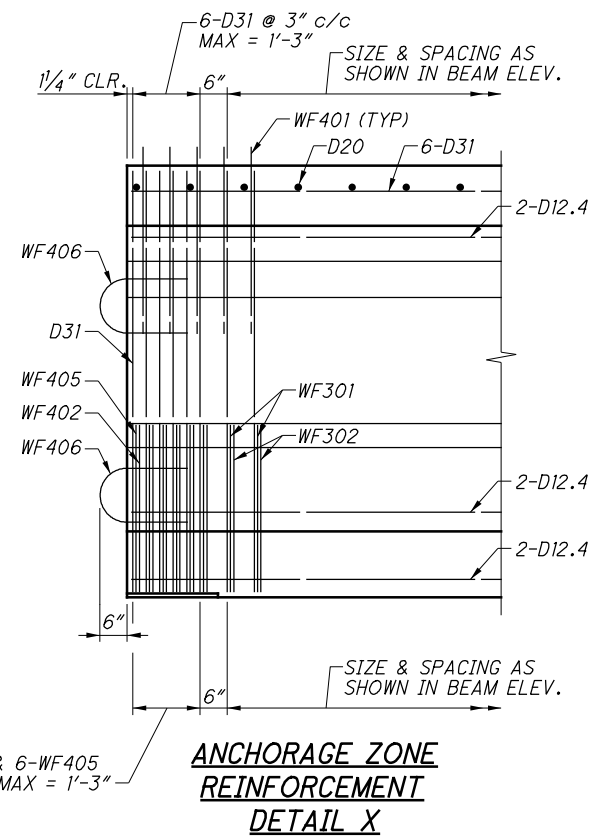
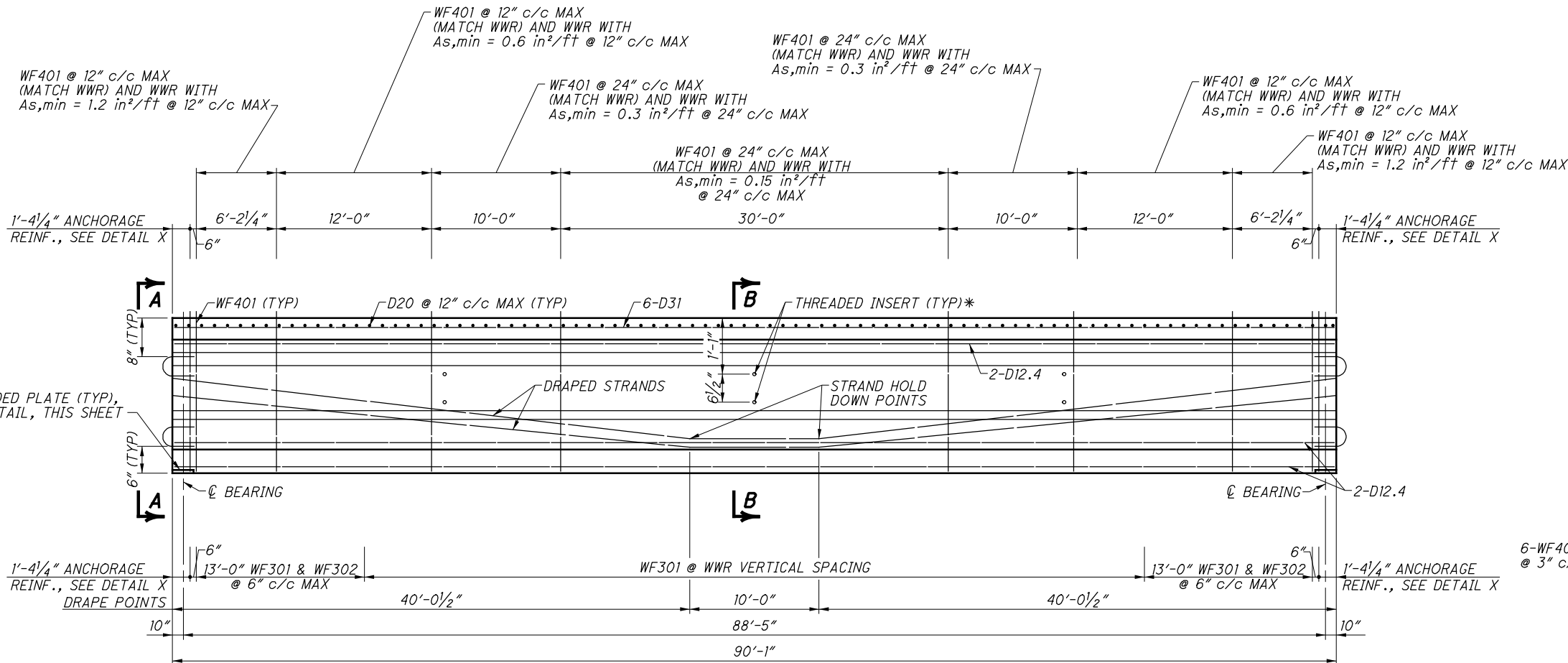
LAMINATED ELASTOMERIC BEARING NOTES:

- ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
- THE STEEL LOAD PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50 AND SHALL BE BONDED TO THE ELASTOMER BY VULCANIZATION DURING THE MOLDING PROCESS. LOAD PLATES AND EMBEDDED PLATES SHALL BE GALVANIZED PER 711.02 (SEE STD. DWG. PSID-1-13). TOP OF LOAD PLATES SHALL BE SHOP MARKED WITH PAINT INDICATING: BEAM, SUBSTRUCTURE UNIT AND FORWARD DIRECTION.
- BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL ELASTOMERIC BEARINGS. PAYMENT WILL BE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE, AS PER PLAN, AS LISTED UNDER THE ESTIMATED QUANTITIES.
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
- THE END OF THE BEAM SHALL BE STABILIZED DURING ERECTION AND CONSTRUCTION OF THE BRIDGE.

	ABUTMENTS	PIERS
TOP LOAD PLATE	3'-3 1/2" x 1'-4" x 1/2"	3'-3 1/2" x 1'-4" x 1/2"
HPx57	BEVELED	N/A
BOTTOM LOAD PLATE	1'-7" x 1'-4" x 1/2"	N/A
LAMINATED ELASTOMERIC BEARING PAD	1'-3" x 1'-6" x 3 5/16"	1'-3" x 1'-6" x 2 1/4"

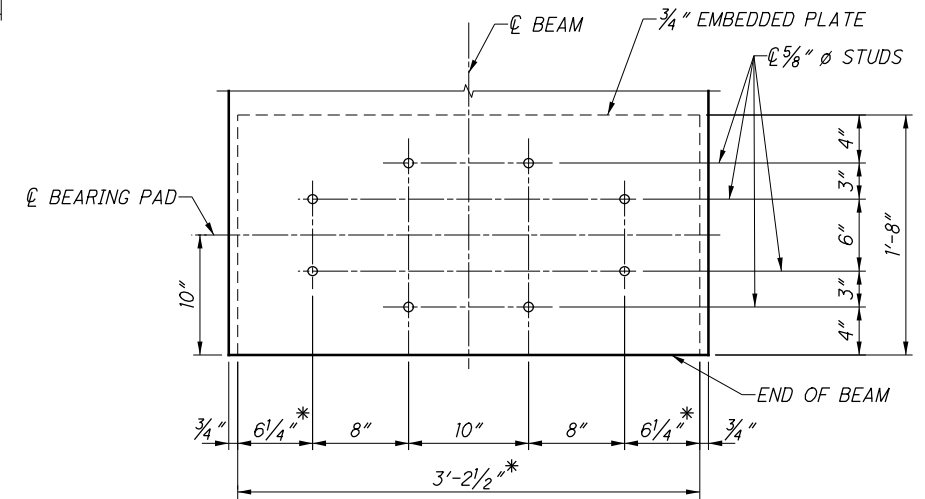
DESIGN AGENCY: LIB Inc. • 2500 Newmark Drive • Mansburg, OH 45342 • (837) 259-5000 fax • (837) 259-5100 lib • LIBinc.com
 DATE: 4-16
 REVIEWED: DWS
 DRAWN: MSD
 CHECKED: AMM
 DESIGNED: SJM
 STRUCTURE FILE NUMBER: L-4710000
 R-4710001
LAMINATED ELASTOMERIC BEARING PAD DETAILS
 BRIDGE NO. LOR-90-1320L/R
 I-90 OVER SR 57
LOR-90-1320
PID No. 83449
 23/53
 217
 301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\structures\LOR090-1320C\sheet\090-1320Csd003.dgn 6/24/2016 7:51:25 AM sddilinger



TYPICAL BEAM ELEVATION

* THREADED INSERT FOR INTERMEDIATE DIAPHRAGM CONNECTION, SEE FRAMING PLAN, SHEETS [21/53] & [22/53], FOR INTERMEDIATE DIAPHRAGM LOCATIONS



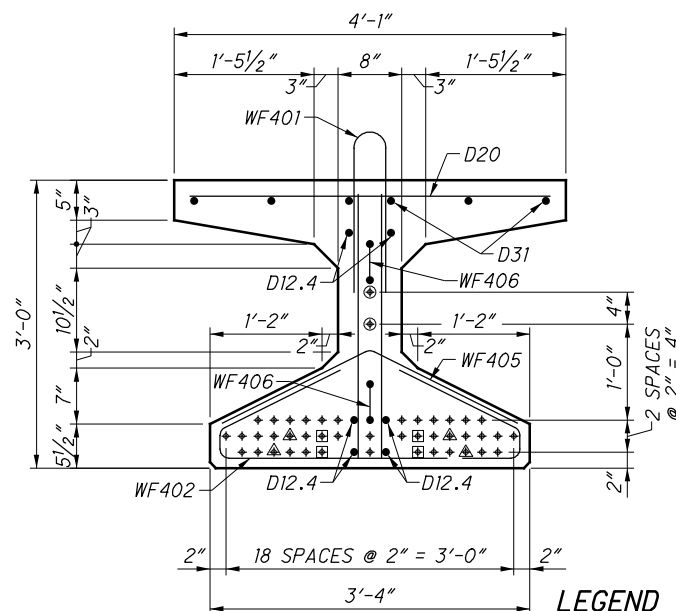
EMBEDDED PLATE DETAIL

NOTE: END WELDED STUDS MAY BE MOVED SLIGHTLY IN ORDER TO AVOID REINFORCING STEEL AND PRESTRESSING STRANDS.

* IN ORDER TO ALLOW FOR FIT-UP, THE PLATE WIDTH MAY BE DECREASED BY 3/8\"/>

NOTES:

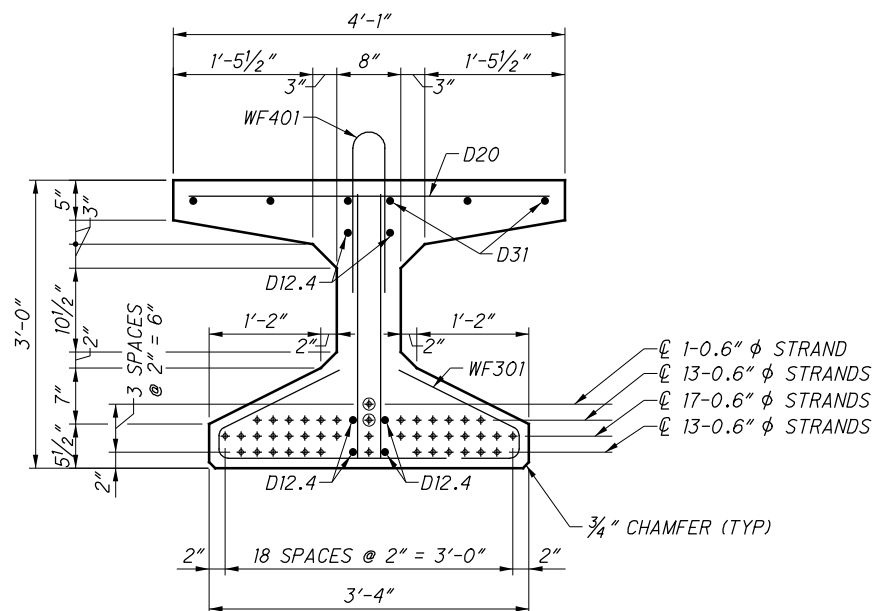
1. ALL REINFORCEMENT FULLY OR PARTIALLY ENCASED IN BEAMS, EMBEDDED PLATES AND THREADED INSERTS AND RODS SHALL BE INCLUDED WITH ITEM 515, DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, FOR PAYMENT.
2. FOR ADDITIONAL PRESTRESSED BEAM NOTES AND DETAILS, SEE STD. DWG. PSID-1-13.
3. ALL STRUCTURAL STEEL, EMBEDDED PLATES AND THREADED INSERTS AND RODS SHALL BE GALVANIZED PER 711.02.
4. ALL PRESTRESSING STRANDS SHALL BE GRADE 270 SEVEN WIRE, UNCOATED, LOW RELAXATION STRANDS, 0.6\"/>
5. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET [23/53].



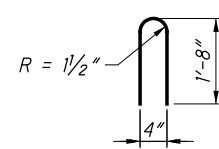
SECTION A-A

LEGEND

- ▲ = DEBOND STRAND 5'-0" FROM EACH END OF BEAM
- = DEBOND STRAND 10'-0" FROM EACH END OF BEAM
- ⊙ = DRAPED STRAND

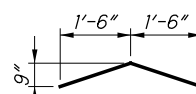


SECTION B-B

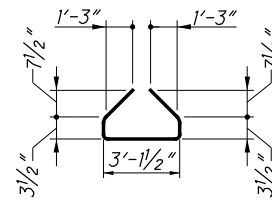


WF401

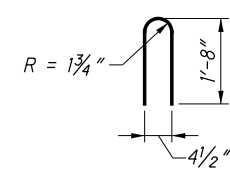
(SHALL BE EPOXY COATED)



WF302 & WF405



WF301 & WF402

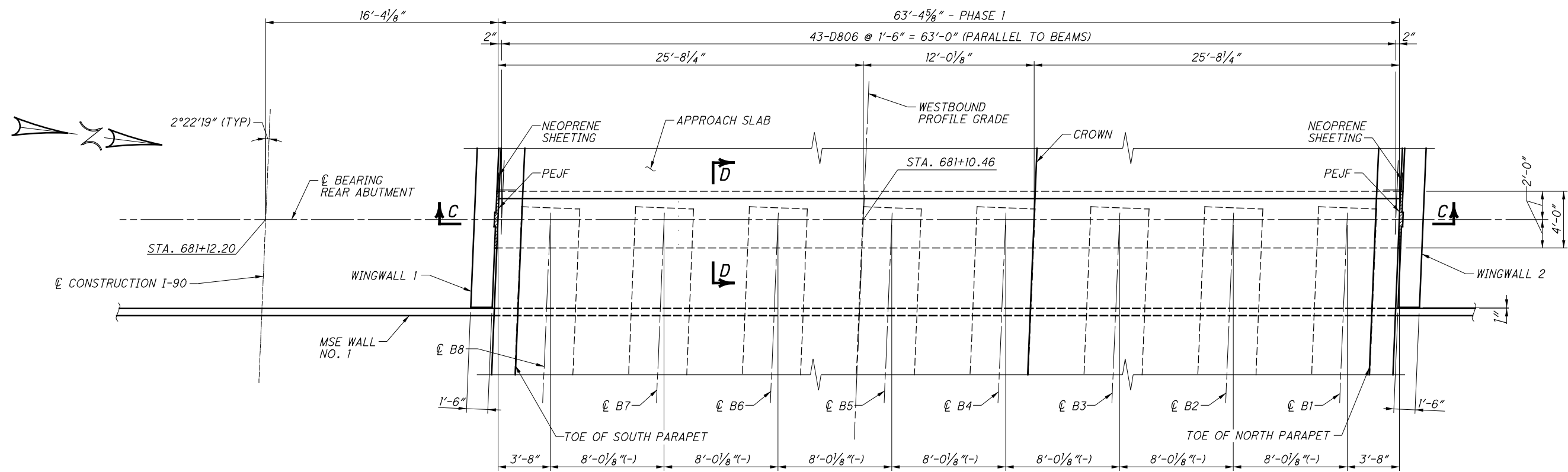


WF406

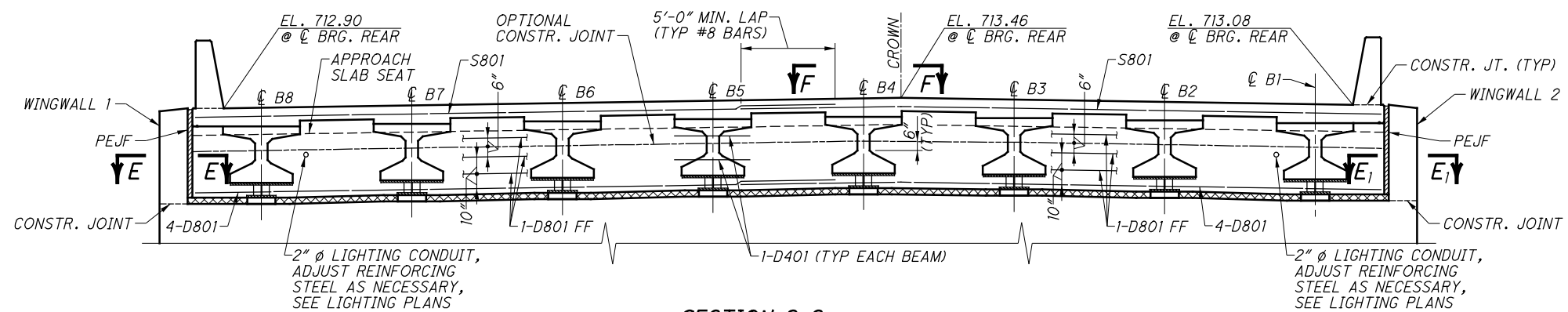
(SHALL BE EPOXY COATED)

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	DATE 4-16	REVIEWED DWS	DRAWN MSD
DESIGNED AMT	CHECKED SUM	STRUCTURE FILE NUMBER L-4710000	R-4710001	
PRESTRESSED BEAM DETAILS BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57				
LOR-90-1320 PID No. 83449				
24/53				
218 301				

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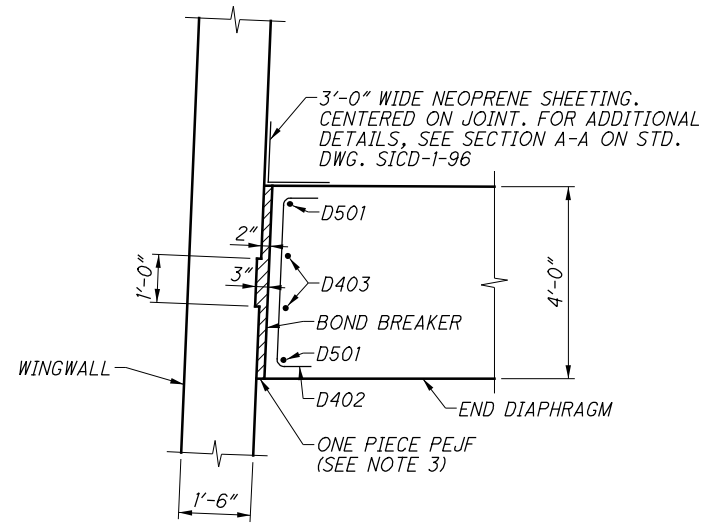


REAR END DIAPHRAGM PLAN - LEFT STRUCTURE

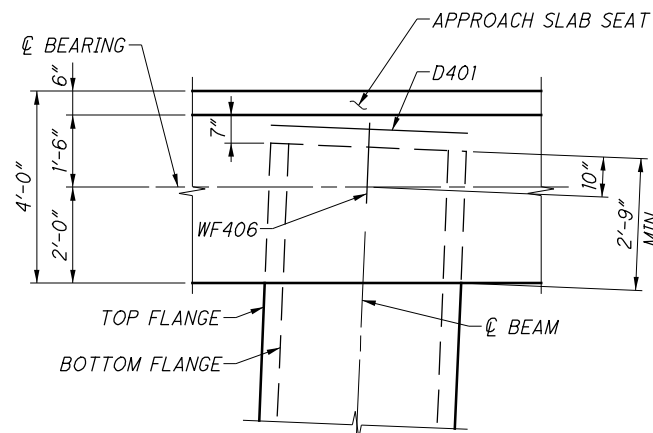


SECTION C-C

NOTE: CONTINUOUS DIAPHRAGM REINFORCEMENT SHOWN. FOR ADDITIONAL REINFORCEMENT BETWEEN BEAMS, SEE SHEET [29/53].



SECTION E-E
(SECTION E₁-E₁ SIM.)



SECTION F-F

LEGEND

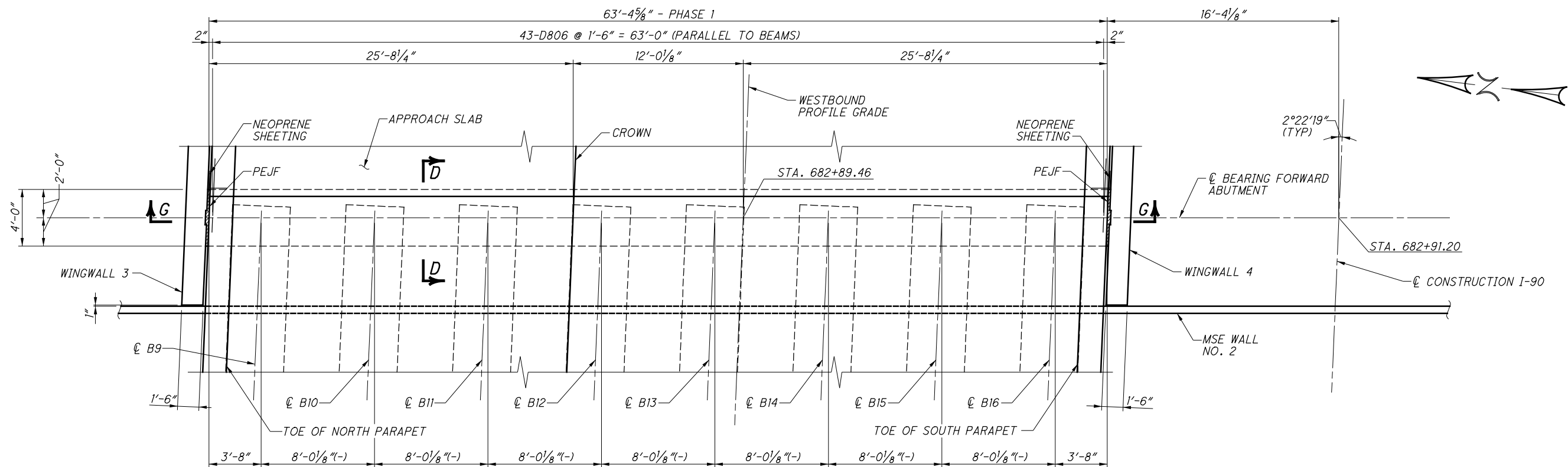
FF = FAR FACE
PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

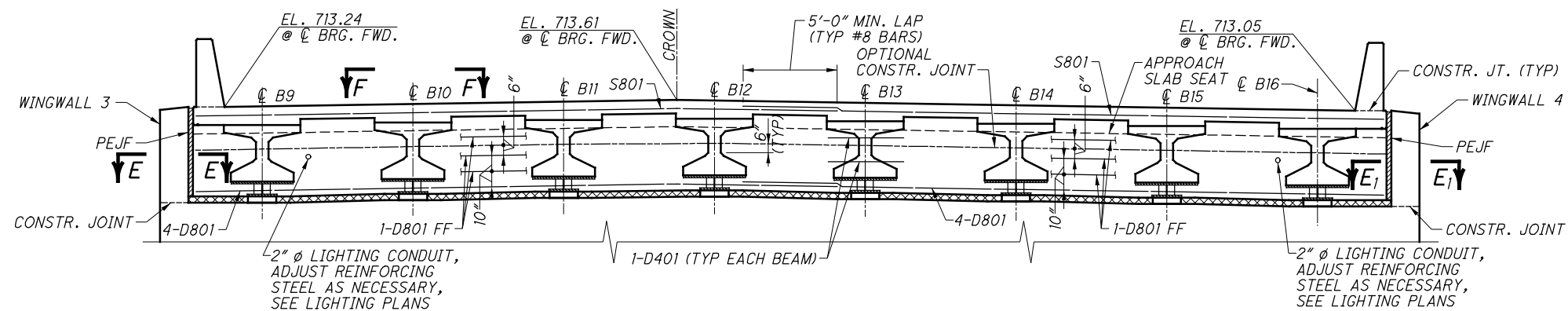
- FOR GENERAL NOTES, SEE SHEETS [3/53] AND [4/53].
- FOR REINFORCING STEEL LIST, SEE SHEET [50/53].
- ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
- ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASEING THE STRUCTURE MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE A HORIZONTAL CONSTRUCTION JOINT IN THE DIAPHRAGM AS SHOWN ON PSD-1-13, SHEET 7 OF 10 (SHOWN AS OPTIONAL CONSTRUCTION JOINT IN PLANS) AND PLACE REMAINING DIAPHRAGM CONCRETE WITH THE DECK.
- FOR SECTION D-D, SEE SHEET [29/53].

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001
DRAWN MSD	DESIGNED AMT	CHECKED AMM	REVISIONS REVISED	BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57
REAR END DIAPHRAGM - LEFT STRUCTURE				
LOR-90-1320 PID No. 83449				
25/53				
219 301				

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FORWARD END DIAPHRAGM PLAN - LEFT STRUCTURE



SECTION G-G

NOTE: CONTINUOUS DIAPHRAGM REINFORCEMENT SHOWN.
FOR ADDITIONAL REINFORCEMENT BETWEEN BEAMS,
SEE SHEET 29/53.

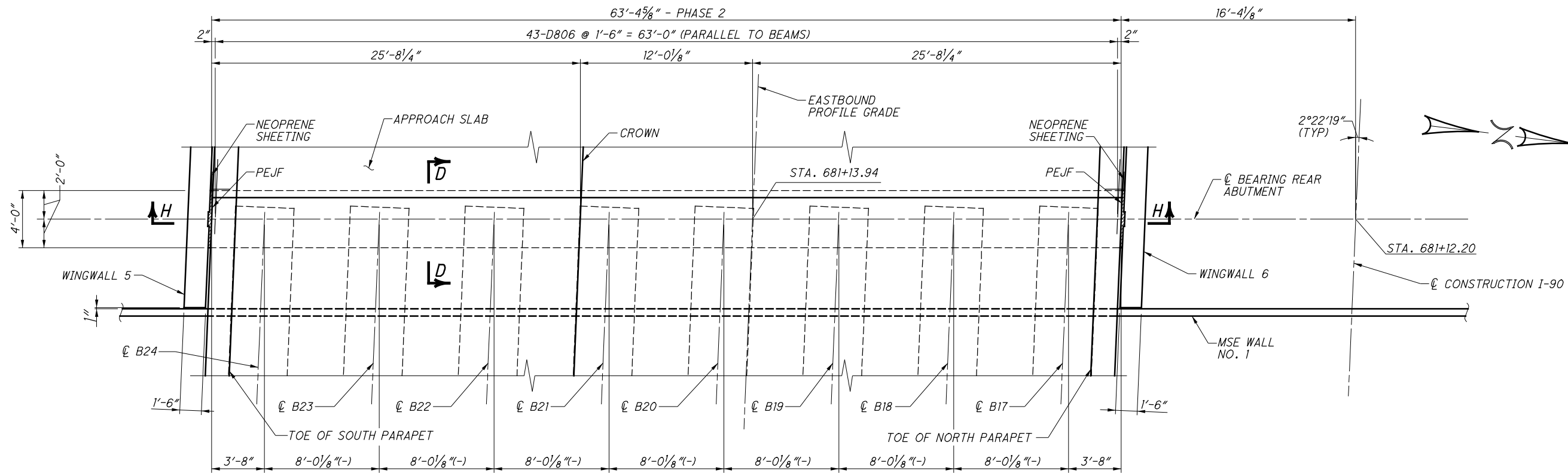
LEGEND
FF = FAR FACE
PEJF = PREFORMED EXPANSION
JOINT FILLER

NOTES:

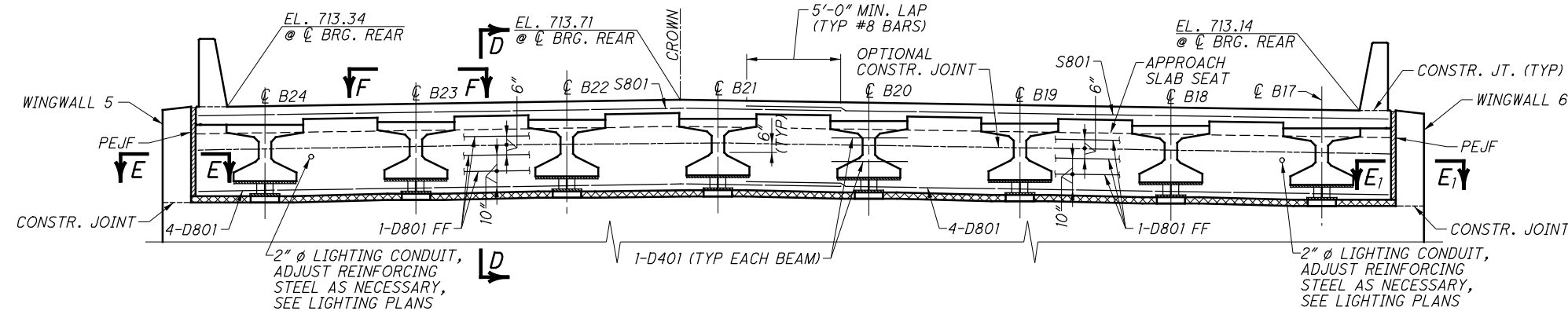
- FOR GENERAL NOTES, SEE SHEETS 3/53 AND 4/53.
- FOR REINFORCING STEEL LIST, SEE SHEET 50/53.
- ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
- ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURE MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE A HORIZONTAL CONSTRUCTION JOINT IN THE DIAPHRAGM AS SHOWN ON PSID-1-13, SHEET 7 OF 10 (SHOWN AS OPTIONAL CONSTRUCTION JOINT IN PLANS) AND PLACE REMAINING DIAPHRAGM CONCRETE WITH THE DECK.
- FOR SECTION D-D, SEE SHEET 29/53.
- FOR SECTION E-E, E₁-E₁ AND F-F, SEE SHEET 25/53.

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DRAWN MSD	CHECKED AMM	DESIGNED AMT	REVISIONS REVISED	BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57
FORWARD END DIAPHRAGM - LEFT STRUCTURE				
LOR-90-1320 PID No. 83449				
26/53				
220 301				

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REAR END DIAPHRAGM PLAN - RIGHT STRUCTURE



SECTION H-H

NOTE: CONTINUOUS DIAPHRAGM REINFORCEMENT SHOWN.
FOR ADDITIONAL REINFORCEMENT BETWEEN BEAMS,
SEE SHEET [29/53].

LEGEND

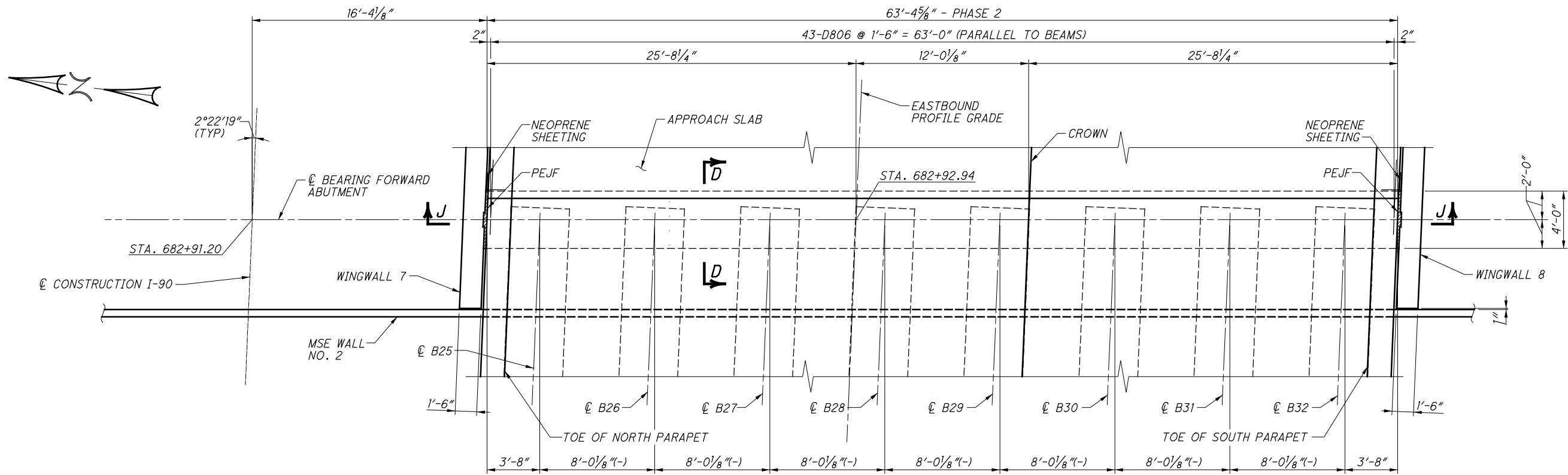
FF = FAR FACE
PEJF = PREFORMED EXPANSION
JOINT FILLER

NOTES:

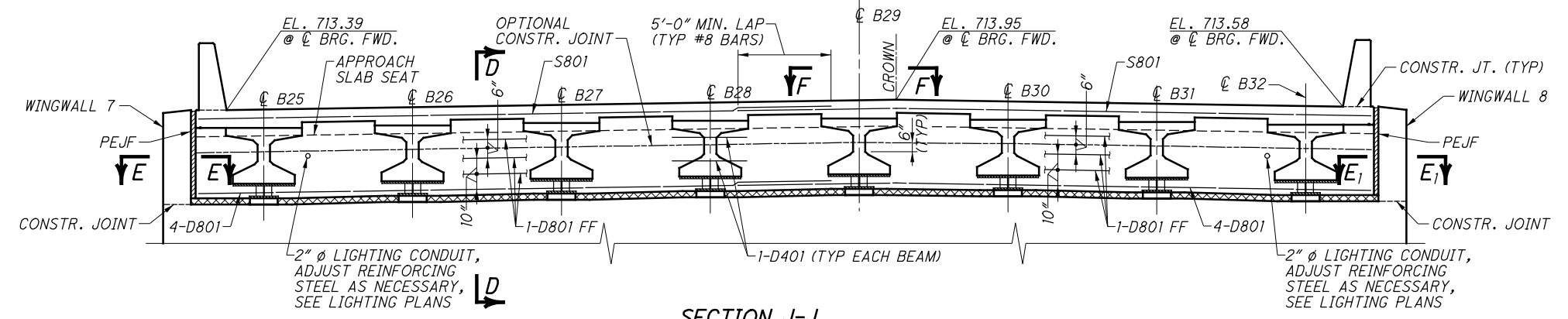
1. FOR GENERAL NOTES, SEE SHEETS [3/53] AND [4/53].
2. FOR REINFORCING STEEL LIST, SEE SHEET [51/53].
3. ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
4. ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURE MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE A HORIZONTAL CONSTRUCTION JOINT IN THE DIAPHRAGM AS SHOWN ON PSID-1-13, SHEET 7 OF 10 (SHOWN AS OPTIONAL CONSTRUCTION JOINT IN PLANS) AND PLACE REMAINING DIAPHRAGM CONCRETE WITH THE DECK.
5. FOR SECTION D-D, SEE SHEET [29/53].
6. FOR SECTION E-E, E₁-E₁ AND F-F, SEE SHEET [25/53].

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001
DESIGNED AMT	DRAWN MSD	REVISIONS	DATE 4-16	FILE NUMBER L-4710000 R-4710001
REAR END DIAPHRAGM - RIGHT STRUCTURE BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57				
LOR-90-1320 PID No. 83449				
27/53				
221 301				

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FORWARD END DIAPHRAGM PLAN - RIGHT STRUCTURE



SECTION J-J

NOTE: CONTINUOUS DIAPHRAGM REINFORCEMENT SHOWN. FOR ADDITIONAL REINFORCEMENT BETWEEN BEAMS, SEE SHEET [29/53].

LEGEND

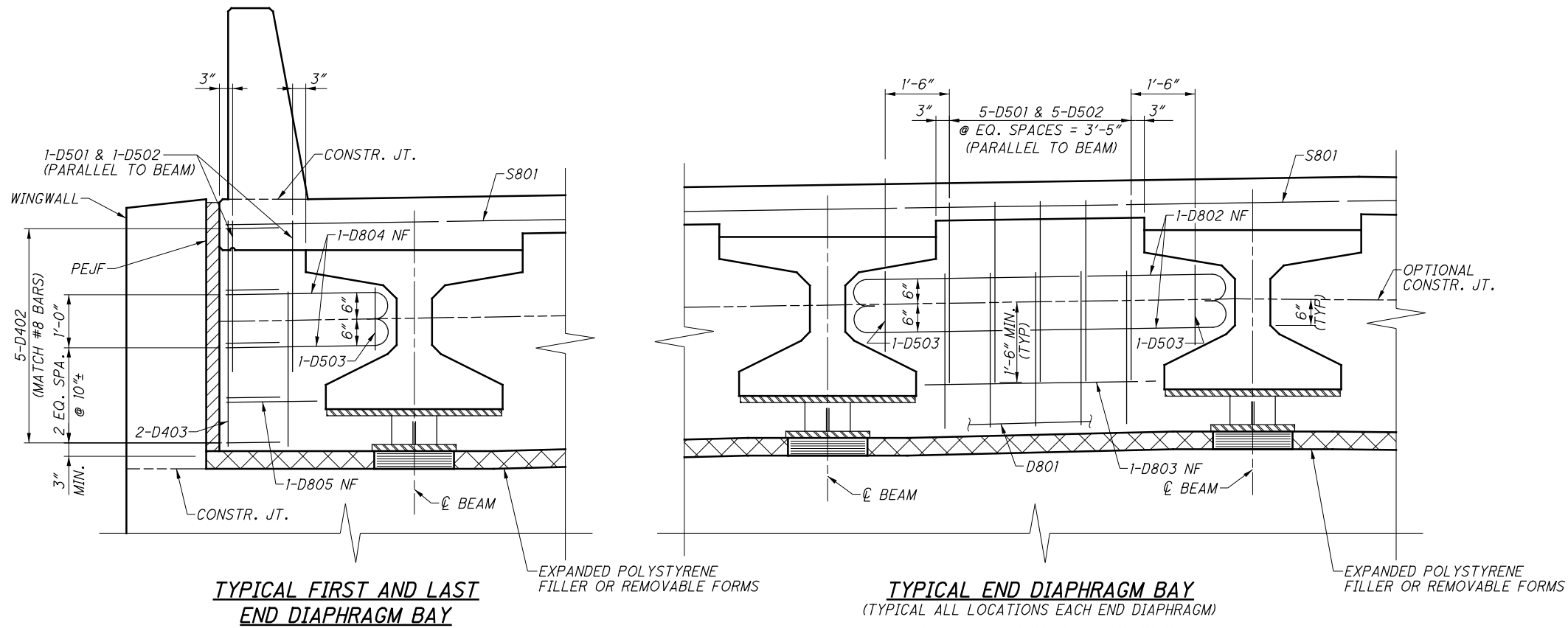
FF = FAR FACE
PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS [3/53] AND [4/53].
2. FOR REINFORCING STEEL LIST, SEE SHEET [51/53].
3. ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
4. ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURE MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE A HORIZONTAL CONSTRUCTION JOINT IN THE DIAPHRAGM AS SHOWN ON PSID-1-13, SHEET 7 OF 10 (SHOWN AS OPTIONAL CONSTRUCTION JOINT IN PLANS) AND PLACE REMAINING DIAPHRAGM CONCRETE WITH THE DECK.
5. FOR SECTION D-D, SEE SHEET [29/53].
6. FOR SECTION E-E, E₁-E₁, AND F-F, SEE SHEET [25/53].

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DRAWN MSD	CHECKED AMM	DESIGNED AMT	REVISED	BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57
FORWARD END DIAPHRAGM - RIGHT STRUCTURE				
LOR-90-1320 PID No. 83449				
28/53				
222 301				

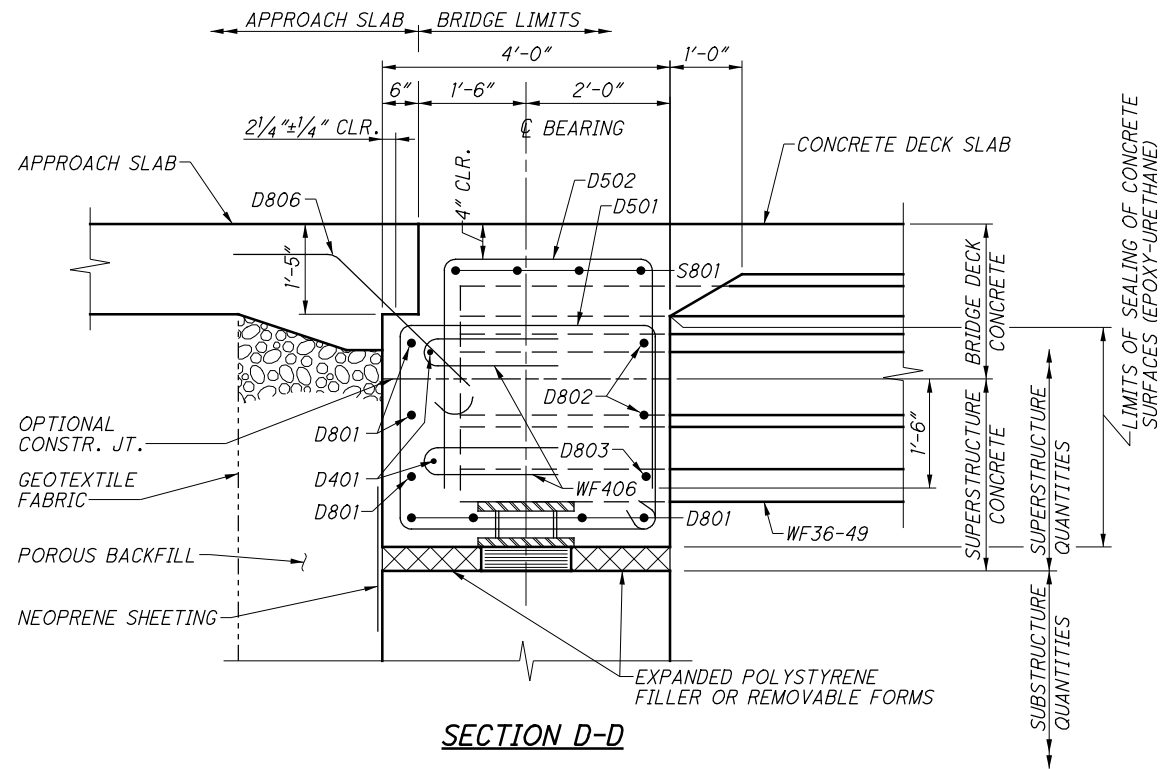
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**TYPICAL FIRST AND LAST
END DIAPHRAGM BAY**

TYPICAL END DIAPHRAGM BAY
(TYPICAL ALL LOCATIONS EACH END DIAPHRAGM)

NOTE: FOR ADDITIONAL CONTINUOUS REINFORCEMENT IN END DIAPHRAGMS, SEE SHEETS [25/53] THRU [28/53].



SECTION D-D

LEGEND

NF = NEAR FACE
PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

- FOR GENERAL NOTES, SEE SHEETS [3/53] AND [4/53].
- FOR REINFORCING STEEL LIST, SEE SHEET [50/53] AND [51/53].
- ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
- ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURE MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE A HORIZONTAL CONSTRUCTION JOINT IN THE DIAPHRAGM AS SHOWN ON PSID-1-13, SHEET 7 OF 10 (SHOWN AS OPTIONAL CONSTRUCTION JOINT IN PLANS) AND PLACE REMAINING DIAPHRAGM CONCRETE WITH THE DECK.

END DIAPHRAGM DETAILS

BRIDGE NO. LOR-90-1320L/R

I-90 OVER SR 57

LOR-90-1320

PID No. 83449

29/53

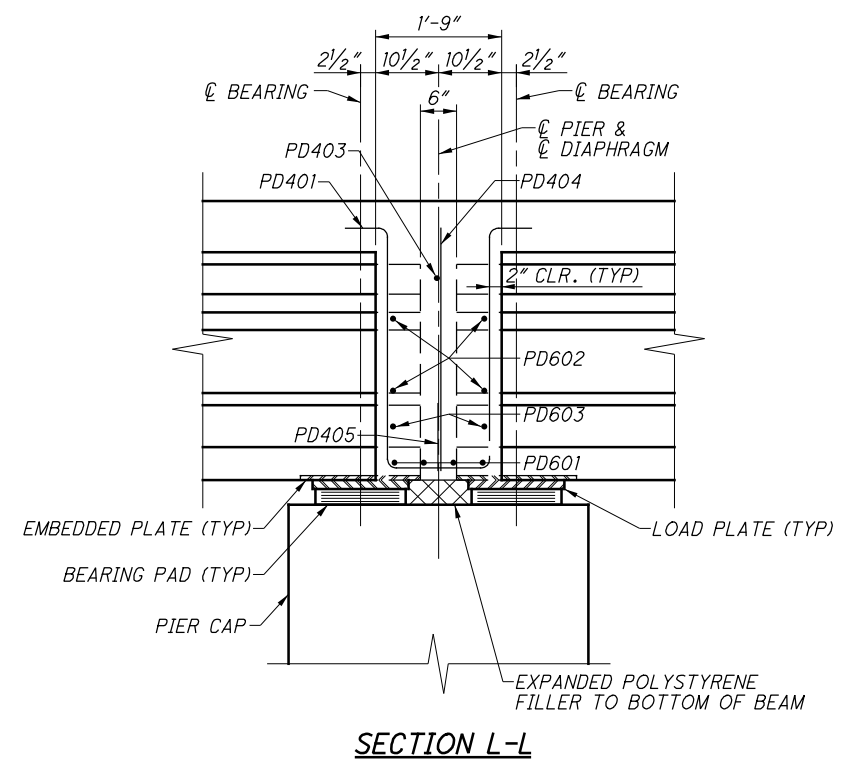
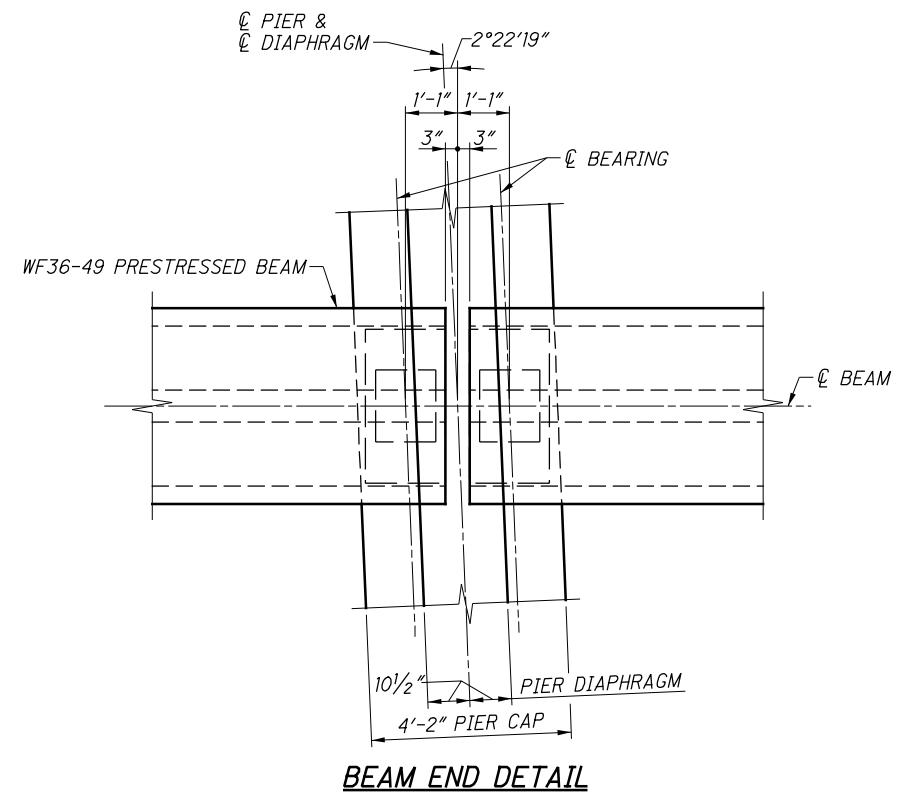
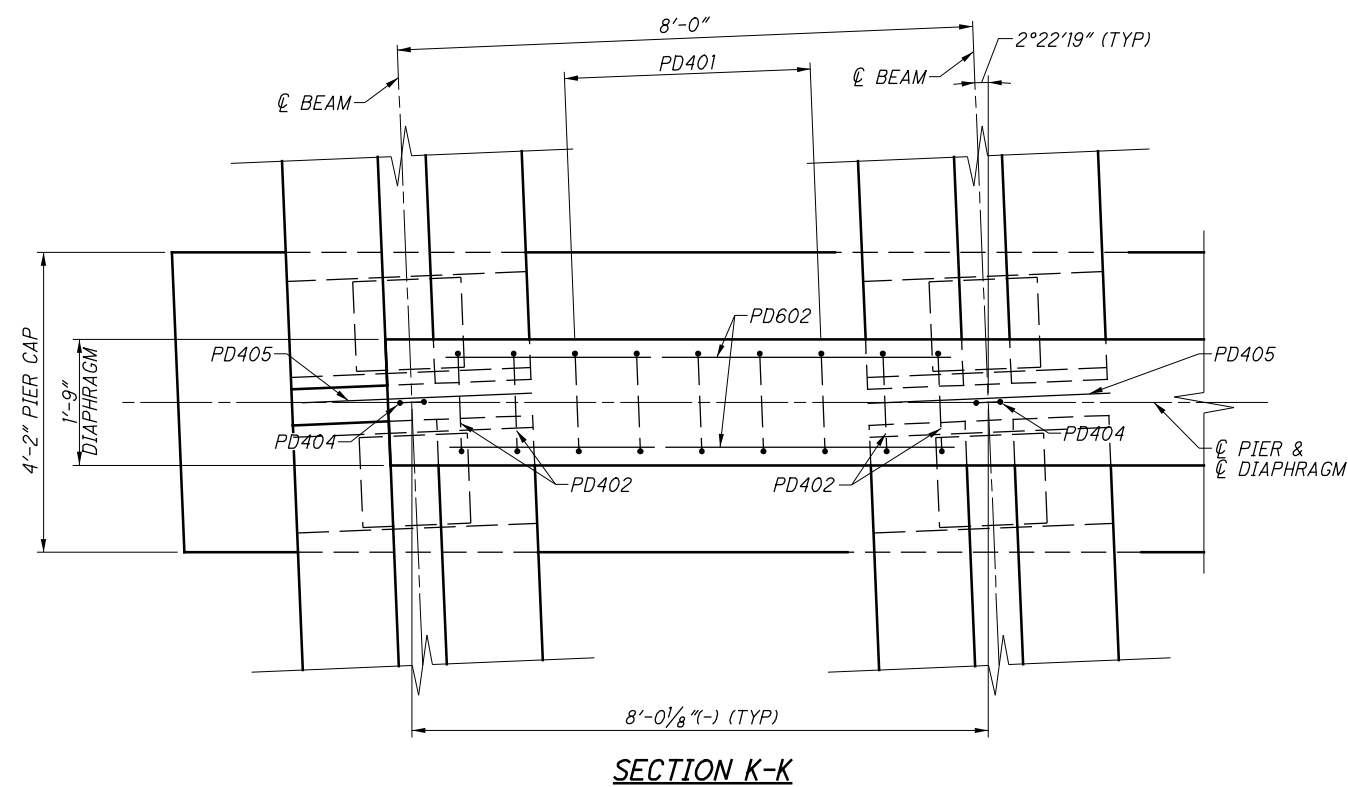
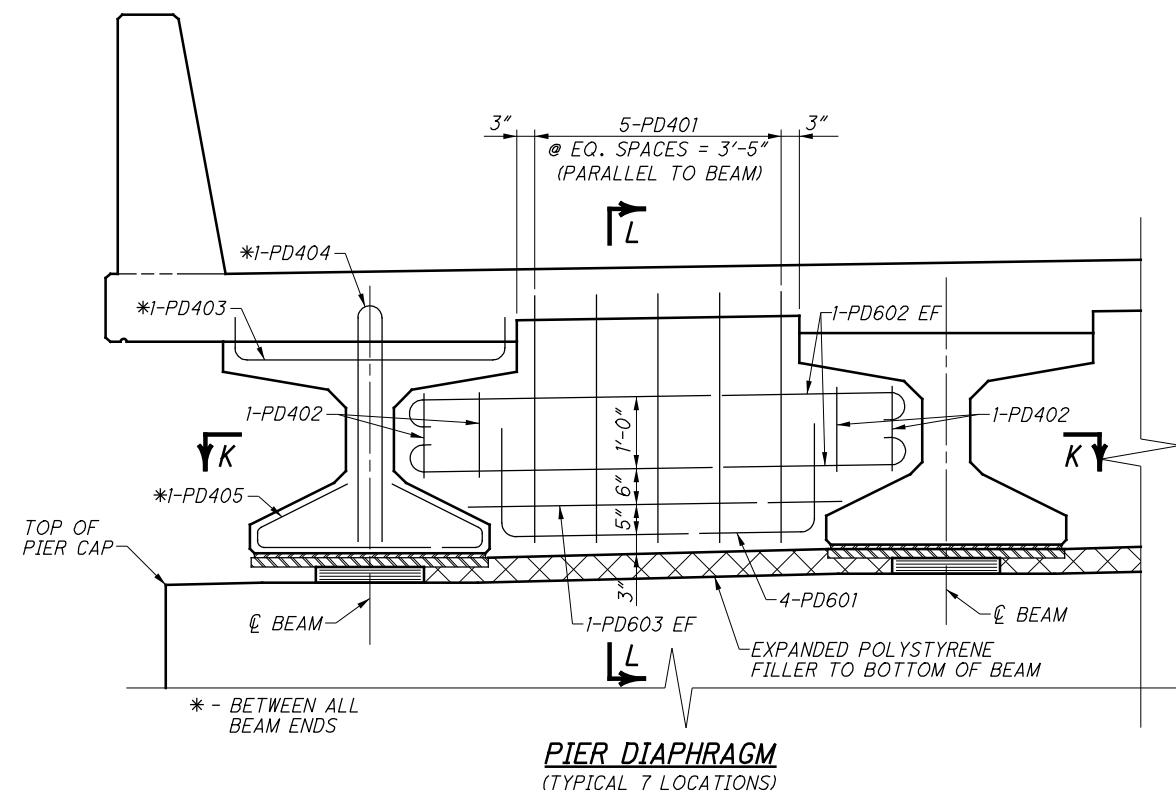
223
301

DESIGNED	AMT	CHECKED	AMM
DRAWN	MSD	REVISED	
REVIEWED	DWS	STRUCTURE FILE NUMBER	L-4710000 R-4710001
DATE	4-16		



DESIGN AGENCY
LIB Inc. • 2510 Newmark Drive
Mansfield, OH 44842
(837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com

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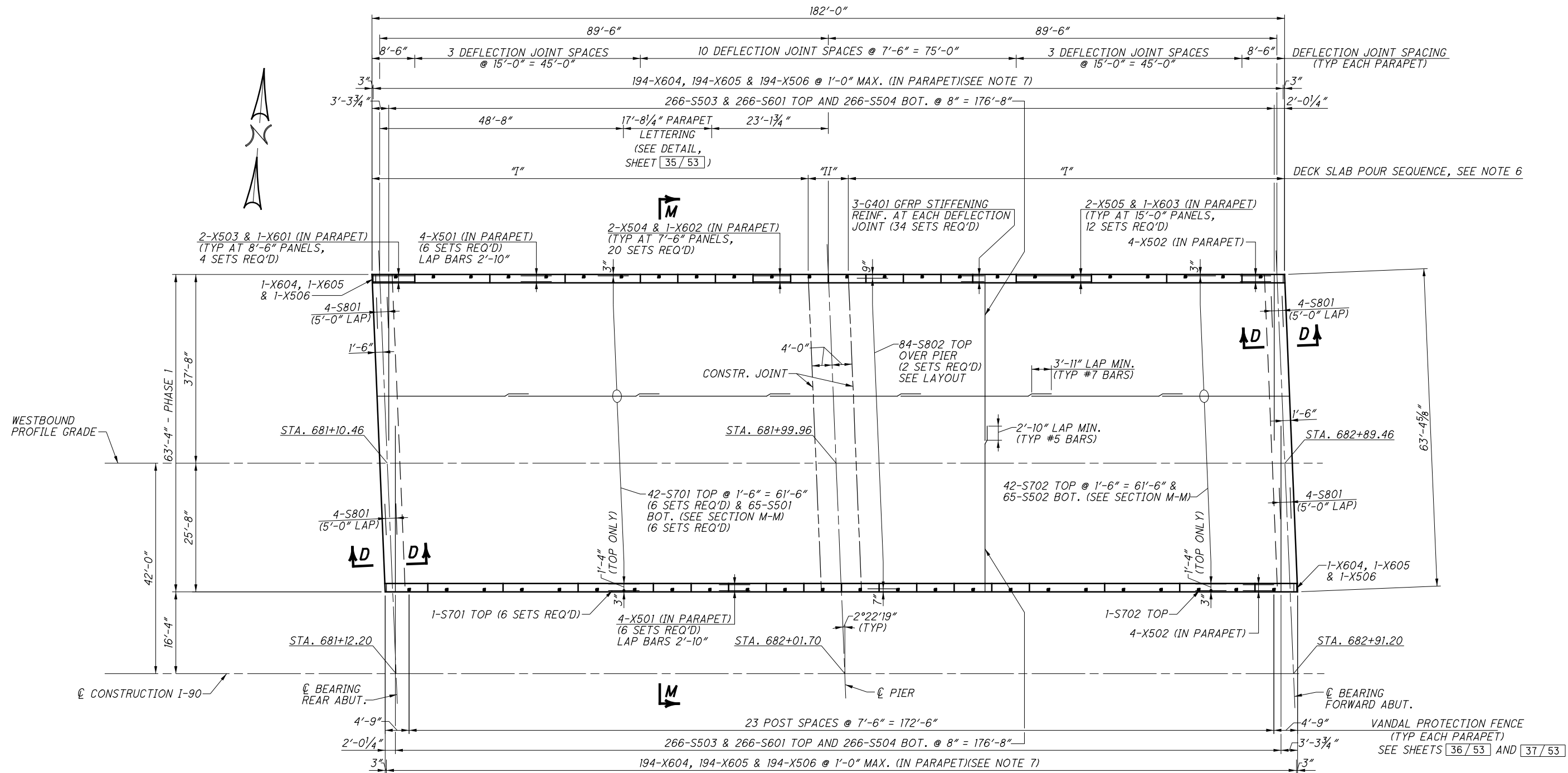


LEGEND
EF = EACH FACE

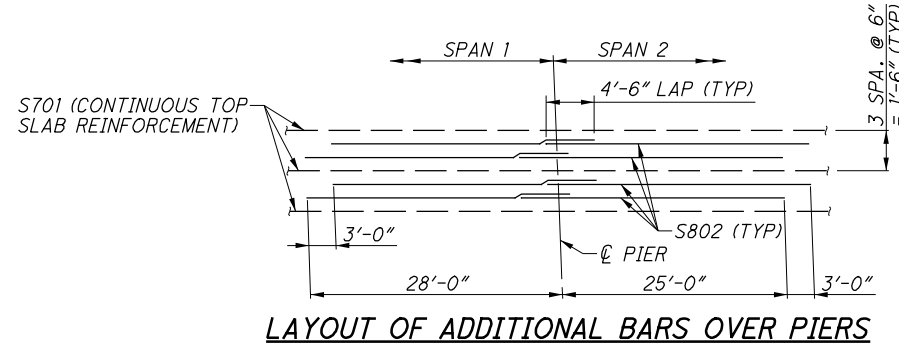
- NOTES:**
1. FOR GENERAL NOTES, SEE SHEETS 3/53 AND 4/53.
 2. FOR REINFORCING STEEL LIST, SEE SHEETS 50/53 AND 51/53.
 3. FOR PRESTRESSED BEAM DETAILS, SEE SHEET 24/53.
 4. FOR ADDITIONAL DETAILS, REFER TO STD. DWG. PSID-1-13.

DESIGN AGENCY L.B. Inc. • 2510 Newmark Drive Mansfield, OH 44842 (837) 259-5000 fax • (837) 259-5100 fax • LBIinc.com	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001
	DESIGNED AMT	DRAWN MSD	CHECKED AMM
PIER DIAPHRAGM AND BEAM END DETAILS			
BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57			
LOR-90-1320 PID No. 83449			
30/53			224 301

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PLAN - LEFT STRUCTURE



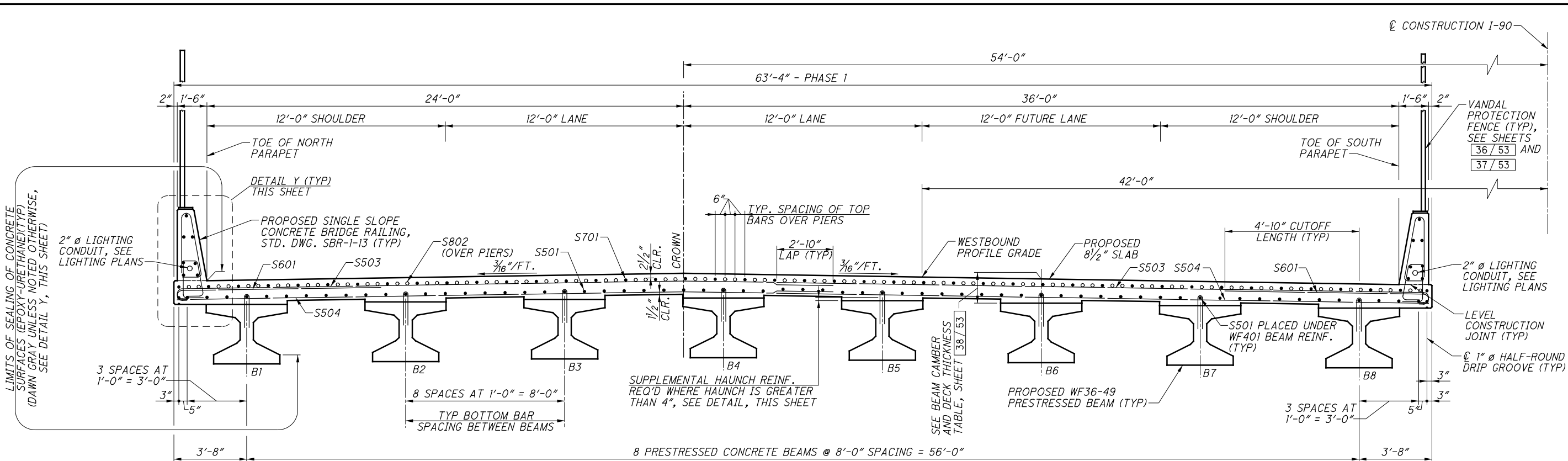
LAYOUT OF ADDITIONAL BARS OVER PIERS

LEGEND
GFRP = GLASS FIBER REINFORCED POLYMER

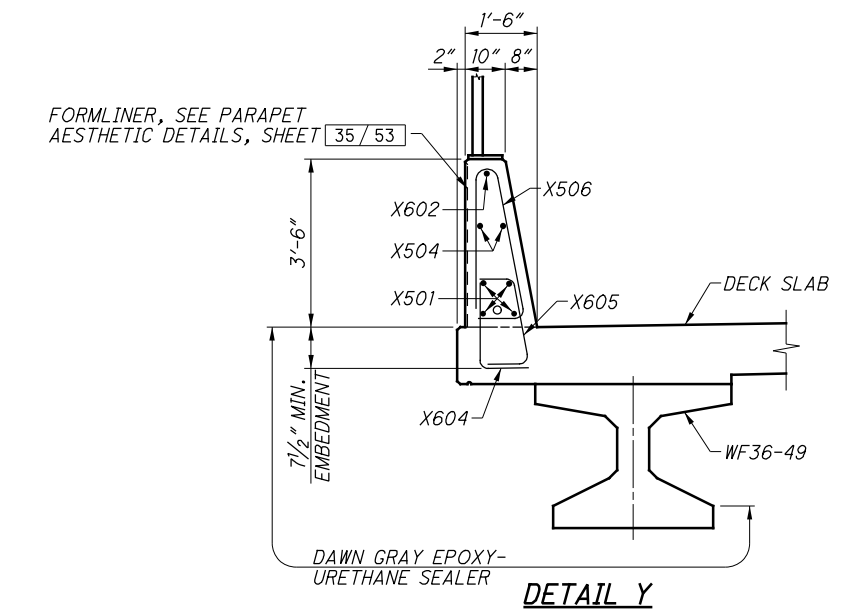
- NOTES:**
- FOR GENERAL NOTES, SEE SHEETS [3/53] AND [4/53].
 - FOR REINFORCING STEEL LIST, SEE SHEET [52/53].
 - FOR FINAL DECK SURFACE, TOP OF HAUNCH AND SCREED STATIONS AND ELEVATIONS, SEE SHEETS [39/53] AND [40/53].
 - FOR SECTION M-M, SEE SHEET [32/53].
 - FOR SECTION D-D, SEE SHEET [29/53].
 - SLAB AND DIAPHRAGM CONCRETE "II" SHALL NOT BE PLACED UNTIL THE CONCRETE IN THE ADJACENT SPANS "I" HAS BEEN PLACED. THE DIAPHRAGM AND DECK CONCRETE "II" MAY BE PLACED UPON COMPLETION OF CONCRETE PLACEMENT IN ADJACENT SPANS "I". ALTERNATE PLACEMENT PROCEDURES MAY BE USED WITH APPROVAL. SEE STD. DWG. PSID-1-13, SHEET 10 OF 10.
 - SEE STD. DWG. SBR-1-13, SECTION A-A, SHEET 5 OF 5 FOR SPACING AROUND DEFLECTION JOINTS.

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 43142 (614) 259-5000 ext. (614) 259-5100 fax • LIBinc.com	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001
DESIGNED AMM	DRAWN MSD	CHECKED SUM	REVISED	DECK SLAB POUR SEQUENCE, SEE NOTE 6
SLAB PLAN - LEFT STRUCTURE BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57				
LOR-90-1320 PID No. 83449	31/53 225 301			

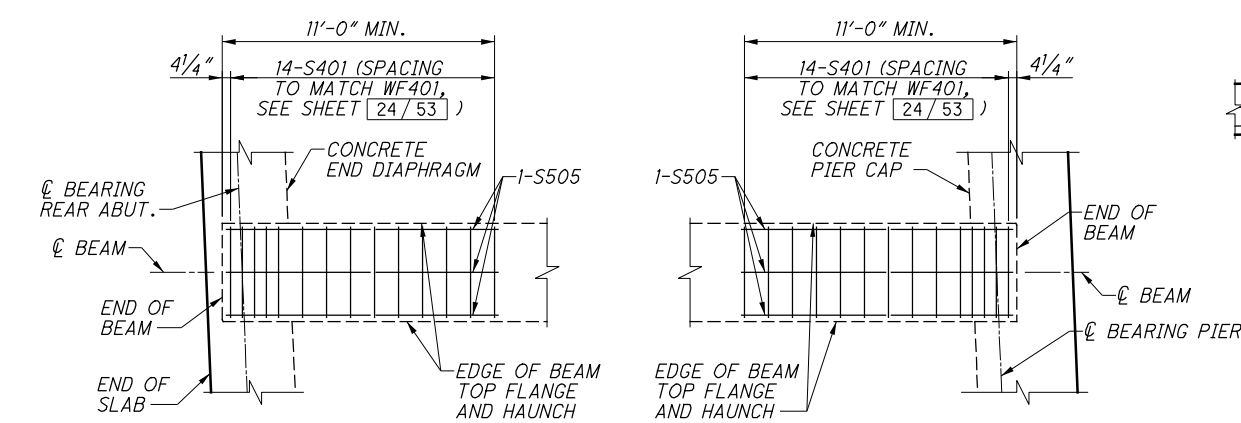
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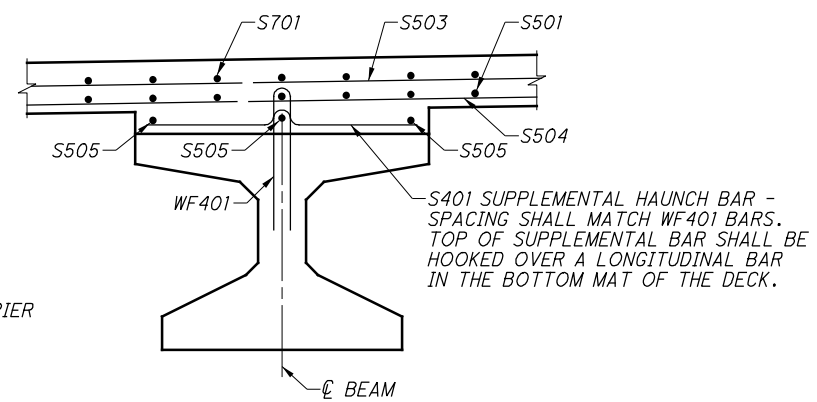
SECTION M-M - LEFT STRUCTURE



DETAIL Y



SUPPLEMENTAL HAUNCH REINFORCEMENT PLAN
(TYP. ALL BEAMS)
(SPAN 1 SHOWN, SPAN 2 MIRRORED)

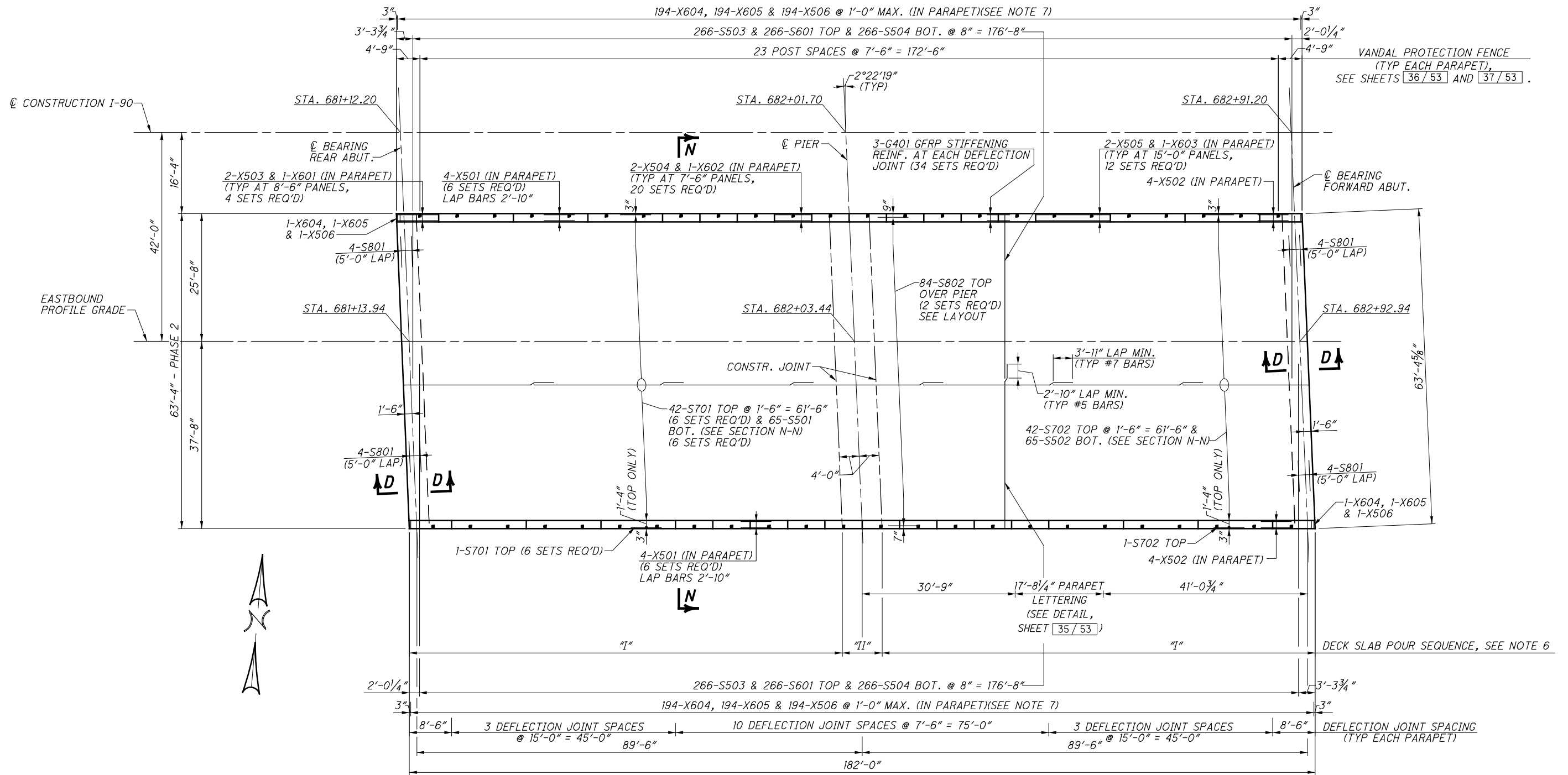


SUPPLEMENTAL HAUNCH REINFORCEMENT DETAIL
(TYPICAL ALL BEAMS)

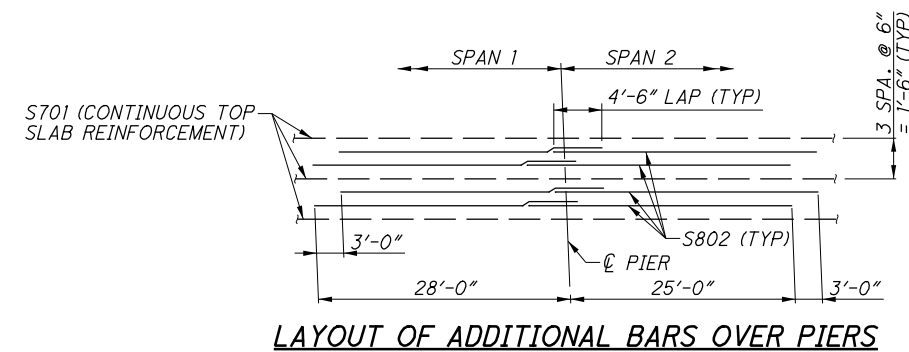
NOTES:
 1. FOR GENERAL NOTES, SEE SHEETS 3/53 AND 4/53.
 2. FOR REINFORCING STEEL LIST, SEE SHEET 52/53.

DESIGN AGENCY LIB Inc. • 2510 Newmark Drive Mansburg, OH 43142 (614) 259-5000 fax • (614) 259-5100	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001
	DRAWN MSD	CHECKED SUM	DESIGNED AMM
SLAB SECTION AND DETAILS BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57			
LOR-90-1320 PID No. 83449			
32/53			
226 301			

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PLAN - RIGHT STRUCTURE



LAYOUT OF ADDITIONAL BARS OVER PIERS

LEGEND

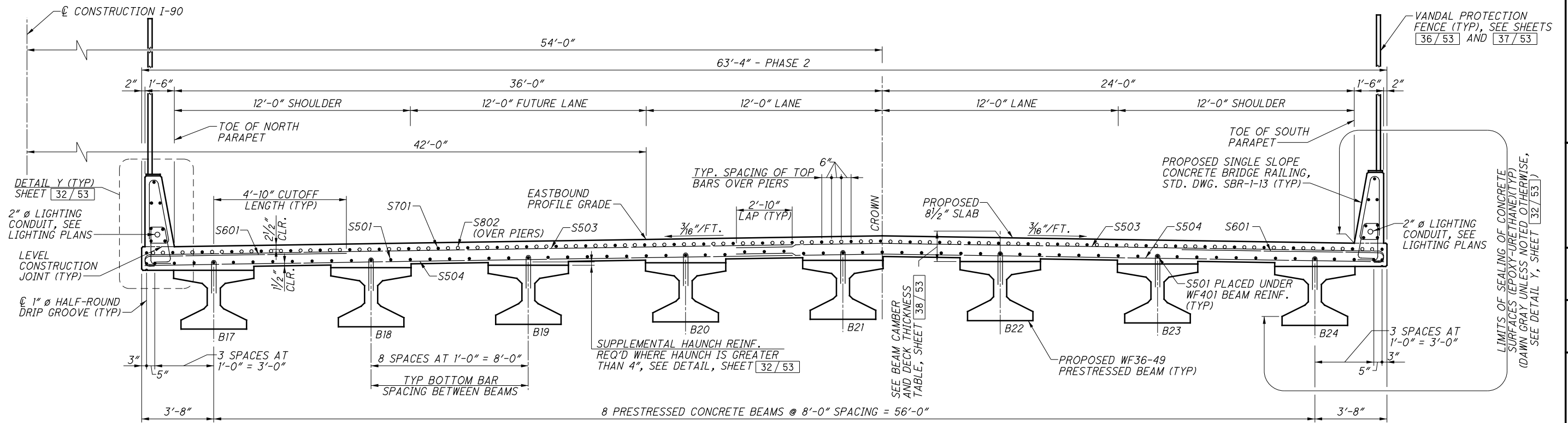
GFRP = GLASS FIBER REINFORCED POLYMER

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS [3/53] AND [4/53].
2. FOR REINFORCING STEEL LIST, SEE SHEET [53/53].
3. FOR FINAL DECK SURFACE, TOP OF HAUNCH AND SCREED STATIONS AND ELEVATIONS, SEE SHEETS [41/53] AND [42/53].
4. FOR SECTION N-N, SEE SHEET [34/53].
5. FOR SECTION D-D, SEE SHEET [29/53].
6. SLAB AND DIAPHRAGM CONCRETE "II" SHALL NOT BE PLACED UNTIL THE CONCRETE IN THE ADJACENT SPANS "I" HAS BEEN PLACED. THE DIAPHRAGM AND DECK CONCRETE "II" MAY BE PLACED UPON COMPLETION OF CONCRETE PLACEMENT IN ADJACENT SPANS "I". ALTERNATE PLACEMENT PROCEDURES MAY BE USED WITH APPROVAL. SEE STD. DWG. PSID-1-13, SHEET 10 OF 10.
7. SEE STD. DWG. SBR-1-13, SECTION A-A, SHEET 5 OF 5 FOR SPACING AROUND DEFLECTION JOINTS.

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001
DRAWN MSD	CHECKED AMM	DESIGNED AMM	REVISED SUM	SUM
SLAB PLAN - RIGHT STRUCTURE BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57				
LOR-90-1320 PID No. 83449				
33/53				
227 301				

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\structures\LOR090_1320C\sheets\090_1320Cdp004.dgn 6/24/2016 7:51:53 AM sdilling

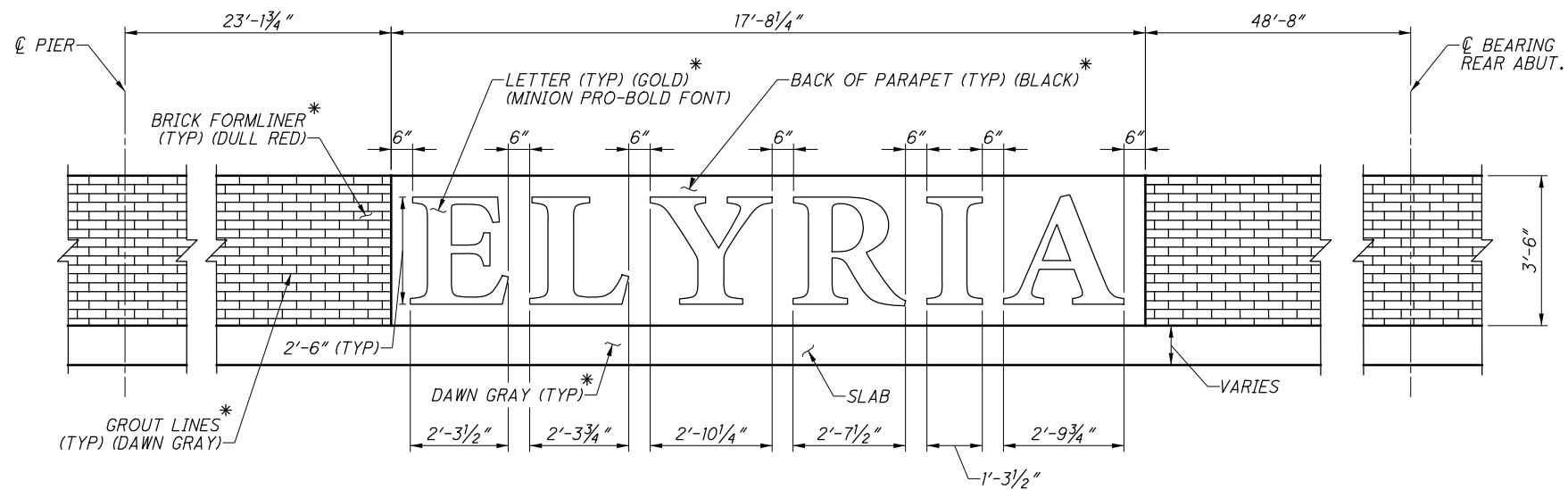


SECTION N-N - RIGHT STRUCTURE

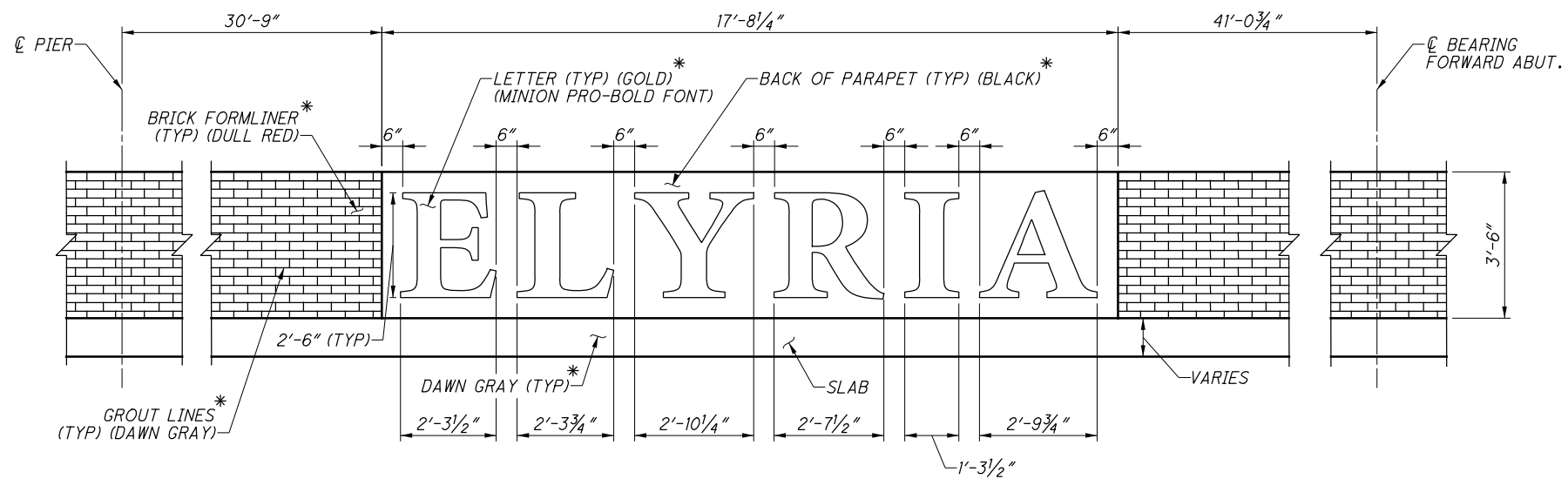
LOR-90-1320 PID No. 83449	BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	SLAB SECTION - RIGHT STRUCTURE	DESIGNED AMM	DRAWN MSD	REVIEWED DWS	DATE 4-16	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com
34/53	228 301		CHECKED SUM	REVISED	STRUCTURE FILE NUMBER L-4710000 R-4710001		

- NOTES:**
1. FOR GENERAL NOTES, SEE SHEETS [3 / 53] AND [4 / 53] .
 2. FOR REINFORCING STEEL LIST, SEE SHEET [53 / 53] .

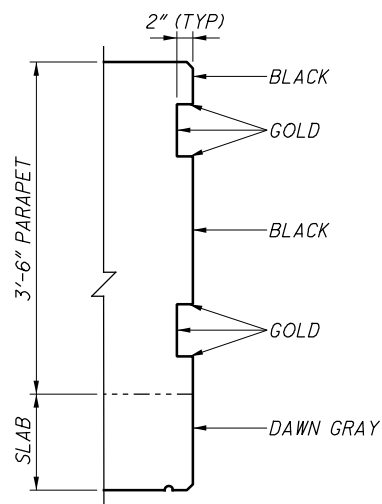
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PARAPET LETTERING ELEVATION - LEFT STRUCTURE
(LETTERING EXTERIOR FACE OF NORTH PARAPET ONLY)(BRICK FORMLINER TYPICAL EXTERIOR FACE OF NORTH AND SOUTH PARAPET)



PARAPET LETTERING ELEVATION - RIGHT STRUCTURE
(LETTERING EXTERIOR FACE OF SOUTH PARAPET ONLY)(BRICK FORMLINER TYPICAL EXTERIOR FACE OF NORTH AND SOUTH PARAPET)



DEPRESSED LETTER DETAIL

LEGEND

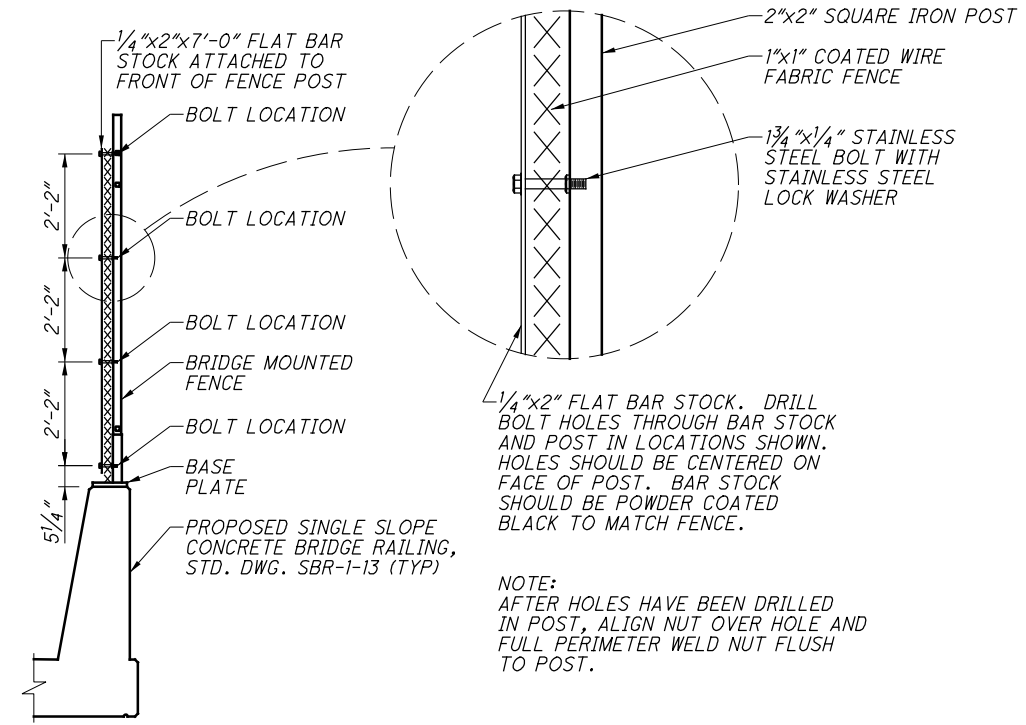
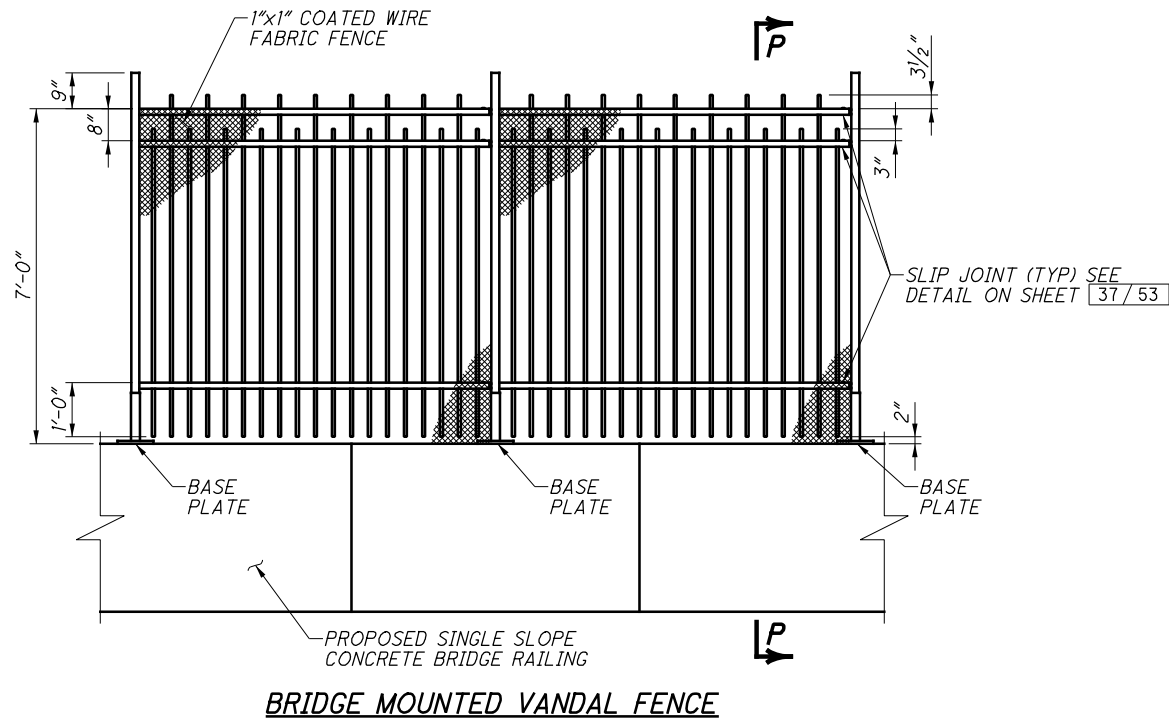
* = EPOXY-URETHANE SEALER (TYP)

NOTES:

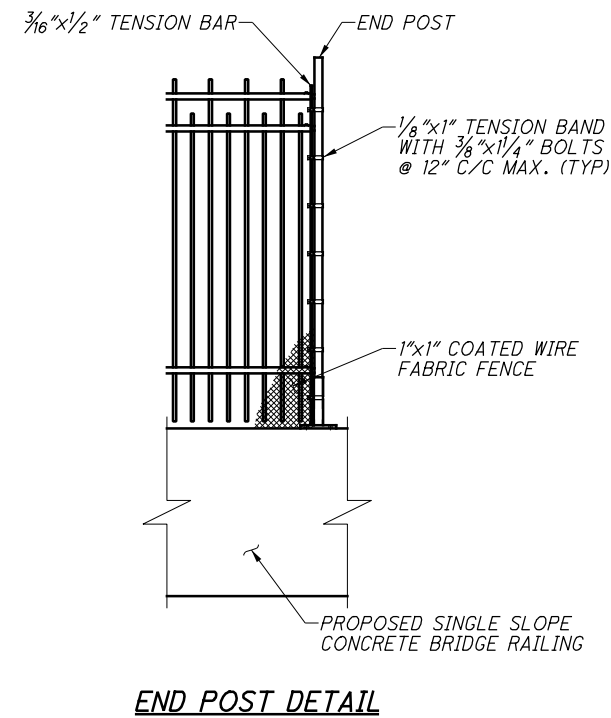
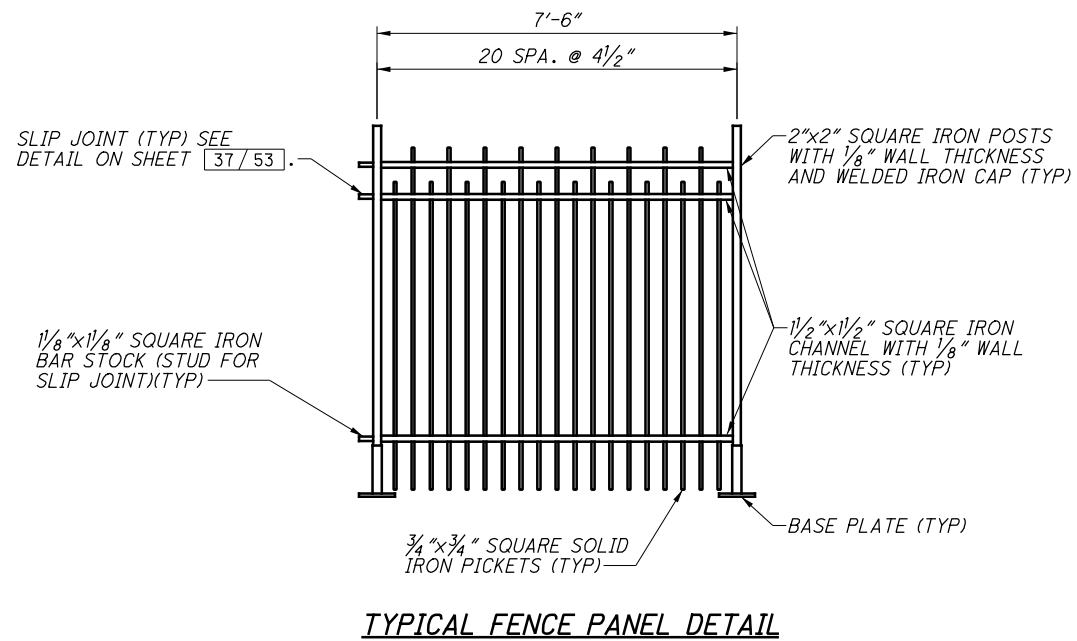
1. THE COST OF LETTERING TO BE INCLUDED WITH ITEM SPECIAL 530, FORMLINER FOR PAYMENT. LOCATION OF DEFLECTION JOINTS IN PARAPET SHALL BE ADJUSTED TO AVOID INTERSECTING DEPRESSED LETTERING. THE CONTRACTOR SHALL PROVIDE A MOCKUP OF THE PROPOSED LETTERING TO THE CITY OF ELYRIA FOR APPROVAL OF AESTHETICS PRIOR TO PARAPET CONSTRUCTION.
2. FOR ADDITIONAL FORMLINER AND SEALING INFORMATION, SEE GENERAL NOTES SHEET 4/53.
3. FOR PARAPET DEFLECTION JOINTS AND REINFORCING, SEE SHEETS 31/53 THRU 34/53.

DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. • (837) 259-5100 fax • LIBinc.com	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710000 R-4710001
DESIGNED AMT	CHECKED AMM	DRAWN MAS	REVISED
PARAPET AESTHETIC AND LETTERING DETAILS			
BRIDGE NO. LOR-90-1320L/R			
I-90 OVER SR 57			
LOR-90-1320			
PID No. 83449			
35/53			
229			
301			

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SECTION P-P

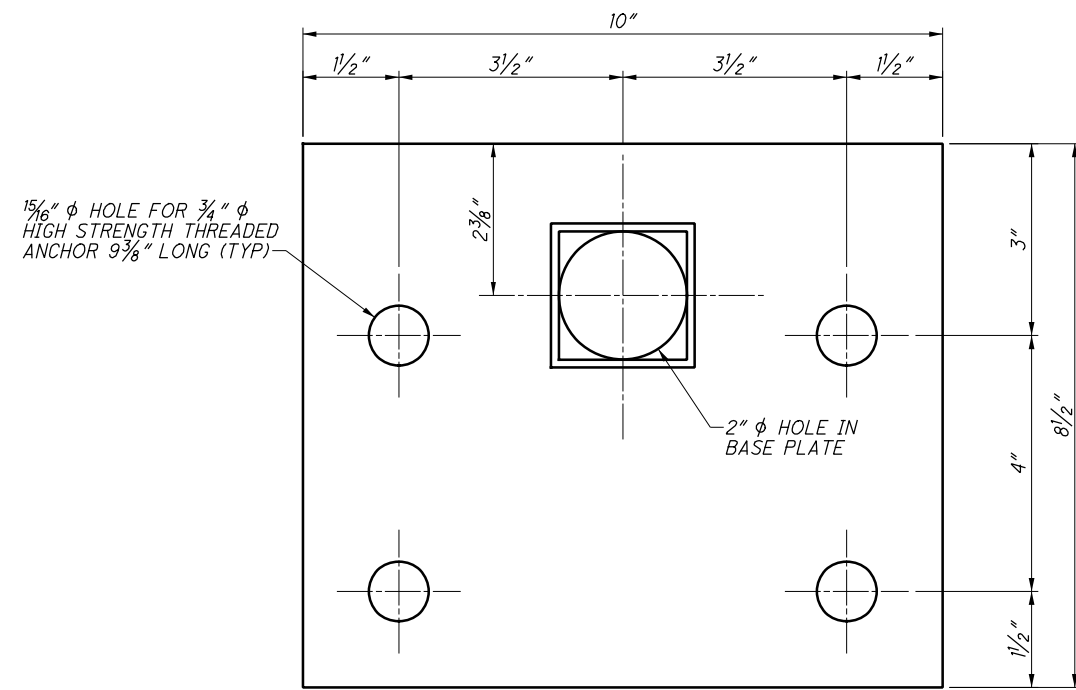


NOTES:

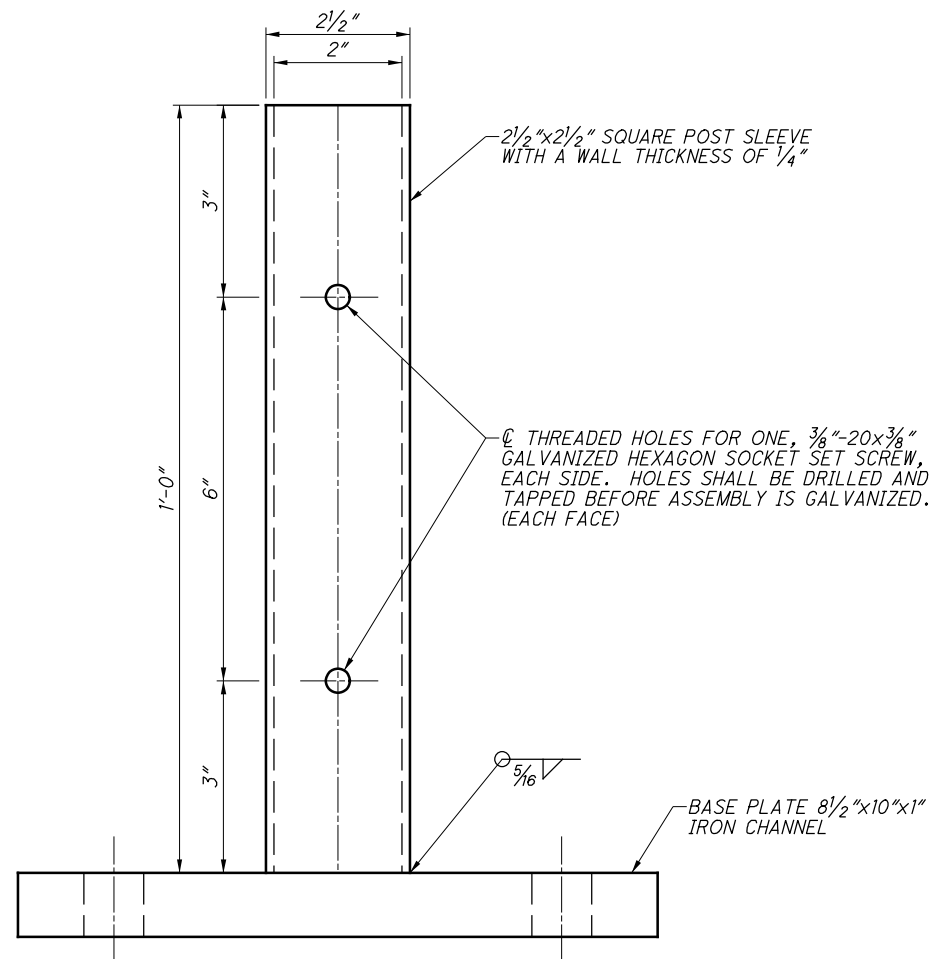
- FOR ADDITIONAL INFORMATION, SEE GENERAL NOTES, SHEET [4/53].
- FOR POST SPACING AND PANEL LOCATIONS, SEE SHEETS [31/53] AND [33/53].

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com	DATE 4-16	REVIEWED DWS	DRAWN MNM	DESIGNED SJM
		STRUCTURE FILE NUMBER L-4710000 R-4710001	CHECKED AMM		
AESTHETIC FENCE DETAILS BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57					
LOR-90-1320 PID No. 83449					
36/53					
230 301					

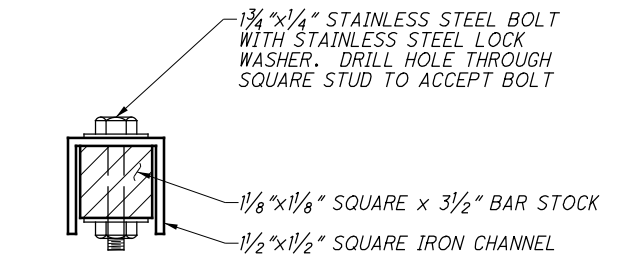
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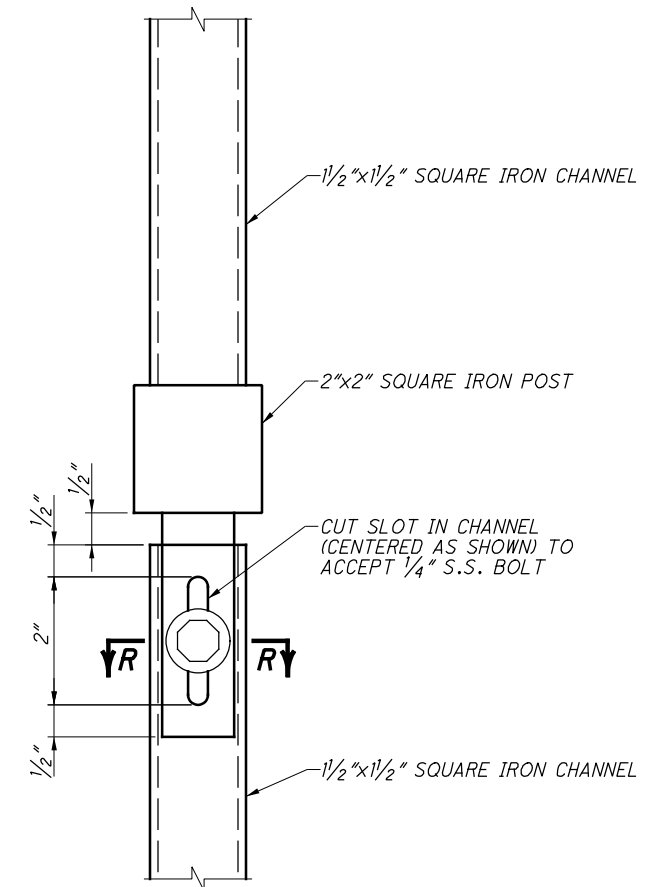
BASE PLATE PLAN



BASE PLATE ELEVATION



SECTION R-R



SLIP JOINT DETAIL

NOTES:

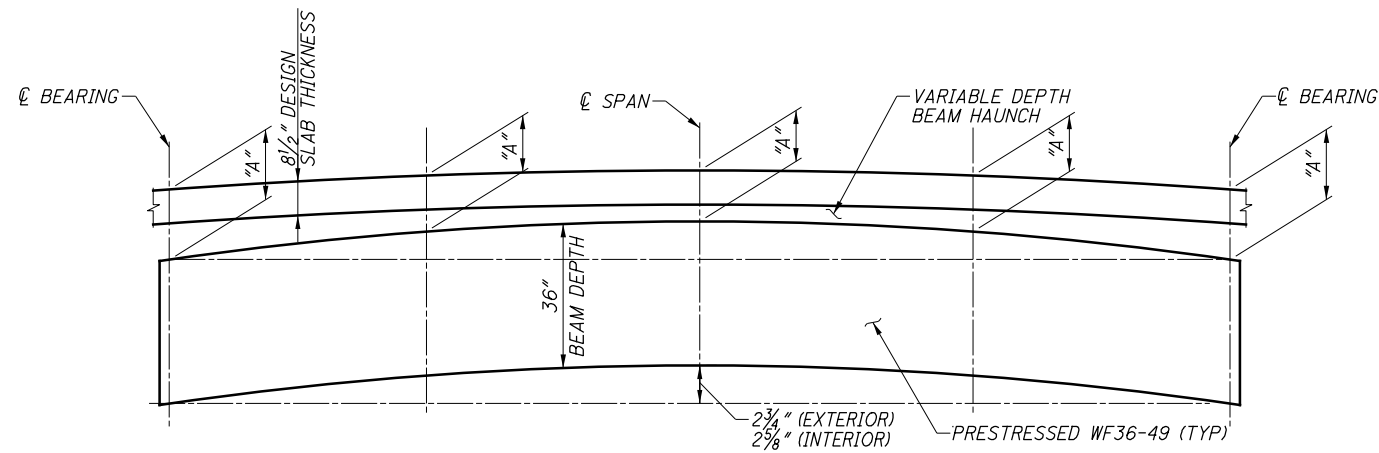
1. FOR ADDITIONAL INFORMATION, SEE GENERAL NOTES, SHEET 4/53.

DESIGNED		SJM		CHECKED		AMM	
DRAWN		MNM		REVISED			
REVIEWED		DWS		STRUCTURE FILE NUMBER		L-4710000 R-4710001	
DATE		4-16		DESIGN AGENCY		LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. • (837) 259-5100 fax • LIBinc.com	
AESTHETIC FENCE DETAILS							
BRIDGE NO. LOR-90-1320L/R							
I-90 OVER SR 57							
LOR-90-1320				PID No. 83449			
37/53				231 301			

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DIMENSION "A" - LEFT AND RIGHT STRUCTURES

	LOCATION	☉ BEAM 1/ ☉ BEAM 17	☉ BEAM 2/ ☉ BEAM 18	☉ BEAM 3/ ☉ BEAM 19	☉ BEAM 4/ ☉ BEAM 20	☉ BEAM 5/ ☉ BEAM 21	☉ BEAM 6/ ☉ BEAM 22	☉ BEAM 7/ ☉ BEAM 23	☉ BEAM 8/ ☉ BEAM 24
		SPAN 1							
	☉ BRG. REAR ABUT.	13 1/4"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/4"
	1/4	11 3/8"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 3/8"
	1/2	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"
	3/4	11 3/8"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 3/8"
	☉ BRG. PIER 1	13 1/4"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/4"
SPAN 2									
	☉ BRG. PIER 1	13 1/4"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/4"
	1/4	11 3/8"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 3/8"
	1/2	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"
	3/4	11 3/8"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 1/4"	11 3/8"
	☉ BRG. FWD. ABUT.	13 1/4"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/4"



BEAM CAMBER DIAGRAM
(ONE SPAN SHOWN FOR CLARITY)

DEFLECTION AND CAMBER NOTES - LEFT AND RIGHT STRUCTURES

ESTIMATED CAMBER AT DAY 0 (D₀) IS 3 INCHES.
 ESTIMATED CAMBER AT DAY 30 (D₃₀) IS 4 3/4 INCHES.
 DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE DECK, DIAPHRAGMS,
 BARRIERS, UTILITIES, ETC.) IS 2 INCHES (EXTERIOR) AND 2 1/8 INCHES (INTERIOR).
 THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D₃₀ WITH A SACRIFICIAL
 HAUNCH THICKNESS OF 2 INCHES.

NOTES:

- FOR GENERAL NOTES, SEE SHEETS [3/53] AND [4/53].
- FOR PRESTRESSED CONCRETE I-BEAM DETAILS, SEE SHEET [24/53].
- FOR PIER DIAPHRAGM DETAILS, SEE SHEET [30/53].
- FOR END DIAPHRAGM DETAILS, SEE SHEETS [25/53] THRU [29/53].
- FOR INTERMEDIATE DIAPHRAGM DETAILS SEE STD. DWG. PSID-1-13.
- FOR BEAM END DETAILS, SEE SHEET [30/53].
- DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK CONCRETE IS MEASURED ACCORDING TO C&M 511. IN ADDITION TO THE DESIGN SLAB THICKNESS, THE QUANTITY INCLUDES A VARIABLE HAUNCH THICKNESS THAT PROVIDES AN ALLOWANCE FOR: VERTICAL GRADE ADJUSTMENT, BEAM CAMBER AND ADDITIONAL SACRIFICIAL HAUNCH THICKNESS.

DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Miamisburg, OH 45342 (937) 259-5000 ext. • (937) 259-5100 fax • LIBinc.com
DATE 4-16
REVIEWED DWS
STRUCTURE FILE NUMBER L-4710000 R-4710001
DRAWN MSD
CHECKED AMT
DESIGNED SJM
CHECKED AMT
CAMBER DIAGRAM AND DECK THICKNESS
BRIDGE NO. LOR-90-1320L/R
I-90 OVER SR 57
LOR-90-1320
PID No. 83449
38/53
232 301

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TOP OF HAUNCH STATIONS AND ELEVATIONS - LEFT STRUCTURE

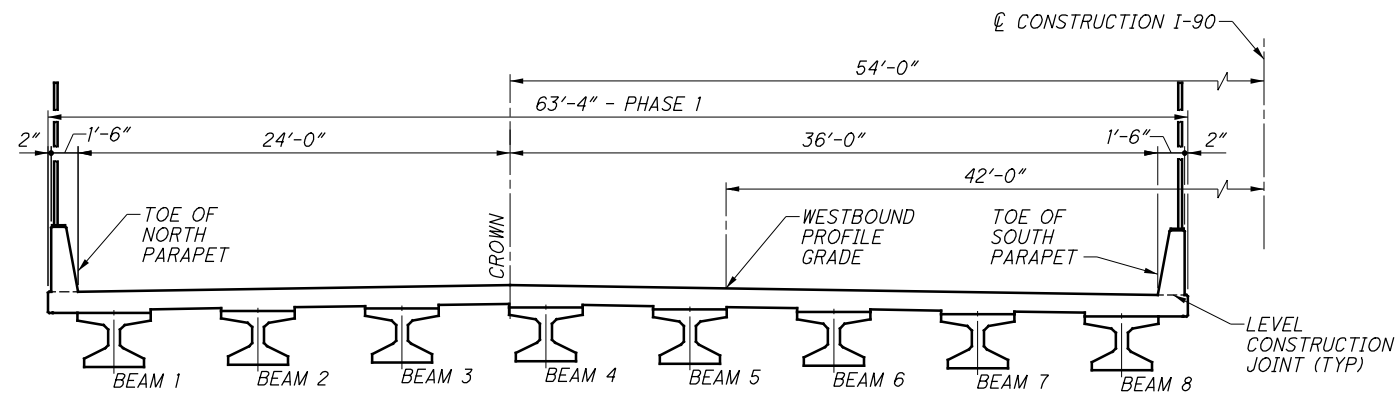
	LOCATION	☉ BEAM 1	☉ BEAM 2	☉ BEAM 3	☉ BEAM 4	☉ BEAM 5	☉ BEAM 6	☉ BEAM 7	☉ BEAM 8
SPAN 1	☉ BRG. REAR ABUT.	681+09.06 712.41	681+09.39 712.53	681+09.72 712.66	681+10.05 712.72	681+10.38 712.60	681+10.71 712.47	681+11.04 712.35	681+11.37 712.23
	1/4	681+31.16 712.59	681+31.49 712.72	681+31.82 712.85	681+32.15 712.91	681+32.49 712.79	681+32.82 712.66	681+33.15 712.54	681+33.48 712.41
	1/2	681+53.26 712.70	681+53.60 712.83	681+53.93 712.96	681+54.26 713.02	681+54.59 712.89	681+54.92 712.77	681+55.25 712.65	681+55.58 712.52
	3/4	681+75.37 712.69	681+75.70 712.82	681+76.03 712.95	681+76.36 713.01	681+76.69 712.89	681+77.02 712.76	681+77.36 712.64	681+77.69 712.51
	☉ BRG. PIER 1	681+97.47 712.61	681+97.80 712.74	681+98.13 712.86	681+98.47 712.92	681+98.80 712.80	681+99.13 712.67	681+99.46 712.55	681+99.79 712.43
	LOCATION	☉ BEAM 9	☉ BEAM 10	☉ BEAM 11	☉ BEAM 12	☉ BEAM 13	☉ BEAM 14	☉ BEAM 15	☉ BEAM 16
SPAN 2	☉ BRG. PIER 1	681+99.64 712.61	681+99.97 712.74	682+00.30 712.86	682+00.63 712.93	682+00.96 712.80	682+01.30 712.68	682+01.63 712.55	682+01.96 712.43
	1/4	682+21.74 712.73	682+22.07 712.86	682+22.41 712.99	682+22.74 713.05	682+23.07 712.93	682+23.40 712.80	682+23.73 712.68	682+24.06 712.55
	1/2	682+43.85 712.78	682+44.18 712.91	682+44.51 713.03	682+44.84 713.10	682+45.17 712.97	682+45.50 712.85	682+45.84 712.72	682+46.17 712.59
	3/4	682+65.95 712.71	682+66.28 712.84	682+66.61 712.96	682+66.95 713.02	682+67.28 712.90	682+67.61 712.77	682+67.94 712.65	682+68.27 712.52
	☉ BRG. FWD. ABUT.	682+88.06 712.56	682+88.39 712.69	682+88.72 712.81	682+89.05 712.87	682+89.38 712.75	682+89.71 712.62	682+90.04 712.50	682+90.37 712.37

NOTE: TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTION CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

SCREED STATIONS AND ELEVATIONS - LEFT STRUCTURE

	LOCATION	TOE OF NORTH PARAPET	CROWN	WESTBOUND PROFILE GRADE LINE	TOE OF SOUTH PARAPET
SPAN 1	☉ BRG. REAR ABUT.	681+08.97 713.08	681+09.97 713.46	681+10.46 713.27	681+11.46 712.90
	1/4	681+31.08 713.27	681+32.07 713.65	681+32.57 713.46	681+33.56 713.09
	1/2	681+53.18 713.38	681+54.17 713.76	681+54.67 713.57	681+55.67 713.19
	3/4	681+75.29 713.37	681+76.28 713.75	681+76.78 713.56	681+77.77 713.19
	☉ BRG. PIER 1	681+97.39 713.29	681+98.38 713.66	681+98.88 713.48	681+99.87 713.10
	LOCATION	TOE OF NORTH PARAPET	CROWN	WESTBOUND PROFILE GRADE LINE	TOE OF SOUTH PARAPET
SPAN 2	☉ BRG. PIER 1	681+99.56 713.29	682+00.55 713.67	682+01.05 713.48	682+02.04 713.10
	1/4	682+21.66 713.41	682+22.65 713.79	682+23.15 713.60	682+24.15 713.22
	1/2	682+43.76 713.46	682+44.76 713.84	682+45.26 713.65	682+46.25 713.27
	3/4	682+65.87 713.39	682+66.86 713.76	682+67.36 713.58	682+68.35 713.20
	☉ BRG. FWD. ABUT.	682+87.97 713.24	682+88.97 713.61	682+89.46 713.42	682+90.46 713.05

NOTE: SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.



TRANSVERSE SECTION - LEFT STRUCTURE
(SPAN 1 SHOWN, SPAN 2 SIMILAR)

NOTE:
1. FOR PLAN VIEW AND FINAL DECK SURFACE ELEVATIONS, SEE SHEET [40/53].

TOP OF HAUNCH AND SCREED ELEVATIONS - LEFT STRUCTURE
 BRIDGE NO. LOR-90-1320L/R
 I-90 OVER SR 57
 LOR-90-1320
 PID No. 83449
 39/53
 233
 301

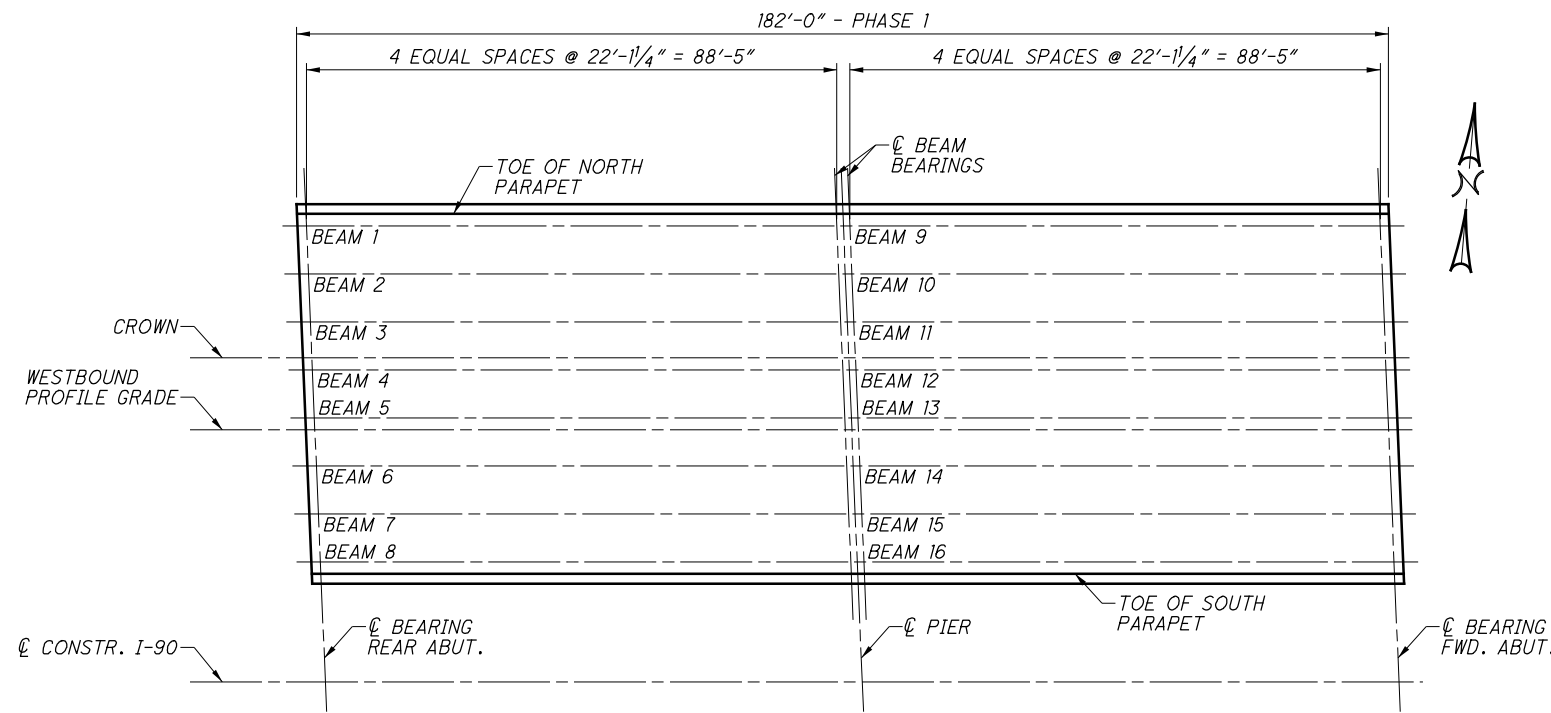
DESIGNED	SJM	CHECKED	JBR
DRAWN	MSD	REVISED	
REVIEWED	DWS	STRUCTURE FILE NUMBER	L-4710000 R-4710001
DATE	4-16	DESIGN AGENCY	LIB Inc. • 2500 Newmark Drive Miamisburg, OH 45342 (937) 259-5000 fax • (937) 259-5100 fax • LIBinc.com

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FINAL DECK SURFACE STATIONS AND ELEVATIONS - LEFT STRUCTURE

	LOCATION	TOE OF NORTH PARAPET	☉ BEAM 1	☉ BEAM 2	☉ BEAM 3	CROWN	☉ BEAM 4	☉ BEAM 5	WESTBOUND PROFILE GRADE LINE	☉ BEAM 6	☉ BEAM 7	☉ BEAM 8	TOE OF SOUTH PARAPET
SPAN 1	☉ BRG. REAR ABUT.	681+08.97 713.08	681+09.06 713.11	681+09.39 713.24	681+09.72 713.37	681+09.97 713.46	681+10.05 713.43	681+10.38 713.31	681+10.46 713.27	681+10.71 713.18	681+11.04 713.06	681+11.37 712.93	681+11.46 712.90
	1/4	681+31.08 713.16	681+31.16 713.19	681+31.49 713.31	681+31.82 713.44	681+32.07 713.53	681+32.15 713.50	681+32.49 713.38	681+32.57 713.35	681+32.82 713.26	681+33.15 713.13	681+33.48 713.01	681+33.56 712.98
	1/2	681+53.18 713.22	681+53.26 713.25	681+53.60 713.37	681+53.93 713.50	681+54.17 713.59	681+54.26 713.56	681+54.59 713.44	681+54.67 713.41	681+54.92 713.31	681+55.25 713.19	681+55.58 713.07	681+55.67 713.03
	3/4	681+75.29 713.26	681+75.37 713.29	681+75.70 713.42	681+76.03 713.54	681+76.28 713.64	681+76.36 713.61	681+76.69 713.48	681+76.78 713.45	681+77.02 713.36	681+77.36 713.23	681+77.69 713.11	681+77.77 713.08
	☉ BRG. PIER 1	681+97.39 713.29	681+97.47 713.32	681+97.80 713.44	681+98.13 713.57	681+98.38 713.66	681+98.47 713.63	681+98.80 713.51	681+98.88 713.48	681+99.13 713.38	681+99.46 713.26	681+99.79 713.13	681+99.87 713.10
	LOCATION	TOE OF NORTH PARAPET	☉ BEAM 9	☉ BEAM 10	☉ BEAM 11	CROWN	☉ BEAM 12	☉ BEAM 13	WESTBOUND PROFILE GRADE LINE	☉ BEAM 14	☉ BEAM 15	☉ BEAM 16	TOE OF SOUTH PARAPET
SPAN 2	☉ BRG. PIER 1	681+99.56 713.29	681+99.64 713.32	681+99.97 713.45	682+00.30 713.57	682+00.55 713.67	682+00.63 713.63	682+00.96 713.51	682+01.05 713.48	682+01.30 713.38	682+01.63 713.26	682+01.96 713.14	682+02.04 713.10
	1/4	682+21.66 713.30	682+21.74 713.33	682+22.07 713.46	682+22.41 713.58	682+22.65 713.68	682+22.74 713.64	682+23.07 713.52	682+23.15 713.49	682+23.40 713.39	682+23.73 713.27	682+24.06 713.14	682+24.15 713.11
	1/2	682+43.76 713.30	682+43.85 713.33	682+44.18 713.45	682+44.51 713.58	682+44.76 713.67	682+44.84 713.64	682+45.17 713.51	682+45.26 713.48	682+45.50 713.39	682+45.84 713.26	682+46.17 713.14	682+46.25 713.11
	3/4	682+65.87 713.28	682+65.95 713.31	682+66.28 713.43	682+66.61 713.56	682+66.86 713.65	682+66.95 713.62	682+67.28 713.49	682+67.36 713.46	682+67.61 713.37	682+67.94 713.24	682+68.27 713.12	682+68.35 713.09
	☉ BRG. FWD. ABUT.	682+87.97 713.24	682+88.06 713.27	682+88.39 713.40	682+88.72 713.52	682+88.97 713.61	682+89.05 713.58	682+89.38 713.46	682+89.46 713.42	682+89.71 713.33	682+90.04 713.20	682+90.37 713.08	682+90.46 713.05

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.



PLAN VIEW - LEFT STRUCTURE

NOTE:

1. FOR TRANSVERSE SECTION, TOP OF HAUNCH AND SCREED ELEVATIONS, SEE SHEET 39/53.

<p>LOR-90-1320 PID No. 83449</p>	<p>FINAL DECK SURFACE STATIONS AND ELEVATIONS - LEFT STRUCTURE</p> <p>BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57</p>	<p>DESIGNED: SJM CHECKED: AMM</p>	<p>DRAWN: MSD REVISED:</p>	<p>REVIEWED: DWS</p>	<p>DATE: 4-16</p>	<p>DESIGN AGENCY: LIB Inc. • 2500 Newmark Drive Miamisburg, OH 45342 (937) 259-5000 ext. (937) 259-5100 fax • LIBinc.com</p>
<p>40/53</p> <p style="font-size: 24px; border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">234 301</p>						

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TOP OF HAUNCH STATIONS AND ELEVATIONS - RIGHT STRUCTURE

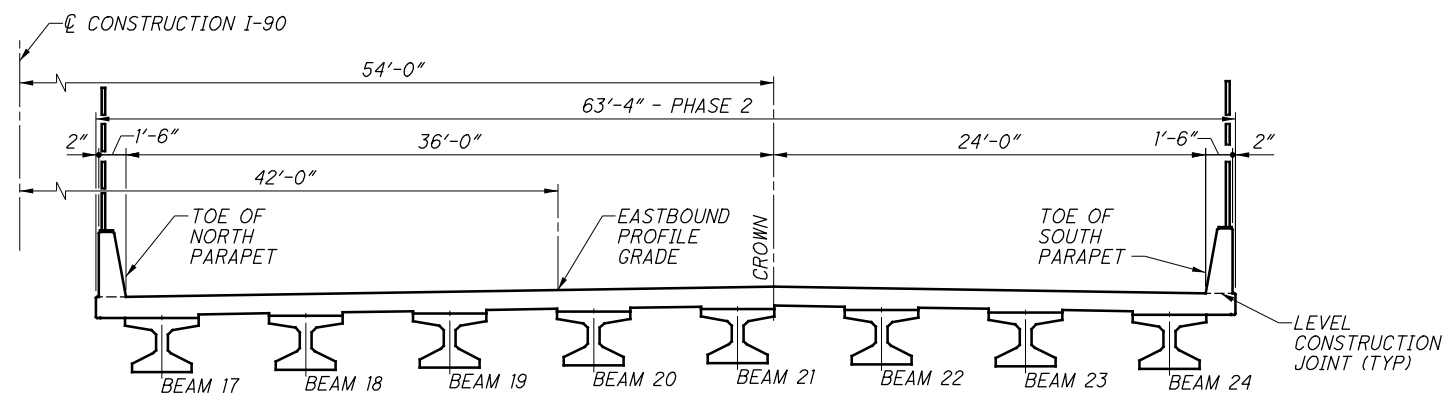
	LOCATION	☉ BEAM 17	☉ BEAM 18	☉ BEAM 19	☉ BEAM 20	☉ BEAM 21	☉ BEAM 22	☉ BEAM 23	☉ BEAM 24
SPAN 1	☉ BRG. REAR ABUT.	681+13.03 712.46	681+13.36 712.59	681+13.69 712.72	681+14.03 712.84	681+14.36 712.97	681+14.69 712.91	681+15.02 712.79	681+15.35 712.66
	1/4	681+35.14 712.67	681+35.47 712.80	681+35.80 712.92	681+36.13 713.05	681+36.46 713.18	681+36.79 713.12	681+37.12 712.99	681+37.46 712.86
	1/2	681+57.24 712.79	681+57.57 712.92	681+57.90 713.05	681+58.23 713.18	681+58.57 713.30	681+58.90 713.24	681+59.23 713.12	681+59.56 712.99
	3/4	681+79.34 712.80	681+79.68 712.93	681+80.01 713.06	681+80.34 713.18	681+80.67 713.31	681+81.00 713.25	681+81.33 713.12	681+81.66 712.99
	☉ BRG. PIER 1	682+01.45 712.73	682+01.78 712.86	682+02.11 712.98	682+02.44 713.11	682+02.77 713.23	682+03.11 713.17	682+03.44 713.05	682+03.77 712.92
	LOCATION	☉ BEAM 25	☉ BEAM 26	☉ BEAM 27	☉ BEAM 28	☉ BEAM 29	☉ BEAM 30	☉ BEAM 31	☉ BEAM 32
SPAN 2	☉ BRG. PIER 1	682+03.62 712.73	682+03.95 712.86	682+04.28 712.99	682+04.61 713.11	682+04.94 713.24	682+05.27 713.17	682+05.60 713.05	682+05.93 712.92
	1/4	682+25.72 712.87	682+26.05 713.00	682+26.38 713.12	682+26.71 713.25	682+27.04 713.37	682+27.38 713.31	682+27.71 713.18	682+28.04 713.06
	1/2	682+47.82 712.92	682+48.15 713.05	682+48.49 713.18	682+48.82 713.30	682+49.15 713.42	682+49.48 713.36	682+49.81 713.24	682+50.14 713.11
	3/4	682+69.93 712.86	682+70.26 712.99	682+70.59 713.11	682+70.92 713.24	682+71.25 713.36	682+71.58 713.30	682+71.92 713.17	682+72.25 713.04
	☉ BRG. FWD. ABUT.	682+92.03 712.72	682+92.36 712.84	682+92.69 712.97	682+93.03 713.09	682+93.36 713.22	682+93.69 713.15	682+94.02 713.03	682+94.35 712.90

NOTE: TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTION CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

SCREED STATIONS AND ELEVATIONS - RIGHT STRUCTURE

	LOCATION	TOE OF NORTH PARAPET	EASTBOUND PROFILE GRADE LINE	CROWN	TOE OF SOUTH PARAPET
SPAN 1	☉ BRG. REAR ABUT.	681+12.95 713.14	681+13.94 713.52	681+14.44 713.71	681+15.43 713.34
	1/4	681+35.05 713.34	681+36.05 713.73	681+36.54 713.92	681+37.54 713.54
	1/2	681+57.16 713.47	681+58.15 713.85	681+58.65 714.04	681+59.64 713.66
	3/4	681+79.26 713.48	681+80.26 713.86	681+80.75 714.05	681+81.75 713.67
	☉ BRG. PIER 1	682+01.37 713.41	682+02.36 713.78	682+02.86 713.97	682+03.85 713.60
	LOCATION	TOE OF NORTH PARAPET	EASTBOUND PROFILE GRADE LINE	CROWN	TOE OF SOUTH PARAPET
SPAN 2	☉ BRG. PIER 1	682+03.53 713.41	682+04.53 713.79	682+05.02 713.98	682+06.02 713.60
	1/4	682+25.64 713.54	682+26.63 713.92	682+27.13 714.11	682+28.12 713.73
	1/2	682+47.74 713.60	682+48.73 713.98	682+49.23 714.16	682+50.23 713.78
	3/4	682+69.84 713.54	682+70.84 713.91	682+71.34 714.10	682+72.33 713.72
	☉ BRG. FWD. ABUT.	682+91.95 713.39	682+92.94 713.77	682+93.44 713.95	682+94.43 713.58

NOTE: SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.



TRANSVERSE SECTION - RIGHT STRUCTURE
(SPAN 1 SHOWN, SPAN 2 SIMILAR)

NOTE:

1. FOR PLAN VIEW AND FINAL DECK SURFACE ELEVATIONS, SEE SHEET [42/53].

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 Mansfield, OH 44842
 (937) 259-5000 ext. 1837 259-5100 fax • LIBinc.com

DATE
 4-16

REVIEWED
 DWS

DRAWN
 MSD

DESIGNED
 SJM

STRUCTURE FILE NUMBER
 L-4710000
 R-4710001

TOP OF HAUNCH AND SCREED ELEVATIONS - RIGHT STRUCTURE
 BRIDGE NO. LOR-90-1320L/R
 I-90 OVER SR 57

LOR-90-1320
PID No. 83449

41/53

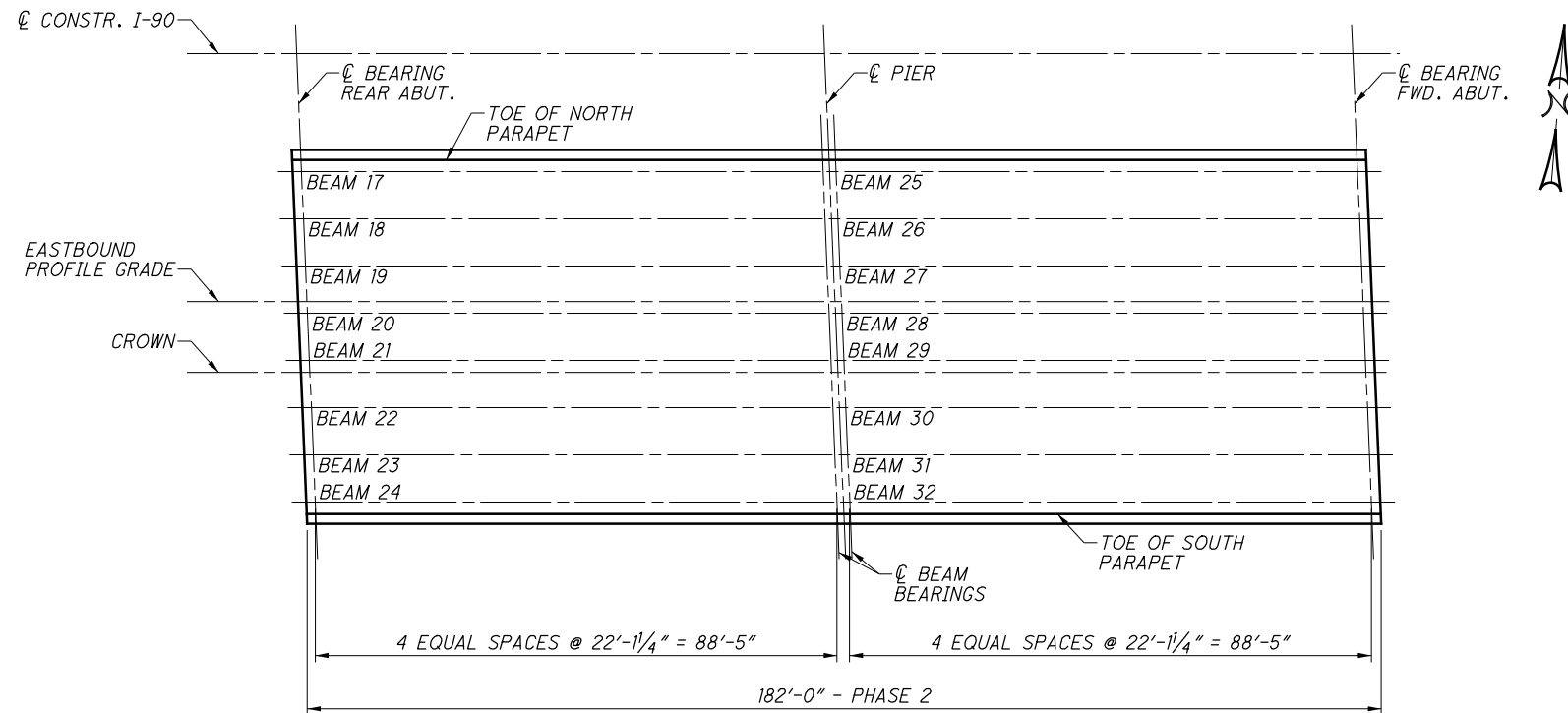
235
 301

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FINAL DECK SURFACE STATIONS AND ELEVATIONS - RIGHT STRUCTURE

	LOCATION	TOE OF NORTH PARAPET	☉ BEAM 17	☉ BEAM 18	☉ BEAM 19	EASTBOUND PROFILE GRADE LINE	☉ BEAM 20	☉ BEAM 21	CROWN	☉ BEAM 22	☉ BEAM 23	☉ BEAM 24	TOE OF SOUTH PARAPET
SPAN 1	☉ BRG. REAR ABUT.	681+12.95 713.14	681+13.03 713.17	681+13.36 713.30	681+13.69 713.43	681+13.94 713.52	681+14.03 713.55	681+14.36 713.68	681+14.44 713.71	681+14.69 713.62	681+15.02 713.49	681+15.35 713.37	681+15.43 713.34
	1/4	681+35.05 713.23	681+35.14 713.27	681+35.47 713.39	681+35.80 713.52	681+36.05 713.61	681+36.13 713.64	681+36.46 713.77	681+36.54 713.80	681+36.79 713.71	681+37.12 713.59	681+37.46 713.46	681+37.54 713.43
	1/2	681+57.16 713.31	681+57.24 713.34	681+57.57 713.47	681+57.90 713.59	681+58.15 713.69	681+58.23 713.72	681+58.57 713.84	681+58.65 713.88	681+58.90 713.78	681+59.23 713.66	681+59.56 713.54	681+59.64 713.50
	3/4	681+79.26 713.37	681+79.34 713.40	681+79.68 713.52	681+80.01 713.65	681+80.26 713.74	681+80.34 713.78	681+80.67 713.90	681+80.75 713.93	681+81.00 713.84	681+81.33 713.72	681+81.66 713.59	681+81.75 713.56
	☉ BRG. PIER 1	682+01.37 713.41	682+01.45 713.44	682+01.78 713.57	682+02.11 713.69	682+02.36 713.78	682+02.44 713.82	682+02.77 713.94	682+02.86 713.97	682+03.11 713.88	682+03.44 713.75	682+03.77 713.63	682+03.85 713.60
	LOCATION	TOE OF NORTH PARAPET	☉ BEAM 25	☉ BEAM 26	☉ BEAM 27	EASTBOUND PROFILE GRADE LINE	☉ BEAM 28	☉ BEAM 29	CROWN	☉ BEAM 30	☉ BEAM 31	☉ BEAM 32	TOE OF SOUTH PARAPET
SPAN 2	☉ BRG. PIER 1	682+03.53 713.41	682+03.62 713.44	682+03.95 713.57	682+04.28 713.69	682+04.53 713.79	682+04.61 713.82	682+04.94 713.94	682+05.02 713.98	682+05.27 713.88	682+05.60 713.76	682+05.93 713.63	682+06.02 713.60
	1/4	682+25.64 713.43	682+25.72 713.46	682+26.05 713.59	682+26.38 713.71	682+26.63 713.81	682+26.71 713.84	682+27.04 713.97	682+27.13 714.00	682+27.38 713.90	682+27.71 713.78	682+28.04 713.65	682+28.12 713.62
	1/2	682+47.74 713.44	682+47.82 713.47	682+48.15 713.59	682+48.49 713.72	682+48.73 713.81	682+48.82 713.84	682+49.15 713.97	682+49.23 714.00	682+49.48 713.91	682+49.81 713.78	682+50.14 713.66	682+50.23 713.62
	3/4	682+69.84 713.42	682+69.93 713.46	682+70.26 713.58	682+70.59 713.71	682+70.84 713.80	682+70.92 713.83	682+71.25 713.95	682+71.34 713.99	682+71.58 713.89	682+71.92 713.77	682+72.25 713.64	682+72.33 713.61
	☉ BRG. FWD. ABUT.	682+91.95 713.39	682+92.03 713.43	682+92.36 713.55	682+92.69 713.67	682+92.94 713.77	682+93.03 713.80	682+93.36 713.92	682+93.44 713.95	682+93.69 713.86	682+94.02 713.73	682+94.35 713.61	682+94.43 713.58


FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.



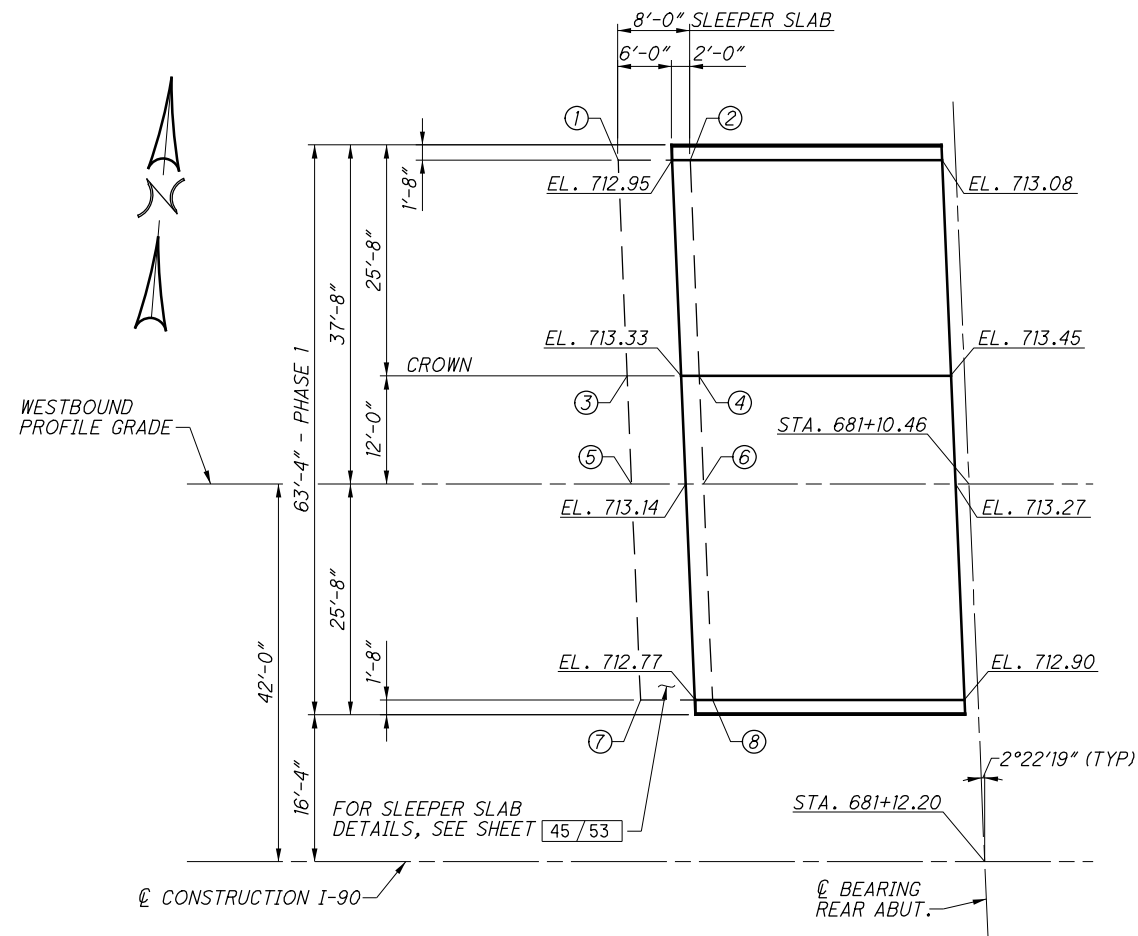
PLAN VIEW - RIGHT STRUCTURE

NOTE:

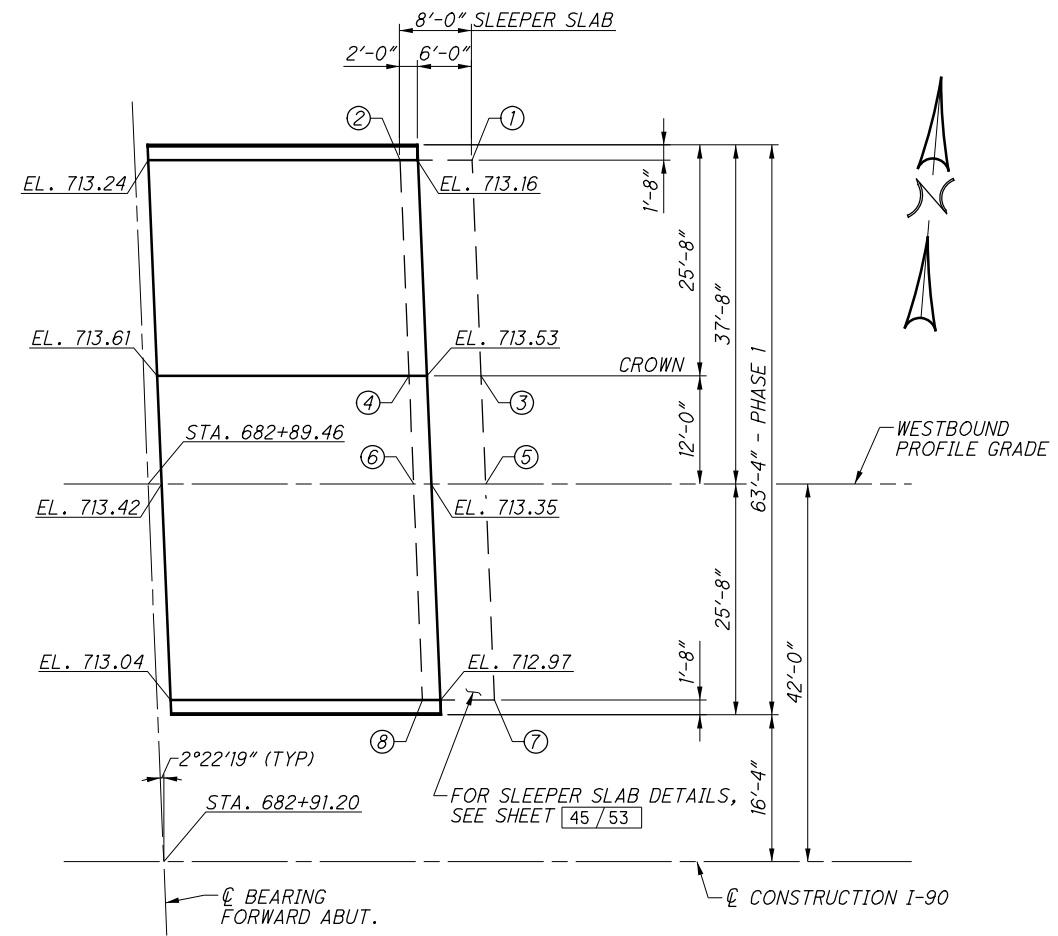
1. FOR TRANSVERSE SECTION, TOP OF HAUNCH AND SCREED ELEVATIONS, SEE SHEET 41/53.

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (937) 259-5000 tel • (937) 259-5100 fax • LIBinc.com
DATE 4-16	REVIEWED DWS
DRAWN MSD	STRUCTURE FILE NUMBER L-4710000 R-4710001
DESIGNED SJM	CHECKED JBR
FINAL DECK SURFACE STATIONS AND ELEVATIONS - RIGHT STRUCTURE BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	
LOR-90-1320 PID No. 83449	
42 / 53	
236 301	

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REAR APPROACH SLAB PLAN - LEFT STRUCTURE



FORWARD APPROACH SLAB PLAN - LEFT STRUCTURE

SLEEPER SLAB SURFACE ELEVATIONS		
	REAR	FORWARD
①	711.77	712.00
②	711.54	711.75
③	712.15	712.37
④	711.92	712.12
⑤	711.97	712.18
⑥	711.74	711.93
⑦	711.60	711.80
⑧	711.36	711.56

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS [3 / 53] AND [4 / 53].
2. FOR PARAPET TRANSITIONS, SEE SHEETS [46 / 53] AND [47 / 53].
3. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND SBR-1-13.

APPROACH SLAB PLANS - LEFT STRUCTURE

BRIDGE NO. LOR-90-1320L/R
I-90 OVER SR 57

DESIGNED	PRG	CHECKED	SUM
DRAWN	MSD	REVISED	
REVIEWED	DWS	STRUCTURE FILE NUMBER	L-4710000 R-4710001
DATE	4-16		

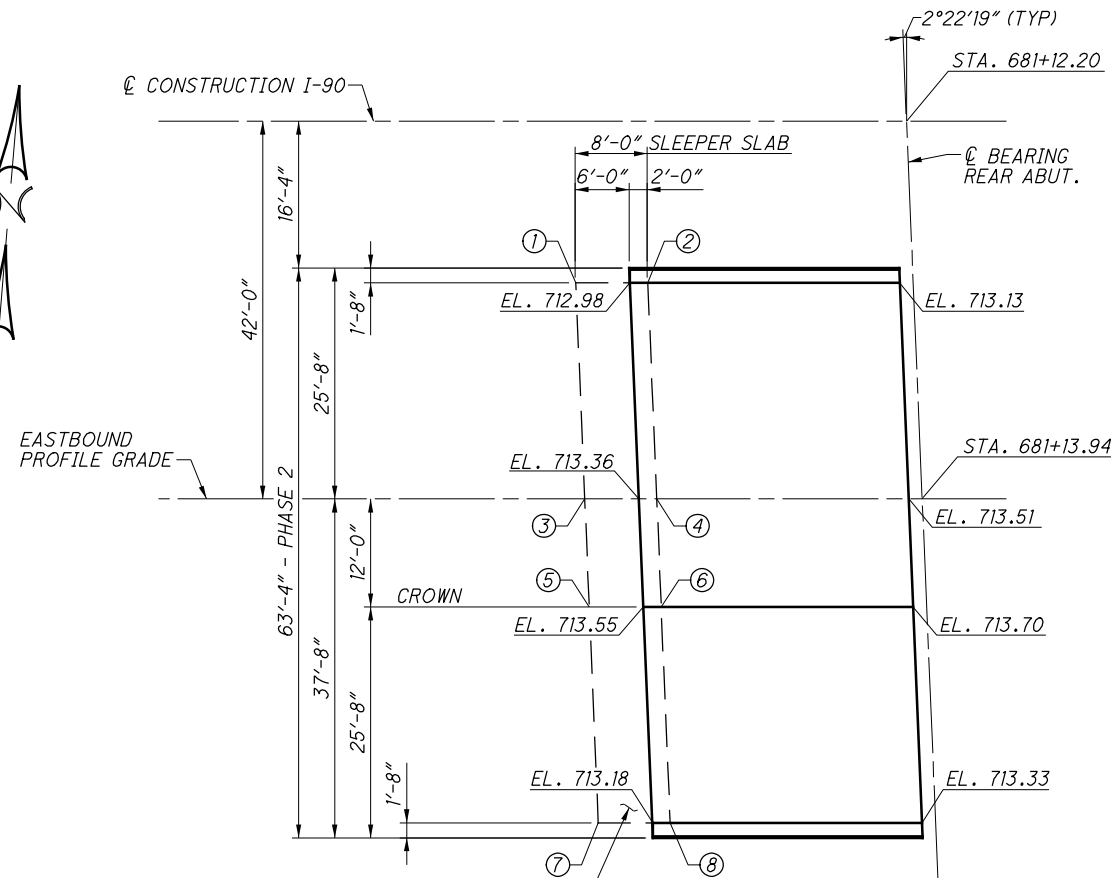
DESIGN AGENCY
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Mansburg, OH 45342
(837) 259-5000 ext. • (837) 259-5100 fax • LIBinc.com

LOR-90-1320
PID No. 83449

43 / 53

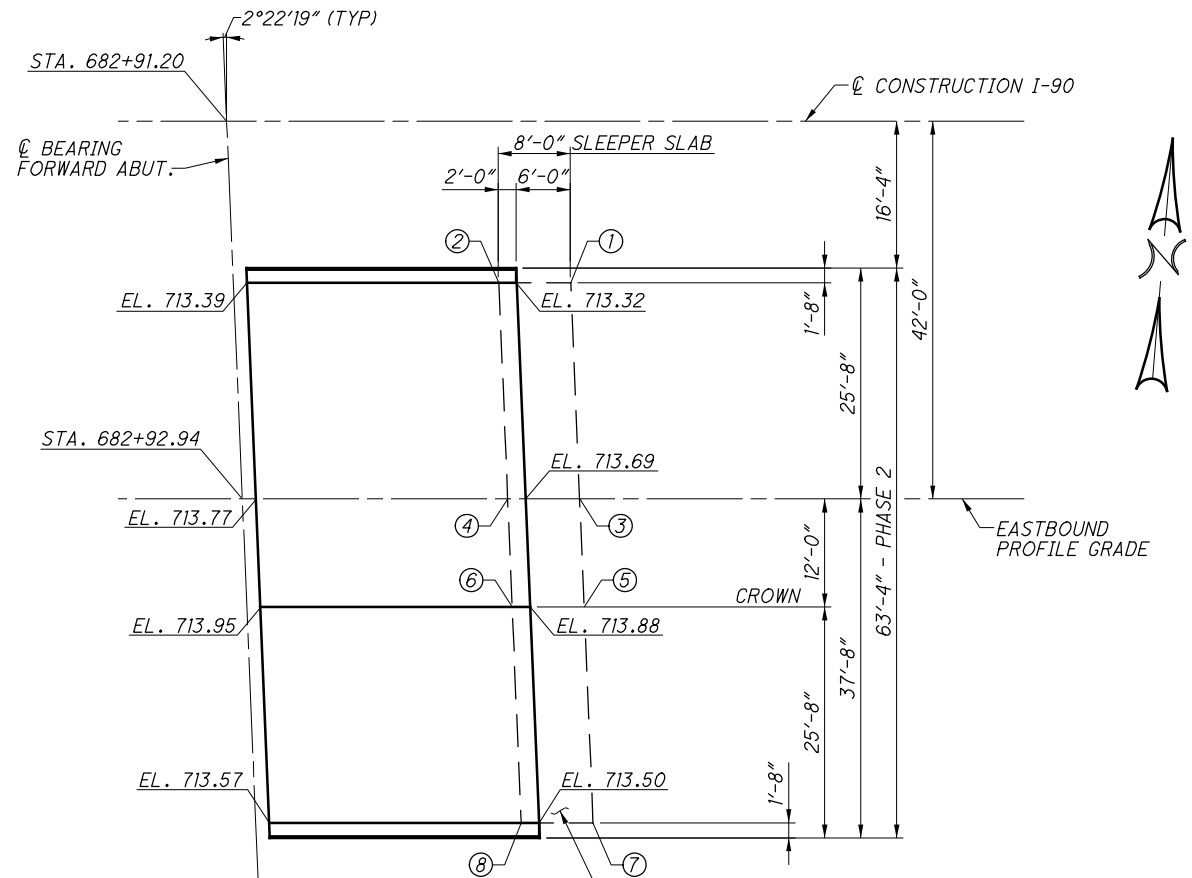
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301

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FOR SLEEPER SLAB DETAILS, SEE SHEET 45/53

REAR APPROACH SLAB PLAN - RIGHT STRUCTURE



FOR SLEEPER SLAB DETAILS, SEE SHEET 45/53

FORWARD APPROACH SLAB PLAN - RIGHT STRUCTURE

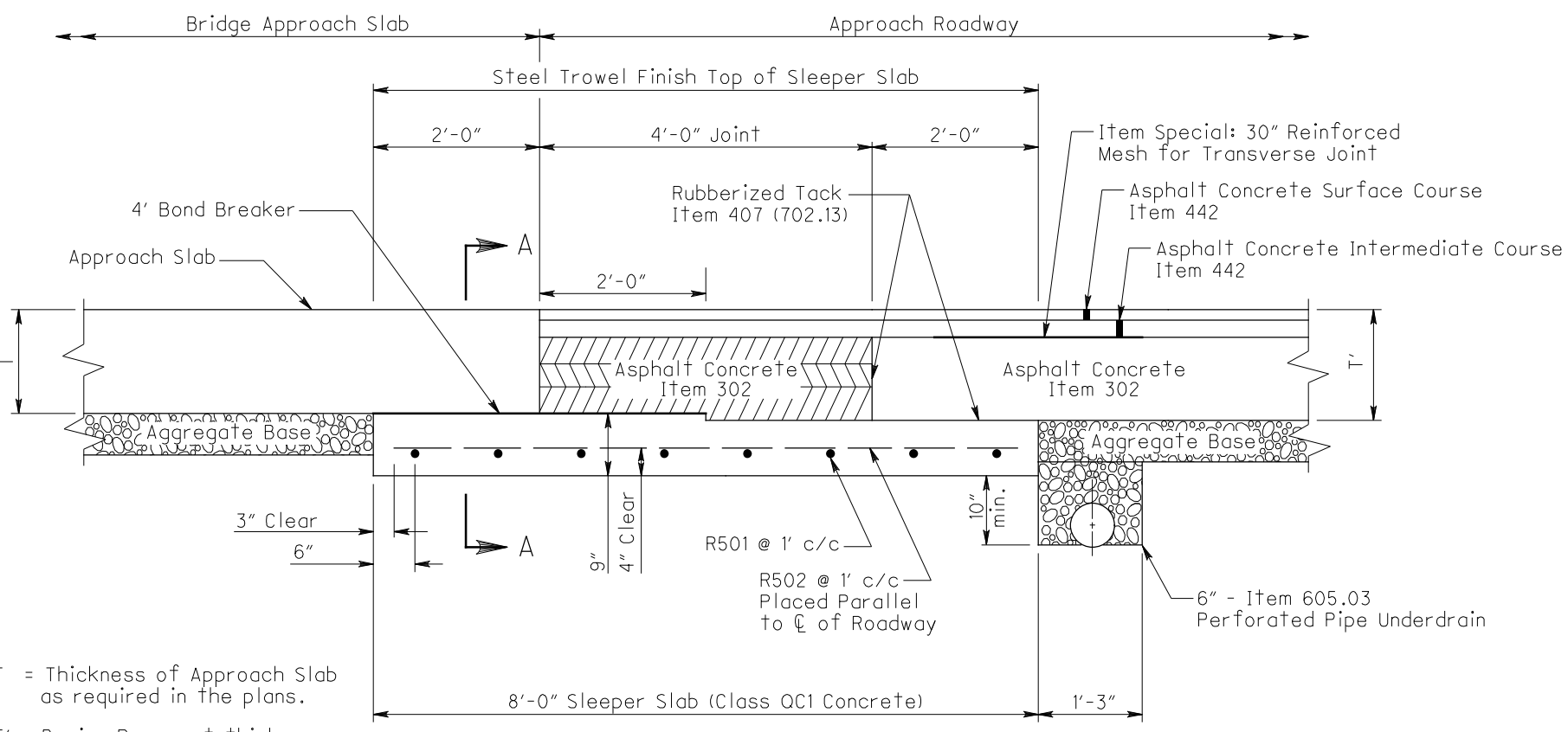
SLEEPER SLAB SURFACE ELEVATIONS		
	REAR	FORWARD
①	711.80	712.16
②	711.57	711.91
③	712.18	712.53
④	711.95	712.28
⑤	712.37	712.72
⑥	712.15	712.47
⑦	712.00	712.34
⑧	711.78	712.09

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3/53 AND 4/53.
2. FOR PARAPET TRANSITIONS, SEE SHEETS 46/53 AND 47/53.
3. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND SBR-1-13.

LOR-90-1320 PID No. 83449	APPROACH SLAB PLANS - RIGHT STRUCTURE BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	DESIGNED PRG CHECKED SUM	DRAWN MSD REVISED	REVIEWED DWS	DATE 4-16
		STRUCTURE FILE NUMBER L-4710000 R-4710001		DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5100 fax • LIBinc.com	

DESIGN FILE: \$\$\$\$.DGN FILES SPECIFICATIONS \$\$\$\$.DGN
 WORKING FOLDER: D:\Projects\2016\1320C\090_1320C_relief_joint.dgn
 DATE: 6/24/2016 7:52:10 AM
 DRAWN BY: salling



T = Thickness of Approach Slab as required in the plans.
 T' = Design Pavement thickness as shown in the plans.

SLEEPER SLAB AND PAVEMENT DETAIL

REINFORCING STEEL LIST			
Mark	Shape	Number	Length
R501	1	8	S-0.5 ft.
R502	Straight	$N = \frac{S}{1 \text{ ft.}}$	$\frac{8}{\cos \theta} \text{ ft.}$

S = Length of sleeper slab in feet

1 R501 bars may be furnished in segments with a 1'-7" bar lap between segments.

NOTES

APPROACH SLAB PRESSURE RELIEF JOINTS: Relief joints are to be provided regardless of abutment design at all bridge approaches where approach pavement is rigid, or composite consisting of a rigid base.

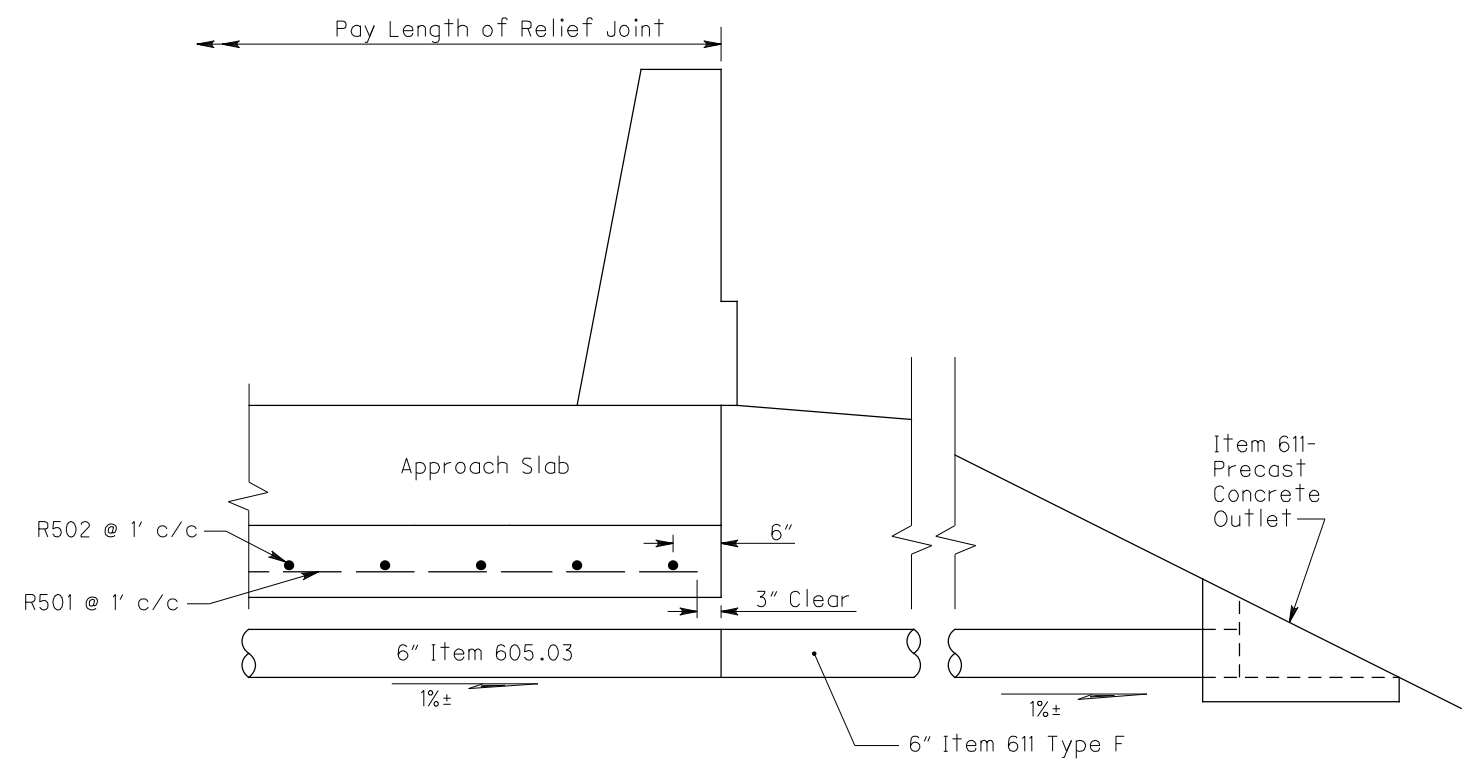
ASPHALT CONCRETE: Item 442 - Asphalt Concrete Intermediate Course, Type 2 PG 64-22 shall be compacted in equal lifts not exceeding 3" with compaction equipment as approved by the Engineer.

ITEM 305 PAVEMENT: shall be constructed in accordance with SCD BP-2.1 & BP-2.2. Longitudinal joints shall be placed in the same location and in the same alignment as the longitudinal joints in the existing pavements.

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.

UNDERDRAIN: A perforated underdrain shall be placed as shown. It shall extend from edge to edge of the sleeper slab and be outletted through the embankment as shown in Section A-A. For additional information, see SCD DM-1.2.

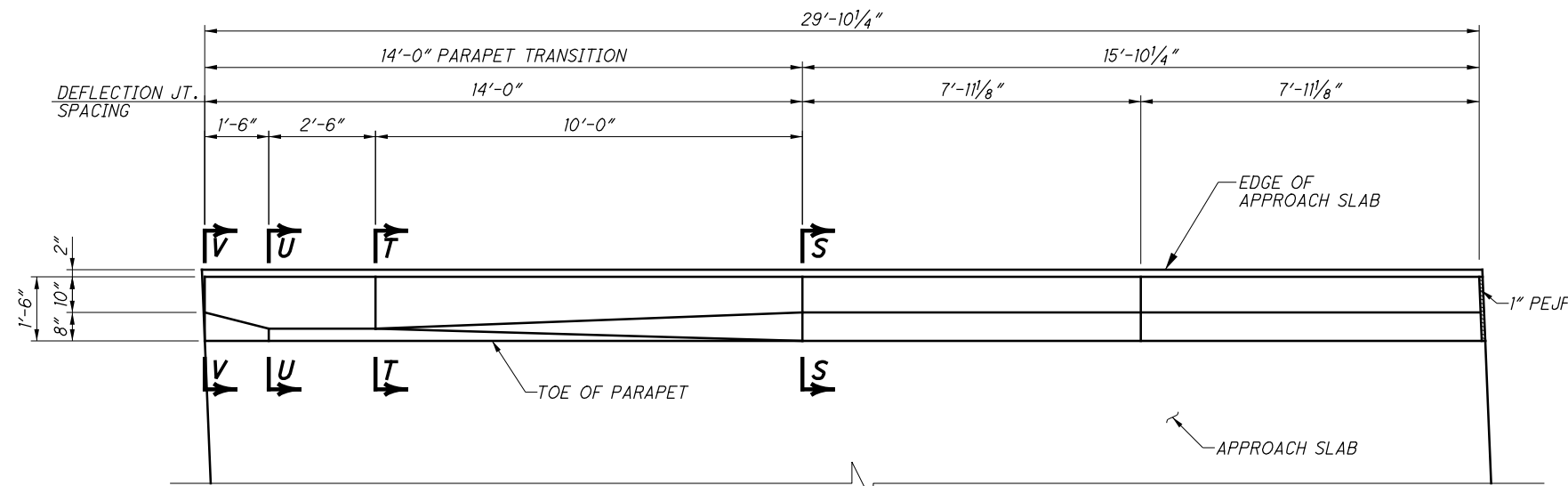
PAYMENT: Measurement of the pressure relief joint for payment purposes shall be along the centerline of the Sleeper Slab between the backs of curb. Payment shall be per Linear Foot of Item Special - Pressure Relief Joint, Type A and shall include saw cutting & removal of existing pavement, Items 302 & 442, 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 Linear Foot of Item 605 - 6" Shallow Pipe Underdrains, Item 707.32 Type CP, or 707.41. The outlet pipe shall be paid for per Linear Foot of Item 611 - 6" Conduit, Type F with Item 611 - Precast Reinforced Concrete Outlet at each.



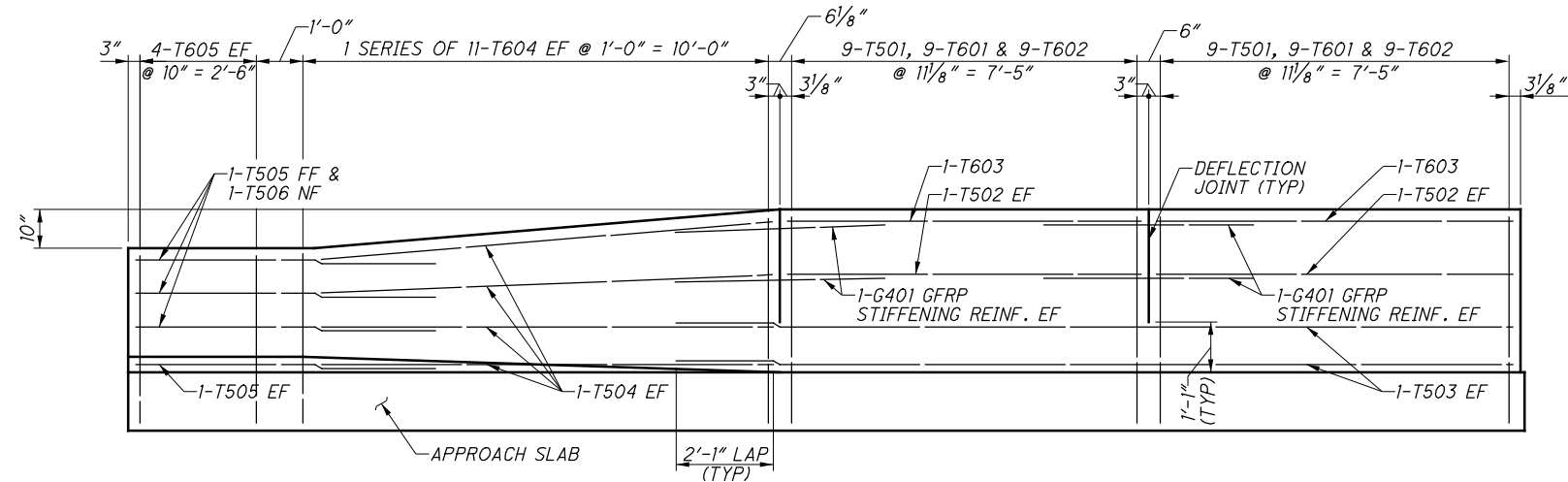
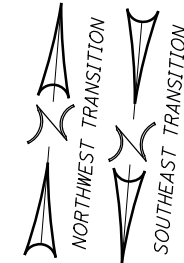
SECTION A-A
 (Showing an Underdrain Outlet through the embankment)

DESIGN AGENCY DISTRICT 3 OFFICE OF PRODUCTION	DATE	REVIEWED	STRUCTURE FILE NUMBER
		DRAWN	REVISED
PRESSURE RELIEF JOINT TYPE A	DESIGNED	CHECKED	
	LOR-90-1320 PID No. 83449		
	45/53	239 301	

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PLAN - LEFT AND RIGHT STRUCTURES
(NORTHWEST SHOWN
SOUTHEAST SIMILAR)
(WINGWALL NOT SHOWN FOR CLARITY)



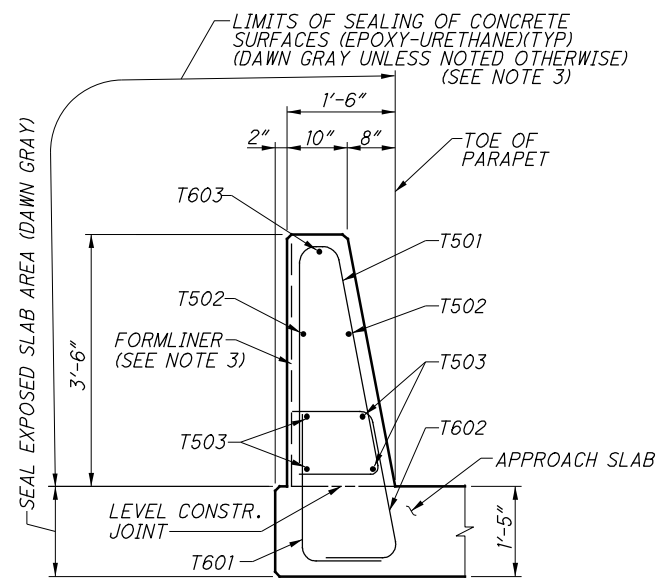
ELEVATION - LEFT AND RIGHT STRUCTURES
(NORTHWEST SHOWN
SOUTHEAST SIMILAR)

LEGEND

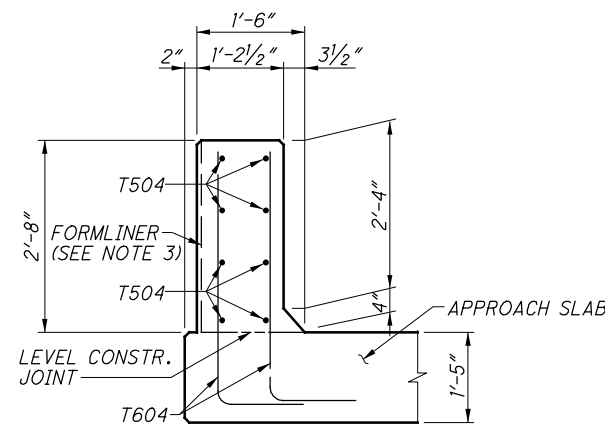
- EF = EACH FACE
- NF = NEAR FACE
- FF = FAR FACE
- GFRP = GLASS FIBER REINFORCED POLYMER
- PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

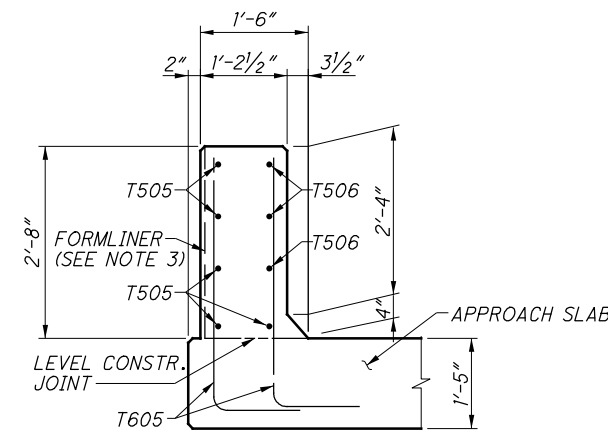
1. FOR GENERAL NOTES, SEE SHEETS 3/53 AND 4/53.
2. FOR REINFORCING STEEL LIST, SEE SHEETS 52/53 AND 53/53.
3. THE OUTSIDE FACE OF THE PARAPET SHALL HAVE BRICK FORMLINER WITH BRICKS SEALED DULL RED WITH DAWN GRAY GROUT LINES.
4. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND SBR-1-13.



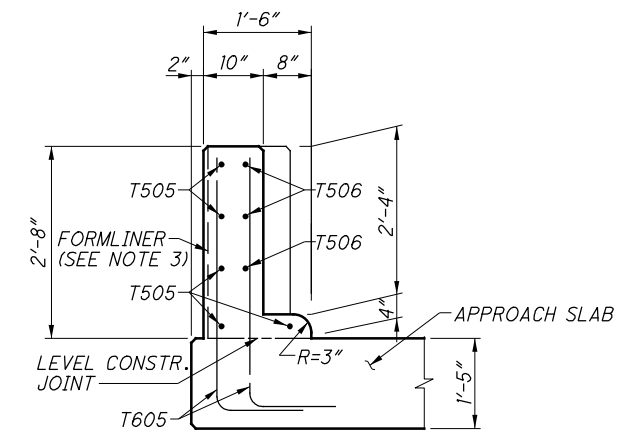
SECTION S-S
(SECTION S₁-S₁ SIMILAR)
(GFRP NOT SHOWN)



SECTION T-T
(SECTION T₁-T₁ SIMILAR)



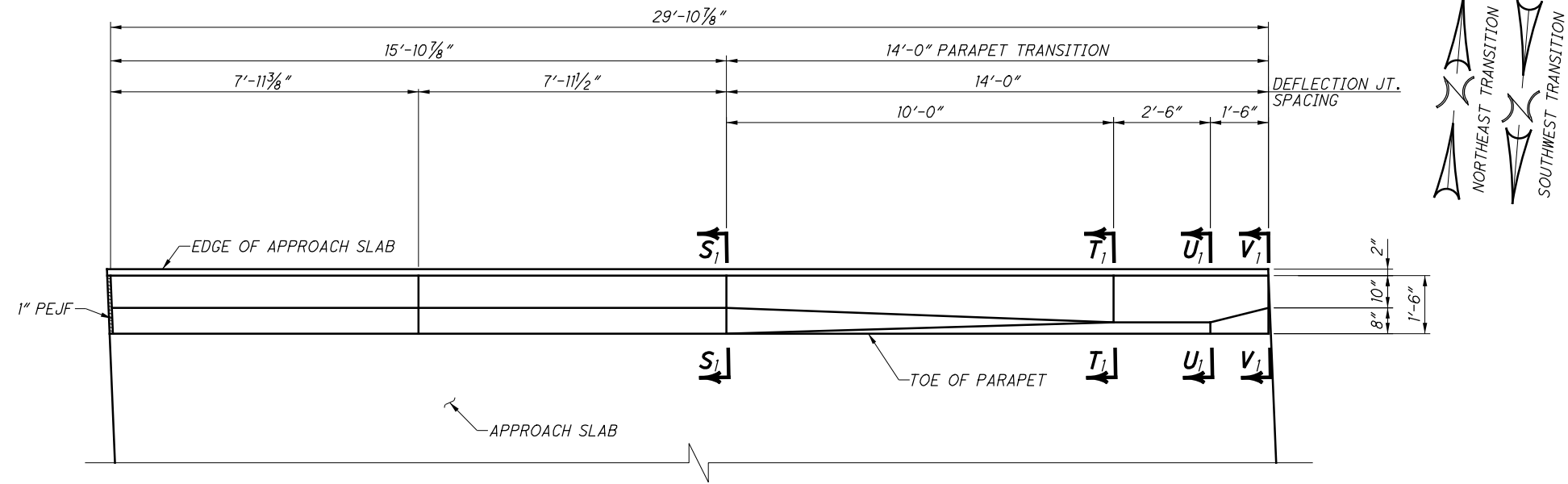
SECTION U-U
(SECTION U₁-U₁ SIMILAR)



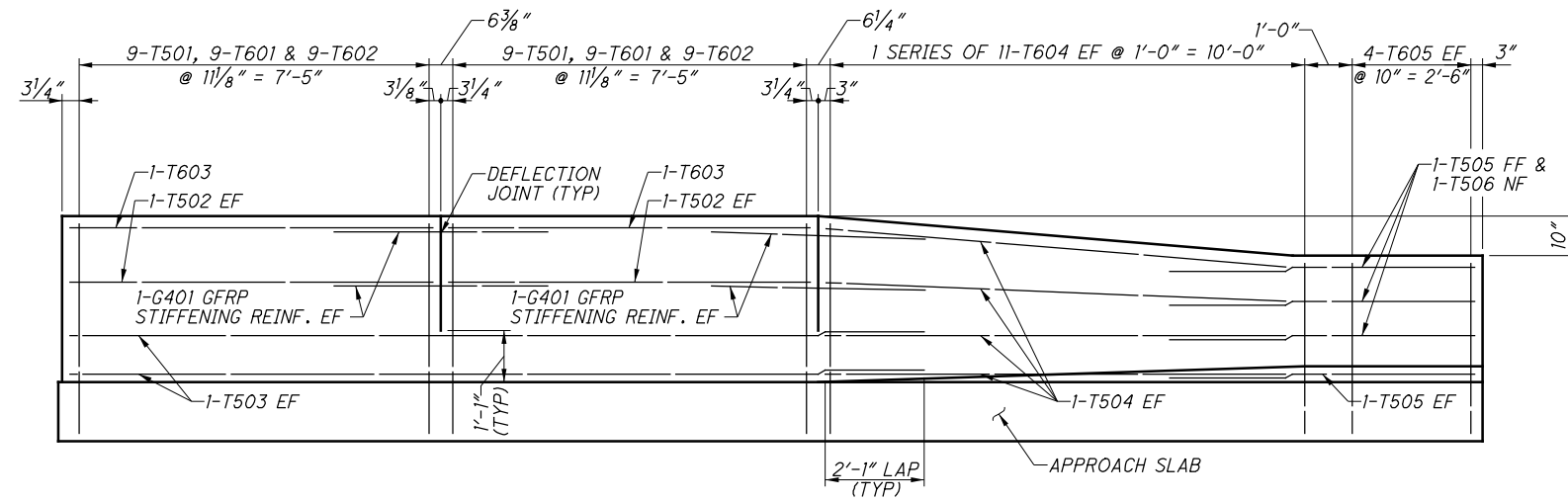
SECTION V-V
(SECTION V₁-V₁ SIMILAR)

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 43142 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	DATE 4-16	STRUCTURE FILE NUMBER L-4710000 R-4710001
DESIGNED AMT	CHECKED AMM	DRAWN MSD	REVISIONS DWS
PARAPET TRANSITION DETAILS BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57		REVIEWED DWS	DATE 4-16
46 / 53			
LOR-90-1320 PID No. 83449			
240 301			

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PLAN - LEFT AND RIGHT STRUCTURES
(NORTHEAST SHOWN
SOUTHWEST SIMILAR)
(WINGWALL NOT SHOWN FOR CLARITY)



ELEVATION - LEFT AND RIGHT STRUCTURES
(NORTHEAST SHOWN
SOUTHWEST SIMILAR)

LEGEND

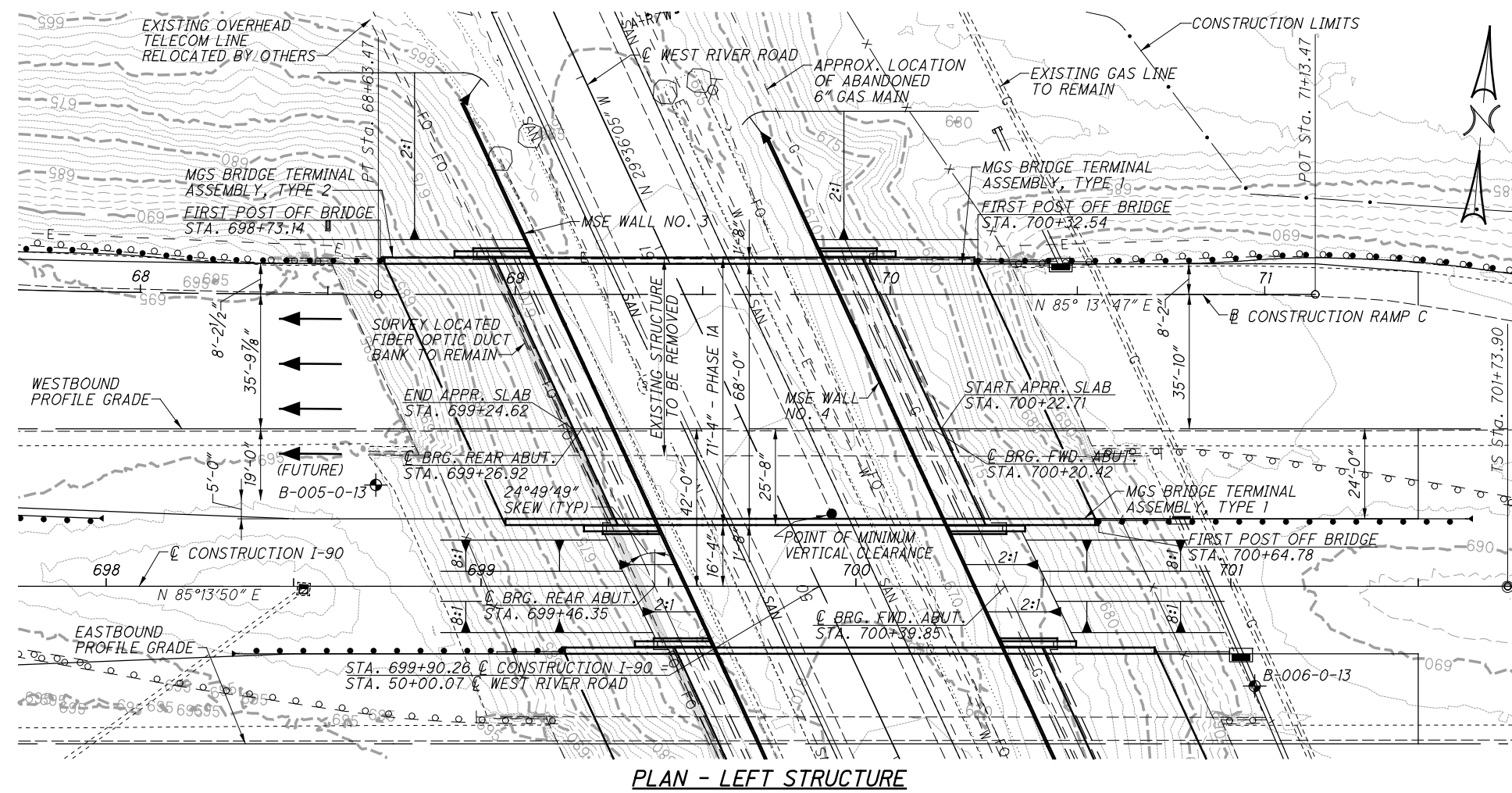
- EF = EACH FACE
- NF = NEAR FACE
- FF = FAR FACE
- GFRP = GLASS FIBER REINFORCED POLYMER
- PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

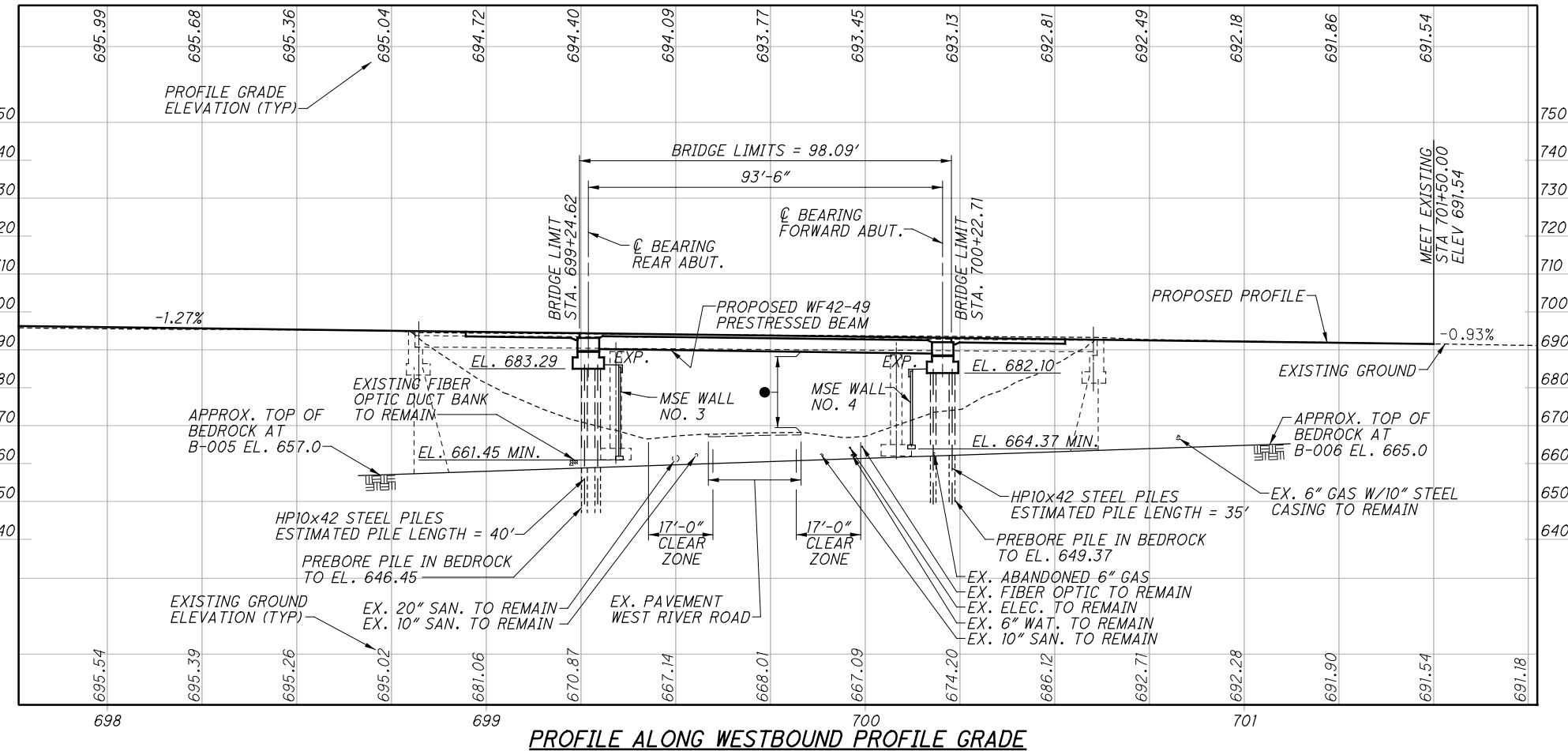
1. FOR GENERAL NOTES, SEE SHEETS 3/53 AND 4/53.
2. FOR REINFORCING STEEL LIST, SEE SHEETS 52/53 AND 53/53.
3. FOR SECTIONS S1-S2 THRU V1-V2, SEE SHEET 46/53.
4. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND SBR-1-13.

LOR-90-1320 PID No. 83449	PARAPET TRANSITION DETAILS BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	DESIGNED AMT CHECKED AMM	DRAWN MSD REVISED	REVIEWED DWS STRUCTURE FILE NUMBER L-4710000 R-4710001	DATE 4-16	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com
47/53	241 301					

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PLAN - LEFT STRUCTURE



PROFILE ALONG WESTBOUND PROFILE GRADE

BENCHMARK DATA

S002: STA. 692+99.87, 0.15' RT., EL. 696.94, CONCRETE MONUMENT
S003: STA. 701+73.89, 0.18' RT., EL. 688.19, CONCRETE MONUMENT

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 301.

NOTES

- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- MAINTAIN EXISTING LIGHTING PER LIGHTING SHEET 178/301.

DESIGN TRAFFIC:

2016 ADT = 29272 2016 ADTT = 3805
2036 ADT = 33242 2036 ADTT = 4322

LEGEND

- BORING LOCATION
- EXISTING MINIMUM VERTICAL CLEARANCE = 21'-3"±
- REQUIRED MINIMUM VERTICAL CLEARANCE = 15'-0"
- PROPOSED MINIMUM VERTICAL CLEARANCE = 20'-0"±

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
 SPANS: 52'-0"±, 74'-0"±, 52'-0"± c/c BEARINGS
 ROADWAY: 48'-0" FACE/FACE CURB
 LOADING: CF 2000(57)
 SKEW: 24°49'35"± RIGHT FORWARD
 APPROACH SLABS: AS-1-54 (25' LONG)
 ALIGNMENT: TANGENT
 CROWN: 3/16"± PER FOOT
 WEARING SURFACE: 6 1/4"± ASPHALT CONCRETE
 STRUCTURE FILE NUMBER: 4704592
 DATE BUILT: 1969
 DISPOSITION: STRUCTURE TO BE REPLACED

PROPOSED STRUCTURE

PROPOSED WORK: STRUCTURE REPLACEMENT
 TYPE: SINGLE SPAN WIDE FLANGE PRESTRESSED I-BEAM WITH COMPOSITE REINFORCED CONCRETE DECK ON STUB ABUTMENTS BEHIND MSE WALLS
 SPAN: 93'-6" c/c BEARINGS
 ROADWAY: 68'-0" TOE/TOE PARAPETS
 LOADING: HL-93 AND 60 PSF FUTURE WEARING SURFACE
 SKEW: 24°49'49" RIGHT FORWARD
 APPROACH SLABS: AS-1-15 (30' LONG)
 ALIGNMENT: TANGENT
 CROWN: 3/16" PER FOOT
 WEARING SURFACE: MONOLITHIC CONCRETE
 COORDINATES: LATITUDE 41°24'18" N
 LONGITUDE 82°06'38" W

DESIGN AGENCY: LIB Inc., 2500 Newmark Drive, Mansburg, OH 45342, (937) 259-5100 fax - LIBinc.com

DATE: 4-16

REVIEWED: DWS

DRAWN: MSD

DESIGNED: AMM

CHECKED: AMT

LORAIN COUNTY STA. 699+24.62 STA. 700+22.71

SITE PLAN - LEFT STRUCTURE

BRIDGE NO. LOR-90-1355L/R

I-90 OVER WEST RIVER ROAD

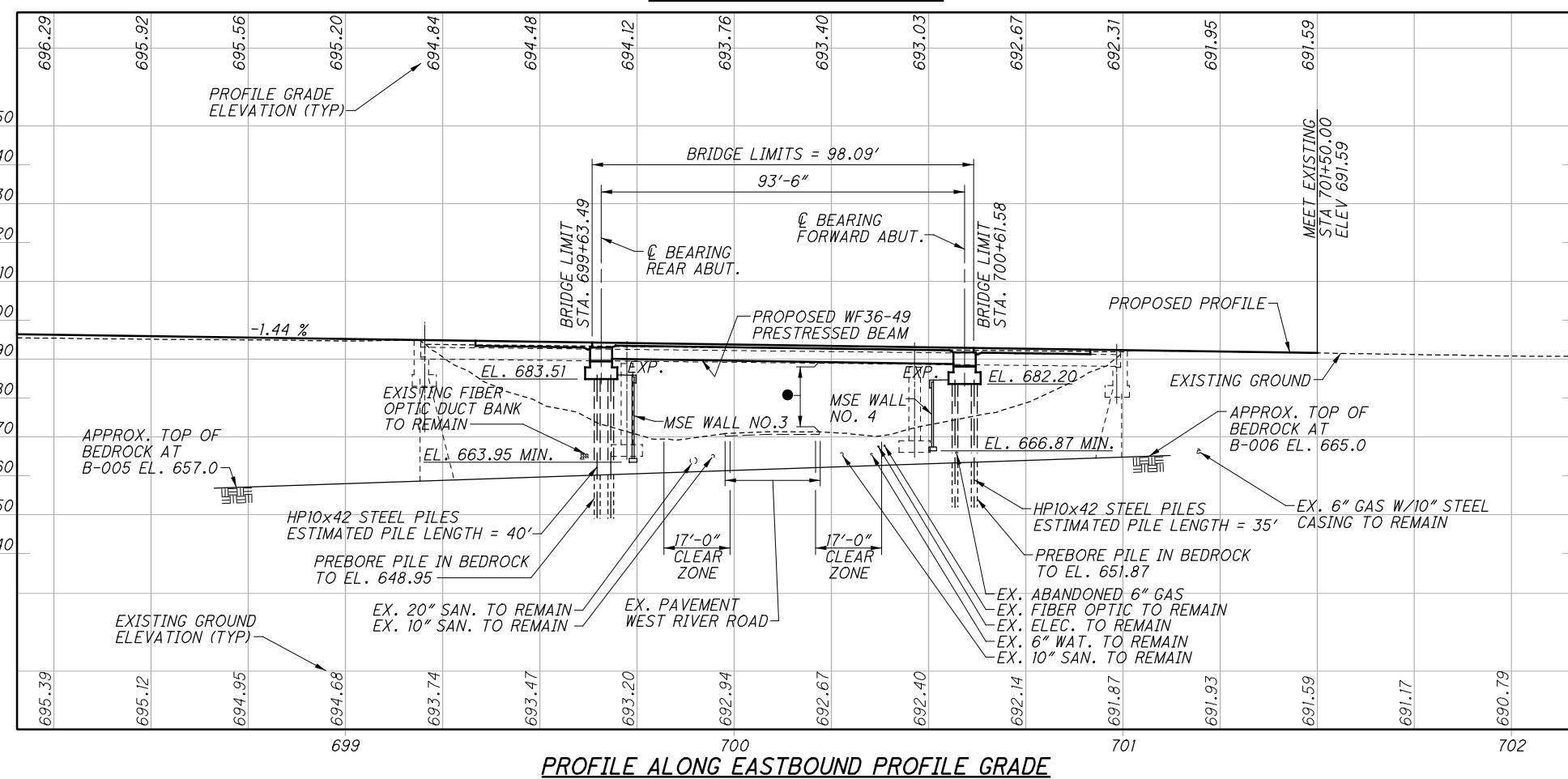
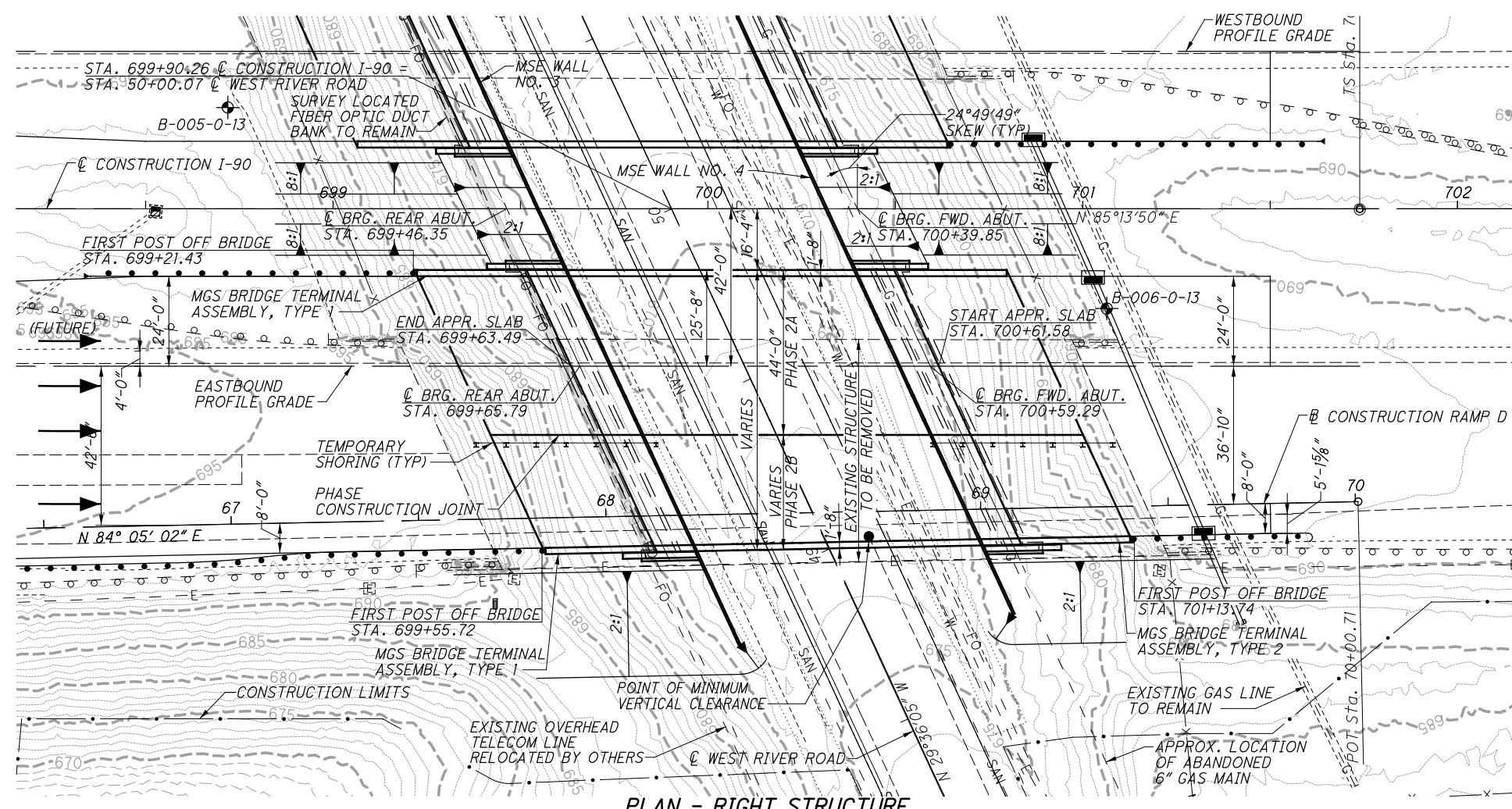
LOR-90-1320

PID No. 83449

1/54

248/301

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BENCHMARK DATA	
S002:	STA. 692+99.87, 0.15' RT., EL. 696.94, CONCRETE MONUMENT
S003:	STA. 701+73.89, 0.18' RT., EL. 688.19, CONCRETE MONUMENT

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 2301.

- NOTES**
- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
 - MAINTAIN EXISTING LIGHTING PER LIGHTING SHEET 178301.

DESIGN TRAFFIC:
 2016 ADT = 25958 2016 ADTT = 3375
 2036 ADT = 29478 2036 ADTT = 3832

- LEGEND**
- BORING LOCATION
 - EXISTING MINIMUM VERTICAL CLEARANCE = 14'-10"±
 REQUIRED MINIMUM VERTICAL CLEARANCE = 15'-0"
 PROPOSED MINIMUM VERTICAL CLEARANCE = 15'-6"±

EXISTING STRUCTURE
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 52'-0"±, 74'-0"±, 52'-0"± c/c BEARINGS
ROADWAY: VARIES
LOADING: CF 2000(57)
SKEW: 24°49'35"± RIGHT FORWARD
APPROACH SLABS: AS-1-54 (25' LONG)
ALIGNMENT: TANGENT
CROWN: 3/8"± PER FOOT
WEARING SURFACE: 5 3/4"± ASPHALT CONCRETE
STRUCTURE FILE NUMBER: 4704622
DATE BUILT: 1969
DISPOSITION: STRUCTURE TO BE REPLACED

PROPOSED STRUCTURE
PROPOSED WORK: STRUCTURE REPLACEMENT
TYPE: SINGLE SPAN WIDE FLANGE PRESTRESSED I-BEAM WITH COMPOSITE REINFORCED CONCRETE DECK ON STUB ABUTMENTS BEHIND MSE WALLS
SPAN: 93'-6" c/c BEARINGS
ROADWAY: VARIES
LOADING: HL-93 AND 60 PSF FUTURE WEARING SURFACE
SKEW: 24°49'49" RIGHT FORWARD
APPROACH SLABS: AS-1-15 (30' LONG)
ALIGNMENT: TANGENT
CROWN: 3/8" PER FOOT
WEARING SURFACE: MONOLITHIC CONCRETE
COORDINATES: LATITUDE 41°24'18" N LONGITUDE 82°06'38" W

DESIGN AGENCY: LIB Inc., 2500 Newmark Drive, Mansburg, OH 45342, (937) 298-5000 fax: (937) 298-5100
 DATE: 4-16
 REVIEWED: DWS
 DRAWN: MSD
 DESIGNED: AWM
 CHECKED: AMT
 LORAIN COUNTY
 STA. 699+63.49
 STA. 700+61.58
SITE PLAN - RIGHT STRUCTURE
 BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD
LOR-90-1320
PID No. 83449
 2 / 54
249301

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ESTIMATED QUANTITIES - LOR-90-1355L - LEFT STRUCTURE

FUNDING 01/IMS/BR	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	SUPERSTRUCTURE	GENERAL	AS PER PLAN SHEET NUMBER
LUMP	202	11002	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN			LUMP	
200	202	22900	200	SQ YD	APPROACH SLAB REMOVED			200	
1180	202	23500	1180	SQ YD	WEARING COURSE REMOVED			1180	
150	SPECIAL	45130000	150	FT	PRESSURE RELIEF JOINT, TYPE A			150	3 / 54
LUMP	503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN			LUMP	
1950	507	00100	1950	FT	STEEL PILES HP10X42, FURNISHED	1950			3 / 54
607	507	92201	607	FT	PREBORED HOLES, AS PER PLAN	607			3 / 54
97209	509	10001	97209	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	20960	73027	3222 *	3 / 54
155	511	33419	155	CU YD	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN		155		
200	511	34446	200	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK		200		
47	511	34450	47	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)		30	17 *	
105	511	44112	105	CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	105			
150	511	46512	150	CU YD	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	150			
837	512	10100	837	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	225	490	122 *	
8	515	15080	8	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF42-49 (95'-2" LENGTH)		8		
21	515	20000	21	EACH	INTERMEDIATE DIAPHRAGMS		21		
39	516	13600	39	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	20		19 *	
58	516	13900	58	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	58			
123	516	14000	123	SQ FT	PREFORMED EXPANSION JOINT FILLER, MISC: VARIABLE THICKNESS		123		
182	516	14020	182	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	182			
16	516	44100	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" x 18" x 2 7/16")		16		
81	518	21200	81	CU YD	POROUS BACKFILL WITH GEOTEXTILE FABRIC	81			
166	518	40000	166	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	166			
10	518	40010	10	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	10			
476	526	30000	476	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=17")			476	
59	601	21000	59	SQ YD	CONCRETE SLOPE PROTECTION	59			
180	607	39900	180	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC		180		

* APPROACH SLAB PARAPET TRANSITIONS

QUANTITIES COMPUTED BY: AMM 4/2016
 QUANTITIES CHECKED BY: AMT 5/2016

DESIGN AGENCY
 LIB Inc. • 2500 Newmark Drive
 Mansburg, OH 45342
 (837) 258-5000 (at) • (837) 258-5100 (fx) • L.Binc.com

DATE
4-16

REVIEWED
DWS

STRUCTURE FILE NUMBER
L-4710002

R-4710003

DRAWN
MSD

CHECKED
JBR

DESIGNED
AMT

REVISSED

ESTIMATED QUANTITIES - LEFT STRUCTURE

BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD

LOR-90-1320
 PID No. 83449

4 / 54

251
301

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ESTIMATED QUANTITIES - LOR-90-1355R - RIGHT STRUCTURE

FUNDING 01/IMS/BR	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS		SUPERSTRUCTURE		GENERAL		AS PER PLAN SHEET NUMBER
						PHASE 2A	PHASE 2B	PHASE 2A	PHASE 2B	PHASE 2A	PHASE 2B	
LUMP	202	11002	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN					LUMP	LUMP	
224	202	22900	224	SQ YD	APPROACH SLAB REMOVED					142	82	
1405	202	23500	1405	SQ YD	WEARING COURSE REMOVED					765	640	
158	SPECIAL	45130000	158	FT	PRESSURE RELIEF JOINT, TYPE A					94	64	3 / 54
LUMP	503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN					LUMP	LUMP	
2210	507	00100	2210	FT	STEEL PILES HPI0X42, FURNISHED	1320	890					3 / 54
556	507	92201	556	FT	PREBORED HOLES, AS PER PLAN	331	225					3 / 54
89962	509	10001	89962	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	12081	8809	37844	28010	1609 *	1609 *	3 / 54
145	511	33419	145	CU YD	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			85	60			
210	511	34446	210	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			125	85			
48	511	34450	48	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			15	15	9 *	9 *	
109	511	44112	109	CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	65	44					
157	511	46512	157	CU YD	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	92	65					
823	512	10100	823	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	135	100	238	228	61 *	61 *	
9	512	33000	9	SQ YD	TYPE 2 WATERPROOFING		4		5			
1	515	15070	1	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF36-49 (94'-3 7/8" LENGTH)				1			
9	515	15070	9	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF36-49 (95'-2" LENGTH)			6	3			
27	515	20000	27	EACH	INTERMEDIATE DIAPHRAGMS			15	12			
40	516	13600	40	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	10	10			10 *	10 *	
60	516	13900	60	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	30	30					
111	516	14000	111	SQ FT	PREFORMED EXPANSION JOINT FILLER, MISC: VARIABLE THICKNESS			56	55			
186	516	14020	186	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	108	78					
20	516	44100	20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (15" x 18" x 2 5/16")			12	8			
78	518	21200	78	CU YD	POROUS BACKFILL WITH GEOTEXTILE FABRIC	48	30					
174	518	40000	174	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	103	71					
10	518	40010	10	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	10						
496	526	30000	496	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=17")					294	202	
62	601	21000	62	SQ YD	CONCRETE SLOPE PROTECTION	37	25					
180	607	39900	180	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			90	90			

* APPROACH SLAB PARAPET TRANSITIONS

QUANTITIES COMPUTED BY: AMM 4/2016
 QUANTITIES CHECKED BY: AMT 5/2016

DESIGN AGENCY: LIB Inc. • 2500 Newmark Drive
 Mansburg, OH 45342
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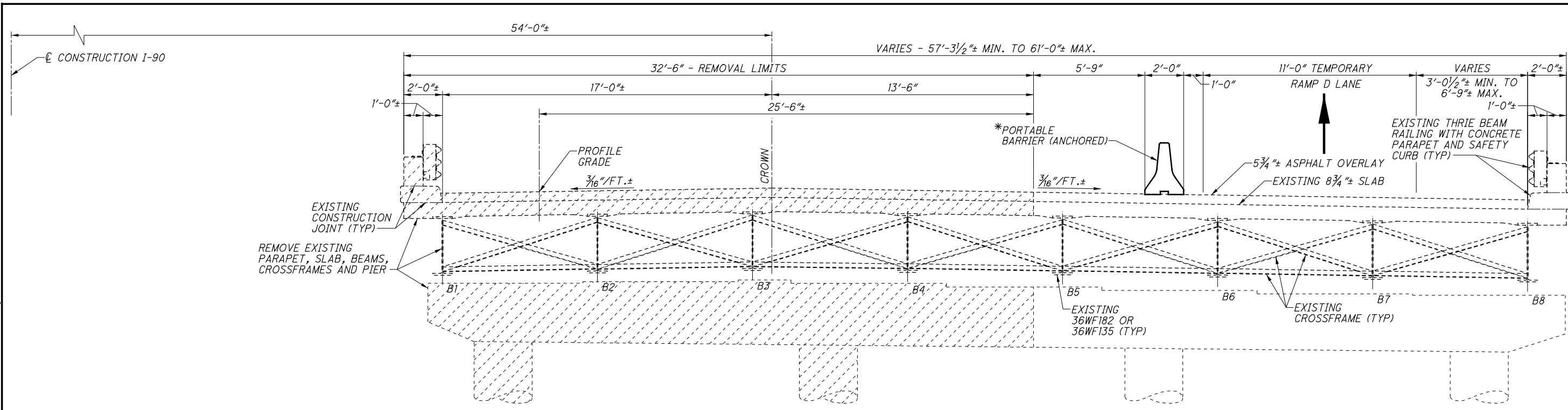

DATE: 4-16
 REVIEWED: DWS
 DRAWN: MSD
 DESIGNED: AMT
 CHECKED: JBR
 STRUCTURE FILE NUMBER: L-4710002
 R-4710003

ESTIMATED QUANTITIES - RIGHT STRUCTURE
 BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD

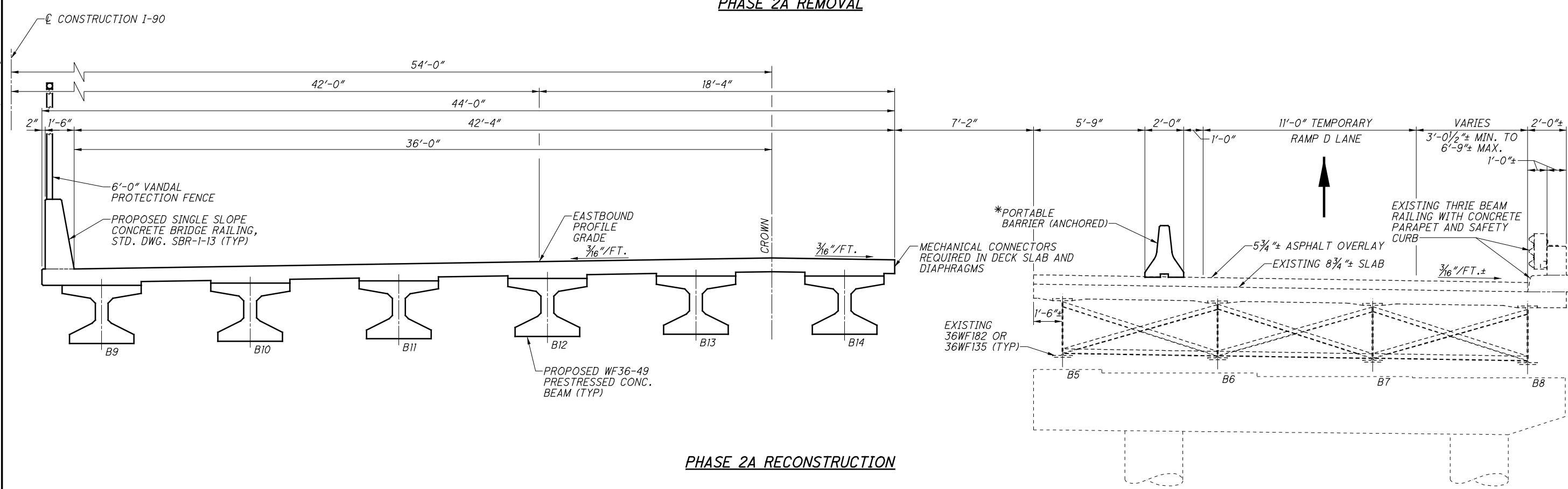
LOR-90-1320
 PID No. 83449

5 / 54
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 301

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PHASE 2A REMOVAL



PHASE 2A RECONSTRUCTION

- PHASE 2A:**
1. REROUTE EASTBOUND TRAFFIC ONTO WESTBOUND BRIDGE PER MAINTENANCE OF TRAFFIC PLANS. INSTALL PORTABLE BARRIER AND TEMPORARY SHORING TO MAINTAIN RAMP D TRAFFIC.
 2. REMOVE NORTH PORTION OF EXISTING WEARING SURFACE, APPROACH SLABS, REINFORCED CONCRETE SLAB, STEEL BEAMS, ABUTMENTS AND PIERS.
 3. CONSTRUCT MSE WALL NO. 3 FROM STA. 301+50.00 TO 302+17.03 AND MSE WALL NO. 4 FROM STA. 401+50.00 TO STA. 402+17.03.
 4. CONSTRUCT THE PHASE 2A PORTION OF NEW ABUTMENTS AND WINGWALLS.
 5. INSTALL NEW ABUTMENT BEARINGS.
 6. SET WF36-49 PRESTRESSED CONCRETE BEAMS AND CONSTRUCT INTERMEDIATE DIAPHRAGMS.
 7. CONSTRUCT COMPOSITE REINFORCED CONCRETE DECK, END DIAPHRAGMS, PARAPET, FENCE AND APPROACH SLABS.

*PORTABLE BARRIER SHALL BE ANCHORED USING 2 ANCHORS PER SEGMENT AND SHALL CONFORM TO STANDARD DRAWING PCB-91. SEE ROADWAY PLAN DETAILS. PAY FOR UNDER ITEM 622.

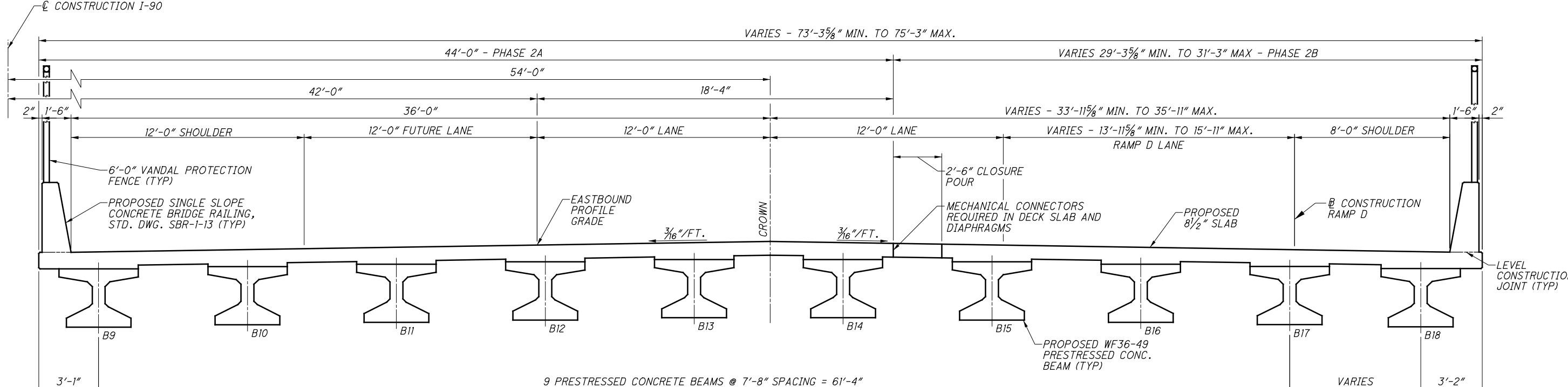
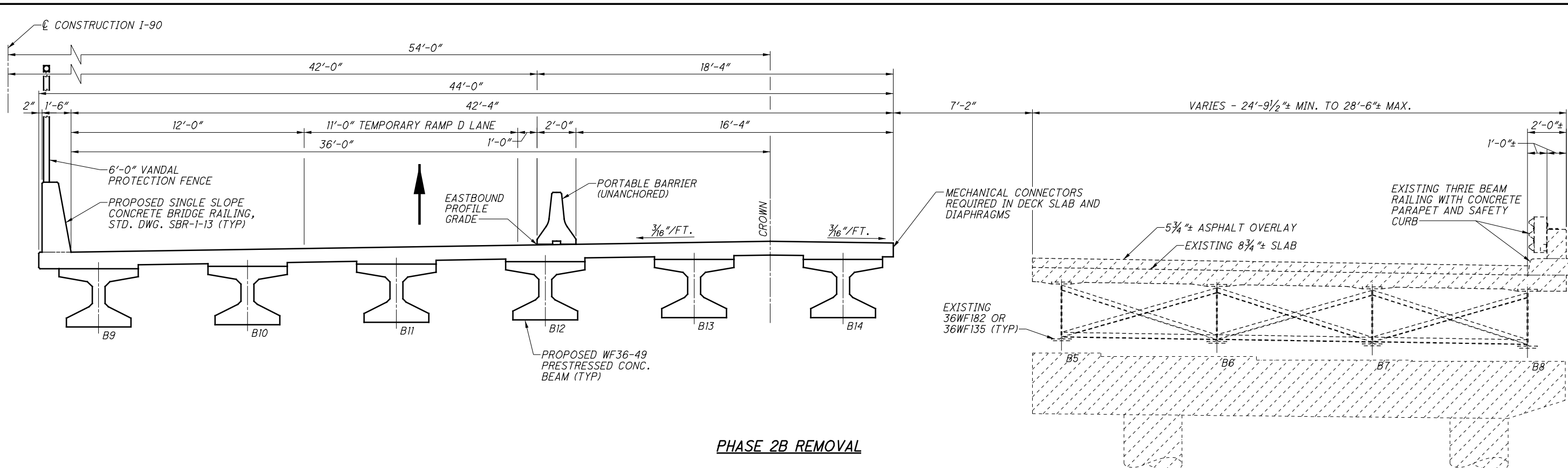
	DESIGN AGENCY L.B. Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 fax • (837) 259-5100 fax • LBIllc.com	DATE 4-16
REVIEWED DWS	STRUCTURE FILE NUMBER L-4710002	R-4710003
DRAWN MNM	REVISIONS	
DESIGNED AMM	CHECKED AMT	

SEQUENCE OF CONSTRUCTION (PHASE 2A)

BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD

LOR-90-1320 PID No. 83449	6 / 54 253 301
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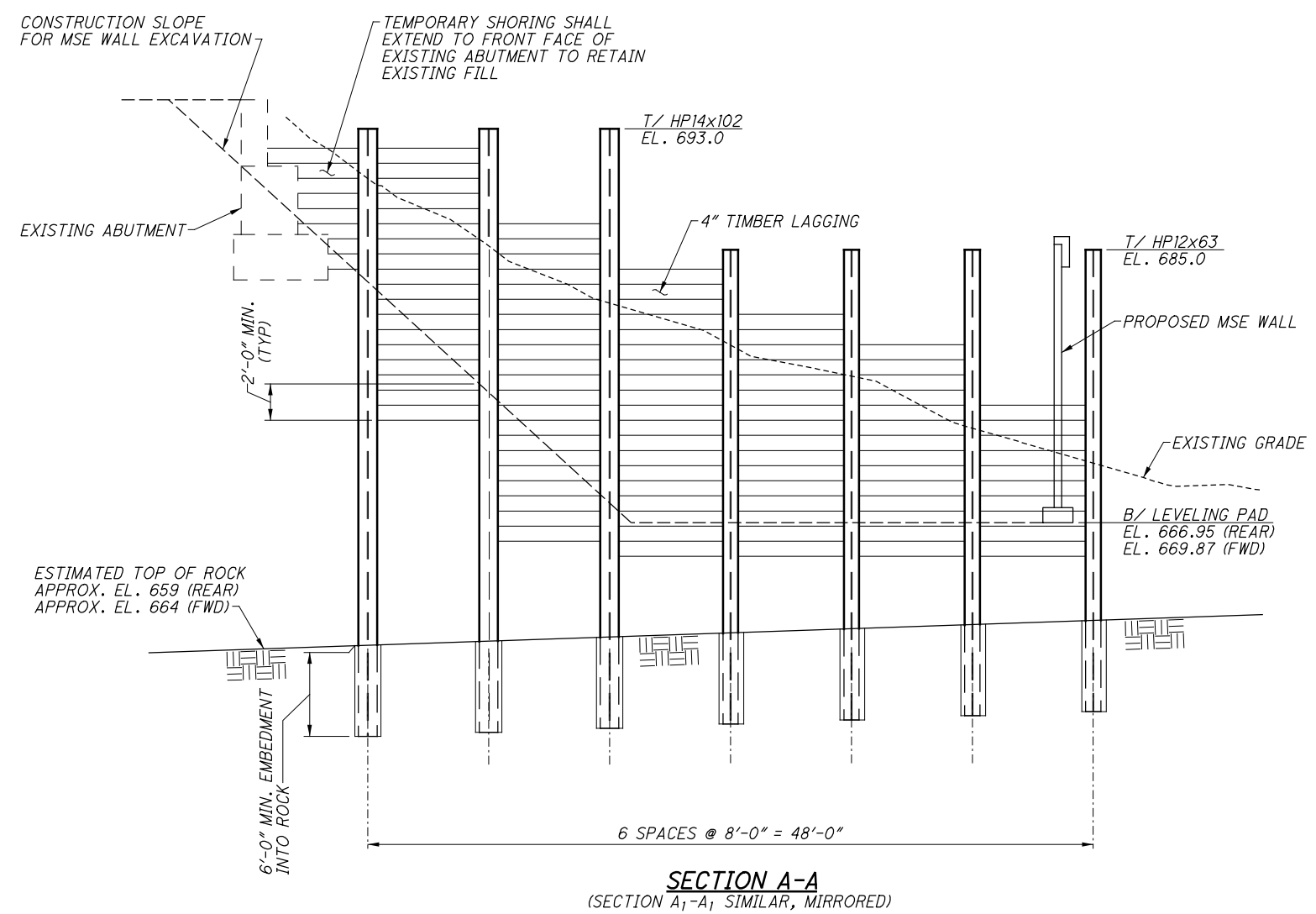
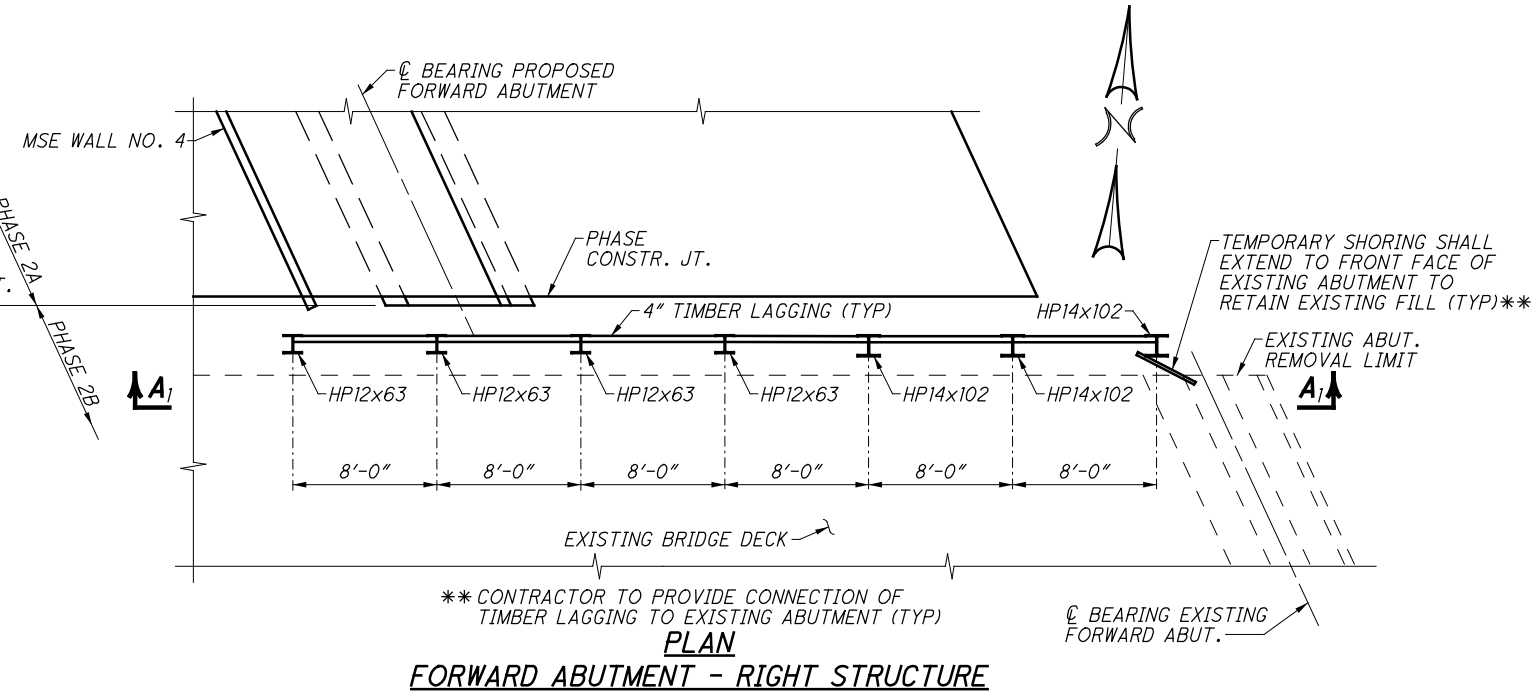
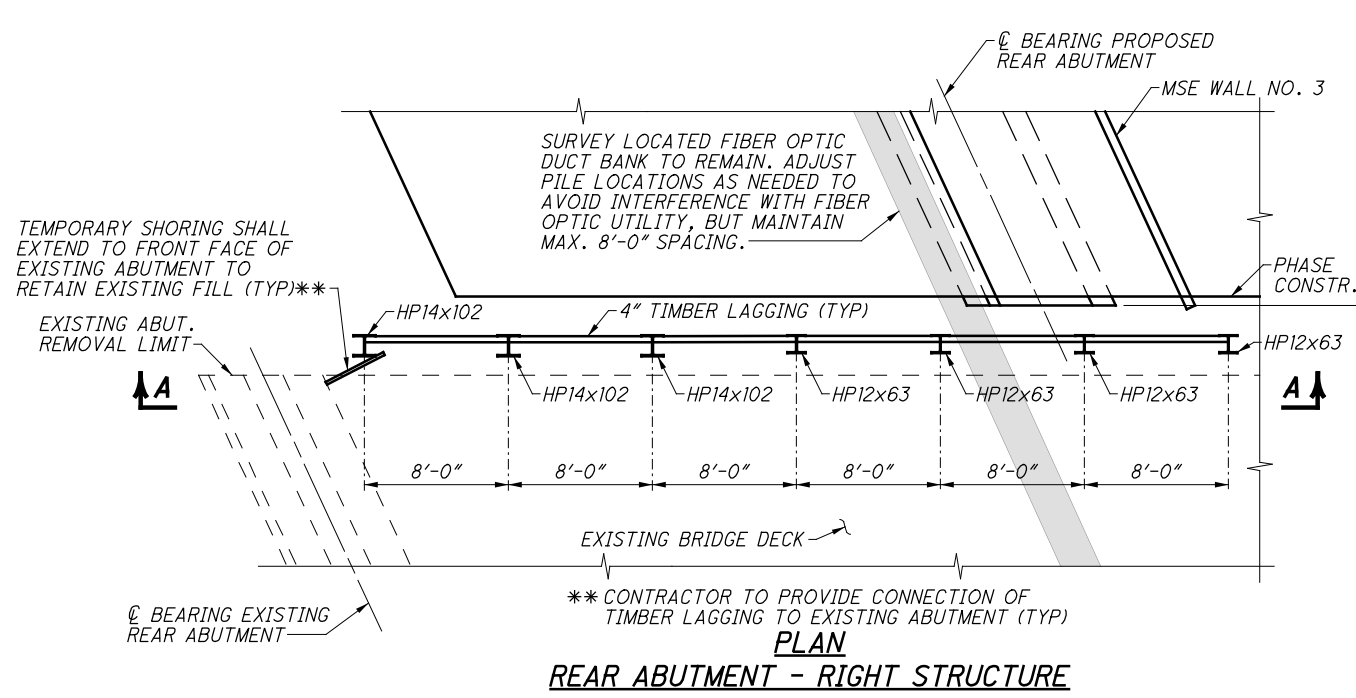
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- PHASE 2B:**
1. REROUTE RAMP D TRAFFIC ONTO NEWLY CONSTRUCTED PHASE 2A PORTION OF THE BRIDGE.
 2. REMOVE SOUTH PORTION OF EXISTING WEARING SURFACE, APPROACH SLABS, REINFORCED CONCRETE SLAB, STEEL BEAMS, ABUTMENTS AND PIERS.
 3. CONSTRUCT REMAINING PORTIONS OF MSE WALLS NO. 3 AND NO. 4.
 4. CONSTRUCT THE PHASE 2B PORTION OF NEW ABUTMENTS AND WINGWALLS.
 5. INSTALL NEW ABUTMENT BEARINGS.
 6. SET WF36-49 PRESTRESSED CONCRETE BEAMS AND CONSTRUCT INTERMEDIATE DIAPHRAGMS.
 7. CONSTRUCT COMPOSITE REINFORCED CONCRETE DECK, END DIAPHRAGMS, PARAPET, FENCE AND APPROACH SLABS.
 8. CONSTRUCT CLOSURE POUR IN COMPOSITE REINFORCED CONCRETE DECK AND END DIAPHRAGMS.
 9. REMOVE PORTABLE BARRIER.
 10. SEAL ALL CONCRETE SURFACES.

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com
DATE 4-16	REVIEWED DWS
DRAWN MNM	STRUCTURE FILE NUMBER L-4710002 R-4710003
DESIGNED AMM	CHECKED AMT
SEQUENCE OF CONSTRUCTION (PHASE 2B) BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
LOR-90-1320 PID No. 83449	
7 / 54	
254 301	

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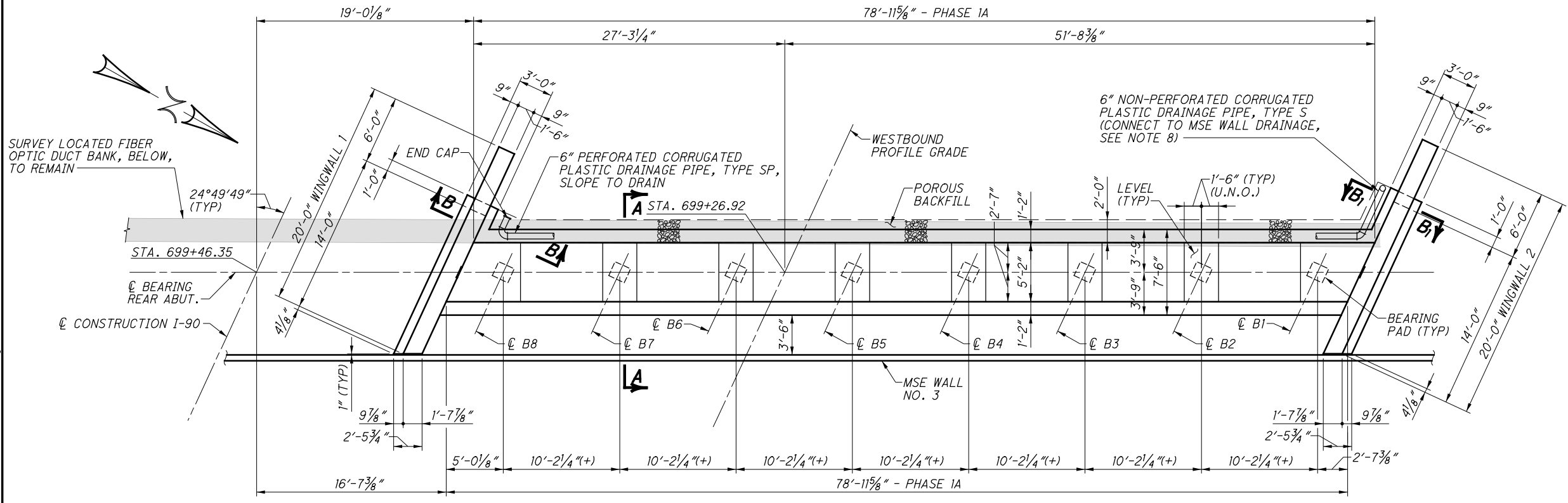


NOTES:

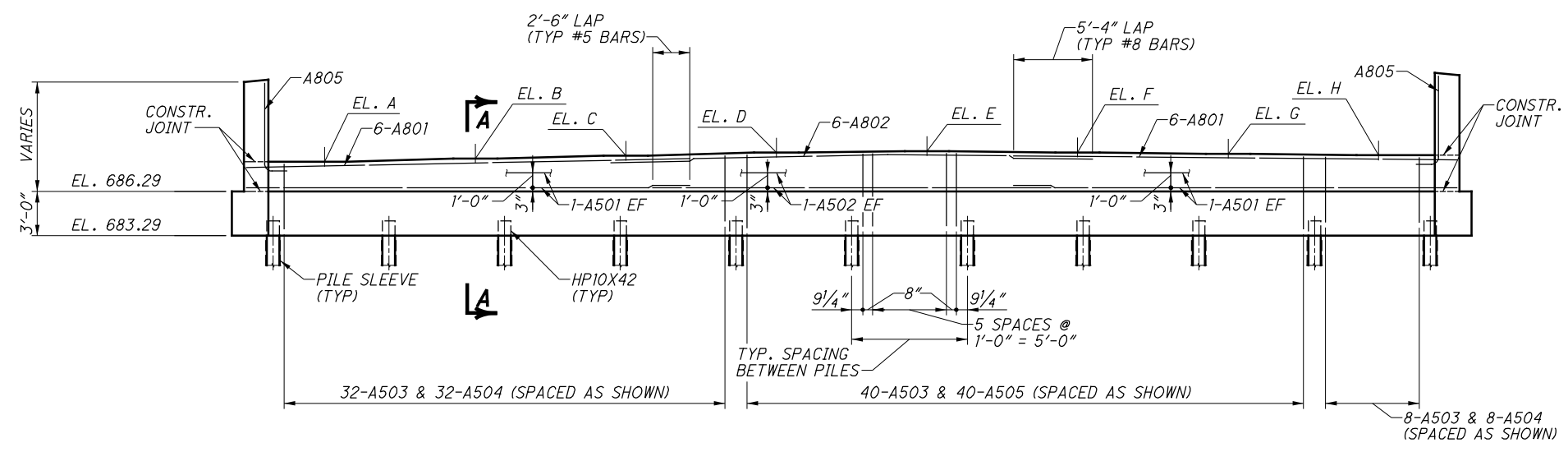
1. ALL MATERIAL AND LABOR REQUIRED FOR CONSTRUCTION OF THE TEMPORARY SHORING SHALL BE INCLUDED IN ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN FOR PAYMENT.
2. FOR GENERAL NOTES, SEE SHEET 3/54.
3. THE CONTRACTOR SHALL VERIFY ROCK ELEVATION PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR MAY ELECT TO USE A DESIGN DIFFERENT THAN THE ONE SHOWN ON THESE PLANS, PROVIDED THE DESIGN IS PREPARED AND SUBMITTED IN ACCORDANCE WITH CMS 501.05.
5. ALL PILES SHALL BE ASTM A572 GRADE 50 STEEL.
6. THE CONTRACTOR SHALL REFERENCE CMS 507.11 FOR PREBORED HOLES. THE CONTRACTOR CAN USE CONCRETE OR LSM INSTEAD OF GRANULAR MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	DATE 4-16	STRUCTURE FILE NUMBER L-4710002 R-4710003
DESIGNED	DRAWN	REVIEWED	DATE
PRG	MSD	DWS	4-16
CHECKED	REVISED	AMT	R-4710003
TEMPORARY SHORING - RIGHT STRUCTURE BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD			
LOR-90-1320 PID No. 83449			
8 / 54		255 301	

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REAR ABUTMENT PLAN - LEFT STRUCTURE



REAR ABUTMENT ELEVATION - LEFT STRUCTURE
(MSE WALL NOT SHOWN FOR CLARITY)

ABUTMENT SEAT ELEVATION TABLE							
EL. A	EL. B	EL. C	EL. D	EL. E	EL. F	EL. G	EL. H
688.29	688.51	688.71	688.91	689.03	688.94	688.85	688.74

LEGEND
MSE = MECHANICALLY STABILIZED EARTH
EF = EACH FACE
U.N.O. = UNLESS NOTED OTHERWISE

- NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3 / 54.
 - FOR REINFORCING STEEL LIST, SEE SHEET 46 / 54.
 - FOR FOOTING PLAN, SEE SHEET 10 / 54.
 - FOR SECTIONS A-A, B-B & B₁-B₁, SEE SHEET 17 / 54.
 - FOR WINGWALL ELEVATIONS, SEE SHEET 10 / 54.
 - FOR BEARING PAD DETAILS, SEE SHEET 21 / 54.
 - PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.
 - FOR ABUTMENT DRAINAGE CONNECTION TO MSE WALL DRAINAGE, SEE MSE WALL PLAN SHEETS 193 / 301 AND 194 / 301.

DESIGN AGENCY
 LIB Inc. • 2500 Newmark Drive
 Mansburg, OH 45342
 (837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com

DATE 4-16
REVIEWED DWS
STRUCTURE FILE NUMBER L-4710002
R-4710003

DESIGNED SJM
CHECKED AMM

DRAWN MNM
REVISED

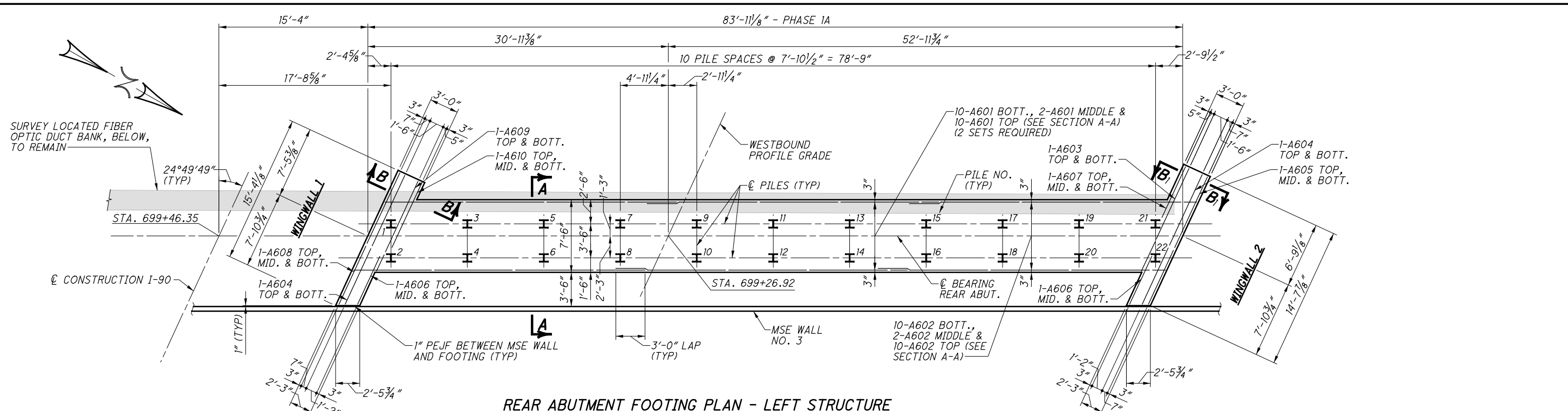
REAR ABUTMENT - LEFT STRUCTURE
 BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD

LOR-90-1320
PID No. 83449

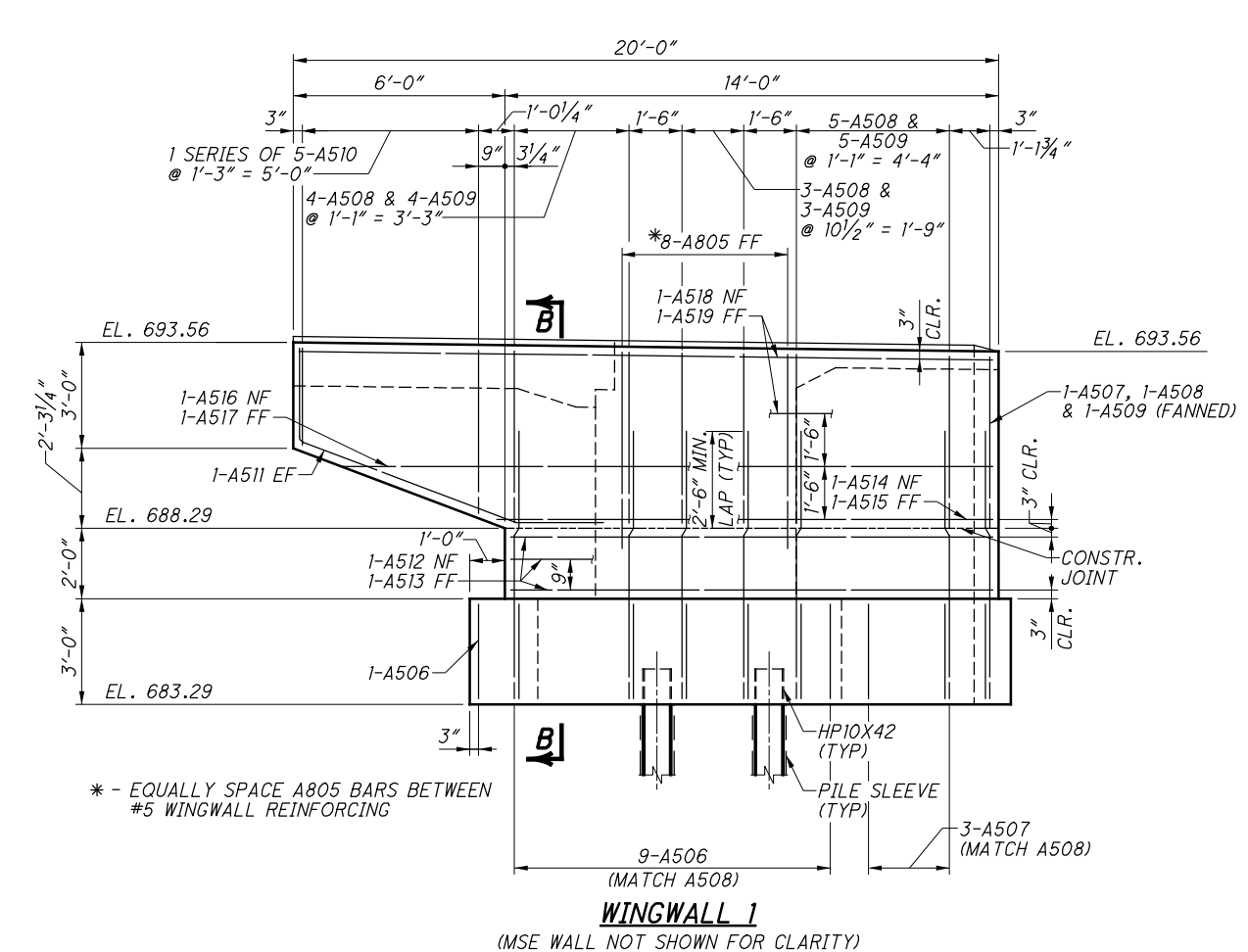
9 / 54

256 / 301

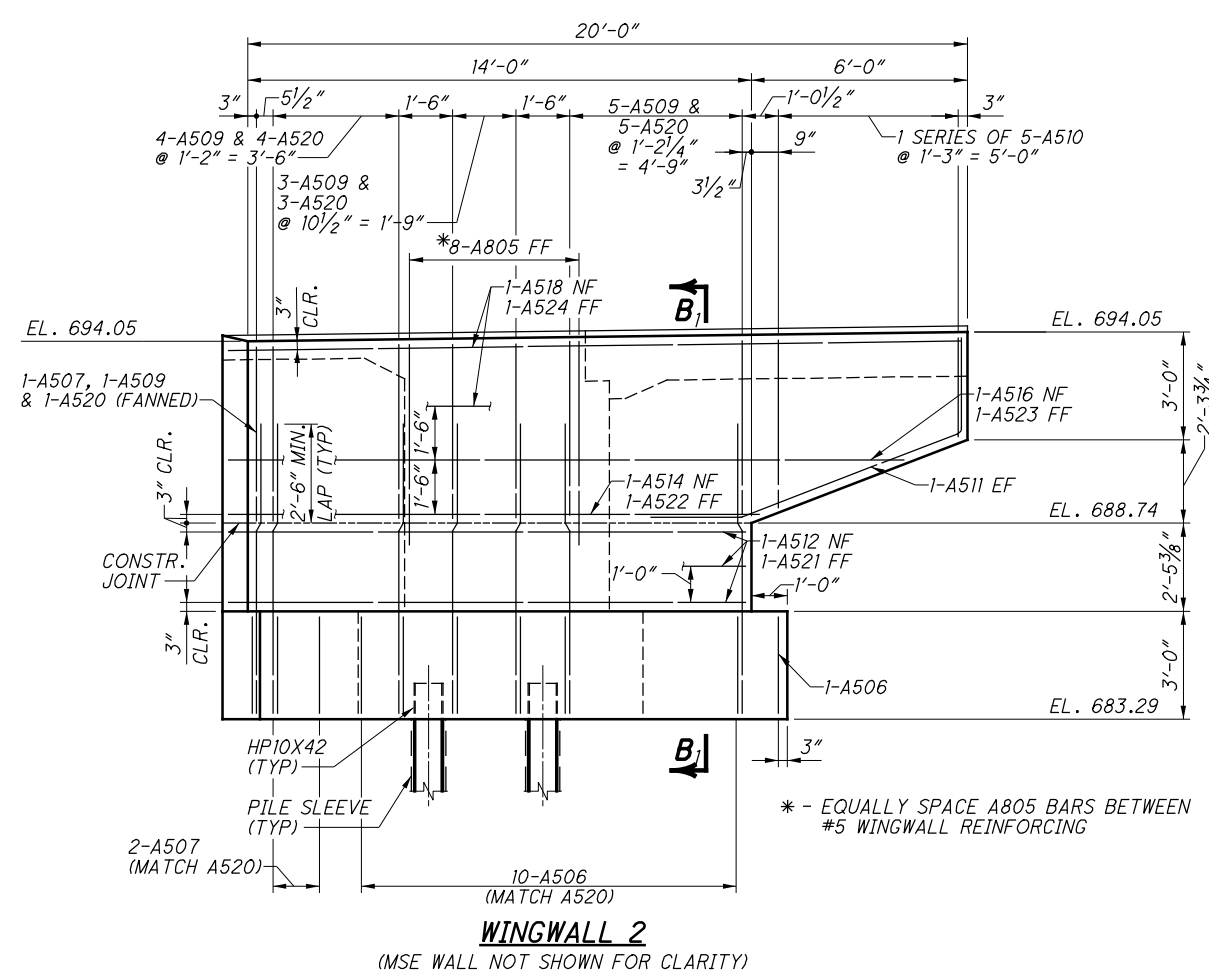
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REAR ABUTMENT FOOTING PLAN - LEFT STRUCTURE



WINGWALL 1
(MSE WALL NOT SHOWN FOR CLARITY)



WINGWALL 2
(MSE WALL NOT SHOWN FOR CLARITY)

LEGEND

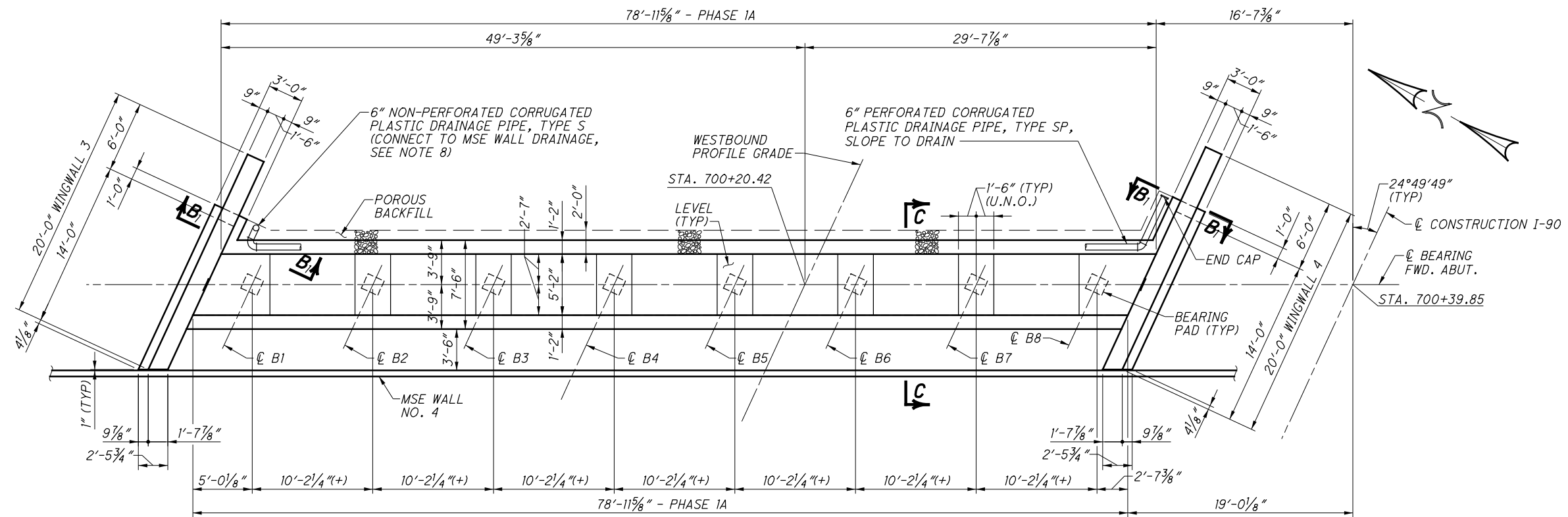
- I = HP10x42 STEEL PILE
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- PEJF = PREFORMED EXPANSION JOINT FILLER
- MSE = MECHANICALLY STABILIZED EARTH

NOTES:

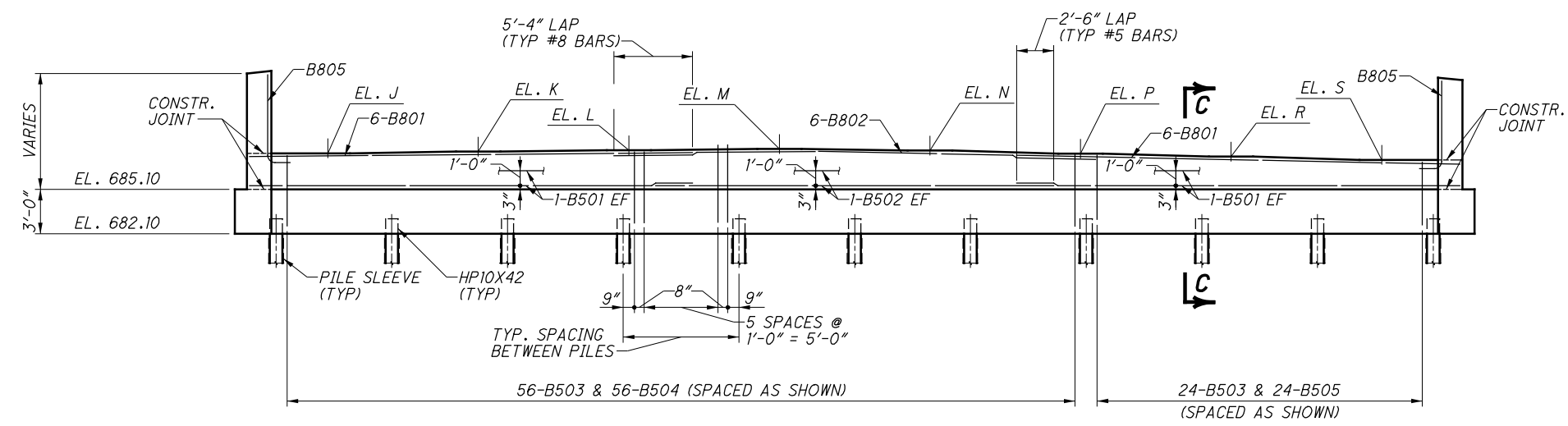
1. FOR GENERAL NOTES, SEE SHEET 3/54.
2. FOR REINFORCING STEEL LIST, SEE SHEET 46/54.
3. FOR SECTIONS A-A, B-B & B₁-B₁, SEE SHEET 17/54.
4. PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.

LOR-90-1320	PID No. 83449	BRIDGE NO. LOR-90-1355L/R	I-90 OVER WEST RIVER ROAD	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (837) 259-5000 ext. (837) 259-5100 fax • LIBInc.com
DESIGNED SJM	CHECKED AMM	DRAWN MNM	REVISED	DATE 4-16 STRUCTURE FILE NUMBER L-4710002 R-4710003
REAR ABUTMENT FOOTING PLAN - LEFT STRUCTURE				

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FORWARD ABUTMENT PLAN - LEFT STRUCTURE



FORWARD ABUTMENT ELEVATION - LEFT STRUCTURE
(MSE WALL NOT SHOWN FOR CLARITY)

ABUTMENT SEAT ELEVATION TABLE							
EL. J	EL. K	EL. L	EL. M	EL. N	EL. P	EL. R	EL. S
687.55	687.66	687.75	687.84	687.72	687.52	687.32	687.10

LEGEND
 MSE = MECHANICALLY STABILIZED EARTH
 EF = EACH FACE
 U.N.O. = UNLESS NOTED OTHERWISE

- NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3 / 54.
 - FOR REINFORCING STEEL LIST, SEE SHEET 47 / 54.
 - FOR FOOTING PLAN, SEE SHEET 12 / 54.
 - FOR SECTIONS B₁-B₇ & C-C, SEE SHEETS 17 / 54 AND 18 / 54.
 - FOR WINGWALL ELEVATIONS, SEE SHEET 12 / 54.
 - FOR BEARING PAD DETAILS, SEE SHEET 21 / 54.
 - PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.
 - FOR ABUTMENT DRAINAGE CONNECTION TO MSE WALL DRAINAGE, SEE MSE WALL PLAN SHEETS 193 / 301 AND 194 / 301.

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STRUCTURE FILE NUMBER L-4710002
R-4710003

DESIGNED SJM
CHECKED AMM

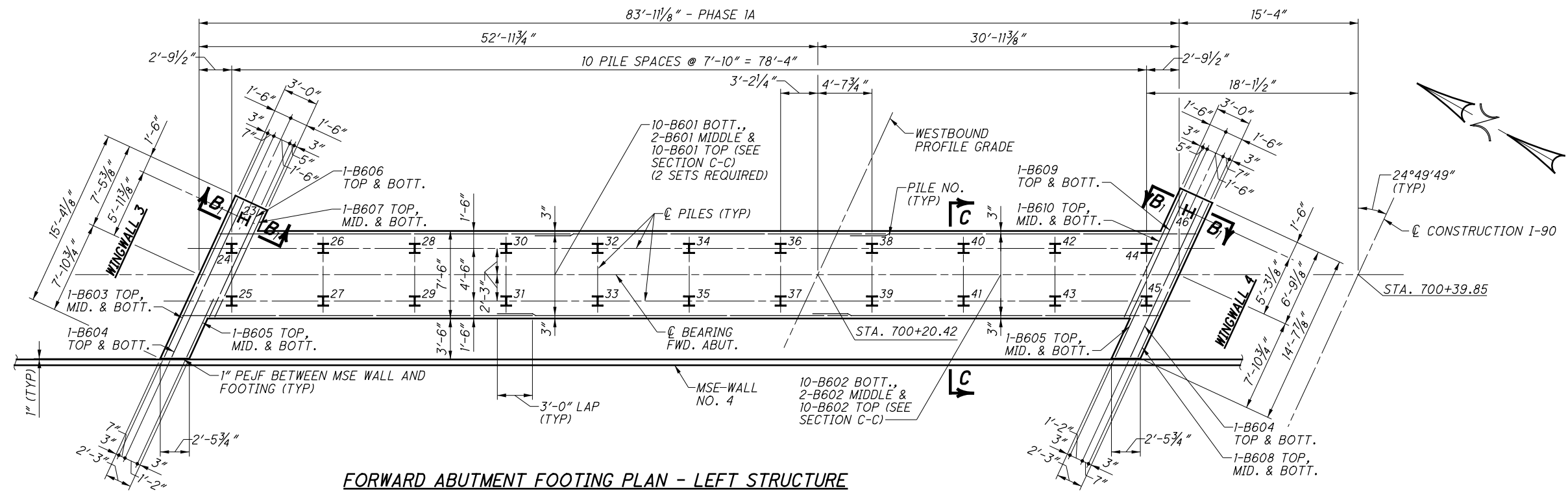
FORWARD ABUTMENT - LEFT STRUCTURE
 BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD

LOR-90-1320
PID No. 83449

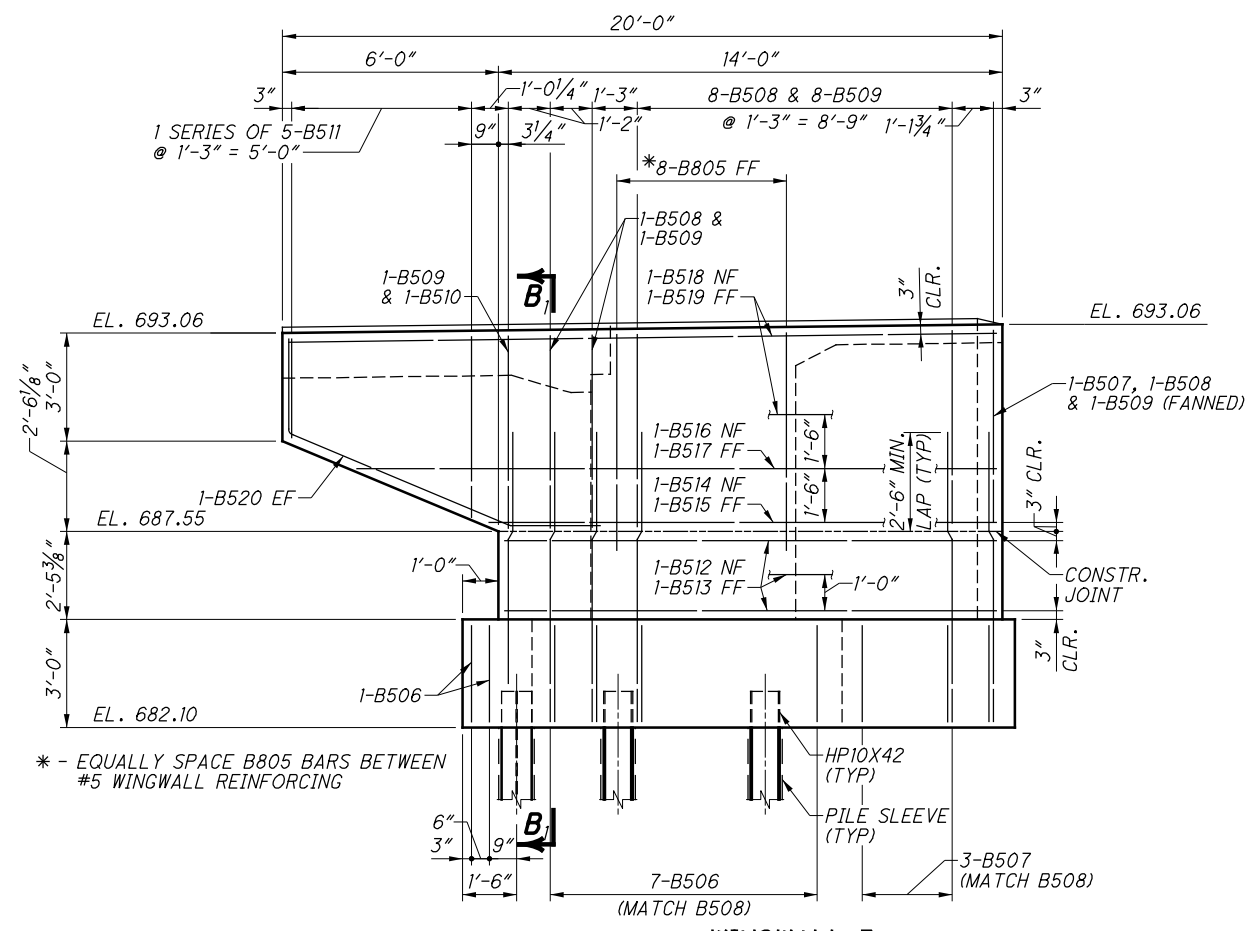
11 / 54

258 / 301

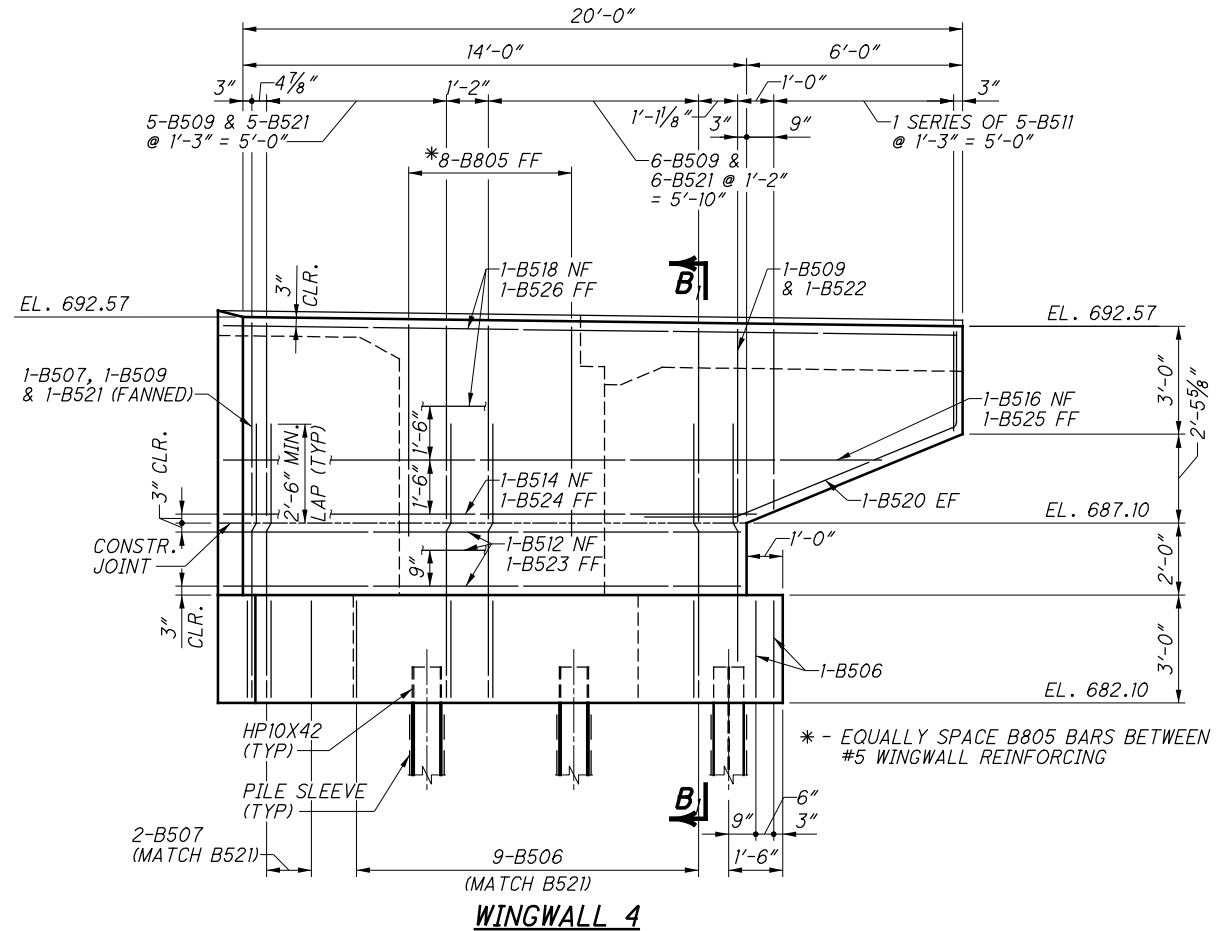
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FORWARD ABUTMENT FOOTING PLAN - LEFT STRUCTURE



WINGWALL 3
(MSE WALL NOT SHOWN FOR CLARITY)



WINGWALL 4
(MSE WALL NOT SHOWN FOR CLARITY)

LEGEND

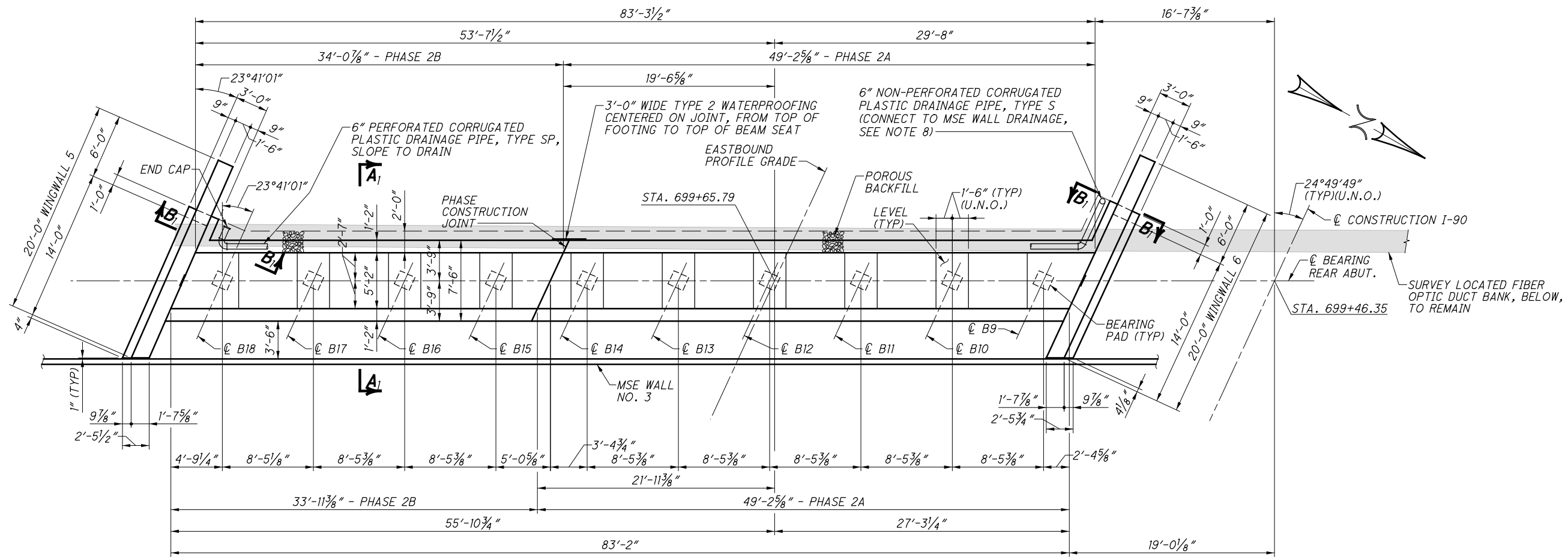
- I = HP10x42 STEEL PILE
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- PEJF = PREFORMED EXPANSION JOINT FILLER
- MSE = MECHANICALLY STABILIZED EARTH

NOTES:

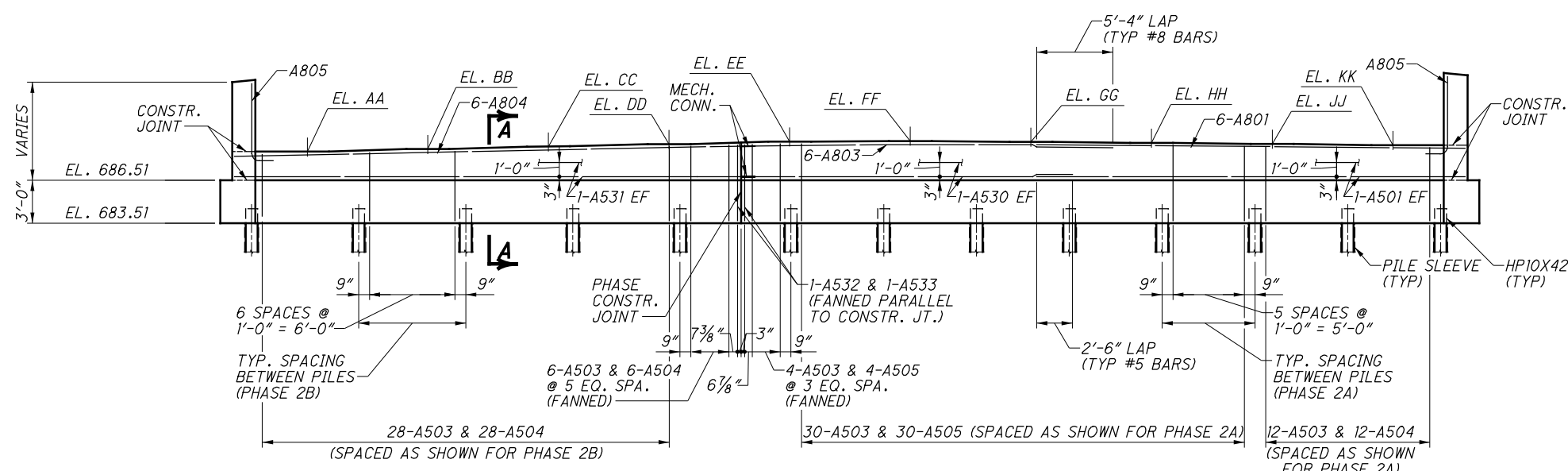
- FOR GENERAL NOTES, SEE SHEET 3/54.
- FOR REINFORCING STEEL LIST, SEE SHEET 47/54.
- FOR SECTIONS B₁-B₁ & C-C, SEE SHEETS 17/54 AND 18/54.
- PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.

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DRAWN MNM	STRUCTURE FILE NUMBER L-4710002
DESIGNED SJM	REVISED AMM
FORWARD ABUTMENT FOOTING PLAN - LEFT STRUCTURE BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
LOR-90-1320	PID No. 83449
12/54	259/301

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REAR ABUTMENT PLAN - RIGHT STRUCTURE



REAR ABUTMENT ELEVATION - RIGHT STRUCTURE
(MSE WALL NOT SHOWN FOR CLARITY)

ABUTMENT SEAT ELEVATION TABLE									
EL. AA	EL. BB	EL. CC	EL. DD	EL. EE	EL. FF	EL. GG	EL. HH	EL. JJ	EL. KK
688.51	688.70	688.87	689.04	689.21	689.26	689.19	689.12	689.05	688.97

LEGEND
MSE = MECHANICALLY STABILIZED EARTH
EF = EACH FACE
U.N.O. = UNLESS NOTED OTHERWISE

- NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3/54.
 - FOR REINFORCING STEEL LIST, SEE SHEET 48/54.
 - FOR FOOTING PLAN, SEE SHEET 14/54.
 - FOR SECTIONS A1-A1 & B1-B1, SEE SHEET 17/54.
 - FOR WINGWALL ELEVATIONS, SEE SHEET 14/54.
 - FOR BEARING PAD DETAILS, SEE SHEET 22/54.
 - PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.
 - FOR ABUTMENT DRAINAGE CONNECTION TO MSE WALL DRAINAGE, SEE MSE WALL PLAN SHEETS 193/301 AND 194/301.

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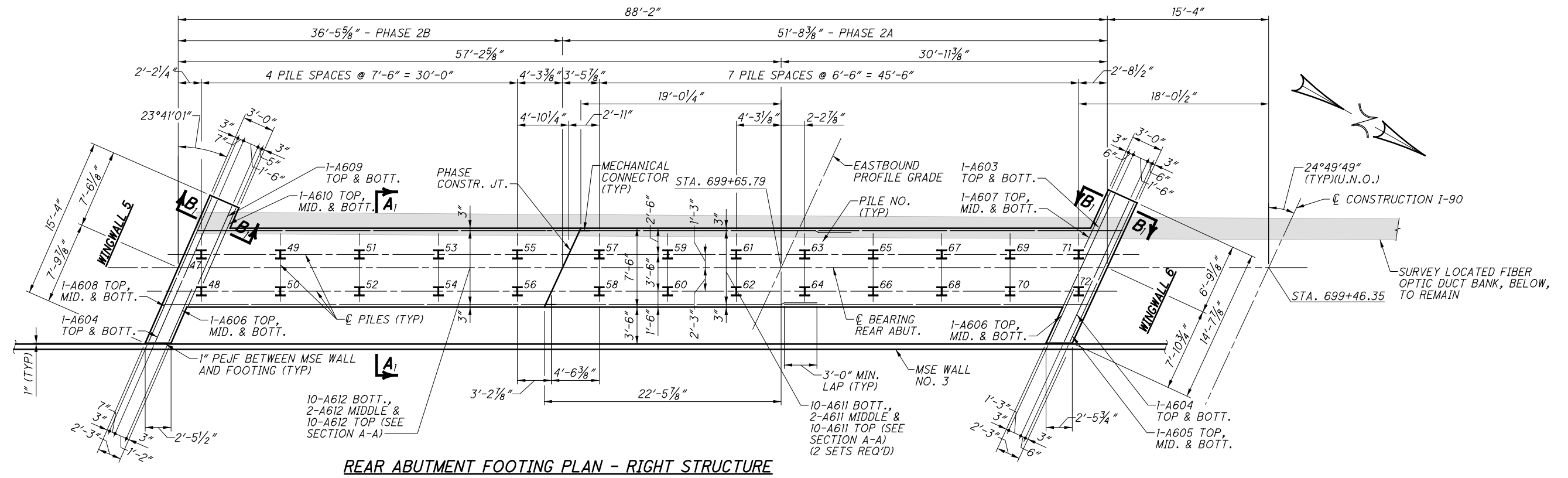
DATE 4-16
REVIEWED DWS
DESIGNED SJM
DRAWN MNM
CHECKED AMM
STRUCTURE FILE NUMBER L-4710002
R-4710003

REAR ABUTMENT - RIGHT STRUCTURE
 BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD

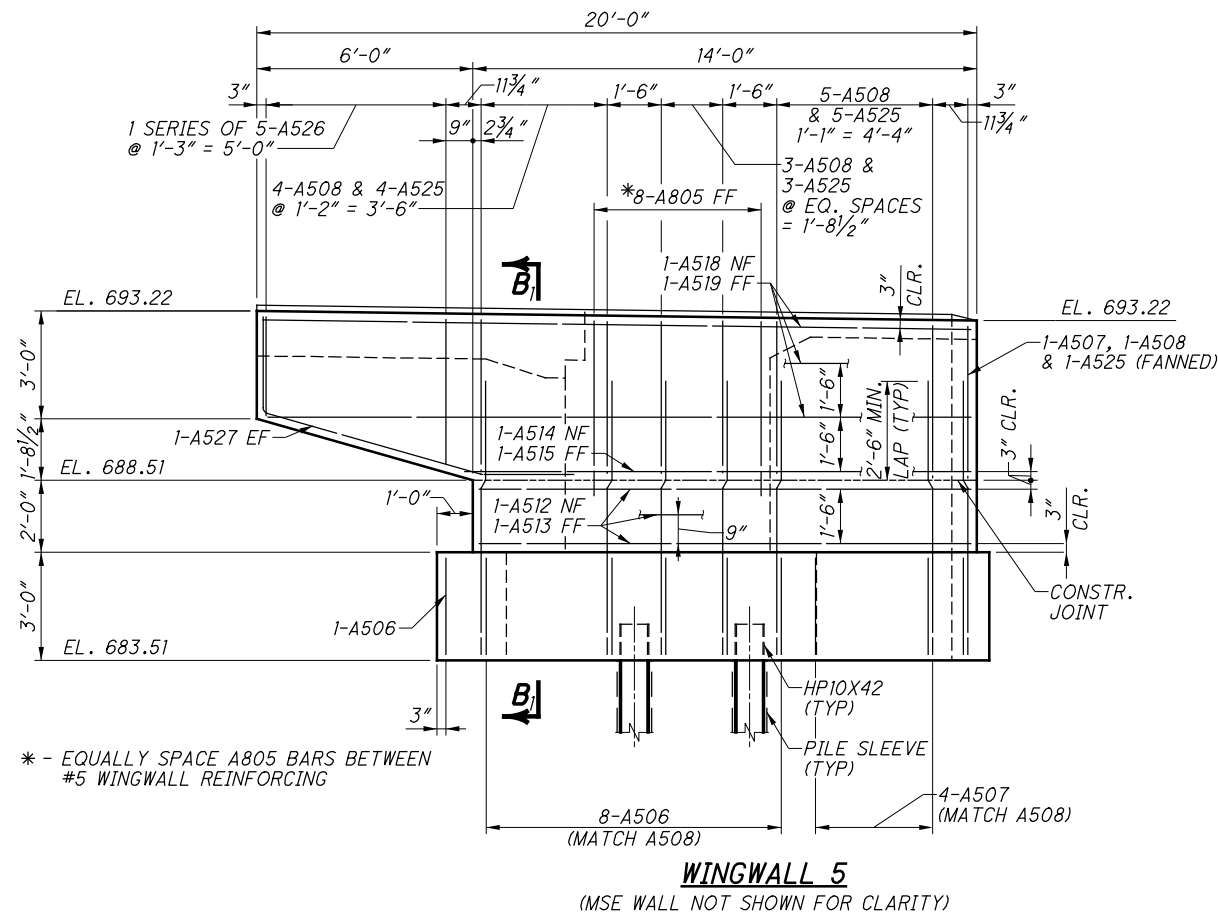
LOR-90-1320
PID No. 83449

13/54
 260/301

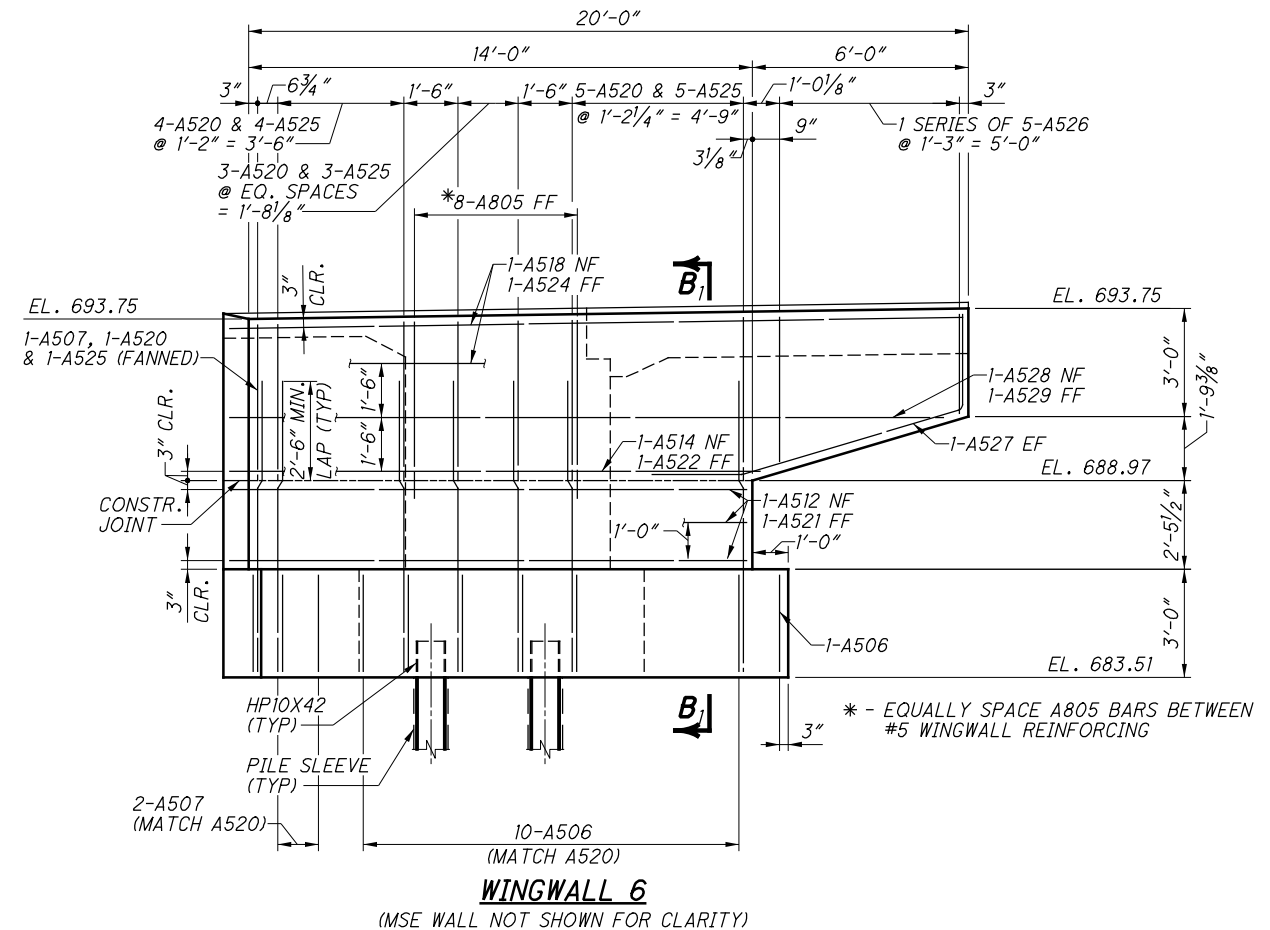
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REAR ABUTMENT FOOTING PLAN - RIGHT STRUCTURE



WINGWALL 5
(MSE WALL NOT SHOWN FOR CLARITY)



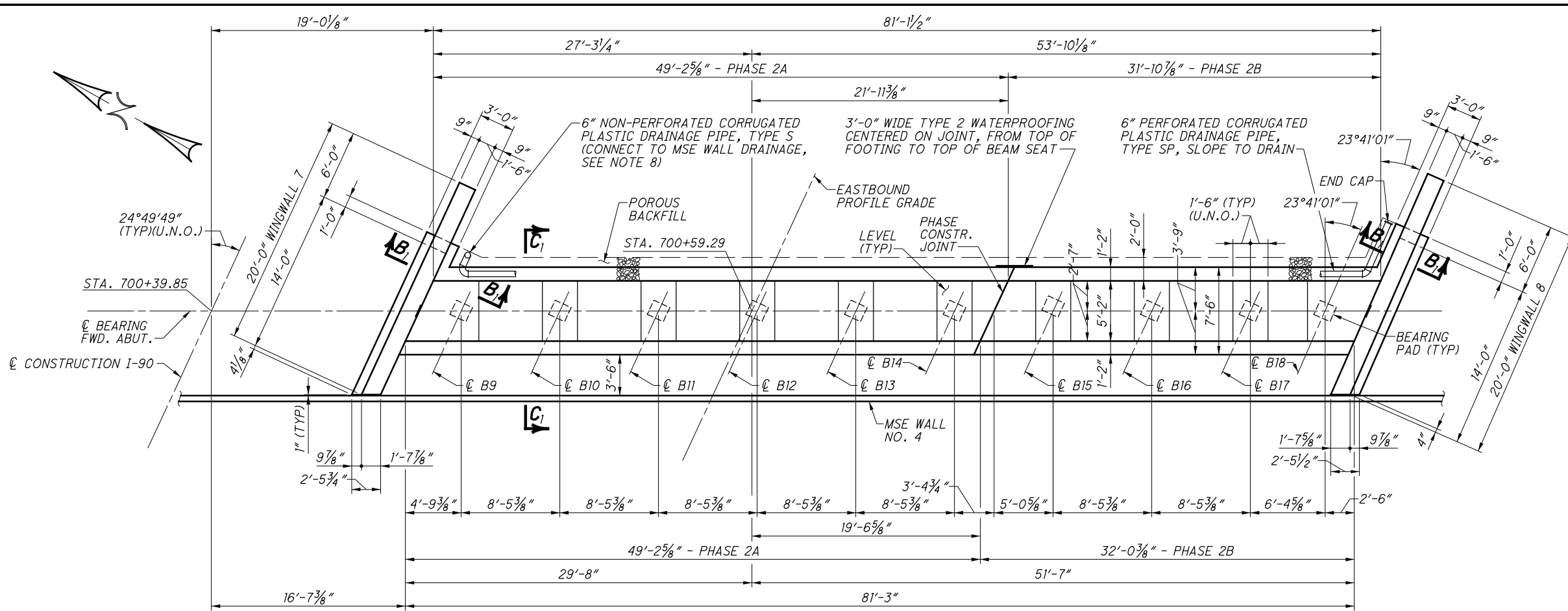
WINGWALL 6
(MSE WALL NOT SHOWN FOR CLARITY)

LEGEND
 I = HP10x42 STEEL PILE
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 PEJF = PREFORMED EXPANSION JOINT FILLER
 MSE = MECHANICALLY STABILIZED EARTH
 U.N.O. = UNLESS NOTED OTHERWISE

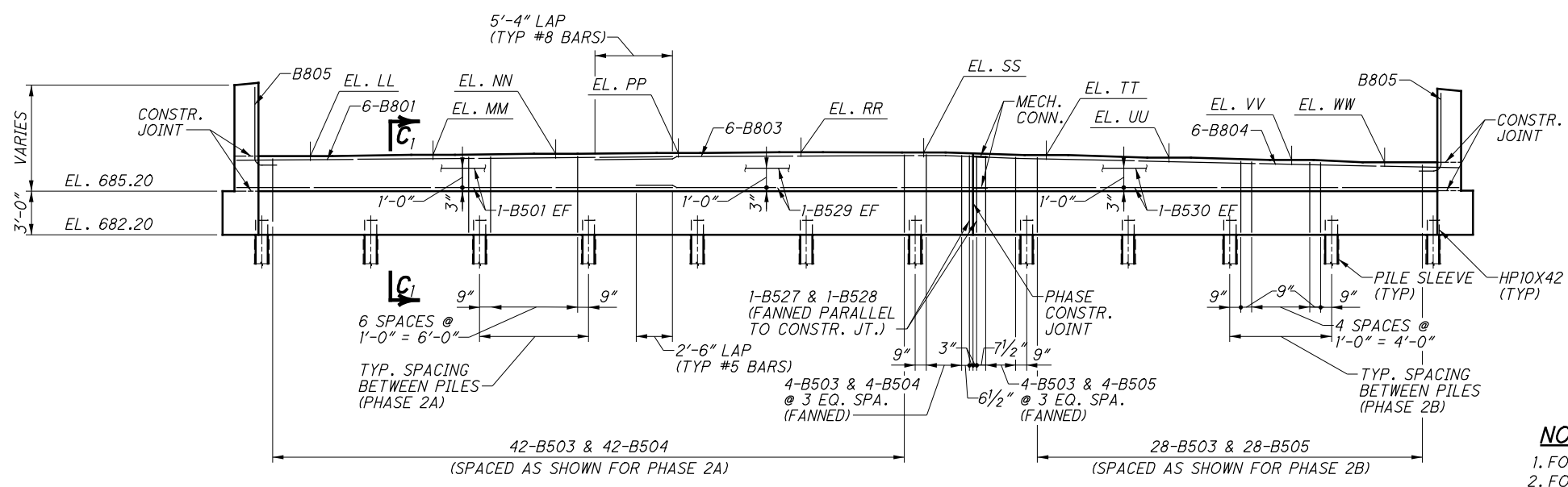
NOTES:
 1. FOR GENERAL NOTES, SEE SHEET 3/54.
 2. FOR REINFORCING STEEL LIST, SEE SHEET 48/54.
 3. FOR SECTIONS A-A & B₁-B₁, SEE SHEET 17/54.
 4. PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.

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DRAWN MNM	STRUCTURE FILE NUMBER L-4710002 R-4710003
DESIGNED SJM	CHECKED AMM
REAR ABUTMENT FOOTING PLAN - RIGHT STRUCTURE	
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
LOR-90-1320	PID No. 83449
14/54	261 301

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FORWARD ABUTMENT PLAN - RIGHT STRUCTURE



FORWARD ABUTMENT ELEVATION - RIGHT STRUCTURE
(MSE WALL NOT SHOWN FOR CLARITY)

ABUTMENT SEAT ELEVATION TABLE									
EL. LL	EL. MM	EL. NN	EL. PP	EL. RR	EL. SS	EL. TT	EL. UU	EL. VV	EL. WW
687.62	687.70	687.77	687.84	687.91	687.86	687.69	687.52	687.35	687.20

LEGEND
 MSE = MECHANICALLY STABILIZED EARTH
 EF = EACH FACE
 U.N.O. = UNLESS NOTED OTHERWISE

- NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3 / 54.
 - FOR REINFORCING STEEL LIST, SEE SHEET 49 / 54.
 - FOR FOOTING PLAN, SEE SHEET 16 / 54.
 - FOR SECTIONS B₁-B₃ & C₁-C₁, SEE SHEETS 17 / 54 AND 18 / 54.
 - FOR WINGWALL ELEVATIONS, SEE SHEET 16 / 54.
 - FOR BEARING PAD DETAILS, SEE SHEET 22 / 54.
 - PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.
 - FOR ABUTMENT DRAINAGE CONNECTION TO MSE WALL DRAINAGE, SEE MSE WALL PLAN SHEETS 193 / 301 AND 194 / 301.

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R-4710003

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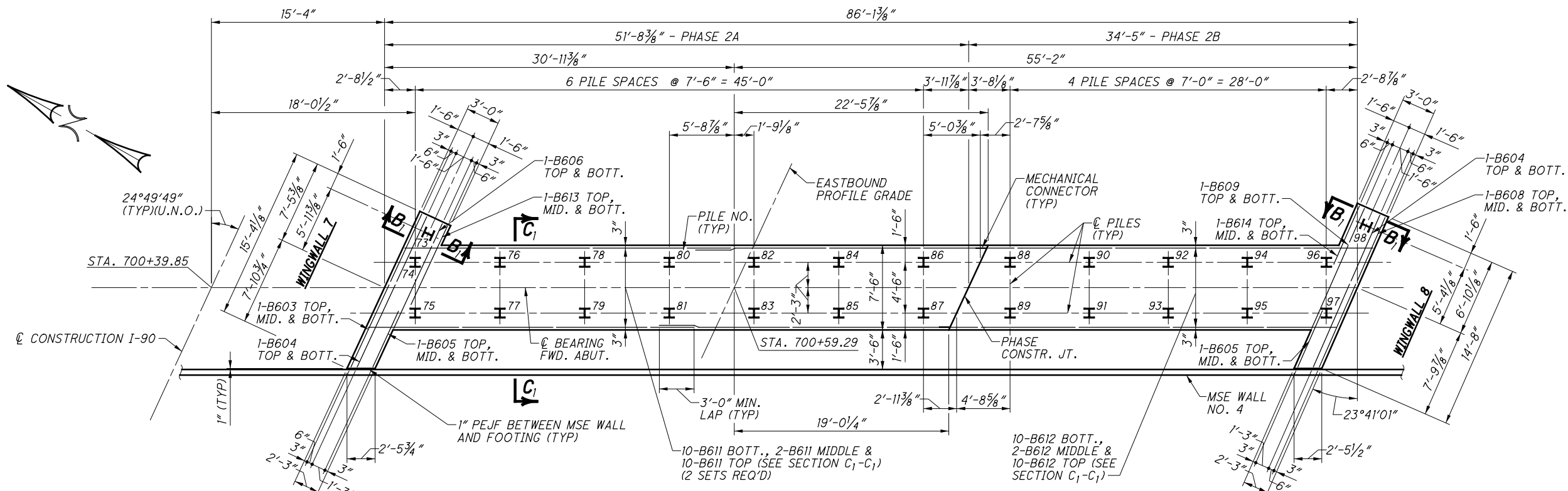
FORWARD ABUTMENT - RIGHT STRUCTURE
 BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD

LOR-90-1320
PID No. 83449

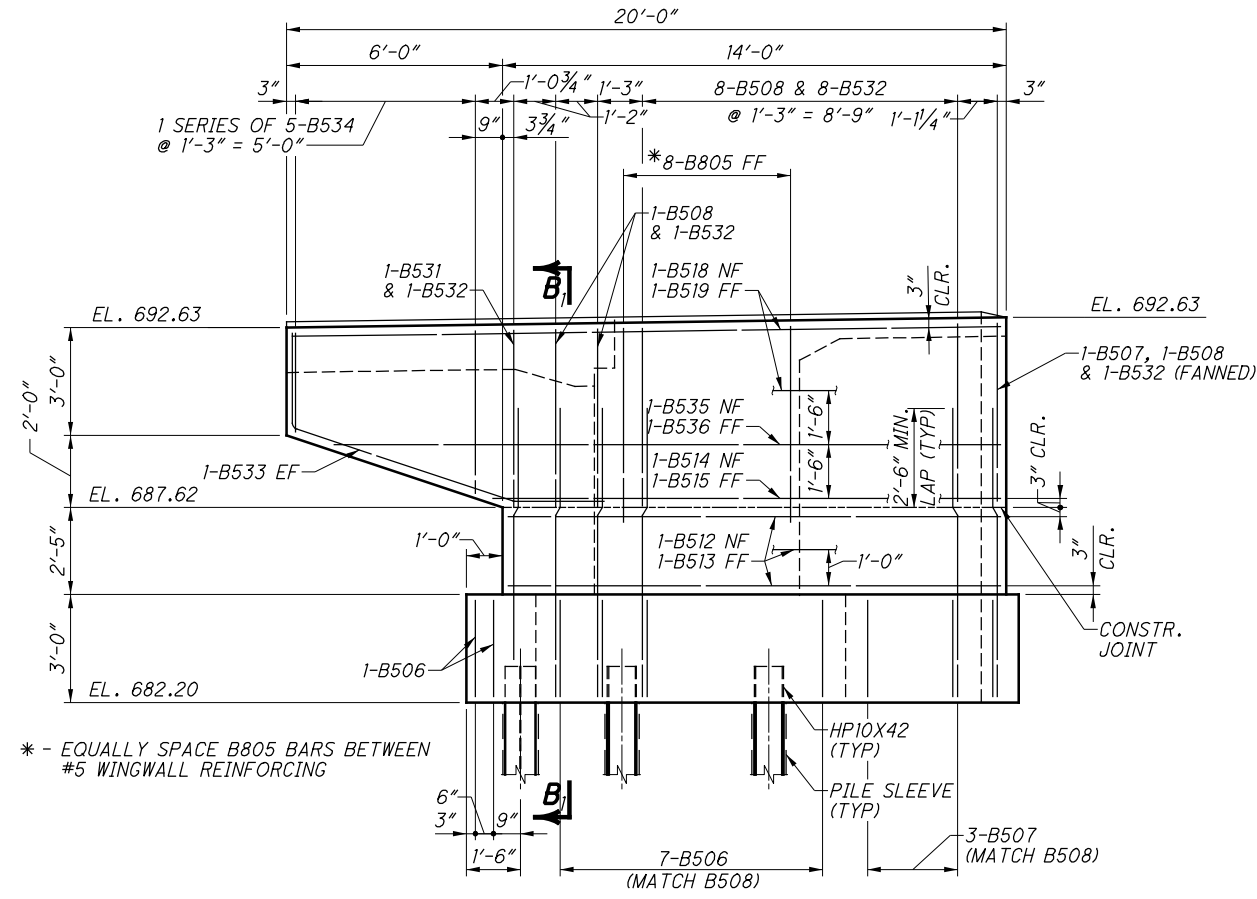
15 / 54

262 / 301

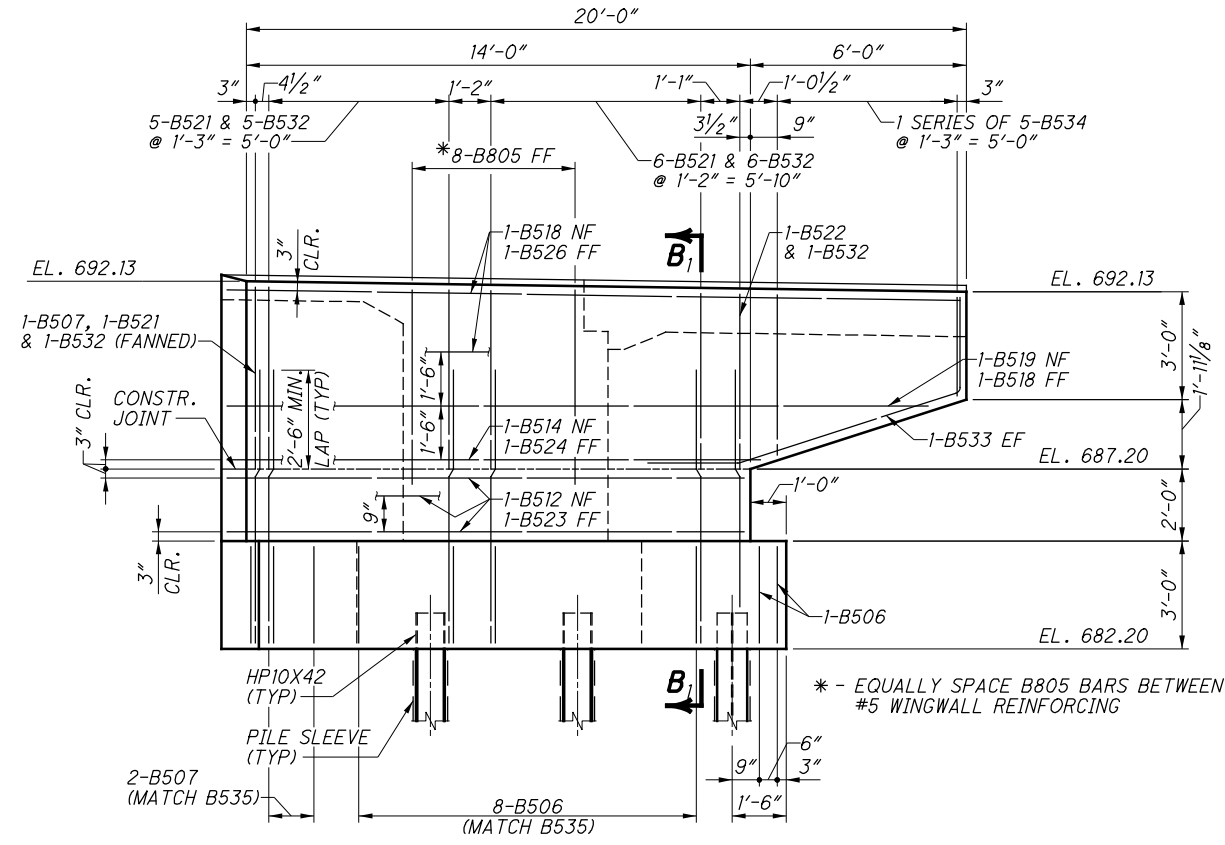
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FORWARD ABUTMENT FOOTING PLAN - RIGHT STRUCTURE



WINGWALL 7
(MSE WALL NOT SHOWN FOR CLARITY)



WINGWALL 8
(MSE WALL NOT SHOWN FOR CLARITY)

- LEGEND**
- HP10x42 (TYP) = HP10x42 STEEL PILE
 - NF = NEAR FACE
 - FF = FAR FACE
 - EF = EACH FACE
 - PEJF = PREFORMED EXPANSION JOINT FILLER
 - MSE = MECHANICALLY STABILIZED EARTH
 - U.N.O. = UNLESS NOTED OTHERWISE

- NOTES:**
1. FOR GENERAL NOTES, SEE SHEET 3/54.
 2. FOR REINFORCING STEEL LIST, SEE SHEET 49/54.
 3. FOR SECTIONS B₁-B₁ & C₁-C₁, SEE SHEETS 17/54 AND 18/54.
 4. PILE SLEEVES SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, 707.33 OR 707.42. REFER TO SS840 FOR BACKFILLING OF SLEEVES AFTER PILE PLACEMENT. PAYMENT FOR PILE SLEEVES AND BACKFILL SHALL BE INCLUDED WITH ITEM 840, MSE WALL.

DESIGN AGENCY	LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842	DATE	4-16
DESIGNED	DRAWN	REVIEWED	DATE
SJM	MNM	DWS	4-16
CHECKED	REVISED	STRUCTURE FILE NUMBER	R-4770003
AMM	AMM	L-4710002	R-4770003

FORWARD ABUTMENT FOOTING PLAN - RIGHT STRUCTURE

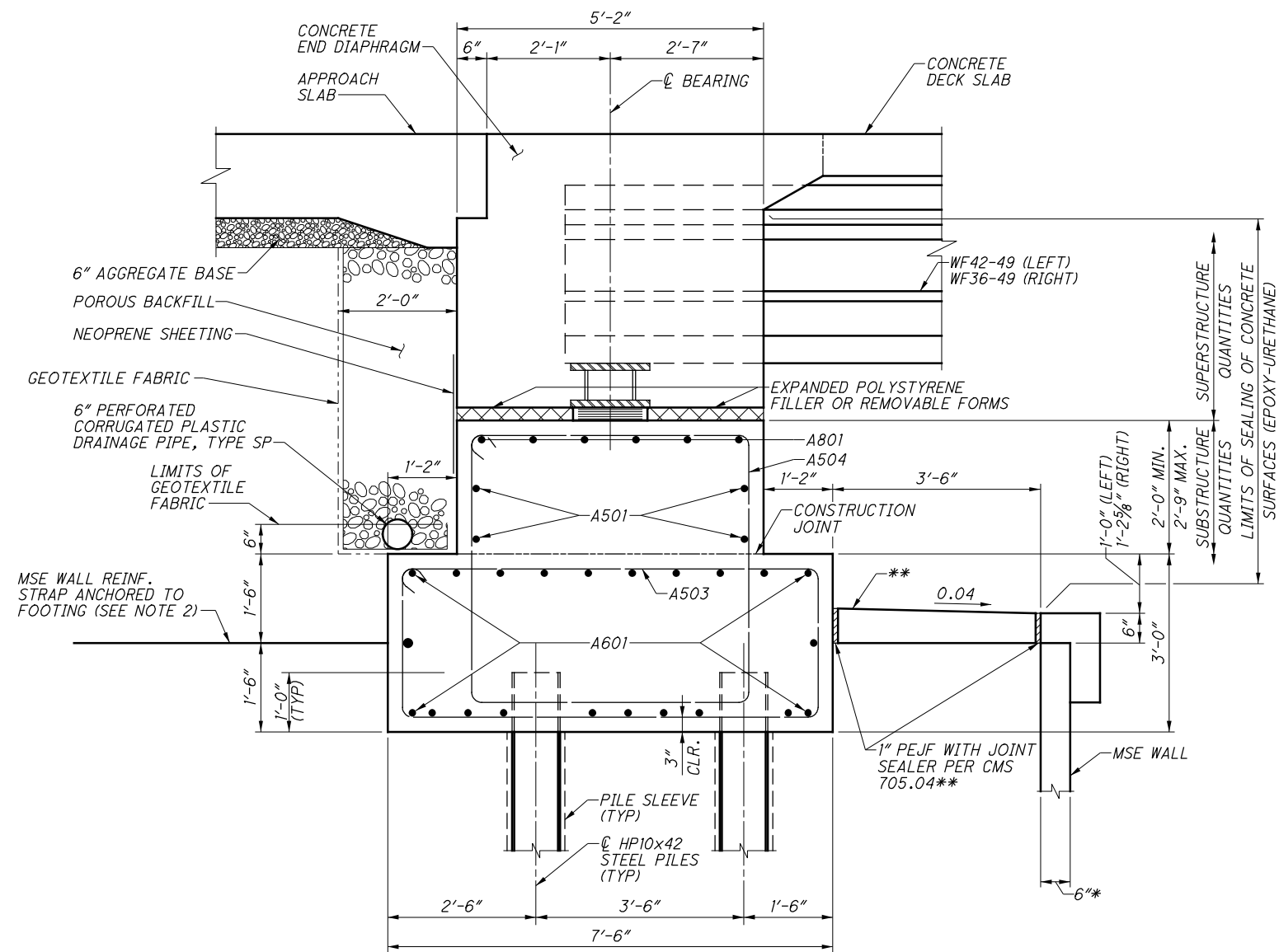
BRIDGE NO. LOR-90-1355L/R
I-90 OVER WEST RIVER ROAD

LOR-90-1320
PID No. 83449

16 / 54

263
301

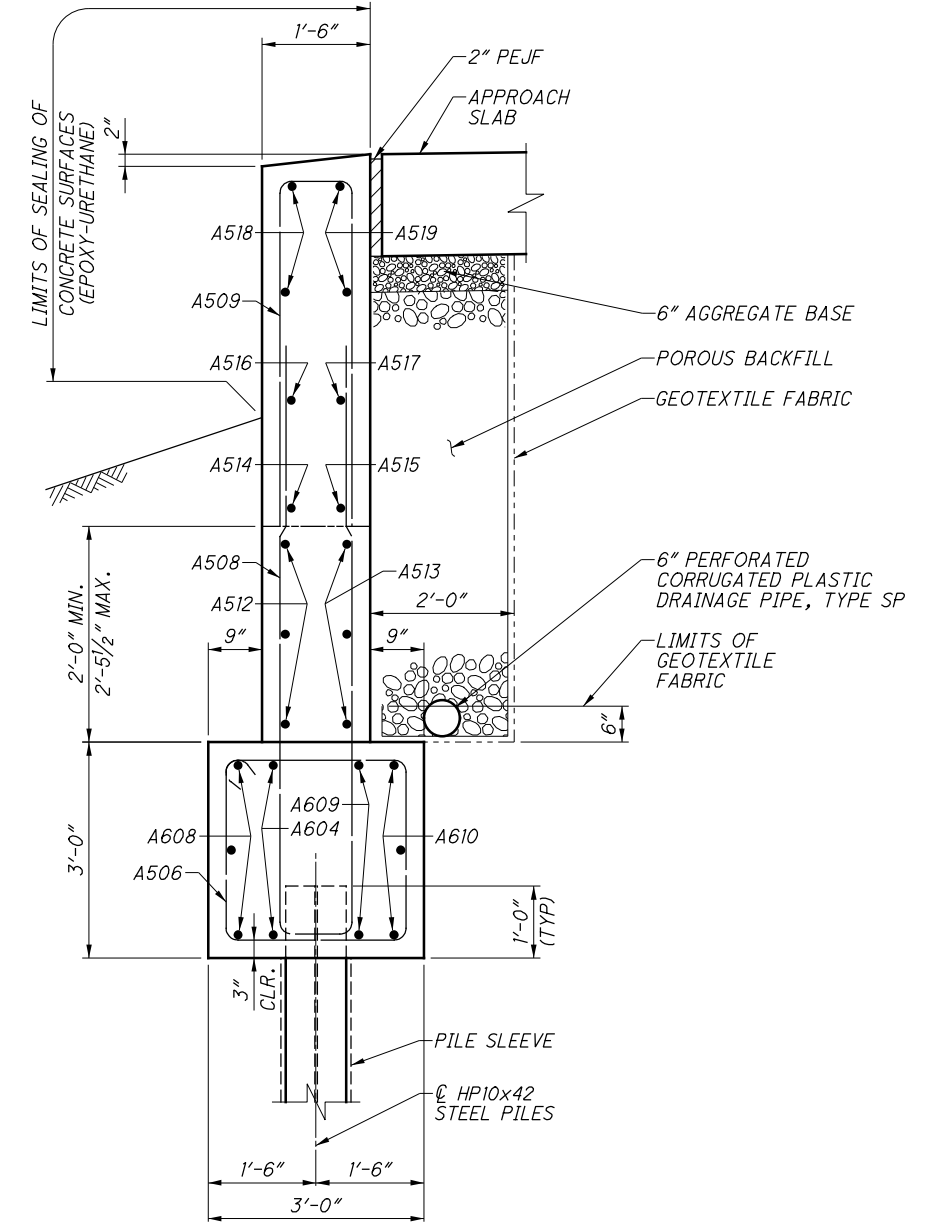
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SECTION A-A
(SECTION A₁-A₁ SIMILAR)

*ASSUMED TOTAL THICKNESS OF MSE WALL PANELS SHOWN, ACTUAL THICKNESS MAY VARY PENDING APPROVED MSE WALL SYSTEM MANUFACTURER

**UNREINFORCED CONCRETE SLAB; PAYMENT FOR CONCRETE, JOINT SEALER AND 1" PEJF ARE INCLUDED IN ITEM 601, CONCRETE SLOPE PROTECTION



SECTION B-B
(SECTION B₁-B₁ SIMILAR)

LEGEND

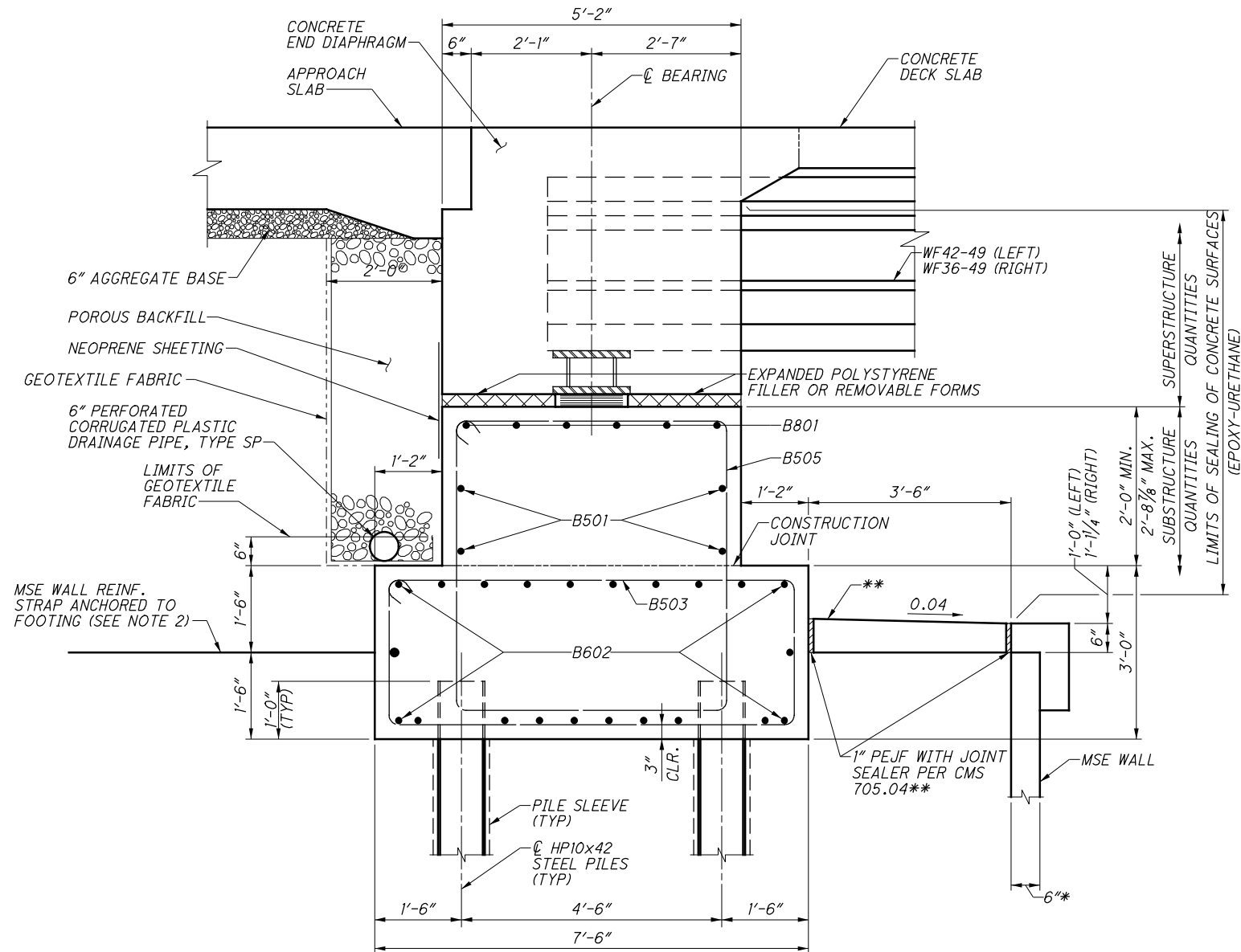
PEJF = PREFORMED EXPANSION JOINT FILLER
MSE = MECHANICALLY STABILIZED EARTH

NOTES:

- FOR ABUTMENT PLANS AND ELEVATIONS, SEE SHEETS 9/54 THRU 16/54.
- HORIZONTAL MSE WALL STRAPS IN ABUTMENT FOOTING SHALL BE PAID WITH ITEM 840, MECHANICALLY STABILIZED EARTH WALL, SEE SHEET 183/301.

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DRAWN	MNM	REVIEWED	DWS	CHECKED	AMM
		STRUCTURE FILE NUMBER	L-4710002		
		R-4710003			
ABUTMENT SECTIONS					
BRIDGE NO. LOR-90-1355L/R					
I-90 OVER WEST RIVER ROAD					
LOR-90-1320					
PID No. 83449					
17/54					
264/301					

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SECTION C-C
(SECTION C₁-C₁ SIMILAR)

*ASSUMED TOTAL THICKNESS OF MSE WALL PANELS SHOWN, ACTUAL THICKNESS MAY VARY PENDING APPROVED MSE WALL SYSTEM MANUFACTURER

**UNREINFORCED CONCRETE SLAB; PAYMENT FOR CONCRETE, JOINT SEALER AND 1" PEJF ARE INCLUDED IN ITEM 601, CONCRETE SLOPE PROTECTION

LEGEND

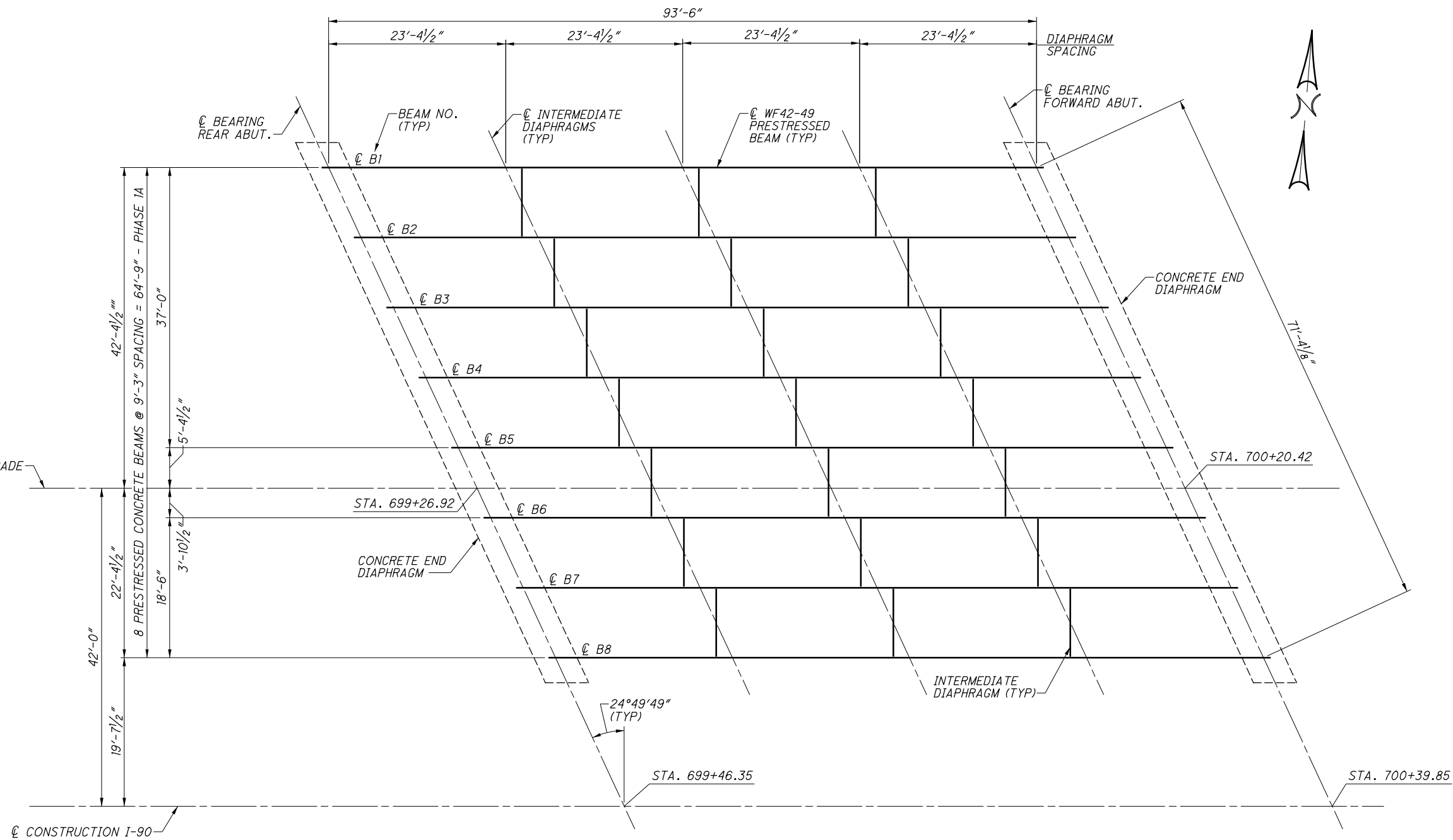
PEJF = PREFORMED EXPANSION JOINT FILLER
MSE = MECHANICALLY STABILIZED EARTH

NOTES:

- FOR ABUTMENT PLANS AND ELEVATIONS, SEE SHEETS 9/54 THRU 16/54.
- HORIZONTAL MSE WALL STRAPS IN ABUTMENT FOOTING SHALL BE PAID WITH ITEM 840, MECHANICALLY STABILIZED EARTH WALL, SEE SHEET 183/301.

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REVIEWED	DWS
STRUCTURE FILE NUMBER	L-4710002
DESIGNED	SJM
CHECKED	AMM
DRAWN	MNM
REVISED	R-4710003
ABUTMENT SECTIONS	
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
LOR-90-1320	PID No. 83449
18/54	265/301

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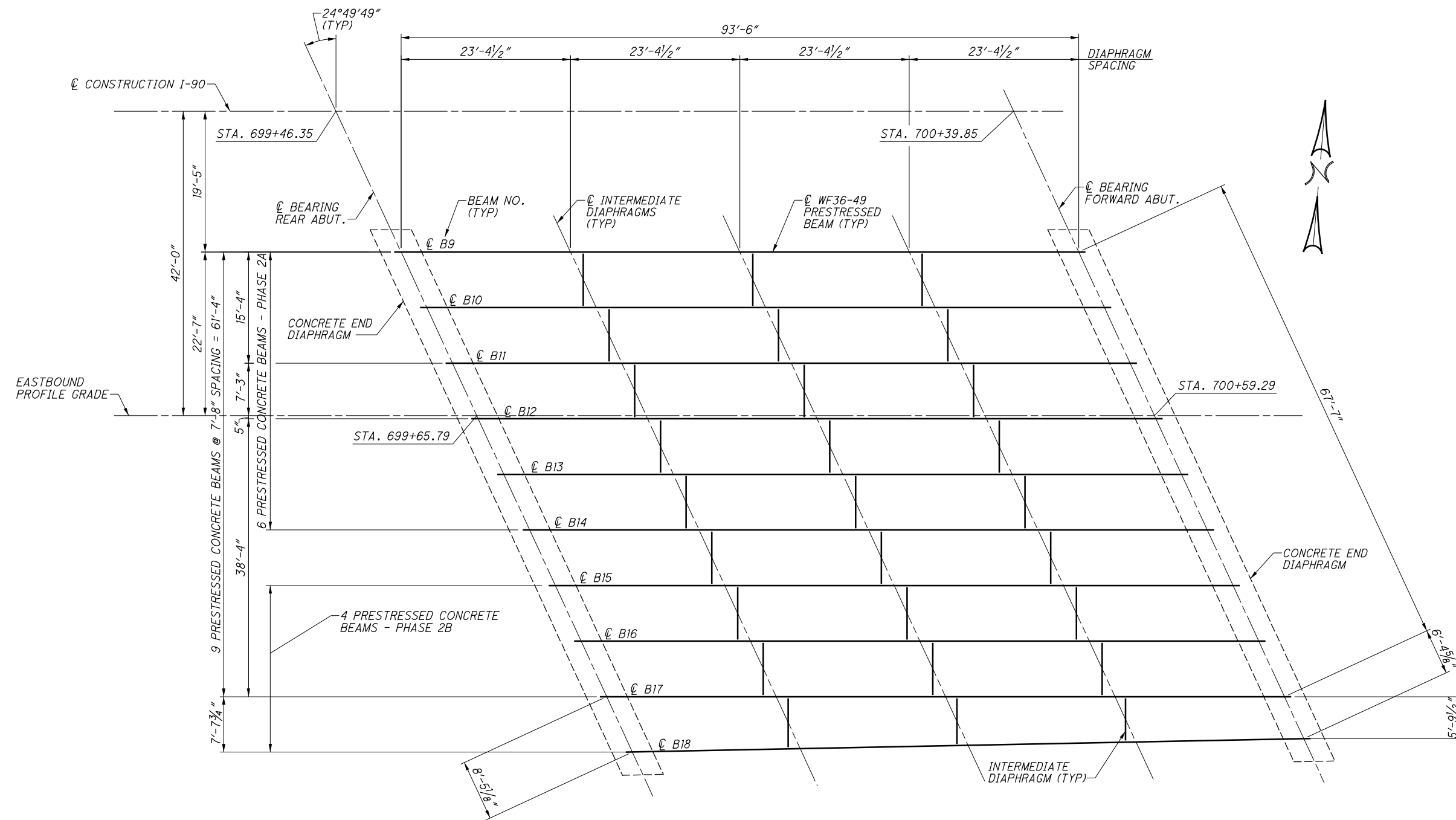
FRAMING PLAN - LEFT STRUCTURE

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 3/54.
2. FOR PRESTRESSED CONCRETE I-BEAM DETAILS, SEE SHEET 23/54.
3. FOR END DIAPHRAGM DETAILS, SEE SHEETS 25/54 THRU 27/54.
4. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE STD. DWG PSID-1-13.
5. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET 21/54.
6. FOR ADDITIONAL NOTES AND DETAILS, SEE STD. DWG PSID-1-13.

<p>LOR-90-1320 PID No. 83449</p>	<p>FRAMING PLAN - LEFT STRUCTURE BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD</p>	<p>DESIGNED AMT</p> <p>CHECKED SUM</p>	<p>DRAWN MNM</p> <p>REVISIED</p>	<p>REVIEWED DWS</p> <p>DATE 4-16</p> <p>STRUCTURE FILE NUMBER L-4710002 R-4710003</p>	<p>DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com</p>
<p>19/54</p>	<p>266 301</p>				

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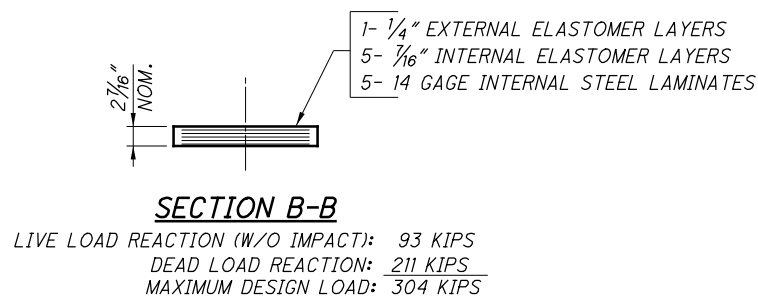
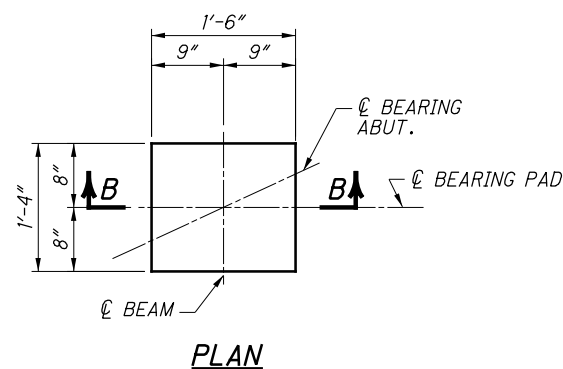
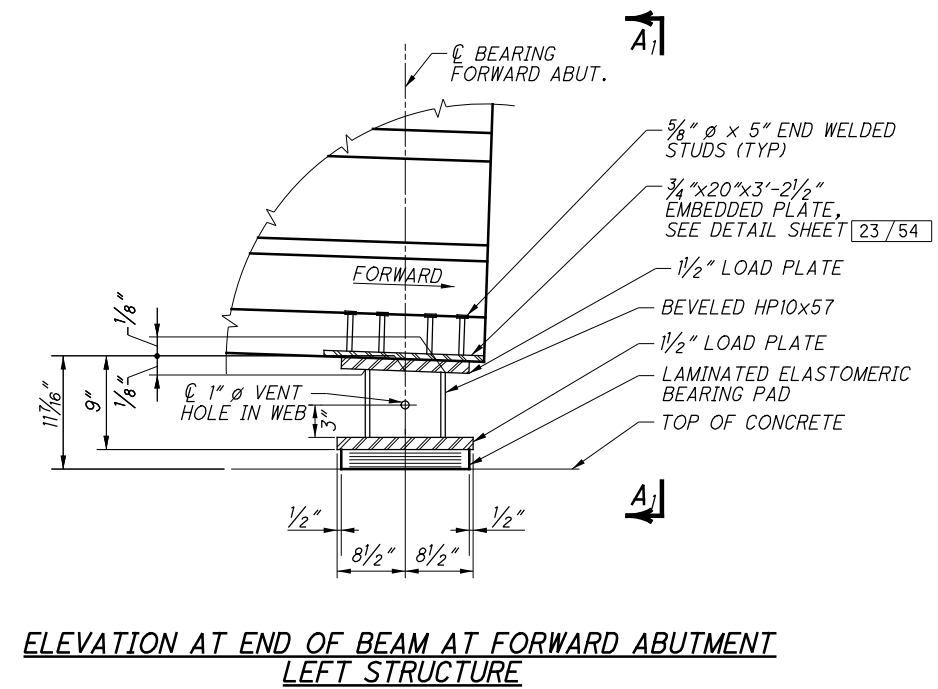
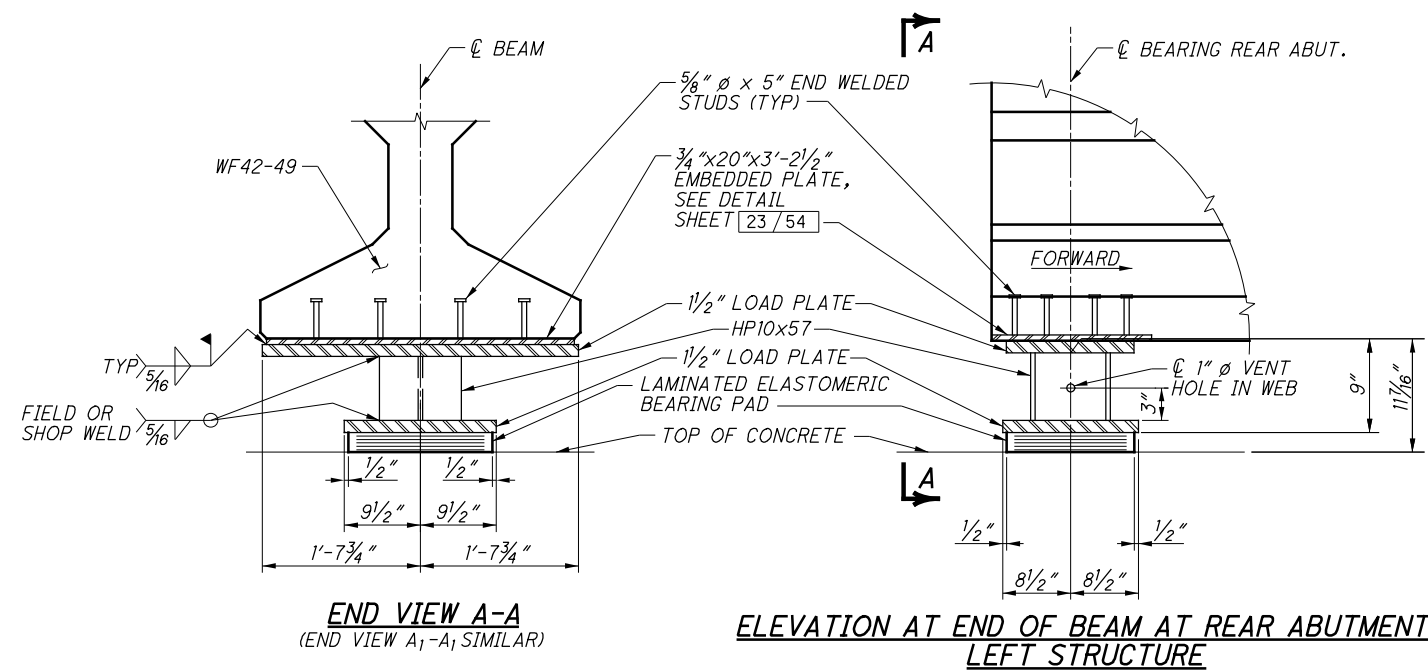
FRAMING PLAN - RIGHT STRUCTURE

NOTES:

1. FOR GENERAL NOTES, SEE SHEET [3 / 54].
2. FOR PRESTRESSED CONCRETE I-BEAM DETAILS, SEE SHEET [24 / 54].
3. FOR END DIAPHRAGM DETAILS, SEE SHEETS [28 / 54] THRU [31 / 54].
4. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE STD. DWG PSID-1-13.
5. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET [22 / 54].
6. FOR ADDITIONAL NOTES AND DETAILS, SEE STD. DWG PSID-1-13.

LOR-90-1320 PID No. 83449	FRAMING PLAN - RIGHT STRUCTURE BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	DESIGNED SJM	CHECKED AMT	DRAWN MNM	REVISED	REVIEWED DWS	DATE 4-16	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LibInc.com
		STRUCTURE FILE NUMBER L-4710002		R-4710003				
		20 / 54		267 / 301				

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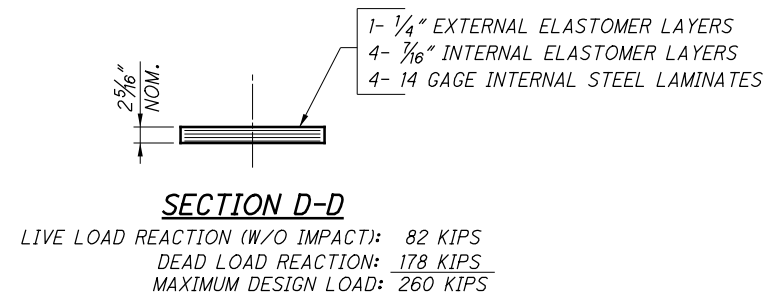
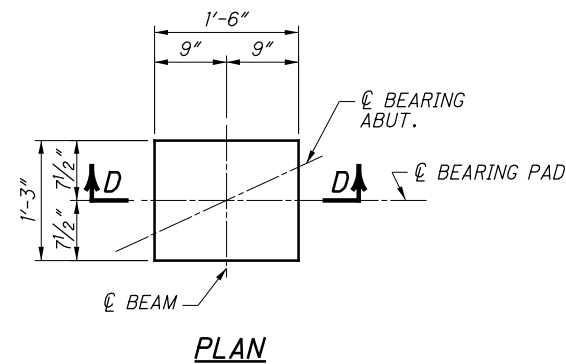
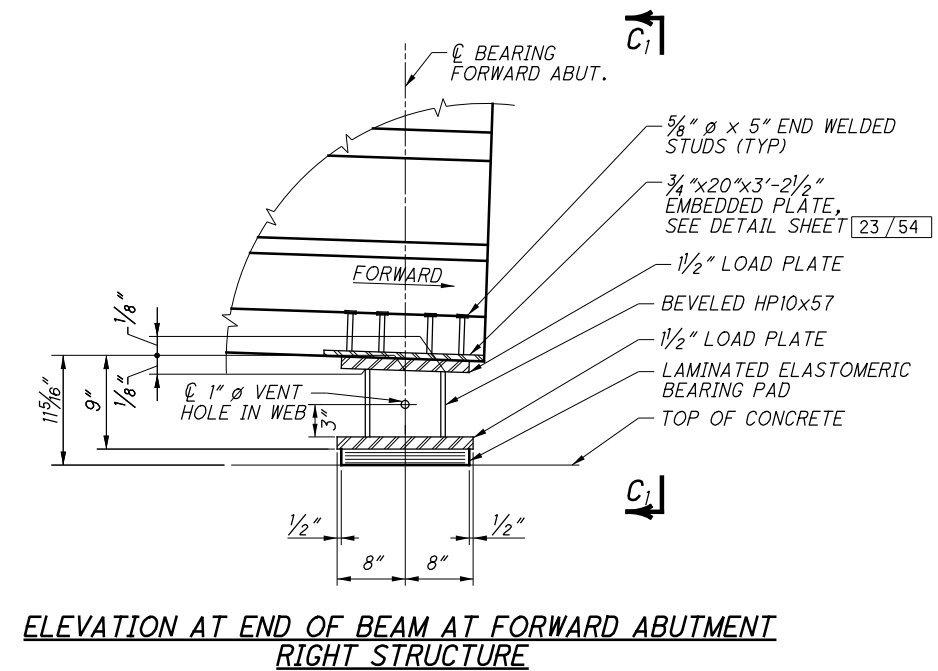
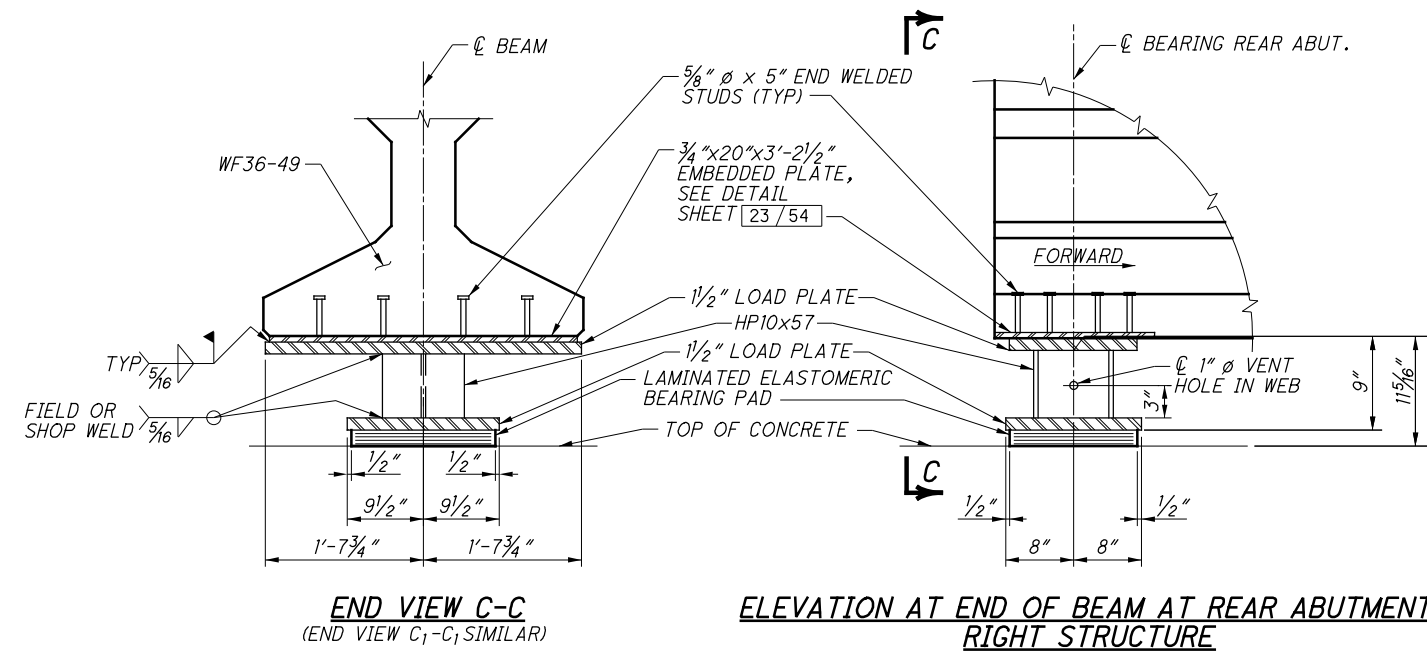
LAMINATED ELASTOMERIC BEARING PAD DETAILS - LEFT STRUCTURE

LAMINATED ELASTOMERIC BEARING NOTES:

1. **ELASTOMERIC BEARINGS:** THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. THE STEEL LOAD PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50 AND SHALL BE BONDED TO THE ELASTOMER BY VULCANIZATION DURING THE MOLDING PROCESS. LOAD PLATES AND EMBEDDED PLATES SHALL BE GALVANIZED PER 711.02 (SEE STD. DWG. PSID-1-13). TOP OF LOAD PLATES SHALL BE SHOP MARKED WITH PAINT INDICATING: BEAM, SUBSTRUCTURE UNIT AND FORWARD DIRECTION.
3. **BASIS OF PAYMENT:** THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL ELASTOMERIC BEARINGS. PAYMENT WILL BE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE, AS PER PLAN, AS LISTED UNDER THE ESTIMATED QUANTITIES.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
5. THE END OF THE BEAM SHALL BE STABILIZED DURING ERECTION AND CONSTRUCTION OF THE BRIDGE.

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (837) 259-5000 ext. • (837) 259-5100 fax • LIBinc.com
	DATE 4-16
DRAWN MSD	REVIEWED DWS
CHECKED AMM	STRUCTURE FILE NUMBER L-4710002 R-4710003
LAMINATED ELASTOMERIC BEARING PAD DETAILS - LEFT STRUCTURE	
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
LOR-90-1320	PID No. 83449
21 / 54	
268 301	

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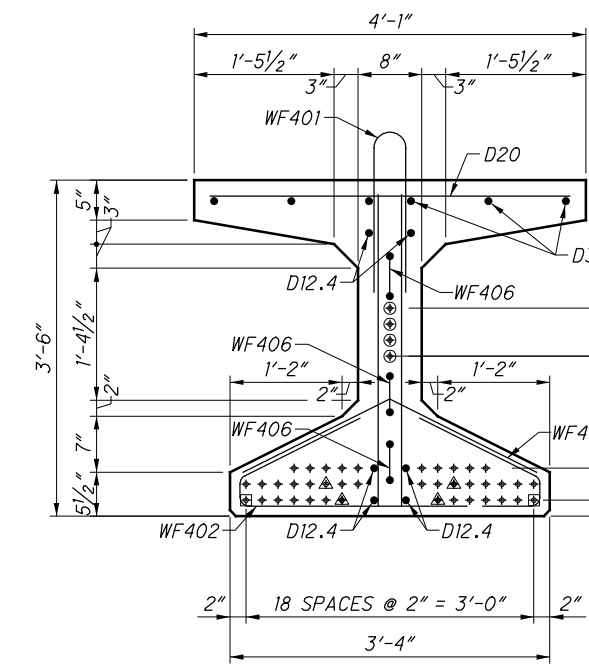
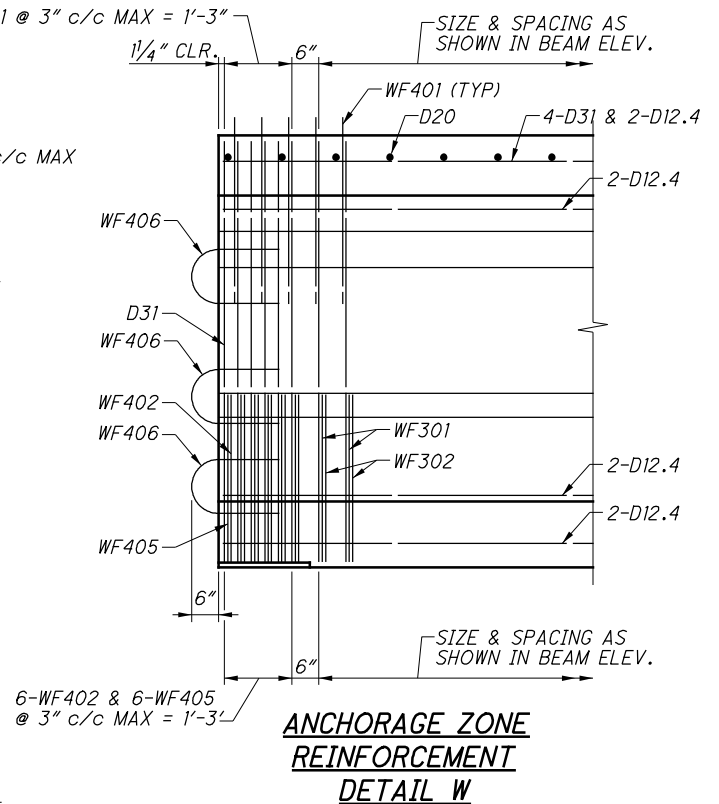
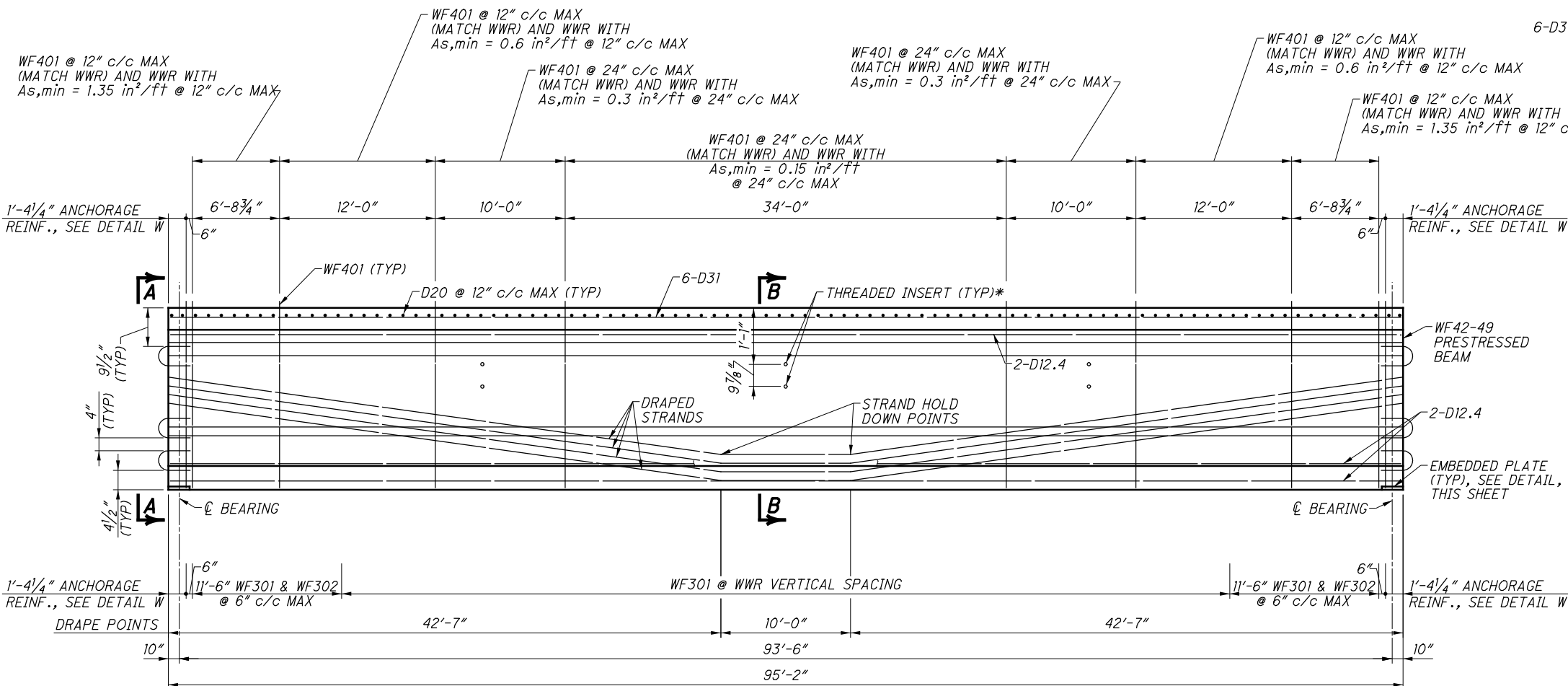
LAMINATED ELASTOMERIC BEARING PAD DETAILS - RIGHT STRUCTURE

LAMINATED ELASTOMERIC BEARING NOTES:

1. **ELASTOMERIC BEARINGS:** THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. THE STEEL LOAD PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50 AND SHALL BE BONDED TO THE ELASTOMER BY VULCANIZATION DURING THE MOLDING PROCESS. LOAD PLATES AND EMBEDDED PLATES SHALL BE GALVANIZED PER 711.02 (SEE STD. DWG. PSID-1-13). TOP OF LOAD PLATES SHALL BE SHOP MARKED WITH PAINT INDICATING: BEAM, SUBSTRUCTURE UNIT AND FORWARD DIRECTION.
3. **BASIS OF PAYMENT:** THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL ELASTOMERIC BEARINGS. PAYMENT WILL BE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE, AS PER PLAN, AS LISTED UNDER THE ESTIMATED QUANTITIES.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
5. THE END OF THE BEAM SHALL BE STABILIZED DURING ERECTION AND CONSTRUCTION OF THE BRIDGE.

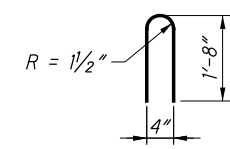
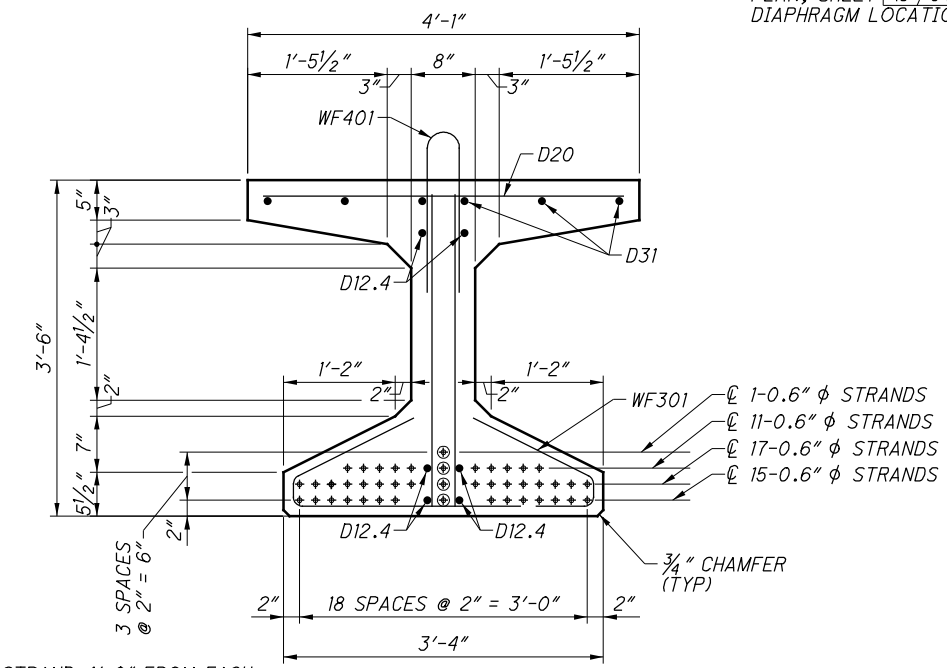
	DESIGN AGENCY LIB Inc. • 2510 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. • (837) 259-5100 fax • LIBinc.com
DATE 4-16	REVIEWED DWS
DRAWN MSD	STRUCTURE FILE NUMBER L-4710002 R-4710003
DESIGNED SJM	CHECKED AMM
LAMINATED ELASTOMERIC BEARING PAD DETAILS - RIGHT STRUCTURE	
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
LOR-90-1320	PID No. 83449
22 / 54	
269 301	

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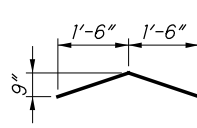


LEGEND

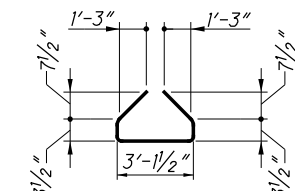
- ▲ = DEBOND STRAND 4'-0" FROM EACH END OF BEAM
- = DEBOND STRAND 8'-0" FROM EACH END OF BEAM
- ⊙ = DRAPED STRAND



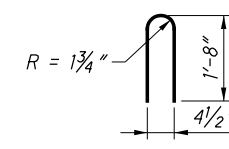
WF401
(SHALL BE EPOXY COATED)



WF302 & WF405

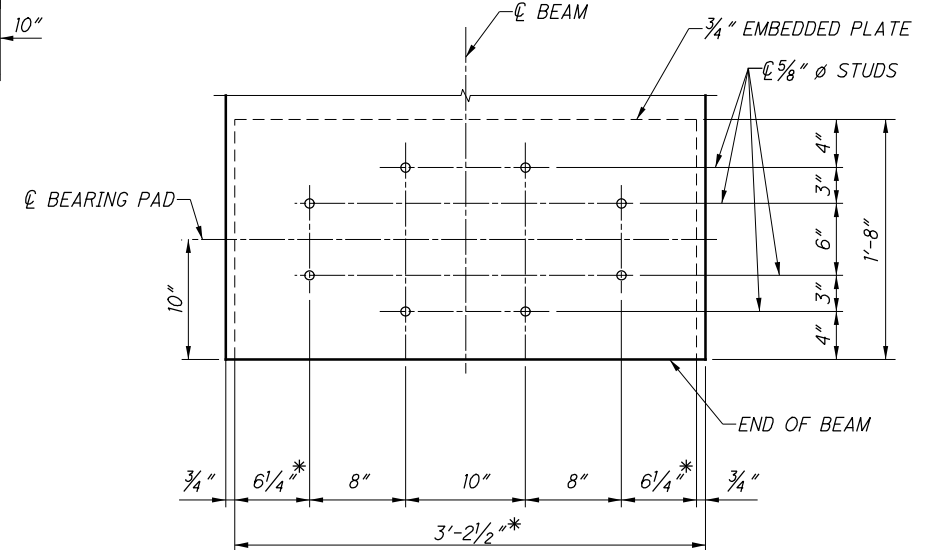


WF301 & WF402



WF406
(SHALL BE EPOXY COATED)

*THREADED INSERT FOR INTERMEDIATE DIAPHRAGM CONNECTION, SEE FRAMING PLAN, SHEET [19/54], FOR INTERMEDIATE DIAPHRAGM LOCATIONS



EMBEDDED PLATE DETAIL

NOTE: END WELDED STUDS MAY BE MOVED SLIGHTLY IN ORDER TO AVOID REINFORCING STEEL AND PRESTRESSING STRANDS.

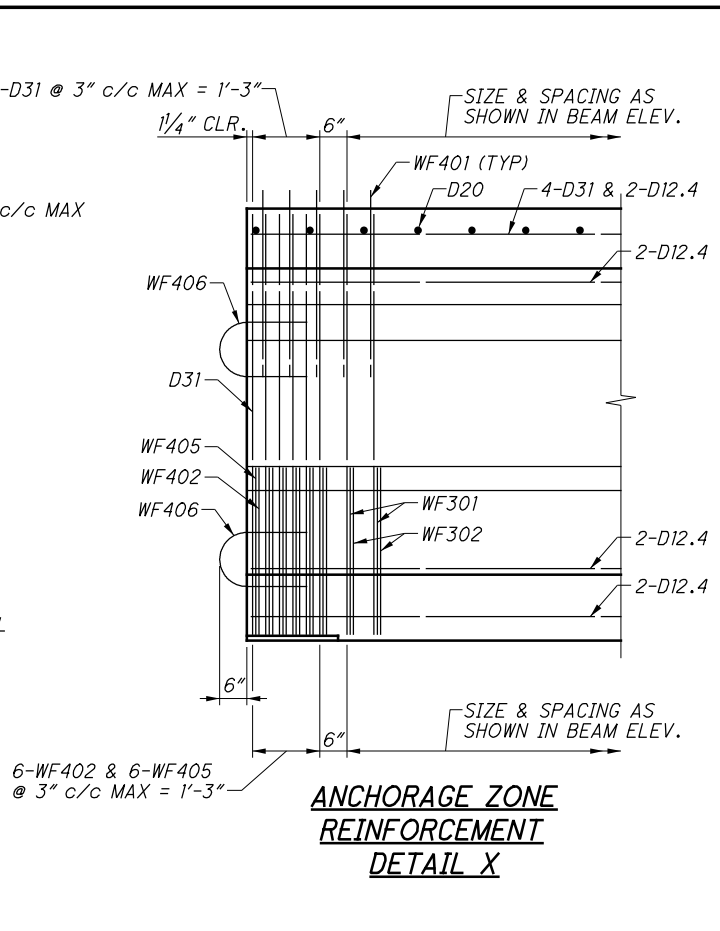
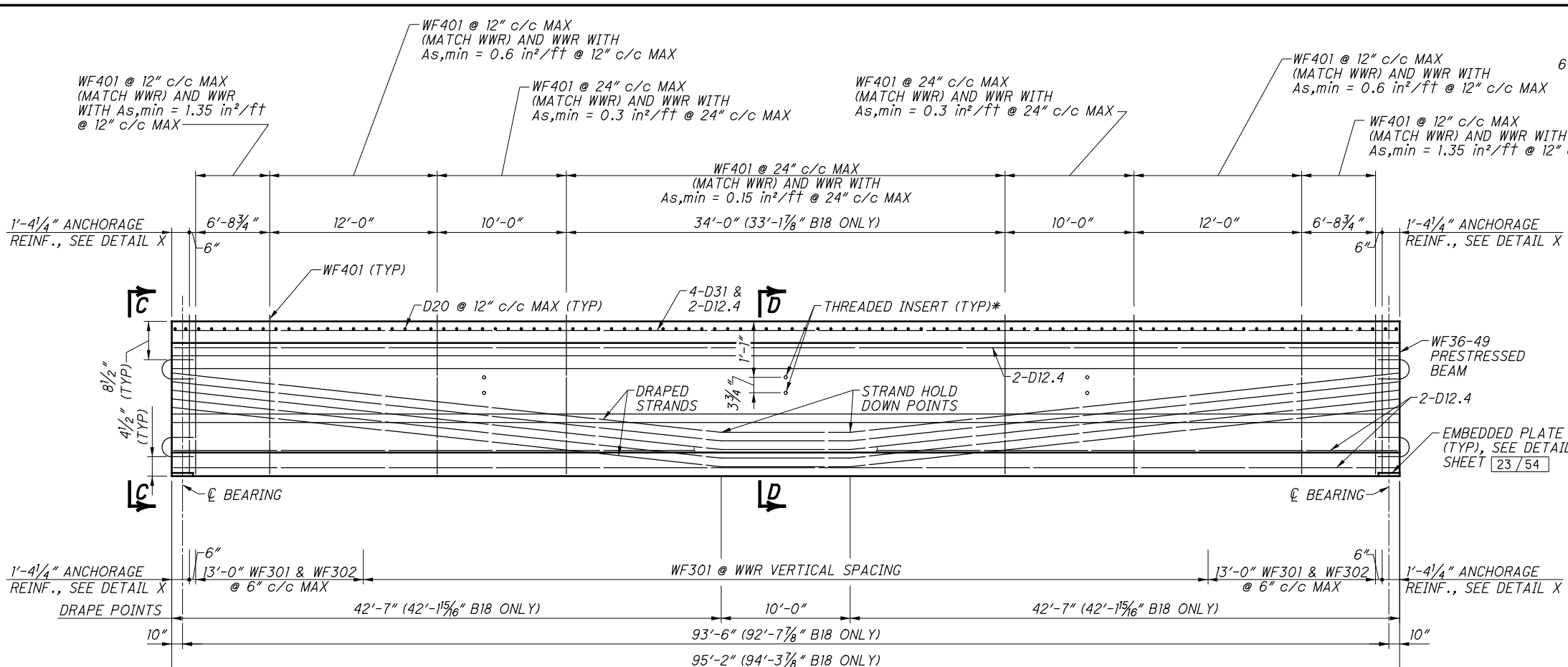
* IN ORDER TO ALLOW FOR FIT-UP, THE PLATE WIDTH MAY BE DECREASED BY 3/8\".

NOTES:

1. ALL REINFORCEMENT FULLY OR PARTIALLY ENCASED IN BEAMS, EMBEDDED PLATES AND THREADED INSERTS AND RODS SHALL BE INCLUDED WITH ITEM 515, DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, FOR PAYMENT.
2. FOR ADDITIONAL PRESTRESSED BEAM NOTES AND DETAILS, SEE STD. DWG. PSID-1-13.
3. ALL STRUCTURAL STEEL, EMBEDDED PLATES AND THREADED INSERTS AND RODS SHALL BE GALVANIZED PER 711.02.
4. ALL PRESTRESSING STRANDS SHALL BE GRADE 270 SEVEN WIRE, UNCOATED, LOW RELAXATION STRANDS, 0.6" φ WITH $A_s = 0.217 \text{ in}^2$.
5. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET [21/54].

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com	DATE 4-16	STRUCTURE FILE NUMBER L-4710002	R-4710003
DRAWN M/M	REVISIONS DWS	CHECKED S/M	DESIGNED A/M	SUM
PRESTRESSED BEAM DETAILS - LEFT STRUCTURE				
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD				
LOR-90-1320	PID No. 83449	23 / 54		
270 301				

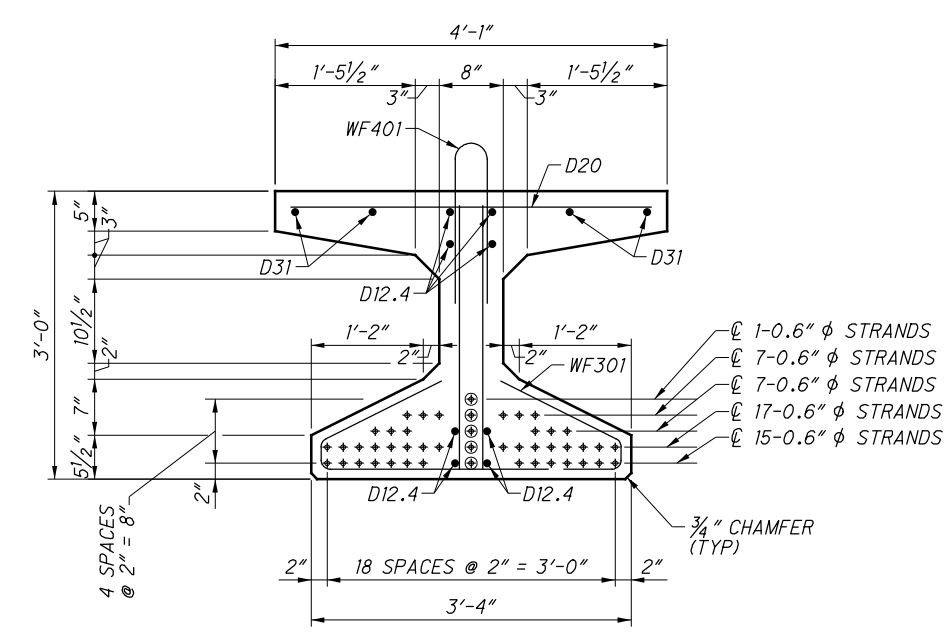
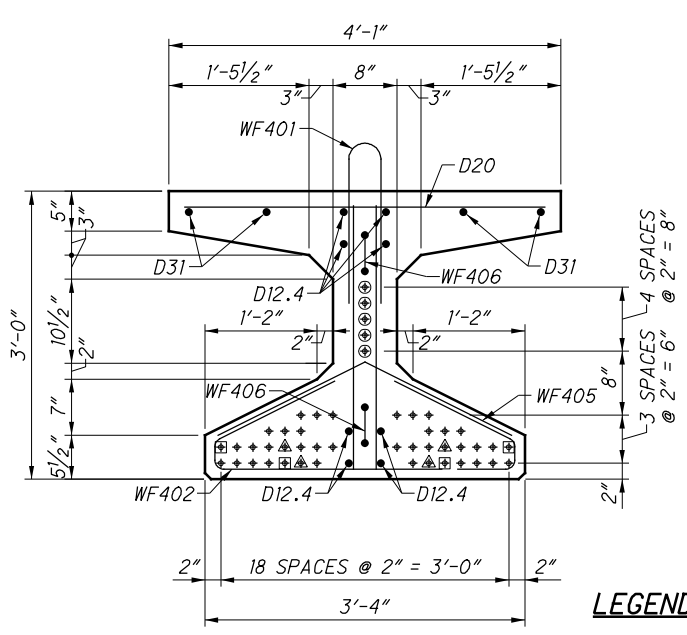
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TYPICAL BEAM ELEVATION - RIGHT STRUCTURE

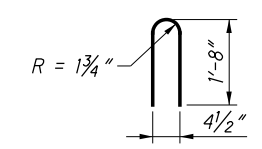
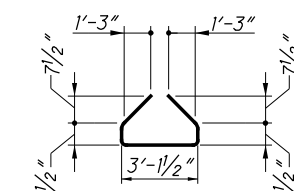
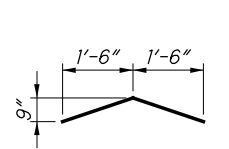
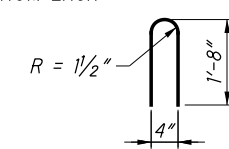
NOTE:
DIMENSIONS SHOWN ARE FOR BEAMS B9-B18 UNLESS NOTED OTHERWISE

*THREADED INSERT FOR INTERMEDIATE DIAPHRAGM CONNECTION, SEE FRAMING PLAN, SHEET [20/54], FOR INTERMEDIATE DIAPHRAGM LOCATIONS



LEGEND

▲ = DEBOND STRAND 5'-0" FROM EACH END OF BEAM
 ▣ = DEBOND STRAND 10'-0" FROM EACH END OF BEAM
 ⊙ = DRAPED STRAND



WF401
(SHALL BE EPOXY COATED)

WF302 & WF405

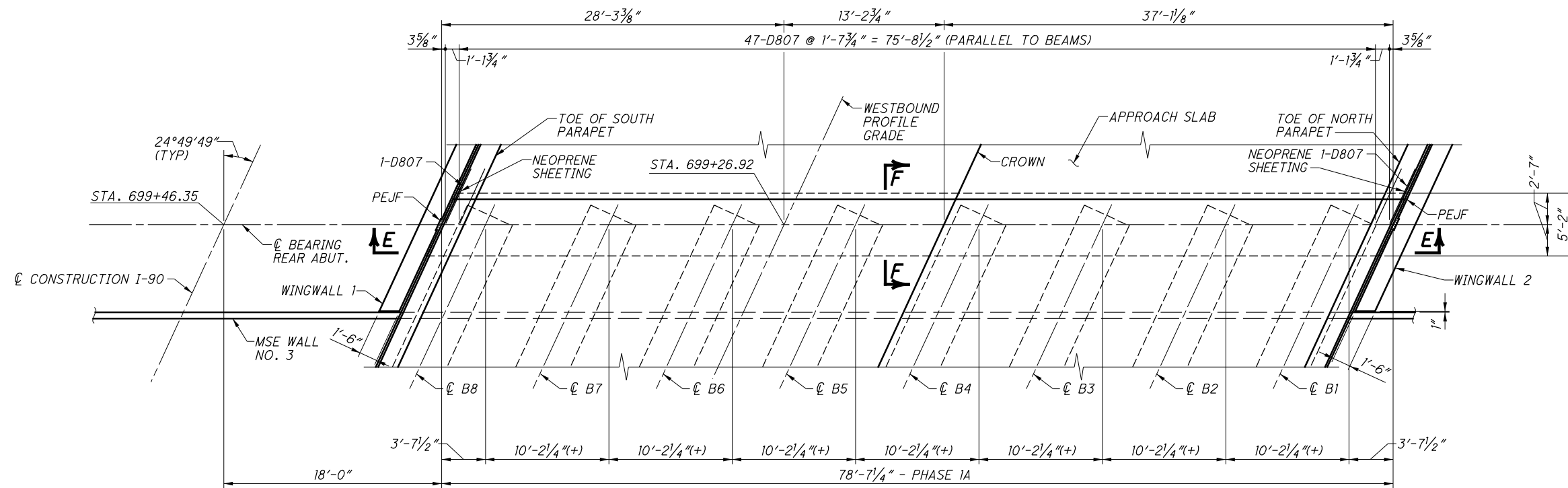
WF301 & WF402

WF406
(SHALL BE EPOXY COATED)

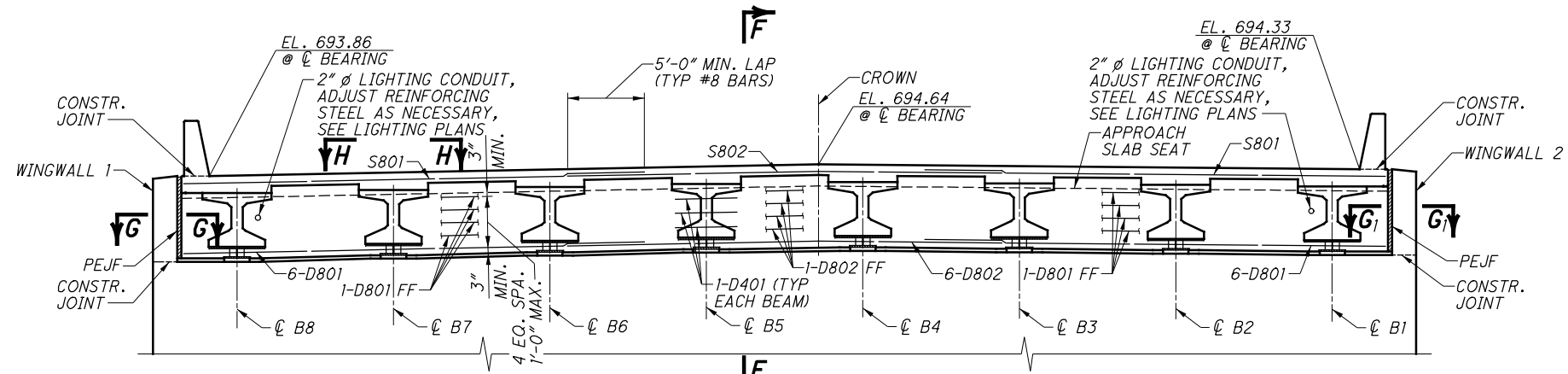
- NOTES:**
- ALL REINFORCEMENT FULLY OR PARTIALLY ENCASED IN BEAMS, EMBEDDED PLATES AND THREADED INSERTS AND RODS SHALL BE INCLUDED WITH ITEM 515, DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, FOR PAYMENT.
 - FOR ADDITIONAL PRESTRESSED BEAM NOTES AND DETAILS, SEE STD. DWG. PSID-1-13.
 - ALL STRUCTURAL STEEL, EMBEDDED PLATES AND THREADED INSERTS AND RODS SHALL BE GALVANIZED PER 711.02.
 - ALL PRESTRESSING STRANDS SHALL BE GRADE 270 SEVEN WIRE, UNCOATED, LOW RELAXATION STRANDS, 0.6" φ WITH $A_s = 0.217 \text{ in}^2$.
 - FOR ELASTOMERIC BEARING DETAILS, SEE SHEET [22/54].

PRESTRESSED BEAM DETAILS - RIGHT STRUCTURE
 BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD
 DESIGN AGENCY: LIB Inc. • 2500 Newmark Drive, Mansfield, OH 44842
 DATE: 4-16
 REVIEWED: DWS
 DRAWN: MNM
 CHECKED: AMT
 STRUCTURE FILE NUMBER: L-4710002
 R-4710003
 LOR-90-1320
 PID No. 83449
 24/54
 271/301

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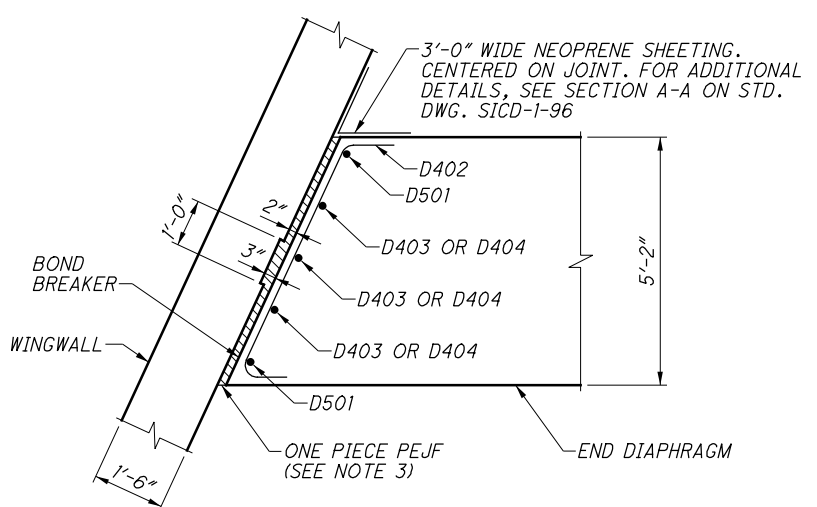


REAR END DIAPHRAGM PLAN - LEFT STRUCTURE

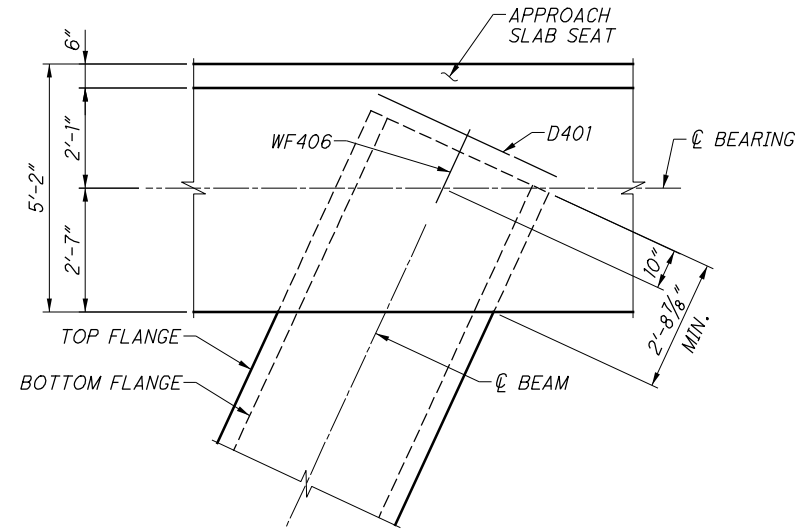


SECTION E-E

NOTE: CONTINUOUS DIAPHRAGM REINFORCEMENT SHOWN. FOR ADDITIONAL REINFORCEMENT BETWEEN BEAMS, SEE SHEET [27/54].



SECTION G-G
(SECTION G₁-G₁ SIM.)



SECTION H-H

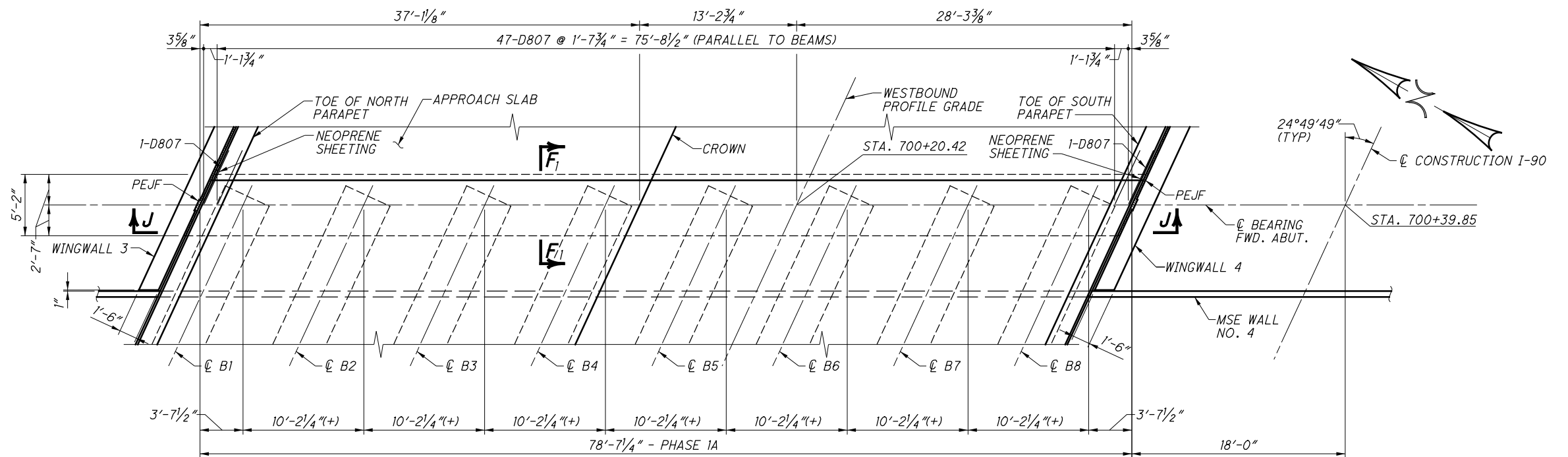
LEGEND
 FF = FAR FACE
 PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

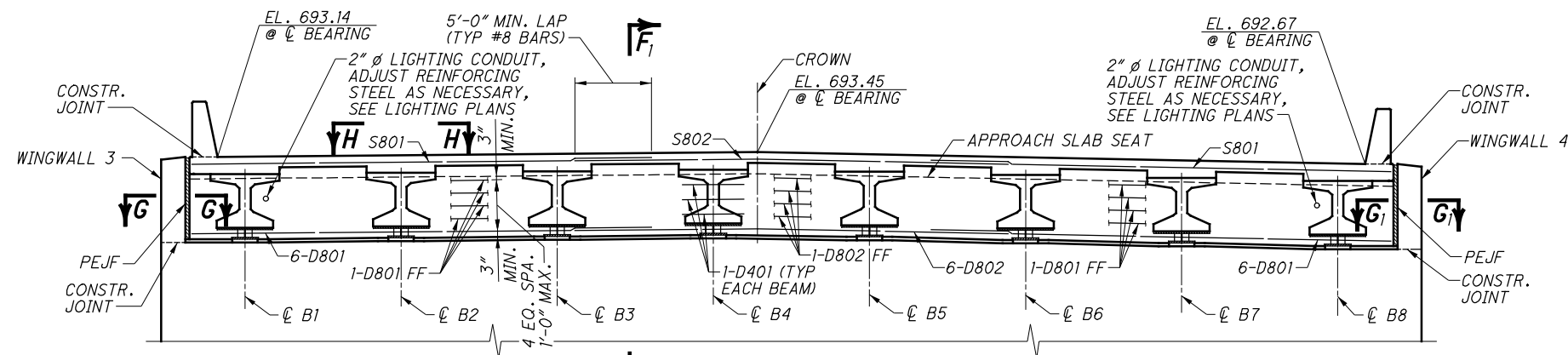
- FOR GENERAL NOTES, SEE SHEET [3/54].
- FOR REINFORCING STEEL LIST, SEE SHEET [50/54].
- ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
- ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASEING THE STRUCTURAL MEMBER ENDS AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED IT'S INITIAL SET.
- FOR SECTION F-F, SEE SHEET [27/54].

	REAR END DIAPHRAGM - LEFT STRUCTURE	LOR-90-1320 BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	DESIGN AGENCY LOR Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 ext. (837) 259-5100 fax • LORinc.com
DESIGNED	DRAWN	REVIEWED	DATE
AMT	MNM	DWS	4-16
CHECKED	REVISED	STRUCTURE FILE NUMBER	L-4710002
AMM	R-4710003	R-4710003	
25	54	272	301

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FORWARD END DIAPHRAGM PLAN - LEFT STRUCTURE



SECTION J-J

NOTE: CONTINUOUS DIAPHRAGM REINFORCEMENT SHOWN. FOR ADDITIONAL REINFORCEMENT BETWEEN BEAMS, SEE SHEET [27/54].

LEGEND

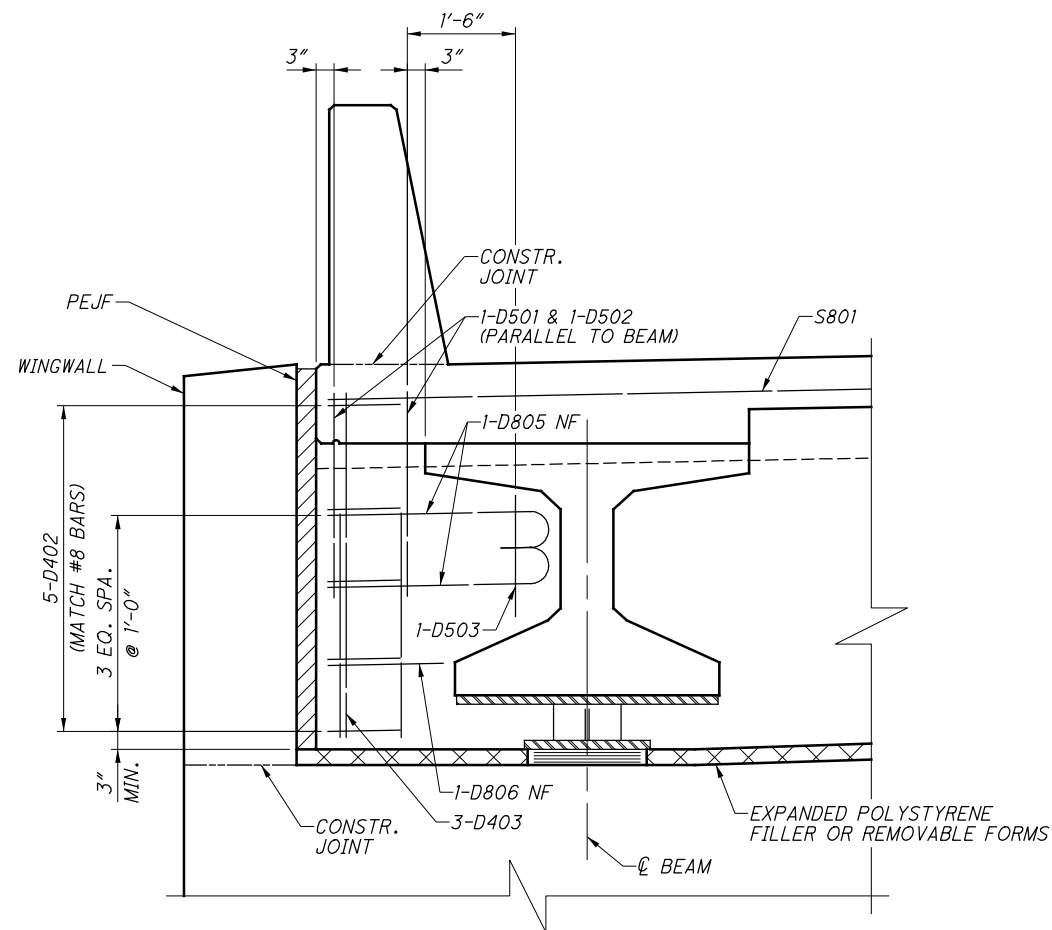
FF = FAR FACE
PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

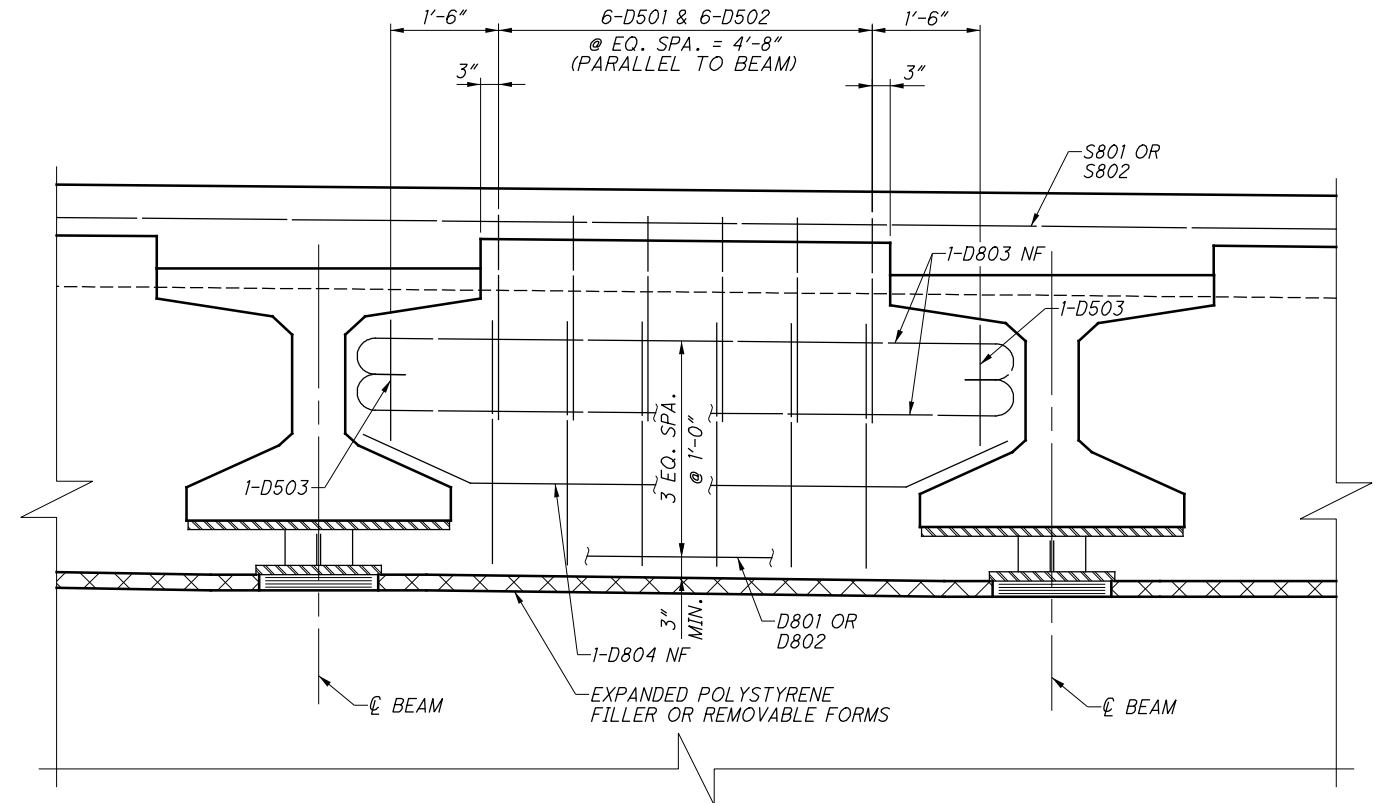
1. FOR GENERAL NOTES, SEE SHEET [3/54].
2. FOR REINFORCING STEEL LIST, SEE SHEET [50/54].
3. ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
4. ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASEING THE STRUCTURAL MEMBER ENDS AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED IT'S INITIAL SET.
5. FOR SECTION F₁-F₁, SEE SHEET [27/54].
6. FOR SECTION G-G, G₁-G₁ AND H-H, SEE SHEET [25/54].

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 43142 (614) 259-5000 ext. (614) 259-5100 fax • LIBinc.com	DATE 4-16	STRUCTURE FILE NUMBER L-471000Z R-4710003
REVIEWED DWS	DRAWN MNM	CHECKED AMM	DESIGNED AMT
FORWARD END DIAPHRAGM - LEFT STRUCTURE			
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD			
LOR-90-1320	PID No. 83449		
26 / 54		273 301	

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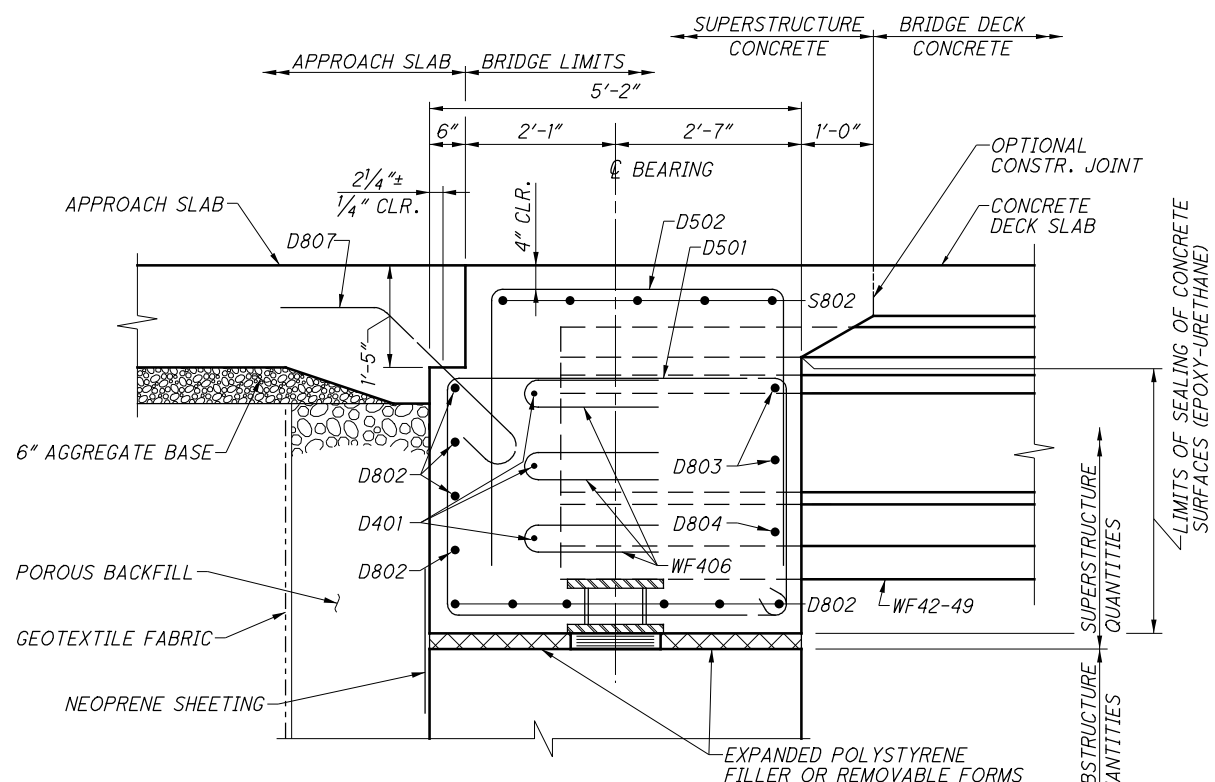


**TYPICAL FIRST AND LAST
END DIAPHRAGM BAY - LEFT STRUCTURE**



**TYPICAL END DIAPHRAGM BAY
LEFT STRUCTURE**
(TYPICAL 7 LOCATIONS
EACH END DIAPHRAGM)

NOTE:
FOR ADDITIONAL CONTINUOUS REINFORCING IN END
DIAPHRAGMS, SEE SHEETS [25/54] AND [26/54].



SECTION F-F
(SECTION F₁-F₁ SIM.)

LEGEND

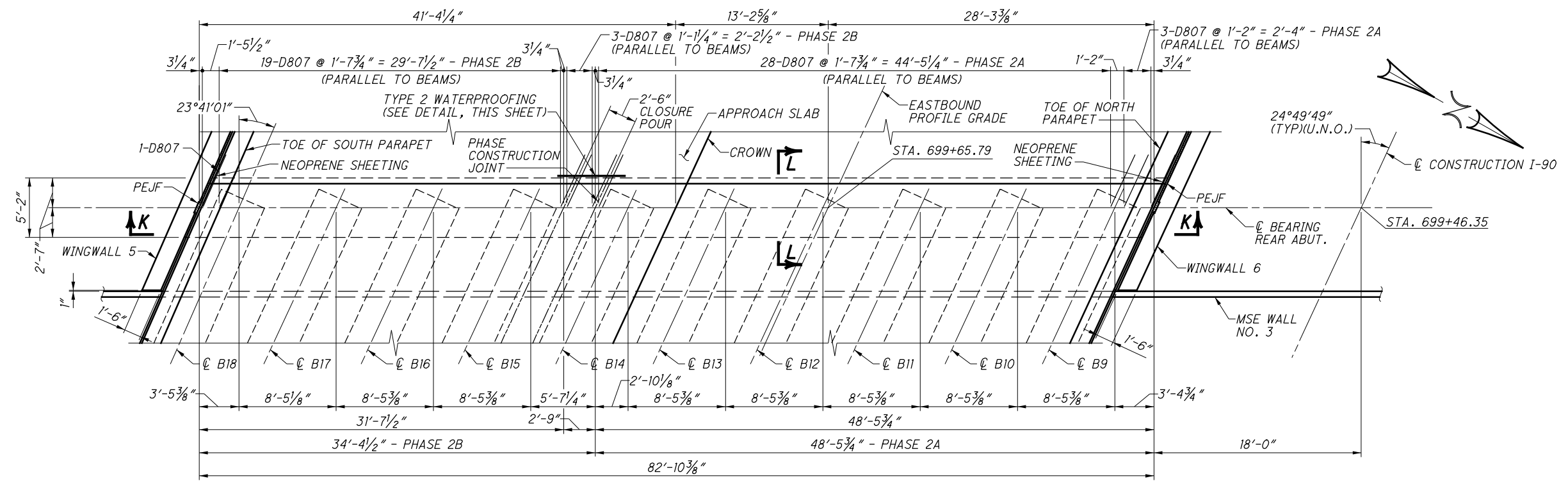
NF = NEAR FACE
PEJF = PREFORMED EXPANSION
JOINT FILLER

NOTES:

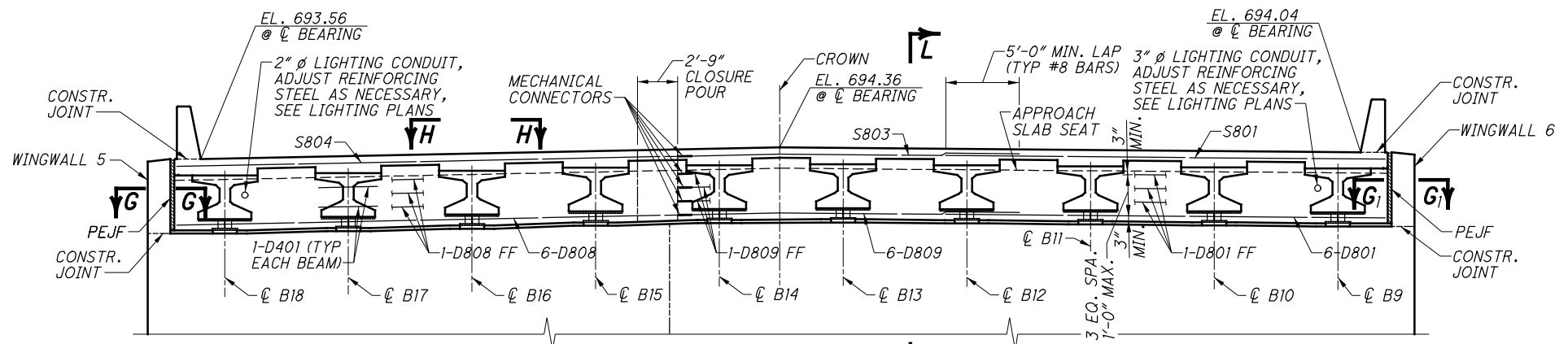
- FOR GENERAL NOTES, SEE SHEET [3/54].
- FOR REINFORCING STEEL LIST, SEE SHEET [50/54].
- ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
- ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED IT'S INITIAL SET.

DESIGN AGENCY	DATE	REVIEWED	DESIGNED	END DIAPHRAGM DETAILS - LEFT STRUCTURE BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD
L.B. Inc. • 2510 Newmark Drive Mansburg, OH 45342 (837) 259-5000 ext. (837) 259-5100 fax • LBIinc.com	4-16	DWS	AMT	
	4-16	MNM	AMM	
		REVISED	AMM	
		STRUCTURE FILE NUMBER		
		L-4710002		
		R-4710003		
LOR-90-1320				27/54
PID No. 83449				274 301

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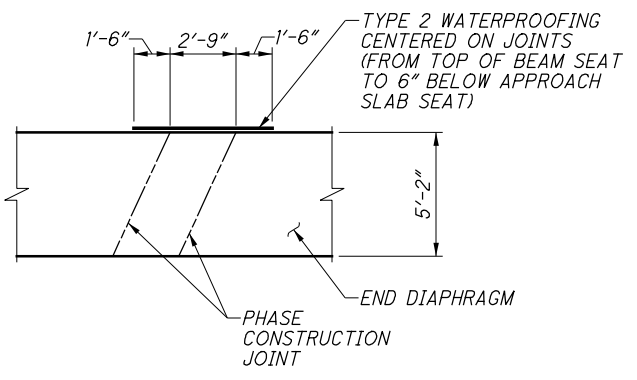


REAR END DIAPHRAGM PLAN - RIGHT STRUCTURE



SECTION K-K

NOTE: CONTINUOUS DIAPHRAGM REINFORCEMENT SHOWN. FOR ADDITIONAL REINFORCEMENT BETWEEN BEAMS, SEE SHEETS [30/54] AND [31/54].



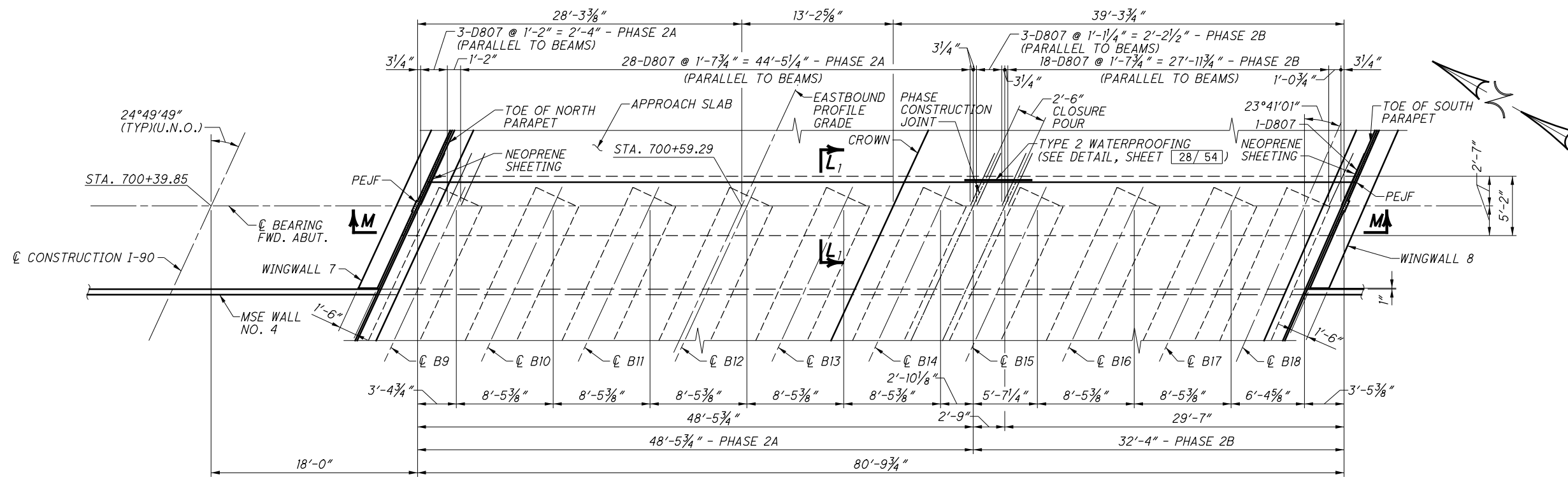
WATERPROOFING DETAIL

LEGEND
 FF = FAR FACE
 PEJF = PREFORMED EXPANSION JOINT FILLER
 U.N.O. = UNLESS NOTED OTHERWISE

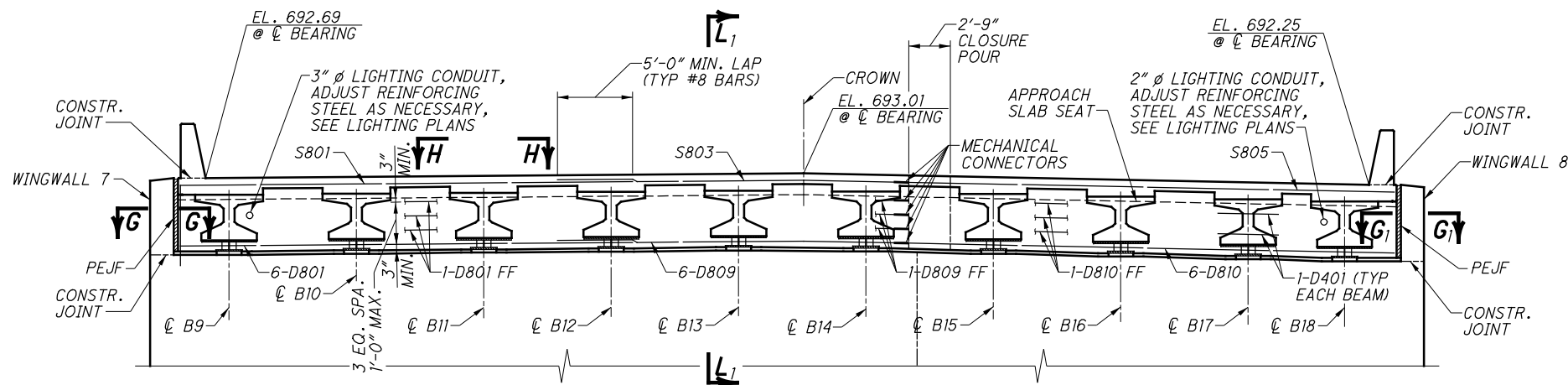
- NOTES:**
- FOR GENERAL NOTES, SEE SHEET [3/54].
 - FOR REINFORCING STEEL LIST, SEE SHEET [52/54].
 - ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
 - ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED IT'S INITIAL SET. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.
 - FOR SECTION L-L, SEE SHEET [30/54].
 - FOR SECTION G-G, G₁-G₁ AND H-H SEE SHEET [25/54].

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DATE 4-16	REVIEWED DWS
DRAWN MNM	STRUCTURE FILE NUMBER L-4710002 R-4710003
DESIGNED AMT	CHECKED AMM
REAR END DIAPHRAGM - RIGHT STRUCTURE	
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
LOR-90-1320	PID No. 83449
28/54	275 301

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FORWARD END DIAPHRAGM PLAN - RIGHT STRUCTURE



SECTION M-M

NOTE: CONTINUOUS DIAPHRAGM REINFORCEMENT SHOWN.
FOR ADDITIONAL REINFORCEMENT BETWEEN BEAMS,
SEE SHEETS 30/54 AND 31/54.

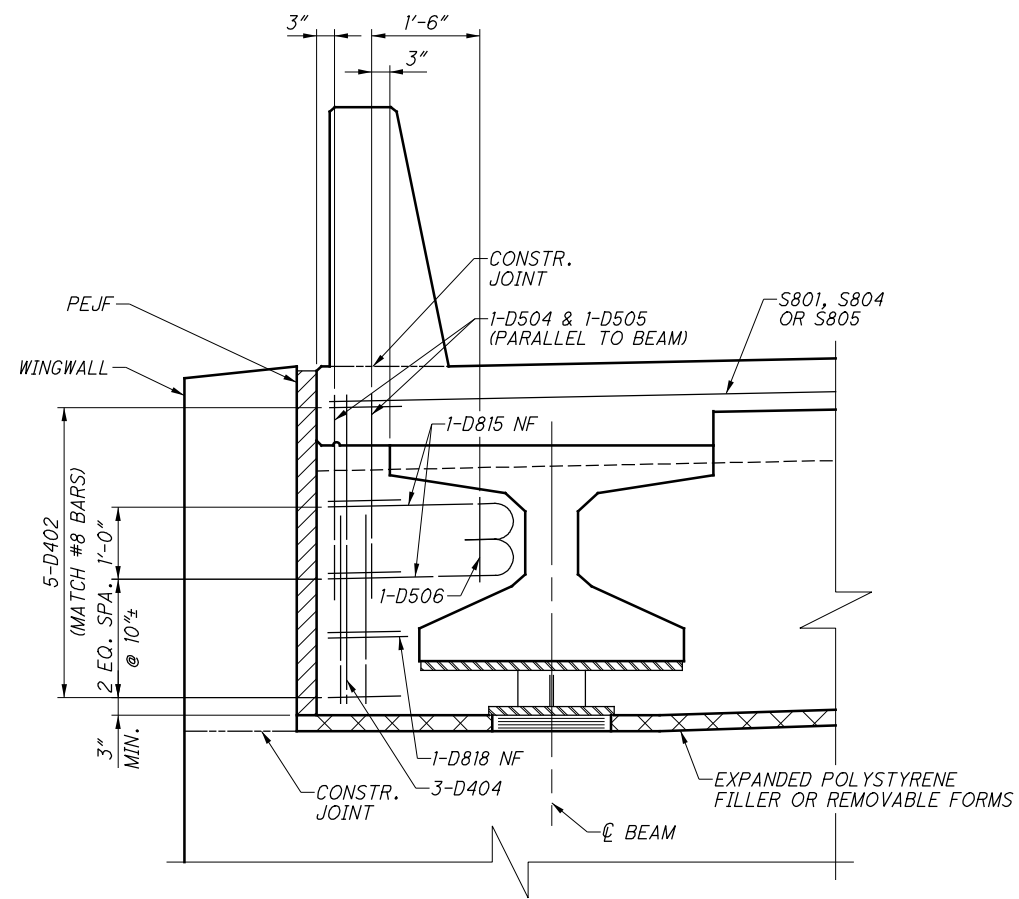
LEGEND
 FF = FAR FACE
 PEJF = PREFORMED EXPANSION JOINT FILLER
 U.N.O. = UNLESS NOTED OTHERWISE

NOTES:

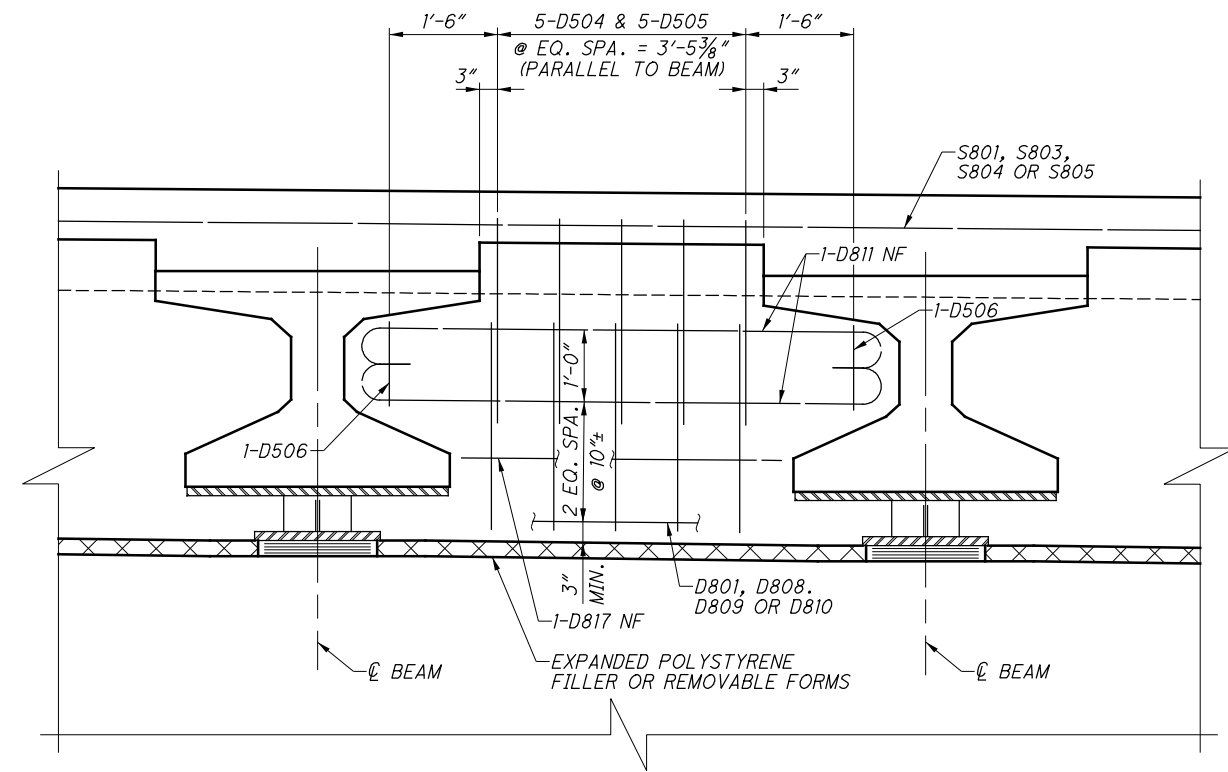
- FOR GENERAL NOTES, SEE SHEET 3/54.
- FOR REINFORCING STEEL LIST, SEE SHEET 52/54.
- ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
- ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASEING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED IT'S INITIAL SET. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.
- FOR SECTION L₁-L₁, SEE SHEET 30/54.
- FOR SECTION G-G, G₁-G₁ AND H-H SEE SHEET 25/54.

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LOR-90-1320 PID No. 83449	FORWARD END DIAPHRAGM - RIGHT STRUCTURE BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	DESIGNED AMT	DRAWN MNM	CHECKED AMM
29/54				

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**TYPICAL FIRST AND LAST
END DIAPHRAGM BAY - RIGHT STRUCTURE**

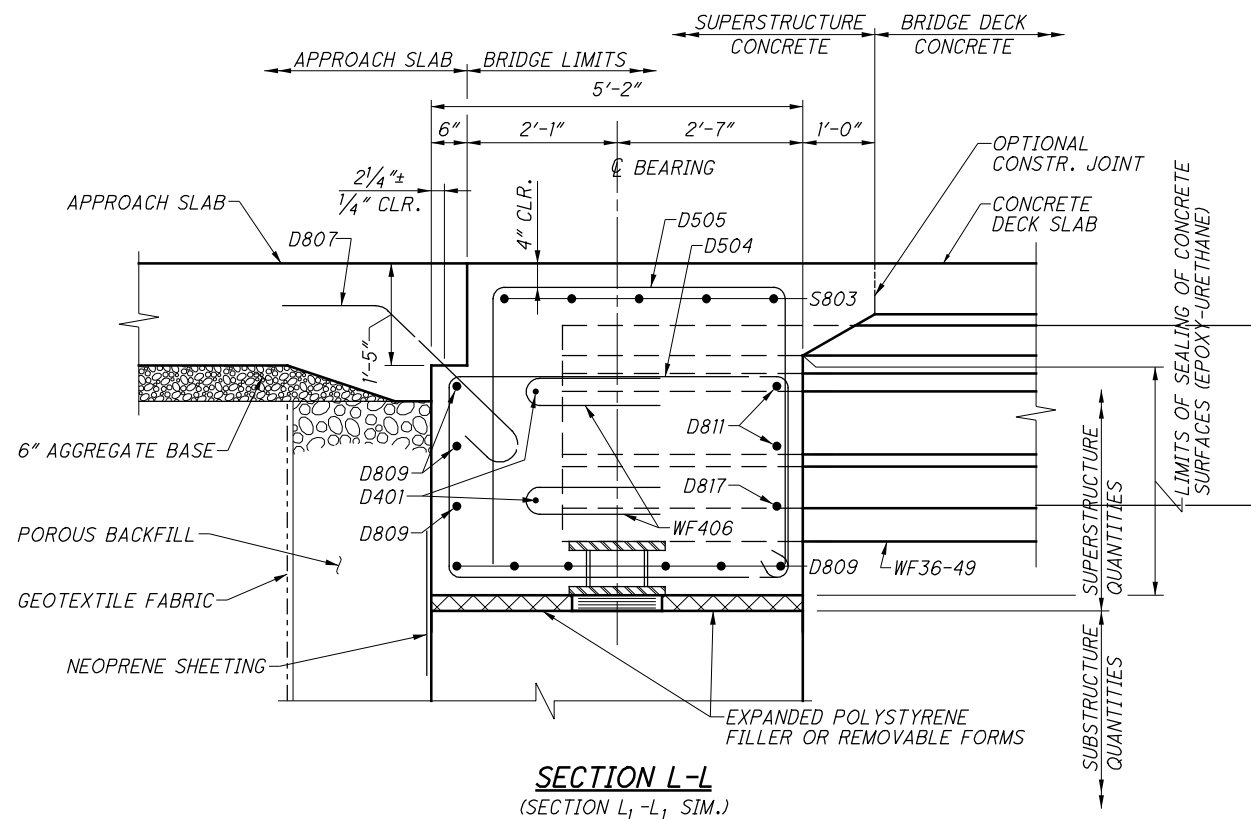


**TYPICAL END DIAPHRAGM BAY
RIGHT STRUCTURE**

(TYPICAL 7 LOCATIONS
EACH END DIAPHRAGM AND
BETWEEN BEAMS B17 AND B18
AT REAR END DIAPHRAGM)

(FOR END DIAPHRAGM BAY BETWEEN
BEAMS B17 AND B18 AT FORWARD
DIAPHRAGM, SEE DETAIL SHEET [31/54])

NOTE:
FOR ADDITIONAL CONTINUOUS REINFORCING IN END
DIAPHRAGMS, SEE SHEETS [28/54] AND [29/54].



**SECTION L-L
(SECTION L₁-L₁ SIM.)**

LEGEND

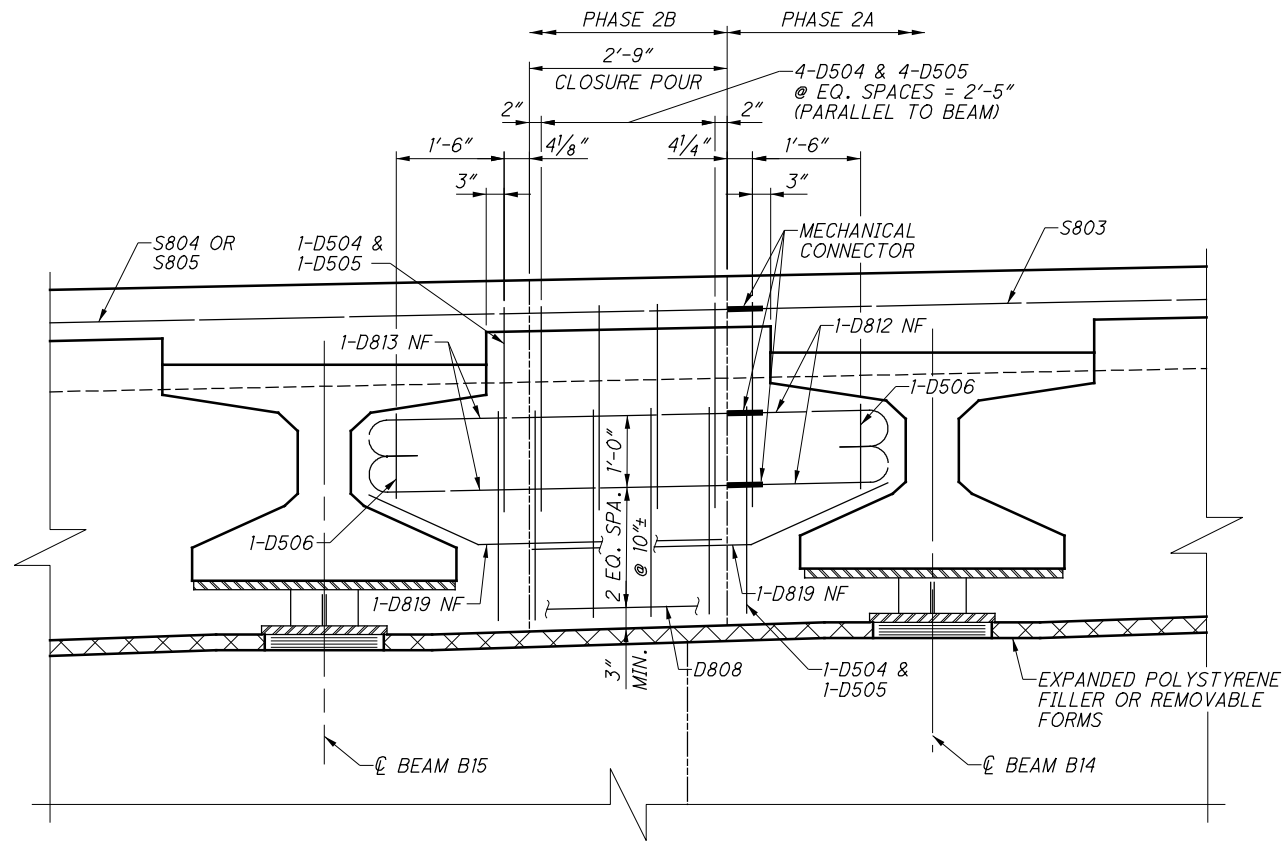
NF = NEAR FACE
PEJF = PREFORMED EXPANSION
JOINT FILLER

NOTES:

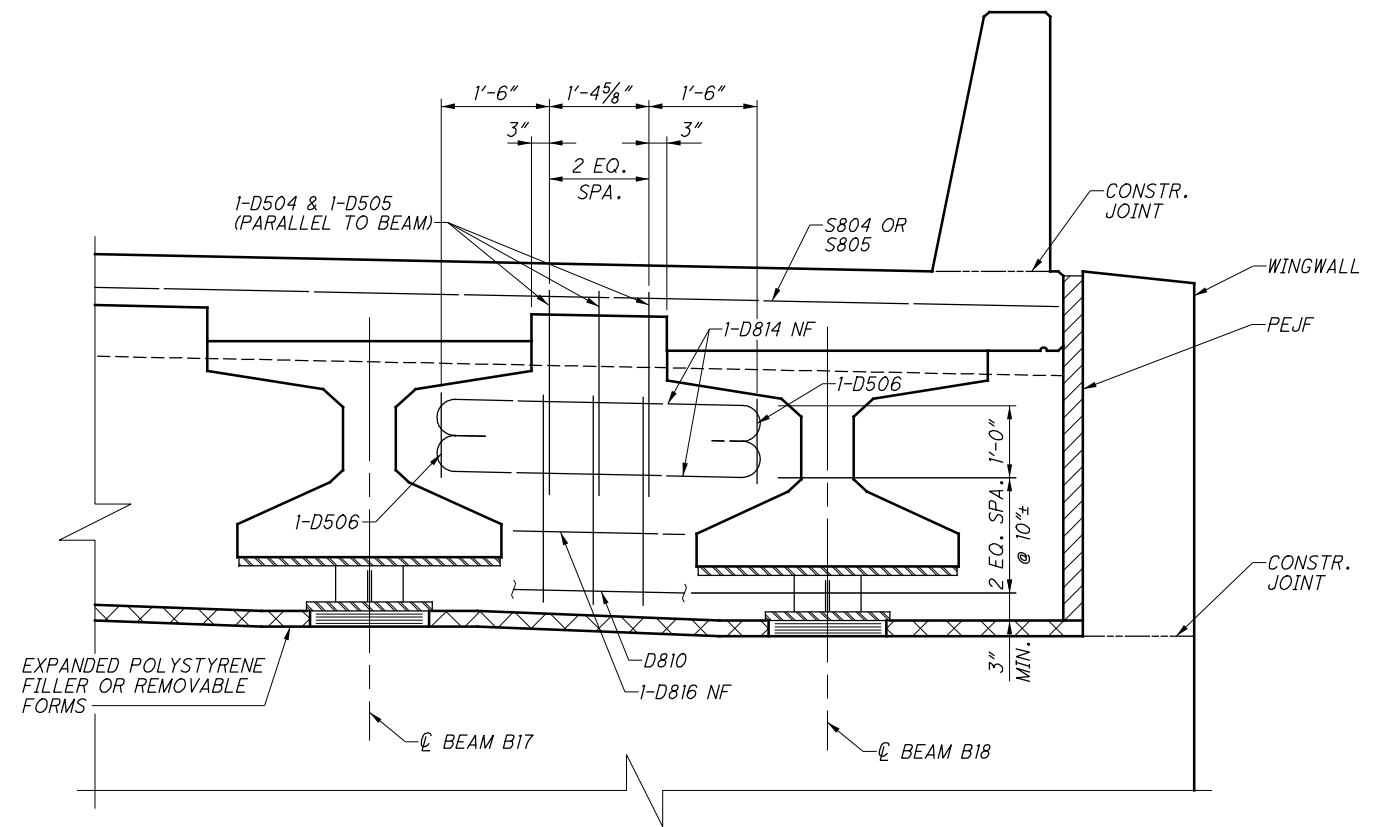
- FOR GENERAL NOTES, SEE SHEET [3/54].
- FOR REINFORCING STEEL LIST, SEE SHEET [52/54].
- ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
- ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASEING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED IT'S INITIAL SET. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.

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DESIGNED AMT	DRAWN MNM	CHECKED AMM	REVISSED	FILE NUMBER L-4710002 R-4710003
END DIAPHRAGM DETAILS - RIGHT STRUCTURE BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD				
LOR-90-1320 PID No. 83449				
30 / 54				
277 301				

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CLOSURE POUR
END DIAPHRAGM BAY - RIGHT STRUCTURE
 (REAR END DIAPHRAGM SHOWN
 FORWARD END DIAPHRAGM SIMILAR)



END DIAPHRAGM BAY - RIGHT STRUCTURE
 (BETWEEN BEAMS B17 AND B18
 AT FORWARD END DIAPHRAGM)

NOTE:
 FOR ADDITIONAL CONTINUOUS REINFORCING IN END DIAPHRAGMS, SEE SHEETS 28/54 AND 29/54.

LEGEND

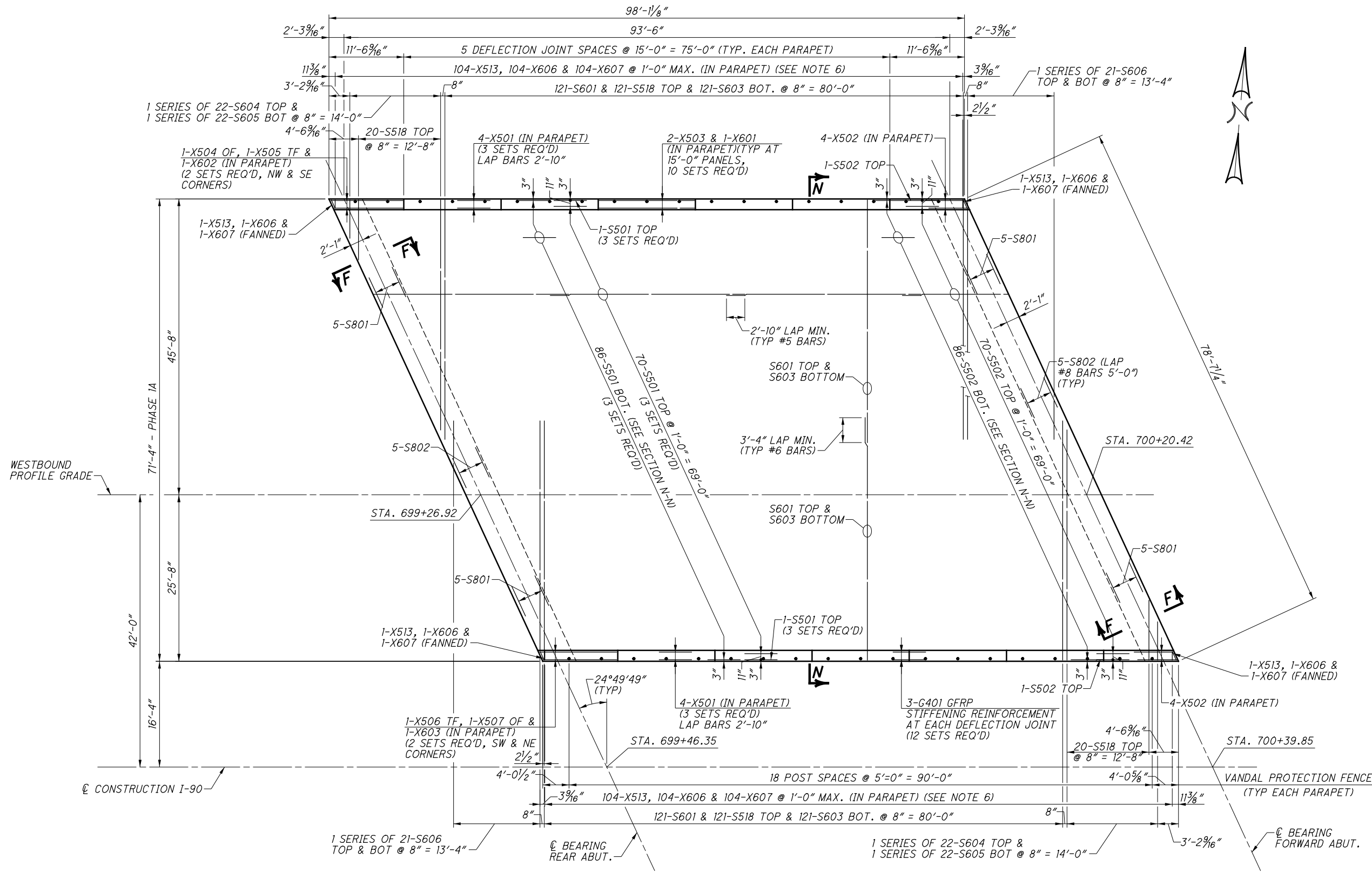
NF = NEAR FACE
 PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

- FOR GENERAL NOTES, SEE SHEET 3/54.
- FOR REINFORCING STEEL LIST, SEE SHEET 52/54.
- ONE PIECE PEJF MAY BE FABRICATED FROM TWO PIECES PROVIDED THAT TRANSVERSE SHEAR TESTS ON SAMPLES DO NOT FAIL ON BOND LINES. LENGTHS SHALL BE AS LONG AS PRACTICABLE.
- ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED IT'S INITIAL SET. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.

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DESIGNED AMT	DRAWN MNM	CHECKED AMM	REVISED	
END DIAPHRAGM DETAILS - RIGHT STRUCTURE				
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD				
LOR-90-1320				
				PID No. 83449
				31/54
				278 301

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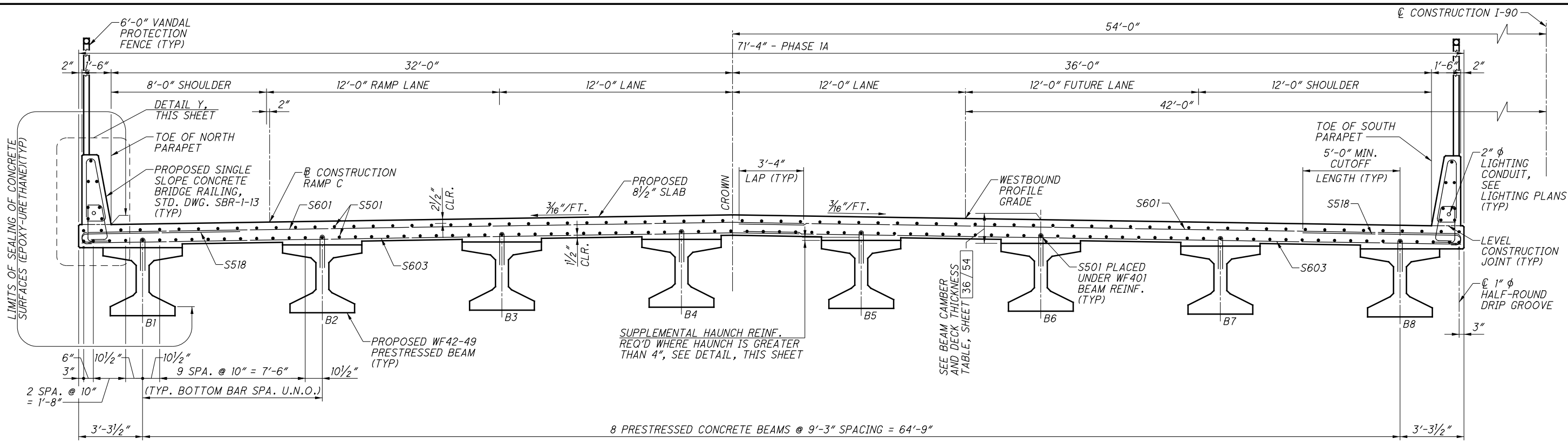
PLAN - LEFT STRUCTURE

LEGEND
 TF = TOE FACE OF PARAPET
 OF = OUTSIDE FACE OF PARAPET
 GFRP = GLASS FIBER REINFORCED POLYMER

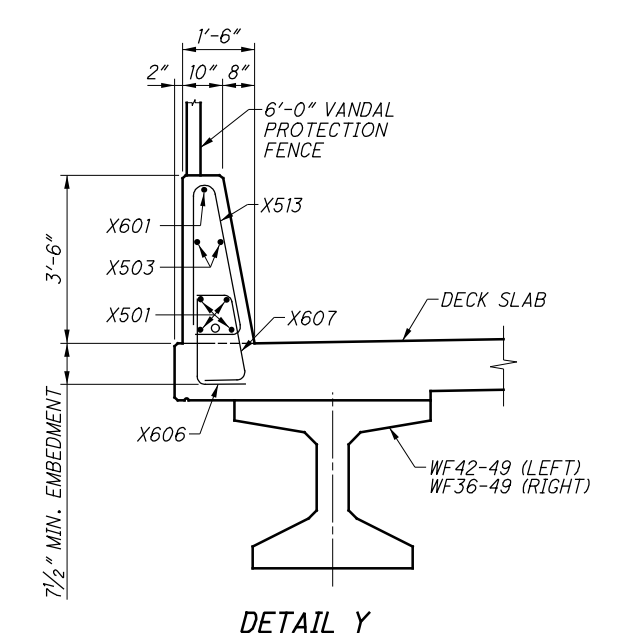
- NOTES:**
1. FOR GENERAL NOTES, SEE SHEET 3 / 54.
 2. FOR REINFORCING STEEL LIST, SEE SHEET 50 / 54.
 3. FOR FINAL DECK SURFACE, TOP OF HAUNCH AND SCREED STATIONS AND ELEVATIONS, SEE SHEET 37 / 54.
 4. FOR SECTION N-N, SEE SHEET 33 / 54.
 5. FOR SECTION F-F, SEE SHEET 27 / 54.
 6. SEE STD. DWG. SBR-1-13, SECTION A-A, SHEET 5 OF 5 FOR SPACING AROUND DEFLECTION JOINTS.
 7. FOR VANDAL PROTECTION FENCE DETAILS, SEE STD. DWG. VPF-1-90, 6'-0" STRAIGHT FENCE.

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710002 R-4710003
DESIGNED AMM	CHECKED SUM	DRAWN MNM	REVISED	
SLAB PLAN - LEFT STRUCTURE BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD				
LOR-90-1320 PID No. 83449				
32 / 54				
279 301				

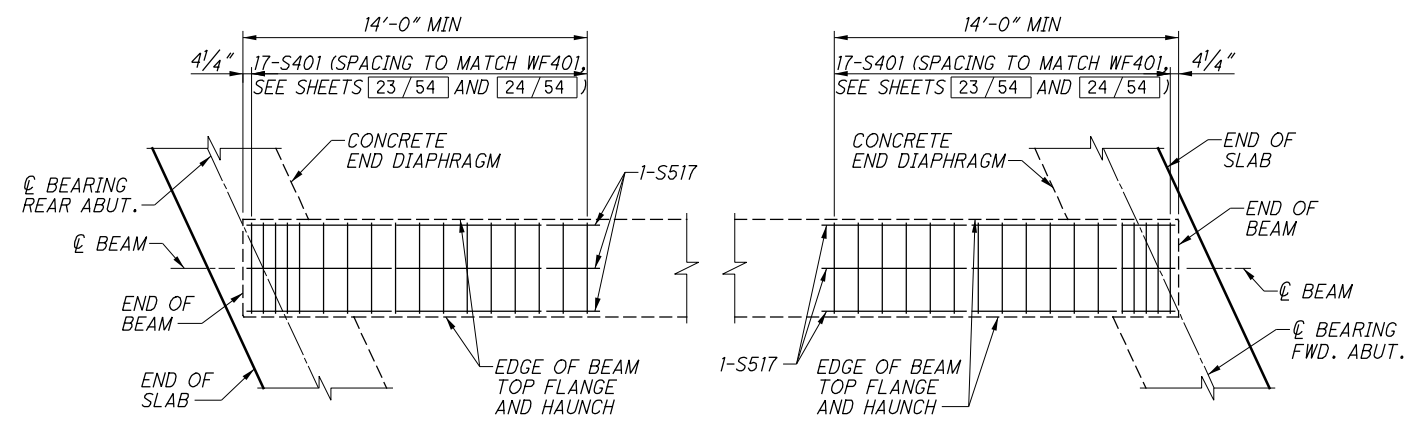
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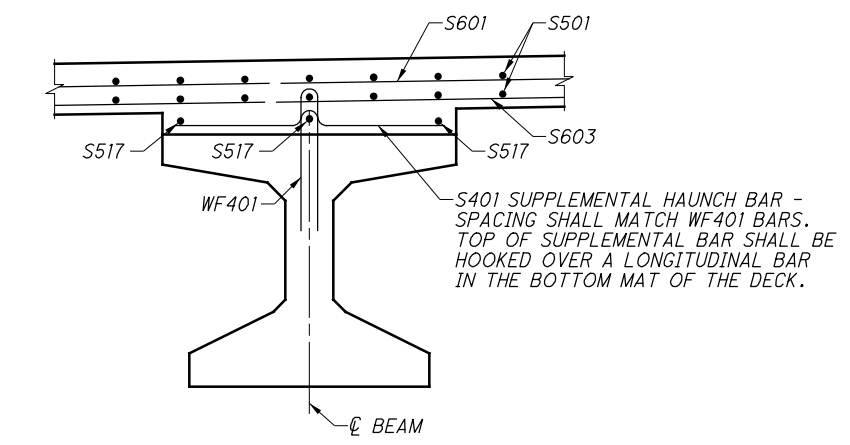
SECTION N-N - LEFT STRUCTURE



DETAIL Y



SUPPLEMENTAL HAUNCH REINFORCEMENT PLAN (TYP. ALL BEAMS)

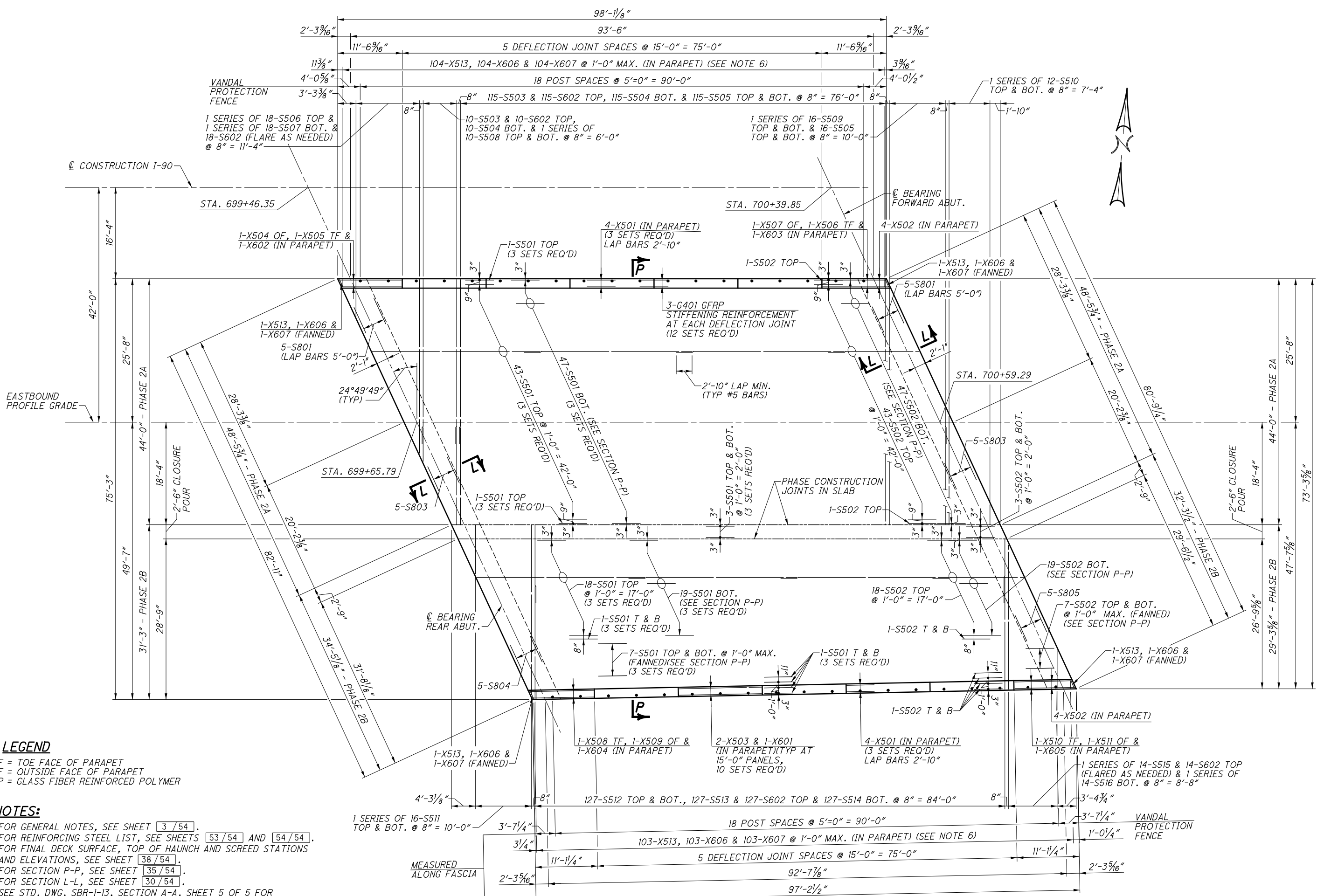


SUPPLEMENTAL HAUNCH REINFORCEMENT PLAN (TYP. ALL BEAMS)

NOTES:
 1. FOR GENERAL NOTES, SEE SHEET [3 / 54].
 2. FOR REINFORCING STEEL LIST, SEE SHEET [50 / 54].

DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (614) 259-5000 fax • (614) 259-5100 lib • LIBinc.com		DATE 4-16	DESIGNED AMM	DRAWN MNM	REVIEWED DWS	DATE 4-16	DESIGNED AMM	DRAWN MNM	REVIEWED DWS	DATE 4-16
SLAB SECTION AND DETAILS BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD										
LOR-90-1320 PID No. 83449										
33 / 54										

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LEGEND

TF = TOE FACE OF PARAPET
OF = OUTSIDE FACE OF PARAPET
GFRP = GLASS FIBER REINFORCED POLYMER

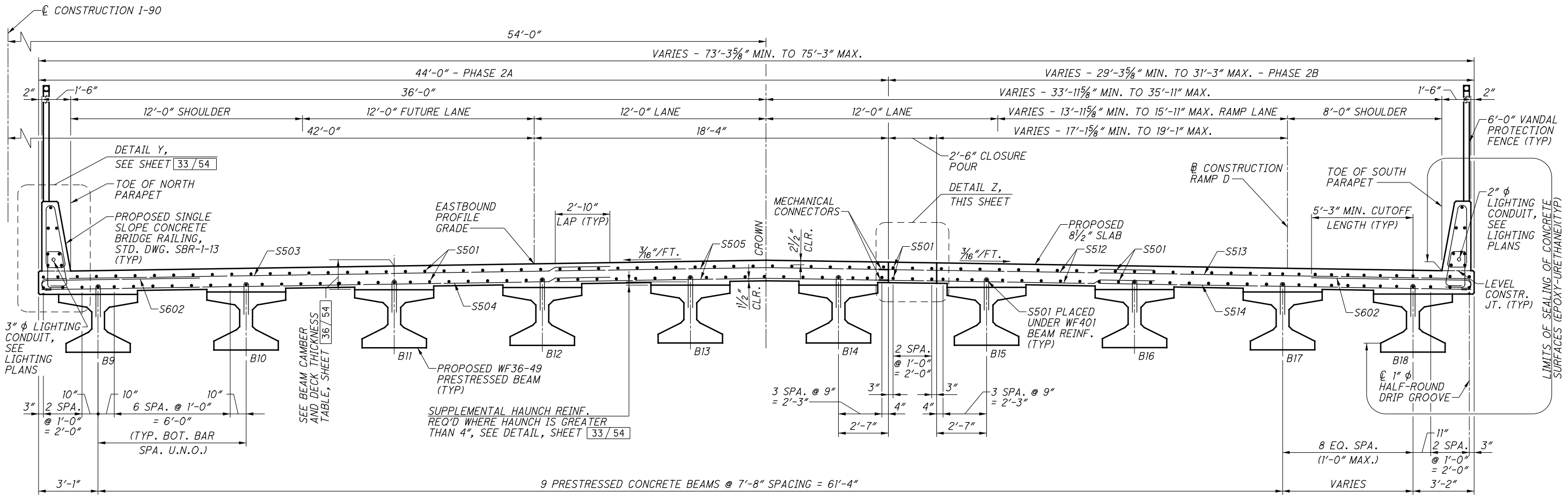
NOTES:

1. FOR GENERAL NOTES, SEE SHEET 3 / 54.
2. FOR REINFORCING STEEL LIST, SEE SHEETS 53 / 54 AND 54 / 54.
3. FOR FINAL DECK SURFACE, TOP OF HAUNCH AND SCREED STATIONS AND ELEVATIONS, SEE SHEET 38 / 54.
4. FOR SECTION P-P, SEE SHEET 35 / 54.
5. FOR SECTION L-L, SEE SHEET 30 / 54.
6. SEE STD. DWG. SBR-1-13, SECTION A-A, SHEET 5 OF 5 FOR SPACING AROUND DEFLECTION JOINTS.
7. FOR VANDAL PROTECTION FENCE DETAILS, SEE STD. DWG. VPF-1-90, 6'-0" STRAIGHT FENCE.

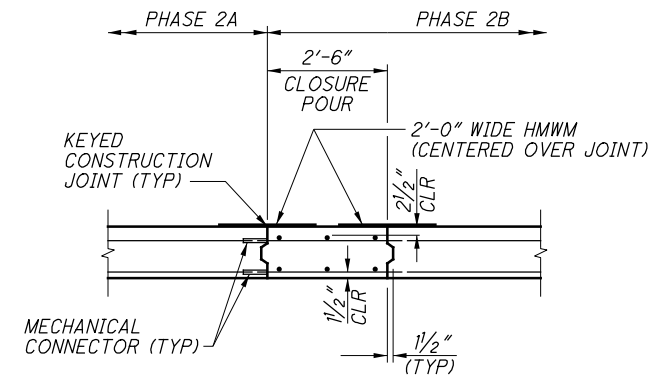
PLAN - RIGHT STRUCTURE

DESIGN AGENCY LIB Inc. • 2500 Newark Drive Mansfield, OH 44842 (937) 259-5000 ext. (937) 259-5100 fax • LIBinc.com	DATE 4-16
DESIGNED SJM	REVIEWED DWS
CHECKED AMM	STRUCTURE FILE NUMBER L-4710002 R-4710003
SLAB PLAN - RIGHT STRUCTURE	
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
LOR-90-1320	PID No. 83449
34 / 54	
281 301	

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SECTION P-P - RIGHT STRUCTURE



DETAIL Z

LEGEND

U.N.O. = UNLESS NOTED OTHERWISE

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 3/54.
 2. FOR REINFORCING STEEL LIST, SEE SHEET 53/54.

<p>DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com</p>	<p>DATE 4-16</p>	<p>REVIEWED DWS</p>	<p>STRUCTURE FILE NUMBER L-4710002</p>	<p>REVISION R-4710003</p>	<p>DESIGNED SJM</p>	<p>CHECKED AMM</p>
<p>SLAB SECTION DETAILS - RIGHT STRUCTURE</p>						
<p>BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD</p>						
<p>LOR-90-1320 PID No. 83449</p>						
<p>35 / 54</p>						
<p>282 301</p>						

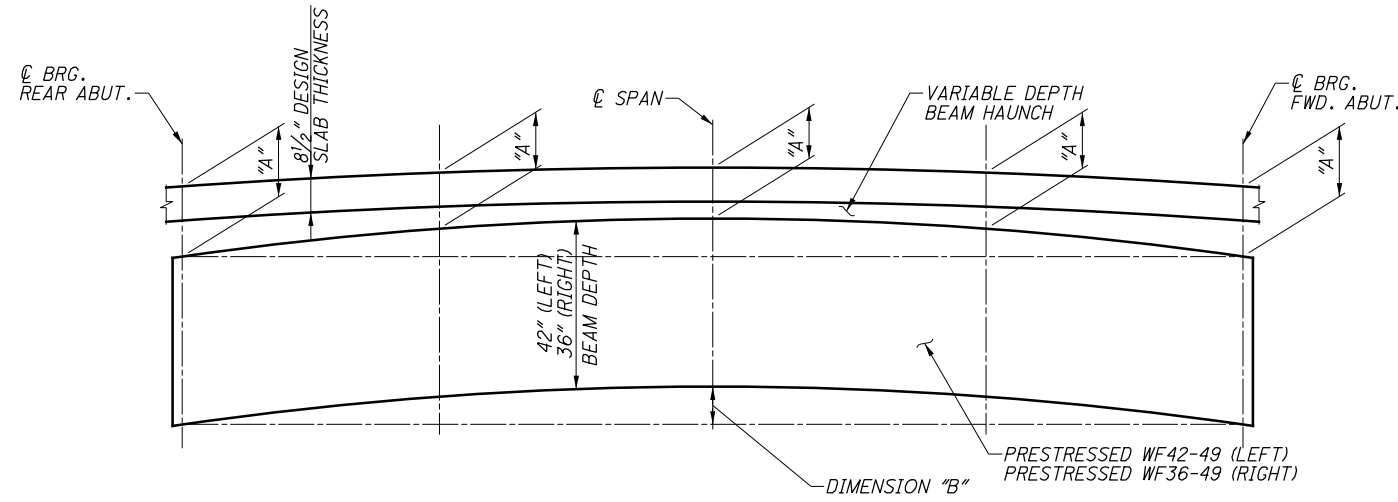
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DIMENSION "A" - LEFT STRUCTURE

LOCATION	CL BEAM 1	CL BEAM 2	CL BEAM 3	CL BEAM 4	CL BEAM 5	CL BEAM 6	CL BEAM 7	CL BEAM 8
CL BRG. REAR ABUT.	13 3/8"	13 1/4"	13 1/4"	13 1/4"	13 1/4"	13 1/4"	13 1/4"	13 3/8"
1/4	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"
1/2	10 3/4"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 3/4"
3/4	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"
CL BRG. FWD. ABUT.	13 3/8"	13 1/4"	13 1/4"	13 1/4"	13 1/4"	13 1/4"	13 1/4"	13 3/8"

DIMENSION "A" - RIGHT STRUCTURE

LOCATION	CL BEAM 9	CL BEAM 10	CL BEAM 11	CL BEAM 12	CL BEAM 13	CL BEAM 14	CL BEAM 15	CL BEAM 16	CL BEAM 17	CL BEAM 18
CL BRG. REAR ABUT.	13 5/8"	13 1/2"	13 1/2"	13 1/2"	13 1/2"	13 1/2"	13 1/2"	13 1/2"	13 1/2"	13 5/8"
1/4	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"
1/2	10 3/4"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 7/8"	10 3/4"
3/4	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"	11 3/8"
CL BRG. FWD. ABUT.	13 5/8"	13 1/2"	13 1/2"	13 1/2"	13 1/2"	13 1/2"	13 1/2"	13 1/2"	13 1/2"	13 5/8"



BEAM CAMBER DIAGRAM

DEFLECTION AND CAMBER NOTES - LEFT STRUCTURE

ESTIMATED CAMBER AT DAY 0 (D₀) IS 2 3/4 INCHES.
 ESTIMATED CAMBER AT DAY 30 (D₃₀) IS 4 7/8 INCHES.
 DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE DECK, DIAPHRAGMS, BARRIERS, UTILITIES, ETC.) IS 1 3/4 INCHES (EXTERIOR) AND 2 INCHES (INTERIOR).
 THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D₃₀ WITH A SACRIFICIAL HAUNCH THICKNESS OF 2 INCHES.

DEFLECTION AND CAMBER NOTES - RIGHT STRUCTURE

ESTIMATED CAMBER AT DAY 0 (D₀) IS 3 1/4 INCHES.
 ESTIMATED CAMBER AT DAY 30 (D₃₀) IS 5 1/8 INCHES.
 DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE DECK, DIAPHRAGMS, BARRIERS, UTILITIES, ETC.) IS 2 1/4 INCHES (EXTERIOR) AND 2 1/2 INCHES (INTERIOR).
 THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D₃₀ WITH A SACRIFICIAL HAUNCH THICKNESS OF 2 INCHES.

DIMENSION "B" - LEFT STRUCTURE

EXTERIOR BEAMS = 2 5/8"
 INTERIOR BEAMS = 2 3/8"

DIMENSION "B" - RIGHT STRUCTURE

EXTERIOR BEAMS = 2 7/8"
 INTERIOR BEAMS = 2 5/8"

NOTES:

- FOR GENERAL NOTES, SEE SHEET [3 / 54].
- FOR PRESTRESSED CONCRETE I-BEAM DETAILS, SEE SHEETS [23 / 54] AND [24 / 54].
- FOR END DIAPHRAGM DETAILS, SEE SHEETS [25 / 54] THRU [31 / 54].
- FOR INTERMEDIATE DIAPHRAGM DETAILS SEE STD. DWG. SPID-I-99.
- DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK CONCRETE IS MEASURED ACCORDING TO G&MS 511. IN ADDITION TO THE DESIGN SLAB THICKNESS, THE QUANTITY INCLUDES A VARIABLE HAUNCH THICKNESS THAT PROVIDES AN ALLOWANCE FOR VERTICAL GRADE ADJUSTMENT, BEAM CAMBER AND ADDITIONAL SACRIFICIAL HAUNCH THICKNESS.

CAMBER DIAGRAM AND DECK THICKNESS

BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD

LOR-90-1320
 PID No. 83449

36 / 54

283
 301



DESIGNED
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 REVISED

REVIEWED
 DWS

DATE
 4-16

STRUCTURE FILE NUMBER
 L-4710002
 R-4710003

DESIGN AGENCY
 LD Inc. • 2500 Newmark Drive
 Mansburg, OH 45342
 (837) 259-5000 ext. (837) 259-5100 fax • LDInc.com

FINAL DECK SURFACE STATIONS AND ELEVATIONS - LEFT STRUCTURE

LOCATION	TOE OF NORTH PARAPET	CL BEAM 1	CL BEAM 2	CL BEAM 3	CL BEAM 4	CROWN	CL BEAM 5	WESTBOUND PROFILE GRADE LINE	CL BEAM 6	CL BEAM 7	CL BEAM 8	TOE OF SOUTH PARAPET
CL BRG. REAR ABUT.	699+06.56 694.33	699+07.31 694.34	699+11.59 694.43	699+15.87 694.52	699+20.15 694.61	699+21.37 694.64	699+24.43 694.50	699+26.92 694.38	699+28.71 694.30	699+32.99 694.10	699+37.27 693.90	699+38.02 693.86
1/4	699+29.93 694.03	699+30.69 694.04	699+34.97 694.13	699+39.25 694.22	699+43.53 694.31	699+44.74 694.34	699+47.81 694.20	699+50.29 694.08	699+52.09 694.00	699+56.37 693.80	699+60.65 693.60	699+61.40 693.57
1/2	699+53.31 693.73	699+54.06 693.75	699+58.34 693.84	699+62.62 693.93	699+66.90 694.02	699+68.12 694.04	699+71.18 693.90	699+73.67 693.78	699+75.46 693.70	699+79.74 693.50	699+84.02 693.30	699+84.77 693.27
3/4	699+76.68 693.43	699+77.44 693.45	699+81.72 693.54	699+86.00 693.63	699+90.28 693.72	699+91.49 693.75	699+94.56 693.60	699+97.04 693.49	699+98.84 693.40	700+03.12 693.20	700+07.40 693.01	700+08.15 692.97
CL BRG. FWD. ABUT.	700+00.06 693.14	700+00.81 693.15	700+05.09 693.24	700+09.37 693.33	700+13.65 693.42	700+14.87 693.45	700+17.93 693.31	700+20.42 693.19	700+22.21 693.11	700+26.49 692.91	700+30.77 692.71	700+31.52 692.67

NOTE: FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

TOP OF HAUNCH STATIONS AND ELEVATIONS - LEFT STRUCTURE

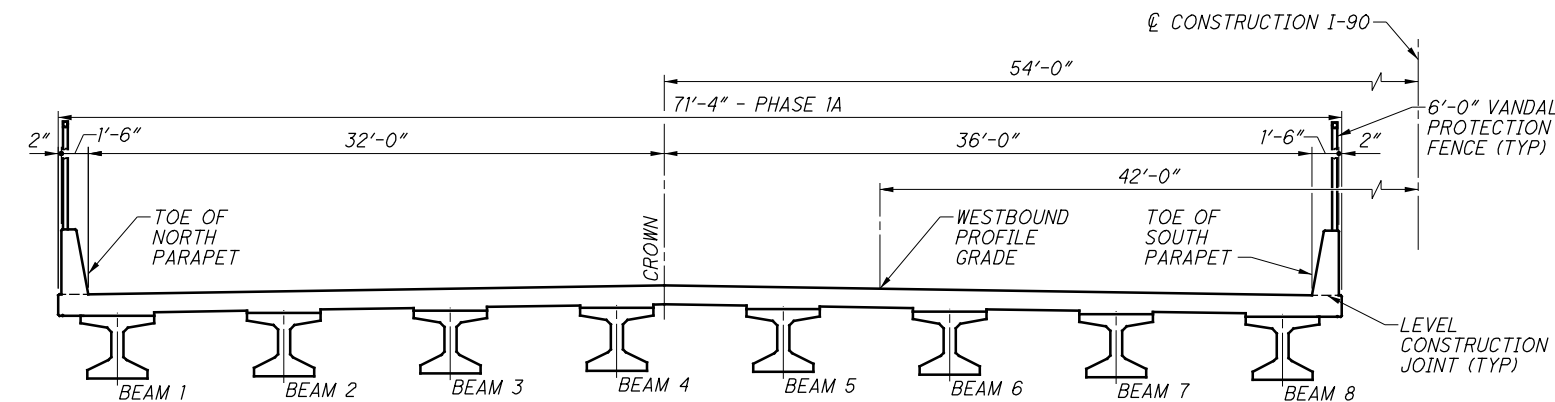
LOCATION	CL BEAM 1	CL BEAM 2	CL BEAM 3	CL BEAM 4	CL BEAM 5	CL BEAM 6	CL BEAM 7	CL BEAM 8
CL BRG. REAR ABUT.	699+07.31 693.63	699+11.59 693.72	699+15.87 693.81	699+20.15 693.90	699+24.43 693.79	699+28.71 693.59	699+32.99 693.39	699+37.27 693.19
1/4	699+30.69 693.43	699+34.97 693.54	699+39.25 693.63	699+43.53 693.72	699+47.81 693.60	699+52.09 693.41	699+56.37 693.21	699+60.65 692.99
1/2	699+54.06 693.18	699+58.34 693.30	699+62.62 693.39	699+66.90 693.48	699+71.18 693.36	699+75.46 693.16	699+79.74 692.96	699+84.02 692.74
3/4	699+77.44 692.84	699+81.72 692.95	699+86.00 693.04	699+90.28 693.13	699+94.56 693.01	699+98.84 692.81	700+03.12 692.61	700+07.40 692.40
CL BRG. FWD. ABUT.	700+00.81 692.44	700+05.09 692.53	700+09.37 692.62	700+13.65 692.71	700+17.93 692.60	700+22.21 692.40	700+26.49 692.20	700+30.77 692.00

NOTE: TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTION CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

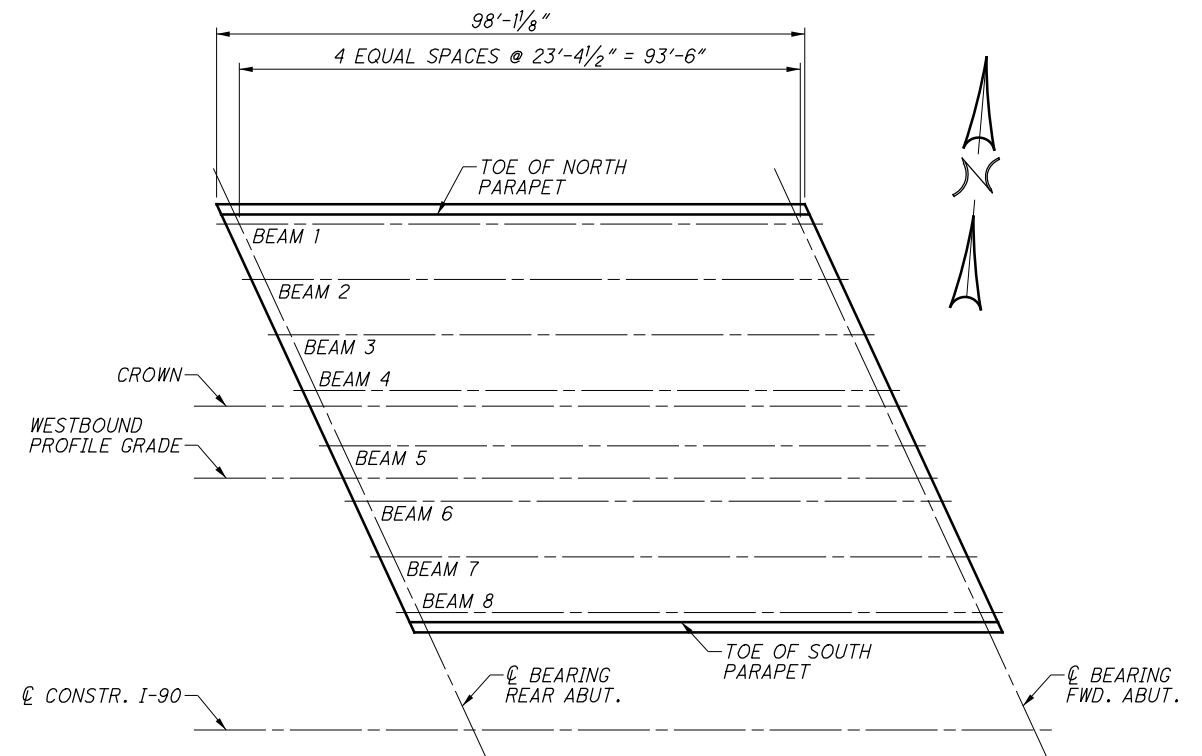
SCREED STATIONS AND ELEVATIONS - LEFT STRUCTURE

LOCATION	TOE OF NORTH PARAPET	CROWN	WESTBOUND PROFILE GRADE LINE	TOE OF SOUTH PARAPET
CL BRG. REAR ABUT.	699+06.56 694.33	699+21.37 694.64	699+26.92 694.38	699+38.02 693.86
1/4	699+29.93 694.13	699+44.74 694.46	699+50.29 694.20	699+61.40 693.66
1/2	699+53.31 693.87	699+68.12 694.21	699+73.67 693.95	699+84.77 693.41
3/4	699+76.68 693.53	699+91.49 693.86	699+97.04 693.60	700+08.15 693.07
CL BRG. FWD. ABUT.	700+00.06 693.14	700+14.87 693.45	700+20.42 693.19	700+31.52 692.67

NOTE: SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.



TRANSVERSE SECTION - LEFT STRUCTURE



PLAN VIEW - LEFT STRUCTURE

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DESIGN AGENCY: LIB Inc. • 2500 Newmark Drive, Mansburg, OH 45342
 PHONE: (614) 255-5000 ext. (614) 255-5100 fax • LIBInc.com
 DATE: 4-16
 REVIEWED: DWS
 DRAWN: MIM
 CHECKED: JBR
 STRUCTURE FILE NUMBER: L-4710002
 R-4710003
DECK STATIONS AND ELEVATIONS - LEFT STRUCTURE
 BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD
LOR-90-1320
PID No. 83449
 37/54
 284
 301

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FINAL DECK SURFACE STATIONS AND ELEVATIONS - RIGHT STRUCTURE

LOCATION	TOE OF NORTH PARAPET	☉ BEAM 9	☉ BEAM 10	☉ BEAM 11	EASTBOUND PROFILE GRADE LINE	☉ BEAM 12	☉ BEAM 13	CROWN	☉ BEAM 14	NORTH EDGE OF CLOSURE POUR	SOUTH EDGE OF CLOSURE POUR	☉ BEAM 15	☉ BEAM 16	☉ BEAM 17	☉ BEAM 18	TOE OF SOUTH PARAPET
☉ BRG. REAR ABUT.	699+54.68 694.04	699+55.34 694.05	699+58.88 694.12	699+62.43 694.19	699+65.79 694.25	699+65.98 694.26	699+69.53 694.32	699+71.34 694.36	699+73.07 694.28	699+74.27 694.22	699+75.43 694.16	699+76.62 694.10	699+80.17 693.93	699+83.72 693.76	699+87.26 693.59	699+87.94 693.56
1/4	699+78.06 693.70	699+78.71 693.71	699+82.26 693.78	699+85.81 693.85	699+89.16 693.91	699+89.35 693.92	699+92.90 693.99	699+94.71 694.02	699+96.45 693.94	699+97.64 693.88	699+98.80 693.82	700+00.00 693.77	700+03.54 693.60	700+07.09 693.42	700+10.42 693.26	700+11.10 693.23
1/2	700+01.43 693.36	700+02.09 693.37	700+05.63 693.44	700+09.18 693.51	700+12.54 693.58	700+12.73 693.58	700+16.28 693.65	700+18.09 693.68	700+19.82 693.60	700+21.02 693.54	700+22.18 693.49	700+23.37 693.43	700+26.92 693.26	700+30.47 693.09	700+33.58 692.94	700+34.26 692.90
3/4	700+24.81 693.02	700+25.46 693.04	700+29.01 693.11	700+32.56 693.17	700+35.91 693.24	700+36.10 693.24	700+39.65 693.31	700+41.46 693.35	700+43.20 693.26	700+44.39 693.20	700+45.55 693.15	700+46.75 693.09	700+50.29 692.92	700+53.84 692.75	700+56.74 692.61	700+57.42 692.58
☉ BRG. FWD. ABUT.	700+48.18 692.69	700+48.84 692.70	700+52.38 692.77	700+55.93 692.84	700+59.29 692.90	700+59.48 692.90	700+63.03 692.97	700+64.84 693.01	700+66.57 692.92	700+67.77 692.87	700+68.93 692.81	700+70.12 692.75	700+73.67 692.58	700+77.22 692.41	700+79.90 692.28	700+80.58 692.25

NOTE: FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

TOP OF HAUNCH STATIONS AND ELEVATIONS - RIGHT STRUCTURE

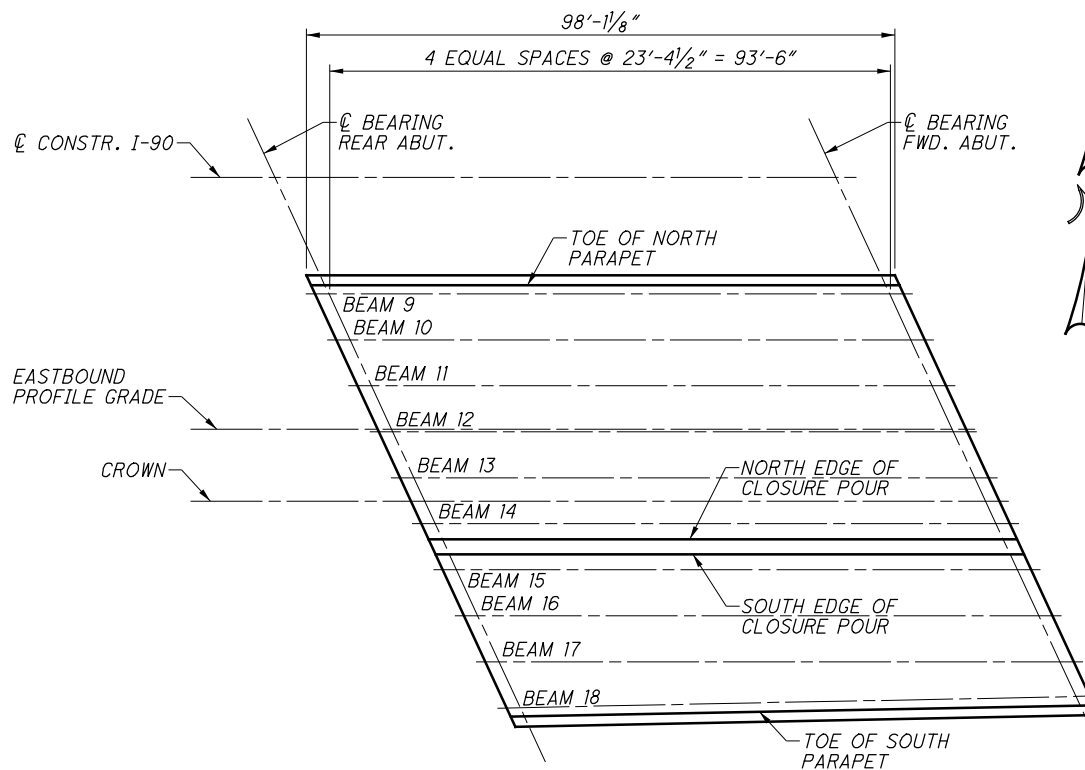
LOCATION	☉ BEAM 9	☉ BEAM 10	☉ BEAM 11	☉ BEAM 12	☉ BEAM 13	☉ BEAM 14	☉ BEAM 15	☉ BEAM 16	☉ BEAM 17	☉ BEAM 18
☉ BRG. REAR ABUT.	699+55.34 693.34	699+58.88 693.41	699+62.43 693.48	699+65.98 693.55	699+69.53 693.62	699+73.07 693.57	699+76.62 693.40	699+80.17 693.22	699+83.72 693.05	699+87.26 692.88
1/4	699+78.71 693.13	699+82.26 693.22	699+85.81 693.29	699+89.35 693.35	699+92.90 693.42	699+96.45 693.37	700+00.00 693.20	700+03.54 693.03	700+07.09 692.86	700+10.42 692.68
1/2	700+02.09 692.85	700+05.63 692.94	700+09.18 693.01	700+12.73 693.08	700+16.28 693.15	700+19.82 693.10	700+23.37 692.93	700+26.92 692.76	700+30.47 692.59	700+33.58 692.41
3/4	700+25.46 692.46	700+29.01 692.54	700+32.56 692.61	700+36.10 692.68	700+39.65 692.75	700+43.20 692.70	700+46.75 692.53	700+50.29 692.36	700+53.84 692.19	700+56.74 692.03
☉ BRG. FWD. ABUT.	700+48.84 691.99	700+52.38 692.06	700+55.93 692.13	700+59.48 692.20	700+63.03 692.26	700+66.57 692.22	700+70.12 692.04	700+73.67 691.87	700+77.22 691.70	700+79.90 691.57

NOTE: TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTION CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

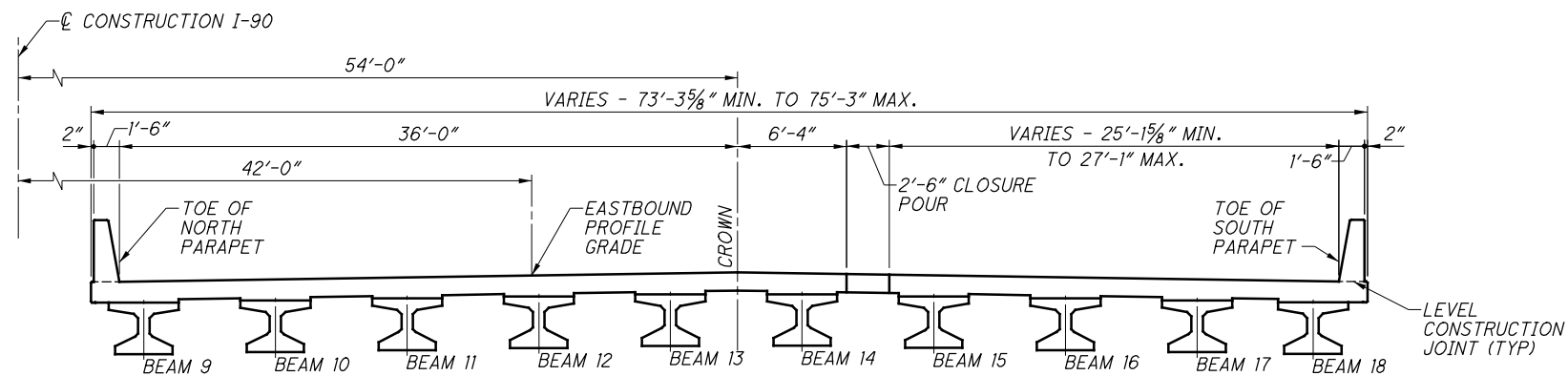
SCREED STATIONS AND ELEVATIONS - RIGHT STRUCTURE

LOCATION	TOE OF NORTH PARAPET	EASTBOUND PROFILE GRADE LINE	CROWN	NORTH EDGE OF CLOSURE POUR	SOUTH EDGE OF CLOSURE POUR	TOE OF SOUTH PARAPET
☉ BRG. REAR ABUT.	699+54.68 694.04	699+65.79 694.25	699+71.34 694.36	699+74.27 694.22	699+75.43 694.16	699+87.94 693.56
1/4	699+78.06 693.83	699+89.16 694.06	699+94.71 694.17	699+97.64 694.02	699+98.80 693.97	700+11.10 693.36
1/2	700+01.43 693.55	700+12.54 693.78	700+18.09 693.89	700+21.02 693.75	700+22.18 693.69	700+34.26 693.09
3/4	700+24.81 693.15	700+35.91 693.38	700+41.46 693.49	700+44.39 693.35	700+45.55 693.29	700+57.42 692.70
☉ BRG. FWD. ABUT.	700+48.18 692.69	700+59.29 692.90	700+64.84 693.01	700+67.77 692.87	700+68.93 692.81	700+80.58 692.25

NOTE: SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.



PLAN VIEW - RIGHT STRUCTURE



TRANSVERSE SECTION - RIGHT STRUCTURE

DESIGN AGENCY: LIB Inc. 2500 Newmark Drive, Mansfield, OH 44842 (837) 258-5000 ext. 1 (837) 258-5100 fax - Libinc.com

DATE: 4-16

REVIEWED: DWS

STRUCTURE FILE NUMBER: L-4710002

R-4710003

DESIGNED: SJM

CHECKED: JBR

DRAWN: MMN

REVISION: REVISED

DECK STATIONS AND ELEVATIONS - RIGHT STRUCTURE

BRIDGE NO. LOR-90-1355L/R

I-90 OVER WEST RIVER ROAD

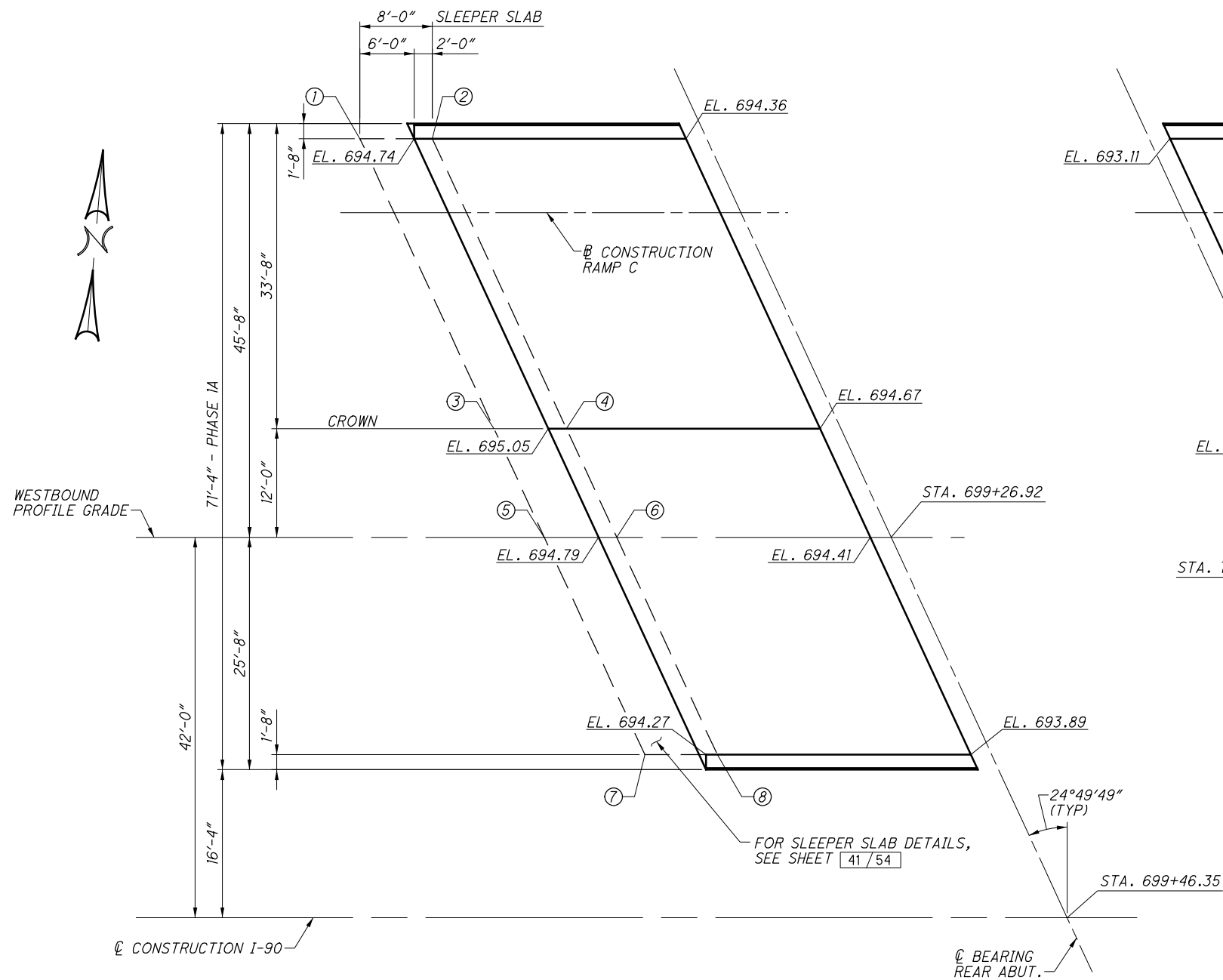
LOR-90-1320

PID No. 83449

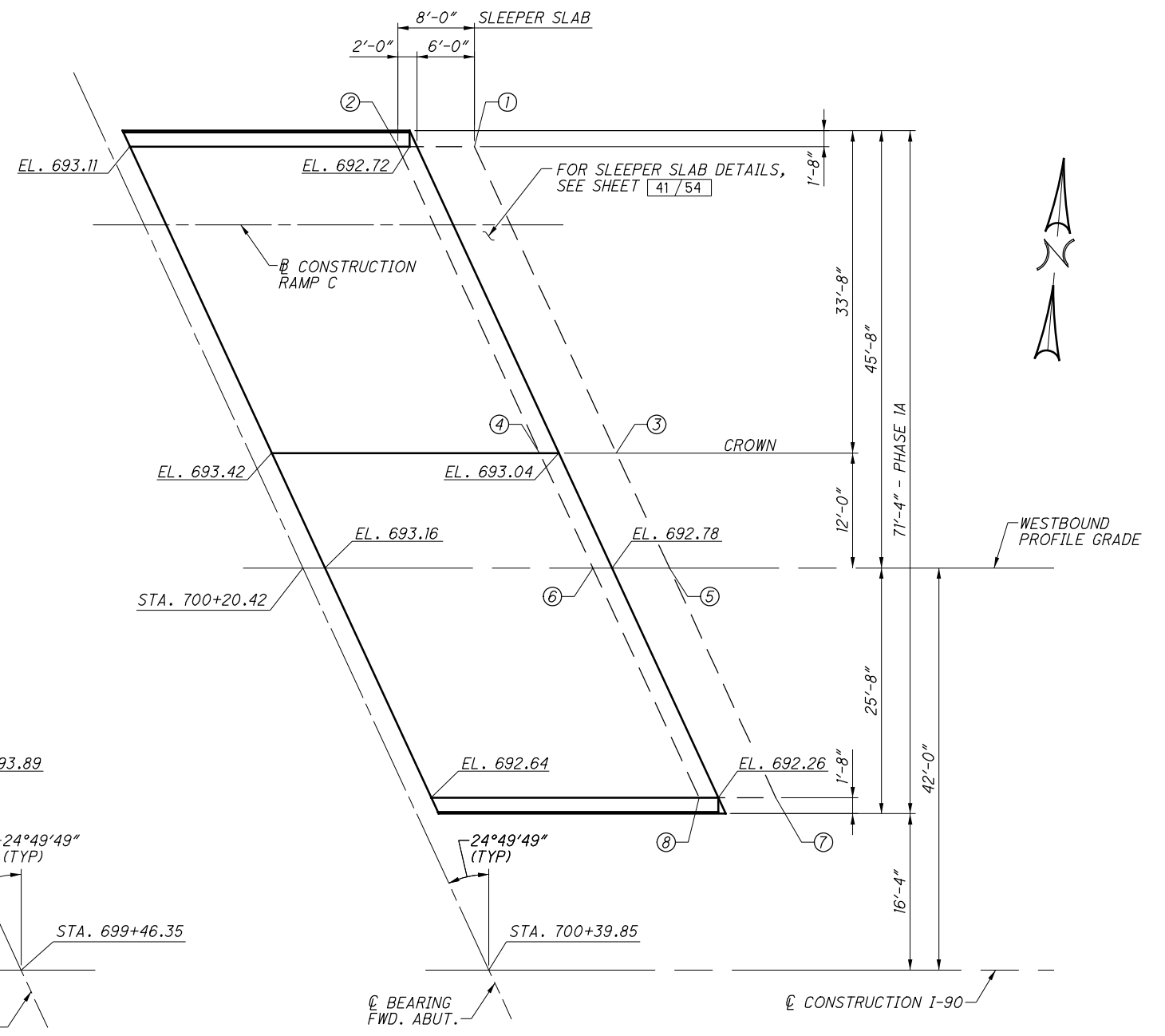
38/54

285
301

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REAR APPROACH SLAB PLAN - LEFT STRUCTURE



FORWARD APPROACH SLAB PLAN - LEFT STRUCTURE

SLEEPER SLAB SURFACE ELEVATIONS		
	REAR	FORWARD
①	693.67	691.50
②	693.30	691.33
③	693.98	691.81
④	693.61	691.65
⑤	693.72	691.56
⑥	693.35	691.39
⑦	693.20	691.04
⑧	692.83	690.87

NOTES:

1. FOR GENERAL NOTES, SEE SHEET [3 / 54].
2. FOR PARAPET TRANSITIONS, SEE SHEETS [42 / 54] AND [43 / 54].
3. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND SBR-1-13.

DESIGN AGENCY
LIB Inc. • 2500 Newmark Drive
Miamisburg, OH 45342
(937) 259-5000 fax • (937) 259-5100 fax • LIBinc.com

DATE 4-16
REVIEWED DWS
DRAWN MSD
PRG MSD
CHECKED REVISED
DESIGNED SUM

STRUCTURE FILE NUMBER
L-4710002
R-4710003

APPROACH SLAB PLANS - LEFT STRUCTURE

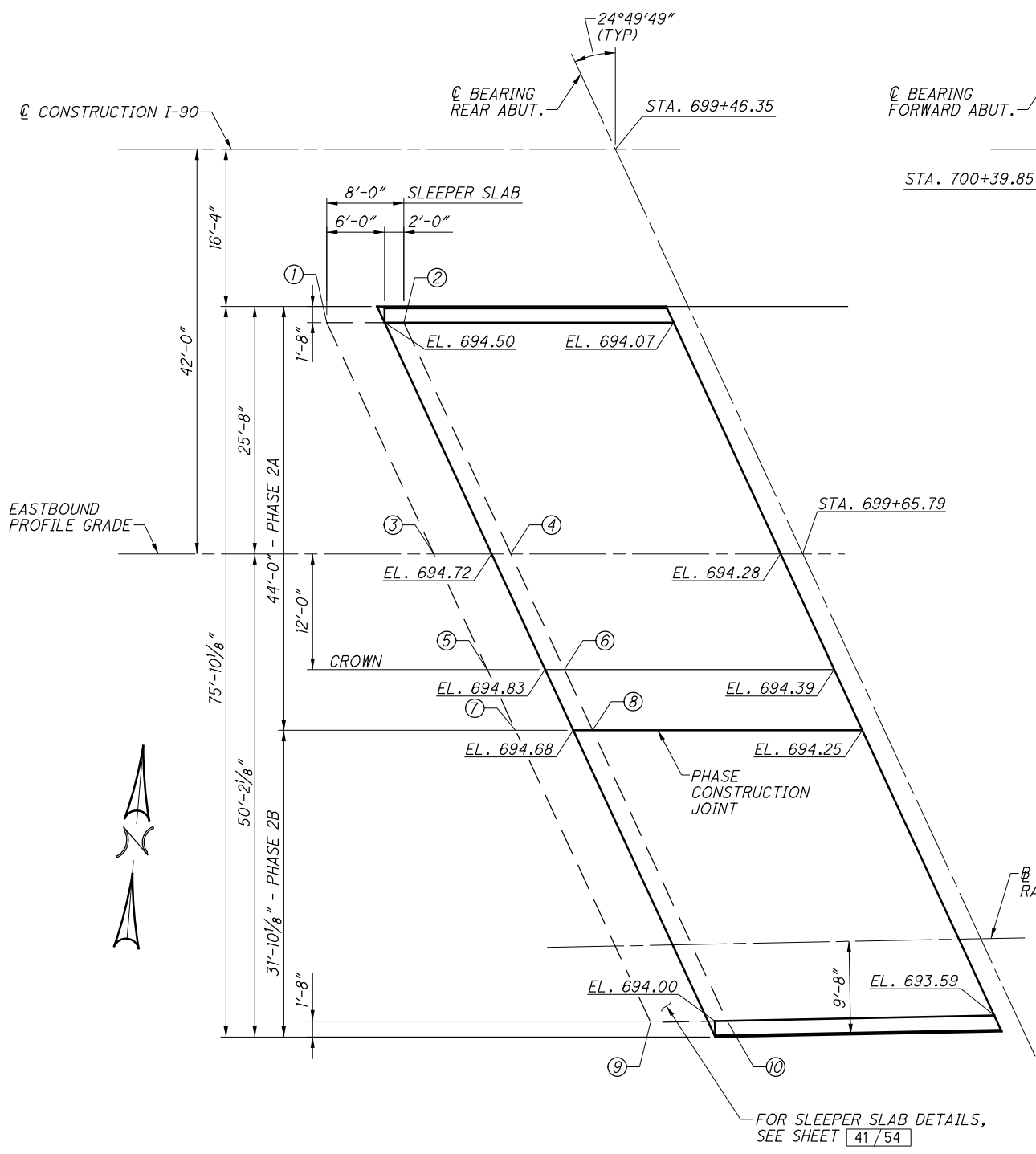
BRIDGE NO. LOR-90-1355L/R
I-90 OVER WEST RIVER ROAD

LOR-90-1320
PID No. 83449

39 / 54

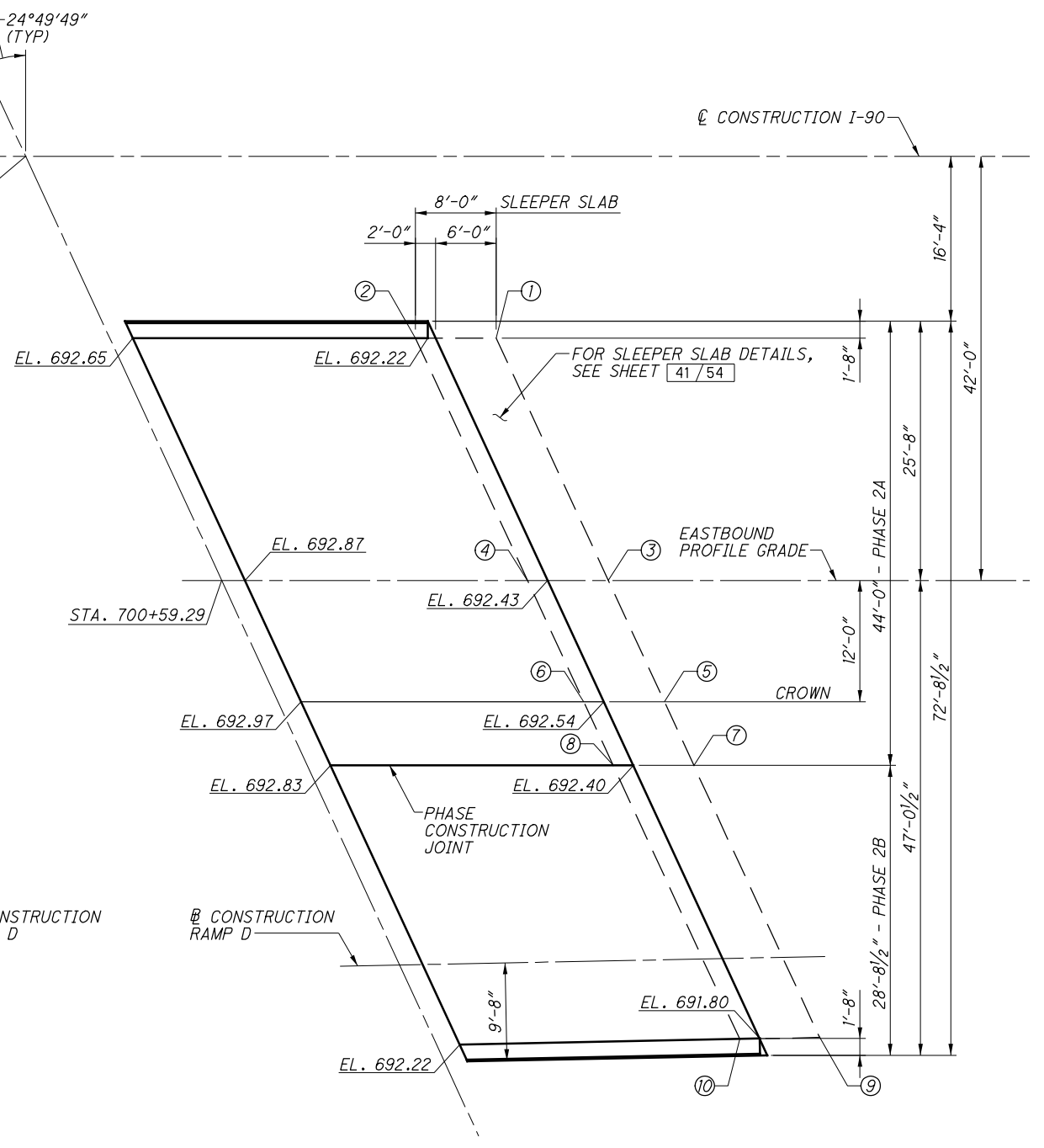
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REAR APPROACH SLAB PLAN - RIGHT STRUCTURE

SLEEPER SLAB SURFACE ELEVATIONS		
	REAR	FORWARD
①	693.44	690.99
②	693.06	690.83
③	693.66	691.20
④	693.27	691.05
⑤	693.77	691.31
⑥	693.38	691.15
⑦	693.63	691.17
⑧	693.24	691.01
⑨	692.91	690.53
⑩	692.53	690.37

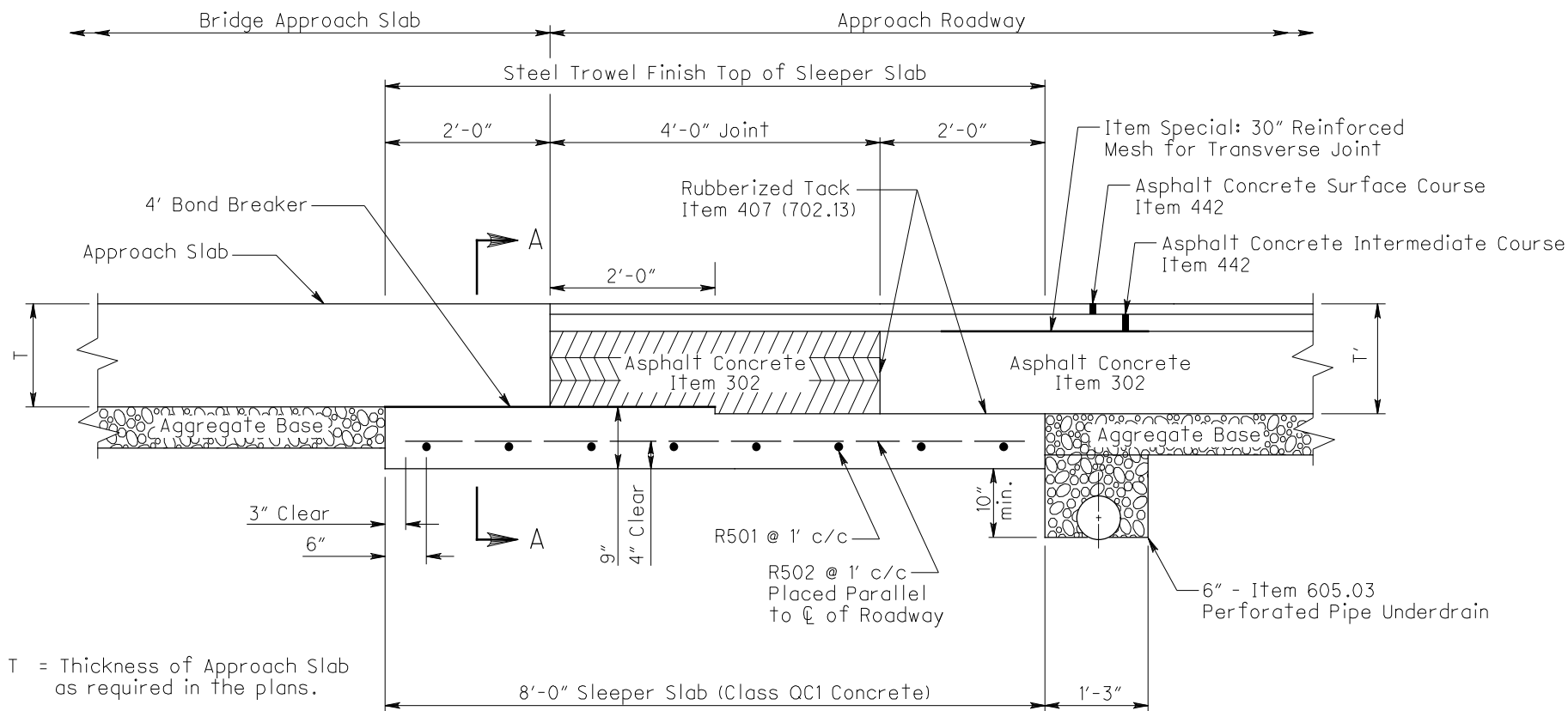


FORWARD APPROACH SLAB PLAN - RIGHT STRUCTURE

- NOTES:**
1. FOR GENERAL NOTES, SEE SHEET 3 / 54.
 2. FOR PARAPET TRANSITIONS, SEE SHEETS 42 / 54 THRU 45 / 54.
 3. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND SBR-1-13.

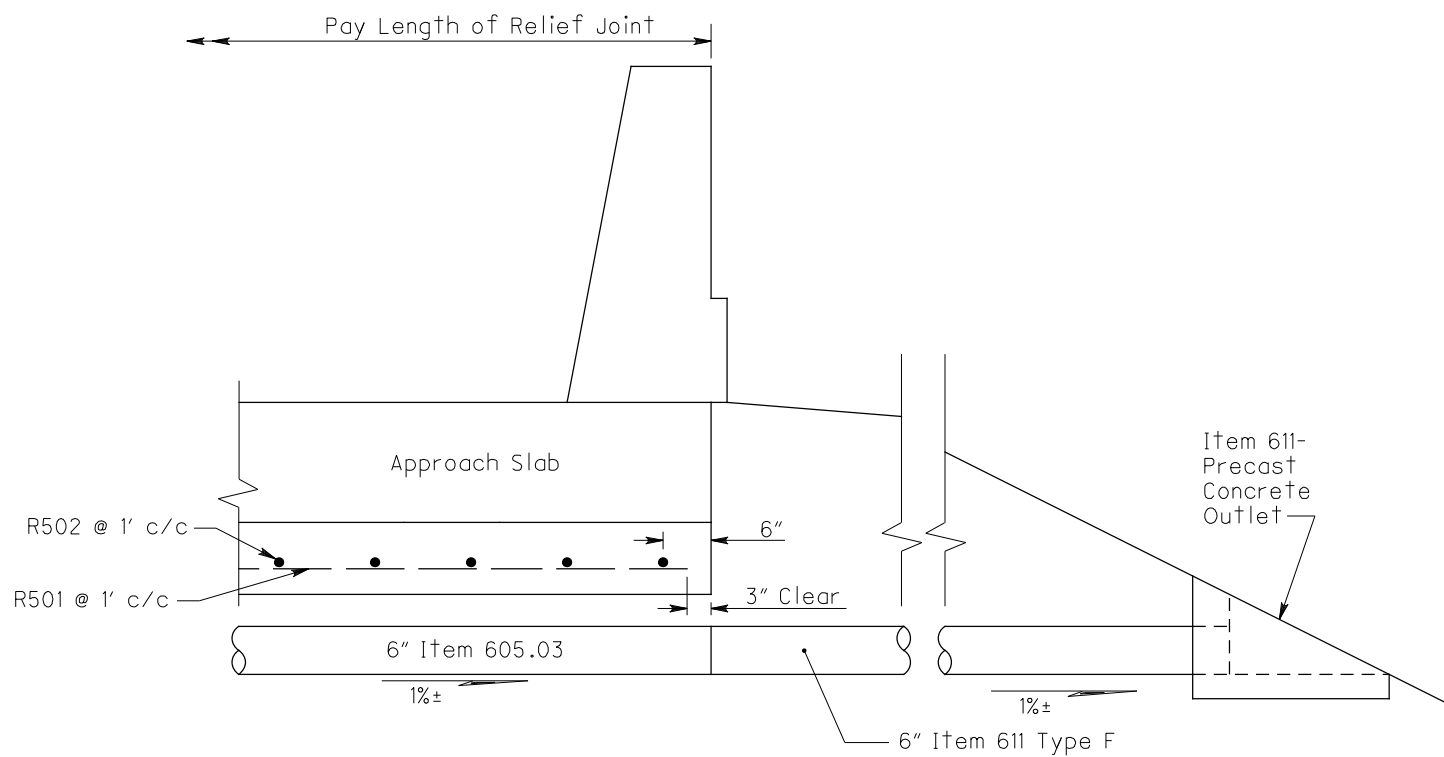
	DESIGN AGENCY LIB Inc. • 2500 Newark Drive Mansburg, OH 45342 (837) 259-5000 ext. (837) 259-5100 fax • LIBinc.com
	DATE: 4-16 REVIEWED: DWS DRAWN: MSD CHECKED: SUM DESIGNED: PRG STRUCTURE FILE NUMBER: L-4710002 R-4710003
APPROACH SLAB PLANS - RIGHT STRUCTURE	
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
LOR-90-1320 PID No. 83449	
40 / 54	
287 301	

DESIGN FILE: \\D:\WORK\2016\13555c_relief_joint.dgn 6/24/2016 8:15:42 AM scilling



T = Thickness of Approach Slab as required in the plans.
 T' = Design Pavement thickness as shown in the plans.

SLEEPER SLAB AND PAVEMENT DETAIL



SECTION A-A
 (Showing an Underdrain Outlet through the embankment)

REINFORCING STEEL LIST			
Mark	Shape	Number	Length
R501	1	8	S-0.5 ft.
R502	Straight	$N = \frac{S}{1 \text{ ft.}}$	$\frac{8}{\cos \theta}$ ft.

S = Length of sleeper slab in feet

1 R501 bars may be furnished in segments with a 1'-7" bar lap between segments.

NOTES

APPROACH SLAB PRESSURE RELIEF JOINTS: Relief joints are to be provided regardless of abutment design at all bridge approaches where approach pavement is rigid, or composite consisting of a rigid base.

ASPHALT CONCRETE: Item 442 - Asphalt Concrete Intermediate Course, Type 2 PG 64-22 shall be compacted in equal lifts not exceeding 3" with compaction equipment as approved by the Engineer.

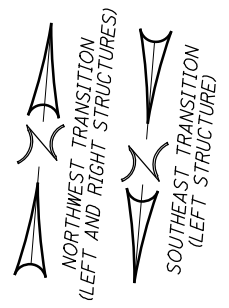
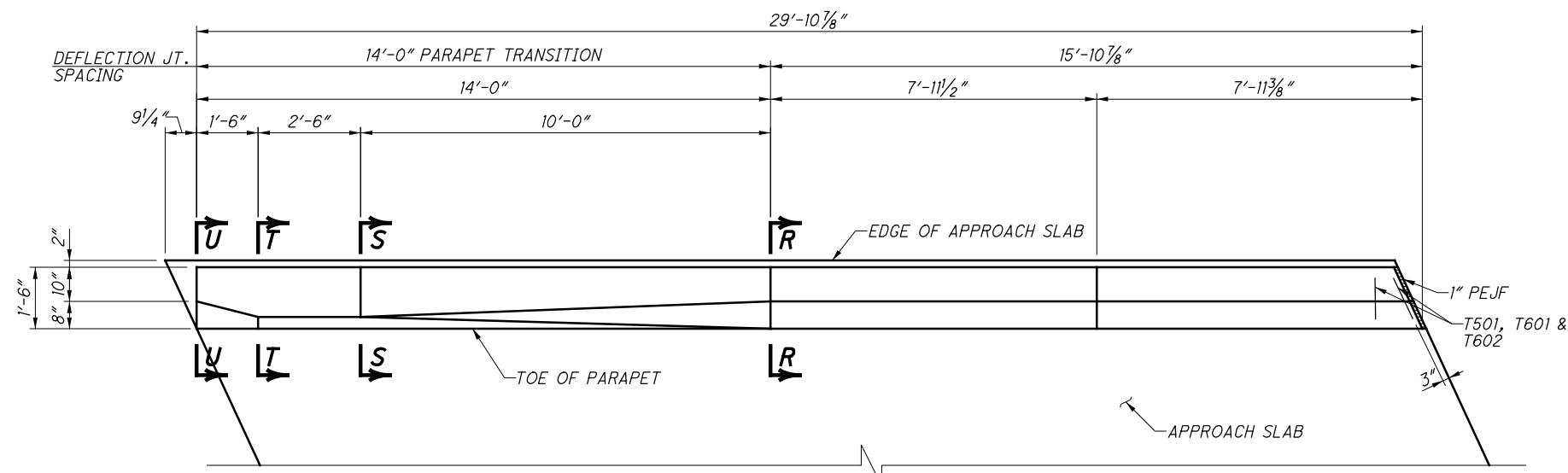
ITEM 305 PAVEMENT: shall be constructed in accordance with SCD BP-2.1 & BP-2.2. Longitudinal joints shall be placed in the same location and in the same alignment as the longitudinal joints in the existing pavements.

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.

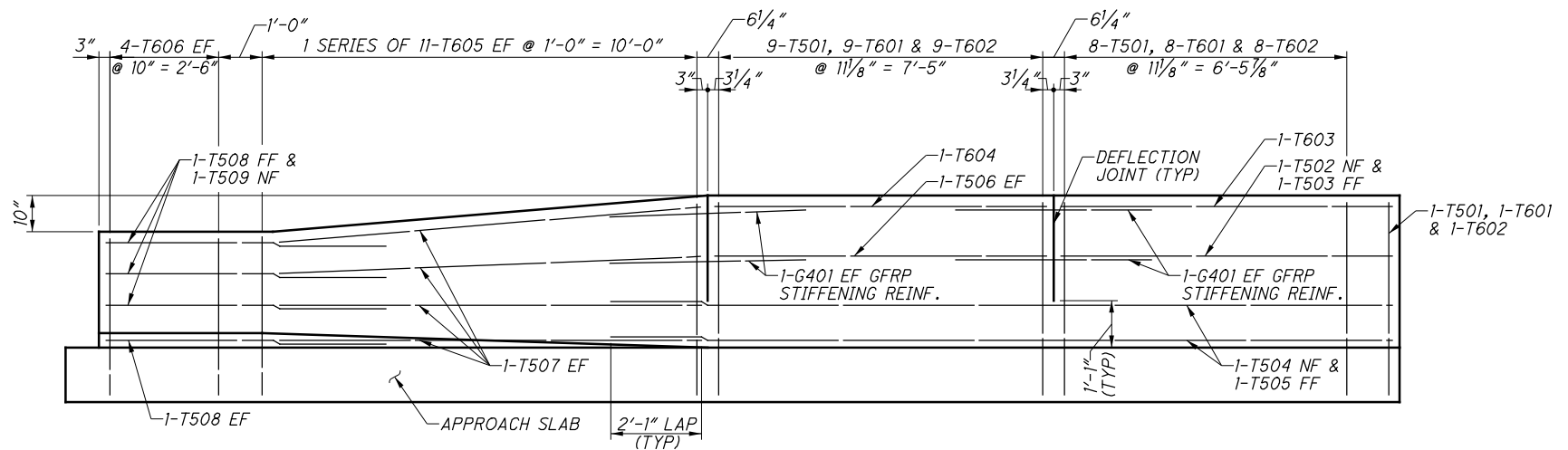
UNDERDRAIN: A perforated underdrain shall be placed as shown. It shall extend from edge to edge of the sleeper slab and be outletted through the embankment as shown in Section A-A. For additional information, see SCD DM-1.2.

PAYMENT: Measurement of the pressure relief joint for payment purposes shall be along the centerline of the Sleeper Slab between the backs of curb. Payment shall be per Linear Foot of Item Special - Pressure Relief Joint, Type A and shall include saw cutting & removal of existing pavement, Items 302 & 442, 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 Linear Foot of Item 605 - 6" Shallow Pipe Underdrains, Item 707.32 Type CP, or 707.41. The outlet pipe shall be paid for per Linear Foot of Item 611 - 6" Conduit, Type F with Item 611 - Precast Reinforced Concrete Outlet at each.

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PLAN
(NORTHWEST SHOWN FOR LEFT AND RIGHT STRUCTURES,
SOUTHEAST SIMILAR FOR LEFT STRUCTURE)
(WINGWALL NOT SHOWN FOR CLARITY)



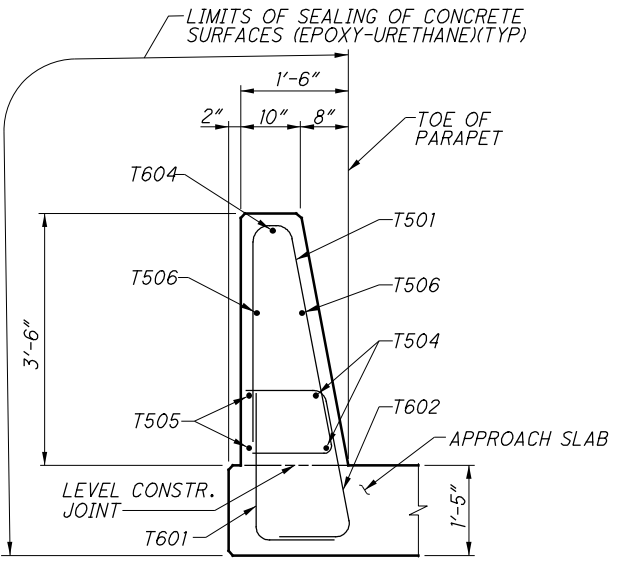
ELEVATION
(NORTHWEST SHOWN FOR LEFT AND RIGHT STRUCTURES,
SOUTHEAST SIMILAR FOR LEFT STRUCTURE)

LEGEND

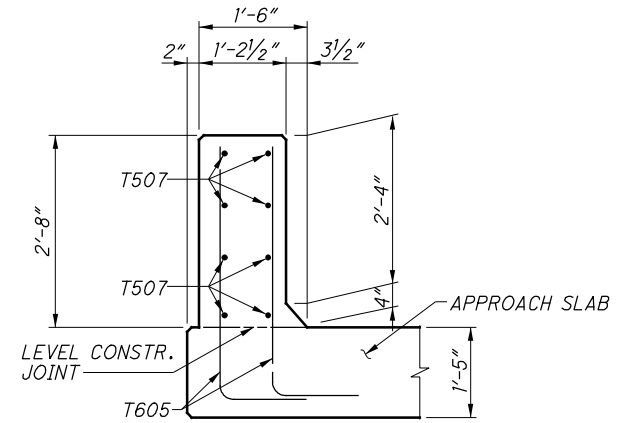
- EF = EACH FACE
- NF = NEAR FACE
- FF = FAR FACE
- GFRP = GLASS FIBER REINFORCED POLYMER
- PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

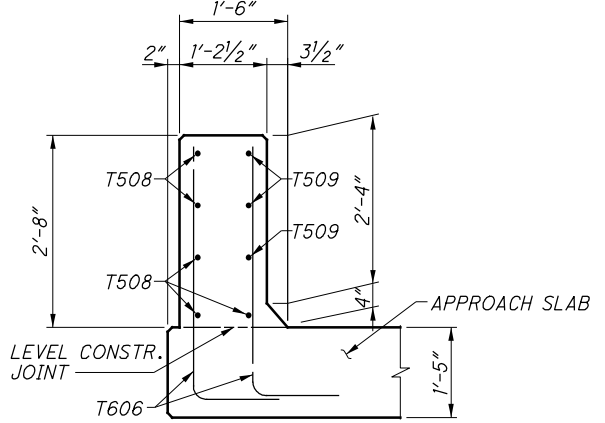
1. FOR GENERAL NOTES, SEE SHEET [3/54].
2. FOR REINFORCING STEEL LIST, SEE SHEETS [51/54] AND [54/54].
3. FOR SOUTHEAST PARAPET TRANSITION ON THE RIGHT STRUCTURE, SEE SHEET [44/54].
4. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND SBR-1-13.



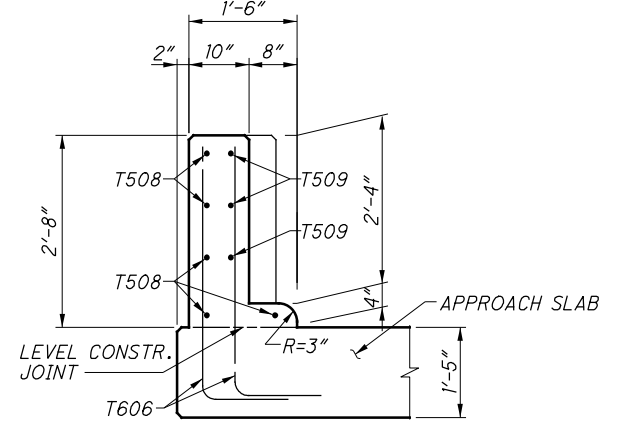
SECTION R-R
(SECTION R₁-R₁ SIMILAR)
(GFRP NOT SHOWN)



SECTION S-S
(SECTION S₁-S₁ SIMILAR)



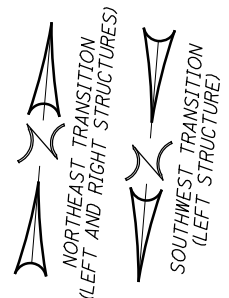
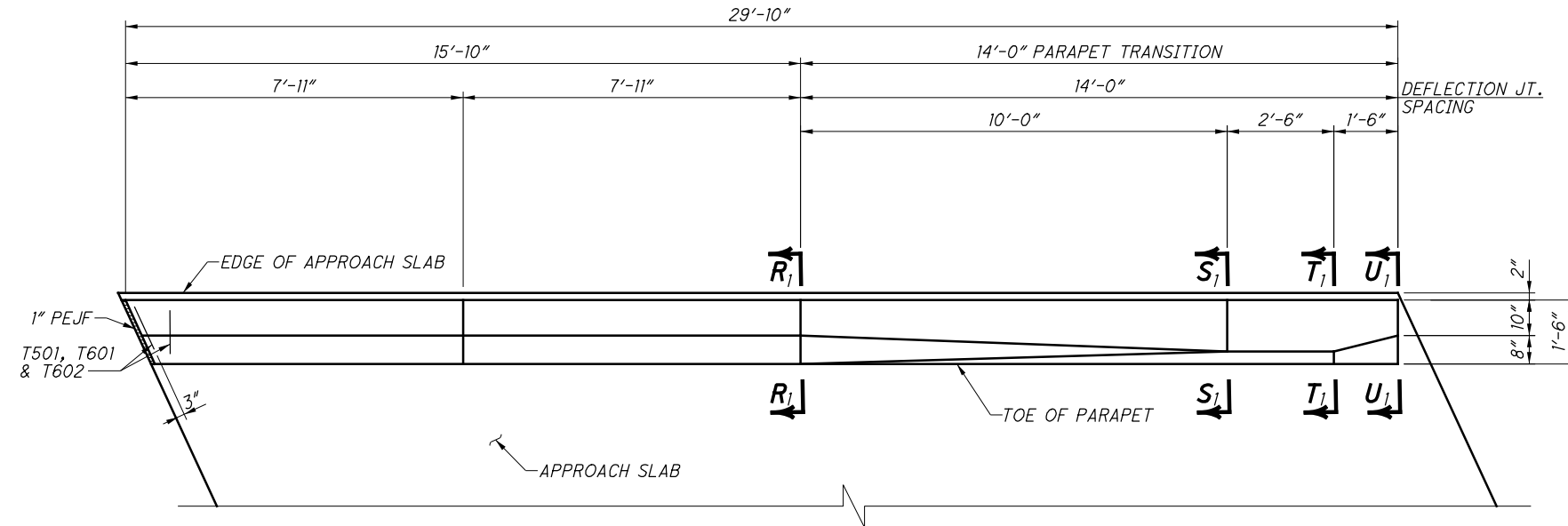
SECTION T-T
(SECTION T₁-T₁ SIMILAR)



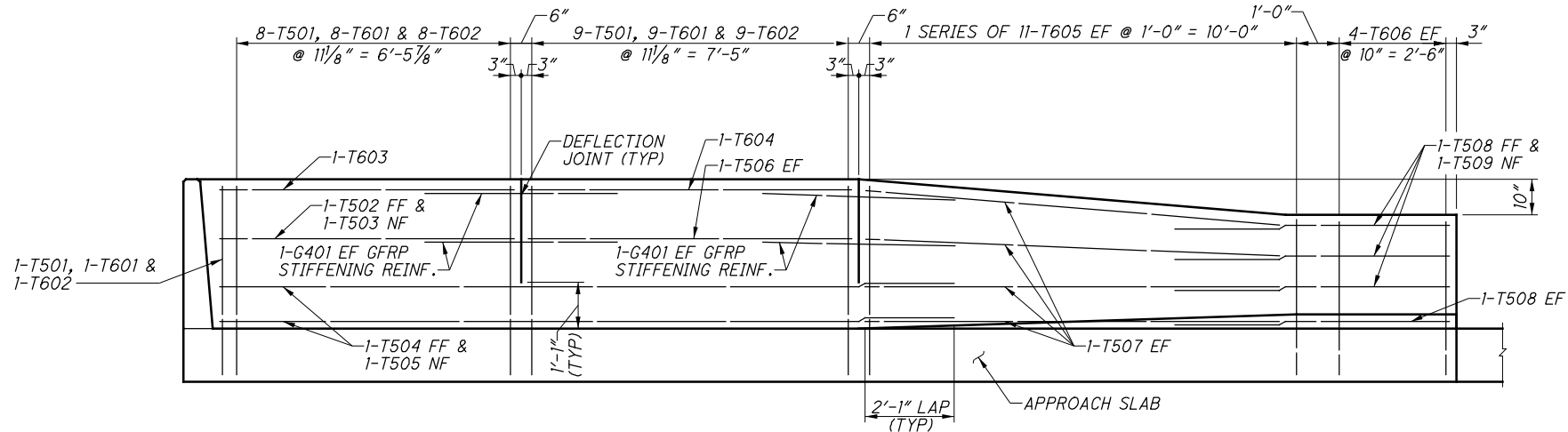
SECTION U-U
(SECTION U₁-U₁ SIMILAR)

	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansburg, OH 45342 (837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com	DATE 4-16	STRUCTURE FILE NUMBER L-4710002 R-4710003
DESIGNED AMT	DRAWN MSD	REVIEWED DWS	DATE 4-16
CHECKED AMM	REVISED	REVISIONS	DATE
PARAPET TRANSITION DETAILS BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD			
LOR-90-1320 PID No. 83449			
42 / 54			
289 301			

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PLAN
(NORTHEAST SHOWN FOR LEFT AND RIGHT STRUCTURES,
SOUTHWEST SIMILAR FOR LEFT STRUCTURE)
(WINGWALL NOT SHOWN FOR CLARITY)



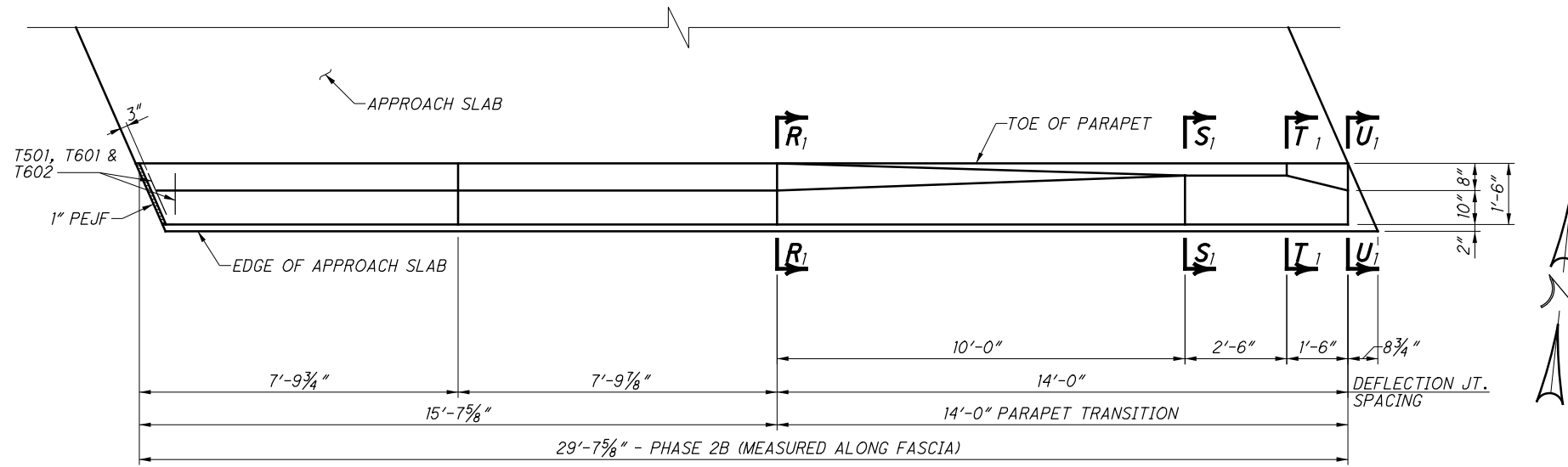
ELEVATION
(NORTHEAST SHOWN FOR LEFT AND RIGHT STRUCTURES,
SOUTHWEST SIMILAR FOR LEFT STRUCTURE)

LEGEND
EF = EACH FACE
NF = NEAR FACE
FF = FAR FACE
GFRP = GLASS FIBER REINFORCED POLYMER
PEJF = PREFORMED EXPANSION JOINT FILLER

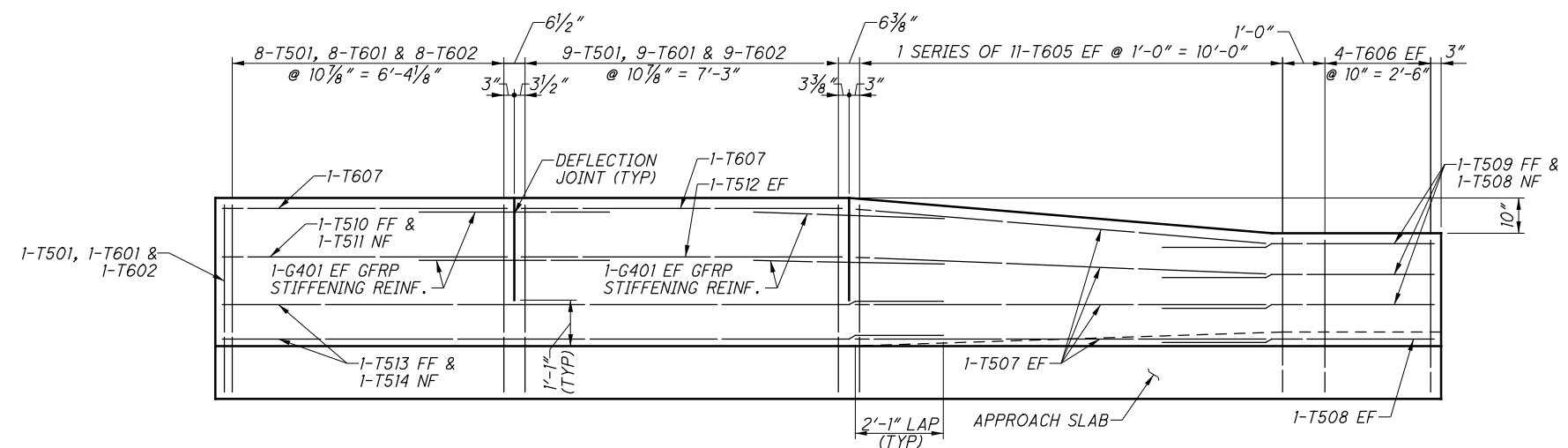
NOTES:
1. FOR GENERAL NOTES, SEE SHEET [3 / 54].
2. FOR REINFORCING STEEL LIST, SEE SHEETS [51 / 54] AND [54 / 54].
3. FOR SOUTHWEST PARAPET TRANSITION ON THE RIGHT STRUCTURE, SEE SHEET [45 / 54].
4. FOR SECTIONS R₁-R₁ THRU U₁-U₁, SEE SHEET [42 / 54].
5. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND SBR-1-13.

LOR-90-1320 PID No. 83449	DESIGN AGENCY LIB Inc. • 2510 Newmark Drive Mansburg, OH 43142 (837) 259-5000 fax • LIBinc.com
	DATE 4-16 REVIEWED DWS STRUCTURE FILE NUMBER L-4710002 R-4710003
DRAWN MSD CHECKED AMM	DESIGNED AMT CHECKED AMM
PARAPET TRANSITION DETAILS BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
43 / 54	290 / 301

O:\ODOT_D3\0108086A.00 - LOR-90-1320 PID83449\structures\LOR090_1355C\sheets\090_1355Ccmd006.dgn 6/24/2016 8:15:45 AM scilling



PLAN - RIGHT STRUCTURE - SOUTHEAST PARAPET
(WINGWALL NOT SHOWN FOR CLARITY)



ELEVATION - RIGHT STRUCTURE - SOUTHEAST PARAPET

LEGEND

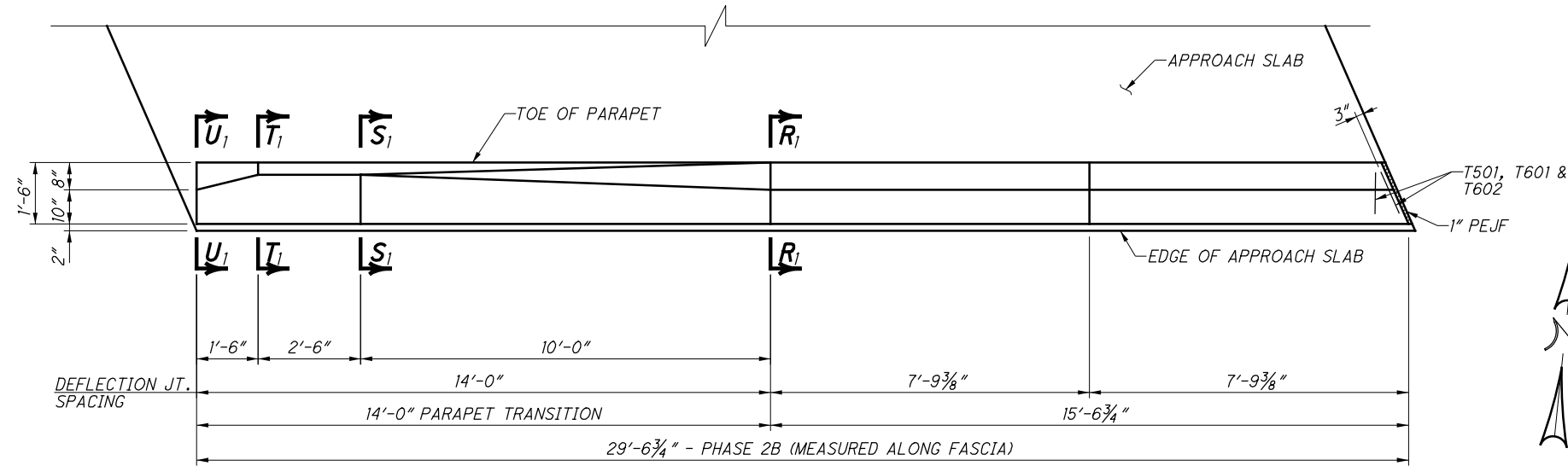
- EF = EACH FACE
- NF = NEAR FACE
- FF = FAR FACE
- GFRP = GLASS FIBER REINFORCED POLYMER
- PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

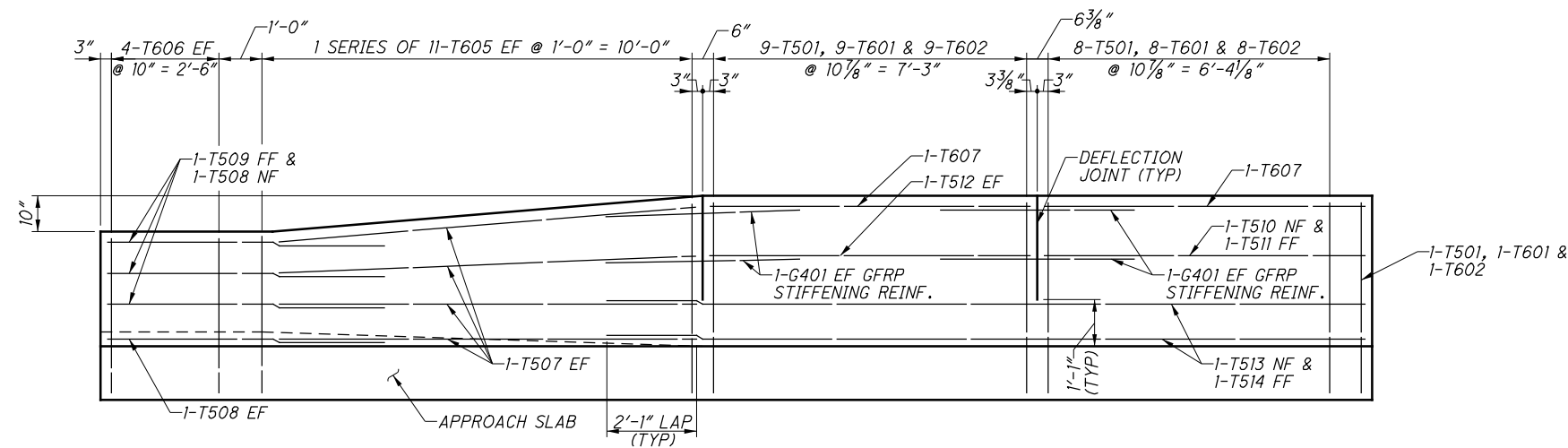
1. FOR GENERAL NOTES, SEE SHEET [3 / 54].
2. FOR REINFORCING STEEL LIST, SEE SHEET [54 / 54].
3. FOR SECTIONS R₁-R₁ THRU U₁-U₁, SEE SHEET [42 / 54].
4. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND SBR-1-13.

	DESIGN AGENCY LIB Inc. • 2510 Newmark Drive Mansburg, OH 45342 (837) 259-5000 ext. • (837) 259-5100 fax • LIBinc.com	DATE 4-16	REVIEWED DWS	STRUCTURE FILE NUMBER L-4710002 R-4710003
DESIGNED AMT	DRAWN MSD	CHECKED AMM	REVISED	REVISIONS
PARAPET TRANSITION DETAILS - RIGHT STRUCTURE				
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD				
LOR-90-1320				
PID No. 83449				
44 / 54				
291 301				

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PLAN - RIGHT STRUCTURE - SOUTHWEST PARAPET
(WINGWALL NOT SHOWN FOR CLARITY)



ELEVATION - RIGHT STRUCTURE - SOUTHWEST PARAPET

LEGEND

- EF = EACH FACE
- NF = NEAR FACE
- FF = FAR FACE
- GFRP = GLASS FIBER REINFORCED POLYMER
- PEJF = PREFORMED EXPANSION JOINT FILLER

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 3 / 54.
2. FOR REINFORCING STEEL LIST, SEE SHEET 54 / 54.
3. FOR SECTIONS R₁-R₁ THRU U₁-U₁, SEE SHEET 42 / 54.
4. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND SBR-1-13.

PARAPET TRANSITION DETAILS - RIGHT STRUCTURE

BRIDGE NO. LOR-90-1355L/R
I-90 OVER WEST RIVER ROAD

LOR-90-1320
PID No. 83449

45 / 54

292
301



DESIGNED
AMT
CHECKED
AMM

DRAWN
MSD
REVISED

REVIEWED
DWS

DATE
4-16

STRUCTURE FILE NUMBER
L-4710002
R-4710003

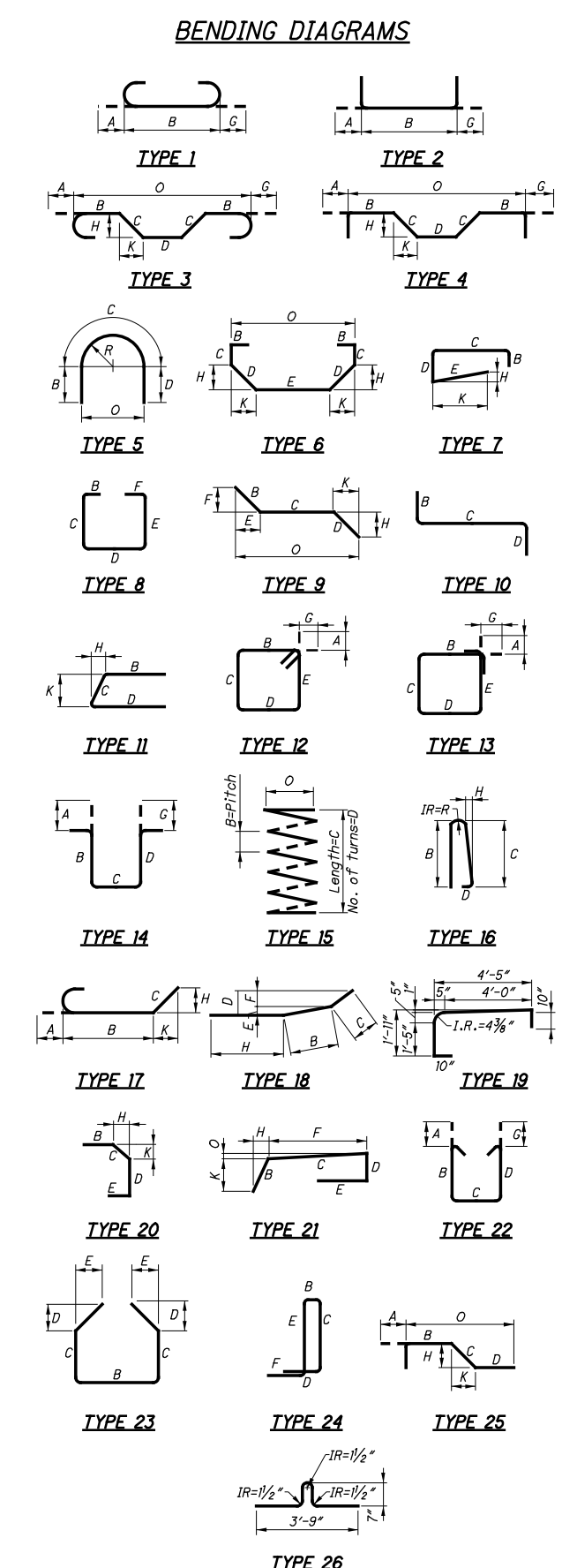
DESIGN AGENCY
LIB Inc. • 2510 Newmark Drive
Mansfield, OH 44842
(837) 259-5000 fax • (837) 259-5100 fax • LIBinc.com

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MARK	NUMBER PHASE 1A	LENGTH	WEIGHT PHASE 1A	TYPE	A	B	C	D	E	F	G	H	K	O	R
REAR ABUTMENT - LEFT STRUCTURE															
A501	8	30'-0"	250	STR.											
A502	4	27'-0"	113	STR.											
A503	80	20'-1"	1676	12	5 1/2"	7'-2"	2'-7"	7'-2"	2'-7"					5 1/2"	
A504	40	19'-1"	796	12	5 1/2"	4'-10"	4'-5"	4'-10"	4'-5"					5 1/2"	
A505	40	20'-1"	838	12	5 1/2"	4'-10"	4'-11"	4'-10"	4'-11"					5 1/2"	
A506	21	11'-1"	243	12	5 1/2"	2'-8"	2'-7"	2'-8"	2'-7"					5 1/2"	
A507	7	9'-7"	70	12	5 1/2"	1'-11"	2'-7"	1'-11"	2'-7"					5 1/2"	
A508	13	15'-5"	209	8			7'-3"	1'-2"	7'-3"						
A509	26	11'-1"	301	8			5'-1"	1'-2"	5'-1"						
A510	2 SER. OF 5	VAR. 8'-3" TO 12'-3" = 10	107	12	5 1/2"	1'-2"	VAR. 2'-8" TO 4'-8" 6" INCR.	1'-2"	VAR. 2'-8" TO 4'-8" 6" INCR.					5 1/2"	
A511	4	11'-9"	49	20		2'-8"	6'-6"	2'-8"					2'-4"	6'-2"	
A512	6	13'-7"	85	STR.											
A513	3	13'-0"	41	STR.											
A514	2	14'-3"	30	STR.											
A515	1	13'-8"	14	STR.											
A516	2	18'-2"	38	STR.											
A517	1	17'-8"	18	STR.											
A518	4	19'-7"	82	STR.											
A519	2	19'-0"	40	STR.											
A520	13	16'-3"	220	8			7'-8"	1'-2"	7'-8"						
A521	3	14'-3"	45	STR.											
A522	1	14'-11"	16	STR.											
A523	1	18'-9"	20	STR.											
A524	2	20'-3"	42	STR.											
A601	44	30'-0"	1983	STR.											
A602	22	29'-7"	978	STR.											
A603	2	11'-7"	35	STR.											
A604	4	14'-8"	88	STR.											
A605	3	14'-5"	65	STR.											
A606	6	5'-5"	49	STR.											
A607	3	5'-9"	26	STR.											
A608	3	14'-10"	67	STR.											
A609	2	10'-2"	31	STR.											
A610	3	7'-3"	33	STR.											
A801	12	30'-0"	961	STR.											
A802	6	32'-8"	523	STR.											
A803 AND A804 NOT USED															
A805	16	6'-8"	285	2	13 1/2"	5'-6"									
		TOTAL =	10467												

NOTES:

- ALL REINFORCING STEEL BARS SHALL BE EPOXY COATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR.
- DIMENSIONS "A" AND "G" ARE STANDARD BEND DIMENSIONS. REFER TO SECTION 509.05 OF THE CMS.
- RADIUS DIMENSION "R" IS TO THE OUTSIDE OF THE BAR.
- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.



REINFORCING STEEL LIST - REAR ABUTMENT - LEFT STRUCTURE

LIB Inc. • 2500 Newmark Drive
Mansfield, OH 44842
(837) 258-5000 fax • (837) 258-5100 fax • LIBInc.com

DESIGN AGENCY: LIB Inc. DATE: 4-16
REVIEWED: DWS STRUCTURE FILE NUMBER: L-4710002
DRAWN: MAS CHECKED: AMT
AMM REVISED: AMT

BRIDGE NO. LOR-90-1355L/R
I-90 OVER WEST RIVER ROAD

LOR-90-1320
PID No. 83449

46/54

293
301

MARK	NUMBER PHASE 1A	LENGTH	WEIGHT PHASE 1A	TYPE	A	B	C	D	E	F	G	H	K	O	R
FORWARD ABUTMENT - LEFT STRUCTURE															
B501	8	30'-0"	250	STR.											
B502	4	27'-0"	113	STR.											
B503	80	20'-1"	1676	12	5½"	7'-2"	2'-7"	7'-2"	2'-7"				5½"		
B504	56	19'-11"	1163	12	5½"	4'-10"	4'-10"	4'-10"	4'-10"				5½"		
B505	24	19'-1"	478	12	5½"	4'-10"	4'-5"	4'-10"	4'-5"				5½"		
B506	20	11'-1"	231	12	5½"	2'-8"	2'-7"	2'-8"	2'-7"				5½"		
B507	7	9'-7"	70	12	5½"	1'-11"	2'-7"	1'-11"	2'-7"				5½"		
B508	11	16'-3"	186	8			7'-8"	1'-2"	7'-8"						
B509	25	11'-5"	298	8			5'-3"	1'-2"	5'-3"						
B510	1	14'-9"	15	8			6'-11"	1'-2"	6'-11"						
B511	2 SER. OF 5 = 10	VAR. 8'-3" TO 12'-9" 6¾" INCR.	110	12	5½"	1'-2"	VAR. 2'-8" TO 4'-11" 6¾" INCR.	1'-2"	VAR. 2'-8" TO 4'-11" 6¾" INCR.				5½"		
B512	6	13'-7"	85	STR.											
B513	3	13'-0"	41	STR.											
B514	2	14'-2"	30	STR.											
B515	1	13'-8"	14	STR.											
B516	2	17'-11"	37	STR.											
B517	1	17'-5"	18	STR.											
B518	4	19'-7"	82	STR.											
B519	2	19'-0"	40	STR.											
B520	4	11'-11"	50	20		2'-8"	6'-8"	2'-8"					6'-2"	2'-7"	
B521	12	15'-5"	193	8			7'-3"	1'-2"	7'-3"						
B522	1	13'-11"	15	8			6'-6"	1'-2"	6'-6"						
B523	3	14'-3"	45	STR.											
B524	1	14'-10"	15	STR.											
B525	1	18'-6"	19	STR.											
B526	2	20'-3"	42	STR.											
B601	44	30'-0"	1983	STR.											
B602	22	29'-7"	978	STR.											
B603	3	14'-10"	67	STR.											
B604	4	14'-8"	88	STR.											
B605	6	5'-5"	49	STR.											
B606	2	10'-2"	31	STR.											
B607	3	9'-11"	45	STR.											
B608	3	14'-5"	65	STR.											
B609	2	11'-7"	35	STR.											
B610	3	11'-10"	53	STR.											
B801	12	30'-0"	961	STR.											
B802	6	32'-8"	523	STR.											
B803 THRU B804 NOT USED															
B805	16	7'-0"	299	2	13½"	5'-10"									
TOTAL=			10493												

NOTES:

- 1. ALL REINFORCING STEEL BARS SHALL BE EPOXY COATED.
- 2. ALL DIMENSIONS ARE OUT TO OUT OF BAR.
- 3. DIMENSIONS "A" AND "G" ARE STANDARD BEND DIMENSIONS. REFER TO SECTION 509.05 OF THE CMS.
- 4. RADIUS DIMENSION "R" IS TO THE OUTSIDE OF THE BAR.
- 5. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.

BENDING DIAGRAMS

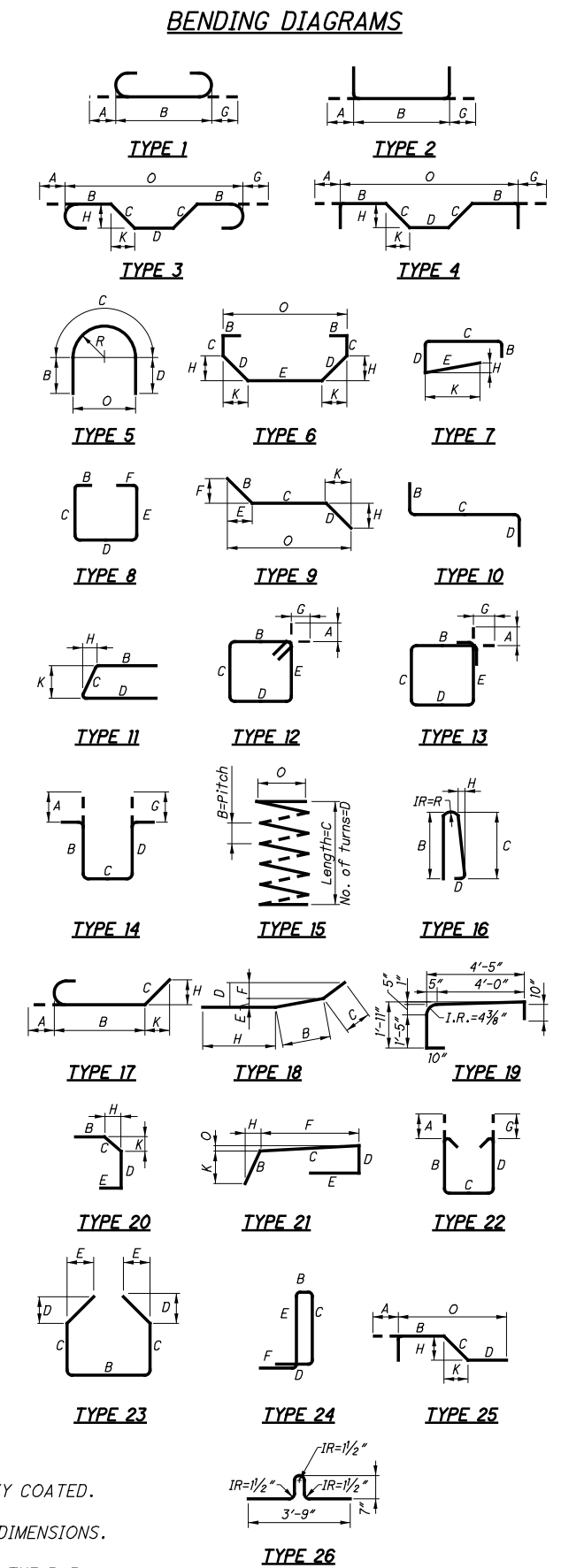
The diagrams illustrate various bar types used in the structure:

- TYPE 1, 2:** Standard top bars with dimensions A, B, G.
- TYPE 3, 4:** Bent bars with dimensions A, B, C, D, H, K, O, G.
- TYPE 5:** Bar with a circular bend of radius R, dimensions A, B, C, D, O.
- TYPE 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26:** Various bent and hooked bar configurations with specific dimensions and bend radii (e.g., IR=1/2").

DESIGN AGENCY
 LIB Inc. • 2510 Newmark Drive
 Mansburg, OH 45342
 (937) 298-5000 fax • (937) 298-5100 fax • LIBinc.com
DATE 4-16
REVIEWED DWS
STRUCTURE FILE NUMBER L-4710002
FILE NUMBER R-4710003
DESIGNED AWM
CHECKED AMT
DRAWN MAS
REVISED
BRIDGE NO. LOR-90-1355L/R
REINFORCING STEEL LIST - FORWARD ABUTMENT - LEFT STRUCTURE
 I-90 OVER WEST RIVER ROAD
LOR-90-1320
PID No. 83449
 47/54
 294/301

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MARK	NUMBER			LENGTH	WEIGHT		TYPE	A	B	C	D	E	F	G	H	K	O	R
	PHASE 2A	PHASE 2B	TOTAL		PHASE 2A	PHASE 2B												
REAR ABUTMENT - RIGHT STRUCTURE																		
A501	4		4	30'-0"	125		STR.											
A502 NOT USED																		
A503	46	34	80	20'-1"	964	712	12	5 1/2"	7'-2"	2'-7"	7'-2"	2'-7"					5 1/2"	
A504	12	34	46	19'-1"	239	677	12	5 1/2"	4'-10"	4'-5"	4'-10"	4'-5"					5 1/2"	
A505	34		34	20'-1"	712		12	5 1/2"	4'-10"	4'-11"	4'-10"	4'-11"					5 1/2"	
A506	11	9	20	11'-1"	127	104	12	5 1/2"	2'-8"	2'-7"	2'-8"	2'-7"					5 1/2"	
A507	3	5	8	9'-7"	30	50	12	5 1/2"	1'-11"	2'-7"	1'-11"	2'-7"					5 1/2"	
A508		13	13	15'-5"		209	8			7'-3"	1'-2"	7'-3"						
A509 THRU A511 NOT USED																		
A512	3	3	6	13'-7"	43	43	STR.											
A513		3	3	13'-0"		41	STR.											
A514	1	1	2	14'-3"	15	15	STR.											
A515		1	1	13'-8"		14	STR.											
A516 AND A517 NOT USED																		
A518	2	3	5	19'-7"	41	61	STR.											
A519		3	3	19'-0"		59	STR.											
A520	13		13	16'-3"	220		8			7'-8"	1'-2"	7'-8"						
A521	3		3	14'-3"	45		STR.											
A522	1		1	14'-11"	16		STR.											
A523 NOT USED																		
A524	2		2	20'-3"	42		STR.											
A525	13	13	26	10'-1"	137	137	8			4'-7"	1'-2"	4'-7"						
A526	1 SER. OF 5 = 5	1 SER. OF 5 = 5	2 SER. OF 5 = 10	VAR. 8'-3" TO 10'-11" 4" INCR.	50	50	12	5 1/2"	1'-2"	VAR. 2'-8" TO 4'-0" 4" INCR.	1'-2"	VAR. 2'-8" TO 4'-0" 4" INCR.					5 1/2"	
A527	2	2	4	11'-6"	24	24	20			2'-8"	6'-3"	2'-8"					1'-9"	6'-2"
A528	1		1	19'-7"	20		STR.											
A529	1		1	20'-2"	21		STR.											
*A530	4		4	23'-3"	97		STR.											
*A531		4	4	35'-5"		148	STR.											
A532	1	1	2	21'-7"	23	23	12	5 1/2"	7'-11"	2'-7"	7'-11"	2'-7"					5 1/2"	
A533	1	1	2	21'-1"	22	22	12	5 1/2"	5'-4"	4'-11"	5'-4"	4'-11"					5 1/2"	
A601 AND A602 NOT USED																		
A603	2		2	11'-7"	35		STR.											
A604	2	2	4	14'-8"	44	44	STR.											
A605	3		3	14'-5"	65		STR.											
A606	3	3	6	5'-5"	24	24	STR.											
A607	3		3	5'-9"	26		STR.											
A608		3	3	14'-10"		67	STR.											
A609		2	2	10'-2"		31	STR.											
A610		3	3	7'-3"		33	STR.											
*A611	44		44	27'-4"	1806		STR.											
*A612		22	22	36'-2"		1195	STR.											
A801	6		6	30'-0"	481		STR.											
A802 NOT USED																		
*A803	6		6	26'-1"	418		STR.											
*A804		6	6	35'-5"		567	STR.											
A805	8	8	16	6'-8"	142	142	2	1 3/2"	5'-6"									
					TOTAL =	6054	4492											



NOTES:

1. ALL REINFORCING STEEL BARS SHALL BE EPOXY COATED.
2. ALL DIMENSIONS ARE OUT TO OUT OF BAR.
3. DIMENSIONS "A" AND "G" ARE STANDARD BEND DIMENSIONS. REFER TO SECTION 509.05 OF THE CMS.
4. RADIUS DIMENSION "R" IS TO THE OUTSIDE OF THE BAR.
5. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.
- *6. REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH ADJUSTMENT AND/OR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF CONNECTOR.

REINFORCING STEEL LIST - REAR ABUTMENT - RIGHT STRUCTURE	DESIGNED	DRAWN	REVIEWED	DATE	DESIGN AGENCY
	AMM	MAS	DWS	4-16	LIB Inc. - 2500 Newmark Drive Miamisburg, OH 45342 (937) 259-5000 fax - (937) 259-5100 fax - LIBinc.com
	CHECKED	REVISED	STRUCTURE	FILE NUMBER	
	AMT	AMT	L-4710002	R-4710003	

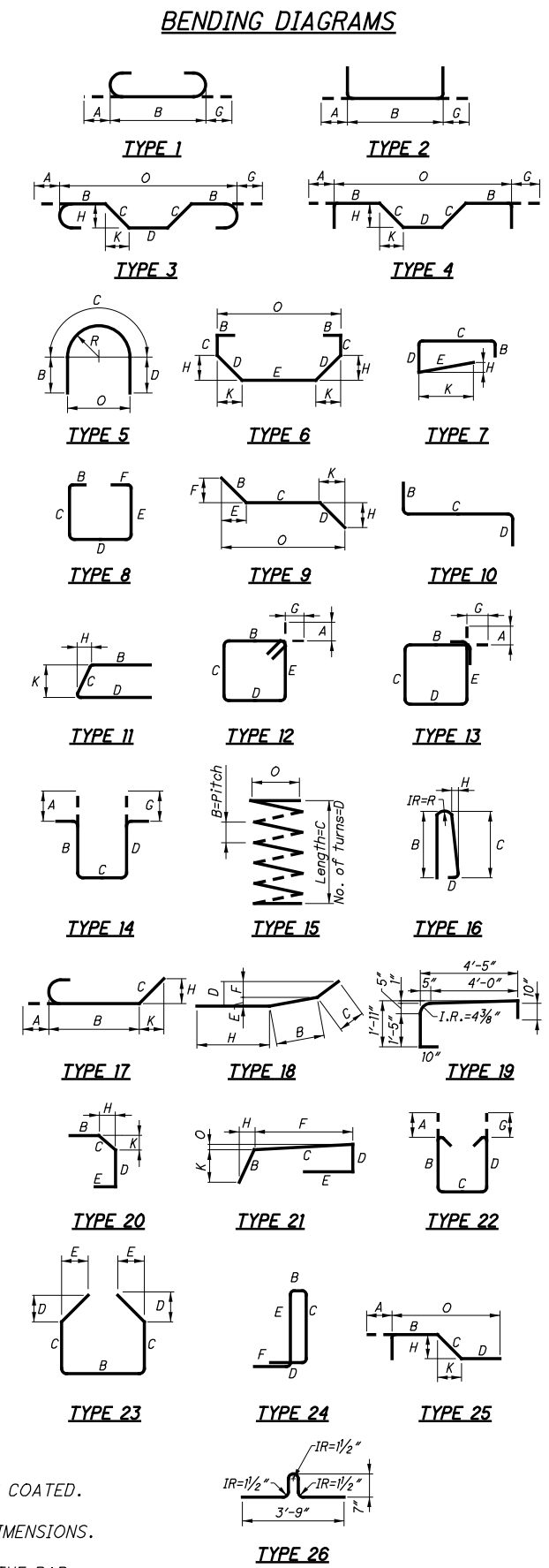
BRIDGE NO. LOR-90-1355L/R
I-90 OVER WEST RIVER ROAD

LOR-90-1320
PID No. 83449

48/54
295
301

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MARK	NUMBER			LENGTH	WEIGHT		TYPE	A	B	C	D	E	F	G	H	K	O	R
	PHASE 2A	PHASE 2B	TOTAL		PHASE 2A	PHASE 2B												
FORWARD ABUTMENT - RIGHT STRUCTURE																		
B501	4		4	30'-0"	125		STR.											
B502 NOT USED																		
B503	46	32	78	20'-1"	964	670	12	5 1/2"	7'-2"	2'-7"	7'-2"	2'-7"					5 1/2"	
B504	46		46	19'-11"	956		12	5 1/2"	4'-10"	4'-10"	4'-10"	4'-10"					5 1/2"	
B505		32	32	19'-1"		637	12	5 1/2"	4'-10"	4'-5"	4'-10"	4'-5"					5 1/2"	
B506	9	10	19	11'-1"	104	116	12	5 1/2"	2'-8"	2'-7"	2'-8"	2'-7"					5 1/2"	
B507	4	3	7	9'-7"	40	30	12	5 1/2"	1'-11"	2'-7"	1'-11"	2'-7"					5 1/2"	
B508	11		11	16'-3"	186		8			7'-8"	1'-2"	7'-8"						
B509 THRU B511 NOT USED																		
B512	3	3	6	13'-7"	43	43	STR.											
B513	3		3	13'-0"	41		STR.											
B514	1	1	2	14'-2"	15	15	STR.											
B515	1		1	13'-8"	14		STR.											
B516 AND B517 NOT USED																		
B518	2	3	5	19'-7"	41	61	STR.											
B519	2	1	3	19'-0"	40	20	STR.											
B520 NOT USED																		
B521		12	12	15'-5"		193	8			7'-3"	1'-2"	7'-3"						
B522		1	1	13'-11"		15	8			6'-6"	1'-2"	6'-6"						
B523		3	3	14'-3"		45	STR.											
B524		1	1	14'-10"		15	STR.											
B525 NOT USED																		
B526		2	2	20'-3"		42	STR.											
B527	1	1	2	21'-7"	23	23	12	5 1/2"	7'-11"	2'-7"	7'-11"	2'-7"					5 1/2"	
B528	1	1	2	21'-1"	22	22	12	5 1/2"	5'-4"	4'-11"	5'-4"	4'-11"					5 1/2"	
*B529	4		4	23'-3"	97		STR.											
*B530		4	4	33'-6"		140	STR.											
B531	1		1	14'-9"	15		8			6'-11"	1'-2"	6'-11"						
B532	12	13	25	10'-5"	130	141	8			4'-9"	1'-2"	4'-9"						
B533	2	2	4	11'-8"	24	24	20			2'-8"	6'-5"	2'-8"					2'-0"	6'-2"
B534	1 SER. OF 5	1 SER. OF 5	2 SER. OF 5	VAR. 8'-3" TO 11'-11"	53	53	12	5 1/2"	1'-2"	VAR. 2'-8" TO 4'-6"	1'-2"	VAR. 2'-8" TO 4'-6"					5 1/2"	
	= 5	= 5	= 10	5 1/2" INCR.						5 1/2" INCR.		5 1/2" INCR.						
B535	1		1	18'-10"	20		STR.											
B536	1		1	18'-3"	19		STR.											
B601 AND B602 NOT USED																		
B603	3		3	14'-10"	67		STR.											
B604	2	2	4	14'-8"	44	44	STR.											
B605	3	3	6	5'-5"	24	24	STR.											
B606	2		2	10'-2"	31		STR.											
B607 NOT USED																		
B608		3	3	14'-5"		65	STR.											
B609		2	2	11'-7"		35	STR.											
B610 NOT USED																		
*B611	44		44	27'-4"	1806		STR.											
*B612		22	22	34'-3"		1132	STR.											
B613	3		3	7'-7"	34		STR.											
B614		3	3	5'-7"		25	STR.											
B801	6		6	30'-0"	481		STR.											
B802 NOT USED																		
*B803	6		6	26'-1"	418		STR.											
*B804		6	6	33'-6"		537	STR.											
B805	8	8	16	7'-0"	150	150	2	13 1/2"	5'-10"									
				TOTAL =	6027	4317												



NOTES:

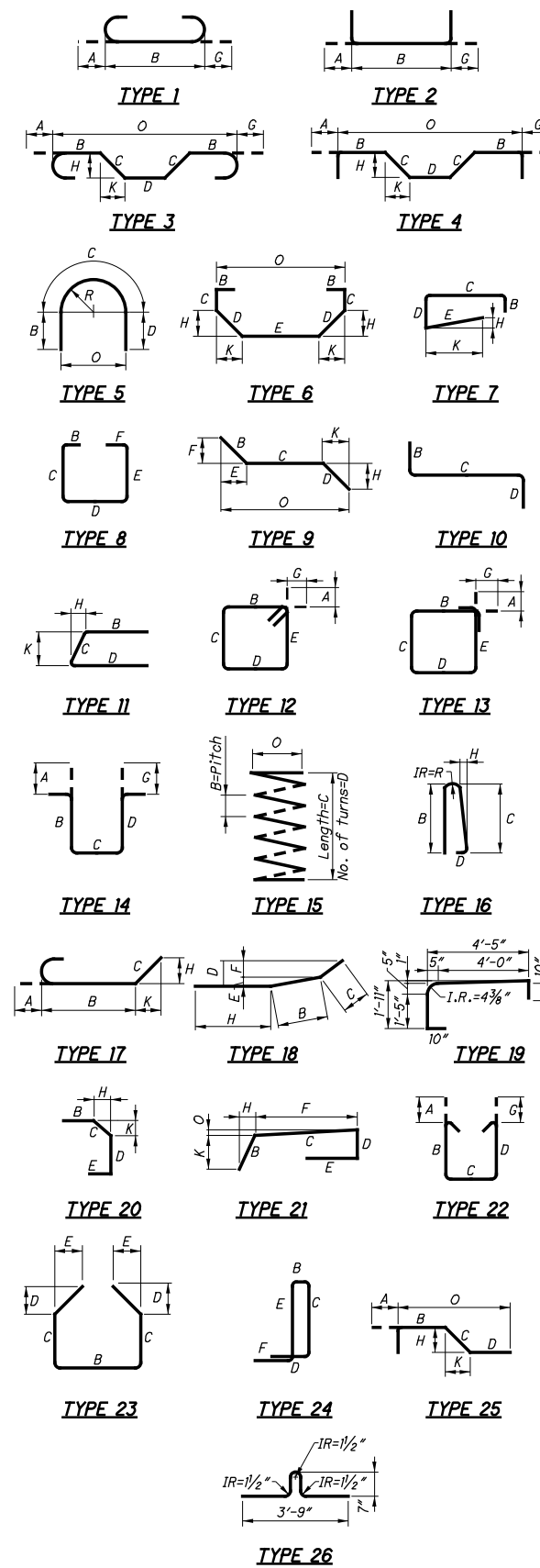
1. ALL REINFORCING STEEL BARS SHALL BE EPOXY COATED.
2. ALL DIMENSIONS ARE OUT TO OUT OF BAR.
3. DIMENSIONS "A" AND "G" ARE STANDARD BEND DIMENSIONS. REFER TO SECTION 509.05 OF THE CMS.
4. RADIUS DIMENSION "R" IS TO THE OUTSIDE OF THE BAR.
5. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.
6. REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH ADJUSTMENT AND/OR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF CONNECTOR.

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MARK	NUMBER PHASE 1A	LENGTH	WEIGHT PHASE 1A	TYPE	A	B	C	D	E	F	G	H	K	O	R
END DIAPHRAGM - LEFT STRUCTURE															
D401	48	4'-0"	128	STR.											
D402	20	7'-1"	95	11		1'-0"	5'-3"	1'-0"					2'-2 3/4"	4'-10"	
D403	12	6'-6"	52	8			1'-0"	4'-8"	1'-0"						
D501	92	18'-1"	1735	12	5 1/2"	5'-3"	3'-6"	5'-3"	3'-6"			5 1/2"			
D502	92	12'-11"	1239	8			4'-5"	4'-4"	4'-5"						
D503	32	14'-3"	476	12	5 1/2"	5'-3"	1'-7"	5'-3"	1'-7"			5 1/2"			
D801	40	30'-0"	3204	STR.											
D802	20	28'-3"	1509	STR.											
D803	28	10'-10"	810	1	11"	9'-0"						11"			
D804	14	8'-11"	333	6				1'-6"	6'-0"			7"	1'-4"	8'-8"	
D805	8	3'-8"	78	1	11"	2'-9"									
D806	4	1'-5"	15	STR.											
D807	98	5'-6"	1439	17	11"	3'-2"	1'-5"						1'-0"	1'-0"	
		TOTAL=	11113												

SLAB - LEFT STRUCTURE															
S401	272	4'-8"	848	26											
S501	474	30'-0"	14831	STR.											
S502	158	16'-4"	2692	STR.											
S503 THRU S516 NOT USED															
S517	48	14'-6"	726	STR.											
S518	282	8'-11"	2623	1	8"	8'-3"									
S601	242	37'-10"	13752	1	8"	37'-2"									
S602 NOT USED															
S603	242	37'-2"	13509	STR.											
S604	2 SER.	VAR. 6'-7"	1432	1	8"	VAR. 5'-11"									
	OF 22	TO 36'-9"				TO 36'-1"									
	= 44	1'-5 1/4" INCR.				1'-5 1/4" INCR.									
S605	2 SER.	VAR. 5'-11"	1388	STR.											
	OF 22	TO 36'-1"													
	= 44	1'-5 1/4" INCR.													
S606	4 SER.	VAR. 7'-8"	2781	STR.											
	OF 21	TO 36'-5"													
	= 84	1'-5 1/4" INCR.													
S801	20	30'-0"	1602	STR.											
S802	10	28'-4"	757	STR.											
		TOTAL=	56941												

BENDING DIAGRAMS



NOTES:

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DESIGN AGENCY
 LIB Inc. • 2500 Newark Drive
 Mansfield, OH 44842
 (337) 259-5000 ext. (837) 259-5100 fax • LIBInc.com

DATE
 4-16
 REVIEWED
 DWS
 STRUCTURE FILE NUMBER
 L-4710002
 R-4710003

DRAWN
 MAS
 CHECKED
 AMT

DESIGNED
 AWM

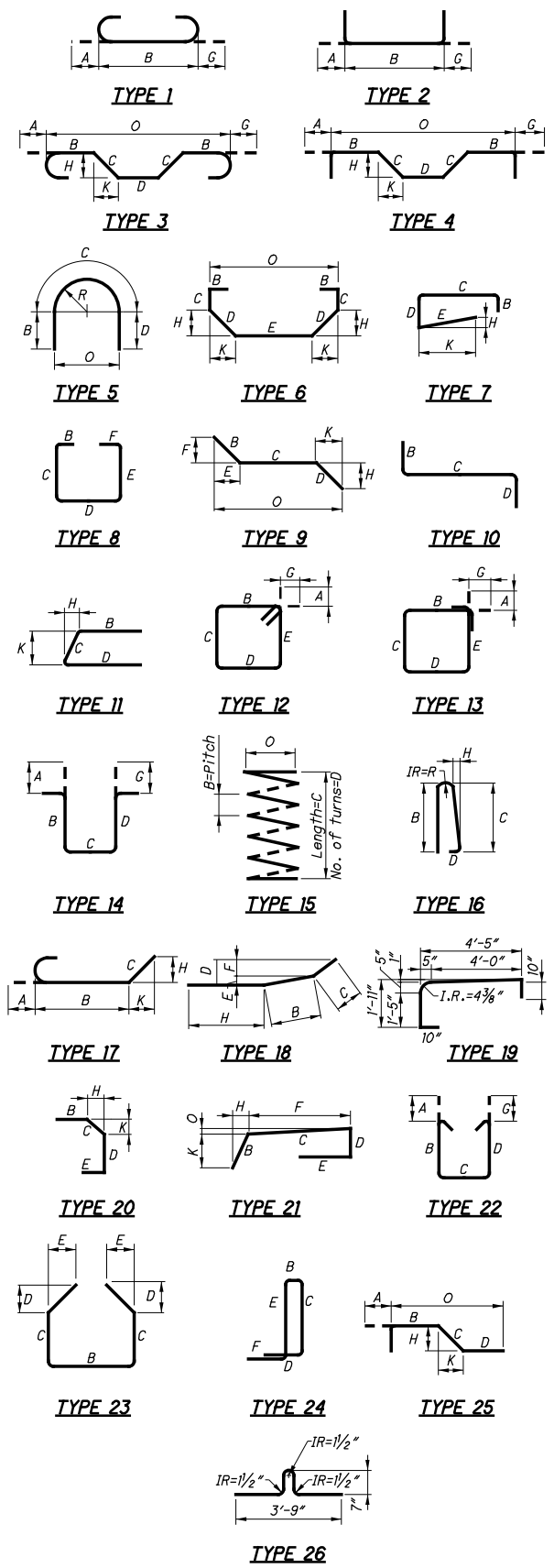
REINFORCING STEEL LIST - END DIAPH. & SLAB - LEFT STRUCTURE
 BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD

LOR-90-1320
 PID No. 83449


MARK	NUMBER PHASE 1A	LENGTH	WEIGHT PHASE 1A	TYPE	A	B	C	D	E	F	G	H	K	O	R
PARAPETS ON DECK SLAB - LEFT STRUCTURE															
X501	24	30'-0"	751	STR.											
X502	8	16'-4"	136	STR.											
X503	20	14'-8"	306	STR.											
X504	2	11'-1"	23	STR.											
X505	2	10'-7"	22	STR.											
X506	2	11'-8"	24	STR.											
X507	2	11'-4"	24	STR.											
X508 THRU X512 NOT USED															
X513	212	7'-4"	1622	16		3'-0"	3'-3"	11"				7 ³ / ₈ "			2 ³ / ₄ "
X601	10	14'-8"	220	STR.											
X602	2	11'-0"	33	STR.											
X603	2	11'-4"	34	STR.											
X604 AND X605 NOT USED															
X606	212	2'-5"	770	2	10"	1'-7"									
X607	212	3'-2"	1008	11		11"	1'-7 ³ / ₈ "	1'-0"				3 ⁵ / ₈ "	1'-7"		
G401	36	4'-6"	**	STR.											
TOTAL= 4973															
PARAPETS TRANSITIONS - LEFT STRUCTURE															
T501	72	7'-4"	551	16		3'-0"	3'-3"	11"				7 ¹ / ₂ "			2 ³ / ₄ "
T502	4	7'-3"	30	STR.											
T503	4	6'-11"	29	STR.											
T504	8	17'-10"	149	STR.											
T505	8	17'-6"	146	STR.											
T506	8	7'-7"	63	STR.											
T507	32	9'-8"	323	STR.											
T508	20	6'-1"	127	STR.											
T509	12	5'-8"	71	18		2'-5"	1'-5"	6 ¹ / ₂ "	1 ¹ / ₂ "	5"		1'-10"			
T601	72	3'-1"	333	10		1'-0"	2'-3"								
T602	72	3'-10"	415	11		11"	2'-3"	1'-0"				5"	2'-2"		
T603	4	7'-1"	43	STR.											
T604	4	7'-7"	46	STR.											
T605	8 SER. OF 11 = 88	VAR. 4'-8" TO 5'-6" 1" INCR.	672	10		1'-0"	VAR. 3'-10" TO 4'-8" 1" INCR.								
T606	32	4'-8"	224	10		1'-0"	3'-10"								
G401	32	4'-6"	**	STR.											
TOTAL= 3222															

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BENDING DIAGRAMS

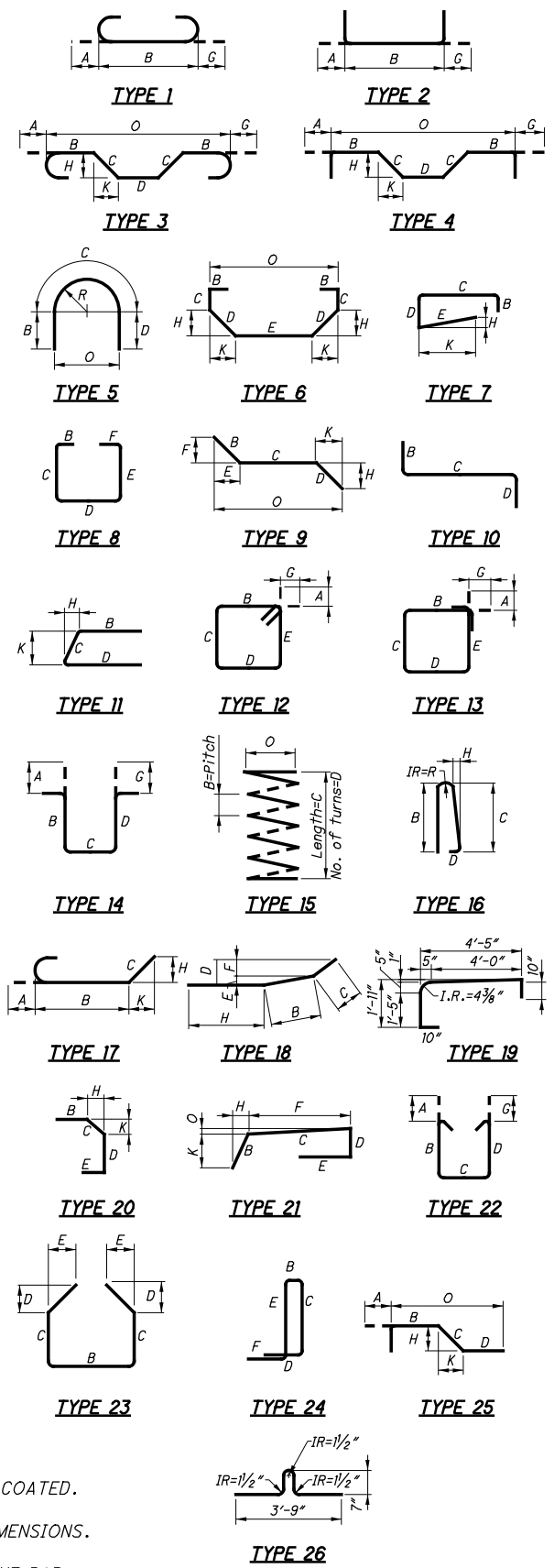


- NOTES:**
- ALL REINFORCING STEEL BARS SHALL BE EPOXY COATED.
 - ALL DIMENSIONS ARE OUT TO OUT OF BAR.
 - DIMENSIONS "A" AND "G" ARE STANDARD BEND DIMENSIONS. REFER TO SECTION 509.05 OF THE CMS.
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 - **6. GLASS FIBER REINFORCED POLYMER BAR TO BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL, AS PER PLAN, FOR PAYMENT. SEE STD. DWG SBR-1-13 FOR ADDITIONAL NOTES AND DETAILS.

	DESIGN AGENCY DATE 4-16 REVIEWED DWS STRUCTURE FILE NUMBER L-4710002 R-4710003
REINFORCING STEEL LIST - PARAPET - LEFT STRUCTURE BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	
LOR-90-1320 PID No. 83449	
51/54 <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> 298 301 </div>	

MARK	NUMBER			LENGTH	WEIGHT		TYPE	A	B	C	D	E	F	G	H	K	O	R	
	PHASE 2A	PHASE 2B	TOTAL		PHASE 2A	PHASE 2B													
END DIAPHRAGM - RIGHT STRUCTURE																			
D401	24	16	40	4'-0"	64	43	STR.												
D402	10	10	20	7'-1"	47	47	11		1'-0"	5'-3"	1'-0"				2'-2 ³ / ₄ "	4'-10"			
D403 NOT USED																			
D404	6	6	12	6'-0"	24	24	8		/	1'-0"	4'-2"	1'-0"	/						
D501 THRU D503 NOT USED																			
D504	56	42	98	17'-1"	998	748	12	5 ¹ / ₂ "	5'-3"	3'-0"	5'-3"	3'-0"	/		5 ¹ / ₂ "				
D505	56	42	98	11'-9"	686	515	8		/	3'-11"	4'-4"	3'-11"	/						
D506	24	16	40	13'-5"	336	224	12	5 ¹ / ₂ "	5'-3"	1'-2"	5'-3"	1'-2"	/		5 ¹ / ₂ "				
D801	18		18	30'-0"	1442														
D802 THRU D806 NOT USED																			
D807	62	45	107	5'-6"	911	661	17	11"	3'-2"	1'-5"					1'-0"	1'-0"			
*D808		9	9	34'-2"		821	STR.												
*D809	18		18	23'-4"		1121	STR.												
*D810		9	9	32'-2"		773	STR.												
D811	20	10	30	9'-1"	485	243	1	11"	7'-3"						11"				
*D812	4		4	3'-2"	34		1	11"	2'-3"						/				
*D813		4	4	5'-11"		63	1	11"	5'-0"						/				
D814		2	2	7'-0"		37	1	11"	5'-2"						11"				
D815	4	4	8	3'-7"	38	38	1	11"	2'-8"						/				
D816		1	1	2'-4"		6	STR.												
D817	10	5	15	4'-5"	118	59	STR.												
D818	2	2	4	1'-2"	6	6	STR.												
D819	2	2	4	4'-10"	26	26	9		1'-10"	3'-0"	/	1'-8"	9 ¹ / ₂ "	/	/				
				TOTAL =	6336	4334													

BENDING DIAGRAMS



NOTES:

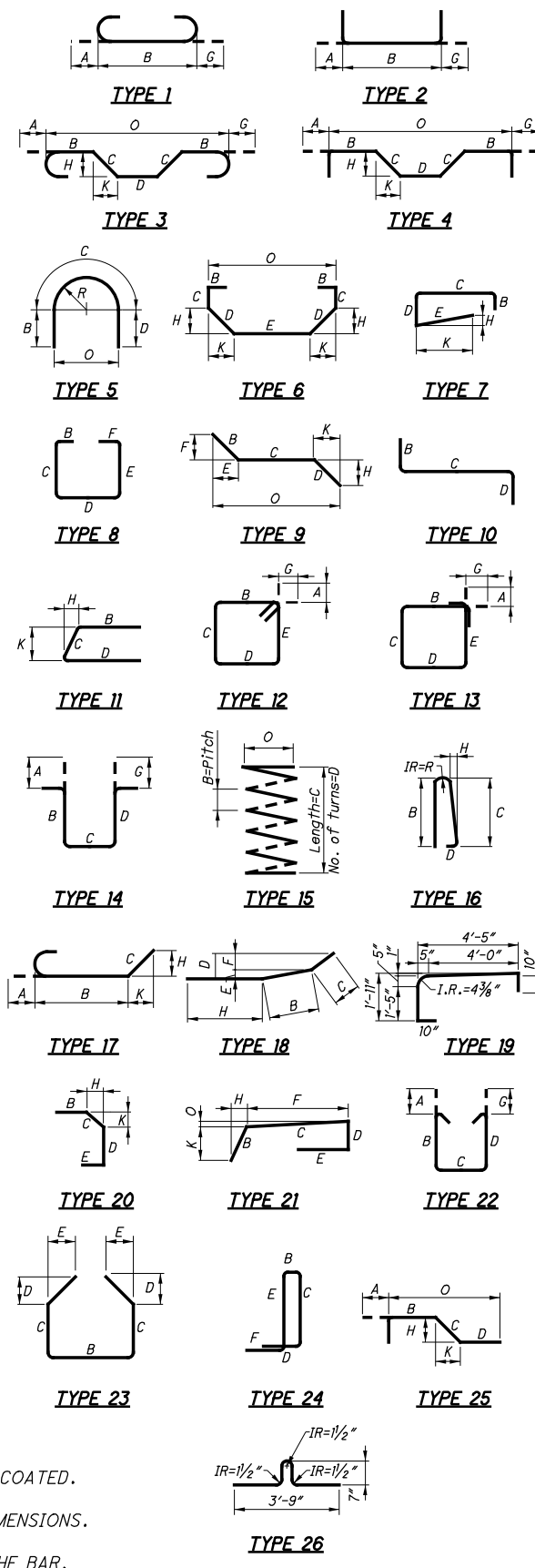
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REINFORCING STEEL LIST - END DIAPHRAGM - RIGHT STRUCTURE	DESIGN AGENCY LIB Inc. • 2500 Newmark Drive Mansfield, OH 44842 (937) 259-5000 ext. 1 • (937) 259-5100 fax • LIBinc.com
BRIDGE NO. LOR-90-1355L/R I-90 OVER WEST RIVER ROAD	DATE 4-16
DRAWN MAS	REVIEWED DWS
CHECKED AMT	STRUCTURE FILE NUMBER L-4710002 R-4710003
LOR-90-1320 PID No. 83449	52 / 54 299 301

MARK	NUMBER			LENGTH	WEIGHT		TYPE	A	B	C	D	E	F	G	H	K	O	R
	PHASE 2A	PHASE 2B	TOTAL		PHASE 2A	PHASE 2B												
SLAB - RIGHT STRUCTURE																		
S401	204	136	340	4'-8"	636	424	26											
S501	276	201	477	30'-0"	8636	6289	STR.											
S502	92	67	159	16'-4"	1567	1141	STR.											
S503	125		125	30'-0"	3911		1	7"	29'-5"									
S504	125		125	29'-5"	3835		STR.											
*S505	262		262	17'-3"	4714		STR.											
S506	1 SER. OF 18 = 18		1 SER. OF 18 = 18	VAR. 7'-1" TO 31'-6" 1'-5/4" INCR.	362		1	7"	VAR. 6'-6" TO 30'-11" 1'-5/4" INCR.									
S507	1 SER. OF 18 = 18		1 SER. OF 18 = 18	VAR. 6'-6" TO 30'-11" 1'-5/4" INCR.	351		STR.											
S508	2 SER. OF 10 = 20		2 SER. OF 10 = 20	VAR. 6'-0" TO 18'-11" 1'-5/4" INCR.	260		STR.											
S509	2 SER. OF 16 = 32		2 SER. OF 16 = 32	VAR. 6'-7" TO 28'-2" 1'-5/4" INCR.	580		STR.											
*S510	2 SER. OF 12 = 24		2 SER. OF 12 = 24	VAR. 3'-6" TO 19'-4" 1'-5/4" INCR.	286		STR.											
*S511	2 SER. OF 16 = 32		2 SER. OF 16 = 32	VAR. 8'-9" TO 30'-4" 1'-5/4" INCR.	652		STR.											
*S512	254	254		14'-0"	3709		STR.											
S513	127	127		20'-7"	2726		1	7"	20'-0"									
S514	127	127		20'-0"	2649		STR.											
S515	1 SER. OF 14 = 14		1 SER. OF 14 = 14	VAR. 7'-5" TO 26'-4" 1'-5/2" INCR.	246		1	7"	VAR. 6'-10" TO 25'-9" 1'-5/2" INCR.									
S516	1 SER. OF 14 = 14		1 SER. OF 14 = 14	VAR. 6'-10" TO 25'-9" 1'-5/2" INCR.	238		STR.											
S517	36	24	60	14'-6"	544	363	STR.											
S601 NOT USED																		
S602	143	141	284	8'-11"	1915	1888	1	8"	8'-3"									
S603 THRU S606 NOT USED																		
S801	10		10	30'-0"	801		STR.											
S802 NOT USED																		
*S803	10		10	23'-4"	623		STR.											
*S804		5	5	34'-3"		457	STR.											
*S805		5	5	32'-1"		428	STR.											
				TOTAL=	29021	21210												

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BENDING DIAGRAMS

NOTES:

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2. ALL DIMENSIONS ARE OUT TO OUT OF BAR.
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DESIGN AGENCY
L.B. Inc. • 2510 Newmark Drive
Miamisburg, OH 45342
(937) 259-5000 fax • (937) 259-5100 fax • LBIInc.com

DATE
4-16

REVIEWED
DWS

DRAWN
MAS

DESIGNED
AMM

STRUCTURE FILE NUMBER
L-4710002
R-4710003

REINFORCING STEEL LIST - SLAB - RIGHT STRUCTURE

BRIDGE NO. LOR-90-1355L/R
I-90 OVER WEST RIVER ROAD

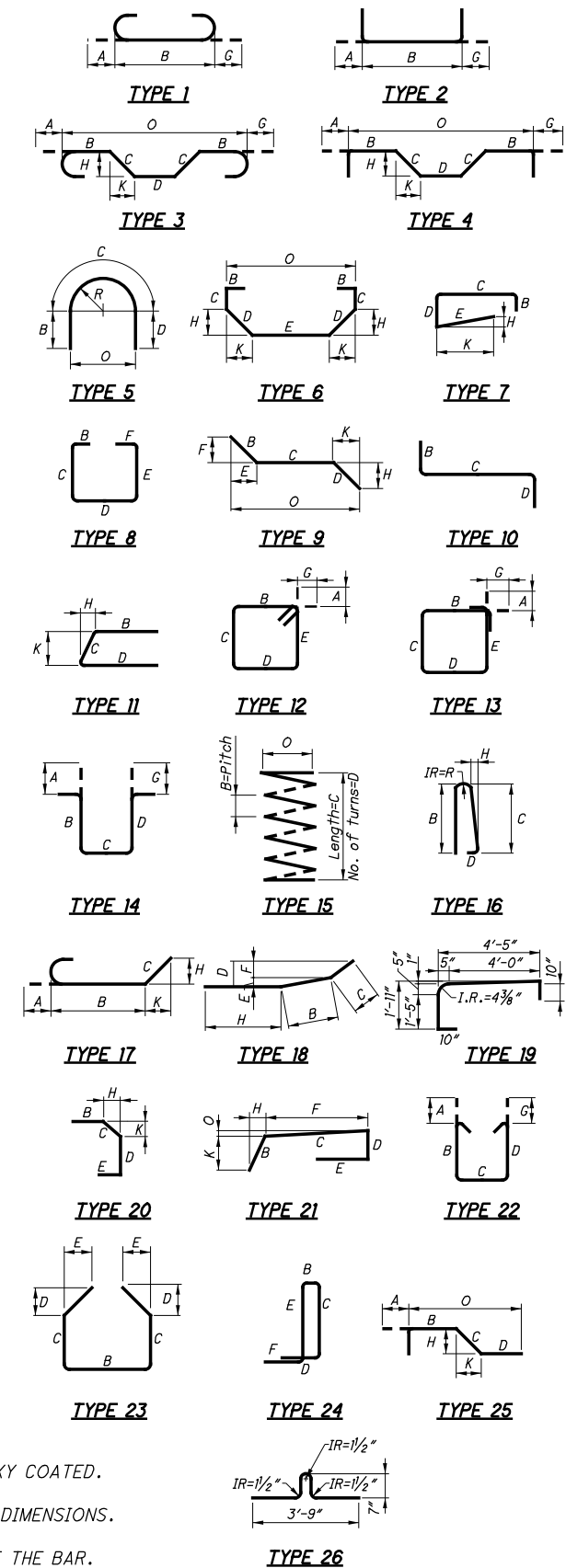
LOR-90-1320
PID No. 83449

53/54
300
301

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MARK	NUMBER			LENGTH	WEIGHT		TYPE	A	B	C	D	E	F	G	H	K	O	R	
	PHASE 2A	PHASE 2B	TOTAL		PHASE 2A	PHASE 2B													
PARAPETS ON DECK SLAB - RIGHT STRUCTURE																			
X501	12	12	24	30'-0"	375	375	STR.												
X502	4	4	8	16'-4"	68	68	STR.												
X503	10	10	20	14'-8"	153	153	STR.												
X504	1		1	11'-1"	12		STR.												
X505	1		1	10'-7"	11		STR.												
X506	1		1	11'-8"	12		STR.												
X507	1		1	11'-4"	12		STR.												
X508		1	1	11'-1"		12	STR.												
X509		1	1	10'-10"		11	STR.												
X510		1	1	10'-3"		11	STR.												
X511		1	1	10'-7"		11	STR.												
X512 NOT USED																			
X513	106	105	211	7'-4"	811	803	16		3'-0"	3'-3"	11"				7 ³ / ₈ "			2 ³ / ₄ "	
X601	5	5	10	14'-8"	110	110	STR.												
X602	1		1	11'-0"	17		STR.												
X603	1		1	11'-4"	17		STR.												
X604		1	1	10'-11"		16	STR.												
X605		1	1	10'-6"		16	STR.												
X606	106	105	211	2'-5"	385	381	2	10"	1'-7"										
X607	106	105	211	3'-2"	504	499	11		11"	1'-7 ³ / ₈ "	1'-0"				3 ⁵ / ₈ "	1'-7"			
G401	18	18	36	4'-6"	**	**	STR.												
					TOTAL=	2487	2466												
PARAPET TRANSITIONS - RIGHT STRUCTURE																			
T501	36	36	72	7'-4"	275	275	16		3'-0"	3'-3"	11"					7 ¹ / ₂ "			2 ³ / ₄ "
T502	2		2	7'-3"	15		STR.												
T503	2		2	6'-11"	14		STR.												
T504	4		4	17'-10"	74		STR.												
T505	4		4	17'-6"	73		STR.												
T506	4		4	7'-7"	32		STR.												
T507	16	16	32	9'-8"	161	161	STR.												
T508	10	10	20	6'-1"	63	63	STR.												
T509	6	6	12	5'-8"	36	36	18		2'-5"	1'-5"	6 ¹ / ₂ "	1 ¹ / ₂ "	5"		1'-10"				
T510	2	2	2	7'-5"		15	STR.												
T511		2	2	7'-0"		15	STR.												
T512		4	4	7'-5"		31	STR.												
T513		4	4	17'-8"		74	STR.												
T514		4	4	17'-4"		72	STR.												
T601	36	36	72	3'-1"	167	167	10		1'-0"	2'-3"									
T602	36	36	72	3'-10"	207	207	11		11"	2'-3"	1'-0"				5"	2'-2"			
T603	2		2	7'-1"	21		STR.												
T604	2		2	7'-7"	23		STR.												
T605	4 SER.	4 SER.	8 SER.	VAR. 4'-8" TO 5'-6" 1" INCR.	336	336	10		1'-0"	VAR. 3'-10" TO 4'-8" 1" INCR.									
T606	16	16	32	4'-8"	112	112	10		1'-0"	3'-10"									
T607		4	4	7'-5"		45	STR.												
G401	16	16	32	4'-6"	**	**	STR.												
					TOTAL=	1609	1609												

BENDING DIAGRAMS



NOTES:

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DESIGN AGENCY: LIB Inc. • 2500 Newmark Drive
 Mansburg, OH 45342
 (614) 299-5000 fax: (614) 299-5100 lib - LIBinc.com
 DATE: 4-16
 REVIEWED: DWS
 DRAWN: MAS
 DESIGNED: AMT
 CHECKED: AMW
 STRUCTURE FILE NUMBER: L-4710002
 R-4710003
 REINFORCING STEEL LIST - PARAPET - RIGHT STRUCTURE
 BRIDGE NO. LOR-90-1355L/R
 I-90 OVER WEST RIVER ROAD
 LOR-90-1320
 PID No. 83449
 54/54
 (301) (301)

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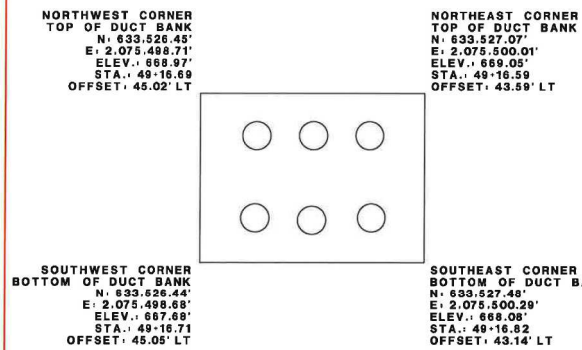
**SUE QUALITY LEVEL-A
TEST HOLE #1
WINDSTREAM OHIO
FIBER OPTIC DUCT BANK
6.1 FEET DEEP**

SURVEYING AND MAPPING LLC
928 EASTWIND DR., SUITE 201 WESTERVILLE, OH 43081
PH. 614-899-0079 FAX 614-899-3175
OHPLS FIRM # 03608 / OHPE FIRM # 1958551

Project:	LOR-90-13.20 SUE PID# 83449	Date Performed:	2016-03-17
SAM, LLC Project #	36732	Client:	ODOT
Project Location:	INTERSTATE 90 IN LORAIN COUNTY	Surface Material & Thickness:	ROCK
Utility Location:	WEST SIDE OF WEST RIVER ROAD	Surface Elevation:	675.02'
Utility Sta./Offset:	49-17/44.40' LT	Surface Condition:	DRY
Record Utility:	FIBER OPTIC	Trench Material:	CLAY
Utility Owner:	WINDSTREAM OHIO	Utility Bedding Material:	CLAY
Contact:	GEOFFREY HAMM	Utility Found:	FIBER OPTIC DUCT BANK
Phone/Email:	(440) 328-4245	Utility Condition:	GOOD
Field Crew:	NEIL HANNA	Utility Depth (Top):	6.1'
Field Conditions:	SUNNY, 60"		

CROSS SECTION OF DUCT BANK (FACING NORTHWEST)

PROJECT CONTROL



Surface
CONTROL MONUMENT USED
PK NAIL
N: 633.553.16'
E: 2,075.368.18'
ELEV.: 670.18'

COMMENTS

- SAM, LLC laid out this test hole by designating the (Fiber Optic Duct Bank) prior to vacuum excavation of the utility.
- No additional utilities were found within the Test Hole excavation.
- All excavation was performed with vacuum excavation equipment.
- The Test Hole was backfilled with New 304 limestone.



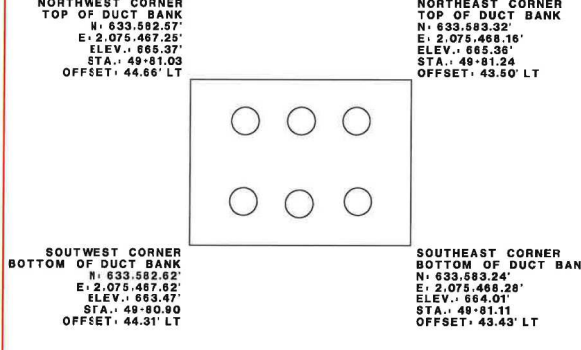
**SUE QUALITY LEVEL-A
TEST HOLE #2
WINDSTREAM OHIO
FIBER OPTIC DUCT BANK
8.2 FEET DEEP**

SURVEYING AND MAPPING LLC
928 EASTWIND DR., SUITE 201 WESTERVILLE, OH 43081
PH. 614-899-0079 FAX 614-899-3175
OHPLS FIRM # 03608 / OHPE FIRM # 1958551

Project:	LOR-90-13.20 SUE PID# 83449	Date Performed:	2016-03-17
SAM, LLC Project #	36732	Client:	ODOT
Project Location:	INTERSTATE 90 IN LORAIN COUNTY	Surface Material & Thickness:	ROCK
Utility Location:	WEST SIDE OF WEST RIVER ROAD	Surface Elevation:	673.55'
Utility Sta./Offset:	49-81/44.38' LT	Surface Condition:	DRY
Record Utility:	FIBER OPTIC	Trench Material:	CLAY
Utility Owner:	WINDSTREAM OHIO	Utility Bedding Material:	CLAY
Contact:	GEOFFREY HAMM	Utility Found:	FIBER OPTIC DUCT BANK
Phone/Email:	(440) 328-4245	Utility Condition:	GOOD
Field Crew:	NEIL HANNA	Utility Depth (Top):	8.2'
Field Conditions:	SUNNY, 60"		

CROSS SECTION OF DUCT BANK (FACING NORTHWEST)

PROJECT CONTROL



Surface
CONTROL MONUMENT USED
PK NAIL
N: 633.553.16'
E: 2,075.368.18'
ELEV.: 670.18'

COMMENTS

- SAM, LLC laid out this test hole by designating the (Fiber Optic Duct Bank) prior to vacuum excavation of the utility.
- No additional utilities were found within the Test Hole excavation.
- All excavation was performed with vacuum excavation equipment.
- The Test Hole was backfilled with New 304 limestone.



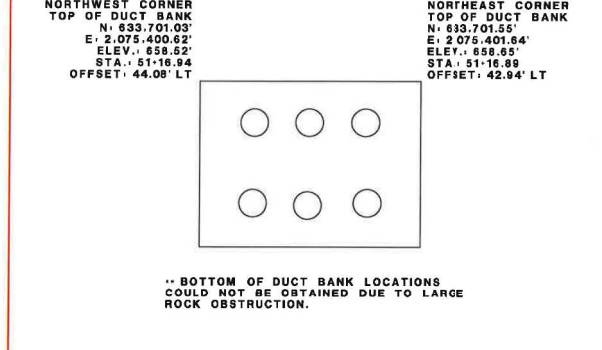
**SUE QUALITY LEVEL-A
TEST HOLE #3
WINDSTREAM OHIO
FIBER OPTIC DUCT BANK
12.7 FEET DEEP**

SURVEYING AND MAPPING LLC
928 EASTWIND DR., SUITE 201 WESTERVILLE, OH 43081
PH. 614-899-0079 FAX 614-899-3175
OHPLS FIRM # 03608 / OHPE FIRM # 1958551

Project:	LOR-90-13.20 SUE PID# 83449	Date Performed:	2016-03-21
SAM, LLC Project #	36732	Client:	ODOT
Project Location:	INTERSTATE 90 IN LORAIN COUNTY	Surface Material & Thickness:	ROCK
Utility Location:	WEST SIDE OF WEST RIVER ROAD	Surface Elevation:	671.37'
Utility Sta./Offset:	51-17/42.84' LT	Surface Condition:	DRY
Record Utility:	FIBER OPTIC	Trench Material:	CLAY
Utility Owner:	WINDSTREAM OHIO	Utility Bedding Material:	CLAY
Contact:	GEOFFREY HAMM	Utility Found:	FIBER OPTIC DUCT BANK
Phone/Email:	(440) 328-4245	Utility Condition:	GOOD
Field Crew:	NEIL HANNA	Utility Depth (Top):	12.7'
Field Conditions:	SUNNY, 60"		

CROSS SECTION OF DUCT BANK (FACING NORTHWEST)

PROJECT CONTROL



Surface
CONTROL MONUMENT USED
PK NAIL
N: 633.553.16'
E: 2,075.368.18'
ELEV.: 670.18'

.. BOTTOM OF DUCT BANK LOCATIONS
COULD NOT BE OBTAINED DUE TO LARGE
ROCK OBSTRUCTION.

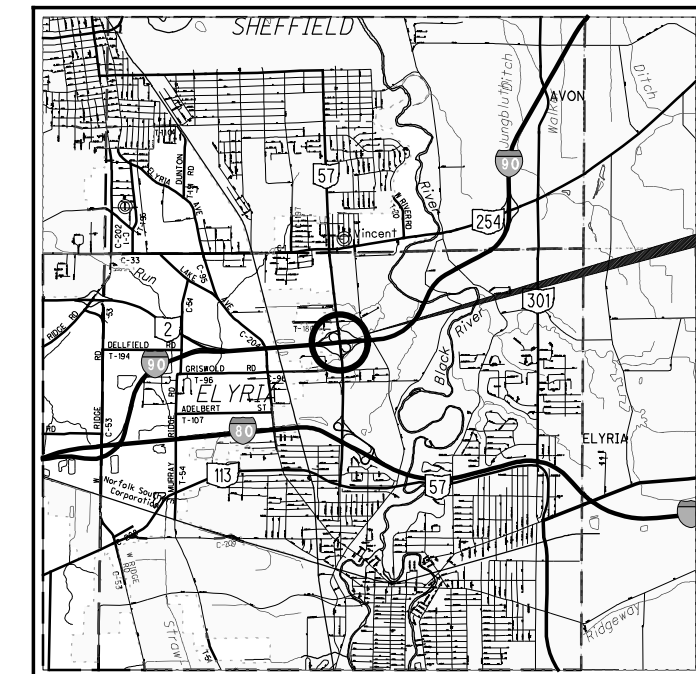
COMMENTS

- SAM, LLC laid out this test hole by designating the (Fiber Optic Duct Bank) prior to vacuum excavation of the utility.
- No additional utilities were found within the Test Hole excavation.
- All excavation was performed with vacuum excavation equipment.
- The Test Hole was backfilled with New 304 limestone.

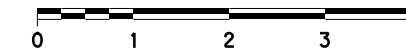


INDEX OF SHEETS					
LOCATION FROM STA. TO STA.	PLAN VIEW SHEET	PROFILE SHEET	CROSS-SECTION SHEET	CUT MAX.	FILL EMB. MAX.
I-90 676+00 690+00 690+00 704+00	5 6	5 6	- -	0 FT 0 FT	2 FT <1 FT
BRIDGE NO. LOR-90-1320L/R I-90 OVER SR 57	SHEET NO. 7 AND 8				
BRIDGE NO. LOR-90-1320L/R BORING LOGS	SHEET NO. 9 AND 10				
BRIDGE NO. LOR-90-1320L/R I-90 OVER WEST RIVER ROAD	SHEET NO. 11 AND 12				
BRIDGE NO. LOR-90-1320L/R BORING LOGS	SHEET NO. 13 AND 14				
LANDSLIDE EXPLORATION PLAN AND PROFILE STA. 697+00 TO STA. 700+00	SHEET NO. 15				
LANDSLIDE EXPLORATION CROSS SECTION STA. 697+00	SHEET NO. 16				
LANDSLIDE EXPLORATION BORING LOGS	SHEET NO. 17 AND 18				

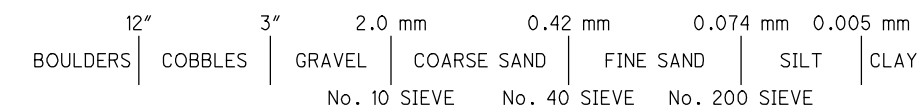
LEGEND		ODOT CLASS	CLASSIFIED MECH./VISUAL	
	GRAVEL/STONE FRAGMENTS W/SAND, SILT & CLAY	A-2-6	-	2
	COARSE & FINE SAND	A-3a	-	2
	SANDY SILT	A-4a	4	-
	SILT & CLAY	A-6a	10	34
	SILTY CLAY	A-6b	5	21
	CLAY	A-7-6	4	1
		TOTAL	23	60
	SHALE	VISUAL		
	WEATHERED SHALE	VISUAL		
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
	BORING LOCATION - PLAN VIEW.			
	HISTORIC 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/Z	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR FIRST 6 INCHES. Y= NUMBER OF BLOWS FOR SECOND 6 INCHES. Z= NUMBER OF BLOWS FOR THIRD 6 INCHES.			
W—	INDICATES FREE WATER ELEVATION.			
*	INDICATES A SAMPLE TAKEN WITHIN 3 FT OF PROPOSED GRADE.			
SS	INDICATES A SPLIT SPOON SAMPLE.			
ST	INDICATES SHELBY TUBE SAMPLE.			
NP	INDICATES A NON-PLASTIC SAMPLE.			
HISTORIC BORING DESCRIPTION		ODOT CLASS	CLASSIFIED MECH./VISUAL	
	SANDY SILT	A-4a	13	2
	SILT	A-4b	3	-
	SILT & CLAY	A-6a	17	-
	SILTY CLAY	A-6b	1	-
	CLAY	A-7-6	1	-
		TOTAL	35	2
	SHALE	VISUAL		
	WEATHERED SHALE	VISUAL		



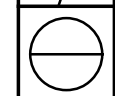
LOCATION MAP
SCALE IN MILES



PARTICLE SIZE DEFINITIONS



RECON. - LLP 06/23/13
 DRILLING - 07/12/13 TO 08/20/13
 DRAWN - KJM 12/14/15
 REVIEWED - LLP 01/12/16



PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF TWO PAIRS OF TWIN BRIDGES, ONE SET THAT CARRIES I-90 OVER S.R. 57 AND ONE SET THAT CARRIES I-90 OVER WEST RIVER ROAD. THE NEW BRIDGE STRUCTURES OVER S.R. 57 WILL BE TWO SPAN, WIDE FLANGE, PRESTRESSED I-BEAM STRUCTURES HAVING A COMPOSITE REINFORCED CONCRETE DECK ON A CAP AND COLUMN PIER AND STUB ABUTMENTS BEHIND MSE WALLS. THE NEW BRIDGE STRUCTURES OVER WEST RIVER ROAD WILL BE A SINGLE SPAN, WIDE FLANGE, PRESTRESSED I-BEAM STRUCTURE WITH A COMPOSITE REINFORCED CONCRETE DECK ON STUB ABUTMENTS BEHIND MSE WALLS.

IN CONJUNCTION WITH REPLACING THE BRIDGES, THE PAVEMENT BETWEEN THE BRIDGES WILL BE REMOVED AND REPLACED TO ACCOMMODATE THE NEW ROADWAY PROFILE. NEW CONCRETE PAVEMENT WILL BE PLACED ALONG THE SOUTH SIDE OF THE WEST BOUND TRAFFIC LANES OF I-90 FOR TRAFFIC MAINTENANCE DURING CONSTRUCTION. ALSO PAVEMENT WIDENING WILL BE PERFORMED ON THE SOUTH SIDE OF THE EAST BOUND TRAFFIC LANES OF I-90 AND A FUTURE 12-FOOT LANE AND A 12-WIDE MEDIAN SHOULDER AND OUTSIDE SHOULDER.

APPROXIMATELY 300 FEET WEST OF WEST RIVER ROAD ALONG THE SOUTH SIDE OF I-90, AN UNSTABLE SECTION OF EMBANKMENT IS TO BE REPAIRED AS PART OF THIS PROJECT.

HISTORIC RECORDS

A SET OF THIRTY-THREE HISTORIC SOIL PROFILE PLAN SHEETS AND STRUCTURE FOUNDATION INVESTIGATION SHEETS, TITLED "LORAIN COUNTY, LOR-IR90-13.01", DATED NOVEMBER 1964, AND PREPARED BY THE OHIO STATE HIGHWAY TESTING LABORATORY WERE REVIEWED. THESE HISTORIC SOIL PROFILE SHEETS INCLUDE A GRAPHICAL AND WRITTEN OF THE SUBSURFACE PROFILE ALONG INTERSTATE I-90 WITHIN THE PROJECT AREA. THE PLANS INDICATE THAT WITHIN THE PROJECT LIMITS, I-90 IS BUILT ON AN ENGINEERED EMBANKMENT. THE THICKNESS OF THE EXISTING EMBANKMENT APPEARS TO BE LESS THAN 5 FEET NEAR THE EAST AND WEST LIMITS OF THIS CURRENT PROJECT AND UP TO ABOUT 35 FEET AT APPROXIMATE STATION 691+00 WHERE A CREEK VALLEY WAS CROSSED.

HISTORICAL BORINGS B-005-0-64 AND B-016-0-64, AS SHOWN ON THE 1964 STRUCTURE FOUNDATION INVESTIGATION SHEETS FOR THE TWIN BRIDGE STRUCTURES OVER S.R. 57, ENCOUNTERED SHALE BEDROCK AT AN ELEVATION OF ABOUT 672 FEET. ABOVE THE BEDROCK, NATIVE SOILS CONSISTING PRIMARILY OF STIFF TO VERY STIFF, SANDY SILTS (A-4A) WERE ENCOUNTERED.

HISTORICAL BORINGS SB-005-0-64 AND SB-016-0-64, AS SHOWN ON THE 1964 STRUCTURE FOUNDATION INVESTIGATION SHEETS FOR THE TWIN BRIDGE STRUCTURES OVER WEST RIVER ROAD, ENCOUNTERED SHALE BEDROCK AT ELEVATIONS RANGING BETWEEN ABOUT 663 TO 665 FEET. ABOVE THE BEDROCK, NATIVE SOILS CONSISTING PRIMARILY OF VERY STIFF, SILT AND CLAY (A-6A) AND SANDY SILTS (A-4A) WERE ENCOUNTERED.

GEOLOGY

THE SITE IS UNDERLAIN BY GLACIAL LAKE SEDIMENTS CONSISTING PRIMARILY OF SILT AND CLAY DEPOSITS WITH RELATIVELY MINOR FRACTIONS OF COARSE SAND AND GRAVEL. WITHIN THESE GLACIAL LAKE SEDIMENTS, SEAMS OR LAYERS OF SAND MAY BE PRESENT.

THE OVERBURDEN SOILS ARE UNDERLAIN BY UPPER DEVONIAN OR LOWER MISSISSIPPIAN AGE BEDROCK WHICH DIPS SLIGHTLY TO THE SOUTH OR SOUTHEAST IN THIS AREA. THESE FORMATIONS CONSIST OF SHALE INTERBEDDED WITH THIN INTERBEDS OF SILTSTONE.

RECONNAISSANCE

TERRACON PERSONNEL VISITED THE SITE SEVERAL TIMES TO VISUALLY SURVEY THE EXISTING EMBANKMENT SLOPES FOR EVIDENCE OF INSTABILITY OR EXCESSIVE SURFACE EROSION. NO UNUSUAL ITEMS OF NOTE WERE OBSERVED AT THE EXISTING BRIDGE STRUCTURES OR WITHIN THE MEDIAN OF I-90.

SLOPE INSTABILITY AND SURFACE EROSION WERE OBSERVED WITHIN THE EMBANKMENT ON THE SOUTH SIDE OF I-90, APPROXIMATELY 200 FEET WEST OF WEST RIVER ROAD. AT THIS LOCATION WE OBSERVED CATTAILS GROWING ON THE EMBANKMENT SLOPE AND THE TOP OF A 15-INCH DIAMETER ABS DRAIN PIPE IS EXPOSED IN THE SLOPE. A PIPE BREAK IS PRESENT ABOUT A THIRD OF THE WAY DOWN THE EMBANKMENT SLOPE AND IS DISCHARGING WATER ONTO THE SLOPE FACE. THIS PIPE IS ALSO DISCHARGING WATER AT THE TOE OF THE EMBANKMENT. AS A RESULT OF SLOPE MOVEMENTS, A CRACK DEVELOPED IN THE EAST BOUND RAMP LANE FROM S.R. 57 ONTO I-90. THE CRACK EXTENDED PARALLEL TO THE TOP OF THE SLOPE AND WAS LOCATED ABOUT 8 FEET IN FROM THE PAVEMENT EDGE. THE OUTSIDE EDGE WAS OBSERVED TO HAVE SUBSIDED A FEW INCHES. THE PAVEMENT WITHIN THIS AREA HAS BEEN RECENTLY REPAIRED. THE REPAIR AREA APPEARS TO BE ABOUT 120 FEET LONG.

SUBSURFACE EXPLORATION

FOUR STRUCTURAL TEST BORINGS, TWO EACH FOR THE PROPOSED BRIDGE STRUCTURES OVER S.R. 57 AND WEST RIVER ROAD, WERE PERFORMED. IN ADDITION, TWO ROADWAY TEST BORINGS WERE PERFORMED IN THE MEDIUM OF I-90 BETWEEN S.R. 57 AND WEST RIVER ROAD, AND TWO TEST BORINGS WERE PERFORMED AT THE UNSTABLE EMBANKMENT SLOPE LOCATION. EXCEPT FOR THE ROADWAY BORINGS, ALL THE BORINGS WERE ADVANCED TO BEDROCK.

DURING THE DRILLING OPERATIONS, SAMPLES OF THE SOIL ENCOUNTERED IN THE TEST BORINGS WERE OBTAINED AT PRESCRIBED INTERVALS USING SPLIT-BARREL SAMPLING PROCEDURES AND CALIBRATED SPT HAMMERS. TEN FEET OF ROCK CORE WAS OBTAINED AT THE FOUR STRUCTURE BORINGS AND AT THE TEST BORING LOCATION, LOCATED AT THE TOE OF THE UNSTABLE EMBANKMENT SLOPE AREA.

EXPLORATION FINDINGS

THE STRUCTURAL BORINGS PERFORMED NEAR THE ABUTMENTS OF EXISTING TWIN BRIDGES OVER S.R. 57 ENCOUNTERED ENGINEERED FILL CONSISTING PREDOMINANTLY OF SILT AND CLAY (A-6A). UNDERLYING THE ENGINEERED FILL, NATIVE SOILS PRIMARILY CONSISTING OF SILT AND CLAY (A-6A), BUT ALSO INCLUDING LAYERS OF CLAY (A-7-6) AND SANDY SILT (A-4A) WERE ENCOUNTERED. THE COHESIVE SOILS GENERALLY EXHIBITED MEDIUM STIFF TO HARD CONSISTENCIES AND CONTAINED APPRECIABLE AMOUNTS OF SAND, GRAVEL AND ROCK FRAGMENTS. NON-COHESIVE LAYERS APPEARED TO BE MEDIUM DENSE. SHALE BEDROCK WAS ENCOUNTERED AT AN ELEVATION OF ABOUT 672 AND 668 FEET AT THE WEST AND EAST ENDS OF THE EXISTING BRIDGES.

THE STRUCTURAL BORINGS PERFORMED NEAR THE ABUTMENTS OF EXISTING TWIN BRIDGES OVER WEST RIVER ROAD ENCOUNTERED ENGINEERED FILL CONSISTING PREDOMINANTLY OF SILT AND CLAY (A-6A). UNDERLYING THE ENGINEERED FILL, NATIVE SOILS CONSISTING OF LAYERS OF SILT AND CLAY (A-6A), SILTY CLAY (A-6B), AND CLAY (A-7-6) WERE ENCOUNTERED. THESE SOILS GENERALLY EXHIBITED STIFF TO HARD CONSISTENCIES AND CONTAINED APPRECIABLE AMOUNTS OF SAND, GRAVEL AND ROCK FRAGMENTS. SHALE BEDROCK WAS ENCOUNTERED AT AN ELEVATION OF ABOUT 658 AND 666 FEET AT THE WEST AND EAST ENDS OF THE EXISTING BRIDGES.

THE ROADWAY TEST BORINGS PERFORMED ENCOUNTERED ENGINEERED FILL CONSISTING PRIMARILY OF STIFF AND VERY STIFF, SILT AND CLAY (A-6A) AND SILTY CLAY (A-6B).

THE BORINGS PERFORMED AT THE TOP OF THE UNSTABLE EMBANKMENT SLOPE AREA ENCOUNTERED APPROXIMATELY 18 FEET OF FILL. THE FILL WAS FOUND TO CONSIST OF A MIXTURE OF LOW PLASTICITY SILTY CLAY (A-6B) AND SILT AND CLAY (A-6A) SOILS CONTAINING A VARIABLE AMOUNT OF SAND AND SHALE FRAGMENTS. THE FILL WAS MEDIUM STIFF TO STIFF. NATIVE, STIFF TO VERY STIFF, SILTY CLAYS (A-6B) AND SANDY SILT (A-4A) SOILS WERE ENCOUNTERED BELOW THE FILL TO AN ELEVATION OF ABOUT 665 FEET WHERE SHALE BEDROCK WAS ENCOUNTERED.

THE BORINGS PERFORMED AT THE TOE OF THE UNSTABLE EMBANKMENT SLOPE ENCOUNTERED SHALE BEDROCK AT A DEPTH OF ABOUT 3 1/2 FEET BELOW THE EXISTING GROUND SURFACE. THE SHALE WAS OVERLAIN BY MEDIUM STIFF SILTY CLAY (A-6B).

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, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET, COLUMBUS, OHIO.

N:\HCN Projects\AutoCAD\2013\613\6135043\834491C002.dgn 1/12/2016 10:47:28 AM k.jmankin

DRAWN
KJM
CHECKED
LLP

SOIL PROFILE

LOR-90-13.20



SUMMARY OF SOIL TEST DATA
I-90 LORAIN LOR-90-13.20

SUMMARY OF SOL TEST DATA
I-90 LORAIN LOR-90-13.20 (CONT)

EXPLORATION NO., STATION & OFFSET	SAMPLE FROM TO ID	% REC	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS	
B-001-0-13 STA 680+73.67, 28.46' RT. NORTHING = 633433.460 EASTING = 2073589.090	1.0-2.5 SS-1	89		BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL								11	A-6a (VISUAL)
	3.5-5.0 SS-2	100	6	8	12	35	39	29	18	11	11	A-6a (8)	
	6.0-7.5 SS-3	56	GRAY TRACE REDDISH-BROWN SILT AND CLAY, SOME SAND, LITTLE GRAVEL								11	A-6a (VISUAL)	
	8.5-10.0 SS-4	100	BROWN AND GRAY SILT AND CLAY, SOME SAND, TRACE GRAVEL								21	A-6a (VISUAL)	
	11.5-13.0 SS-5	100	BROWN AND GRAY SILT AND CLAY, LITTLE SAND, TRACE GRAVEL								15	A-6a (VISUAL)	
	13.5-15.0 SS-6	56	BROWN AND GRAY SILT AND CLAY, SOME SAND, TRACE GRAVEL								12	A-6a (VISUAL)	
	16.0-17.5 SS-7	100	2	2	39	36	21	21	18	3	12	A-4a (4)	
	18.5-20.0 SS-8	100	BROWN SILTY CLAY								24	A-6b (VISUAL)	
	21.0-22.5 SS-9	100	1	1	2	34	62	39	22	17	22	A-6b (11)	
	23.5-25.0 SS-10	100	BROWN TRACE GRAY SILTY CLAY, TRACE SAND								20	A-6b (VISUAL)	
	26.0-27.5 SS-11	100	SAME AS SS-10								18	A-6b (VISUAL)	
	28.5-30.0 SS-12	100	BROWN SILT AND CLAY, TRACE SAND								28	A-6a (VISUAL)	
	33.5-35.0 SS-13	100	14	22	12	25	27	24	16	8	16	A-4a (3)	
	38.5-40.0 SS-14a	89	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL								14	A-6a (VISUAL)	
	SS-14b		REDDISH-BROWN SHALE								-	ROCK	
	43.5-43.9 SS-15	100	SAME AS SS-14b								-	ROCK	
	45.0-55.0 NQ-16	97	SAME AS SS-14b								-	ROCK	
B-002-0-13 STA 683+31.74, 28.76' LT. NORTHING = 633511.940 EASTING = 2073841.510	1.0-2.5 SS-1	83	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL								12	A-6a (VISUAL)	
	3.5-5.0 SS-2	44	BROWN SILT AND CLAY, SOME SAND, LITTLE GRAVEL								15	A-6a (VISUAL)	
	6.0-7.5 SS-3	83	6	8	12	27	47	33	19	14	12	A-6a (9)	
	8.5-10.0 SS-4	56	SAME AS SS-4								16	A-6a (VISUAL)	
	11.0-12.5 SS-5	100	SAME AS SS-4								17	A-6a (VISUAL)	
	13.5-15.0 SS-6	100	SAME AS SS-4								16	A-6a (VISUAL)	
	16.0-17.5 SS-7	100	7	7	11	27	48	33	18	15	17	A-6a (10)	
	18.5-20.0 SS-8	100	BROWN AND GRAY, SILTY CLAY, TRACE SAND								20	A-6b (VISUAL)	
	21.0-22.5 SS-9	100	0	0	1	37	62	44	21	23	21	A-7-6 (14)	
	23.5-25.0 SS-10	100	SAME AS SS-9								22	A-7-6 (VISUAL)	
	26.0-27.5 SS-11	100	BROWN SILTY CLAY, WITH SILT SEAMS, TRACE SAND								23	A-6b (VISUAL)	
	28.5-30.0 SS-12	100	BROWN SILTY CLAY, LITTLE SAND								23	A-6b (VISUAL)	
	33.5-35.0 SS-13	100	7	8	12	37	36	26	17	9	12	A-4a (8)	
	38.5-40.0 SS-14	100	GRAY SILT AND CLAY, LITTLE SAND, TRACE SHALE FRAGS								-	A-6a (VISUAL)	
	43.5-44.0 SS-15	100	REDDISH-BROWN SHALE								-	ROCK	
	45.0-55.0 NQ-16	100	SAME AS SS-15								-	ROCK	
B-003-0-13 STA 688+79.18, 27.18' LT. NORTHING = 633555.880 EASTING = 2074387.190	1.0-2.5 SS-1	100	9	8	9	26	48	35	19	16	13	A-6b (10)	
	2.5-4.0 SS-2	78	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL								16	A-6a (VISUAL)	
	4.0-5.5 SS-3	56	25	5	4	25	41	43	24	19	5	A-7-6 (10)	
	5.5-7.0 SS-4a	89	REDDISH-BROWN AND BROWN SILTY CLAY, SOME SAND, LITTLE GRAVEL								14	A-6b (VISUAL)	
	SS-4b		GRAY SILT AND CLAY, AND SHALE FRAGS, TRACE SAND								6	A-6a (VISUAL)	
	7.0-8.5 SS-5	89	BROWN AND GRAY, SILT AND CLAY, SOME SAND, LITTLE SHALE FRAGS								15	A-6a (VISUAL)	
	8.5-10.0 SS-6	50	SAME AS SS-5								14	A-6a (VISUAL)	
B-004-0-13 STA 695+25.87, 30.43' RT. NORTHING = 633552.240 EASTING = 2075036.430	1.0-2.5 SS-1	100	6	7	11	27	49	35	30	15	16	A-6a (10)	
	2.5-4.0 SS-2	100	28	6	5	25	36	37	22	15	12	A-6a (7)	
	4.0-5.5 SS-3	100	GRAY SILT AND CLAY, AND SHALE FRAGS, TRACE SAND								8	A-6a (VISUAL)	
	5.5-7.0 SS-4	56	SAME AS SS-3								10	A-6a (VISUAL)	
	7.0-8.5 SS-5	100	SAME AS SS-3								10	A-6a (VISUAL)	
	8.5-10.0 SS-6	100	BROWN AND GRAY SILT AND CLAY, SOME SHALE FRAGS, LITTLE SAND								9	A-6a (VISUAL)	
B-004-1-13 STA 696+84.76, 97.70' RT. NORTHING = 633351.020 EASTING = 2073735.240	1.0-2.5 SS-1	100	38	11	7	18	26	35	20	15	15	A-6a (3)	
	3.5-5.0 SS-2a	67	BROWN AND GRAY SILTY CLAY, SOME SHALE FRAGS, LITTLE SAND								7	A-6b (VISUAL)	
	SS-2b		BROWN AND GRAY SILTY CLAY, LITTLE SAND, LITTLE SHALE FRAGS								-	A-6b (VISUAL)	
	6.0-7.0 ST-3	42	SAME AS SS-2b								-	A-6b (VISUAL)	
	8.5-10.0 SS-4	72	20	6	6	26	42	38	22	16	17	A-6b (9)	
	11.0-12.5 SS-5	61	GRAY SILT AND CLAY, LITTLE SAND, LITTLE SHALE FRAGS								12	A-6a (VISUAL)	
	13.5-15.0 SS-6	50	SAME AS SS-5								14	A-6a (VISUAL)	
	16.0-17.5 SS-7	61	12	5	7	36	40	34	21	13	13	A-6a (9)	
	18.5-20.0 SS-8	89	BROWN SILTY CLAY, LITTLE SAND, TRACE SHALE FRAGS								19	A-6b (VISUAL)	
	23.5-25.0 SS-9	100	BROWN SILTY CLAY, TRACE SAND								21	A-6b (VISUAL)	
	28.5-30.0 SS-10	100	2	2	18	48	30	27	18	9	21	A-4a (8)	
	33.5-34.3 SS-11	50	REDDISH-BROWN SHALE								-	ROCK	

B-004-2-13 STA 696+99.84, 174.94' RT. NORTHING = 633688.16 EASTING = 2075249.51	1.0-2.5 SS-1	100	5	5	10	34	46	38	21	17	17	A-6b (11)
	3.5-5.0 SS-2a	100	SAME AS SS-1								-	A-6b (VISUAL)
	SS-2b		REDDISH-BROWN SHALE								-	ROCK
	6.0-7.4 SS-3	100	SAME AS SS-2b								-	ROCK
	8.5-9.9 SS-4	100	GRAY SHALE								-	ROCK
	11.0-11.5 SS-5	100	SAME AS SS-4								-	ROCK
	13.5-13.9 SS-6	100	SAME AS SS-4								-	ROCK
	14.0-19.0 NX-7a	75	GRAY AND BROWN SHALE								-	ROCK
	NX-7b		GRAY SHALE								-	ROCK
	19.0-24.0 NX-8	85	SAME AS NX-7b								-	ROCK
B-005-0-13 STA 698+71.91, 27.00' LT. NORTHING = 633638.250 EASTING = 2075376.490	1.0-2.5 SS-1	89	17	8	9	36	30	36	15	21	13	A-6b (11)
	3.5-5.0 SS-2	83	SAME AS SS-1								10	A-6b (VISUAL)
	6.0-7.5 SS-3	67	BROWN AND GRAY SILT AND CLAY, LITTLE SAND, TRACE ROCK FRAGS								6	A-6a (VISUAL)
	8.5-10.0 SS-4	17	SAME AS SS-3								11	A-6a (10)
	11.0-12.5 SS-5	100	9	5	8	42	36	35	20	15	15	A-6a (10)
	13.5-15.0 SS-6	44	SAME AS SS-4								14	A-6a (VISUAL)
	16.0-17.5 SS-7a	100	SAME AS SS-4								13	A-6a (VISUAL)
	SS-7b		EROWN SILTY CLAY, TRACE SAND								13	A-6b (VISUAL)
	18.5-20.0 SS-8	100	6	7	9	41	37	33	19	14	15	A-6a (10)
	21.0-23.5 SS-9	100	SAME AS SS-8								17	A-6a (VISUAL)
	23.5-25.0 SS-10	100	1	2	4	31	62	43	22	21	23	A-7-6 (13)
	26.0-27.5 SS-11	100	BROWN AND GRAY SILTY CLAY, TRACE SAND								22	A-6b (VISUAL)
	28.5-30.0 SS-12	100	SAME AS SS-11								20	A-6b (VISUAL)
	31.0-32.5 SS-13a	100	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL								16	A-6a (VISUAL)
	SS-13b		BROWN COARSE AND FINE SAND, LITTLE SILT								11	A-3a (VISUAL)
	33.5-35.0 SS-14	100	0	0	1	51	48	50	26	24	-	A-7-6 (16)
	36.0-37.5 SS-15a	100	REDDISH-BROWN SILTY CLAY, TRACE SAND								-	A-6b (VISUAL)
	SS-15b		BROWN SHALE								-	ROCK
	38.5-40.0 SS-16	100	GRAY AND BROWN SHALE								-	ROCK
	40.0-50.0 NQ-17a	100	SAME AS SS-16								-	ROCK
	NQ-17b		GRAY SHALE								-	ROCK
B-006-0-13 STA 701+06.39, 26.64' RT. NORTHING = 633604.290 EASTING = 2075614.620	1.0-2.5 SS-1	67	BROWN AND DARK GRAY SILT AND CLAY, AND SHALE FRAGS, TRACE SAND								11	A-6a (VISUAL)
	3.5-5.0 SS-2	44	GRAY AND BLACK SHALE FRAGMENTS WITH SAND, SILT AND CLAY								8	A-2-6 (VISUAL)
	6.0-7.5 SS-3a	89	SAME AS SS-2								10	A-2-6 (VISUAL)
	SS-3b		BROWN AND GRAY SILT AND CLAY, SOME SAND, LITTLE SHALE FRAGS								14	A-6a (VISUAL)
	8.5-10.0 SS-4	56	BROWN TRACE GRAY SILT AND CLAY, SOME SAND, LITTLE GRAVEL								18	A-6b (VISUAL)
	11.0-12.5 SS-5	83	7	10	13	29	41	32	18	14	14	A-6a (VISUAL)
	13.5-15.0 SS-6	61	EROWN SILTY CLAY, TRACE SAND								15	A-6b (VISUAL)
	SS-6b		BROWN COARSE AND FINE SAND, LITTLE CLAY								-	A-3a (VISUAL)
	16.0-17.5 SS-7	100	BROWN SILT AND CLAY, LITTLE SAND, TRACE GRAVEL								15	A-6a (VISUAL)
	18.5-20.0 SS-8	100	7	7	10	29	47	33	22	11	13	A-6a (8)
	21.0-23.5 SS-9	100	SAME AS SS-8								12	A-6a (VISUAL)
	23.5-25.0 SS-10	100	REDDISH-BROWN SILTY CLAY, TRACE SAND								12	A-6b (VISUAL)
	28.5-29.1 SS-11	100	REDDISH-BROWN SHALE								-	ROCK
	33.5-34.0 SS-12	100	SAME AS SS-11								-	ROCK
	35.0-45.0 NQ-13	98	SAME AS SS-11								-	ROCK

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SOIL PROFILE SUMMARY OF SOIL TEST DATA

LOR-90-13.20

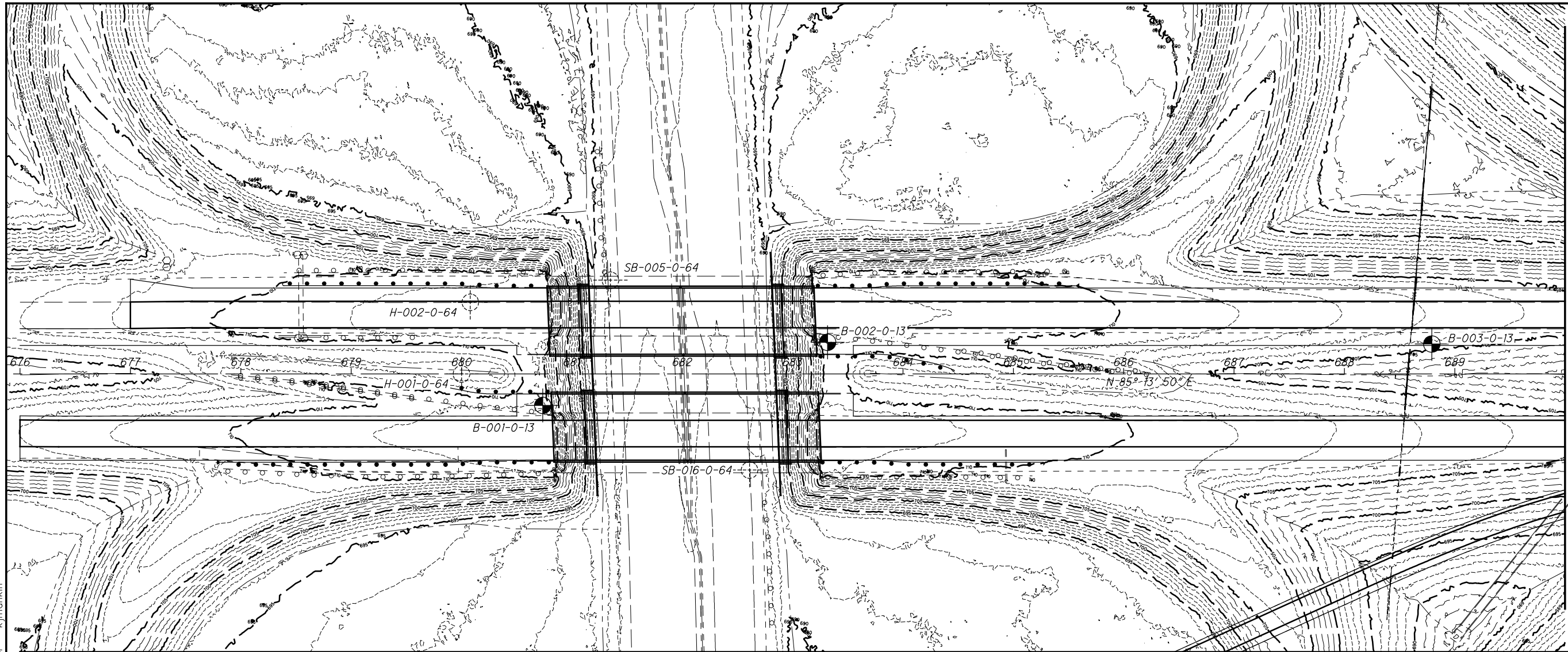


SUMMARY OF SOIL TEST DATA
HISTORIC BORINGS
I-90

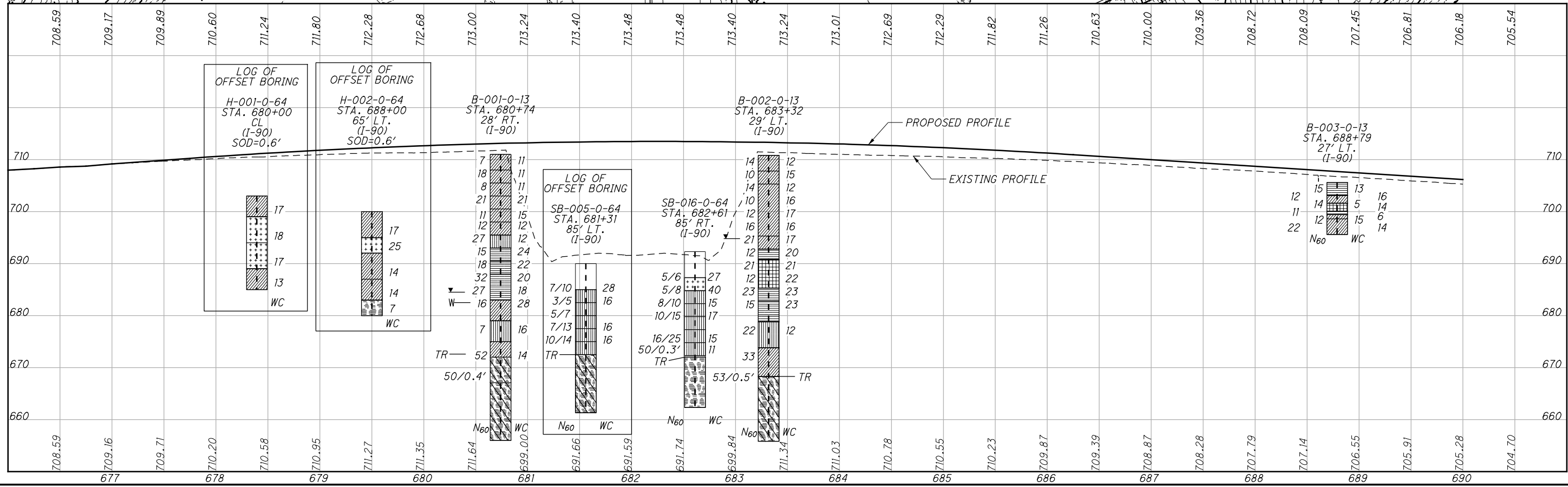
EXPLORATION NO. STATION & OFFSET	FROM TO	% AGG	% CS	% FS	% SILT	% CLAY	LL	PI	% WC	SHTL CLASS	
H-001-0-64 STA. 680+00, CL	0.6-4.0	0	1	1	46	52	39	12	17	A-6a	
	4.0-9.0	0	1	3	57	39	28	9	18	A-4b	
	9.0-14.0	0	5	11	51	33	21	4	17	A-4b	
	14.0-18.0	0	7	13	40	40	24	11	13	A-6a	
SB-005-0-64 STA. 681+31, 85' LT.	0.0-5.0	NOT CLASSIFIED									
	5.0-7.5	0	0	1	49	50	28	8	28	A-4a	
	7.5-10.0	0	6	17	37	40	21	5	16	A-4a	
	10.0-12.5	GRAY SANDY SILT									
	12.5-15.0	23	5	8	27	37	27	10	16	A-4a	
	15.0-17.5	23	6	8	21	42	29	9	16	A-4a	
	17.5-28.5	REDDISH-BROWN SHALE									
SB-016-0-64 STA. 682+61, 87' RT.	0.0-5.0	NOT CLASSIFIED									
	5.0-7.5	0	1	3	51	45	26	5	27	A-4a	
	7.5-10.0	15	4	4	34	43	27	7	40	A-4a	
	10.0-12.5	16	6	12	31	35	25	5	15	A-4a	
	12.5-15.0	17	7	13	30	33	23	6	17	A-4a	
	15.0-17.5	GRAY GRAVELLY SAND									
	17.5-20.0	16	7	10	21	46	30	10	15	A-4a	
20.0-30.0	REDDISH-BROWN CLAY SHALE										
H-002-0-64 STA. 688+00, 65' LT.	0.6-5.0	0	0	2	51	47	34	13	17	A-6a	
	5.0-8.0	0	1	3	54	42	29	9	25	A-4b	
	8.0-13.0	21	5	7	34	33	25	11	14	A-6a	
	13.0-17.0	0	6	10	38	46	27	11	14	A-6a	
	17.0-20.0	RED BROKEN CLAY SHALE									
H-003-0-64 STA. 691+00, CL	2.0-5.0	14	7	4	40	35	34	11	17	A-6a	
H-004-0-64 STA. 695+00, CL	0.6-4.0	0	6	18	39	37	29	11	12	A-6a	
	4.0-9.0	0	5	11	42	42	31	11	16	A-6a	
	9.0-15.0	0	7	7	40	46	27	11	15	A-6a	
H-005-0-64 STA. 697+75, CL	0.6-5.0	REDDISH-BROWN SILT AND CLAY							29	13	A-6a
	5.0-8.0	BROWN BROKEN CLAY SHALE								13	VISUAL
SB-005-0-64 STA. 699+18, 90' LT.	0.0-2.5	NOT CLASSIFIED									
	2.5-5.0	28	9	9	25	29	33	11	18	A-4a	
	5.0-7.5	0	5	3	44	48	41	17	20	A-7-6	
	7.5-10.0	REDDISH-BROKEN CLAYEY SHALE									
H-006-0-64 STA. 699+80, CL	10.0-25.0	REDDISH-BROWN SHALE									
	0.6-5.0	0	7	11	39	44	31	11	14	A-6a	
	5.0-9.0	0	8	11	39	42	29	11	15	A-6a	
	9.0-11.0	0	3	3	48	46	34	14	13	A-6a	
	SB-016-0-64 STA. 701+22, 90' RT.	0.0-5.0	NOT CLASSIFIED								
		5.0-7.5	0	4	10	34	52	32	11	17	A-6a
		7.5-10.0	0	8	12	32	48	29	8	16	A-4a
10.0-12.5		0	14	11	26	49	32	12	17	A-6a	
12.5-15.0		0	14	12	28	46	33	11	19	A-6a	
15.0-17.5		0	0	1	47	52	33	10	13	A-4a	
17.5-20.0		0	0	0	44	56	33	9	11	A-4a	
20.0-30.0	54	0	1	23	22	31	7	9	A-4a		
H-007-0-64 STA. 703+20, CL	17.5-20.0	REDDISH-BROWN CLAY SHALE									
	0.6-4.0	0	1	1	44	53	40	17	17	A-6a	
	4.0-6.0	0	3	7	36	54	31	11	21	A-6a	



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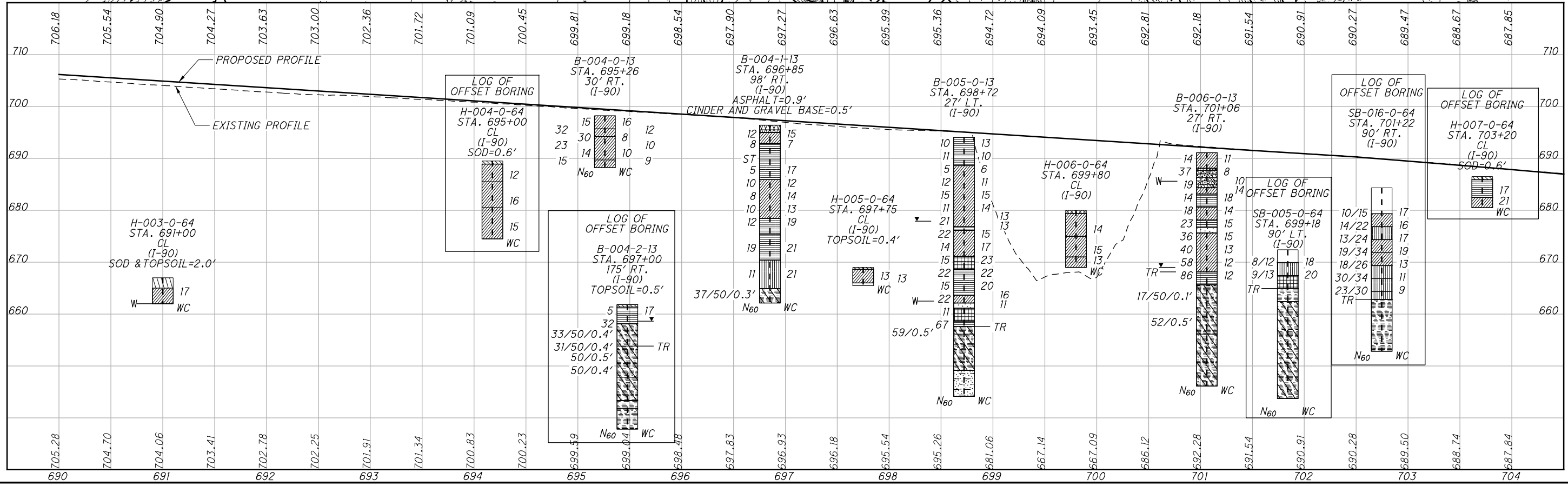
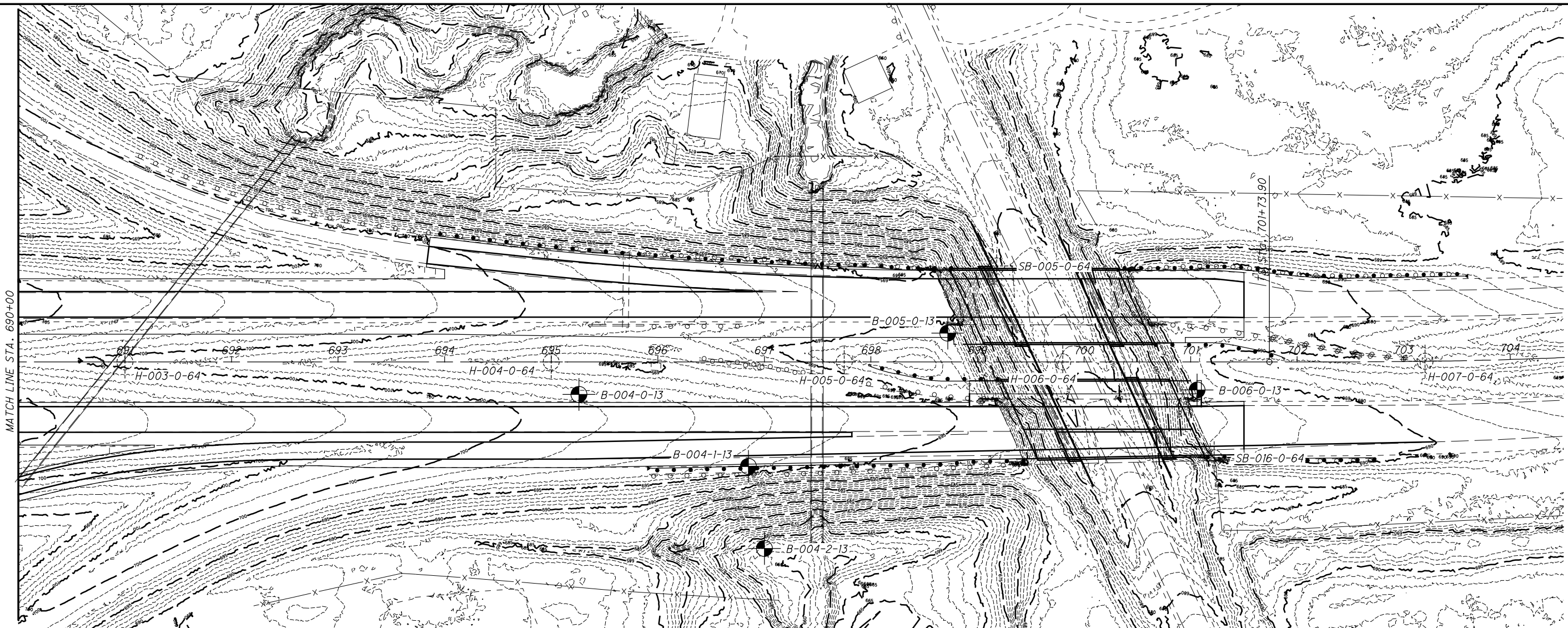
MATCH LINE STA. 690+00



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SOIL PROFILE
STA. 676+00 TO STA. 690+00

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SOIL PROFILE
STA. 690+00 TO STA. 704+50

LOR-90-13.20





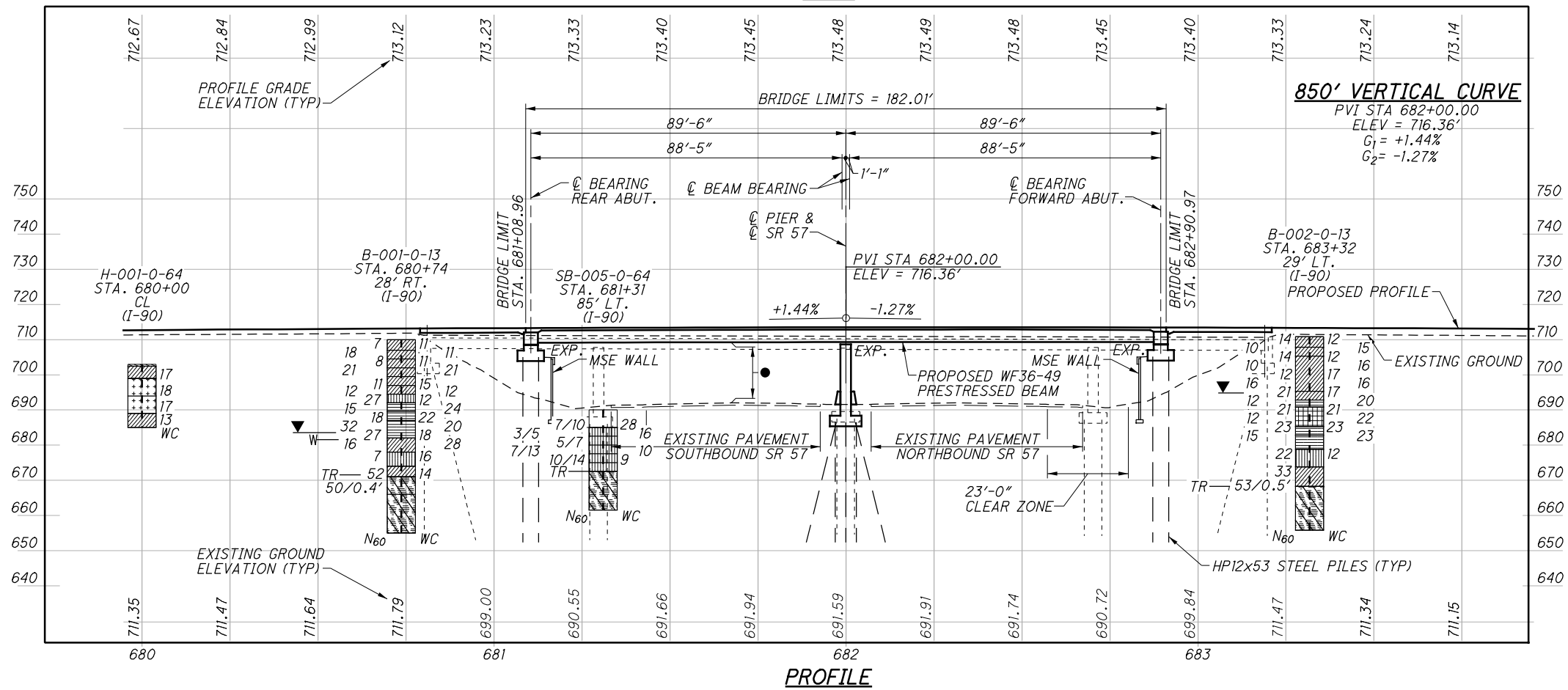
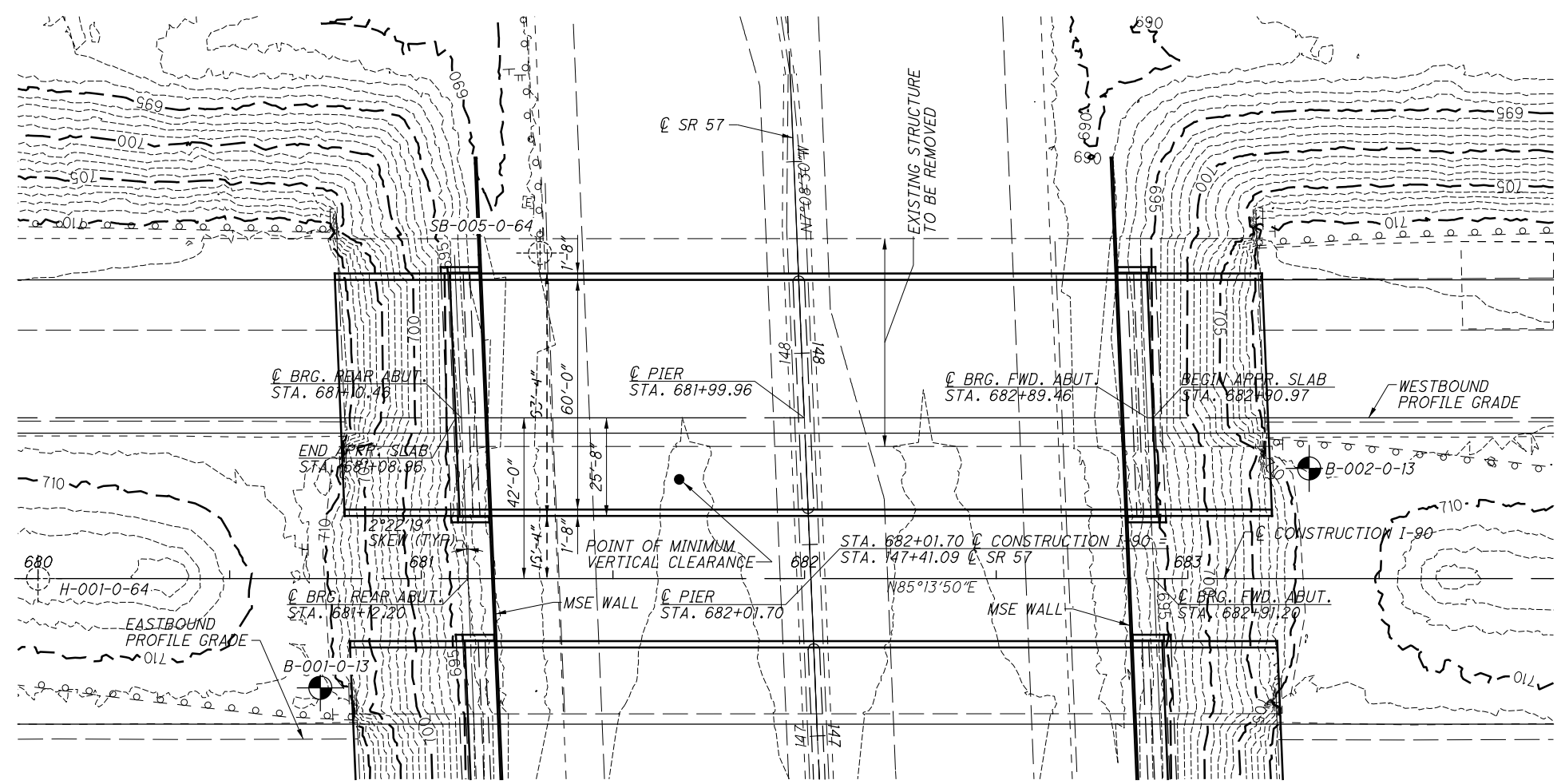
0 20 40
HORIZONTAL
SCALE IN FEET

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STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. LOR-90-1320 / R - I-90 OVER SR 57

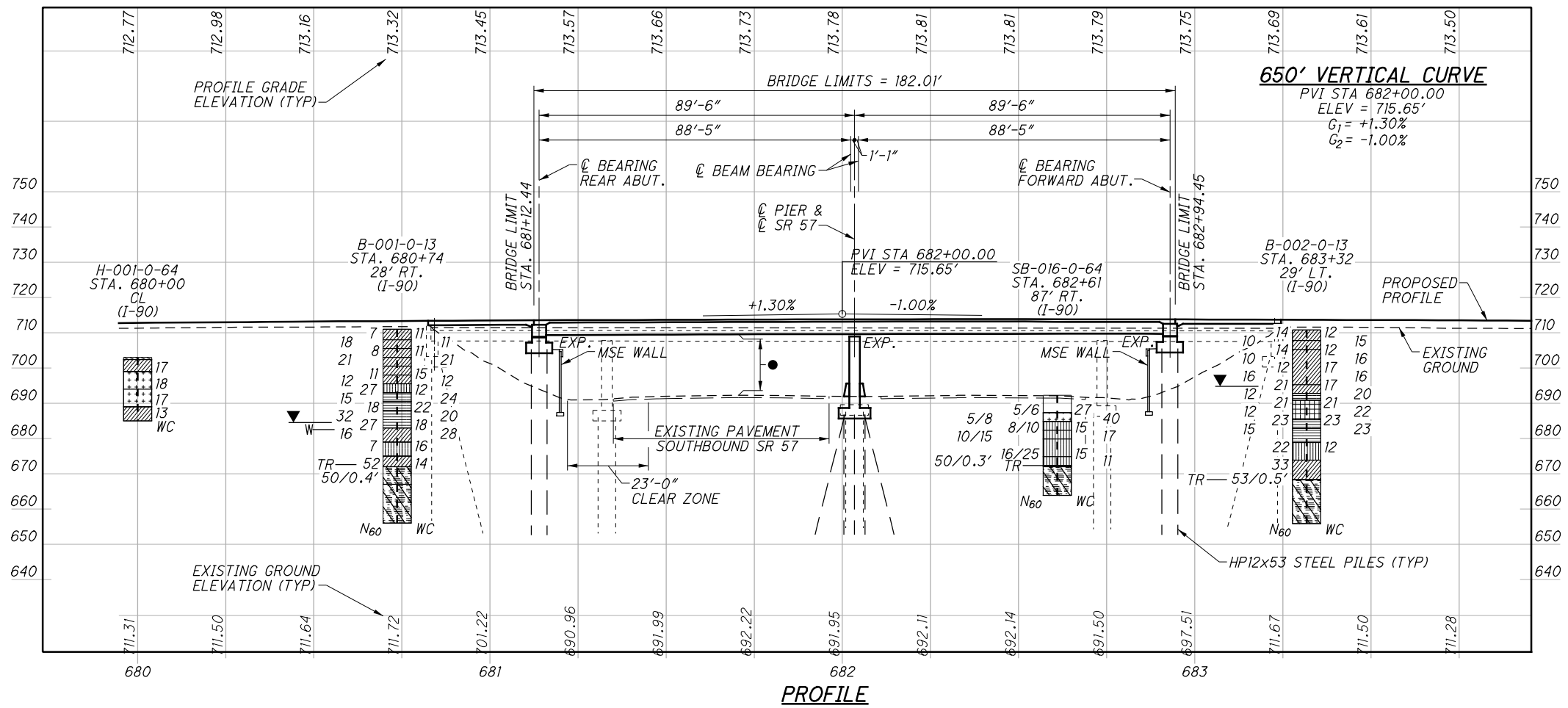
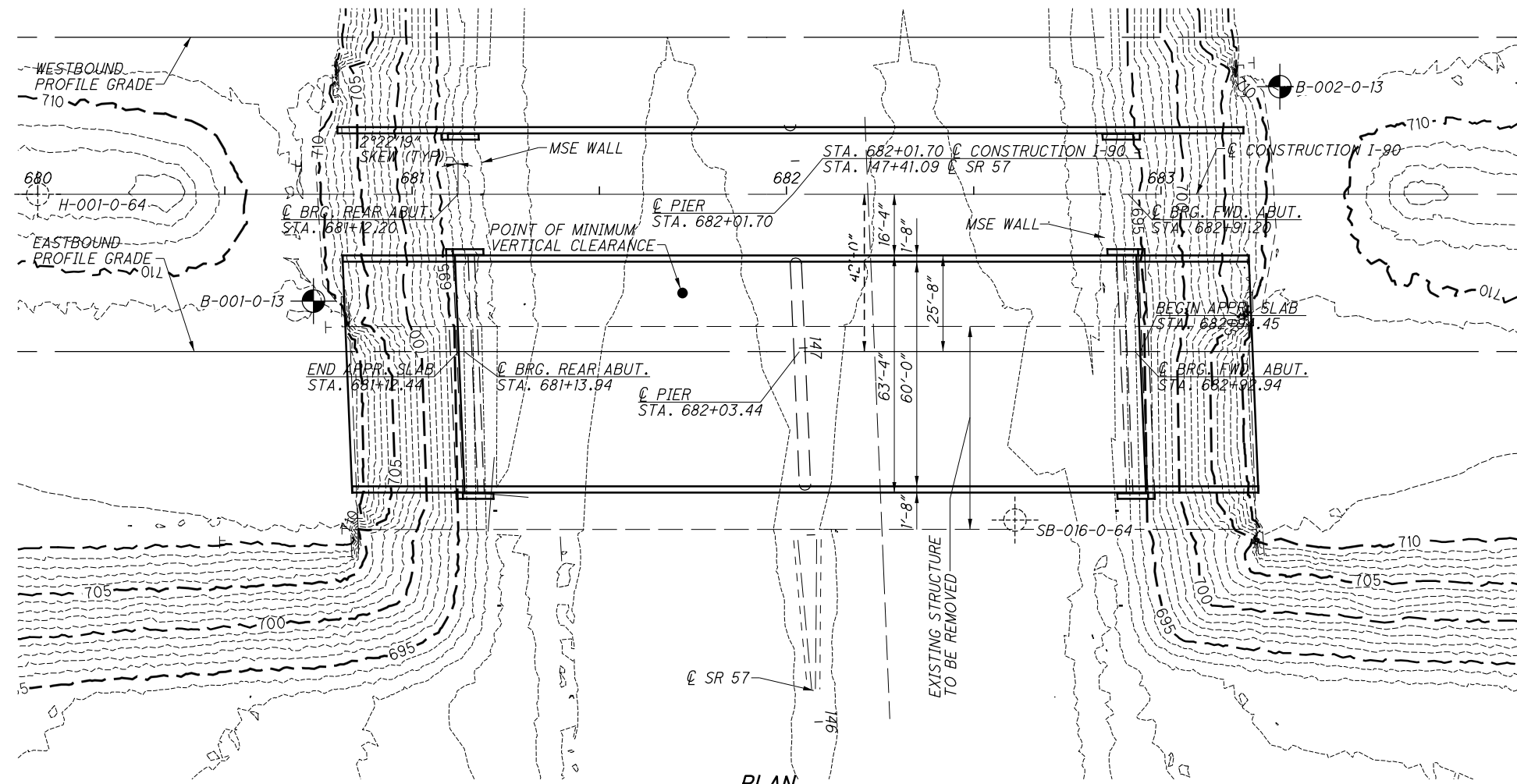
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STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. LOR-90-1320L/R - I-90 OVER SR 57

LOR-90-1320

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0 10 20 40
HORIZONTAL SCALE IN FEET

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PROJECT:	LOR-90-13.20	DRILLING FIRM / OPERATOR:	OTB / D. HEPNER	DRILL RIG:	SIMCO 2800	STATION / OFFSET:	680+74, 28' RT.	EXPLORATION ID	B-001-0-13								
TYPE:	BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER:	OTB / K. GIBEL	HAMMER:	CME AUTOMATIC	ALIGNMENT:	I-90										
PID:	83449	SFN:	3.25" HSA / NQ2	CALIBRATION DATE:	10/12/11	ELEVATION:	711.0 (MSL) EOB:	55.0 ft.	PAGE								
START:	7/23/13	END:	7/25/13	SPT / N ₆₀	82.3	LAT / LONG:	41.404539, -82.117504	WC	1 OF 2								
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTH	SPT / RQD	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
Medium stiff, brown SILT AND CLAY, some sand, trace gravel, moist (Fill)		711.0		1													7L 7L
				2	7	89	SS-1	4.50									
Very stiff, gray SILT AND CLAY, some sand, trace gravel, moist (Fill)		708.0		3													7L 7L
				4	18	100	SS-2	4.50	6	8	12	35	39	29	18	11	
Stiff, gray, trace reddish brown SILT AND CLAY, some sand, little gravel and rock fragments, moist (Fill)		705.5		5													7L 7L
				6	8	56	SS-3	3.25									
Very stiff, brown, gray and reddish brown SILT AND CLAY, some sand, trace gravel and rock fragments, moist (Fill)		703.0		7													7L 7L
				8	21	100	SS-4	4.5+									
Stiff, brown and gray SILT AND CLAY, little sand, trace gravel and rock fragments, moist (Fill)		700.5		9													7L 7L
				10													
Stiff, brown and gray SILT AND CLAY, some sand, trace gravel and rock fragments, moist (Fill)		698.0		11													7L 7L
				12	11	100	SS-5	2.75									
Stiff, brown and gray SILT AND CLAY, some sand, trace gravel and rock fragments, moist (Fill)		695.5		13													7L 7L
				14	12	56	SS-6	4.50									
Medium dense, brown and dark brown SANDY SILT, trace gravel, moist		693.0		15													7L 7L
				16	27	100	SS-7	4.5+									
Stiff, brown, SILTY CLAY, moist		690.5		17													7L 7L
				18													
Very stiff, brown, trace gray SILTY CLAY with silt seams, trace sand, trace gravel, moist		688.0		19	15	100	SS-8	3.00									7L 7L
				20													
Very stiff to hard, brown, trace gray SILTY CLAY, trace sand, moist		683.0		21	18	100	SS-9	3.25	1	2	34	62	39	22	17		7L 7L
				22	18	100	SS-9	3.25									
Very stiff, brown, SILT AND CLAY, trace sand, moist		683.0		23													7L 7L
				24	32	100	SS-10	4.5+									
Very stiff, brown, SILT AND CLAY, trace sand, moist		683.0		25													7L 7L
				26	27	100	SS-11	4.5+									
Very stiff, brown, SILT AND CLAY, trace sand, moist		683.0		27													7L 7L
				28	16	100	SS-12	1.50									

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 8/6/15 12:21 - N:\GINT\PROJECTS\6135043.GPJ

PID:	83449	SFN:	LOR-90-13.20	PROJECT:		STATION / OFFSET:	680+74, 28' RT.	START:	7/23/13	END:	7/25/13	PG 2 OF 2	B-001-0-13				
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTH	SPT / RQD	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
Very stiff, brown, SILT AND CLAY, trace sand, moist (continued)		681.0		31													7L 7L
				32													
Medium stiff, gray SANDY SILT, little gravel, moist		679.0		33													7L 7L
				34	7	100	SS-13	1.25	14	22	12	25	27	24	16	8	
Stiff, brown SILT AND CLAY, some sand, trace gravel, moist		675.0		35													7L 7L
				36													
Shale, reddish brown, highly weathered, very weak to weak		672.0	TR	37													7L 7L
				38													
Shale, reddish brown, moderately to highly weathered, weak to slightly strong, fractured to slightly fractured, jointed, tight to narrow, slightly rough, RQD=55%, Loss=3%		667.1		39	52	89	SS-14	3.25	-	-	-	-	-	-	14	A-6a (V)	7L 7L
				40													
Shale, reddish brown, moderately to highly weathered, weak to slightly strong, fractured to slightly fractured, jointed, tight to narrow, slightly rough, RQD=55%, Loss=3%		667.1		41													7L 7L
				42													
Shale, reddish brown, moderately to highly weathered, weak to slightly strong, fractured to slightly fractured, jointed, tight to narrow, slightly rough, RQD=55%, Loss=3%		667.1		43													7L 7L
				44													
Shale, reddish brown, moderately to highly weathered, weak to slightly strong, fractured to slightly fractured, jointed, tight to narrow, slightly rough, RQD=55%, Loss=3%		667.1		45													7L 7L
				46													
Shale, reddish brown, moderately to highly weathered, weak to slightly strong, fractured to slightly fractured, jointed, tight to narrow, slightly rough, RQD=55%, Loss=3%		667.1		47													7L 7L
				48													
Shale, reddish brown, moderately to highly weathered, weak to slightly strong, fractured to slightly fractured, jointed, tight to narrow, slightly rough, RQD=55%, Loss=3%		667.1		49													7L 7L
				50	97	97	NQ-16										
Shale, reddish brown, moderately to highly weathered, weak to slightly strong, fractured to slightly fractured, jointed, tight to narrow, slightly rough, RQD=55%, Loss=3%		667.1		51													7L 7L
				52													
Shale, reddish brown, moderately to highly weathered, weak to slightly strong, fractured to slightly fractured, jointed, tight to narrow, slightly rough, RQD=55%, Loss=3%		667.1		53													7L 7L
				54													
Shale, reddish brown, moderately to highly weathered, weak to slightly strong, fractured to slightly fractured, jointed, tight to narrow, slightly rough, RQD=55%, Loss=3%		667.1		55													7L 7L

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 8/6/15 12:21 - N:\GINT\PROJECTS\6135043.GPJ

NOTES: WATER WAS ADDED AT 45.0 FEET FOR ROCK CORING OPERATIONS.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS WITH ONE BAG OF PORTLAND CEMENT

PROJECT: LOR-90-13.20		DRILLING FIRM / OPERATOR: OTB / D. HEPNER	DRILL RIG: SIMCO 2800	STATION / OFFSET: 683+32.29' LT.		EXPLORATION ID							
TYPE: BRIDGE REPLACEMENT		SAMPLING FIRM / LOGGER: OTB / K. GIBEL	HAMMER: CME AUTOMATIC	ALIGNMENT: I-90		B-002-0-13							
PID: 83449 SFN:		DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 10/12/11	ELEVATION: 710.8 (MSL) EOB: 55.0 ft.		PAGE							
START: 7/18/13 END: 7/19/13		SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 82.3	LAT / LONG: 41.404752, -82.115795		1 OF 2							
MATERIAL DESCRIPTION AND NOTES		ELEV.	REC (%)	GRADATION (%)			BACK FILL						
			N ₆₀	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)
Stiff, brown, SILT AND CLAY, some sand, trace gravel and rock fragments, moist (Fill)	710.8												
Stiff, brown SILT AND CLAY, some sand, little gravel, moist (Fill)	707.8		14										12 A-6a (V)
Stiff to very stiff, brown, SILT AND CLAY, some sand, trace gravel, moist (Fill)	705.3		10										15 A-6a (V)
			14										12 A-6a (9)
			3										
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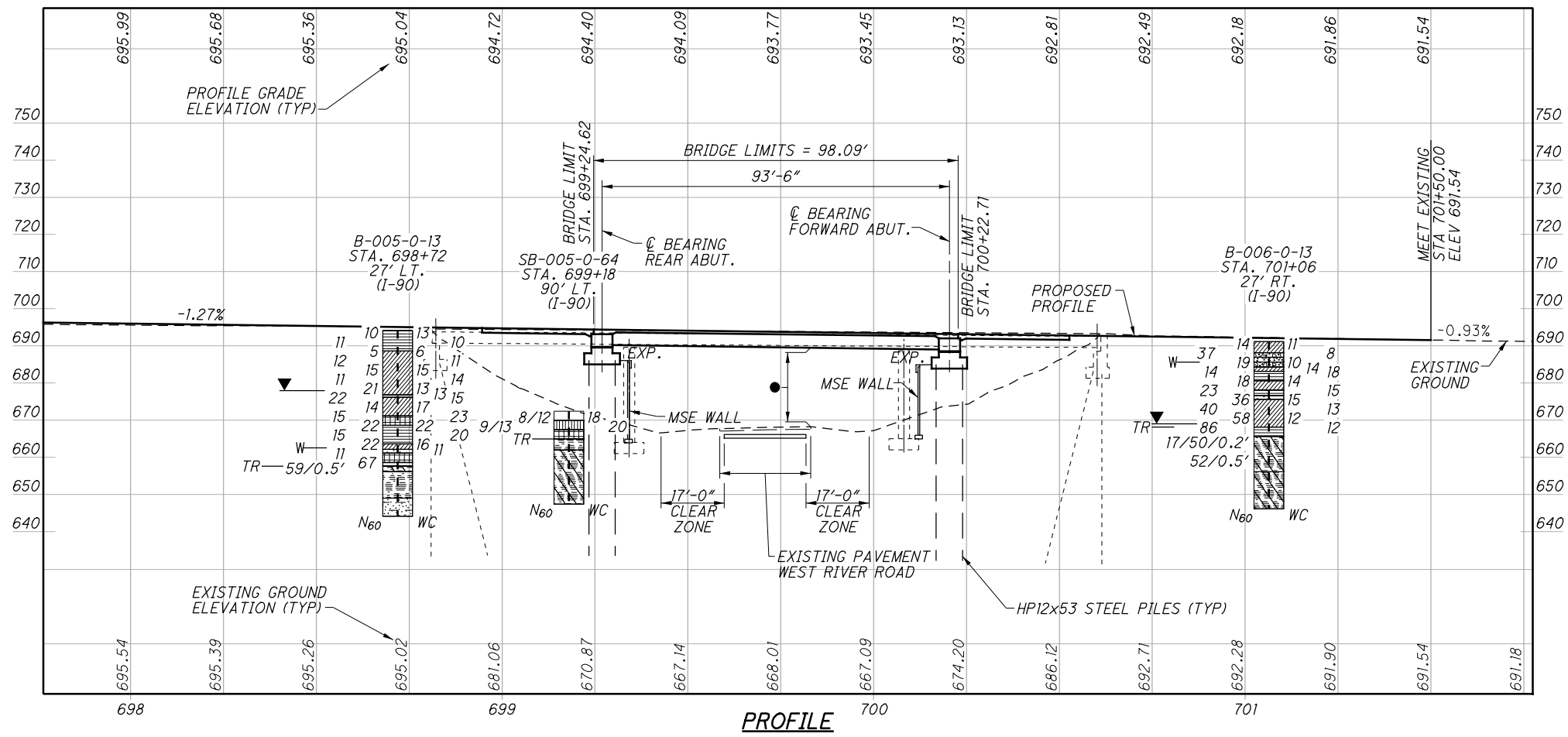
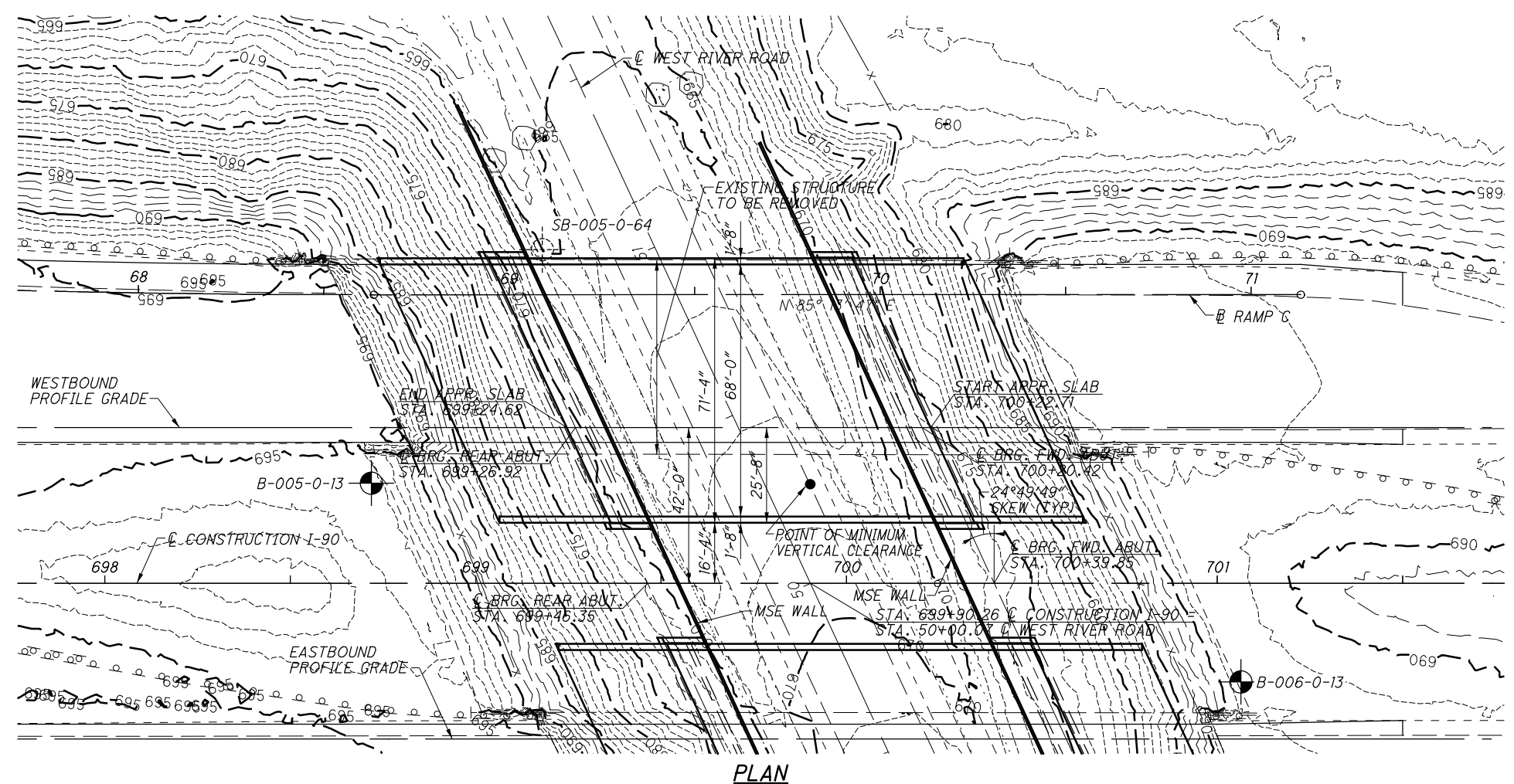
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HORIZONTAL
SCALE IN FEET

DRAWN
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LLP

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. LOR-90-1355L/R - I-90 OVER WEST RIVER ROAD

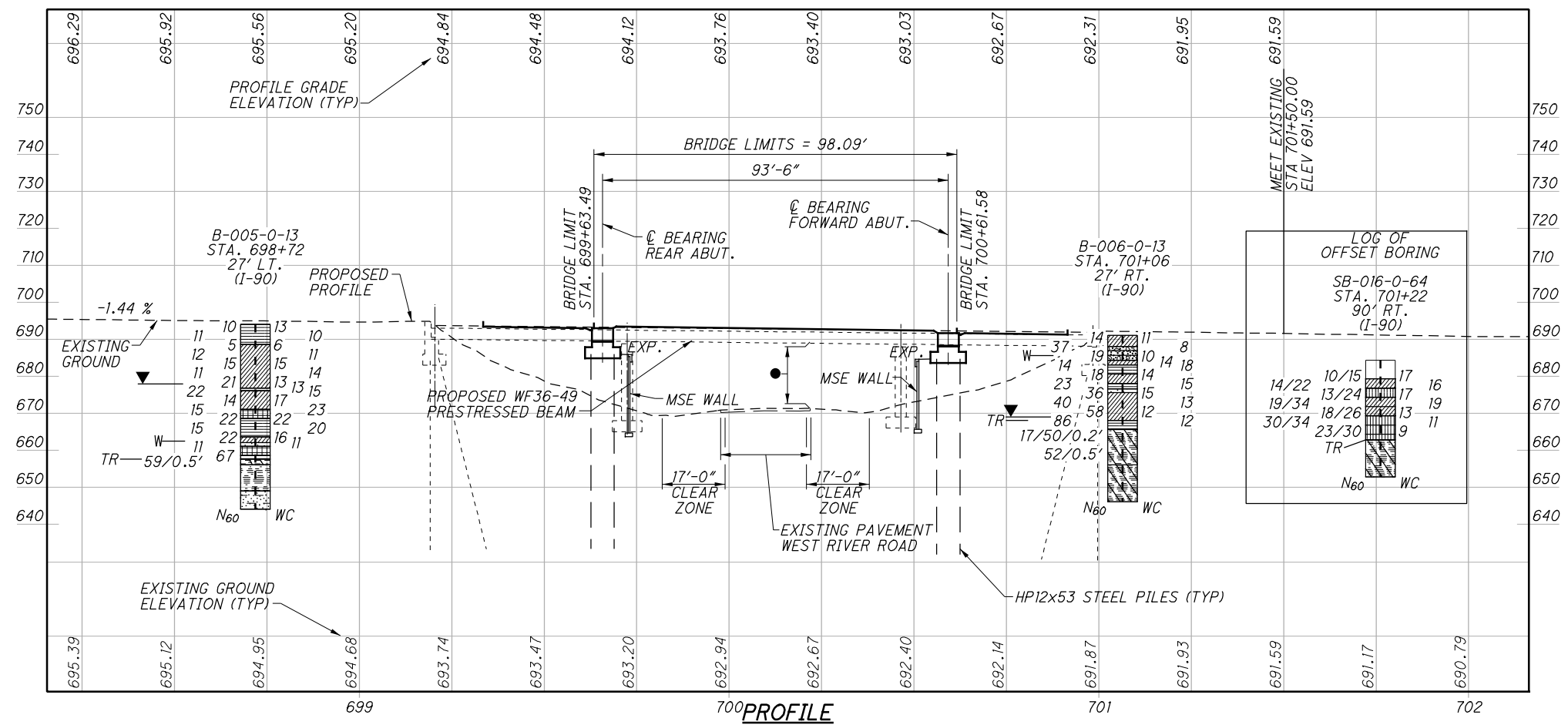
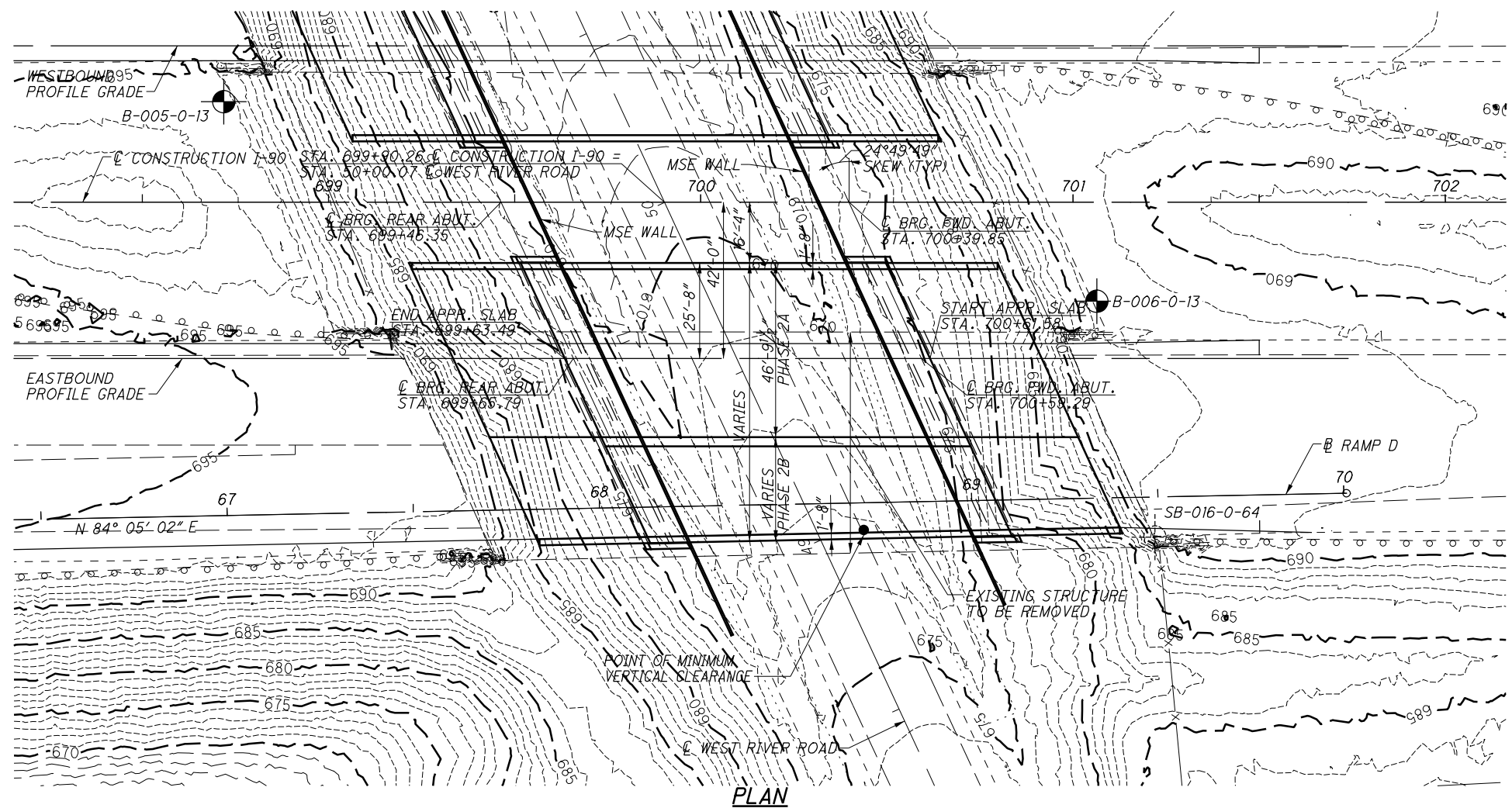
LOR-90-1320

11 / 18



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STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. LOR-90-1355L/R - I-90 OVER WEST RIVER ROAD

LOR-90-1320

12 / 18

DRAWN: KJM
CHECKED: LLP

0 10 20
HORIZONTAL SCALE IN FEET

N

PROJECT: LOR-90-13.20			DRILLING FIRM / OPERATOR: OTB / D. HEPNER		STATION / OFFSET: 698+72.27' LT.		EXPLORATION ID													
TYPE: BRIDGE REPLACEMENT			SIMCO 2800		ALIGNMENT: I-90		B-005-0-13													
PID: 83449 SFN: 7/18/13			HAMMER: CME AUTOMATIC		ELEVATION: 694.1 (MSL) EOB: 50.0 ft.		PAGE													
START: 7/18/13 END: 7/18/13			CALIBRATION DATE: 10/12/11		LAT / LONG: 41.405080, -82.110986		1 OF 2													
SAMPLING METHOD: SPT / NQ2			ENERGY RATIO (%): 82.3																	
MATERIAL DESCRIPTION AND NOTES																				
			ELEV.		DEPTHS		SPT/ RQD		REC SAMPLE		GRADATION (%)		ATTERBERG		ODOT CLASS (GI)		BACK FILL			
Stiff, brown, SILTY CLAY, little sand, little rock fragments, moist (Fill)			694.1		1		3		89		17		8 9 36 30		36 15 21		13		A-6b (11)	
Medium stiff to stiff, brown and gray, SILT AND CLAY, little sand, trace rock fragments, moist (Fill)			688.6		2		3		83		11		4 5 4		-		10		A-6b (V)	
Stiff, brown, SILTY CLAY, trace sand, moist (Fill)			676.8		3		4		100		5		2 2		-		6		A-6a (V)	
			676.1		4		5		17		4.5+		-		-		11		A-6a (V)	
Stiff, brown and gray, CLAY, trace sand, trace gravel, moist			671.1		5		4		100		9		5 8 42 36		35 20 15		15		A-6a (10)	
			668.6		6		6		100		4.5		6		-		-		14	
Very stiff, brown and gray, SILTY CLAY, trace sand, moist			663.6		7		4		100		3		4 4		-		13		A-6a (V)	
			661.1		8		8		22		3.75		-		-		13		A-6b (V)	
SHALE, gray and brown, slightly weathered, slightly strong, thinly laminated, moderately fractured, jointed, tight to narrow, slightly rough, RQD=78%, Loss=0%			649.0		9		4		100		0		1 51 48 50		26 24		-		Rock (V)	
			644.1		10		7		67		3.25		-		-		-		-	

NOTES: WATER WAS ADDED AT 40.0 FEET FOR ROCK CORING OPERATIONS.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS WITH ONE BAG OF PORTLAND CEMENT

PROJECT: LOR-90-13.20			STATION / OFFSET: 698+72.27' LT.		START: 7/18/13		END: 7/18/13		PG 2 OF 2		B-005-0-13											
PID: 83449 SFN: 7/18/13			ELEV.		DEPTHS		SPT/ RQD		REC SAMPLE		GRADATION (%)		ATTERBERG		ODOT CLASS (GI)		BACK FILL					
MATERIAL DESCRIPTION AND NOTES			664.1		31		4		100		-		-		-		-					
Very stiff, brown, SILT AND CLAY, some sand, trace gravel, moist			663.6		32		8		100		-		-		-		16		A-6a (V)			
Medium dense, brown, COARSE AND FINE SAND, little silt, moist			662.1		33		8		-		-		-		-		11		A-3a (V)			
Stiff, dark brown, CLAY, trace sand, moist			661.1		34		4		100		0		1 51 48 50		26 24		-		A-7-6 (16)			
Very stiff, reddish brown, SILTY CLAY, trace sand, moist			658.6		35		4		-		-		-		-		-		-			
			657.6		36		7		15		100		-		-		-		-		A-6b (V)	
SHALE, brown, highly weathered, very weak			656.1		37		15		100		-		-		-		-		-			
			649.0		38		34		34		-		-		-		-		-		-	
SHALE, gray and brown, slightly weathered, slightly strong, thinly laminated, moderately fractured, jointed, tight to narrow, slightly rough, RQD=78%, Loss=0%			649.0		39		59		100		-		-		-		-		-			
			644.1		40		-		-		-		-		-		-		-		-	
SILTSTONE, gray, unweathered, strong, thick bedded, RQD=100%, Loss=0%			644.1		41		-		-		-		-		-		-		-			
			644.1		42		-		-		-		-		-		-		-		-	
			644.1		43		-		-		-		-		-		-		-		-	
			644.1		44		-		-		-		-		-		-		-		-	
			644.1		45		-		-		-		-		-		-		-		-	
			644.1		46		-		-		-		-		-		-		-		-	
			644.1		47		-		-		-		-		-		-		-			
			644.1		48		-		-		-		-		-		-		-			
			644.1		49		-		-		-		-		-		-		-			
			644.1		50		-		-		-		-		-		-		-			
			644.1		EOB		-		-		-		-		-		-		-			

PROJECT: LOR-90-13.20		DRILLING FIRM / OPERATOR: OTB / D. HEPNER		STATION / OFFSET: 701+06.27 RT.		EXPLORATION ID		
TYPE: BRIDGE REPLACEMENT		HAMMER: CME AUTOMATIC		ALIGNMENT: I-90		B-006-0-13		
PID: 83449 SFN: 7/23/13		CALIBRATION DATE: 10/12/11		ELEVATION: 691.1 (MSL) EOB: 45.0 ft.		PAGE		
START: 7/23/13 END: 7/23/13		ENERGY RATIO (%): 82.3		LAT / LONG: 41.404984, -82.110118		1 OF 2		
MATERIAL DESCRIPTION AND NOTES		REC SAMPLE HP (tsf)		GRADATION (%)		ODOT CLASS (GI)		
		ID		GR CS FS SI CL LL PL PI		WC		
SPT / RQD		N ₆₀		SPT / RQD		WC		
DEPTHS		ELEV.		SPT / RQD		WC		
Stiff, brown and dark gray, SILT AND CLAY, and shale fragments, trace sand, moist (Fill)	691.1	4	14	67	4.00		11	A-6a (V)
Dense, gray and black, SHALE fragments with sand, silt and clay, moist (Fill)	688.1	7	37	44	SS-2		8	A-2-6 (V)
Very stiff, brown and gray, SILT AND CLAY, some sand, little shale fragments, moist (Fill)	684.3	11	19	89	SS-3		10	A-2-6 (V)
Stiff, brown, trace gray, SILTY CLAY, some sand, little gravel and rock fragments, moist (Fill)	683.1	3	14	56	SS-4		14	A-6a (V)
Very stiff, brown, trace gray, SILT AND CLAY, some sand, trace gravel and rock fragments, moist (Fill)	680.6	4	18	83	SS-5		18	A-6b (V)
Very stiff, brown, SILTY CLAY, trace sand, moist	678.1	7	23	61	SS-6		15	A-6b (V)
Medium dense, brown, COARSE AND FINE SAND, little clay, moist	676.6	6	36	100	SS-7		-	A-3a (V)
Hard, brown, SILT AND CLAY, little sand, trace gravel, moist	675.6	8	40	100	SS-8		15	A-6a (V)
Hard, reddish brown, SILTY CLAY, trace sand, moist	668.1	11	58	100	SS-9		12	A-6a (V)
SHALE, reddish brown, highly weathered, very weak to weak	665.6	10	86	100	SS-10		12	A-6b (V)

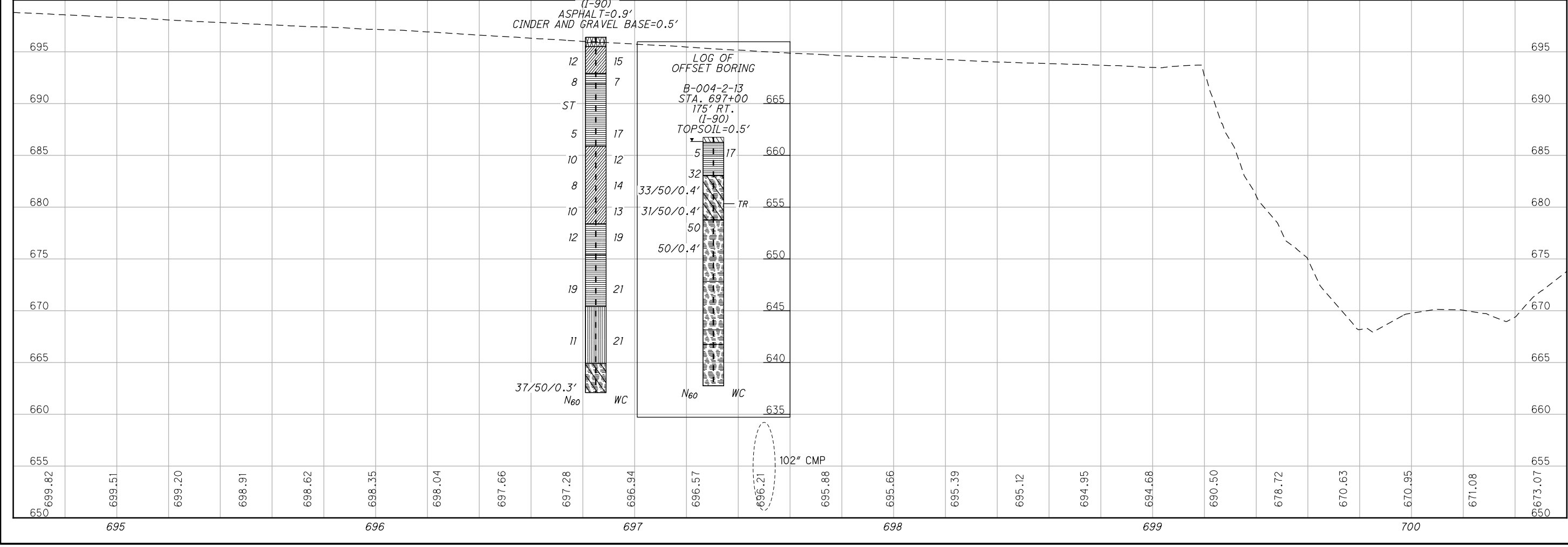
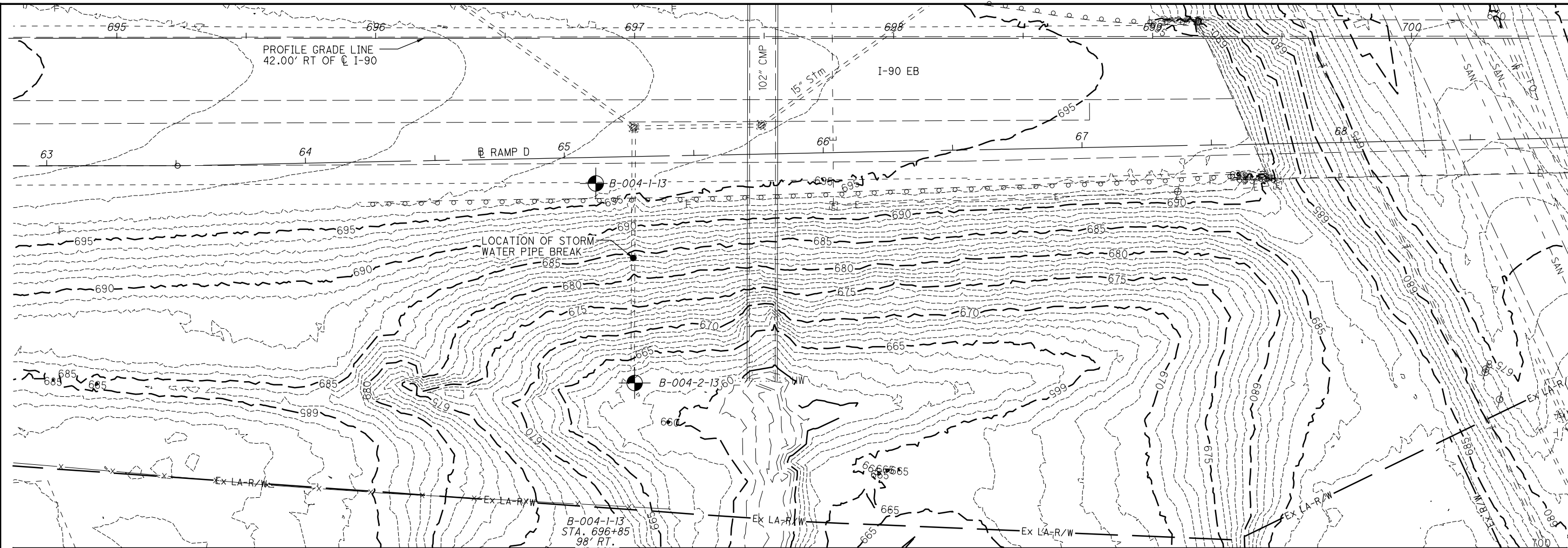
STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 8/5/15 12:22 - N:\GINT\PROJECTS\IN6135043.GPJ


PID: 83449 SFN: 7/23/13		PROJECT: LOR-90-13.20		STATION / OFFSET: 701+06.27 RT.		START: 7/23/13		END: 7/23/13		PG 2 OF 2		B-006-0-13	
MATERIAL DESCRIPTION AND NOTES		ELEV.		SPT / RQD		GRADATION (%)		ATTEMBERG		WC		ODOT CLASS (GI)	
		ID		GR CS FS SI CL LL PL PI		WC		WC		WC		WC	
DEPTHS		ELEV.		SPT / RQD		GRADATION (%)		ATTEMBERG		WC		ODOT CLASS (GI)	
DEPTHS		ELEV.		SPT / RQD		GRADATION (%)		ATTEMBERG		WC		ODOT CLASS (GI)	
SHALE, reddish brown, highly weathered, very weak to weak (continued)	661.1	31											
SHALE, reddish brown, highly weathered, weak, thinly laminated, slightly fractured, jointed, tight to narrow, slightly rough, RQD=66%, Loss=2%	656.1	32											
		33											
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STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 8/5/15 12:22 - N:\GINT\PROJECTS\IN6135043.GPJ

NOTES: WATER WAS ADDED AT 35.0 FEET FOR ROCK CORING OPERATIONS.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED, SOIL CUTTINGS WITH ONE BAG OF PORTLAND CEMENT

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HORIZONTAL SCALE IN FEET

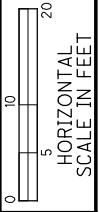
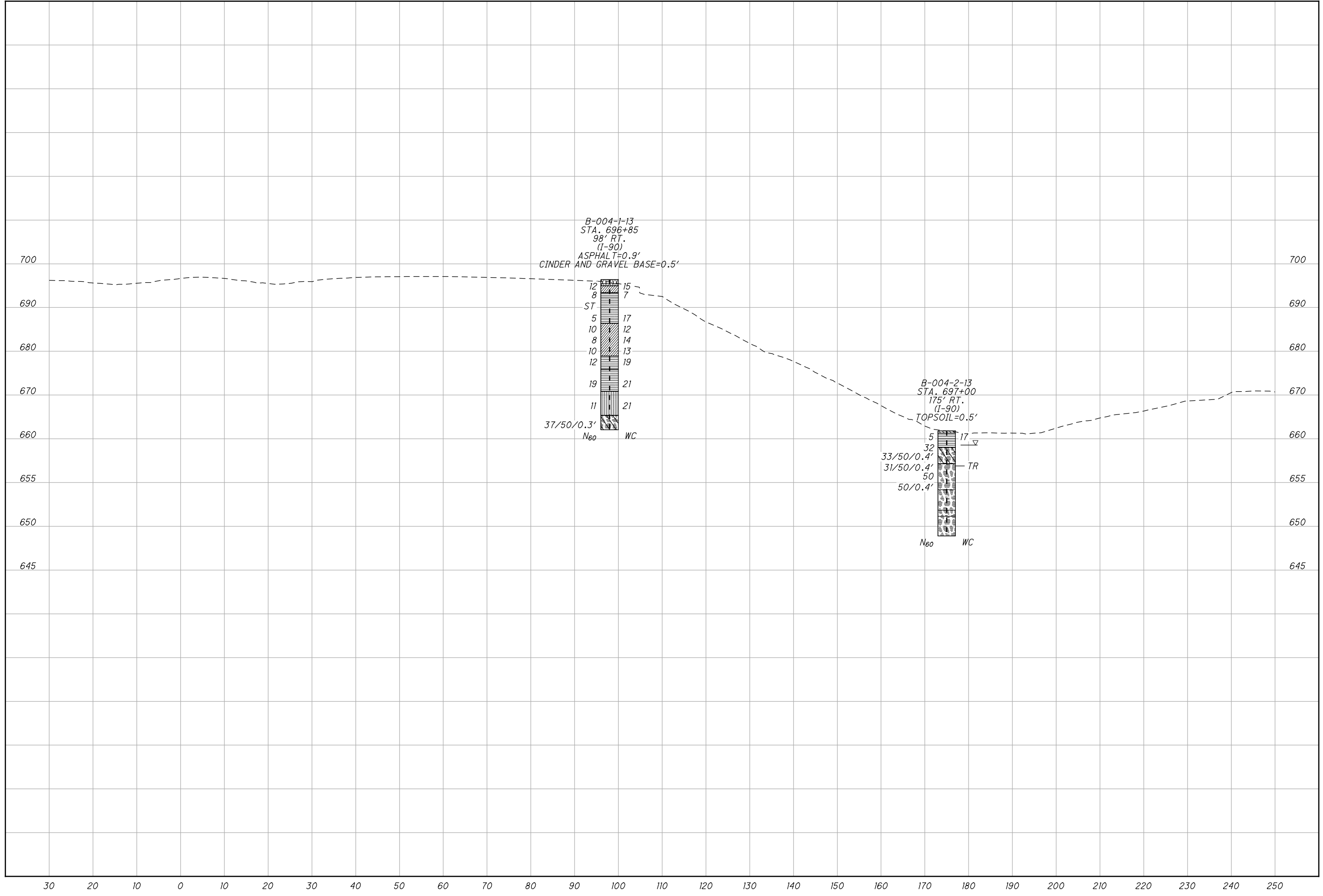
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LANDSLIDE_EXPLORATION
STA. 695+00 TO STA. 700+00

LOR-90-13.20

15 / 18

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**LANDSLIDE EXPLORATION
CROSS SECTION STA. 697+00**

LOR-90-13.20



PROJECT:	LOR-90-13.20	DRILLING FIRM / OPERATOR:	OTB / J. MICHAK	DRILL RIG:	DIEDRICH D-50	STATION / OFFSET:	696+85, 98' RT.	EXPLORATION ID	B-004-1-13								
TYPE:	BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER:	OTB / J. MINCAK	HAMMER:	CME AUTOMATIC	ALIGNMENT:	I-90										
PID:	83449	DRILLING METHOD:	3.25" HSA	CALIBRATION DATE:	10/12/11	ELEVATION:	696.4 (MSL)	EOB:	34.3 ft.								
START:	7/12/13	SAMPLING METHOD:	SPT / ST	ENERGY RATIO (%):	81.7	LAT / LONG:	41.404698, -82.111630	PAGE	1 OF 2								
MATERIAL DESCRIPTION AND NOTES																	
	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS(GI)	BACK FILL
11" ASPHALT	696.4																
6" CINDER AND GRAVEL BASE	695.5	1															<V><V><V><V><V>
Stiff, brown, SILT AND CLAY, and shale fragments, little sand, moist (Fill)	695.0	2	5	12	100	2.50	38	11	7	18	26	35	20	15	15	A-6a (3)	<V><V><V><V><V>
Stiff, brown and gray, SILTY CLAY, some shale fragments, little sand, moist (Fill)	692.9	3	4	8	67	2.75											<V><V><V><V><V>
Medium stiff, brown, trace gray, SILTY CLAY, little sand, little shale fragments, moist (Fill)	691.9	4	2														<V><V><V><V><V>
		5															<V><V><V><V><V>
		6			42	2.75											<V><V><V><V><V>
		7															<V><V><V><V><V>
		8															<V><V><V><V><V>
		9	2	5	72	2.75	20	6	6	26	42	38	22	16	17	A-6b (9)	<V><V><V><V><V>
	685.9	10	2														<V><V><V><V><V>
Medium stiff to stiff, gray, trace brown, SILT AND CLAY, little sand, little shale fragments, moist (Fill)		11	2	10	61	4.50											<V><V><V><V><V>
		12	3	4													<V><V><V><V><V>
		13															<V><V><V><V><V>
		14	3	8	50	4.25											<V><V><V><V><V>
		15	3														<V><V><V><V><V>
		16	2	10	61	3.50	12	5	7	36	40	34	21	13	13	A-6a (9)	<V><V><V><V><V>
	678.4	17	3	4													<V><V><V><V><V>
Stiff, brown SILTY CLAY, little sand, trace shale fragments, moist		18															<V><V><V><V><V>
		19	2	12	89	2.50											<V><V><V><V><V>
		20	6														<V><V><V><V><V>
		21															<V><V><V><V><V>
Very stiff, brown, SILTY CLAY, trace sand, moist	675.4	22															<V><V><V><V><V>
		23															<V><V><V><V><V>
		24	4	19	100	4.50											<V><V><V><V><V>
		25	7	7													<V><V><V><V><V>
		26															<V><V><V><V><V>
Stiff, brown, SANDY SILT, trace gravel, moist	670.4	27															<V><V><V><V><V>
		28															<V><V><V><V><V>
		29	2	11	100	1.50	2	2	18	48	30	27	18	9	21	A-4a (8)	<V><V><V><V><V>
		30	4	4													<V><V><V><V><V>

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 8/5/15 12:21 - N:\GINT\PROJECTS\M6135043.GPJ

PID:	83449	SFN:	LOR-90-13.20	PROJECT:	LOR-90-13.20	STATION / OFFSET:	696+85, 98' RT.	START:	7/12/13	END:	7/12/13	PG 2 OF 2	B-004-1-13				
MATERIAL DESCRIPTION AND NOTES																	
	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS(GI)	BACK FILL
Stiff, brown, SANDY SILT, trace gravel, moist (continued)	666.4																<V><V><V><V><V>
	664.9	31															<V><V><V><V><V>
SHALE, reddish brown, highly weathered, weak		32															<V><V><V><V><V>
		33															<V><V><V><V><V>
	662.1	34	37	50	50												Rock (V)
		34	50/4*														<V><V><V><V><V>

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 8/5/15 12:21 - N:\GINT\PROJECTS\M6135043.GPJ

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS WITH ONE BAG OF BENTONITE



LOR-90-13.20

BORING LOGS
B-004-1-13

DRAWN
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PROJECT: LOR-90-13.20
 TYPE: BRIDGE REPLACEMENT
 PID: 83449 SFN:
 START: 8/20/13 END: 8/20/13

DRILLING FIRM / OPERATOR: OTB / C. BESSEY
 SAMPLING FIRM / LOGGER: OTB / C. BESSEY
 DRILLING METHOD: 3.25" HSA / NWD4
 SAMPLING METHOD: SPT / NWD4

DRILL RIG: CME 55
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 10/12/11
 ENERGY RATIO (%): 82.3

STATION / OFFSET: 697+00, 175' RT.
 ALIGNMENT: I-90
 ELEVATION: 661.8 (MSL) EOB: 24.0 ft.
 LAT / LONG: 41.404490, -82.111553

EXPLORATION ID: B-004-2-13
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG			WC	ODOT CLASS (G)	BACK FILL
							GR	CS	FS	SI	CL	LL	PL			
Topsoil	661.3															
Medium stiff, brown and gray, SILTY CLAY, little sand, trace gravel, moist		1 2 3 0.5 hr	2 2 3	5	100	2.00	5	10	34	46	38	21	17	A-6b (11)	<L> <L> <L>	
SHALE, reddish brown, highly weathered, very weak to weak	658.1	4 5 6 7	3 7 16	32	100	SS-2	-	-	-	-	-	-	-	A-6b (V) Rock (V)	<L> <L> <L>	
SHALE, slightly weathered, weak	653.8	8 9 10 11 12 13 14	33 50/5" 31 50/5" 50	- 100	SS-3 SS-4 SS-5	-	-	-	-	-	-	-	-	Rock (V) Rock (V) Rock (V)	<L> <L> <L> <L> <L> <L> <L>	
SHALE, gray and brown, slightly weathered to unweathered, slightly to moderately strong, thinly laminated, moderately fractured, jointed, tight to narrow, slightly rough, RQD=66%	647.9	15 16 17 18	58	75	NX-7	75								CORE	<L> <L> <L> <L>	
SHALE, gray, unweathered, moderately strong, thinly laminated, moderately fractured, jointed, tight, slightly rough, RQD=38%	643.2	19 20														<L> <L>
SHALE, gray, unweathered, moderately strong, thinly laminated, moderately fractured, jointed, tight, slightly rough, RQD=95%	641.8	21 22 23	75	85	NX-8	85								CORE	<L> <L> <L>	
	637.8	24 EOB														<L> <L>

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 8/5/15 12:21 - N:\GINT\PROJECTS\135043.GPJ

NOTES: NONE
 ABANDONMENT METHODS. MATERIALS. QUANTITIES: SHOVELED SOIL CUTTINGS WITH ONE BAG OF BENTONITE