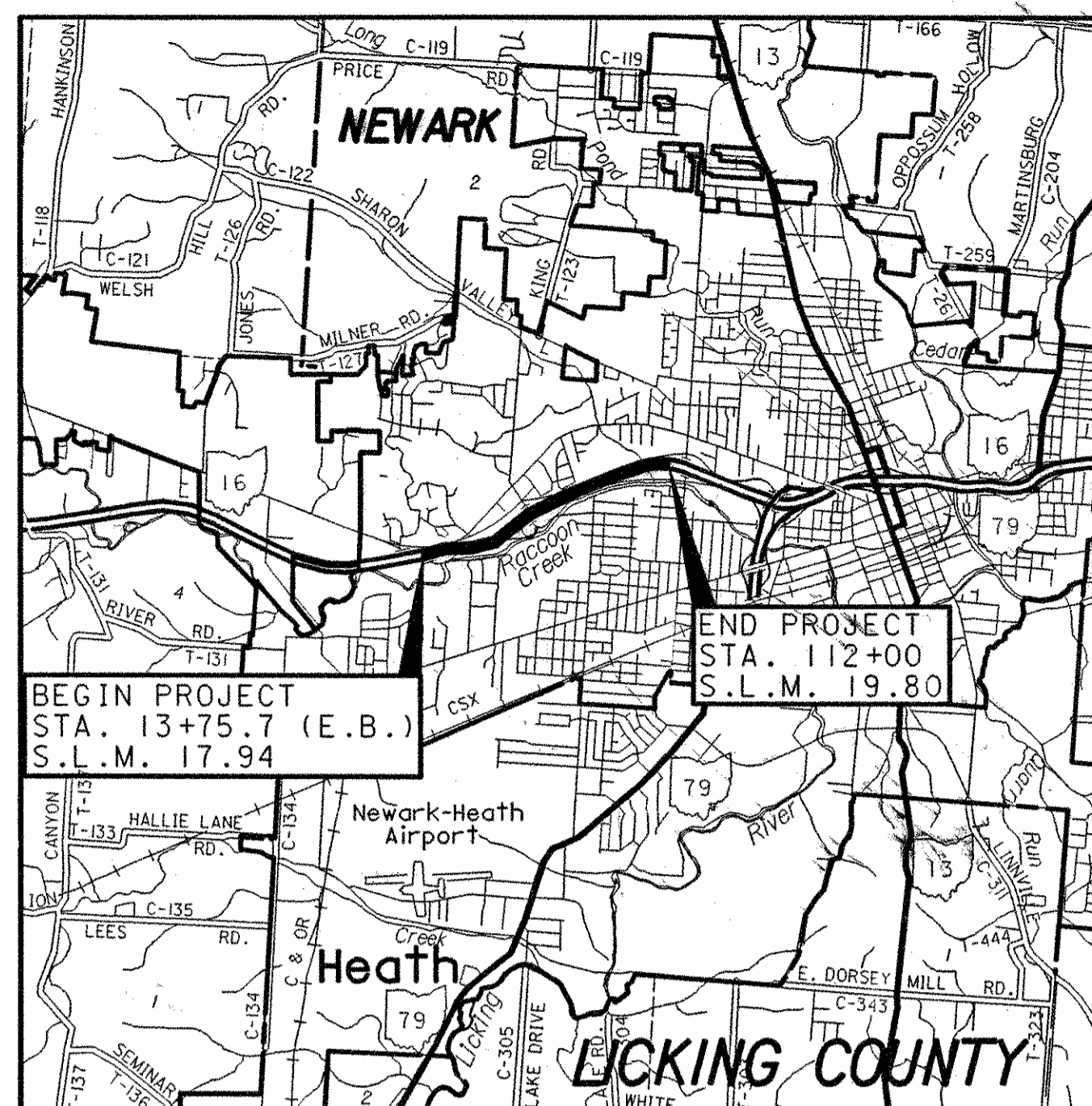
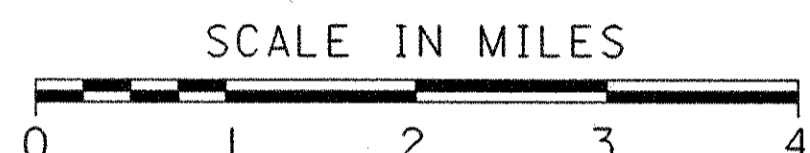


MICROFILMED
MAY 1 1996

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
LIC-16-17.94
CITY OF NEWARK
NEWARK TOWNSHIP
LICKING COUNTY



LOCATION MAP



PORTION TO BE IMPROVED _____
STATE & FEDERAL ROUTES _____
OTHER ROADS _____

DESIGN DESIGNATION

CURRENT ADT (1995) _____ 28,930
DESIGN YEAR ADT (2015) _____ 37,610
DESIGN HOURLY VOLUME (2015) _____ 4,520
DIRECTIONAL DISTRIBUTION _____ 50% - 50%
TRUCKS (24 HOUR B&C) _____ 6%
DESIGN SPEED _____ 55 M.P.H.
LEGAL SPEED _____ 55 M.P.H.
BIKEWAY DESIGN SPEED _____ 20 M.P.H.
DESIGN FUNCTIONAL CLASSIFICATION - PRIMARY ARTERIAL (URBAN)

DESIGN EXCEPTIONS

SHOULDER WIDTH APPROVED: 3-09-95
GRADED/CURBED SHOULDER WIDTH APPROVED: 3-09-95
BRIDGE WIDTH APPROVED: 3-09-95
HORIZONTAL CLEARANCE APPROVED: 3-09-95
BIKEWAY VERTICAL ALIGNMENT APPROVED: 4-05-95
BIKEWAY HORIZONTAL ALIGNMENT APPROVED: 4-05-95

LATITUDE: 40°03'45"
LONGITUDE: 82°27'30" TO 82°24'00"
USGS QUAD NAME: NEWARK, OHIO
USGS QUAD # 485-2-SW

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PROJECT DESCRIPTION

S.L.M. 17.94 TO S.L.M. 19.80
PLANE EXISTING ASPHALT AND REPAIR EXISTING CONCRETE PAVEMENT. RESURFACE WITH 6" ASPHALT CONCRETE AND COMPLETE ALL RELATED WORK. REPLACE BRIDGE PARAPETS AND REPAIR BRIDGE DECKS.

S.L.M. 17.92 TO S.L.M. 19.81
CONSTRUCT PROPOSED BIKEWAY INCLUDING TWO-BOX CULVERTS USED FOR UNDERPASSES AND TWO NEW STRUCTURES (150'-0" & 164'-6") AND ALL RELATED WORK.

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 REVISED CODE OF OHIO.

1995 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS 31 - 53 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

**DISTRICT
CERTIFIED
PLAN**

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:
OHIO DEPARTMENT OF
TRANSPORTATION
DISTRICT 5

STANDARD CONSTRUCTION DRAWINGS												SUPPLEMENTAL SPECIFICATIONS	
BP-1.1	2-21-92	GR-1.1	5-6-91	HL-20.15	5-1-87	LA-2	6-1-79	MT-99.20	4-29-88	TC-41.50	3-26-79	802	4-13-90
BP-2.1	10-28-94	GR-1.2	10-30-92	HL-20.31	5-1-87			MT-101.60	7-1-92	TC-42.10	8-19-77	820	3-18-92
BP-2.2	10-28-94	GR-1.3	2-21-92	HL-30.11	5-1-87	MC-1	6-13-69	MT-105.10	7-1-92	TC-42.20	3-26-79	839	12-21-87
BP-2.5	2-21-92	GR-2.1	5-6-91	HL-30.21	5-1-87	MC-4	7-26-76	MT-105.11	7-1-92	TC-51.10	1-20-84		
BP-3.1	2-21-92	GR-3.1	5-6-91	HL-30.22	5-1-87	MC-6	1-30-84	TC-7.65	3-1-79	TC-51.11	1-20-84		
BP-5.1	10-28-94	GR-3.2	5-6-91	HL-30.31	5-1-87	MC-7	10-15-76	TC-12.30	1-20-84	TC-52.10	4-3-79	910	5-20-91
BP-7.1	10-30-92	GR-4.2	5-6-91	HL-30.32	5-1-87	MC-9.2	5-6-91	TC-18.24	4-25-79	TC-52.20	4-3-79	931	7-19-94
		GR-4.3	2-21-92	HL-30.33	5-1-87	MC-9.3	10-30-92	TC-18.26	5-31-79	TC-61.10	4-5-82	942	3-18-92
CB-2-2A & B	5-1-79	GR-4.4	2-21-92	HL-50.11	5-1-87	MC-9.4	10-30-92	TC-21.20	9-1-92	TC-65.10	2-1-90	944	5-2-94
CB-2-3 & 2-4	5-1-79	GR-5.1	10-30-92	HL-50.21	5-1-87	MC-10	5-1-76	TC-21.40	9-1-92	TC-65.11	2-1-90	945	5-17-83
CB-2-5 & 2-6	5-1-79	GR-5.2	10-30-92	HL-60.11	5-1-87	MC-11	8-1-78	TC-22.10	9-1-92	TC-71.10	9-10-91	946	3-3-92
CB-5	11-10-83	GR-5.3	10-30-92	HL-60.12	5-1-87	MH-1	12-18-84	TC-22.20	9-1-92	TC-72.20	2-26-82	948	2-1-93
CB-6	5-1-79	GR-8.1	1-31-94	HL-60.31	5-1-87	MT-95.30	10-10-88	TC-31.21	9-1-92	AS-1-81	11-27-81	949	9-26-86
				HW-3	6-1-65	MT-95.40	10-1-92	TC-21.10	9-1-92	EXJ-4-87	1-20-94		
F-1	11-10-83	HL-10.11	5-1-87	HW-4A	4-1-80	MT-98.12	6-24-93	TC-32.10	9-1-92	PCB-91	4-24-92		
F-3	5-1-76	HL-10.12	5-1-87	HW-4B	4-1-80	MT-98.13	6-24-93	TC-32.11	9-1-92	PSBD-1-93	3-4-94		
F-5	5-1-76	HL-10.13	5-1-87			MT-98.14	6-24-93	TC-35.10	8-29-84	VPP-1-90	2-1-92		
F-6	5-1-76	HL-20.11	5-1-87	I-2	12-18-84	MT-98.15	6-24-93	TC-41.10	8-29-84	SD-1-69	6-12-69		
F-7	11-1-77	HL-20.13	5-1-87	I-2A	12-18-84	MT-98.16	6-24-93	TC-41.20	3-26-79				
		HL-20.14	5-1-87	I-3A & B	4-1-80	MT-99.10	11-14-86	TC-41.40	6-18-79				

APPROVED Cash Mial
DATE 4-24-95 DISTRICT DEPUTY DIRECTOR

APPROVED Richard L. Engel
DATE 5-10-95 ENGINEER, BUREAU OF BRIDGES
AND STRUCTURAL DESIGN

APPROVED Christopher L. Remyan
DATE 5-17-95 DEPUTY DIRECTOR, DESIGN

APPROVED Jerry Whay
DATE 5-17-95 DIRECTOR, DEPARTMENT OF
TRANSPORTATION

LO161701.DGN 04/15/95

FEDERAL PROJECT NO.

NH-29 (63)

PID NO.

8144

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

LIC-16-17.94

1
420

SCHEMATIC PLAN

**CURVE DATA
S.R. 16
(EASTBOUND LANES)**

PI STA. 16+74.46
$\Delta = 01^{\circ}24'10''$ RT.
Dc = 00'28'00"
R = 12277.67'
L = 300.59'
T = 150.31'
E = 0.92'

**CURVE DATA
S.R. 16
(WESTBOUND LANES)**

PI STA. 16+28.71
$\Delta = 05^{\circ}35'23''$ LT.
Dc = 01'00'00"
R = 5729.58'
L = 558.97'
T = 279.71'
E = 6.82'
SUPERELEVATION = .024 FT./FT. MAX.

**CURVE DATA
S.R. 16**

PI STA. 33+17.84
$\Delta = 30^{\circ}39'20''$ LT.
Dc = 03'00'00"
R = 1909.86'
Lc = 671.85'
Ls = 350.00'
Ts = 699.16'
Es = 73.21'
$\theta_s = 5^{\circ}15'00''$
LT = 233.44'
ST = 116.76'
SUPERELEVATION = .071 FT./FT. MAX.

**CURVE DATA
RAMP "A" @
BRYN MAWR**

PI STA. 21+25.16
$\Delta = 08^{\circ}00'00''$ LT.
Dc = 04'00'00"
R = 1432.39'
L = 200.00'
T = 100.16'
E = 3.50'
SUPERELEVATION = .083 FT./FT. MAX.

PI STA. 23+63.91
$\Delta = 21^{\circ}57'13''$ LT.
Dc = 08'00'00"
R = 716.20'
L = 274.42'
T = 138.91'
E = 13.35'
SUPERELEVATION = .083 FT./FT. MAX.

**CURVE DATA
RAMP "C" @
COUNTRY CLUB DRIVE**

PI STA. 37+62.22
$\Delta = 02^{\circ}48'29''$ RT.
Dc = 01'00'00"
R = 5729.58'
L = 280.81'
T = 140.43'
E = 1.72'
SUPERELEVATION = .032 FT./FT. MAX.

SPIRAL

Ls = 200.00'
$\theta_s = 8^{\circ}00'00''$
P = 2.33'
LT = 126.96'
ST = 73.55'

PI STA. 41+89.50
$\Delta = 15^{\circ}32'48''$ RT.
Dc = 09'00'00"
R = 636.62'
L = 172.74'
T = 86.90'
E = 5.90'
SUPERELEVATION = .083 FT./FT. MAX.

PI STA. 47+71.57
$\Delta = 67^{\circ}32'11''$ LT.
Dc = 21'27'33"
R = 267.00'
L = 314.72'
T = 178.53'
E = 54.19'
SUPERELEVATION = .083 FT./FT. MAX.

BEGIN WORK
STA. 270+50 @ "B"
(SEE SHEET 192)

BEGIN RESURFACING
EASTBOUND LANES
STA. 12+75.7

BEGIN RESURFACING
WESTBOUND LANES
STA. 13+60

BEGIN WORK
RAMP "A" @
BRYN MAWR
STA. 21+64.88

END WORK
RAMP "A" @
BRYN MAWR
STA. 25+94.16

END WORK
RAMP "D" @
COUNTRY CLUB DR.
STA. 46+74.20

C.S. STA. 45+84.98
RAMP "D"

BEGIN WORK
RAMP "C" @
COUNTRY CLUB DR.
STA. 39+29.97

LIC-16-1859 RT.
EXISTING HORIZONTAL CLEARANCE
FACE/FACE CURB
6'-6" (MEDIAN) & 8'-3" (OUTSIDE)

PROPOSED HORIZONTAL CLEARANCE
FACE/FACE CURB
6'-9" (MEDIAN) & 8'-3" (OUTSIDE) (NDC 12')

**CURVE DATA
RAMP "D" @
COUNTRY CLUB DRIVE**

PI STA. 40+50.99
$\Delta = 68^{\circ}41'40''$ RT.
Dc = 24'54'40"
R = 230.00'
L = 275.76'
T = 157.17'
E = 48.57'
SUPERELEVATION = .083 FT./FT. MAX.

PI STA. 49+66.12
$\Delta = 158^{\circ}40'14''$ RT.
Dc = 38'11'50"
R = 150.00'
L = 415.40'
T = 796.54'
E = 660.54'
SUPERELEVATION = .083 FT./FT. MAX.

SPIRAL

Ls = 200.00'
$\theta_s = 38^{\circ}11'49.9''$
P = 10.94'
K = 98.54'
LT = 136.58'
ST = 69.62'

**CURVE DATA
RAMP "B" @
COUNTRY CLUB DRIVE**

PI STA. 51+98.06
$\Delta = 16^{\circ}03'56''$ RT.
Dc = 04'00'00"
R = 1432.39'
L = 401.64'
T = 202.15'
E = 14.19'
SUPERELEVATION = .042 FT./FT. MAX.

PI STA. 61+17.74
$\Delta = 04^{\circ}07'38''$ LT.
Dc = 00'30'00"
R = 11459.16'
L = 825.45'
T = 412.90'
E = 7.44'

**CURVE DATA
S.R. 16**

PI STA. 52+01.82
$\Delta = 17^{\circ}48'20''$ RT.
Dc = 01'28'00"
R = 3906.53'
L = 1214.02'
T = 611.94'
E = 47.64'
SUPERELEVATION = .036 FT./FT. MAX.

**CURVE DATA
PROPOSED BIKEWAY**

PI STA. 2+43.39
$\Delta = 15^{\circ}23'47''$ RT.
Dc = 22'55'06"
R = 250.00'
L = 67.18'
T = 33.79'
E = 2.27'

PI STA. 4+67.99
$\Delta = 5^{\circ}25'33''$ RT.
Dc = 22'55'06"
R = 250.00'
L = 23.67'
T = 11.85'
E = 0.28'

PI STA. 9+36.75
$\Delta = 3^{\circ}39'53''$ LT.
Dc = 22'55'06"
R = 250.00'
L = 15.99'
T = 8.00'
E = 0.13'

PI STA. 20+51.93
$\Delta = 24^{\circ}37'39''$ LT.
Dc = 3'16'27"
R = 1750.00'
L = 752.21'
T = 382.00'
E = 41.21'

PI STA. 29+35.63
$\Delta = 26^{\circ}45'00''$ RT.
Dc = 8'01'06"
R = 700.00'
L = 326.81'
T = 166.44'
E = 19.52'

PI STA. 31+68.61
$\Delta = 67^{\circ}52'14''$ LT.
Dc = 11'43'30"
R = 50.00'
L = 59.23'
T = 33.64'
E = 10.27'

PI STA. 33+08.43
$\Delta = 31^{\circ}18'32''$ RT.
Dc = 60'18'41"
R = 95.00'
L = 51.91'
T = 26.62'
E = 3.66'

PI STA. 35+50.60
$\Delta = 16^{\circ}53'17''$ LT.
Dc = 54'34'03"
R = 105.00'
L = 30.95'
T = 15.59'
E = 1.15'

PI STA. 37+30.37
$\Delta = 25^{\circ}00'30''$ RT.
Dc = 60'18'41"
R = 95.00'
L = 41.47'
T = 21.07'
E = 2.31'

PI STA. 43+72.77
$\Delta = 13^{\circ}16'30''$ RT.
Dc = 2'07'19"
R = 2700.00'
L = 625.57'
T = 314.19'
E = 18.22'

PI STA. 57+69.96
$\Delta = 46^{\circ}10'00''$ RT.
Dc = 28'38'52"
R = 200.00'
L = 161.15'
T = 85.24'
E = 17.41'

PI STA. 59+35.63
$\Delta = 46^{\circ}19'30''$ LT.
Dc = 28'38'52"
R = 200.00'
L = 161.71'
T = 85.57'
E = 17.54'

PI STA. 71+26.21
$\Delta = 3^{\circ}40'30''$ LT.
Dc = 11'27'33"
R = 500.00'
L = 32.07'
T = 16.04'
E = 0.26'

BEGIN WORK
BIKEWAY
10' BACK
STA. 0+00

BEGIN PROJECT
STA. 13+75.7
S.L.M. 17.94

LO161702.DGN 04/19/95

SCHEMATIC PLAN

LIC-16-17.94

SCHEMATIC PLAN

CURVE DATA RAMP "E"

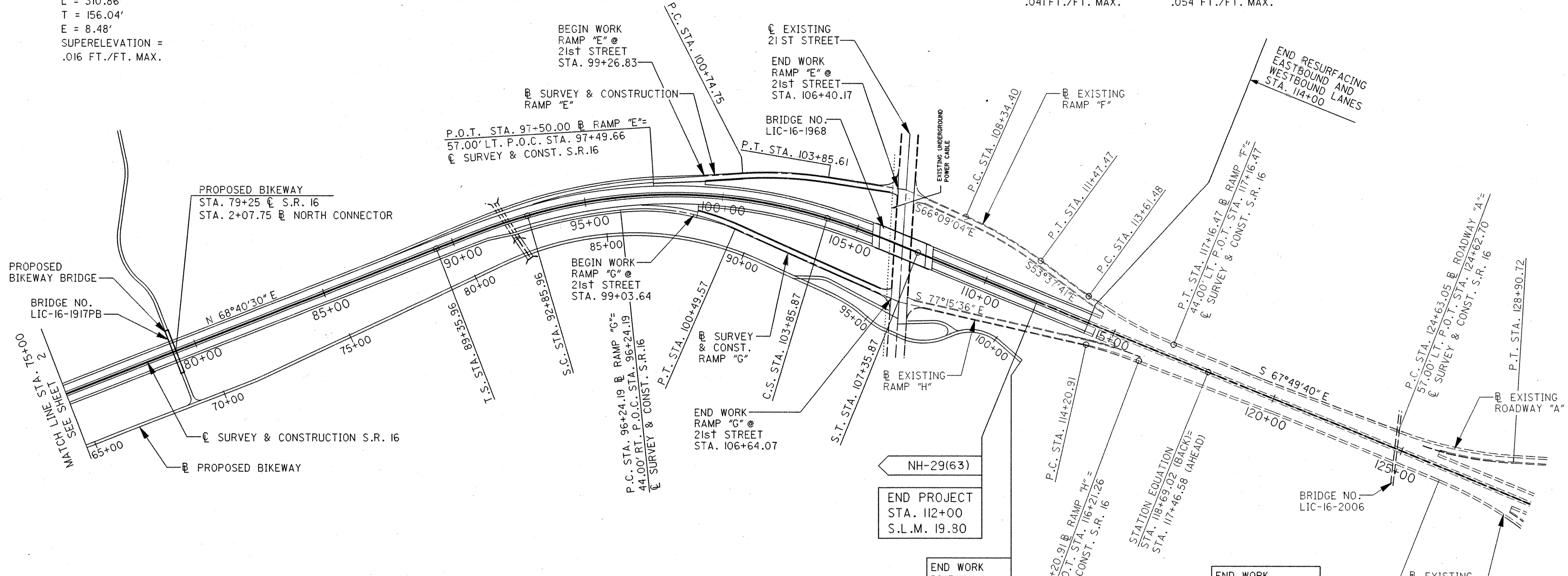
PI STA. 102+30.79
 $\Delta = 12^\circ 26' 04''$ RT.
 Dc = 04'00"00"
 R = 1432.39'
 L = 310.86'
 T = 156.04'
 E = 8.48'
 SUPERELEVATION =
 .016 FT./FT. MAX.

LIC-16-1968 LT.

EXISTING HORIZONTAL CLEARANCE
 FACE/FACE CURB
 8'-0" (OUTSIDE) & 6'-6" (MEDIAN)
 PROPOSED HORIZONTAL CLEARANCE
 FACE/FACE CURB
 8'-3" (OUTSIDE) (NDC 12') & 6'-9" (MEDIAN)

CURVE DATA RAMP "F"

PI STA. 109+91.56	PI STA. 115+39.89
$\Delta = 12^\circ 31' 23''$ RT.	$\Delta = 14^\circ 11' 59''$ LT.
Dc = 04'00"00"	Dc = 04'00"00"
R = 1432.39'	R = 1432.39'
L = 313.08'	L = 354.99'
T = 157.17'	T = 178.41'
E = 8.60'	E = 11.07'
SUPERELEVATION = .041 FT./FT. MAX.	SUPERELEVATION = .054 FT./FT. MAX.



CURVE DATA RAMP "G"

PI STA. 98+41.80
 $\Delta = 29^\circ 46' 36''$ RT.
 Dc = 07'00"00"
 R = 818.51'
 L = 425.38'
 T = 217.61'
 E = 28.43'
 SUPERELEVATION =
 .074 FT./FT. MAX.

CURVE DATA S.R. 16

PI STA. 98+73.88
 $\Delta = 43^\circ 29' 50''$ RT.
 Dc = 03'00"00"
 R = 1909.86'
 Lc = 1099.91'
 Ls = 350.00'
 Es = 149.24'
 $\theta_s = 5^\circ 15' 00''$
 LT = 233.44'
 ST = 116.76'
 SUPERELEVATION =
 .067 FT./FT. MAX.

LIC-16-1968 RT.

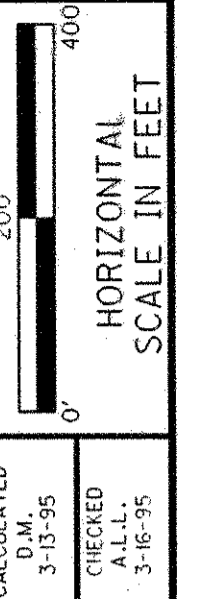
EXISTING HORIZONTAL CLEARANCE
 FACE/FACE CURB
 6'-6" (MEDIAN) & 8'-0" (OUTSIDE)
 PROPOSED HORIZONTAL CLEARANCE
 FACE/FACE CURB
 6'-9" (MEDIAN) & 8'-3" (OUTSIDE) (NDC 12')

CURVE DATA RAMP "H"

PI STA. 115+21.07
 $\Delta = 08^\circ 00' 00''$ RT.
 Dc = 04'00"00"
 R = 1432.39'
 L = 200.00'
 T = 100.16'
 E = 3.50'
 SUPERELEVATION =
 .045 FT./FT. MAX.

CURVE DATA PROPOSED BIKEWAY

PI STA. 86+26.20 $\Delta = 49^\circ 23' 55''$ RT. Dc = 5'12"31" R = 1100.00' L = 948.39' T = 505.93' E = 110.77'	PI STA. 94+09.81 $\Delta = 15^\circ 45' 40''$ RT. Dc = 11'27"33" R = 500.00' L = 137.54' T = 69.21' E = 4.77'	PI STA. 95+46.39 $\Delta = 16^\circ 34' 39''$ LT. Dc = 27'17"01" R = 210.00' L = 60.76' T = 30.59' E = 2.22'	PI STA. 97+32.82 $\Delta = 45^\circ 42' 47''$ LT. Dc = 27'17"01" R = 210.00' L = 167.55' T = 88.52' E = 17.89'	PI STA. 99+40.45 $\Delta = 63^\circ 11' 56''$ RT. Dc = 36'57"54" R = 155.00' L = 170.97' T = 95.35' E = 26.98'
--	---	--	--	--

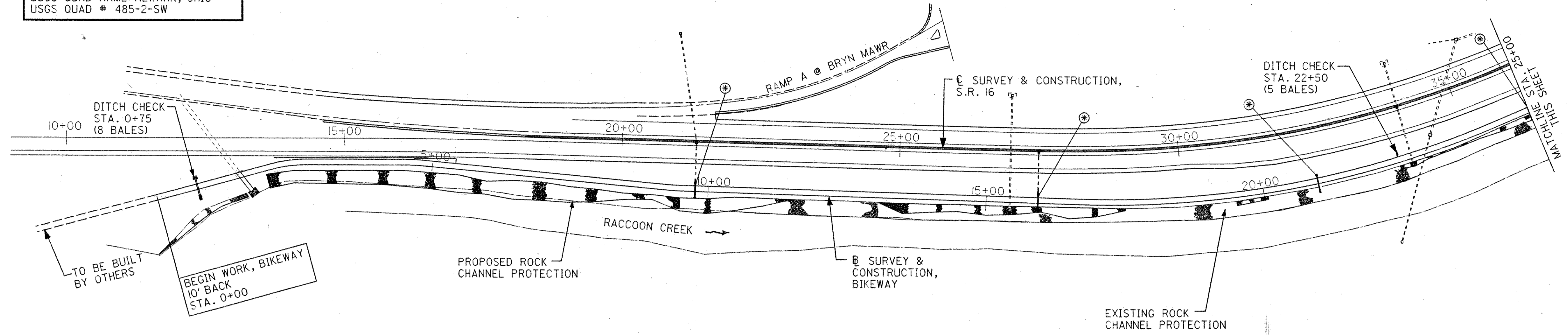
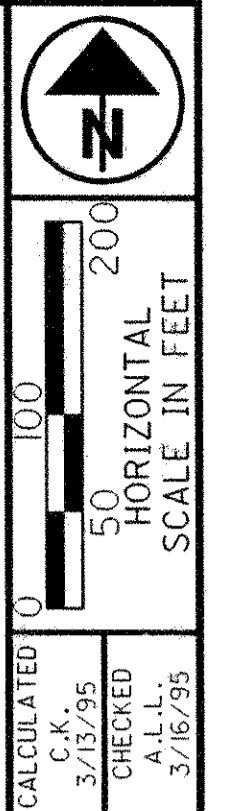


SCHEMATIC PLAN

LIC-16-17.94

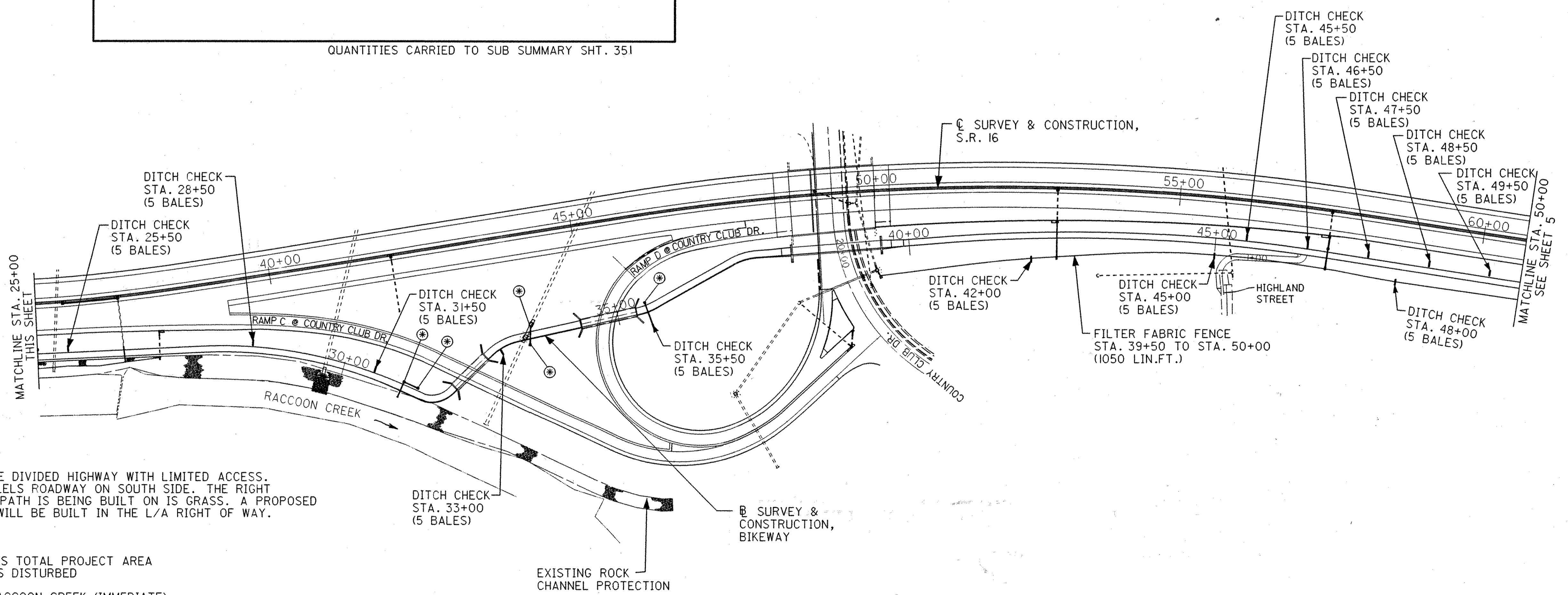
STORM WATER POLLUTION PREVENTION PLAN

LATITUDE: 40°03'45"
 LONGITUDE: 82°27'30" TO 82°24'00"
 USGS QUAD NAME: NEWARK, OHIO
 USGS QUAD # 485-2-SW



STORM WATER POLLUTION PREVENTION ESTIMATED QUANTITIES (PHASE I STA. 0+00 TO STA. 50+00)		
ITEM 207	STRAW OR HAY BALES	142 EACH
ITEM 207	FILTER FABRIC FENCE	1050 LIN.FT.

QUANTITIES CARRIED TO SUB SUMMARY SHT. 351



SITE DESCRIPTION:
 AN EXISTING FOUR LANE DIVIDED HIGHWAY WITH LIMITED ACCESS.
 RACCOON CREEK PARALLELS ROADWAY ON SOUTH SIDE. THE RIGHT
 OF WAY THAT THE BIKEPATH IS BEING BUILT ON IS GRASS. A PROPOSED
 10' ASPHALT BIKEPATH WILL BE BUILT IN THE L/A RIGHT OF WAY.

PRE "C" - .7
 POST "C" - .75
 TOTAL AREA = 35 ACRES TOTAL PROJECT AREA
 11 ACRES DISTURBED

RECEIVING WATERS - RACCOON CREEK (IMMEDIATE)
 - LICKING RIVER (SUBSEQUENT)

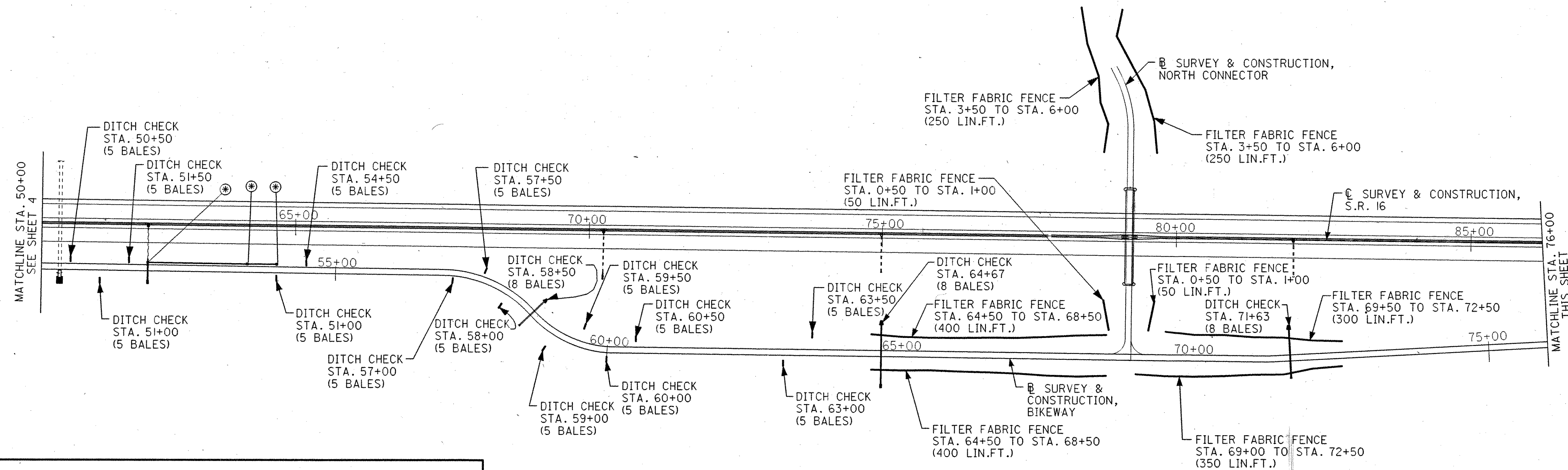
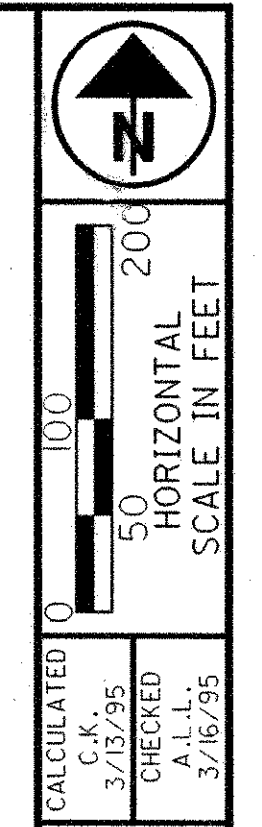
⊙ INDICATES CATCH BASIN (8 BALES/CATCH BASIN)

BIKEWAY STORM WATER POLLUTION PREVENTION PLAN
 STA. 0+00 TO STA. 50+00

LIC-16-17.94

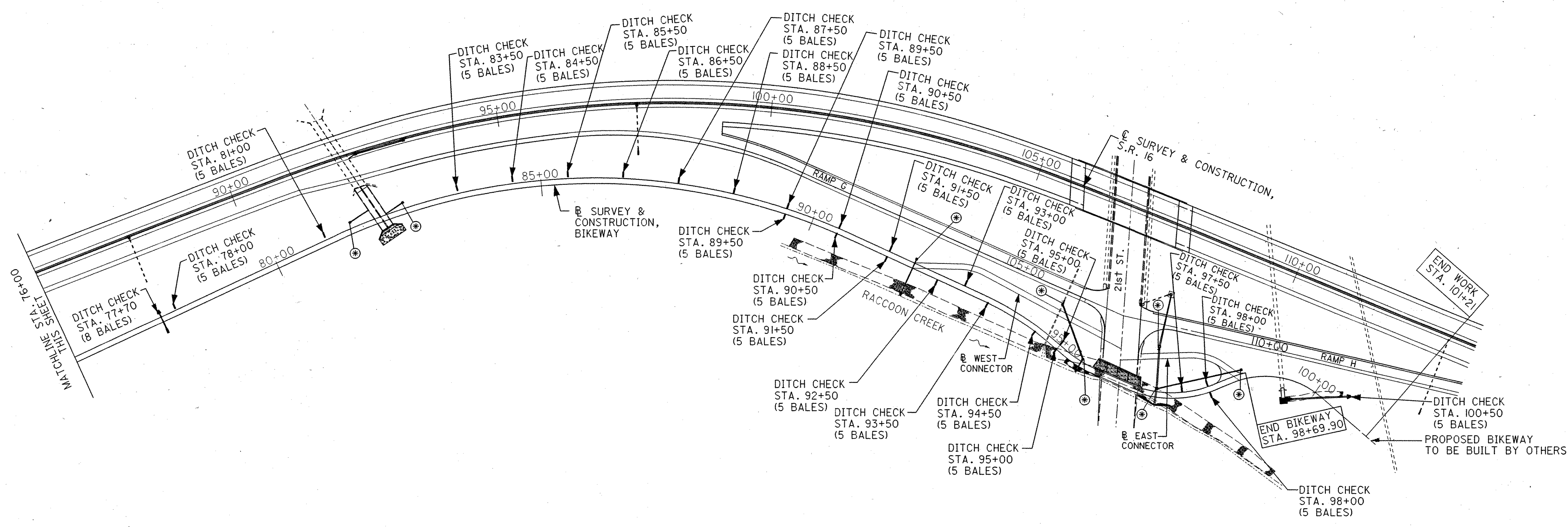
L1617A73.DGN 4/19/95

STORM WATER POLLUTION PREVENTION PLAN



STORM WATER POLLUTION PREVENTION ESTIMATED QUANTITIES (PHASE 2 STA. 50+00 TO STA. 100+90)		
ITEM 207	STRAW OR HAY BALES	310 EACH
ITEM 207	FILTER FABRIC FENCE	2050 LIN.FT.

QUANTITIES CARRIED TO SUB SUMMARY SHT. 351



BIKEWAY STORM WATER POLLUTION PREVENTION PLAN
STA. 50+00 TO STA. 105+00

LIC-16-17.94

L1617B73.DGN 4/19/95

TYPICAL SECTIONS

EXISTING PAVEMENT

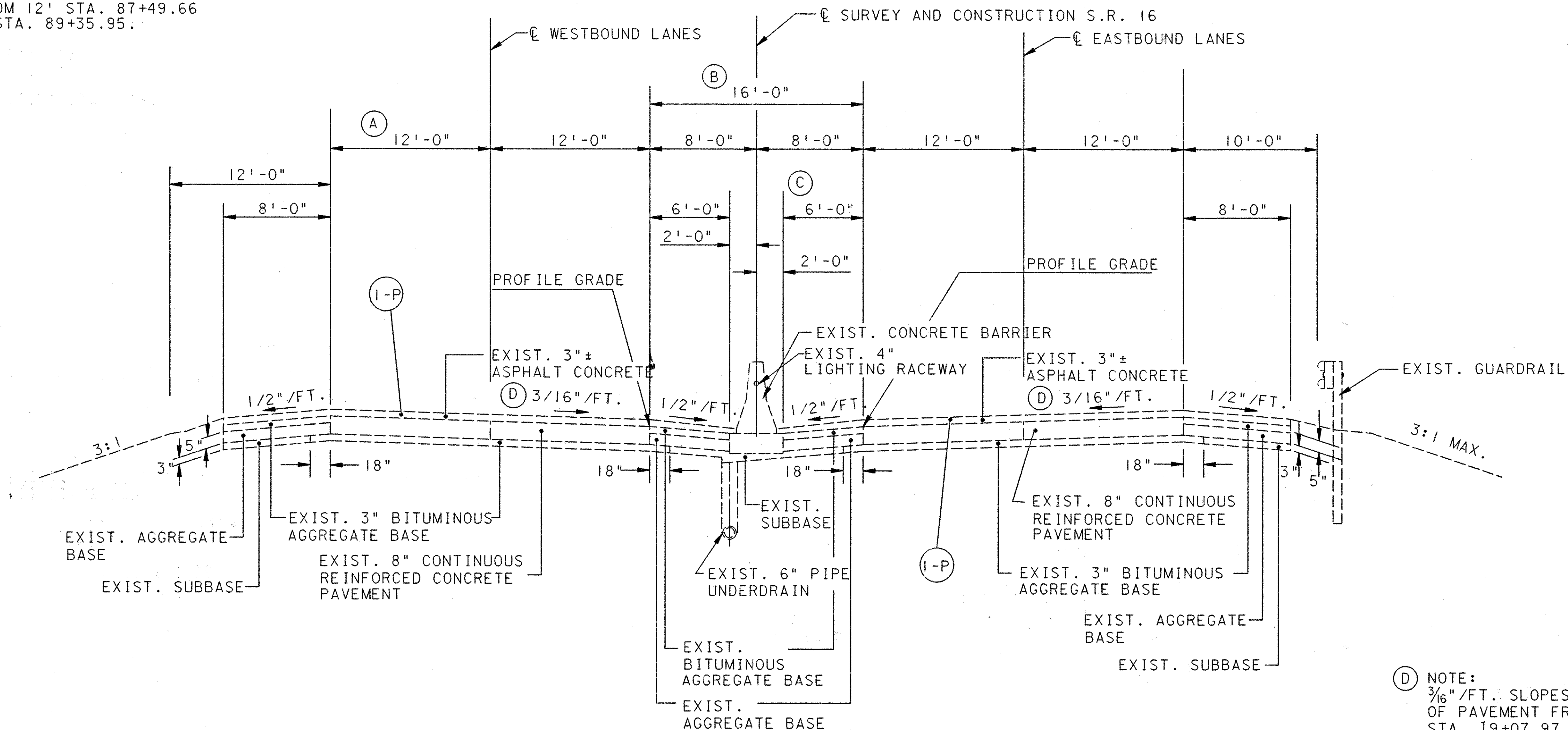
(A) VARIES FROM 33.53' STA. 19+25 TO 47.5' STA. 21+68.90.

VARIES FROM 49.6' STA. 58+03.88 TO 12' STA. 66+30.28.

VARIES FROM 12' STA. 87+49.66 TO 16.7' STA. 89+35.95.

(B) VARIES FROM 30' STA. 14+60 TO 16' STA. 18+24.94.

(C) VARIES FROM 20' STA. 14+60 TO 6' STA. 18+24.94.



NORMAL SECTION

LEGEND

MARK	ITEM	DESCRIPTION
(I-P)	254	PAVEMENT PLANING, BITUMINOUS

WESTBOUND LANES STATION TO STATION

STA. 19+25 TO STA. 26+18.68 = 693.68 LIN. FT
 STA. 39+90.53 TO STA. 45+89.88 = 599.35 LIN. FT
 STA. 58+03.89 TO STA. 89+35.96 = 3132.07 LIN. FT
 STA. 107+86.75 TO STA. 112+00.00 = 413.25 LIN. FT
TOTAL 4838.35 LIN. FT.

EASTBOUND LANES STATION TO STATION

STA. 12+75.7 TO STA. 18+24.74 (BACK) = 549.04 LIN. FT
 STA. 18+24.94 (AHEAD) TO STA. 26+18.68 = 793.74 LIN. FT
 STA. 39+90.53 TO STA. 45+89.88 = 599.35 LIN. FT
 STA. 58+03.89 TO STA. 89+35.96 = 3132.07 LIN. FT
 STA. 107+99.33 TO STA. 114+00.00 = 600.67 LIN. FT
TOTAL 5,674.87 LIN. FT.

(D) NOTE:
 3/16" /FT. SLOPES TO THE OUTSIDE
 OF PAVEMENT FROM STA. 15+38 TO
 STA. 19+07.97.

NOTE:
TYPICAL SHOWN FOR CURVE RT.
DETAILS ARE REVERSE FOR CURVE LT.

TYPICAL SECTIONS EXISTING PAVEMENT

Ⓐ 24' STA. 13+60 TO STA. 14+60.

VARIABLES FROM 24' STA. 14+60
TO 26' STA. 15+85.

VARIABLES FROM 26' STA. 15+85
TO 33.53' STA. 19+25.

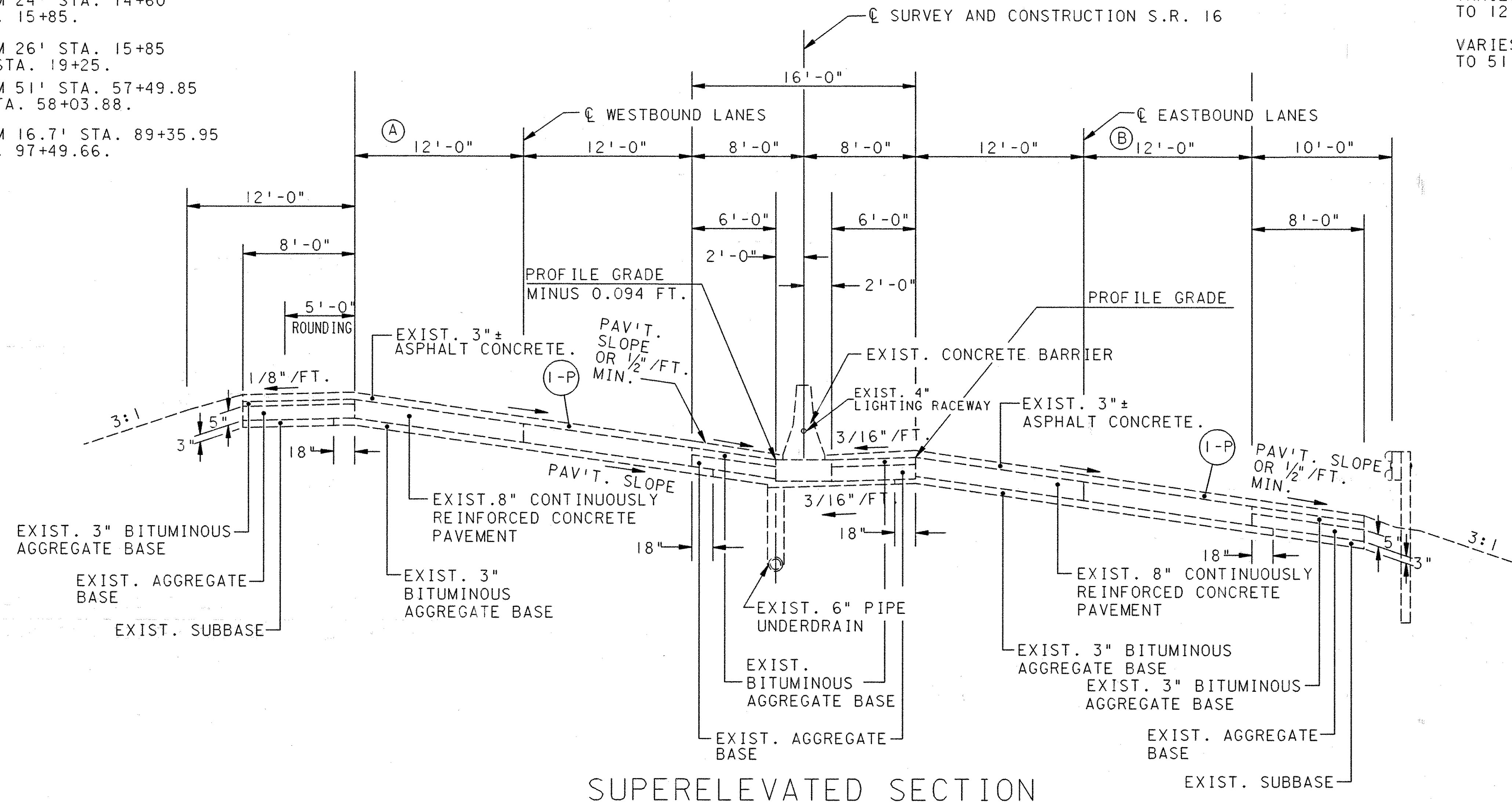
VARIABLES FROM 51' STA. 57+49.85
TO 49.6' STA. 58+03.88.

VARIABLES FROM 16.7' STA. 89+35.95
TO 37' STA. 97+49.66.

Ⓑ VARIES FROM 12' STA. 30+25
TO 51' STA. 39+25.

VARIABLES FROM 26.0' STA. 52+24.3
TO 12' STA. 57+85.34.

VARIABLES FROM 12' STA. 91+25
TO 51' STA. 99+12.98.



SUPERELEVATED SECTION

LEGEND

MARK	ITEM	DESCRIPTION
(I-P)	254	PAVEMENT PLANING, BITUMINOUS

WESTBOUND LANES STATION TO STATION

STA. 13+60 TO STA. 18+24.74 (BACK) =	
STA. 18+24.94 (AHEAD) TO STA. 19+25 =	564.80 LIN. FT. .024 FT./FT. CURVE LT.
STA. 26+18.68 TO STA. 39+90.53 =	1371.85 LIN. FT. .071 FT./FT. CURVE LT.
STA. 45+89.88 TO STA. 48+36.35 =	246.47 LIN. FT. .036 FT./FT. CURVE RT.
STA. 50+24.61 TO STA. 58+03.89 =	779.28 LIN. FT. .036 FT./FT. CURVE RT.
STA. 89+35.96 TO STA. 105+53.25 =	1617.29 LIN. FT. .067 FT./FT. CURVE RT.
TOTAL	4,579.69 LIN. FT.

BRIDGE LIMITS (INCLUDING APPROACH SLABS).
STA. 48+36.35 TO STA. 50+24.61 = 188.26 LIN. FT.
STA. 105+53.25 TO STA. 107+86.75 = 233.50 LIN. FT.
TOTAL 421.76 LIN. FT.

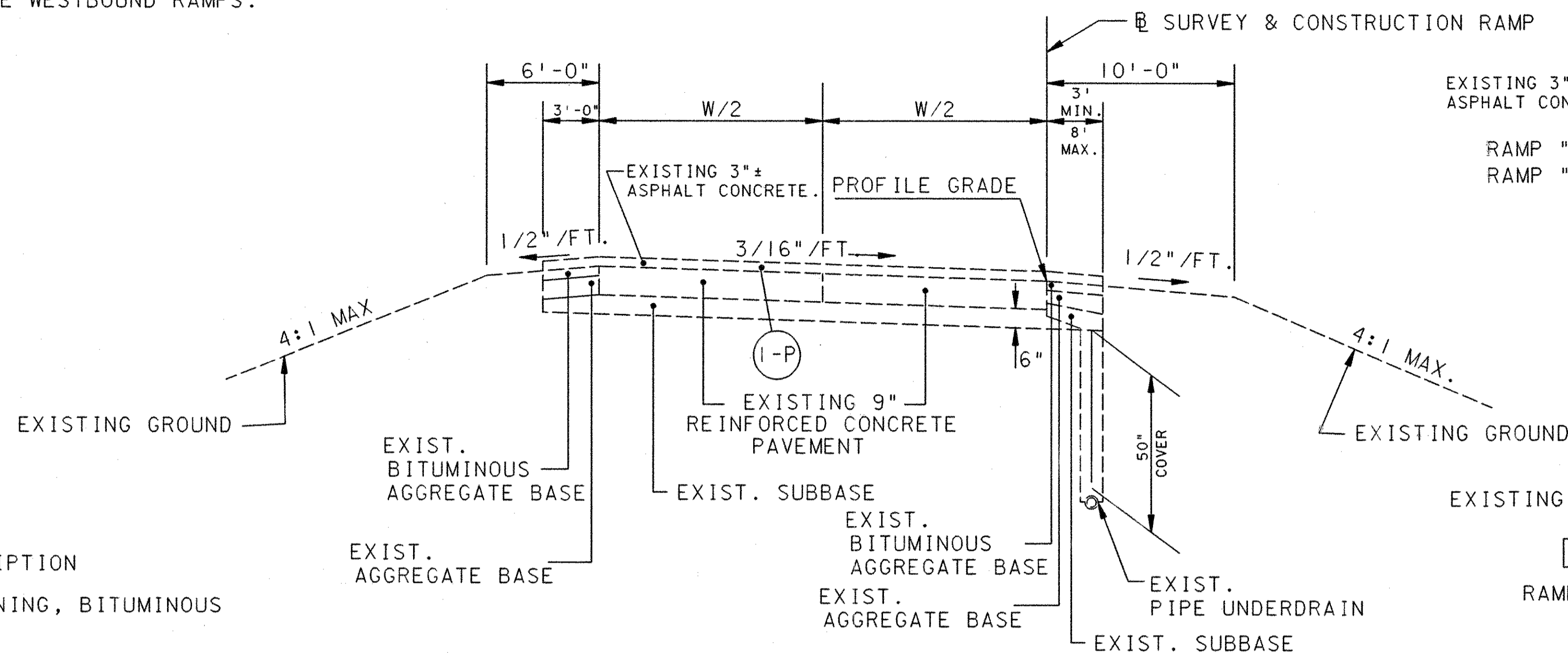
WESTBOUND LANES STATION TO STATION

STA. 26+18.68 TO STA. 39+90.53 =	1371.85 LIN. FT. .071 FT./FT. CURVE LT.
STA. 45+89.88 TO STA. 48+35.74 =	245.86 LIN. FT. .036 FT./FT. CURVE RT.
STA. 50+23.99 TO STA. 58+03.89 =	779.90 LIN. FT. .036 FT./FT. CURVE RT.
STA. 89+35.96 TO STA. 105+65.83 =	1669.87 LIN. FT. .067 FT./FT. CURVE RT.
TOTAL	4,067.48 LIN. FT.

BRIDGE LIMITS (INCLUDING APPROACH SLABS).
STA. 48+35.74 TO STA. 50+23.99 = 188.25 LIN. FT.
STA. 105+65.83 TO STA. 107+99.33 = 233.50 LIN. FT.
TOTAL 421.75 LIN. FT.

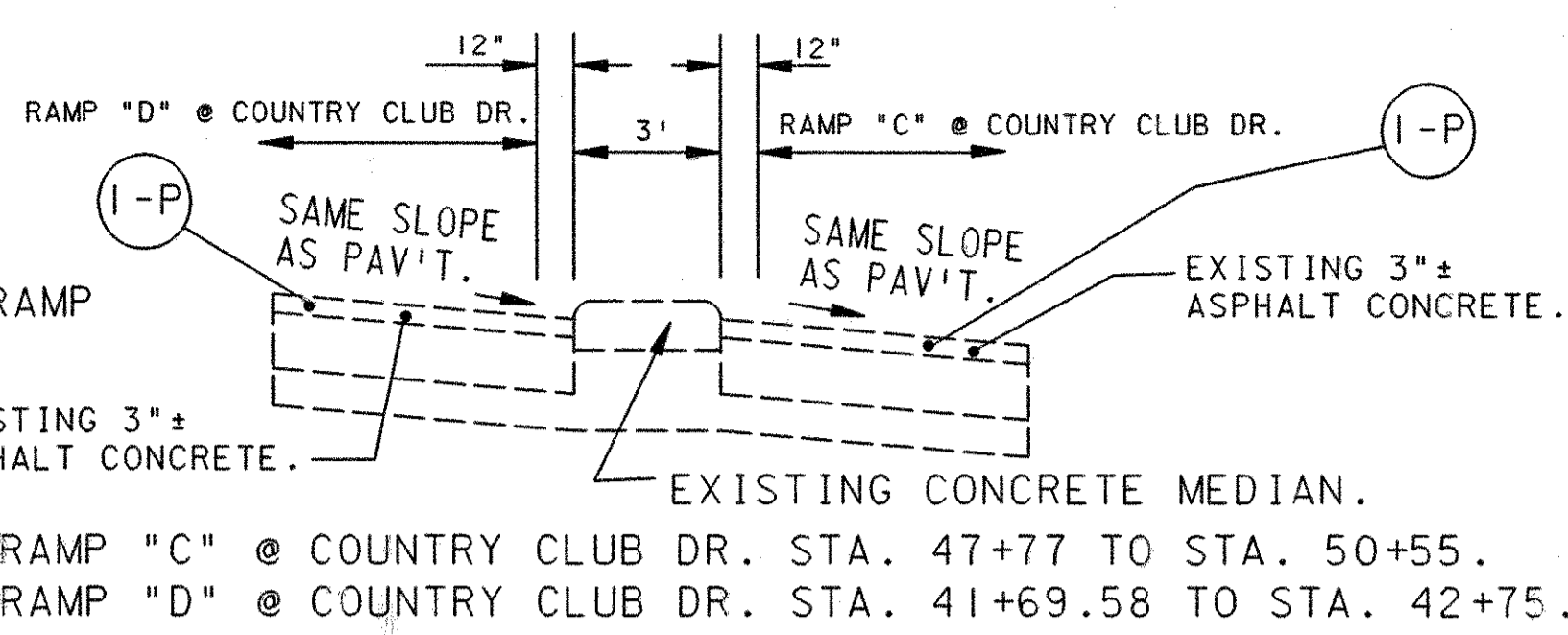
TYPICAL SECTIONS EXISTING RAMP PAVEMENT

NOTE:
DETAILS SHOWN FOR THE EASTBOUND RAMPS.
DETAILS ARE REVERSE FOR THE WESTBOUND RAMPS.



NORMAL RAMP SECTION

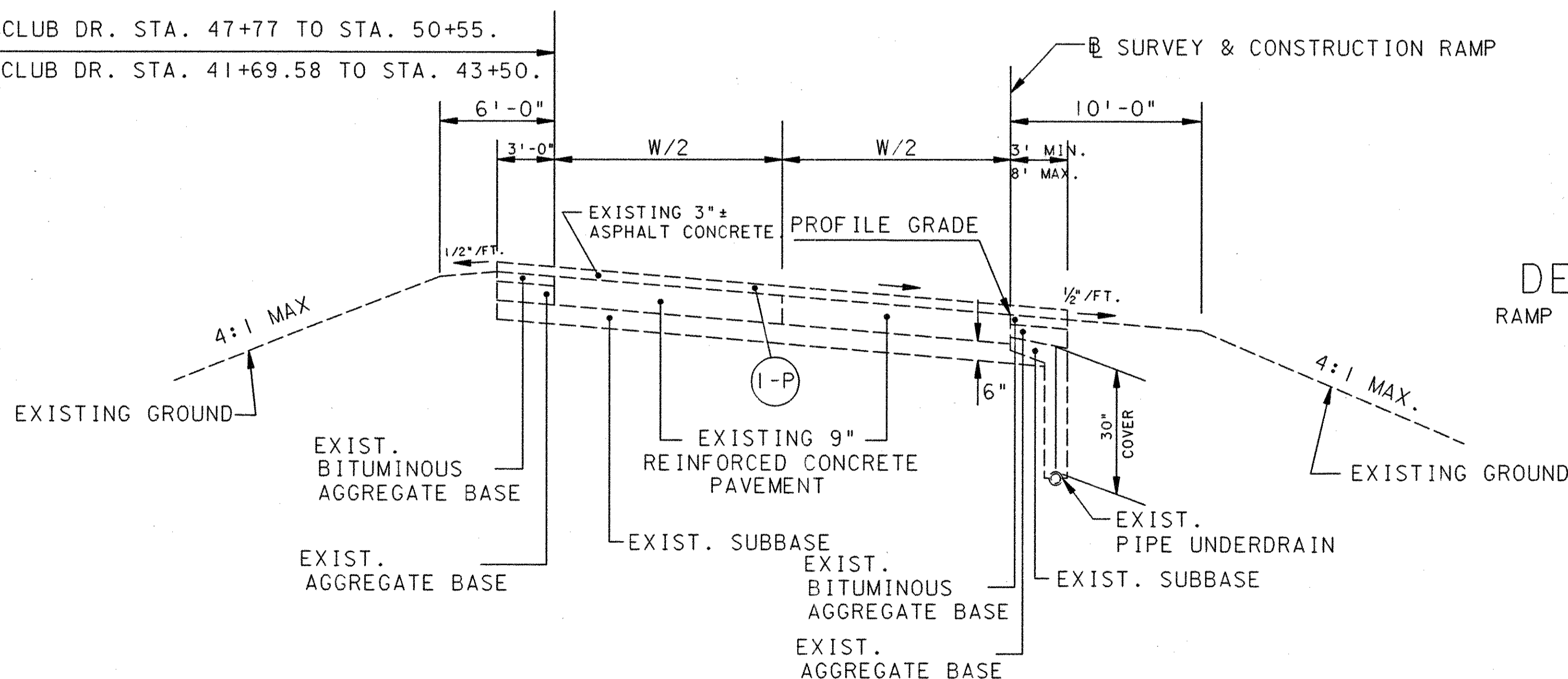
W= 16'-0" - RAMP "B" @ COUNTRY CLUB DR. STA. 55+14 TO STA. 57+49.58 = 235.58 LIN. FT.
W= 16'-0" - RAMP "G" STA. 101+75 TO STA. 106+16.15 = 441.15 LIN. FT.
W= VARIES, SEE PLAN SHEET - RAMP "G" STA. 106+16.15 TO STA. 106+64.07 = 47.92 LIN. FT.
TOTAL 724.65 LIN. FT.



DETAIL CONCRETE MEDIAN

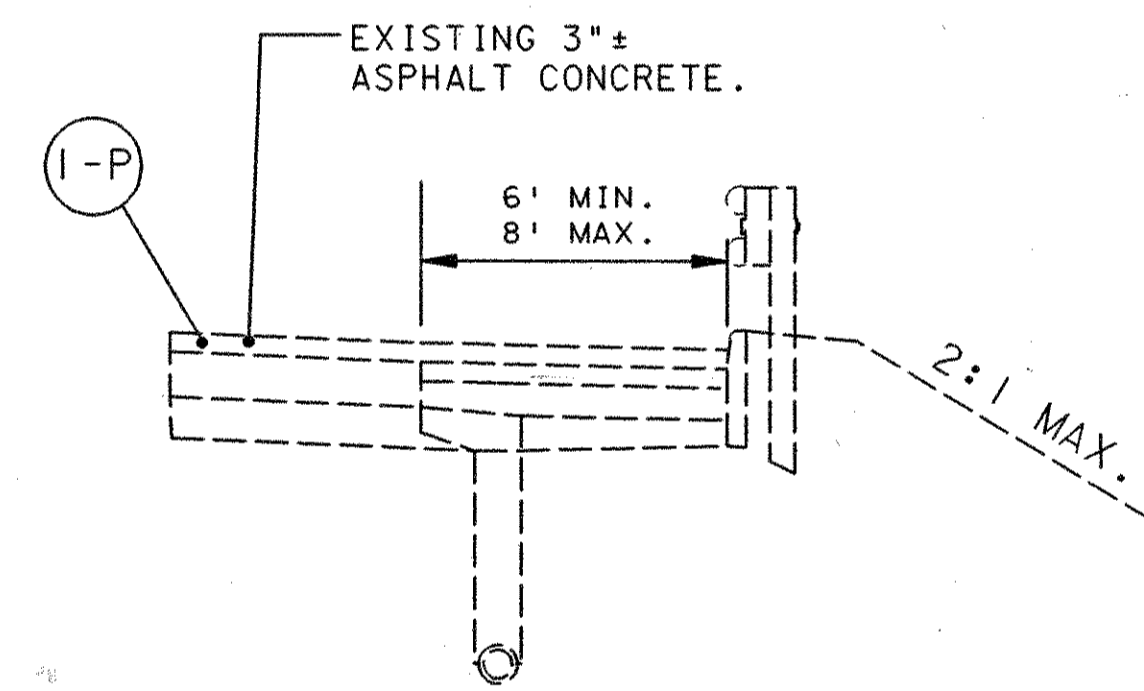
RAMP "D" @ COUNTRY CLUB DR. STA. 42+75 TO STA. 43+50.

CONCRETE MEDIAN SEE RAMP "C" @ COUNTRY CLUB DR. STA. 47+77 TO STA. 50+55.
CONCRETE MEDIAN SEE RAMP "D" @ COUNTRY CLUB DR. STA. 41+69.58 TO STA. 43+50.



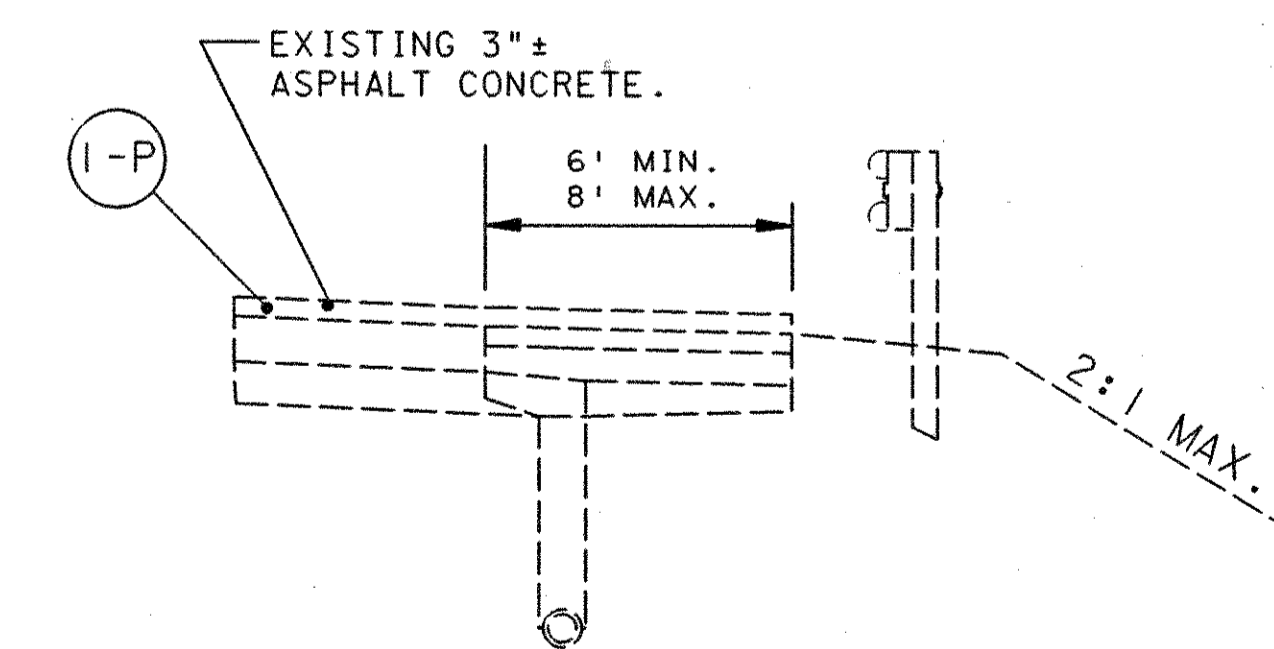
SUPERELEVATED RAMP SECTION

W= 16'-0" - RAMP "A" @ BRYN MAWR STA. 21+64.88 TO STA. 24+82.92 = 318.04 LIN. FT. .083 FT./FT. MAX. CURVE LT.
W= VARIES, SEE PLAN SHEET - RAMP "A" @ BRYN MAWR STA. 24+82.92 TO STA. 25+94.16 = 111.24 LIN. FT.
W= VARIES, SEE PLAN SHEET - RAMP "B" @ CUNTRY CLUB DR. STA. 49+26.10 TO STA. 49+98.94 = 72.84 LIN. FT.
W= 16'-0" - RAMP "B" @ COUNTRY CLUB DR. STA. 49+98.94 TO STA. 55+14 = 515.06 LIN. FT. .042 FT./FT. MAX. CURVE RT.
W= 16'-0" - RAMP "C" @ COUNTRY CLUB DR. STA. 39+29.97 TO STA. 47+77 = 847.03 LIN. FT. .083 FT./FT. MAX. CURVE LT. & RT.
W= 17'-0" - RAMP "C" @ COUNTRY CLUB DR. STA. 47+77 TO STA. 50+09.79 = 232.79 LIN. FT. CURVE LT. & RT.
W= VARIES, SEE PLAN SHEET - RAMP "C" @ COUNTRY CLUB DR. STA. 50+09.79 TO STA. 50+81.61 = 71.82 LIN. FT.



DETAIL CURB & GUARDRAIL

RAMP "C" @ COUNTRY CLUB DR. STA. 39+30 TO STA. 44+50.



DETAIL GUARDRAIL

RAMP "C" @ COUNTRY CLUB DR. STA. 44+50 TO STA. 49+52.

W= VARIES, SEE PLAN SHEET - RAMP "D" @ COUNTRY CLUB DR. STA. 38+93.82 TO STA. 41+69.58 = 275.76 LIN. FT.
W= 14 MIN. & 18' MAX. - RAMP "D" @ COUNTRY CLUB DR. STA. 41+69.58 TO STA. 47+84.98 = 615.40 LIN. FT. .083 FT./FT. MAX. CURVE RT.
W= 16'-0" - RAMP "E" STA. 99+26.83 TO STA. 105+74.16 = 647.33 LIN. FT. .016 FT./FT. MAX. CURVE RT.
W= VARIES, SEE PLAN SHEET - RAMP "E" STA. 105+74.16 TO STA. 106+40.17 = 66.01 LIN. FT.
W= 16'-0" - RAMP "G" STA. 99+03.64 TO STA. 101+75 = 271.36 LIN. FT. .074 FT./FT. MAX. CURVE RT.

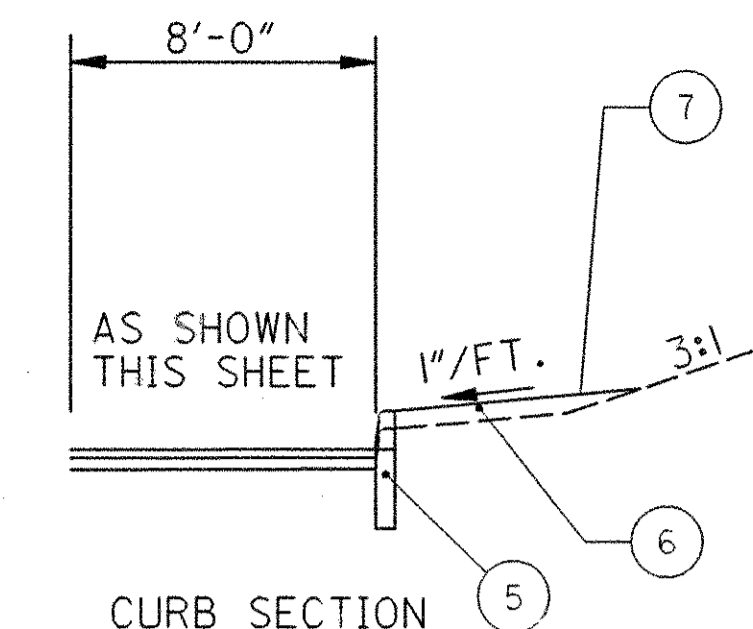
TOTAL 4,044.68 LIN. FT.

TYPICAL SECTIONS

PROPOSED PAVEMENT

- (A) VARIES FROM 33.53' STA. 19+25 TO 47.5' STA. 21+68.90.
- VARIES FROM 49.6' STA. 58+03.88 TO 12' STA. 66+30.28.
- VARIES FROM 12' STA. 87+49.66 TO 16.7' STA. 89+35.95.

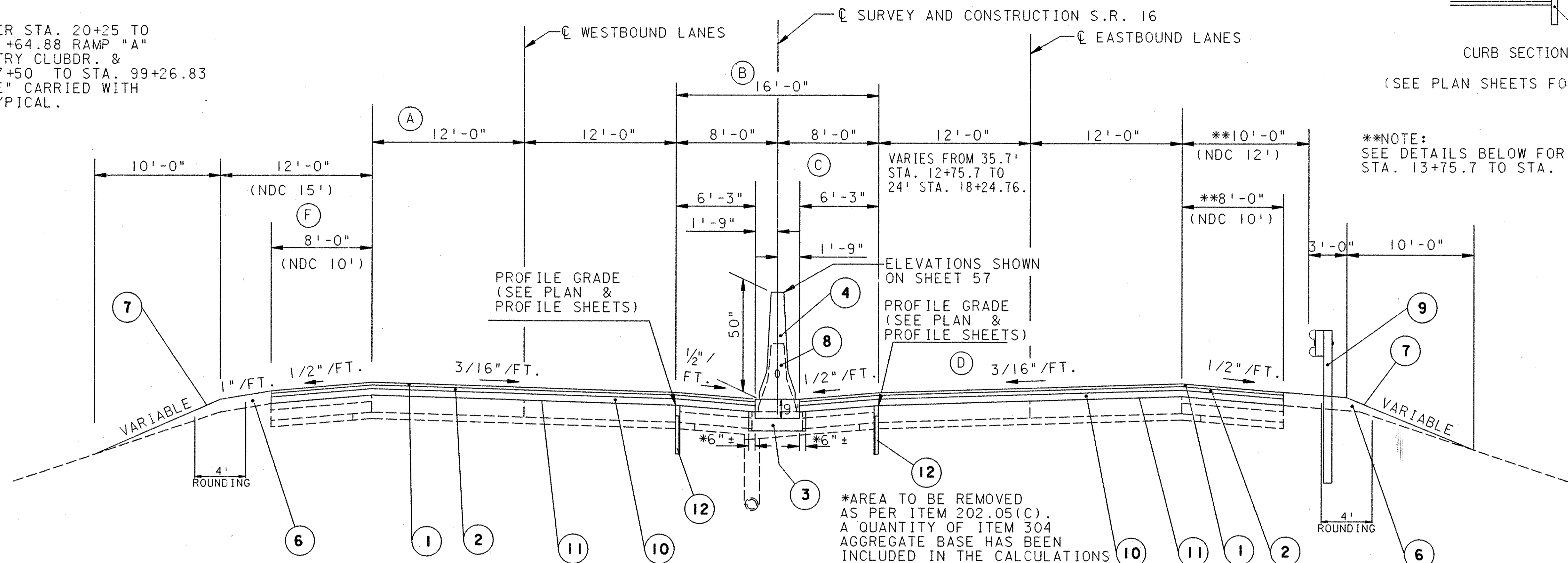
- (B) VARIES FROM 30' STA. 14+60 TO 16' STA. 18+24.94.
- (C) VARIES FROM 20.25' STA. 14+60 TO 6.25' STA. 18+24.94.



(SEE PLAN SHEETS FOR LOCATIONS)

**NOTE: SEE DETAILS BELOW FOR STA. 13+75.7 TO STA. 17+00.7.

(F) SHOULDER STA. 20+25 TO STA. 21+64.88 RAMP "A" @ COUNTRY CLUBDR. & STA. 97+50 TO STA. 99+26.83 RAMP "E" CARRIED WITH RAMP TYPICAL.



NOTE: (WESTBOUND LANES) PAVEMENT FEATHERS FROM 3"± TO 6" FROM STA. 13+60 TO STA. 14+60 PAVEMENT FEATHERS FROM 6" TO 0" FROM STA. 112+00 TO STA. 114+00

NOTE: (EASTBOUND LANES) PAVEMENT FEATHERS FROM 3"± TO 6" FROM STA. 12+75.7 TO STA. 13+75.7. PAVEMENT FEATHER FROM 6" TO 0" FROM STA. 112+00 TO STA. 114+00

(D) NOTE: 3/16" / FT. SLOPES TO THE OUTSIDE OF PAVEMENT FROM STA. 15+38 TO STA. 19+07.97.

WESTBOUND LANES
STATION TO STATION

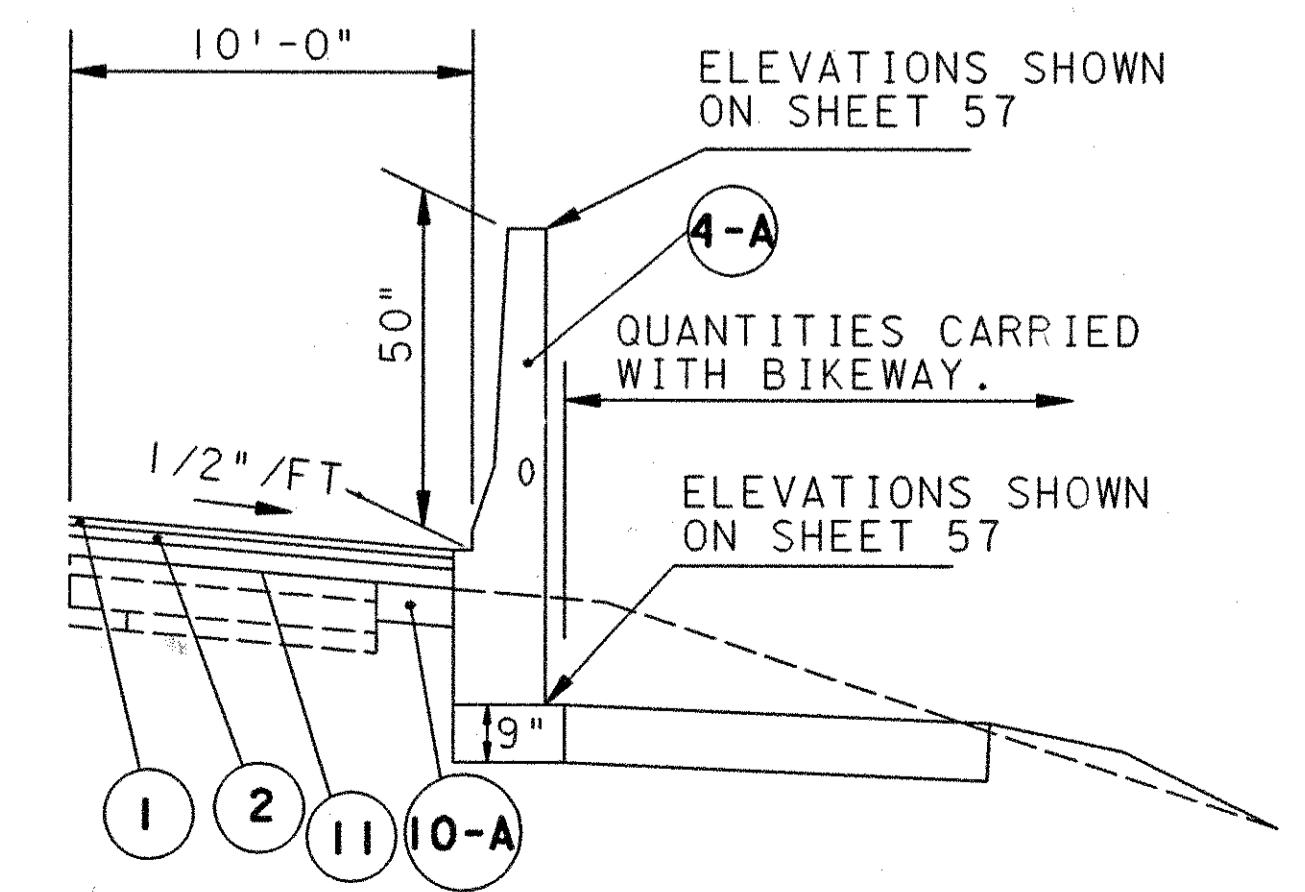
EASTBOUND LANES
STATION TO STATION

STA. 19+25.00 TO STA. 26+18.68	= 693.68 LIN. FT
STA. 39+90.53 TO STA. 45+89.88	= 599.35 LIN. FT
STA. 58+03.88 TO STA. 89+35.95	= 3132.07 LIN. FT
TOTAL	4,425.10 LIN. FT.

STA. 12+75.7 TO STA. 18+24.74 (BACK)	= 549.04 LIN. FT
STA. 18+24.94 (AHEAD) TO STA. 26+18.68	= 793.74 LIN. FT
STA. 39+90.53 TO STA. 45+89.88	= 599.35 LIN. FT
STA. 58+03.89 TO STA. 89+35.96	= 3132.07 LIN. FT
STA. 107+99.33 TO STA. 114+00	= 600.67 LIN. FT
TOTAL	5,674.87 LIN. FT.

LEGEND

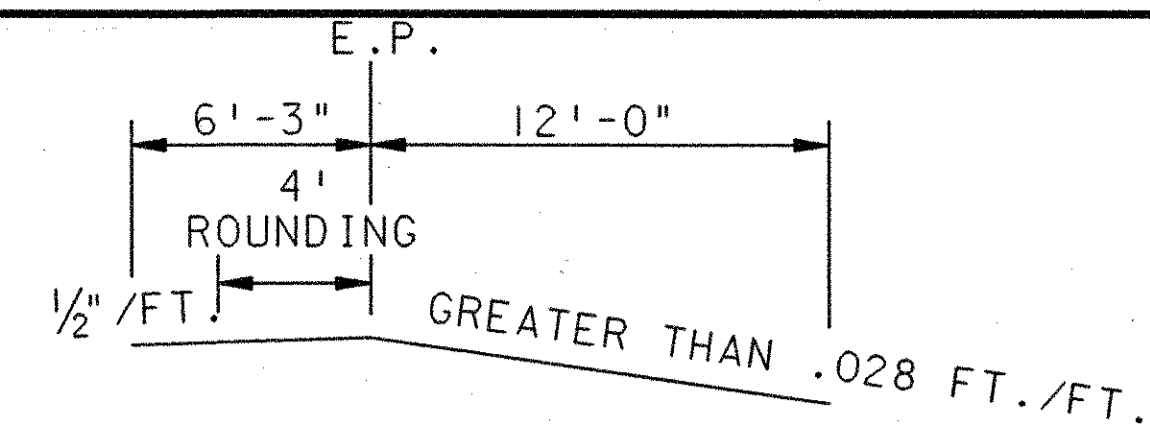
MARK	ITEM	DESCRIPTION
(1)	446	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20.
(2)	446	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20.
(3)	304	5" AGGREGATE BASE.
(4)	622	CONCRETE BARRIER, TYPE B-50
(4-A)	622	CONCRETE BARRIER, TYPE D-50, AS PER PLAN (SEE GENERAL NOTE SHEET 19)
(5)	609	CURB, TYPE 6.
(6)	203	EMBANKMENT.
(7)	659	SEEDING AND MULCHING.
(8)	202	CONCRETE BARRIER REMOVED.
(9)	606	GUARDRAIL, TYPE 5.
(10)	302	3" BITUMINOUS AGGREGATE BASE, AC-20
(10-A)	302	6" BITUMINOUS AGGREGATE BASE, AC-20
(11)	407	TACK COAT (SEE GENERAL NOTE SHEET 22)
(12)	605	SHALLOW UNDERDRAIN, AS PER PLAN (SEE GENERAL NOTE SHEET 25)



STA. 13+75.7 TO STA. 17+00.7 = 325.0 LIN. FT. RT. SIDE EASTBOUND LANES

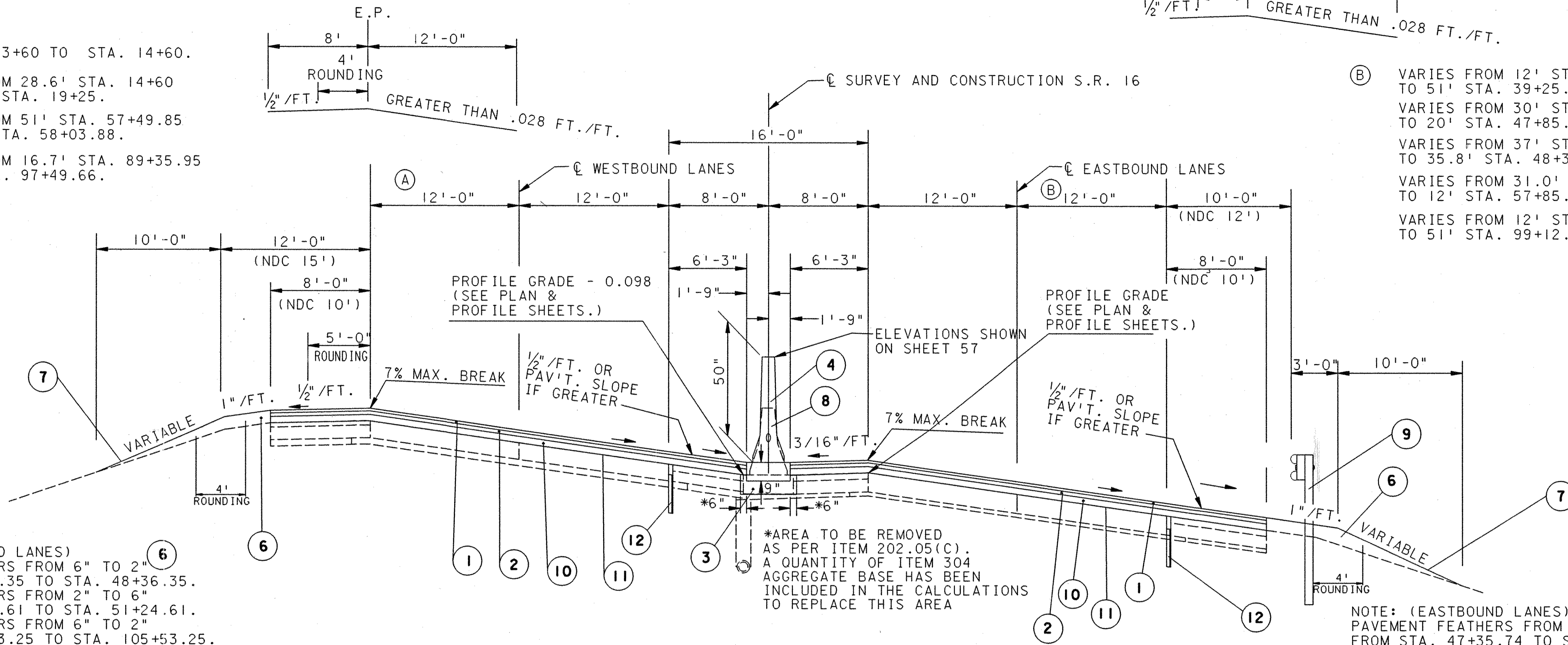
NOTE:
TYPICAL SHOWN FOR CURVE RT.
DETAILS ARE REVERSE FOR CURVE LT.

TYPICAL SECTIONS PROPOSED PAVEMENT



(A) 24' STA. 13+60 TO STA. 14+60.
VARIES FROM 28.6' STA. 14+60 TO 33.53' STA. 19+25.
VARIES FROM 51' STA. 57+49.85 TO 49.6' STA. 58+03.88.
VARIES FROM 16.7' STA. 89+35.95 TO 37' STA. 97+49.66.

(B) VARIES FROM 12' STA. 30+25 TO 51' STA. 39+25.67.
VARIES FROM 30' STA. 46+63.94 TO 20' STA. 47+85.34.
VARIES FROM 37' STA. 47+85.34 TO 35.8' STA. 48+36.05.
VARIES FROM 31.0' STA. 50+24.3 TO 12' STA. 57+85.34.
VARIES FROM 12' STA. 91+25 TO 51' STA. 99+12.98.



NOTE: (WESTBOUND LANES)
PAVEMENT FEATHERS FROM 6" TO 2"
FROM STA. 47+36.35 TO STA. 48+36.35.
PAVEMENT FEATHERS FROM 2" TO 6"
FROM STA. 50+24.61 TO STA. 51+24.61.
PAVEMENT FEATHERS FROM 6" TO 2"
FROM STA. 104+53.25 TO STA. 105+53.25.

NOTE: (EASTBOUND LANES)
PAVEMENT FEATHERS FROM 6" TO 2"
FROM STA. 47+35.74 TO STA. 48+35.74.
PAVEMENT FEATHERS FROM 2" TO 6"
FROM STA. 50+23.99 TO STA. 51+23.99.
PAVEMENT FEATHERS FROM 6" TO 2"
FROM STA. 104+65.83 TO STA. 105+65.83.

WESTBOUND LANES STATION TO STATION

STA. 13+60 TO STA. 18+24.74 (BACK) =	
STA. 18+24.94 (AHEAD) STA. 19+25 = 564.80 LIN. FT.	.024 FT./FT. CURVE LT. →
STA. 26+18.68 TO STA. 39+90.53 = 1371.85 LIN. FT.	.071 FT./FT. CURVE LT. →
STA. 45+89.88 TO STA. 48+36.35 = 246.47 LIN. FT.	.036 FT./FT. CURVE RT. →
STA. 50+24.61 TO STA. 58+03.89 = 779.28 LIN. FT.	.036 FT./FT. CURVE RT. →
STA. 89+35.96 TO STA. 105+53.25 = 1617.29 LIN. FT.	.067 FT./FT. CURVE RT. →
TOTAL	4,579.69 LIN. FT.

SUPERELEVATED SECTION

EASTBOUND LANES STATION TO STATION

STA. 26+18.68 TO STA. 39+90.53 = 1371.85 LIN. FT.	.071 FT./FT. CURVE LT. →
STA. 45+89.88 TO STA. 48+35.74 = 245.86 LIN. FT.	.036 FT./FT. CURVE RT. →
STA. 50+23.99 TO STA. 58+03.89 = 779.90 LIN. FT.	.036 FT./FT. CURVE RT. →
STA. 89+35.96 TO STA. 105+65.83 = 1629.87 LIN. FT.	.067 FT./FT. CURVE RT. →
TOTAL	4,027.48 LIN. FT.

BRIDGE LIMITS (INCLUDING APPROACH SLABS)

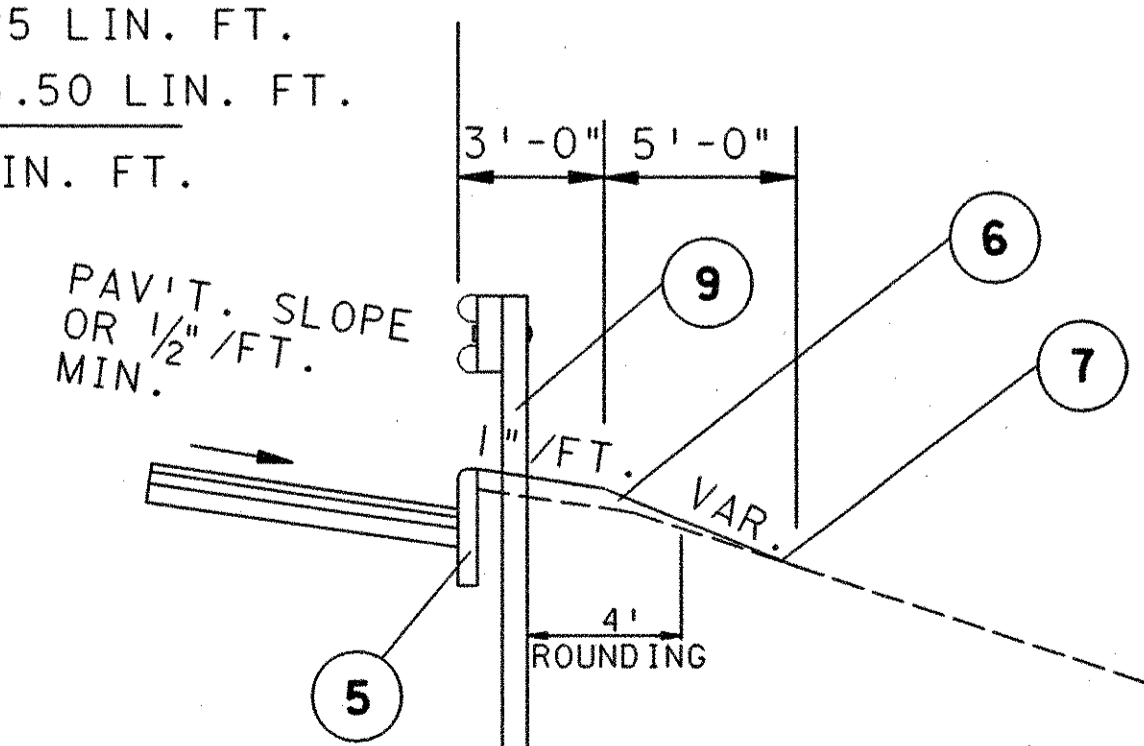
STA. 48+36.35 TO STA. 50+24.61 = 188.26 LIN. FT.	
STA. 105+53.25 TO STA. 107+86.75 = 233.50 LIN. FT.	
TOTAL	421.76 LIN. FT.

BRIDGE LIMITS (INCLUDING APPROACH SLABS)

STA. 48+35.74 TO STA. 50+23.99 = 188.25 LIN. FT.	
STA. 105+65.83 TO STA. 107+99.33 = 233.50 LIN. FT.	
TOTAL	421.75 LIN. FT.

LEGEND

MARK	ITEM	DESCRIPTION
①	446	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20.
②	446	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20.
③	304	5" AGGREGATE BASE
④	622	CONCRETE BARRIER, TYPE B-50.
⑤	609	CURB, TYPE 6.
⑥	203	EMBANKMENT.
⑦	659	SEEDING AND MULCHING.
⑧	202	CONCRETE BARRIER REMOVED.
⑨	606	GUARDRAIL, TYPE 5.
⑩	302	3" BITUMINOUS AGGREGATE BASE, AC-20.
⑪	407	TACK COAT (SEE GENERAL NOTE SHEET 22)
⑫	606	SHALLOW UNDERDRAIN, AS PER PLAN (SEE GENERAL NOTE SHEET 25)

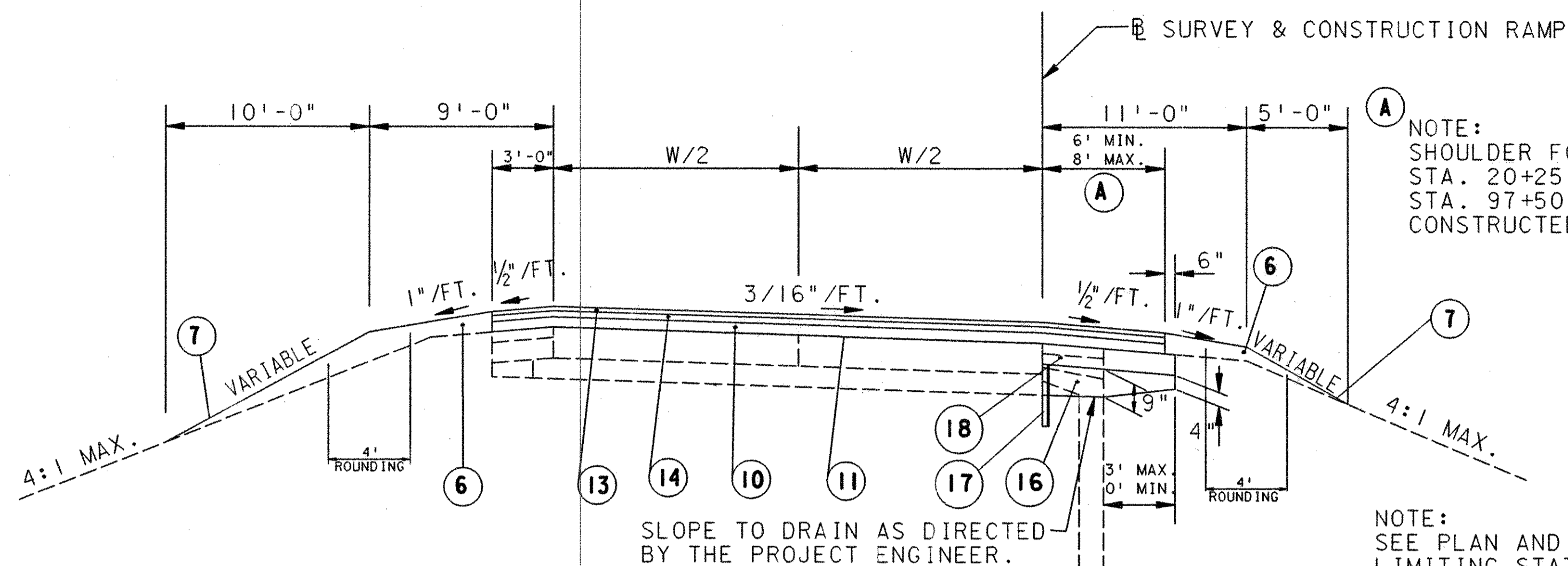


CURB SECTION

(SEE PLAN SHEETS FOR LOCATIONS)

NOTE:
DETAILS SHOWN FOR THE EASTBOUND RAMPS.
DETAILS ARE REVERSE FOR THE WESTBOUND RAMPS.

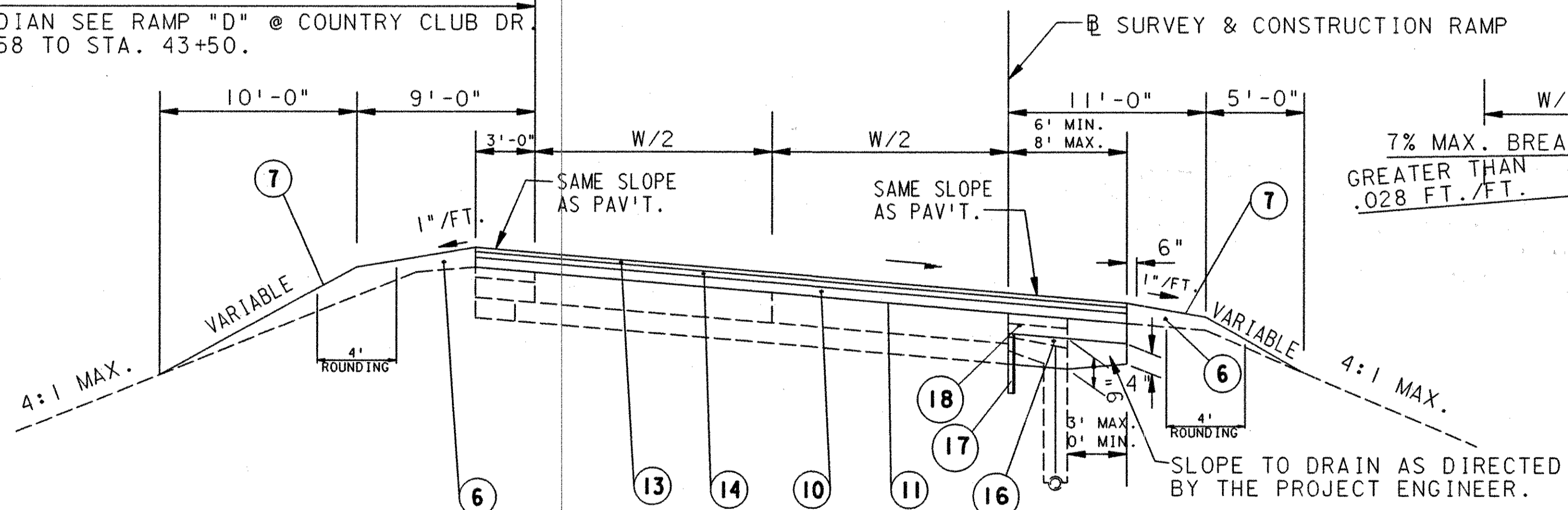
TYPICAL SECTIONS PROPOSED RAMP PAVEMENT



NORMAL RAMP SECTION

W= 16'-0" - RAMP "B" @ COUNTRY CLUB DR. STA. 55+14 TO STA. 57+49.58 = 235.58 LIN. FT.
W= 16'-0" - RAMP "G" STA. 101+75 TO STA. 106+16.15 = 441.15 LIN. FT.
W= VARIES, SEE PLAN SHEET - RAMP "G" STA. 106+16.15 TO STA. 106+64.07 = 47.92 LIN. FT.
TOTAL 724.65 LIN. FT.

CONCRETE MEDIAN SEE RAMP "C" @ COUNTRY CLUB DR.
STA. 47+77 TO STA. 50+55.
CONCRETE MEDIAN SEE RAMP "D" @ COUNTRY CLUB DR.
STA. 41+69.58 TO STA. 43+50.

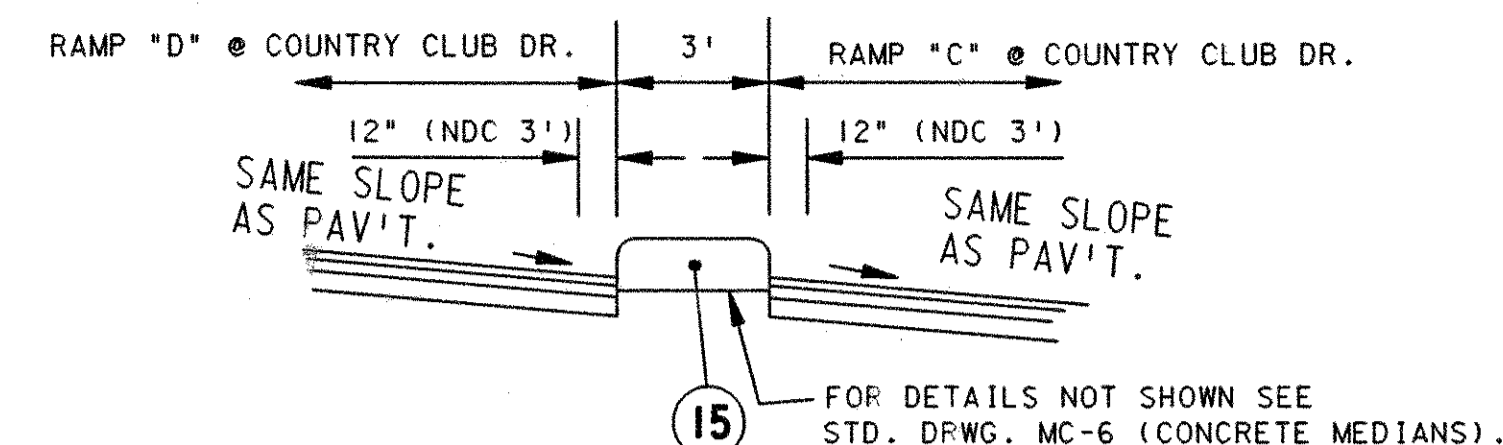


SUPERELEVATED RAMP SECTION

W= 16'-0" - RAMP "A" @ BRYN MAWR STA. 21+64.88 TO STA. 24+82.92 = 318.04 LIN. FT. .083 FT./FT. MAX. CURVE LT.
W= VARIES, SEE PLAN SHEET - RAMP "A" @ BRYN MAWR STA. 24+82.92 TO STA. 25+94.16 = 111.24 LIN. FT.
W= VARIES, SEE PLAN SHEET - RAMP "B" @ COUNTRY CLUB DR. ST. STA. 49+26.10 TO STA. 49+98.94 = 72.84 LIN. FT.
W= 16'-0" - RAMP "B" @ COUNTRY CLUB DR. STA. 49+98.94 TO STA. 55+14 = 515.06 LIN. FT. .042 FT./FT. MAX. CURVE RT.
W= 16'-0" - RAMP "C" @ COUNTRY CLUB DR. STA. 39+29.97 TO STA. 47+77 = 847.03 LIN. FT. .083 FT./FT. MAX.
W= 16'-0" - RAMP "C" @ COUNTRY CLUB DR. STA. 47+77 TO STA. 50+09.79 = 232.79 LIN. FT. CURVE LT. & RT.
W= VARIES, SEE PLAN SHEET - RAMP "C" @ COUNTRY CLUB DR. STA. 50+09.79 TO STA. 50+81.61 = 71.82 LIN. FT.
W= VARIES, SEE PLAN SHEET - RAMP "D" @ COUNTRY CLUB DR. STA. 38+93.82 TO STA. 41+69.58 = 275.76 LIN. FT.
W= 16'-0" MIN & 18' MAX. - RAMP "D" @ COUNTRY CLUB DR. STA. 41+69.58 TO STA. 46+74.2 = 504.62 LIN. FT. .083 FT./FT. MAX. CURVE RT.
W= 16'-0" - RAMP "E" STA. 99+26.83 TO STA. 105+74.16 = 647.33 LIN. FT. .016 FT./FT. MAX. CURVE RT.
W= VARIES, SEE PLAN SHEET - RAMP "E" STA. 105+74.16 TO STA. 106+40.17 = 66.01 LIN. FT.
W= 16'-0" - RAMP "G" STA. 99+03.64 TO STA. 101+75 = 271.36 LIN. FT. .074 FT./FT. MAX. CURVE RT.
TOTAL 3,933.90 LIN. FT.

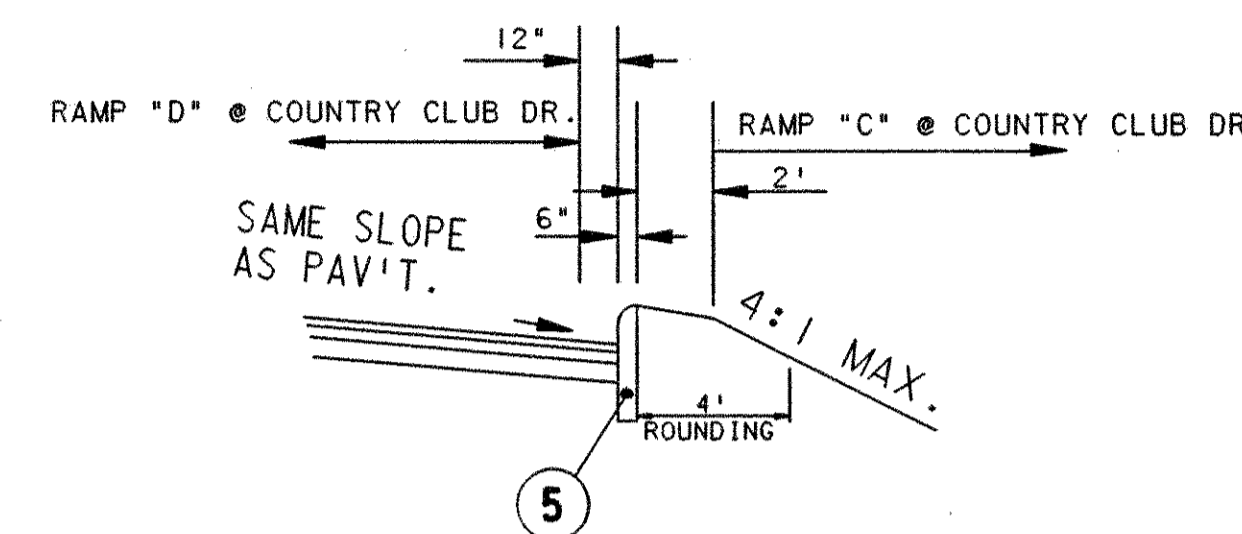
NOTE:
SHOULDER FOR RAMP "A" @ BRYN MAWR DR.
STA. 20+25 TO STA. 21+64.88 & RAMP "E"
STA. 97+50 TO STA. 99+26.83 TO BE
CONSTRUCTED AS PER RAMP TYPICAL.

NOTE:
SEE PLAN AND PROFILE SHEETS FOR
LIMITING STATIONS TO BE FEATHERED
AS PER STD. DRWG. BP-3.1.



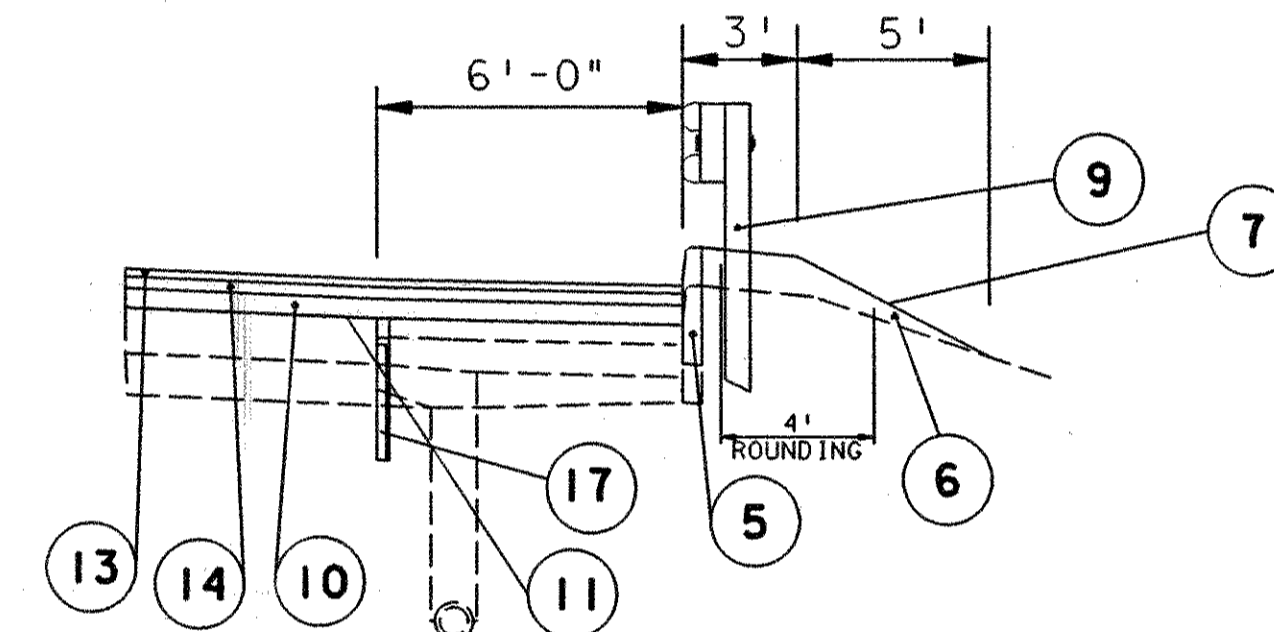
DETAIL CONCRETE MEDIAN

RAMP "C" @ COUNTRY CLUB DR. STA. 46+95.23 TO STA. 50+67.32
RAMP "D" @ COUNTRY CLUB DR. STA. 41+98.41 TO STA. 43+50.



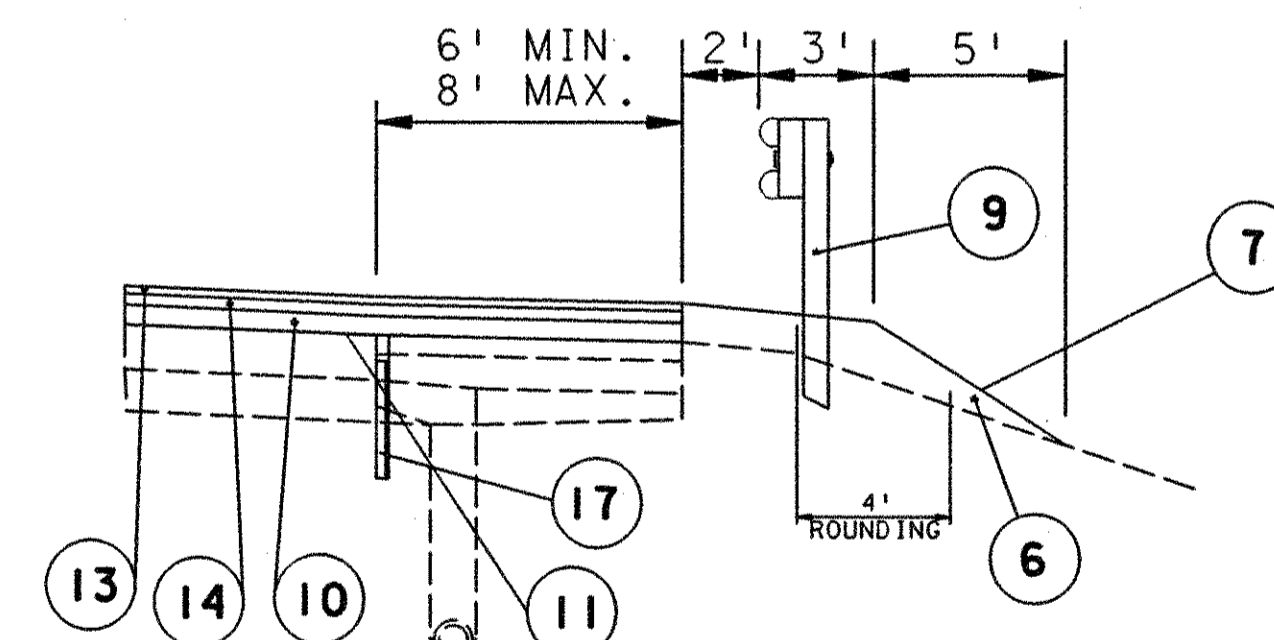
DETAIL CONCRETE MEDIAN

RAMP "D" @ COUNTRY CLUB DR. STA. 42+75 TO STA. 43+50.



DETAIL CURB & GUARDRAIL

RAMP "C" @ COUNTRY CLUB DR. STA. 39+30 TO STA. 44+50.



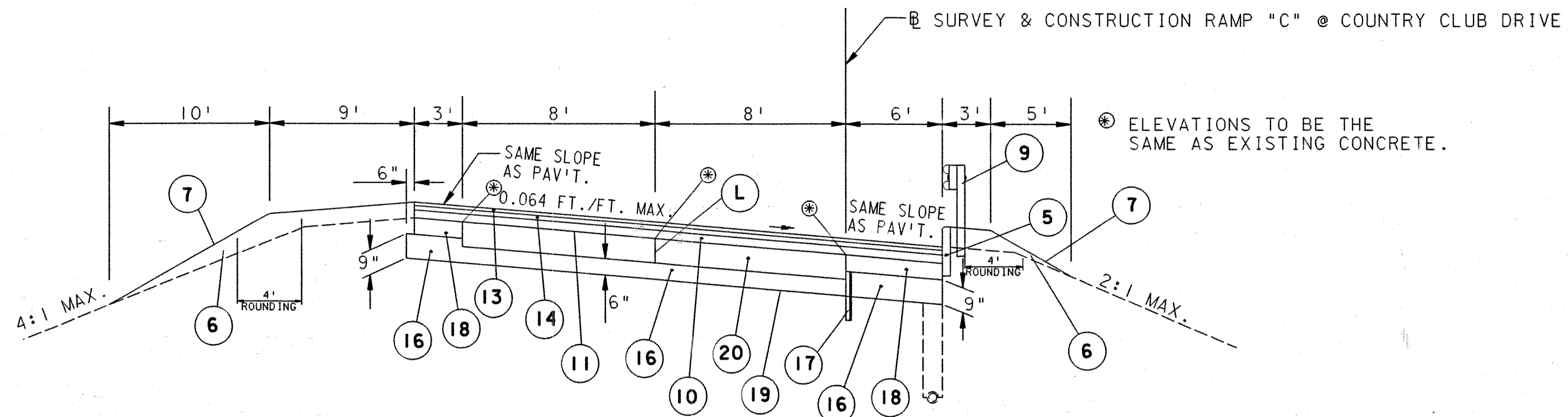
DETAIL GUARDRAIL

RAMP "C" @ COUNTRY CLUB DR. STA. 44+50 TO STA. 49+52.

LEGEND

MARK	ITEM	DESCRIPTION
(13)	448	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22. (PN)
(14)	448	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG70-22. (PN)
(5)	609	CURB, TYPE 6. (PN) SEE PROPOSAL NOTE
(6)	203	EMBANKMENT.
(7)	659	SEEDING AND MULCHING.
(9)	606	GUARDRAIL, TYPE 5.
(10)	302	3" BITUMINOUS AGGREGATE BASE, AC-20.
(11)	407	TACK COAT (SEE GENERAL NOTE SHEET 22)
(15)	612	CONCRETE MEDIAN. (SEE STANDARD DRAWING MC-6)
(16)	304	VARIABLE, AGGREGATE BASE.
(17)	605	SHALLOW UNDERDRAIN, AS PER PLAN. (SEE GENERAL NOTE SHEET 25)
(18)	302	6" BITUMINOUS AGGREGATE BASE, AC-20.

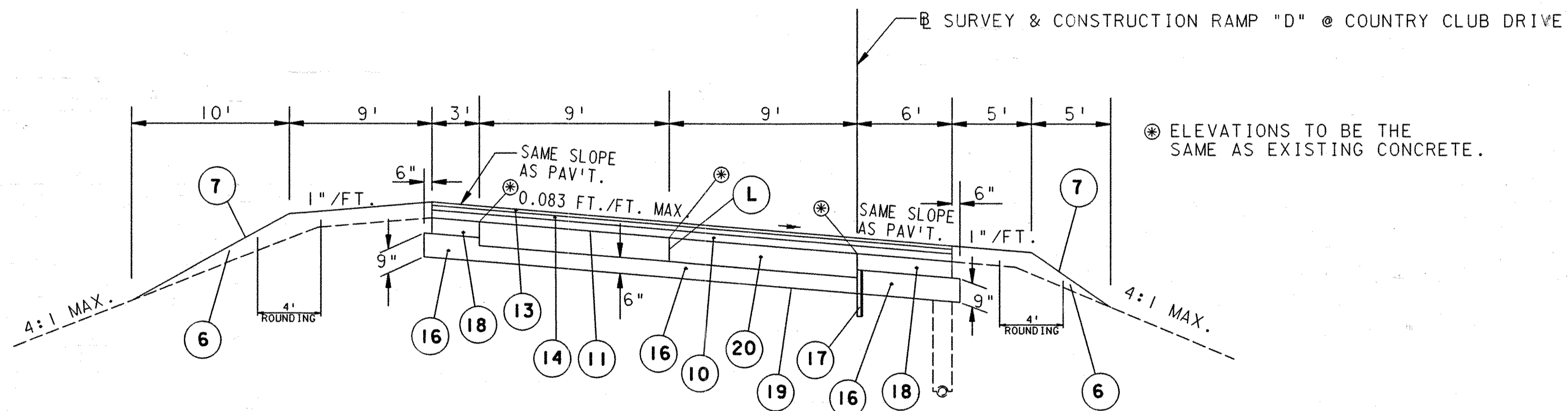
TYPICAL SECTIONS PROPOSED RAMP PAVEMENT



SUPERELEVATED RAMP SECTION

STA. 43+00 TO STA. 43+70 RAMP "C" @ COUNTRY CLUB DRIVE = 70.00 LIN. FT.

(L) LONGITUDINAL JOINT AS PER BP-2.1



SUPERELEVATED RAMP SECTION

STA. 44+70 TO STA. 45+50 RAMP "D" @ COUNTRY CLUB DRIVE = 80.00 LIN. FT.

LEGEND DESCRIPTION

MARK	ITEM	DESCRIPTION
(19)	203	SUBGRADE COMPACTION
(5)	609	CURB, TYPE 6.
(6)	203	EMBANKMENT.
(7)	659	SEEDING AND MULCHING.
(9)	606	GUARDRAIL, TYPE 5.
(10)	302	3" BITUMINOUS AGGREGATE BASE, AC-20.
(11)	407	TACK COAT (SEE GENERAL NOTE SHEET 22)
(16)	304	9" OR 6" AGGREGATE BASE.
(17)	605	SHALLOW UNDERDRAIN, AS PER PLAN. (SEE GENERAL NOTE SHEET 25)
(18)	302	6" BITUMINOUS AGGREGATE BASE, AC-20.
(13)	448	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22. (SEE PROPOSAL NOTE)
(14)	448	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG70-22. (SEE PROPOSAL NOTE)
(20)	305	9" CONCRETE BASE, AS PER PLAN (SEE GENERAL NOTE SHEET 17)

CALCULATED
D.M.
3-13-95
CHECKED
A.L.L.
3-16-95

PROPOSED TYPICAL SECTION

LIC-16-17.94

BIKEWAY TYPICAL SECTIONS

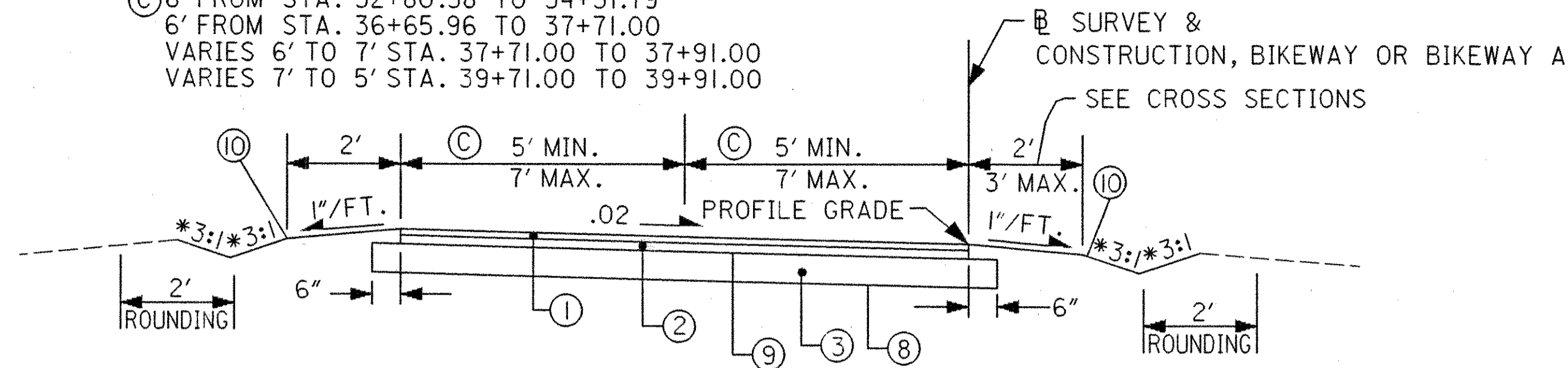
CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95

BIKEWAY TYPICAL SECTIONS

LIC-16-17.94

14
420

Ⓒ 6' FROM STA. 32+80.58 TO 34+31.79
6' FROM STA. 36+65.96 TO 37+71.00
VARIES 6' TO 7' STA. 37+71.00 TO 37+91.00
VARIES 7' TO 5' STA. 39+71.00 TO 39+91.00

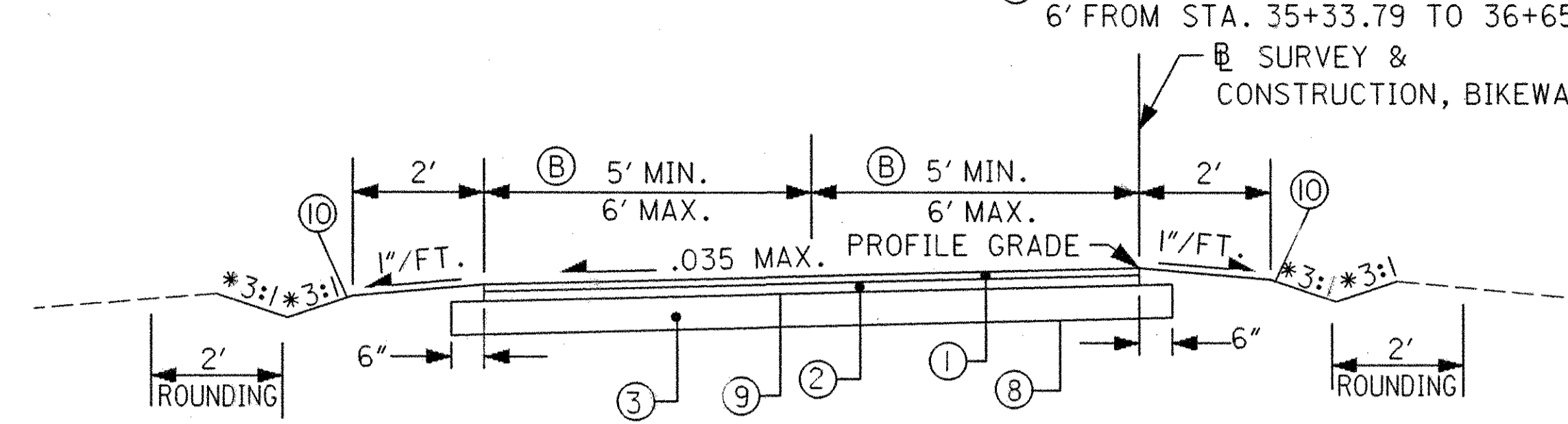


NORMAL SECTION

LIMITING STATIONS (BIKEWAY)

STA. 0+00.00 TO STA. 2+19.76	= 219.76 LIN.FT.
STA. 5+41.72 TO STA. 30+34.97	= 2493.25 LIN.FT.
STA. 32+74.75 TO STA. 34+37.79	= 163.04 LIN.FT.
STA. 36+65.96 TO STA. 37+91.00	= 125.04 LIN.FT.
STA. 39+71.00 TO STA. 93+50.00	= 5379.00 LIN.FT.
STA. 97+50.00 TO STA. 98+69.90	= 119.90 LIN.FT.
TOTAL	= 8499.99 LIN.FT.

Ⓑ TAPERS FROM 5' STA.30+34.97 TO 6' STA.31+34.97
6' FROM STA. 35+33.79 TO 36+65.96

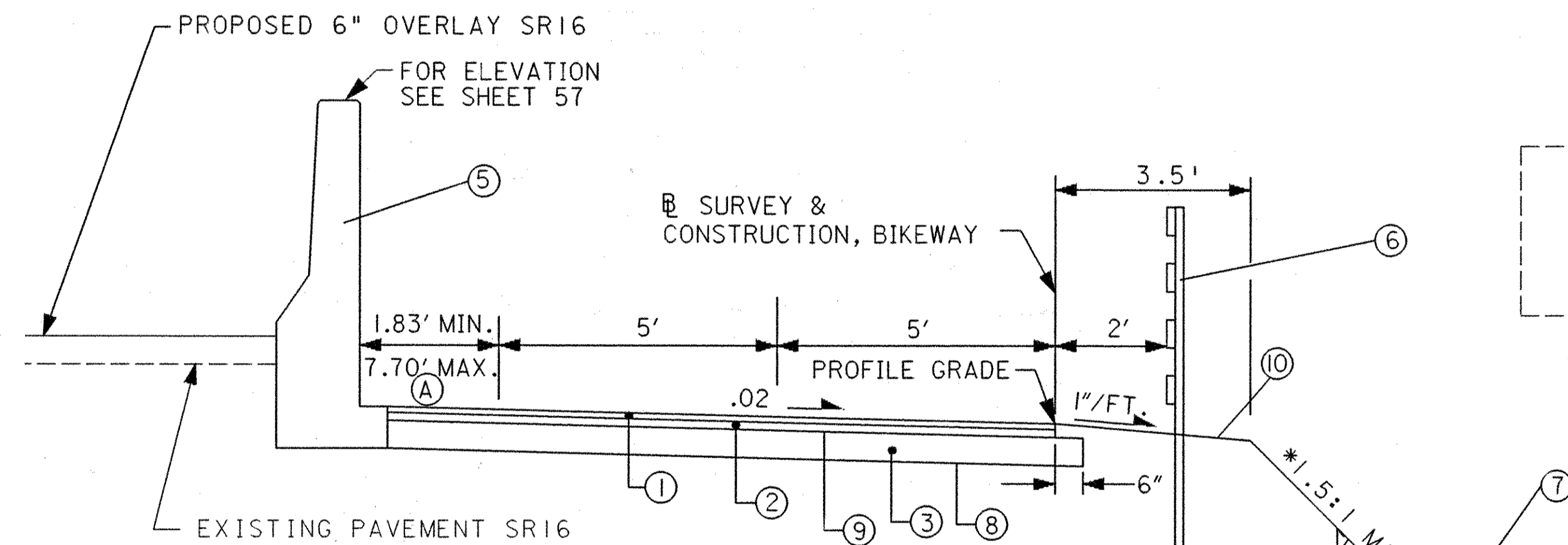


SUPERELEVATED SECTION

LIMITING STATIONS

STA. 30+34.97 TO STA. 32+02.75	= 167.78 LIN.FT. (.035 FT./FT.)
STA. 35+33.79 TO STA. 36+65.96	= 132.17 LIN.FT. (.02 FT./FT.)
TOTAL	= 299.95 LIN.FT.

* OR AS SHOWN ON CROSS SECTIONS



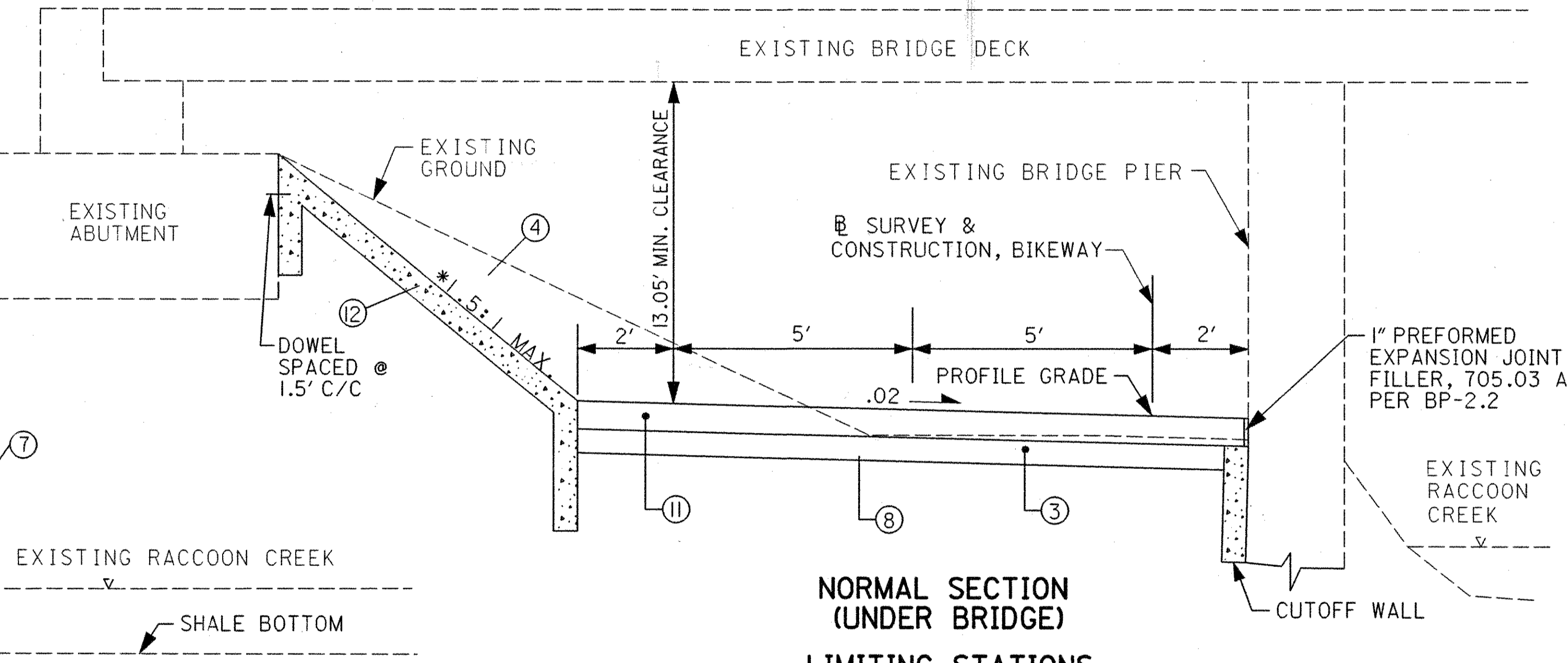
**BARRIER SECTION
LIMITING STATIONS**

STA. 2+19.76 TO STA. 5+41.72	= 321.96 LIN.FT.
TOTAL	= 321.96 LIN.FT.

Ⓐ TAPERS FROM 4.84' STA.2+40.00 TO 1.83' STA. 2+76.78
TAPERS FROM 1.83' STA. 4+56.14 TO STA. 7.70' STA. 5+41.72

LEGEND

MARK	ITEM	DESCRIPTION
①	404	1 1/4" ASPHALT CONCRETE, AC-20
②	402	1 3/4" ASPHALT CONCRETE, AC-20
③	304	6" AGGREGATE BASE
④	203	EXCAVATION, NOT INCLUDING EMBANKMENT CONSTRUCTION
⑤	622	TYPE D-50 CONCRETE BARRIER, AS PER PLAN (SEE SHEET 19)
⑥	607	FENCE, MISC: WOOD FENCE (SEE SHEET 349)
⑦	601	ROCK CHANNEL PROTECTION, TYPE A WITHOUT FILTER
⑧	203	SUBGRADE COMPACTION
⑨	408	BITUMINOUS PRIME COAT @ 0.40 GAL./SQ.YD.
⑩	659	SEEDING AND MULCHING
⑪	451	7" REINFORCED CONCRETE PAVEMENT, AS PER PLAN (SEE SHEET 21)
⑫	601	RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN (SEE SHEET 21)
⑬	451	7" REINFORCED CONCRETE PAVEMENT



**NORMAL SECTION
(UNDER BRIDGE)**

LIMITING STATIONS

STA. 95+95.85 TO STA. 96+68.90	= 73.05 LIN.FT.
TOTAL	= 73.05 LIN.FT.

BOX CULVERT LIMITS

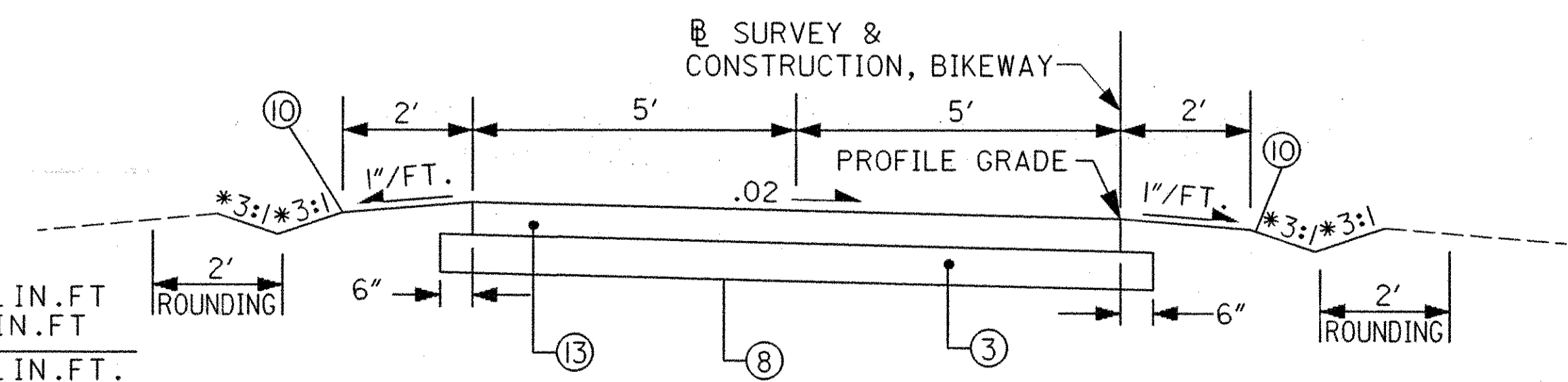
STA. 32+02.75 TO STA. 32+74.75	= 72.00 LIN.FT
STA. 34+37.79 TO STA. 35+33.79	= 96.00 LIN.FT
TOTAL	= 168.00 LIN.FT.

BRIDGE LIMITS

STA. 38+06.00 TO STA. 39+56.00	= 150.00 LIN.FT.
TOTAL	= 150.00 LIN.FT.

APPROACH SLAB LIMITS

STA. 37+91.00 TO STA. 38+06.00	= 15.00 LIN.FT.
STA. 39+56.00 TO STA. 39+71.00	= 15.00 LIN.FT.
TOTAL	= 30.00 LIN.FT.



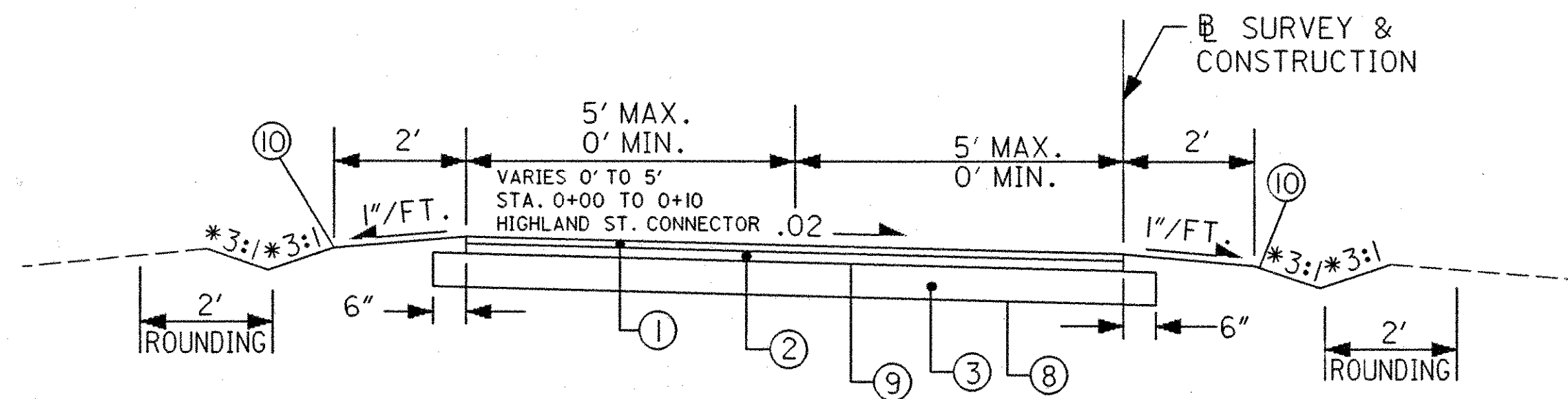
NORMAL SECTION (CONCRETE SECTION)

LIMITING STATIONS

STA. 93+50 TO STA. 95+95.85	= 245.85 LIN.FT.
STA. 96+68.90 TO STA. 97+50.00	= 81.10 LIN.FT.
TOTAL	= 326.95 LIN.FT.

L0161703.DGN 4/19/95

BIKEWAY TYPICAL SECTIONS



NORMAL SECTION

LIMITING STATIONS (21ST. ST. WEST CONNECTOR)

STA. 0+74.12 TO STA. 3+73.15 = 299.03 LIN.FT.
TOTAL = 299.03 LIN.FT.

LIMITING STATIONS (21ST. ST. EAST CONNECTOR)

STA. 0+36.24 TO STA. 1+73.14 = 136.90 LIN.FT.
TOTAL = 136.90 LIN.FT.

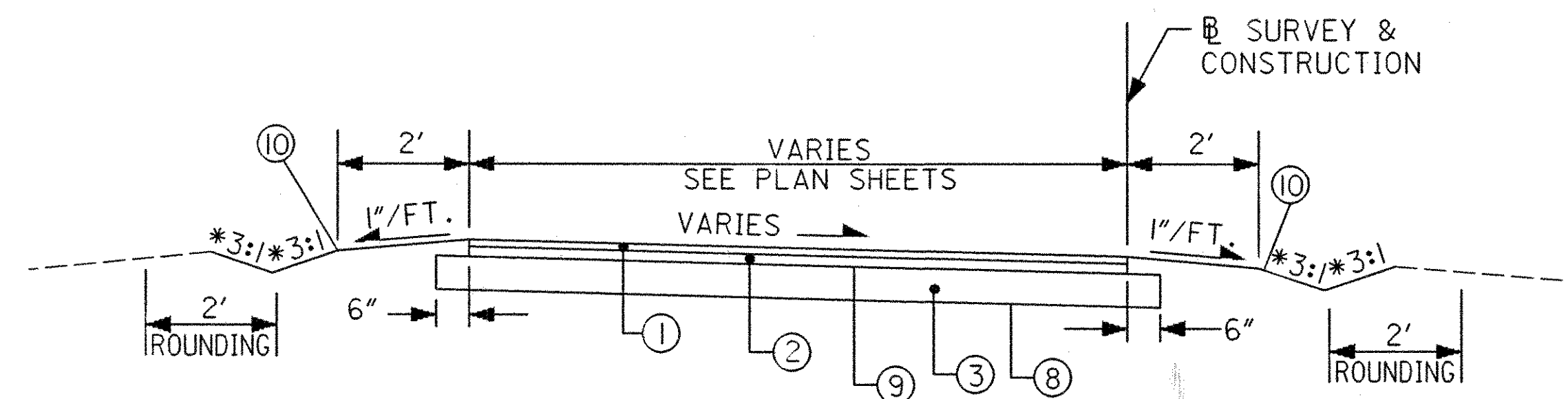
LIMITING STATIONS (NORTH CONNECTOR)

STA. 0+34.96 TO STA. 1+25.50 = 90.54 LIN.FT.
STA. 2+90.00 TO STA. 9+25.00 = 635.00 LIN.FT.
TOTAL = 725.54 LIN.FT.

BRIDGE LIMITS STA. 1+25.50 TO STA. 2+90.00

LIMITING STATIONS (HIGHLAND ST. CONNECTOR)

STA. 0+00 TO STA. 1+65.93 = 165.93 LIN.FT.
TOTAL = 165.93 LIN.FT.



NORMAL SECTION

LIMITING STATIONS (21ST. ST. WEST CONNECTOR)

STA. 0+23.34 TO STA. 0+74.12 = 50.78 LIN.FT.
TOTAL = 50.78 LIN.FT.

LIMITING STATIONS (21ST. ST. EAST CONNECTOR)

STA. 1+73.14 TO STA. 2+13.45 = 40.31 LIN.FT.
TOTAL = 40.31 LIN.FT.

LIMITING STATIONS (NORTH CONNECTOR)

STA. 0+10.00 TO STA. 0+34.96 = 24.96 LIN.FT.
TOTAL = 24.96 LIN.FT.

LIMITING STATIONS (HIGHLAND ST. CONNECTOR)

STA. 1+65.93 TO STA. 1+90.27 = 24.34 LIN.FT.
TOTAL = 24.34 LIN.FT.

LEGEND

MARK	ITEM	DESCRIPTION
①	404	1 1/4" ASPHALT CONCRETE, AC-20
②	402	1 3/4" ASPHALT CONCRETE, AC-20
③	304	6" AGGREGATE BASE
⑧	203	SUBGRADE COMPACTION
⑨	408	BITUMINOUS PRIME COAT @ 0.40 GAL./SQ.YD.
⑩	659	SEEDING AND MULCHING

GENERAL NOTES

CALCULATED
D.M.
10/11/94
CHECKED
A.L.L.
10/11/94

OPPORTUNITY TO PARTNER

THE CONTRACTOR ON THIS PROJECT IS INVITED TO ENTER INTO A COOPERATIVE PARTNERSHIP AGREEMENT WITH THE DEPARTMENT. THE OBJECTIVE OF THIS AGREEMENT IS THE TIMELY COMPLETION OF THE WORK AND A QUALITY PRODUCT THAT WILL BE A SOURCE OF PRIDE TO BOTH THE DEPARTMENT AND THE CONTRACTOR. THE "PARTNERING AGREEMENT" WILL NOT AFFECT THE TERMS AND CONDITIONS OF THE CONTRACT. IT IS A DOCUMENT WHICH IS SOLELY INTENDED TO ESTABLISH AN ENVIRONMENT OF COOPERATION BETWEEN THE PARTIES. PARTICIPATION IN "PARTNERING" IS VOLUNTARY AND NOT A REQUIREMENT OF THE CONTRACT.

EXAMINATION OF PROJECT

THE EXISTING THICKNESS SHOWN IN THE TYPICAL SECTIONS AND DETAILS ARE NOMINAL ONLY AND MAY VARY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE PROJECT SITE AND VERIFY THE ACTUAL PAVEMENT THICKNESS PRIOR TO SUBMITTING HIS BID PROPOSAL AS PER SECTION 102.05 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE HIS OWN TRAFFIC CONTROL IN ACCORDANCE WITH ALL REQUIREMENTS OF O.M.U.T.C.D. AND SHALL NOTIFY THE DISTRICT OPERATIONS ENGINEER AT LEAST FIVE WORKING DAYS IN ADVANCE OF SETTING UP TRAFFIC CONTROL FOR THE PURPOSE OF EXAMINING THE PAVEMENT AS STATED ABOVE.

PAVEMENT PLANING INTENT

IT IS THE PURPOSE OF THIS PLAN TO PLANE OFF THE EXISTING ASPHALT WEARING SURFACE AND EXPOSE THE ORIGINAL CONCRETE SURFACE. THE PLAN INDICATES A NOMINAL PLANING THICKNESS; HOWEVER, THIS THICKNESS SHALL BE ADJUSTED ACCORDINGLY SO THAT THE SAID INTENT CAN BE ACCOMPLISHED. PAYMENT FOR ANY ADJUSTMENTS TO THE PAVEMENT PLANING THICKNESS SHALL BE INCLUDED IN THE UNIT PRICE BID OF SQ. FT. FOR ITEM 254 PAVEMENT PLANING BITUMINOUS.

PROFILE AND ALIGNMENT

THE PROPOSED RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT IN THE AREAS OF PAVEMENT REPAIR. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6". THE PROFILE GRADES, STOPPING SIGHT DISTANCES AND HORIZONTAL ALIGNMENT ALL MEET THE CURRENT DESIGN STANDARDS. PREVIOUS CONSTRUCTION PLANS SHOWING THE ORIGINAL PROFILE GRADE AND ARE ON FILE FOR INSPECTION IF NECESSARY AT THE O.D.O.T. DISTRICT 5 OFFICE AS PROJECTS SHOWN ON THIS SHEET.

CONSTRUCTION PLAN

REFERENCE IS HEREBY MADE TO THE FOLLOWING DESIGNATED PLAN FOR FORMER CONSTRUCTION PROJECTS, PORTIONS OF WHICH COVER AREAS INCLUDED IN THIS PROPOSED IMPROVEMENT.

LIC-16-18.11

LIC-16-20.04

COPIES OF THESE PLANS ARE ON FILE EITHER AT THE DISTRICT 5 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION OR AT THE OFFICE OF THE ADMINISTRATOR OF CONTRACT SALES COLUMBUS, OHIO.

UNDERGROUND UTILITIES

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.

UTILITIES

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

TELEPHONE

ALLTEL OHIO, INC.
66 N. 4TH. STREET
NEWARK, OH 43055
(614) 349-8827

ELECTRIC

OHIO POWER
215 NORTH FRONT STREET
COLUMBUS, OHIO 43215-2291
(614) 464-7911

GAS

COLUMBIA GAS OF OHIO, INC.
204 HIGHLAND AVE.
P.O. BOX 250
CAMBRIDGE, OH 43725
(614) 432-8226

CABLE TELEVISION

DIMENSION CABLE
111 NORTH 11TH STREET
P.O. BOX 680
NEWARK, OH 43055
(614) 345-4329

GAS

NATIONAL GAS & OIL CORP.
1500 GRANVILLE ROAD
P.O. DRAWER AF
NEWARK, OHIO 43058-0693
(614) 348-1247

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ITEM 604 REFERENCE MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWING MC-1 AND AT THE LOCATIONS SHOWN ON SHEET No. 23.

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 RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.1. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

GENERAL NOTES

LIC-16-19.72

16
420

GENERAL NOTES

ITEM 255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS "C", AS PER PLAN A

WHERE PAVEMENT REPAIR LENGTHS EXCEED 10 FT. AND WHERE ONE OR MORE REPAIR LIMITS ARE LOCATED MORE THAN 3 FT. FROM AN EXISTING JOINT IN THE ADJACENT LANE TO REMAIN IN PLACE, THE CONTRACTOR WILL BE REQUIRED, AT THE DIRECTION OF THE ENGINEER, TO PLACE CONTRACTION JOINTS WITH DOWEL BASKET ASSEMBLIES IN ACCORDANCE WITH ITEM 451 AND BP-2.2. THE PLACEMENT AND LOCATION OF THE CONTRACTION JOINTS SHALL BE AT THE SAME LOCATION AND IN ALIGNMENT WITH EXISTING JOINT(S) WHICH ARE TO REMAIN IN PLACE. REQUIREMENTS FOR JOINT SAWING SHALL BE AS PER ITEM 451. REQUIREMENTS FOR JOINT SEALING SHALL BE AS PER ITEM 305 FOR PAVEMENT WHICH WILL BE OVERLAID WITH ASPHALT CONCRETE. THE COSTS ASSOCIATED WITH THE PLACEMENT OF DOWEL BASKET ASSEMBLIES, THE REQUIREMENTS FOR SAWING AND SEALING SHALL BE INCIDENTAL TO ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT CLASS C, AS PER PLAN A.

IN ADDITION TO THE REQUIREMENTS OF 255.09, ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL JOINT SEALING AND CLEANING.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO PERFORM THE WORK IN THE AREAS SHOWN BELOW, AS PER STANDARD DRAWING BP-2.5.

1. RAMP A @ BRYN MAWR STA. 21+64.88 - STA. 25+94.16
2. RAMP C @ COUNTRY CLUB DRIVE STA. 39+29.97 - STA. 50+81.61
3. RAMP D @ COUNTRY CLUB DRIVE STA. 38+93.82 - STA. 46+74.2
4. RAMP B @ COUNTRY CLUB DRIVE STA. 49+26.10 - STA. 57+49.58
5. RAMP E STA. 99+26.83 - STA. 106+40.17
6. RAMP G STA. 99+03.64 - STA. 106+64.07

ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT CLASS "C", AS PER PLAN A. 2700 SQ.YD.

ITEM 255 FULL DEPTH PAVEMENT SAWING 7000 LIN.FT.

THE FOLLOWING ESTIMATED QUANTITY OF ITEM 301 BITUMINOUS AGGREGATE BASE, AC-20 HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER TO REPAIR ALL EXISTING PAVED SHOULDER DAMAGED WHEN CONSTRUCTING PROPOSED PAVEMENT REPAIRS.

ITEM 301 BITUMINOUS AGGREGATE BASE, AC-20 20 CU. YD.

THE STATE OF OHIO RESERVES THE RIGHT TO INCREASE OR DECREASE THE ABOVE QUANTITIES TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.

IT IS THE INTENT OF THIS PROJECT TO REPLACE 100% OF THE EXISTING TRANSVERSE JOINTS, IN THE AREA OF THE RAMPS AS SHOWN ABOVE AND ADDITIONAL AREA AS DIRECTED BY THE ENGINEER

ITEM 413 SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS.

AN ESTIMATED QUANTITY OF 3500 LIN. FT. HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO PERFORM THE WORK FOR ITEM 413 SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS.

ITEM 202 CURB REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE REMOVING EXISTING CURB IN THE AREA OF EXISTING CONCRETE PAVEMENT AND BACKFILLING THE VOID THAT WAS CREATED WITH ITEM 301 BITUMINOUS AGGREGATE BASE 20-AC.

THE FOLLOWING QUANTITY IS AN ESTIMATE FOR THIS PURPOSE.
439' X 1' X .75 ÷ 27 = 12.2 CU.YD.

SUBBASE/SUBGRADE FAILURES

IF, AFTER REMOVAL OF THE RIGID PAVEMENT THE ENGINEER DETERMINES THAT THE SUBBASE OR SUBGRADE HAS FAILED OR IS PUMPING, HE SHALL DIRECT THE CONTRACTOR TO EXCAVATE THE UNSUITABLE MATERIAL AND REPLACE IT WITH ITEM 304 AGGREGATE BASE

ITEM 203 EXCAVATION, NOT INCLUDING EMBANKMENT CONSTRUCTION 50 CU.YD.
ITEM 304 AGGREGATE BASE 50 CU.YD.

NOTE: THESE ITEMS ARE TO BE IN THE AREAS OF ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS "C", AS PER PLAN A.

ITEM 305 9" CONCRETE BASE, AS PER PLAN

THE SECOND SENTENCE IN 305.01 (g) SHALL NOT APPLY. LOAD TRANSFER DEVICES SHALL BE REQUIRED AT THE CONTRACTION JOINTS, AS PER 451.

THE COST OF ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 305 9" CONCRETE BASE, AS PER PLAN.

CALCULATED
D.M.
10/11/94
CHECKED
A.L.L.
10/17/94

GENERAL NOTES

LIC-16-17.94

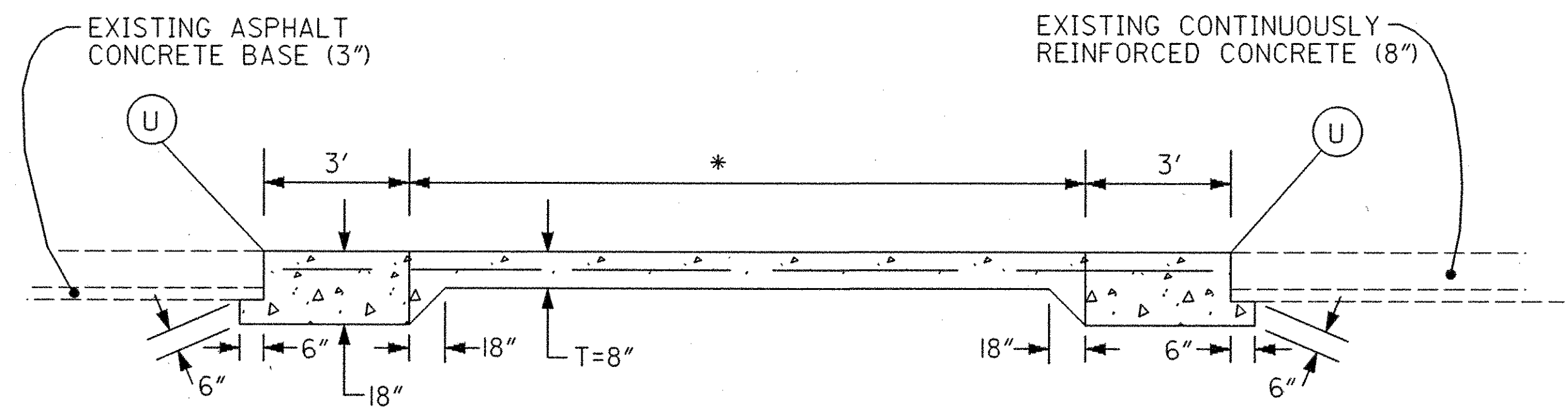
EASTBOUND LANES		
STATION TO STATION	DRIVING LANE	PASSING LANE
15+60.5 - 15+94	33.5' x 12' = 402 SQ.FT.	
16+22.5 - 16+30	7.5' x 12' = 90 SQ.FT.	
17+46 - 17+54	8' x 12' = 96 SQ.FT.	
17+72 - 17+81	9' x 12' = 108 SQ.FT.	
18+35 - 18+80	45' x 12' = 540 SQ.FT.	
26+62 - 26+73	11' x 12' = 132 SQ.FT.	
30+59 - 31+26	67' x 12' = 804 SQ.FT.	
35+65 - 36+36	71' x 12' = 852 SQ.FT.	
59+32 - 59+83	51' x 12' = 612 SQ.FT.	
63+40 - 63+49	9' x 12' = 108 SQ.FT.	
66+14 - 66+25	11' x 12' = 132 SQ.FT.	
79+34 - 79+50	16' x 12' = 192 SQ.FT.	
84+71 - 85+03	32' x 12' = 384 SQ.FT.	
TOTAL	4452 SQ.FT. ÷ 9 = 494.7 SQ.YD.	

WESTBOUND LANES		
STATION TO STATION	DRIVING LANE	PASSING LANE
28+20 - 29+00	80' x 12' = 960 SQ.FT.	
30+49 - 30+64	15' x 12' = 180 SQ.FT.	
36+28 - 36+57	29' x 12' = 348 SQ.FT.	
36+90 - 36+96	6' x 12' = 72 SQ.FT.	
37+98 - 39+08	110' x 12' = 1320 SQ.FT.	
41+37 - 42+06		69' x 12' = 828 SQ.FT.
43+69 - 44+30	61' x 12' = 732 SQ.FT.	
51+47 - 51+63	16' x 12' = 192 SQ.FT.	
52+96 - 53+17	21' x 12' = 252 SQ.FT.	
54+73 - 54+87	14' x 12' = 168 SQ.FT.	
55+77 - 56+45	68' x 12' = 816 SQ.FT.	
57+33 - 59+69	236' x 12' = 2832 SQ.FT.	
66+17 - 66+53	36' x 12' = 432 SQ.FT.	
80+70 - 81+78	108' x 12' = 1296 SQ.FT.	
92+27 - 92+46	19' x 12' = 228 SQ.FT.	
93+24 - 93+67	43' x 12' = 516 SQ.FT.	
95+24 - 95+84	60' x 12' = 720 SQ.FT.	
96+99 - 97+62	63' x 12' = 756 SQ.FT.	
98+82 - 100+44	162' x 12' = 1944 SQ.FT.	
TOTAL	13764 SQ.FT. ÷ 9 = 1529.3 SQ.YD.	828 SQ.FT. ÷ 9 = 92 SQ.YD.

ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, AS PER PLAN

THIS ITEM OF WORK SHALL BE DONE IN ACCORDANCE WITH ITEM 255 AND STANDARD DRAWINGS BP-2.2 AND BP-2.5 WITH THE FOLLOWING EXCEPTIONS:

- REPAIRS SHALL BE MADE USING THE REPAIR TYPE U AS DETAILED BELOW:



*NOTE: IF LENGTH IS LESS THAN OR EQUAL TO 14' T SHALL BE 18"

SECTION TYPE U (UNDERCUT)

- WITHIN THE REPAIR AREA, EXISTING ASPHALT BASE COURSE WHICH IS DAMAGED AND DETERIORATED SHALL BE REMOVED BY METHODS WHICH DO NOT CHANGE THE ADJACENT PAVEMENT. WHERE EXISTING ASPHALT BASE COURSE IS DETERIORATED, REMOVED, OR NOT FOUND IT SHALL BE DISPLACED BY ADDITIONAL CONCRETE AT NO ADDITIONAL COST TO THE STATE OF OHIO.
- LONGITUDINAL JOINTS SHALL NOT BE TIED, REGARDLESS OF PATCH LENGTH, UNLESS AN IDENTICAL REPAIR IS IN THE ADJACENT LANE.
- WITHIN THE REPAIR AREA TYPE N JOINTS SHALL BE REQUIRED AT A MAXIMUM SPACING OF 20 FT. INTERVALS. NO SLABS WITHIN THE REPAIR SHALL BE SHORTER THAN 10 FT.
- TYPE N JOINTS SHALL BE SEALED AS PER BP-2.2. KERF AND SEAL IS NOT REQUIRED AT THE REPAIR LIMITS.
- SUBGRADE REMOVAL SHALL BE INCIDENTAL TO THIS ITEM OF WORK.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER.

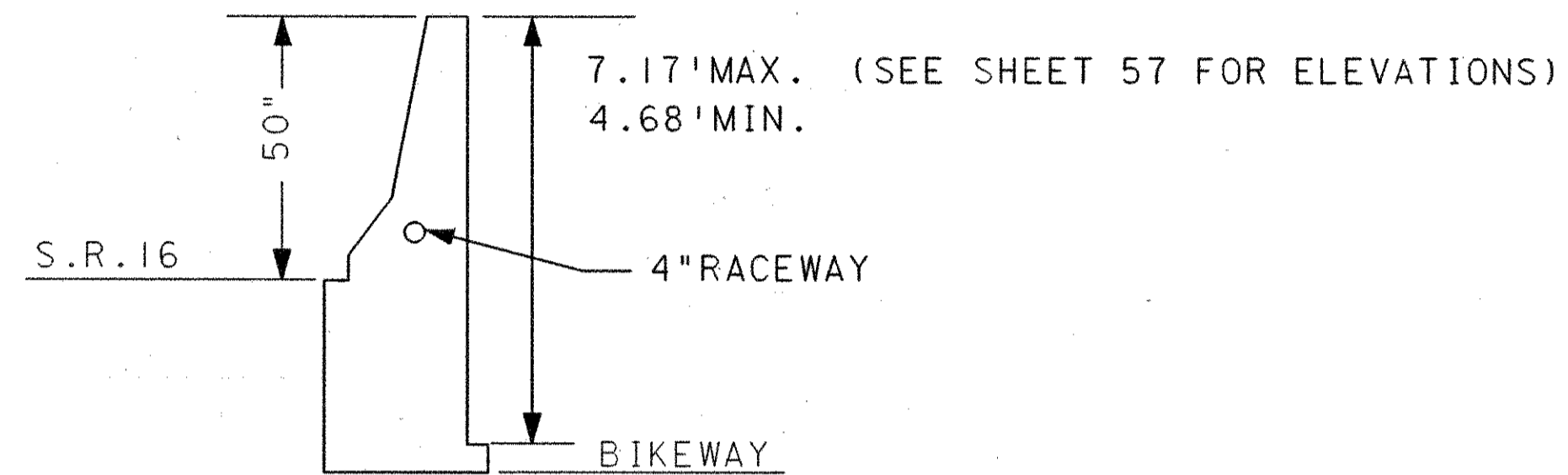
ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, AS PER PLAN	2750 SQ. YD.
ITEM 255 FULL DEPTH PAVEMENT SAWING	2400 LIN. FT.
ITEM 622 PORTABLE CONCRETE BARRIER, 32"	6150 LIN. FT.
ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR (TO BE USED AT LONGITUDINAL JOINTS)	100 SQ. YD.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY
 ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, AS PER PLAN 1530 SQ. YD.
 ITEM 255 FULL DEPTH PAVEMENT SAWING 2360 LIN. FT.

ITEM 622 CONCRETE BARRIER, TYPE D-50, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 622 AND STANDARD DRAWING MC-9.3, THE FOLLOWING SHALL APPLY:

- (1) A 4" POLYVINYL CHLORIDE RACEWAY SHALL BE INSTALLED AS SHOWN ON THE TYPE C-50 DETAIL ON STANDARD DRAWING MC-9.3. THE 4" POLYVINYL CHLORIDE CONDUIT SHALL EXTEND 10' BEFORE AND AFTER THE PROPOSED BARRIER AND SHALL CONNECT TO THE PROPOSED PULL BOXES AT STA.18+65.7 AND STA.17+10.7.
- (2) THE MAXIMUM HEIGHT SHALL BE AS SHOWN BY THE BELOW DETAIL:



PAYMENT FOR ANY MATERIALS, LABOR, OR INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 622 CONCRETE BARRIER, TYPE D-50, AS PER PLAN.

ITEM 203 EMBANKMENT

ITEM 203 EMBANKMENT SHALL CONSIST OF PLACING EMBANKMENT AT THE OUTSIDE EDGES OF THE PAVEMENT AS SHOWN ON SHEETS 9-13. THE EXISTING SHOULDER SHALL BE PREPARED AS REQUIRED IN SPEC. 201.04. ALL EMBANKMENT SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SPEC. 203.09, EXCEPT THAT REQUIREMENTS FOR MOISTURE, DENSITY CONTROL, AND BENCHING ARE HEREBY WAIVED FOR WIDENED SHOULDERS WHICH DO NOT SUPPORT ANY PORTION OF THE NEW PAVEMENT OR SHOULDER. CARE SHALL BE EXERCISED WHEN PLACING EMBANKMENT AROUND EXISTING DRAINAGE SYSTEMS. EMBANKMENT AROUND EXISTING DRAINAGE SYSTEMS SHALL BE PLACED AT THE DIRECTION OF THE PROJECT ENGINEER. THE CONTRACTOR WILL PROVIDE STAKES AT 250' INTERVALS AT THE OUTSIDE EDGE OF PAVEMENT TO INSURE THAT SLOPES ARE CONSTRUCTED TO PLAN. COST OF THE STAKES TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 623 CONSTRUCTION LAYOUT STAKES. ESTIMATED QUANTITIES HAVE BEEN CARRIED WITH CALCULATION SHEETS TO THE GENERAL SUMMARY, AND IS AN ESTIMATED QUANTITY TO PERFORM THE WORK AS SHOWN ON SHEETS 9-13.

ITEM 606 ANCHOR ASSEMBLY, TYPE E:

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN ET-2000, OPTION "B" GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO STEEL COMPANY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 216-545-4373).

THE LENGTH OF THE ET-2000 SYSTEM IS CONSIDERED TO BE 50' INCLUSIVE OF TWO 25' LONG RAIL ELEMENTS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN IN THE PLANS.

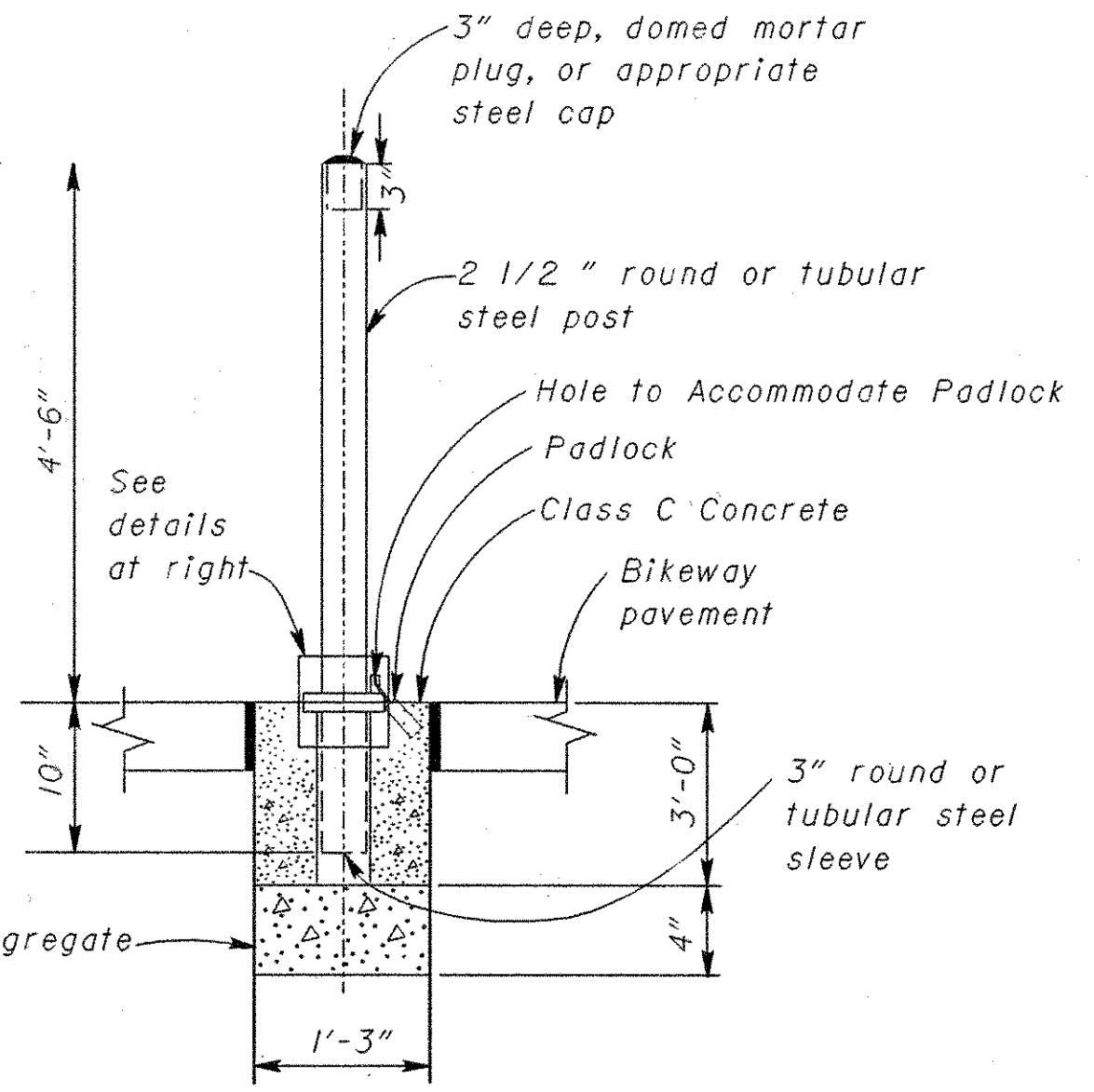
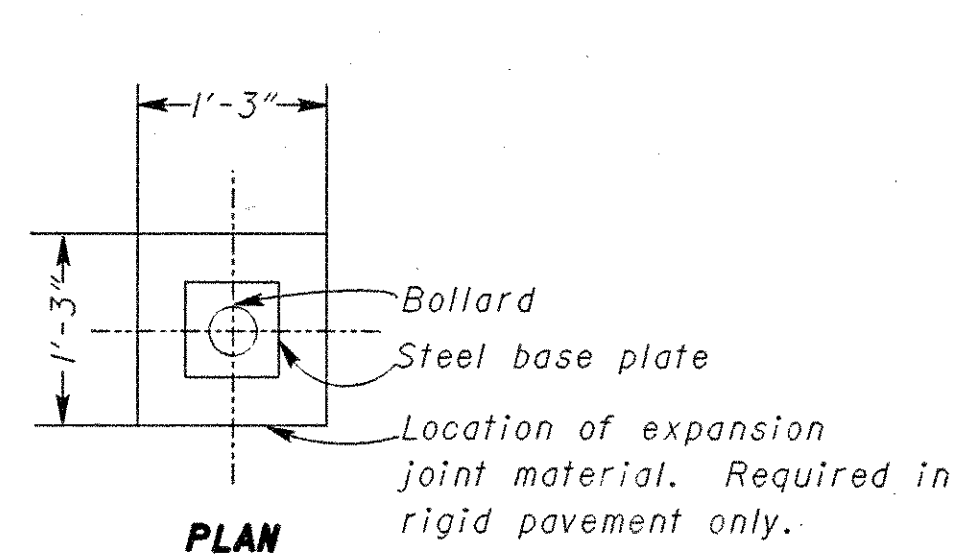
PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 606, EACH, ANCHOR ASSEMBLY, TYPE E AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS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

GENERAL NOTES

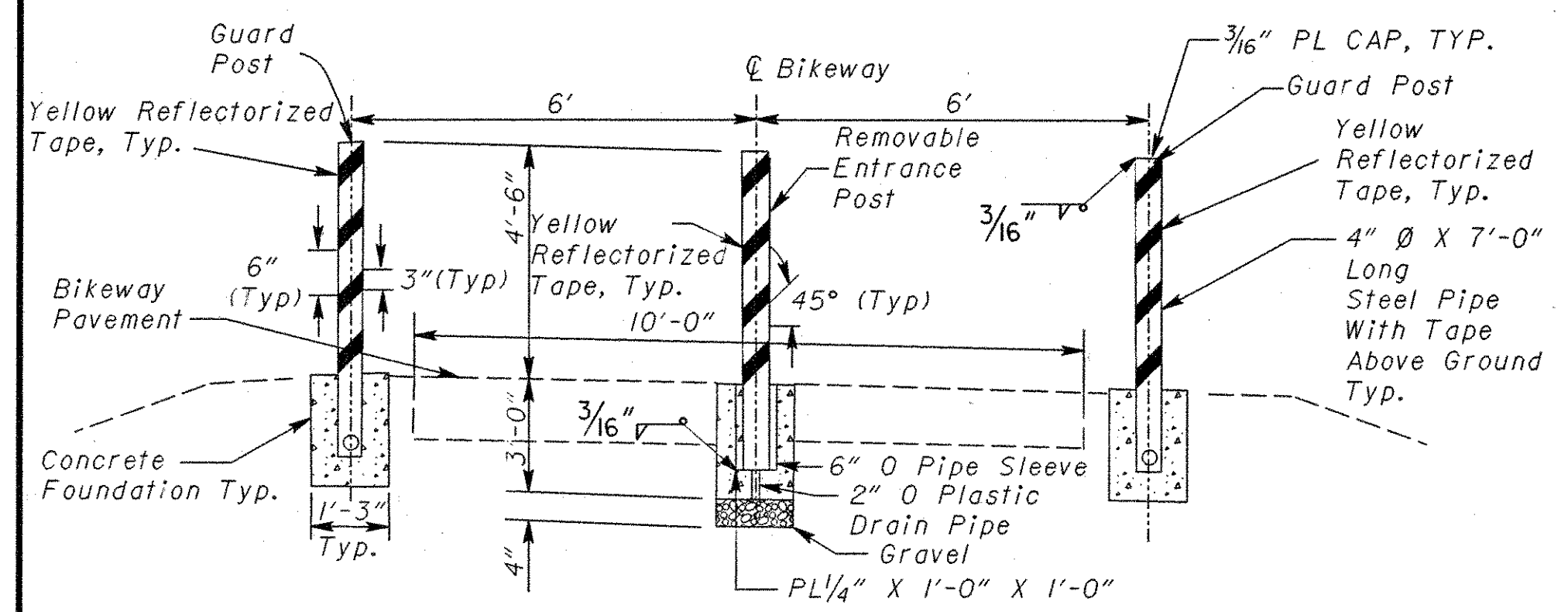
CALCULATED
D.M.
10/11/94
CHECKED
A.L.L.
10/17/94

LIC-16-19.72

19
420



REMOVABLE BOLLARD



BOLLARD PLACEMENT DETAIL

NOTES

GENERAL: All bollard sleeves shall be mounted flush with the bikeway pavement.

CONCRETE ENCASEMENT of sleeve shall be square, as shown, in concrete pavement, but may be square or round in flexible pavement. Round encasement should be 1'0" in diameter.

PREFORMED EXPANSION JOINT FILLER shall meet the provisions of CMS 705.11, and is required when bollards are set into concrete pavement.

CONCRETE: All concrete shall be Class C and shall conform to CMS 499 and CMS 511.

REFLECTIVE SHEETING: Shall meet the provisions of CMS 730.19

STEEL PIPE shall be ASTM A 53 Schedule 40, hot-dipped galvanized after fabrication in accordance with ASTM A 123.

GALVANIZING: All steel parts shall be hot-dipped galvanized after fabrication in accordance with ASTM A 123.

ALUMINUM: All steel components may be replaced by aluminum components meeting the following ASTM Specifications: B 209 (plate), B 210 or B 241/B 241M (drawn seamless tubes & pipes).

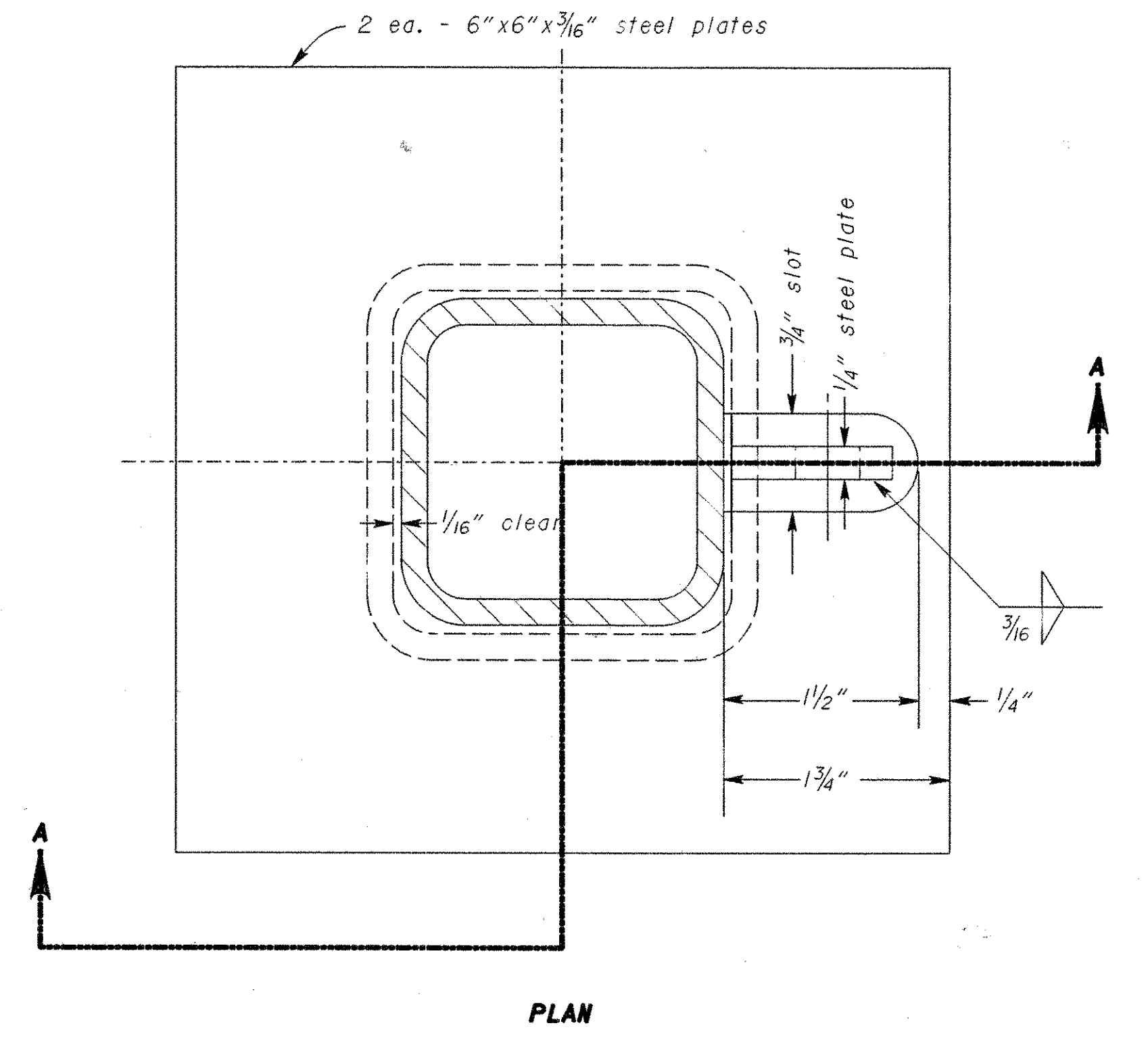
PERMANENT BOLLARDS: Permanent Bollards shall be the same as Removable Bollards, except the steel plates and sleeves shall be omitted. The post shall be directly encased in concrete.

Removable bollard payment shall be for the unit bid price for Item Special Roadway Misc.: Entrance Post Removable Each

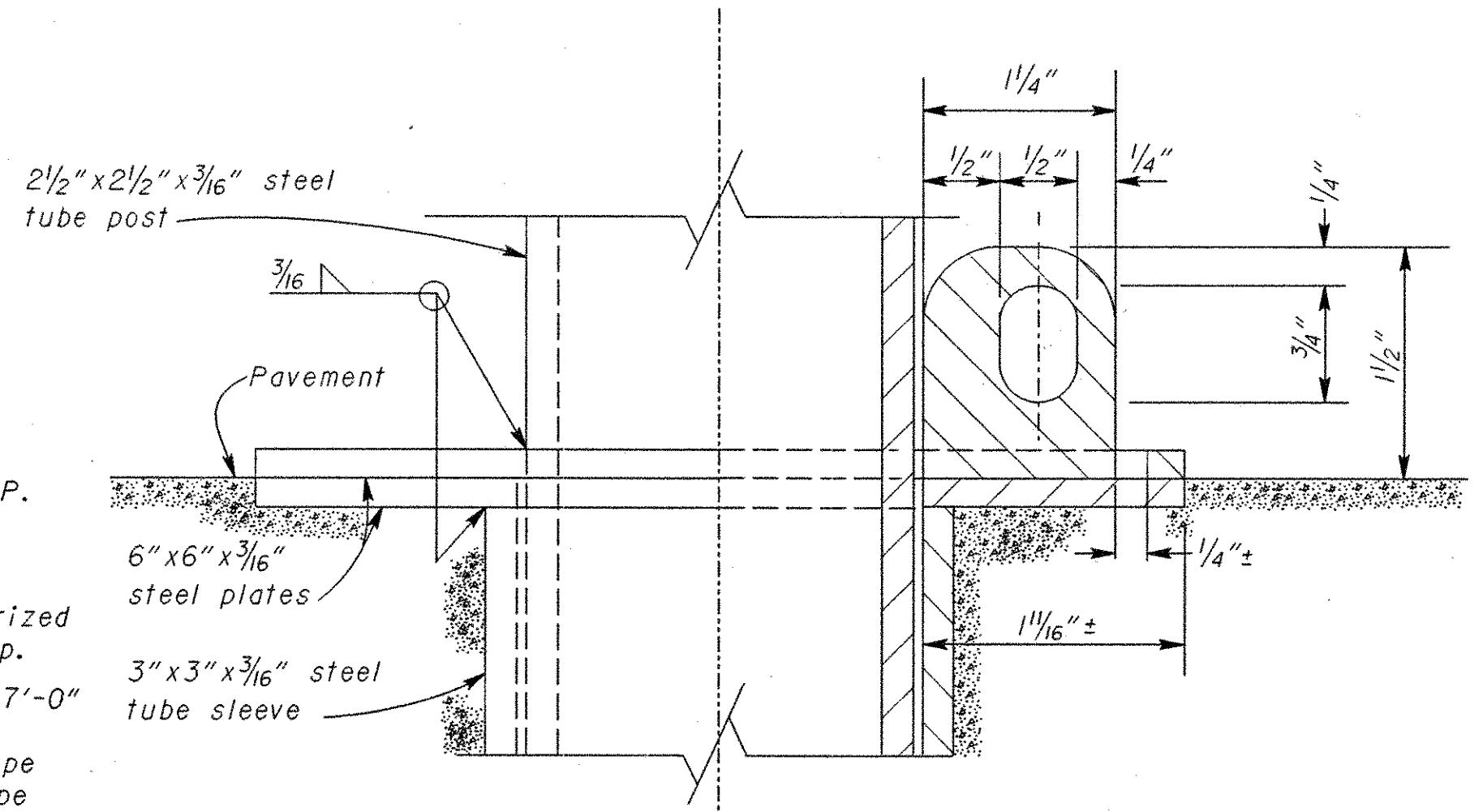
Permanent bollard payment shall be for the unit bid price for Item Special Roadway Misc.: Guard Post Each

PADLOCKS: Each entrance post shall be equipped with an approved padlock with double locking bolt. Five-pin tumbler, laminated steel case, brass cylinder, rust-proof.

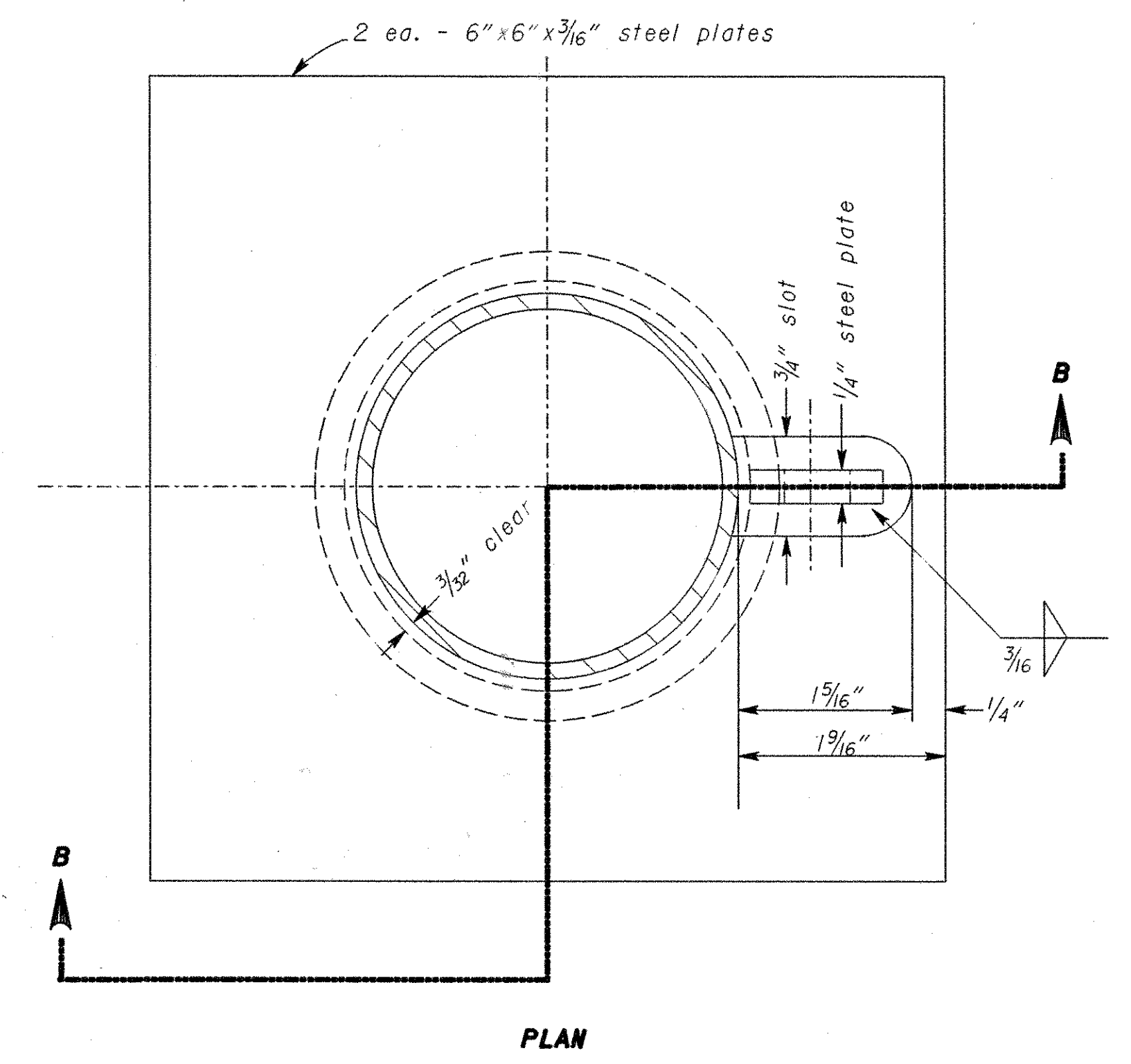
Tumblers shall be identically set in each lock so that the same key will open all locks. Two keys shall be furnished with each padlock.



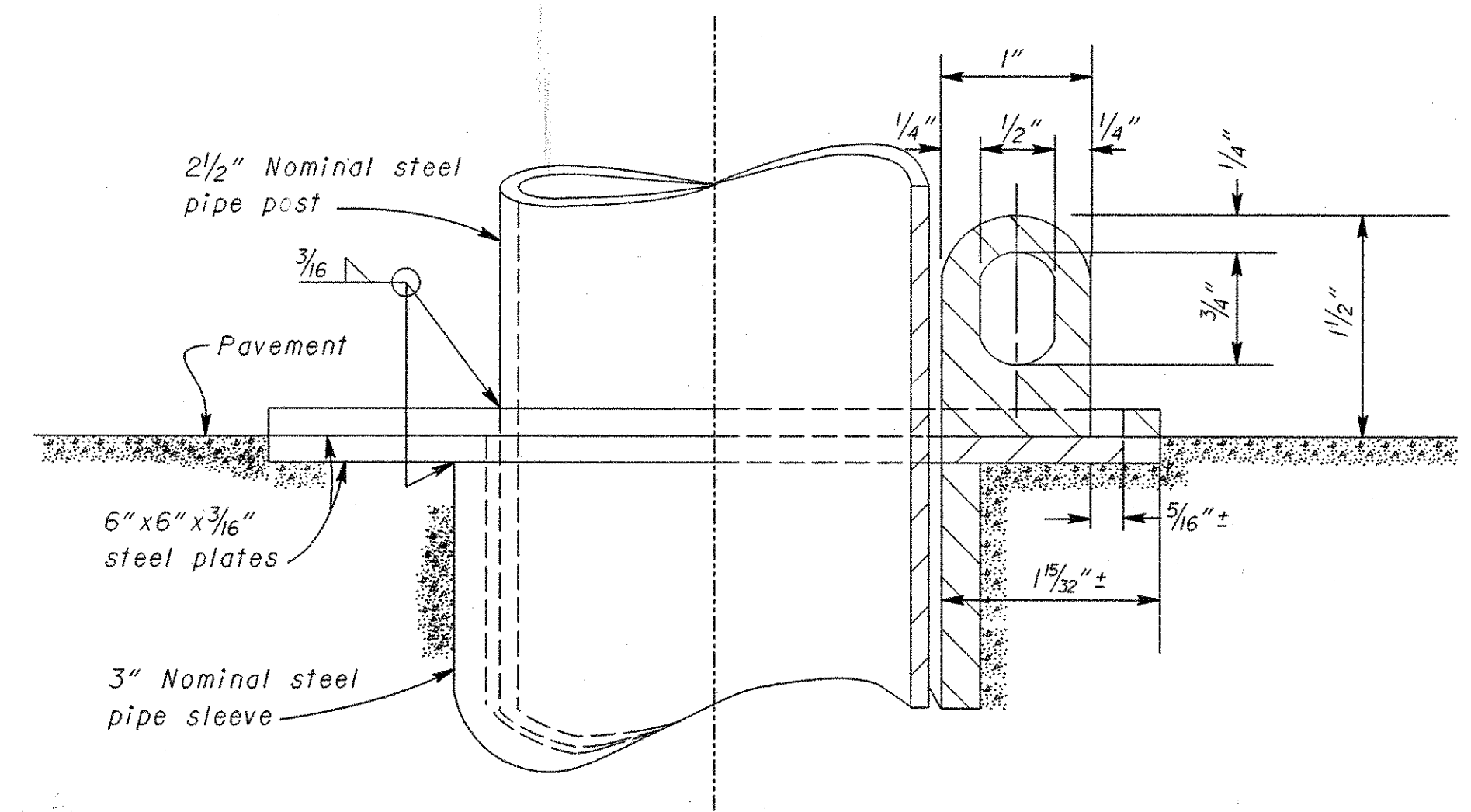
PLAN



SECTION A-A
TUBULAR BOLLARD DETAILS



PLAN



SECTION B-B
PIPE BOLLARD DETAILS

BOLLARD.DGN 4-19-95

CALCULATED
A. L. L.
3-13-95
CHECKED
D. M.
3-16-95

ITEM SPECIAL ROADWAY MISC: ENTRANCE POST REMOVABLE AND ITEM SPECIAL ROADWAY MISC: GUARD POST

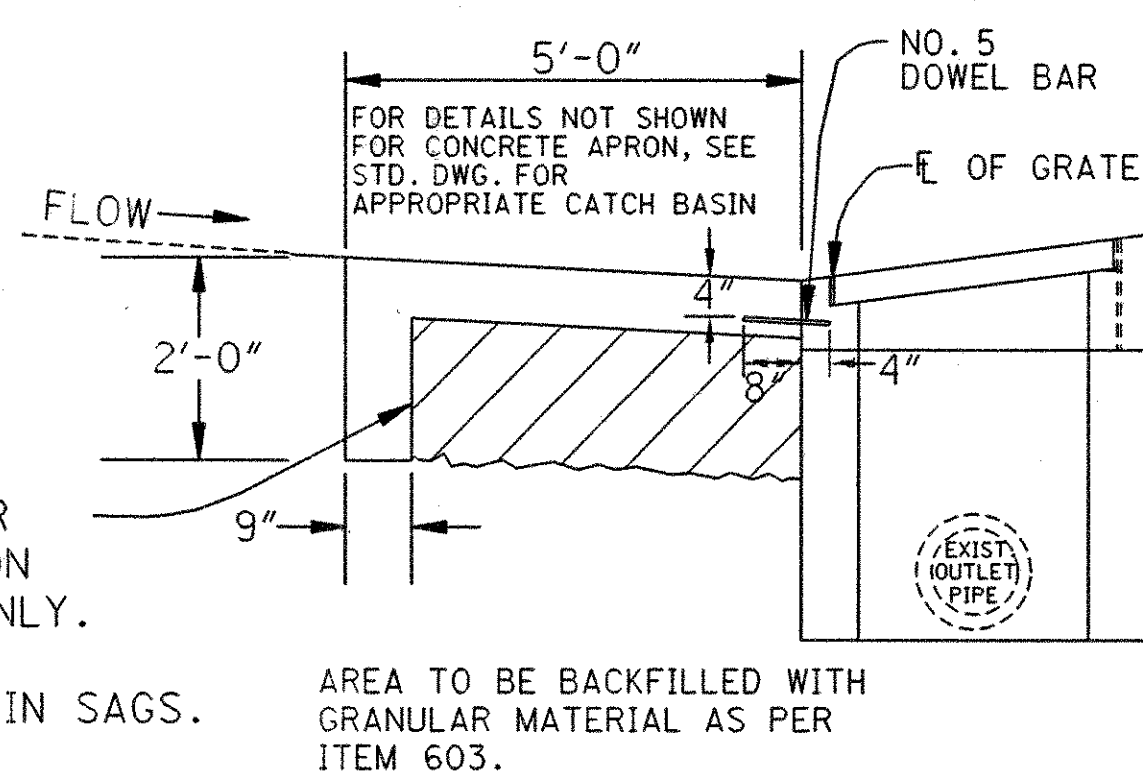
LIC-16-17.94

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ITEM 604 CATCH BASIN NO. 5 WITH B GRATE, AS PER PLAN

NOTE:

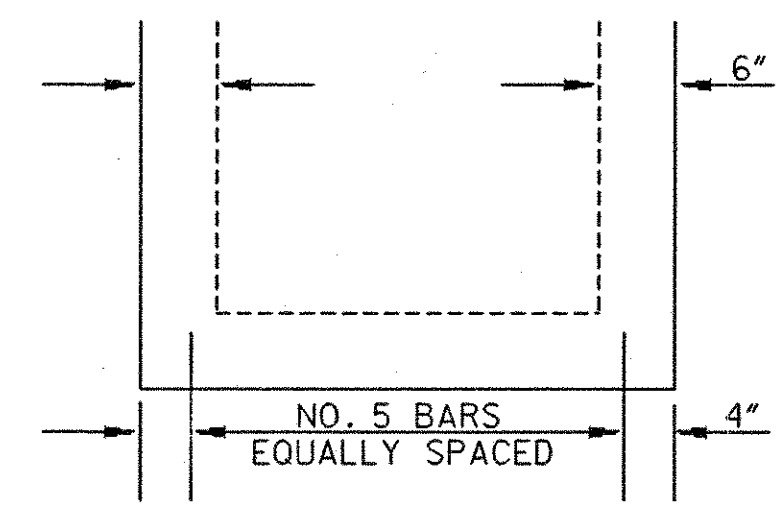
THIS DETAIL SHALL BE USED FOR NO. 5, CATCH BASINS, AS PER PLAN. FOR DETAILS NOT SHOWN SEE STD. DWG. C.B. 5 .



PROVIDE A CUT-OFF WALL FOR THE FULL WIDTH OF THE APRON ALONG THE UPSTREAM SIDE ONLY. TWO CUT-OFF WALLS WILL BE REQUIRED FOR CATCH BASINS IN SAGS.

THE REQUIREMENTS OF ITEM 604 SHALL GOVERN THE REPLACEMENT OF THE EXISTING CATCH BASIN. THE WORK SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE EXISTING CATCH BASIN AND ITS SUBSEQUENT REPLACEMENT. THE CONCRETE APRON SHALL BE REPLACED AND BACK-FILLED AS SHOWN HERE AND IN THE STANDARD DRAWING FOR THE PERTINENT CATCH BASIN.

BAR LOCATION DETAIL FOR NO. 5 C.B.



THE NUMBER OF BARS NEEDED ALONG A NO. 5 CATCH BASIN ON EACH SIDE WITH A CONCRETE APRON IS 4.

CATCH BASIN	TOTAL BARS FOR A	
	Std. Apron	Sag Apron
5	12	16

THE FURNISHING AND PLACING OF STEEL FOR THE 5/8" X 12" DOWEL BARS SHALL BE PER 509 REINFORCING STEEL. THE DOWEL BARS SHALL BE EPOXY COATED PER 509.10. THE DOWEL BARS SHALL BE INSTALLED PER 510 OR CAST INTO THE BASIN. BOLT IN INSERTS MAY BE USED. THE CATCH BASIN SHALL BE PRECAST OR CAST-IN-PLACE CONCRETE. BRICK OR CONCRETE BLOCK WILL NOT BE PERMITTED. THE 6" CONCRETE APRON SHALL BE REINFORCED PER 601.04(3).

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 604 CATCH BASIN, NO. 5 WITH B GRATE, AS PER PLAN AND SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, TOOLS, AND EQUIPMENT INCIDENTAL TO COMPLETE THIS ITEM FOR WORK.

ITEM 604 CATCH BASIN, NO. 6, AS PER PLAN

THE REQUIREMENTS OF ITEM 604 SHALL GOVERN THE CONSTRUCTION OF THE CATCH BASIN, EXCEPT THAT THE CATCH BASIN SHALL BE PRECAST OR CAST IN PLACE CONCRETE. BRICK OR CONCRETE BLOCK WILL NOT BE PERMITTED.

- ITEM 604 INLET NO. 3-B50, AS PER PLAN A
- ITEM 604 INLET NO. 2-A-8, AS PER PLAN
- ITEM 604 INLET NO. 2-A-10, AS PER PLAN
- ITEM 604 INLET NO. 2-10, AS PER PLAN
- ITEM 604 INLET NO. 2-A-14, AS PER PLAN

THE REQUIREMENTS OF ITEM 604 SHALL GOVERN THE CONSTRUCTION OF THE INLET, EXCEPT THAT THE INLET SHALL BE PRECAST OR CAST IN PLACE CONCRETE. BRICK OR CONCRETE BLOCK WILL NOT BE PERMITTED.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, A CROSS OVER OR CROSS 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 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 A PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

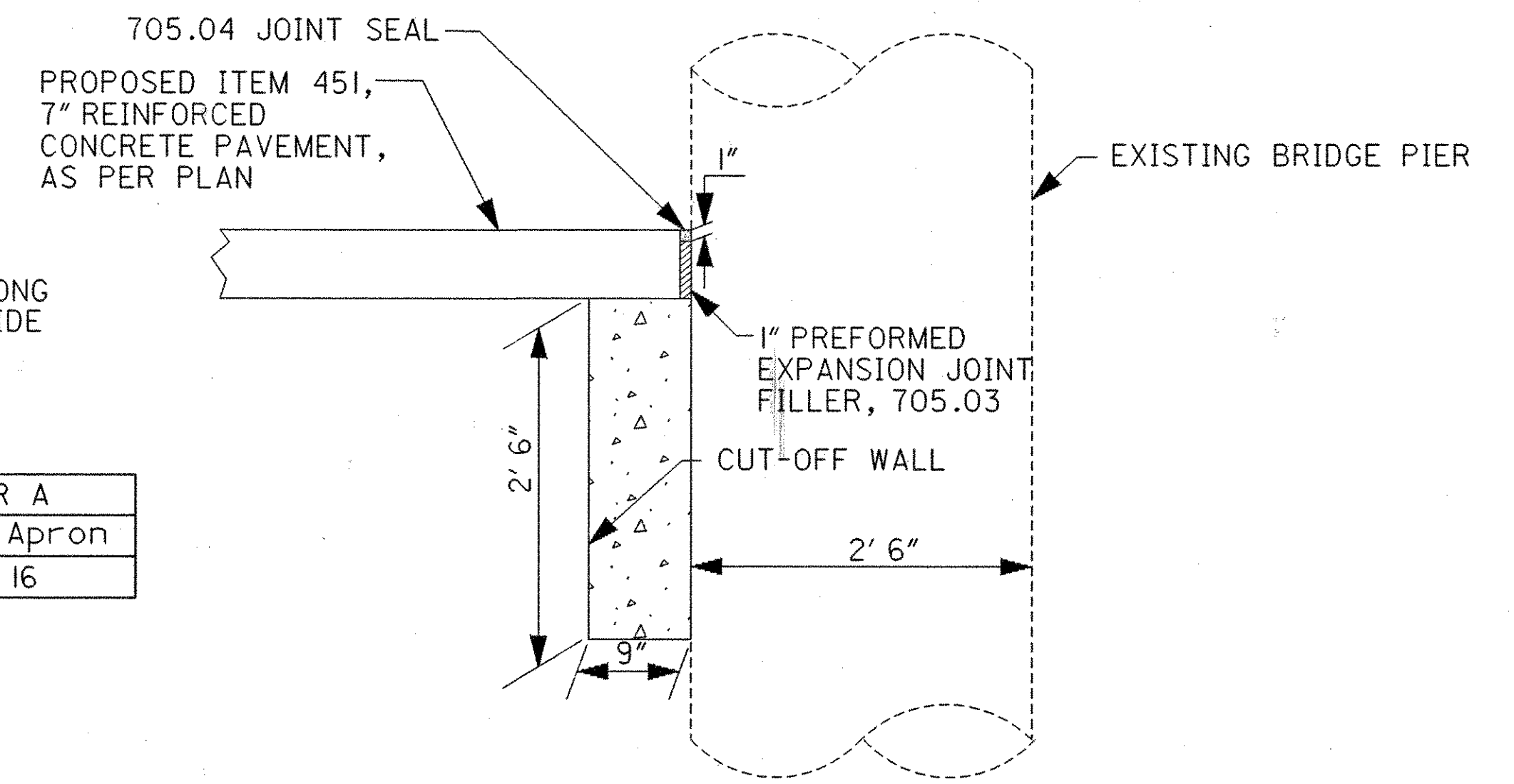
PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

ITEM 604 MANHOLE NO.1, AS PER PLAN

THE REQUIREMENTS OF ITEM 604 SHALL GOVERN THE CONSTRUCTION OF THE MANHOLE, EXCEPT THAT THE MANHOLE SHALL BE PRECAST OR CAST IN PLACE CONCRETE. BRICK OR CONCRETE BLOCK WILL NOT BE PERMITTED.

ITEM 451, 7" REINFORCED CONCRETE PAVEMENT, AS PER PLAN

FROM STA. 95+95.85 TO STA. 96+68.90, A CUT-OFF WALL AS PER MC-4 SHALL BE PLACED ALONG THE EXISTING BRIDGE PIER, AND A 1" PREFORMED EXPANSION JOINT FILLER AS PER BP-2.2 SHALL BE PLACED BETWEEN THE EXISTING BRIDGE PIER AND THE ITEM 451. THE JOINT SHALL BE SEALED AS PER BP-2.2. PAYMENT FOR THE CUTOFF WALL, EXPANSION JOINT FILLER AND ANY INCIDENTALS NEEDED TO COMPLETE THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 451, 7" REINFORCED CONCRETE PAVEMENT, AS PER PLAN.



ITEM 601 RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

IN ADDITION TO MEETING THE REQUIREMENTS OF ITEM 601, THE RIPRAP SHALL BE DOWELED INTO THE EXISTING BRIDGE FOOTING AS SHOWN BY THE TYPICAL SECTION ON SHEET I4. A #5 X 12" DEFORMED BAR SHALL BE PLACED AT 1.5'c/c. THE DOWEL WILL BE DRILLED AND GROUTED AS PER BP-2.1, TYPE D JOINT. THE COST OF THE DOWELS, DOWEL HOLES AND ANY LABOR OR EQUIPMENT NEEDED TO PERFORM THE WORK DESCRIBED SHALL BE IN THE UNIT BID PRICE FOR ITEM 601 RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN.

GENERAL NOTES

CALCULATED
D.M.
10/17/94
CHECKED
A.L.L.
10/17/94

ITEM 659, SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL WITHIN THE CONSTRUCTION LIMITS. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS PLUS 10 FEET.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 659 AGRICULTURAL LIMING 63 TON
ITEM 659 COMMERCIAL FERTILIZER 13 TON *

* ADD 7 TONS FOR SECOND APPLICATION FOR TWO CONSECUTIVE SEASONS AS PER 659.08.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, 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 APPURTENANCES 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 603 CONDUIT ITEMS.

PAVEMENT REPAIR AROUND CATCH BASINS AND INLETS

A QUANTITY OF 304 AGGREGATE BASE AND ITEM 301 BITUMINOUS AGGREGATE BASE, AC-20 HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO REPAIR THE PAVEMENT OR SHOULDER DISTURBED WHEN CONSTRUCTING THE PROPOSED CATCH BASINS OR INLETS. ANY REPLACEMENT NEEDED WITHIN THE AREA OF THE CONCRETE PAVEMENT AT RAMP "C" AND RAMP "D" AT COUNTRY CLUB DR. SHALL BE AS PER THE RESPECTIVE CONCRETE REPAIRS. QUANTITIES ARE INCLUDED IN THE GENERAL NOTES UNDER ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN A

ITEM 304 AGGREGATE BASE 100 CU. YD.
ITEM 301 BITUMINOUS AGGREGATE BASE AC-20 100 CU. YD.

WATERING AND MOWING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR PERMANENT SEEDED AREAS PER 659.09:

ITEM 659 WATER 305 M.GAL.
ITEM 659 MOWING 320 M.SQ. FT.

ADDITIONAL TACK COAT

IN ADDITION TO THE REQUIREMENTS OF 407.05 & 401.12, A TACK COAT SHALL BE APPLIED AS DESCRIBED THIS SHEET ON ITEM 446 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AHEAD OF THE PAVING OPERATION FOR THE ITEM 446 ASPHALT CONCRETE SURFACE COURSE, TYPE 1

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO PERFORM THE WORK AS DESCRIBED ABOVE.

ITEM 407 TACK COAT 7,900 GALLONS

CURBING ON APPROACH SLABS

THE SHAPE OF THE CURBING ON APPROACH SLABS SHALL BE TRANSITIONED, FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE, WITHIN THE LIMITS OF THE APPROACH SLAB, OR AS SHOWN ON THE BRIDGE DETAILS.

ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF .075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

CENTERLINE REFERENCE POINTS

THE CONTRACTOR WILL BE GIVEN A LIST OF REFERENCE POINTS AT THE PROJECT PRE-CONSTRUCTION MEETING.

ITEM 670 DITCH EROSION PROTECTION

WHEN 668 EXCELSIOR MATTING IS USED IN DITCHES OR CHANNELS, THE MATTING SHALL BE COVERED ON BOTH TOP AND BOTTOM WITH NETTING HAVING A MAXIMUM 1 INCH BY 1 INCH WEAVE.

IN ADDITION, 673 TYPE B MATERIAL MAY BE USED FOR ITEM 670 DITCH EROSION PROTECTION.

ITEM 201 CLEARING AND GRUBBING, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 201, THE FOLLOWING REQUIREMENTS SHALL APPLY. THE EXISTING SLOPE AREAS WHERE EMBANKMENT IS TO BE PLACED AS SHOWN ON SHEETS 9 TO 13 SHALL REQUIRE DISKING, OR A METHOD APPROVED BY THE ENGINEER, PRIOR TO PLACEMENT OF THE EMBANKMENT.

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

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 201 CLEARING AND GRUBBING, AS PER PLAN LUMP

GENERAL NOTES

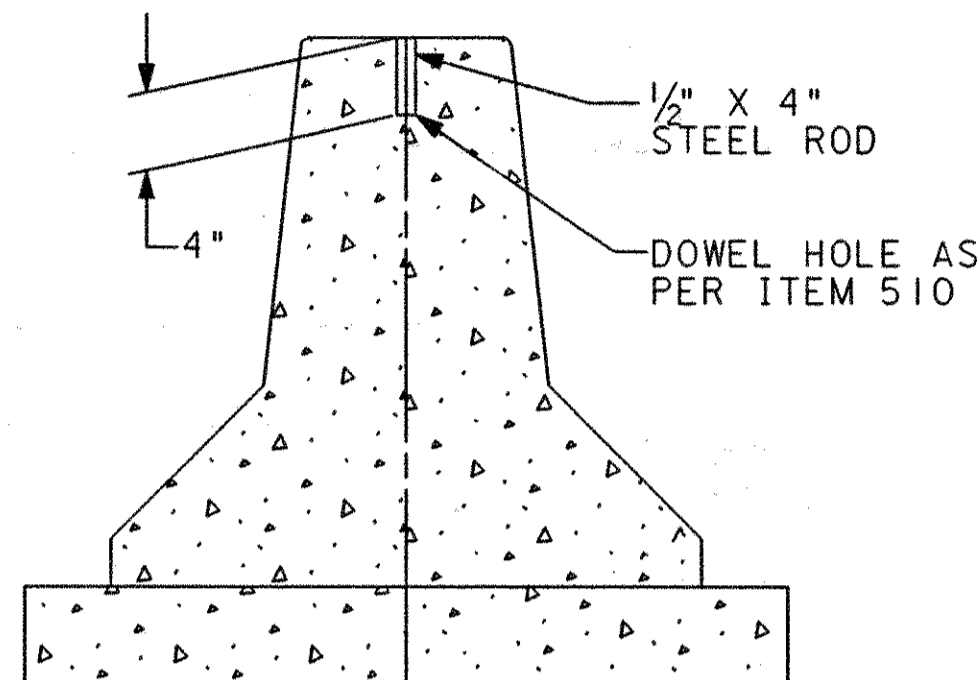
LIC-16-19.72

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ITEM 604 REFERENCE MONUMENT, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND PLACING THE 4" STEEL ROD SHOWN IN THIS DETAIL AT THE EXACT LOCATIONS INDICATED ON THIS SHEET.

DRILLING OF THE HOLES AND PLACING OF STEEL ROD SHALL BE IN ACCORDANCE WITH ITEM 510 DOWEL HOLES. THE UNIT PRICE BID FOR EACH ITEM 604, REFERENCE MONUMENT, AS PER PLAN, SHALL INCLUDE ALL LABOR, TOOLS, DOWEL HOLES, MATERIALS AND INCIDENTALS NECESSARY TO FURNISH AND PLACE THE STEEL ROD AT THE INDICATED LOCATIONS.



A LIST OF REFERENCE POINTS SHALL BE GIVEN TO THE CONTRACTOR AT THE PRECONSTRUCTION MEETING.

STATION	LOCATION	ITEM 604	
		REFERENCE MONUMENT	REFERENCE MONUMENT, AS PER PLAN
		EACH	EACH
STA. 16+74.53	8.92' LT. EASTBOUND LANES	1	
P.O.T. STA. 21+00.00	⊙		1
T.S. STA. 26+18.68	⊙		1
S.C. STA. 29+68.68	⊙		1
C.S. STA. 36+40.53	⊙		1
S.T. STA. 39+90.53	⊙		1
P.C. STA. 45+89.87	⊙		1
P.O.C. STA. 52+00.00	⊙		1
P.T. STA. 58+03.88	⊙		1
P.O.T. STA. 66+00.00	⊙		1
P.O.T. STA. 74+00.00	⊙		1
P.O.T. STA. 82+00.00	⊙		1
T.S. STA. 89+35.95	⊙		1
S.C. STA. 92+85.95	⊙		1
P.O.C. STA. 98+00.00	⊙		1
C.S. STA. 103+85.86	⊙		1
P.O.T. STA. 108+00.00	⊙		1
TOTALS		1	16

TOTALS CARRIED TO GENERAL SUMMARY.

ITEM 620 DELINEATOR BY TYPE, POST MOUNTED

THE CONTRACTOR SHALL FURNISH AND INSTALL POST MOUNTED DELINEATORS MANUFACTURED BY:

CARSONITE INTERNATIONAL
30 E. COLUMBUS ST.
OH SALES OFFICE
COLUMBUS, OHIO 43206
614-221-5987

OR APPROVED EQUAL

OF THE DESIGNS HEREIN.

DESIGN 2 POST MOUNTED DELINEATORS SHALL BE MANUFACTURED FROM FIBERGLASS WITH A T CROSS-SECTION. THE POST SHALL BE 72 INCHES LONG AND SHALL BE DRIVEN TO AN INSTALLATION DEPTH OF 18 INCHES INTO THE GROUND.

DESIGN 4 POST MOUNTED DELINEATORS SHALL BE BOOSTER POSTS 27 INCHES IN LENGTH, MANUFACTURED OF FIBERGLASS, WITH A T CROSS-SECTION. DESIGN 4 POST MOUNTED DELINEATORS SHALL BE INSTALLED ON THE FRONT OF WOODEN GUARDRAIL BLOCKOUTS FACING APPROACHING TRAFFIC. THE DESIGN 4 POST MOUNTED DELINEATOR SHALL BE ATTACHED BY HAMMERING INTO THE BLOCKOUT EITHER TWO 1/8 INCH DIAMETER BY 1.25 INCH LONG, ZINC COATED LAG SCREWS WITH ZINC COATED 3/16 INCH FLAT WASHER OR TWO 1/8 INCH DIAMETER BY 1.25 INCH LONG, ZINC COATED INDENTED HEX WASHER-HEAD LAG SCREWS. ZINC COATED INDENTED HEX WASHER-HEAD LAG SCREWS MAY BE OBTAINED FROM:

TENNESSEE BOLT AND SCREW COMPANY
MEMPHIS TENN.
901-452-7491

-OR-

MID STATE BOLT AND NUT COMPANY
COLUMBUS OH
614-253-8631

EIGHT WEEKS SHOULD BE ALLOWED FOR DELIVERY FROM THESE FASTENER SUPPLIERS. THE LAG SCREWS AND WASHERS SHALL BE FURNISHED BY THE CONTRACTOR.

BRACKET MOUNTED DELINEATORS SHALL BE MANUFACTURED FROM FIBERGLASS WITH A T CROSS-SECTION. THE POST SHALL BE 16" LONG AND SHALL BE ATTACHED TO THE PROPOSED BRIDGE PARAPET AS PER STANDARD DRAWING TC-61.10.

THE POST MOUNTED DELINEATORS SHALL BE FURNISHED WITH REFLECTORS ATTACHED. THE REFLECTORS SHALL CONSIST OF 3 INCH WIDE BY 6 INCH LONG REFLECTIVE SHEETING CONFORMING TO 730.19 ADHERED TO THE POST. THE REFLECTOR COLORS SHALL BE COLORLESS OR YELLOW AS SPECIFIED BY TYPE IN CONFORMANCE WITH 620.01.

INSTALLATION: DELINEATORS SHALL BE INSTALLED FACING TRAFFIC. THE PROTECTIVE PAPER COVERING THE FACE OF THE POST MOUNTED REFLECTORS SHALL NOT BE REMOVED UNTIL AFTER INSTALLATION. POSTS SHALL BE INSTALLED SO THAT THE FACE OF THE REFLECTOR IS 90 DEGREES TO THE CENTERLINE FACING APPROACHING TRAFFIC AND TO SUCH A DEPTH THAT THE TOPS OF THE INSTALLED REFLECTORS SHALL BE 48 INCHES PLUS OR MINUS 1 INCH ABOVE THE ELEVATION OF THE ADJACENT EDGE OF PAVEMENT. POSTS SHALL BE ERECTED VERTICALLY AND SHALL NOT BE MORE THAN 1/4 INCH PER FOOT OUT OF PLUMB POSITION IN ANY DIRECTION. DELINEATOR POSTS SHALL BE INSTALLED BY DRIVING USING ONLY MANUAL TECHNIQUES.

IF SOIL CONDITIONS WOULD CAUSE THE POST TO BE OUT OF PLUMB, THE CONTRACTOR MAY DRIVE A PILOT SHAFT BEFORE INSTALLATION.

POSTS INSTALLATION METHODS AND EQUIPMENT SHALL COMPLY WITH THE POST MANUFACTURE'S RECOMMENDATIONS ON FILE WITH THE DIRECTOR UNLESS PRIOR WRITTEN APPROVAL OF ALTERNATE TECHNIQUES ARE OBTAINED FROM THE DIRECTOR

DELINEATORS TO BE MOUNTED AS BOOSTER POSTS ON THE FRONT OF WOODEN GUARDRAIL BLOCKOUTS SHALL BE ATTACHED BY HAMMERING INTO THE BLOCKOUT EITHER TWO 1/8 INCH DIAMETER BY 1 1/4 INCH LONG, ZINC COATED LAG SCREWS WITH ZINC COATED 3/16 INCH FLAT WASHERS OR TWO 1/8 INCH DIAMETER BY 1 1/4 INCH LONG, ZINC COATED INDENTED HEX WASHER-HEAD LAG SCREWS.

DELINEATOR POSTS PLACED IN CONCRETE MEDIANS MAY BE INSTALLED BY PLACING THEM IN 4 INCH SLEEVES OR CORE DRILLED HOLES. THE HOLES SHALL BE FILLED WITH ASPHALTIC CONCRETE AFTER THE POST IS IN PROPER POSITION.

LAYOUT: THE CONTRACTOR SHALL LAYOUT ALL DELINEATOR LOCATIONS TO ASSURE THEIR PROPER PLACEMENT. THE LAYOUT SHALL BE APPROVED BY THE ENGINEER BEFORE INSTALLATION OPERATIONS ARE STARTED. THE LAYOUT SHALL BE INCIDENTAL TO THE INSTALLATION OPERATIONS.

THIS WORK SHALL CONSIST OF LOCATING AND MARKING ON THE ROADWAY THE FOLLOWING DELINEATOR FEATURES AS DETERMINED FROM THE LOCATION INFORMATION IN THE PLANS OR FROM SCHEMATICS OF HORIZONTAL CURVES AND RAMPS PROVIDED IN THE PLANS.

- 1) BEGINNING OF EACH RUN WITH CONSTANT SPACING OF DELINEATORS SPECIFYING DELINEATOR TYPE, COLOR, SIDE OF ROAD AND SPACING.
- 2) END OF EACH RUN WITH CONSTANT SPACING.
- 3) BEGINNING OF EACH RUN WITH VARIABLE SPACING SPECIFYING DELINEATOR TYPE, COLOR, SIDE OF ROAD AND SPACING.
- 4) END OF EACH RUN WITH VARIABLE SPACING.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE PURPOSE.

ITEM 620 DELINEATOR, TYPE C, DESIGN 2, POST MOUNTED	11 EACH
ITEM 620 DELINEATOR, TYPE C, DESIGN 4, POST MOUNTED	10 EACH
ITEM 620 DELINEATOR, TYPE D, DESIGN 2, POST MOUNTED	22 EACH

NOTE: FOR LOCATIONS OF DELINEATORS SEE SHEETS 134-145.

SEE STANDARD DRAWING TC-61.10

LOCATION	ITEM 620		
	DELINEATOR, TYPE C, DESIGN 2, POST MOUNTED	DELINEATOR, TYPE C, DESIGN 4, POST MOUNTED	DELINEATOR, TYPE D, DESIGN 2, POST MOUNTED
	EACH	EACH	EACH
RAMP "A" @ BRYN MAWR			5
RAMP "C" @ COUNTRY CLUB DR.		10	6
RAMP "D" @ COUNTRY CLUB DR.			8
RAMP "B" @ COUNTRY CLUB DR.	4		
RAMP "G" @ 21st. ST.	3		3
RAMP "E" @ 21st. ST.	4		
TOTALS	11	10	22

GENERAL NOTES

CALCULATED
A.L.L.
3-13-95
CHECKED
D.M.
3-16-95

ROUNDING

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

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATION IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.09. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING UNDER THE PROVISIONS OF 203.09.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	36		36
30"	4		4

EROSION CONTROL

ITEM 601, 660 AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OR TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THESE ITEMS SHALL MEET THE REQUIREMENTS OF 108.04.

ITEM 601, ROCK CHANNEL PROTECTION, TYPE B WITHOUT FILTER

A CONTINGENCY QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER TO IMPROVE AREAS OF THE EXISTING ROCK CHANNEL PROTECTION.

ITEM 601 ROCK CHANNEL PROTECTION, TYPE B 1500 CU.YD. WITHOUT FILTER

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE PROJECT ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

207 FILTER FABRIC FENCE	2000 LIN.FT.
207 STRAW OR HAY BALES	500 EACH
207 TEMPORARY SEEDING AND MULCHING	28100 SQ. YD.
659 REPAIR SEEDING AND MULCHING	7000 SQ. YD.
207 TEMPORARY DITCH PROTECTION	225 SQ. YD.
601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	60 CU. YD.
659 COMMERCIAL FERTILIZER	6 TON
659 WATER	65 M. GAL.

EXISTING ROCK CHANNEL PROTECTION

WHEN EXCAVATION FOR A PROPOSED CONDUIT DISTURBS EXISTING ROCK CHANNEL PROTECTION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO RESTORE THE ROCK CHANNEL PROTECTION TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH ITEM 603.01.

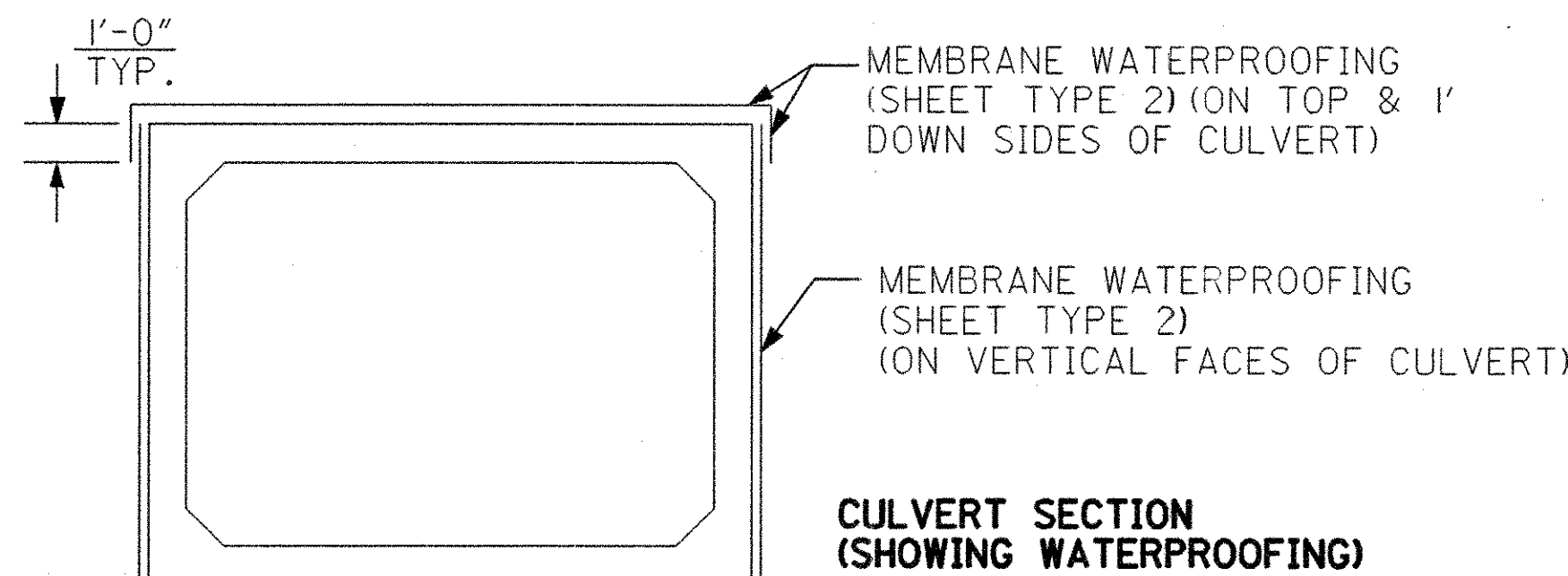
ITEM 603 14' x 10' CONDUIT, TYPE A 706.05, C850, AS PER PLAN

ITEM 603 14' x 10' CONDUIT, TYPE A 706.05, AS PER PLAN

ITEM SPECIAL MEMBRANE WATERPROOFING (SHEET TYPE 2), SHALL BE APPLIED TO THE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. THE EXTERIOR JOINT GAP ON THE TOP AND SIDES BETWEEN THE PRECAST CULVERT SECTIONS SHALL BE FILLED WITH PORTLAND CEMENT MORTAR PRIOR TO INSTALLING THE MEMBRANE WATERPROOFING. JOINT WRAP AS SPECIFIED IN 603.06 AND CONCRETE SEALING AS SPECIFIED IN 603.08 ARE NOT REQUIRED UNDER THE LIMITS OF THE MEMBRANE WATERPROOFING.

PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT BID PRICE PER SQUARE YARD FOR ITEM SPECIAL, MEMBRANE WATERPROOFING (SHEET TYPE 2).

IN LIEU OF THE INTERIOR JOINT SEALING REQUIREMENTS OF ITEM 603.06, THE CONTRACTOR SHALL SEAL THE INTERIOR JOINTS WITH PORTLAND CEMENT MORTAR.



WHEN SEALING OF CONCRETE SURFACES (EPOXY) IS SPECIFIED ON THE HEADWALLS OF A PRECAST CONCRETE BOX CULVERT, ANY PRECAST CULVERT SECTIONS BEYOND THE LIMIT OF THE MEMBRANE WATERPROOFING SHALL BE SEALED USING EPOXY SEALER. PAYMENT FOR THE SEALING OF THE PRECAST CONCRETE BOX SURFACES SHALL BE MADE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM SPECIAL - SEALING OF CONCRETE SURFACES (EPOXY).

ITEM 603 TYPE B AND C CONDUIT, WITH COVER LESS THAN 17 FEET

CORRUGATED STEEL OR ALUMINUM SPIRAL RIB PIPE CONFORMING TO SUPPLEMENTAL SPECIFICATION 946 OR 948 MAY BE USED.

ITEM 604, CATCH BASIN NO. 2-2B, AS PER PLAN A; ITEM 604, CATCH BASIN NO. 2-3, AS PER PLAN A ITEM 604, CATCH BASIN NO. 2-5, AS PER PLAN

CATCH BASINS SHALL BE CONSTRUCTED IN CONFORMANCE WITH ITEM 604 EXCEPT THAT THE GRATES SHALL BE NEENAH NO. R-4859-C OR EAST JORDAN NO. 5110 TYPE M2 OR APPROVED EQUALS FOR CATCH BASIN NO. 2-2B, NO. 2-3 AND NO. 2-5.

THE REQUIREMENTS OF ITEM 604 SHALL GOVERN THE CONSTRUCTION OF THE CATCH BASIN, EXCEPT THAT THE CATCH BASIN SHALL BE PRECAST OR CAST IN PLACE CONCRETE. BRICK OR CONCRETE BLOCK WILL NOT BE PERMITTED.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

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

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

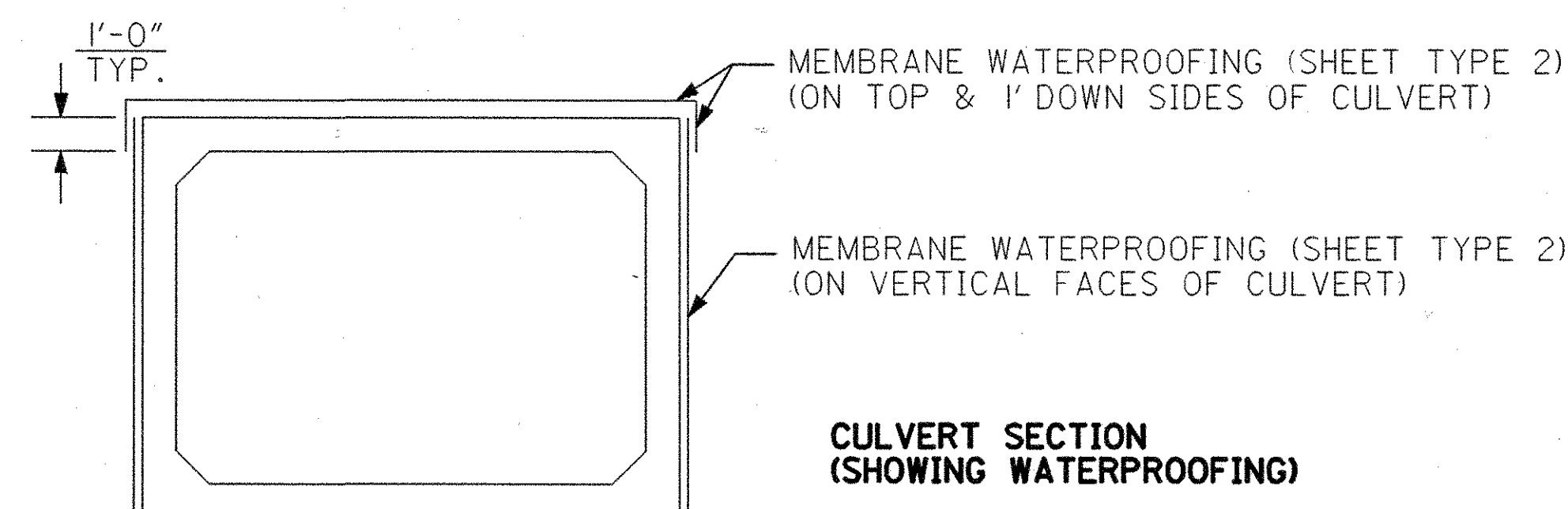
PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

ITEM 603 CONDUIT MISC.: 10' x 10' CONDUIT, TYPE A, 706.05, C850, AS PER PLAN

ITEM SPECIAL MEMBRANE WATERPROOFING (SHEET TYPE 2), SHALL BE APPLIED TO THE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. THE EXTERIOR JOINT GAP ON THE TOP AND SIDES BETWEEN THE PRECAST CULVERT SECTIONS SHALL BE FILLED WITH PORTLAND CEMENT MORTAR PRIOR TO INSTALLING THE MEMBRANE WATERPROOFING. JOINT WRAP AS SPECIFIED IN 603.06 AND CONCRETE SEALING AS SPECIFIED IN 603.08 ARE NOT REQUIRED UNDER THE LIMITS OF THE MEMBRANE WATERPROOFING.

PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT BID PRICE PER SQUARE YARD FOR ITEM SPECIAL, MEMBRANE WATERPROOFING (SHEET TYPE 2).

PAYMENT FOR THE CAST IN PLACE TRANSITION SECTION AND THE 18" NO. 5 BARS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 603 CONDUIT MISC.: 10' X 10' CONDUIT, TYPE A, 706.05, C850, AS PER PLAN.



ITEM 607, FENCE CROSSINGS TYPE 2 (MODIFIED)

THE FENCE CROSSINGS SHALL MEET ALL OF THE REQUIREMENTS OF ITEM 607 AND STANDARD DRAWING F-6 EXCEPT THAT A 0.177" DIA. TENSION WIRE SHALL BE USED IN LIEU OF BARBED WIRE. NO BARBED WIRE SHALL BE USED IN ANY LOCATION ON THIS PROJECT.

GENERAL NOTES

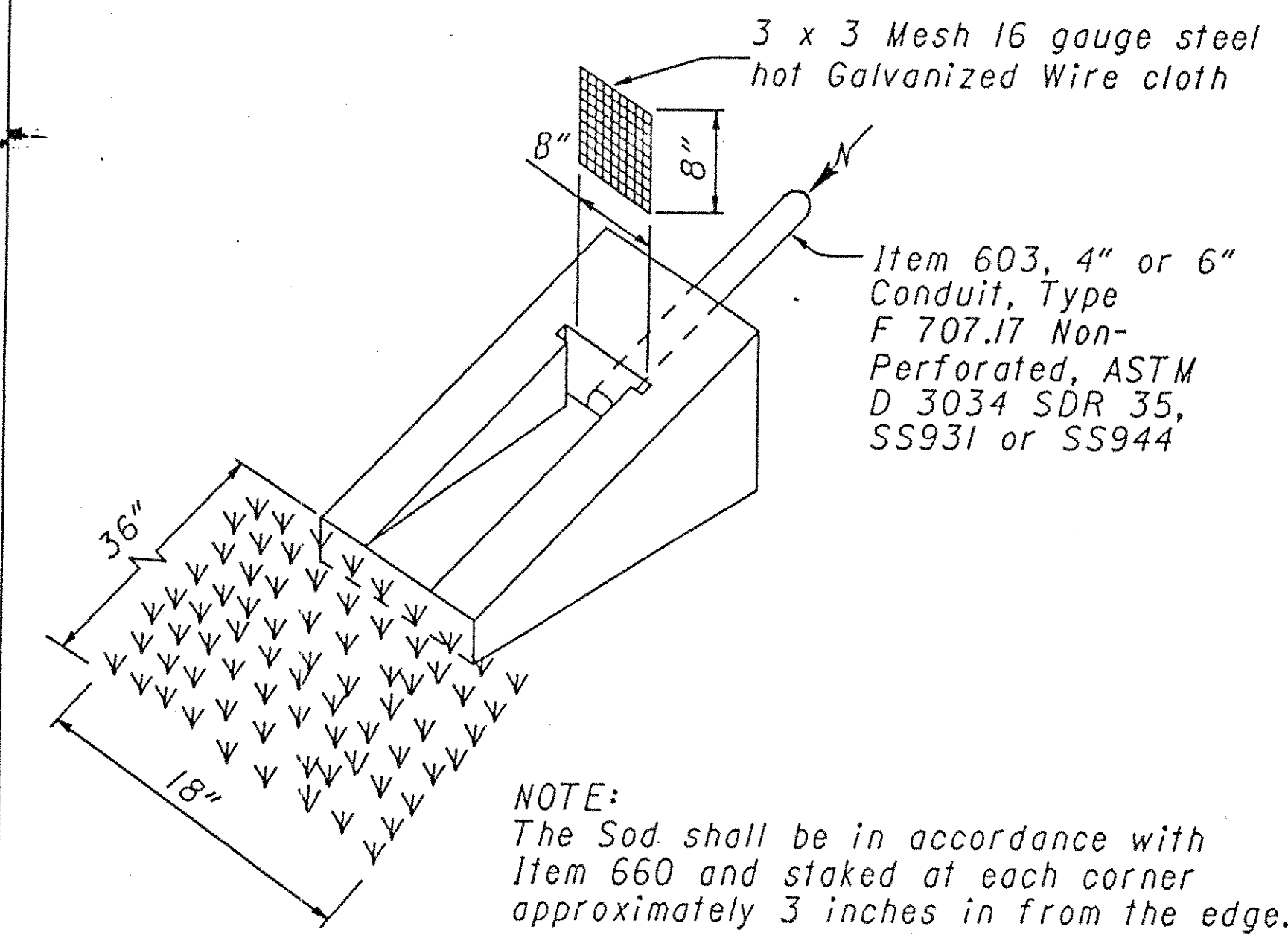
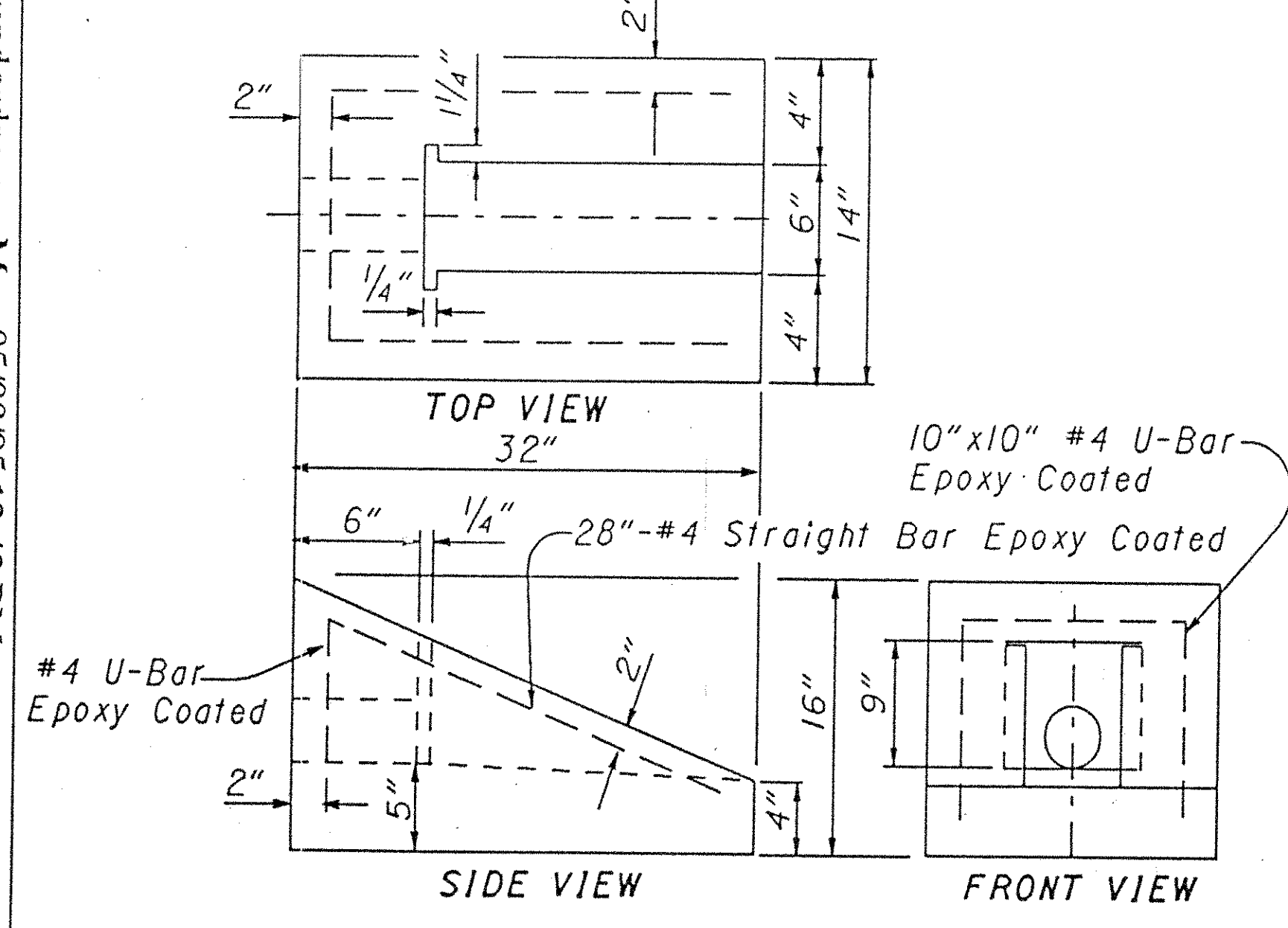
LIC-16-17.94

24
420

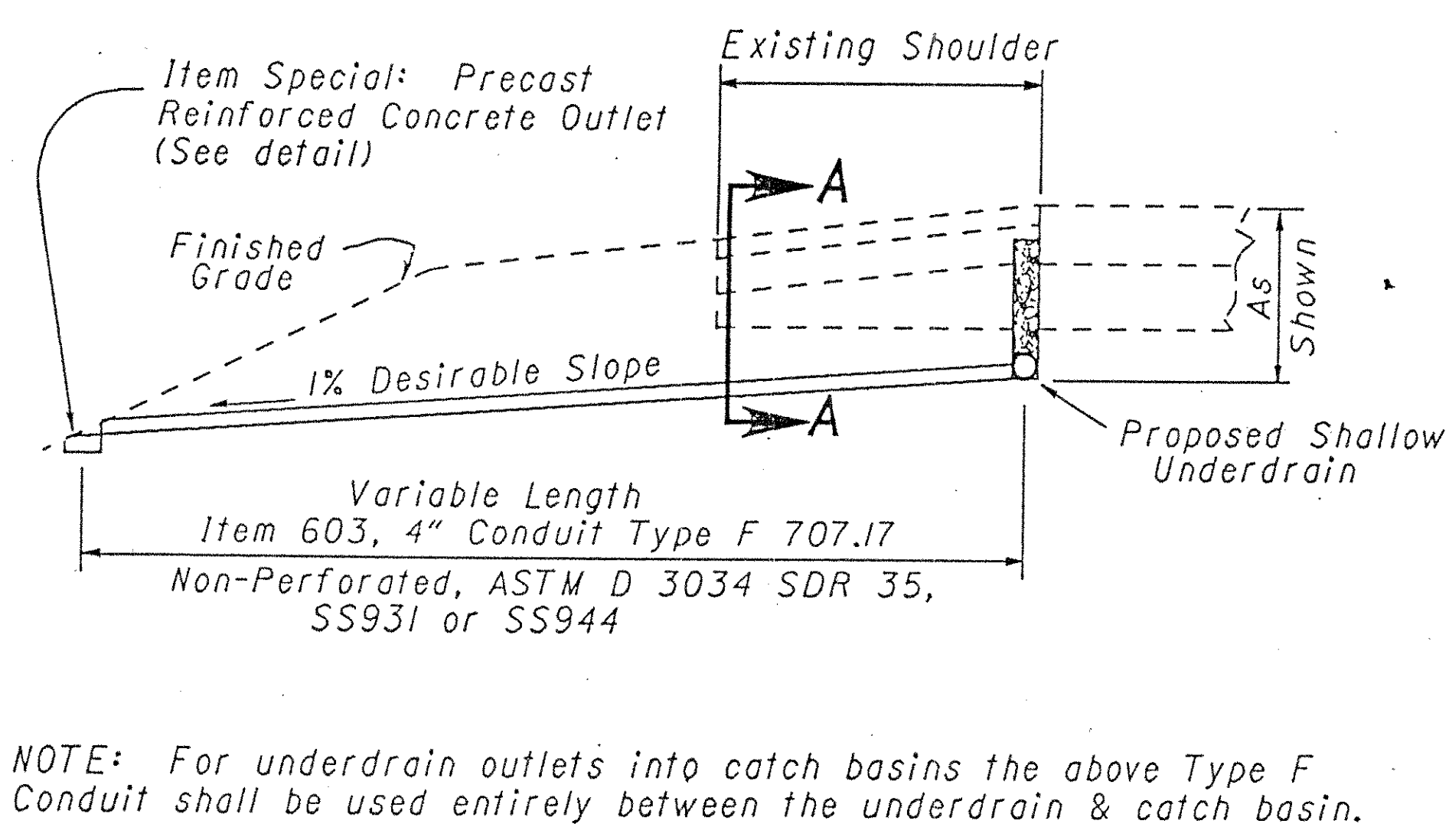
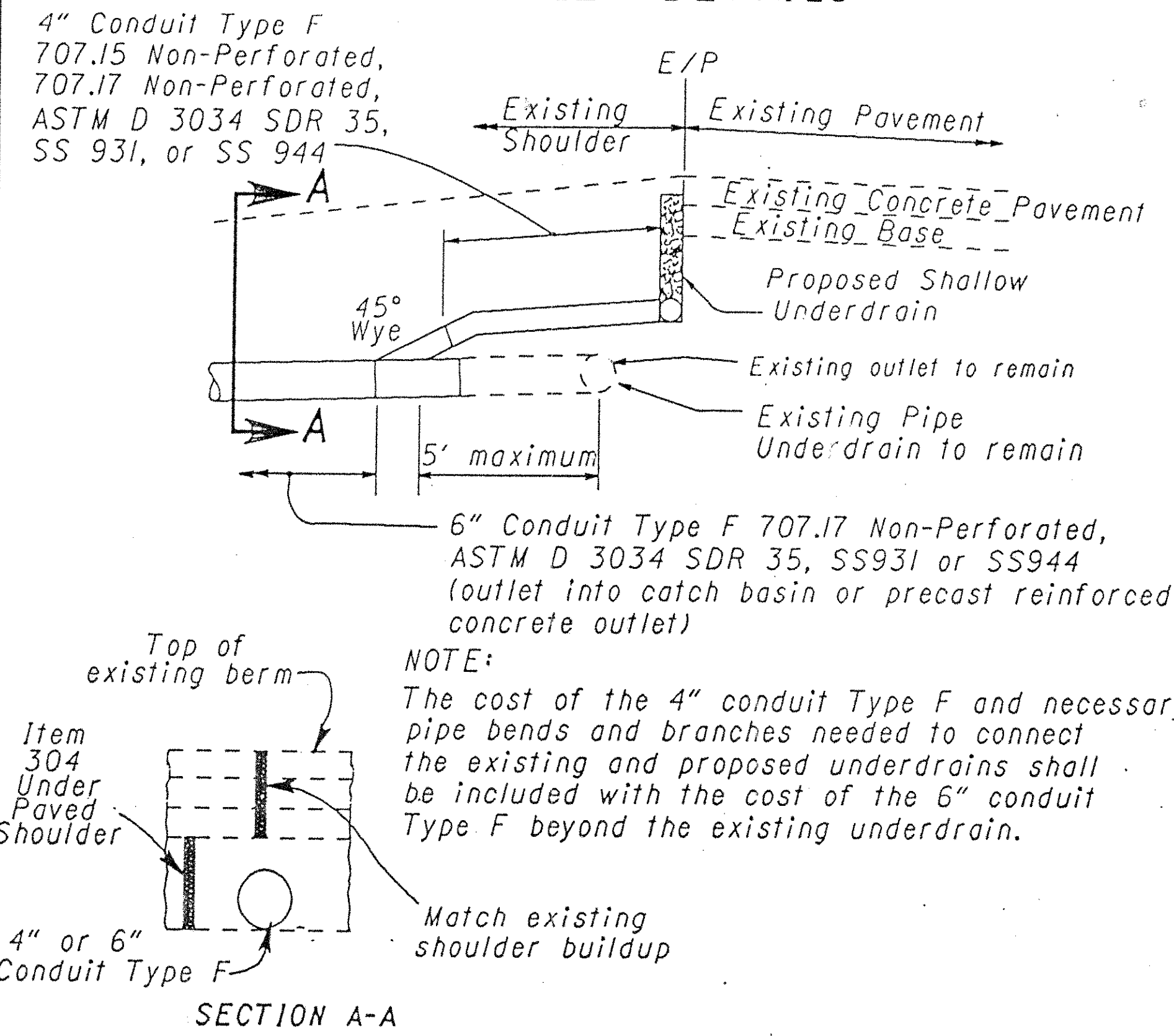
dlccke@ldpc5 - underdrain - Mon 05/08/95 12:43 PM

ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLET

The Concrete outlet shall meet the requirements of CMS 604. Payment shall be made on an Each basis. Payment shall include the cost of the Sod & Wire Cloth.



OUTLET DETAILS



DESCRIPTION: This item shall consist of furnishing and installing either a pipe underdrain system or a prefabricated edge drain system in accordance with the specifications and with the details, as shown on the plans, and as directed by the Engineer.

MATERIALS: The underdrain shall either be a pipe underdrain system per Item 605 or a prefabricated edge drain system meeting the following requirements. The prefabricated edge drain shall consist of a polymeric core with a minimum thickness of one inch wrapped in fabric meeting CMS 712.09 Type A. The drain shall be flexible, rectangular in shape and of hollow construction. The core material shall be resistant to petroleum based chemicals, naturally occurring soil chemicals, and road de-icing agents. The core material shall have sufficient flexibility to withstand installation bending and handling without damage. The core shall provide a minimum of 100 square inches unobstructed (one side only) drainage area per foot of width. Side walls of the core shall provide at least 5% open area to permit unobstructed flow through the filter and wall to the core.

The prefabricated edge drain shall have a minimum compressive strength of 6000 pounds per square foot with a maximum 20% compression in a parallel plate compression test (ASTM D 695). The minimum (single side) core flow capacity shall be 10 gallons per minute per foot of width for a 0.1 gradient at 10 pounds per square inch bladder load per ASTM D 4716.

The prefabricated edge drain manufacturer's certified test results shall be furnished in accordance with CMS 101.061.

CONSTRUCTION: The prefabricated edge drain shall be installed against the outside wall of the trench as shown and backfilled adjacent to the pavement with No. 8 natural aggregate. The No. 8 aggregate shall be placed in one (1) or more lifts with a vibratory compactor run over the final lift to consolidate the aggregate prior to placing the asphalt plug. The first layer of the backfill material shall be placed simultaneously with the trenching operation to hold the edge drain flush against the trench wall.

The prefabricated edge drain shall be spliced as required prior to placement in the trench, using material furnished by the manufacturer and in accordance with the manufacturer's directions. All material required for the splices will be supplied by the manufacturer, but any equipment required shall be furnished by the Contractor. Splices shall prevent separation of adjoining sections of the prefabricated edge drain panels.

The underdrain outlets shall be placed in accordance with Item 603 using outlet fittings. The manufacturer shall supply outlet fittings which will make the transition between the prefabricated edge drain and the outlet pipe.

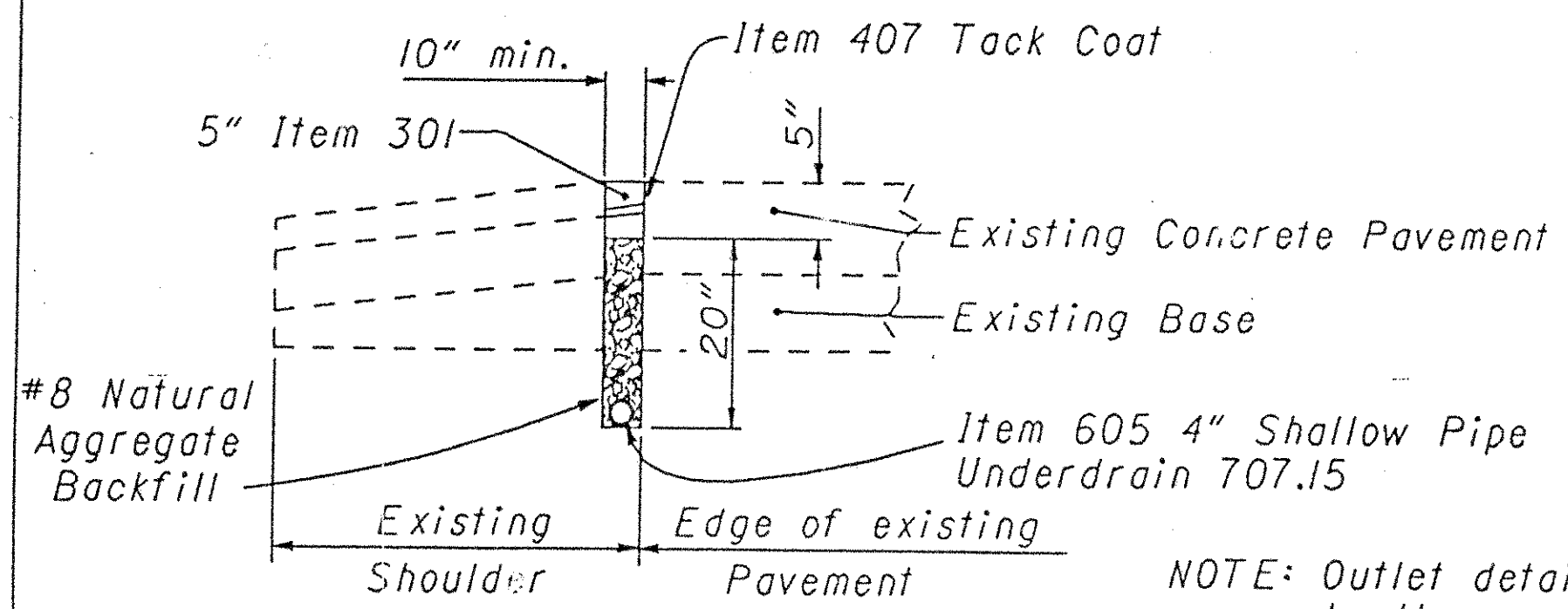
The outlets for both underdrain systems shall be constructed as soon as possible after placement of the underdrain. The underdrain and outlets on crack & seat projects shall be in place and functional prior to cracking and seating the existing pavement.

METHOD OF MEASUREMENT: Completed and accepted underdrains will be measured by the linear foot in place.

BASIS OF PAYMENT FOR PIPE UNDERDRAIN SYSTEM: Work completed, accepted and measured under this item shall be paid for at the contract unit price bid for Item 605 - 4" Shallow Pipe Underdrain 707.15, As Per Plan. The price shall be full compensation for excavation and backfill; for furnishing materials, including materials for outlet fittings; and for all labor, tools, equipment and incidentals necessary to complete the work.

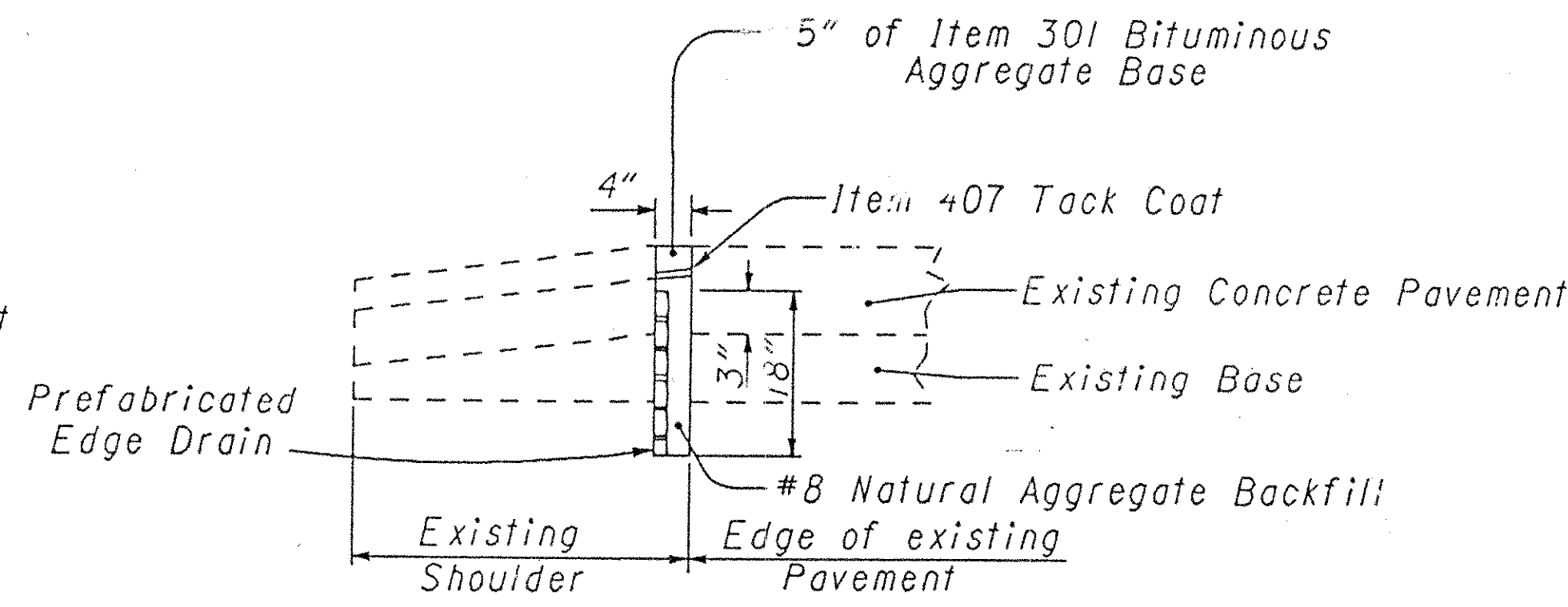
BASIS OF PAYMENT FOR PREFABRICATED EDGE DRAIN SYSTEM: Work completed, accepted and measured under this item shall be paid for at the contract unit price bid for Item 605 - Shallow Underdrain, As Per Plan. The price shall be full compensation for excavation and backfill; for removing and disposing of all surplus excavation in accordance with CMS 203; for furnishing materials, including materials for splices, outlet fittings, and Item 301; and for all labor, tools, equipment and incidentals necessary to complete the work. The price shall also include all costs associated with pipe underdrains, as specified above, which are installed as alternates to the prefabricated edge drain system.

PIPE UNDERDRAIN SYSTEM (Alternate to Prefabricated Edge Drain System)



NOTE: Outlet details to be the same as shown above.

PREFABRICATED EDGE DRAIN SYSTEM



ITEM 605-SHALLOW UNDERDRAIN, AS PER PLAN DATE 5-8-95

LIC-16 17.94

25
420

SIGNING GENERAL NOTES

BREAKAWAY BEAM CONNECTION:

BREAKAWAY BEAM CONNECTIONS CALLED FOR IN THESE PLANS SHALL BE PER THE ALTERNATE AS PROVIDED FOR ON STANDARD DRAWING TC-41.10.

FABRICATION OF SIGNS:

IN ACCORDANCE WITH THE REQUIREMENT OF ITEM 630.03 OF THE PROPOSED ACTIONS RELEVANT TO CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE CONTRACTOR SHALL SUBMIT PRIOR TO FABRICATION EIGHT SETS OF SIGN LEGEND WORKING DRAWINGS, WHICH SHALL BE IN ACCORDANCE WITH ALL REQUIREMENTS, TO THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT FIVE'S CONSTRUCTION ENGINEER, 9600 JACKSONTOWN ROAD, JACKSONTOWN, OHIO, 43030, FOR APPROVAL.

LAYOUT OF WORK:

PRIOR TO REMOVING OR ERECTING SIGN SUPPORTS, THE CONTRACTOR SHALL FIELD LAYOUT AND IDENTIFY, BY TYPE OF WORK, SIGNS AND SIGN SUPPORTS TO BE ERECTED OR REMOVED. THIS LAYOUT MAY BE ACCOMPLISHED BY STAKING OR BY PLACING CLEARLY DISCERNIBLE PAINTED MARKINGS ON THE EDGE OF PAVEMENT OR BY OTHER METHODS APPROVED BY THE ENGINEER. IN NO CASE SHALL THE CONTRACTOR PLACE ANY PERMANENT MARKINGS ON ANY EXISTING SIGN OR SIGN SUPPORT. COST FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 623, CONSTRUCTION LAYOUT STAKES.

CALCULATED
A.L.L.
3-13-95
CHECKED
D.M.
3-16-95

SIGNING GENERAL NOTES

LIC-16-17.94

LIGHTING GENERAL NOTES

ITEM 625 LUMINAIRE, UNDERPASS, HIGH PRESSURE SODIUM, 713.13

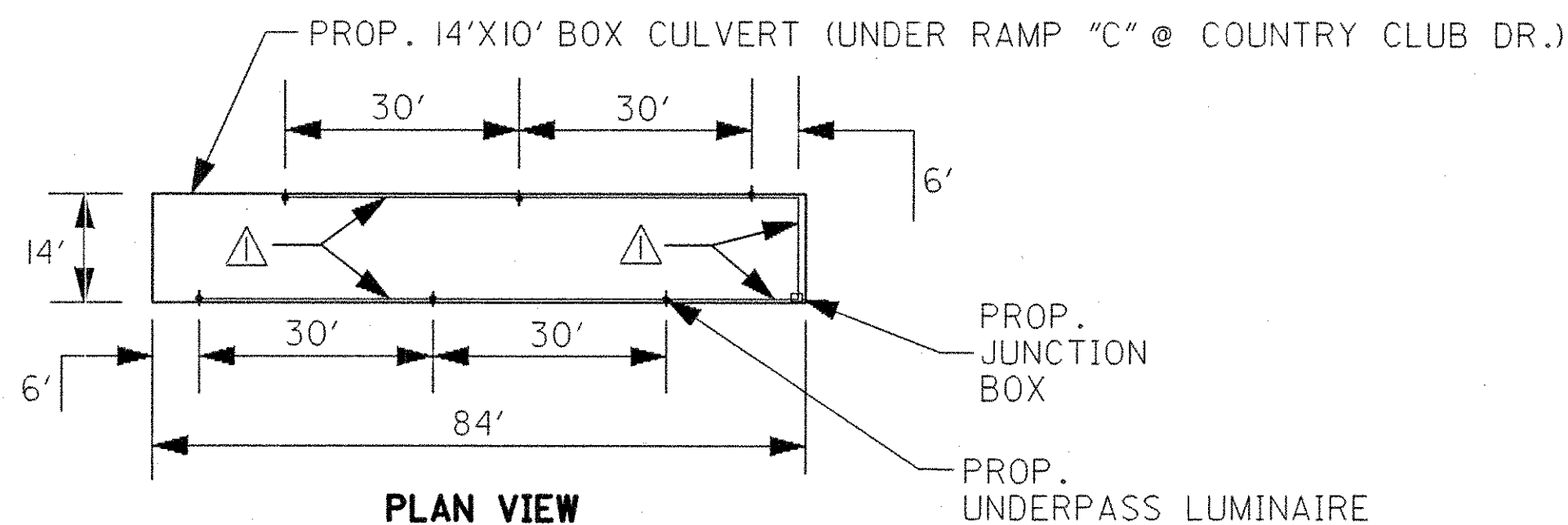
UNDERPASS LUMINAIRES SHALL BE HOLOPHANE "WALLPACK", AMERICAN ELECTRIC "SIDELITE", OR GENERAL ELECTRIC "WALLMOUNT 175" OR EQUAL APPROVED BY THE ENGINEER, AND SHALL BE FURNISHED WITH AN INTEGRAL FUSE HOLDER, 10-AMPERE FUSE AND A WIRE GUARD TO PROTECT THE LUMINAIRE. THE INTEGRAL HIGH PRESSURE SODIUM BALLAST SHALL BE OF A REGULATOR TYPE RATED FOR 120 VOLTS, 100 WATTS.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT BID FOR ITEM 625 LUMINAIRE, UNDERPASS, HIGH PRESSURE SODIUM, 713.13 EACH.

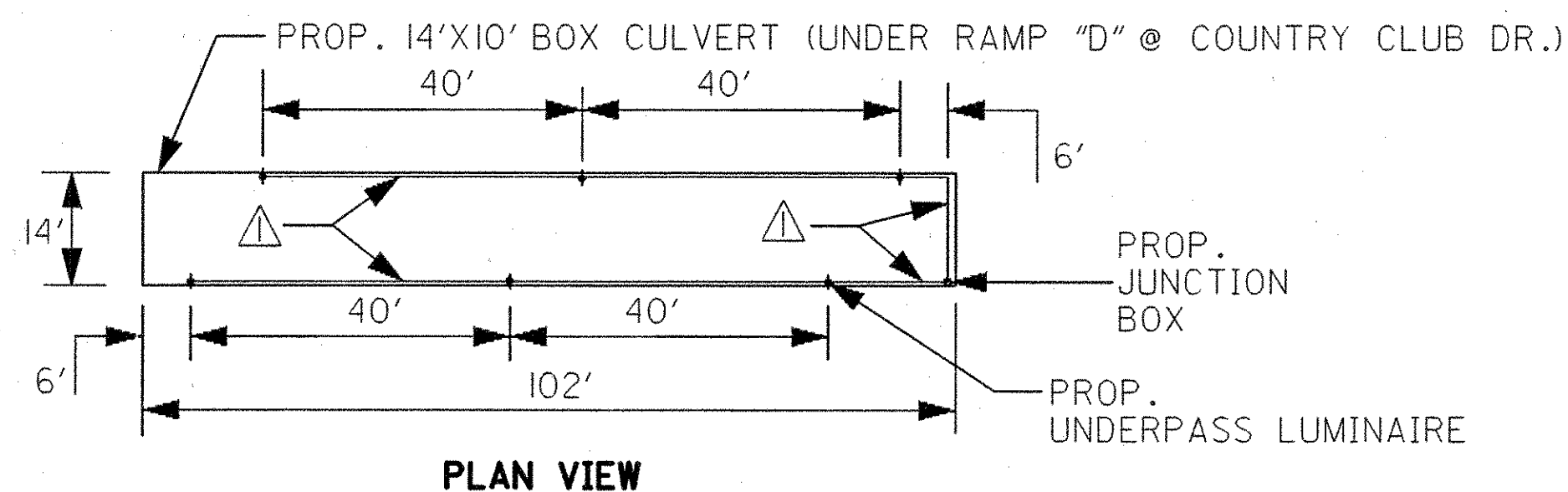
THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 625 LUMINAIRE, UNDERPASS,
HIGH PRESSURE SODIUM, 713.13 15 EACH

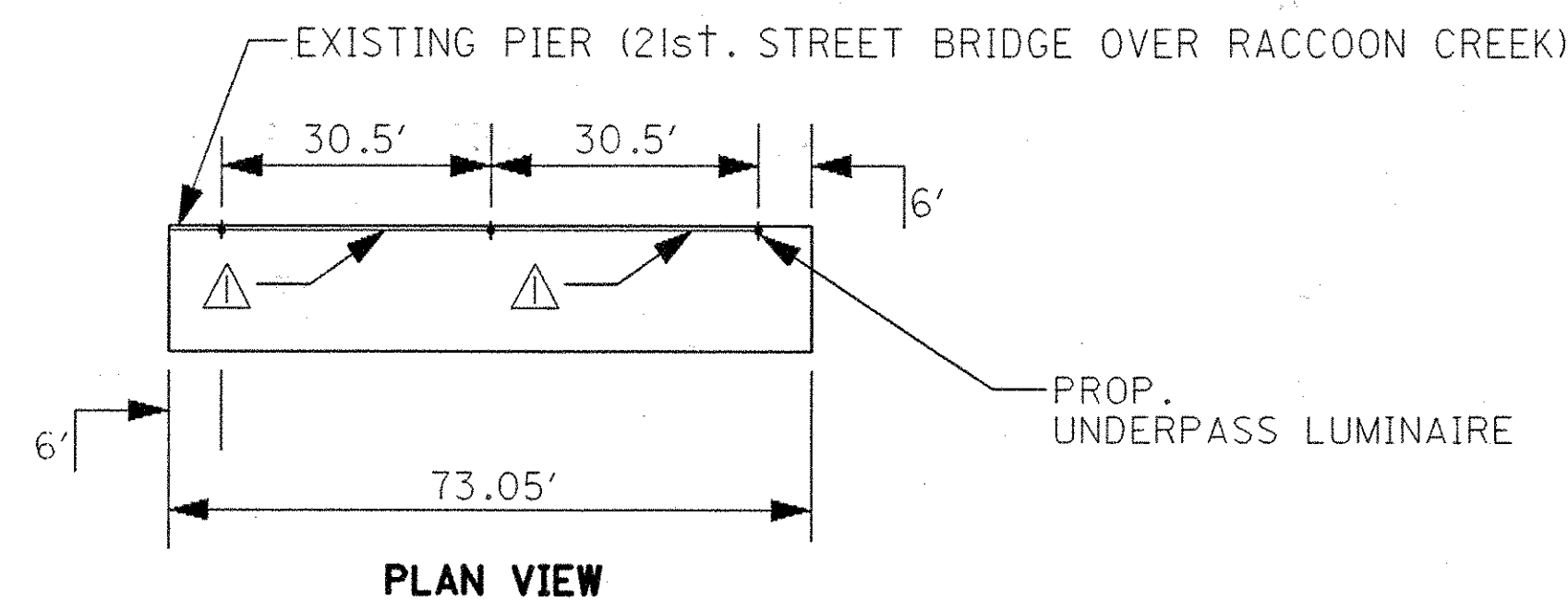
STA. 31+96.58 TO 32+80.58 (PROP. BIKEWAY)



STA. 34+31.79 TO 35+33.79 (PROP. BIKEWAY)



STA. 95+95.85 TO STA. 96+68.90 (PROP. BIKEWAY)



△ 3/4" DIA. ELECT. CONDUIT.

MOUNTING HEIGHT BOX CULVERTS - 8', BIKEWAY UNDERPASS - 12'
SPACING SEE DETAILS ABOVE
WALLMOUNT FIXTURE 100 WATT H.P.S.

ITEM 625 SERVICE TO UNDERPASS LIGHTING

THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL SERVICE, EXCEPT FOR LUMINAIRES AND STRUCTURE GROUNDING, FOR UNDERPASS LIGHTING SYSTEMS. THE INSTALLATION WORK SHALL INCLUDE CONDUITS, CONDUIT GROUNDING, MOUNTINGS, FITTINGS, JUNCTION BOXES, CABLES AND ALL INCIDENTALS NECESSARY TO COMPLETE, READY FOR USE, THE SERVICE AS DETAILED ON THE PLANS. THE PRICE BID FOR ITEM 625 SERVICE TO UNDERPASS LIGHTING SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED, BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM, SHALL BE FURNISHED AND CONSIDERED PAID FOR AS PART OF THE ITEM.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 625 SERVICE TO UNDERPASS LIGHTING 3 EACH

ITEM 603 UNDERDRAINS FOR PULL BOXES

REFERENCE IS MADE TO STANDARD DRAWINGS FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 20 FEET.

AN ESTIMATED QUANTITY OF ITEM 603, 4" CONDUIT TYPE E IS INCLUDED AT EACH PULL BOX FOR THIS PURPOSE.

ITEM 202 PULL BOX REMOVED

THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT AND ALL OTHER INCIDENTALS NECESSARY TO REMOVE AN EXISTING PULL BOX. CARE SHALL BE EXERCISED AS NOT TO DAMAGE THE EXISTING ELECTRICAL CONDUIT WHEN REMOVING AN EXISTING PULL BOX. THE PULL BOX AND ITS COVER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM.

ITEM 625 MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN

IN LIEU OF STANDARD DRAWING HL-20.13 THE PROPOSED TOP OF THE FOUNDATION SHALL VARY FROM THE NORMAL 12" DIMENSION AS SHOWN, AND SHALL CONFORM TO THE PROPOSED CONCRETE MEDIAN BARRIER TRANSITION AS SHOWN IN THE PLANS.

ITEM 202 LIGHT POLE FOUNDATION REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REMOVING A LIGHT POLE FOUNDATION. ANY PORTION OF THE EXISTING FOUNDATION WHICH INTERFERES WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED. IN ADDITION THE FOUNDATION SHALL BE REMOVED TO A MINIMUM OF ONE FOOT BELOW FINISHED SUBGRADE OR GROUND SURFACE.

THE RESULTANT DEPRESSION SHALL BE BACKFILLED WITH COMPACTED SOIL AND THE DISTURBED AREA SHALL BE RESTORED TO NORMAL CONDITIONS TO THE SATISFACTION OF THE ENGINEER. IN ADDITION, WHERE A NEW FOUNDATION IS TO BE LOCATED WITHIN A TEN FOOT RADIUS OF A REMOVED FOUNDATION, THE RESULTANT OPENING LEFT BY A REMOVED LIGHT POLE FOUNDATION SHALL BE BACKFILLED AND COMPACTED AS THOUGH IT WERE SUBGRADE FOR A ROADWAY.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 202 LIGHT POLE FOUNDATION REMOVED, AS PER PLAN WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE REMOVAL OF THE FOUNDATION SATISFACTORILY IN A WORKMANLIKE MANNER.

ITEM 202 LIGHT POLE REMOVED FOR STORAGE, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT POLE INCLUDING THE BRACKET ARM AND STORED ON THE PROJECT SITE FOR REUSE. THE POLE AND BRACKET CABLE SHALL REMAIN IN THE POLE FOR REUSE. PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 202 LIGHT POLE REMOVED FOR STORAGE, AS PER PLAN.

ITEM 202 LUMINAIRE REMOVED FOR STORAGE, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LUMINAIRE FROM ITS MOUNTING FOR STORAGE ON THE PROJECT SITE FOR REUSE. PAYMENT WILL BE AT THE UNIT PRICE BID FOR EACH ITEM 202 LUMINAIRE REMOVED FOR STORAGE, AS PER PLAN.

ITEM 625 LIGHTING MISC.: EXISTING LUMINAIRE REFURBISHED

THIS ITEM OF WORK SHALL CONSIST OF REFURBISHING AN EXISTING LUMINAIRE IN PLACE, BY CLEANING, RELAMPING AND REPLACING DEFECTIVE COMPONENTS SO THAT THE LUMINAIRE IS THEN SUITABLE FOR CONTINUED SERVICE. IN ADDITION THE LUMINAIRE AIMING AND SOCKET SETTING SHALL BE CHECKED AND ADJUSTED IF NECESSARY. PAYMENT WILL BE MADE FOR EACH ITEM 625 LIGHTING MISC.: EXISTING LUMINAIRE REFURBISHED AND SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK.

ITEM 625 REERECT EXISTING LIGHT POLE, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE REERECTION OF AN EXISTING LIGHT POLE RETURNED TO THE PROJECT FROM STORAGE. THE POLE SHALL BE WASHED AND RESTORED TO WORKING ORDER BEFORE REERECTION, WHICH SHALL INCLUDE PROVIDING AND INSTALLING AT-A BASE DOOR AND OR HAND HOLE COVER ON THOSE POLES FOUND NOT TO CURRENTLY HAVE ONE. RELAMPING, POLE WIRING, CONNECTOR KITS, GROUND ROD, AND FOUNDATION SHALL BE PAID SEPARATELY. ANCHOR BOLTS SHALL BE INCIDENTAL TO THIS ITEM.

PAYMENT SHALL BE MADE FOR EACH ITEM 625 REERECT EXISTING LIGHT POLE, AS PER PLAN.

ITEM 625 REERECT EXISTING LUMINAIRE, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REERECTION AS PER 625.07, OF AN EXISTING LUMINAIRE FROM STORAGE. PRIOR TO REERECTION, THE LUMINAIRE SHALL BE CLEANED, RELAMPED AND RESTORED TO GOOD WORKING ORDER.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 625 REERECT EXISTING LUMINAIRE, AS PER PLAN.

ITEM 625 TRANSFORMER BASE TYPE AT-A

PROPOSED AT-A BASE SHALL BE INSTALLED AT THOSE LOCATIONS AS CALLED FOR IN THE PLANS.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 625 TRANSFORMER BASE TYPE AT-A.

ITEM SPECIAL DISCONNECT EXISTING CIRCUIT

THIS ITEM OF WORK SHALL CONSIST OF DISCONNECTING EXISTING CIRCUIT(S) IN AN EXISTING LIGHT POLE OR PULL BOX.

DISCONNECTION IN A PULL BOX SHALL CONSIST OF CUTTING CABLES AND REMOVING SPLICE KITS AND CABLES OF CIRCUIT(S) TO BE ABANDONED. CABLES OF CIRCUIT(S) TO BE REUSED SHALL BE CUT IN SUCH A MANNER THAT SUFFICIENT CABLE REMAINS FOR MAKING RECONNECTION SPLICES. DISCONNECTIONS IN LIGHT POLES SHALL CONSIST OF REMOVING THE ENDS OF CABLES OF CIRCUIT(S) TO BE ABANDONED. THOSE ENDS OF CONNECTOR KITS FROM WHICH THE ABANDONED CABLES ARE REMOVED SHALL BE PLUGGED AND TAPED SHUT. PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR ITEM SPECIAL DISCONNECT EXISTING CIRCUIT WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED FOR COMPLETING THE WORK IN A SATISFACTORY WORKMANLIKE MANNER. CONNECTOR AND SPLICING KITS FOR RECONNECTION SHALL BE PAID FOR SEPARATELY.

LIGHTING GENERAL NOTES

CALCULATED
J.C.
4/19/95
CHECKED
M.M.
4/19/95

ITEM 625 LIGHTING MISC.: RECONDITION EXISTING LIGHT POLE IN PLACE

THIS ITEM SHALL PROVIDE AND INCLUDE THE INSTALLATION OF HAND HOLE COVERS, AT-A TRANSFORMER BASE DOORS AND THE CLEANING OUT OF EXISTING TRANSFORMER BASES OF DEBRIS. ALL OF THE ABOVE WORK SHALL CONFORM TO STANDARD DRAWINGS HL-10.12 AND HL-10.13, AND AS DIRECTED BY THE PROJECT ENGINEER.

HAND HOLE COVERS AND AT-A BASE DOORS SHALL BE PROVIDED AND INSTALLED ONLY ON THOSE POLES CURRENTLY FOUND NOT TO HAVE ONE OR BOTH OF THE ITEMS.

THIS ITEM SHALL INCLUDE ALL LABOR, HARDWARE AND ALL OTHER INCIDENTALS NECESSARY TO PERFORM THE WORK AS DESCRIBED ABOVE.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 625 LIGHTING MISC.: RECONDITION EXISTING LIGHT POLE IN PLACE 36 EACH

ITEM 625 LUMINAIRE, LOW MAST ASYMMETRIC TYPE 1, 400 WATT HIGH PRESSURE SODIUM, 713.21, 480 VOLT, AS PER PLAN

THE LUMINAIRE ARRAY AND ASSOCIATED ILLUMINATION TEST AREAS SPECIFIED IN SECTION 713.21 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS ARE HEREBY WAIVED FOR THIS PROJECT. INSTEAD, THE LUMINAIRES FOR LOW MAST LIGHTING SHALL MEET THE FOLLOWING REQUIREMENTS:

ASYMMETRIC, TYPE 1 LUMINAIRE, LOW MAST SHALL BE HOLOPHANE "HMST" TEST #36801 OR #36802, SO AS TO PROVIDE DESIGNED INTENSITY AND UNIFORMITY AS THE EXISTING LUMINAIRES ON THE PROJECT.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH ITEM 625 LUMINAIRE, LOW MAST ASYMMETRIC TYPE 1, 400 WATT HIGH PRESSURE SODIUM, 713.21, 480 VOLT, AS PER PLAN.

ITEM 625 CONDUIT CLEANED AND CABLES REMOVED

THIS ITEM SHALL CONSIST OF LOCATING AND CLEANING AN EXISTING CONDUIT OF ALL EXISTING CABLES, MUD AND DEBRIS TO THE SATISFACTION OF THE ENGINEER BEFORE DISTRIBUTION CABLE IS PULLED THROUGH THE CONDUIT. DRAIN OUTLETS SHALL BE FREE OF ALL OBSTRUCTIONS.

THIS ITEM SHALL INCLUDE CUTTING AND REAMING ANY BURRS AND INSTALLING BUSHINGS OR COUPLINGS TO PROVIDE A FREE RACEWAY FOR PULLING DISTRIBUTION CABLE THROUGH THE CONDUIT.

AT LOCATIONS WHERE LIGHT POLE FOUNDATIONS ARE TO BE REMOVED, CONDUIT SHOULD BE CUT PRIOR TO FOUNDATION REMOVAL TO PREVENT DAMAGE TO THE CONDUIT.

MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF OF THE PROJECT SITE. DISTURBED AREAS SHALL BE PROPERLY RESTORED.

PAYMENT WILL BE MADE FOR EACH LINEAR FOOT OF ITEM 625 - "CONDUIT CLEANED AND CABLES REMOVED" AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN A SATISFACTORY MANNER.

ITEM 625 LIGHTING MISC.: REFURBISH EXISTING POWER SERVICE, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL AND REPLACEMENT OF COMPONENTS OF AN EXISTING POWER SERVICE AS REQUIRED FOR OPERATION. THOSE EXISTING LIGHTING CIRCUITS AND CONNECTIONS WHICH ARE TO BE REMOVED WILL BE REMOVED FROM THE PULL BOX TO THE DISCONNECT SWITCH. IN THE CASE WHERE EXISTING CONDUIT IS TO BE REUSED, THE CONDUIT SHALL BE CLEANED OF ALL MUD AND DEBRIS. THE ENCLOSURE AND RELATED COMPONENTS OF THE POWER SERVICE SHALL BE CLEANED OF ALL MUD, DEBRIS, AND EXISTING FUSES. THE EXISTING CONTROL TRANSFORMER, PHOTOCELL, AND CONTACTOR COIL SHALL BE REMOVED AND REPLACED WITH A NEW LINE VOLTAGE CONTACT COIL AND PHOTOCELL SO THAT RESULTANT CONTROL WIRING TO BE AS PER STANDARD DRAWINGS AND AS DETAILED IN THE PLAN. THE GROUND AREA AROUND THE POWER SERVICE SHALL HAVE ALL DEBRIS REMOVED AND THE GRASS TRIMMED. ALL MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 625 LIGHTING MISC.: REFURBISH EXISTING POWER SERVICE, AS PER PLAN AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE INSTALLATION IN A SATISFACTORY WORKMANLIKE MANNER.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 625 LIGHTING MISC.: REFURBISH EXISTING POWER SERVICE, AS PER PLAN 3 EACH

ITEM 625 HIGH VOLTAGE TEST

A LUMP SUM FOR PERFORMING THE HIGH VOLTAGE TEST REQUIRED BY THE ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS HAS BEEN INCLUDED IN THE GENERAL SUMMARY. THE VOLTAGE TEST SHALL BE PERFORMED ONLY ON THE NEW PORTIONS OF A CIRCUIT BEFORE IT IS CONNECTED TO AN EXISTING CIRCUIT.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 625 HIGH VOLTAGE TEST LUMP

EXISTING POWER SERVICE

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

OHIO POWER COMPANY
65 EAST MAIN STREET
NEWARK, OHIO 43055

EXISTING POWER SERVICE IS 480 VOLT, SINGLE PHASE, 2 WIRE, GROUNDED NEUTRAL.

ELECTRICAL ENERGY FROM EXISTING POWER SERVICES SHALL CONTINUE TO BE CHARGED TO THE MAINTAINING AGENCY. THE CONTRACTOR SHALL PAY ELECTRICAL ENERGY CHARGES FOR NEW POWER SERVICES ESTABLISHED BY THIS PROJECT.

AFTER ACCEPTANCE OF THE LIGHTING, POWER SERVICE ELECTRICAL ENERGY ACCOUNTS SHALL BE TRANSFERED TO THE MAINTAINING AGENCY THE CITY OF NEWARK.

ITEM 625 LIGHTING MISC.: RELABEL EXISTING LIGHT POLE

THIS ITEM OF WORK SHALL CONSIST OF REMOVING OLD DECALS FROM EXISTING LIGHT POLES BEING REUSED, AND INSTALLING NEW DECALS AS REQUIRED BY PLANS.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH "ITEM 625 - LIGHTING MISC.: RELABEL EXISTING LIGHT POLE", WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM OF WORK IN A SATISFACTORY WORKMANLIKE MANNER.

**ITEM SPECIAL: MAINTAIN EXISTING LIGHTING
ITEM SPECIAL: REPLACEMENT OF EXISTING LIGHTING UNIT**

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 ANY EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THE INSPECTION, A WRITTEN RECORD OF THE CONDITION OF THE EXISTING LIGHTING SHALL BE MADE BY THE STATE'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 THE STATE, THE MAINTAINING AGENCY.

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 REPAIRS IF NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT 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 THE PERMANENT IMPROVEMENTS.

THE CONTRACTOR SHALL BE REQUIRED TO REMOVE THE EXISTING LIGHTING IN THE AREA OF THE MEDIAN CONCRETE BARRIER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE TEMPORARY LIGHTING OF THAT PORTION OF THE EXISTING ROADWAY AFFECTED BY THE REMOVAL OF THE EXISTING LIGHTING.

IN THE AREAS OF THE RAMPS THE CONTRACTOR MAY ELECT TO REMOVE THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL THEN BE RESPONSIBLE FOR ADEQUATE TEMPORARY LIGHTING OF THAT PORTION OF THE EXISTING ROADWAY AFFECTED BY THE REMOVAL OF THE EXISTING LIGHTING.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR (4) SETS OF THE TEMPORARY LIGHTING PLAN TO THE DIRECTOR FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATION OF POLES, LENGTH OF BRACKET ARMS, STYLE OF LUMINAIRES, MOUNTING HEIGHT, 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 4:1. MOUNTING HEIGHT FOR TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 27 FEET AND 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. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL, AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM 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.

THE FOLLOWING QUNTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO PERFORM THE WORK AS DESCRIBED ABOVE.

ITEM SPECIAL MAINTAIN EXISTING LIGHTING LUMP
ITEM SPECIAL REPLACEMENT OF EXISTING LIGHTING UNIT 5 EACH

LIGHTING GENERAL NOTES

LIC-16-17.94

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED. A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. THE LIST CURRENTLY CONTAINS CLASS III AND II UNITS WITHIN MINIMUM LEGIBILITY DISTANCES OF 650' AND 850' 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 TROUBLE-SHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY.

THE PROBABLE LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOW ON SHEETS 45 & 50 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE PROJECT ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE PROJECT ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF A 9-INCH BY 15-INCH MINIMUM SIZE FACING 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 TROUBLE-SHOOT THE UNIT AND TO REVISE MESSAGES IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPROGRAMMED 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 PREPROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ONBOARD 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, BUT NORMALLY, NOT MORE THAN TWO-MESSAGE PHASES SHOULD BE EMPLOYED, ALTHOUGH THREE-PHASES MAY BE USED IN UNUSUAL CONDITIONS. THE PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERANT TIMES OF THE DAY FOR DIFFERANT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.03 (C) 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 AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE TO THE CONTRACTOR ON HIS CONTRACT.

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

THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN, AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESOPNSIBILITIES AS OUTLINED IN 104.04.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID PER SIGN-MONTH FOR EACH ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

THIS PROJECT SHALL REQUIRE 2 (TWO) ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO PERFORM THE WORK AS DESCRIBED ABOVE.

ITEM 614 PORTABLE CHANGEABLE 30 SIGN-MONTH MESSAGE SIGN, AS PER PLAN

QUANTITIES FOR MAINTAINING TRAFFIC

A QUANTITY OF ITEM 404 BITUMINOUS CONCRETE, FOR MAINTAINING TRAFFIC HAS BEEN INCLUDED IN THE PLANS TO REPAIR PAVEMENT OR BERM DAMAGED WHEN MAINTAINING TRAFFIC. THIS ITEM SHALL ALSO BE USED TO CONSTRUCT TEMPORARY FEATHERS AT LOCATIONS DESIGNATED BY THE PROJECT ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE PAVEMENT AND SHOULDER FOR THE ENTIRE LENGTH OF THE PROJECT FROM APRIL 15 TO NOVEMBER 15.

THE COST OF REMOVALS, MATERIAL, LABOR, EQUIPMENT AND TRAFFIC CONTROL TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 404 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC.

THE FOLLOWING QUANTITIES ARE INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER TO REPLACE EXISTING PAVED SHOULDERS DAMAGED WHEN MAINTAINING TRAFFIC.

ITEM 404 BITUMINOUS CONCRETE FOR 50 CU. YD. MAINTAINING TRAFFIC

ITEM 203 EXCAVATION NOT INCLUDING 50 CU. YD. EMBANKMENT CONSTRUCTION

ITEM 301 BITUMINOUS AGGREGATE BASE, 50 CU. YD. AC-20

DUST CONTROL

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

ITEM 616 WATER 54 M. GAL.
ITEM 616 CALCIUM CHLORIDE 27 TON

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR
IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

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.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH: THE OHIO HIGHWAY PATROL, 660 EAST MAIN STREET, COLUMBUS, OHIO, TELEPHONE: (614) 466-2660 OR NEWARK CITY POLICE, 40 WEST MAIN STREET, NEWARK, OHIO 43055 TELEPHONE: (614) 349-6723.

LAW ENFORCEMENT OFFICERS 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. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 250 HOURS

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

ITEM SPECIAL, REPLACEMENT SIGN

FLAT SHEET 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 PROJECT ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED BUT GOOD CONDITION SUBJECT TO APPROVAL BY THE PROJECT ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER SQUARE FOOT FOR ITEM SPECIAL, 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 160 SQUARE FEET ITEM SPECIAL REPLACEMENT SIGN HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.

ITEM SPECIAL, 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 PROJECT ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM SPECIAL, 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 50 EACH ITEM SPECIAL REPLACEMENT DRUM HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 TEMPORARY PAVEMENT MARKINGS:

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER TO MAINTAIN TRAFFIC DURING STEPS 1 THRU 3.

- ITEM 614 TEMPORARY EDGE LINE, CLASS I (YELLOW) 7.10 MILE = 11.75 MILE
- ITEM 614 TEMPORARY EDGE LINE, CLASS I (WHITE) 4.65 MILE =
- ITEM 614 TEMPORARY CHANNELIZING LINE, CLASS I 1316 LIN. FT.
- ITEM 614 TEMPORARY STOP LINE, CLASS I 145 LIN. FT.
- ITEM 614 TEMPORARY EDGE LINE, CLASS I, 740.05 TYPE C (YELLOW) 0.314 MILE = 0.723 MILE
- ITEM 614 TEMPORARY EDGE LINE, CLASS I, 740.05 TYPE C (WHITE) 0.409 MILE =
- ITEM 614 TEMPORARY CROSSWALK LINE, CLASS I 235 LIN. FT.

NOTIFICATION OF ROAD CLOSURE OR RESTRICTION

IN ORDER FOR ODOT TO PROPERLY PERMIT OVERSIZE LOADS, PREPARE PROPER SIGNING WHEN REQUIRED, AND FURTHER TO NOTIFY THE GENERAL MOTORING PUBLIC, THE CONTRACTOR SHALL NOTIFY (IN WRITING) THE DISTRICT 5 CONSTRUCTION ENGINEER WITH COPIES FOR THE DISTRICT 5 TRAFFIC ENGINEER AND PROJECT ENGINEER NOT LESS THAN 21 DAYS BEFORE ACTIVATING SUCH CLOSURE OR LANE RESTRICTION.

SEND NOTIFICATION TO: DISTRICT 5 CONSTRUCTION ENGINEER
P.O. BOX 306
JACKSONTOWN, OHIO 43030
PHONE: (614) 323-4400

RECONSTRUCT EXISTING BERM

THE FOLLOWING QUANTITIES HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED TO RECONSTRUCT THE EXISTING BERMS DURING STEP 1 CONSTRUCTION.

- ITEM 301 BITUMINOUS AGGREGATE BASE, AC-20. 556 CU.YD.
- ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION 556 CU.YD.

ITEM 642 TRAFFIC PAINT

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR TRAFFIC CONTROL FOR 2 (TWO) CONSECUTIVE SEASONS, AS DESCRIBED UNDER ITEM 614 MAINTANING TRAFFIC.

- ITEM 642 LANE LINE, TYPE 2 4.75 MILE
- ITEM 642 EDGE LINE (YELLOW) TYPE 2 5.327 MILE = 10.84 MILE
- ITEM 642 EDGE LINE (WHITE) TYPE 2 5.517 MILE =
- ITEM 642 CHANNELIZING LINE, TYPE 2 2316 LIN. FT.
- ITEM 642 STOP LINE, TYPE 2 145 LIN. FT.
- ITEM 642 CROSSWALK LINE, TYPE 2 235 LIN. FT.
- ITEM 642 LANE ARROW, TYPE 2 4 EACH
- ITEM 642 WORD ON PAVEMENT, 72", TYPE 2 1 EACH
- ITEM 642 TRANVERSE LINE, TYPE 2 966 LIN. FT.

COUNTRY CLUB DRIVE & 21st. STREET

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER TO REPLACE ANY EXISTING TRAFFIC CONTROL DAMAGED WHEN MAINTAINING TRAFFIC.

- ITEM 642 LANE LINE, TYPE 2 .04 MILE
- ITEM 642 CENTER LINE, TYPE 2 (DOUBLE YELLOW) .09 MILE
- ITEM 642 CHANNELIZING LINE, TYPE 2 861 LIN. FT.
- ITEM 642 TRANVERSE LINE, TYPE 2 175 LIN. FT.
- ITEM 642 STOP LINE, TYPE 2 96 LIN. FT.
- ITEM 642 WORD ON PAVEMENT, 72", TYPE 2 (ONLY) 13 EACH
- ITEM 642 LANE ARROW, TYPE 2 (TURN) 8 EACH
- ITEM 642 LANE ARROW, TYPE 2 (THROUGH) 9 EACH
- ITEM 642 CURB MARKING, TYPE 2 740 LIN. FT.

CALCULATED
BB
CHECKED
TD

MAINTENANCE OF TRAFFIC GENERAL NOTES

LIC-16-17.94

LO16MTB8.DGN 04/18/95

SEQUENCE OF OPERATIONS

PHASE I (RESURFACING SECTION)

STA. 12+75.71 (EB) & 13+60 (WB) TO STA. 114+00

STEP 1:

- (1) INSTALL NECESSARY TRAFFIC CONTROL DEVICES AND MAINTAIN ONE LANE OF TRAFFIC AS DESCRIBED SHEETS 40-44.
- (2) RECONSTRUCT DESIGNATED 8' BERMS WITH 8" OF ITEM 301 BITUMINOUS AGGREGATE BASE, AC-20.
- (3) ADJUST TRAFFIC CONTROL DEVICES FOR THE NEXT STEP OF OPERATIONS.

NOTE TO CONTRACTOR: ONLY THE AMOUNT OF BERM WHICH CAN BE REPLACED IN 1 DAY MAY BE REMOVED.

STEP 2:

- (1) INSTALL NECESSARY TRAFFIC CONTROL DEVICES INCLUDING TEMPORARY LIGHTING, CLOSE PASSING LANE AND MEDIAN SHOULDER AND MAINTAIN ONE LANE OF TRAFFIC AS SHOWN ON SHEETS 45-50.
- (2) REMOVE EXISTING 32" CONCRETE MEDIAN BARRIER AND LIGHTING.
- (3) CONSTRUCT PROPOSED 50" CONCRETE MEDIAN BARRIER AND LIGHTING.
- (4) REMOVE EXISTING 3" OF ASPHALT FROM WORK AREA DENOTED ON M.O.T. TYPICAL AND INSTALL MEDIAN UNDERDRAINS AS PER TYPICAL SECTIONS.
- (5) CONSTRUCT ITEM 302 BITUMINOUS AGGREGATE BASE, AC-20 AND ITEM 446 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20. COMPLETE ALL OTHER RELATED WORK AS PER TYPICAL SECTIONS AND OTHER DETAILS EXCLUDING ITEM 446 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20.
- (6) ADJUST TRAFFIC CONTROL DEVICES FOR THE NEXT STEP OF WORK.

STEP 3:

- (1) INSTALL NECESSARY TRAFFIC CONTROL DEVICES, CLOSE DRIVING LANE AND OUTSIDE SHOULDER AND MAINTAIN ONE LANE OF TRAFFIC AS SHOWN ON SHEETS 51-56.
- (2) REMOVE EXISTING 3" OF ASPHALT FROM WORK AREA AS DEFINED ON THE M.O.T. TYPICAL.
- (3) CONSTRUCT SHOULDER WORK INCLUDING BIKEWAY AND ROCK CHANNEL PROTECTION ALONG S.R. 16 AND DRAINAGE AS PER TYPICAL SECTIONS AND OTHER DETAIL SHEETS.
- (4) CONSTRUCT ITEM 302 BITUMINOUS AGGREGATE BASE, AC-20 AND ITEM 446 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20, COMPLETE ALL OTHER RELATED WORK EXCLUDING ITEM 446 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20.
- (5) ADJUST TRAFFIC CONTROL DEVICES FOR NEXT STEP OF WORK.

RAMP CONSTRUCTION

RAMPS A, B, E, & G:

- (1) INSTALL NECESSARY TRAFFIC CONTROL DEVICES TO CLOSE OUTSIDE SHOULDER.
 - (2) CONSTRUCT FULL DEPTH JOINT REPAIR, THEN RECONSTRUCT SHOULDER AND OTHER RELATED WORK AS PER TYPICAL SECTIONS AND OTHER DETAIL SHEETS EXCLUDING ITEM 448 ASPHALT CONCRETE, TYPE 1, PG70-22.
 - (3) ADJUST TRAFFIC CONTROL DEVICES TO CLOSE INSIDE SHOULDER AND CONSTRUCT FULL DEPTH JOINT REPAIR AND OTHER RELATED WORK EXCLUDING ITEM 448 ASPHALT CONCRETE, TYPE 1, PG70-22.
 - (4) ADJUST TRAFFIC CONTROL DEVICES FOR NEXT STEP OF CONSTRUCTION.
- NOTE TO CONTRACTOR: THE CONTRACTOR MUST MAINTAIN AT LEAST ONE 11' MIN. LANE AT ALL TIMES AND ONLY THE AMOUNT OF SHOULDER OR JOINT REPAIR WHICH CAN BE REPLACED IN A DAY MAY BE REMOVED AT ANY TIME.

RAMPS C & D:

- (1) INSTALL NECESSARY TRAFFIC CONTROL DEVICES, CLOSE RAMP "C" WHILE MAINTAINING ONE 11' MINIMUM LANE ON RAMP "D".
- (2) RECONSTRUCT RAMP "C" AND RAISED CONCRETE MEDIAN AS PER TYPICAL SECTIONS AND ALL OTHER RELATED WORK EXCLUDING ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22. (INCLUDED WITH THIS STEP IS THE INSTALLATION OF THE PRECAST CONCRETE BOX UNDER RAMP "C" FOR THE BIKEWAY.)
- (3) ADJUST TRAFFIC CONTROL DEVICES FOR OPENING RAMP "C" AND CLOSE RAMP "D".
- (4) RECONSTRUCT RAMP "D" AND ALL OTHER RELATED WORK AS PER TYPICAL SECTIONS AND OTHER DETAIL SHEETS EXCLUDING ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22 (INCLUDED WITH THIS STEP IS THE INSTALLATION OF THE PRECAST CONCRETE BOX CULVERT FOR THE BIKEWAY UNDER RAMP "D")
- (5) ADJUST TRAFFIC CONTROL DEVICES FOR THE NEXT STEP OF CONSTRUCTION.

NOTE TO CONTRACTOR: AT NO TIME WILL RAMPS "C" & "D" BE CLOSED TO TRAFFIC AT THE SAME TIME AND EACH RAMP WILL ONLY BE CLOSED TO TRAFFIC A MAXIMUM OF 30 DAYS OR THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

STEP 4

- (1) INSTALL NECESSARY TRAFFIC CONTROL DEVICES, CLOSE PASSING LANE AND MEDIAN SHOULDERS.
- (2) CONSTRUCT FINAL 1 1/4" ITEM 448 ASPHALT CONCRETE, TYPE 1, AC-20 AND ALL OTHER RELATED WORK AS SHOWN ON TYPICAL SECTIONS AND OTHER RELATED DETAIL SHEETS.
- (3) ADJUST TRAFFIC CONTROL DEVICES, CLOSE DRIVING LANE AND OUTSIDE SHOULDER.
- (4) CONSTRUCT FINAL 1 1/4" ITEM 448 ASPHALT CONCRETE, TYPE 1, AC-20 AND ALL OTHER RELATED WORK AS PER TYPICAL SECTIONS AND OTHER RELATED DETAIL SHEETS.
- (5) ADJUST TRAFFIC CONTROL DEVICES AND CONSTRUCT FINAL PAVEMENT STRIPING AS SHOWN ON SHEETS 113 TO 145.

BRIDGE PAINTING

IN ADDITION TO THE ESTIMATED QUANTITIES LISTED BELOW

CHURCH ST. BRIDGE:		QUANTITIES CARRIED TO:
ITEM 614 TEMPORARY RAISED PAVEMENT MARKERS	880 EACH	SHEET 34
ITEM 614 BARRIER REFLECTORS, TYPE B	52 EACH	SHEET 35
ITEM 614 OBJECT MARKERS	52 EACH	SHEET 35
ITEM 622 PORTABLE CONCRETE BARRIER, 32"	1200 LIN. FT.	SHEET 36
21st ST. BRIDGE		
ITEM 614 TEMPORARY RAISED PAVEMENT MARKERS	960 EACH	SHEET 34
ITEM 614 BARRIER REFLECTORS, TYPE B	60 EACH	SHEET 35
ITEM 614 OBJECT MARKERS	60 EACH	SHEET 35
ITEM 622 PORTABLE CONCRETE BARRIER, 32"	1360 LIN. FT.	SHEET 36

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE, INSTALL, MAINTAIN, AND REMOVE ALL TEMPORARY SIGNS NEEDED TO MAINTAIN TRAFFIC WHEN PERFORMING THE WORK REQUIRED TO PAINT THE EXISTING BRIDGES ON CHURCH ST. AND 21st ST.. THE CONTRACTOR SHALL BE REQUIRED TO COVER ALL CONFLICTING EXISTING SIGNS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL WORK NECESSARY TO ADJUST EXISTING TRAFFIC SIGNALS TO COMPLY WITH THE PROPOSED TEMPORARY TRAFFIC CONTROL AND THE SUBSEQUENT REPLACEMENT OF THE TRAFFIC SIGNALS TO THEIR ORIGINAL POSITION.

ALL THE WORK AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE LUMP PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

PEDESTRIAN SIDEWALKS:

BEFORE ANY WORK IS PERFORMED THAT WOULD ENDANGER PEDESTRIANS USING THE SIDEWALKS ON BRIDGE NO. LIC-16-1968 THE CONTRACTOR WILL ERECT PERTINENT SIGNS AND BARRICADES TO PROHIBIT PEDESTRIANS FROM USING THE EXISTING SIDEWALK. AFTER THE RENOVATION OF THE PARAPET AND RELATED WORK THAT WOULD ENDANGER THE PEDESTRIAN TRAFFIC IS COMPLETED, THE CONTRACTOR WILL RESTORE PEDESTRIAN MOVEMENT TO THE SIDEWALK. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE SAFETY OF THE PEDESTRIAN AT ALL TIMES WHEN WORK IS BEING PERFORMED ON THE BRIDGES.

GENERAL:

IT IS THE INTENT OF THIS SEQUENCE OF OPERATIONS TO PROVIDE A SAFE WORK AREA FOR THE CONTRACTOR WHILE ALSO MAINTAINING TRAFFIC IN A MANNER WHICH IS SAFE FOR THE TRAVELING PUBLIC.

THE CONTRACTOR SHALL COMPLETE ALL WORK AS DESCRIBED IN THE SEQUENCE OF OPERATIONS FOR EACH PHASE OF CONSTRUCTION, BEFORE STARTING ON THE NEXT PHASE OF CONSTRUCTION. THE CONTRACTOR SHALL NOT BE ALLOWED TO START WORK ON ANY PHASE OF CONSTRUCTION UNTIL APPROVAL HAS BEEN GRANTED BY THE PROJECT ENGINEER.

ALTERNATE METHODS:

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS ARE FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

CALCULATED
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MAINTENANCE OF TRAFFIC GENERAL NOTES

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ITEM 614 MAINTAINING TRAFFIC

TRAFFIC SHALL BE MAINTAINED AS PER THE DETAIL SHEETS AND SPECIFICATIONS AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE OPERATIONS SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. LATEST REVISION. IN ADDITION, THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE CONTRACTOR SHALL SUBMIT, IN WRITING A SCHEDULE OF OPERATIONS TO THE DISTRICT DEPUTY DIRECTOR AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT.

BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF A PERSON OR PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IMMEDIATELY, AS PER 614.03 (C).

THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO THAT NO WORK ,EXCEPT AS NOTED, THAT COULD DISRUPT THE NORMAL FLOW OF TRAFFIC SHALL BE PERFORMED ON THE PROJECT FROM NOVEMBER 15 TO APRIL 15. DURING THIS TIME TRAFFIC SHALL BE RETURNED TO BOTH NORTHBOUND AND SOUTHBOUND LANES AND ALL TEMPORARY TRAFFIC CONTROL SHALL BE REMOVED. PERMANENT MARKINGS SHALL BE PUT IN PLACE. A QUANTITY HAS BEEN INCLUDED ON SHEET 30 FOR PLACING PERMANENT PAVEMENT MARKINGS.

ALL EXISTING LANES, RAMPS AND OVERPASSES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND APRIL 15. NOVEMBER 15 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS FOR EACH CALENDAR DAY THAT ALL LANES ARE NOT OPEN AND AVAILABLE TO TRAFFIC.

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

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. THE LENGTH AND DURATION OF RESTRICTED TRAFFIC ZONES SHALL BE KEPT TO A MINIMUM, CONSISTENT WITH THE SPECIFICATION REQUIREMENTS FOR PROTECTION OF COMPLETED COURSES AND AS OUTLINED IN THE SEQUENCE OF OPERATIONS.

IN ADDITION TO MAINTAINING TRAFFIC AS DESCRIBED ABOVE, THE CONTRACTOR SHALL MAINTAIN ALL LANES OF TRAFFIC UNTIL AFTER THE EASTER HOLIDAY.

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 LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

DRUMS FOR CLOSING ANY LANES TO TRAFFIC SHALL BE PROPERLY REFLECTORIZED PLASTIC DRUMS AND WEIGHTED.

ALL WORK SHALL BE COMPLETED ON THE CLOSED LANE, OR LANES AS DESCRIBED IN THE SEQUENCE OF OPERATIONS, BEFORE IT IS OPENED TO TRAFFIC UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL DEVICES TO CLOSE RAMPS "C" & "D".

RAMP CLOSURES:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL DEVICES TO CLOSE THE VARIOUS RAMPS, SEE SHEET 53. THE STATE WILL BE RESPONSIBLE FOR THE DETOUR SIGNING OF ALL STATE ROUTES AND THE CITY OF NEWARK WILL BE RESPONSIBLE FOR ALL DETOUR SIGNING OF THE CITY STREETS.

AFTER WORK ON THE RAMPS HAS BEEN COMPLETED AND TRAFFIC RETURNED TO ITS ORIGINAL PATTERN THE CONTRACTOR SHALL REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL ARRANGE THE RAMP CLOSURES AS PER SEQUENCE OF OPERATIONS. DURING THE TIME OF THE RAMP CLOSURE THE CONTRACTOR SHALL COMPLETE ALL WORK AS DESCRIBED IN THE PLANS. UNTIL THE DETOURS ARE PLACED INTO EFFECT, TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE DISTRICT 5 CONSTRUCTION ENGINEER WITH COPIES FOR THE DISTRICT TRAFFIC ENGINEER AND PROJECT ENGINEER NOT LESS THAN 21 DAYS BEFORE ACTIVATING SUCH CLOSURES.

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL, OTHER THAN THE SUPERINTENDENT, AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO INSPECT ALL TRAFFIC CONTROL DEVICES IN THE WORK ZONE AT THE BEGINNING AND AT THE END OF EACH WORK DAY. DAILY, A WRITTEN RECORD OF THE REVIEW SHALL BE GIVEN TO THE PROJECT ENGINEER AND SHALL INCLUDE A RECORD OF DEFICIENCIES. A MINIMUM OF TWO REVIEWS EACH WEEK SHALL BE PERFORMED ON A SATURDAY OR SUNDAY NIGHT.

THE FOLLOWING ITEMS SHALL BE INCLUDED IN EACH REVIEW: TRAFFIC CONTROL DEVICE CONDITION, PLACEMENT, VISIBILITY, TRAFFIC FLOW CONDITIONS, INCIDENTS, CONGESTION POINTS, DELAYS, INTERACTION OF WORK VEHICLES AND TRAFFIC, EVIDENCE OF ACCIDENTS, PROPER STORAGE OF MATERIALS AND EQUIPMENT, CONFORMANCE WITH THE TRAFFIC CONTROL PLAN, ADEQUACY OF THE TRAFFIC CONTROL PLAN, CONFLICTING OR NON-CONFORMING PAVEMENT MARKINGS.

THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND-THE-CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS' NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING.

THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE APPROVED BY THE ENGINEER.

FOR SAFETY PURPOSES NO EQUIPMENT OR MATERIAL SHALL BE PARKED OR STORED WITHIN THIRTY (30) FEET FROM THE EDGE OF THE PAVEMENT OF THE TRAVELING LANES.

TEMPORARY FEATHERS, USING ITEM 404 WILL BE REQUIRED AT APPROACHES, BRIDGES, END OF RUNS OR AT OTHER POINTS DESIGNATED BY THE ENGINEER. THEY SHALL BE INSTALLED ACCORDING TO BP-3.1 AND REMOVED WHEN NO LONGER REQUIRED. THE COST OF THESE SHALL BE INCLUDED IN ITEM 404 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC, SEE SHEET 29.

IN ADDITION TO ALL THE SIGNS INCLUDING SUPPORTS AS PER STANDARD DRAWINGS AND THE O.M.U.T.C.D. THE SIGNS SHOWN ON SHEETS 40 TO 56 SHALL BE FURNISHED, INSTALLED, MAINTAINED, ADJUSTED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

TRAFFIC SHALL NOT BE EXPOSED TO PAVEMENT DROP-OFFS WITHOUT APPROPRIATE CHANNELIZING DEVICES. (SEE SHEET 33)

ANY CONFLICTING SIGNS WHETHER INSIDE OR OUTSIDE THE WORK LIMITS SHALL BE REMOVED OR COVERED AND TEMPORARY SIGNS ERECTED WHEN APPLICABLE BY THE CONTRACTOR.

FOR DETAILS OF COVERING EXISTING SIGNS SEE GENERAL NOTE "COVERING OF SIGNS" SEE SHEET 30.

THE ENGINEER SHALL RECORD INSTALLATION AND REMOVAL OF PROPOSED SIGNS, COVERED OR REMOVED AND UNCOVERED OR RE-ERECTED SIGNS IN THE PROJECT DIARY.

ALL TEMPORARY OR PERMANENT PAVEMENT MARKINGS SHALL BE IN PLACE BEFORE ANY PAVEMENT IS OPENED TO TRAFFIC.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY:

ITEM 614 MAINTAINING TRAFFIC	LUMP
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MAINTENANCE OF TRAFFIC GENERAL NOTES

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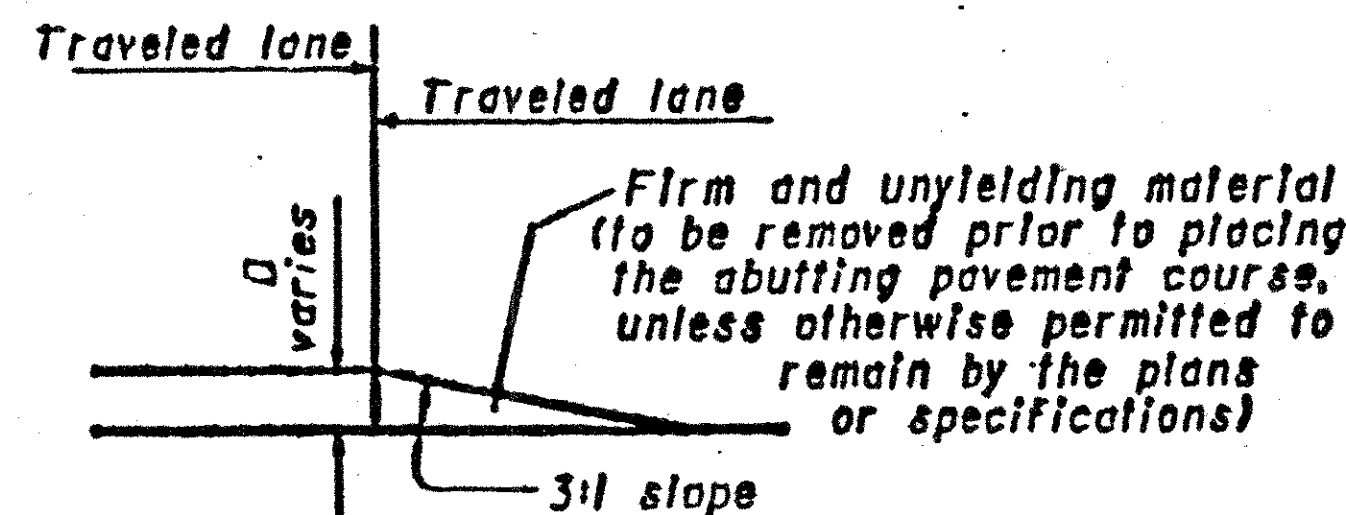
NOTE: FOR ADDITIONAL NOTES SEE SHEETS 29 & 30.

GENERAL NOTES

- It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.
- While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
- In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
- The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
- Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing MC-9.2 and Item 622.
- When drums are specified for a dropoff condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
- When OW-151 (Low Shoulder) signs or OW-171 (Uneven Lanes) and OWP-171 signs are required, they shall be placed 750' in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all intersecting roadways within the limits of the condition. When the dropoff condition extends more than one-half mile, additional signs should be erected at intervals of one mile or less.
- For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate any difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
- Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane widths designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10', drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5" and approval is granted by the Project Engineer.
- Pavement Repairs (or similar work):
 - Lengths greater than 60 feet - utilize appropriate treatment from Condition I.
 - Lengths of 60 feet or less - repairs shall be effected in accordance with 255.08. Drums may be used as a separator adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT (MILLING OR RESURFACING)

- This treatment may be used when permitted for Condition I only.
- OW-171 and OWP-171 signs required.



CONDITION I DROPOFFS BETWEEN TRAVELED LANES

- These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D (In.)	Treatment
≤ 1/2	Erect OW-171 and OWP-171 signs.
> 1/2 - 3	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
> 3 - 5	Lane closure utilizing drums as shown below.
> 5	Lane closure utilizing portable concrete barrier as shown below.

*Cones may be used for daytime only conditions.

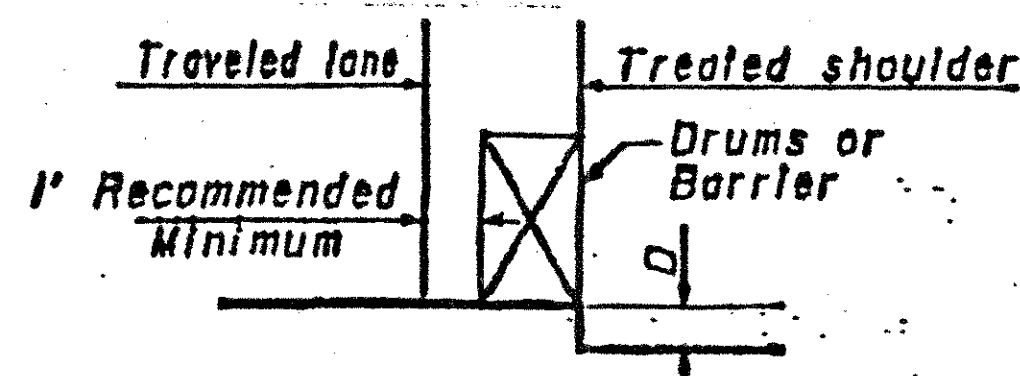


CONDITION II DROPOFFS WITHIN GRADED SHOULDER AREA

- The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
- The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials, or concrete). For the purposes herein, its maximum width shall be considered to be twelve (12) feet.

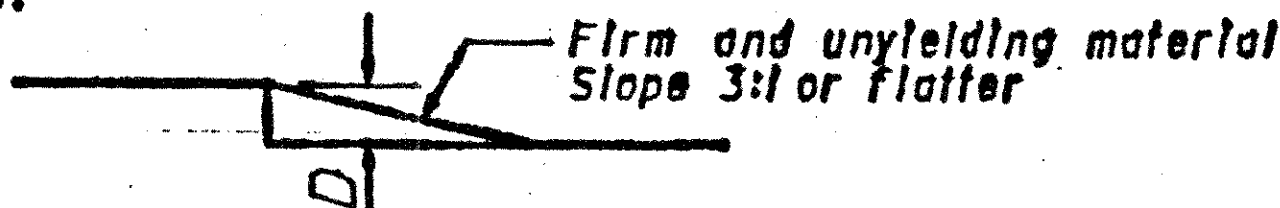
D (In.)	Treatment
≤ 1/2	1) If edgelines are present, no treatment necessary OR 2) Erect OW-171 and OWP-171 signs.
> 1/2 - 5	1) If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
> 5 - 12 Daylight only	If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below.
> 5 - 24	1) If min. lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums.
> 24	Lane closure utilizing portable concrete barrier as shown below.

*Minimum lane widths shall be 10' unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

- This treatment may not be used within a bituminous shoulder where a hot longitudinal joint per 401.15 is required.
- OW-151 signs required.

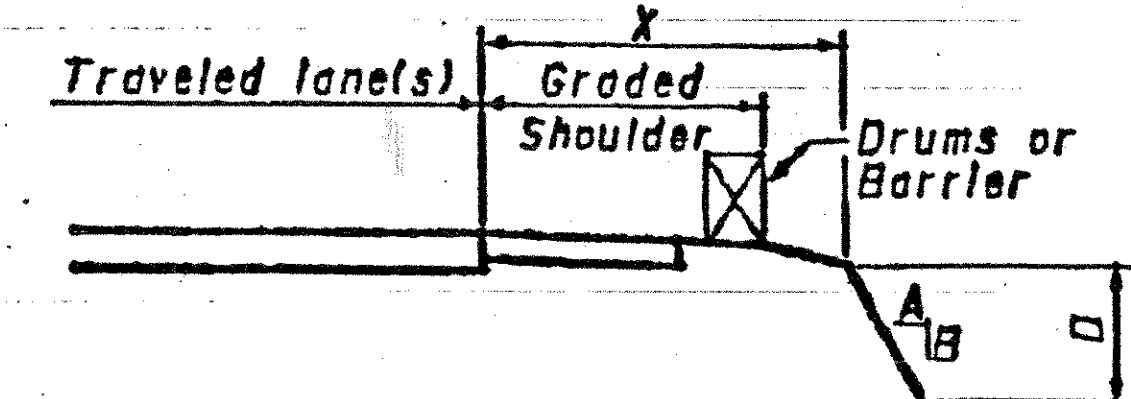


CONDITION III DROPOFFS BEYOND GRADED SHOULDER OR BACK OF CURB

- See Note 2 under Condition II.
- Use Chart A or B below, as applicable.

CHART A

- USE FOR:
- Uncurbed Facilities.
 - Curbed Facilities, where:
 - Curbs are less than 6" in height.
 - Curbs are 6" or greater in height and the legal speed is greater than 40 mph.

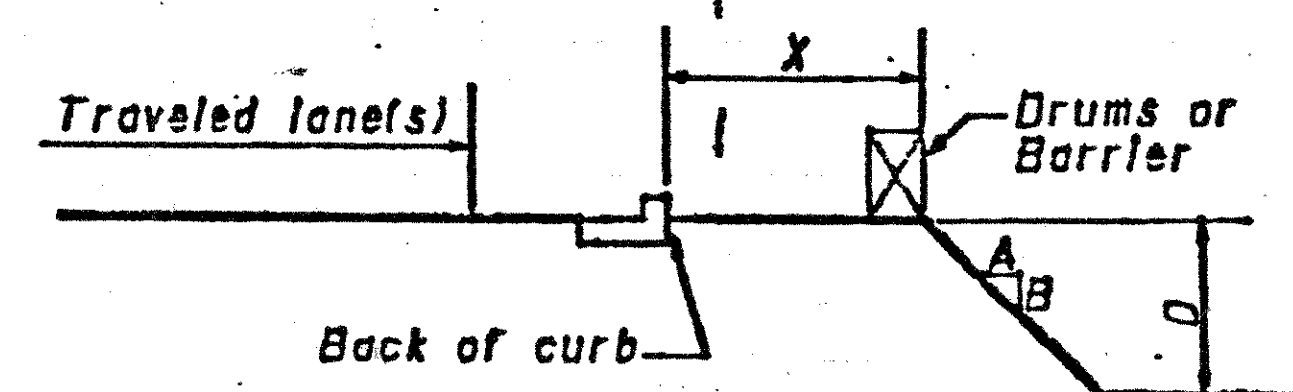


X (Ft.)	D (In.)	A/B	Treatment Required	
			Day	Night
0-4	Any	Any	(a)	(a)
4-30	Any	3:1 or Flatter	None	None
4-12	< 3	Steeper than 3:1	None	None
4-12	> 3 - < 12	Steeper than 3:1	Drums	Drums
4-12	> 12	Steeper than 3:1	Drums	Barrier
> 12 - 20	< 12	Steeper than 3:1	None	None
> 12 - 20	> 12 - < 24	Steeper than 3:1	Drums	Drums
> 12 - 20	> 24	Steeper than 3:1	Drums	Barrier
> 20 - 30	< 24	Steeper than 3:1	None	Drums
> 20 - 30	> 24	Steeper than 3:1	Drums	Barrier
> 30	Any	Any	None	None

(a) Use treatment specified under Condition II.

CHART B

- USE FOR: Curbed facilities, where the curb is 6" or greater in height and the legal speed is 40 mph or less.



X (Ft.)	D (In.)	A/B	Treatment Required	
			Day	Night
0-10	< 12	Any	None	Drums
0-10	> 12	Any	Drums	Drums
> 10	Any	Any	None	None

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DROPOFFS IN WORK ZONES

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614 TEMPORARY RAISED PAVEMENT MARKERS

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING, INSTALLING, MAINTAINING, AND SUBSEQUENTLY REMOVING TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S). THE TRPM'S SHALL BE YELLOW OR WHITE, AS DESCRIBED IN THE PLAN.

MATERIAL

ALL UNITS SHALL BE OF SUFFICIENT STRENGTH AND PROPERLY SHAPED SO AS NOT TO BE DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR DAMAGED BY IMPACTS FROM VEHICLES TIRES, INCLUDING THOSE OF HIGH PRESSURE TRUCK TIRES LOADED TO 4500 POUNDS.

RETROREFLECTORS SHALL BE PROVIDED IN ONE OR TWO DIRECTIONS ON EACH UNIT AS REQUIRED BY THE USAGE AND SHALL RETURN WHITE OR YELLOW LIGHT AS IS APPROPRIATED FOR THE APPLICATION.

THE REFLECTOR SHALL HAVE AN EFFECTIVE AREA OF 0.35 SQUARE INCH FOR TYPE A OR 3.0 SQUARE INCH FOR TYPE B. ITS BRIGHTNESS OR SPECIFIC INTENSITY (WHEN TESTED AT 0.2 DEGREE ANGLE OF OBSERVATION AND THE FOLLOWING ANGLES OF INCIDENCE) SHALL MEET OR EXCEED THE FOLLOWING:

SPECIFIC INTENSITY		
TYPE A		
INCIDENCE ANGLE (DEGREES)	WHITE	YELLOW
0	1.0	0.6
20	0.4	0.24
45	-	-
TYPE B		
	WHITE	YELLOW
0	3.0	1.8
20	1.2	0.72
45	0.3	0.2

ANGLE OF INCIDENCE FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE NORMAL TO THE LEADING EDGE OF THE MARKER FACE (ALSO HORIZONTAL ENTRANCE ANGLE).

ANGLE OF OBSERVATION FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE RETURNED RAY FROM THE MARKER TO THE MEASURING RECEPTOR.

SPECIFIC INTENSITY IS THE MEAN CANDLEPOWER OF THE REFLECTED LIGHT (AT GIVEN INCIDENCE AND DIVERGENCE ANGLES) FOR EACH FOOT-CANDLE AT THE REFLECTOR (ON A PLANE PERPENDICULAR TO THE INCIDENT LIGHT).

TYPE A UNITS ARE INTENDED TO PROVIDE HIGH VISIBILITY BOTH AT NIGHT AND DURING DAYLIGHT. THEIR DAY TIME VISIBILITY SHALL BE ASSURED BY SIZE, SHAPE AND COLOR AS FOLLOWS:

1) THE UNITS SHALL BE A HIGH VISIBILITY YELLOW OR WHITE COLOR WHICH WILL NOT DEGRADE SUBSTANTIALLY DUE TO TRAFFIC WEAR AND WHICH WILL MATCH THE COLOR OF THE REFLECTOR.

2) WHEN VIEWED FROM ABOVE, THE UNITS SHALL HAVE A VISIBLE AREA OF NOT LESS THAN 14 SQUARE INCHES.

3) WHEN VIEWED FROM THE FRONT, PARALLEL TO THE PAVEMENT, AS FROM APPROACHING TRAFFIC, THE UNIT SHALL HAVE A WIDTH OF APPROXIMATELY 4 INCHES AND A VISIBLE AREA OF NOT LESS THAN 1.5 SQUARE INCHES.

TYPE B UNITS ARE INTENDED TO PROVIDE HIGH VISIBILITY AT NIGHT BY RETRO-REFLECTING AUTOMOTIVE HEADLIGHT BACK TO THE DRIVER.

INSTALLATION: THEY SHALL BE ATTACHED TO CLEAN, DRY PAVEMENT BY A BUTYL ADHESIVE PAD, A BITUMINOUS ADHESIVE OR OTHER CONSTRUCTION GRADE ADHESIVES (SUCH AS FRANKLIN PANEL AND METAL ADHESIVE) SUITABLE TO ANCHOR THE UNIT UNDER THE ABOVE CONDITIONS. WHEN IT IS NECESSARY TO ATTACH UNITS TO NEW CONCRETE WITH CURING COMPOUND REMAINING, THE CURING COMPOUND MEMBRANE SHALL BE REMOVED BY SANDBLASTING OR OTHER MECHANICAL CLEANING METHOD. THEY SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL IMMEDIATELY REPLACE, AT HIS COST, ANY UNITS WHICH FAIL (BROKEN HOUSING, HOUSING WORN TO THE EXTENT THAT DAYTIME VISIBILITY IS SIGNIFICANTLY DIMINISHED OR OF AN UNACCEPTABLE COLOR, DETACHED OR BROKEN REFLECTOR, HOUSING DETACHED FROM ADHESIVE).

TRPM'S ARE LIKELY TO BE REMOVED BY SNOW PLOWING OPERATIONS, THUS THEY ARE NOT CONSIDERED SUITABLE FOR USE DURING THE PERIOD FROM OCTOBER 15 UNTIL APRIL 30. THE CONTRACTOR IS ADVISED TO SCHEDULE HIS WORK AND/OR THE USE OF THESE DEVICES TO AVOID THIS PERIOD. SHOULD THE CONTRACTOR CHOOSE TO USE TRPM'S DURING THIS PERIOD AND THEY ARE SUBSEQUENTLY REMOVED OR DESTROYED BY SNOW AND ICE CONTROL ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY, AT HIS COST, PROVIDE A SUBSTITUTE TRAFFIC GUIDANCE SYSTEM EFFECTIVE DURING LIGHT AND DARK AND WHICH IS ACCEPTABLE TO THE ENGINEER.

THE UNITS SHALL BE PLACED ACCURATELY TO DEPICT STRAIGHT OR UNIFORMLY CURVING LINES. WHEN USED TO SUPPLEMENT TEMPORARY PAVEMENT MARKINGS, THEY MAY BE PLACED ON OR IMMEDIATELY ADJACENT TO THE PAVEMENT MARKING. LOCATIONS SHALL BE ADJUSTED UP TO ONE FOOT LONGITUDINALLY OR SIX INCHES LATERALLY TO AVOID PLACEMENT ON JOINTS, CRACKED OR DETERIORATED PAVEMENT. THEY SHALL NOT BE PLACED DIRECTLY ON PAVEMENT MARKINGS IF THIS WILL DETRACT FROM THEIR ABILITY TO REMAIN ATTACHED TO THE PAVEMENT.

APPLICATION

1) WHEN REQUIRED TO SUPPLEMENT PAVEMENT MARKING; THEY SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A OR B	20' C/C
LANE LINE	A OR B	40' C/C*
CENTER LINE (SINGLE/BROKEN)	A OR B	40' C/C *
CENTER LINE (DOUBLE/SOLID)	A OR B	2 UNITS SIDE BY SIDE 4 INCHES APART 20' C/C
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A OR B	10' C/C

* CENTERED IN GAP

2) WHEN USED TO SIMULATE (REPLACE) PAVEMENT MARKING THEY SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A	5' C/C
LANE LINE	A	4@3.33' C/C 30' GAP (40' CYCLE)
CENTER LINE (DOUBLE SOLID)	A	2 UNITS SIDE BY SIDE 5' C/C
CENTER LINE (SINGLE BROKEN)	A	4@3.33' C/C 30' GAP (40' CYCLE)
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A	5' C/C
EDGE LINE (TWO COLOR) (WHITE/YELLOW)	A	BACK TO BACK 5' C/C

YELLOW TRPM'S USED TO SEPARATE OPPOSITE FLOWS OF TRAFFIC (CENTER LINES) SHALL INCLUDE REFLECTIONS FOR BOTH DIRECTIONS. ALL OTHER YELLOW TRPM'S AND WHITE TRPM'S SHALL PROVIDE RETROREFLECTIVITY FOR ONE DIRECTION.

REMOVAL

REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT LITTLE OR NONE OF THE ADHESIVE REMAINS ON THE PAVEMENT AND PERMANENT PAVEMENT SURFACES SHALL NOT BE SCARRED, BROKEN OR ROUGHENED SIGNIFICANTLY.

PAYMENT

BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH TRPM AND SHALL INCLUDE ALL LABOR, EQUIPMENT, HARDWARE AND INCIDENTALS REQUIRED TO PERFORM THE WORK. IT SHALL ALSO INCLUDE REPLACEMENT AT NO ADDITIONAL COST OF ALL TRPM'S WHICH, IN THE JUDGMENT OF THE ENGINEER, FAIL FOR ANY REASON, EXCEPT DUE TO FAILURE OF THE PAVEMENT TO WHICH THEY ARE ATTACHED.

ITEM	UNIT	DESCRIPTION
614	EACH	TEMPORARY RAISED PAVEMENT MARKERS

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE PURPOSE

ITEM 614 TEMPORARY RAISED PAVEMENT MARKERS 2773 EACH

LOCATION	SHEET NO.	SPACING C/C	TYPE A		
			Y	W	W/Y
STEP 2: CONSTRUCTION					
E.B. STA. 275+40 TO STA. 283+00		10'	77	20	
E.B. STA. 10+00 TO STA. 14+39		10'	45	45	
W.B. STA. 126+00 TO STA. 132+60		10'	67		
STEP 3: CONSTRUCTION					
E.B. STA. 275+40 TO STA. 282+00		10'		66	
E.B. STA. 282+00 TO STA. 283+89.68(B)/STA. 10+00(A)		10'		19	
E.B. (GRANVILLE ST.) STA. 283+00 TO STA. 283+89.69		10'	9		
E.B. STA. 10+00 TO STA. 13+25		10'		33	
E.B. STA. 35+00 TO STA. 38+20		10'	66	66	
W.B. STA. 58+60 TO STA. 61+80		10'	66	66	
E.B. STA. 92+25 TO STA. 98+65		10'	66	66	
W.B. STA. 94+30 TO STA. 97+50		10'		66	
W.B. STA. 114+00 TO STA. 116+20		10'		23	
W.B. STA. 126+00 TO STA. 132+60		10'		67	
BRIDGE PAINTING					
CHURCH ST. BRIDGE (LIC-16-1859)		5'	440	440	
21st. ST. BRIDGE (LIC-16-1968)		5'	480	480	
SUB-TOTALS			1316	1457	
TOTALS					2773

CALCULATED
BB
CHECKED
TD

MAINTENANCE OF TRAFFIC GENERAL NOTES

LIC-16-17.94

ITEM 614 BARRIER REFLECTORS

TABLE 1

LOCATION (EASTBOUND LANES)	SPACING	TYPE A		TYPE B		OBJECT MARKER	
		W	Y	W	Y	W	Y
STEP 2: CONSTRUCTION							
1-GR	50'	10					
4-GR (STA. 17+00.7 - STA. 39+50.07)	50'	66					
7-GR, LIC-16-1859, 8-GR	50'	27					
10-GR	50'	5					
13-GR	50'	6					
15-GR, LIC-16-1968, 17-GR	50'	22					
STEP 2: CONSTRUCTION							
PORTABLE CONCRETE BARRIER							
BEGIN BARRIER STA. 10+40± - END BARRIER STA. 114+50±	25'			418		418	
STEP 3: CONSTRUCTION							
MEDIAN BARRIER							
BEGIN BARRIER STA. 14+60± - END BARRIER STA. 115+00±	25'			403		403	
PORTABLE CONCRETE BARRIER							
STEP 3: CONSTRUCTION - PHASE I & II							
BEGIN BARRIER STA. 11+33± - END BARRIER STA. 17+49±	25'			26		26	
BEGIN BARRIER STA. 46+24± - END BARRIER STA. 50+74±	25'			19		19	
BEGIN BARRIER STA. 103+80± - END BARRIER STA. 108+40±	25'			20		20	
SUB-TOTAL							
		136	0	0	886	0	886

Y = YELLOW
W = WHITE

**614 BARRIER REFLECTOR:
614 OBJECT MARKER:**

THESE REFLECTORS & OBJECT MARKERS AND THEIR MOUNTING SHALL CONFORM TO PROPOSAL NOTE & SUPPLEMENTAL SPECIFICATION 802, EXCEPT THAT SPACING SHALL BE AS SHOWN IN THE SUB-SUMMARY TABLE.

TABLE 2

LOCATION (WESTBOUND LANES)	SPACING	TYPE A		TYPE B		OBJECT MARKER	
		W	Y	W	Y	W	Y
STEP 2: CONSTRUCTION							
3-GR (STA. 13+55± - STA. 16+05±)	50'	0					
5-GR	50'	4					
6-GR, LIC-16-1859, 9-GR	50'	30					
11-GR	50'	6					
14-GR	50'	5					
16-GR, LIC-16-1968, 18-GR	50'	28					
19-GR	50'	13					
STEP 2: CONSTRUCTION							
PORTABLE CONCRETE BARRIER							
BEGIN BARRIER STA. 47+86± - END BARRIER STA. 53+86±	25'			25		25	
BEGIN BARRIER STA. 105+01± - END BARRIER STA. 112+51±	25'			31		31	
STEP 3: CONSTRUCTION							
MEDIAN BARRIER							
BEGIN BARRIER STA. 14+60± - END BARRIER STA. 132+60±	25'			473		473	
PORTABLE CONCRETE BARRIER							
BEGIN BARRIER STA. 47+84± - END BARRIER STA. 52+34±	25'			19		19	
BEGIN BARRIER STA. 105+00± - END BARRIER STA. 109+50±	25'			19		19	
BRIDGE PAINTING							
CHURCH ST. BRIDGE (LIC-16-1859)	25'			26	26	26	26
21st. ST. BRIDGE (LIC-16-1968)	25'			30	30	30	30
SUB-TOTAL							
		95	0	56	623	56	623
SUB-TOTAL TABLE 1							
		136	0	0	886	0	886
SUB-TOTAL TABLE 2							
		95	0	56	623	56	623
TOTAL							
		231		1565		1565	

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614 BARRIER REFLECTOR, TYPE A 231 EACH
 ITEM 614 BARRIER REFLECTOR, TYPE B 1565 EACH
 ITEM 614 OBJECT MARKER 1565 EACH

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

ITEM 622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED.

ITEM 622 PORTABLE CONCRETE BARRIER, 32".

THE CONTRACTOR SHALL INSTALL A PORTABLE CONCRETE BARRIER, 32" AS PER STANDARD DRAWING MC-9.2
 ITEM 622 PORTABLE CONCRETE BARRIER, 32" HAS BEEN PROVIDED FOR MAINTAINING TRAFFIC AS SHOWN ON MAINTENANCE OF TRAFFIC SHEETS. FLAGGERS SHALL BE USED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETED AND TRAFFIC IS MAINTAINED. AFTER THE PROJECT HAS BEEN COMPLETED THE PORTABLE CONCRETE BARRIER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY HIM. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE PURPOSE.

ITEM 622 PORTABLE CONCRETE BARRIER, 32" 15430 LIN.FT.

ITEM 622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED.

THE CONTRACTOR SHALL INSTALL THE BARRIER AS DETAILED ON STD. DWG.'S PCB-91 & PCB-DD. THE QUANTITY SHALL ALSO INCLUDE REMOVING AND RE-USING THE BARRIER. AFTER THE PROJECT HAS BEEN COMPLETED THE BARRIER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED BY HIM. ANCHORING CONNECTIONS OF THE PARAPETS SHALL BE DONE BY USING 1/4" DIAMETER HIGH STRENGTH BOLTS.

FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL THE MOVEMENT OF THE BARRIER IS COMPLETE AND TRAFFIC IS MAINTAINED. PAYMENT FOR BOLTS, NUTS, WASHERS, LABOR, MATERIALS AND INCIDENTALS SHALL BE INCLUDED IN ITEM 622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED.

ITEM 622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED 1320 LIN.FT.

BRIDGE DECK SURFACE PREPARATION:

THE PROCEDURE WHICH MUST BE FOLLOWED WHEN INSTALLING ALL PORTABLE PRECAST CONCRETE BARRIERS, ON OHIO BRIDGE DECKS, IS GIVEN BELOW.

- A. THE BRIDGE DECK SURFACE AREA ON WHICH THE PRECAST CONCRETE BARRIERS WILL REST SHALL BE CLEARED OF ALL LOOSE SAND, GRAVEL, DIRT AND DEBRIS.
 - B. ANY IRREGULARITIES IN THE BRIDGE DECK AREA, UNLESS JUDGED BY THE ENGINEER TO BE INCONSEQUENTIAL, SHALL BE LEVELED WITH GROUT AND/OR ASPHALT.
 - C. ASPHALT ROLL ROOFING SHALL BE PLACED ON THOSE BRIDGE DECK AREAS AS JUDGED BY THE ENGINEER, TO HAVE A SURFACE ROUGHNESS WHICH WOULD INHIBIT FRICTION CONTACT BETWEEN BARRIER SEGMENTS AND THE DECK.
- LIMIT THE SLACK IN JOINTS BETWEEN SEGMENTS TO A MAXIMUM OF 3 DEGREES BY SHIMMING AND/OR GROUTING THE JOINT.

THE ABOVE WORK SHALL BE INCLUDED FOR PAYMENT IN ITEM 622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED.

LOCATION	ITEM 622 PORTABLE CONCRETE BARRIER, 32" LIN.FT.		ITEM 622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED. LIN.FT.	
	PASSING	DRIVING	PASSING	DRIVING
STEP 2: CONSTRUCTION (E.B. LANES)				
BEGIN BARRIER STA. 10+40± - END BARRIER STA. 114+50±		10080'		
LIC-16-1859				140'
LIC-16-1968				190'
STEP 2: CONSTRUCTION (W.B. LANES)				
BEGIN BARRIER STA. 47+86± - END BARRIER STA. 53+86±		460'		
LIC-16-1859				140'
BEGIN BARRIER STA. 105+01± - END BARRIER STA. 112+51±		560'		
LIC-16-1968				190'
STEP 3: CONSTRUCTION (E.B. LANES)				
BEGIN BARRIER STA. 11+33± - END BARRIER STA. 17+49±	620'			
BEGIN BARRIER STA. 46+24± - END BARRIER STA. 50+74±	310'			
LIC-16-1859			140'	
BEGIN BARRIER STA. 103+80± - END BARRIER STA. 108+40±	270'			
LIC-16-1968			190'	
STEP 3: CONSTRUCTION (W.B. LANES)				
BEGIN BARRIER STA. 47+84± - END BARRIER STA. 52+34±	310'			
LIC-16-1859			140'	
BEGIN BARRIER STA. 105+00± - END BARRIER STA. 109+50±	260'			
LIC-16-1968			190'	
BRIDGE PAINTING				
CHURCH ST. BRIDGE (LIC-16-1859)		1200'		
21st. ST. BRIDGE (LIC-16-1968)		1360'		
SUBTOTALS				
	1770'	13660'	660'	660'
TOTALS CARRIED TO GENERAL SUMMARY SHEET 46.		15430 LIN.FT.	1320 LIN.FT.	

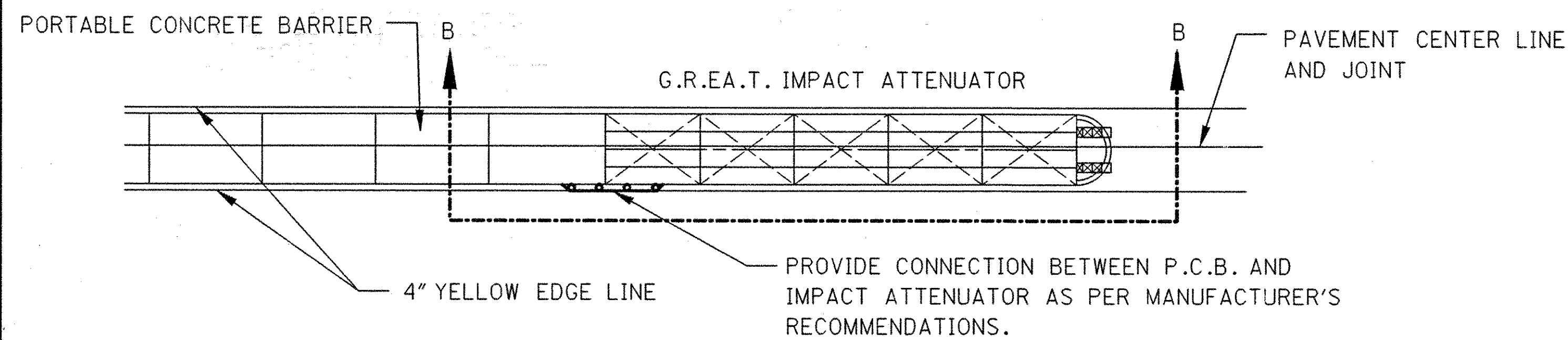
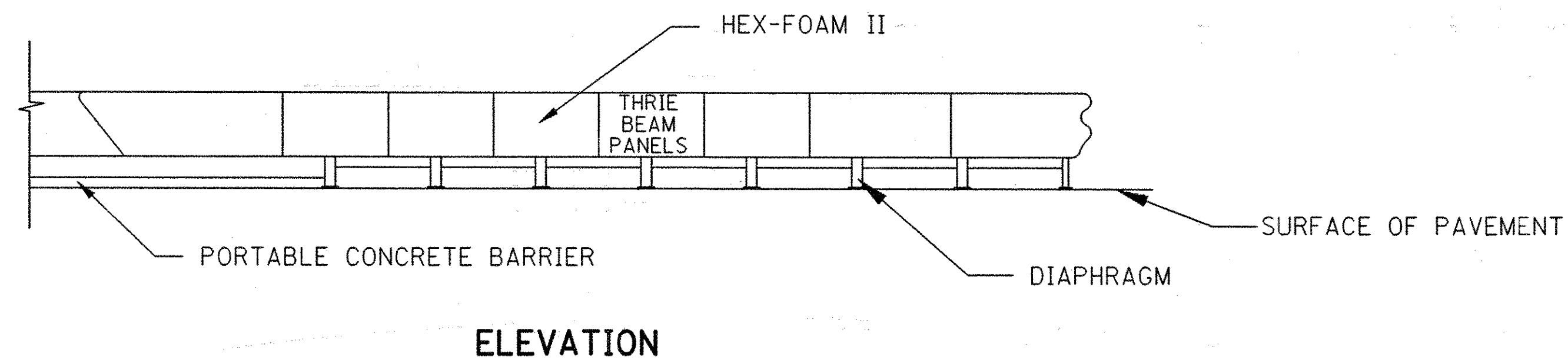
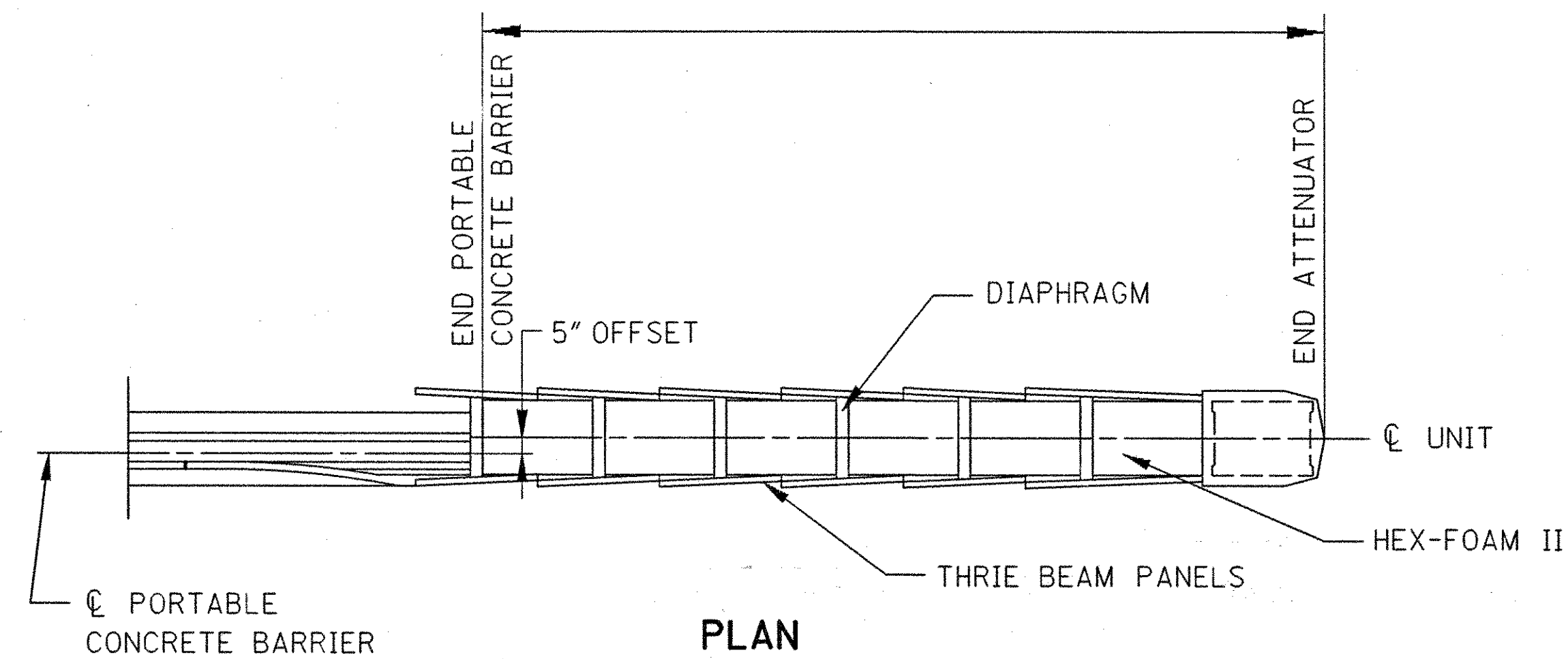
* NOTE: ITEM 622 PORTABLE CONCRETE BARRIER LOCATIONS MAY BE ADJUSTED AT THE TIME OF INSTALLATION AS DIRECTED BY THE PROJECT ENGINEER.

CALCULATED
TAG
CHECKED
BB

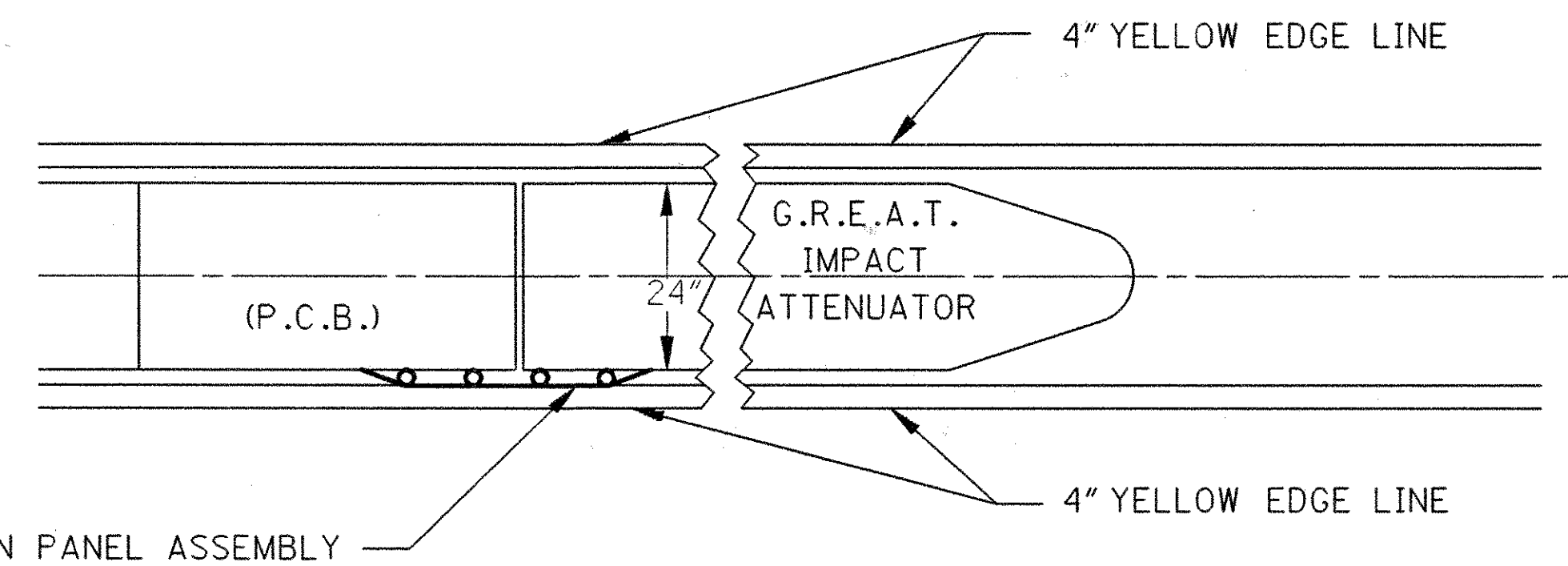
MAINTENANCE OF TRAFFIC GENERAL NOTES

LIC-16-17.94

ATTENUATOR DETAILS



DETAIL B



DETAIL B-B

ITEM 614 - TEMPORARY IMPACT ATTENUATOR (G.R.E.A.T. TYPE)

THIS WORK SHALL CONSIST OF FURNISHING IMPACT ATTENUATORS AS REQUIRED IN THE PLANS. THIS ITEM SHALL INCLUDE ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT COMPLETE AND FUNCTIONAL G.R.E.A.T. IMPACT ATTENUATOR SYSTEMS. THE ATTENUATORS SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN ON THE PLANS. THE IMPACT ATTENUATOR SHALL BE MANUFACTURED BY THE ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, ILLINOIS 60601; TELEPHONE (312) 467-6750.

THE NOSE COVER OF THE ATTENUATOR SHALL MEET THE REQUIREMENTS OF STANDARD DRAWING MT-95.81

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING, REPAIRING AND OTHERWISE RESTORING THE IMPACT ATTENUATOR IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS WHILE IT IS IN USE ON THE PROJECT. SUCH REPAIRS SHALL BE PERFORMED WITHIN 24 HOURS OF THE INCIDENT WHICH CAUSED DAMAGE TO THE PROJECT. IN ADDITION TO ANY EXTRA UNITS SUPPLIED FOR THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT REQUIRED TO PERFORM THE ABOVE DESCRIBED RESTORATION OF THE ATTENUATOR.

AN ESTIMATED QUANTITY AS LISTED BELOW SHALL BE USED AS DIRECTED BY THE ENGINEER FOR USE IN THE ABOVE MENTIONED RESTORATION ONLY WHEN IT IS DECIDED THAT MINOR OR MAJOR REPAIRS CANNOT BE PERFORMED IN A SAFE AND TIMELY MANNER.

ITEM 614 - TEMPORARY IMPACT ATTENUATOR, G.R.E.A.T. TYPE (REPLACEMENT), MODEL NO. 200200NF6GCZ, BIDIRECTIONAL 1 EACH

FOR LOCATION OF THE ATTENUATORS SEE PLAN SHEETS. THESE PERMANENTLY LOCATED ATTENUATORS SHALL BE BID PER EACH PER THE FOLLOWING PAY ITEM DESCRIPTION:

- ITEM 614 - TEMPORARY IMPACT ATTENUATOR (G.R.E.A.T. TYPE), MODEL NO. 200200NF6GCZ, BIDIRECTIONAL 2 EACH
- ITEM 614- REMOVE AND REPLACE IMPACT ATTENUATOR, (G.R.E.A.T. TYPE), MODEL NO. 200200NF6GCZ 2 EACH

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR EACH, ITEM 614, TEMPORARY IMPACT ATTENUATOR (G.R.E.A.T. TYPE) AND SHALL BE CONSIDERED FULL PAYMENT FOR FURNISHING, INSTALLING AT THE SPECIFIED LOCATIONS, RESTORATION AFTER EACH VEHICLE IMPACT, INCLUDING ALL LABOR, TOOLS, EQUIPMENT AND MISCELLANEOUS HARDWARE AND MATERIALS NECESSARY TO COMPLETE THESE ITEMS OF WORK.

THE ABOVE QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR PAYMENT.

ATTENUATOR DETAILS

LIC-16-17.94

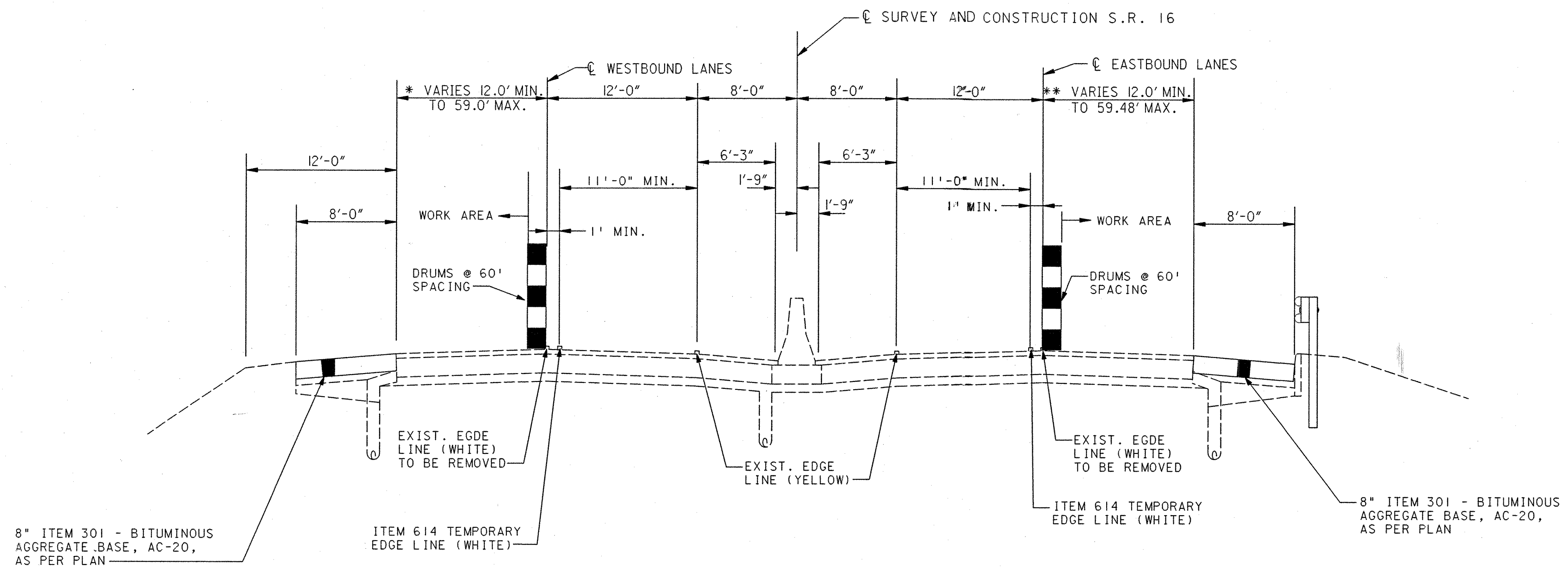
CALCULATED
B.B.
3/13/95
CHECKED
T.P.
3/16/95

IMPACT.DGN 04/18/95

PHASE I

STA. 12+75.7 (EB) & STA. 13+60 (WB) TO STA. 114+38

STEP 1



LO16TAMT.DGN 04/18/95 (1=5)

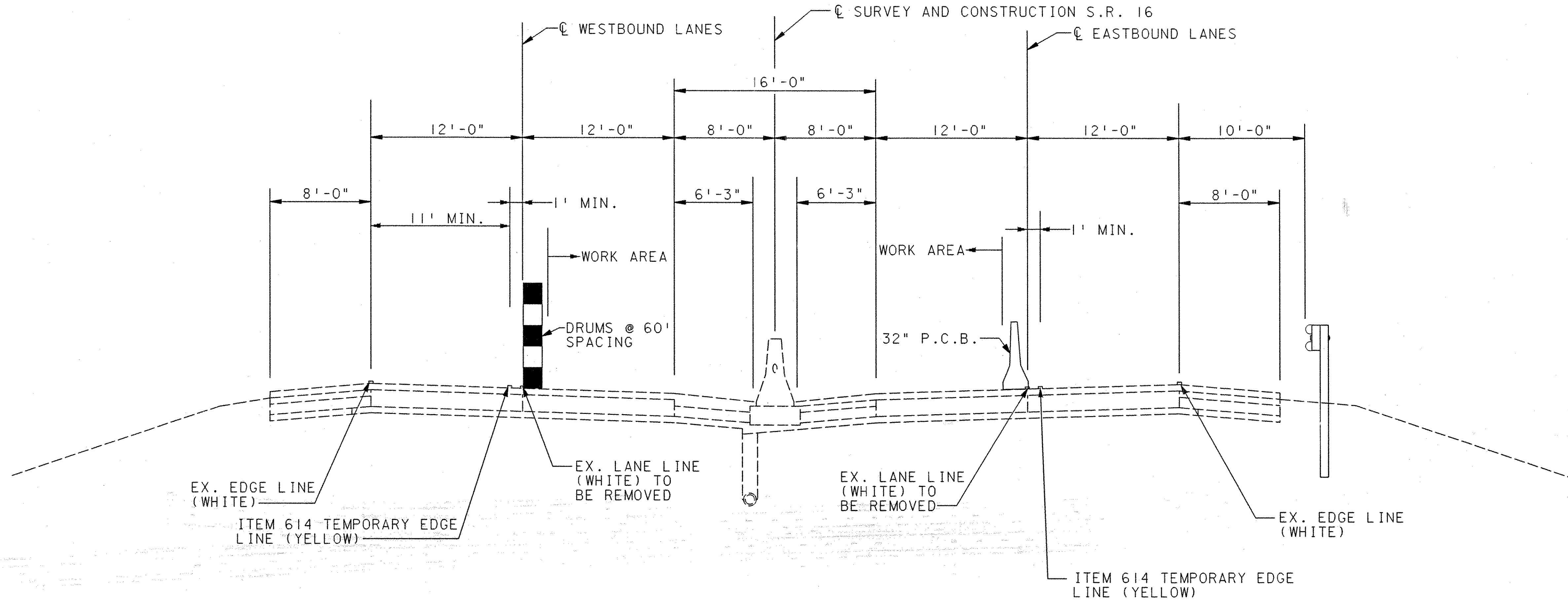
M.O.T. TYPICAL SECTION

LIC-16-17.94

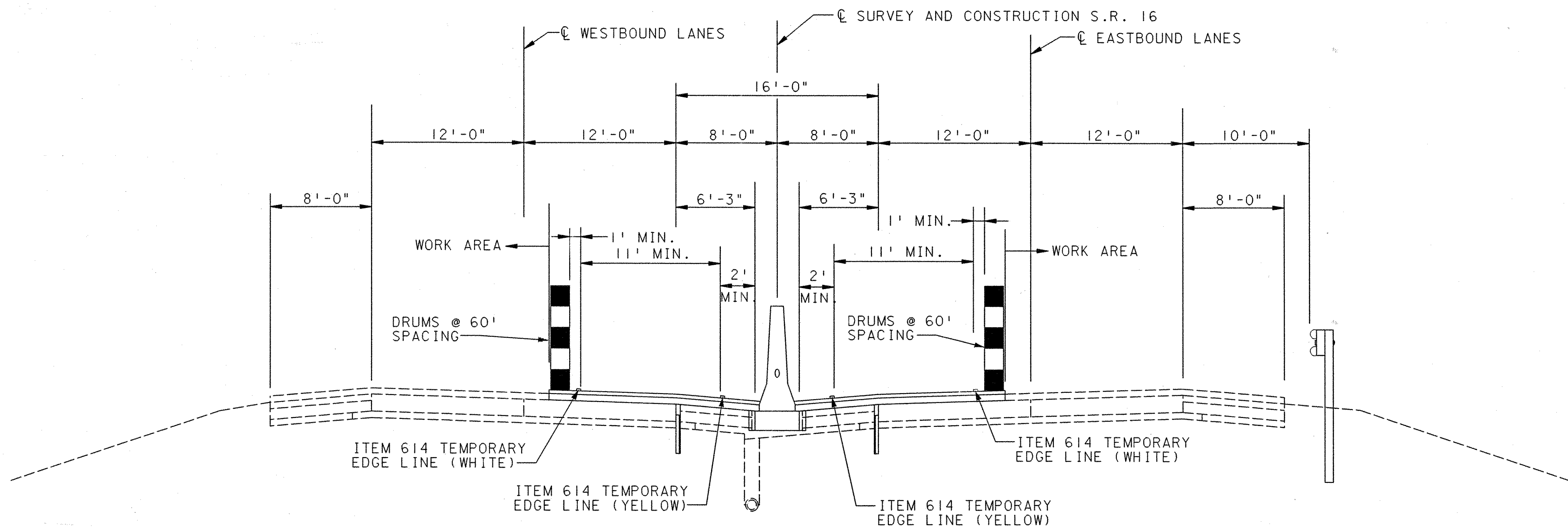
PHASE I

STA. 12+75.7 (EB) & STA. 13+60 (WB) TO STA. 114+00

STEP 2



STEP 3



CALCULATED
B.B.
CHECKED
T.D.

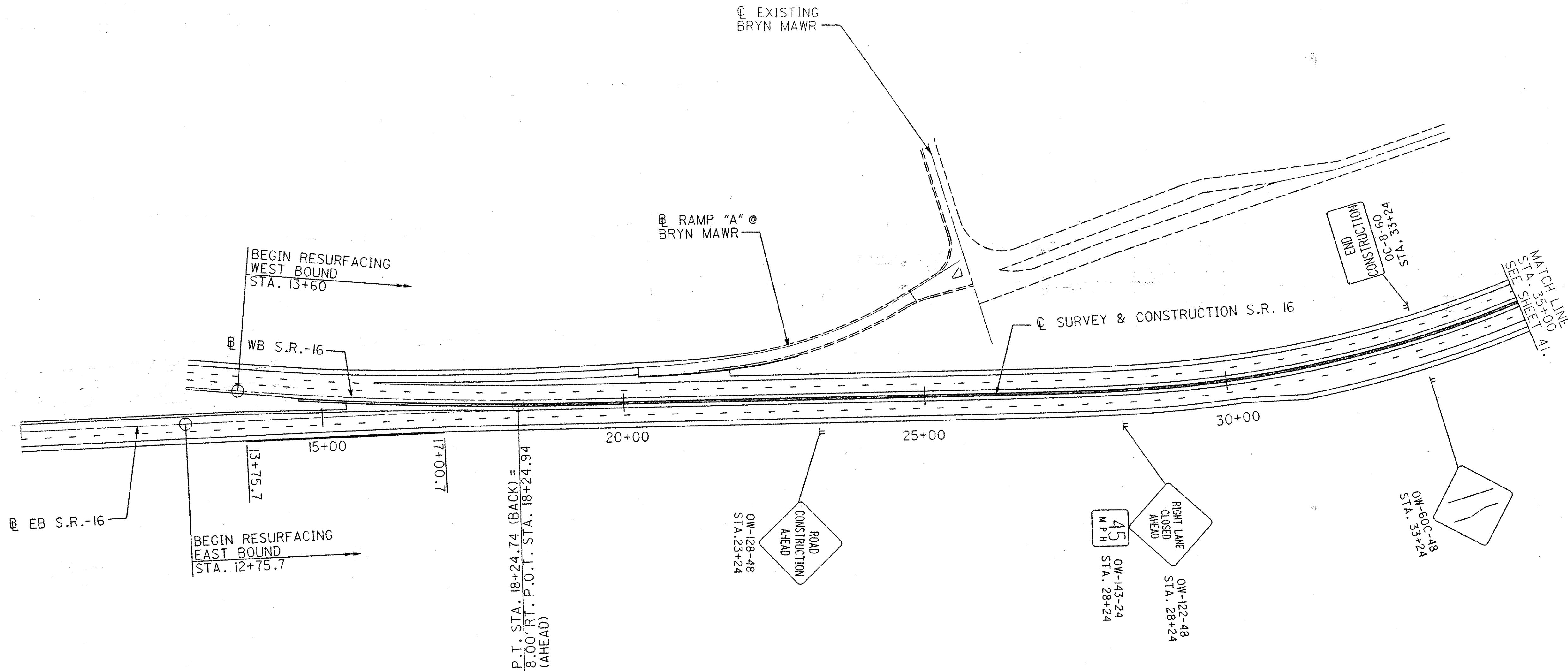
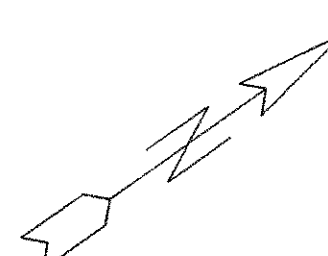
M.O.T. TYPICAL SECTION
PHASE 1 - RESURFACING

LIC-16-17.94

39
420

L016TYMT.DGN 04/18/95 (1-5)

PHASE I



STEP I CONSTRUCTION

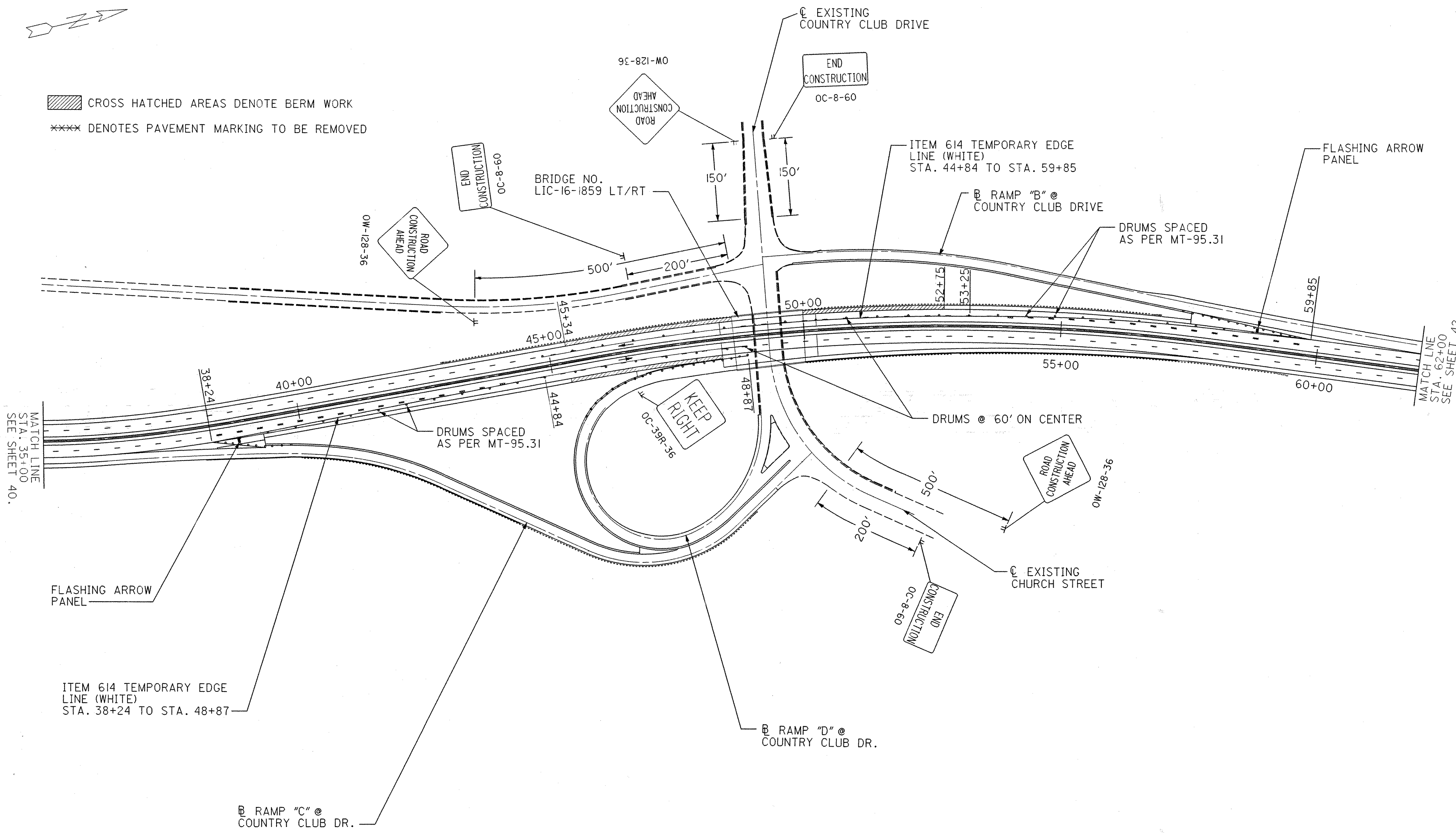
RECONSTRUCT EXISTING 8' BERM WITH 8" OF ITEM 301

CALCULATED	B.D.	0	100	200
CHECKED	T.D.	HORIZONTAL SCALE IN FEET		

**MAINTENANCE OF TRAFFIC
STA. 13+50 TO STA. 35+00**

LIC-16-17.94

PHASE I



STEP 1 CONSTRUCTION

RECONSTRUCT EXISTING 8' BERMS WITH 8" OF ITEM 301

CALCULATED
 B.B.
 CHECKED
 T.D.

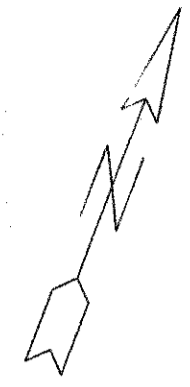
**MAINTENANCE OF TRAFFIC
 STA. 35+00 TO STA. 62+00**

LIC-16-17.94

41
 420

LO16IAMT.DGN 04/18/95

PHASE I



MATCH LINE
STA. 62+00
SEE SHEET 41.

65+00

70+00

75+00

80+00

85+00

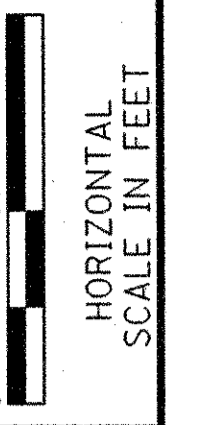
MATCH LINE
STA. 90+00
SEE SHEET 43.

Ⓟ SURVEY & CONSTRUCTION
PROPOSED BIKE PATH

Ⓞ SURVEY & CONSTRUCTION S.R. 16

STEP I CONSTRUCTION

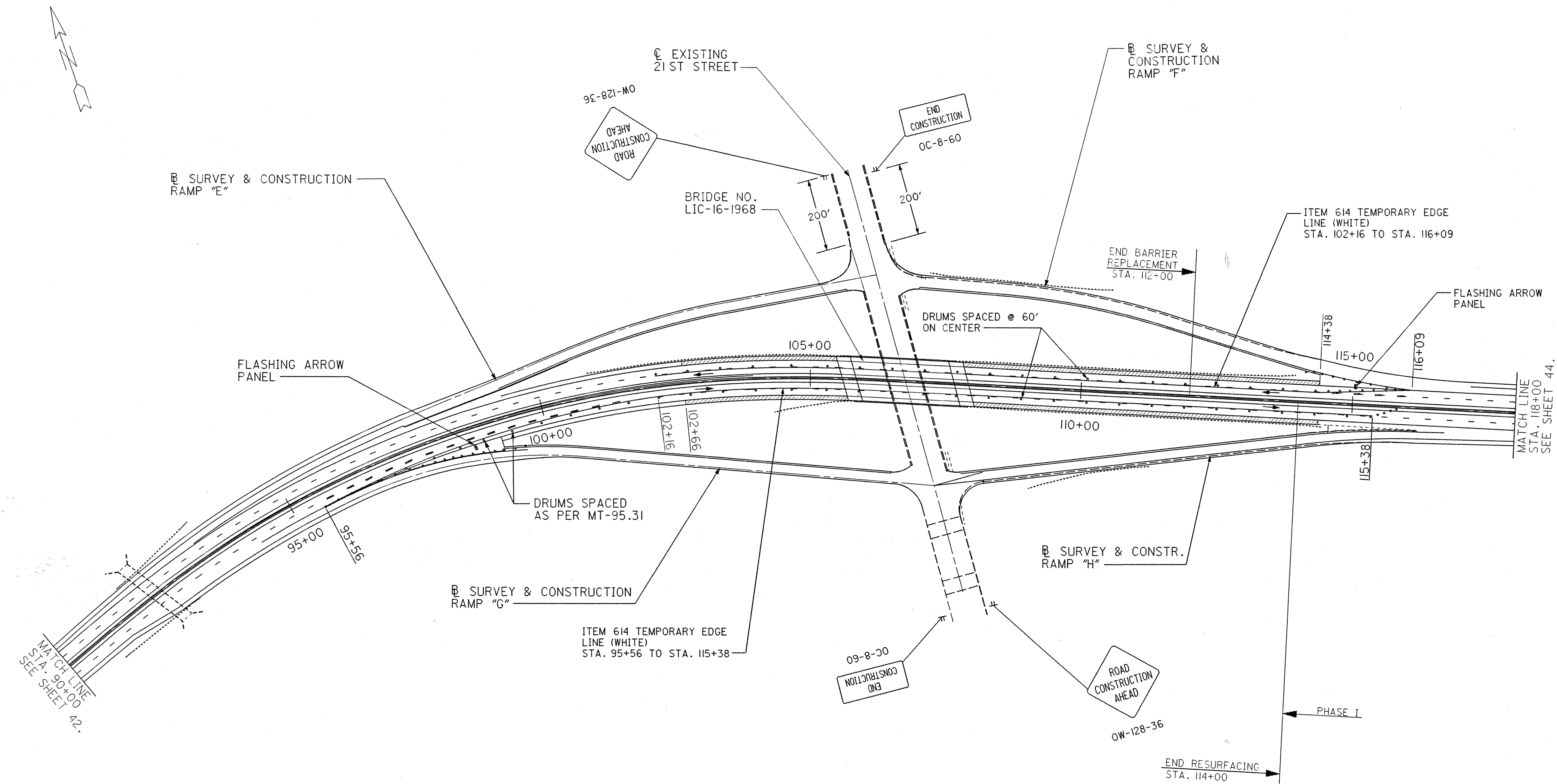
RECONSTRUCT EXISTING 8'
BERM WITH 8" OF ITEM 301



CALCULATED
B.B.
CHECKED
T.D.

**MAINTENANCE OF TRAFFIC
STA. 62+00 TO STA. 90+00**

PHASE I



CROSS HATCHED AREAS DENOTE BERM WORK
 DENOTES PAVEMENT MARKING TO BE REMOVED

STEP I CONSTRUCTION
 RECONSTRUCT EXISTING 8'
 BERMS WITH 8" OF ITEM 301

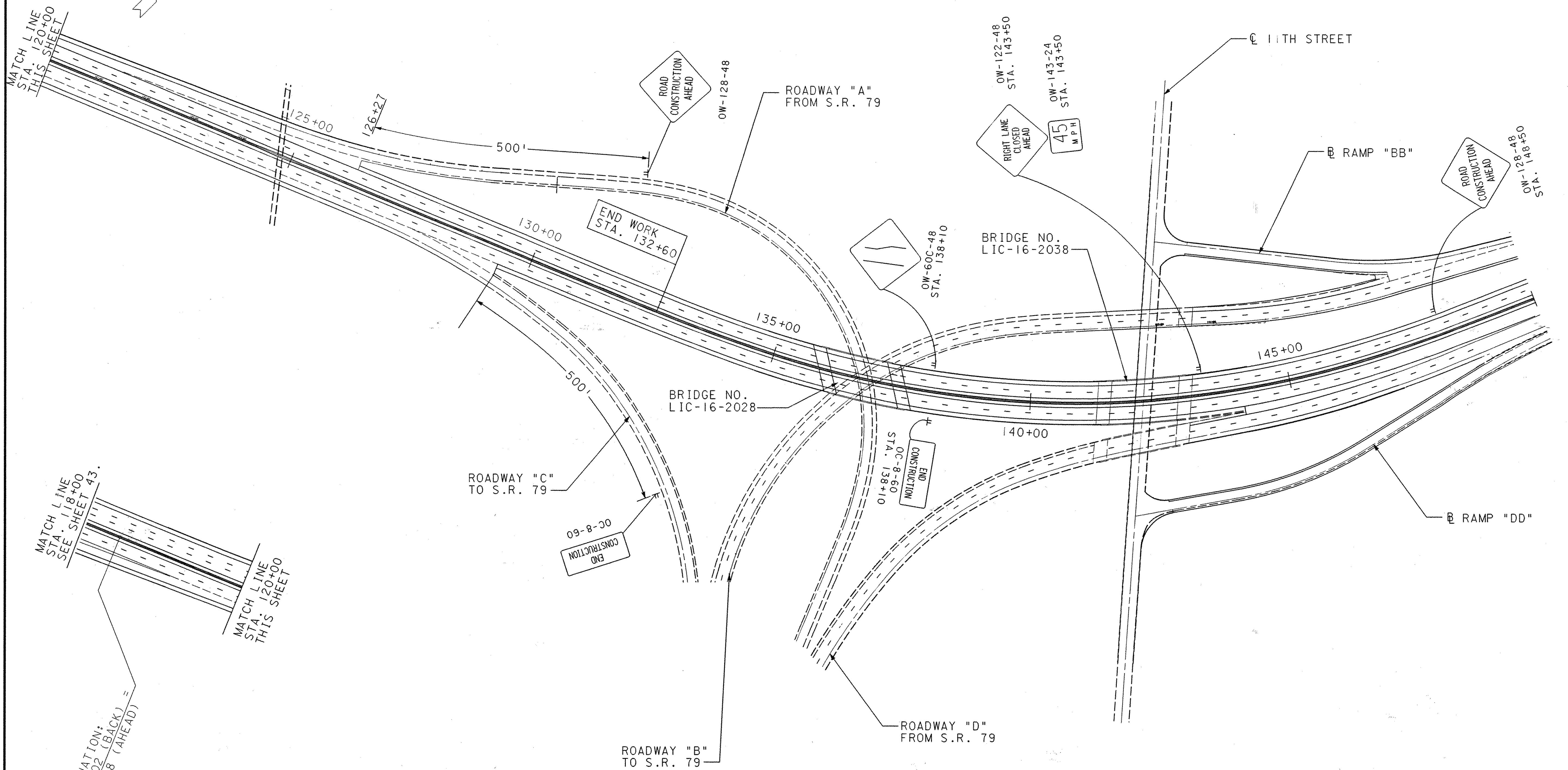
0	100	200
HORIZONTAL SCALE IN FEET		
CALCULATED	R.I.B.	CHECKED
		T.D.

MAINTENANCE OF TRAFFIC
STA. 90+00 TO STA. 118+00

LIC-16-17.94

LO16ICMT.DGN 04/18/95

PHASE I



***** DENOTES PAVEMENT MARKING TO BE REMOVED

STEP I CONSTRUCTION

RECONSTRUCT EXISTING 8'
BERMS WITH 8" OF ITEM 301

04/18/95

L0161DMT.DGN

CALCULATED
B.B.
CHECKED
T.D.

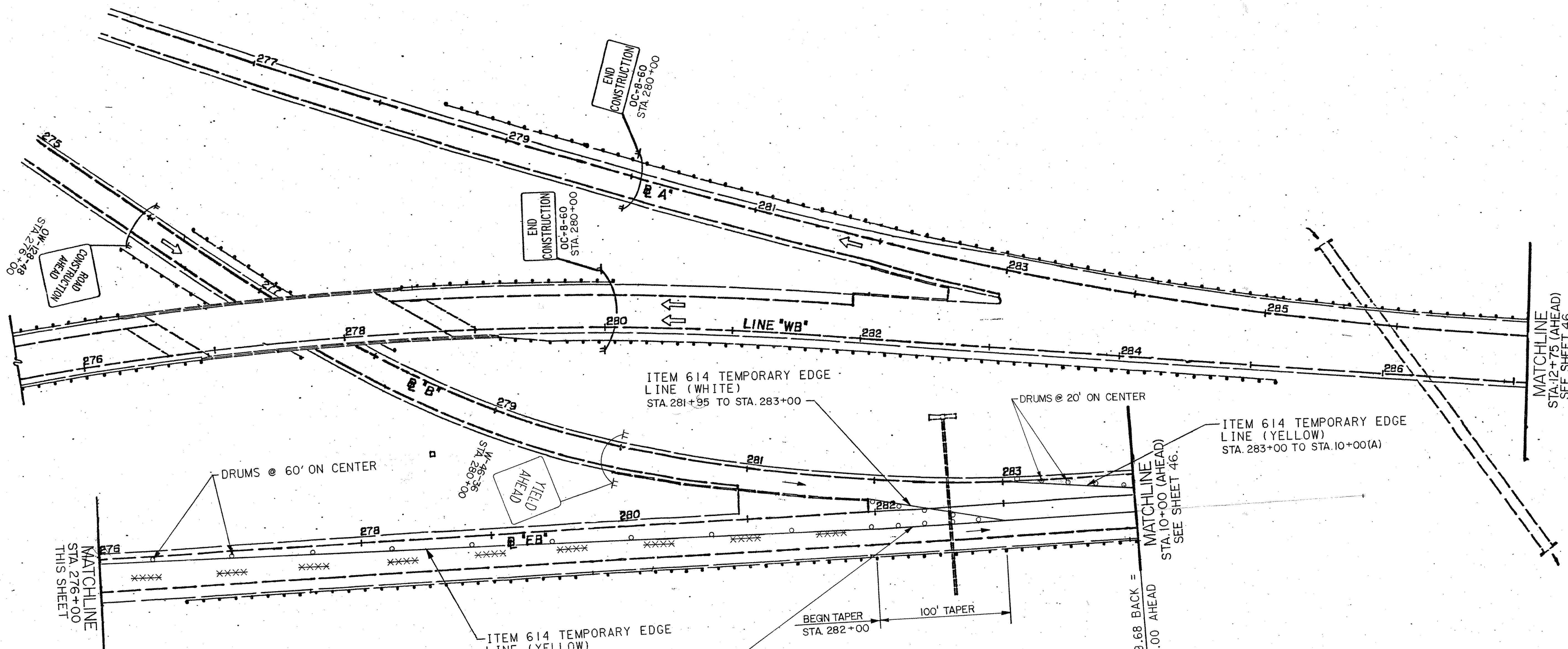
0 100 200
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC
STA. 118+00 TO STA. 150+00**

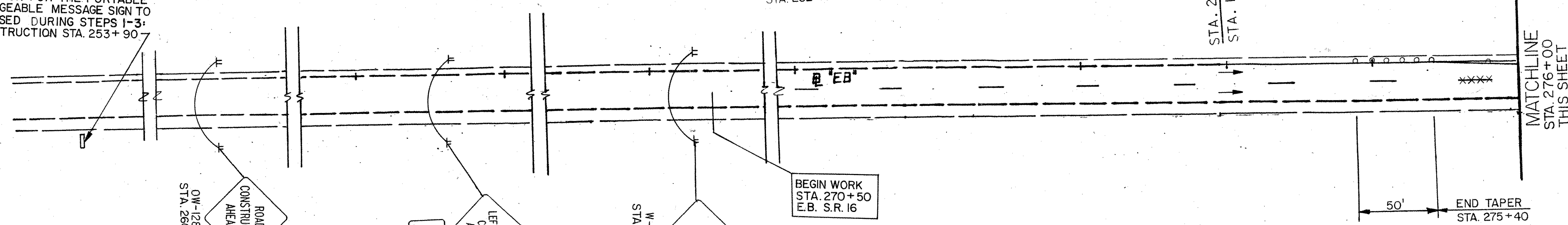
LIC-16-17.94

44
420

PHASE I



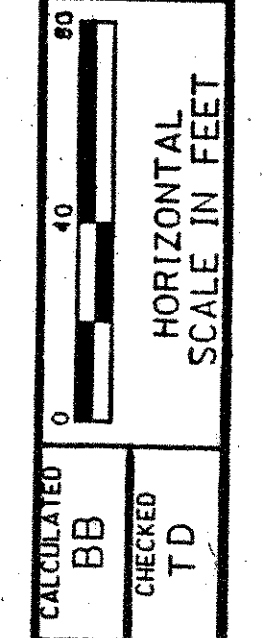
LOCATION FOR THE PORTABLE CHANGEABLE MESSAGE SIGN TO BE USED DURING STEPS 1-3: CONSTRUCTION STA. 253+90



STEP 2 CONSTRUCTION

REMOVE 32" EXISTING CONCRETE BARRIER WITH LIGHTING AND INSTALL PROP. 50" CONCRETE BARRIER WITH LIGHTING. ALSO PLANE OFF 3" OF EXISTING ASPHALT FROM INSIDE BERM AND PASSING LANE AND PLACE 3" OF 301 AND 1 3/4" OF 446 TYPE 2.

***** DENOTES PAVEMENT MARKING TO BE REMOVED

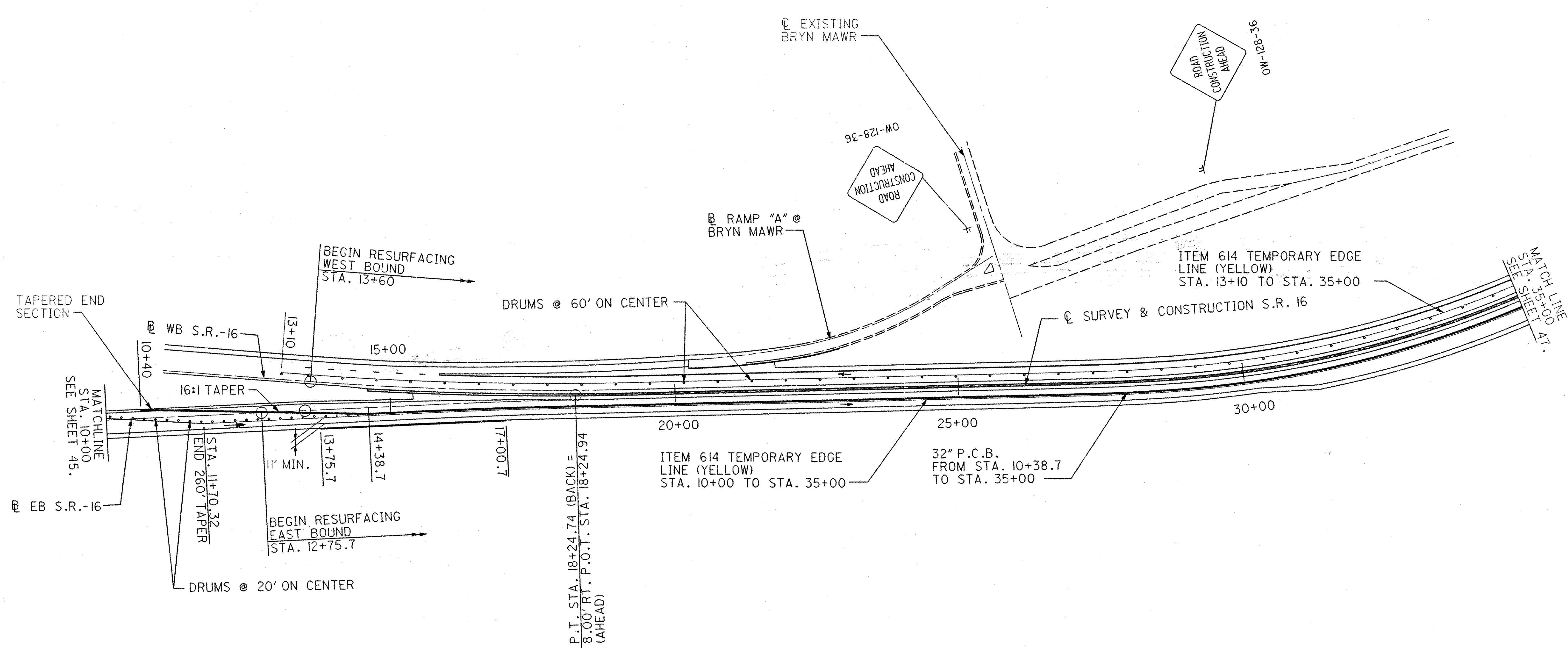
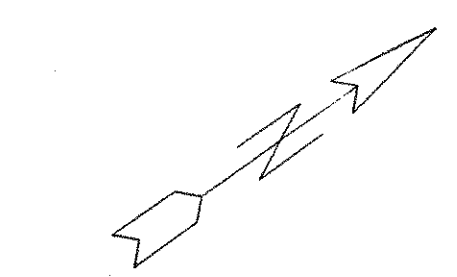


MAINTENANCE OF TRAFFIC

LIC-16-17.94

45
420

PHASE I



**** DENOTES PAVEMENT MARKING TO BE REMOVED

STEP 2 CONSTRUCTION

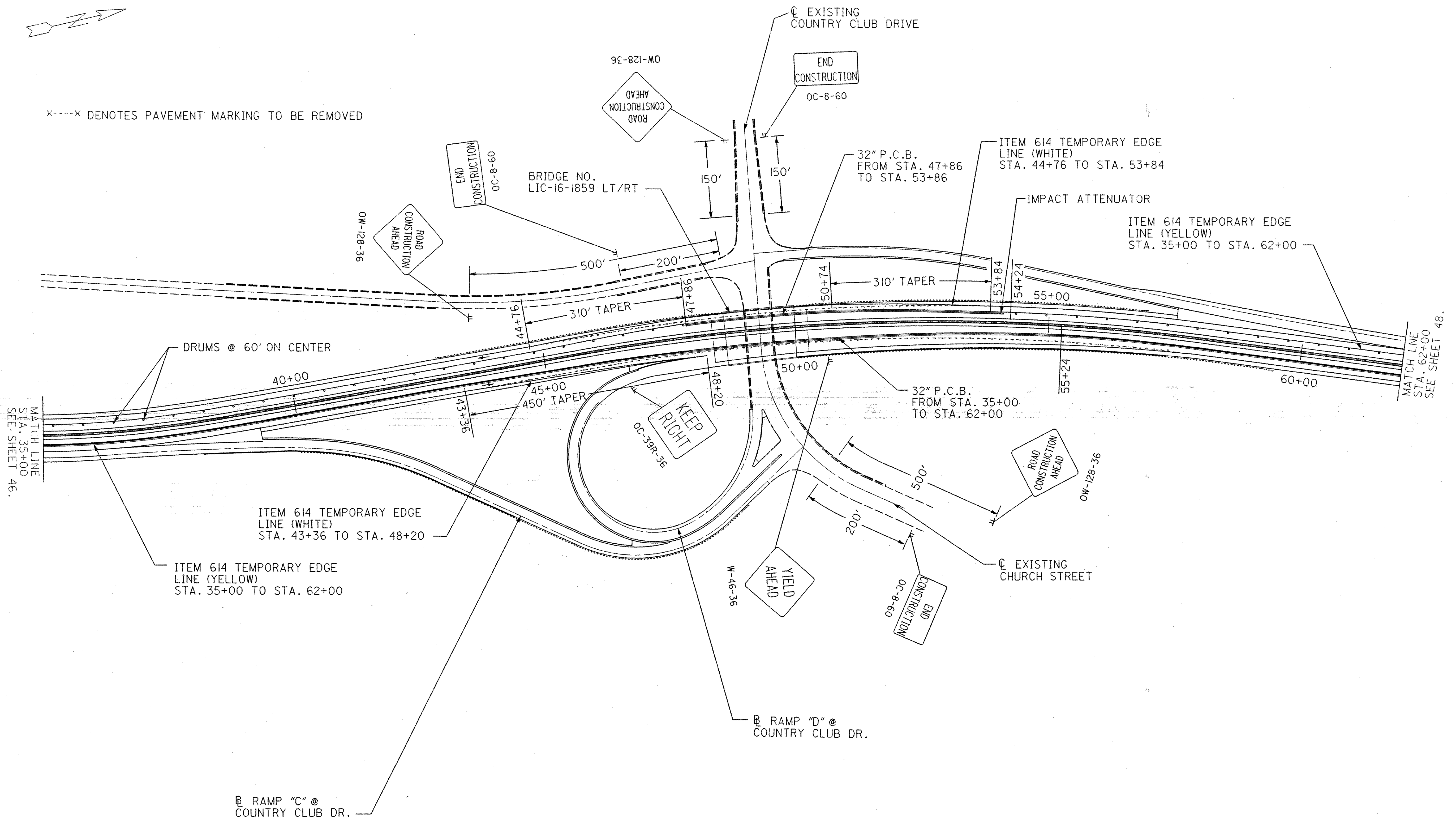
REMOVE 32" EXISTING CONCRETE BARRIER WITH LIGHTING AND INSTALL PROP. 50" CONCRETE BARRIER WITH LIGHTING. ALSO PLANE OFF 3" OF EXISTING ASPHALT FROM INSIDE BERM AND PASSING LANE AND PLACE 3" OF 301 AND 1 3/4" OF 446 TYPE 2.

0	100	200
HORIZONTAL SCALE - IN FEET		
CALCULATED	BB	CHECKED
		TD

MAINTENANCE OF TRAFFIC STA. 13+50 TO STA. 35+00

LIC-16-17.94

PHASE I



STEP 2 CONSTRUCTION

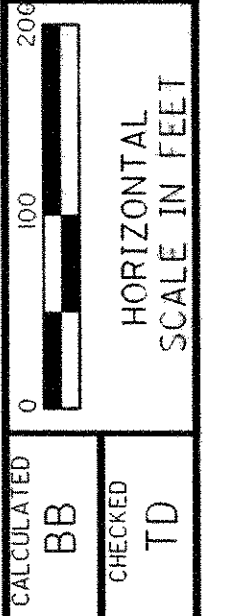
REMOVE 32" EXISTING CONCRETE BARRIER WITH LIGHTING AND INSTALL PROP. 50" CONCRETE BARRIER WITH LIGHTING. ALSO PLANE OFF 3" OF EXISTING ASPHALT FROM INSIDE BERM AND PASSING LANE AND PLACE 3" OF 301 AND 1 3/4" OF 446 TYPE 2.

X---X DENOTES PAVEMENT MARKING TO BE REMOVED

MATCH LINE
STA. 35+00
SEE SHEET 46.

MATCH LINE
STA. 62+00
SEE SHEET 48.

LO16IHMT.DGN 04/18/95



**MAINTENANCE OF TRAFFIC
STA. 35+00 TO STA. 62+00**

LIC-16-17.94

47
420



MATCH LINE
STA. 62+00
SEE SHEET 47.

65+00

DRUMS @ 60' ON CENTER

ITEM 614 TEMPORARY EDGE
LINE (YELLOW)
STA. 62+00 TO STA. 90+00

32" P.C.B.
FROM STA. 62+00
TO STA. 90+00

ITEM 614 TEMPORARY EDGE
LINE (YELLOW)
STA. 62+00 TO STA. 90+00

75+00

☐ SURVEY & CONSTRUCTION S.R. 16

80+00

☐ SURVEY & CONSTRUCTION
PROPOSED BIKE PATH

85+00

MATCH LINE
STA. 90+00
SEE SHEET 49.

STEP 2 CONSTRUCTION

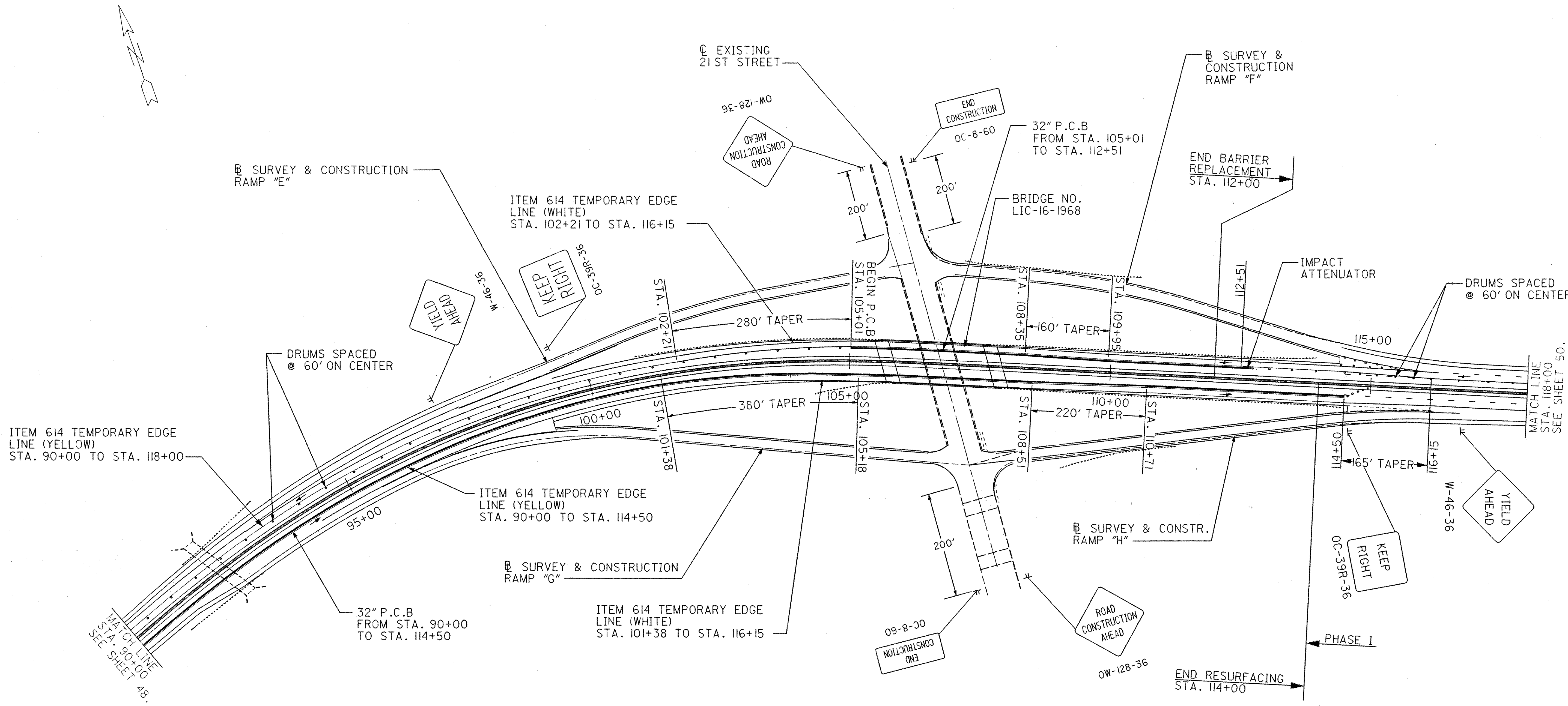
REMOVE 32" EXISTING CONCRETE BARRIER WITH LIGHTING AND INSTALL PROP. 50" CONCRETE BARRIER WITH LIGHTING. ALSO PLANE OFF 3" OF EXISTING ASPHALT FROM INSIDE BERM AND PASSING LANE AND PLACE 3" OF 301 AND 1 3/4" OF 446 TYPE 2.

0	100	200
HORIZONTAL SCALE IN FEET		
CALCULATED	RB	TD
	CHECKED	

**MAINTENANCE OF TRAFFIC
STA. 62+00 TO STA. 90+00**

LIC-16-17.94

PHASE I



**** DENOTES PAVEMENT MARKING TO BE REMOVED

STEP 2 CONSTRUCTION

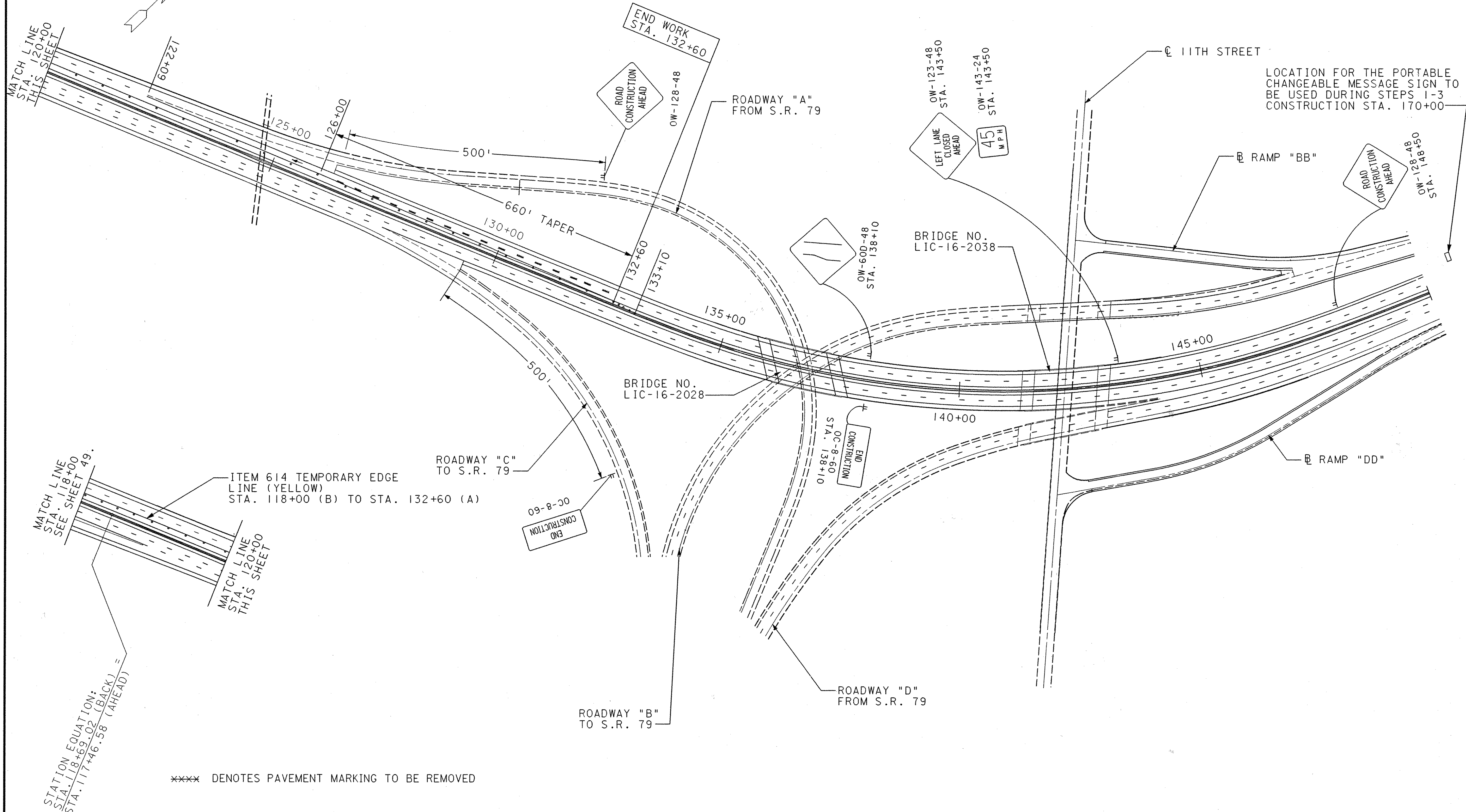
REMOVE 32" EXISTING CONCRETE BARRIER WITH LIGHTING AND INSTALL PROP. 50" CONCRETE BARRIER WITH LIGHTING. ALSO PLANE OFF 3" OF EXISTING ASPHALT FROM INSIDE BERM AND PASSING LANE AND PLACE 3" OF 301 AND 1 3/4" OF 446 TYPE 2.

CALCULATED	BP	CHECKED	TD

MAINTENANCE OF TRAFFIC
STA. 90+00 TO STA. 118+00

LIC-16-17.94

PHASE I



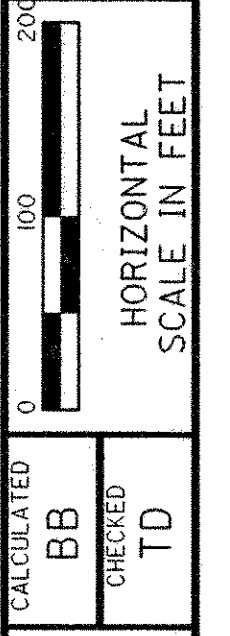
LOCATION FOR THE PORTABLE CHANGEABLE MESSAGE SIGN TO BE USED DURING STEPS 1-3 CONSTRUCTION STA. 170+00

MATCH LINE STA. 118+00 SEE SHEET 49.
 MATCH LINE STA. 120+00 THIS SHEET
 STATION EQUATION:
 $\frac{STA. 118+00 + STA. 117+46.58 (AHEAD)}{2} =$

*** DENOTES PAVEMENT MARKING TO BE REMOVED

STEP 2 CONSTRUCTION

REMOVE 32" EXISTING CONCRETE BARRIER WITH LIGHTING AND INSTALL PROP. 50" CONCRETE BARRIER WITH LIGHTING. ALSO RECONSTRUCT THE EXISTING ASPHALT & CONCRETE INSIDE BERM AND PASSING LANE WITH PROPOSED ASPHALT BUILDUP.

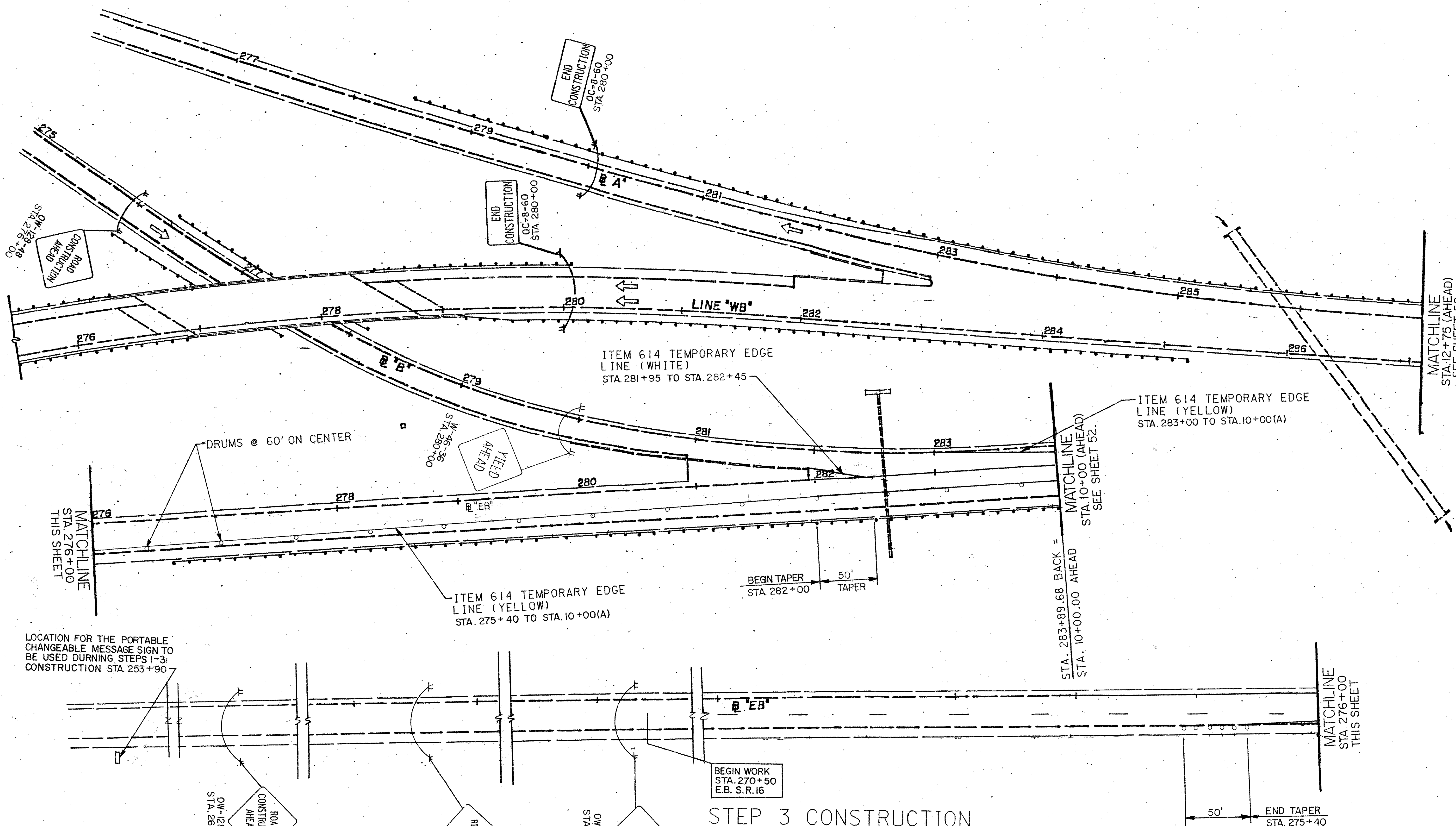


**MAINTENANCE OF TRAFFIC
 STA. 118+00 TO STA. 150+00**

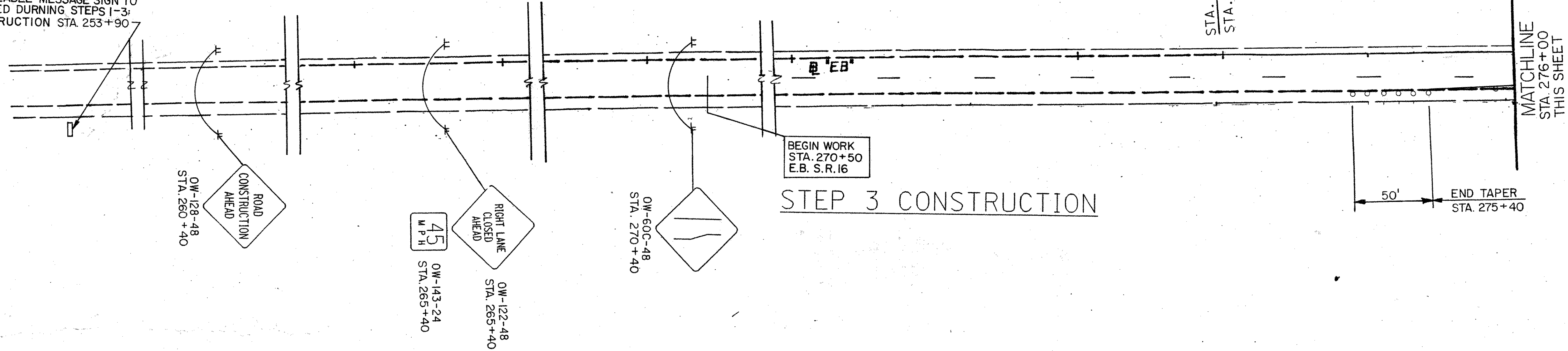
LIC-16-17.94

50
 420

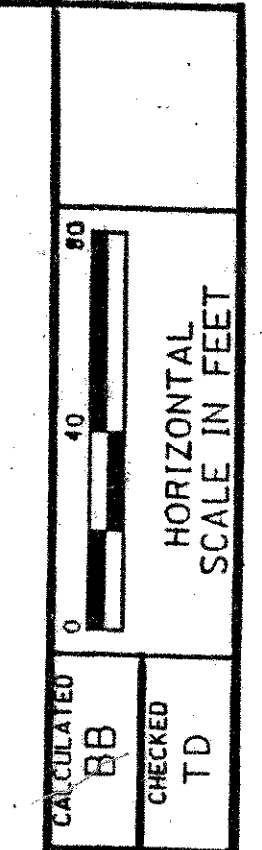
PHASE I



LOCATION FOR THE PORTABLE CHANGEABLE MESSAGE SIGN TO BE USED DURING STEPS 1-3: CONSTRUCTION STA. 253+90



CALCULATED	BB	TD
CHECKED		

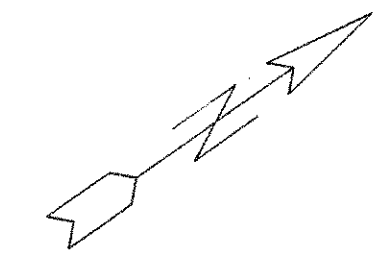


MAINTENANCE OF TRAFFIC

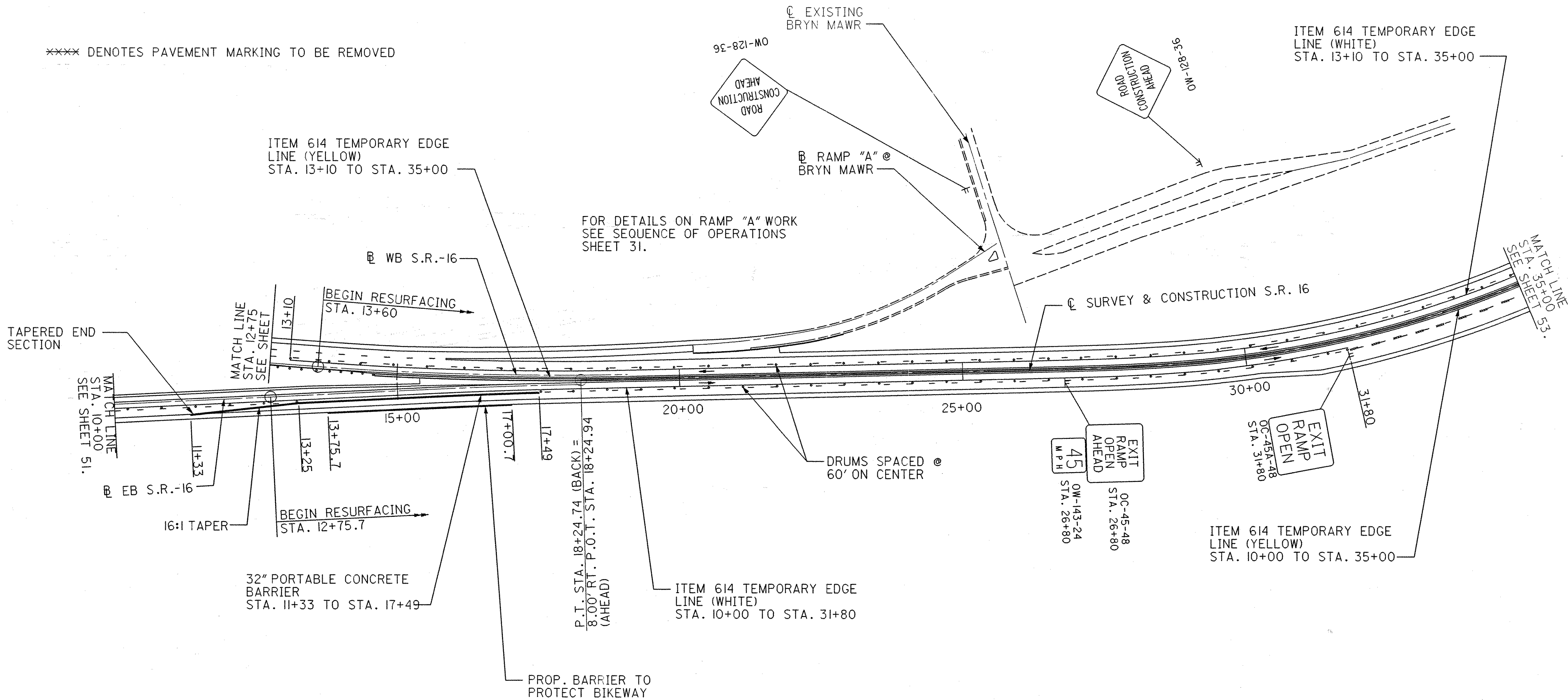
LIC-16-17.94

04/17/95

PHASE I



**** DENOTES PAVEMENT MARKING TO BE REMOVED



NOTE: THE 32" PORTABLE CONCRETE BARRIER WILL BE REMOVED AS SOON AS THE PROPOSED BARRIER TO PROTECT THE BIKEWAY IS IN PLACE AND CONNECTED TO THE PROPOSED GUARDRAIL.

STEP 3 CONSTRUCTION

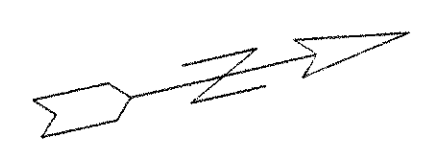
PLANE 3" OF EXISTING ASPHALT & PLACE 3" OF 301 AND 1 3/4" OF 446 TYPE 2 ON DRIVING LANE AND OUTSIDE BERM. ALSO PLANE AND RESURFACE RAMPS PLUS ADD 3' TO OUTSIDE BERMS ON SPECIFIED RAMPS.

0	100	200
HORIZONTAL SCALE IN FEET		
CALCULATED	BB	TD
	CHECKED	

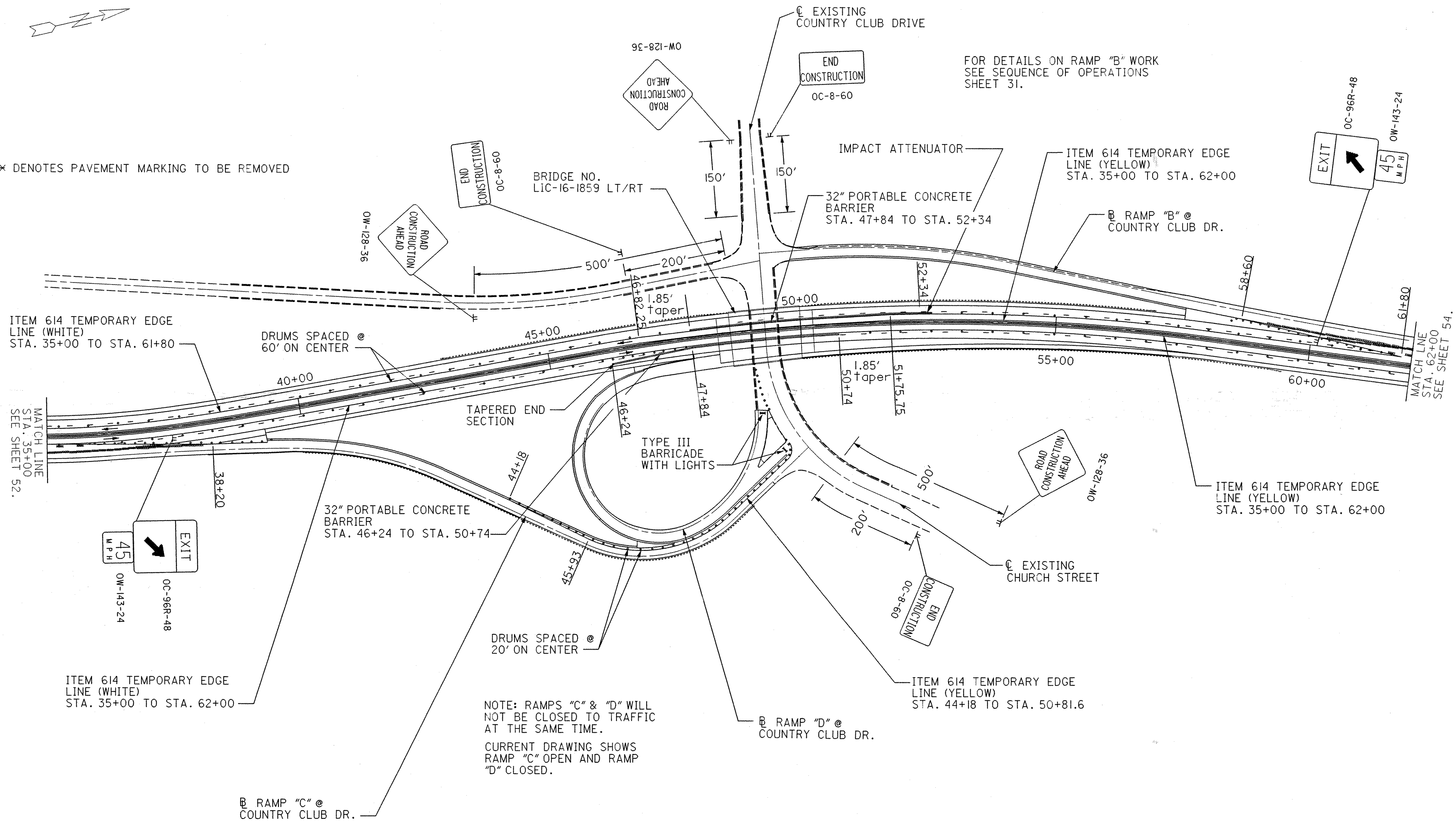
MAINTENANCE OF TRAFFIC
STA. 13+50 TO STA. 35+00

LIC-16-17.94

PHASE I



*** DENOTES PAVEMENT MARKING TO BE REMOVED



FOR DETAILS ON RAMP "B" WORK
SEE SEQUENCE OF OPERATIONS
SHEET 31.

NOTE: RAMPS "C" & "D" WILL
NOT BE CLOSED TO TRAFFIC
AT THE SAME TIME.
CURRENT DRAWING SHOWS
RAMP "C" OPEN AND RAMP
"D" CLOSED.

NOTE: THE TYPE III BARRICADES WITH
LIGHTS ALSO INCLUDES AN R-75-48
(ROAD CLOSED) SIGN.

STEP 3 CONSTRUCTION

PLANE 3" OF EXISTING ASPHALT & PLACE
3" OF 301 AND 1 3/4" OF 446 TYPE 2 ON
DRIVING LANE AND OUTSIDE BERM. ALSO
PLANE AND RESURFACE RAMPS PLUS ADD 3"
TO OUTSIDE BERMS ON SPECIFIED RAMPS.

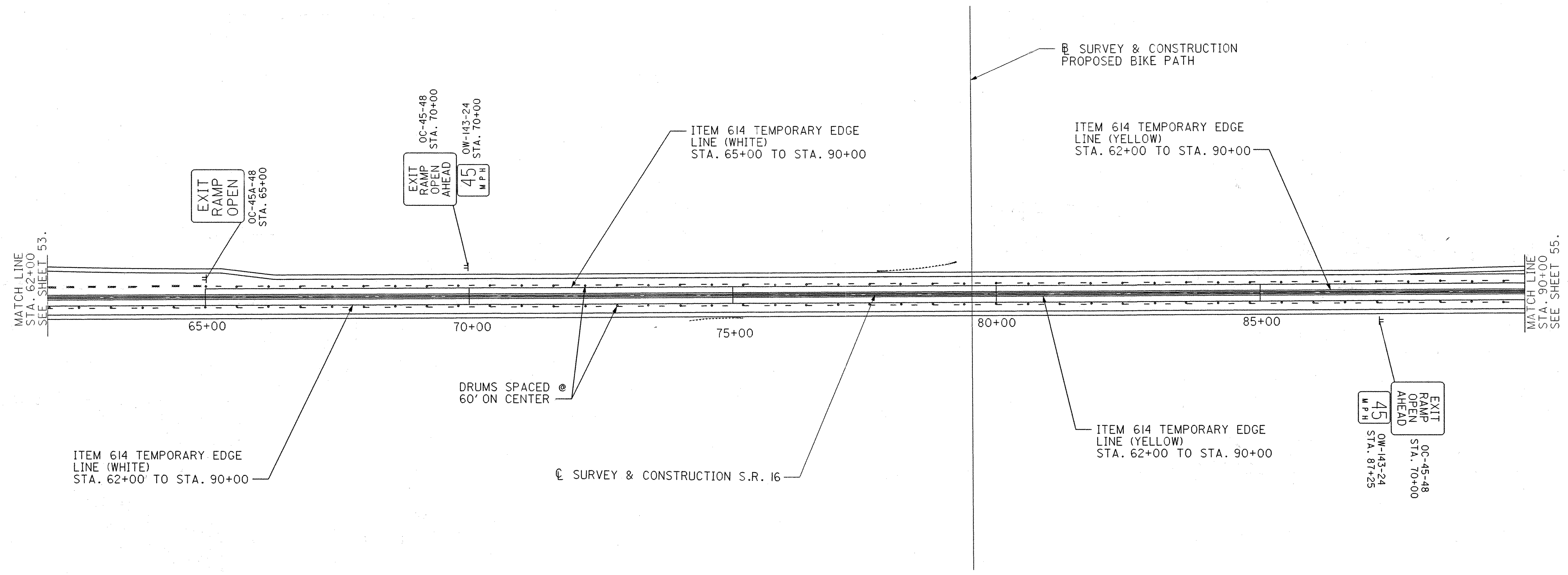
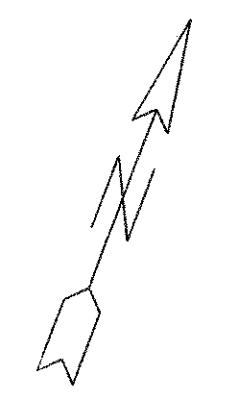
0	100	200
HORIZONTAL SCALE IN FEET		
CALCULATED	BB	TD
	CHECKED	

MAINTENANCE OF TRAFFIC
STA. 35+00 TO STA. 62+00

LIC-16-17.94

LO161QMT.DGN 04/18/95

PHASE I



***** DENOTES PAVEMENT MARKING TO BE REMOVED

STEP 3 CONSTRUCTION

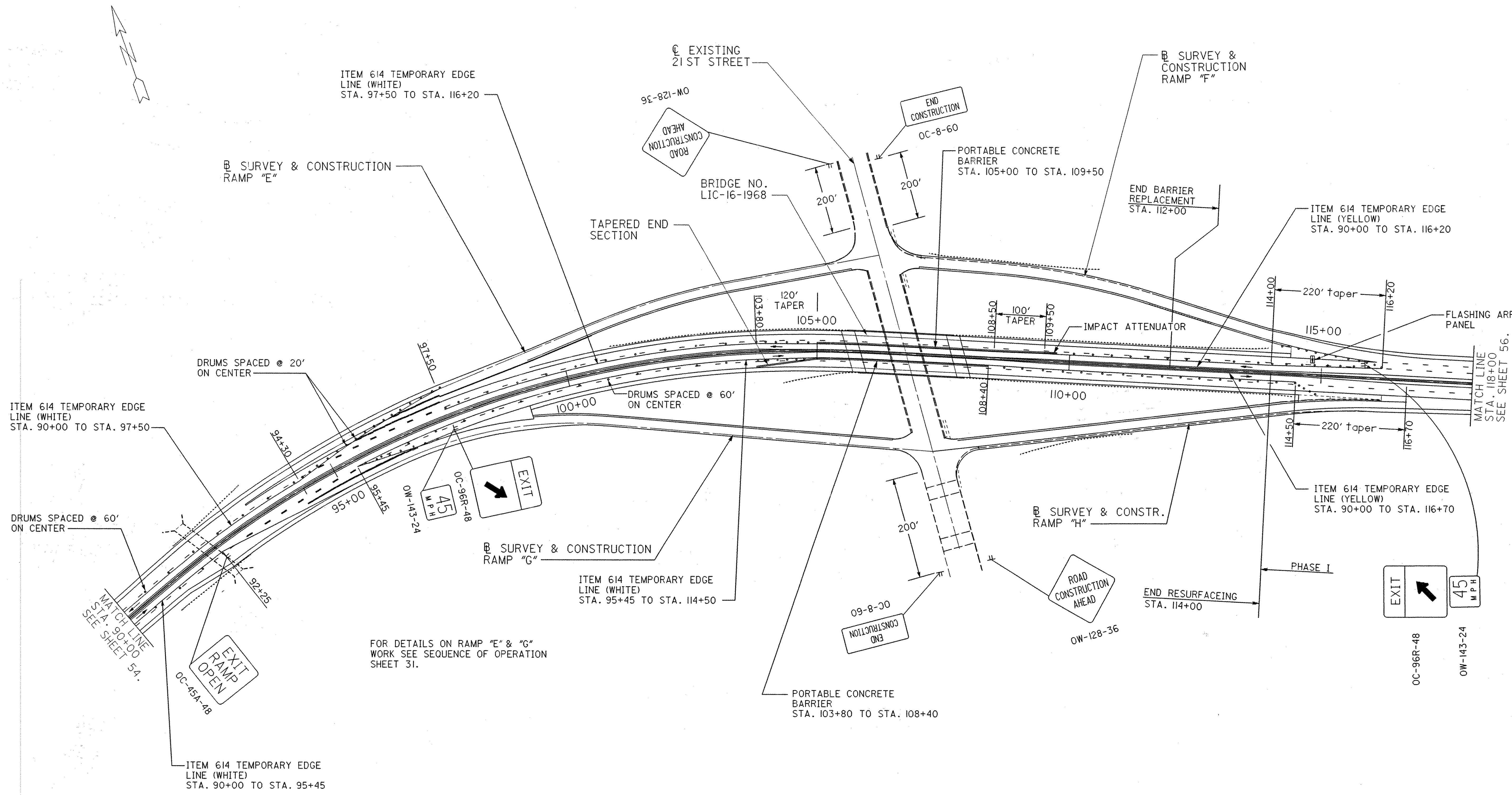
PLANE 3" OF EXISTING ASPHALT & PLACE 3" OF 301 AND 1 3/4" OF 446 TYPE 2 ON DRIVING LANE AND OUTSIDE BERM. ALSO PLANE AND RESURFACE RAMPS PLUS ADD 3' TO OUTSIDE BERMS ON SPECIFIED RAMPS.

0	100	200
HORIZONTAL SCALE IN FEET		
CALCULATED	BB	TD
	CHECKED	

**MAINTENANCE OF TRAFFIC
STA. 62+00 TO STA. 90+00**

LIC-16-17.94

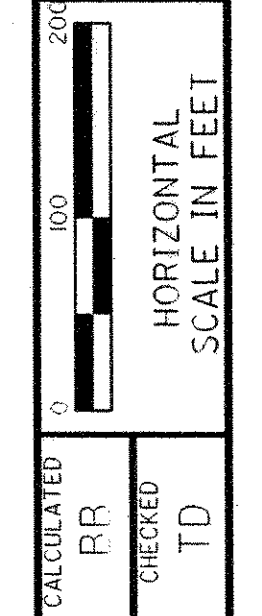
PHASE I



**** DENOTES PAVEMENT MARKING TO BE REMOVED

STEP 3 CONSTRUCTION

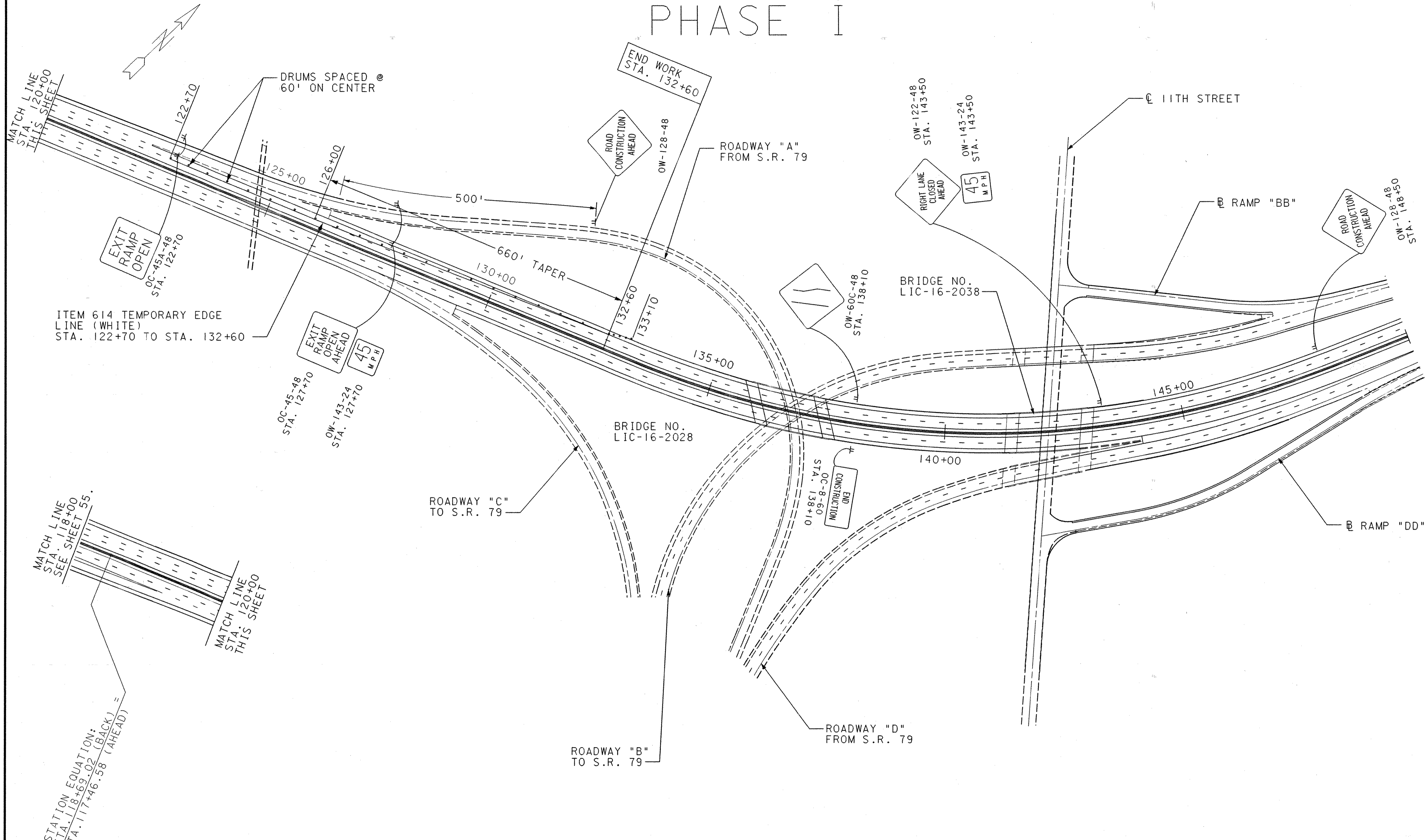
PLANE 3" OF EXISTING ASPHALT & PLACE 3" OF 301 AND 1 3/4" OF 446 TYPE 2 ON DRIVING LANE AND OUTSIDE BERM. ALSO PLANE AND RESURFACE RAMPS PLUS ADD 3' TO OUTSIDE BERMS ON SPECIFIED RAMPS.



MAINTENANCE OF TRAFFIC STA. 90+00 TO STA. 118+00

LIC-16-17.94

PHASE I



STEP 3 CONSTRUCTION

RECONSTRUCT EXISTING ASPHALT & CONCRETE ROADWAY WITH PROPOSED BUILDUP. ALSO RECONSTRUCT RAMPS AS DENOTED IN PLANS.

CALCULATED	BB	TD
CHECKED		

MAINTENANCE OF TRAFFIC
STA. 118+00 TO STA. 150+00

LIC-16-17.94

GENERAL SUMMARY

CALCULATED
 D.M.
 9-19-94
 CHECKED
 A.L.L.
 8-1-94

SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	
17	22	23	29	30	74	75	III	112	351	355								
																	ROADWAY	
		LUMP											LUMP	201	11000	LUMP	CLEARING AND GRUBBING	
														201	11001	LUMP	CLEARING AND GRUBBING, AS PER PLAN (SEE SHEET 22)	
													LUMP	202	11200	LUMP	PORTIONS OF STRUCTURE REMOVED	
														202	22900	653	SQ.YD.	APPROACH SLAB REMOVED
					285									202	23000	446	SQ.YD.	PAVEMENT REMOVED
														202	23500	3,140	SQ.YD.	WEARING COURSE REMOVED
						473								202	30000	473	SQ.FT.	WALK REMOVED
														202	30600	165	SQ.YD.	CONCRETE MEDIAN REMOVED
														202	30700	9,327	LIN.FT.	CONCRETE BARRIER REMOVED
														202	32000	2,095	LIN.FT.	CURB REMOVED
														202	32001	439	LIN.FT.	CURB REMOVED, AS PER PLAN (SEE SHEET 17)
														202	32800	980	SQ.YD.	CONCRETE SLOPE PROTECTION REMOVED
														202	35100	273	LIN.FT.	PIPE REMOVED, 24" AND UNDER
														202	35200	36	LIN.FT.	PIPE REMOVED, OVER 24"
														202	38000	9,412.5	LIN.FT.	GUARDRAIL REMOVED
														202	58100	1	EACH	CATCH BASIN REMOVED
														202	58500	1	EACH	CATCH BASIN ABANDONED
														202	75000	374	LIN.FT.	FENCE REMOVED
														203	12000	17,226	CU.YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
														203	20000	54,332	CU.YD.	EMBANKMENT
														203	45000	5	HOUR	PROOF ROLLING
														203	50000	13,828	SQ.YD.	SUBGRADE COMPACTION
														604	40500	1	EACH	REFERENCE MONUMENT (SEE SHEET 16)
														604	40501	16	EACH	REFERENCE MONUMENT, AS PER PLAN (SEE SHEET 23)
														606	13000	9,637.5	LIN.FT.	GUARDRAIL, TYPE 5
														606	26000	6	EACH	ANCHOR ASSEMBLY, TYPE B
														606	26100	2	EACH	ANCHOR ASSEMBLY, TYPE E (SEE SHEET 19)
														606	26500	8	EACH	ANCHOR ASSEMBLY, TYPE T
														606	35000	5	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1
														606	35100	6	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2
														607	23000	10,031	LIN.FT.	FENCE, TYPE CLT
														607	61200	5	EACH	GATE, TYPE CLT
														607	98000	5,062	LIN.FT.	FENCE, MISC.: WOOD FENCE (SEE SHEET 349)
														622	23404	8,893	LIN.FT.	CONCRETE BARRIER, TYPE B-50
														622	24005	325	LIN.FT.	CONCRETE BARRIER, TYPE D-50, AS PER PLAN (SEE SHEET 19)
														663	10010	53	EACH	DECIDUOUS TREE, 6' HEIGHT; SERVICEBERRY
														663	10010	21	EACH	DECIDUOUS TREE, 6' HEIGHT; RED BUD
														663	10010	18	EACH	DECIDUOUS TREE, 6' HEIGHT; LILAC
														663	11500	23	EACH	DECIDUOUS TREE, 2" CALIPER; SWAMP WHITE OAK
														663	11500	32	EACH	DECIDUOUS TREE, 2" CALIPER; LONDON PLANETREE
														663	11500	22	EACH	DECIDUOUS TREE, 2" CALIPER; MACHO CORKTREE
														663	33000	34	EACH	EVERGREEN TREE, 6' HEIGHT; SERBIAN SPRUCE
														663	33000	7	EACH	EVERGREEN TREE, 6' HEIGHT; SCOTCH PINE
														SPECIAL	69098000	3	EACH	ROADWAY MISC.: ENTRANCE POST REMOVABLE (SEE SHEET 20)
														SPECIAL	69098000	6	EACH	ROADWAY MISC.: GUARD POST (SEE SHEET 20)

GENERAL SUMMARY

LIC-16-17.94

GENERAL SUMMARY

CALCULATED
 D.M.
 9-19-94
 CHECKED
 A.L.H.

SHEET												NUMBER					ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
22	24	74	III	112	228	351	352	356													
																	EROSION CONTROL				
		28100										207	10000	28,100	SQ.YD.	TEMPORARY SEEDING AND MULCHING					
		2000						3100				207	30000	5,100	LIN.FT.	FILTER FABRIC FENCE (SEE PROPOSAL NOTE)					
		225										207	55500	225	SQ.YD.	TEMPORARY DITCH PROTECTION					
		500						452				207	70000	952	EACH	STRAW OR HAY BALES					
												601	11000	21	SQ.YD.	RIPRAP USING 6" REINFORCED CONCRETE SLAB					
								294				601	11001	294	SQ.YD.	RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN (SEE SHEET 21)					
								258				601	32000	258	CU.YD.	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER					
								47				601	32100	47	CU.YD.	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER					
		60		5				12				601	32200	77	CU.YD.	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER					
												601	34000	2,758	CU.YD.	ROCK CHANNEL PROTECTION, TYPE A WITHOUT FILTER					
		1500						2758				601	34100	1,959	CU.YD.	ROCK CHANNEL PROTECTION, TYPE B WITHOUT FILTER					
												659	10000	140,174	SQ.YD.	SEEDING AND MULCHING					
			70551					69623				659	14000	7,000	SQ.YD.	REPAIR SEEDING AND MULCHING					
		20	7000									659	20000	26	TON	COMMERCIAL FERTILIZER					
		63	6									659	30000	63	TON	AGRICULTURAL LIMING					
		305										659	35000	370	M.GAL.	WATER					
		320	65									659	40000	320	M.SQ.FT.	MOWING					
												660	30000	64	SQ.YD.	SODDING					
												670	40000	1,208	SQ.YD.	DITCH EROSION PROTECTION (SEE SHEET 22)					
																DRAINAGE					
												503	21100	545	CU.YD.	UNCLASSIFIED EXCAVATION					
												509	15800	19,315	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60					
												511	46000	57	CU.YD.	CLASS C CONCRETE, RETAINING WALL OR WINGWALL					
												511	46500	117	CU.YD.	CLASS C CONCRETE, FOOTING					
												511	51100	90	CU.YD.	CLASS C CONCRETE, MISC.: HEADWALLS					
												SPECIAL 51267020	1,179	SQ.YD.	MEMBRANE WATERPROOFING (SHEET TYPE 2) (SEE PROPOSAL NOTE)						
												SPECIAL 51267502	93	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)						
												516	13600	60	SQ.FT.	1" PREFORMED EXPANSION JOINT FILLER					
												518	21200	40	CU.YD.	POROUS BACKFILL WITH FILTER FABRIC					
												602	20000	28.40	CU.YD.	CONCRETE MASONRY					
												603	00100	312	LIN.FT.	4" CONDUIT, TYPE B, 707.17, NON-PERFORATED, ASTM 3034 SDR 35, SS931 OR SS944					
												603	00400	800	LIN.FT.	4" CONDUIT, TYPE E					
												603	00406	412	LIN.FT.	4" CONDUIT, TYPE F, 707.17 NON-PERFORATED, ASTM 3034 SDR 35, SS931 OR SS944					
												603	00900	120	LIN.FT.	6" CONDUIT, TYPE B, 707.17, NON-PERFORATED, ASTM 3034 SDR 35, SS931 OR SS944					
												603	01500	42	LIN.FT.	6" CONDUIT, TYPE F, 707.17 NON-PERFORATED, ASTM 3034 SDR 35, SS931 OR SS944					
												603	04400	126	LIN.FT.	12" CONDUIT, TYPE B, 706.01 OR 706.02					
												603	04400	556	LIN.FT.	12" CONDUIT, TYPE B					
												603	04600	304	LIN.FT.	12" CONDUIT, TYPE C					
												603	05200	11	LIN.FT.	12" CONDUIT, TYPE F					
												603	05200	77	LIN.FT.	12" CONDUIT, TYPE F, 707.05, TYPE C					
												603	05900	58	LIN.FT.	15" CONDUIT, TYPE B					
												603	06100	49	LIN.FT.	15" CONDUIT, TYPE C					
												603	07200	186	LIN.FT.	18" CONDUIT, TYPE A, 706.02 (DLOAD=1500) OR 707.01					
												603	07400	46	LIN.FT.	18" CONDUIT, TYPE B, 706.01 OR 706.02					
												603	07400	163	LIN.FT.	18" CONDUIT, TYPE B					
												603	07900	94	LIN.FT.	18" CONDUIT, TYPE D					
												603	08900	27	LIN.FT.	21" CONDUIT, TYPE B					
												603	08900	24	LIN.FT.	21" CONDUIT, TYPE B, 706.01 OR 706.02					
												603	09400	102	LIN.FT.	21" CONDUIT, TYPE D, 707.01					

GENERAL SUMMARY

LIC-16-17.94

GENERAL SUMMARY

CALCULATED
D.M.
3-15-94
CHECKED
6-1-94

SHEET NUMBER															ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION						
DRAINAGE																									
																					603	10400	104	LIN.FT.	24" CONDUIT, TYPE B
											6	12									603	10400	18	LIN.FT.	24" CONDUIT, TYPE B, 706.01 OR 706.02
												6									603	10600	6	LIN.FT.	24" CONDUIT, TYPE C, 706.01 OR 706.02
												34									603	10900	34	LIN.FT.	24" CONDUIT, TYPE D, 706.01 OR 706.02 OR 30" CONDUIT, TYPE D 707.01
												12									603	22200	12	LIN.FT.	54" CONDUIT, TYPE A, 706.02
												36									603	22400	36	LIN.FT.	54" CONDUIT, TYPE B, 706.02 (DLOAD=2000)
												12									603	23600	12	LIN.FT.	60" CONDUIT, TYPE A, 706.02
												18									603	26000	18	LIN.FT.	72" CONDUIT, TYPE A, 706.02
												42									603	28000	42	LIN.FT.	84" CONDUIT, TYPE A, 706.02
												96									603	96339	96	LIN.FT.	14' x 10' CONDUIT, TYPE A 706.05, AS PER PLAN, C850 (SEE SHEET 24)
												72									603	96339	72	LIN.FT.	14' x 10' CONDUIT, TYPE A 706.05, AS PER PLAN (SEE SHEET 24)
												180									603	98300	180	LIN.FT.	CONDUIT, MISC.: 10' x 10' CONDUIT, TYPE A, 706.05, C850, AS PER PLAN (SEE SHEET 24)
																					604	01701	3	EACH	CATCH BASIN, NO. 5, WITH B GRATE, AS PER PLAN (SEE SHEET 21)
																					604	02001	1	EACH	CATCH BASIN, NO. 6, AS PER PLAN (SEE SHEET 21)
																					604	04501	18	EACH	CATCH BASIN, NO. 2-2B, AS PER PLAN A, (SEE SHEET 24)
																					604	04901	2	EACH	CATCH BASIN, NO. 2-3, AS PER PLAN A,(SEE SHEET 24)
																					604	05701	1	EACH	CATCH BASIN, NO. 2-5, AS PER PLAN (SEE SHEET 24)
																					604	11701	1	EACH	INLET NO. 2-10, AS PER PLAN (SEE SHEET 21)
																					604	14603	16	EACH	INLET NO. 3B50, AS PER PLAN A (SEE SHEET 21)
																					604	17901	2	EACH	INLET NO. 2-A-8, AS PER PLAN (SEE SHEET 21)
																					604	18301	1	EACH	INLET NO. 2-A-10, AS PER PLAN (SEE SHEET 21)
																					604	19101	1	EACH	INLET NO. 2-A-14, AS PER PLAN (SEE SHEET 21)
																					604	30101	1	EACH	MANHOLE NO.1, AS PER PLAN (SEE SHEET 21)
											17										SPECIAL	60436600	21	EACH	PRECAST REINFORCED CONCRETE OUTLET (SEE SHEET 25)
																					605	30001	23,075	LIN. FT.	SHALLOW UNDERDRAIN, AS PER PLAN (SEE SHEET 25)

GENERAL SUMMARY

LIC-16-17.94

GENERAL SUMMARY

SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
17	18	22	29	30	74	352	355	356									
	100												251	01000	100	SQ.YD.	PAVEMENT
						100595							254	01000	100,595	SQ.YD.	PARTIAL DEPTH PAVEMENT REPAIR
		4280											255	10200	4280	SQ.YD.	PAVEMENT PLANING, BITUMINOUS
2700													255	10001	2,700	SQ.YD.	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, AS PER PLAN (SEE SHEET 18)
7000	4760												255	20000	11,760	LIN.FT.	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN A (SEE SHEET 17)
			100	50	556								301	10002	726	CU.YD.	FULL DEPTH PAVEMENT SAWING
													302	10000	8,770	CU.YD.	BITUMINOUS AGGREGATE BASE, AC-20
													304	20000	3,668	CU.YD.	BITUMINOUS AGGREGATE BASE, AC-20
50		100				1062	2294	162					304	20000	3,668	CU.YD.	AGGREGATE BASE (SEE PROPOSAL NOTE)
													305	13001	285	SQ.YD.	9" CONCRETE BASE, AS PER PLAN (SEE SHEET 17)
													402	20000	589	CU.YD.	ASPHALT CONCRETE, AC-20
													404	20000	421	CU.YD.	ASPHALT CONCRETE, AC-20
													407	10000	15,799	GAL.	ASPHALT CONCRETE, AC-20
													408	10000	5,301	GAL.	TACK COAT
													413	14000	3,500	LIN.FT.	BITUMINOUS PRIME COAT
	3500												446	01200	4,408	CU.YD.	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS
													446	01400	3,149	CU.YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
													448	15540	677	CU.YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20
													448	15580	484	CU.YD.	ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, PG70-22 (SEE PROPOSAL NOTE)
													448	15580	484	CU.YD.	ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, PG70-22 (SEE PROPOSAL NOTE)
													451	11000	364	SQ.YD.	7" REINFORCED CONCRETE PAVEMENT
													451	11001	114	SQ.YD.	7" REINFORCED CONCRETE PAVEMENT, AS PER PLAN (SEE SHEET 21)
													608	10000	453	SQ.FT.	4" CONCRETE WALK
													608	50000	4	EACH	CURB RAMP, TYPE 1
													608	51000	2	EACH	CURB RAMP, TYPE 2
													609	26000	2,000	LIN.FT.	CURB, TYPE 6
													611	10001	49	SQ.YD.	REINFORCED CONCRETE APPROACH SLAB (T=12"), AS PER PLAN
													611	25001	1,014	SQ.YD.	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN
													612	42000	165	SQ.YD.	CONCRETE MEDIAN

LIC1616.DGN 05/03/95

CALCULATED
D.M.
9-94
CHECKED
A.L.L.
8-94

GENERAL SUMMARY

LIC-16-17.94

GENERAL SUMMARY

CALCULATED
D. M.
5/17/95
CHECKED
A. L.
5/17/95

SHEET NUMBER

Table with columns for SHEET NUMBER (23, 27, 28, 149, 188, 228, 351, 356, 400), ITEM, ITEM EXT., GRAND TOTAL, UNIT, and DESCRIPTION. Rows include lighting equipment, conduits, cables, and traffic control markers.

GENERAL SUMMARY

LIC-16-17.94

L161906A.DGN 05/03/95

62
420

GENERAL SUMMARY

SHEET NUMBER

30	149	186	187	188	351	352	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
											TRAFFIC CONTROL CONT.
		61.19					630	00000	61.19	CU. YD.	CONCRETE FOR ANCHOR BASE FOUNDATION
		5.60					630	00100	5.60	CU. YD.	CONCRETE FOR EMBEDDED FOUNDATION
		252					630	02100	252	LIN. FT.	GROUND MOUNTED SUPPORT, NO. 2 POST
						343	630	02101	343	LIN. FT.	GROUND MOUNTED SUPPORT, NO. 2 POST, AS PER PLAN (SEE SHEET 348)
		105					630	03100	105	LIN. FT.	GROUND MOUNTED SUPPORT, NO. 3 POST
		271					630	04100	271	LIN. FT.	GROUND MOUNTED SUPPORT, NO. 4 POST
		35					630	06400	35	LIN. FT.	GROUND MOUNTED SUPPORT, S4X7.7 BEAM
		37					630	06500	37	LIN. FT.	GROUND MOUNTED SUPPORT, W6X9 BEAM
		47					630	07000	47	LIN. FT.	GROUND MOUNTED SUPPORT, W8X18 BEAM
		42					630	07600	42	LIN. FT.	GROUND MOUNTED SUPPORT, W10X12 BEAM
		16					630	08004	16	LIN. FT.	ONE WAY SUPPORT, NO. 3 POST
		6					630	09000	6	EACH	BREAKAWAY BEAM CONNECTION
			1				630	20400	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 4, 23' ARM
			2				630	20500	2	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 5, 22' ARM
			2				630	20600	2	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 6, 26' ARM
							630	20800	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 8, 28' ARM
							630	36500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6, MODIFIED, 69' SPAN
							630	37000	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6, 71' SPAN
							630	48500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8, 86' SPAN
							630	77000	1	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE TC-18.24
			2				630	77200	2	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE TC-18.26, DESIGN 2
		2					630	79500	2	EACH	SIGN SUPPORT ASSEMBLY POLE MOUNTED
		13				91	630	80100	104	SQ. FT.	SIGN, FLAT SHEET
		190					630	80204	190	SQ. FT.	SIGN EXTRUSHEET, TYPE G
		1					630	82000	1	EACH	SIGN BACKING ASSEMBLY
		5					630	84900	5	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
		38					630	85100	38	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
		2					630	85400	2	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL
		46					630	86002	46	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
		8					630	86102	8	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL
							630	87100	17	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION
		1					630	87400	1	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL
			2				630	89702	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.4
			1				630	89800	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-9.10
			2				630	89806	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.24
							630	89808	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.26
		3					630	89902	3	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC CONTROL ITEM, SIGN SUPPORT ASSEMBLY, POLE MOUNTED AND DISPOSAL
			1				630	89902	1	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC CONTROL ITEM, OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.5
			5				630	89902	5	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC CONTROL ITEM, OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.24
							631	84000	12	EACH	SIGN SERVICE
				12			631	84300	15	EACH	SIGN WIRED
				15			631	84400	3	EACH	SIGN WIRED, OVERPASS STRUCTURE MOUNTED
				3			631	94100	32	EACH	REMOVAL OF LUMINAIRE AND REERECTION
				32			631	94304	1	EACH	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL
							631	94306	9	EACH	REMOVAL OF DISCONNECT SWITCH AND REERECTION WITH ENCLOSURE, TYPE X
				9			631	94408	1	EACH	REMOVAL OF SIGN WIRING AND DISPOSAL
							642	00102	12.11	MILE	EDGE LINE, TYPE 2
	10.84	1.27					642	00202	5.45	MILE	LANE LINE, TYPE 2
	4.79	0.66					642	00302	0.47	MILE	CENTER LINE, TYPE 2
	.09					.38	642	00402	3223	LIN. FT.	CHANNELIZING LINE, TYPE 2
	3177	46					642	00502	241	LIN. FT.	STOP LINE, TYPE 2
	241						642	00602	235	LIN. FT.	CROSSWALK LINE, TYPE 2
							642	00702	1141	LIN. FT.	TRANSVERSE LINE, TYPE 2
							642	00802	841	LIN. FT.	CURB MARKING, TYPE 2
							642	00902	606	SQ. FT.	ISLAND MARKING, TYPE 2
							642	01302	21	EACH	LANE ARROW, TYPE 2
							642	01402	14	EACH	WORD ON PAVEMENT, 72", TYPE 2
							644	00100	9.58	MILE	EDGE LINE
		9.58					644	00200	4.09	MILE	LANE LINE
		4.09					644	00400	2,225	LIN. FT.	CHANNELIZING LINE
		2225									

GENERAL SUMMARY

LIC-16-17.94

GENERAL SUMMARY

SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
18	29	30	32	34	35	36	37	75	149									
														TRAFFIC CONTROL CONT.				
										145	644	00500	145	LIN. FT.	STOP LINE			
										235	644	00600	235	LIN. FT.	CROSSWALK LINE			
										966	644	00700	966	LIN. FT.	TRANSVERSE LINE			
										4	644	01300	4	EACH	LANE ARROW			
										1	644	01400	1	EACH	WORD ON PAVEMENT, 72"			
										109	802	00100	109	EACH	BARRIER REFLECTOR, TYPE A			
										13	802	00200	13	EACH	BARRIER REFLECTOR, TYPE B			
														MAINTENANCE OF TRAFFIC				
	50									404	35000		50	CU. YD.	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC (SEE SHEET 29)			
	250									614	11100		250	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR (SEE SHEET 29)			
								1		614	12360		1	EACH	TEMPORARY IMPACT ATTENUATOR (REPLACEMENT) (G.R.E.A.T. TYPE) (SEE SHEET 37)			
								2		614	12370		2	EACH	REMOVE AND REPLACE IMPACT ATTENUATOR (G.R.E.A.T. TYPE) (SEE SHEET 37)			
		160								SPECIAL	6142500		160	SQ. FT.	REPLACEMENT SIGN (SEE SHEET 30)			
		50								SPECIAL	6142600		50	EACH	REPLACEMENT DRUM (SEE SHEET 30)			
						2773				614	12800		2,773	EACH	TEMPORARY RAISED PAVEMENT MARKER			
							231			614	13200		231	EACH	BARRIER REFLECTOR, TYPE A			
							1565			614	13300		1,565	EACH	BARRIER REFLECTOR, TYPE B (SEE PROPOSAL NOTE)			
							1565			614	13350		1,565	EACH	OBJECT MARKER (SEE PROPOSAL NOTE)			
		30								614	18601		30	SIGN MONTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (SEE SHEET 29)			
										614	22000		11.75	MILE	TEMPORARY EDGE LINE, CLASS I			
										614	22300		0.73	MILE	TEMPORARY EDGE LINE, CLASS I, 740.05, TYPE C			
										614	23000		1,316	LIN. FT.	TEMPORARY CHANNELIZING LINE, CLASS I			
										614	26000		145	LIN. FT.	TEMPORARY STOP LINE, CLASS I			
										614	27000		235	LIN. FT.	TEMPORARY CROSSWALK LINE, CLASS I			
										616	10000		54	M. GAL	WATER			
										616	20000		27	TON	CALCIUM CHLORIDE			
		6150								622	40020		21,580	LIN. FT.	PORTABLE CONCRETE BARRIER, 32"			
										622	40040		1,320	LIN. FT.	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED			
										614	12350		2	EACH	TEMPORARY IMPACT ATTENUATOR (G.R.E.A.T. TYPE) (SEE SHEET 37)			
														FOR STRUCTURES 20' AND OVER (SEE SHEET 355-356)				
										614	11000	LUMP			MAINTAINING TRAFFIC			
										619	15020	LUMP			FIELD OFFICE, TYPE C			
										SPECIAL	61925010	LUMP			COMPUTER EQUIPMENT FOR TYPE B OR C OFFICE (SEE PROPOSAL NOTE)			
										623	10000	LUMP			CONSTRUCTION LAYOUT STAKES			
										624	10000	LUMP			MOBILIZATION			

GENERAL SUMMARY

LIC-16-17.94

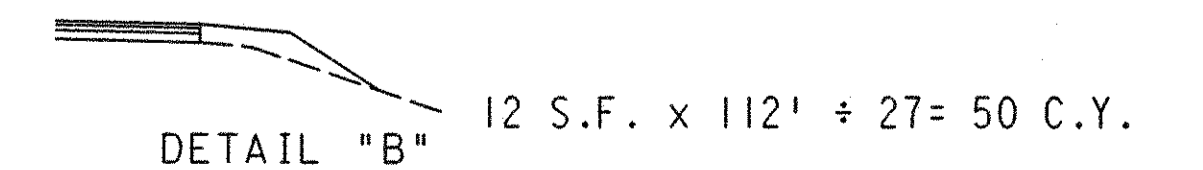
L1619061.DGN . 05/03/95

PAVEMENT CALCULATIONS

STATION TO STATION	WIDTH PAV'T. (FEET)	LIN. FEET	PAVEMENT AREA SQ. YD.	254	302	304	407	446	446	305	202	202	203	446	446	203	659				
				PAVEMENT PLANING, BITUMINOUS SQ. YD.	OR AS SHOWN BITUMINOUS AGGREGATE BASE, AC-20 CU. YD.	6" AGGREGATE BASE CU. YD.	TACK COAT (SEE GENERAL NOTE) GAL.	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20 CU. YD.	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20 CU. YD.	9" CONCRETE BASE, AS PER PLAN SQ. YD.	CURB REMOVED AS PER PLAN (SEE GENERAL NOTE) LIN. FT.	PAVEMENT REMOVED SQ. YD.	SUBGRADE COMPACTION SQ. YD.	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG70-22 CU. YD.	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22 CU. YD.	EMBANKMENT CU. YD.	SEEDING AND MULCHING SQ. YD.				
EAST BOUND LANES																					
12+75.7 - 13+75.7	35.45AVG	100.00	393.9	393.9	1 1/2" AVG 16.4		29.5	19.1	13.7												
13+75.7 - 15+40.0	34.15AVG	164.30	623.4	623.4	51.9		46.8	30.3	21.6												
15+40.0 - 18+24.76 BACK	28.55AVG	284.76	903.3	903.3	75.3		67.7	43.9	31.4												
18+24.94 AHEAD - 46+63.94	24	2839.0	7570.7	7570.7	630.9		567.8	368.0	262.9												
46+63.94 - 47+35.74	54.42AVG	71.8	434.2	434.2	36.2		32.6	21.1	15.1		71.8										
47+35.74 - 48+35.74	49.32AVG	100.0	548.0	548.0	1 1/2" AVG 22.8		41.1	26.6	19.0		49.6										
48+35.74 - 50+23.99	BRIDGE LIMITS (FOR DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																				
50+23.99 - 51+23.99	41.73AVG	100.0	463.7	463.7	1 1/2" AVG 19.3		34.8	22.5	16.1												
51+23.99 - 57+85.34	32.23AVG	661.35	2368.4	2368.4	197.4		177.6	115.1	82.2												
57+85.34 - 91+25.00	24	3339.66	8905.8	8905.8	742.1		667.9	432.9	309.2												
91+25.00 - 92+25.00	30 AVG	100.0	333.3	333.3	27.8		25.0	16.2	11.6												
92+25.00 - 96+24.19	36	399.19	1596.8	1596.8	133.1		119.8	77.6	55.4												
96+24.19 - 99+12.98	37.5 AVG	288.79	1203.3	1203.3	100.3		90.2	58.5	41.8												
99+12.98 - 104+65.83	24	552.85	1474.3	1474.3	122.9		110.6	71.7	51.2												
104+65.83 - 105+65.83	24	100.0	266.7	266.7	1 1/2" AVG 11.1		20.0	13.0	9.3												
105+65.83 - 107+99.33	BRIDGE LIMITS (FOR DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																				
107+99.33 - 114+00	24	606.67	1601.8	(4) 1085.3	(3) 100.2		120.1	77.9	55.6												
RAMP "C" @ COUNTRY CLUB DR																					
39+29.97 - 43+00	16	370.03	657.8	657.8	54.8		49.3							32.0	22.8						
43+00 - 43+70	16	70.00	124.4		10.4	20.7	9.3			124.4		124.4	124.4	6.0	4.3						
43+70 - 47+68.00	16	398.00	707.6	707.6	59.0		53.1							34.4	24.6						
47+68.00 - 47+89.42	17.5 AVG	21.42	41.7	41.7	3.5		3.1							2.0	1.4						
47+89.42 - 50+67.32	17	277.9	524.9	524.9	(1) 40.1		39.4							25.5	18.2						
50+67.32 - 50+81.61	20	14.29	31.8	31.8	1 1/2" AVG 1.3		2.4							1.5	1.1						
EXTRA FOR RADIUS	ESTIMATED		134	134	1 1/2" AVG 5.6		10.0							6.5	4.7	(B) 50	(2) 249				
TOTALS				30268.9	2462.4	20.7	2318.1	1394.4	996.1	124.4	121.4	124.4	124.4	107.9	77.1	50	249				

TOTALS CARRIED TO SHEET 74.

- ① DEDUCTED $45.71' \times 17' \times .125' \div 27 = 3.6$ C.Y.
- ② $112' \times 20' \div 9 = 249$ S.Y.
- ③ DEDUCTED $300' \times 24' \times .125' \div 27 = 33.3$ C.Y.
- ④ $407' \times 24' \div 9 = 1085.3$ S.Y.



PCALC001.DGN 04/25/95

PAVEMENT CALCULATIONS

LIC-16-17.94

65
420

CALCULATED
D.M.
3-15-95
CHECKED
J.S.
3-16-95

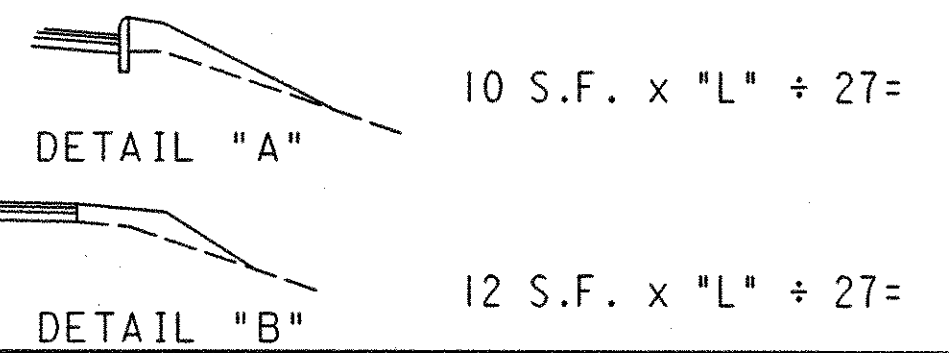
PAVEMENT CALCULATIONS

STATION TO STATION	WIDTH PAV'T. (FEET)	LIN. FEET	PAVEMENT AREA SQ. YD.	254	302	304	407	446	446	302	609	202	203	202	612	202	203	448	448	202	608	608	608	202	305	203	659	
				PAVEMENT PLANING, BITUMINOUS	OR AS SHOWN 3" BITUMINOUS AGGREGATE BASE, AC-20	6" AGGREGATE BASE	TACK COAT (SEE GENERAL NOTE)	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20	6" BITUMINOUS AGGREGATE BASE, AC-20	CURB, TYPE 6	CURB REMOVED	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	CONCRETE MEDIAN REMOVED	CONCRETE MEDIAN (SEE STD. DRWG. MC-6)	CURB REMOVED, AS PER PLAN, (SEE GENERAL NOTE)	EMBANKMENT	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG70-22	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22	WALK REMOVED	4" CONCRETE WALK	608 CURB RAMP, TYPE 1	608 CURB RAMP, TYPE 2	PAVEMENT REMOVED	9" CONCRETE BASE, AS PER PLAN	SUBGRADE COMPACTION	SEEDING AND MULCHING	
				SQ. YD.	CU. YD.	CU. YD.	GAL.	CU. YD.	CU. YD.	CU. YD.	LIN. FT.	LIN. FT.	CU. YD.	SQ. YD.	SQ. YD.	LIN. FT.	CU. YD.	CU. YD.	CU. YD.	SQ. FT.	SQ. FT.	EACH	EACH	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	
RAMP "D" @ COUNTRY CLUB DR.																												
EXTRA FOR APPROACH	ESTIMATED		225	225	1 1/2" AVG 9.4		16.9				190	190		20.5	20.5		④ 38	10.9	7.8									
38+93.82 - 44+70	18	576.18	1152.4	1152.4	① 91.0		86.4											56.0	40.0									
44+70 - 45+50	18	80	160.0		13.3	26.7	12.0											7.8	5.6					160	160	160		
45+50 - 45+84.98	18	34.98	70.0	70.0	5.8		5.3											3.4	2.4									
45+84.98 - 46+74.20	17 AVG	89.22	168.5	168.5	14.0		12.6											8.2	5.9									
RAMP "G"																												
99+03.65 - 106+64.07	16	760.42	1351.9	1351.9	② 108.3		101.4											65.7	46.9									
EXTRA AREA FOR RADIUS	ESTIMATED		87	79.8	1 1/2" AVG 3.6	③ 1.2	6.5			③ 1.2	100	110	③ 3.1				④ 37 (100')	4.2	3.0	297	297	2	1				⑤ 223	
WESTBOUND LANES																												
13+60.00 - 14+60.00	36	100.0	400.0	400.0	1 1/2" AVG 16.7		30.0	19.4	13.9																			
14+60.00 - 15+85.00	37 AVG	125.0	513.9	513.9	42.8		38.5	25.0	17.8																			
15+85.00 - 20+25.00	43.5 AVG	440.0	2126.7	2126.7	177.2		159.5	103.4	73.8																			
20+25.00 - 21+68.90	54.25 AVG	143.9	867.4	867.4	72.3		65.0	42.2	30.1						144													
21+68.90 - 47+36.35	24	2567.45	6846.5	6846.5	570.5		513.5	332.8	237.7																			
47+36.35 - 48+36.35	24	100.0	266.7	266.7	1 1/2" AVG 11.1		20.0	13.0	9.3																			
48+36.35 - 50+24.61	BRIDGE LIMITS (FOR BRIDGE DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																											
50+24.61 - 51+24.61	24	100.0	266.7	266.7	1 1/2" AVG 11.1		20.0	13.0	9.3																			
51+24.61 - 57+49.85	24	625.24	1667.3	1667.3	138.9		125.0	81.0	57.9																			
57+49.85 - 65+30.28	49.5 AVG	780.43	4292.4	4292.4	357.7		321.9	208.7	149.0																			
65+30.28 - 66+30.28	30 AVG	100.0	333.3	333.3	27.8		25.0	16.2	11.6																			
66+30.28 - 87+49.66	24	2119.38	5651.7	5651.7	471.0		423.9	274.7	196.2																			
87+49.66 - 97+49.66	36.5 AVG	1000.0	4055.6	4055.6	338.0		304.2	197.1	140.8																			
97+49.66 - 99+22.57	55 AVG	172.91	1056.7	1056.7	88.1		79.3	51.4	36.7					173														
99+22.57 - 104+53.25	24	530.68	1415.1	1415.1	117.9		106.1	68.8	49.1																			
104+53.25 - 105+53.25	24	100.0	266.7	266.7	1 1/2" AVG 11.1		20.0	13.0	9.3																			
105+53.25 - 107+86.75	BRIDGE LIMITS (FOR BRIDGE DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																											
107+86.75 - 114+00	24	613.25	1635.3	(7) 1101.3	(6) 103.0		122.6	79.5	56.8																			
SUB-TOTALS				34555.6	2801.8	27.9	2615.6	1539.2	1099.3	1.2	290.0	300.0	3.1	20.5	20.5	317.0	75	156.2	111.6	297	297	2	1	160.0	160.0	160.0	223	
TOTALS																												

TOTALS CARRIED TO SHEET 74.

- ① Deducted 60' X 18' X .125' ÷ 27= 5.0 C.Y.
- ② Deducted 60' X 16' X .125' ÷ 27= 4.4 C.Y.
- ③ Estimated 7.2 S.Y.

- ④ To be used in the area of the island
- ⑤ 100' x 20' ÷ 9 = 223 S.Y.
- ⑥ DEDUCT 300' x 24' x .125' ÷ 27= 33.3 C.Y.
- ⑦ 413' x 24' ÷ 9= 1101.3 S.Y.



FCALC02.DGN 04/26/95

PAVEMENT CALCULATIONS

LIC-16-17.94

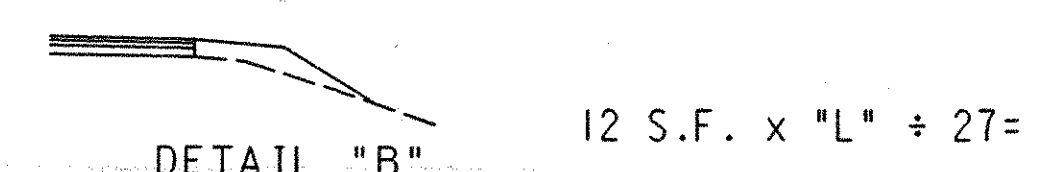
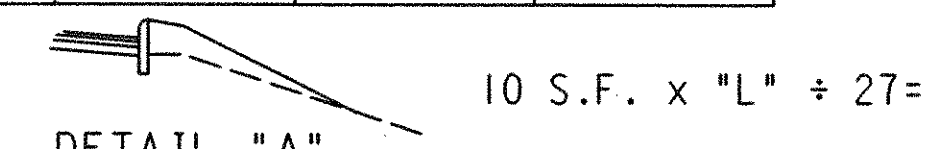
CALCULATED
D.M.
3-15-95
CHECKED
J.S.
3-16-95

PAVEMENT CALCULATIONS

STATION TO STATION	WIDTH PAV'T. (FEET)	LIN. FEET	PAVEMENT AREA SQ. YD.	254	302	304	407	302	609	202	203	203	202	608	608	448	448	659	608
				PAVEMENT PLANING, BITUMINOUS SQ. YD.	OR AS SHOWN BITUMINOUS AGGREGATE BASE, AC-20 CU. YD.	6 1/2" AVG. AGGREGATE BASE CU. YD.	TACK COAT (SEE GENERAL NOTE) GAL.	6" BITUMINOUS AGGREGATE BASE, AC-20 CU. YD.	CURB, TYPE 6 LIN. FT.	CURB REMOVED LIN. FT.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION 15 1/2" AVG. CU. YD.	EMBANKMENT CU. YD.	WALK REMOVED SQ. FT.	4" CONCRETE WALK SQ. FT.	CURB RAMP, TYPE 1 EACH	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG70-22 CU. YD.	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22 CU. YD.	SEEDING AND MULCHING SQ. YD.	CURB RAMP, TYPE 2 EACH
RAMP "A" @ BRYN MAWR RD.																			
21+64.88 - 22+25.00	15 AVG	60.12	100.2	100.2	8.3		7.5									4.9	3.5		
22+25.00 - 24+82.92	16	257.92	458.5	458.9	38.2		34.4									22.2	15.9		
24+82.92 - 25+94.16	ESTIMATED		369	369.0	① 19.5		27.7									17.9	12.8		
RAMP "B" @ COUNTRY CLUB DR.																			
EXTRA AREA FOR RADIUS	ESTIMATED		166	127	1 1/2" AVG 6.9	② 7.0	12.5	② 6.5	132	161	② 16.8	④ 60(161')				8.1	5.8	⑤ 358	
49+26.10 - 57+49.58	16	823.48	1464.0	1464.0	③ 117.6		109.8									71.2	50.8		
RAMP "E"																			
99+26.83 - 106+40.17	16	713.34	1268.20	1268.20	⑤ 101.3		95.1									61.6	44.0		
EXTRA AREA FOR RADIUS	ESTIMATED		162	162	1 1/2" AVG 6.7	④ 6.7	12.2	④ 6.2	121	125	④ 15.9	④ 45(121')	151	131	2	7.9	5.6	⑥ 269	
21 ST STREET																			
20+49.93 - 20+82.2±		32.27							32.3	32.3									
21 ST STREET LT. (BIKEWAY)																			
									5	5			25	25					1
SUB-TOTALS					298.5			12.7											
TOTALS				3949.3	311.2	13.7	299.2		290.3	323.3	32.7	105	176	156	2	193.8	138.4	627	1

TOTALS CARRIED TO SHEET 74.

- ① Deducted estimated 270 S.Y. X .0417= 11.2 C.Y.
- ② Estimated 39 S.Y.
- ③ Deducted 60' X 16' X .125' ÷ 27= 4.4 C.Y.
- ④ Estimated 37 S.Y.
- ⑤ 161' X 20' ÷ 9 = 358 S.Y.
- ⑥ 121' X 20' ÷ 9 = 269 S.Y.



PAVEMENT CALCULATIONS

LIC-16-17.94

FCALC03.DGN 04/19/95

CALCULATED
D.M.
3-18-95
CHECKED
J.S.
3-18-95

SHOULDER CALCULATIONS

CALCULATED
D.M.
3-15-95
CHECKED
J.S.
3-16-95

SHOULDER CALCULATIONS

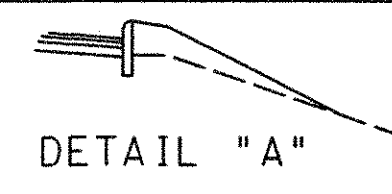
LIC-16-17.94

STATION TO STATION	LT. SIDE		RT. SIDE		SHOULDER AREA	254	302	304	407	446	446	609	202	203	612	622	44B	44B	203	659	202
	WIDTH BERM	LIN. FEET	WIDTH BERM	LIN. FEET		SQ. YD.	PAVEMENT PLANING, BITUMINOUS	OR AS SHOWN BITUMINOUS AGGREGATE BASE, AC-20	6 1/2" AVG. OR AS SHOWN AGGREGATE BASE	TACK COAT (SEE GENERAL NOTE)	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20	CURB, TYPE 6	CURB REMOVED	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	CONCRETE MEDIAN (SEE STD. DRWG. MC-6)	CONCRETE BARRIER, TYPE D-50, AS PER PLAN (SEE GENERAL NOTE)	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG70-22	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22	EMBANKMENT	SEEDING AND MULCHING
	(FEET)		(FEET)			SQ. YD.	CU. YD.	CU. YD.	GAL.	CU. YD.	CU. YD.	LIN. FT.	LIN. FT.	CU. YD.	SQ. YD.	LIN. FT.	CU. YD.	CU. YD.	CU. YD.	SQ. YD.	SQ. YD.
EASTBOUND LANES																					
12+75.7-13+75.7			8	100.0	88.9	88.9	1/2" AVG. 3.7		6.7	4.3	3.1								Ⓒ 45	Ⓓ 267	
13+75.7-17+00.7			9.5	325.0	343.1	Ⓐ 288.9	Ⓑ 37.6		25.7	16.7	11.9			Ⓒ 9.0		325.0					
17+00.7-18+24.76(BACK)			8	124.06	110.3	110.3	9.2		8.3	5.4	3.8								Ⓒ 56	Ⓓ 331	
18+24.94(AHEAD)-36.21.79			8	1796.85	1597.2	1597.2	133.1		119.8	77.6	55.5								Ⓒ 799	Ⓓ 4792	
Ⓠ RAMP C @ COUNTRY CLUB DR.																					
36+21.79-39+29.97			8	308.18	273.9	273.9	22.8		20.5	13.3	9.5	180.0	180.0						Ⓒ 115	Ⓓ 685	
39+29.97-39+79.97			7 AVG.	50.0	38.9	38.9	3.2		2.9			50.0	50.0			1.9	1.4		Ⓒ 19	Ⓓ 112	
39+79.97-43+00			6	320.03	213.4	213.4	17.8		16.0			320.0	320.0			10.4	7.4		Ⓒ 119	Ⓓ 712	
43+00 - 43+70			6	70.00	46.7	46.7	3.9	9" 11.7	3.5			70.0	70.0			2.3	1.6		Ⓒ 26	Ⓓ 156	
43+70 - 50+09.79			6	639.79	426.5	426.5	35.5		32.0			80.0	80.0			20.7	14.8		Ⓒ 237	Ⓓ 1422	
39+29.97-43+00	3	370.03			123.3	123.3	10.3		9.2							6.0	4.3		Ⓒ 165	Ⓓ 1069	
43+00 - 43+70	3	70.00			23.3	23.3	1.9	Ⓙ 6.8	1.7							1.1	0.8		Ⓒ 32	Ⓓ 203	
43+70 - 46+95.23	3	325.23			108.4	108.4	9.0		8.1							5.3	3.8		Ⓒ 145	Ⓓ 940	
46+95.23-47+68.0	6 AVG.	72.77			48.5	48.5	4.0		3.6							2.4	1.7		Ⓒ 33	Ⓓ 211	
47+68.0-50+67.32	3	299.32													99.8						99.8
EASTBOUND LANES																					
39+25.67-46+63.94			8	738.27	656.2	656.2	54.7		49.2	31.9	22.8								Ⓒ 328	Ⓓ 1969	
Ⓠ RAMP "D" @ COUNTRY CLUB DR.																					
42+16-43+50	3	134.0													44.7						44.7
43+50-44+70	3	120.0			40.0	40.0	3.3		3.0							1.9	1.4		Ⓒ 54	Ⓓ 347	
44+70 - 45+50	3	80.00			26.7	26.7	2.2	Ⓚ 7.8	2.0							1.3	0.9		Ⓒ 36	Ⓓ 232	
45+50 - 45+84.98	3	34.98			11.7	11.7	1.0		0.9							0.6	0.4		Ⓒ 16	Ⓓ 101	
45+84.98-46+74.2	3	89.22			29.7	Ⓛ 14.9	Ⓛ 5.4	Ⓛ 3.1	2.2			89.2	Ⓞ 5.3			1.4	1.0		Ⓒ 40	Ⓓ 258	
38+93.82-39+68.82			4.5 AVG.	75.0	37.5	37.5	Ⓧ 1.8		2.8							1.8	1.3		Ⓒ 34	Ⓓ 167	
39+68.82-42+74.98			6	306.16	204.1	204.1	17.0		15.3							9.9	7.1		Ⓒ 136	Ⓓ 681	
42+74.98-46+74.2			6	399.22	266.1	266.1	Ⓨ 66.5	48.0	20.0					15 1/2" 114.6		12.9	9.2		Ⓒ 178	Ⓓ 888	
46+74.2-47+24.2			7 AVG.	50.0	38.9	38.9	3.2		2.9	1.9	1.4								Ⓒ 23	Ⓓ 112	
47+24.2-47+34			8	9.8	8.7	8.7	0.7		0.6	0.4	0.3								Ⓒ 5	Ⓓ 27	
47+34-47+84.98			8	50.98	45.3	45.3	1/2" AVG. 1.9		3.4	2.2	1.6								Ⓒ 23	Ⓓ 136	
EASTBOUND LANES																					
47+85.34-48+34.84			8	49.5	44.0	44.0	1/2" AVG. 1.8		3.3	2.1	1.5								Ⓒ 22	Ⓓ 132	
48+36.05-50+21.2			BRIDGE LIMITS (FOR DETAILS AND QUANTITIES, SEE BRIDGE DETAIL SHEETS)																		
TOTALS					4419.5	451.5	77.4		363.6	155.8	111.4	700.0	789.2	128.9	144.5	325.0	79.9	57.1	2686	15,950	144.5

TOTALS CARRIED TO SHEET 74.

- Ⓐ 325' x 8' / 9 = 288.9 SQ.YD.
- Ⓑ ADD 325' x 1.5' x 0.5' / 27 = 9.0 CU.YD.
- Ⓒ 89.2' x 1.5' AVG. / 9 = 14.9 SQ.YD.
- Ⓓ 89.2' x 1.25' AVG. x 1.29 / 27 = 5.3 CU.YD.
- Ⓔ 89.2' x 1.75' AVG. x 0.54 / 27 = 3.1 CU.YD.
- Ⓕ ADD 89.2' x 1.75' AVG. x 0.5' / 27 = 2.9 CU.YD.
- Ⓖ DEDUCT 60' x 44.5' x 0.125' / 27 = 1.3 CU.YD.
- Ⓖ ADD 266.1 SQ.YD. x 0.1667 = 44.3 CU.YD.
- Ⓗ 3.5' X 70' X .75' / 27 = 6.8 CU.YD.

- Ⓢ L x 24' ÷ 9=
- Ⓣ L x 20' ÷ 9=
- Ⓤ L x 26' ÷ 9=
- Ⓥ 3.5' X 80' X .75 ÷ 27 = 7.8 C.Y.



10 S.F. x "L" ÷ 27=

12 S.F. x "L" ÷ 27=

PCALCAME.DGN 04/27/95

SHOULDER CALCULATIONS

STATION TO STATION	LT. SIDE		RT. SIDE		SHOULDER AREA SQ. YD.	254	302	304	407	446	446	203	446	446	203	202	609	659				
	WIDTH BERM (FEET)	LIN. FEET	WIDTH BERM (FEET)	LIN. FEET		PAVEMENT PLANING, BITUMINOUS	3" OR AS SHOWN BITUMINOUS AGGREGATE BASE, AC-20	6 1/2" AVG OR AS SHOWN AGGREGATE BASE	TACK COAT (SEE GENERAL NOTE)	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG70-22	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22	EMBANKMENT	CURB REMOVED	CURB, TYPE 6	SEEDING AND MULCHING				
EASTBOUND LANES																						
50+21.2 - 96+24.19			8	4602.99	4091.5	4091.5	341.0		306.9	198.9	142.1				Ⓟ 2046	709	719	Ⓛ 10229				
B RAMP "G"																						
96+24.19 - 99+03.64			8	279.45	248.4	248.4	20.7		18.6	12.1	8.6				Ⓟ 125			Ⓛ 621				
99+03.64 - 99+53.64			7 AVG	50.0	38.9	38.9	3.2		2.9				1.9	1.4	Ⓟ 23			Ⓛ 112				
99+53.64 - 106+23.0			6	669.36	446.2		9" 111.6	80.6	33.5			15 1/2" 192.1	21.7	15.5	Ⓟ 298			Ⓛ 1488				
99+03.64 - 106+16.15	3	712.51			237.5	237.5	19.8		17.8					11.5	8.2	Ⓟ 317		Ⓛ 2059				
EASTBOUND LANES																						
99+12.98 - 104+69.6			8	556.62	494.8	494.8	41.2		37.1	24.1	17.2				Ⓟ 248			Ⓛ 1485				
104+69.6 - 105+69.6			8	100.0	88.9	88.9	1 1/2" AVG. 3.7		6.7	4.3	3.1				Ⓟ 45			Ⓛ 267				
105+59.54 - 107+93.04	BRIDGE LIMITS (FOR BRIDGE DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																					
107+93.04-114+00			8	606.96	539.5	Ⓟ 361.8	Ⓛ 33.9		40.5	26.2	18.7				Ⓟ 270			Ⓛ 1619				
TOTALS						5561.8	575.1	80.6	464.0	265.6	189.7	192.1	35.1	25.1	3372.0	709	719	17880				

TOTALS CARRIED TO SHEET 74.



10 S.F. x "L" ÷ 27=



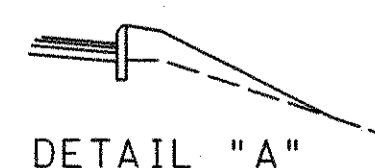
12 S.F. x "L" ÷ 27=

- Ⓛ L X 20' ÷ 9 = S.Y.
- Ⓛ L X 20' ÷ 9 =
- Ⓛ L X 26' ÷ 9 =
- Ⓛ L X 24' ÷ 9 =
- Ⓛ DEDUCT 300' x 8' x .125' ÷ 27 = 11.1 C.Y.
- Ⓛ 407' x 8' ÷ 9 = 361.8 S.Y.
- Ⓛ Lx8.5'x1.5'÷27= C.Y.
- Ⓛ Lx8.5'x.75'÷27= C.Y.

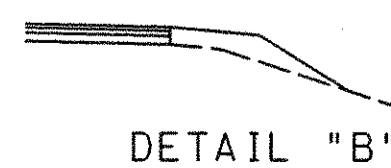
SHOULDER CALCULATIONS

STATION TO STATION	LT. SIDE		RT. SIDE		SHOULDER AREA SQ. YD.	254	302	407	446	446	203	659								
	WIDTH BERM (FEET)	LIN. FEET	WIDTH BERM (FEET)	LIN. FEET		PAVEMENT PLANING, BITUMINOUS SQ. YD.	3" OR AS SHOWN BITUMINOUS AGGREGATE BASE, AC-20 CU. YD.	TACK COAT (SEE GENERAL NOTE) GAL.	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20 CU. YD.	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20 CU. YD.	EMBANKMENT CU. YD.	SEEDING AND MULCHING SQ. YD.								
EASTBOUND LANES																				
12+75.70 - 13+75.70	4	100.0			44.4	44.4	1/2" AVG 1.8	3.3	2.2	1.5	⊕ 45	⓪ 223								
13+75.70 - 15+40.00	4	164.3			73.0	73.0	6.1	5.5	3.5	2.5	⊕ 73	⓪ 366								
15+40.00 - 18+24.76 (BACK)	0.13 AVG	284.76			320.5	320.5	26.7	24.0	15.6	11.1										
18+24.94 (AHEAD) 37+61.00	6.25	1936.06			1344.5	1344.5	112.0	100.8	65.4	46.7										
37+61.00 - 38+01.00	5.75 AVG	40.0			25.6	25.6	2.1	1.9	1.2	0.9										
38+01.00 - 38+11.00	5.25	10.0			5.8	5.8	0.5	0.4	0.3	0.2										
38+11.00 - 38+51.00	5.75 AVG	40.0			25.6	25.6	2.1	1.9	1.2	0.9										
38+51.00 - 47+36.05	6.25	885.05			614.6	614.6	51.2	46.1	29.9	21.3										
47+36.05 - 48+36.05	6.25	100.0			69.4	69.4	1/2" AVG 2.9	5.2	3.4	2.4										
48+36.05 - 50+24.30	BRIDGE DETAILS (FOR DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																			
50+24.30 - 51+24.30	6.25	100.0			69.4	69.4	1/2" AVG 2.9	5.2	3.4	2.4										
51+24.30 - 59+95.00	6.25	870.7			604.7	604.7	50.4	45.3	29.4	21.0										
59+95.00 - 60+35.00	5.75 AVG	40.0			25.6	25.6	2.1	1.9	1.2	0.9										
60+35.00 - 60+45.00	5.25	10.0			5.8	5.8	0.5	0.4	0.3	0.2										
60+45.00 - 60+85.00	5.75 AVG	40.0			25.6	25.6	2.1	1.9	1.2	0.9										
60+85.00 - 78+67.00	6.25	1782.0			1237.5	1237.5	103.1	92.8	60.2	43.0										
78+67.00 - 79+07.00	5.50 AVG	40.0			24.4	24.4	2.0	1.8	1.2	0.8										
79+07.00 - 79+33.00	4.75	26.0			13.7	13.7	1.1	1.0	0.7	0.5										
79+33.00 - 79+73.00	5.5 AVG	40.0			24.4	24.4	2.0	1.8	1.2	0.8										
79+73.00 - 96+55.00	6.25	1682.0			1168.1	1168.1	97.3	87.6	56.8	40.6										
96+55.00 - 96+95.00	5.75 AVG	40.0			25.6	25.6	2.1	1.9	1.2	0.9										
96+95.00 - 97+05.00	5.25	10.0			5.8	5.8	0.5	0.4	0.3	0.2										
97+05.00 - 97+45.00	5.75 AVG	40.0			25.6	25.6	2.1	1.9	1.2	0.9										
97+45.00 - 104+59.54	6.25	714.54			496.2	496.2	41.3	37.2	24.1	17.2										
104+59.54 - 105+59.54	6.25	100.0			69.4	69.4	1/2" AVG 2.9	5.2	3.4	2.4										
105+59.54 - 107+93.04	BRIDGE DETAILS (FOR DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																			
107+93.04 - 114+00	6.25	606.96			421.5	(2) 282.6	(3) 26.4	31.6	20.5	14.6										
TOTALS						6627.8	544.2	507.0	329.0	234.8	118.0	589								

TOTALS CARRIED TO SHEET 74.



10 S.F. x "L" ÷ 27=



12 S.F. x "L" ÷ 27=

⓪ L X 20' ÷ 9 =

② 407' x 6.25' ÷ 9= 282.6 S.Y.

③ DEDUCT 300' x 6.25' x .125' ÷ 27= 8.7 C.Y.

④ L X 6.25' X 1.5 ÷ 27 =

SHOULDER CALCULATIONS

LIC-16-17.94

70
420

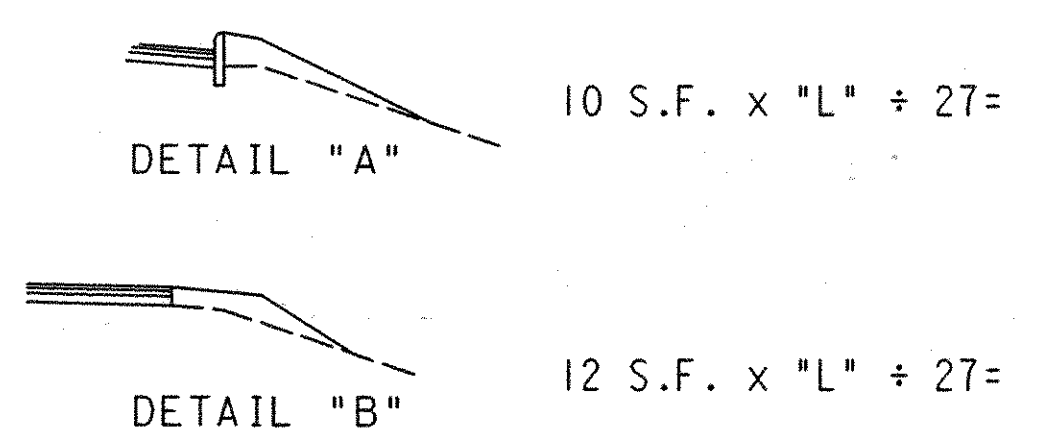
CALCULATED
D.M.
3-10-95
CHECKED
J.S.
3-16-95

SHOULDER CALCULATIONS

CALCULATED
 D.M.
 3-15-95
 CHECKED
 J.S.
 3-16-95

STATION TO STATION	LT. SIDE		RT. SIDE		SHOULDER AREA SQ. YD.	254	302	304	407	446	446	202	622	203	659						
	WIDTH BERM (FEET)	LIN. FEET	WIDTH BERM (FEET)	LIN. FEET		PAVEMENT PLANING, BITUMINOUS SQ. YD.	3" OR AS SHOWN BITUMINOUS AGGREGATE BASE, AC-20 CU. YD.	6 1/2" AVG OR AS SHOWN AGGREGATE BASE CU. YD.	TACK COAT (SEE GENERAL NOTE) GAL.	1 3/4" ASPHALT INTERMEDIATE COURSE, TYPE 2, AC-20 CU. YD.	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20 CU. YD.	CONCRETE BARRIER, REMOVED LIN. FT.	CONCRETE BARRIER, TYPE B-50 LIN. FT.	EMBANKMENT CU. YD.	SEEDING AND MULCHING SQ. YD.						
WESTBOUND LANES																					
13+60 - 14+60			4	100.0	44.4	44.4	1 1/2" AVG 1.8	3.3	2.2	1.5				45	223						
14+60 - 37+61			6.25	2301.0	1597.9	1597.9	133.2	145.6	119.8	77.7	55.5	2185.0	2185.0								
37+61 - 38+01			5.75 AVG	40.0	25.6	25.6	2.1	3.1	1.9	1.2	0.9	40	40								
38+01 - 38+11			5.25	10.0	5.8	5.8	0.5		0.4	0.3	0.2	10									
38+11 - 38+51			5.75 AVG	40.0	25.6	25.6	2.1	3.1	1.9	1.2	0.9	40	40								
38+51 - 47+36.05			6.25	885.05	614.6	614.6	51.2	56.0	46.1	29.9	21.3	857.1	857.1								
47+36.05 - 48+36.05			6.25	100.0	69.4	69.4	1 1/2" AVG 2.9	6.3	5.2	3.4	2.4	100.0	100.0								
48+36.05 - 50+24.30	BRIDGE LIMITS (FOR BRIDGE DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																				
50+24.30 - 51+24.30			6.25	100.0	69.4	69.4	1 1/2" AVG 2.9	6.3	5.2	3.4	2.4	100.0	100.0								
51+24.30 - 59+95.00			6.25	870.7	604.6	604.6	50.4	55.1	45.3	29.4	21.0	822.7	822.7								
59+95.00 - 60+35.00			5.75 AVG	40.0	25.6	25.6	2.1	3.1	1.9	1.2	0.9	40.0	40.0								
60+35.00 - 60+45.00			5.25	10.0	5.8	5.8	0.5		0.4	0.3	0.2	10.0									
60+45.00 - 60+85.00			5.75 AVG	40.0	25.6	25.6	2.1	3.1	1.9	1.2	0.9	40.0	40.0								
TOTALS						3114.3	251.8	281.7	233.3	151.4	108.1	4244.8	4224.8	45	223						

- TOTALS CARRIED TO SHEET 74.
- | | | |
|--|--|---|
| ① Deduct 5 Catch Basins X 20' = 100 L.F.
Deduct 8 Existing Light Poles X 2' = 16 L.F.
TOTAL 116 LIN. FT. | ④ Deduct 5 Catch Basins X 20' = 100 L.F.
Deduct 9 Proposed Light Poles X 2' = 18 L.F.
TOTAL 118 LIN. FT. | ⑦ L X 6.25' X 1.5 ÷ 27 = |
| ② Deduct 1 Catch Basins X 20' = 20 L.F.
Deduct 4 Existing Light Poles X 2' = 8 L.F.
TOTAL 28 LIN. FT. | ⑤ Deduct 1 Catch Basin X 20' = 20 L.F.
Deduct 4 Proposed Light Poles X 2' = 8 L.F.
TOTAL 28 LIN. FT. | ⑧ L X 3.5' X .4167' ÷ 27 =
L X 1' X .25' ÷ 27 = |
| ③ Deduct 2 Catch Basins X 20' = 40 L.F.
Deduct 4 Existing Light Poles X 2' = 8 L.F.
TOTAL 48 LIN. FT. | ⑥ Deduct 2 Catch Basin X 20' = 40 L.F.
Deduct 4 Proposed Light Poles X 2' = 8 L.F.
TOTAL 48 LIN. FT. | ⑨ 40' X 4.5' AVG X .4167 ÷ 27 =
40' X 1' X .25' ÷ 27 = |
| | | ⑩ 100' X 20' ÷ 9 = 223 S.Y. |



BCALCI13.DGN 04/27/95

SHOULDER CALCULATIONS

LIC-16-17.94

SHOULDER CALCULATIONS

STATION TO STATION	LT. SIDE		RT. SIDE		SHOULDER AREA SQ. YD.	254	302	304	407	446	446	202	203	202	622	448	448	203	659					
	WIDTH BERM (FEET)	LIN. FEET	WIDTH BERM (FEET)	LIN. FEET		PAVEMENT PLANNING, BITUMINOUS SQ. YD.	OR AS SHOWN BITUMINOUS AGGREGATE BASE, AC-20 CU. YD.	6 1/2" AVG. AGGREGATE BASE CU. YD.	TACK COAT (SEE GENERAL NOTE) GAL.	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20 CU. YD.	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20 CU. YD.	CONCRETE BARRIER, REMOVED LIN. FT.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTR. 15 1/2" AVG. CU. YD.	CURB REMOVED LIN. FT.	CONCRETE BARRIER, TYPE B-50 LIN. FT.	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG70-22 CU. YD.	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22 CU. YD.	EMBANKMENT CU. YD.	SEEDING AND MULCHING SQ. YD.					
WESTBOUND																								
60+85-78+67			6.25	1782.0	1237.5	1237.5	103.1	⑧ 112.8	92.8	60.2	43.0	① 1708.0			④ 1706.0									
78+67-79+07			5.5 AVG.	40.0	24.4	24.4	2.0	⑩ 3.8	1.8	1.2	0.8	40.0			40.0									
79+07-79+33			4.75	26.0	13.7	13.7	1.1	⑪ 3.3	1.0	0.7	0.5	26.0			26.0									
79+33-79+73			5.5 AVG.	40.0	24.4	24.4	2.0	⑩ 3.8	1.8	1.2	0.8	40.0			⑦ 38.0									
79+73-96+55			6.25	1682.0	1168.1	1168.1	97.3	⑧ 106.4	87.6	56.8	40.6	② 1588.0			⑤ 1588.0									
96+55-96+95			5.75 AVG.	40.0	25.6	25.6	2.1	⑨ 3.1	1.9	1.2	0.9	40.0			40.0									
96+95-97+05			5.25	10.0	5.8	5.8	0.5		0.4	0.3	0.2	10.0												
97+05-97+45			5.75 AVG.	40.0	25.6	25.6	2.1	⑨ 3.1	1.9	1.2	0.9	40.0			40.0									
97+45-104+59.54			6.25	714.54	496.2	496.2	41.3	⑧ 45.2	37.2	24.1	17.2	③ 686.5			⑥ 686.5									
104+59.54-105+59.54			6.25	100.0	69.4	69.4	1 1/2" AVG 2.9	⑧ 6.3	5.2	3.4	2.4	100.00			100.00									
105+59.54-107+93.04	BRIDGE LIMITS (FOR BRIDGE DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																							
107+93.04 - 114+00			6.25	606.96	421.5	⑬ 282.6	⑬ 26.4		31.6	20.5	14.6	⑬ 403			⑬ 403									
13+60-14+60	8	100			88.9	88.9	3.7 1 1/2" AVG.		6.7	4.3	3.1								④ 45	⑬ 267				
14+60-20+25	8	565.0			502.2	502.2	41.8		37.7	24.4	17.4								④ 252	⑬ 1507				
RAMP A @ BRYN MAWR																								
20+25-21+14.88	8	89.88			79.9		9" 20.0	14.4	60					34.4		3.9	2.8		④ 40	⑬ 200				
21+14.88-21+64.88	7 AVG.	50.0			38.9		9" 9.7	7.0	2.9					16.7		1.9	1.4		④ 23	⑬ 112				
21+64.88-25+48.11	6	383.23			255.5		9" 63.9	46.1	19.2					110.0		12.4	8.9		④ 171	⑬ 852				
25+48.11-25+66.36	VARIABLE	18.25			10.2		9" 2.6	1.8	0.8					4.4		0.5	0.4		④ 9	⑬ 41				
EXTRA FOR RADIUS																								
	3	60			20.0	20.0	1 1/2" AVG 0.8		1.5							1.0	0.7		④ 27	⑬ 134				
21+64.88-22+25			4 AVG.	60.12	26.7		9" 6.7	4.8	2.0					11.5	60.1		1.3	0.9		④ 27	⑬ 174			
22+25-25+86.9			3	361.9	120.6	120.6	⑫ 9.2		9.0					64.9		5.9	4.2		④ 161	⑬ 1046				
WESTBOUND LANES																								
21+68.90-47+36.35	8	2567.45			2282.2	2282.2	190.2		171.1	110.9	79.2								④ 1141	⑬ 6847				
47+36.35-48+36.35	8	100.0			88.9	88.9	1 1/2" AVG 3.7		6.7	4.3	3.1								④ 45	⑬ 267				
48+36.35-50+24.61	BRIDGE LIMITS (FOR DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																							
TOTALS						6476.1	633.1	361.9	580.8	314.7	224.7	4681.5	177.0	125.0	4667.5	26.9	19.3	1941.0	11,447					

- ① Deduct 3 Catch Basins X 20' = 60 L.F.
Deduct 7 Existing Light Poles X 2' = 14 L.F.
TOTAL 74 LIN. FT.

② Deduct 4 Catch Basins X 20' = 80 L.F.
Deduct 7 Existing Light Poles X 2' = 14 L.F.
TOTAL 94 LIN. FT.

TOTALS CARRIED TO SHEET 118.
③ Deduct 4 Existing Light Poles X 2' = 8 L.F.
Deduct 1 Catch Basins X 20' = 20 L.F.
TOTAL 28 LIN. FT.

④ Deduct 3 Catch Basins X 20' = 60 L.F.
Deduct 8 Proposed Light Poles X 2' = 16 L.F.
TOTAL 76 LIN. FT.

⑤ Deduct 4 Catch Basin X 20' = 80 L.F.
Deduct 7 Proposed Light Poles X 2' = 14 L.F.
TOTAL 94 LIN. FT.

⑥ Deduct 1 Catch Basin X 20' = 20 L.F.
Deduct 4 Proposed Light Poles X 2' = 8 L.F.
TOTAL 28 LIN. FT.

⑦ Deduct 2' Proposed Light Pole

⑧ L X 3.5' X .4167' ÷ 27 =
L X 1' X .25' ÷ 27 =

⑨ 40' X 4.5' AVG X .4167 ÷ 27 =
40' X 1' X .25' ÷ 27 =

⑩ 40' X 5.5' AVG X .4167 ÷ 27 =
40' X 1' X .25' ÷ 27 =

⑪ 26' X 7.5' AVG X .4167 ÷ 27 =
26' X 1' X .25' ÷ 27 =

⑫ deduct 60' x 3' x .125 ÷ 27 = 0.8 C.Y.

⑬ L X 24' ÷ 9 =

⑭ L X 20' ÷ 9 =

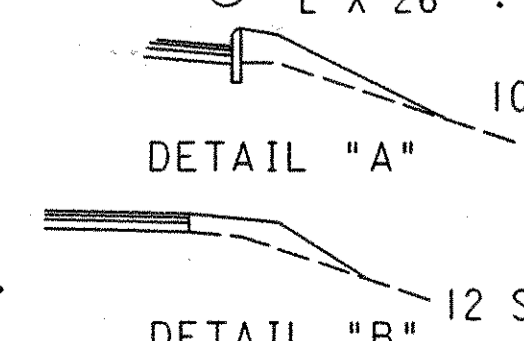
⑮ L X 26' ÷ 9 =

⑯ 407' x 6.25' ÷ 9 = 282.65 Y.
DEDUCT 300' x 6.25' x .125'
÷ 27 = 8.7 C.Y.


⑰ 406.96' (DEDUCT 2-LIGHT
POLES=4') = 402.96 L.F.

⑱ 10 S.F. x "L" ÷ 27 =

⑲ 12 S.F. x "L" ÷ 27 =



DETAIL "A"



DETAIL "B"

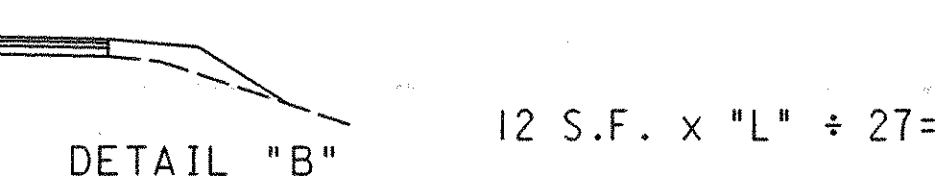
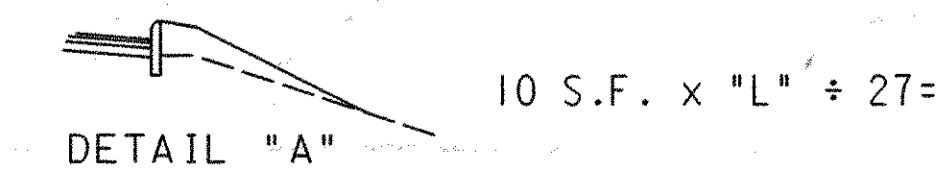
SHOULDER CALCULATIONS

CALCULATED
 D.M.
 3-15-95
 CHECKED
 J.S.
 3-16-95

STATION TO STATION	LT. SIDE		RT. SIDE		SHOULDER AREA SQ. YD.	254	302	304	407	446	446	203	202	448	448	203	659					
	WIDTH BERM (FEET)	LIN. FEET	WIDTH BERM (FEET)	LIN. FEET		PAVEMENT PLANING, BITUMINOUS SQ. YD.	3" OR AS SHOWN BITUMINOUS AGGREGATE BASE, AC-20 CU. YD.	6 1/2" AVG AGGREGATE BASE CU. YD.	TACK COAT (SEE GENERAL NOTE) GAL.	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20 CU. YD.	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20 CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION 15 1/2" AVG CU. YD.	CURB REMOVED LIN. FT.	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG70-22 CU. YD.	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22 CU. YD.	EMBANKMENT CU. YD.	SEEDING AND MULCHING SQ. YD.					
WESTBOUND LANES																						
50+24.61 - 51+24.61	8	100.0			88.9	88.9	1 1/2" AVG. 3.7	6.7	4.3	3.1						Ⓟ 45	Ⓛ 267					
51+24.61 - 57+49.85	8	625.24			555.8	555.8	46.3	41.7	27.0	19.3						Ⓟ 278	Ⓛ 1668					
RAMP "B" @ COUNTRY CLUB DR.																						
49+58.09 - 57+49.58			3	791.49	263.8	263.8	22.0	19.8						12.8	9.2	Ⓟ 352	Ⓛ 2287					
49+91.09 - 56+99.58	6	708.49			472.3		9" 118.1	85.3	35.4			203.4		23.0	16.4	Ⓟ 315	Ⓛ 1575					
56+99.58 - 57+49.58	7 AVG	50.0			38.9		9" 9.7	7.0	2.9			16.7		1.9	1.4	Ⓟ 23	Ⓛ 112					
57+49.58 - 65+30.28	8	780.7			694.0	694.0	57.8	52.1	33.7	24.1						Ⓟ 347	Ⓛ 1735					
WESTBOUND LANES																						
65+30.28 - 97+49.66	8	3219.38			2861.7	2861.7	238.5	214.6	139.1	99.4						Ⓟ 1431	Ⓛ 8585					
RAMP "E"																						
97+50.00 - 98+76.83	8	126.83			112.7		9" 28.2	20.3	8.4			48.5		5.5	3.9	Ⓟ 57	Ⓛ 282					
98+76.83 - 99+26.83	7 AVG	50.0			38.9		9" 9.7	7.0	2.9			16.7		1.9	1.4	Ⓟ 23	Ⓛ 112					
99+26.83 - 105+74.16	6	647.33			431.6		9" 107.9	77.9	32.4			185.8		21.0	15.0	Ⓟ 288	Ⓛ 1439					
99+26.83 - 106+12.86			3	686.03	228.7	228.7	19.1	17.2				148		11.1	7.9	Ⓟ 305	Ⓛ 1982					
WESTBOUND LANES																						
99+22.57 - 104+49.50	8	526.93			468.4	468.4	39.0	35.1	22.8	16.3						Ⓟ 235	Ⓛ 1406					
104+49.50 - 105+49.50	8	100.0			88.9	88.9	1 1/2" AVG. 3.7	6.7	4.3	3.1						Ⓟ 45	Ⓛ 267					
105+49.50 - 107+83.0	BRIDGE LIMITS (FOR DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS)																					
107+83.0 - 114+00	8	617.0			548.4	Ⓛ 370.7	Ⓛ 34.6	41.1	26.7	19.0						Ⓟ 275	Ⓛ 1646					
TOTALS						5620.9	738.3	197.5	517.0	257.9	184.3	471.1	148	77.2	55.2	4019	23363					

TOTALS CARRIED TO SHEET 74.

- Ⓛ L X 24' ÷ 9 =
- Ⓛ L X 26' ÷ 9 =
- Ⓛ L X 20' ÷ 9 =
- Ⓛ 417'x8'+9=370.7 S.Y.
- Ⓛ DEDUCT 300'x8'x.125'+27=11.1 C.Y.



SHOULDER CALCULATIONS

LIC-16-17.94

BCALC104.DGN 04/27/95

PAVEMENT AND SHOULDER SUB-SUMMARY

(QUANTITIES CARRIED TO GENERAL SUMMARY)

SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
65	66	67	68	69	70	71	72	73										
124.4	160.0													202	23000	285	SQ. YD.	PAVEMENT REMOVED
	297	176												202	30000	473	SQ. FT.	WALK REMOVED
	20.5		144.5											202	30600	165	SQ. YD.	CONCRETE MEDIAN REMOVED
	300					4244.8	4681.5							202	30700	9,227	LIN. FT.	CONCRETE BARRIER REMOVED
		323.3	789.2	709			125	148						202	32000	2,095	LIN. FT.	CURB REMOVED
121.4	317													202	32001	439	LIN. FT.	CURB REMOVED, AS PER PLAN (SEE GENERAL NOTE)
	3.1	32.7	128.9	192.1			177.0	471.1						203	12000	1,005	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
50	75	105	2686	3372	118	45	1941	4019						203	20000	12,411	CU. YD.	EMBANKMENT
124.4	160.0													203	50000	285	SQ. YD.	SUBGRADE COMPACTION
30268.9	34555.6	3949.3	4419.5	5561.8	6627.8	3114.3	6476.1	5620.9						254	01000	100,595	SQ. YD.	PAVEMENT PLANING, BITUMINOUS
2462.4	2801.8	311.2	451.5	575.1	544.2	251.8	633.1	738.3						302	10000	8,770	CU. YD.	BITUMINOUS AGGREGATE BASE, AC-20
20.7	27.9	13.7	77.4	80.6		281.7	361.9	197.5						304	20000	1,062	CU. YD.	AGGREGATE BASE
124.4	160.0													305	13001	285	SQ. YD.	9" CONCRETE BASE, AS PER PLAN (SEE GENERAL NOTE)
2318.1	2615.6	299.2	363.6	464	507	233.3	580.8	517						407	10000	7,899	GAL.	TACK COAT
1394.4	1539.2		155.8	265.6	329	151.4	314.7	257.9						446	01200	4,408	CU. YD.	ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, AC-20
996.1	1099.3		111.4	189.7	234.8	108.1	224.7	184.3						446	01400	3,149	CU. YD.	ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AC-20
107.9	156.2	193.8	79.9	35.1			26.9	77.2						448	15540	677	CU. YD.	ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, PG70-22
77.1	111.6	138.4	57.1	25.1			19.3	55.2						448	15580	484	CU. YD.	ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, PG70-22
	297	156												608	10000	453	SQ. FT.	4" CONCRETE WALK
	2	2												608	50000	4	EACH	CURB RAMP, TYPE 1
	1	1												608	51000	2	EACH	CURB RAMP, TYPE 2
	290	290.3	700	719										609	26000	2,000	LIN. FT.	CURB, TYPE 6
	20.5		144.5											612	42000	165	SQ. YD.	CONCRETE MEDIAN
						4224.8	4667.5							622	23404	8,893	LIN. FT.	CONCRETE BARRIER, TYPE B-50
			325											622	24005	325	LIN. FT.	CONCRETE BARRIER, TYPE D-50, AS PER PLAN, (SEE GENERAL NOTE)
249	223	627	15950	17880	589	223	11447	23363						659	10000	70,551	SQ. YD.	SEEDING AND MULCHING

CALCULATED
D.M.
3-15-95
CHECKED
T.M.C. 95

PAVEMENT AND SHOULDER SUB-SUMMARY

LIC-16-17.94

74
420

LIC1615.DGN 04/27/95

GUARDRAIL POST HOLES:

ALL HOLES REMAINING AFTER REMOVAL OF GUARDRAIL POSTS SHALL BE FILLED WITH GRANULAR MATERIAL, EXCESS MATERIAL RESULTING FROM GUARDRAIL RECONSTRUCTION. FILL MATERIAL CONTAINING SOD SHALL NOT BE USED. ALL FILL MATERIAL SHALL BE APPROVED BY THE ENGINEER. MATERIAL PLACED IN THE HOLES SHALL BE THOROUGHLY COMPACTED AND LEVELED OFF AS DIRECTED BY THE ENGINEER. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE GUARDRAIL ITEM.

GUARDRAIL TAPERS:

ALL GUARDRAIL TAPERS SHALL BE PLACED AT 12:1.

EXISTING STATION TO STATION SURVEY & CONSTRUCTION		SIDE	MARK	202 GUARDRAIL REMOVED LIN.FT.	606 GUARDRAIL TYPE 5 SEE STAND. DRWG. GR-2.1 LIN.FT.	606 ANCHOR ASSEMBLY TYPE B SEE STAND. DRWG. GR-4.4 EACH	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 SEE STAND. DRWG. GR-3.1 EACH	606 BRIDGE TERMINAL ASSEMBLY TYPE 2 SEE STAND. DRWG. GR-3.2 EACH	606 ANCHOR ASSEMBLY TYPE T SEE STAND. DRWG. GR-4.2 EACH	606 ANCHOR ASSEMBLY TYPE E SEE GENERAL NOTE SHEET 19 EACH	802 BARRIER REFLECTOR TYPE A 100' SPACING		802 BARRIER REFLECTOR TYPE B 100' SPACING		SEE SHEET	PROPOSED STATION TO STATION (Same as existing except as noted)	
FROM	TO										WHITE EACH	YELLOW EACH	WHITE EACH	FROM		TO	
12+77.8	17+00.7	RT.	1-GR	425	100						1		△ 4	76	12+77.80	13+77.80	
13+62.0	14+62.0	LT.	2-GR	100	100						2			76			
13+55.0	17+30.0	LT.	3-GR	375	375						5			76-77	13+55.0	17+42.5	
17+00.7	49+52.0	RT.	4-GR	3250	3237.5						34			77-81 98-101	16+98.7	49+48.7	
34+75.0	36+25.0	LT.	5-GR	150	175						3			80	34+82.5	36+82.5	
42+89	48+61.20	LT.	6-GR	575	562.5						6		△ 2	82-83	42+88.18	48+63.18	
47+05	48+60	RT.	7-GR	162.5	175						2		△ 2	82-83	46+74.17	48+61.67	
49+98	59+60.5	RT.	8-GR	962.5	2075						21			83-87	49+96.87	70+84.37	
50+00	56+93	LT.	9-GR	700	650						8			83-84	49+98.33	56+98.33	
73+50	75+25	RT.	10-GR	175										88			
77+25	79+50	LT.	11-GR	225										89			
		LT.	12-GR		162.5						3			90	84+75.0	86+62.5	
90+62.5	92+87.5	RT.	13-GR	225										91-92			
91+50	93+25	LT.	14-GR	175	212.5						4			91-92	91+50	93+87.5	
104+32.5	105+86.2	RT.	15-GR	150	187.5						2		△ 3	94	103+87.60	105+87.60	
100+86.2	105+61.2	LT.	16-GR	475	462.5						5		△ 2	93-94	100+85.50	105+60.50	
107+92.6	114+45.7	RT.	17-GR	650	587.5						6			95-96	107+92.08	113+92.08	
107+65.8	113+93.2	LT.	18-GR	625	575						7			95-96	107+64.98	113+89.98	
TOTALS				9400.0	9637.5	6	5	6	8	2	109		13				

△ W.B. BARRIER STA.
13+75.7 TO STA. 17+00.7

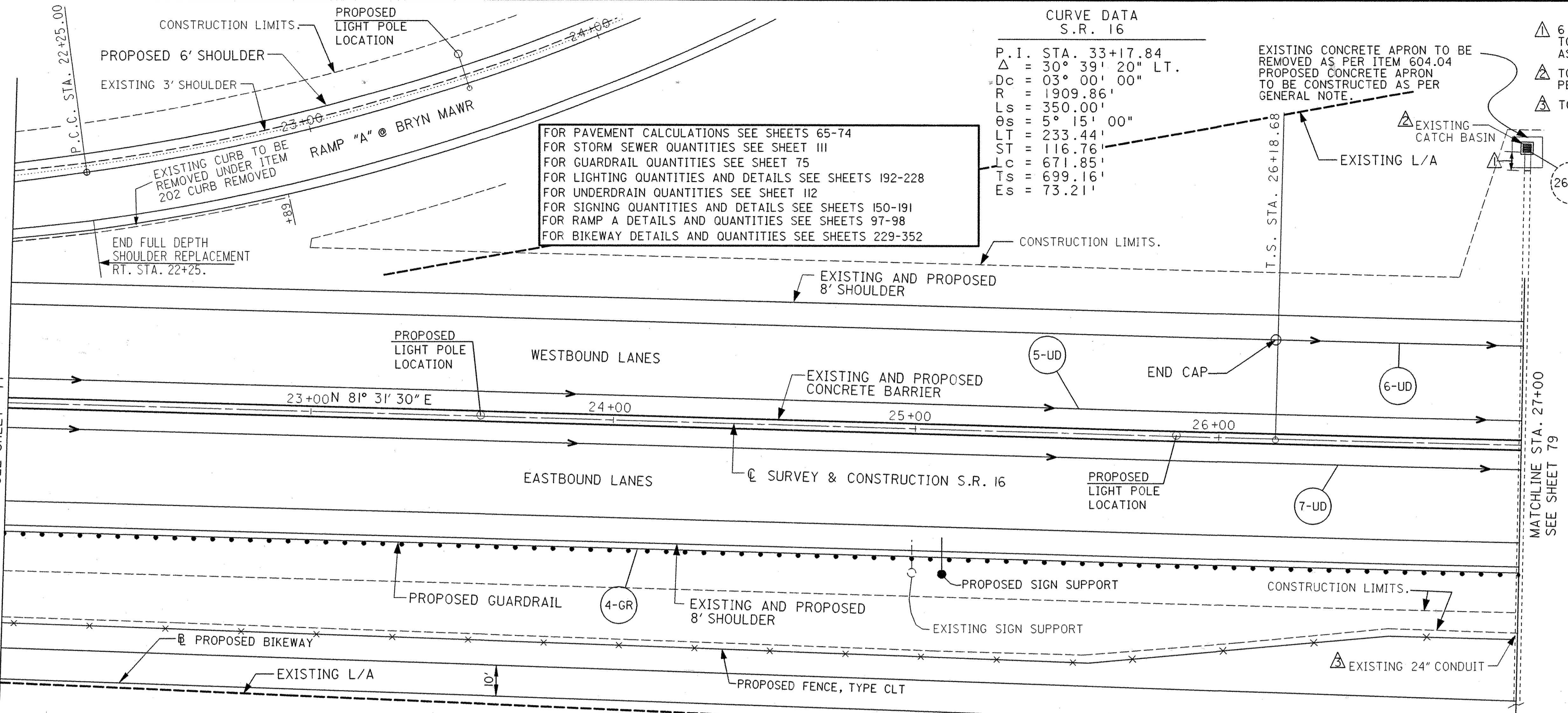
△ W.B. BRIDGE PARAPET
NO. LIC-16-18.59
E.B. BRIDGE PARAPET
NO. LIC-16-18.59

△ E.B. BRIDGE PARAPET
NO. LIC-16-19.68
W.B. BRIDGE PARAPET
NO. LIC-16-19.68

QUANTITIES CARRIED TO GENERAL SUMMARY



MATCHLINE STA. 22+00
SEE SHEET 77



FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR STORM SEWER QUANTITIES SEE SHEET III
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR UNDERDRAIN QUANTITIES SEE SHEET 112
 FOR SIGNING QUANTITIES AND DETAILS SEE SHEETS 150-191
 FOR RAMP A DETAILS AND QUANTITIES SEE SHEETS 97-98
 FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352

CURVE DATA
S.R. 16

P.I. STA. 33+17.84
 $\Delta = 30^{\circ} 39' 20''$ LT.
 $D_c = 03^{\circ} 00' 00''$
 $R = 1909.86'$
 $L_s = 350.00'$
 $\theta_s = 5^{\circ} 15' 00''$
 $LT = 233.44'$
 $ST = 116.76'$
 $L_c = 671.85'$
 $T_s = 699.16'$
 $E_s = 73.21'$

- Δ 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- Δ TO BE REMOVED AS PER ITEM 604.04
- Δ TO REMAIN IN SERVICE

880																				880	
		NOTE: THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".																			
875																					875
870																					870
865																					865
860																					860
855																					855
	868.46	868.24	868.02	867.80	867.58	867.36	867.14	866.92	866.66	866.36	866.02										
	22+00		23+00		24+00		25+00		26+00		27+00										

V.P.I. STA. 26+75
 V.P.I. EL. = 866.37
 CURVE LENGTH = 300'
 $K = 625'$
 $E = 0.18'$
 $S.S.D. = 1535'$
 (EXCEEDS DESIGN SPEED REQUIREMENTS)

BEGIN 1332'-605 SHALLOW U.D. AS PER PLAN, 32' LT., STA. 26+18

V.P.C. STA. 25+25
 V.P.C. EL. 867.03

300' V.C.

82'-605 SHALLOW U.D. AS PER PLAN, 32' LT.

C.B. NO.5, AS PER PLAN USING GRATE B
 96' LT., STA. 27+00
 $F.L. EL. GRATE 852.00+$
 $F.L. EL. 24" & INVERT 849.15+$

FOR DETAILS OF OUTLET (3-SS) SEE SHEET 235

CALCULATED
 D.M. 3-15-95
 CHECKED
 A.L.L. 3-16-95

PLAN AND PROFILE SHEET
STA. 22+00 TO STA. 27+00

LIC-16-17.94

FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR STORM SEWER QUANTITIES SEE SHEET III
 FOR GUARDRAIL QUANTITIES SEE SHEET III
 FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR UNDERDRAIN QUANTITIES AND DETAILS SEE SHEETS 150-191
 FOR SIGNING QUANTITIES AND DETAILS SEE SHEETS 229-352
 FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352

CURVE DATA
 S.R. 16
 P.I. STA. 33+17.84
 $\Delta = 30^{\circ} 39' 20" \text{ LT.}$
 $Dc = 03^{\circ} 00' 00"$
 $R = 1909.86'$
 $Ls = 350.00'$
 $\theta_s = 5^{\circ} 15' 00"$
 $LT = 233.44'$
 $LC = 671.85'$
 $Ts = 699.16'$
 $Es = 73.21'$

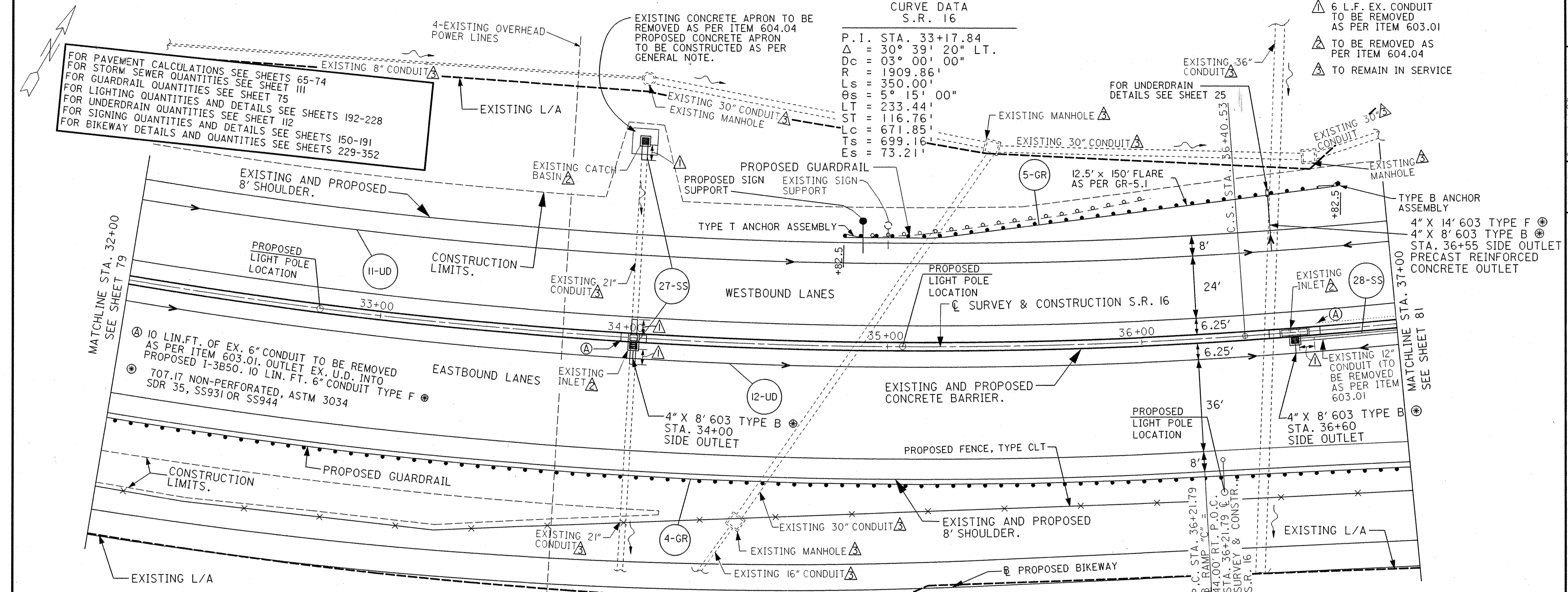
△ 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
 △ TO BE REMOVED AS PER ITEM 604.04
 △ TO REMAIN IN SERVICE



PLAN AND PROFILE SHEET
 STA. 32+00 TO STA. 37+00

LIC-16-17.94

80
 420



STATION	ELEVATION	DESCRIPTION
32+00	861.54	
33+00	861.08	
34+00	860.62	
35+00	860.16	
36+00	859.70	
37+00	859.24	

NOTE:
 THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".

V.P.I. STA. 37+00
 V.P.I. EL. = 856.94
 CURVE LENGTH = 300'
 K = 119.05'
 E = 0.95'
 S.S.D. = 746'
 (EXCEEDS DESIGN SPEED REQUIREMENTS)

1-3B50, AS PER PLAN A
 1.75' RT., STA. 34+00
 F EL. GRATE 858.91
 F EL. 4" RT. 857.93
 F EL. 21" & INVERT 848.96±
 F EL. 6" U.D., 2' RT. 855.11±

OUTLET 603 4" TYPE B ⊕, RT.

500'-605 SHALLOW U.D. AS PER PLAN, 32' LT.

500'-605 SHALLOW U.D. AS PER PLAN, 8' RT.

C.B. NO. 5, AS PER PLAN, USING GRATE B
 76.5' LT., STA. 34+00
 F EL. GRATE 852.35
 F EL. 21" & INVERT 849.20

FOR DETAILS OF 6-SS SEE SHEET 236

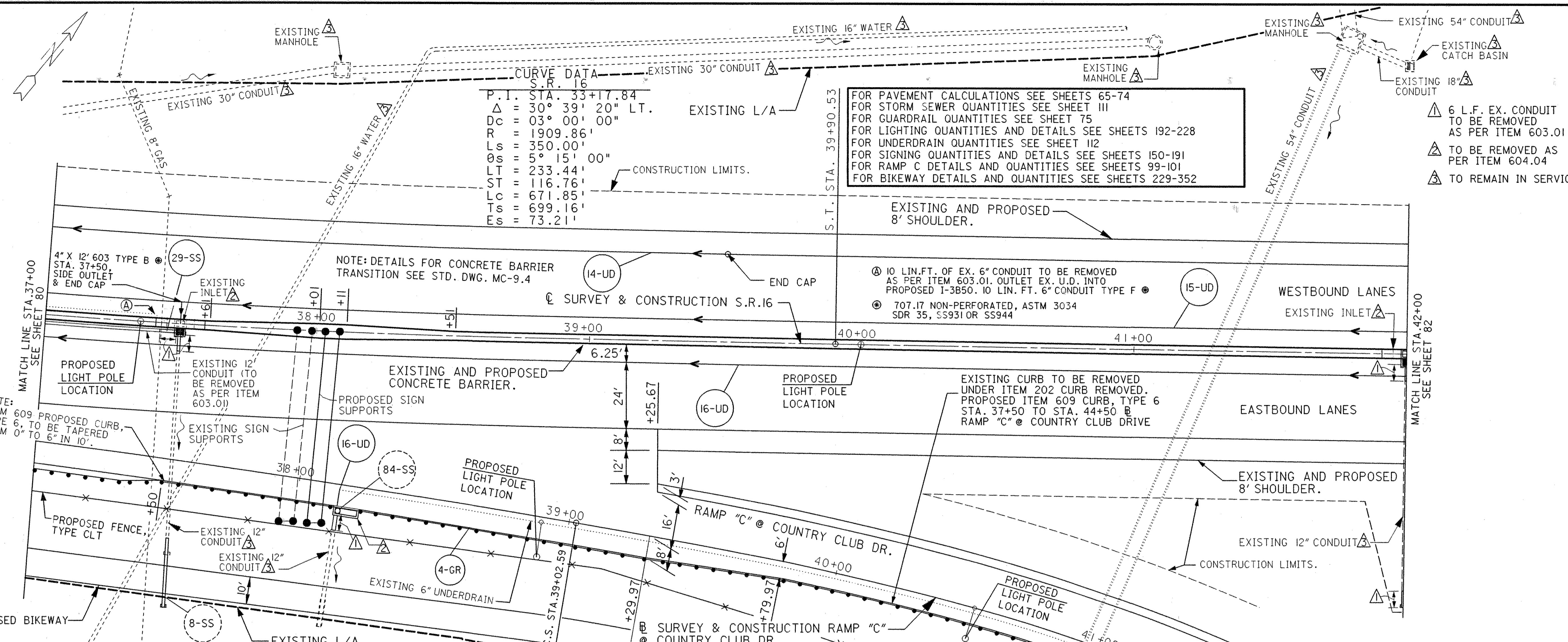
1-3B50, AS PER PLAN A
 3.5' RT., STA. 36+60
 F EL. GRATE 856.99
 F EL. 4" RT. 855.84
 F EL. 12" & INVERT 853.06±

OUTLET 603 4" TYPE B ⊕, 8' RT.

300' V.C.

EXISTING 12" CONDUIT (TO BE REMOVED AS PER ITEM 603.01)

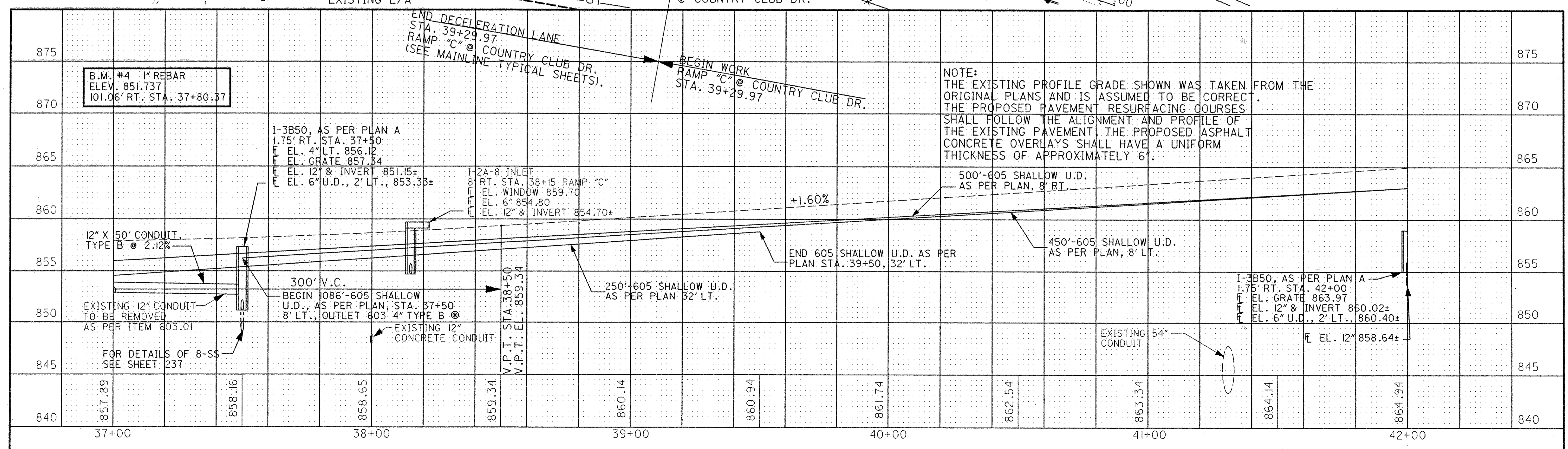
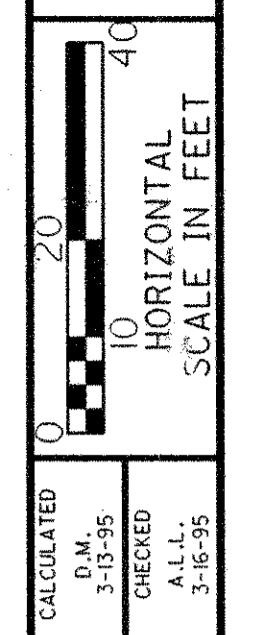
OUTLET 603 4" TYPE F ⊕ & B ⊕, 32' LT.



CURVE DATA
 S.R. 16
 P.I. STA. 33+17.84
 $\Delta = 30^\circ 39' 20''$ LT.
 $D_c = 03^\circ 00' 00''$
 $R = 1909.86'$
 $L_s = 350.00'$
 $\theta_s = 5^\circ 15' 00''$
 $LT = 233.44'$
 $ST = 116.76'$
 $LC = 671.85'$
 $T_s = 699.16'$
 $E_s = 73.21'$

FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR STORM SEWER QUANTITIES SEE SHEET III
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR UNDERDRAIN QUANTITIES SEE SHEET 112
 FOR SIGNING QUANTITIES AND DETAILS SEE SHEETS 150-191
 FOR RAMP C DETAILS AND QUANTITIES SEE SHEETS 99-101
 FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352

- ∇ 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- ∇ TO BE REMOVED AS PER ITEM 604.04
- ∇ TO REMAIN IN SERVICE

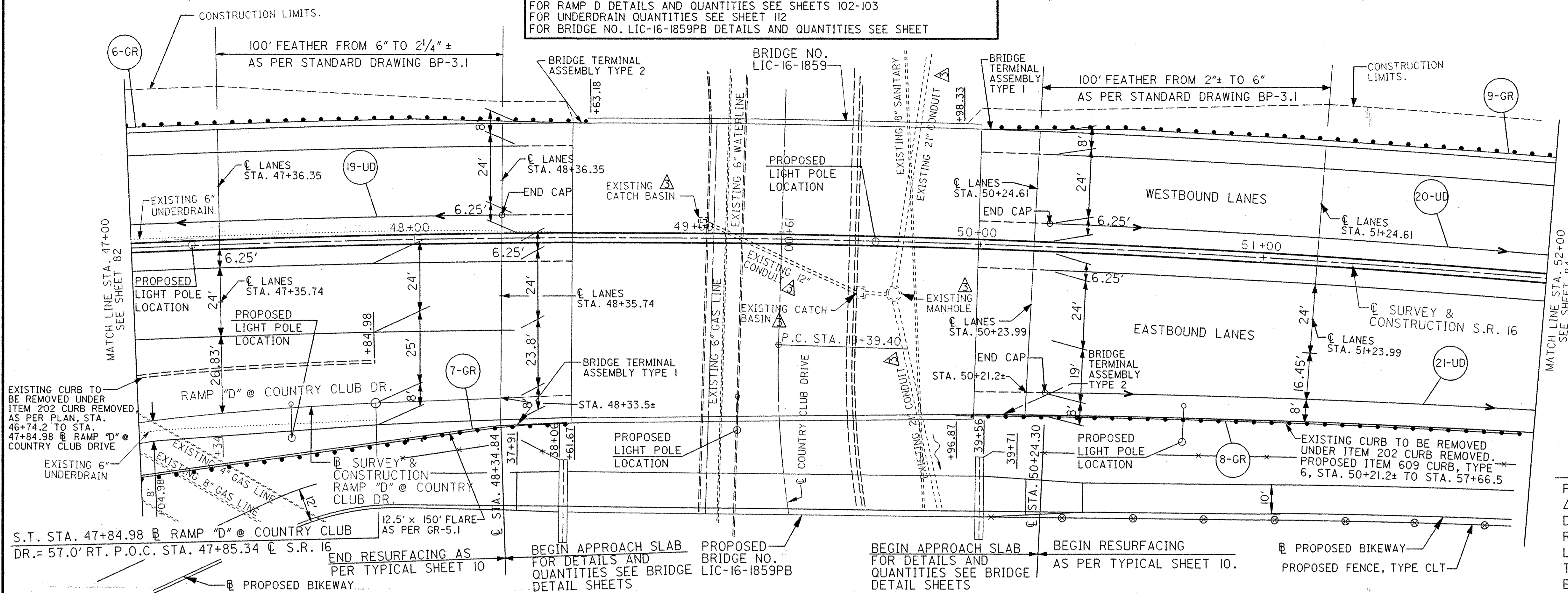
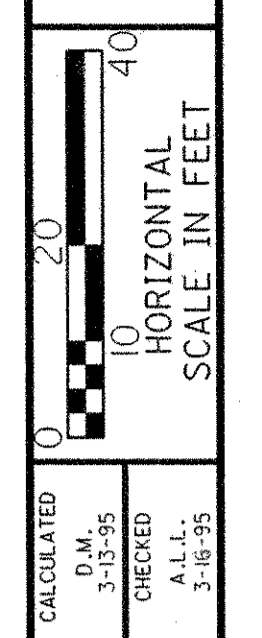
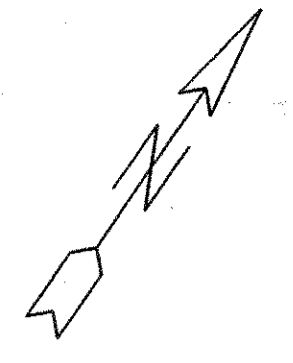


PLAN AND PROFILE SHEET
STA. 37+00 TO STA. 42+00

LIC-16-17.94

FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
 FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352
 FOR STORM SEWER QUANTITIES SEE SHEET III
 FOR RAMP D DETAILS AND QUANTITIES SEE SHEETS 102-103
 FOR UNDERDRAIN QUANTITIES SEE SHEET I12
 FOR BRIDGE NO. LIC-16-1859PB DETAILS AND QUANTITIES SEE SHEET

TO REMAIN IN SERVICE



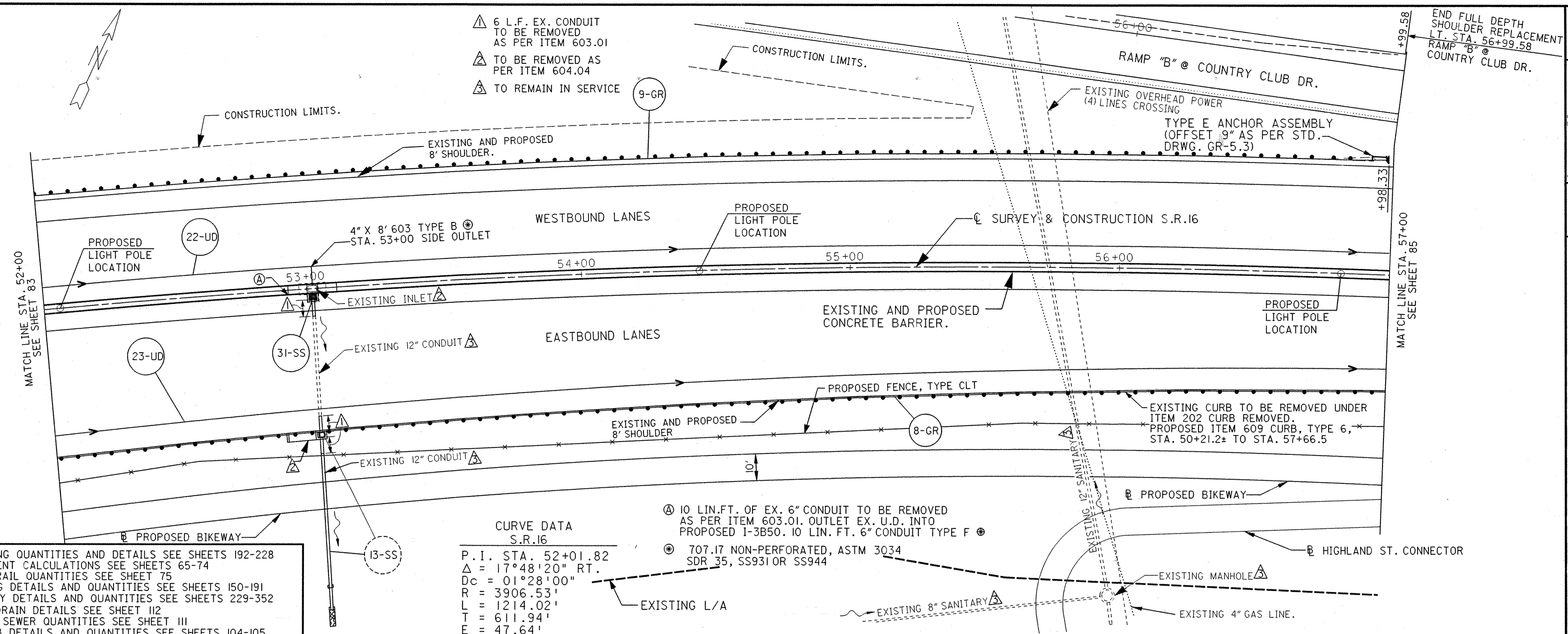
CURVE DATA
S.R. 16

P.I. STA. 52+01.82
$\Delta = 17^{\circ}48'20''$ RT.
$D_c = 01^{\circ}28'00''$
$R = 3906.53'$
$L = 1214.02'$
$T = 611.94'$
$E = 47.64'$

PROPOSED 6" ASPHALT CONCRETE	100' FEATHER AS PER STD. DRWG. BP-3.1	2 1/4"	APPROACH SLAB	BRIDGE LIMITS	BRIDGE LIMITS	APPROACH SLAB	2 1/4"	100' FEATHER AS PER STD. DRWG. BP-3.1	PROPOSED 6" ASPHALT CONCRETE		
PROPOSED PROFILE									PROPOSED PROFILE		
EXISTING PROFILE									EXISTING PROFILE		
EXISTING 8" CONTINUOUS CONCRETE PAVEMENT			PROPOSED CONCRETE APPROACH SLAB	EXISTING CONCRETE APPROACH SLAB	PROPOSED CONCRETE BRIDGE DECK	EXISTING CONCRETE BRIDGE DECK	PROPOSED CONCRETE APPROACH SLAB	EXISTING CONCRETE APPROACH SLAB	EXISTING 8" CONTINUOUS CONCRETE PAVEMENT		880
			END RESURFACING AS PER TYPICAL SHEET 10.	BEGIN APPROACH SLAB FOR DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS	BEGIN APPROACH SLAB FOR DETAILS AND QUANTITIES SEE BRIDGE DETAIL SHEETS	BEGIN RESURFACING AS PER TYPICAL SHEET 10.					875
			END 605 SHALLOW U.D. AS PER PLAN, STA. 48+36, 8' LT.			BEGIN 553'-605 SHALLOW U.D. AS PER PLAN, STA. 50+24, 8' LT.					870
									176'-605 SHALLOW U.D. AS PER PLAN, 8' LT.		870
			136'-605 SHALLOW U.D. AS PER PLAN, 8' LT.		700' V.C.				BEGIN 776'-605 SHALLOW U.D. AS PER PLAN, STA. 50+24, 5' RT.		865
									176'-605 SHALLOW U.D. AS PER PLAN, 5' RT.		865
			B.M. #5 1" REBAR ELEV. 852.819 146.43' RT. STA. 50+34.25		V.P.I. STA. 49+25 V.P.I. EL. = 873.39 CURVE LENGTH = 700' K = 194.44' E = 3.15' S.S.D. = 508.38 (45 M.P.H.) (EXCEEDS DESIGN SPEED REQUIREMENTS)				NOTE: THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".		860
											855
872.54	872.95	873.24	873.40	873.42	873.32	873.10	872.74	872.25	871.64	870.90	
47+00		48+00		49+00		50+00		51+00		52+00	

PLAN AND PROFILE SHEET
 STA. 47+00 TO STA. 52+00

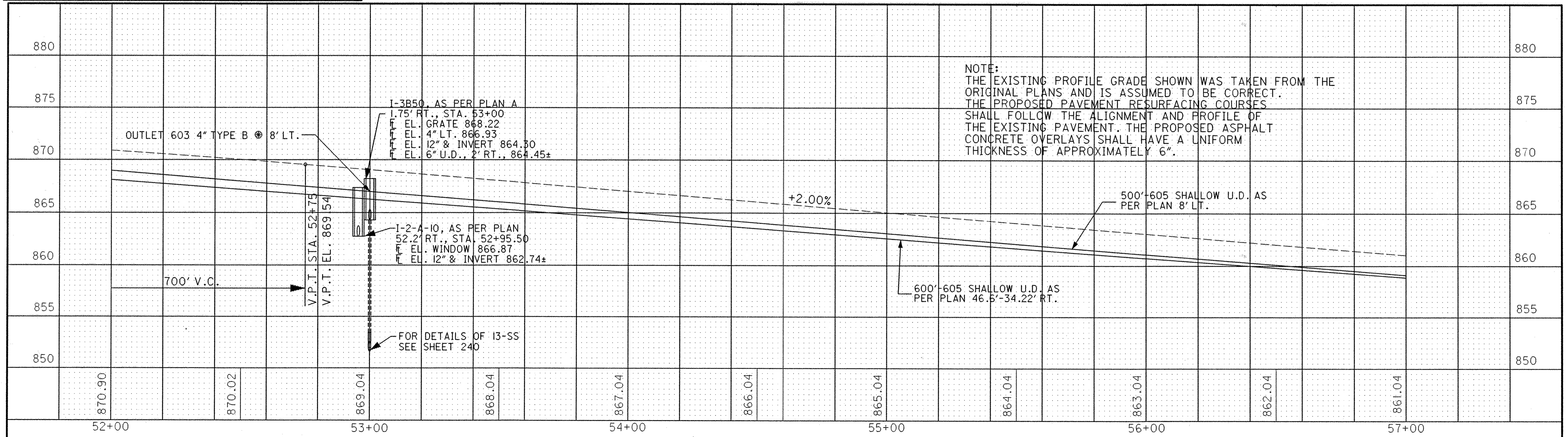
LIC-16-17.94



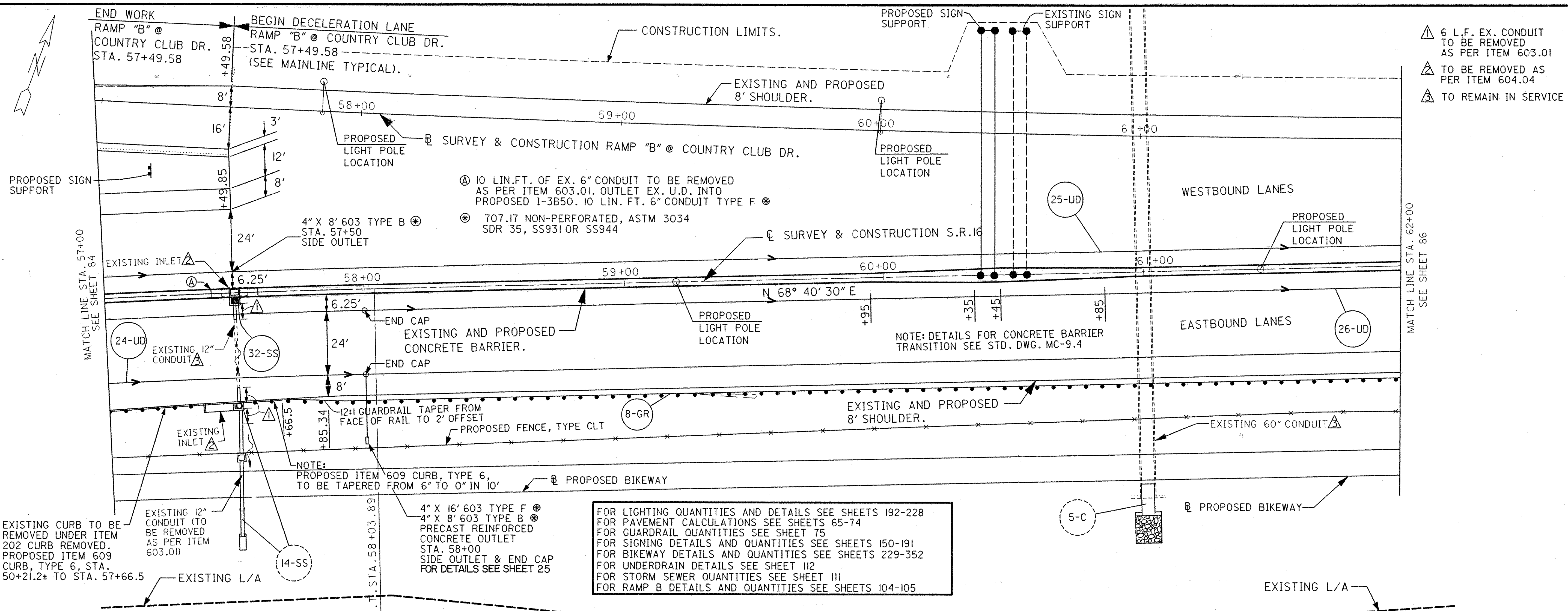
CURVE DATA
S.R.16
P.I. STA. 52+01.82
 $\Delta = 17^{\circ}48'20''$ RT.
Dc = $01^{\circ}28'00''$
R = 3906.53'
L = 1214.02'
T = 611.94'
E = 47.64'

- ⊕ 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- ⊕ TO BE REMOVED AS PER ITEM 604.04
- ⊕ TO REMAIN IN SERVICE
- ⊕ 10 LIN.FT. OF EX. 6" CONDUIT TO BE REMOVED AS PER ITEM 603.01. OUTLET EX. U.D. INTO PROPOSED I-3B50. 10 LIN. FT. 6" CONDUIT TYPE F
- ⊕ 707.17 NON-PERFORATED, ASTM 3034 SDR 35, SS931 OR SS944

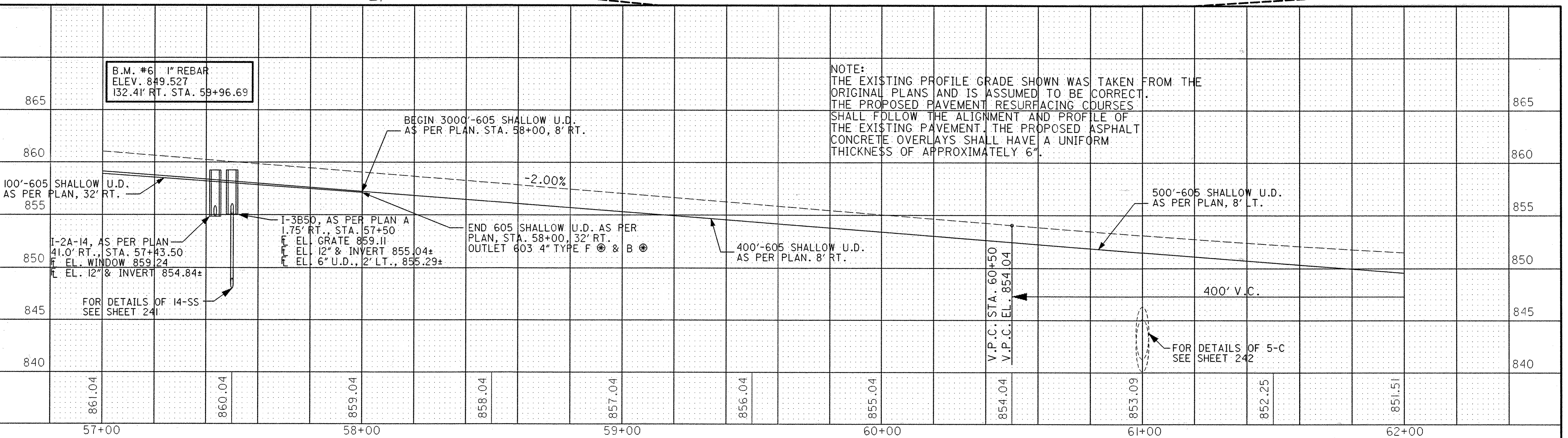
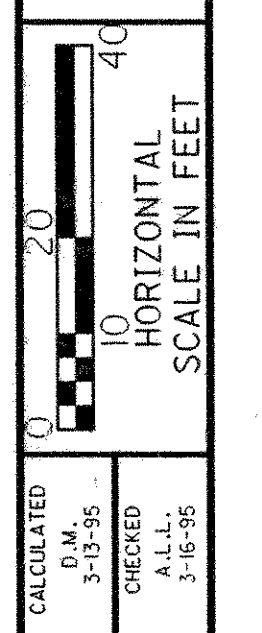
FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
FOR GUARDRAIL QUANTITIES SEE SHEET 75
FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352
FOR UNDERDRAIN DETAILS SEE SHEET 112
FOR STORM SEWER QUANTITIES SEE SHEET 111
FOR RAMP B DETAILS AND QUANTITIES SEE SHEETS 104-105



NOTE:
THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".



- △ 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- △ TO BE REMOVED AS PER ITEM 604.04
- △ TO REMAIN IN SERVICE



FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
 FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352
 FOR UNDERDRAIN DETAILS SEE SHEET 112
 FOR STORM SEWER QUANTITIES SEE SHEET 111
 FOR RAMP B DETAILS AND QUANTITIES SEE SHEETS 104-105

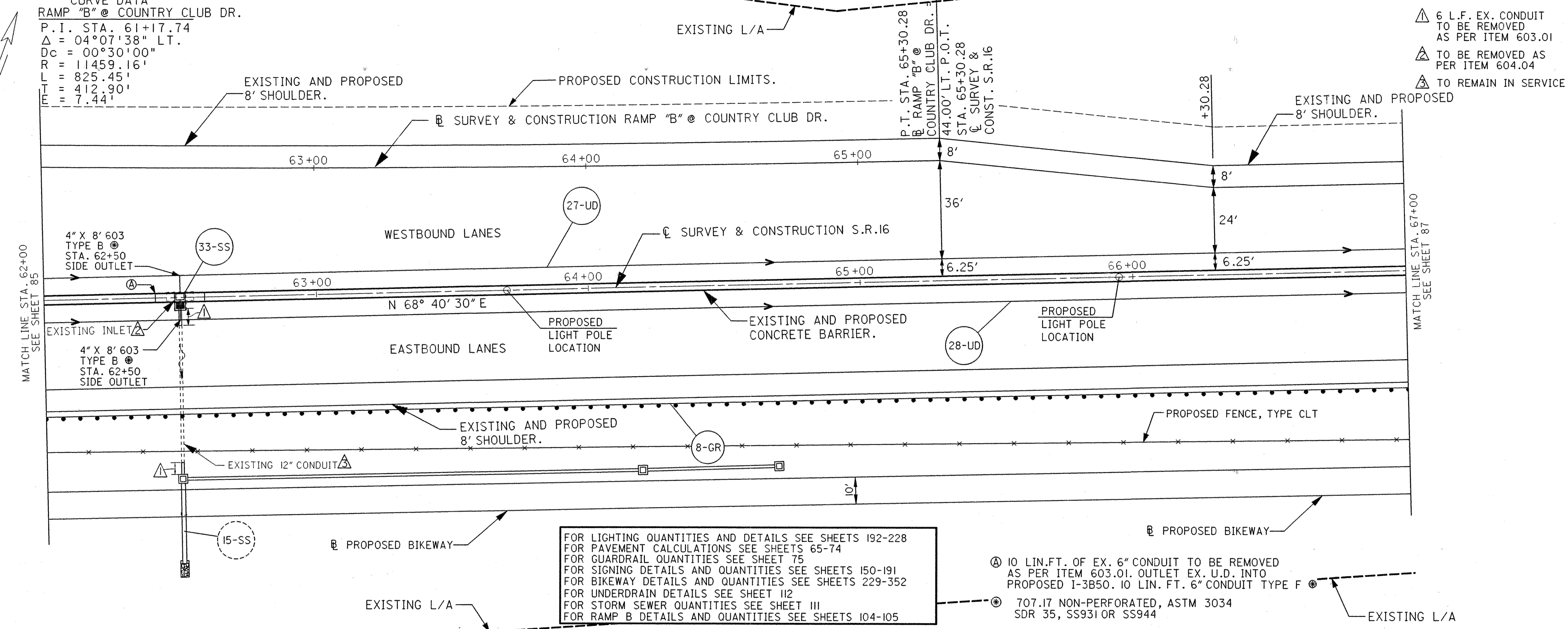
NOTE:
 THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".

RCPI0160.DGN 4/19/95

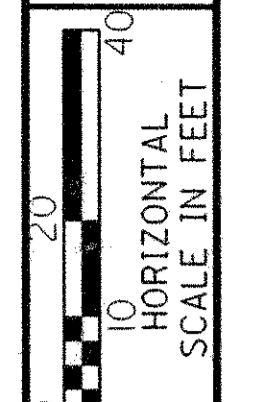
PLAN AND PROFILE SHEET
STA. 57+00 TO STA. 62+00

LIC-16-17.94

CURVE DATA
 RAMP "B" @ COUNTRY CLUB DR.
 P.I. STA. 61+17.74
 $\Delta = 04^{\circ}07'38" \text{ LT.}$
 $D_c = 00^{\circ}30'00"$
 $R = 11459.16'$
 $L = 825.45'$
 $E = 412.90'$
 $T = 7.44'$



- \triangle 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- \triangle TO BE REMOVED AS PER ITEM 604.04
- \triangle TO REMAIN IN SERVICE



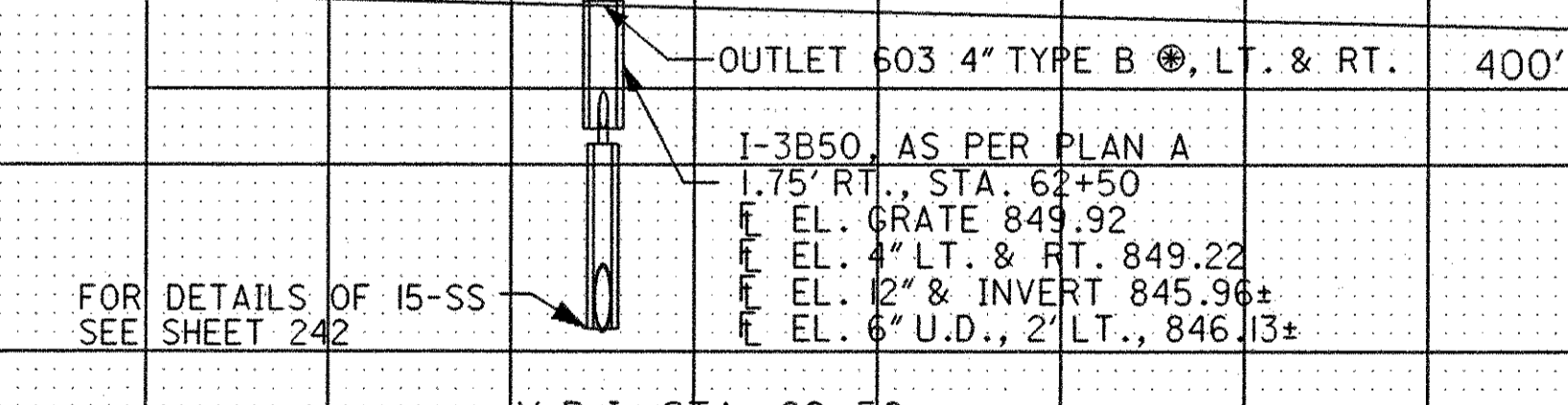
CALCULATED
 D.M.
 3-15-95
 CHECKED
 A.L.L.
 3-16-95

PLAN AND PROFILE SHEET
STA. 62+00 TO STA. 67+00

FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
 FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352
 FOR UNDERDRAIN DETAILS SEE SHEET 112
 FOR STORM SEWER QUANTITIES SEE SHEET III
 FOR RAMP B DETAILS AND QUANTITIES SEE SHEETS 104-105

- \textcircled{A} 10 LIN. FT. OF EX. 6" CONDUIT TO BE REMOVED AS PER ITEM 603.01. OUTLET EX. U.D. INTO PROPOSED I-3B50. 10 LIN. FT. 6" CONDUIT TYPE F
- $\textcircled{\ominus}$ 707.17 NON-PERFORATED, ASTM 3034 SDR 35, SS931 OR SS944

860																				860
855																				855
850																				850
845																				845
840																				840
835																				835
830																				830
825	851.51	850.88	850.35	849.82	849.60	849.38	849.22	849.05	848.89	848.73	848.56									825
<p>NOTE: THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".</p>																				

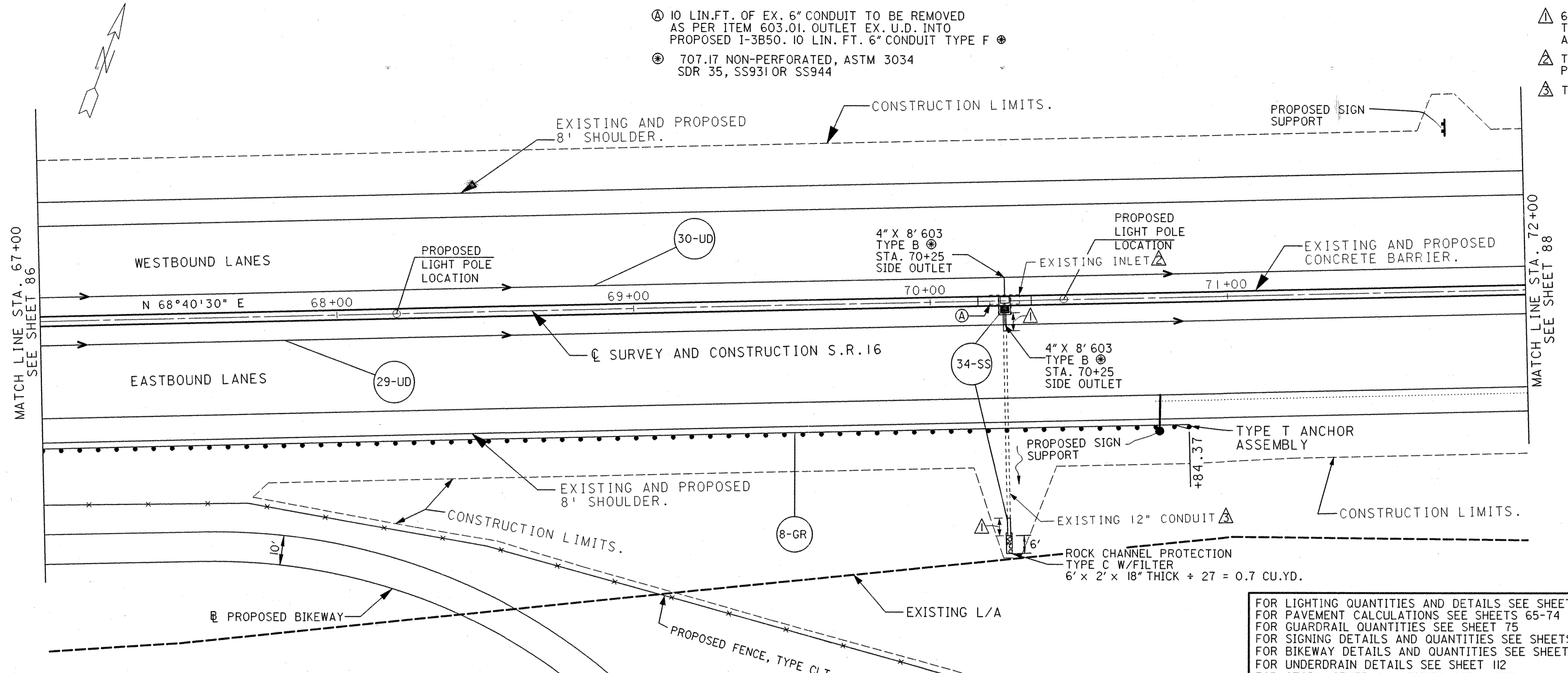


FOR DETAILS OF I-3B50 SEE SHEET 242

I-3B50, AS PER PLAN A
 1.75' RT., STA. 62+50
 EL. GRATE 849.92
 EL. 4" LT. & RT. 849.22
 EL. 12" & INVERT 845.96±
 EL. 6" U.D., 2' LT., 846.13±

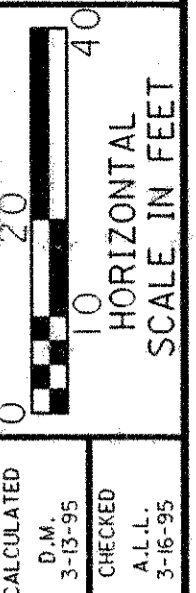
V.P.I. STA. 62+50
 V.P.I. EL. 850.04
 CURVE LENGTH = 400'
 $K = 239.23'$
 $E = 0.84'$
 $S.S.D. = 937.27'$
 (EXCEEDS DESIGN SPEED REQUIREMENTS)

500'-605 SHALLOW U.D. AS PER PLAN, 8' RT.
 500'-605 SHALLOW U.D. AS PER PLAN, 8' LT.



(A) 10 LIN.FT. OF EX. 6" CONDUIT TO BE REMOVED AS PER ITEM 603.01. OUTLET EX. U.D. INTO PROPOSED 1-3B50. 10 LIN. FT. 6" CONDUIT TYPE F
 (B) 707.17 NON-PERFORATED, ASTM 3034 SDR 35, SS9310R SS944

(A) 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
 (B) TO BE REMOVED AS PER ITEM 604.04
 (C) TO REMAIN IN SERVICE



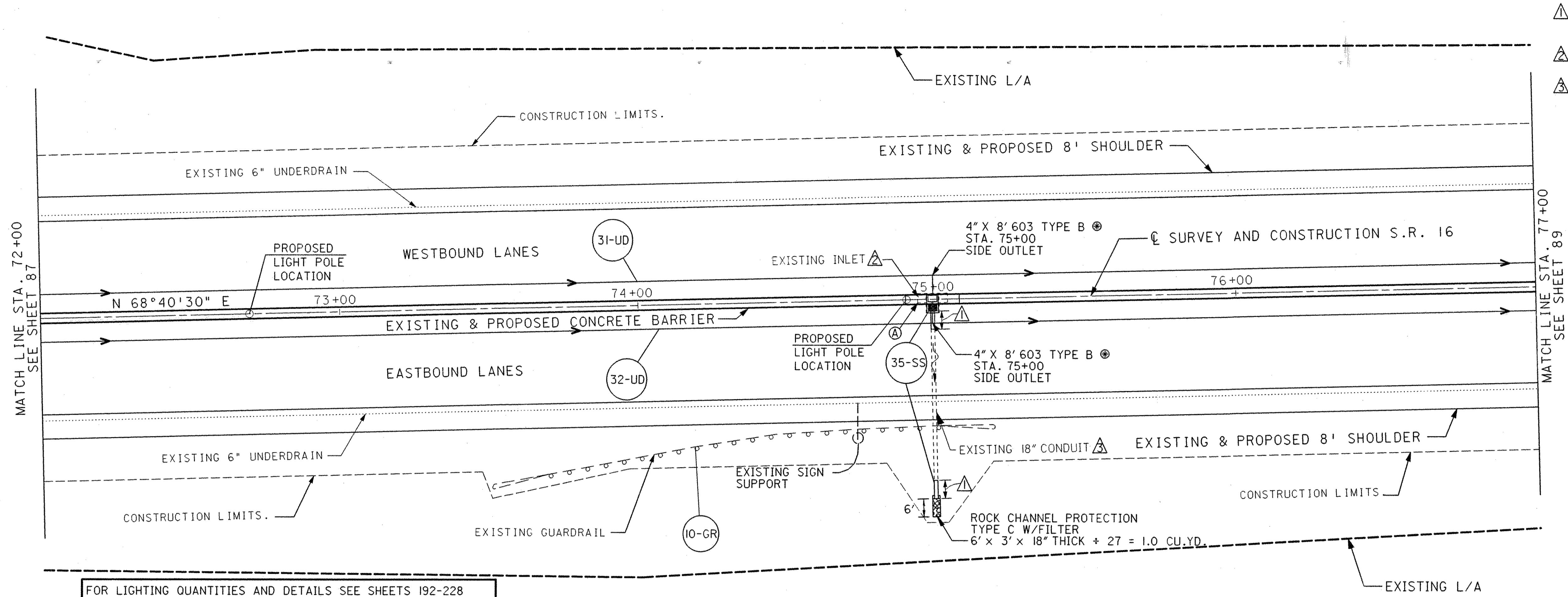
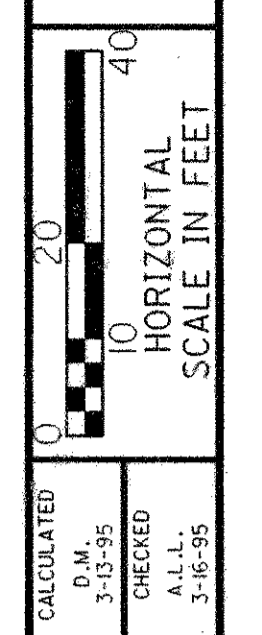
FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
 FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352
 FOR UNDERDRAIN DETAILS SEE SHEET 112
 FOR STORM SEWER QUANTITIES SEE SHEET III

**PLAN AND PROFILE SHEET
 STA. 67+00 TO STA. 72+00**

855	B.M. #7 1" REBAR ELEV. 840.121 82.60' RT. STA. 69+37.46																	855		
850																		850		
845																		845		
840		500'-605 SHALLOW U.D. AS PER PLAN, 8' RT.			500'-605 SHALLOW U.D. AS PER PLAN, 8' LT.			OUTLET 603 4" TYPE B (B), LT. & RT.			OUTLET 18" E.L. 840.26±		1-3B50, AS PER PLAN A 1.75' RT., STA. 70+25 E.L. GRATE 846.53 E.L. 4" LT. & RT. 845.49 E.L. 12" & INVERT 843.00± E.L. 6" U.D., 2' RT., 843.00±					840		
835																		835		
830																		830		
	848.56	848.40		848.24		848.07		847.91		847.74		847.58		847.42		847.25		847.09		846.92
	67+00			68+00				69+00				70+00				71+00				72+00

NOTE:
 THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".

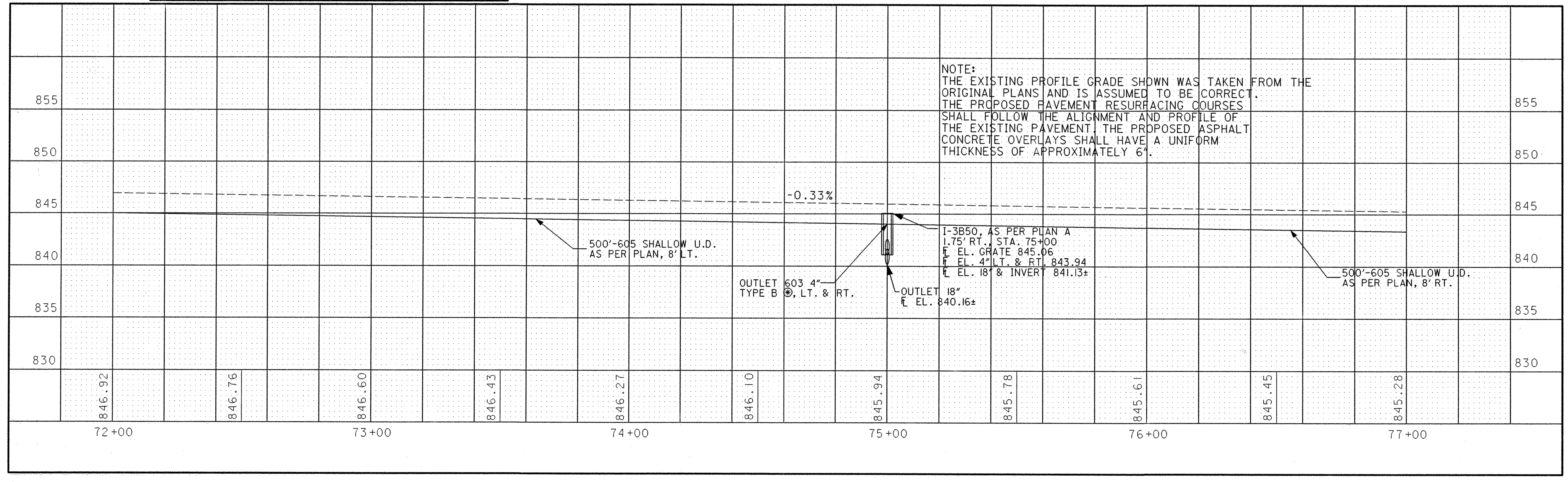
- ⚠ 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- ⚠ TO BE REMOVED AS PER ITEM 604.04
- ⚠ TO REMAIN IN SERVICE



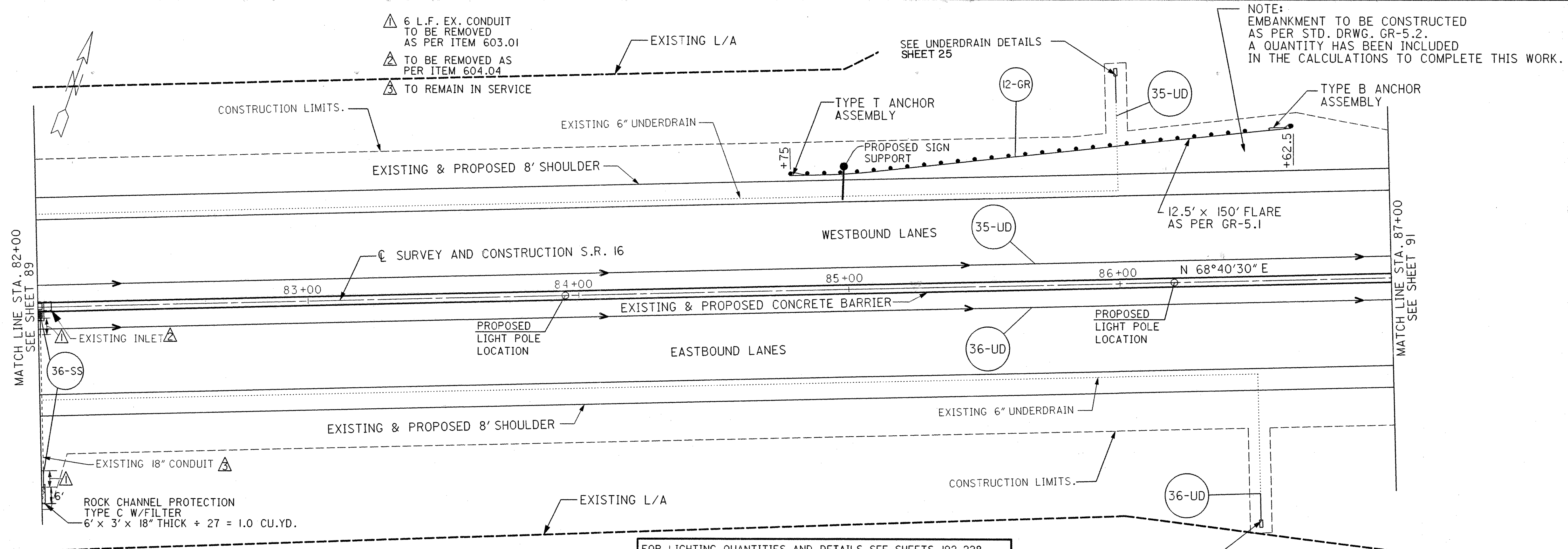
FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
 FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352
 FOR UNDERDRAIN DETAILS SEE SHEET 112
 FOR STORM SEWER QUANTITIES SEE SHEET 111

- ⓐ 10 LIN.FT. OF EX. 6" CONDUIT TO BE REMOVED AS PER ITEM 603.01. OUTLET EX. U.D. INTO PROPOSED I-3B50. 10 LIN. FT. 6" CONDUIT TYPE F Ⓢ
- Ⓢ 707.17 NON-PERFORATED, ASTM 3034 SDR 35, SS9310R SS944

NOTE:
 THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".



PLAN AND PROFILE SHEET
STA. 72+00 TO STA. 77+00
LIC-16-17.94



- Ⓐ 10 LIN.FT. OF EX. 6" CONDUIT TO BE REMOVED AS PER ITEM 603.01. OUTLET EX. U.D. INTO PROPOSED I-3B50. 10 LIN. FT. 6" CONDUIT TYPE F Ⓞ
 - Ⓞ 707.17 NON-PERFORATED, ASTM 3034 SDR 35, SS931 OR SS944
- FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
 FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352
 FOR UNDERDRAIN DETAILS SEE SHEET 112
 FOR STORM SEWER QUANTITIES SEE SHEET 111

855																					855
850																					850
845																					845
840									-0.33%												840
835																					835
830																					830
825																					825
	843.64	843.48	843.32	843.15	842.99	842.82	842.66	842.50	842.33	842.17	842.00										
	82+00	83+00	84+00	85+00	86+00	87+00															

I-3B50, AS PER PLAN A
 1.75' RT., STA. 82+00
 F EL. GRATE 842.63
 F EL. 4" LT. & RT. 841.64
 F EL. 18" & INVERT 838.80±
 F EL. 6" U.D., 2' RT., 838.89±

OUTLET 18"
 F EL. 838.56±

500'-605 SHALLOW U.D. AS PER PLAN, 8' RT.

500'-605 SHALLOW U.D. AS PER PLAN, 8' LT.

CALCULATED D.M. 3-13-95 CHECKED A.L.L. 3-16-95

HORIZONTAL SCALE IN FEET

PLAN AND PROFILE SHEET STA. 82+00 TO STA. 87+00

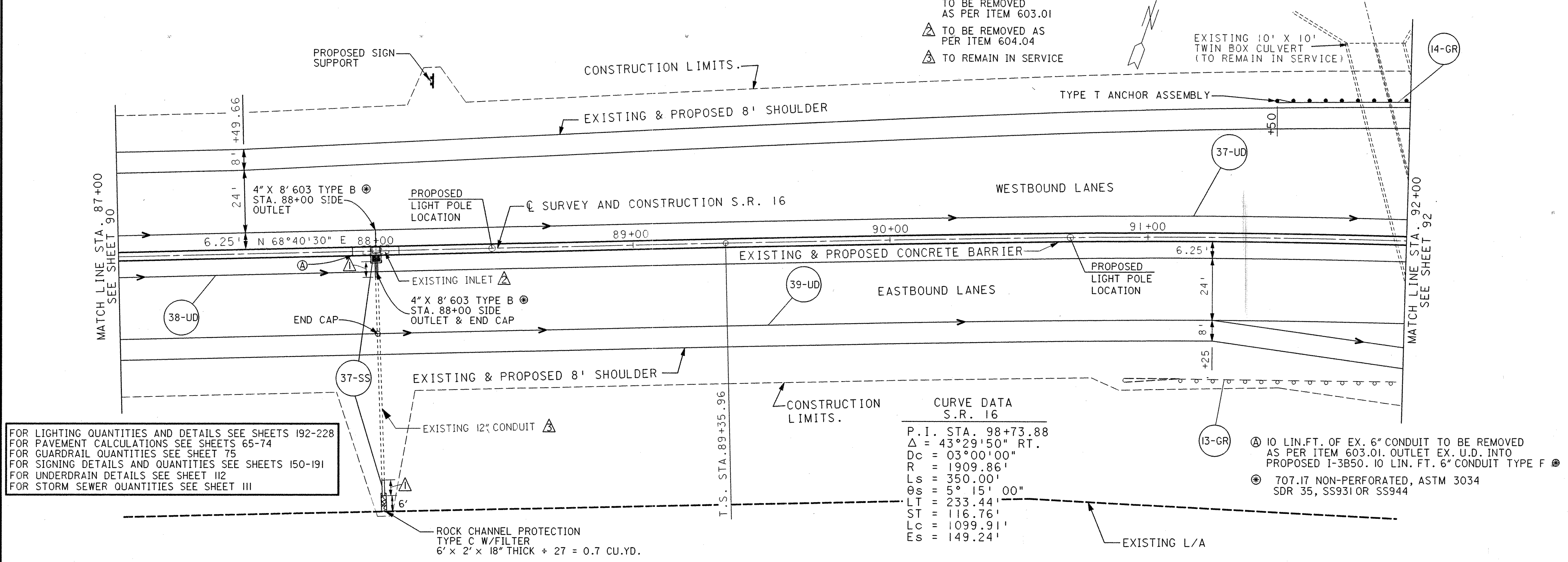
LIC-16-17.94

90
420

FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
 FOR UNDERDRAIN DETAILS SEE SHEET 112
 FOR STORM SEWER QUANTITIES SEE SHEET 111

- 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- TO BE REMOVED AS PER ITEM 604.04
- TO REMAIN IN SERVICE

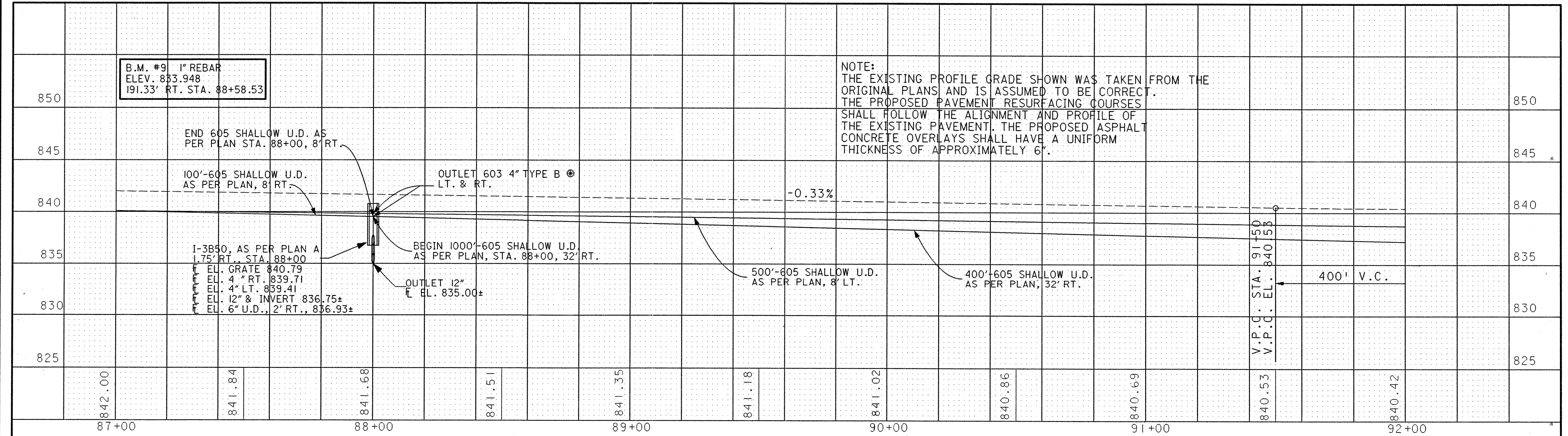
EXISTING 10' X 10' TWIN BOX CULVERT (TO REMAIN IN SERVICE)



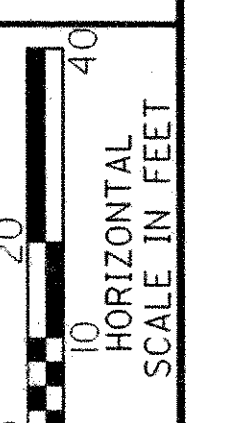
CURVE DATA
S.R. 16

P.I. STA.	98+73.88
Δ	43°29'50" RT.
Dc	03°00'00"
R	1909.86'
Ls	350.00'
θs	5° 15' 00"
LT	233.44'
ST	116.76'
Lc	1099.91'
Es	149.24'

- 10 LIN.FT. OF EX. 6" CONDUIT TO BE REMOVED AS PER ITEM 603.01. OUTLET EX. U.D. INTO PROPOSED I-3B50. 10 LIN. FT. 6" CONDUIT TYPE F
- 707.17 NON-PERFORATED, ASTM 3034 SDR 35, SS931 OR SS944



NOTE:
 THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".



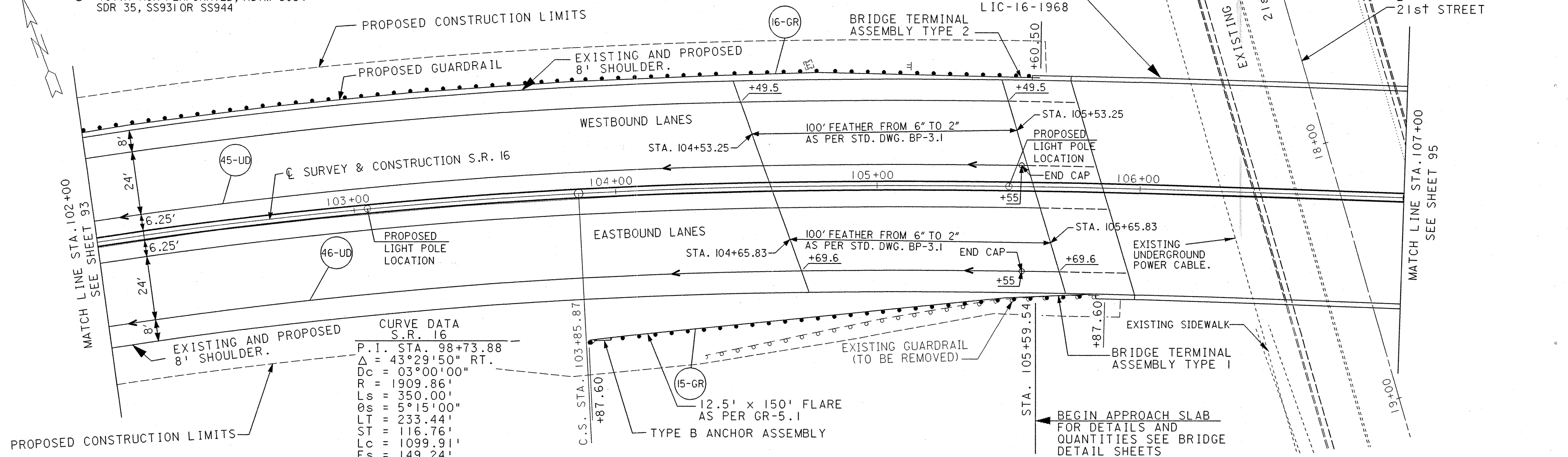
CALCULATED
D.M. 3-10-95
CHECKED
A. 10-95

PLAN AND PROFILE SHEET
 STA. 87+00 TO STA. 92+00

LIC-16-17.94

FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
 FOR BIKEWAY DETAILS AND QUANTITIES SEE SHEETS 229-352
 FOR UNDERDRAIN DETAILS SEE SHEET 112
 FOR STORM SEWER QUANTITIES SEE SHEET 111
 FOR RAMP E DETAILS AND QUANTITIES SEE SHEETS 109-110

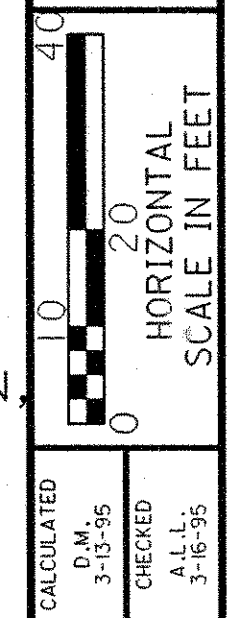
707.17 NON-PERFORATED, ASTM 3034
 SDR 35, SS931 OR SS944



CURVE DATA
 S.R. 16
 P.I. STA. 98+73.88
 $\Delta = 43^\circ 29' 50''$ RT.
 $D_c = 03^\circ 00' 00''$
 $R = 1909.86'$
 $L_s = 350.00'$
 $\theta_s = 5^\circ 15' 00''$
 $LT = 233.44'$
 $ST = 116.76'$
 $L_c = 1099.91'$
 $E_s = 149.24'$

B.M. #11 1" REBAR
 ELEV. 831.317
 281.83' RT. STA. 106+45.68

865	NOTE: THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".										865											
860	END RESURFACING AS PER SHEET 10										860											
855	+1.48%										855											
850	END 605' 4" SHALLOW U.D. AS PER PLAN, STA. 105+55, 8' LT.										850											
845	END 605' 4" SHALLOW U.D. AS PER PLAN, STA. 105+55, 32' RT.										845											
840	600' V.C.										840											
835	852.45	852.82	853.19	853.56	853.93	854.30	854.67	855.04	855.41	855.76	856.09	856.38	856.64	856.87	857.07	857.23	857.37	857.47	857.55	857.59	857.60	835
	102+00	102+50	103+00	103+50	104+00	104+50	105+00	105+50	106+00	106+50	107+00											



PLAN AND PROFILE SHEET
 STA. 102+00 TO STA. 107+00

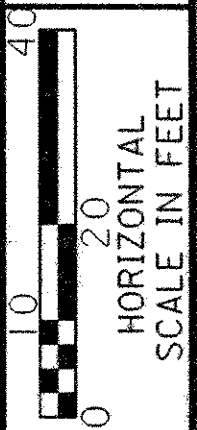
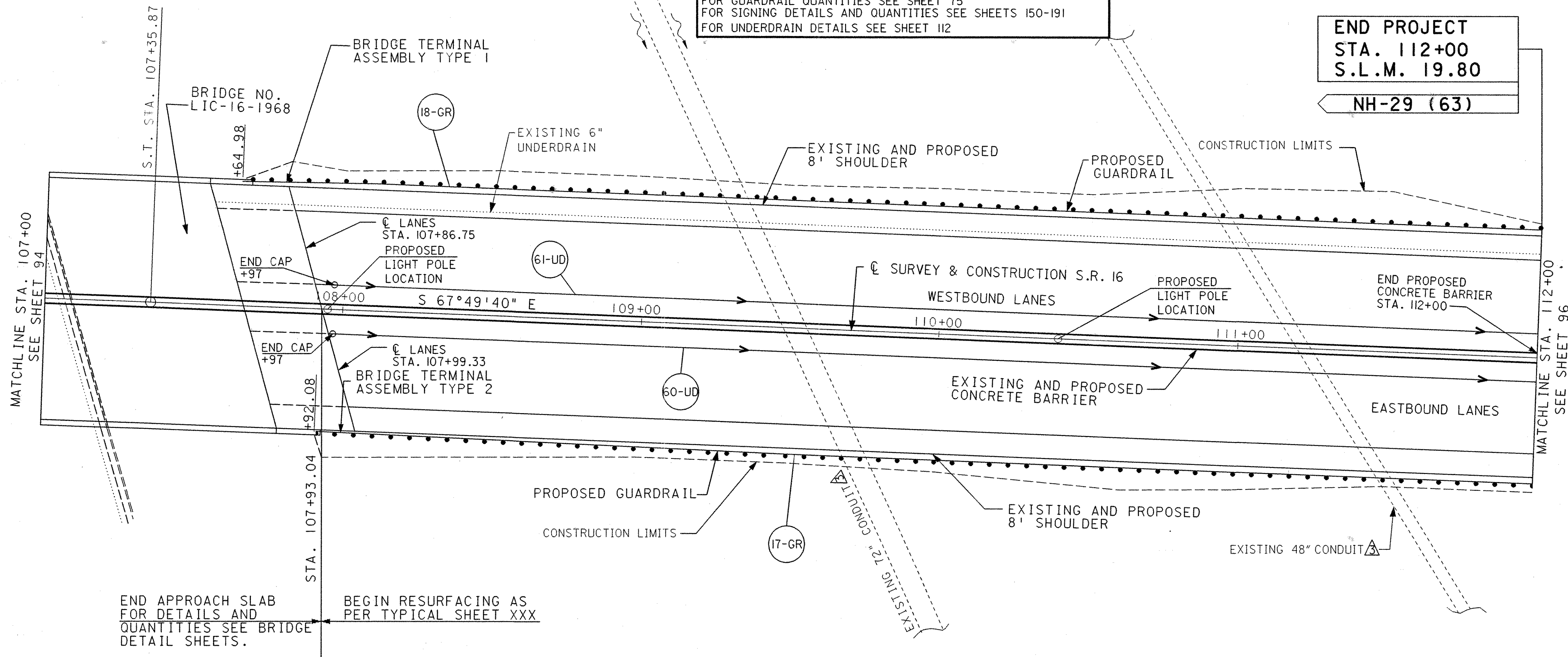
LIC-16-17.94

RCP01159.DGN 4/27/95

FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
 FOR UNDERDRAIN DETAILS SEE SHEET 112

END PROJECT
 STA. 112+00
 S.L.M. 19.80

NH-29 (63)



PLAN AND PROFILE SHEET
 STA. 107+00 TO STA. 112+00

END APPROACH SLAB
 FOR DETAILS AND
 QUANTITIES SEE BRIDGE
 DETAIL SHEETS.

BEGIN RESURFACING AS
 PER TYPICAL SHEET XXX

NOTE:
 THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".

870																										870
865																										865
860																										860
855																										855
850																										850
845																										845
840																										840
835	857.60	857.58	857.53	857.44	857.32	857.19	857.05	856.78	856.51	856.22	855.93	855.61	855.29	854.91	854.52	854.11	853.70	853.28	852.87	852.46	852.06					835
	107+00		107+50		108+00		108+50		109+00		109+50		110+00		110+50		111+00		111+50		112+00					

END APPROACH SLAB
 FOR DETAILS AND
 QUANTITIES SEE BRIDGE
 DETAIL SHEETS.

BEGIN RESURFACING AS
 PER TYPICAL SHEET

V.P. 1. STA. 107+00.00
 V.P. 1. EL. 859.85
 CURVE LENGTH = 600'
 K = 200.00
 E = 2.25'
 S.S.D. = 575'
 (EXCEEDS DESIGN SPEED REQUIREMENTS)

BEGIN 508'-605 SHALLOW U.D.
 AS PER PLAN, 8' LT. & RT.
 STA. 107+97

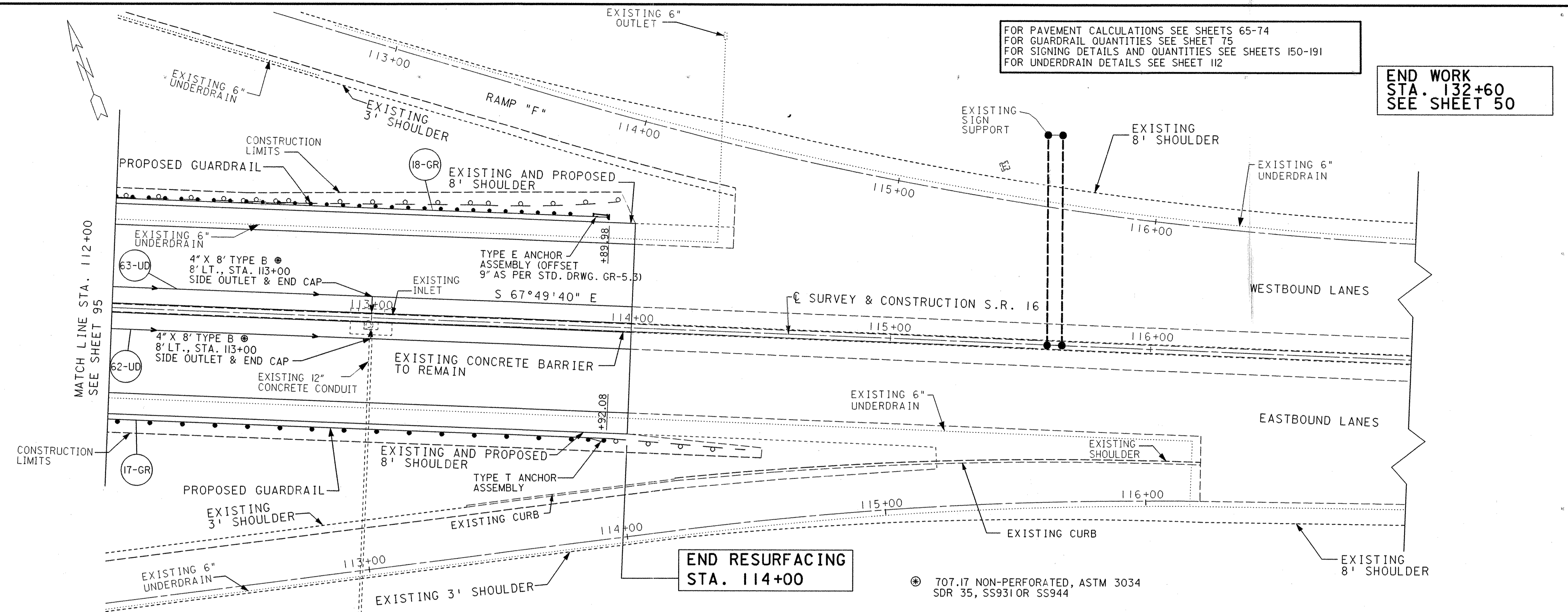
600' V.C.

403'-605 SHALLOW U.D. AS PER PLAN,
 8' LT. & RT.

-1.52%

FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR SIGNING DETAILS AND QUANTITIES SEE SHEETS 150-191
 FOR UNDERDRAIN DETAILS SEE SHEET 112

END WORK
 STA. 132+60
 SEE SHEET 50



END RESURFACING
 STA. 114+00

⊕ 707.17 NON-PERFORATED, ASTM 3034
 SDR 35, SS931 OR SS944

860	200' FEATHER AS PER STD. DRWG. BP-3.1															860						
855	END RESURFACING STA. 114+00															855						
850	EX. INLET 3.5' RT. STA. 113+00 F. EL. WINDOW 850.31± F. EL. 12" & INVERT 846.06± F. EL. 4" LT. & RT. 849.36± F. EL. 6" RT. 846.23±															850						
845	100'-605 SHALLOW U.D. 8' LT. & RT.															845						
840	END 605 SHALLOW U.D. 8' LT. & RT. STA. 113+00 OUTLET 4" 603 TYPE B ⊕, LT. & RT.															840						
835																835						
830																830						
825	852.06	851.65	851.25	850.72	850.19	849.94	849.68	849.29	848.90	848.51	848.12	847.73	847.33	846.98	846.64	846.26	845.88	845.49	845.09	844.73	844.36	825
	112+00	112+50	113+00	113+50	114+00	114+50	115+00	115+50	116+00	116+50	117+00											

RCP03159.DGN 4/19/95

PLAN AND PROFILE SHEET
 STA. 112+00 TO STA. 117+00

LIC-16-17.94

CURVE DATA
RAMP "A" @ BRYN MAWR RD.

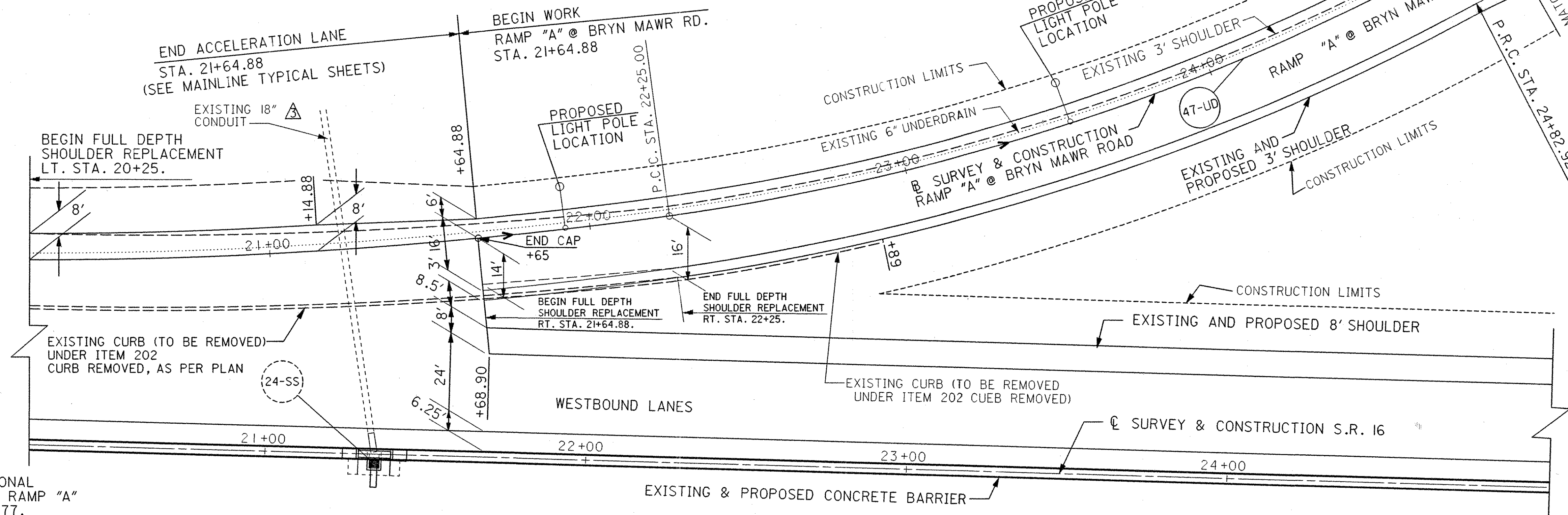
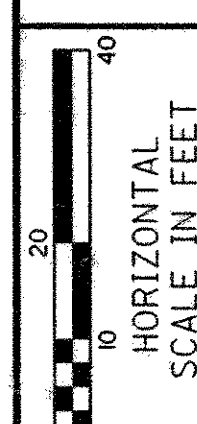
PI STA. 21+25.16
 $\Delta = 08^{\circ}00'00''$ LT.
 $D_c = 04^{\circ}00'00''$
 $R = 1432.39'$
 $L = 200.00'$
 $T = 100.16'$
 $E = 3.50'$

FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR STORM SEWER QUANTITIES SEE SHEET III
 FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR UNDERDRAIN QUANTITIES AND DETAILS SEE SHEET II2
 FOR SIGNING QUANTITIES SEE SHEETS 150-191

CURVE DATA
RAMP "A" @ BRYN MAWR RD.

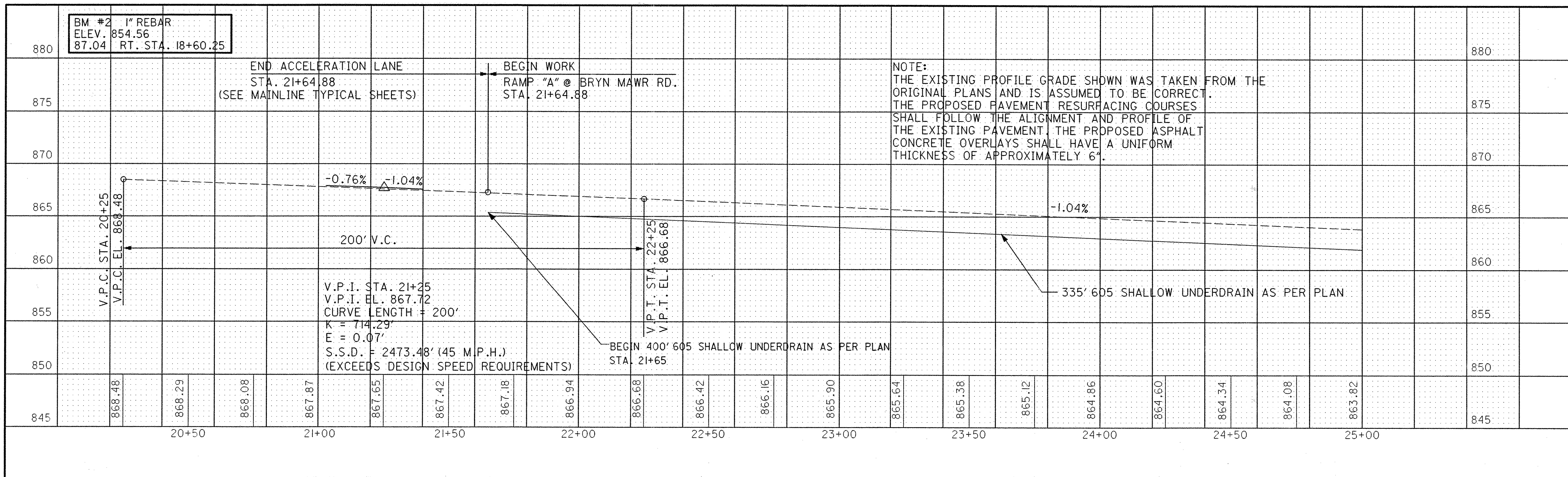
PI STA. 23+63.91
 $\Delta = 21^{\circ}57'13''$ LT.
 $D_c = 08^{\circ}00'00''$
 $R = 716.20'$
 $L = 274.42'$
 $T = 138.91'$
 $E = 13.35'$

- \triangle 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- \triangle TO BE REMOVED AS PER ITEM 604.04
- \triangle TO REMAIN IN SERVICE



FOR ADDITIONAL DETAILS OF RAMP "A" SEE SHEET 77.

RADIUS POINT
 STA. 24+80.62, 166' RT.
 RAMP "A" @ BRYN MAWR RD.



RCP01163.DGN 04/19/95

PLAN AND PROFILE SHEET RAMP "A" AT BRYN MAWR ROAD
 STA. 20+25 TO STA. 25+00

LIC-16-17.94

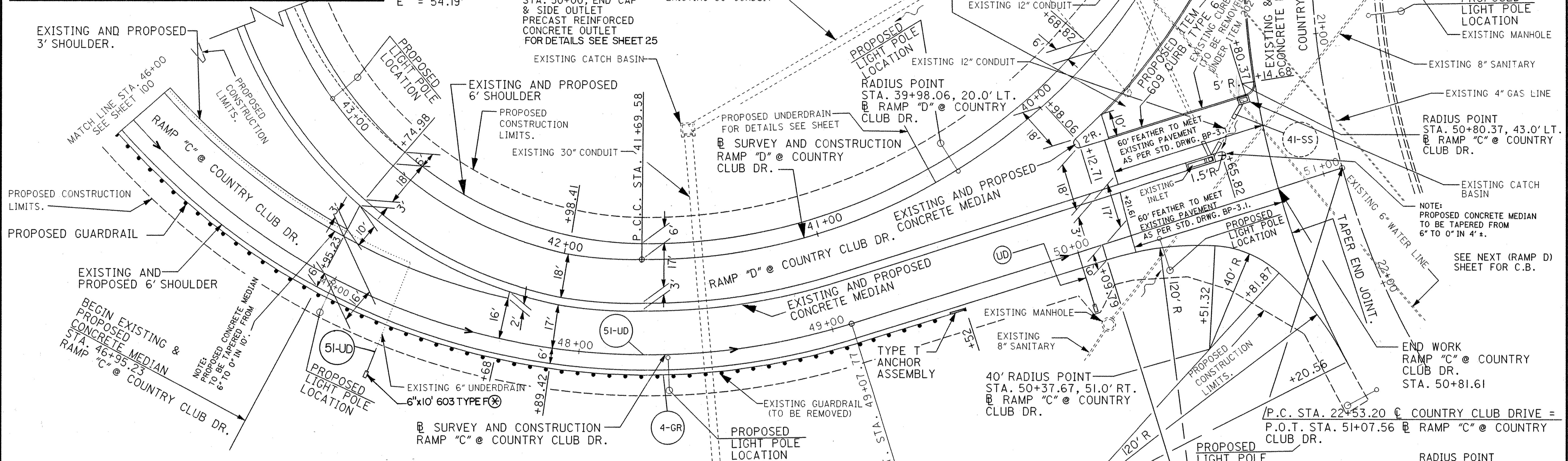
FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR STORM SEWER QUANTITIES SEE SHEET III
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR ADDITIONAL DETAILS OF RAMP "D" SEE SHEETS 102-103
 FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR UNDERDRAIN QUANTITIES SEE SHEET 112
 FOR SIGNING QUANTITIES AND DETAILS SEE SHEETS 150-191

CURVE DATA
 RAMP "C" @ COUNTRY CLUB DR.
 PI STA. 47+71.57
 $\Delta = 67^{\circ}32'11''$ LT.
 $D_c = 21^{\circ}27'33''$
 $R = 267.00'$
 $L = 314.72'$
 $T = 178.53'$
 $E = 54.19'$

707.17 NON-PERFORATED, ASTM 3034
 SDR 35, SS931OR SS944

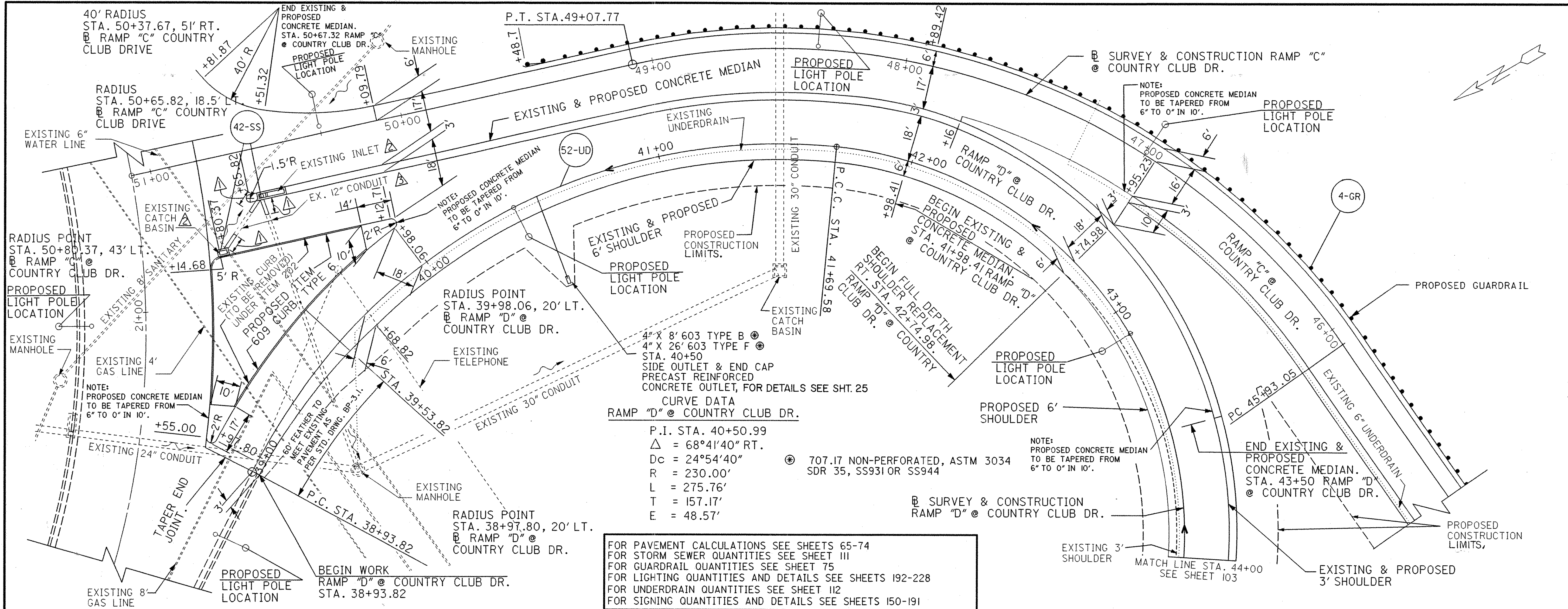
NOTE:
 AREA TO BE FILLED WITH 6"± ITEM
 203 EMBANKMENT. QUANTITY
 CARRIED WITH PAVEMENT QUANTITIES.

UD 4" X 8' 603 TYPE B
 4" X 14' 603 TYPE F
 STA. 50+00, END CAP
 & SIDE OUTLET
 PRECAST REINFORCED
 CONCRETE OUTLET
 FOR DETAILS SEE SHEET 25



Station	Elevation (ft)	Notes
875	852.82	BM #5 1" REBAR ELEV. 852.82 146.5' RT. STA. 50+34.25
870	863.80	V.P.I. STA. 45+75 V.P.I. EL. 863.80 CURVE LENGTH = 300'
865	860.89	K = 120.00' E = 0.94' S.S.D. = 415.83' (45 M.P.H.) (EXCEEDS DESIGN SPEED REQUIREMENTS)
860	860.89	
855	860.89	
850	860.89	300' V.C. V.P.T. STA. 47+25 V.P.T. EL. 860.89
845	859.92	400'-605 SHALLOW U.D. AS PER PLAN
840	855.56	END 605 SHALLOW U.D. AS PER PLAN, STA. 50+00 OUTLET 603 TYPE F & B

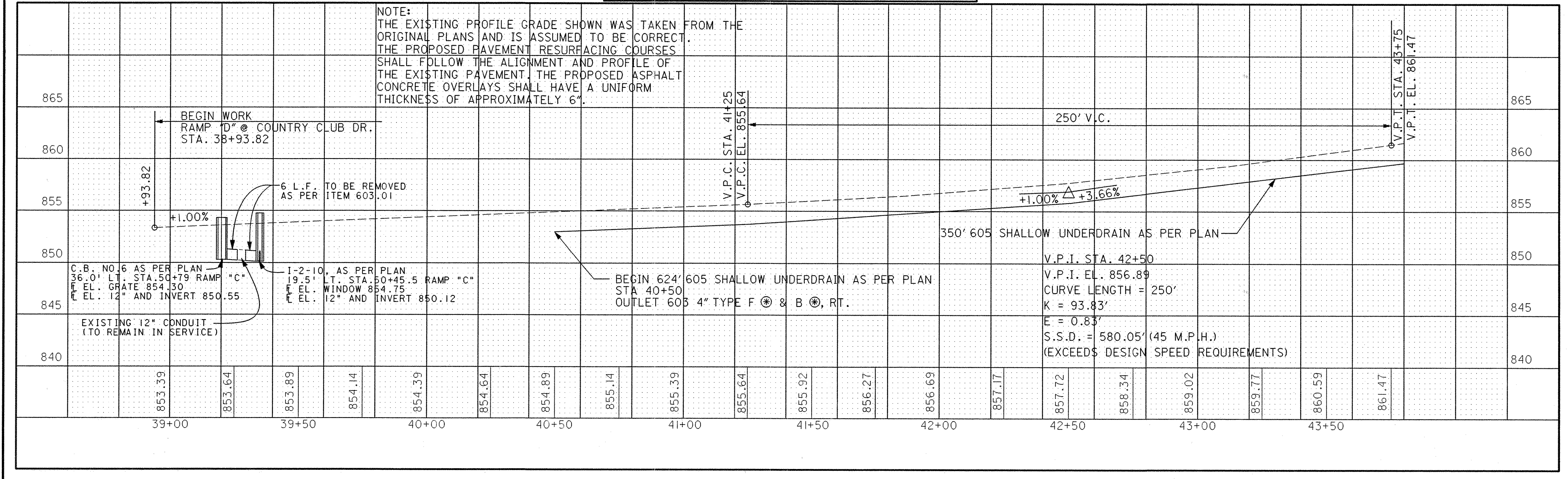
PLAN AND PROFILE SHEET RAMP "C" AT COUNTRY CLUB DR.
 STA. 46+00 TO STA. 51+07.56



**CURVE DATA
RAMP "D" @ COUNTRY CLUB DR.**

P.I. STA. 40+50.99
 $\Delta = 68^{\circ}41'40''$ RT.
 $D_c = 24^{\circ}54'40''$
 $R = 230.00'$
 $L = 275.76'$
 $T = 157.17'$
 $E = 48.57'$

FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR STORM SEWER QUANTITIES SEE SHEET III
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR UNDERDRAIN QUANTITIES SEE SHEET 112
 FOR SIGNING QUANTITIES AND DETAILS SEE SHEETS 150-191



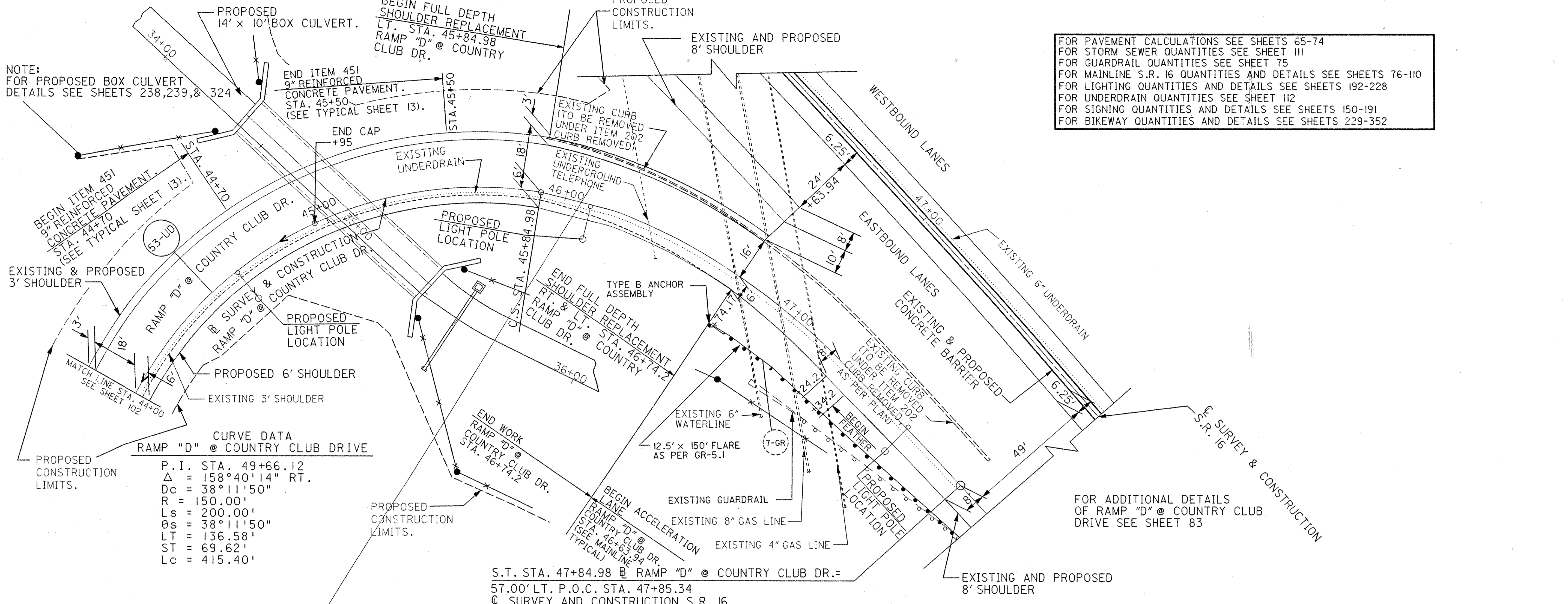
NOTE:
 THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".

C.B. NO. 16 AS PER PLAN
 36.0' LT. STA. 50+79 RAMP "C"
 F. EL. GRATE 854.30
 F. EL. 12" AND INVERT 850.55

1-2-10, AS PER PLAN
 19.5' LT. STA. 50+45.5 RAMP "C"
 F. EL. WINDOW 854.75
 F. EL. 12" AND INVERT 850.12

EXISTING 12" CONDUIT
 (TO REMAIN IN SERVICE)

853.39	853.64	853.89	854.14	854.39	854.64	854.89	855.14	855.39	855.64	855.92	856.27	856.69	857.17	857.72	858.34	859.02	859.77	860.59	861.47
39+00	39+10	39+20	39+30	39+40	39+50	40+00	40+10	40+20	40+30	40+40	40+50	41+00	41+10	41+20	41+30	41+40	41+50	42+00	42+10



S.T. STA. 47+84.98 @ RAMP "D" @ COUNTRY CLUB DR. =
57.00' LT. P.O.C. STA. 47+85.34
@ SURVEY AND CONSTRUCTION S.R. 16

NOTE:
THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".

Station	Profile Grade (Elev.)	Proposed Pavement Profile (Elev.)
44+00	862.39	862.39
44+10	863.30	863.30
44+20	864.22	864.22
44+30	865.11	865.11
44+40	865.94	865.94
44+50	866.71	866.71
44+60	867.43	867.43
44+70	868.09	868.09
44+80	868.69	868.69
44+90	869.24	869.24
45+00	869.73	869.73
45+10	870.16	870.16
45+20	870.54	870.54
45+30	870.85	870.85
45+40	871.12	871.12
45+50	871.32	871.32
45+60	871.47	871.47
45+70	871.47	871.47

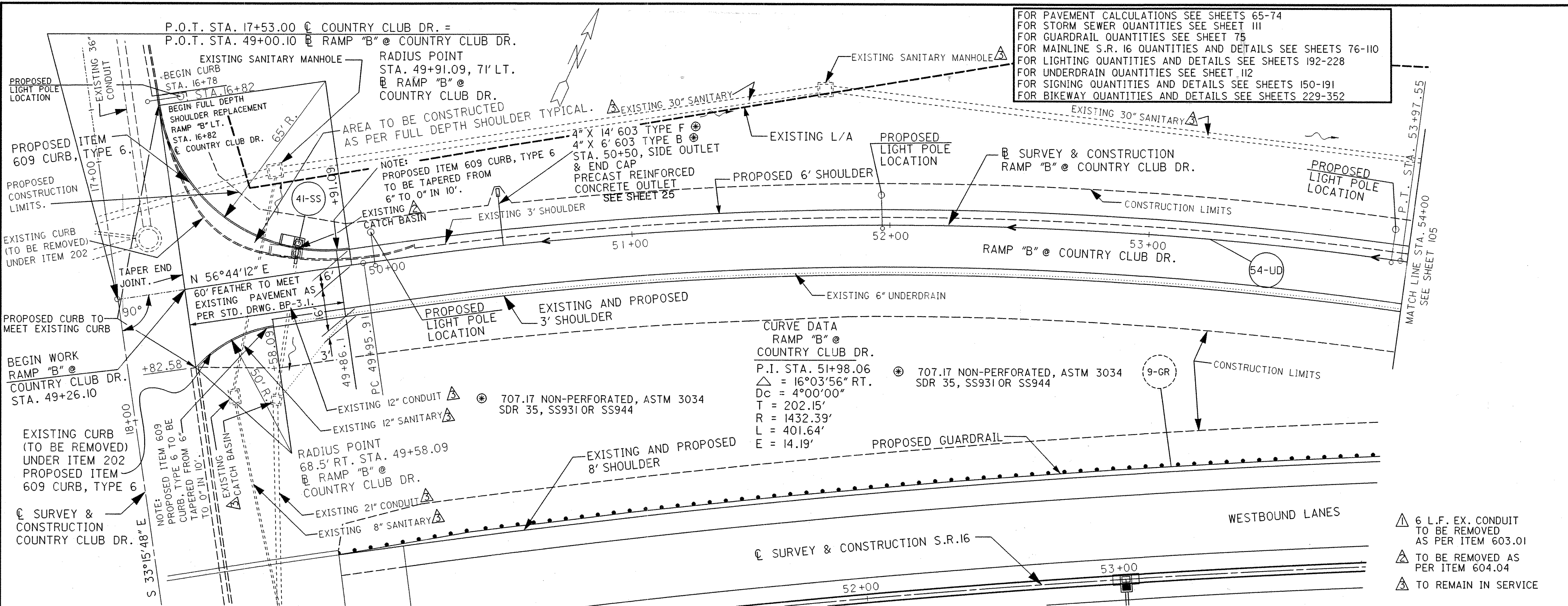
END WORK
RAMP "D" @ COUNTRY CLUB DR.
STA. 46+74.2 @ RAMP "D"

BEGIN ACCELERATION LANE
STA. 46+63.94 (MAINLINE)
(SEE MAINLINE TYPICAL SHEETS 9 & 10).

Grades: +3.66%, +0.48%, +0.48%

V.P.I. STA. 46+25.00
V.P.I. EL. 870.63
CURVE LENGTH = 350'
K = 109.92'
E = 1.39'
S.S.D. = 580.05' (45 M.P.H.)
(EXCEEDS DESIGN SPEED REQUIREMENTS)

350' V.C.



Station	Elevation	Notes
49+00	853.79	
49+50	853.41	
50+00	853.11	
50+50	852.93	
51+00	852.87	
51+50	852.82	
52+00	854.35	
52+50	854.91	
53+00	855.47	
53+50	856.03	
54+00	856.59	
54+50	857.15	
55+00	857.71	
55+50	858.27	
56+00	858.83	
56+50	859.36	
57+00	859.82	

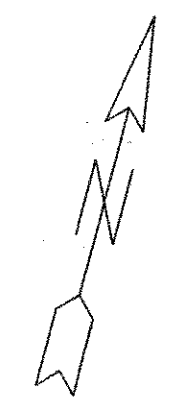
NOTE: THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".

Curve Data:
 P.I. STA. 51+98.06
 $\Delta = 16^{\circ}03'56''$ RT.
 $D_c = 4^{\circ}00'00''$
 $T = 202.15'$
 $R = 1432.39'$
 $L = 401.64'$
 $E = 14.19'$

Vertical Curve Data:
 200' V.C.
 V.P.I. STA. 50+43.00
 V.P.I. EL. 851.95
 CURVE LENGTH = 200'
 $K = 52.62'$
 $E = 0.95'$
 $S.S.D. = 282.21' (35 \text{ M.P.H.})$
 (EXCEEDS DESIGN SPEED REQUIREMENTS)

PLAN AND PROFILE SHEET RAMP "B" AT
COUNTRY CLUB DR. STA. 49+26.10 STA. 54+00.00

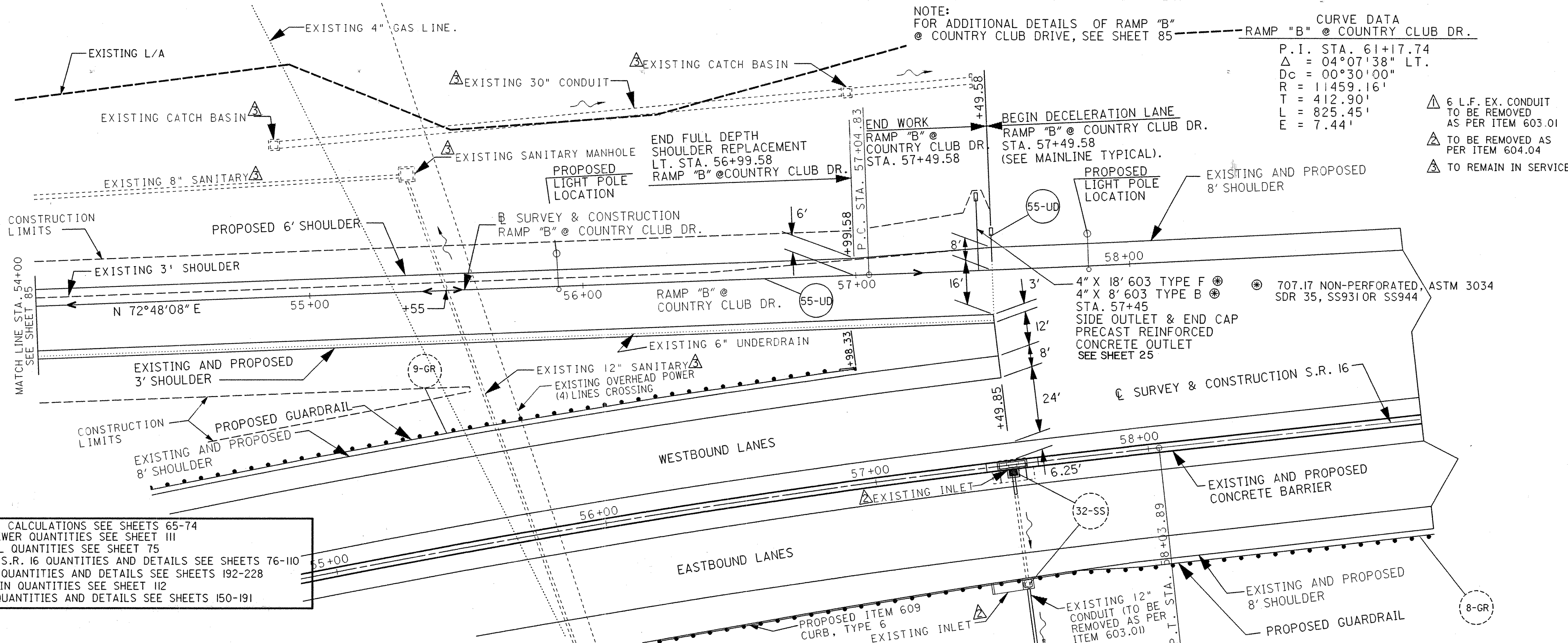
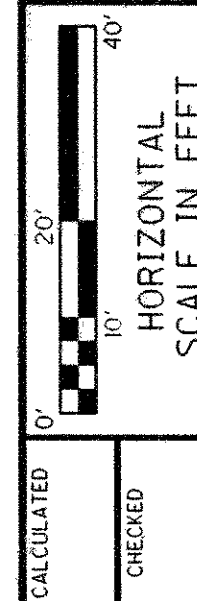
LIC-16-17.94



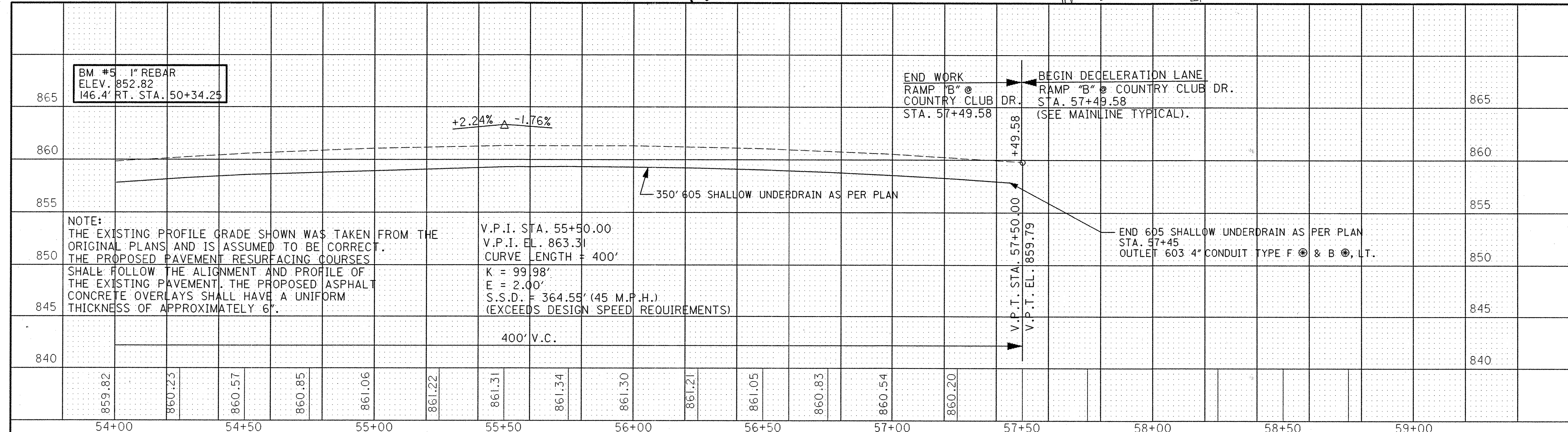
NOTE:
FOR ADDITIONAL DETAILS OF RAMP "B"
@ COUNTRY CLUB DRIVE, SEE SHEET 85

RAMP "B" @ COUNTRY CLUB DR.
CURVE DATA
P.I. STA. 61+17.74
 $\Delta = 04^\circ 07' 38''$ LT.
Dc = $00^\circ 30' 00''$
R = 11459.16'
T = 412.90'
L = 825.45'
E = 7.44'

- ▲ 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- ▲ TO BE REMOVED AS PER ITEM 604.04
- ▲ TO REMAIN IN SERVICE



FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
FOR STORM SEWER QUANTITIES SEE SHEET III
FOR GUARDRAIL QUANTITIES SEE SHEET 75
FOR MAINLINE S.R. 16 QUANTITIES AND DETAILS SEE SHEETS 76-110
FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
FOR UNDERDRAIN QUANTITIES SEE SHEET 112
FOR SIGNING QUANTITIES AND DETAILS SEE SHEETS 150-191



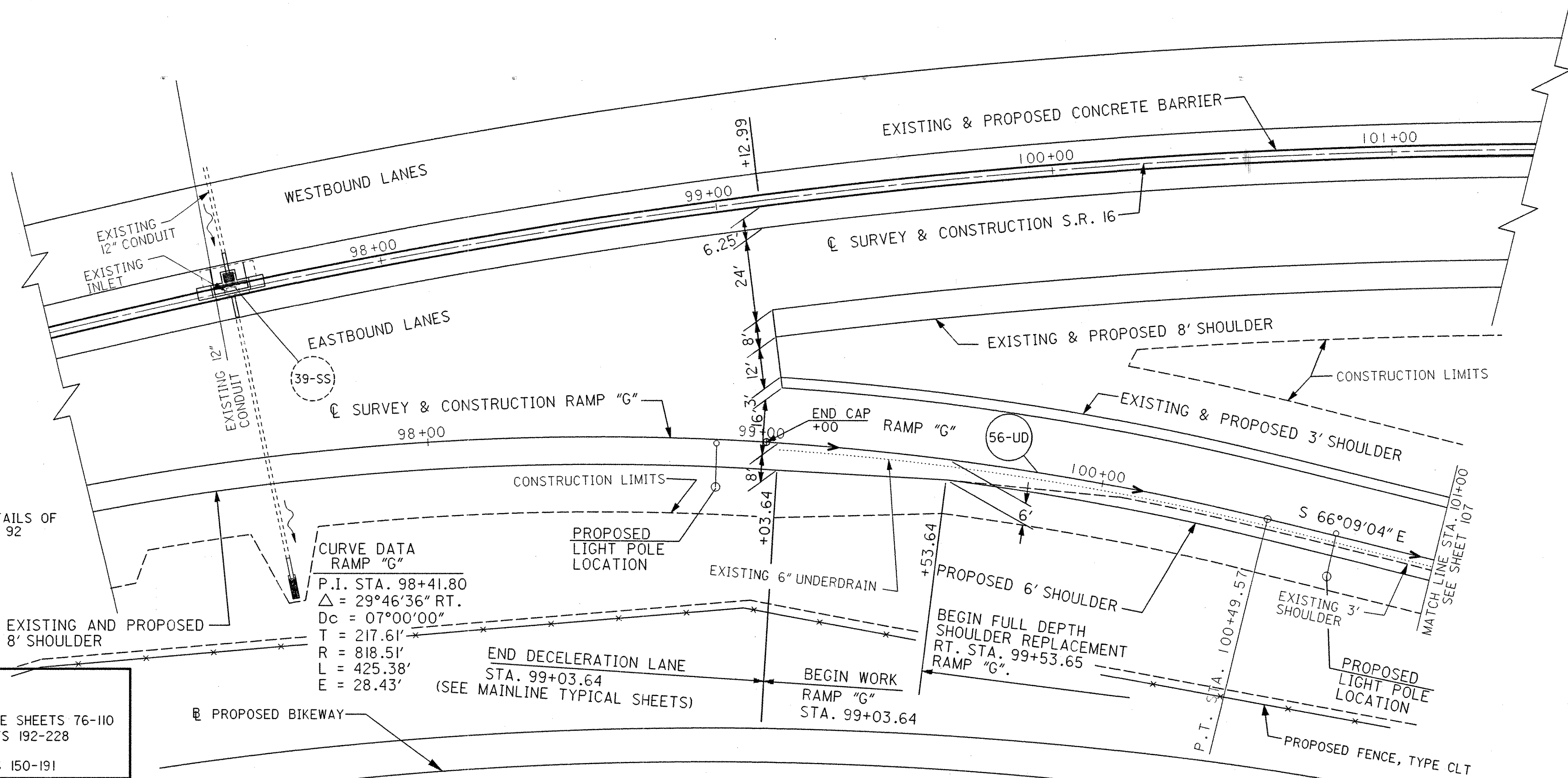
PLAN AND PROFILE SHEET RAMP "B" AT
COUNTRY CLUB DR. STA. 54+00 TO STA. 57+49.58

LIC-16-17.94

707.17 NON-PERFORATED, ASTM 3034
SDR 35, SS931 OR SS944

FOR ADDITIONAL DETAILS OF
RAMP "G" SEE SHEET 92

FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
FOR STORM SEWER QUANTITIES SEE SHEET III
FOR BIKEWAY QUANTITIES SEE SHEETS 229-352
FOR MAINLINE S.R. 16 QUANTITIES AND DETAILS SEE SHEETS 76-110
FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
FOR UNDERDRAIN QUANTITIES SEE SHEET I12
FOR SIGNING QUANTITIES AND DETAILS SEE SHEETS 150-191



**CURVE DATA
RAMP "G"**
P.I. STA. 98+41.80
Δ = 29°46'36" RT.
Dc = 07°00'00"
T = 217.61'
R = 818.51'
L = 425.38'
E = 28.43'

END DECELERATION LANE
STA. 99+03.64
(SEE MAINLINE TYPICAL SHEETS)

BEGIN WORK
RAMP "G"
STA. 99+03.64

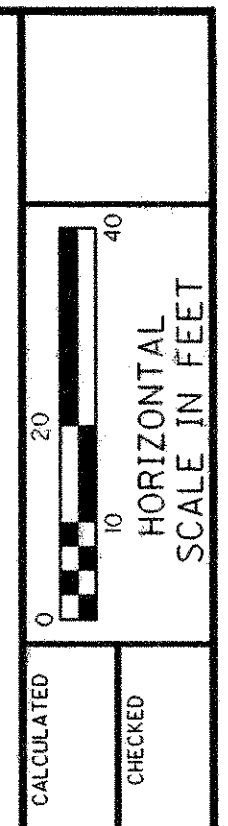
BEGIN FULL DEPTH
SHOULDER REPLACEMENT
RT. STA. 99+53.65
RAMP "G".

BM #10 1" REBAR
ELEV. 833.87
183.5' RT. STA. 96+85.17

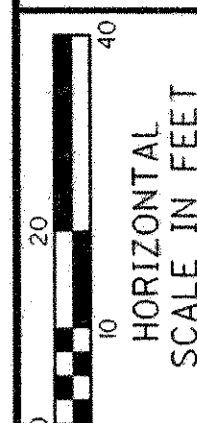
Station	Profile Grade	Proposed Grade	Notes
97+00	843.89	843.89	
97+50	843.89	843.89	
98+00	843.89	843.89	
98+50	843.89	843.89	
99+00	843.89	843.89	BEGIN DECELERATION LANE STA. 99+03.64 (SEE MAINLINE TYPICAL SHEET)
99+50	843.89	843.89	BEGIN WORK RAMP "G" STA. 99+03.64
100+00	843.89	843.89	BEGIN FULL DEPTH SHOULDER REPLACEMENT RT. STA. 99+53.65 RAMP "G".
100+50	843.89	843.89	300' V.C.
101+00	843.89	843.89	V.P.I. STA. 101+00 V.P.I. EL. 844.32 CURVE LENGTH = 300' K = 110.29'
101+50	843.89	843.89	E = 1.02' S.S.D. = 394.33 (45 M.P.H.) (EXCEEDS DESIGN SPEED REQUIREMENTS)
101+00	843.89	843.89	+0.32% = -2.40%

NOTE:
THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".

RCP01171.DGN 04/19/95



PLAN AND PROFILE SHEET RAMP "G"
STA. 97+00 TO STA. 101+00

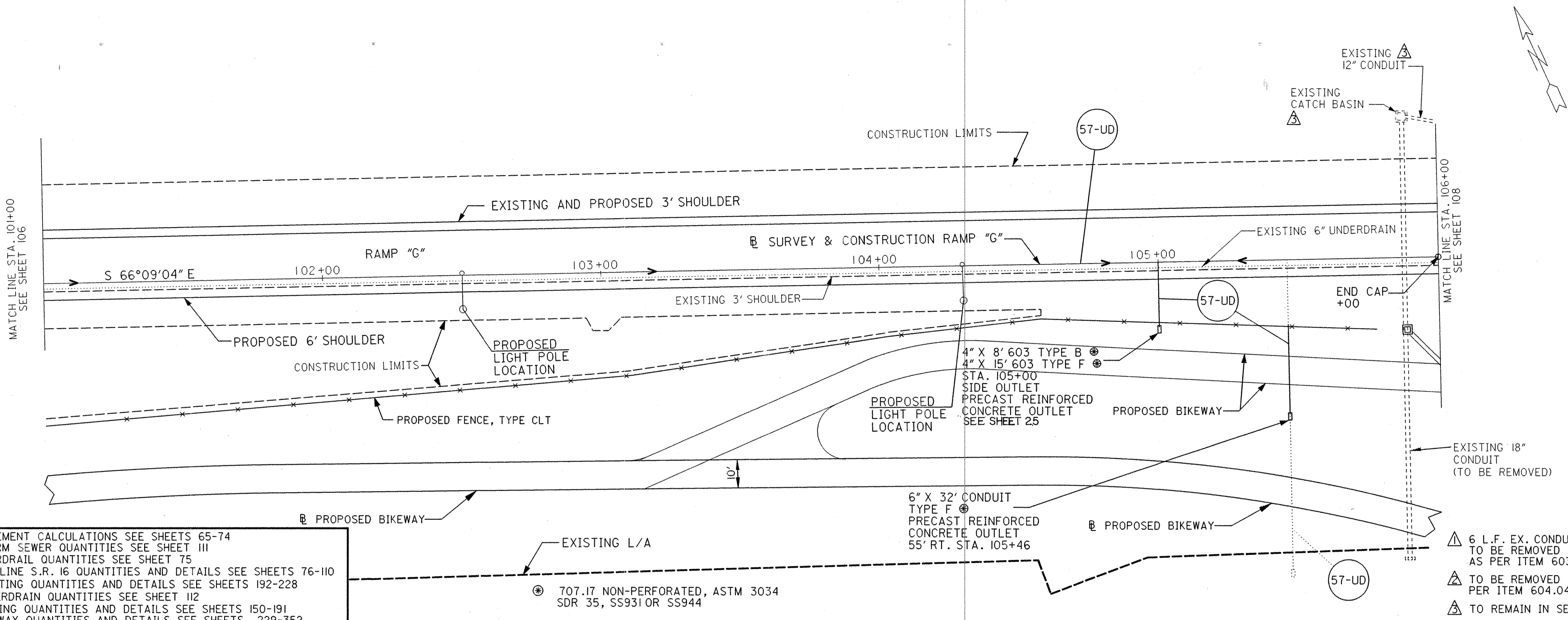


CALCULATED
CHECKED

PLAN AND PROFILE SHEET RAMP "G"
STA. 101+00 TO STA. 106+00

LIC-16-17.94

107
420



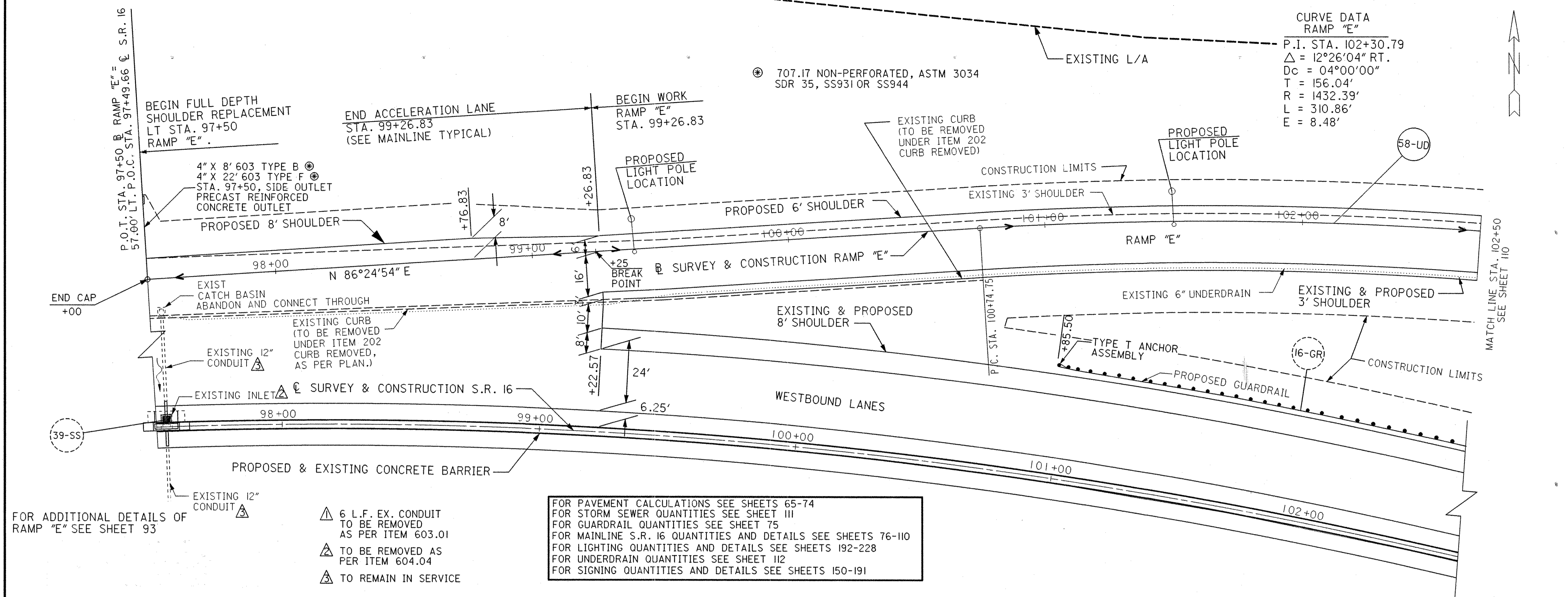
FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR STORM SEWER QUANTITIES SEE SHEET III
 FOR GUARDRAIL QUANTITIES SEE SHEET 75
 FOR MAINLINE S.R. 16 QUANTITIES AND DETAILS SEE SHEETS 76-110
 FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR UNDERDRAIN QUANTITIES SEE SHEET 112
 FOR SIGNING QUANTITIES AND DETAILS SEE SHEETS 150-191
 FOR BIKEWAY QUANTITIES AND DETAILS SEE SHEETS 229-352

- △ 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- △ TO BE REMOVED AS PER ITEM 604.04
- △ TO REMAIN IN SERVICE

										NOTE: THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".																			
V.P.I. STA. 101+00.00 V.P.I. EL. 844.32 CURVE LENGTH = 300' K = 110.29 E = 1.02'																				BM #11 1" REBAR ELEV. 831.32 281.8' RT. STA. 106+45.68									
S.S.D. = 394.33' (45 M.P.H.) (EXCEEDS DESIGN SPEED REQUIREMENTS)																				200' V.C.									
+0.32% -2.40%																				V.P.I. STA. 105+00 V.P.I. EL. 834.72 CURVE LENGTH = 200' K = 53.80' E = 0.93'									
																				V.P.C. STA. 104+00 V.P.C. EL. 837.12									
																				S.S.D. = 289.81' (35 M.P.H.) (EXCEEDS DESIGN SPEED REQUIREMENTS)									
300' V.C.										500'-605 SHALLOW U.D. AS PER PLAN										-2.40% +1.32%									
																				V.P.T. STA. 106+00 V.P.T. EL. 836.04									
																				OUTLET 603 4" CONDUIT TYPE F & B, RT.									
																				END 605 SHALLOW UNDERDRAIN AS PER PLAN									
843.30										843.01										842.67									
842.27										841.81										841.29									
840.72										840.12										839.52									
838.92										838.32										837.72									
837.12										836.58										836.15									
835.84										835.65										835.57									
835.61										835.77										836.04									
101+00										101+50										102+00									
102+50										103+00										103+50									
104+00										104+50										105+00									
105+50										106+00																			

CURVE DATA
RAMP "E"
P.I. STA. 102+30.79
 $\Delta = 12^{\circ}26'04''$ RT.
Dc = $04^{\circ}00'00''$
T = 156.04'
R = 1432.39'
L = 310.86'
E = 8.48'

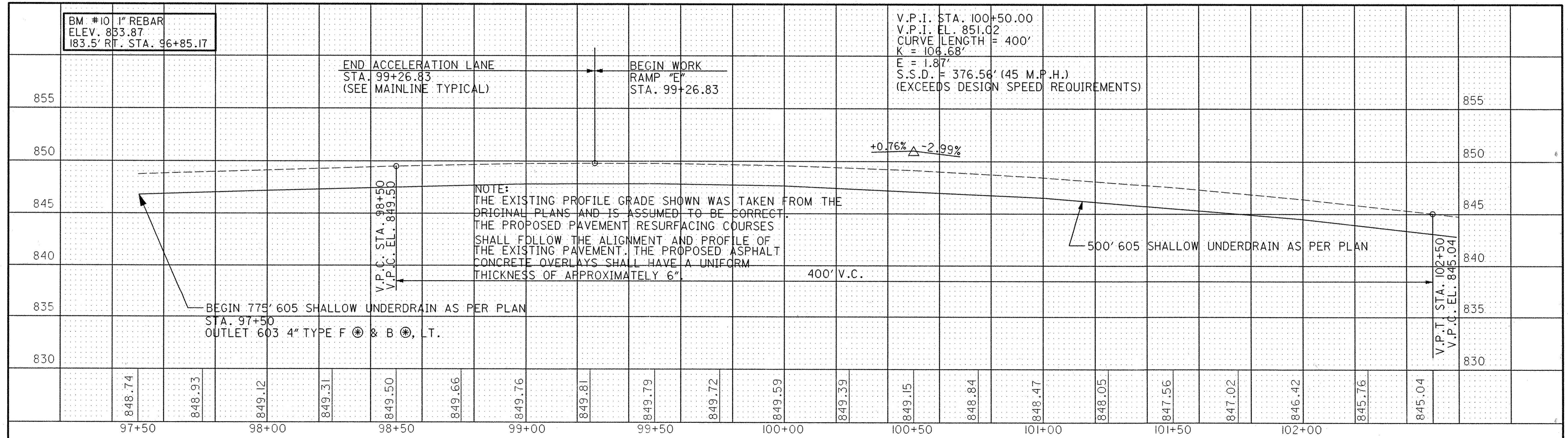
707.17 NON-PERFORATED, ASTM 3034
SDR 35, SS931 OR SS944



FOR ADDITIONAL DETAILS OF
RAMP "E" SEE SHEET 93

- \triangle 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- \triangle TO BE REMOVED AS PER ITEM 604.04
- \triangle TO REMAIN IN SERVICE

FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
FOR STORM SEWER QUANTITIES SEE SHEET III
FOR GUARDRAIL QUANTITIES SEE SHEET 75
FOR MAINLINE S.R. 16 QUANTITIES AND DETAILS SEE SHEETS 76-110
FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
FOR UNDERDRAIN QUANTITIES SEE SHEET 112
FOR SIGNING QUANTITIES AND DETAILS SEE SHEETS 150-191



NOTE:
THE EXISTING PROFILE GRADE SHOWN WAS TAKEN FROM THE ORIGINAL PLANS AND IS ASSUMED TO BE CORRECT. THE PROPOSED PAVEMENT RESURFACING COURSES SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAYS SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 6".

BM #10 1" REBAR
ELEV. 833.87
183.5' RT. STA. 96+85.17

V.P.I. STA. 100+50.00
V.P.I. EL. 851.02
CURVE LENGTH = 400'
K = 106.68'
E = 1.87'
S.S.D. = 376.56' (45 M.P.H.)
(EXCEEDS DESIGN SPEED REQUIREMENTS)

BEGIN 775' 605 SHALLOW UNDERDRAIN AS PER PLAN
STA. 97+50
OUTLET 603 4" TYPE F & B, LT.

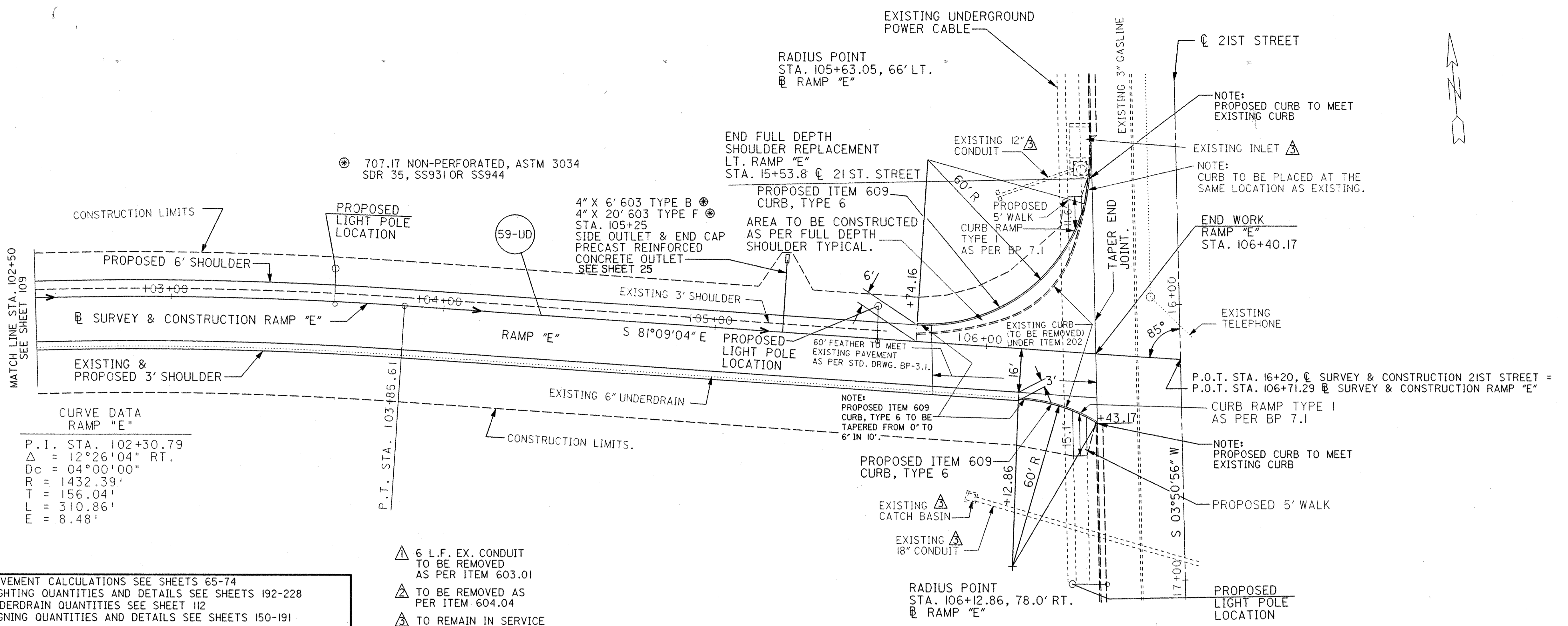
V.P.C. STA. 98+50
V.P.C. EL. 849.50

V.P.T. STA. 102+50
V.P.C. EL. 845.04

PLAN AND PROFILE SHEET RAMP "E"
STA. 97+50 TO STA. 102+50

LIC-16-17.94

109
420



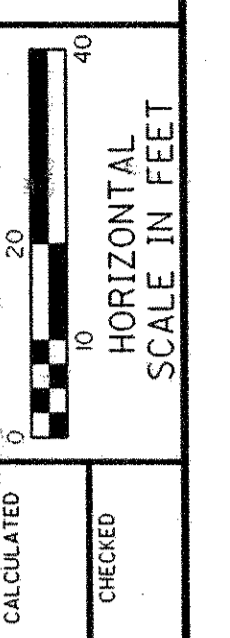
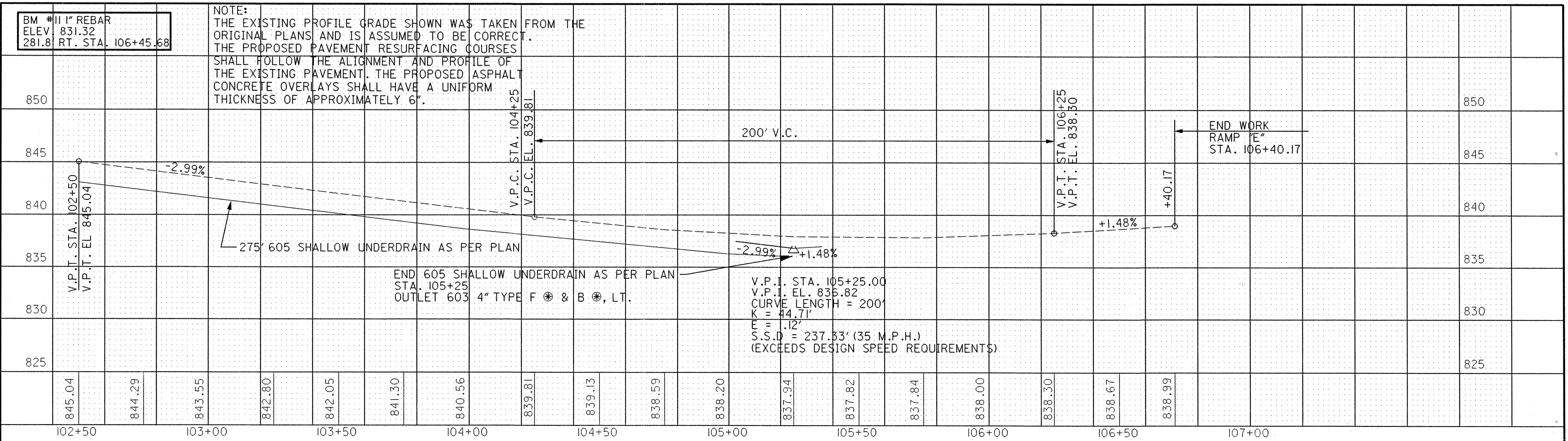
MATCH LINE STA. 102+50
SEE SHEET 109

CURVE DATA
RAMP "E"

P.I. STA. 102+30.79
 $\Delta = 12^\circ 26' 04''$ RT.
 $D_c = 04^\circ 00' 00''$
 $R = 1432.39'$
 $T = 156.04'$
 $L = 310.86'$
 $E = 8.48'$

FOR PAVEMENT CALCULATIONS SEE SHEETS 65-74
 FOR LIGHTING QUANTITIES AND DETAILS SEE SHEETS 192-228
 FOR UNDERDRAIN QUANTITIES SEE SHEET 112
 FOR SIGNING QUANTITIES AND DETAILS SEE SHEETS 150-191

- △ 6 L.F. EX. CONDUIT TO BE REMOVED AS PER ITEM 603.01
- △ TO BE REMOVED AS PER ITEM 604.04
- △ TO REMAIN IN SERVICE



PLAN AND PROFILE SHEET RAMP "E"
STA. 102+50 TO STA. 106+71.29

LIC-16-17.94

STORM SEWER QUANTITIES

MARK	STATION (SOUTH)		SIDE	SHEET NO.	202	601	602	603						604						
	FROM	TO			CATCH BASIN ABANDONED	ROCK CHANNEL PROTECTION TYPE C WITH FILTER	CONCRETE MASONRY	12" CONDUIT TYPE B, 706.01 OR 706.02	12" CONDUIT TYPE B	12" CONDUIT TYPE F 707.05	18" CONDUIT TYPE B, 706.01 OR 706.02	21" CONDUIT TYPE B, 706.01 OR 706.02	24" CONDUIT TYPE B, 706.01 OR 706.02	CATCH BASIN NO. 5 WITH B GRATE, AS PER PLAN	CATCH BASIN NO. 6 AS PER PLAN	INLET NO. 2A-8 AS PER PLAN	INLET NO. 2-10 AS PER PLAN	INLET NO. 2A-10 AS PER PLAN	INLET NO. 2A-14 AS PER PLAN	INLET NO. 3B50 AS PER PLAN A
					EACH	CU.YD.	CU.YD.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH	EACH	EACH	EACH	EACH	
FOR 1-SS - 23-SS SEE SHEET 726																				
24-SS	21+34		LT & RT	122						12									1	
25-SS	27+50		C/RT	124				6											1	
26-SS	27+00		LT & RT	124										1						
27-SS	34+00		LT & RT	125								18		1					1	
28-SS	36+60 - 37+00		C	125				40											1	
29-SS	37+00 - 37+50		C/RT	126				6	50										1	
30-SS	42+00		C/RT	127				12											1	
31-SS	53+00		C/RT	129				12											1	
32-SS	57+50		C/RT	130				12											1	
33-SS	62+50		C/RT	131				6											1	
34-SS	70+25		C/RT	132		.7	.20	12											1	
35-SS	75+00		C/RT	133		1.0	.31			12									1	
36-SS	82+00		C/RT	135		1.0	.31			12									1	
37-SS	88+00		C/RT	136		.7	.20	12											1	
38-SS	92+21± - 93+25		C/RT	137					90	17									2	
39-SS	97+55		LT & RT	138	1	.7	.20	18											1	
40-SS	38+18.5 RAMP "C"		RT	202																
41-SS	49+67.87 RAMP "B"		LT	207																
42-SS	50+45.5 RAMP "C" - 50+79 RAMP "C"		LT	205																
TOTALS					1	4.1	1.22	96	180	17	36	18	6	2	1	2	1	1	1	16

QUANTITIES CARRIED TO SHEETS 58-60

L161933A.DGN 04/17/95

CALCULATED
ALL: 3/13/95
CHECKED
D.M. 3/16/95

STORM SEWER QUANTITIES

LIC-16-17.94

* 707.17 NON-PERFORATED, ASTM 3034 SDR 35, S.S. 931 OR S.S. 944

MARK	STATION		SIDE	SHEET NO.	202	603			605	ITEM SPECIAL PRECAST REINF. CONCRETE OUTLET EACH	FOR INFORMATION ONLY		
					PIPE REMOVED 24" & UNDER LIN.FT.	4" CONDUIT TYPE B * LIN.FT.	6" CONDUIT TYPE B * LIN.FT.	4" CONDUIT TYPE F * LIN.FT.	SHALLOW UNDERDRAIN AS PER PLAN		BENDS AND BRANCHES	END CAP	SIDE OUTLET
	BEND												
	6"x90°												
					202	603	605	ITEM SPECIAL PRECAST REINF. CONCRETE OUTLET EACH	BENDS AND BRANCHES	END CAP	SIDE OUTLET		
					LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.		EACH	EACH		
1-UD	13+60	17+00	LT	76					340				
2-UD	12+76	17+00	RT	76					424				
3-UD	17+00	22+00	LT	77		8			500				
4-UD	17+00	22+00	RT	77		8			500				
5-UD	22+00	27+00	LT	78					500				
6-UD	26+18	27+00	LT	78					82				
7-UD	22+00	27+00	RT	78					500				
8-UD	27+00	32+00	LT	79		8		25	500	1			
9-UD	27+00	27+50	LT	79		8			50				
10-UD	27+00	32+00	RT	79		8			500				
11-UD	32+00	37+00	LT	80		8		14	500	1			
12-UD	32+00	37+00	RT	80		16			500			2	
13-UD	NOT USED												
14-UD	37+00	39+50	LT	81					250				
15-UD	37+50	42+00	LT	81					450				
16-UD	37+00	42+00	RT	81	6		6		500	1			
17-UD	42+00	47+00	LT	82		10			500				
18-UD	42+00	45+90	RT	82		8			390				
19-UD	47+00	48+36	LT	83					136				
20-UD	50+24	52+00	LT	83					176				
21-UD	50+24	52+00	RT	83					176				
22-UD	52+00	57+00	LT	84		8			500				
23-UD	52+00	57+00	RT	84					500				
24-UD	57+00	58+00	RT	85		8		16	100				
25-UD	57+00	62+00	LT	85		8			500				
26-UD	58+00	62+00	RT	85					400				
27-UD	62+00	67+00	LT	86		8			500				
28-UD	62+00	67+00	RT	86		8			500				
29-UD	67+00	72+00	RT	87		8			500				
30-UD	67+00	72+00	LT	87		8			500				
31-UD	72+00	77+00	LT	88		8			500				
32-UD	72+00	77+00	RT	88		8			500				
33-UD	77+00	82+00	LT	89		8			500				
34-UD	77+00	82+00	RT	89		8			500				
35-UD	82+00	87+00	LT	90	10		10		500	1			
36-UD	82+00	87+00	RT	90	10		10		500	1			
37-UD	87+00	92+00	LT	91		8			500				
38-UD	87+00	88+00	RT	91		8			100				
39-UD	88+00	92+00	RT	91					400				
40-UD	92+00	97+00	LT	92		8			500				
41-UD	92+00	97+00	RT	92		8		12	500	1			
42-UD	97+00	98+00	RT	93					100				
43-UD	97+00	102+00	LT	93		8			500				
44-UD	100+00	102+00	RT	93		8		16	200	1			
45-UD	102+00	105+55	LT	94					355				
46-UD	102+00	105+55	RT	94					355				
47-UD	21+65	25+00	LT	97					335				
48-UD	25+00	25+65	LT	98		6		39	65				
49-UD	39+30	41+00	RT	99		8		12	170	1			
50-UD	41+00	46+00	RT	100					500				
SUB - TOTAL LEFT COLUMN					26	244	26	134	19054	7	1	20	30

MARK	STATION		SIDE	SHEET NO.	202	603			605	ITEM SPECIAL PRECAST REINF. CONCRETE OUTLET EACH	FOR INFO ONLY			
					PIPE REMOVED 24" & UNDER LIN.FT.	4" CONDUIT TYPE B * LIN.FT.	6" CONDUIT TYPE B * LIN.FT.	4" CONDUIT TYPE F * LIN.FT.	SHALLOW UNDERDRAIN AS PER PLAN		BENDS AND BRANCHES	END CAP	SIDE OUTLET	
	BEND													
	6"x90°													
					202	603	605	ITEM SPECIAL PRECAST REINF. CONCRETE OUTLET EACH	BENDS AND BRANCHES	END CAP	SIDE OUTLET			
					LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.		EACH	EACH			
51-UD	46+00	50+00	RT	101	10	8		14	10	400	2			
52-UD	40+50	44+00	RT	102		8		26		350	1			
53-UD	44+00	44+95	RT	103						95	1			
54-UD	50+50	54+00	LT	104		6		14		350	1			
55-UD	54+00	57+50	LT	105	10	8	5	23		345	2			
56-UD	99+00	101+00	RT	106						200				
57-UD	101+00	106+00	RT	107	85	8		15	32	500	2			
58-UD	97+50	102+50	LT	109		8		22		500	1			
59-UD	102+50	105+25	LT	110		6		20		275	1			
60-UD	107+97	112+00	LT	95	36		79			403				
61-UD	107+97	112+00	LT	95						403				
62-UD	112+00	113+00	LT	96		8	10			100				
63-UD	112+00	113+00	RT	96		8				100				
SUB - TOTAL THIS COLUMN					141	68	94	134	42	4021	10	13	9	1
SUB - TOTAL LEFT COLUMN					26	244	26	134		19054	7	20	30	1
TOTAL CARRIED TO SHEETS 58-60					167	312	120	268	42	23075	17	33	39	1

UNDERDRAIN QUANTITIES

LIC-16-17.94

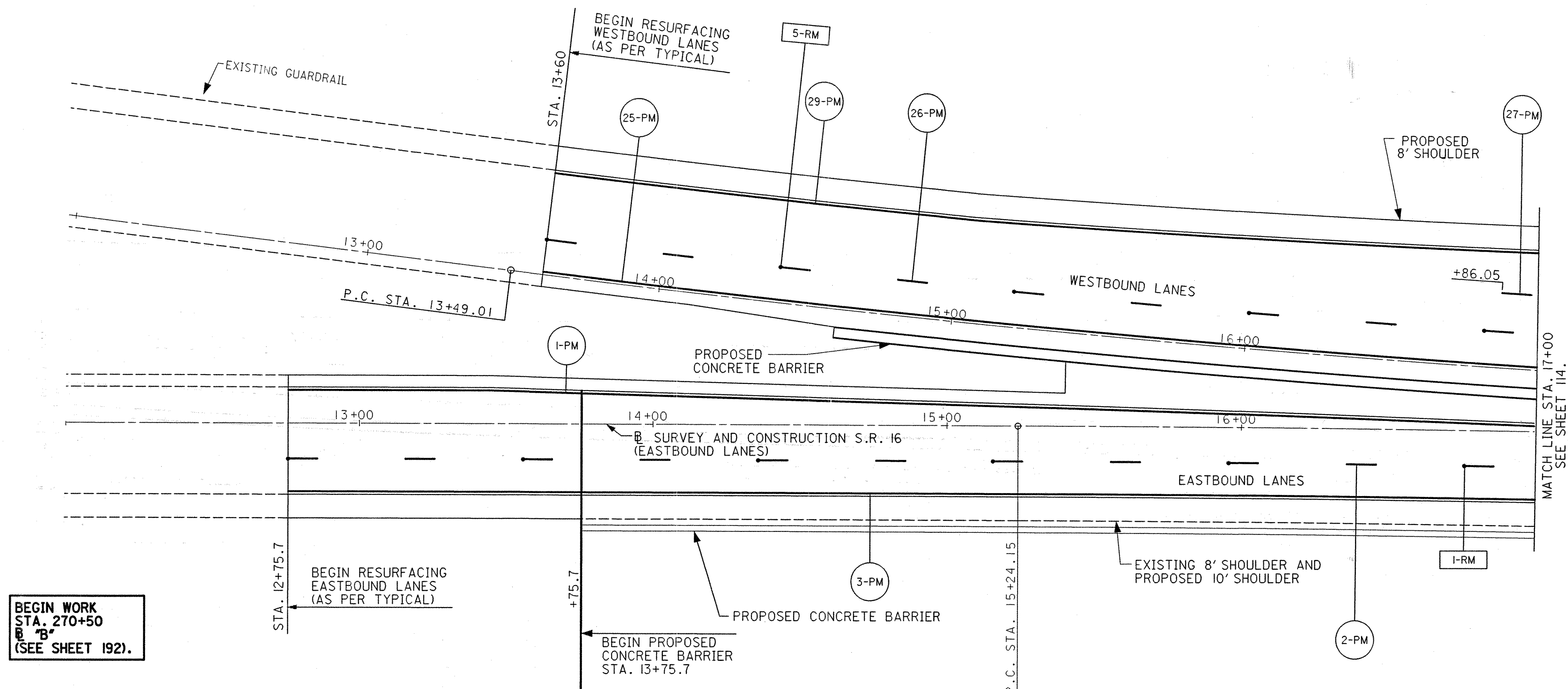
L1619331.DGN 4/18/95

FOR PAVEMENT MARKING QUANTITIES SEE SHEETS 146-148.

LEGEND

- - 2 WAY REFLECTORS
- - 1 WAY REFLECTORS

CURVE DATA S.R.16
(WESTBOUND LANES)
P.I. STA. 16+28.71
 $\Delta = 05^{\circ}35'23''$ LT.
 $D_c = 01^{\circ}00'00''$
T = 279.71'
R = 5729.58'
L = 558.97'
E = 6.82'



BEGIN WORK
STA. 270+50
"B"
(SEE SHEET 192).

CURVE DATA S.R.16
(EASTBOUND LANES)
P.I. STA. 16+74.46
 $\Delta = 01^{\circ}24'10''$ RT.
 $D_c = 00^{\circ}28'00''$
T = 150.31'
R = 12277.67'
L = 300.59'
E = 0.92'

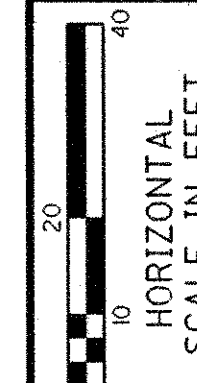
BEGIN PROJECT
STA. 13+75.7
S.L.M. 17.94

NOTE:

ITEM 642 TRAFFIC PAINT, TYPE 2

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PAVEMENT MARKING SUB-SUMMARY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER FROM STA. 13+10 (WESTBOUND) AND STA. 274+90 (EASTBOUND), TO THE BEGINNING OF RESURFACING, STA. 13+60 (WESTBOUND) AND STA. 12+75.7 (EASTBOUND), SEE SHEETS 51 & 52.

ITEM 642 EDGE LINE (YELLOW) - 0.211 MILE
ITEM 642 EDGE LINE (WHITE) - 0.223 MILE
ITEM 642 LANE LINE - 0.240 MILE
ITEM 642 CHANNELIZING LINE - 46 LIN. FT.



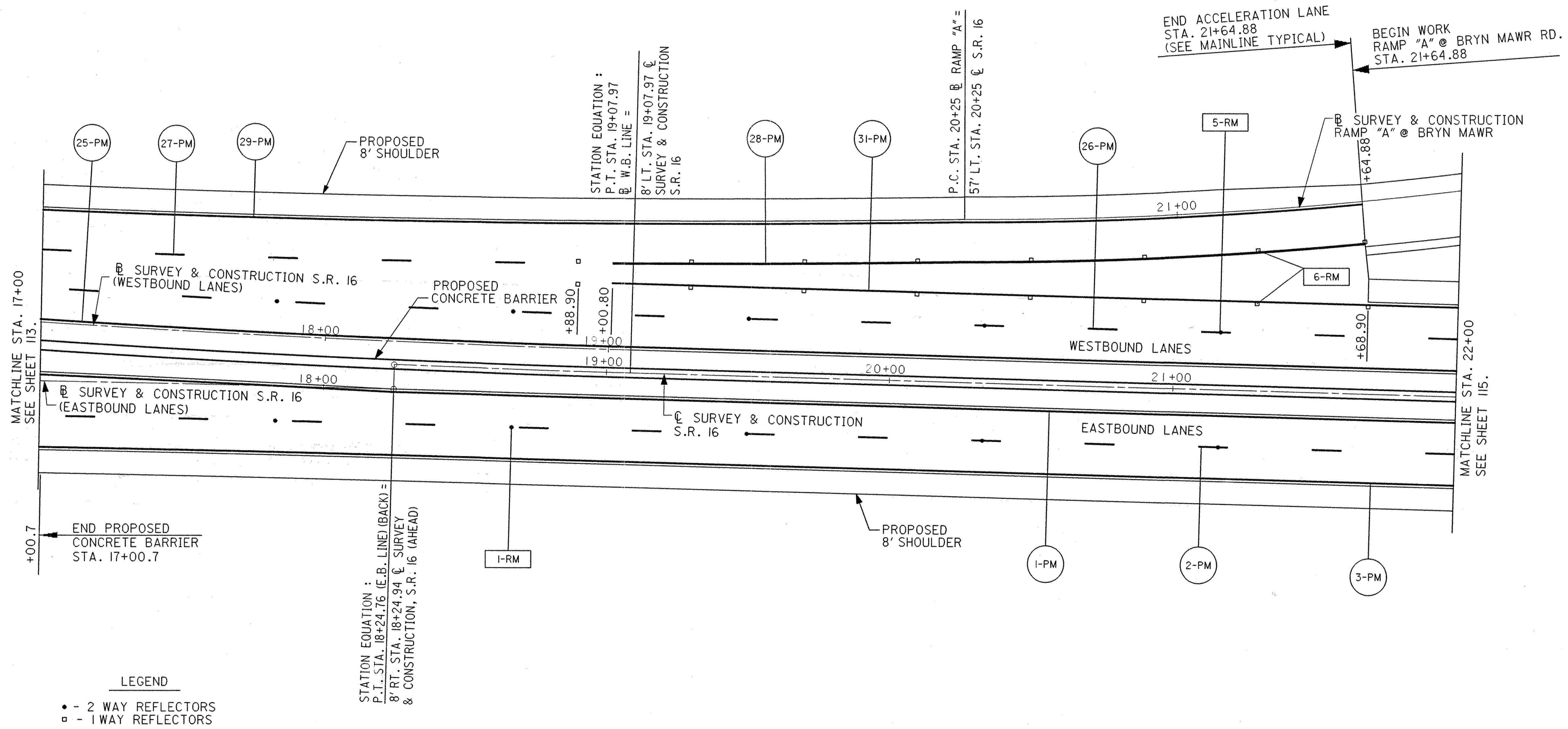
CALCULATED
J.L.S.
3/13/95
CHECKED
D.M.
3/17/95

PAVEMENT MARKING SHEET
STA. 12+00 TO STA. 17+00

LIC-16-17.94



FOR PAVEMENT MARKINGS ON RAMP "A" @ BRYN MAWR, SEE SHEET 134.



- LEGEND**
- - 2 WAY REFLECTORS
 - ◻ - 1 WAY REFLECTORS

FOR QUANTITIES SEE SHEETS 146-148.

CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/17/95
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PAVEMENT MARKING SHEET
STA. 17+00 TO STA. 22+00

LIC-16-17.94
 114
 420

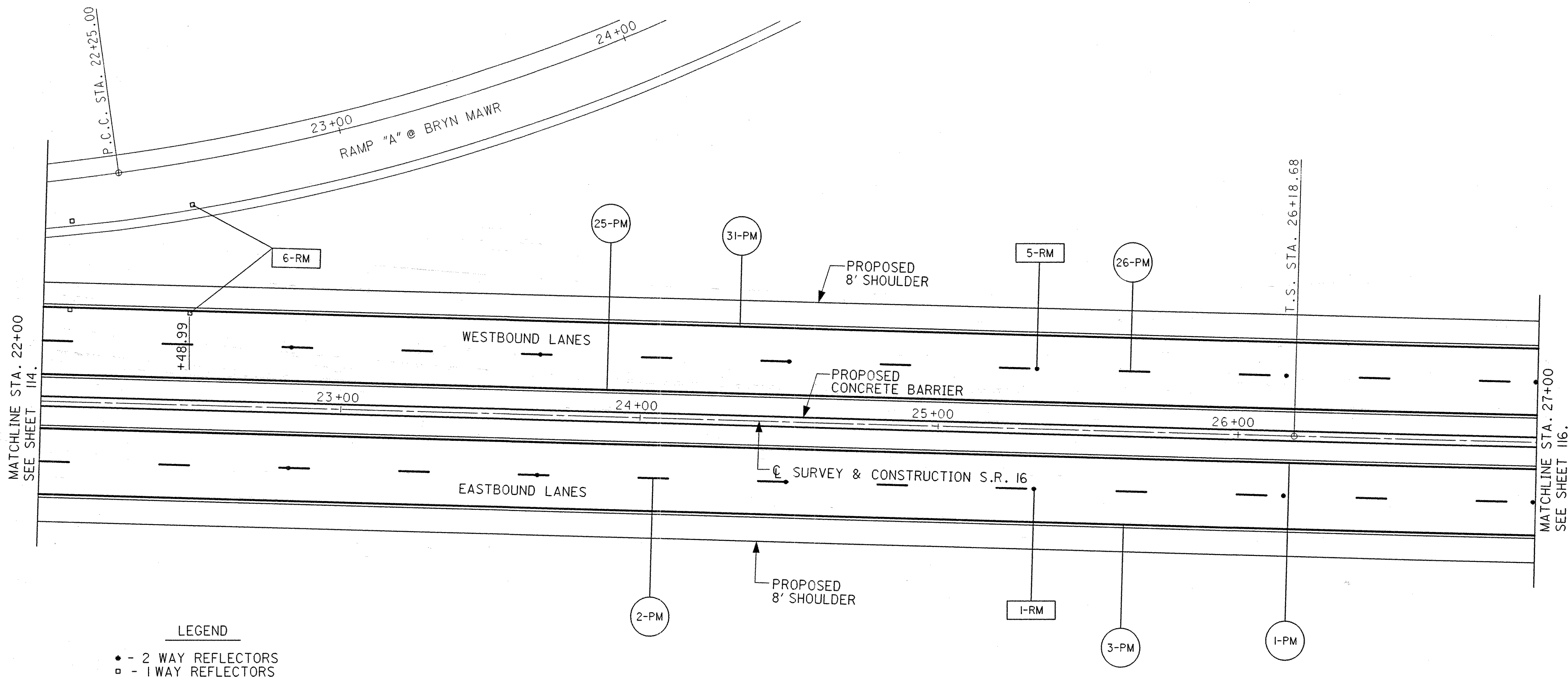




FOR PAVEMENT MARKINGS ON RAMP "A" @ BRYN MAWR, SEE SHEET 134.

CURVE DATA
S.R. 16

P.I. STA. 33+17.84
 $\Delta = 30^\circ 39' 20''$ LT.
 $D_c = 03^\circ 00' 00''$
 $R_c = 1909.86'$
 $L_s = 350.00'$
 $\theta_s = 5^\circ 15' 00''$
 $LT = 233.44'$
 $ST = 116.76'$
 $L_c = 671.85'$
 $T_s = 699.16'$
 $E_s = 73.21'$



LEGEND

- - 2 WAY REFLECTORS
- ◻ - 1 WAY REFLECTORS

FOR QUANTITIES SEE SHEETS 146-148.

CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/17/95	 HORIZONTAL SCALE IN FEET

PAVEMENT MARKING SHEET
STA. 22+00 TO STA. 27+00

LIC-16-17.94



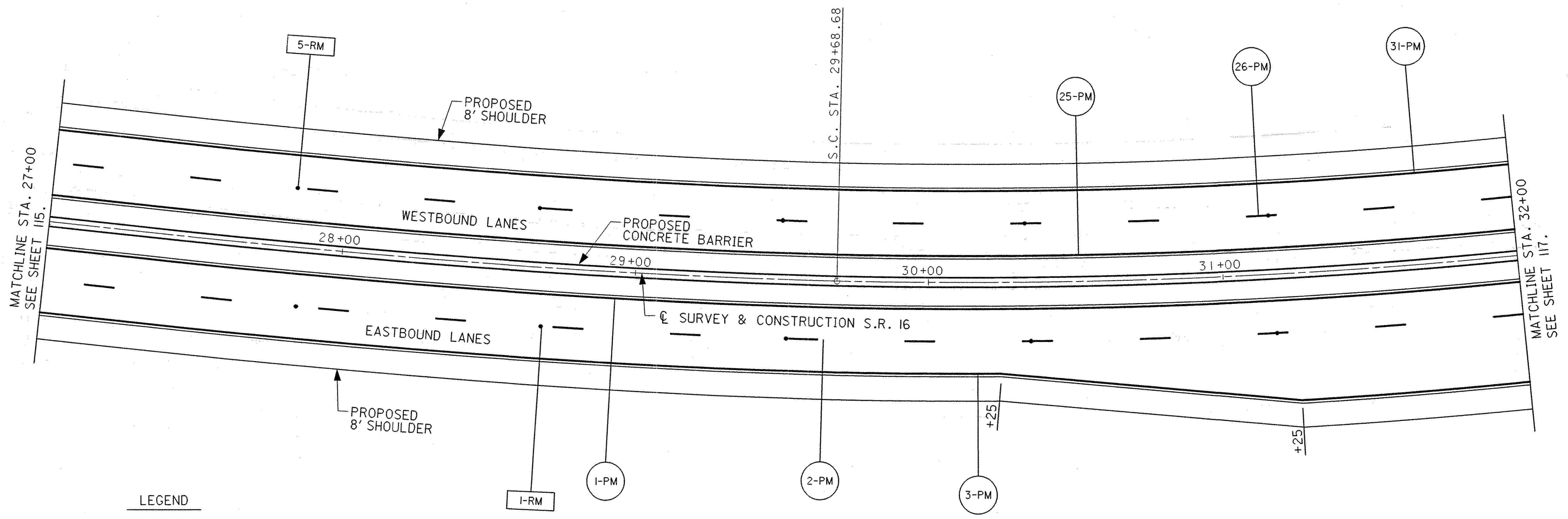
CURVE DATA
S.R. 16

P.I. STA. 33+17.84
 $\Delta = 30^\circ 39' 20''$ LT.
 Dc = $03^\circ 00' 00''$
 RC = 1909.86'
 Ls = 350.00'
 $\theta_s = 5^\circ 15' 00''$
 LT = 233.44'
 ST = 116.76'
 LC = 671.85'
 TS = 699.16'
 ES = 73.21'

CALCULATED
J.L.S.
3/13/95

CHECKED
D.M.
3/17/95

0 10 20 40
HORIZONTAL
SCALE IN FEET



LEGEND

- - 2 WAY REFLECTORS
- ◻ - 1 WAY REFLECTORS

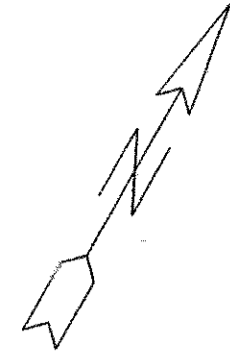
MATCHLINE STA. 27+00
SEE SHEET 115.

MATCHLINE STA. 32+00
SEE SHEET 117.

PAVEMENT MARKING SHEET
STA. 27+00 TO STA. 32+00

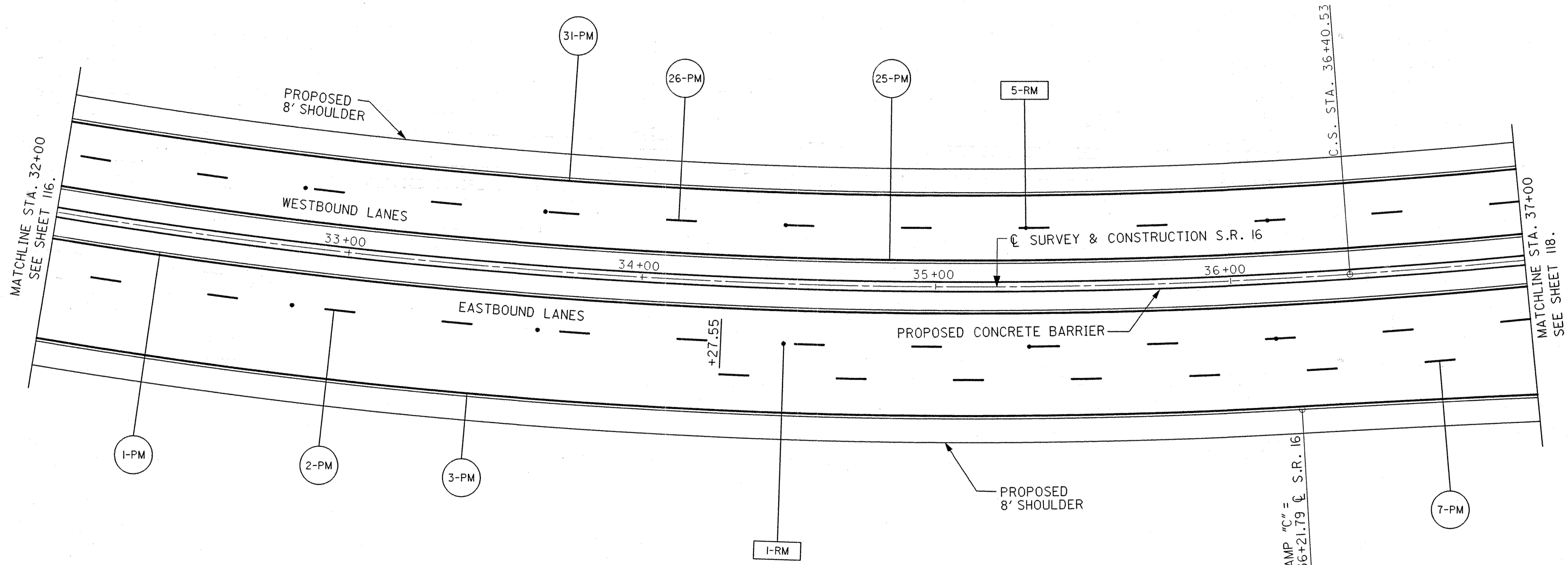
LIC-16-17.94

116
420



CURVE DATA
S.R. 16

P.I. STA. 33+17.84
 $\Delta = 30^\circ 39' 20''$ LT.
Dc = 03° 00' 00"
Rc = 1909.86'
Ls = 350.00'
 $\theta_s = 5^\circ 15' 00''$
LT = 233.44'
ST = 116.76'
Lc = 671.85'
Ts = 699.16'
Es = 73.21'



FOR QUANTITIES SEE SHEETS 146-148.

LEGEND

- - 2 WAY REFLECTORS
- ◻ - 1 WAY REFLECTORS

P.C. STA. 36+21.79 @ RAMP "C" =
44.00' RT. P.O.C. STA. 36+21.79 @ S.R. 16

L6505160.DGN 04/10/95

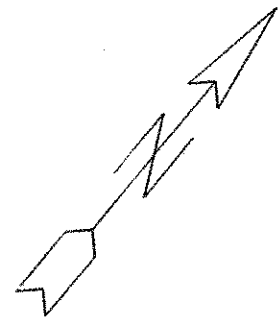
CALCULATED
J.L.S.
3/13/95

CHECKED
D.M.
3/17/95

HORIZONTAL
SCALE IN FEET

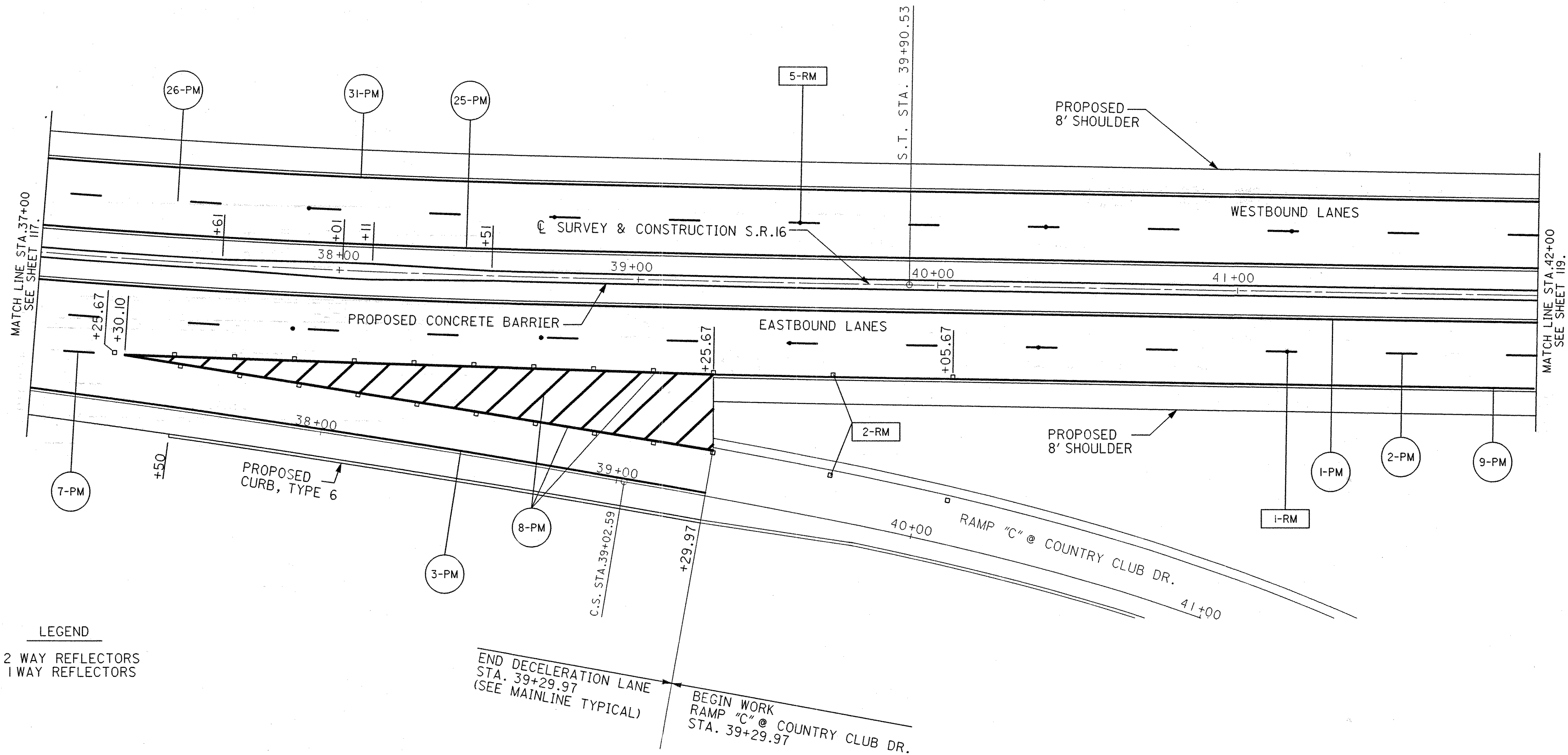
PAVEMENT MARKING SHEET
STA. 32+00 TO STA. 37+00

LIC-16-17.94



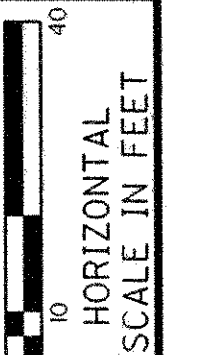
CURVE DATA
S.R. 16

P.I. STA.	33+17.84'
Δ	$30^{\circ} 39' 20''$ LT.
Dc	$03^{\circ} 00' 00''$
Rc	1909.86'
Ls	350.00'
Os	$5^{\circ} 15' 00''$
Lt	233.44'
St	116.76'
Lc	671.85'
Ts	699.16'
Es	73.21'



FOR QUANTITIES SEE SHEETS 146-148.

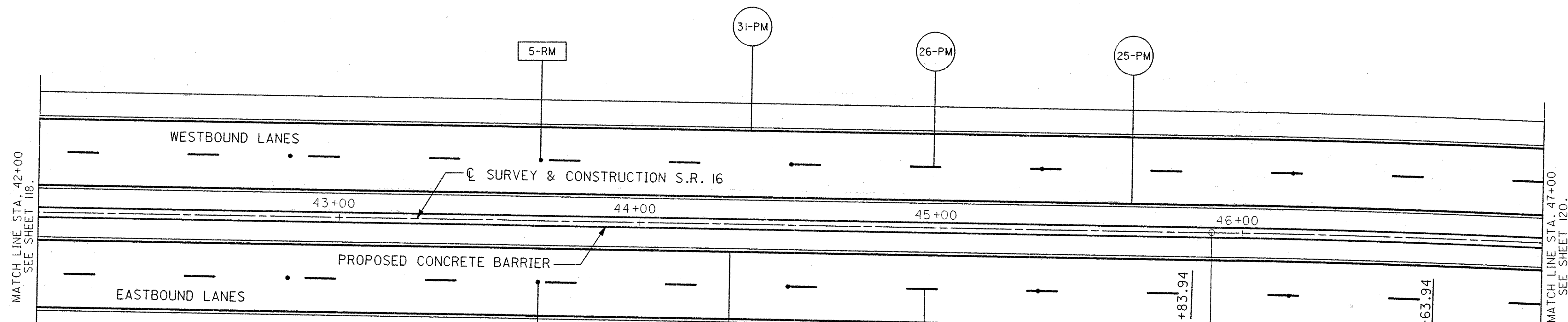
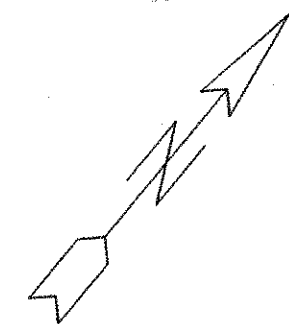
FOR PAVEMENT MARKINGS ON RAMP "C" @ COUNTRY CLUB DRIVE, SEE SHEETS 135-137.



CALCULATED J.L.S. 3/13/95
CHECKED D.M. 3/17/95

PAVEMENT MARKING SHEET
STA. 37+00 TO STA. 42+00

LIC-16-17.94



LEGEND
 • - 2 WAY REFLECTORS
 □ - 1 WAY REFLECTORS

CURVE DATA
 S.R. 16
 P.I. STA. 52+01.82
 $\Delta = 17^\circ 48' 20''$ RT.
 $D_c = 01^\circ 28' 00''$
 $R = 3906.52'$
 $T = 611.94'$
 $L = 1214.02'$
 $E = 47.64'$

FOR QUANTITIES SEE SHEETS 146-148.

FOR PAVEMENT QUANTITIES ON RAMP "D" @ COUNTRY CLUB DRIVE, SEE SHEETS 138 & 139.

END WORK
 RAMP "D" @
 COUNTRY CLUB DR.
 STA. 46+74.20

BEGIN RAMP "D" @
 COUNTRY CLUB DR.
 ACCELERATION LANE
 STA. 46+63.94
 (SEE MAINLINE TYPICAL)

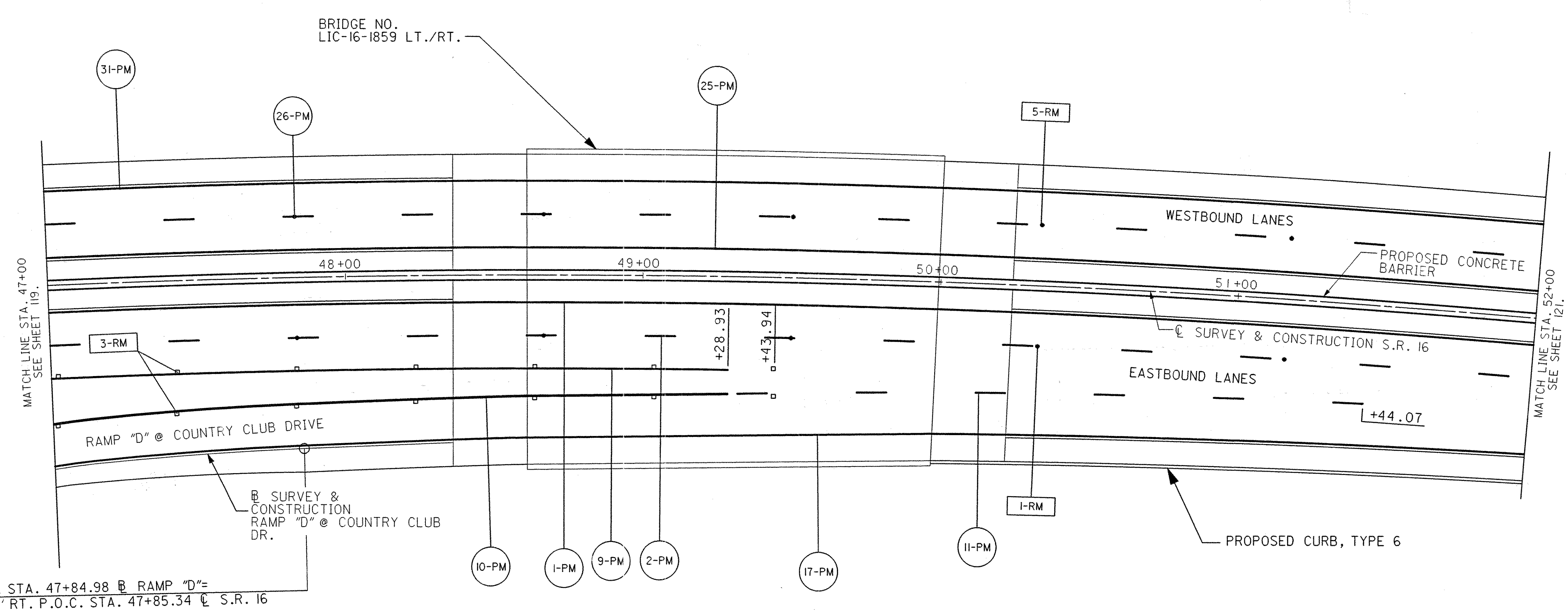
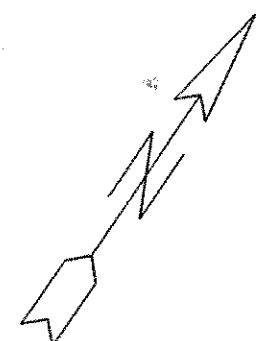
CALCULATED
 J.L.S.
 3/13/95

CHECKED
 D.M.
 3/17/95

0 10 20 40
 HORIZONTAL
 SCALE IN FEET

PAVEMENT MARKING SHEET
STA. 42+00 TO STA. 47+00

LIC-16-17.94



S.T. STA. 47+84.98 @ RAMP "D" =
57.0' RT. P.O.C. STA. 47+85.34 @ S.R. 16

FOR QUANTITIES SEE SHEETS 146-148.

CURVE DATA
S.R. 16
P.I. STA. 52+01.82
 $\Delta = 17^{\circ}48'20''$ RT.
Dc = 01°28'00"
R = 3906.53'
L = 1214.02'
T = 611.94'
E = 47.64'

LEGEND
• - 2 WAY REFLECTORS
□ - 1 WAY REFLECTORS

CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/17/95
---------------------------------	----------------------------

0 20 40
HORIZONTAL
SCALE IN FEET

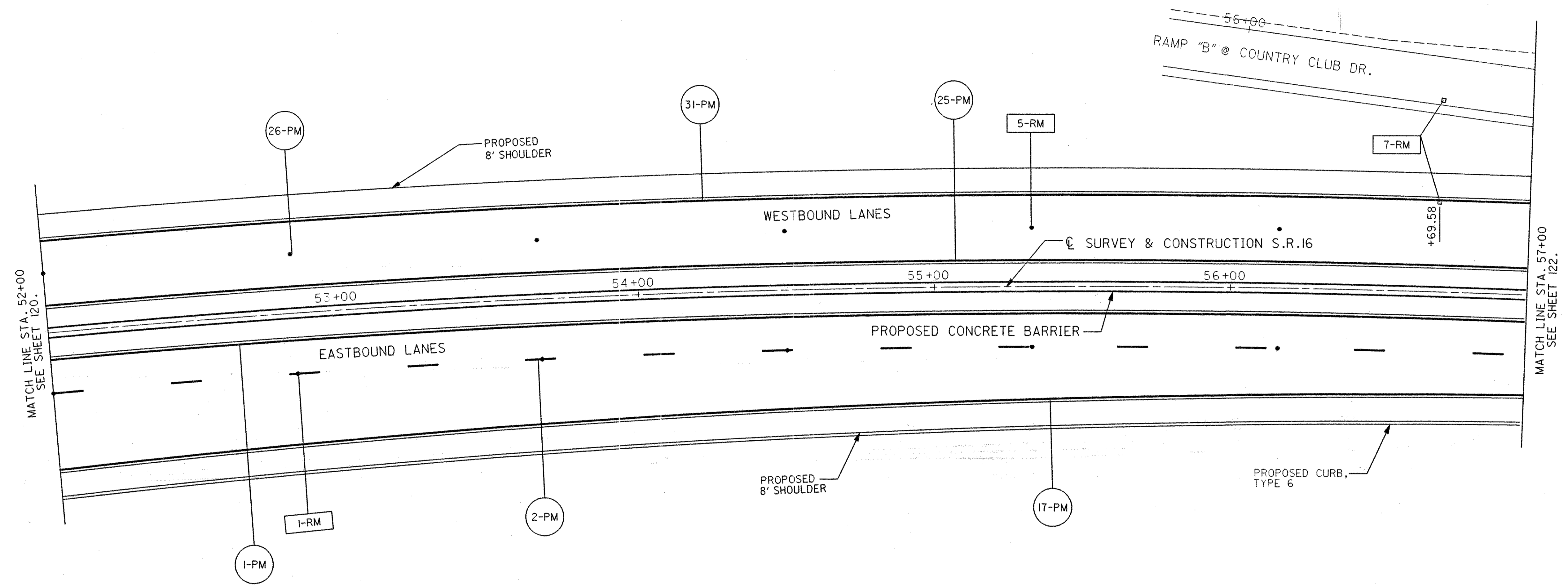
PAVEMENT MARKING SHEET
STA. 47+00 TO STA. 52+00

LIC-16-17.94

120
420



FOR PAVEMENT MARKINGS ON RAMP "B" @ COUNTRY CLUB DRIVE, SEE SHEETS 140 & 141.



MATCH LINE STA. 52+00
SEE SHEET 120.

MATCH LINE STA. 57+00
SEE SHEET 122.

LEGEND

- - 2 WAY REFLECTORS
- ◻ - 1 WAY REFLECTORS

CURVE DATA
S.R.16

P.I. STA. 52+01.82
 $\Delta = 17^{\circ}48'20''$ RT.
 $D_c = 01^{\circ}28'00''$
 $R = 3906.53'$
 $L = 1214.02'$
 $T = 611.94'$
 $E = 47.64'$

FOR QUANTITIES SEE SHEETS 146-148.

CALCULATED
J.L.S.
3/13/95

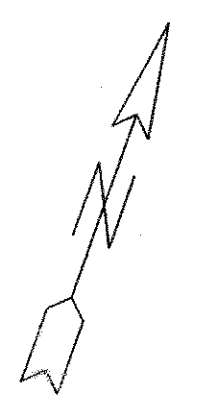
CHECKED
D.M.
3/17/95

HORIZONTAL
SCALE IN FEET

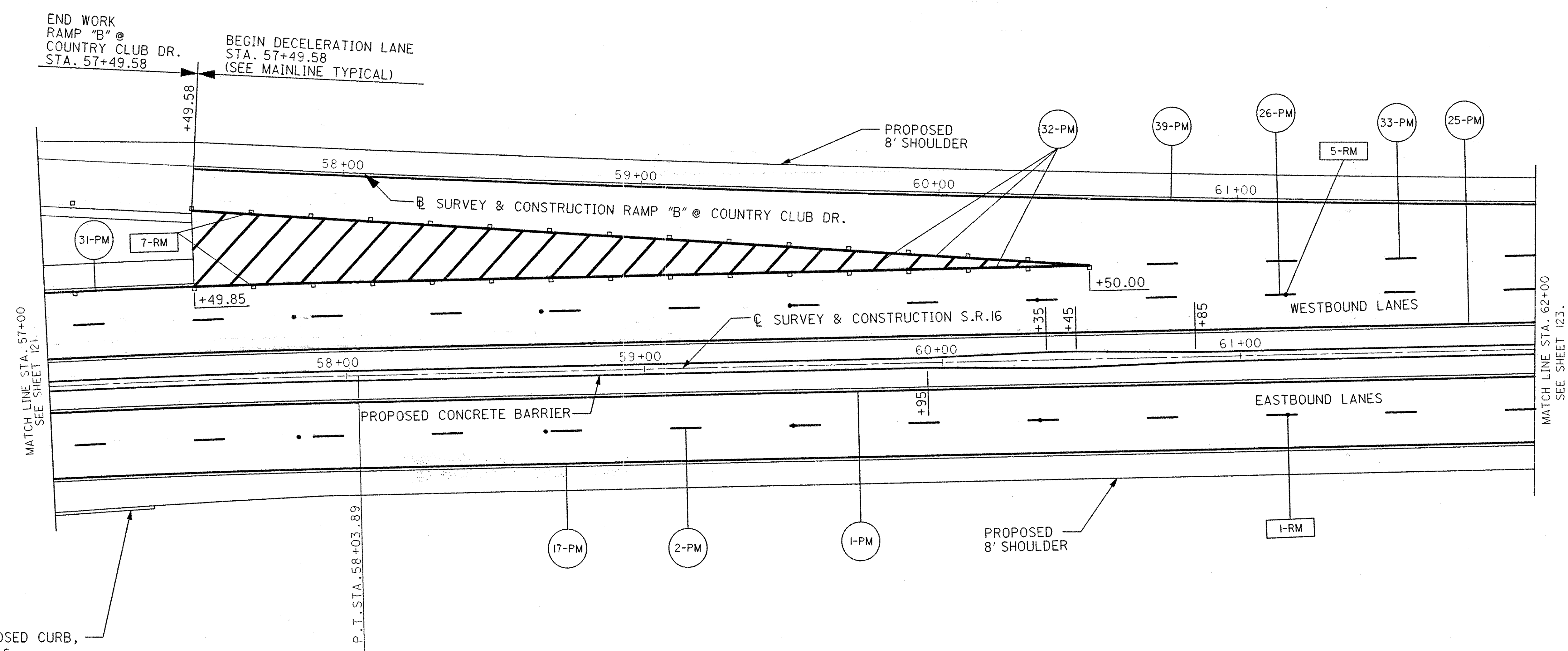
PAVEMENT MARKING SHEET
STA. 52+00 TO STA. 57+00

LIC-16-17.94

121
420



FOR PAVEMENT MARKINGS ON RAMP "B" @ COUNTRY CLUB DRIVE, SEE SHEETS 140 & 141.



MATCH LINE STA. 57+00
SEE SHEET 121.

MATCH LINE STA. 62+00
SEE SHEET 123.

P. I. STA. 58+03.89

PROPOSED CURB,
TYPE 6

- LEGEND
- - 2 WAY REFLECTORS
 - ▣ - 1WAY REFLECTORS

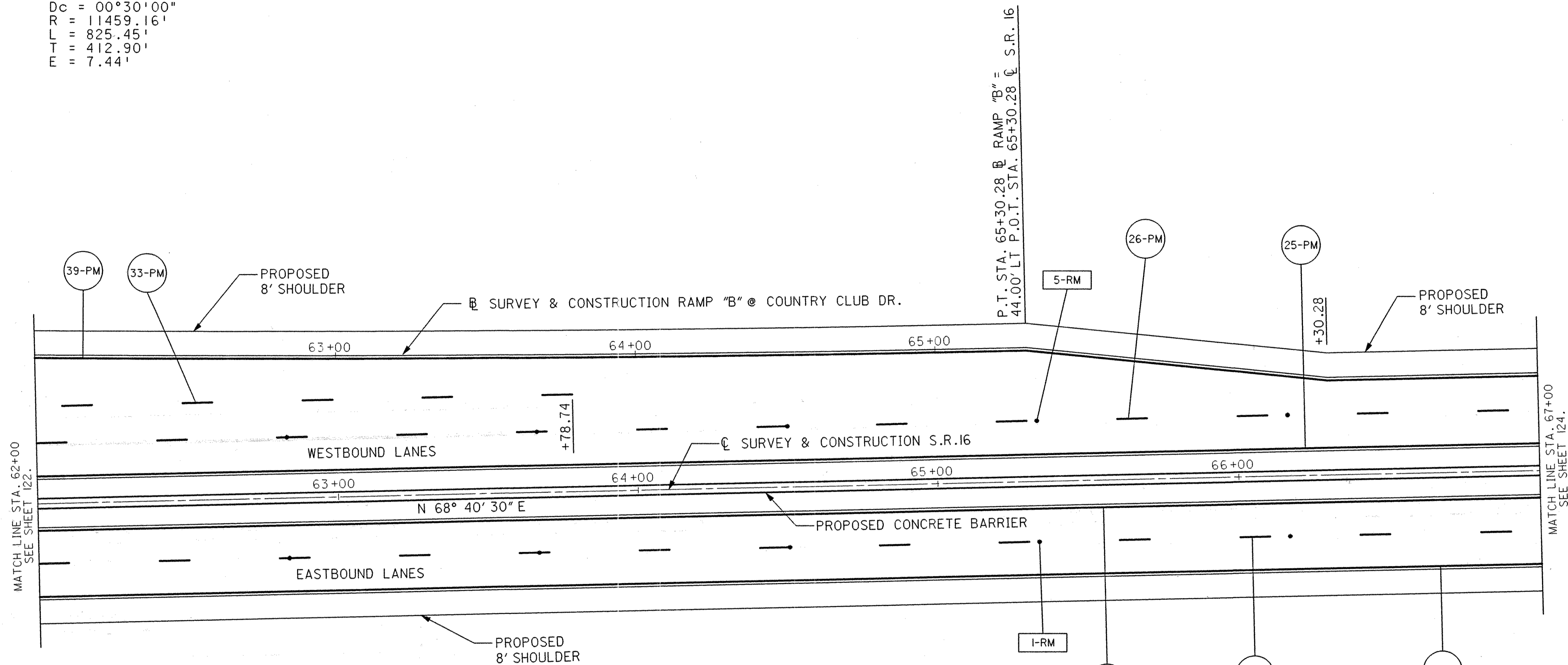
FOR QUANTITIES SEE SHEETS 146-148.

<p>HORIZONTAL SCALE IN FEET</p>	
<p>CALCULATED J.L.S. 3/15/95</p>	<p>CHECKED D.M. 3/17/95</p>

PAVEMENT MARKING SHEET
STA. 57+00 TO STA. 62+00

LIC-16-17.94

CURVE DATA
 RAMP "B" @ COUNTRY CLUB DR.
 P.I. STA. 61+17.74
 $\Delta = 04^{\circ}07'38''$ LT.
 $D_c = 00^{\circ}30'00''$
 $R = 11459.16'$
 $L = 825.45'$
 $T = 412.90'$
 $E = 7.44'$



LEGEND
 • - 2 WAY REFLECTORS
 □ - 1WAY REFLECTORS

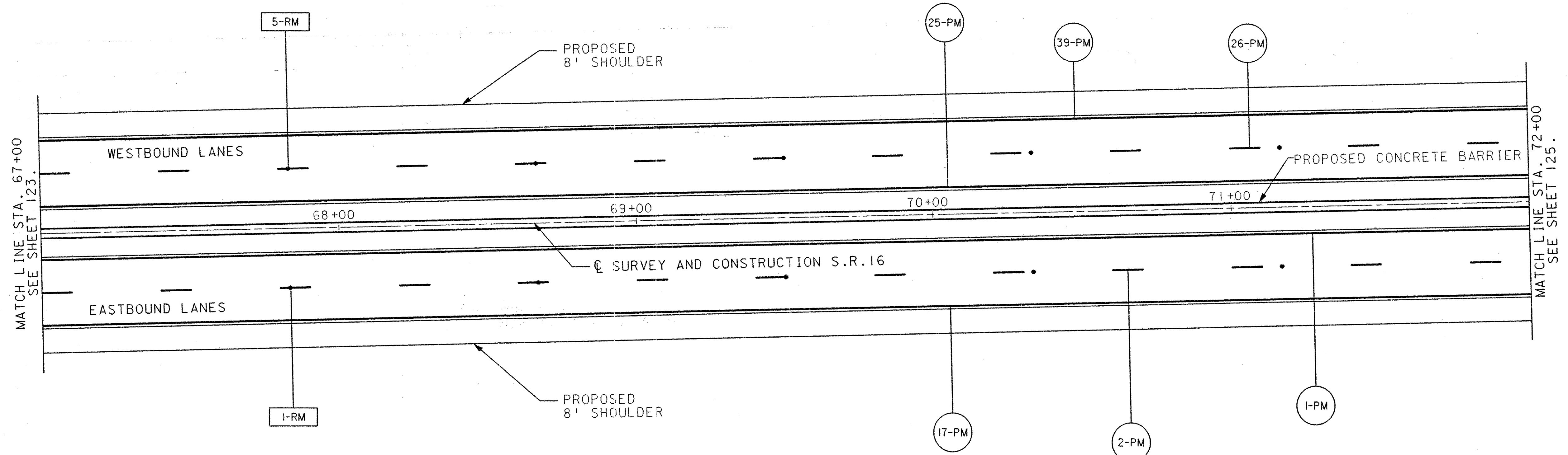
FOR QUANTITIES SEE SHEETS 146-148.



CALCULATED J.L.S. 3/17/95	CHECKED D.M. 3/17/95
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PAVEMENT MARKING SHEET
STA. 62+00 TO STA. 67+00

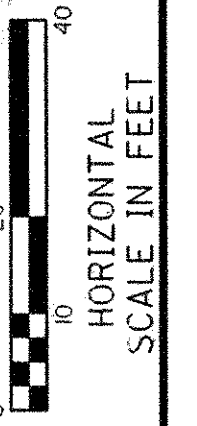
LIC-16-17.94



LEGEND

- - 2 WAY REFLECTORS
- ◻ - 1WAY REFLECTORS

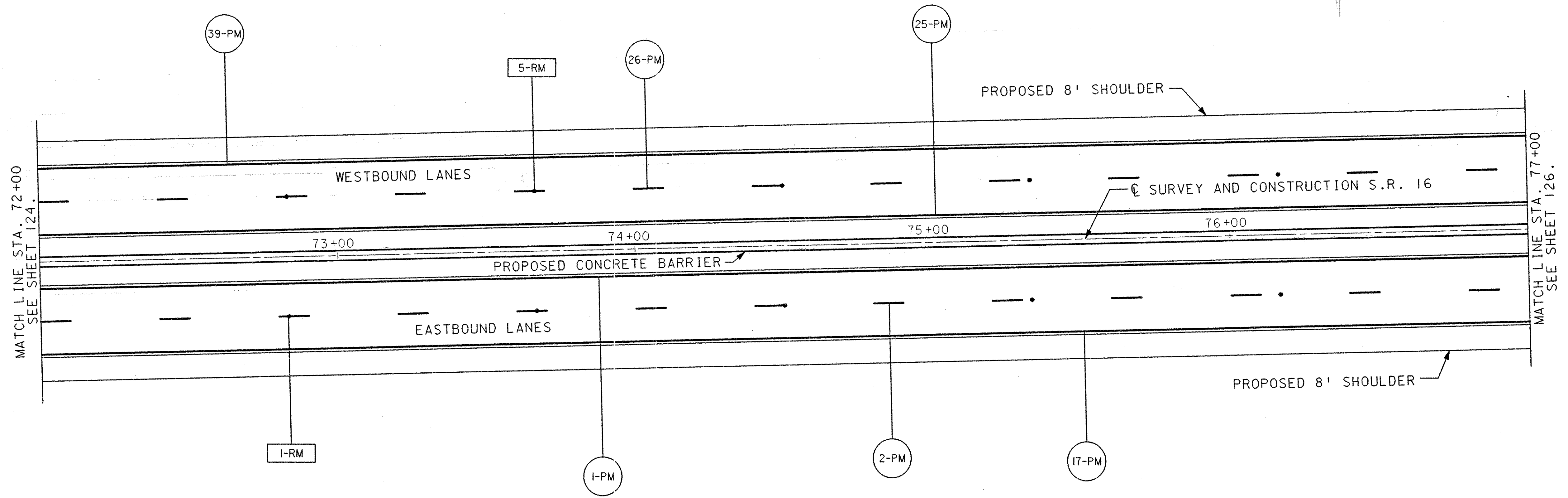
FOR QUANTITIES SEE SHEETS 146-148.



CALCULATED
J.L.S.
3/17/95
CHECKED
D.M.
3/17/95

**PAVEMENT MARKING SHEET
STA. 67+00 TO STA. 72+00**

LIC-16-17.94



LEGEND
 • - 2 WAY REFLECTORS
 ◻ - 1 WAY REFLECTORS

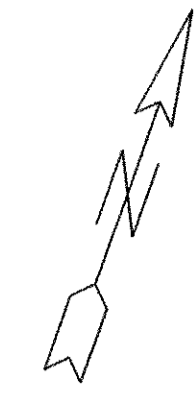
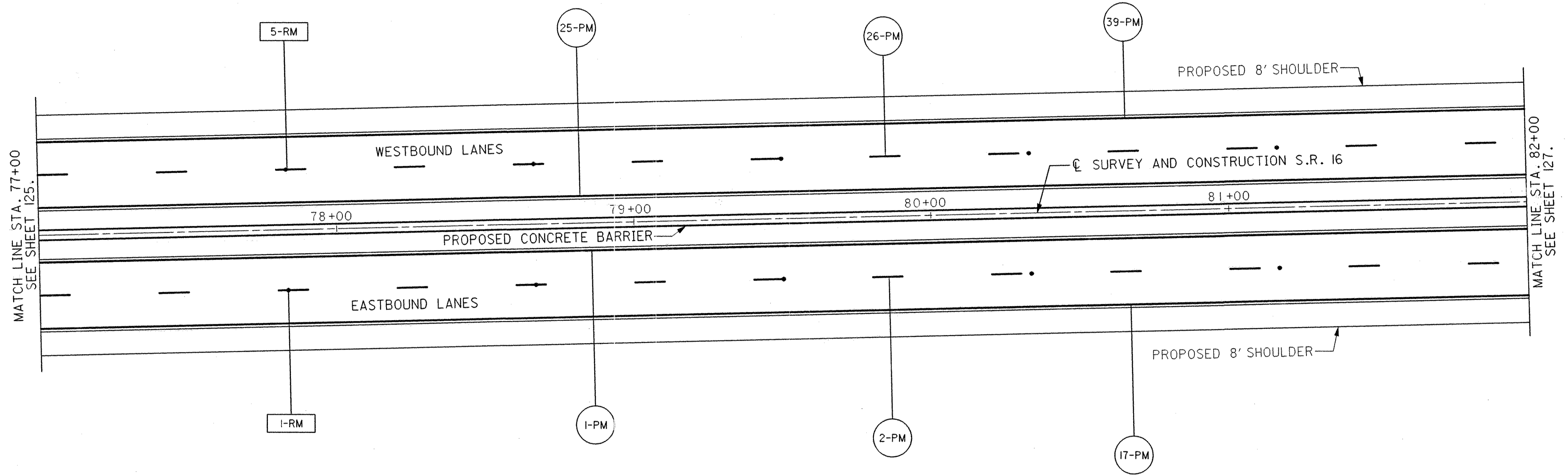
FOR QUANTITIES SEE SHEETS 146-148.

CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/17/95
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PAVEMENT MARKING SHEET
STA. 72+00 TO STA. 77+00

LIC-16-17.94

125
420



LEGEND

- - 2 WAY REFLECTORS
- - 1WAY REFLECTORS

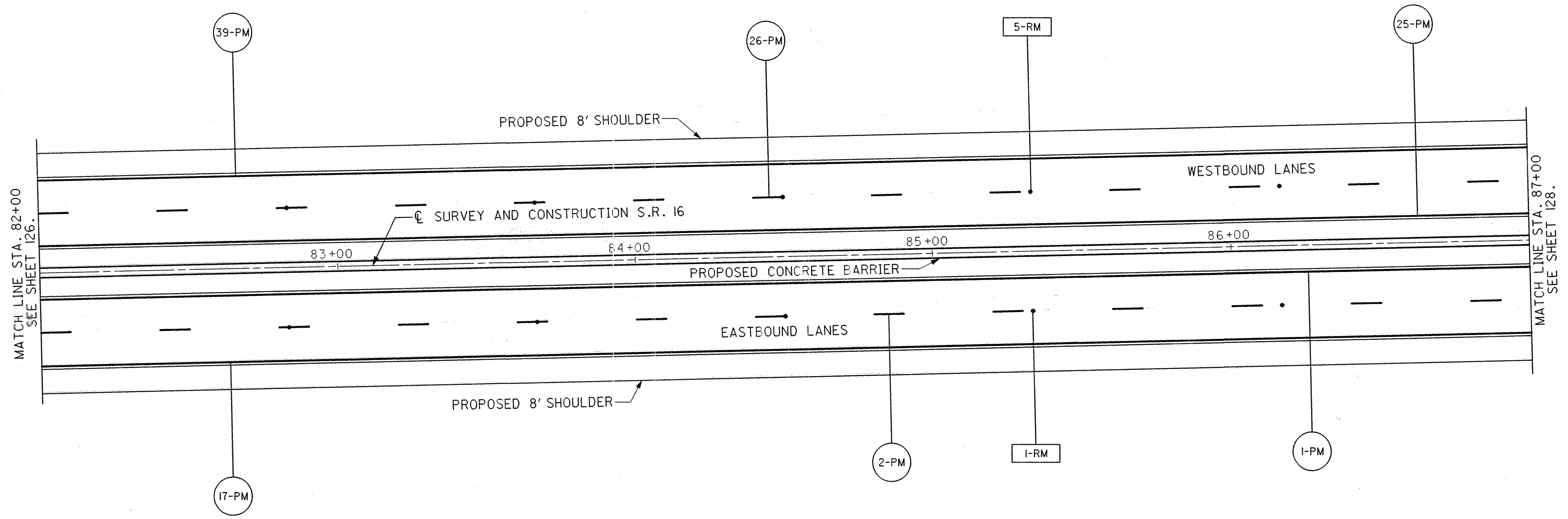
FOR QUANTITIES SEE SHEETS 146-148.

<p>HORIZONTAL SCALE IN FEET</p>	
<p>CALCULATED J.L.S. 3/13/95</p>	<p>CHECKED D.M. 5/17/95</p>

PAVEMENT MARKING SHEET
STA. 77+00 TO STA. 82+00

LIC-16-17.94

L651560.DGN 04/10/95



LEGEND
 • - 2 WAY REFLECTORS
 □ - 1 WAY REFLECTORS

FOR QUANTITIES SEE SHEETS 146-148.

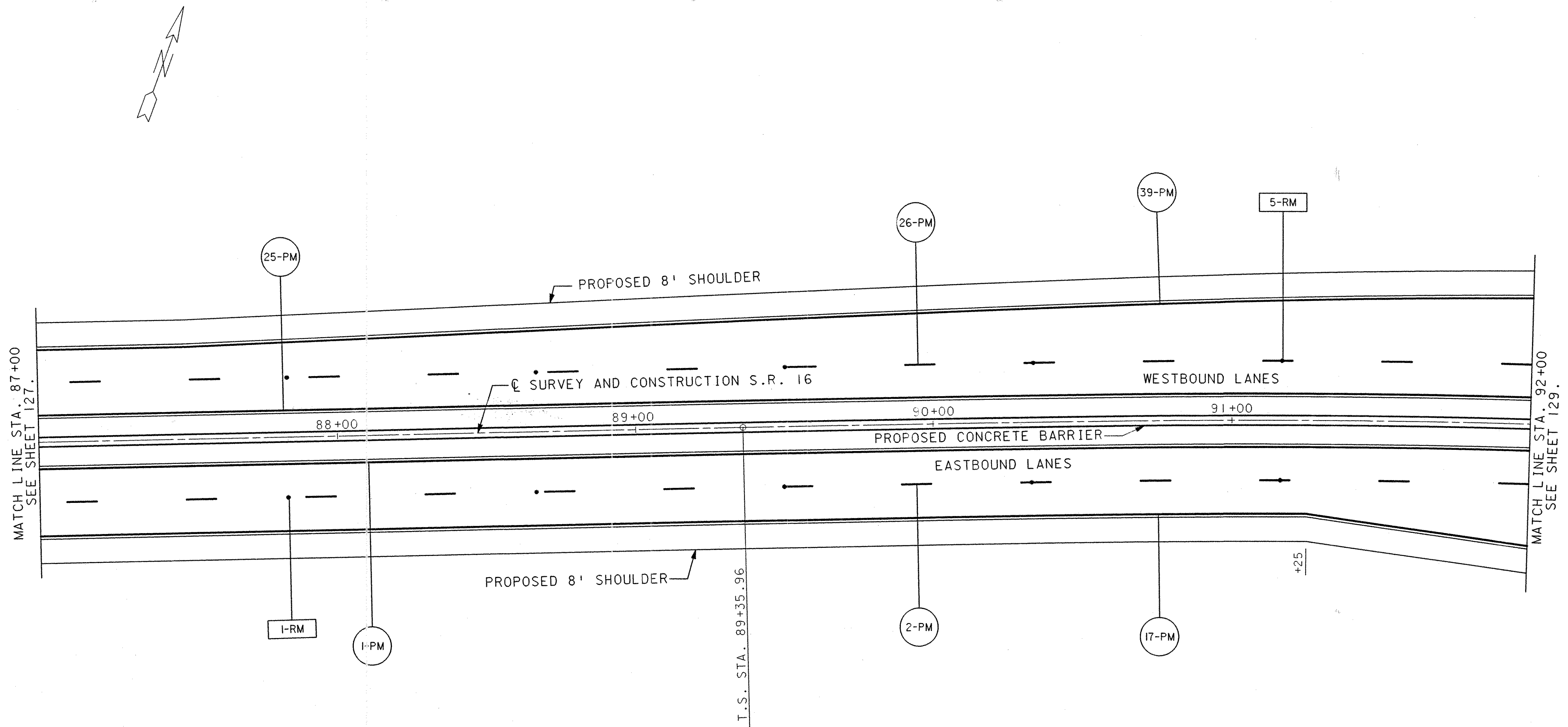


CALCULATED
3/17/95
 CHECKED
D.M.
3/17/95
 HORIZONTAL
SCALE IN FEET
 0 10 20 40

PAVEMENT MARKING SHEET
STA. 82+00 TO STA. 87+00

LIC-16-17.94

127
420



CURVE DATA
S.R. 16

P.I.	STA. 98+73.88
Δ	43°29'50" RT.
Dc	03°00'00"
Rc	1909.86'
Ls	350.00'
Os	5° 15' 00"
LT	233.44'
ST	116.76'
Lc	1099.91'
Es	149.24'

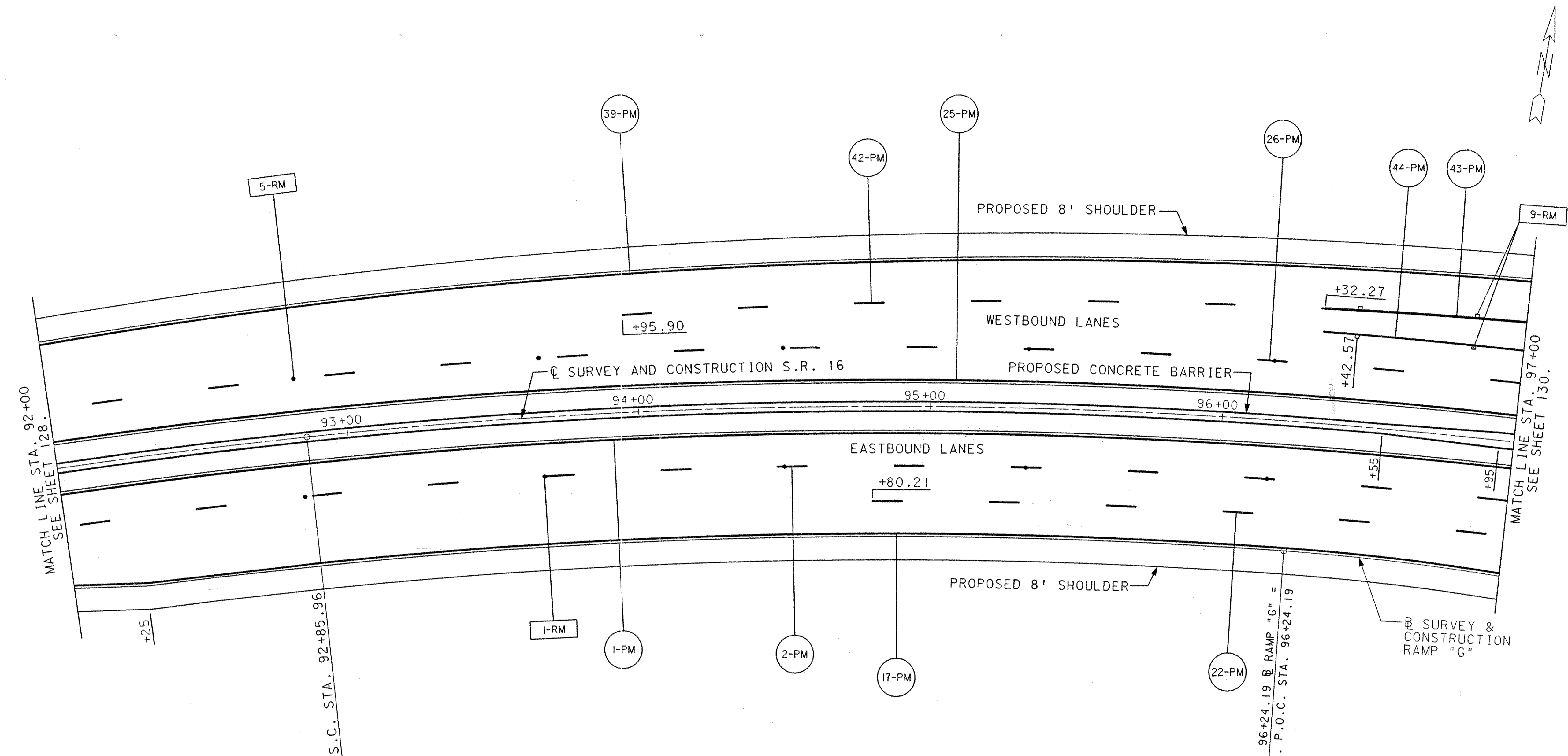
FOR QUANTITIES SEE SHEETS 146-148.

- LEGEND
- - 2 WAY REFLECTORS
 - ◻ - 1WAY REFLECTORS

CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/17/95
<p>HORIZONTAL SCALE IN FEET</p>	

PAVEMENT MARKING SHEET
STA. 87+00 TO STA. 92+00

LIC-16-17.94

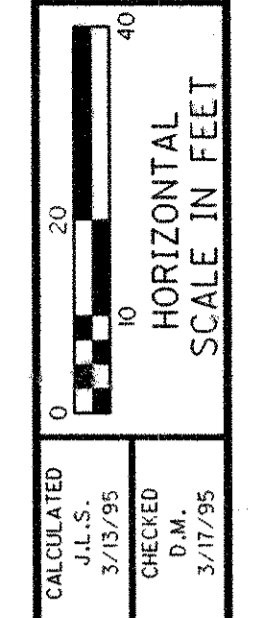


LEGEND
 • - 2 WAY REFLECTORS
 □ - 1WAY REFLECTORS

CURVE DATA
 S.R. 16
 P.I. STA. 98+73.88
 $\Delta = 43^\circ 29' 50''$ RT.
 Dc = $03^\circ 00' 00''$
 Rc = 1909.86'
 Ls = 350.00'
 OS = $5^\circ 15' 00''$
 LT = 233.44'
 ST = 116.76'
 Lc = 1099.91'
 Es = 149.24'

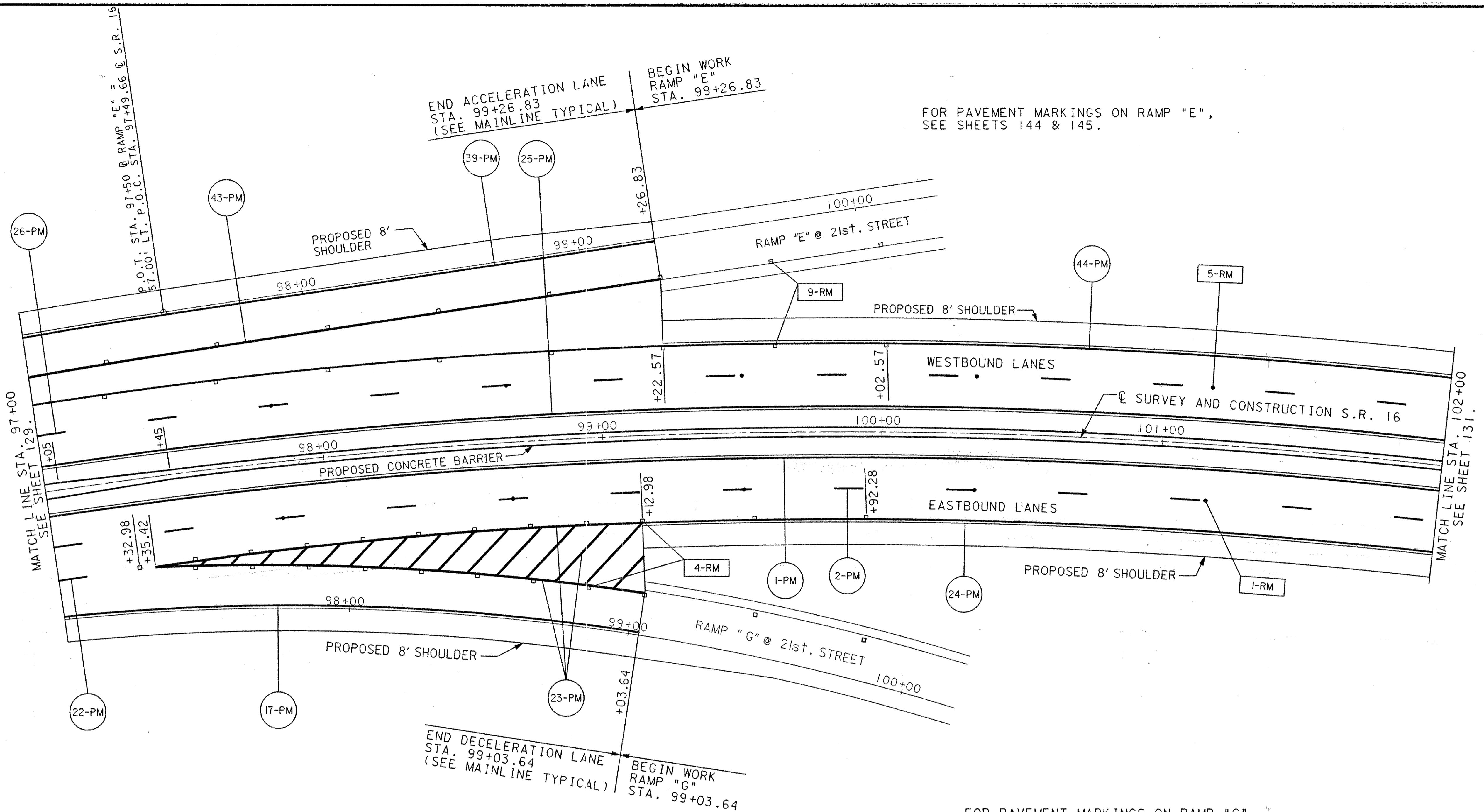
P.C. STA. 96+24.19 @ RAMP "G" =
 44.00' RT. P.O.C. STA. 96+24.19
 @ S.R. 16

FOR QUANTITIES SEE SHEETS 146-148.



PAVEMENT MARKING SHEET
STA. 92+00 TO STA. 97+00

LIC-16-17.94



END ACCELERATION LANE
STA. 99+26.83
(SEE MAINLINE TYPICAL)

BEGIN WORK
RAMP "E"
STA. 99+26.83

FOR PAVEMENT MARKINGS ON RAMP "E",
SEE SHEETS 144 & 145.

END DECELERATION LANE
STA. 99+03.64
(SEE MAINLINE TYPICAL)

BEGIN WORK
RAMP "G"
STA. 99+03.64

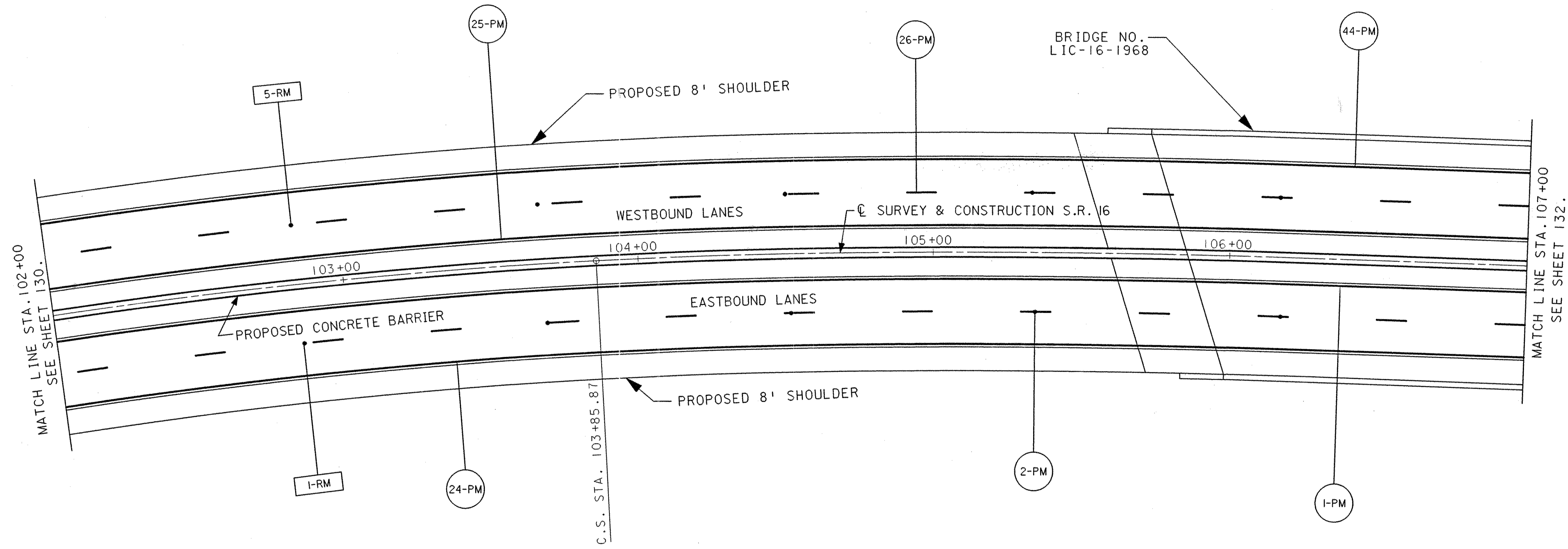
FOR PAVEMENT MARKINGS ON RAMP "G",
SEE SHEETS 142 & 143.

CURVE DATA
S.R.16

P.I.	STA. 98+73.88
Δ	= 43°29'50" RT.
Dc	= 03°00'00"
Rc	= 1909.86'
Ls	= 350.00'
Os	= 5°15'00"
Lt.	= 233.44'
St.	= 116.76'
Lc	= 1099.91'
Es	= 149.24'

- LEGEND**
- - 2 WAY REFLECTORS
 - ◻ - 1 WAY REFLECTORS

FOR QUANTITIES SEE SHEETS 146-148.



CURVE DATA
S.R. 16

P. I.	STA. 98+73.88
Δ	= 43°29'50" RT.
Dc	= 03°00'00"
Rc	= 1909.86'
Ls	= 350.00'
Qs	= 5°15'00"
LT	= 233.44'
ST	= 116.76'
Lc	= 1099.91'
Es	= 149.24'

LEGEND

- - 2 WAY REFLECTORS
- ◻ - 1WAY REFLECTORS

FOR QUANTITIES SEE SHEETS 146-148.

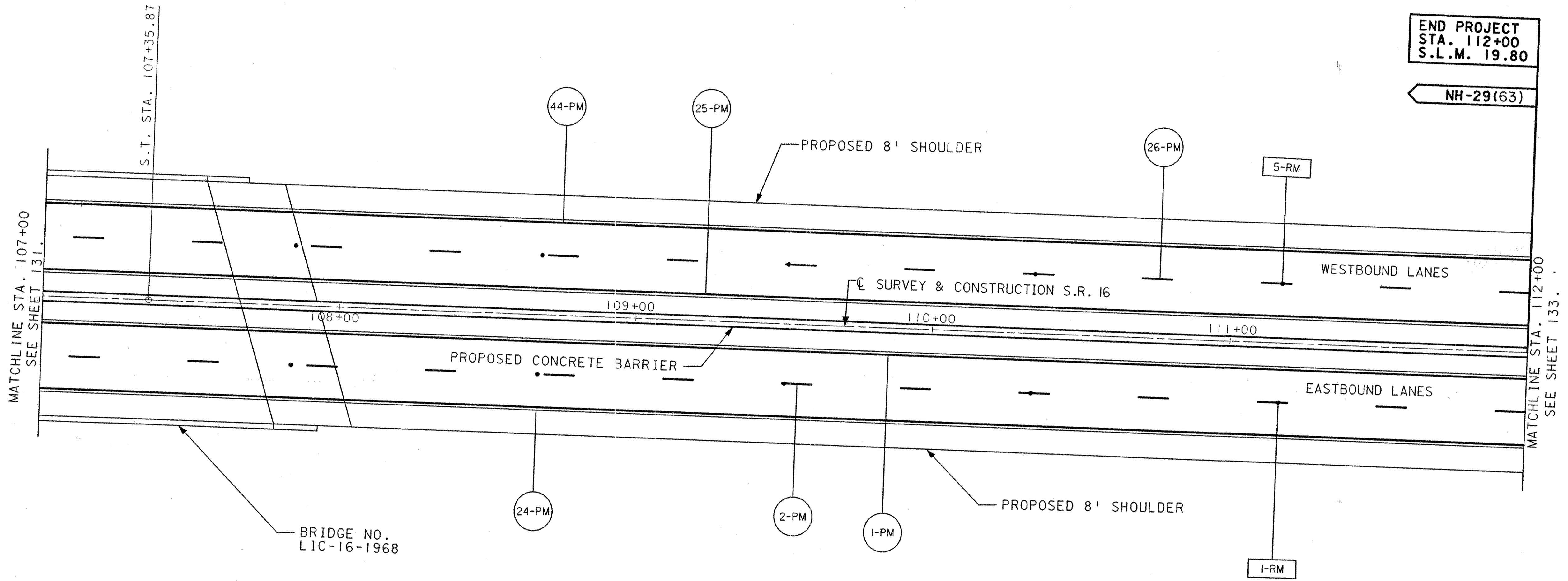
CALCULATED
J.L.S.
3/15/95

CHECKED
D.M.
3/17/95

0 10 20
HORIZONTAL
SCALE IN FEET

PAVEMENT MARKING SHEET
STA. 102+00 TO STA. 107+00

LIC-16-17.94



END PROJECT
 STA. 112+00
 S.L.M. 19.80

NH-29(63)

LEGEND
 • - 2 WAY REFLECTORS
 □ - 1 WAY REFLECTORS

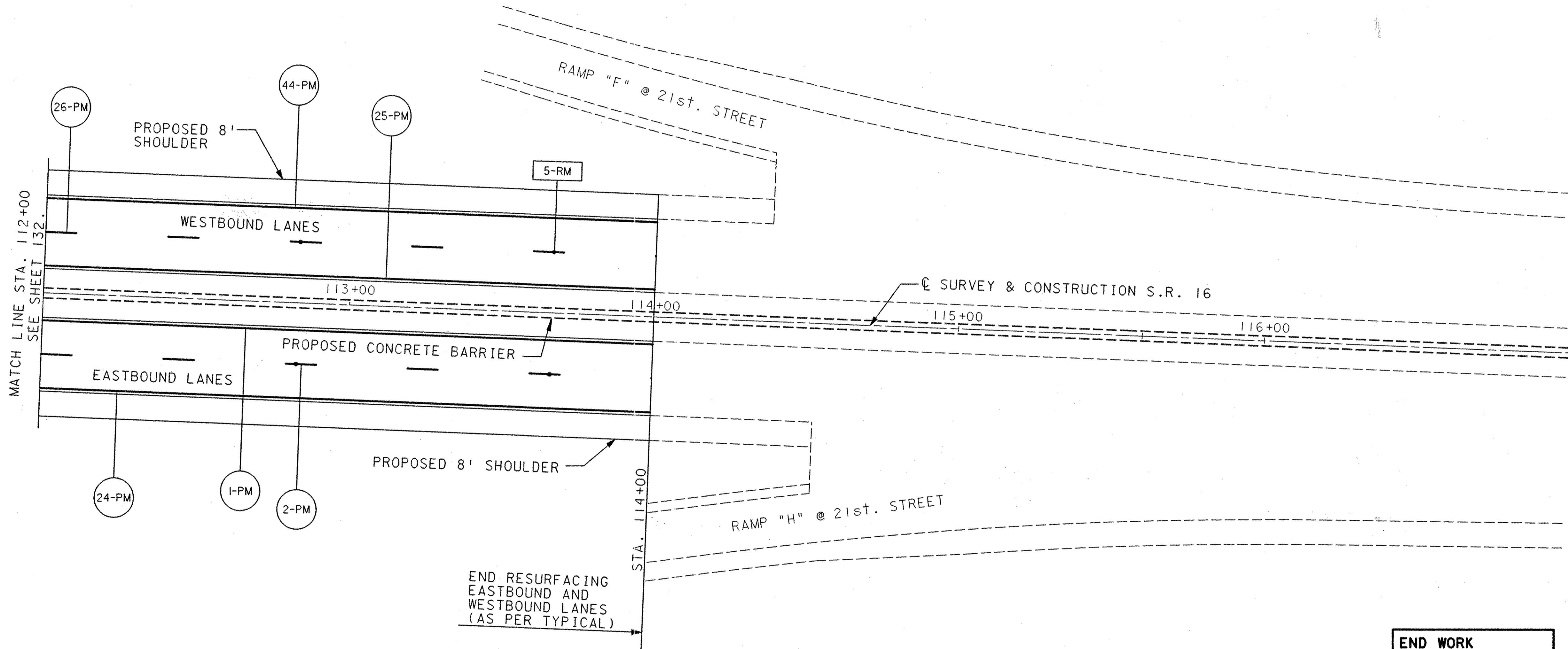
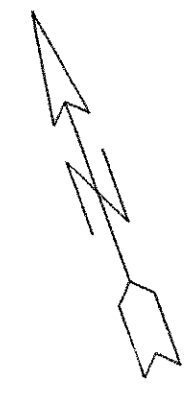
FOR QUANTITIES SEE SHEETS 146-148.

CALCULATED
 J.L.S.
 3/13/95
 CHECKED
 D.M.
 3/17/95

0 10 20 40
 HORIZONTAL
 SCALE IN FEET

PAVEMENT MARKING SHEET
STA. 107+00 TO STA. 112+00

LIC-16-17.94



END WORK
 STA. 132+60
 (SEE SHEET 50).

FOR QUANTITIES SEE SHEETS 146-148.

LEGEND

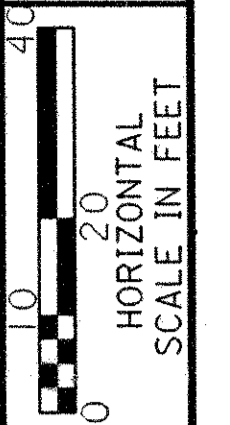
- - 2 WAY REFLECTORS
- ◻ - 1WAY REFLECTORS

NOTE:

ITEM 642 TRAFFIC PAINT, TYPE 2

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PAVEMENT MARKING SUB-SUMMARY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER FROM STA. 114+00(EASTBOUND AND WESTBOUND) TO STA. 117+00(EASTBOUND) AND STA. 132+60(WESTBOUND), SEE SHEET 50.

- ITEM 642 EDGE LINE(YELLOW) - .417 MILE
- ITEM 642 EDGE LINE(WHITE) - .417 MILE
- ITEM 642 LANE LINE - .417 MILE

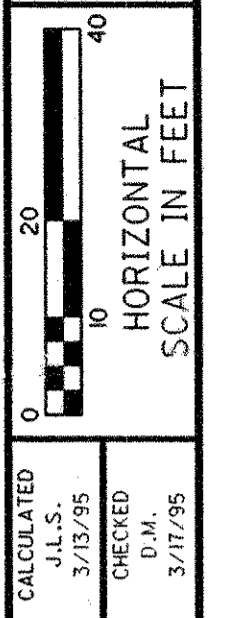
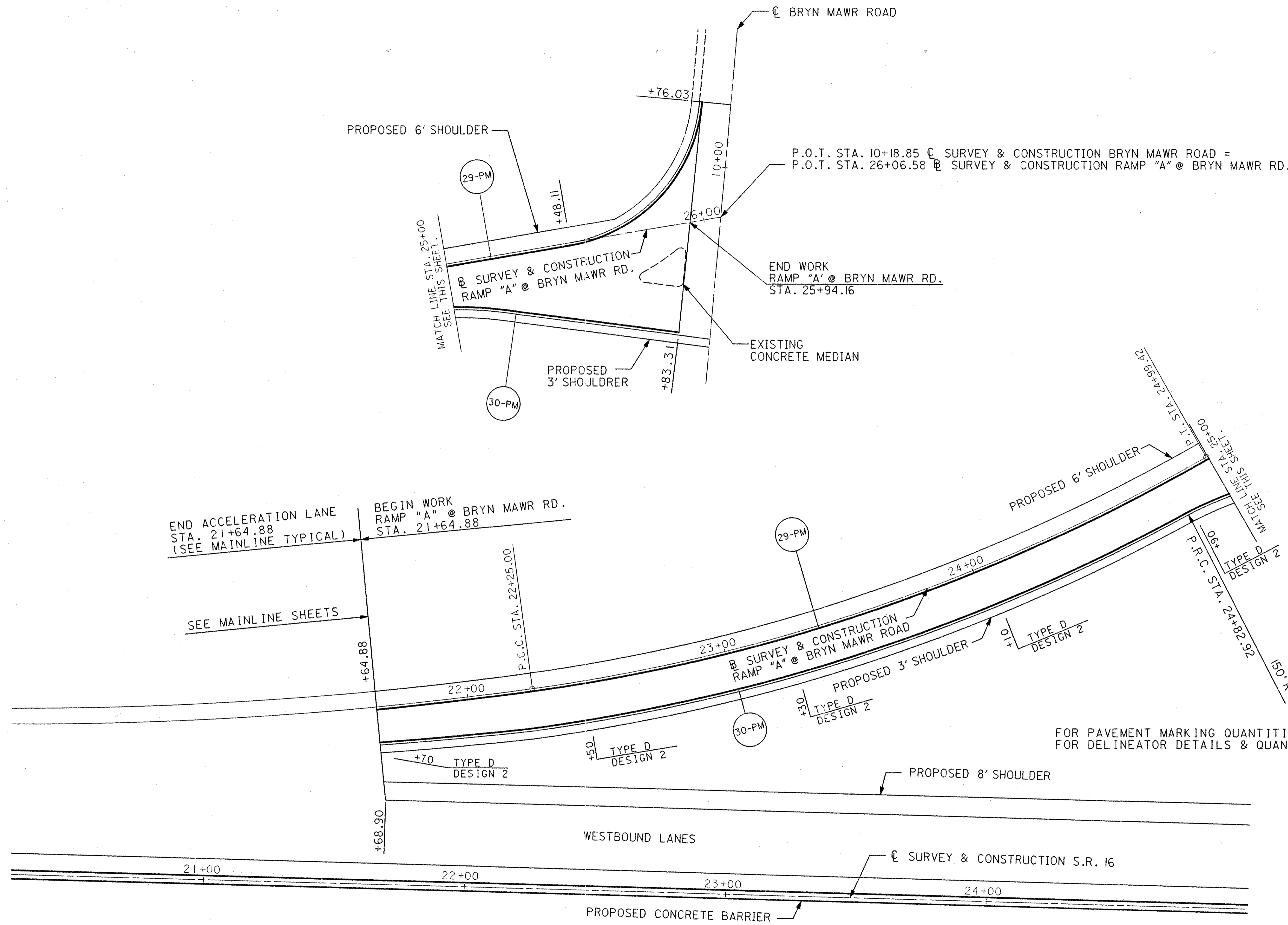


CALCULATED
 J.L.S.
 3/13/95
 CHECKED
 D.M.
 3/17/95

PAVEMENT MARKING SHEET
 STA. 112+00 TO STA. 117+00

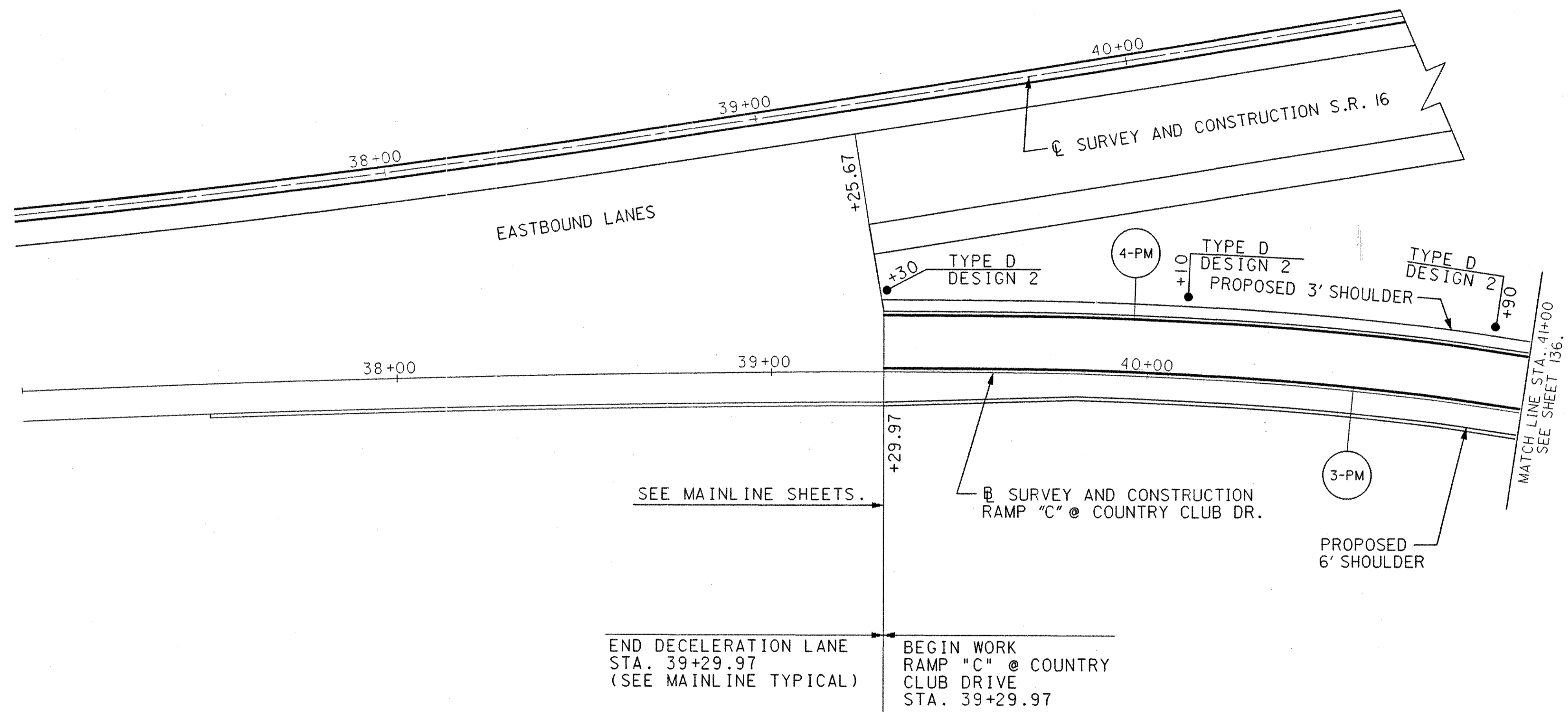
LIC-16-17.94

L1665163.DGN 04/10/95

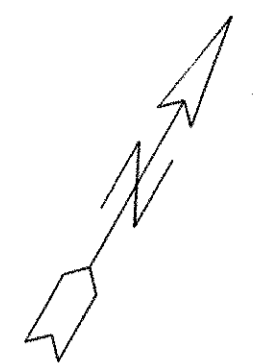


PAVEMENT MARKING SHEET RAMP "A" AT BRYN MAWR ROAD
STA. 20+25 TO STA. 26+06.58

LIC-16-17.94



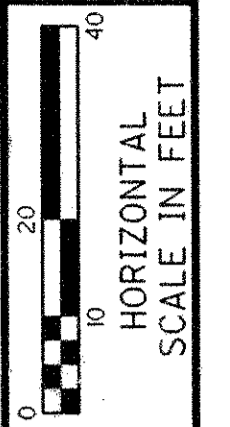
FOR PAVEMENT MARKING QUANTITIES SEE SHEETS 146-148.
 FOR DELINEATOR DETAILS & QUANTITIES SEE SHEET 23.

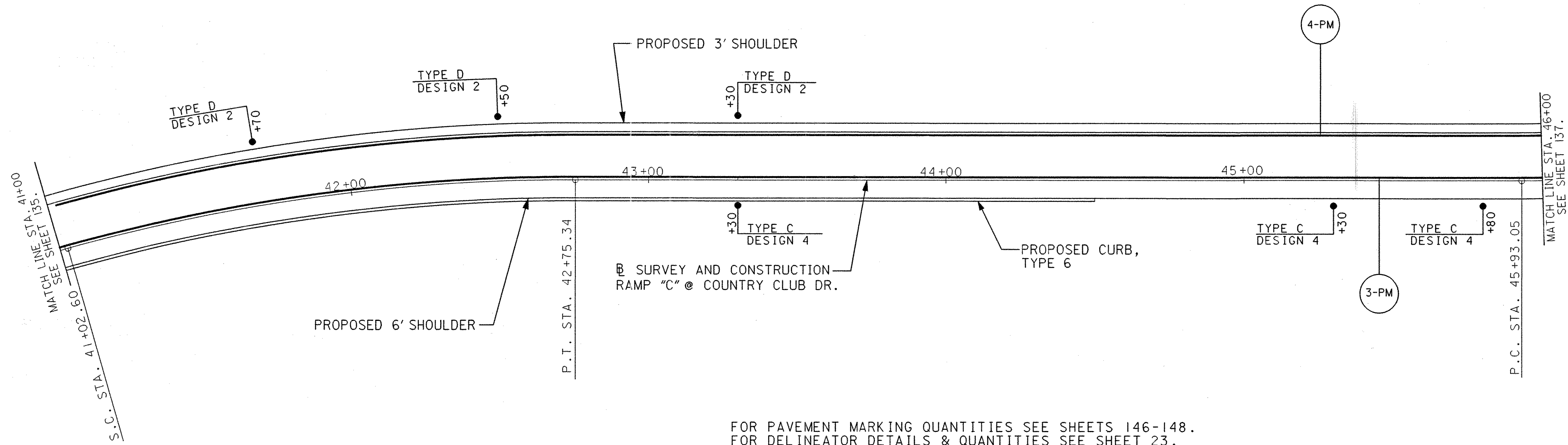


CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/16/95
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**PAVEMENT MARKING SHEET RAMP "C" AT COUNTRY CLUB DR.
 STA. 37+00 TO STA. 41+00**

LIC-16-17.94





FOR PAVEMENT MARKING QUANTITIES SEE SHEETS 146-148.
 FOR DELINEATOR DETAILS & QUANTITIES SEE SHEET 23.

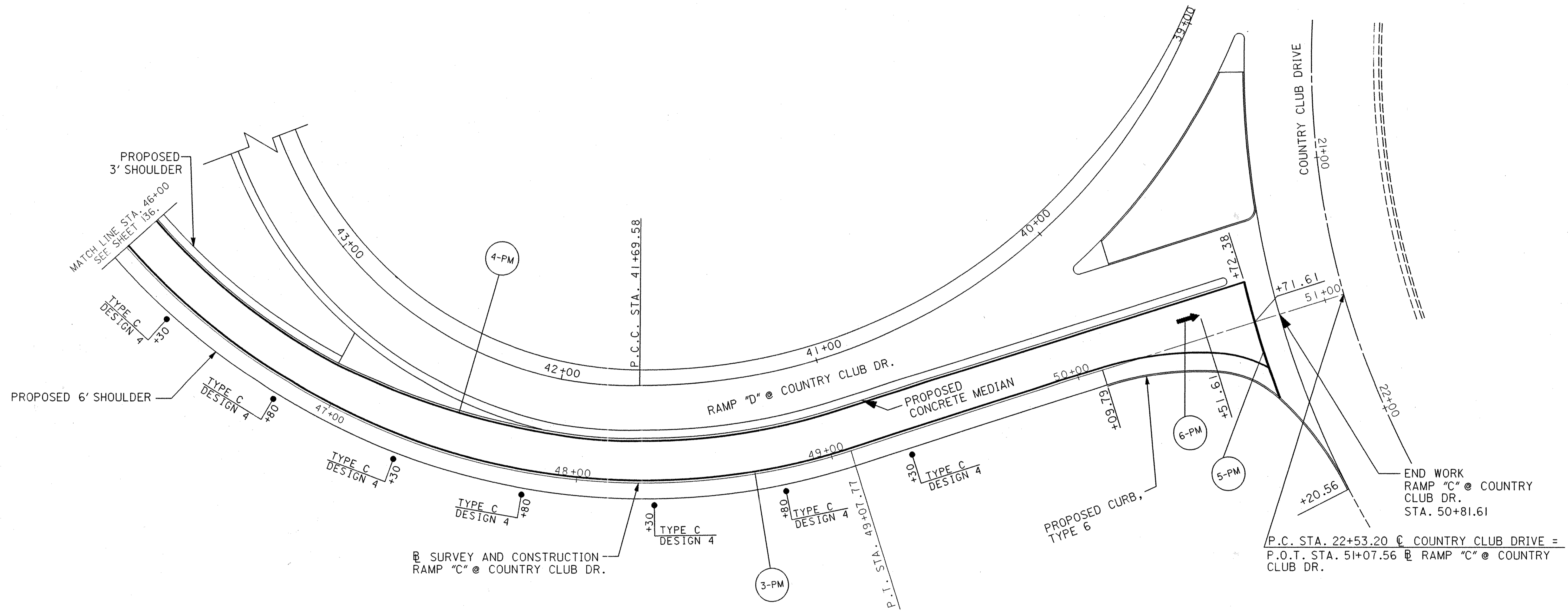
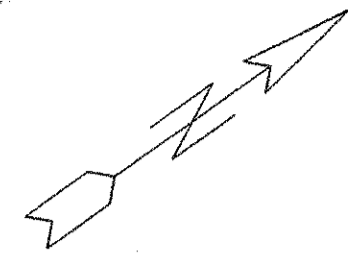


PAVEMENT MARKING SHEET RAMP "C" AT COUNTRY CLUB DR.
 STA. 41+00 TO STA. 46+00

LIC-16-17.94

136
420

CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/17/95
HORIZONTAL SCALE IN FEET	



Ⓟ SURVEY AND CONSTRUCTION
RAMP "C" @ COUNTRY CLUB DR.

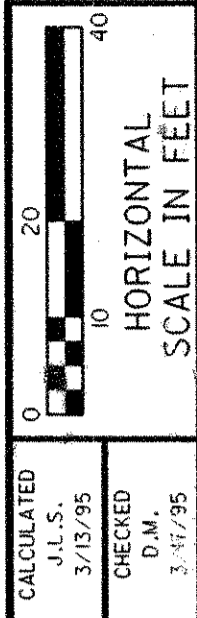
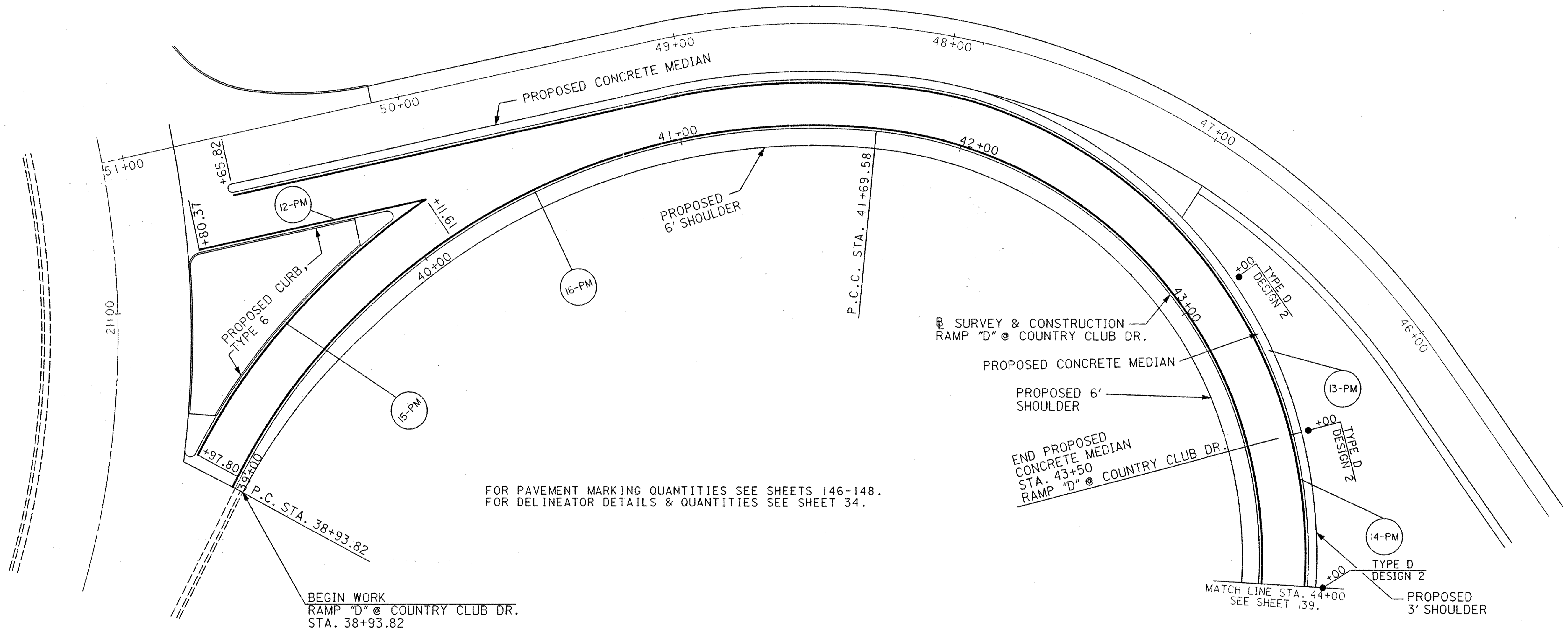
P.C. STA. 22+53.20 Ⓞ COUNTRY CLUB DRIVE =
P.O.T. STA. 51+07.56 Ⓟ RAMP "C" @ COUNTRY CLUB DR.

FOR PAVEMENT MARKING QUANTITIES SEE SHEETS 146-148.
FOR DELINEATOR DETAILS & QUANTITIES SEE SHEET 23.

<p>HORIZONTAL SCALE IN FEET</p>
<p>CALCULATED J.L.S. 3/12/95</p>
<p>CHECKED D.M. 3/17/95</p>

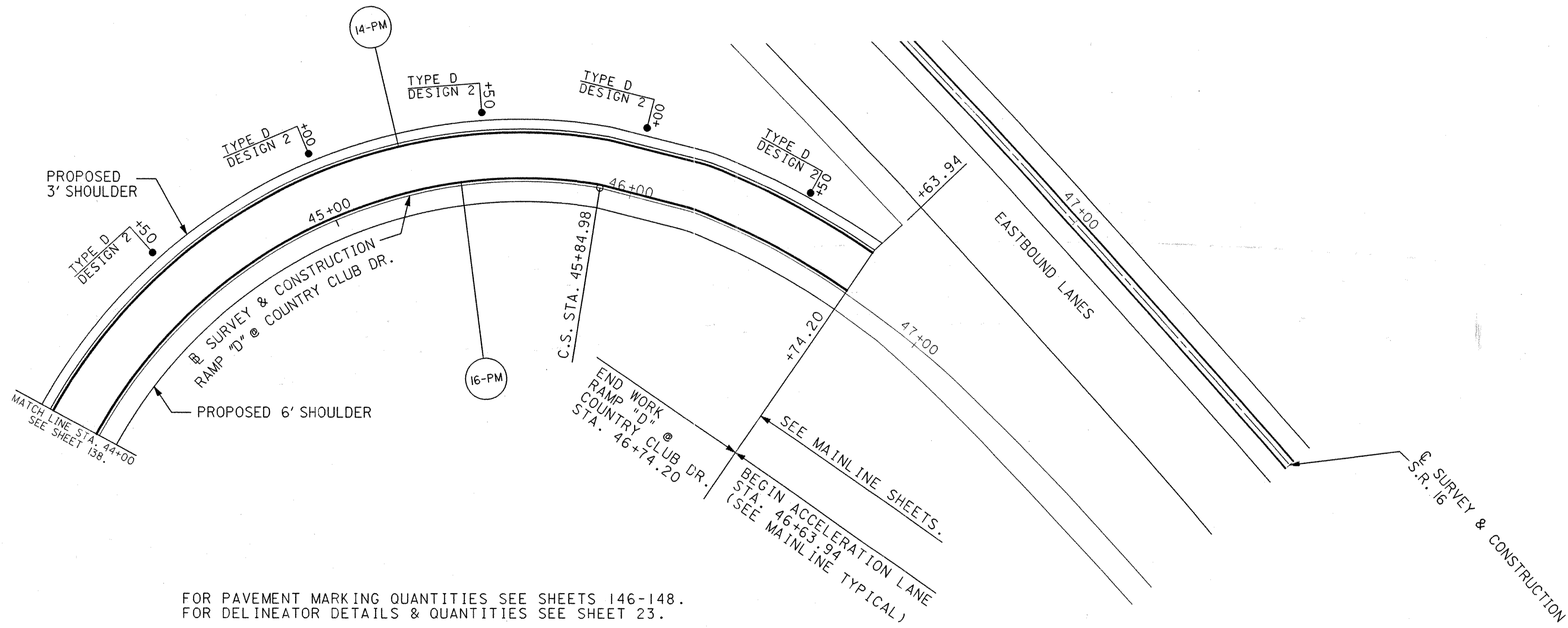
PAVEMENT MARKING SHEET RAMP "C" AT COUNTRY CLUB DR.
STA. 46+00 TO STA. 51+07.56

LIC-16-17.94

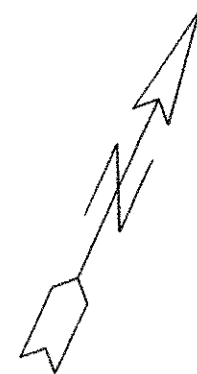


PAVEMENT MARKING SHEET RAMP "D" AT COUNTRY CLUB DR.
 STA. 38+93.82 TO STA. 44+00

LIC-16-17.94

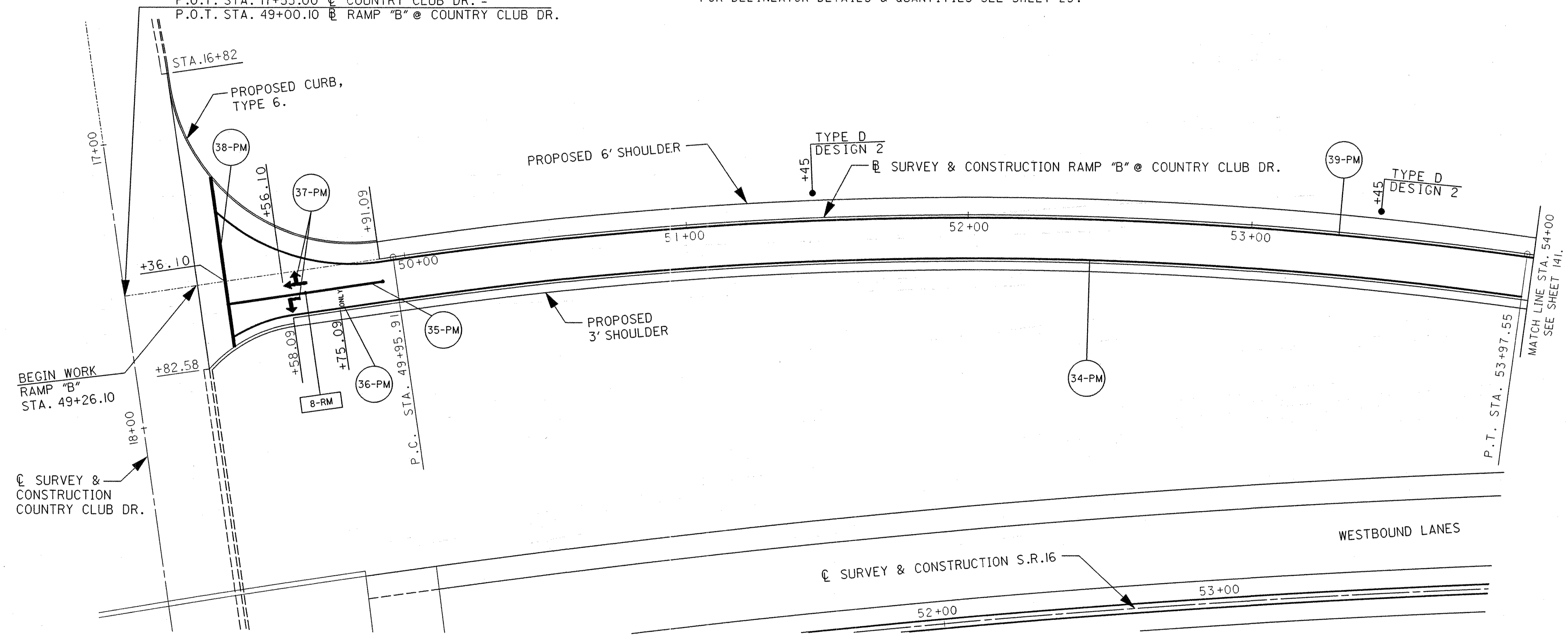


FOR PAVEMENT MARKING QUANTITIES SEE SHEETS 146-148.
 FOR DELINEATOR DETAILS & QUANTITIES SEE SHEET 23.



P.O.T. STA. 17+53.00 @ COUNTRY CLUB DR. =
 P.O.T. STA. 49+00.10 @ RAMP "B" @ COUNTRY CLUB DR.

FOR PAVEMENT MARKING QUANTITIES SEE SHEETS 146-148.
 FOR DELINEATOR DETAILS & QUANTITIES SEE SHEET 23.



LEGEND

- - 2 WAY REFLECTORS
- ◻ - 1 WAY REFLECTORS

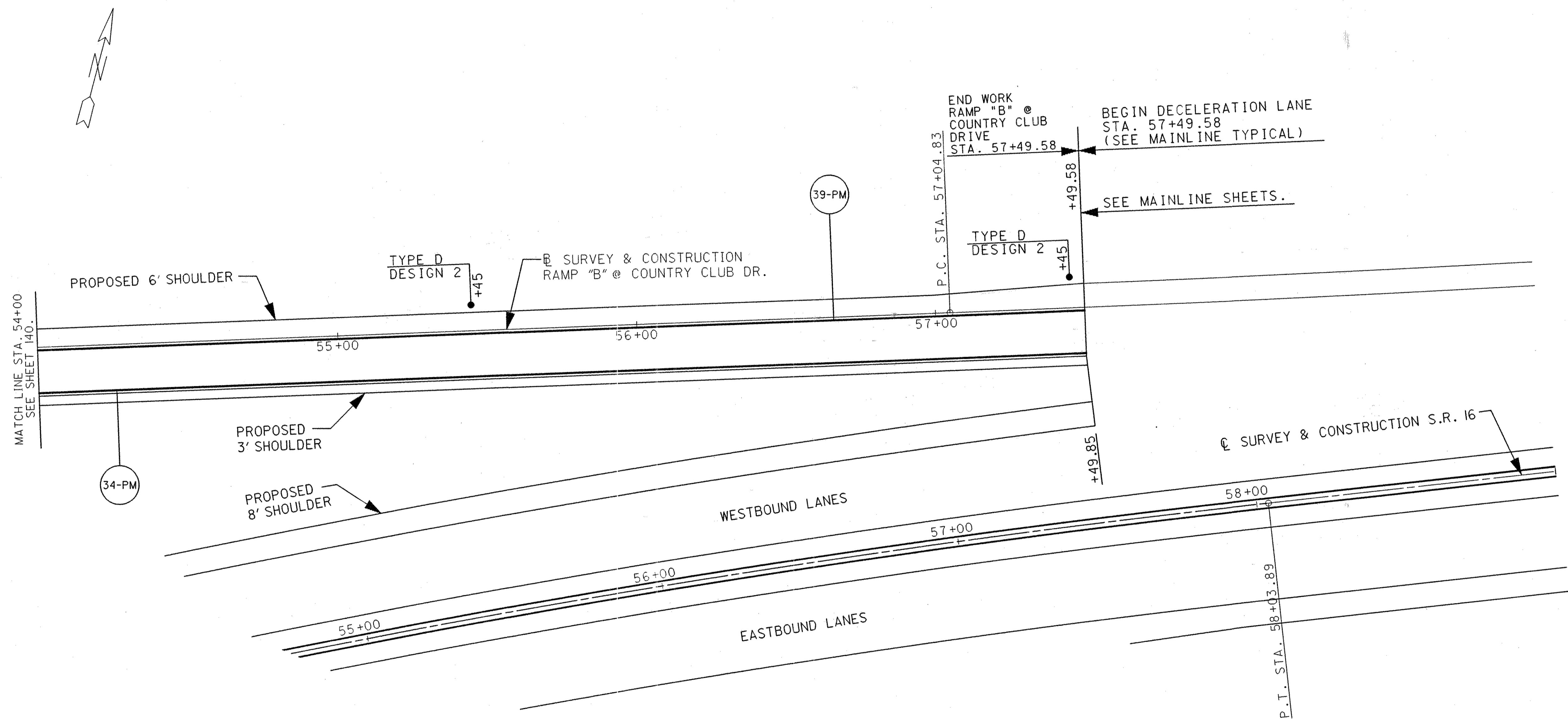
CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/17/95
<p>HORIZONTAL SCALE IN FEET</p>	

**PAVEMENT MARKING SHEET "B" AT
 COUNTRY CLUB DR. STA. 49+26.10 TO STA. 54+00**

LIC-16-17.94

140
 420

L1665268.DGN 04/10/95



FOR PAVEMENT MARKING QUANTITIES SEE SHEETS 146-148.
FOR DELINEATOR DETAILS & QUANTITIES SEE SHEET 23.

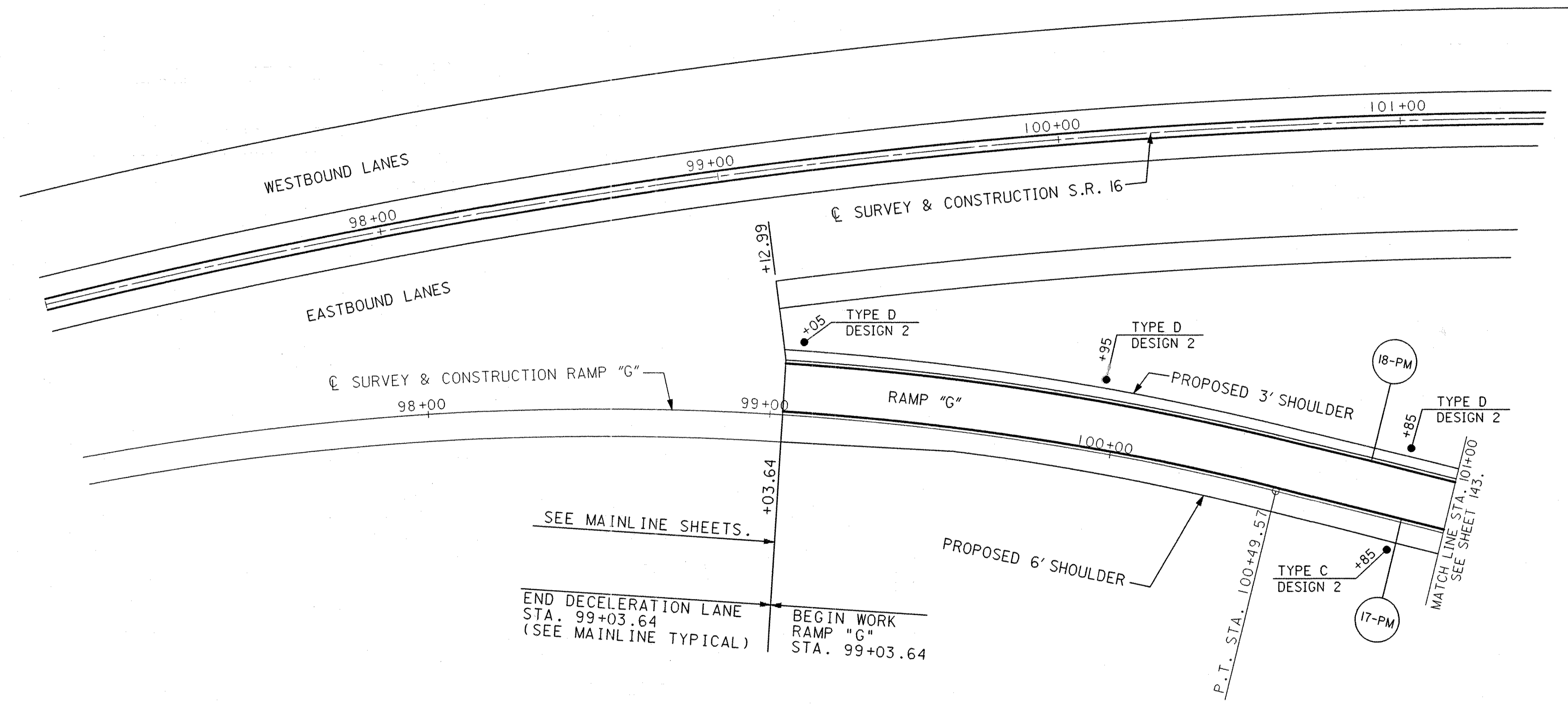
CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/17/95
HORIZONTAL SCALE IN FEET	

**PAVEMENT MARKING SHEET RAMP "B" AT
COUNTRY CLUB DR. STA. 54+00 TO STA. 57+49.58**

LIC-16-17.94



0	10	20	40
HORIZONTAL SCALE IN FEET			
CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/17/95		



SEE MAINLINE SHEETS.

END DECELERATION LANE
STA. 99+03.64
(SEE MAINLINE TYPICAL)

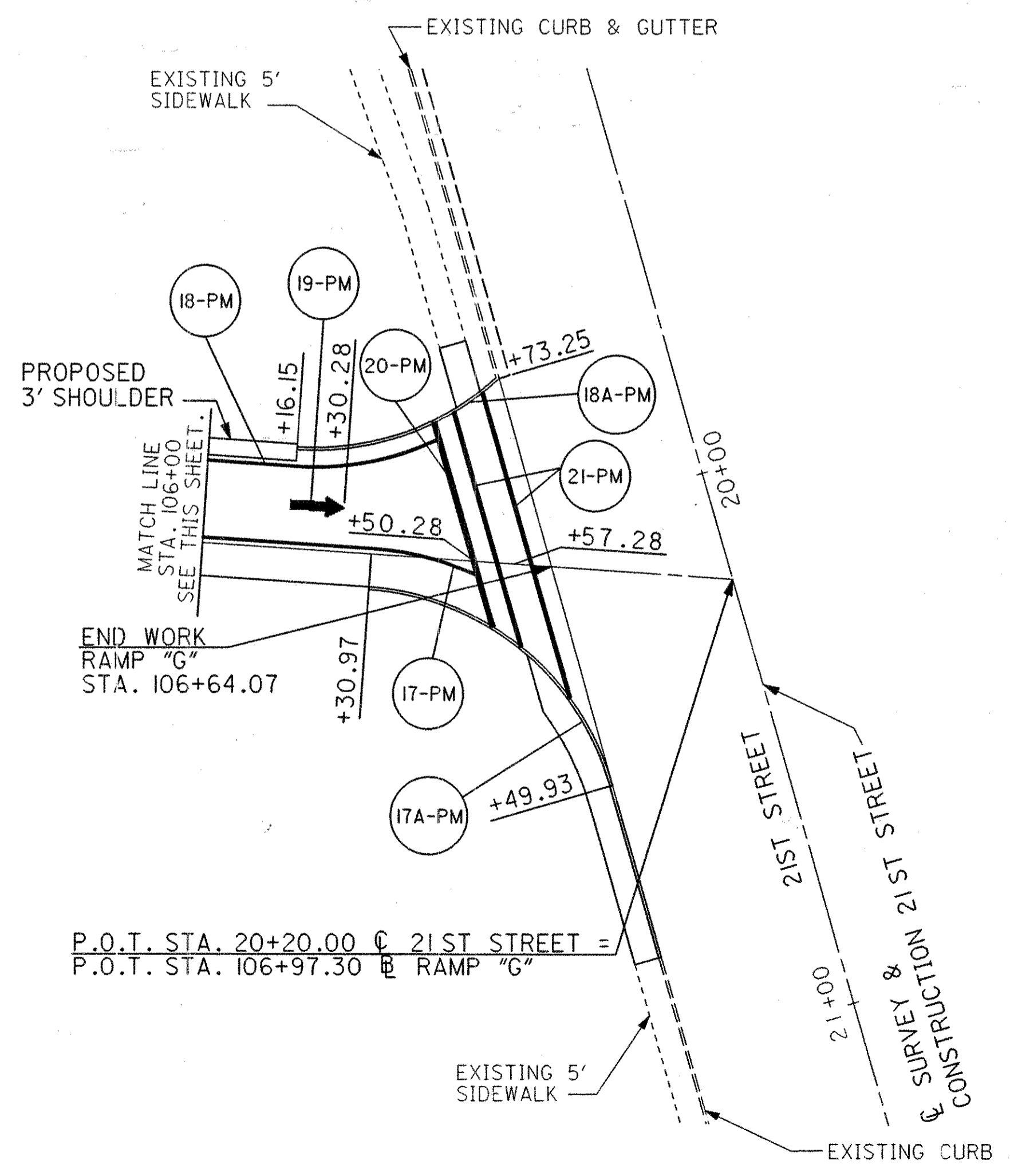
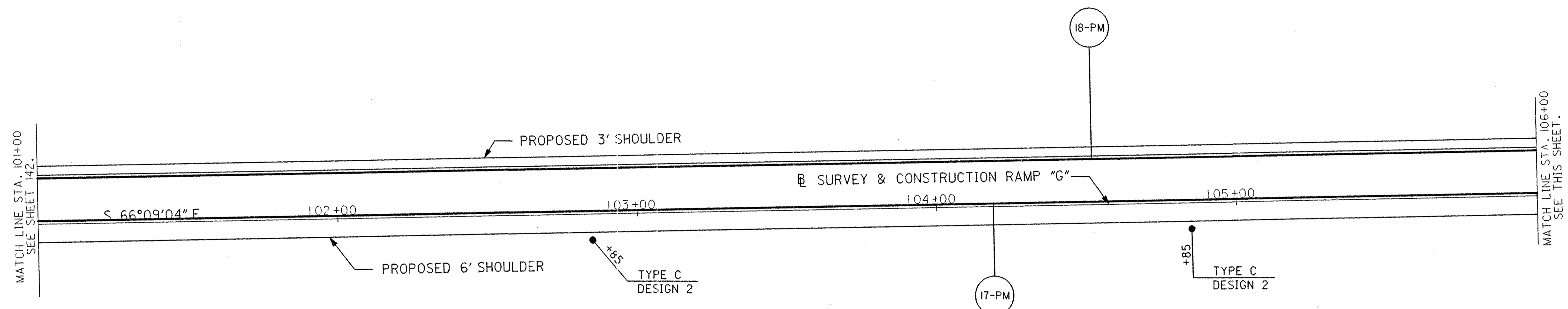
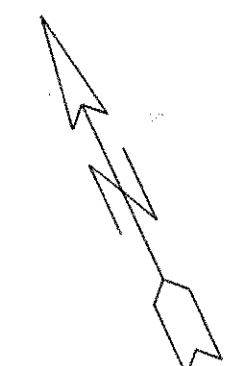
BEGIN WORK
RAMP "G"
STA. 99+03.64

FOR QUANTITIES SEE SHEETS 146-148.
FOR DELINEATOR DETAILS & QUANTITIES SEE SHEET 23.

PAVEMENT MARKING SHEET RAMP "G"
STA. 97+00 TO STA. 101+00

LIC-16-17.94

FOR QUANTITIES SEE SHEETS 146-148.
FOR DELINEATOR DETAILS & QUANTITIES SEE SHEET 23.



MATCH LINE STA. 101+00
SEE SHEET 142.

MATCH LINE STA. 106+00
SEE THIS SHEET.

CALCULATED J.L.S. 3/13/95	CHECKED D.M. 3/17/95
HORIZONTAL SCALE IN FEET	

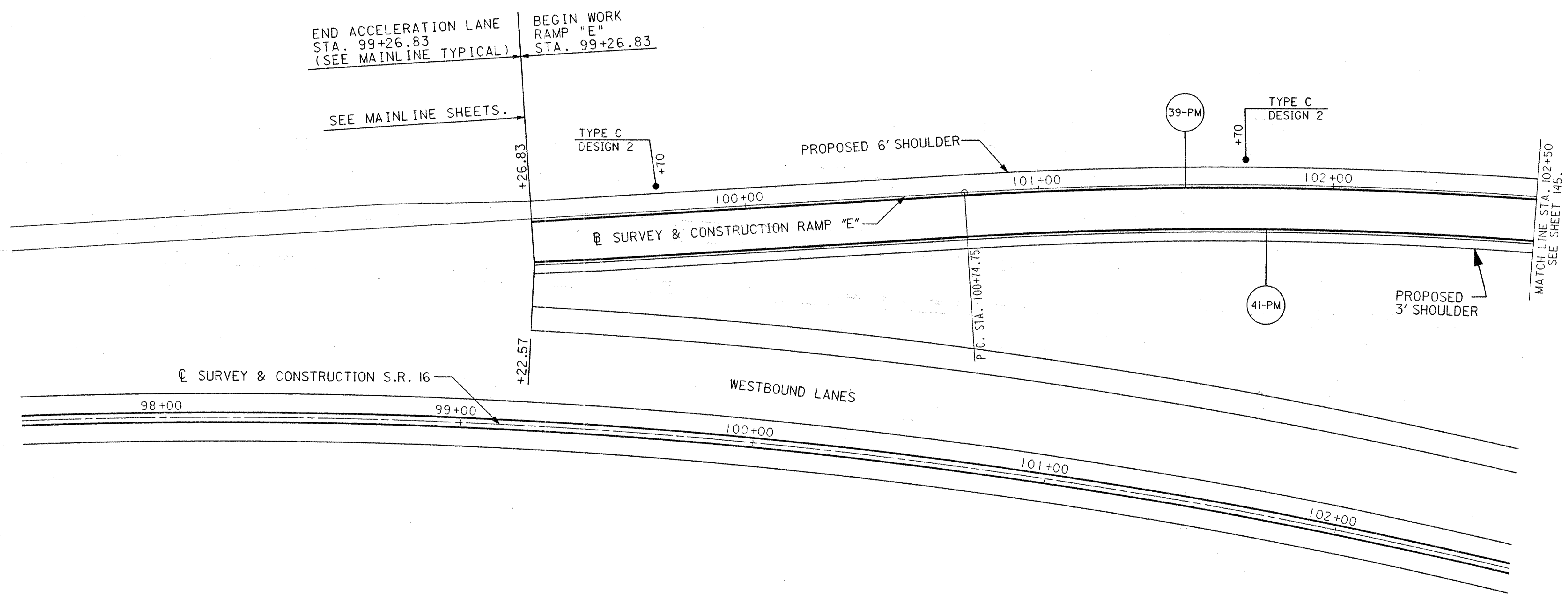
PAVEMENT MARKING SHEET RAMP "G"
STA. 101+00 TO STA. 106+00

LIC-16-17.94

CALCULATED J.L.S. 3/19/95	CHECKED 3/17/95
HORIZONTAL SCALE IN FEET	

PAVEMENT MARKING SHEET RAMP "E"
STA. 97+50 TO STA. 102+50

LIC-16-17.94



END ACCELERATION LANE
STA. 99+26.83
(SEE MAINLINE TYPICAL)

BEGIN WORK
RAMP "E"
STA. 99+26.83

SEE MAINLINE SHEETS.

TYPE C
DESIGN 2

PROPOSED 6' SHOULDER

39-PM

TYPE C
DESIGN 2

ⓑ SURVEY & CONSTRUCTION RAMP "E"

P.I.C. STA. 100+74.75

41-PM

PROPOSED 3' SHOULDER

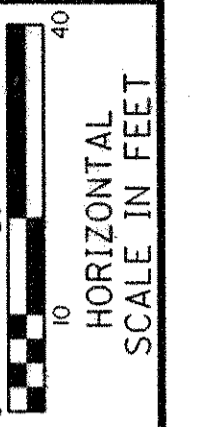
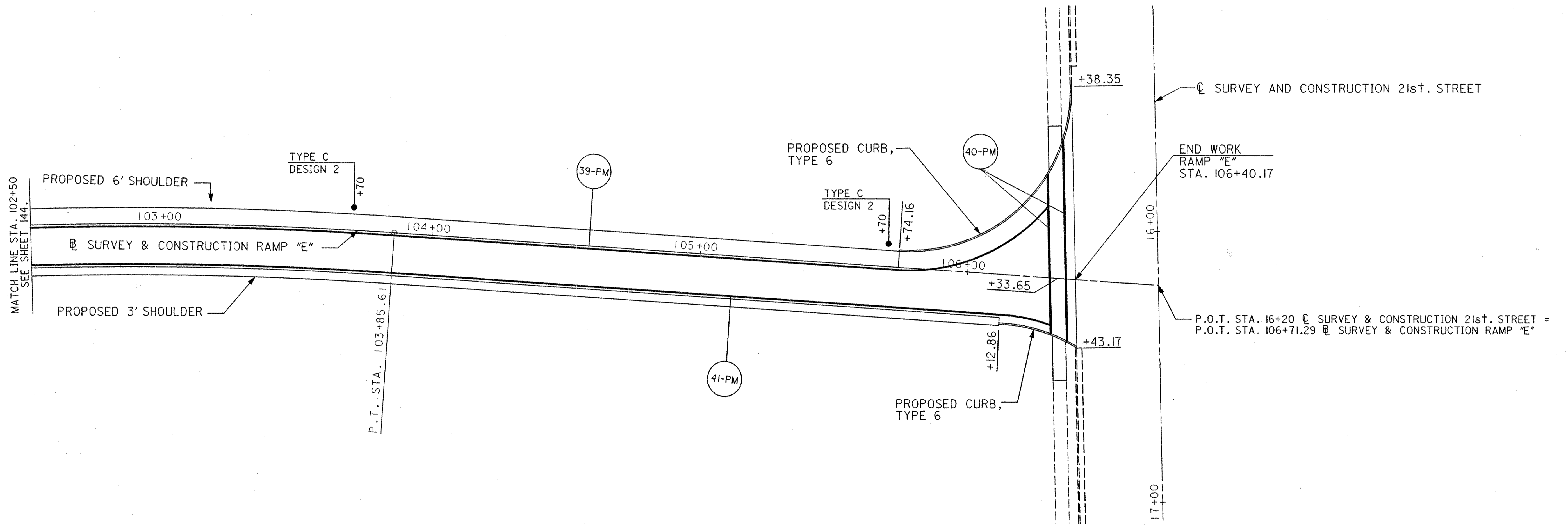
MATCH LINE STA. 102+50
SEE SHEET 145.

Ⓒ SURVEY & CONSTRUCTION S.R. 16

WESTBOUND LANES

FOR QUANTITIES SEE SHEETS 146-148.
FOR DELINEATOR DETAILS & QUANTITIES SEE SHEET 23.

FOR QUANTITIES SEE SHEETS 146-148.
 FOR DELINEATOR DETAILS & QUANTITIES SEE SHEET 23.



CALCULATED
 J.L.S.
 3/13/95
 CHECKED
 D.M.
 3/17/95

PAVEMENT MARKING SHEET "E"
STA. 102+50 TO STA. 106+71.29

LIC-16-17.94

L1665269.DGN 04/10/95

SHEET	MARK	STATION TO STATION	ITEM 644 THERMOPLASTIC						ITEM 642, TYPE 2			
			EDGE LINE (WHITE) MILE	EDGE LINE (YELLOW) MILE	LANE LINE MILE	CHANNELIZING LINE LIN. FT.	TRANSVERSE LINE (WHITE) LIN. FT.	STOP LINE 24" LIN. FT.	LANE ARROW (THROUGH) EACH	CROSSWALK LINE LIN. FT.		
EASTBOUND LANES												
379-380	1-PM	12+75.7 - 18+24.76(BK.)		.104								
388-397 410-412	1-PM	18+24.94(AH.) - 114+00		1.813								
379-380	2-PM	12+75.7 - 18+24.76(BK.)			.104							
388-397 410-412	2-PM	18+24.94(AH.) - 114+00			1.813							
379-380	3-PM	12+75.7 - 18+24.76(BK.)	.104									
380-383	3-PM	18+24.94(AH.) - 36+21.79	.340									
RAMP "C" @ COUNTRY CLUB DRIVE												
399-401 383-384	3-PM	36+21.79 - 50+09.79	.263									
401	3-PM	50+09.79 - 50+76.16(RAD.)	.013									
399-401	4-PM	39+29.97 - 50+72.38		.216								
401	5-PM	50+71.61						47				
401	6-PM	50+51.61						1				
EASTBOUND LANES												
383-384	7-PM	34+27.55 - 37+30.10			.057							
384	8-PM	37+30.10 - 39+25.67				391	292					
384-386	9-PM	39+25.67 - 49+28.93	.190									
385-386	10-PM	46+63.94 - 49+28.93				265						
386	11-PM	49+28.93 - 51+44.07			.041							
RAMP "D" @ COUNTRY CLUB DRIVE												
402	12-PM	50+80.37(RAMP"C") - 40+11.61	.016									
402	13-PM	50+64.32(RAMP"C") - 43+50								606		
402-403	14-PM	50+65.82(RAMP"C") - 46+74.2		.140								
402	15-PM	38+97.80 - 40+11.61		.022								
402-403	16-PM	38+93.82 - 47+84.98	.169									
EASTBOUND LANES												
385-395	17-PM	47+85.34 - 96+24.19	.916									
RAMP "G" @ 21st. STREET												
395-396 406-407	17-PM	96+24.19 - 106+30.97	.191									
407	17-PM	106+30.97 - 106+51.18(RAD.)	.004									
407	17A-PM	106+30.97 - 20+49.93 (21st. ST.)									61	
406-407	18-PM	99+03.64 - 106+16.15		.135								
407	18-PM	106+16.15 - 106+43.09(RAD.)	.005									
407	18A-PM	106+16.15 - 19+73.25(21st. ST.)									40	
407	19-PM	106+30.28							1			
407	20-PM	106+50.28						39				
407	21-PM	106+57.28								102		
EASTBOUND LANES												
395-396	22-PM	94+80.21 - 97+35.42			.048							
396	23-PM	97+35.42 - 99+12.98				355	242					
396-397 410-411	24-PM	99+12.98 - 114+00	.282									
TOTALS			2.493	2.430	2.063	1011	534	86	2	102	606	101

TOTALS CARRIED TO SHEET 149.

L 16 19A65 DGN 04/11/95

CALCULATED
3/10/95
CHECKED
3/17/95

PAVEMENT MARKING QUANTITIES

LIC-16-17.94

146
420

ITEM 644 THERMOPLASTIC

SHEET	MARK	STATION TO STATION	EDGE LINE (WHITE)	EDGE LINE (YELLOW)	LANE LINE	CHANNELIZING LINE	TRANSVERSE LINE (WHITE)	STOP LINE 24"	CROSSWALK LINE	WORD ON PAVEMENT, 72 IN. "ONLY"	LANE ARROW (COMBINED)	LANE ARROW (TURN)				
			MILE	MILE	MILE	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH				
		WESTBOUND LANES														
379-380	25-PM	13+60 - 19+07.97(BK.)		.104												
380-397 410-412	25-PM	19+07.97(AH.) - 114+00		1.798												
379-380	26-PM	13+60.00 - 19+07.97(BK.)			.104											
380-397 410-412	26-PM	19+07.97(AH.) - 114+00			1.798											
379-380	27-PM	16+86.05 - 19+00.80			.041											
380	28-PM	19+00.80 - 21+68.90				268										
379-380	29-PM	13+60 - 20+25	.126													
		RAMP "A" @ BRYN MAWR ROAD														
380-398	29-PM	20+25 - 25+48.11	.099													
398	29-PM	25+48.11 - 9+76.03 (BRYN MAWR RD.)	.015													
398	30-PM	21+64.88 - 25+83.31		.079												
		WESTBOUND LANES														
380-388	31-PM	19+00.80 - 57+49.85	.729													
388	32-PM	57+49.85 - 60+50				600	432									
388-389	33-PM	60+50 - 63+78.74			.062											
		RAMP "B" @ COUNTRY CLUB DRIVE														
404	34-PM	49+35.40(RAD.) - 49+58.09		.004												
404-405	34-PM	49+58.09 - 57+49.58		.150												
404	35-PM	49+36.10 - 49+91.09				55										
404	36-PM	49+75.09														
404	37-PM	49+56.10														
404	38-PM	49+36.10						59								
404	39-PM	49+28.51(RAD.) - 49+91.09	.012													
388-389 404-405	39-PM	49+91.09 - 65+30.28	.292													
389-396	39-PM	65+30.28 (S.R.16) - 97+49.66 (S.R.16)	.610													
		RAMP "E" @ 21st. STREET														
396 408-409	39-PM	97+50.00 - 105+74.16	.156													
409	39-PM	105+74.16 - 106+26.09(RAD.)	.010													
409	40-PM	106+33.65							133							
408-409	41-PM	99+26.83 - 106+12.86		.130												
409	41-PM	106+12.86 - 106+32.41(RAD.)	.004													
		WESTBOUND LANES														
395	42-PM	94+95.90 - 96+32.27			.026											
395-396	43-PM	96+32.27 - 99+22.57				291										
395-396 410-411	44-PM	96+32.27 - 114+00	.335													
		TOTALS	2.384	2.269	2.031	1214	432	59	133							

TOTALS CARRIED TO SHEET 149.

SHEET	MARK	STATION TO STATION	ITEM 621 RAISED PAVEMENT MARKER			SPACING C/C FEET
			1-WAY WHITE EACH	2-WAY WHITE/RED EACH	1-WAY YELLOW EACH	
EASTBOUND LANES						
379-380	-RM	12+75.70 - 18+24.76(BK.)		8		80
<small>380-397 410-412</small>	-RM	18+24.94(AH.) - 114+00		120		80
384	2-RM	37+25.67 - 40+05.67	23		2	20 AND 40
385-386	3-RM	45+83.94 - 49+43.94	18		2	40
396	4-RM	97+32.98 - 99+92.28	21		2	20 AND 40
WESTBOUND LANES						
<small>379-397 410-412</small>	5-RM	13+60 - 114+00		127		80
380-381	6-RM	18+88.90 - 22+48.99	18		2	40
387-388	7-RM	56+69.58 - 60+49.58	33		2	20 AND 40
RAMP "B" @ COUNTRY CLUB DR.						
404	8-RM	49+36.10 - 49+76.10		3		20
WESTBOUND LANES						
395-396	9-RM	96+42.57 - 100+02.57	16		2	40
SUB-TOTALS			129	258	12	
TOTAL				399		

TOTAL CARRIED TO SHEET 149.

PAVEMENT MARKING SUB-SUMMARY

CALCULATED
3/17/95
CHECKED
D.M.
3/17/95

SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
		113		133		146		147		148								
		WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW									
												399	621	00100	399	EACH	RAISED PAVEMENT MARKER	
		.223	.211	.417	.417								642	00102	1.27	MILE	EDGE LINE, TYPE 2	
		.240		.417									642	00202	0.66	MILE	LANE LINE, TYPE 2	
		46											642	00402	46	LIN. FT.	CHANNELIZING LINE	
													642	00802	101	LIN. FT.	CURB MARKING, TYPE 2	
													642	00902	606	SQ. FT.	ISLAND MARKING, TYPE 2	
								2.493	2.430	2.384	2.269		644	00100	9.58	MILE	EDGE LINE	
								2.063		2.031			644	00200	4.09	MILE	LANE LINE	
								1011		1214			644	00400	2,225	LIN. FT.	CHANNELIZING LINE	
								86		59			644	00500	145	LIN. FT.	STOP LINE	
								102		133			644	00600	235	LIN. FT.	CROSSWALK LINE	
								534		432			644	00700	966	LIN. FT.	TRANSVERSE LINE	
								2		2			644	01300	4	EACH	LANE ARROW	
										1			644	01400	1	EACH	WORD ON PAVEMENT, 72"	

L1619065.DGN 04/11/95

TOTALS CARRIED TO GENERAL SUMMARY.

PAVEMENT MARKING SUB-SUMMARY

LIC-16-17.94

149
420

L6001160.DGN 2/10/95

BEGIN WORK
STA. 270+50
SEE SHEET 192).

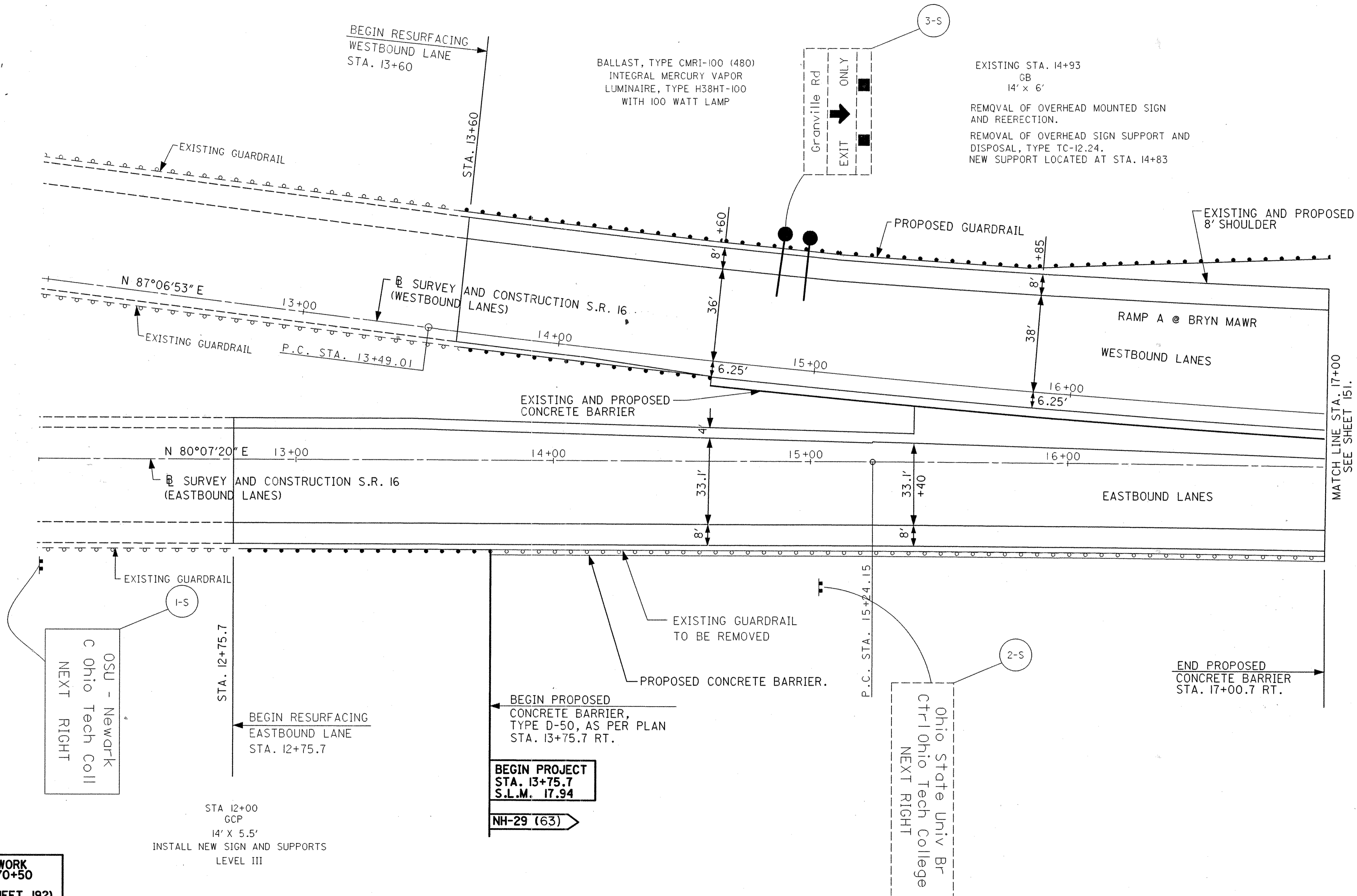
BEGIN SIGNING
STA. 12+00 (E.B.)
(SEE THIS SHEET).

STA 12+00
GCP
14' X 5.5'
INSTALL NEW SIGN AND SUPPORTS
LEVEL III

BEGIN PROJECT
STA. 13+75.7
S.L.M. 17.94

NH-29 (63)

STA 15+01
GCP
19' X 5.5'
REMOVE SIGN AND SUPPORTS



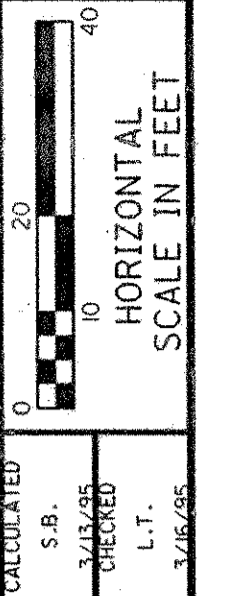
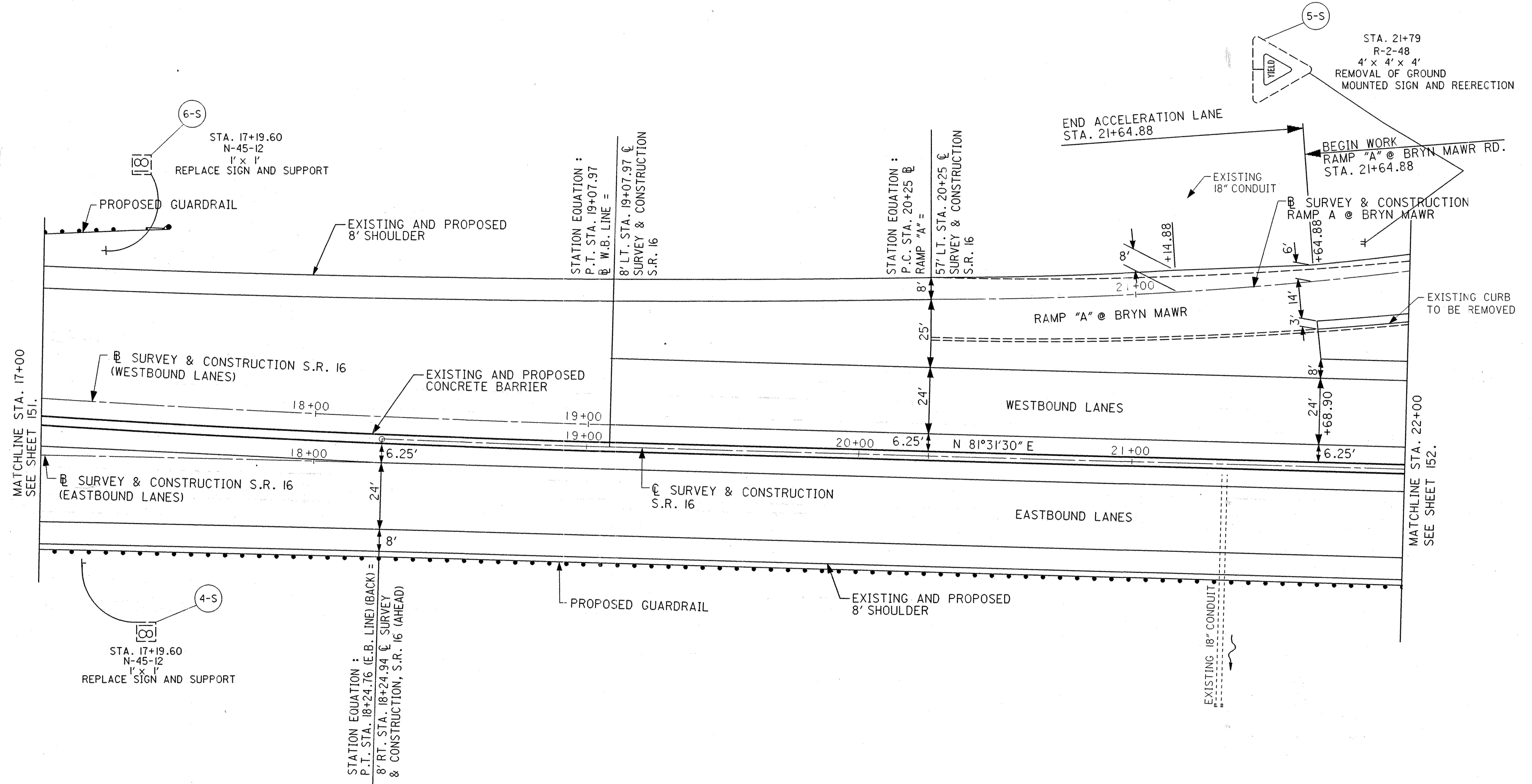
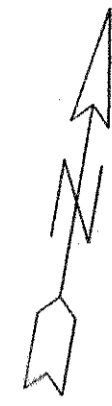
CALCULATED S.R. 3/13/95	CHECKED L.T. 3/16/95
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0 10 20 30 40
HORIZONTAL
SCALE IN FEET

SIGN INSTALLATION DETAIL
STA. 12+00 TO STA. 17+00

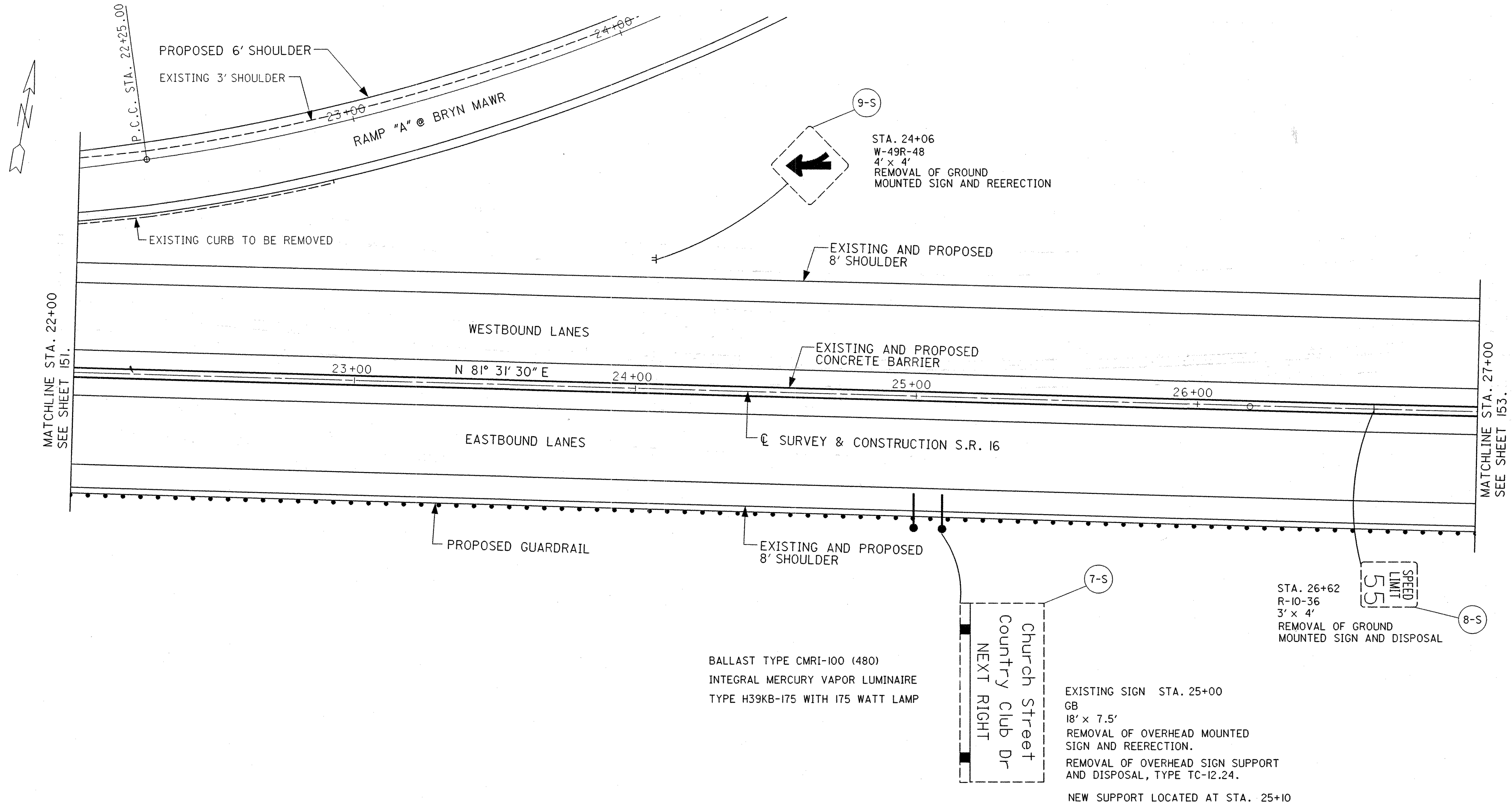
LIC-16-17.94

150
420



SIGN INSTALLATION DETAIL
STA. 17+00 TO STA. 22+00

LIC-16-17.94



MATCHLINE STA. 22+00
SEE SHEET 151.

MATCHLINE STA. 27+00
SEE SHEET 153.

PROPOSED 6' SHOULDER
EXISTING 3' SHOULDER

RAMP "A" @ BRYN MAWR

EXISTING CURB TO BE REMOVED

9-S
STA. 24+06
W-49R-48
4' x 4'
REMOVAL OF GROUND
MOUNTED SIGN AND REERECTION

EXISTING AND PROPOSED
8' SHOULDER

WESTBOUND LANES

EXISTING AND PROPOSED
CONCRETE BARRIER

N 81° 31' 30" E

☉ SURVEY & CONSTRUCTION S.R. 16

EASTBOUND LANES

PROPOSED GUARDRAIL

EXISTING AND PROPOSED
8' SHOULDER

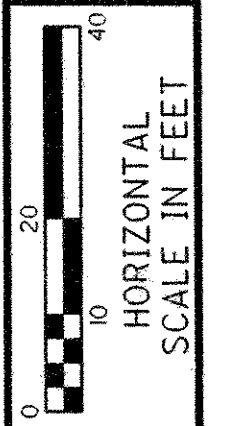
BALLAST TYPE CMRI-100 (480)
INTEGRAL MERCURY VAPOR LUMINAIRE
TYPE H39KB-175 WITH 175 WATT LAMP

7-S
Church Street
Country Club Dr
NEXT RIGHT

EXISTING SIGN STA. 25+00
GB
18' x 7.5'
REMOVAL OF OVERHEAD MOUNTED
SIGN AND REERECTION.
REMOVAL OF OVERHEAD SIGN SUPPORT
AND DISPOSAL, TYPE TC-12.24.
NEW SUPPORT LOCATED AT STA. 25+10

8-S
STA. 26+62
R-10-36
3' x 4'
REMOVAL OF GROUND
MOUNTED SIGN AND DISPOSAL

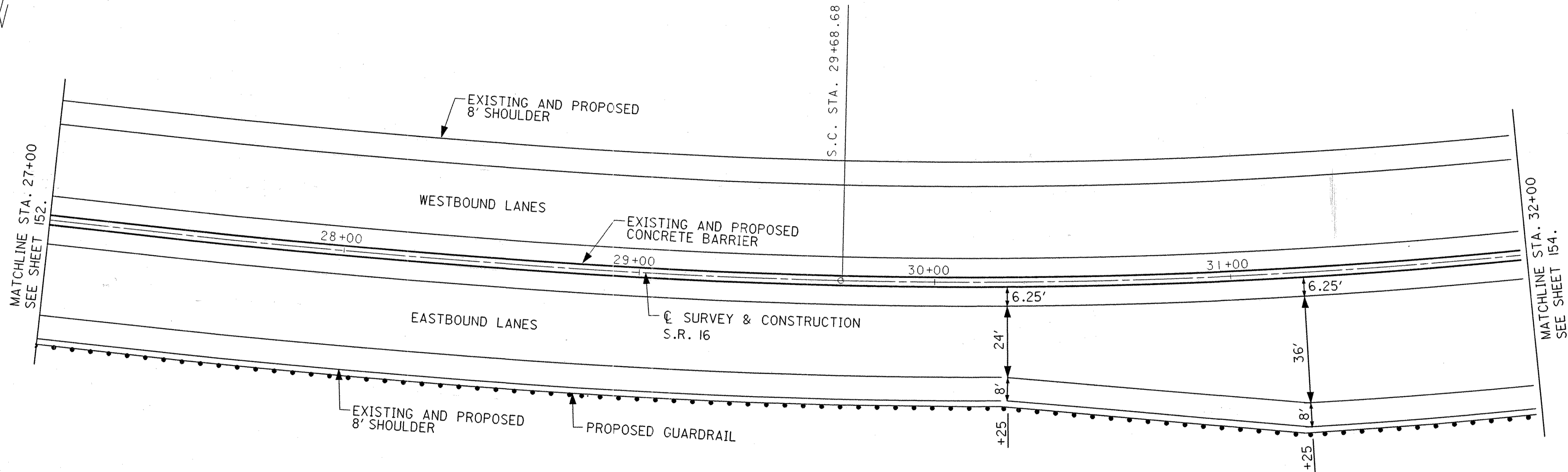
8-S
SPEED
LIMIT
55



CALCULATED
3/15/95
CHECKED
L.J.
3/16/95

SIGN INSTALLATION DETAIL
STA. 22+00 TO STA. 27+00

LIC-16-17.94

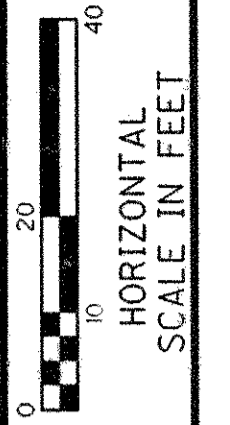


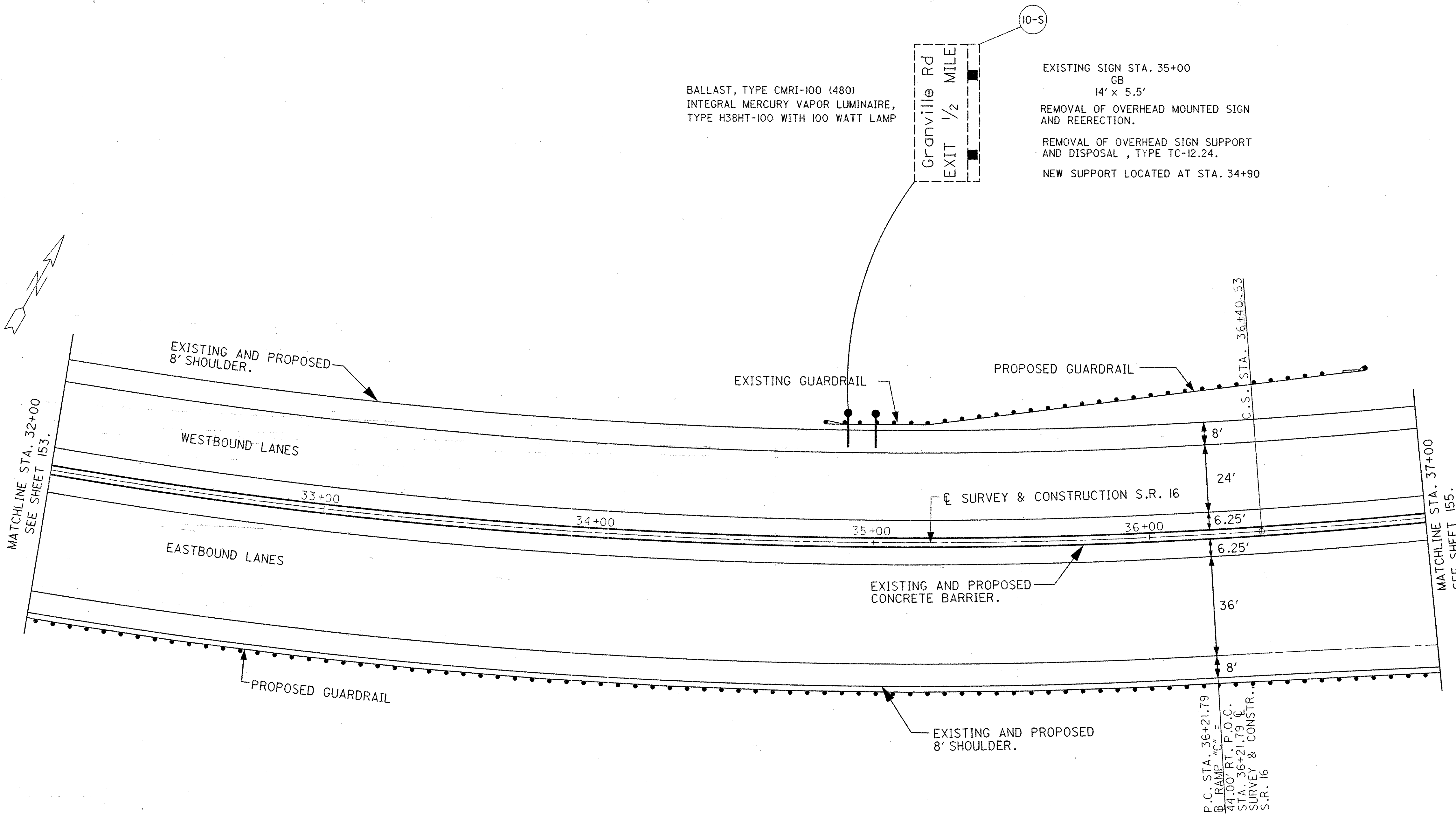
NO SIGNS THIS SHEET.

CALCULATED S.B. 3/13/95	CHECKED L.T. 3/15/95
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SIGN INSTALLATION DETAIL
STA. 27+00 TO STA. 32+00

LIC-16-17.94

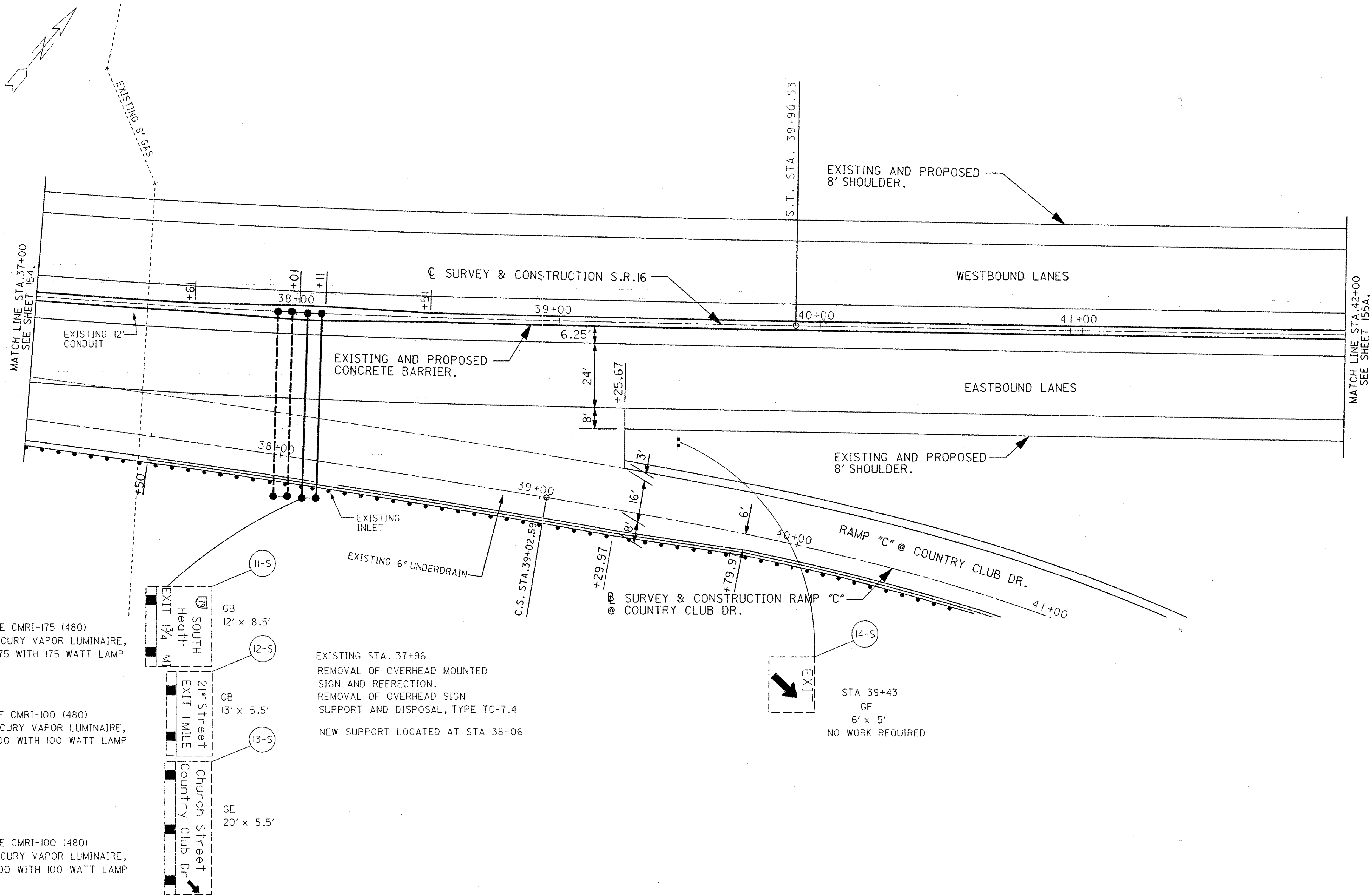




0	10	20	40
HORIZONTAL SCALE IN FEET			
CALCULATED	S.B.	CHECKED	L.T.
	3/13/95		3/16/95

SIGN INSTALLATION DETAIL
STA. 32+00 TO STA. 37+00

LIC-16-17.94



- 11-S
BALLAST, TYPE CMRI-175 (480)
INTEGRAL MERCURY VAPOR LUMINAIRE,
TYPE H39KB-175 WITH 175 WATT LAMP
- 12-S
BALLAST, TYPE CMRI-100 (480)
INTEGRAL MERCURY VAPOR LUMINAIRE,
TYPE H38HT-100 WITH 100 WATT LAMP
- 13-S
BALLAST, TYPE CMRI-100 (480)
INTEGRAL MERCURY VAPOR LUMINAIRE,
TYPE H38HT-100 WITH 100 WATT LAMP

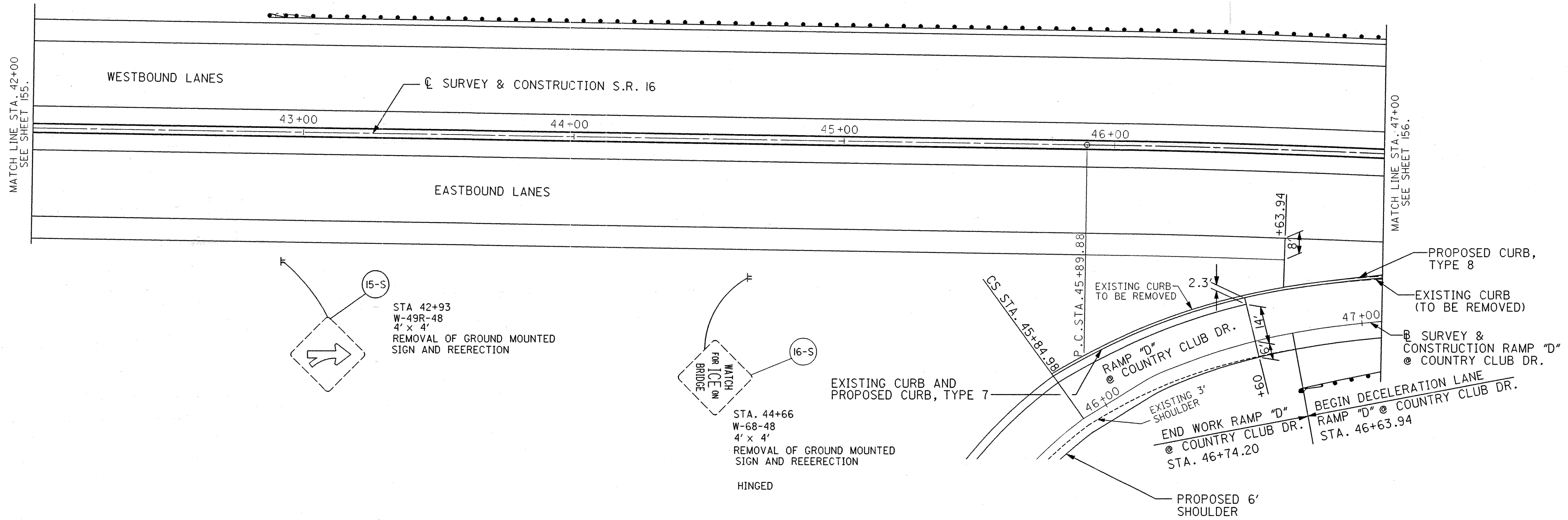
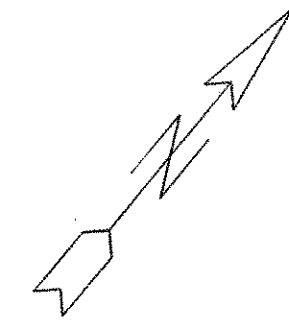
EXISTING STA. 37+96
REMOVAL OF OVERHEAD MOUNTED
SIGN AND REERECTION.
REMOVAL OF OVERHEAD SIGN
SUPPORT AND DISPOSAL, TYPE TC-7.4
NEW SUPPORT LOCATED AT STA 38+06

14-S
STA 39+43
GF
6' x 5'
NO WORK REQUIRED

CALCULATED S.B. 3/15/95	CHECKED L.J. 3/16/95
HORIZONTAL SCALE IN FEET	

SIGN INSTALLATION DETAIL
STA. 37+00 TO STA. 42+00

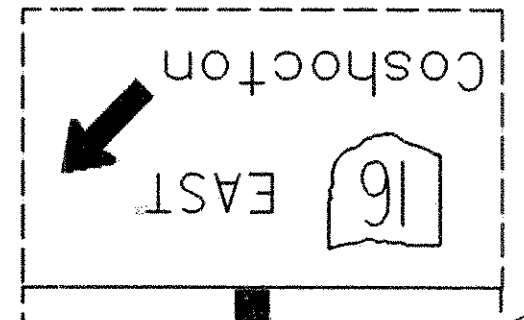
LIC-16-17.94



SIGN INSTALLATION DETAIL
STA. 42+00 TO STA. 47+00

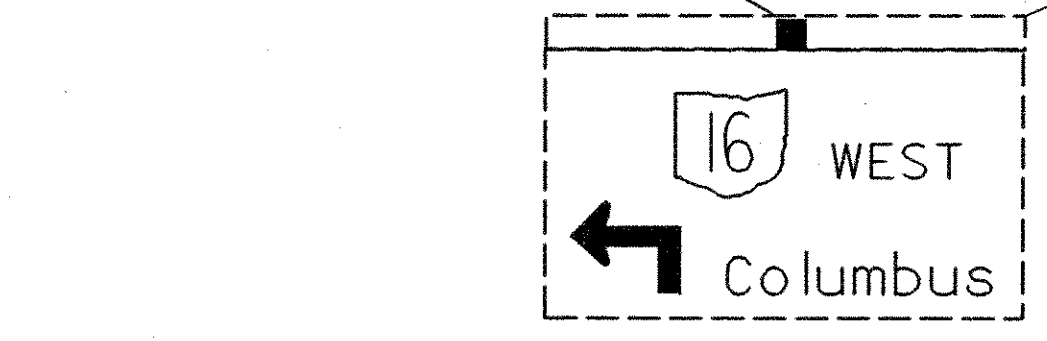
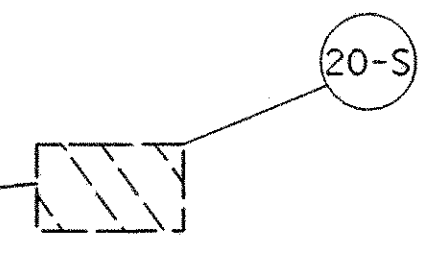
LIC-16-17.94

155A
420



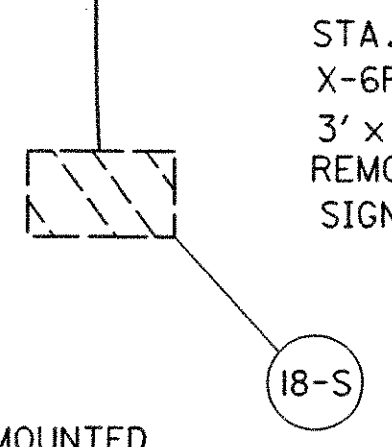
STA. 49+15
GH
8' x 4.5'
REMOVAL OF OVERHEAD MOUNTED
SIGN AND REERECTION
REMOVAL OF OVERHEAD SIGN
SUPPORT AND DISPOSAL, TYPE TC-18.24

STA. 50+05
X-6R-36
3' x 1'
REMOVAL OF GROUND MOUNTED
SIGN AND REERECTION

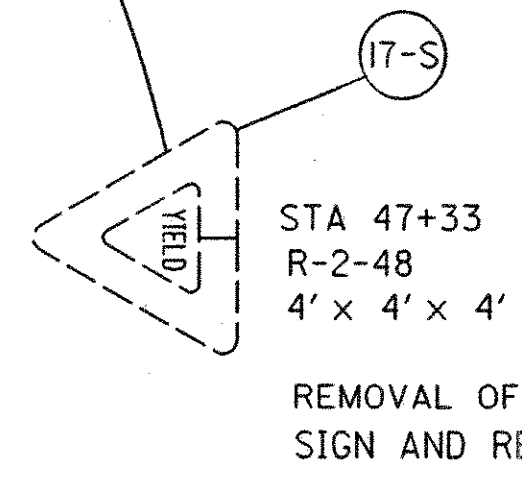


STA. 49+40
GH
8' x 4.5'
REMOVAL OF OVERHEAD MOUNTED
SIGN AND DISPOSAL
REMOVAL OF OVERHEAD SIGN SUPPORT
AND DISPOSAL, TYPE TC-18.24

BALLAST, TYPE CMRI-100 (480)
INTEGRAL MERCURY VAPOR LUMINAIRE,
TYPE H38HT-100 WITH 100 WATT LAMP
LUMINAIRE TO BE USED ON SIGN NO. 69-S



STA. 48+58
X-6R-36
3' x 1'
REMOVAL OF GROUND MOUNTED
SIGN AND REERECTION



STA 47+33
R-2-48
4' x 4' x 4'
REMOVAL OF GROUND MOUNTED
SIGN AND REERECTION

S.T. STA. 47+84.98 @ RAMP "D" =
57.0' RT. P.O.C. STA. 47+85.34 @ S.R. 16

MATCH LINE STA. 47+00
SEE SHEET 155.

MATCH LINE STA. 52+00
SEE SHEET 157.

BRIDGE NO.
LIC-16-1859 LT./RT.

COUNTRY CLUB DRIVE

EXISTING 8" SANITARY

WESTBOUND LANES

EASTBOUND LANES

SURVEY & CONSTRUCTION S.R. 16

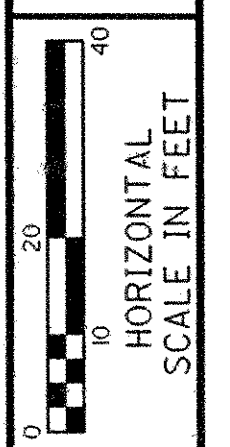
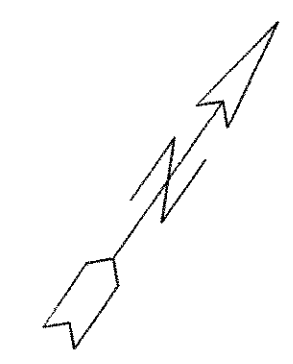
EXISTING 6" UNDERDRAIN

PROPOSED CURB, TYPE 8

RAMP "D" @ CHURCH STREET

SURVEY & CONSTRUCTION
RAMP "D" @ COUNTRY CLUB DR.

P.C. STA. 49+39.40

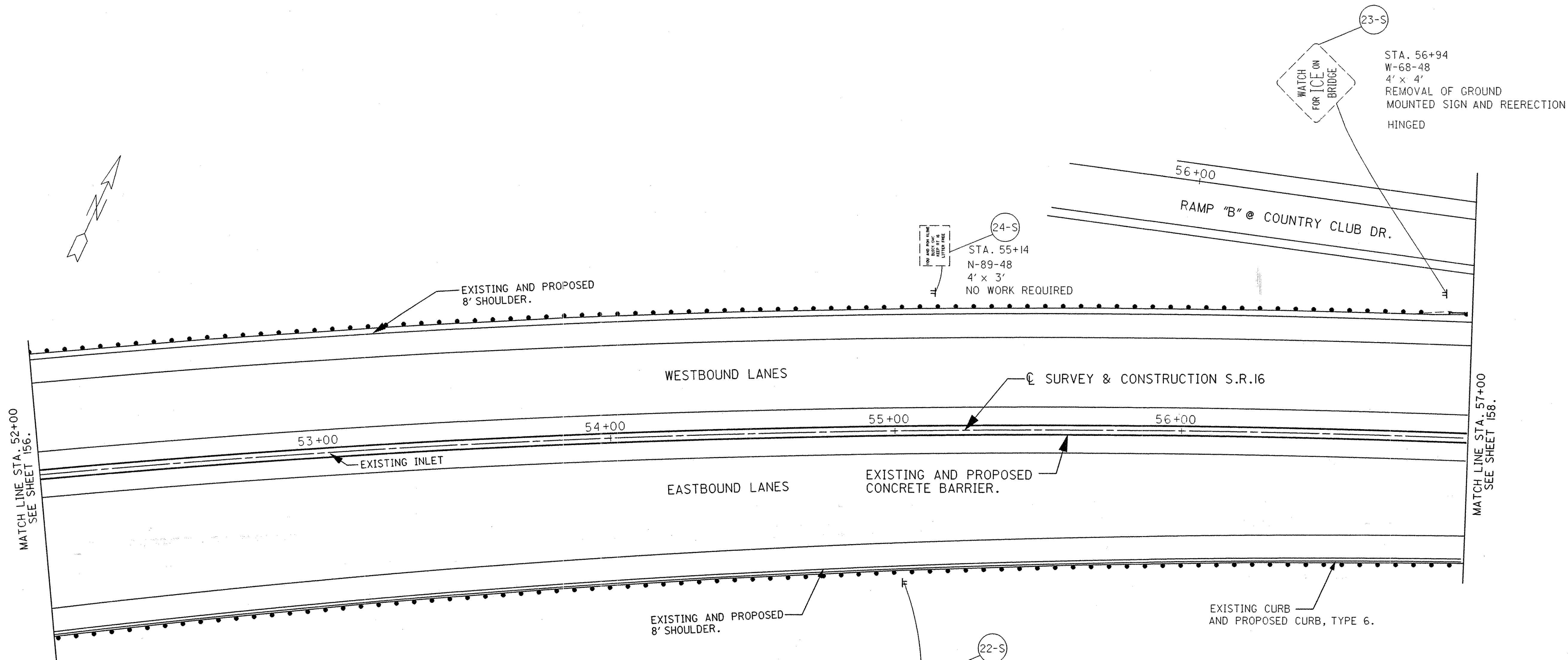


CALCULATED
S.B. CHECKED
L.T.
1/16/95

SIGN INSTALLATION DETAIL
STA. 47+00 TO STA. 52+00

LIC-16-17.94

156
420



MATCH LINE STA. 52+00
SEE SHEET 156.

MATCH LINE STA. 57+00
SEE SHEET 158.

24-S
 STA. 55+14
 N-89-48
 4' x 3'
 NO WORK REQUIRED

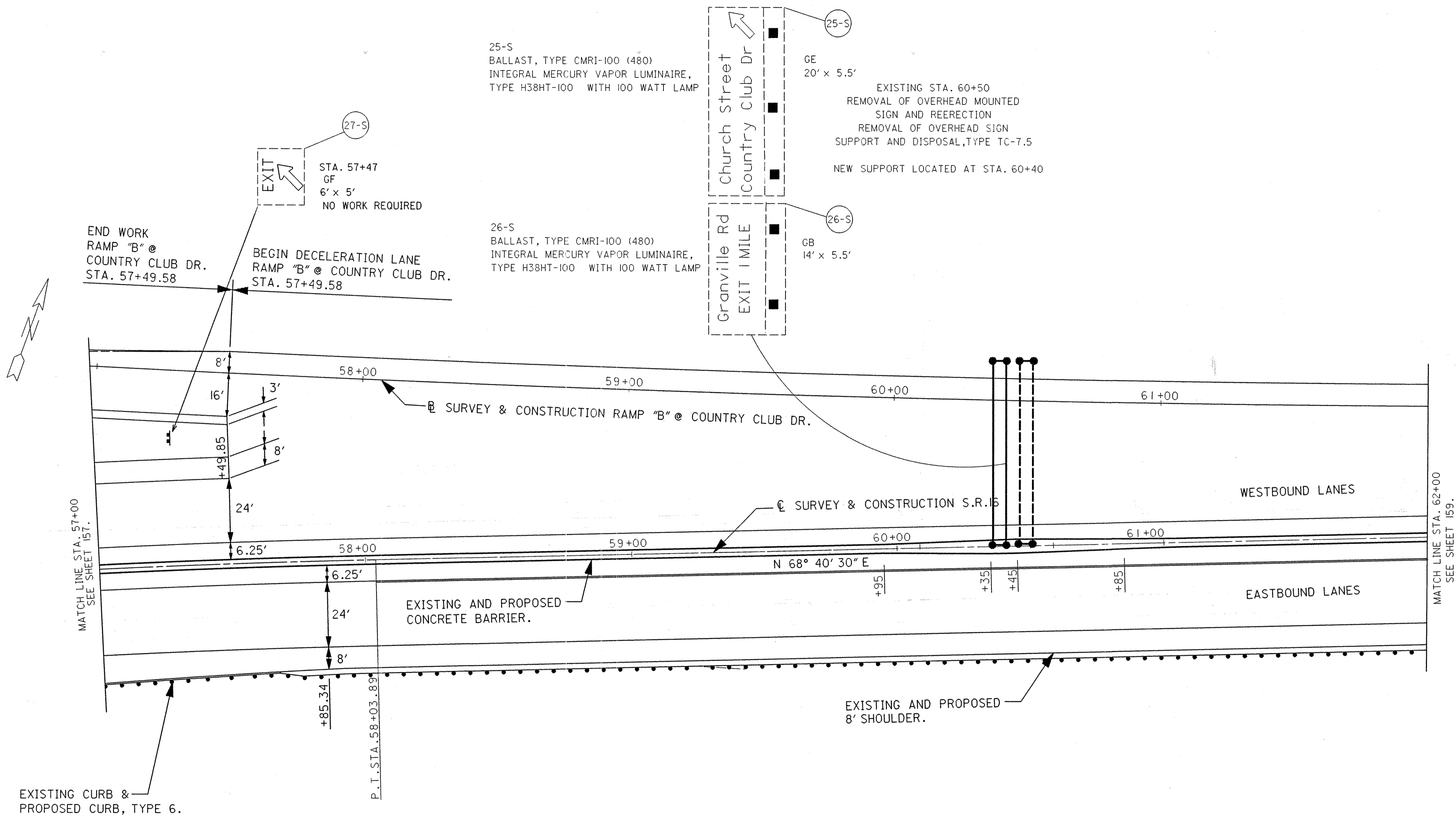
23-S
 STA. 56+94
 W-68-48
 4' x 4'
 REMOVAL OF GROUND
 MOUNTED SIGN AND REERECTION
 HINGED

22-S
 STA. 54+96
 N-89-48
 4' x 3'
 NO WORK REQUIRED

CALCULATED	
S.B.	3/13/95
CHECKED	L.T.
DATE	3/16/95

SIGN INSTALLATION DETAIL
STA. 52+00 TO STA. 57+00

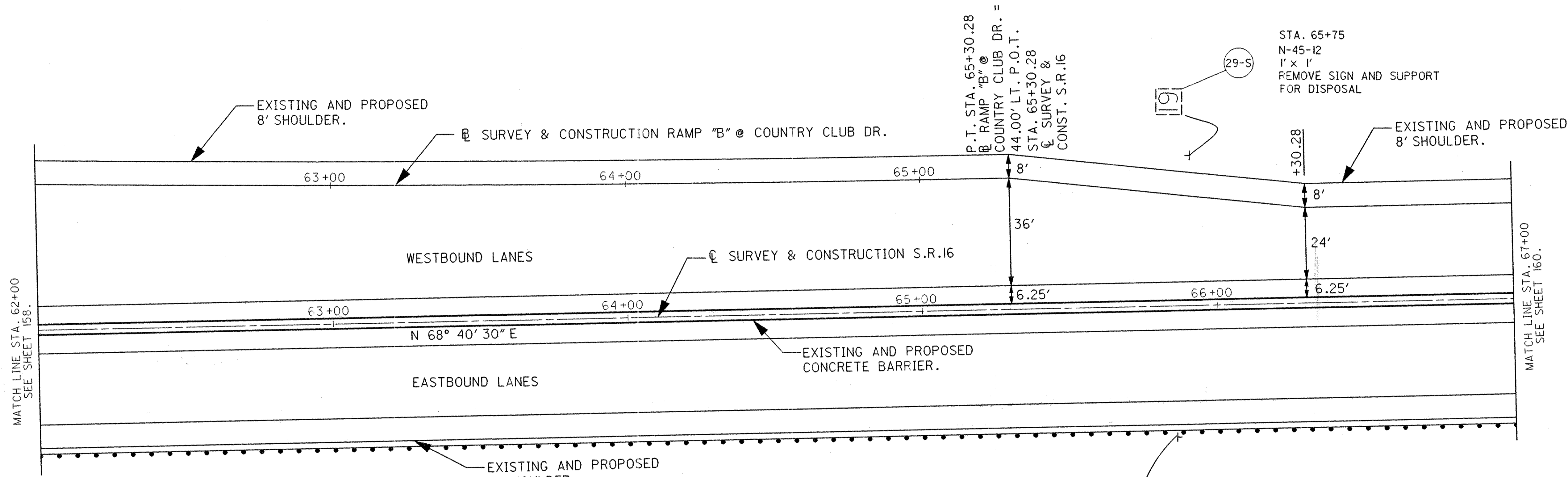
LIC-16-17.94



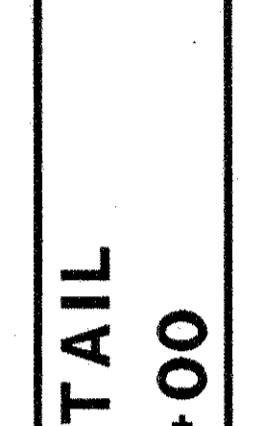
CHECKED	DATE
3/13/95	
L.T.	
3/13/95	

SIGN INSTALLATION DETAIL
STA. 57+00 TO STA. 62+00

LIC-16-17.94



CALCULATED	S.B.	CHECKED	L.T.	DATE



SIGN INSTALLATION DETAIL
STA. 62+00 TO STA. 67+00

LIC-16-17.94



MATCH LINE STA. 67+00
SEE SHEET 159.

WESTBOUND LANES

EASTBOUND LANES

N 68°40'30" E 68+00

69+00

70+00

71+00

EXISTING AND PROPOSED
8' SHOULDER.

☉ SURVEY AND CONSTRUCTION S.R.16

EXISTING AND PROPOSED
8' SHOULDER.

30-S

31-S

16 EAST

STA 67+46
M-39-30
2.5' x 1.25'

M-2-30-2
2.5' x 2.5'

REMOVAL OF GROUND MOUNTED SIGN
AND REERECTION

19

32-S

STA 69+99.60
N-45-12
1' x 1'
INSTALL NEW SIGN AND SUPPORT

19

36-S

STA 69+99.60
N-45-12
1' x 1'
INSTALL NEW SIGN AND SUPPORT

33-S

SPEED
LIMIT
55

R-10-36
3' x 4'
INSTALL SIGN
ON NEW SUPPORT
SIGN RELOCATED FROM
STA 74+75

21st Street
EXIT 1/2 MILE

34-S

STA 70+75
6B
13' x 5.5'
INSTALL SIGN ON NEW SUPPORT

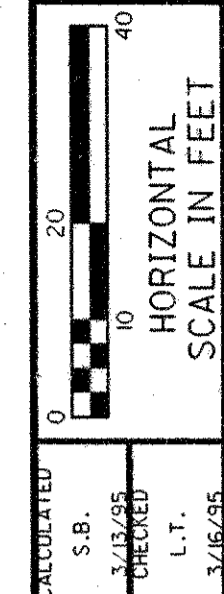
SIGN RELOCATED FROM STA 74+75

Ohio State Univ Br
Ctrl Ohio Tech College
NEXT RIGHT

OSU Newark
C Ohio Tech Coll
NEXT RIGHT

STA 71+75
GCP
14' x 5.5'
REPLACE SIGN AND SUPPORTS
LEVEL III

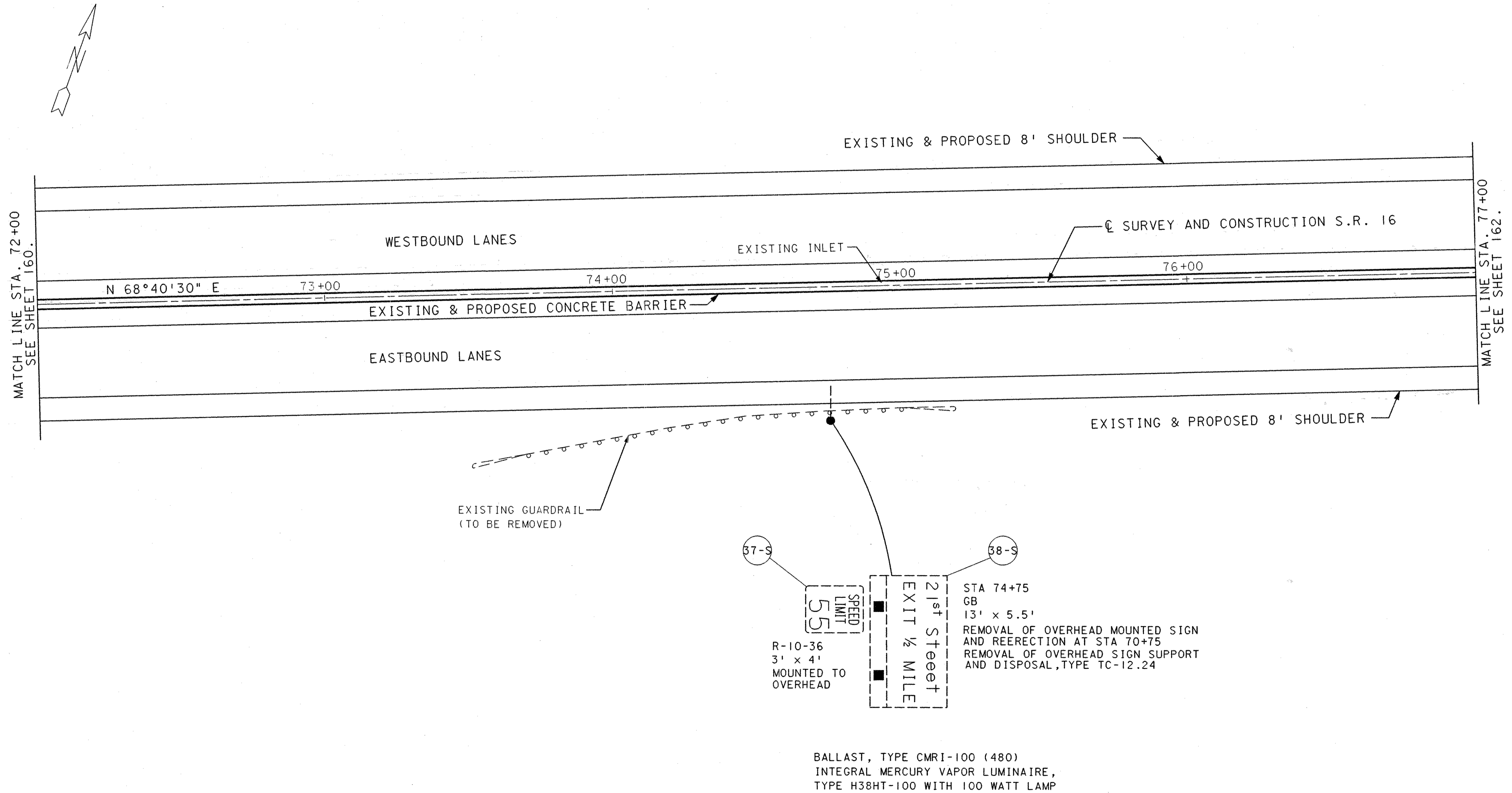
35-S



SIGN INSTALLATION DETAIL
STA. 67+00 TO STA. 72+00

LIC-16-17.94

160
420



0	10	20	40
HORIZONTAL SCALE IN FEET			
CALCULATED	S.B.	CHECKED	L.T.

SIGN INSTALLATION DETAIL
STA. 72+00 TO STA. 77+00

LIC-16-17.94

BALLAST, TYPE CMRI-175 (480)
 INTEGRAL MERCURY VAPOR LUMINAIRE,
 TYPE H38KB-175 WITH 175 WATT LAMP

39-S

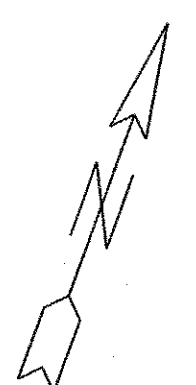
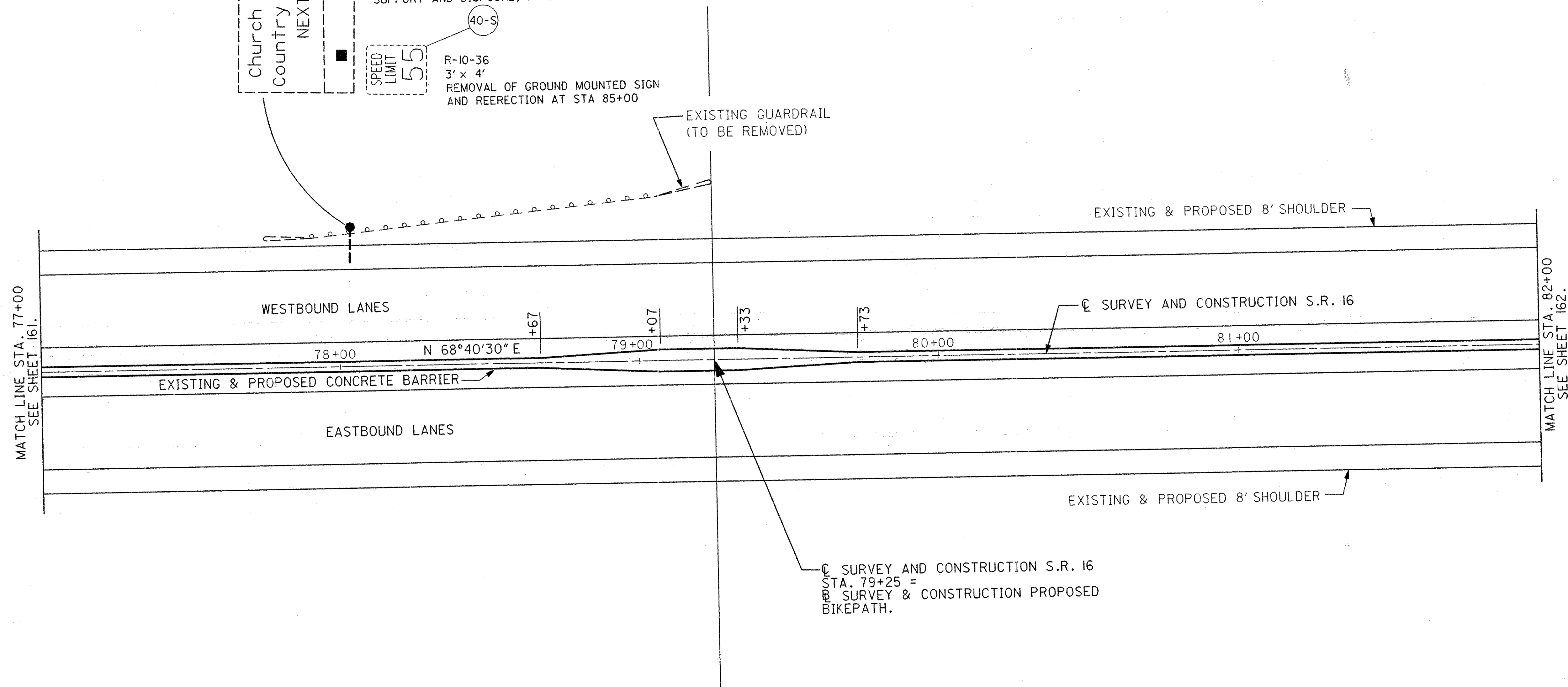
Church Street
 Country Club Dr
 NEXT RIGHT

STA 78+00
 GB
 18' x 7.5'
 REMOVAL OF OVERHEAD MOUNTED
 SIGN AND REERECTION AT STA 85+00
 REMOVAL OF OVERHEAD SIGN
 SUPPORT AND DISPOSAL, TYPE TC-12.24

40-S

SPEED
 LIMIT
 55

R-10-36
 3' x 4'
 REMOVAL OF GROUND MOUNTED SIGN
 AND REERECTION AT STA 85+00

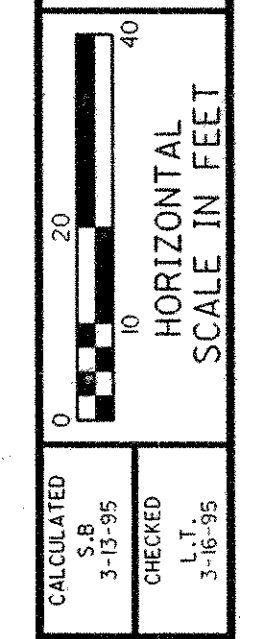
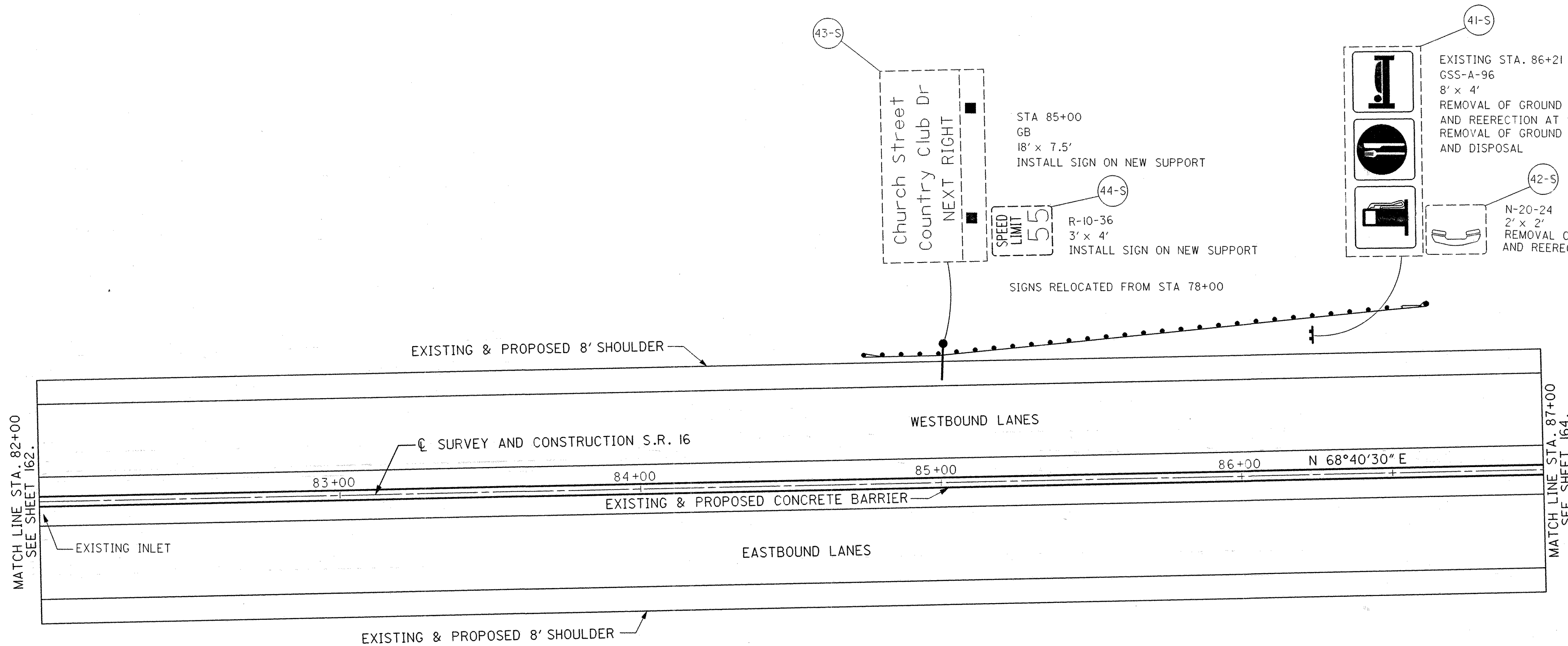


SIGN INSTALLATION DETAIL
STA. 77+00 TO STA. 82+00

LIC-16-17.94

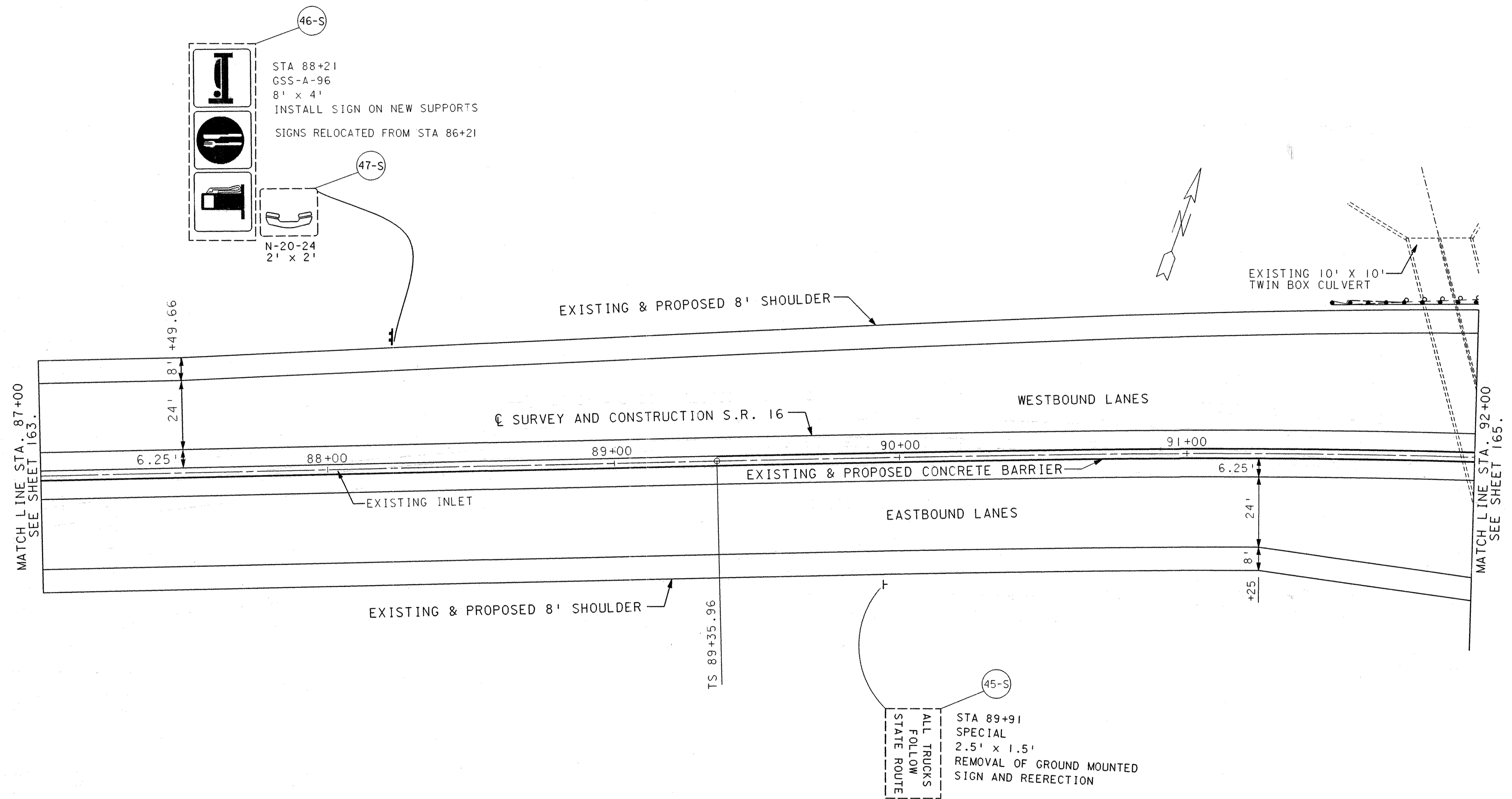
CALCULATED	S.R.	CHECKED	L.T.
	3/13/95		3/16/95

0 20 40
 HORIZONTAL
 SCALE IN FEET



SIGN INSTALLATION DETAIL
STA. 82+00 TO STA. 87+00

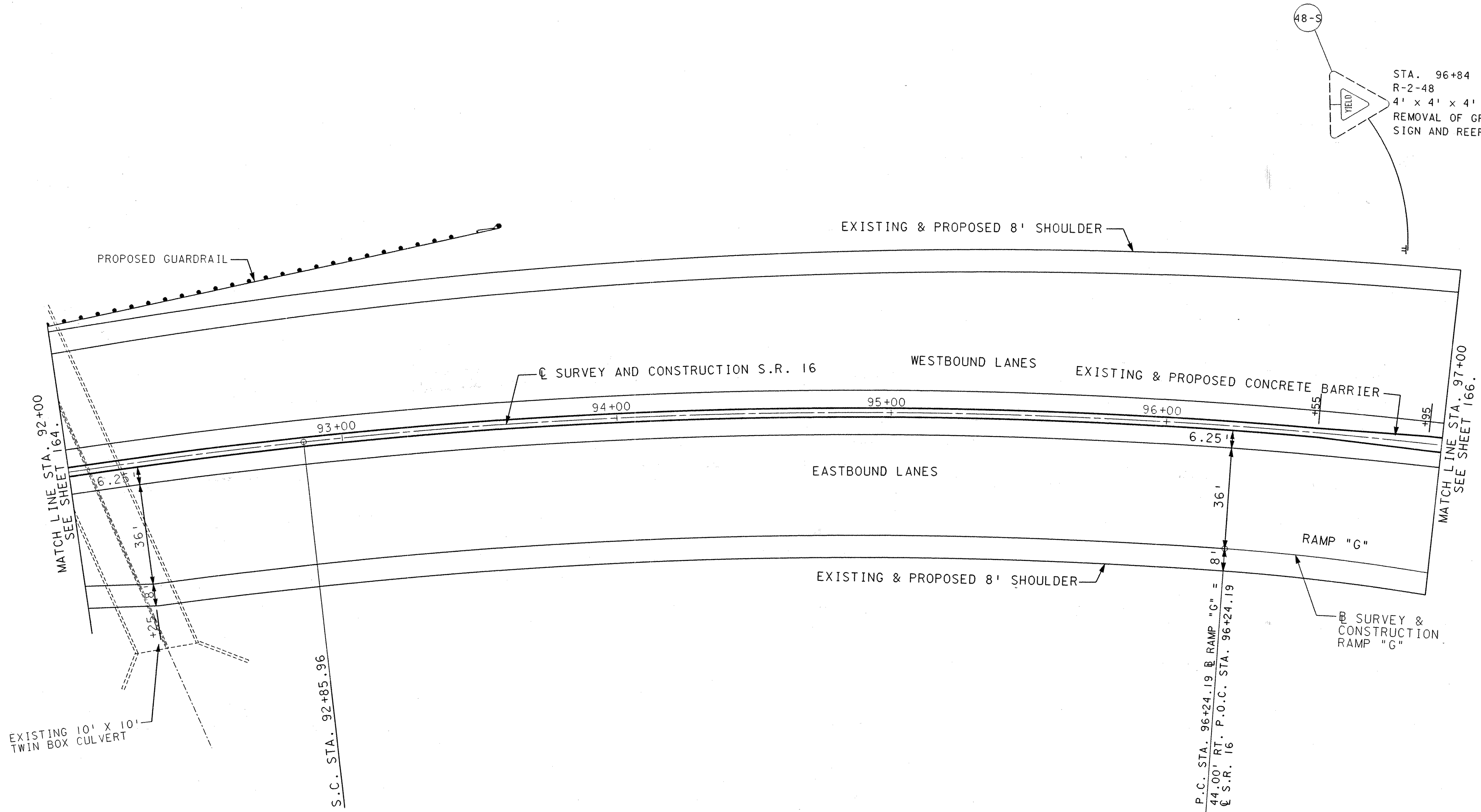
LIC-16-17.94



CALCULATED	S.B.	CHECKED	L.T.
	3-15-95		3-16-95

SIGN INSTALLATION DETAIL
STA. 87+00 TO STA. 92+00

LIC-16-17.94

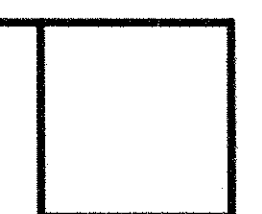


48-S

STA. 96+84
R-2-48
4' x 4' x 4'
REMOVAL OF GROUND MOUNTED
SIGN AND REERECTION



CALCULATED S.B.	3-15-95
CHECKED L.T.	3-16-95

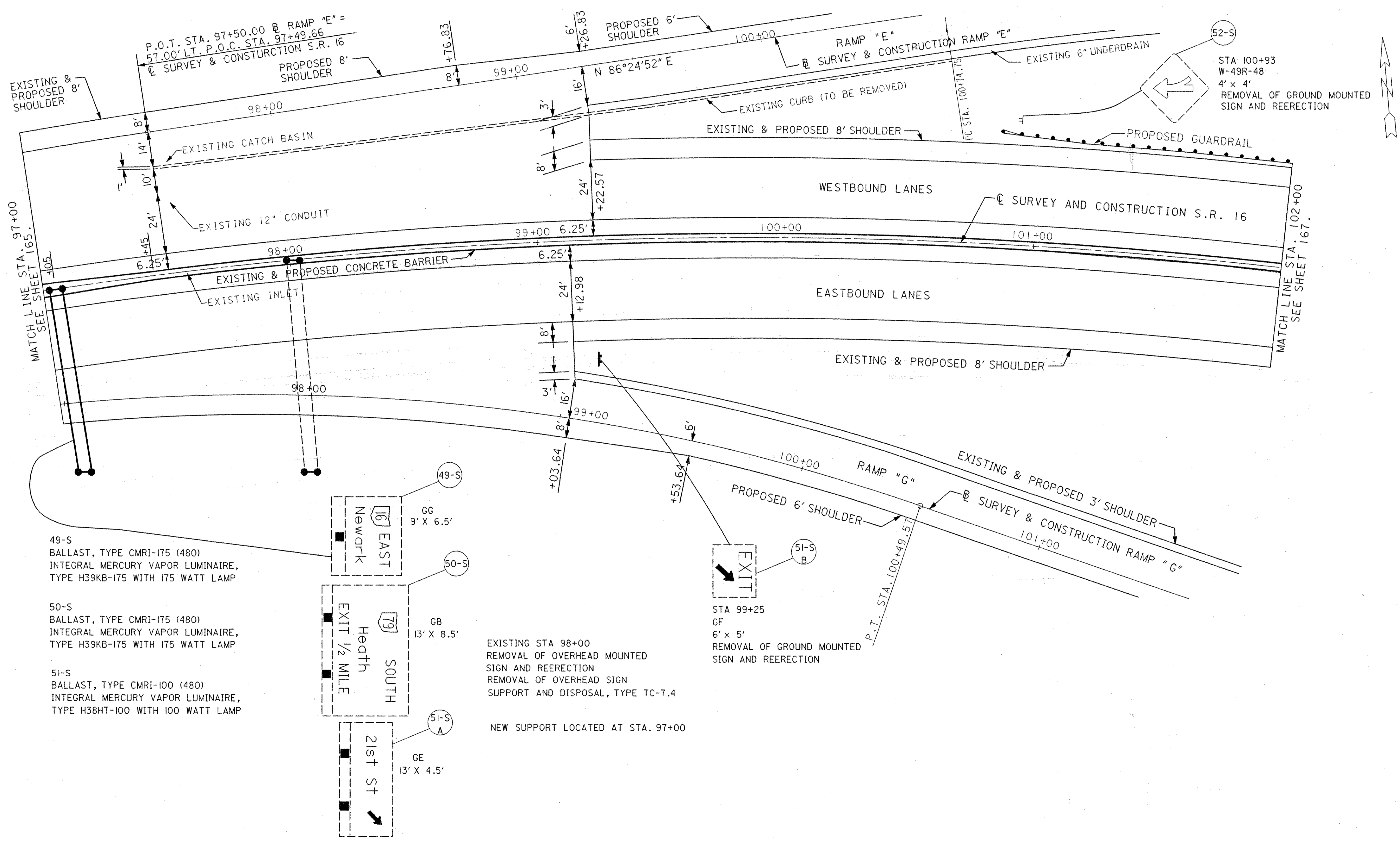


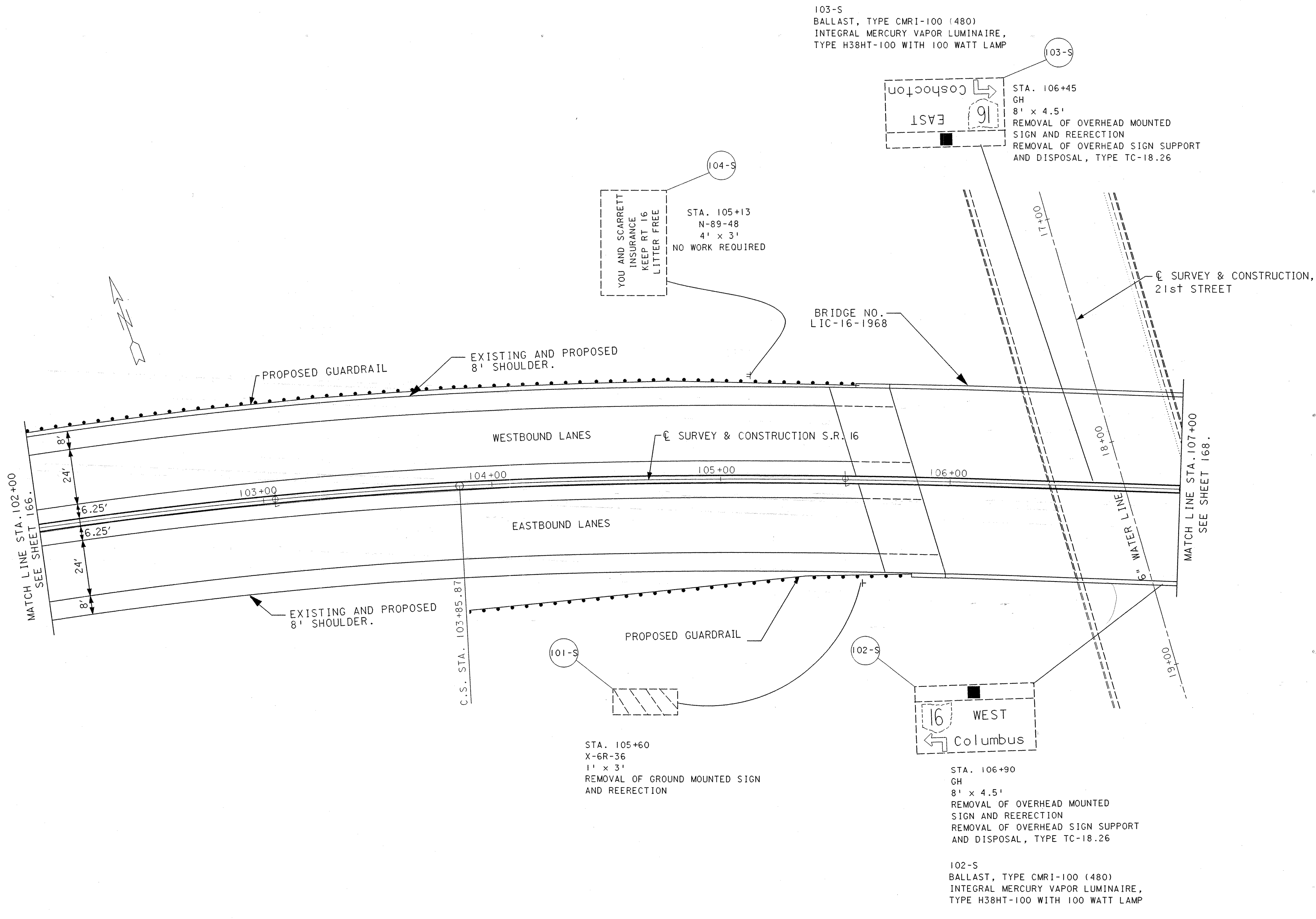
SIGN INSTALLATION DETAIL
STA. 92+00 TO STA. 97+00

LIC-16-17.94

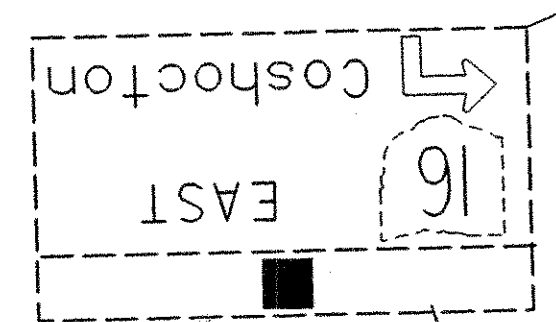
SIGN INSTALLATION DETAIL
STA. 97+00 TO STA. 102+00

LIC-16-17.94

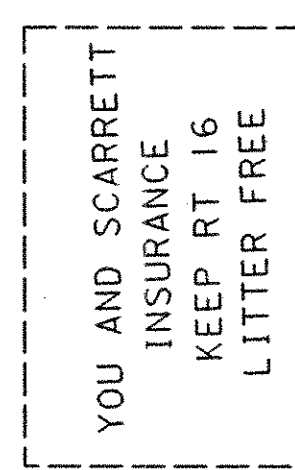




103-S
 BALLAST, TYPE CMRI-100 (480)
 INTEGRAL MERCURY VAPOR LUMINAIRE,
 TYPE H38HT-100 WITH 100 WATT LAMP



103-S
 STA. 106+45
 GH
 8' x 4.5'
 REMOVAL OF OVERHEAD MOUNTED
 SIGN AND REERECTION
 REMOVAL OF OVERHEAD SIGN SUPPORT
 AND DISPOSAL, TYPE TC-18.26



104-S
 STA. 105+13
 N-89-48
 4' x 3'
 NO WORK REQUIRED

BRIDGE NO.
 LIC-16-1968

☒ SURVEY & CONSTRUCTION,
 21st STREET

WESTBOUND LANES

EASTBOUND LANES

☒ SURVEY & CONSTRUCTION S.R. 16

MATCH LINE STA. 102+00
 SEE SHEET 166.

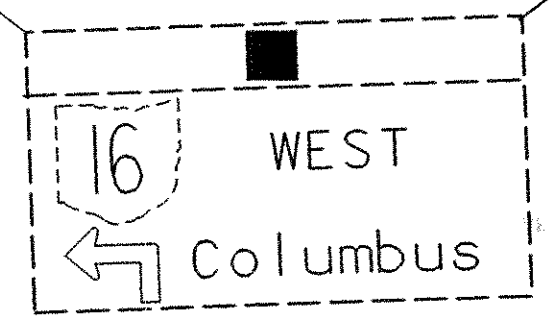
MATCH LINE STA. 107+00
 SEE SHEET 168.

EXISTING AND PROPOSED
 8' SHOULDER.

PROPOSED GUARDRAIL



101-S
 STA. 105+60
 X-6R-36
 1' x 3'
 REMOVAL OF GROUND MOUNTED SIGN
 AND REERECTION

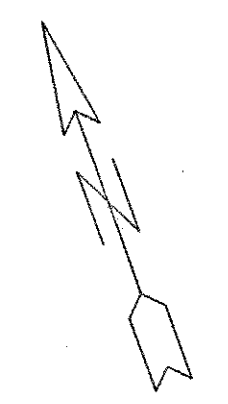
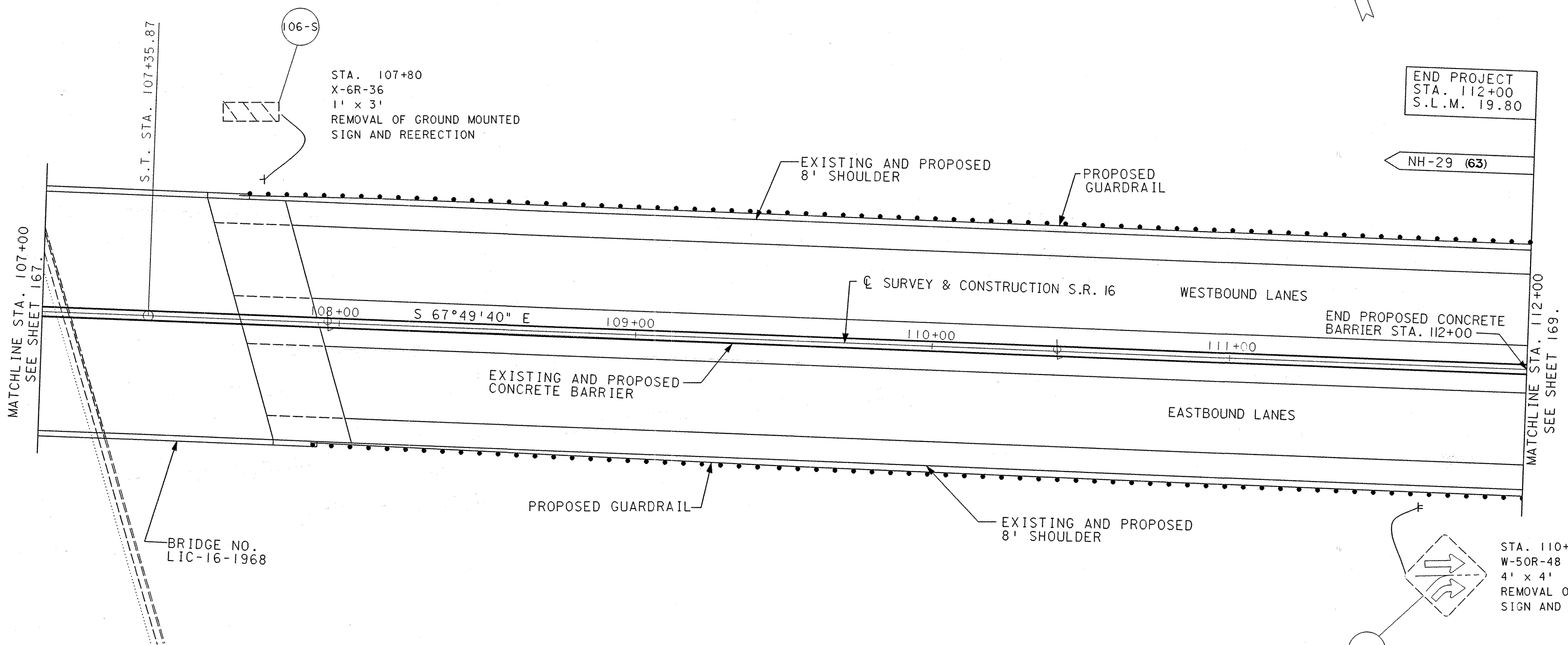


102-S
 STA. 106+90
 GH
 8' x 4.5'
 REMOVAL OF OVERHEAD MOUNTED
 SIGN AND REERECTION
 REMOVAL OF OVERHEAD SIGN SUPPORT
 AND DISPOSAL, TYPE TC-18.26

102-S
 BALLAST, TYPE CMRI-100 (480)
 INTEGRAL MERCURY VAPOR LUMINAIRE,
 TYPE H38HT-100 WITH 100 WATT LAMP

40	20	0
HORIZONTAL SCALE IN FEET		
CALCULATED S.B. 3-15-95	CHECKED L.T. 3-16-95	

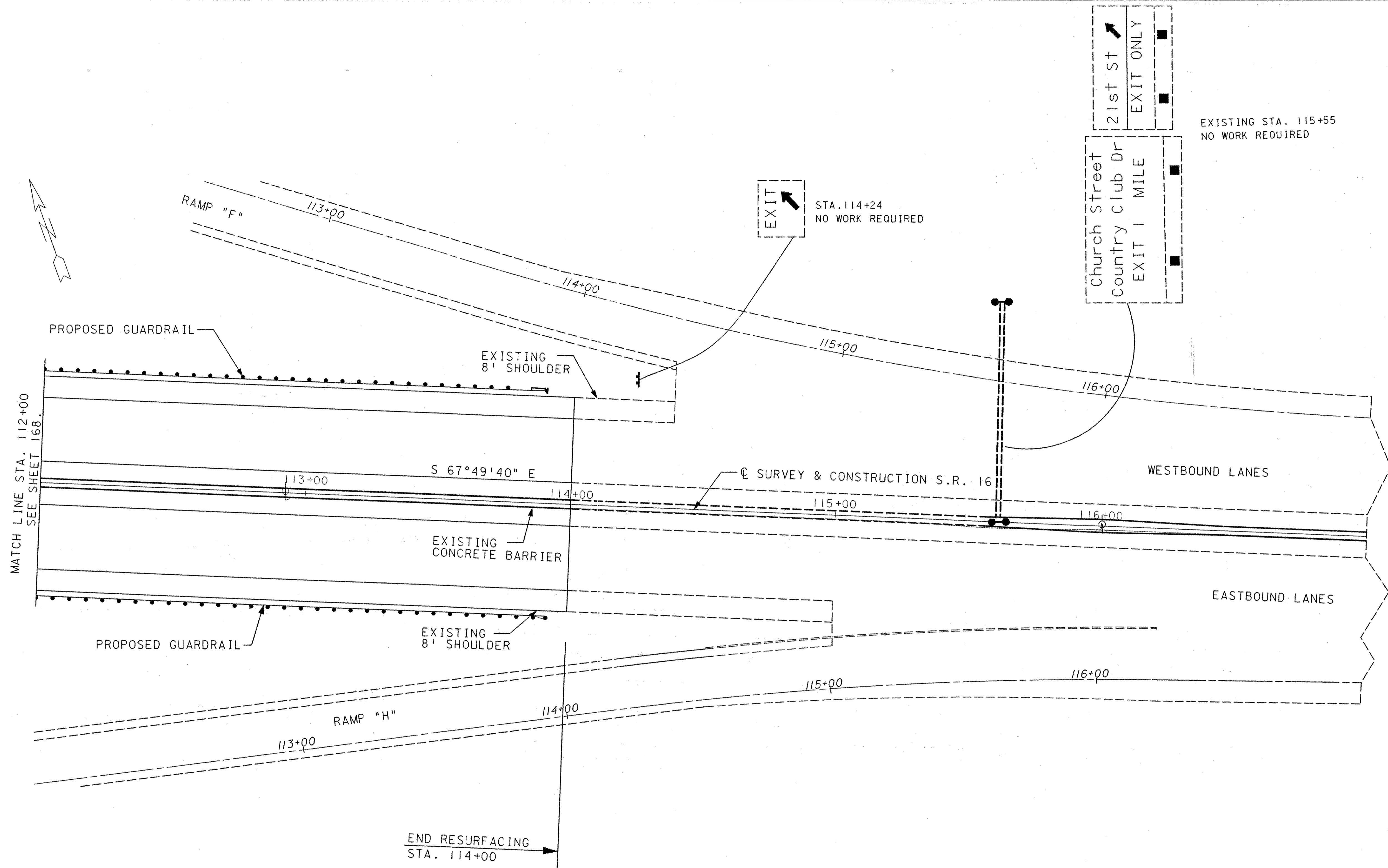
SIGN INSTALLATION DETAIL SHEET
STA. 102+00 TO STA. 107+00



CALCULATED S.B. 3-15-95	CHECKED L.T. 3-16-95
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SIGN INSTALLATION DETAIL SHEET
STA. 107+00 TO STA. 112+00

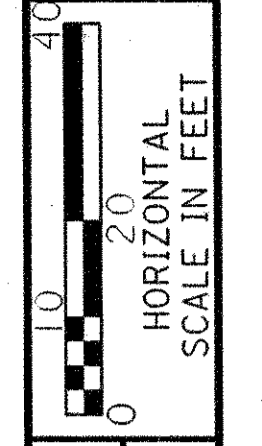
LIC-16-17.94

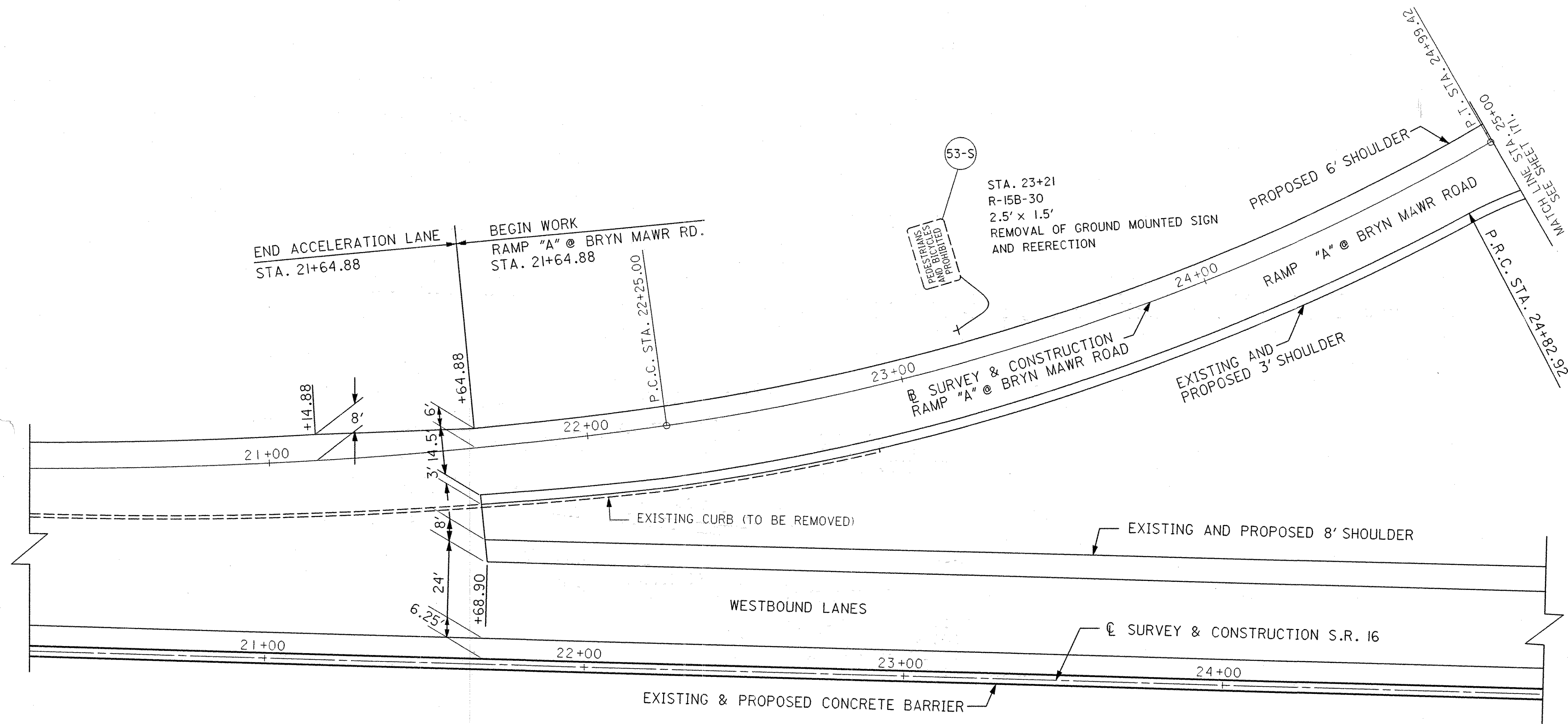


CALCULATED S.P. 3-15-95	CHECKED L.T. 3-16-95
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SIGN INSTALLATION DETAIL SHEET
STA. 112+00 TO STA. 117+00

LIC-16-17.94

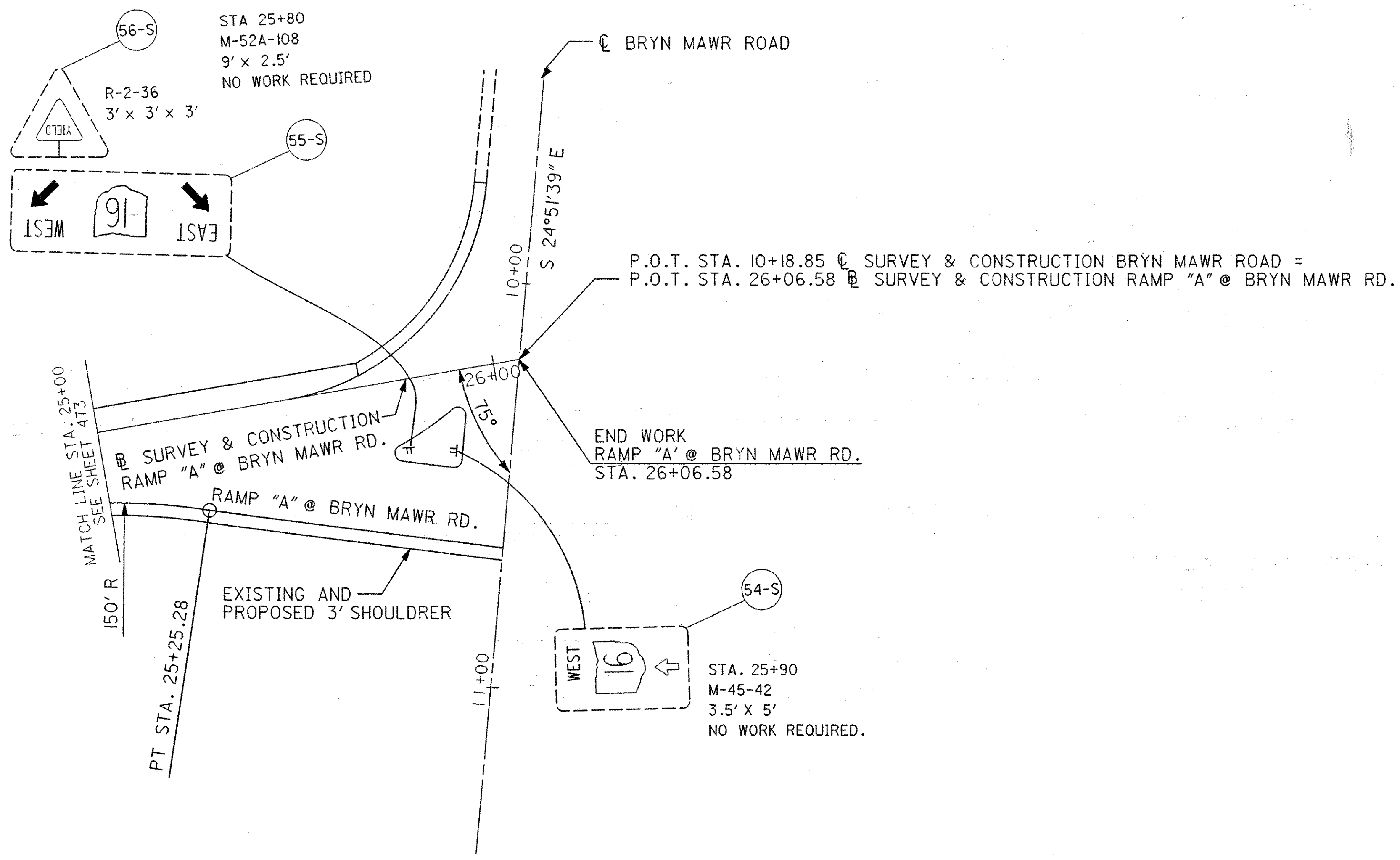




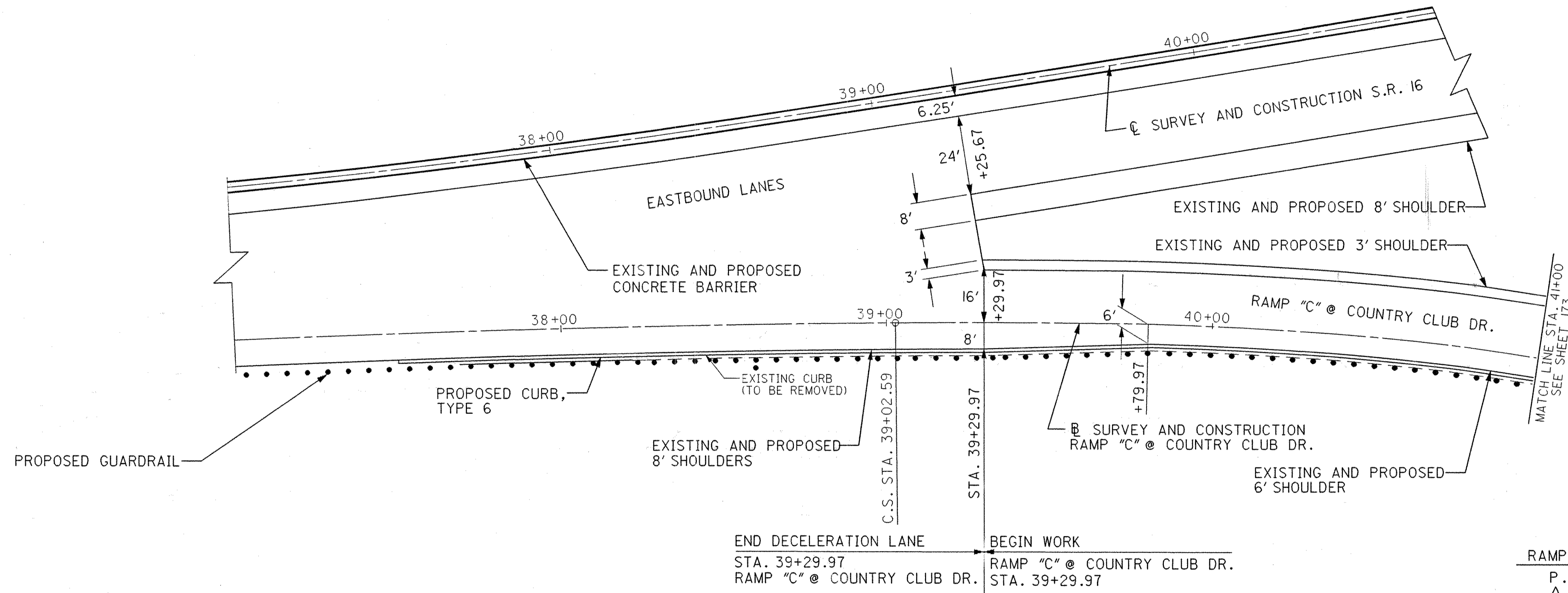
**SIGN INSTALLATION DETAIL RAMP "A" AT BRYN MAWR ROAD
STA. 20+25 TO STA. 25+00**

LIC-16-17.94

CALCULATED S.B. 3-13-95	CHECKED L.T. 3-16-95
<p>HORIZONTAL SCALE IN FEET</p>	



<p style="font-size: 8px;">HORIZONTAL SCALE IN FEET</p>	CALCULATED 5.8 3-15-95 CHECKED 3-16-95	SIGN INSTALLATION DETAIL RAMP "A" AT BRYN MAWR ROAD STA. 25+00 TO STA. 26+06.58
LIC-16-17.94	171 420	



END DECELERATION LANE
 STA. 39+29.97
 RAMP "C" @ COUNTRY CLUB DR.

BEGIN WORK
 RAMP "C" @ COUNTRY CLUB DR.
 STA. 39+29.97

CURVE DATA
 RAMP "C" @ COUNTRY CLUB DR.

P.I.	STA. 37+62.22
Δ	= 02°48'29" RT.
Dc	= 01°00'00"
Rc	= 5729.58'
Ls	= 200.00'
θ_s	= 08°00'00"
LT	= 126.96'
ST	= 73.55'
Lc	= 280.81'
Ts	=
Es	=

NO SIGNS THIS SHEET.

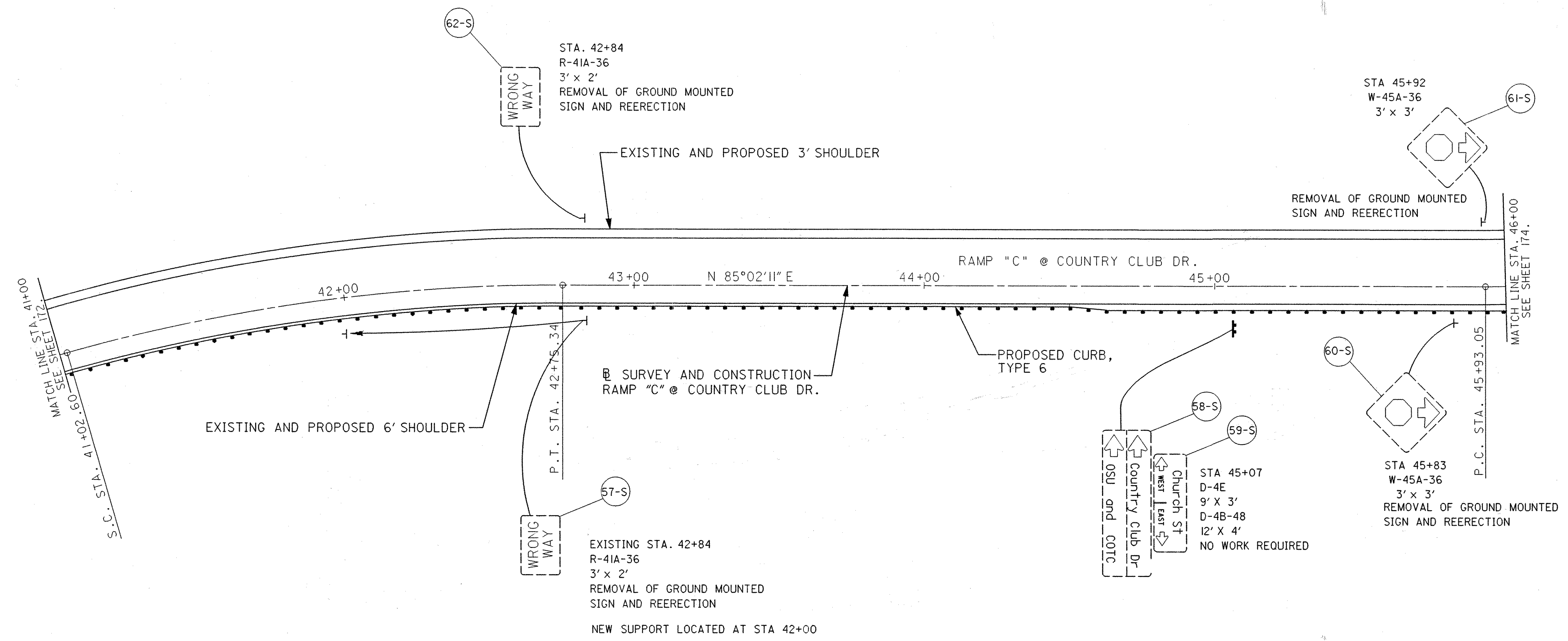
SIGN INSTALLATION DETAIL RAMP "C" AT COUNTRY CLUB DR.
 STA. 37+00 TO STA. 41+00

LIC-16-17.94

CALCULATED
 S.B.
 3-15-95

CHECKED
 L.T.
 3-16-95

0 20 40
 HORIZONTAL
 SCALE IN FEET



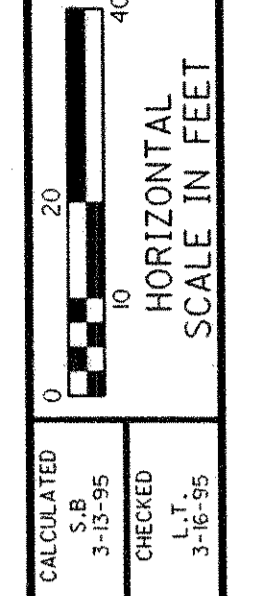
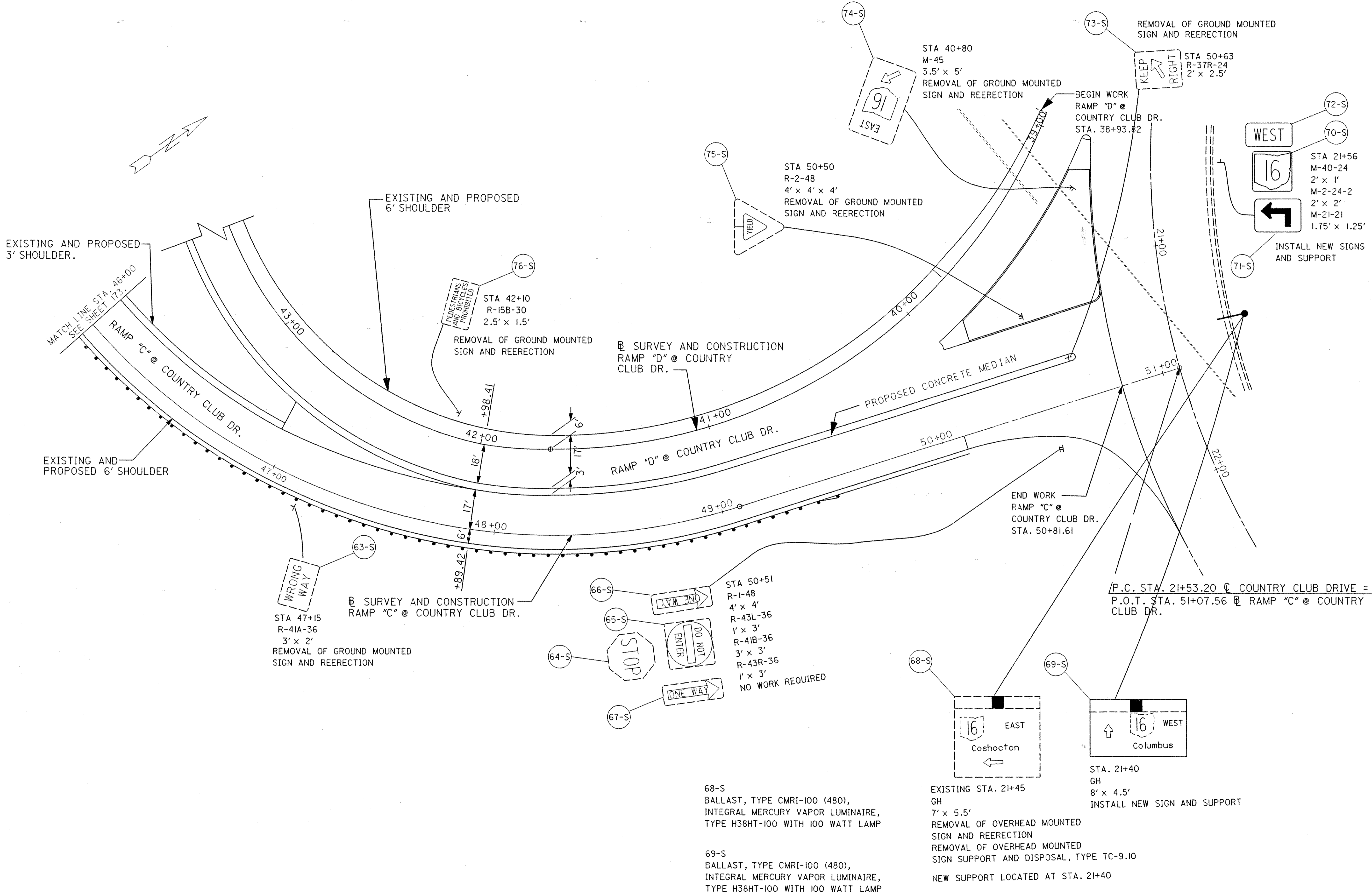
**SIGN INSTALLATION DETAIL RAMP "C" AT COUNTRY CLUB DR.
STA. 41+00 TO STA. 46+00**

LIC-16-17.94

CALCULATED	S.B.	3-13-95
CHECKED	L.T.	3-16-95

0 10 20
HORIZONTAL SCALE IN FEET

L1660365 3/22/95



SIGN INSTALLATION DETAIL RAMP "C" AT COUNTRY CLUB DR.
STA. 46+00 TO STA. 51+07.56

LIC-16-17.94

174
420

63-S
 STA 47+15
 R-41A-36
 3' x 2'
 REMOVAL OF GROUND MOUNTED
 SIGN AND REERECTION

64-S
 SURVEY AND CONSTRUCTION
 RAMP "C" @ COUNTRY CLUB DR.

65-S
 66-S
 67-S
 STA 50+51
 R-1-48
 4' x 4'
 R-43L-36
 1' x 3'
 R-41B-36
 3' x 3'
 R-43R-36
 1' x 3'
 NO WORK REQUIRED

68-S
 BALLAST, TYPE CMRI-100 (480),
 INTEGRAL MERCURY VAPOR LUMINAIRE,
 TYPE H38HT-100 WITH 100 WATT LAMP

69-S
 BALLAST, TYPE CMRI-100 (480),
 INTEGRAL MERCURY VAPOR LUMINAIRE,
 TYPE H38HT-100 WITH 100 WATT LAMP

68-S
 EXISTING STA. 21+45
 GH
 7' x 5.5'
 REMOVAL OF OVERHEAD MOUNTED
 SIGN AND REERECTION
 REMOVAL OF OVERHEAD MOUNTED
 SIGN SUPPORT AND DISPOSAL, TYPE TC-9.10
 NEW SUPPORT LOCATED AT STA. 21+40

69-S
 STA. 21+40
 GH
 8' x 4.5'
 INSTALL NEW SIGN AND SUPPORT

P.C. STA. 21+53.20 @ COUNTRY CLUB DRIVE =
 P.O.T. STA. 51+07.56 @ RAMP "C" @ COUNTRY CLUB DR.

EXISTING AND PROPOSED
 3' SHOULDER.

EXISTING AND
 PROPOSED 6' SHOULDER

EXISTING AND PROPOSED
 6' SHOULDER

76-S
 STA 42+10
 R-15B-30
 2.5' x 1.5'
 REMOVAL OF GROUND MOUNTED
 SIGN AND REERECTION

75-S
 SURVEY AND CONSTRUCTION
 RAMP "D" @ COUNTRY CLUB DR.

74-S
 STA 50+50
 R-2-48
 4' x 4' x 4'
 REMOVAL OF GROUND MOUNTED
 SIGN AND REERECTION

73-S
 STA 40+80
 M-45
 3.5' x 5'
 REMOVAL OF GROUND MOUNTED
 SIGN AND REERECTION

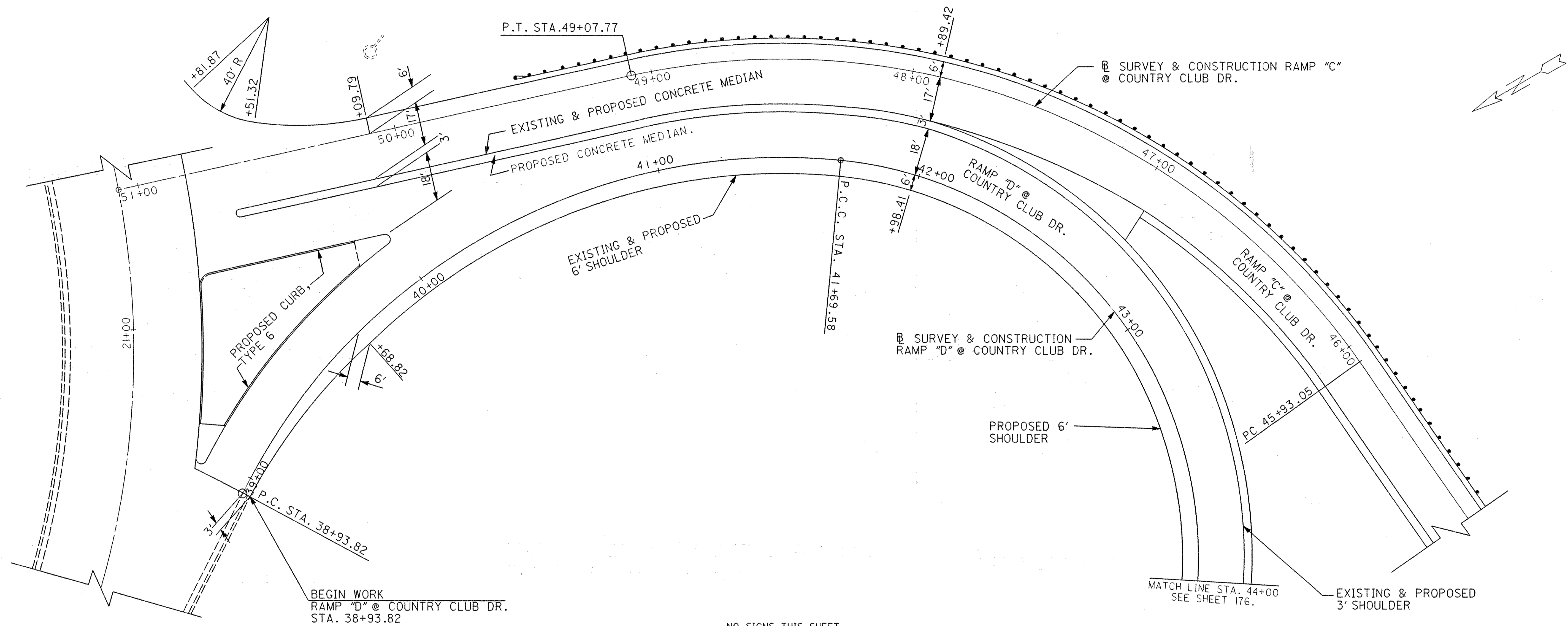
BEGIN WORK
 RAMP "D" @
 COUNTRY CLUB DR.
 STA. 38+93.82

73-S
 REMOVAL OF GROUND MOUNTED
 SIGN AND REERECTION

72-S
 70-S
 STA 50+63
 R-37R-24
 2' x 2.5'

71-S
 WEST
 16
 WEST
 STA 21+56
 M-40-24
 2' x 1'
 M-2-24-2
 2' x 2'
 M-21-21
 1.75' x 1.25'
 INSTALL NEW SIGNS
 AND SUPPORT

L1650166 12/08/94

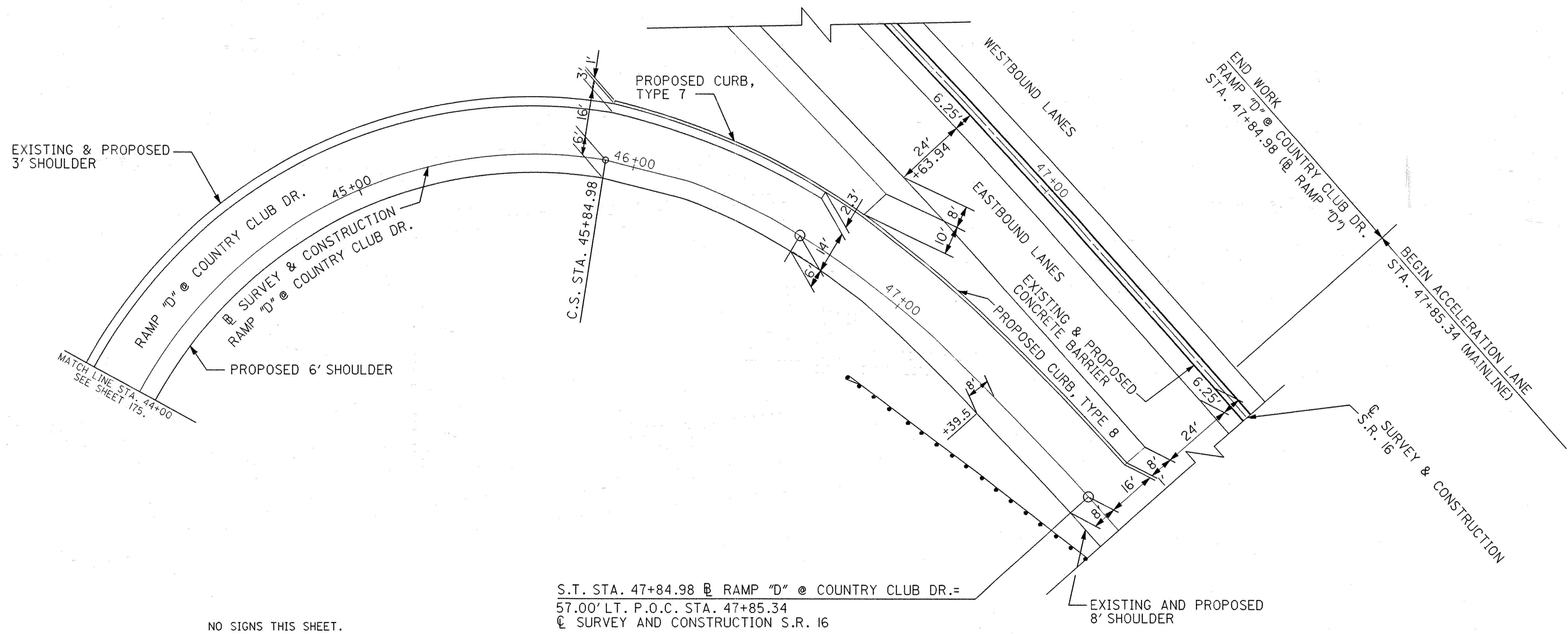


CALCULATED S.B. 3-13-95	CHECKED L.T. 3-16-95
HORIZONTAL SCALE IN FEET	

SIGN INSTALLATION DETAIL RAMP "D" AT COUNTRY CLUB DR.
STA. 38+93.82 TO STA. 44+00

LIC-16-17.94

175
420



NO SIGNS THIS SHEET.

S.T. STA. 47+84.98 @ RAMP "D" @ COUNTRY CLUB DR. =
 57.00' LT. P.O.C. STA. 47+85.34
 @ SURVEY AND CONSTRUCTION S.R. 16

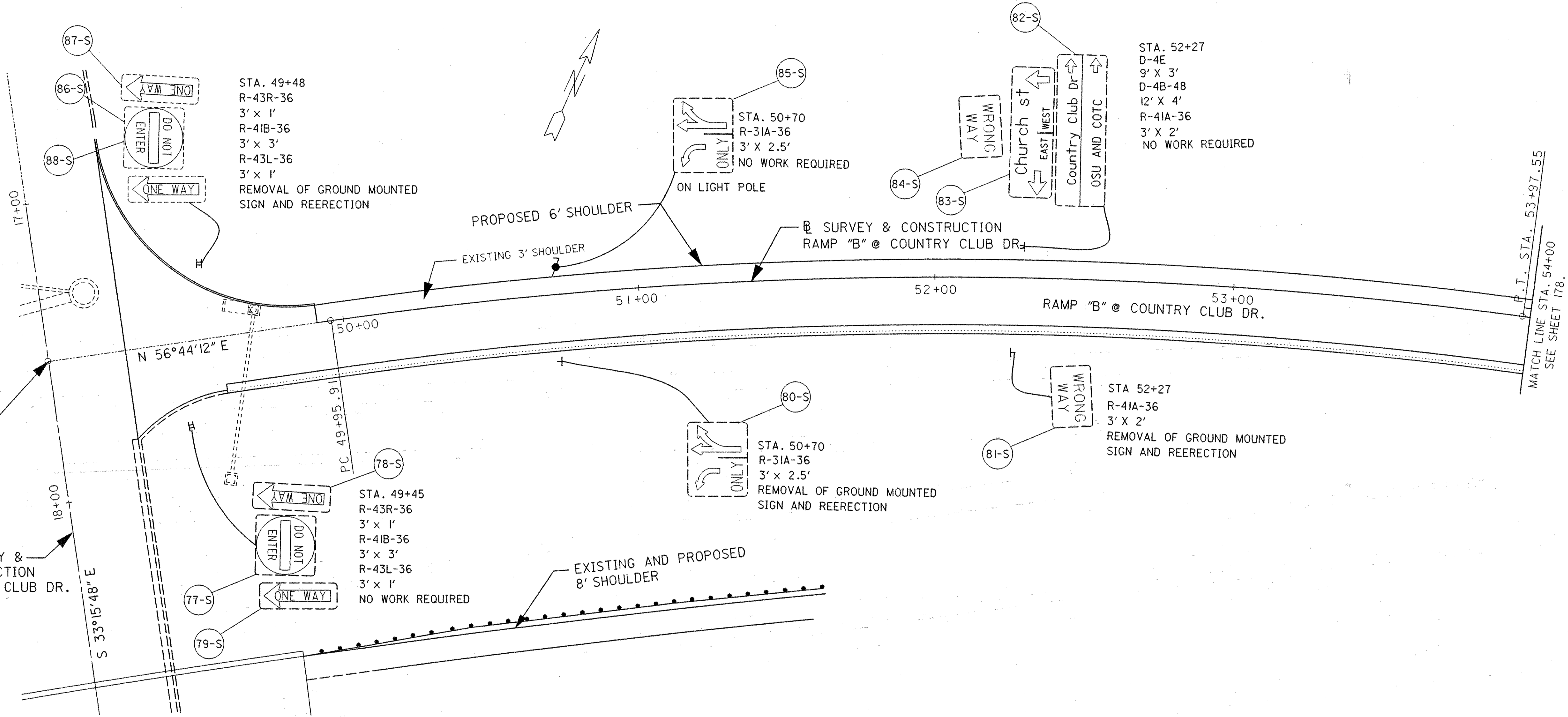
HORIZONTAL SCALE IN FEET	
CALCULATED	S.P. 3-15-95
CHECKED	L.T. 3-16-95

**SIGN INSTALLATION DETAIL RAMP "D" AT COUNTRY CLUB DR.
 STA. 44+00 TO STA. 48+00 (MAINLINE)**

LIC-16-17.94

P.O.T. STA. 17+53.00 @ COUNTRY CLUB DR. =
P.O.T. STA. 49+00.10 @ RAMP "B" @ COUNTRY CLUB DR.

© SURVEY & CONSTRUCTION
COUNTRY CLUB DR.



STA. 49+48
 R-43R-36
 3' x 1'
 R-41B-36
 3' x 3'
 R-43L-36
 3' x 1'
 REMOVAL OF GROUND MOUNTED
 SIGN AND REERECTION

STA. 50+70
 R-31A-36
 3' x 2.5'
 NO WORK REQUIRED
 ON LIGHT POLE

STA. 52+27
 D-4E
 9' x 3'
 D-4B-48
 12' x 4'
 R-41A-36
 3' x 2'
 NO WORK REQUIRED

STA. 49+45
 R-43R-36
 3' x 1'
 R-41B-36
 3' x 3'
 R-43L-36
 3' x 1'
 NO WORK REQUIRED

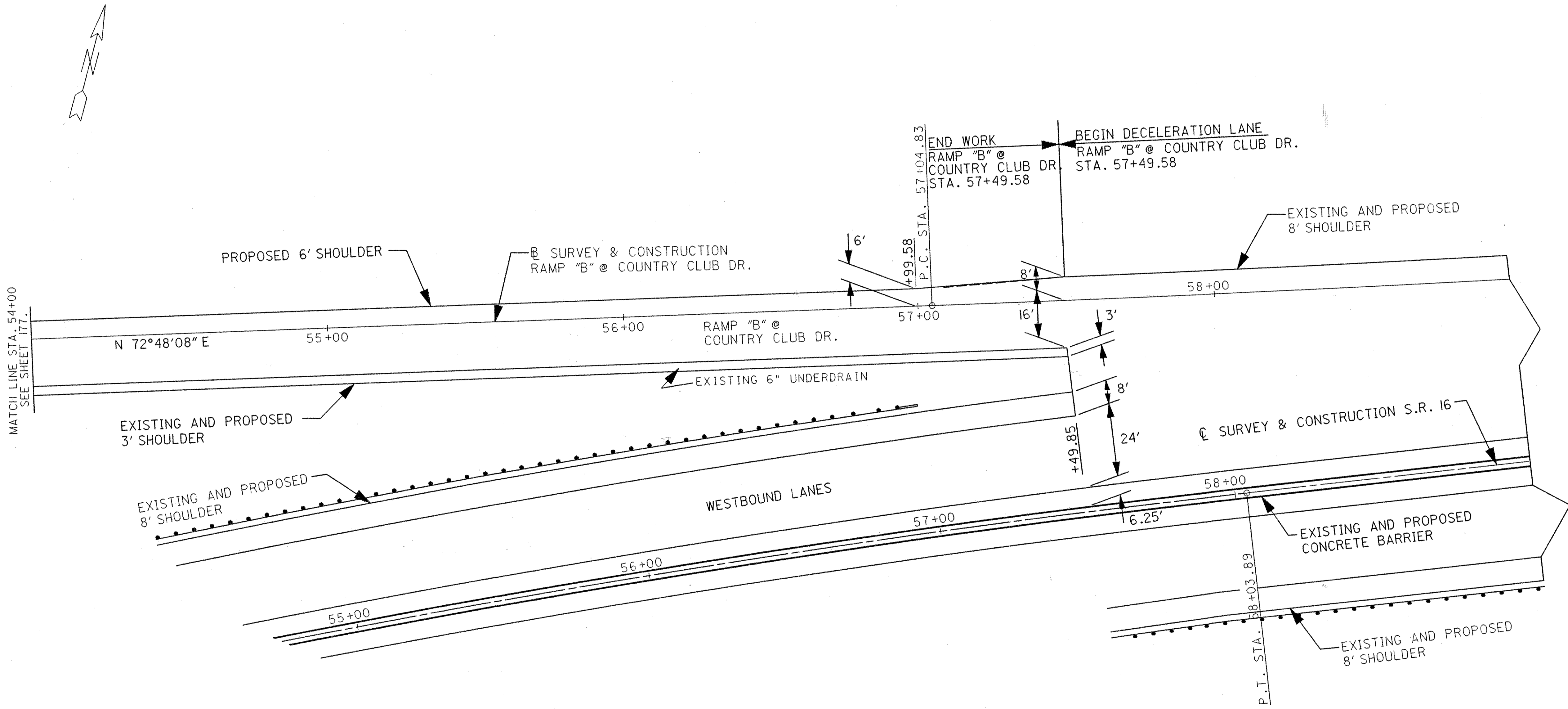
STA. 50+70
 R-31A-36
 3' x 2.5'
 REMOVAL OF GROUND MOUNTED
 SIGN AND REERECTION

STA 52+27
 R-41A-36
 3' x 2'
 REMOVAL OF GROUND MOUNTED
 SIGN AND REERECTION

P.T. STA. 53+97.55
 MATCH LINE STA. 54+00
 SEE SHEET 178.

CALCULATED	3-15-95
CHECKED	3-16-95

**SIGN INSTALLATION DETAIL RAMP "B" AT
 COUNTRY CLUB DR. STA. 49+26.10 STA. 54+00.00**



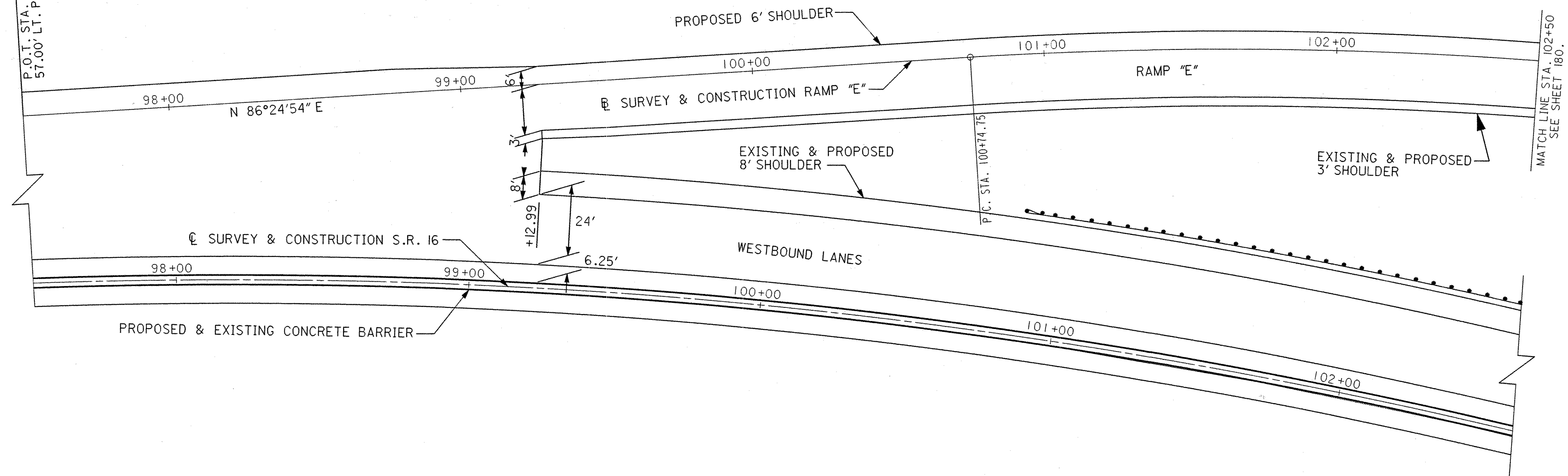
NO SIGNS THIS SHEET.

0	20'	40'
HORIZONTAL SCALE IN FEET		
CALCULATED	3-13-95	CHECKED
S.B.		L.T.
		3-16-95

**SIGN INSTALLATION DETAIL RAMP "B" AT
COUNTRY CLUB DR. STA. 54+00 TO STA. 57+49.58**

L1660169 12/09/94

P.O.T. STA. 97+50 @ RAMP "E" =
57.00' LT. P.O.C. STA. 97+49.66 @ S.R. 16

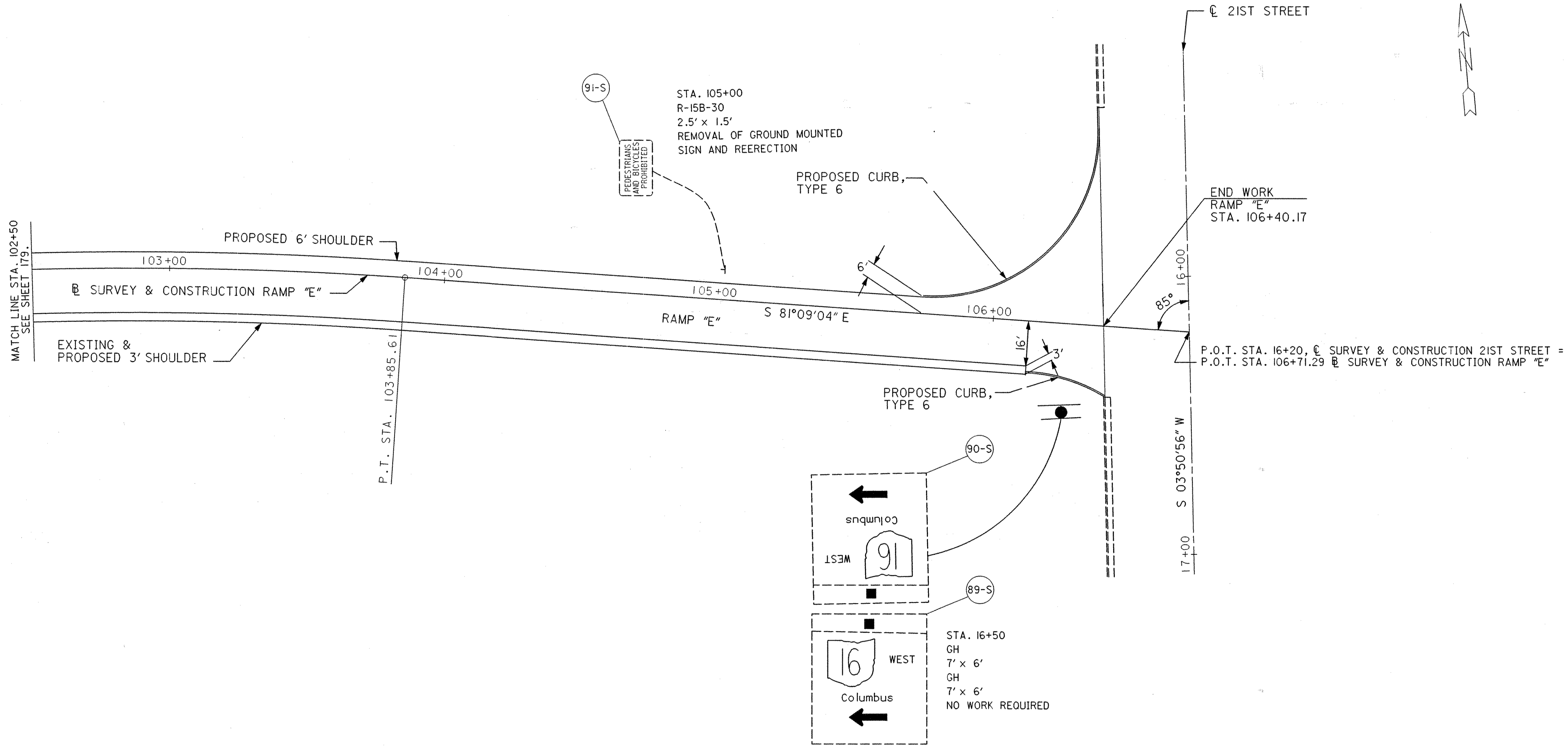


NO SIGNS THIS SHEET.

CALCULATED	S.B.	3-13-95
CHECKED	L.T.	3-16-95

SIGN INSTALLATION DETAIL RAMP "E"
STA. 97+50 TO STA. 102+50

LIC-16-17.94

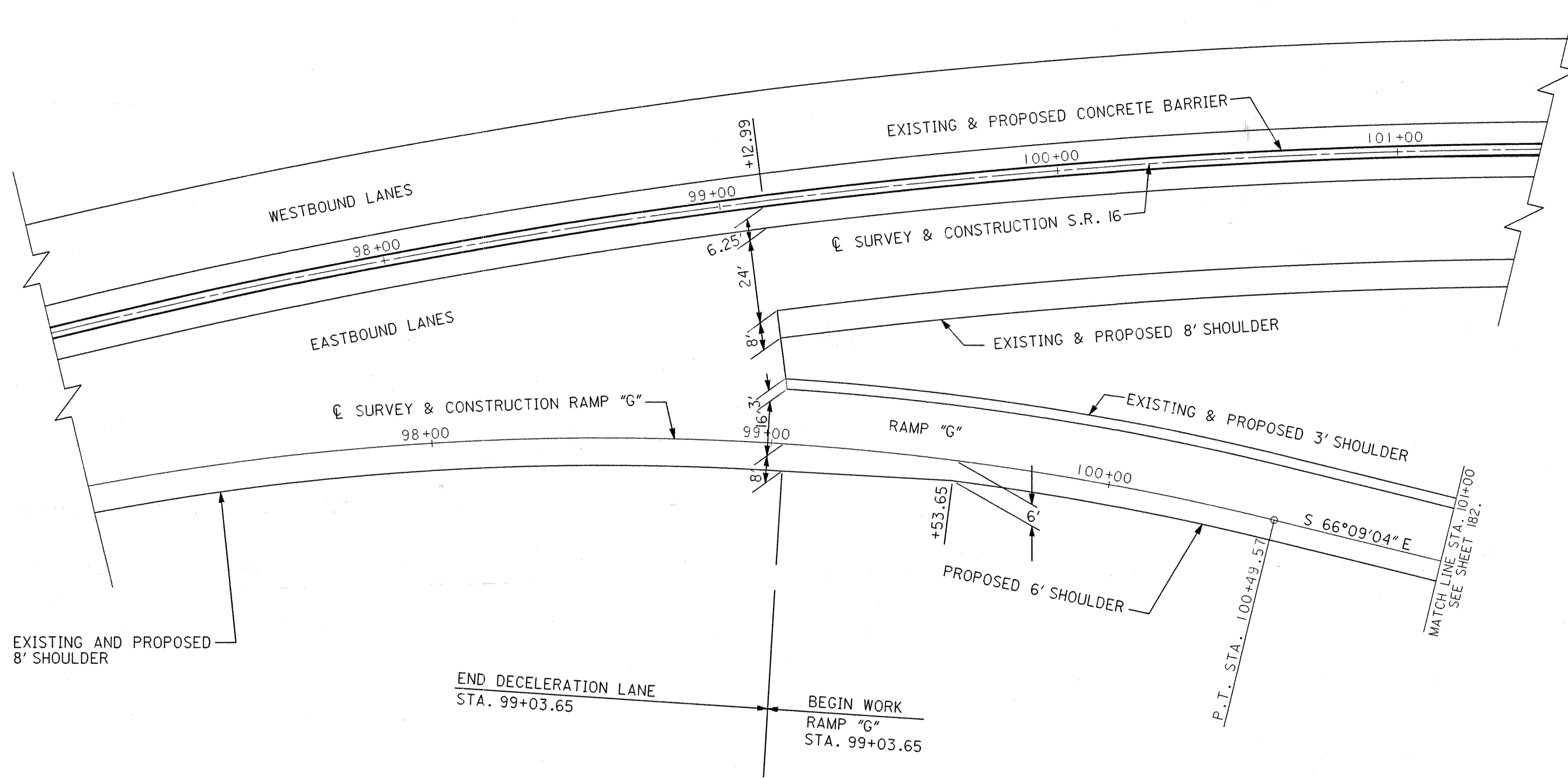


CALCULATED S.B. 3-11-95	CHECKED L.T. 3-16-95
HORIZONTAL SCALE IN FEET	

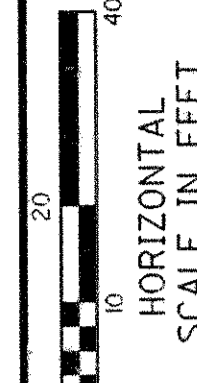
SIGN INSTALLATION DETAIL RAMP "E"
STA. 102+50 TO STA. 106+71.29

LIC-16-17.94

L1660171.DGN 12/09/94



NO SIGNS THIS SHEET.



CALCULATED	S.P.
12/16/95	12/16/95
CHECKED	L.T.
5-16-95	5-16-95

SIGN INSTALLATION DETAIL RAMP "G"
STA. 97+00 TO STA. 101+00

LIC-16-17.94

MATCH LINE STA. 101+00
SEE SHEET 181.

S 66°09'04" E

102+00

RAMP "G"

103+00

Ⓟ SURVEY & CONSTRUCTION RAMP "G"

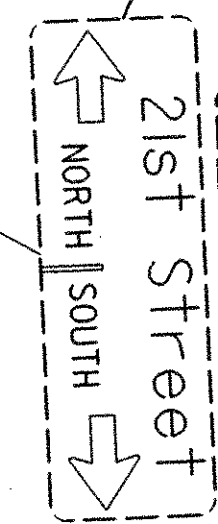
104+00

105+00

MATCH LINE STA. 106+00
SEE SHEET 183.

PROPOSED 6' SHOULDER

92-S



STA 103+00
R-41A-36
3' x 2'
D-4E
10' x 3'
NO WORK REQUIRED

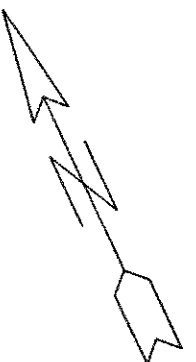


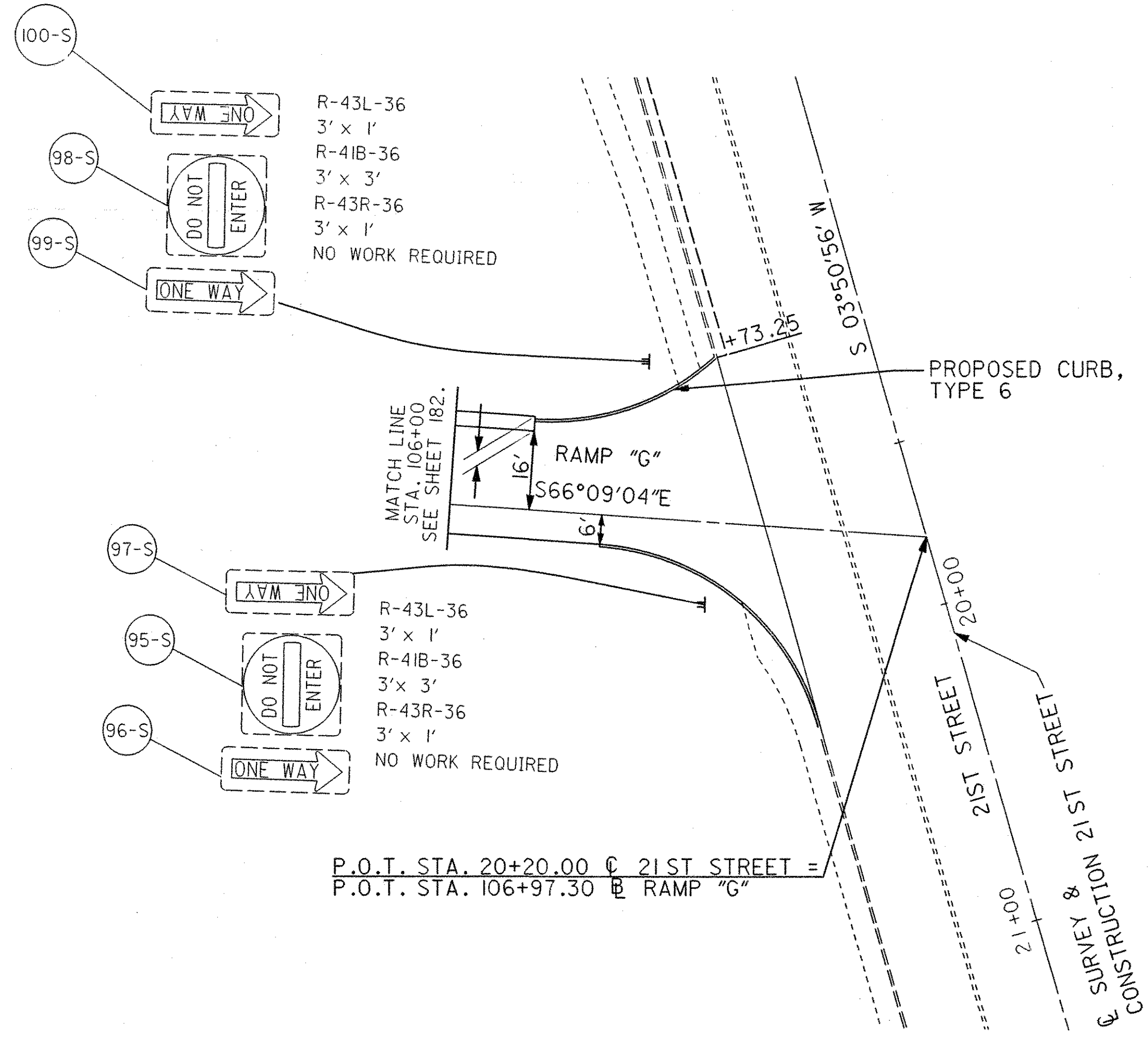
93-S



94-S

STA. 103+00
R-41A-36
3' x 2'
REMOVAL OF GROUND MOUNTED
SIGN AND REERECTION





SIGN INSTALLATION DETAIL RAMP "G"
STA. 106+00 TO STA. 106+97.30

LIC-16-17.94

CALCULATED S.B. 3-13-95	CHECKED L.T. 3-16-95
HORIZONTAL SCALE IN FEET	

L16S2.DGN

SHEET NO.	SIGN NO.	LOCATION	STATION	SIDE	SIGN CODE	SIGN SIZE	CROSS SECTION SHEET NO.	ITEM 630													
								SIGN, FLAT STEEL	SIGNS, EXTRUSHEET, TYPE G	GROUND-MOUNTED SUPPORT, NO. 2 POST	GROUND-MOUNTED SUPPORT, NO. 3 POST	GROUND-MOUNTED SUPPORT, NO. 4 POST	ONE WAY SUPPORT, NO. 3 POST	CONCRETE FOR ANCHOR BASE FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL				
								SQ FT	SQ FT	LIN FT	LIN FT	LIN FT	LIN FT	CU YD	EACH	EACH	EACH				
166	52-S	SR 16	100+93	LT	W-49R-48	4X4						15-15									
170	53-S	RAMP A	23+21	LT	R-15B-30	2.5X1.5				12							2				
171	54-S	RAMP A	25+90	LT	M-45-42	3.5X5											1				
171	55-S	RAMP A	25+80	LT	M-52A-108	9X2.5															
171	56-S	RAMP A	25+80	LT	R-2-36	3X3X3															
173	57-S	RAMP C	42+00	RT	R-41A-36	3X2					13						1				
173	58-S	RAMP C	45+07	RT	D-4B-48	12X4															
173	59-S	RAMP C	45+07	RT	D-4E	9X3															
173	60-S	RAMP C	45+83	RT	W-45A-36	3X3						15					1				
173	61-S	RAMP C	45+92	LT	W-45A-36	3X3						15					1				
173	62-S	RAMP C	42+84	LT	R-41A-36	3X2					13						1				
174	63-S	RAMP C	47+15	RT	R-41A-36	3X2					13						1				
174	64-S	RAMP C	50+51	RT	R-1-48	4X4															
174	65-S	RAMP C	50+51	RT	R-41B-36	3X3															
174	66-S	RAMP C	50+51	RT	R-43L-36	1X3															
174	67-S	RAMP C	50+51	RT	R-43R-36	1X3															
174	68-S	CO CLUB	21+40	RT	GH	7X5.5															
174	69-S	CO CLUB	21+40	RT	GH	8X4.5	191			36.00				2.90			1				
174	70-S	CO CLUB	21+56	RT	M-2-24-2	2X2		4.00				14									
174	71-S	CO CLUB	21+56	RT	M-21-21	1.75X1.25		2.19													
174	72-S	CO CLUB	21+56	RT	M-40-24	2X1		2.00													
174	73-S	RAMP D	50+63	MED	R-37R-24	2X2.5					13						1				
174	74-S	RAMP D	40+80	MED	M-45	3.5X5						16-16					2				
174	75-S	RAMP D	50+50	MED	R-2-48	4X4X4					14-14						2				
174	76-S	RAMP D	42+10	LT	R-15B-30	2.5X1.5					12						1				
177	77-S	RAMP B	49+45	RT	R-41B-36	3X3															
177	78-S	RAMP B	49+45	RT	R-43R-36	3X1															
177	79-S	RAMP B	49+45	RT	R-43L-36	3X1															
177	80-S	RAMP B	50+70	RT	R-31A-36	3X2.5					13						1				
177	81-S	RAMP B	52+27	RT	R-41A-36	3X2					13						1				
177	82-S	RAMP B	52+27	LT	D-4B-48	12X4															
177	83-S	RAMP B	52+27	LT	D-4E	9X3															
177	84-S	RAMP B	52+27	LT	R-41A-36	3X2															
177	85-S	RAMP B	50+70	LT	R-31A-36	3X2.5															
177	86-S	RAMP B	49+48	LT	R-41B-36	3X3					14						2				
177	87-S	RAMP B	49+48	LT	R-43R-36	3X1															
177	88-S	RAMP B	49+48	LT	R-43L-36	3X1															
180	89-S	21ST ST	16+50	RT	GH	7X6															
180	90-S	21ST ST	16+50	RT	GH	7X6															
180	91-S	RAMP E	105+00	LT	R-15B-30	2.5X1.5					12						1				
182	92-S	RAMP G	103+00	RT	D-4E	10X3															
182	93-S	RAMP G	103+00	RT	R-41A-36	3X2															
182	94-S	RAMP G	103+00	LT	R-41A-36	3X2					13						1				
183	95-S	RAMP G		RT	R-41B-36	3X3															
183	96-S	RAMP G		RT	R-43L-36	3X1															
183	97-S	RAMP G		RT	R-43R-36	3X1															
183	98-S	RAMP G		LT	R-41B-36	3X3															
183	99-S	RAMP G		LT	R-43R-36	3X1															
183	100-S	RAMP G		LT	R-43L-36	3X1															
TOTALS CARRIED TO SHEET 186.								8.19		36.00	64	105	106		16		2.90	18	1		20

CALCULATED
S.B. 3/13/95
CHECKED
L.T.
3/16/95

SIGNING QUANTITIES

LIC-16-17.94

185
420

L16SS5.DGN

SHEET NO.	SIGN NO.	LOCATION	STATION	SIDE	SIGN CODE	SIGN SIZE	CROSS SECTION SHEET NO.	ITEM 630																																
								SIGN, FLAT SHEET	SIGN, EXTRUSHEET, TYPE G	GROUND-MOUNTED SUPPORT, NO. 2 POST	GROUND-MOUNTED SUPPORT, NO. 3 POST	GROUND-MOUNTED SUPPORT, NO. 4 POST	GROUND-MOUNTED SUPPORT, S4X7.7 BEAM	GROUND-MOUNTED SUPPORT, W6X9 BEAM	GROUND-MOUNTED SUPPORT, W8X18 BEAM	GROUND-MOUNTED SUPPORT, W10X12 BEAM	ONE WAY SUPPORT, NO. 3 POST	BREAKAWAY BEAM CONNECTION	SIGN SUPPORT ASSEMBLY POLE MOUNTED	SIGN BACKING ASSEMBLY	CONCRETE FOR EMBEDDED FOUNDATION	CONCRETE FOR ANCHOR BASE FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF SIGN SUPPORT ASSEMBLY POLE MOUNTED AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL										
								SQ.FT.	SQ.FT.	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	CU YD	CU YD	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH						
167	101-S	SR 16	105+60	RT	X-6R-36	IX3				14																														
167	102-S	SR 16	106+90	RT	GH	8X4.5																																		
167	103-S	SR 16	106+45	LT	GH	8X4.5																																		
167	104-S	SR 16	105+13	LT	N-89-48	4X3		NO WORK	REQUIRED																															
168	105-S	SR 16	110+62	RT	W-50R-48	4X4						15-15																												
168	106-S	SR 16	107+80	LT	X-6R-36	IX3				14																														
TOTALS THIS SHEET										28		30														3														
TOTALS FROM SHEET 184.								4.0	154.0	160		135	35	37	47	42		6	2	1	5.60	58.29	5	17	2			14	1	3	22	8								
TOTALS FROM SHEET 185.								8.19	36.00	64	105	106						16					2.90		18				1											
TOTALS CARRIED TO GENERAL SUMMARY								12.19	190.0	252	105	271	35	37	47	42	16	6	2	1	5.60	61.19	5	38	2		17	1	3	46	8									

CALCULATED 3/13/95 CHECKED 3/17/95	SIGNING SUB-SUMMARY & SIGNING QUANTITIES
LIC-16-17.94	186 420

SHEET NO.	SIGN NO.	LOCATION	STATION	SIDE	SIGN CODE	SIGN SIZE	CROSS SECTION SHEET NO.	ITEM 630																		
								REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.4	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.5	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-9.10	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.24	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.24	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.26	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 4, 23' ARM	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 5, 22' ARM	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 8, 28' ARM	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 6, 26' ARM	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6, 71' SPAN	OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 6 MOD., 69' SPAN	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8, 86' SPAN	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE TC-18.24	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE TC-18.26, DESIGN 2				
151	3-S	SR 16	14+83	LT	GB	14X6	189																			
152	7-S	SR 16	25+10	RT	GB	18X7.5	189																			
154	10-S	SR 16	34+90	LT	GB	14X5.5	189																			
155	11-S	SR 16	38+06	RT	GB	12X8.5	189																			
156	19-S	SR 16	49+40	RT	GH	8X4.5																				
156	21-S	SR 16	49+15	LT	GH	8X4.5	189																			
158	25-S	SR 16	60+40	LT	GE	20X5.5	190																			
160	34-S	SR 16	70+75	RT	GB	13X5.5	190																			
161	38-S	SR 16	74+75	RT	GB	13X5.5																				
162	39-S	SR 16	78+00	LT	GB	18X7.5																				
163	43-S	SR 16	85+00	LT	GB	18X7.5	190																			
166	49-S	SR 16	97+00	RT	GG	9X6.5	190																			
174	68-S	CO CLUB	21+40	RT	GH	7X5.5																				
174	69-S	CO CLUB	21+40	RT	GH	8X4.5	191																			
167	102-S	SR 16	106+90	RT	GH	8X4.5	191																			
167	103-S	SR 16	106+45	LT	GH	8X4.5	191																			
TOTALS CARRIED TO GENERAL SUMMARY								2	1	1	5	2	2	1	2	1		2				1		1		2

SIGNING SUB-SUMMARY & SIGNING QUANTITIES

LIC-16-17.94

187
420

CALCULATED
5/8/95
3/16/95
CHECKED

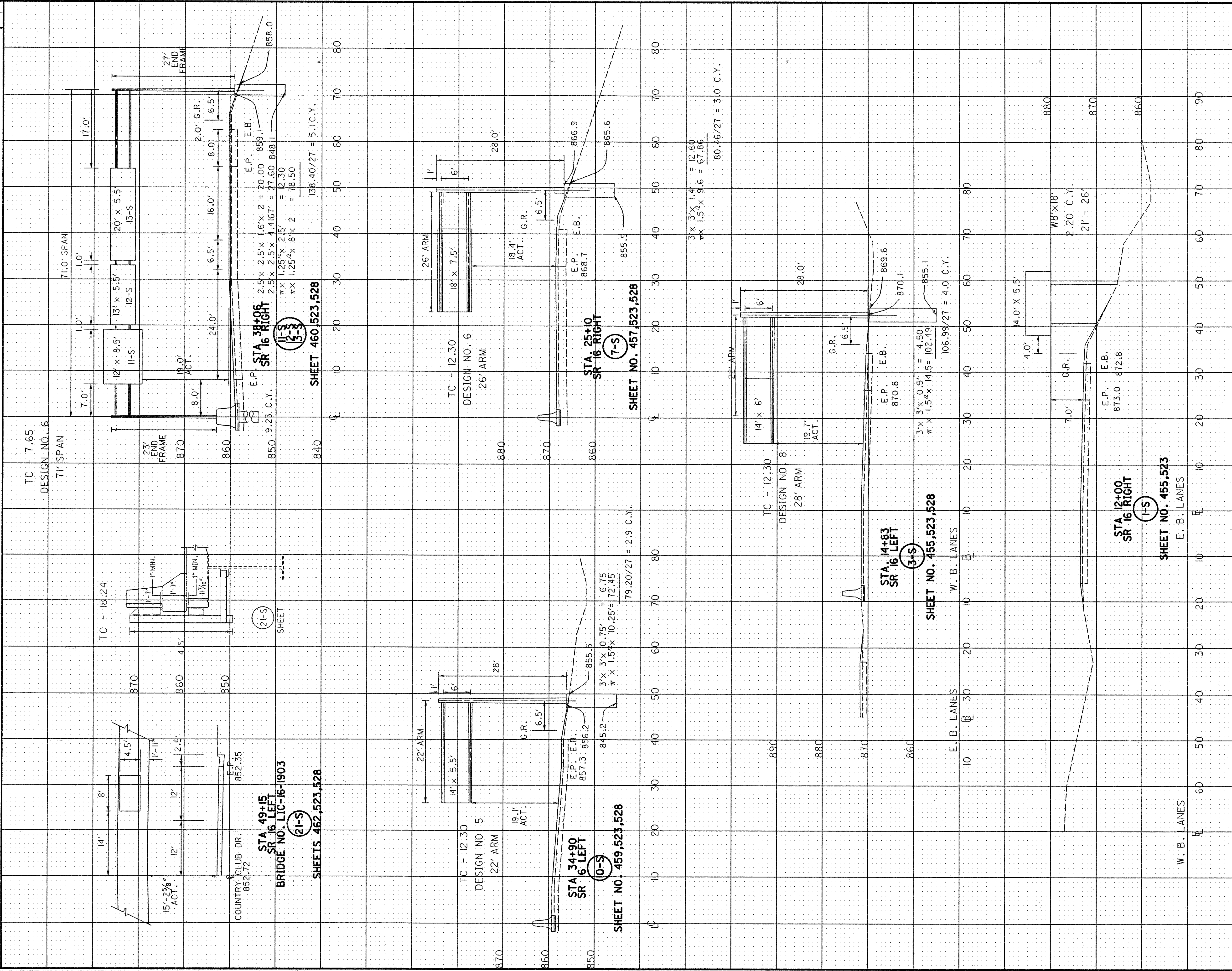
SIGN NO.	STATION	SHEET NO.	ITEM 631				ITEM 625				
			REMOVAL OF DISCONNECT SWITCH AND REERECTION WITH ENCLOSURE, TYPE X EACH	REMOVAL OF LUMINAIRE AND REERECTION EACH	REMOVAL OF DISCONNECT SWITCH WITH ENCLOSURE AND DISPOSAL EACH	REMOVAL OF SIGNS WIRING AND DISPOSAL EACH	SIGN SERVICE EACH	SIGN WIRED EACH	SIGN WIRED, OVERPASS STRUCTURE MOUNTED EACH	GROUND ROD EACH	
3-S	14+83	150		2							
7-S	25+10	152		2							
10-S	34+90	154		2							
11-S	38+06	155		2							
12-S	38+06	155		2							
13-S	38+06	155		3							
19-S	49+40	156		1	1	1					
21-S	49+15	156		1				1			
25-S	60+40	158	1	3					1		
26-S	60+40	158		2							
34-S	70+75	160									
38-S	74+75	161	1	2					1		
39-S	78+00	162	1	2							
43-S	85+00	163									
49-S	97+00	166	1	1					1		
50-S	97+00	166		2							
51-S	97+00	166		2							
68-S	21+40	174	1	1					1		
69-S	21+40	174									
102-S	106+90	167		1				1			
103-S	106+45	167		1				1			
TOTALS CARRIED TO GENERAL SUMMARY			9	32	1	1	12	15	3	9	

CALCULATED
S.B.
3/16/95
CHECKED
3/16/95

SIGN LIGHTING QUANTITIES

LIC-16-17.94

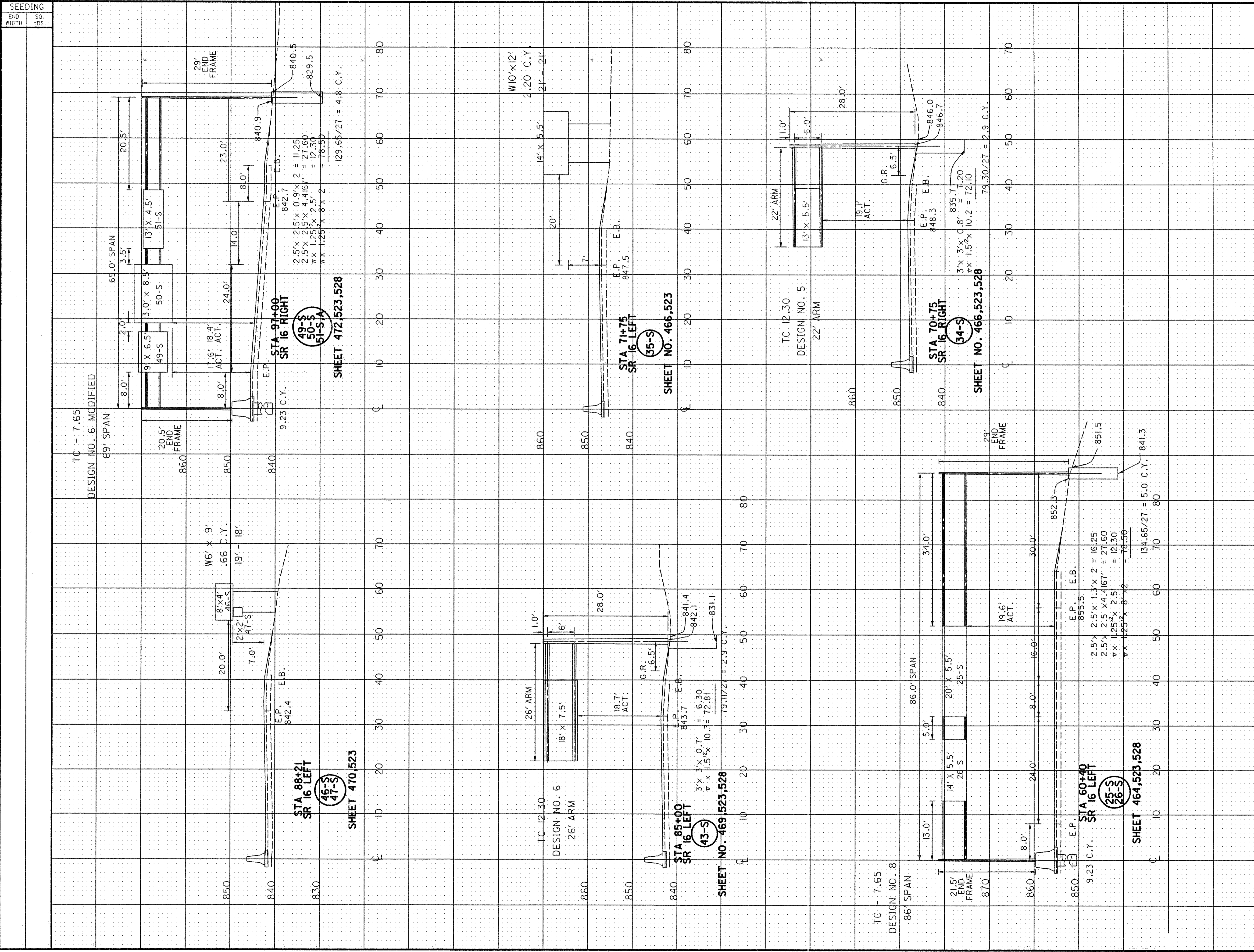
SEEDING	SO.
END WIDTH	VBS



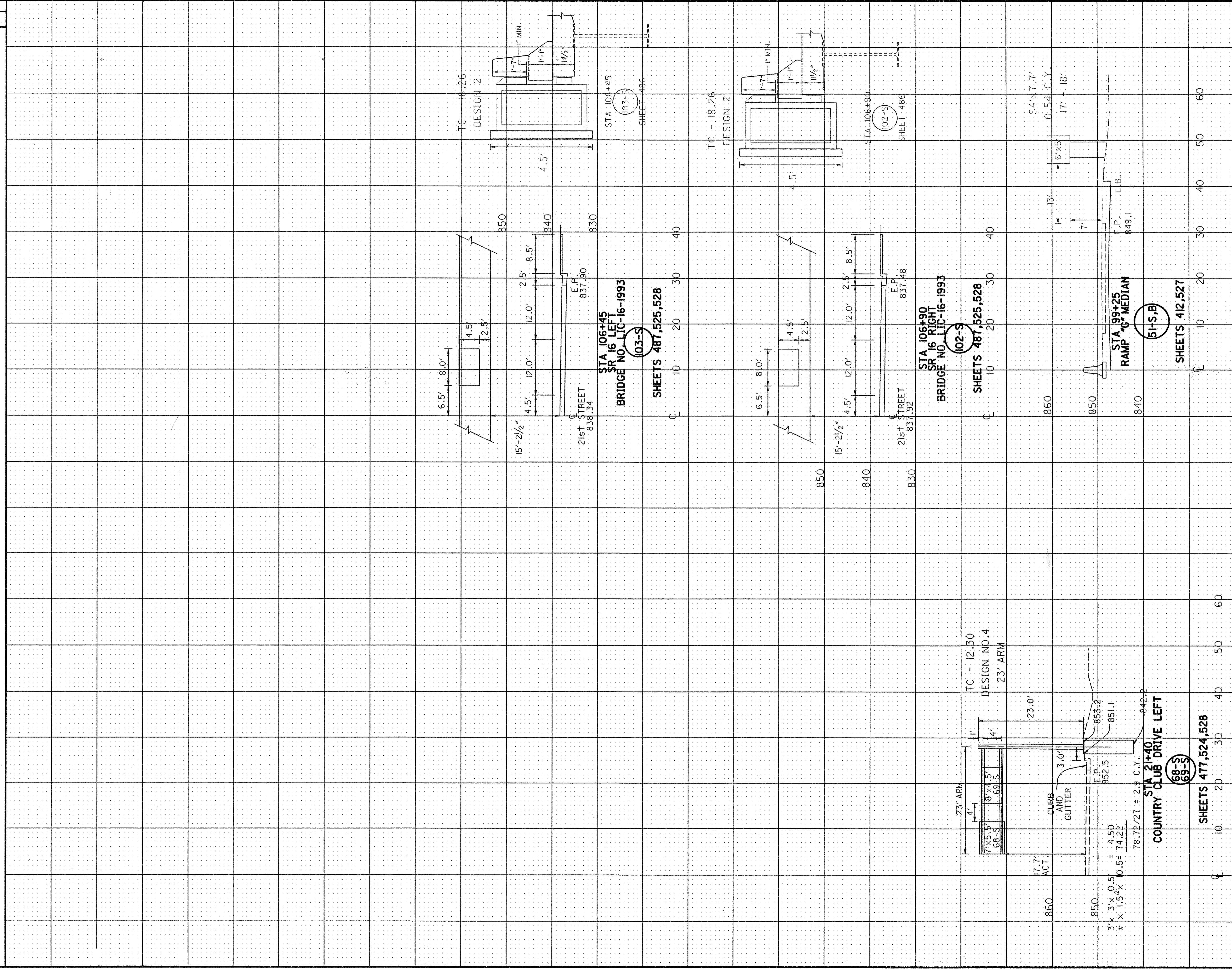
STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
0				
10				
20				
30				
40				
50				
60				
70				
80				
90				

SEEDING
END WIDTH SQ. YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED
3/13/95
CHECKED
L.T.
3/16/95



SEEDING	
END WIDTH	SO. YDS.



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
0				
10				
20				
30				
40				
50				
60				

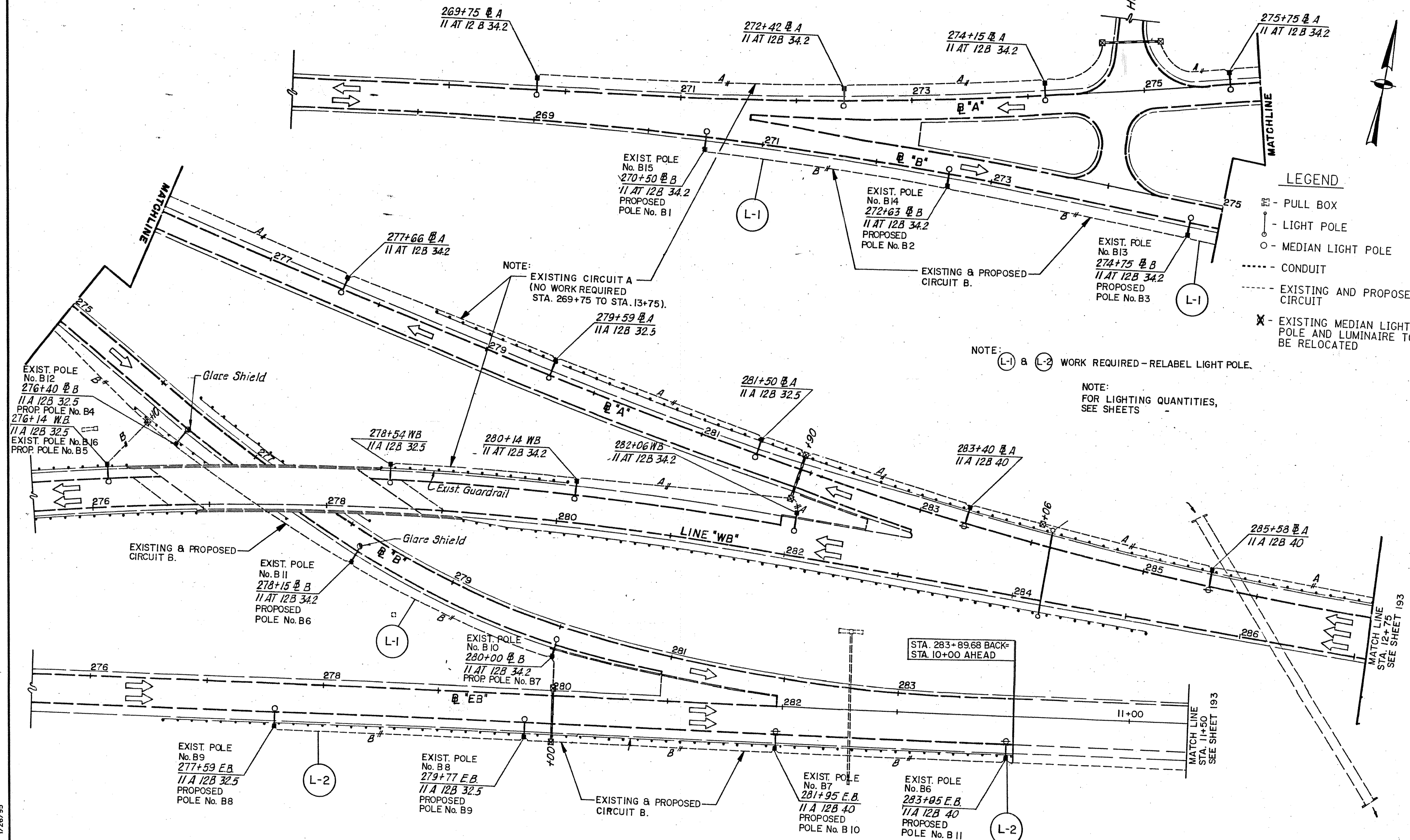
**CROSS SECTIONS
SIGN SUPPORT DETAILS**

LIC-16-17.94

191
420

CALCULATED S. R. 3/13/95
 CHECKED L.T. 3/16/95

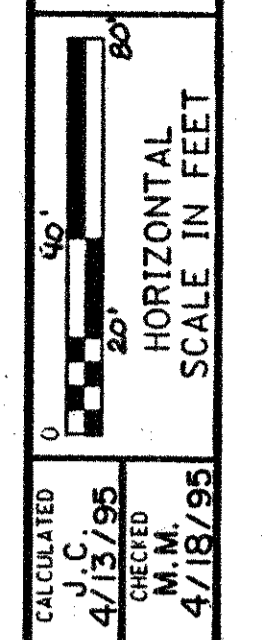
BEGIN WORK
STA. 270+50
@ "B"



- LEGEND**
- ☐ - PULL BOX
 - - LIGHT POLE
 - - MEDIAN LIGHT POLE
 - - CONDUIT
 - - EXISTING AND PROPOSED CIRCUIT
 - ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

NOTE: (L-1) & (L-2) WORK REQUIRED - RELABEL LIGHT POLE.

NOTE: FOR LIGHTING QUANTITIES, SEE SHEETS



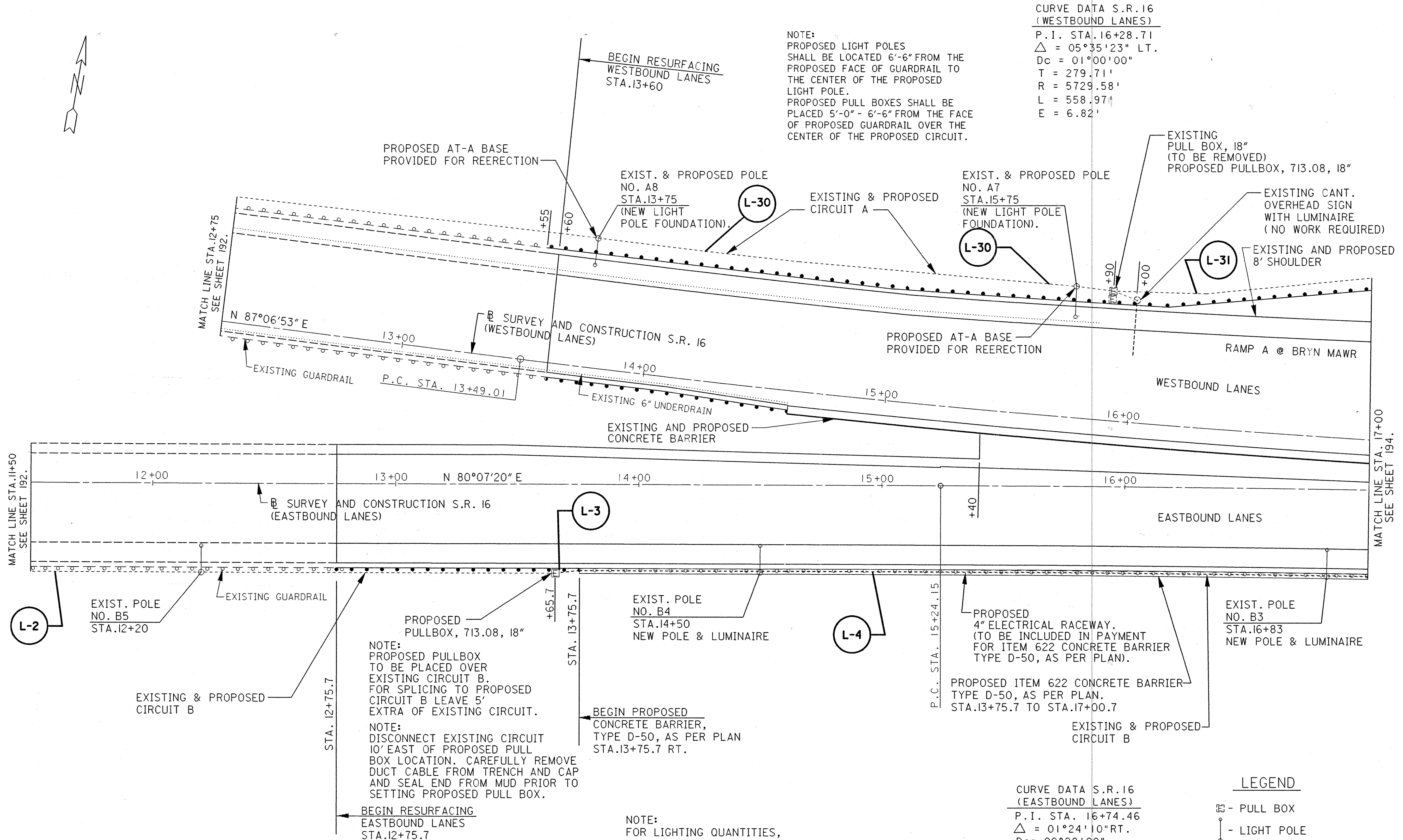
LIC-16-17.94
STA. 269+75 GRANVILLE RD. TO STA. 12+75 S.R.16

192
420



CURVE DATA S.R.16
(WESTBOUND LANES)
P.I. STA.16+28.71
 $\Delta = 05^{\circ}35'23''$ LT.
 $D_c = 01^{\circ}00'00''$
T = 279.71'
R = 5729.58'
L = 558.97'
E = 6.82'

NOTE:
PROPOSED LIGHT POLES
SHALL BE LOCATED 6'-6" FROM THE
PROPOSED FACE OF GUARDRAIL TO
THE CENTER OF THE PROPOSED
LIGHT POLE.
PROPOSED PULL BOXES SHALL BE
PLACED 5'-0" - 6'-6" FROM THE FACE
OF PROPOSED GUARDRAIL OVER THE
CENTER OF THE PROPOSED CIRCUIT.



CURVE DATA S.R.16
(EASTBOUND LANES)
P.I. STA. 16+74.46
 $\Delta = 01^{\circ}24'10''$ RT.
 $D_c = 00^{\circ}28'00''$
T = 150.31'
R = 12277.67'
L = 300.59'
E = 0.92'

LEGEND

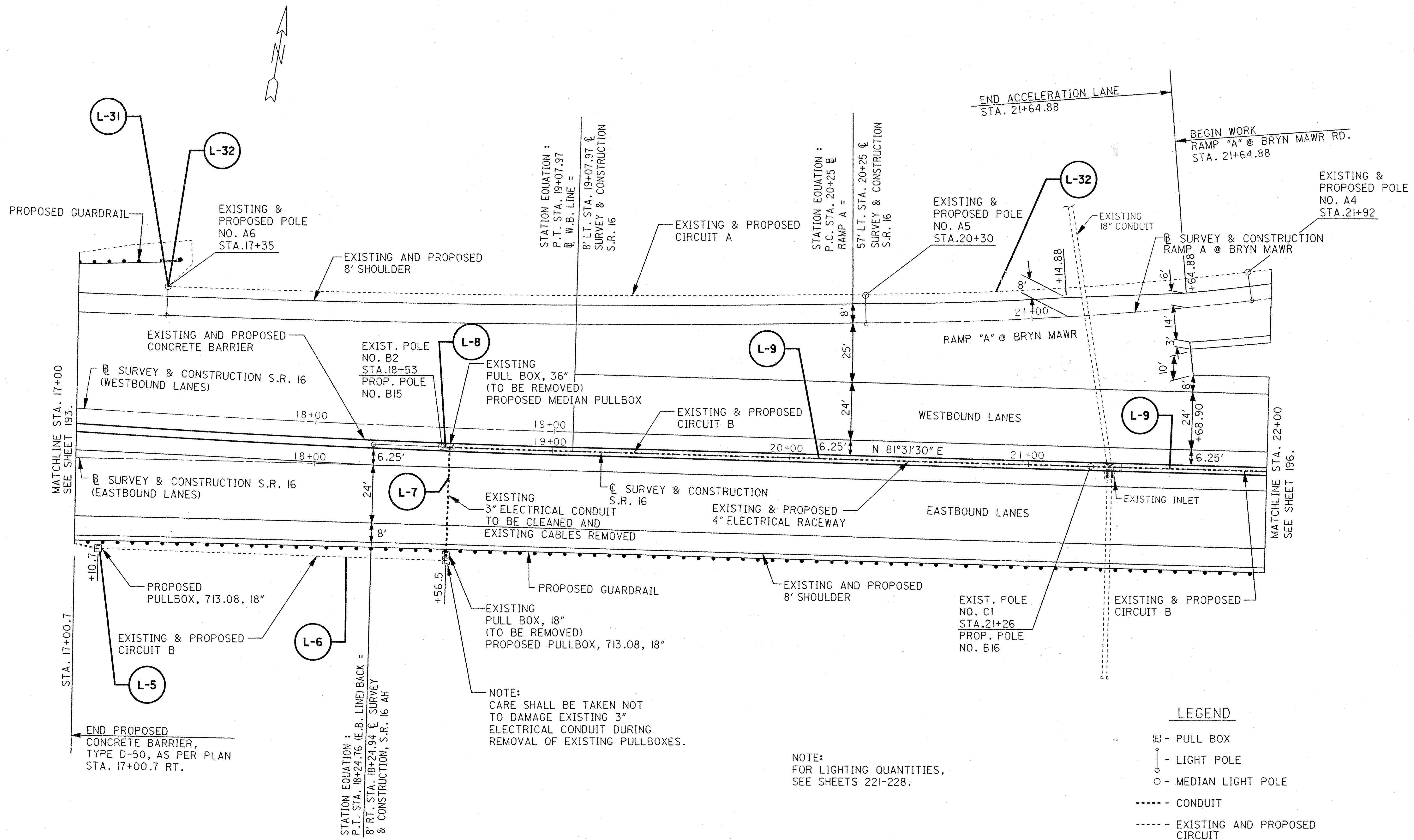
- PULL BOX
- LIGHT POLE
- MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

LIGHTING DETAIL SHEET
STA. 12+75 TO STA. 17+00

LIC-16-17.94

CALCULATED
J.C.
4/18/95
CHECKED
M.M.
4/18/95

0 20 40
HORIZONTAL
SCALE IN FEET



NOTE:
 CARE SHALL BE TAKEN NOT
 TO DAMAGE EXISTING 3"
 ELECTRICAL CONDUIT DURING
 REMOVAL OF EXISTING PULLBOXES.

NOTE:
 FOR LIGHTING QUANTITIES,
 SEE SHEETS 221-228.

LEGEND

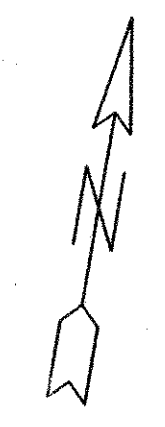
- - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- - CONDUIT
- - EXISTING AND PROPOSED CIRCUIT
- ⊗ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

LIGHTING DETAIL SHEET
STA. 17+00 TO STA. 22+00

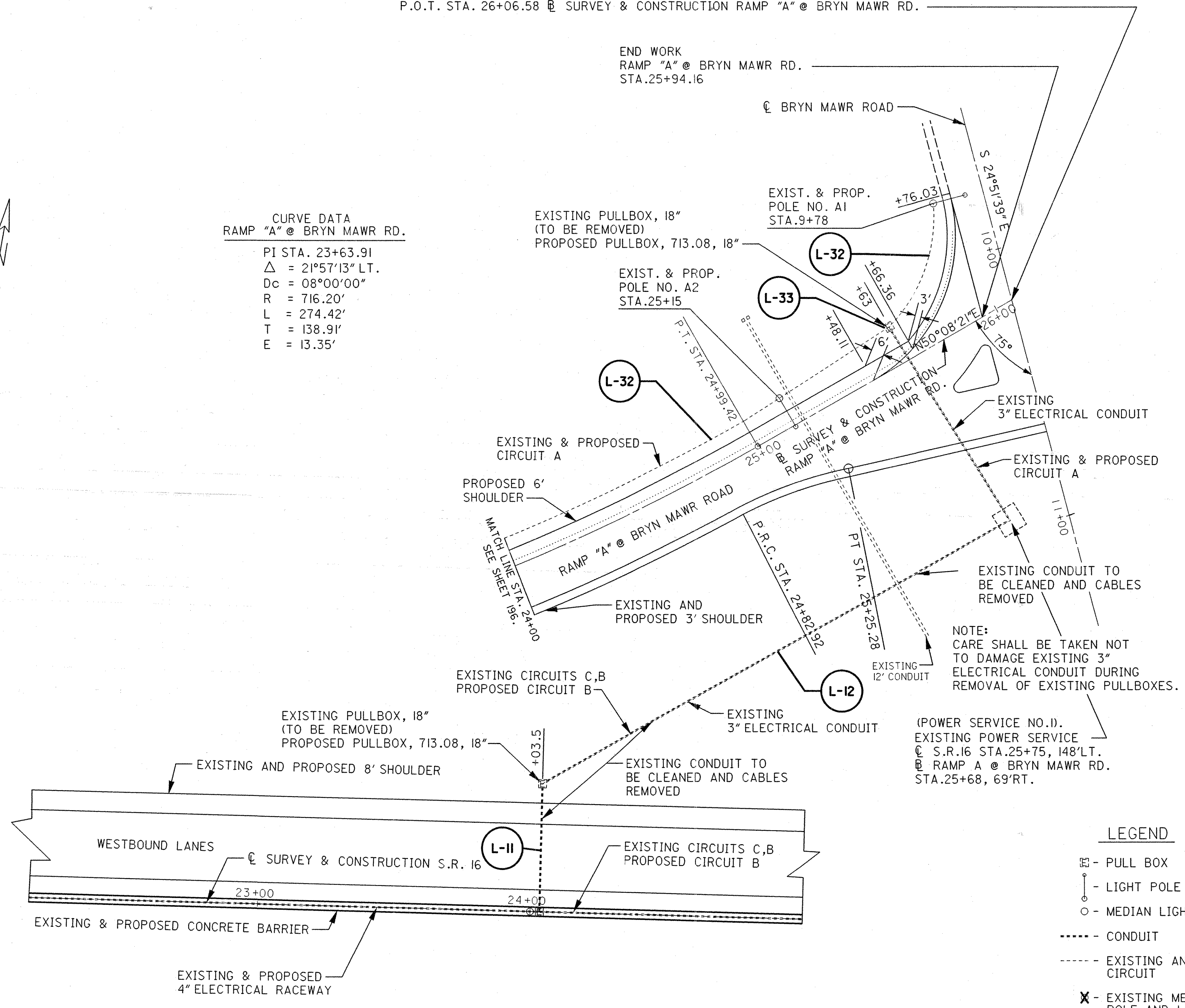
LIC-16-17.94

P.O.T. STA. 10+18.85 @ SURVEY & CONSTRUCTION BRYN MAWR ROAD =
P.O.T. STA. 26+06.58 @ SURVEY & CONSTRUCTION RAMP "A" @ BRYN MAWR RD.

CURVE DATA
RAMP "A" @ BRYN MAWR RD.
PI STA. 23+63.91
 $\Delta = 21^{\circ}57'13''$ LT.
Dc = $08^{\circ}00'00''$
R = 716.20'
L = 274.42'
T = 138.91'
E = 13.35'



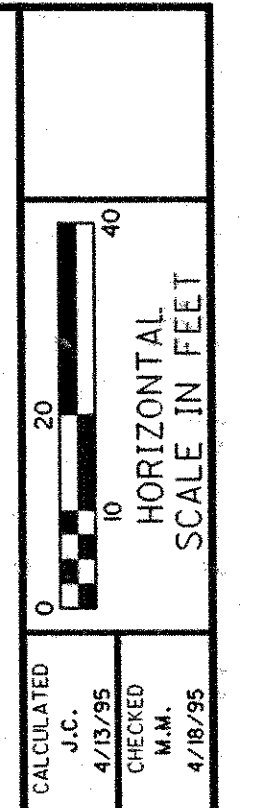
NOTE:
FOR LIGHTING QUANTITIES
SEE SHEETS 221-228.



NOTE:
CARE SHALL BE TAKEN NOT
TO DAMAGE EXISTING 3"
ELECTRICAL CONDUIT DURING
REMOVAL OF EXISTING PULLBOXES.

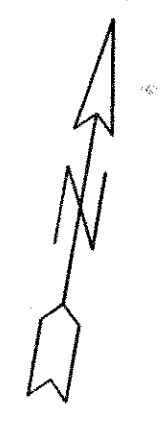
(POWER SERVICE NO.1).
EXISTING POWER SERVICE
@ S.R.16 STA.25+75, 148'LT.
@ RAMP A @ BRYN MAWR RD.
STA.25+68, 69'RT.

- LEGEND**
- ☐ - PULL BOX
 - - LIGHT POLE
 - - MEDIAN LIGHT POLE
 - CONDUIT
 - EXISTING AND PROPOSED CIRCUIT
 - ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED



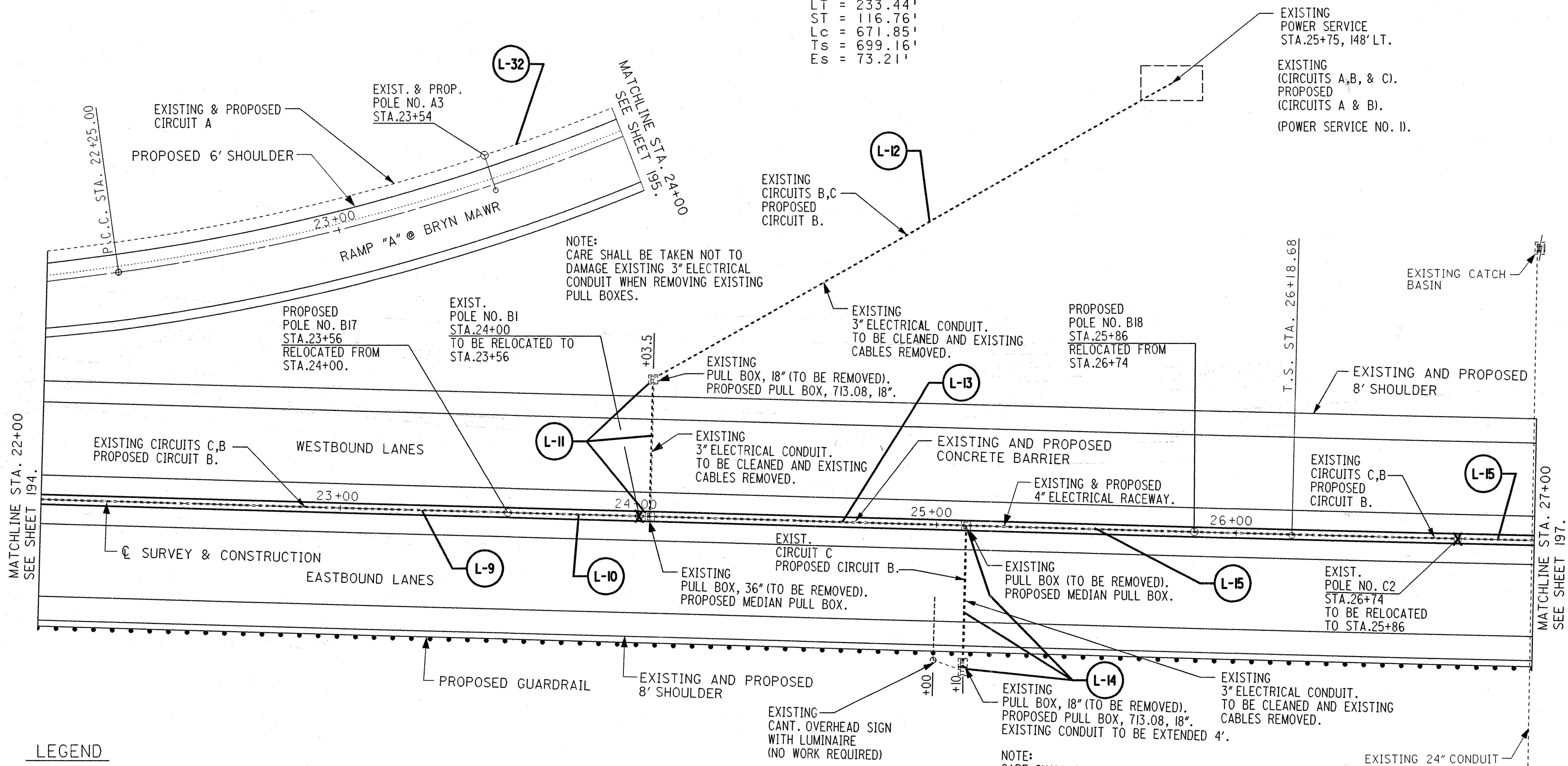
LIGHTING DETAIL SHEET RAMP "A" AT BRYN MAWR ROAD
STA. 20+25 TO STA. 25+00

LIC-16-17.94



CURVE DATA
S.R. 16

P.I. STA. 33+17.84
 $\Delta = 30^\circ 39' 20''$ LT.
Dc = $03^\circ 00' 00''$
Rc = 1909.86'
Ls = 350.00'
 $\theta_s = 5^\circ 15' 00''$
LT = 233.44'
ST = 116.76'
Lc = 671.85'
Ts = 699.16'
Es = 73.21'



LEGEND

- PULL BOX
- LIGHT POLE
- MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

NOTE:
FOR LIGHTING QUANTITIES,
SEE SHEETS 221-228.

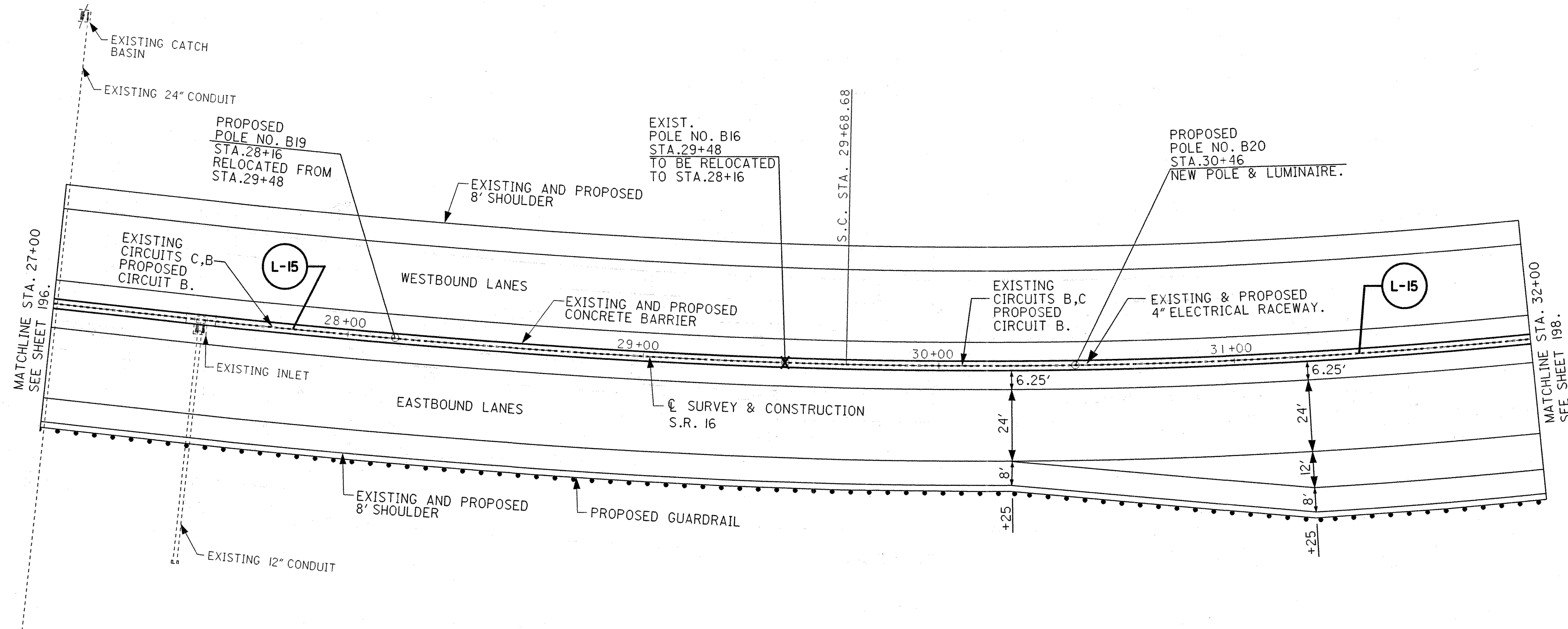
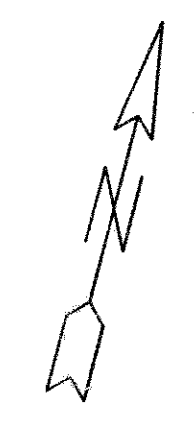
NOTE:
CARE SHALL BE TAKEN NOT TO
DAMAGE EXISTING 3" ELECTRICAL
CONDUIT WHEN REMOVING EXISTING
PULL BOXES.

CALCULATED	J.C.	4/18/95	CHECKED	M.M.	4/20/95
0		10		20	
HORIZONTAL		SCALE IN FEET		40	

LIGHTING DETAIL SHEET
STA. 22+00 TO STA. 27+00

LIC-16-17.94

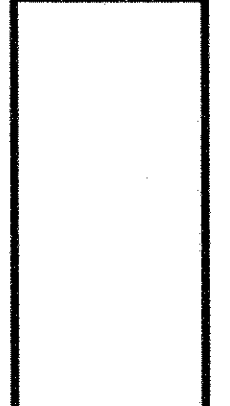
CURVE DATA
 S.R. 16
 P.I. STA. 33+17.84
 $\Delta = 30^\circ 39' 20''$ LT.
 $D_c = 03^\circ 00' 00''$
 $R_c = 1909.86'$
 $L_s = 350.00'$
 $\theta_s = 5^\circ 15' 00''$
 $LT = 233.44'$
 $ST = 116.76'$
 $L_c = 671.85'$
 $T_s = 699.16'$
 $E_s = 73.21'$



NOTE:
 FOR LIGHTING QUANTITIES,
 SEE SHEETS 221-228.

- LEGEND
- PULL BOX
 - LIGHT POLE
 - MEDIAN LIGHT POLE
 - CONDUIT
 - EXISTING AND PROPOSED CIRCUIT
 - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

CALCULATED
 J.C.
 CHECKED
 M.M.
 4/18/95



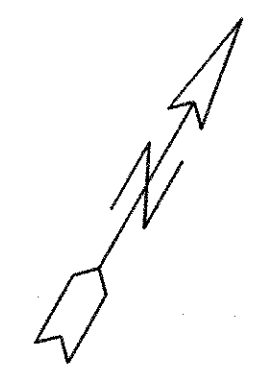
LIGHTING DETAIL SHEET
 STA. 27+00 TO STA. 32+00

LIC-16-17.94

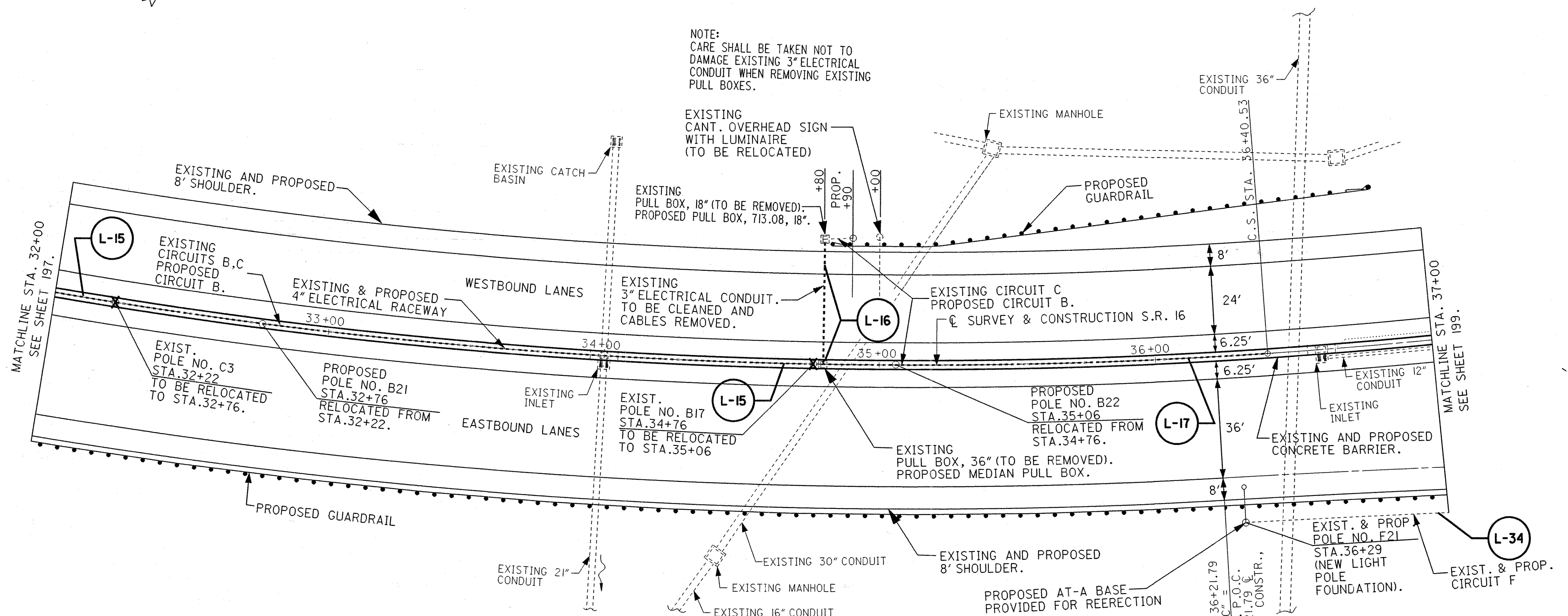
CURVE DATA
S.R. 16

P.I. STA. 33+17.84
 $\Delta = 30^\circ 39' 20''$ LT.
 $D_c = 03^\circ 00' 00''$
 $R_c = 1909.86'$
 $L_s = 350.00'$
 $\theta_s = 5^\circ 15' 00''$
 $LT = 233.44'$
 $ST = 116.76'$
 $L_c = 671.85'$
 $T_s = 699.16'$
 $E_s = 73.21'$

0	10	20
HORIZONTAL SCALE IN FEET		
CALCULATED	J.C.	CHECKED
	4/15/95	M.M.
		4/18/95



NOTE:
 CARE SHALL BE TAKEN NOT TO
 DAMAGE EXISTING 3" ELECTRICAL
 CONDUIT WHEN REMOVING EXISTING
 PULL BOXES.



LEGEND

- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

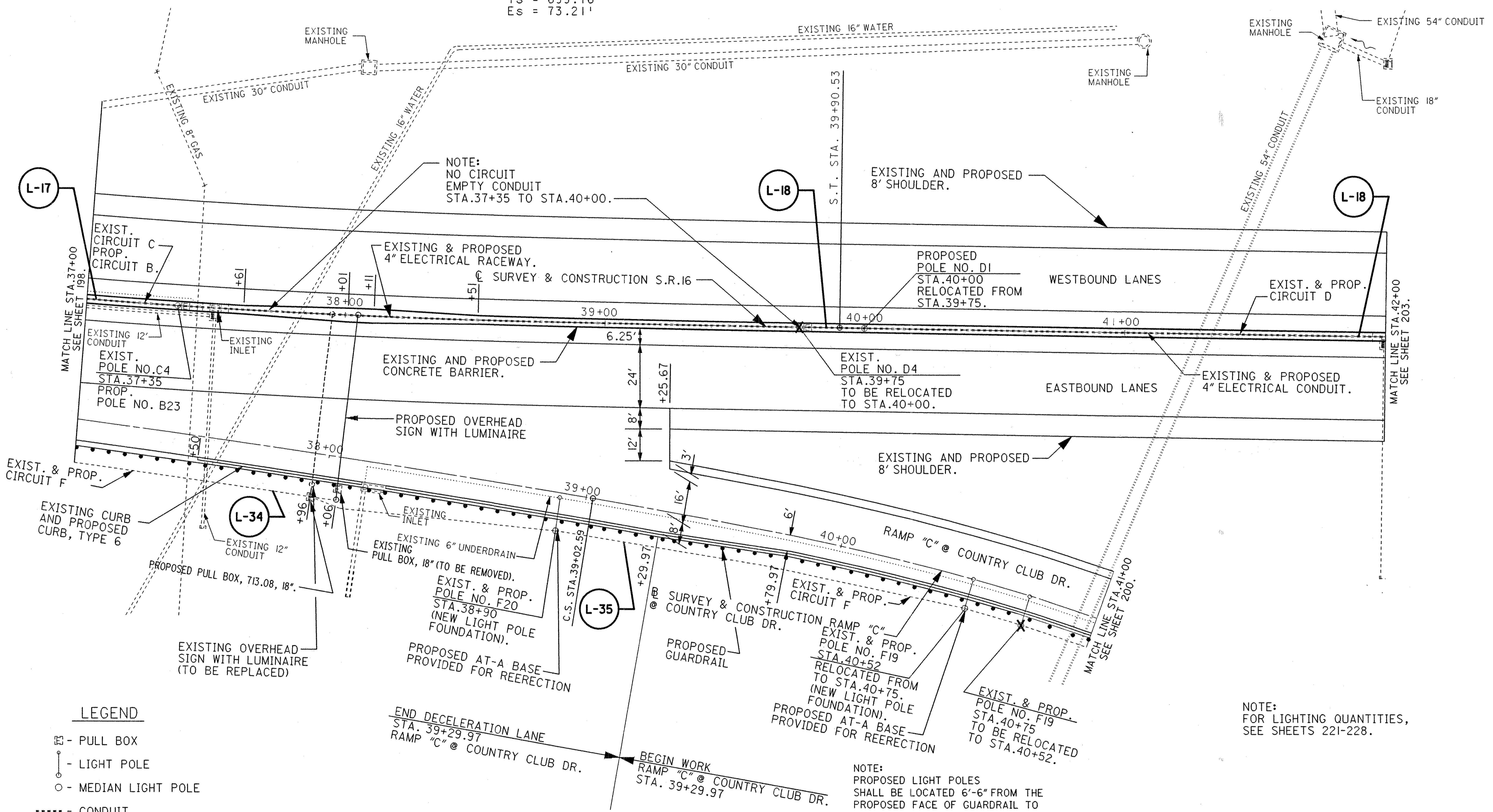
NOTE:
 FOR LIGHTING QUANTITIES,
 SEE SHEETS 221-228.

NOTE:
 PROPOSED LIGHT POLES
 SHALL BE LOCATED 6'-6" FROM THE
 PROPOSED FACE OF GUARDRAIL TO
 THE CENTER OF THE PROPOSED
 LIGHT POLE.

LIGHTING DETAIL SHEET
 STA. 32+00 TO STA. 37+00

LIC-16-17.94

CURVE DATA
 S.R. 16
 P.I. STA. 33+17.84
 $\Delta = 30^\circ 39' 20''$ LT.
 $Dc = 03^\circ 00' 00''$
 $Rc = 1909.86'$
 $Ls = 350.00'$
 $Os = 5^\circ 15' 00''$
 $LT = 233.44'$
 $ST = 116.76'$
 $Lc = 671.85'$
 $Ts = 699.16'$
 $Es = 73.21'$



- LEGEND**
- ☐ - PULL BOX
 - - LIGHT POLE
 - - MEDIAN LIGHT POLE
 - CONDUIT
 - EXISTING AND PROPOSED CIRCUIT
 - ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

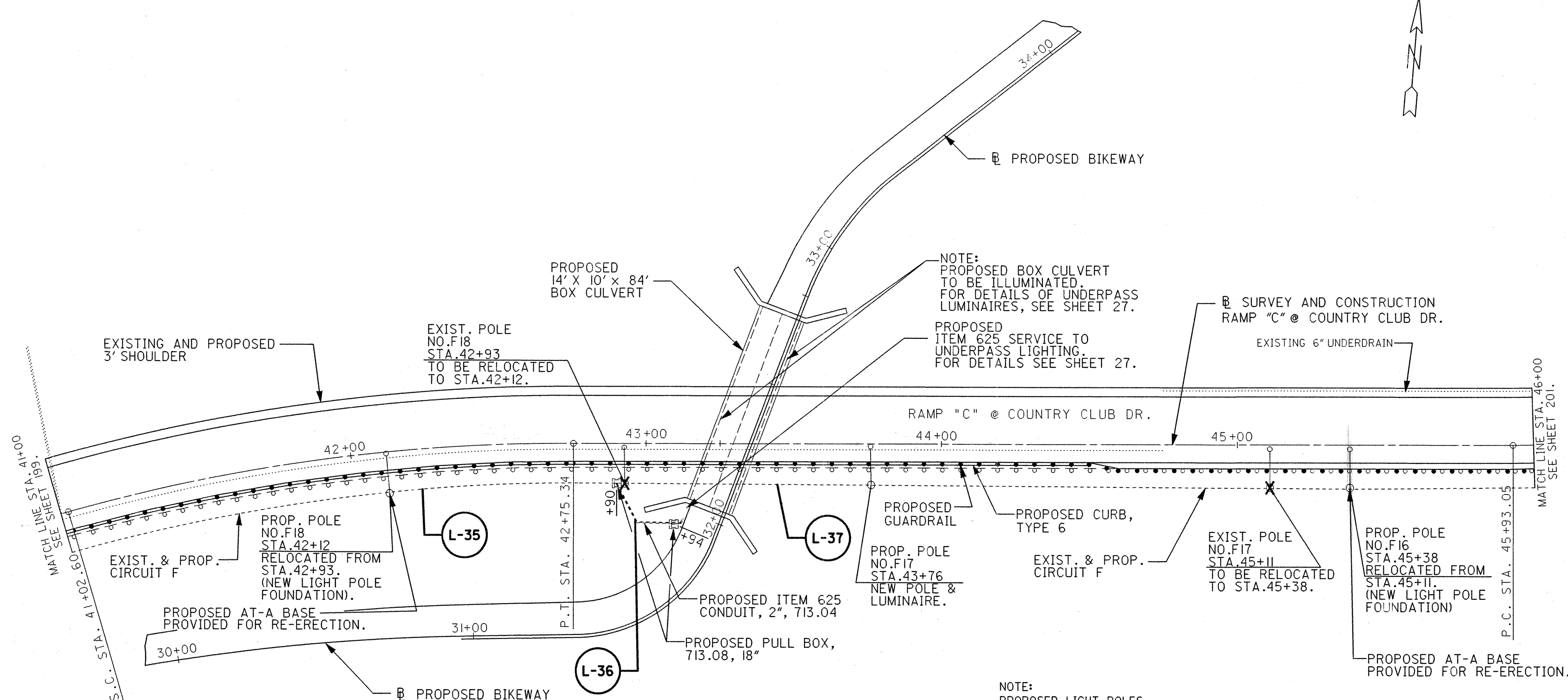
NOTE:
 FOR LIGHTING QUANTITIES,
 SEE SHEETS 221-228.

NOTE:
 PROPOSED LIGHT POLES
 SHALL BE LOCATED 6'-6" FROM THE
 PROPOSED FACE OF GUARDRAIL TO
 THE CENTER OF THE PROPOSED
 LIGHT POLE.
 PROPOSED PULL BOXES SHALL BE
 PLACED 5'-0" - 6'-6" FROM THE FACE
 OF PROPOSED GUARDRAIL OVER THE
 CENTER OF THE PROPOSED CIRCUIT.

CALCULATED	J.C.	4/18/95
CHECKED	M.M.	4/18/95

LIGHTING DETAIL SHEET
STA. 37+00 TO STA. 42+00

LIC-16-17.94



NOTE:
PROPOSED BOX CULVERT
TO BE ILLUMINATED.
FOR DETAILS OF UNDERPASS
LUMINAIRES, SEE SHEET 27.

PROPOSED
ITEM 625 SERVICE TO
UNDERPASS LIGHTING.
FOR DETAILS SEE SHEET 27.

EXISTING AND PROPOSED
3' SHOULDER

EXIST. POLE
NO.F18
STA.42+93
TO BE RELOCATED
TO STA.42+12.

⊠ SURVEY AND CONSTRUCTION
RAMP "C" @ COUNTRY CLUB DR.

EXISTING 6" UNDERDRAIN

RAMP "C" @ COUNTRY CLUB DR.

MATCH LINE STA. 46+00
SEE SHEET 201.

MATCH LINE STA. 41+00
SEE SHEET 199.

PROP. POLE
NO.F18
STA.42+12
RELOCATED FROM
STA.42+93.
(NEW LIGHT POLE
FOUNDATION).

PROPOSED AT-A BASE
PROVIDED FOR RE-ERECTION.

P.T.I. STA. 42+75.34

PROPOSED ITEM 625
CONDUIT, 2", 713.04

PROPOSED PULL BOX,
713.08, 18"

PROPOSED GUARDRAIL

PROP. POLE
NO.F17
STA.43+76
NEW POLE &
LUMINAIRE.

PROPOSED CURB,
TYPE 6

EXIST. POLE
NO.F17
STA.45+11
TO BE RELOCATED
TO STA.45+38.

PROP. POLE
NO.F16
STA.45+38
RELOCATED FROM
STA.45+11.
(NEW LIGHT POLE
FOUNDATION)

PROPOSED AT-A BASE
PROVIDED FOR RE-ERECTION.

NOTE:
PROPOSED LIGHT POLES
SHALL BE LOCATED 6'-6" FROM THE
PROPOSED FACE OF GUARDRAIL TO
THE CENTER OF THE PROPOSED
LIGHT POLE.
PROPOSED PULL BOXES SHALL BE
PLACED 5'-0" - 6'-6" FROM THE FACE
OF PROPOSED GUARDRAIL OVER THE
CENTER OF THE PROPOSED CIRCUIT.

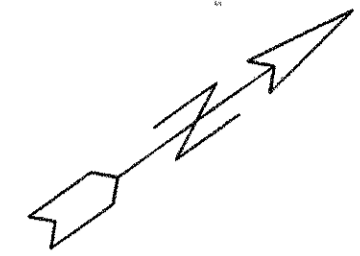
CURVE DATA
RAMP "C" @ COUNTRY CLUB DR.

P.I. STA. 37+62.22	P.I. STA. 41+89.50
$\Delta = 2^{\circ}48'29"$ RT.	$\Delta = 15^{\circ}32'48"$ RT.
Dc = 1900'00"	Dc = 09'00'00"
Rc = 5729.58'	R = 636.62'
Lc = 280.81'	L = 172.74'
Ls = 200.00'	T = 86.90'
Ts = 226.62'	E = 5.90'
Es = 5.90'	
Xs = 199.33'	
Ys = 12.77'	

NOTE:
FOR LIGHTING QUANTITIES
SEE SHEETS 221-228.

LEGEND

- ⊠ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

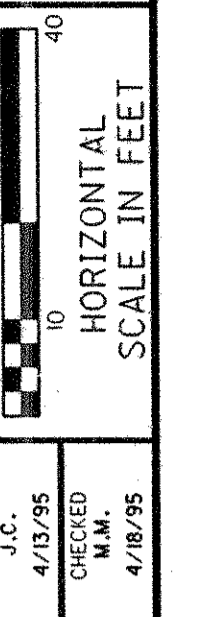


CURVE DATA
 RAMP "C" @ COUNTRY CLUB DR.
 P.I. STA. 47+71.57
 $\Delta = 67^{\circ}32'11''$ LT.
 $D_c = 21^{\circ}27'33''$
 $R = 267.00'$
 $L = 314.72'$
 $T = 178.53'$
 $E = 54.19'$

BEGIN WORK
 RAMP "D" @ COUNTRY CLUB DR.
 STA. 38+93.82

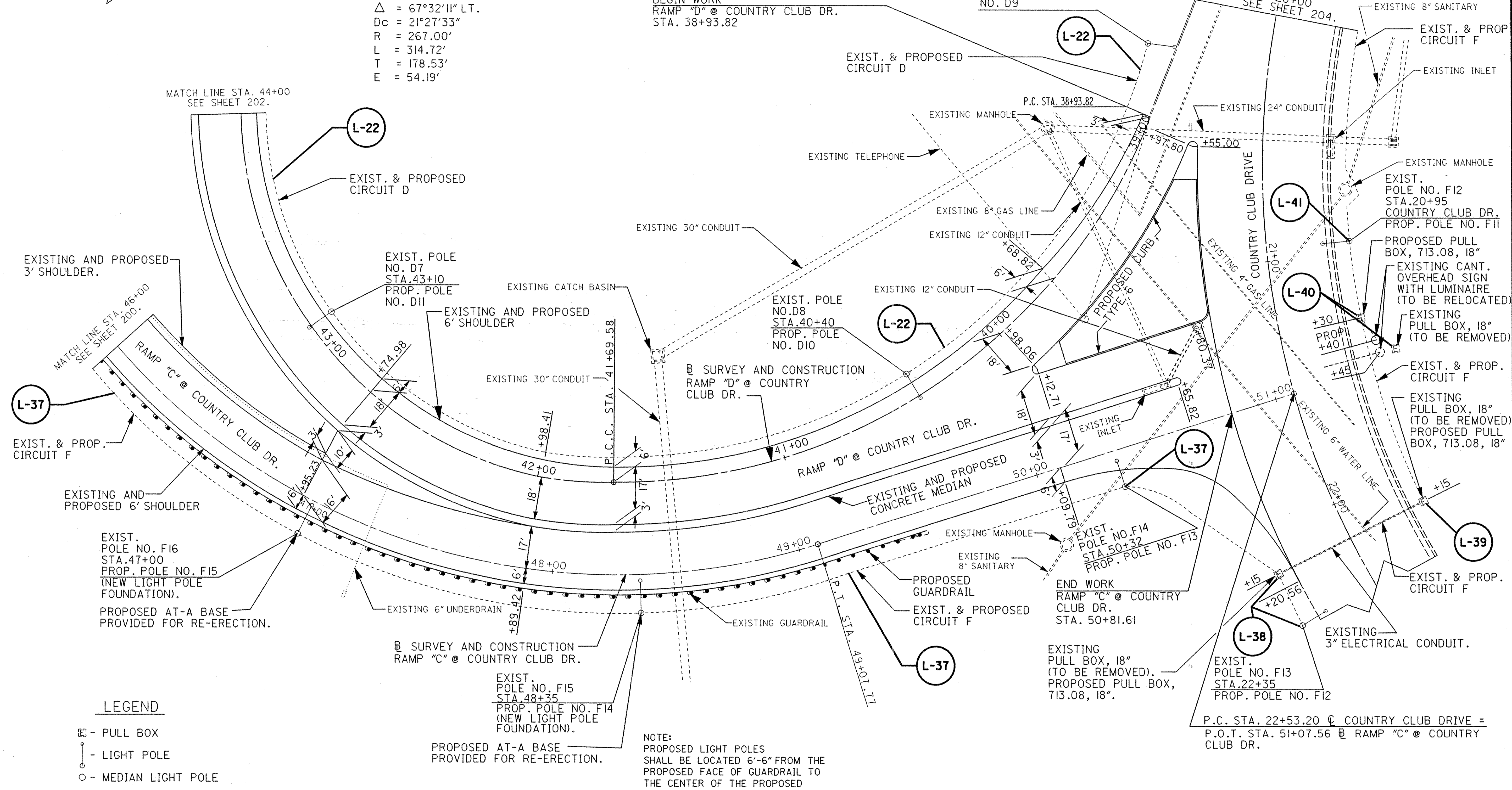
EXIST. POLE
 NO. D9
 STA. 20+20
 COUNTRY CLUB DR.
 PROP. POLE
 NO. D9

MATCH LINE
 STA. 20+00
 SEE SHEET 204.



LIGHTING DETAIL SHEET RAMP "C" & "D" AT COUNTRY CLUB DR.
 STA. 46+00 TO STA. 51+07.56

LIC-16-17.94
 201
 420



LEGEND

- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

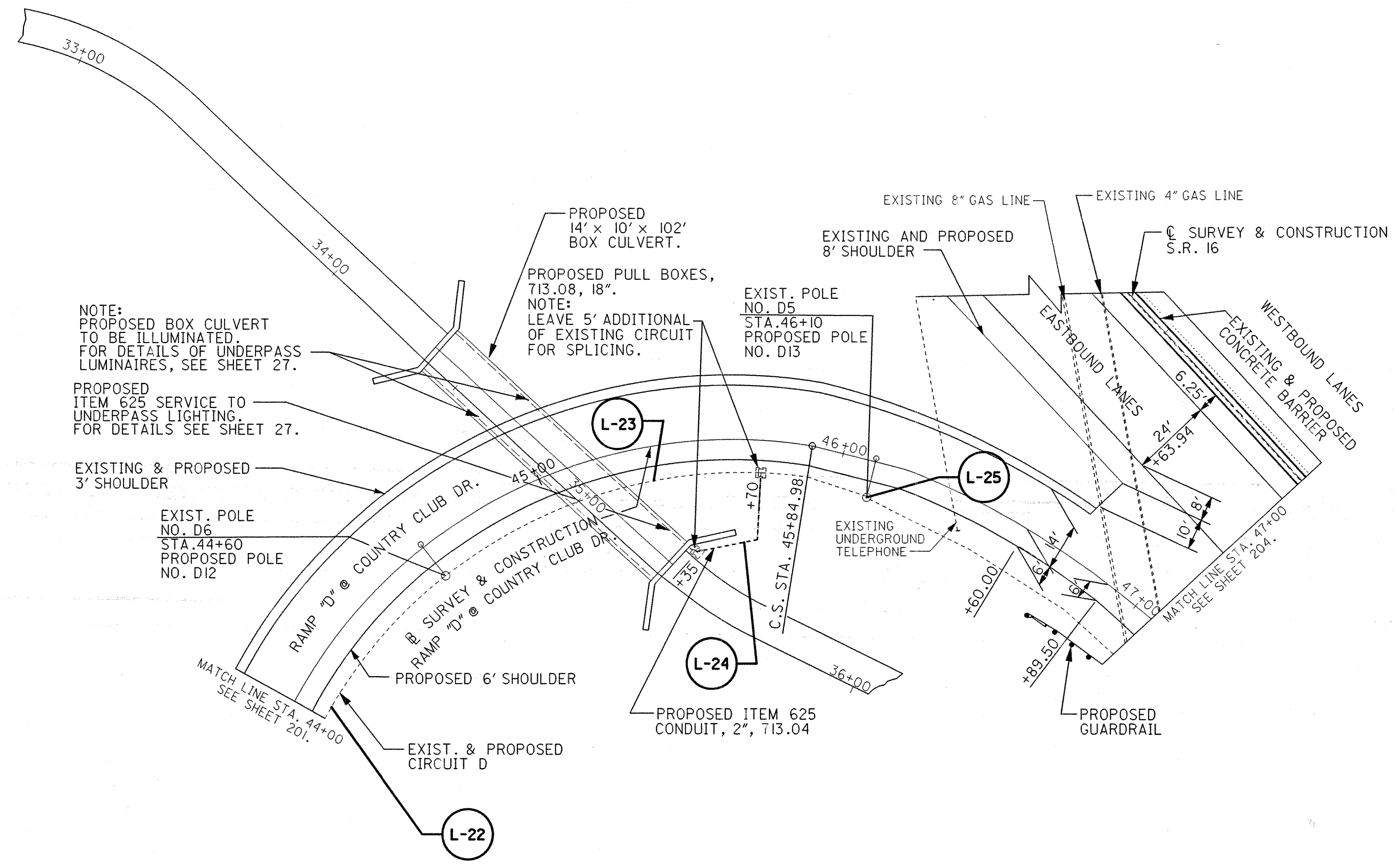
EXIST. POLE NO. F15
 STA. 48+35
 PROP. POLE NO. F14
 (NEW LIGHT POLE FOUNDATION).
 PROPOSED AT-A BASE
 PROVIDED FOR RE-ERECTION.

NOTE:
 PROPOSED LIGHT POLES
 SHALL BE LOCATED 6'-6" FROM THE
 PROPOSED FACE OF GUARDRAIL TO
 THE CENTER OF THE PROPOSED
 LIGHT POLE.

NOTE:
 FOR LIGHTING QUANTITIES
 SEE SHEETS 221-228.

P.C. STA. 22+53.20 @ COUNTRY CLUB DRIVE =
 P.O.T. STA. 51+07.56 @ RAMP "C" @ COUNTRY CLUB DR.

L1642164.DGN 4/18/95



NOTE:
PROPOSED BOX CULVERT
TO BE ILLUMINATED.
FOR DETAILS OF UNDERPASS
LUMINAIRES, SEE SHEET 27.

PROPOSED
ITEM 625 SERVICE TO
UNDERPASS LIGHTING.
FOR DETAILS SEE SHEET 27.

PROPOSED
14' x 10' x 102'
BOX CULVERT.

PROPOSED PULL BOXES,
713.08, 18".

NOTE:
LEAVE 5' ADDITIONAL
OF EXISTING CIRCUIT
FOR SPLICING.

EXIST. POLE
NO. D5
STA. 46+10
PROPOSED POLE
NO. D13

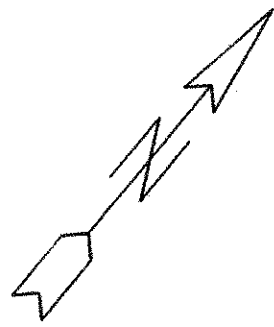
EXIST. POLE
NO. D6
STA. 44+60
PROPOSED POLE
NO. D12

CURVE DATA
RAMP "D" @ COUNTRY CLUB DRIVE

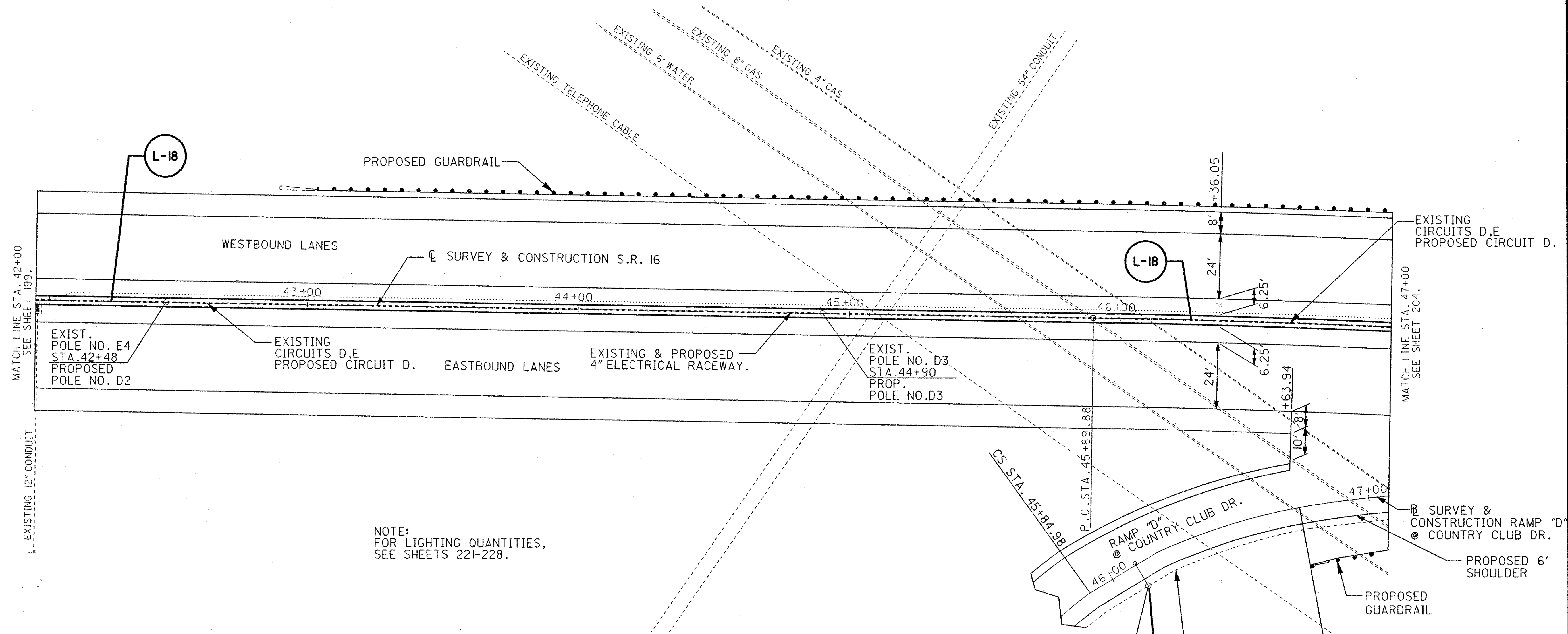
P.I. STA. 49+66.12
 $\Delta = 158^\circ 40' 14''$ RT.
 $D_c = 38^\circ 11' 50''$
 $R_c = 150.00'$
 $L_s = 200.00'$
 $\theta_s = 38^\circ 11' 50''$
 $L_T = 136.58'$
 $ST = 69.62'$
 $L_c = 415.40'$
 $T_s =$
 $E_s =$

NOTE:
FOR LIGHTING QUANTITIES
SEE SHEETS 221-228.

- LEGEND
- PULL BOX
 - LIGHT POLE
 - MEDIAN LIGHT POLE
 - CONDUIT
 - EXISTING AND PROPOSED CIRCUIT
 - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED



0	20	40
HORIZONTAL SCALE IN FEET		
CALCULATED	J.C.	4/13/95
CHECKED	M.M.	4/18/95



NOTE:
FOR LIGHTING QUANTITIES,
SEE SHEETS 221-228.

LEGEND

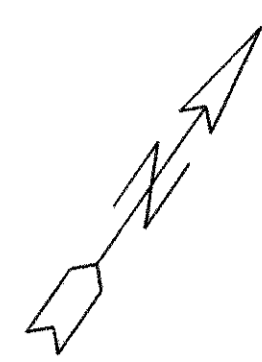
- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

CURVE DATA
S.R. 16

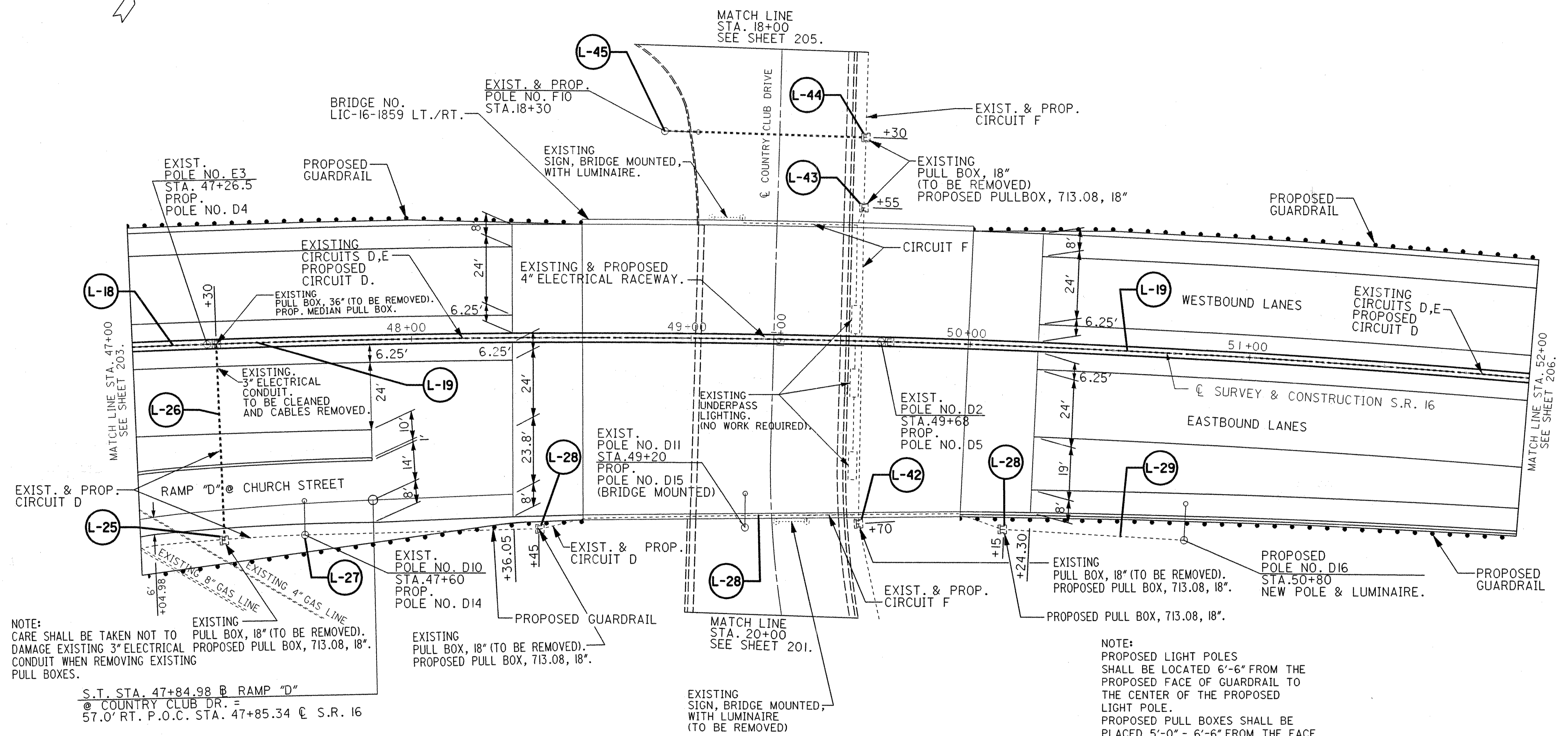
P.I.	STA. 52+01.82
Δ	= 17° 48' 20" RT.
D_c	= 01° 28' 00"
R	= 3906.52'
T	= 611.94'
L	= 1214.02'
E	= 47.64'

LIGHTING DETAIL SHEET
STA. 42+00 TO STA. 47+00

LIC-16-17.94



0	10	20	40
HORIZONTAL SCALE - IN FEET			
CALCULATED	J.C.	CHECKED	M.M.
	4/18/95		4/18/95



NOTE:
 CARE SHALL BE TAKEN NOT TO
 DAMAGE EXISTING 3" ELECTRICAL
 CONDUIT WHEN REMOVING EXISTING
 PULL BOXES.

S.T. STA. 47+84.98 @ RAMP "D"
 @ COUNTRY CLUB DR. =
 57.0' RT. P.O.C. STA. 47+85.34 @ S.R. 16

LEGEND

- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

NOTE:
 FOR LIGHTING QUANTITIES,
 SEE SHEETS 221-228.

NOTE:
 PROPOSED LIGHT POLES
 SHALL BE LOCATED 6'-6" FROM THE
 PROPOSED FACE OF GUARDRAIL TO
 THE CENTER OF THE PROPOSED
 LIGHT POLE.
 PROPOSED PULL BOXES SHALL BE
 PLACED 5'-0" - 6'-6" FROM THE FACE
 OF PROPOSED GUARDRAIL OVER THE
 CENTER OF THE PROPOSED CIRCUIT.

CURVE DATA
 S.R. 16

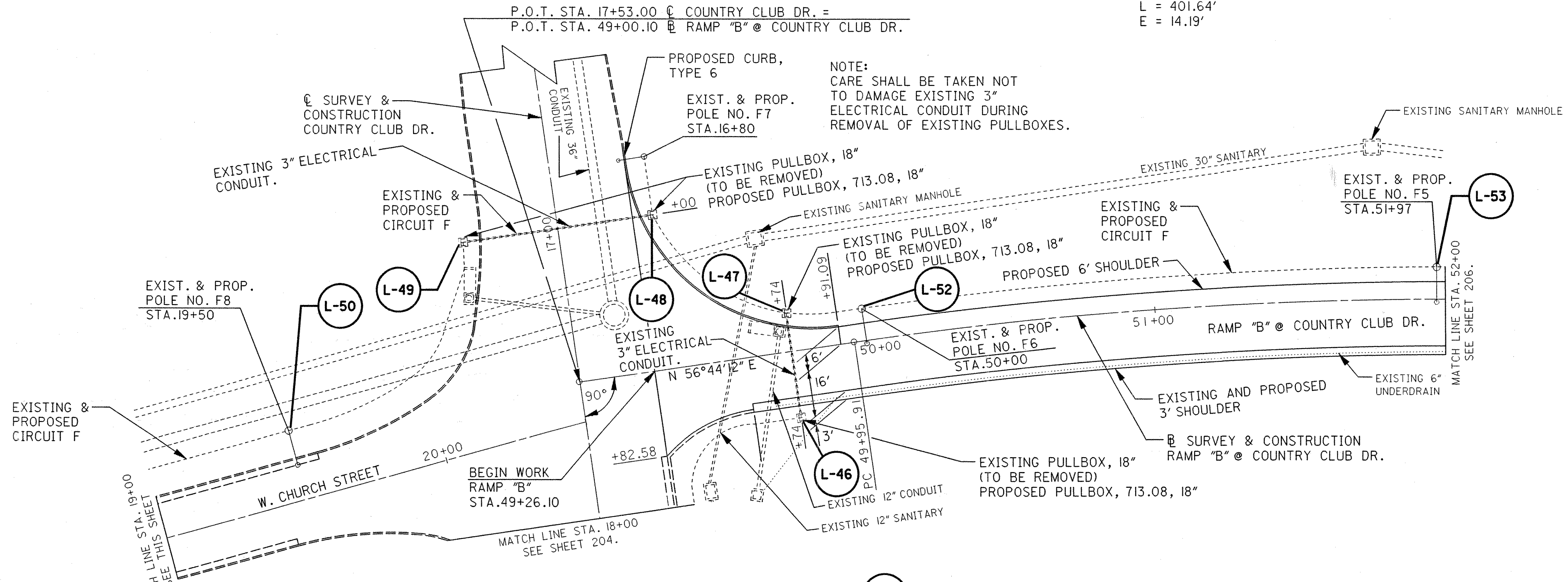
P.I. STA. 52+01.82
$\Delta = 17^\circ 48' 20''$ RT.
$D_c = 01^\circ 28' 00''$
$R = 3906.53'$
$L = 1214.02'$
$T = 611.94'$
$E = 47.64'$

LIGHTING DETAIL SHEET
STA. 47+00 TO STA. 52+00

LIC-16-17.94



CURVE DATA
 RAMP "B" @
 COUNTRY CLUB DR.
 P.I. STA. 51+98.06
 $\Delta = 16^{\circ}03'56''$ R
 $D_c = 4^{\circ}00'00''$
 T = 202.15'
 R = 1432.39'
 L = 401.64'
 E = 14.19'

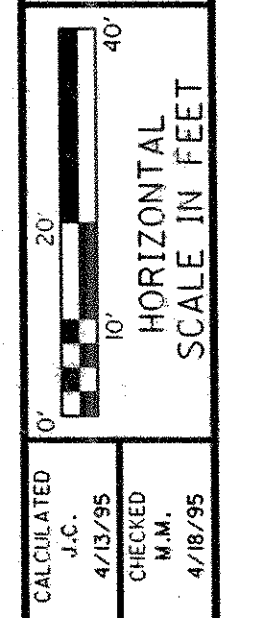
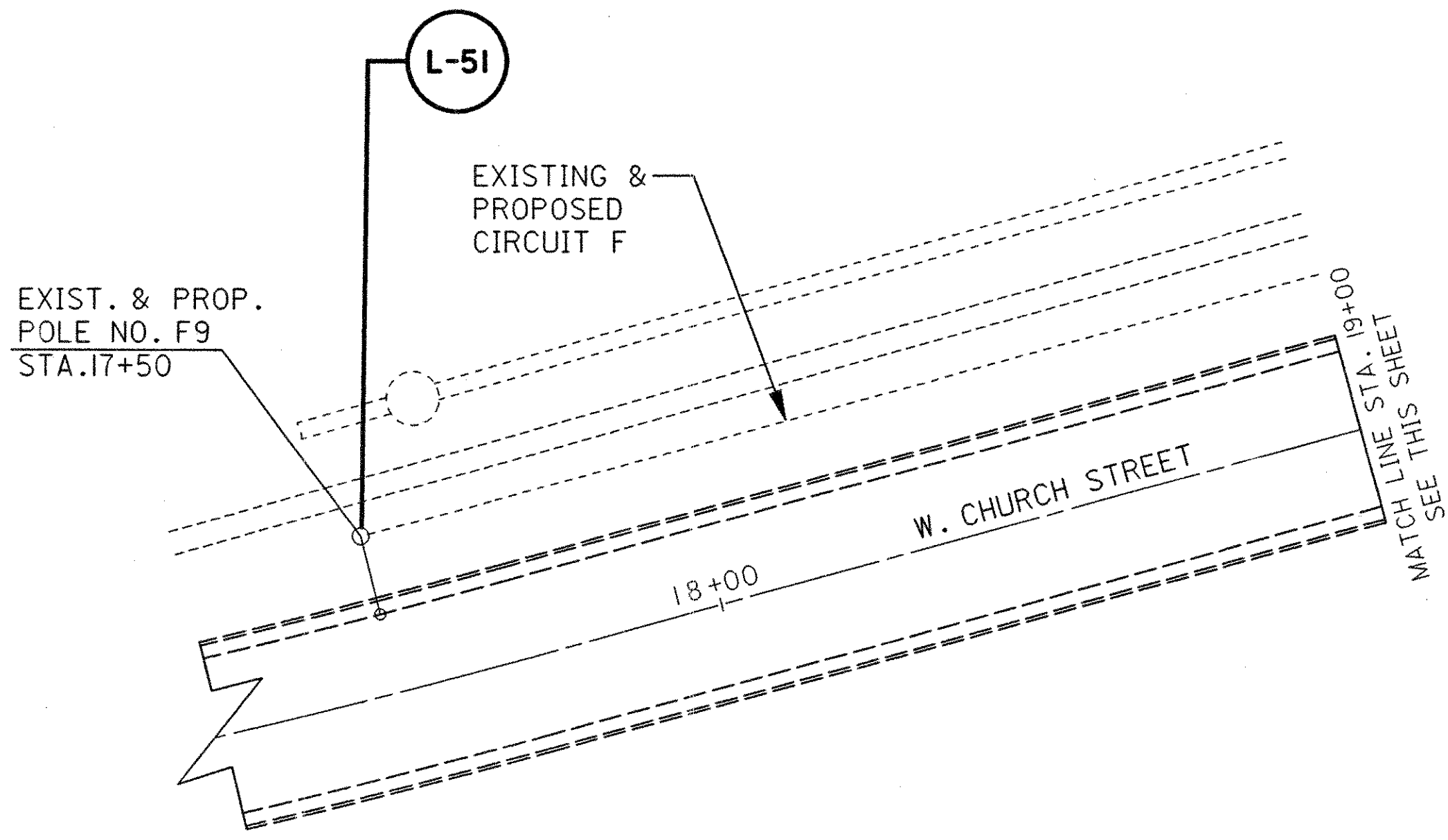


NOTE:
 CARE SHALL BE TAKEN NOT
 TO DAMAGE EXISTING 3"
 ELECTRICAL CONDUIT DURING
 REMOVAL OF EXISTING PULLBOXES.

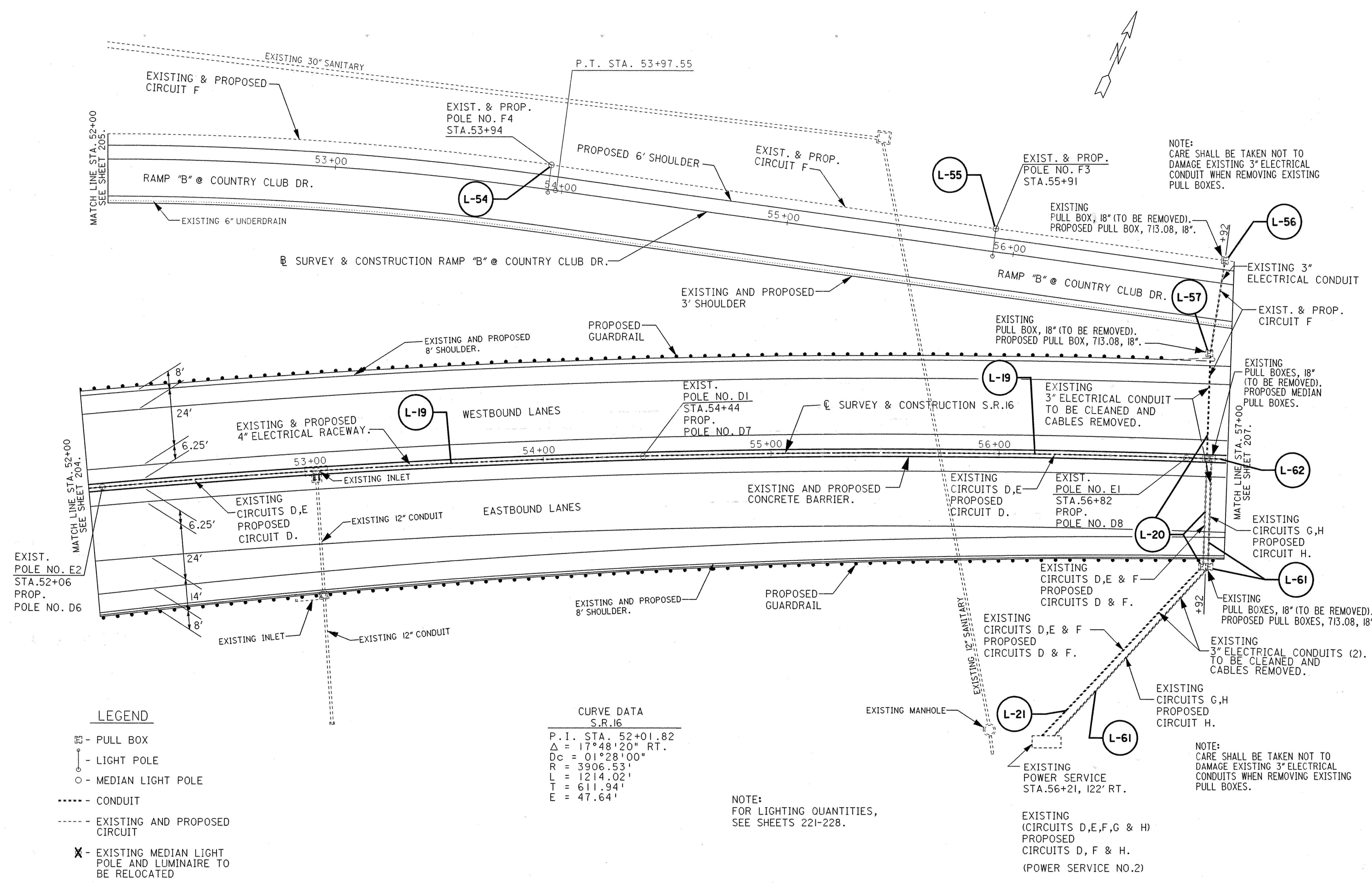
NOTE:
 FOR LIGHTING QUANTITIES
 SEE SHEETS 221-228.

LEGEND

- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED



LIC-16-17.94
COUNTRY CLUB DR. STA. 49+26.10 STA. 54+00.00



NOTE:
 CARE SHALL BE TAKEN NOT TO
 DAMAGE EXISTING 3" ELECTRICAL
 CONDUIT WHEN REMOVING EXISTING
 PULL BOXES.

NOTE:
 CARE SHALL BE TAKEN NOT TO
 DAMAGE EXISTING 3" ELECTRICAL
 CONDUITS WHEN REMOVING EXISTING
 PULL BOXES.

NOTE:
 FOR LIGHTING QUANTITIES,
 SEE SHEETS 221-228.

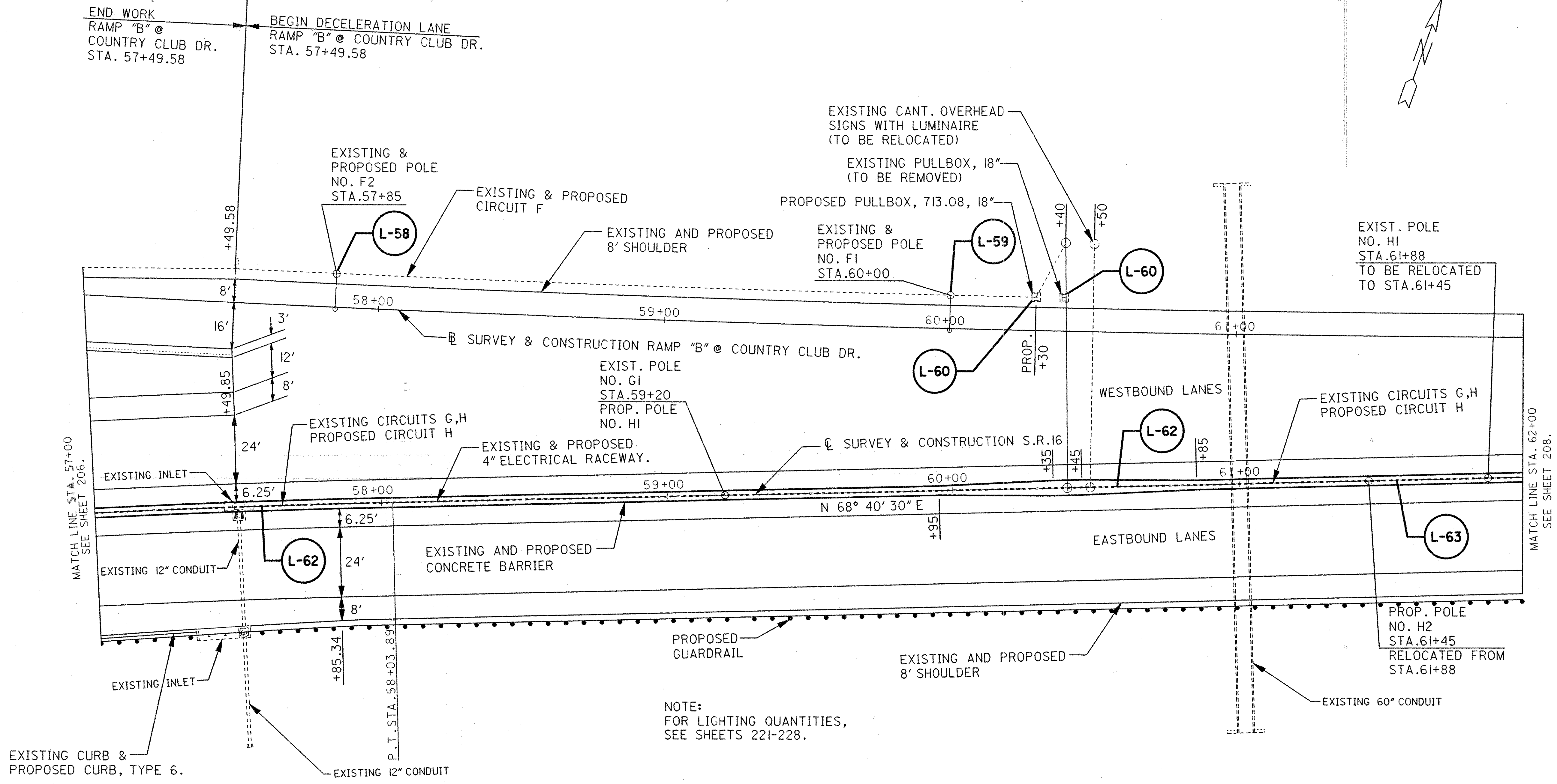
EXISTING
 (CIRCUITS D,E,F,G & H)
 PROPOSED
 CIRCUITS D, F & H.
 (POWER SERVICE NO.2)

LEGEND

- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

CURVE DATA
S.R.16

P.I. STA. 52+01.82
 $\Delta = 17^{\circ}48'20''$ RT.
 $D_c = 01^{\circ}28'00''$
 $R = 3906.53'$
 $L = 1214.02'$
 $T = 611.94'$
 $E = 47.64'$



NOTE:
FOR LIGHTING QUANTITIES,
SEE SHEETS 221-228.

LEGEND

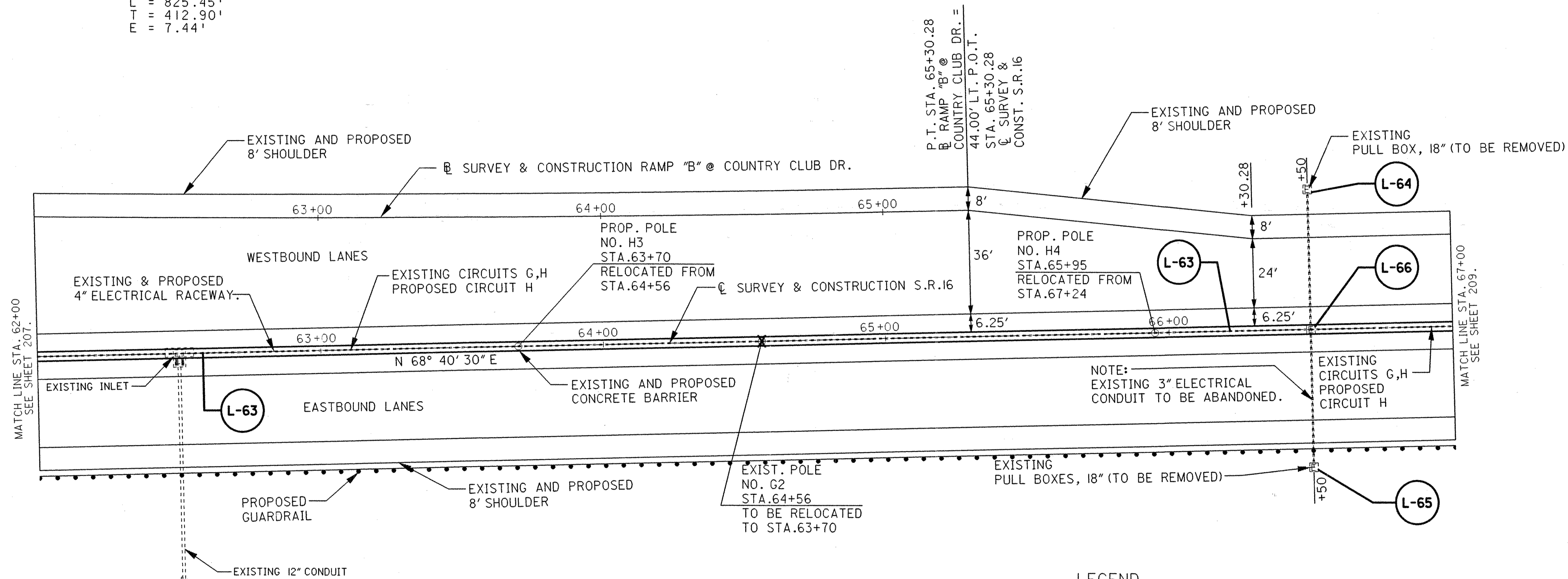
- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

CALCULATED
J.C.
4/13/95
 CHECKED
M.M.
4/26/95

LIGHTING DETAIL SHEET
STA. 57+00 TO STA. 62+00

LIC-16-17.94

CURVE DATA
 RAMP "B" @ COUNTRY CLUB DR.
 P.I. STA. 61+17.74
 $\Delta = 04^{\circ}07'38''$ LT.
 $D_c = 00^{\circ}30'00''$
 $R = 11459.16'$
 $L = 825.45'$
 $T = 412.90'$
 $E = 7.44'$



P.T. STA. 65+30.28
 B. RAMP "B" @
 COUNTRY CLUB DR. =
 44.00' LT. P.O.T.
 STA. 65+30.28
 C. SURVEY &
 CONST. S.R.16

NOTE:
 FOR LIGHTING QUANTITIES,
 SEE SHEETS 221-228.

LEGEND

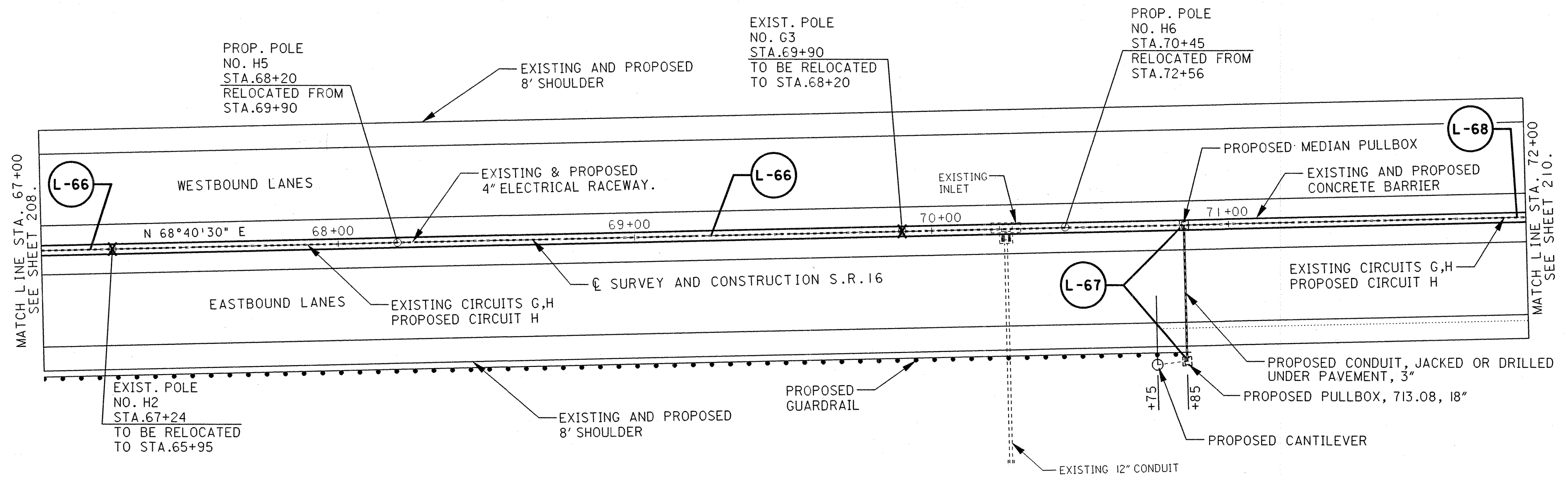
- - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

CALCULATED
 J.C.
 4/18/95
 CHECKED
 M.M.
 4/18/95

LIGHTING DETAIL SHEET
 STA. 62+00 TO STA. 67+00

LIC-16-17.94

208
 420



MATCH LINE STA. 67+00
SEE SHEET 208.

MATCH LINE STA. 72+00
SEE SHEET 210.

NOTE:
FOR LIGHTING QUANTITIES,
SEE SHEETS 221-228.

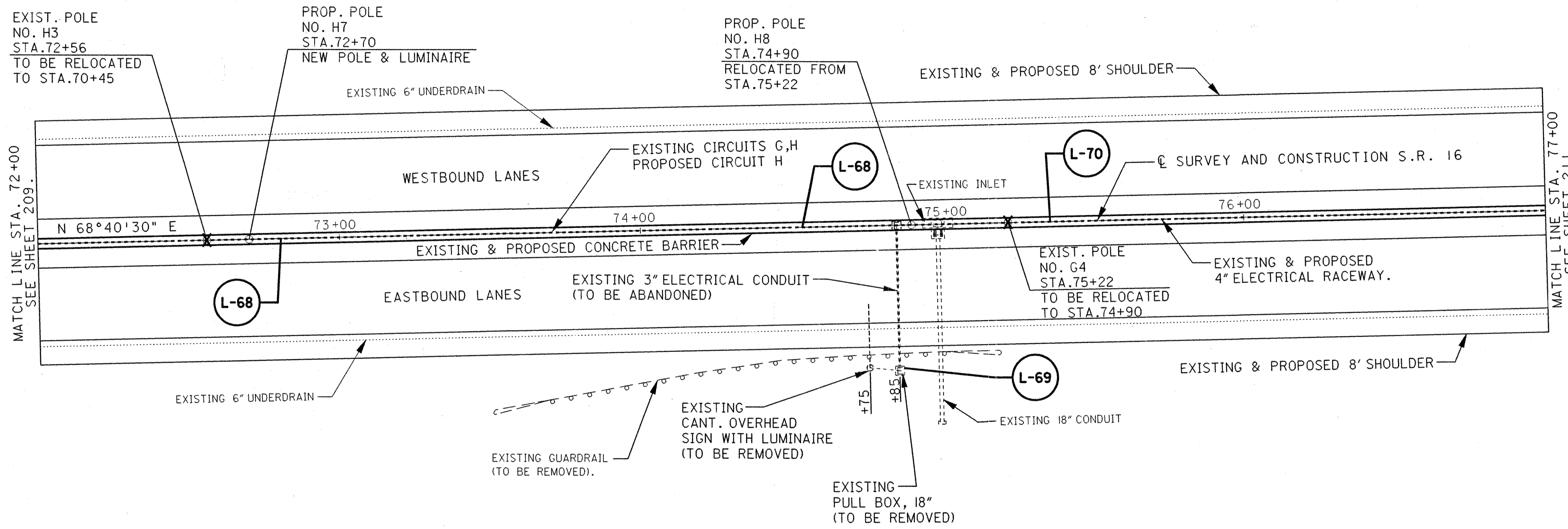
LEGEND

- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

0	10	20	40
HORIZONTAL SCALE IN FEET			
CALCULATED J.C. 4/13/95	CHECKED S.M. 4/26/95		

LIGHTING DETAIL SHEET
STA. 67+00 TO STA. 72+00

LIC-16-17.94



MATCH LINE STA. 72+00
SEE SHEET 209.

MATCH LINE STA. 77+00
SEE SHEET 211.

LEGEND

- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

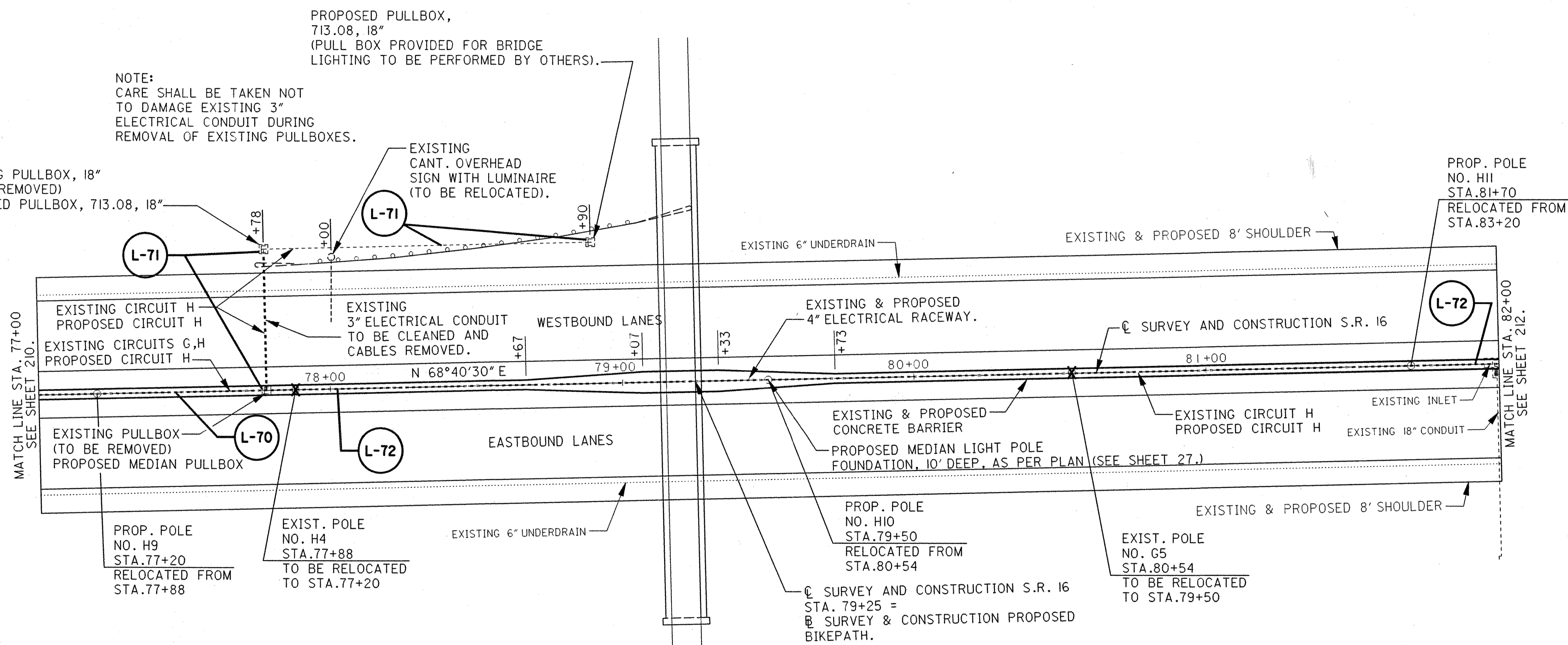
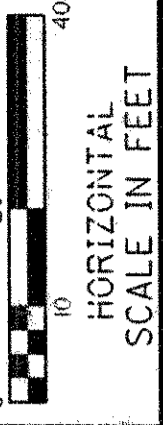
NOTE:
FOR LIGHTING QUANTITIES,
SEE SHEETS 221-228.

0 10 20 40	HORIZONTAL SCALE IN FEET
CALCULATED J.C. 4/18/95	CHECKED H.A. 4/18/95

LIGHTING DETAIL SHEET
STA. 72+00 TO STA. 77+00

LIC-16-17.94

CALCULATED
S.J.C.
3/5/95
CHECKED
M.A.L.
3/5/95



NOTE:
CARE SHALL BE TAKEN NOT
TO DAMAGE EXISTING 3"
ELECTRICAL CONDUIT DURING
REMOVAL OF EXISTING PULLBOXES.

PROPOSED PULLBOX,
713.08, 18"
(PULL BOX PROVIDED FOR BRIDGE
LIGHTING TO BE PERFORMED BY OTHERS).

EXISTING PULLBOX, 18"
(TO BE REMOVED)
PROPOSED PULLBOX, 713.08, 18"

EXISTING
CANT. OVERHEAD
SIGN WITH LUMINAIRE
(TO BE RELOCATED).

PROP. POLE
NO. H11
STA. 81+70
RELOCATED FROM
STA. 83+20

MATCH LINE STA. 77+00
SEE SHEET 210.

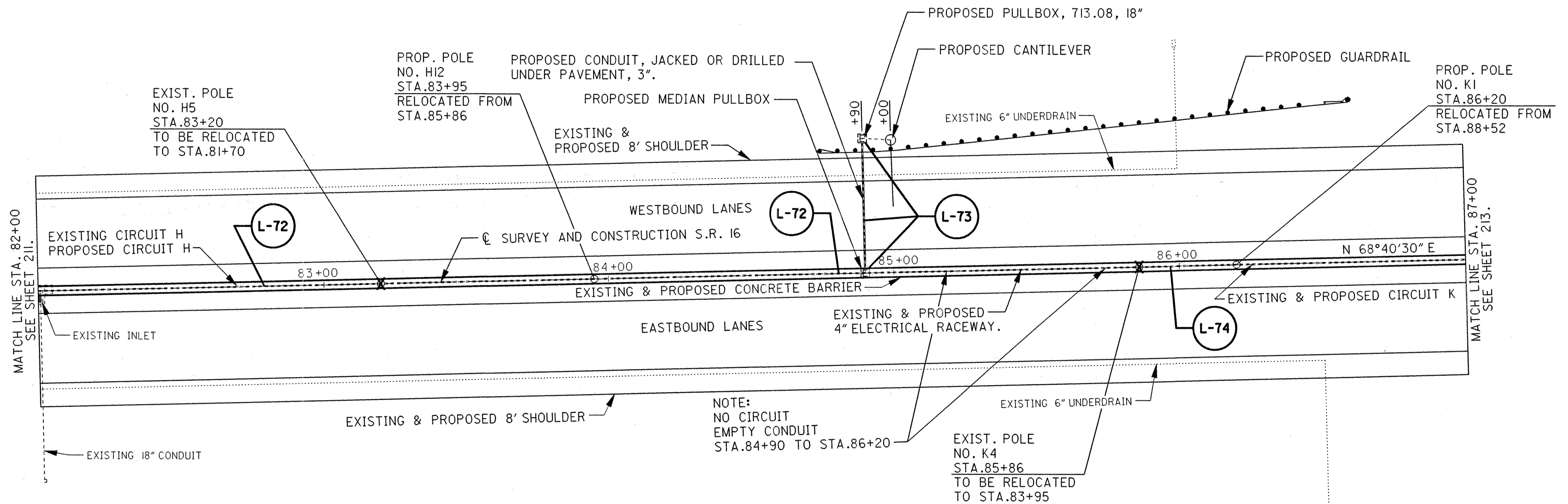
MATCH LINE STA. 82+00
SEE SHEET 212.

LEGEND

- ▣ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- — — — — CONDUIT
- - - - - EXISTING AND PROPOSED CIRCUIT
- X - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

NOTE:
FOR LIGHTING QUANTITIES,
SEE SHEETS 221-228.

**LIGHTING DETAIL SHEET
STA. 77+00 TO STA. 82+00**



MATCH LINE STA. 82+00
SEE SHEET 211.

MATCH LINE STA. 87+00
SEE SHEET 213.

NOTE:
FOR LIGHTING QUANTITIES,
SEE SHEETS 221-228.

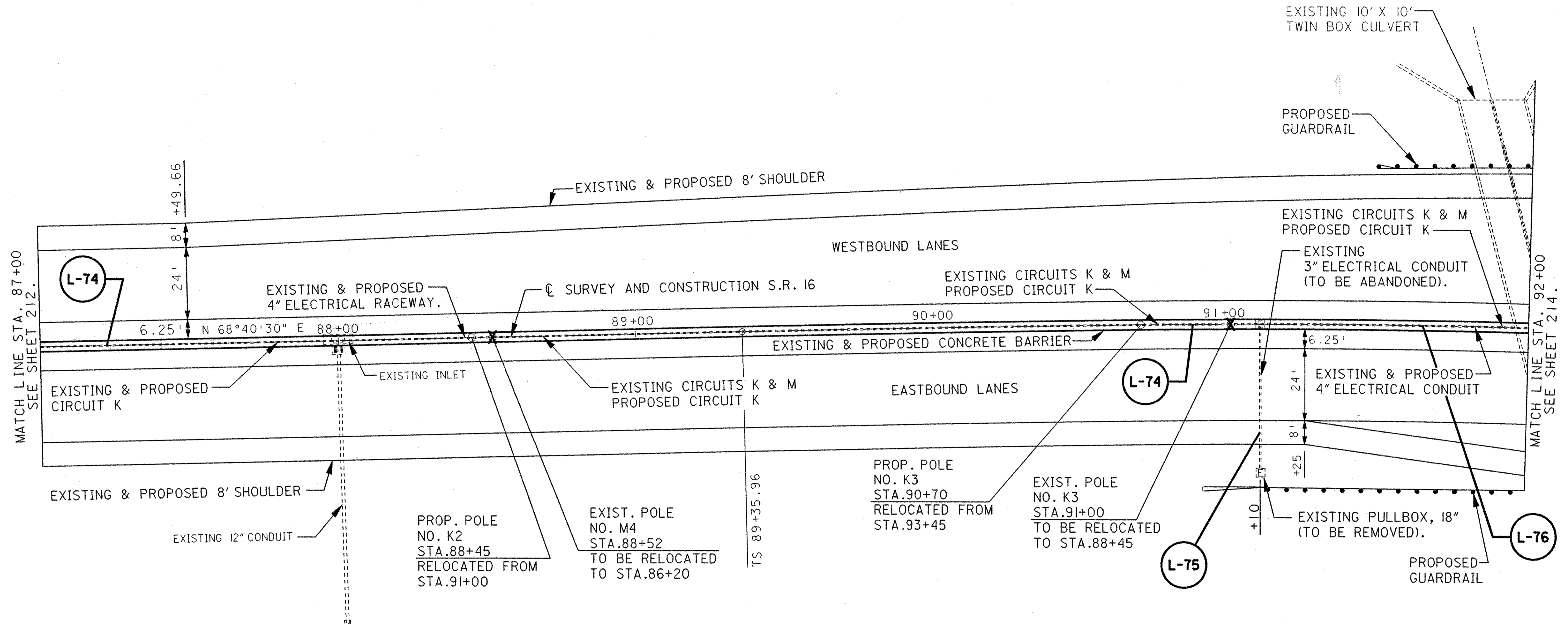
LEGEND

- ☐ - PULL BOX
- ⊙ - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

HORIZONTAL SCALE IN FEET	
CALCULATED J.C. 4/13/95	CHECKED M.M. 4/18/95

LIGHTING DETAIL SHEET
STA. 82+00 TO STA. 87+00

LIC-16-17.94



MATCH LINE STA. 87+00
SEE SHEET 212.

MATCH LINE STA. 92+00
SEE SHEET 214.

LEGEND

- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

NOTE:
FOR LIGHTING QUANTITIES,
SEE SHEETS 221-228.

CURVE DATA
S.R. 16

P.I. STA. 98+73.88
 $\Delta = 43^\circ 29' 50''$ RT.
 $D_c = 03^\circ 00' 00''$
 $R_c = 1909.86'$
 $L_s = 350.00'$
 $O_s = 5^\circ 15' 00''$
 $LT = 233.44'$
 $ST = 116.76'$
 $L_c = 1099.91'$
 $E_s = 149.24'$

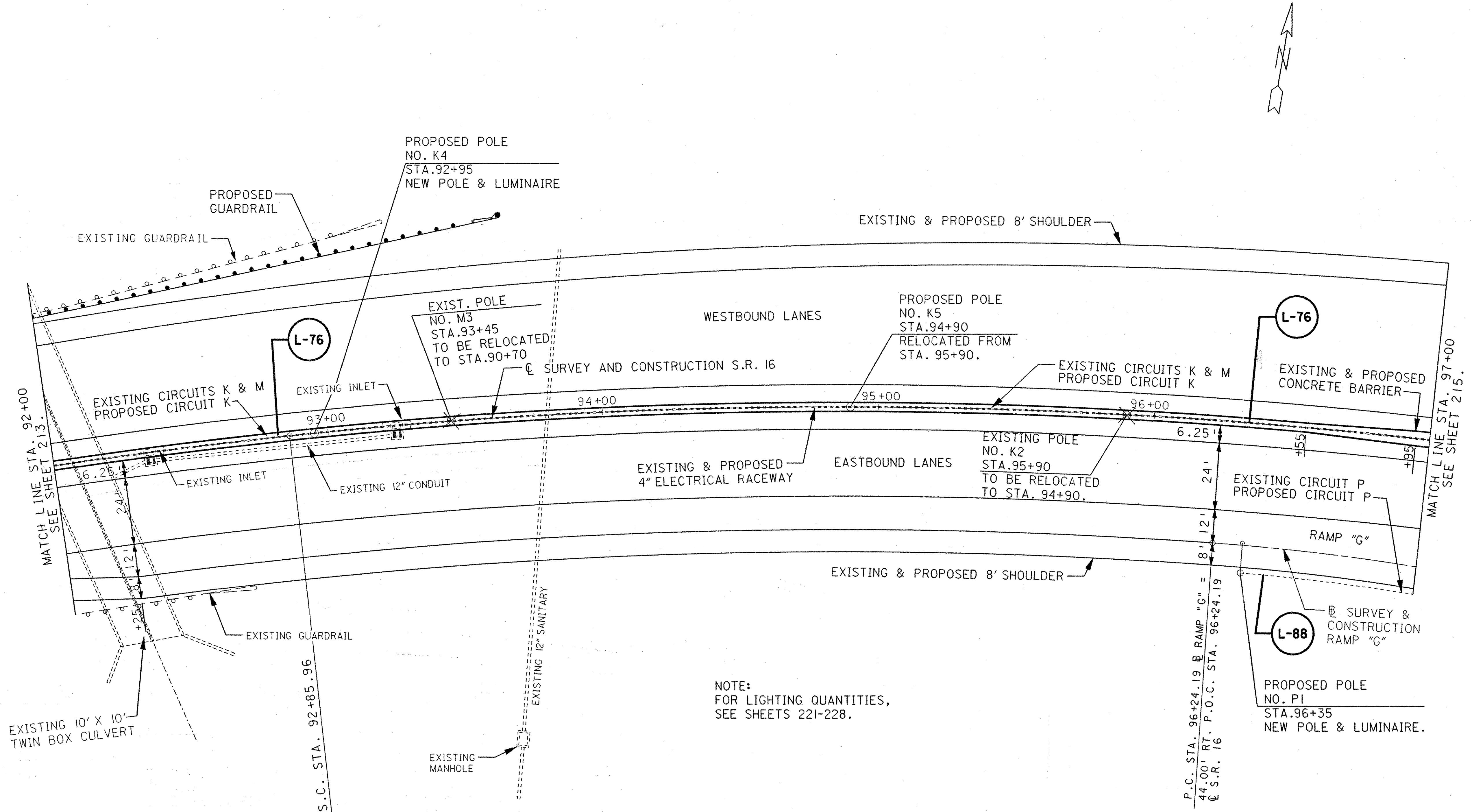
CALCULATED	J.C.	4/12/95
CHECKED	M.M.	4/18/95

0 20 40
HORIZONTAL SCALE IN FEET

LIGHTING DETAIL SHEET
STA. 87+00 TO STA. 92+00

LIC-16-17.94

L1616164.DGN 4/18/95



NOTE:
FOR LIGHTING QUANTITIES,
SEE SHEETS 221-228.

CURVE DATA
S.R. 16

P.I.	STA. 98+73.88
Δ	= 43°29'50" RT.
Dc	= 03°00'00"
Rc	= 1909.86'
Ls	= 350.00'
OS	= 5°15'00"
LT	= 233.44'
ST	= 116.76'
Lc	= 1099.91'
Es	= 149.24'

- LEGEND
- PULL BOX
 - LIGHT POLE
 - MEDIAN LIGHT POLE
 - CONDUIT
 - EXISTING AND PROPOSED CIRCUIT
 - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

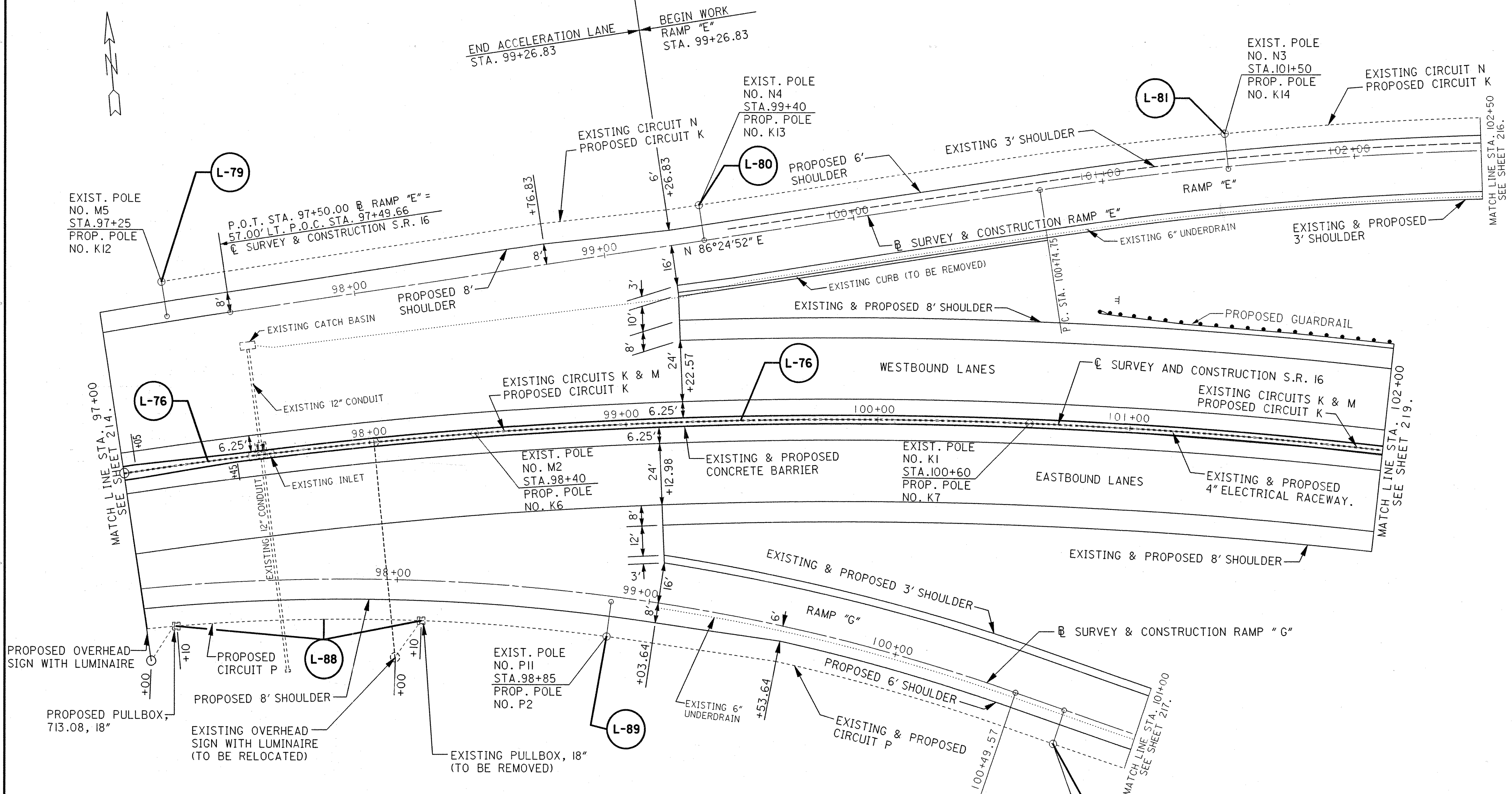
CALCULATED
J.C.
4/13/95

CHECKED
M.M.
4/18/95

0 10 20 40
HORIZONTAL
SCALE IN FEET

LIGHTING DETAIL SHEET
STA. 92+00 TO STA. 97+00

LIC-16-17.94



0	10	20	40
HORIZONTAL SCALE IN FEET			
CALCULATED	J.C.	CHECKED	M.M.
	4/12/95		4/12/95

LIGHTING DETAIL SHEET
STA. 97+00 TO STA. 102+00

CURVE DATA
S.R.16

P.I. STA.	98+73.88
Δ	$43^{\circ}29'50''$ RT.
Dc	$03^{\circ}00'00''$
Rc	1909.86'
Ls	350.00'
Qs	$5^{\circ}15'00''$
LT.	233.44'
ST.	116.76'
Lc	1099.91'
Es	149.24'

NOTE:
FOR LIGHTING QUANTITIES,
SEE SHEETS 221-228.

- LEGEND**
- - PULL BOX
 - - LIGHT POLE
 - - MEDIAN LIGHT POLE
 - CONDUIT
 - EXISTING AND PROPOSED CIRCUIT
 - ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

L1618164.DGN 4/18/95

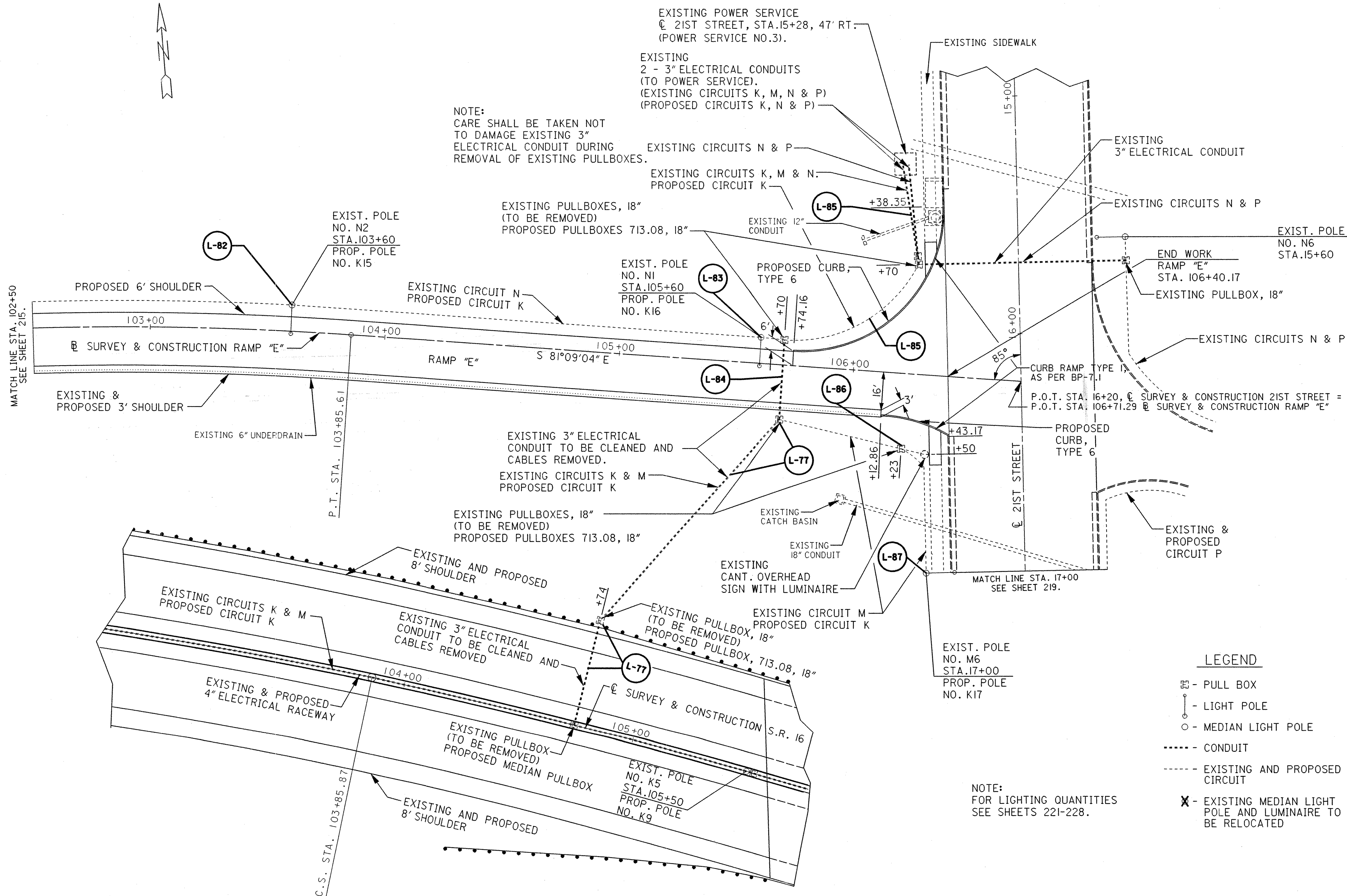
LIC-16-17.94



0	10	20
HORIZONTAL SCALE IN FEET		
CALCULATED J.C. 4/12/95	CHECKED M.M. 4/26/95	

LIGHTING DETAIL SHEET RAMP "E"
STA. 102+50 TO STA. 106+71.29

LIC-16-17.94



NOTE:
 CARE SHALL BE TAKEN NOT
 TO DAMAGE EXISTING 3"
 ELECTRICAL CONDUIT DURING
 REMOVAL OF EXISTING PULLBOXES.

EXISTING POWER SERVICE
 @ 21ST STREET, STA.15+28, 47' RT.
 (POWER SERVICE NO.3).

EXISTING
 2 - 3" ELECTRICAL CONDUITS
 (TO POWER SERVICE).
 (EXISTING CIRCUITS K, M, N & P)
 (PROPOSED CIRCUITS K, N & P)

EXISTING CIRCUITS N & P
 EXISTING CIRCUITS K, M & N.
 PROPOSED CIRCUIT K

EXISTING PULLBOXES, 18"
 (TO BE REMOVED)
 PROPOSED PULLBOXES 713.08, 18"

EXIST. POLE
 NO. NI
 STA.105+60
 PROP. POLE
 NO. K16

EXIST. POLE
 NO. N2
 STA.103+60
 PROP. POLE
 NO. K15

EXIST. POLE
 NO. N6
 STA.15+60

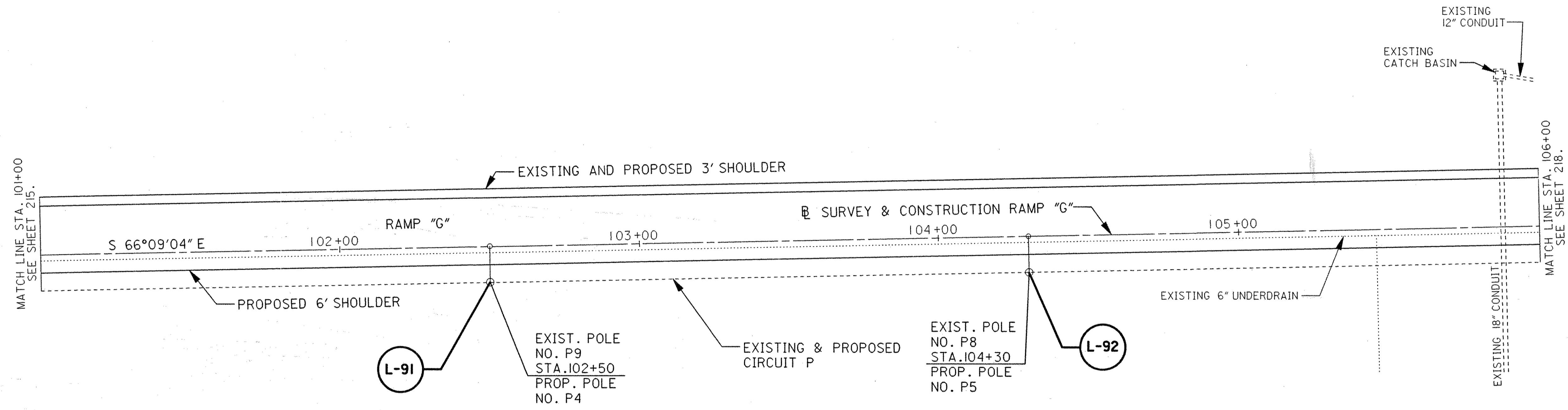
END WORK
 RAMP "E"
 STA. 106+40.17

P.O.T. STA. 16+20, @ SURVEY & CONSTRUCTION 21ST STREET =
 P.O.T. STA. 106+71.29 @ SURVEY & CONSTRUCTION RAMP "E"

LEGEND

- - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- - CONDUIT
- - - - EXISTING AND PROPOSED CIRCUIT
- ⊗ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

NOTE:
 FOR LIGHTING QUANTITIES
 SEE SHEETS 221-228.



NOTE:
FOR LIGHTING QUANTITIES
SEE SHEETS 221-228.

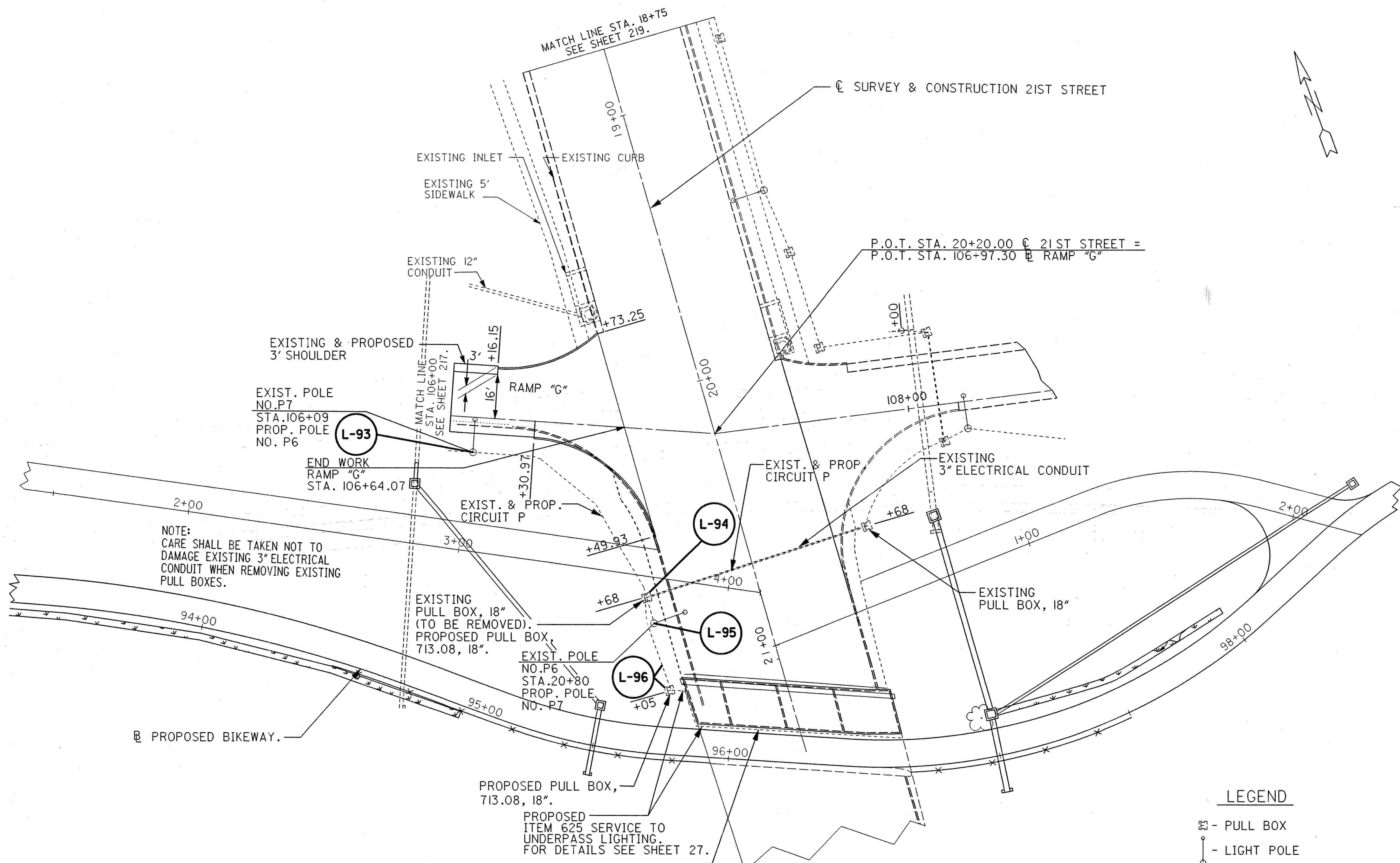
- LEGEND**
- ☐ - PULL BOX
 - - LIGHT POLE
 - - MEDIAN LIGHT POLE
 - CONDUIT
 - EXISTING AND PROPOSED CIRCUIT
 - ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

<p>HORIZONTAL SCALE IN FEET</p>	
<p>CALCULATED J.C. 4/13/95</p>	<p>CHECKED M.M. 4/18/95</p>

LIGHTING DETAIL SHEET RAMP "G"
STA. 101+00 TO STA. 106+00

LIC-16-17.94

L1651164.DGN 4/18/95



NOTE:
FOR LIGHTING QUANTITIES
SEE SHEETS 221-228.

NOTE:
PROPOSED BIKEWAY UNDERPASS
TO BE ILLUMINATED.
FOR DETAILS OF UNDERPASS
LUMINAIRES, SEE SHEET 27.

- LEGEND**
- ☐ - PULL BOX
 - - LIGHT POLE
 - - MEDIAN LIGHT POLE
 - CONDUIT
 - EXISTING AND PROPOSED CIRCUIT
 - ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

HORIZONTAL SCALE IN FEET	
CALCULATED J.C. 4/10/95	CHECKED 4/18/95

LIGHTING DETAIL SHEET RAMP "G"
STA. 106+00 TO STA. 106+97.30

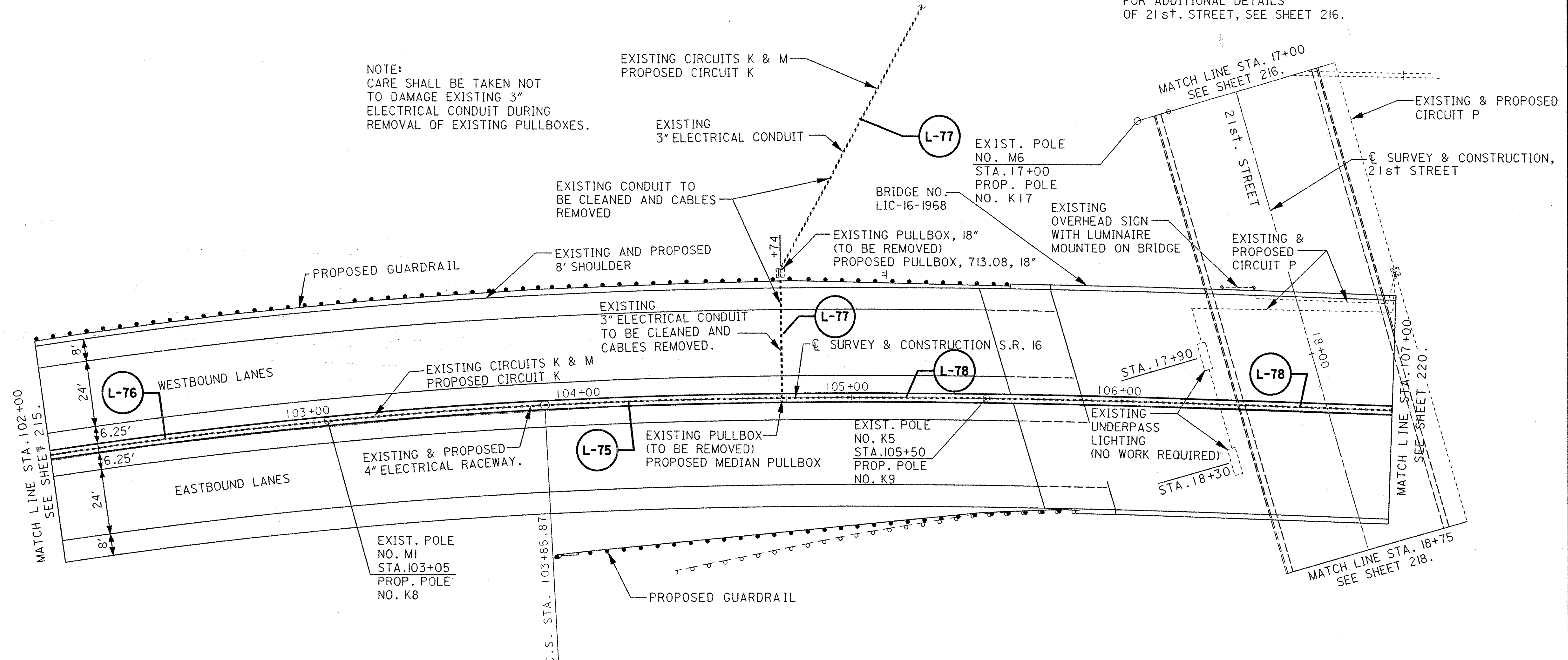
LIC-16-17.94



(POWER SERVICE NO. 3).
 EXISTING POWER SERVICE
 @ S.R.16, STA.105+47, 265' LT.
 (SEE SHEET 216 FOR CONTROLLER
 LOCATION)
 EXISTING CIRCUITS K, M, N & P
 PROPOSED CIRCUITS K & P

NOTE:
 FOR ADDITIONAL DETAILS
 OF 21st. STREET, SEE SHEET 216.

NOTE:
 CARE SHALL BE TAKEN NOT
 TO DAMAGE EXISTING 3"
 ELECTRICAL CONDUIT DURING
 REMOVAL OF EXISTING PULLBOXES.



CURVE DATA
 S.R. 16

P.I.	STA. 98+73.88
Δ	= 43°29'50" RT.
Dc	= 03°00'00"
Rc	= 1909.86'
Ls	= 350.00'
Os	= 5°15'00"
Lt	= 233.44'
St	= 116.76'
Lc	= 1099.91'
Es	= 149.24'

NOTE:
 FOR LIGHTING QUANTITIES,
 SEE SHEETS 221-228.

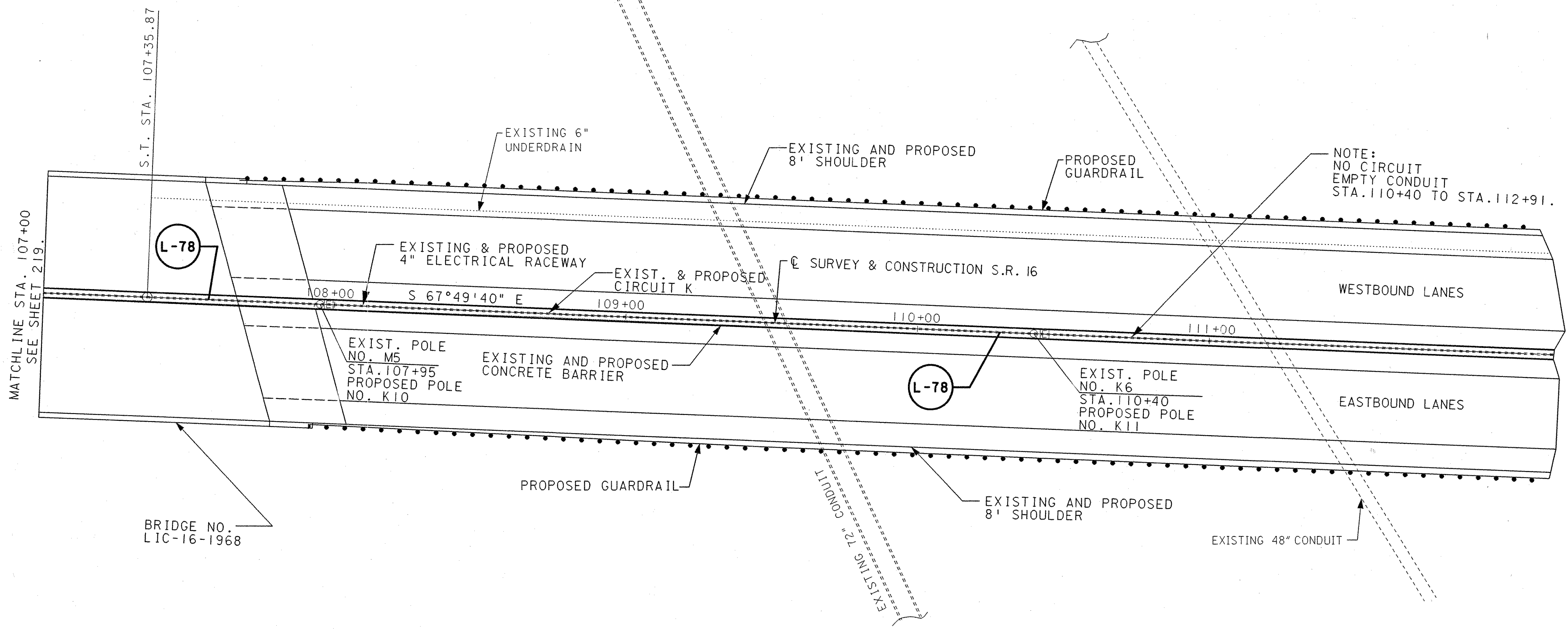
- LEGEND
- ☒ - PULL BOX
 - ⊥ - LIGHT POLE
 - - MEDIAN LIGHT POLE
 - CONDUIT
 - EXISTING AND PROPOSED CIRCUIT
 - ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

CALCULATED J.C. 4/15/95
 CHECKED M.M. 4/16/95

HORIZONTAL SCALE IN FEET

LIGHTING DETAIL SHEET
 STA. 102+00 TO STA. 107+00

LIC-16-17.94



NOTE:
 NO CIRCUIT
 EMPTY CONDUIT
 STA. 110+40 TO STA. 112+91.

NOTE:
 FOR LIGHTING QUANTITIES,
 SEE SHEETS 221-228.

LEGEND

- ☐ - PULL BOX
- - LIGHT POLE
- - MEDIAN LIGHT POLE
- CONDUIT
- EXISTING AND PROPOSED CIRCUIT
- ✕ - EXISTING MEDIAN LIGHT POLE AND LUMINAIRE TO BE RELOCATED

END WORK
 STA. 132+60
 (SEE SHEET 50).

END
 RESURFACING E.B. & W.B.
 STA. 114+00.00

LIGHTING DETAIL SHEET
STA. 107+00 TO STA. 112+00

LIC-16-17.94

REFERENCE NO.	SHEET NO.	SIDE	LOCATION	STATION TO STATION		ITEM 202														ITEM 625												603	SPECIAL																				
				FROM	TO	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN.FT.	EACH	LIN.FT.	EACH																							
CIRCUIT "D"																																																					
L-18		℄	S.R.16	39+75	47+30		4	4	4	4		4	4			1590				4					4	4	4	4																									
L-19		℄	S.R.16	47+30	56+92		4	4	3	4	4				2024				3						4	4	3	4																									
L-20		RT.	S.R.16	56+92											520																													47	20								
L-21		RT.	S.R.16	56+92	POWER SERVICE STA. 56+21, 122' RT.										280																													105									
L-22		RT.	COUNTRY CLUB DR. AND RAMP "D"	20+20	44+60																																																
L-23		RT.	RAMP "D"	44+60	45+70											130																															1						
L-24		RT.	RAMP "D"	45+70	30+30± BIKEWAY											100																																40					
L-25		RT.	RAMP "D"	46+10	47+30																																										20	1					
L-26		℄ & RT.	S.R.16	47+30												160																																70					
L-27		RT.	S.R.16	47+60																																																	
L-28		RT.	S.R.16	48+45	50+15											380																																40	1				
L-29		RT.	S.R.16	50+15	50+80												75	110																																65			
TOTALS CARRIED TO SHEET 228																																																					
							9	9	3	7		9	9			5054	205	110			7																									15	215	40		6	222	120	3

LIGHTING QUANTITIES
CIRCUIT "D"

LIC-16-17.94

CALCULATED
J. C.
4/17/95
 CHECKED
J. C.
4/18/95

L16LIC10T.DCN 4/18/95

SHEET NO.	CIRCUIT DESCRIPTION	ITEM 202															ITEM 625																										603	SPECIAL						
		LUMINAIRE REMOVED	LIGHT POLE REMOVED	LUMINAIRE REMOVED FOR STORAGE, AS PER PLAN	LIGHT POLE REMOVED FOR STORAGE, AS PER PLAN	PULL BOX REMOVED	LIGHT POLE FOUNDATION REMOVED, AS PER PLAN	REERECT EXISTING LUMINAIRE, AS PER PLAN	REERECT EXISTING LIGHT POLE, AS PER PLAN	NO. 2 AWG. 5,000 VOLT DISTRIBUTION CABLE	NO. 4 AWG. 5,000 VOLT DISTRIBUTION CABLE	1 1/2" DUCT, CABLE WITH TWO NO. 4 AWG 5,000 VOLT CABLES	NO. 10 AWG POLE AND BRACKET CABLE	LIGHT POLE, DESIGN AT12B34.2	LIGHT POLE, DESIGN AT12B41.7	LIGHT POLE, MISC., MEDIAN MOUNT	LIGHT POLE, LOW MAST, DESIGN AON40	LIGHT POLE, MISC., MEDIAN MOUNT	LIGHT POLE, LOW MAST, DESIGN A12B30	LUMINAIRE, CONVENTIONAL STYLE B, TYPE II, 200 WATT.	HIGH PRESSURE SODIUM, 713.11, 480 VOLT.	LUMINAIRE, LOW MAST, ASYMETRIC TYPE I, 400 WATT	HIGH PRESSURE SODIUM, 713.21, 480 VOLT., AS PER PLAN	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP	LIGHT POLE FOUNDATION, 24" x 10' DEEP	MEDIAN PULL BOX	PULL BOX, 713.08, 18"	CABLE SPLICING KIT	CONNECTOR KIT, TYPE II	CONNECTOR KIT, TYPE III	CONNECTOR KIT, TYPE VIIB	GROUND ROD	TRANSFORMER BASE, TYPE AT-A	RELABEL EXISTING LIGHT POLE	TRENCH 24" DEEP	CONDUIT, 2", 713.04	CONDUIT, 3", 713.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"	LIGHTING MISC., EXISTING LUMINAIRE REFURBISHED	CONDUIT CLEANED AND CABLES REMOVED	4" CONDUIT TYPE E	DISCONNECT EXISTING CIRCUIT							
		EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
	CIRCUIT "B"	2	2	8	8	4	11	8	8	645	4812	166	248			1	2	2	1	11				4	6	10	11	11	6	13	21	154	8					380	120	3										
	CIRCUIT "D"			9	9	3	7	9	9		5054	205	110		1			1			7			1	1	6	12	11	11	2	8	15	215	40			6	222	120	3										
	CIRCUIT "A"			2	2	2	2	2	2			390												2	2	4	3	3	3	2	360					6		40	3											
	CIRCUIT "F" @ COUNTRY CLUB DRIVE			7	7	14	7	7	7		80	1491	94	1				1						7	16	8	9	9	22	11	7	5	1431	30			12	260	14											
	CIRCUIT "H"			10	10	5	10	11	11	1266	5252	122	80			1								3	5	8	12	12	6	14	12	112		94		197	100													
	CIRCUIT "K"			11	11	6	11	10	10		5664	85	80			1								1	5	8	11	11	2	11	17	75			6	233	100	1												
	CIRCUIT "P"					2						307	110		1										1	3	6	2	2	2	6	287			6		60	2												
TOTALS CARRIED TO GENERAL SUMMARY		2	2	47	47	36	48	47	47	1911	20862	2766	722	1	2	3	2	5	3	40	1	11	9	43	56	59	59	38	62	9	76	2634	70	8	94	36	1032	800	26											

LIGHTING SUB-SUMMARY

LIC-16-17.94

CALCULATED
 J. C.
 4/13/95
 CHECKED
 M. M.
 4/28/95

BIKEWAY CALCULATIONS AND SUPERELEVATION TABLES

PAVEMENT CALCULATIONS

STA. 0+00 TO STA. 30+34.97 = 3034.97 LIN. FT.

ITEM 404(1 1/4") = .1042'(3034.97')(10') ÷ 27 = 117.13 CU.YD.
 ITEM 402(1 3/4") = .1458'(3034.97')(10') ÷ 27 = 163.89 CU.YD.
 ITEM 304(6") = .50'(3034.97')(11') ÷ 27 = 618.23 CU.YD.
 ITEM 408 = .40(3034.97')(11') ÷ 97 = 1483.76 GAL.
 ITEM 203 = 3034.97'(10') ÷ 9 = 3372.19 SQ.YD.

STA. 30+34.97 TO STA. 31+34.97 = 100.00 LIN. FT.

ITEM 404(1 1/4") = .1042'(100.00')(11'AVG.) ÷ 27 = 4.25 CU.YD.
 ITEM 402(1 3/4") = .1458'(100.00')(11'AVG.) ÷ 27 = 5.94 CU.YD.
 ITEM 304(6") = .50'(100.00')(12'AVG.) ÷ 27 = 22.22 CU.YD.
 ITEM 408 = .40(100.00')(12'AVG.) ÷ 9 = 53.33 GAL.
 ITEM 203 = (100.00')(11'AVG.) ÷ 9 = 122.22 SQ. YD.

STA. 31+34.97 TO STA. 32+02.75 = 67.78 LIN. FT.

ITEM 404(1 1/4") = .1042'(67.78')(12') ÷ 27 = 3.14 CU.YD.
 ITEM 402(1 3/4") = .1458'(67.78')(12') ÷ 27 = 4.39 CU.YD.
 ITEM 304(6") = .50'(67.78')(13') ÷ 27 = 16.32 CU.YD.
 ITEM 408 = .40(67.78')(13') ÷ 9 = 39.17 GAL.
 ITEM 203 = (67.78')(12') ÷ 9 = 90.38 SQ. YD.

BOX CULVERT LIMITS STA. 32+02.75 TO STA. 32+74.75

STA. 32+74.75 TO STA. 34+37.79 = 163.04 LIN. FT.

ITEM 404(1 1/4") = .1042'(163.04')(12') ÷ 27 = 7.56 CU.YD.
 ITEM 402(1 3/4") = .1458'(163.04')(12') ÷ 27 = 10.57 CU.YD.
 ITEM 304(6") = .50'(163.04')(13') ÷ 27 = 39.25 CU.YD.
 ITEM 408 = .40(163.04')(13') ÷ 9 = 94.19 GAL.
 ITEM 203 = (163.04')(12') ÷ 9 = 217.38 SQ.YD.

BOX CULVERT LIMITS STA. 34+31.79 TO STA. 35+33.79

STA. 35+33.79 TO STA. 37+71.00 = 237.21 LIN. FT.

ITEM 404(1 1/4") = .1042'(237.21')(12') ÷ 27 = 10.98 CU.YD.
 ITEM 402(1 3/4") = .1458'(237.21')(12') ÷ 27 = 15.38 CU.YD.
 ITEM 304(6") = .50'(237.21')(13') ÷ 27 = 57.11 CU.YD.
 ITEM 408 = .40(237.21')(13') ÷ 9 = 137.05 GAL.
 ITEM 203 = (237.21')(12') ÷ 9 = 316.28 SQ. YD.

STA. 37+71.00 TO STA. 37+91.00 = 20.00 LIN. FT.

ITEM 404(1 1/4") = .1042'(20')(13' AVG.) ÷ 27 = 1.00 CU.YD.
 ITEM 402(1 3/4") = .1458'(20')(13' AVG.) ÷ 27 = 1.40 CU.YD.
 ITEM 304(6") = .50'(20')(14' AVG.) ÷ 27 = 5.19 CU.YD.
 ITEM 408 = .40(20')(14' AVG.) ÷ 9 = 12.44 GAL.
 ITEM 203 = (20')(13' AVG.) ÷ 9 = 28.88 SQ. YD.

BRIDGE LIMITS STA. 38+06.00 TO STA. 39+56.00
 APPROACH SLAB LIMITS STA. 37+91.00 TO STA. 38+06.00
 & STA. 39+56.00 TO STA. 39+71.00

STA. 39+71.00 TO STA. 39+91.00 = 20.00 LIN. FT.

ITEM 404(1 1/4") = .1042'(20')(12' AVG.) ÷ 27 = 0.93 CU.YD.
 ITEM 402(1 3/4") = .1458'(20')(12' AVG.) ÷ 27 = 1.29 CU.YD.
 ITEM 304(6") = .50'(20')(13' AVG.) ÷ 27 = 4.81 CU.YD.
 ITEM 408 = .40(20')(13' AVG.) ÷ 9 = 11.56 GAL.
 ITEM 203 = (20')(12' AVG.) ÷ 9 = 26.66 SQ. YD.

STA. 39+91.00 TO STA. 93+50.00 = 5359.00 LIN. FT.

ITEM 404(1 1/4") = .1042'(5359.00')(10') ÷ 27 = 206.81 CU.YD.
 ITEM 402(1 3/4") = .1458'(5359.00')(10') ÷ 27 = 289.38 CU.YD.
 ITEM 304(6") = .50'(5359.00')(11') ÷ 27 = 1091.65 CU.YD.
 ITEM 408 = .40(5359.00')(11') ÷ 9 = 2619.95 GAL.
 ITEM 203 = (5359.00')(10') ÷ 9 = 5954.45 SQ. YD.

STA. 93+50.00 TO STA. 95+95.85 = 245.85 LIN. FT.

ITEM 451 = (245.85')(10') ÷ 9 = 273.17 SQ.YD.
 ITEM 304(6") = .50'(245.85')(11') ÷ 27 = 50.08 CU.YD.
 ITEM 203 = (245.85')(10') ÷ 9 = 273.17 SQ. YD.

STA. 95+95.85 TO STA. 96+68.90 = 73.05 LIN. FT.

ITEM 451, AS PER PLAN = 73.05'(10') ÷ 9 = 81.17 SQ.YD.
 ITEM 304(6") = .50'(73.05')(11') ÷ 27 = 14.88 CU.YD.
 ITEM 203 = (73.05')(10') ÷ 9 = 81.17 SQ. YD.

STA. 96+68.90 TO STA. 97+50 = 81.10 LIN. FT.

ITEM 451, = 81.10'(10') ÷ 9 = 90.11 SQ.YD.
 ITEM 304(6") = .50'(81.10')(11') ÷ 27 = 16.52 CU.YD.
 ITEM 203 = (81.10')(10') ÷ 9 = 90.11 SQ. YD.

STA. 97+50.00 TO STA. 98+69.90 = 119.90 LIN. FT.

ITEM 404(1 1/4") = .1042'(119.90')(10') ÷ 27 = 4.63 CU.YD.
 ITEM 402(1 3/4") = .1458'(119.90')(10') ÷ 27 = 6.47 CU.YD.
 ITEM 304(6") = .50'(119.90')(11') ÷ 27 = 24.42 CU.YD.
 ITEM 408 = .40(119.90')(11') ÷ 9 = 58.62 GAL.
 ITEM 203 = (119.90')(10') ÷ 9 = 133.22 SQ. YD.

SUPERELEVATION

R = 50'
 Dc = 114°35'30"
 S = .035 FT./FT.

LEFT EDGE OF PAVEMENT	RIGHT EDGE OF PAVEMENT	PROFILE GRADE	STATION
848.60	848.40	848.40	30+34.97
848.24	848.05	848.05	30+50
847.74	847.66	847.60	30+75
847.41	847.48	847.41	31+00
847.30	847.59	847.46	31+25
847.38	847.73	847.56	31+34.97
847.60	847.95	847.78	31+50
848.12	848.26	848.21	31+75
848.70	848.70	848.70	32+02.75

R = 105'
 Dc = 54°34'03"
 S = .02 FT./FT.

LEFT EDGE OF PAVEMENT	RIGHT EDGE OF PAVEMENT	PROFILE GRADE	STATION
854.54	854.54	854.54	35+33.79
854.99	855.10	855.10	35+50
855.81	856.01	855.91	35+65.96
856.33	856.60	856.48	35+75
858.12	858.23	858.18	36+00
859.88	859.88	859.88	36+25
861.70	861.58	861.58	36+50
862.91	862.67	862.67	36+65.96

SHOULDER CALCULATIONS

STA. 2+40.00 TO STA. 2+76.78 = 36.78 LIN. FT.(LT.)

ITEM 404(1 1/4") = .1042'(36.78')(3.34'AVG.) ÷ 27 = 0.47 CU.YD.
 ITEM 402(1 3/4") = .1458'(36.78')(3.34'AVG.) ÷ 27 = 0.66 CU.YD.
 ITEM 304(6") = .50'(36.78')(2.84'AVG.) ÷ 27 = 1.94 CU.YD.
 ITEM 408 = .40(36.78')(2.84'AVG.) ÷ 9 = 4.64 GAL.
 ITEM 203 = (36.78')(3.34'AVG.) ÷ 9 = 13.65 SQ. YD.

STA. 2+76.78 TO STA. 4+56.14 = 179.36 LIN. FT.(LT.)

ITEM 404(1 1/4") = .1042'(179.36')(1.33') ÷ 27 = 0.92 CU.YD.
 ITEM 402(1 3/4") = .1458'(179.36')(1.33') ÷ 27 = 1.29 CU.YD.
 ITEM 304(6") = .50'(179.36')(0.83') ÷ 27 = 2.76 CU.YD.
 ITEM 408 = .40(179.36')(0.83') ÷ 9 = 8.27 GAL.
 ITEM 203 = (179.36')(1.33') ÷ 9 = 26.51 SQ. YD.

STA. 4+56.14 TO STA. 5+41.72 = 85.58 LIN. FT.(LT.)

ITEM 404(1 1/4") = .1042'(85.58')(4.27') ÷ 27 = 1.41 CU.YD.
 ITEM 402(1 3/4") = .1458'(85.58')(4.27') ÷ 27 = 1.97 CU.YD.
 ITEM 304(6") = .50'(85.58')(3.77') ÷ 27 = 5.97 CU.YD.
 ITEM 408 = .40(85.58')(3.77') ÷ 9 = 14.34 GAL.
 ITEM 203 = (85.58')(4.27') ÷ 9 = 40.60 SQ. YD.

STA. 95+95.85 TO STA. 96+68.80 = 73.05 LIN. FT.(LT. & RT.)

ITEM 451, AS PER PLAN = (73.05')(4') ÷ 9 = 32.47 SQ.YD.
 ITEM 304(6") = .50'(73.05')(3') ÷ 27 = 4.06 CU.YD.
 ITEM 203 = (73.05')(4') ÷ 9 = 32.47 SQ. YD.

ITEM 203 PROOF ROLLING

$$\frac{10819.34 \text{ SQ.YD.}}{3000 \frac{\text{SQ.YD.}}{\text{HR.}}} = 3.61 \text{ HRS. (4 HR.)}$$

SUB TOTALS

ITEM 451 7" REINFORCED CONCRETE PAVEMENT, AS PER PLAN	113.64 SQ.YD.
ITEM 404 1 1/4" ASPHALT CONCRETE, AC-20	359.23 CU.YD.
ITEM 402 1 3/4" ASPHALT CONCRETE, AC-20	502.63 CU.YD.
ITEM 304 6" AGGREGATE BASE	1,975.41 CU.YD.
ITEM 408 BITUMINOUS PRIME COAT @ 0.40GAL./SQ.YD.	4,537.32 GAL.
ITEM 203 SUBGRADE COMPACTION	10,819.34 SQ.YD.
ITEM 451 7" REINFORCED CONCRETE PAVEMENT	363.28 SQ.YD.
ITEM 203 PROOF ROLLING	4 HR.

(SUB TOTALS CARRIED TO SHEETS 351 & 352)

BIKEWAY CALCULATIONS

PAVEMENT CALCULATIONS

NORTH CONNECTOR

STA. 0+10.00 TO STA. 0+34.96 = 24.96 LIN. FT.

ITEM 404(1 1/4") = .1042'(24.96')(10') ÷ 27 = 0.96 CU.YD.
 ITEM 402(1 3/4") = .1458'(24.96')(10') ÷ 27 = 1.35 CU.YD.
 ITEM 304(6") = .50'(24.96')(11') ÷ 27 = 5.08 CU.YD.
 ITEM 408 = .40(24.96')(11') ÷ 9 = 12.20 GAL.
 ITEM 203 = 24.96'(10') ÷ 9 = 27.73 SQ.YD.

EXTRA FOR RADIUS RETURNS AREA = 269.78 SQ. FT.

ITEM 404(1 1/4") = .1042'(269.78 SQ. FT.) ÷ 27 = 1.04 CU.YD.
 ITEM 402(1 3/4") = .1458'(269.78 SQ. FT.) ÷ 27 = 1.46 CU.YD.
 ITEM 304(6") = .50'(258.36 SQ. FT.) ÷ 27 = 4.78 CU.YD.
 ITEM 408 = .40(258.36 SQ. FT.) ÷ 9 = 11.48 GAL.
 ITEM 203 = 269.78 SQ. FT. ÷ 9 = 29.98 SQ.YD.

STA. 0+34.96 TO STA. 1+25.50 = 90.54 LIN. FT.

ITEM 404(1 1/4") = .1042'(90.54')(10') ÷ 27 = 3.49 CU.YD.
 ITEM 402(1 3/4") = .1458'(90.54')(10') ÷ 27 = 4.89 CU.YD.
 ITEM 304(6") = .50'(90.54')(11') ÷ 27 = 18.44 CU.YD.
 ITEM 408 = .40(90.54')(11') ÷ 9 = 44.26 GAL.
 ITEM 203 = 90.54'(10') ÷ 9 = 100.60 SQ.YD.

BRIDGE LIMITS STA. 1+25.50 TO STA. 2+90.00

STA. 2+90.00 TO STA. 9+25 = 635.00 LIN. FT.

ITEM 404(1 1/4") = .1042'(635.00')(10') ÷ 27 = 24.51 CU.YD.
 ITEM 402(1 3/4") = .1458'(635.00')(10') ÷ 27 = 34.29 CU.YD.
 ITEM 304(6") = .50'(635.00')(11') ÷ 27 = 129.35 CU.YD.
 ITEM 408 = .40(635.00')(11') ÷ 9 = 310.44 GAL.
 ITEM 203 = 635.00'(10') ÷ 9 = 705.56 SQ.YD.

21ST. ST. WEST CONNECTOR

STA. 0+74.12 TO STA. 3+73.15 = 299.03 LIN. FT.

ITEM 404(1 1/4") = .1042'(299.03')(10') ÷ 27 = 11.54 CU.YD.
 ITEM 402(1 3/4") = .1458'(299.03')(10') ÷ 27 = 16.15 CU.YD.
 ITEM 304(6") = .50'(299.03')(11') ÷ 27 = 60.91 CU.YD.
 ITEM 408 = .40(299.03')(11') ÷ 9 = 146.19 GAL.
 ITEM 203 = 299.03'(10') ÷ 9 = 332.26 SQ.YD.

STA. 0+23.34 TO STA. 0+74.12 = 50.78 LIN. FT.

ITEM 404(1 1/4") = .1042'(50.78')(10') ÷ 27 = 1.96 CU.YD.
 ITEM 402(1 3/4") = .1458'(50.78')(10') ÷ 27 = 2.74 CU.YD.
 ITEM 304(6") = .50'(50.78')(11') ÷ 27 = 10.34 CU.YD.
 ITEM 408 = .40(50.78')(11') ÷ 9 = 24.83 GAL.
 ITEM 203 = 50.78'(10') ÷ 9 = 56.42 SQ.YD.

EXTRA FOR RADIUS RETURN AREA = 351.41 SQ. FT.

ITEM 404(1 1/4") = .1042'(351.41) ÷ 27 = 1.36 CU.YD.
 ITEM 402(1 3/4") = .1458'(351.41) ÷ 27 = 1.90 CU.YD.
 ITEM 304(6") = .50'(340.62) ÷ 27 = 6.31 CU.YD.
 ITEM 408 = .40(340.62) ÷ 9 = 15.14 GAL.
 ITEM 203 = 351.41 ÷ 9 = 39.05 SQ.YD.

EXTRA FOR RADIUS RETURN AREA = 117.81 SQ. FT.

ITEM 404(1 1/4") = .1042'(117.81) ÷ 27 = 0.45 CU.YD.
 ITEM 402(1 3/4") = .1458'(117.81) ÷ 27 = 0.64 CU.YD.
 ITEM 304(6") = .50'(118.80) ÷ 27 = 2.07 CU.YD.
 ITEM 408 = .40(111.80) ÷ 9 = 4.97 GAL.
 ITEM 203 = 117.81 ÷ 9 = 13.09 SQ.YD.

HIGHLAND ST. CONNECTOR

STA. 0+00 TO STA. 0+10 = 10 LIN. FT.

ITEM 404(1 1/4") = .1042'(10')(3.15' AVG.) ÷ 27 = 0.12 CU.YD.
 ITEM 402(1 3/4") = .1458'(10')(3.15' AVG.) ÷ 27 = 0.17 CU.YD.
 ITEM 304(6") = .50'(10')(3.55' AVG.) ÷ 27 = 0.66 CU.YD.
 ITEM 408 = .40(10')(3.55' AVG.) ÷ 9 = 1.58 GAL.

STA. 0+10 TO STA. 0+15 = 5 LIN. FT.

ITEM 404(1 1/4") = .1042'(5')(6.3') ÷ 27 = 0.12 CU.YD.
 ITEM 402(1 3/4") = .1458'(5')(6.3') ÷ 27 = 0.17 CU.YD.
 ITEM 304(6") = .50'(5')(6.8') ÷ 27 = 0.63 CU.YD.
 ITEM 408 = .40(5')(6.8') ÷ 9 = 1.51 GAL.
 ITEM 203 = 5'(6.3') ÷ 9 = 3.50 SQ.YD.

STA. 0+15 TO STA. 190.27 = 175.27 LIN. FT.

ITEM 404(1 1/4") = .1042'(175.27')(10') ÷ 27 = 6.77 CU.YD.
 ITEM 402(1 3/4") = .1458'(175.27')(10') ÷ 27 = 9.46 CU.YD.
 ITEM 304(6") = .50'(175.27')(11') ÷ 27 = 35.71 CU.YD.
 ITEM 408 = .40(175.27')(11') ÷ 9 = 85.69 GAL.
 ITEM 203 = 175.27'(10') ÷ 9 = 194.74 SQ.YD.

EXTRA FOR RADIUS RETURN

ITEM 404(1 1/4") = 37.58(.1042') ÷ 27 = 0.15 CU.YD.
 ITEM 402(1 3/4") = 37.58(.1458') ÷ 27 = 0.20 CU.YD.
 ITEM 304(6") = 32.33(.50') ÷ 27 = 0.60 CU.YD.
 ITEM 408 = 32.33(.40) ÷ 9 = 1.44 GAL.
 ITEM 203 = 37.58 ÷ 9 = 4.18 SQ.YD.

21ST. ST. EAST CONNECTOR

STA. 0+36.24 TO STA. 1+73.14 = 136.40 LIN. FT.

ITEM 404(1 1/4") = .1042'(136.90')(10') ÷ 27 = 5.28 CU.YD.
 ITEM 402(1 3/4") = .1458'(136.90')(10') ÷ 27 = 7.39 CU.YD.
 ITEM 304(6") = .50'(136.90')(11') ÷ 27 = 27.89 CU.YD.
 ITEM 408 = .40(136.90')(11') ÷ 9 = 66.93 GAL.
 ITEM 203 = 136.90'(10') ÷ 9 = 152.11 SQ.YD.

STA. 1+73.14 TO STA. 2+13.45 = 40.31 LIN. FT.

ITEM 404(1 1/4") = .1042'(40.31')(10') ÷ 27 = 1.56 CU.YD.
 ITEM 402(1 3/4") = .1458'(40.31')(10') ÷ 27 = 2.18 CU.YD.
 ITEM 304(6") = .50'(40.31')(11') ÷ 27 = 8.21 CU.YD.
 ITEM 408 = .40(40.31')(11') ÷ 9 = 19.71 GAL.
 ITEM 203 = 40.31'(10') ÷ 9 = 44.79 SQ.YD.

EXTRA FOR RADIUS RETURNS AREA = 335.26 SQ. FT.

ITEM 404(1 1/4") = .1042'(335.26 SQ. FT.) ÷ 27 = 1.29 CU.YD.
 ITEM 402(1 3/4") = .1458'(335.26 SQ. FT.) ÷ 27 = 1.81 CU.YD.
 ITEM 304(6") = .50'(319.16 SQ. FT.) ÷ 27 = 5.91 CU.YD.
 ITEM 408 = .40(319.16 SQ. FT.) ÷ 9 = 14.18 GAL.
 ITEM 203 = 335.26 SQ. FT. ÷ 9 = 37.25 SQ.YD.

EXTRA FOR RADIUS RETURNS AREA = 48.38 SQ. FT.

ITEM 404(1 1/4") = .1042'(48.38 SQ. FT.) ÷ 27 = 0.19 CU.YD.
 ITEM 402(1 3/4") = .1458'(48.38 SQ. FT.) ÷ 27 = 0.26 CU.YD.
 ITEM 304(6") = .50'(45.35 SQ. FT.) ÷ 27 = 0.84 CU.YD.
 ITEM 408 = .40(45.35 SQ. FT.) ÷ 9 = 2.02 GAL.
 ITEM 203 = 48.38 SQ. FT. ÷ 9 = 5.38 SQ.YD.

ITEM 203 PROOF ROLLING

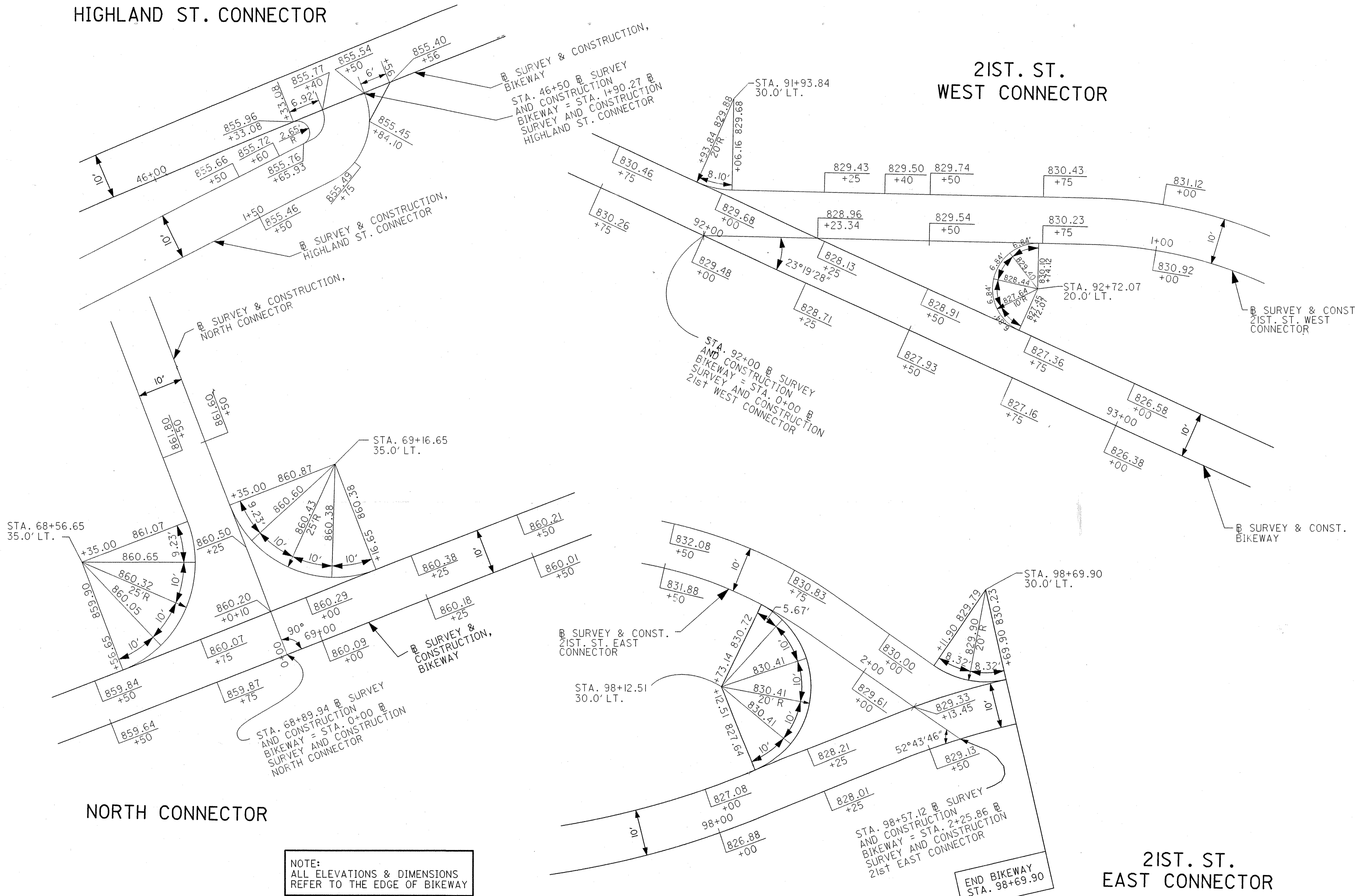
$$\frac{1746.64 \text{ SQ.YD.}}{3000 \frac{\text{SQ.YD.}}{\text{HR.}}} = 0.58 \text{ HRS. (1 HR.)}$$

SUB TOTALS	
ITEM 404 1 1/4" ASPHALT CONCRETE, AC-20	60.79 CU.YD.
ITEM 402 1 3/4" ASPHALT CONCRETE, AC-20	85.06 CU.YD.
ITEM 304 6" AGGREGATE BASE	317.73 CU.YD.
ITEM 408 BITUMINOUS PRIME COAT @ 0.40GAL./SQ.YD.	762.57 GAL.
ITEM 203 SUBGRADE COMPACTION	1,746.64 SQ.YD.
ITEM 203 PROOF ROLLING	1 HR.

(SUB TOTALS CARRIED TO SHEETS 351 & 352)

HIGHLAND ST. CONNECTOR

21ST. ST. WEST CONNECTOR



NOTE:
ALL ELEVATIONS & DIMENSIONS
REFER TO THE EDGE OF BIKEWAY

APPBK.E.DGN 3/13/95

CALCULATED
A.L.L.
3/13/95

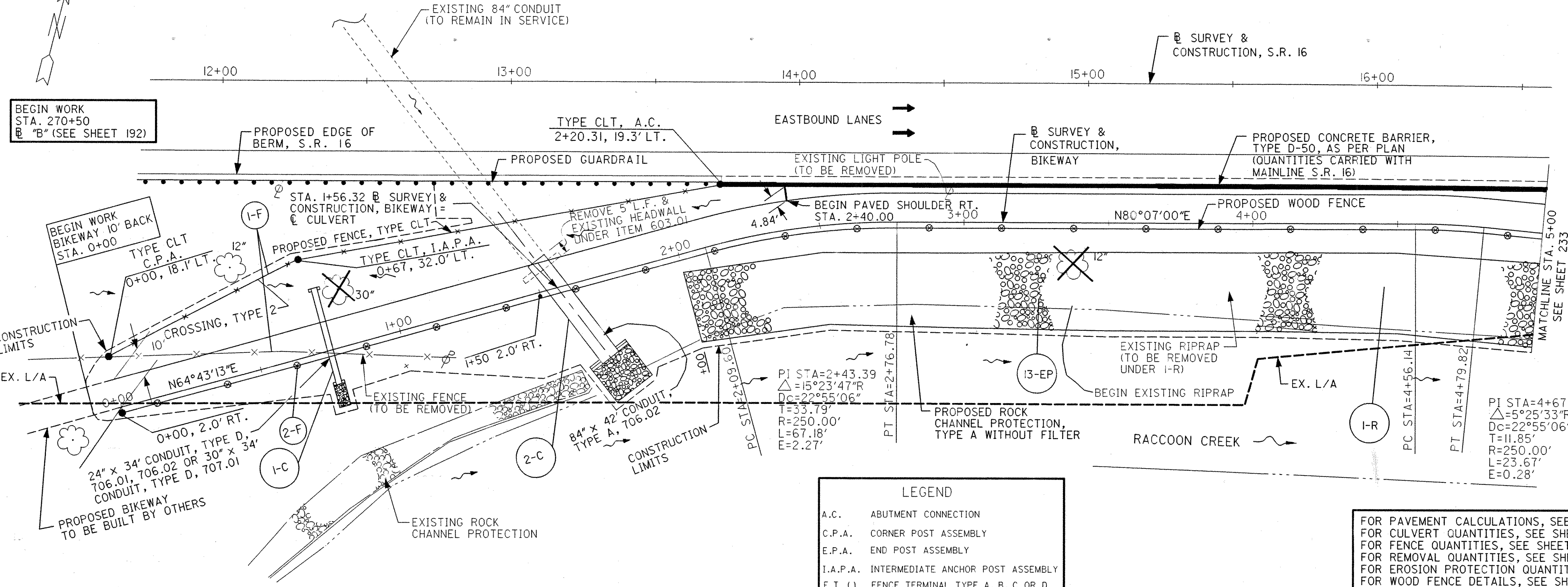
CHECKED
D.M.
3/13/95

APPROACH DETAIL SHEET
21ST ST. EAST, WEST & NORTH CONNECTORS

LIC-16-17.94

231
420

21ST. ST. EAST CONNECTOR



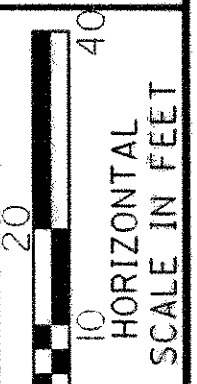
LEGEND	
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
— x — x —	FENCE, TYPE CLT
⊗ ⊗ ⊗	FENCE, MISC: WOOD FENCE

FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR CULVERT QUANTITIES, SEE SHEET 345
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR REMOVAL QUANTITIES, SEE SHEET 347
 FOR EROSION PROTECTION QUANTITIES, SEE SHEET 347
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR S.R. 16 LIGHTING DETAILS SEE SHEET 192-228

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

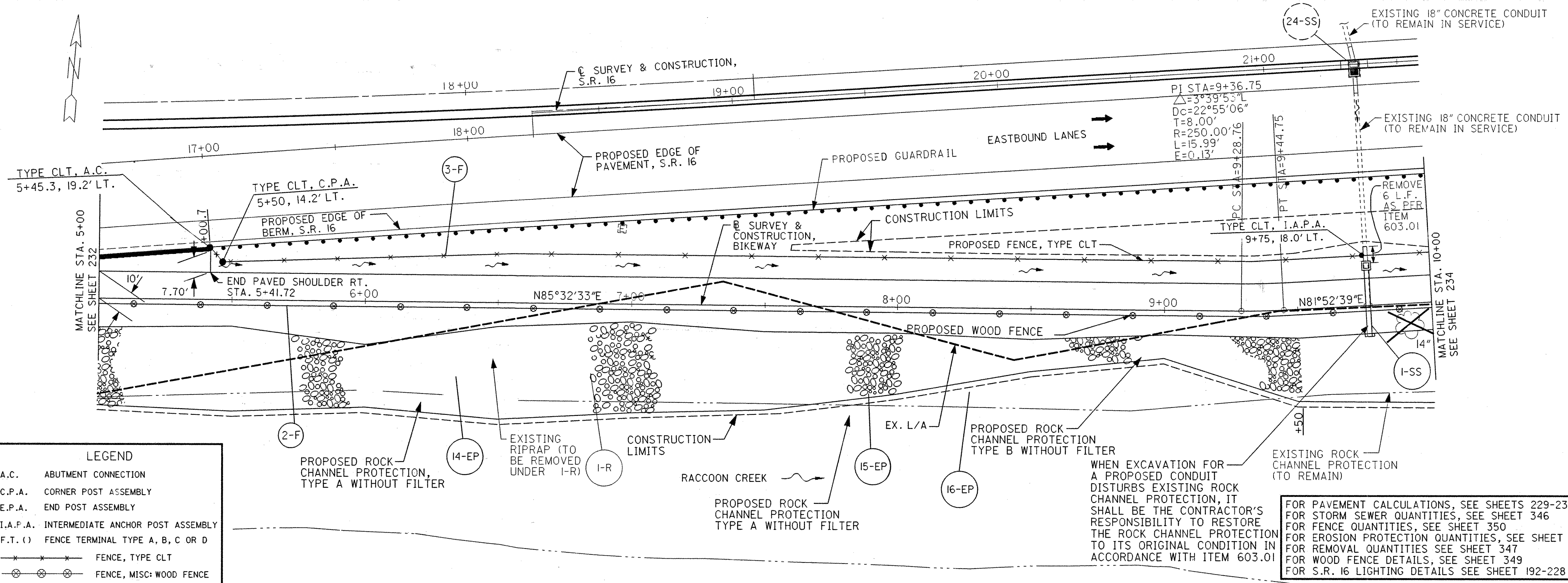
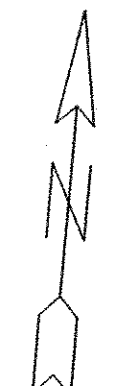
875	859.89	859.97	860.33	861.00	861.97	863.20	864.45	865.70	866.95	868.04	868.83	869.31	869.47	869.49	869.50	869.51	869.52	869.54	869.55	869.56	869.57	875		
870	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	870		
865	VPC STA=0+10.00 VPC EL=859.90		VPI STA=0+60.00 VPI EL=859.95 CURVE LEN=100'		VPT STA=1+10.00 VPT EL=862.45		VPI STA=2+50.00 VPI EL=869.45 CURVE LEN=100'		VPC STA=2+00.00 VPC EL=866.95		VPT STA=3+00.00 VPT EL=869.47		VPI STA=4+67.99 VPI EL=876.14 CURVE LEN=100'		VPC STA=4+79.82 VPC EL=876.14		VPT STA=5+00.00 VPT EL=876.14		VPI STA=5+67.99 VPI EL=883.20 CURVE LEN=100'		865			
860	+0.10%		+5.00%		+0.05%		+5.00%		+0.05%		+5.00%		+0.05%		+5.00%		+0.05%		+5.00%		860			
855	BEGIN WORK BIKEWAY 10' BACK STA. 0+00		BEGIN WORK BIKEWAY 10' BACK STA. 0+00		BEGIN WORK BIKEWAY 10' BACK STA. 0+00		BEGIN WORK BIKEWAY 10' BACK STA. 0+00		BEGIN WORK BIKEWAY 10' BACK STA. 0+00		BEGIN WORK BIKEWAY 10' BACK STA. 0+00		BEGIN WORK BIKEWAY 10' BACK STA. 0+00		BEGIN WORK BIKEWAY 10' BACK STA. 0+00		BEGIN WORK BIKEWAY 10' BACK STA. 0+00		BEGIN WORK BIKEWAY 10' BACK STA. 0+00		855			
850	BEGIN WORK STA. 270+50		BEGIN WORK STA. 270+50		BEGIN WORK STA. 270+50		BEGIN WORK STA. 270+50		BEGIN WORK STA. 270+50		BEGIN WORK STA. 270+50		BEGIN WORK STA. 270+50		BEGIN WORK STA. 270+50		BEGIN WORK STA. 270+50		BEGIN WORK STA. 270+50		850			
845	859.89		859.78		859.66		859.40		858.82		856.46		849.11		854.70		857.57		860.58		864.50		866.05	
840	859.89		859.78		859.66		859.40		858.82		856.46		849.11		854.70		857.57		860.58		864.50		866.05	
	0+00		0+50		1+00		1+50		2+00		2+50		3+00		3+50		4+00		4+50		5+00			

BM #2 1" REBAR
 ELEV. 854.58
 87.04' RT. STA. 18+60.25
 NOTE: BENCHMARKS ARE REFERENCED FROM S.R. 16 CENTERLINE STATIONS



BIKEWAY PLAN AND PROFILE SHEET
 STA. 0+00 TO STA. 5+00

LIC-16-17.94



LEGEND	
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
—x—x—x—	FENCE, TYPE CLT
⊗⊗⊗	FENCE, MISC: WOOD FENCE

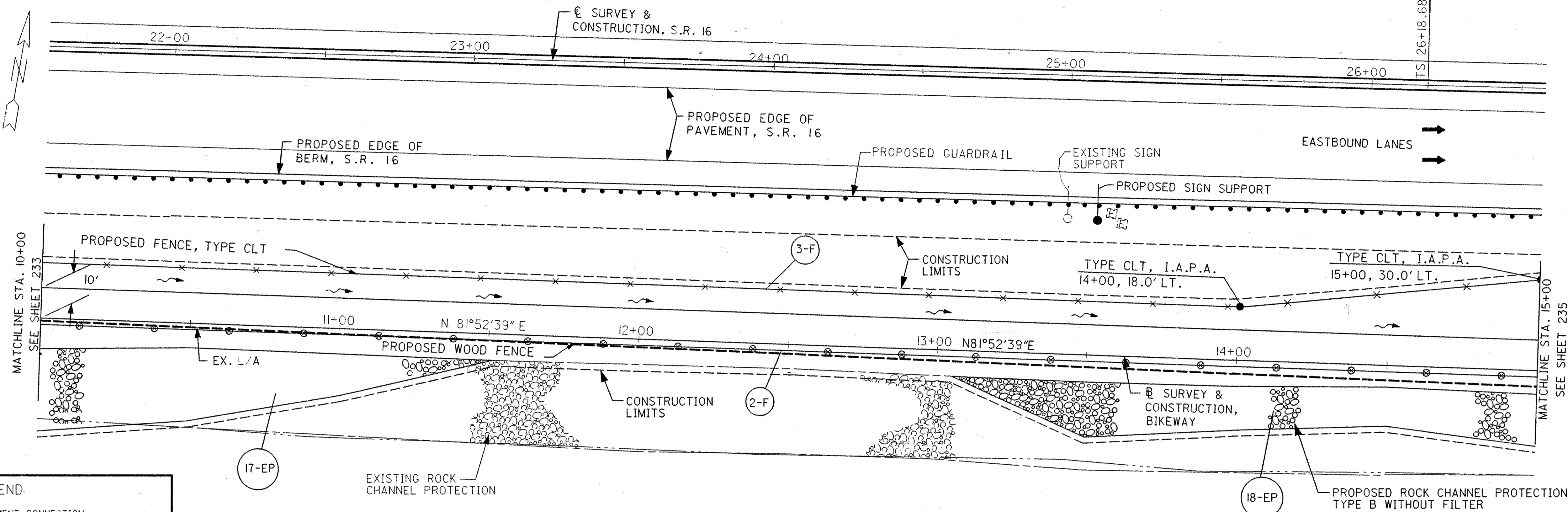
FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR STORM SEWER QUANTITIES, SEE SHEET 346
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR EROSION PROTECTION QUANTITIES, SEE SHEET 347
 FOR REMOVAL QUANTITIES SEE SHEET 347
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR S.R. 16 LIGHTING DETAILS SEE SHEET 192-228

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

875	869.57	869.51	869.26	868.85	868.25	867.56	866.88	866.19	865.50	864.81	864.13	863.44	862.75	862.06	861.38	860.69	860.00	859.38	858.90	858.54	858.33	875
870	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	870
865	VPI STA=5+51.01 VPI EL=869.60 CURVE LEN=100' 100' VERTICAL CURVE SSD=210' +0.05% VPC STA=5+01.01 VPC EL=869.57 VPT STA=6+01.01 VPT EL=868.22 VPC STA=9+00 VPC EL=860.00 VPT STA=10+00 VPT EL=858.33 100' VERTICAL CURVE SSD=210' -0.60% VPI STA=9+50.00 VPI EL=858.63 CURVE LEN=100' F EL 21" 853.57 11.3' RT. STA. 9+76.4± F EL 18" 854.09± F EL 21" & INVERT 853.84 C.B. NO. 2-2-B, AS PER PLAN A 15.7' LT. STA. 9+76.4± F EL. GRATE 857.70																					
860	-2.75% BM #2 1" REBAR ELEV. 854.58 87.04' RT. STA. 18+60.25 NOTE: BENCHMARKS ARE REFERENCED FROM S.R. 16 CENTERLINE STATIONS																					
855	-0.60% F EL 21" 853.57 11.3' RT. STA. 9+76.4± F EL 18" 854.09± F EL 21" & INVERT 853.84 C.B. NO. 2-2-B, AS PER PLAN A 15.7' LT. STA. 9+76.4± F EL. GRATE 857.70																					
850	F EL 21" 853.57 11.3' RT. STA. 9+76.4± F EL 18" 854.09± F EL 21" & INVERT 853.84 C.B. NO. 2-2-B, AS PER PLAN A 15.7' LT. STA. 9+76.4± F EL. GRATE 857.70																					
845																						
840	865.19	864.29	863.50	862.72	861.81	860.83	860.27	859.74	859.21	858.22	857.58	857.34	856.77	856.04	855.50	855.29	854.99	854.69	854.49	854.24	854.30	840
	5+00	5+50	6+00	6+50	7+00	7+50	8+00	8+50	9+00	9+50	10+00											

PLAN AND PROFILE SHEET
 STA. 5+00 TO STA. 10+00
 LIC-16-17.94
 233
 420

RCPO2016.DGN 4/11/95



LEGEND

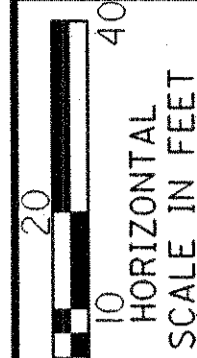
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
-x-x-x-	FENCE, TYPE CLT
⊗-⊗-⊗	FENCE, TYPE WOOD

FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR EROSION PROTECTION QUANTITIES SEE SHEET 347
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR S.R. 16 LIGHTING DETAIL SEE SHEET 192-228

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

870		858.33		858.18		858.03		857.88		857.73		857.58		857.43		857.28		857.13		856.98		856.84		856.71		856.58		856.45		856.33		856.20		856.08		855.95		855.83		855.70		855.58		870	
865		+00		+25		+50		+75		+00		+25		+50		+75		+00		+25		+50		+75		+00		+25		+50		+75		+00		+25		+50		+75		+00		865	
860	VPT STA=10+00 VPI EL=858.33																	VPC STA=12+00 VPI EL=857.13								VPT STA=13+00 VPI EL=856.58																			860
855										-0.60%																																		855	
850																																											850		
845																																											845		
840																																											840		
835		854.30		854.35		854.47		854.61		854.76		854.84		854.93		855.06		855.20		855.31		855.42		855.33		855.22		855.10		855.03		854.62		854.49		854.35		854.22		854.08		853.95		835	
		10+00		10+50		11+00		11+50		12+00		12+50		13+00		13+50		14+00		14+50		15+00																							

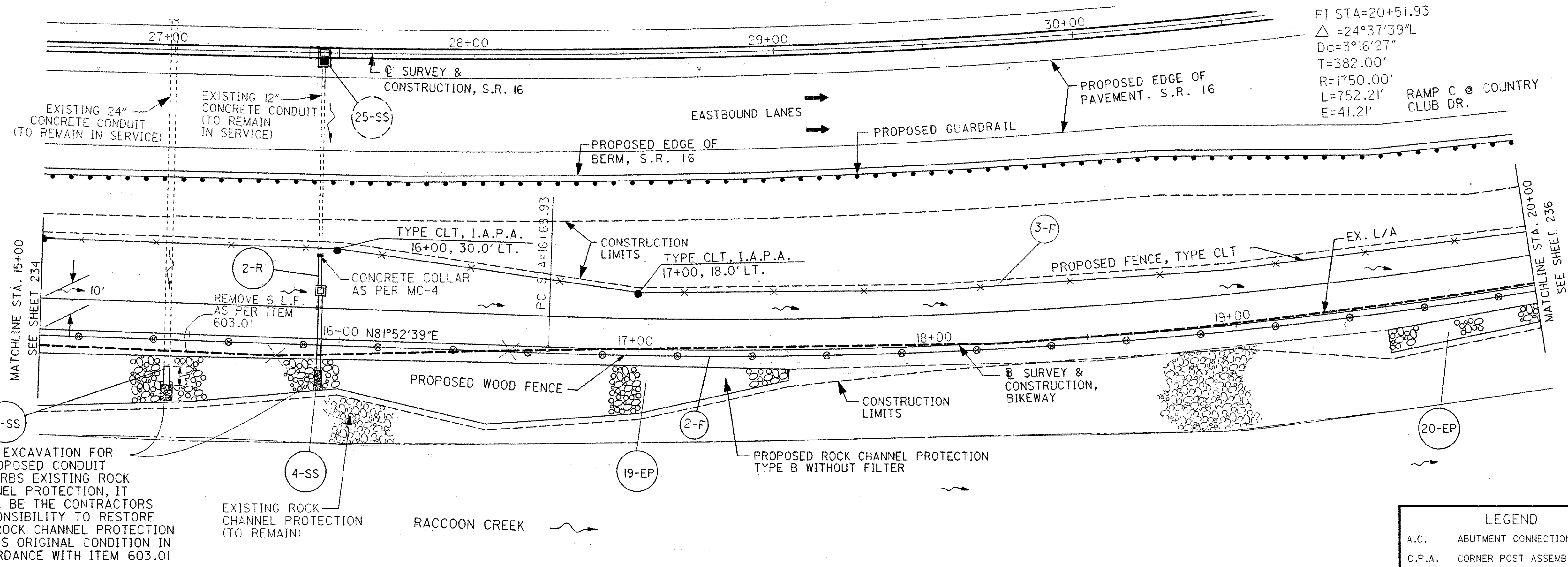
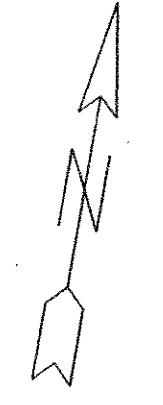
BM #3 1" REBAR
 ELEV. 852.91
 96.56' RT. STA. 27+82.15
 NOTE: BENCHMARKS ARE REFERENCED FROM S.R. 16 CENTERLINE STATIONS



CALCULATED
 ALL
 3/15/95
 CHECKED
 D.M.
 3/16/95

BIKEWAY PLAN AND PROFILE SHEET
STA. 10+00 TO STA. 15+00

LIC-16-17.94



PI STA=20+51.93
 $\Delta = 24^{\circ}37'39''$
 $Dc = 3^{\circ}16'27''$
 $T = 382.00'$
 $R = 1750.00'$
 $L = 752.21'$
 $E = 41.21'$
 RAMP C @ COUNTRY CLUB DR.

WHEN EXCAVATION FOR A PROPOSED CONDUIT DISTURBS EXISTING ROCK CHANNEL PROTECTION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO RESTORE THE ROCK CHANNEL PROTECTION TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH ITEM 603.01

LEGEND	
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
X X X	FENCE, TYPE CLT
⊗ ⊗ ⊗	FENCE, MISC: WOOD FENCE

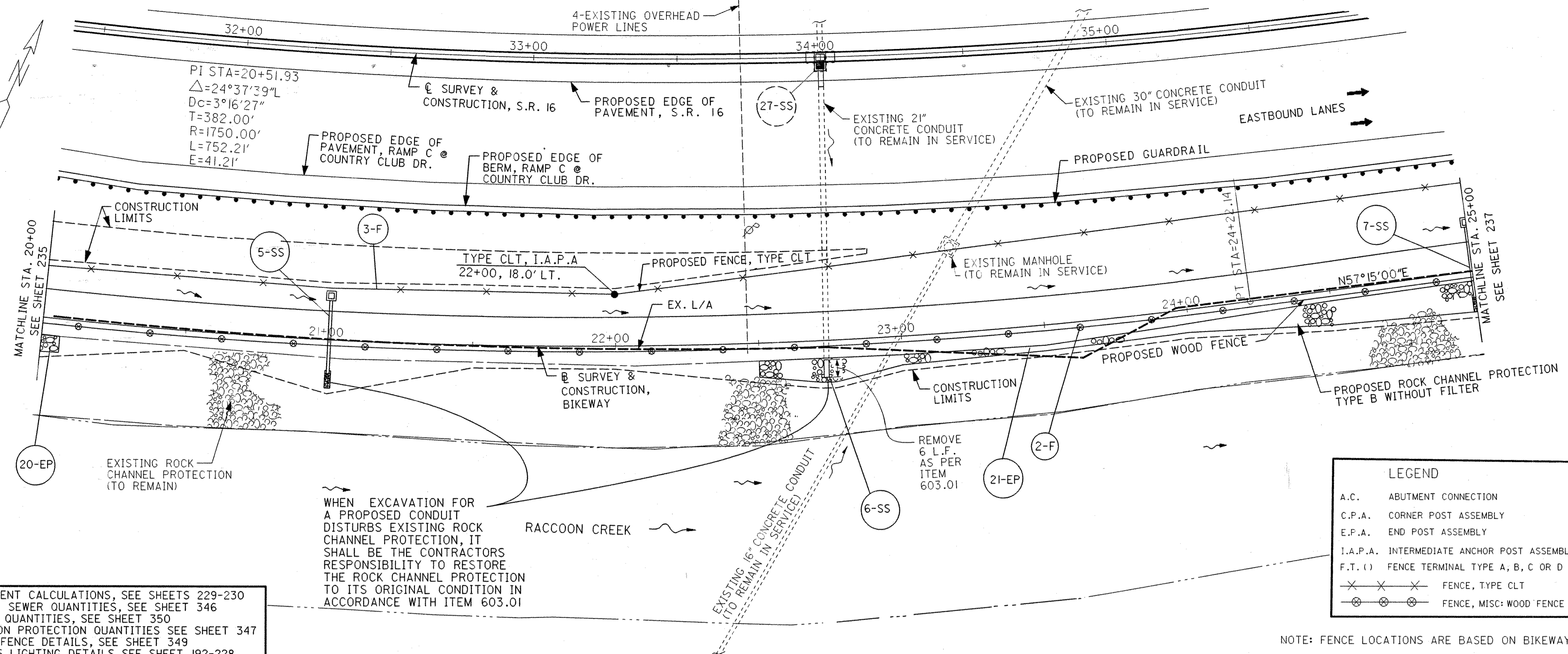
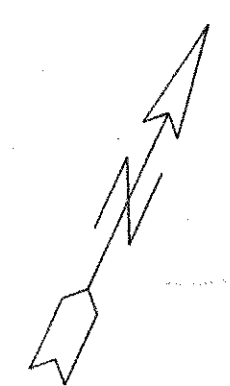
FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR STORM SEWER QUANTITIES, SEE SHEET 346
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR REMOVAL QUANTITIES, SEE SHEET 347
 FOR EROSION PROTECTION QUANTITIES SEE SHEET 347
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR S.R. 16 LIGHTING DETAILS SEE SHEET 192-228

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

865	855.58	855.45	855.33	855.20	855.08	854.95	854.83	854.70	854.58	854.45	854.33	854.20	854.08	853.95	853.83	853.70	853.58	853.45	853.33	853.22	853.13	865				
860	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	VPC STA=19+50 VPC EL=853.33	+75	+00	860				
855	EXISTING 12" CONCRETE CONDUIT				-0.50%																	855				
850																		BM #3 1" REBAR ELEV. 852.91 96.56' RT. STA. 27+82.15				100' VERTICAL CURVE		850		
845	EXISTING 24" CONCRETE CONDUIT				12" X 25° BEND EL. 854.84± (TO BE CONNECTED TO EXISTING 12")																	NOTE: BENCHMARKS ARE REFERENCED FROM S.R. 16 CENTERLINE STATIONS		VPI STA=20+00 VPI EL=853.08 CURVE LEN=100'		845
840	EL. 24" 848.23 16.7' RT. STA. 15+42.8				C.B. NO. 2+2-B, AS PER PLAN A 15.67' LT. STA. 15+93.3 EL. GRATE 854.44 EL. 12" 851.36 EL. 15" 851.11±																					840
835					EL. 15" 850.59 11.33' RT. STA. 15+93.3																					835
830	853.95	853.81	853.55	853.30	853.11	853.11	852.91	852.70	852.50	852.60	852.69	852.81	852.95	853.04	852.90	852.76	852.68	852.60	852.54	852.49	852.41	830				
	15+00	15+50	16+00	16+50	17+00	17+50	18+00	18+50	19+00	19+50	20+00															

RCP04016.DGN 4/11/95

BIKEWAY PLAN AND PROFILE SHEET
 STA. 15+00 TO STA. 20+00
 LIC-16-17.94
 235
 420



$PI\ STA=20+51.93$
 $\Delta=24^{\circ}37'39''L$
 $Dc=3^{\circ}16'27''$
 $T=382.00'$
 $R=1750.00'$
 $L=752.21'$
 $E=41.21'$

LEGEND	
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
	FENCE, TYPE CLT
	FENCE, MISC: WOOD FENCE

FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR STORM SEWER QUANTITIES, SEE SHEET 346
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR EROSION PROTECTION QUANTITIES SEE SHEET 347
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR S.R. 16 LIGHTING DETAILS SEE SHEET 192-228

WHEN EXCAVATION FOR A PROPOSED CONDUIT DISTURBS EXISTING ROCK CHANNEL PROTECTION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO RESTORE THE ROCK CHANNEL PROTECTION TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH ITEM 603.01

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

865	853.13	853.08	853.05	853.04	853.03	853.01	853.00	852.99	852.98	852.96	852.95	852.94	852.93	852.91	852.90	852.89	852.88	852.86	852.85	852.84	852.83	865
860	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	860
855	100' VERTICAL CURVE		VPI STA=20+50 VPT EL=853.05																			855
850	VPI STA=20+00 VPI EL=853.08 CURVE LEN=100'																					850
845			C.B. NO. 2-2-B, AS PER PLAN A 15.3' LT. STA. 21+00 F EL. GRATE 852.30 F EL. 12" & INVERT 849.80																			845
840																						840
835																						835
830	852.41	852.35	852.31	852.22	852.20	852.14	852.06	852.10	852.05	851.93	851.83	851.86	851.91	851.97	852.04	852.09	852.23	852.34	852.44	852.45	852.46	830
	20+00	20+50	21+00	21+50	22+00	22+50	23+00	23+50	24+00	24+50	25+00											

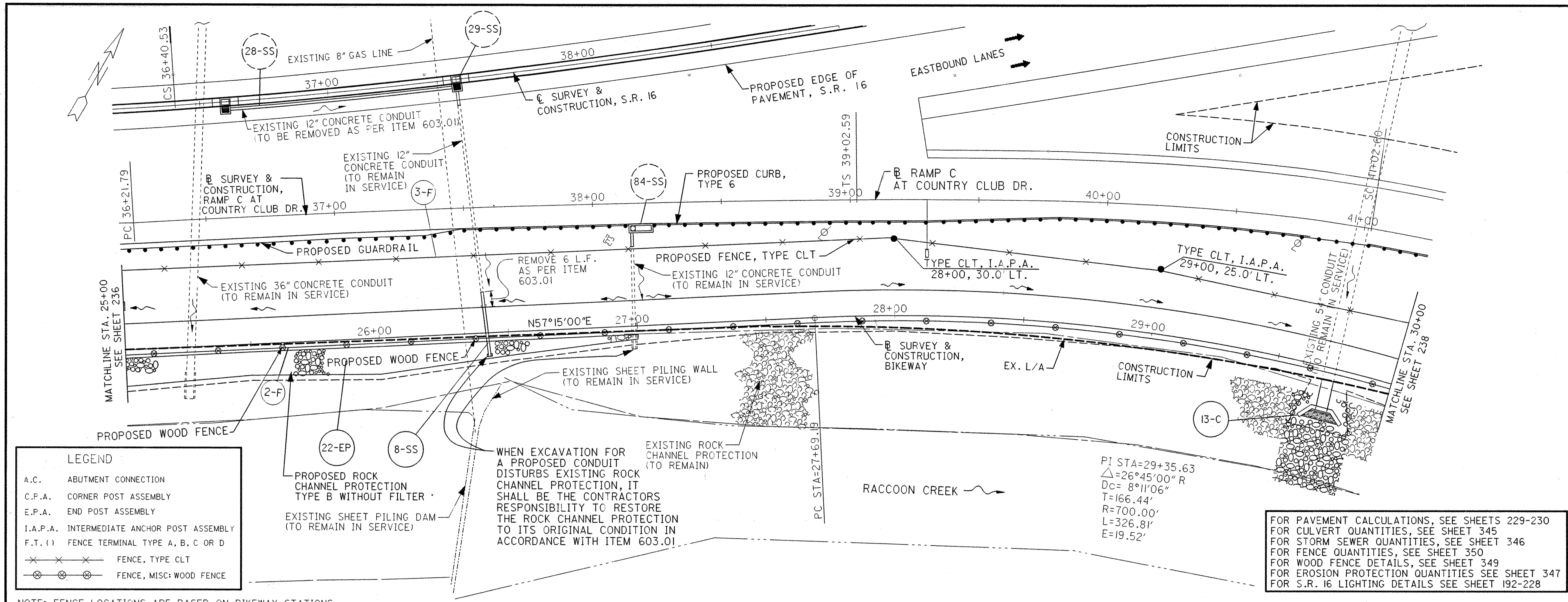
BM #4 1" REBAR
 ELEV. 851.74
 101.06' RT. STA. 37+80.37
 NOTE: BENCHMARKS ARE REFERENCED FROM S.R. 16 CENTERLINE STATIONS

RCP05016.DGN 4/11/95



BIKEWAY PLAN AND PROFILE SHEET
 STA. 20+00 TO STA. 25+00

LIC-16-17.94

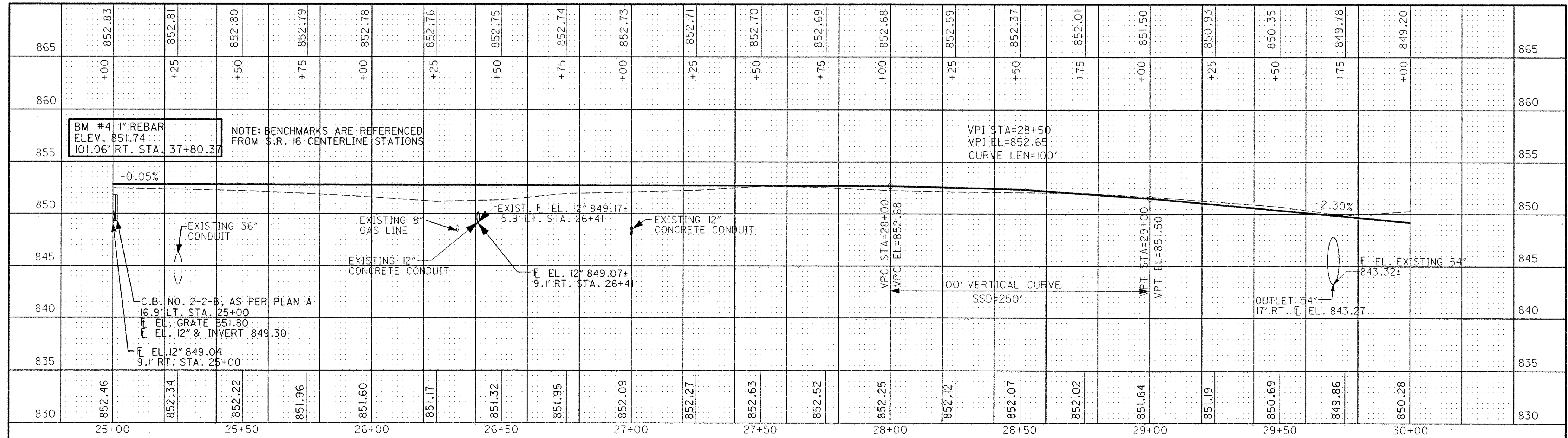


LEGEND

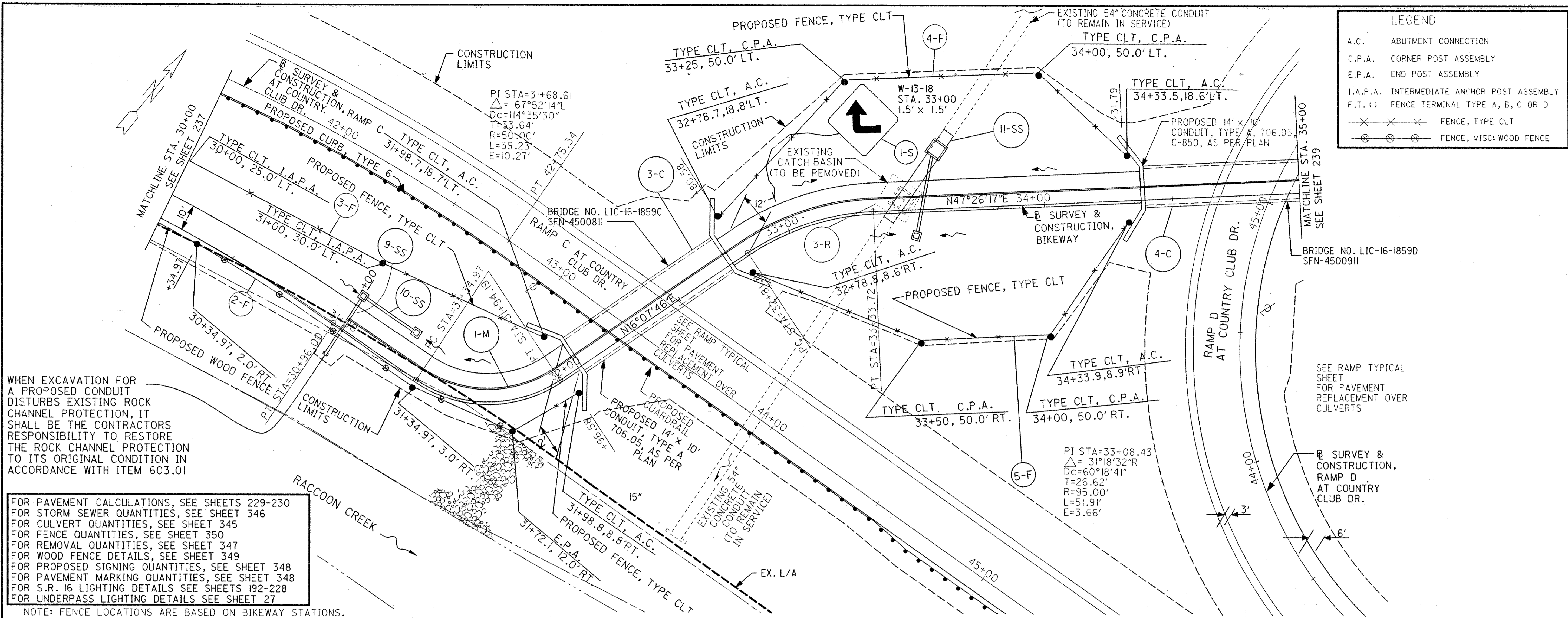
A.C. ABUTMENT CONNECTION
 C.P.A. CORNER POST ASSEMBLY
 E.P.A. END POST ASSEMBLY
 I.A.P.A. INTERMEDIATE ANCHOR POST ASSEMBLY
 F.T. () FENCE TERMINAL TYPE A, B, C OR D
 X X X FENCE, TYPE CLT
 ⊗ ⊗ ⊗ FENCE, MISC: WOOD FENCE

FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR CULVERT QUANTITIES, SEE SHEET 345
 FOR STORM SEWER QUANTITIES, SEE SHEET 346
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR EROSION PROTECTION QUANTITIES SEE SHEET 347
 FOR S.R. 16 LIGHTING DETAILS SEE SHEET 192-228

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.



RCPO6016.DGN 4/11/95



WHEN EXCAVATION FOR A PROPOSED CONDUIT DISTURBS EXISTING ROCK CHANNEL PROTECTION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO RESTORE THE ROCK CHANNEL PROTECTION TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH ITEM 603.01

- FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
- FOR STORM SEWER QUANTITIES, SEE SHEET 346
- FOR CULVERT QUANTITIES, SEE SHEET 345
- FOR FENCE QUANTITIES, SEE SHEET 350
- FOR REMOVAL QUANTITIES, SEE SHEET 347
- FOR WOOD FENCE DETAILS, SEE SHEET 349
- FOR PROPOSED SIGNING QUANTITIES, SEE SHEET 348
- FOR PAVEMENT MARKING QUANTITIES, SEE SHEET 348
- FOR S.R. 16 LIGHTING DETAILS SEE SHEETS 192-228
- FOR UNDERPASS LIGHTING DETAILS SEE SHEET 27

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

865	849.20	848.63	848.05	847.60	847.41	847.46	847.78	848.21	848.65	849.09	849.53	849.96	850.40	850.84	851.28	851.72	852.15	852.59	853.03	853.47	853.90	865
860	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	860
855	BM #4 1" REBAR ELEV. 851.74 101.06' RT. STA. 37+80.37		VPI STA=30+50 VPI EL=848.05		VPI STA=31+00 VPI EL=846.90		VPT STA=31+50 VPT EL=847.78		NOTE: BOX CULVERT JOINTS SHALL MEET THE APPROVAL OF THE PROJECT ENGINEER TO ASSURE A SMOOTH PROFILE GRADE.		NOTE: BOX CULVERT JOINTS SHALL MEET THE APPROVAL OF THE PROJECT ENGINEER TO ASSURE A SMOOTH PROFILE GRADE.		NOTE: BOX CULVERT JOINTS SHALL MEET THE APPROVAL OF THE PROJECT ENGINEER TO ASSURE A SMOOTH PROFILE GRADE.		NOTE: BOX CULVERT JOINTS SHALL MEET THE APPROVAL OF THE PROJECT ENGINEER TO ASSURE A SMOOTH PROFILE GRADE.		NOTE: BOX CULVERT JOINTS SHALL MEET THE APPROVAL OF THE PROJECT ENGINEER TO ASSURE A SMOOTH PROFILE GRADE.		NOTE: BOX CULVERT JOINTS SHALL MEET THE APPROVAL OF THE PROJECT ENGINEER TO ASSURE A SMOOTH PROFILE GRADE.		855	
850	NOTE: BENCHMARKS ARE REFERENCED FROM S.R. 16 CENTERLINE STATIONS		VPC STA=30+50 VPC EL=848.05		CURVE LEN=100'		100' VERTICAL CURVE														850	
845	-2.30%																				845	
840	C.B. NO. 2-2-B, AS PER PLAN A 15.0' LT. STA. 31+00 E. EL. GRATE 846.80 E. EL. 12" & INVERT 843.94		C.B. NO. 2-2-B, AS PER PLAN A 15.0' LT. STA. 31+25 E. EL. GRATE 846.69 E. EL. 12" & INVERT 844.19		PROPOSED 14' X 10' CONDUIT, TYPE A 706.05, AS PER PLAN		EXISTING 54" CONCRETE CONDUIT		C.B. NO. 2-2-B, AS PER PLAN A 10.0' RT. STA. 33+50 E. EL. GRATE 849.00 E. EL. 12" & INVERT 846.50		12" X 33' CONDUIT, TYPE B @ 1.00%		54" X 6' CONDUIT, TYPE B, 706.02, (DLOAD=2000)		EXISTING 54" CONCRETE CONDUIT		PROPOSED 14' X 10' CONDUIT, TYPE A 706.05, C-850, AS PER PLAN				840	
835			C.B. NO. 2-5, AS PER PLAN 22.9' LT. STA. 33+60.15 E. EL. GRATE 849.00 E. EL. 12" & INVERT 840.50±		12" X 25' CONDUIT, TYPE C @ 1.00%		54" X 30' CONDUIT, TYPE B, 706.02, (DLOAD=2000)														835	
830	850.28	849.73	849.68	849.62	849.45	849.45	849.72	851.33	857.44	862.51	862.94	860.31	857.02	854.47	853.20	856.12	859.17	862.39	865.59	867.08	865.40	830
	30+00	30+50	31+00	31+50	32+00	32+50	33+00	33+50	34+00	34+50	35+00											

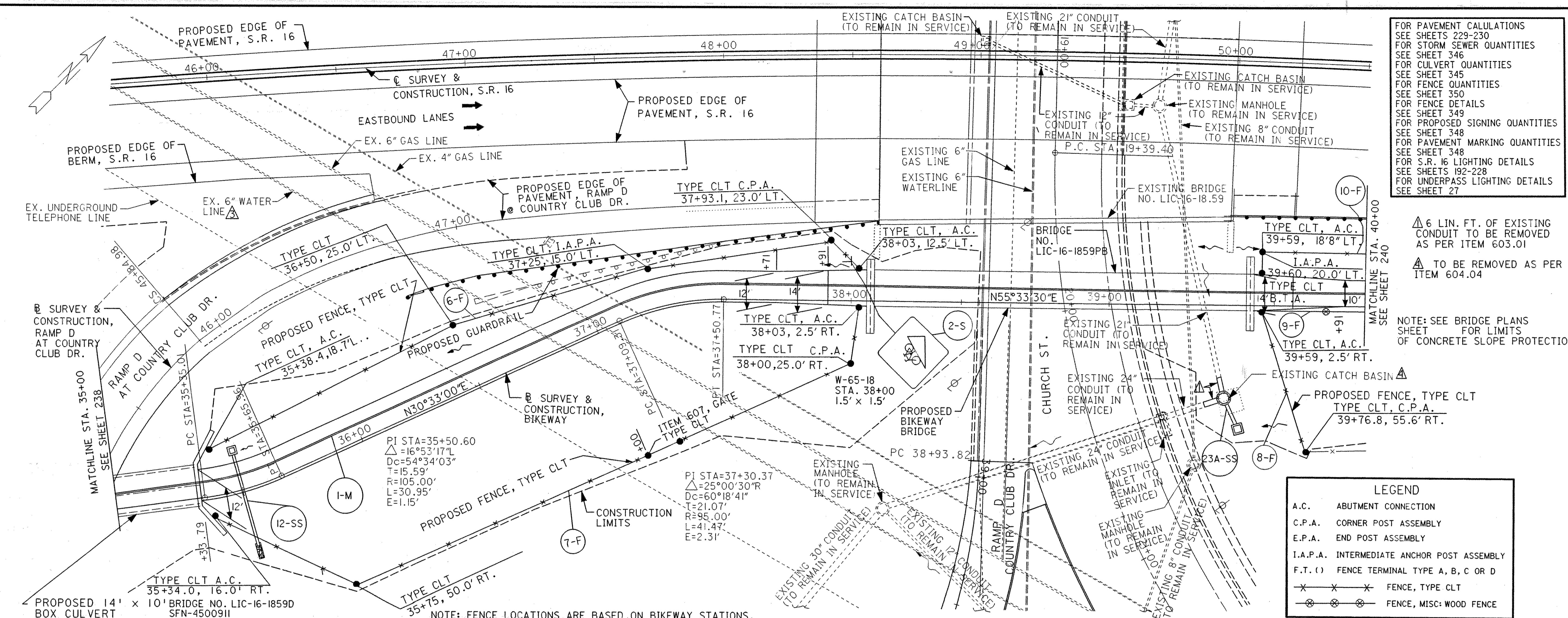


LEGEND	
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
---	FENCE, TYPE CLT
---	FENCE, MISC. WOOD FENCE

RCP07016.DGN 3/13/95

BIKEWAY PLAN AND PROFILE SHEET
STA. 30+00 TO STA. 35+00

LIC-16-17.94



FOR PAVEMENT CALCULATIONS
SEE SHEETS 229-230
FOR STORM SEWER QUANTITIES
SEE SHEET 346
FOR CULVERT QUANTITIES
SEE SHEET 345
FOR FENCE QUANTITIES
SEE SHEET 350
FOR FENCE DETAILS
SEE SHEET 349
FOR PROPOSED SIGNING QUANTITIES
SEE SHEET 348
FOR PAVEMENT MARKING QUANTITIES
SEE SHEET 348
FOR S.R. 16 LIGHTING DETAILS
SEE SHEETS 192-228
FOR UNDERPASS LIGHTING DETAILS
SEE SHEET 27

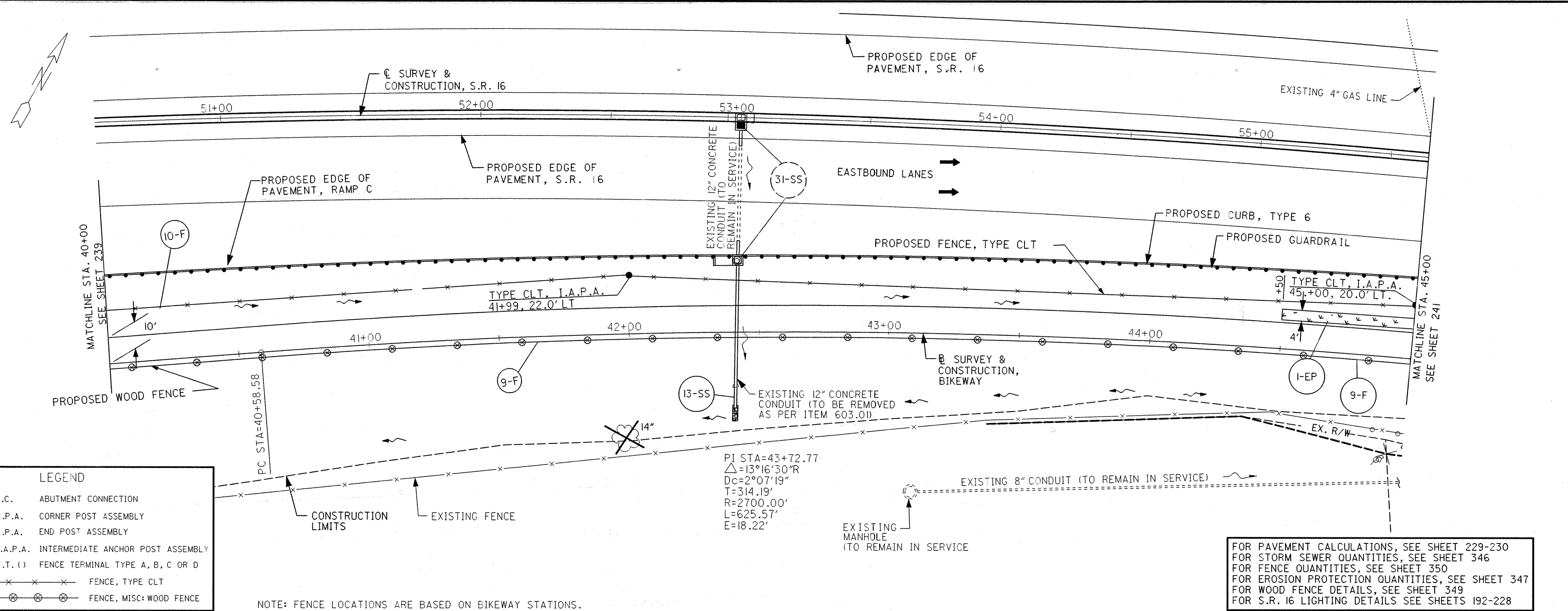
△ 6 LIN. FT. OF EXISTING CONDUIT TO BE REMOVED AS PER ITEM 603.01
▲ TO BE REMOVED AS PER ITEM 604.04

NOTE: SEE BRIDGE PLANS SHEET FOR LIMITS OF CONCRETE SLOPE PROTECTION

LEGEND	
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
—x—x—x—	FENCE, TYPE CLT
—o—o—o—	FENCE, MISC: WOOD FENCE

875	853.90	854.34	855.10	856.48	858.18	859.88	861.58	863.28	864.98	866.68	868.34	869.71	870.75	871.46	871.84	871.93	871.98	871.95	871.76	871.41	870.90	875	
870	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	870	
865	NOTE: BENCHMARKS ARE REFERENCED FROM S.R.16 CENTERLINE STATIONS.																						865
860	VPI STA=35+50 VPI EL=854.78 CURVE LEN=50' VPC STA=35+25 VPC EL=854.34 VPT STA=35+75 VPT EL=856.48 VPC STA=37+50 VPC EL=867.53 VPT STA=38+00 VPT EL=871.78 CURVE LEN=125' VPI STA=39+50 VPI EL=872.08 CURVE LEN=100' VPC STA=39+25 VPC EL=871.91 VPT STA=39+50 VPT EL=871.98 VPC STA=40+00 VPC EL=870.90 VPT STA=40+00 VPT EL=870.90																						860
855	50' VERTICAL CURVE +1.75% +6.80% 125' VERTICAL CURVE SSD=130' 00' VERTICAL CURVE SSD=225' MIN. CLEARANCE BRIDGE LIMIT STA. 38+06 BRIDGE STA. 38+06 BRIDGE LIMIT STA. 39+06 BRIDGE STA. 39+06 BRIDGE LIMIT STA. 40+00 BRIDGE STA. 40+00																						855
850	PROPOSED 14' X 10' CONDUIT TYPE A, 706.05, C-850, AS PER PLAN EL. 12" 851.61 22.4' RT. STA. 35+50 C.B. NO. 2-2-B, AS PER PLAN A 15.6' LT. STA. 35+50 EL. GRATE 854.49 EL. 12" & INVERT 851.99 M.H. #1, AS PER PLAN 52' LT. STA. 20+50, COUNTRY CLUB DR. COVER EL. 854.75 EL. 15" 846.54 EL. 21" 846.04 EL. 24" & INVERT 845.79 C.B. NO. 5, AS PER PLAN, USING GRATE B 47.2' RT. STA. 39+50 EL. GRATE 850.30 EL. 15" & INVERT 846.64 15' X 13' CONDUIT TYPE C @ 1.00%																						850
845	865.40	862.04	857.20	854.79	854.04	854.40	856.09	857.79	860.47	863.37	865.44	865.34	864.09	858.90	853.09	856.31	852.42	853.61	862.50	863.37	862.92	845	
840	865.40	862.04	857.20	854.79	854.04	854.40	856.09	857.79	860.47	863.37	865.44	865.34	864.09	858.90	853.09	856.31	852.42	853.61	862.50	863.37	862.92	840	
	35+00	35+50	36+00	36+50	37+00	37+50	38+00	38+50	39+00	39+50	40+00												

RCP09016.DGN 3/13/95



LEGEND

- A.C. ABUTMENT CONNECTION
- C.P.A. CORNER POST ASSEMBLY
- E.P.A. END POST ASSEMBLY
- I.A.P.A. INTERMEDIATE ANCHOR POST ASSEMBLY
- F.T. () FENCE TERMINAL TYPE A, B, C OR D
- x—x—x— FENCE, TYPE CLT
- ⊗⊗⊗ FENCE, MISC: WOOD FENCE

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

FOR PAVEMENT CALCULATIONS, SEE SHEET 229-230
 FOR STORM SEWER QUANTITIES, SEE SHEET 346
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR EROSION PROTECTION QUANTITIES, SEE SHEET 347
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR S.R. 16 LIGHTING DETAILS SEE SHEETS 192-228

870	870.90	870.31	869.72	869.13	868.54	867.95	867.36	866.77	866.18	865.59	865.00	864.41	863.82	863.23	862.64	862.05	861.46	860.87	860.28	859.69	859.10	870
	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	
865																						865
860																						860
855	VPT STA=40+00 VPT EL=870.90																					855
850																						850
845																						845
840																						840
835	862.92	862.52	862.23	862.14	861.99	861.72	861.36	861.06	860.75	860.19	859.60	859.13	858.66	858.39	858.03	857.59	857.07	856.45	855.91	855.29	854.50	835
	40+00	40+50	41+00	41+50	42+00	42+50	43+00	43+50	44+00	44+50	45+00											

BM #5 1" REBAR
 ELEV. 852.82
 146.43' RT. STA. 50+34.25

NOTE: BENCHMARKS ARE REFERENCED FROM S.R. 16 CENTERLINE STATIONS

I-2A-10, AS PER PLAN
 52.2' RT. STA. 52+95.50, S.R. 16
 F. EL. WINDOW 866.87
 L. EL. 12" & INVERT 862.74

F. EL. 12" 851.50±
 29.0' RT. STA. 42+40.75

BIKEWAY PLAN AND PROFILE SHEET

STA. 40+00 TO STA. 45+00

LIC-16-17.94

CALCULATED: A.L.L. 3/13/95

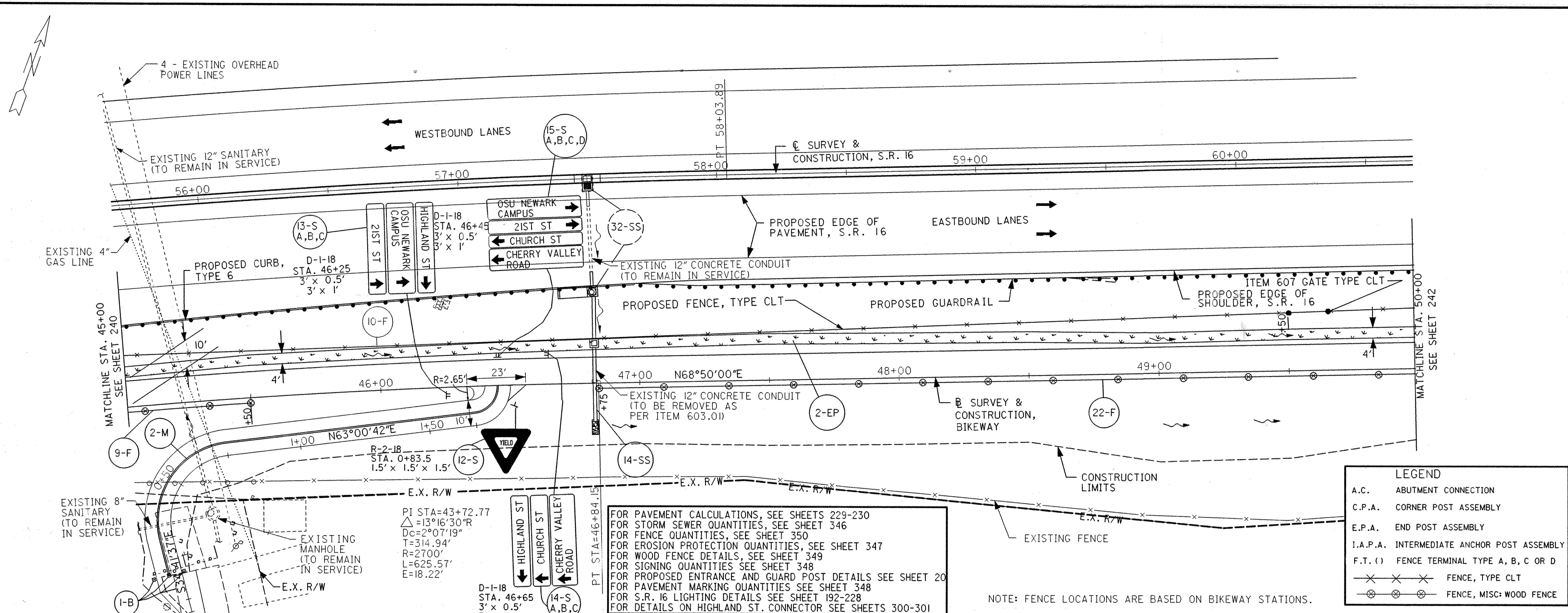
CHECKED: D.M. 3/16/95

0 10 20 30 40

HORIZONTAL SCALE IN FEET

240

420

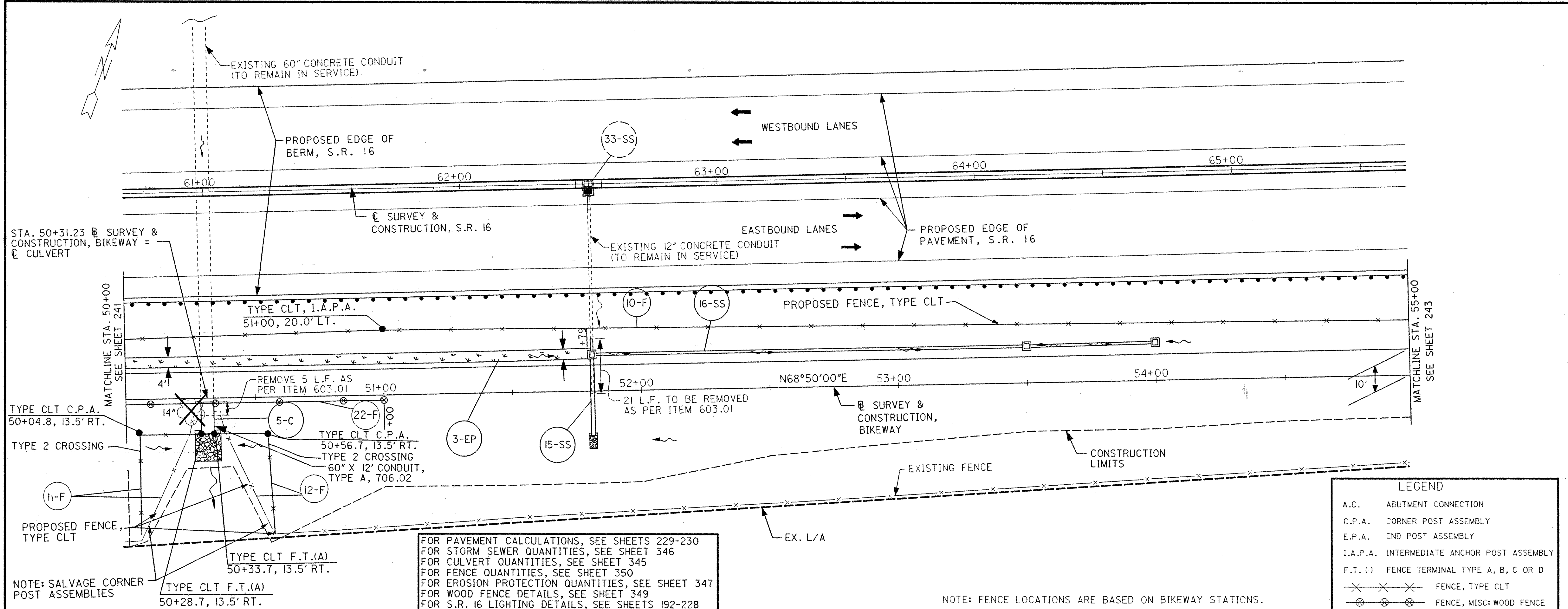
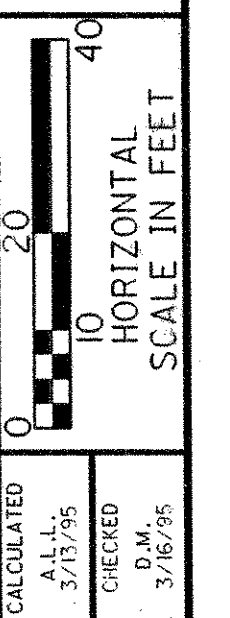


FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR STORM SEWER QUANTITIES, SEE SHEET 346
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR EROSION PROTECTION QUANTITIES, SEE SHEET 347
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR SIGNING QUANTITIES SEE SHEET 348
 FOR PROPOSED ENTRANCE AND GUARD POST DETAILS SEE SHEET 20
 FOR PAVEMENT MARKING QUANTITIES SEE SHEET 348
 FOR S.R. 16 LIGHTING DETAILS SEE SHEET 192-228
 FOR DETAILS ON HIGHLAND ST. CONNECTOR SEE SHEETS 300-301

LEGEND	
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
⊗ ⊗ ⊗	FENCE, TYPE CLT
⊙ ⊙ ⊙	FENCE, MISC: WOOD FENCE

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

865	859.10	858.51	857.92	857.33	856.74	856.15	855.56	854.99	854.46	853.96	853.51	853.07	852.63	852.19	851.76	851.32	850.88	850.44	850.01	849.57	849.13	865
860	+00	+25	+50	+75	+00	+25	VPC STA=46+50 VPC EL=855.56	+75	100' VERTICAL CURVE +00	+25	VPT STA=47+50 VPT EL=853.51	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	860
855		-2.36%					NOTE: BENCHMARKS ARE REFERENCED FROM S.R. 16 CENTERLINE STATIONS															855
850																						850
845							C.B. NO. 2-2-B, AS PER PLAN A 16.37' LT. STA. 46+82.65 F. EL. GRATE 853.60 F. EL. 12" 848.56 F. EL. 15" & INVERT 848.31															845
840							EXISTING 12" CONCRETE CONDUIT															840
835																						835
830	854.50	853.69	853.02	852.52	852.01	851.34	850.50	849.35	848.91	848.35	847.96	847.75	847.51	847.10	846.78	846.50	846.24	846.15	846.04	845.80	845.53	830
	45+00	45+50	46+00	46+50	47+00	47+50	48+00	48+50	49+00	49+50	50+00											



FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR STORM SEWER QUANTITIES, SEE SHEET 346
 FOR CULVERT QUANTITIES, SEE SHEET 345
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR EROSION PROTECTION QUANTITIES, SEE SHEET 347
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR S.R. 16 LIGHTING DETAILS, SEE SHEETS 192-228

LEGEND	
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
⊗ ⊗ ⊗	FENCE, TYPE CLT
⊗ ⊗ ⊗	FENCE, MISC: WOOD FENCE

NOTE: FENCE LOCATIONS ARE BASED ON BIKWAY STATIONS.

860	849.13	848.69	848.26	847.82	847.38	846.94	846.51	846.07	845.63	845.19	844.76	844.32	843.88	843.51	843.27	843.16	843.18	843.27	843.36	843.44	843.53	860
855	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	VPC STA=53+00 VPC EL=843.88	+25	+50	+75	VPT STA=54+00 VPT EL=843.18	+25	+50	+75	+00	855
850																						850
845																						845
840																						840
835																						835
830																						830
825	845.53	845.37	844.63	844.36	843.97	843.57	843.11	842.62	842.44	842.24	841.88	841.67	841.46	841.42	841.48	841.54	841.57	841.54	841.51	841.59	841.68	825
	50+00	50+50	51+00	51+50	52+00	52+50	53+00	53+50	54+00	54+50	55+00											

BM #6 1" REBAR
 ELEV. 849.53
 132.41' RT. STA. 59+96.69

NOTE: BENCHMARKS ARE REFERENCED FROM S.R. 16 CENTERLINE STATIONS

100' VERTICAL CURVE

EXISTING 60" CONCRETE CONDUIT
 E. EL. 60" 840.10
 13.5' RT. STA. 50+31.23

EXISTING 12" CONCRETE CONDUIT
 E. EL. 18" 840.50
 17.0' RT. STA. 51+81

C.B. NO. 2-2-B, AS PER PLAN A
 14.0' LT. STA. 51+81
 E. EL. GRATE 845.55
 E. EL. 12" 841.55
 E. EL. 18" & INVERT 840.59
 E. EL. 12" 840.59

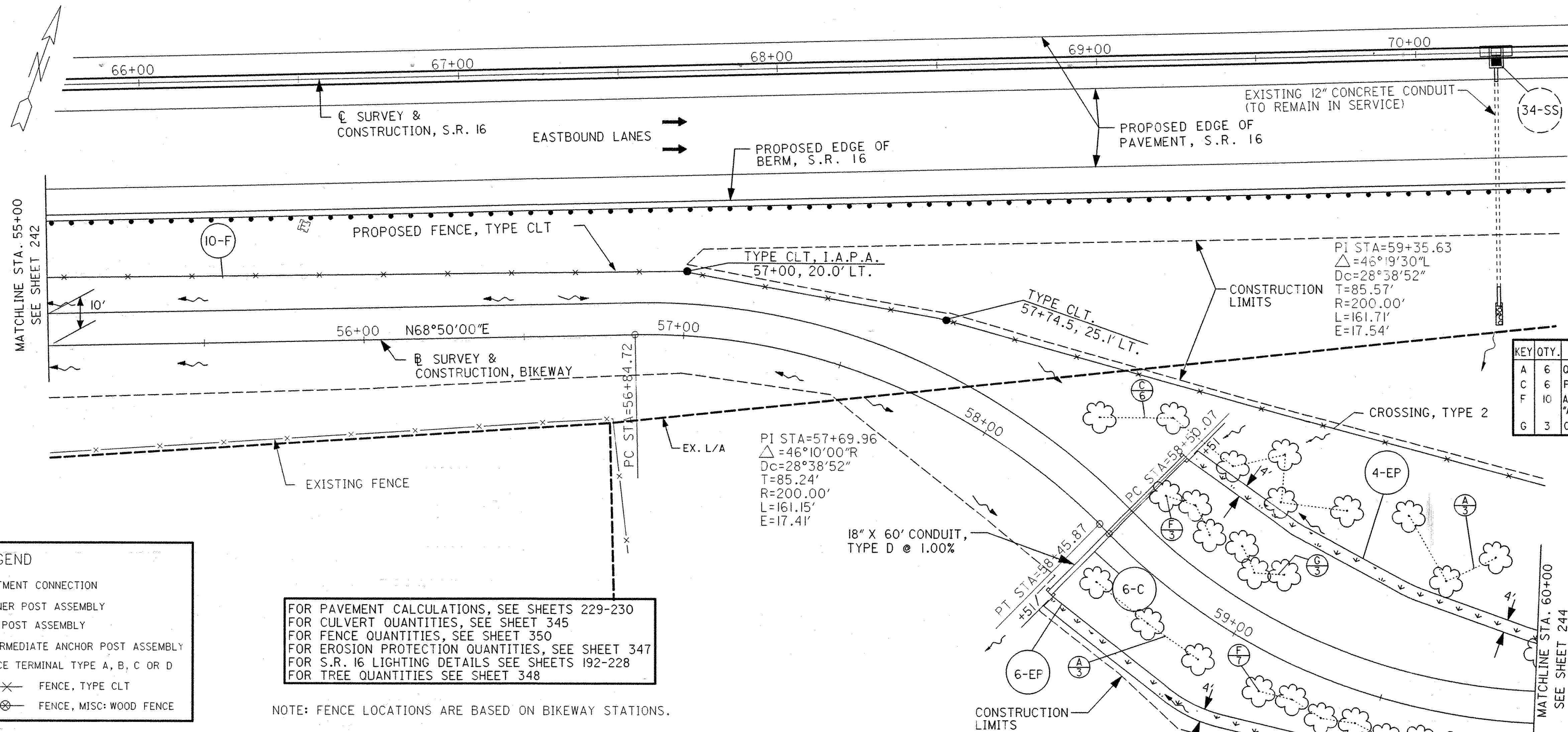
C.B. NO. 2-2-B, AS PER PLAN A
 14.0' LT. STA. 53+50
 E. EL. GRATE 843.19
 E. EL. 12" & INVERT 841.06

C.B. NO. 2-2-B, AS PER PLAN A
 14.5' LT. STA. 54+00
 E. EL. GRATE 842.95
 E. EL. 12" & INVERT 841.20

RCPI1016.DGN 3/13/95

BIKWAY PLAN AND PROFILE SHEET
 STA. 50+00 TO STA. 55+00

LIC-16-17.94



LEGEND

A.C. ABUTMENT CONNECTION
 C.P.A. CORNER POST ASSEMBLY
 E.P.A. END POST ASSEMBLY
 I.A.P.A. INTERMEDIATE ANCHOR POST ASSEMBLY
 F.T. () FENCE TERMINAL TYPE A, B, C OR D

—x—x—x— FENCE, TYPE CLT
 ⊗ ⊗ ⊗ ⊗ FENCE, MISC: WOOD FENCE

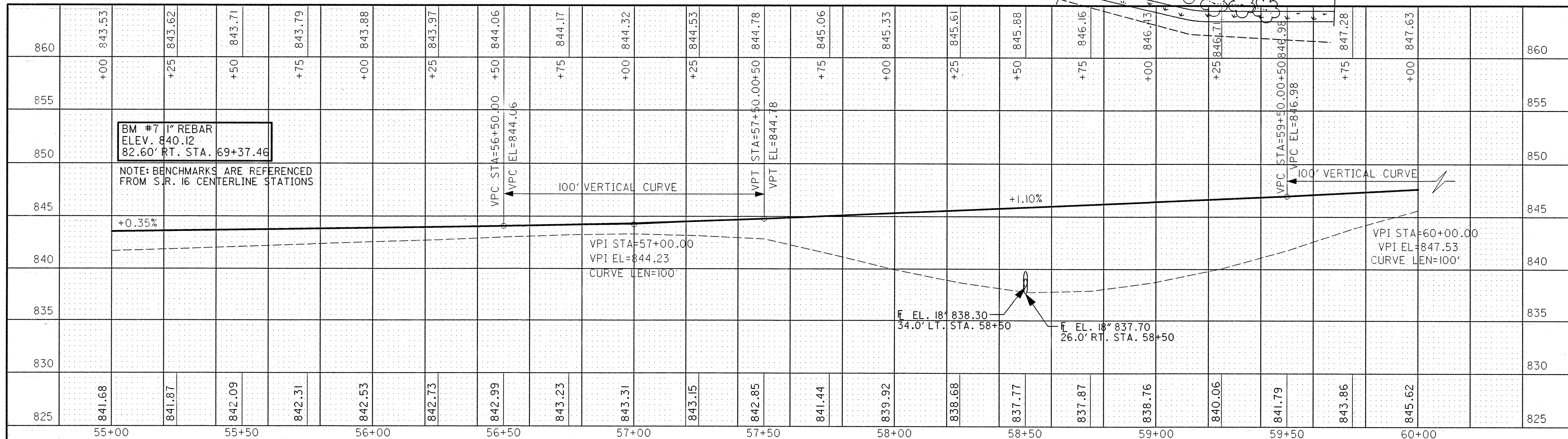
FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR CULVERT QUANTITIES, SEE SHEET 345
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR EROSION PROTECTION QUANTITIES, SEE SHEET 347
 FOR S.R. 16 LIGHTING DETAILS SEE SHEETS 192-228
 FOR TREE QUANTITIES SEE SHEET 348

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

PROPOSED TREES:

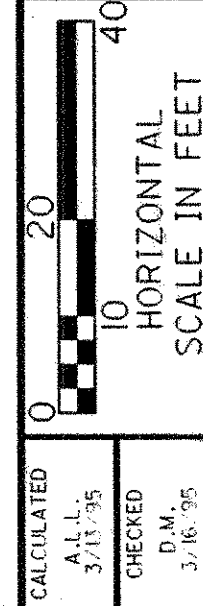
KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
A	6	QUERCUS BICOLOR	SWAMP WHITE OAK	2" CAL.
C	6	PICEA AMORICA	SERBIAN SPRUCE	6' HT.
F	10	AMELANCHIER x GRANDIFLORA "AUTUMN BRILLIANCE"	SERVICEBERRY	6' HT.
G	3	CERCIS CANADENSIS	RED BUD	6' HT.

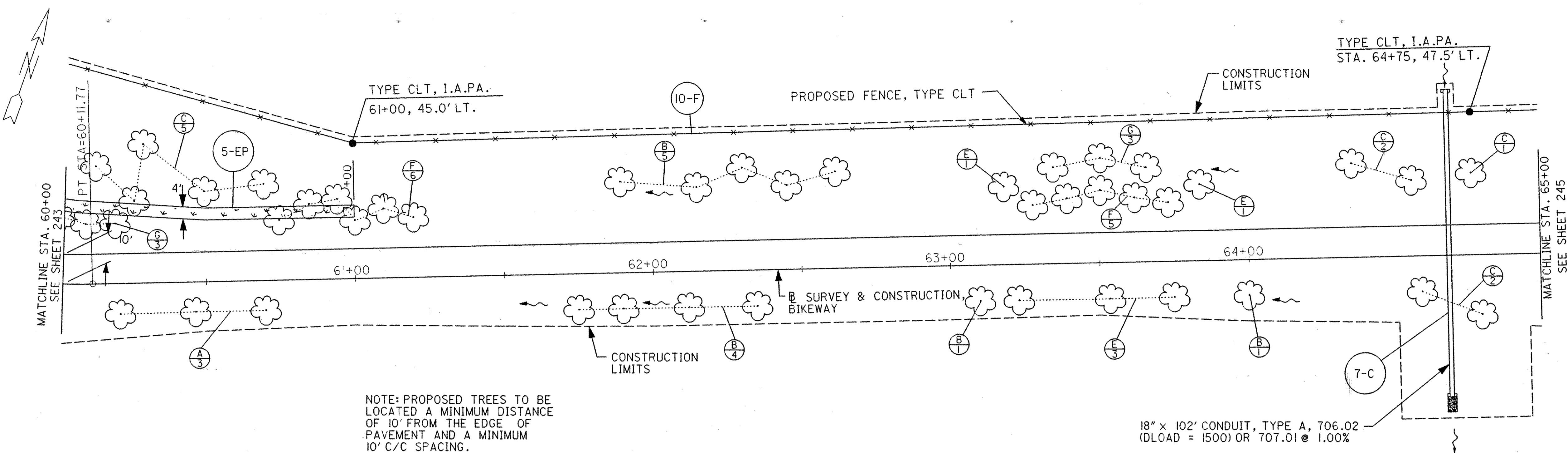
NOTE: PROPOSED TREES TO BE LOCATED A MINIMUM DISTANCE OF 10' FROM THE EDGE OF PAVEMENT AND A MINIMUM 10' C/C SPACING.



BIKEWAY PLAN AND PROFILE SHEET
 STA. 55+00 TO STA. 60+00

LIC-16-17.94





LEGEND

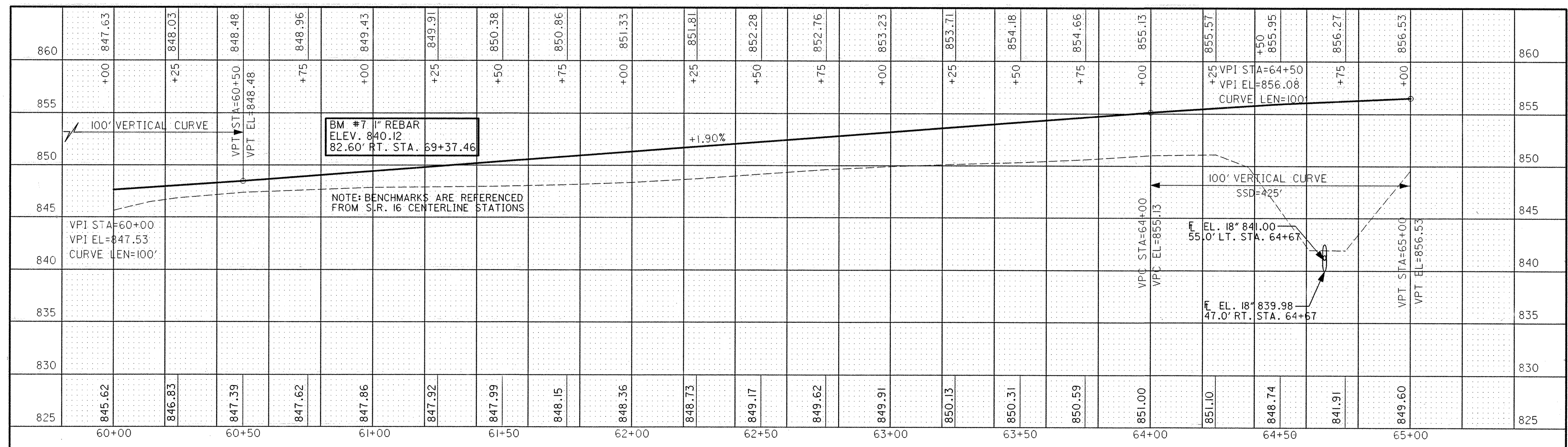
A.C. ABUTMENT CONNECTION
 C.P.A. CORNER POST ASSEMBLY
 E.P.A. END POST ASSEMBLY
 I.A.P.A. INTERMEDIATE ANCHOR POST ASSEMBLY
 F.T. () FENCE TERMINAL TYPE A, B, C OR D
 X-X-X-X FENCE, TYPE CLT
 ⊗-⊗-⊗-⊗ FENCE, MISC: WOOD FENCE

PROPOSED TREES:

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
A	3	QUERCUS BICOLOR	SWAMP WHITE OAK	2" CAL.
B	11	PLATANUS x ACERIFOLIA "BLOODGOOD"	LONDON PLANETREE	2" CAL.
C	10	PICEA AMORIKA	SERBIAN SPRUCE	6' HT.
E	5	PHELLODENDRON AMURENSE "MACHO"	MACHO CORKTREE	2" CAL.
F	11	AMELANCHIER x GRANDIFLORA "AUTUMN BRILLIANCE"	SERVICEBERRY	6' HT.
G	6	CERCIS CANADENSIS	RED BUD	6' HT.

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR CULVERT QUANTITIES, SEE SHEET 345
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR EROSION PROTECTION CONTROL QUANTITIES, SEE SHEET 347
 FOR TREE QUANTITIES SEE SHEET 348

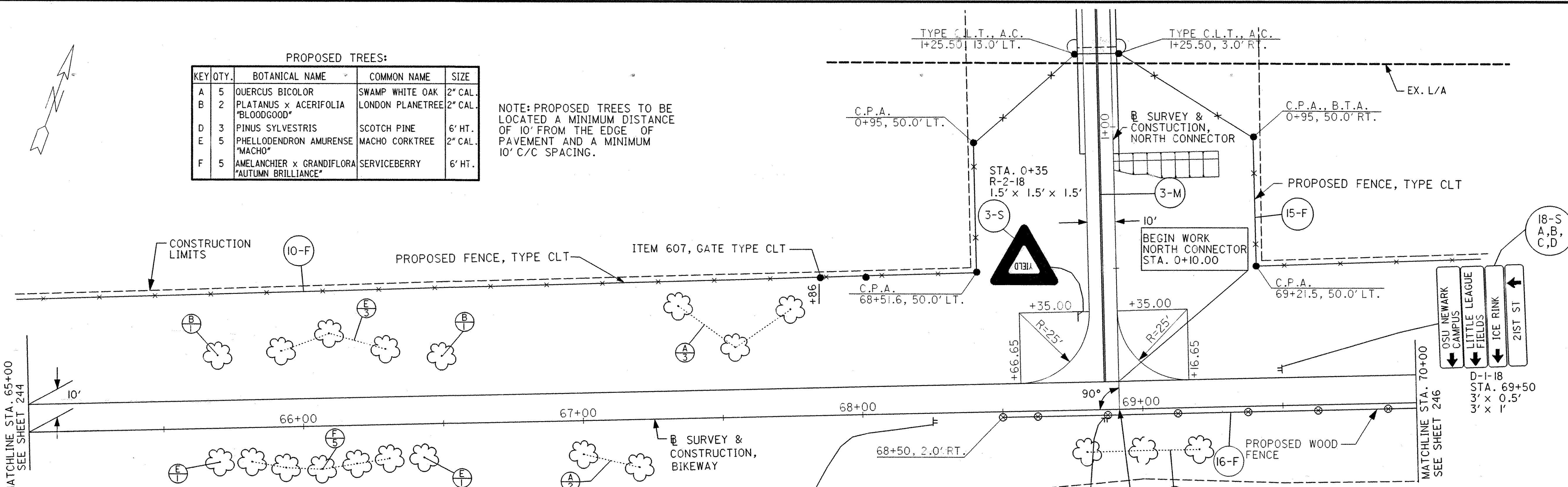




PROPOSED TREES:

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
A	5	QUERCUS BICOLOR	SWAMP WHITE OAK	2" CAL.
B	2	PLATANUS x ACERIFOLIA 'BLOODGOOD'	LONDON PLANETREE	2" CAL.
D	3	PINUS SYLVESTRIS	SCOTCH PINE	6' HT.
E	5	PHELLODENDRON AMURENSE 'MACHO'	MACHO CORKTREE	2" CAL.
F	5	AMELANCHIER x GRANDIFLORA 'AUTUMN BRILLIANCE'	SERVICEBERRY	6' HT.

NOTE: PROPOSED TREES TO BE LOCATED A MINIMUM DISTANCE OF 10' FROM THE EDGE OF PAVEMENT AND A MINIMUM 10' C/C SPACING.

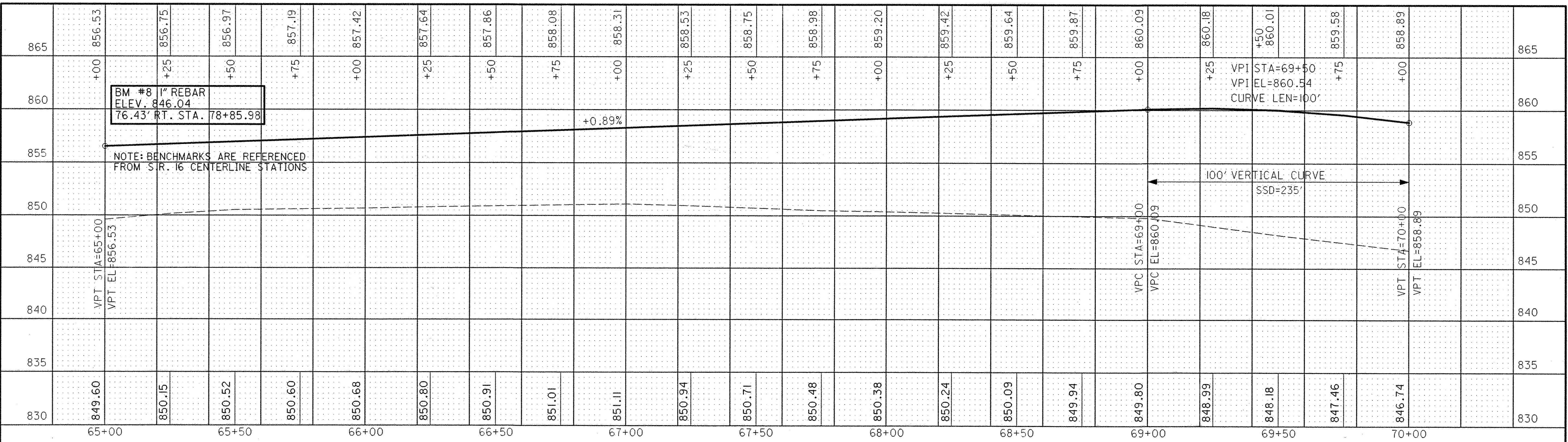


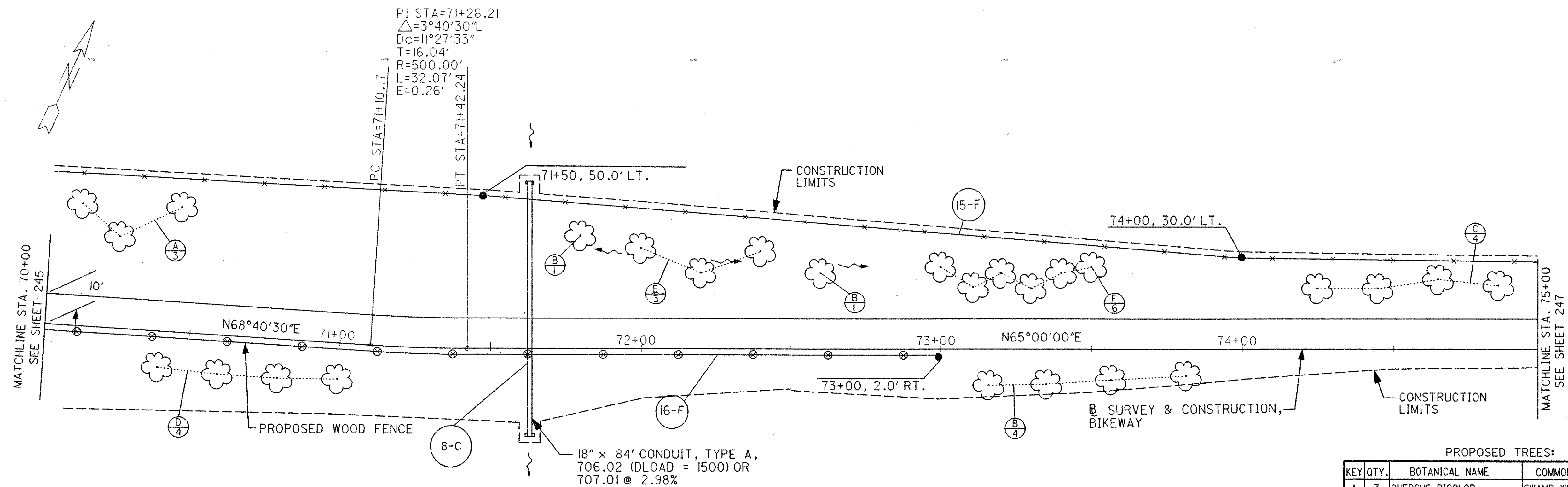
LEGEND

A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
---x---	FENCE, TYPE CLT
---o---	FENCE, MISC: WOOD FENCE

FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR PROPOSED SIGNING QUANTITIES, SEE SHEET 348
 FOR DETAILS ON NORTH CONNECTOR SEE SHEETS 302-307
 FOR PAVEMENT MARKING QUANTITIES SEE SHEET 348
 FOR TREE QUANTITIES SEE SHEET 348

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.





PI STA=71+26.21
 $\Delta=3^{\circ}40'30''L$
 $Dc=11^{\circ}27'33''$
 $T=16.04'$
 $R=500.00'$
 $L=32.07'$
 $E=0.26'$

LEGEND

- A.C. ABUTMENT CONNECTION
- C.P.A. CORNER POST ASSEMBLY
- E.P.A. END POST ASSEMBLY
- I.A.P.A. INTERMEDIATE ANCHOR POST ASSEMBLY
- F.T. () FENCE TERMINAL TYPE A, B, C OR D
- x — x — FENCE, TYPE CLT
- ⊗ — ⊗ — FENCE, MISC: WOOD FENCE

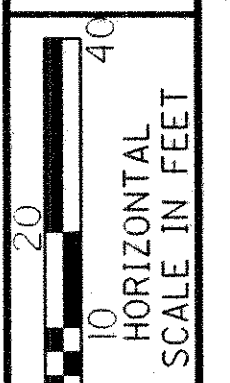
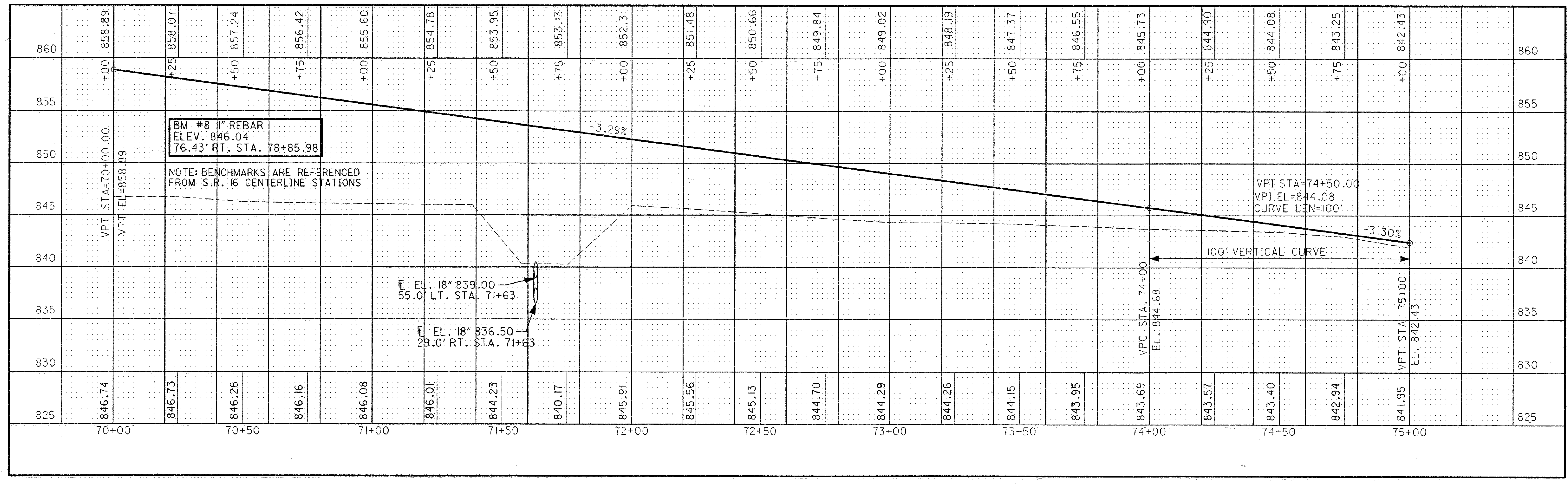
NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

PROPOSED TREES:

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
A	3	QUERCUS BICOLOR	SWAMP WHITE OAK	2" CAL.
B	6	PLATANUS x ACERIFOLIA "BLOODGOOD"	LONDON PLANETREE	2" CAL.
C	4	PICEA AMORIKA	SERBIAN SPRUCE	6' HT.
D	4	PINUS SYLVESTRIS	SCOTCH PINE	6' HT.
E	3	PHELLODENDRON AMURENSE "MACHO"	MACHO CORKTREE	2" CAL.
F	6	AMELANCHIER x GRANDIFLORA "AUTUMN BRILLIANCE"	SERVICEBERRY	6' HT.

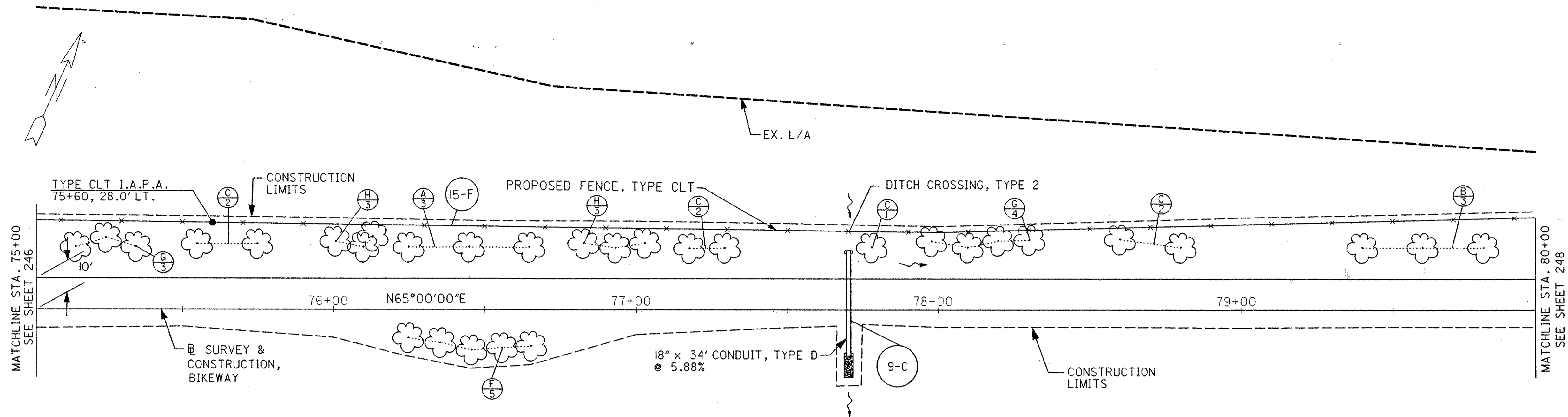
NOTE: PROPOSED TREES TO BE LOCATED A MINIMUM DISTANCE OF 10' FROM THE EDGE OF PAVEMENT AND A MINIMUM 10' C/C SPACING.

FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR CULVERT QUANTITIES, SEE SHEET 345
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR TREE QUANTITIES SEE SHEET 348



BIKEWAY PLAN AND PROFILE SHEET
STA. 70+00 TO STA. 75+00

LIC-16-17.94



LEGEND

- A.C. ABUTMENT CONNECTION
- C.P.A. CORNER POST ASSEMBLY
- E.P.A. END POST ASSEMBLY
- I.A.P.A. INTERMEDIATE ANCHOR POST ASSEMBLY
- F.T. () FENCE TERMINAL TYPE A, B, C OR D
- x—x—x— FENCE, TYPE CLT
- ⊗⊗⊗ FENCE, MISC. WOOD FENCE

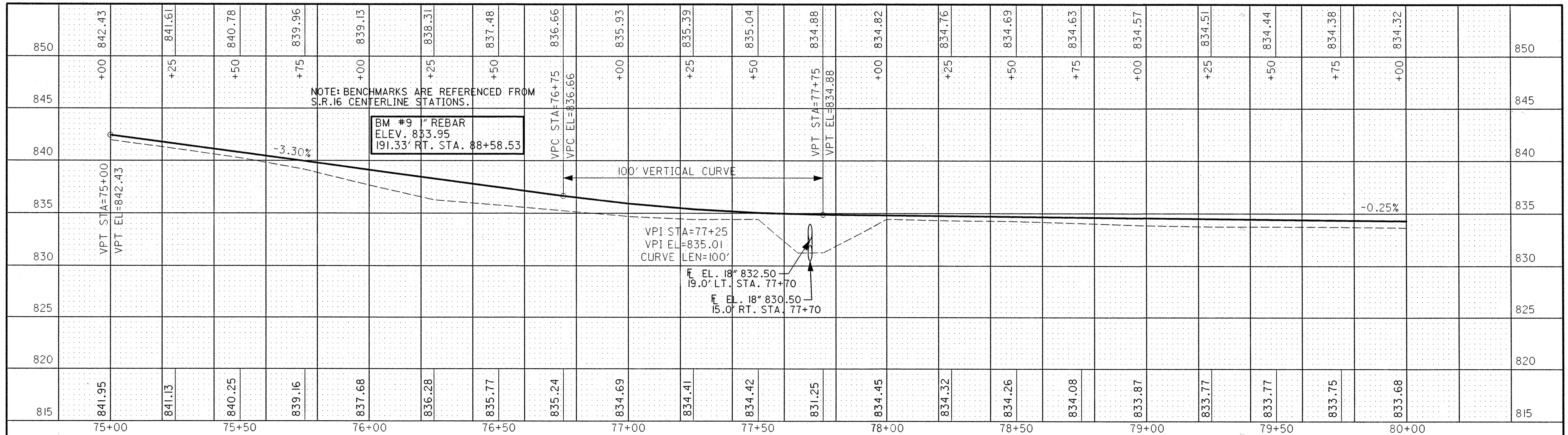
NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

PROPOSED TREES:

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
A	3	QUERCUS BICOLOR	SWAMP WHITE OAK	2" CAL.
B	3	PLATANUS x ACERIFOLIA "BLOODGOOD"	LONDON PLANETREE	2" CAL.
C	7	PICEA AMORIKA	SERBIAN SPRUCE	6' HT.
F	5	AMELANCHIER x GRANDIFLORA "AUTUMN BRILLIANCE"	SERVICEBERRY	6' HT.
G	7	CERCIS CANADENSIS	RED BUD	6' HT.
H	6	SYRINGA RETICULATA "IVORY SILK"	TREE LILAC	6' HT.

NOTE: PROPOSED TREES TO BE LOCATED A MINIMUM DISTANCE OF 10' FROM THE EDGE OF PAVEMENT AND A MINIMUM 10' C/C SPACING.

FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR CULVERT QUANTITIES, SEE SHEET 345
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR TREE QUANTITIES SEE SHEET 348



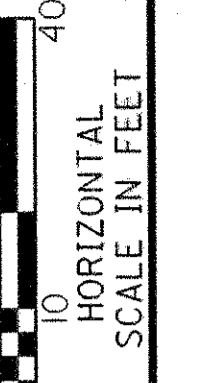
NOTE: BENCHMARKS ARE REFERENCED FROM S.R.16 CENTERLINE STATIONS.

BM #9 1" REBAR
 ELEV. 833.95
 191.33' RT. STA. 88+58.53

100' VERTICAL CURVE

VPI STA=77+25
 VPI EL=835.01
 CURVE LEN=100'

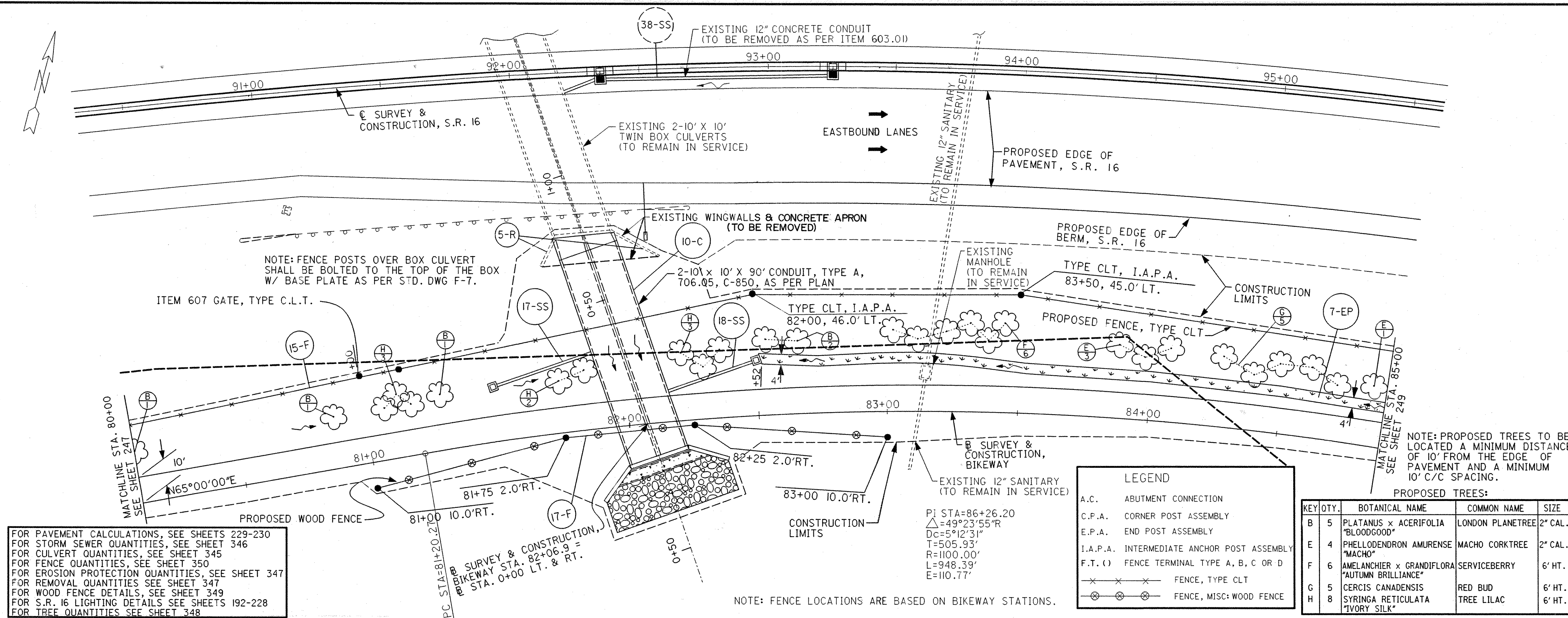
F. EL. 18" 832.50
 19.0' LT. STA. 77+70
 F. EL. 18" 830.50
 15.0' RT. STA. 77+70



CALCULATED
 A.A.H. 3/13/95
 CHECKED
 D.M. 3/16/95

BIKEWAY PLAN AND PROFILE SHEET
STA. 75+00 TO STA. 80+00

LIC-16-17.94



FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR STORM SEWER QUANTITIES, SEE SHEET 346
 FOR CULVERT QUANTITIES, SEE SHEET 345
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR EROSION PROTECTION QUANTITIES, SEE SHEET 347
 FOR REMOVAL QUANTITIES, SEE SHEET 347
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR S.R. 16 LIGHTING DETAILS SEE SHEETS 192-228
 FOR TREE QUANTITIES SEE SHEET 348

LEGEND

A.C. ABUTMENT CONNECTION
 C.P.A. CORNER POST ASSEMBLY
 E.P.A. END POST ASSEMBLY
 I.A.P.A. INTERMEDIATE ANCHOR POST ASSEMBLY
 F.T. () FENCE TERMINAL TYPE A, B, C OR D

— x — x — x — FENCE, TYPE CLT
 ⊗ ⊗ ⊗ ⊗ FENCE, MISC: WOOD FENCE

PROPOSED TREES:

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
B	5	PLATANUS x ACERIFOLIA "BLOODGOOD"	LONDON PLANETREE	2" CAL.
E	4	PHELLODENDRON AMURENSE "MACHO"	MACHO CORKTREE	2" CAL.
F	6	AMELANCHIER x GRANDIFLORA "AUTUMN BRILLIANCE"	SERVICEBERRY	6' HT.
G	5	CERCIS CANADENSIS	RED BUD	6' HT.
H	8	SYRINGA RETICULATA "IVORY SILK"	TREE LILAC	6' HT.

Station	80+00	80+25	80+50	80+75	81+00	81+25	81+50	81+75	82+00	82+25	82+50	82+75	83+00	83+25	83+50	83+75	84+00	84+25	84+50	84+75	85+00
Elev.	833.68	833.65	833.47	833.34	833.20	832.97	832.38	830.79	824.88	824.53	831.29	831.90	832.06	832.22	832.48	832.59	833.25	833.67	833.91	834.24	834.51
Grade																					
Notes																					

NOTE: BENCHMARKS ARE REFERENCED FROM S.R.16 CENTERLINE STATIONS.

BM #9 1" REBAR
 ELEV. 833.95
 191.33' RT. STA. 88+58.53

BM #10 1" REBAR
 ELEV. 833.87
 183.46' RT. STA. 96+85.17

C.B. NO. 2-2-B, AS PER PLAN A
 21.08' LT. STA. 81+50
 F. EL. GRATE 831.50
 F. EL. 12" & INVERT 828.50

C.B. NO. 2-2-B, AS PER PLAN A
 21.83' LT. STA. 82+50
 F. EL. GRATE 831.00
 F. EL. 15" & INVERT 828.00

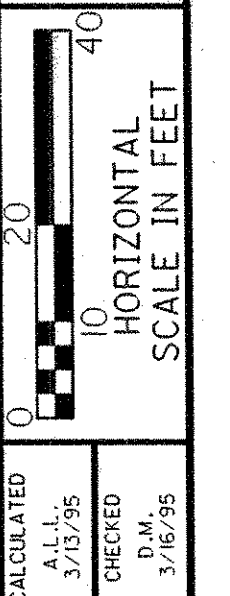
PROPOSED 2-10' x 10' x 90' CONDUIT, TYPE A, 706.05, C-850 AS PER PLAN

VPI STA=83+25
 VPI EL=833.51
 CURVE LEN=100'

VPC STA=82+75
 VPC EL=833.63

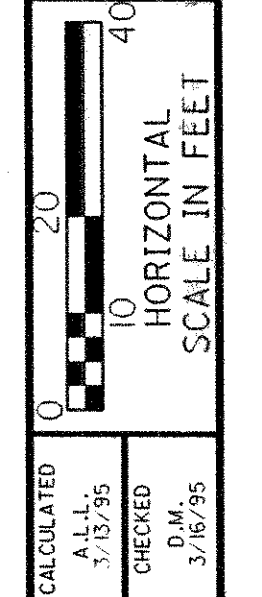
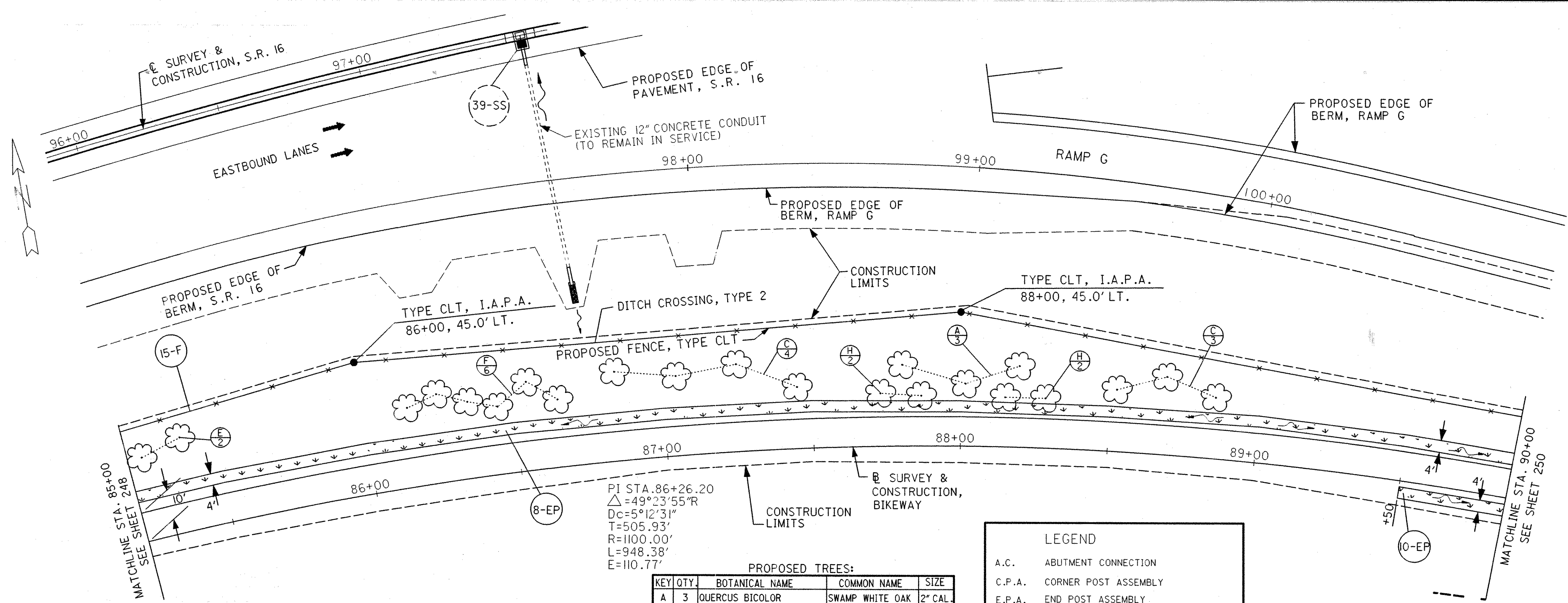
VPT STA=85+75
 VPT EL=833.88

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.



BIKEWAY PLAN AND PROFILE SHEET
STA. 80+00 TO STA. 85+00

RCP18016.DGN 3/17/95



BIKEWAY PLAN AND PROFILE SHEET
STA. 85+00 TO STA. 90+00

FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
FOR FENCE QUANTITIES, SEE SHEET 350
FOR EROSION PROTECTION QUANTITIES, SEE SHEET 347
FOR S.R. 16 LIGHTING DETAILS SEE SHEETS 192-228
FOR TREE QUANTITIES SEE SHEET 348

NOTE: PROPOSED TREES TO BE LOCATED A MINIMUM DISTANCE OF 10' FROM THE EDGE OF PAVEMENT AND A MINIMUM 10' C/C SPACING.

PI STA. 86+26.20
 $\Delta = 49^{\circ}23'55''R$
 $Dc = 5^{\circ}12'31''$
 $T = 505.93'$
 $R = 1100.00'$
 $L = 948.38'$
 $E = 110.77'$

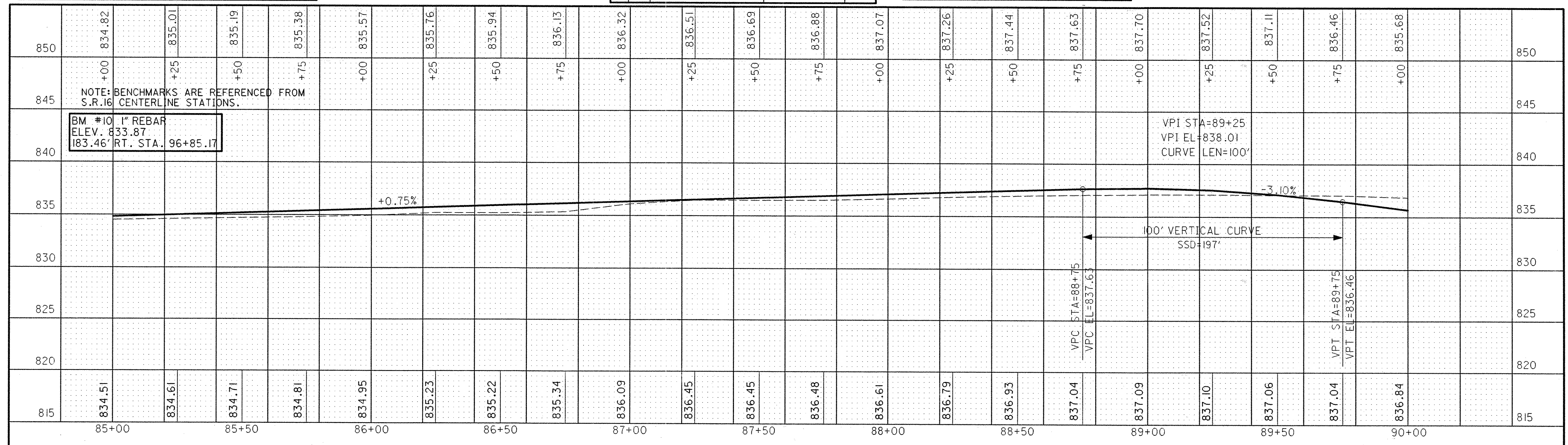
PROPOSED TREES:

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
A	3	QUERCUS BICOLOR	SWAMP WHITE OAK	2" CAL.
C	7	PICEA AMORIKA	SERBIAN SPRUCE	6' HT.
E	2	PHELLODENDRON AMURENSE "MACHO"	MACHO CORKTREE	2" CAL.
F	6	AMELANCHIER x GRANDIFLORA "AUTUMN BRILLIANCE"	SERVICEBERRY	6' HT.
H	4	SYRINGA RETICULATA "IVORY SILK"	TREE LILAC	6' HT.

LEGEND

- A.C. ABUTMENT CONNECTION
- C.P.A. CORNER POST ASSEMBLY
- E.P.A. END POST ASSEMBLY
- I.A.P.A. INTERMEDIATE ANCHOR POST ASSEMBLY
- F.T. () FENCE TERMINAL TYPE A, B, C OR D
- X X X X X FENCE, TYPE CLT
- ⊗ ⊗ ⊗ ⊗ ⊗ FENCE, MISC: WOOD FENCE

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.



LIC-16-17.94

PROPOSED TREES:

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
B	5	PLATANUS x ACERIFOLIA "BLOODGOOD"	LONDON PLANETREE	2" CAL.
E	3	PHELLODENDRON AMURENSE "MACHO"	MACHO CORKTREE	2" CAL.
F	4	AMELANCHIER x GRANDIFLORA "AUTUMN BRILLIANCE"	SERVICEBERRY	6' HT.

NOTE: PROPOSED TREES TO BE LOCATED A MINIMUM DISTANCE OF 10' FROM THE EDGE OF PAVEMENT AND A MINIMUM 10' C/C SPACING.

STA. 0+50
R-2-18
1.5' x 1.5' x 1.5'

PROPOSED EDGE OF PAVEMENT, RAMP G

EXISTING 18" CONCRETE CONDUIT (TO REMAIN IN SERVICE)

TYPE CLT, I.A.P.A.
1+50, 18.0' LT.

TYPE CLT, E.P.A.,
1+50, 20.0' LT.

TYPE CLT.
1+00, 15.0' LT.

TYPE CLT, I.A.P.A.
92+00, 40.0' LT.

FOR DETAILS ON 21ST ST. WEST CONNECTOR SEE SHEETS 308-310.

EXISTING 18" CONCRETE CONDUIT (TO BE REMOVED)

PROPOSED WOOD FENCE

CONSTRUCTION LIMITS

MATCHLINE STA. 90+00
SEE SHEET 249

EXISTING ROCK CHANNEL PROTECTION (TO REMAIN)

SURVEY & CONSTRUCTION BIKEWAY

CONSTRUCTION LIMITS

MATCHLINE STA. 95+00
SEE SHEET 251

RACCOON CREEK

PI STA=94+09.81
Δ=15°45'40"R
Dc=11°27'33"
T=69.21'
R=500.00'
L=137.54'
E=4.77'

STA. 92+00 @ SURVEY AND CONSTRUCTION BIKEWAY =
STA. 0+00 @ SURVEY AND CONSTRUCTION 21ST. STREET WEST CONNECTOR

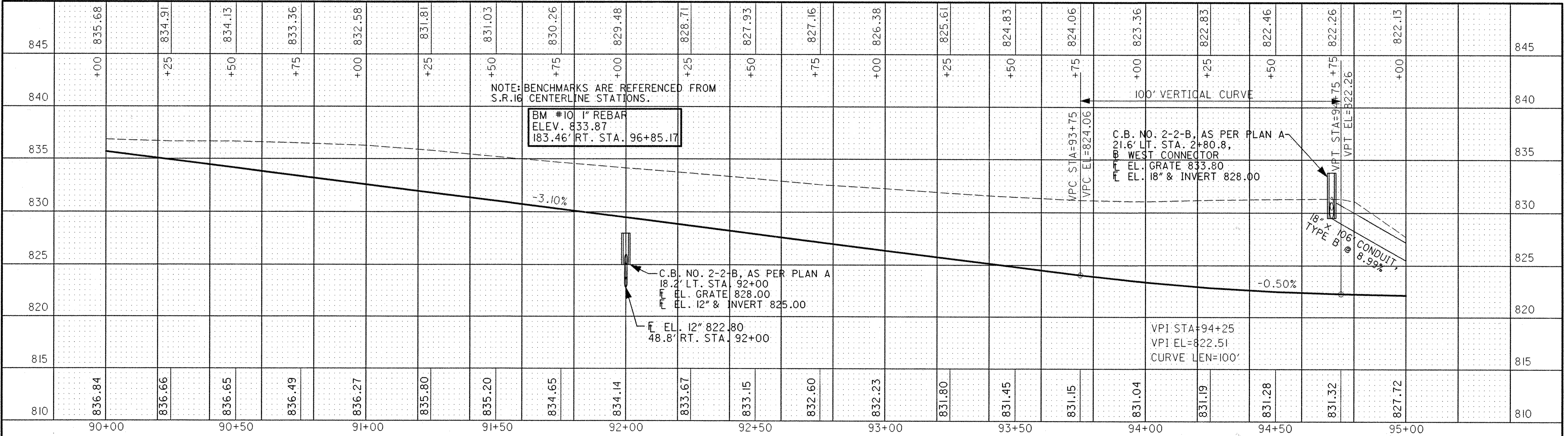
LEGEND	
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
✕ ✕ ✕	FENCE, TYPE CLT
⊗ ⊗ ⊗	FENCE, MISC. WOOD FENCE

FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
FOR STORM SEWER QUANTITIES, SEE SHEET 346
FOR FENCE QUANTITIES, SEE SHEET 350
FOR REMOVAL QUANTITIES, SEE SHEET 347
FOR EROSION PROTECTION QUANTITIES, SEE SHEET 347
FOR WOOD FENCE DETAILS, SEE SHEET 349
FOR PROPOSED SIGNING QUANTITIES, SEE SHEET 348
FOR PAVEMENT MARKING QUANTITIES SEE SHEET 348
FOR S.R. 16 LIGHTING DETAILS SEE SHEETS 192-228
FOR TREE QUANTITIES SEE SHEET 348

D-1-18
STA. 91+50
3' x 0.5'

WHEN EXCAVATION FOR A PROPOSED CONDUIT DISTURBS EXISTING ROCK CHANNEL PROTECTION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO RESTORE THE ROCK CHANNEL PROTECTION TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH ITEM 603.01

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.



NOTE: BENCHMARKS ARE REFERENCED FROM S.R.16 CENTERLINE STATIONS.

BM #10 1" REBAR
ELEV. 833.87
183.46' RT. STA. 96+85.17

C.B. NO. 2-2-B, AS PER PLAN A
21.6' LT. STA. 2+80.8,
WEST CONNECTOR
E. EL. GRATE 833.80
E. EL. 18" & INVERT 828.00

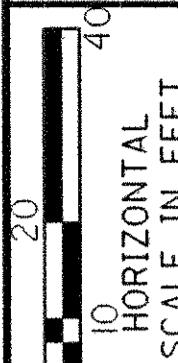
C.B. NO. 2-2-B, AS PER PLAN A
18.2' LT. STA. 92+00
E. EL. GRATE 828.00
E. EL. 12" & INVERT 825.00
E. EL. 12" 822.80
48.8' RT. STA. 92+00

VPI STA=94+25
VPI EL=822.51
CURVE LEN=100'

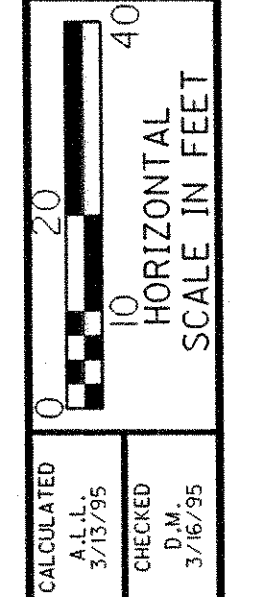
BIKEWAY PLAN AND PROFILE SHEET
STA. 90+00 TO STA. 95+00

LIC-16-17.94

250
420

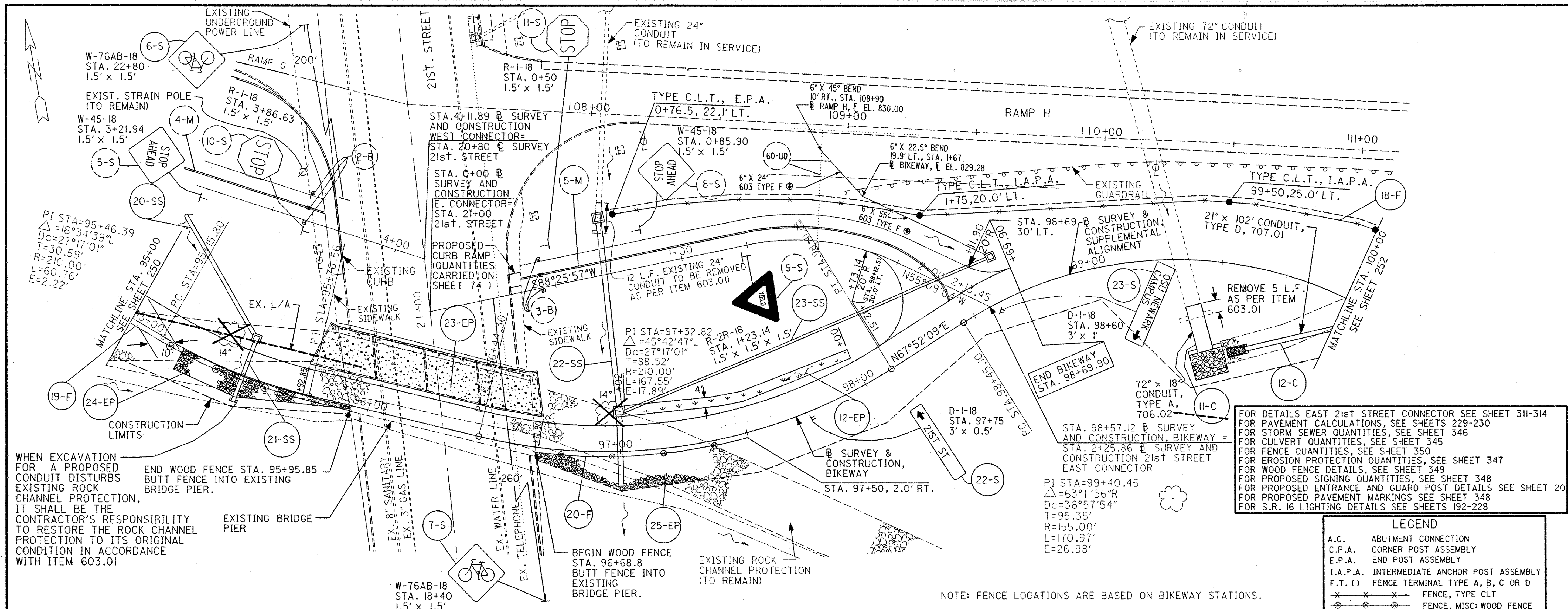


CALCULATED
3/16/95
CHECKED
3/16/95



BIKEWAY PLAN AND PROFILE SHEET
STA. 95+00 TO STA. 100+00

LIC-16-17.94



WHEN EXCAVATION FOR A PROPOSED CONDUIT DISTURBS EXISTING ROCK CHANNEL PROTECTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RESTORE THE ROCK CHANNEL PROTECTION TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH ITEM 603.01

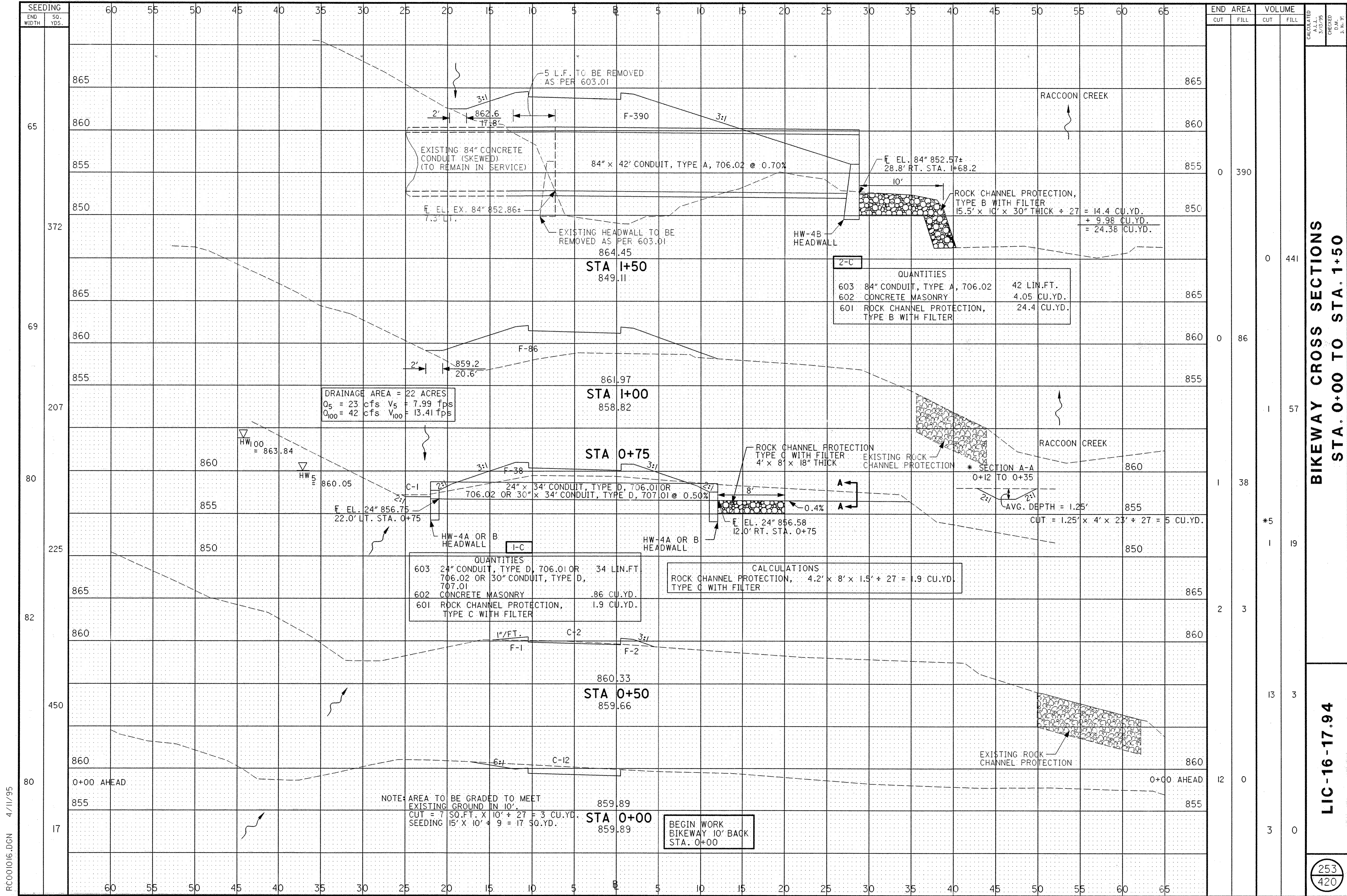
NOTE: BENCHMARKS ARE REFERENCED FROM S.R.16 CENTERLINE STATIONS.

FOR DETAILS EAST 21st STREET CONNECTOR SEE SHEET 311-314
 FOR PAVEMENT CALCULATIONS, SEE SHEETS 229-230
 FOR STORM SEWER QUANTITIES, SEE SHEET 346
 FOR CULVERT QUANTITIES, SEE SHEET 345
 FOR FENCE QUANTITIES, SEE SHEET 350
 FOR EROSION PROTECTION QUANTITIES, SEE SHEET 347
 FOR WOOD FENCE DETAILS, SEE SHEET 349
 FOR PROPOSED SIGNING QUANTITIES, SEE SHEET 348
 FOR PROPOSED ENTRANCE AND GUARD POST DETAILS SEE SHEET 20
 FOR PROPOSED PAVEMENT MARKINGS SEE SHEET 348
 FOR S.R. 16 LIGHTING DETAILS SEE SHEETS 192-228

LEGEND	
A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
— x —	FENCE, TYPE CLT
— o —	FENCE, MISC: WOOD FENCE

NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

845	822.13	822.01	821.88	821.76	821.63	821.51	821.54	821.88	822.54	823.51	824.63	825.76	826.88	828.01	829.13	830.26	831.38	832.50	833.52	834.39	835.10	845
840	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	840
835	NOTE: BENCHMARKS ARE REFERENCED FROM S.R.16 CENTERLINE STATIONS.																					835
835	BM #11" REBAR ELEV. 831.32 281.83' RT. STA. 106+45.68																					835
830	VPI STA=99+75.00 VPI EL=834.76 CURVE LEN=110'																					830
825	C.B. NO. 2-2-B, AS PER PLAN A 15.0' LT. STA. 95+50 E. EL. GRATE 821.47 E. EL. 18" & INVERT 818.47																					825
820	C.B. NO. 2-3, AS PER PLAN A 15.5' LT. STA. 97+00 E. EL. GRATE 822.13 E. EL. 12" & INVERT 818.13																					820
815	C.B. NO. 2-3, AS PER PLAN A 15.5' LT. STA. 97+00 E. EL. GRATE 822.13 E. EL. 12" & INVERT 818.13																					815
810	827.72	824.91	822.61	821.29	819.23	821.50	821.09	821.25	822.92	826.71	830.33	830.40	830.33	830.16	829.25	828.34	829.34	827.99	826.95	827.53	826.52	810
	95+00	95+50	96+00	96+50	97+00	97+50	98+00	98+50	99+00	99+50	100+00											



QUANTITIES

603	84" CONDUIT, TYPE A, 706.02	42 LIN.FT.
602	CONCRETE MASONRY	4.05 CU.YD.
601	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	24.4 CU.YD.

CALCULATIONS

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	$4.2' \times 8' \times 1.5' \div 27 = 1.9 \text{ CU.YD.}$
---	---

DRAINAGE AREA = 22 ACRES
 $Q_5 = 23 \text{ cfs } V_5 = 7.99 \text{ fps}$
 $Q_{100} = 42 \text{ cfs } V_{100} = 13.41 \text{ fps}$

QUANTITIES

603	24" CONDUIT, TYPE D, 706.01 OR 706.02 OR 30" CONDUIT, TYPE D, 707.01	34 LIN.FT.
602	CONCRETE MASONRY	.86 CU.YD.
601	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	1.9 CU.YD.

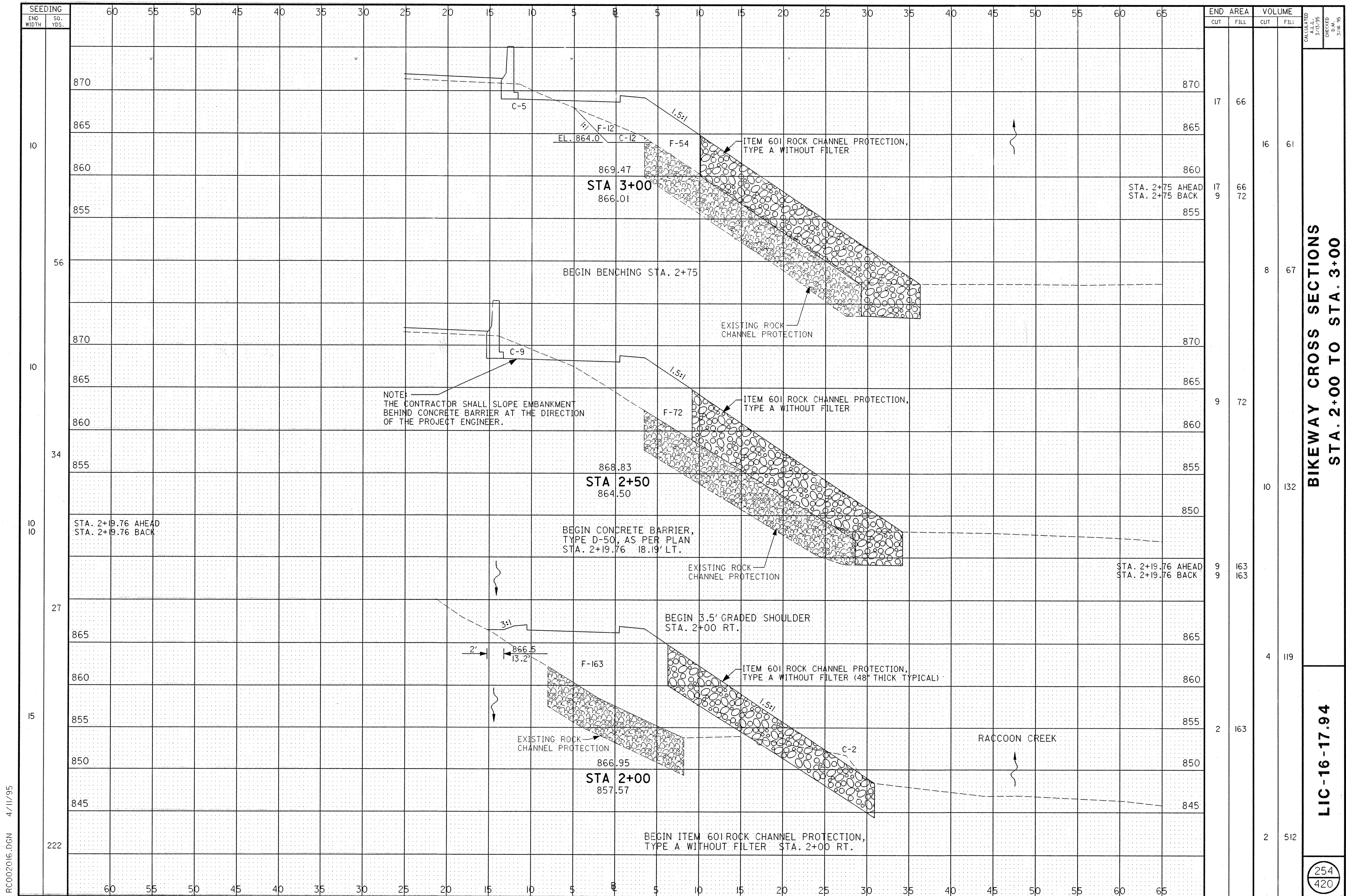
NOTE: AREA TO BE GRADED TO MEET EXISTING GROUND IN 10'.
 CUT = $7 \text{ SQ.FT.} \times 10' \div 27 = 3 \text{ CU.YD.}$
 SEEDING $15' \times 10' \div 9 = 17 \text{ SQ.YD.}$

BEGIN WORK
 BIKEWAY 10' BACK
 STA. 0+00

END AREA	VOLUME	
	CUT	FILL
0	390	
0	86	
1	57	
1	38	
1	19	
2	3	
12	0	
3	0	

BIKEWAY CROSS SECTIONS
STA. 0+00 TO STA. 1+50

LIC-16-17.94



END	AREA		VOLUME	
	CUT	FILL	CUT	FILL
870	17	66		
865			16	61
860	17	66		
855	9	72		
870			8	67
865				
860	9	72		
855			10	132
850				
870	9	163		
865	9	163		
860			4	119
855				
850	2	163		
845				
840			2	512

CALCULATED
 A.L.L.
 3/13/95
 CHECKED
 D.M.
 3/16/95

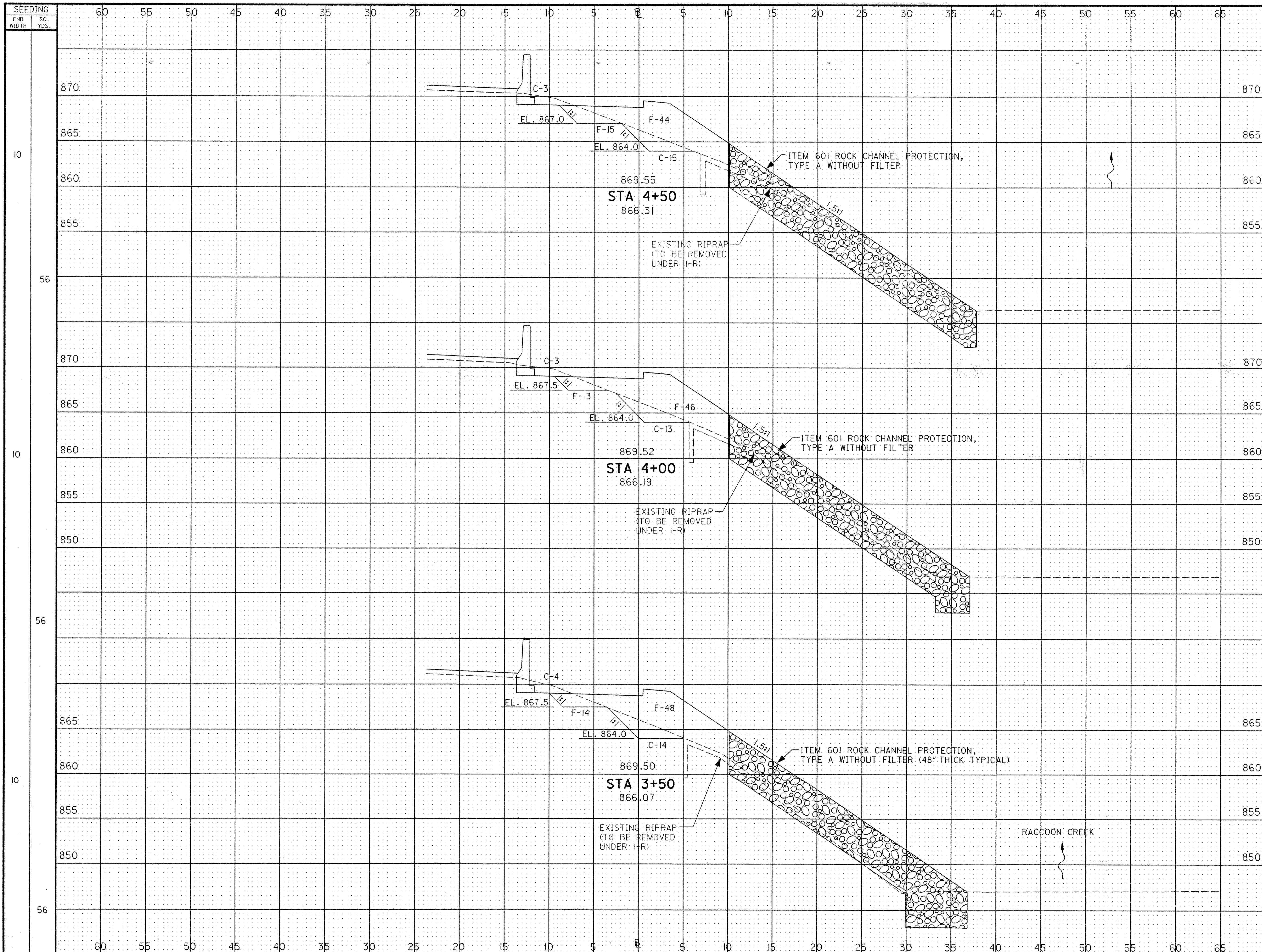
**BIKEWAY CROSS SECTIONS
 STA. 2+00 TO STA. 3+00**

LIC-16-17.94

254
 420

RC002016.DGN 4/11/95

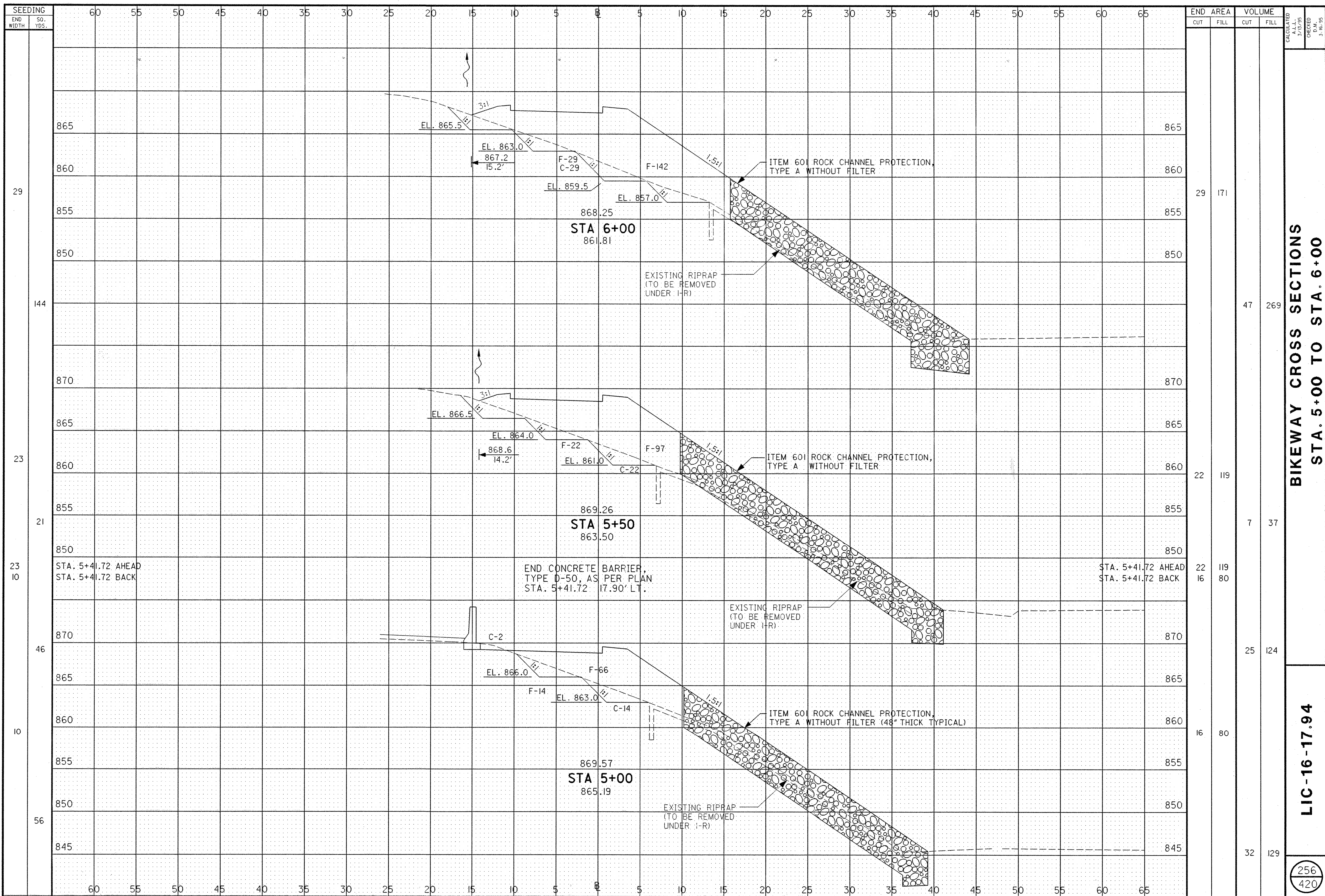
RC003016.DGN 4/11/95



END AREA	VOLUME	
	CUT	FILL
18	59	
32	109	
16	59	
32	112	
18	62	
32	119	

CALCULATED ALL: 3/13/95
 CHECKED D.M. 3/16/95
BIKEWAY CROSS SECTIONS
STA. 3+50 TO STA. 4+50
LIC-16-17.94
 255
 420

RC004016.DGN 4/11/95



**BIKEWAY CROSS SECTIONS
STA. 5+00 TO STA. 6+00**

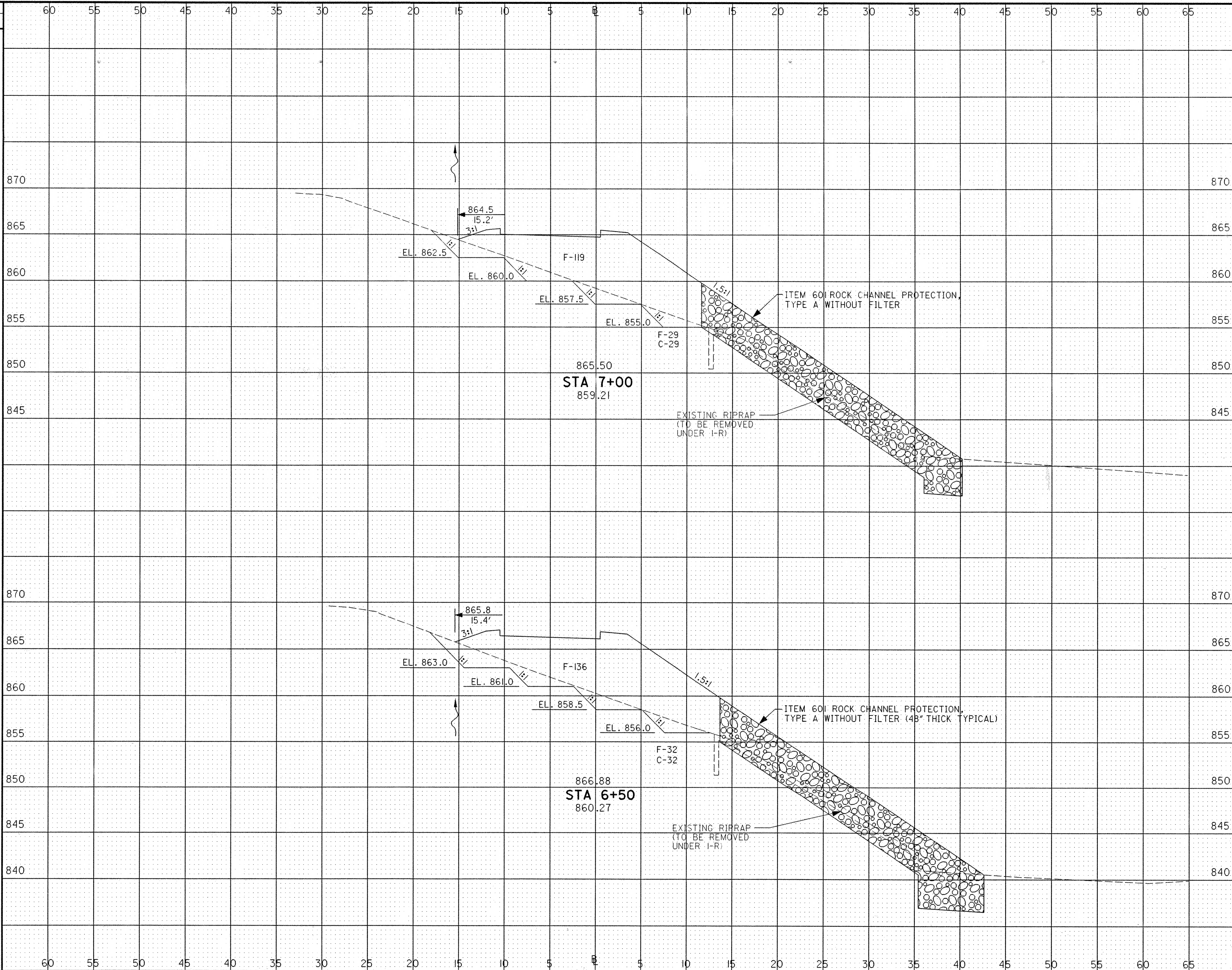
LIC-16-17.94

256
420

SEEDING END WIDTH	SO. YDS.	END AREA		VOLUME	
		CUT	FILL	CUT	FILL
29	865			29	171
144	860			47	269
23	870			22	119
21	865			7	37
23	860			22	119
10	855			16	80
46	850			25	124
10	845			16	80
56	845			32	129

CALCULATED
3/13/95
D.M.
3-16-95

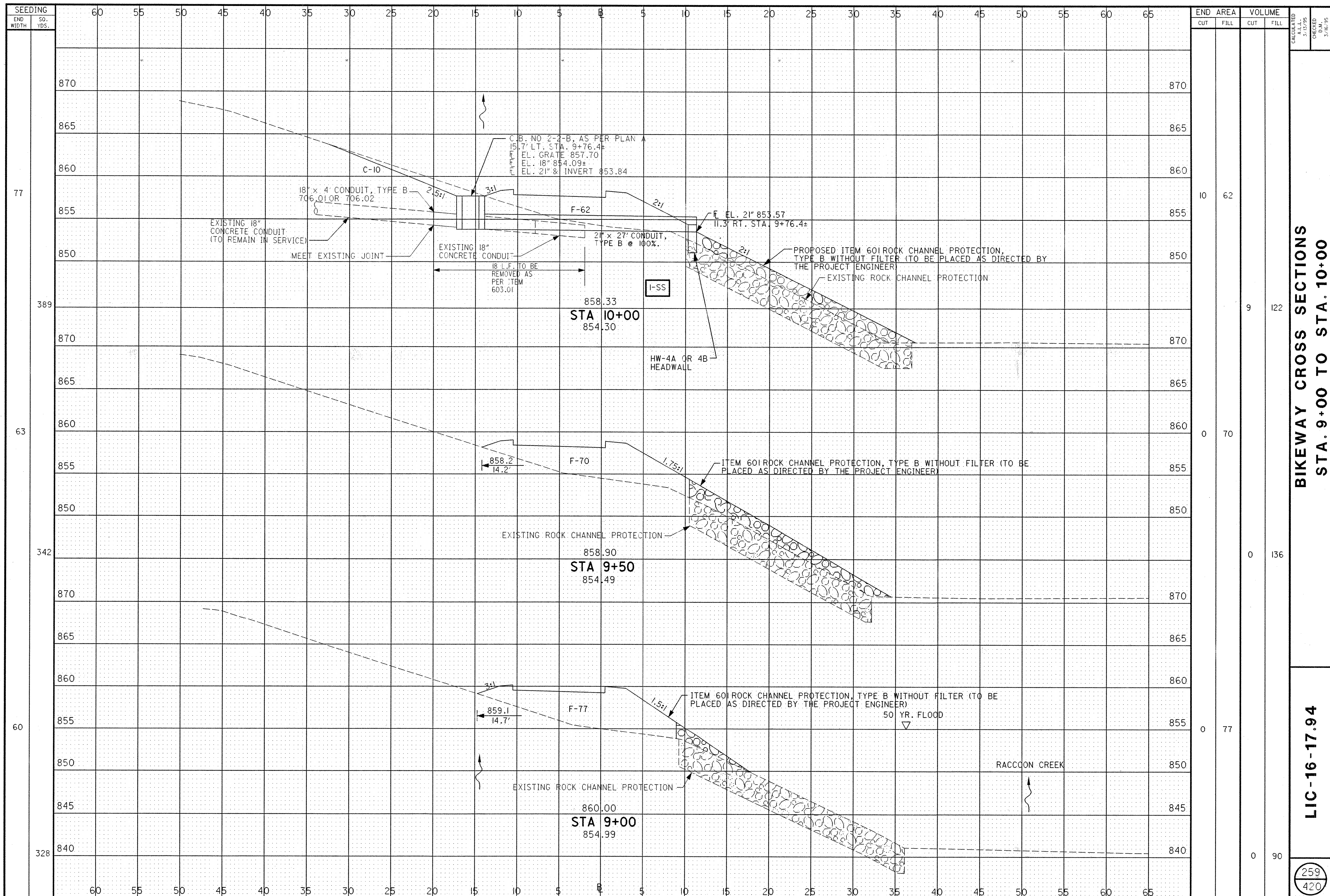
SEEDING
 END WIDTH SO. YDS.
 36
 194
 34
 175
 RC005016.DGN 4/11/95



END AREA		VOLUME	
CUT	FILL	CUT	FILL
29	148	57	293
32	168	57	314

CALCULATED A.L.L. 3/13/95
 CHECKED D.M. 3/16/95
BIKEWAY CROSS SECTIONS
STA. 6+50 TO STA. 7+00
LIC-16-17.94
 257
 420

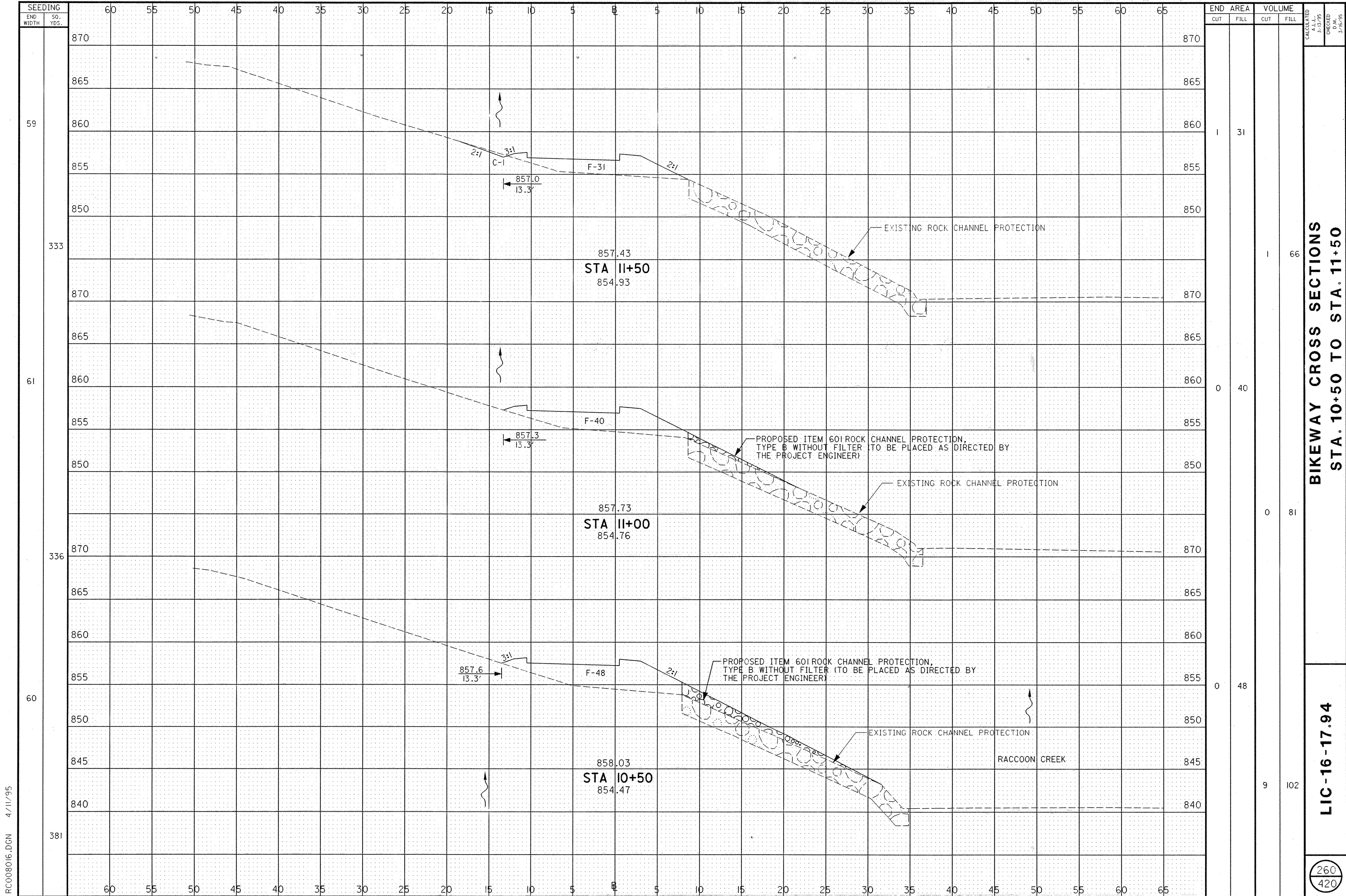
RC007016.DGN 4/11/95



BIKEWAY CROSS SECTIONS
STA. 9+00 TO STA. 10+00

LIC-16-17.94

259
420



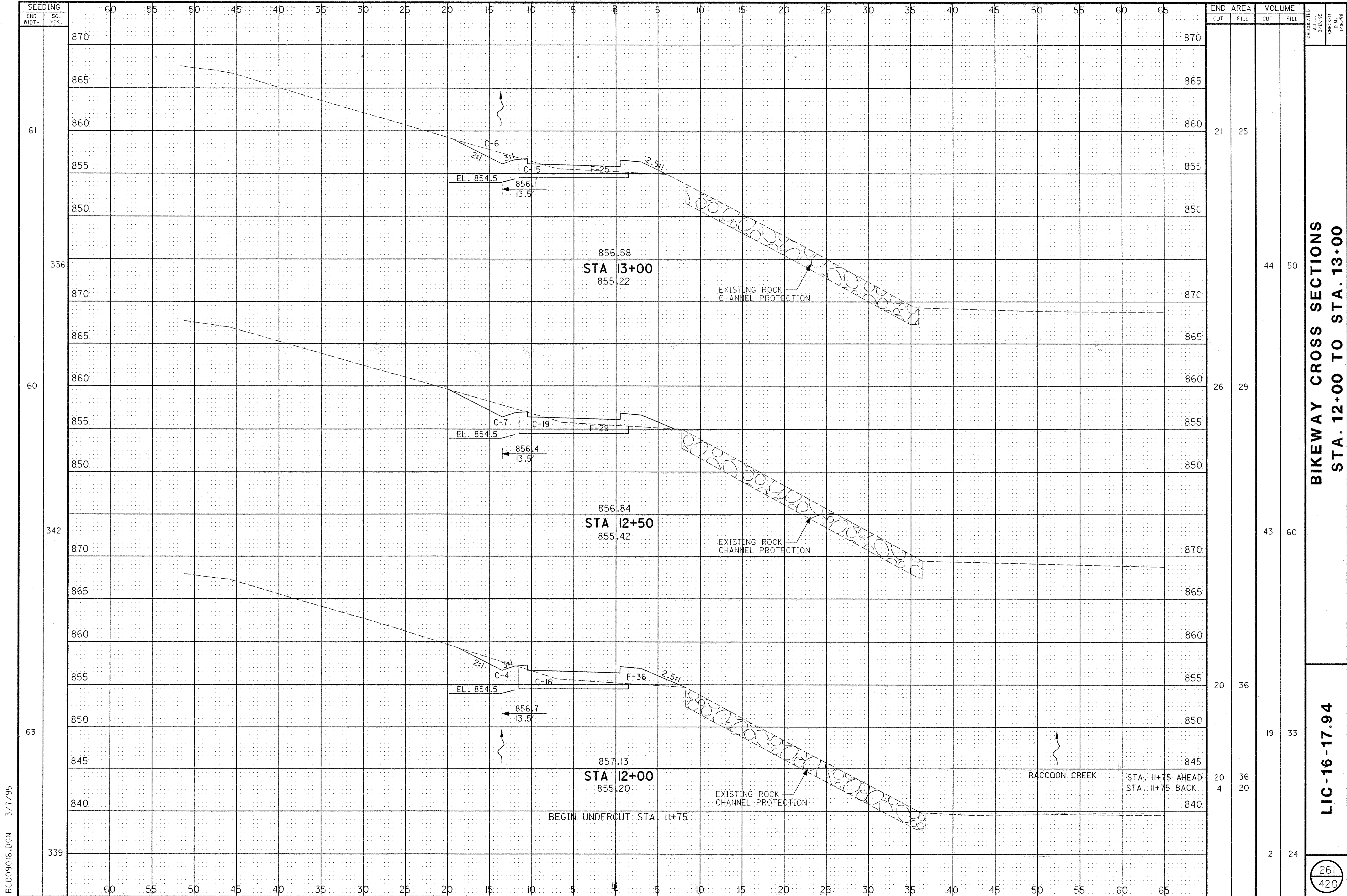
RC008016.DGN 4/11/95

**BIKEWAY CROSS SECTIONS
STA. 10+50 TO STA. 11+50**

LIC-16-17.94

260
420

CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95



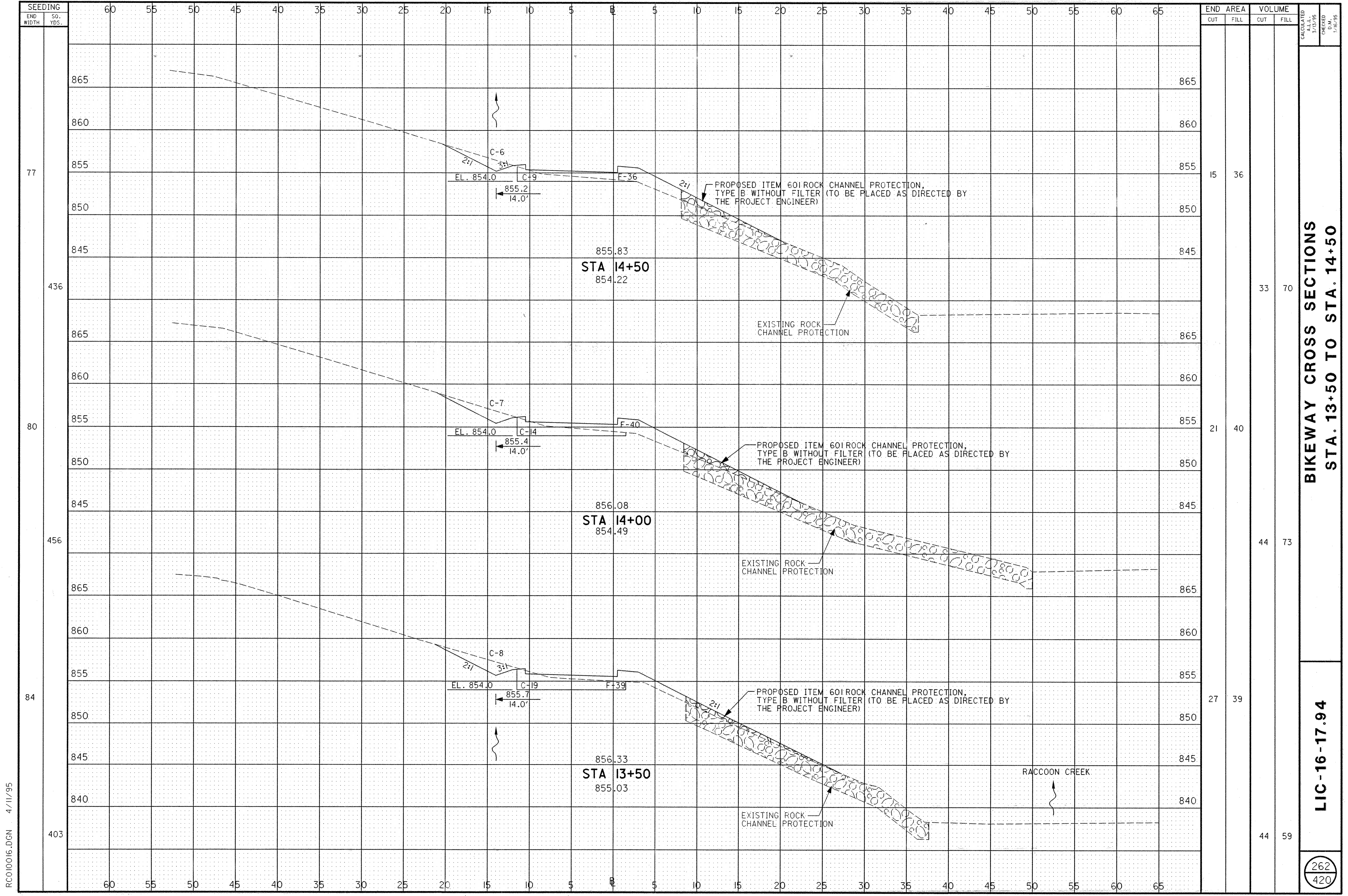
RC009016.DGN 3/7/95

CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95

**BIKEWAY CROSS SECTIONS
STA. 12+00 TO STA. 13+00**

LIC-16-17.94

261
420



RC010016.DGN 4/11/95

SEEDING	END WIDTH	SO. YDS.
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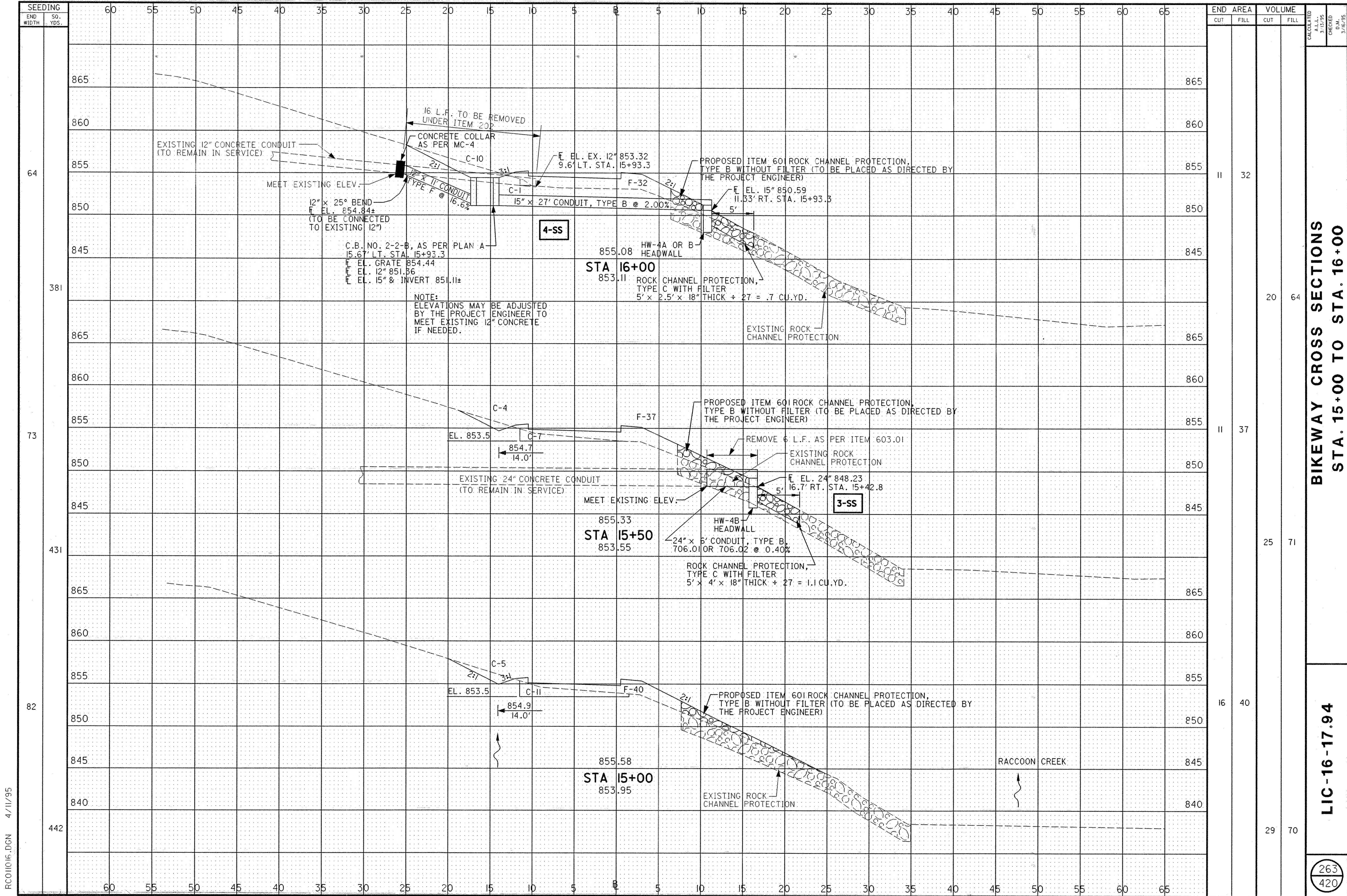
STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
14+50	15	36		
14+00	21	40		
13+50	27	39		
TOTAL	44	59		

**BIKEWAY CROSS SECTIONS
STA. 13+50 TO STA. 14+50**

LIC-16-17.94

262
420

CALCULATED
3/13/95
ALL.
CHECKED
D.M.
5/16/95

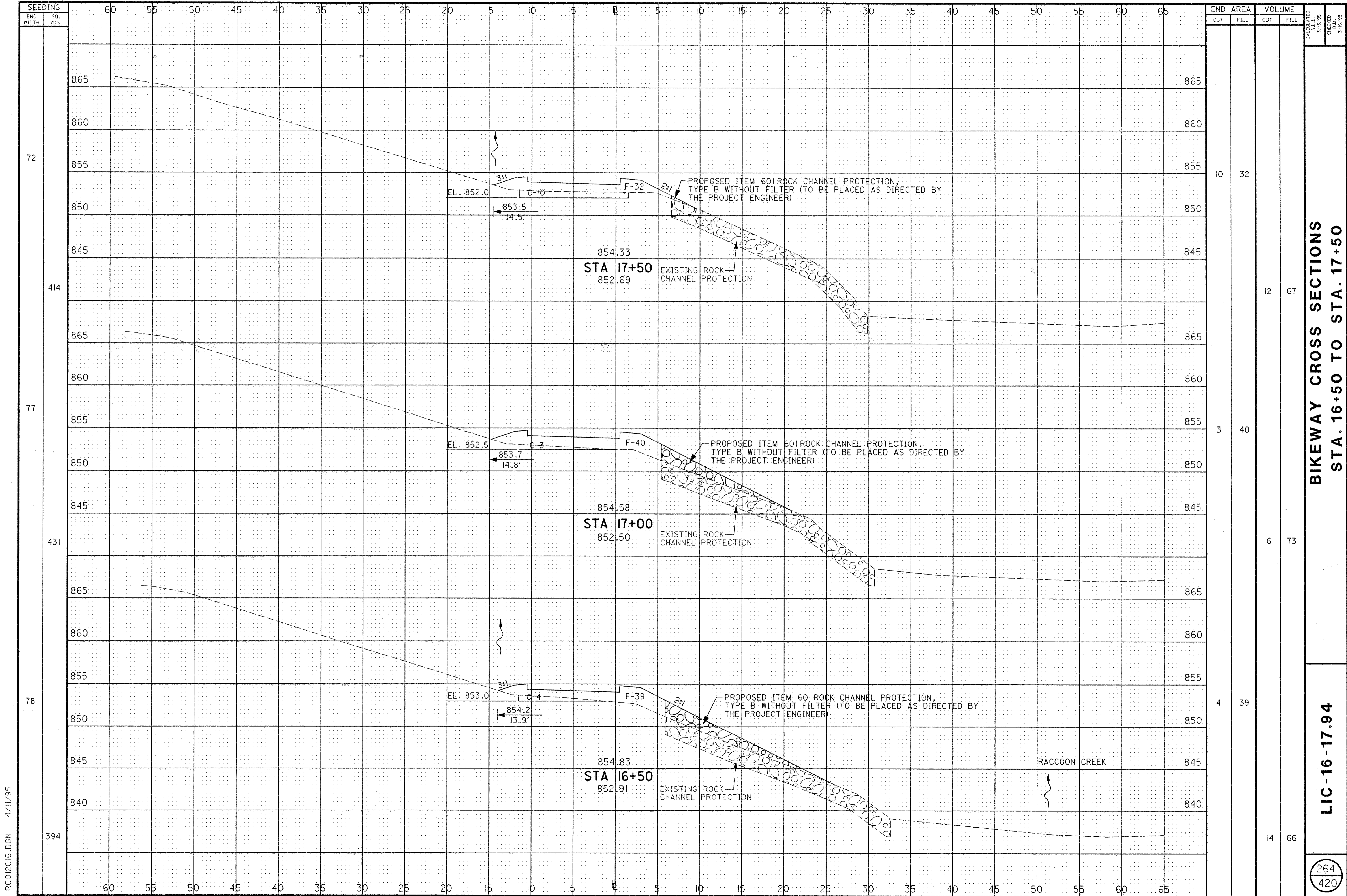


RC011016.DGN 4/11/95

SEEDING	
END WIDTH	SO. YDS.

END AREA	VOLUME	
	CUT	FILL
II	32	
II	37	
16	40	
	29	70

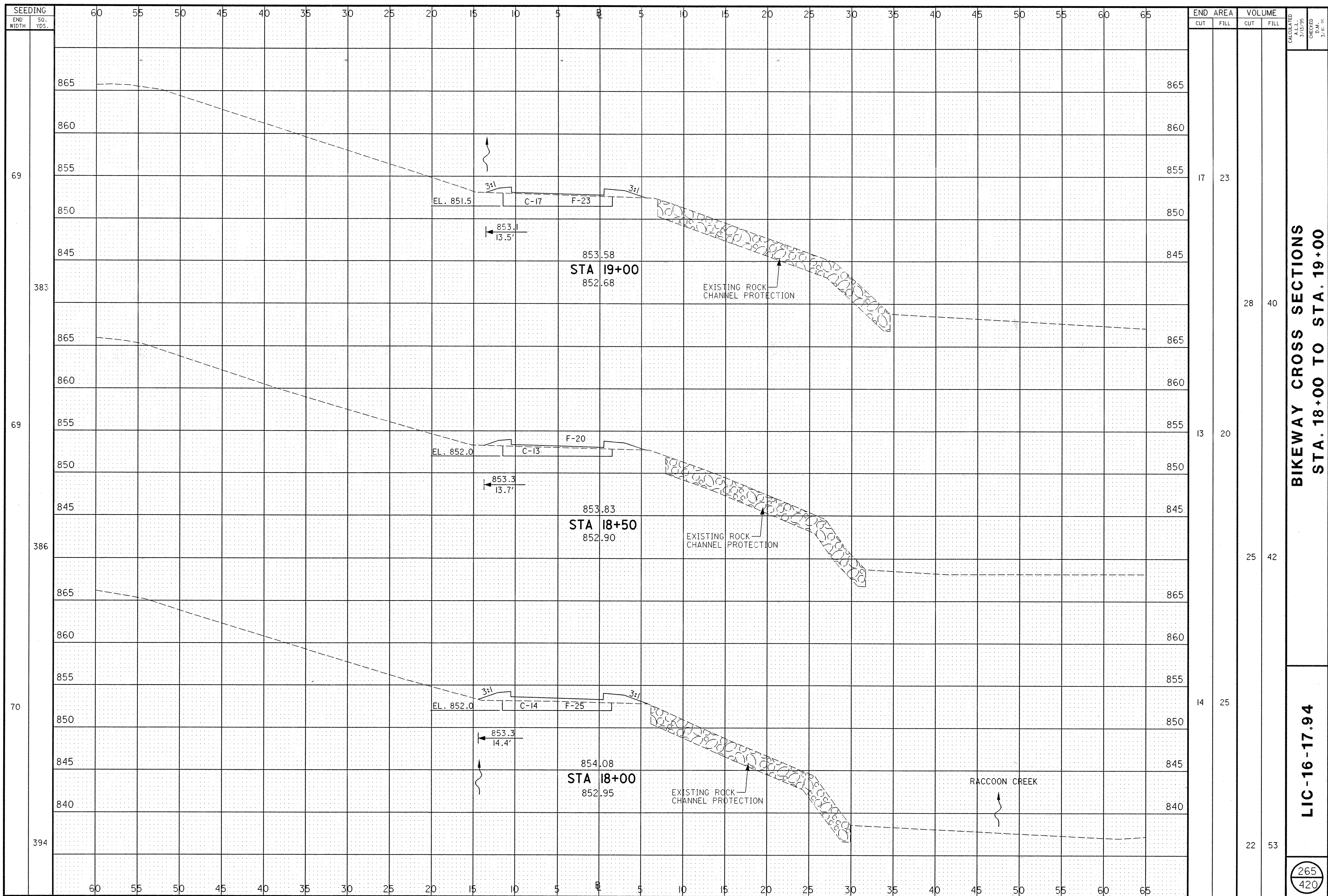
CALCULATED ALL 3/13/95
 CHECKED D.M. 3/16/95
BIKEWAY CROSS SECTIONS
STA. 15+00 TO STA. 16+00
LIC-16-17.94
 263
 420



RC012016.DGN 4/11/95

CALCULATED
A.L.L.
1/13/95
CHECKED
D.M.L.
3/16/95

RC013016.DGN 3/7/95

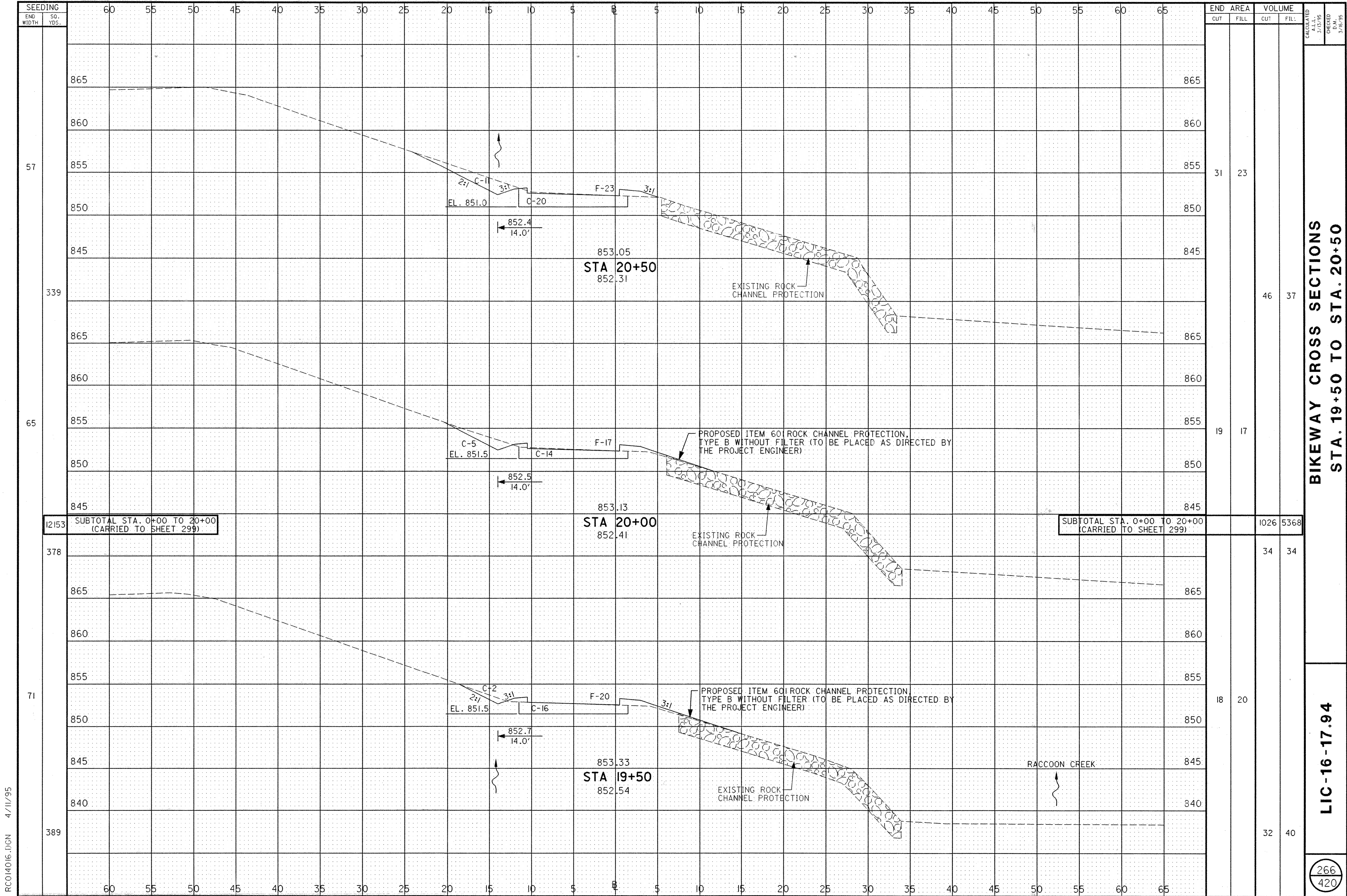


BIKEWAY CROSS SECTIONS
STA. 18+00 TO STA. 19+00

LIC-16-17.94

265
420

CALCULATED
3/13/95
ALL
CHECKED
D.M.
3/16/95



SEEDING	
END WIDTH	SO. YDS.
57	
339	
65	
12153	
378	
71	
389	

END AREA		VOLUME	
CUT	FILL	CUT	FILL
31	23	46	37
19	17	1026	5368
34	34	18	20
32	40		

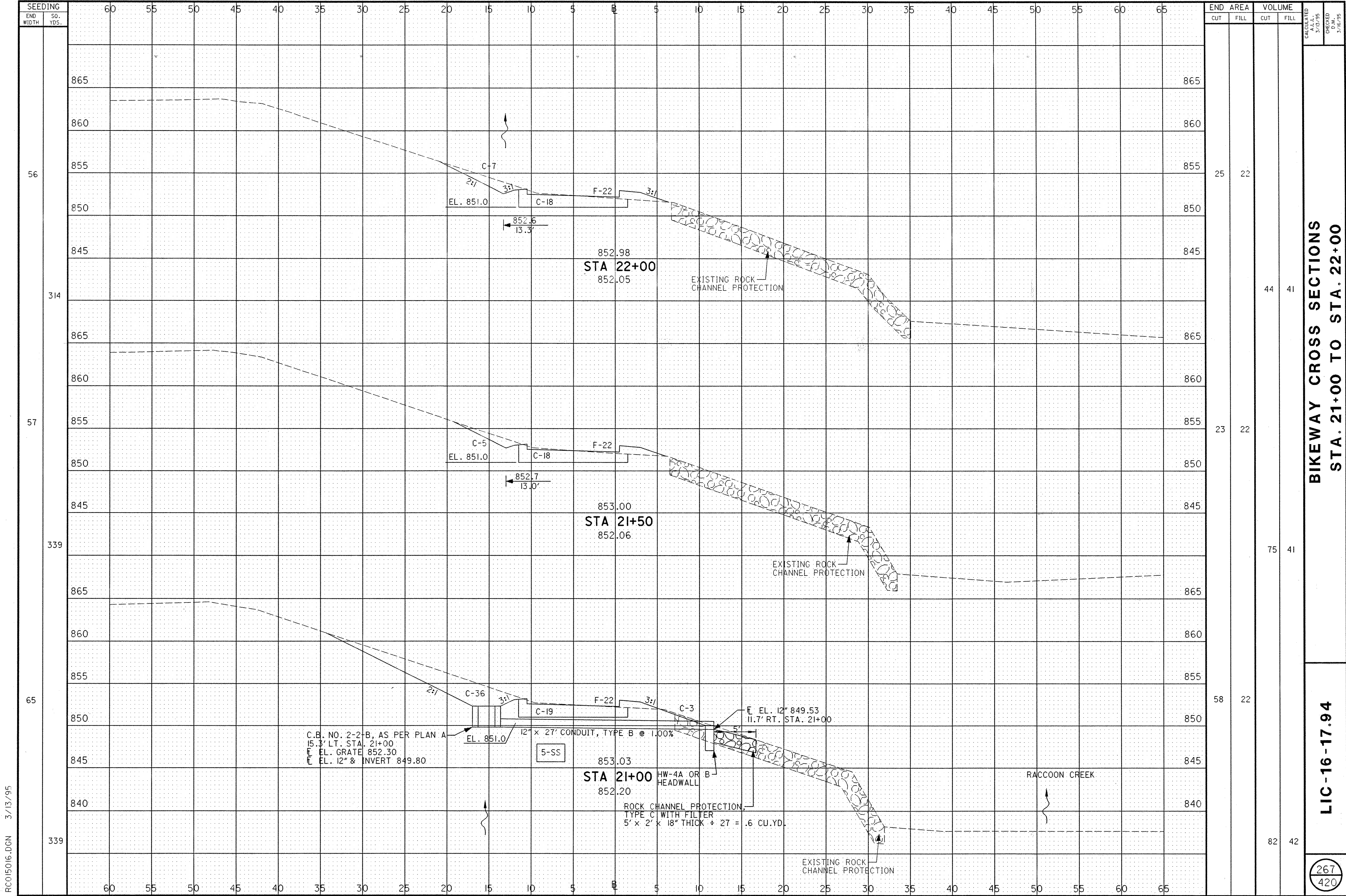
CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95

**BIKEWAY CROSS SECTIONS
STA. 19+50 TO STA. 20+50**

LIC-16-17.94

266
420

RC04016.DGN 4/11/95



RC015016.DGN 3/13/95

SEEDING
END WIDTH SO. YDS.
56
314
57
339
65
339

ELEVATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
865				
860				
855				
850	25	22		
845			44	41
865				
860				
855				
850	23	22		
845			75	41
865				
860				
855				
850	58	22		
845				
840				
840			82	42

CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95

**BIKEWAY CROSS SECTIONS
STA. 21+00 TO STA. 22+00**

LIC-16-17.94

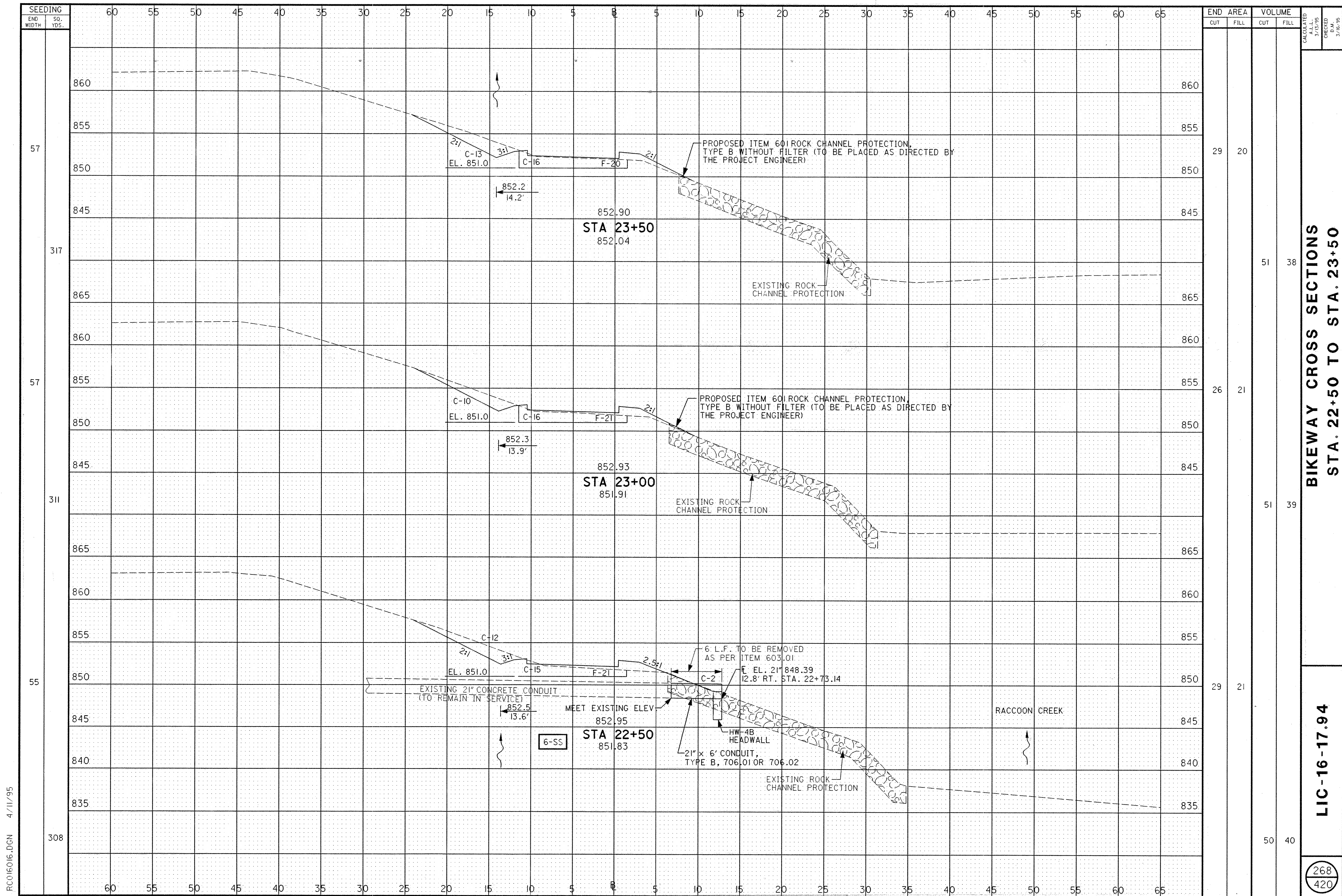
267
420

C.B. NO. 2-2-B, AS PER PLAN A
15.3' LT. STA. 21+00
E. EL. GRATE 852.30
E. EL. 12" & INVERT 849.80

12" x 27" CONDUIT, TYPE B @ 1.00%
5-SS
853.03
STA 21+00
852.20
HW-4A OR B HEADWALL
ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
5' x 2' x 18" THICK ÷ 27 = .6 CU.YD.

E. EL. 12" 849.53
11.7' RT. STA. 21+00

RACCOON CREEK



RC016016.DGN 4/11/95

SEEDING	SO. YDS.
END WIDTH	

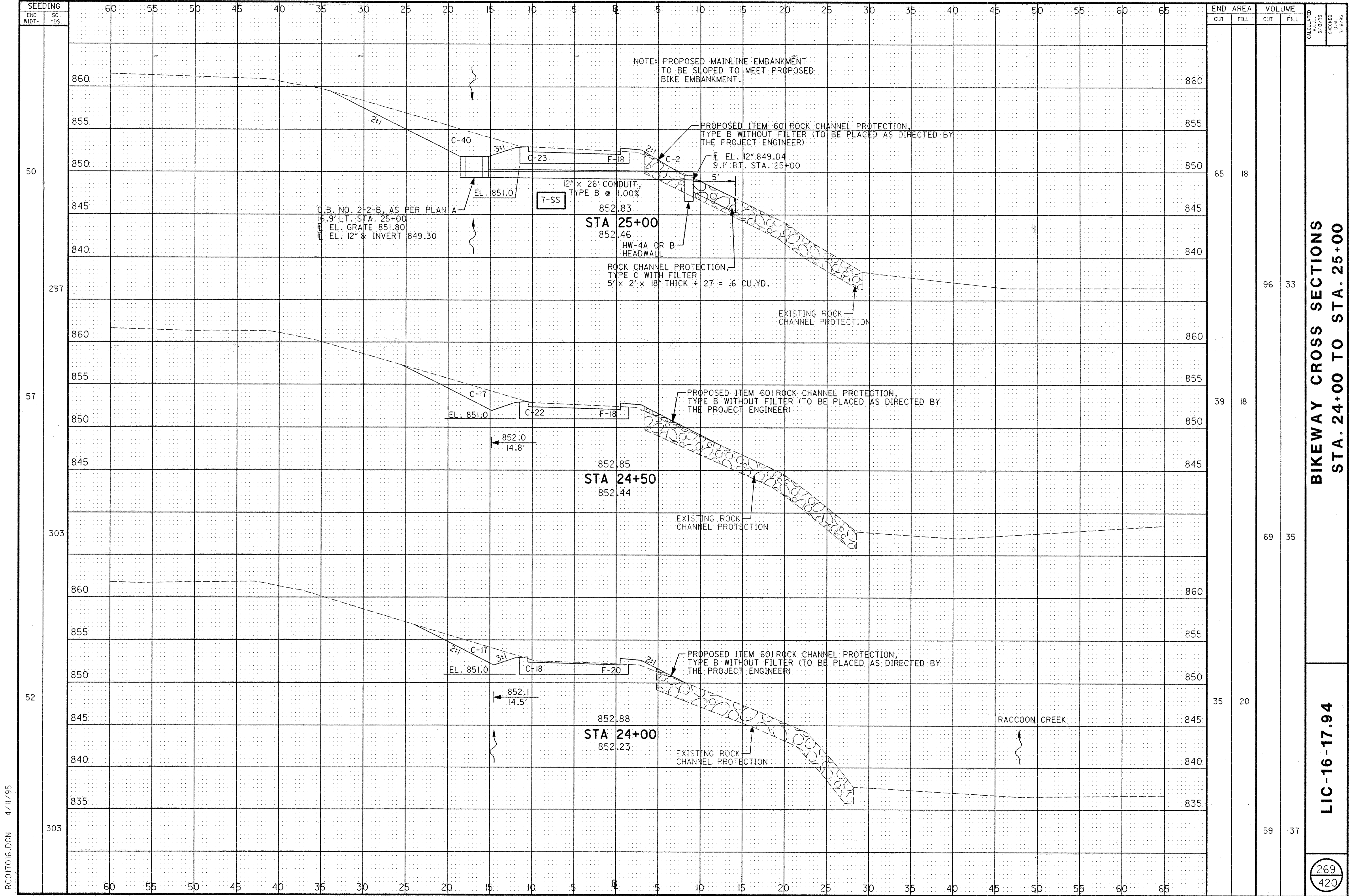
STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
57	29	20		
317			51	38
57	26	21		
311			51	39
55	29	21		
308			50	40

BIKEWAY CROSS SECTIONS
STA. 22+50 TO STA. 23+50

LIC-16-17.94

268
420

CALCULATED
3/13/95
CHECKED
D.M.
3/16/95



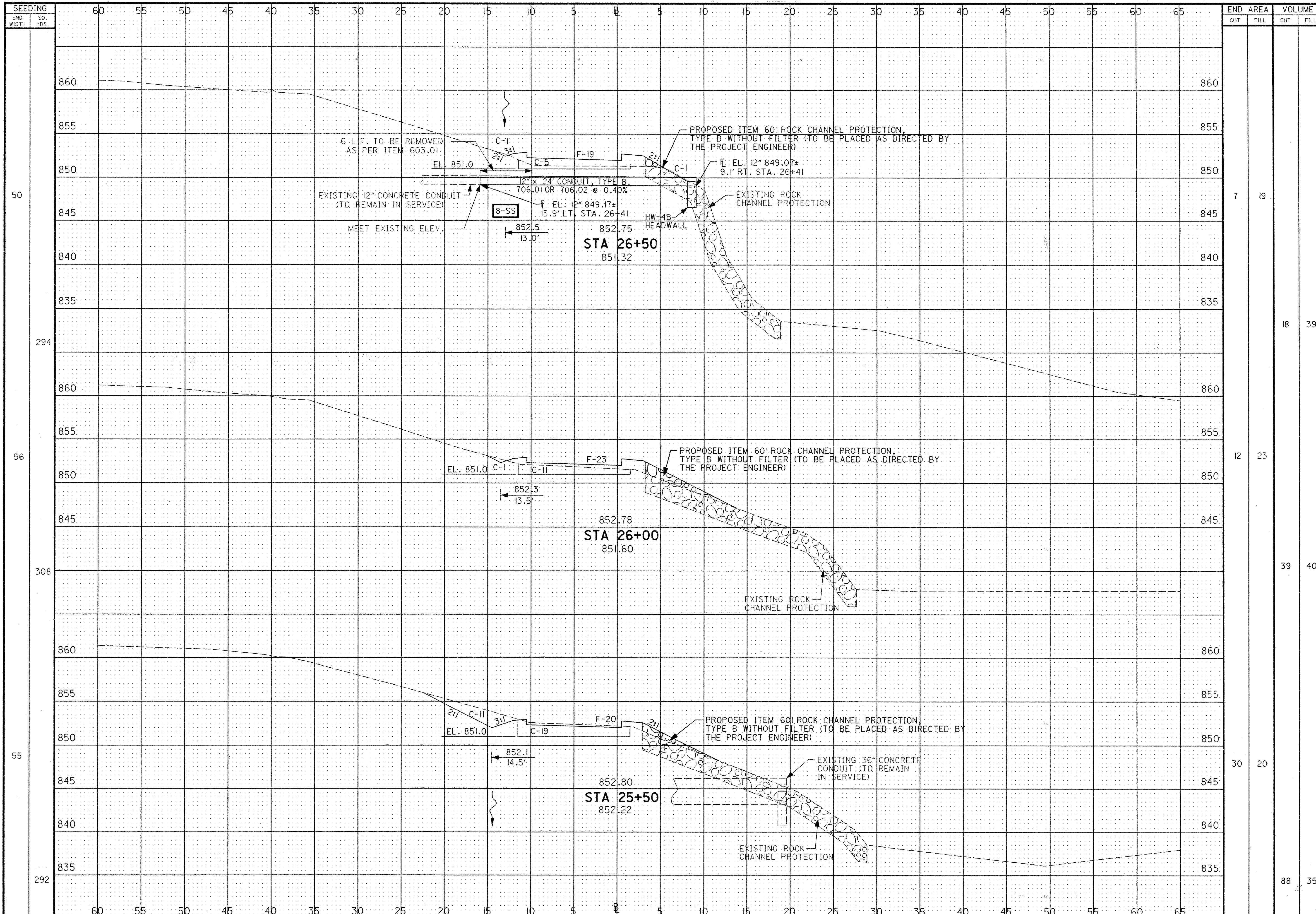
BIKEWAY CROSS SECTIONS
STA. 24+00 TO STA. 25+00

LIC-16-17.94

RC017016.DGN 4/11/95

CALCULATED ALL. 3/13/95
CHECKED D.M. 3/16/95

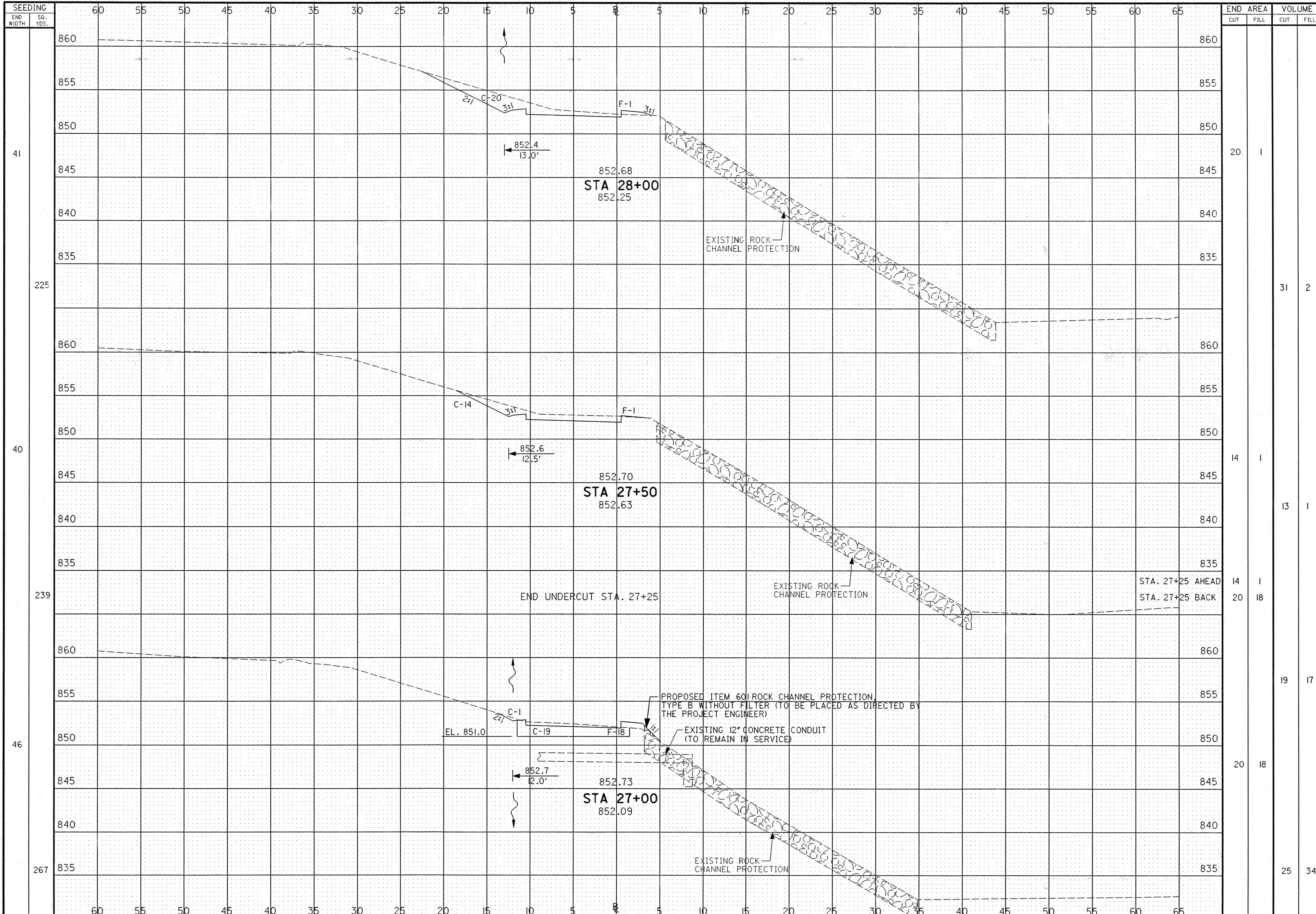
RC018016.DGN 4/11/95



END WIDTH	SO. YDS.	END AREA		VOLUME	
		CUT	FILL	CUT	FILL
50	50	7	19		
294	294			18	39
56	56	12	23		
308	308			39	40
55	55	30	20		
292	292			88	35

CALCULATED A.L.L. 5/13/95
 CHECKED D.M. 3/16/95
BIKEWAY CROSS SECTIONS
STA. 25+50 TO STA. 26+50
LIC-16-17.94
 270
 420

RC019016.DGN 4/11/95



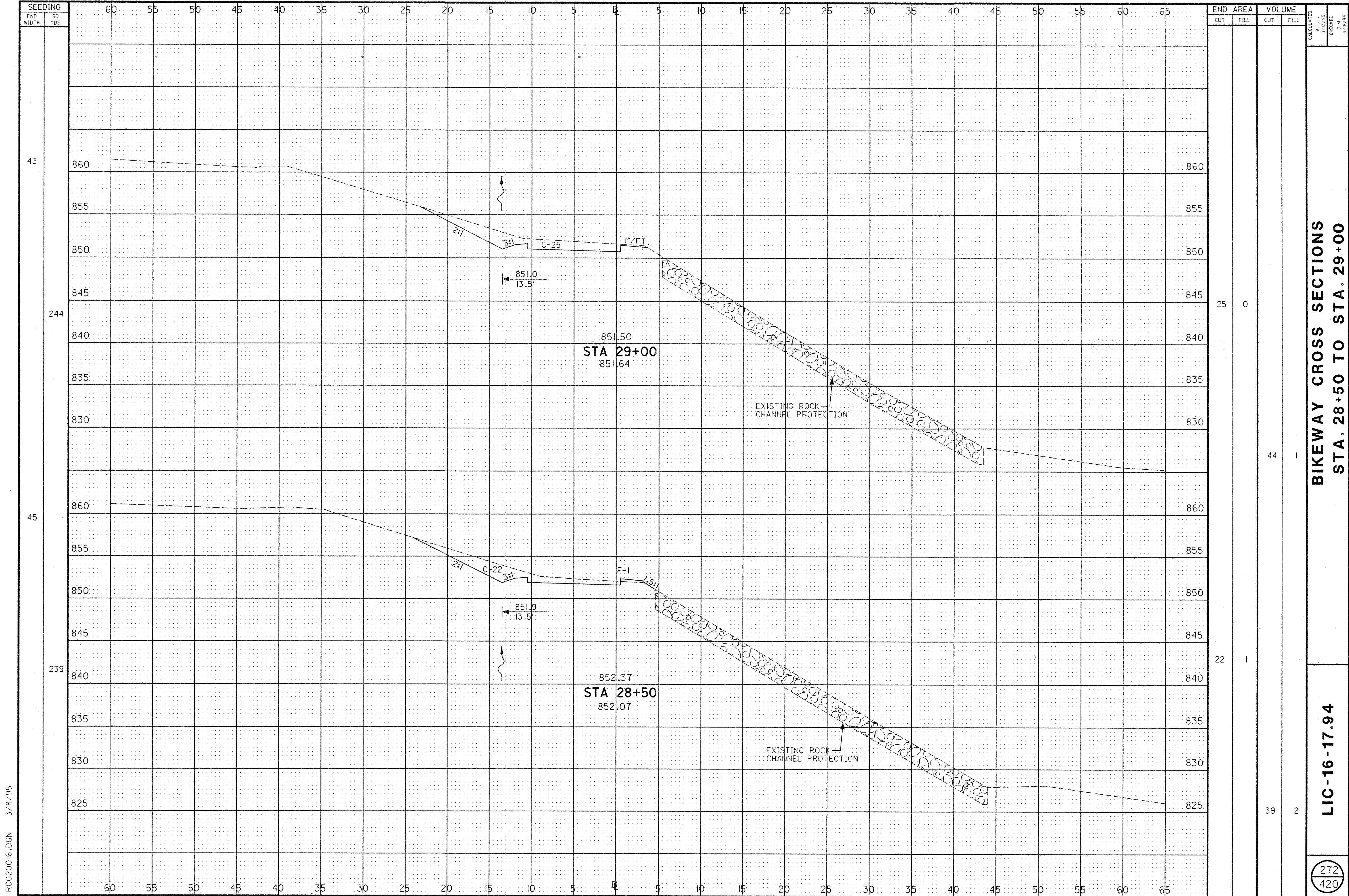
SEEDING END WIDTH	SO. YDS.	END AREA		VOLUME	
		CUT	FILL	CUT	FILL
41	41	20	1		
225	225	31	2		
40	40	14	1		
239	239	13	1		
		14	1		
		20	18		
46	46	19	17		
		20	18		
267	267	25	34		

**BIKEWAY CROSS SECTIONS
STA. 27+00 TO STA. 28+00**

LIC-16-17.94

271
420

CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95



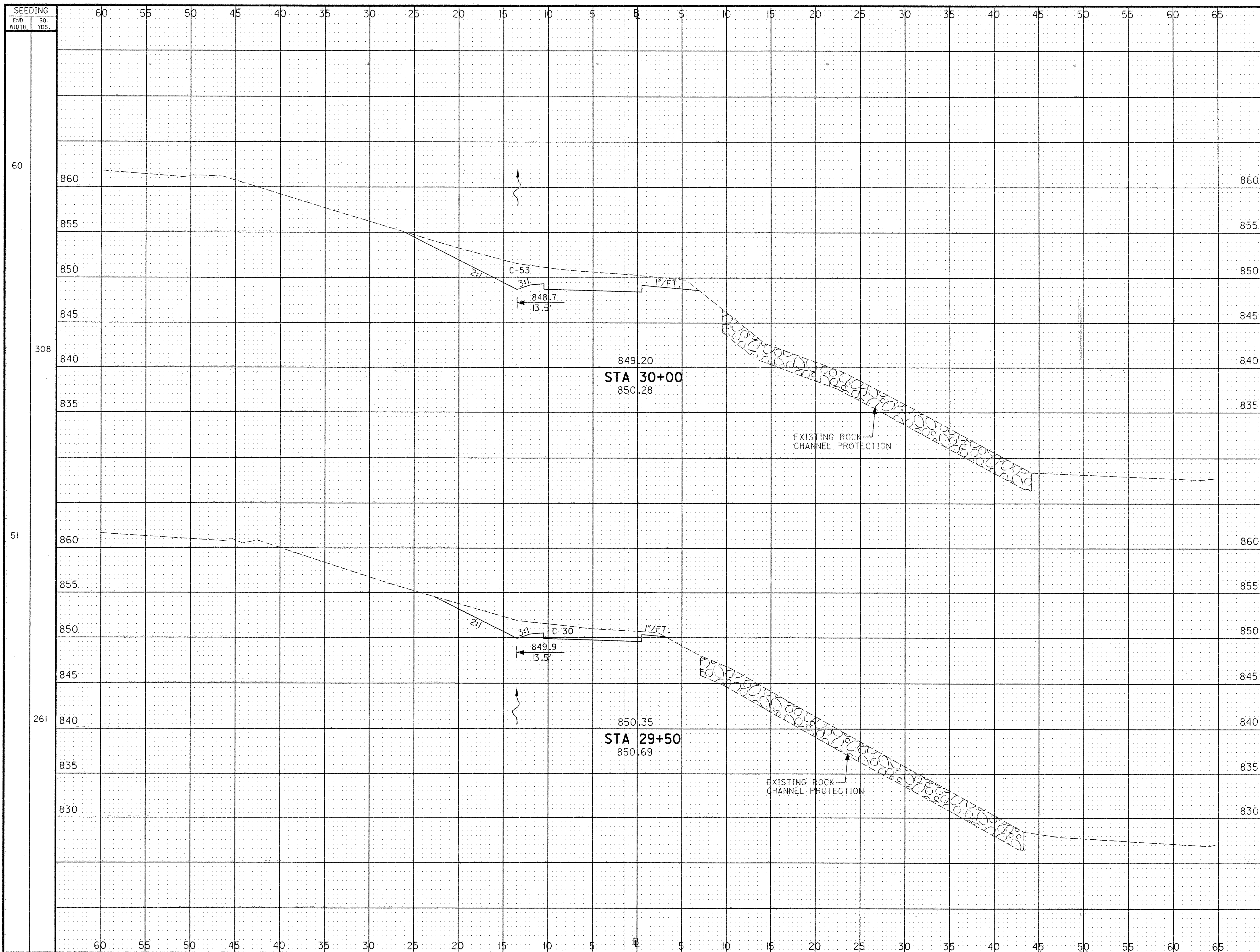
RC020016.DGN 3/8/95

BIKEWAY CROSS SECTIONS
STA. 28+50 TO STA. 29+00

LIC-16-17.94

272
420

RC021016.DGN 3/8/95



60

308

51

261

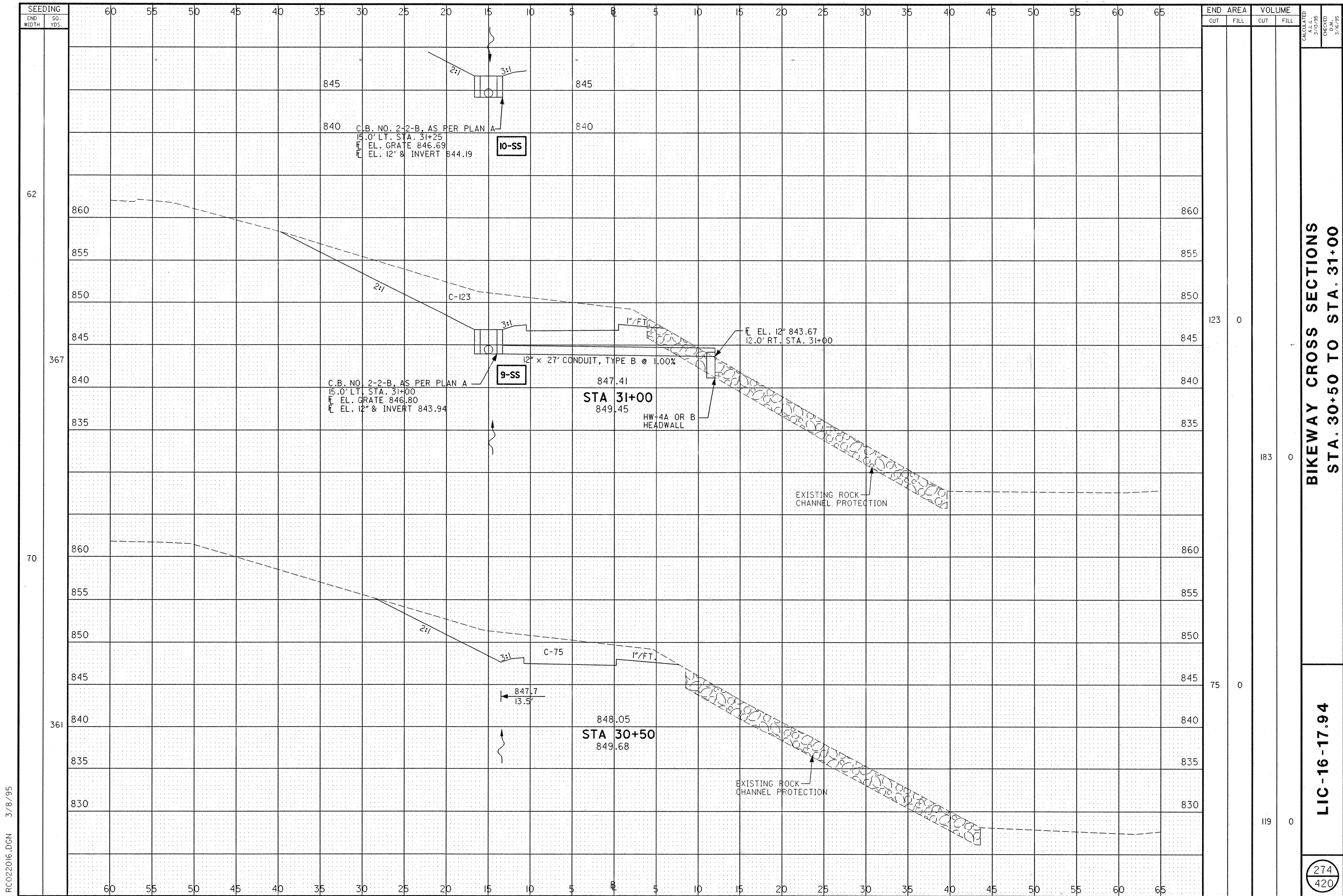
END	AREA		VOLUME	
	CUT	FILL	CUT	FILL
860				
855				
850				
845				
840	53	0		
835				
830				
825				
820				
815				
810				
805				
800				
795				
790				
785				
780				
775				
770				
765				
760				
755				
750				
745				
740				
735				
730				
725				
720				
715				
710				
705				
700				
695				
690				
685				
680				
675				
670				
665				
660				
655				
650				
645				
640				
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630				
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370				
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185				
180				
175				
170				
165				
160				
155				
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145				
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130				
125				
120				
115				
110				
105				
100				
95				
90				
85				
80				
75				
70				
65				
60				
55				
50				
45				
40				
35				
30				
25				
20				
15				
10				
5				
0				
5				
10				
15				
20				
25				
30				
35				
40				
45				
50				
55				
60				
65				
			77	0
			30	0
			51	0

BIKEWAY CROSS SECTIONS
STA. 29+50 TO STA. 30+00

LIC-16-17.94

273
420

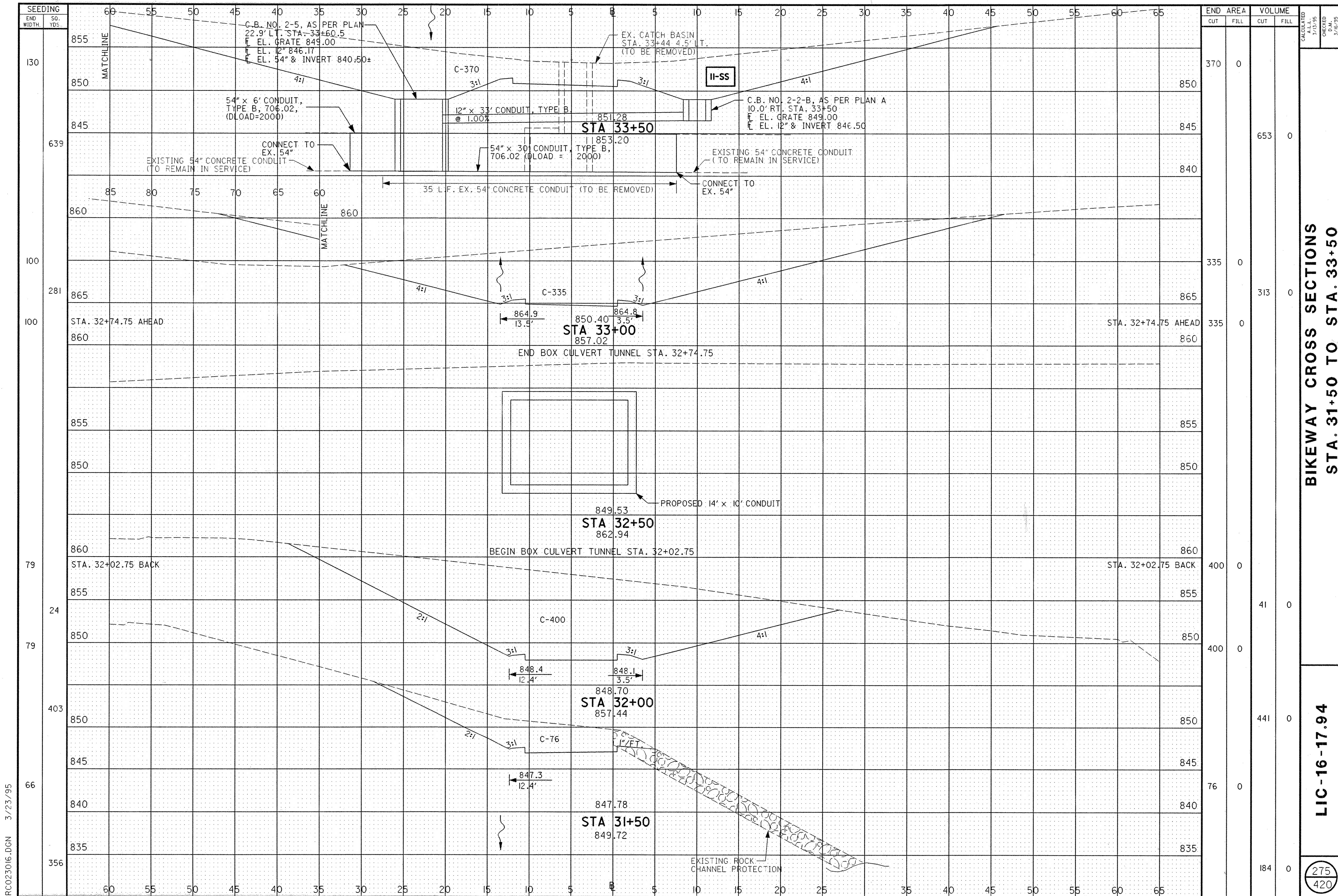
CALCULATED
A.L.L.
3/17/95
CHECKED
D.M.
3/18/95



**BIKEWAY CROSS SECTIONS
STA. 30+50 TO STA. 31+00**

LIC-16-17.94

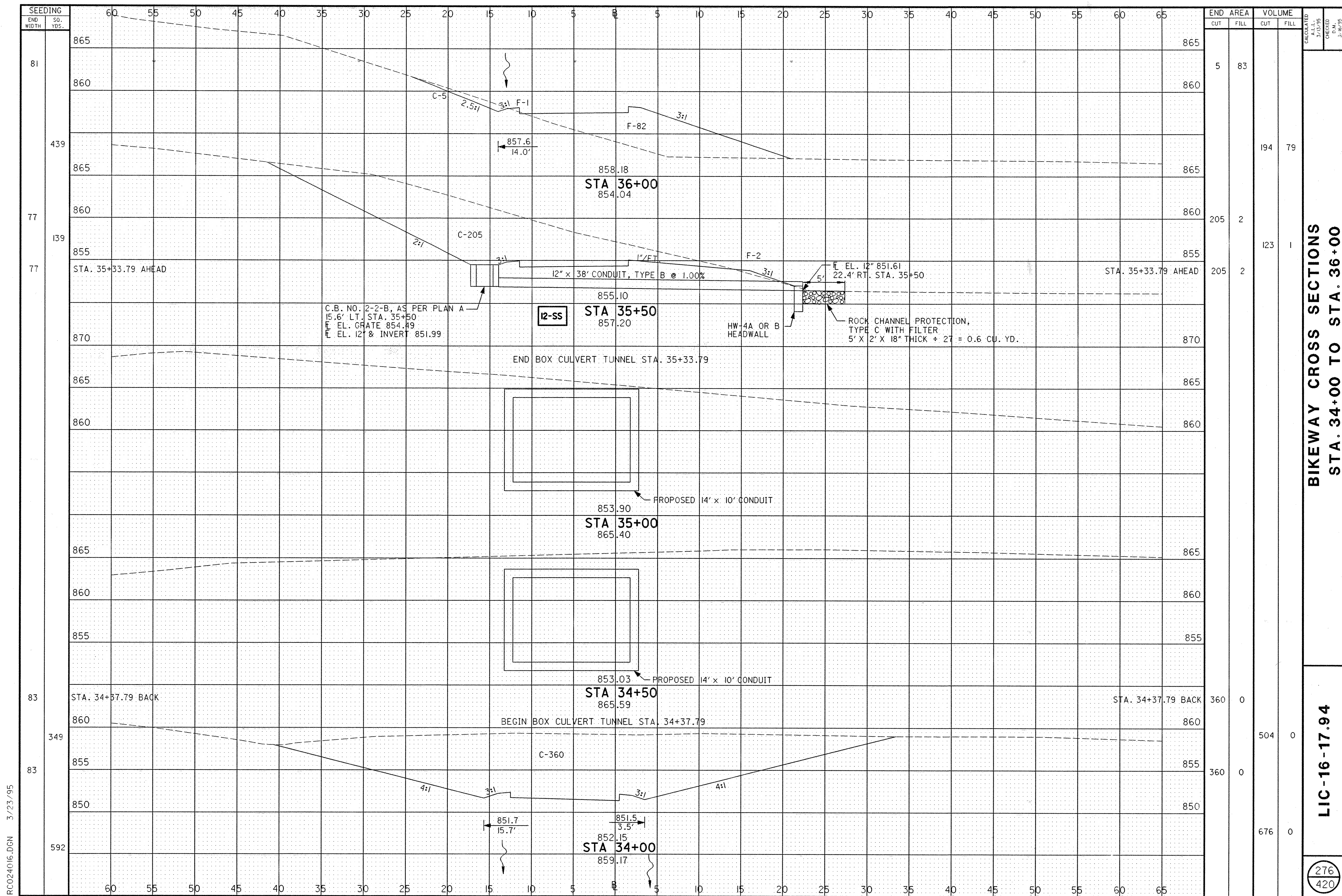
CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95



BIKEWAY CROSS SECTIONS
STA. 31+50 TO STA. 33+50

LIC-16-17.94

CALCULATED
3/13/95
CHECKED
3/16/95



END AREA	VOLUME	CALCULATED	
		CUT	FILL
5	83		
194	79		
205	2		
123	1		
205	2		
360	0		
360	0		
360	0		
504	0		
360	0		
676	0		

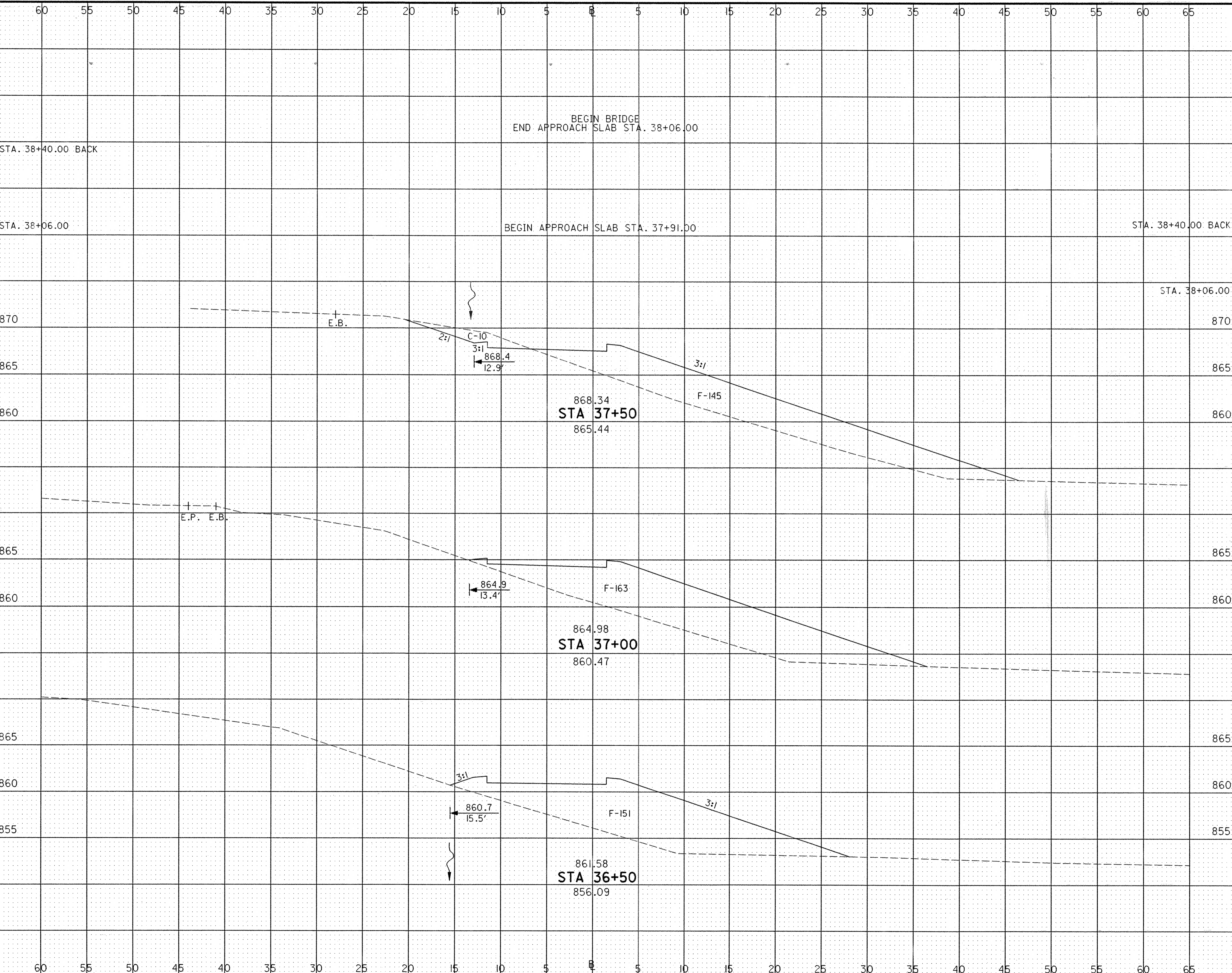
BIKEWAY CROSS SECTIONS
STA. 34+00 TO STA. 36+00

LIC-16-17.94

276
 420

RC024016.DGN 3/23/95

SEEDING
 END WIDTH SO. YDS.
 0
 144
 76
 473
 76
 425
 77
 458
 88
 469



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0	6	162
10	257	21	417
10	145	9	285
0	163	0	291
0	151	5	217

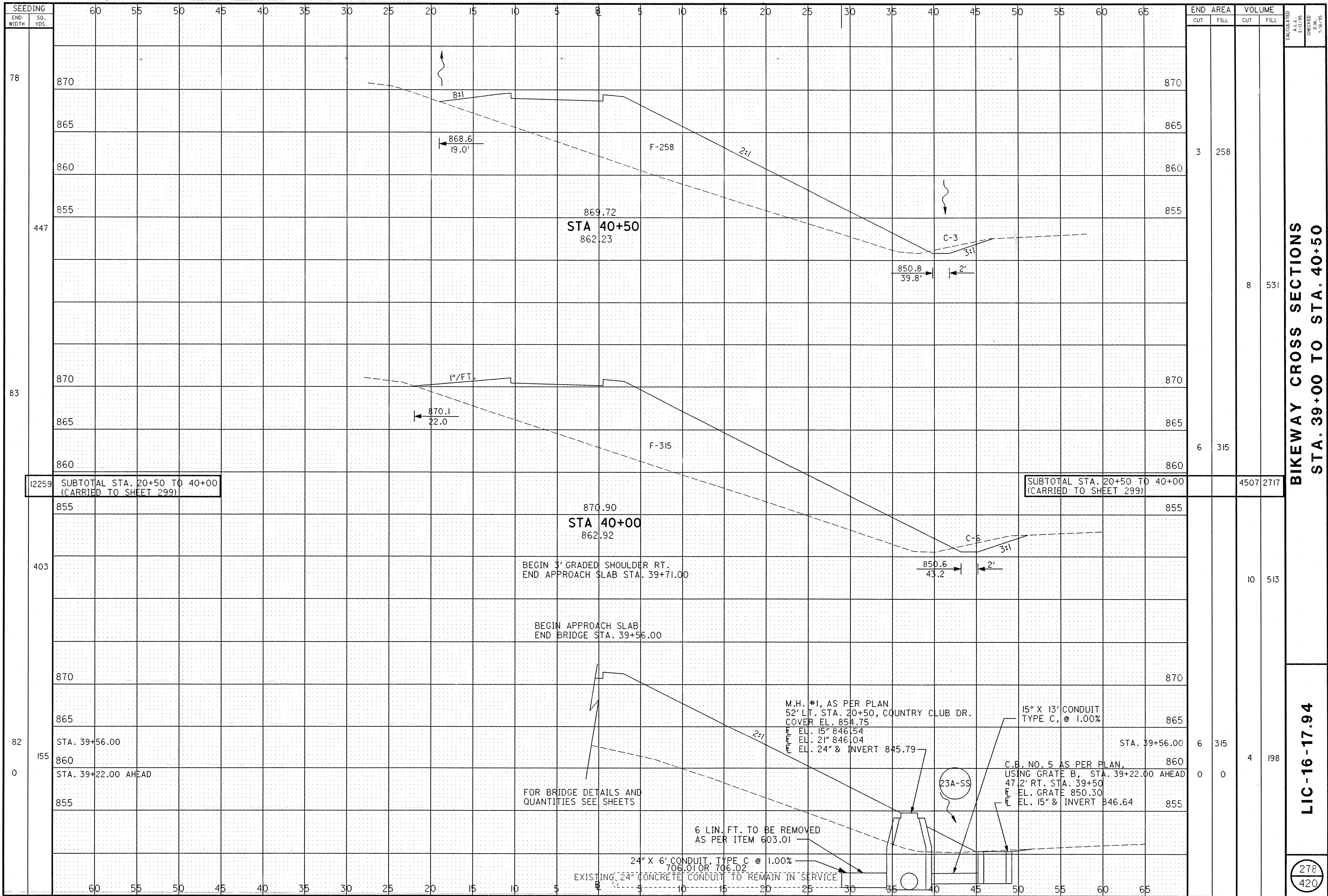
CALCULATED
 A.L.L.
 3/11/95

CHECKED
 D.M.
 3/16/95

**BIKEWAY CROSS SECTIONS
 STA. 36+50 TO STA. 38+50**

LIC-16-17.94

27.7
 420



SEEDING	END WIDTH		SO. YDS.
	CUT	FILL	
78			
83			
82			
0			

END AREA	VOLUME	
	CUT	FILL
	3	258
	6	315
	10	513
	6	315
	0	0
	4	198
	8	531
	4507	2717

BIKEWAY CROSS SECTIONS
 STA. 39+00 TO STA. 40+50

LIC-16-17.94

278
 420

R026016.DGN 3/23/95

12259 SUBTOTAL STA. 20+50 TO 40+00
 (CARRIED TO SHEET 299)

SUBTOTAL STA. 20+50 TO 40+00
 (CARRIED TO SHEET 299)

BEGIN 3' GRADED SHOULDER RT.
 END APPROACH SLAB STA. 39+71.00

BEGIN APPROACH SLAB
 END BRIDGE STA. 39+56.00

FOR BRIDGE DETAILS AND
 QUANTITIES SEE SHEETS

M.H. #1, AS PER PLAN
 52' LT. STA. 20+50, COUNTRY CLUB DR.
 COVER EL. 854.75
 15" EL. 846.54
 21" EL. 846.04
 24" & INVERT 845.79

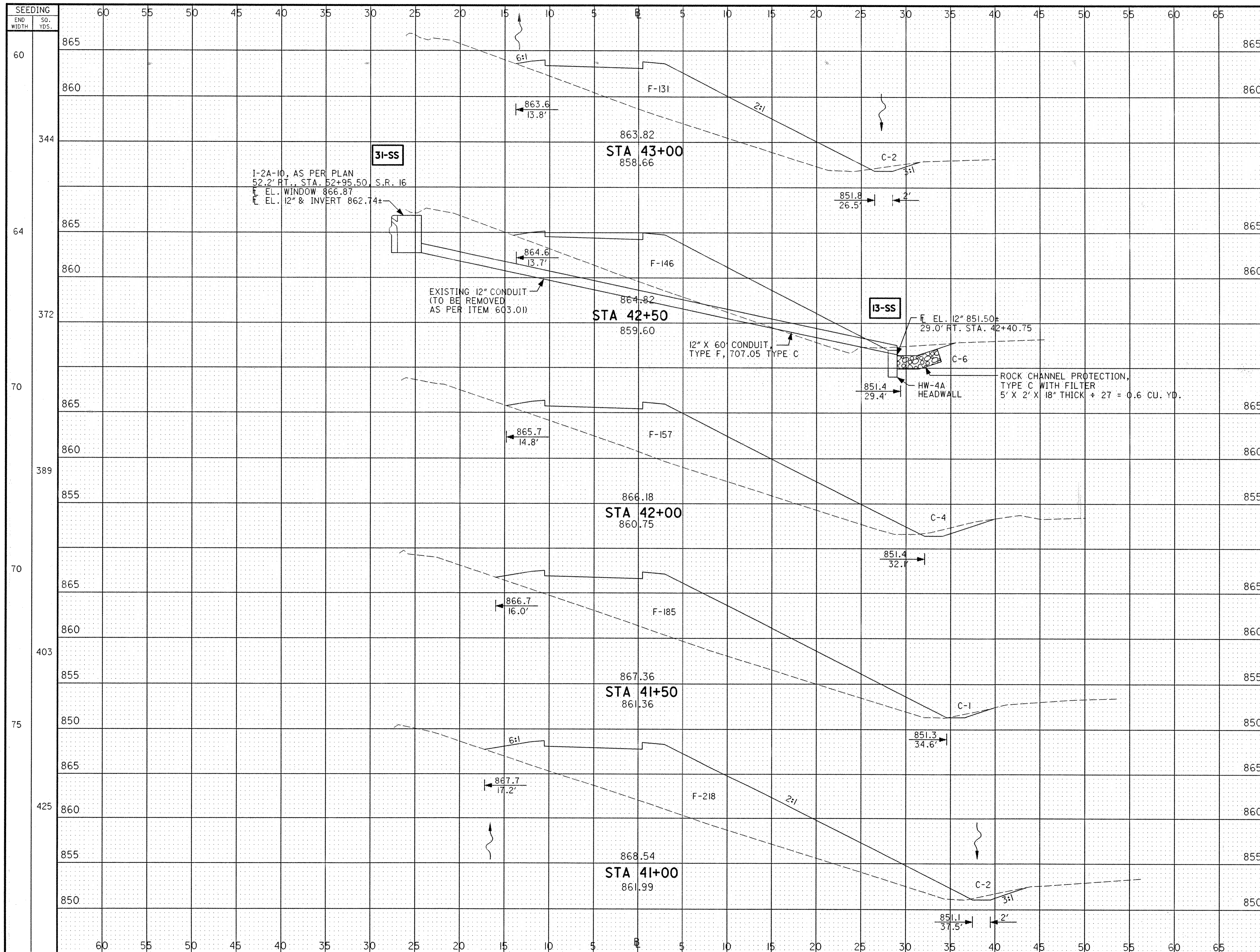
15" X 13" CONDUIT
 TYPE C, @ 1.00%

C.B. NO. 5 AS PER PLAN,
 USING GRATE B, STA. 39+22.00 AHEAD
 47' 2" RT. STA. 39+50
 EL. GRATE 850.30
 EL. 15" & INVERT 846.64

6 LIN. FT. TO BE REMOVED
 AS PER ITEM 603.01

24" X 6" CONDUIT, TYPE C @ 1.00%
 706.01 OR 706.02
 EXISTING 24" CONCRETE CONDUIT TO REMAIN IN SERVICE

RC027016.DGN 3/13/95



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
60	2	131		
344			7	256
64	6	146		
372			9	281
70				
389	4	157		
70			5	317
403	1	185		
75			3	373
425	2	218		
			5	441

CALCULATED: A.L.L. 3/13/95
 CHECKED: D.M. 3/16/95

BIKEWAY CROSS SECTIONS
STA. 41+00 TO STA. 43+00

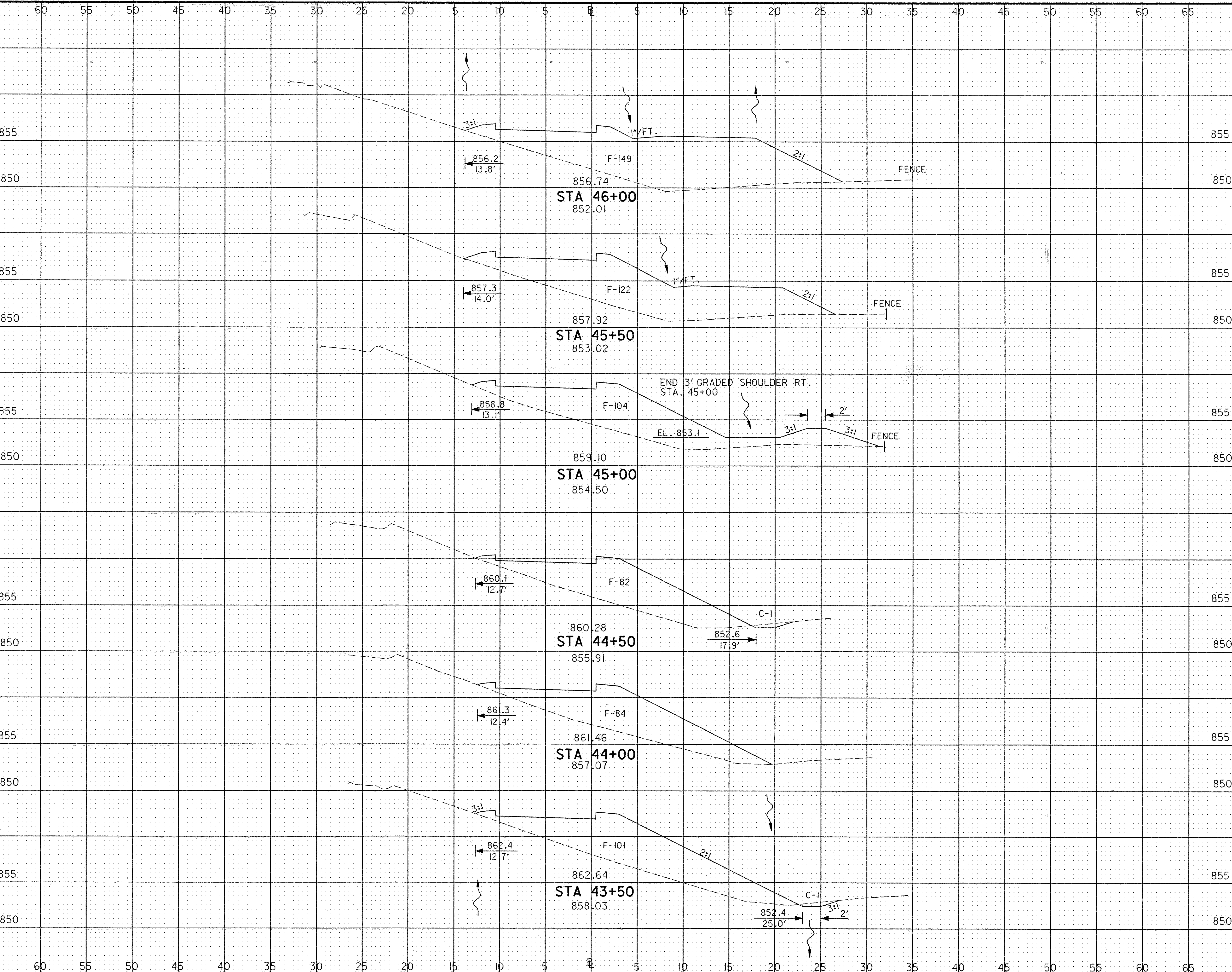
LIC-16-17.94

279
 420

SEEDING
END WIDTH SO. YDS.

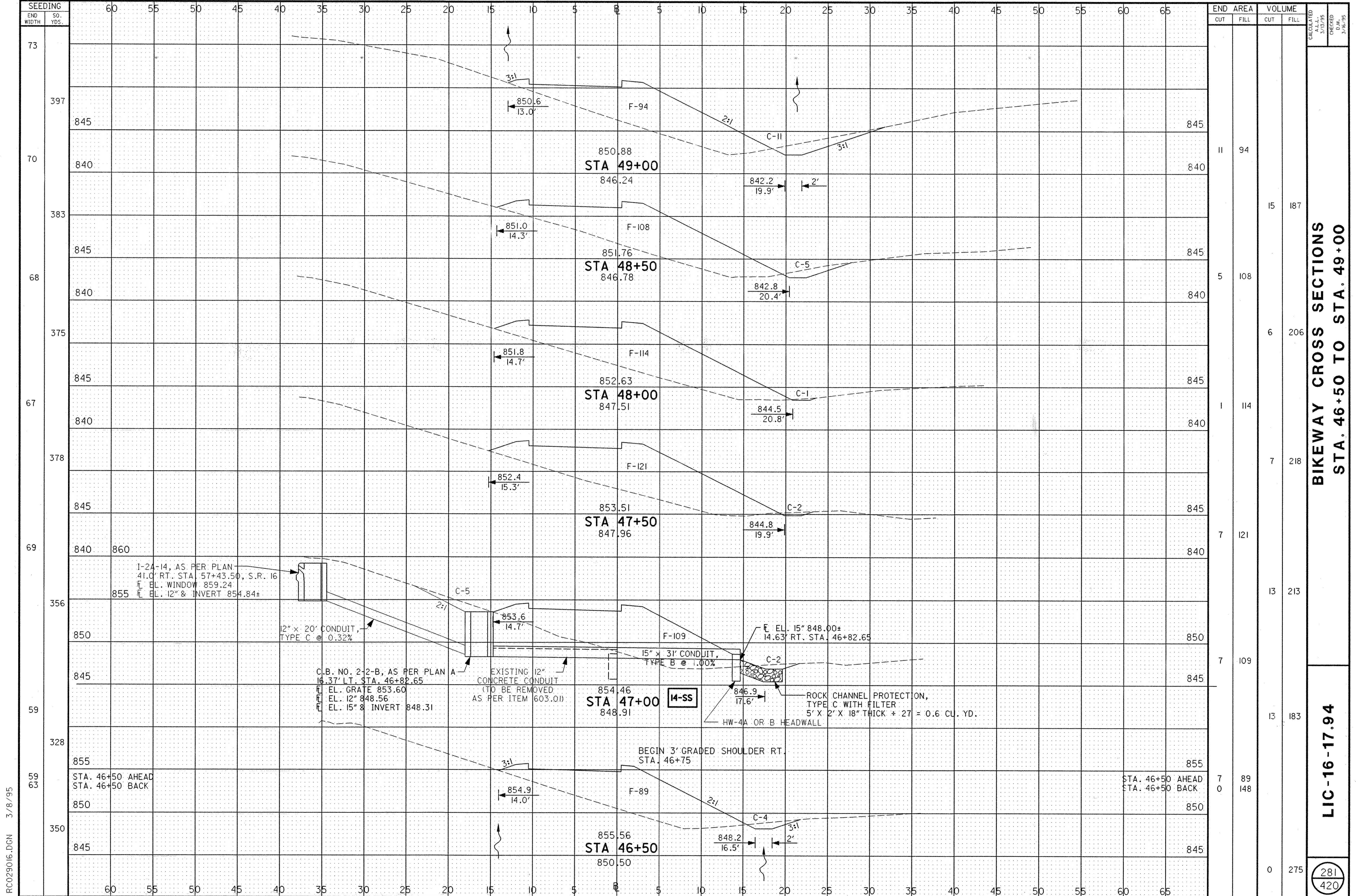
63
344
61
347
64
328
54
294
52
300
56
322

RC028016.DGN 3/14/95



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	149	0	251
0	122	0	209
0	104	0	172
1	82	1	154
0	84	1	171
1	101	3	215

CALCULATED A.L.L. 3/13/95
 CHECKED D.M. 3-16-95
BIKEWAY CROSS SECTIONS
STA. 43+50 TO STA. 46+00
LIC-16-17.94
 280
420



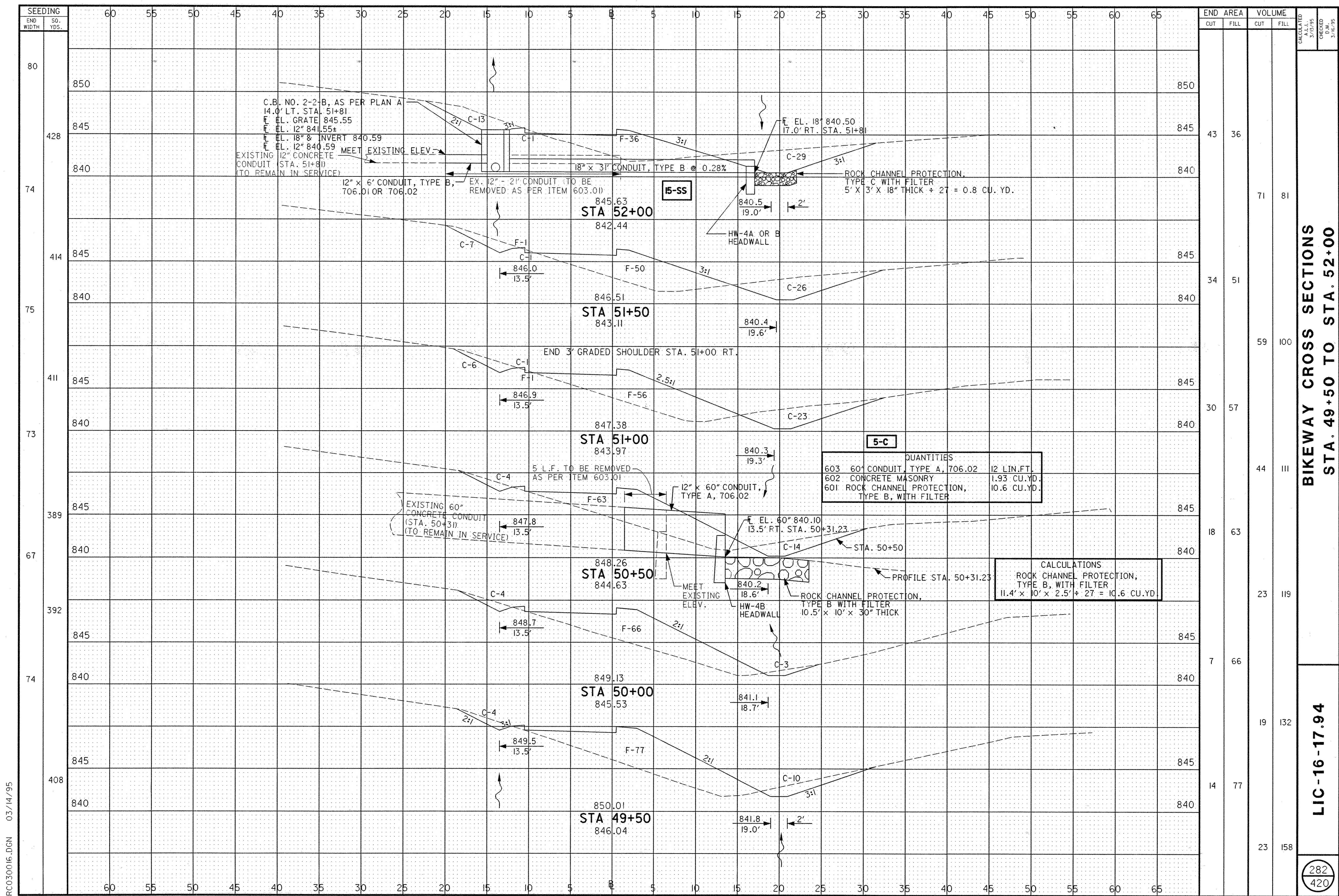
END STA	AREA		VOLUME	
	CUT	FILL	CUT	FILL
II 94				
15			187	
5 108				
6 206				
1 114				
7 218				
13 213				
7 109				
13 183				
7 89				
0 148				
0			275	

BIKEWAY CROSS SECTIONS
 STA. 46+50 TO STA. 49+00

LIC-16-17.94

281
420

RC029016.DGN 3/8/95



C.B. NO. 2-2-B, AS PER PLAN A
 14.0' LT. STA. 51+81
 E. EL. GRATE 845.55
 E. EL. 12" 841.55±
 E. EL. 18" & INVERT 840.59
 E. EL. 12" 840.59
 EXISTING 12" CONCRETE
 CONDUIT (STA. 51+81)
 (TO REMAIN IN SERVICE)
 MEET EXISTING ELEV.

QUANTITIES	
603	60' CONDUIT, TYPE A, 706.02
602	CONCRETE MASONRY
601	ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER
12	LIN. FT.
1.93	CU. YD.
10.6	CU. YD.

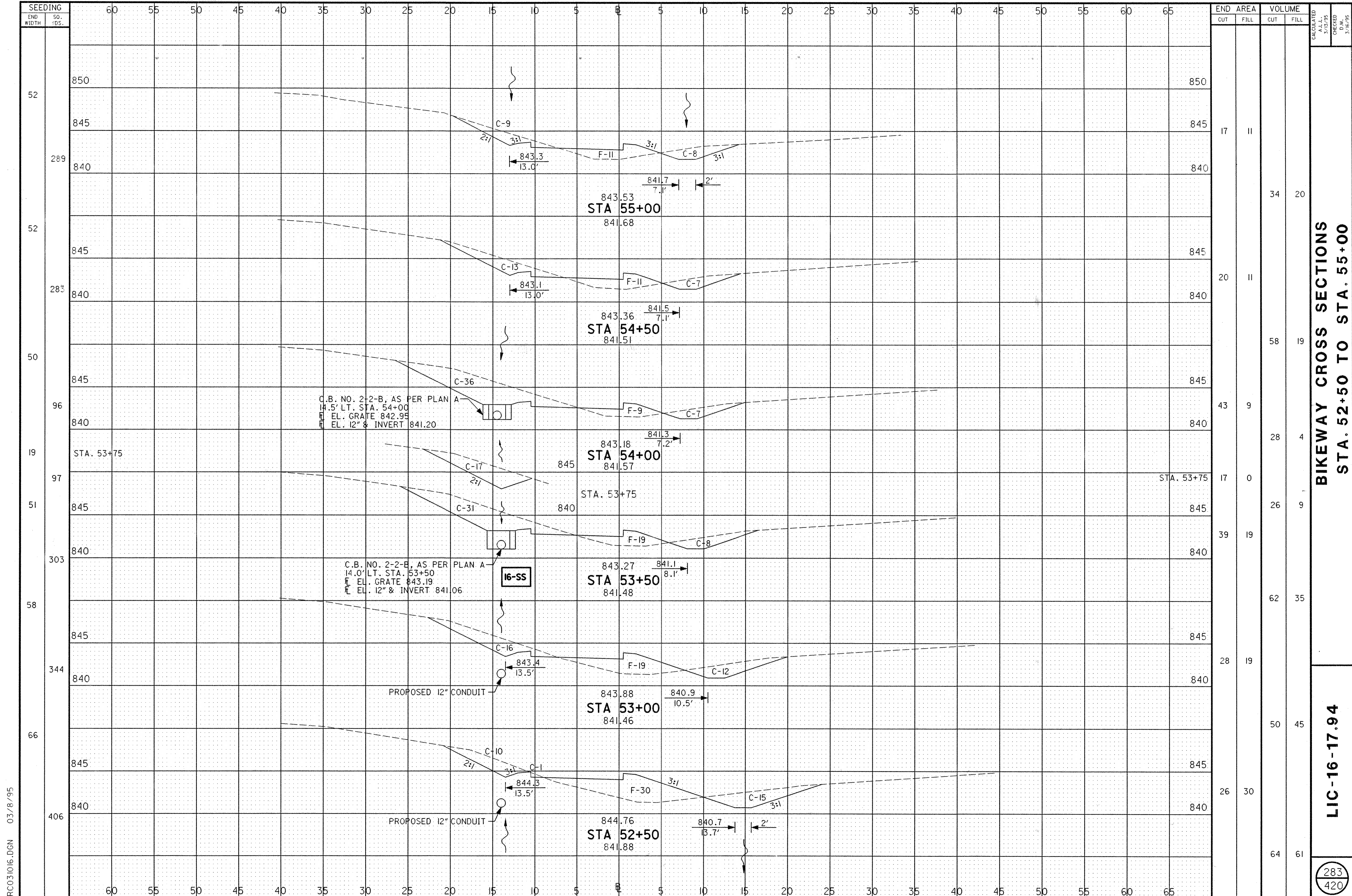
CALCULATIONS	
11.4'	10' x 2.5' ± 27' = 10.6 CU. YD.

SEEDING	END WIDTH	SO. YDS.	END AREA		VOLUME	
			CUT	FILL	CUT	FILL
			43	36	71	81
			34	51	59	100
			30	57	44	111
			18	63	23	119
			7	66	19	132
			14	77	23	158

BIKEWAY CROSS SECTIONS
STA. 49+50 TO STA. 52+00

LIC-16-17.94

PC030016.DGN 03/14/95



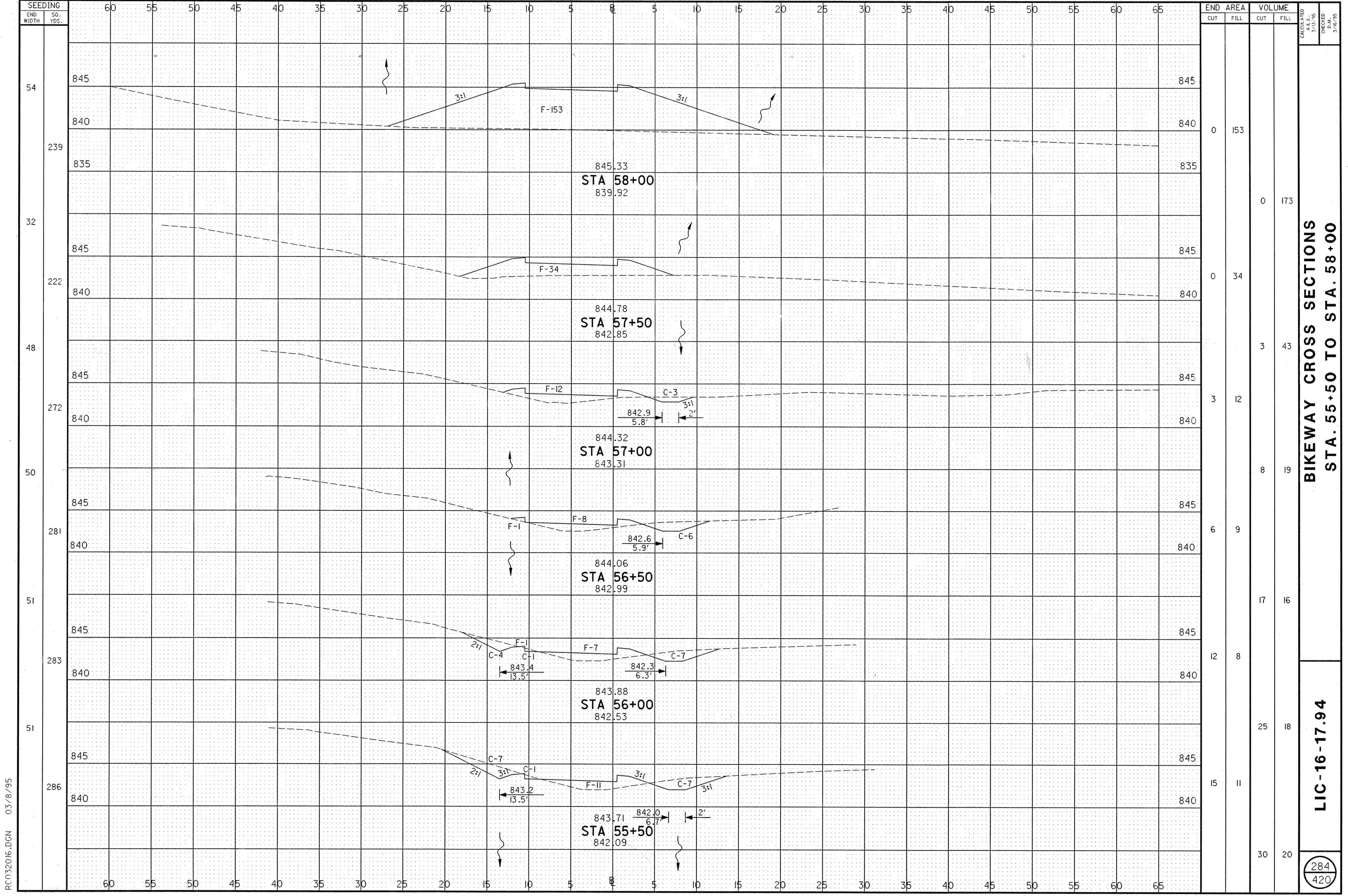
RC031016.DGN 03/8/95

END STA.	AREA		VOLUME	
	CUT	FILL	CUT	FILL
52	17	11	34	20
54	20	11	58	19
53+75	43	9	28	4
53	17	0	26	9
53+50	39	19	62	35
53	28	19	50	45
52+50	26	30	64	61

**BIKEWAY CROSS SECTIONS
STA. 52+50 TO STA. 55+00**

LIC-16-17.94

283
420



END STA	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
54	0	153	0	173
32	0	34	3	43
48	3	12	8	19
272	6	9	17	16
50	12	8	25	18
281	15	11	30	20
51				
283				
51				
286				

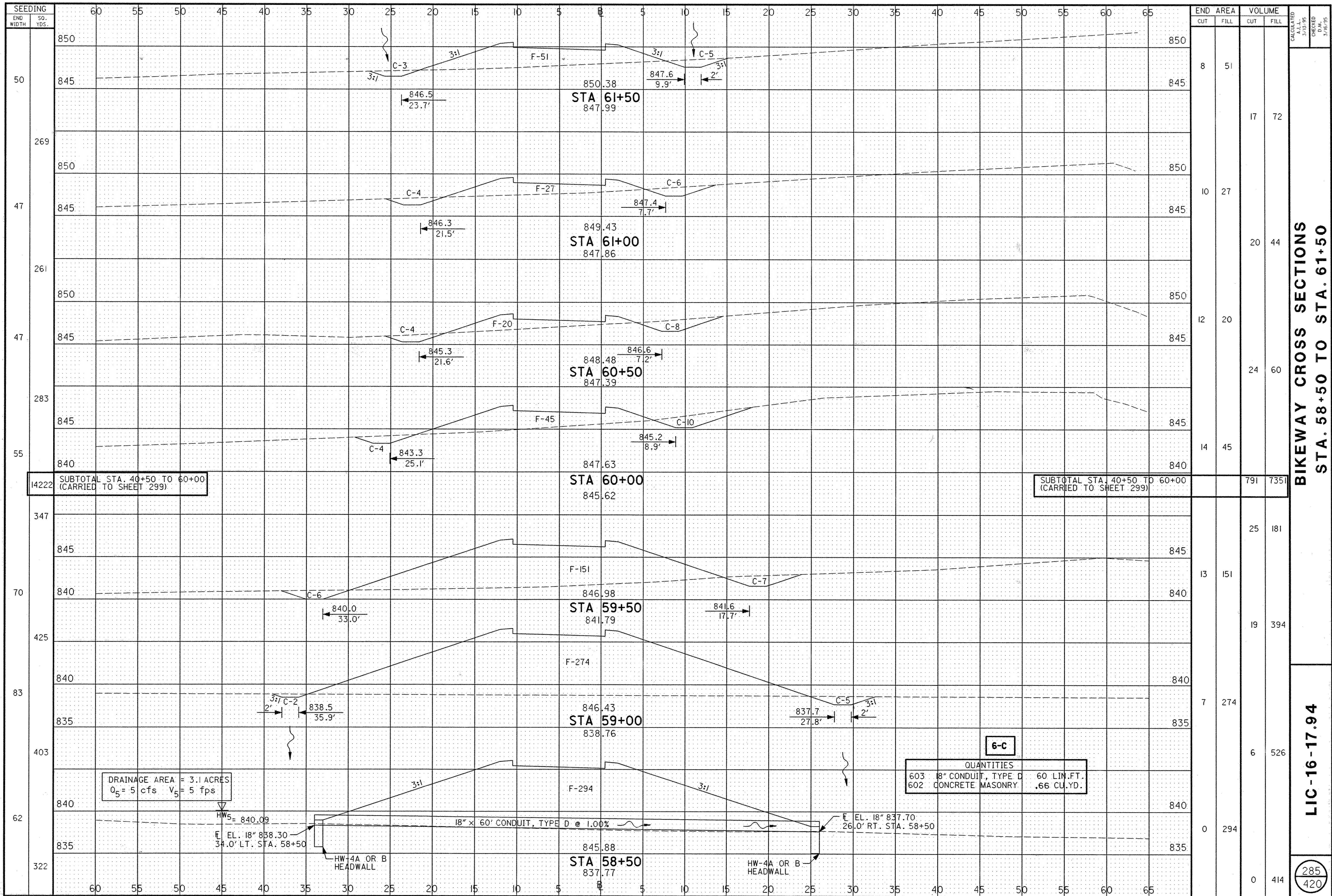
BIKEWAY CROSS SECTIONS
 STA. 55+50 TO STA. 58+00

LIC-16-17.94

284
 420

RC032016.DGN 03/8/95

CALCULATED
 A.A.L.
 3/13/95
 CHECKED
 D.M.
 3/16/95



14222 SUBTOTAL STA. 40+50 TO 60+00 (CARRIED TO SHEET 299)

SUBTOTAL STA. 40+50 TO 60+00 (CARRIED TO SHEET 299)

6-C
 QUANTITIES
 603 18" CONDUIT, TYPE D 60 LIN.FT.
 602 CONCRETE MASONRY .66 CU.YD.

DRAINAGE AREA = 3.1 ACRES
 $Q_5 = 5$ cfs $V_5 = 5$ fps

HW₅ = 840.09
 EL. 18" 838.30
 34.0' LT. STA. 58+50

EL. 18" 837.70
 26.0' RT. STA. 58+50

HW-4A OR B HEADWALL

HW-4A OR B HEADWALL

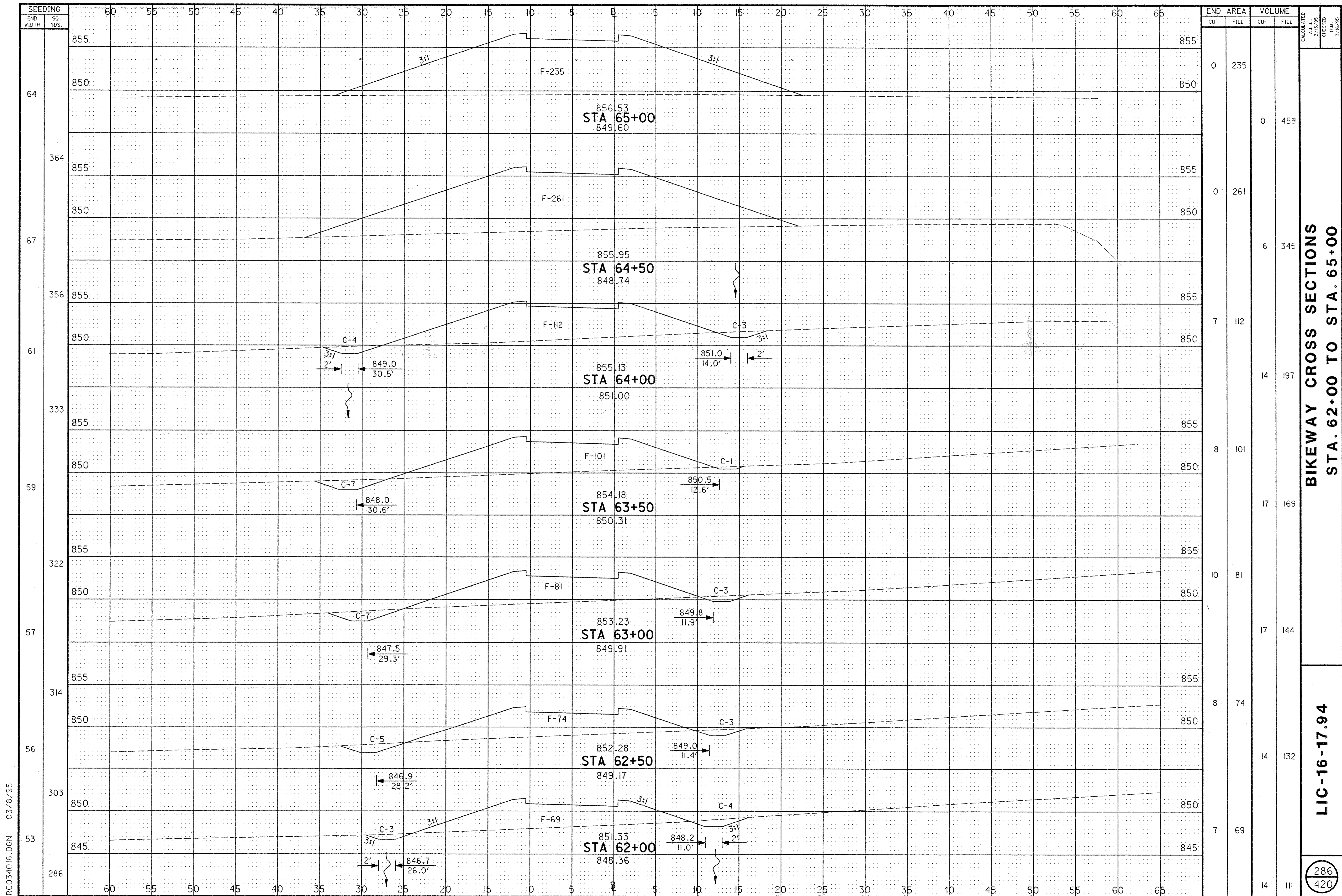
END AREA	VOLUME		CALCULATED A.L.L. 3/13/95	CHECKED D.M. 3/16/95
	CUT	FILL		
8	51			
		17	72	
10	27			
		20	44	
12	20			
		24	60	
14	45			
		791	7351	
13	151			
		25	181	
19	394			
7	274			
		6	526	
0	294			
		0	414	

BIKEWAY CROSS SECTIONS
 STA. 58+50 TO STA. 61+50

LIC-16-17.94

285
420

RC033016.DGN 3/14/95



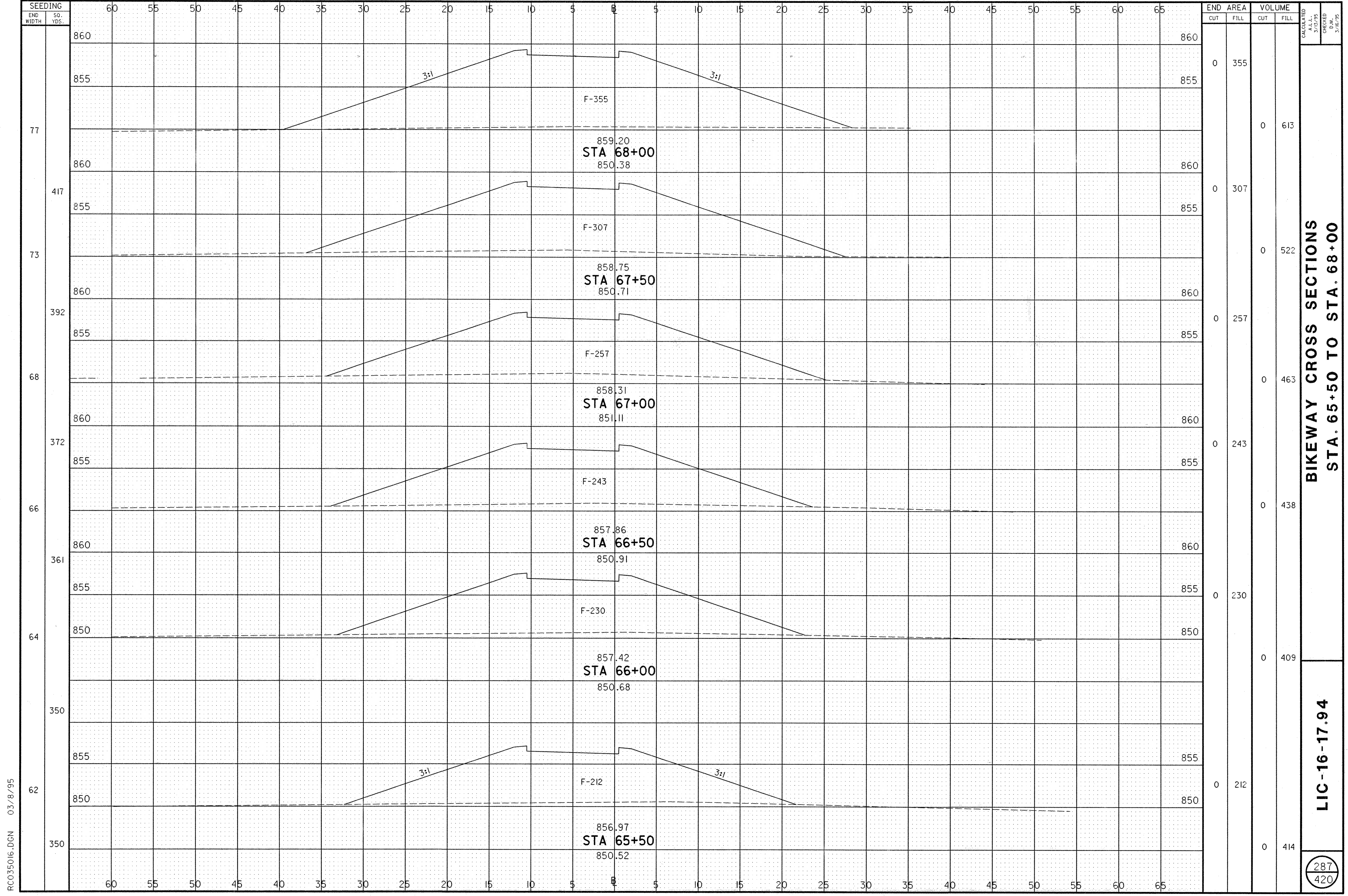
RC034016.DGN 03/8/95

BIKEWAY CROSS SECTIONS
STA. 62+00 TO STA. 65+00

LIC-16-17.94

286
420

CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95



PC035016.DGN 03/8/95

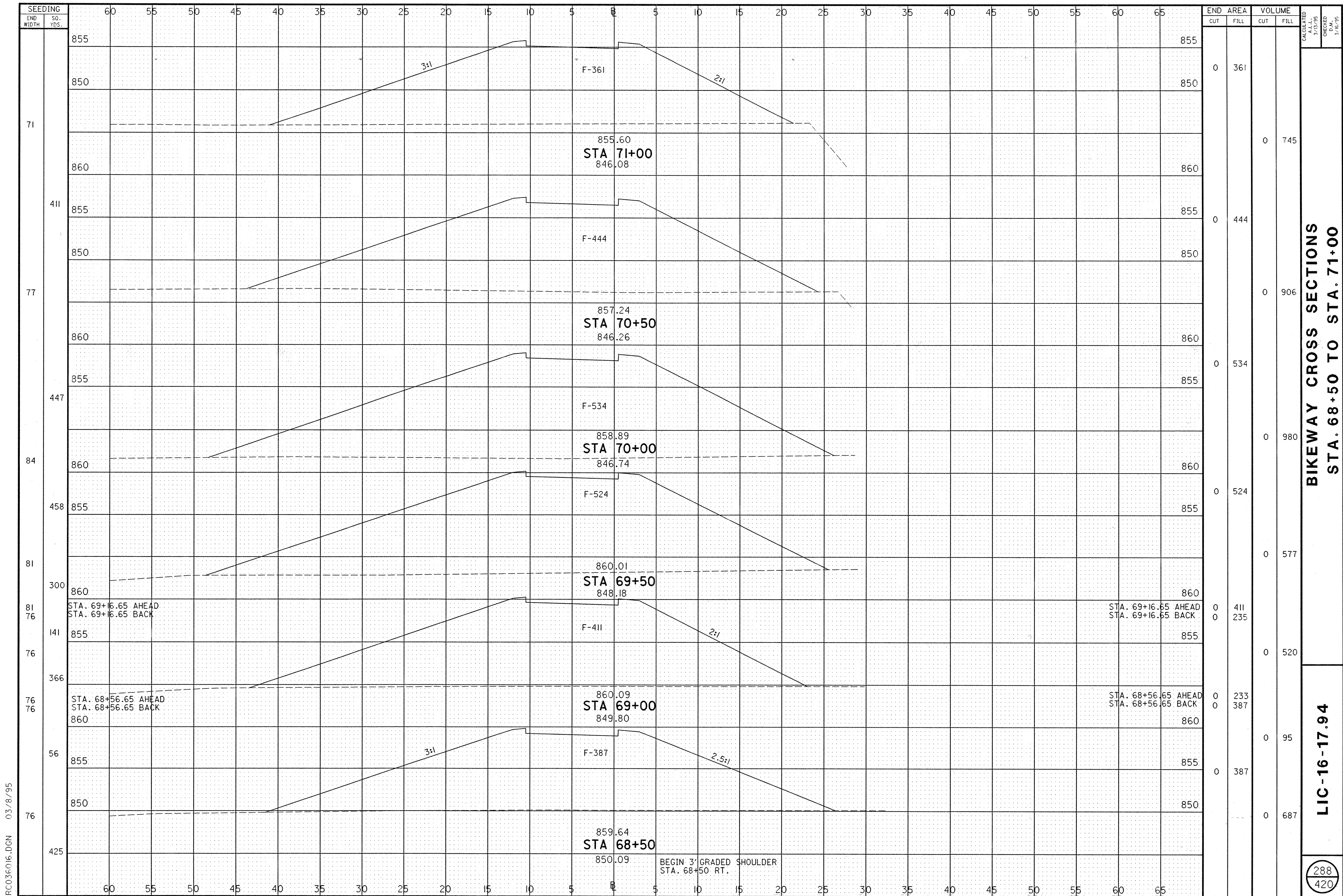
END WIDTH	SEEDING SO. YDS.	END AREA		VOLUME	
		CUT	FILL	CUT	FILL
860	60	0	355	0	613
855	55	0	307	0	522
860	50	0	257	0	463
855	45	0	243	0	438
860	40	0	230	0	409
855	35	0	212	0	414
850	30	0	212	0	414

**BIKEWAY CROSS SECTIONS
STA. 65+50 TO STA. 68+00**

LIC-16-17.94

287
420

CALCULATED
3/13/95
CHECKED
D.M.
3/16/95



SEEDING
END WIDTH SQ. YDS.

END AREA VOLUME
CUT FILL CUT FILL

CALCULATED
A.L.L. 3/13/95
CHECKED
D.M. 3/16/95

71

411

77

447

84

458

81

81

76

141

76

366

56

76

425

855.60
STA 71+00
846.08

857.24
STA 70+50
846.26

858.89
STA 70+00
846.74

860.01
STA 69+50
848.18

860.09
STA 69+00
849.80

859.64
STA 68+50
850.09

BEGIN 3' GRADED SHOULDER
STA. 68+50 RT.

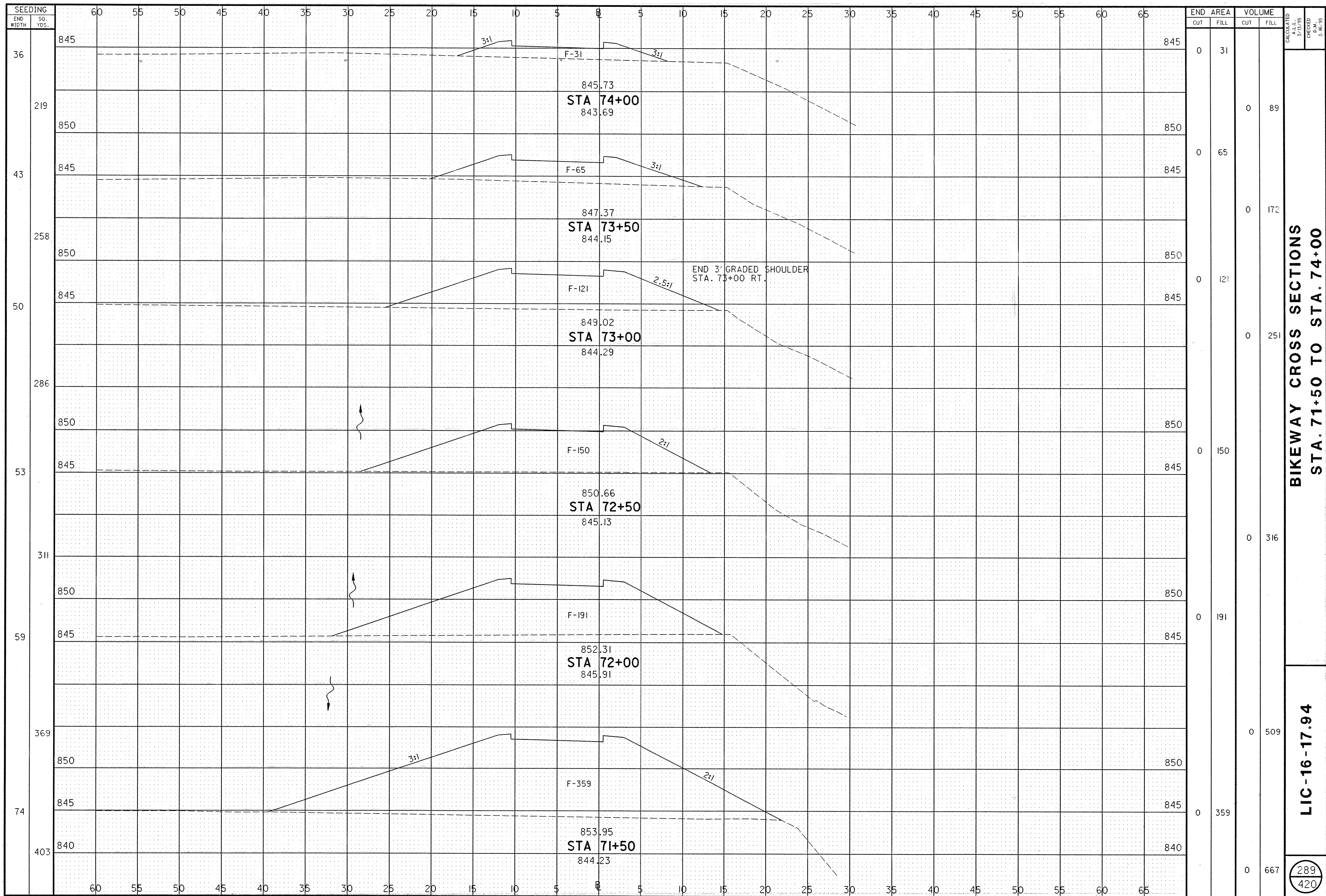
BIKEWAY CROSS SECTIONS
STA. 68+50 TO STA. 71+00

LIC-16-17.94

288
420

PC036016.DGN 03/8/95

PC037016.DGN 03/8/95

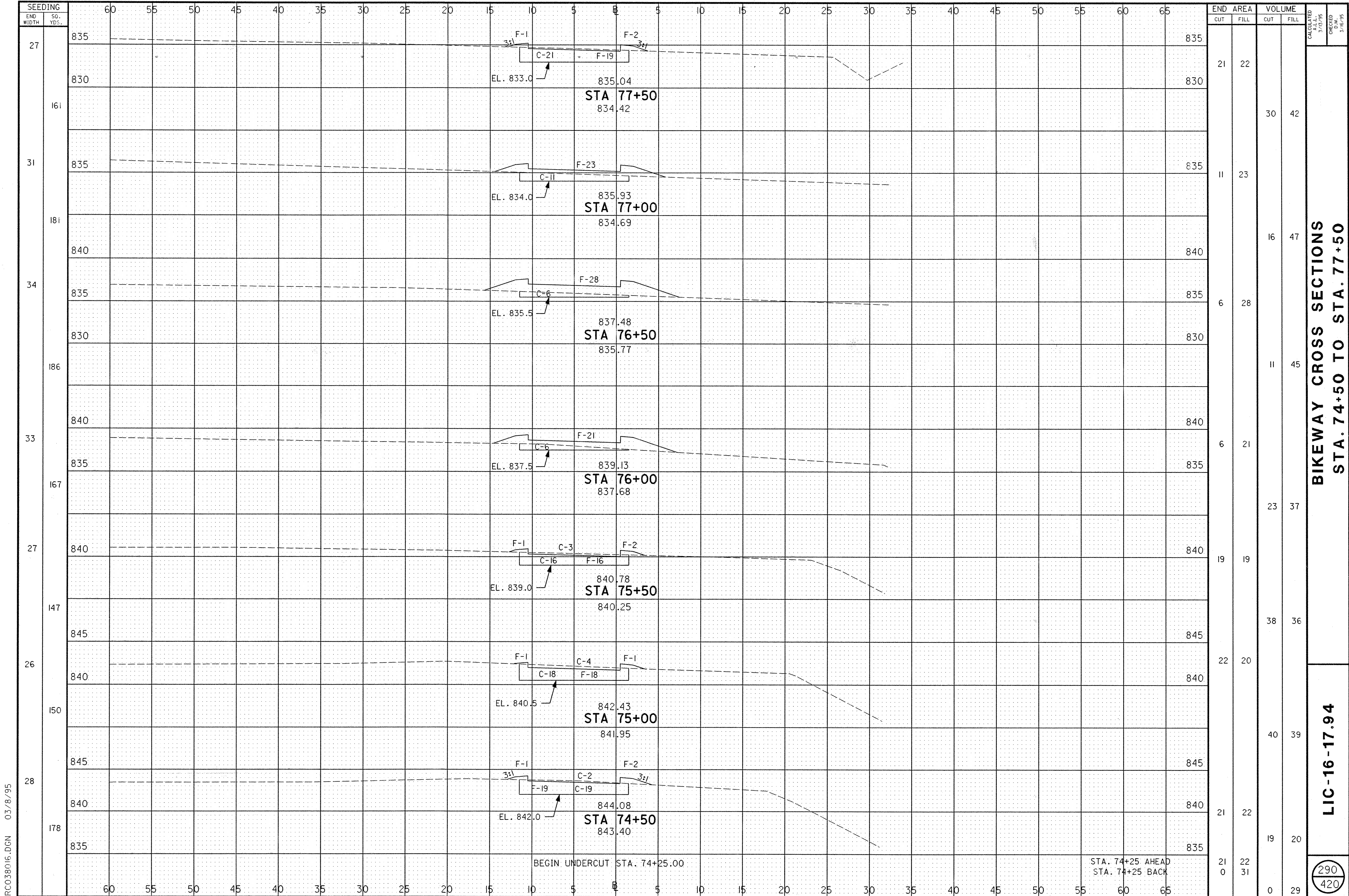


**BIKEWAY CROSS SECTIONS
STA. 71+50 TO STA. 74+00**

LIC-16-17.94

289
420

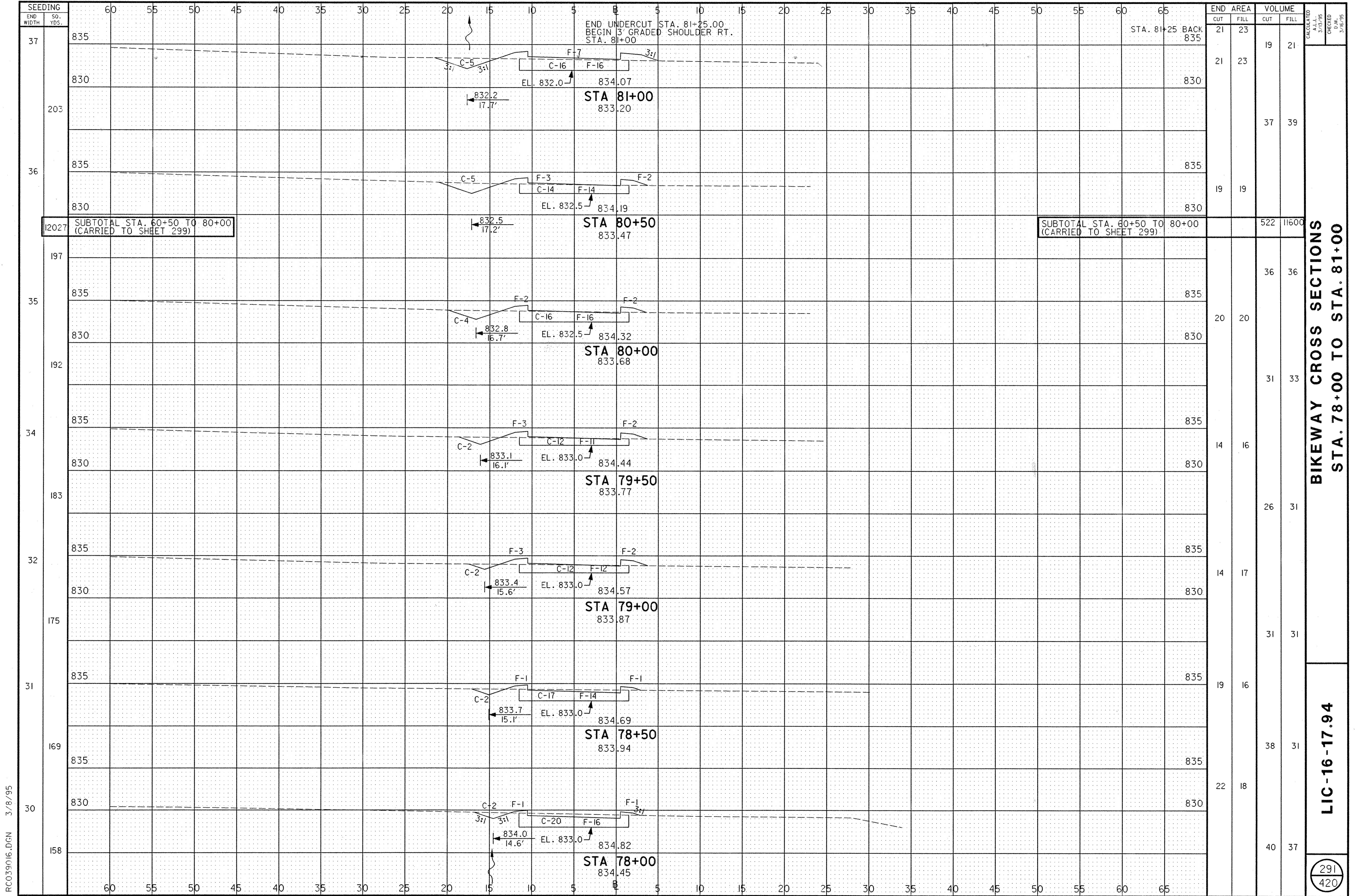
CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95



**BIKEWAY CROSS SECTIONS
 STA. 74+50 TO STA. 77+50**

LIC-16-17.94

CALCULATED A.L.L. 3/13/95
 CHECKED D.M. 3/16/95



SEEDING	END WIDTH	SO. YDS.	STATIONING													END AREA		VOLUME														
			60	55	50	45	40	35	30	25	20	15	10	5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	CUT	FILL	CUT	FILL
	37	835																										21	23	19	21	
	203	830																											21	23		
	36	835																											19	19		
	12027	830																											19	19		
SUBTOTAL STA. 60+50 TO 80+00 (CARRIED TO SHEET 299)																															522	11600

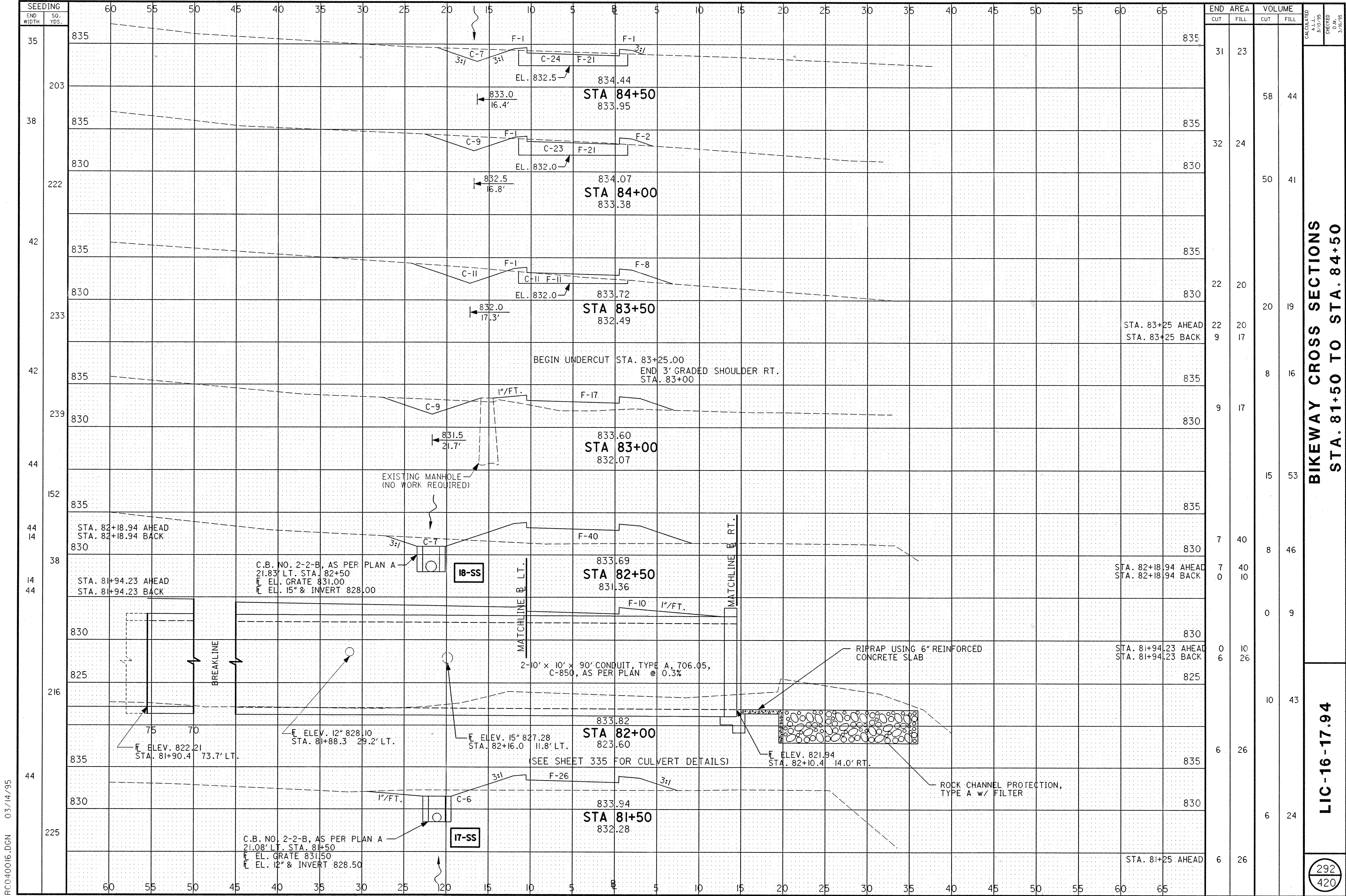
SUBTOTAL STA. 60+50 TO 80+00 (CARRIED TO SHEET 299)

BIKEWAY CROSS SECTIONS
STA. 78+00 TO STA. 81+00

LIC-16-17.94

291
420

RC039016.DGN 3/8/95

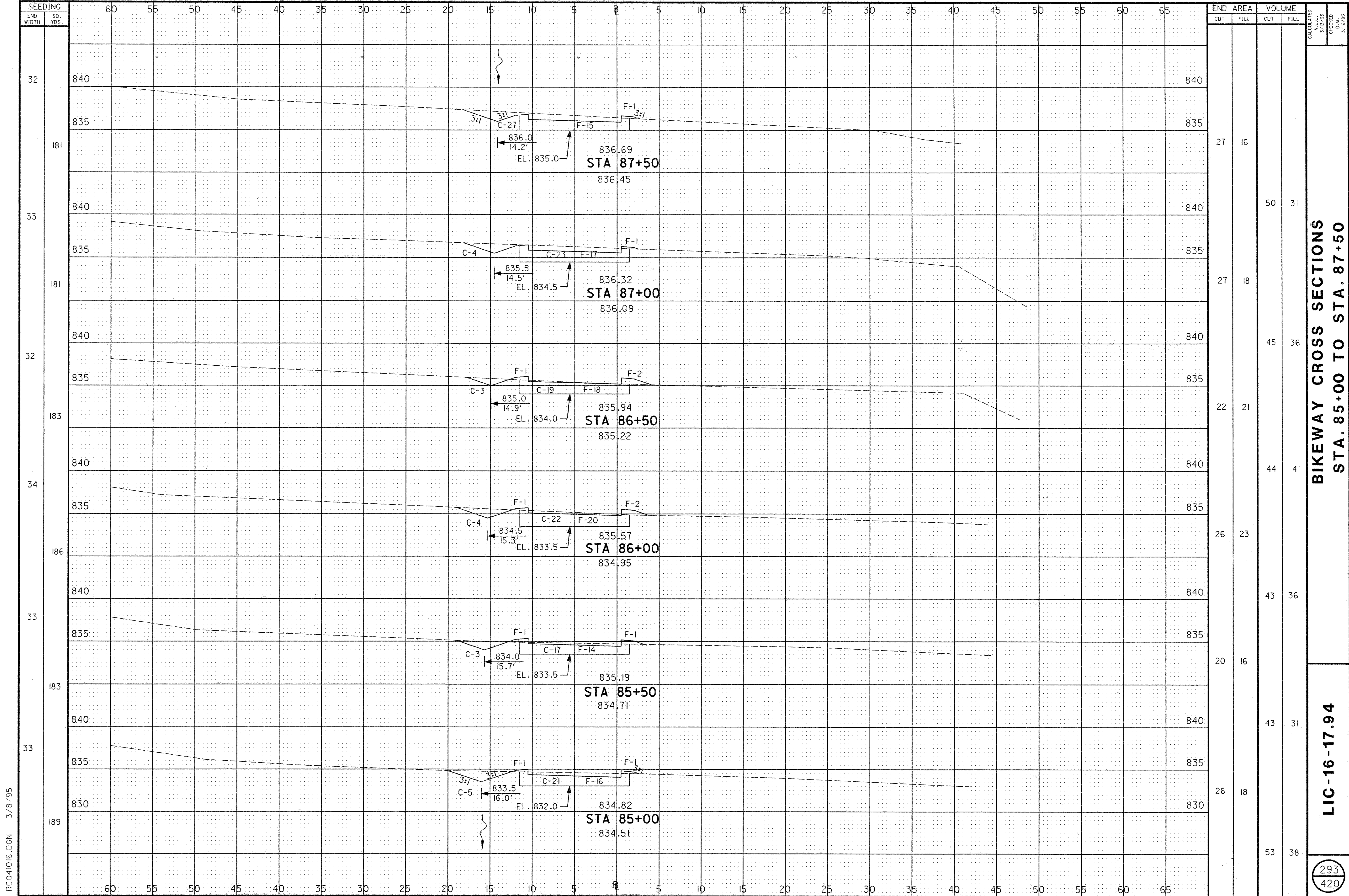


RC040016.DGN 03/14/95

END WIDTH	SO. YDS.	ELEVATION	END AREA		VOLUME		CALCULATED	CHECKED
			CUT	FILL	CUT	FILL		
35	835	835	31	23				
203	835	835			58	44		
38	835	835	32	24				
222	830	830			50	41		
42	835	835	22	20				
233	830	830			20	19		
42	835	835	22	20				
239	830	830	9	17				
44	835	835			15	53		
152	835	835						
44	830	830	7	40				
14	830	830			8	46		
38	830	830	7	40				
14	830	830	0	10				
216	825	825			0	9		
44	835	835	0	10				
225	830	830	6	26				
44	835	835			10	43		
225	830	830	6	26				
44	835	835			6	24		
225	830	830	6	26				

**BIKEWAY CROSS SECTIONS
STA. 81+50 TO STA. 84+50**

LIC-16-17.94



RC041016.DGN 3/8/95

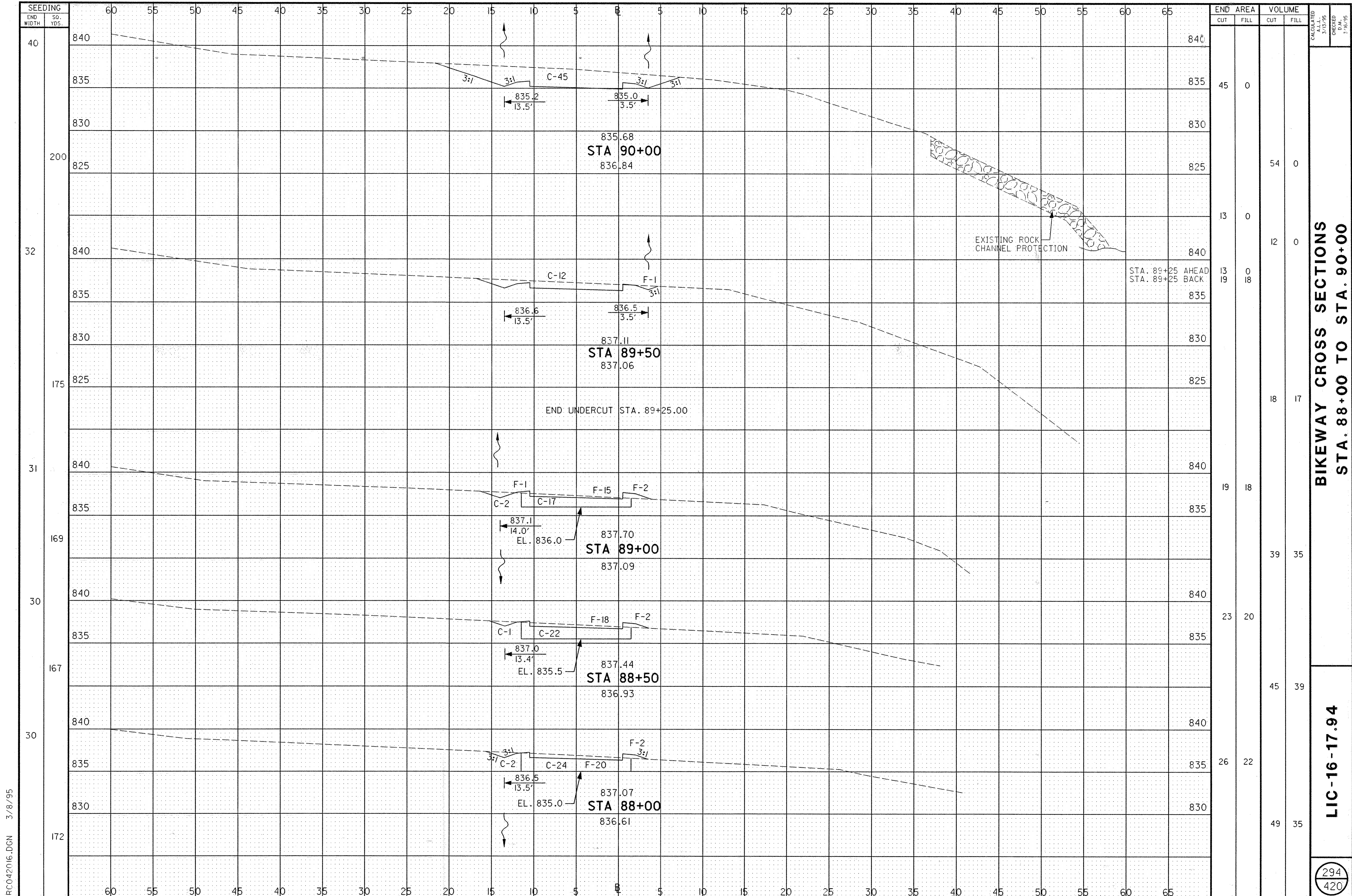
CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95

**BIKEWAY CROSS SECTIONS
STA. 85+00 TO STA. 87+50**

LIC-16-17.94

293
420

END WIDTH	SO. YDS.	END AREA		VOLUME	
		CUT	FILL	CUT	FILL
32	181	27	16		
33	181	27	18	50	31
32	183	22	21	45	36
34	186	26	23	44	41
33	183	20	16	43	36
33	189	26	18	43	31
		53	38		



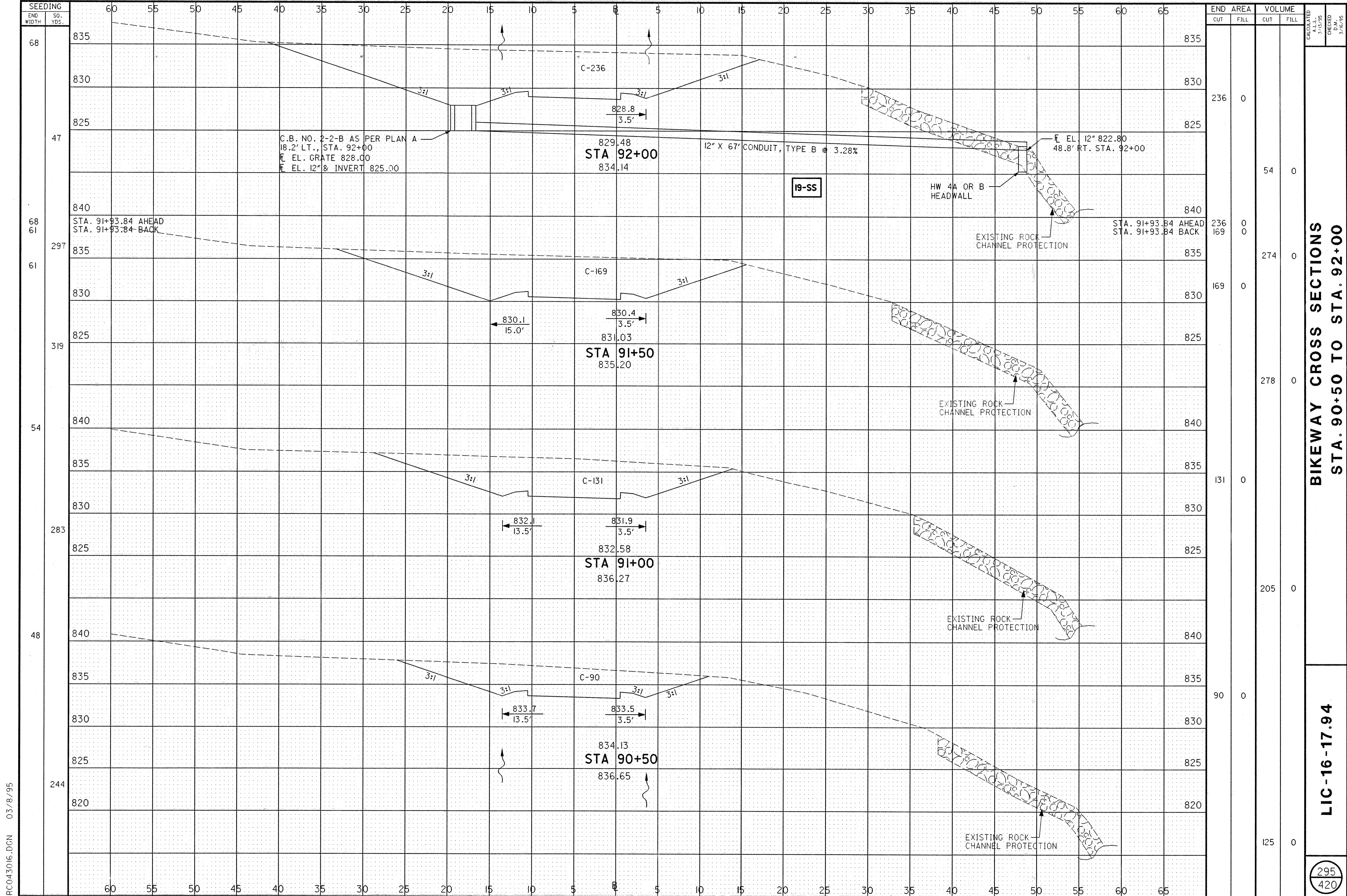
END STA.	AREA		VOLUME	
	CUT	FILL	CUT	FILL
840				
835	45	0		
830				
825			54	0
820				
815	13	0	12	0
810	13	19	0	18
805				
800			18	17
795				
790			19	18
785				
780			39	35
775				
770			23	20
765				
760			45	39
755				
750			26	22
745				
740			49	35

BIKEWAY CROSS SECTIONS
STA. 88+00 TO STA. 90+00

LIC-16-17.94

RC042016.DGN 3/8/95

CALCULATED
 A.L.L.
 3/13/95
 CHECKED
 D.M.
 3/16/95



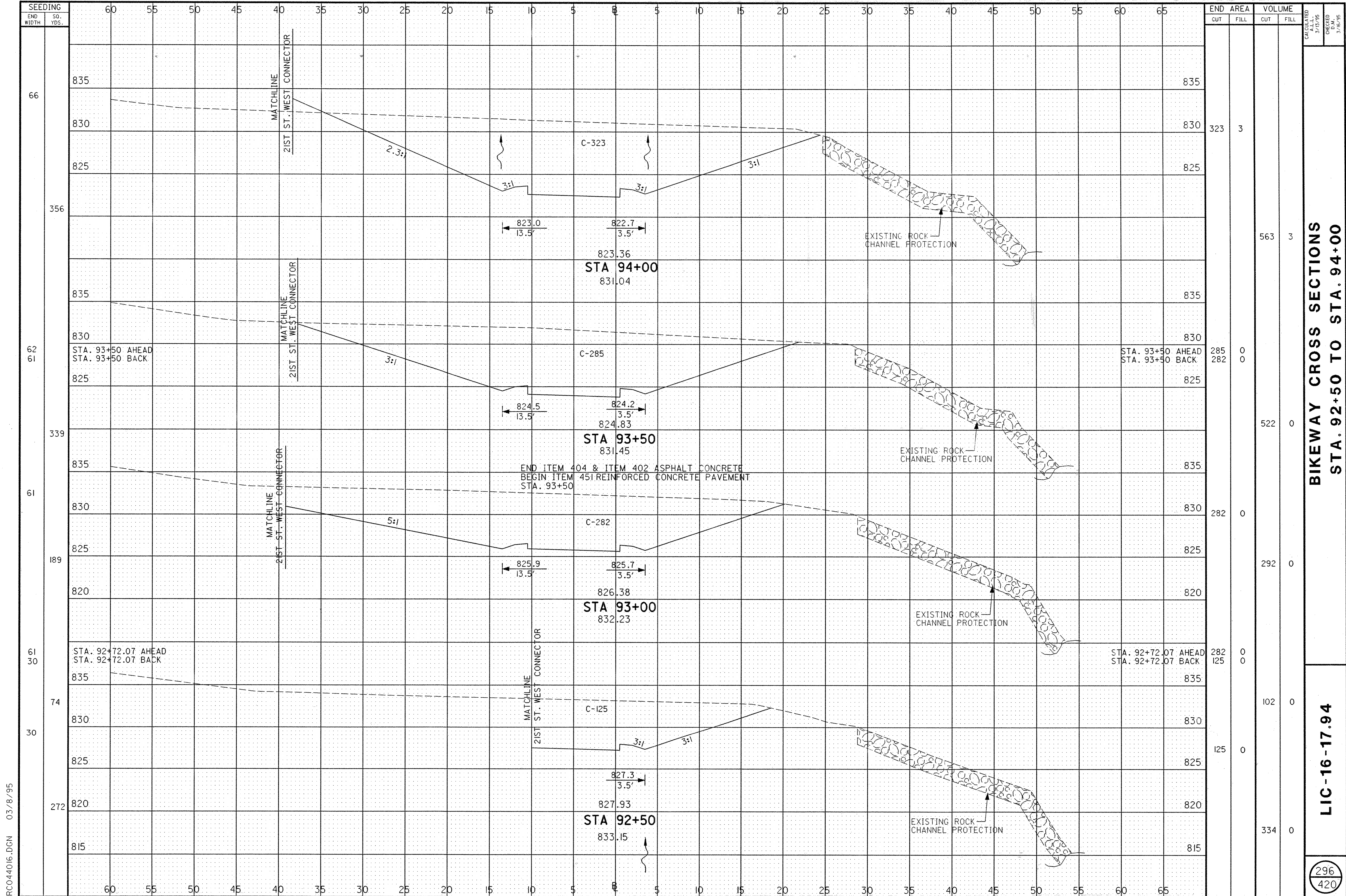
END STA.	AREA		VOLUME	
	CUT	FILL	CUT	FILL
835				
830	236	0		
825				
840	236	0	54	0
835	169	0	274	0
830				
825				
840	131	0	278	0
835				
830				
825				
840	90	0	205	0
835				
830				
825				
820				
			125	0

BIKEWAY CROSS SECTIONS
STA. 90+50 TO STA. 92+00

LIC-16-17.94

CALCULATED ALL. 3/13/95
 CHECKED D.M. 3/16/95

PC043016.DGN 03/8/95



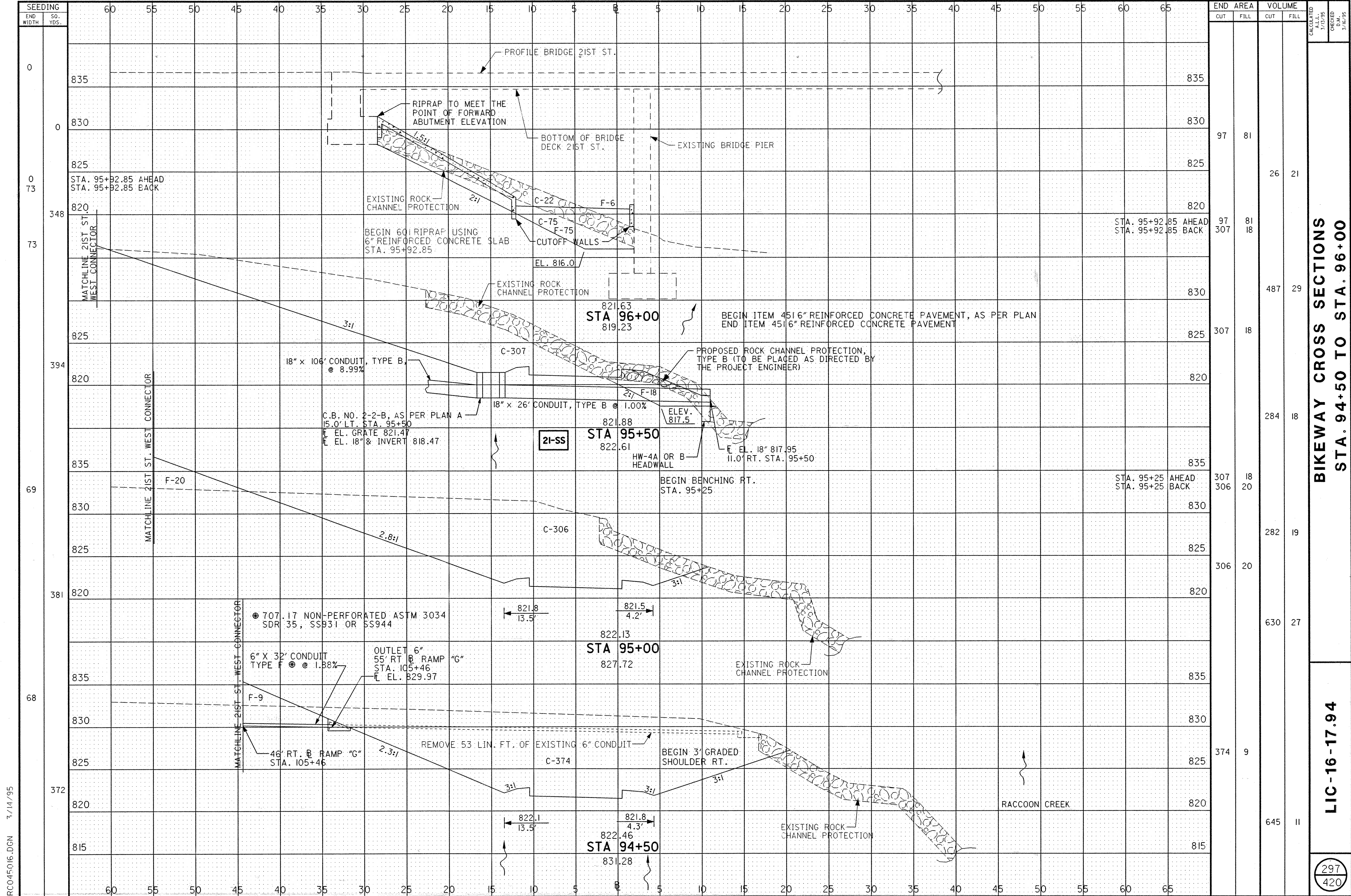
PC044016.DGN 03/8/95

SEEDING
END WIDTH SO. YDS.

END AREA	VOLUME	CUT		FILL	
		CUT	FILL	CUT	FILL
323	3				
285	0				
282	0				
282	0				
282	0				
125	0				
125	0				
334	0				

CALCULATED A.L.L. 3/13/95
 CHECKED D.M.J. 3/16/95
BIKEWAY CROSS SECTIONS
STA. 92+50 TO STA. 94+00

LIC-16-17.94
 296
 420

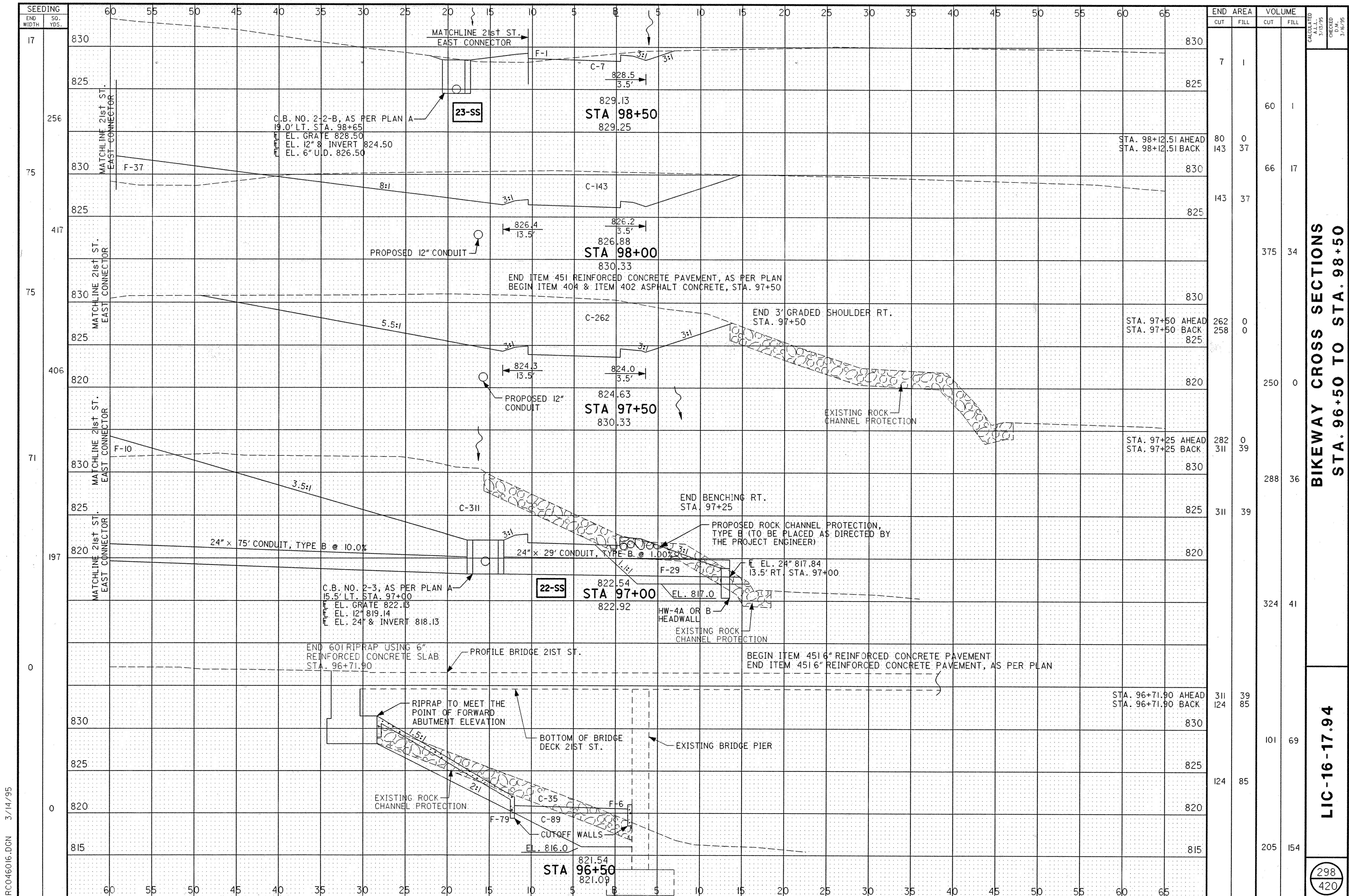


SEEDING	END WIDTH	SO. YDS.	END AREA		VOLUME	
			CUT	FILL	CUT	FILL
0	835					
0	830		97	81		
0	825				26	21
73	820	STA. 95+92.85 AHEAD STA. 95+92.85 BACK	97	81		
348	820		307	18		
73	830				487	29
825	825		307	18		
394	820				284	18
835	835		307	18		
69	830		306	20		
825	825				282	19
381	820		306	20		
835	835				630	27
68	830					
825	825		374	9		
372	820				645	11
815	815					

BIKEWAY CROSS SECTIONS
STA. 94+50 TO STA. 96+00

LIC-16-17.94

RCO45016.DGN 7/14/95



BIKEWAY CROSS SECTIONS
STA. 96+50 TO STA. 98+50

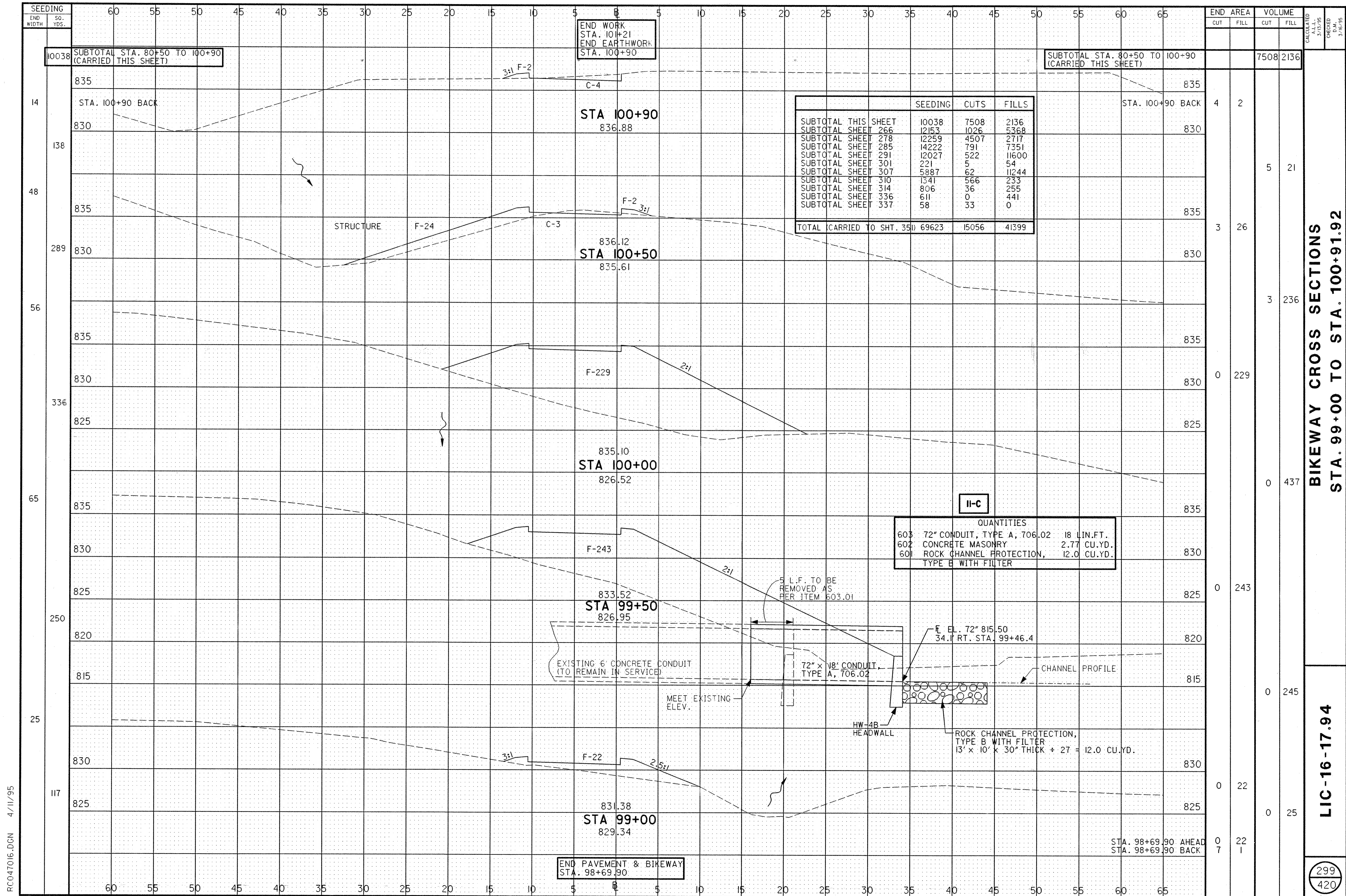
LIC-16-17.94

298
 420

RC046016.DGN 3/14/95

CALCULATED
 A.L.L.
 3/13/95
 CHECKED
 D.M.
 3/16/95

END AREA	VOLUME	
	CUT	FILL
7	1	
80	0	60
143	37	17
143	37	
262	0	375
258	0	34
282	0	250
311	39	0
288	36	
311	39	288
311	39	324
311	39	41
311	39	
124	85	311
124	85	101
124	85	69
205	154	820
		815



RC047016.DGN 4/11/95

END WORK
STA. 101+21
END EARTHWORK
STA. 100+90

10038
SUBTOTAL STA. 80+50 TO 100+90
(CARRIED THIS SHEET)

SUBTOTAL STA. 80+50 TO 100+90
(CARRIED THIS SHEET)

	SEEDING	CUTS	FILLS
SUBTOTAL THIS SHEET	10038	7508	2136
SUBTOTAL SHEET 266	12153	1026	5368
SUBTOTAL SHEET 278	12259	4507	2717
SUBTOTAL SHEET 285	14222	791	7351
SUBTOTAL SHEET 291	12027	522	11600
SUBTOTAL SHEET 301	221	5	54
SUBTOTAL SHEET 307	5887	62	11244
SUBTOTAL SHEET 310	1341	566	233
SUBTOTAL SHEET 314	806	36	255
SUBTOTAL SHEET 336	611	0	441
SUBTOTAL SHEET 337	58	33	0
TOTAL (CARRIED TO SHT. 351)	69623	15056	41399

II-C

QUANTITIES		
603	72" CONDUIT, TYPE A, 706.02	18 IN.FT.
602	CONCRETE MASONRY	2.77 CU.YD.
601	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	12.0 CU.YD.

END PAVEMENT & BIKEWAY
STA. 98+69.90

STA. 98+69.90 AHEAD
STA. 98+69.90 BACK

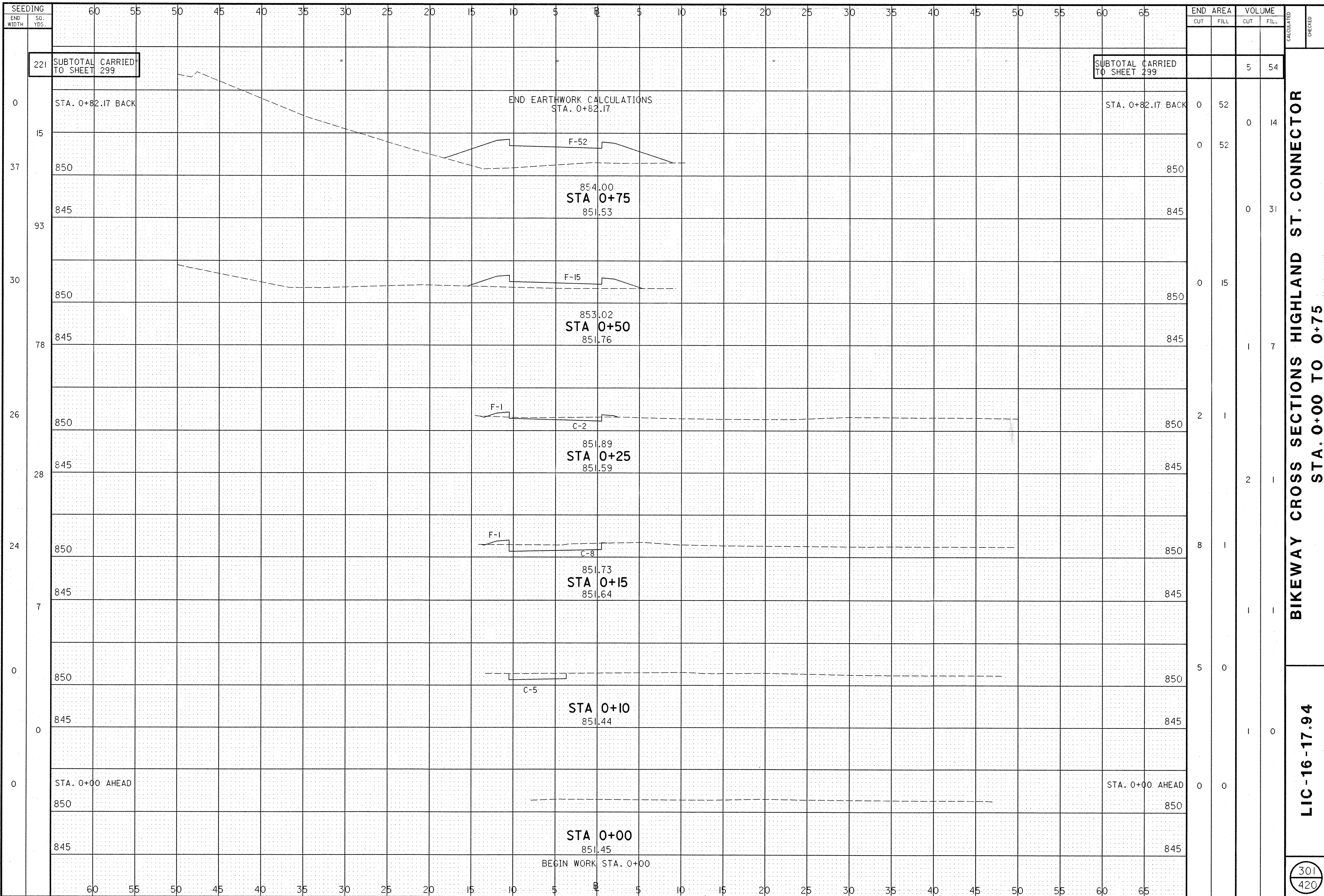
BIKEWAY CROSS SECTIONS
STA. 99+00 TO STA. 100+91.92

LIC-16-17.94

299
420

END WIDTH	SEEDING	CUTS	FILLS	END AREA		VOLUME	
				CUT	FILL	CUT	FILL
14	835	4	2			7508	2136
138	830						
48	835	3	26				
289	830						
56	835	3	236				
336	830	0	229				
65	825	0	437				
250	820	0	243				
25	815	0	245				
117	830	0	22				
	825	0	25				
		0	22				
		7	1				

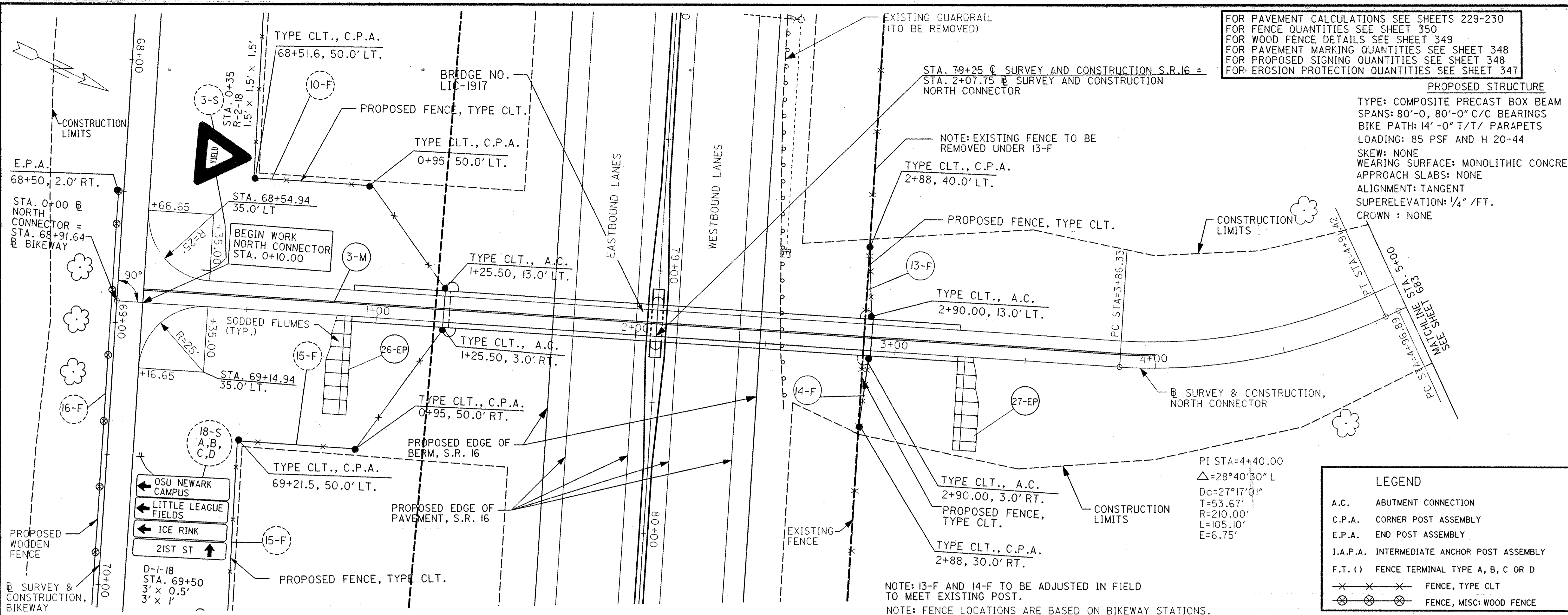
RC001304.DGN 3/03/95



BIKEWAY CROSS SECTIONS HIGHLAND ST. CONNECTOR
STA. 0+00 TO 0+75

LIC-16-17.94

301
420



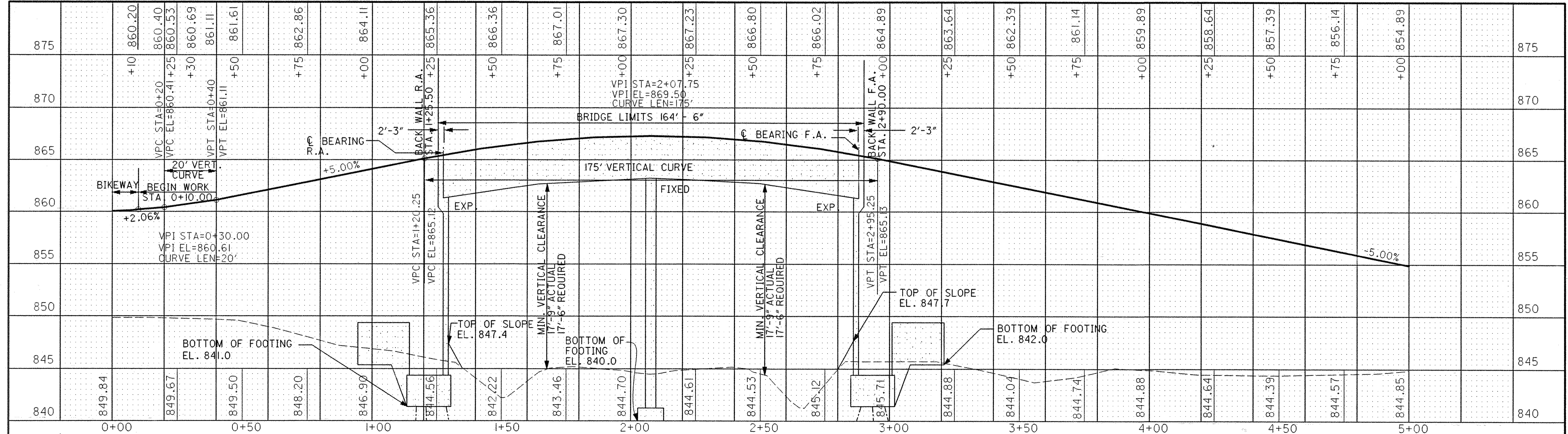
FOR PAVEMENT CALCULATIONS SEE SHEETS 229-230
 FOR FENCE QUANTITIES SEE SHEET 350
 FOR WOOD FENCE DETAILS SEE SHEET 349
 FOR PAVEMENT MARKING QUANTITIES SEE SHEET 348
 FOR PROPOSED SIGNING QUANTITIES SEE SHEET 348
 FOR EROSION PROTECTION QUANTITIES SEE SHEET 347

PROPOSED STRUCTURE
 TYPE: COMPOSITE PRECAST BOX BEAM
 SPANS: 80'-0, 80'-0" C/C BEARINGS
 BIKE PATH: 14'-0" T/T/ PARAPETS
 LOADING: 85 PSF AND H 20-44
 SKEW: NONE
 WEARING SURFACE: MONOLITHIC CONCRETE
 APPROACH SLABS: NONE
 ALIGNMENT: TANGENT
 SUPERELEVATION: 1/4" / FT.
 CROWN : NONE

LEGEND

A.C.	ABUTMENT CONNECTION
C.P.A.	CORNER POST ASSEMBLY
E.P.A.	END POST ASSEMBLY
I.A.P.A.	INTERMEDIATE ANCHOR POST ASSEMBLY
F.T. ()	FENCE TERMINAL TYPE A, B, C OR D
⊗ ⊗ ⊗	FENCE, TYPE CLT
⊗ ⊗ ⊗	FENCE, MISC: WOOD FENCE

NOTE: 13-F AND 14-F TO BE ADJUSTED IN FIELD TO MEET EXISTING POST.
 NOTE: FENCE LOCATIONS ARE BASED ON BIKEWAY STATIONS.

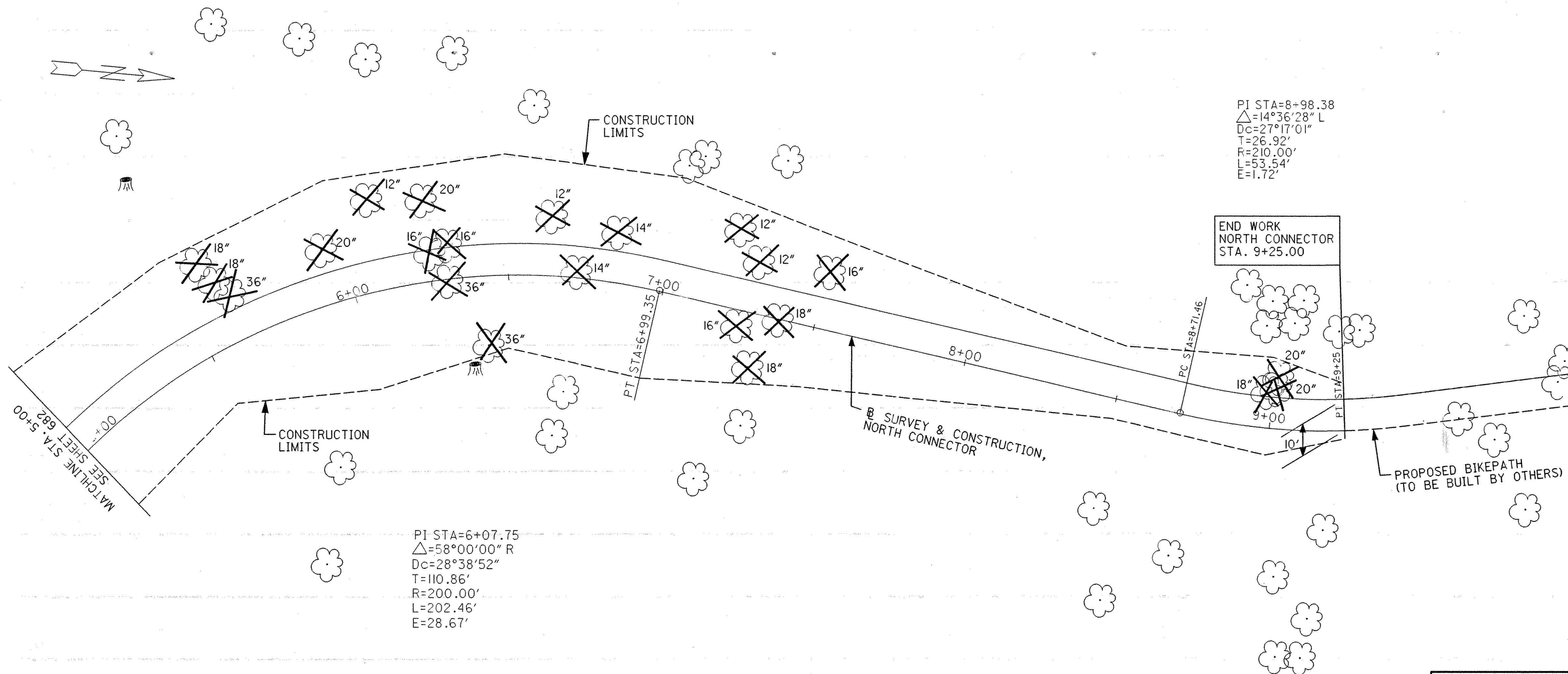


RCP01017.DGN 3-21-95

PLAN AND PROFILE SHEET NORTH CONNECTOR STA. 0+00 TO STA. 5+00

LIC-16-17.94

RCP02017.DGN 1/18/95



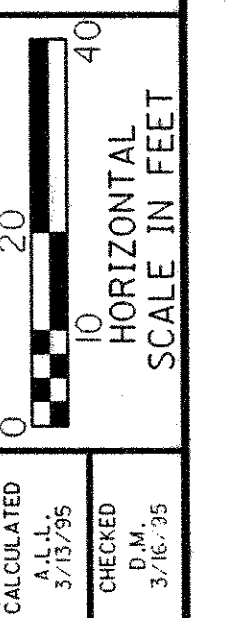
PI STA=8+98.38
 $\Delta=14^{\circ}36'28''$ L
 $Dc=27^{\circ}17'01''$
 $T=26.92'$
 $R=210.00'$
 $L=53.54'$
 $E=1.72'$

PI STA=6+07.75
 $\Delta=58^{\circ}00'00''$ R
 $Dc=28^{\circ}38'52''$
 $T=110.86'$
 $R=200.00'$
 $L=202.46'$
 $E=28.67'$

END WORK
 NORTH CONNECTOR
 STA. 9+25.00

FOR PAVEMENT CALCULATIONS SEE SHEETS 229-230

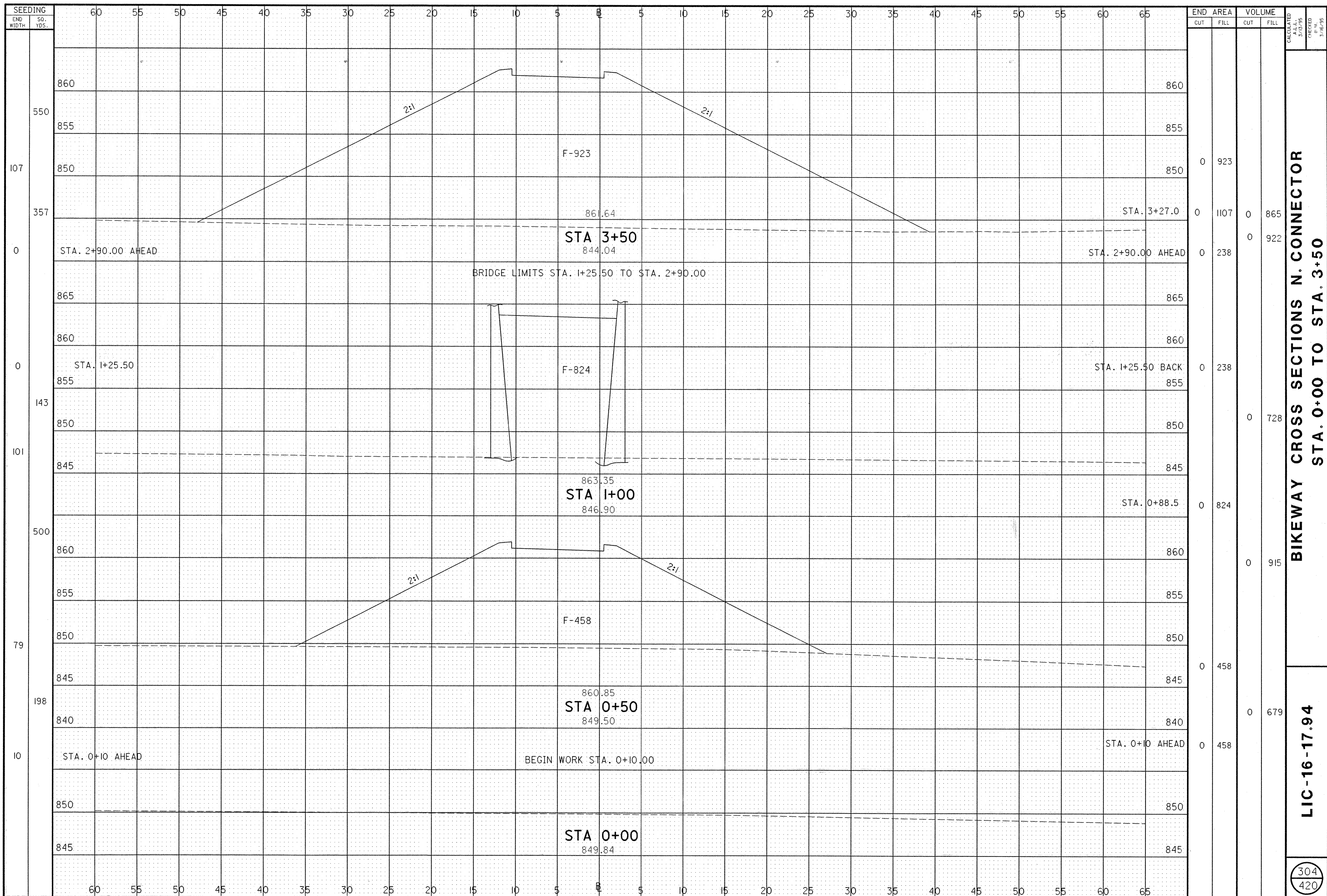
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855	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+50	+75	+00	+25	+00	+25	855		
850				-5.00%																		850	
845																						845	
840																						840	
835																						835	
830																						830	
825	844.85	845.36	845.87	841.60	837.33	837.37	837.40	837.29	837.20	837.11	837.03	836.90	836.78	836.61	836.44	837.09	837.03	837.03	835.52	835.38	835.35	835.32	825
	5+00	5+50	5+50	6+00	6+00	6+50	6+50	7+00	7+00	7+50	7+50	8+00	8+00	8+50	8+50	9+00	9+00	9+50	9+50	10+00	10+00		



PLAN AND PROFILE SHEET NORTH CONNECTOR
 STA. 5+00 TO STA. 10+00

LIC-16-17.94

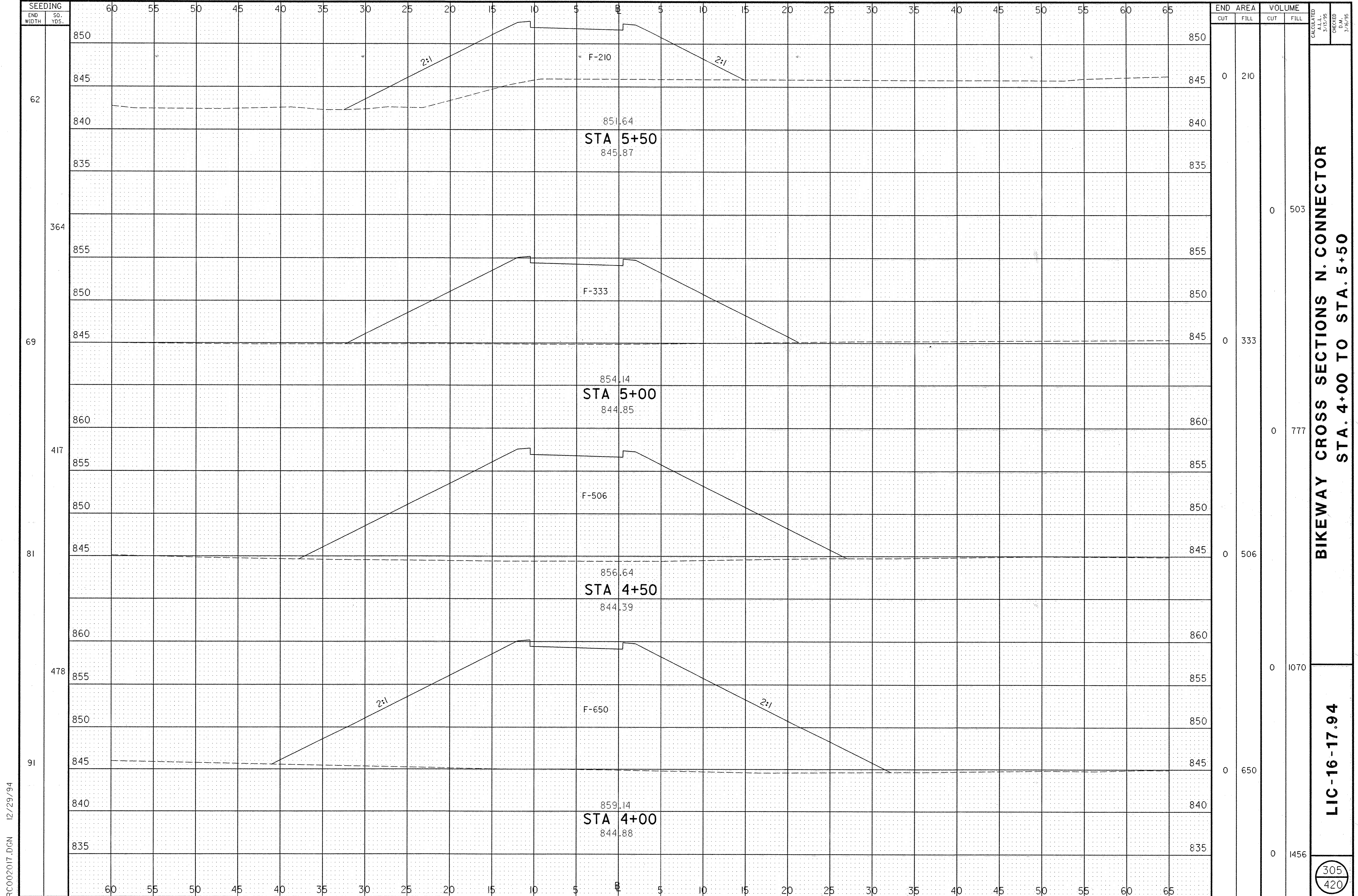
RC001017.DGN 3/14/95



BIKEWAY CROSS SECTIONS N. CONNECTOR
STA. 0+00 TO STA. 3+50

LIC-16-17.94

304
420

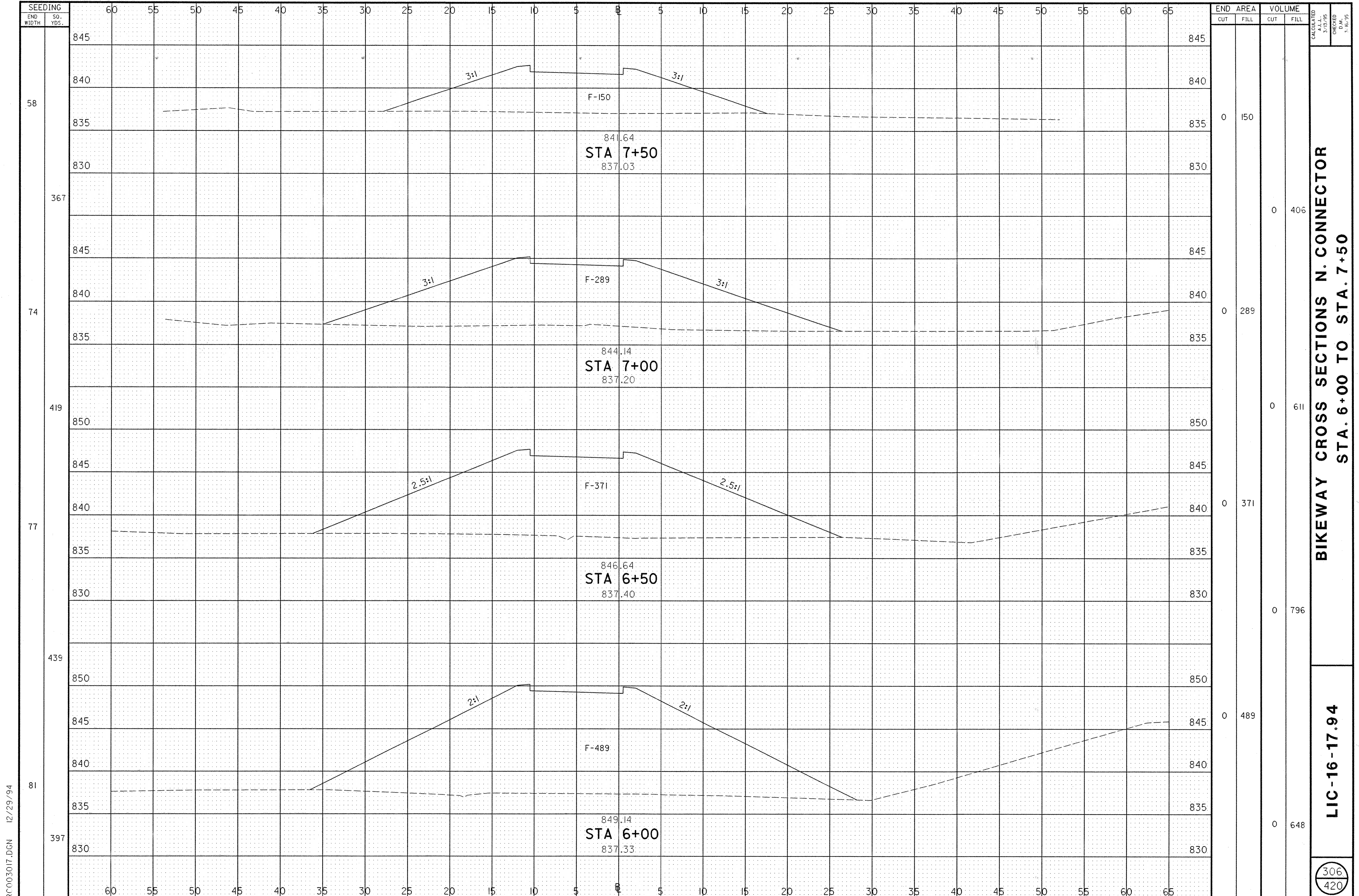


RC002017.DGN 12/29/94

BIKEWAY CROSS SECTIONS N. CONNECTOR
STA. 4+00 TO STA. 5+50

LIC-16-17.94

305
420



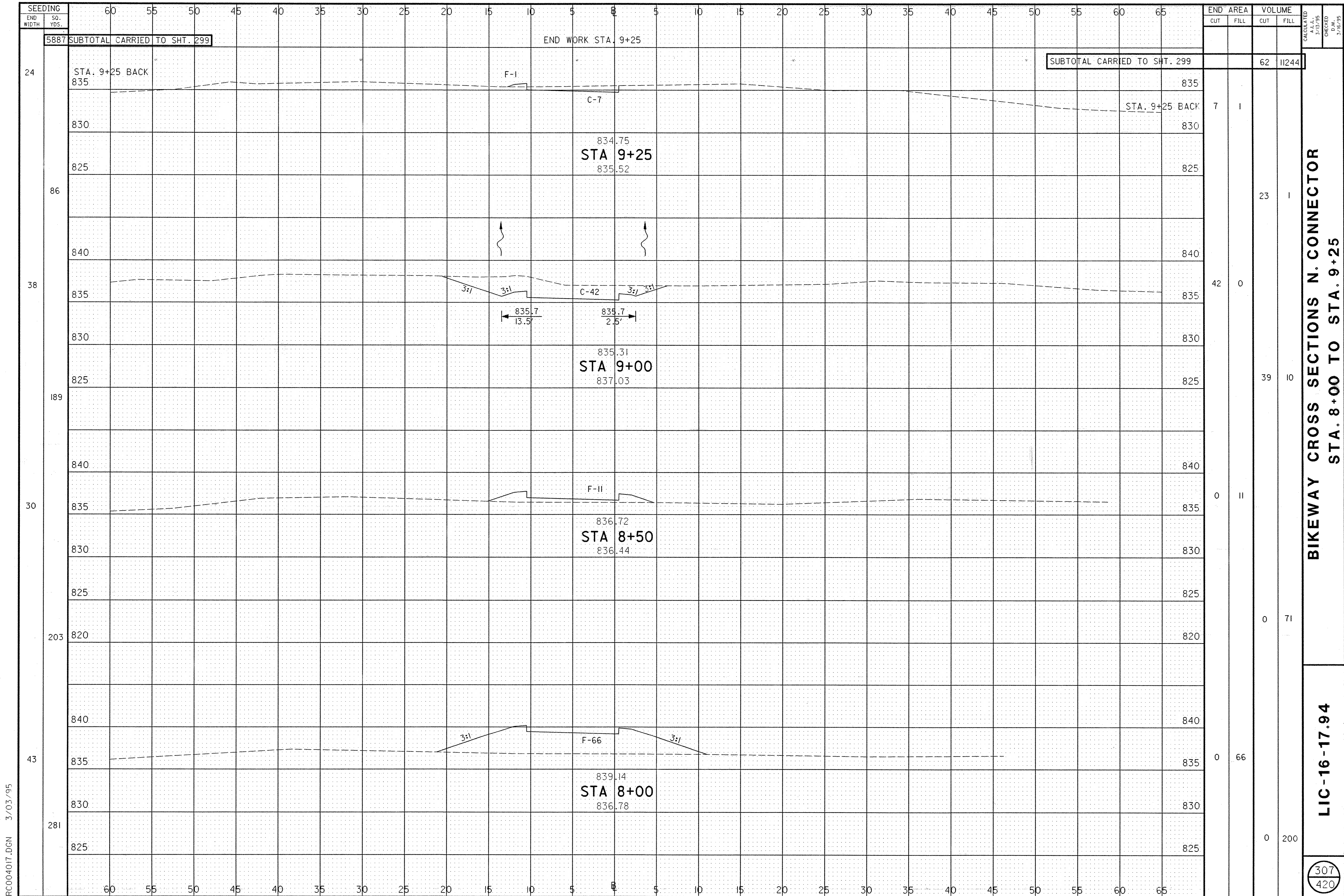
RC003017.DGN 12/29/94

BIKEWAY CROSS SECTIONS N. CONNECTOR
STA. 6+00 TO STA. 7+50

LIC-16-17.94

306
420

CALCULATED
ALL
3/13/95
CHECKED
D.M.
3-18-95



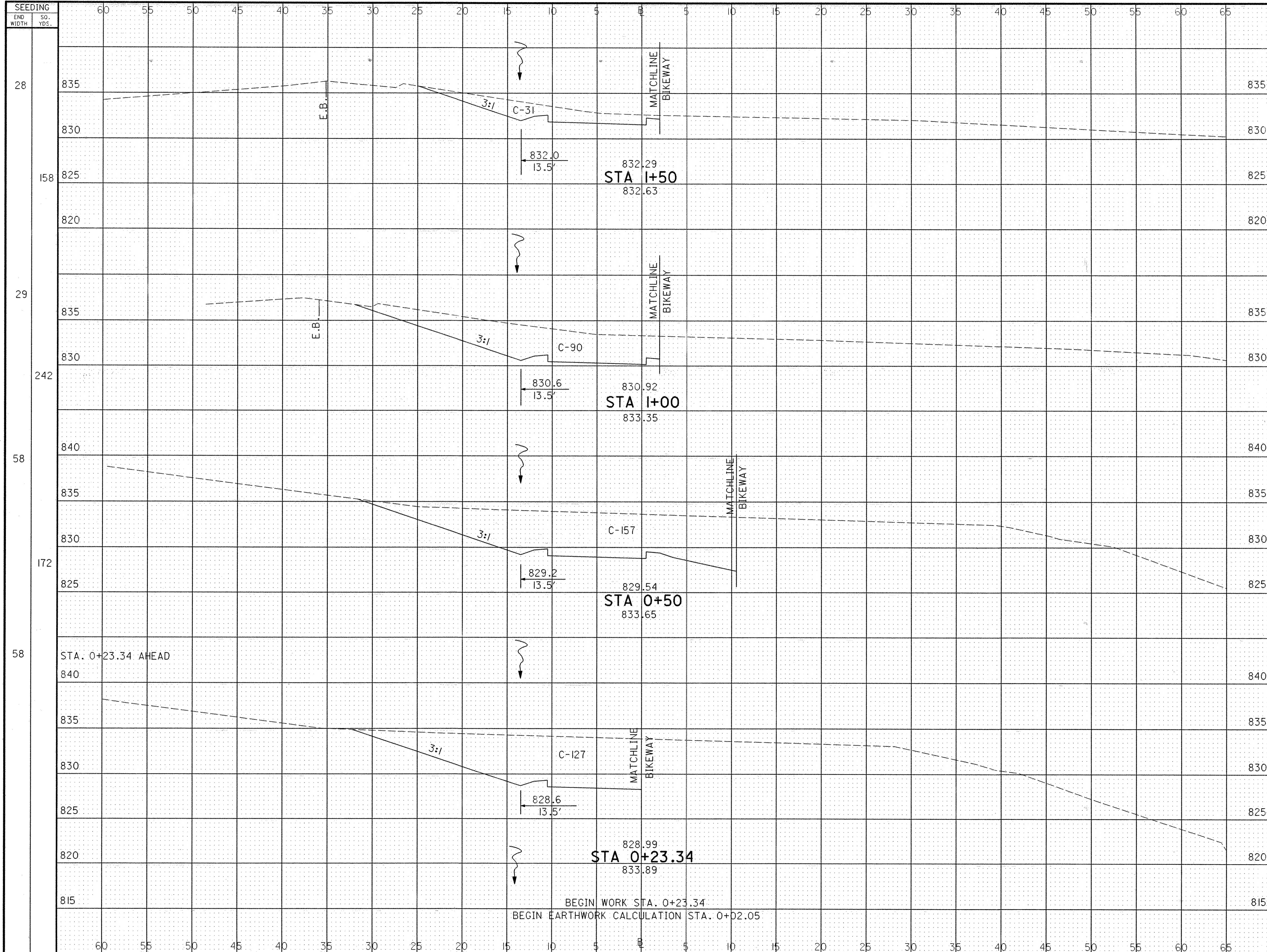
BIKEWAY CROSS SECTIONS N. CONNECTOR
STA. 8+00 TO STA. 9+25

LIC-16-17.94

307
420

RC004017.DGN 3/03/95

RC001301.DGN 12/29/94

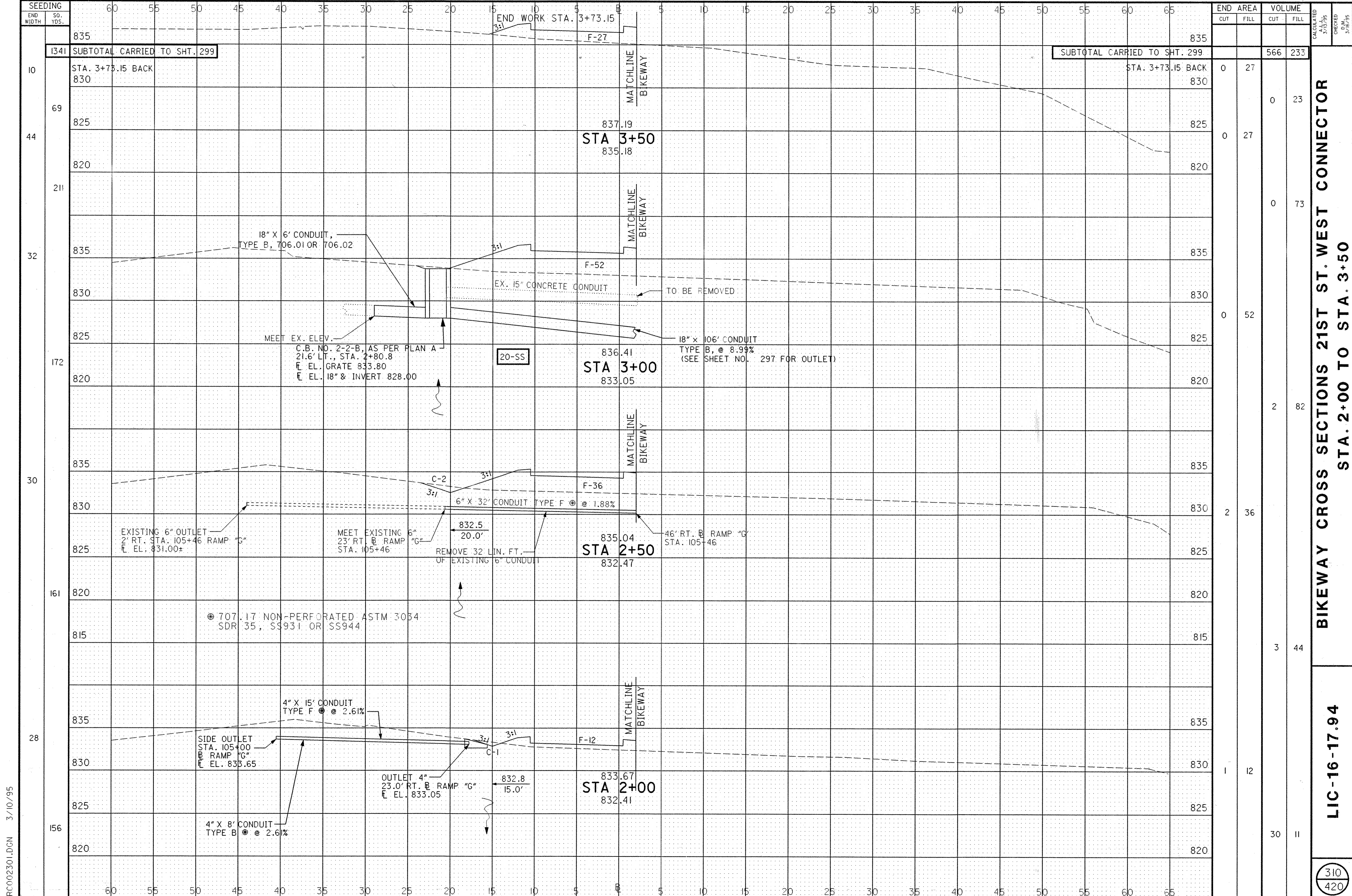


END	AREA		VOLUME	
	CUT	FILL	CUT	FILL
835	31	0		
830				
825				
820			112	0
835				
830				
840				
835			229	0
830				
825				
840				
835				
830				
825			157	0
840				
835				
830				
825				
840				
835			140	0
830				
825				
820				
815			50	0
	0	0		

BIKEWAY CROSS SECTIONS 21ST ST. WEST CONNECTOR
 STA. 0+23.34 TO STA. 1+50

LIC-16-17.94
 309
 420

CALCULATED
 3/11/95
 CHECKED
 3/16/95



RC002301.DGN 3/10/95

BIKEWAY CROSS SECTIONS 21ST ST. WEST CONNECTOR

LIC-16-17.94

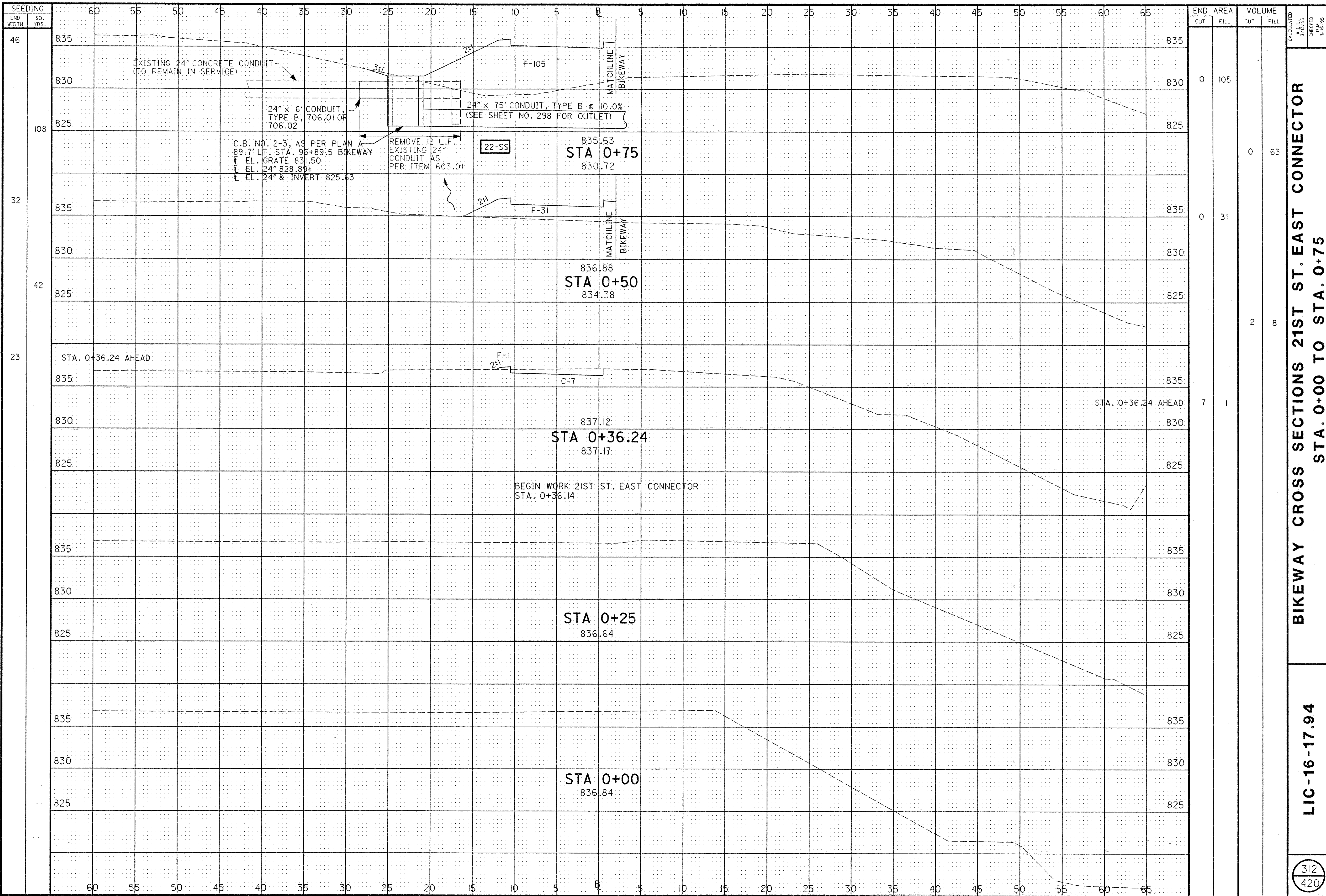
310
420

END AREA
CUT FILL
VOLUME
CUT FILL

CALCULATED
5/15/95
CHECKED
D.M.
5/16/95

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
835				
1341			566	233
830				
10	0	27		23
69				
44	0	27		73
211				
32				
835				
830				
825				
172	0	52		82
820				
30				
835				
830				
825				
161	2	36		44
820				
815				
28				
835				
830				
825				
156	1	12		30
820				

RC001300.DGN 3/14/95

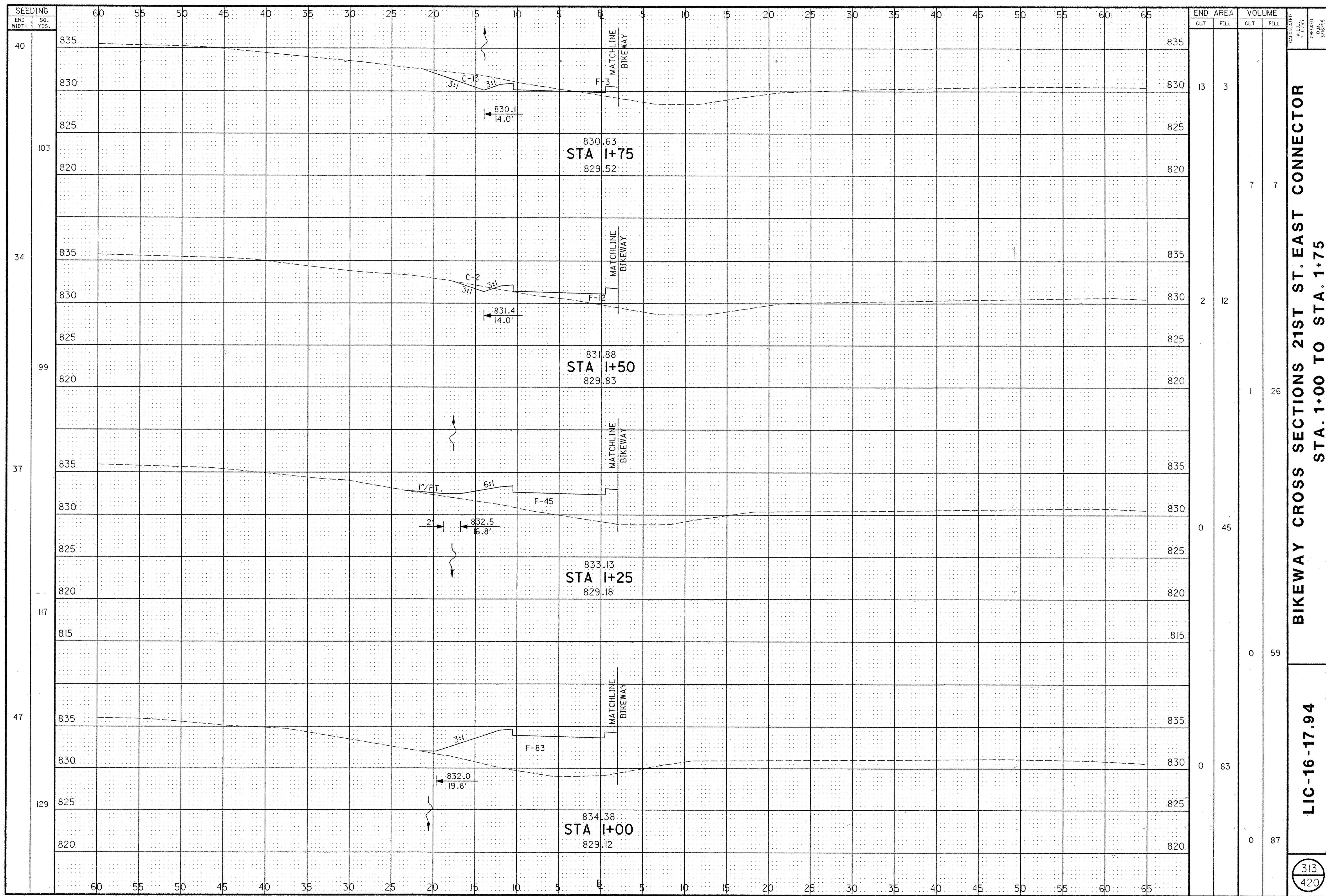


SEEDING END WIDTH	SO. YDS.	END AREA		VOLUME		CALCULATED DATE	CREATED DATE
		CUT	FILL	CUT	FILL		
46	835						
	830	0	105				
108	825						
	835			0	63		
32	830						
	825						
42	835						
	830						
	825			2	8		
23	835						
	830						
	825			7	1		
	835						
	830						
	825						
	835						
	830						
	825						

BIKEWAY CROSS SECTIONS 21ST ST. EAST CONNECTOR
STA. 0+00 TO STA. 0+75

LIC-16-17.94

PC002300.DGN 12/29/94

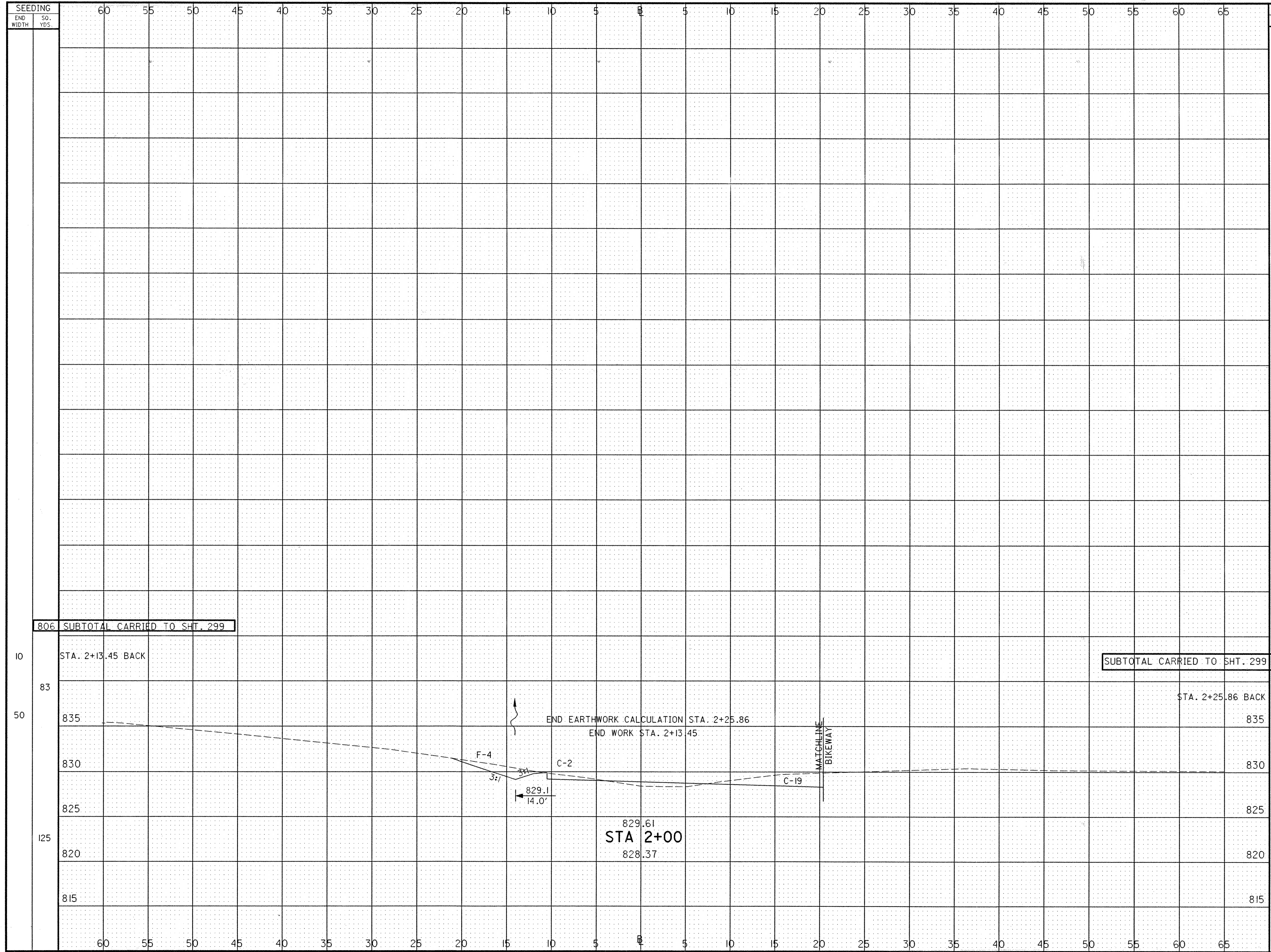


BIKEWAY CROSS SECTIONS 21ST ST. EAST CONNECTOR
STA. 1+00 TO STA. 1+75

LIC-16-17.94

313
420

RC003300.DGN 1/07/95



806 SUBTOTAL CARRIED TO SHT. 299

SUBTOTAL CARRIED TO SHT. 299

END WIDTH	SO. YDS.	END AREA		VOLUME	
		CUT	FILL	CUT	FILL
10					
83					
50					
125					
815					
820				16	3
825		21	4		
830				10	2
835		0	0		
10				36	255

BIKEWAY CROSS SECTIONS 21ST ST. EAST CONNECTOR
STA. 2+00

LIC-16-17.94

314
420

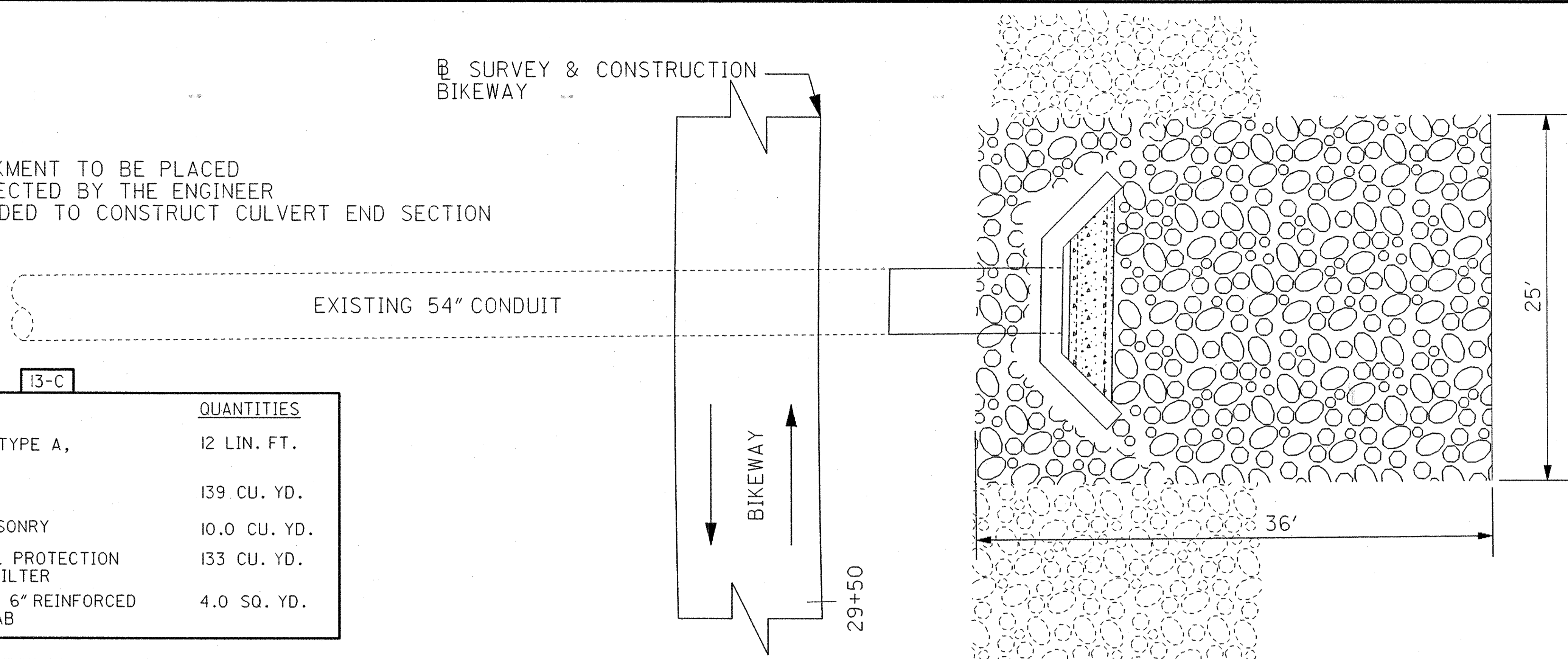
CALCULATED
3/13/95
CHECKED
D.M.
3/16/95

* EMBANKMENT - EMBANKMENT TO BE PLACED AS DIRECTED BY THE ENGINEER AS NEEDED TO CONSTRUCT CULVERT END SECTION

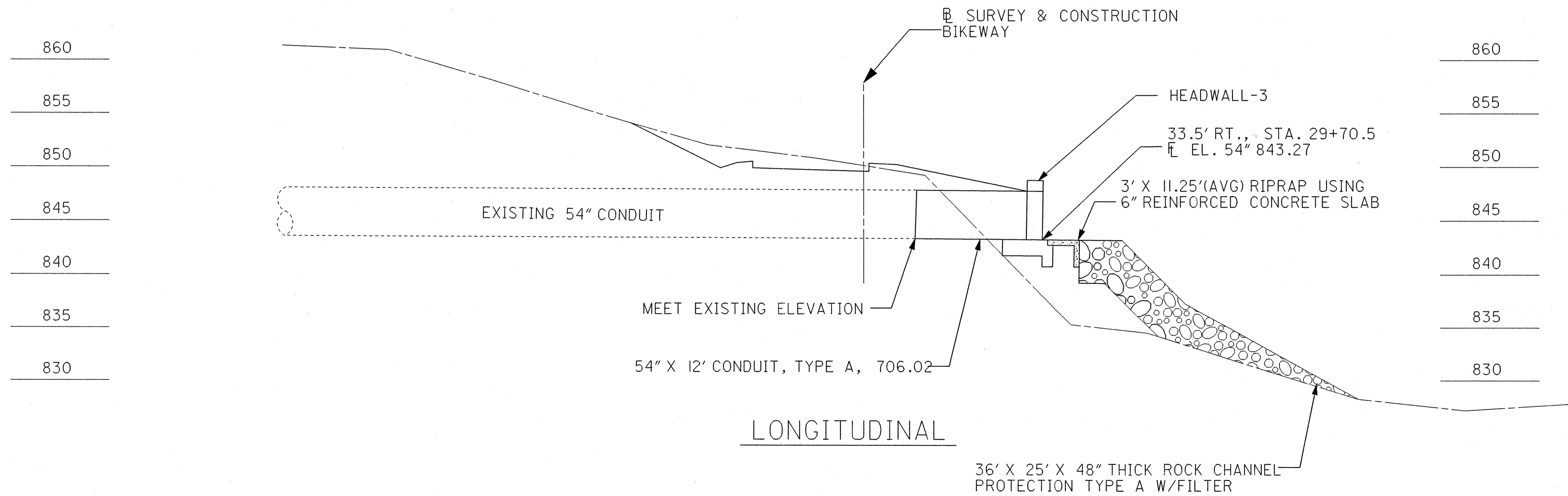
ITEM	DESCRIPTION	QUANTITIES
603	54" CONDUIT, TYPE A, 706.02	12 LIN. FT.
203	EMBANKMENT	139 CU. YD.
602	CONCRETE MASONRY	10.0 CU. YD.
601	ROCK CHANNEL PROTECTION TYPE A, w/ FILTER	133 CU. YD.
601	RIPRAP USING 6" REINFORCED CONCRETE SLAB	4.0 SQ. YD.

CALCULATIONS
 * EMBANKMENT 25' X 15' X 10' / 27 = 139 CU. YD.
 ROCK CHANNEL PROTECTION 36' X 25' X 48" / 27 = 133 CU. YD.
 RIPRAP USING 6" REINFORCED CONCRETE SLAB 3' X 11.25' (AVG.) / 9 = 4 SQ. YD.

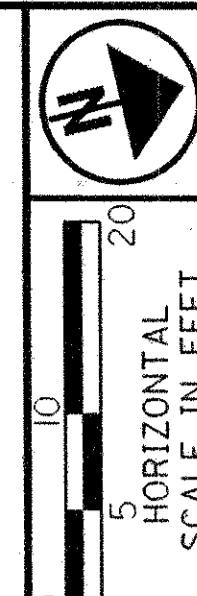
QUANTITIES CARRIED TO SHEET 345



PLAN



LONGITUDINAL

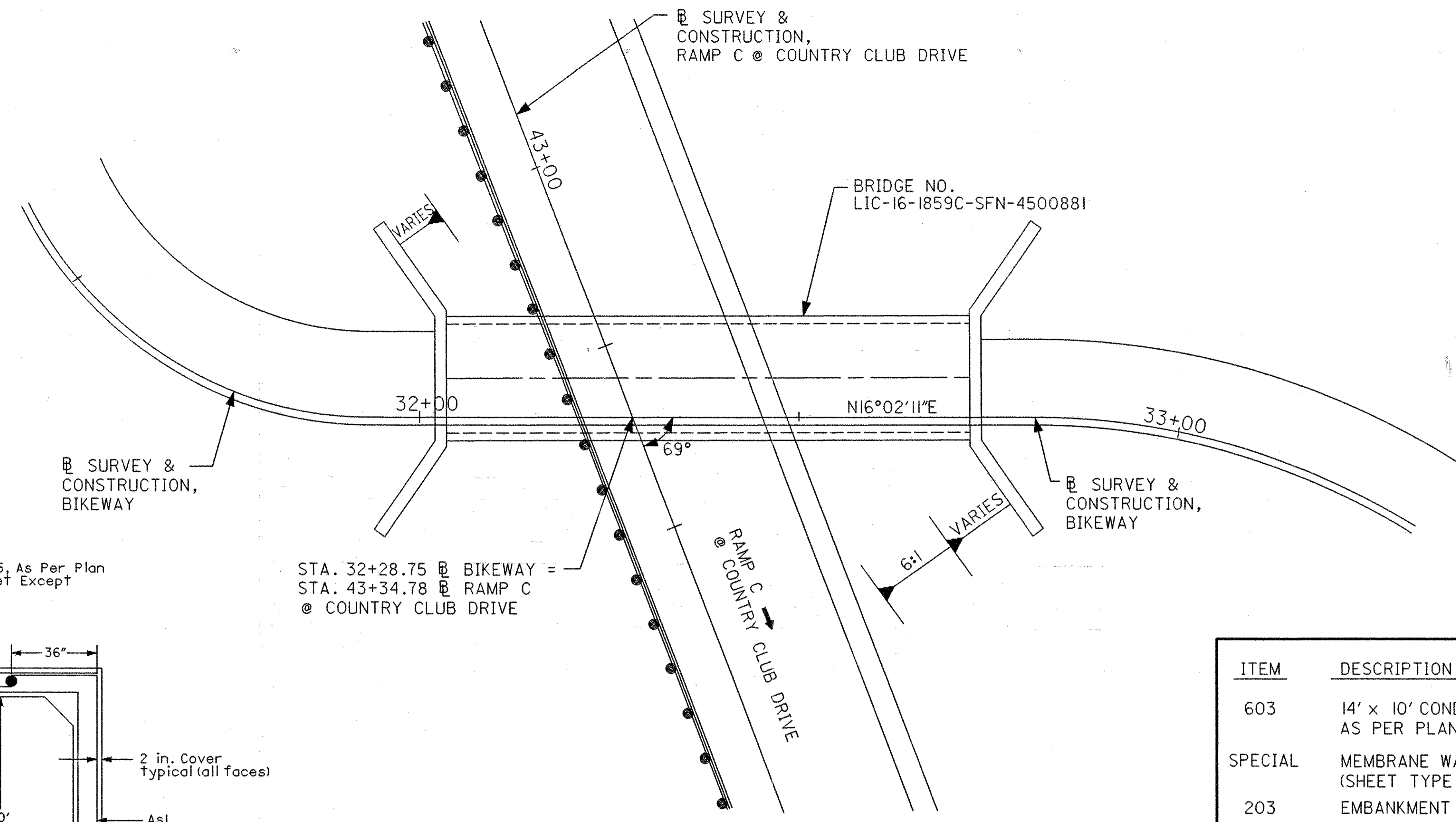


CALCULATED
C.P. 3/15/95
CHECKED
A.L.L. 3/16/95

BIKEWAY TUNNEL DETAIL SHEET
STA. 32+28.75

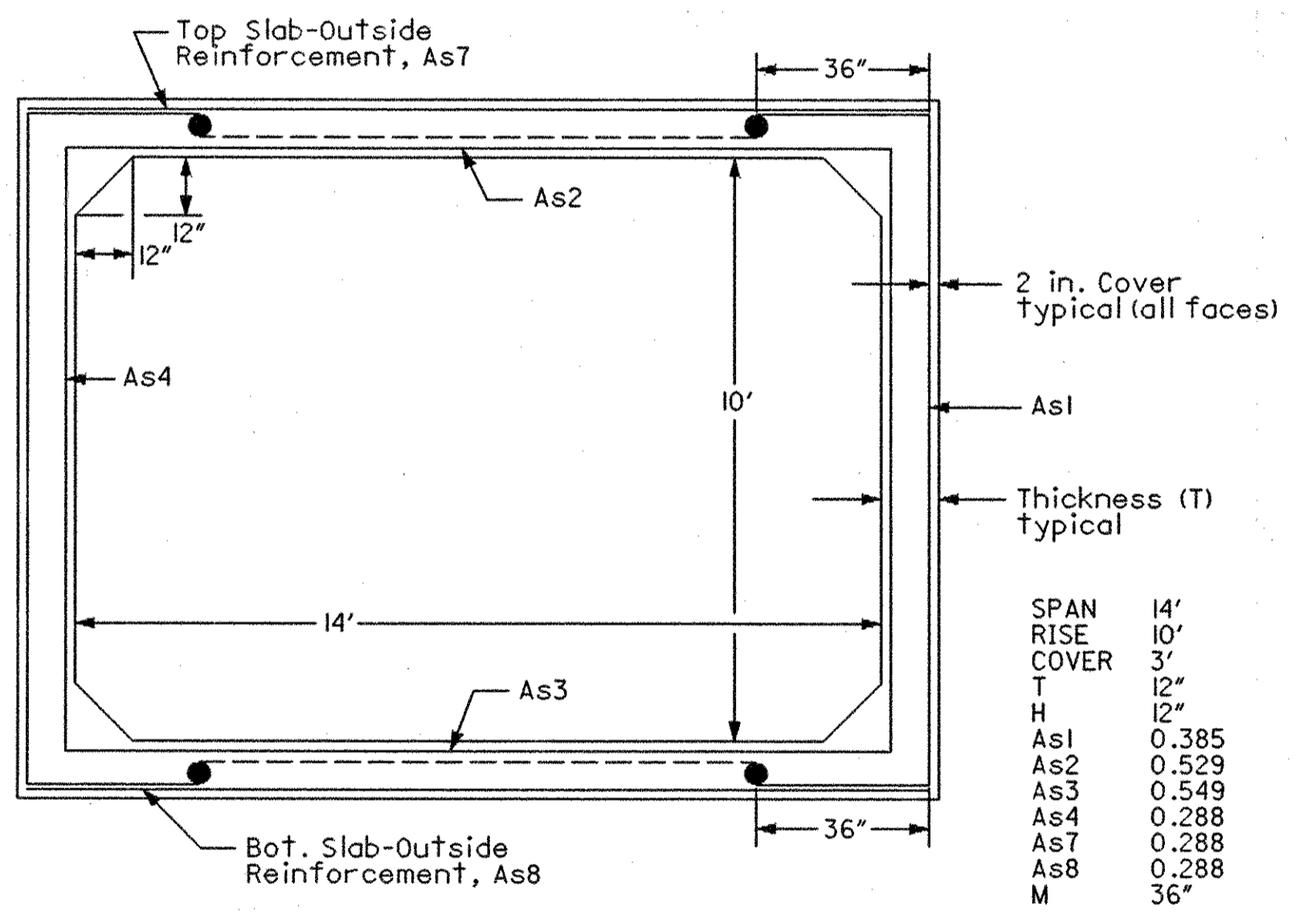
LIC-16-17.94

316
420



Notes:
Maximum spacing of reinforcing shall be 8 inches.
The minimum concrete compressive strength shall be 5,000 psi.
The minimum yield strength for reinforcing shall be 65,000 psi.
As min = 0.002 x Gross Section Area

Item 603 - 14' x 10' Conduit Type A, 706.05, As Per Plan
All Requirements of ASTM C789 Shall Be Met Except As Detailed Herein:

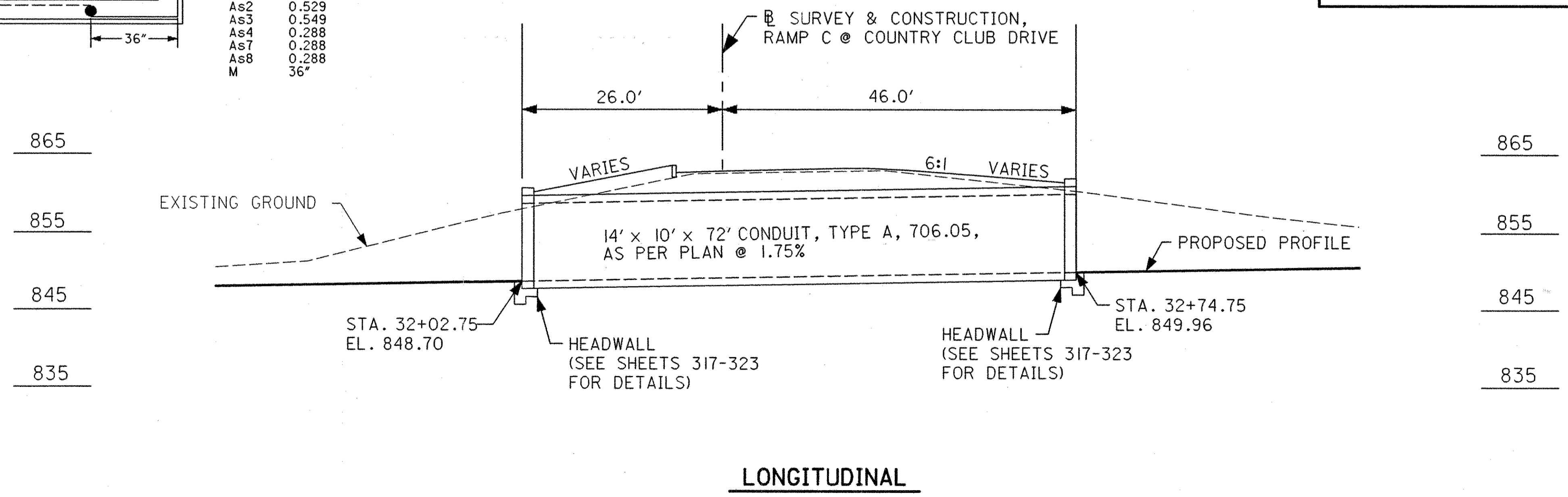


SPAN	14'
RISE	10'
COVER	3"
T	12"
H	12"
As1	0.385
As2	0.529
As3	0.549
As4	0.288
As7	0.288
As8	0.288
M	36"

ITEM	DESCRIPTION	QUANTITIES
603	14' x 10' CONDUIT, TYPE A, 706.05, AS PER PLAN (2.8' COVER)	72 LIN. FT.
SPECIAL	MEMBRANE WATERPROOFING (SHEET TYPE 2)	307 SQ. YD.
203	EMBANKMENT	28 CU.YD.

QUANTITIES CARRIED TO SHEET 345.

CALCULATIONS	
MEMBRANE WATERPROOFING	$69' \times 40' / 9 = 306.7 \text{ SQ. YD.}$
EMBANKMENT	$47 \text{ SQ.YD.} \times 16' \div 27 = 28 \text{ CU. YD.}$

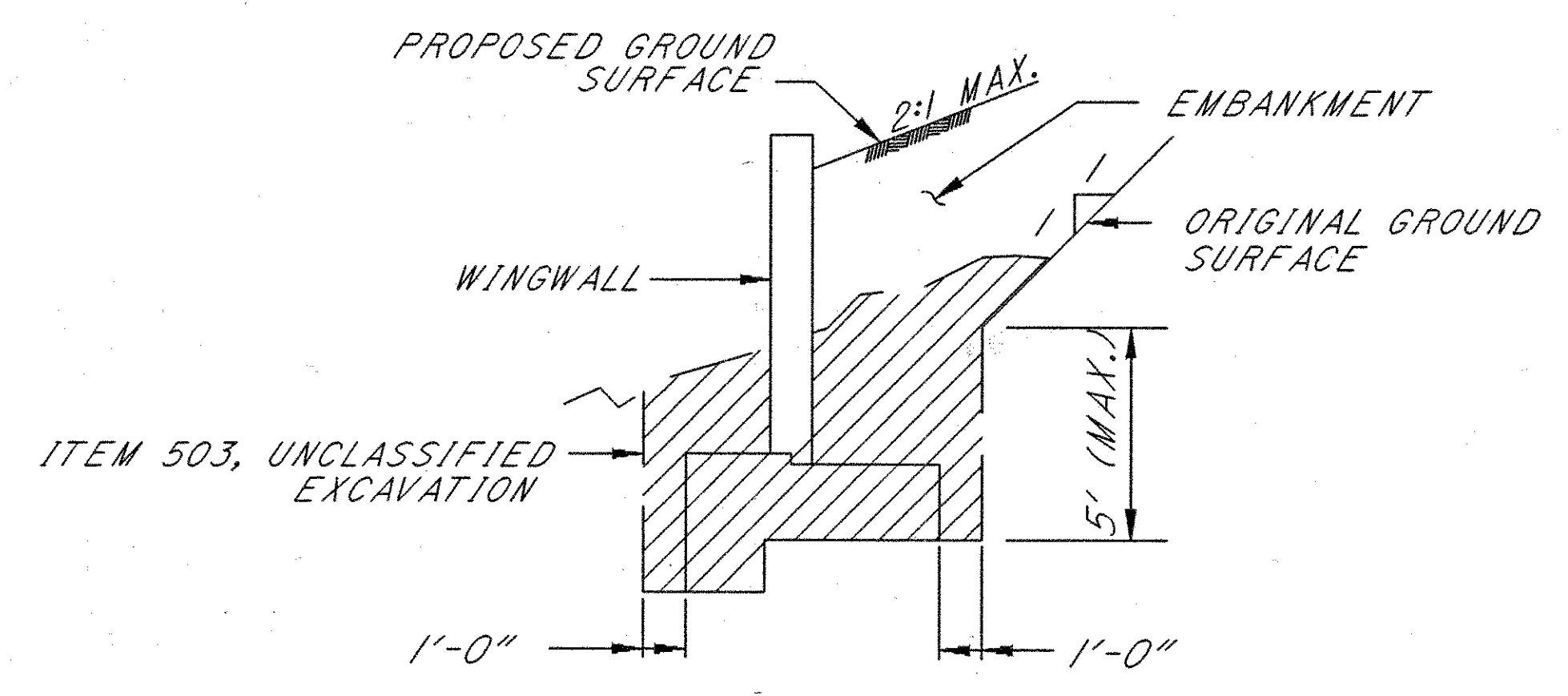


L161712A.DGN 3/14/95

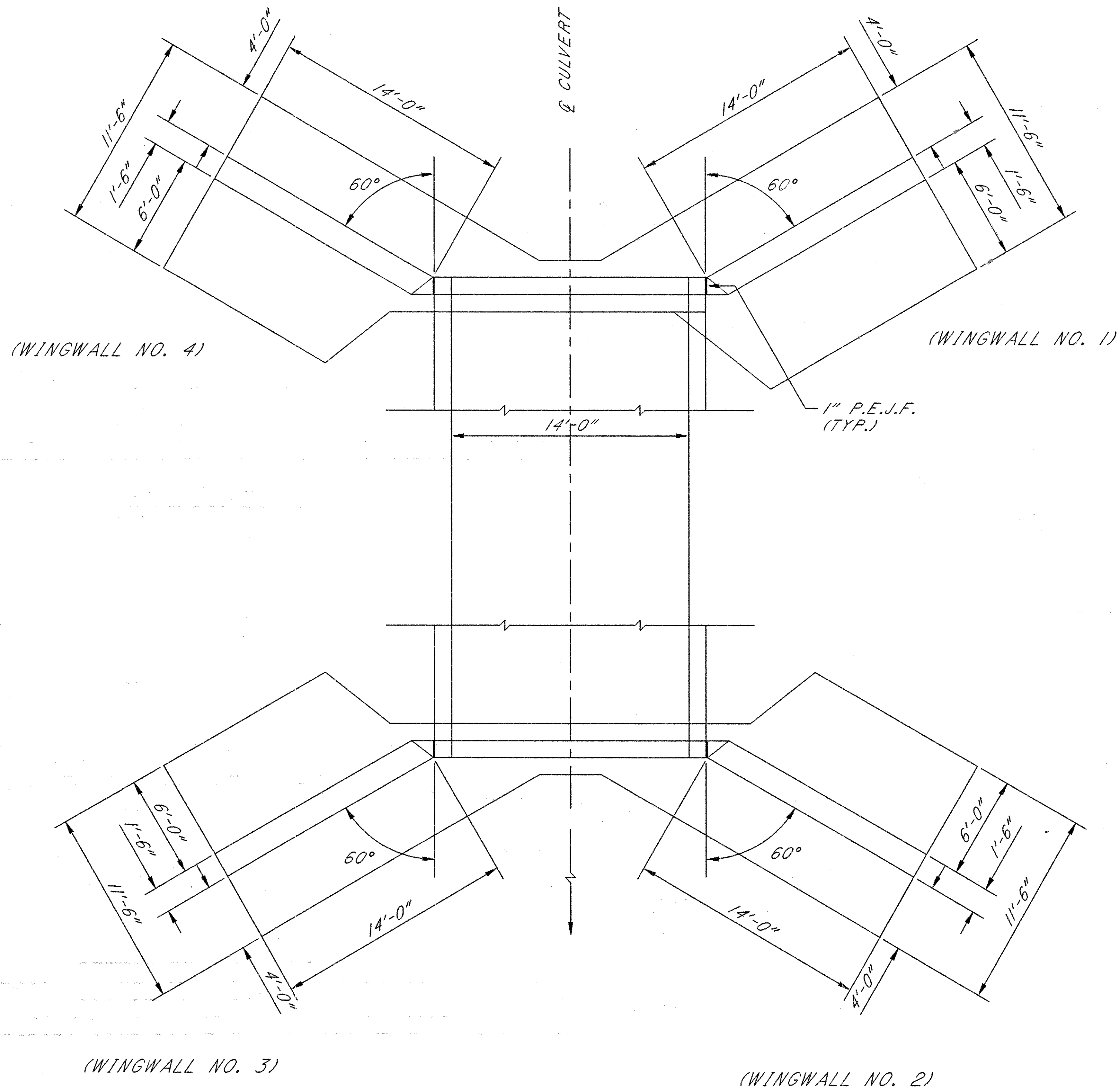
ESTIMATED QUANTITIES

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
503	21100	245	CU. YD.	UNCLASSIFIED EXCAVATION
509	15820	7485	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
511	46000	19	CU. YD.	CLASS C CONCRETE, RETAINING WALL OR WINGWALL
511	46500	39	CU. YD.	CLASS C CONCRETE, FOOTING
511	51100	35	CU. YD.	CLASS C CONCRETE MISC: HEADWALLS
SPECIAL	51267502	31	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)
516	13600	20	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER
518	21200	14	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC

QUANTITIES CARRIED TO SHEET 351



LIMITS OF UNCLASSIFIED EXCAVATION (WINGWALL)



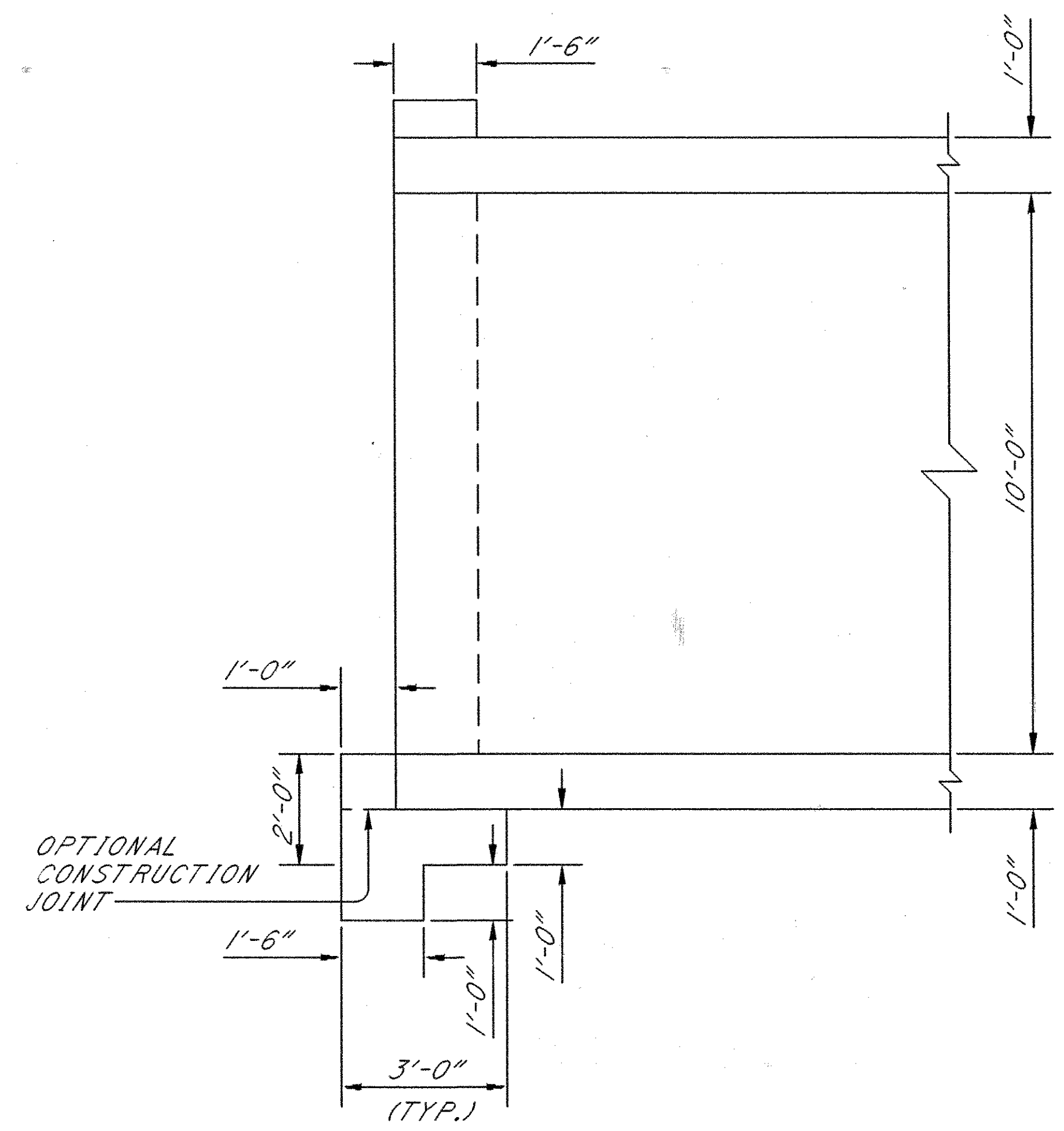
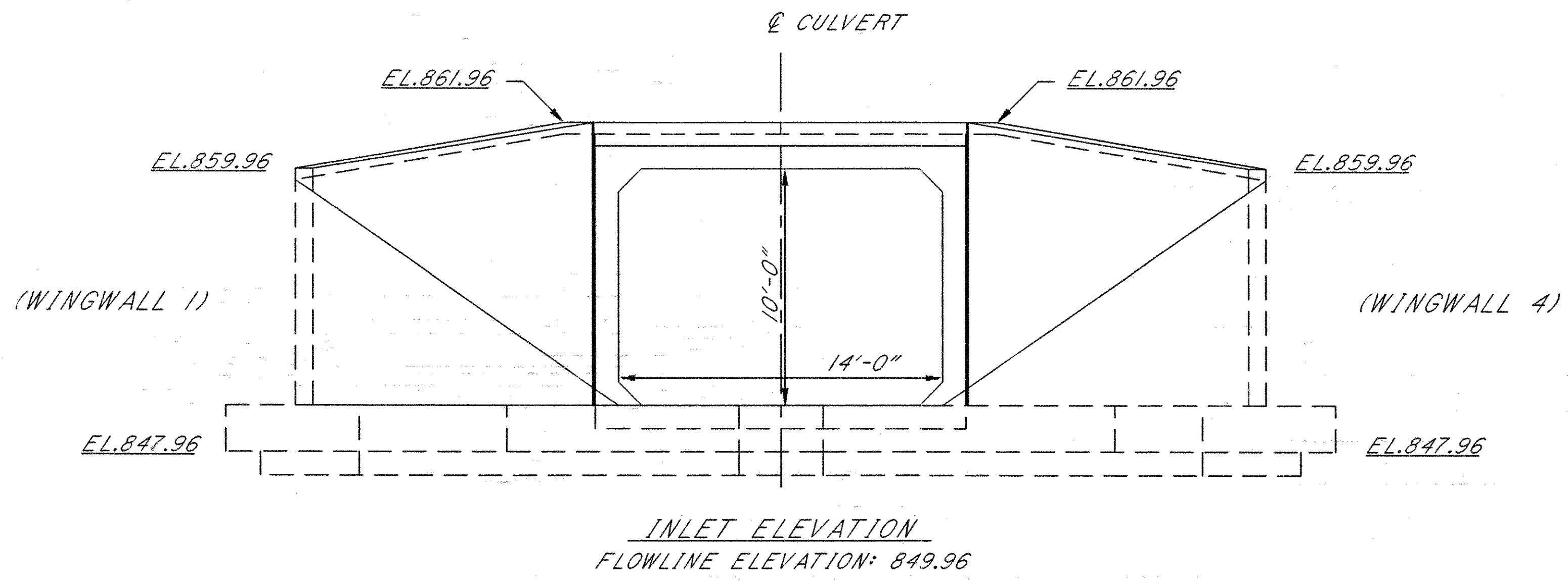
CULVERT & WINGWALL LAYOUT

CALCULATED
3/25/95
CHECKED
D.M.
3/25/95

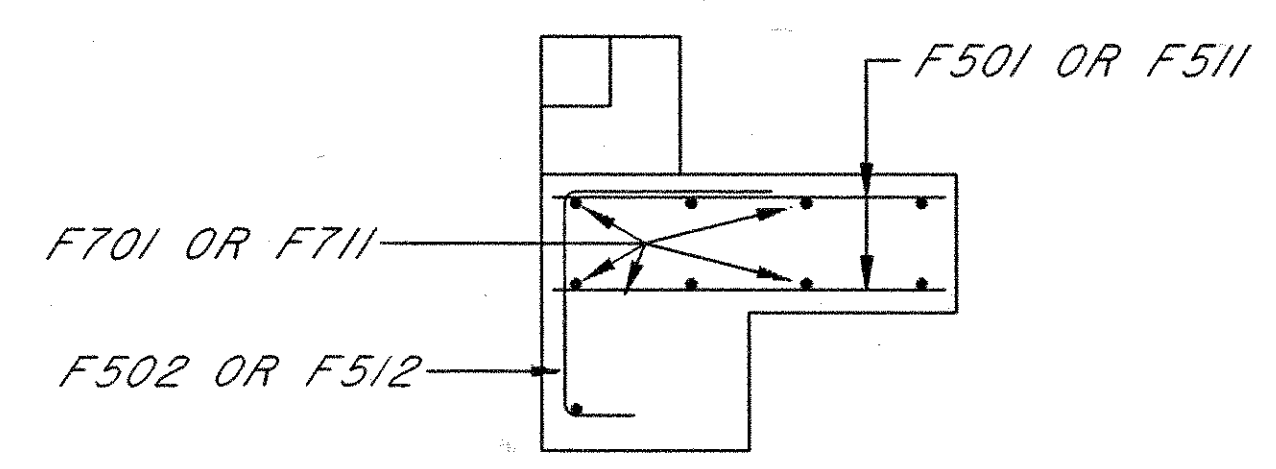
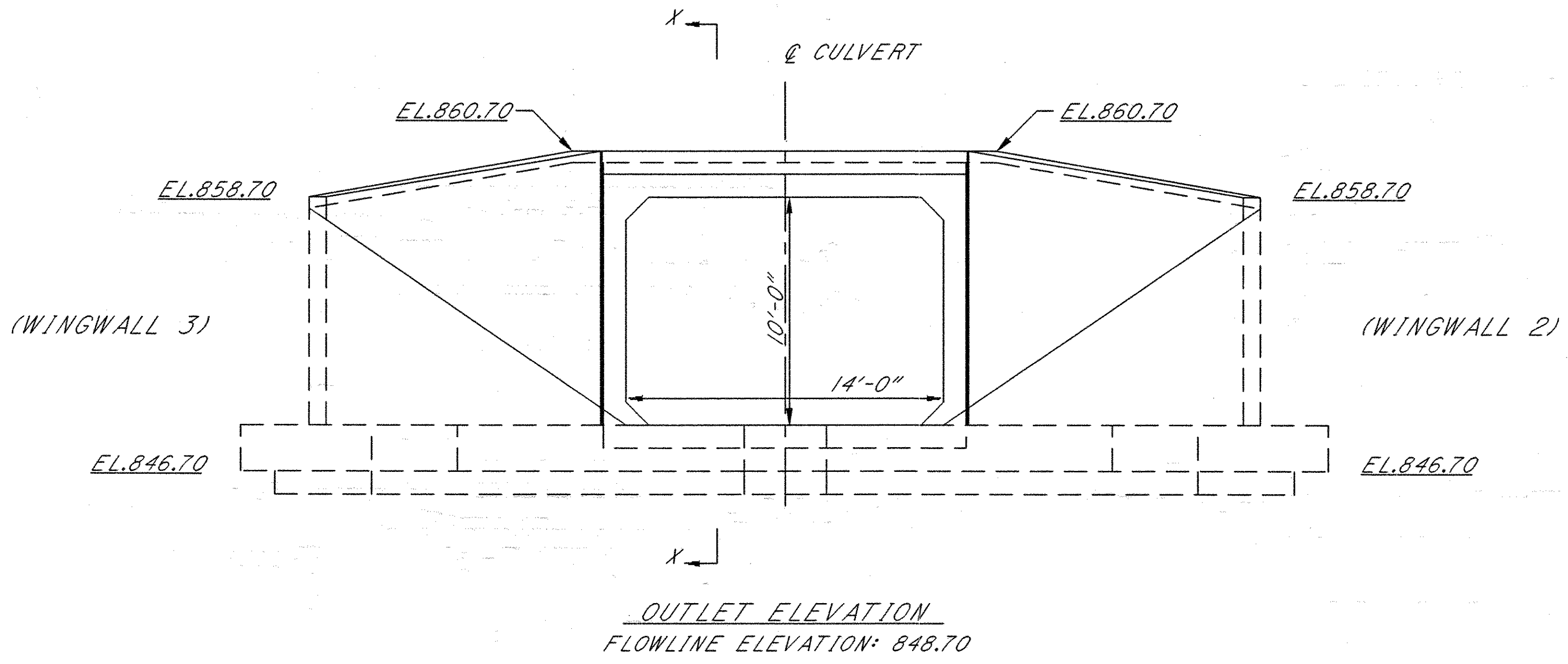
HEADWALL DETAIL STA. 32+28.75

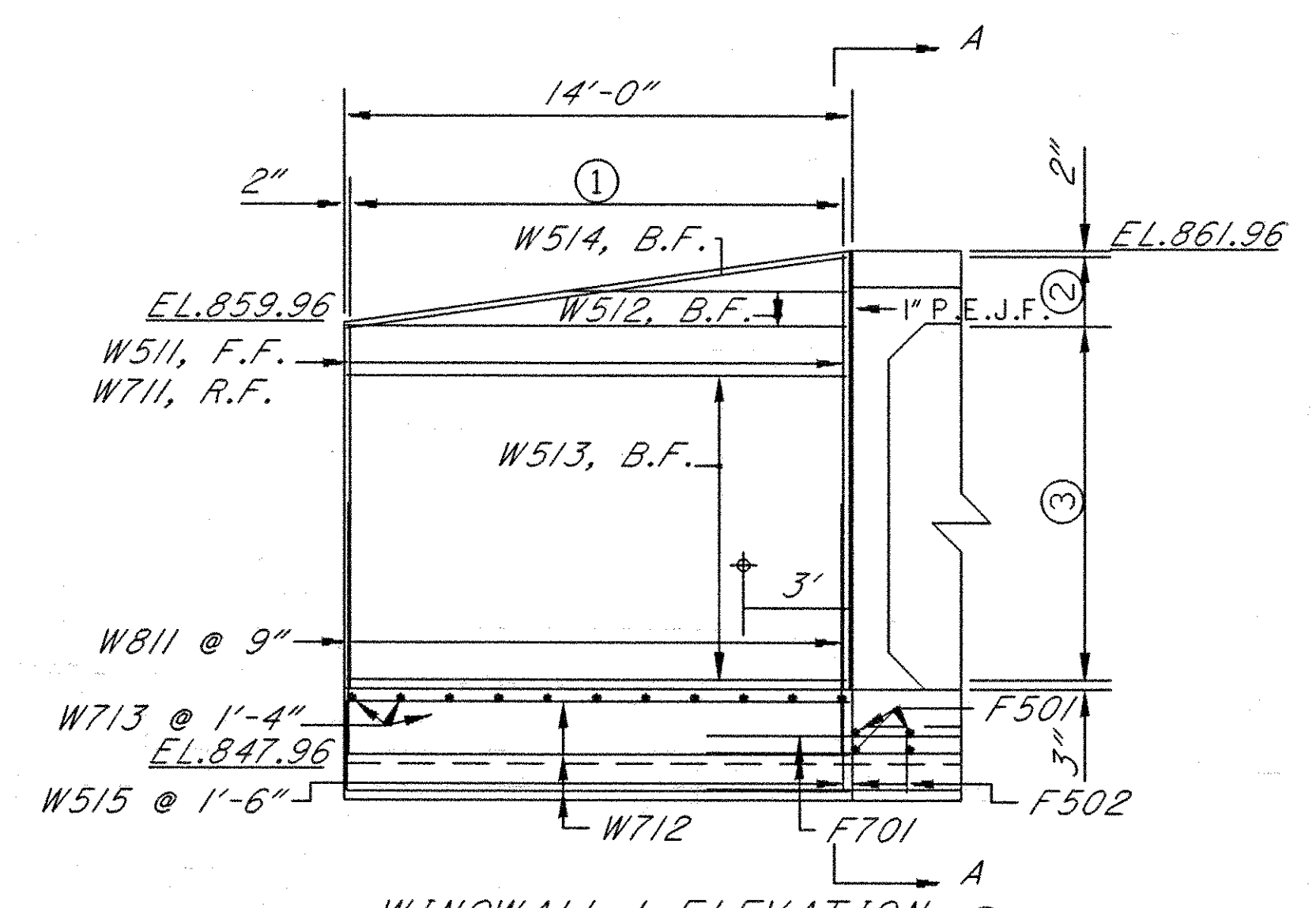
LIC-16-17.94

318
420



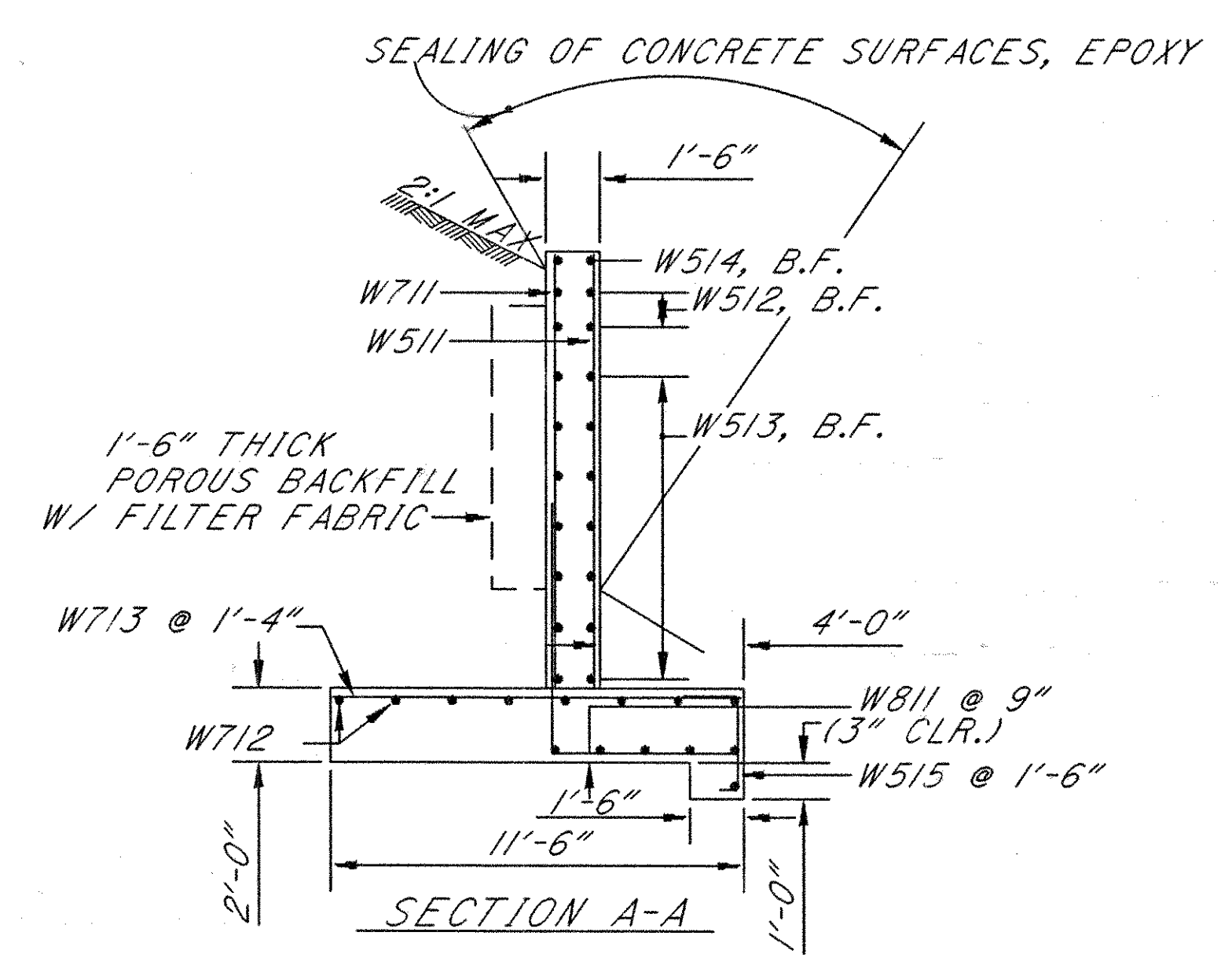
NOTE: FOR CULVERT FOOTING REINFORCING STEEL, SEE DETAIL "I" ON THIS SHEET.





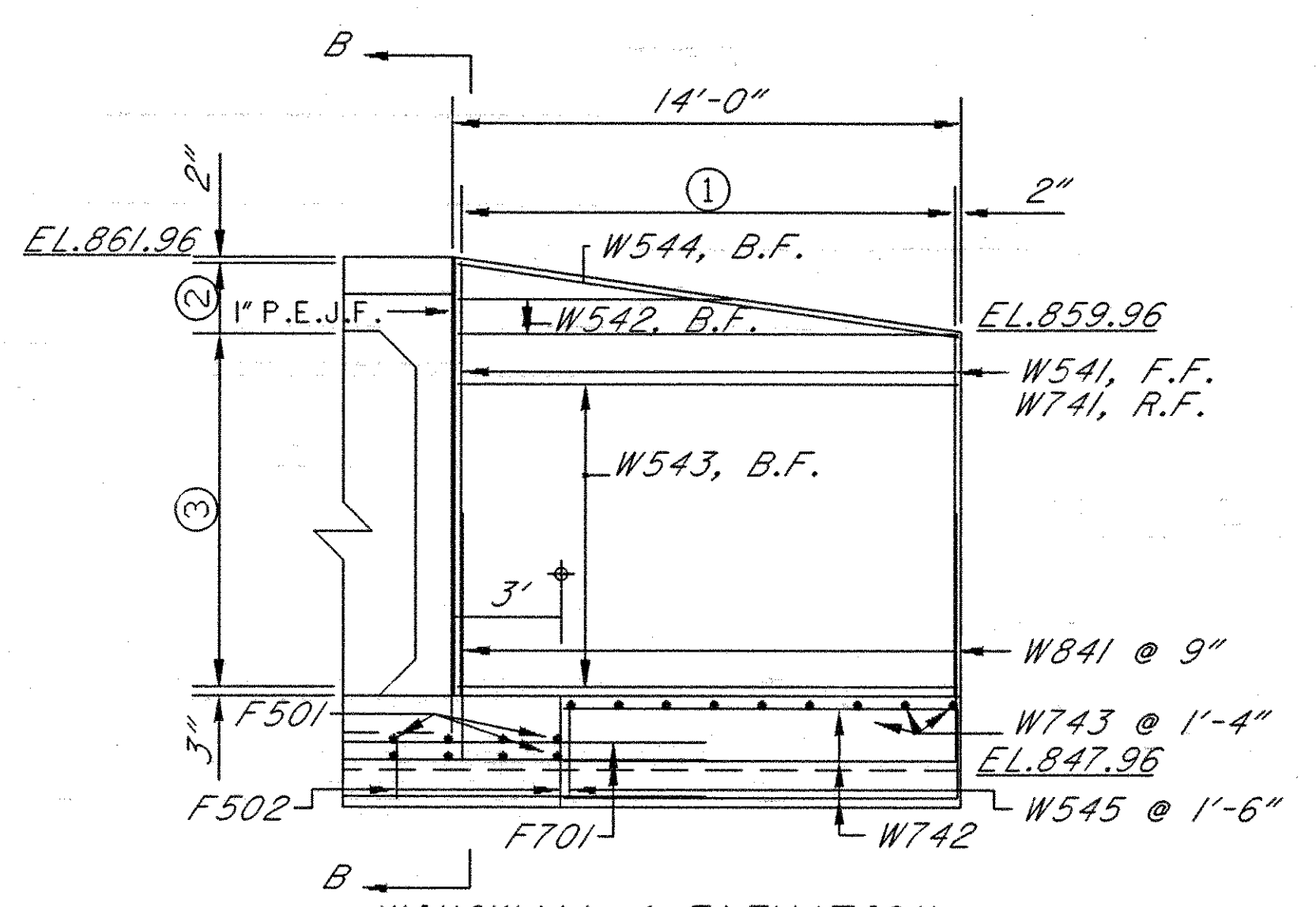
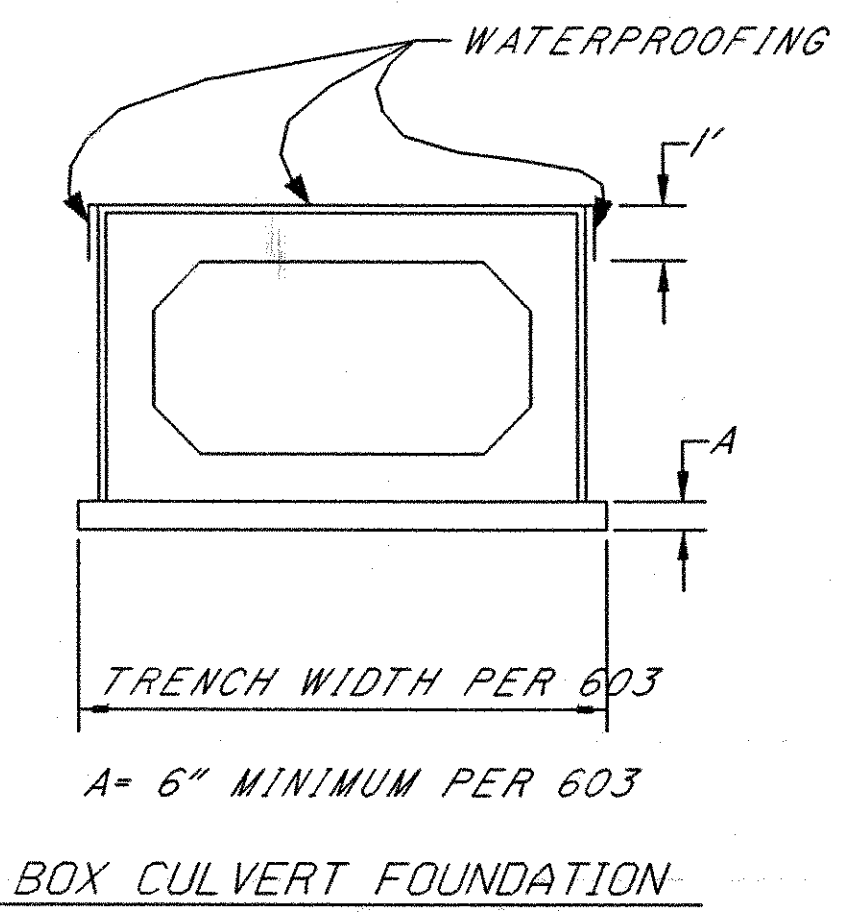
WINGWALL 1 ELEVATION
 ① SER. OF 11 @ 1'-6"
 ② 2 SPACES @ 11 1/2"
 ③ 7 SPACES @ 1'-4 9/16"

NOTE: 4" DIA. WEEPHOLE ELEV. = 853.12



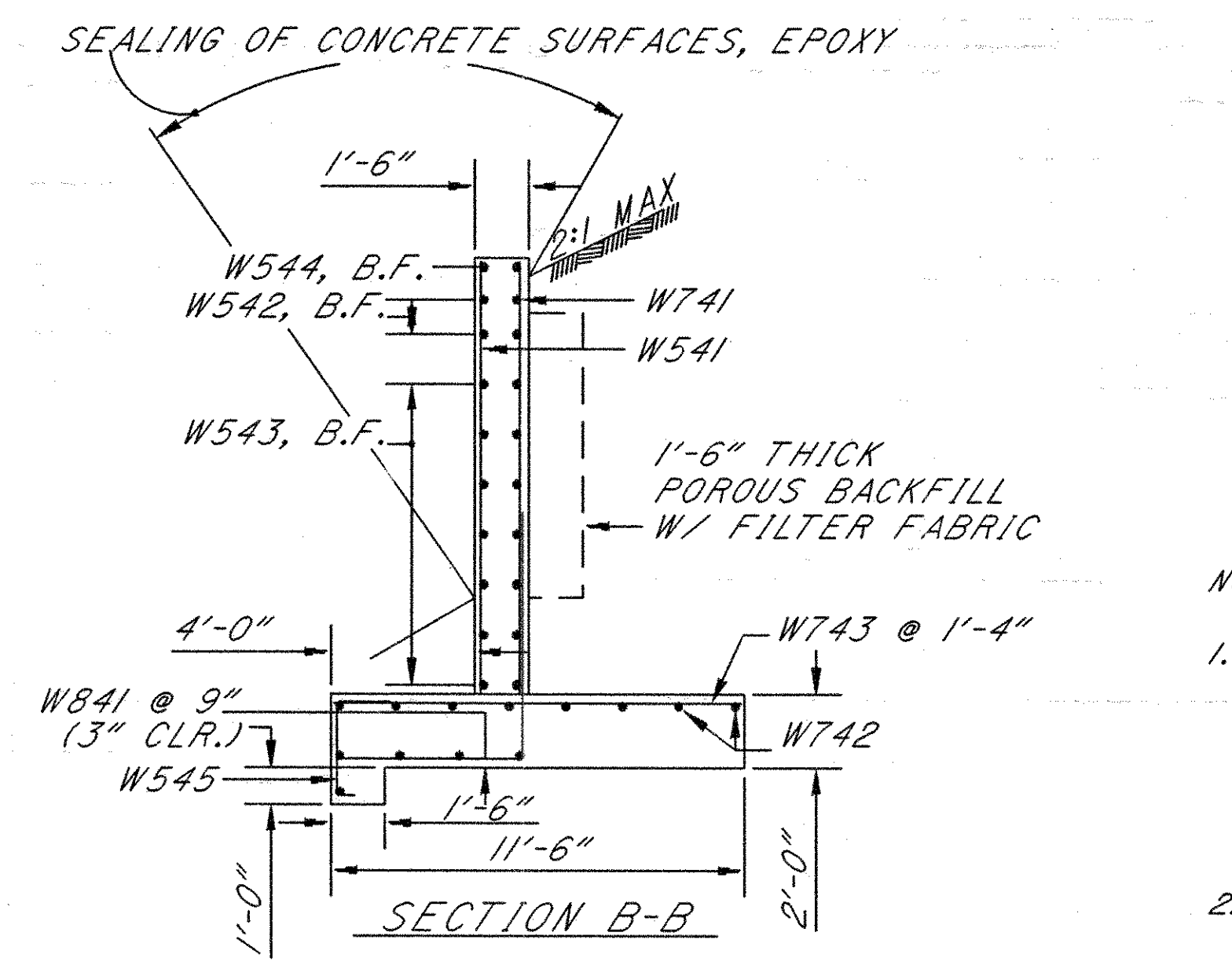
SECTION A-A

LEGEND
 F.F. - FRONT FACE
 R.F. - REAR FACE
 B.F. - BOTH FACE



WINGWALL 4 ELEVATION
 ① SER. OF 11 @ 1'-6"
 ② 2 SPACES @ 11 1/2"
 ③ 7 SPACES @ 1'-4 9/16"

NOTE: 4" DIA. WEEPHOLE ELEV. = 853.12

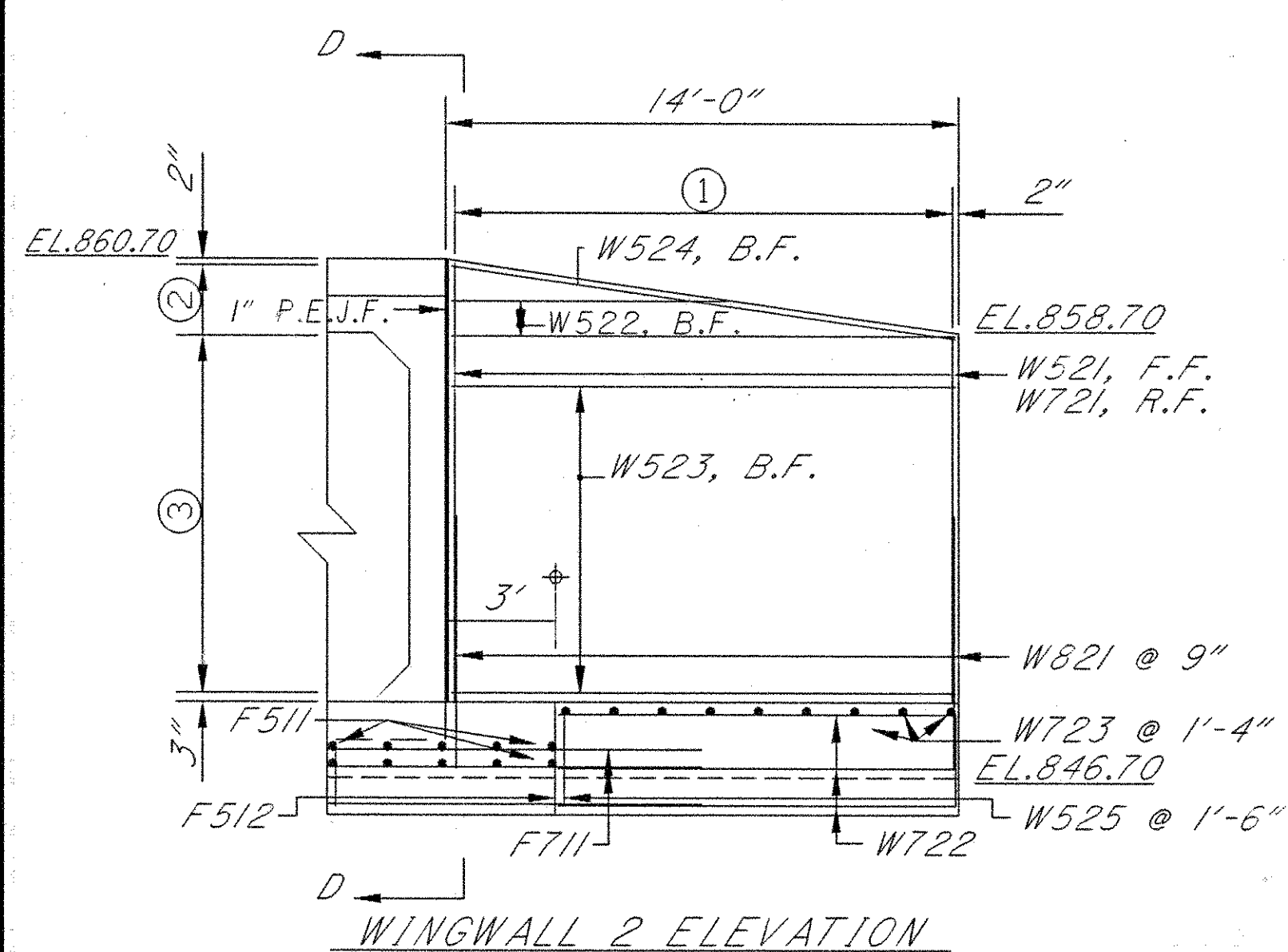


SECTION B-B

NOTES:

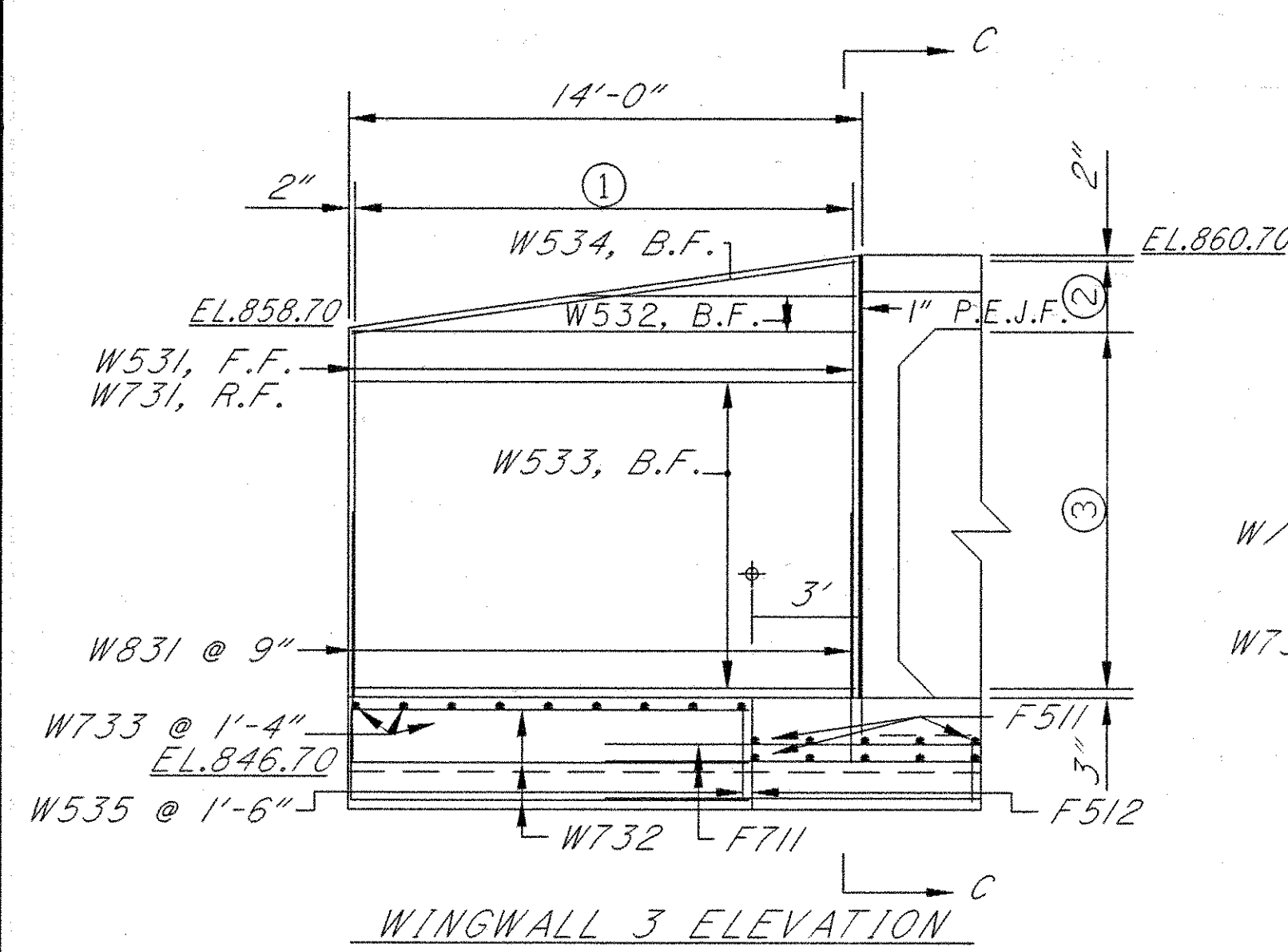
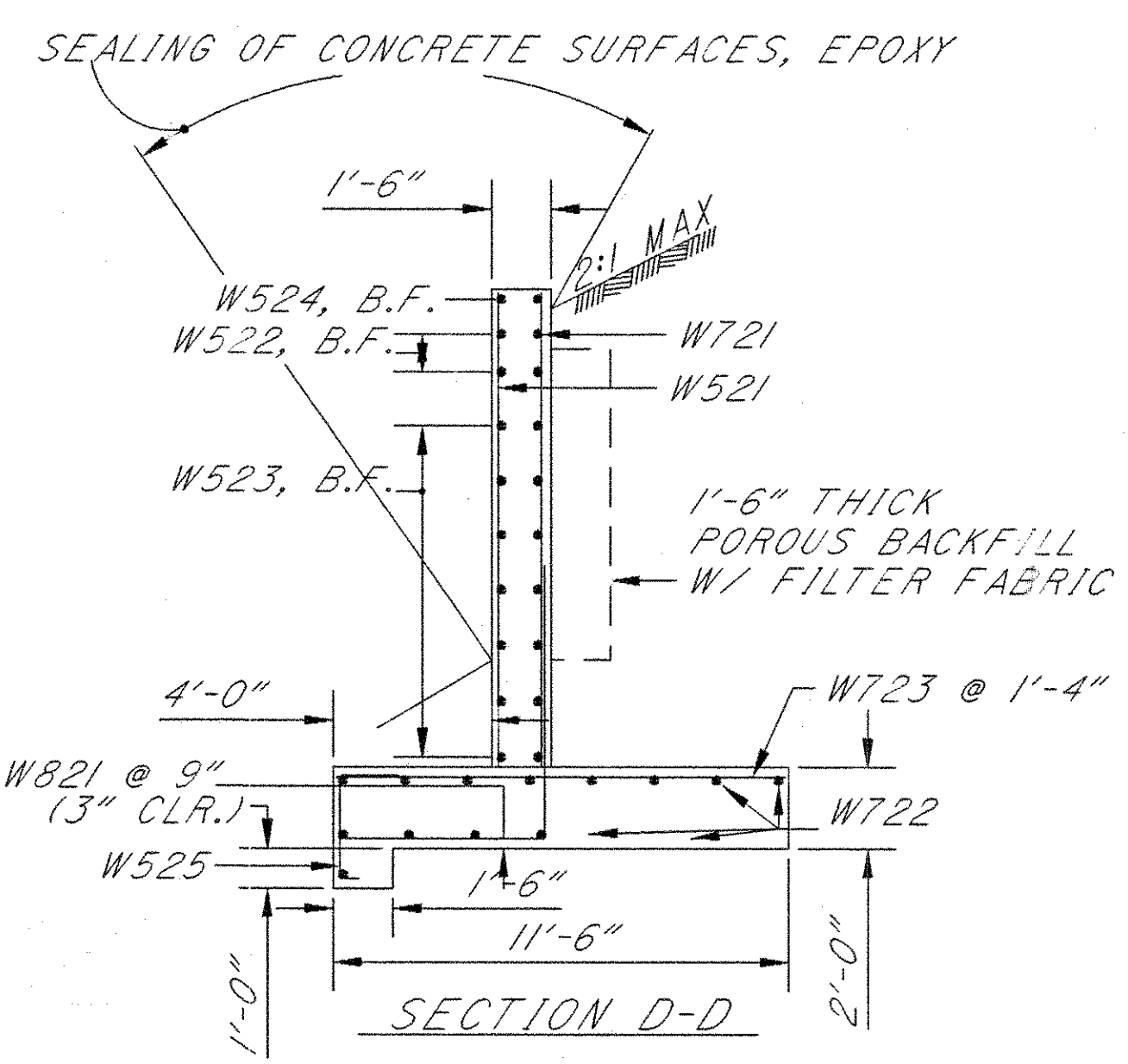
1. POROUS BACKFILL, 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND 1' BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" AGAINST THE WINGWALL.
2. PLACE 2 CU.FT. BAGGED NO. 3 AGGREGATE @ EACH WEEPHOLE. INCLUDE WITH POROUS BACKFILL FOR PAYMENT.

LEGEND
F.F. - FRONT FACE
R.F. - REAR FACE
B.F. - BOTH FACE



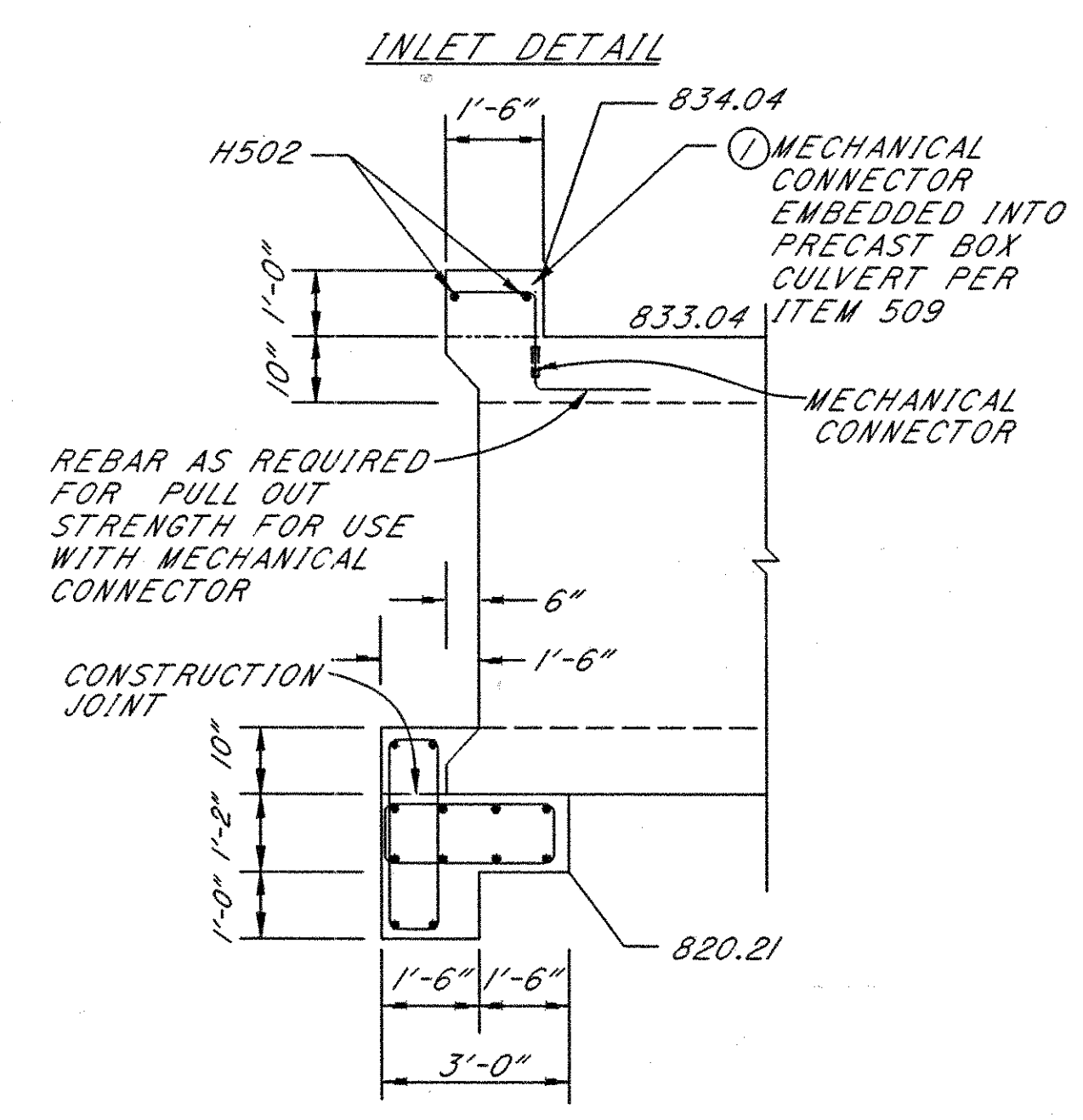
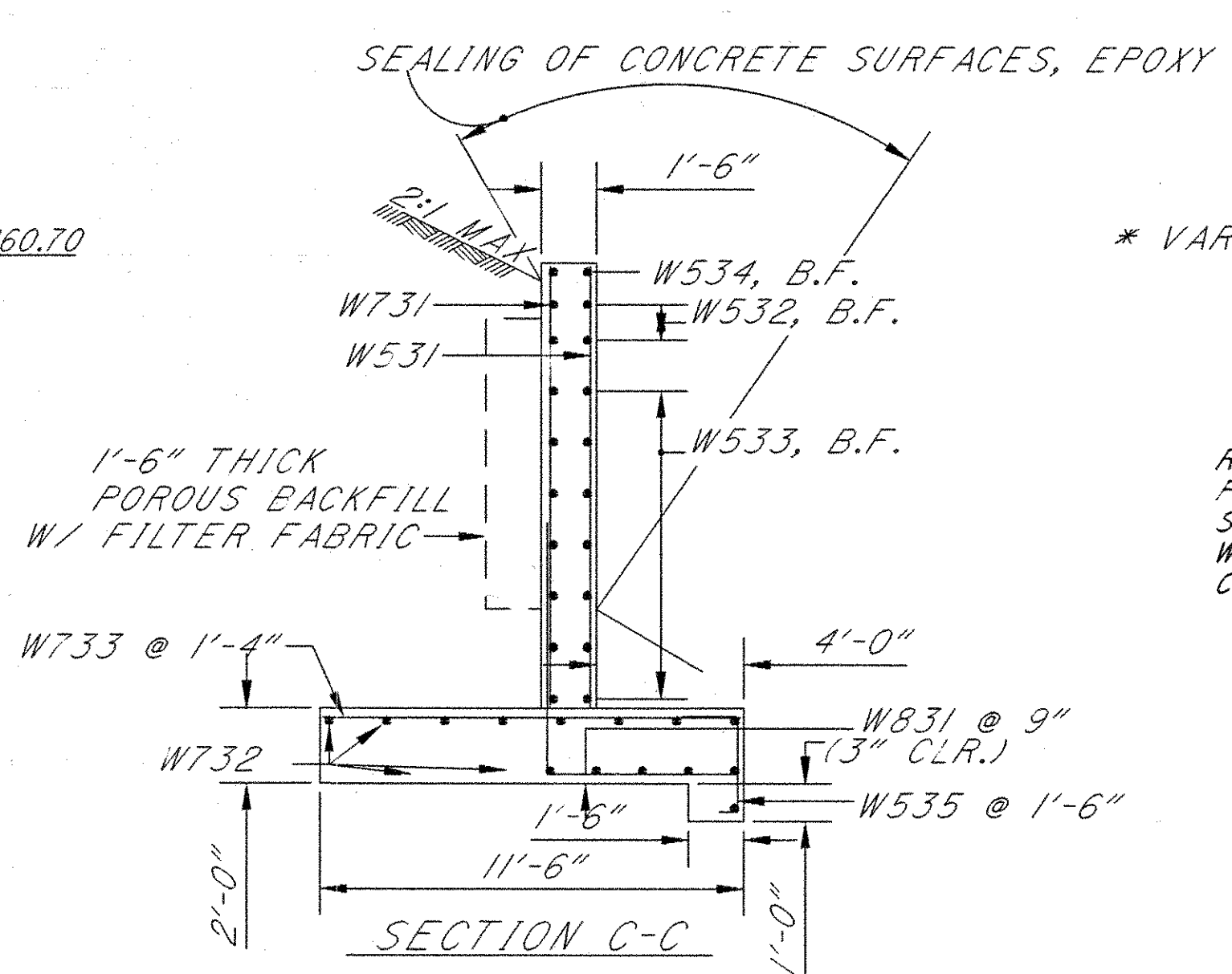
- ① SER. OF 11 @ 1'-6"
- ② 2 SPACES @ 11 1/2"
- ③ 7 SPACES @ 1'-4 9/16"

NOTE: 4" DIA. WEEPHOLE ELEV. = 851.86

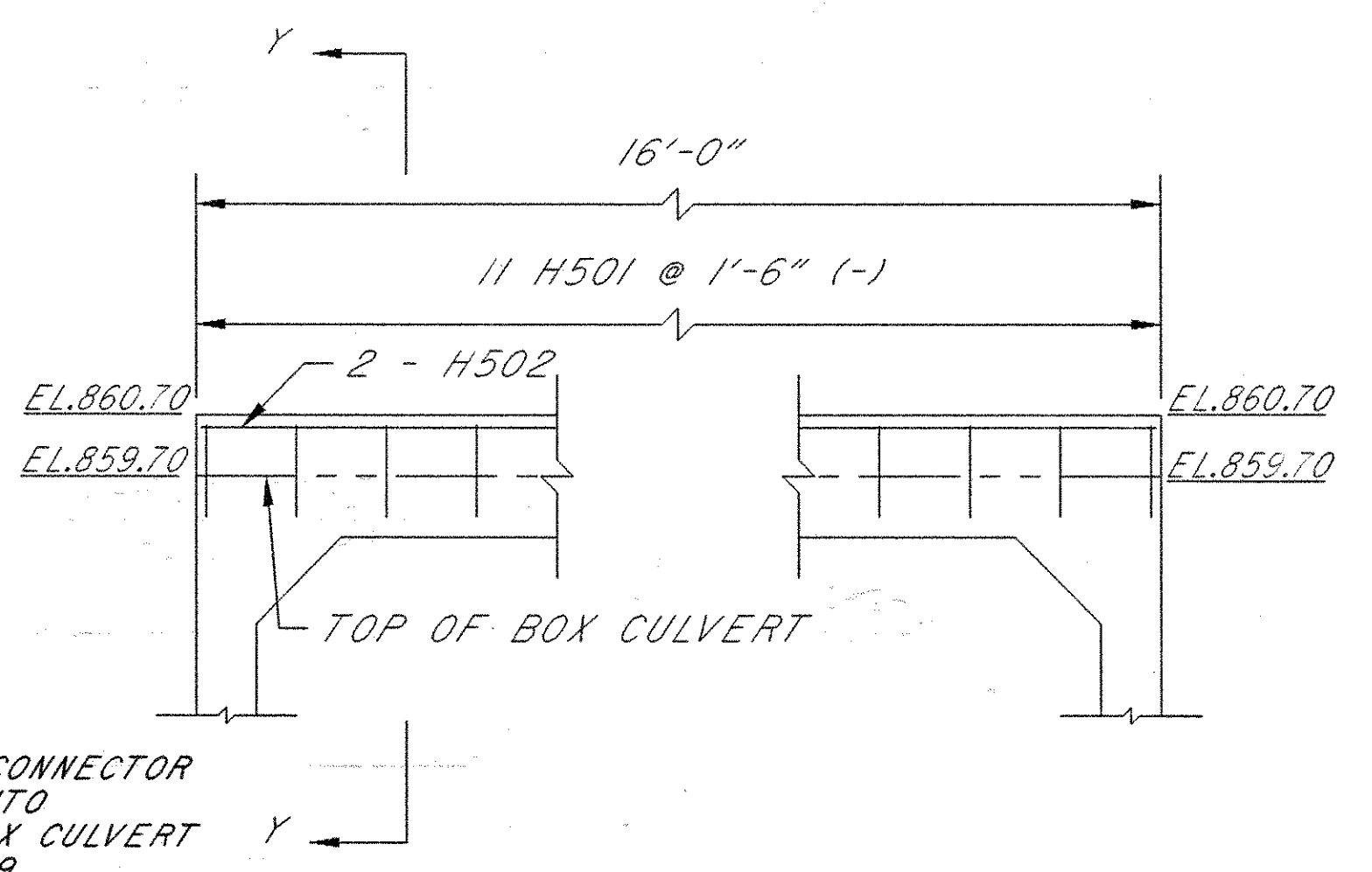
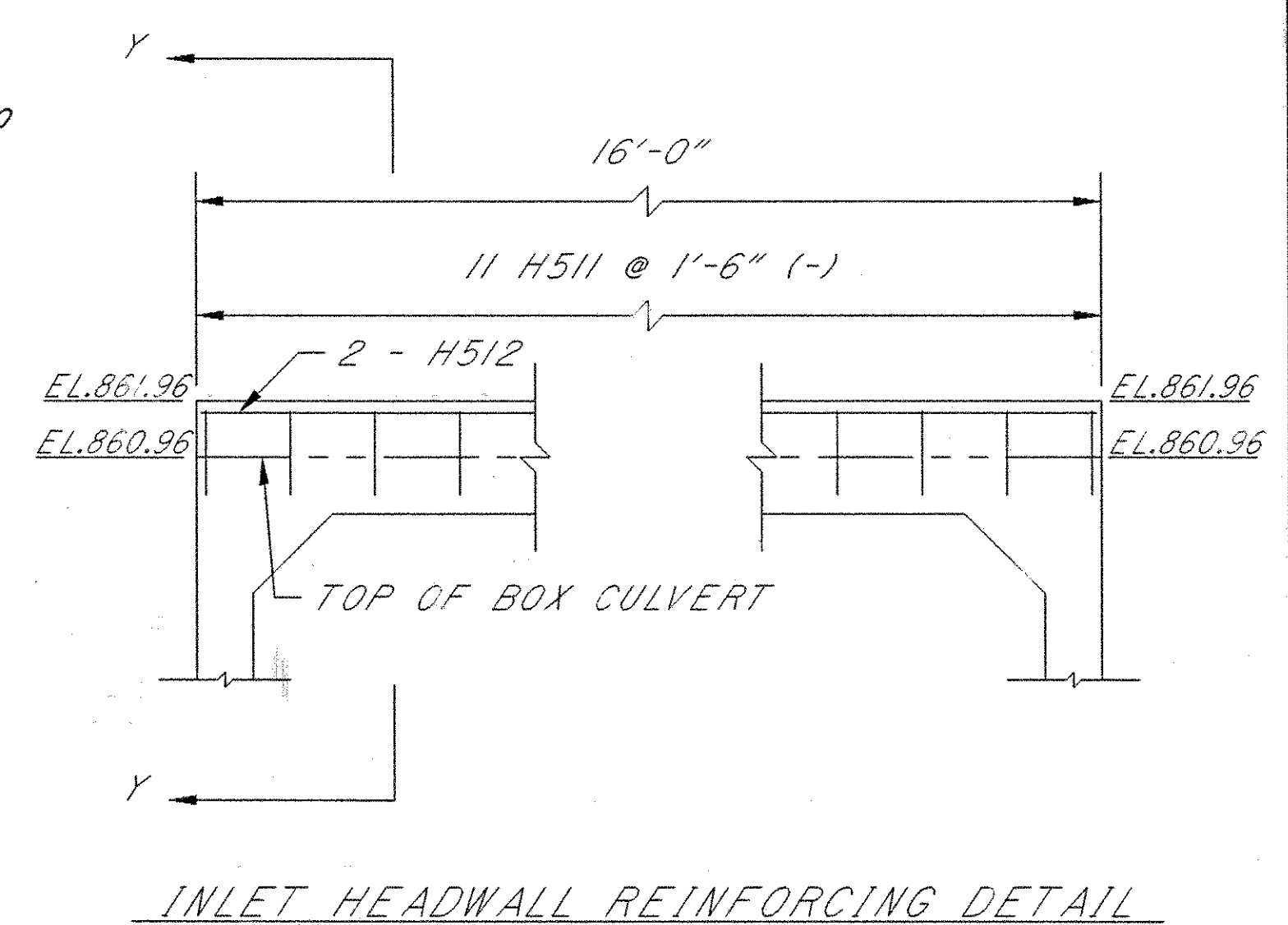


- ① SER. OF 11 @ 1'-6"
- ② 2 SPACES @ 11 1/2"
- ③ 7 SPACES @ 1'-4 9/16"

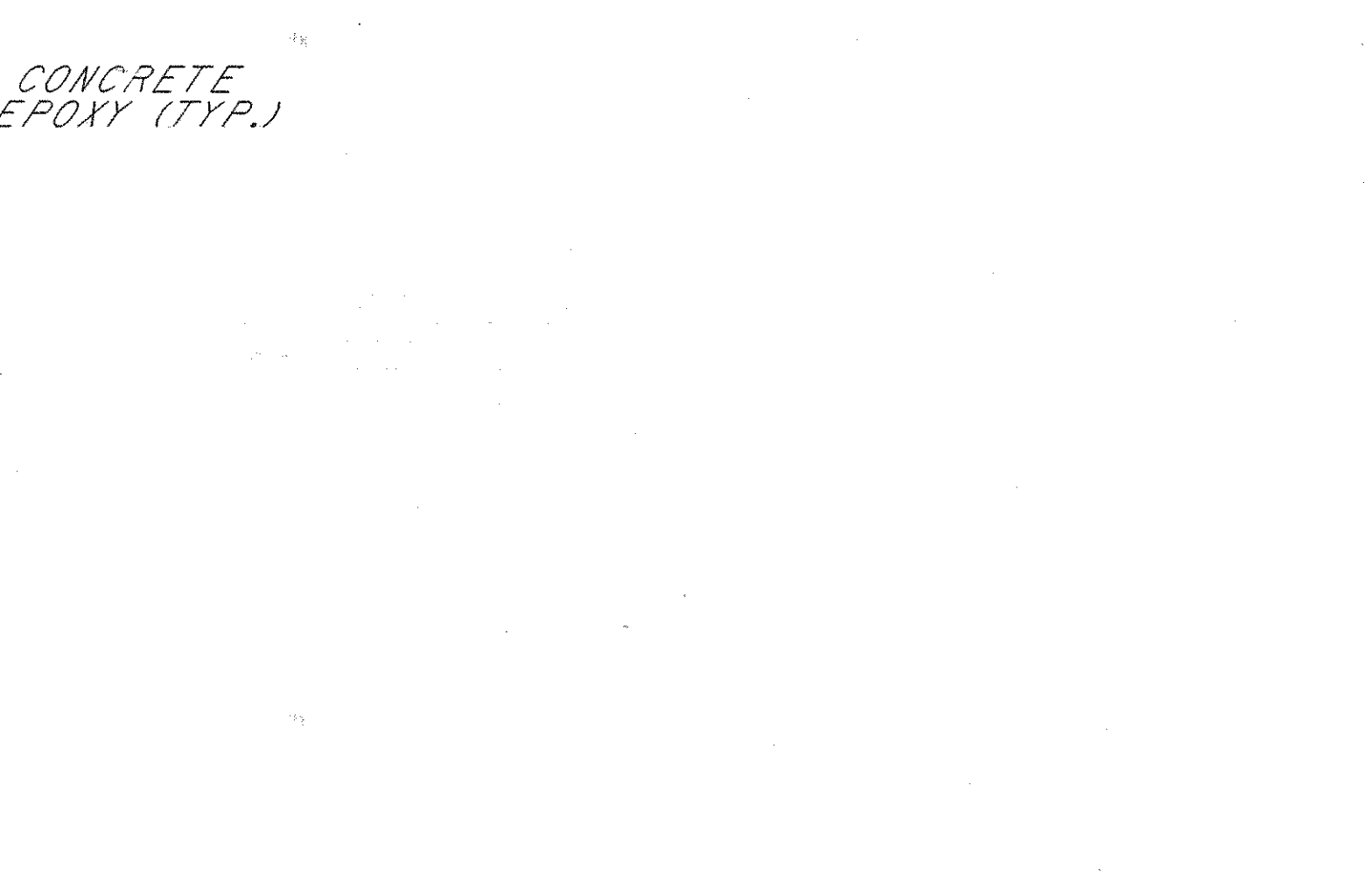
NOTE: 4" DIA. WEEPHOLE ELEV. = 851.86

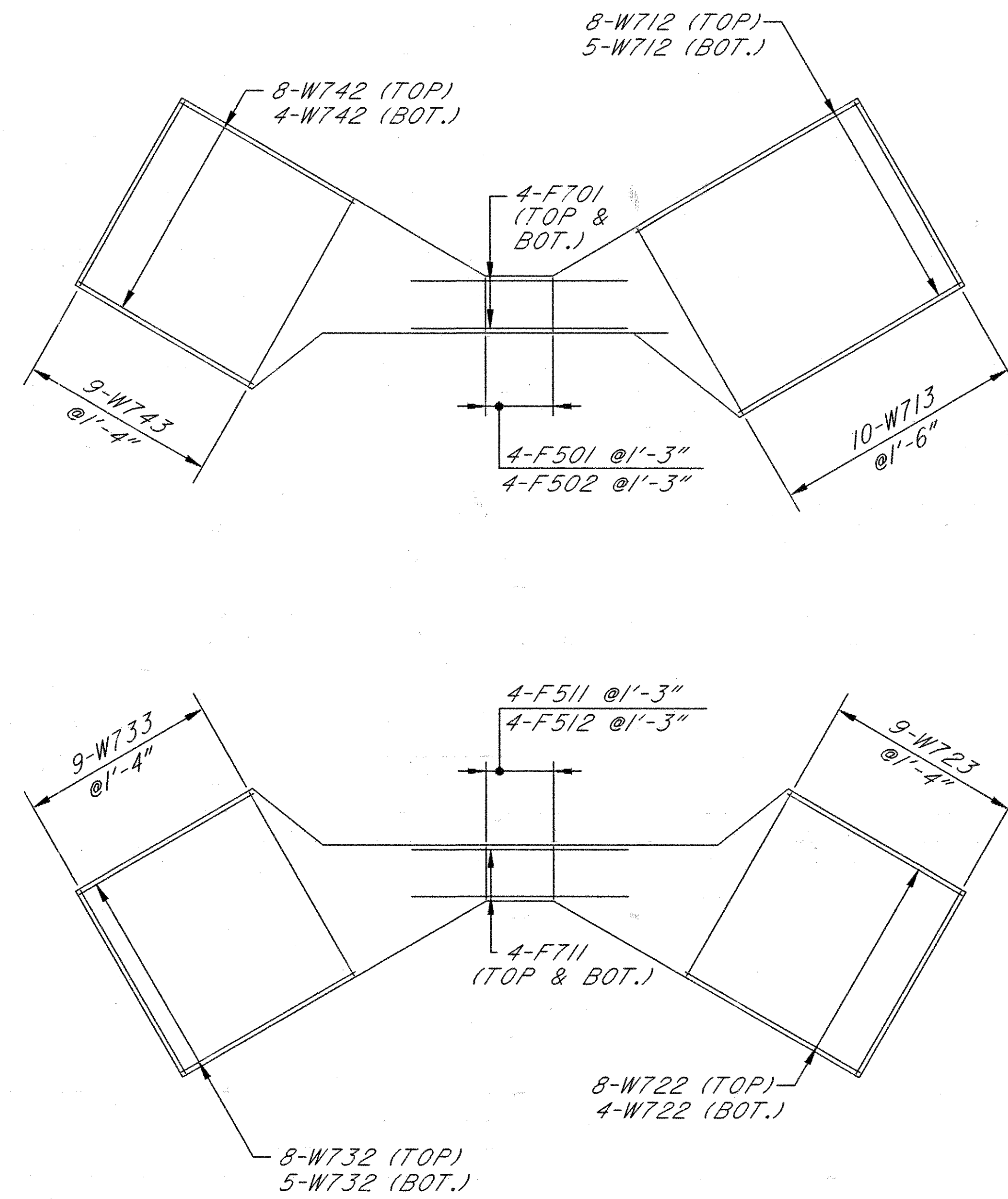
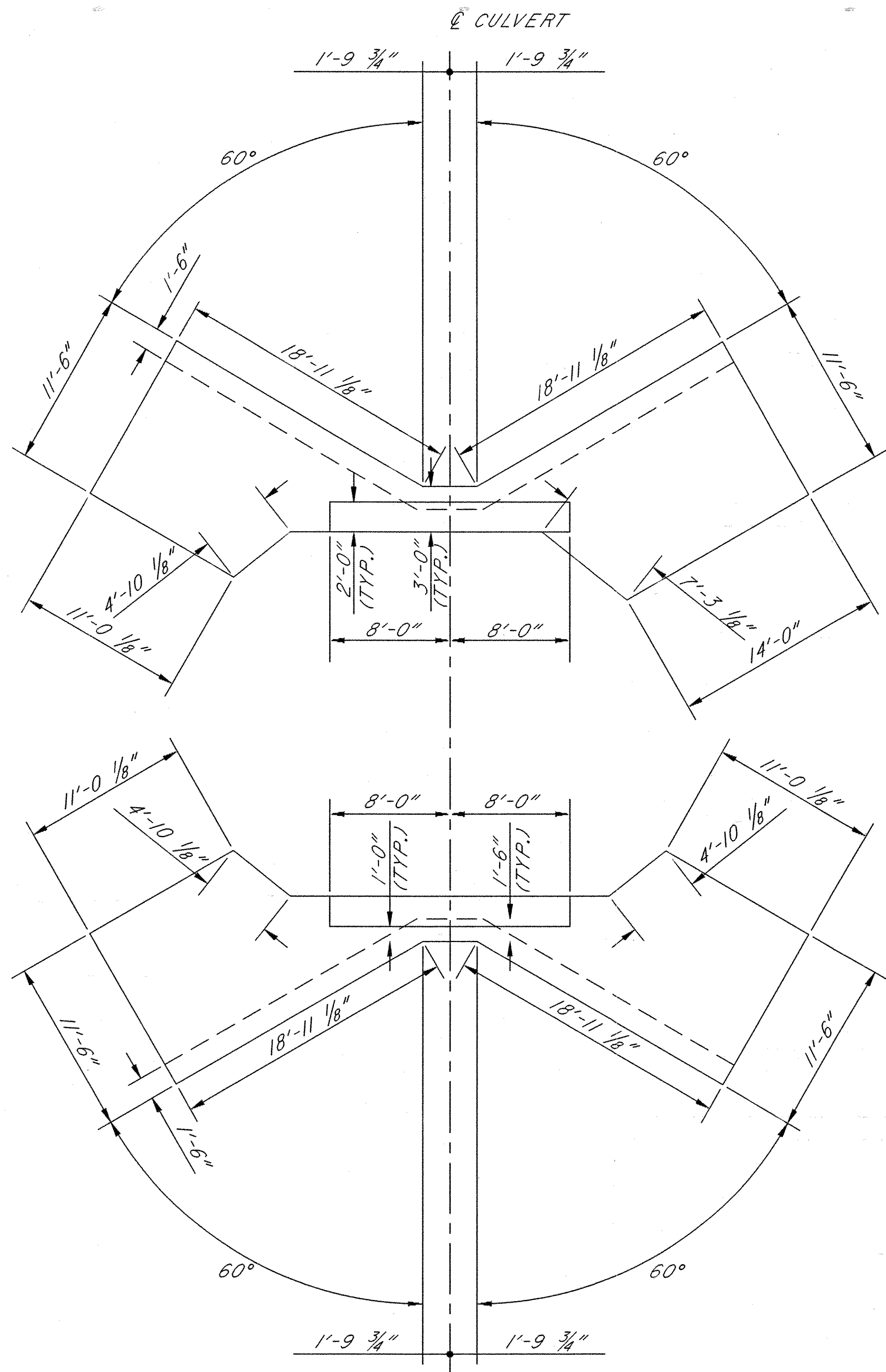


- ② THREADED INSERT, PULL OUT STRENGTH 110% YIELD STRENGTH OF BAR (1 OR 2 TO BE PROVIDED BY BOX MANUFACTURER)
- ③ PARTIAL DEPTH RESIN-BONDED ANCHORING SYSTEMS MAY BE USED AS PER STANDARD DRAWING GR-2.2, 1/4" + bar



- ② THREADED INSERT, PULL OUT STRENGTH 110% YIELD STRENGTH OF BAR (1 OR 2 TO BE PROVIDED BY BOX MANUFACTURER)
- ③ PARTIAL DEPTH RESIN-BONDED ANCHORING SYSTEMS MAY BE USED AS PER STANDARD DRAWING GR-2.2, 1/4" + bar





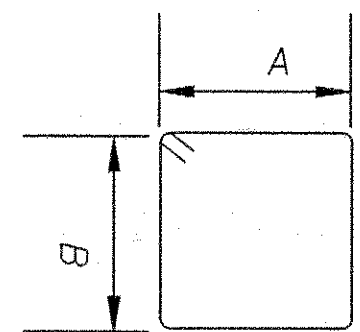
REINFORCING STEEL LIST

CALCULATED
3/23/95
CHECKED
D.M.
3/25/95

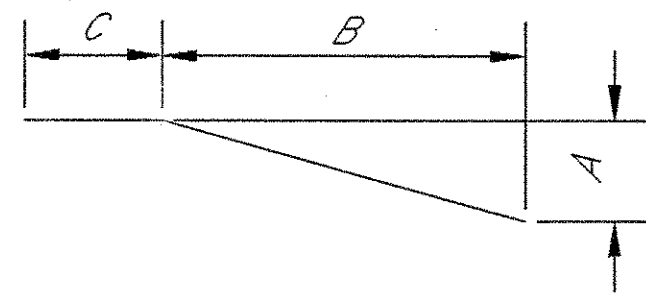
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	INCR	REMARKS
WINGWALL 1									
	1	9'-11"							
W511	S. O.	TO	125	STR				0'-2"	
	11	11'-11"							
	2	7'-6"							
W512	S. O.	TO	44	STR				6'-3"	
	2	13'-9"							
W513	14	13'-9"	201	STR					
W514	2	13'-11"	29	STR					
	1	9'-11"							
W711	S. O.	TO	245	STR				0'-2"	
	11	11'-11"							
W712	9	10'-10"	200	STR					
W713	9	11'-4"	209	STR					
W811	20	11'-8"	623	3	6'-9"	5'-2"			
W515	10	4'-4"	45	4	1'-6"	2'-7"	0'-6"		
WINGWALL 2									
	1	9'-11"							
W521	S. O.	TO	125	STR				0'-2"	
	11	11'-11"							
	2	7'-7"							
W522	S. O.	TO	45	STR				6'-3"	
	2	13'-9"							
W523	14	13'-9"	201	STR					
W524	2	13'-11"	29	STR					
	1	9'-11"							
W721	S. O.	TO	245	STR				0'-2"	
	11	11'-11"							
W722	9	10'-10"	200	STR					
W723	9	11'-4"	209	STR					
W821	20	11'-8"	623	3	6'-9"	5'-2"			
W525	8	4'-4"	36	4	1'-6"	2'-7"	0'-6"		
WINGWALL 3									
	1	9'-11"							
W531	S. O.	TO	125	STR				0'-2"	
	11	11'-11"							
	2	7'-6"							
W532	S. O.	TO	44	STR				6'-3"	
	2	13'-9"							
W533	14	13'-9"	201	STR					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	INCR	REMARKS
W534	2	13'-11"	29	STR					
	1	9'-11"							
W731	S. O.	TO	245	STR				0'-2"	
	11	11'-11"							
W732	9	10'-10"	200	STR					
W733	9	11'-4"	209	STR					
W831	20	11'-8"	623	3	6'-9"	5'-2"			
WINGWALL 4									
W535	8	4'-4"	36	4	1'-6"	2'-7"	0'-6"		
	1	9'-11"							
W541	S. O.	TO	125	STR				0'-2"	
	11	11'-11"							
	2	7'-7"							
W542	S. O.	TO	45	STR				6'-3"	
	2	13'-9"							
W543	14	13'-9"	201	STR					
W544	2	13'-11"	29	STR					
	1	9'-11"							
W741	S. O.	TO	245	STR				0'-2"	
	11	11'-11"							
W742	9	10'-10"	200	STR					
W743	9	11'-4"	209	STR					
W841	20	11'-8"	623	3	6'-9"	5'-2"			
W545	8	4'-4"	36	4	1'-6"	2'-7"	0'-6"		
CULVERT FOOTING									
F501	4	2'-10"	12	STR					
F502	4	3'-5"	14	4	0'-6"	1'-8"	1'-6"		
F511	4	2'-10"	12	STR					
F512	4	3'-5"	14	4	0'-6"	1'-8"	1'-6"		
F701	9	11'-8"	215	STR					
F711	9	11'-8"	215	STR					
HEADWALL									
H501	11	3'-5"	39	4	1'-6"	0'-8"	1'-6"		
H502	2	15'-10"	33	STR					
H511	11	3'-5"	39	4	1'-6"	0'-8"	1'-6"		
H512	2	15'-10"	33	STR					
TOTAL			7485						

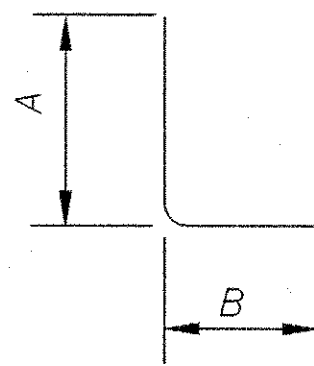
TOTAL CARRIED TO SHEET 317



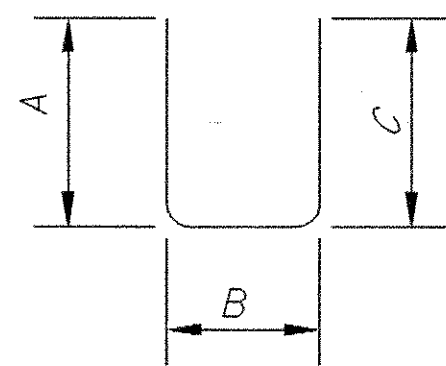
TYPE 1



TYPE 2



TYPE 3



TYPE 4

BENDING DIAGRAMS

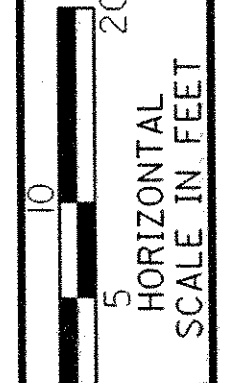
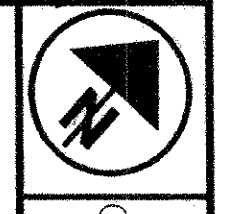
S.O. - SERIES OF

BIKE128.DGN 3/23/95

HEADWALL DETAIL STA. 32+28.75

LIC-16-17.94

323
420

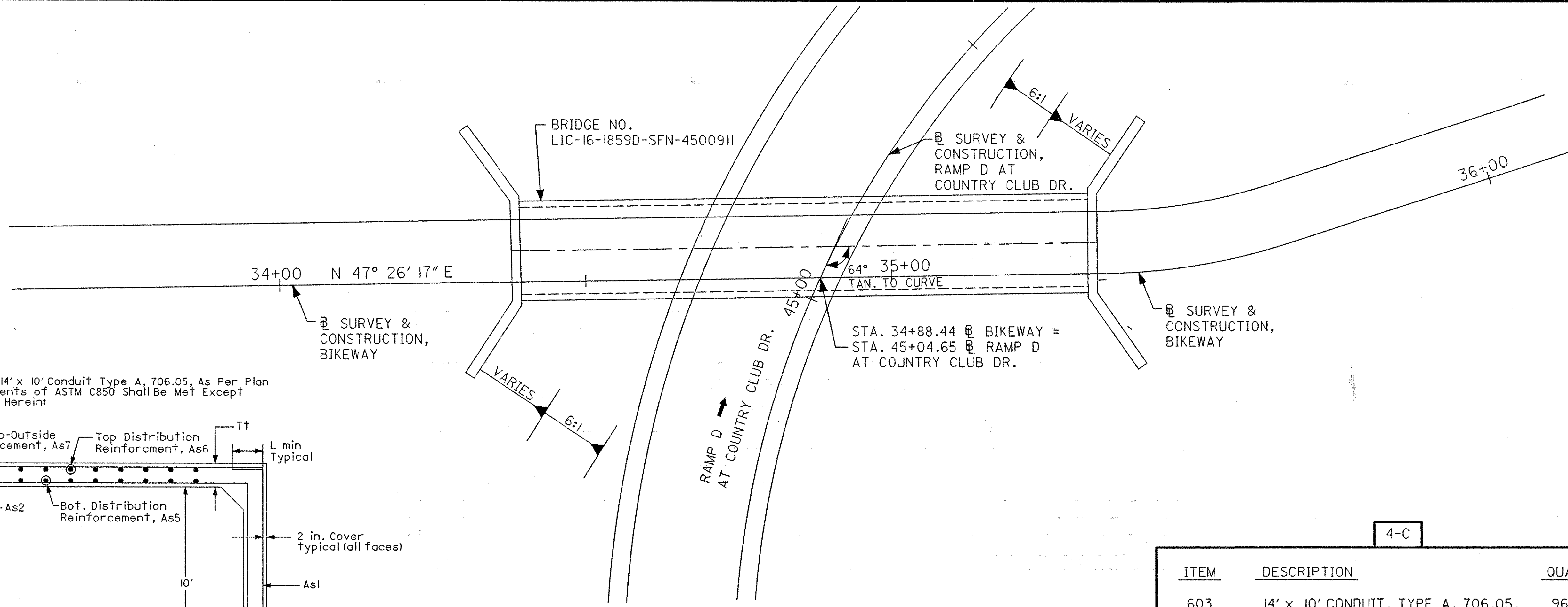


CALCULATED
BY: J.P.
CHECKED
DATE: 3/14/95

BIKEWAY TUNNEL DETAIL SHEET
STA. 34+88.44

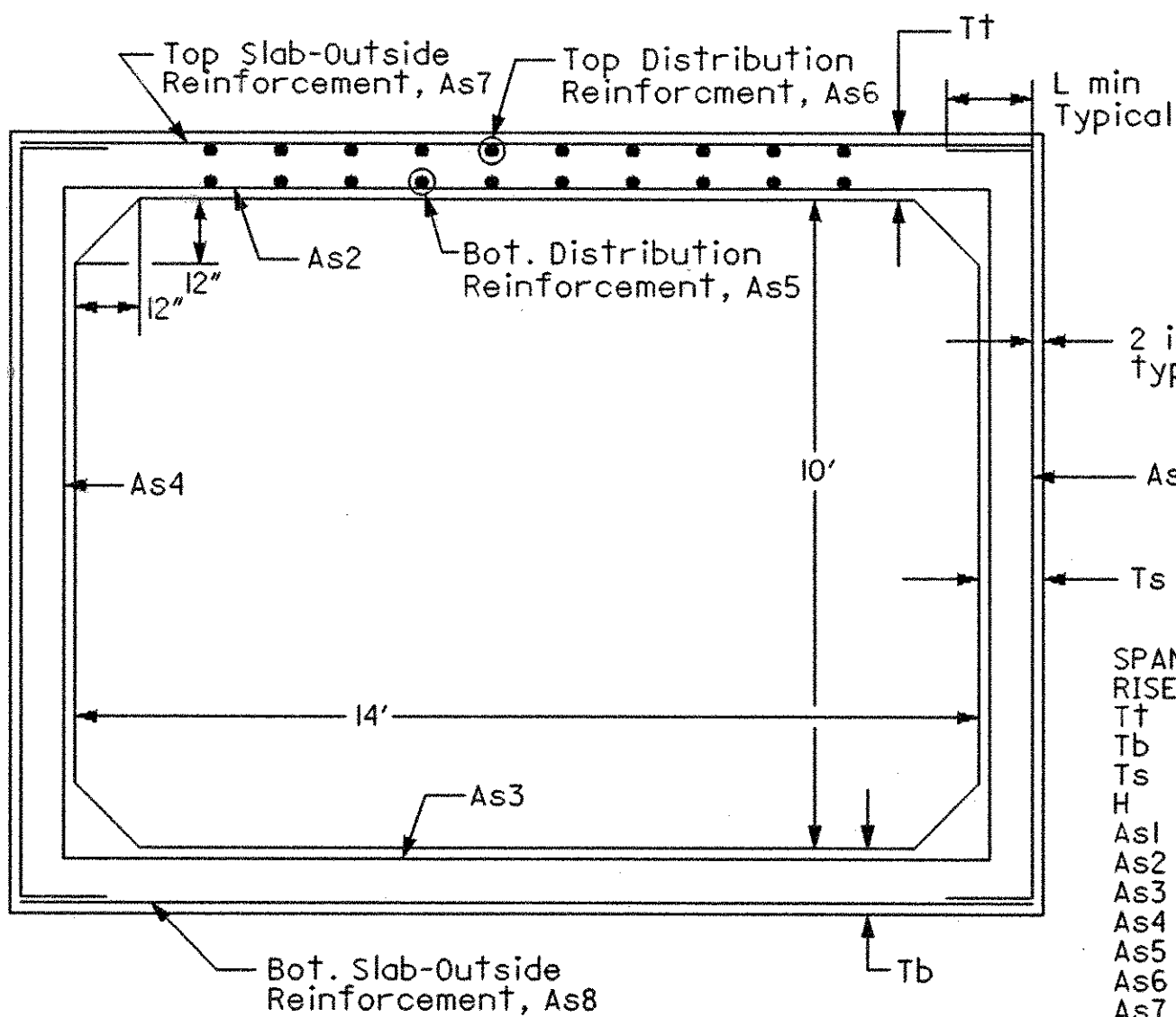
LIC-16-17.94

324
420



PLAN

Item 603 - 14' x 10' Conduit Type A, 706.05, As Per Plan
All Requirements of ASTM C850 Shall Be Met Except
As Detailed Herein:



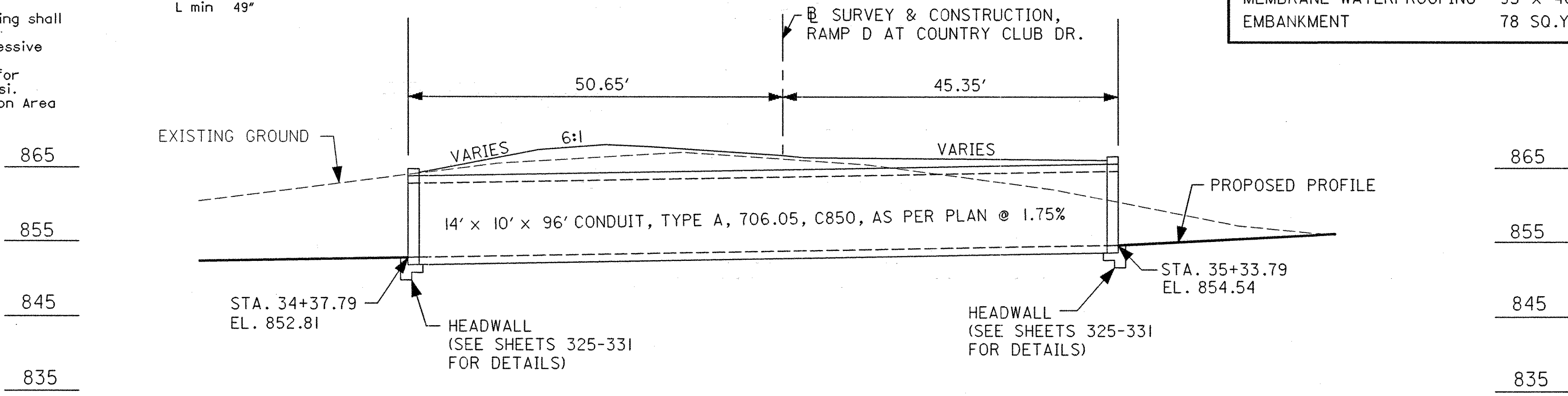
SPAN	14'
RISE	10'
Tt	12"
Tb	12"
Ts	12"
H	12"
As1	0.392
As2	0.577
As3	0.549
As4	0.288
As5	0.288
As6	0.288
As7	0.288
As8	0.288
L min	49"

Notes: Maximum spacing of reinforcing shall be 8 inches.
The minimum concrete compressive strength shall be 5,000 psi.
The minimum yield strength for reinforcing shall be 65,000 psi.
As min = 0.002 x Gross Section Area

ITEM	DESCRIPTION	QUANTITIES
603	14' x 10' CONDUIT, TYPE A, 706.05, C850, AS PER PLAN (COVER 3.8')	96 LIN. FT.
SPECIAL	MEMBRANE WATERPROOFING (SHEET TYPE 2)	414 SQ.YD.
203	EMBANKMENT	46 CU.YD.

QUANTITIES CARRIED TO SHEET 345.

CALCULATIONS	
MEMBRANE WATERPROOFING	93' x 40' ÷ 9 = 413.3 SQ. YD.
EMBANKMENT	78 SQ.YD. x 16' ÷ 27 = 46 CU. YD.



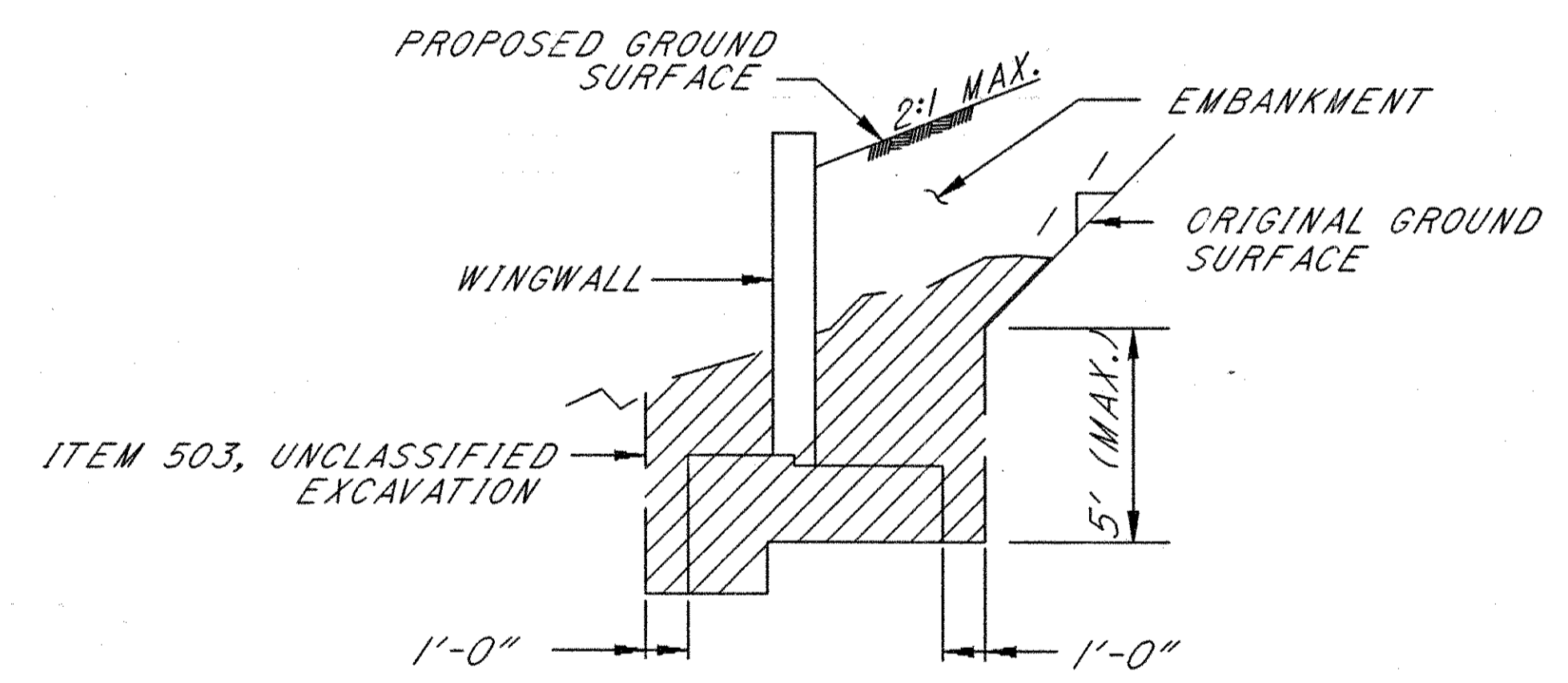
LONGITUDINAL

L161712B.DGN 3/14/95

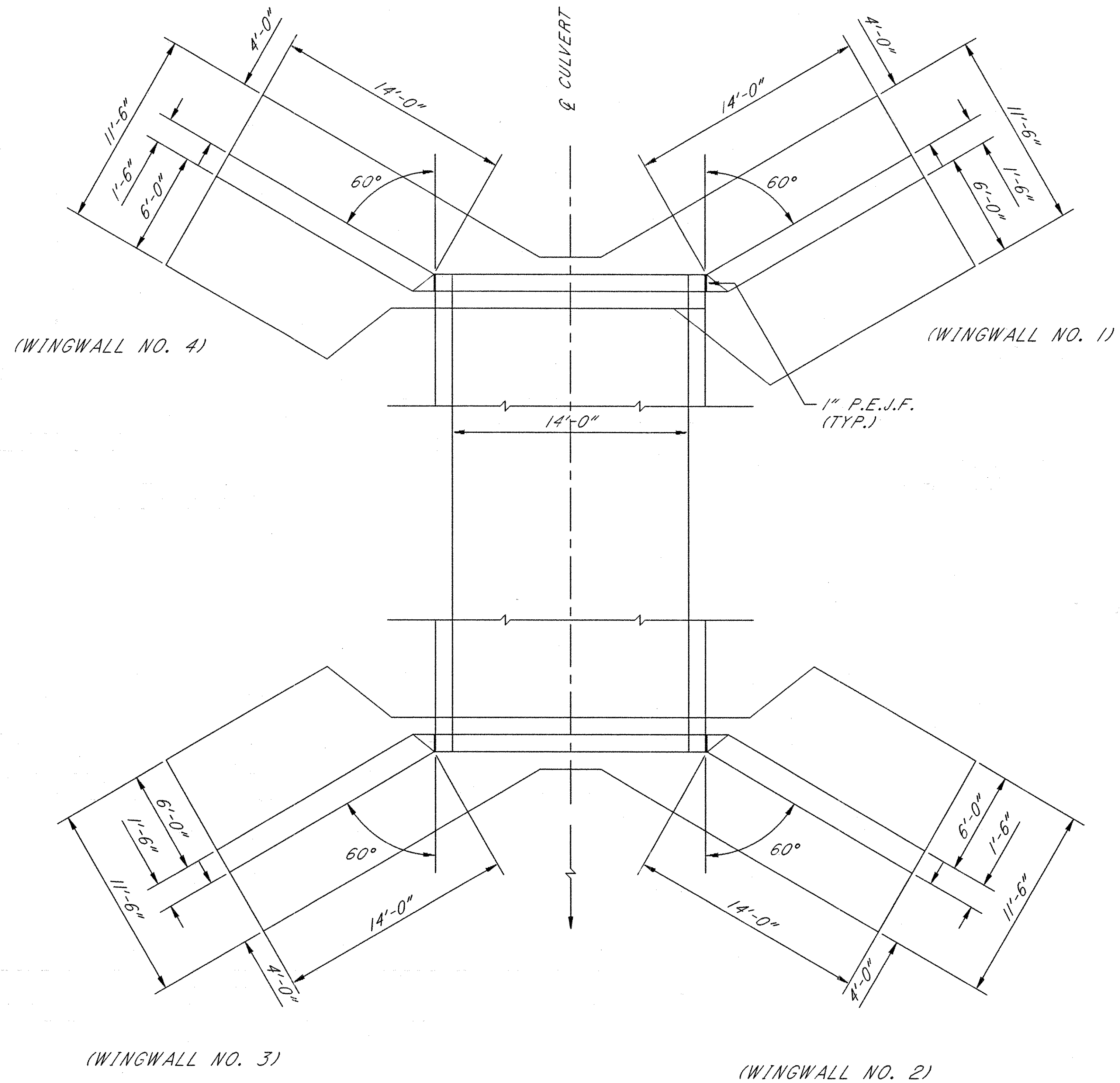
ESTIMATED QUANTITIES

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
503	21100	245	CU. YD.	UNCLASSIFIED EXCAVATION
509	15820	7485	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
511	46000	19	CU. YD.	CLASS C CONCRETE, RETAINING WALL OR WINGWALL
511	46500	39	CU. YD.	CLASS C CONCRETE, FOOTING
511	51100	35	CU. YD.	CLASS C CONCRETE MISC: HEADWALLS
SPECIAL	51267502	31	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)
516	13600	20	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER
518	21200	14	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC

QUANTITIES CARRIED TO SHEET 351



LIMITS OF UNCLASSIFIED EXCAVATION (WINGWALL)



CULVERT & WINGWALL LAYOUT

CALCULATED	3/23/95
CHECKED	D.M.
	3/25/95

HEADWALL DETAIL STA. 34+88.44

LIC-16-17.94

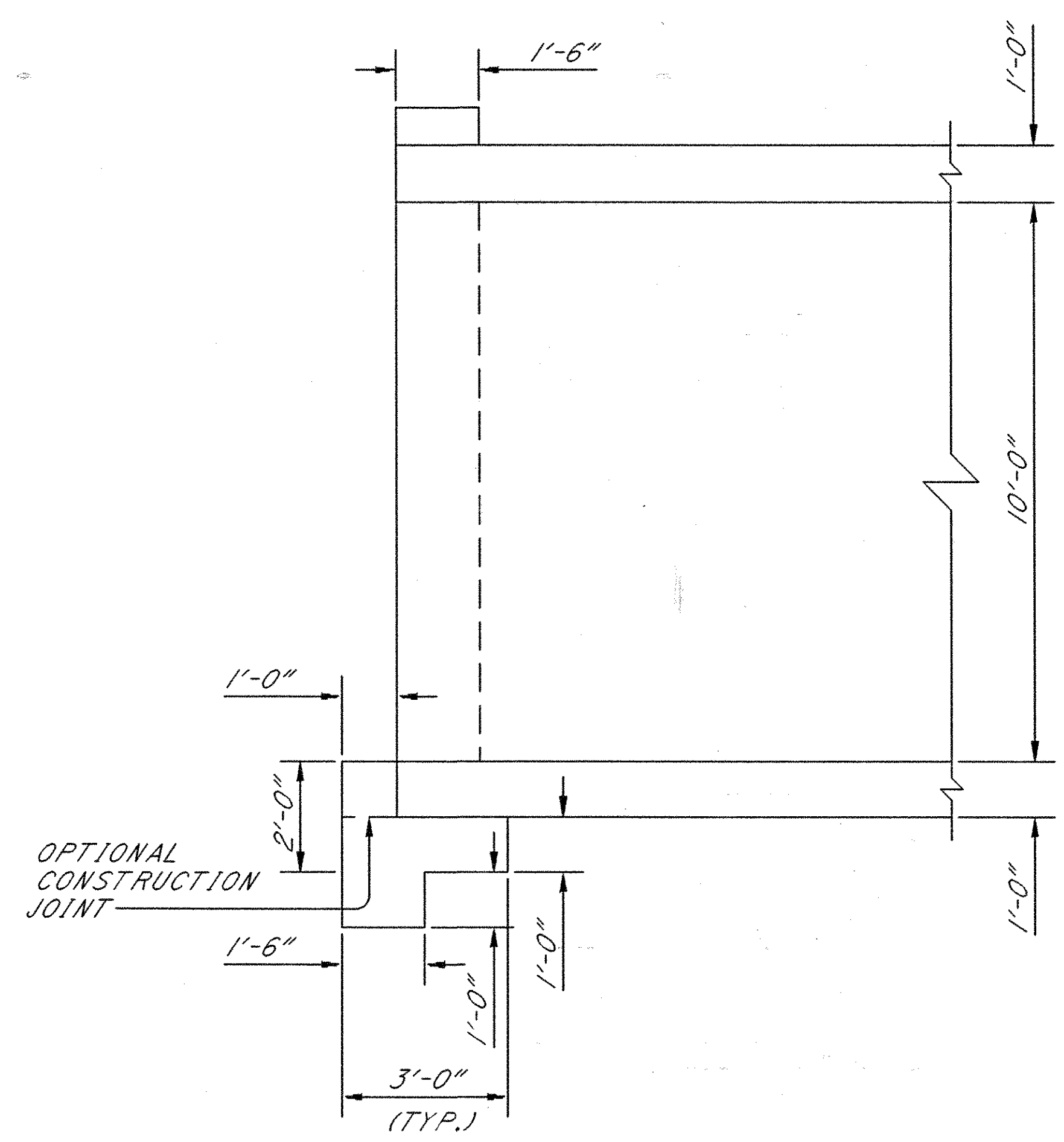
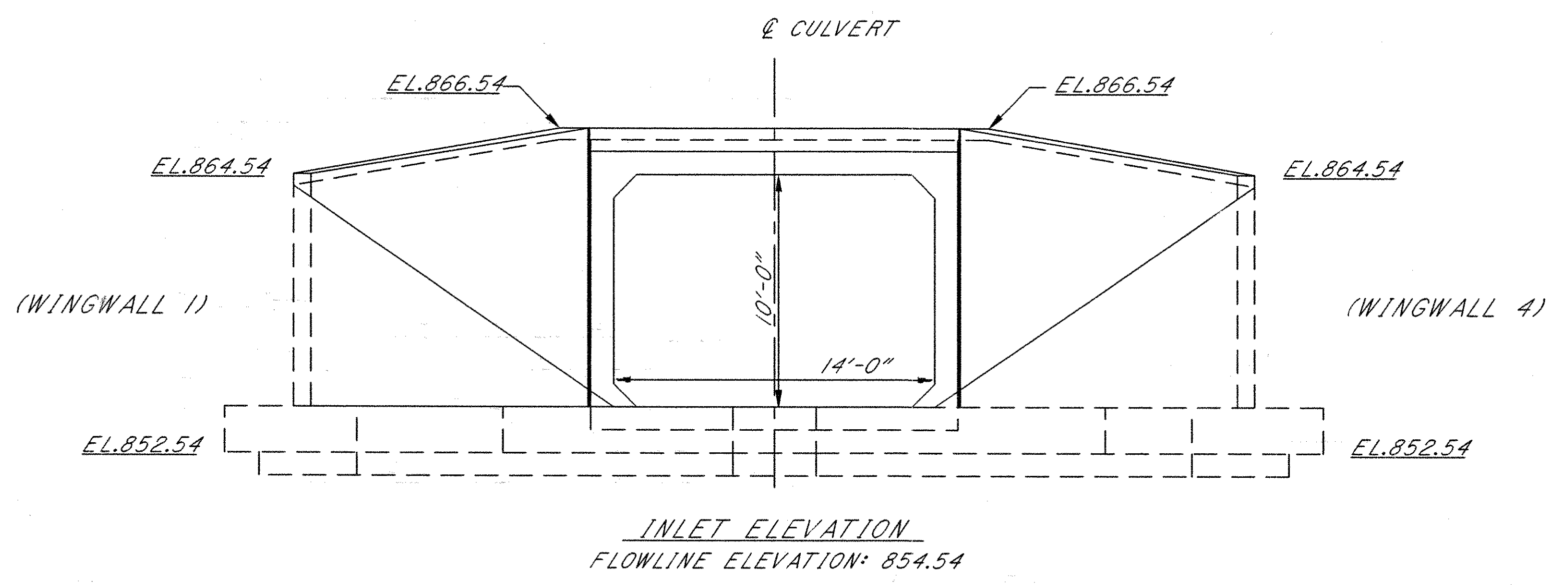
326
420

CALCULATED
A.L.L.
3/23/95
CHECKED
D.M.
3/25/95

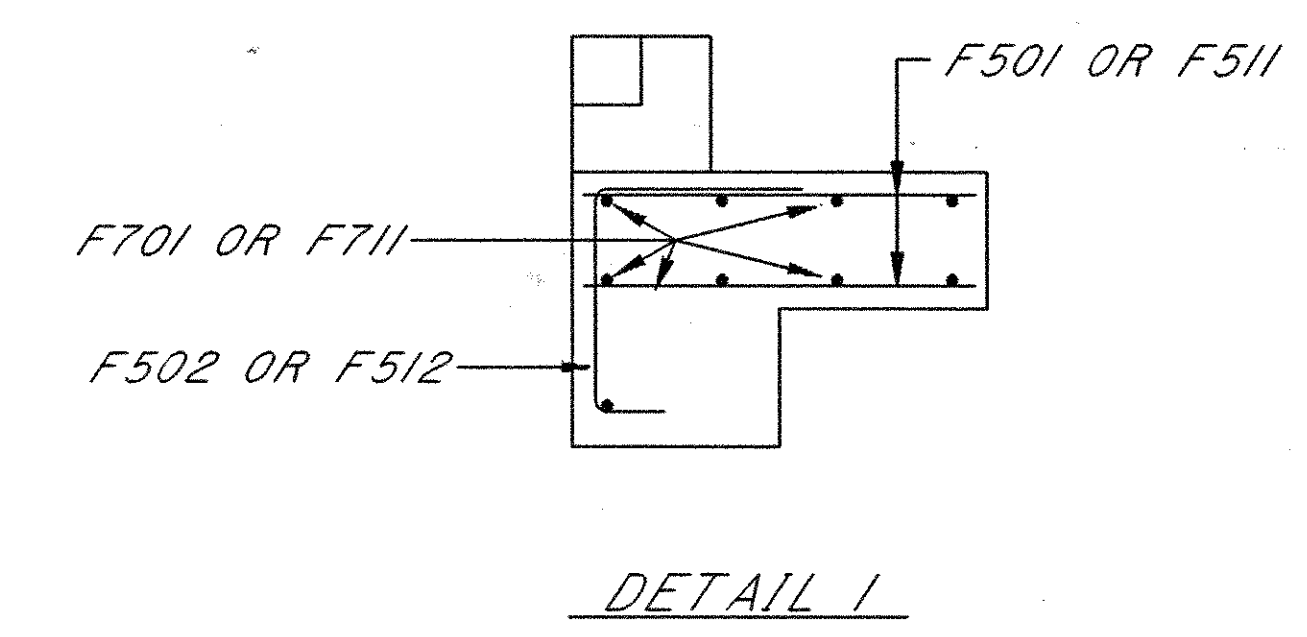
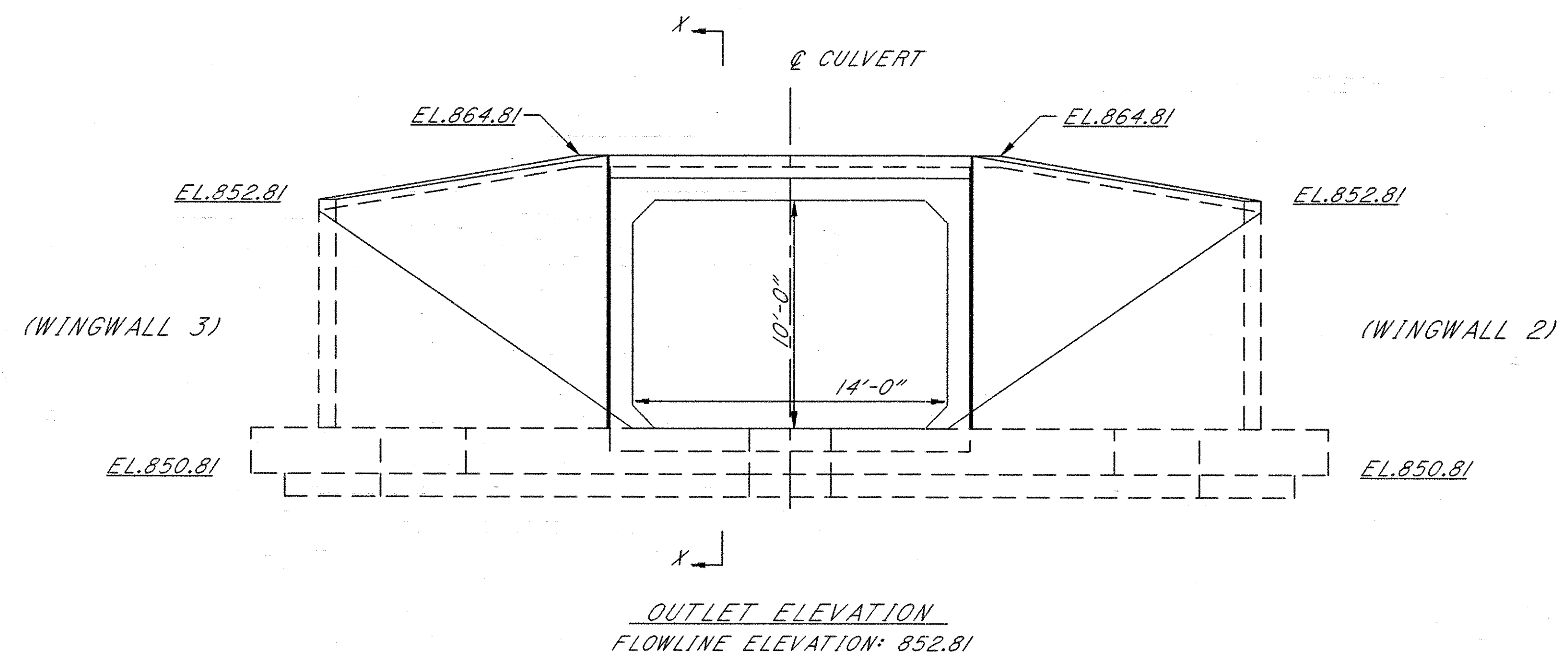
HEADWALL DETAIL STA. 34+88.44

LIC-16-17.94

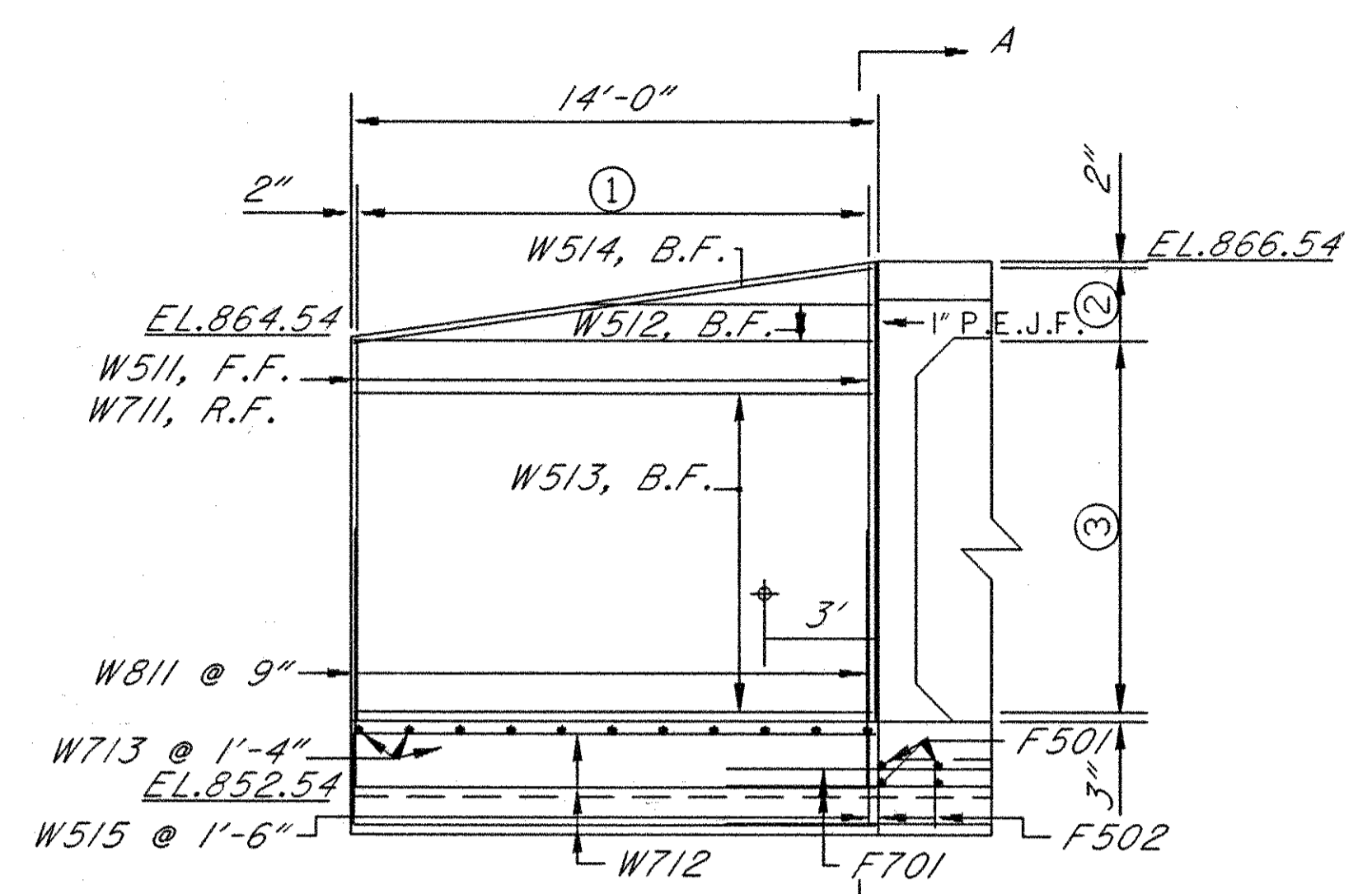
327
420



SECTION X-X
NOTE: FOR CULVERT FOOTING REINFORCING STEEL, SEE DETAIL "1" ON THIS SHEET.

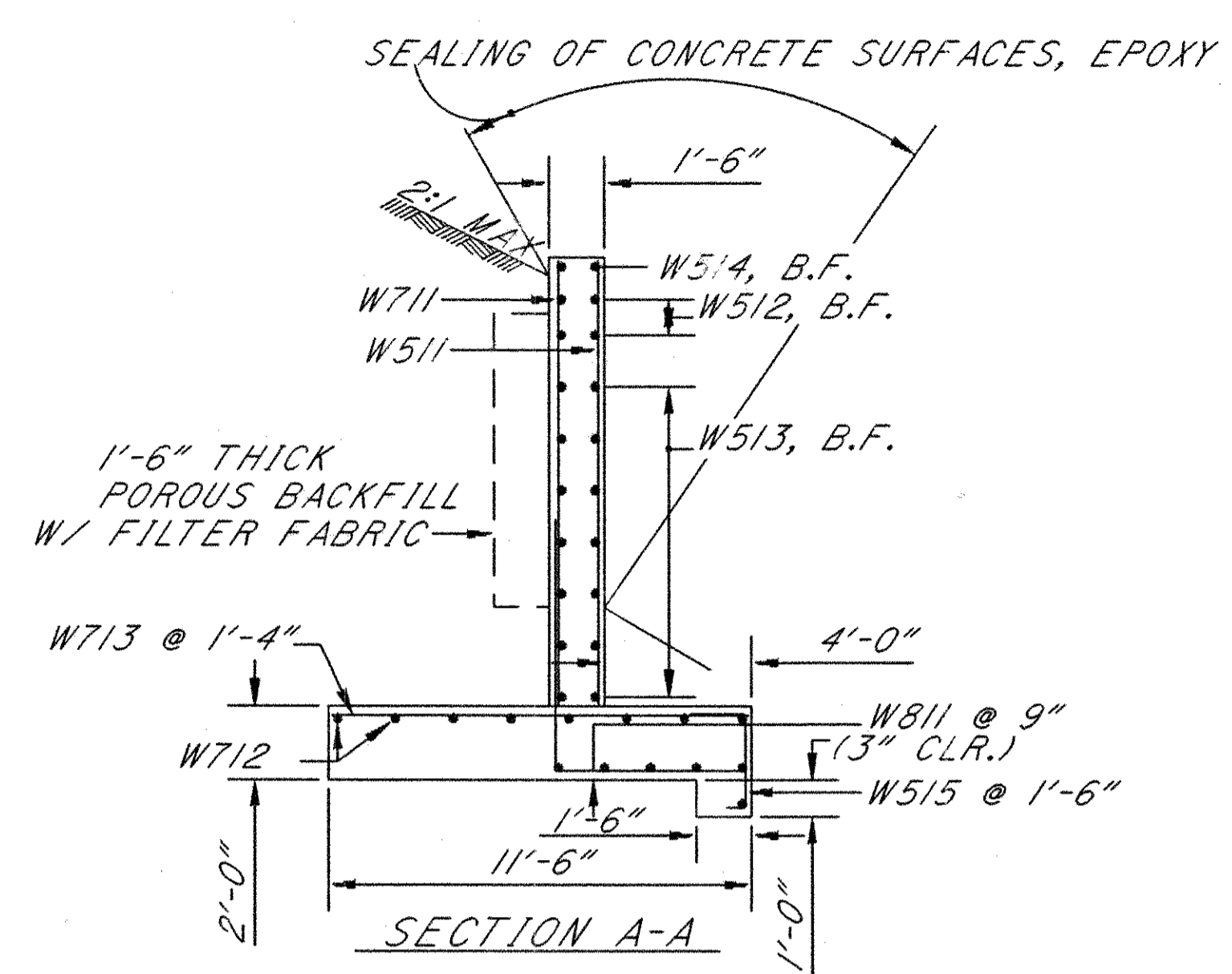


BIKE224.DGN 3/23/95



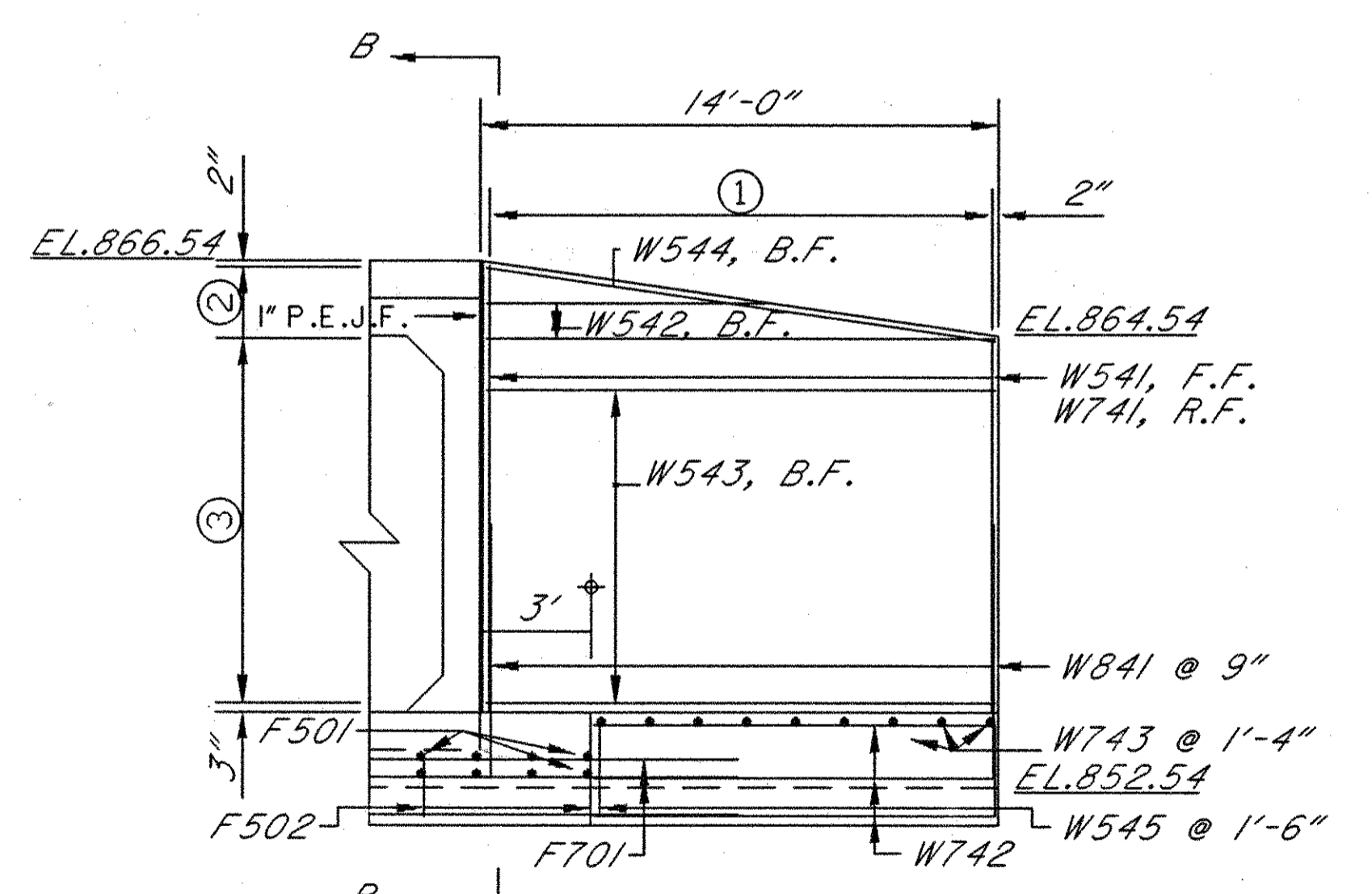
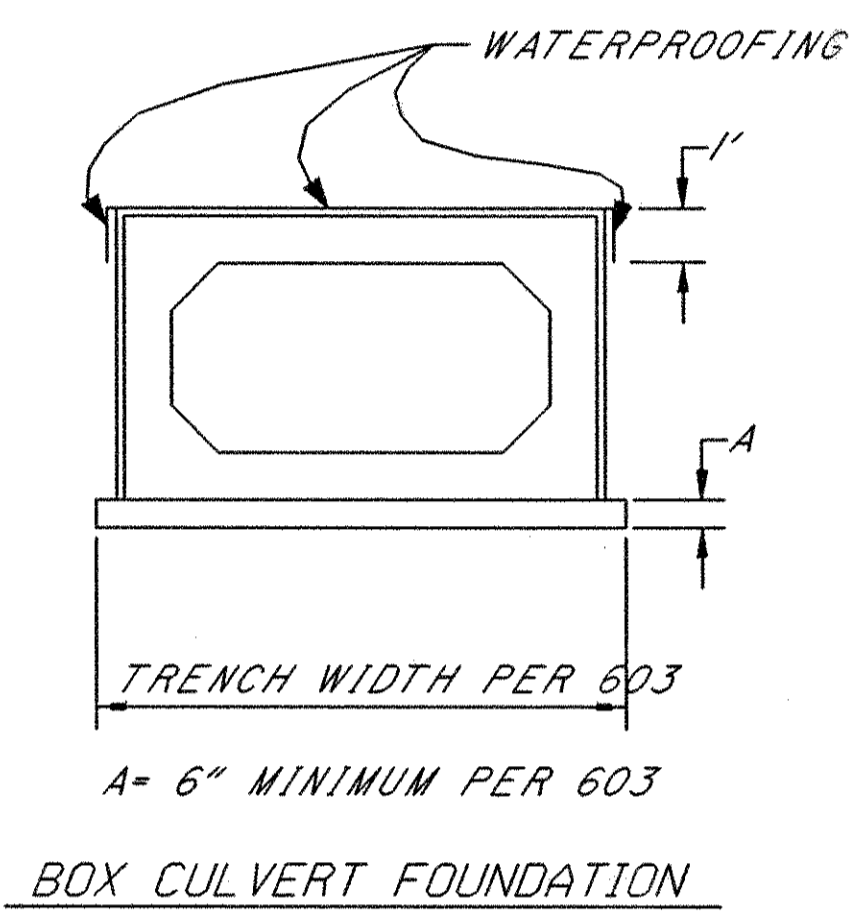
WINGWALL 1 ELEVATION
 ① SER. OF 11 @ 1'-6"
 ② 2 SPACES @ 11 1/2"
 ③ 7 SPACES @ 1'-4 9/16"

NOTE: 4" DIA. WEEPHOLE ELEV. = 857.70



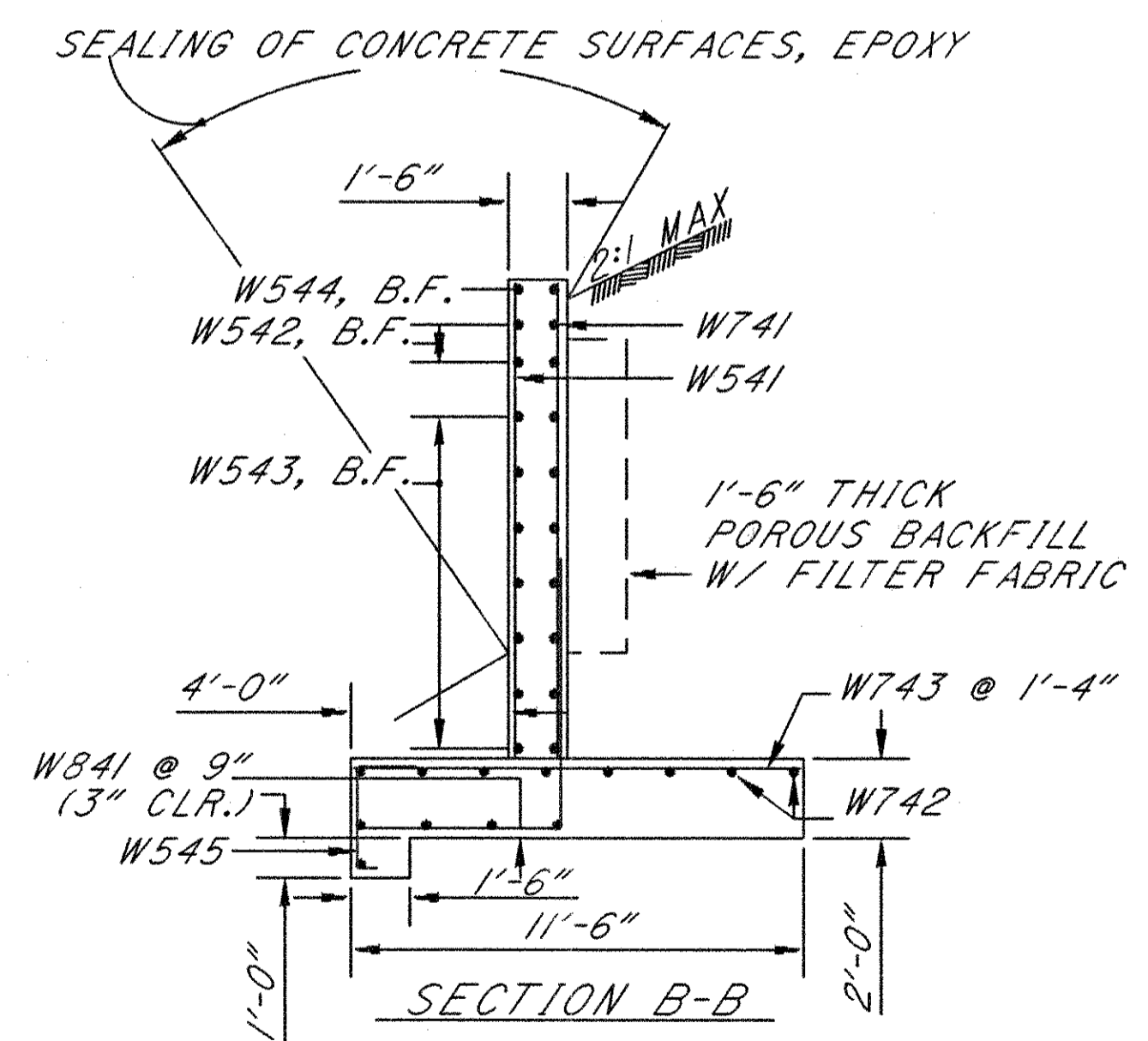
SECTION A-A

LEGEND
 F.F. - FRONT FACE
 R.F. - REAR FACE
 B.F. - BOTH FACE



WINGWALL 4 ELEVATION
 ① SER. OF 11 @ 1'-6"
 ② 2 SPACES @ 11 1/2"
 ③ 7 SPACES @ 1'-4 9/16"

NOTE: 4" DIA. WEEPHOLE ELEV. = 857.70

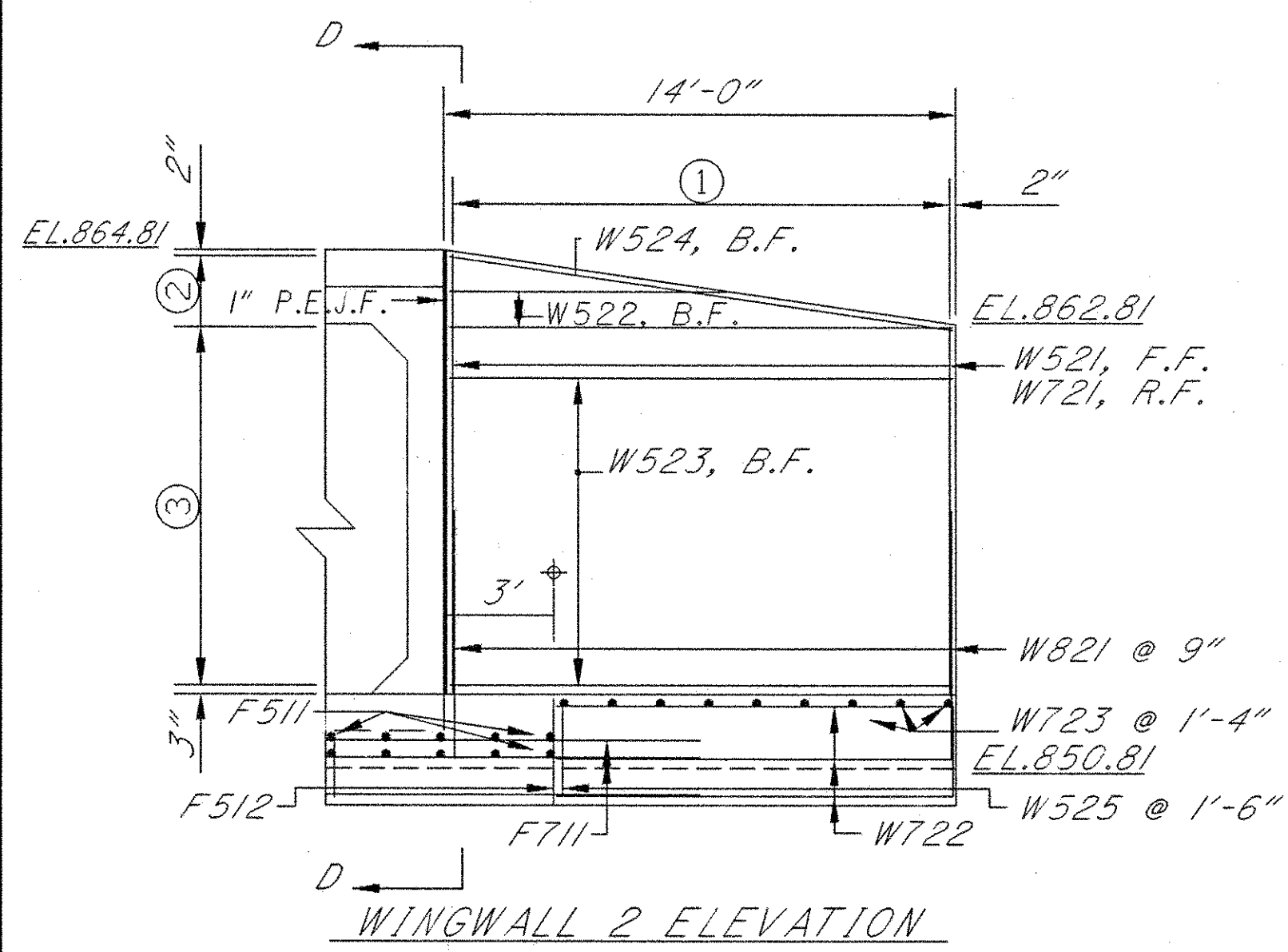


SECTION B-B

NOTES:

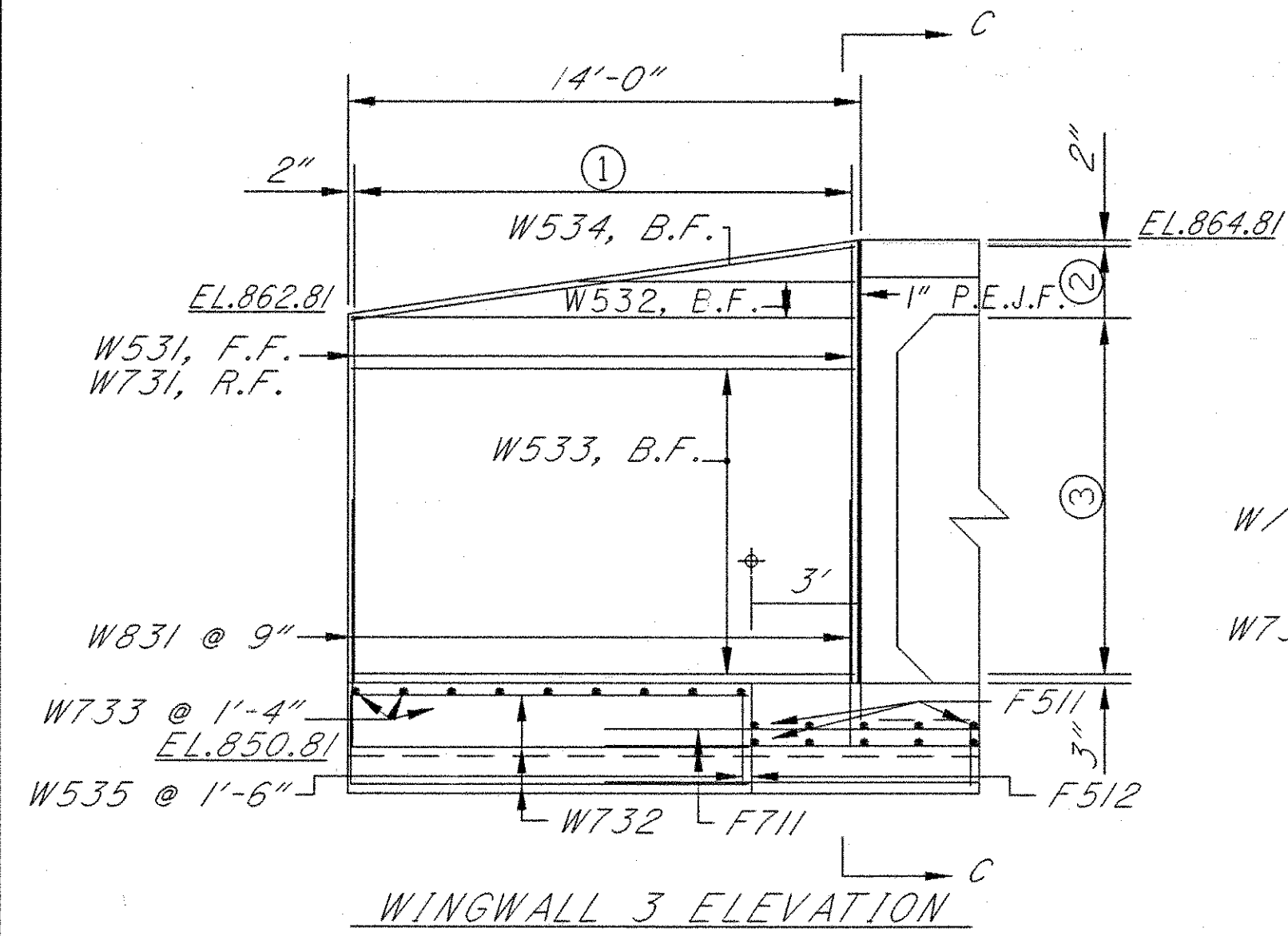
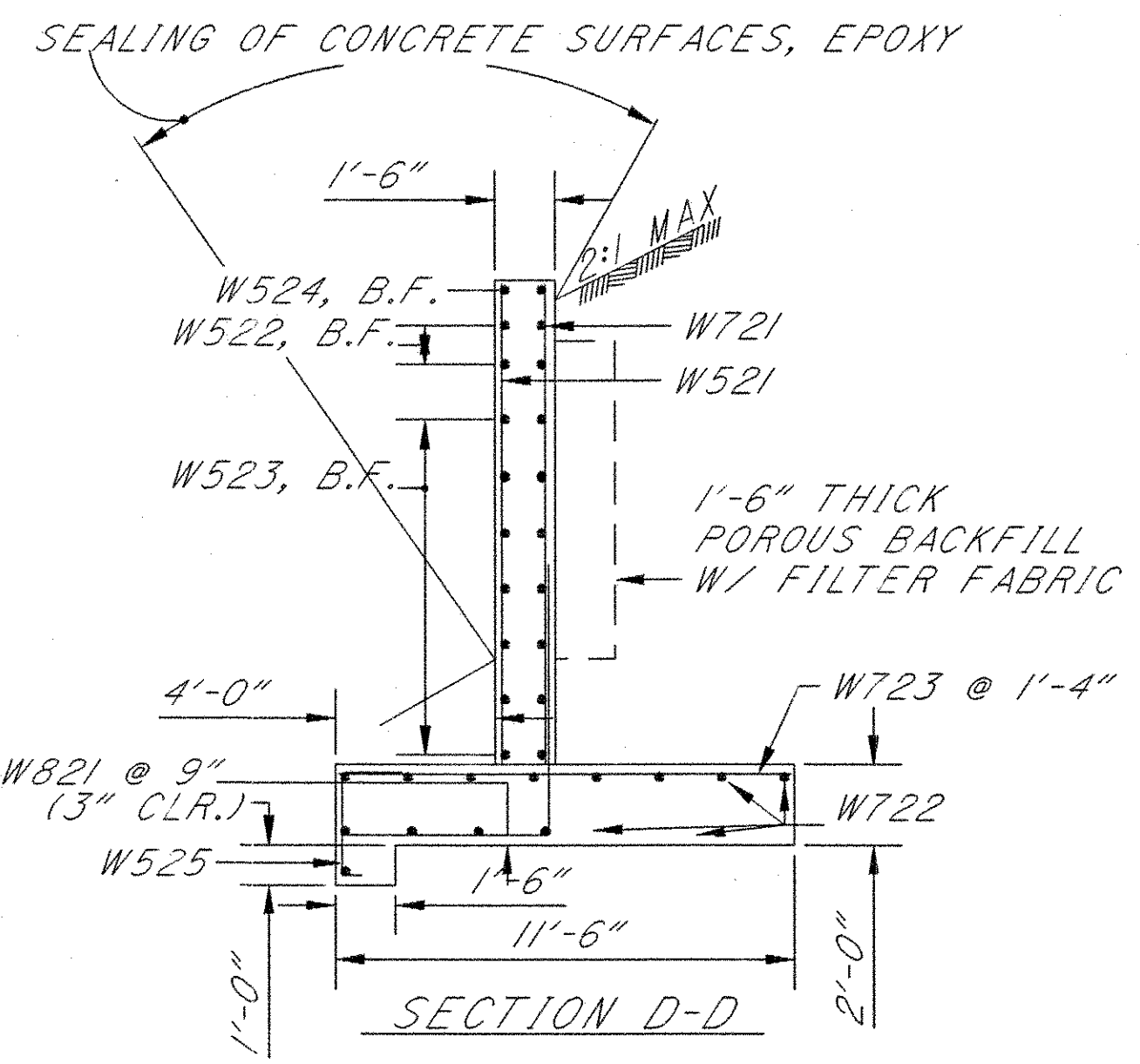
1. POROUS BACKFILL, 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND 1' BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" AGAINST THE WINGWALL.
2. PLACE 2 CU.FT. BAGGED NO. 3 AGGREGATE @ EACH WEEPHOLE. INCLUDE WITH POROUS BACKFILL FOR PAYMENT.

LEGEND
 F.F. - FRONT FACE
 R.F. - REAR FACE
 B.F. - BOTH FACE



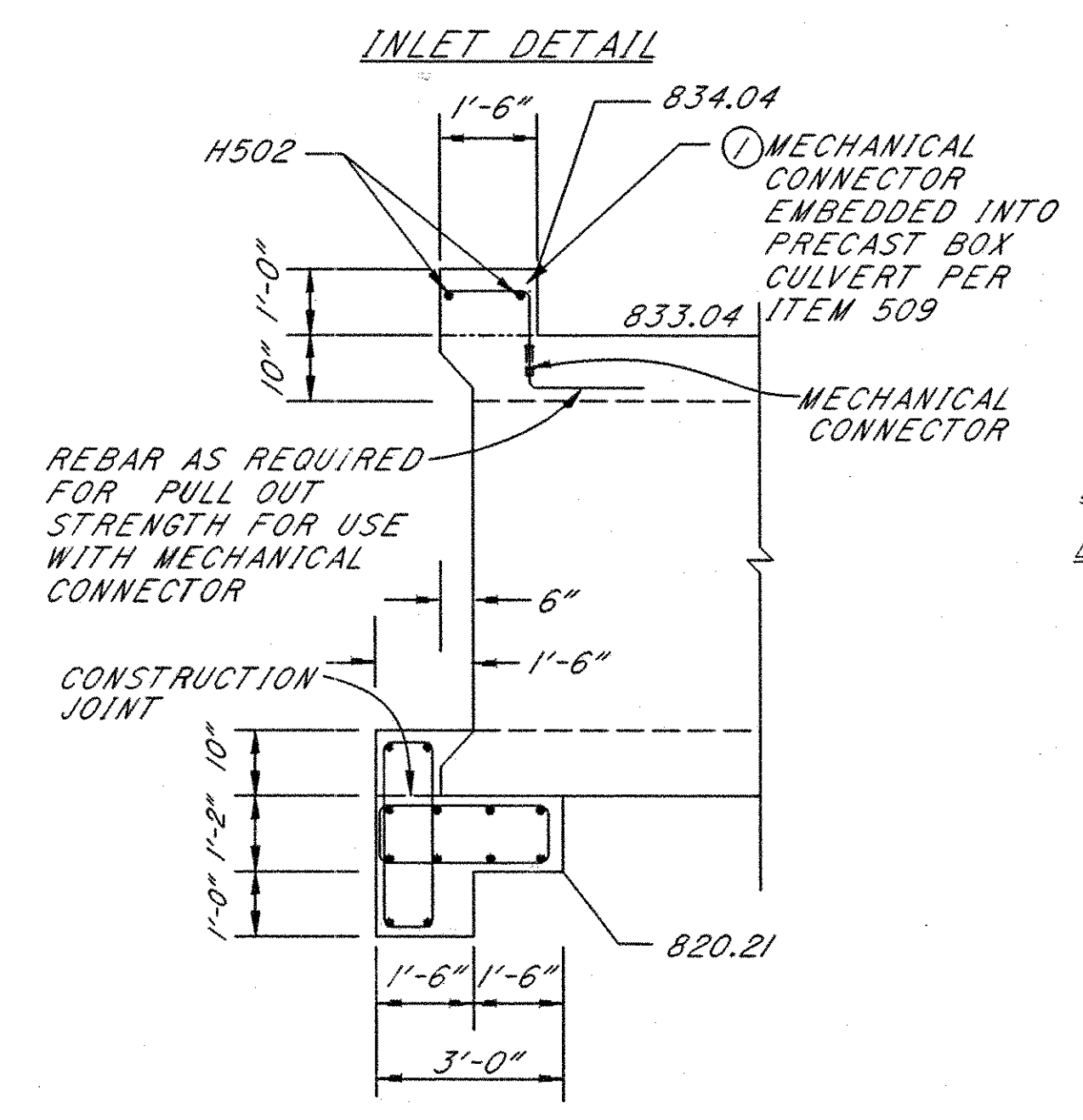
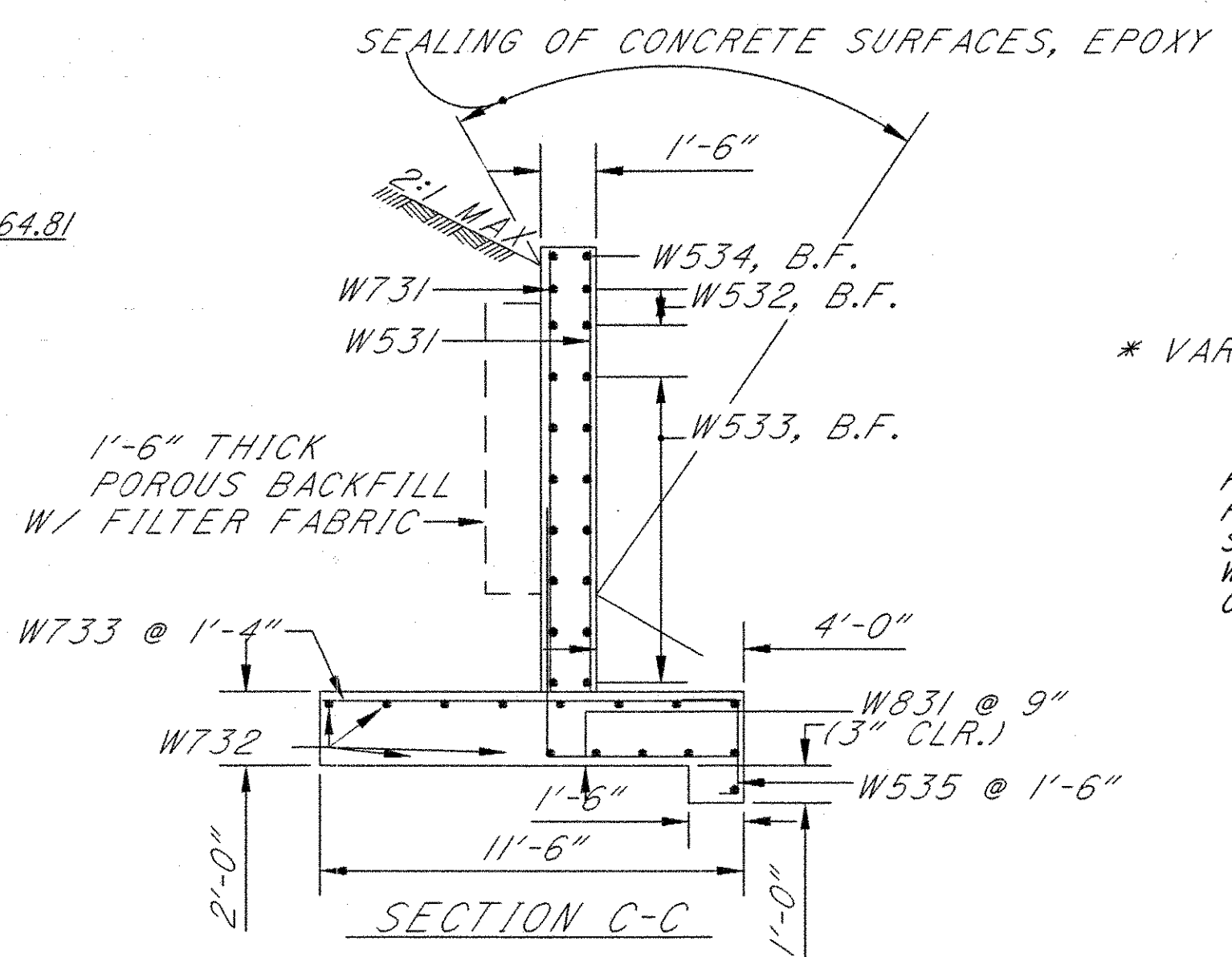
- ① SER. OF 11 @ 1'-6"
- ② 2 SPACES @ 11 1/2"
- ③ 7 SPACES @ 1'-4 9/16"

NOTE: 4" DIA. WEEPHOLE ELEV. = 855.97

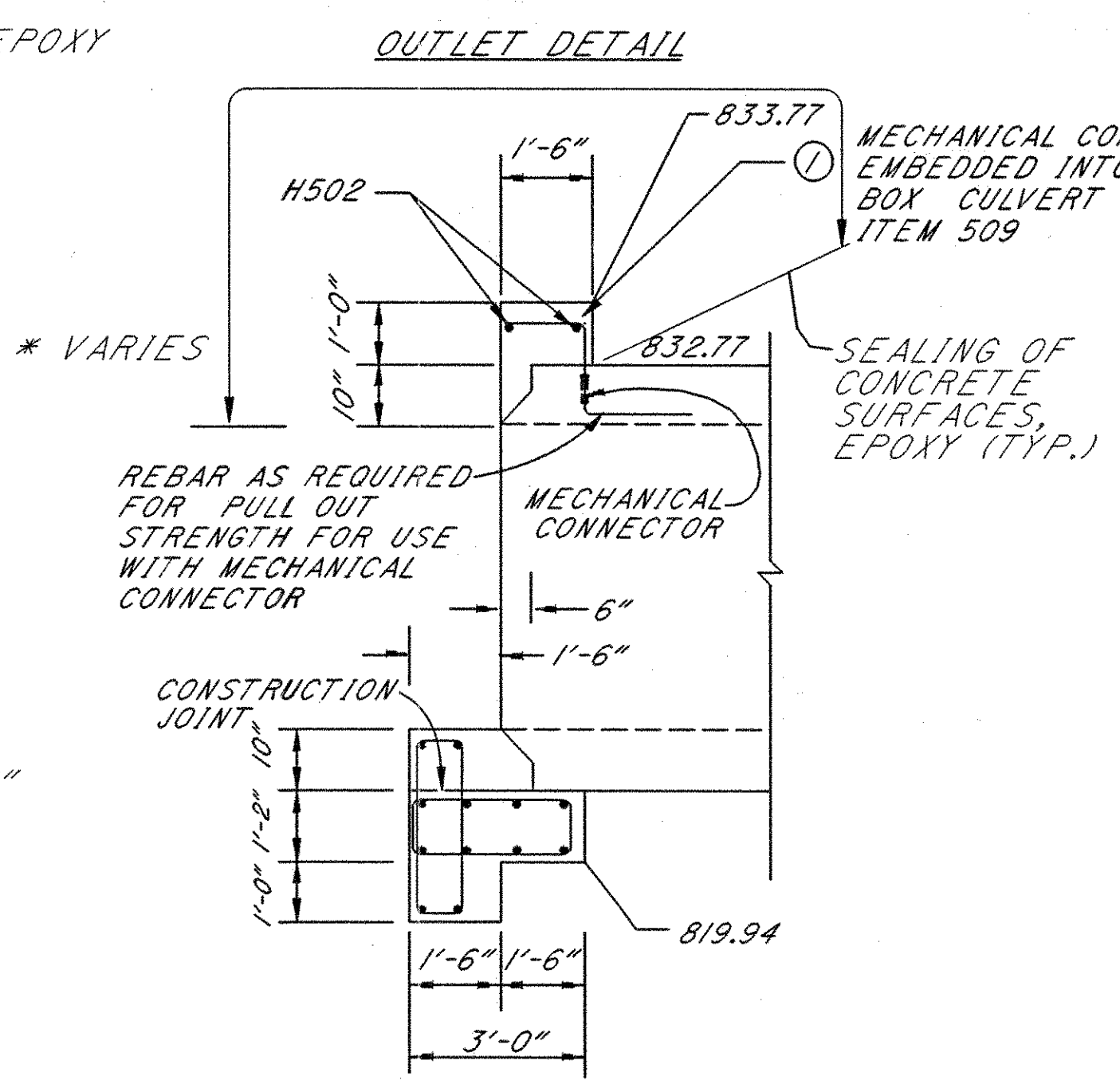
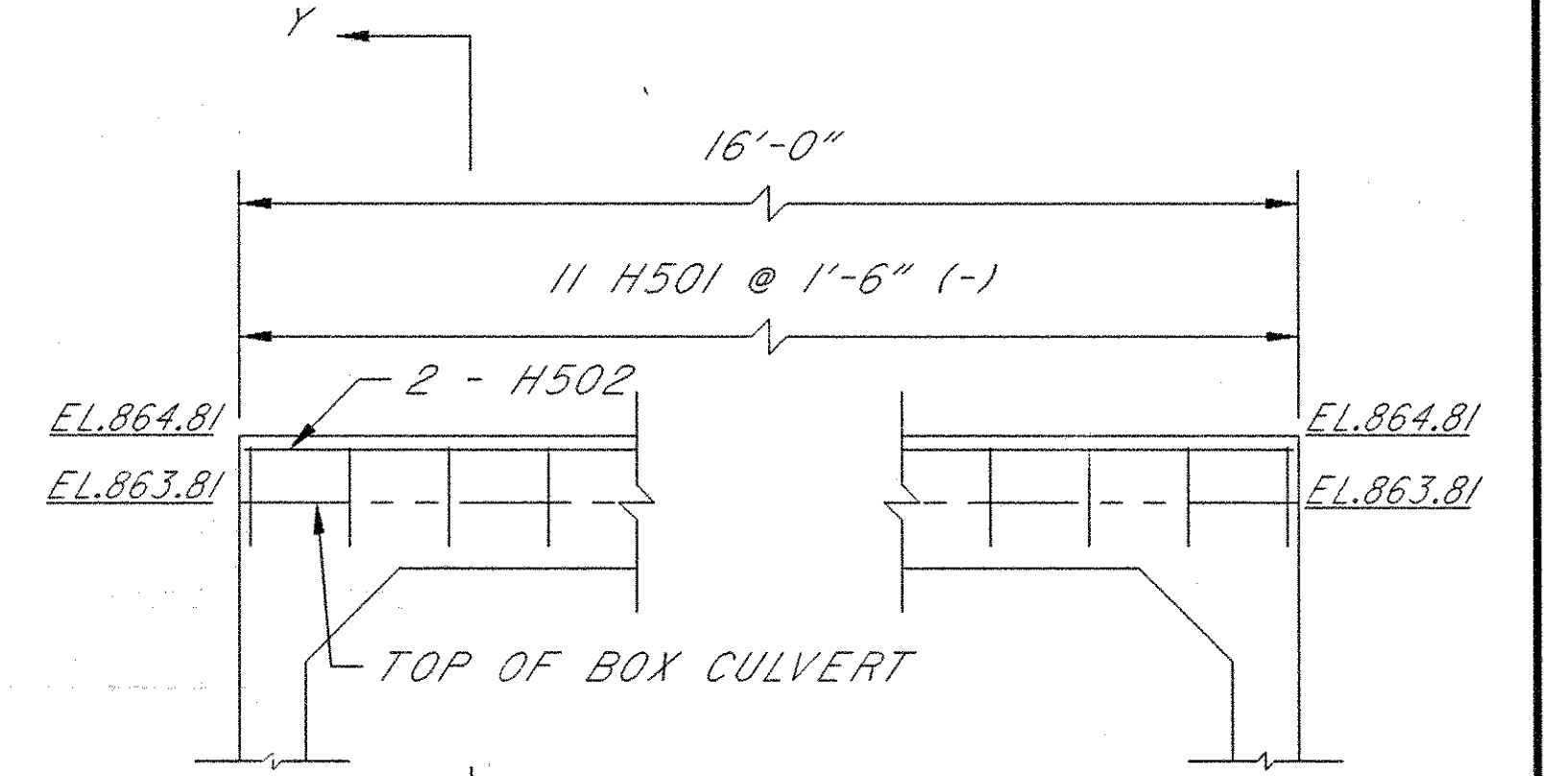
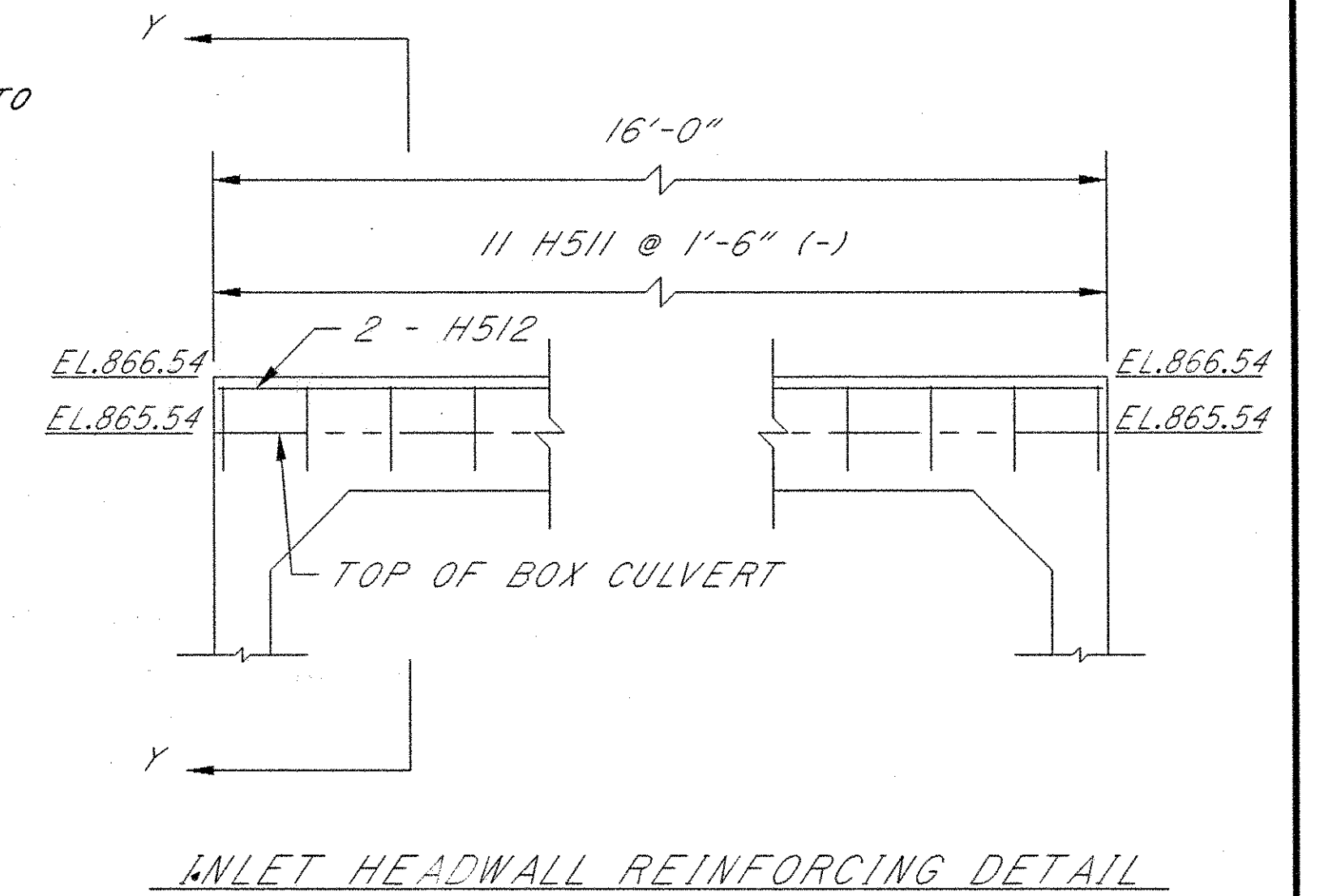


- ① SER. OF 11 @ 1'-6"
- ② 2 SPACES @ 11 1/2"
- ③ 7 SPACES @ 1'-4 9/16"

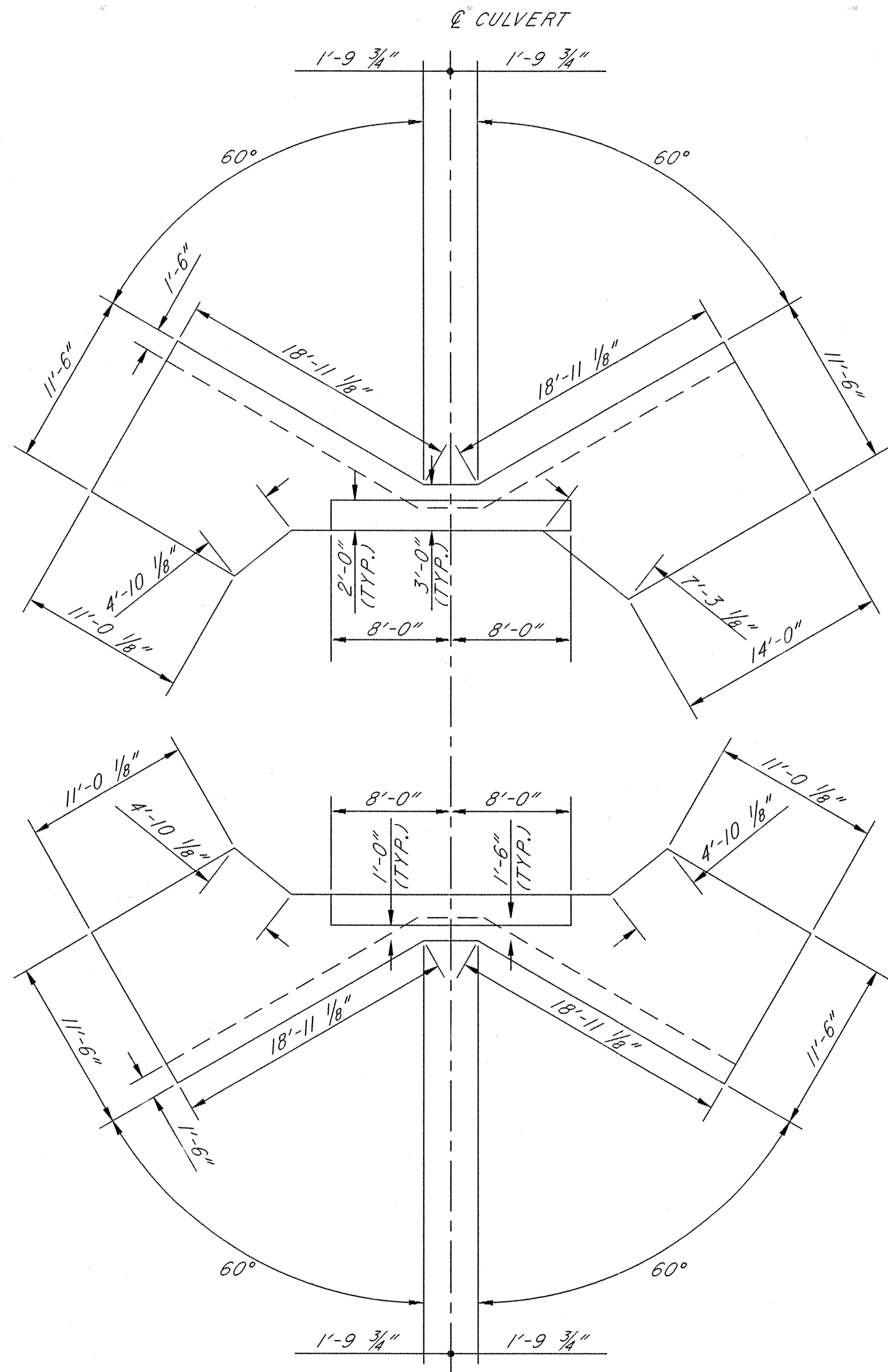
NOTE: 4" DIA. WEEPHOLE ELEV. = 855.97



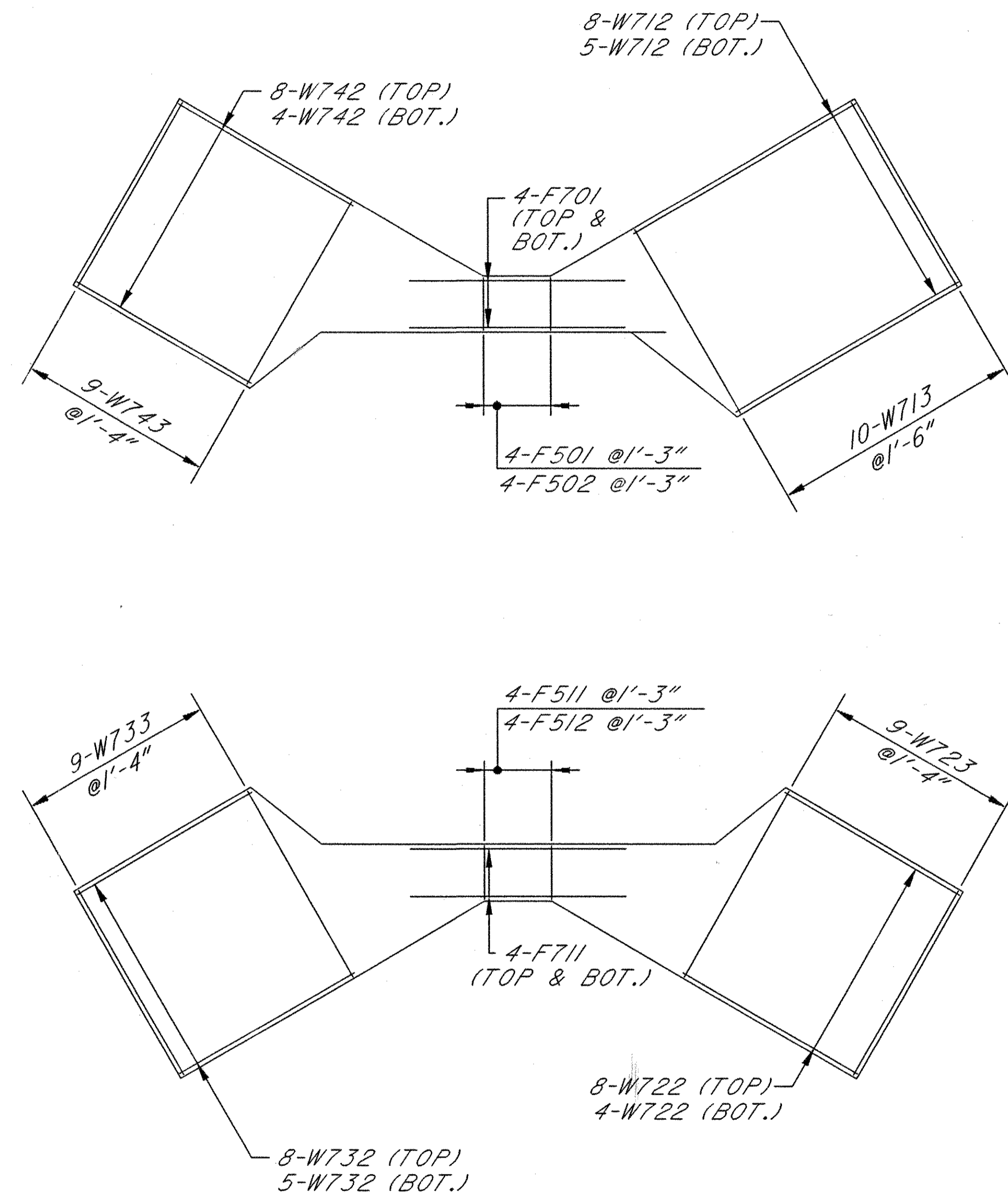
- ② THREADED INSERT, PULL OUT STRENGTH 110% YIELD STRENGTH OF BAR (1 OR 2 TO BE PROVIDED BY BOX MANUFACTURER)
- ③ PARTIAL DEPTH RESIN-BONDED ANCHORING SYSTEMS MAY BE USED AS PER STANDARD DRAWING GR-2.2, 1/4" + bar



- ② THREADED INSERT, PULL OUT STRENGTH 110% YIELD STRENGTH OF BAR (1 OR 2 TO BE PROVIDED BY BOX MANUFACTURER)
- ③ PARTIAL DEPTH RESIN-BONDED ANCHORING SYSTEMS MAY BE USED AS PER STANDARD DRAWING GR-2.2, 1/4" + bar



FOOTING LAYOUT



FOOTING REINFORCING PLAN

CALCULATED
3/25/95
CHECKED
3/25/95

HEADWALL DETAIL STA. 34+88.44

LIC-16-17.94

330
420

REINFORCING STEEL LIST

CALCULATED
 ALL: 3/23/95
 CHECKED
 D.M.: 3/23/95

HEADWALL DETAIL STA. 34+88.44

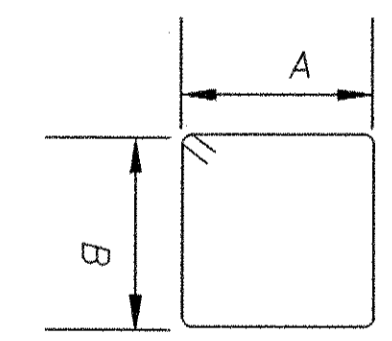
LIC-16-17.94

331
 420

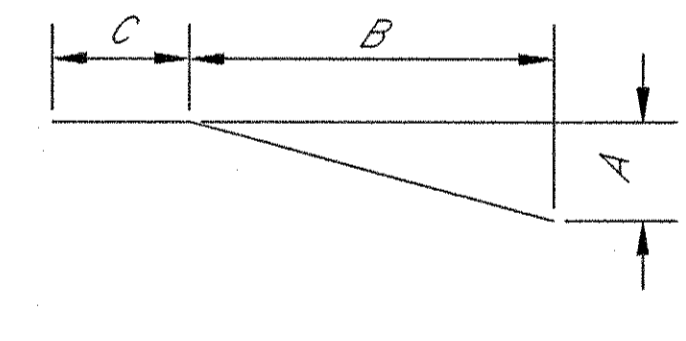
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	INCR	REMARKS
WINGWALL 1									
	1	9'-11"							
W511	S. O.	TO	125	STR				0'-2"	
	11	11'-11"							
	2	7'-6"							
W512	S. O.	TO	44	STR				6'-3"	
	2	13'-9"							
W513	14	13'-9"	201	STR					
W514	2	13'-11"	29	STR					
	1	9'-11"							
W711	S. O.	TO	245	STR				0'-2"	
	11	11'-11"							
W712	9	10'-10"	200	STR					
W713	9	11'-4"	209	STR					
W811	20	11'-8"	623	3	6'-9"	5'-2"			
W515	10	4'-4"	45	4	1'-6"	2'-7"	0'-6"		
WINGWALL 2									
	1	9'-11"							
W521	S. O.	TO	125	STR				0'-2"	
	11	11'-11"							
	2	7'-7"							
W522	S. O.	TO	45	STR				6'-3"	
	2	13'-9"							
W523	14	13'-9"	201	STR					
W524	2	13'-11"	29	STR					
	1	9'-11"							
W721	S. O.	TO	245	STR				0'-2"	
	11	11'-11"							
W722	9	10'-10"	200	STR					
W723	9	11'-4"	209	STR					
W821	20	11'-8"	623	3	6'-9"	5'-2"			
W525	8	4'-4"	36	4	1'-6"	2'-7"	0'-6"		
WINGWALL 3									
	1	9'-11"							
W531	S. O.	TO	125	STR				0'-2"	
	11	11'-11"							
	2	7'-6"							
W532	S. O.	TO	44	STR				6'-3"	
	2	13'-9"							
W533	14	13'-9"	201	STR					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	INCR	REMARKS
W534	2	13'-11"	29	STR					
	1	9'-11"							
W731	S. O.	TO	245	STR				0'-2"	
	11	11'-11"							
W732	9	10'-10"	200	STR					
W733	9	11'-4"	209	STR					
W831	20	11'-8"	623	3	6'-9"	5'-2"			
WINGWALL 4									
W535	8	4'-4"	36	4	1'-6"	2'-7"	0'-6"		
	1	9'-11"							
W541	S. O.	TO	125	STR				0'-2"	
	11	11'-11"							
	2	7'-7"							
W542	S. O.	TO	45	STR				6'-3"	
	2	13'-9"							
W543	14	13'-9"	201	STR					
W544	2	13'-11"	29	STR					
	1	9'-11"							
W741	S. O.	TO	245	STR				0'-2"	
	11	11'-11"							
W742	9	10'-10"	200	STR					
W743	9	11'-4"	209	STR					
W841	20	11'-8"	623	3	6'-9"	5'-2"			
W545	8	4'-4"	36	4	1'-6"	2'-7"	0'-6"		
CULVERT FOOTING									
F501	4	2'-10"	12	STR					
F502	4	3'-5"	14	4	0'-6"	1'-8"	1'-6"		
F511	4	2'-10"	12	STR					
F512	4	3'-5"	14	4	0'-6"	1'-8"	1'-6"		
F701	9	11'-8"	215	STR					
F711	9	11'-8"	215	STR					
HEADWALL									
H501	11	3'-5"	39	4	1'-6"	0'-8"	1'-6"		
H502	2	15'-10"	33	STR					
H511	11	3'-5"	39	4	1'-6"	0'-8"	1'-6"		
H512	2	15'-10"	33	STR					
TOTAL			7485						

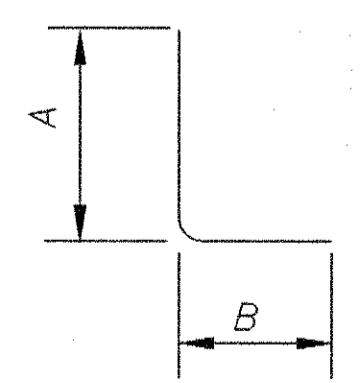
TOTAL CARRIED TO SHEET 325



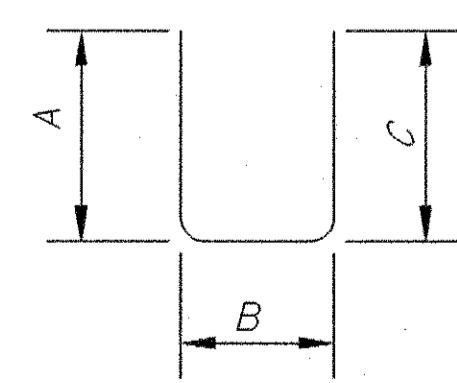
TYPE 1



TYPE 2



TYPE 3



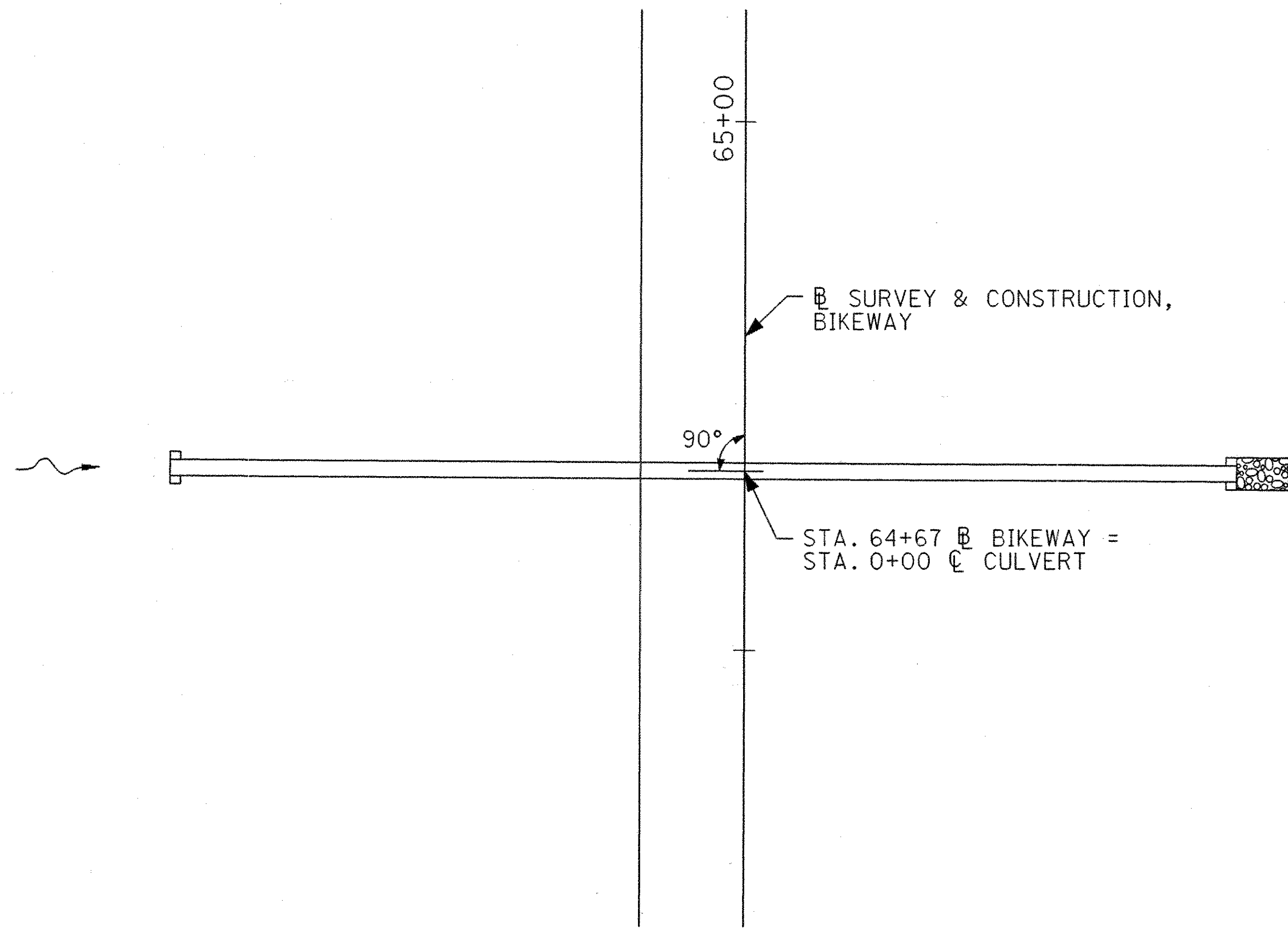
TYPE 4

BENDING DIAGRAMS

S.O. - SERIES OF

BIKE228.DGN 3/23/95

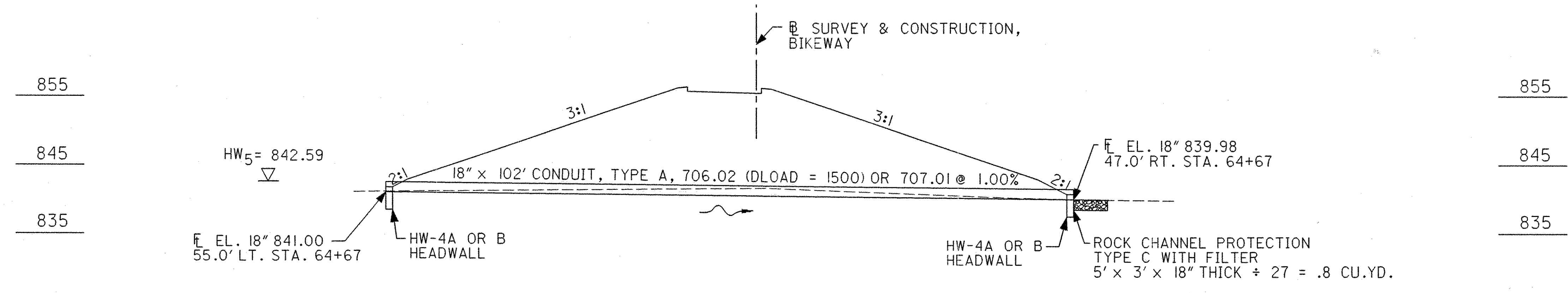
DRAINAGE AREA = 3.1 ACRES
 $Q_5 = 5$ cfs $V_5 = 5.1$ fps



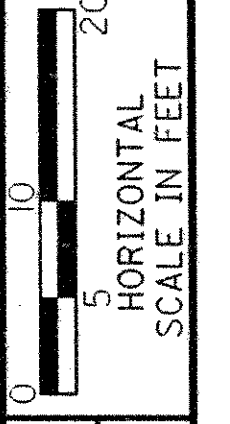
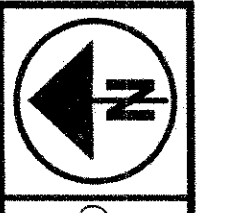
PLAN

7-C QUANTITIES		
603	18" CONDUIT, TYPE A, 706.02 (DLOAD = 1500) OR 707.01	102 LIN.FT.
602	CONCRETE MASONRY	.66 CU.YD.
601	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	.8 CU.YD.

QUANTITIES CARRIED TO SHEET 345



LONGITUDINAL

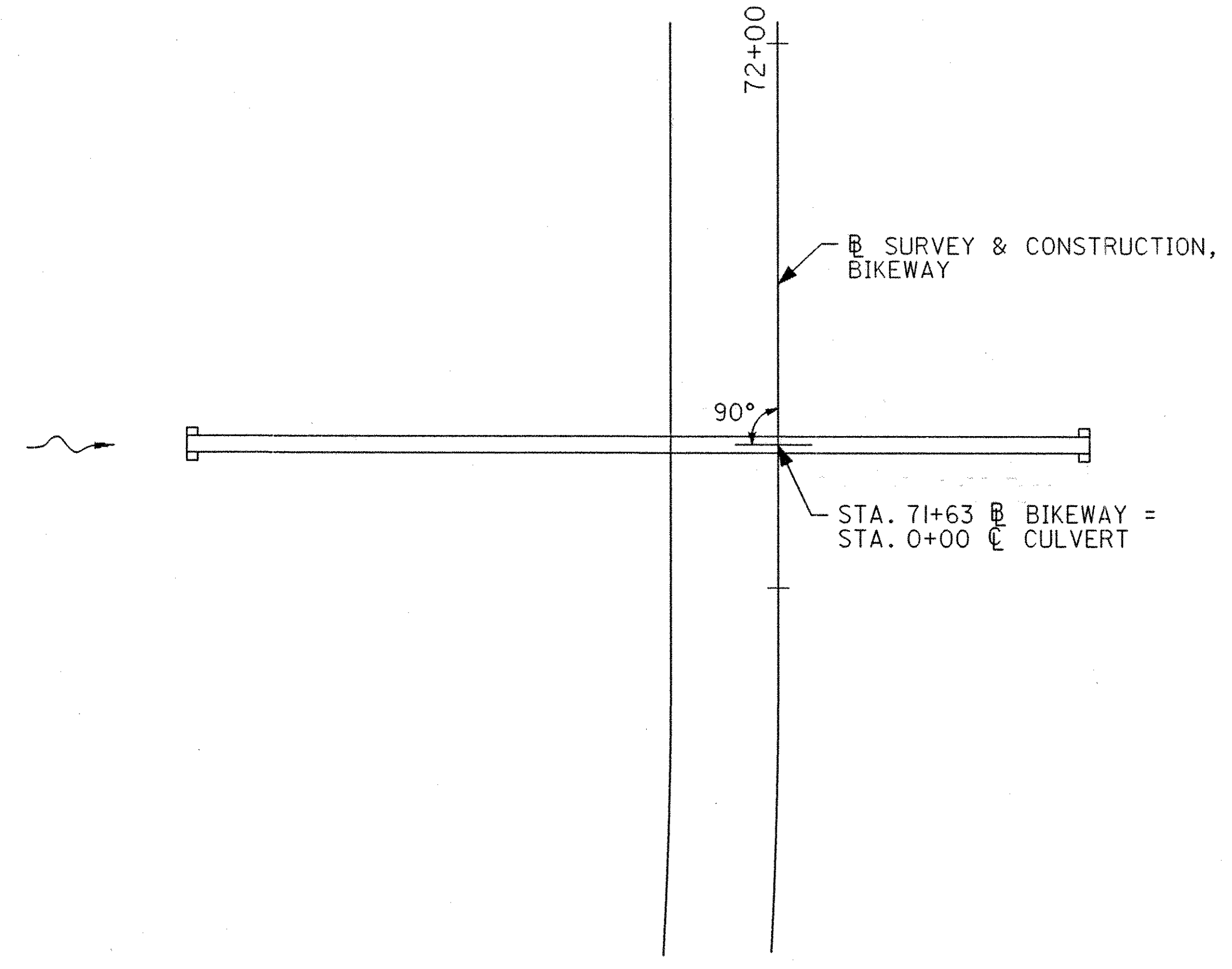


CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95

BIKEWAY CULVERT DETAIL SHEET
STA. 71+63

LIC-16-17.94

333
420

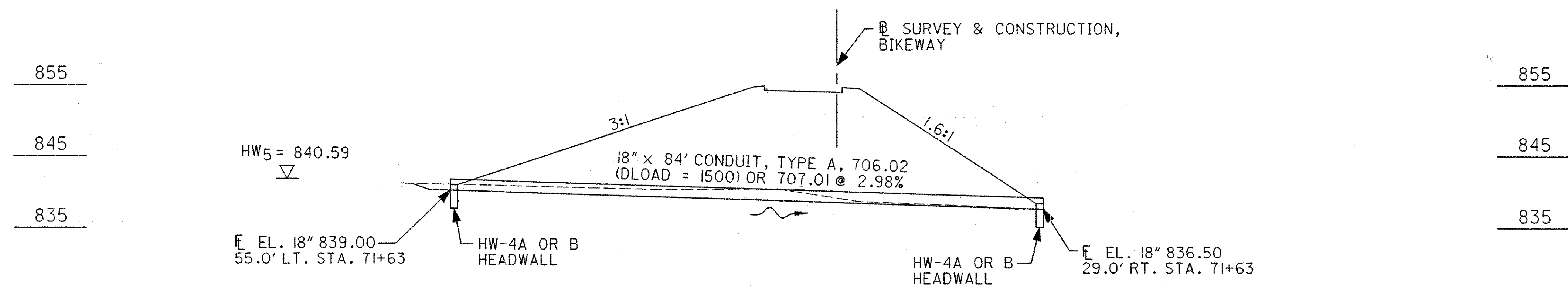


PLAN

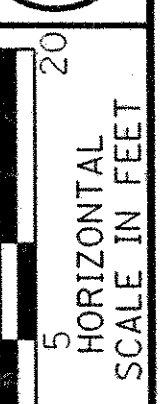
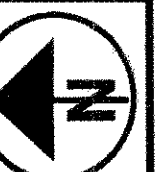
DRAINAGE AREA = 3.2 ACRES
Q₅ = 5 cfs V₅ = 8 fps

8-C		
QUANTITIES		
603	18" CONDUIT, TYPE A, 706.02 (DLOAD = 1500) OR 707.01	84 LIN.FT.
602	CONCRETE MASONRY	.66 CU.YD.

QUANTITIES CARRIED TO SHEET 345



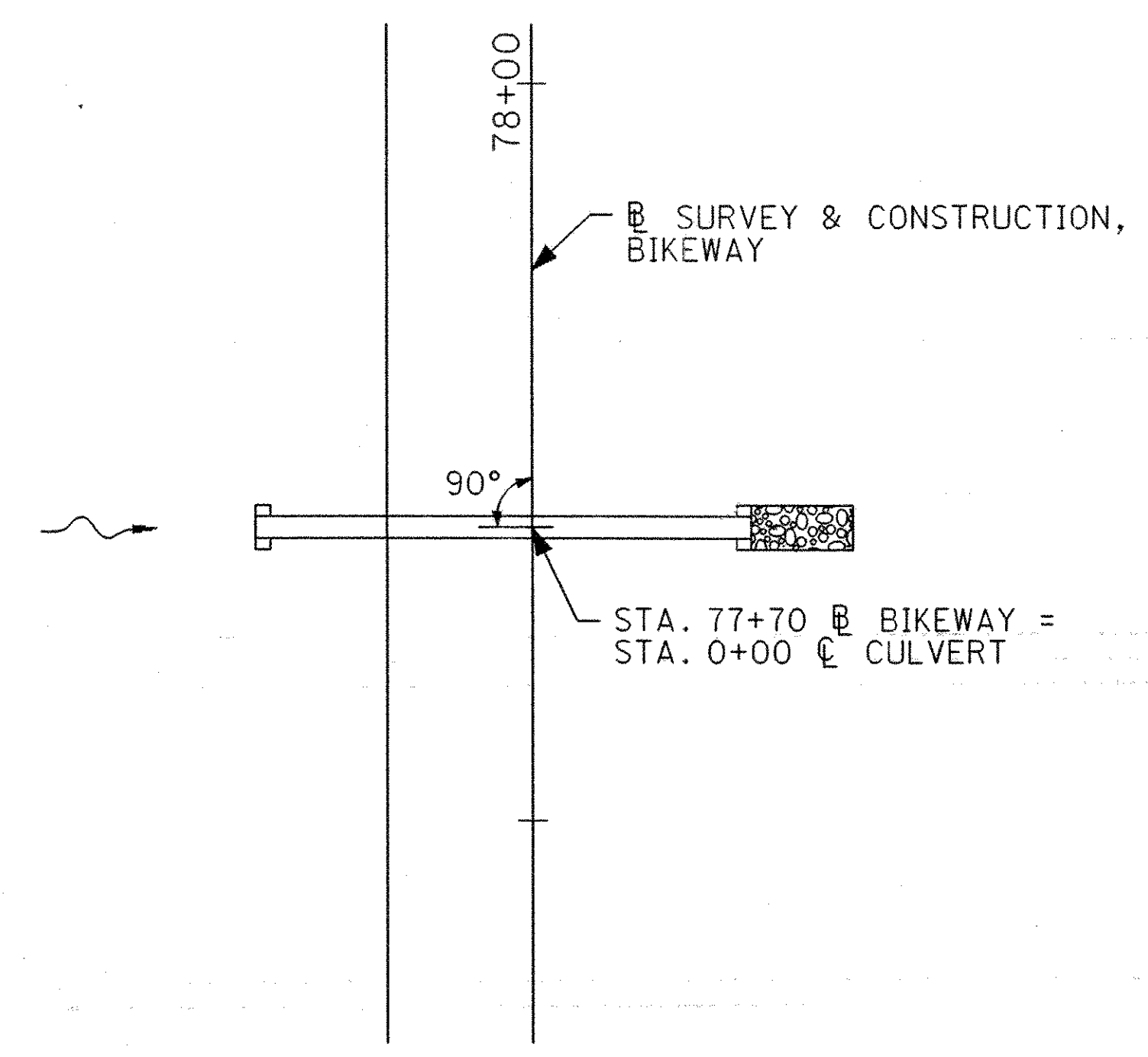
LONGITUDINAL



CALCULATED
A.L.V.
5/13/95
CHECKED
D.M.
5/26/95

BIKEWAY CULVERT DETAIL SHEETS
STA. 77+70

LIC-16-17.94



PLAN

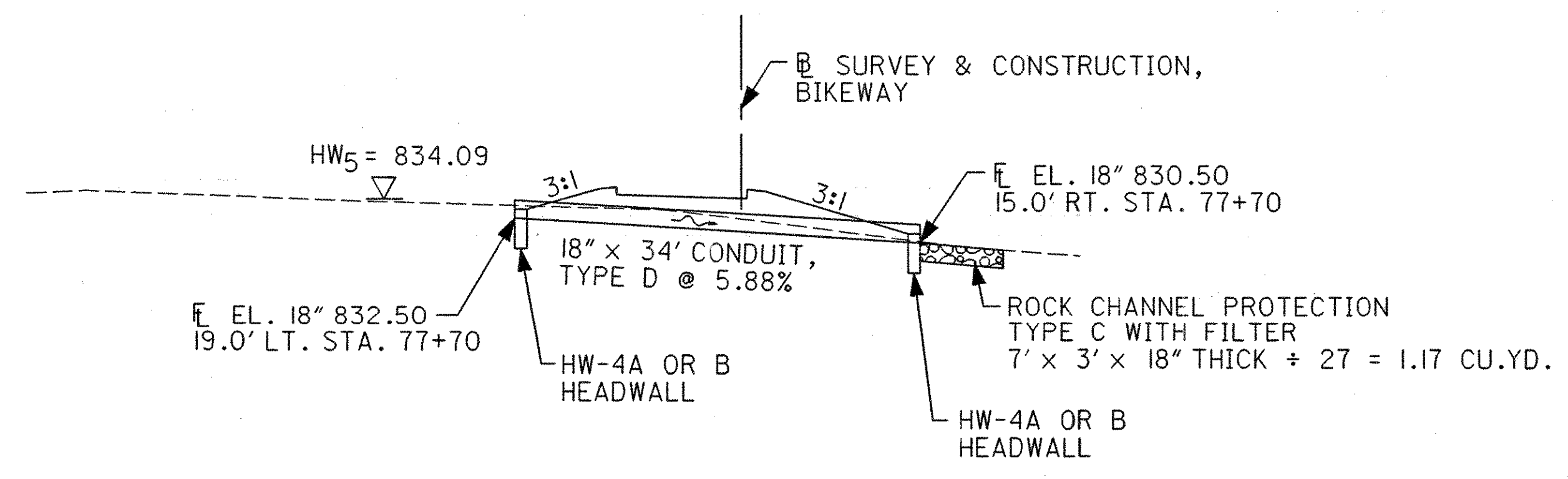
DRAINAGE AREA = 3.5 ACRES
 $Q_5 = 5$ cfs $V_5 = 10$ fps

9-C		
QUANTITIES		
603	18" CONDUIT, TYPE D	34 LIN.FT.
602	CONCRETE MASONRY	.66 CU.YD.
601	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	1.2 CU.YD.

QUANTITIES CARRIED TO SHEET 345

850
840
830

850
840
830



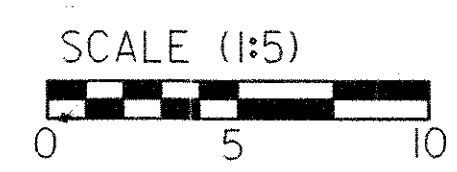
LONGITUDINAL

ITEM	DESCRIPTION	QUANTITIES
603	CONDUIT, MISC: 10' X 10' CONDUIT, TYPE A, 706.05, C-850, AS PER PLAN DESIGN COVER = 1.0+	180 LIN. FT.
SPECIAL	MEMBRANE WATERPROOFING (SHEET TYPE 2)	458 SQ. YD.
601	ROCK CHANNEL PROTECTION TYPE A, w/ FILTER	125 CU. YD.
601	RIPRAP USING 6" REINFORCED CONCRETE SLAB	17.0 SQ. YD.

CALCULATIONS

MEMBRANE WATERPROOFING $46'-7" \times 88.5' / 9 = 458 \text{ SQ. YD.}$
 ROCK CHANNEL PROTECTION $16' \times 52.9' \times 48" / 27 = 125 \text{ CU. YD.}$
 RIPRAP USING 6" REINFORCED CONCRETE SLAB $2(5.0' \times 8.9' / 2) + (5.0' \times 21.7') / 9 = 17.0 \text{ SQ. YD.}$

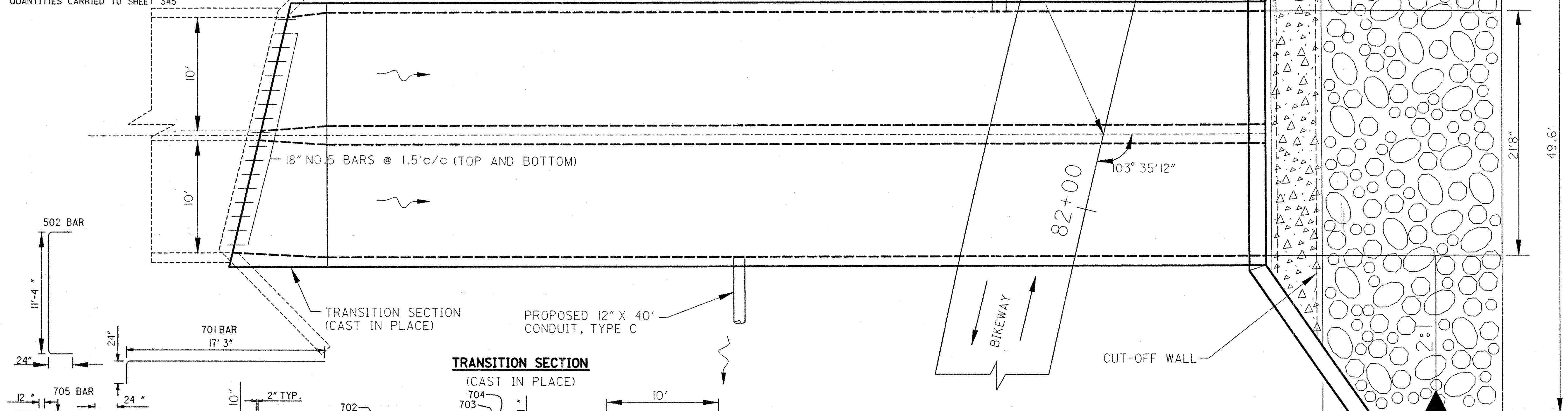
QUANTITIES CARRIED TO SHEET 345



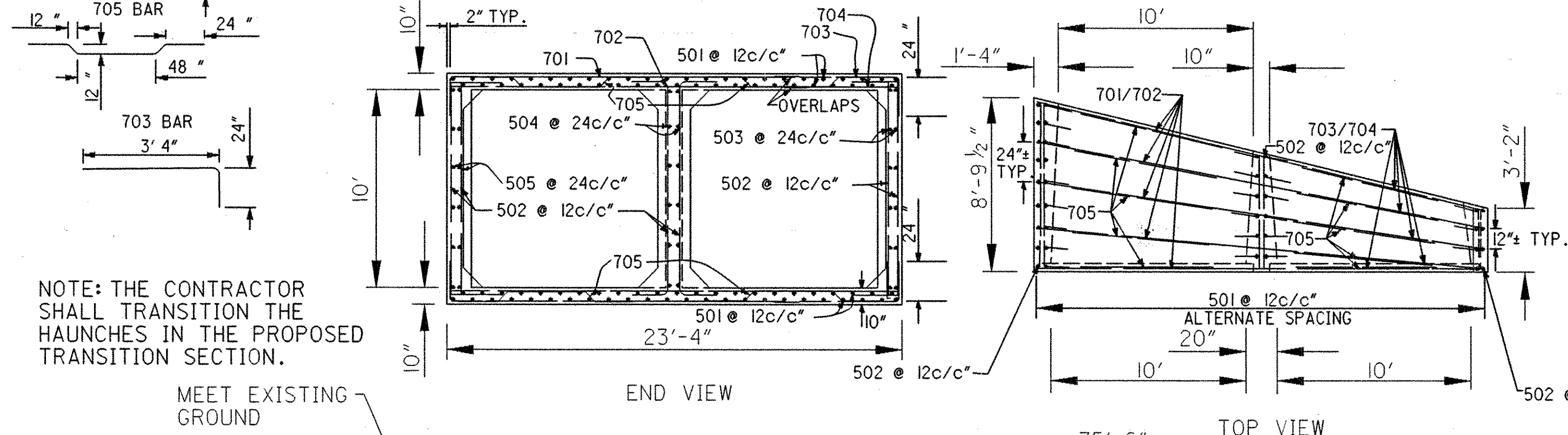
PLAN

Ⓡ SURVEY & CONSTRUCTION, BIKEWAY
 Ⓡ SURVEY & CONSTRUCTION, BIKEWAY STA. 82+06.9 =
 Ⓡ CULVERT & STA. 0+00 Ⓡ LT. & RT.

PROPOSED 15" X 36' CONDUIT, TYPE C

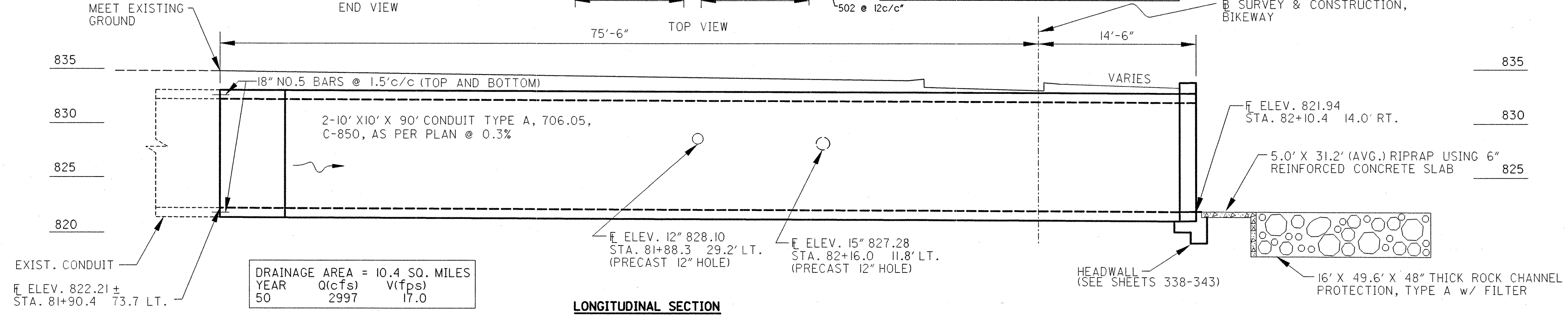


TRANSITION SECTION (CAST IN PLACE)



BAR	LENGTH FT.	SHAPE	NO.	WEIGHT LBS.
501	5' 8" AVG.	STRAIGHT	94	556
502	16'	BENT	38	635
503	2' 10"	STRAIGHT	12	36
504	5' 7"	STRAIGHT	12	70
505	8' 5"	STRAIGHT	12	106
701	20'	BENT	10	409
702	20'	STRAIGHT	10	409
703	6'	BENT	10	123
704	10' 9"	STRAIGHT	10	220
705	11' 3"	BENT	20	460
DOWEL	1' 6"	STRAIGHT	34	54
TOTAL				3078

NOTE: THE CONTRACTOR SHALL TRANSITION THE HAUNCHES IN THE PROPOSED TRANSITION SECTION.



LONGITUDINAL SECTION

DRAINAGE AREA = 10.4 SQ. MILES

YEAR	Q(cfs)	V(fps)
50	2997	17.0

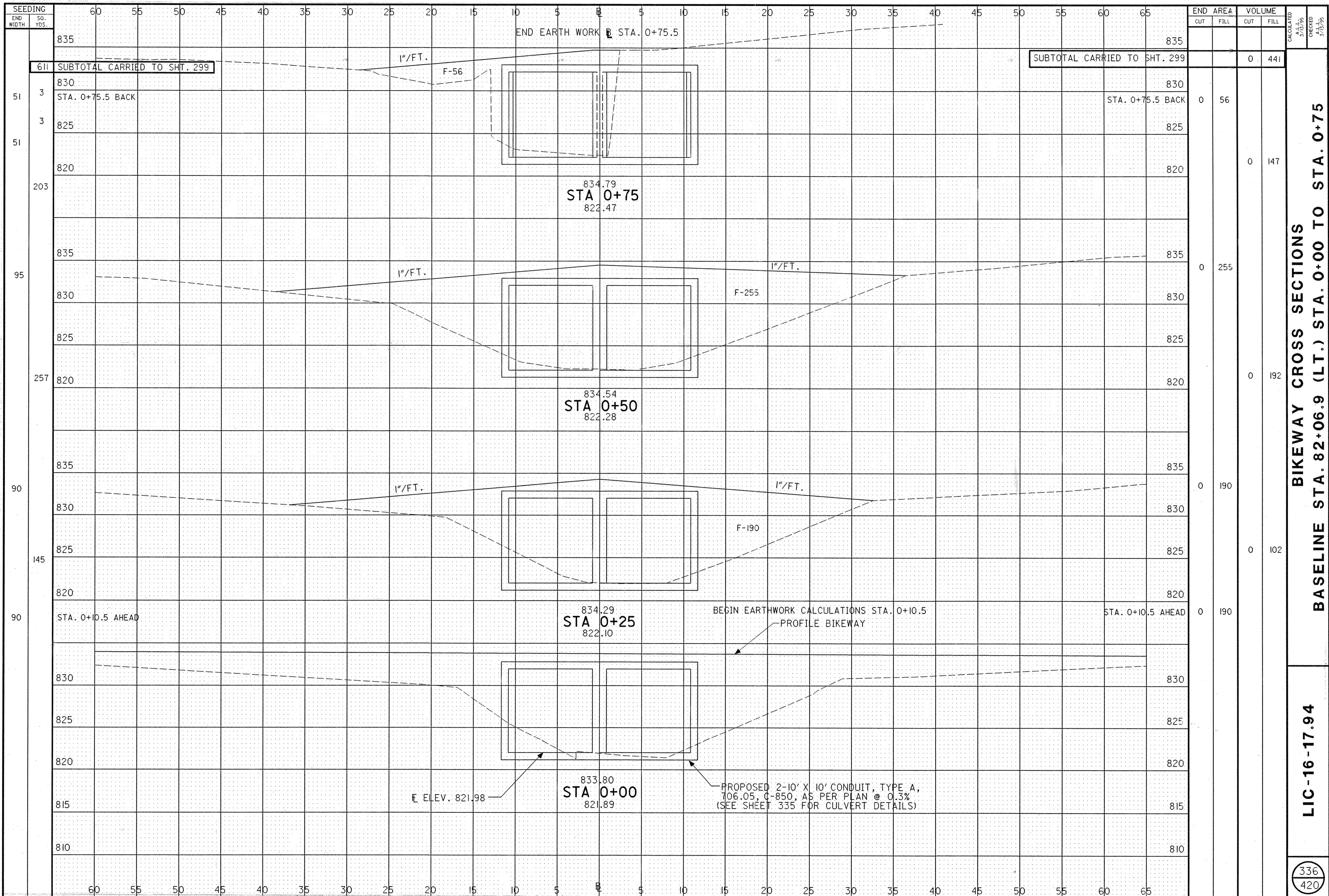
BIKEWAY CULVERT DETAIL SHEET
STA. 82+06.9

LIC-16-17.94

LIC1617.DGN 3/14/95

CALCULATED
J.A.L.L.
3/15/95
CHECKED
D.M.
3/16/95

RC001302.DGN 1/07/95



BIKEWAY CROSS SECTIONS
BASELINE STA. 82+06.9 (LT.) STA. 0+00 TO STA. 0+75

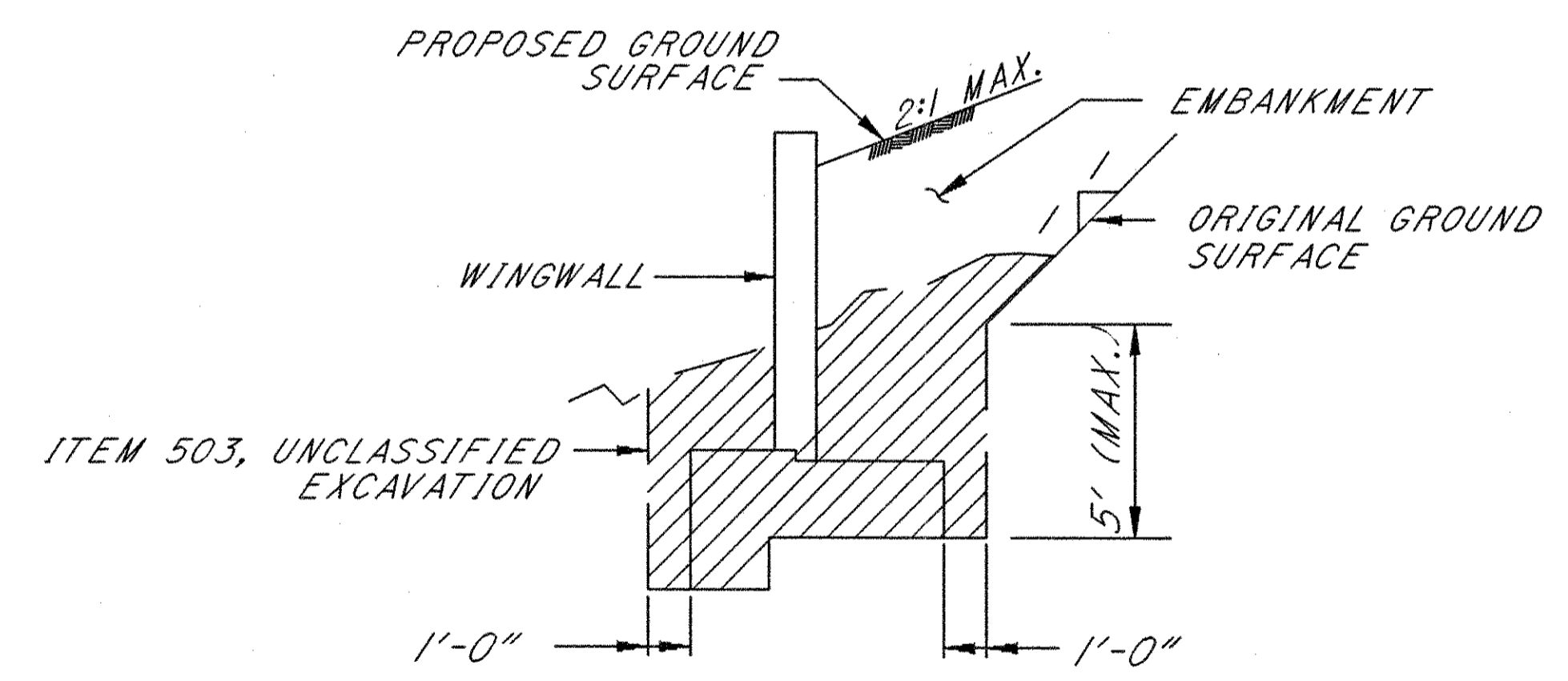
LIC-16-17.94

336
420

ESTIMATED QUANTITIES

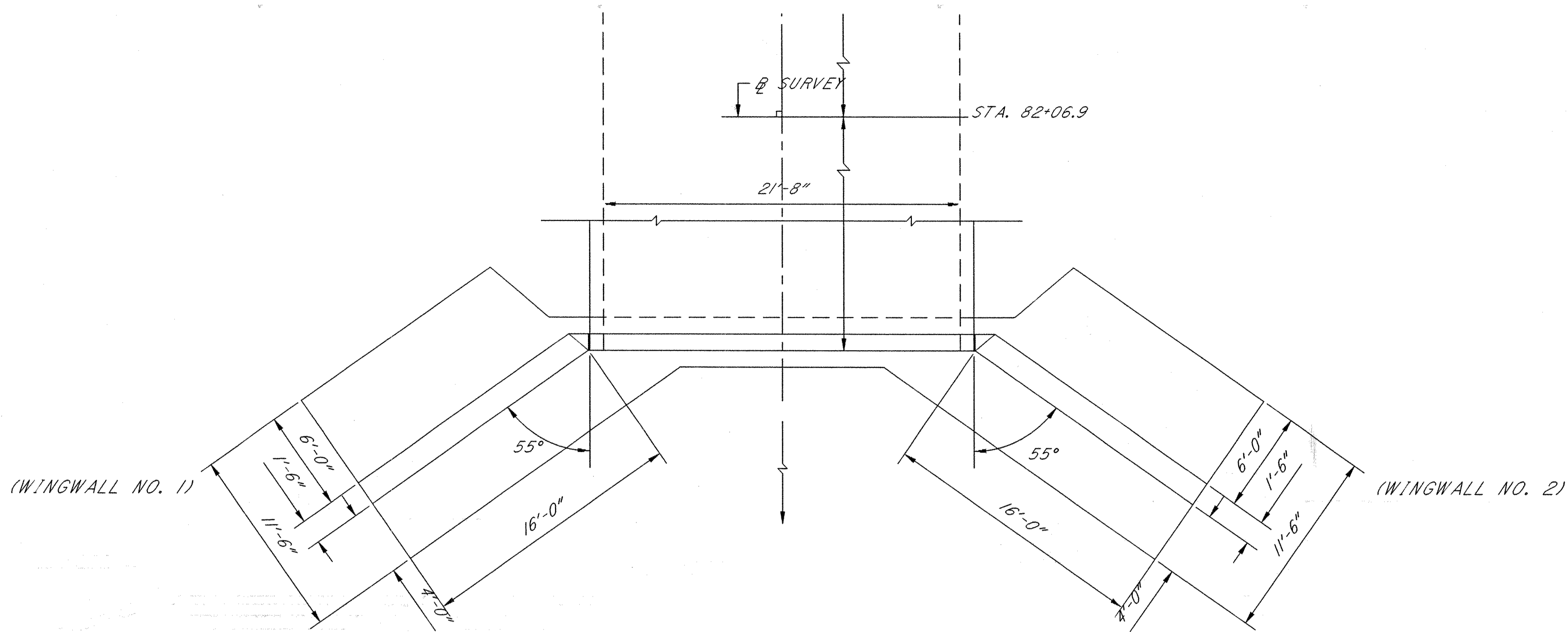
ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
509	15820	4345	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
503	21100	55	CU. YD.	UNCLASSIFIED EXCAVATION
511	46000	19	CU. YD.	CLASS C CONCRETE, RETAINING WALL OR WINGWALL
511	46500	39	CU. YD.	CLASS C CONCRETE, FOOTING
SPECIAL	51267502	31	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)
511	51100	20	CU. YD.	CLASS C CONCRETE MISC: HEADWALLS
516	13600	20	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER
518	21200	12	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC

QUANTITIES CARRIED TO SHEET 351



LIMITS OF UNCLASSIFIED EXCAVATION (WINGWALL)

ITEM 503 UNCLASSIFIED EXCAVATION
 $(13.5' \times 3' \times 32') + (12.5' \times 3' \times 5') \div 27 = 55 \text{ CU.YD.}$



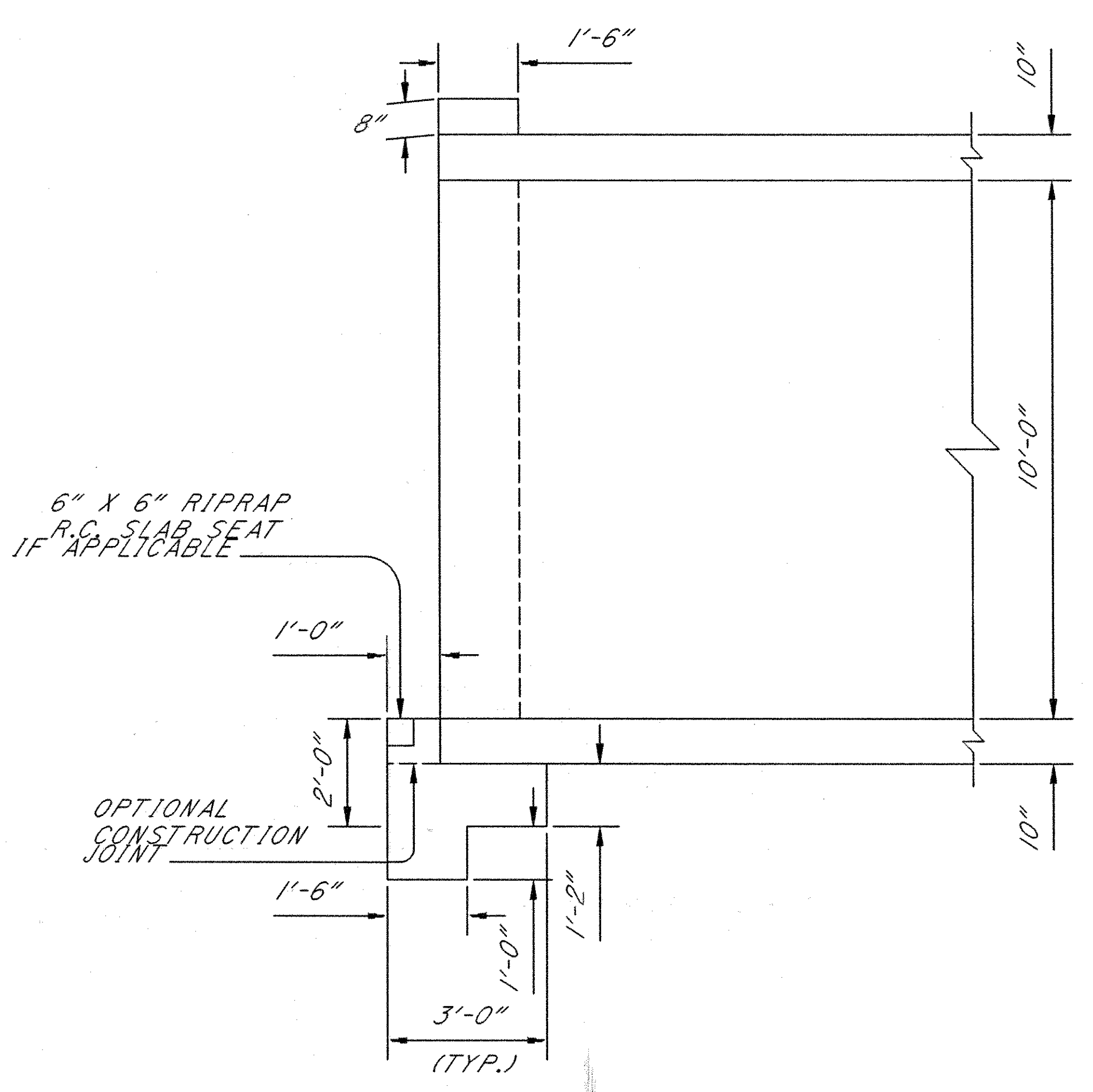
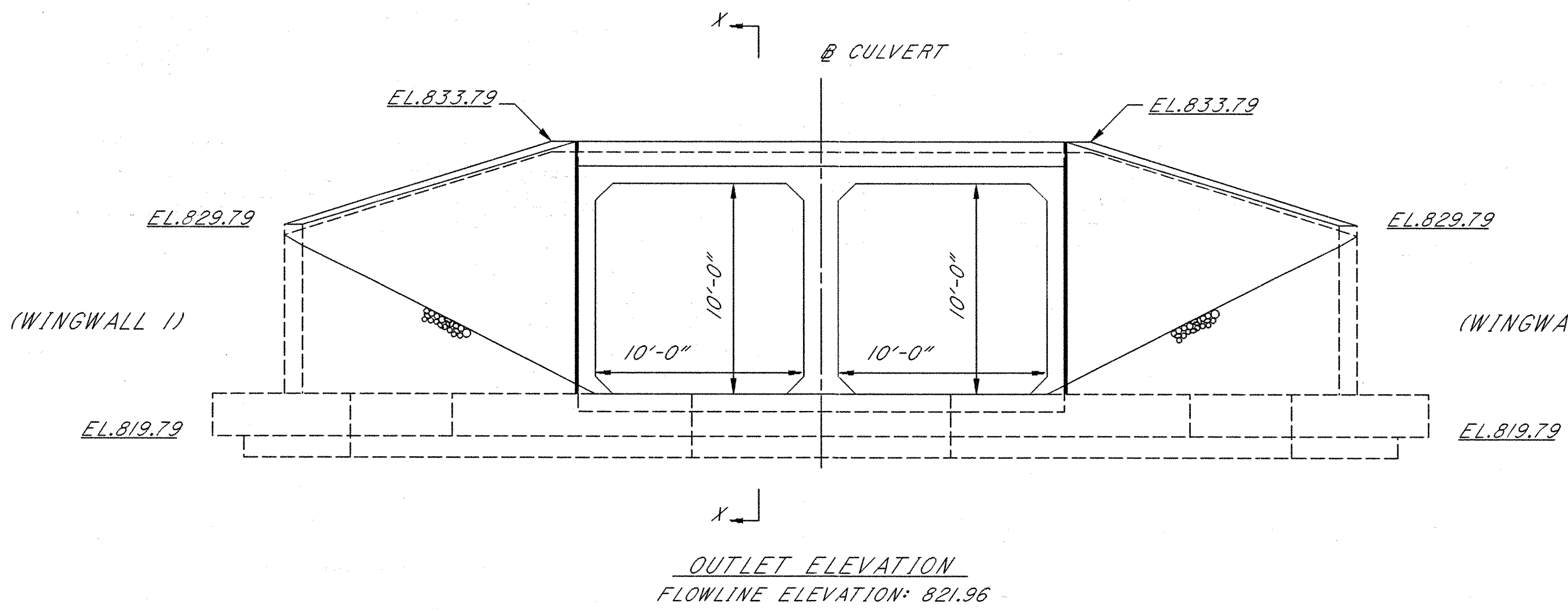
CULVERT & WINGWALL LAYOUT
* PLUS FIT-UP (OUTLET INCLUDES 4" TONGUE END JOINT)

CALCULATED
A.L.S.
3/15/95
CHECKED
D.M.
3/28/95

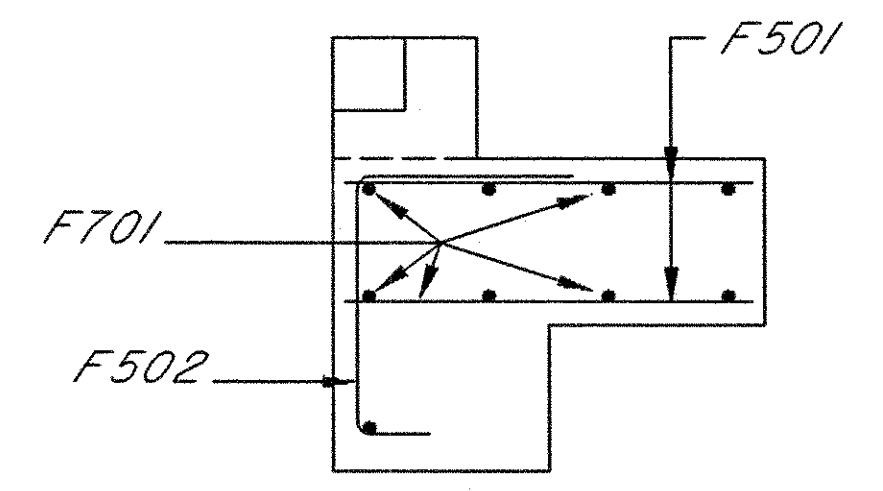
HEADWALL DETAIL STA. 82+06.9

LIC-16-17.94

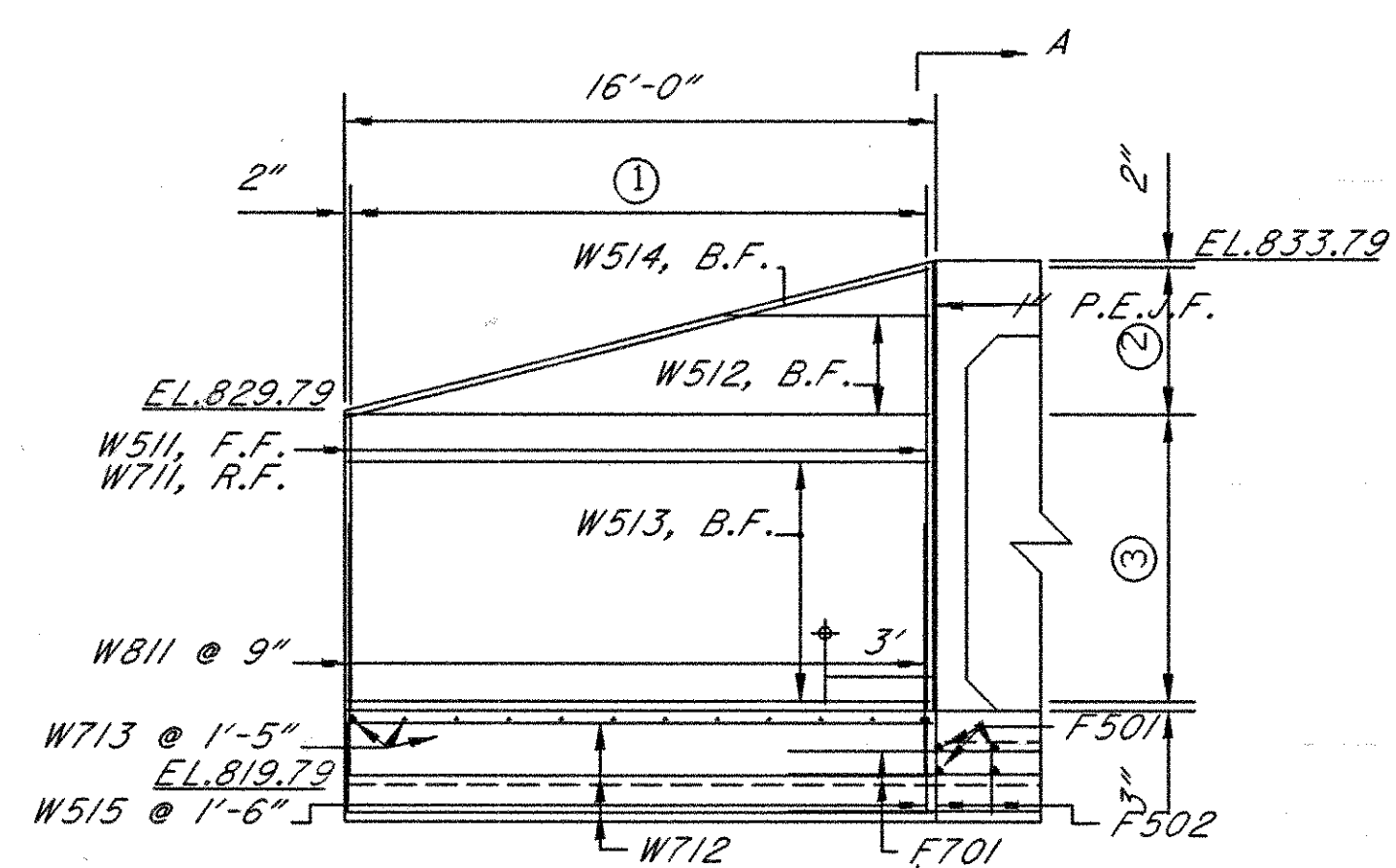
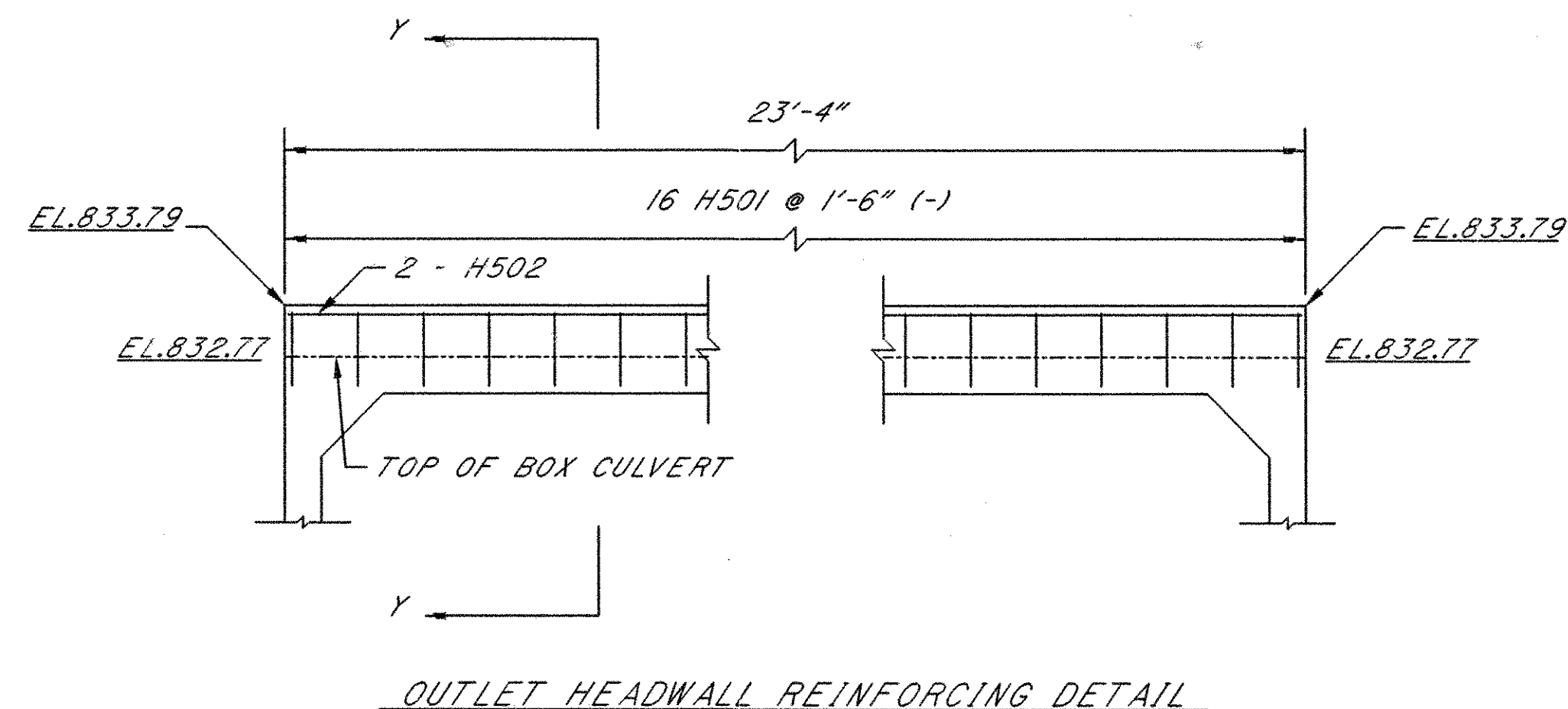
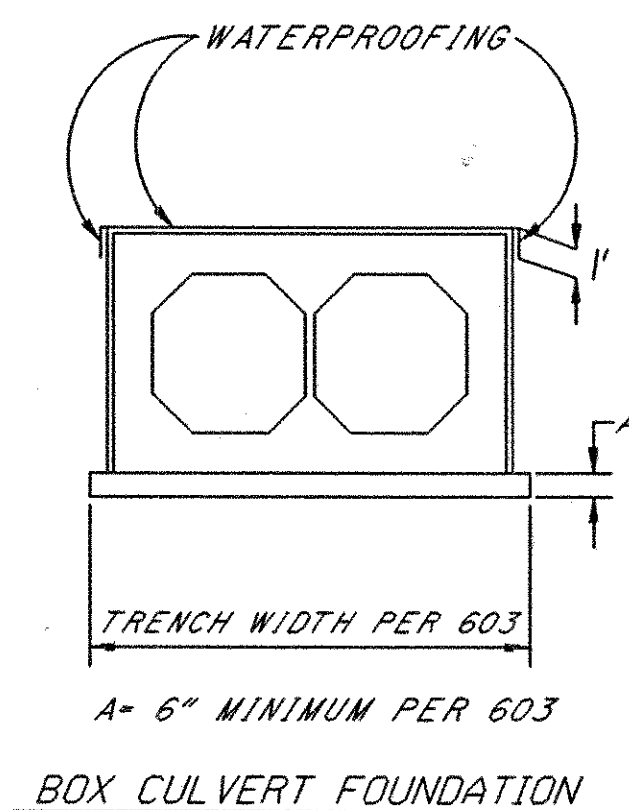
339
420



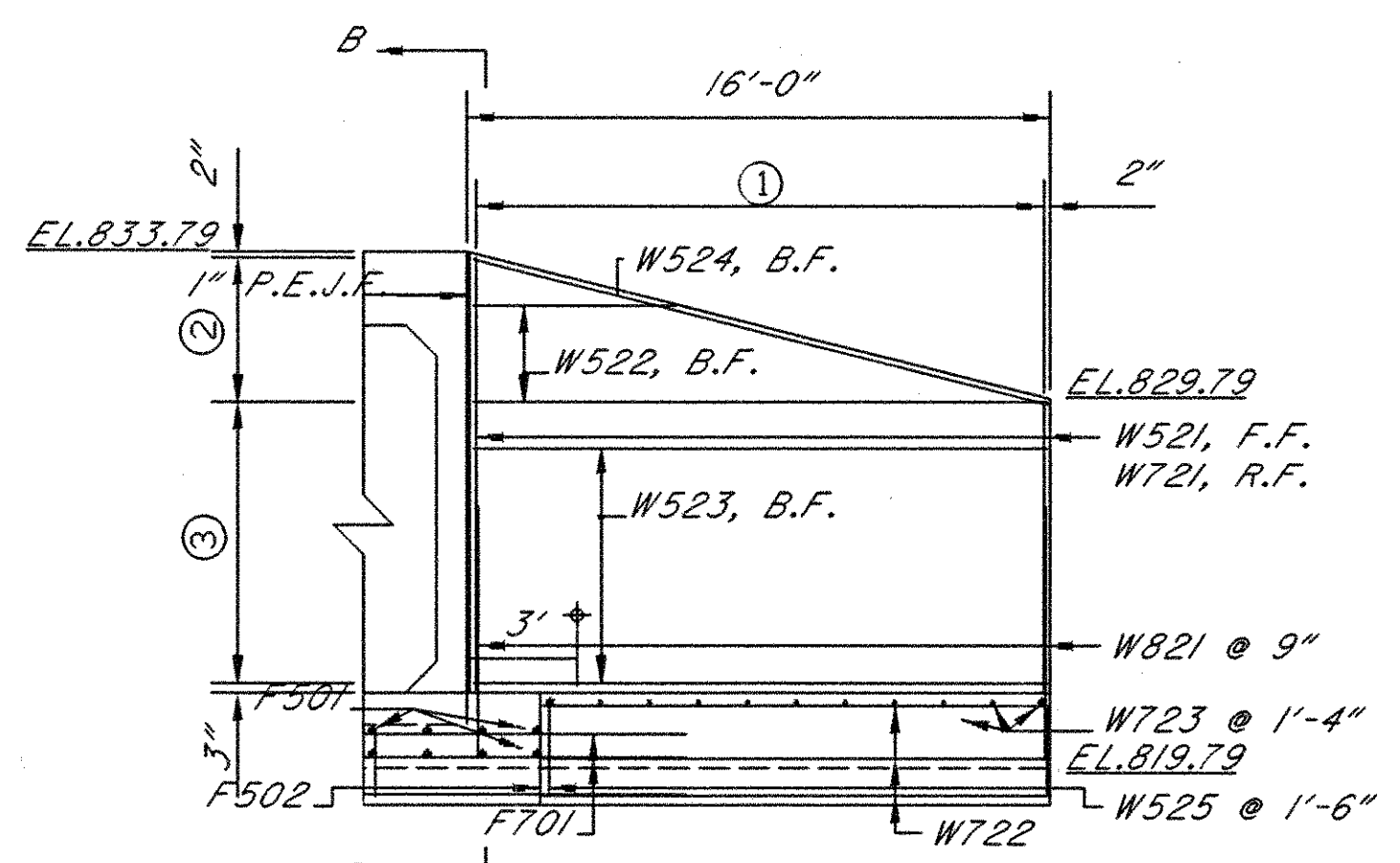
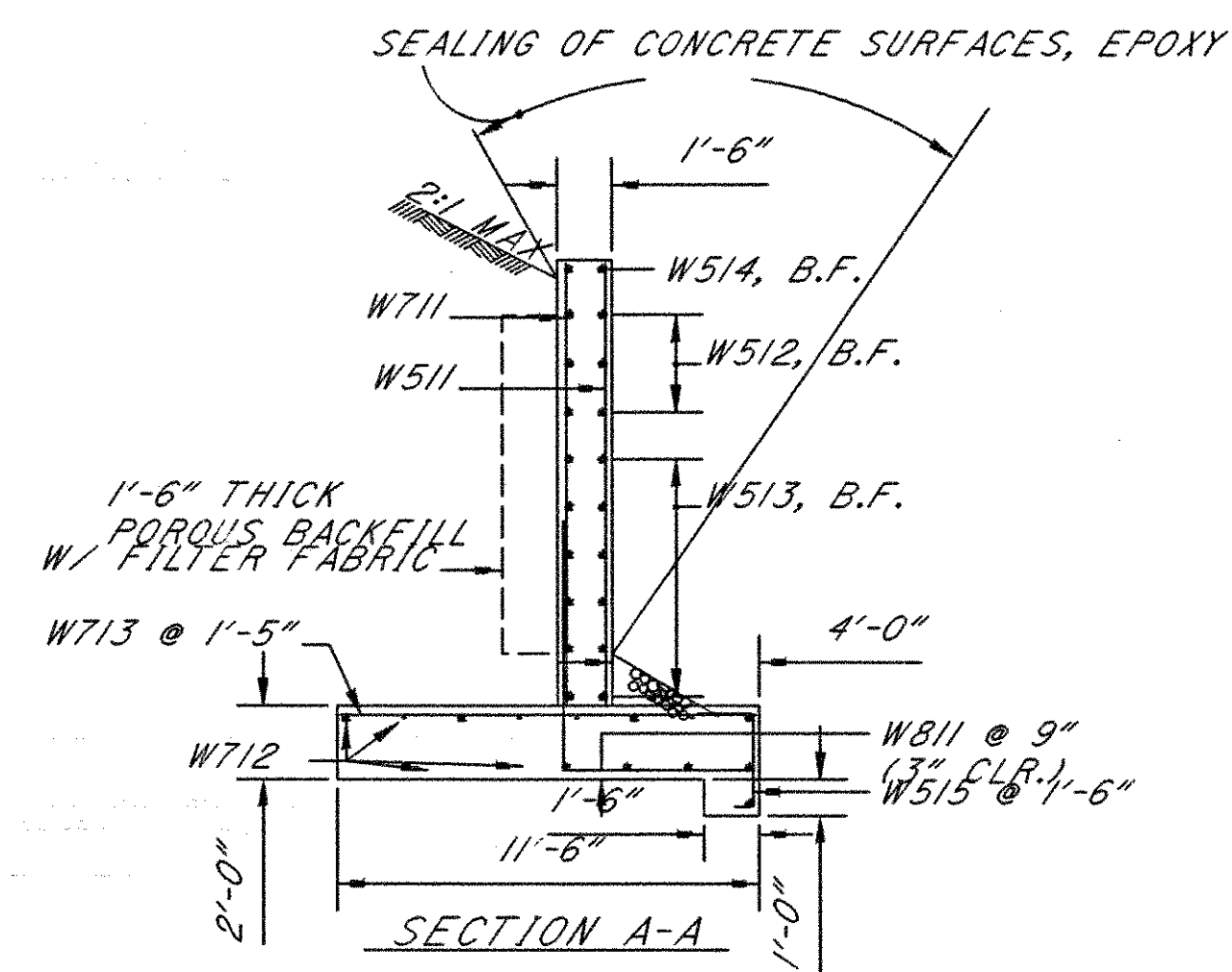
SECTION X-X
NOTE: FOR CULVERT FOOTING REINFORCING STEEL, SEE DETAIL "I" ON THIS SHEET.



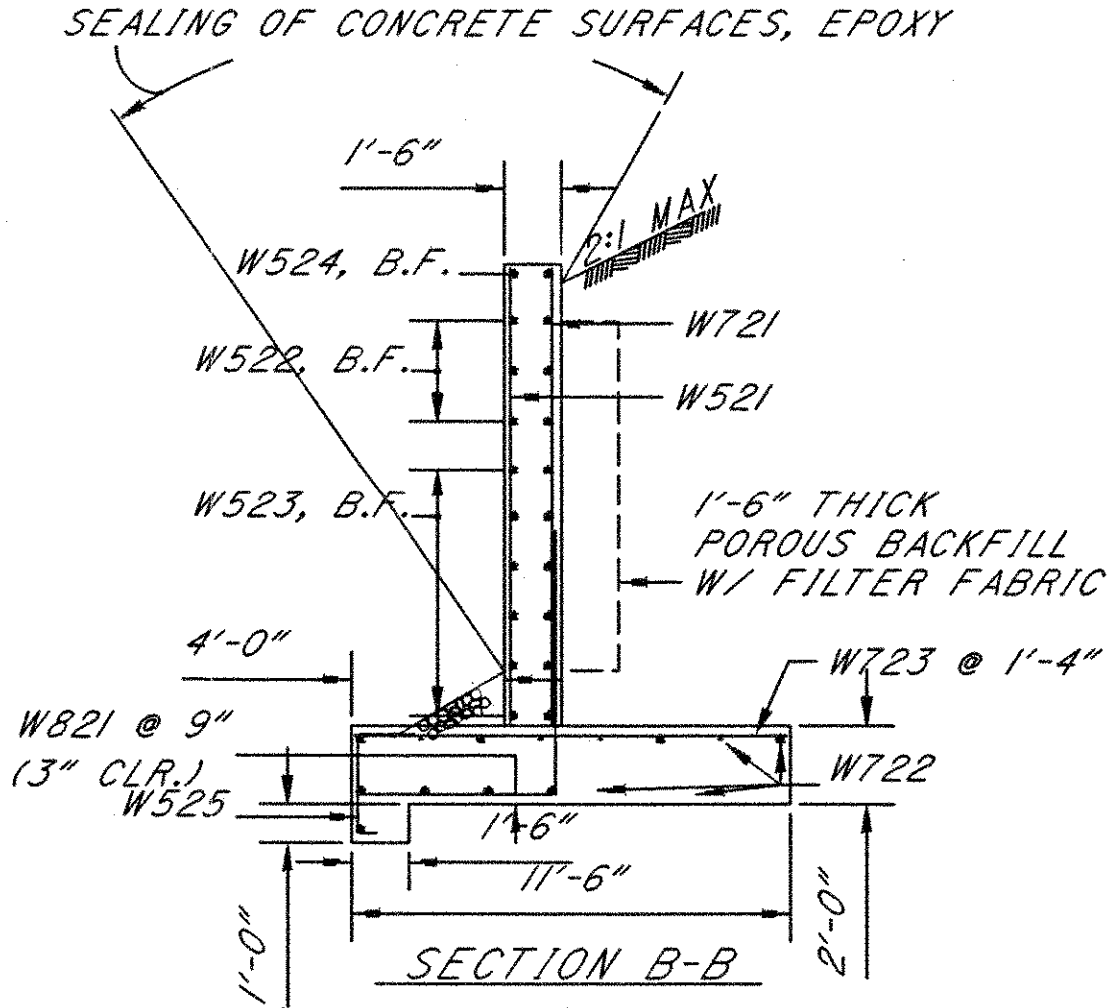
DETAIL I



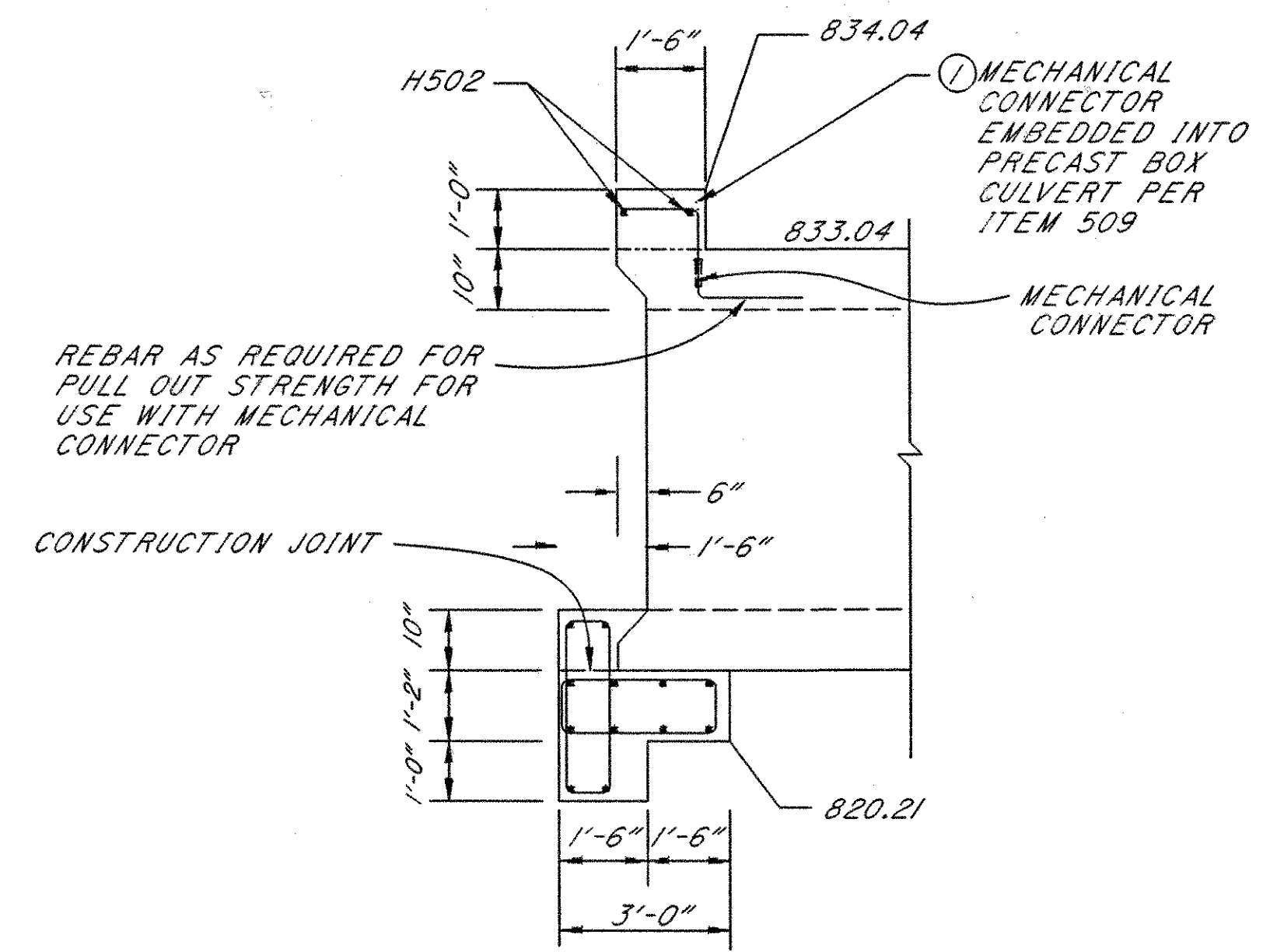
- ① SER. OF 12 @ 1'-6"
 - ② 3 SPACES @ 1'-3¹¹/₁₆"
 - ③ 6 SPACES @ 1'-3³/₁₆"
- NOTE: 4" DIA. WEEPHOLE ELEV. = 823.69



- ① SER. OF 12 @ 1'-6"
 - ② 3 SPACES @ 1'-3¹¹/₁₆"
 - ③ 6 SPACES @ 1'-3³/₁₆"
- NOTE: 4" DIA. WEEPHOLE ELEV. = 823.69

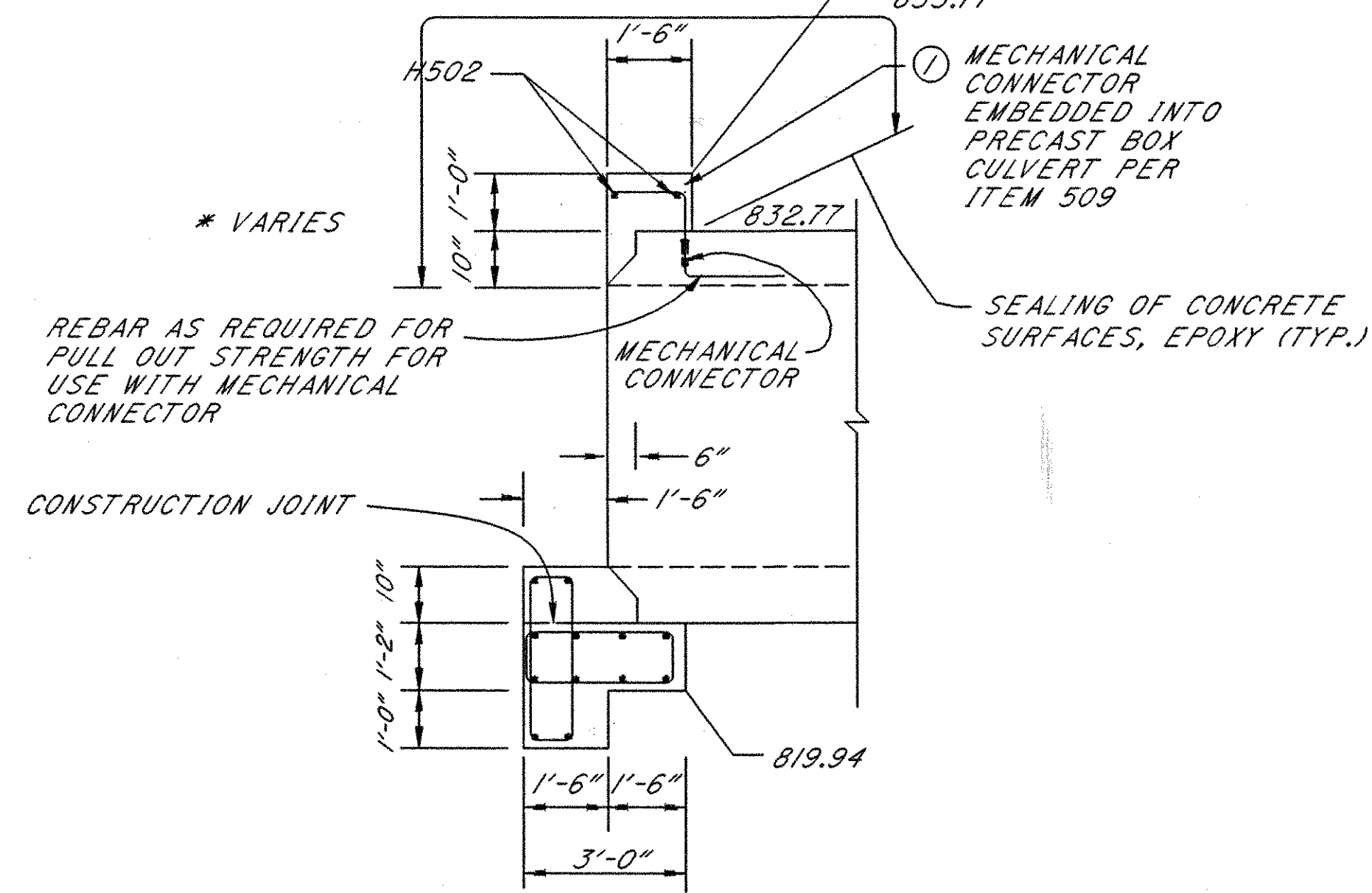


INLET DETAIL



- ① MECHANICAL CONNECTOR EMBEDDED INTO PRECAST BOX CULVERT PER ITEM 509
- ② THREADED INSERT, PULL OUT STRENGTH 110% YIELD STRENGTH OF BAR (1 OR 2 TO BE PROVIDED BY BOX MANUFACTURER)
- ③ PARTIAL DEPTH RESIN-BONDED ANCHORING SYSTEMS MAY BE USED AS PER STANDARD DRAWING GR-2.2, 1/4" + bar

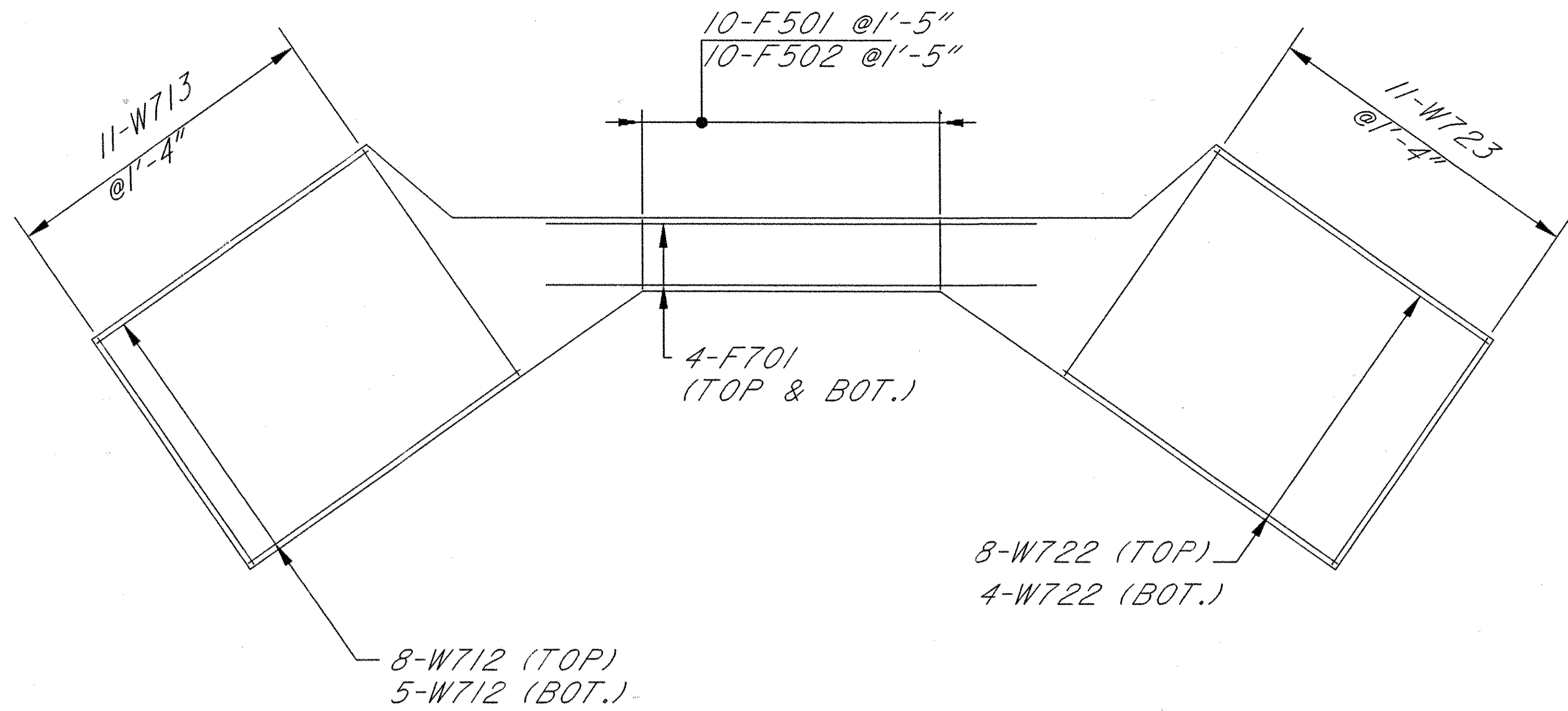
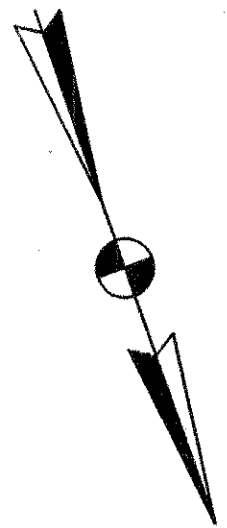
OUTLET DETAIL



- ② THREADED INSERT, PULL OUT STRENGTH 110% YIELD STRENGTH OF BAR (1 OR 2 TO BE PROVIDED BY BOX MANUFACTURER)
- ③ PARTIAL DEPTH RESIN-BONDED ANCHORING SYSTEMS MAY BE USED AS PER STANDARD DRAWING GR-2.2, 1/4" + bar

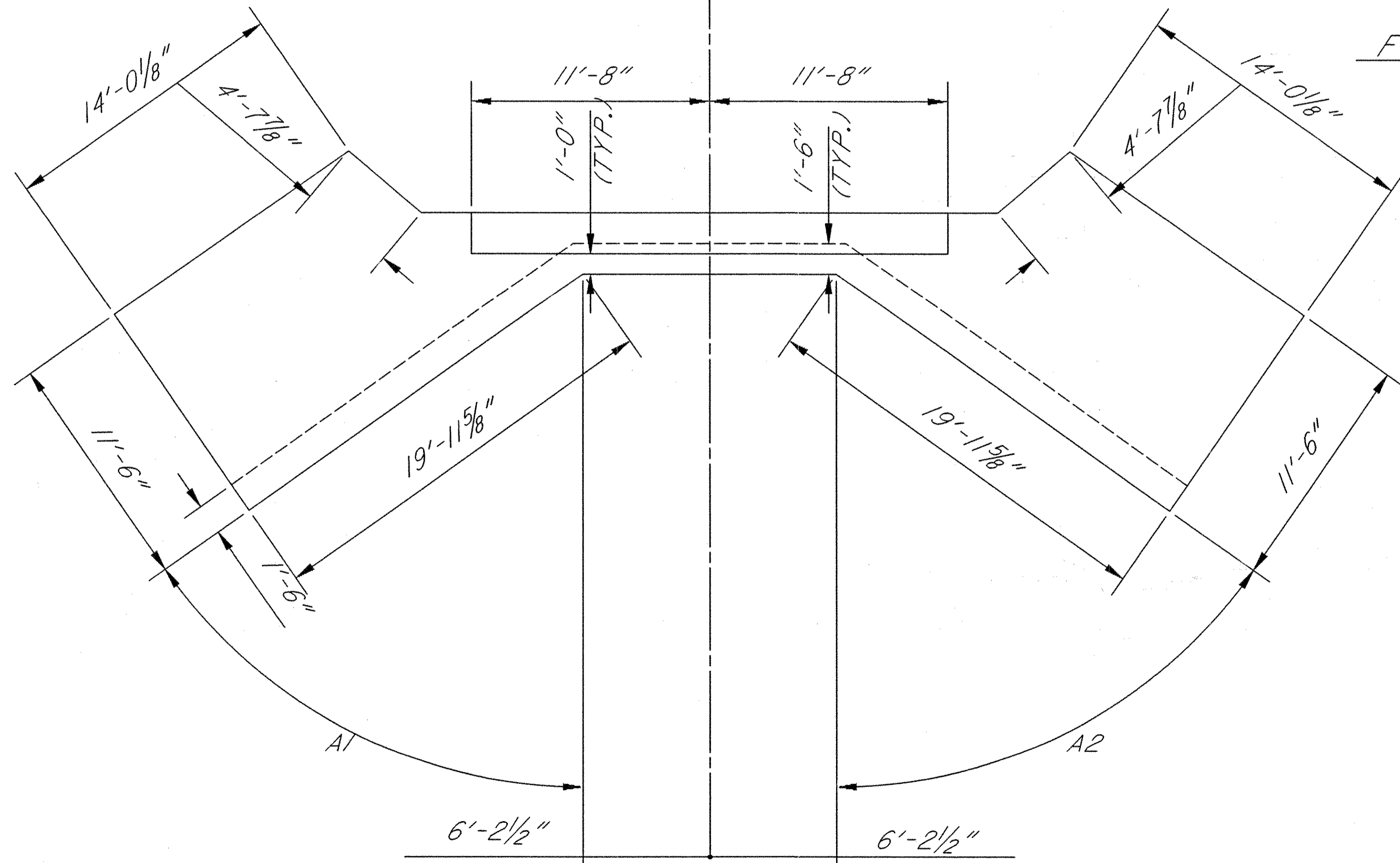
NOTES:
1. POROUS BACKFILL, 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND 1' BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE WEEPHOLE.

LEGEND
F.F. - FRONT FACE
R.F. - REAR FACE
B.F. - BOTH FACE



B SURVEY
STA. 82+06.9

FOOTING REINFORCING PLAN



FOOTING LAYOUT

SEE TABLE ON SHEET 719 FOR VALUES OF A1 & A2

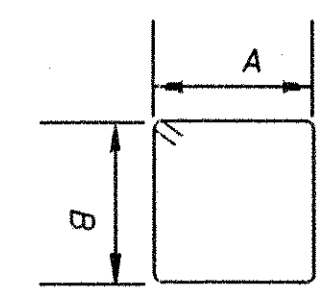
L1627.DGN 1/19/95

CALCULATED
5/13/95
CHECKED
D.M.
3/16/95

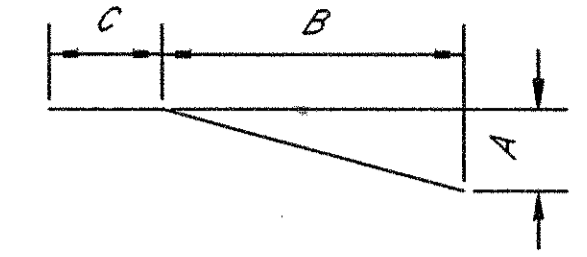
HEADWALL DETAIL STA. 82+06.9

LIC-16-17.94

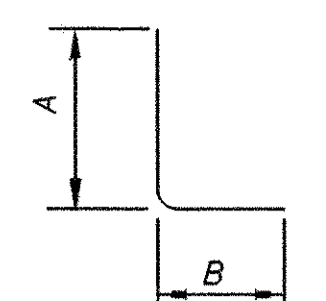
342
420



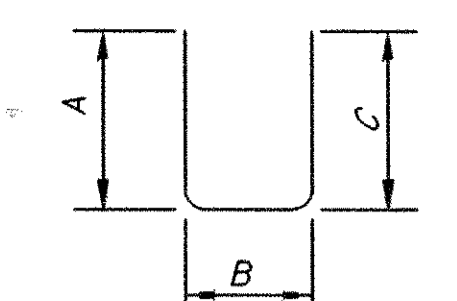
TYPE 1



TYPE 2



TYPE 3



TYPE 4

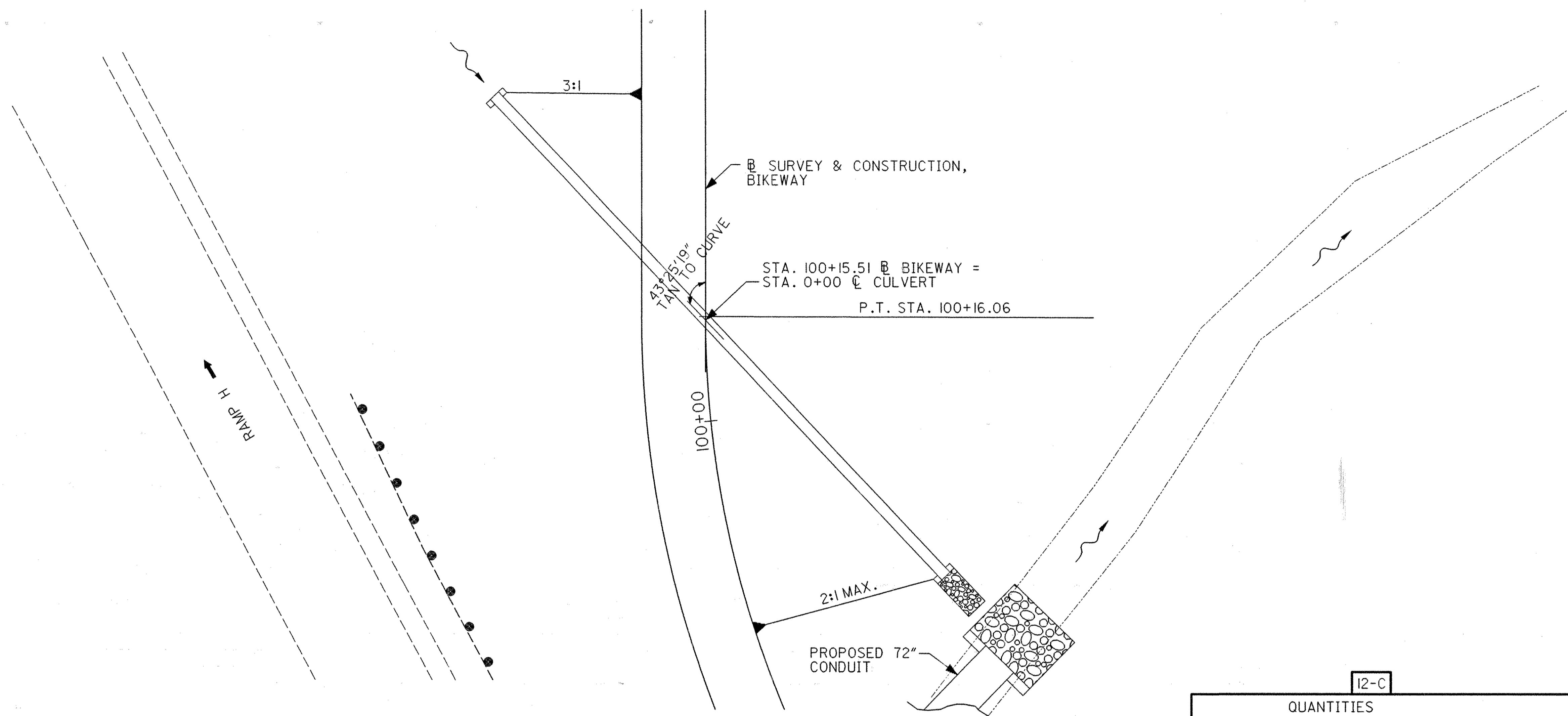
BENDING DIAGRAMS

S.O. - SERIES OF

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	INCR	REMARKS
WINGWALL 1									
	1	7'-11"							
W511	S. O.	70	124	STR				0'-4"	
	12	11'-10"							
	2	5'-7"							
W512	S. O.	70	67	STR				5'-1"	
	3	15'-9"							
W513	12	15'-9"	197	STR					
W514	2	16'-3"	34	STR					
	1	7'-11"							
W711	S. O.	70	242	STR				0'-4"	
	12	11'-10"							
W712	9	15'-10"	278	STR					
W713	9	11'-4"	209	STR					
W811	23	11'-8"	716	3	6'-9"	5'-2"			
W515	11	4'-4"	50	4	1'-6"	2'-7"	0'-6"		
WINGWALL 2									
	1	7'-11"							
W521	S. O.	70	124	STR				0'-4"	
	12	11'-10"							
	2	5'-7"							
W522	S. O.	70	67	STR				5'-1"	
	3	15'-9"							
W523	12	15'-9"	197	STR					
W524	2	16'-3"	34	STR					
	1	7'-11"							
W721	S. O.	70	242	STR				0'-4"	
	12	11'-10"							
W722	9	13'-10"	240	STR					
W723	9	11'-4"	209	STR					
W821	23	11'-8"	716	3	6'-9"	5'-2"			
W525	10	4'-4"	45	4	1'-6"	2'-7"	0'-6"		
CULVERT FOOTING									
F501	10	2'-10"	30	STR					
F502	10	3'-7"	37	4	0'-6"	1'-10"	1'-6"		
F701	9	20'-5"	376	STR					
HEADWALL									
H501	16	3'-9"	63	4	1'-8"	0'-8"	1'-8"		
H502	2	23'-2"	48	STR					
TOTAL			4345						

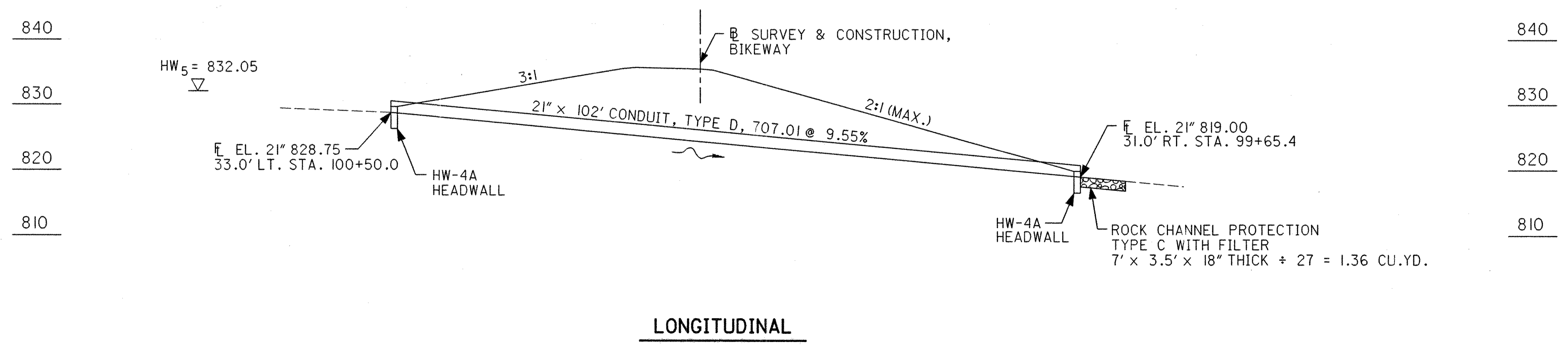
CARRIED TO SHEET 338



DRAINAGE AREA = 4.6 ACRES
Q₅ = 13 cfs V₅ = 14 fps

QUANTITIES	
603 21" CONDUIT, TYPE D, 707.01	102 LIN FT.
602 CONCRETE MASONRY	.78 CU.YD.
601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	1.4 CU. YD.

QUANTITIES CARRIED TO SHEET 345



CULVERT QUANTITIES

CALCULATED
A.L.L.
3/13/95
CHECKED
D.M.
3/16/95

MARK	STATION		SIDE	SHEET NO.	603										602	601				SPECIAL	203	
					18" CONDUIT, TYPE A, 706.02 (DLOAD = 1500) OR 707.01	18" CONDUIT, TYPE D	21" CONDUIT, TYPE D, 707.01	24" CONDUIT, TYPE D, 706.01, 706.02 OR 30" CONDUIT, TYPE D, 707.01	54" CONDUIT, TYPE A, 706.02	60" CONDUIT, TYPE A, 706.02	72" CONDUIT, TYPE A, 706.02	84" CONDUIT, TYPE A, 706.02	CONDUIT, MISC: 10' X 10' CONDUIT, TYPE A, 706.05, C-850, AS PER PLAN	14' X 10' CONDUIT, TYPE A, 706.05, AS PER PLAN	14' X 10' CONDUIT, TYPE A, 706.05, C-850, AS PER PLAN	CONCRETE MASONRY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	ROCK CHANNEL PROTECTION, TYPE C w/FILTER	RIPRAP USING 6" REINFORCED CONCRETE SLAB	MEMBRANE WATERPROOFING (SHEET TYPE 2)	EMBANKMENT
	LINE.FT.	LINE.FT.			LINE.FT.	LINE.FT.	LINE.FT.	LINE.FT.	LINE.FT.	LINE.FT.	LINE.FT.	LINE.FT.	LINE.FT.	LINE.FT.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	SO.YD.	SO.YD.	CU.YD.	
1-C	0+75		LT/RT	232,253			34							.86			1.9					
2-C	1+56.32		LT/RT	232,253						42				4.05		24.4						
3-C	31+96.58 - 32+80.58		CL	238,316								72							307	28		
4-C	34+31.79 - 35+33.79		CL	238,239,324									96						414	46		
5-C	50+31.23		RT	242,282					12					1.93		10.6						
6-C	58+50		LT/RT	243,285		60								.66								
7-C	64+67		LT/RT	244,332	102									.66		.8						
8-C	71+63		LT/RT	246,333	84									.66								
9-C	77+70		LT/RT	247,334		34								.66			1.2					
10-C	82+06.9		LT/RT	248,335							180				125		17.0	458				
11-C	99+33.92		RT	251,299					18					2.77		12.0						
12-C	100+15.51		LT/RT	251,344		102								.78		1.4						
13-C	29+70.5		RT	237,315				12						10.0	133		4.0			139		
TOTALS					186	94	102	34	12	12	18	42	180	72	96	23.03	258	47	5.3	21.0	1179	213

QUANTITIES CARRIED TO BIKEWAY SUB-SUMMARY SHEETS 351 & 352

CULVERT QUANTITIES

LIC-16-17.94

345
420

BIKEWAY EROSION PROTECTION QUANTITIES

MARK	STATION TO STATION	SIDE	670 DITCH EROSION PROTECTION SQ. YD.
1-EP	44+50 - 45+00	LT.	22
2-EP	45+00 - 50+00	LT.	222
3-EP	50+00 - 51+79	LT.	80
4-EP	58+51 - 60+00	LT.	66
5-EP	60+00 - 61+00	LT.	44
6-EP	58+51 - 60+00	RT.	66
7-EP	82+52 - 85+00	LT.	110
8-EP	85+00 - 90+00	LT.	222
9-EP	90+00 - 91+98	LT.	88
10-EP	89+50 - 90+00	RT.	22
11-EP	90+00 - 95+00	RT.	222
12-EP	97+02 - 98+00	LT.	44
TOTALS			1208

601 ROCK CHANNEL PROTECTION			
	STATION	END AREA SQ. YD.	
13-EP	2+00	109	218
	2+50	126	241
	3+00	134	252
	3+50	138	249
	4+00	131	244
	4+50	133	160
	5+00	BACK 140	
	5+00	AHEAD 140	
14-EP	5+50	152	270
	6+00	145	275
	6+50	149	272
	7+00	139	267
15-EP	7+50	85	207
	8+00	BACK 26 AHEAD 26	103
16-EP	8+50	12	35
	9+00	8	19
	9+50	39	44
SUBTOTAL IST COLUMN			70
SUBTOTAL IST COLUMN			2758
SUBTOTAL IST COLUMN			168

601 ROCK CHANNEL PROTECTION				
	STATION	END AREA SQ. YD.	TYPE A W/OUT FILTER CU. YD.	TYPE B W/OUT FILTER CU. YD.
17-EP	10+00	37.0		50
	10+50	17.5		21
	11+00	5		5
	11+50	0		
18-EP	13+00	0		6
	13+50	7		14
	14+00	8		14
	14+50	7		17
	15+00	11		19
19-EP	15+50	9		13
	16+00	5		23
	16+50	20		32
	17+00	15		15
	17+50	1		1
	18+00	0		
20-EP	19+00	0		1
	19+50	1		2
	20+00	1		1
20+50	0			
21-EP	22+50	0		1
	23+00	1		2
	23+50	1		2
	24+00	1		3
	24+50	2		3
	25+00	1		5
	25+50	4		10
22-EP	26+00	7		7
	26+50	1		2
	27+00	1		1
	27+50	0		
24-EP	95+50	8		7
	95+95.85	0		
25-EP	96+68.90	0		8
	97+00	14		6
	97+25	0		
SUBTOTAL THIS COLUMN			0	291
SUBTOTAL IST COLUMN			2758	168
TOTAL			2758	459

REMOVAL QUANTITIES

MARK	STATION (SOUTH)		SIDE	SHEET NO.	202						
	FROM	TO			CATCH BASIN REMOVED	CONCRETE SLOPE PROTECTION REMOVED	PIPE REMOVED, OVER 24"	PIPE REMOVED, 24" & UNDER	PORTIONS OF STRUCTURES REMOVED	GUARDRAIL REMOVED	
					EACH	SQ. YD.	LTN. FT.	LTN. FT.	LUMP	LIN. FT.	
1-R	3+40 - 7+60		RT.	232-233		980					
2-R	15+93.3		LT.	235				16			
3-R	33+35 - 33+60.5		LT/RT	238	1		36				
4-R	94+55 - 94+80		LT/RT	250				90			
5-R	82+06.9		LT.	248					LUMP		
6-R	0+17.5 HIGHLAND ST. CONNECTOR		LT/RT	302							12.5
TOTALS					1	980	36	106	LUMP		12.5

ITEM 601 RIPRAP USING
6" REINFORCED CONCRETE SLAB,
AS PER PLAN

23-EP AREA CALCULATED BY COMPUTER,
1469 FT² X 1.8 ÷ 9 = 294 SQ. YD.

ITEM 660 SODDING
(FROM SHEET 302)

26-EP 2' X 6' + 10' X 7.5' + 25.5' X 9' = 316.5' + 9 = 35.2 SQ. YD.

27-EP 2' X 6' + 10' X 7.5' + 18.5' X 9' = 253.5' + 9 = 28.2 SQ. YD.

TOTAL = 63.4 SQ. YD.

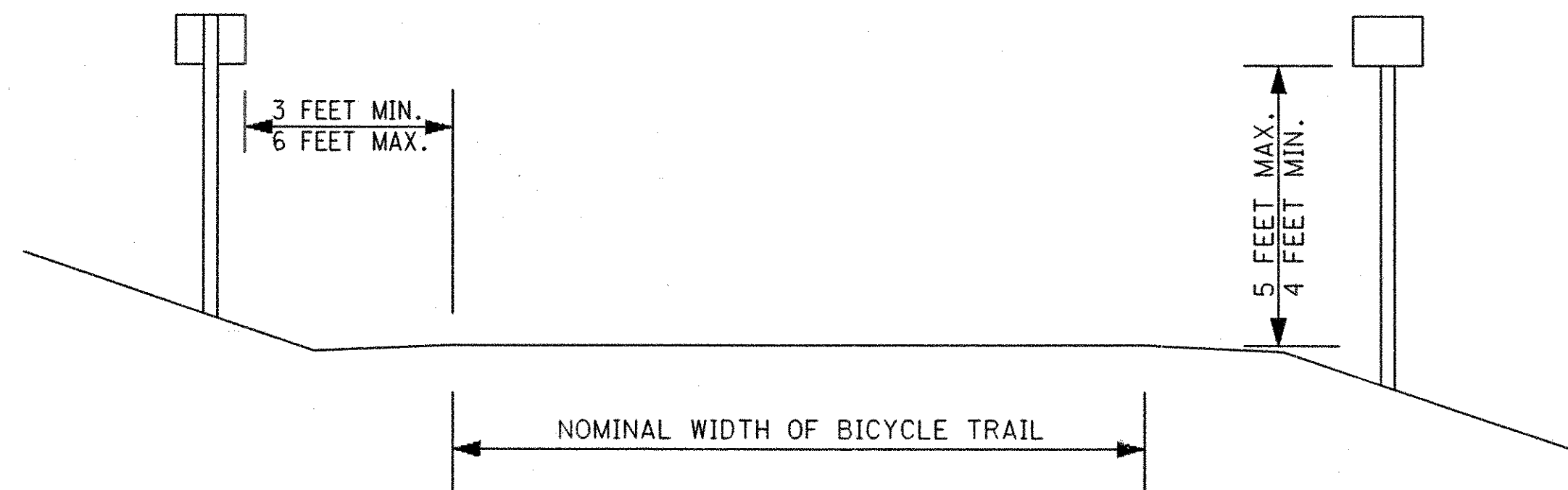
ALL TOTALS THIS SHEET CARRIED TO SUB-SUMMARY SHEETS 351 & 352

SIGNING SUB-SUMMARY

LOCATION	MARK	SIDE	STATION	SHEET NO.	SIGN REFERENCE NUMBER	SIZE	630	
							SIGN, FLAT SHEET	GROUND MOUNTED SUPPORT, NO.2 POST, AS PER PLAN
						FT. x FT.	SQ. FT.	LIN. FT.
BIKEWAY	I-S	LT	33+00	618	W-13-18	1.5' x 1.5'	2.25	9
BIKEWAY	2-S	RT	38+00	619	W-65-18	1.5' x 1.5'	2.25	9
N. CONNECTOR	3-S	LT	0+35	682	R-2-18	1.5' x 1.5' x 1.5'	3.38	9
W. CONN.	4-S	LT	0+50	688	R-2-18	1.5' x 1.5' x 1.5'	3.38	9
W. CONN.	5-S	RT	3+21.94	688	W-45-18	1.5' x 1.5'	2.25	9
21st ST.	6-S	LT	22+80	631	W-76AB-18	1.5' x 1.5'	2.25	9
21st ST.	7-S	RT	18+40	631	W-76AB-18	1.5' x 1.5'	2.25	9
E. CONN.	8-S	LT	0+85.90	691	W-45-18	1.5' x 1.5'	2.25	9
E. CONN.	9-S	RT	1+23.14	691	R-2-18	1.5' x 1.5' x 1.5'	3.38	9
W. CONN.	10-S	RT	3+86.63	688	R-1-18	1.5' x 1.5'	2.25	9
E. CONN.	11-S	LT	0+50	691	R-1-18	1.5' x 1.5'	2.25	9
HIGHLAND ST.	12-S	RT	0+83.5	680	R-2-18	1.5' x 1.5' x 1.5'	3.38	9
BIKEWAY	13A-S	RT	46+25	621	D-1-36	3' x 0.5'	1.50	10-10
BIKEWAY	13B-S	RT	46+25	621	D-1-36	3' x 1'	3.00	10-10
BIKEWAY	13C-S	RT	46+25	621	D-1-36	3' x 0.5'	1.50	10-10
BIKEWAY	14A-S	LT	46+65	621	D-1-36	3' x 0.5'	1.50	10-10
BIKEWAY	14B-S	LT	46+65	621	D-1-36	3' x 0.5'	1.50	10-10
BIKEWAY	14C-S	LT	46+65	621	D-1-36	3' x 1'	3.00	11-11
BIKEWAY	15A-S	LT	46+45	621	D-1-36	3' x 1'	3.00	11-11
BIKEWAY	15B-S	LT	46+45	621	D-1-36	3' x 0.5'	1.50	11-11
BIKEWAY	15C-S	LT	46+45	621	D-1-36	3' x 0.5'	1.50	11-11
BIKEWAY	15D-S	LT	46+45	621	D-1-36	3' x 1'	3.00	11-11
BIKEWAY	16A-S	RT	68+25	625	D-1-36	3' x 1'	3.00	12-12
BIKEWAY	16B-S	RT	68+25	625	D-1-36	3' x 1'	3.00	12-12
BIKEWAY	16C-S	RT	68+25	625	D-1-36	3' x 0.5'	1.50	12-12
BIKEWAY	16D-S	RT	68+25	625	D-1-36	3' x 0.5'	1.50	12-12
BIKEWAY	17A-S	RT	68+85	625	D-1-36	3' x 0.5'	1.50	11-11
BIKEWAY	17B-S	RT	68+25	625	D-1-36	3' x 0.5'	1.50	11-11
BIKEWAY	17C-S	RT	68+25	625	D-1-36	3' x 0.5'	1.50	11-11
BIKEWAY	17D-S	RT	68+25	625	D-1-36	3' x 1'	3.00	11-11
BIKEWAY	18A-S	LT	69+50	625	D-1-36	3' x 1'	3.00	12-12
BIKEWAY	18B-S	RT	68+25	625	D-1-36	3' x 1'	3.00	12-12
BIKEWAY	18C-S	RT	68+25	625	D-1-36	3' x 0.5'	1.50	12-12
BIKEWAY	18D-S	RT	68+25	625	D-1-36	3' x 0.5'	1.50	12-12
BIKEWAY	19-S	RT	91+50	630	D-1-36	3' x 0.5'	1.50	9-9
BIKEWAY	20-S	RT	91+75	630	D-1-36	3' x 1'	3.00	10-10
BIKEWAY	21-S	LT	93+00	630	D-1-36	3' x 1'	3.00	9
BIKEWAY	22-S	RT	97+75	631	D-1-36	3' x 0.5'	1.50	9-9
BIKEWAY	23-S	RT	98+60	631	D-1-36	3' x 1'	3.00	10-10
TOTALS							90.02	325

ITEM 630 GROUND MOUNTED SUPPORT, NO.2 POST, AS PER PLAN

GROUND MOUNTED SUPPORTS INSTALLED UNDER THIS BID ITEM SHALL BE THE SQUARE POST DESIGN IN ACCORDANCE WITH 730.016.



BICYCLE SIGN PLACEMENT ON A TRAIL

PAVEMENT MARKING SUB-SUMMARY

SHEET	MARK	STATION TO STATION	642
			CENTER LINE, TYPE 2 MILE
WESTBOUND LANES			
238-239	I-M	STA. 31+00 @ BIKEWAY TO STA. 40+00 @ BIKEWAY	.17
300	2-M	STA. 0+00 @ HIGHLAND ST. TO STA. 46+50 @ BIKEWAY	.036
312	3-M	STA. 0+10 @ NORTH CONNECTOR TO STA. 4+00 @ NORTH CONNECTOR	.074
308	4-M	STA. 92+27 @ BIKEWAY TO STA. 3+69.8 @ WEST CONNECTOR	.064
311	5-M	STA. 0+37.22 @ EAST CONNECTOR TO STA. 98+45 @ BIKEWAY	.034
SUB-TOTALS			
TOTAL			0.378

ITEM SPECIAL ROADWAY MISC: ENTRANCE POST REMOVABLE AND ITEM SPECIAL ROADWAY MISC: GUARD POST SUB-SUMMARY

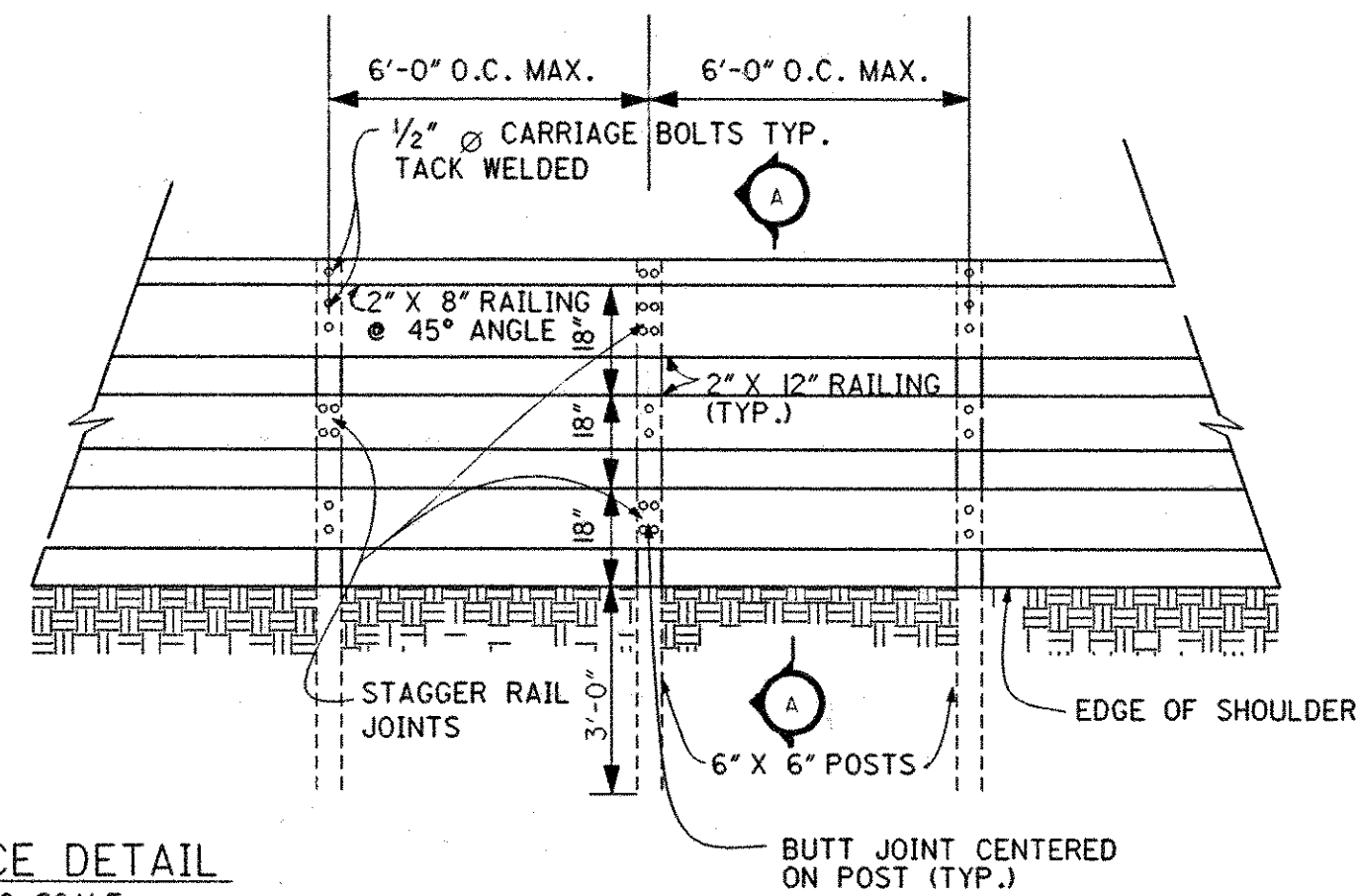
SHEET	MARK	STATION TO STATION	SPECIAL	
			ROADWAY MISC: ENTRANCE POST, REMOVABLE	ROADWAY MISC: GUARD POST
300	I-B	STA. 0+15.56 HIGHLAND ST. CONNECTOR	1	2
308	2-B	STA. 3+86.63 WEST CONNECTOR	1	2
311	3-B	STA. 0+80.90 EAST CONNECTOR	1	2
TOTAL			3	6

TREE SUB-SUMMARY

SHEET	STATION TO STATION	663							
		DECIDUOUS TREE, 2" CALIPER; SWAMP WHITE OAK	DECIDUOUS TREE, 2" CALIPER; LONDON PLANETREE	EVERGREEN TREE, 6' HEIGHT; SERBIAN SPRUCE	EVERGREEN TREE, 6' HEIGHT; SCOTCH PINE	DECIDUOUS TREE, 2" CALIPER; MACHO CORKTREE	DECIDUOUS TREE, 6' HEIGHT; SERVICEBERRY	DECIDUOUS TREE, 6' HEIGHT; RED BUD	DECIDUOUS TREE, 6' HEIGHT; TREE LILAC
242	STA. 58+50 TO STA. 60+00	6		6			10	3	
243	STA. 60+10 TO STA. 65+00	3	11	10		5	11	6	
244	STA. 65+10 TO STA. 70+00	5	2		3	5	5		
245	STA. 70+10 TO STA. 75+00	3	6	4	4	3	6		
246	STA. 75+10 TO STA. 80+00	3	3	7			5	7	6
247	STA. 80+10 TO STA. 85+00		5			4	6	5	8
248	STA. 85+10 TO STA. 90+00	3		7		2	6		4
249	STA. 90+10 TO STA. 91+50		5			3	4		
TOTAL		23	32	34	7	22	53	21	18

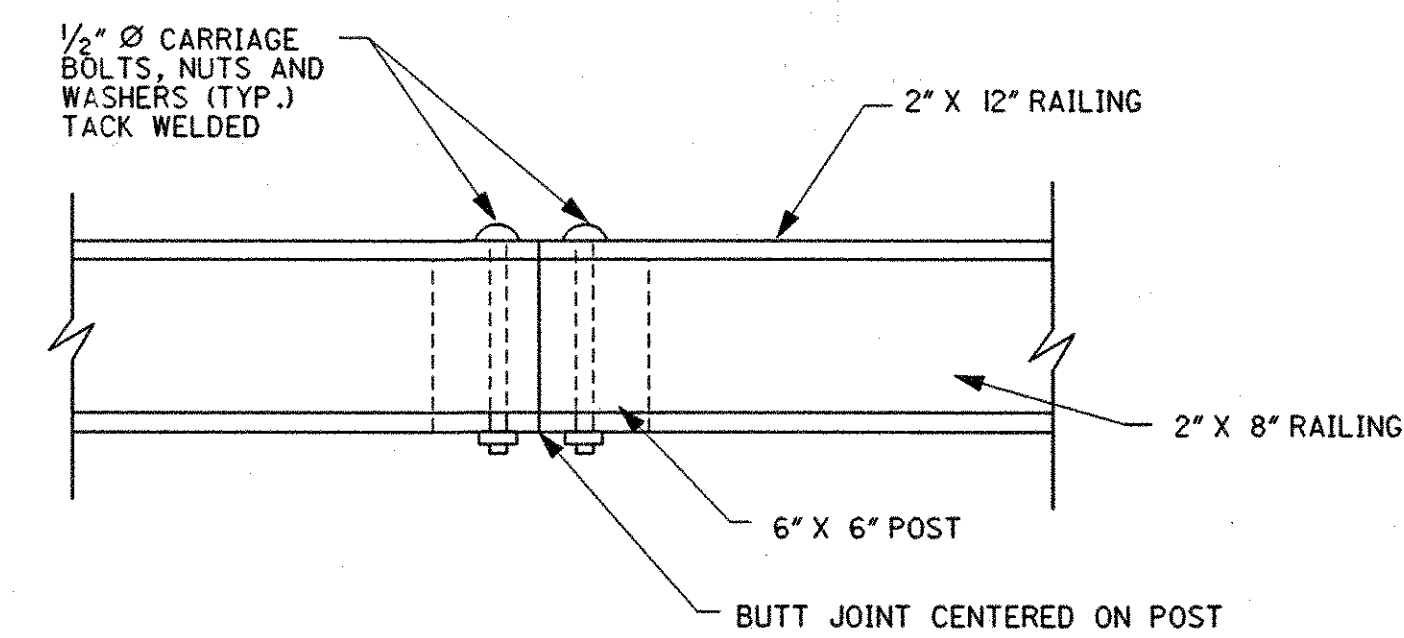
ALL TOTALS THIS SHEET CARRIED TO SUB-SUMMARY SHEETS 351 & 352

ITEM 607 FENCE, MISC: WOOD FENCE

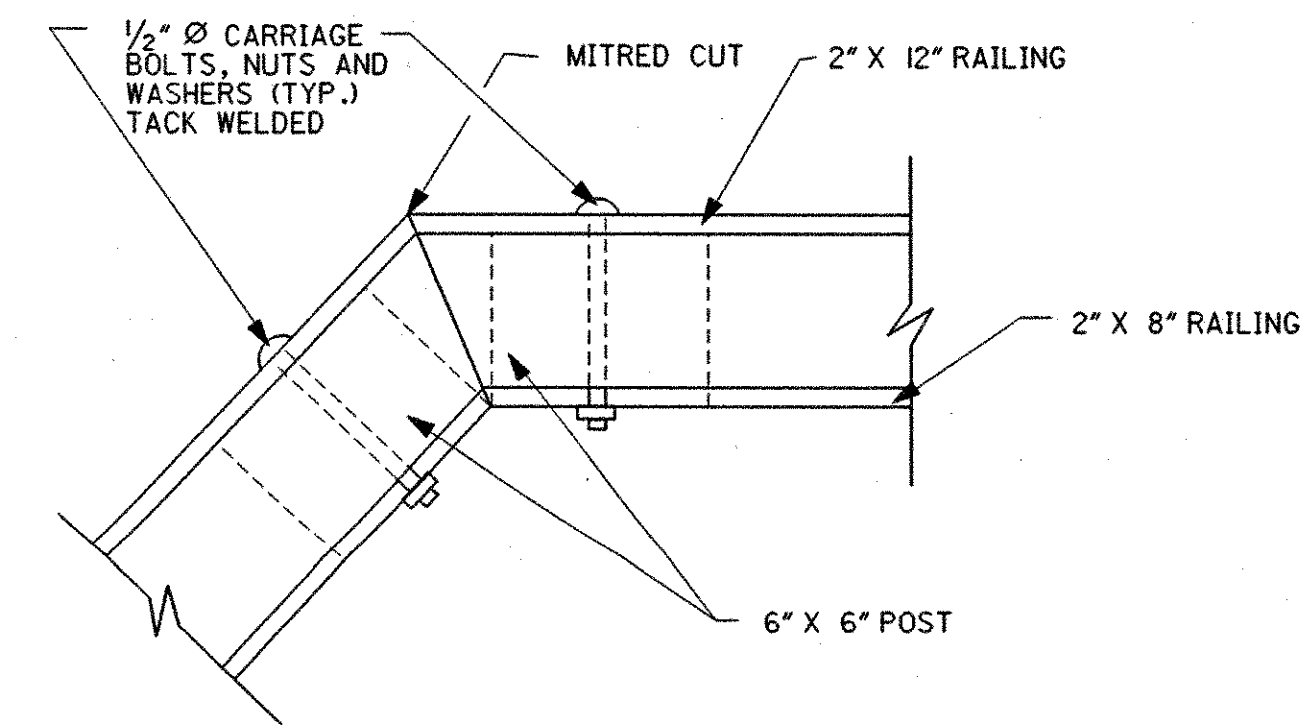


FENCE DETAIL
NOT TO SCALE

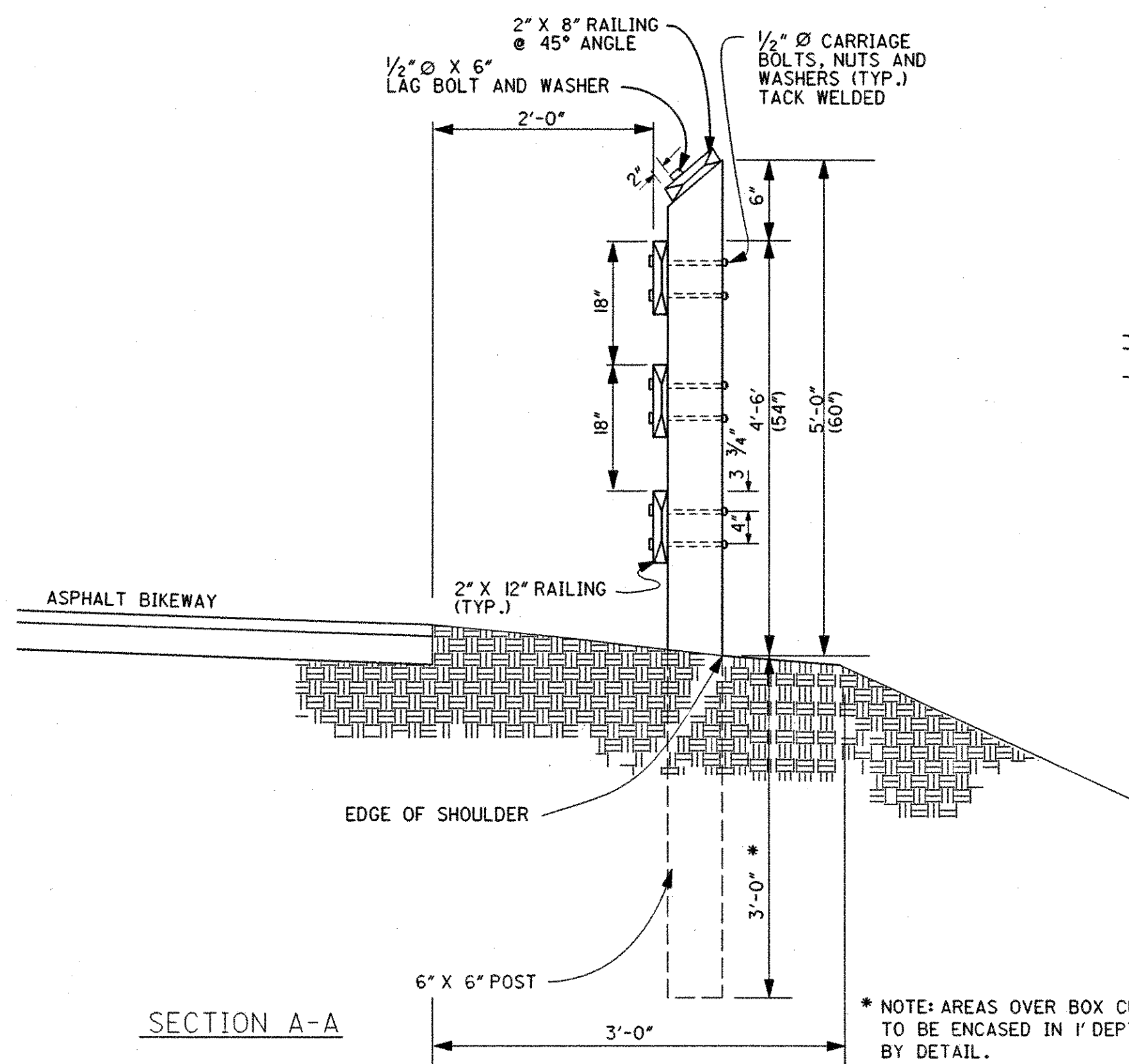
1. ALL MEMBERS CCA TREATED AS PER 712.06.
2. ALL BOLTS, WASHERS AND NUTS SHALL BE GALVANIZED AS PER 711.02.
3. THE COST OF FURNISHING AND PLACING THE CONCRETE AND ALL HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 607 FENCE, MISC: WOOD FENCE.
4. ALL DIMENSIONS FOR LUMBER SHALL BE "NOMINAL STOCK" DIMENSIONS.
5. RAILING SHALL BE OF WOOD THAT IS SMOOTH AND SPLINTER FREE.
6. FENCE INSTALLED PARALLEL TO BIKEWAY, EXCEPT AT CULVERT CROSSINGS SHALL BE 10' FROM EDGE OF BIKEWAY UNLESS OTHERWISE NOTED.



JOINT DETAIL

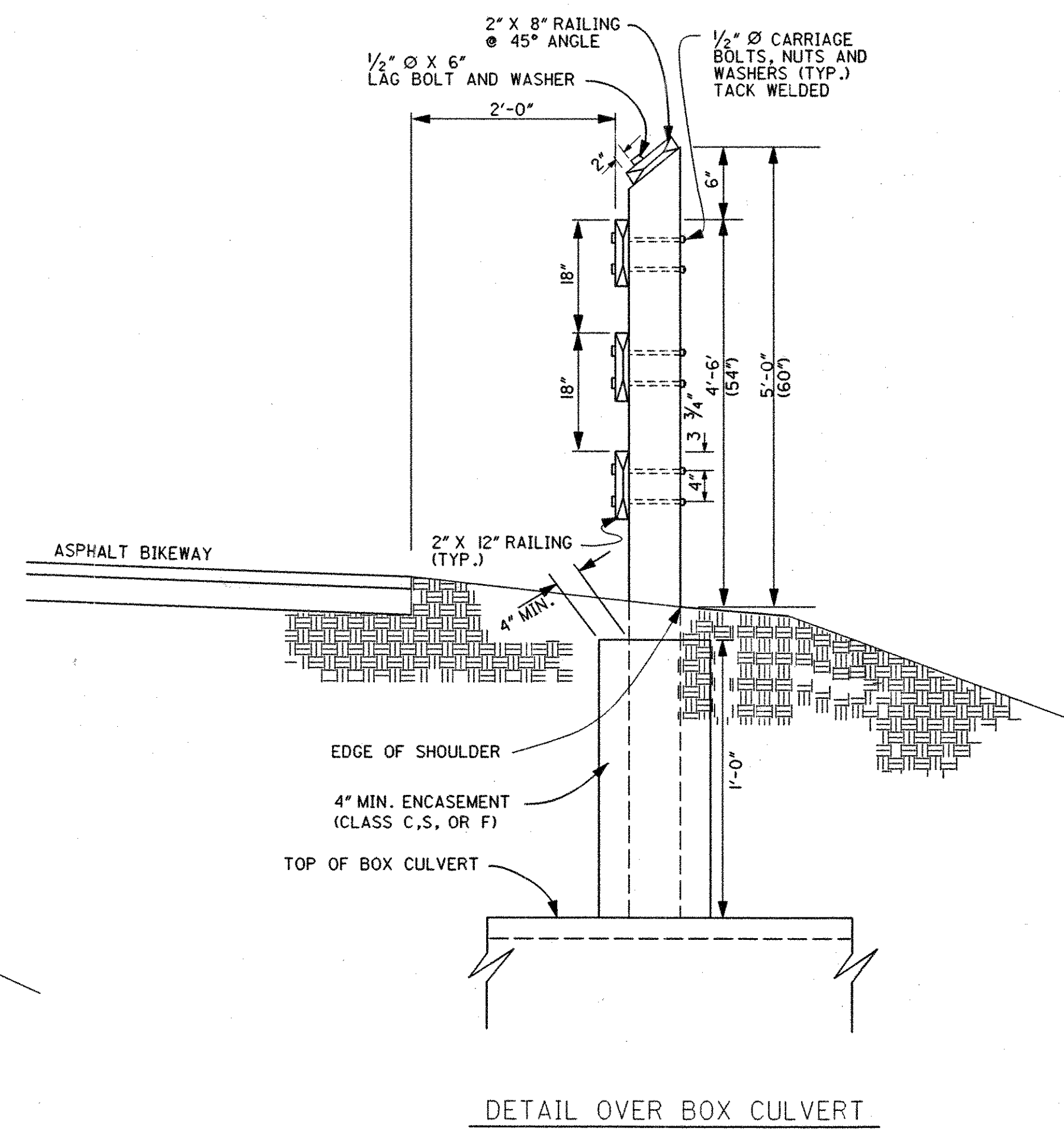


CORNER JOINT DETAIL



SECTION A-A

* NOTE: AREAS OVER BOX CULVERT (STA. 82+06.7) TO BE ENCASED IN 1' DEPTH CONCRETE AS SHOWN BY DETAIL.



DETAIL OVER BOX CULVERT

BRIDGE NOTES

REFERENCE

DETAILED DRAWINGS OF THE EXISTING STRUCTURES MAY BE INSPECTED IN THE DISTRICT 5 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, JACKSONTOWN, OHIO.

DESIGN SPECIFICATION

THESE STRUCTURE MODIFICATIONS CONFORM TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1994 AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM THE PLANS OF THE EXISTING STRUCTURES AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

REMOVED MATERIALS

ALL REMOVED MATERIALS EXCEPT AS NOTED ELSEWHERE IN THE PLANS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY HIM FROM THE JOB SITE

PLACEMENT OF CONCRETE

WINGWALL CONCRETE ABOVE THE BRIDGE SEAT LEVEL SHALL NOT BE POURED UNTIL THE SUPERSTRUCTURE IS IN PLACE.

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

CONCRETE DECK HAUNCH WIDTH

A HAUNCH WIDTH OF 9 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6 AND 12 INCHES.

DOWEL HOLES

AT NO ADDITIONAL COST TO THE STATE AND AS AN OPTION TO THE CONTRACTOR THE USE OF EPOXY OR VINYLESTER RESIN MAY BE USED, IN WHICH THE DOWEL HOLES SHALL BE $\frac{1}{8}$ " LARGER THAN THE DESIGNATED BAR SIZE FOR THE DOWEL HOLE OR THE DOWEL HOLE DIAMETERS SHALL BE AS SPECIFIED IN 510.02. SEE DETAILS ON SHEET .

FORMING AT SKEWED CONSTRUCTION JOINTS

THE CONTRACTOR SHALL BE AWARE THAT ADDITIONAL FORMING MAY BE NEEDED AT SKEWED CONSTRUCTION JOINTS DUE TO MECHANICAL SPLICE CONNECTORS OR PHASE CONSTRUCTION. ADDITIONAL FORMING SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR THE ITEM FOR WHICH THEY ARE USED.

ITEM SPECIAL MECHANICAL SPLICE CONNECTORS

ALL MECHANICAL SPLICE CONNECTORS USED ON THE BRIDGES AND APPROACH SLABS SHALL BE EPOXY COATED.

SEALING WITH HMWM RESIN

ALL LONGITUDINAL JOINTS IN BRIDGE DECKS AND APPROACH SLABS SHALL BE SEALED 2'-0" IN WIDTH WITH HMWM RESIN. SEE PROPOSAL NOTE .

CONCRETE PARAPETS

WITHIN 48 HOURS AFTER PLACEMENT OF PARPET CONCRETE SAWCUT 1 INCH DEEP JOINT INTO THE CONCRETE PARAPET AT LOCATIONS AS DETAILED IN THE PLANS. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK, AND THE COMPLETE SAWCUT SHALL BE FILLED WITH A CAULKING MATERIAL CONFORMING TO THE FEDERAL SPECIFICATIONS TT-S-00227E. THE BOTTOM HALF INCH OF THE ONE INCH DEEP SAWED JOINT IN BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET SHOULD BE LEFT UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT ESCAPE.

REPLACEMENT OF EXISTING REINFORCING STEEL

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THEIR COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 500 POUNDS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE LISTED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE.

CUT LINE CONSTRUCTION JOINT PREPARATION

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, THE EXISTING REINFORCING STEEL WHERE REQUIRED IN THE PLANS SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

SUBSTRUCTURE CONCRETE REMOVAL

SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18-INCHES OF PORTION TO BE PRESERVED. OUTSIDE THE 18-INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

ITEM 518, 6" PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN

CORRUGATED PIPE USED IN THE ABUTMENT DRAINAGE SHALL BE 6 INCH DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE SP. THIS ITEM SHALL ALSO INCLUDE ALL ELBOWS, TEES AND END CAPS REQUIRED TO COMPLETE THE ABUTMENT DRAINAGE SYSTEM.

ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, (SS944)

CORRUGATED PIPE USED IN THE ABUTMENT DRAINAGE SHALL BE 6 INCH DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE S, UNLESS OTHERWISE SPECIFIED IN THE PLANS.

PILE DESIGN LOADS (SAFE BEARING CAPACITY) LIC-16-1859PB

THE DESIGN LOAD FOR THE ABUTMENT PILES IS 33 TONS PER PILE AND THE DESIGN LOAD FOR THE PIER PILES IS 60 TONS PER PILE.

ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=12" & 15"), AS PER PLAN

THE REINFORCING STEEL FOR THE APPROACH SLABS FOR THE STRUCTURES SHALL BE EPOXY COATED IN CONFORMANCE WITH 509.

SAWCUTTING PARAPET JOINTS

THE PARAPETS AND CURBS ON THE FOLLOWING BRIDGES MAY BE SLIPPED FORMED AND THE NECESSARY DEFLECTION JOINTS CUT INTO THE PARAPETS AND CURBS. THE SAWCUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE DEPTH OF THE SAWCUT SHALL BE 1 INCH. THE SAWING SHALL BE DONE NO MORE THAN 48 HOURS AFTER THE CONCRETE PLACEMENT. THE USE OF AN EDGE GUIDE, FENCE OR JIG IS REQUIRED TO ENSURE THAT THE CUT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, NOT TO EXCEED ONE-QUARTER OF AN INCH. THE SAWCUT SHALL BE AIR BLASTED CLEAN AND FILLED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT-S-00227E PRIOR TO SEALINGS OF CONCRETE SURFACES WITH EPOXY. THE BOTTOM ONE-HALF INCH OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET SHOULD BE LEFT UNCAULKED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE. THE ABOVE WORK INCLUDING ALL LABOR EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 511 CLASS S CONCRETE, SUPERSTRUCTURE, MISC., NEW CONSTRUCTION .

ITEM 513 STRUCTURAL STEEL, MISC.; MAGNETIC PARTIAL INSPECTION LIC-16-1859

THIS ITEM SHALL CONSIST OF CLEANING THE BEAM AT THE DAMAGED AREA, MAGNETIC PARTIAL INSPECTION, ADDITIONAL TRAFFIC CONTROL, LABOR TOOLS, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE INSPECTION OF THE BEAM AS DIRECTED BY THE ENGINEER. FOR BEAM LOCATION, SEE SHEET 368.

ITEM 513 STRUCTURAL STEEL, MISC.: BEAM REPAIR, LIC-16-1859

IF BEAM IS FOUND TO BE CRACKED AS A RESULT OF THE MAGNETIC PARTICLE INSPECTION, THE FOLLOWING SHALL APPLY AS DIRECTED BY THE ENGINEER. THE CRACKED PORTION OF THE BEAM SHALL BE REMOVED BY MECHANIZED FLAME CUTTING WITH THE CUTTING TORCH BEING MOUNTED ON A TRAVELING CARRIAGE. THE TRAVELING CARRIAGE SHALL RIDE ON A TRACK THAT IS ATTACHED MAGNETICALLY TO THE MEMBER UNLESS A SUITABLE ALTERNATIVE IS APPROVED BY THE ENGINEER. CUTTING SHALL BE DONE ALONG A PREVIOUSLY MARKED CUTTING LINE (SEE DETAIL ON SHEET 12 OF 17). THE BEAM SHALL BE PREPARED AS DESCRIBED ON SHEET 12 OF 17, SECTION A-A AND DETAIL B. THE VERTICAL FLAME CUTS SHALL BE ANGLED AT 10° FROM VERTICAL SO AS TO PRODUCE A SOUND WELD DEPOSIT WHEN THE REPLACEMENT SECTION IS WELDED INTO PLACE. THE REPLACEMENT SECTION SHALL BE A WT18x75 OR CUT FROM A W36x150 AND MUST MATCH THE CUTOUT PORTION OF THE BRIDGE MEMBER AS CLOSELY AS POSSIBLE. THIS REPLACEMENT SECTION MUST BE INSPECTED AND APPROVED BY THE ENGINEER. CAREFUL CONSIDERATION MUST BE GIVEN IN MARKING THE FLANGE AND WEB WELDS. A COPE HOLE IS NEEDED IN THE WEB TO OBTAIN A SATISFACTORY FLANGE BUTT WELD (SEE DETAIL B). IF POSSIBLE, THE BUTT WELDS SHALL BE WELDED FROM BOTH SIDES. THE CONTRACTOR IS REFERRED TO SECTION 513.21 OF THE CMS FOR NONDESTRUCTIVE TESTING OF THE WELDS AND BEAMS IF REPLACEMENT IS REQUIRED. ALL EQUIPMENT, MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE PROJECT SHALL BE INCLUDED FOR PAYMENT WITH ITEM 513- STRUCTURAL STEEL, MISC.: BEAM REPAIR, LUMP SUM.

PILE DRIVING CONSTRAINTS (LIC-16-1859PB)

PRIOR TO DRIVING PILES AT THE ABUTMENT, THE APPROACH EMBANKMENT BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP AT A MINIMUM 1:1 SLOPE FROM THE TOP OF THE HEEL OF THE FOOTING TO THE SUBGRADE ELEVATION AND FOR A MINIMUM DISTANCE OF 250 FEET BEHIND THE ABUTMENT. THE INSTALLATION OF THE ABUTMENT PILES SHALL NOT BEGIN UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED. AFTER THE FOOTING HAS BEEN CONSTRUCTED, THE EMBANKMENT IMMEDIATELY BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP TO THE BEAM SEAT ELEVATION AND ON A MINIMUM 1:1 SLOPE UP TO THE SUBGRADE ELEVATION PRIOR TO SETTING THE BEAMS ON THE ABUTMENTS.

ITEM 516 RESET BEARINGS, AS PER PLAN

THIS ITEM SHALL INCLUDE JACKING THE BEARINGS, RE-ALIGNMENT OF THE BEARINGS, INSTALLING NEW $\frac{1}{8}$ INCH THICK PREFORMED BEARING PAD SHIMS AS DIRECTED BY THE ENGINEER. SHIMS AT THE ABUTMENTS SHALL BE 8"x18" AND 14"x23" AT THE PIERS. THE ABOVE WORK INCLUDING LABOR, TOOLS, INCIDENTALS INCLUDING THE $\frac{1}{8}$ INCH PREFORMED BEARING PADS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516-RESET BEARINGS, AS PER PLAN.

DESIGN AGENCY
DISTRICT 5-BRIDGE DEPT.
OHIO DEPT. OF TRANSPORTATION

DATE
5-2-95
STRUCTURE FILE NUMBER

DESIGNED
BY
DRANK
REVISED

CHECKED
BY

BRIDGE NOTES

LIC-16-17-94

1/2

353
420

CLEANING OF EXPOSED REINFORCING STEEL

ALL EXPOSED REINFORCING STEEL BEING PRESERVED IN PLACE (ABUTMENTS AND PIERS) SHALL BE CLEANED BY SANDBLASTING OR AN ALTERNATIVE METHOD APPROVED BY THE DISTRICT CONSTRUCTION ENGINEER TO REMOVE LOOSE RUST AND SURFACE CORROSION. PRIOR TO PLACEMENT OF THE CONCRETE, THE ENGINEER SHALL INSPECT AND APPROVE THE CONDITION OF THE RE-STEEL. THE ABOVE WORK INCLUDING LABOR, MATERIALS, TOOLS, AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE FOLLOWING ITEM:

- ITEM 511 - CLASS C CONCRETE, ABUTMENT
- ITEM 511 - CLASS C CONCRETE, PIER

ITEM 513 STRUCTURAL STEEL, MISC.: GALVANIZED, AS PER PLAN (BR. NO'S LIC-16-1859/1968)

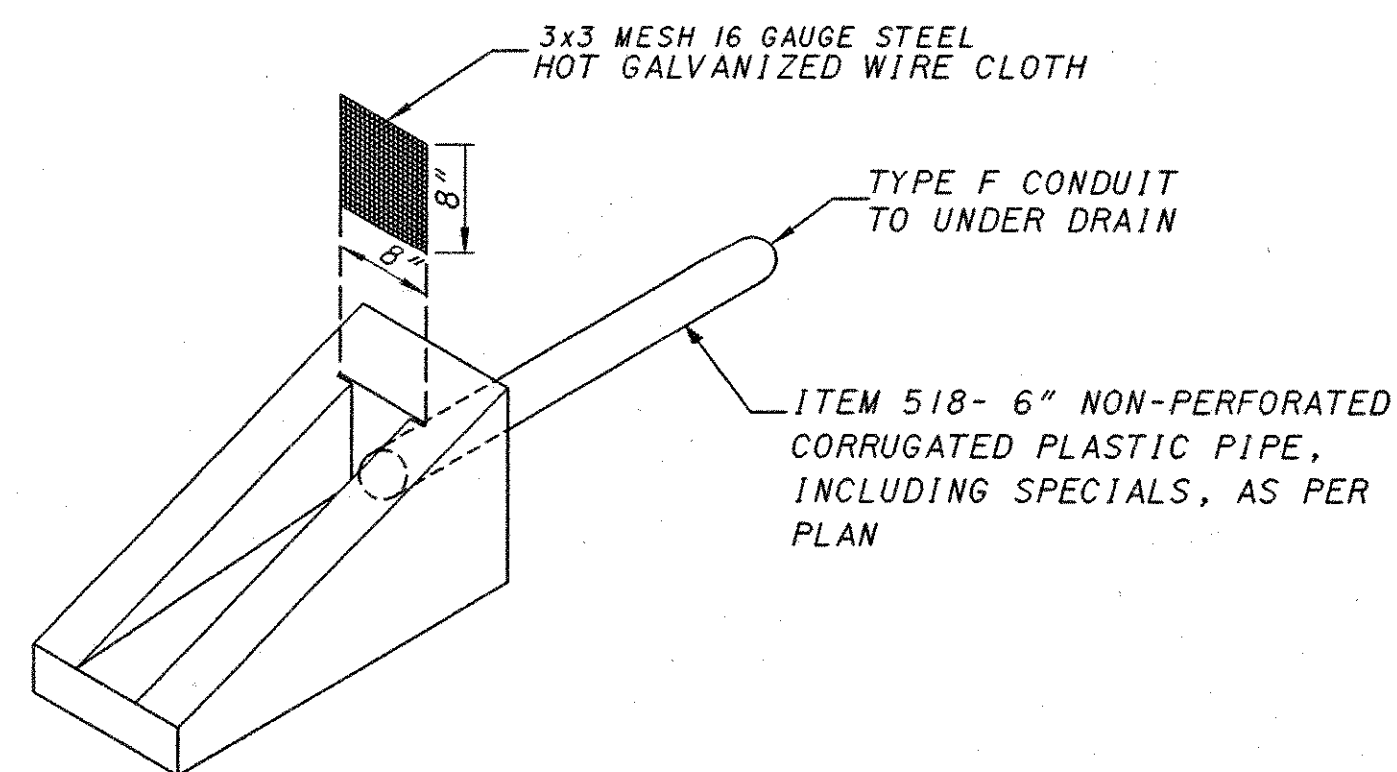
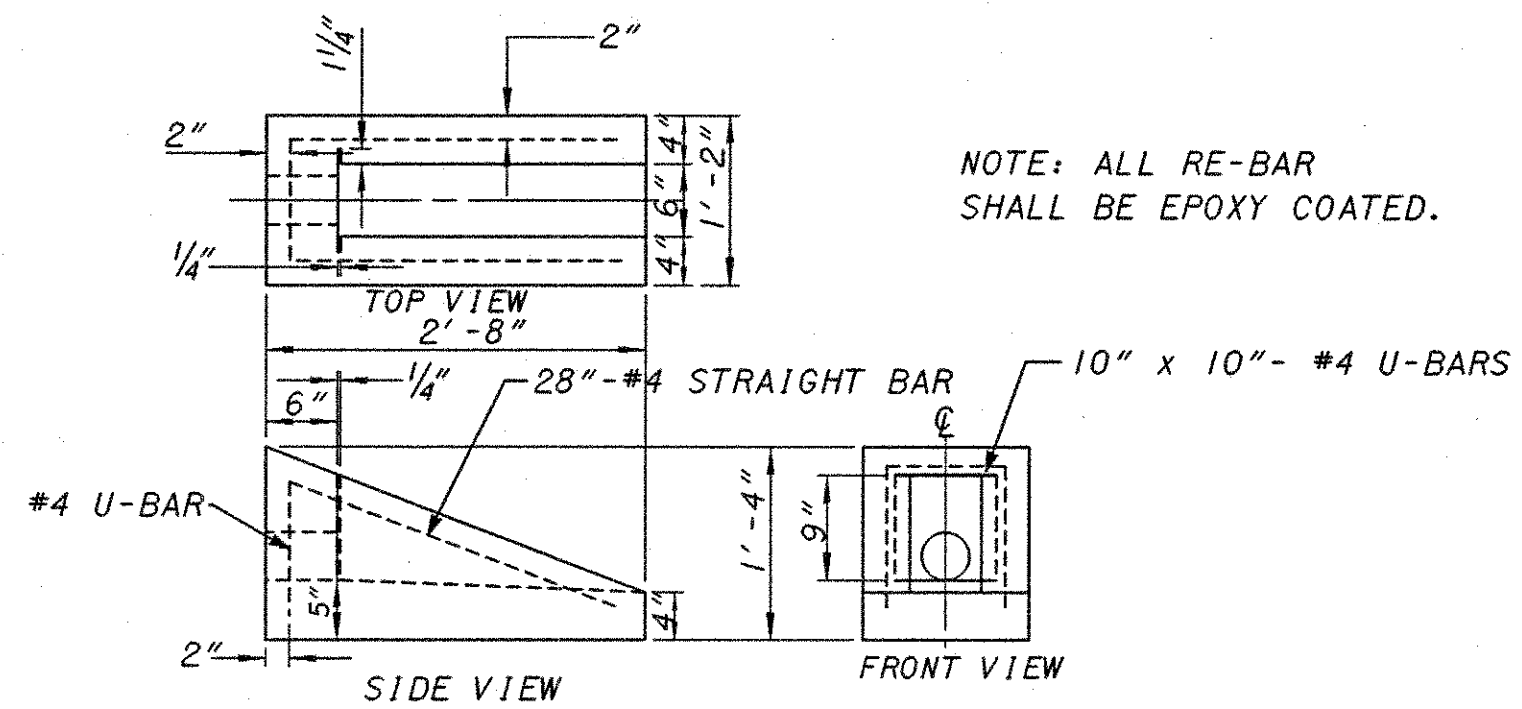
THIS ITEM SHALL CONSIST OF THE CURB PLATES, BRACING PLATES, ANCHOR BOLTS, WASHERS, NUTS AND INCIDENTALS NECESSARY TO ERECT THE CURB INTO THE NEW DECK AS DETAILED ON SHEETS 365 AND 412. THE PLATES SHALL BE A MINIMUM OF 18'-0" IN LENGTH TO PROVIDE ADEQUATE ANCHORING. THE PLATES MAY BE LENGTHENED IN 6'-0" INCREMENTS.

ITEM 507 14" REINFORCED C.I.P. PILES, AS PER PLAN

PILE WALL THICKNESS: THE RESPONSIBILITY OF CHOOSING AND PROVIDING A SATISFACTORY PILE WALL THICKNESS FOR THIS PROJECT SHALL BE BORNE BY THE CONTRACTOR EXCEPT THAT THE PILE WALL THICKNESS SHALL NOT BE LESS THAN 0.22 INCHES. IF A PILE WALL THICKNESS GREATER THAN 0.22 INCHES IS NECESSARY TO RESIST THE PILE INSTALLATION DRIVING STRESS, THE CONTRACTOR SHALL MAKE THIS DETERMINATION AND SHALL FURNISH A PILE WITH AN ACCEPTABLE WALL THICKNESS.

ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLETS

PRECAST REINFORCED CONCRETE OUTLETS SHALL BE PLACED AT THE ENDS OF ITEM 518 6" NON-PERFORATED CORRUGATED PLASTIC PIPE AS DIRECTED BY THE ENGINEER. THE CONCRETE OUTLET SHALL MEET THE REQUIREMENTS OF ITEM 604 IN THE CONSTRUCTION & MATERIALS SPECIFICATIONS. PAYMENT SHALL BE MADE ON AN EACH BASIS.



BR. NOTE2

DESIGN AGENCY
DISTRICT 5 BRIDGE DEPT.
OHIO DEPT. OF TRANSPORTATION

DATE
5-2-15
STRUCTURE FILE NUMBER

REVIEWED
DRAWN
DESIGNED
CHECKED

BRIDGE NOTES

LIC-16-17.94

2 / 2

354
420

SHEET NUMBER								ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
LIC 16-1859	LIC-16 1859PB	LIC-16 1917	LIC 16-1968									
	415	--	--		428		202	11300	843	CU YD	PORTIONS OF STRUCTURE REMOVED, SUPERSTRUCTURE	
	1	--	--		68		202	11300	69	CU YD	PORTIONS OF STRUCTURE REMOVED, ABUTMENTS	
	--	--	--		4		202	11300	4	CU YD	PORTIONS OF STRUCTURE REMOVED, PIERS	
	386	--	--		267		202	22900	653	SQ YD	APPROACH SLAB REMOVED	** CARRIED TO SHEET 58
	--	--	--		161		202	23000	161	SQ YD	PAVEMENT REMOVED	** CARRIED TO SHEET 58
	2058	--	--		1082		202	23500	3140	SQ YD	WEARING COURSE REMOVED	** CARRIED TO SHEET 58
	50	--	--		50		202	30700	100	LIN FT	CONCRETE BARRIER REMOVED	** CARRIED TO SHEET 58
	9	--	--		14		202	98100	23	EACH	REMOVAL MISC.: SCUPPERS INCLUDING DOWNSPOUTS	
	--	--	--		168		202	98200	168	LIN FT	REMOVAL MISC.: EXPANSION JOINTS	
	262	--	--		247		203	12000	509	CU YD	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	** CARRIED TO SHEET 58
	175	--	--		134		203	20000	309	CU YD	EMBANKMENT	** CARRIED TO SHEET 58
	524	49	--		403		203	50000	976	SQ YD	SUBGRADE COMPACTION	** CARRIED TO SHEET 58
	87	8	--		67		304	20000	162	CU YD	AGGREGATE BASE	** CARRIED TO SHEET 61
	--	--	820		--		503	21100	820	CU YD	UNCLASSIFIED EXCAVATION	
	LUMP	LUMP			LUMP		503	21300	LUMP	LUMP	UNCLASSIFIED EXCAVATION	
	--	LUMP	LUMP		--		505	11100	LUMP	LUMP	PILE DRIVING EQUIPMENT MOBILIZATION	
	--	240		3620	--		507	21100	3860	LIN FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES	
	--	480		--	--		507	41101	480	LIN FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, AS PER PLAN	
	113,634	23,836		86,492	132,292		509	15400	356,254	POUND	REINFORCING STEEL, GRADE 60	
	228	--	--		--		509	16000	228	EACH	REINFORCING STEEL, MISC.: MECHANICAL SPLICE CONNECTORS	
	--	--	20		--		509	16000	20	EACH	REINFORCING STEEL, MISC.: 1" DIA. 150KSI THREAD BAR X 10'-0" (WITH ANCHORAGE HARDWARE)	
	176	--	--		374		510	11100	550	EACH	DOWEL HOLE	
	--	--	143		--		511	31601	143	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN	
	449	65	--		497		511	34000	1011	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE MISC. NEW CONSTRUCTION	
	--	--	--		17		511	34440	17	SQ YD	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS	
	--	--	61		--		511	40501	61	CU YD	CLASS C CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN	
	--	35	--		--		511	42000	35	CU YD	CLASS C CONCRETE, PIER ABOVE FOOTINGS T TYPE	
	--	--	--		4		511	43200	4	CU YD	CLASS C CONCRETE, PIER REPAIR OR RECONSTRUCTION	
	--	--	522		--		511	43501	522	CU YD	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	
	--	39	--		--		511	44100	39	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	
	11	--	--		63		511	45700	74	CU YD	CLASS C CONCRETE, ABUTMENT REPAIR OR RECONSTRUCTION	
	--	24	25		--		511	46500	49	CU YD	CLASS C CONCRETE, FOOTING	
	--	--	20		--		512	44400	20	SQ YD	TYPE B WATERPROOFING	
	35	--	19		3		SPECIAL	51267020	57	SQ YD	MEMBRANE WATERPROOFING (SHEET TYPE 2) *	
	647	268	--		807		SPECIAL	51267502	1722	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY) *	
	--	--	1093		--		SPECIAL	51267504	1093	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY) *	
	62	--	--		80		SPECIAL	51273000	142	SQ YD	TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN *	
	--	--	--		3967		513	15900	3967	POUND	STRUCTURAL STEEL, REPLACEMENT OF DETERIORATED END CROSS FRAMES	
	LUMP	--	--		--		513	16600	LUMP	LUMP	STRUCTURAL STEEL, MISC.: MAGNETIC PARTIAL INSPECTION	
	LUMP	--	--		--		513	16600	LUMP	LUMP	STRUCTURAL STEEL, MISC.: BEAM REPAIR	
	138	--	--		184		513	16700	322	LIN FT	STRUCTURAL STEEL, MISC.: GALVANIZED, AS PER PLAN	
	4725	--	--		4680		513	20000	9405	EACH	WELDED STUD SHEAR CONNECTOR	
	20,917	--	--		23,033		SPECIAL	51400050	43,950	SQ FT	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU *	
	20,917	--	--		23,033		SPECIAL	51400056	43,950	SQ FT	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU *	
	20,917	--	--		23,033		SPECIAL	51400060	43,950	SQ FT	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU *	
	20,917	--	--		23,033		SPECIAL	51400066	43,950	SQ FT	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU *	
	--	--	10		--		515	51651	10	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM (76-88' LENGTH), AS PER PLAN, CB33-36 *	
	--	8	--		--		515	54821	8	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM (30-40' LENGTH), AS PER PLAN, CB33-48 *	
	--	4	--		--		515	54850	4	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM (62-78' LENGTH) CB33-48 *	

OHIO DEPARTMENT OF TRANSPORTATION DIST. 5 BRIDGE DEPT.

CALCULATED BY: [Signature] CHECKED BY: DTF

BRIDGE SUMMARY

LIC-16-17.94

355
420

* SEE PROPOSAL NOTE

BRIDGE NUMBER										ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
LIC 16-1859	LIC-16 1859PB	LIC 16-1917	LIC 16-1968											
--	--	32	--							516	10500	32	LIN FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL
--	--	--	178							516	11210	178	LIN FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL
--	11	10	--							516	20000	21	SQ FT	3/4" ELASTOMERIC ERECTION STRIP
20	--	98	15							516	13600	133	SQ FT	1" PREFORMED EXPANSION JOINT FILLER *
11	--	--	--							516	13900	11	SQ FT	2" PREFORMED EXPANSION JOINT FILLER
12	--	--	56							516	31000	68	LIN FT	JOINT SEALER, 705.04
--	--	--	36							516	46700	36	EACH	RESET BEARING
--	--	20	--							516	43100	20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) 6"x12"x1.55" *
--	16	--	--							516	43100	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) 4"x8"x1.5" *
--	16	--	--							516	43100	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) 5"x10"x1.5" *
9	--		14							518	12200	23	EACH	SCUPPER, INCLUDING SUPPORTS
101	25	157	125							518	21200	408	CU YD	POROUS BACKFILL WITH FILTER FABRIC
260	57	--	170							518	40001	487	LIN FT	6" PERFORATED CORRUGATED PLASTIC PIPE, [REDACTED] AS PER PLAN (SS944) INCLUDING SPECIALS
26	32	--	--							518	40012	58	LIN FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE (SS944)
--	--	136	--							518	40001	136	LIN FT	6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN
--	--	139	--							518	40011	139	LIN FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN
--	--	--	144							603	00406	144	LIN FT	4" CONDUIT, TYPE F 707.17, NON-PERFORATED, ASTM 3034, SDR35**CARRIED TO SHEET 59
2	2	--	--							SPECIAL	60436600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET **CARRIED TO SHEET 60
--	312	--	--							SPECIAL	60739930	312	LIN FT	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC
--	--	LUMP	--							607	98200	LUMP		FENCE, MISC.: DECORATIVE FENCE AND HANDRAIL
--	49	--	--							611	10001	49	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=12"), AS PER PLAN **CARRIED TO SHEET 61
567	--	--	447							611	25001	1014	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN ** SHEET 61
--	--	2	--							625	01500	2	EACH	CABLE SPLICING KIT ** CARRIED TO SHEET 62
8	--	--	--							625	10600	8	EACH	LIGHT POLE ANCHOR L-BOLTS ** CARRIED TO SHEET 62
--	--	1	--							625	20000	1	EACH	PORTABLE POWER UNIT ** CARRIED TO SHEET 62
--	--	180	--							625	23200	180	LIN FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE ** CARRIED TO SHEET 62
--	--	90	--							625	22990	90	LIN FT	NO. 6 AWG 600 VOLT DISTRIBUTION CABLE ** CARRIED TO SHEET 62
--	--	2130	--							625	23304	2130	LIN FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE ** CARRIED TO SHEET 62
--	--	560	--							625	25000	560	LIN FT	CONDUIT, 3/4", 713.04 ** CARRIED TO SHEET 62
--	--	130	--							625	25200	130	LIN FT	CONDUIT, 1-1/4", 713.04 ** CARRIED TO SHEET 62
318	--	--	423							625	25402	741	LIN FT	CONDUIT, 2", 713.07 ** CARRIED TO SHEET 62
188	--	--	234							625	25602	422	LIN FT	CONDUIT, 4", 713.07 ** CARRIED TO SHEET 62
42	--	--	--							625	29002	42	LIN FT	TRENCH, 24" DEEP ** CARRIED TO SHEET 62
--	--	140	--							625	29100	140	LIN FT	TRENCH, 36" DEEP ** CARRIED TO SHEET 62
--	--	4	--							625	29911	4	EACH	TRANSITION JUNCTION BOX, AS PER PLAN (SEE SHEET 399)** CARRIED TO SHEET 62
5	--	--	4							625	29920	9	EACH	STRUCTURE JUNCTION BOX, TYPE II WITH COVER PLATE ** CARRIED TO SHEET 62
2	--	--	2							625	29920	4	EACH	STRUCTURE JUNCTION BOX, TYPE III WITH COVER PLATE ** CARRIED TO SHEET 62
--	--	4	--							625	30700	4	EACH	PULL BOX, 713.08, 18" ** CARRIED TO SHEET 62
--	--	1	--							625	32000	1	EACH	GROUND ROD ** CARRIED TO SHEET 62
1	--	1	1							625	33000	3	EACH	STRUCTURE GROUNDING SYSTEM ** CARRIED TO SHEET 62
--	--	LUMP	--							625	38000	LUMP		HIGH VOLTAGE TEST ** CARRIED TO SHEET 62
--	--	12	--							625	98000	12	EACH	LIGHTING, MISC.: BIKE PATH LUMINAIRE WITH LAMP & RECESSED CONNECTION BOX, AS PER PLAN (SEE SHEET 399) ** CARRIED TO SHEET 62
--	--	12	--							625	98000	12	EACH	LIGHTING, MISC.: ARCHITECTURAL (DECORATIVE) LUMINAIRE WITH LAMP, AS PER PLAN (SEE SHEET 399) ** CARRIED TO SHEET 62
--	--	1	--							625	98000	1	EACH	LIGHTING, MISC.: CONTROL CENTER, AS PER PLAN (SEE SHEET 399) ** CARRIED TO SHEET 62

OHIO DEPARTMENT OF TRANSPORTATION
DIST. 5 BRIDGE DEPT.

CALCULATED
BY
DTF

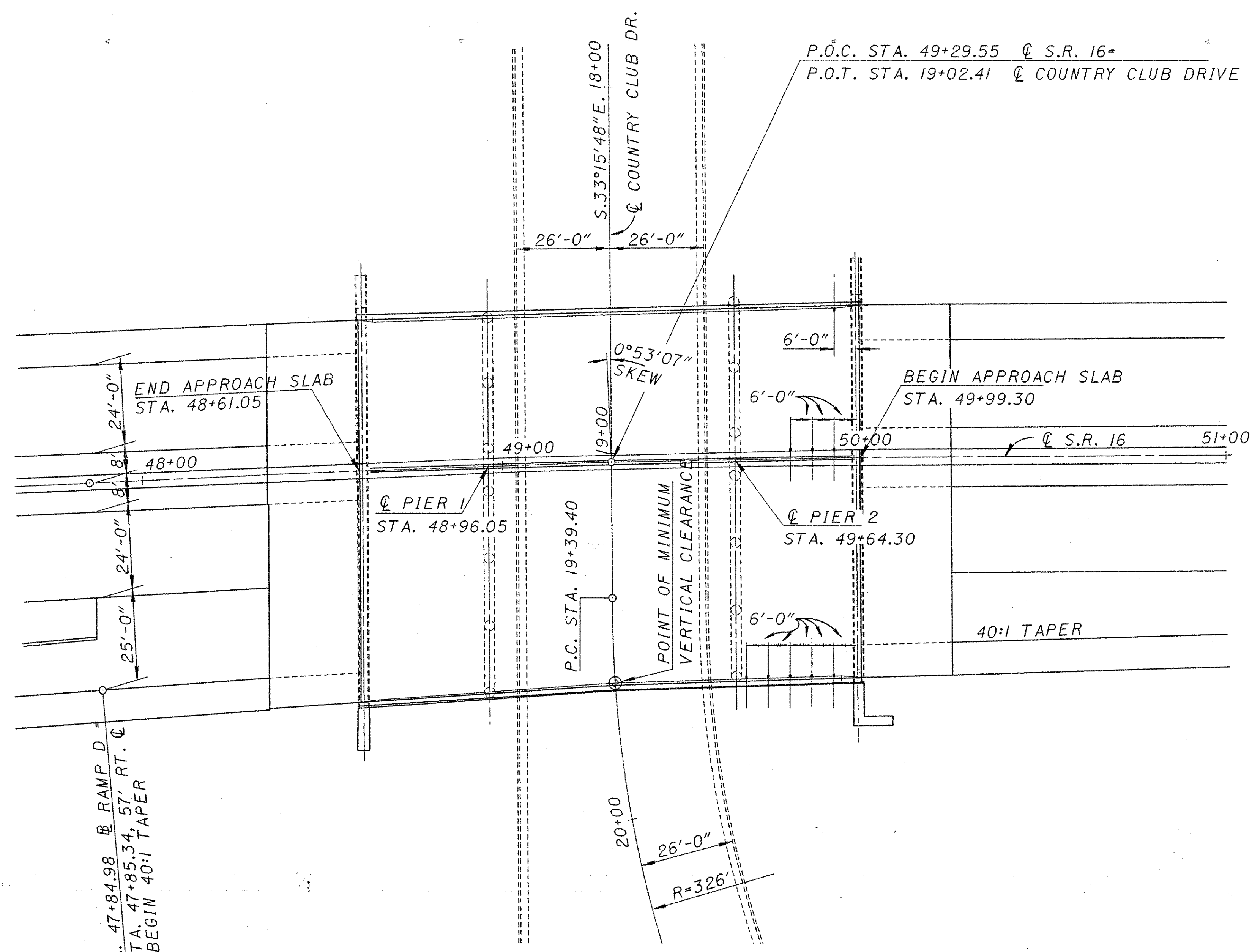
BRIDGE SUMMARY

LIC-16-17.94

356
420

* SEE PROPOSAL NOTE

L01617A6



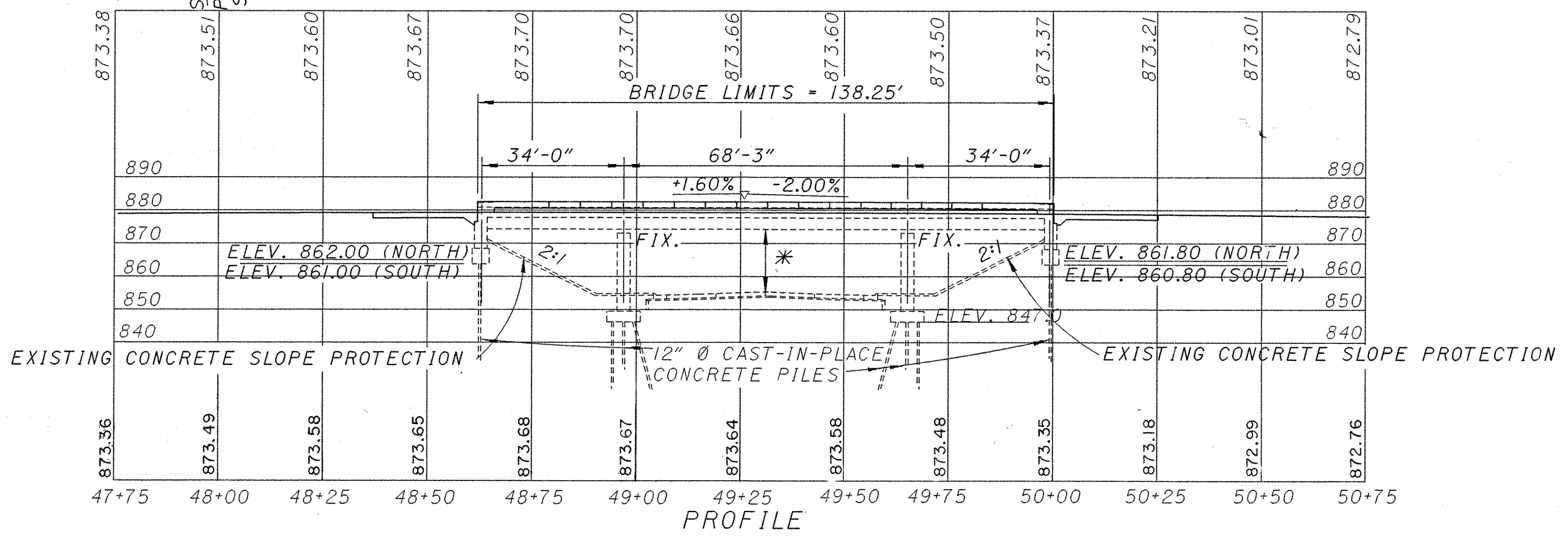
EXISTING VERTICAL CURVE DATA
P.V.I. STA. 49+25.00
ELEV. = 876.54
V.C. = 700.00'
G1 = +1.60%
G2 = -2.00%

PROPOSED VERTICAL CURVE DATA
P.V.I. STA. 49+25.00
ELEV. = 876.81
V.C. = 700.00'
G1 = +1.60%
G2 = -2.00%

HORIZONTAL CURVE DATA
P.I. STA. 52+01.805
 $\Delta = 17^\circ 48' 20''$ RT.
Dc = $01^\circ 28' 00''$
Rc = 3906.53'
Lc = 1214.02'
T = 611.94'
Ec = 47.64'

PLAN

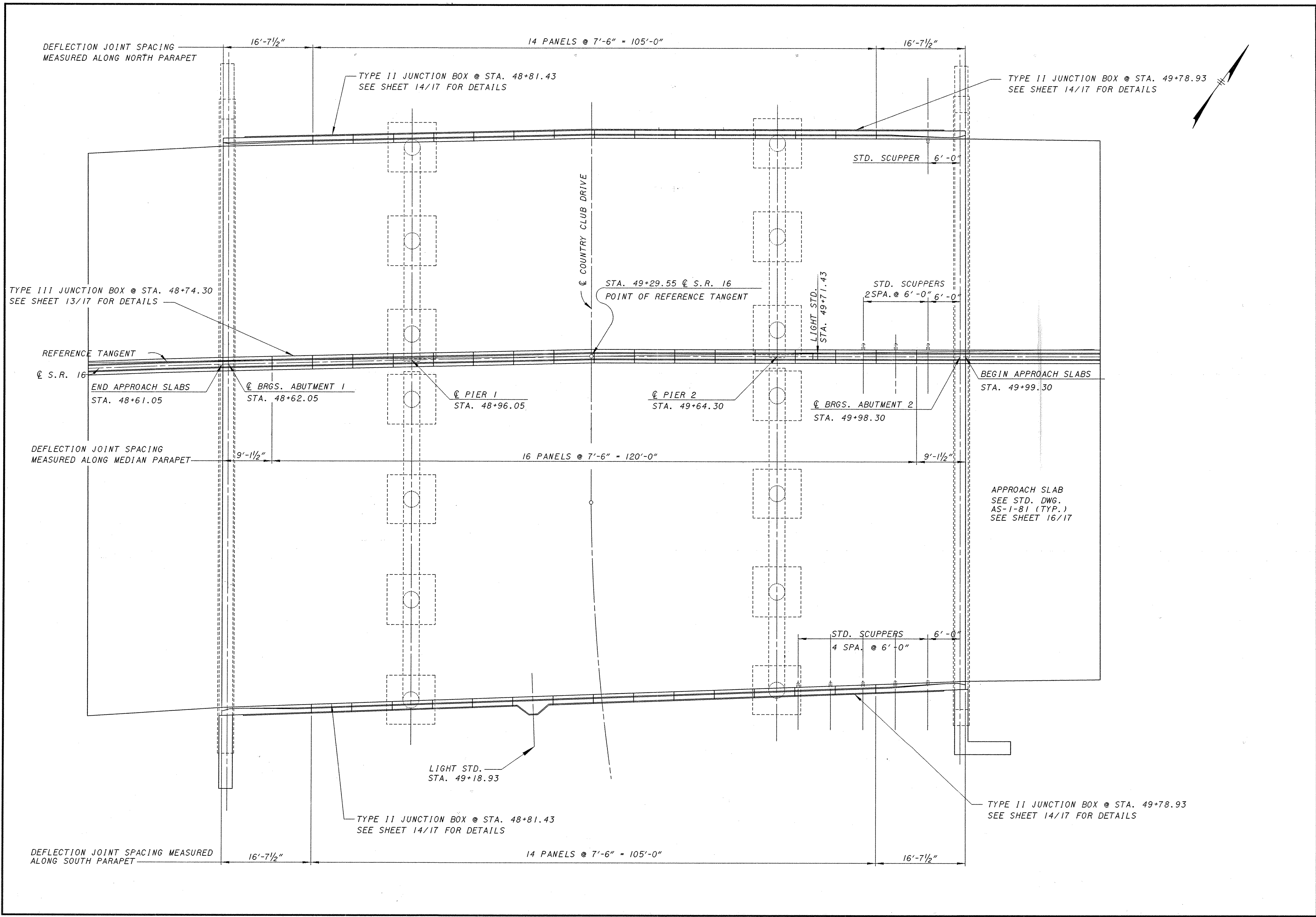
* EXIST. VERT. CL. 15'-0"
REQ'D VERT. CL. 15'-0"



PROFILE

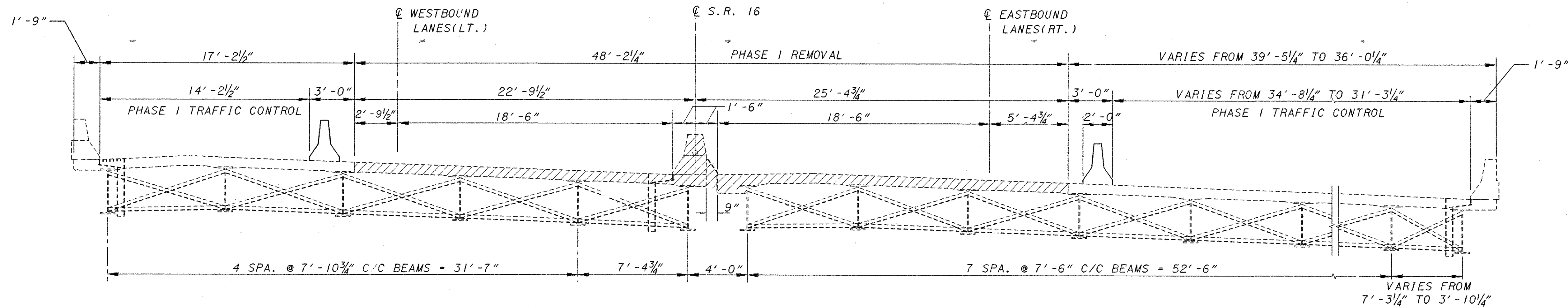
EXISTING STRUCTURE
TYPE: CONTINUOUS STEEL BEAM BRIDGE WITH REINFORCED CONCRETE SLAB AND SUBSTRUCTURE
SPANS: 34'-0", 68'-3", 34'-0" MEASURED ALONG THE REFERENCE TANGENT
ROADWAY: VARIES: AVERAGE 102'-11 1/2" TOE TO TOE OF PARAPETS
LOADING: HS 20-44
SKEW: 0°53'07" L.F. TO TANGENT AT INTERSECTION
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-67 (25' LONG)
ALIGNMENT: 1°28' CURVE RIGHT
SUPERELEVATION: 0.036 FT./FT.

PROPOSED STRUCTURE
TYPE: CONTINUOUS STEEL BEAM BRIDGE WITH 8 1/2" REINFORCED CONCRETE SLAB AND SUBSTRUCTURE
SPANS: 34'-0", 68'-3", 34'-0" MEASURED ALONG THE REFERENCE TANGENT
ROADWAY: VARIES: AVERAGE 103'-1 1/2" TOE TO TOE OF PARAPETS
LOADING: HS 20-44
SKEW: 0°53'07" L.F. TO TANGENT AT INTERSECTION
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-81 (25' LONG)
ALIGNMENT: 1°28' CURVE RIGHT
SUPERELEVATION: 0.036 FT./FT.
S.F.N. 4503031



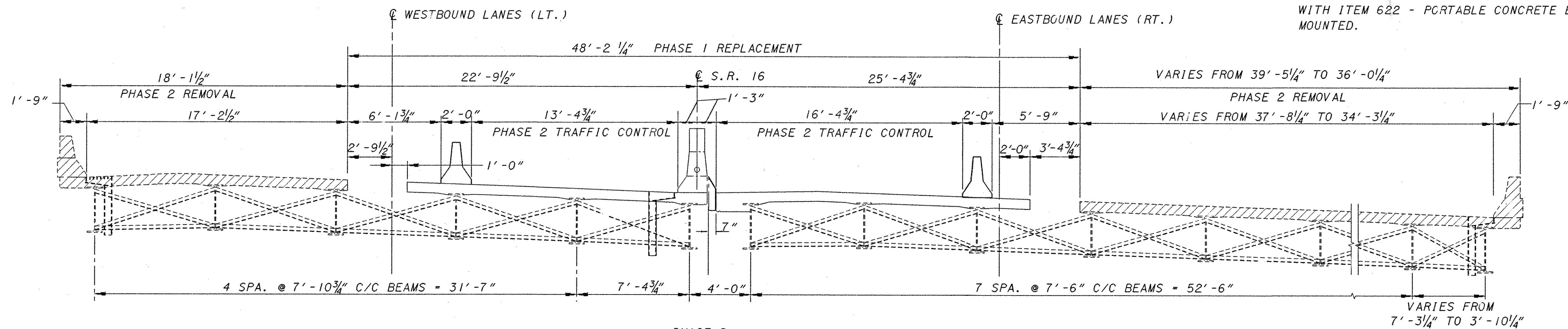
L016 1842

DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION	
REVIEWED DATE	STRUCTURE FILE NUMBER 4503031
DRAWN DTF	REVISED
DESIGNED DTF	CHECKED RSD
GENERAL PLAN BRIDGE NO. LIC-16-1859 S.R. 16 OVER COUNTRY CLUB DRIVE	
LIC-16-17.94	
2 / 17	
358 420	

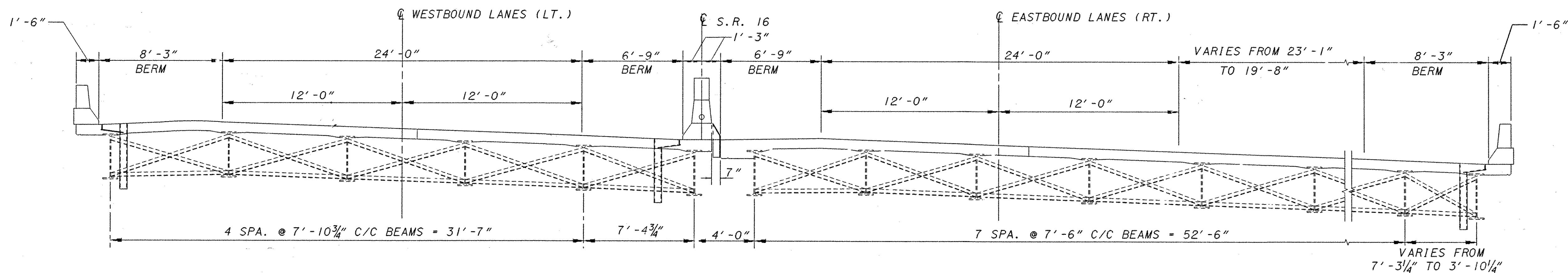


PHASE 1
PHASE 1 REMOVAL AND TRAFFIC CONTROL

NOTE: ANCHORING OF TEMPORARY CONCRETE BARRIER ANCHORS SHALL BE THRU BOLTS OR APPROVED RESIN ANCHORS MOUNTED TO THE DECK ON THE TRAFFIC SIDE. THERE SHALL BE TWO ANCHORS (MIN.) PER EACH BARRIER SEGMENT PLACED SYMMETRICAL ABOUT THE CENTER OF EACH TEN FOOT SEGMENT. THE ANCHORS SHALL BE EMBEDDED 6 1/2" INTO THE EXISTING AND PROPOSED DECK. WHEN NO LONGER NEEDED, ANCHORS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. ON THE PROPOSED DECK, HOLES SHALL BE FILLED WITH A NON-SHRINKING GROUT. THE ABOVE WORK SHALL BE INCLUDED WITH ITEM 622 - PORTABLE CONCRETE BARRIER, BRIDGE MOUNTED.

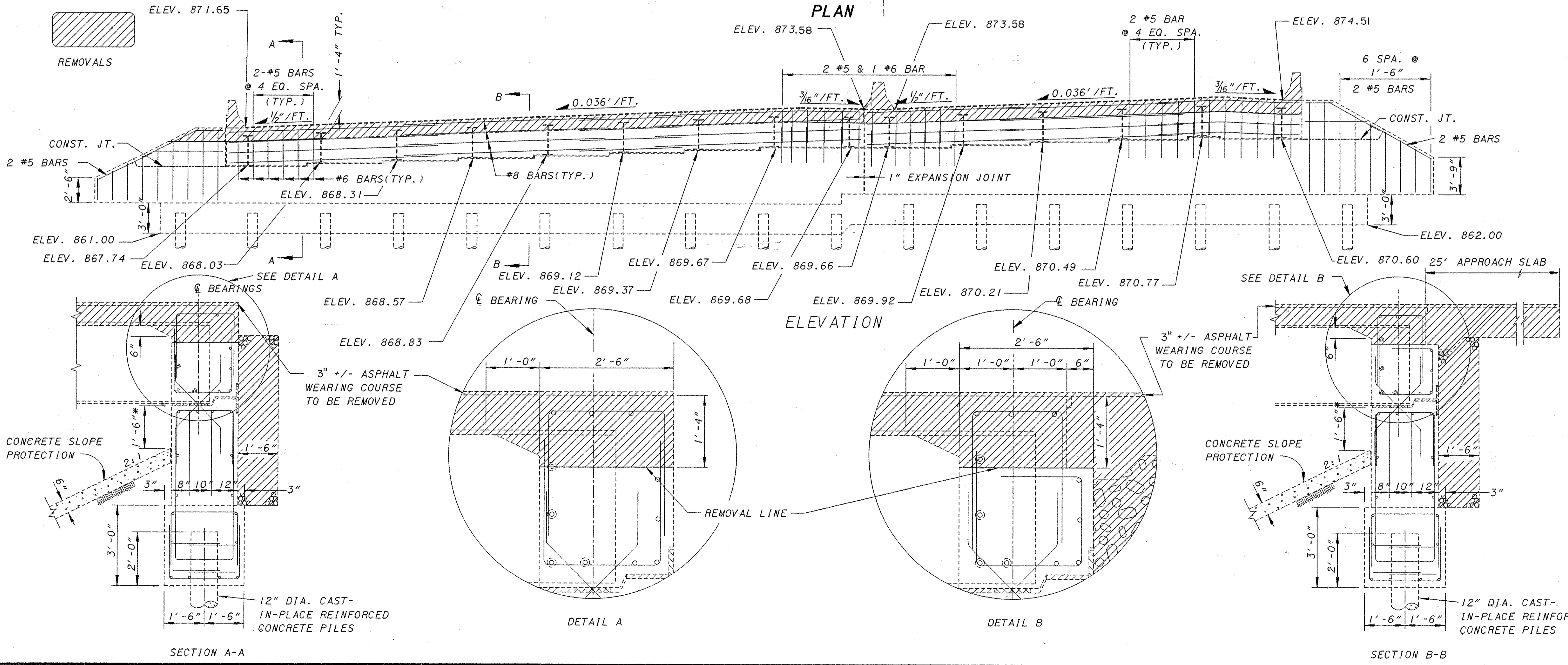
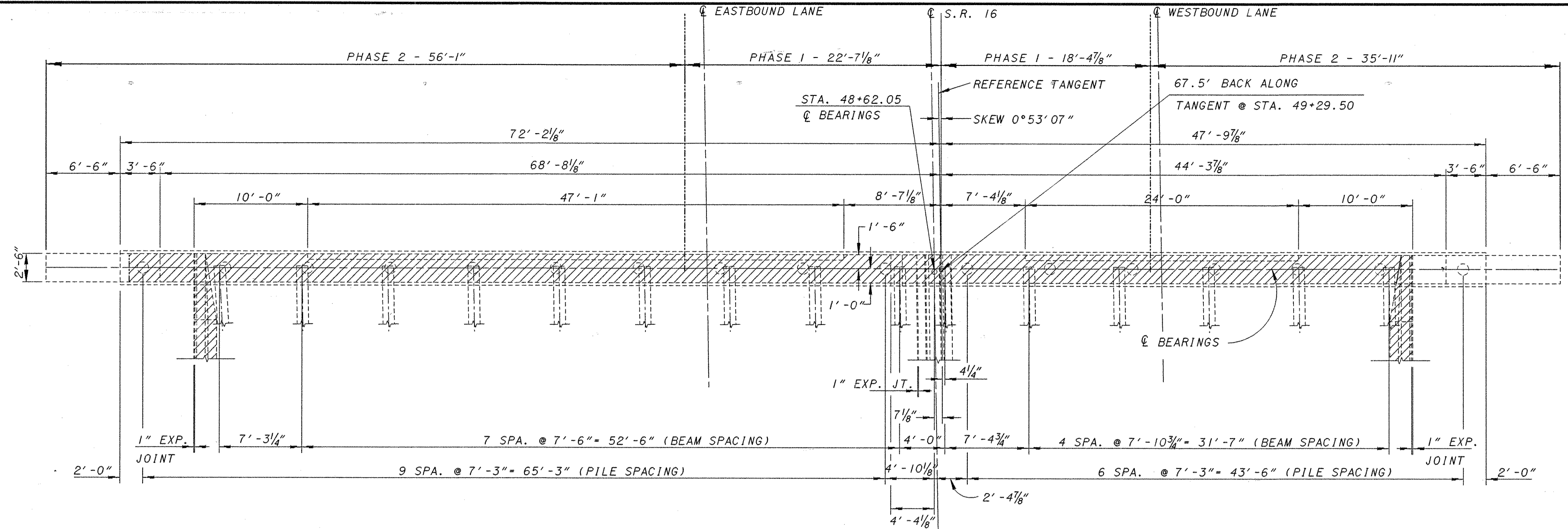


PHASE 2
PHASE 2 REPLACEMENT AND REMOVAL
PHASE 2 TRAFFIC CONTROL

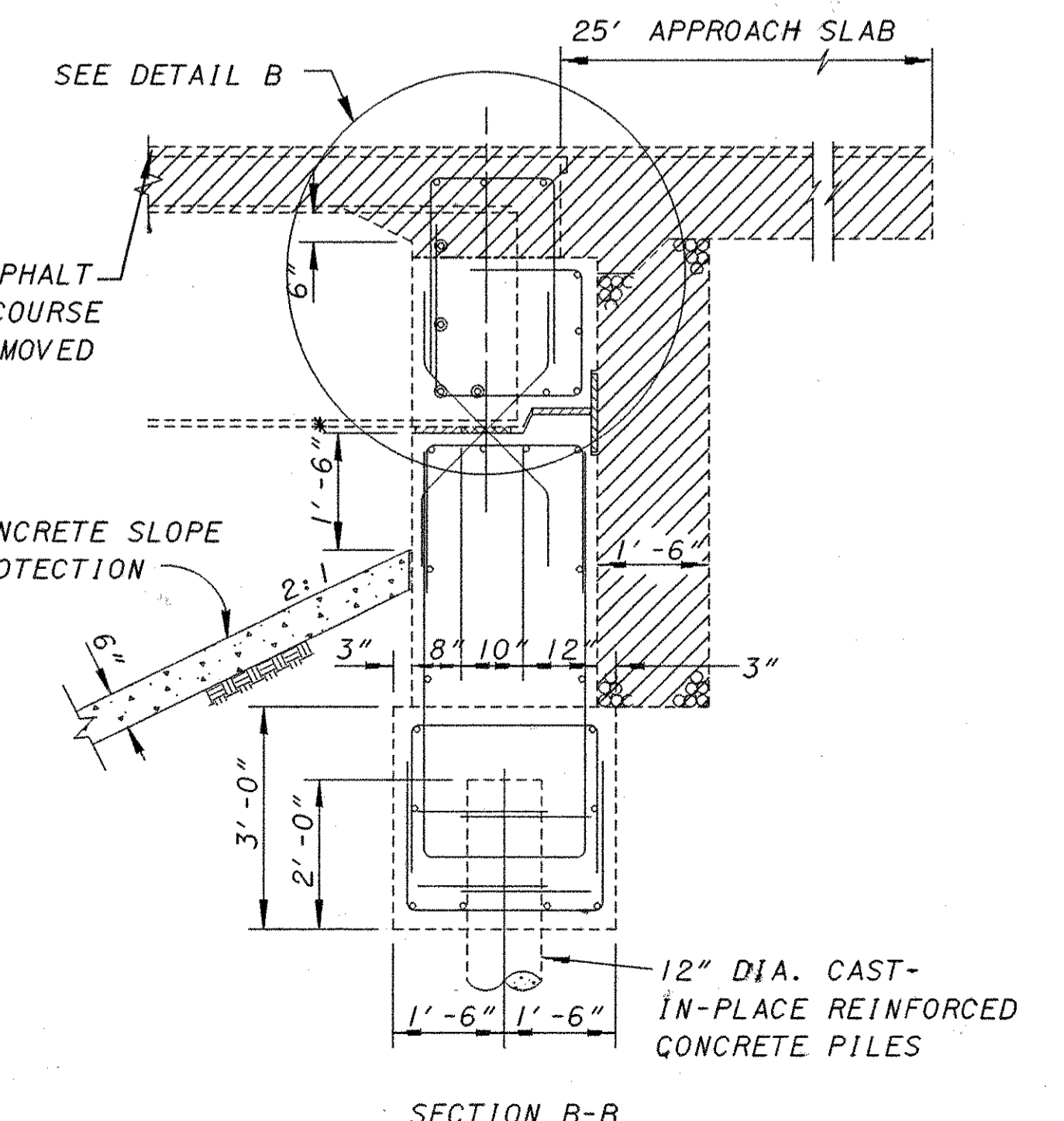
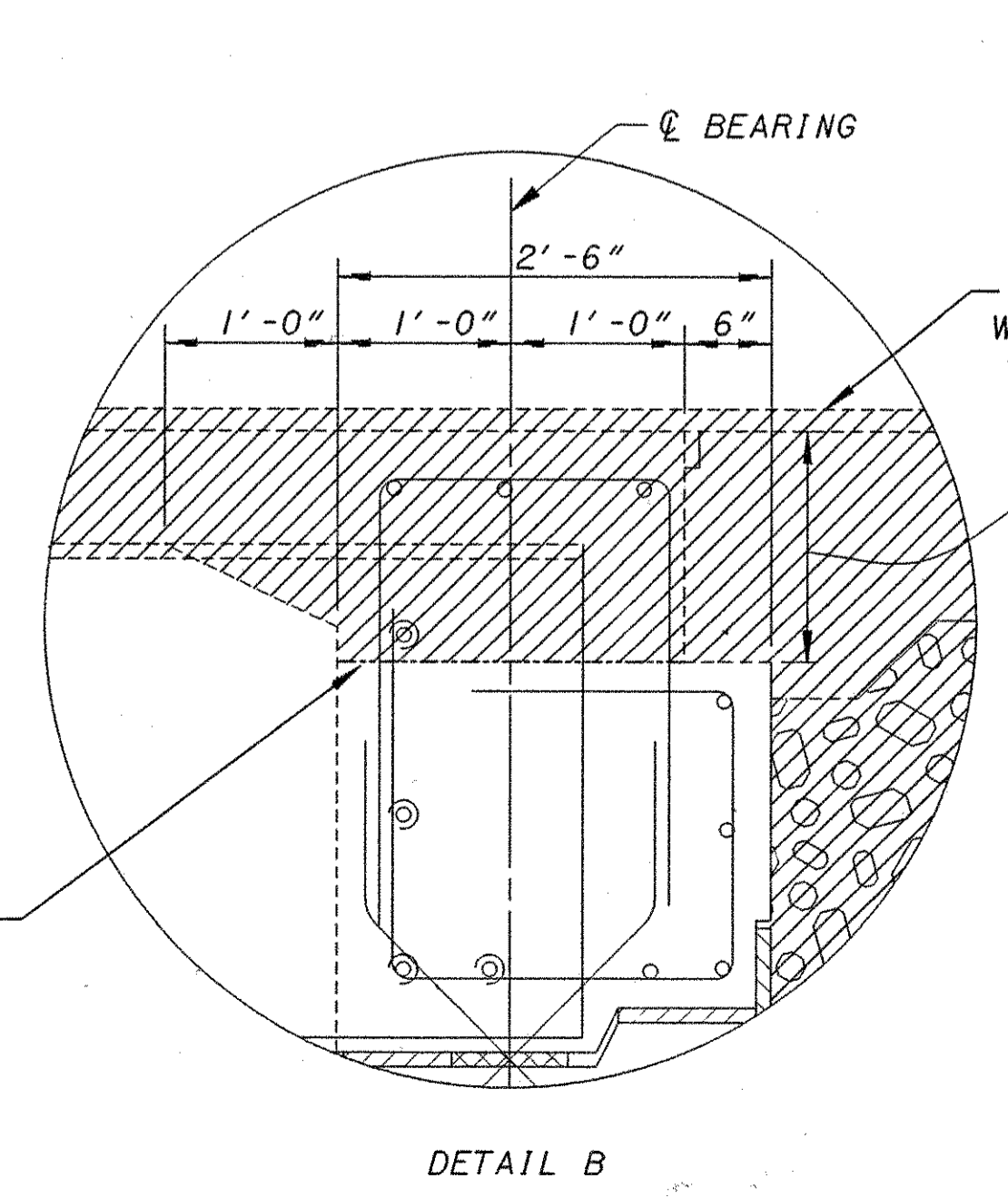
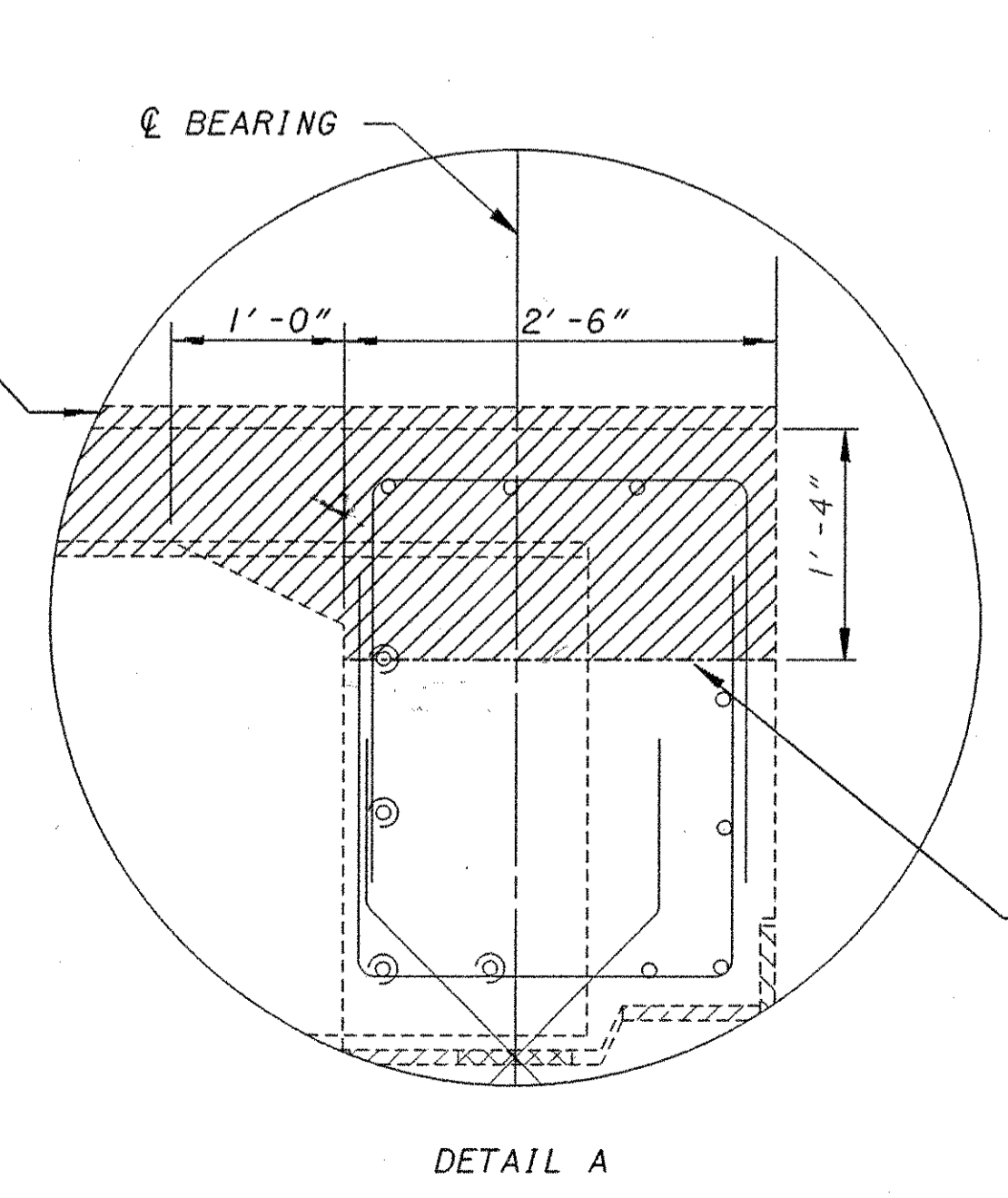
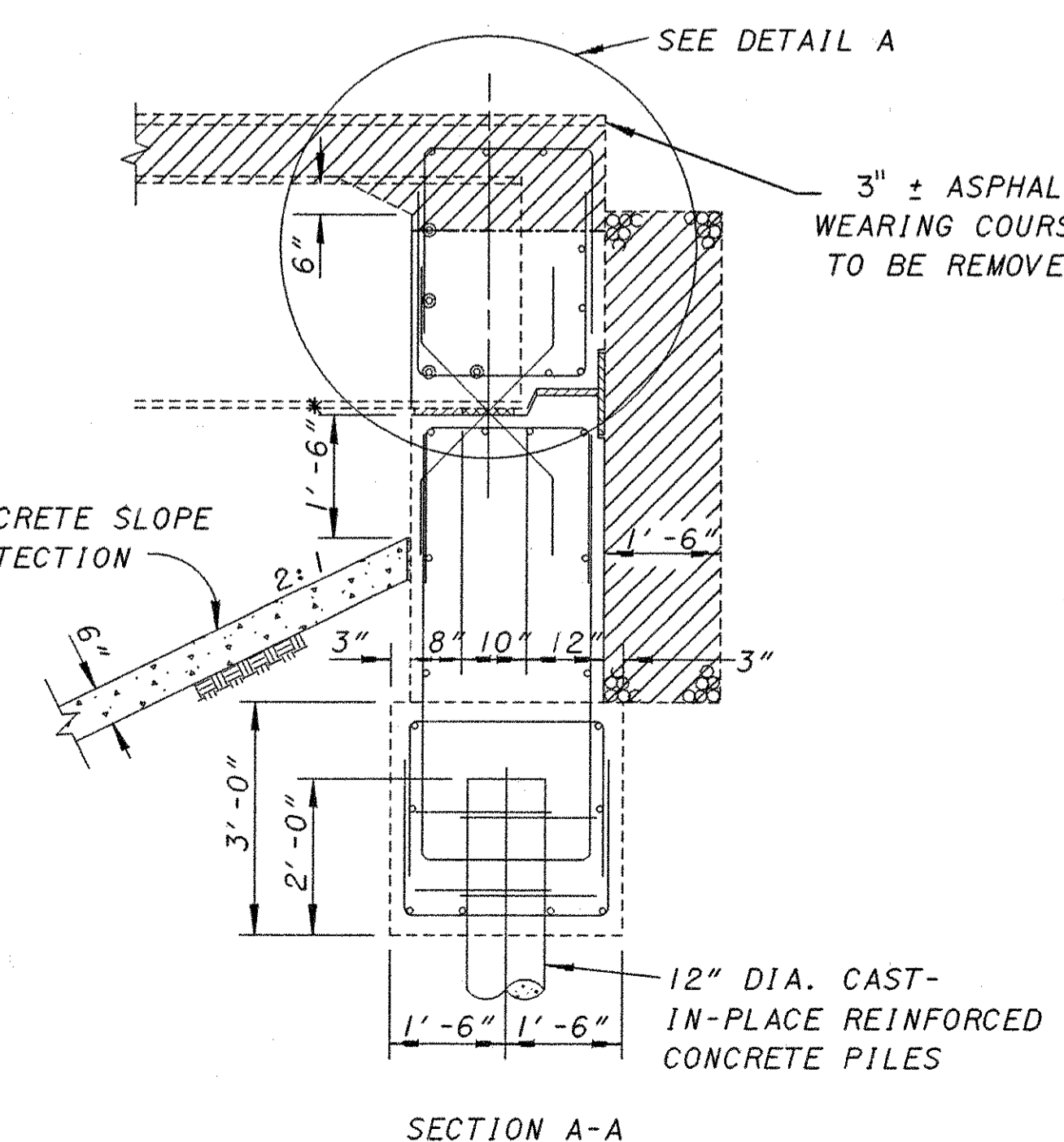
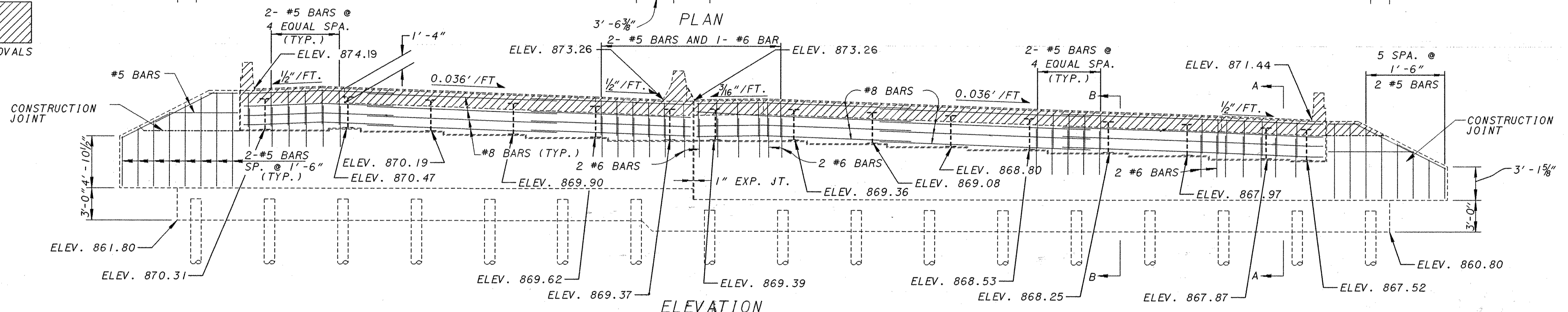
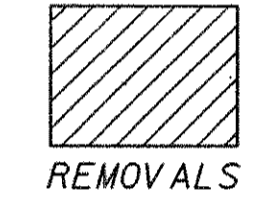
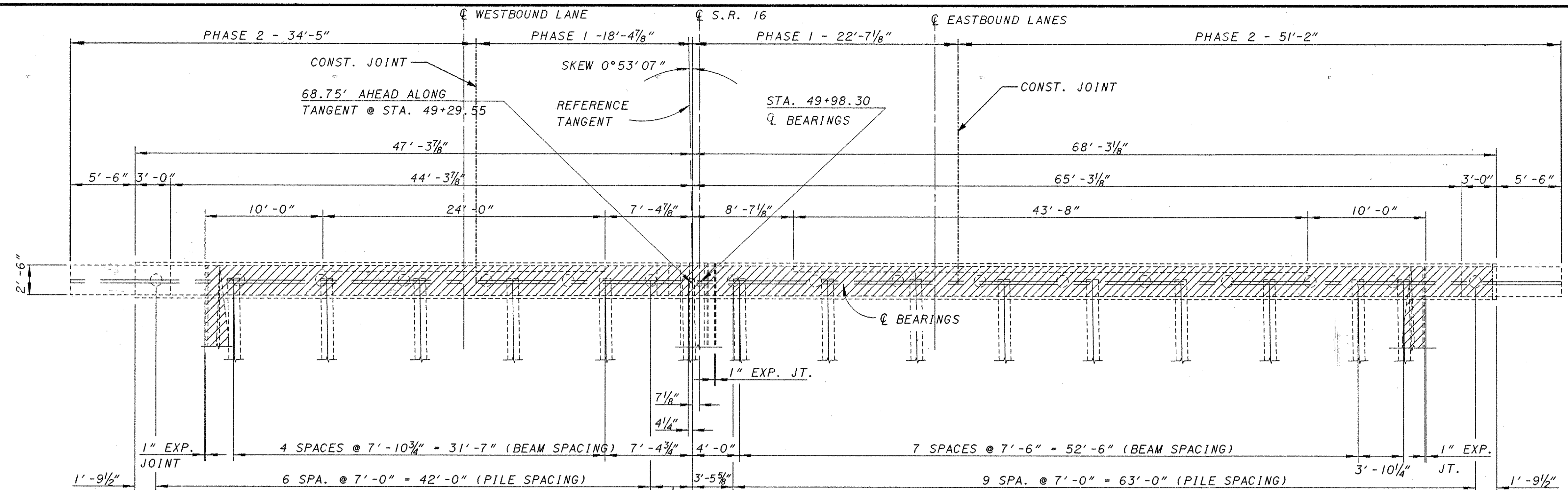


PHASE 3

L0161818



L016183A



LO16183B

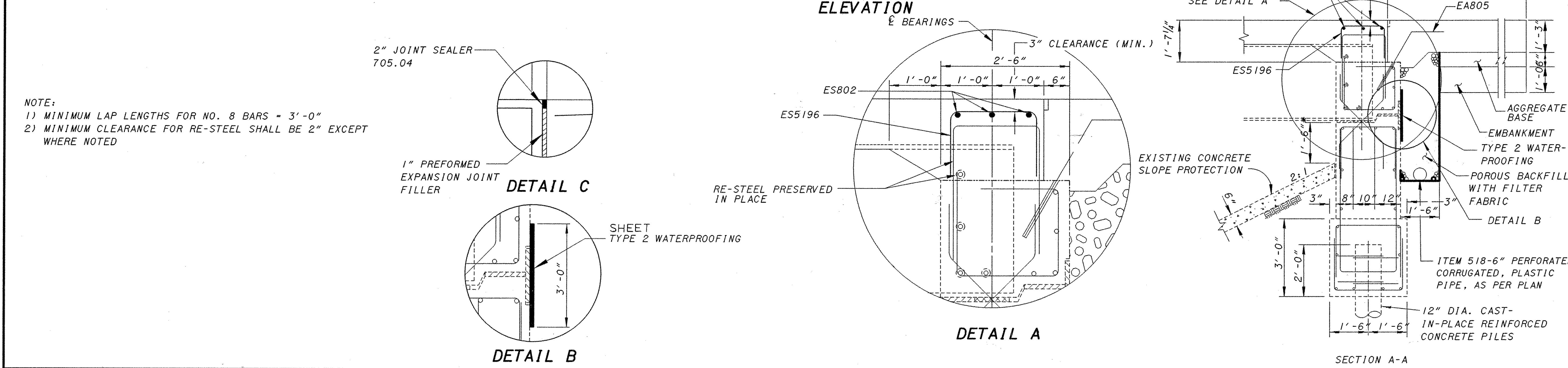
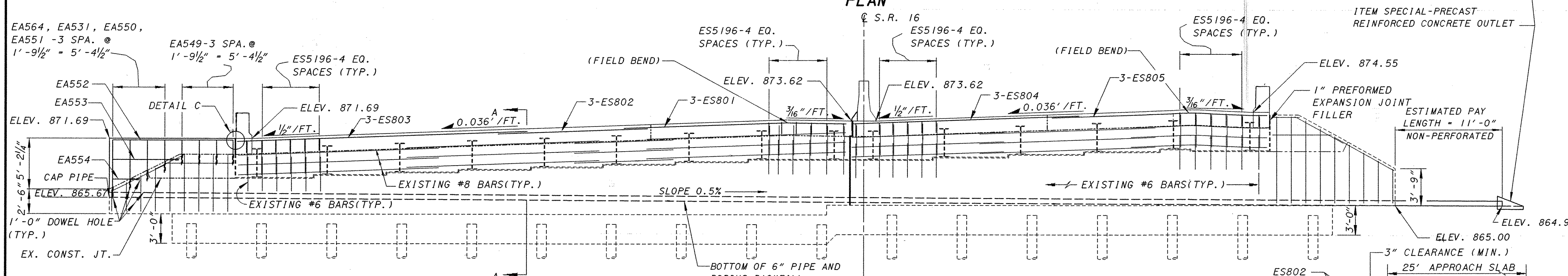
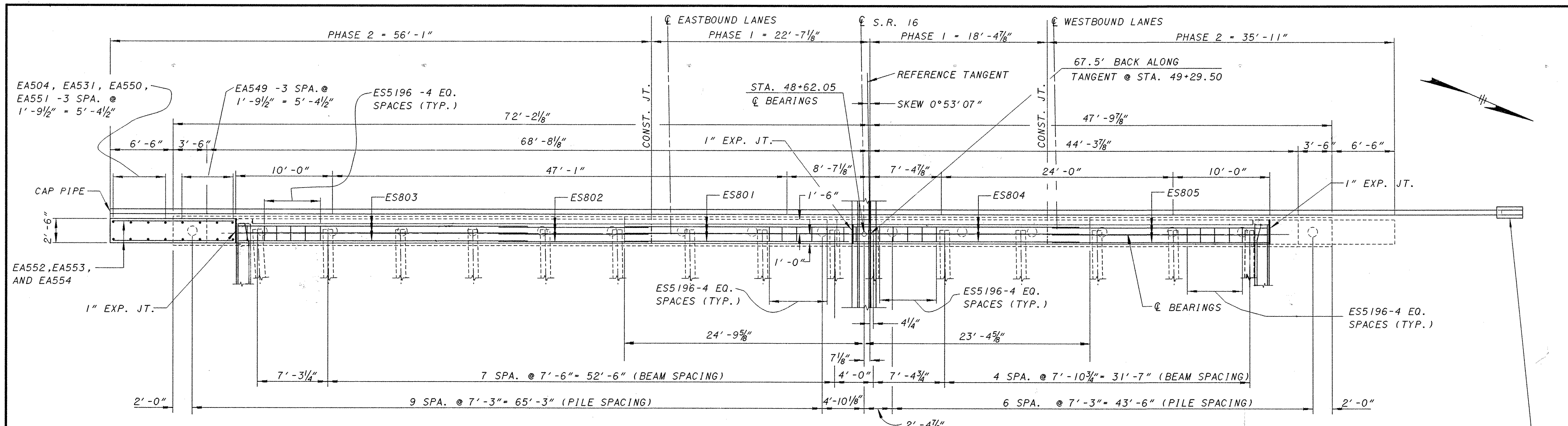
DESIGNED	DTF	CHECKED	RSJ
DRAWN	DTF	REVISED	
REVIEWED		STRUCTURE FILE NUMBER	4503031
DATE		DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION

EXISTING ABUTMENT NO. 2
BRIDGE NO. LIC-16-1859
S.R. 16 OVER COUNTRY CLUB DRIVE

LIC-16-1794

5 / 17

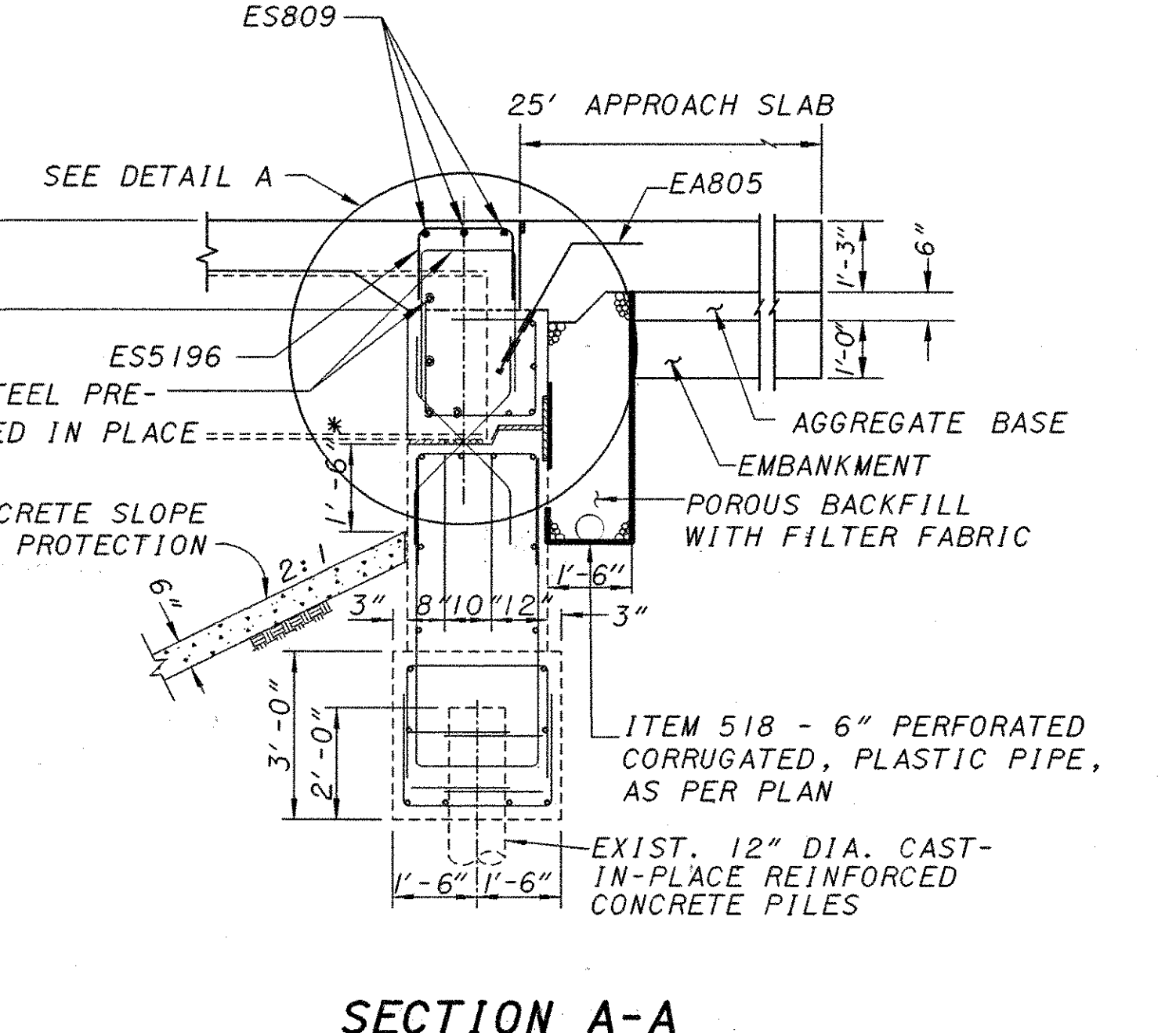
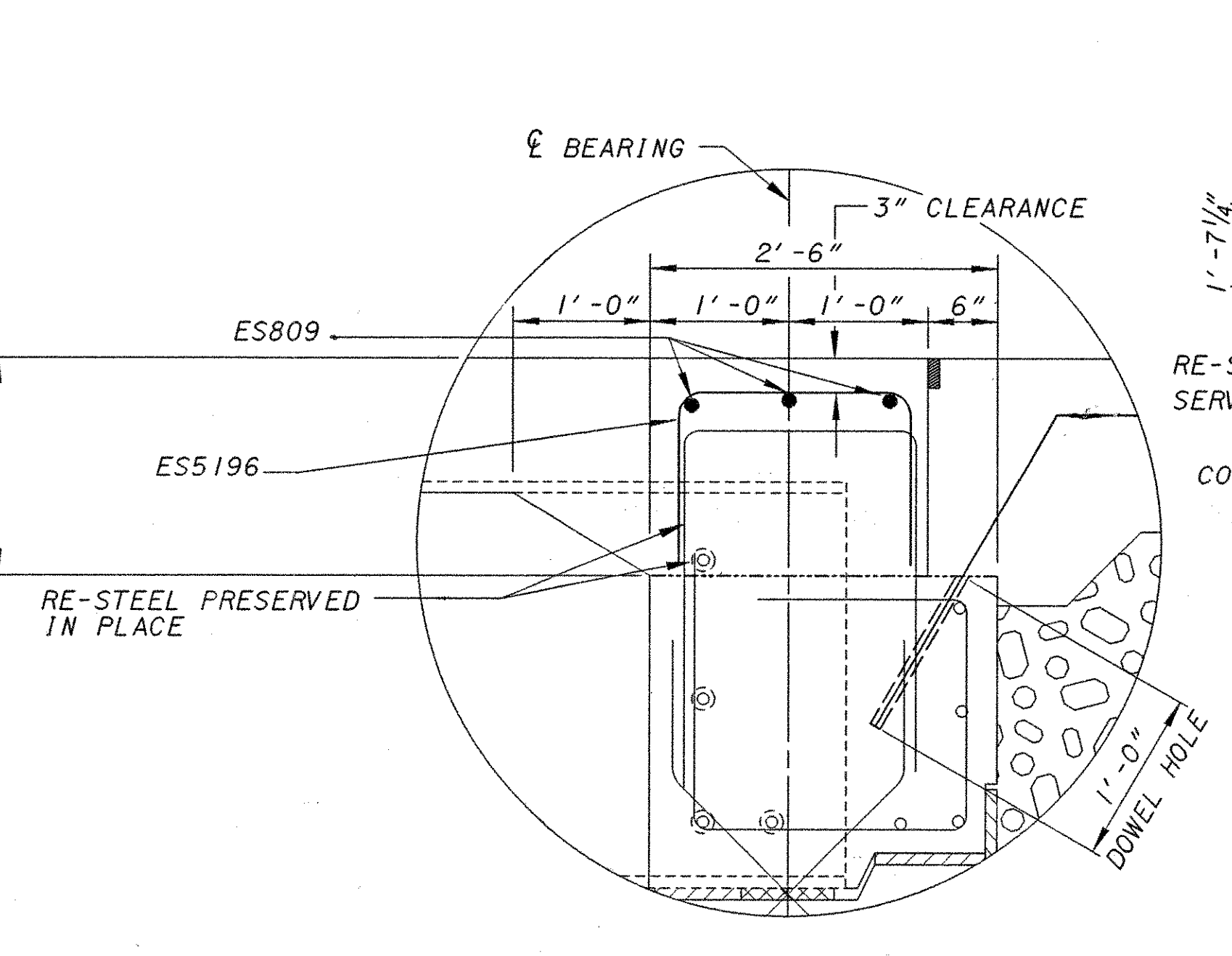
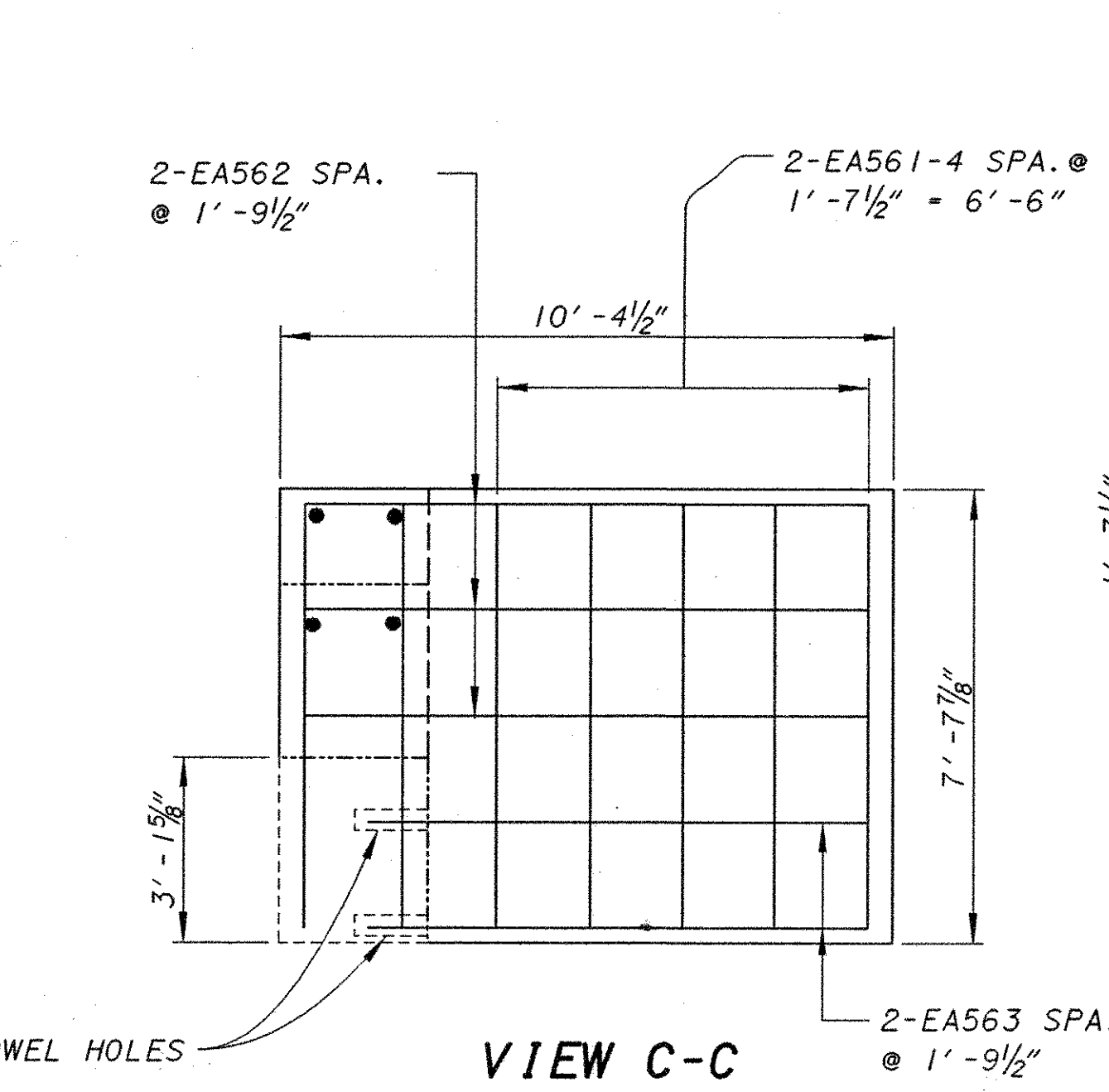
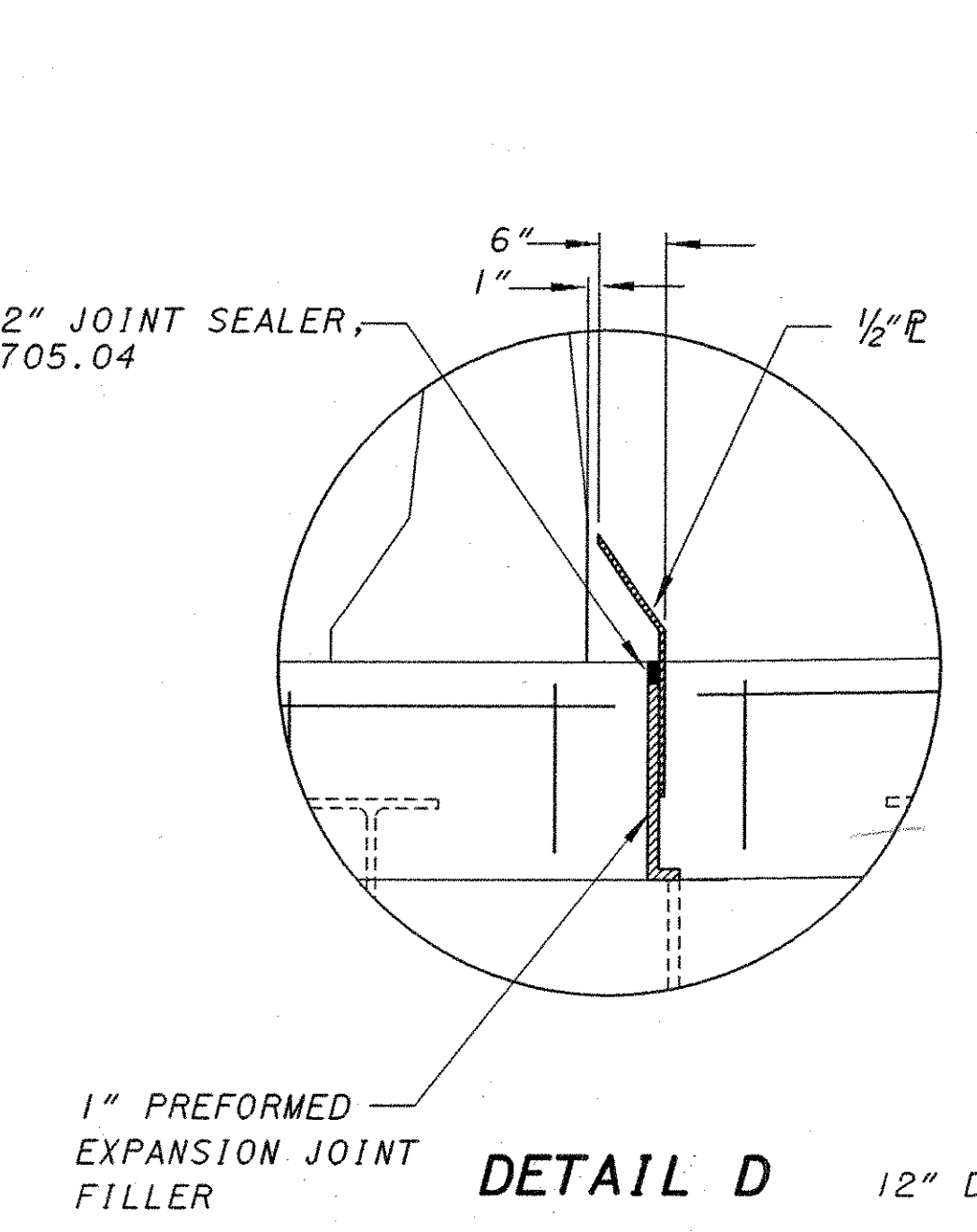
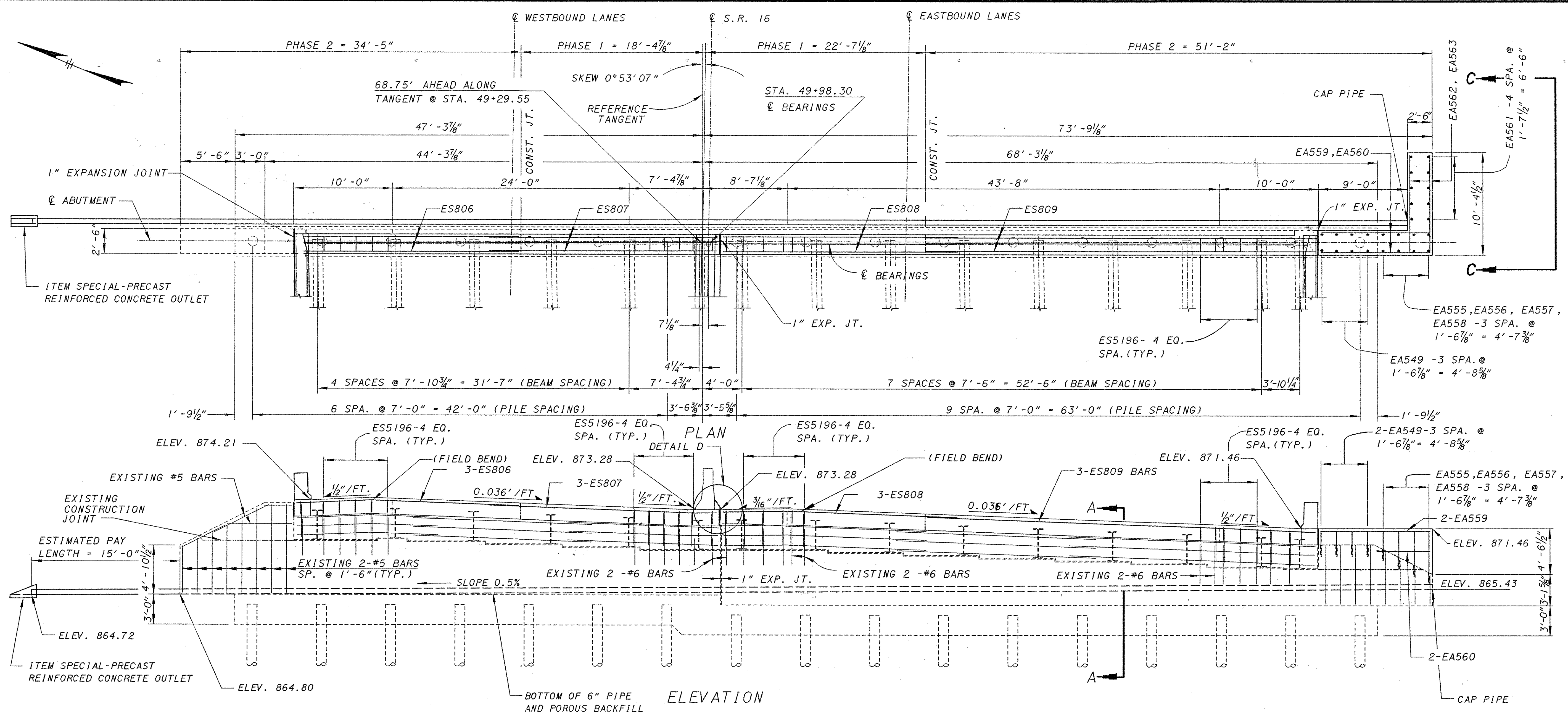
361
420



NOTE:
 1) MINIMUM LAP LENGTHS FOR NO. 8 BARS = 3'-0"
 2) MINIMUM CLEARANCE FOR RE-STEEL SHALL BE 2" EXCEPT WHERE NOTED

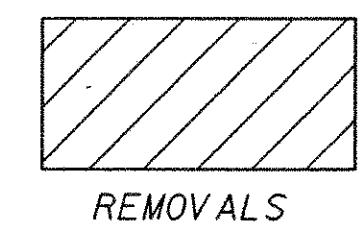
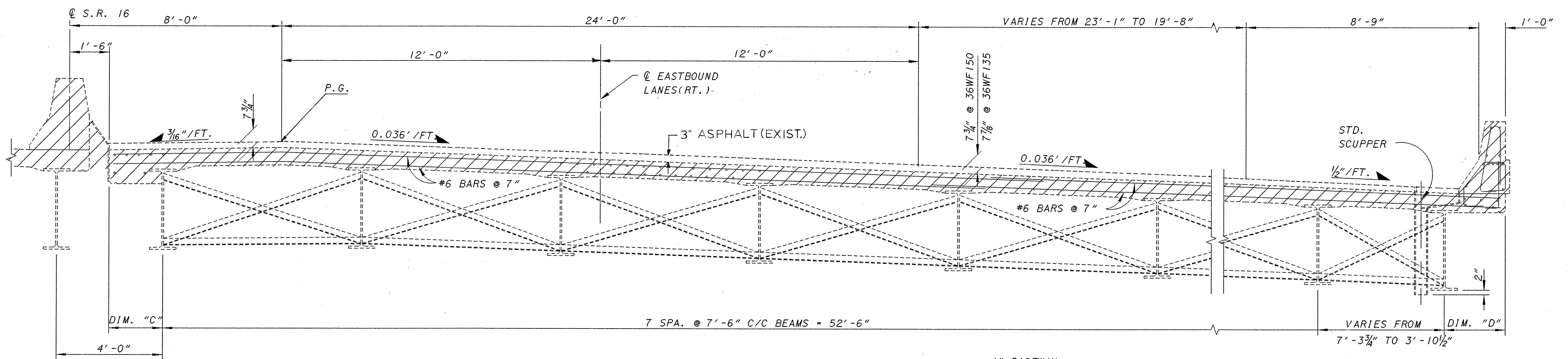
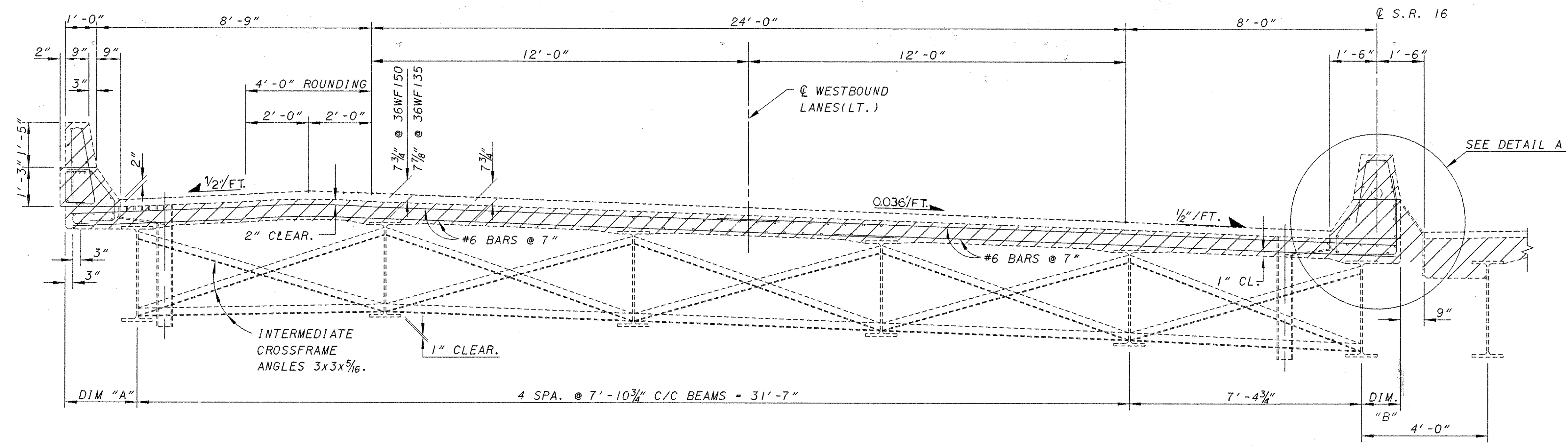
DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION
 DATE: _____
 REVIEWED: _____
 DRAWN: DTF
 CHECKED: RSD
 STRUCTURE FILE NUMBER: 4503031
 PROPOSED ABUTMENT NO. 1
 BRIDGE NO. LIC-16-1859
 S.R. 16 OVER COUNTRY CLUB DRIVE
 LIC-16-17.94
 6/17
 362
 420

LO161831



LO16183C

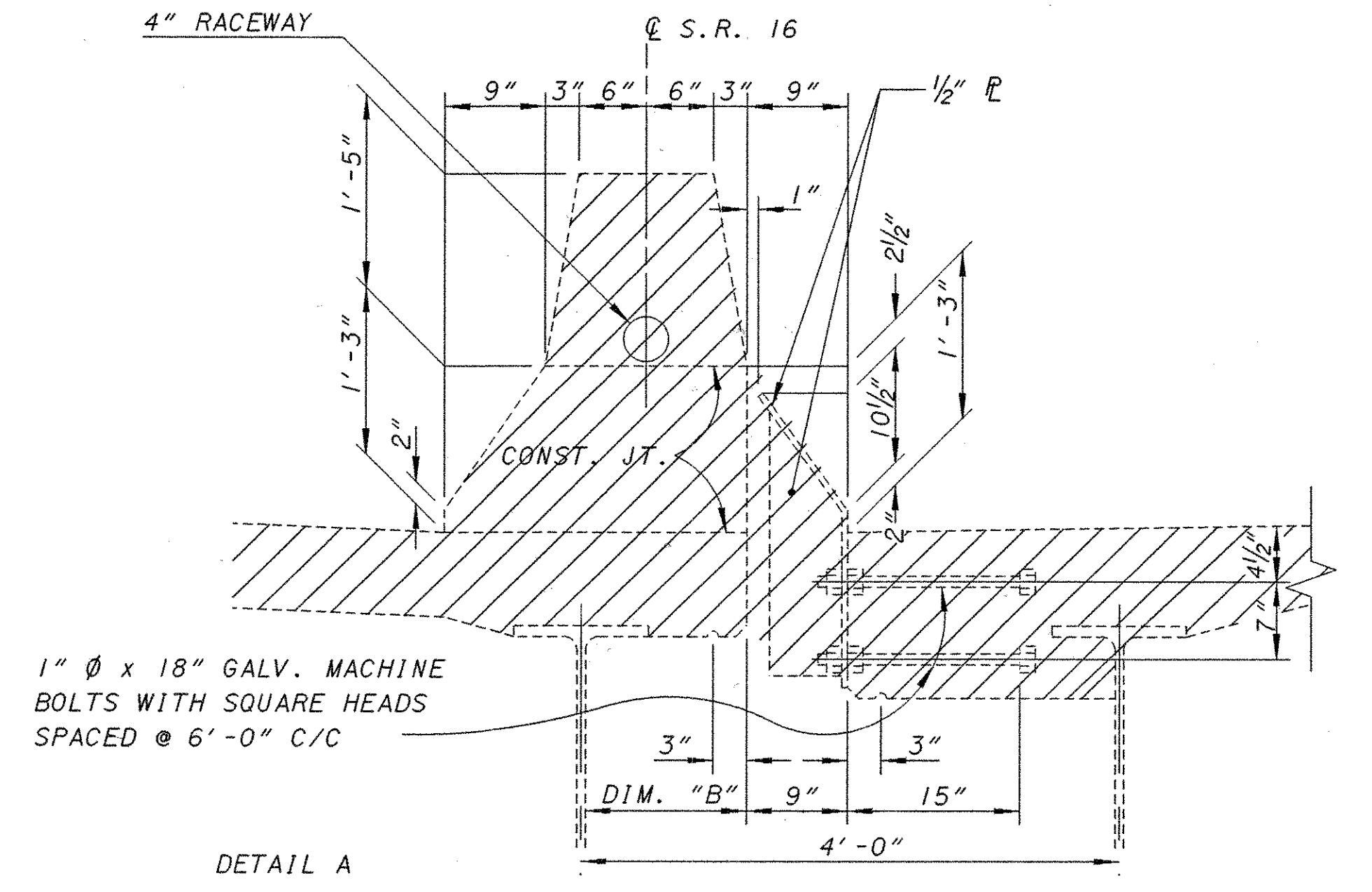
DESIGNED	DTF	CHECKED	RSD
DRAWN	DTF	REVISIONS	
REVIEWED		STRUCTURE FILE NUMBER	4503031
DATE		DESIGN AGENCY	OHIO DEPARTMENT OF TRANSPORTATION
PROPOSED ABUTMENT NO. 2 BRIDGE NO. LIC-16-1859 S.R. 16 OVER COUNTRY CLUB DRIVE			
LIC-16-1794 7/17 363 420			



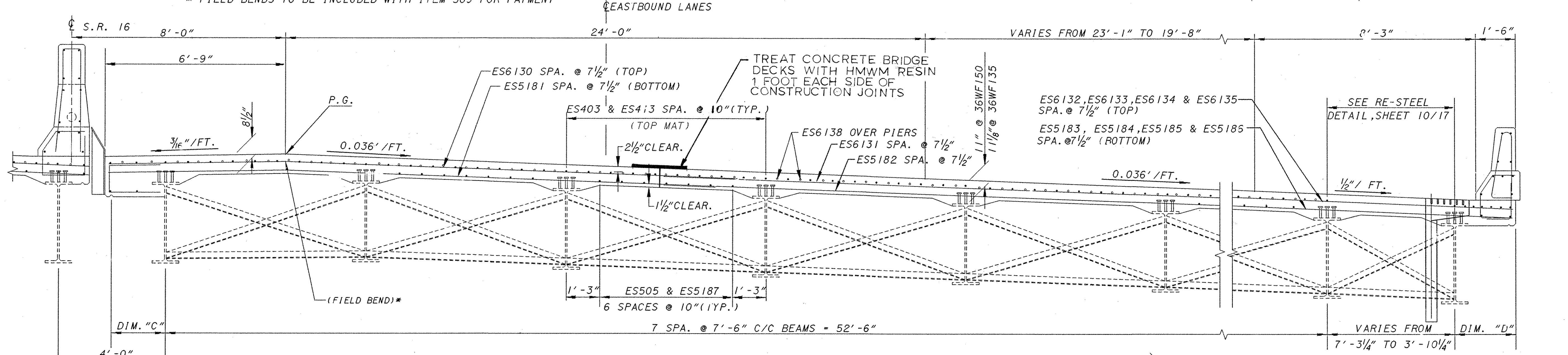
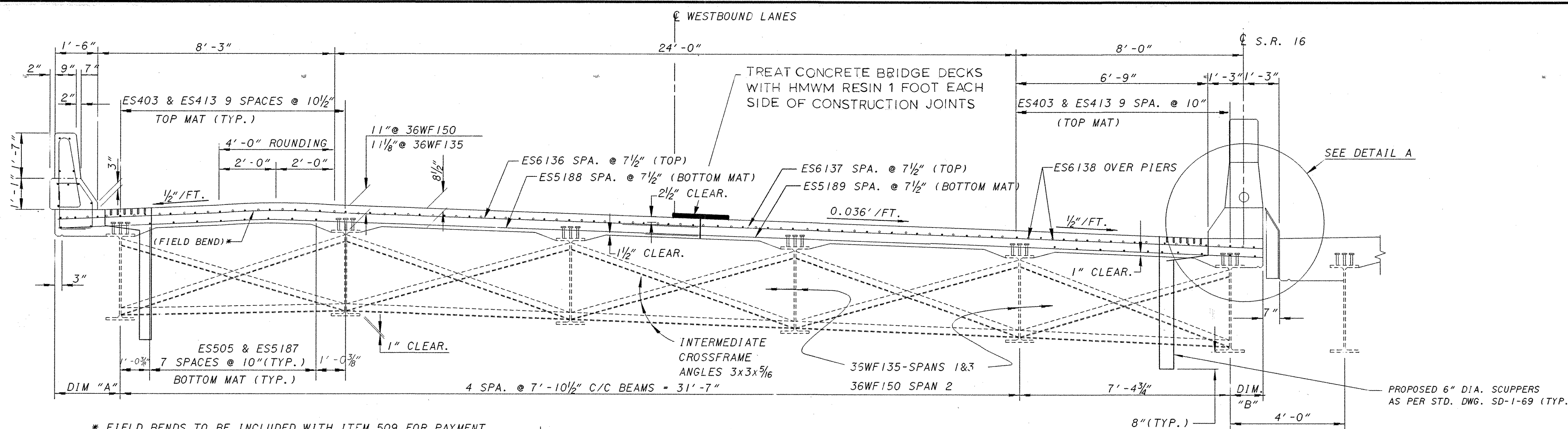
TRANSVERSE SECTION
(LOOKING UP-STATION)

NOTE: FOR CONSTRUCTION SEQUENCE
SEE SHEET 3 / 17 .

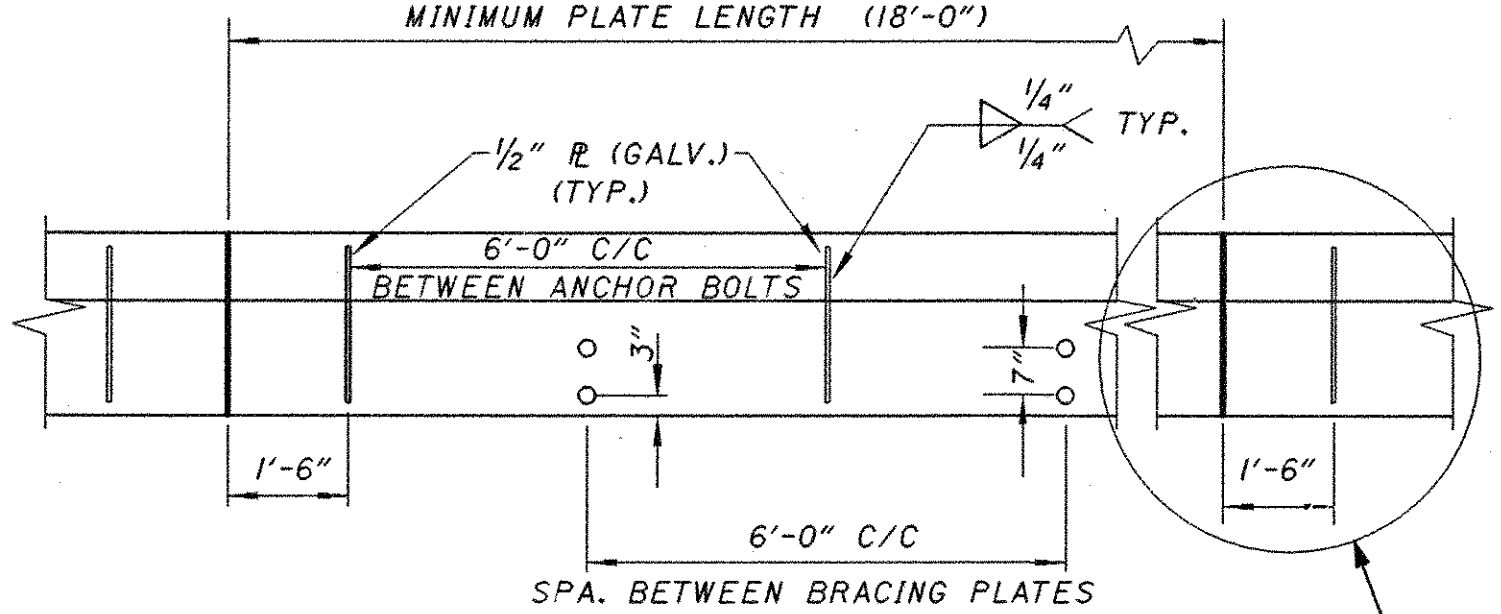
TABLE OF DIMENSIONS							
LOCATION	ABUT. NO. 1	MID.-PT. SPAN	PIER NO. 1	MID.-PT. SPAN	PIER NO. 2	MID.-PT. SPAN	ABUT. NO. 2
DIMENSION "A"	1'-9 7/8"	2'-0 9/16"	2'-3 1/4"	2'-5"	2'-3 1/4"	2'-0 9/16"	1'-9 7/8"
DIMENSION "B"	1'-8 3/8"	1'-6 3/16"	1'-3"	1'-1 1/4"	1'-3"	1'-6 3/16"	1'-8 3/8"
DIMENSION "C"	1'-6 3/8"	1'-9 9/16"	2'-0"	2'-1 3/4"	2'-0"	1'-9 9/16"	1'-6 3/8"
DIMENSION "D"	2'-0 1/8"	1'-9"	1'-6 3/4"	1'-5"	1'-6 3/4"	1'-9"	2'-0 1/8"



LO161856

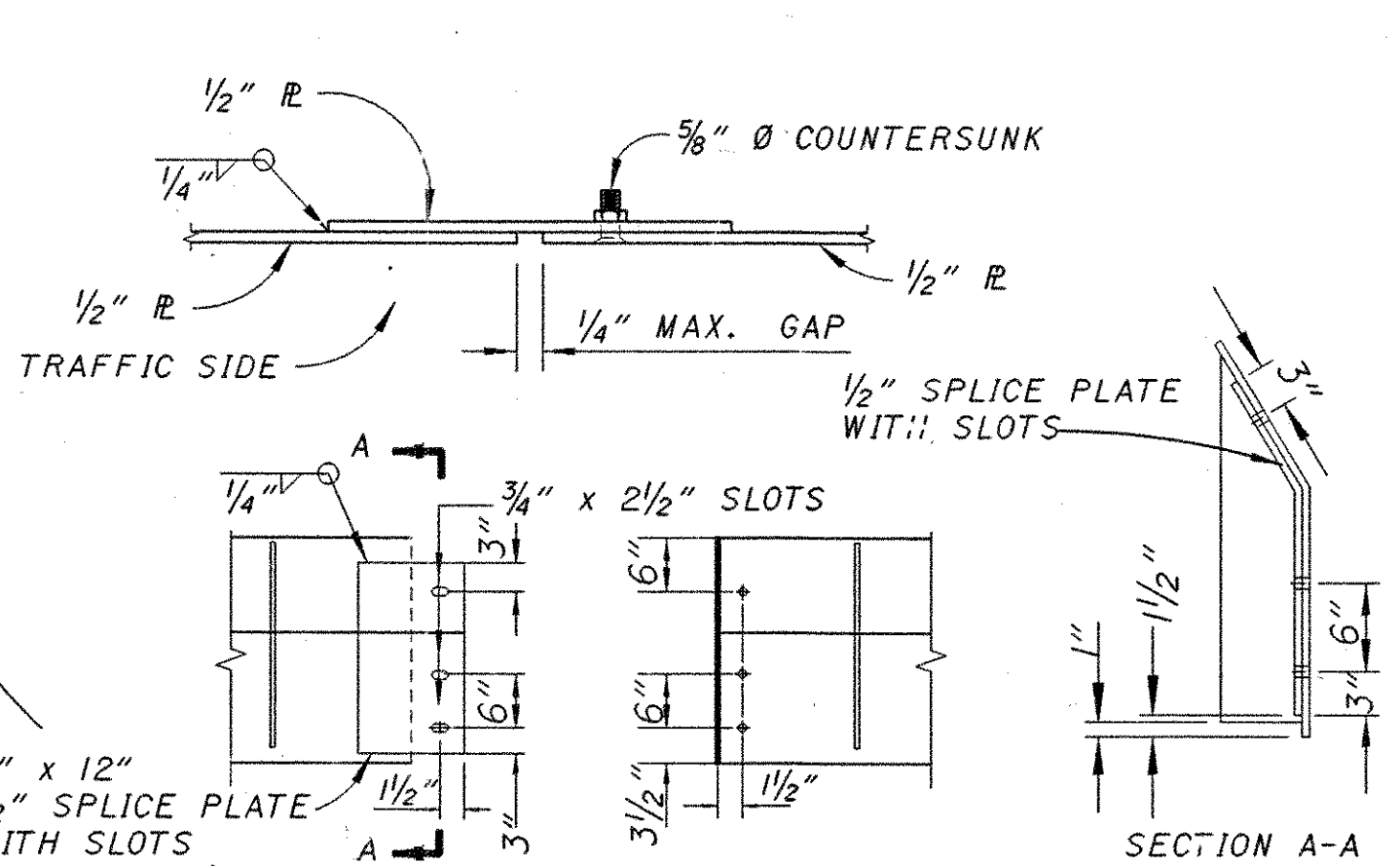


MINIMUM LAP LENGTHS
 TOP MAT: #6 BARS = 3'-0"
 BOTTOM MAT: #5 BARS = 2'-6"
 TOP MAT: #4 BARS = 2'-0"

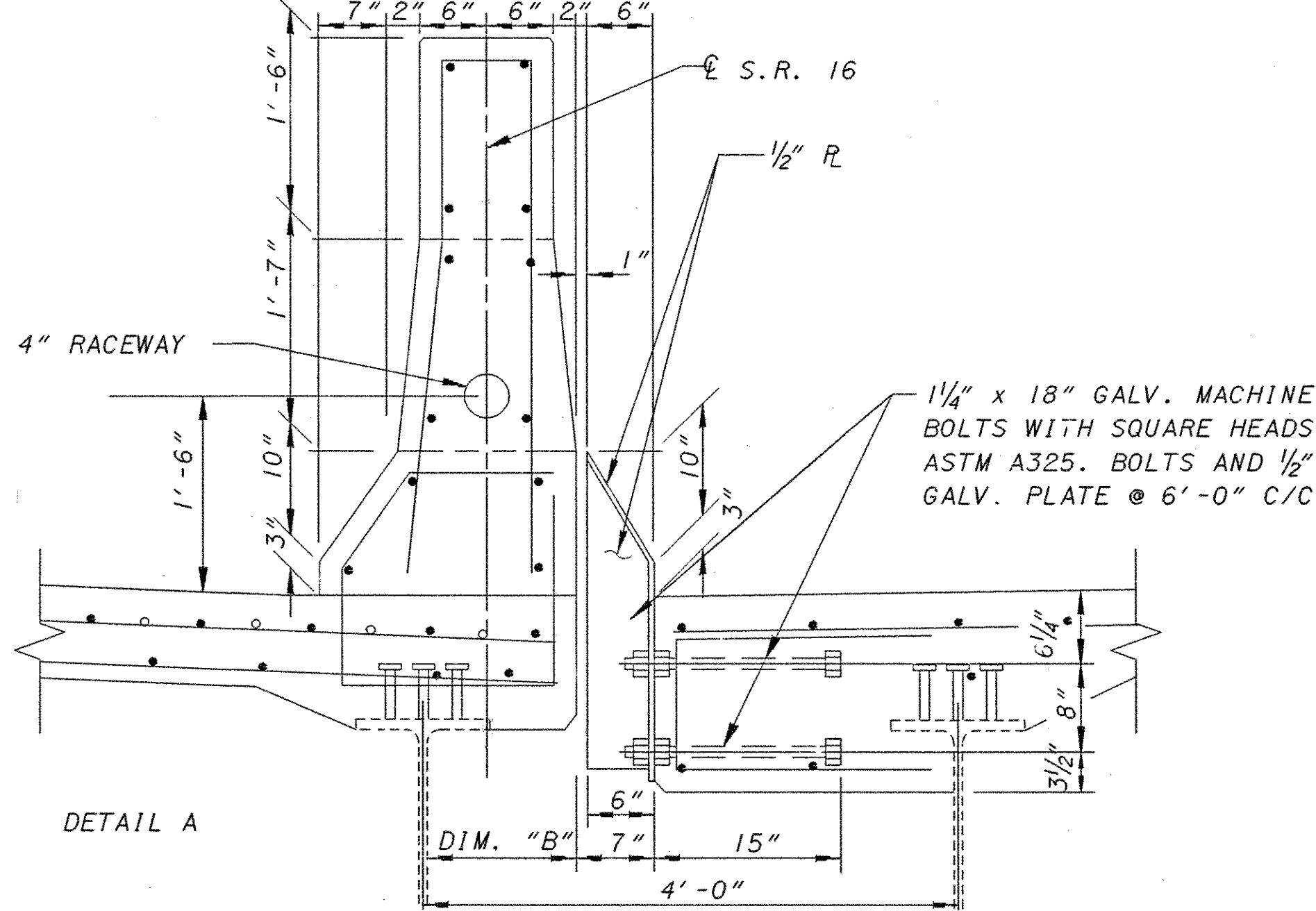


ELEVATION VIEW (CURB PLATES)
 (CURB PLATES TO BE INCLUDED FOR PAYMENT IN ITEM 513-STRUCTURAL STEEL, MISC.: GALVANIZED AS PER PLAN)

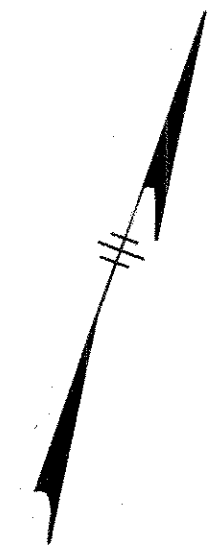
TRANSVERSE SECTIONS (LOOKING UP-STATION)



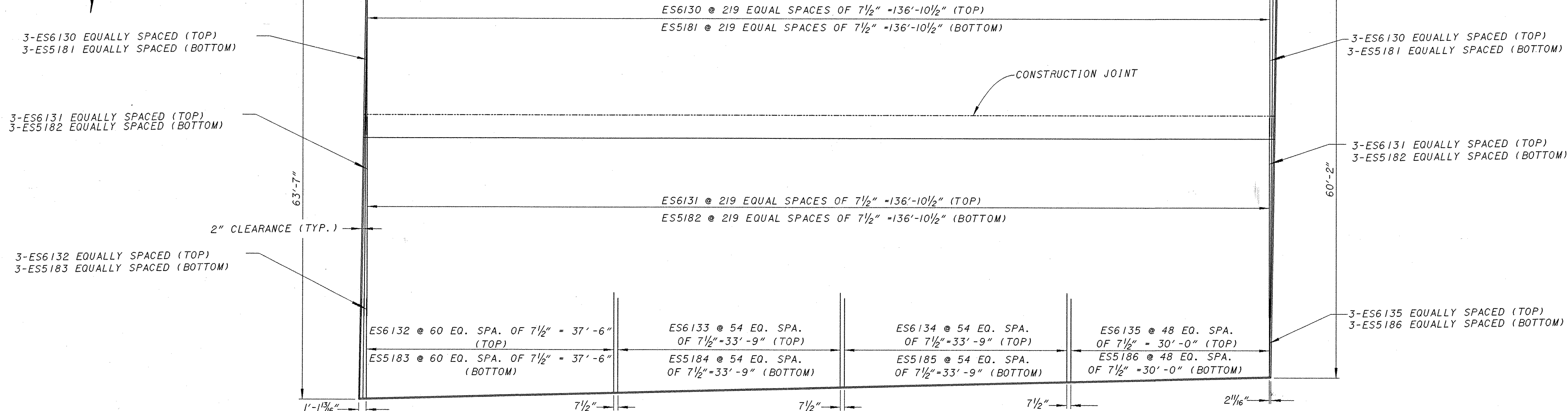
CURB PLATE CONNECTION



LOCATION	ABUT. NO. 1	MID.-PT.	SPAN/PIER NO. 1	MID.-PT.	SPAN/PIER NO. 2	MID.-PT.	SPAN	ABUT. NO. 2
DIMENSION "A"	1'-9 7/8"	2'-0 9/16"	2'-3 1/4"	2'-5"	2'-3 1/4"	2'-0 9/16"	1'-9 7/8"	
DIMENSION "B"	1'-7 3/8"	1'-5 3/16"	1'-2"	1'-0 1/4"	1'-2"	1'-5 3/16"	1'-7 3/8"	
DIMENSION "C"	1'-9 5/8"	2'-0 5/16"	2'-3"	2'-4 3/4"	2'-3"	2'-0 5/16"	1'-9 5/8"	
DIMENSION "D"	2'-0 1/8"	1'-9"	1'-6 3/4"	1'-5"	1'-6 3/4"	1'-9"	2'-0 1/8"	



BRIDGE LIMITS = 138'-3"



3-ES6130 EQUALLY SPACED (TOP)
3-ES5181 EQUALLY SPACED (BOTTOM)

3-ES6131 EQUALLY SPACED (TOP)
3-ES5182 EQUALLY SPACED (BOTTOM)

3-ES6132 EQUALLY SPACED (TOP)
3-ES5183 EQUALLY SPACED (BOTTOM)

3-ES6130 EQUALLY SPACED (TOP)
3-ES5181 EQUALLY SPACED (BOTTOM)

3-ES6131 EQUALLY SPACED (TOP)
3-ES5182 EQUALLY SPACED (BOTTOM)

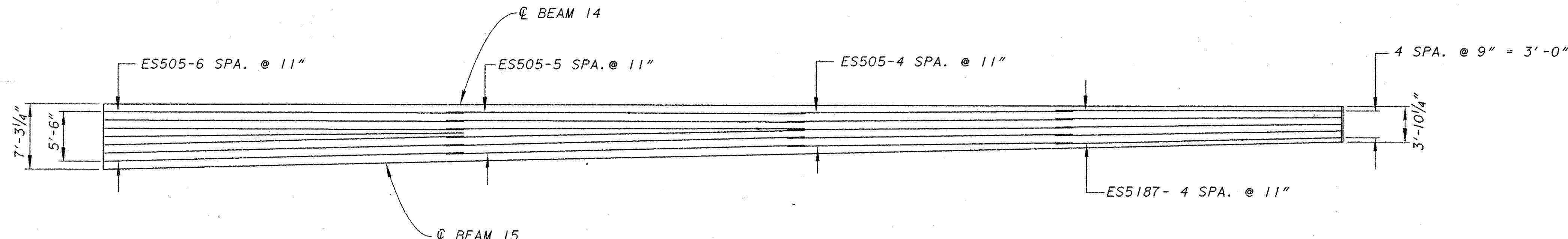
3-ES6135 EQUALLY SPACED (TOP)
3-ES5186 EQUALLY SPACED (BOTTOM)

LAP LENGTHS

LAP NO. 4 BARS (TOP) 2'-0"
LAP NO. 5 BARS (BOTTOM) 2'-6"
LAP NO. 6 BARS (TOP) 3'-0"

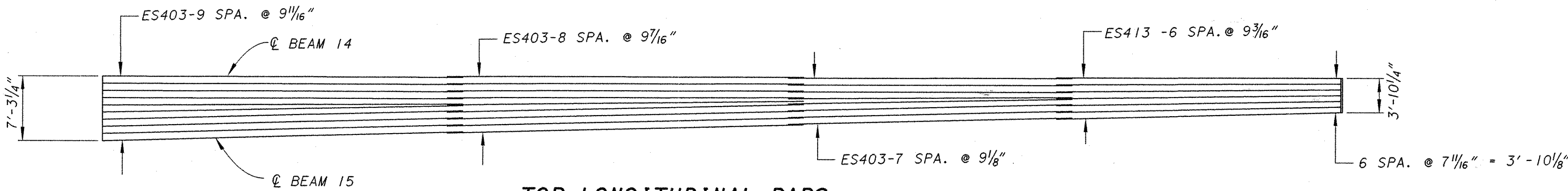
TRANSVERSE REINFORCING STEEL LAYOUT FOR EASTBOUND LANE

NOTE: FOR SPACING OF LONGITUDINAL RE-STEEL NOT SHOWN BELOW SEE TRANSVERSE SECTION



BOTTOM LONGITUDINAL BARS

DECK EDGE LAYOUT (SOUTH EDGE BETWEEN BEAMS BMS. 14 & 15)

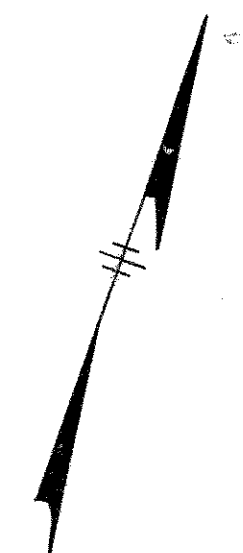


TOP LONGITUDINAL BARS

DECK EDGE LAYOUT (SOUTH EDGE BETWEEN BEAMS BMS. 14 & 15)

DATE	STRUCTURE FILE NUMBER
REVIEWED	4503031
DRAWN	REVISOR
DTF	DTF
DESIGNED	CHECKED
DTF	ASD

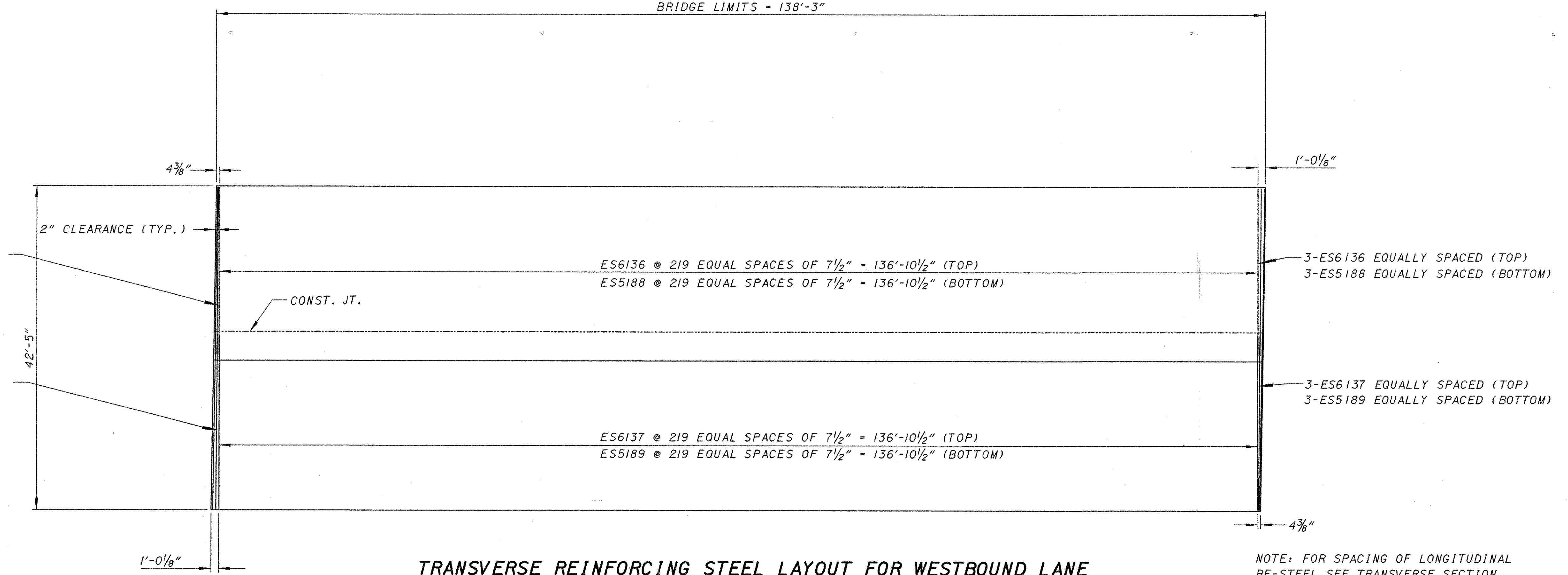
L0161845



BRIDGE LIMITS = 138'-3"

3-ES6136 EQUALLY SPACED (TOP)
3-ES5188 EQUALLY SPACED (BOTTOM)

3-ES6137 EQUALLY SPACED (TOP)
3-ES5189 EQUALLY SPACED (BOTTOM)

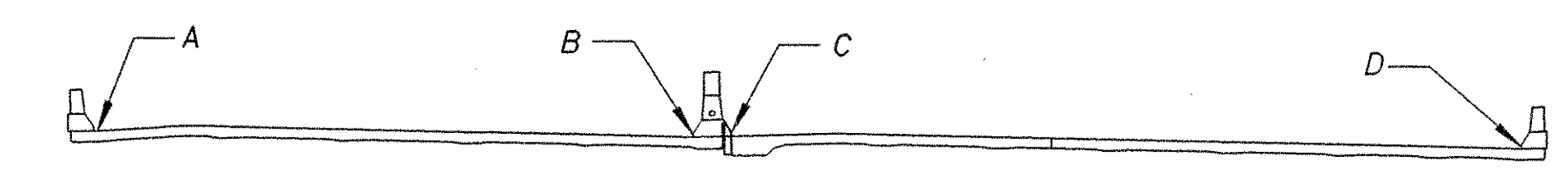


LAP LENGTHS

- LAP NO. 4 BARS (TOP) 2'-0"
- LAP NO. 5 BARS (BOTTOM) 2'-6"
- LAP NO. 6 BARS (TOP) 3'-0"

TRANSVERSE REINFORCING STEEL LAYOUT FOR WESTBOUND LANE

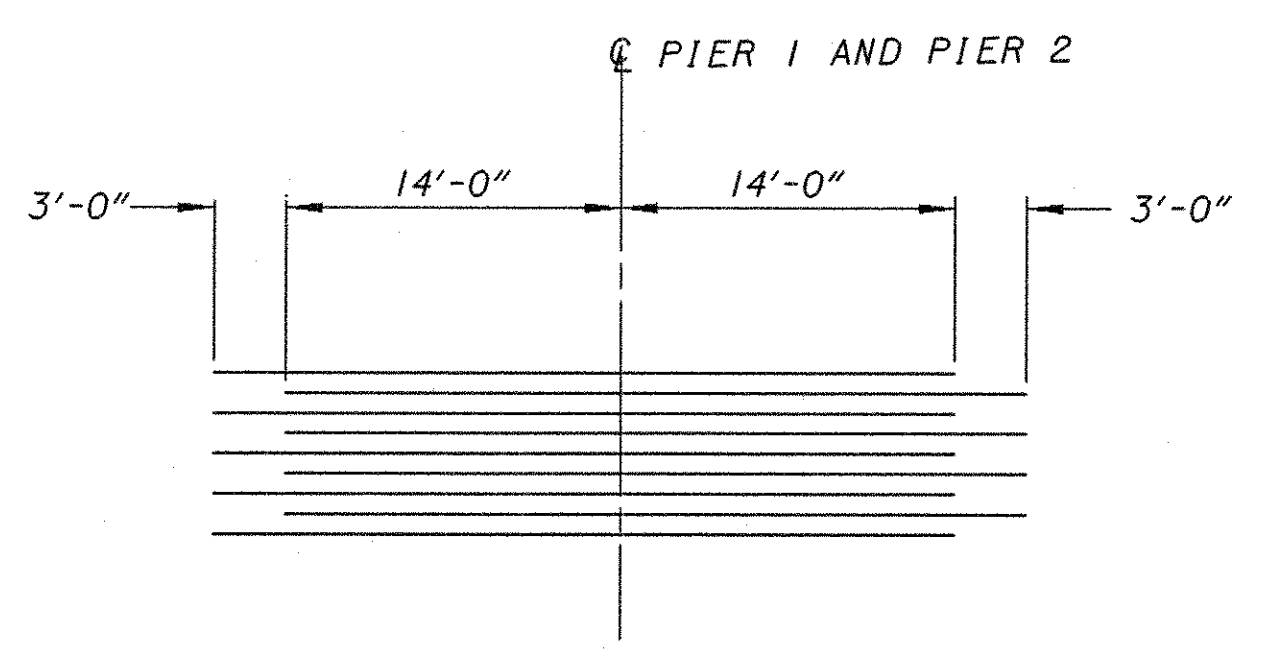
NOTE: FOR SPACING OF LONGITUDINAL RE-STEEL SEE TRANSVERSE SECTION



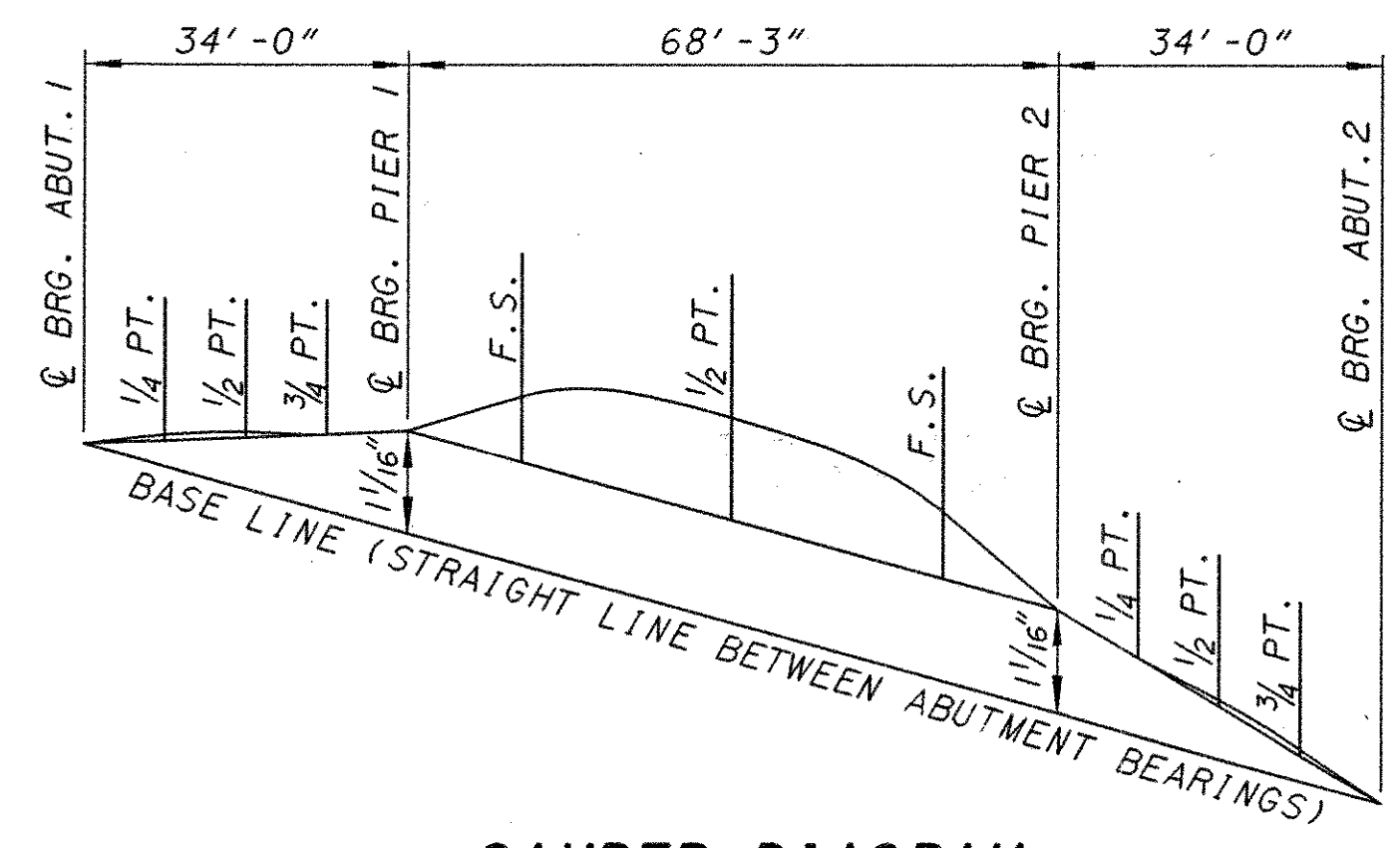
	SPAN 1			SPAN 2			SPAN 3		
	1/4 PT.	1/2 PT.	3/4 PT.	F.S.	1/2 PT.	F.S.	1/4 PT.	1/2 PT.	3/4 PT.
DEFL. DUE TO WEIGHT OF STEEL	0	0	0	1/16	1/8	1/16	0	0	0
DEFL. DUE TO REMAINING D.L.	0	-1/16	-1/16	3/8	9/16	3/8	-1/16	-1/16	0
ADJ. REQ'D FOR VERT. CURVE	1/16	1/8	1/16	1/4	3/8	1/4	1/16	1/8	1/16
REQ'D SHOP CAMBER	1/16	1/16	0	1/16	1/16	1/16	1/16	1/16	0

LOCATION	A	B	C	D
☉ BRG. ABUT. 1	874.52	873.59	873.59	871.66
1/4 PT.	874.52	873.59	873.59	871.67
1/2 PT.	874.52	873.60	873.60	871.69
3/4 PT.	874.52	873.60	873.60	871.69
☉ PIER 1	874.53	873.60	873.60	871.71
FIELD SPLICE	874.54	873.61	873.61	871.73
1/2 PT.	874.53	873.60	873.60	871.73
FIELD SPLICE	874.46	873.53	873.53	871.68
☉ PIER 2	874.37	873.44	873.44	871.61
1/4 PT.	874.33	873.41	873.41	871.57
1/2 PT.	874.30	873.37	873.37	871.54
3/4 PT.	874.25	873.32	873.32	871.51
☉ BRG. ABUT. 2	874.21	873.28	873.28	871.46

NOTE: THE ELEVATIONS GIVEN ABOVE ARE THE CONTROL ELEVATIONS TO WHICH SCREEDS MUST BE SET TO MAKE ALLOWANCE FOR THE ANTICIPATED DEAD LOAD DEFLECTION DUE TO THE WEIGHT OF THE CONCRETE



STAGGER OF ES6138 BARS OVER PIERS



CAMBER DIAGRAM

L016184A

DESIGN AGENCY
OHIO DEPARTMENT
OF TRANSPORTATION

DATE
REVIEWED
STRUCTURE FILE NUMBER
4503031

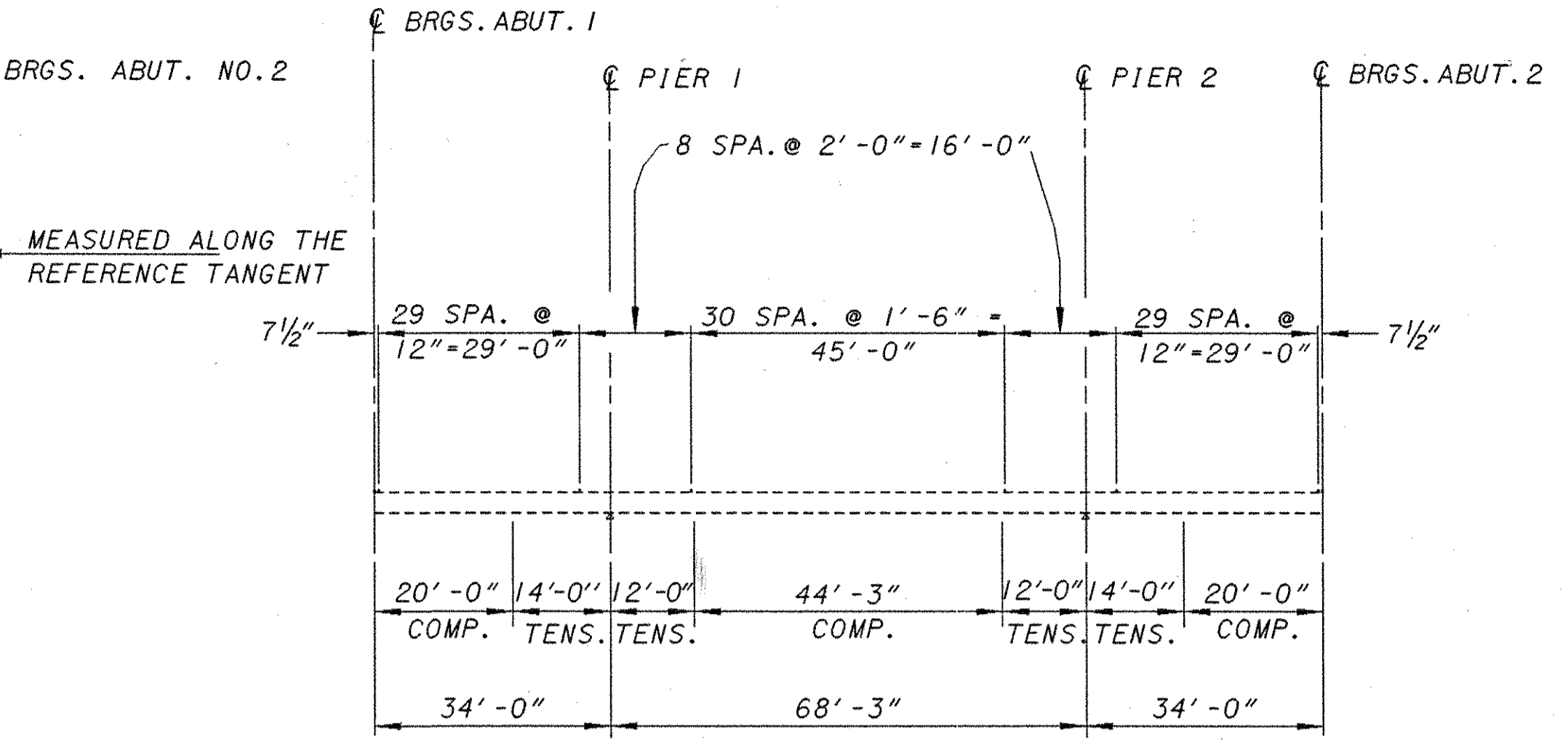
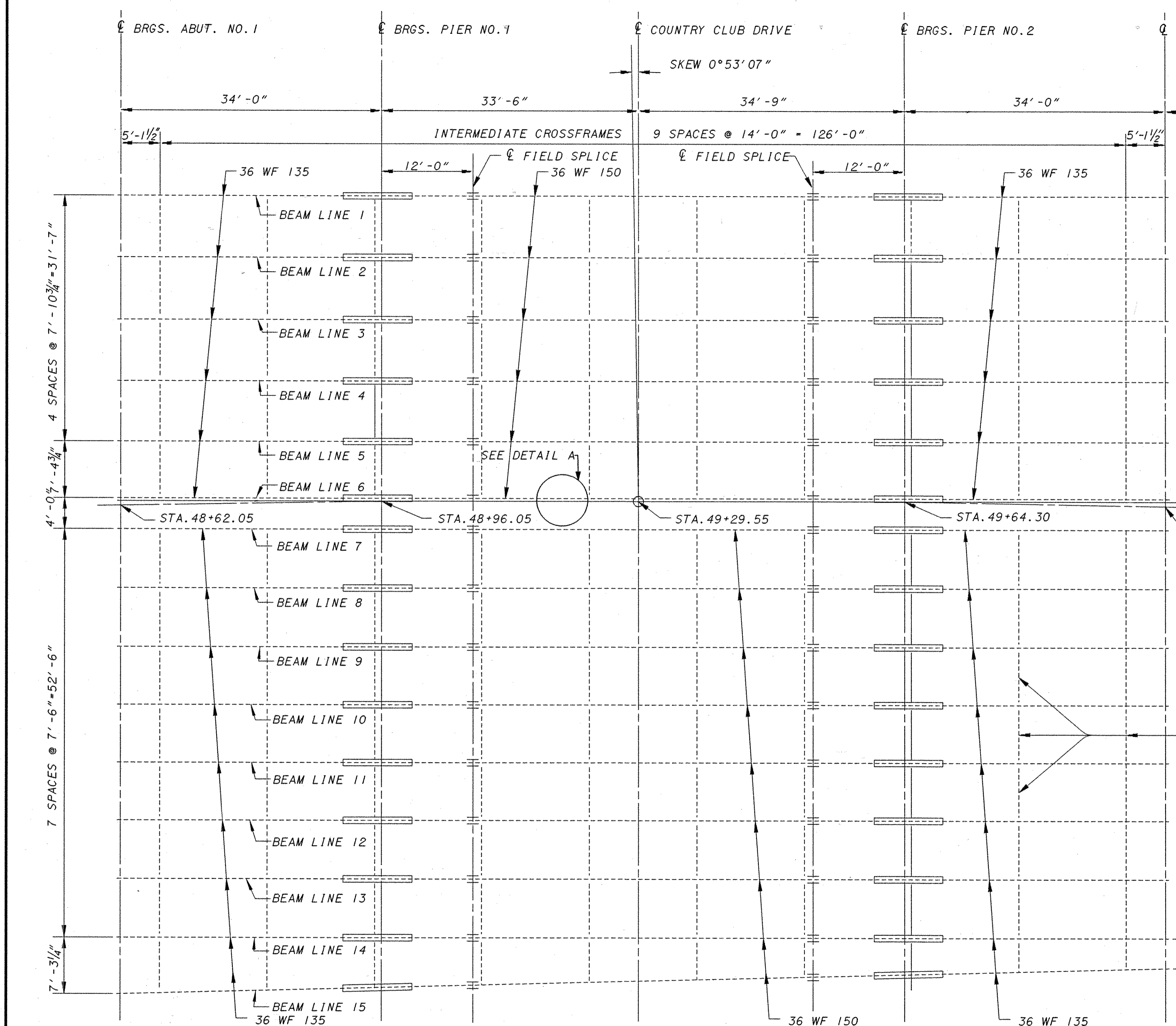
DRAWN
DTF
CHECKED
RSD

SUPERSTRUCTURE DETAILS
BRIDGE NO. LIC-16-1859
S.R. 16 OVER COUNTRY CLUB DRIVE

LIC-16-17.94

11/17

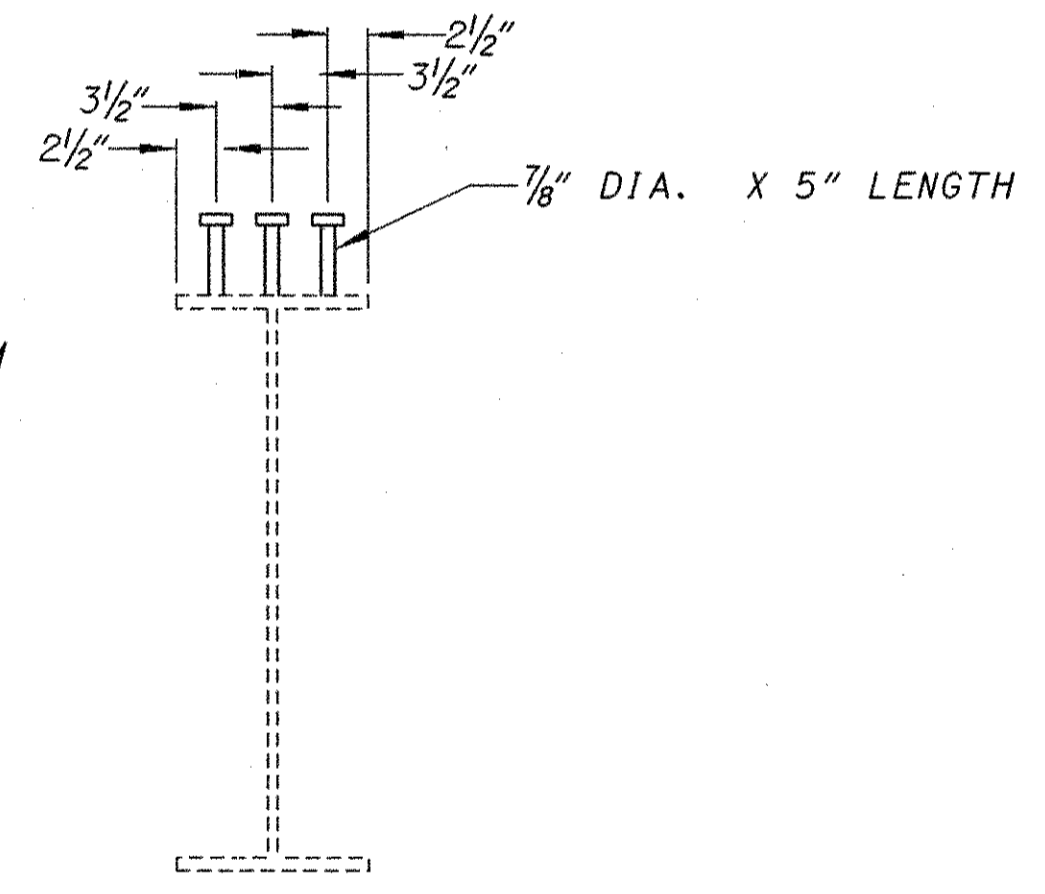
367
420



SHEAR CONNECTOR LAYOUT

COMP. = COMPRESSION ZONES @ THE TOP FLANGE OF BEAM
TENS. = TENSION ZONES @ THE TOP FLANGE OF BEAM

NOTE: WELDED ATTACHMENTS OF SUPPORTS FOR THE CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL NOT BE CLOSER THAN 1" FROM EDGE OF FLANGE, NOT MORE THAN 2" LONG AND NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.

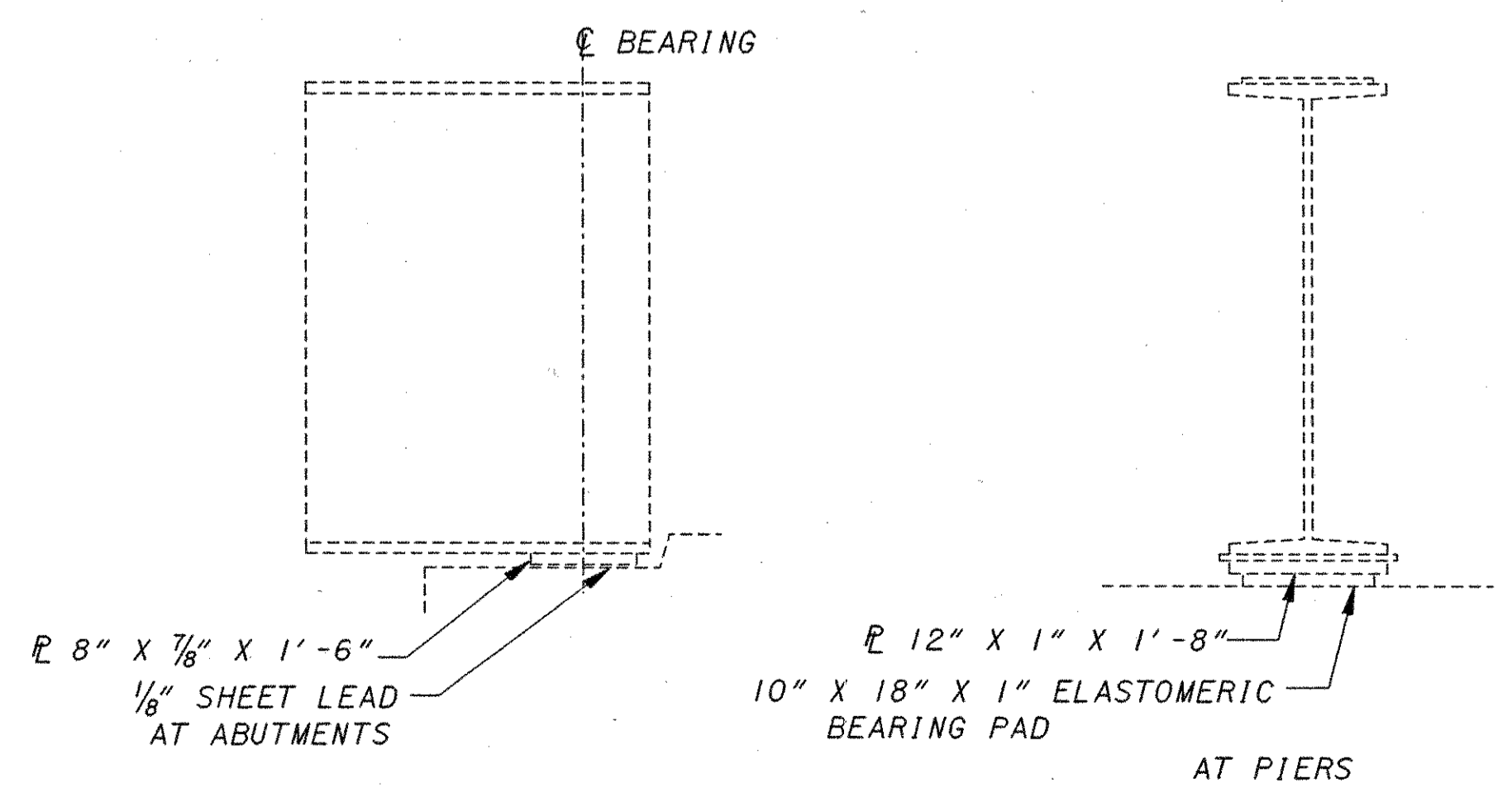


MOMENT PLATES: 10 X 7/16 X 9'-0" TOP
13 1/2 X 1/2 X 9'-0" BOTTOM

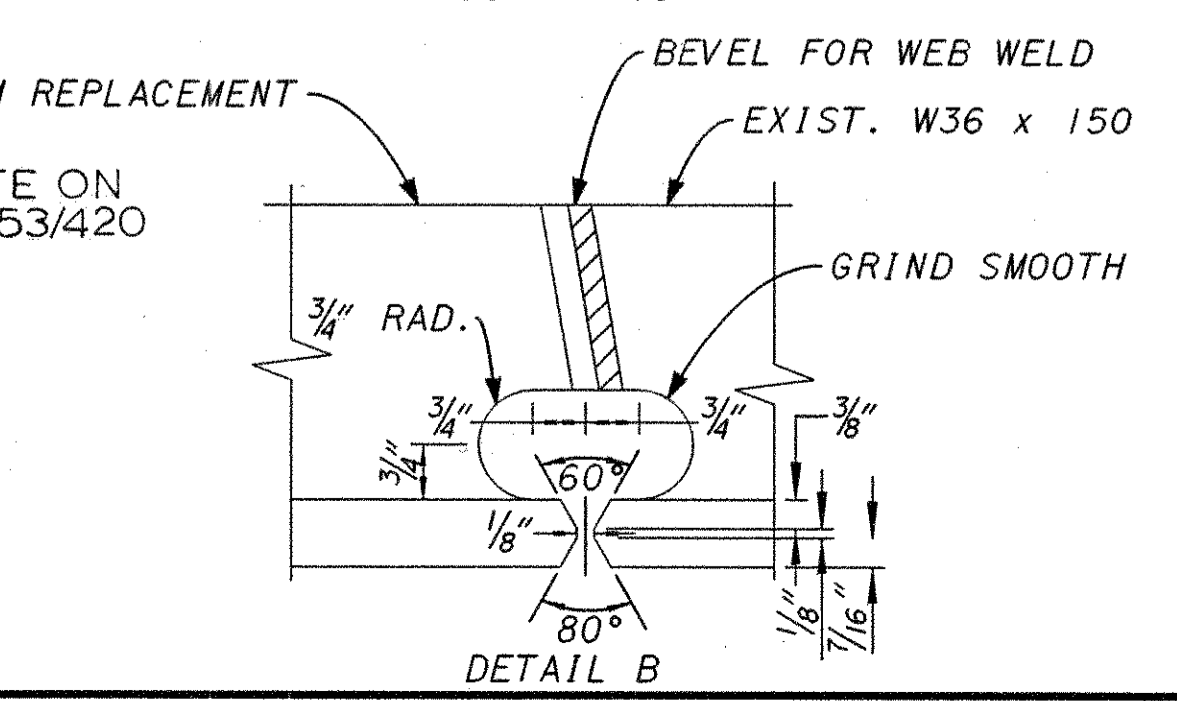
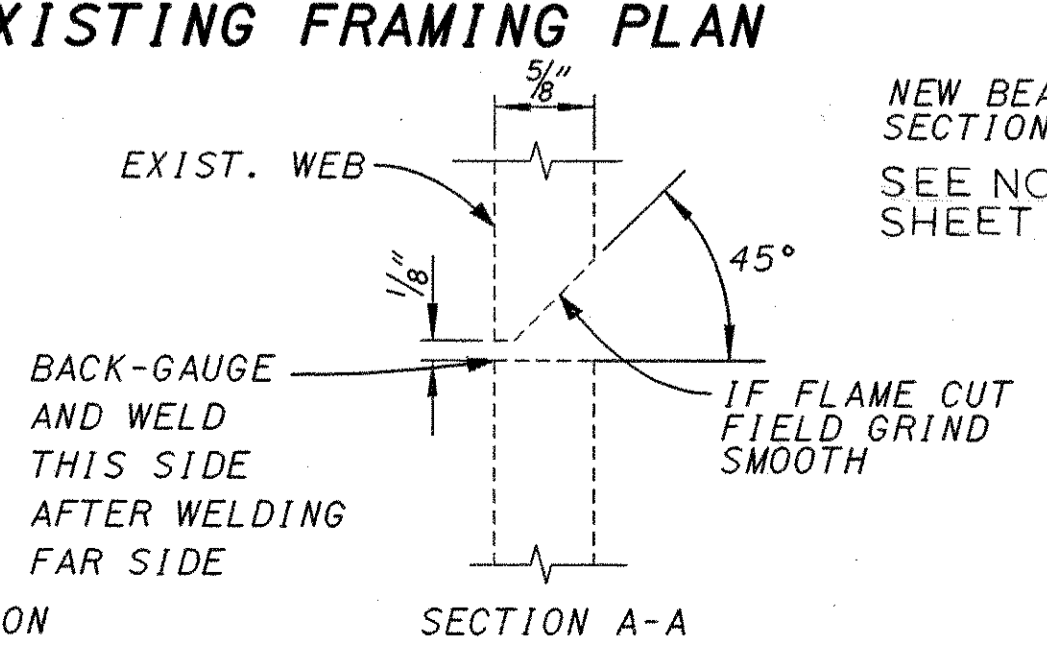
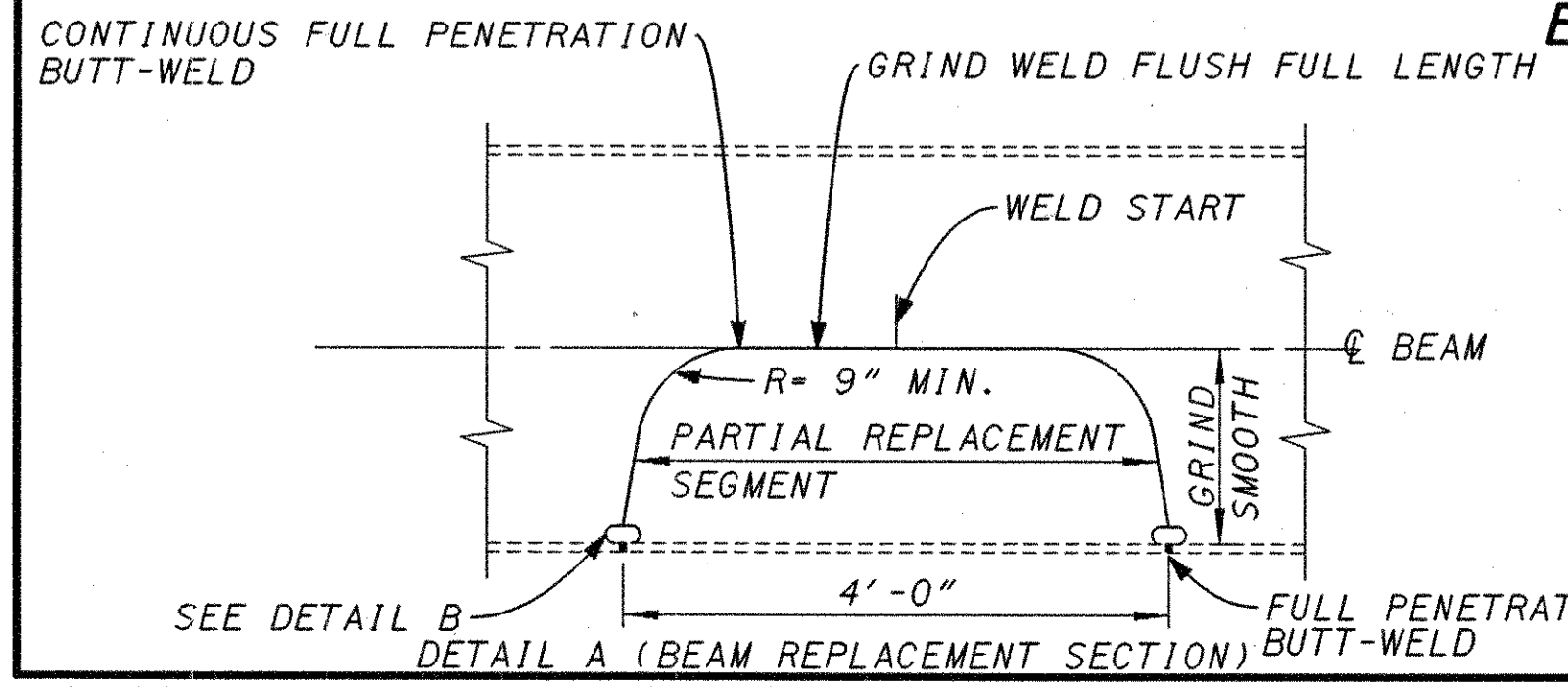
NOTE: FOR ADDITIONAL DETAILS, REFER TO STANDARD DRAWING SD-1-69.

INTERMEDIATE CROSSFRAMES
(3-LS 3 X 3 X 3/16") TYP.

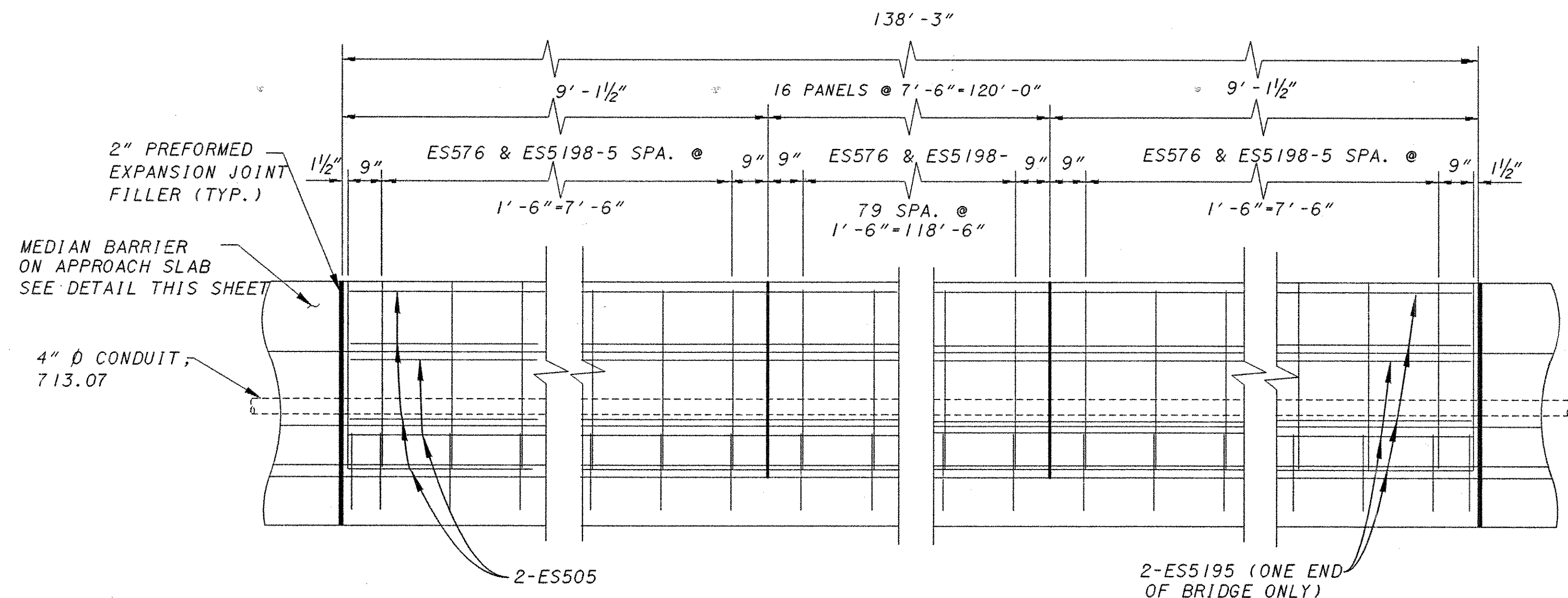
SHEAR CONNECTOR DETAIL



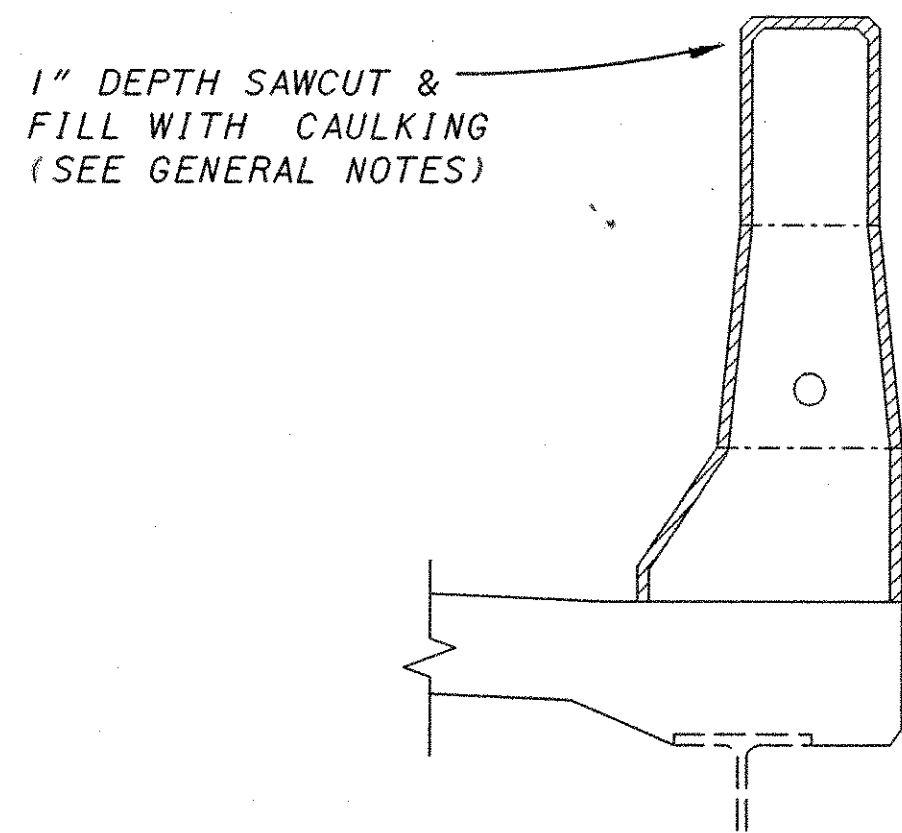
TYPICAL BEAM BEARING DETAILS (EXISTING)



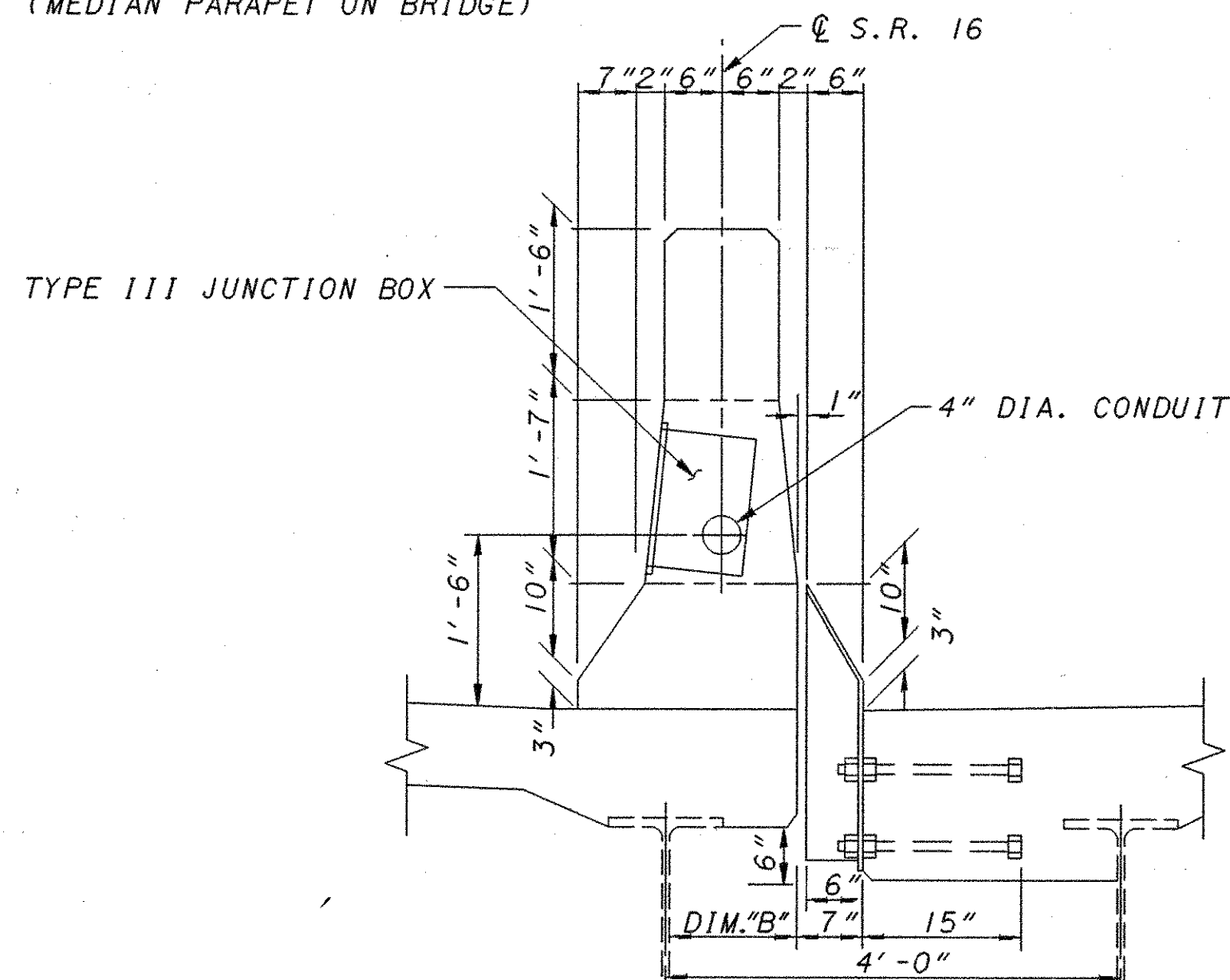
LO161857



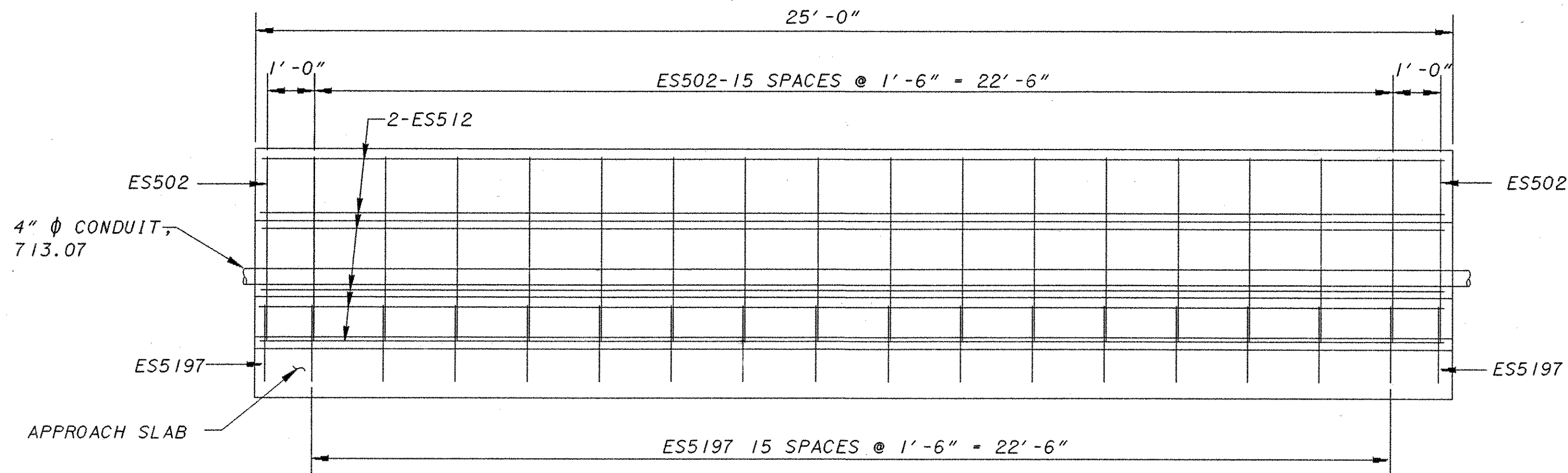
ELEVATION
(MEDIAN PARAPET ON BRIDGE)



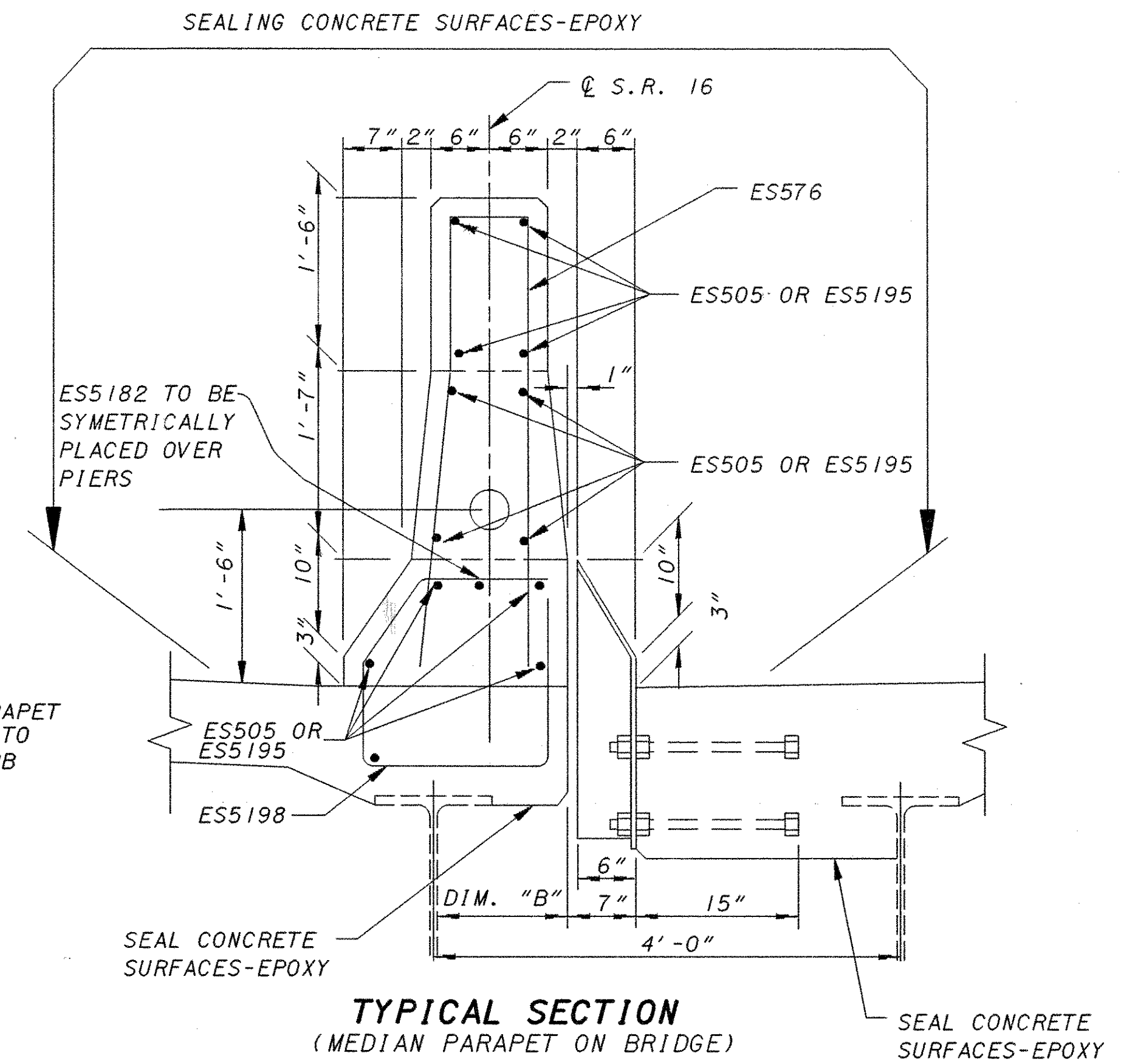
TYPICAL SAWCUT AT
MEDIAN BARRIER



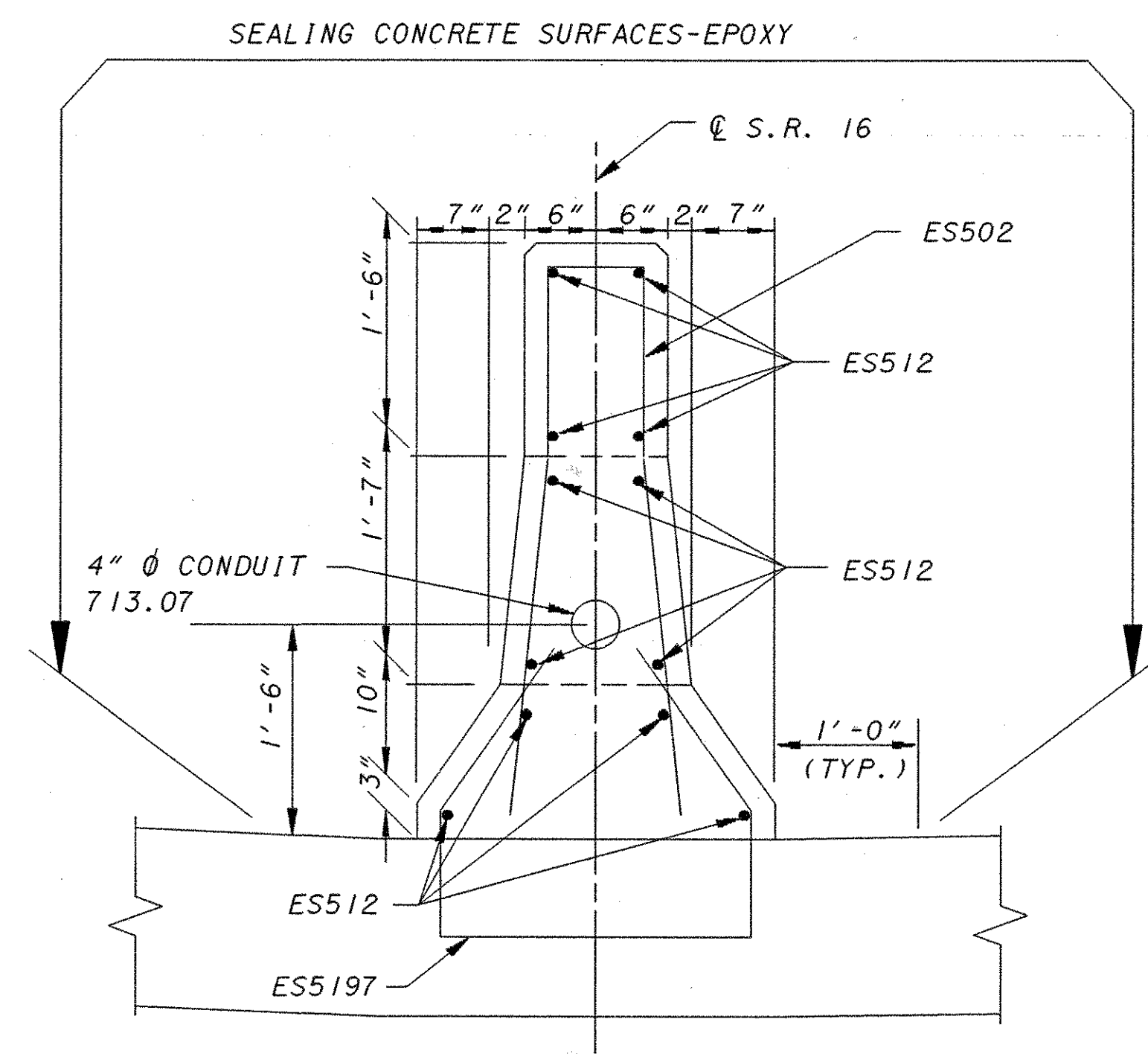
JUNCTION BOX DETAIL
STA. 48+74.30



ELEVATION
MEDIAN PARAPET ON APPROACH SLAB



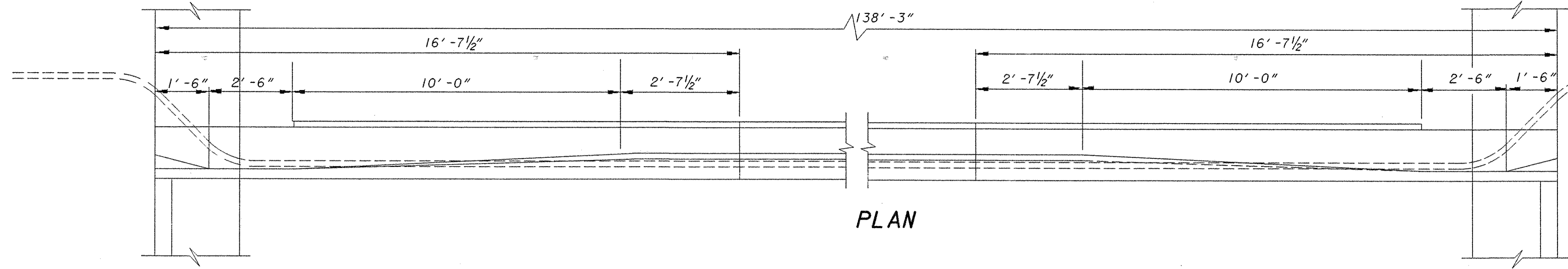
TYPICAL SECTION
(MEDIAN PARAPET ON BRIDGE)



TYPICAL SECTION
(MEDIAN PARAPET ON APPROACH SLAB)

NOTE: SEAL MEDIAN PARAPET
IN ITS ENTIRETY PRIOR TO
PLACEMENT OF STEEL CURB
PLATES

LO161853

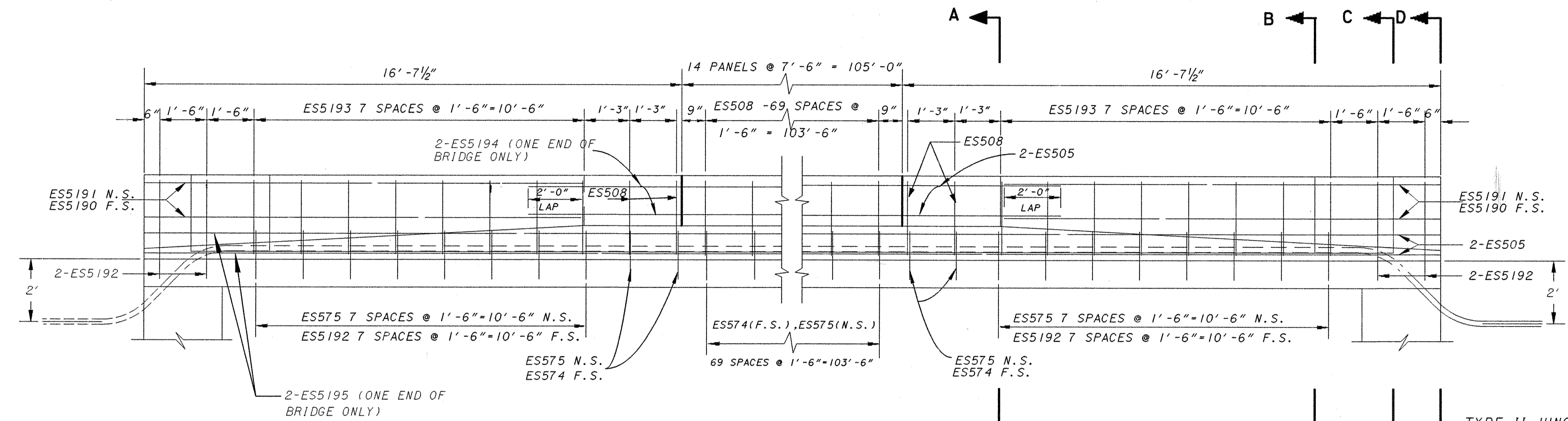


PLAN

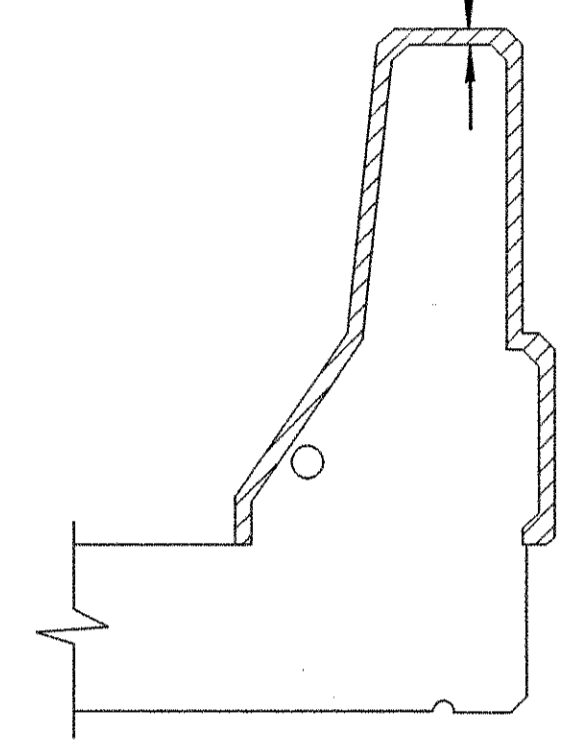
FOR ADDITIONAL DETAILS, SEE STANDARD DRAWING HL-30.31.

NOTE: FOR LIGHT POLE DETAILS, SEE SHEET 15/17

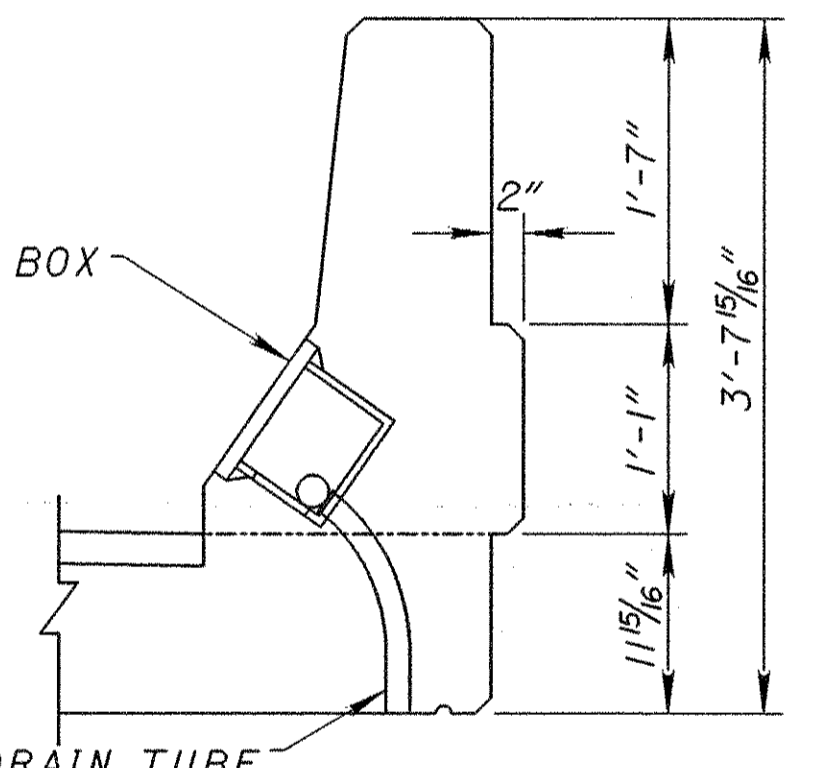
1" DEPTH SAWCUT & FILL WITH CAULKING SEE NOTE ON SHT. 353/420



ELEVATION



DETAIL A

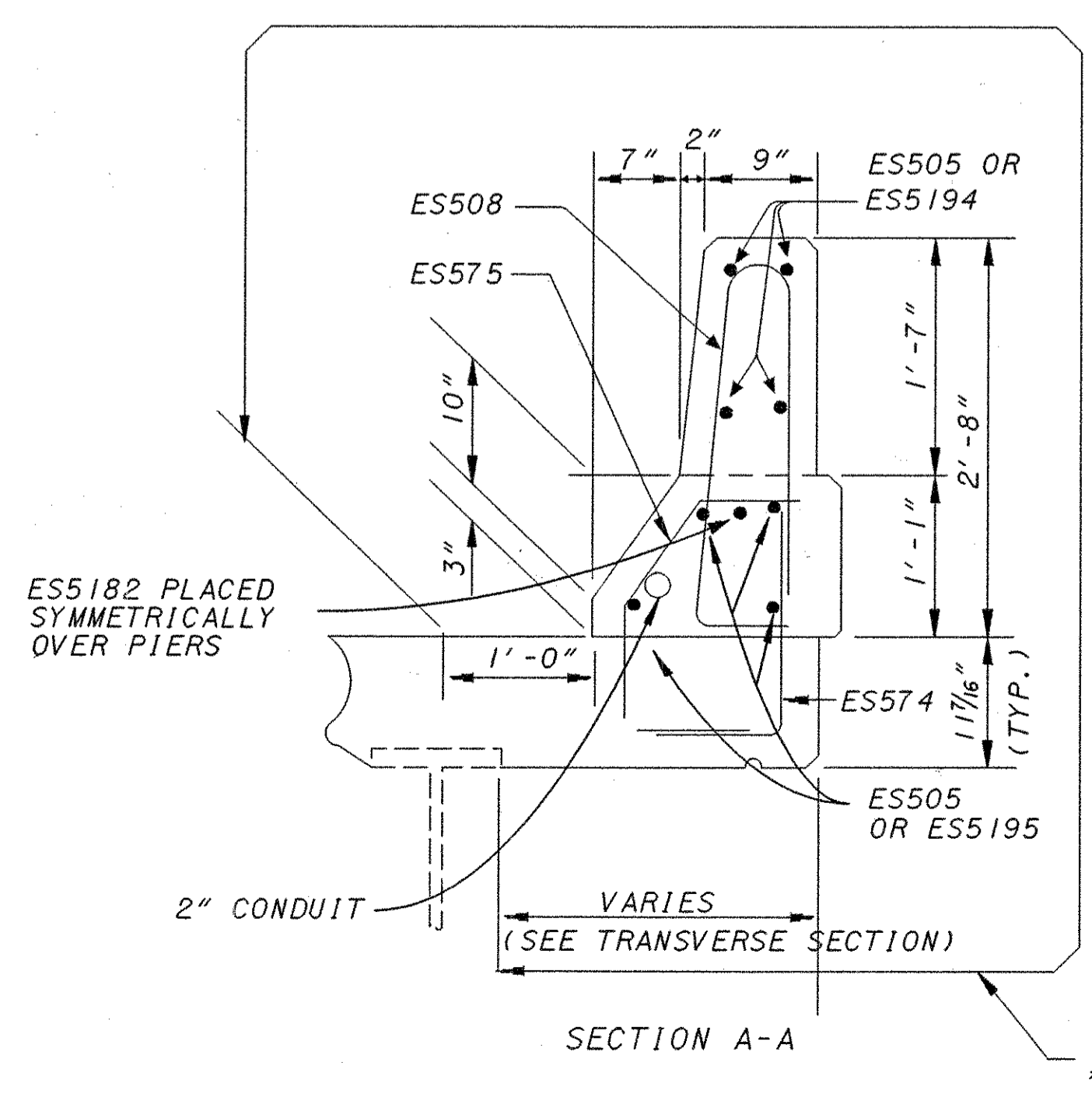


TYPE II JUNCTION BOX

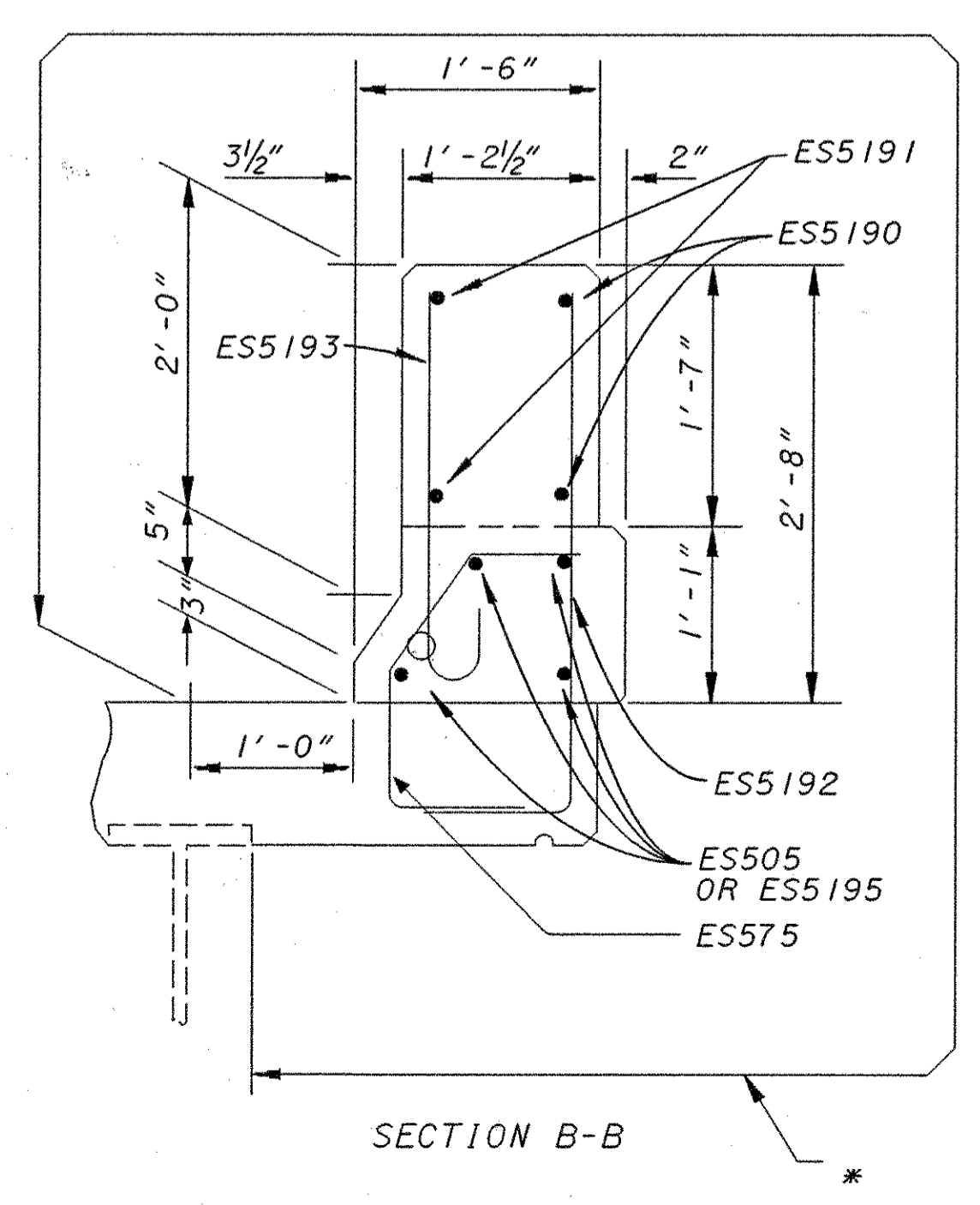
JUNCTION BOX DETAILS
 STA. 48+81.43 LT., STA. 48+81.43 RT.
 STA. 49+78.93 LT., STA. 49+78.93 RT.

* SEAL CONCRETE SURFACES (EPOXY) (INCLUDE 1'-0" OF DECK AT FACE OF CURB, BOTH PARAPETS) SEAL TO BEAM

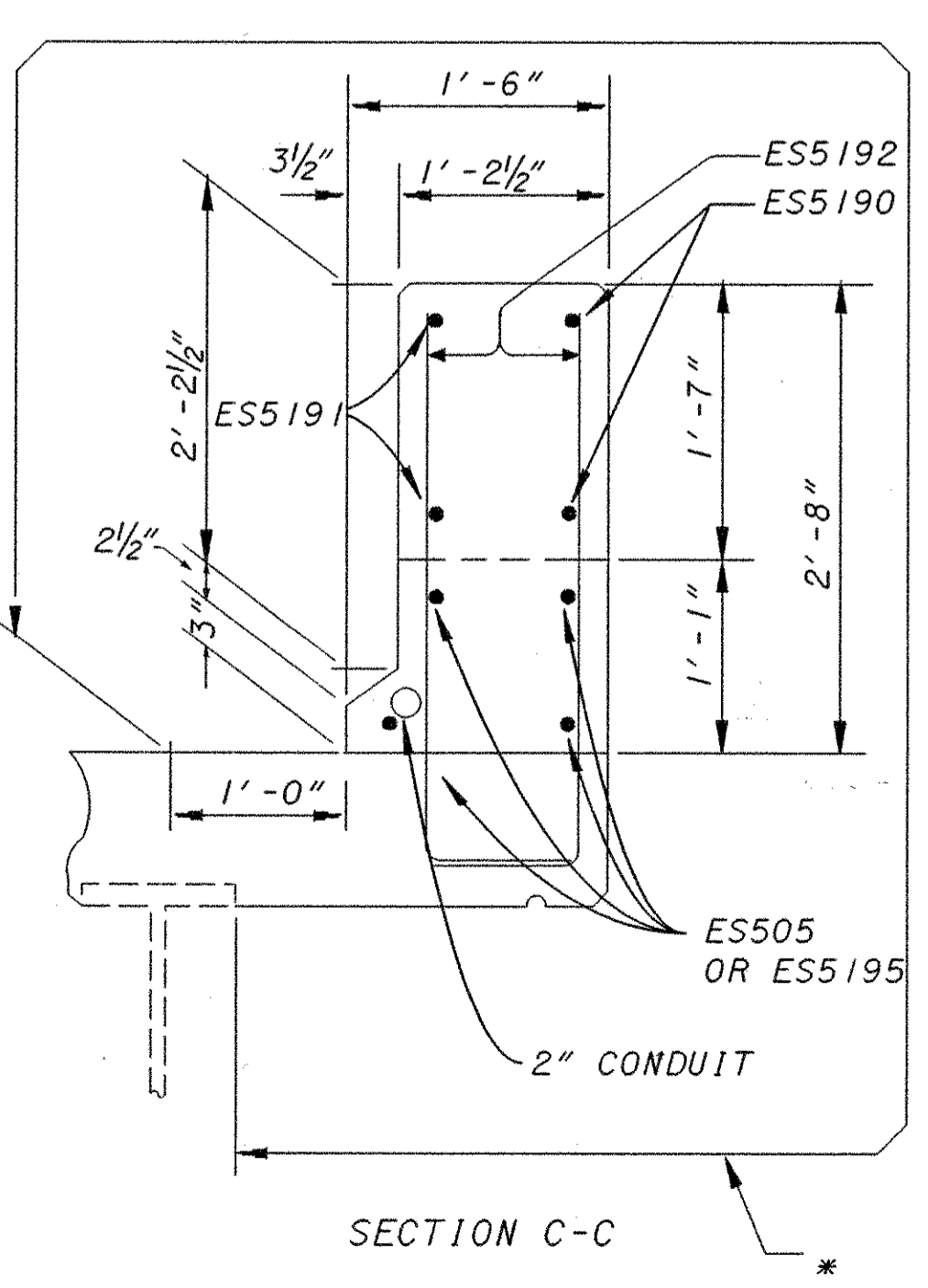
LEGEND
 N.S. - NEAR SIDE
 F.S. - FAR SIDE



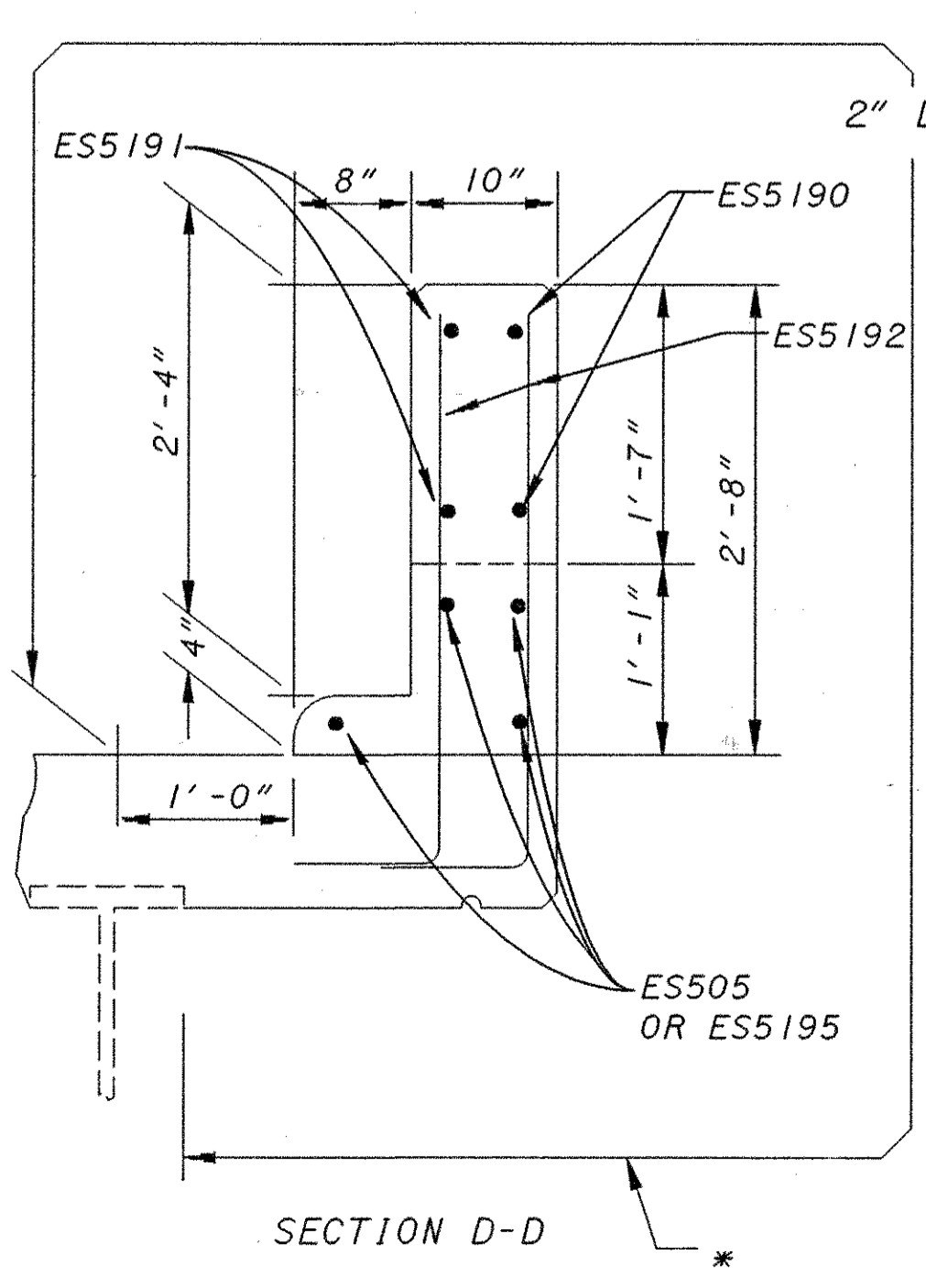
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

L016185B

DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION	
DATE	REVIEWED
STRUCTURE FILE NUMBER 4503031	STRUCTURE FILE NUMBER 4503031
DESIGNED DTF	CHECKED RSD
DRAWN DTF	REVISED

OUTSIDE PARAPET DETAILS
 BRIDGE NO. LIC-16-1859
 S.R. 16 OVER COUNTRY CLUB DRIVE

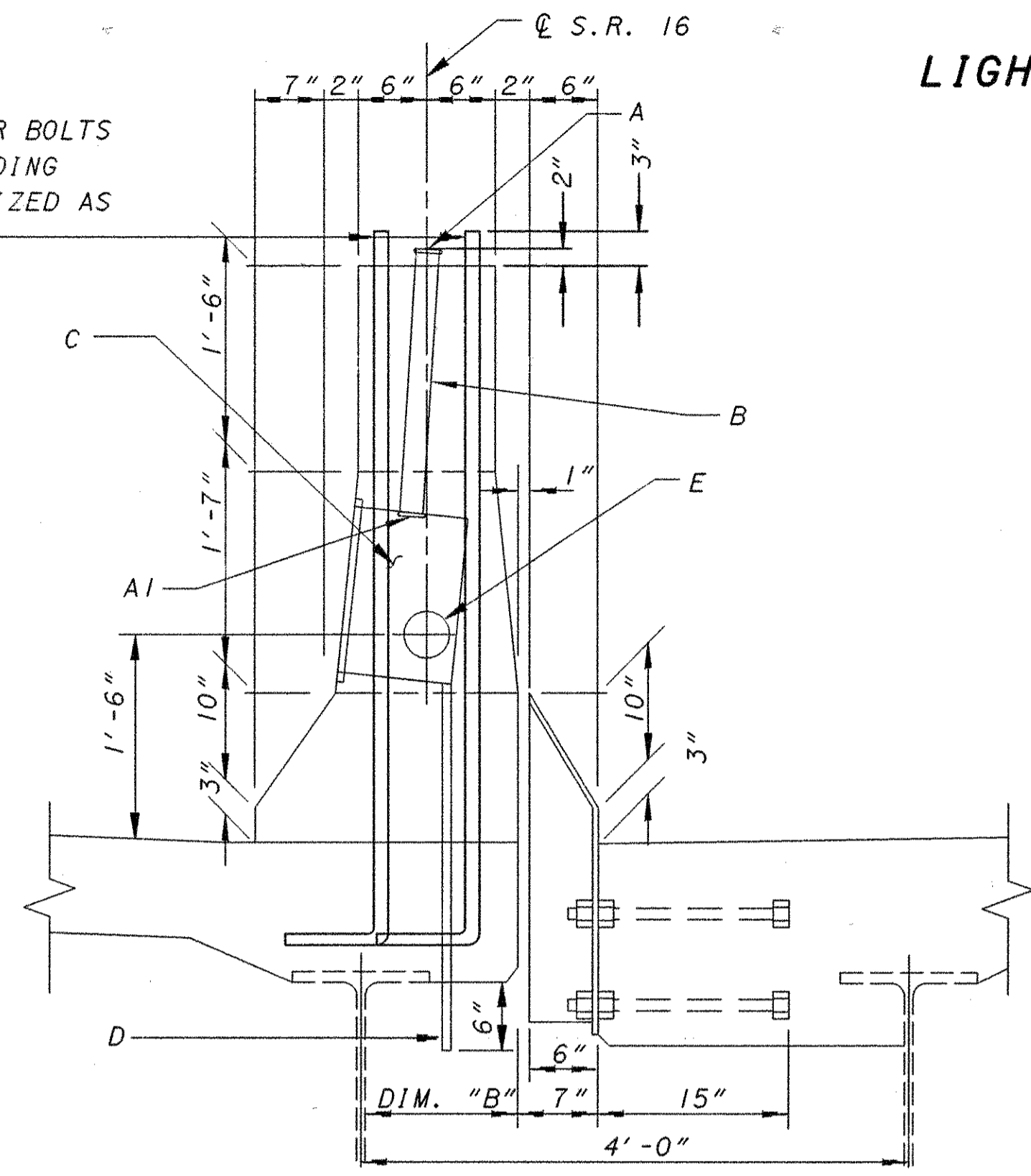
LIC-16-17.94

14 / 17

370
420

LIGHT POLE DETAIL STA. 49+68 (MEDIAN PARAPET)

LIGHT POLE ANCHOR BOLTS
1 1/4" Ø X 69" INCLUDING
9" BEND. GALVANIZED AS
PER 711.02



TYPICAL SECTION
(MEDIAN PARAPET ON BRIDGE)

- A: GROUNDING BUSHING FOR 2" Ø CONDUIT
- AI: GROUNDING BUSHING & LOCKNUT FOR 2" Ø CONDUIT
- B: 2" Ø CONDUIT
- C: TYPE III JUNCTION BOX
- D: 3/4" ELECTRICAL METALLIC TUBING
- E: 4" Ø CONDUIT
- F: GROUNDING BUSHING FOR 4" Ø CONDUIT, INCLUDING LOCKNUT

NOTE: FOR MORE DETAILS SEE STD. DWGS. HL-10.11, HL-10.12, HL-10.13, HL-20.13, AND HL-50.21

NOTE: REMOVALS OF JUNCTION BOXES, WIRING, ETC. AT MEDIAN LIGHT POLE LOCATIONS SHALL BE INCLUDED WITH ITEM 202-PORCTIONS OF STRUCTURE REMOVED, SUPERSTRUCTURE.

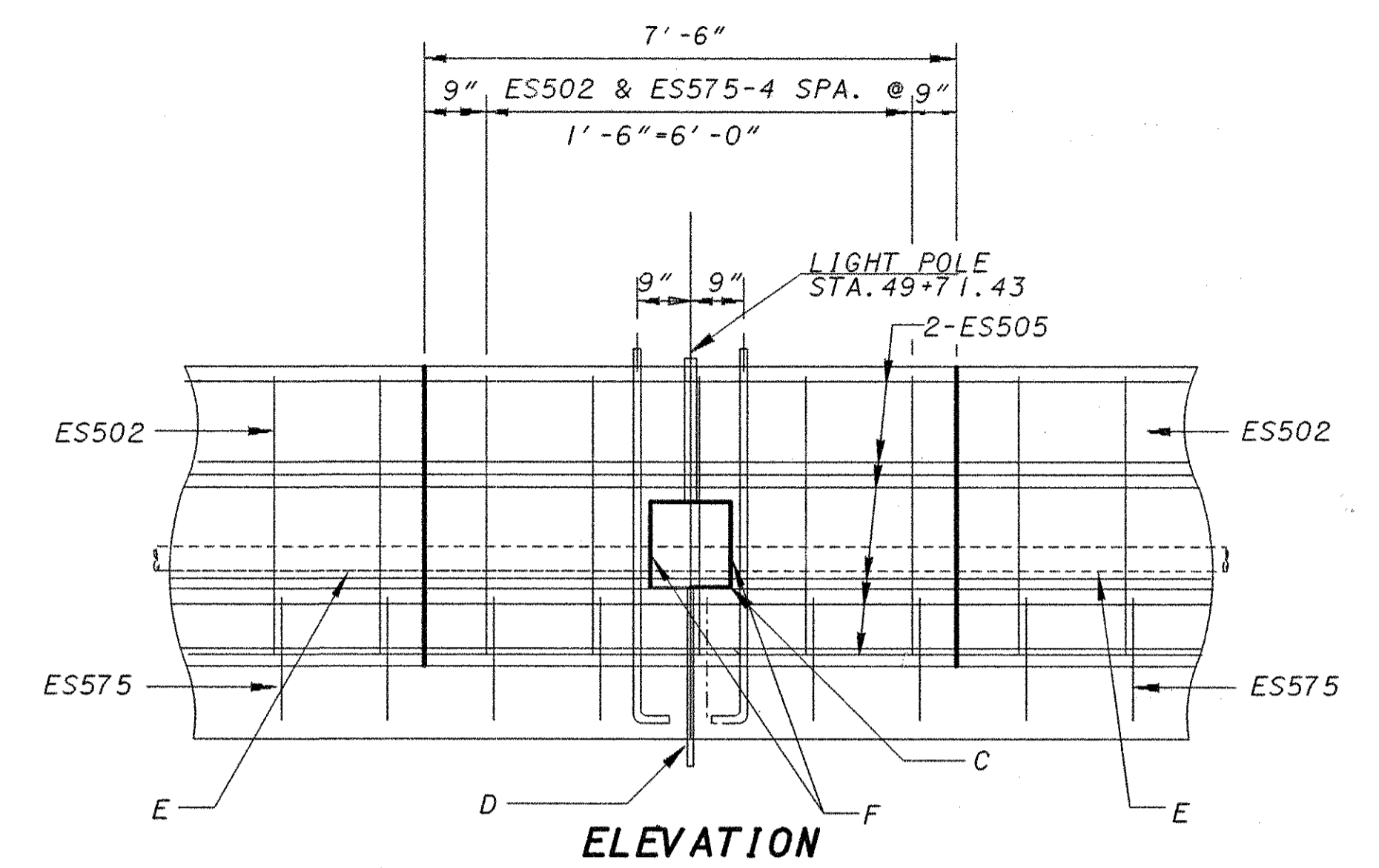
NOTE: THE TOP OF THE CONCRETE BARRIER SHALL BE FLAT, SMOOTH, AND LEVEL TO ELIMINATE NEED FOR LIGHT POLE SHIMS. GRIND SURFACE, IF REQUIRED, TO MAKE CONCRETE LEVEL.

NOTE: JUNCTION BOXES SHALL CONFORM TO 713.10, EXCEPT THAT GALVANIZED STEEL PLATE COVERS SHALL CONFORM TO ASTM A-242 OR A-36.

NOTE: THE UNIT PRICE BID FOR EACH "ITEM 625, STRUCTURE JUNCTION BOX TYPE III WITH COVER PLATE", SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING THE TYPE III JUNCTION BOX, 2" DIA. CONDUIT, GROUNDING BUSHINGS, LOCKNUTS, EMT, AND ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED

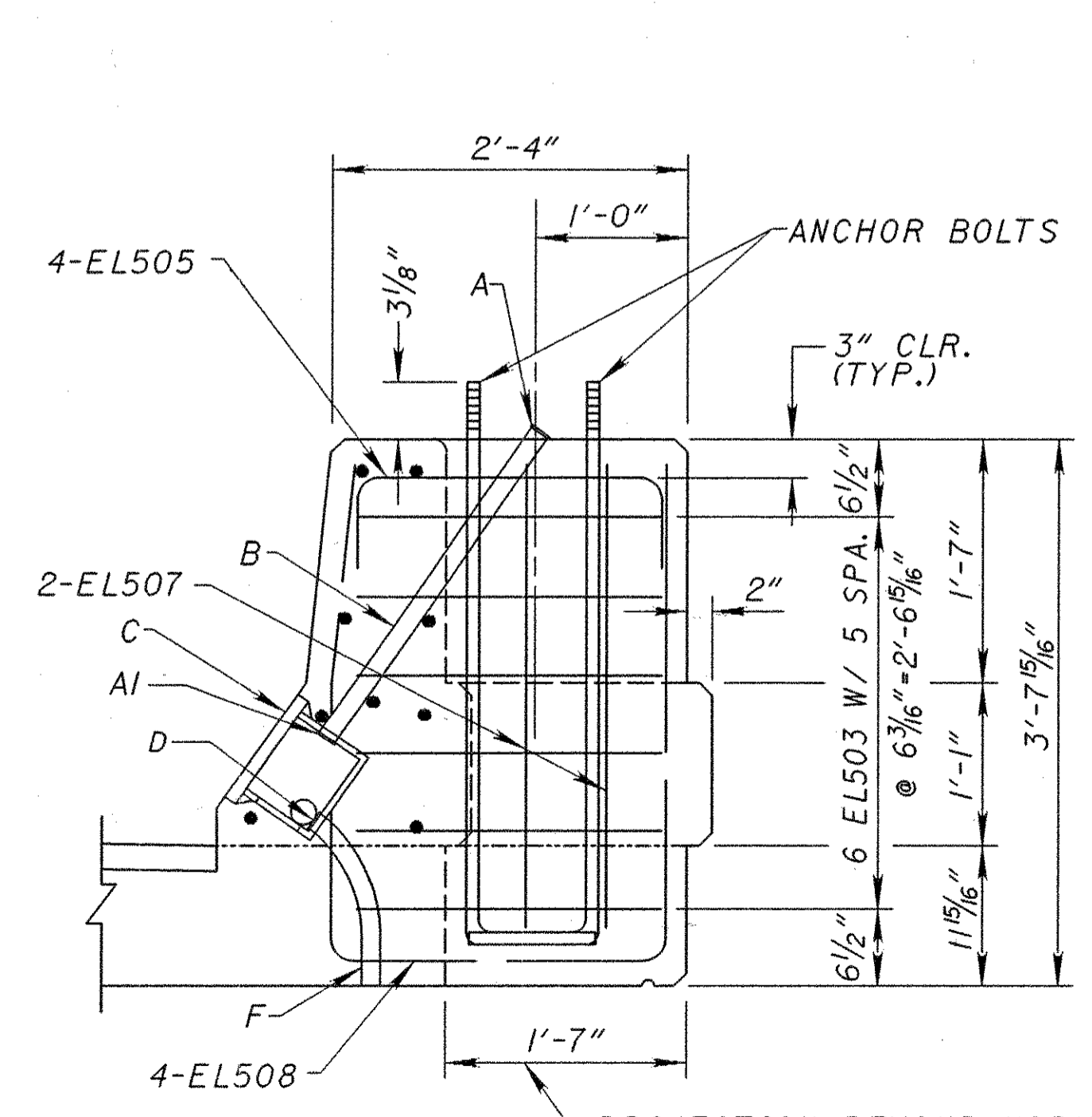
NOTE: CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF 622 AND 625

NOTE: FOR STRUCTURE GROUNDING SEE STD. DWG. HL-50.21



ELEVATION
MEDIAN PARAPET AT LIGHT POLE LOCATION

LIGHT POLE DETAIL STA. 49+18.93 (OUTSIDE PARAPET)



SECTION A-A

- A: GROUNDING BUSHING FOR 1 1/2" Ø CONDUIT
- AI: GROUNDING BUSHING & LOCKNUT FOR 1 1/2" Ø CONDUIT
- B: 1 1/2" Ø CONDUIT
- C: TYPE II JUNCTION BOX
- D: GROUNDING BUSHING FOR 2" Ø CONDUIT, INCLUDING LOCKNUT
- E: 2" Ø CONDUIT
- F: 2" Ø CONDUIT DRAIN

NOTE: FOR MORE DETAILS SEE STD. DWGS. HL-10.11, HL-10.12, HL-10.13, HL-20.14 AND HL-50.21

NOTE: REMOVALS OF JUNCTION BOXES, WIRING, ETC. AT PILASTER LOCATIONS SHALL BE INCLUDED WITH ITEM 202-PORCTIONS OF STRUCTURE REMOVED, SUPERSTRUCTURE.

NOTE: THE TOP OF THE CONCRETE BARRIER SHALL BE FLAT, SMOOTH, AND LEVEL TO ELIMINATE NEED FOR LIGHT POLE SHIMS. GRIND SURFACE, IF REQUIRED, TO MAKE CONCRETE LEVEL.

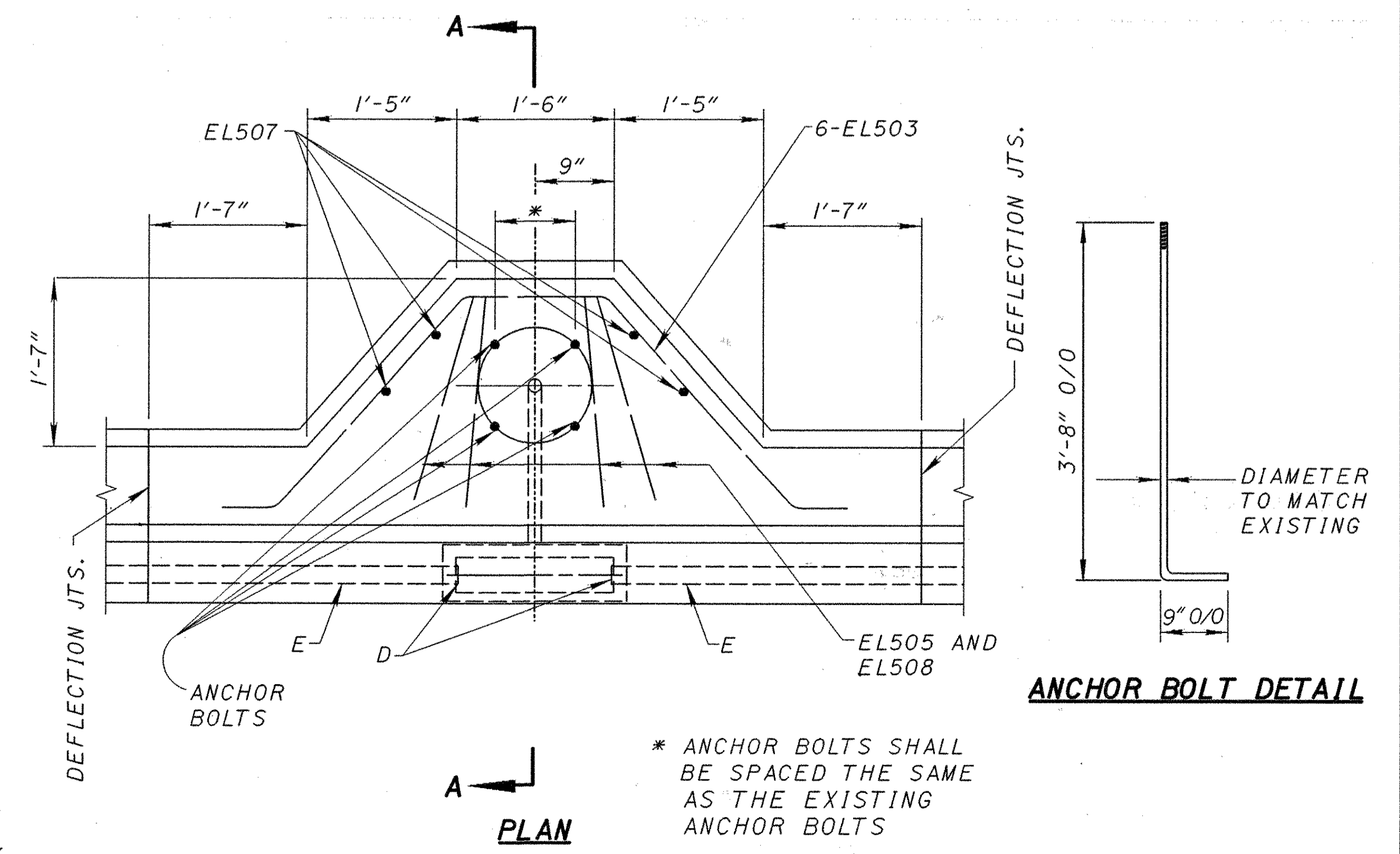
NOTE: JUNCTION BOXES SHALL CONFORM TO 713.10, EXCEPT THAT GALVANIZED STEEL PLATE COVERS SHALL CONFORM TO ASTM A-242 OR A-36.

NOTE: CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF 622 AND 625

NOTE: FOR STRUCTURE GROUNDING SEE STD. DWG. HL-50.21

NOTE: THE UNIT PRICE BID FOR "ITEM 625- STRUCTURE JUNCTION BOX, TYPE II WITH COVER PLATE" SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING THE TYPE II JUNCTION BOX, MODIFIED 1 1/2" DIA. CONDUIT, GROUNDING BUSHINGS, LOCKNUTS, AND ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED

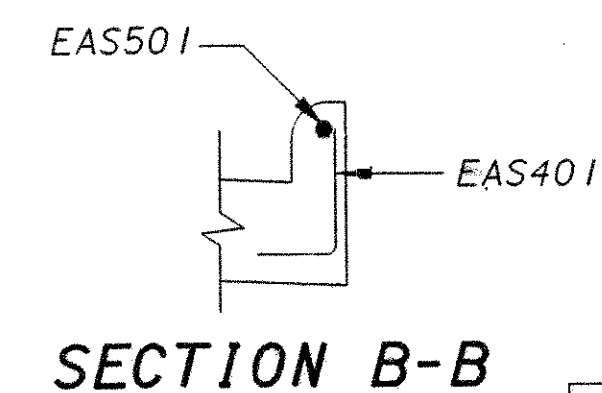
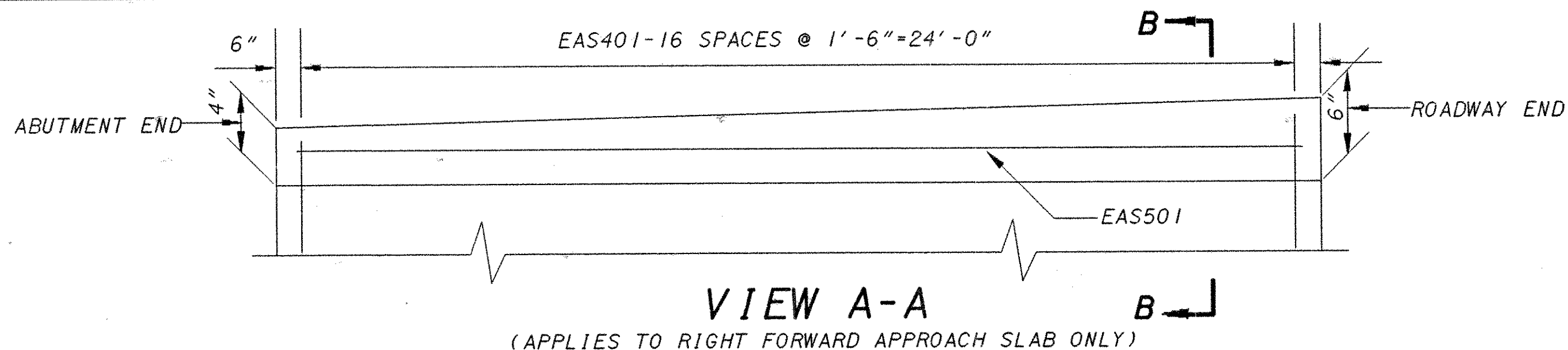
NOTE: THE UNIT PRICE BID FOR "ITEM 625-CONDUIT, 2", 713.07" SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING THE 2" CONDUIT DRAIN AND ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED



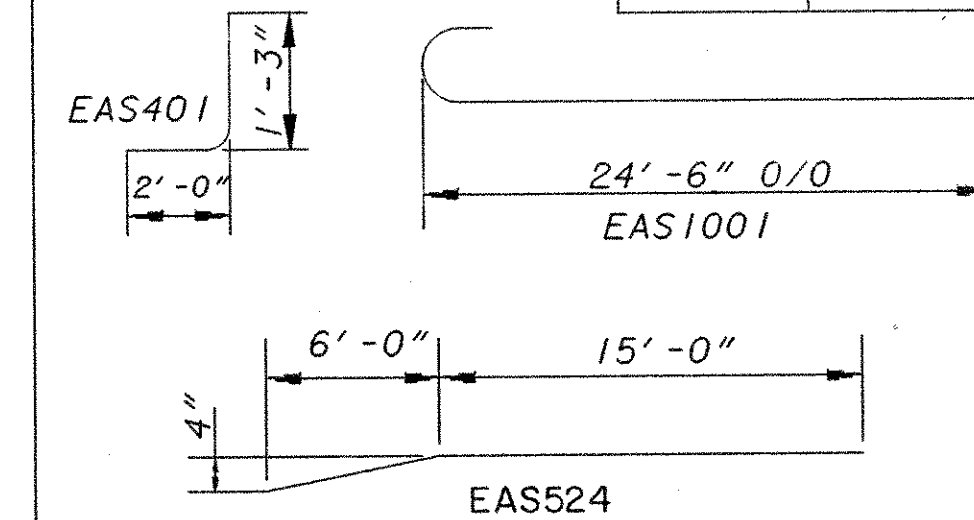
PLAN

ANCHOR BOLT DETAIL

* ANCHOR BOLTS SHALL BE SPACED THE SAME AS THE EXISTING ANCHOR BOLTS

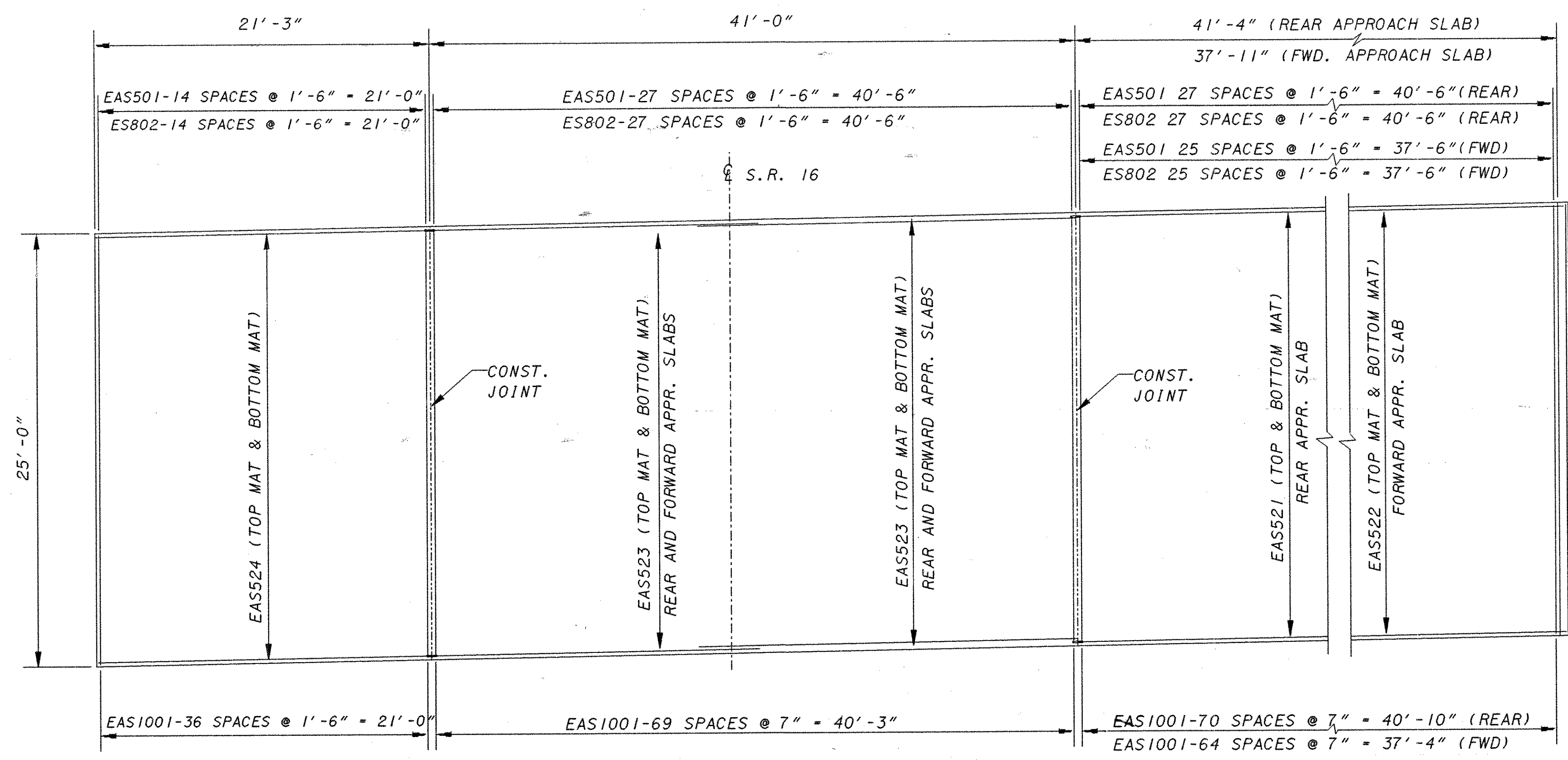


EPOXY COATED REINFORCING STEEL					
MARK	NO.	LENGTH	SHAPE	WEIGHT	
# EAS401	17	3'-2"	BT.	36	
# EAS501	141	24'-6"	ST.	3603	
# EAS521	114	41'-2"	ST.	4895	
# EAS522	114	38'-2"	ST.	4538	
# EAS523	228	21'-6"	ST.	5113	
# EAS524	114	21'-0"	BT.	2497	
# EAS1001	350	25'-11"	BT.	39032	
				TOTAL	59174



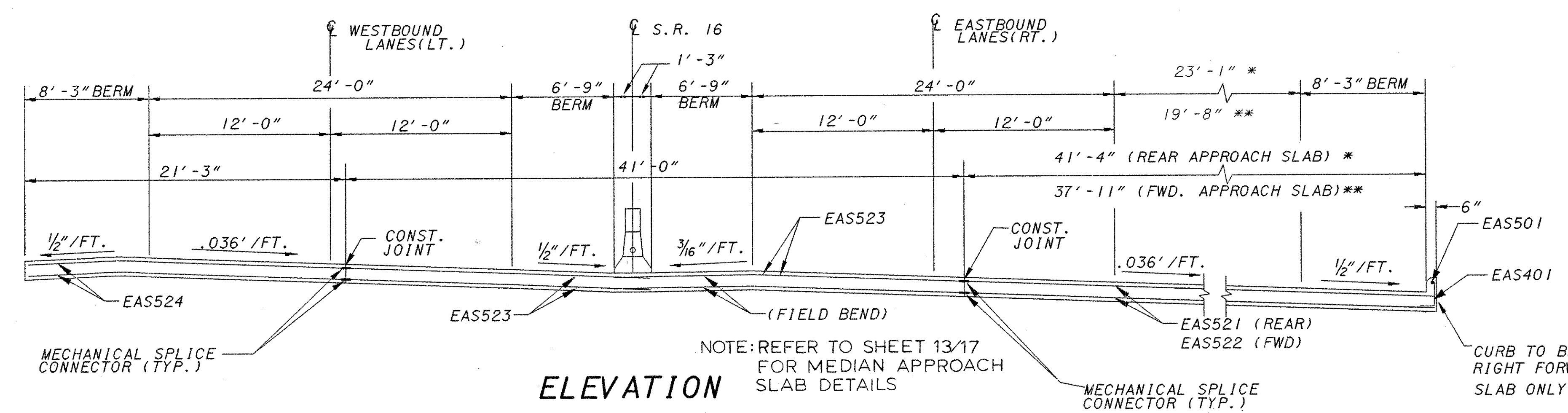
NOTE
 FOR SPACING OF TRANSVERSE RE-STEEL, SEE ST'D. DWG. AS-1-81.
 CURB TO BE INCLUDED FOR PAYMENT WITH ITEM 611 REINFORCED CONCRETE APPROACH SLAB T=15", AS PER PLAN.

NOTE: RE-STEEL INCLUDED FOR PAYMENT WITH ITEM 611 REINFORCED CONCRETE APPROACH SLAB T=15", AS PER PLAN.
 NOTE: FOR ADDITIONAL DETAILS SEE STANDARD DRAWING AS-1-81.
 NOTE: FOR ES805 BENDING DIAGRAMS AND QUANTITIES, SEE SHEET 17/17.



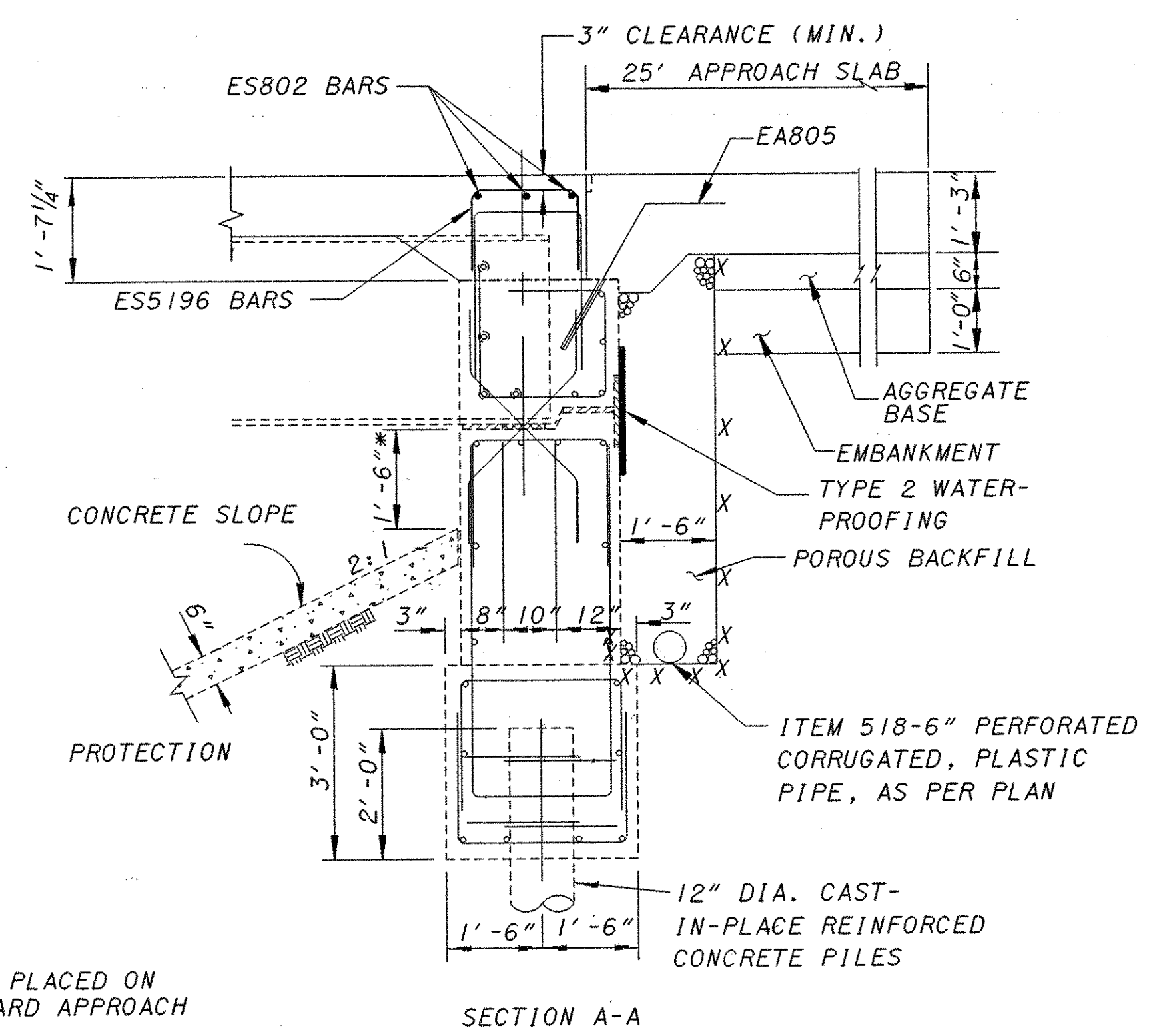
PLAN

** DIMENSION TAKEN AT THE DECK ENDS. APPROACH SLAB VARIES AT THE ROADWAY ENDS.



ELEVATION

NOTE: REFER TO SHEET 13/17 FOR MEDIAN APPROACH SLAB DETAILS



SECTION A-A

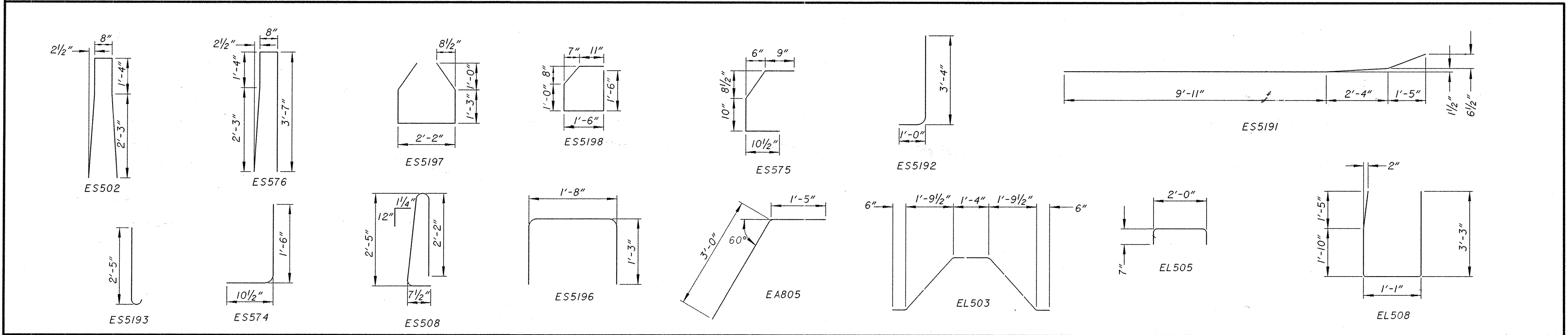
BAR SCHEDULE

SUPERSTRUCTURE				
MARK	NUMBER	LENGTH	SHAPE	WEIGHT
ES403	354	40'-0"	ST.	9,459
ES413	116	23'-11"	ST.	1,853
ES502	36	7'-7"	BT.	285
ES505	361	40'-0"	ST.	15,061
ES508	148	5'-3"	BT.	810
ES512	24	24'-8"	ST.	617
ES574	148	2'-3"	BT.	347
ES575	180	3'-2"	BT.	595
ES576	94	7'-7"	BT.	743
ES5181	224	23'-7"	ST.	5,510
ES5182	230	31'-2"	ST.	7,477
ES5183	63	13'-6"	ST.	887
ES5184	55	12'-5"	ST.	712
ES5185	55	11'-3"	ST.	645
ES5186	51	10'-1"	ST.	536
ES5187	94	25'-5"	ST.	2,492
ES5188	224	22'-6"	ST.	5,257
ES5189	224	22'-1"	ST.	5,159
ES5190	8	13'-8"	ST.	114
ES5191	8	13'-8"	BT.	114
ES5192	48	4'-2"	BT.	209
ES5193	32	3'-0"	BT.	100
ES5194	8	38'-3"	ST.	319
ES5195	20	24'-11"	ST.	520
ES5196	134	3'-11"	BT.	547
ES5197	36	6'-11"	BT.	260
ES5198	94	5'-6"	BT.	539
SUBTOTAL				61,167

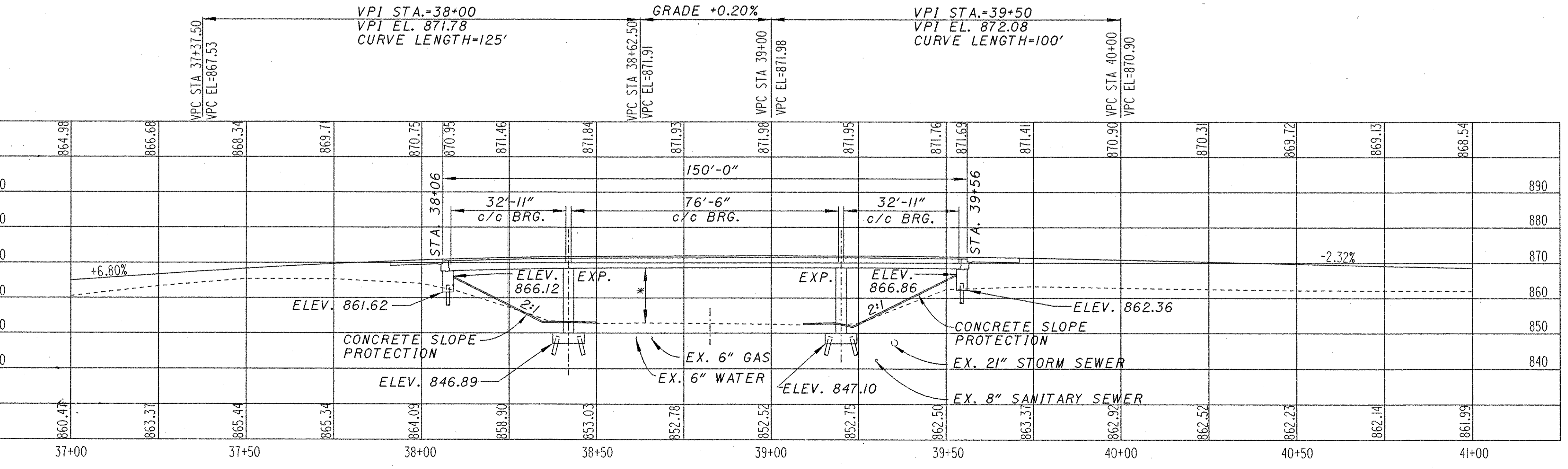
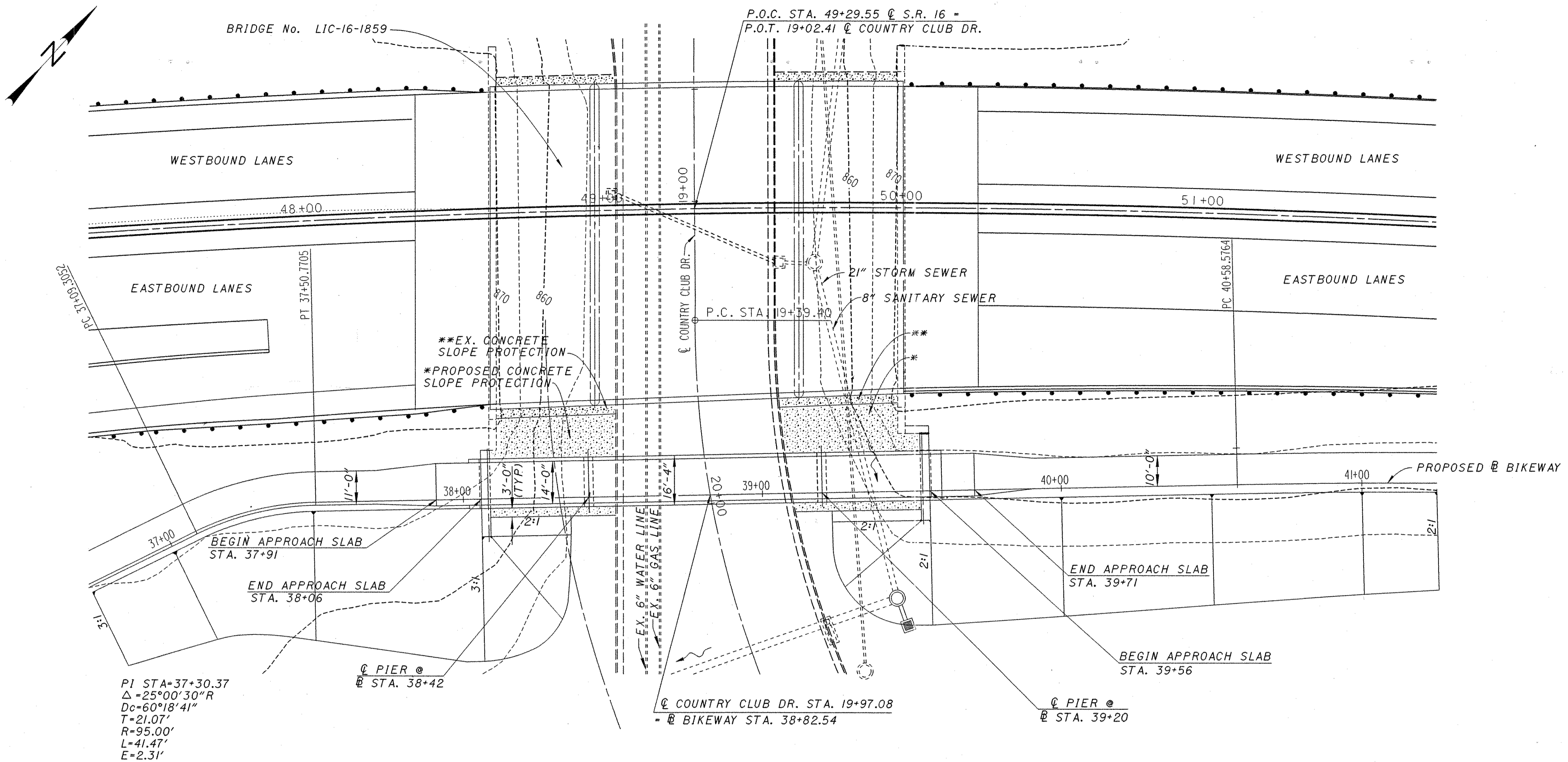
SUPERSTRUCTURE				
MARK	NUMBER	LENGTH	SHAPE	WEIGHT
ES6130	224	23'-9"	ST.	7,991
ES6131	224	30'-6"	ST.	10,262
ES6132	63	15'-0"	ST.	1,419
ES6133	55	14'-1"	ST.	1,163
ES6134	55	13'-3"	ST.	1,095
ES6135	51	12'-5"	ST.	951
ES6136	224	22'-2"	ST.	7,458
ES6137	224	22'-11"	ST.	7,710
ES6138	228	31'-0"	ST.	10,616
ES801	3	23'-6"	ST.	188
ES802	3	15'-6"	ST.	124
ES803	3	30'-0"	ST.	240
ES804	3	23'-7"	ST.	189
ES805	3	22'-3"	ST.	178
ES806	3	22'-5"	ST.	180
ES807	3	22'-11"	ST.	184
ES808	3	23'-9"	ST.	190
ES809	3	39'-1"	ST.	313
SUBTOTAL				50,451
EL503	6	7'-8"	BT.	48
EL505	4	2'-11"	BT.	12
EL507	4	3'-3"	ST.	14
EL508	4	8'-5"	BT.	35
SUBTOTAL				109
TOTAL SUPERSTRUCTURE				111,618

ABUTMENT				
MARK	NUMBER	LENGTH	SHAPE	WEIGHT
EA531	2	4'-2"	ST.	9
EA549	16	2'-5"	ST.	40
EA550	2	5'-0"	ST.	10
EA551	2	5'-11"	ST.	12
EA552	2	12'-6"	ST.	26
EA553	2	6'-10"	ST.	14
EA554	2	2'-9"	ST.	6
EA555	2	2'-10"	ST.	6
EA556	2	3'-7"	ST.	7
EA557	2	4'-5"	ST.	9
EA558	2	5'-2"	ST.	11
EA559	2	11'-0"	ST.	23
EA560	2	5'-4"	ST.	11
EA561	10	7'-3"	ST.	76
EA562	6	9'-10"	ST.	62
EA563	4	8'-8"	ST.	36
EA564	2	3'-3"	ST.	7
EA805	140	4'-5"	BT.	1,651
TOTAL ABUTMENTS				2,016
TOTAL				113,634

BENDING DIAGRAMS



LO161872



PROPOSED STRUCTURE

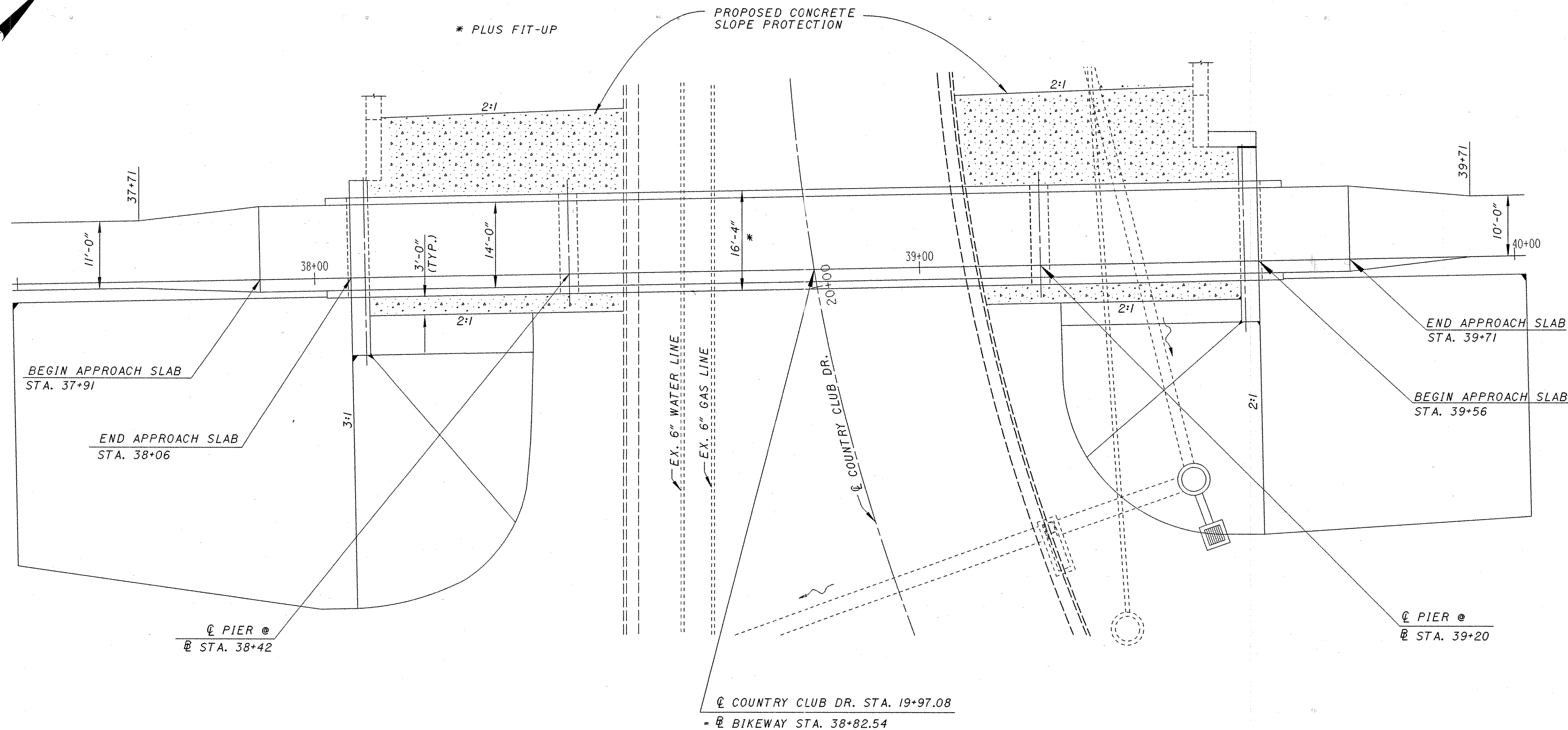
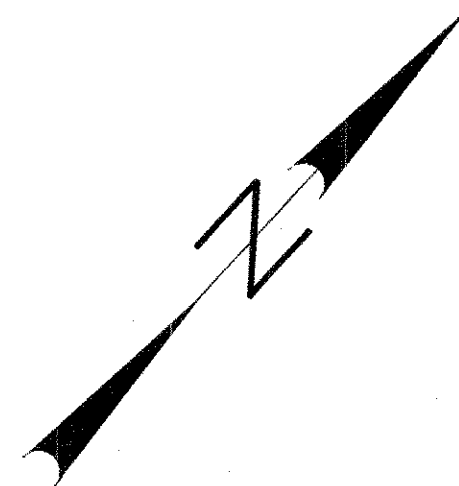
SUPERSTRUCTURE: COMPOSITE PRESTRESSED CONCRETE BOX BEAM
SUBSTRUCTURE: INTEGRAL REINFORCED CONCRETE ABUTMENT AND REINFORCED CONCRETE PIER (T-TYPE)
 SPANS: 32'-11", 76'-6", 32'-11" c/c BRG.
 BIKEWAY: 14'-0" f/f CURB
 LOADING: 85 LBS./S.F. OR 136.5% OF H20-44
 SKEW: NONE
 WEARING COURSE: MONOLITHIC CONCRETE
 RAILING: VANDAL PROTECTION FENCE
 SUPERELEVATION: 1/4" /FT.
 ALIGNMENT: TANGENT
 APPROACH SLAB: AS-1-81 (15'-0" LONG)
 S.F.N.: 4560132

* VERTICAL CLEARANCE
 MINIMUM = 15'-0"
 PROVIDED = 15'-7"

PILE DESIGN LOADS
 ABUTMENT = 33 TONS/PILE
 PIER = 60 TONS/PILE

ESTIMATED AVERAGE PILE LENGTH
 12" C.I.P. REINFORCED CONCRETE PILES (ABUTMENTS) = 30'
 14" C.I.P. REINFORCED CONCRETE PILES (PIERS) = 40'

BIKE3.DGN

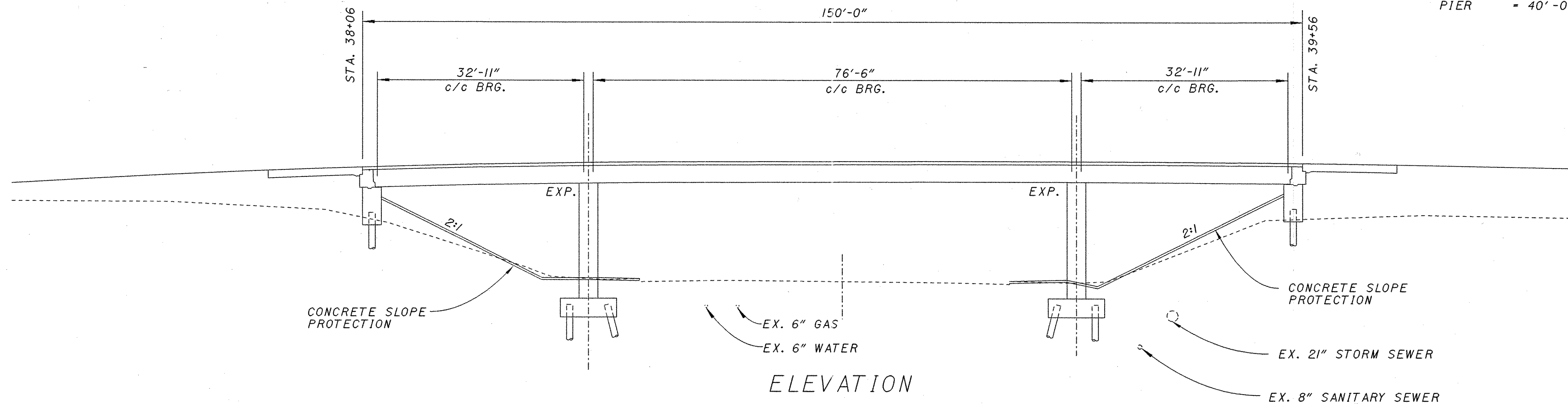


@ COUNTRY CLUB DR. STA. 19+97.08
 - @ BIKEWAY STA. 38+82.54

PLAN

ESTIMATE PILE LENGTHS

ABUTMENT = 30'-0"
 PIER = 40'-0"



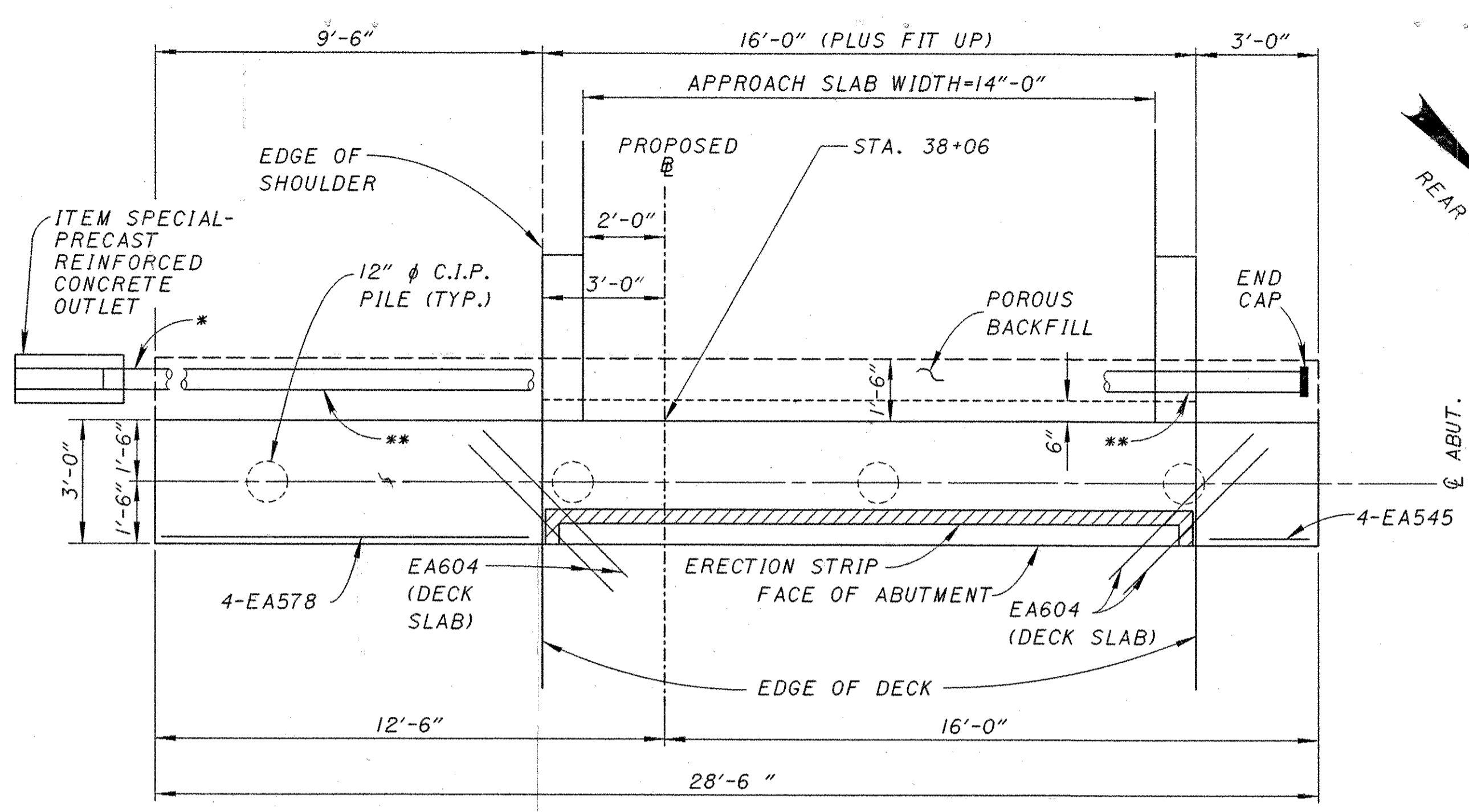
ELEVATION

BIKE4.DGN

DESIGNED RSD	CHECKED RSD	DRAWN G	REVISED G	DATE 4-28-95	STRUCTURE FILE NUMBER 4560132	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DIST. 5, BRIDGE DEPT.
GENERAL PLAN & ELEVATION BRIDGE NO. LIC-16-1859PB BIKEWAY OVER COUNTRY CLUB DR.						LIC-16-17.94 2/11 375 420

** ITEM 518, 6" PERFORATED, CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN

* ITEM 518, 6" NON-PERFORATED, CORRUGATED PLASTIC PIPE

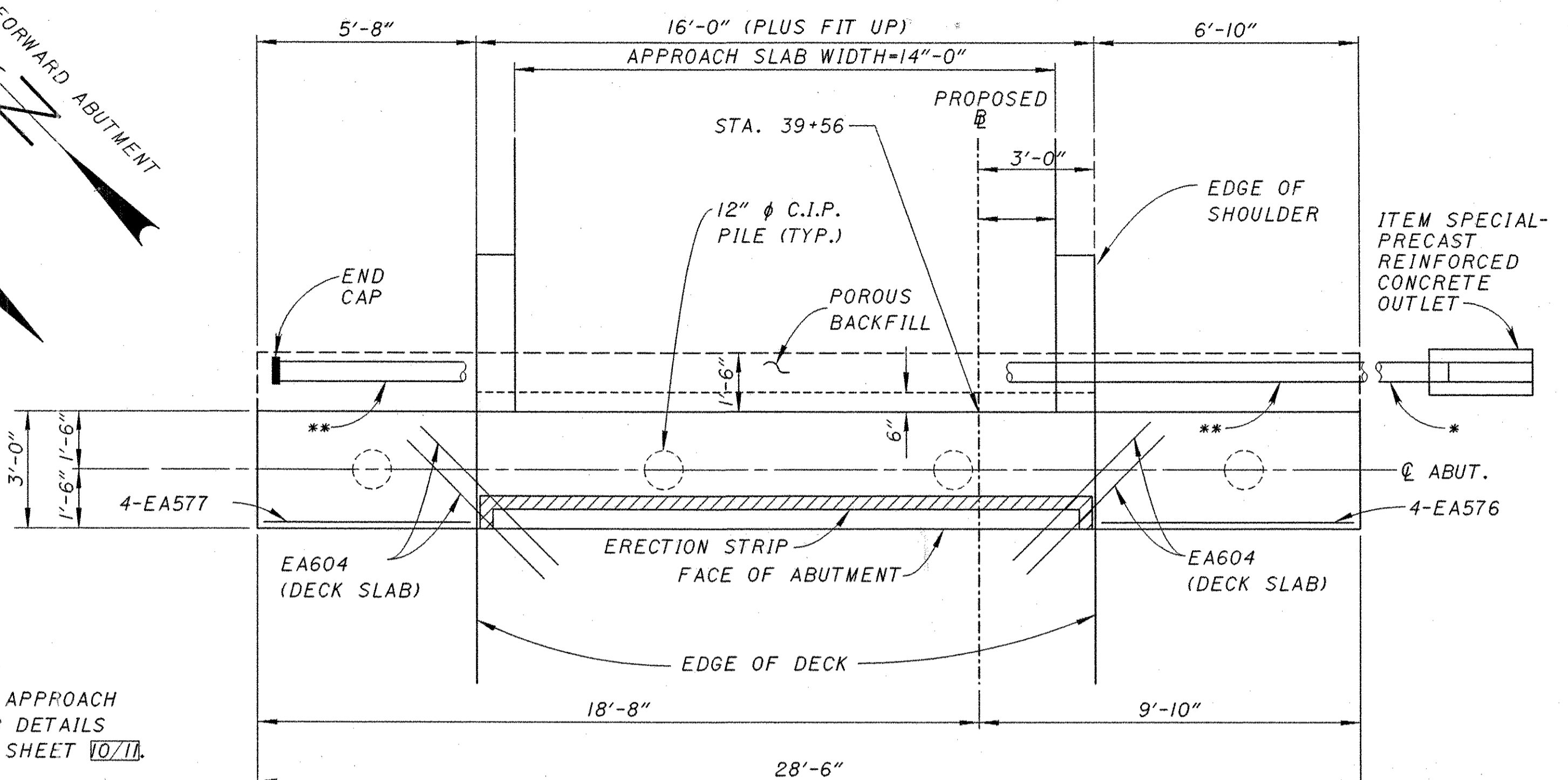


PLAN

(REAR ABUTMENT)

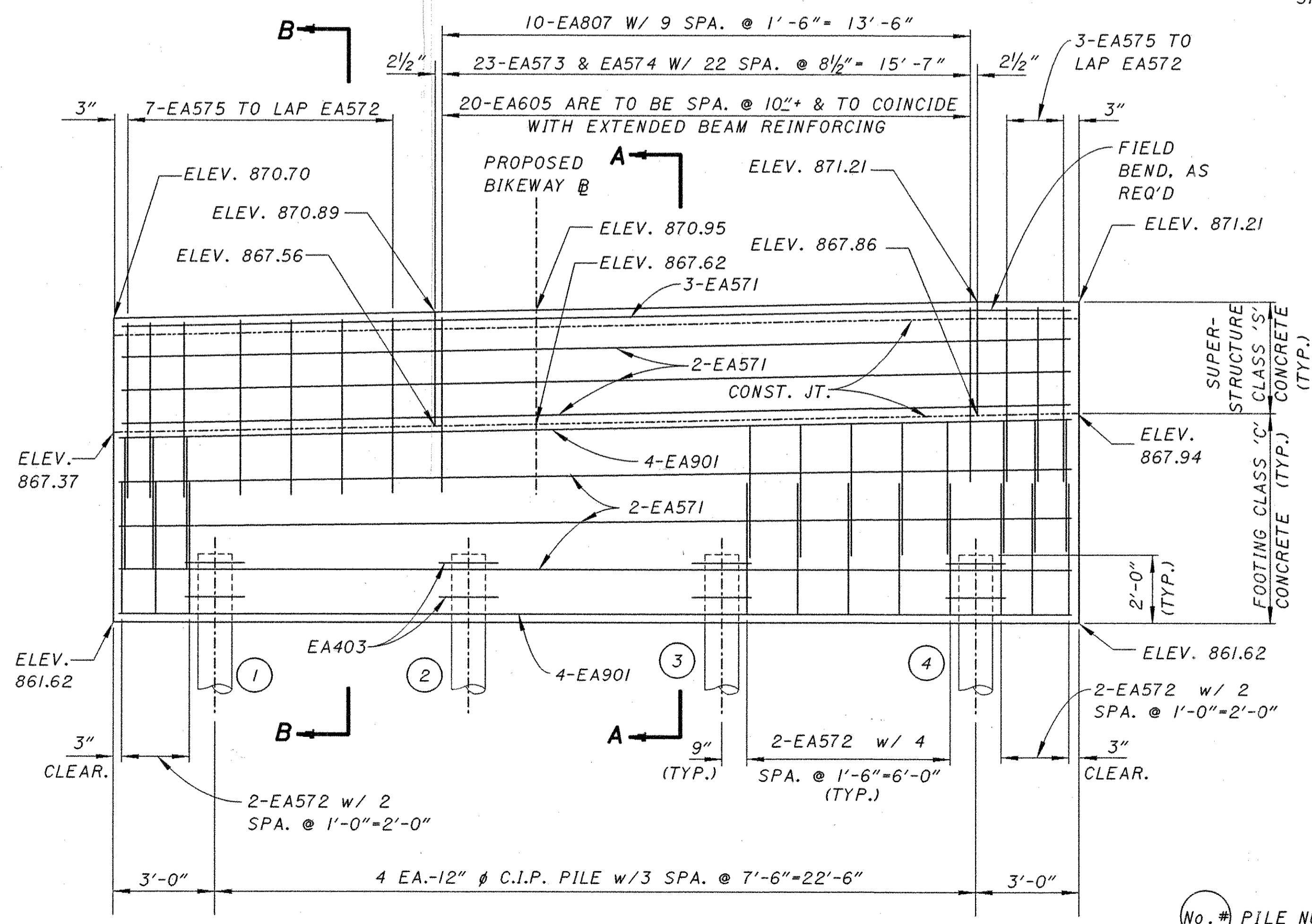
NOTE: FOR APPROACH SLAB DETAILS SEE SHEET 10/11.

NOTE: FOR SECTION A-A & SECTION B-B SEE SHEET 10/11.



PLAN

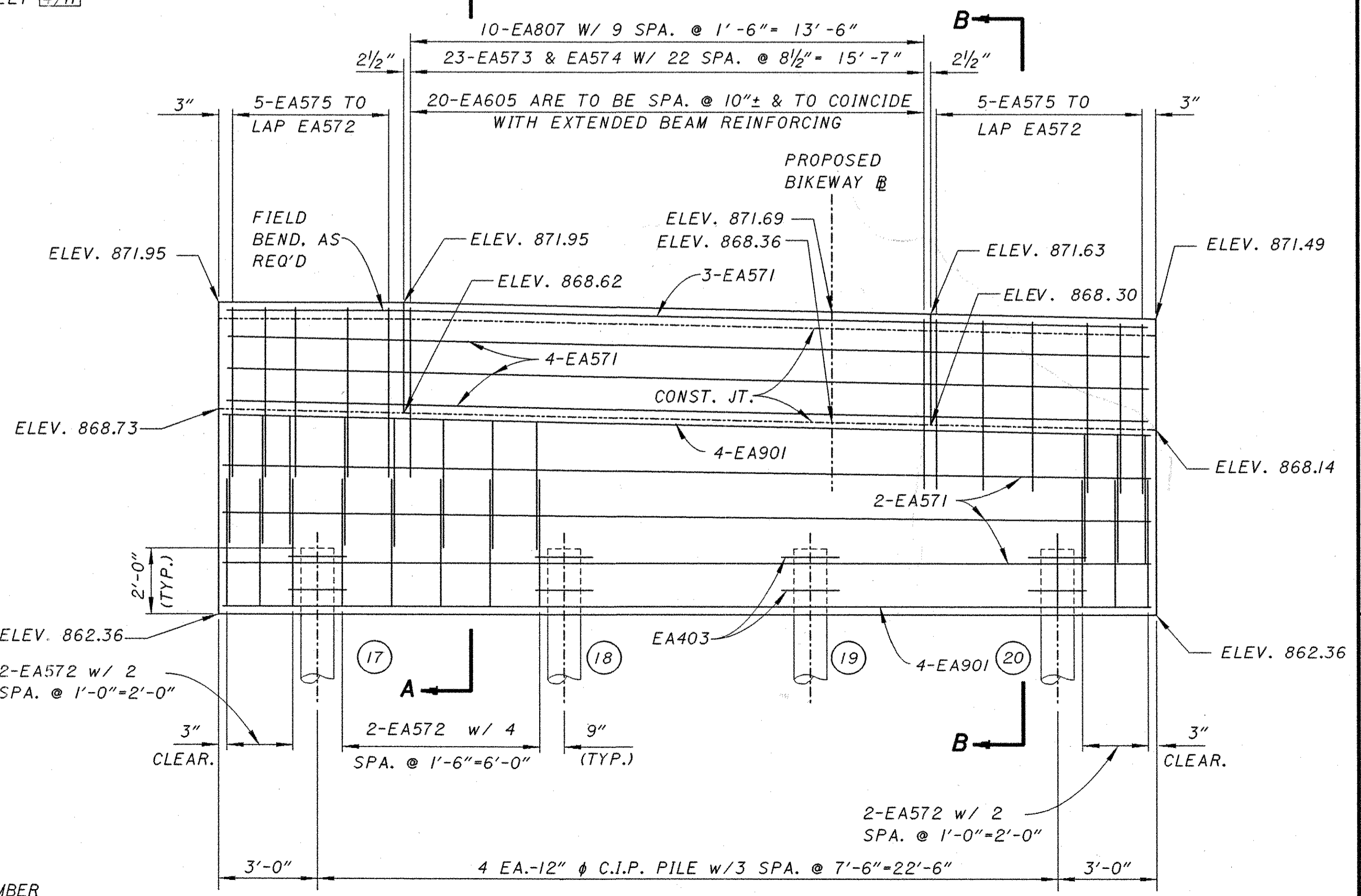
(FORWARD ABUTMENT)



ELEVATION

(REAR ABUTMENT)

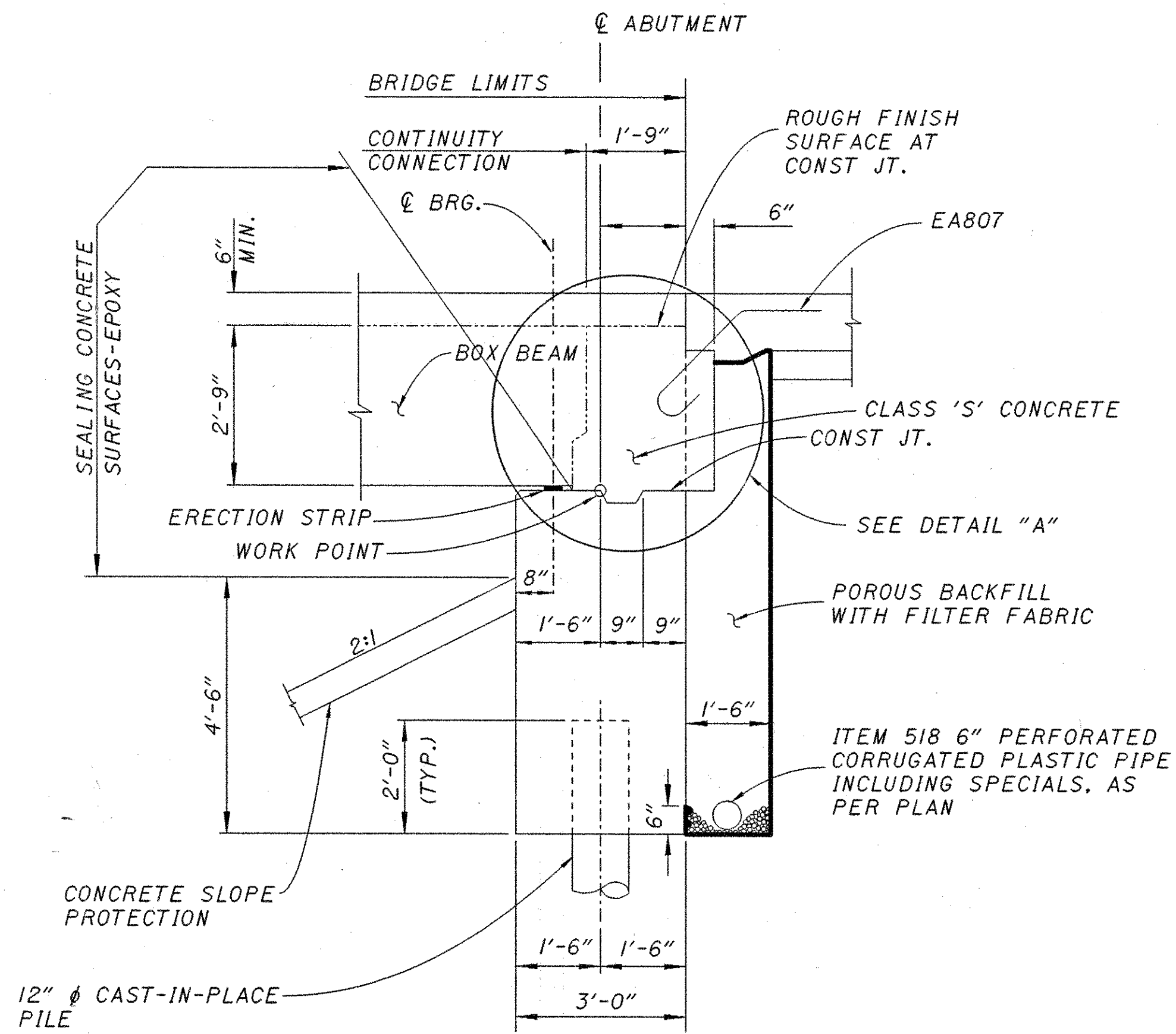
No. # PILE NUMBER



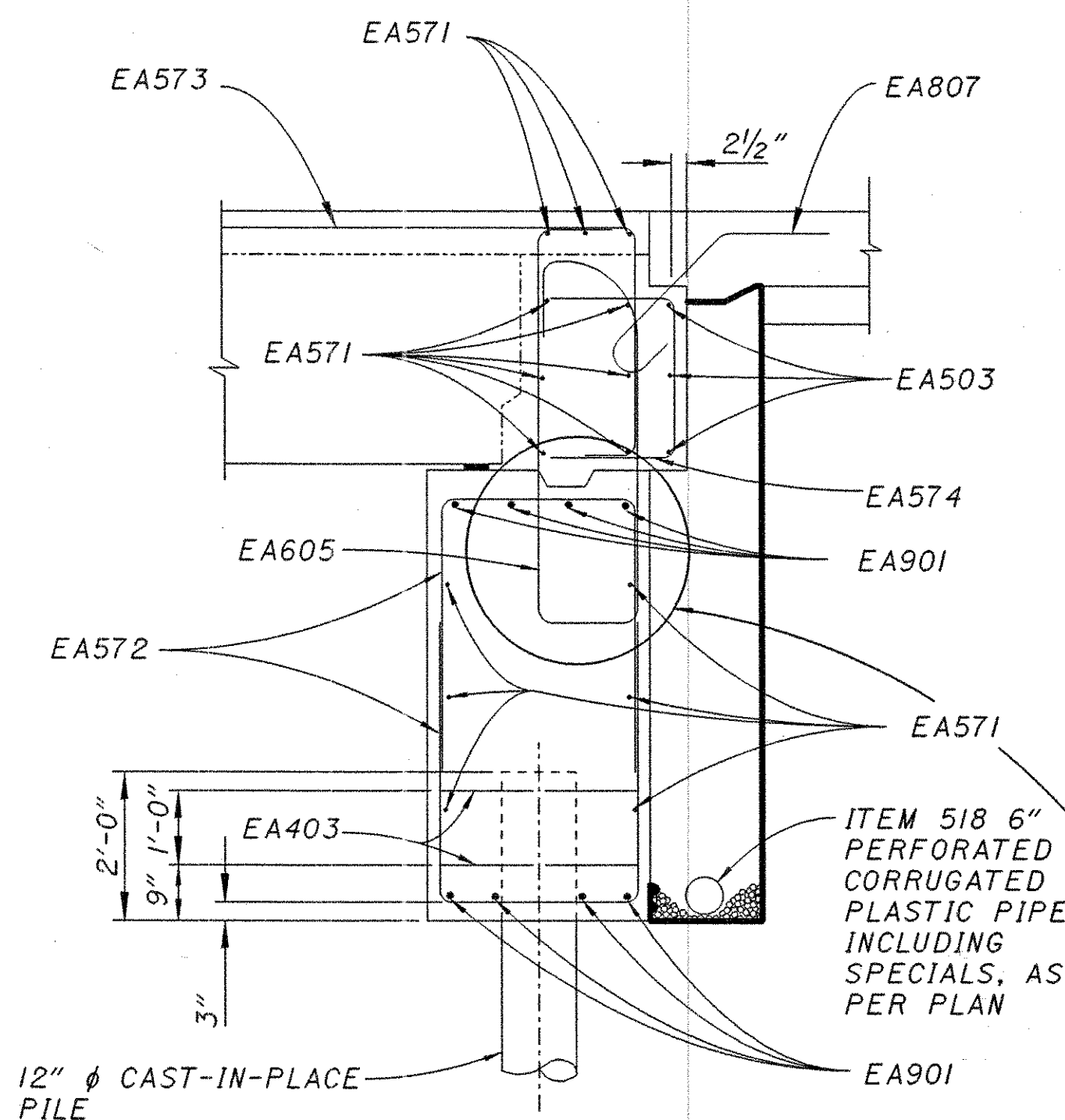
ELEVATION

(FORWARD ABUTMENT)

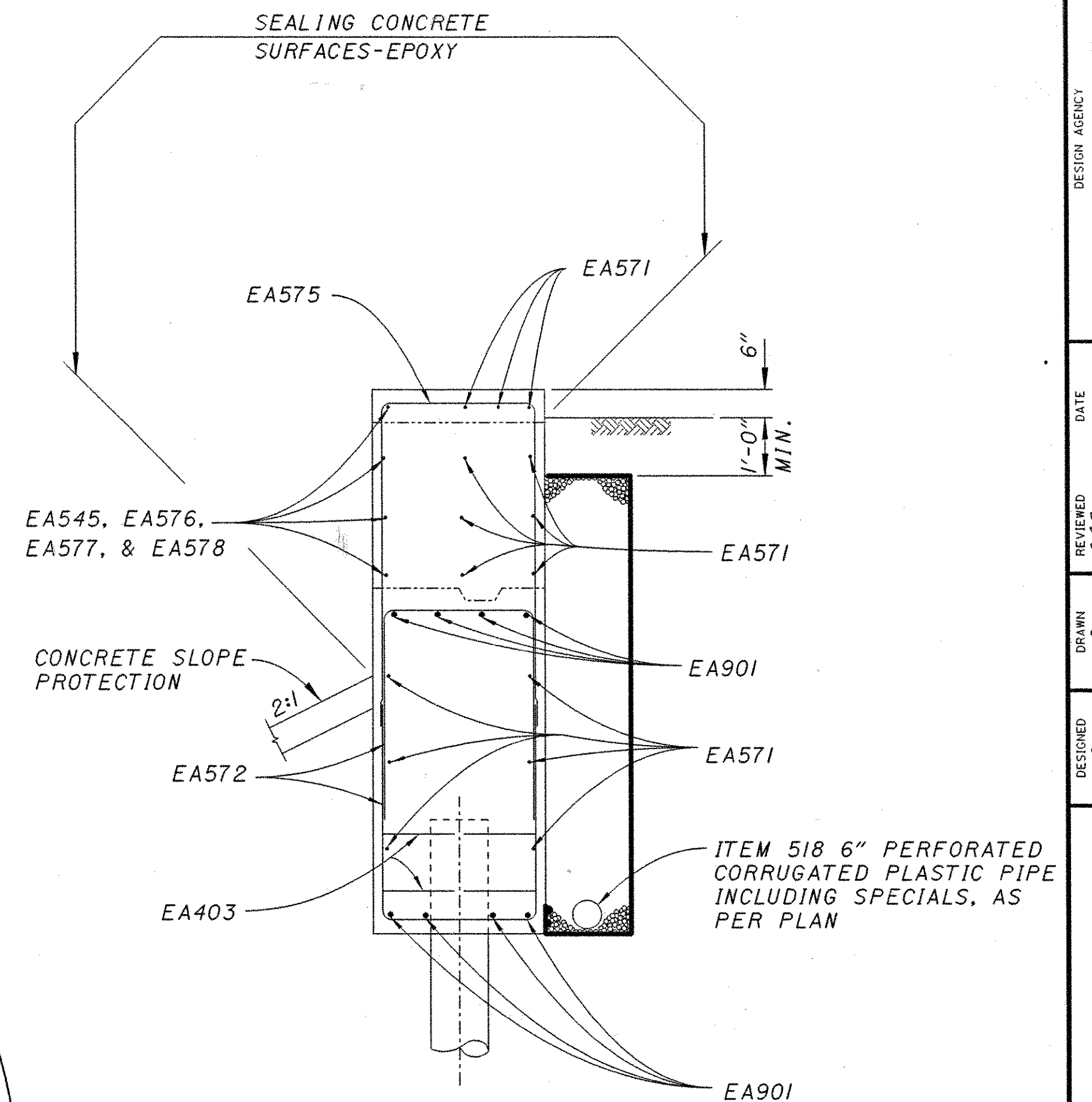
DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION
 DIST. 5 BRIDGE DEPT.
 DATE: 4-20-95
 REVIEWED: [Signature]
 STRUCTURE FILE NUMBER: 4560132
 DRAWN: [Signature]
 CHECKED: [Signature]
 DESIGNED: [Signature]
 PROPOSED ABUTMENTS
 BRIDGE NO. LIC-16-1859PB
 BIKEWAY OVER COUNTRY CLUB DR.
 LIC-16-17.94
 3/11
 376
 420



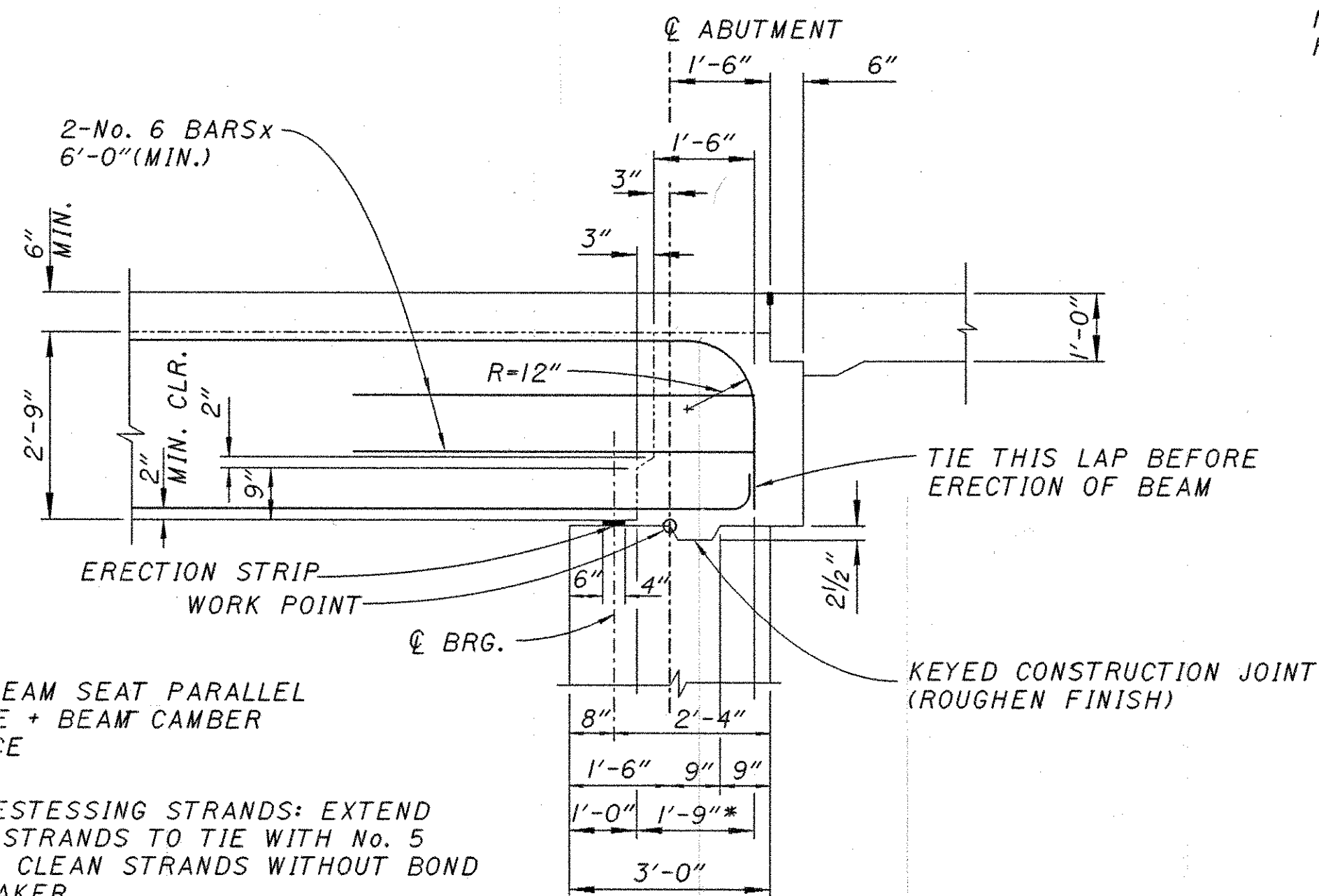
SECTION A-A
(DIMENSION DETAILS)



SECTION A-A
(REINFORCING STEEL DETAILS)

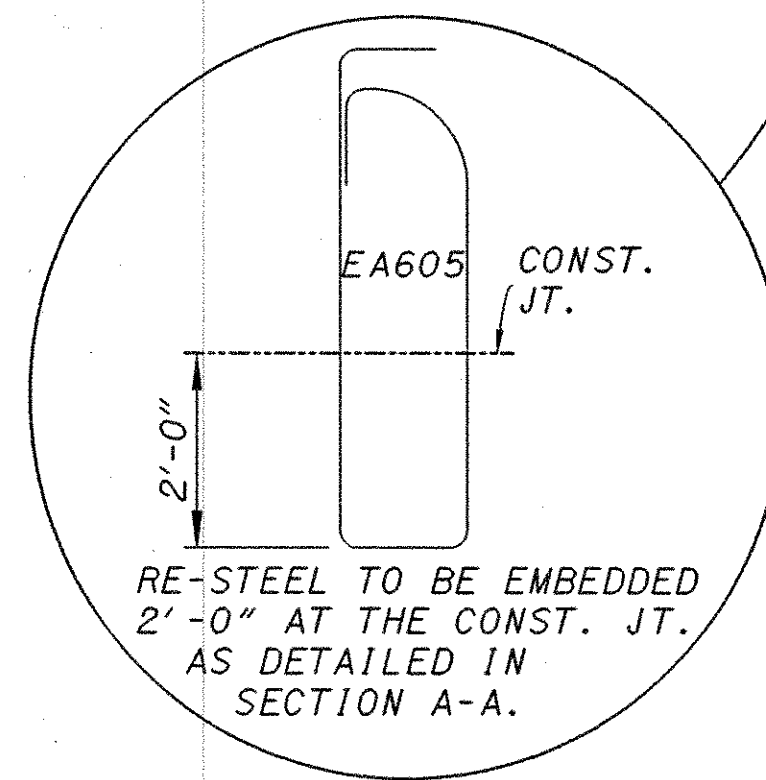


SECTION B-B



DETAIL "A"

NOTE: SEE SHEET **3/11** FOR ADDITIONAL DETAILS.



CONSTRUCTION JOINTS

CONSTRUCTION JOINTS SHALL HAVE ROUGH SURFACES. PRIOR TO CONCRETE PLACEMENT, ALL CONCRETE BONDING SURFACES SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. CARE SHALL BE TAKEN TO PROTECT EPOXY COATING ON EXPOSED REINFORCEMENT DURING CLEANING. BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

BEAM ENDS

BEAM ENDS SHALL BE GIVEN A MEDIUM ABRASIVE BLAST CLEANING AT THE PLANT WITHIN FOUR DAYS BEFORE THE BEAMS LEAVE THE PLANT. CARE SHALL BE TAKEN (TEMPORARY WRAPPING, ETC.) TO PROTECT EPOXY COATING ON EXPOSED REINFORCEMENT DURING CLEANING. SEE CONSTRUCTION JOINTS NOTE FOR SURFACE PREPARATION PRIOR TO CONCRETE PLACEMENT.

ERECTION LIVE LOADS

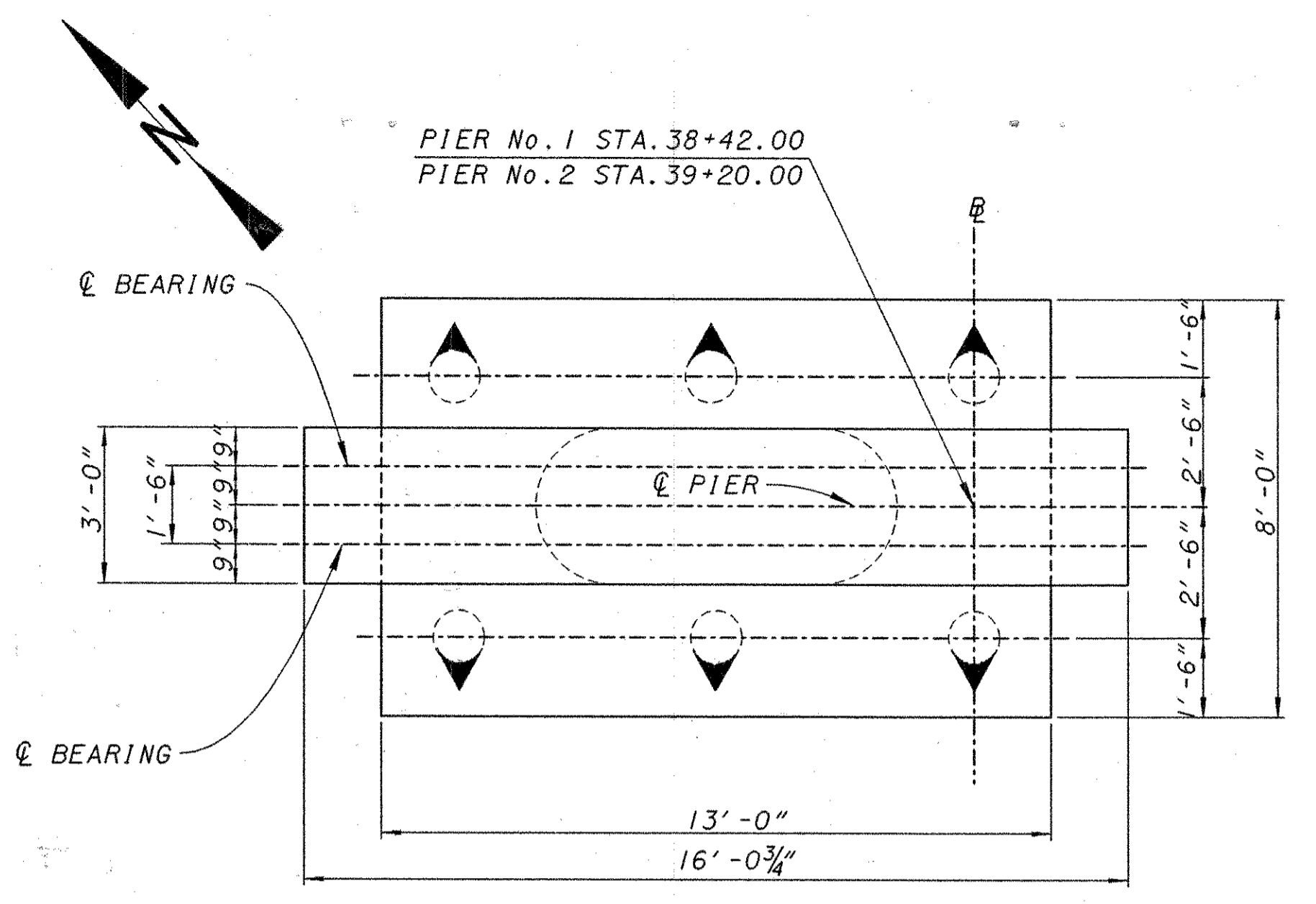
ERECTION LIVE LOADS SHALL NOT BE PLACED ON THE SUPERSTRUCTURE PRIOR TO PLACEMENT AND CURING OF THE COMPOSITE DECK SLAB, EXCEPT AS OTHERWISE PERMITTED BY THE DIRECTOR.

ERECTION STRIP

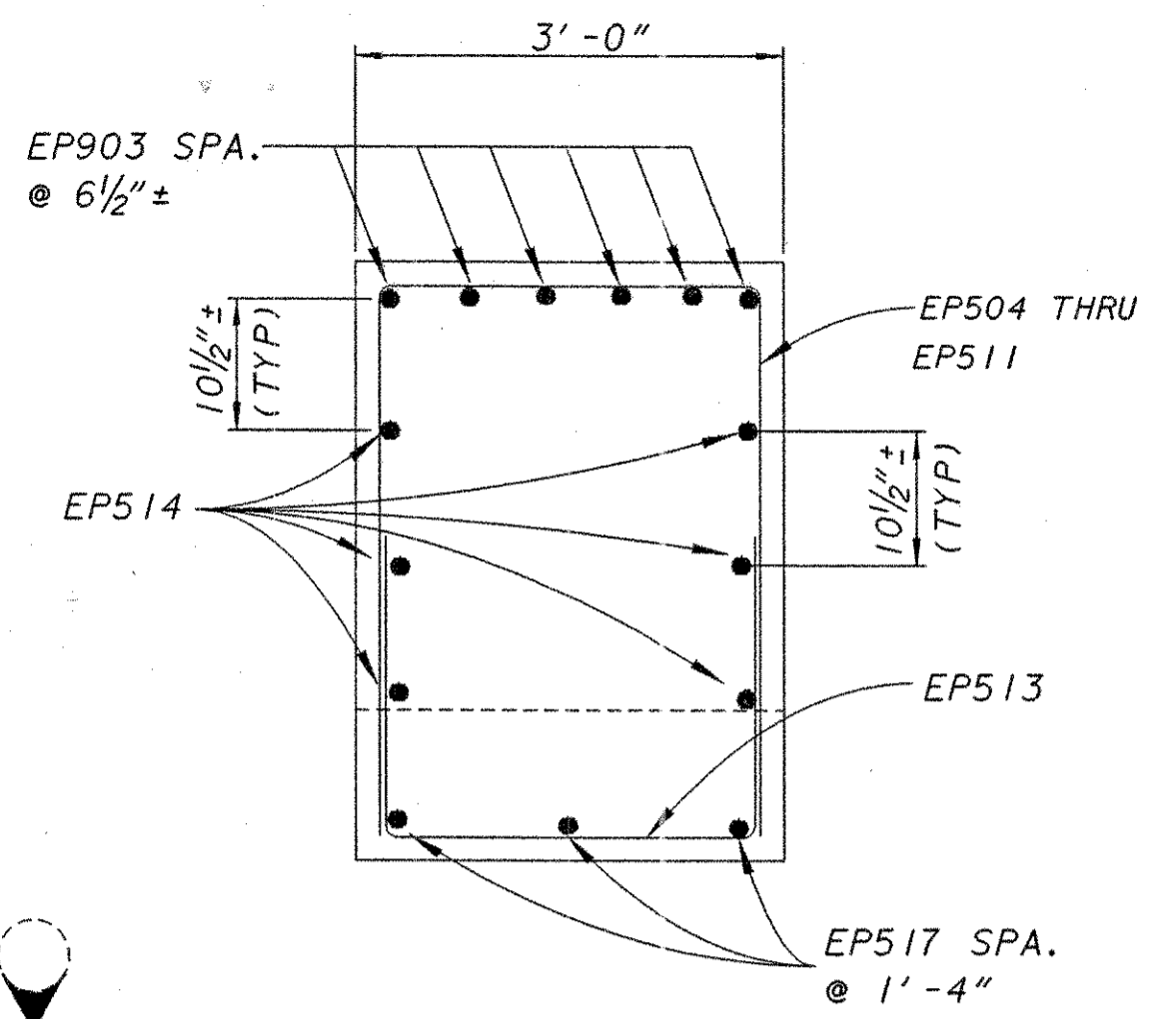
ERECTION STRIP SHALL BE 3/4" x 4" FOR THE FULL LENGTH OF THE BRIDGE SEAT. STRIP SHALL BE 50 OR 60 DUROMETER ELASTOMER MEETING AND THE REQUIREMENT OF 711.23. JOINTS IN STRIP SHALL BE LOCATED NEAR BEAM CENTERS AND BE TIGHTLY BUTTED TOGETHER. SEE SHEET **7/11** FOR ADDITIONAL DETAILS.

FINISH BEAM SEAT PARALLEL TO GRADE + BEAM CAMBER ALLOWANCE

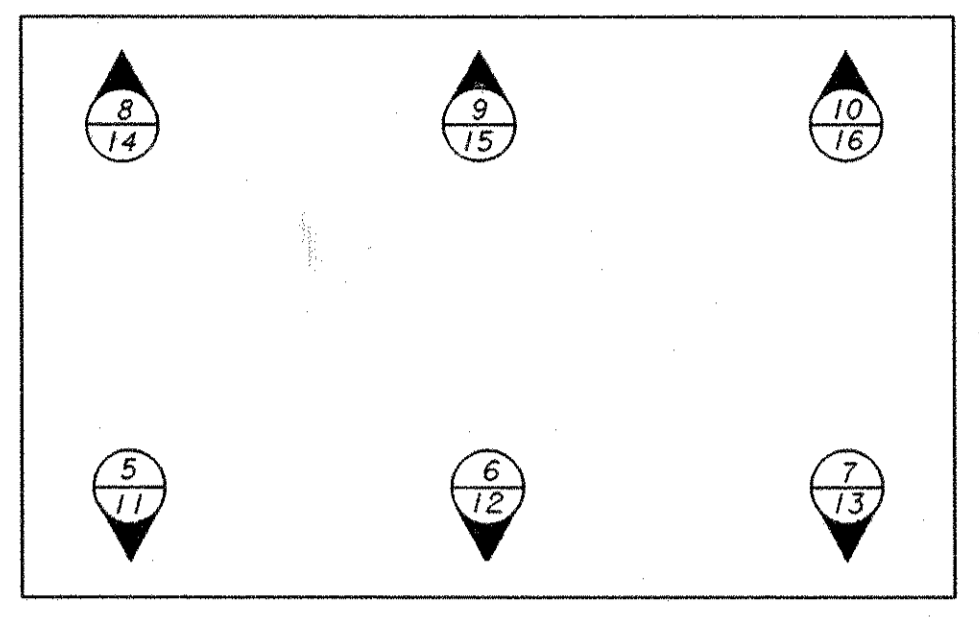
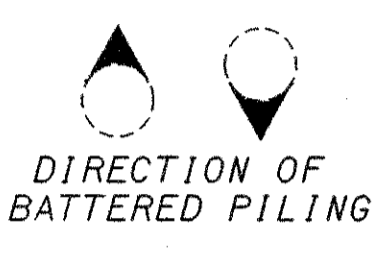
*PRESTRESSING STRANDS: EXTEND ALL STRANDS TO TIE WITH No. 5 BAR. CLEAN STRANDS WITHOUT BOND BREAKER.



PLAN

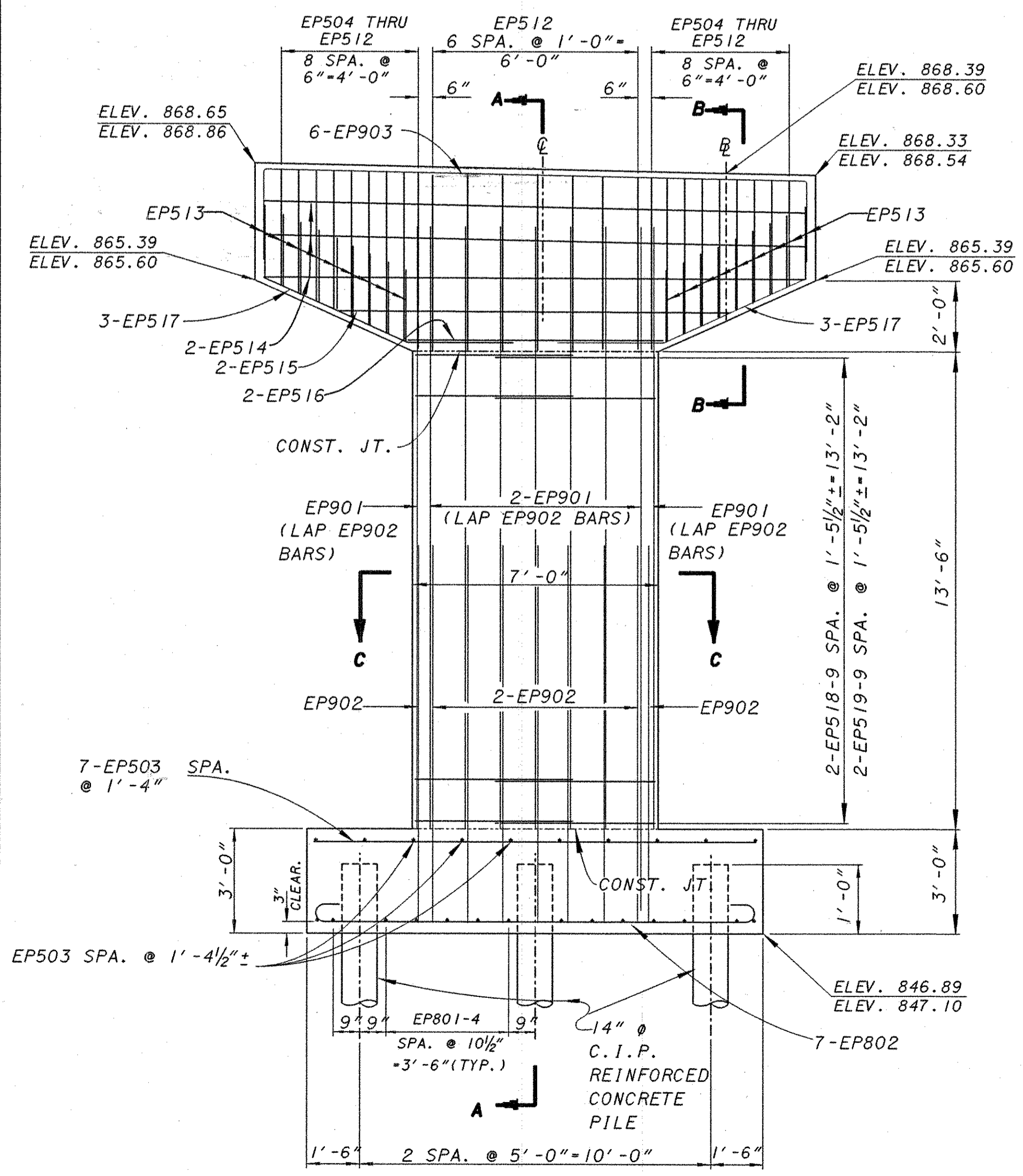


SECTION B-B



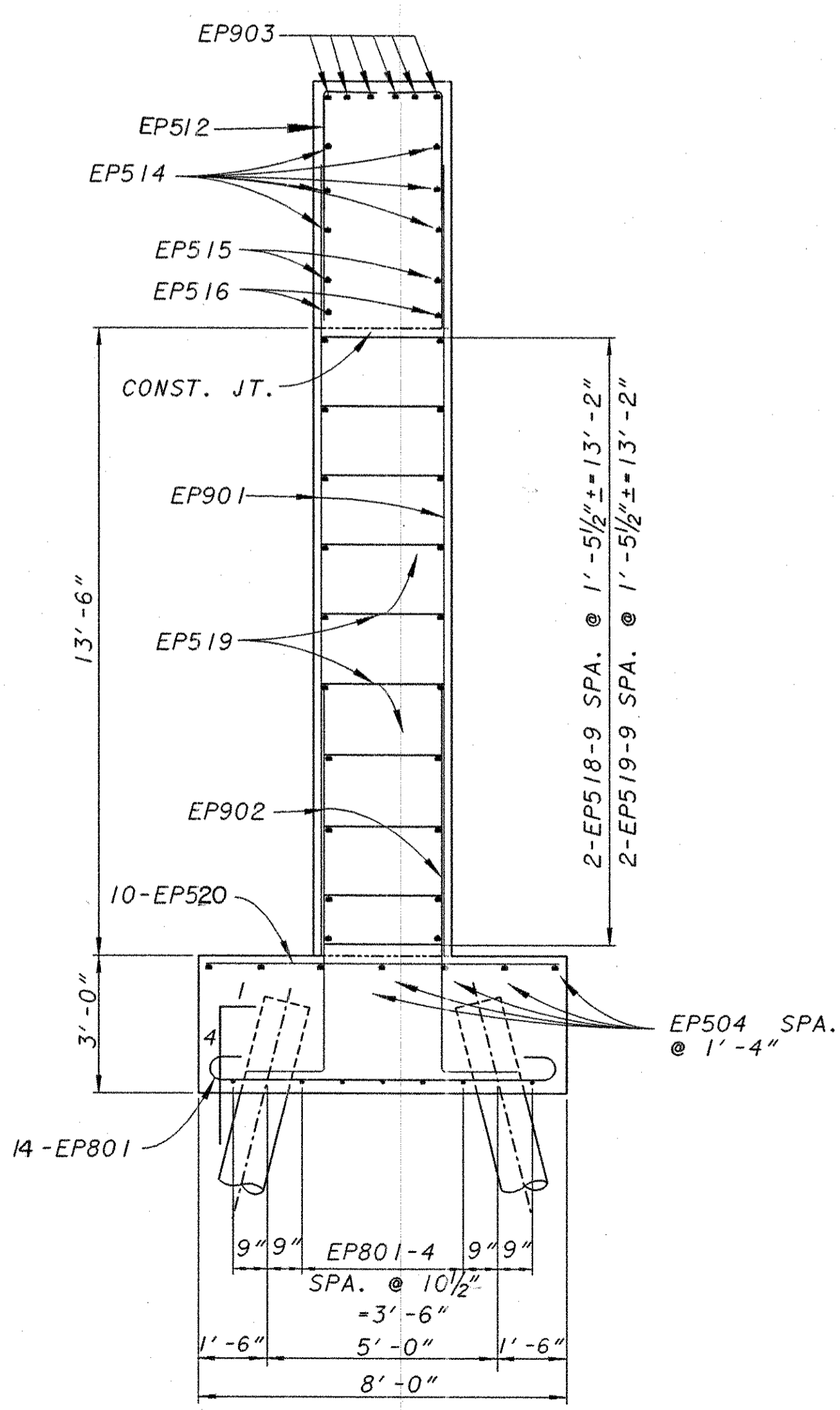
PILE NUMBERS

(14" C.I.P. REINFORCED CONCRETE PILE)



ELEVATION

PIER 1 ELEVATION
PIER 2 ELEVATION

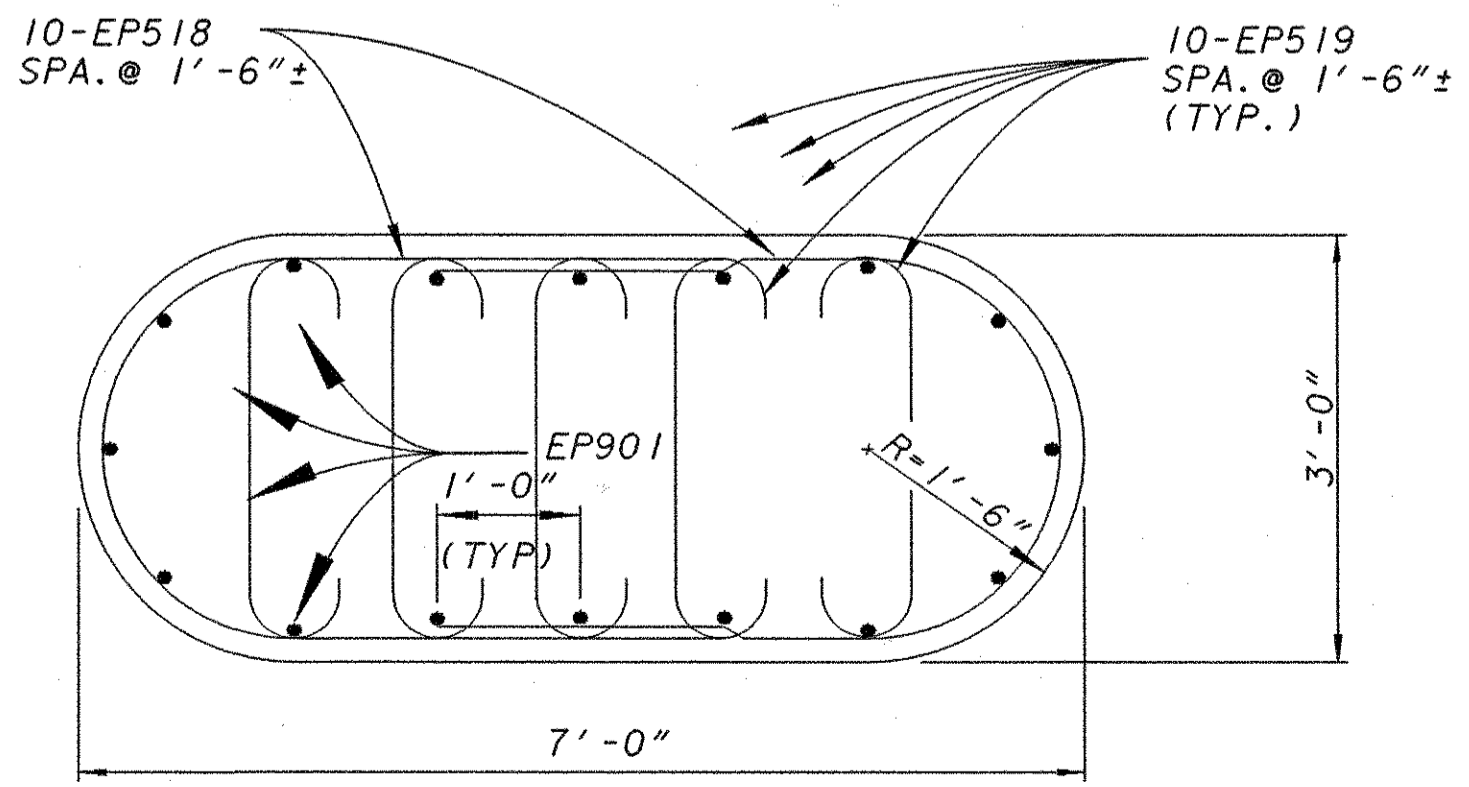


SECTION A-A

MINIMUM LAP LENGTH
No. 4 BAR = 2'-0"
No. 5 BAR = 2'-6"
No. 6 BAR = 3'-0"
No. 9 BAR = 7'-6"

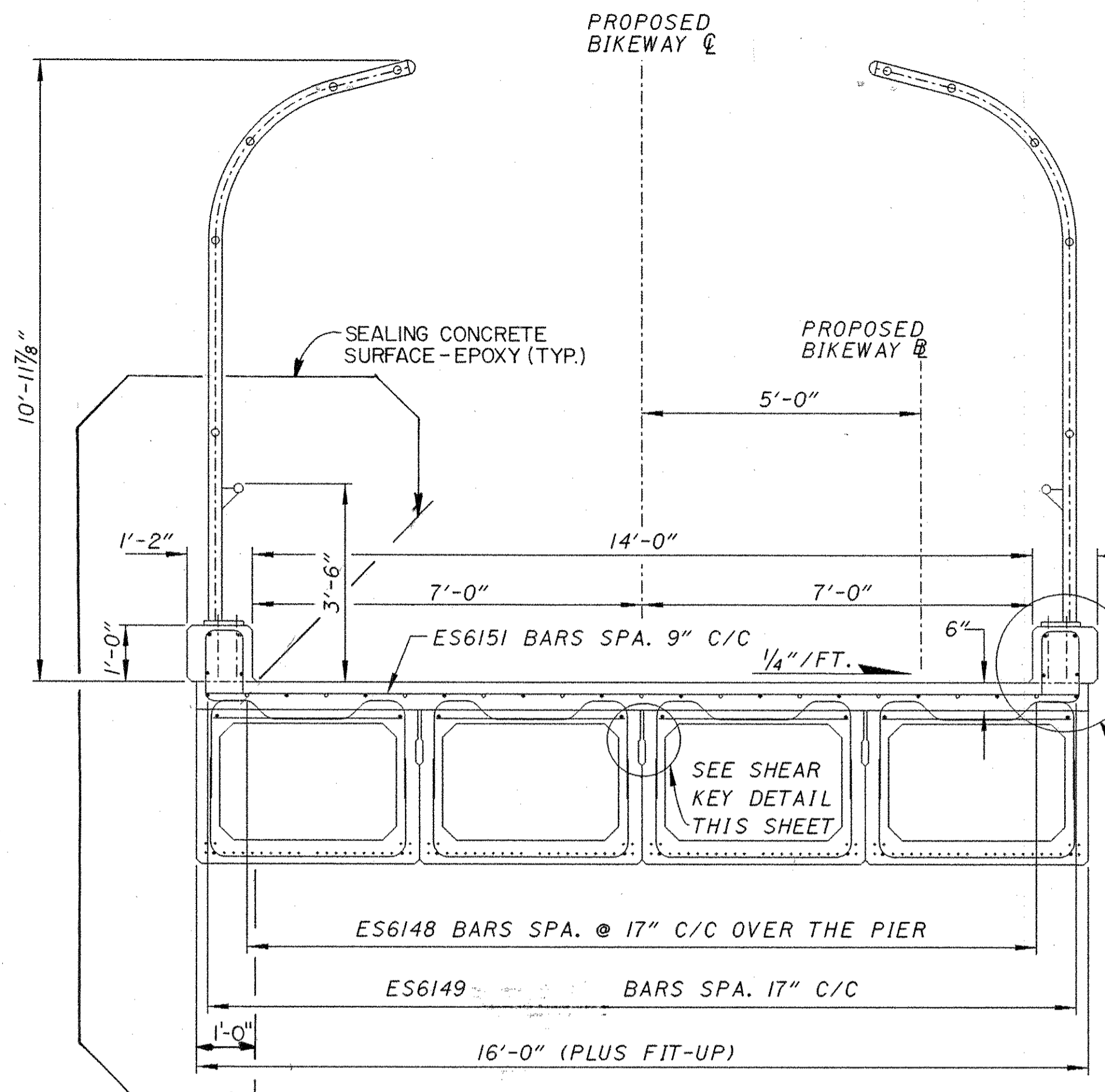
NOTE: CARE SHALL BE TAKEN IN THE PLACING OF THE REINFORCING STEEL IN THE PIERS, SO THAT IT WILL NOT INTERFERE WITH THE PLACEMENT OF THE ANCHOR DOWELS FOR THE BOX BEAMS. FOR ADDITIONAL DETAIL ANCHOR DOWEL DETAIL SEE SHEET 6 / 11.

NOTE: FOR BEARING PAD DETAILS SEE SHEET 7 / 11.



SECTION C-C

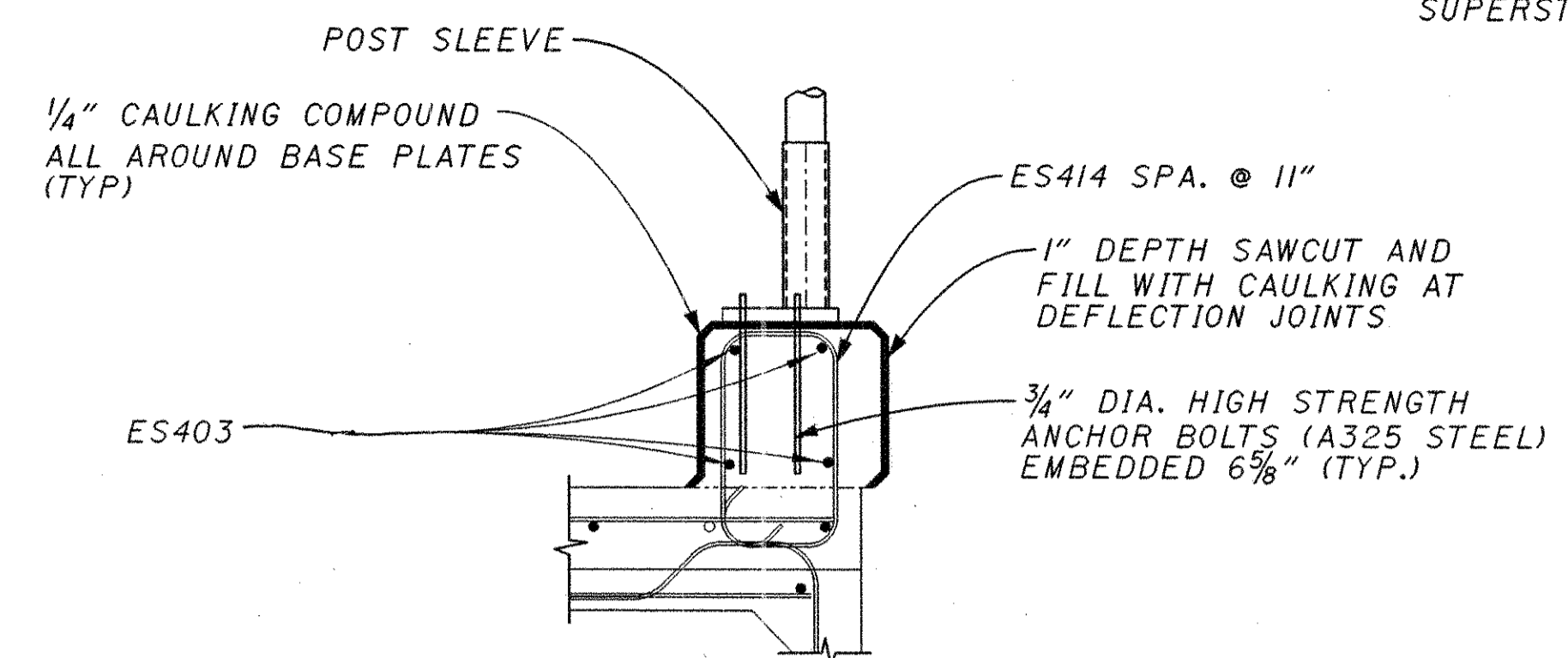
BIKE6.DGN



NOTE:
FOR ADDITIONAL RE-STEEL LAYOUT
FOR CURB AND DECK DETAILS SEE
SHEET 9/11.

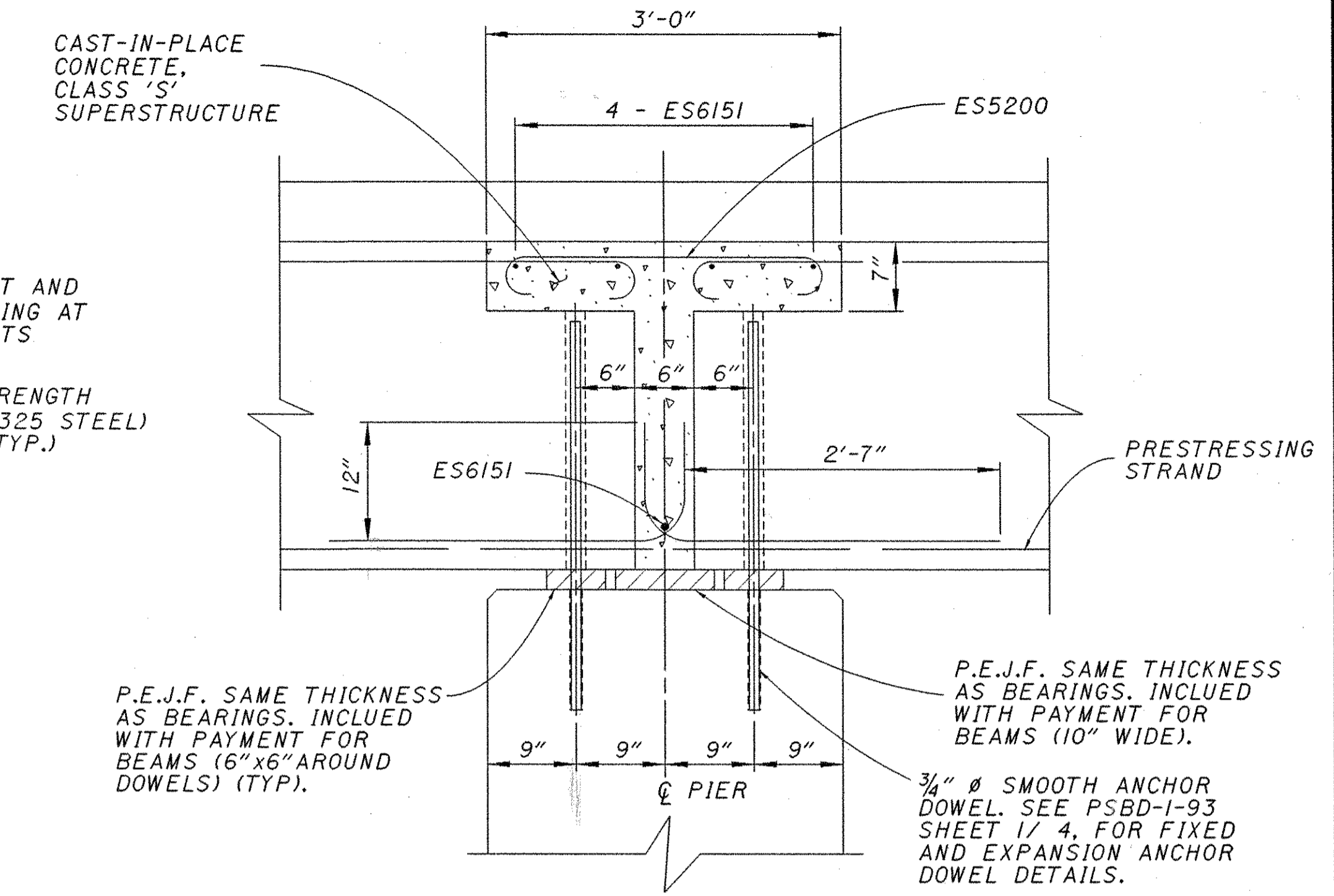
NOTE:
FOR CAMBER ADDITIONAL BEAM
DETAILS SEE SHEET 8/11.

MINIMUM LAP LENGTH	
No. 4 BAR	= 2'-0"
No. 5 BAR	= 2'-6"
No. 6 BAR	= 3'-0"

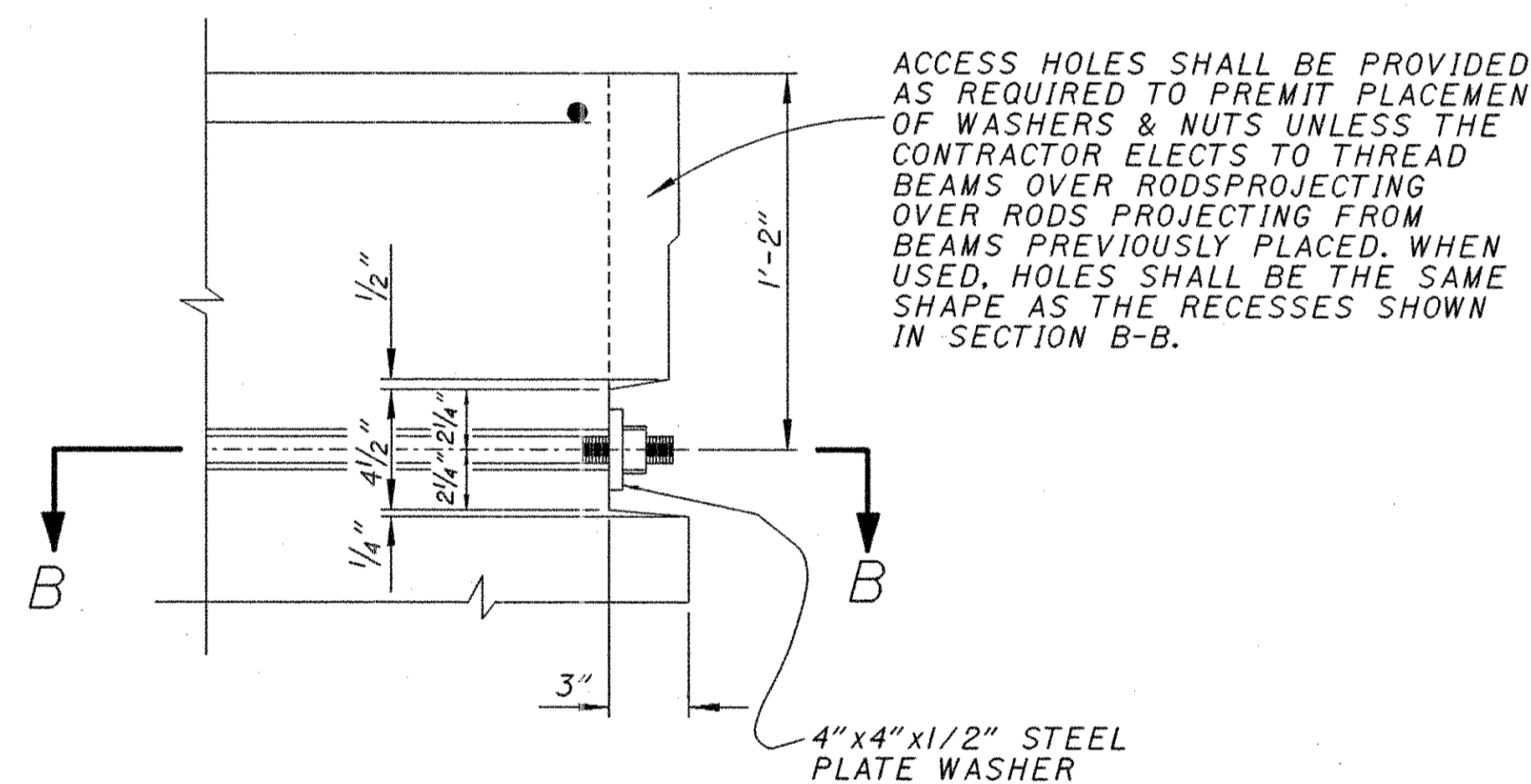


DETAIL "A"

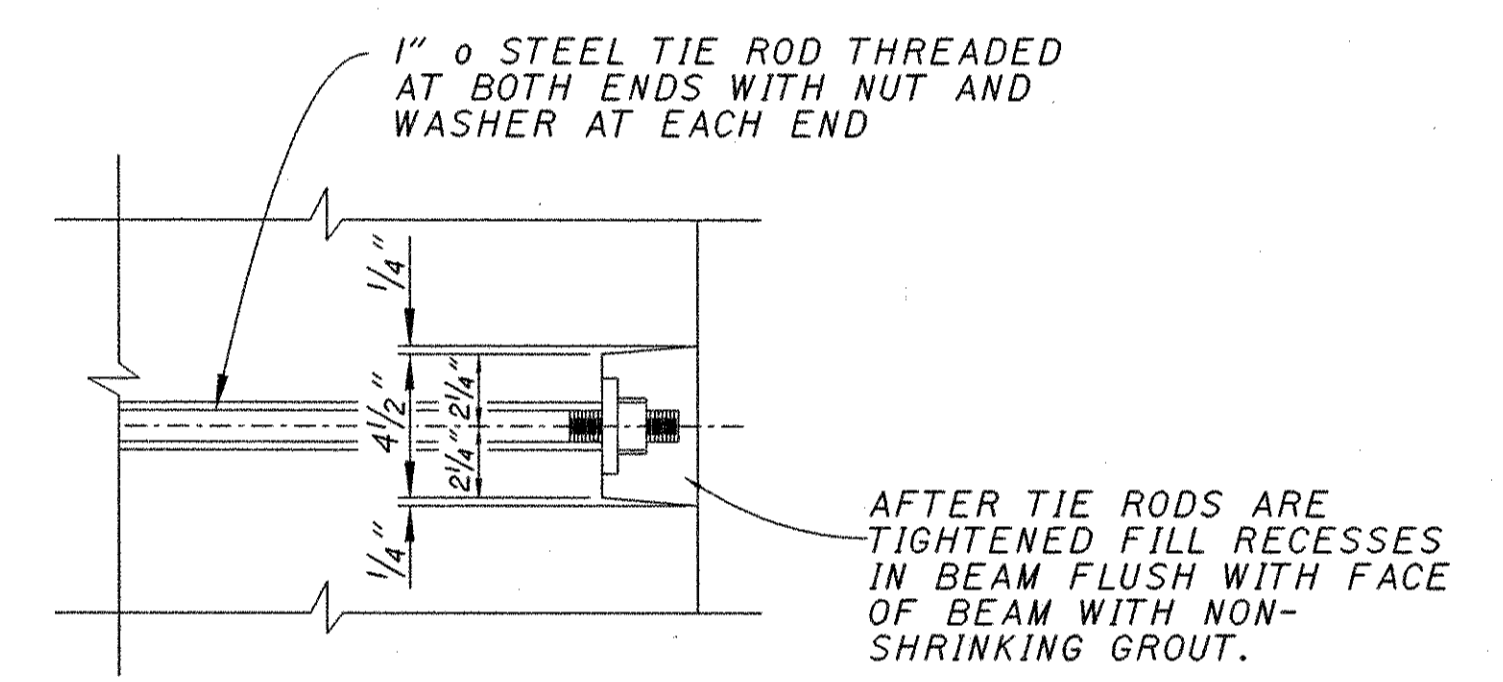
NOTE:
FOR ADDITIONAL FENCE
DETAILS SEE SHEET 9/11.



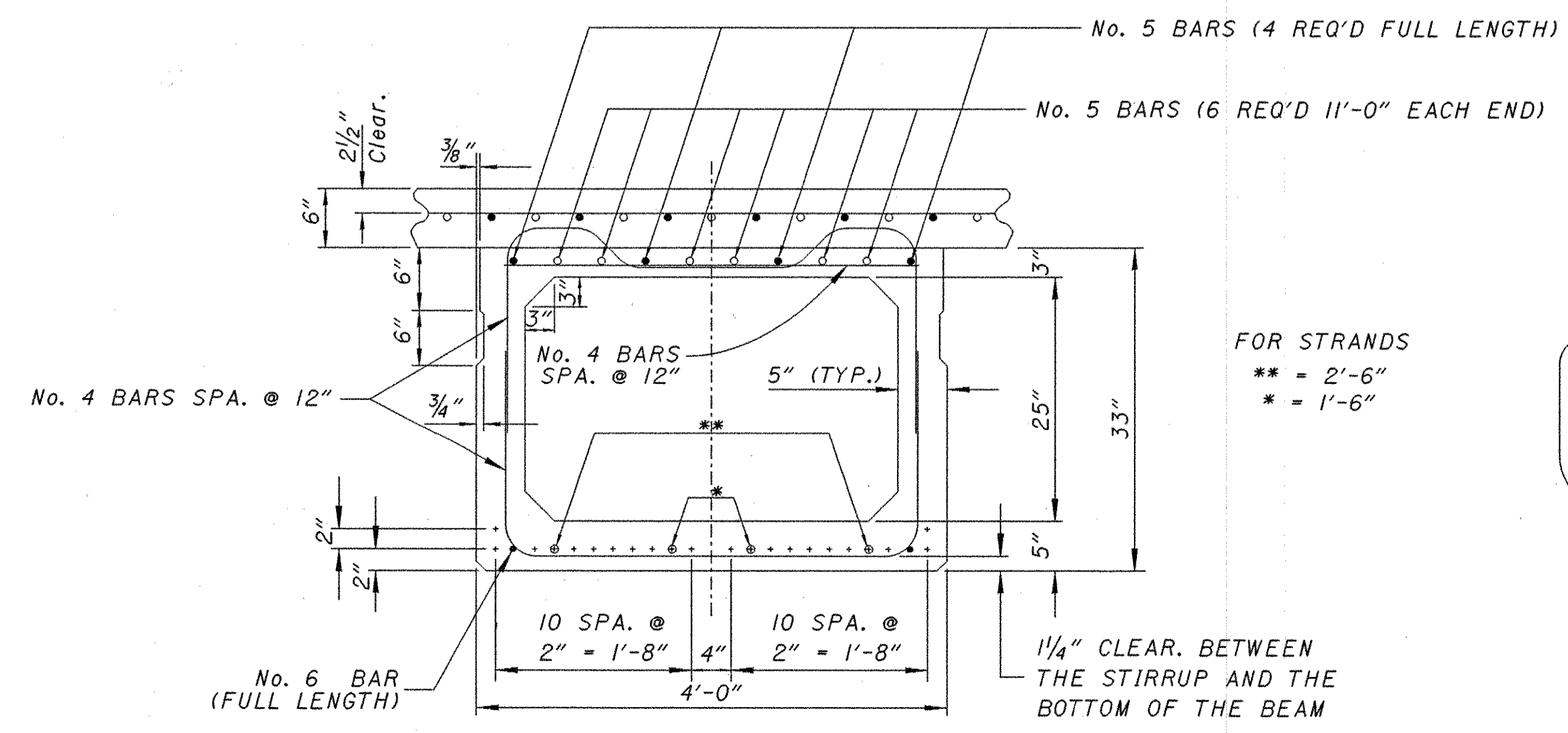
SECTION B-B



ACCESS HOLES SHALL BE PROVIDED
AS REQUIRED TO PERMIT PLACEMENT
OF WASHERS & NUTS UNLESS THE
CONTRACTOR ELECTS TO THREAD
BEAMS OVER RODS PROJECTING
OVER RODS PREVIOUSLY PLACED. WHEN
USED, HOLES SHALL BE THE SAME
SHAPE AS THE RECESSES SHOWN
IN SECTION B-B.



AFTER TIE RODS ARE
TIGHTENED FILL RECESSES
IN BEAM FLUSH WITH FACE
OF BEAM WITH NON-
SHRINKING GROUT.

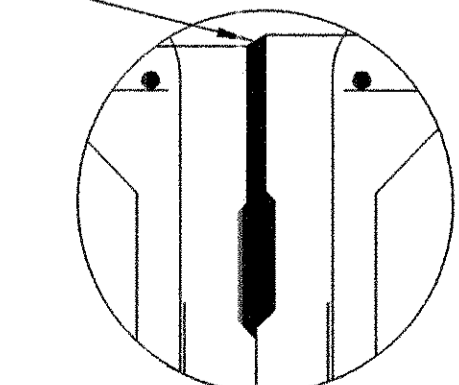


CB33-48
(22 STRANDS)

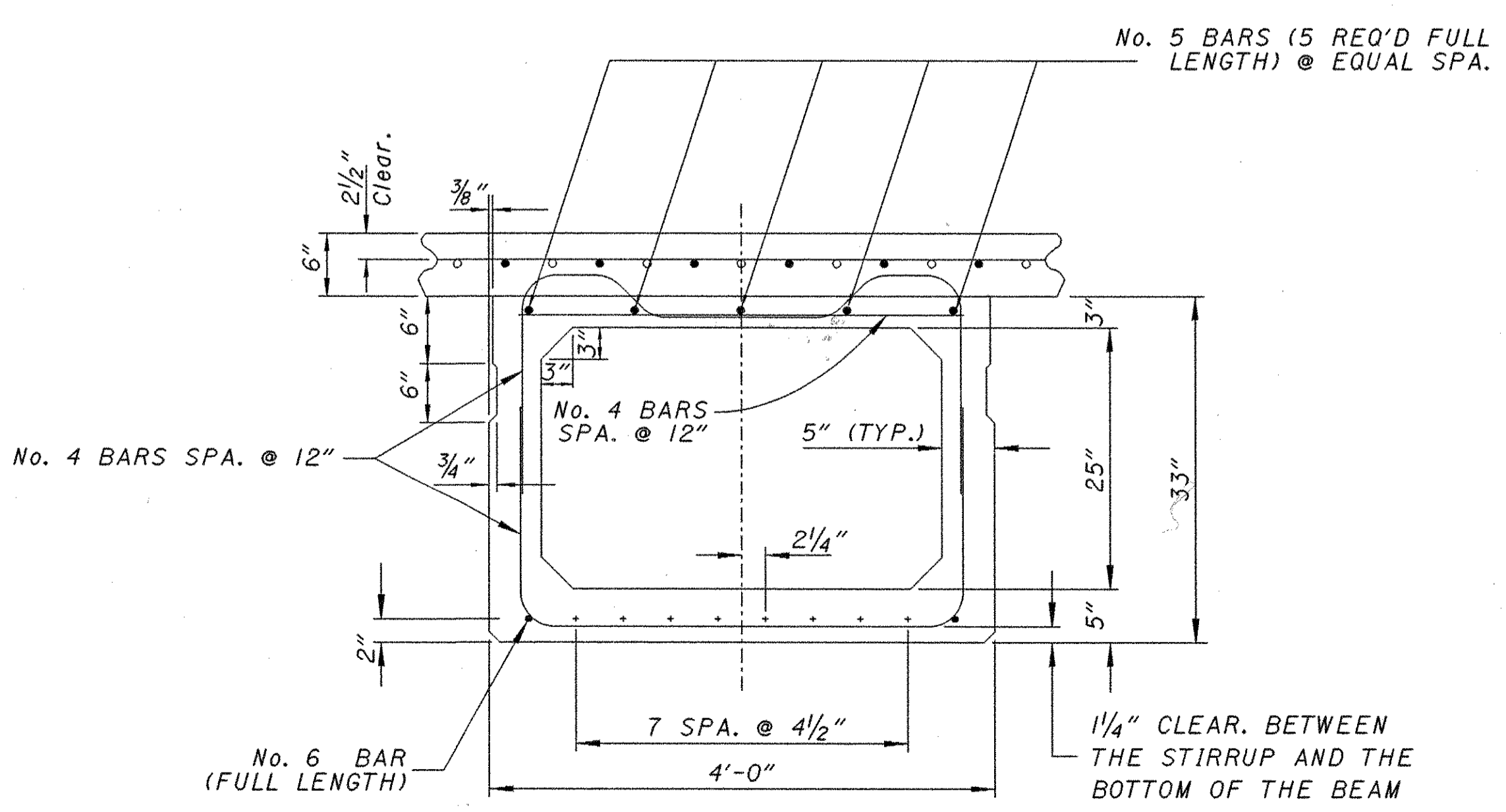
NOTE: SEE SHEET 4/11,
7/11, & 8/11
FOR ADDITIONAL
BOX BEAM DETAILS.

FOR STRANDS
** = 2'-6"
* = 1'-6"

SHEAR KEY SHALL BE MORTARED
ON A FINISHED PLANE BETWEEN
THE TOP EDGES OF THE ADJACENT
BEAMS WHERE VERTICAL OFFSET
OCCURS. VERTICAL OFFSET BETWEEN
BEAMS MUST BE WITHIN TOLERANCES.

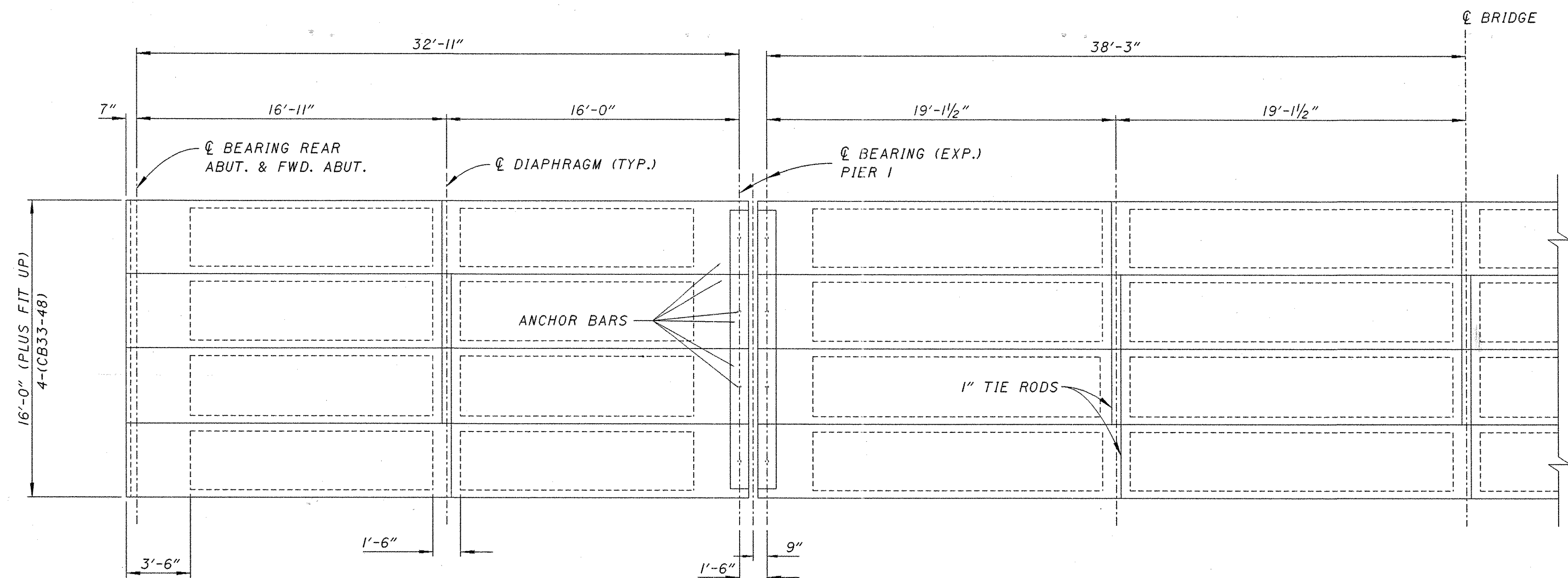


SHEAR KEY DETAIL



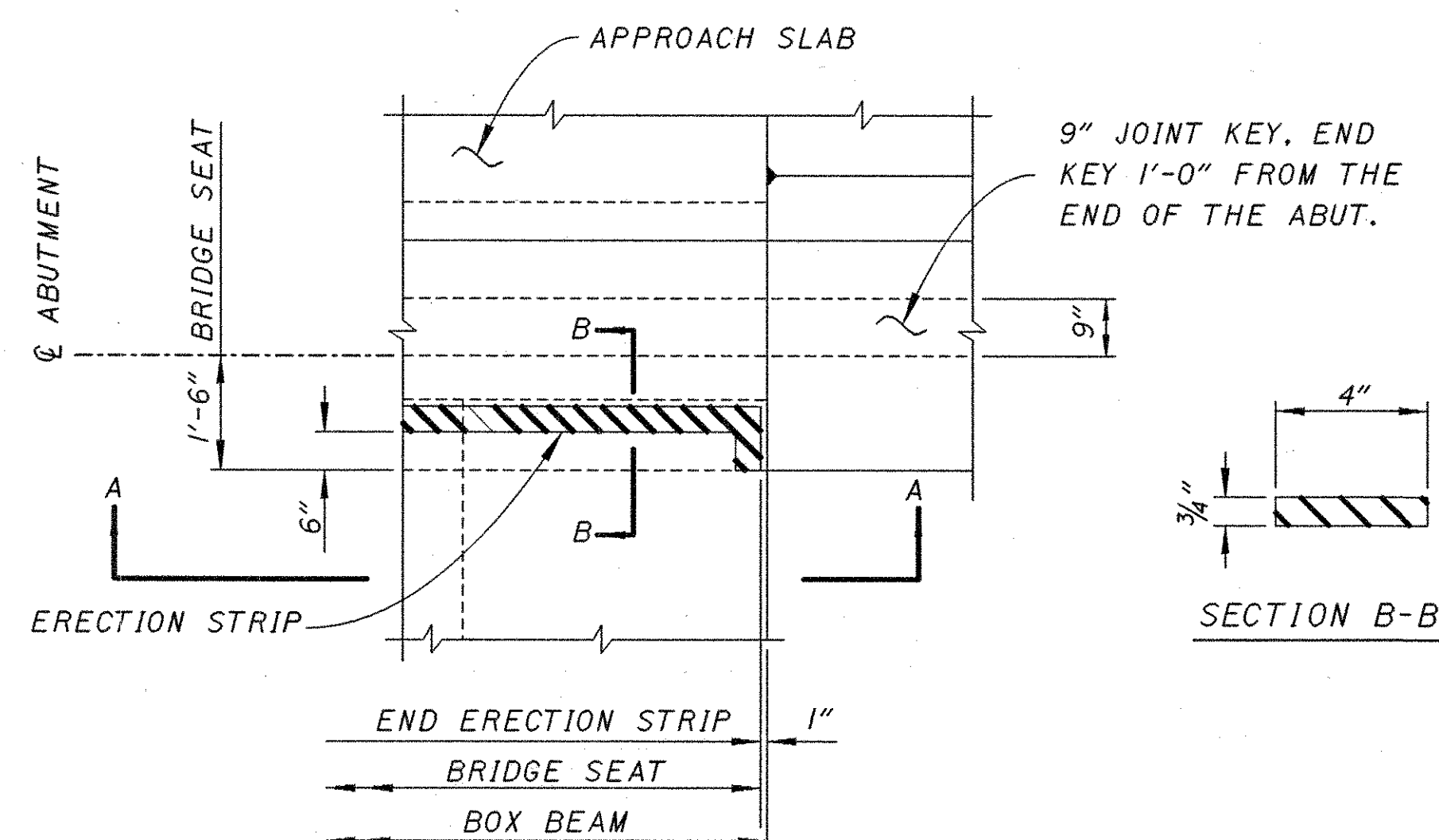
CB33-48
(8 STRANDS)

BIKEI.DGN

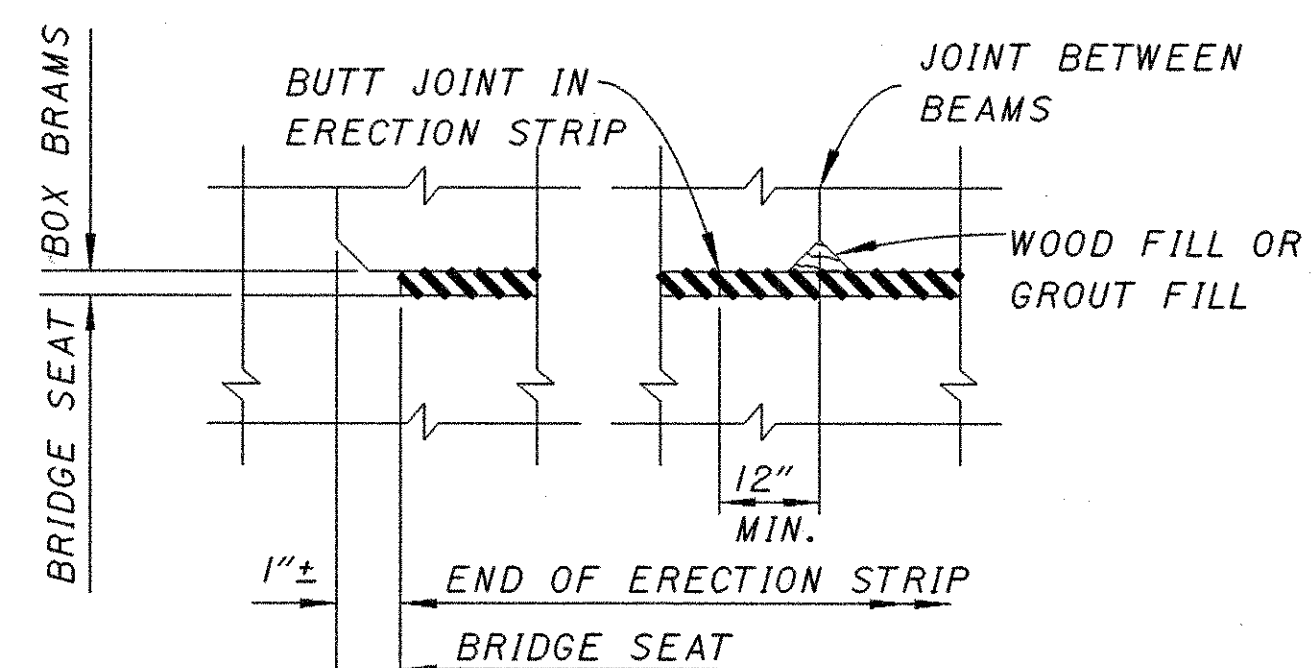


BEAM LAYOUT
(SYMMETRICAL @ CL BRIDGE)

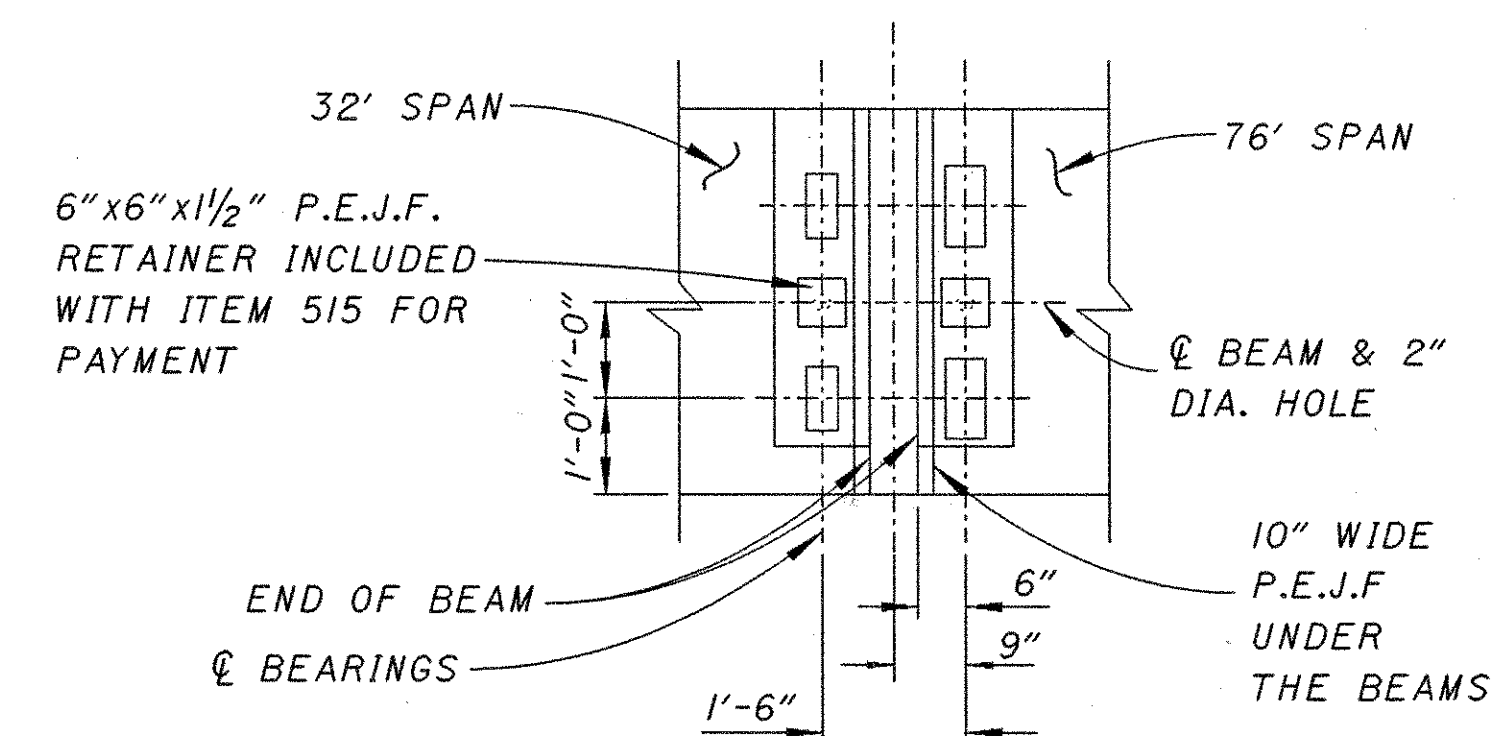
NOTE:
FOR CAMBER DETAILS
SEE SHEET 8/11.



PARTIAL DECK PLAN



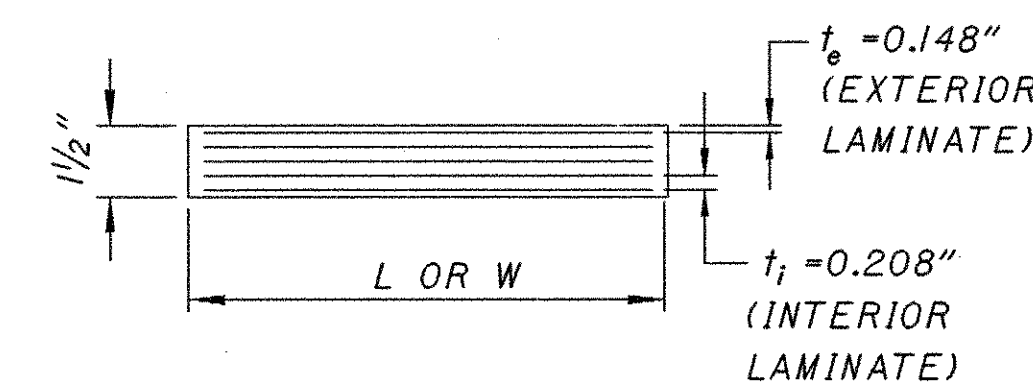
SECTION A-A



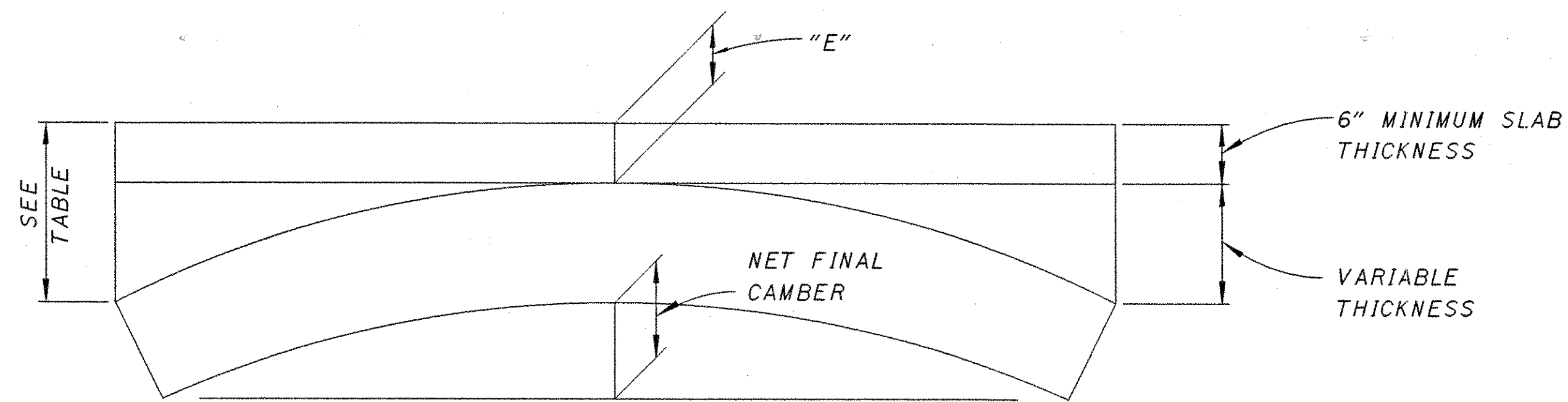
BEARING PAD LAYOUT @ PIER

LAMINATED ELASTOMERIC BEARING PAD										
SPAN	DIMENSIONS (INCHES)					N	REACTIONS (k)		MAX. DESIGN LOAD (k)	
	L	W	t _i	t _e	T		DL	LL		
32'	8"	4"	0.208"	0.148"	1 1/2"	5	13.5	5.5	19	
76'	10"	5"	0.208"	0.148"	1 1/2"	5	29	7	36	

t_e = THICKNESS OF EXTERIOR LAMINATE
t_i = THICKNESS OF INTERIOR LAMINATE
T = TOTAL THICKNESS OF ELASTOMERIC BEARING
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATES THICKNESS = 0.0747"
DUROMETER OF ELASTOMERIC = 50 DUROMETER



bike7.dgn



CONCRETE THICKNESS DIAGRAM

NOTES:

PRESTRESSING STRANDS ARE ASTM 416, 1/2"-INCH, 7 WIRE UNCOATED, LOW LAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI AND AN INITIAL TENSION OF 30,982 LBS. PER STRAND.

REFER TO STANDARD DRAWING PSBD-1-93 FOR THE FOLLOWING DETAILS:

- BEAM LIFTING INSERTS
- MILD STEEL REINFORCEMENT AND REINFORCING OF BEAM ENDS
- ANCHOR DOWELS
- BEAMS DIMENSIONAL TOLERANCES
- DIMENSIONS OF BEAM SECTION
- TYPICAL PLANS OF DIAPHRAGMS AND TRANSVERSE TIE RODS

REFER TO STANDARD DRAWING PSBD-1-93 FOR THE FOLLOWING DETAILS:

- TRANSVERSE TIE RODS
- GALVANIZING
- ANCHOR DOWELS
- END OF BEAMS
- MORTARING OF SHEAR KEYS
- NON-SHRINKING MORTAR

AS REQUIRED TO SUPPLEMENT APPLICABLE DETAILS:

THE COMPOSITE CONCRETE WEARING SURFACE SHALL CONSIST OF A VARIABLE THICKNESS AND A 6" MINIMUM THICKNESS ("A") OF CLASS "S" CONCRETE .

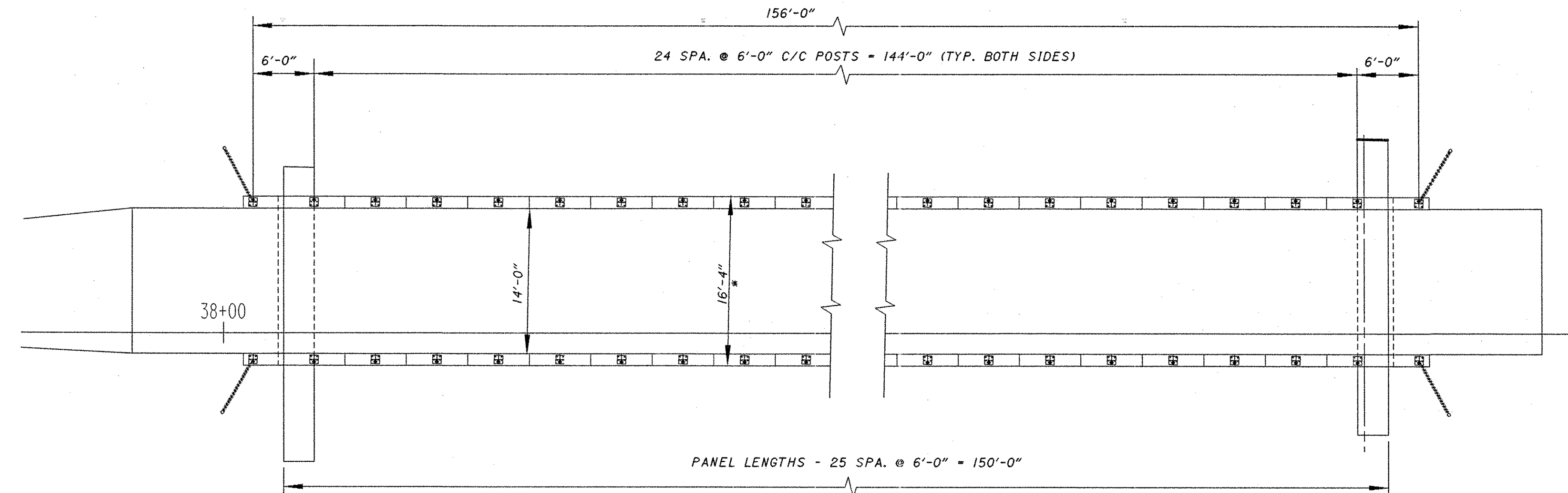
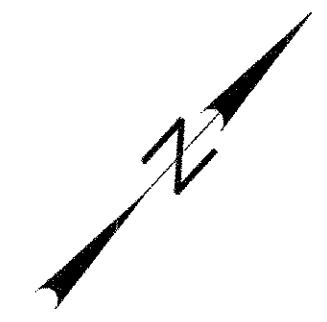
CALCULATED CAMBER AT TIME OF PLACING CONCRETE, INCLUDING ALLOWANCE FOR CAMBER GROWTH DUE TO CREEP, IS "B".

CALCULATED DEFLECTION DUE TO WEIGHT OF WEARING SURFACE AND RAILING (CURB, FENCE, ETC.) IS "C".

VERTICAL CURVE CORRECTION IS "D"

CONCRETE THICKNESS						
	SPAN No. 1		SPAN No. 2		SPAN No. 3	
DESIGN SLAB THICKNESS "A"	6"		6"		6"	
TOTAL CAMBER OF BEAM "B"	1/2"		1 3/4"		1/2"	
DEFLECTION DUE TO DEAD LOAD "C"	1/32"		1 1/8"		1/32"	
VERTICAL CURVE CORRECTION "D"	1 3/8"		1/2"		1/4"	
SLAB THICKNESS AT MIDSPAN OF BEAMS "E"	7 1/8"		6"		6"	
CONCRETE THICKNESS AT BEARINGS	R. A.	P-1	P-1	P-2	P-2	F. A.
	6 1/4"	6 1/4"	6 1/4"	6 1/4"	6 1/4"	6 1/4"

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION, DIST. 5, BRIDGE DEPT.
 DATE: 4-28-95
 STRUCTURE FILE NUMBER: 4560132
 SUPERSTRUCTURE DETAILS
 BRIDGE NO. LIC-16-1859PB
 BIKEWAY OVER COUNTRY CLUB DR.
 LIC-16-17.94
 8/11
 381
 420



PLAN

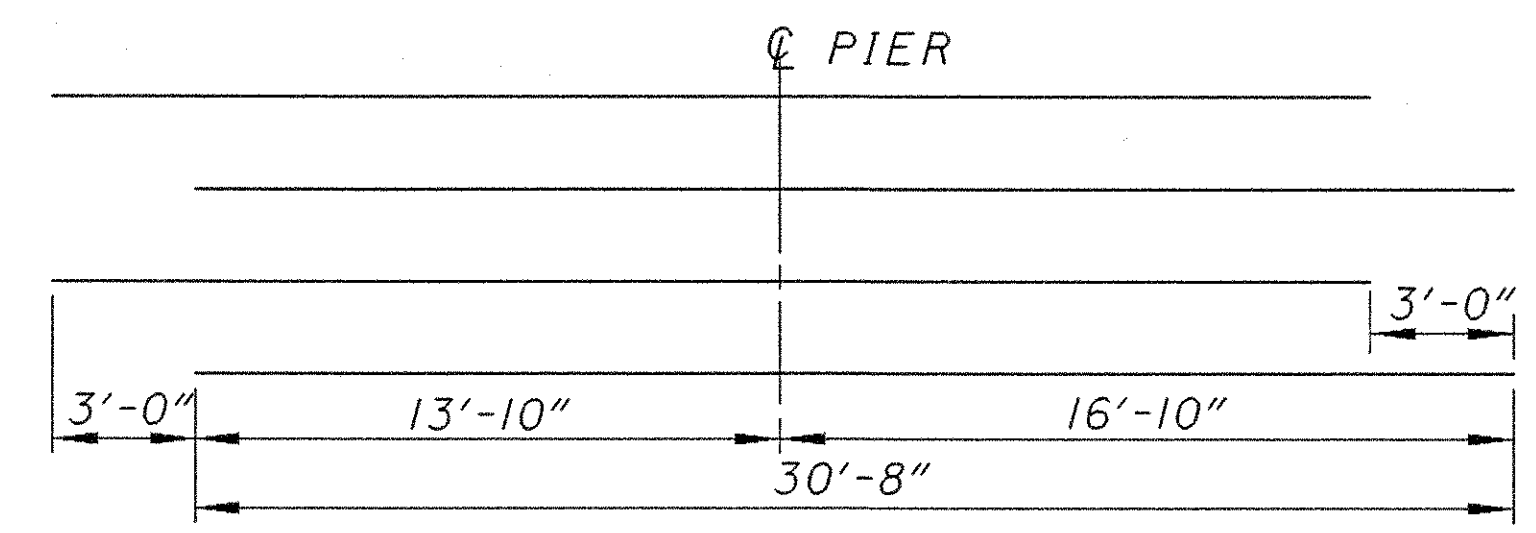
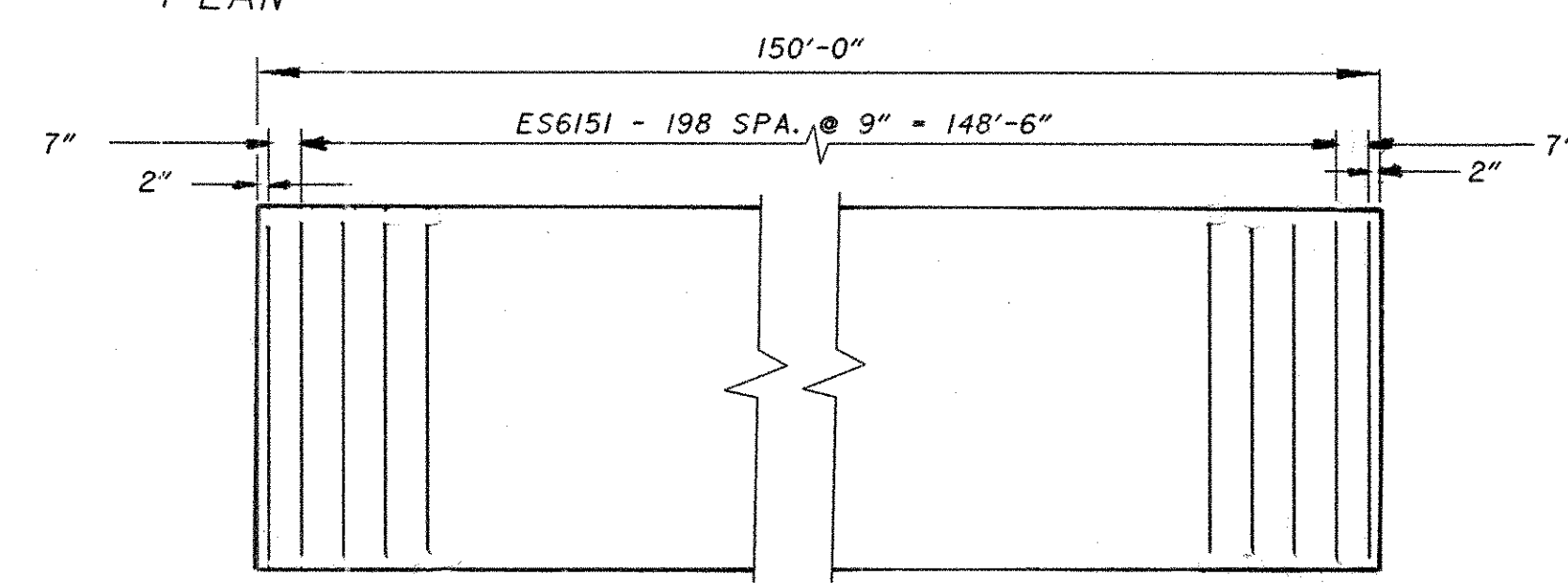
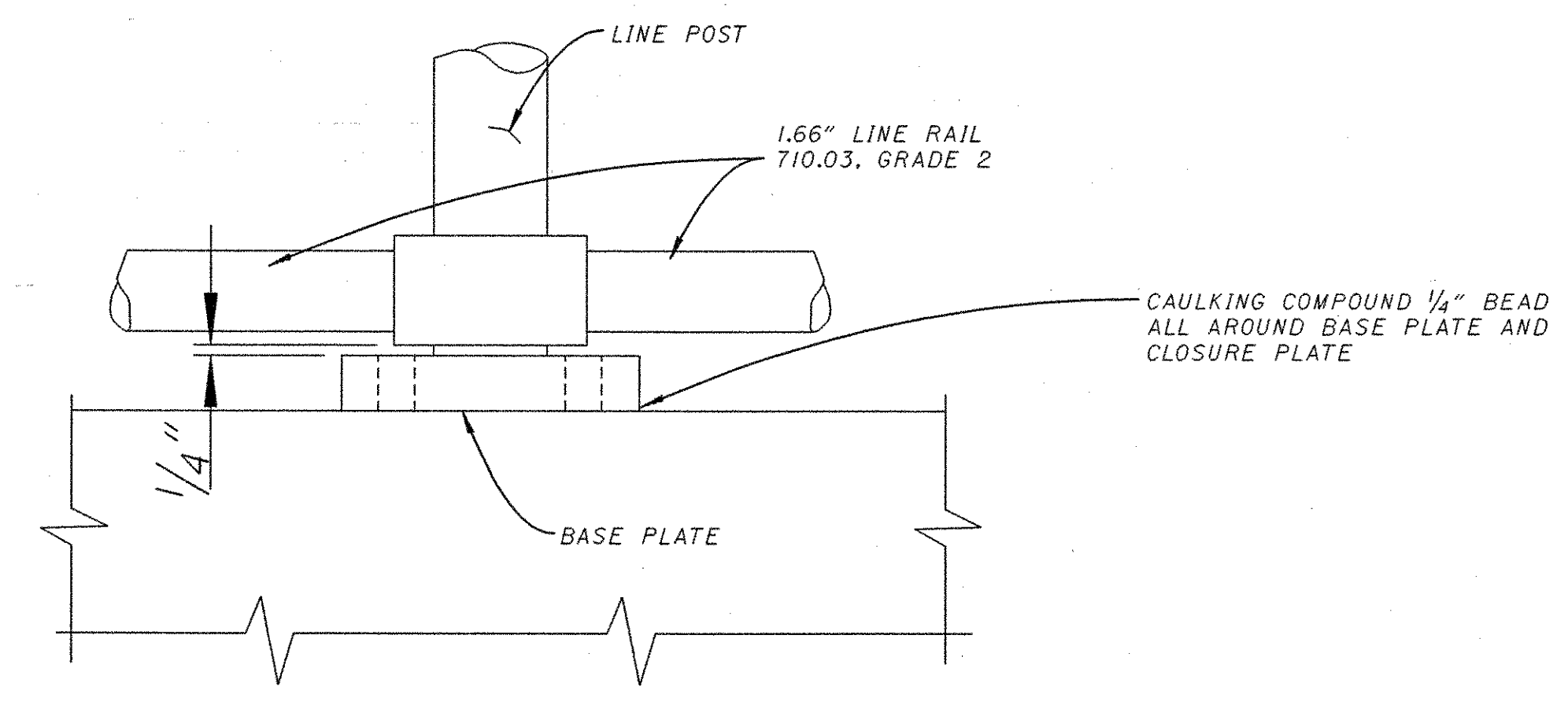


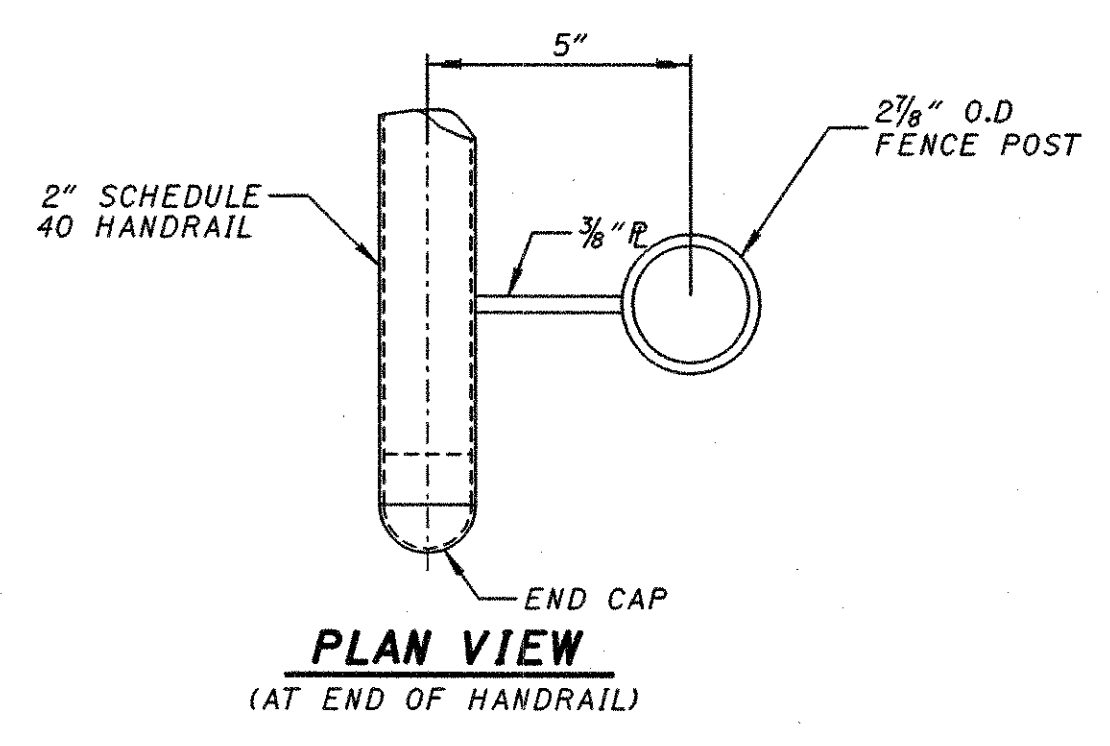
DIAGRAM SHOWING STAGGER OF ES6148 BARS OVER PIERS



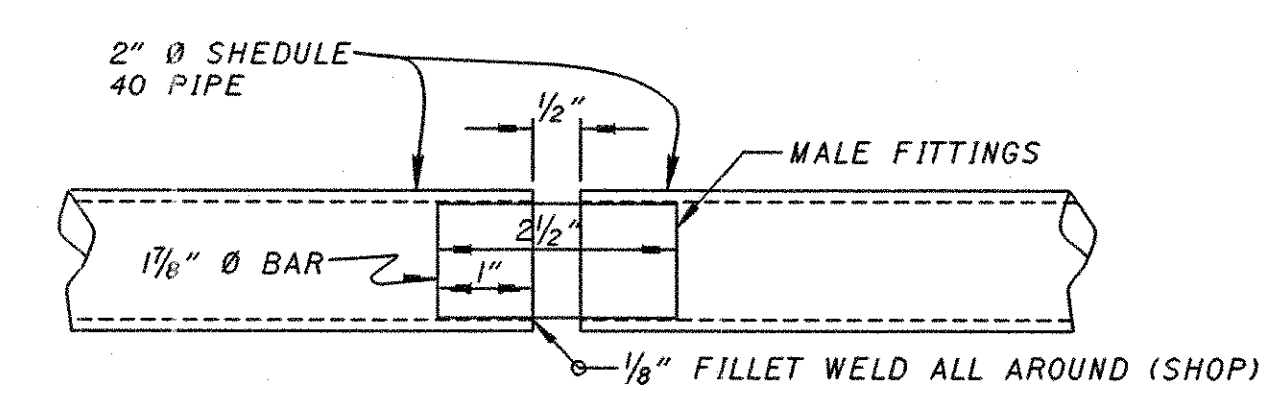
TRANSVERSE REINFORCING STEEL DECK LAYOUT



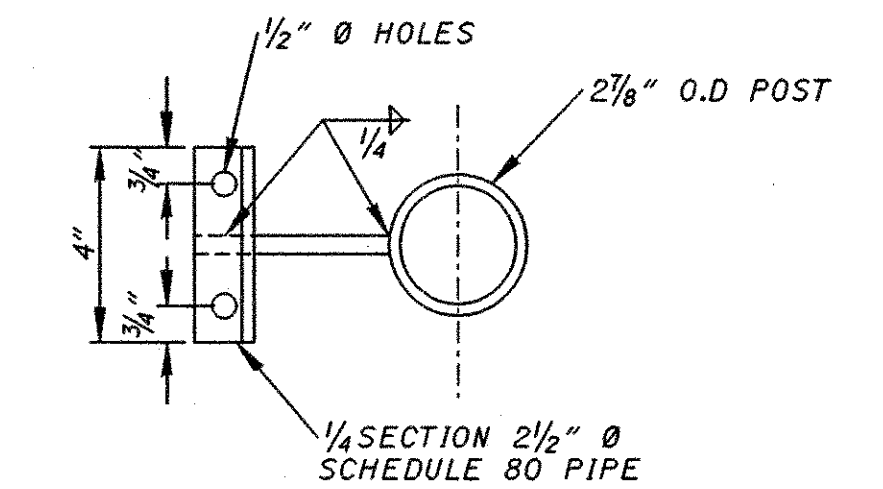
ELEVATION AT LINE POST



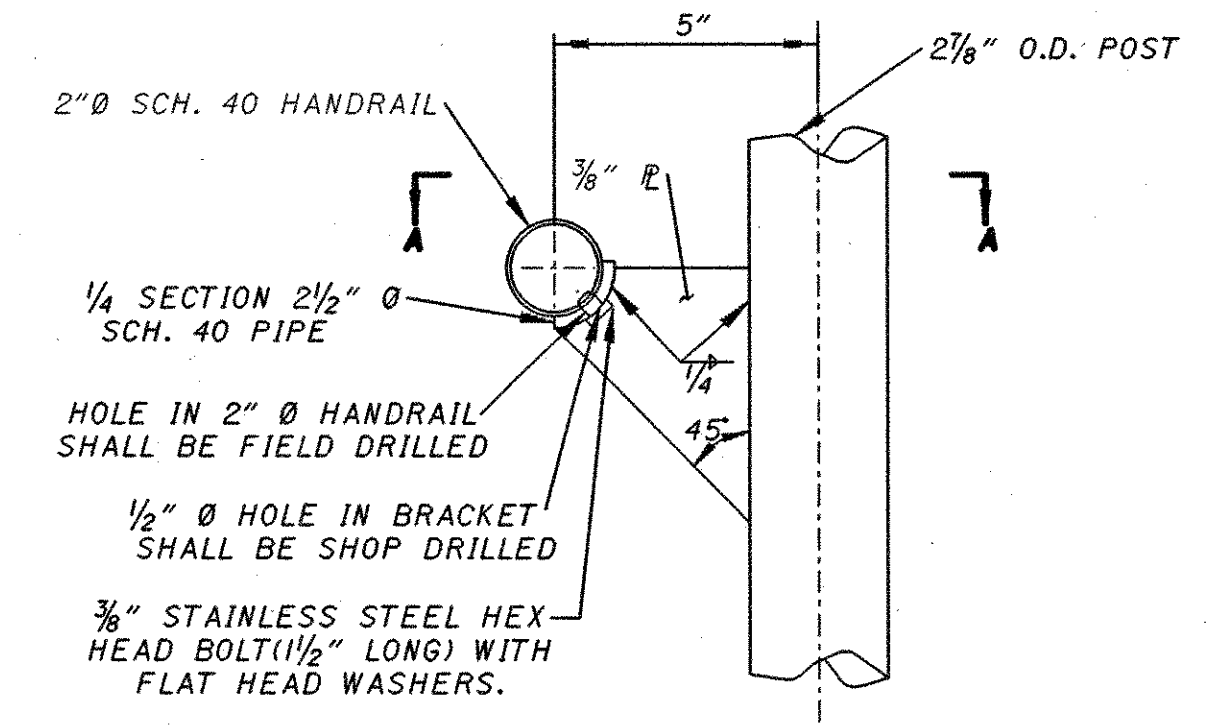
PLAN VIEW (AT END OF HANDRAIL)



HANDRAIL JOINT DETAIL (MAX. SPACING 30')



SECTION A-A (HANDRAIL NOT SHOWN)



HANDRAIL DETAIL

BIKE8A.DGN

DESIGN AGENCY
OHIO DEPARTMENT
OF TRANSPORTATION
DIST. 5 - BRIDGE DEPT.

DATE
4-18-95

REVIEWED
DLS

STRUCTURE FILE NUMBER
4560132

DESIGNED
RSD

CHECKED
DLS

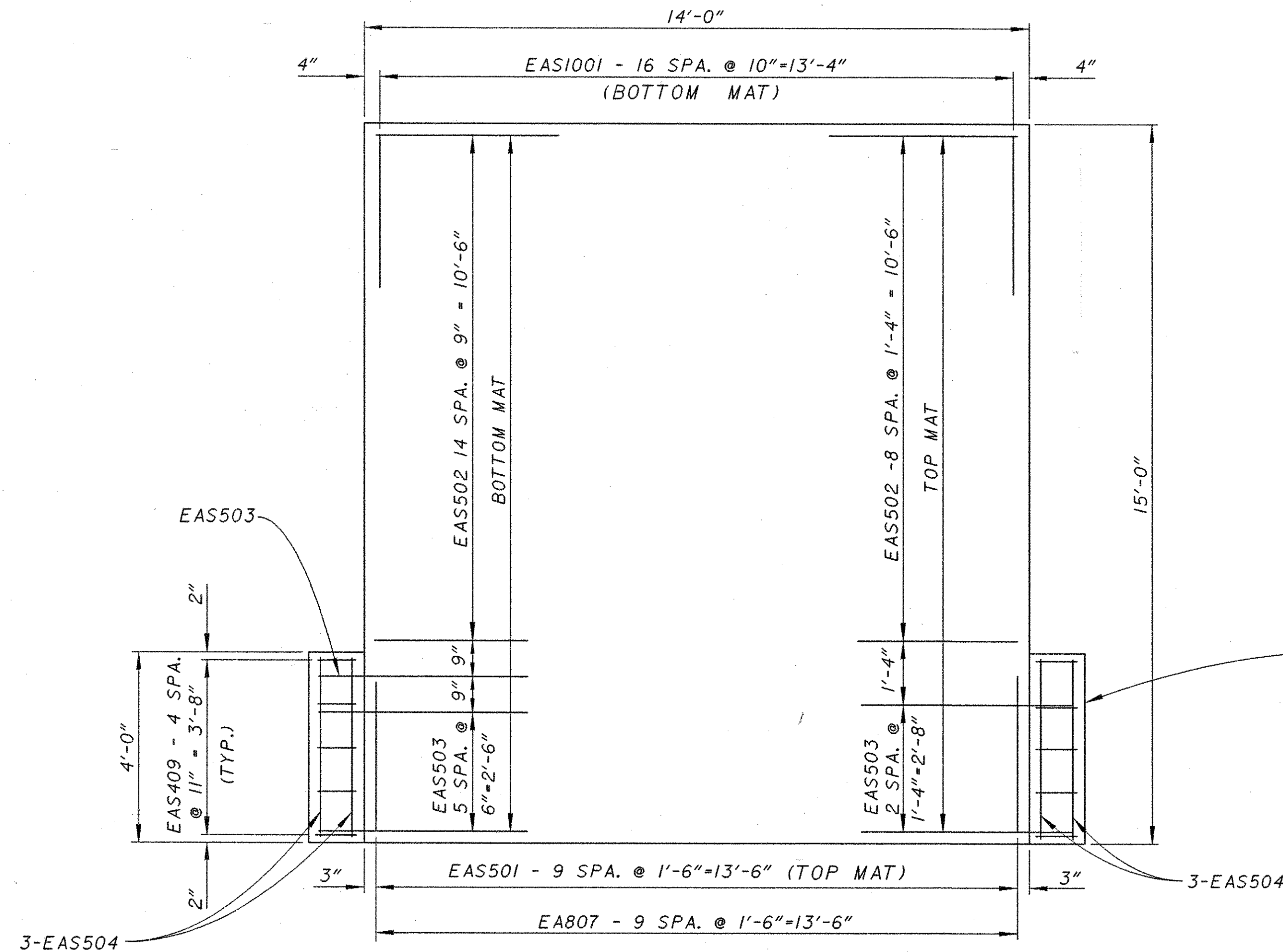
FENCING DETAILS
BRIDGE NO. LIC-16-1859FB
BIKEWAY OVER COUNTRY CLUB DR.

LIC-16-17.94

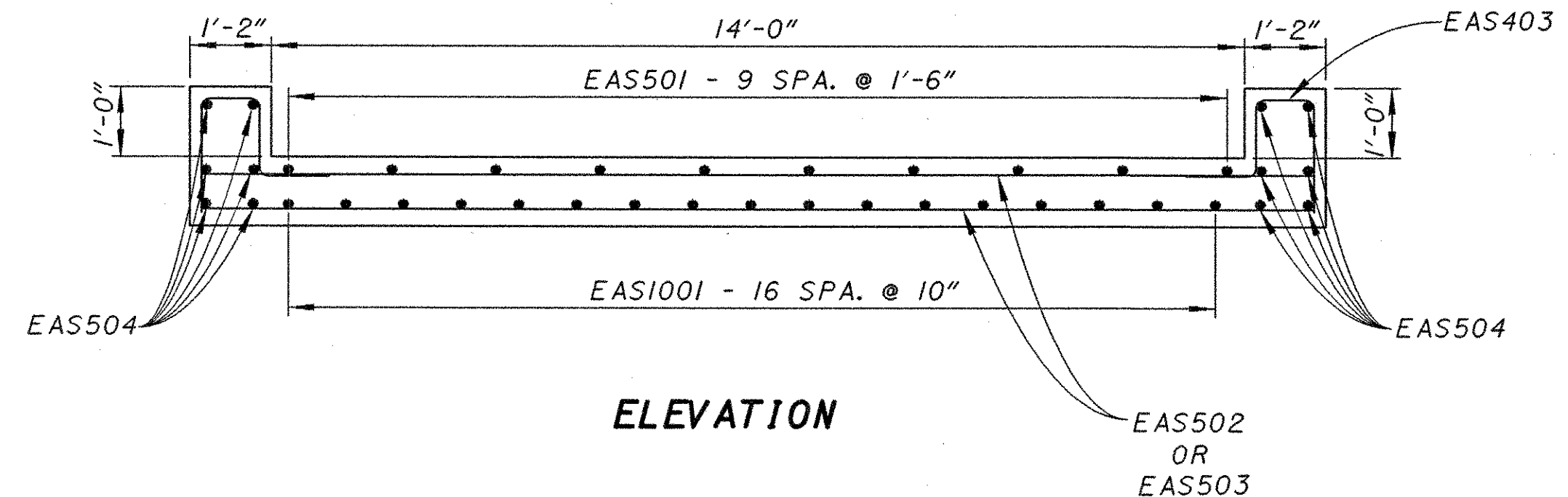
9/11

382
420

NOTE: FOR EA807 BENDING DIAGRAMS AND QUANTITIES, SEE SHEETS 4/11 AND 11/11.

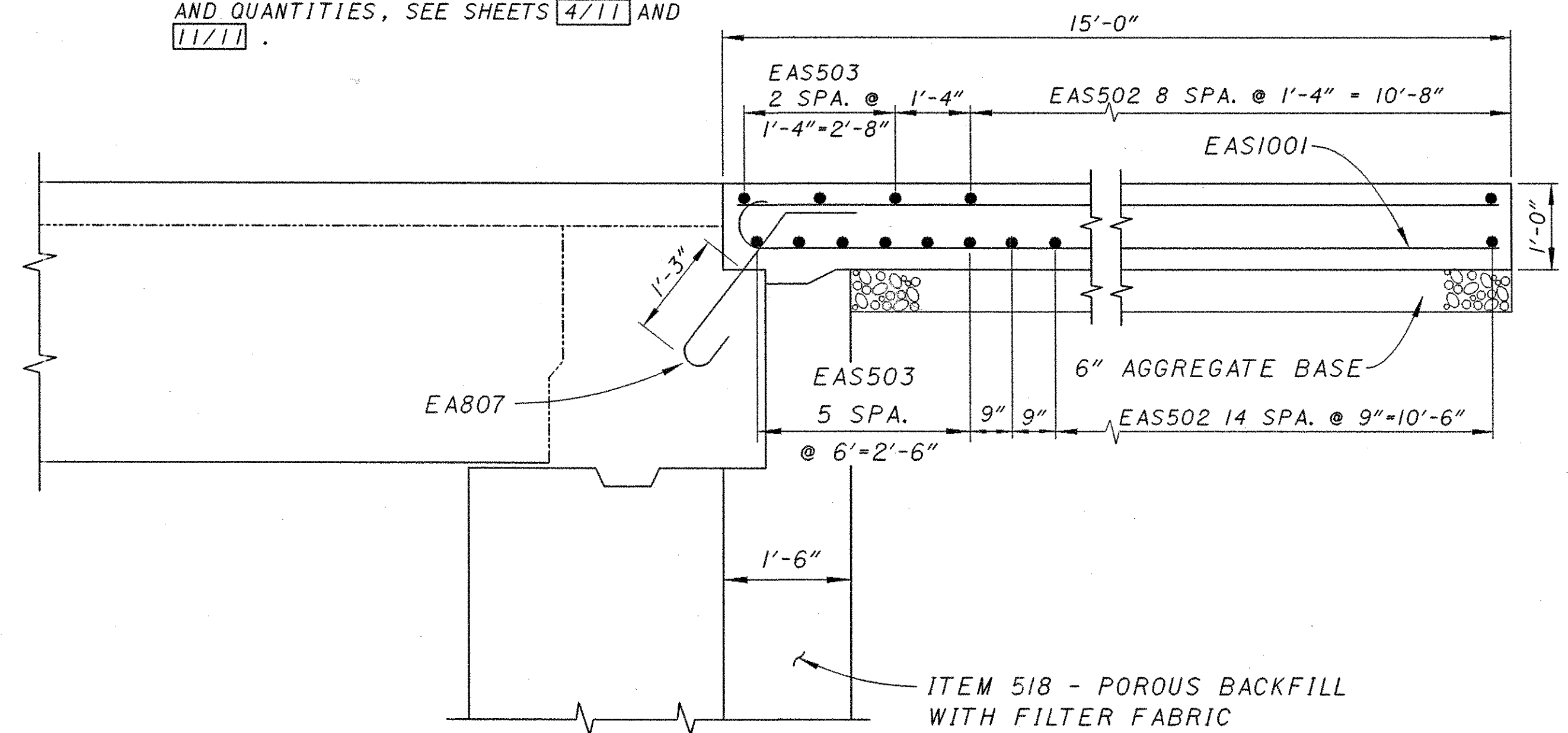


PLAN

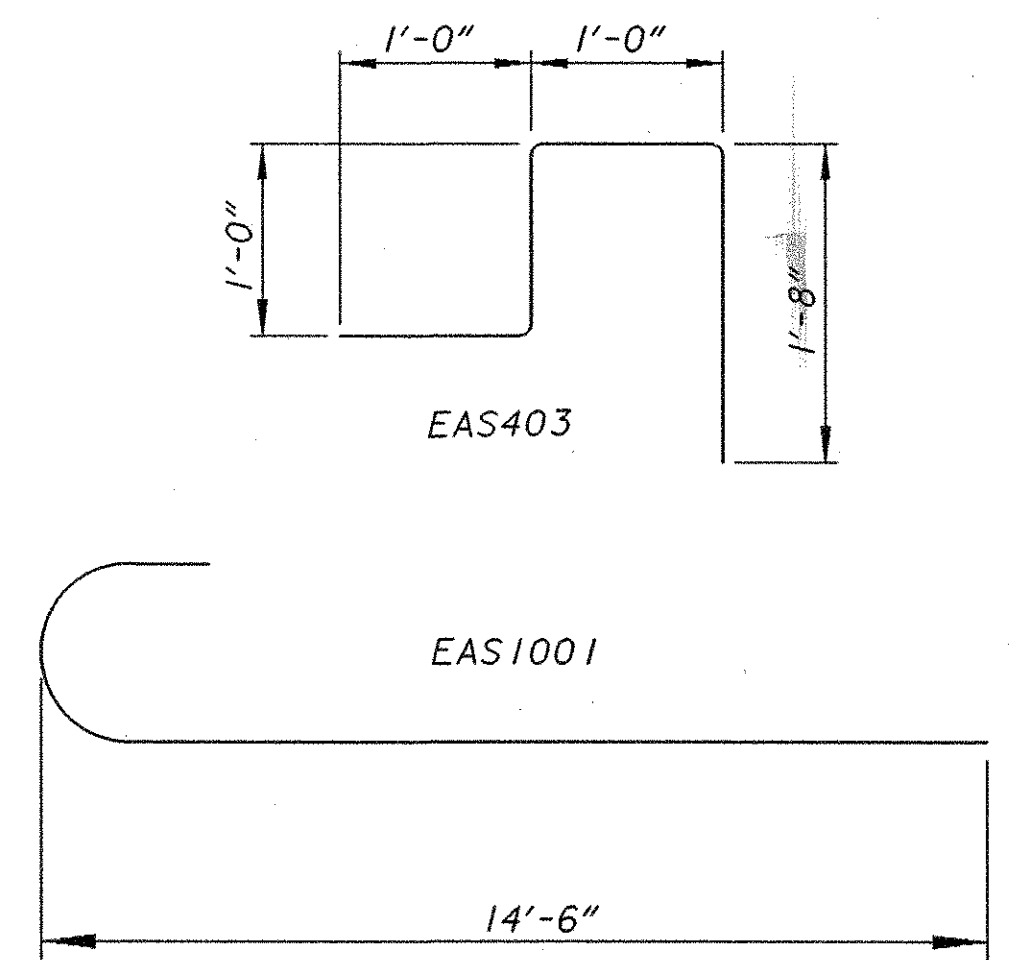


ELEVATION

NOTE: CONCRETE CURB TO BE INCLUDED FOR PAYMENT WITH ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=12"), AS PER PLAN.



SECTION AT C ABUTMENT



BENDING DIAGRAM

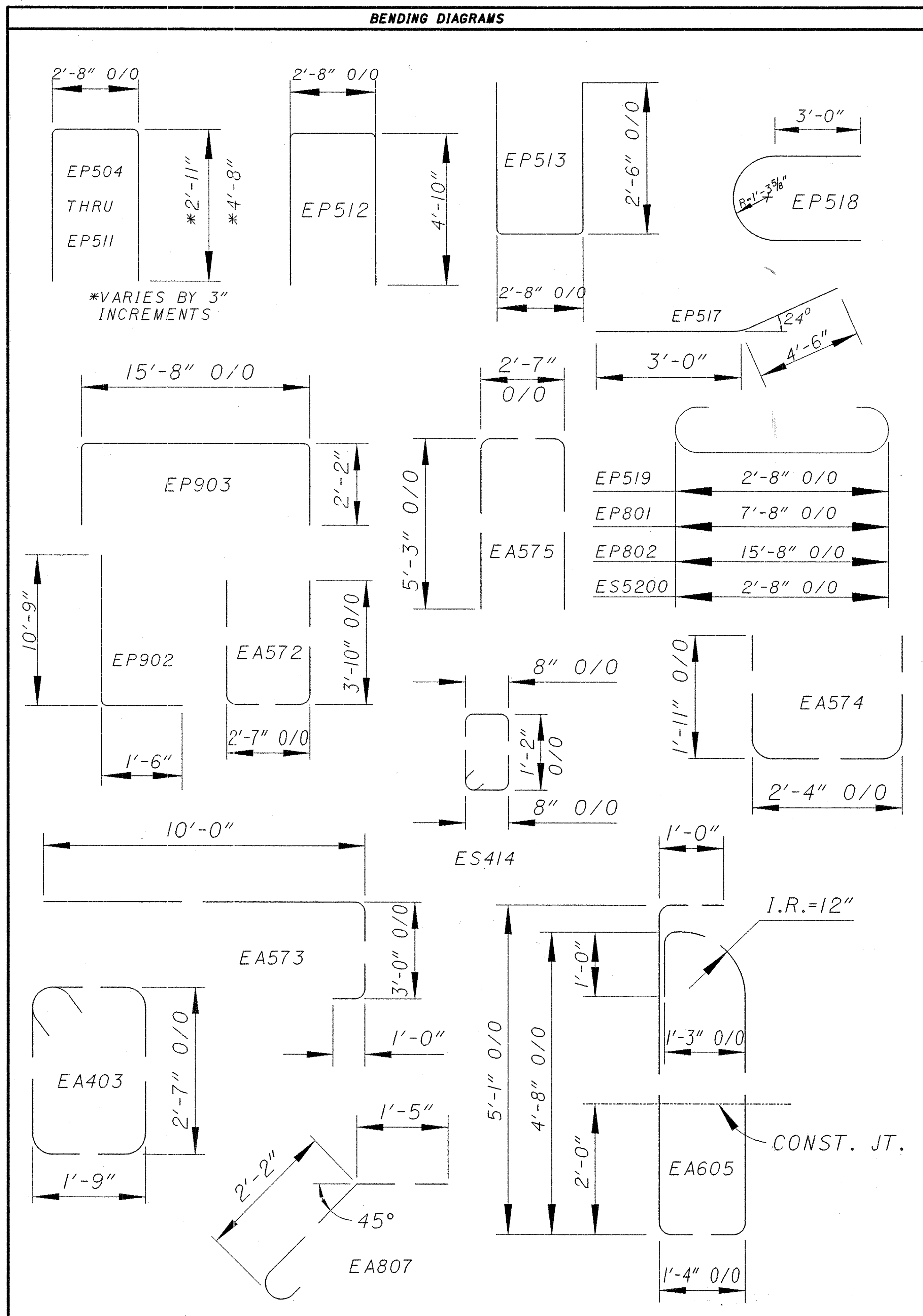
BAR SCHEDULE (EPOXY COATED)				
MARK	NO. REQ'D	SHAPE	LENGTH	WEIGHT
EAS403	20	BT.	4'-5"	59 *
EAS501	20	ST.	14'-6"	302 *
EAS502	48	ST.	13'-6"	676 *
EAS503	20	ST.	16'-0"	334 *
EAS504	24	ST.	3'-8"	92 *
EAS1001	34	BT.	15'-11"	2329 *
			TOTAL	3792 *

* RESTEEL INCLUDED FOR PAYMENT WITH ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=12"), AS PER PLAN

NOTE: ALL RE-STEEL IN APPROACH SLAB IS TO BE EPOXY COATED.

LO161828

SUPERSTRUCTURE					PIERS				
MARK	NO. REQ'D.	LENGTH	SHAPE	WEIGHT	MARK	NO. REQ'D.	LENGTH	SHAPE	WEIGHT
ES403	24	40'-0"	ST.	641	EP503	14	12'-8"	ST.	185
ES414	300	3'-2"	BT.	635	EP504	4	VARIES BY 3"	BT.	334
ES415	8	35'-8"	ST.	190	EP511	8			
ES5200	40	3'-10"	BT.	160	EP512	18			
ES6148	22	30'-8"	ST.	1013	EP513	36	7'-5"	BT.	278
ES6149	48	40'-0"	ST.	2884	EP514	12	15'-8"	ST.	196
ES6151	212	15'-8"	ST.	4990	EP515	4	11'-2"	ST.	47
					EP516	4	7'-3"	ST.	30
					EP517	12	7'-6"	BT.	94
					EP518	40	10'-1"	BT.	421
					EP519	50	3'-10"	BT.	200
					EP520	20	7'-8"	ST.	160
TOTAL				10513					
ABUTMENT									
EA403	16	9'-2"	BT.	98	EP801	28	9'-6"	BT.	710
EA503	6	15'-8"	ST.	98	EP802	14	17'-6"	BT.	654
EA545	4	2'-7"	ST.	11					
EA571	30	28'-2"	ST.	881	EP901	32	16'-5"	ST.	1786
EA572	84	10'-0"	BT.	876	EP902	32	12'-0"	BT.	1306
EA573	46	13'-9"	BT.	660	EP903	12	19'-9"	BT.	806
EA574	46	5'-11"	BT.	284					
EA575	21	12'-10"	BT.	281					
EA576	4	6'-5"	ST.	27					
EA577	4	5'-3"	ST.	22					
EA578	4	9'-1"	ST.	38					
EA604	8	5'-2"	ST.	62					
EA605	40	13'-3"	BT.	796					
EA807	20	4'-2"	BT.	223					
EA901	16	28'-2"	ST.	1532					
TOTAL				5889	TOTAL				7434



DESIGN AGENT
OHIO DEPARTMENT OF TRANSPORTATION
 DIST. 5 BRIDGE DEPT.

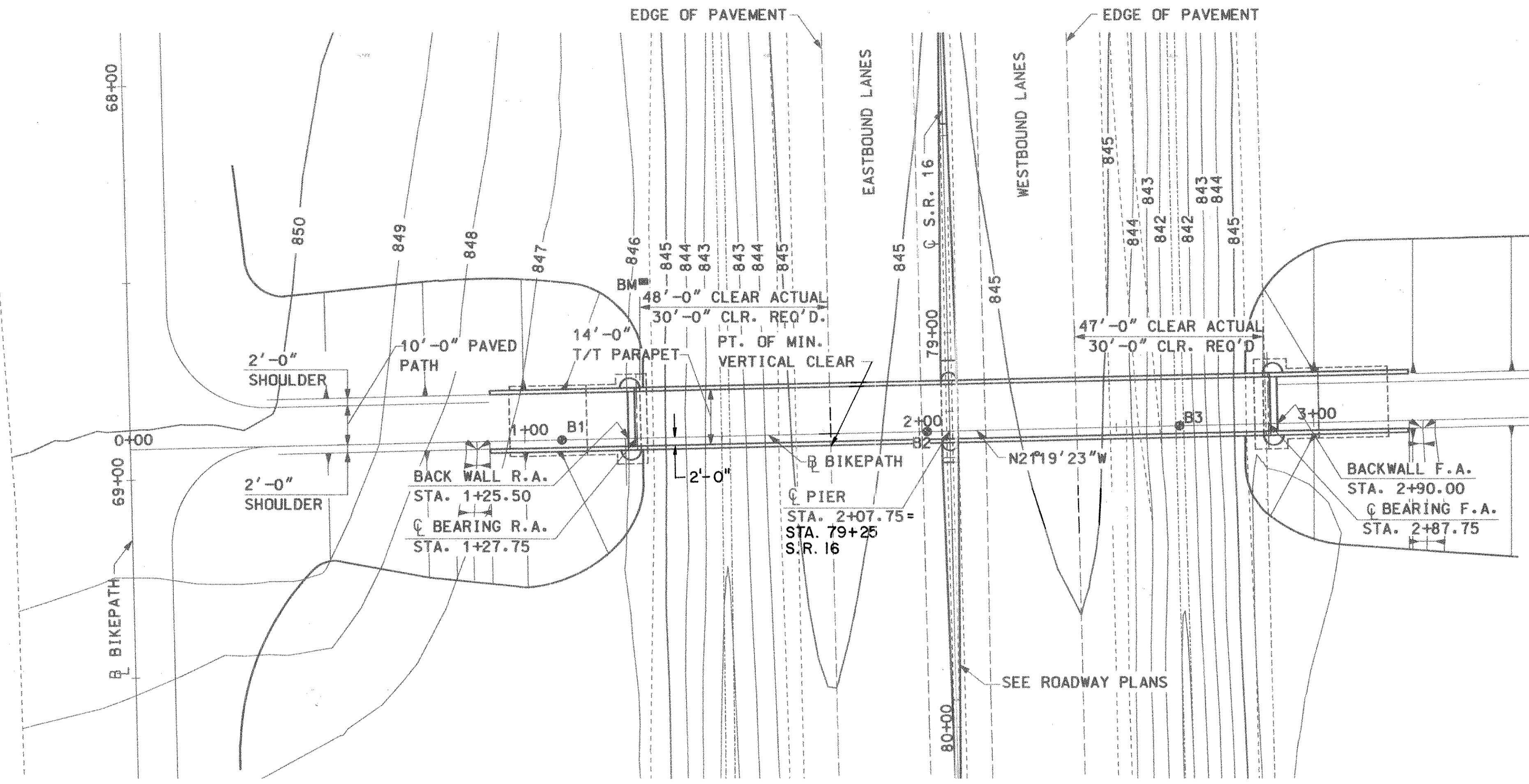
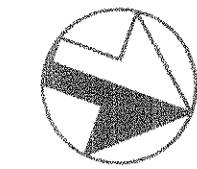
DATE 4-28-45
 REVIEWED DDH
 STRUCTURAL FILE NUMBER 4561032

DESIGNED DDH
 CHECKED RSD

BAR SCHEDULES AND BENDING DIAGRAMS
 BRIDGE NO. LIC-16-1859PB
 PEDESTRIAN BRIDGE OVER COUNTRY CLUB DR.

LIC-16-17.94

384
 420

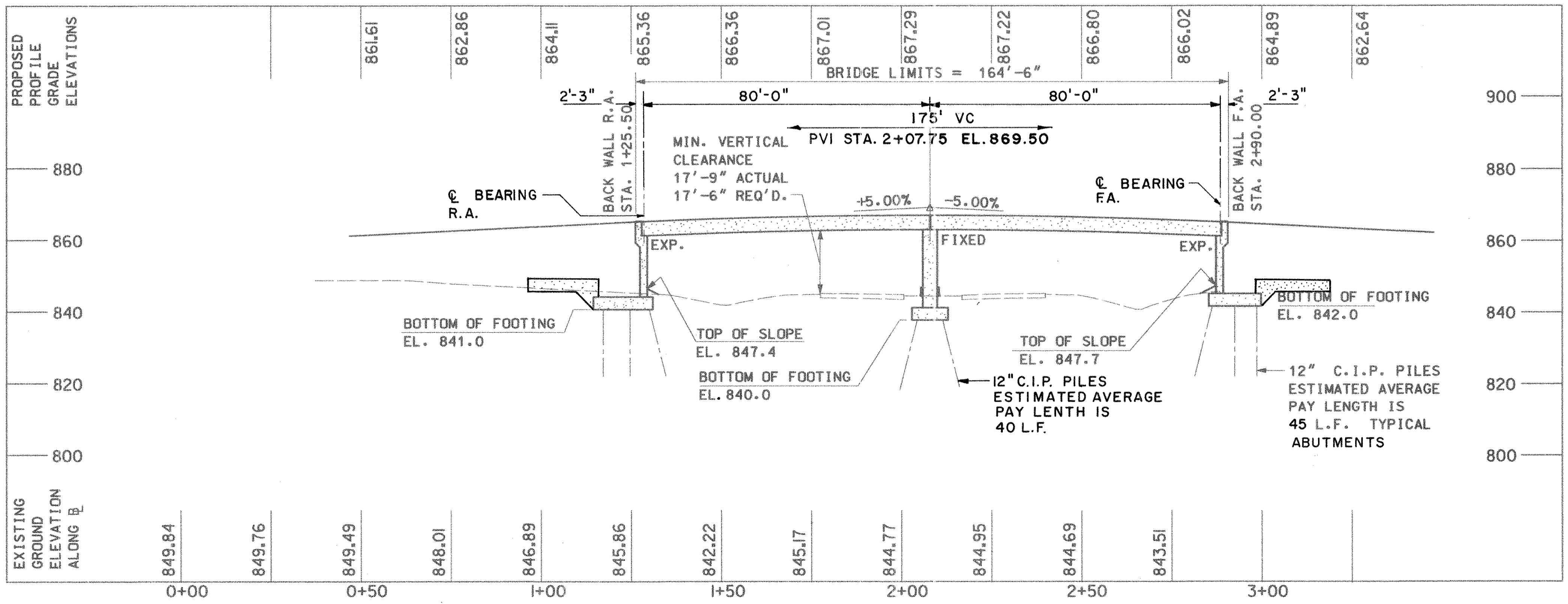


PLAN

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.

● DENOTES SOIL BORING LOCATION

BENCHMARK DATA:
 BM #8 TOP OF 1" REBAR DRIVEN
 FLUSH WITH GROUND 76.4' RT.,
 STA 78+86.0, ELEVATION 846.04



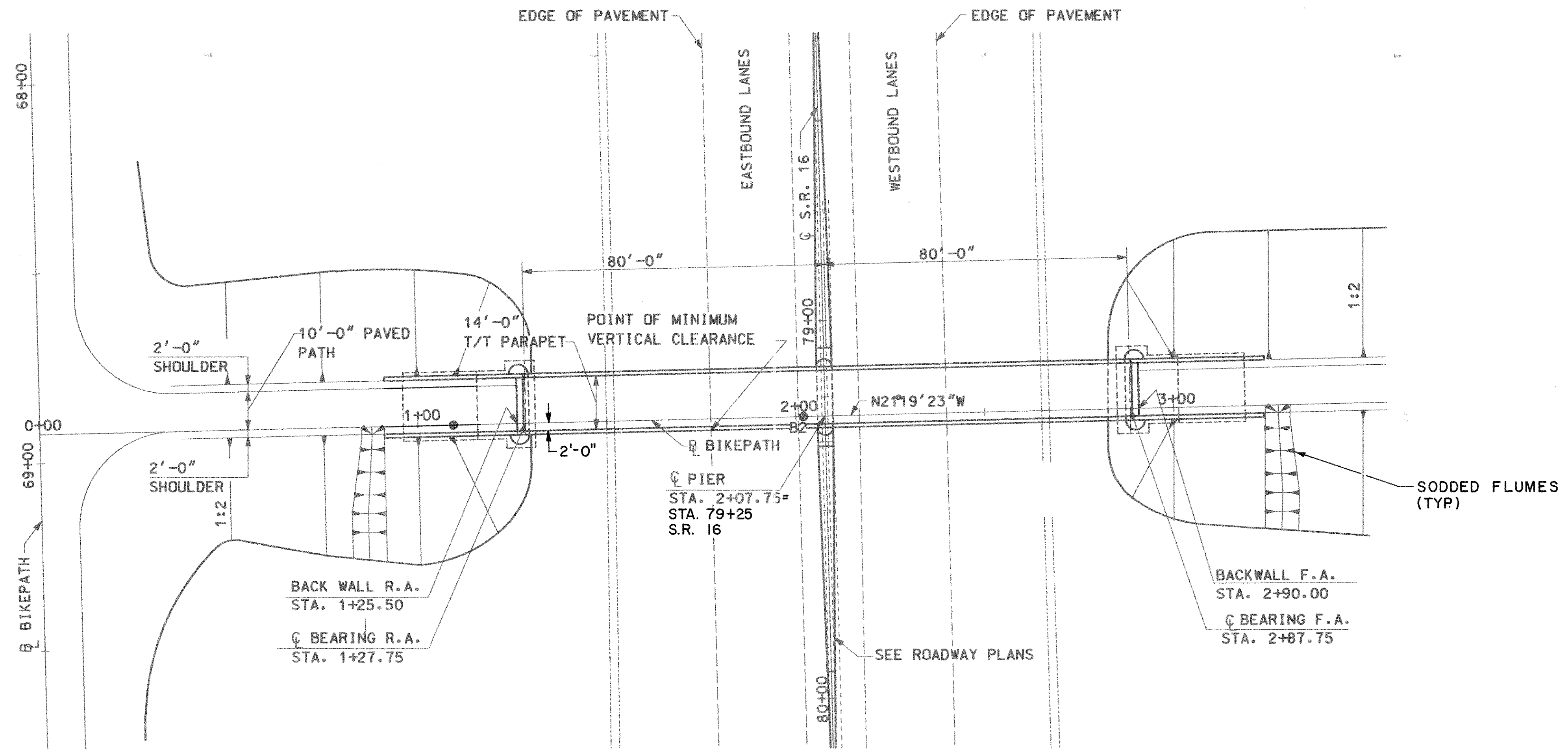
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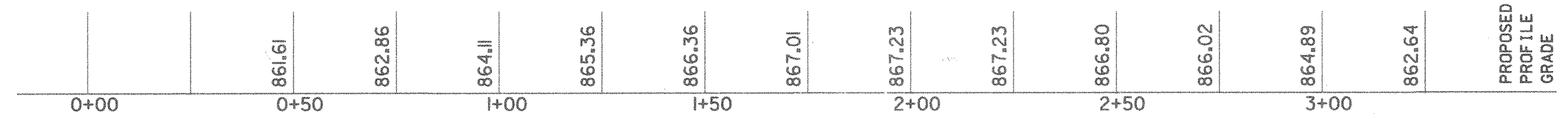
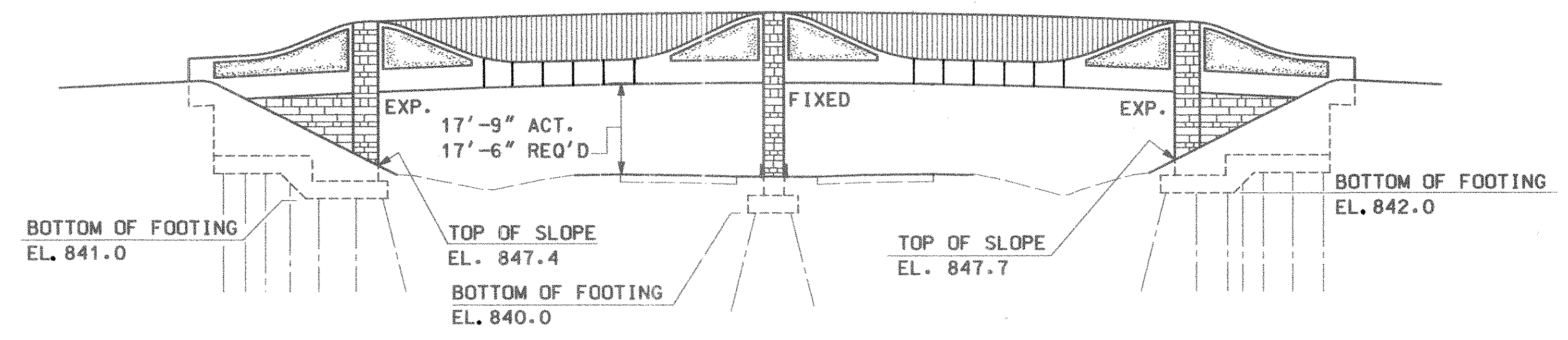
PROPOSED STRUCTURE

TYPE: COMPOSITE PRECAST BOX BEAM
 SPANS: 80'-0", 80'-0" C/C BEARINGS
 BIKEPATH: 14'-0" T/T PARAPETS
 LOADING: 85 PSF AND H 20-44
 SKEW: NONE
 WEARING SURFACE: MONOLITHIC CONCRETE
 APPROACH SLABS: NONE
 ALIGNMENT: TANGENT
 SUPERELEVATION: 1/4"/FT.
 CROWN: NONE

DATE	3-MAR-15
REVIEWED	RMM
DESIGNED	HEK
DRAWN	KEK
CHECKED	Doc
STRUCTURE FILE NUMBER	4500865
LICKING COUNTY	STA. 1+25.50
	STA. 2+90.00
SITE PLAN	BRIDGE NO. LIC-16-1917
	BIKEPATH OVER S.R.16
LIC-16-17-94	
1/13	
385	
420	



PLAN



ELEVATION

LEGEND
 T/T = TOE TO TOE
 RA = REAR ABUTMENT
 FA = FORWARD ABUTMENT

DESIGNED KEK CHECKED Dor	DRAWN KEK	REVIEWED RK177	DATE 3-17-95
		STRUCTURE FILE NUMBER 4500865	ARCHITECT ENGINEERS
GENERAL PLAN AND ELEVATION BRIDGE NO. LIC-16-1917 BIKEPATH OVER S.R. 16			
LIC-16-17.94		2 / 13	
386 420			

GENERAL NOTES

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

PSBD-1-93 DATED 03-04-94
EXJ-3-82 DATED 08-01-84

AND SUPPLEMENTAL SPECIFICATIONS 849, DATED 12-24-85; 944, DATED 05-02-94; 949, DATED 09-26-86; AND 820, DATED 3-18-92.

DESIGN SPECIFICATIONS: THIS DRAWING CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), 1992, INCLUDING THE 1993 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

DESIGN LOADING - 85 POUNDS PER SQUARE FOOT OF ROADWAY, OR H20-44 AT 136.5 PERCENT OF BASIC STRESSES, WHICHEVER IS GREATER.

PRESTRESSED CONCRETE BEAMS:

REINFORCING STEEL - ASTM A615, A616, OR A617

GRADE 60 - UNIT STRESS 24,000 PSI

CONCRETE UNIT STRESS - 2,200 PSI COMPRESSION

CONCRETE UNIT STRESS - 444 PSI TENSION

MINIMUM CONCRETE COMPRESSIVE STRENGTH AT TIME OF INITIAL PRESTRESS F'CI - 4,000 PSI

MINIMUM CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS F'C - 5,500 PSI

PRESTRESSED STEEL:

ASTM A416 GRADE 270, 1/2 INCH DIAMETER, SEVEN-WIRE, UNCOATED, LOW RELAXATION STRAND.
A#S = 0.153 SQUARE INCH
F'S = 270,000 PSI
INITIAL STRESS 0.75 F'S = 202,500 PSI
STRESS AT RELEASE 0.675 F'S = 182,000 PSI
(ASSUMED AT SECTION OF MAXIMUM MOMENT)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4,000 PSI FOR SUBSTRUCTURE

CONCRETE CLASS S, SUPERSTRUCTURE SLAB - COMPRESSIVE STRENGTH 4,500 PSI

REINFORCING STEEL - ASTM A615, A616, OR A617 - GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI FOR SUBSTRUCTURE AND SUPERSTRUCTURE SLAB

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL, WITH 2 1/2 INCH COVER AND SEALING OF CONCRETE SURFACES.

MONOLITHIC WEARING SURFACE:

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

PILE DESIGN LOADS:

THE DESIGN LOAD IS 49 TONS PER PILE FOR THE ABUTMENT PILES AND 50 TONS PER PILE FOR THE PIER PILES.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES (NON-EPOXY):

A CONCRETE SEALER SHALL BE APPLIED TO THE CONCRETE SURFACES ON SHEETS 6/13 THRU 9/13 SEE THE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS, AND APPLICATION PROCEDURES.

CONSTRUCTION JOINTS:

CONSTRUCTION JOINTS SHALL HAVE ROUGH SURFACES. PRIOR TO CONCRETE PLACEMENT, ALL CONCRETE BONDING SURFACES SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. CARE SHALL BE TAKEN TO PROTECT EPOXY COATING ON EXPOSED REINFORCEMENT DURING CLEANING. BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

BEAM ENDS:

BEAM ENDS AT THE PIER SHALL BE GIVEN A MEDIUM ABRASIVE BLAST CLEANING AT THE PLANT WITHIN 4 DAYS BEFORE THE BEAMS LEAVE THE PLANT. CARE SHALL BE TAKEN (TEMPORARY WRAPPING, ETC.) TO PROTECT EPOXY COATING ON EXPOSED REINFORCEMENT DURING CLEANING. SEE CONSTRUCTION JOINTS FOR SURFACE PREPARATION PRIOR TO CONCRETE PLACEMENT.

SUPERSTRUCTURE CONCRETE:

SUPERSTRUCTURE CONCRETE FOR SEGMENT 3 (SEE CONTINUITY CONNECTION DETAIL ON SHEET 8/13) SHALL BE PLACED DURING STABLE OR RISING AMBIENT TEMPERATURES AND BE CONCLUDED AT LEAST 4 HOURS PRIOR TO THE DAY'S PEAK AMBIENT TEMPERATURE. CONCRETE FOR SEGMENT 4 SHALL NOT BE PLACED UNTIL THE CONCRETE OF SEGMENT 3 HAS ATTAINED THE CURE SPECIFIED IN 511.14 FOR "REMOVING FALSEWORK (SPANS >10 FEET)."

ERECTION LIVE LOADS:

ERECTION LIVE LOADS SHALL NOT BE PLACED ON THE SUPERSTRUCTURE PRIOR TO PLACEMENT AND CURING OF THE COMPOSITE DECK SLAB, EXCEPT AS OTHERWISE PERMITTED BY THE DIRECTOR.

PRESTRESSED CONCRETE COMPOSITE BOX BEAM AS PER PLAN:

BEAM ENDS AT THE PIER SHALL BE SHAPED AND PROTRUDING REINFORCEMENT BENT AND TIED AS SPECIFIED PRIOR TO SHIPMENT OF BEAMS FROM THE PLANT.

ITEM 203 EMBANKMENT, AS PER PLAN:

ALL FILL MATERIAL FOR CONSTRUCTION OF THE APPROACH EMBANKMENT PLACED BETWEEN STATIONS 0+25 TO 3+90 SHALL BE 203 MATERIAL PLACED IN LIFTS NOT TO EXCEED A THICKNESS OF 6 INCHES.

PILE DRIVING CONSTRAINTS:

PRIOR TO DRIVING PILES AT THE ABUTMENTS, THE BRIDGE APPROACH EMBANKMENT SHALL BE CONSTRUCTED UP AT A 2:1 SLOPE FROM THE TIDE OF SLOPE TO THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 100 FEET AND 250 FEET BEHIND THE REAR AND FORWARD ABUTMENTS, RESPECTIVELY. THE INSTALLATION OF THE ABUTMENT PILES SHALL NOT BEGIN UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED, ALLOWED TO REMAIN IN PLACE FOR 3 MONTHS, AND STRUCTURE EXCAVATION COMPLETED. AFTER THE FOOTING, BREASTWALL, AND WINGWALLS HAVE BEEN CONSTRUCTED, THE EMBANKMENT IMMEDIATELY BEHIND THE BREASTWALL AND WINGWALLS SHALL BE CONSTRUCTED UP TO THE BEAM SEAT ELEVATION PRIOR TO SETTING THE BOX BEAMS ON THE ABUTMENTS.

ITEM 518, 6 INCH PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN:

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 6 INCH DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE SP.

ITEM 518, 6 INCH NONPERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN:

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 6 INCH DIAMETER PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE S. THIS ITEM SHALL INCLUDE ALL ELBOWS, TEES, AND END CAPS REQUIRED TO COMPLETE THE ABUTMENT DRAINAGE SYSTEM.

ELASTOMERIC BEARINGS:

ELASTOMERIC BEARINGS SHALL COMPLY WITH 516 AND ARTICLES 18.2.5 THROUGH 18.2.8 OF SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION, OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECT TO THE LOAD TESTING REQUIREMENTS CORRESPONDING TO DESIGN METHOD A. TESTING SHALL BE INCLUDED IN THE PRICE BID FOR THE BEARINGS.

DECK JOINT PAINTING:

AFTER CLEANING IN THE FIELD AS DIRECTED, AND PREFERABLY AFTER INSTALLATION OF JOINT SEALS, ALL UPPER EXPOSED STEEL SURFACES EXCLUDING ROADWAY SURFACES IN TRAVELED LANES SHALL BE PAINTED WITH A SYSTEM OZEU PRIME, INTERMEDIATE, AND FINISH COAT OF PAINT AS DESCRIBED IN THE PROPOSAL NOTE FOR OZEU PAINTING. COST FOR FIELD CLEANING AND PAINTING SHALL BE INCLUDED IN THE PRICE BID PER LINEAL FOOT FOR THE DECK EXPANSION JOINTS.

DECK JOINT MATERIALS:

STEEL FOR DECK JOINTS THAT IS TO BE FULLY ENCASED IN CONCRETE MAY BE UNPAINTED ASTM A36 OR A588. ALL OTHER STEEL PORTIONS OF THE JOINTS SHALL BE ASTM A588. STEEL SHALL BE ABRASIVELY CLEANED IN THE SHOP PRIOR TO FINAL ASSEMBLY. SHOP PAINTING IS NOT REQUIRED.

CONCRETE PARAPETS:

WITHIN 48 HOURS AFTER PLACEMENT OF PARAPET CONCRETE, SAWCUT 1 INCH DEEP JOINTS INTO THE CONCRETE PARAPET AT LOCATIONS AS DETAILED IN THE PLANS. THE SAWCUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AT THE ELEVATION OF THE CONCRETE DECK AND ENDING AT THE BOTTOM OF THE CONCRETE BOX BEAM, AND THE COMPLETED SAWCUT SHALL BE FILLED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT-S-00227E. THE BOTTOM HALF INCH OF THE 1 INCH DEEP SAWED JOINT IN THE INSIDE FACE OF THE PARAPET SHOULD BE LEFT UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

FORM LINERS:

DESCRIPTION: THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING THERMOFORMED ABS PLASTIC FORM LINERS TO PROVIDE THE TEXTURED FINISHES ON THE VERTICAL CONCRETE SURFACES OF THE ABUTMENTS, WINGWALLS, PIER, AND PARAPETS AS SHOWN ON THE PLANS; PATCHING THE TEXTURED CONCRETE SURFACES AFTER FORM REMOVAL; AND CONSTRUCTING A JOB SITE TEST PANEL AS SPECIFIED HEREIN.

TEST PANEL: FOR DEMONSTRATION AND ENGINEER'S APPROVAL OF THE PROPOSED MATERIALS, METHODS, AND WORKMANSHIP, THE CONTRACTOR SHALL PROVIDE A SAMPLE PANEL 12 FEET WIDE BY 8 FEET HIGH AT THE JOB SITE, AS DIRECTED BY THE ENGINEER, AT LEAST 1 MONTH PRIOR TO SUBSTRUCTURE CONCRETE PLACEMENT. THE FLAT SAMPLE PANEL SHALL SIMULATE THE PROPOSED TEXTURED PIER AND ABUTMENT SURFACES ON ONE SIDE AND THE PROPOSED PARAPET SURFACE ON THE OTHER SIDE. THE SAMPLE PANEL SHALL BE CONSTRUCTED WITH THE ACTUAL CLASS C CONCRETE MIX, FORMWORK, FORM LINERS, TIES, FORM RELEASE AGENTS, PLACEMENT RATE, FORM PRESSURES, JOINT SEALING, AND VIBRATING AND STRIPPING PRACTICES PROPOSED FOR THE SUBSTRUCTURE CONSTRUCTION. INTENDED PATCHING AND REPAIR PROCEDURES FOR TIE HOLES, SPALLED CONCRETE, AND VOIDS CAUSED BY HONEYCOMBING OR BUGHOLES SHALL BE DEMONSTRATED BY THE CONTRACTOR FOR THE ENGINEER'S APPROVAL. THE SAMPLE PANEL SHALL CONTAIN ALL PROPOSED FORMWORK ACCESSORIES AND REVEALS AND AT LEAST ONE VERTICAL AND ONE HORIZONTAL FORM LINER JOINT. DISPOSAL OF THE SAMPLE PANEL SHALL BE DONE AT THE DIRECTION OF THE ENGINEER AND IS THE RESPONSIBILITY OF THE CONTRACTOR.

SUBMITTALS: THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, FOR AESTHETIC REVIEW AND APPROVAL, THE FORM LINER MANUFACTURER'S PRODUCT DATA SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.

MATERIALS: THERMOFORMED ABS PLASTIC FORM LINERS SHALL BE "ASHLAR STONE," PATTERN NO. 330, AS MANUFACTURED BY GREENSTREAK PLASTICS PRODUCTS COMPANY, ST. LOUIS, MISSOURI 63122 OR AN APPROVED EQUAL; AND "SMALL CRUSHED STONE," P/C 30250, AS MANUFACTURED BY SYMONS CORPORATION, DES PLAINES, ILLINOIS 60018, "RIVER BED AGGREGATE," NO. 360, AS MANUFACTURED BY GREENSTREAK OR AN APPROVED EQUAL.

FORM LINERS SHALL BE PROVIDED IN 4' X 10' RIGID SHEETS WITH VOID-FREE SURFACES THAT WILL NOT ABSORB MOISTURE OR CAUSE DISCOLORATION OF CONCRETE. FORM LINERS SHALL ACCOMMODATE CONCRETE PRESSURES UP TO 1,000 POUNDS PER SQUARE FOOT (PSF) WITHOUT DISTORTION.

A NONSTAINING FORM LINER RELEASE AGENT, COMPATIBLE WITH THE FORM LINER MATERIAL AND PROPOSED CURING METHOD, SHALL BE USED AGAINST THE FORM LINERS TO REDUCE FORM STRIPPING PRESSURES, FACILITATE CLEANUP, AND MINIMIZE BUGHOLES.

CONSTRUCTION REQUIREMENTS: FORM LINERS SHALL BE CONSTRUCTED TO PROVIDE TEXTURED CONCRETE SURFACES OF THE SIZES, SHAPES, LINES, AND DIMENSIONS SHOWN ON THE PLANS. FORM LINERS SHALL BE ATTACHED FIRMLY TO THE PRIMARY FORM ELEMENTS TO ENSURE THAT THEY REMAIN STRAIGHT, TRUE, AND PLUMB. FORM LINER JOINTS SHALL BE TIGHTLY BUTTED AND SOLIDLY BACKED UP TO MINIMIZE GROUT LEAKAGE. JOINTS SHALL BE CAULKED, HEAT-FUSED, FOAM-TAPED, GROUT SEAL BLOCKED, OR OTHERWISE SEALED, IF NECESSARY, BASED ON THE PERFORMANCE OF THE JOINTS CONSTRUCTED IN THE SAMPLE PANEL SPECIFIED HEREIN, AS DIRECTED BY THE ENGINEER.

FORM PRESSURES SHALL BE LIMITED TO 1,000 PSF. CONCRETE LIFTS SHALL NOT EXCEED 24 INCHES. CONCRETE SHALL BE THOROUGHLY VIBRATED TO ACHIEVE GOOD CONSOLIDATION AND MINIMIZE VOIDS CAUSED BY ENTRAPPED AIR. CONCRETE SHALL BE INTERNALLY VIBRATED THROUGH TO PREVIOUS LIFTS TO AVOID LIFT LINES. VIBRATOR CONTACT WITH THE FORM LINERS SHALL BE AVOIDED

WHEN NOT IN USE, FORM LINERS SHALL BE PROTECTED FROM OIL, DIRT, AND ULTRAVIOLET LIGHT EXPOSURE.

Vertical sidebar containing project information: GENERAL NOTES, BRIDGE NO. LIC-16-1917, OVER S.R. 16, LIC-16-17-94, 3/13, 387/420, and a table with columns for DESIGNER, DRAWN, REVIEWED, DATE, and STRUCTURE FILE NUMBER.

Vertical text on the far left edge: P:\PROJECTS\CADD\UNGT\TELON 3-2-95

GENERAL NOTES CONTINUED:

METHOD OF MEASUREMENT AND BASIS OF PAYMENT: NO MEASUREMENT WILL BE MADE FOR THE SAMPLE PANEL SPECIFIED HEREIN AND THE QUANTITY OF CONCRETE REQUIRED FOR THE SAMPLE PANEL WILL NOT BE INCLUDED IN THE NUMBER OF CUBIC YARDS ESTABLISHED IN THE ESTIMATED QUANTITIES. THE COST FOR CONSTRUCTING THE SAMPLE PANEL INCLUDING ALL LABOR, TOOLS, EQUIPMENT, MATERIAL, AND INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 511 CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN. THE COST FOR PROCURING AND INSTALLING THE FORM LINERS INCLUDING ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, AND INCIDENTALS SHALL BE INCLUDED IN THE RESPECTIVE CONCRETE ITEM FOR SUPERSTRUCTURE, PIER, AND ABUTMENT.

ITEM 607 FENCE MISC.: DECORATIVE FENCE AND HANDRAIL

DESCRIPTION: THIS WORK SHALL CONSIST OF FABRICATING AND INSTALLING A DECORATIVE FENCE AND HANDRAIL ON THE BRIDGE AS SHOWN ON THE PLANS.

MATERIALS: THE FENCE SHALL BE SIMILAR TO "ALPHA XXX" AS MANUFACTURED BY BOUNDARY FENCE AND RAILING SYSTEMS, INC. RICHMOND HILL, NEW YORK 11418; "BRITOSTEROPE" AS MANUFACTURED BY AMETCO MANUFACTURING CORPORATION, WILLOUGHBY, OHIO 44904; OR AN APPROVED EQUAL.

THE HANDRAIL SHALL BE STEEL PIPE MEETING ASTM A53.

THE FENCE, HANDRAIL, ALL ATTACHMENTS, AND HARDWARE SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH 711.02 OF THE CMS AND THEN COATED WITH A 2.5 MIL MINIMUM THICKNESS OF ELECTROSTATICALLY APPLIED POLYESTER POWDER. THE POWDER COLOR SHALL BE BLACK. PORTIONS OF THE FENCE EMBEDDED IN CONCRETE AND HARDWARE SHALL NOT BE POWDER COATED.

MATERIAL FOR ANCHORING FENCE POSTS SHALL BE ONE PART PORTLAND CEMENT AND THREE PARTS SAND BY VOLUME, AND WATER. CEMENT SHALL MEET REQUIREMENTS OF 701 OF THE CMS. SAND SHALL MEET THE REQUIREMENTS OF 703.03 OF THE CMS.

SUBMITTALS: THE FABRICATOR SHALL SUBMIT THREE SETS OF DESIGN COMPUTATIONS FOR THE FENCE, HANDRAIL, AND SUPPORTS PREPARED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO TO THE DIRECTOR FOR APPROVAL. THE FENCE SHALL BE DESIGNED FOR A WIND LOAD OF 50 POUNDS PER SQUARE FOOT OF SURFACE AREA IN ACCORDANCE WITH AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES," 15TH EDITION WITH ALL INTERIMS. THE HANDRAIL AND SUPPORTS SHALL BE DESIGNED FOR A LOADING OF 50 POUNDS PER LINEAR FOOT, TRANSVERSELY AND VERTICALLY, ACTING SIMULTANEOUSLY IN ACCORDANCE WITH AASHTO SECTION 2.7.3.2.2. FENCE POSTS SHALL BE DESIGNED FOR A LOADING OF 300 POUNDS, TRANSVERSELY AND VERTICALLY, ACTING SIMULTANEOUSLY AT THE CENTER OF GRAVITY OF THE HANDRAIL. LOADING COMBINATIONS IN ACCORDANCE WITH AASHTO TABLE 3.22.1A SHALL BE INVESTIGATED. ALLOWABLE STRESSES SHALL BE IN ACCORDANCE WITH AASHTO 2.7.4. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS FOR THE FENCE AND HANDRAIL IN ACCORDANCE WITH 501.05 OF THE CMS.

CONSTRUCTION REQUIREMENTS: THE FENCE AND HANDRAIL SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN ON THE APPROVED SHOP DRAWINGS. THE POWDER COATING ON THE FENCE AND HANDRAIL SHALL BE PROTECTED FROM DAMAGE DURING SHIPMENT, STORAGE AT THE SITE, AND INSTALLATION IN ACCORDANCE WITH THE FABRICATOR'S RECOMMENDATIONS. REPAIR OF ANY DAMAGED AREAS OF COATING SHALL BE IN ACCORDANCE WITH THE FABRICATOR'S RECOMMENDATIONS. THE FENCE AND HANDRAIL SHALL BE INSTALLED WITH THE FABRICATOR'S INSTRUCTIONS.

METHOD OF MEASUREMENT: NO MEASUREMENT WILL BE MADE FOR THIS ITEM. THIS WORK SHALL INCLUDE ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS NECESSARY TO FABRICATE AND INSTALL THE FENCE AND HANDRAIL.

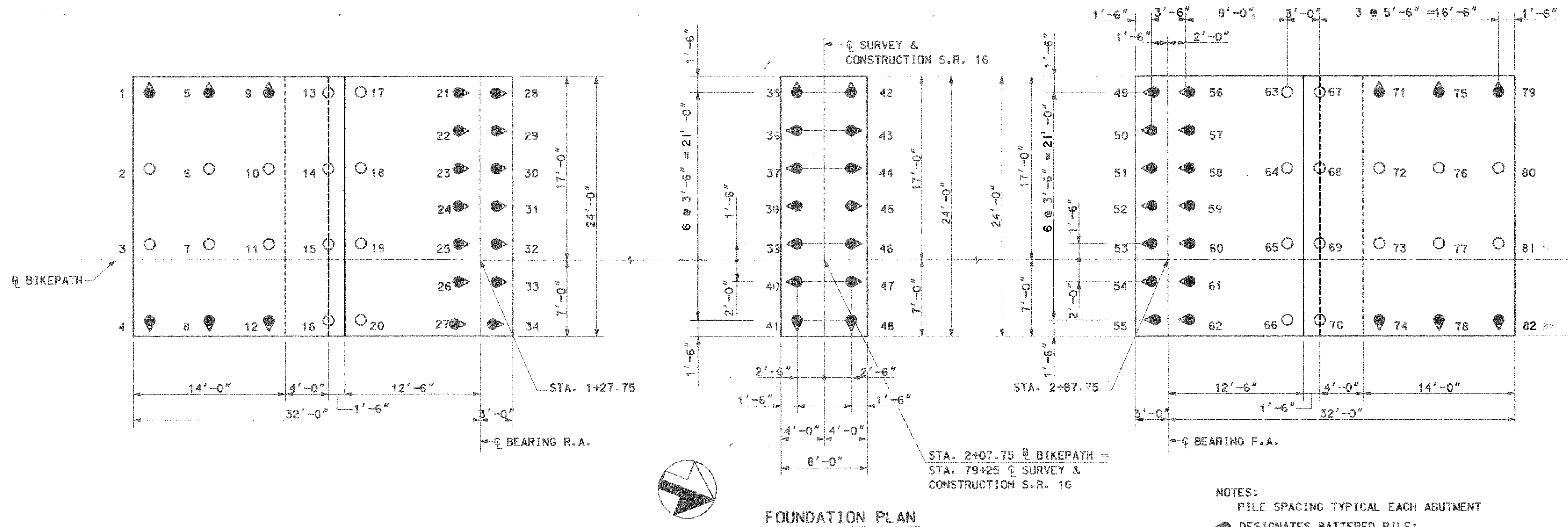
BASIS OF PAYMENT: PAYMENT FOR THIS ITEM WILL BE AT THE CONTRACT LUMP SUM PRICE BID FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
607	98200	LUMP	FENCE MISC.: DECORATIVE FENCE AND HANDRAIL

ESTIMATED QUANTITIES

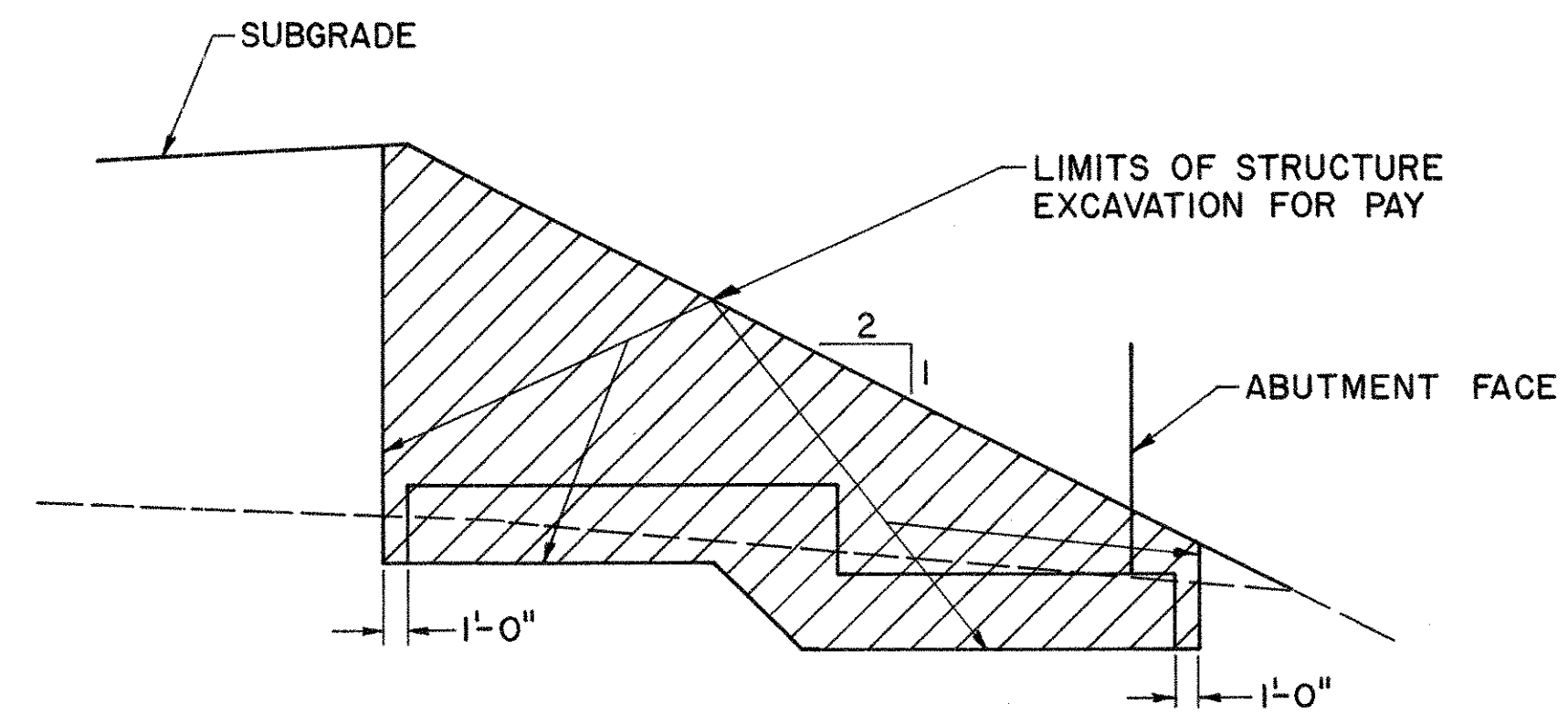
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.'S	PIERS	SUPER	GENERAL	DES BY: <i>DK</i>	CHK BY: <i>BKM</i>
									DATE: <i>2/2/96</i>	DATE: <i>2/12/96</i>
503	21100	820	CU. YD.	UNCLASSIFIED EXCAVATION	776	44				
505	11100	LUMP	LUMP	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP		
507	22200	3620	LIN. FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES	3060	560				
509	15830	86492	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60	48911	17869	19718			
509	16000	20	EACH	REINFORCING STEEL, MISC.: 1" DIA 150 KSI THREADBAR x 10'-0" (WITH ANCHORAGE HARDWARE)			20			
511	31601	143	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN			143			
511	40501	61	CU. YD.	CLASS C CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN		61				
511	43501	522	CU. YD.	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	522					
511	46500	25	CU. YD.	CLASS C CONCRETE, FOOTING		25				
512	44400	20	SQ. YD.	TYPE B WATERPROOFING	20					
SPECIAL	51267504	1093	SQ. YD.	SEALING OF CONCRETE SURFACES NON-EPOXY (SEE PROPOSAL NOTE)	504	97	492			
515	51651	10	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM, AS PER PLAN (76'-80' LENGTH) CB33-36 (SEE PROPOSAL NOTES)			10			
516	10500	32	LIN. FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL (SEE PROPOSAL NOTE)			32			
516	20000	10	SQ. FT.	3/4" ELASTOMERIC ERECTION STRIP		10				
516	13600	98	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER (SEE PROPOSAL NOTE)	98					
516	43100	20	EACH	ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES ONLY (NEOPRENE) 6"x12"x1.55" (SEE PROPOSAL NOTE)			20			
518	21200	157	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC	157					
518	40001	136	LIN. FT.	6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN	136					
518	40011	139	LIN. FT.	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	139					
607	98200	LUMP	LUMP	FENCE, MISC: DECORATIVE FENCE AND HANDRAIL						

ARCHITECT
 ENGINEER
 3-7744-15
 STRUCTURE FILE NUMBER
 4500865
 DESIGNED
 DK
 CHECKED
 RKM
 GENERAL NOTES AND QUANTITIES
 BRIDGE NO. LIC-16-1917
 OVER S.R.16
 LIC-16-17.94
 4 / 13
 388
 420



FOUNDATION PLAN

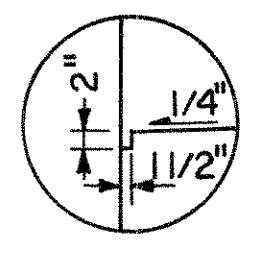
- NOTES:
 PILE SPACING TYPICAL EACH ABUTMENT
 ● DESIGNATES BATTERED PILE:
 • PIER BATTER 4:1
 • ABUTMENT BATTER 3:1 (TYP.)



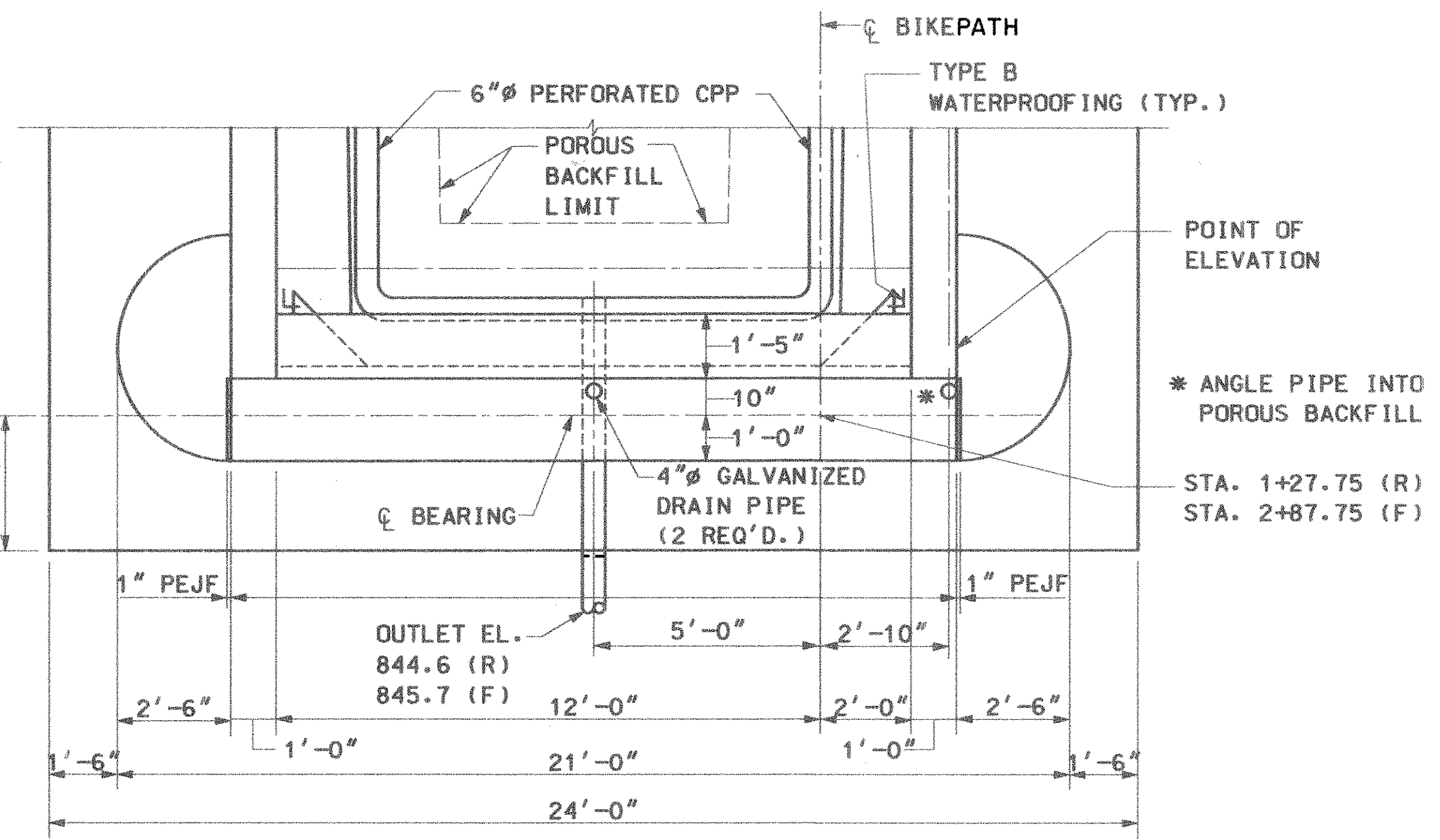
STRUCTURE EXCAVATION

DESIGNED	CHK	CHECKED	RKM
DRAWN	KEK	REVISED	
REVIEWED	RKM	STRUCTURE FILE NUMBER	4500865
DATE	3-MAR-95		

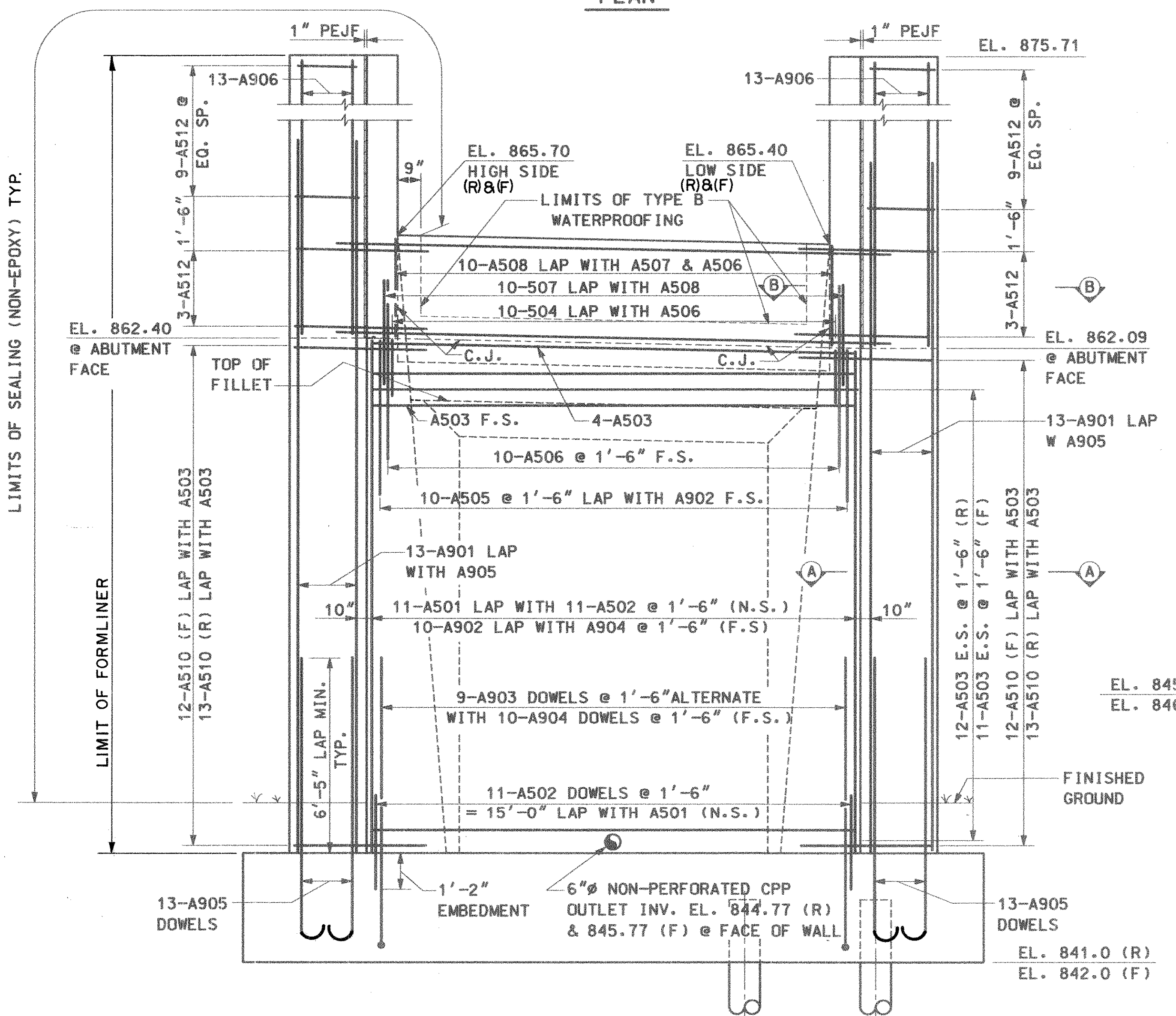
P:\PRI6502\CADD\FOUNDATION 2-28-95



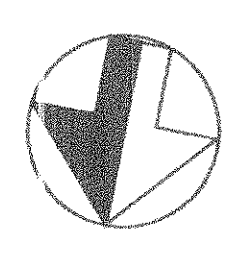
DRAINAGE GROOVE DETAIL



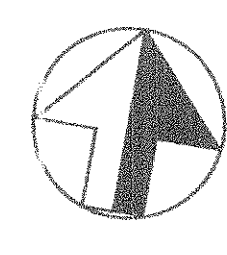
PLAN



ELEVATION
FORWARD ABUTMENT SHOWN
REAR ABUTMENT SIMILAR



REAR



FORWARD

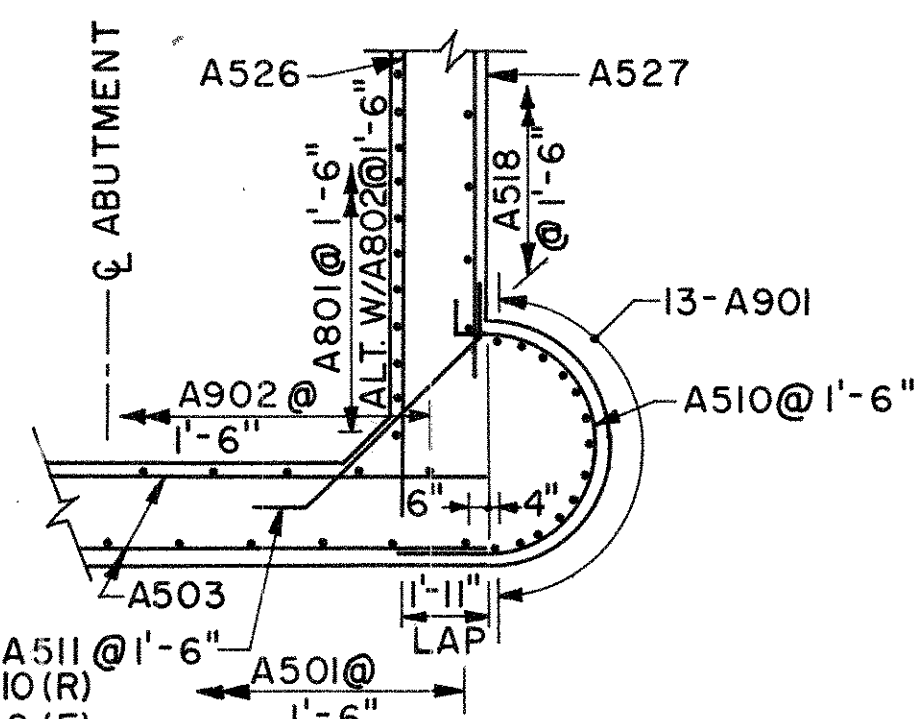
NOTES:

POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO ONE FOOT BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE ENDS OF THE WINGWALLS. GEOTEXTILE FABRIC SHALL CONFORM WITH 712.09, TYPE A. GEOTEXTILE FABRIC IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

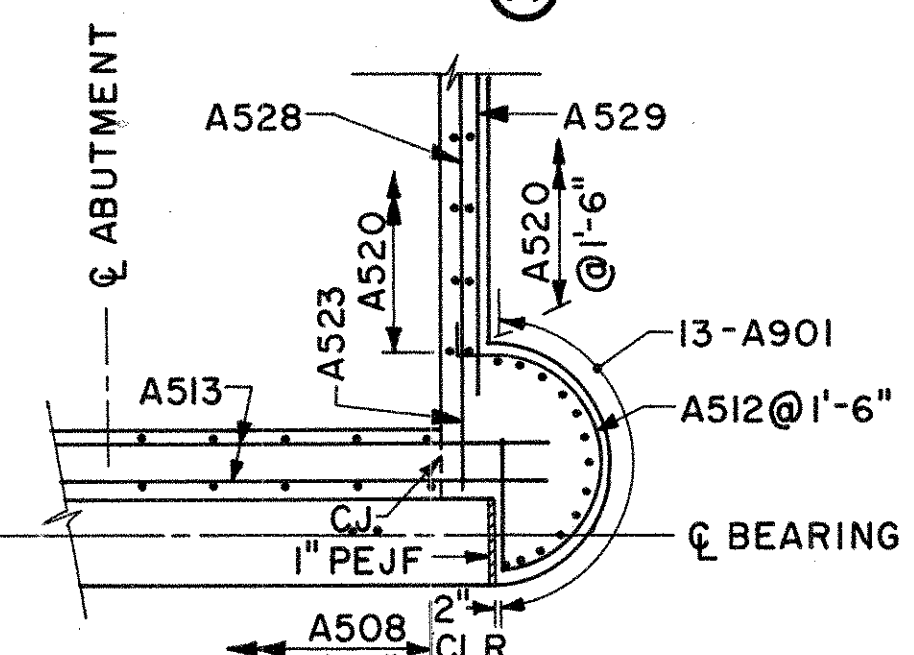
ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT SHALL NOT BE PLACED UNTIL PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.

LEGEND

- U.N.O. = UNLESS NOTED OTHERWISE
- F.S. = FAR SIDE
- N.S. = NEAR SIDE
- E.S. = EACH SIDE
- EQ. SP. = EQUAL SPACE
- (R) = REAR ABUTMENT
- (F) = FORWARD ABUTMENT
- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR

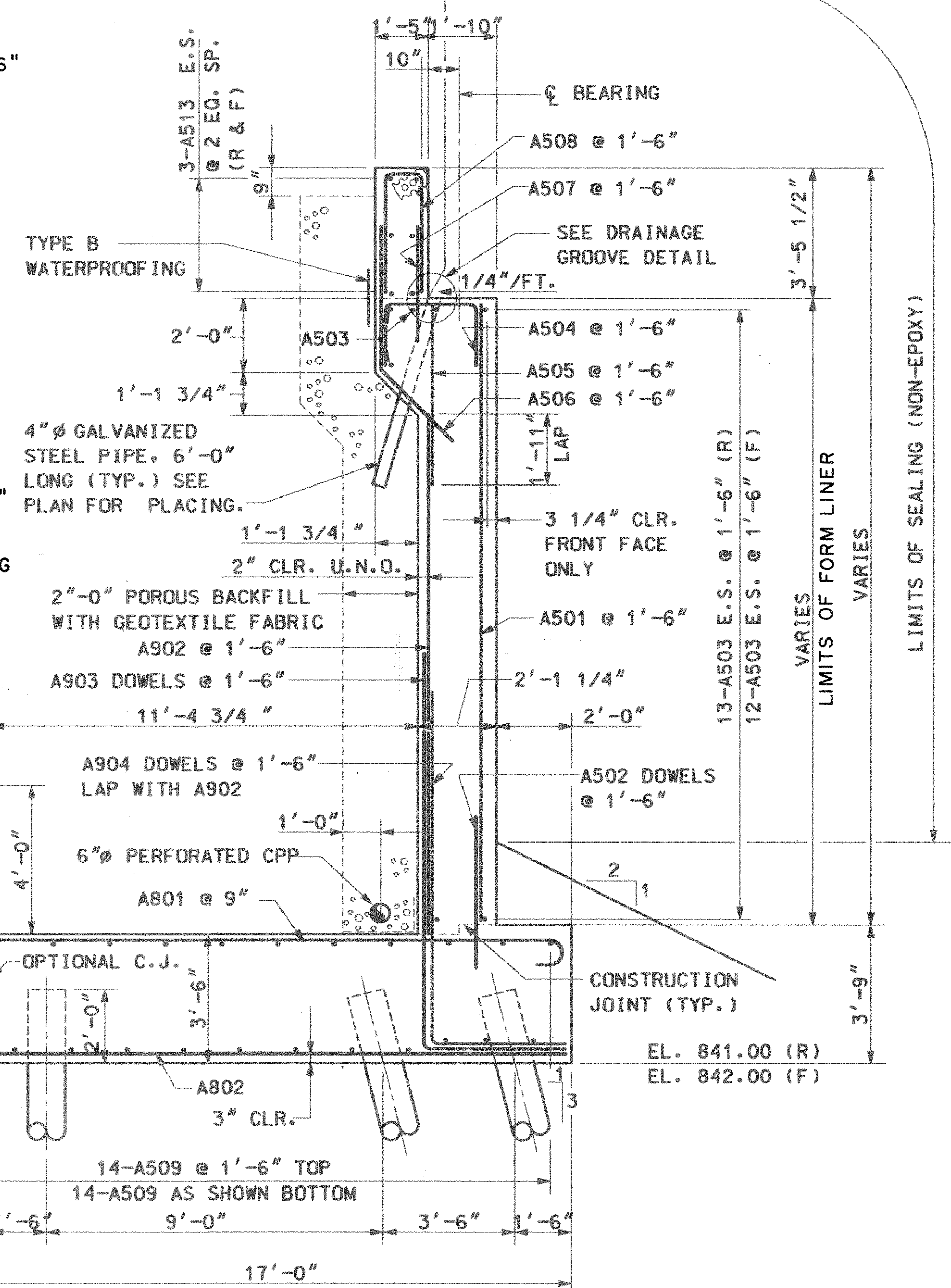


SECTION A



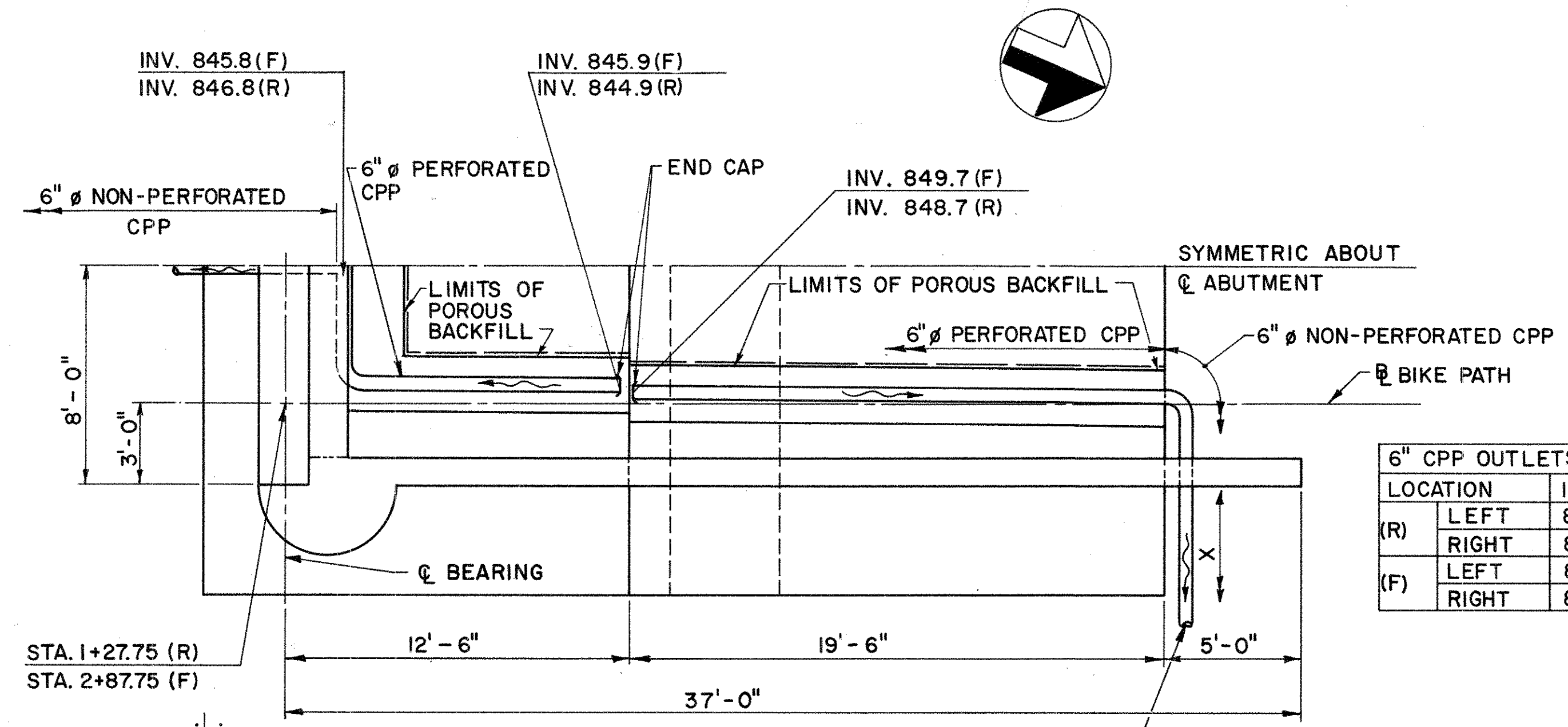
SECTION B

SEE FOOTING PLAN FOR REINFORCING

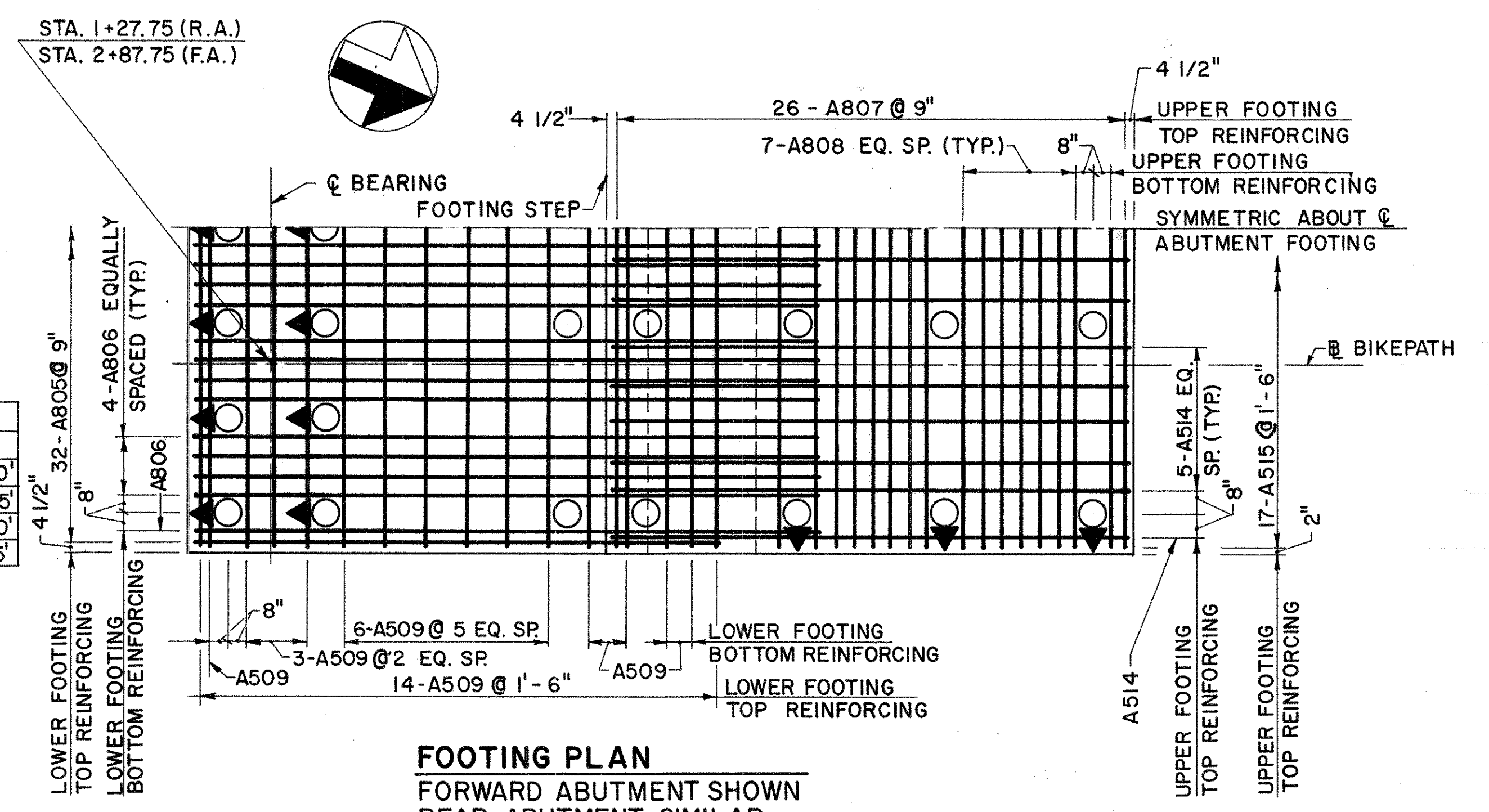


TYPICAL ABUTMENT SECTION W/STEP

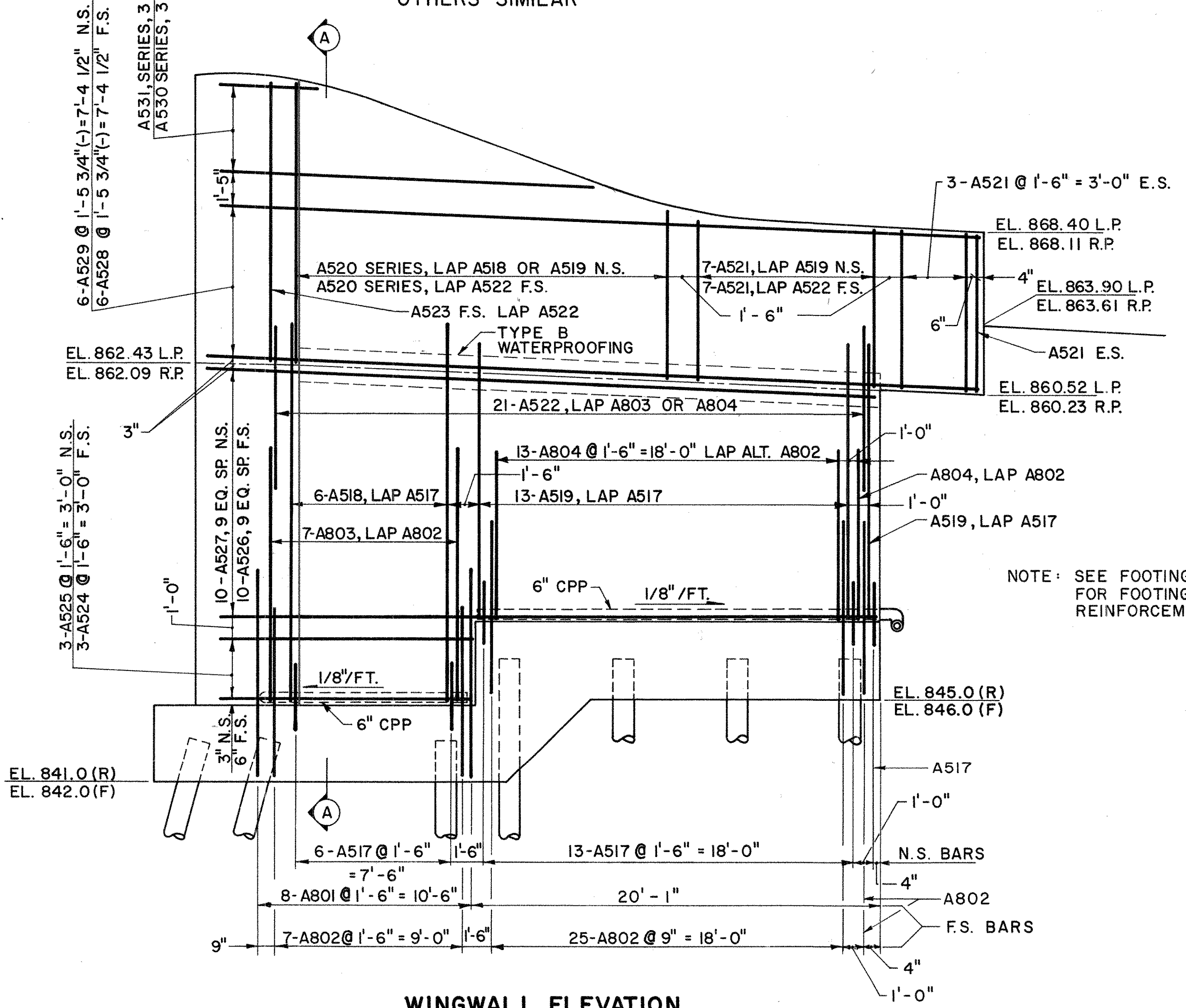
DATE	3-MAR-95
REVIEWED	RK77
STRUCTURE FILE NUMBER	4500865
DRAWN	KEK
CHECKED	RK77
DESIGNED	DOK
ABUTMENT DETAILS	
BRIDGE NO. LIC-16-1917	
BIKEPATH OVER S.R.16	
LIC-16-17-94	
6 / 13	
390	
420	



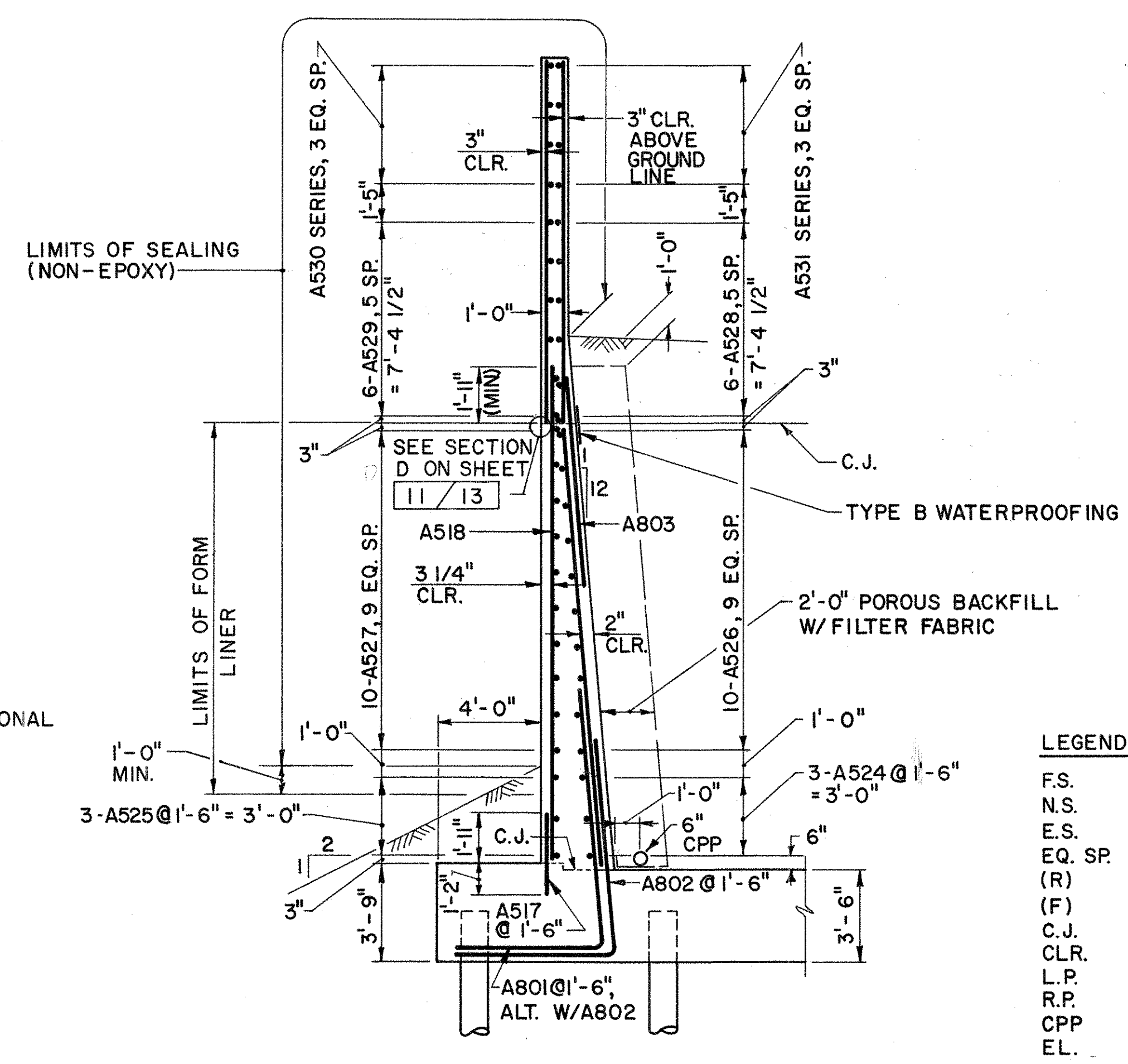
PLAN
FORWARD RIGHT SHOWN
OTHERS SIMILAR



FOOTING PLAN
FORWARD ABUTMENT SHOWN
REAR ABUTMENT SIMILAR



WINGWALL ELEVATION
FORWARD RIGHT SHOWN
OTHERS SIMILAR



SECTION
SEE FOOTING PLAN FOR ADDITIONAL
FOOTING REINFORCEMENT

- LEGEND**
- F.S. = FAR SIDE
 - N.S. = NEAR SIDE
 - E.S. = EACH SIDE
 - EQ. SP. = EQUAL SPACE
 - (R) = REAR ABUTMENT
 - (F) = FORWARD ABUTMENT
 - C.J. = CONSTRUCTION JOINT
 - CLR. = CLEAR
 - L.P. = LEFT PARAPET
 - R.P. = RIGHT PARAPET
 - CPP = CORRUGATED PLASTIC PIPE
 - EL. = ELEVATION

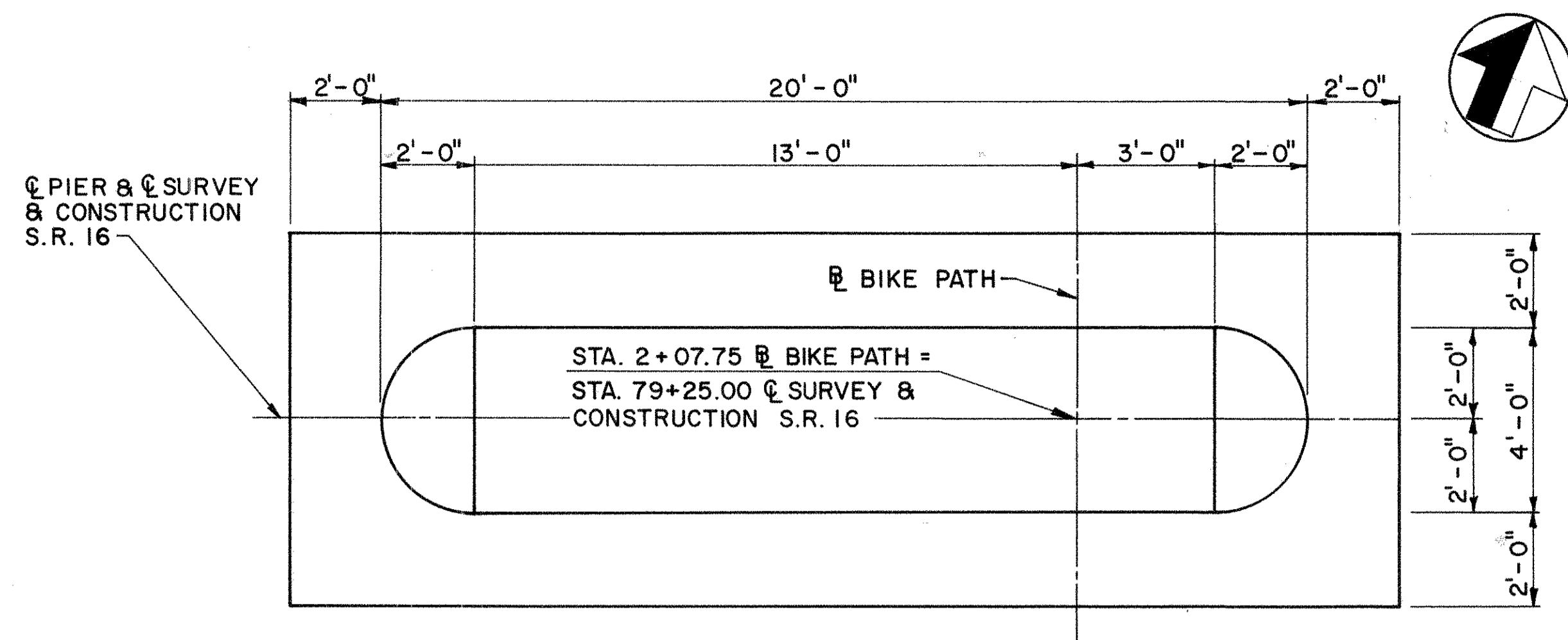
FOR AESTHETIC TREATMENT LIMITS
SEE SHEET 11/13

SEE LIGHTING PLANS
FOR CONDUIT AND
LIGHT FIXTURE LOCATIONS

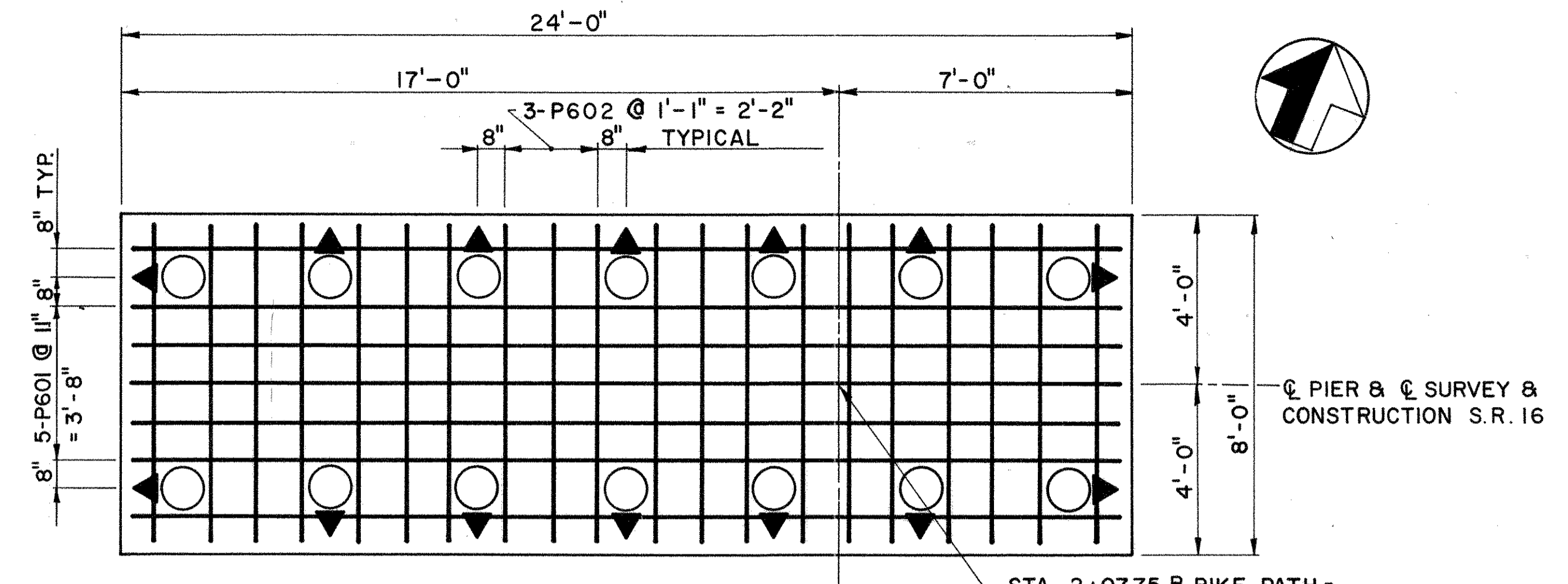
WINGWALL AND FOOTING DETAILS
BRIDGE NO. LIC-16-1917
BIKEPATH OVER S.R. 16

DESIGNED DOK	CHECKED RKT	DRAWN D.L.J.	REVIEWED RKT
DATE 3/7/94		STRUCTURE FILE NUMBER 4500865	

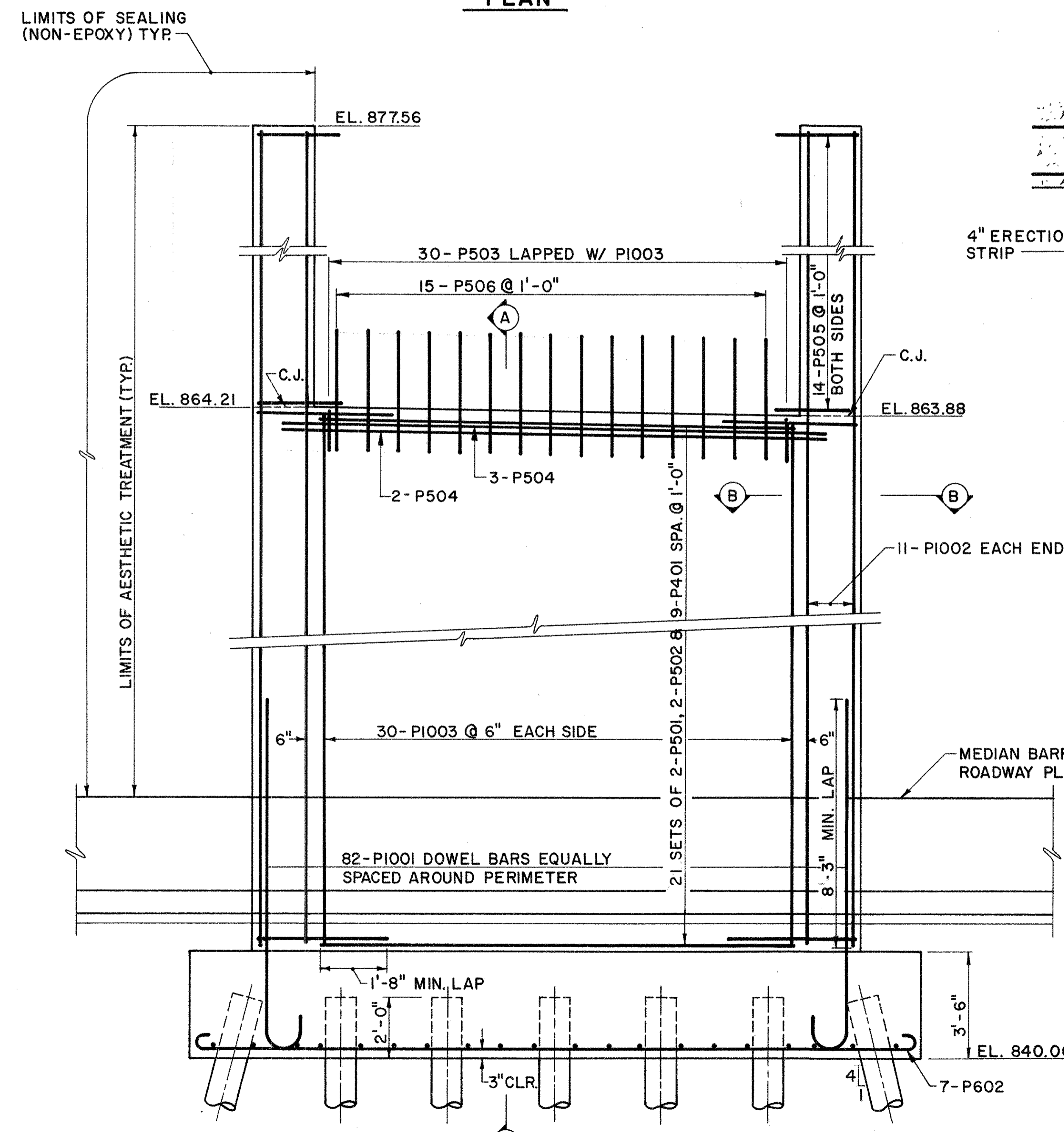
LIC-16-17.94
7/13
391
420



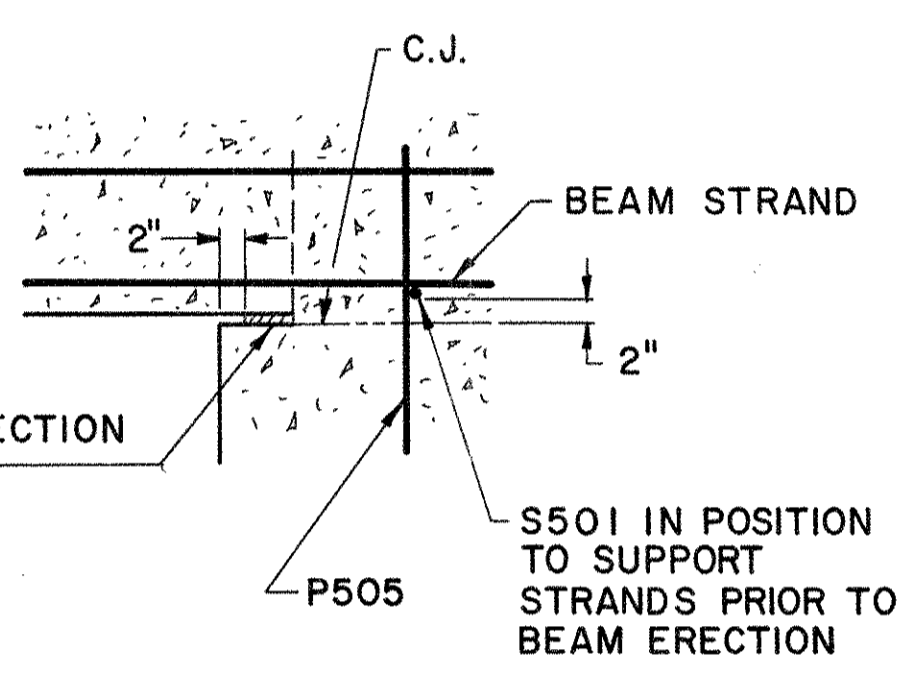
PLAN



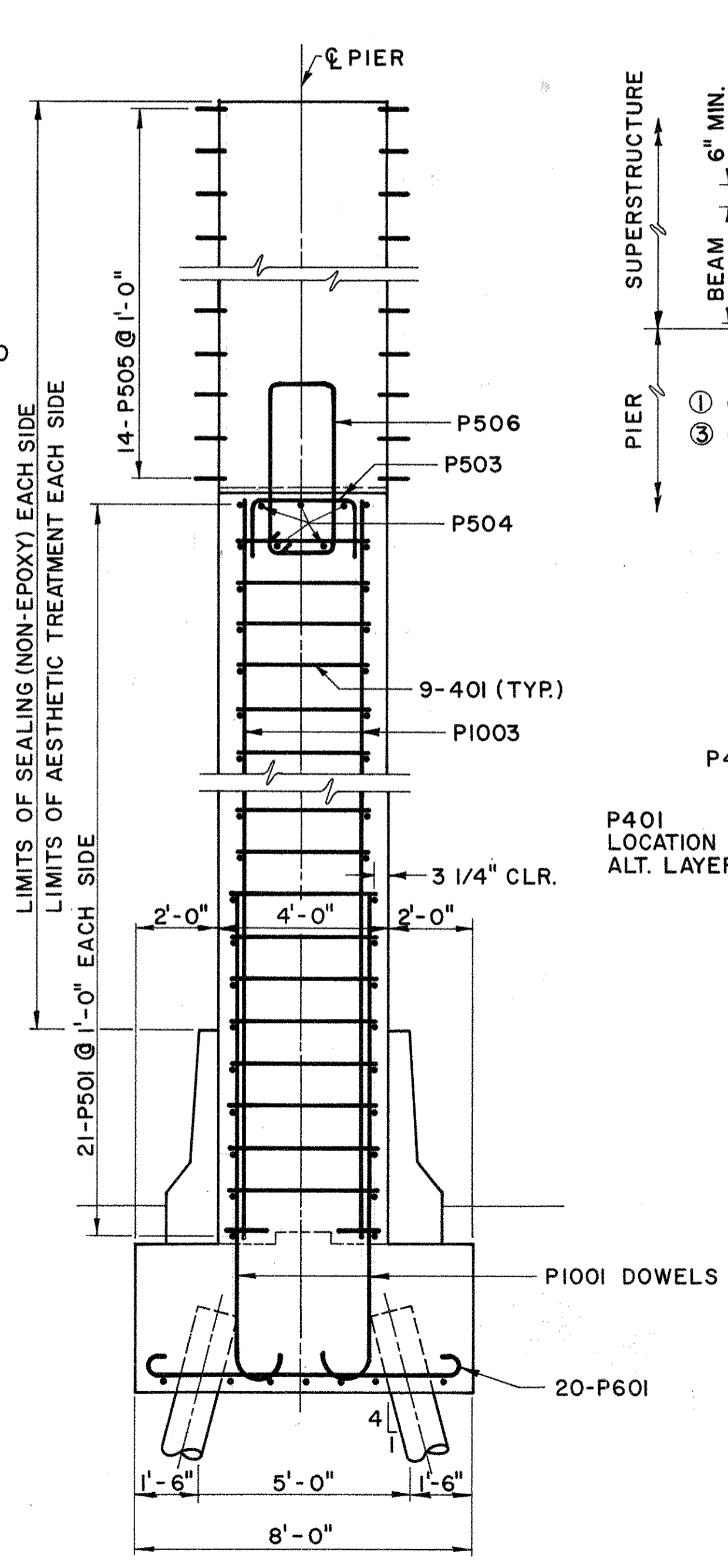
FOOTING PLAN



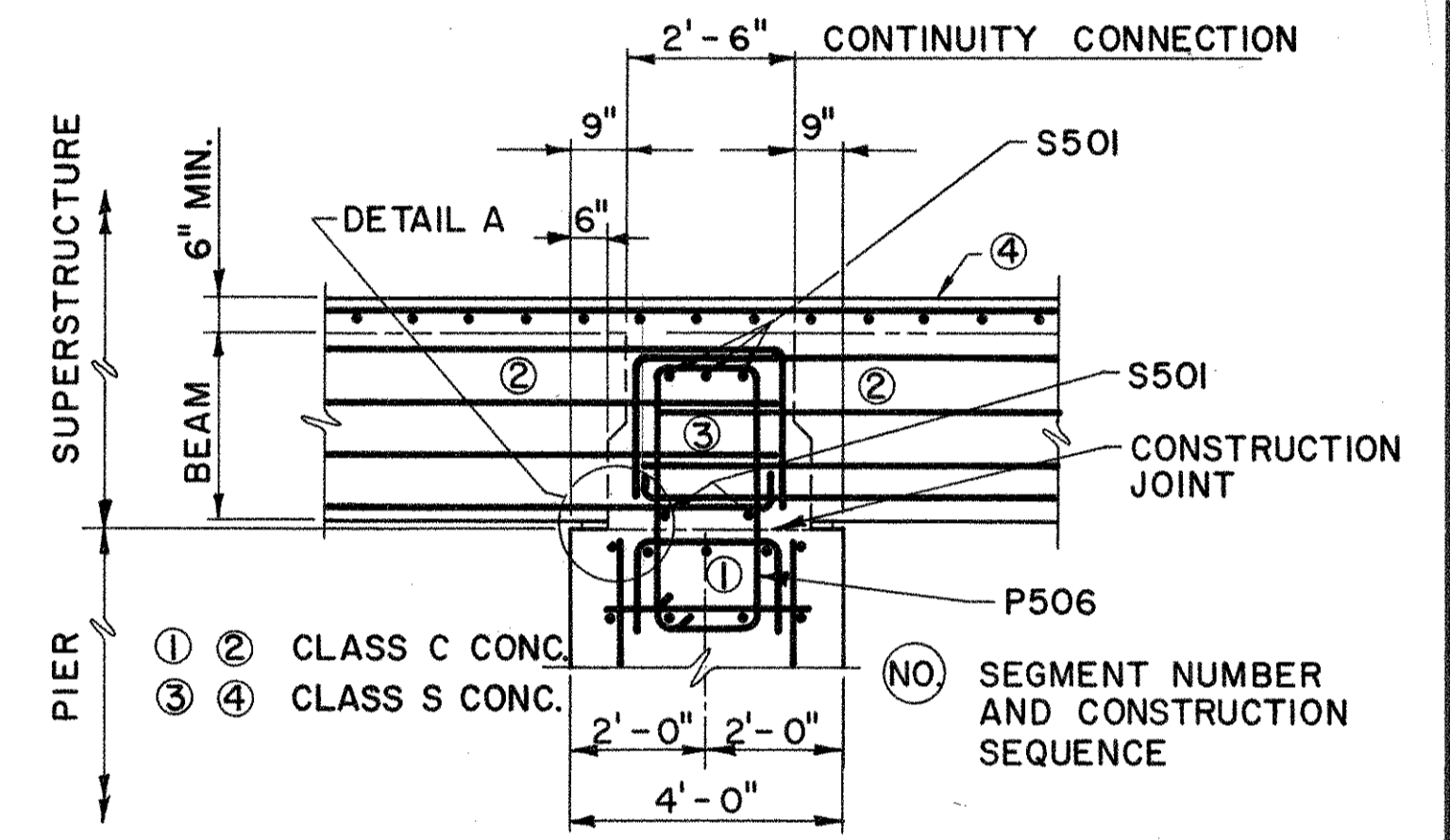
ELEVATION



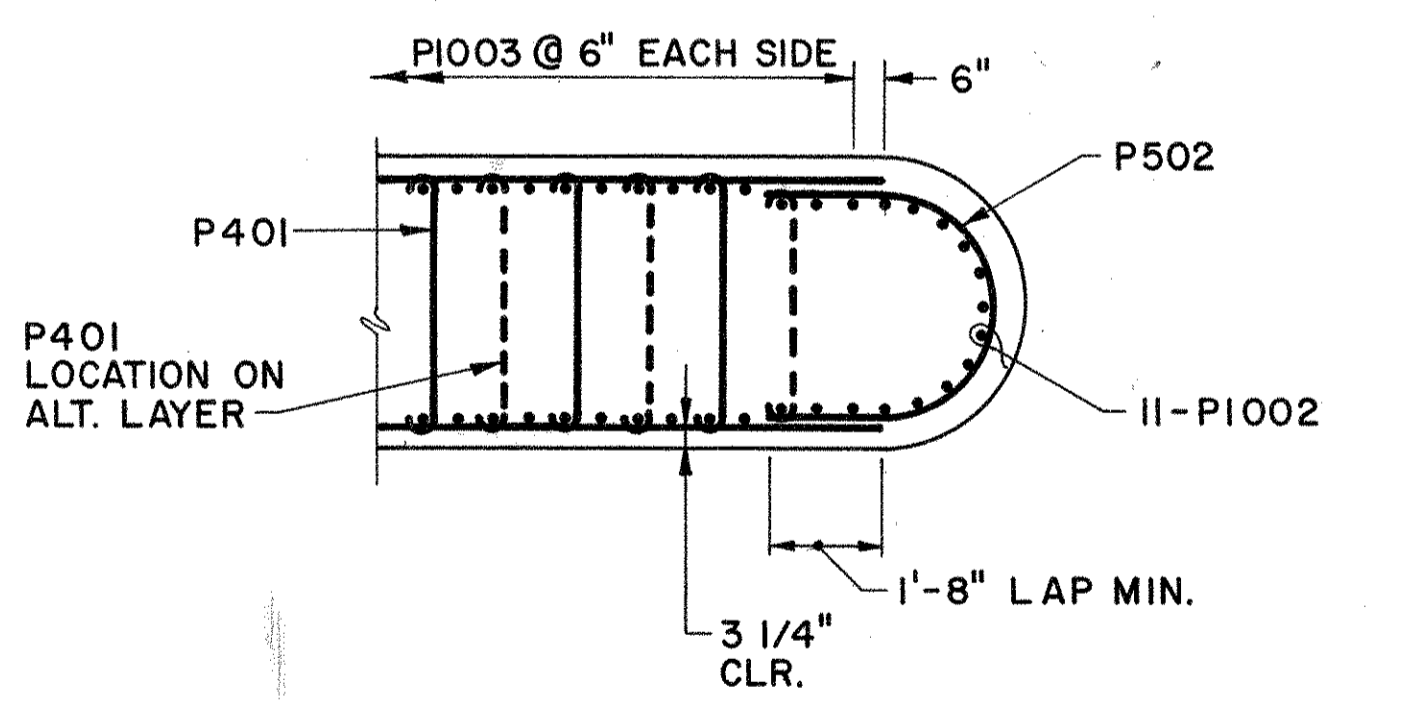
DETAIL A



SECTION A



CONTINUITY CONNECTION DETAIL

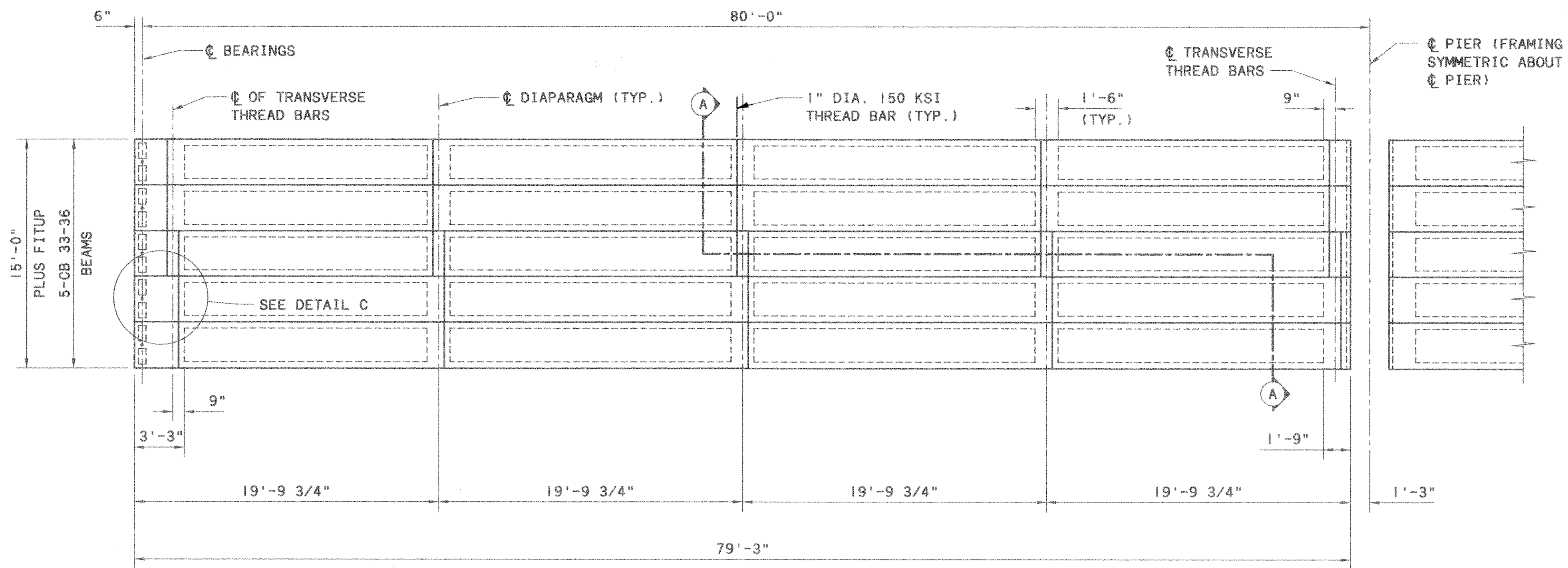


SECTION B

- LEGEND**
- ALT. = ALTERNATE
 - S.R. = STATE ROUTE
 - TYP. = TYPICAL
 - CLR. = CLEAR
 - C.J. = CONSTRUCTION JOINT
 - EL. = ELEVATION
 - MIN. = MINIMUM

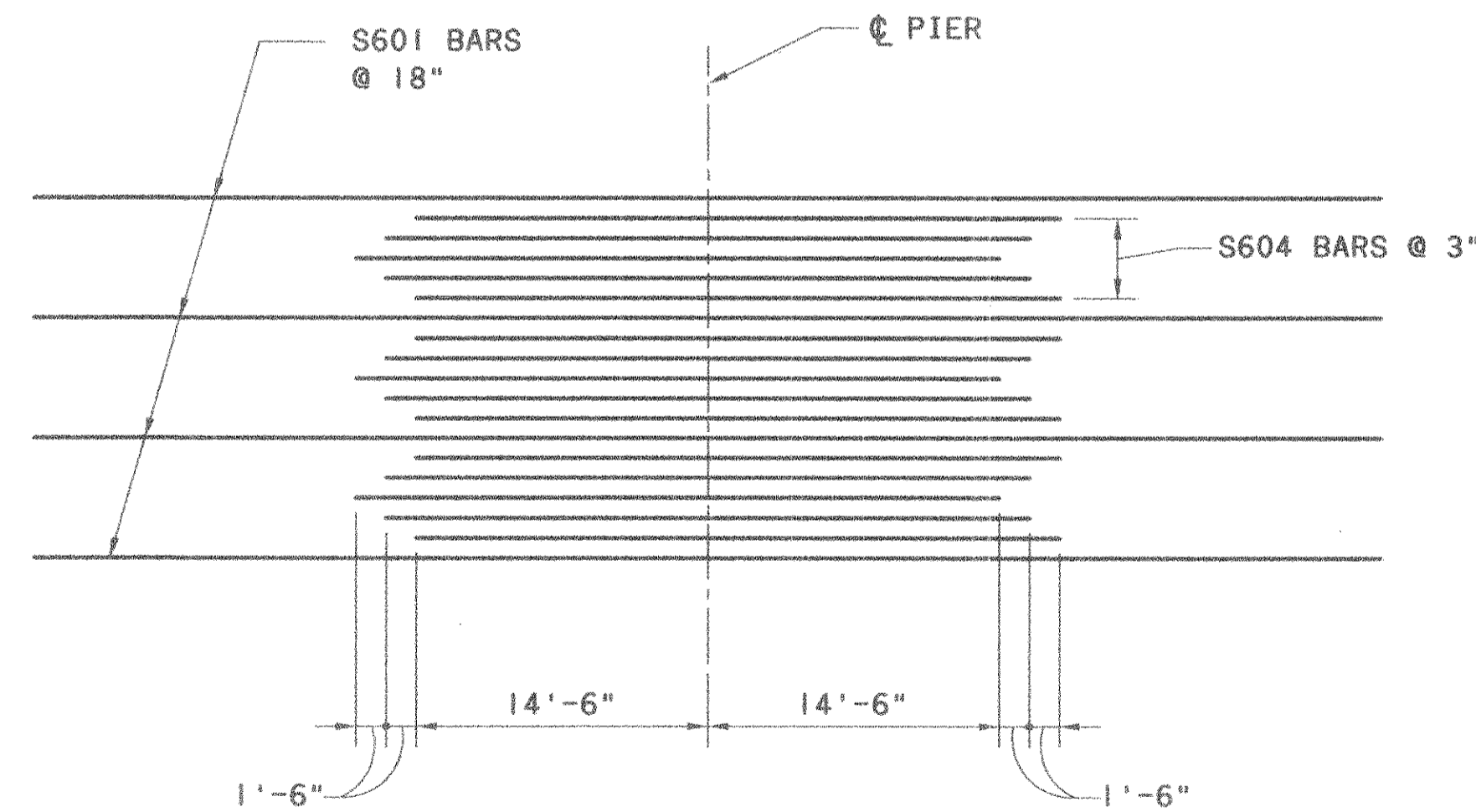
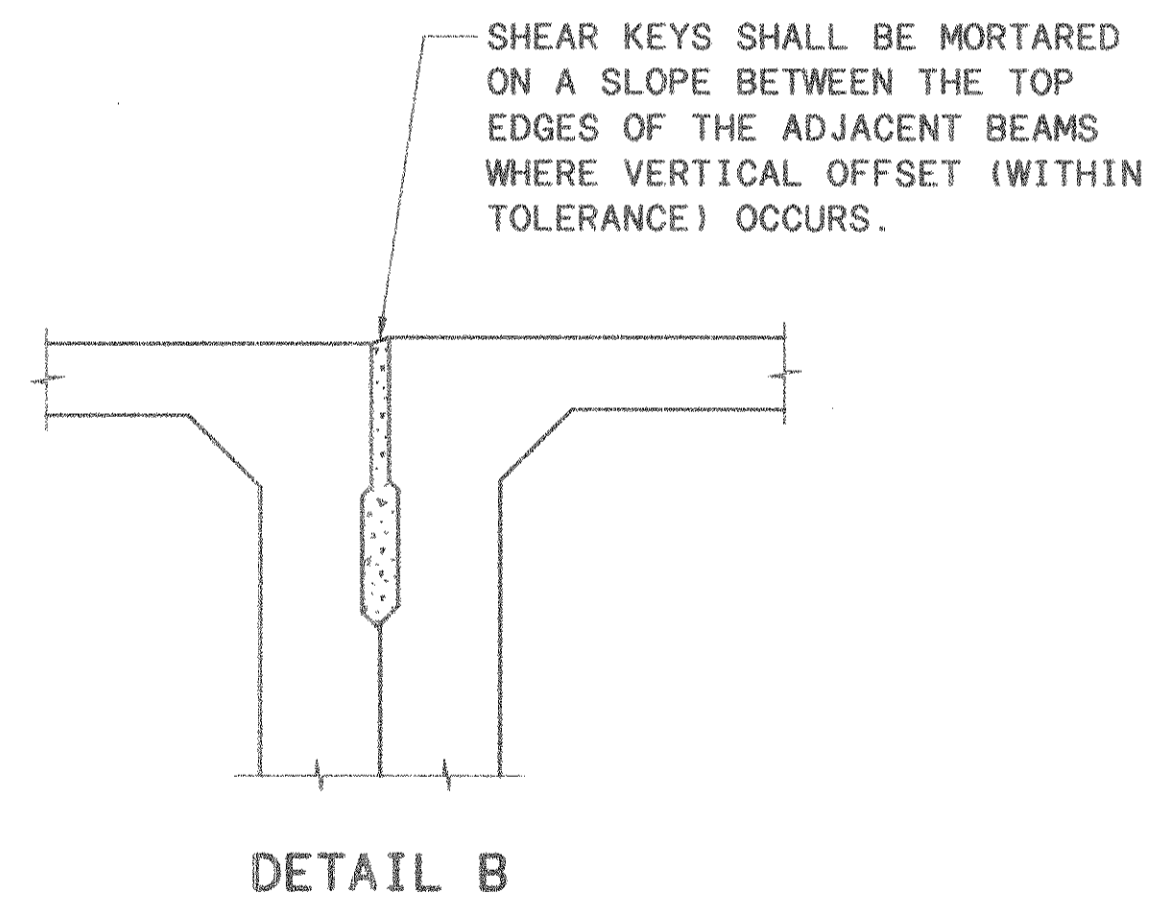
FOR AESTHETIC TREATMENT DETAILS, SEE SHEET 11/13.

DATE	3-17-95
REVISIONS	3-17-95
STRUCTURE FILE NUMBER	4500865
DESIGNED	D.L.J.
CHECKED	R.M.T.
PIER DETAIL	BRIDGE NO. LIC-16-1917
	BIKEPATH OVER S.R. 16
LIC-16-17.94	
8 / 13	
392	
420	

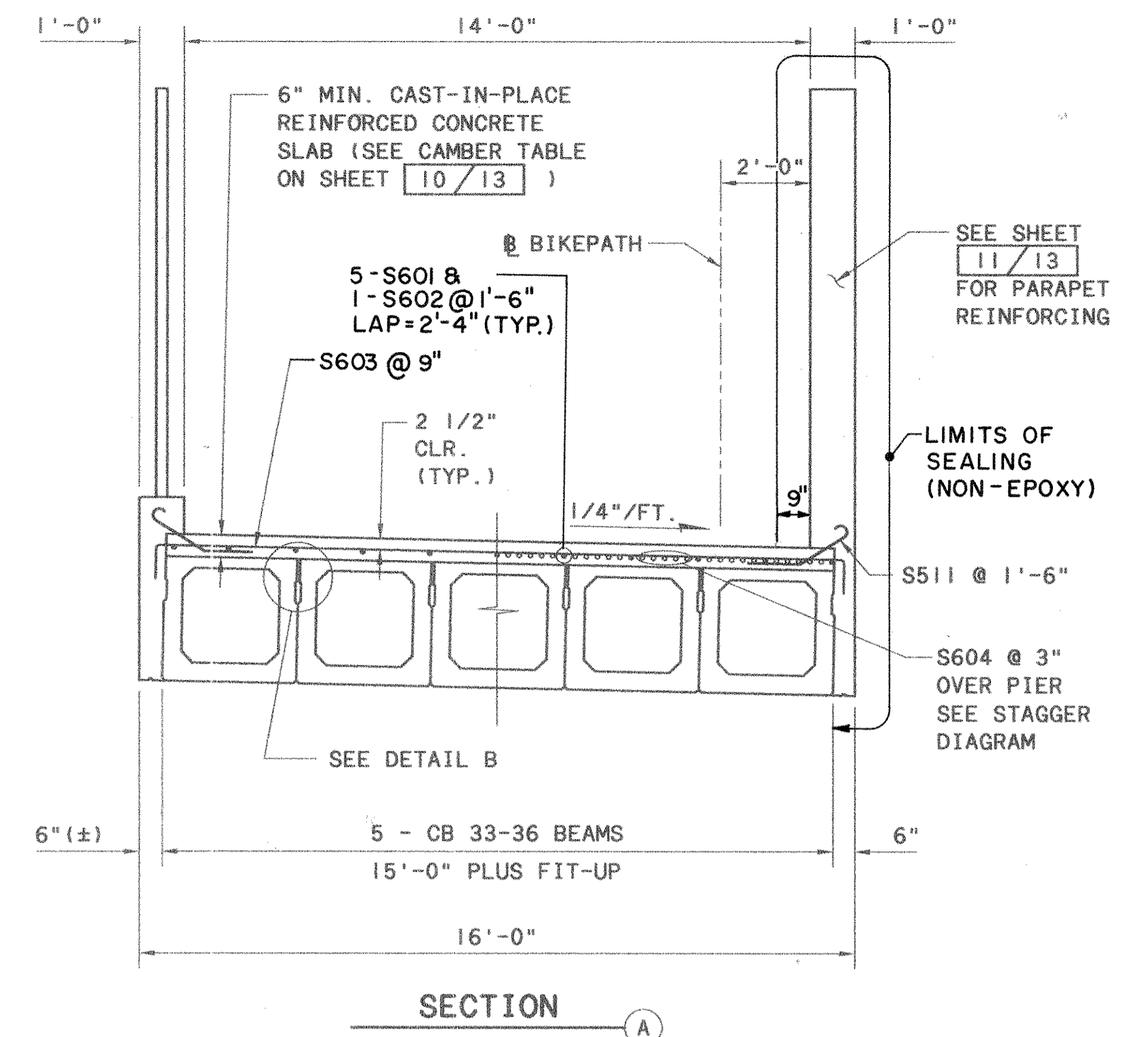


HALF FRAMING PLAN

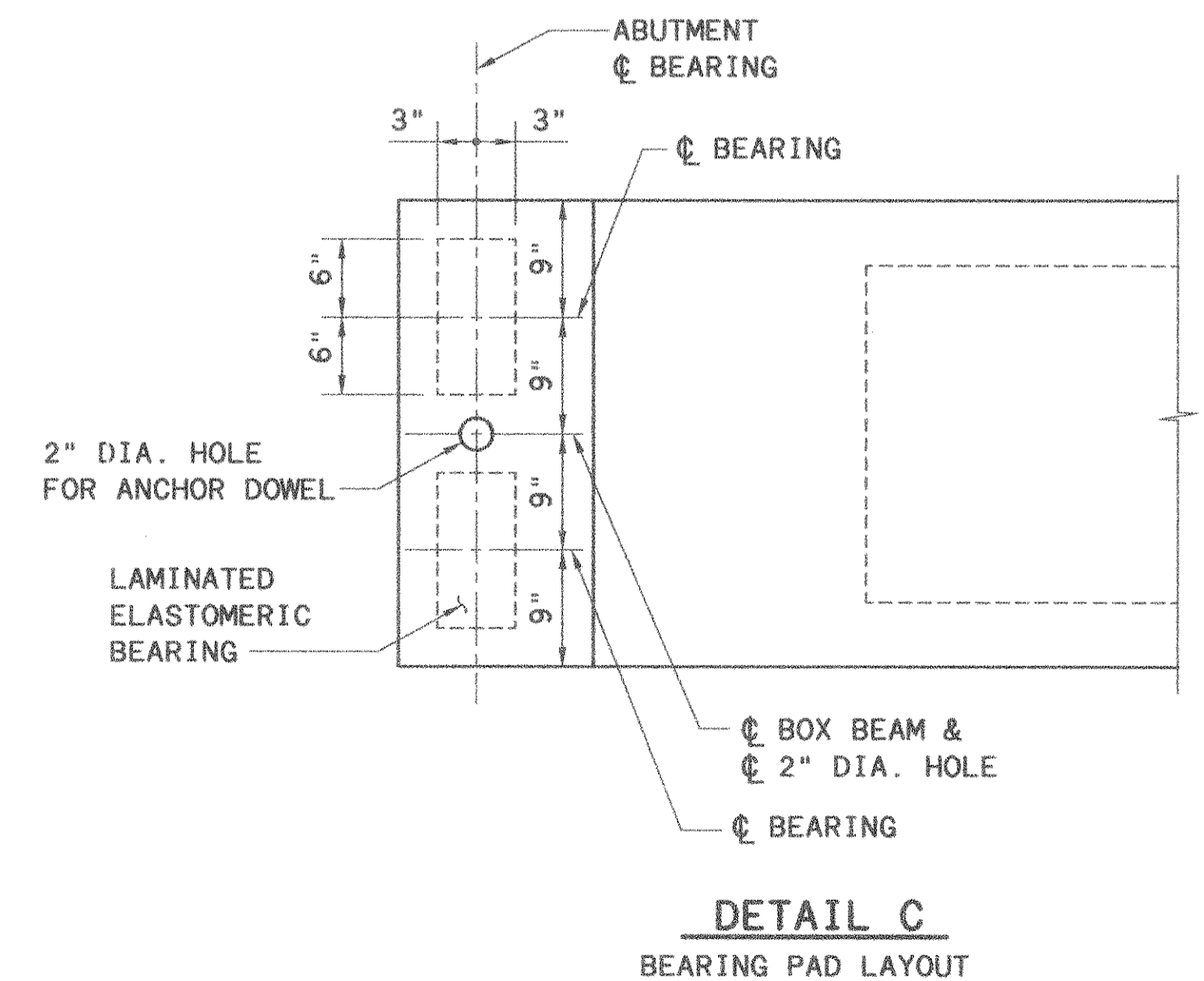
BOX BEAM CASTING DIMENSIONS SHALL BE ADJUSTED FOR VERTICAL CURVE AND CREEP, SHRINKAGE, AND ELASTIC SHORTENING EFFECTS PRIOR TO ERECTION



STAGGER DIAGRAM SHOWING S604 BARS OVER PIERS



SECTION A



DETAIL C BEARING PAD LAYOUT

FOR BEARING PAD DETAILS, SEE SHEET 12/13.

P:\PRI\6502\CADD\FRAMEPLAN 2-27-95 2:15:21 pm

ENGINEERS ARCHITECTS

DATE 9-7-97
REVISED R/M/T
STRUCTURE FILE NUMBER 4500865

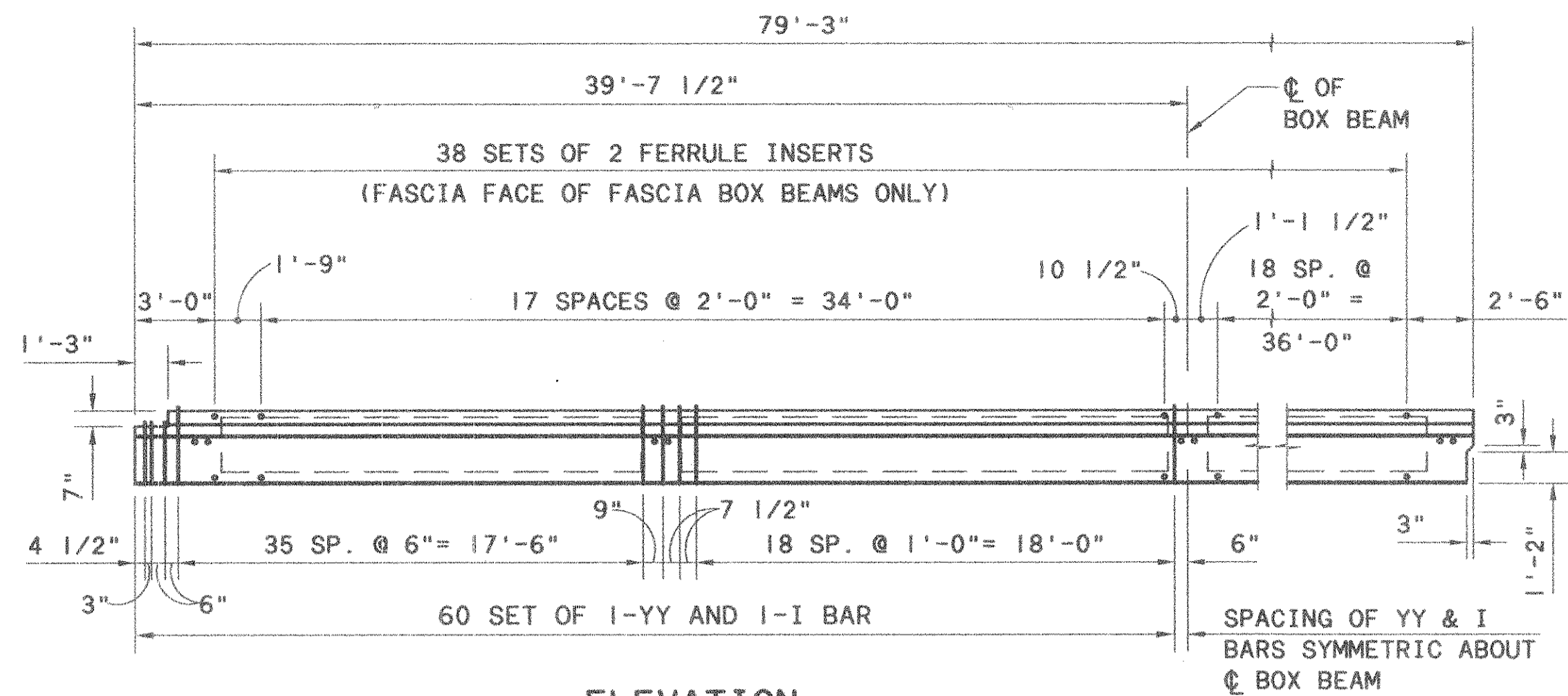
DESIGNED SAO
CHECKED Dof

FRAMING PLAN AND TYPICAL SECTION
BRIDGE NO. LIC-16-1917
OVER S.R. 16

LIC-16-17.94

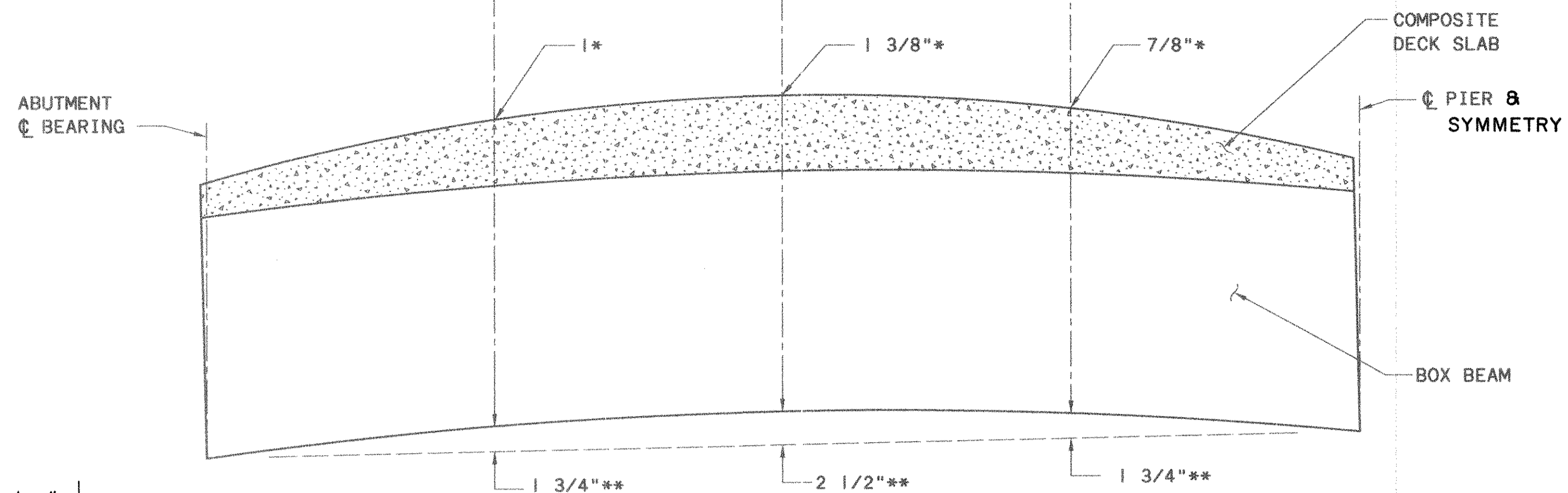
9/13

393
420



ELEVATION
CB33 - 36 BOX BEAM

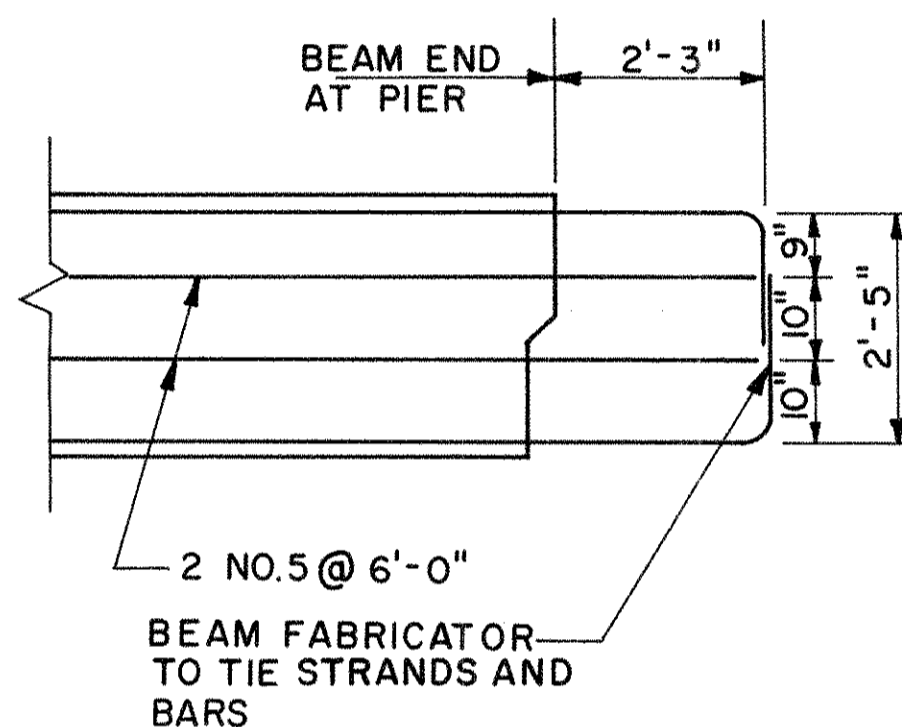
SCREED ELEVATIONS		
LOCATION	STATION	ELEVATION
CL BRG. REAR ABUT.	1+27.75	865.48
SPAN 1 - 1/4	1+47.75	866.36
SPAN 1 - 1/2	1+67.75	866.97
SPAN 1 - 3/4	1+87.75	867.27
CL PIER	2+07.75	867.31
SPAN 2 - 1/4	2+27.75	867.27
SPAN 2 - 1/2	2+47.75	866.97
SPAN 2 - 3/4	2+67.75	866.36
CL BRG. FWD. ABUT.	2+87.75	865.48



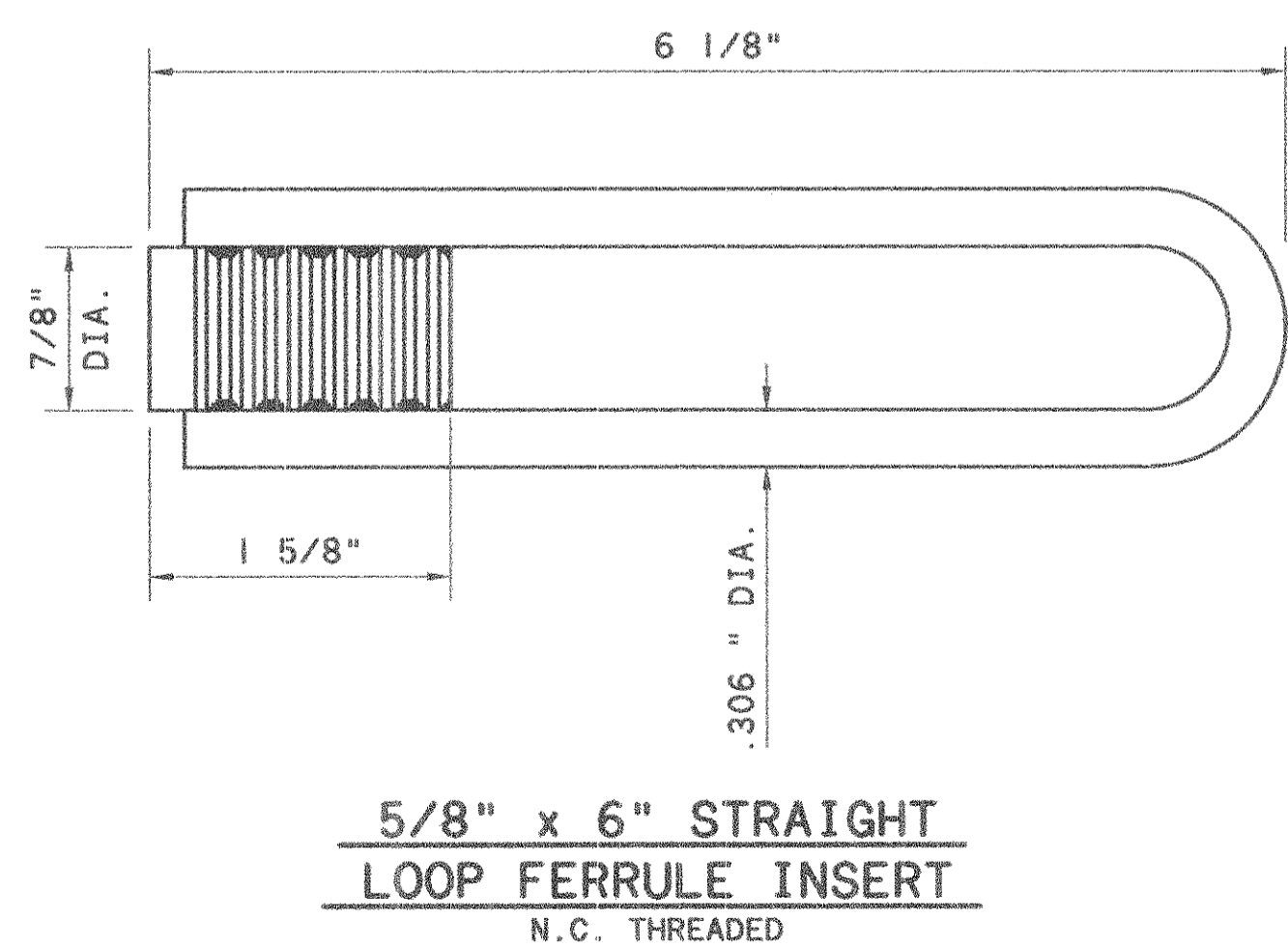
CAMBER AND DEFLECTION DIAGRAM

THE QUANTITY OF COMPOSITE DECK SLAB CONCRETE FOR PAYMENT SHALL BE BASED ON THE CAMBER VALUES SHOWN, EVEN THOUGH ACTUAL CAMBER MAY DIFFER FROM THAT ANTICIPATED BY THE DESIGN.

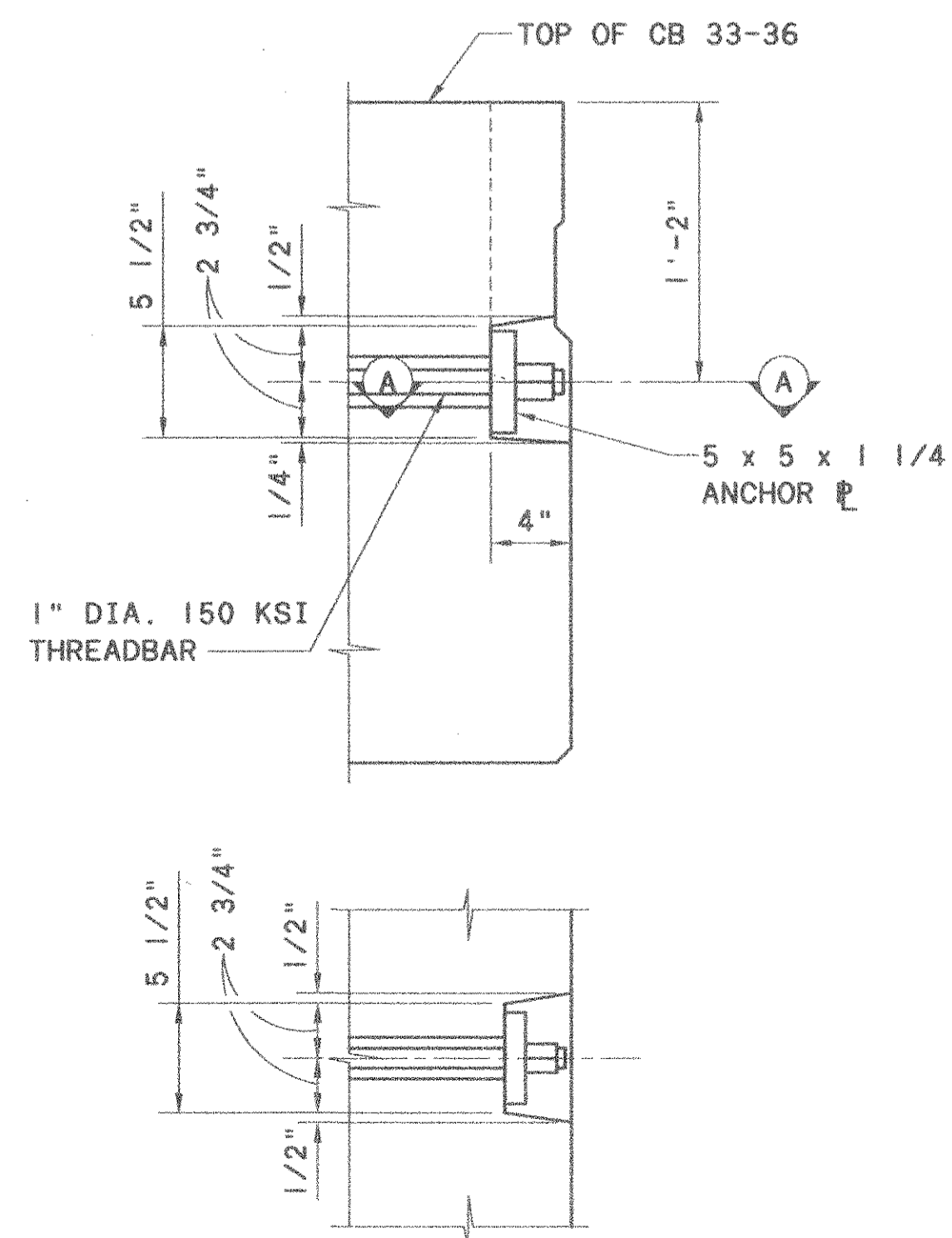
* DEFLECTION DUE TO COMPOSITE SLAB, PARAPET, AND FENCE.
** TOTAL CAMBER: [(2 x INITIAL CAMBER) + .32" AT MIDSPAN]



BEAM DETAIL AT PIERS

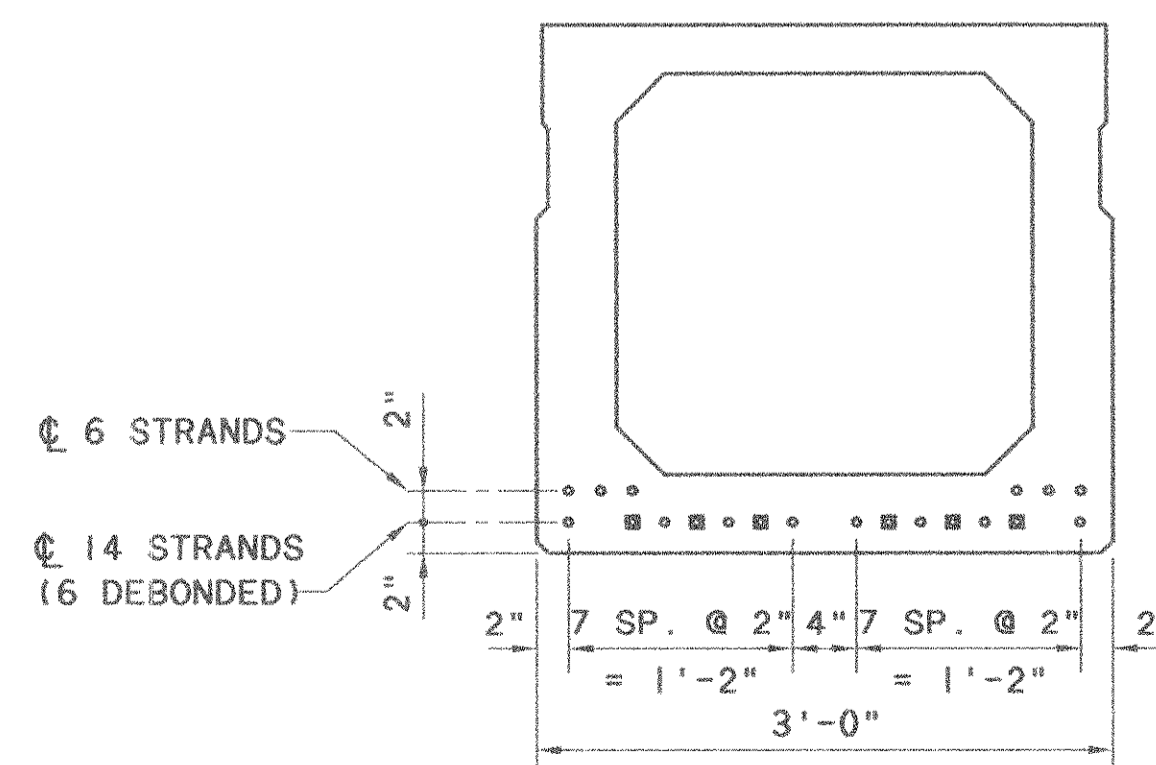


5/8" x 6" STRAIGHT LOOP FERRULE INSERT
N.C. THREADED



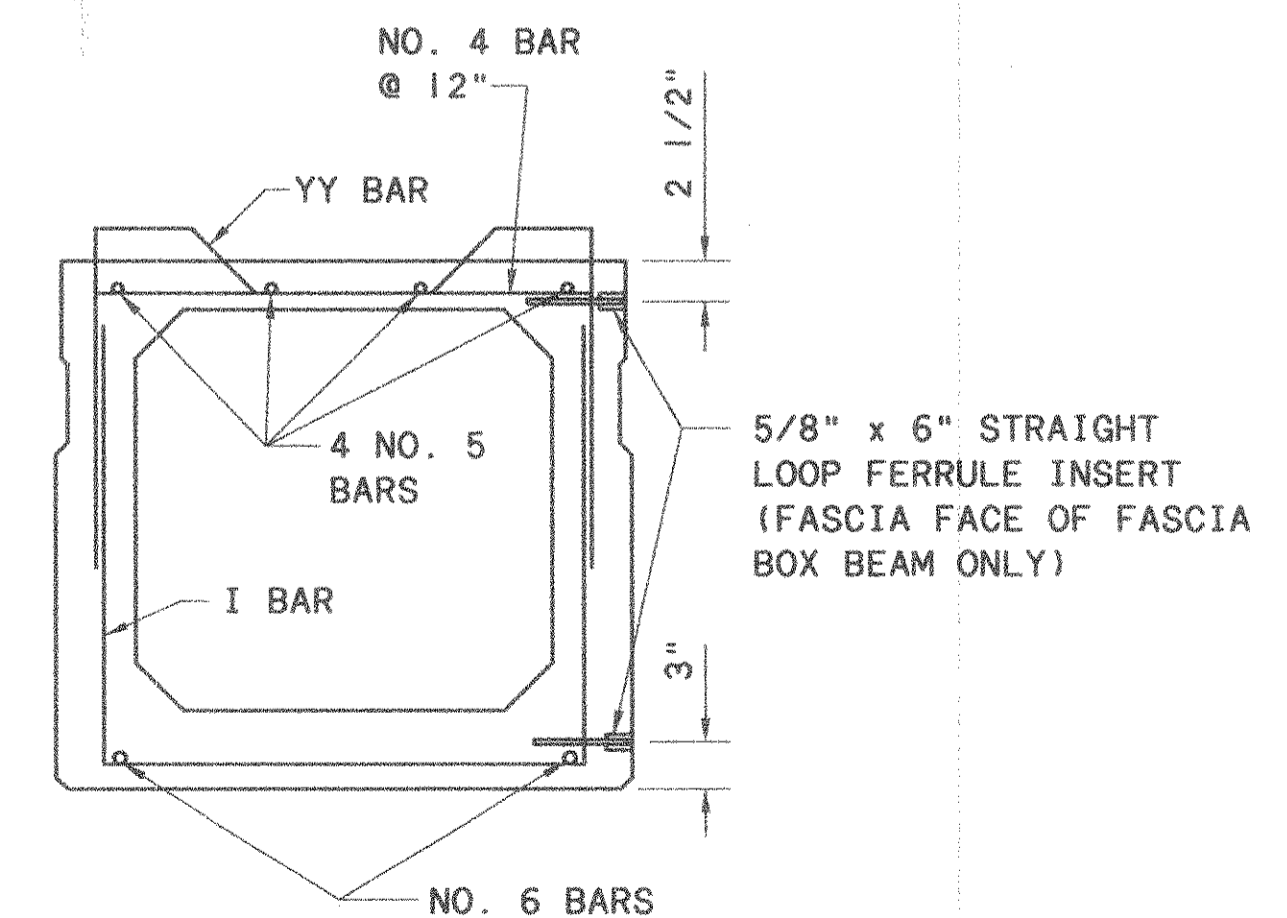
SECTION A

THREADBAR BLOCKOUT DETAILS



PRESTRESSING STEEL LAYOUT

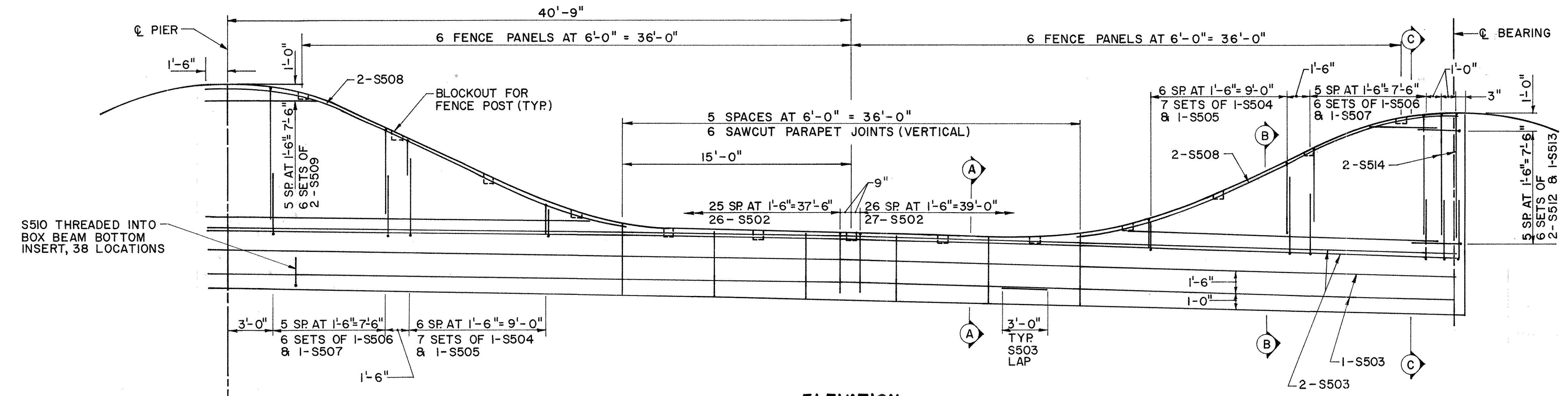
○ = STRAND BONDED THE FULL LENGTH OF BOX BEAM
■ = STRAND DEBONDED 10'-0" AT BOTH ENDS OF BOX BEAM



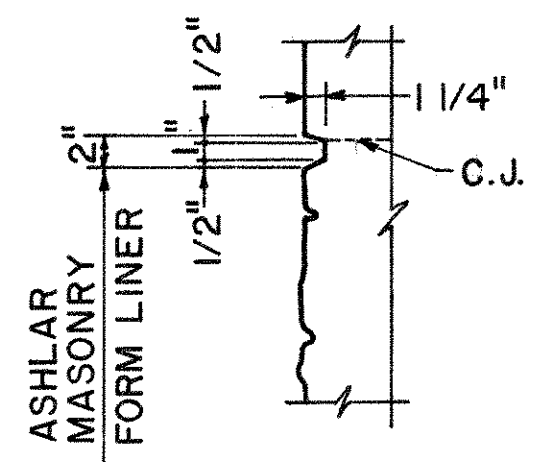
MILD STEEL LAYOUT

SEE STANDARD DRAWING PSBD-1-93 FOR BAR BENDS AND ADDITIONAL REINFORCEMENT AT BEAM ENDS

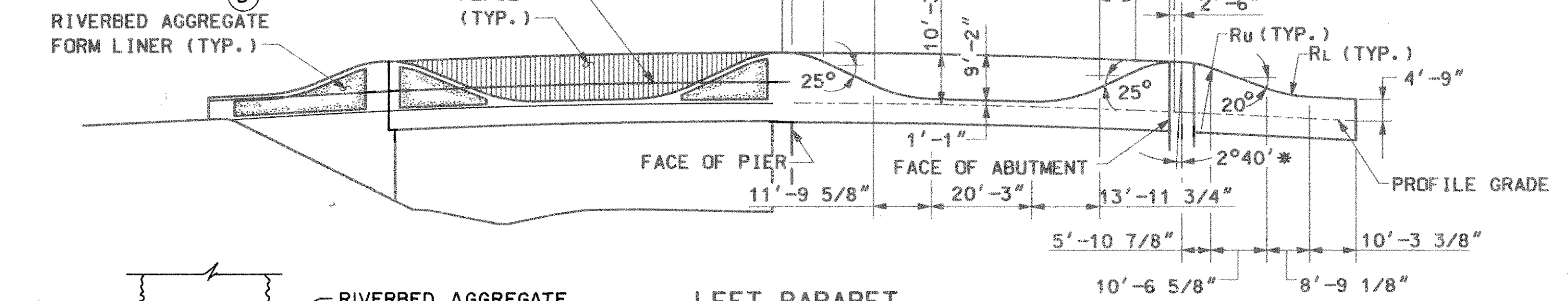
CB 33-36 DETAILS



**ELEVATION
PARAPET REINFORCING**

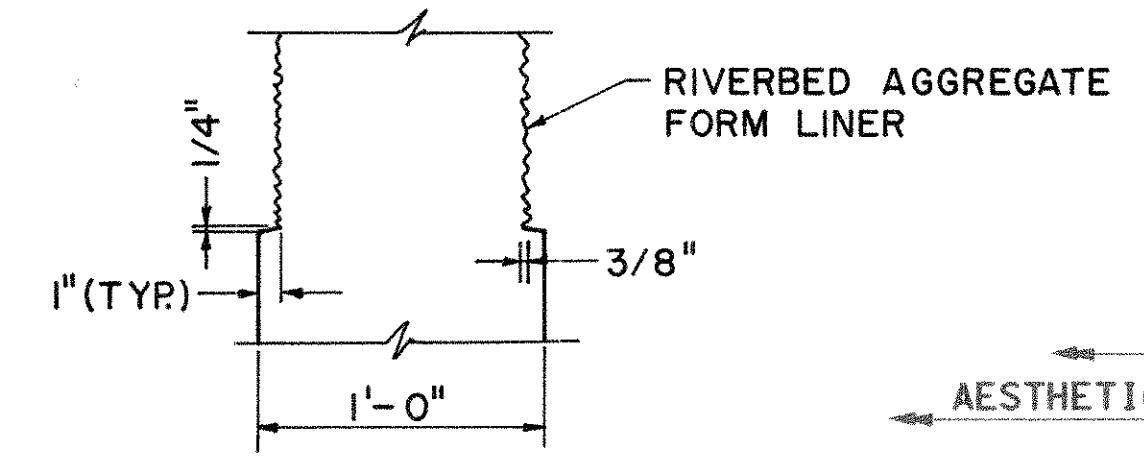


SECTION D

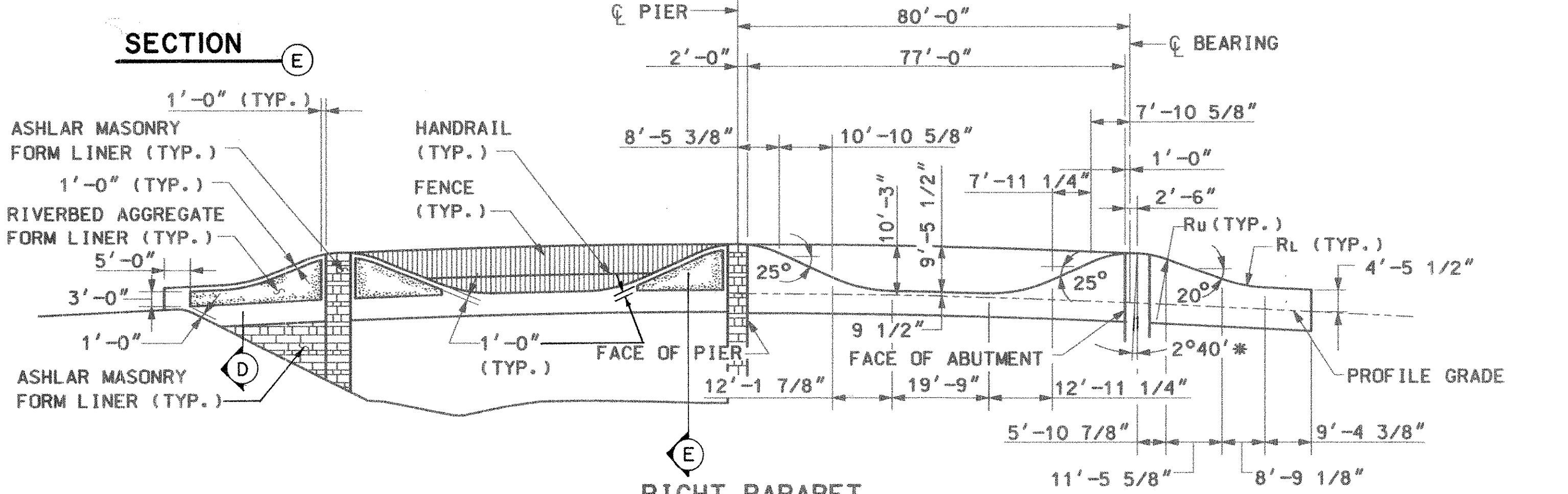


**LEFT PARAPET
LOOKING UP STATION
(TYPICAL INTERIOR TREATMENT)**

Ru = 20'-0"
RL = 30'-0"

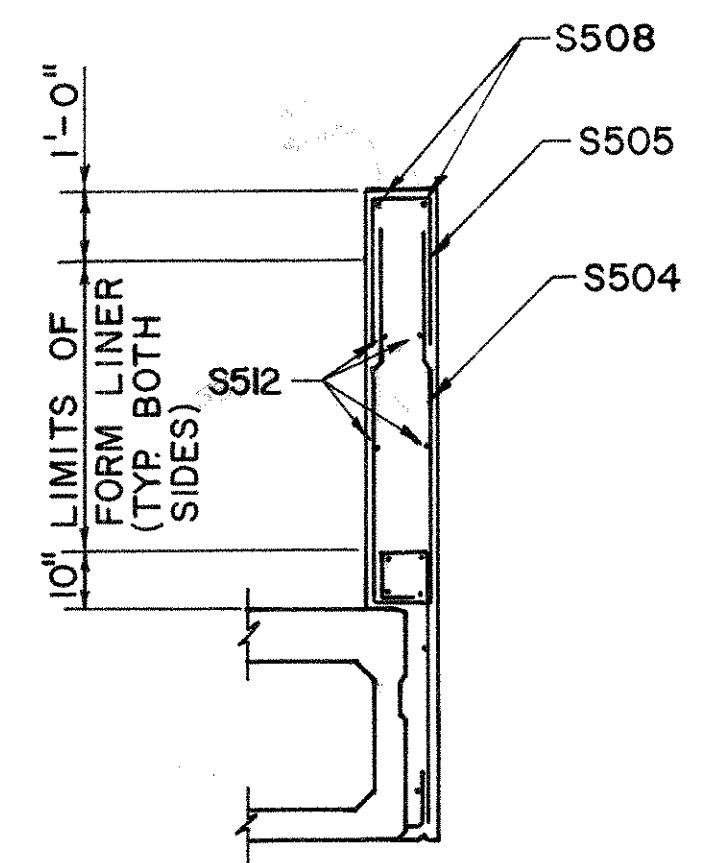


SECTION E

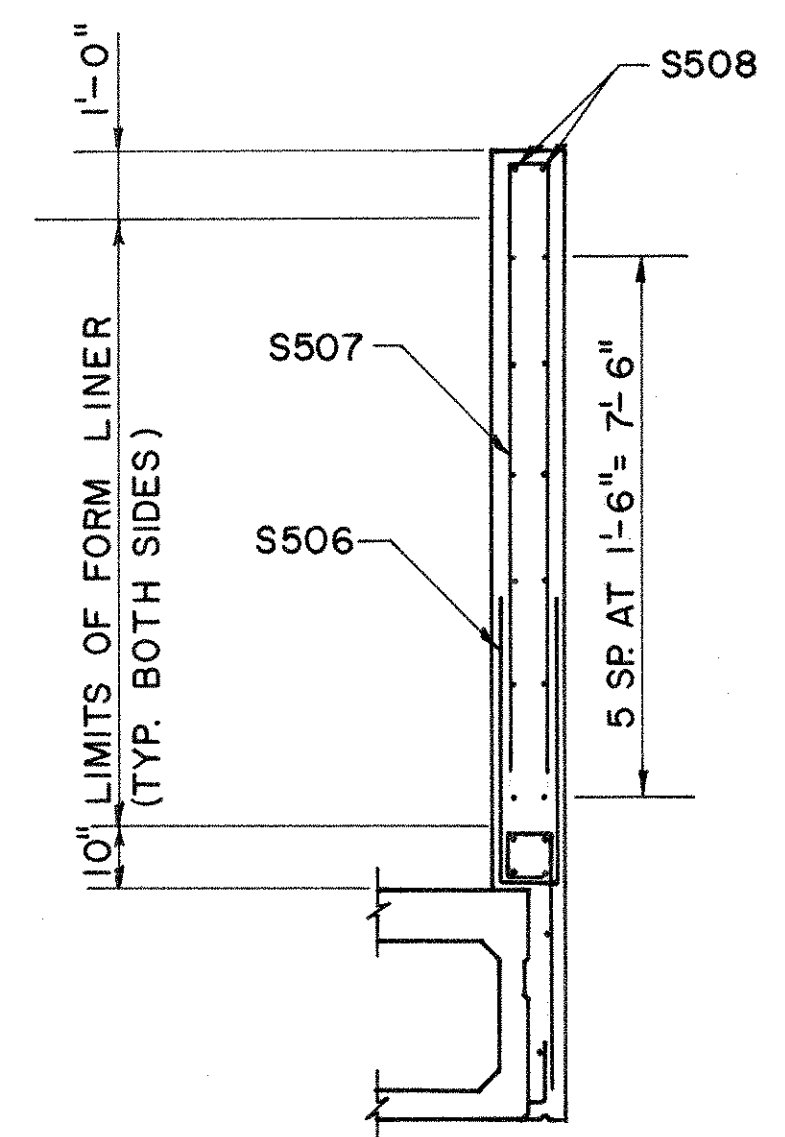


**RIGHT PARAPET
LOOKING UP STATION
(TYPICAL EXTERIOR TREATMENT)**

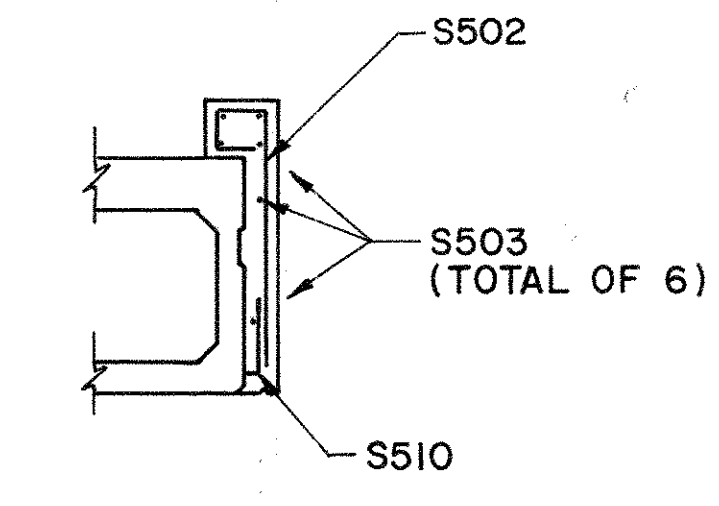
Ru = 20'-0"
RL = 30'-0"
* ANGLE FROM VERTICAL LINE TO A
LINE RADIAL TO LOCAL TANGENT
AND AXIS OF CURVE.



SECTION B



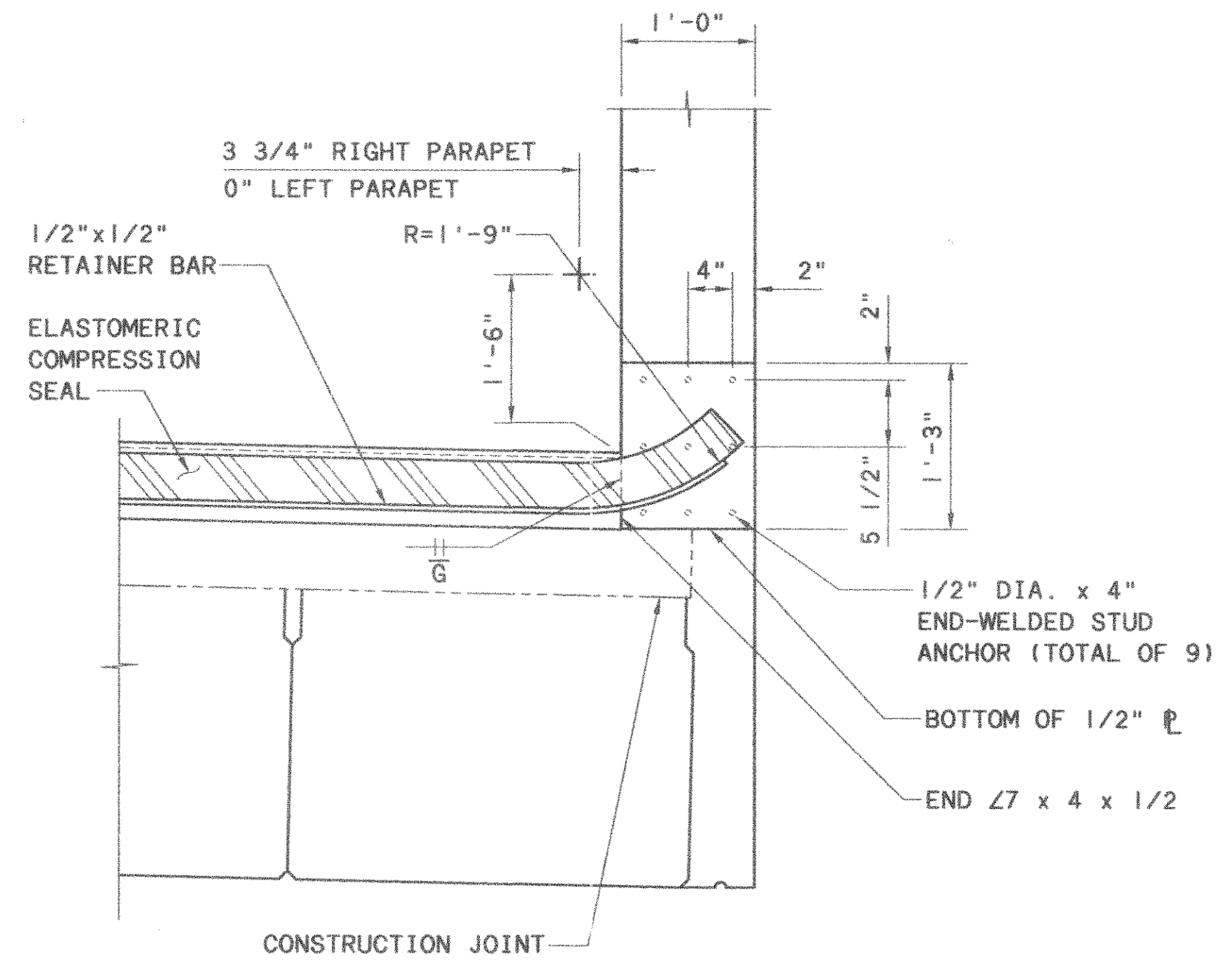
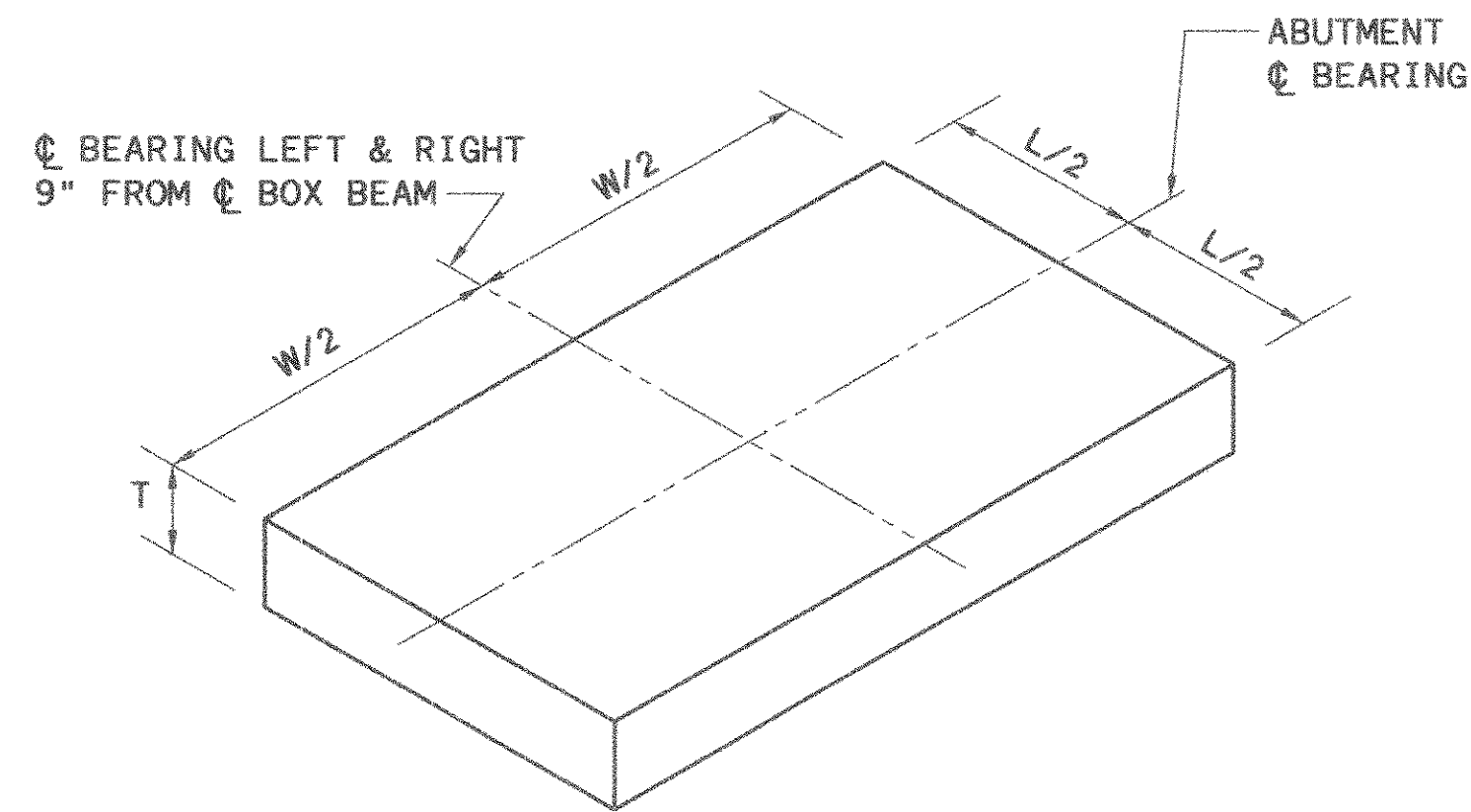
SECTION C



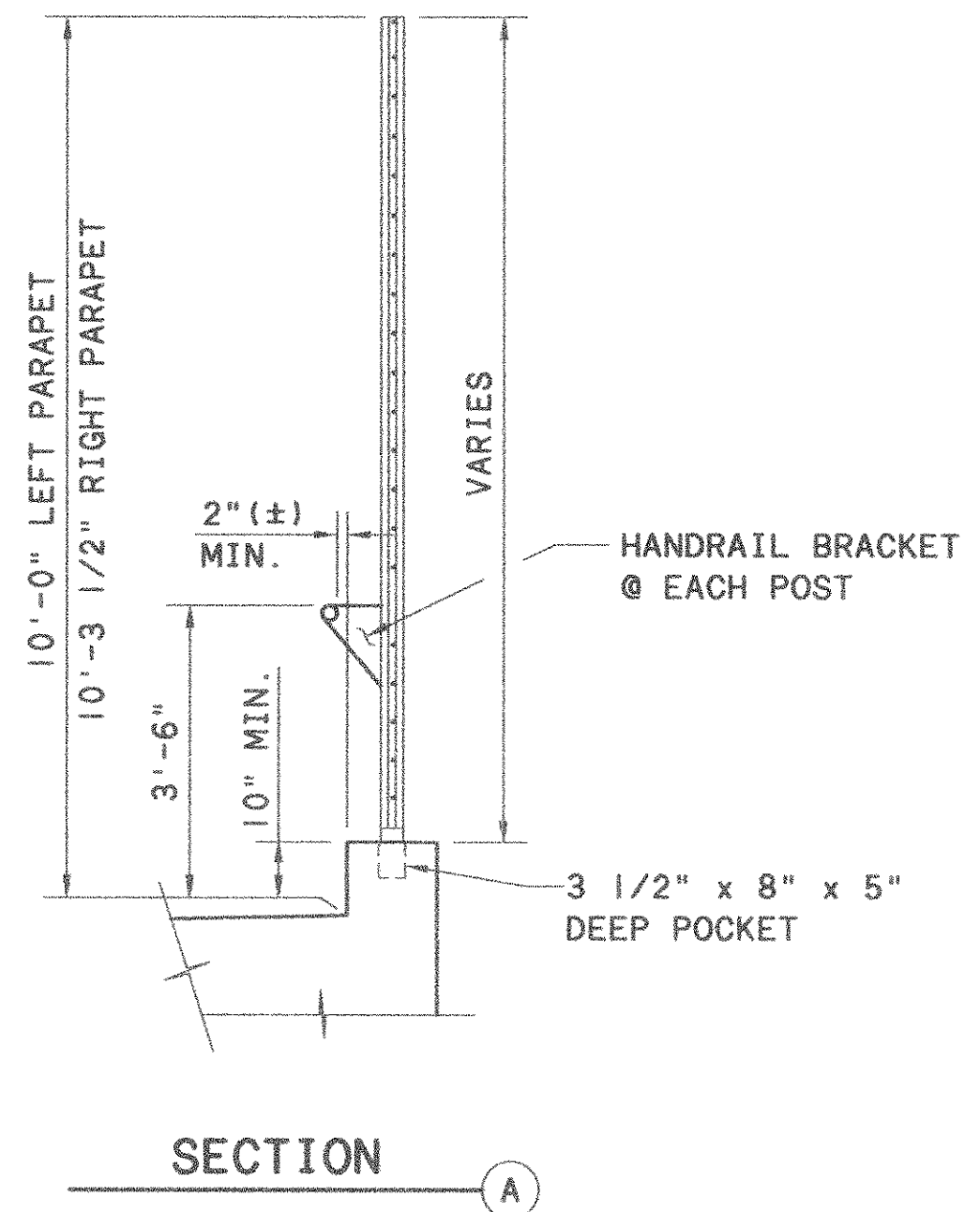
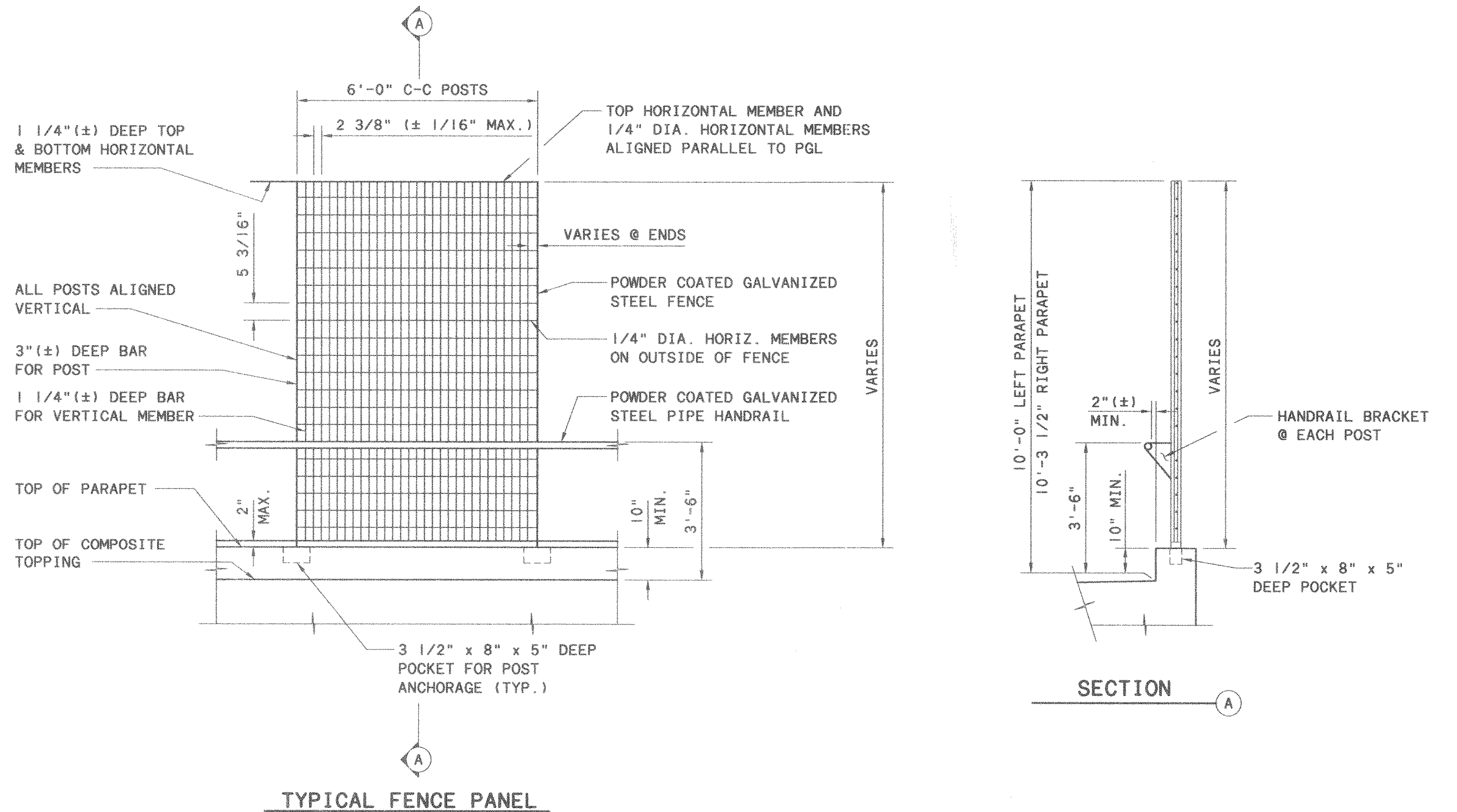
SECTION A

SEE LIGHTING PLANS
FOR CONDUIT AND
LIGHT FIXTURE LOCATIONS

LAMINATED ELASTOMERIC BEARING DATA	
LOCATION	REAR & FORWARD ABUTMENT
PLAN DIMENSIONS	12"W x 6"L
TOTAL THICKNESS (T)	1.55"
TOTAL NO. ELASTOMER LAYERS	5
EXTERIOR LAYERS	2 @ 1/4"
INTERIOR LAYERS	3 @ 1/4"
NO. OF 14 GAGE STEEL LAMINATES	4
TOTAL NO. OF BEARINGS	20
DEAD LOAD	28.4 KIPS
LIVE LOAD (W/O IMPACT)	16.6 KIPS
D.L. + L.L. (IMPACT)	35 KIPS



**COMPRESSION SEAL EXPANSION
JOINT DETAIL AT PARAPETS**
SUPERSTRUCTURE SIDE SHOWN ABUTMENT SIDE SIMILAR



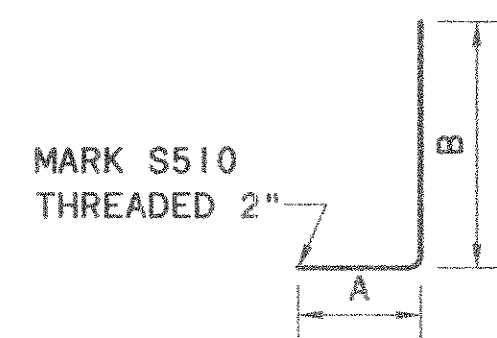
N:\PROJECTS\APR16502\CADD\UTBEAR 2-28-95-11:04:28.dwg

DATE 3-MAR-95	REVISION RM77	DRAWN GTC	DESIGNED SAO	CHECKED Doc
STRUCTURE FILE NUMBER 4500865		JOINT, BEARING AND FENCE DETAILS BRIDGE NO. LIC-16-1917 OVER S.R. 16		
LIC-16-17.94				
12 / 13				
396 420				

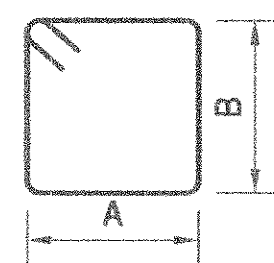
REINFORCING BAR SCHEDULE

MARK	NO.	LENGTH	WT.	TYPE	DIM. A	DIM. B	DIM. C	INCR.
ABUTMENT								
A901	52	23'-3"	4111	STR				
A902	20	14'-6"	986	STR				
A903	18	14'-3"	872	I	3'-9"	10'-9"		
A904	20	13'-2"	895	I	3'-9"	9'-8"		
A905	52	12'-3"	2166	11	11'-0"			
A906	52	13'-1"	2313	STR				
A801	32	15'-11"	1359	26	5'-6"	10'-7"	0'-10 1/2"	
A802	132	13'-9"	4846	26	5'-6"	8'-5"	0'-10 1/2"	
A803	28	12'-4"	922	STR				
A804	48	7'-9"	993	STR				
A805	64	20'-10"	3560	11	19'-11"			
A806	56	26'-9"	4000	12	7'-1"	7'-1"	16'-9"	
A807	52	25'-4"	3517	19	23'-6"			
A808	46	23'-6"	2886	STR				
A501	11	16'-3"	186	STR				
A502	11	4'-5"	51	STR				
A503	56	16'-0"	935	STR				
A504	22	5'-10"	134	9	1'-8"	2'-9"		
A505	20	5'-2"	108	STR				
A506	20	6'-8"	139	12	2'-0"	2'-0"	3'-10"	
A507	20	3'-1"	64	STR				
A508	20	7'-4"	152	9	3'-3"	1'-1"		
A509	56	23'-8"	1382	STR				
A510	50	10'-3"	535	33				
A511	38	7'-6"	297	32				
A512	48	10'-10"	542	34				
A513	12	18'-4"	229	STR				
A514	34	19'-0"	674	STR				
A515	34	26'-0"	922	I				
A517	80	3'-1"	257	STR				
A518	24	19'-7"	490	STR				
A519	52	15'-0"	814	STR				
A520	S.O.	8'-0" TO 13'-0"	1139	STR				5"
A521	88	7'-8"	704	STR				
A522	84	7'-7"	664	STR				
A523	4	13'-0"	54	STR				
A524	12	12'-2"	152	STR				
A525	12	9'-2"	115	STR				
A526	40	31'-10"	1328	STR				
A527	40	28'-10"	1202	STR				
A528	24	38'-10"	972	STR				
A529	24	35'-10"	897	STR				
A530	S.O.	4 5'-2 1/2" TO 4 18'-7"	199	STR				4'-5 1/2"

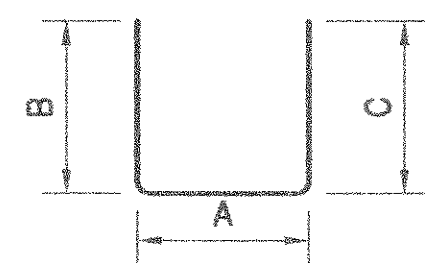
MARK	NO.	LENGTH	WT.	TYPE	DIM. A	DIM. B	DIM. C	INCR.
PIER								
A531	S.O.	4 2'-2 1/2" TO 4 15'-7"	148					4'-5 1/2"
TOTAL = 48911								
PIER								
P1001	82	11'-7"	4087	11	11'-10"			
P1002	60	33'-10"	8735	STR				
P1003	22	20'-2"	1909	STR				
P601	20	8'-10"	265	19	7'-6"			
P602	7	24'-10"	261	19	23'-6"			
P501	42	16'-0"	701	STR				
P502	42	16'-1"	705	16	3'-6"	3'-5"		
P503	30	5'-7"	175	9	1'-3"	3'-4"	1'-3"	
P504	3	18'-6"	58	STR				
P505	28	8'-5"	246	31	2'-8"	3'-6"	0'-8"	
P506	15	11'-6"	180	8	2'-2"	3'-11"		
P401	189	4'-4"	547	30	3'-6"			
TOTAL = 17869								
SUPERSTRUCTURE								
S601	55	30'-0"	2478	STR				
S602	11	20'-4"	336	STR				
S603	215	17'-0"	5490	9	1'-0"	15'-4"	1'-0"	
S604	50	32'-0"	2403	STR				
S501	5	15'-10"	83	19	14'-8"			
S502	212	4'-9"	1050	36	3'-7"	0'-6"	0'-6"	
S503	72	29'-4"	2203	STR				
S504	56	4'-3"	248	9	2'-0"	0'-6"	2'-0"	
S505	S.O.	8 4'-8" TO 7 11'-3"	465	9	2'-0" TO 5'-6"	0'-6" TO 5'-6"	2'-0" TO 5'-6"	7"
S506	48	8'-3"	413	9	4'-0"	0'-6"	4'-0"	
S507	S.O.	8 11'-3" TO 6 16'-3"	688	9	5'-6" TO 8'-0"	0'-6" TO 8'-0"	5'-6" TO 8'-0"	6"
S508	32	29'-0"	968	STR				
S509	S.O.	8 7'-9" TO 6 25'-6"	832	STR				3'-6 1/2"
S510	152	2'-4"	370	I	0'-5"	2'-0"		
S511	216	2'-9"	620	35				
S512	S.O.	8 5'-0" TO 6 21'-6"	663	STR				3'-3 1/2"
S513	24	8'-2"	204	9	4'-0"	0'-5"	4'-0"	
S514	16	12'-3"	204	9	6'-0"	0'-6"	6'-0"	
TOTAL = 19718								



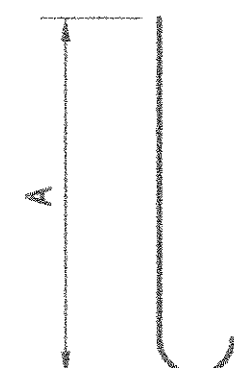
TYPE 1



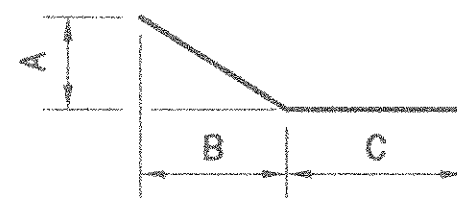
TYPE 8



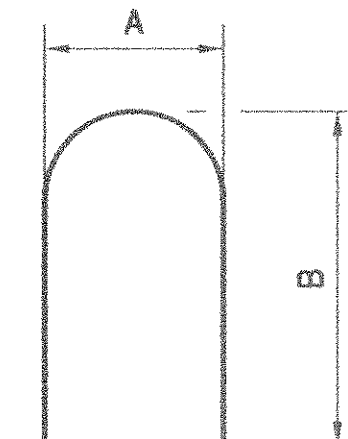
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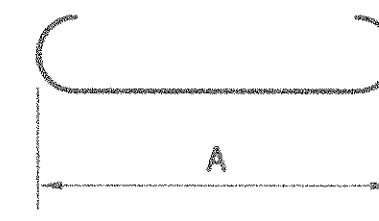
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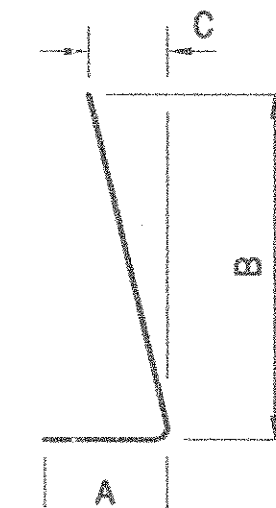
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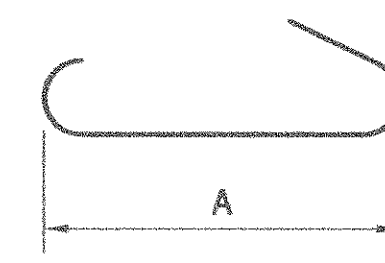
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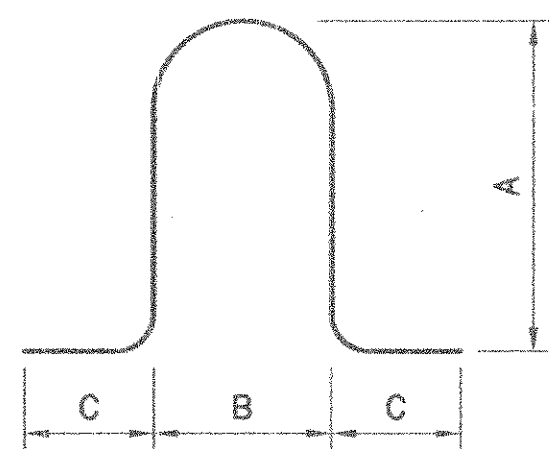
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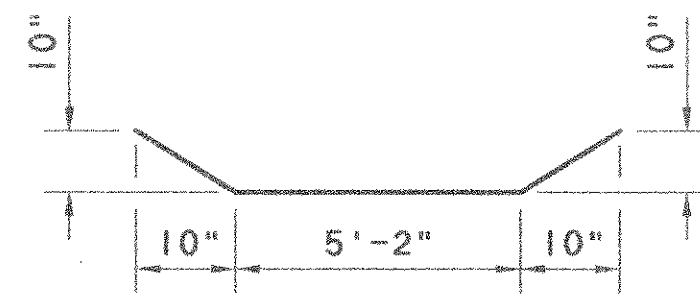
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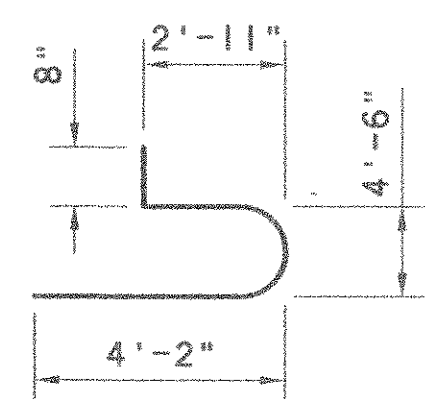
TYPE 30



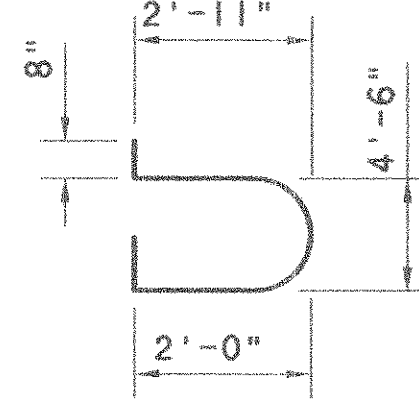
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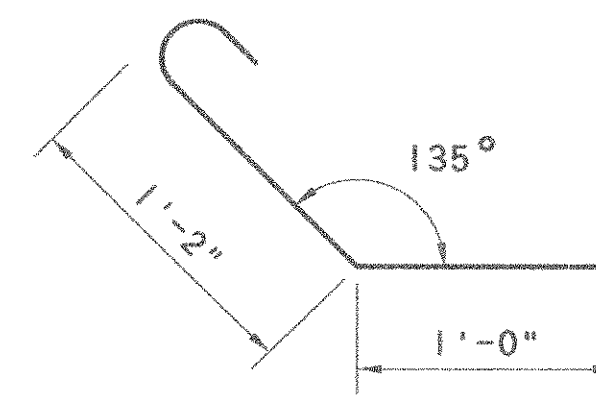
TYPE 32



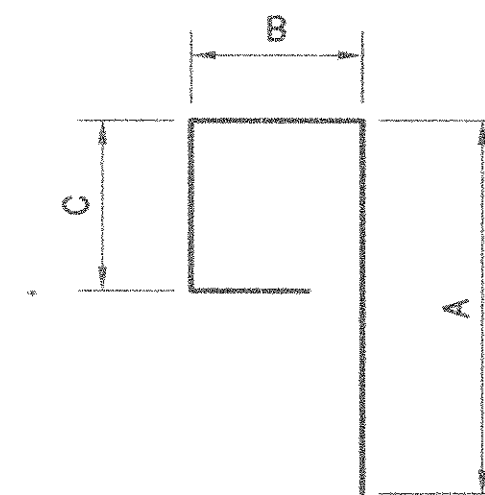
TYPE 33



TYPE 34



TYPE 35

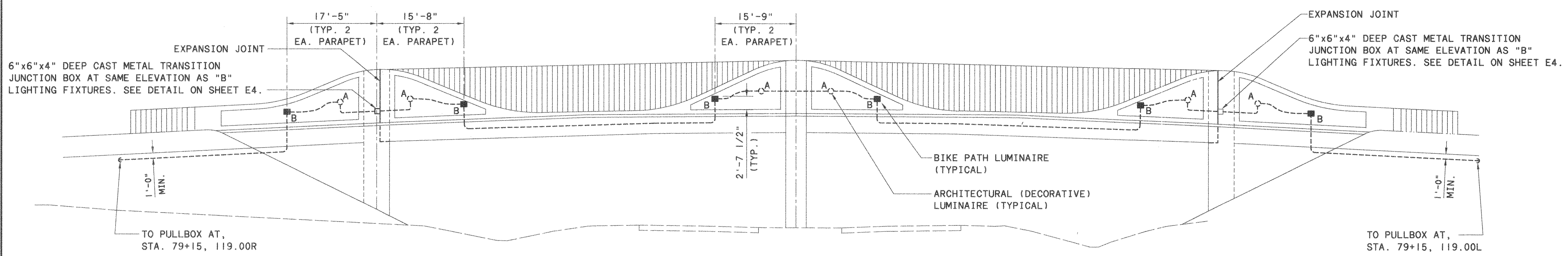


TYPE 36

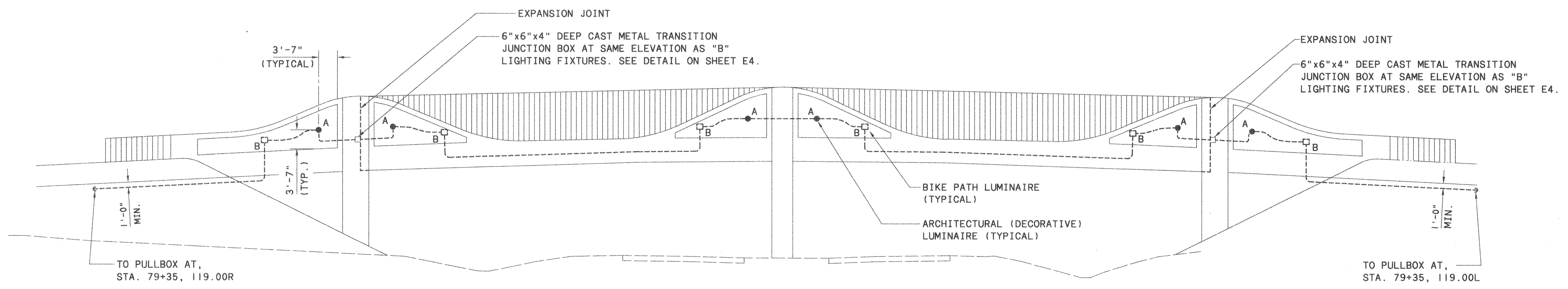
ALL REINFORCING STEEL TO BE EPOXY COATED.

DATE: 3-7-95
 REVISIONS: RHM 3-7-95
 DRAWN: GTC
 DESIGNED: Doc
 CHECKED: RHM
 STRUCTURE FILE NUMBER: 4500865
 REINFORCING BAR SCHEDULE
 BRIDGE NO. LIC-16-1917
 OVER S.R. 16
 LIC-16-17.94
 13/13
 397/420

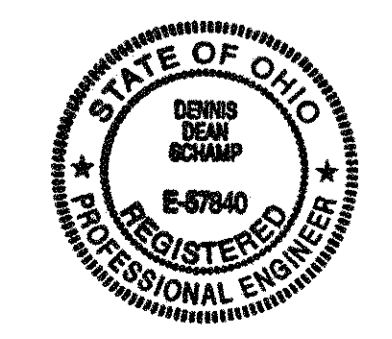
N:\PROJECTS\PR16502\CADD\BAR 3-3-95 9:04:17 am



EAST ELEVATION - WEST PARAPET
SCALE: 1" = 10'-0"



EAST ELEVATION - EAST PARAPET
SCALE: 1" = 10'-0"



LIGHTING GENERAL NOTES

625.03 - POWER SERVICE, PER PLAN.

SERVICE SHALL BE 480 VOLTS, 2-WIRE, SINGLE PHASE, GROUNDED NEUTRAL. AS NOTED ON THE PLANS. ELECTRICAL ENERGY FROM EXISTING POWER SERVICES SHALL CONTINUE TO BE CHARGED TO THE MAINTAINING AGENCY.

ITEM SPECIAL: BIKE PATH LUMINAIRE

BIKE PATH LUMINAIRE SHALL BE 240 VOLT, RECESSED OR SEMI-RECESSED, WALL UNIT WITH CAST ALUMINUM HOUSING, BOROSILICATE GLASS REFRACTOR, TAMPER RESISTANT HARDWARE, WIDE DISTRIBUTION LIGHTING PATTERN & 70 WATT HIGH PRESSURE SODIUM LAMP. CONTRACTOR SHALL OBTAIN MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR THE SPECIFIED APPLICATION AND SHALL MODIFY INSTALLATION & CONDUIT CONNECTIONS AS REQUIRED TO INSTALL LUMINAIRES NOT ILLUSTRATED. LUMINAIRE SHALL BE:

- A. KIM LLF-10/70HPS240/DB-P WITH DOUBLE FUSES (ILLUSTRATED)
- B. MOLDCAST MDL-2-02-24-70-2FU-TPH
- C. SPAULDING PA-70HPS WITH 240V BALLAST & DOUBLE FUSES
- D. ENGINEER APPROVED EQUAL.

ITEM SPECIAL: ARCHITECTURAL (DECORATIVE) LUMINAIRE

ARCHITECTURAL LUMINAIRE SHALL BE 240 VOLT, SURFACE MOUNTED, WALL LIGHTER WITH DIECAST ALUMINUM COVER, VANDAL RESISTANT ACRYLIC REFRACTOR, TAMPER RESISTANT HARDWARE, CUTOFF OPTICS, 70 WATT HIGH PRESSURE SODIUM LAMP & CAST ALUMINUM JUCTION BOX. CONTRACTOR SHALL OBTAIN MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR THE SPECIFIED APPLICATION AND SHALL MODIFY INSTALLATION & CONDUIT CONNECTIONS AS REQUIRED TO INSTALL LUMINAIRES NOT ILLUSTRATED. LUMINAIRE SHALL BE:

- A. MOLDCAST 34020-24-SLV-2FU-TPH WITH CAST ALUMINUM JUCTION BOX. (ILLUSTRATED)
- B. KIM B30-10R/70HPS240/LG-P WITH DOUBLE FUSES, APPROPRIATE BASE FOR BALLAST & CAST ALUMINUM JUCTION BOX.
- C. SPAULDING VA-70HPS WITH DOUBLE FUSES, APPROPRIATE BASE FOR BALLAST & CAST ALUMINUM JUCTION BOX.
- D. ENGINEER APPROVED EQUAL.

713.14 LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE:

- A. GENERAL ELECTRIC "LUCALOX"
- B. PHILIPS "CERAMALUX"
- C. SYLVANIA "LUMALUX"
- D. ENGINEER APPROVED EQUAL.

ITEM 625: CONTROL CENTER, AS PER PLAN

CONTROL CENTER SHALL CONSIST OF:

- A. MINIMUM 30 INCH HIGH x 24 INCH WIDE x 16 INCH DEEP, NEMA 4X, VENTILATED ENCLOSURE WITH CONTINUOUS HINGE & PADLOCKABLE DOOR.
- B. 600 VOLT, 30 AMPERE, 2 WIRE, SOLID NEUTRAL DISCONNECT WITH 1 FRS-R10 FUSE.
- C. 250 VOLT, 30 AMPERE, 3 WIRE, SOLID NEUTRAL DISCONNECT WITH 2 FRN-R15 FUSES.
- D. 480 VOLT, 2 WIRE PRIMARY; 120/240 VOLT, 3 WIRE SECONDARY; 3 KVA TRANSFORMER.
- E. MOUNTING PLATE WITH WHITE ENAMEL FINISH.
- F. LINE OF 30 #18-#6 AWG COPPER BOX TERMINALS.

CONDUIT ON STRUCTURE

EACH TRANSITION JUNCTION BOX SHALL HAVE A COPPER BONDING JUMPER. TRANSITION JUNCTION BOXES SHALL BE AS PER PLAN:

625.22 HIGH VOLTAGE TEST

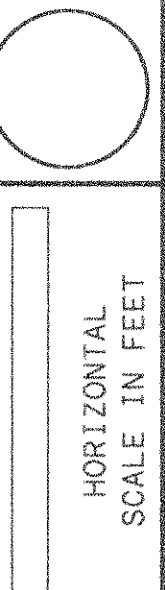
A HIGH VOLTAGE DIRECT CURRENT TEST SHALL BE PERFORMED ON THE NEW CIRCUIT. THE TEST SHALL NOT BE PERFORMED UNTIL AFTER ALL NEW CONSTRUCTION IN THE IMMEDIATE VICINITY OF THE CABLE RUN BEING TESTED, HAS BEEN COMPLETED. A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR THIS ITEM.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH SPECIFICATION 631.08. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEMS BEING LOCKED.

PORTABLE POWER UNIT

THE CONTRACTOR SHALL SUPPLY A PORTABLE POWER UNIT AS SPECIFIED IN THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS. A QUANTITY OF "1 EACH" OF ITEM 625, "PORTABLE POWER UNIT", IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.



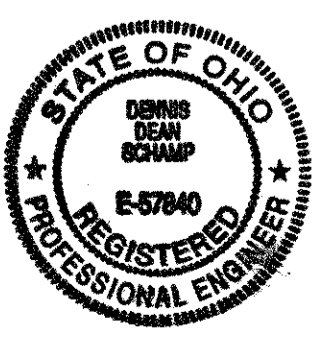
CALCULATED
JWH
CHECKED
DDS

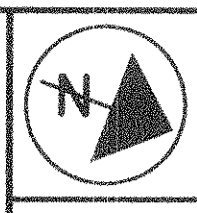
LIGHTING GENERAL NOTES

LIC-16-17.94

E2/E4

399
420





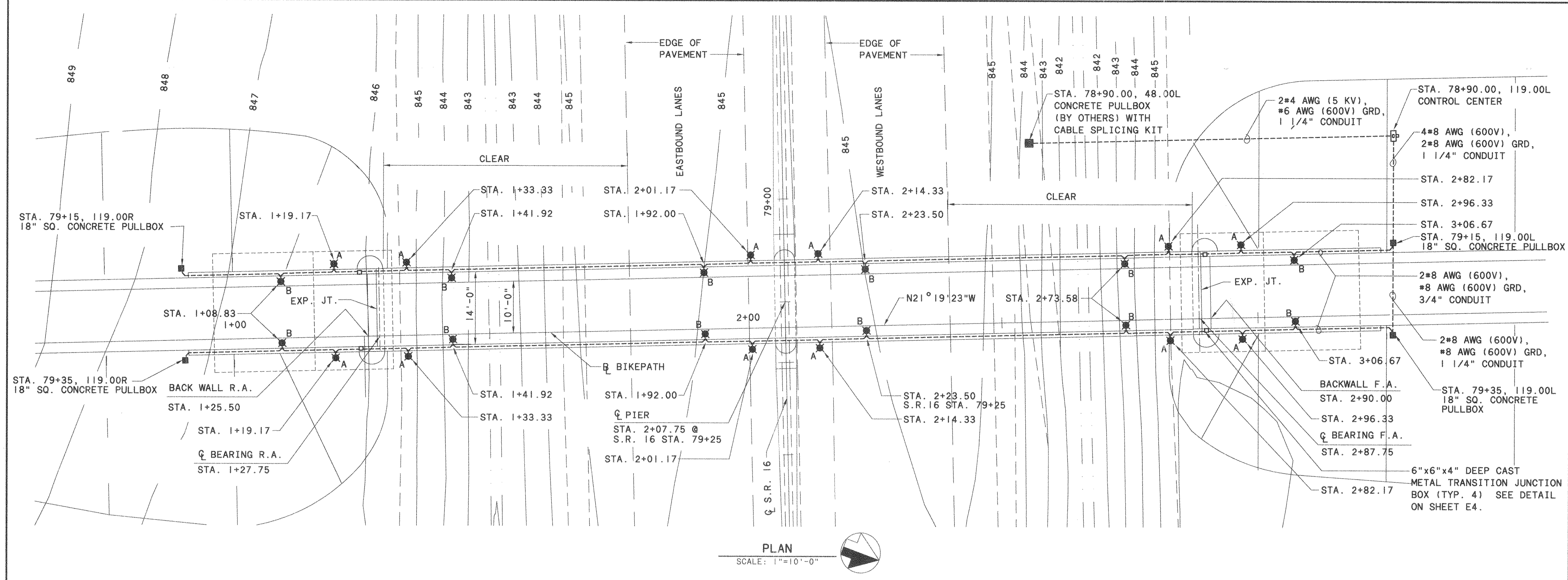
HORIZONTAL
SCALE IN FEET
CALCULATED
JWH
CHECKED
DDS

ELECTRICAL PLAN

LIC-16-17.94

E3/E4

400
420

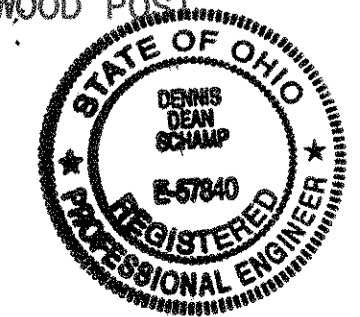


LIGHTING SUB-SUMMARY
(ALL ITEMS ARE SHOWN ON SHEET E3)

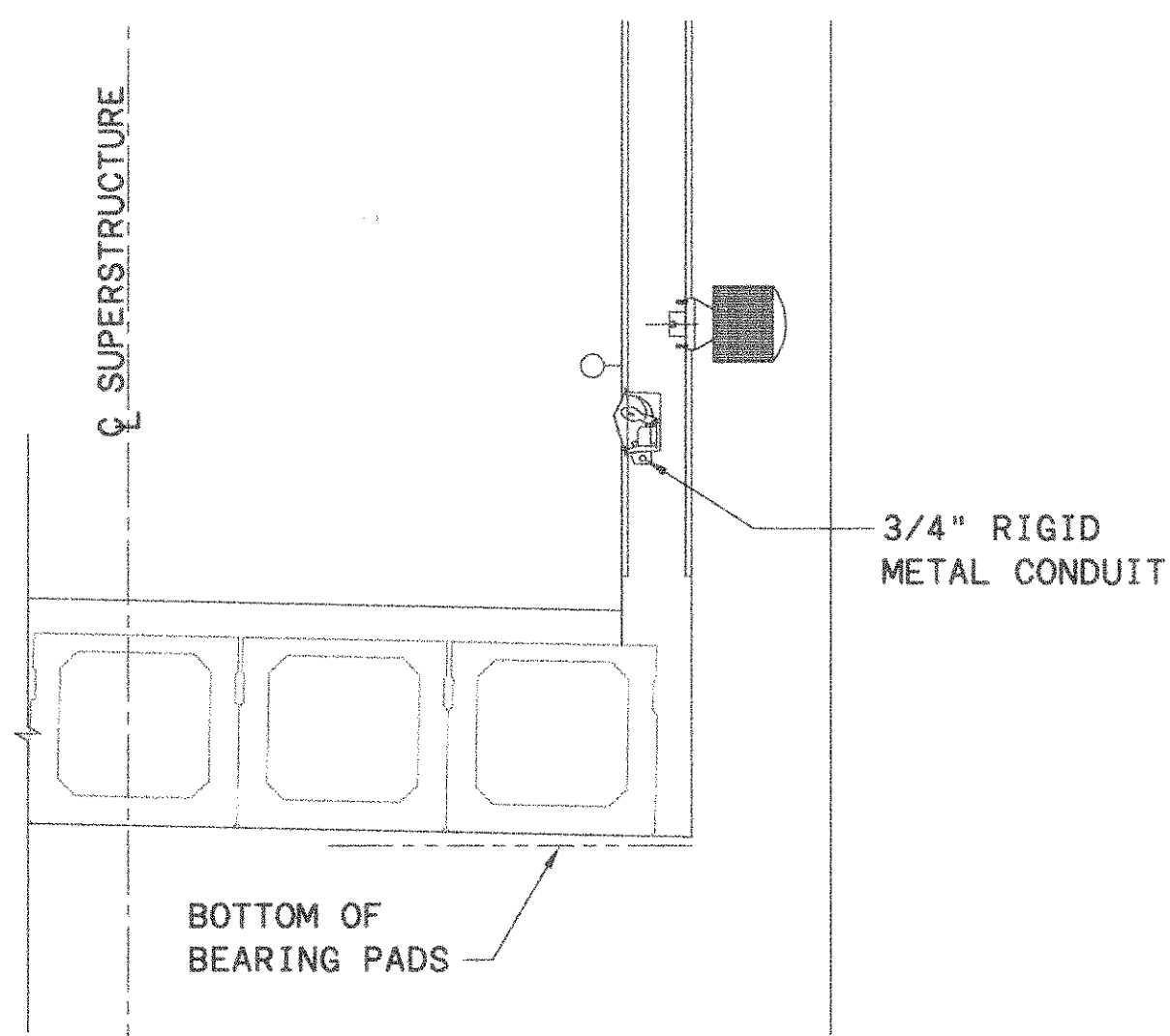
QTY.	PARTICIPATIONS		ITEM	ITEM EXT	A	B	C	D	TOTAL	UNIT	DESCRIPTION
	A	B									
12	12		625	98000	12				12	EACH	LIGHTING MISC.: BIKE PATH LUMINAIRE WITH LAMP & RECESSED CONNECTION BOX, AS PER PLAN *
12	12		625	98000	12				12	EACH	LIGHTING MISC.: ARCHITECTURAL (DECORATIVE) LUMINAIRE WITH LAMP, AS PER PLAN *
1	1		625	98000	1				1	EACH	LIGHTING MISC.: CONTROL CENTER, AS PER PLAN *
180	180		625	23200	180				180	LIN. FT.	NO. 4 AWG, 5 KV DISTRIBUTION CABLE
90	90		625	22990	90				90	LIN. FT.	NO. 6 AWG, 600 VOLT, DISTRIBUTION CABLE
2130	2130		625	23304	2130				2130	LIN. FT.	NO. 8 AWG, 600 VOLT, DISTRIBUTION CABLE
4	4		625	29911	4				4	EACH	TRANSITION JUNCTION BOX, AS PER PLAN *
2	2		625	01500	2				2	EACH	CABLE SPLICING KIT,
560	560		625	25000	560				560	LIN. FT.	CONDUIT, 3/4", 713.04
130	130		625	25200	130				130	LIN. FT.	CONDUIT, 1 1/4", 713.04
1	1		625	20000	1				1	EACH	PORTABLE POWER UNIT
140	140		625	29100	140				140	LIN. FT.	TRENCH, 36"
1	1		625	32000	1				1	EACH	GROUND ROD
LUMP	LUMP		625	38000	LUMP				LUMP	LUMP	HIGH VOLTAGE TEST
4	4		625	30700	4				4	EACH	PULL BOX, 713.08, 18"
1	1		625	33000	1				1	EACH	STRUCTURE GROUNDING SYSTEM

* SEE SHEET 399.

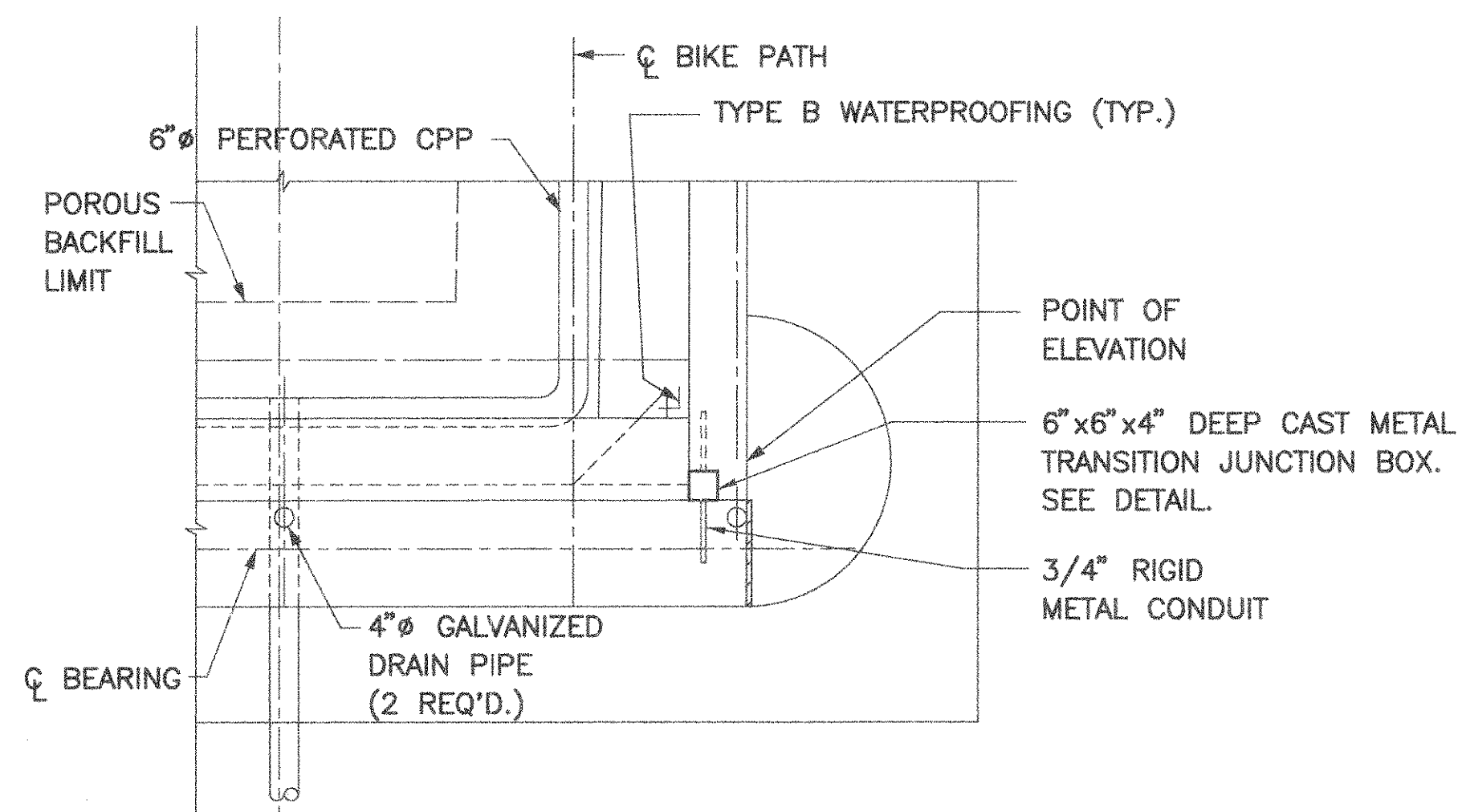
- SYMBOL LEGEND**
- ARCHITECTURAL (DECORATIVE) LUMINAIRE
 - BIKE PATH LUMINAIRE
 - RIGID METAL (STEEL) CONDUIT UNDERGROUND & IN STRUCTURES
 - SQUARE CONCRETE PULL BOX OF SIZE NOTED
 - CONTROL CENTER MOUNTED ON WOOD POST



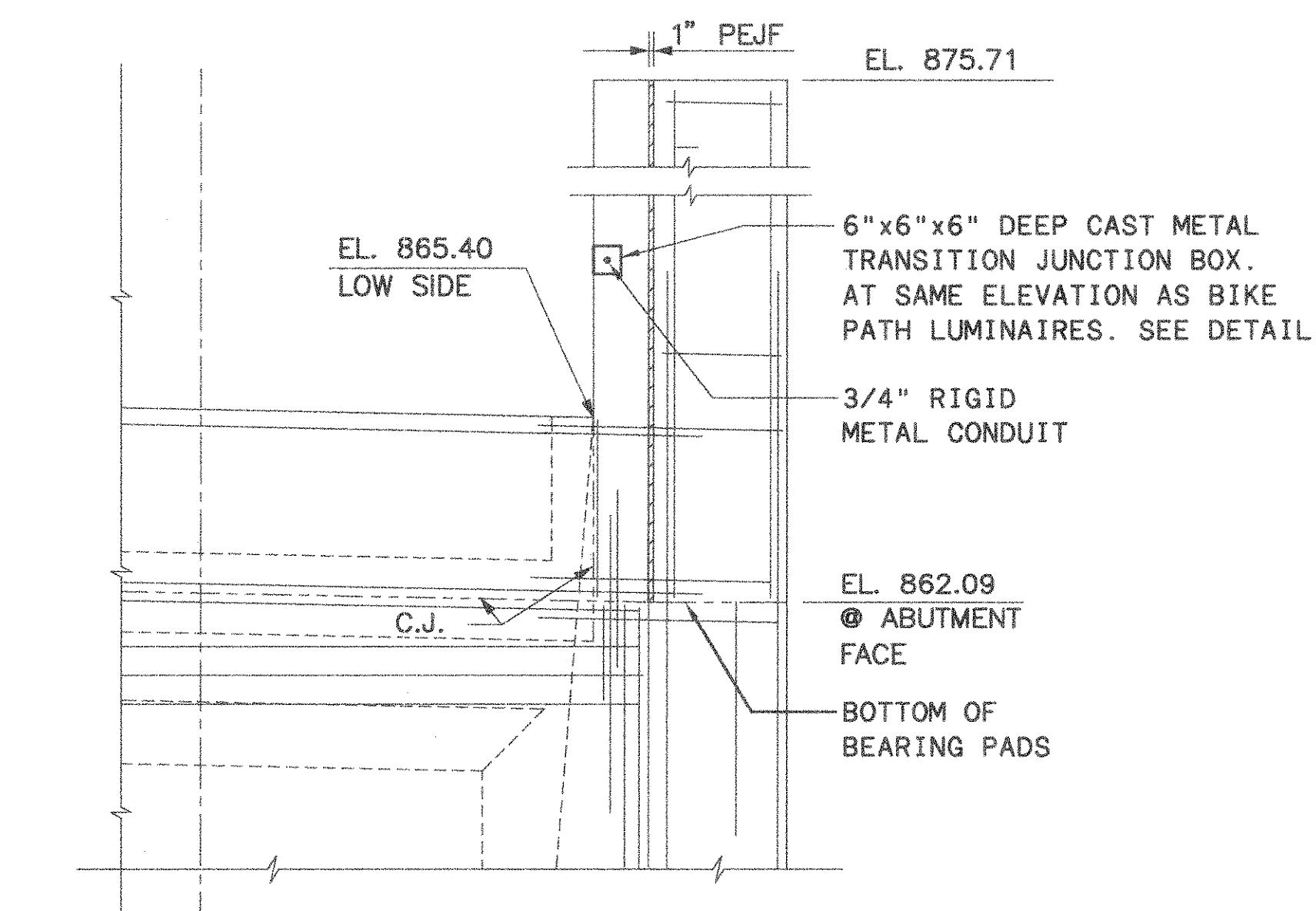
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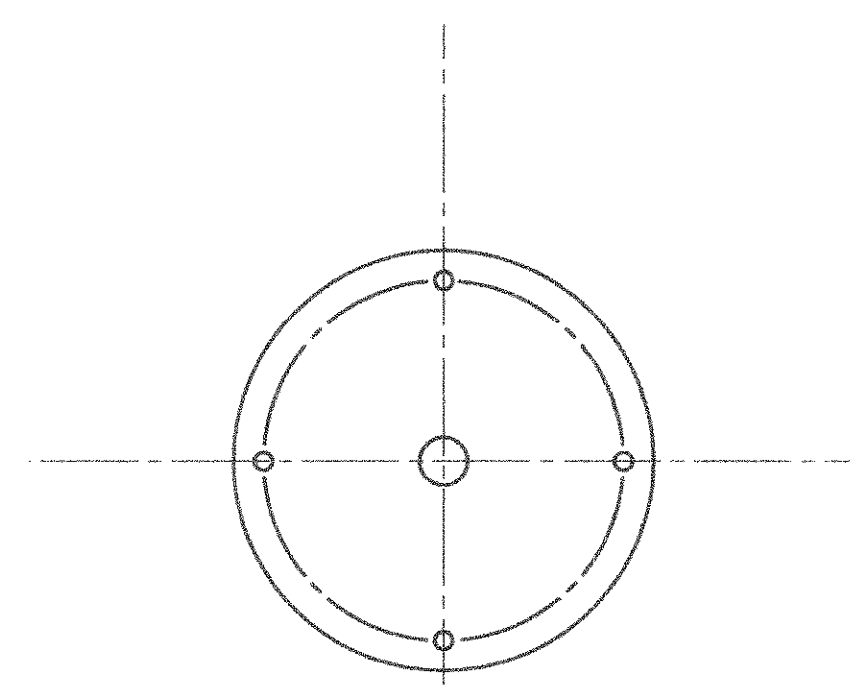
PARTIAL SUPERSTRUCTURE SECTION
SCALE: 3/8"=1'-0"



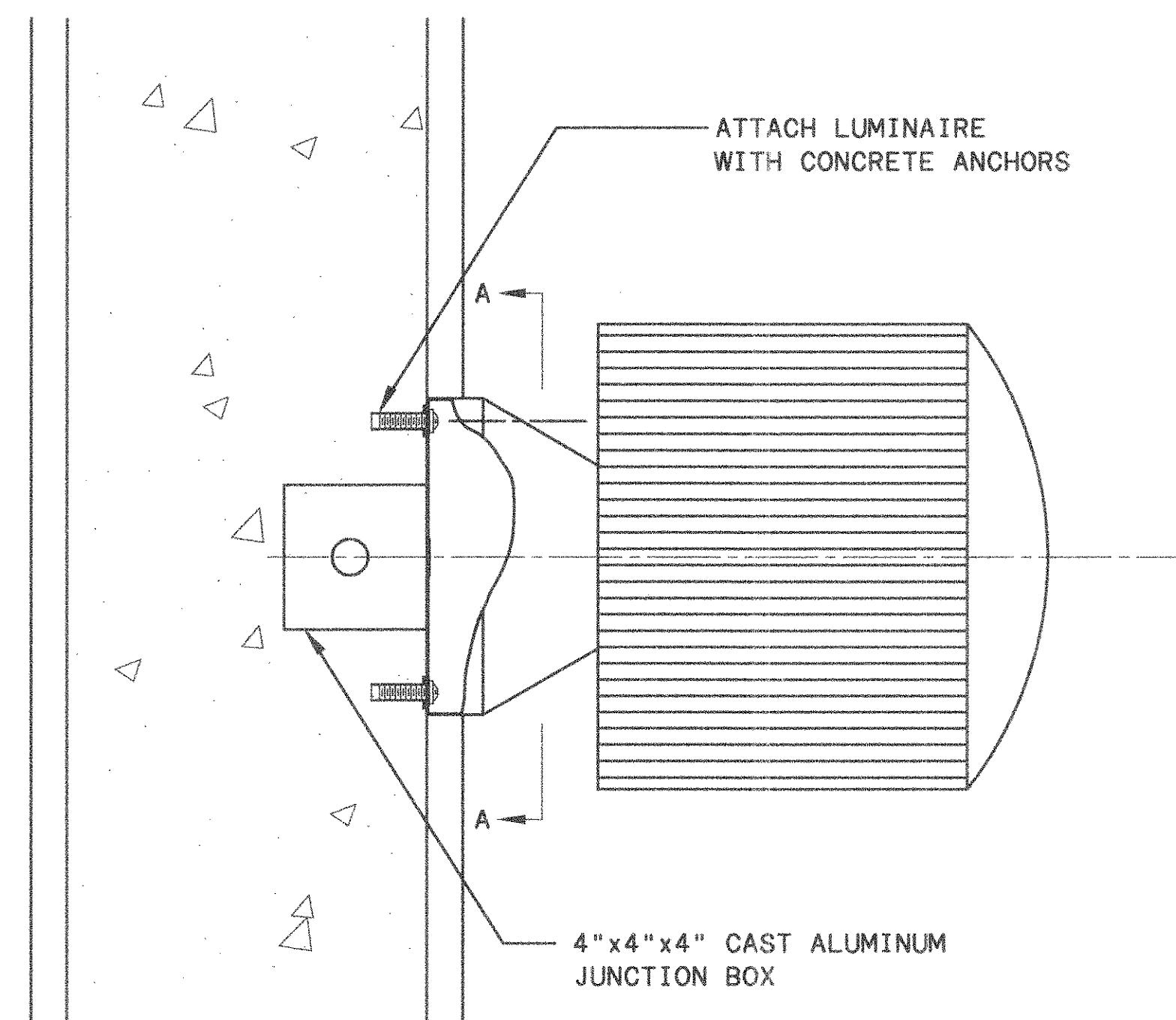
ABUTMENT PLAN (W/O SUPERSTRUCTURE)
SCALE: 3/8"=1'-0"



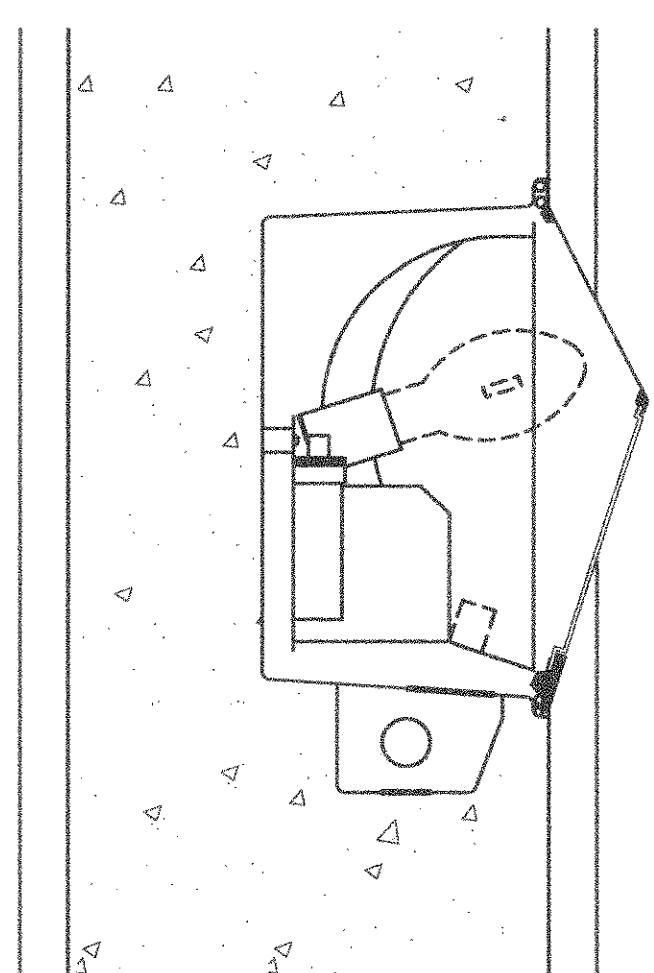
ABUTMENT ELEVATION (W/O SUPERSTRUCTURE)
SCALE: 3/8"=1'-0"



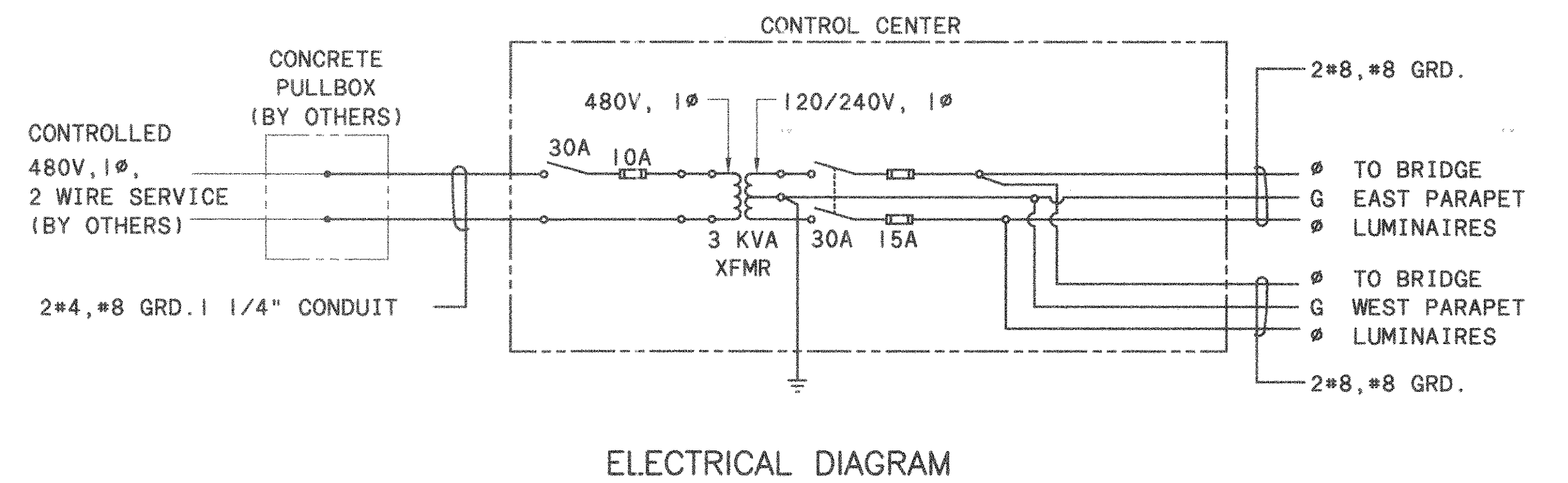
SECTION A-A
SCALE: NONE



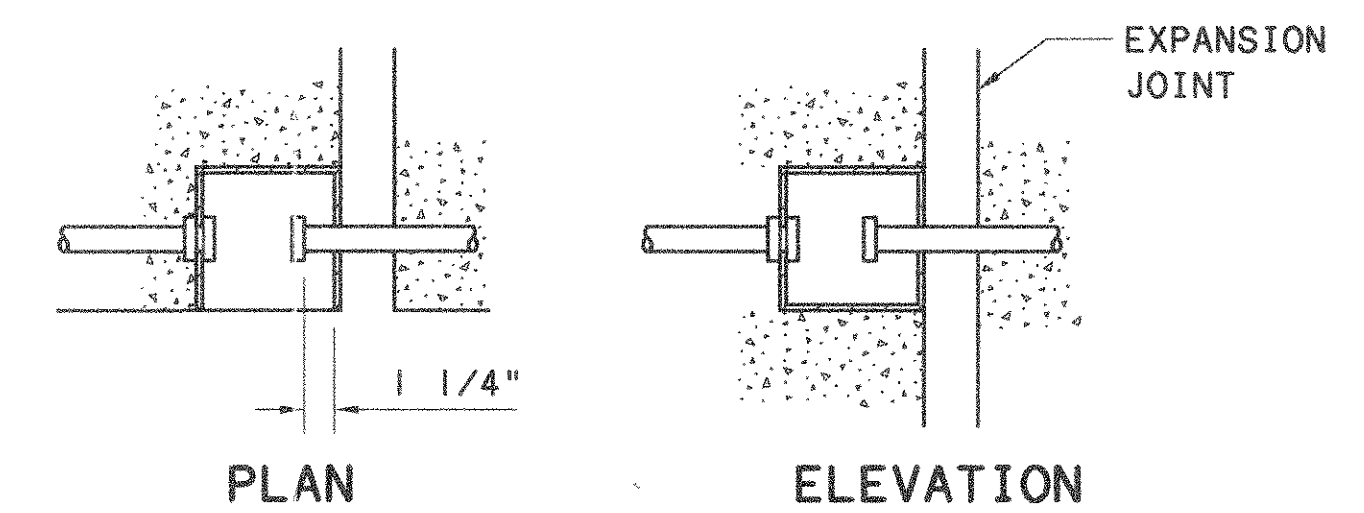
ARCHITECTURAL (DECORATIVE) LUMINAIRE SECTION
SCALE: NONE



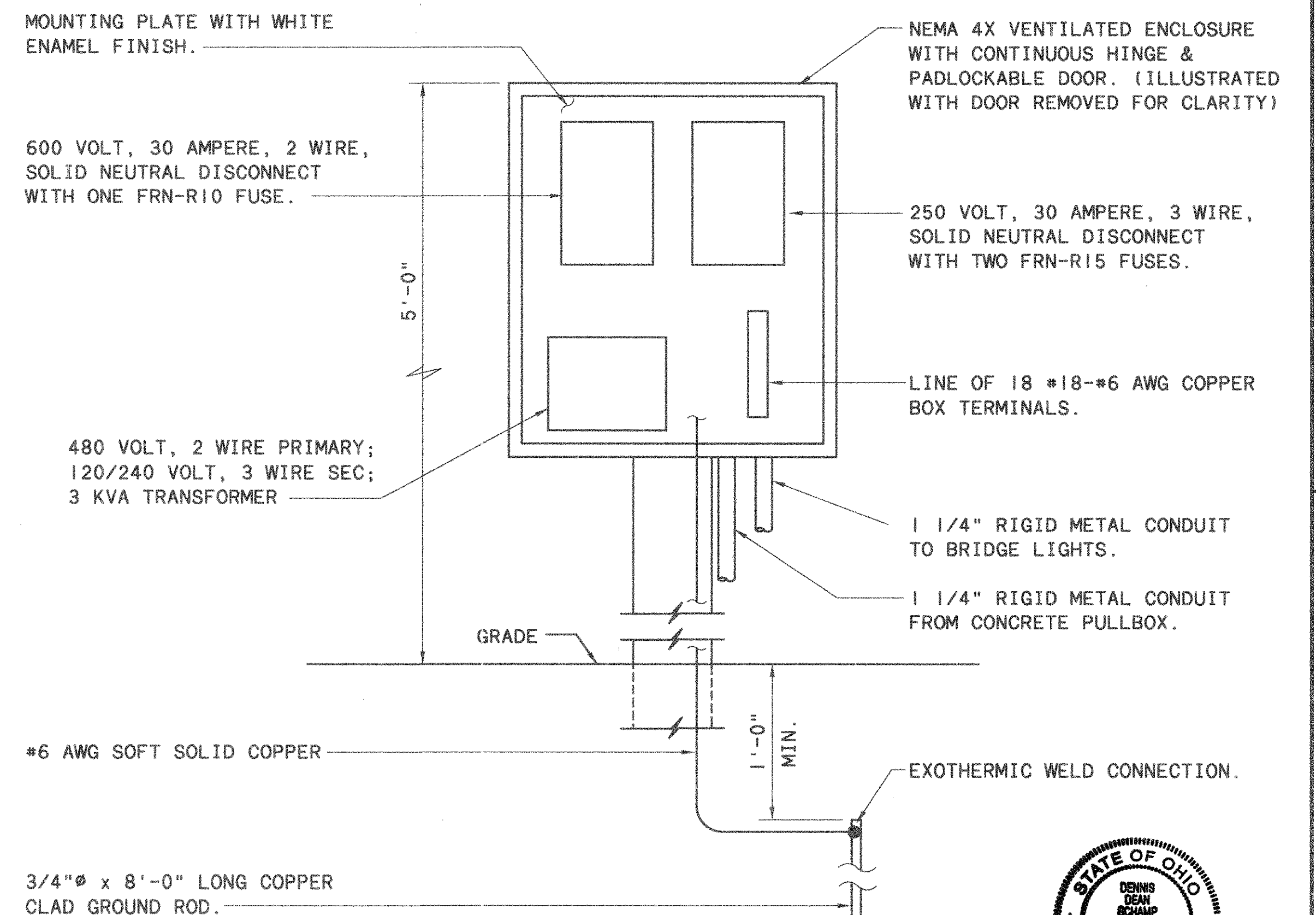
BIKE PATH LUMINAIRE SECTION
SCALE: NONE



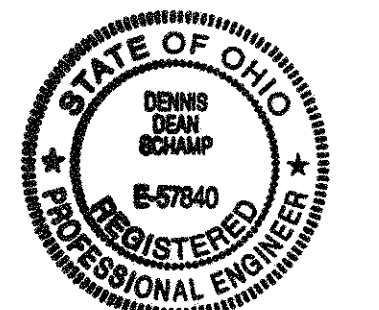
ELECTRICAL DIAGRAM



TRANSITION JUNCTION BOX DETAIL



CONTROL CENTER STATION ELEVATION
SCALE: NONE



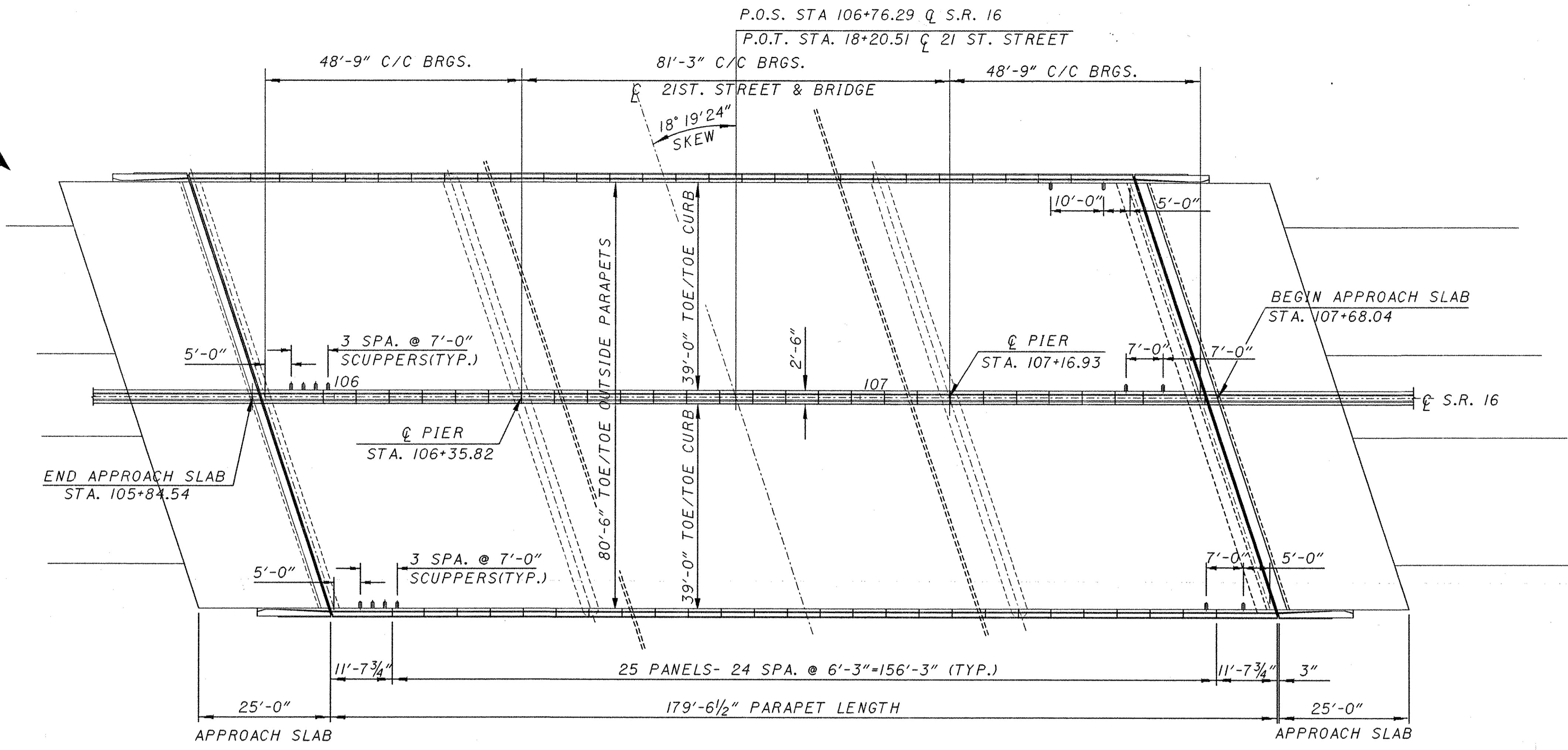
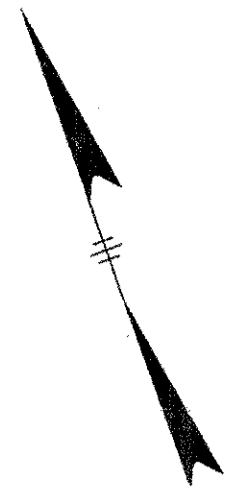
ELECTRICAL DETAILS

LIC-16-17.94

E4/E4

401
420

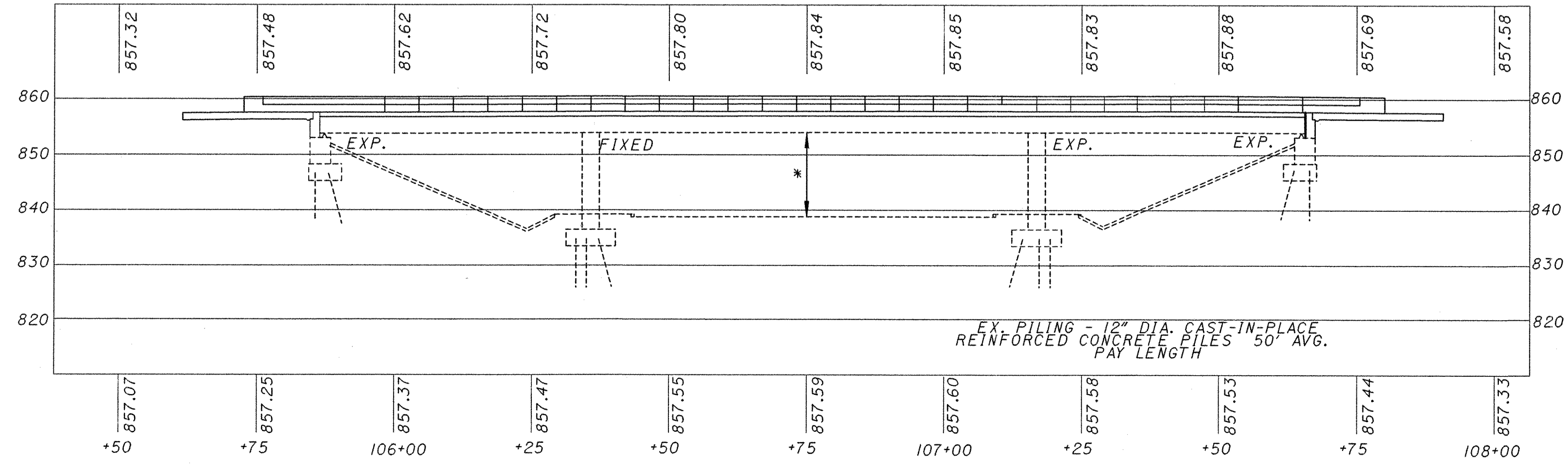
0:VE3-DTLS 5-1-95 2:58:31 pm



PLAN

BRIDGE LIMITS 183'-6"

*REQ'D. VERTICAL CL. 15'-0"
ACTUAL VERTICAL CL. 15'-2 1/2"



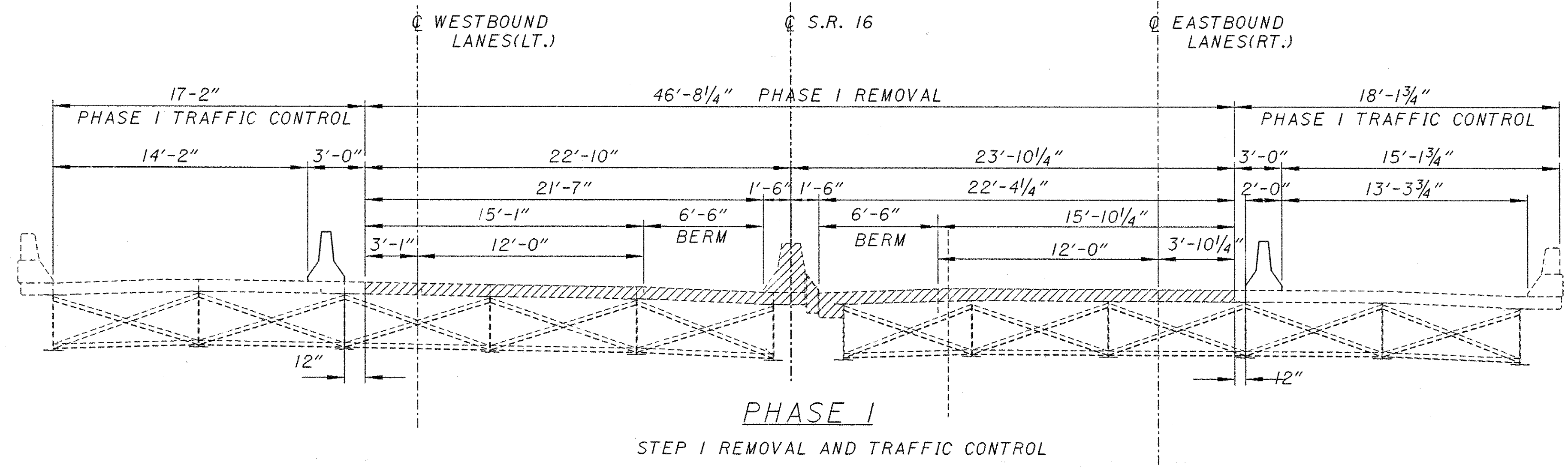
PROFILE ALONG C S.R. 16

EXISTING STRUCTURE:
 DATE BUILT: 1972
 TYPE: CONTINUOUS ROLLED STEEL BEAM WITH CONCRETE DECK & SUBSTRUCTURE
 SPANS: 48'-9", 81'-3", 48'-9" MEASURED ALONG TANGENT
 ROADWAY: 80'-0" TOE/TOE PARAPETS INCLUDING 16' MEDIAN
 LOADING: HS20-44
 SKEW: 18 19' 24" R.F. WITH SPIRAL TANGENT
 SURFACE COURSE: 1" ASPHALT
 APPROACH SLAB: 25'-0" (AS-1-67)
 ALIGNMENT: TANGENT AND SPIRAL TO SPIRAL
 SUPERELEVATION: VARIES

PROPOSED STRUCTURE: (REHABILITATED)
 TYPE: EXISTING STEEL BEAM WITH COMPOSITE CONCRETE DECK
 SPANS: 48'-9", 81'-3", 48'-9" MEASURED ALONG TANGENT
 ROADWAY: 80'-6" TOE/TOE PARAPETS INCLUDING MEDIAN
 LOADING: HS20-44 AND ALTERNATE MILITARY LOADING
 SURFACE COURSE: 1" MONOLITHIC CONCRETE
 BRIDGE RAILING: DEFLECTOR PARAPET TYPE
 APPROACH SLAB: AS-1-81 (25'-0" LONG)
 S.F.N. 4503481

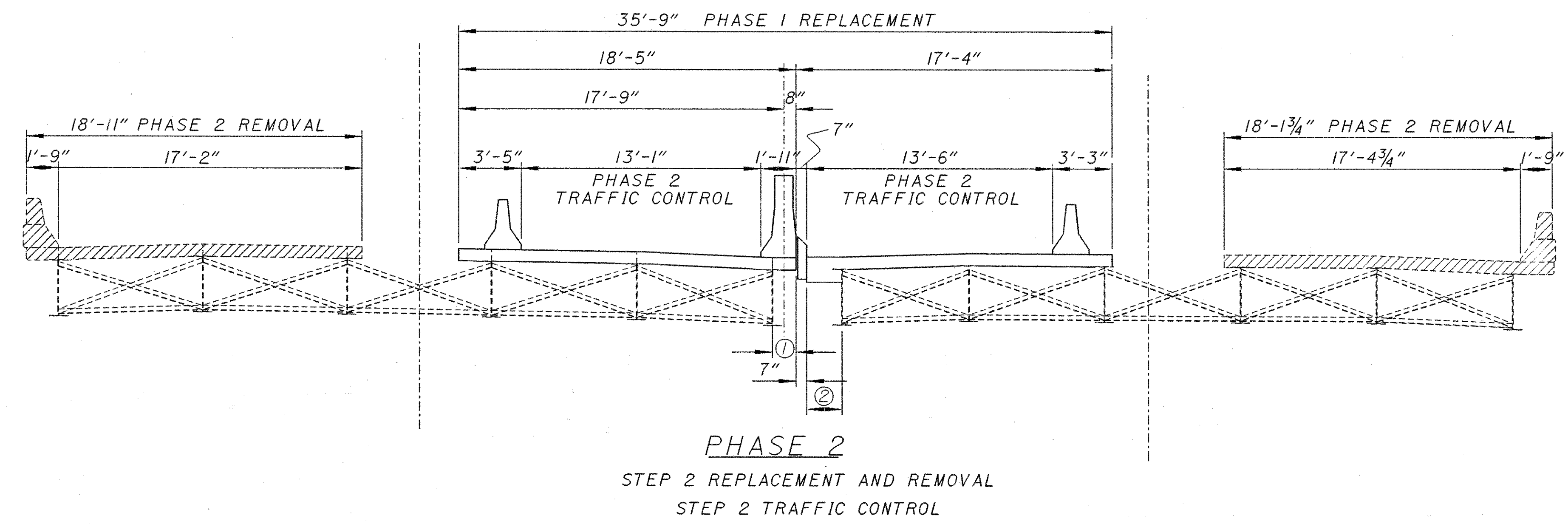
DESIGN AGENCY	DISTRICT 5 - BRIDGE DEPARTMENT
OHIO DEPARTMENT OF TRANSPORTATION	
DATE	STRUCTURE FILE NUMBER
REVIEWED	4503481
DRAWN	REVISED
DESIGNED	CHECKED
PROPOSED PLAN AND ELEVATION	
BRIDGE NO. LIC-16-1968	
S.R. 16 OVER 21st. STREET	
LIC-16-1794	
1 / 15	
406	
420	

L0161907.DGN



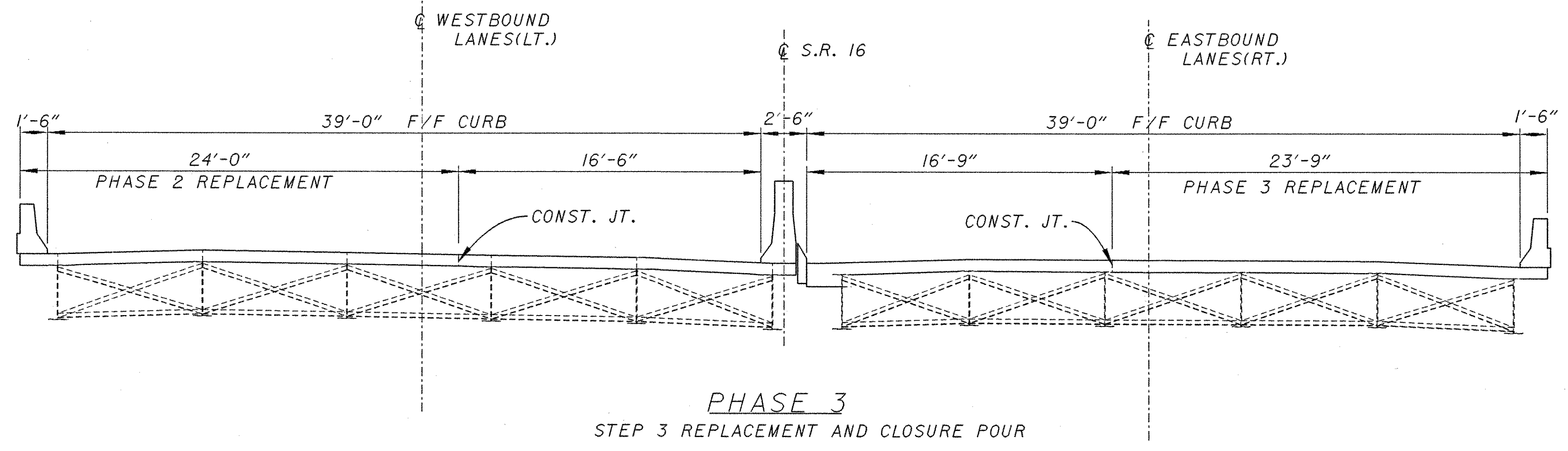
PHASE 1
STEP 1 REMOVAL AND TRAFFIC CONTROL

NOTE: ANCHORS SHALL BE THRU BOLTS OR APPROVED RESIN ANCHORS MOUNTED TO THE DECK ON THE TRAFFIC SIDE. THERE SHALL BE TWO ANCHORS (MIN.) PER EACH BARRIER SEGMENT PLACED SYMMETRICAL ABOUT THE CENTER OF EACH TEN FOOT SEGMENT. THE ANCHORS SHALL BE EMBEDDED 6 1/2" INTO THE EXISTING AND PROPOSED CONCRETE DECK. WHEN NO LONGER NEEDED, ANCHORS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. ON THE PROPOSED DECK, HOLES SHALL BE FILLED WITH A NON-SHRINKING GROUT. THE ABOVE WORK SHALL BE INCLUDED WITH ITEM 622, PORTABLE CONCRETE BARRIER, BRIDGE MOUNTED. SEE NOTE ON SHEET 36 FOR BRIDGE MOUNTED BARRIER.



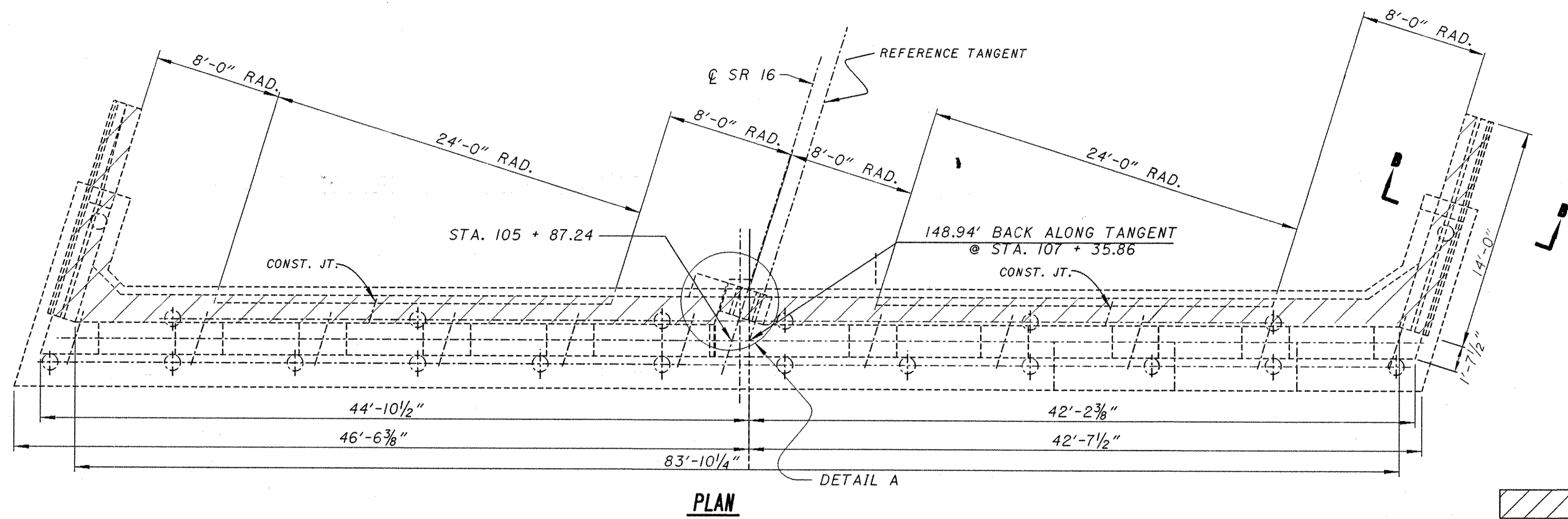
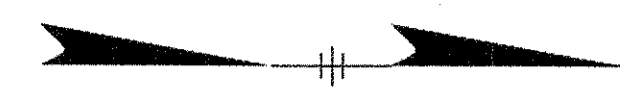
PHASE 2
STEP 2 REPLACEMENT AND REMOVAL
STEP 2 TRAFFIC CONTROL

- ① VARIES 1'-3 1/2" TO 1'-7 1/2"
- ② VARIES 1'-7 1/8" TO 1'-11 1/8"

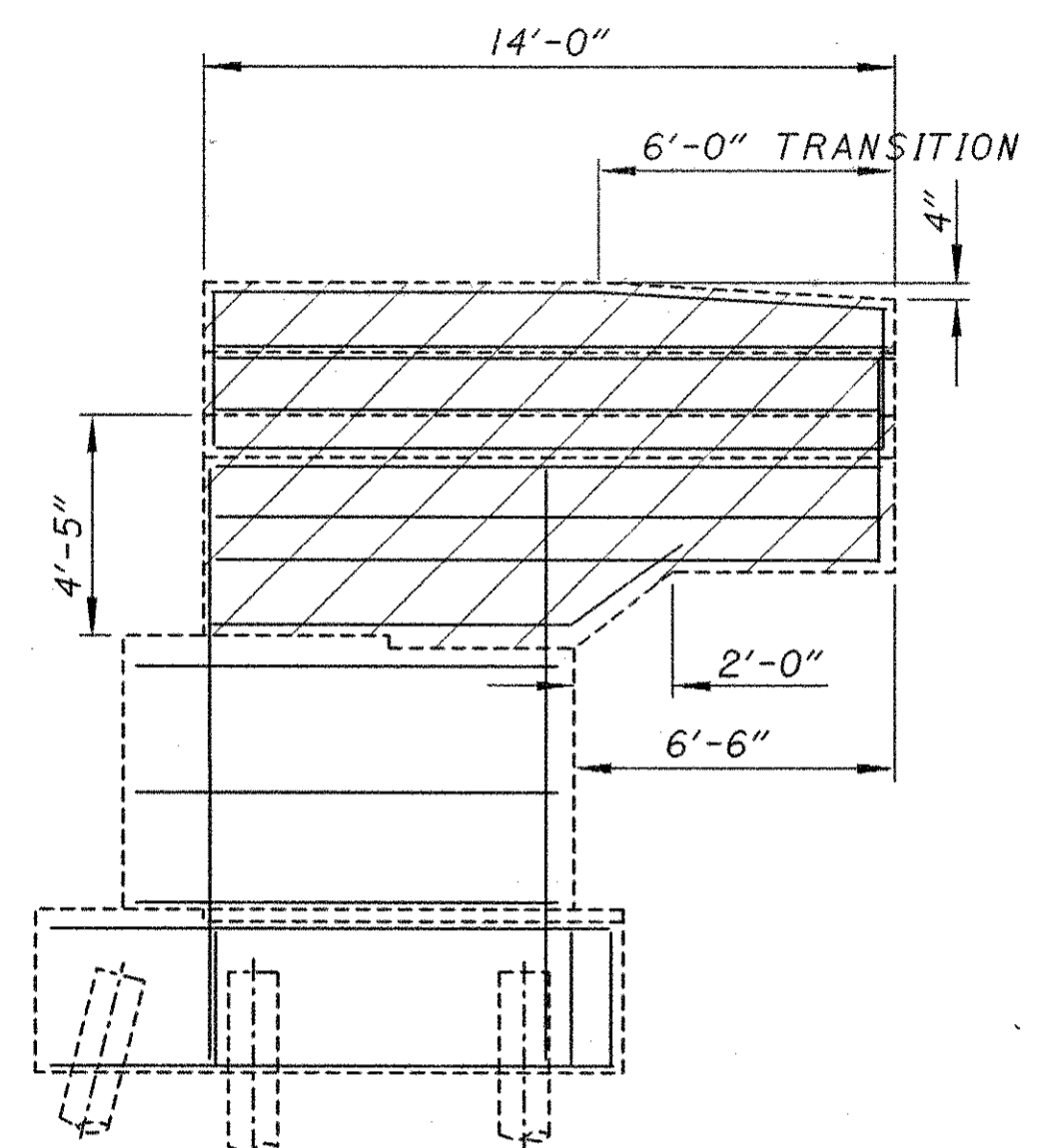


PHASE 3
STEP 3 REPLACEMENT AND CLOSURE POUR

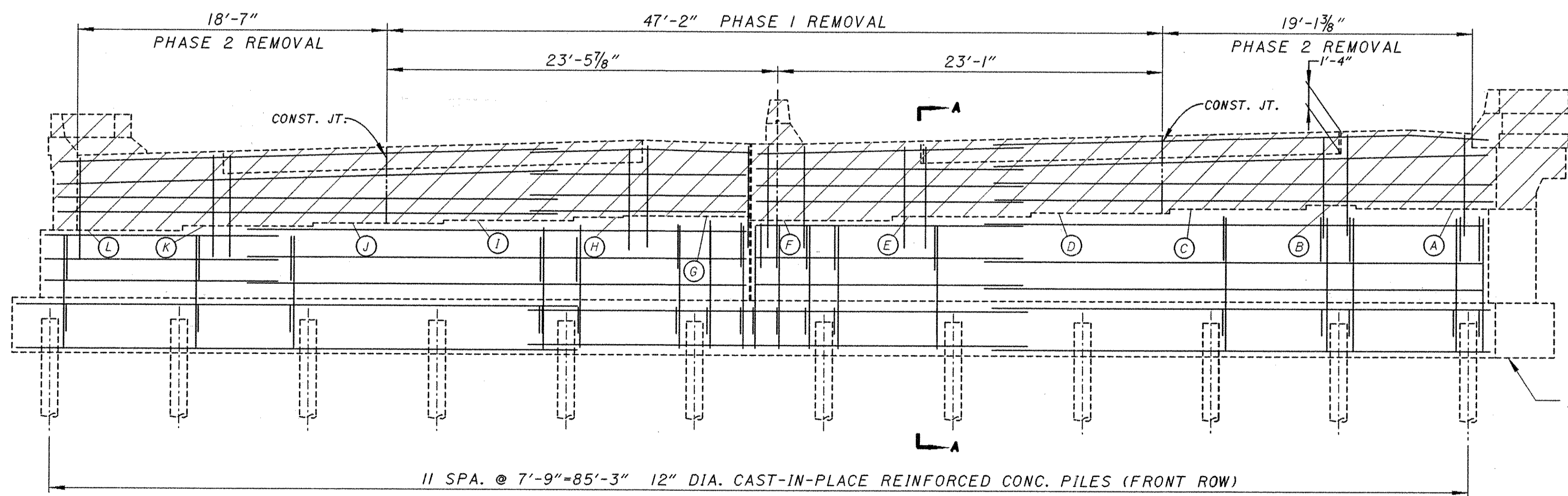
L016195A



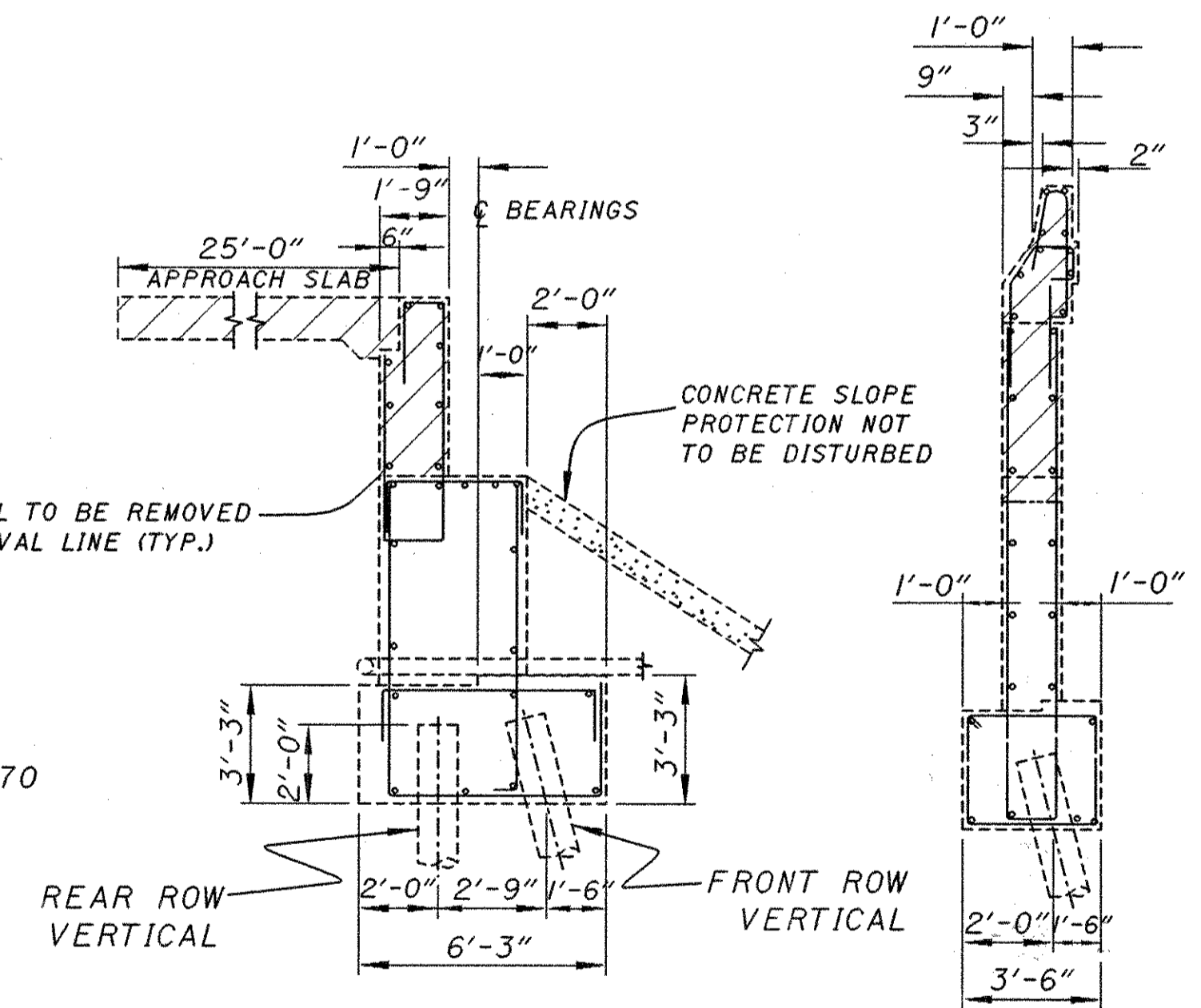
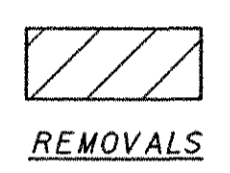
PLAN



WINGWALL ELEVATION



ELEVATION

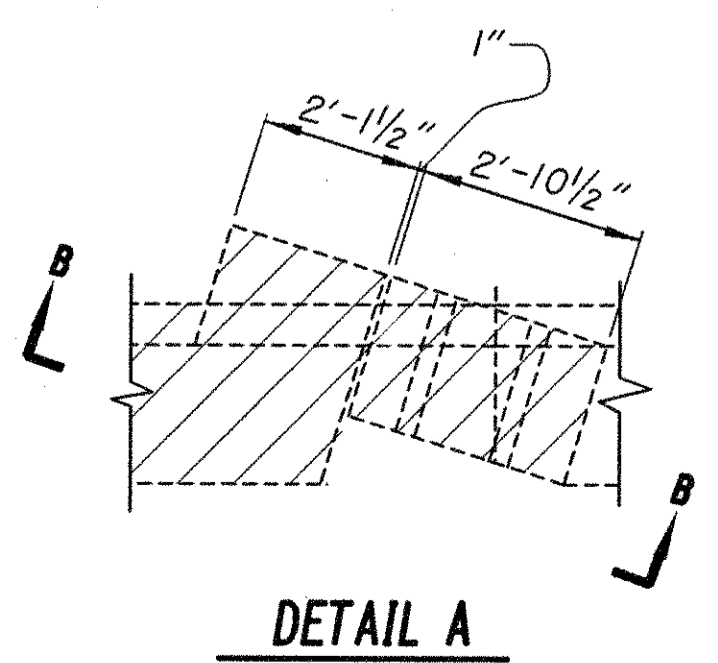


SECTION A-A

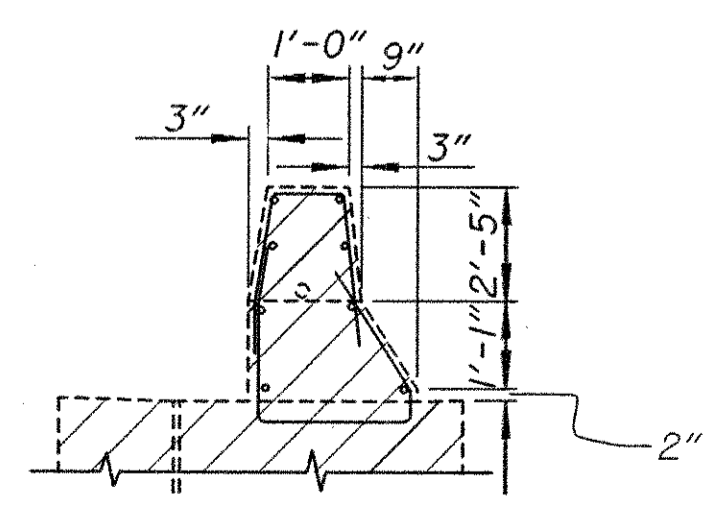
SECTION B-B

BRIDGE SEAT ELEVATION

A	853.47
B	853.66
C	853.41
D	853.16
E	852.92
F	852.67
G	852.71
H	852.80
I	852.60
J	852.40
K	852.21
L	851.92

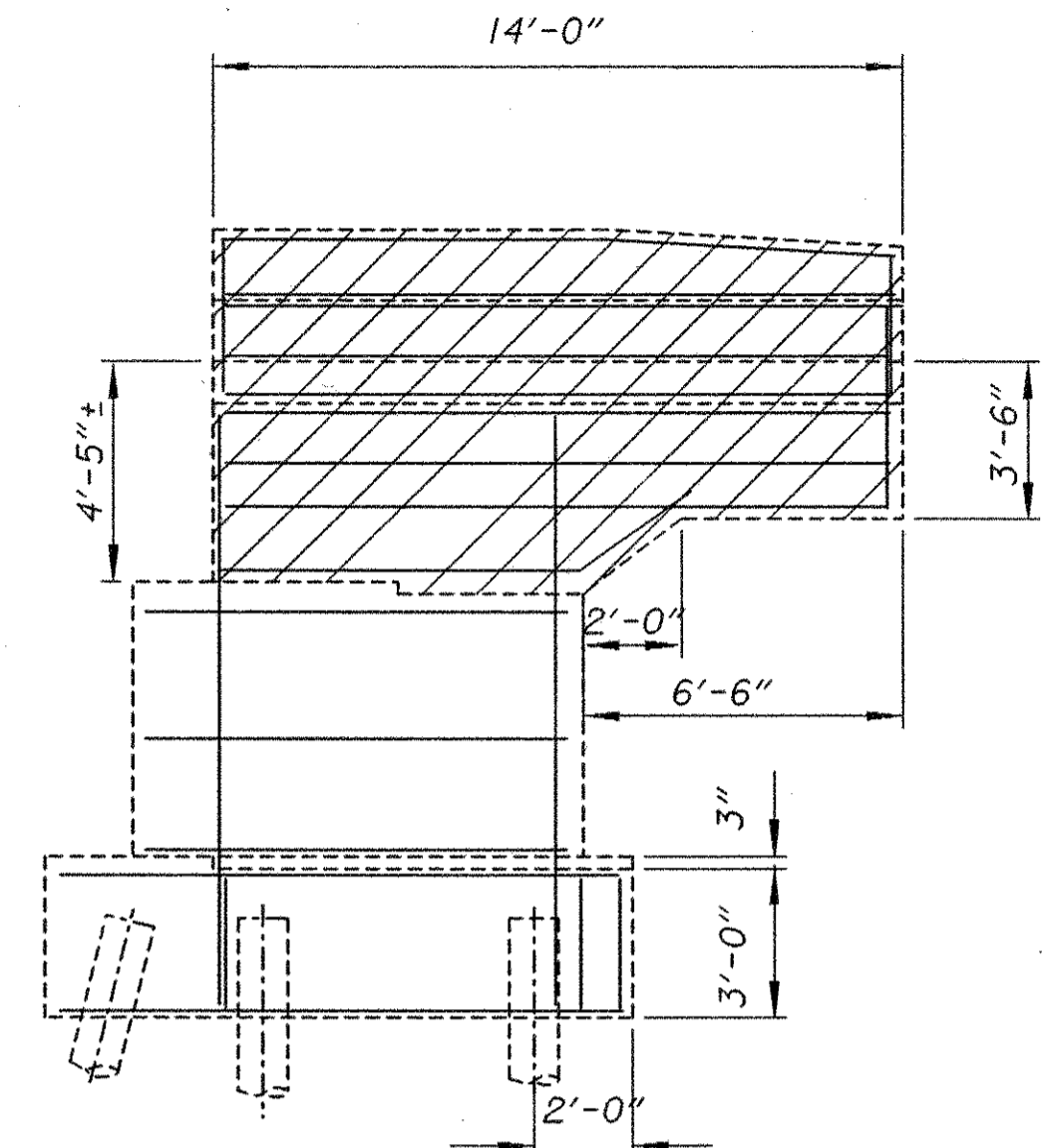
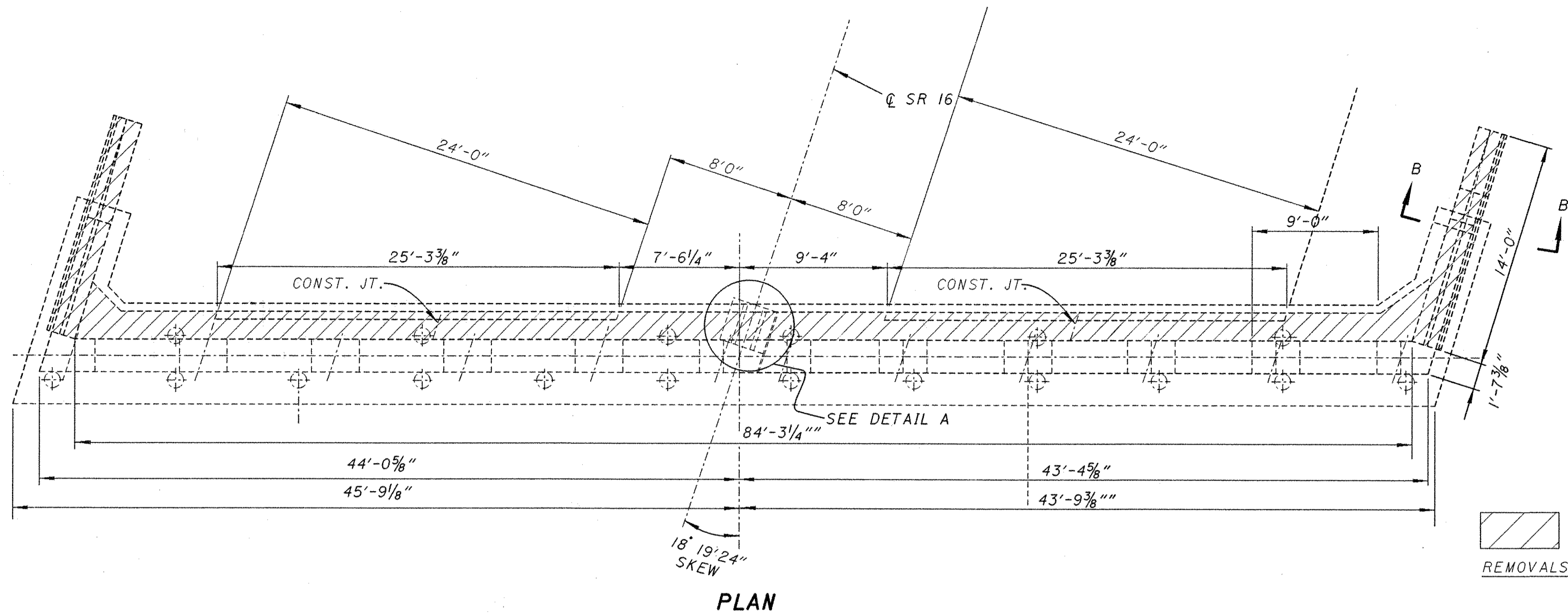


DETAIL A

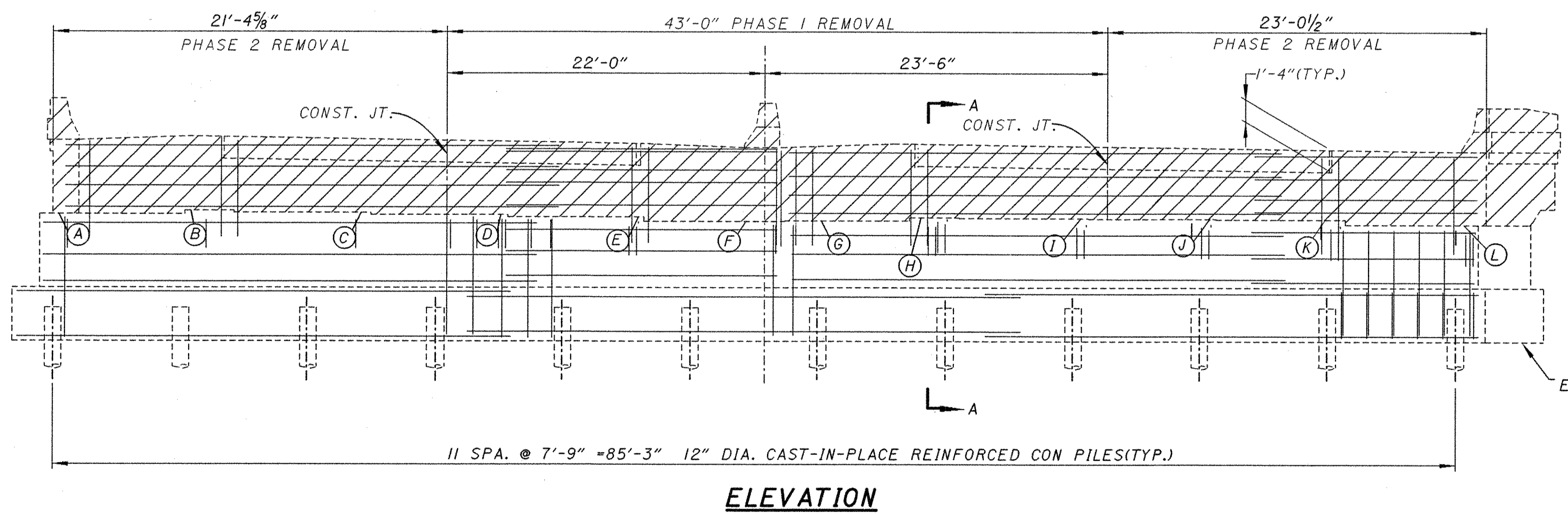


SECTION C-C

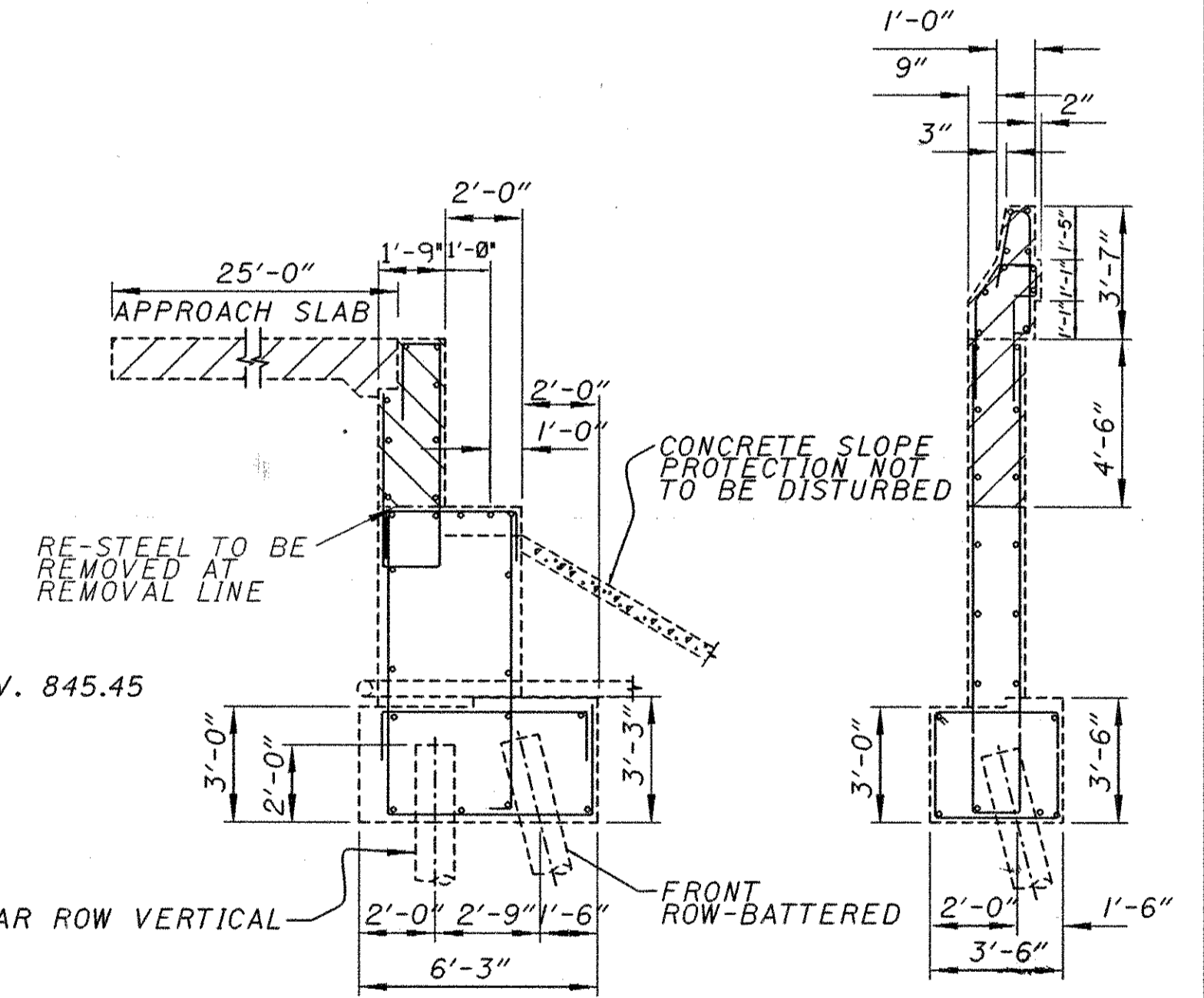
10/6/93/1



WINGWALL ELEVATION



ELEVATION

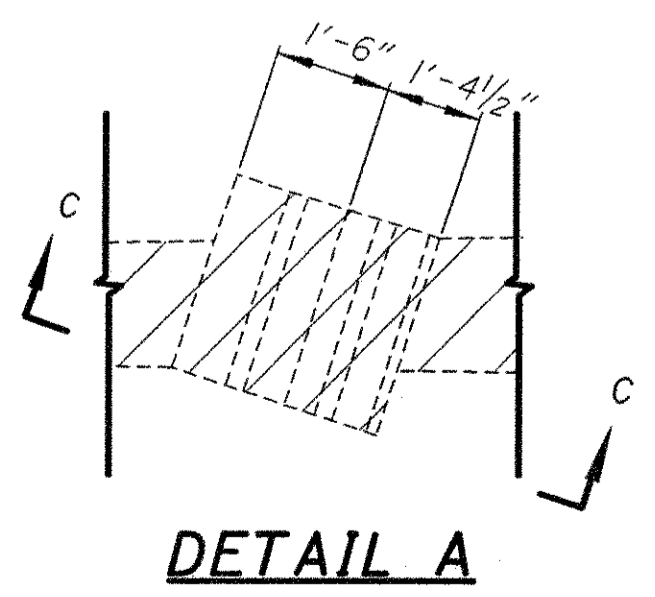


SECTION A-A

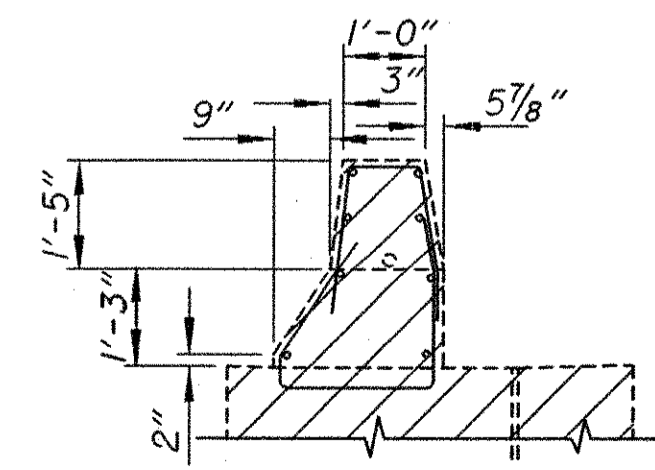
SECTION B-B

BRIDGE SEAT ELEVATION

A	853.20
B	853.42
C	853.29
D	853.16
E	853.03
F	852.76
G	852.79
H	852.99
I	852.95
J	852.92
K	852.88
L	852.57

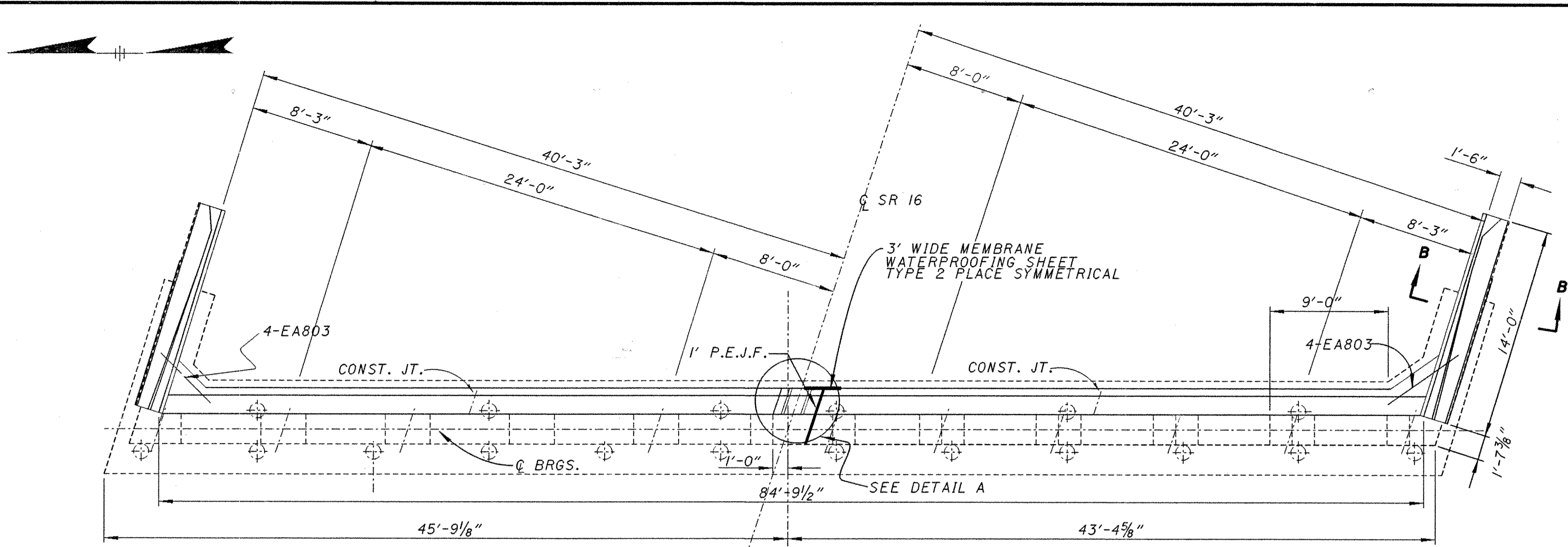


DETAIL A

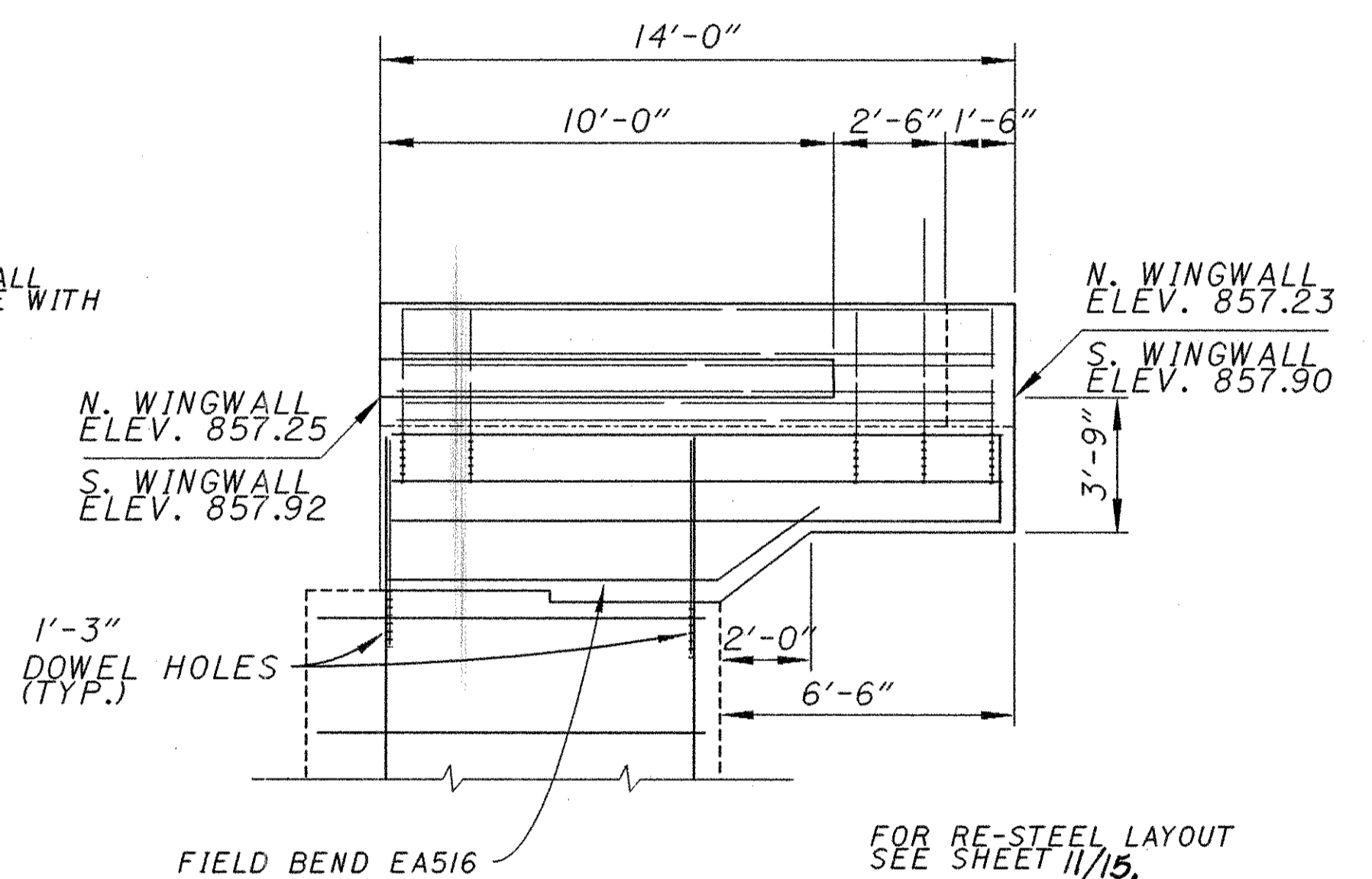
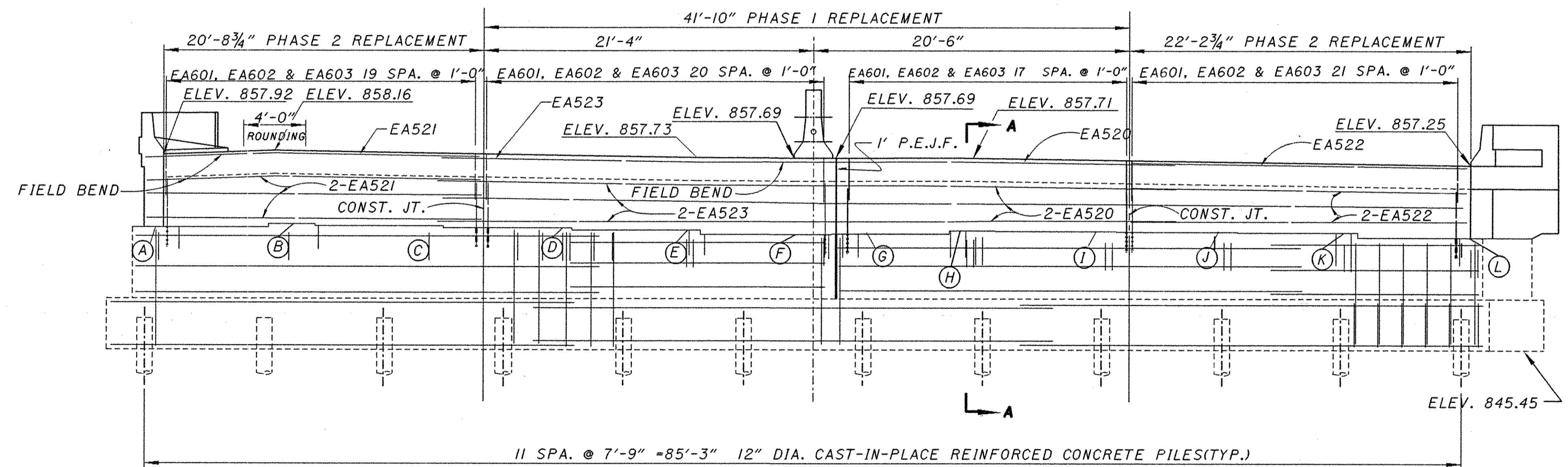


SECTION C-C

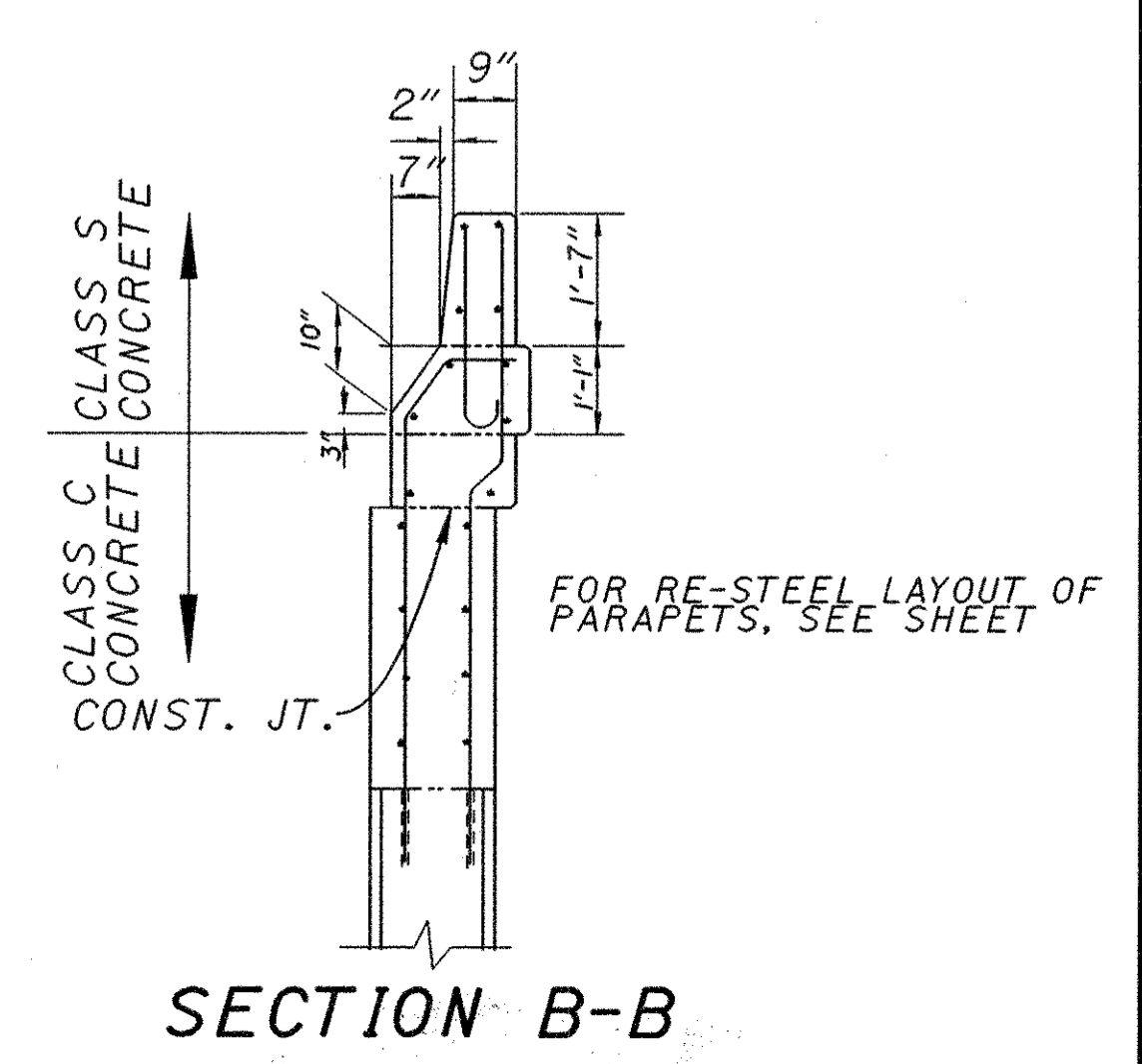
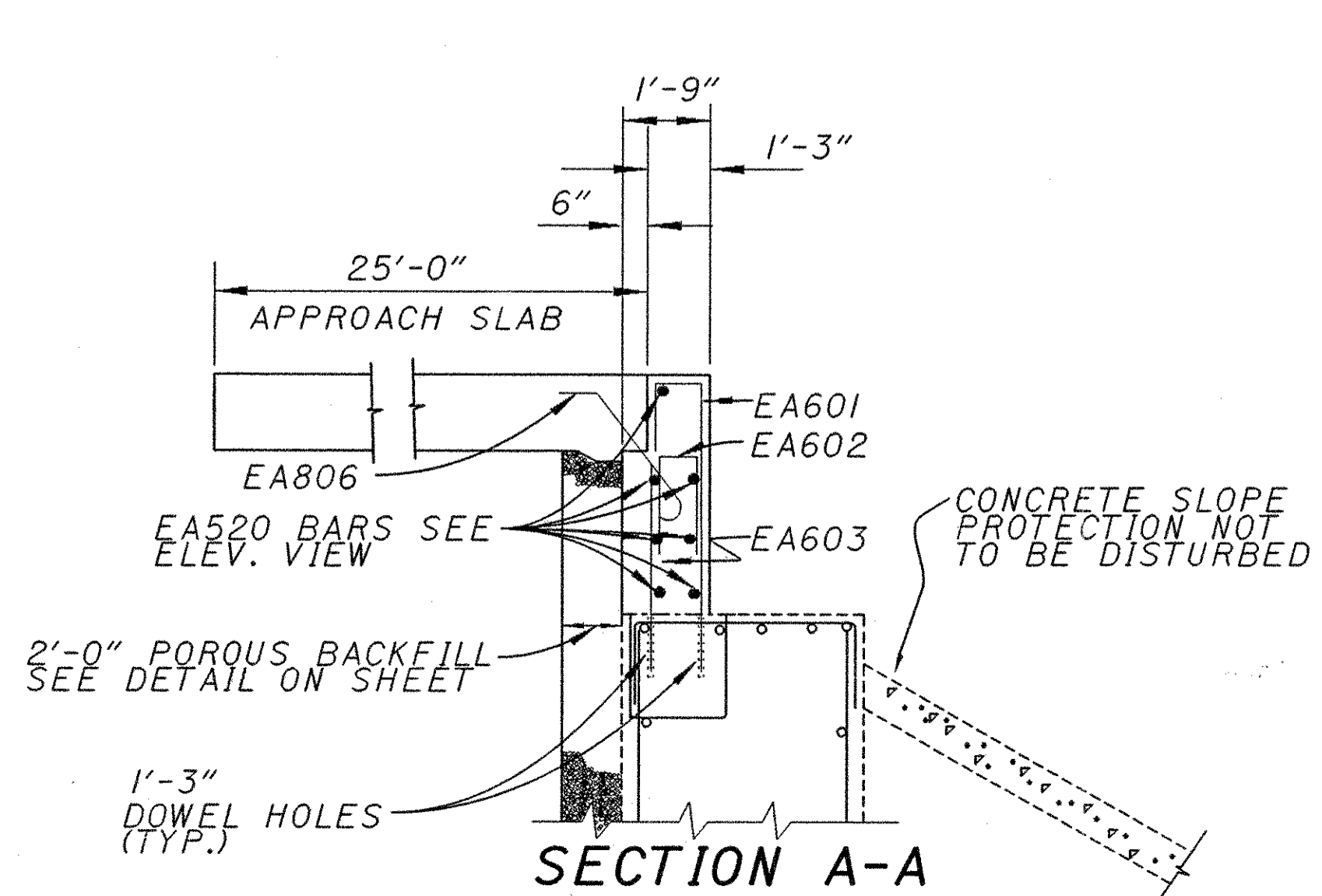
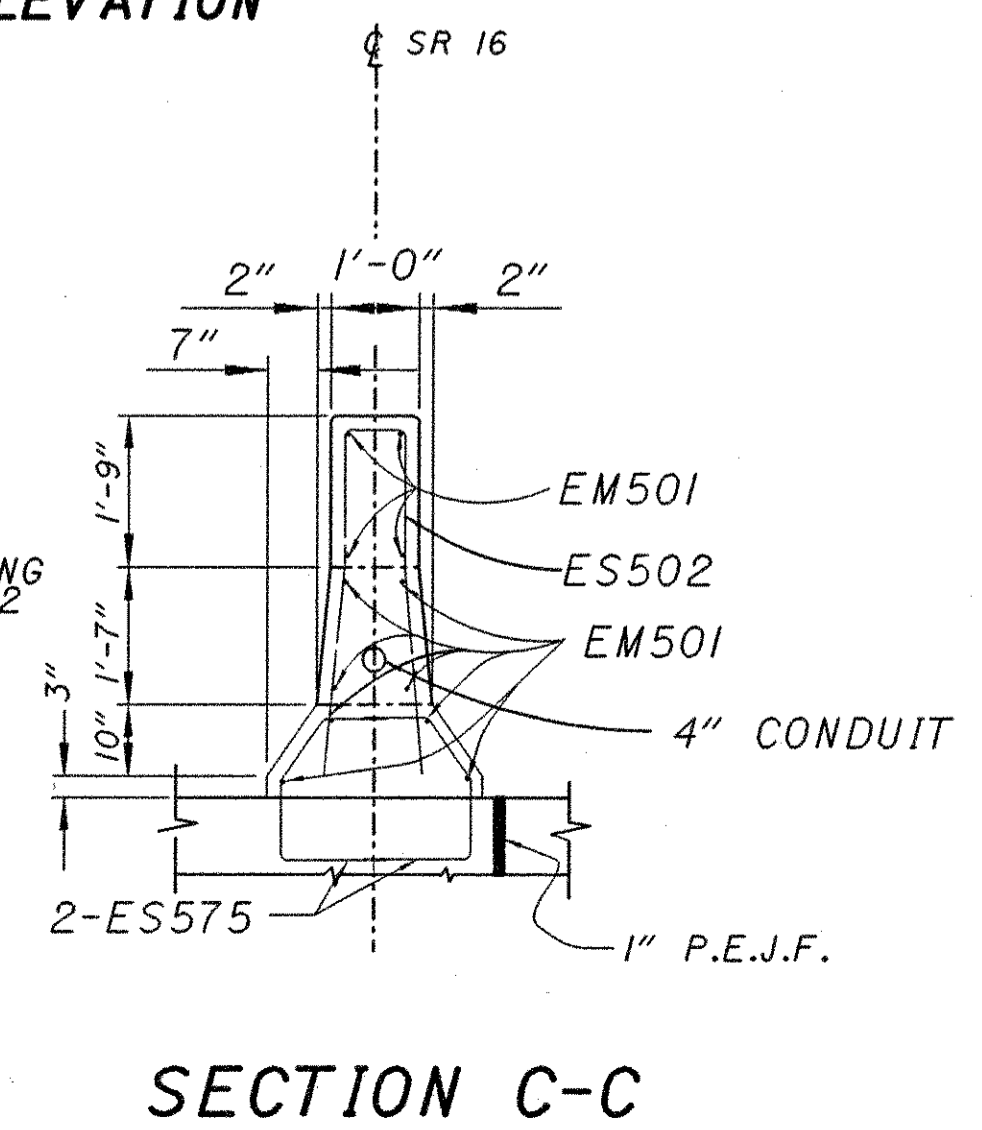
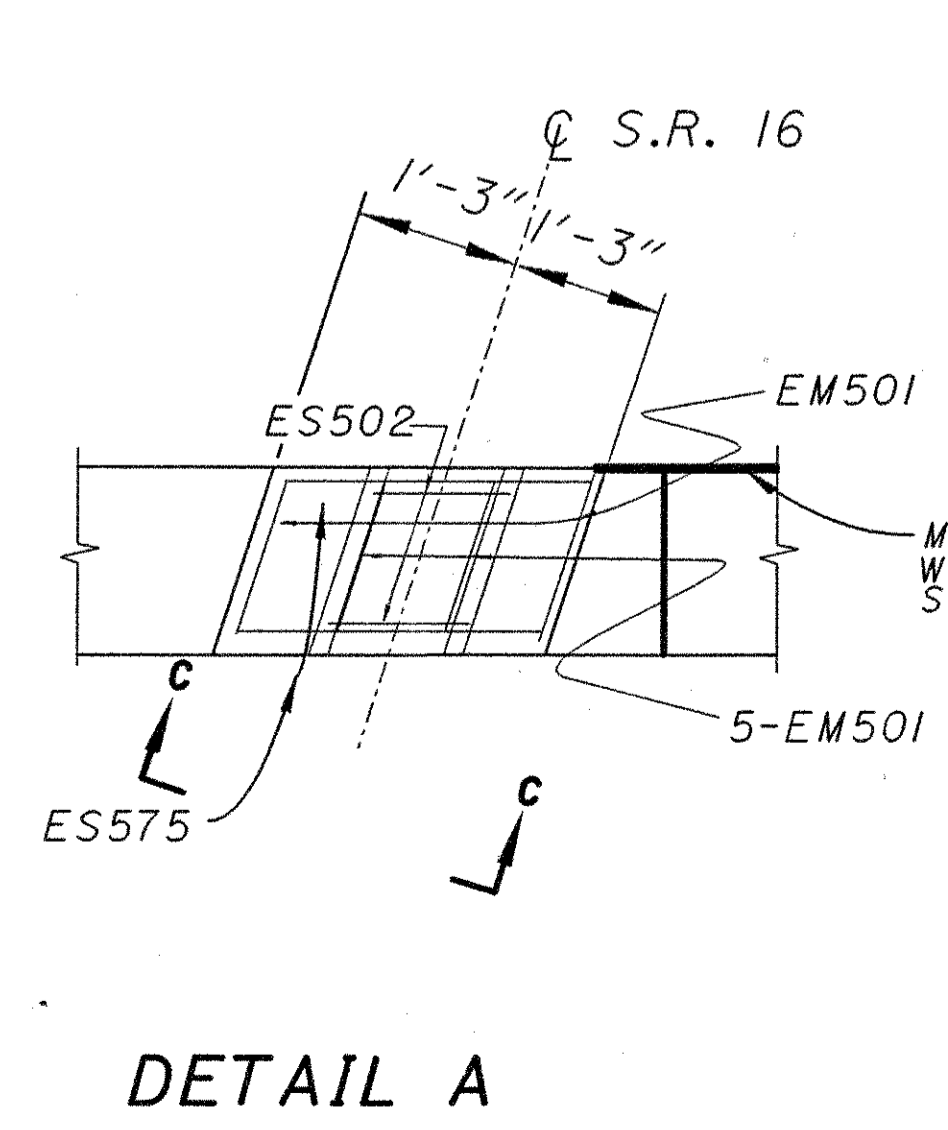
LO16193A



NOTE
DOWEL HOLES IN THE BACKWALL SHALL BE PLACED TO AVOID INTERFERENCE WITH THE EXISTING RE-STEEL.



A	853.20
B	853.42
C	853.29
D	853.16
E	853.03
F	852.76
G	852.79
H	852.99
I	852.95
J	852.92
K	852.88
L	852.57



BRIDGE SEAT ELEVATION

DESIGN AGENCY: DISTRICT 5 - BRIDGE DEPARTMENT
OHIO DEPARTMENT OF TRANSPORTATION

DATE: _____
REVIEWED: _____
STRUCTURE FILE NUMBER: 4503481

DESIGNED: RSD
CHECKED: BJS

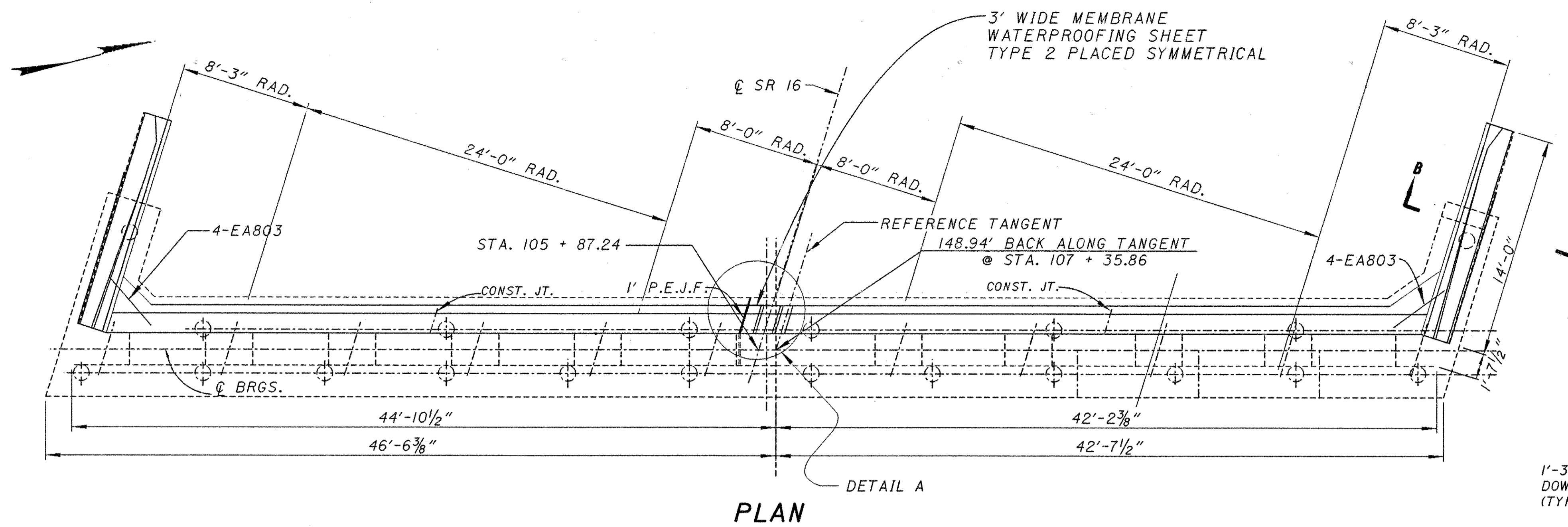
PROPOSED FORWARD ABUTMENT
BR. NO. LIC-16-1968
S.R. 16 OVER 21st. STREET

LIC-16-17.94

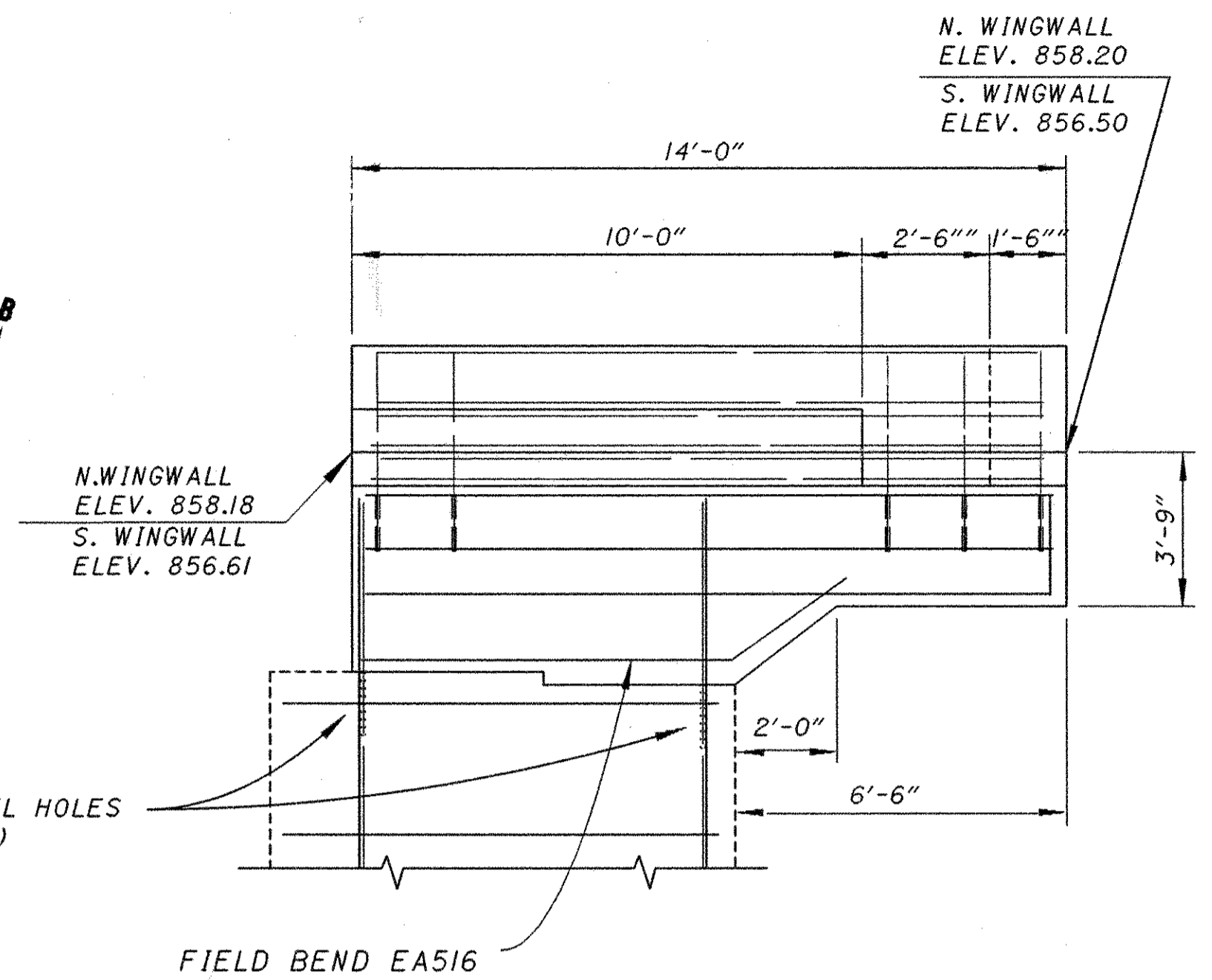
5 / 15

410
420

10/16/93Z

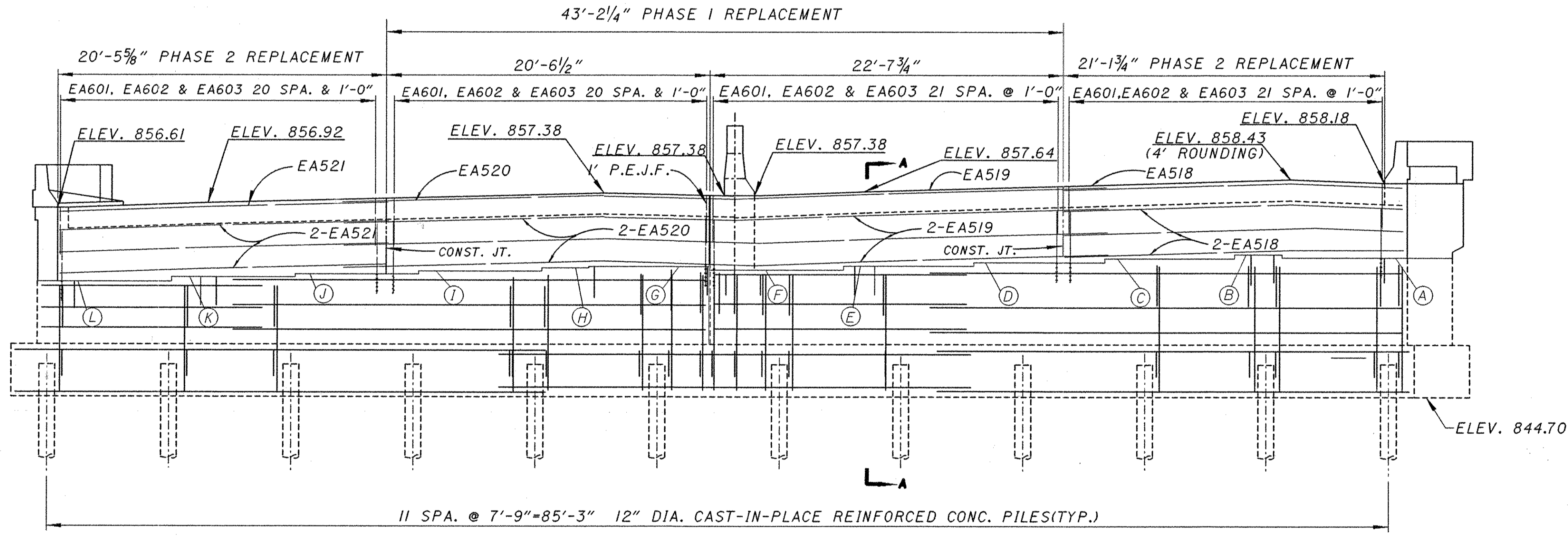


PLAN



WINGWALL ELEVATION

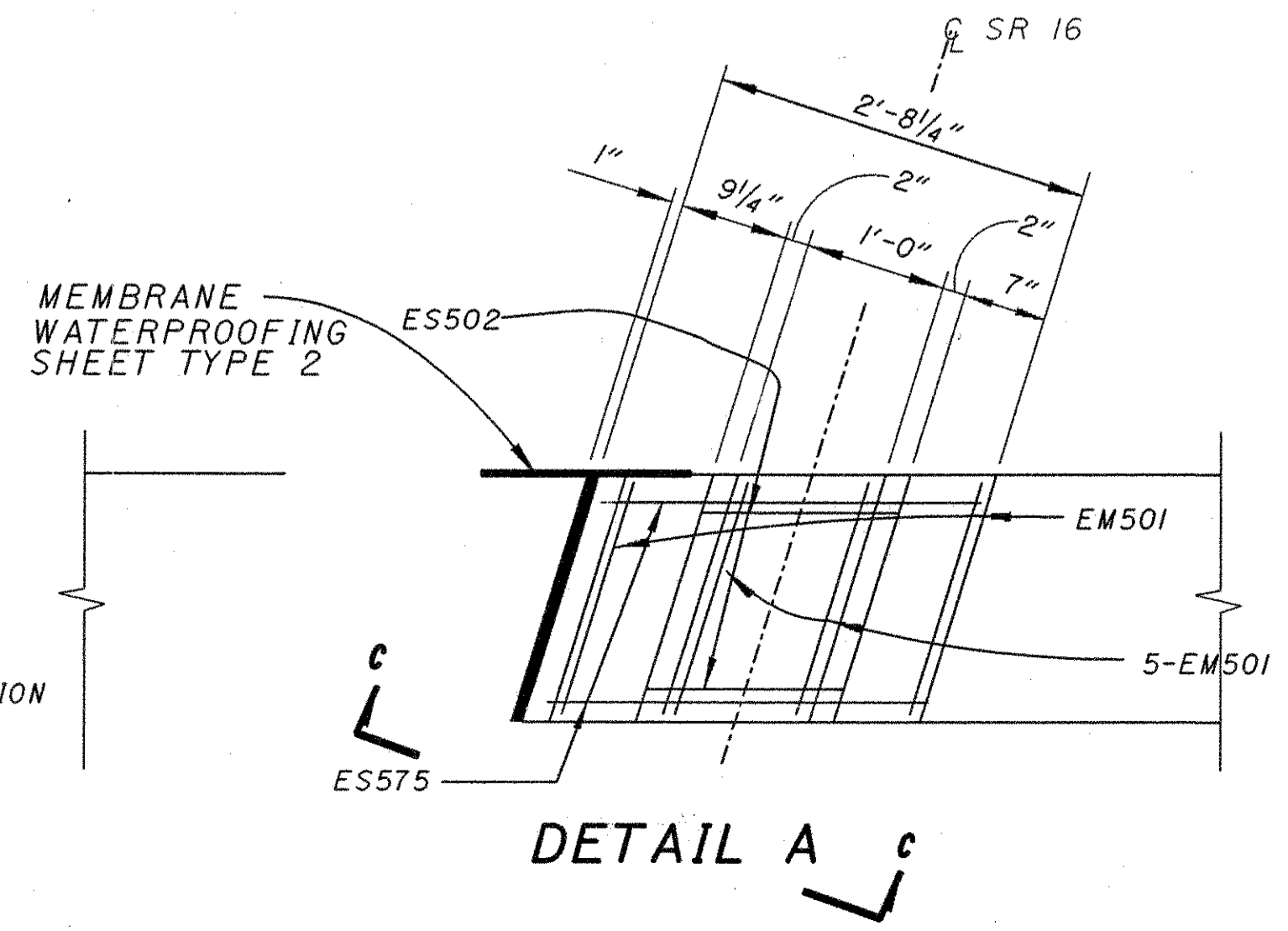
NOTE:
 DOWEL HOLES IN THE BACKWALL
 SHALL BE PLACED TO AVOID
 INTERFERENCE WITH THE EXISTING
 RE-STEEL



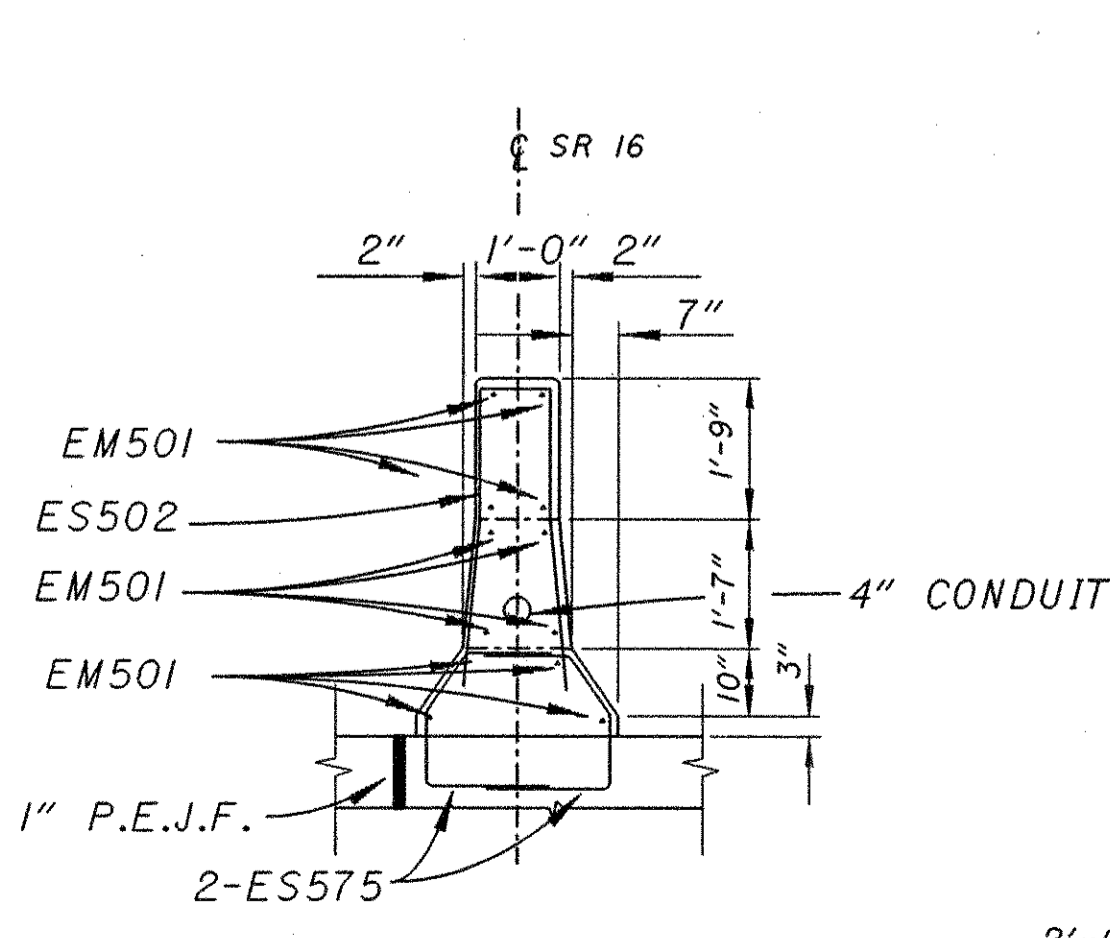
ELEVATION

A	853.47
B	853.66
C	853.41
D	853.16
E	852.92
F	852.67
G	852.71
H	852.80
I	852.60
J	852.40
K	852.21
L	852.92

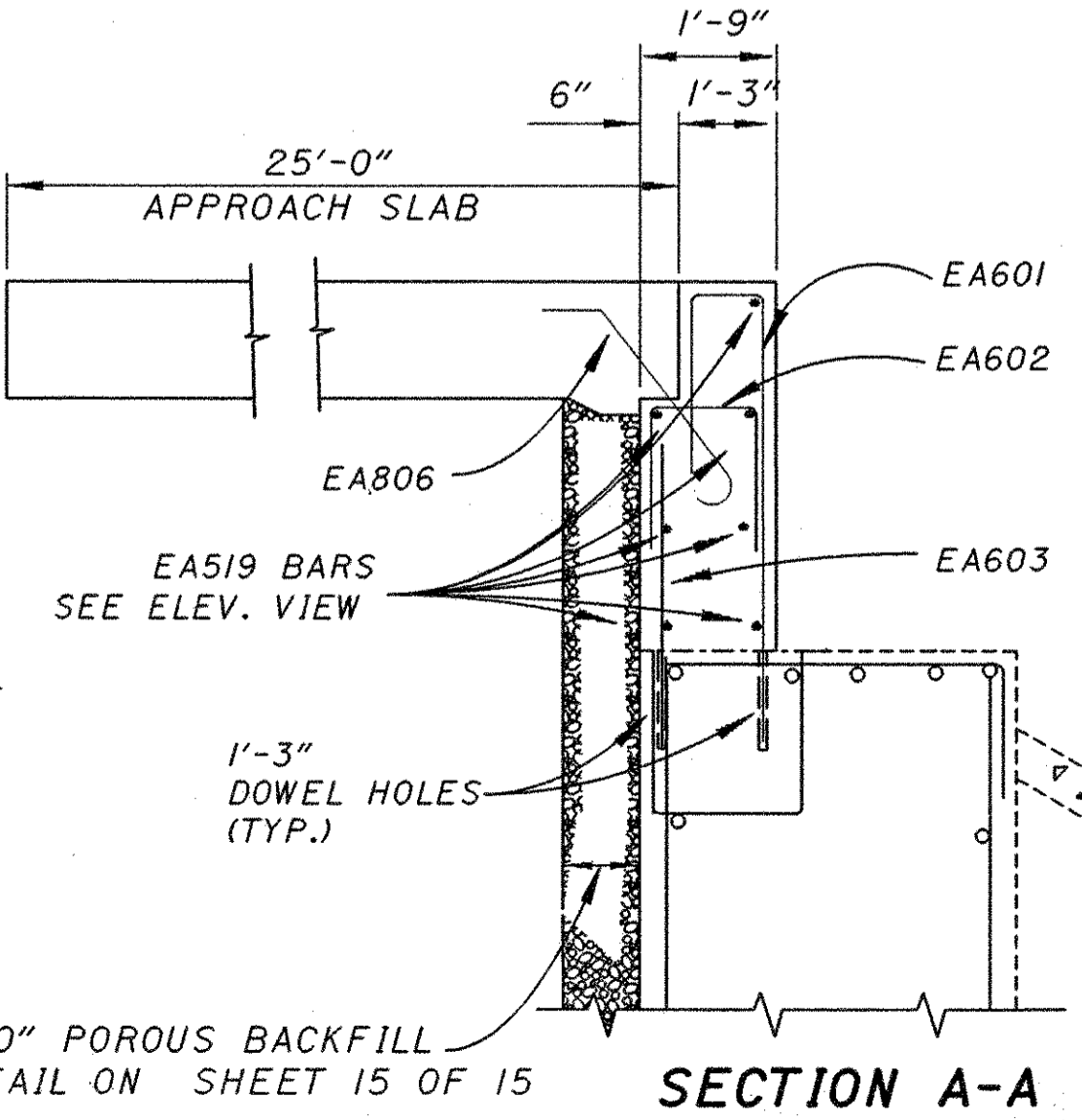
BRIDGE SEAT ELEVATION



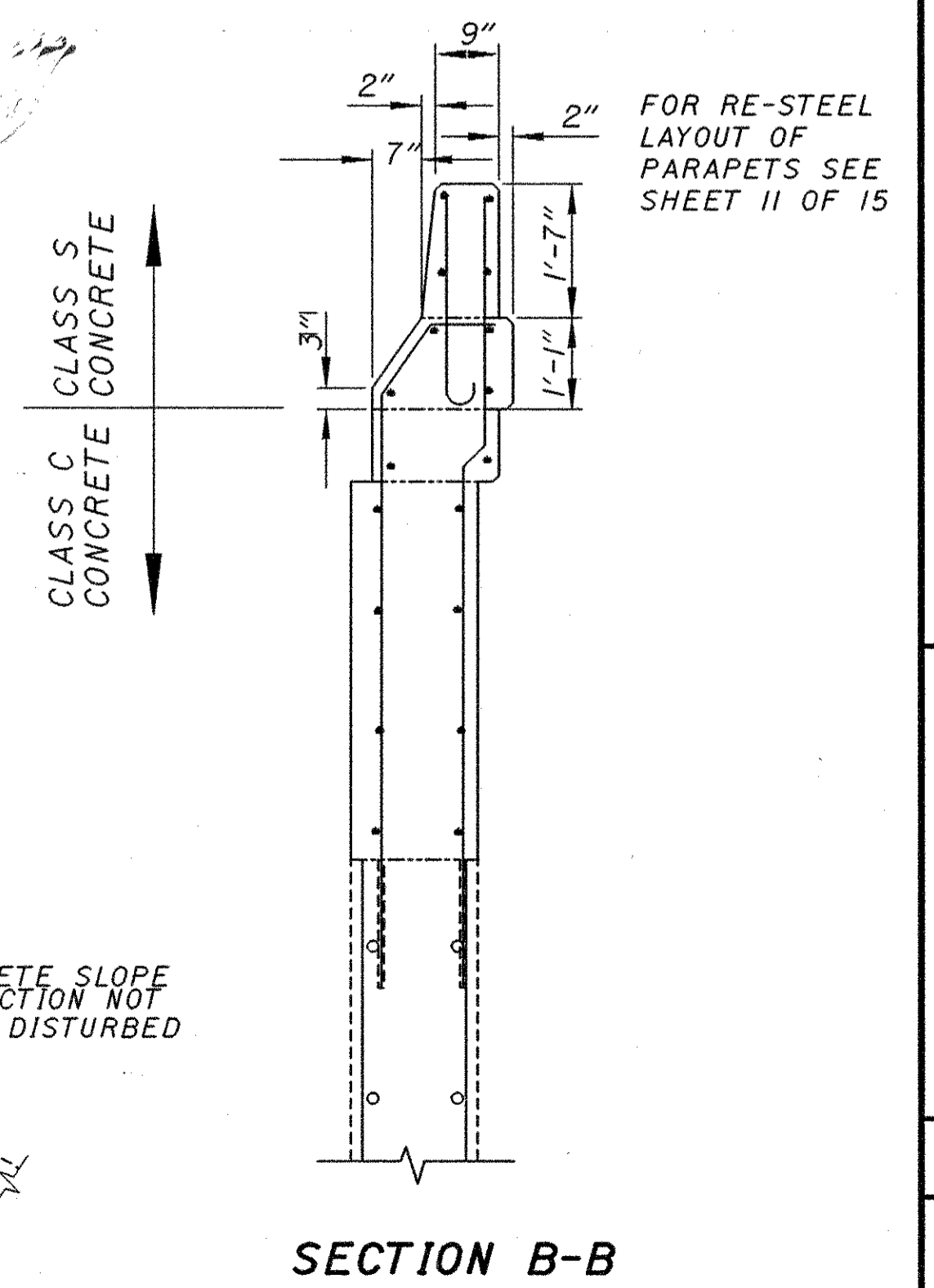
DETAIL A



SECTION C-C



SECTION A-A

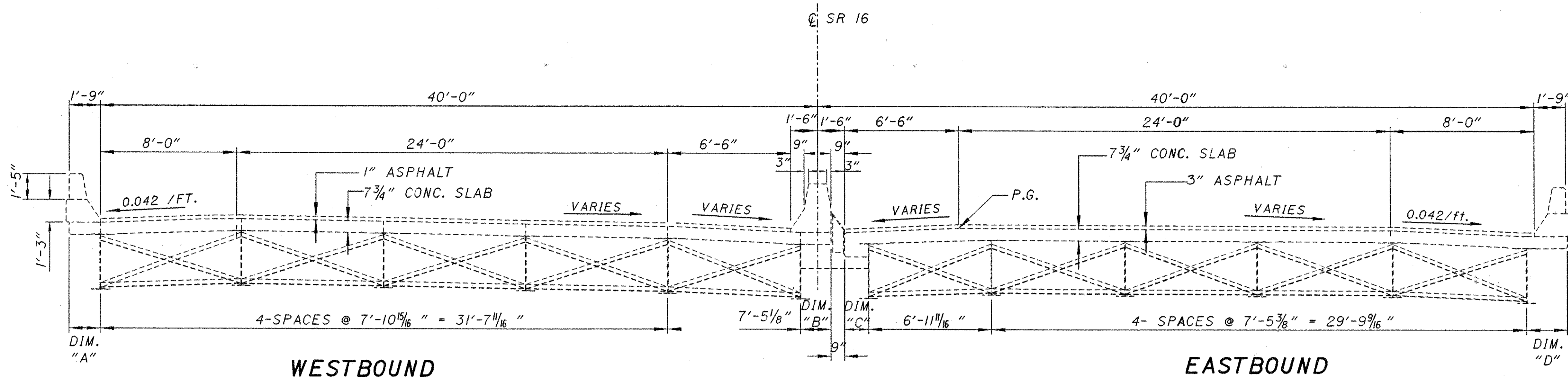


SECTION B-B

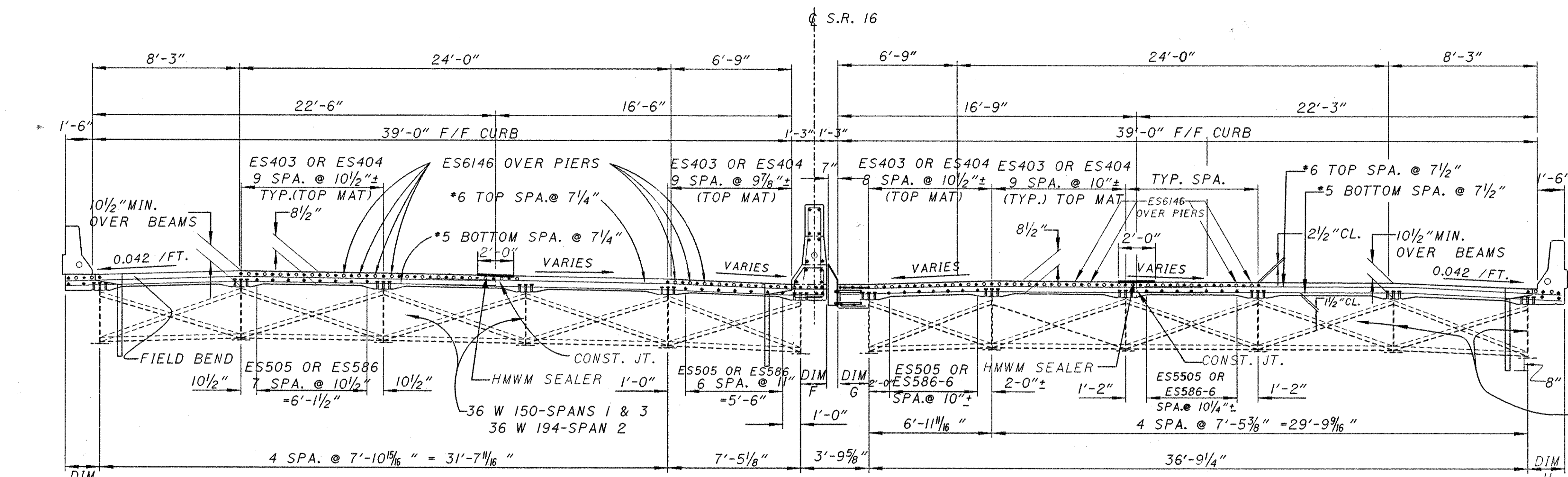
2'-0" POROUS BACKFILL
 SEE DETAIL ON SHEET 15 OF 15

CONCRETE SLOPE
 PROTECTION NOT
 TO BE DISTURBED

FOR RE-STEEL
 LAYOUT OF
 PARAPETS SEE
 SHEET 11 OF 15



EXISTING TRANSVERSE SECTION



WEST BOUND

EAST BOUND

PROPOSED

TABLE OF DIMENSIONS							
DIM	ABUT. 1	1/2 PT.	PIER 1	1/2 PT.	PIER 2	1/2 PT.	ABUT. 2
A	1'-7 1/2"	1'-9 3/4"	1'-11 3/8"	2'-0 3/8"	2'-0 1/4"	1'-11 1/8"	1'-9 5/8"
B	1'-8 1/2"	1'-6 1/2"	1'-5 1/4"	1'-4 1/2"	1'-5 1/2"	1'-6 7/8"	1'-8 3/8"
C	1'-4 1/8"	1'-6 1/8"	1'-7 3/8"	1'-8 1/8"	1'-7 1/8"	1'-5 3/4"	1'-4 1/4"
D	2'-0 3/8"	1'-10 1/8"	1'-9 3/8"	1'-9 3/4"	1'-11 1/4"	2'-0 3/4"	2'-2 3/8"
E	1'-7 1/2"	1'-9 3/4"	1'-11 3/8"	2'-0 3/8"	2'-0 1/4"	1'-11 1/8"	1'-9 5/8"
F	1'-7 3/8"	1'-5 3/8"	1'-4 1/8"	1'-3 3/8"	1'-4 3/8"	1'-5 3/4"	1'-7 1/4"
G	1'-7 1/4"	1'-9 1/4"	1'-10 1/2"	1'-11 1/4"	1'-10 1/4"	1'-8 5/8"	1'-7 1/8"
H	2'-0 3/8"	1'-10 1/8"	1'-9 3/8"	1'-9 3/4"	1'-11 1/4"	2'-0 3/4"	2'-2 3/8"

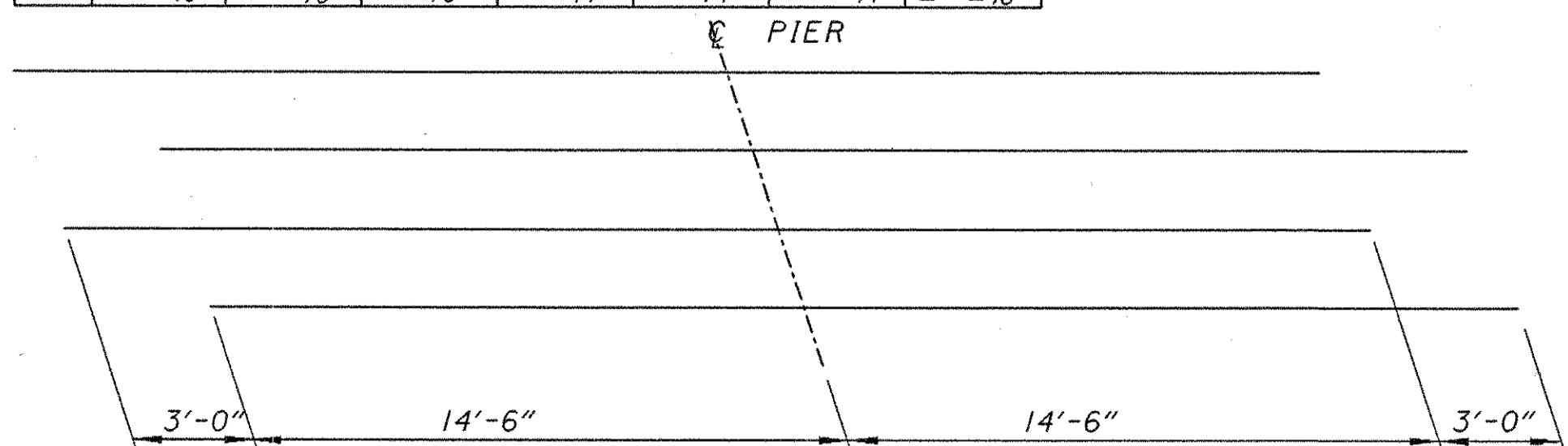
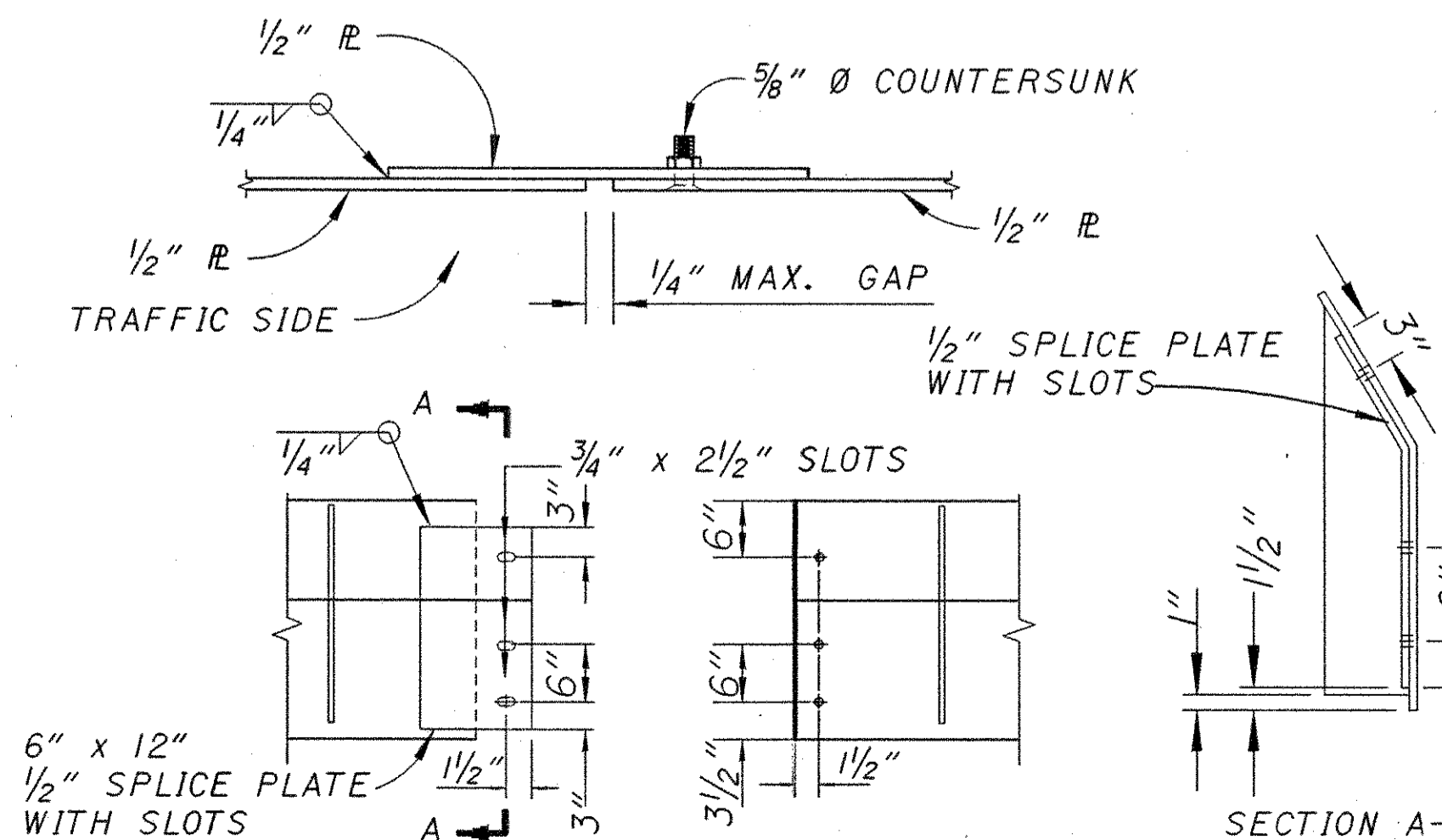


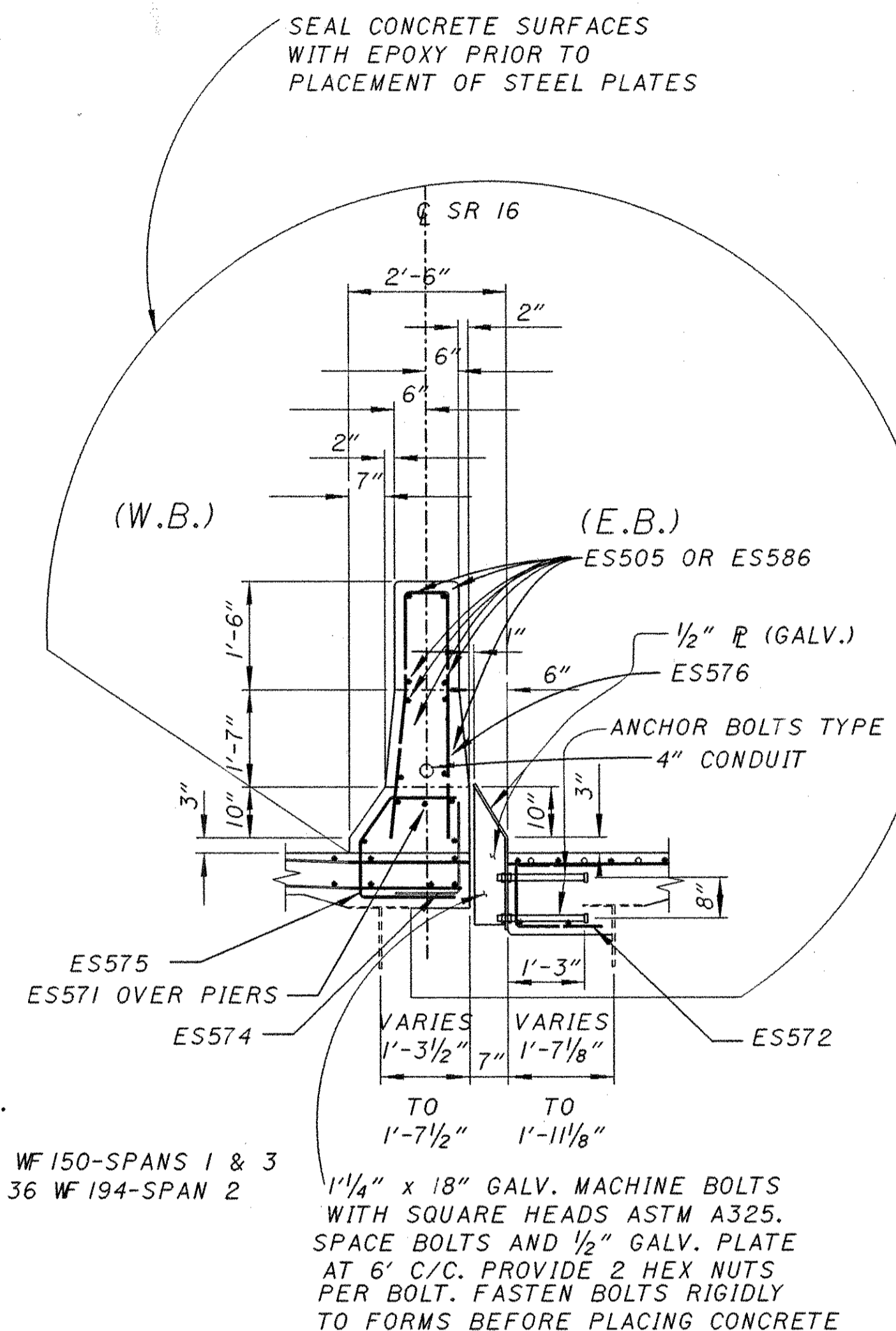
DIAGRAM SHOWING STAGGER OF ES6146 BARS OVER PIERS

NOTE: FOR TRANSVERSE RE-STEEL LAYOUT SEE SHEET 9/15/

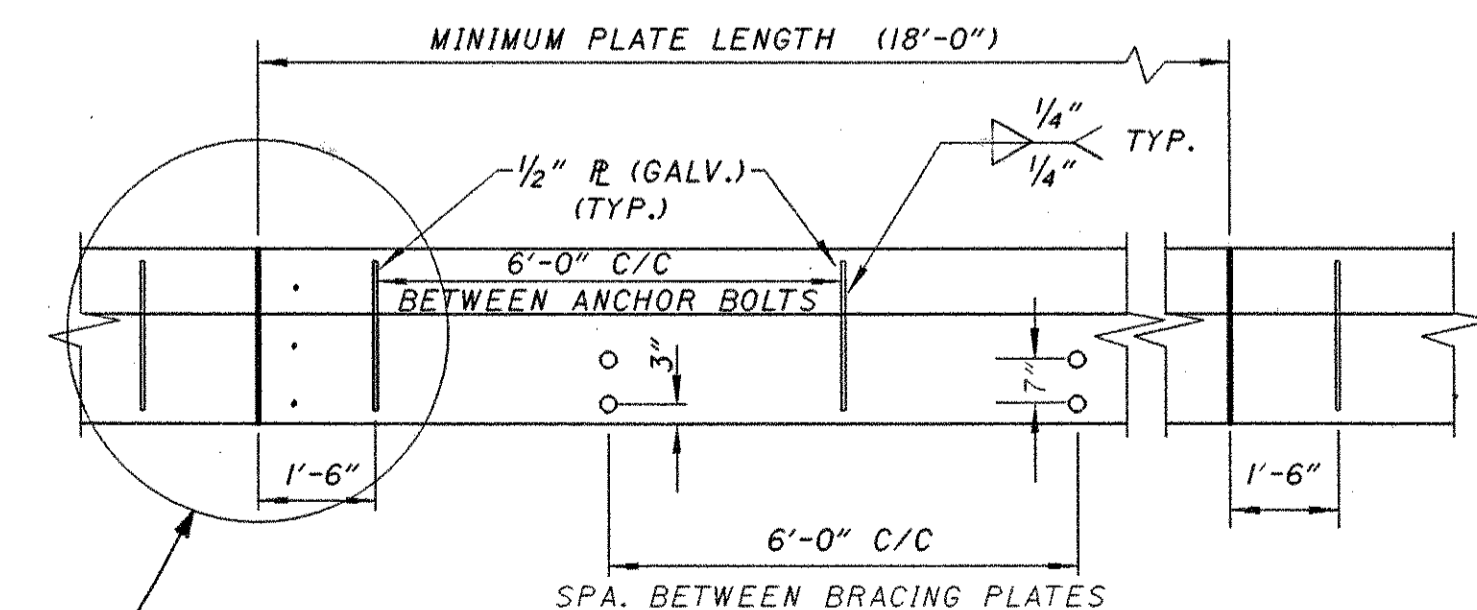


CURB PLATE CONNECTION

NOTE: THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THE NOMINAL DECK SLAB DEPTHS GIVEN BELOW. A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12".



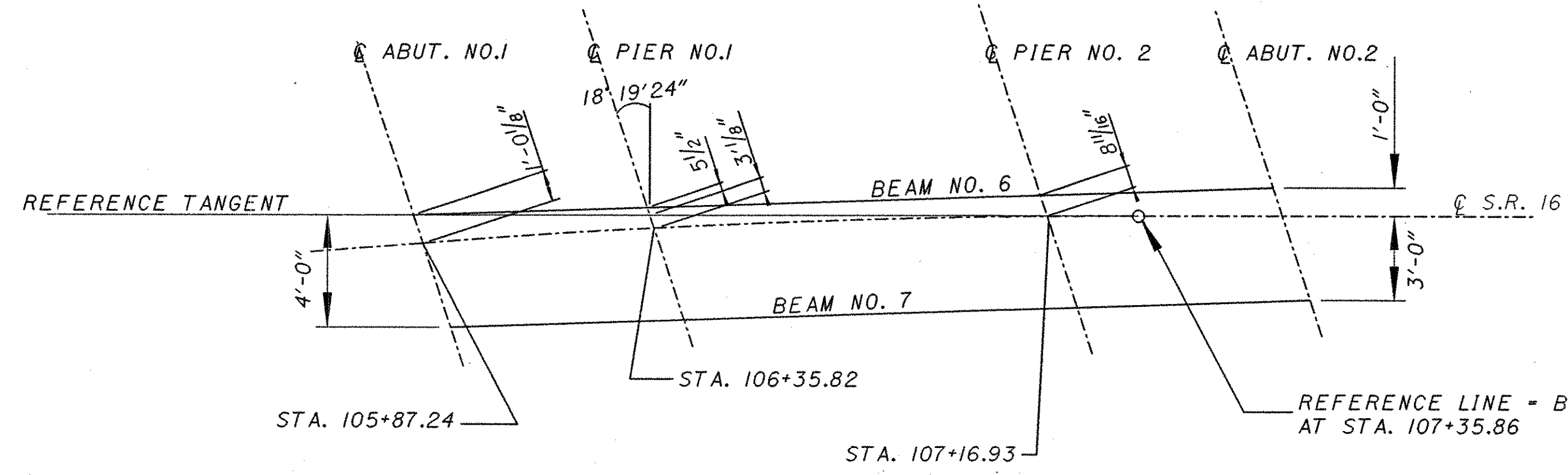
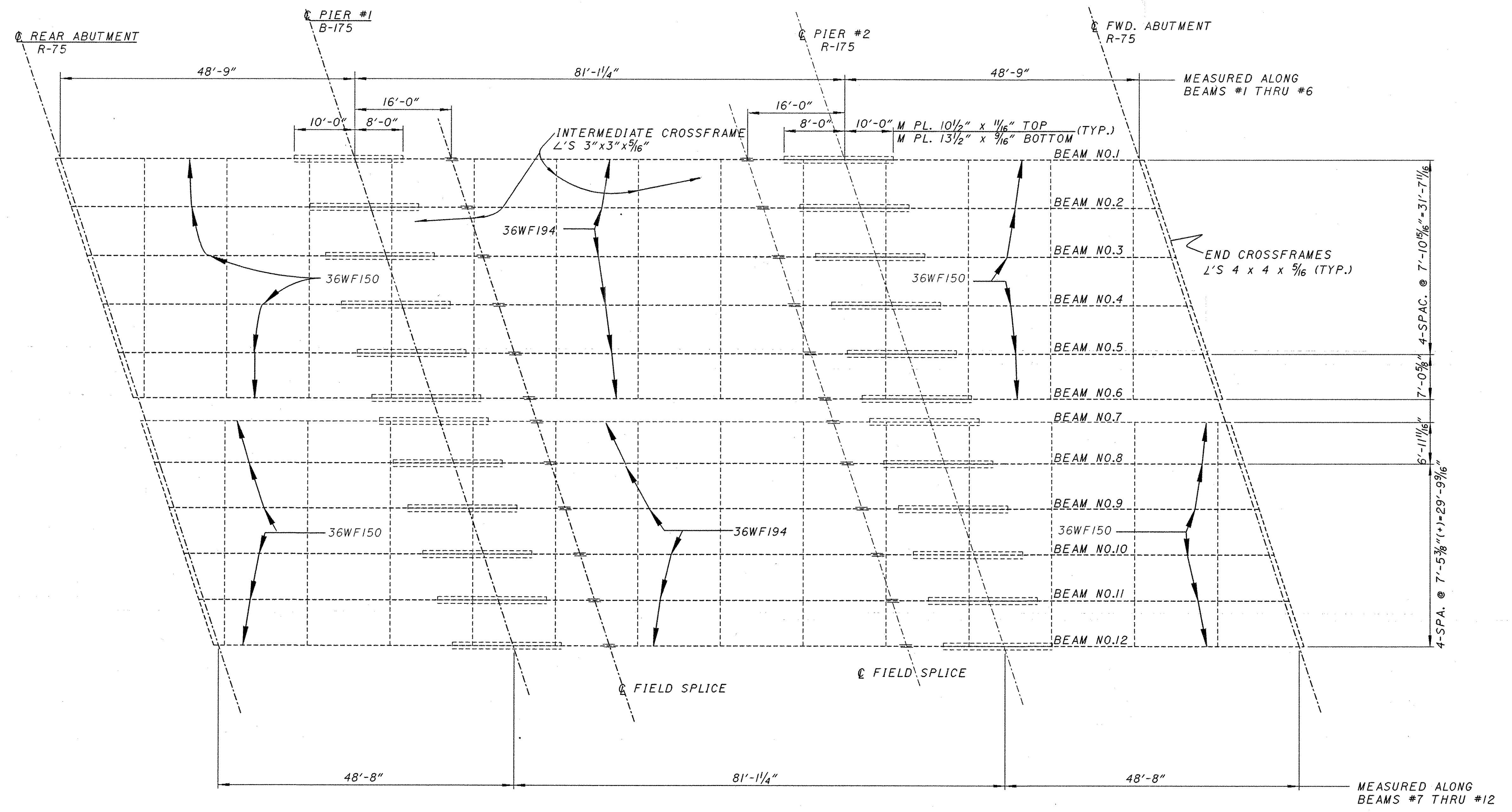
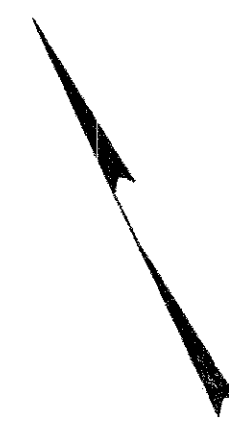
MEDIAN DETAIL



ELEVATION VIEW (CURB PLATES)

(CURB PLATES TO BE INCLUDED FOR PAYMENT IN ITEM 513-STRUCTURAL STEEL, MISC. GALVANIZED AS PER PLAN)

LO161956

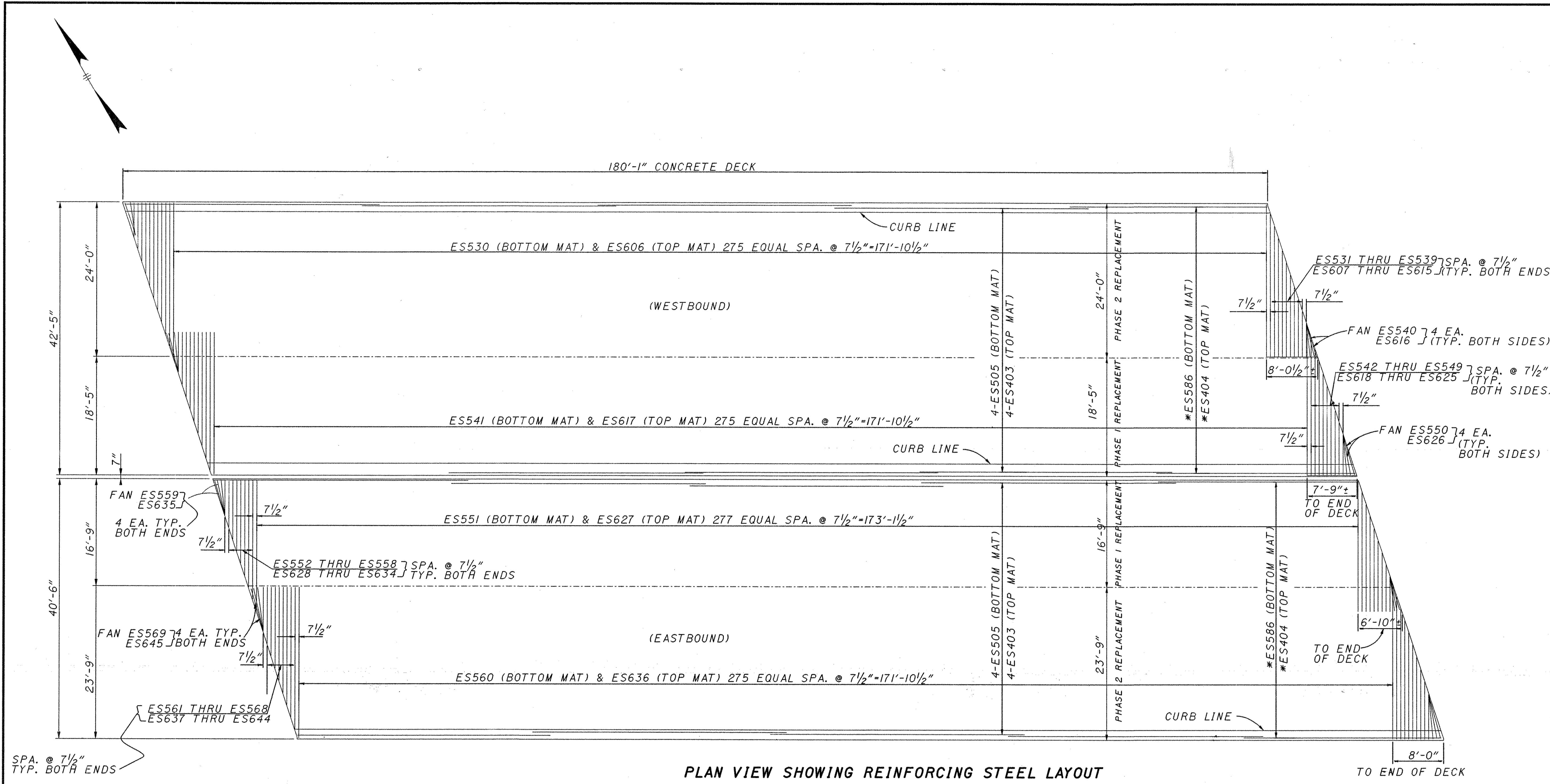


FRAMING PLAN

LAYOUT OF BEAM LINES

DESIGN AGENCY: DISTRICT 5 - BRIDGE DEPARTMENT OHIO DEPARTMENT OF TRANSPORTATION	DATE	REVIEWED	DESIGNED	CHECKED
STRUCTURE FILE NUMBER 4503481				
EXISTING FRAMING PLAN BRIDGE NO'S. LIC-16-2006/2084 S.R. 16 OVER 21st. STREET				
LIC-16-17.94				
8/15				
413 420				

10/6/957



PLAN VIEW SHOWING REINFORCING STEEL LAYOUT

*NOTE: FOR SPACING OF LONGITUDINAL RE-STEEL SEE TRANSVERSE SHEET. ES586 & ES404 PLACED AT 1 END OF DECK ONLY.

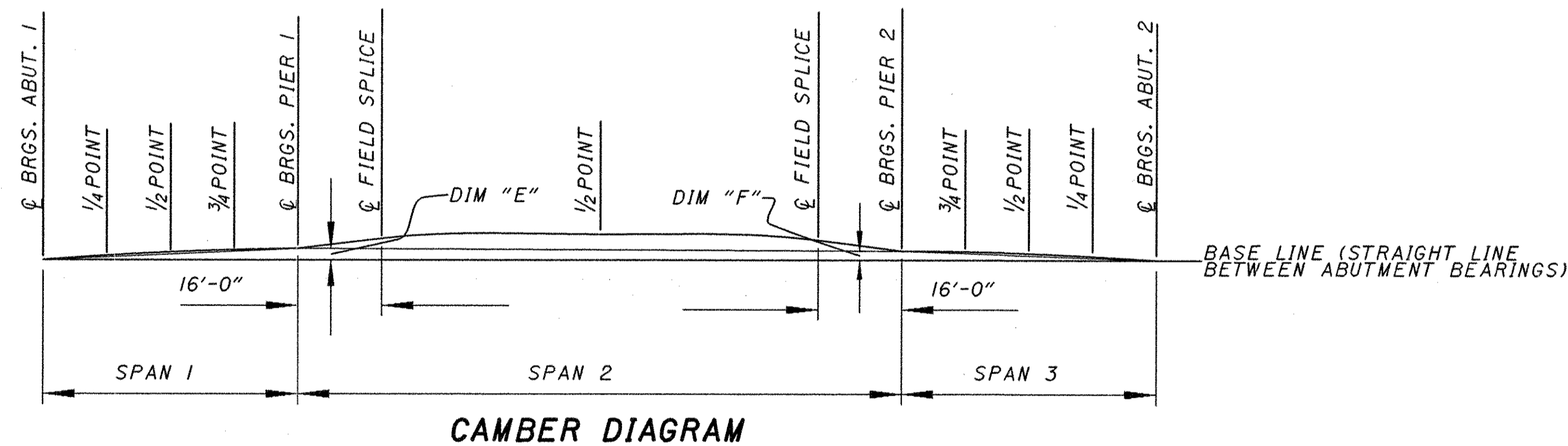
ES403 LAP 2'-0"
 ES505 LAP 2'-6"

DECK ELEVATIONS

	FACE OF NORTH PARAPET		FACE OF NORTH SIDE OF MEDIAN		FACE OF SOUTH SIDE OF MEDIAN		FACE OF SOUTH PARAPET	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
ABUT *1	105+74.61	858.19	105+86.76	857.39	105+87.71	857.39	105+99.96	856.63
1/4 PT.	105+87.70	858.19	105+98.90	857.44	105+99.90	857.44	106+11.90	856.75
1/2 PT.	105+99.70	858.17	106+11.00	857.48	106+12.10	857.48	106+24.20	856.85
3/4 PT.	106+ 11.70	858.14	106+23.10	857.50	106+24.30	857.50	106+36.50	856.94
PIER *1	106+23.60	858.12	106+35.34	857.53	106+36.30	857.53	106+48.73	857.04
1/4 PT.	106+43.60	858.18	106+55.80	857.63	106+56.70	857.63	106+69.10	857.19
1/2 PT.	106+63.75	858.20	106+76.10	857.69	106+77.00	857.69	106+89.50	857.29
3/4 PT.	106+ 83.80	858.12	106+96.40	857.66	106+97.30	857.66	107+09.90	857.31
PIER *2	107+03.80	858.100	107+16.44	857.59	107+17.42	857.59	107+30.15	857.34
1/4 PT.	107+16.10	857.99	107+28.70	857.57	107+29.70	857.57	107+42.41	857.28
1/2 PT.	107+28.20	857.99	107+40.90	857.55	107+41.90	857.55	107+54.52	857.29
3/4 PT.	107+40.30	857.96	107+53.10	857.52	107+54.10	857.52	107+66.63	857.28
ABUT *2	107+52.43	857.92	107+65.18	857.48	107+66.17	857.48	107+78.92	857.26

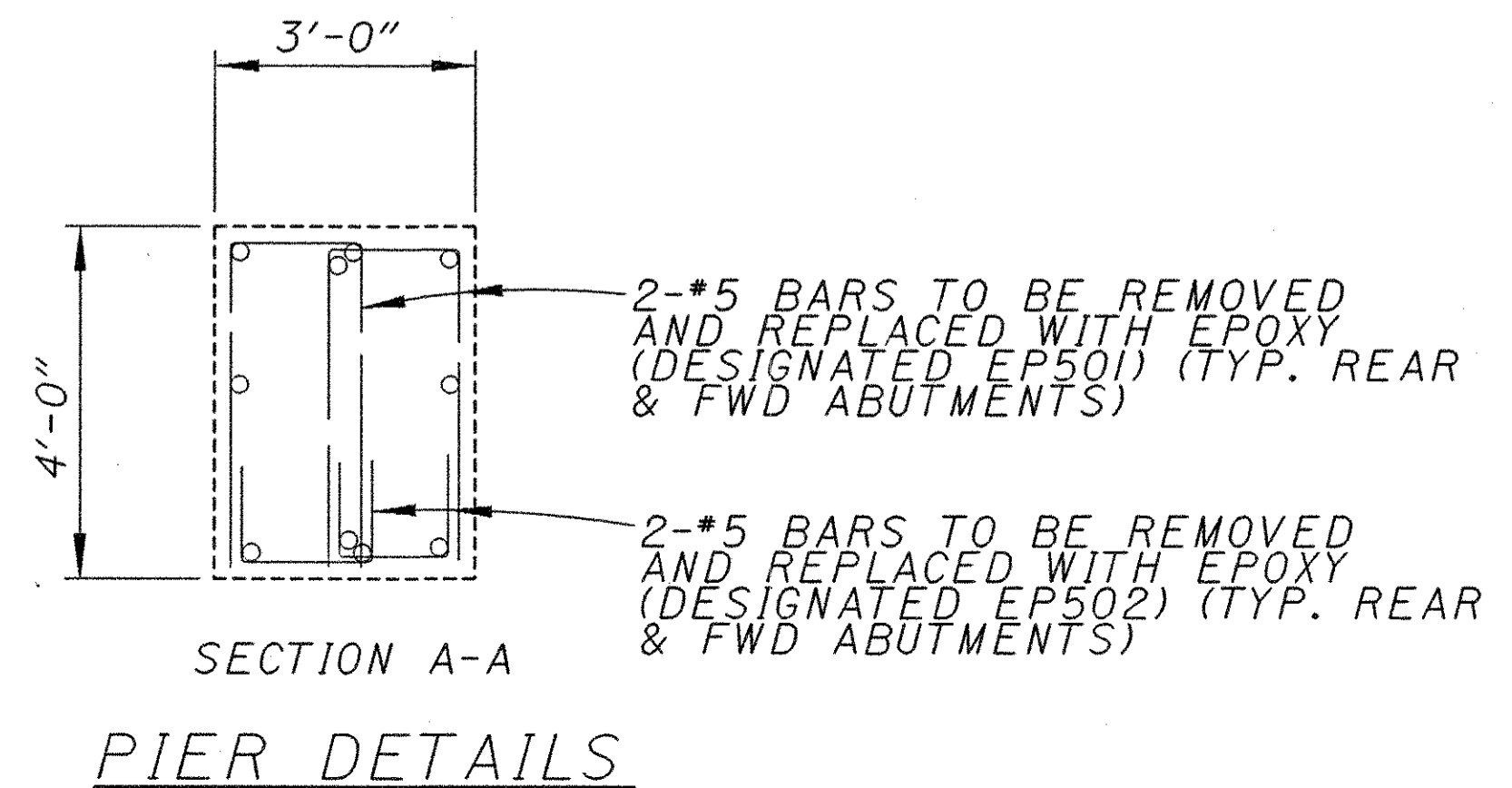
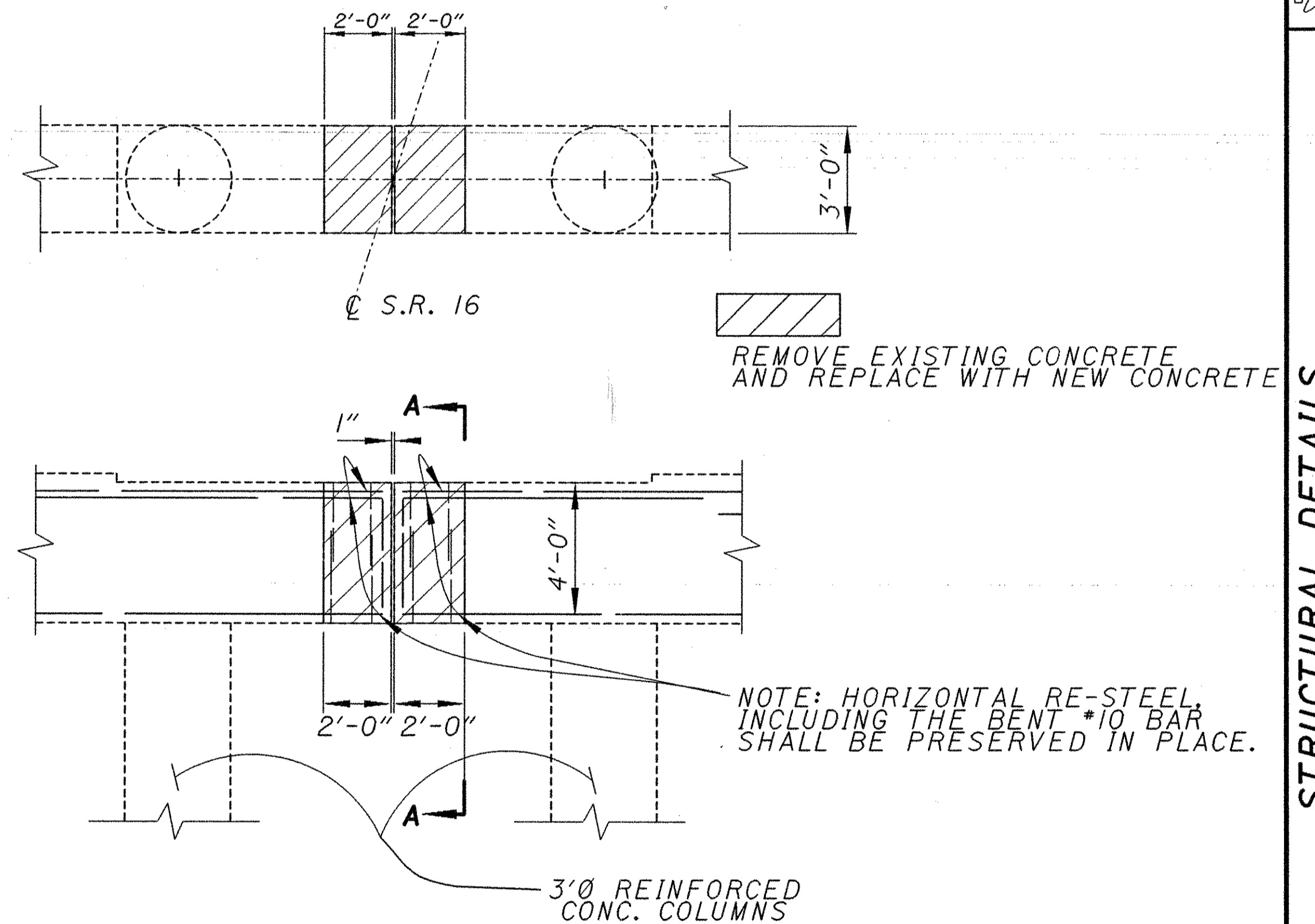
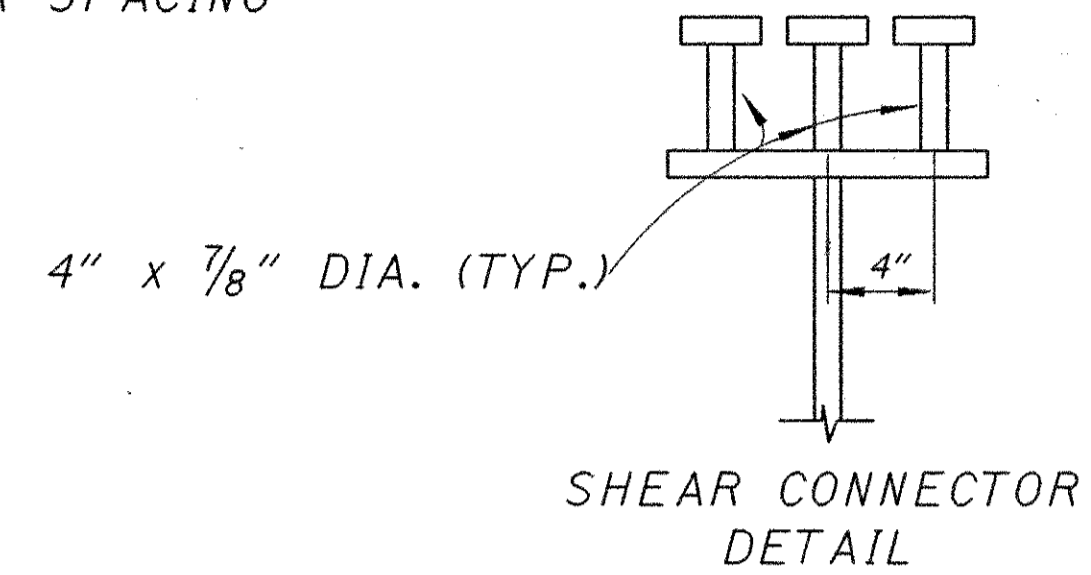
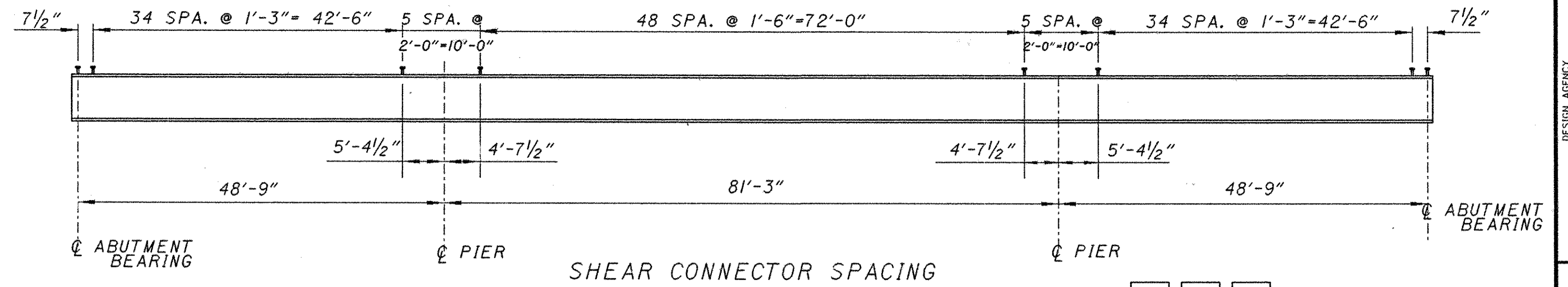
DEFLECTION & CAMBER

	SPAN 1 OR 3			SPAN 2		
	1/2 POINT	1/2 POINT	3/4 POINT	1/2 SPLICE POINT	1/2 POINT	1/2 SPLICE POINT
DEFLECTION DUE TO WEIGHT OF STEEL	0"	0"	0"	1/8"	3/16"	1/8"
DEFLECTION DUE TO REMAINING DEAD LOAD	1/16"	1/16"	-1/16"	1/16"	1/16"	1/16"
ADJUSTMENT REQ'D FOR VERTICAL CURVE	1/8"	3/16"	1/8"	3/8"	1/2"	3/8"
REQUIRED SHOP CAMBER	3/16"	1/4"	1/16"	1 3/16"	1 3/4"	1 1/16"



BEAM LINE	1	2	3	4	5	6	7	8	9	10	11	12
DIM "E"	1/8"	1/16"	3/8"	7/8"	1 3/8"	1 1/2"	1 1/2"	1 7/8"	2 1/8"	2 1/2"	2 3/8"	2 3/8"
DIM "F"	1/4"	1/4"	5/8"	1 1/8"	1 1/2"	1 3/8"	1 1/8"	1 1/8"	2"	2 1/8"	2 1/8"	2 1/8"

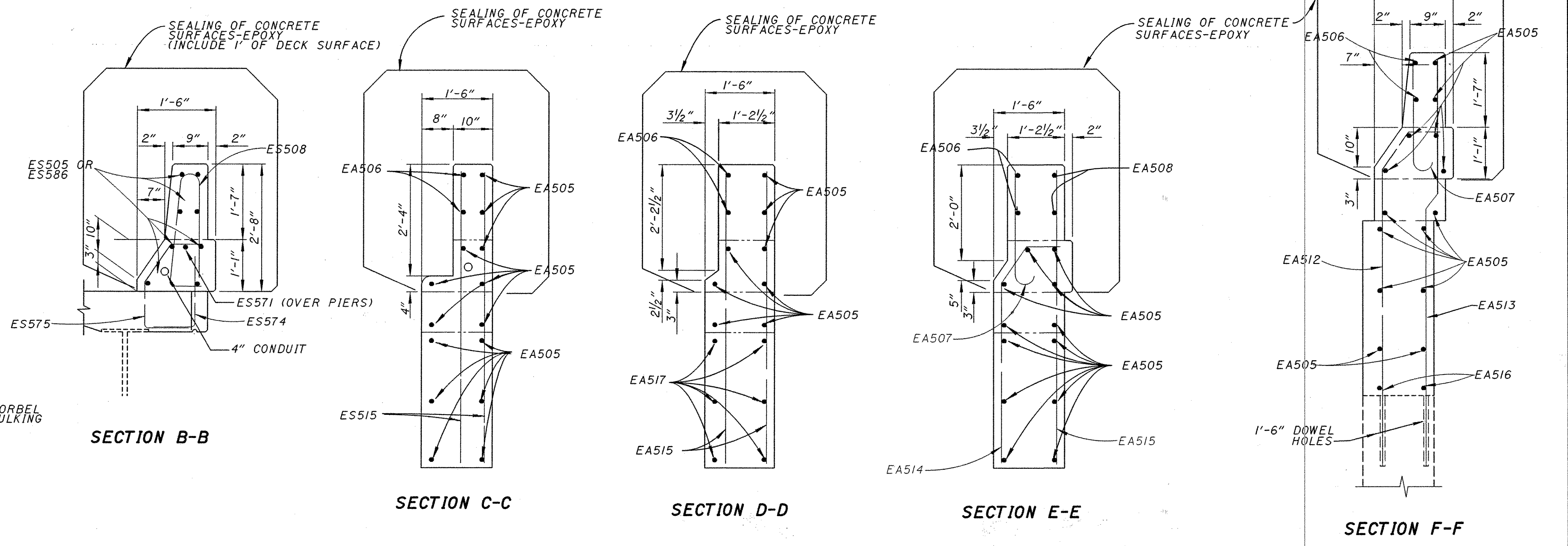
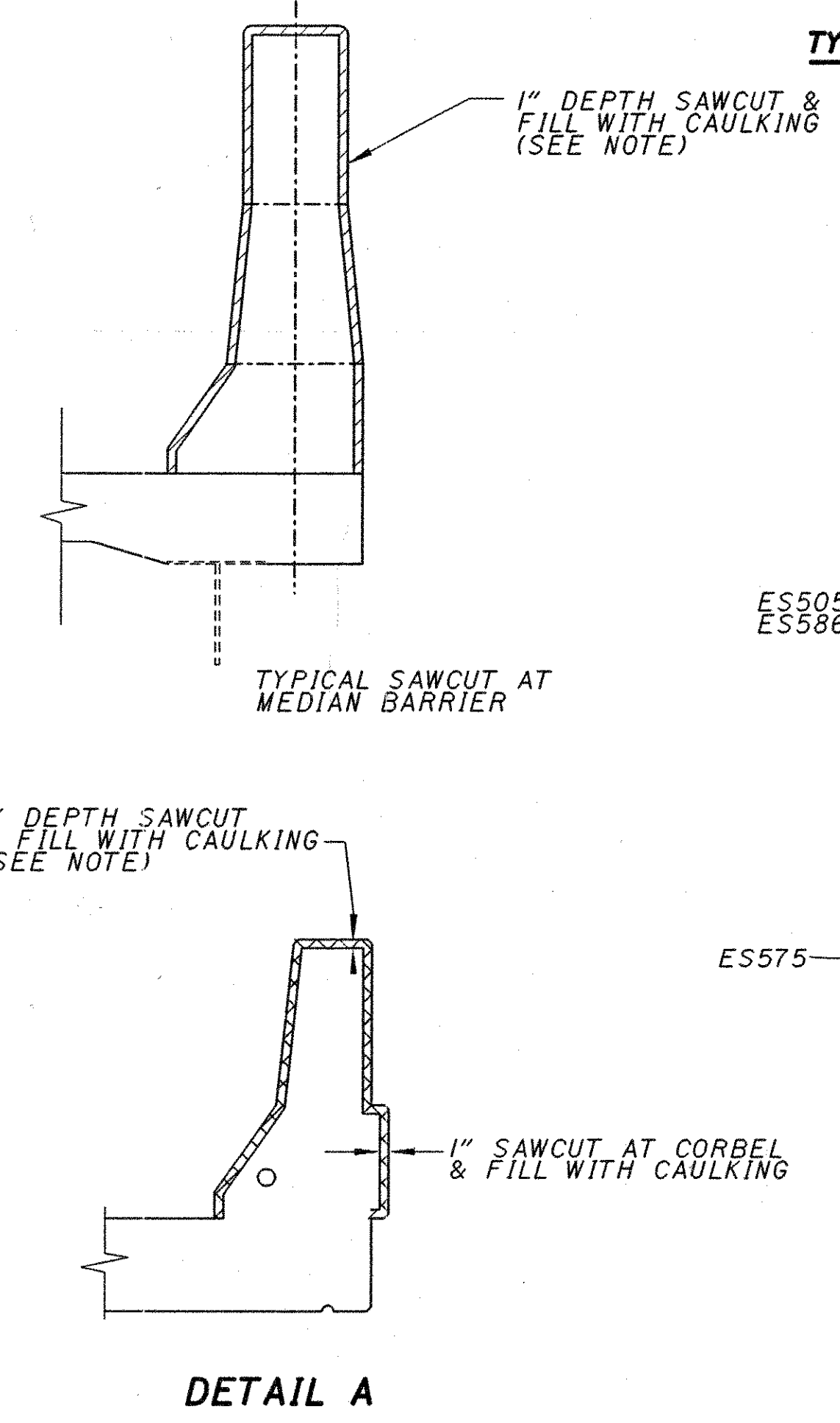
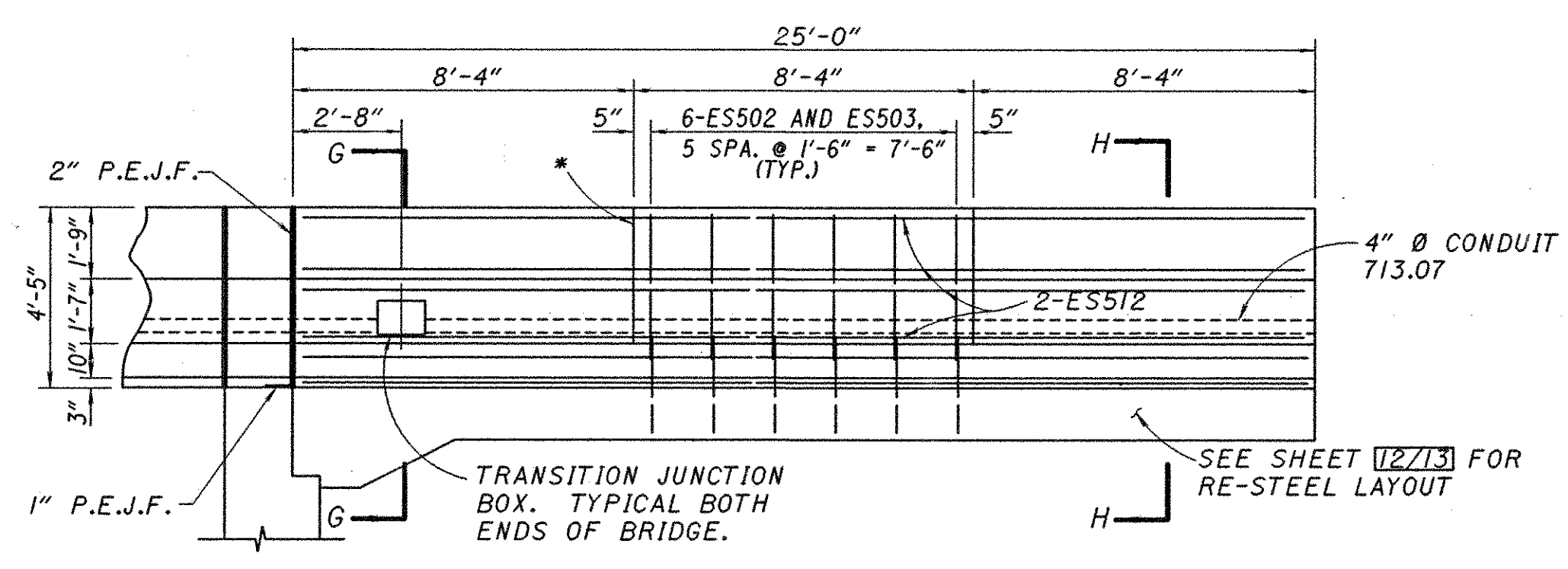
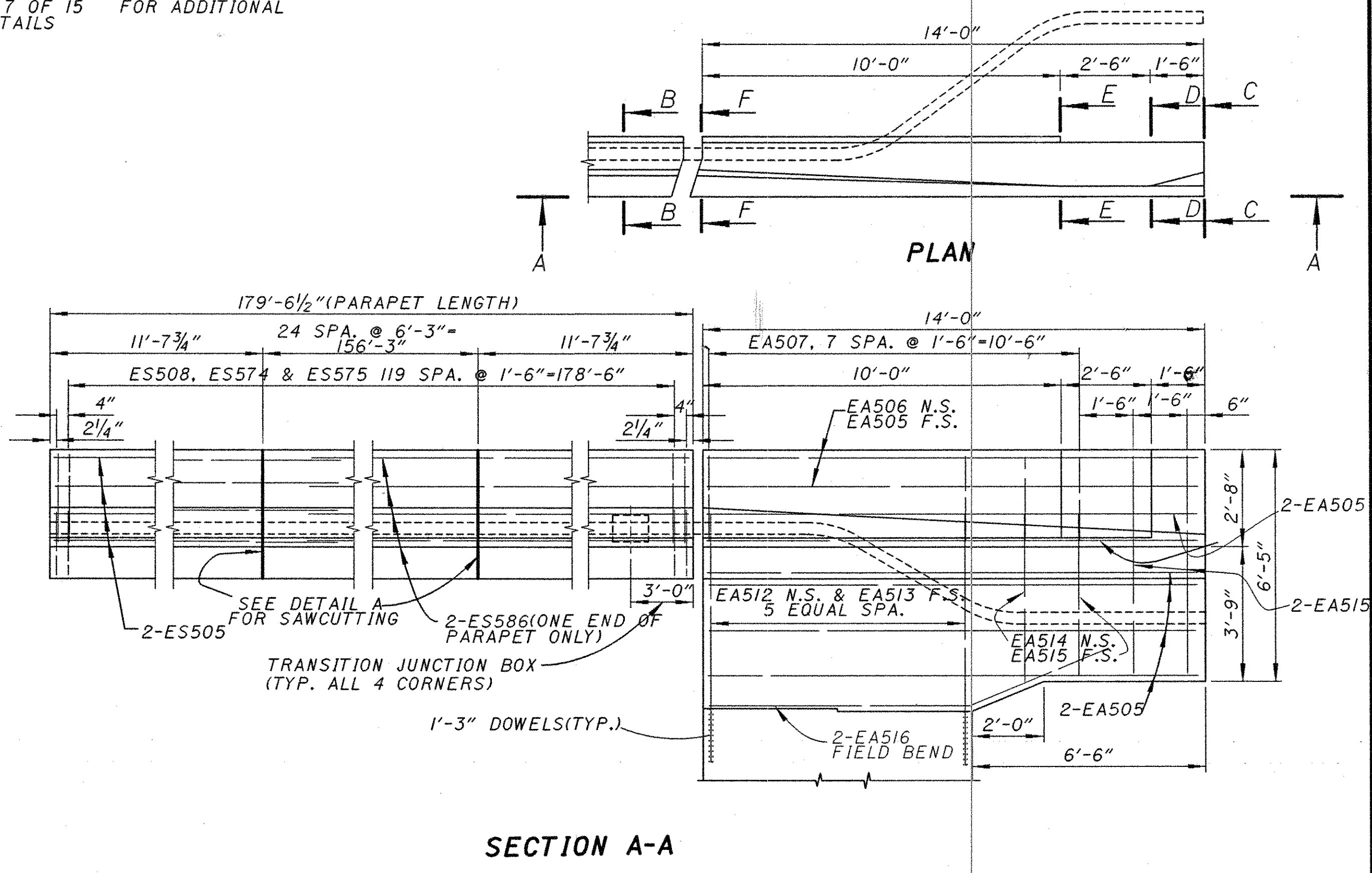
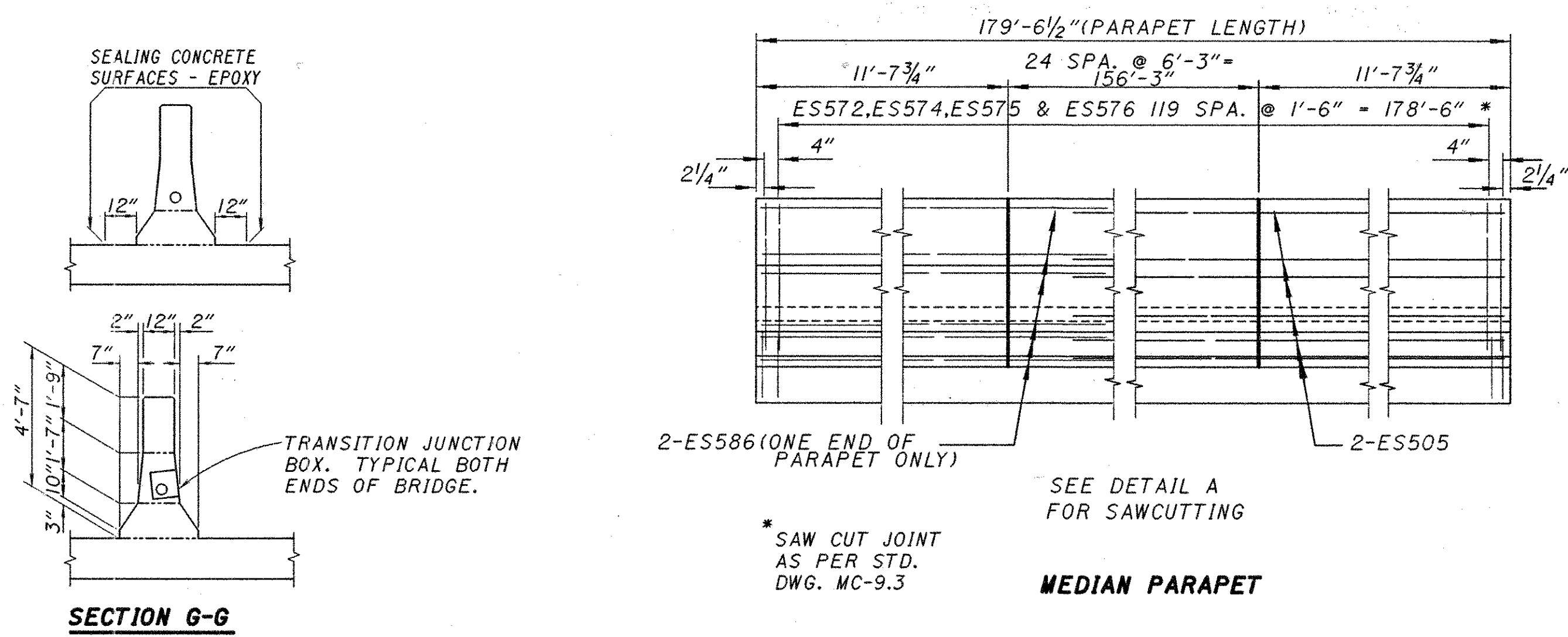
NOTE: WELDED ATTACHMENTS OF SUPPORTS FOR THE CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION" ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL NOT BE CLOSER THAN 1" FROM THE EDGE OF FLANGE AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.

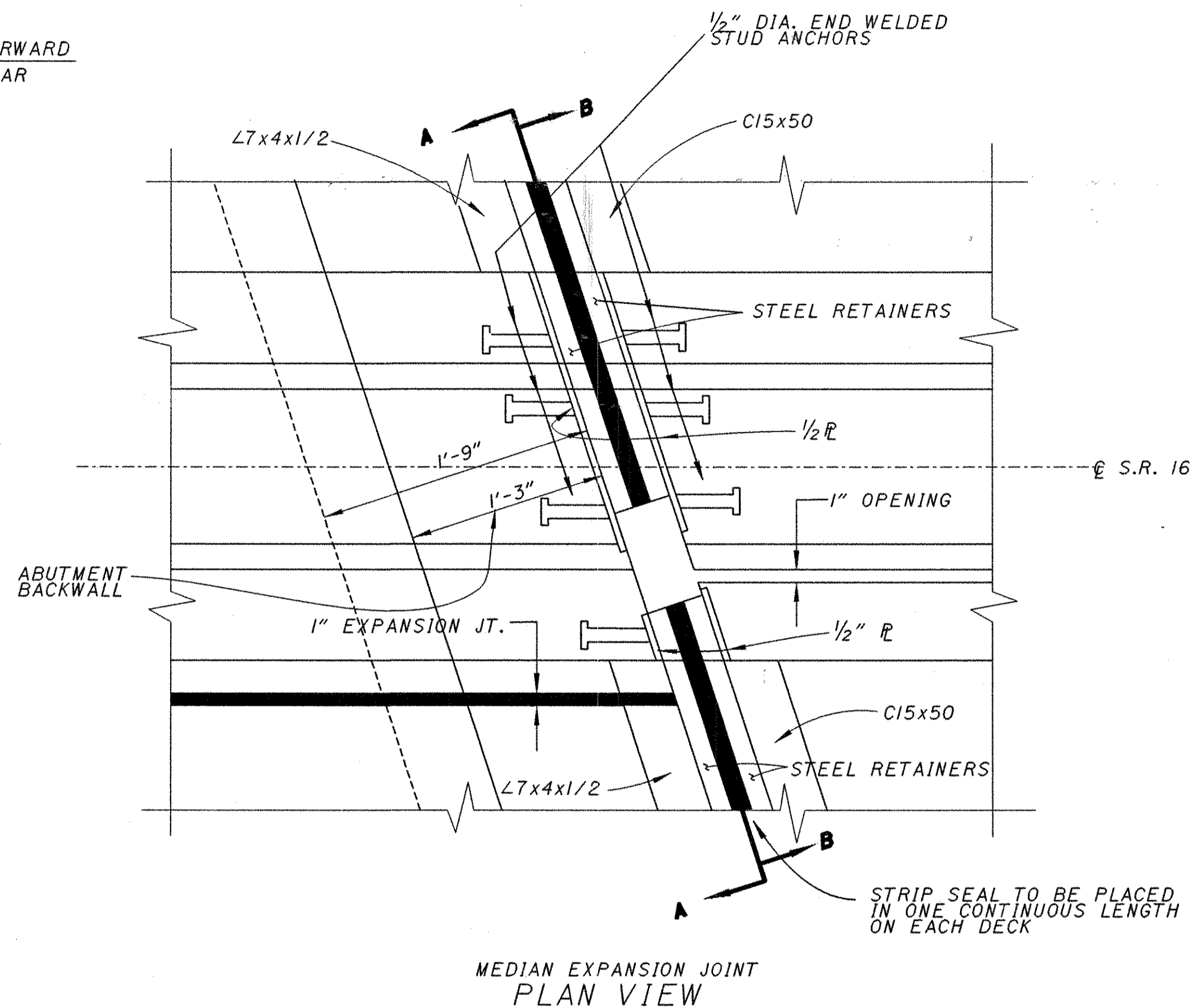
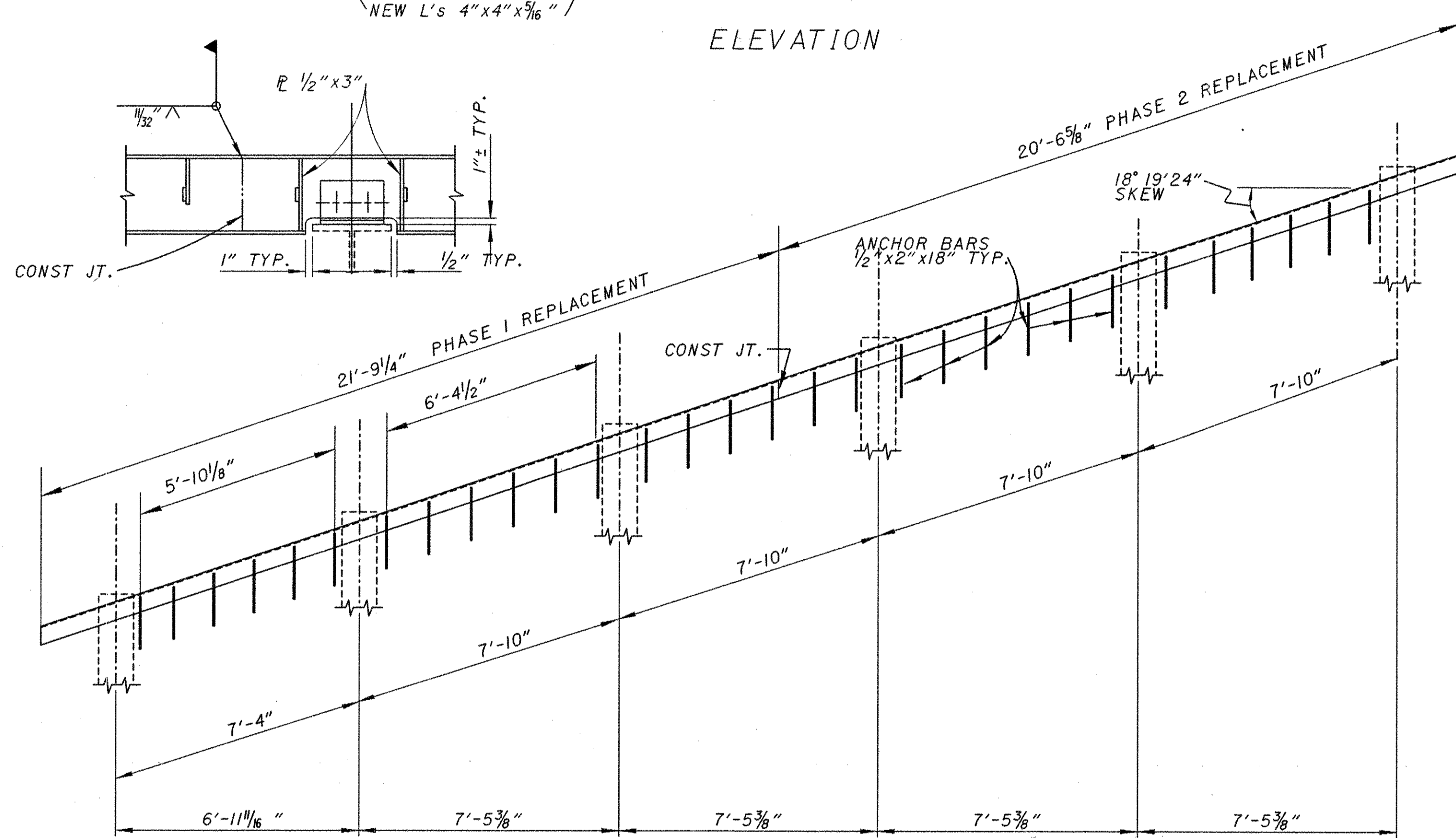
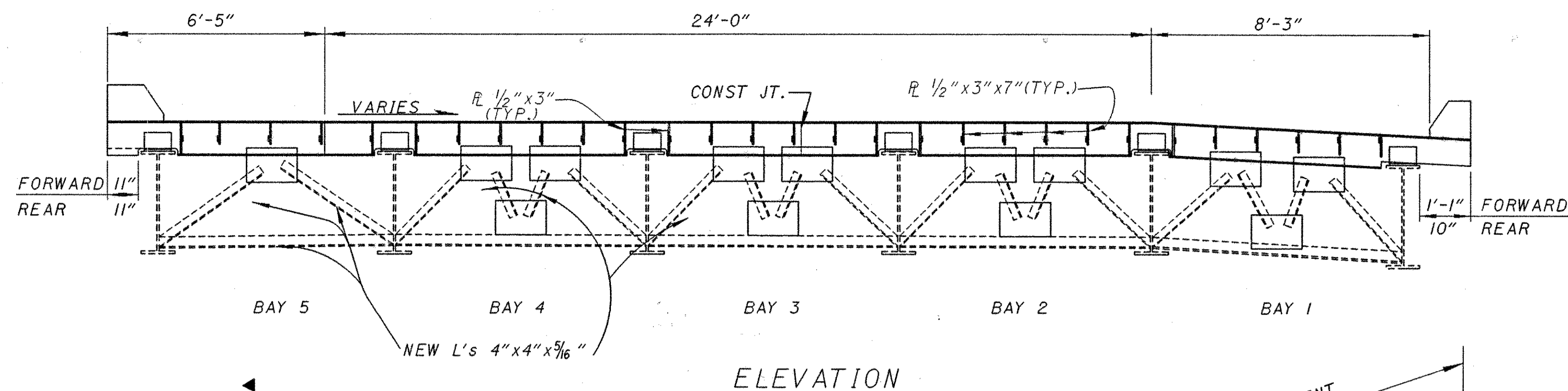


DESIGN AGENCY: DISTRICT 5 - BRIDGE DEPARTMENT, OHIO DEPARTMENT OF TRANSPORTATION
 DATE: _____
 STRUCTURE FILE NUMBER: 4503481
 DRAWN: RSD
 CHECKED: RSD
 DESIGNED: RSD
STRUCTURAL DETAILS
 BRIDGE NO. LIC-16-1968
 S.R. 16 OVER 21st. STREET
 LIC-16-17.94
 10/15
 415
 420

LO16197A

*ES574, ES575, ES576 WESTBOUND DECK ONLY
 ES572 EASTBOUND DECK ONLY
 SEE SHEET 7 OF 15 FOR ADDITIONAL
 MEDIAN DETAILS

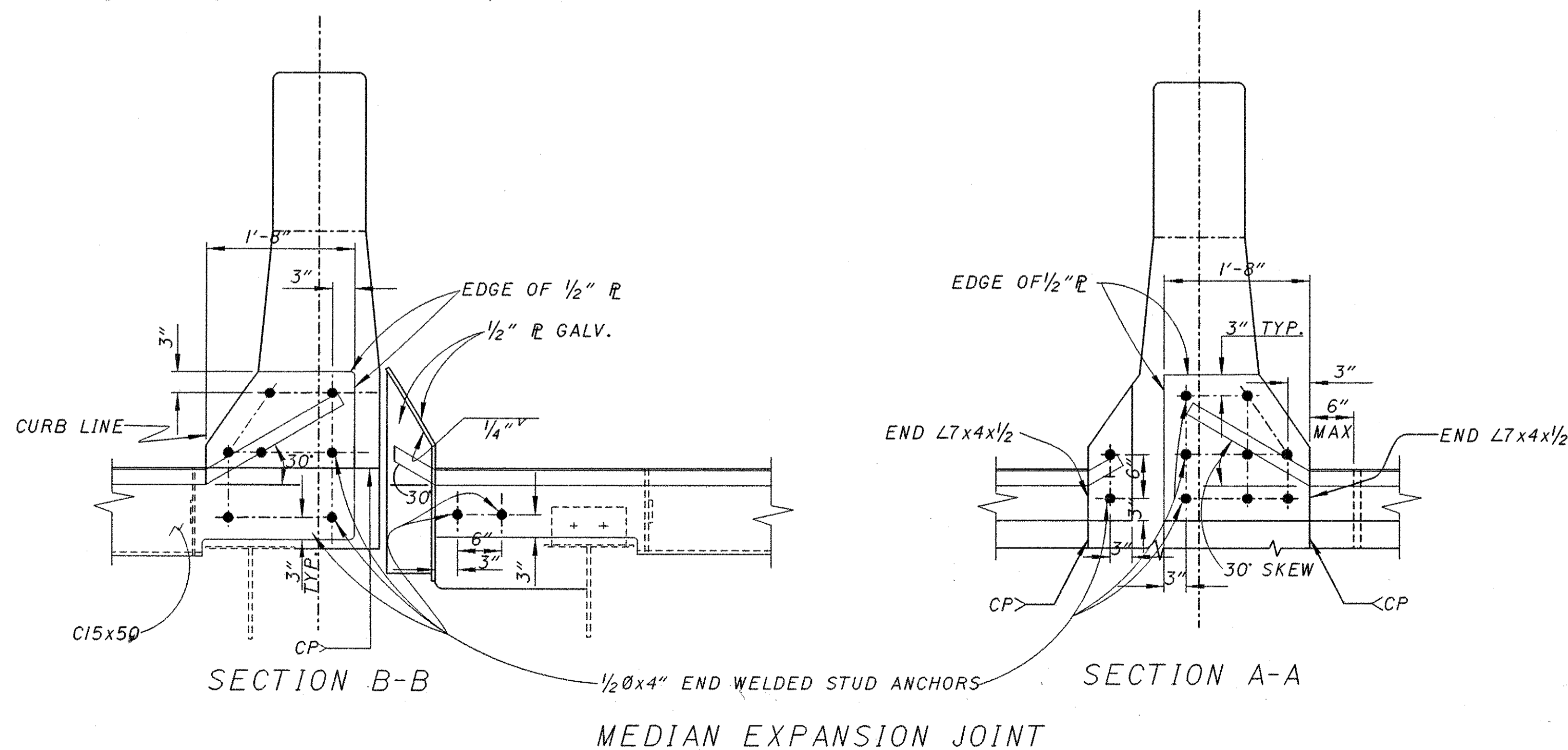




EAST BOUND (FWD. & REAR EXP. JT. ONLY)
ITEM 513 STRUCTURAL STEEL MISC.

	QUANTITY	DESCRIPTION	WEIGHT
GUSSET PLATE	26	12" x 18" x 3/8"	597
CROSS FRAMES (BAYS 1-4)	8	4" x 4" x 5/16" x 7'-9 3/8"	510
CROSS FRAMES (BAYS 1-4)	16	4" x 4" x 5/16" x 3'-11"	514
CROSS FRAMES (BAYS 1-4)	16	4" x 4" x 5/16" x 3'-2"	415
CROSS FRAMES (BAY 5)	2	4" x 4" x 5/16" x 7'-3 3/8"	119
CROSS FRAMES (BAY 5)	4	4" x 4" x 5/16" x 3'-8"	120
TOTAL			2275

THE LENGTHS & WEIGHTS GIVEN ARE ESTIMATED FOR BIDDING PURPOSES. FINAL LENGTHS AND WIDTHS SHALL BE DETERMINED AT THE COMPLETION OF WORK



DESIGN AGENCY: DISTRICT 5 - BRIDGE DEPARTMENT
OHIO DEPARTMENT OF TRANSPORTATION

DATE: _____
STRUCTURE FILE NUMBER: 4503481

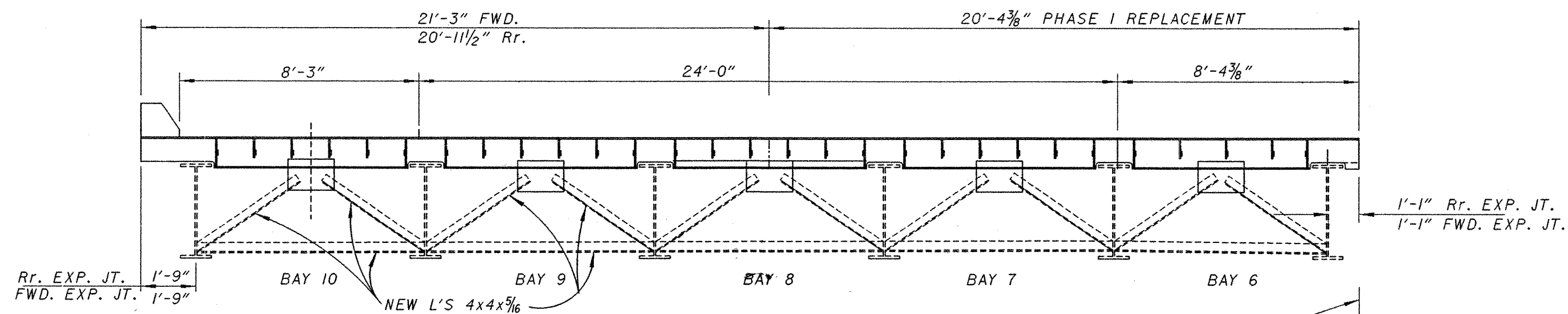
DESIGNED: [Signature]
CHECKED: [Signature]

EXPANSION JOINT DETAIL
BRIDGE NO. S. LIC-16-1968
WESTBOUND LANES
S.R. 16 OVER 21st. STREET

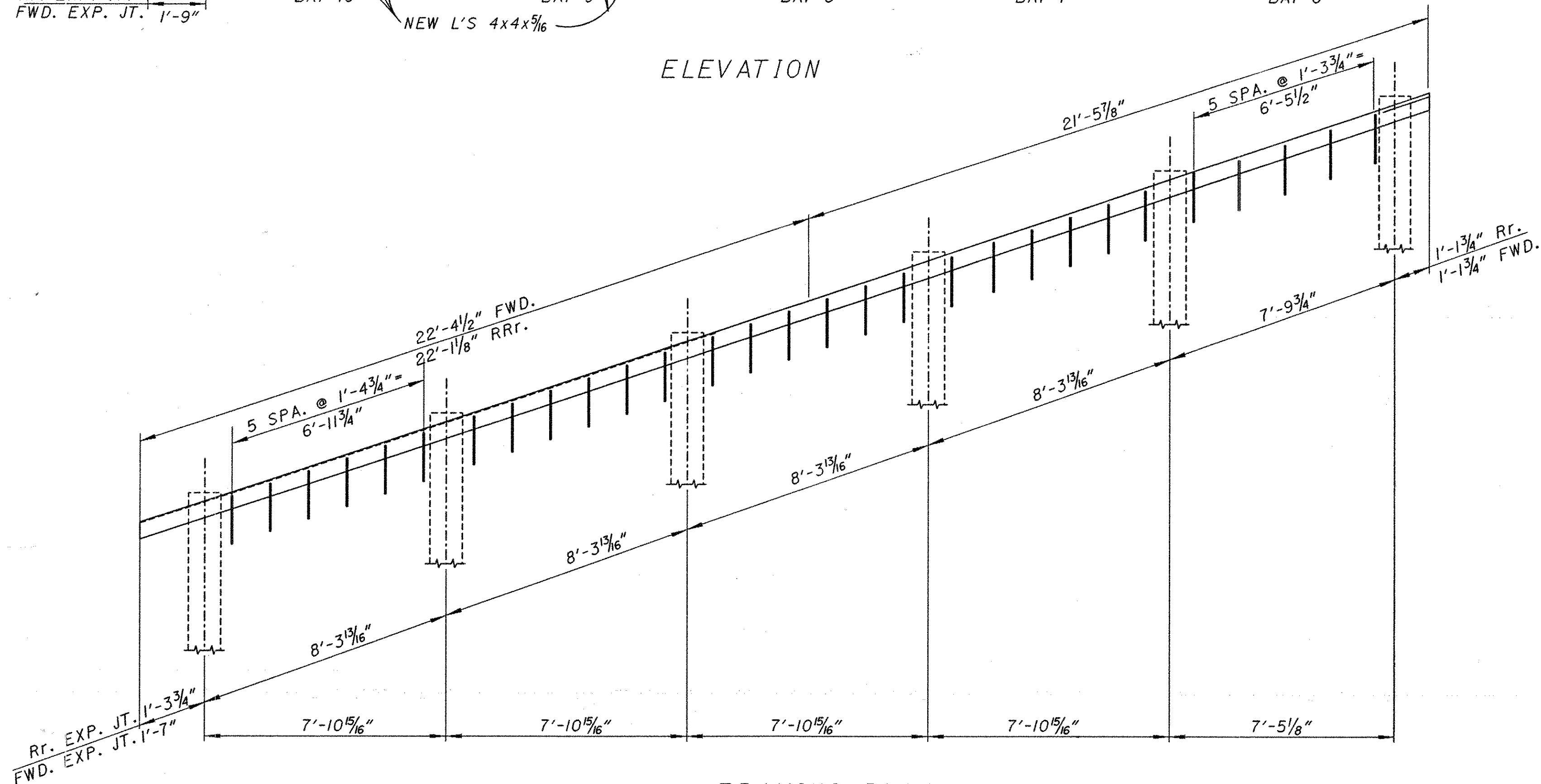
LIC-16-17.94

12 / 15

417
420

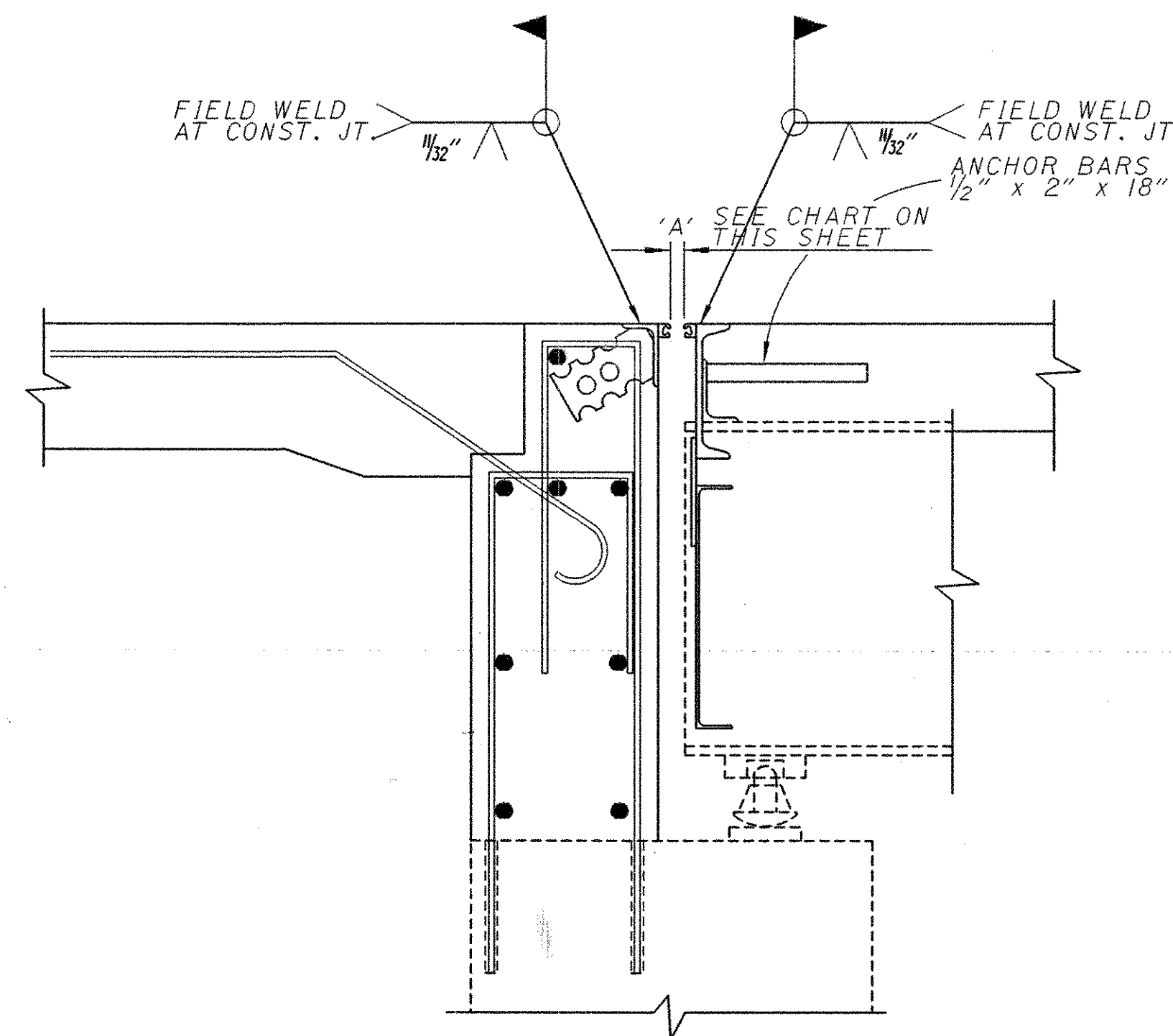


ELEVATION

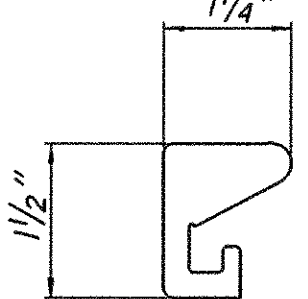
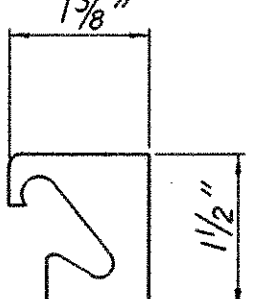
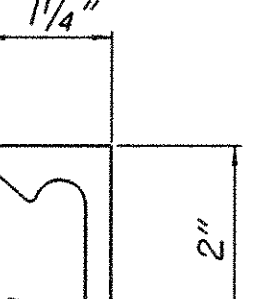





FRAMING PLAN

FOR ADDITIONAL DETAILS FOR EXPANSION JOINTS SEE STD. DRWG. EXJ-4-87.



SECTION AT MID JOINT

<p>D.S. BROWN COMPANY 1/4"</p>  <p>1/2"</p> <p>TYPE SS-E STEEL EXTRUSION</p>	<p>WATSON BOWMAN (WABO) ASSOCIATES, INC. 1 3/8"</p>  <p>1/2"</p> <p>TYPE E STEEL EXTRUSION</p>	<p>STRUCTURAL ACCESSORIES INC. 1/4"</p>  <p>2"</p> <p>1"</p> <p>TYPE AM2 STEEL EXTRUSION</p>
 <p>STRIP SEAL SS300</p>	 <p>STRIP SEAL SE-300</p>	 <p>STRIP SEAL ONFLEX 40SEQ</p>

NOTE: CONTRACTOR MAY USE ANY OF THE ABOVE STRIP SEALS, AND EXTRUSIONS, BUT THE CONTRACTOR MUST USE STRIP SEAL THAT CORRESPONDS WITH MANUFACTURERS EXTRUSION.

D.S. BROWN CO.
P.O. BOX 158
NORTH BALTIMORE, OH., 45872
PH. * (419) 257-3561

STRUCTURAL ACCESSORIES
P.O. BOX 10
TERRYVILLE, CT., 06786
PH. * (203) 589-8826

WABO CORP.
P.O. BOX 9
AMHERST, N.Y., 14120
PH. * (716) 691-7566

AMBIENT TEMP. F.	DIMENSION A LIC-16-1968	
	FWD. ABUT.	REAR ABUT.
90°	1 1/4"	1 3/8"
80°	1 3/8"	1 5/8"
70°	1 1/2"	1 7/8"
60°	1 3/4"	1 7/8"
50°	1 3/4"	1 7/8"
40°	1 3/4"	1 3/4"
30°	1 1/8"	1 3/4"

WESTBOUND (FWD. & Rr. EXP. JT. ONLY)

ITEM 513 STRUCTURAL STEEL MISC.			
	QUANTITY		WEIGHT
GUSSET PLATE	10	12" x 18" x 3/8"	230
CROSS FRAMES (BAY 6)	4	4" x 4" x 5/16" x 4'-10"	159
CROSS FRAMES (BAY 6)	2	4" x 4" x 3/16" x 7'-9 1/8"	127
CROSS FRAMES (BAYS 7-10)	16	4" x 4" x 3/16" x 4'-10"	634
CROSS FRAMES (BAYS 7-10)	8	4" x 4" x 3/16" x 8'-3 3/16"	542
TOTAL			1692

THE LENGTHS & WEIGHTS GIVEN ARE ESTIMATED FOR BIDDING PURPOSES. FINAL LENGTHS AND WIDTHS SHALL BE DETERMINED AT THE COMPLETION OF WORK

BAR SCHEDULE

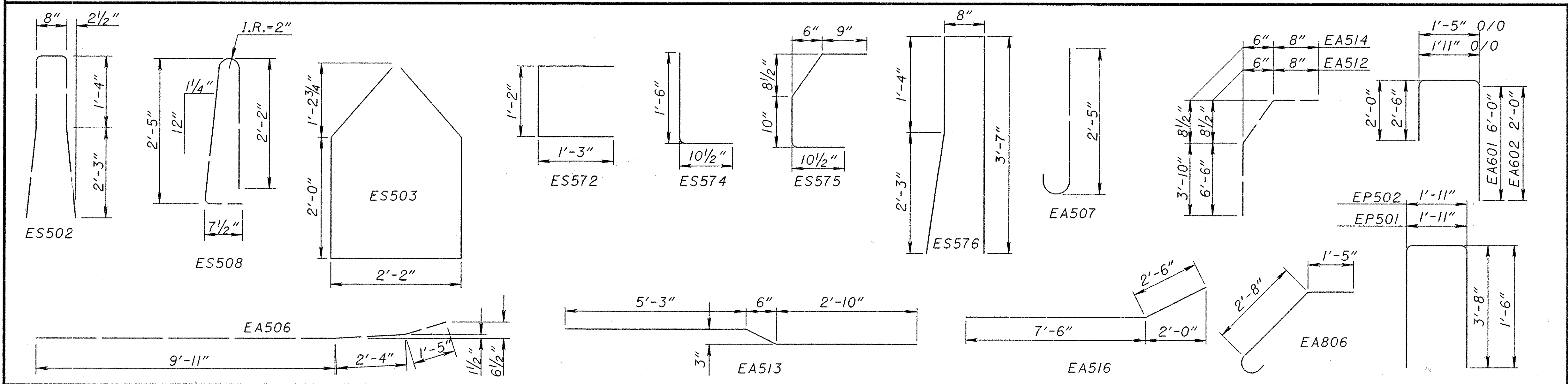
SUPERSTRUCTURE				
MARK	NUMBER	LENGTH	SHAPE	WEIGHT
ES403	416	40'-0"	ST.	11,116
ES404	104	27'-9"	ST.	1,928
ES502	40	7'-7"	BT.	316
ES503	36	8'-7"	BT.	322
ES505	440	40'-0"	ST.	18,357
ES508	244	5'-3"	BT.	1,336
ES511	48	8'-0"	ST.	401
ES512	8	24'-6"	ST.	204
ES530	276	23'-6"	ST.	6765
ES531	2	22'-2 1/2"	ST.	
THRU SERIES OF TO				275
ES539	9	7'-1 1/2"	ST.	
ES540	8	5'-2 1/2"	ST.	43
ES541	276	22'-0"	ST.	6333
ES542	2	21'-4 1/2"	ST.	
THRU SERIES OF TO				246
ES549	8	8'-2"	ST.	
ES550	8	6'-3 1/2"	ST.	52
ES551	278	20'-3"	ST.	5872
ES552	2	18'-8"	ST.	
THRU SERIES OF TO				190
ES558	7	7'-4"	ST.	
ES559	8	5'-5 1/2"	ST.	46
ES560	276	23'-3"	ST.	6693
ES561	2	22'-0 1/2"	ST.	
THRU SERIES OF TO				258
ES568	8	8'-10"	ST.	
ES569	8	6'-11 1/2"	ST.	58
ES586	110	29'-10"	ST.	3423
ES571	6	32'-0"	ST.	200
ES572	122	3'-5"	BT.	435
SUBTOTAL				64869

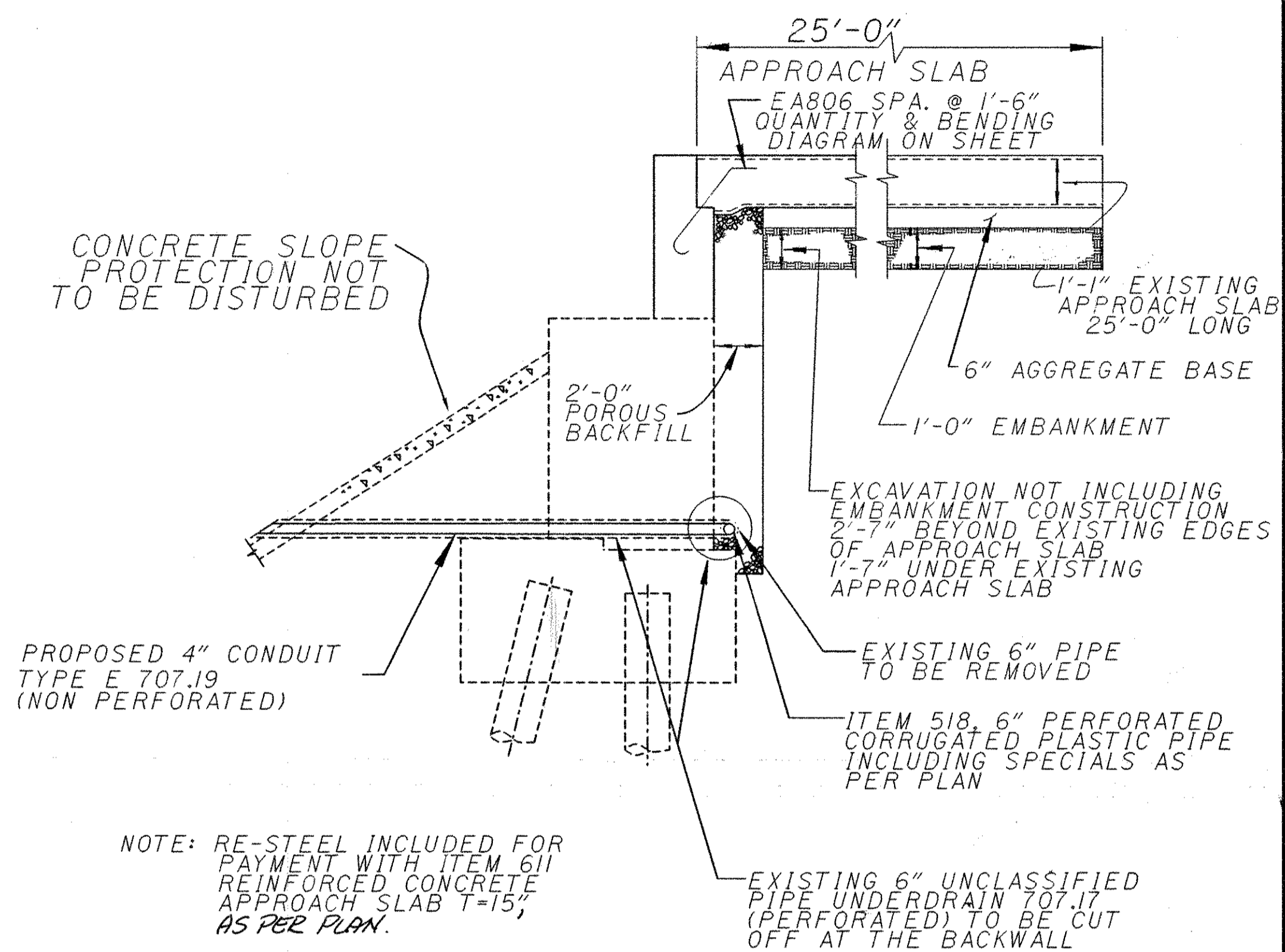
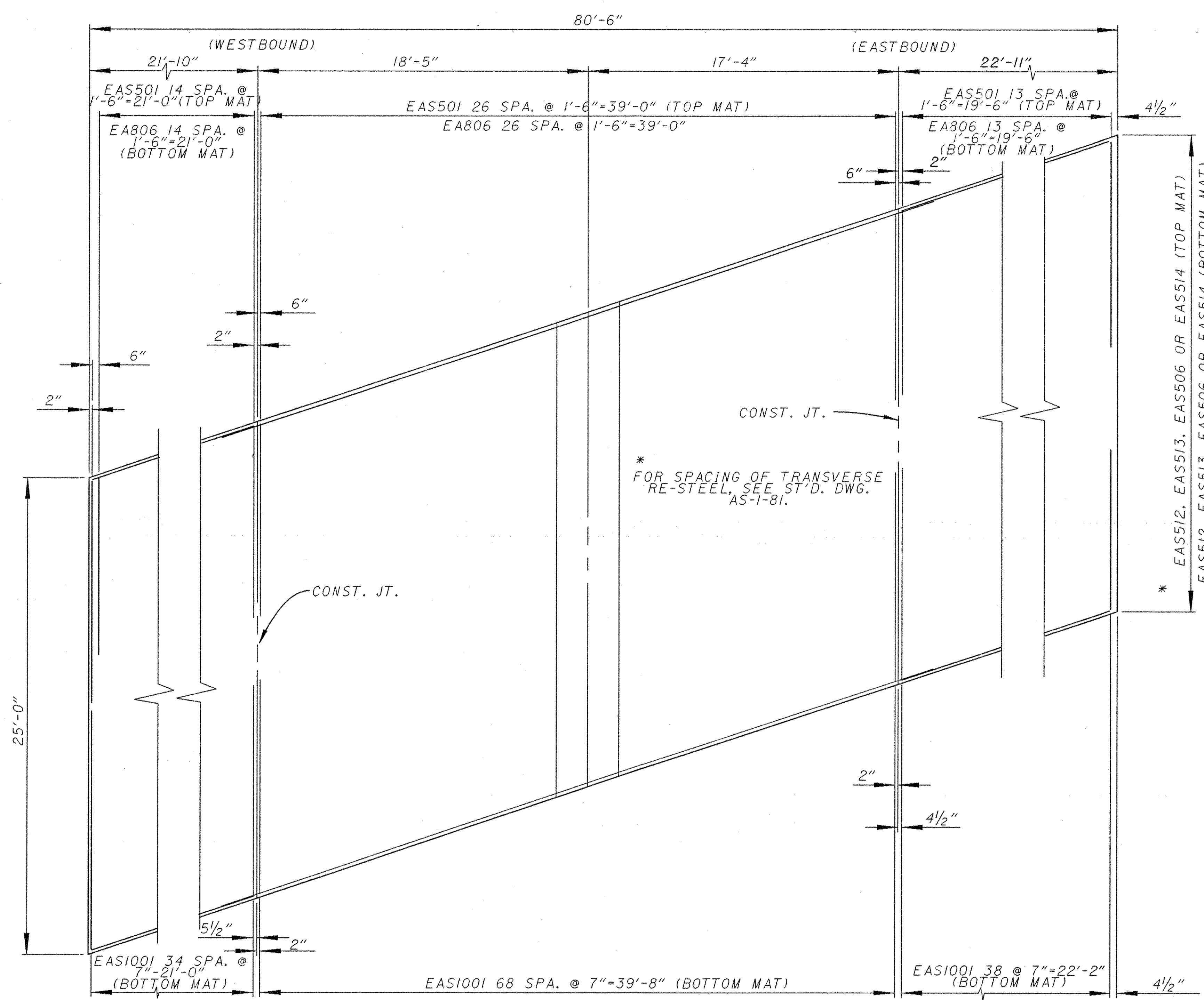
SUPERSTRUCTURE				
MARK	NUMBER	LENGTH	SHAPE	WEIGHT
ES606	276	23'-6"	ST.	9742
ES607	2	22'-2 1/2"	ST.	
THRU SERIES OF TO				397
ES615	9	7'-1 1/2"	ST.	
ES616	8	5'-2 1/2"	ST.	63
ES617	276	22'-0"	ST.	9120
ES618	2	21'-4 1/2"	ST.	
THRU SERIES OF TO				355
ES625	8	8'-2"	ST.	
ES626	8	6'-3 1/2"	ST.	76
ES627	278	20'-3"	ST.	8456
ES628	2	18'-8"	ST.	
THRU SERIES OF TO				312
ES634	8	7'-4"	ST.	
ES635	8	5'-5 1/2"	ST.	66
ES636	276	23'-3"	ST.	9638
ES637	2	22'-0 1/2"	ST.	
THRU SERIES OF TO				371
ES644	8	8'-10"	ST.	
ES645	8	6'-11 1/2"	ST.	84
ES6146	192	32'-0"	ST.	9228
ES574	366	2'-3"	BT.	859
ES575	374	3'-2"	BT.	1235
ES576	122	7'-7"	BT.	965
SUBTOTAL				50,967
TOTAL SUPERSTRUCTURE				115,836

ABUTMENT				
MARK	NUMBER	LENGTH	SHAPE	WEIGHT
EA505	56	13'-8"	ST.	798
EA506	8	13'-8"	BT.	114
EA507	32	3'-0"	BT.	100
EA512	24	8'-0"	BT.	200
EA513	24	8'-5 1/2"	BT.	212
EA514	8	5'-4"	BT.	45
EA515	24	6'-5"	ST.	161
EA516	8	10'-0"	BT.	83
EA518	7	21'-10"	ST.	159
EA519	7	24'-9"	ST.	181
EA520	14	22'-7"	ST.	330
EA521	14	21'-2"	ST.	309
EA522	7	22'-9"	ST.	166
EA523	7	23'-5"	ST.	171
EA601	167	9'-2"	BT.	2,299
EA602	167	5'-2"	BT.	1,296
EA603	167	4'-8"	ST.	1,171
EM501	24	11"	ST.	23
EA803	16	7'-0"	ST.	299
EA806	114	5'-0"	BT.	1,522
TOTAL ABUTMENTS				9,639

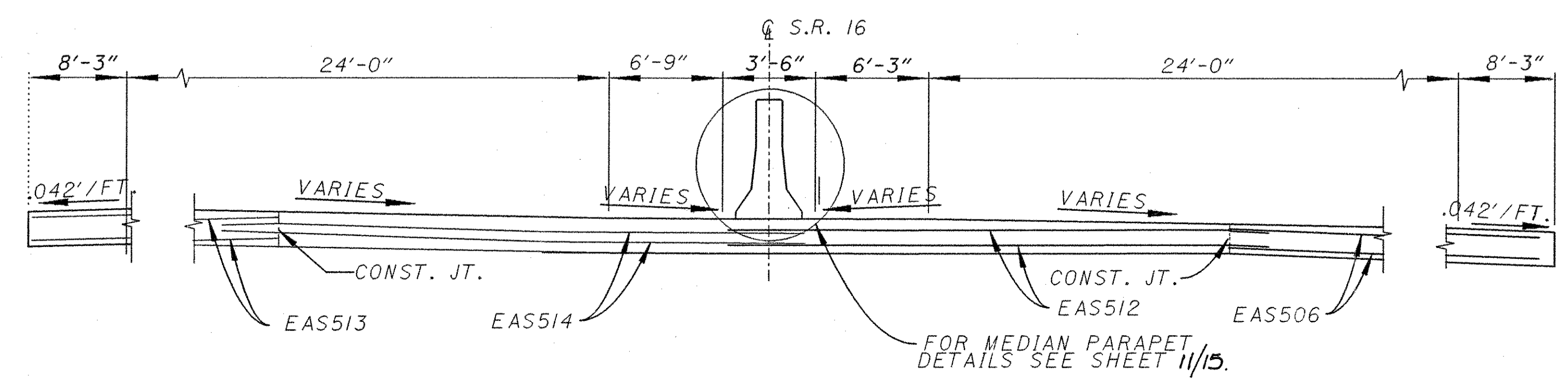
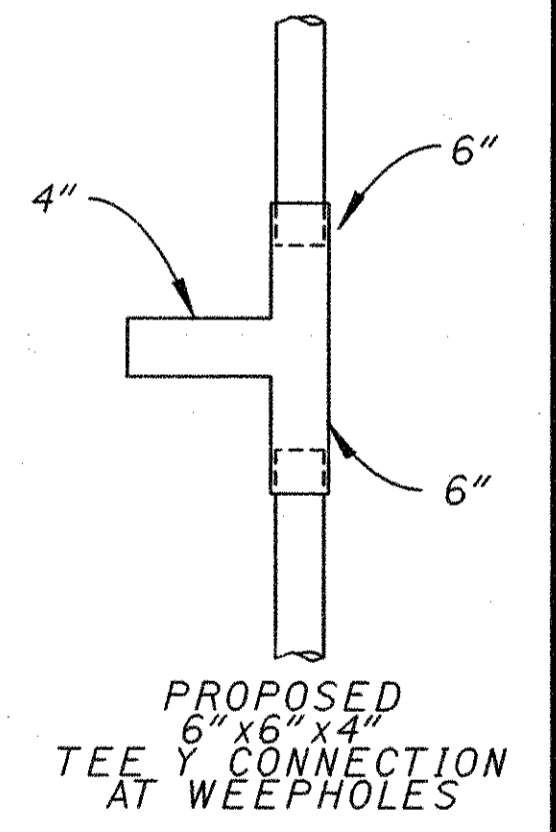
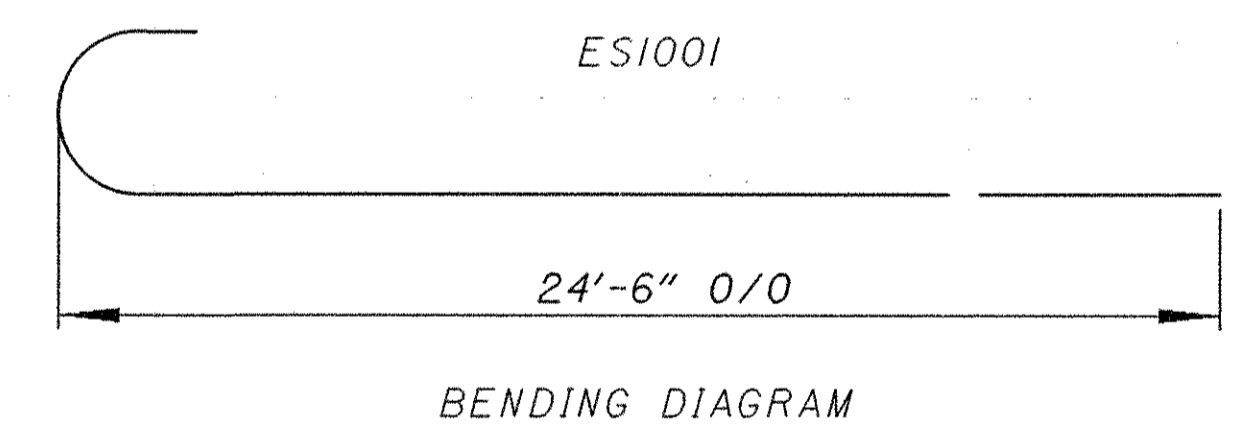
PIER				
MARK	NUMBER	LENGTH	SHAPE	WEIGHT
EP501	8	9'-0"	BT.	75
EP502	8	4'-8"	BT.	39
TOTAL PIERS				114
GRAND TOTAL				125,589

BENDING DIAGRAMS





NOTE: FOR EA806 BENDING DIAGRAMS AND QUANTITIES, SEE SHEET 14/15.



BAR SCHEDULE (EPOXY COATED)

MARK	No. REQD.	LENGTH	SHAPE	WEIGHT
EAS501	110	24'-6"	ST.	2811
EAS512	114	24'-7"	ST.	2923
EAS513	114	22'-6"	ST.	2675
EAS506	114	24'-0"	ST.	2854
EAS514	114	23'-0"	ST.	2735
EAS1001	276	25'-11"	BT.	30779
TOTAL (2 APPROACH SLABS)				44777

L0161928.DGN

DESCRIPTION

A TWO-SPAN PEDESTRIAN COMPOSITE PRECAST BOX BEAM BRIDGE IS PROPOSED OVER STATE ROUTE 16, APPROXIMATELY 1.5 MILES EAST OF STATE ROUTE 13, IN NEWARK, OHIO. THE PROJECT IS DESIGNATED AS LIC-16-19.65.

GEOLOGY

LICKING COUNTY, WITH THE EXCEPTION OF THE EASTERN PART OF THE COUNTY, LIES WITHIN THE GLACIATED AREA OF THE STATE OF OHIO. THE PROJECT AREA WAS GLACIATED BY BOTH THE ILLINOIAN AND WISCONSINAN GLACIATION STAGES.

GLACIAL TILL AND OUTWASH ARE PREDOMINATE TO THE PROJECT SITE. GLACIAL TILL IS AN UNSORTED, NON-STRATIFIED SOIL, CONSISTING OF CLAY, SILT, SAND, AND BOULDERS TRANSPORTED AND DISCONTINUOUSLY DEPOSITED BY GLACIAL ICE.

GLACIAL OUTWASH CONSISTS OF SAND AND GRAVEL DEPOSITED BY GLACIAL MELTWATER. THE OUTWASH AT THIS SITE IS INTERBEDDED WITH LAYERS OF SILT AND CLAY TILL.

INVESTIGATIONAL PROCEDURES

THREE TEST BORINGS WERE DRILLED ALONG THE PROPOSED BRIDGE ALIGNMENT. ONE BORING WAS DRILLED NEAR EACH SUBSTRUCTURE UNIT, AT EACH PROPOSED ABUTMENT AND AT THE PROPOSED INTERIOR PIER LOCATION. THE BORINGS WERE PERFORMED ON DECEMBER 20-21, 1994. EACH BORING WAS DRILLED WITH A TRUCK-MOUNTED DRILL RIG. THE BORING DEPTHS RANGED FROM 46.5 FT. TO 76.5 FT. SAMPLING OF THE BORINGS WAS PERFORMED AT 2.5 FT. INTERVALS TO 20 FT., AND AT 5 FT. INTERVALS THEREAFTER, TO THE MAXIMUM 76.5 FT. DEPTHS EXPLORED.

THE DRIVE SAMPLING WAS ACCOMPLISHED IN ACCORDANCE WITH "PENETRATION TEST AND SPLIT-BARREL SAMPLING OF SOILS", ASTM D 1586. A 2" O.D. BY 1-3/8" I.D. SPLIT-SPOON SAMPLER WAS DRIVEN A TOTAL OF 18" WITH THE TOTAL NUMBER OF BLOWS OF A 140 LB. HAMMER FALLING 30" BEING RECORDED FOR EACH 6" OF PENETRATION. THE SUM OF BLOWS FOR THE FINAL 12" OF PENETRATION IS THE STANDARD PENETRATION TEST RESULT, COMMONLY REFERRED TO AS THE N-VALUE. ALL SOIL SAMPLES WERE STORED IN GLASS JARS TO PROTECT AGAINST MOISTURE LOSS.

THE DRILL FOREMAN MAINTAINED A LOG OF THE ENTIRE DRILLING OPERATIONS, INCLUDING A DESCRIPTION OF THE MATERIALS ENCOUNTERED FROM EACH SPLIT-SPOON SAMPLE, THE DEPTH AT WHICH EACH SAMPLE WAS RECOVERED, THE TYPE OF SAMPLE, THE NUMBER OF BLOWS FOR EACH 6" OF DRIVE OF THE SPLIT-BARREL SAMPLER, THE NUMBER OF INCHES OF RECOVERY FOR EACH SAMPLE OBTAINED, LEVELS AT WHICH GROUNDWATER AND SEEPAGE WERE ENCOUNTERED, ALONG WITH OTHER PERTINENT INFORMATION DEVELOPED DURING THE DRILLING OPERATION.

UPON COMPLETION OF THE DRILLING, ALL SAMPLES WERE RETURNED TO OUR SOIL MECHANICS LABORATORY WHERE THE PROJECT ENGINEER INSPECTED EACH SAMPLE. EACH BORING LOG INCLUDED WITH THIS REPORT REPRESENTS THE LABORATORY CHECKED LOG, PER ODOT STANDARDS.

REPRESENTATIVE SAMPLES WERE SELECTED FOR THE PERFORMANCE OF PHYSICAL TESTS IN OUR LABORATORY TO DETERMINE THEIR ENGINEERING CHARACTERISTICS. INCLUDED IN THE TEST SCHEDULE WERE NATURAL MOISTURE CONTENT DETERMINATIONS, ATTERBERG LIMITS, AND SIEVE ANALYSIS WITH HYDROMETER TESTS.








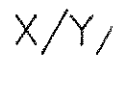


EXISTING SITE CONDITIONS

THE PROJECT SITE IS LOCATED ALONG S.R. 16 IN LICKING COUNTY, OHIO. THE PREDOMINATE SOILS ENCOUNTERED AT THIS SITE CONSIST OF AN UPPER MANTLE OF FILL OR POSSIBLE FILL, OVERLYING GLACIAL OUTWASH SAND AND GRAVEL INTERBEDDED WITH LAYERS OF SILT AND CLAY TILL.






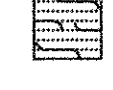



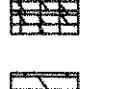




THE UPPER FILL OR POSSIBLE FILL CONSISTED OF UP TO 7.5 FT. OF SILTY CLAY AND SAND AND GRAVEL (A-6B AND A-1-B) WHICH WAS ENCOUNTERED AT ELEVATIONS FROM 839.0 TO 842.1. THE COHESIVE SILTY CLAY FILL IS STIFF IN CONSISTENCY. THE SAND AND GRAVEL FILL OR POSSIBLE FILL HAS A RELATIVE DENSITY OF LOOSE TO MEDIUM DENSE.

SAND AND GRAVEL OUTWASH INTERBEDDED WITH COHESIVE GLACIAL TILL EXTENDED BELOW THE FILL OR POSSIBLE FILL TO THE MAXIMUM DEPTHS EXPLORED OF 46.5 TO 76.5 FT. THE OUTWASH IS CLASSIFIED AS LOOSE TO DENSE WITH STANDARD PENETRATION TEST N-VALUES RANGING FROM 9 TO 48 BLOWS PER FOOT (BPF). MOISTURE CONTENTS OF THE OUTWASH RANGE FROM 4% TO 13%. CONSISTENCY OF THE TILL VARIED FROM MEDIUM STIFF TO VERY STIFF, WITH N-VALUES RANGING FROM 9 TO 24 BPF.

LEGEND

-  AUGER BORING LOCATION-PLAN VIEW
-  PRESS AND/OR DRIVE SAMPLE AND/OR CORE BORING LOCATION-PLAN VIEW
-  CAPPED PILE
-  FOOTING
-  FOOTING ON PILE
-  TR TOP OF ROCK
-  HORIZONTAL BAR ON BORING LOG INDICATES THE DEPTH THE SAMPLE WAS TAKEN
-  X/Y/Z FIGURES BESIDE THE BORING LOG IN PROFILE INDICATES THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST.
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
-  V INDICATES STATIC WATER ELEVATION

SYMBOLS OF ROCK TYPES

-  COAL
-  WEATHERED MUDSTONE
-  MUDSTONE
-  WEATHERED SHALE
-  SHALE
-  CLAYSTONE
-  SILTSTONE
-  WEATHERED SANDSTONE
-  SANDSTONE
-  LEACHED DOLOMITE
-  DOLOMITE
-  LEACHED LIMESTONE
-  LIMESTONE
-  BOULDERS OR COBBLES

GENERAL INFORMATION

DRIVE SAMPLE/PRESS SAMPLE/CORE BORINGS

DRIVE SAMPLE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED ROTARY-TYPE DRILLING MACHINE, EMPLOYING A 2" O.D., 1-3/8" I.D. SPLIT SPOON SAMPLING DEVICE, AT 2-1/2' AND/OR 5-FOOT DEPTH INTERVALS, DRIVEN BY MEANS OF A 140-POUND DROP-HAMMER WITH A FREE FALL OF 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLING DEVICE 18 INCHES IS CONSIDERED THE STANDARD PENETRATION TEST.

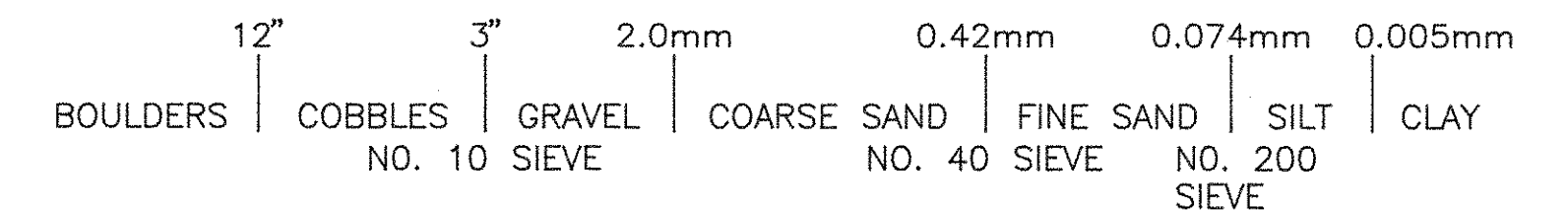
DRIVE/PRESS SAMPLE BORINGS ARE ALSO MADE BY MEANS OF A MECHANICALLY-POWERED ROTARY-TYPE DRILLING MACHINE, EMPLOYING A 2" O.D., 1-3/8" I.D. SPLIT SPOON SAMPLING DEVICE, OR A 3" O.D. THIN WALL PRESS SAMPLING DEVICE. THE PRESS SAMPLER IS ADVANCED BY CONTINUOUS UNIFORM PRESSURE, APPLIED BY THE DRILLING MACHINE.

CORE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED ROTARY-TYPE DRILLING MACHINE, EMPLOYING AN NXM CORE BARREL, WITH AN INDUSTRIAL DIAMOND CUTTING HEAD.

THE BORING LOG SHEETS DISPLAY A GRAPHIC PLOT OF THE INFORMATION OBTAINED, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, TYPE OF SAMPLE, THE STANDARD PENETRATION TEST READINGS IN THREE 6-INCH INCREMENTS, DEPTH AND ELEVATION OF PRESS SAMPLES, FIELD NUMBER ASSIGNED TO SAMPLE, SAMPLE DESCRIPTION-BASED ON LABORATORY TESTS, UTILIZING THE CASAGRANDE AC CLASSIFICATION SYSTEM, INCLUDING GRADATION, PLASTICITY AND MOISTURE CONTENT DETERMINATIONS. RESULTS OF STRENGTH AND CONSOLIDATION TESTING, IF PERFORMED ON UNDISTURBED SAMPLES, WILL APPEAR GRAPHICALLY ON SEPARATE ENCLOSURES. ROCK SAMPLES ARE DISPLAYED ON LOG SHEETS, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, AMOUNT OF RECOVERY AND A VISUAL CLASSIFICATION BASED ON TYPE, COLOR, DEGREE OF HARDNESS, GRAIN SIZE, DETERIORATION, BEDDING, ACID REACTION AND OTHER QUALIFYING FACTORS.

AT DEPTHS WHERE MATERIALS ARE BOULDERY OR GRAVELLY TO THE EXTENT THAT THE SAMPLER CANNOT BE UTILIZED, A WASH SAMPLE IS PROCURED AND VISUALLY CLASSIFIED, IN ORDER TO DETERMINE THE GENERAL CHARACTERISTICS OF THE MATERIAL. THESE SAMPLES ARE NOT CONSIDERED SUFFICIENTLY REPRESENTATIVE TO WARRANT LABORATORY TESTING.

PARTICLE SIZE DEFINITIONS



NOTE: ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS 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 BUREAU OF TESTS AT 1800 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

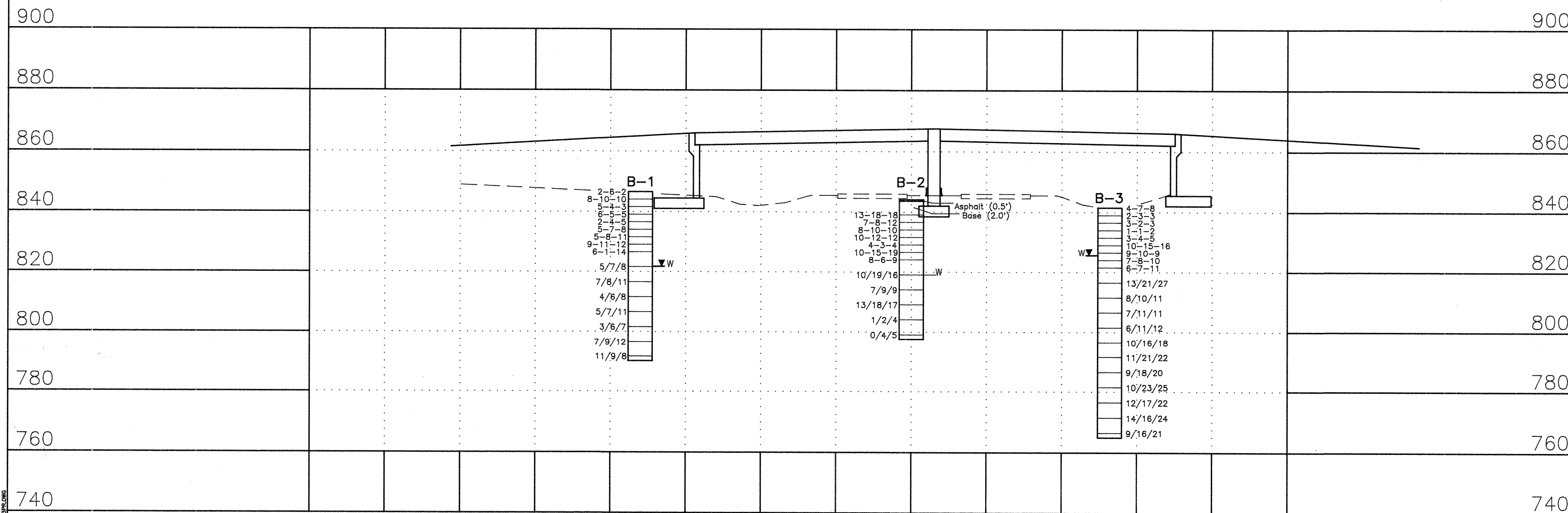
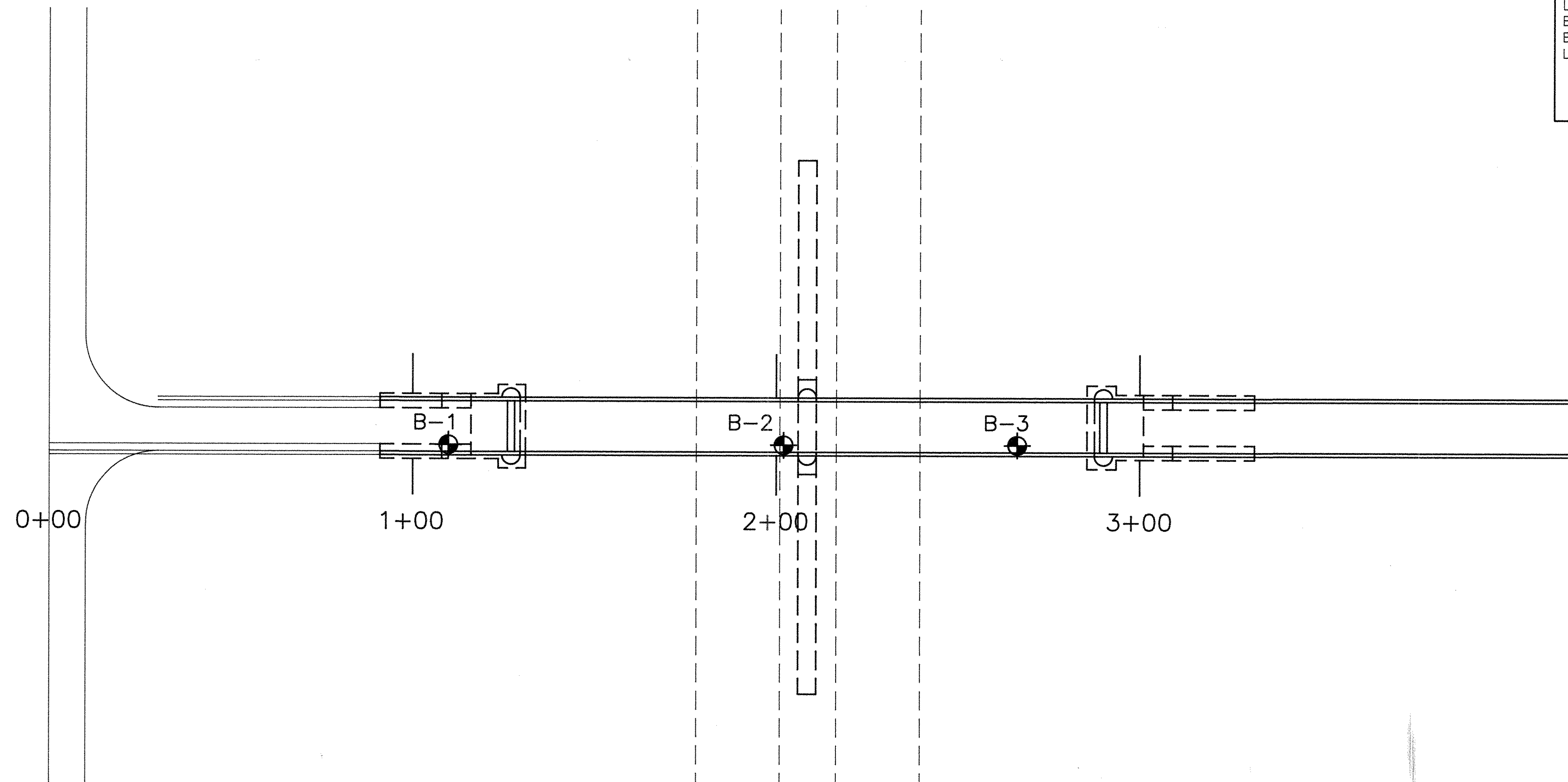
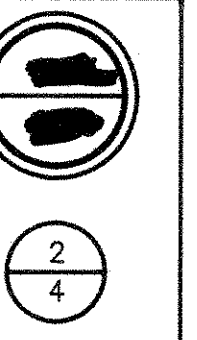
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

THE H. C. NUTTING COMPANY GEOTECHNICAL ENGINEERS AIRPORT ROAD CINCINNATI, OHIO 45226		
STRUCTURE FOUNDATION INVESTIGATION		
PROJECT NO. LIC-16-17.94 BIKE PATH OVER S.R. 16 (BRIDGE NO. LIC-16-1917) LICKING COUNTY, OHIO		
W.O. NO. 60020.023		
CHECKED BY K.G.A.	REVIEWED BY G.C.B.	DATE 02/27/95

SOIL PROFILE

LIC-16-17.94
 BRIDGE NO. LIC-16-1917
 BIKEPATH OVER S.R. 16
 LICKING COUNTY, OHIO

H.C. NUTTING COMPANY
 GEOTECHNICAL ENGINEERS
 CINCINNATI, OHIO 45226



Note: Samples which had overlapping text are shown as X-Y-Z.

Borings shown in plan view have been shaded.

H.C. NUTTING COMPANY GEOTECHNICAL ENGINEERS AIRPORT ROAD CINCINNATI OHIO 45226		
STRUCTURE FOUNDATION INVESTIGATION PROJECT NO. LIC-16-17.94 W.O. NO. 60020.023 BIKEPATH OVER S.R. 16 (BRIDGE NO. LIC-16-1917) LICKING COUNTY, OHIO		
BORING DATA		
CHECKED BY K.G.A.	REVIEWED BY G.C.B.	DATE 02/06/95

DRAWING NO. BRIDGE/16/1917

SOIL PROFILE

LIC-16-17.94
 BRIDGE NO. LIC-16-1917
 BIKEPATH OVER S.R. 16
 LICKING COUNTY, OHIO



3
4

H.C. NUTTING COMPANY
 GEOTECHNICAL ENGINEERS
 CINCINNATI, OHIO 45226

LOG OF BORING													
DATE STARTED		12/21/94		SAMPLER: TYPE		SPLIT SPOON		DIA. 2.0" O.D.		WATER ELEVATION:			
DATE COMPLETED		12/21/94		CASING: LENGTH		5' HOLLOW STEM AUGER		DIA. 3.25" I.D.		IMMEDIATE		821.6	
BORING NUMBER		B-1		CORE BARREL: TYPE				SIZE		AFTER COMP. HRS.		828.1	
STATION & OFFSET				1+10, CENTERLINE				SURFACE ELEVATION				846.6	
ELEV.	DEPTH	STD. PEN. (N)	DESCRIPTION	SA. NO.	PHYSICAL CHARACTERISTICS								SHTL CLASS
					% AGG	% CS	% FS	% SILT	% CLAY	% LL	% PI	% WC	
846.6	0												
	2	2-6-2	DARK BROWN SILTY CLAY WITH ROOTS AND GRAVEL, MOIST - STIFF (FILL)	1	V	I	S	U	A	L	14	A-6b	
844.1	4	8-10-10	BROWN FINE TO MEDIUM COARSE SAND AND GRAVEL, MOIST - MEDIUM DENSE TO LOOSE (POSSIBLE FILL)	2	V	I	S	U	A	L		A-1-b	
	6	5-4-3		3	V	I	S	U	A	L		A-1-b	
839.1	8	6-5-5	GRAY SILTY CLAY WITH GRAVEL, MOIST - STIFF	4	V	I	S	U	A	L	11	A-6b	
	10												
	12	2-4-5		5						21	16	12	A-6b
	14	5-7-8		6	V	I	S	U	A	L		A-6b	
831.6	16	5-8-11	GRAY SILTY CLAY WITH GRAVEL, MOIST - VERY STIFF	7	V	I	S	U	A	L	20	A-6b	
830.6	18		GRAY FINE TO MEDIUM COARSE SAND AND GRAVEL, MOIST - MEDIUM DENSE										
829.1	20	9-11-12	BROWN MEDIUM GRAVEL WITH SAND, MOIST - MEDIUM DENSE	8	V	I	S	U	A	L		A-1-b	
	22	6-11-14		9	41	46	9	4	0			A-1-b(0)	
	24												
	26	5-7-8		10	V	I	S	U	A	L		A-1-b	
	28												
	30												
	32	7-8-11		11	V	I	S	U	A	L		A-1-b	
	34												
	36	4-6-8		12	V	I	S	U	A	L		A-1-b	
	38												
806.1	40	5-7-11	GRAY SILT AND CLAY, MOIST - VERY STIFF	13	V	I	S	U	A	L		A-6a	
	42												
	44												
801.6	46	3-6-7	BROWN FINE TO MEDIUM COARSE SAND AND GRAVEL, MOIST - MEDIUM DENSE	14	V	I	S	U	A	L	10	A-1-b	
	48												
	50												
	52	7-9-12		15	V	I	S	U	A	L		A-1-b	
	54												
790.1	56	11-9-8		16	V	I	S	U	A	L		A-1-b	

BORING COMPLETED @ 56.5'

LOG OF BORING													
DATE STARTED		12/20/94		SAMPLER: TYPE		SPLIT SPOON		DIA. 2.0" O.D.		WATER ELEVATION:			
DATE COMPLETED		12/20/94		CASING: LENGTH		5' HOLLOW STEM AUGER		DIA. 3.25" I.D.		IMMEDIATE		819.6	
BORING NUMBER		B-2		CORE BARREL: TYPE				SIZE		AFTER COMP. HRS.		NONE	
STATION & OFFSET				2+02, CENTERLINE				SURFACE ELEVATION				844.6	
ELEV.	DEPTH	STD. PEN. (N)	DESCRIPTION	SA. NO.	PHYSICAL CHARACTERISTICS								SHTL CLASS
					% AGG	% CS	% FS	% SILT	% CLAY	% LL	% PI	% WC	
844.6	0												
844.1	2		ASPHALT										
842.1	4		SAND AND GRAVEL (BASE FILL MATERIAL)										
	6	13-18-18	BROWN SAND AND GRAVEL, SOME SILT, MOIST - DENSE	1	V	I	S	U	A	L	6	A-1-b	
839.6	8	7-8-12	GRAY SILTY CLAY WITH FINE TO COARSE GRAVEL, SOME SAND, MOIST - VERY STIFF TO MEDIUM STIFF	2	V	I	S	U	A	L	10	A-6b	
	10	8-10-10		3	34	16	20	22	8	18	7	10	A-6b
	12	10-12-12		4	V	I	S	U	A	L	11	A-6b	
	14	4-3-4		5	V	I	S	U	A	L	5	A-6b	
829.6	16	10-15-19	GRAY FINE TO COARSE SAND AND GRAVEL, WET - MEDIUM DENSE TO DENSE	6	V	I	S	U	A	L	4	A-1-b	
	18	8-6-19		7	V	I	S	U	A	L	4	A-1-b	
	20	10-19-16		8	V	I	S	U	A	L	4	A-1-b	
	22												
	24												
819.6	26	7-9-9	GRAY FINE TO FINE SAND, SOME GRAVEL, WET - MEDIUM DENSE TO DENSE, LOOSE @ 35'	9	21	27	43	8	1		11	A-3(0)	
	28												
	30												
	32	13-18-17		10	V	I	S	U	A	L	8	A-3	
	34												
	36	1-2-4		11	V	I	S	U	A	L	20	A-3	
	38												
804.6	40	0-4-5	GRAY SILT, SOME CLAY, WET - LOOSE	12						NP	28	A-4b	
	42												
	44												
799.6	46	4-5-6	GRAY CLAY, WET - MEDIUM STIFF	13	V	I	S	U	A	L	23	A-7-6	
798.6	46		GRAY FINE TO COARSE SAND WITH GRAVEL, WET - MEDIUM DENSE	13A	V	I	S	U	A	L	24	A-3a	

BORING COMPLETED @ 46.5'

H.C. NUTTING COMPANY GEOTECHNICAL ENGINEERS AIRPORT ROAD CINCINNATI OHIO 45226		
STRUCTURE FOUNDATION INVESTIGATION PROJECT NO. LIC-16-17.94 W.O. NO. 60020.023 BIKEPATH OVER S.R. 16 (BRIDGE NO. LIC-16-1917) LICKING COUNTY, OHIO		
BORING DATA		
CHECKED BY K.G.A.	REVIEWED BY G.C.B.	DATE 02/06/95

SOIL PROFILE

LIC-16-17.94
 BRIDGE NO. LIC-16-1917
 BIKEPATH OVER S.R. 16
 LICKING COUNTY, OHIO

H.C. NUTTING COMPANY
 GEOTECHNICAL ENGINEERS
 CINCINNATI, OHIO 45226



WICKED

LOG OF BORING													
DATE STARTED		12/21/94		SAMPLER: TYPE		SPLIT SPOON		DIA. 2.0" O.D.		WATER ELEVATION:			
DATE COMPLETED		12/21/94		CASING: LENGTH		5' HOLLOW STEM AUGER		DIA. 3.25" I.D.		IMMEDIATE			
BORING NUMBER		B-3		CORE BARREL: TYPE				SIZE		AFTER COMP. HRS.			
BORING NUMBER		B-3		CORE BARREL: TYPE				SIZE		AFTER COMP. HRS.			
STATION & OFFSET				2+66, CENTERLINE				SURFACE ELEVATION				841.5	
ELEV.	DEPTH	STD. PEN. (N)	DESCRIPTION	SA. NO.	PHYSICAL CHARACTERISTICS								
					% AGG	% CS	% FS	% SILT	% CLAY	% LL	% PI	% WC	SHTL CLASS
841.5	0												
	2	4-7-8	DARK BROWN SILTY CLAY WITH SAND AND GRAVEL, MOIST - STIFF (FILL)	1		V	I	S	U	A	L		A-6b
839.0	4	2-3-3	GRAY SILTY CLAY WITH GRAVEL, MOIST - MEDIUM STIFF	2						23	8	13	A-6b
	6	3-2-3		3		V	I	S	U	A	L	12	A-6b
834.0	8	1-1-2	GRAY SILTY CLAY WITH NOTED SAND SEAMS, MOIST - VERY SOFT	4		V	I	S	U	A	L	15	A-6b
	10												
830.5	12	3-4-5	BROWN FINE TO MEDIUM COARSE SAND AND GRAVEL, MOIST - LOOSE	5		V	I	S	U	A	L	13	A-6b
829.0	14	10-15-16	BROWN MEDIUM GRAVEL WITH FINE SAND, MOIST - DENSE TO MEDIUM DENSE	6		V	I	S	U	A	L		A-1-b
	16	9-10-9		7	47	27	19	6	0				A-1-b(0)
	18	7-8-10		8		V	I	S	U	A	L		A-1-b
	20	6-7-11		9		V	I	S	U	A	L		A-1-b
	22												
	24												
	26	13-21-27		10		V	I	S	U	A	L		A-1-b
	28												
	30												
	32	8-10-11		11		V	I	S	U	A	L		A-1-b
	34												
806.5	36	7-11-11	GRAY SILT AND CLAY, MOIST - VERY STIFF	12		V	I	S	U	A	L	25	A-6a
	38												
	40												
	42	6-11-12		13		V	I	S	U	A	L		A-6a
	44												
796.0	46	10-16-18	BROWN VERY FINE TO COARSE SAND AND GRAVEL, MOIST - DENSE	14		V	I	S	U	A	L		A-1-b
	48												
	50												
	52	11-21-22		15		V	I	S	U	A	L		A-1-b
	54												
	56	9-18-20		16	42	32	18	7	1				A-1-b(0)
	58												
	60												
	62	10-23-25		17		V	I	S	U	A	L		A-1-b
	64												
	66	12-17-22		18		V	I	S	U	A	L		A-1-b
	68												
771.5	70	14-16-24	BROWN VERY FINE TO MEDIUM COARSE SAND AND GRAVEL, MOIST - DENSE	19		V	I	S	U	A	L		A-1-b
	72												
	74												
765.0	76	9-16-21		20		V	I	S	U	A	L		A-1-b

BORING COMPLETED @ 76.5'

2" DIA. PRESS SIGN FOR 079

D-2

H.C. NUTTING COMPANY GEOTECHNICAL ENGINEERS AIRPORT ROAD CINCINNATI, OHIO 45226		
STRUCTURE FOUNDATION INVESTIGATION PROJECT NO. LIC-16-17.94 W.O. NO. 60020.023 BIKEPATH OVER S.R. 16 (BRIDGE NO. LIC-16-1917) LICKING COUNTY, OHIO		
BORING DATA		
CHECKED BY K.G.A.	REVIEWED BY G.C.B.	DATE 02/06/95

DRAWING NO. 1 BR0203.DWG