

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-71-14.96

CITY OF CLEVELAND
CITY OF BROOKLYN
CUYAHOGA COUNTY

PROJECT DESCRIPTION:

THIS PROJECT INVOLVES THE UPGRADING OF
IR-71 FROM CLEVELAND'S SOUTHERN CORPORATION
LIMIT TO IR-90 IN THE CITIES OF CLEVELAND
AND BROOKLYN. MAJOR WORK ITEMS INCLUDE
PAVEMENT REPAIR, ASPHALT CONCRETE OVERLAY,
PAVEMENT REPLACEMENT, AND PAVEMENT MARKINGS.

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.

1997 SPECIFICATIONS

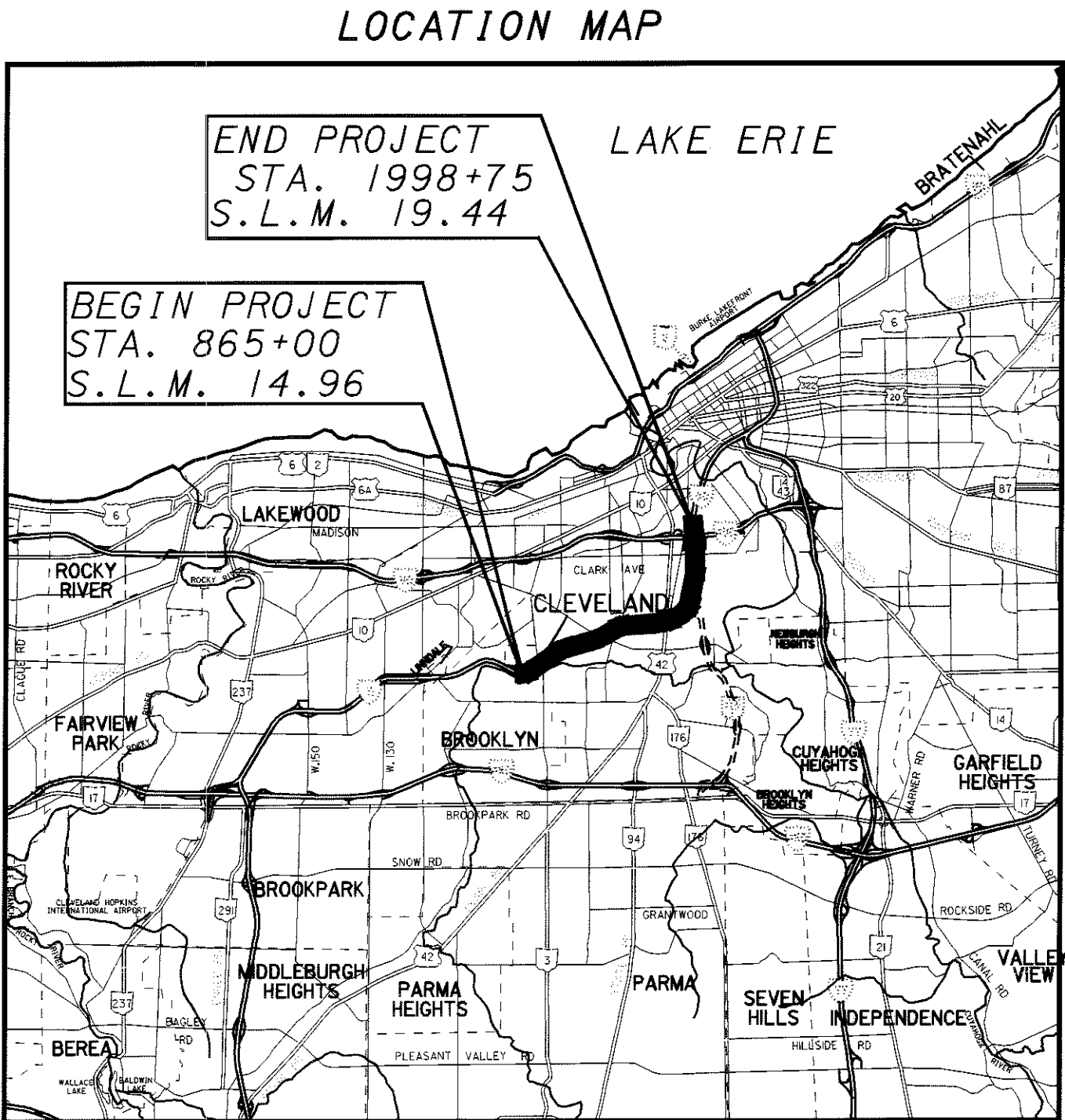
THE STANDARD SPECIFICATIONS OF THE STATE
OF OHIO, DEPARTMENT OF TRANSPORTATION,
INCLUDING CHANGES AND SUPPLEMENTAL SPECI-
FICATIONS LISTED IN THE PROPOSAL SHALL
GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE
THAT THE MAKING OF THIS IMPROVEMENT WILL
NOT REQUIRE THE CLOSING TO TRAFFIC OF THE
HIGHWAY AND THAT PROVISIONS FOR THE
MAINTENANCE AND SAFETY OF TRAFFIC WILL BE
AS SET FORTH IN THE PLANS AND ESTIMATES.

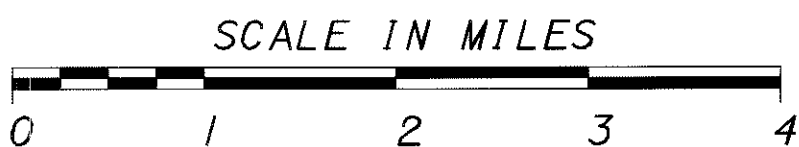
APPROVED 
DATE 2/4/2002 DISTRICT DEPUTY DIRECTOR

APPROVED 
DATE 11-6-01 DIRECTOR, DEPARTMENT OF
TRANSPORTATION

UNDER AUTHORITY OF SECTION 4511.21, DIVI-
SION (1) OF THE REVISED CODE OF OHIO, THE
REVISED PRIMA FACIE SPEED LIMITS AS INDI-
CATED HEREIN ARE DETERMINED TO BE REASON-
ABLE AND SAFE, AND ARE HEREBY ESTABLISHED
FOR THE DURATION OF THIS PROJECT. THE
PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY
ESTABLISHED SHALL BECOME EFFECTIVE WHEN
APPROPRIATE SIGNS GIVING NOTICE THEREOF
ARE ERECTED.



LATITUDE: 41°26'56" LONGITUDE: 81°44'09"



PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES
OTHER ROADS

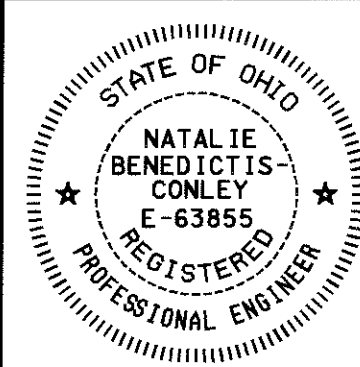
DESIGN DESIGNATION

CURRENT ADT (2001)	89000
DESIGN YEAR ADT (2021)	101320
DESIGN HOURLY VOLUME (2021)	9119
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	8%
DESIGN SPEED	65 M.P.H.
LEGAL SPEED	60 M.P.H.
DESIGN FUNCTIONAL CLASSIFICATION	URBAN INTERSTATE

DESIGN EXCEPTIONS:

SHOULDER WIDTH	5/26/94
HORIZONTAL ALIGNMENT	5/26/94

PLAN PREPARED BY:
OHIO DEPARTMENT OF
TRANSPORTATION
DISTRICT 12
PRODUCTION



INDEX OF SHEETS:

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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

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS
BP-1.1	7-28-00	GR-1.1M	10-21-97	DM-1.1	7-20-01	HL-10.13M	5-01-95	TC-65.10	10-19-01	MT-98.12M 6-24-93 806 9-09-97
BP-2.1	7-28-00	GR-1.2M	1-3-96	DM-1.2	7-20-01	HL-10.31	7-20-01	TC-65.11	10-19-01	MT-98.13M 6-24-93 814 6-02-98
BP-2.2	7-28-00	GR-1.3M	11-30-94	DM-4.3	7-20-01	HL-20.11M	3-31-95	TC-65.12	10-19-01	MT-98.14M 6-24-93 828 12-14-00
BP-2.3	7-28-00	GR-2.1M	4-14-98	DM-4.4	7-20-01	HL-20.13M	1-31-97	TC-71.10M	9-1-93	MT-98.15M 6-24-93 842 1-06-99
BP-2.5	7-28-00	GR-3.1M	10-21-97			HL-20.21	7-20-01	TC-72.20	1-19-01	MT-98.16M 6-24-93 848 6-30-98
BP-3.1	7-28-00	GR-3.2M	10-21-97	I-2.1M	4-14-98	HL-30.11	7-20-01	TC-73.10	1-19-01	MT-98.17M 4-25-94 864 7-11-00
BP-6.1	7-28-00	GR-4.2M	10-21-97			HL-30.21M	5-01-95	TC-82.10	1-19-01	MT-98.18M 4-25-94 870 3-27-01
BP-9.1	7-28-00	GR-5.2M	11-30-94	AS-1-81	4-20-01	HL-30.22	7-20-01	MT-98.19M	3-01-96	877 4-13-99
		GR-5.3M	11-30-94			HL-40.10	7-20-01	MT-35.10	4-20-01	MT-99.10M 1-30-95 905 4-01-98
		GR-6.1M	1-3-96			HL-50.11	7-20-01	MT-95.30M	4-25-94	MT-102.10M 1-30-95 906 5-05-98
F-1.1	7-28-00	GR-6.2M	1-3-96			HL-60.11	7-20-01	MT-95.40M	4-25-94	MT-102.20M 1-30-95 907 10-21-98
F-3.1	7-28-00	RM-1.1	4-29-99			HL-60.12	7-20-01	MT-95.41M	4-25-94	MT-105.10M 4-25-94 908 11-07-00
F-3.2	7-28-00	RM-4.2M	10-21-97			HL-60.21	7-20-01			MT-105.11M 4-25-94
F-3.3	7-28-00	RM-4.3M	10-21-97			HL-60.31	7-20-01			
F-3.4	7-28-00	RM-4.4M	10-21-97							
		RM-4.5M	10-21-97							

CUY-IR-71-14.96
020003 P1D-9870
Dist 12 1/9/2002

igrm

AW2411002-100-22

\\PROJECTS\PI\09870\dgn\Roadway\09870GTAD.DGN

FEDERAL PROJECT NO.
TE21-6020(037)

P1D NO.
9870

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVMENT

NONE

CUYAHOGA COUNTY
CUY-71-14.96

1
127

CURVE NO. 8
SC = STA. 846+83.25
L = 1101.08
D_C = 3°30'00"
MAX.
SUPER = 0.083 FT/FT

SPIRAL NO. 8A
TS = STA. 840+83.25
SC = STA. 846+83.25
MAX.
SUPER = 0.083 FT/FT

SPIRAL NO. 8B
CS = STA. 855+51.72
ST = STA. 861+51.72
MAX.
SUPER = 0.083 FT/FT

SPIRAL NO. 11
TS = STA. 909+19.22
SC = STA. 913+69.22
MAX.
SUPER = 0.059 FT/FT

CURVE NO. 11
SC = STA. 913+69.22
L = 500.71
D_C = 2°00'00"
MAX.
SUPER = 0.059 FT/FT

SPIRAL NO. 13
TS = STA. 958+13.74
SC = STA. 960+63.74
MAX.
SUPER = 0.047 FT/FT

CURVE NO. 14
SC = STA. 877+15.92
L = 144.19
D_C = 4°30'00"
MAX.
SUPER = 0.083 FT/FT

CURVE NO. 18
P.C. = STA. 924+77.12
L = 646.82
D_C = 1°28'00"
MAX.
SUPER = 0.036 FT/FT

SPIRAL NO. 16C
CS = STA. 911+96.46
SC = STA. 913+96.46
MAX.
SUPER = 0.083 FT/FT

CURVE NO. 18A
PC = STA. 923+70.29
L = 127.13
D_C = 1°29'06"
MAX.
SUPER = 0.083 FT/FT

CURVE NO. 16
SC = STA. 907+99.41
L = 408.85
D_C = 4°00'00"
MAX.
SUPER = 0.083 FT/FT

SPIRAL NO. 8C
CS = STA. 857+84.33
ST = STA. 863+84.33
MAX.
SUPER = 0.083 FT/FT

SPIRAL NO. 9
TS = STA. 870+57.75
SC = STA. 876+57.75
MAX.
SUPER = 0.083 FT/FT

SPIRAL NO. 11
CS = STA. 918+69.93
ST = STA. 923+19.93
MAX.
SUPER = 0.059 FT/FT

CURVE NO. 13
SC = STA. 960+63.74
L = 1041.67
D_C = 2°00'00"
MAX.
SUPER = 0.047 FT/FT

SPIRAL NO. 15
CS = STA. 896+31.79
ST = STA. 899+31.79
MAX.
SUPER = 0.036 FT/FT

SPIRAL NO. 14-B
CS = STA. 881+60.11
SC = STA. 886+60.11
MAX.
SUPER = 0.083 FT/FT

SPIRAL NO. 17B
CS = STA. 916+64.60
SC = STA. 918+64.60
MAX.
SUPER = 0.0156 FT/FT

SPIRAL NO. 16A
TS = STA. 901+99.41
SC = STA. 907+99.41
MAX.
SUPER = 0.083 FT/FT

CURVE NO. 10
PCC = STA. 885+77.16
L = 988.95
D_C = 12°31'36"
MAX.
SUPER = 0.030 FT/FT

CURVE NO. 9
SC = STA. 876+57.75
L = 919.41
D_C = 41°22'24"
MAX.
SUPER = 0.080 FT/FT

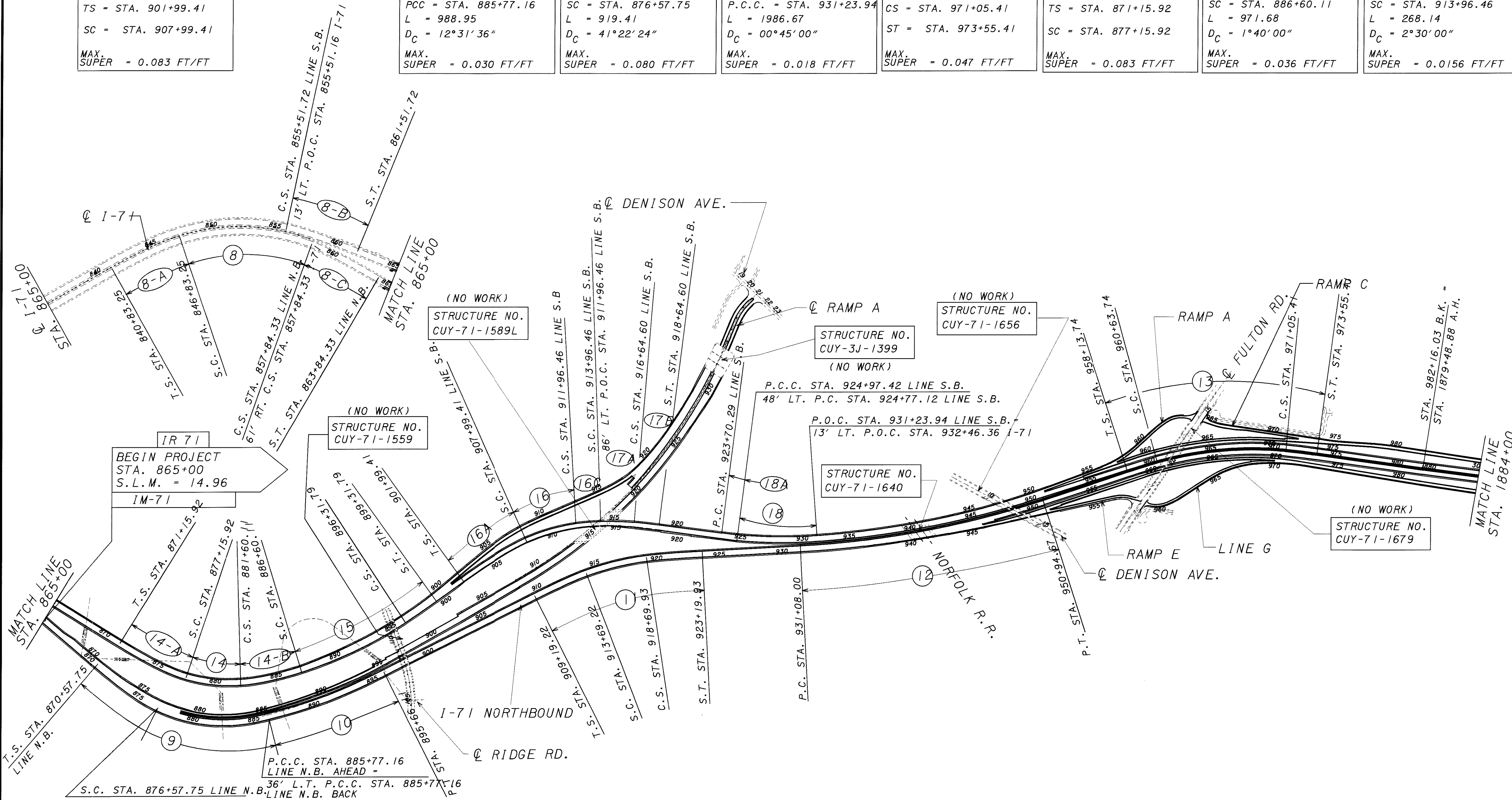
CURVE NO. 12
P.C.C. = STA. 931+23.94
L = 1986.67
D_C = 00°45'00"
MAX.
SUPER = 0.018 FT/FT

SPIRAL NO. 13
CS = STA. 971+05.41
ST = STA. 973+55.41
MAX.
SUPER = 0.047 FT/FT

SPIRAL NO. 14A
TS = STA. 871+15.92
SC = STA. 877+15.92
MAX.
SUPER = 0.083 FT/FT

CURVE NO. 15
SC = STA. 886+60.11
L = 971.68
D_C = 1°40'00"
MAX.
SUPER = 0.036 FT/FT

CURVE NO. 17A
SC = STA. 913+96.46
L = 268.14
D_C = 2°30'00"
MAX.
SUPER = 0.0156 FT/FT



CURVE NO. 1
PCC = STA. 1899+23.96
L = 1121.23
D_C = 4°0'00"
MAX.
SUPER = 0.036 FT/FT

CURVE NO. 5
PCC = STA. 1910+65.79
L = 990.85
D_C = 3°0'00"
MAX.
SUPER = 0.071 FT/FT

CURVE NO. 9
PC = STA. 1940+84.03
L = 1394.59
D_C = 1°0'00"
MAX.
SUPER = 0.024 FT/FT

CURVE NO. 2
PCC = STA. 1910+45.18
L = 892.92
D_C = 4°0'00"
MAX.
SUPER = 0.083 FT/FT

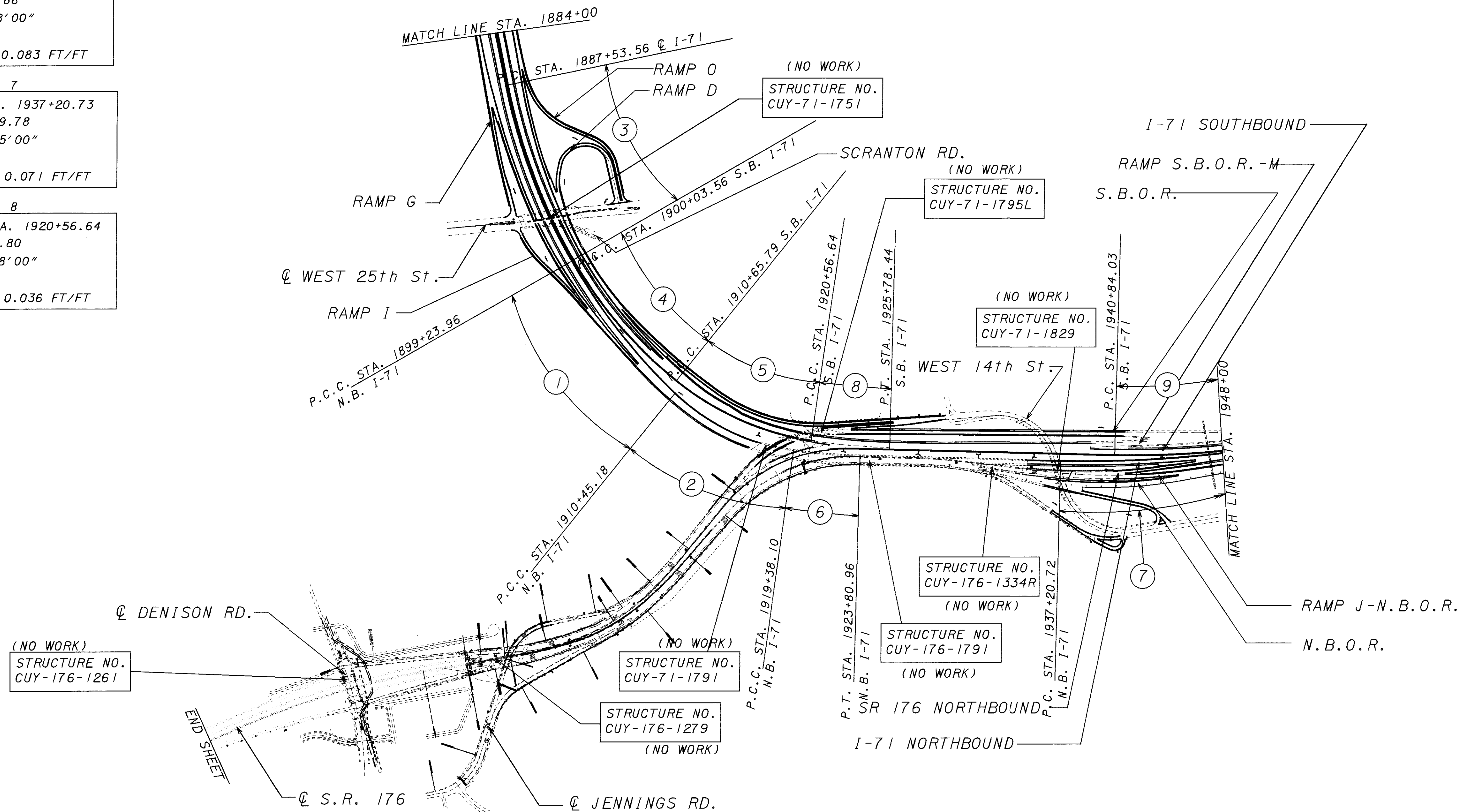
CURVE NO. 6
PCC = STA. 1919+38.10
L = 442.86
D_C = 1°28'00"
MAX.
SUPER = 0.083 FT/FT

CURVE NO. 3
PC = STA. 1887+53.56
L = 1250.00
D_C = 1°28'00"
MAX.
SUPER = 0.036 FT/FT

CURVE NO. 7
PC = STA. 1937+20.73
L = 1449.78
D_C = 0°45'00"
MAX.
SUPER = 0.071 FT/FT

CURVE NO. 4
PCC = STA. 1900+03.56
L = 1062.23
D_C = 2°0'00"
MAX.
SUPER = 0.047 FT/FT

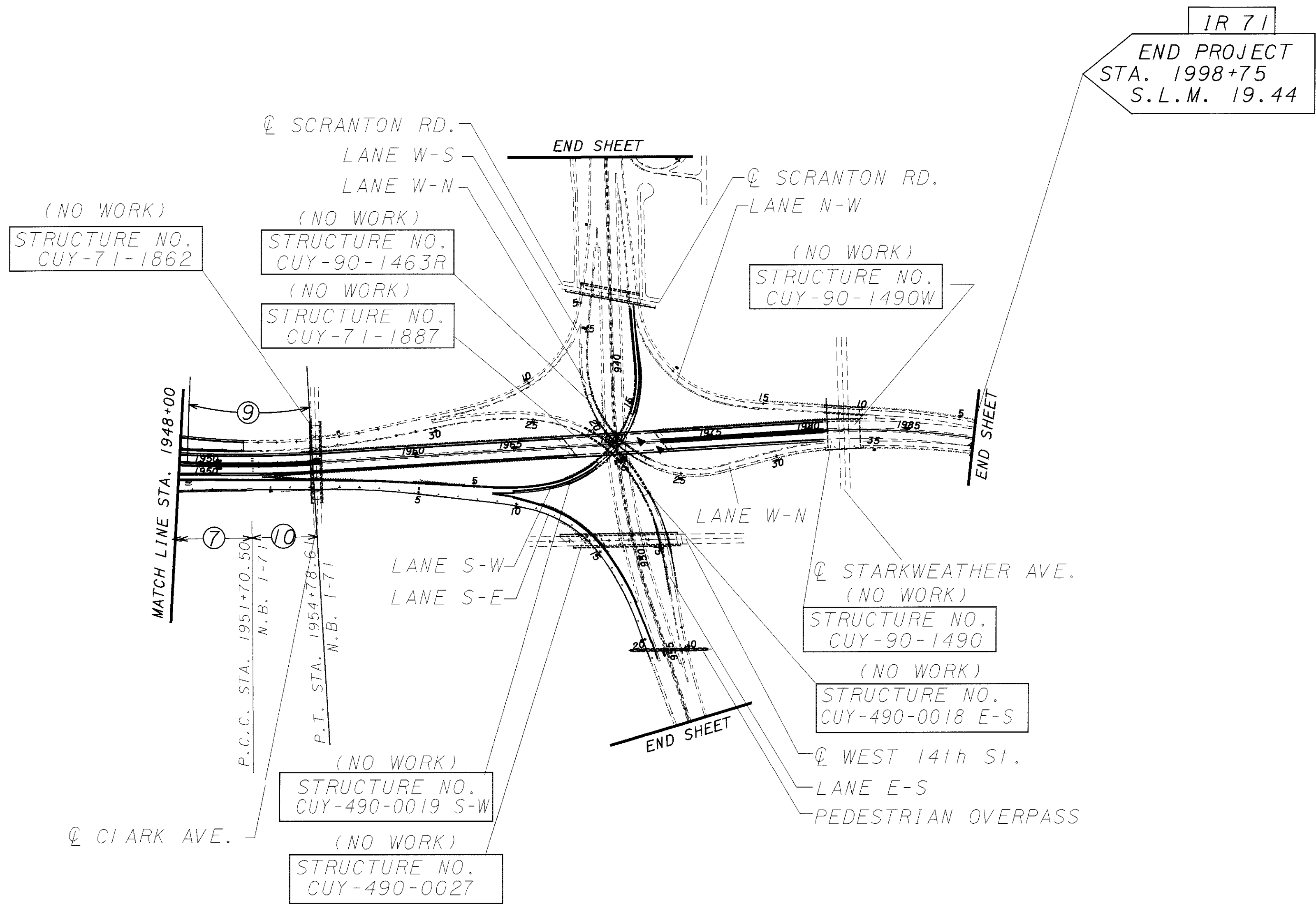
CURVE NO. 8
PCC = STA. 1920+56.64
L = 521.80
D_C = 1°28'00"
MAX.
SUPER = 0.036 FT/FT



CURVE NO. 7
PC = STA. 1937+20.73
L = 1449.78
D_C = 0°45'00"
MAX.
SUPER = 0.071 FT/FT

CURVE NO. 9
PC = STA. 1940+84.03
L = 1394.59
D_C = 1°0'00"
MAX.
SUPER = 0.024 FT/FT

CURVE NO. 10
PCC = STA. 1951+70.50
L = 308.11
D_C = 0°45'00"
MAX.
SUPER = 0.078 FT/FT



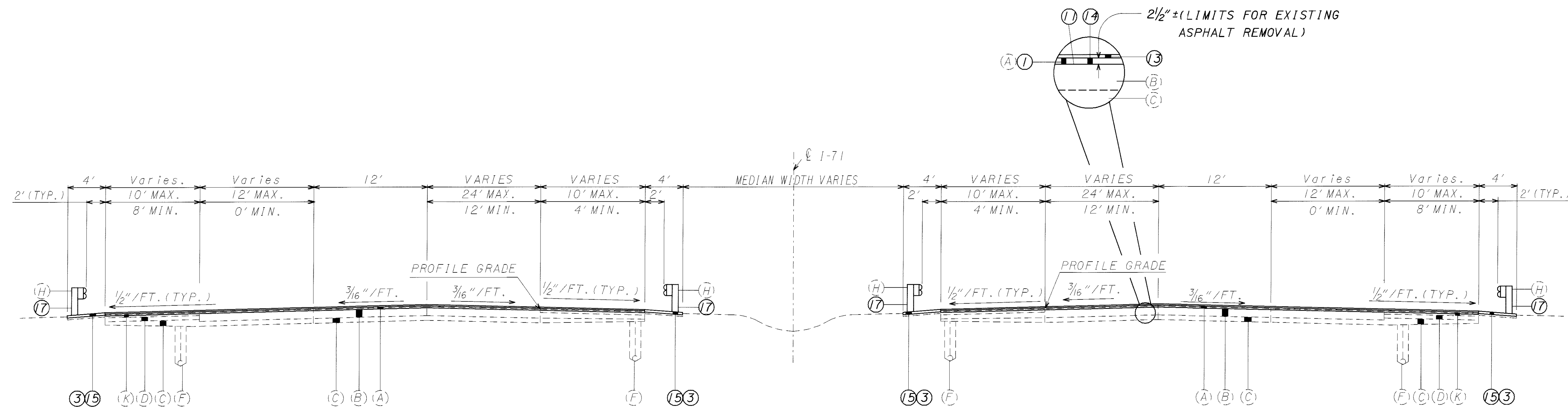


SCALE IN FEET

CALCULATED
KAS
CHECKED
LDH

TYPICAL SECTIONS
IR-71

CUYAHOGA COUNTY
CUY-71-14.96



NORMAL UNCURBED DIVIDED SECTION

STA. 865+00 TO STA. 869+75	(SB)
STA. 896+25 TO STA. 902+00	(SB)
STA. 912+00 TO STA. 924+75	(SB)
STA. 1929+50 TO STA. 1935+00	(SB)
STA. 865+00 TO STA. 879+00	(NB)
STA. 892+00 TO STA. 907+75	(NB)

EXISTING LEGEND

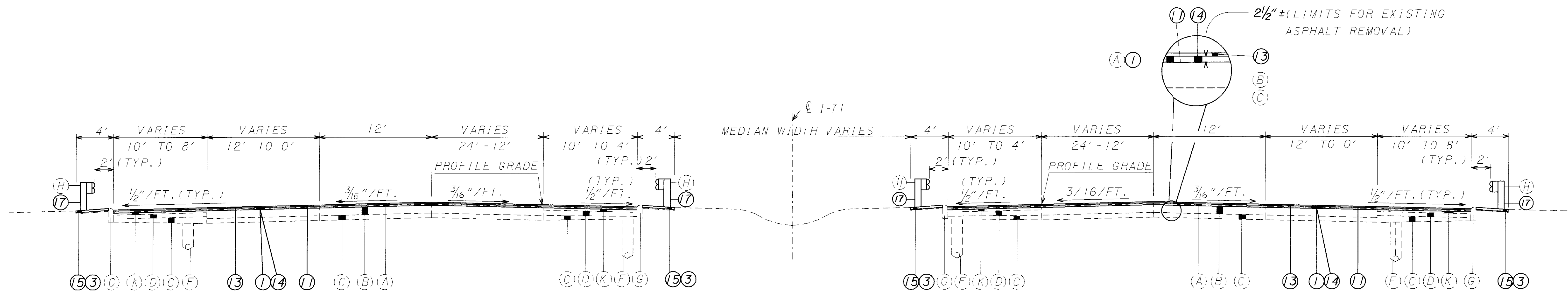
- (A) 2 1/2" ASPHALT CONCRETE
- (B) 10" CONCRETE PAVEMENT (9" ON RAMP)
- (C) SUBBASE
- (D) AGGREGATE BASE
- (E) 9" PLAIN CONCRETE PAVEMENT
- (F) UNDERDRAIN
- (G) CURB (SANDSTONE OR CONCRETE)
- (H) GUARDRAIL
- (I) CONCRETE BARRIER
- (J) 4" CONCRETE MEDIAN
- (K) 3" BITUMINOUS AGGREGATE BASE COURSE
- (L) ±4' ASPHALT CONCRETE

PROPOSED LEGEND

- (1) ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN
- (2) ITEM 202 - PAVEMENT REMOVED
- (3) ITEM 203 - LINEAR GRADING
- (4) ITEM 203 - EMBANKMENT
- (5) ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
- (6) ITEM 203 - SUBGRADE COMPACTION
- (7) ITEM 254 - PAVEMENT PLANING, PORTLAND CONCRETE, AS PER PLAN
- (8) ITEM 301 - BITUMINOUS AGGREGATE BASE
- (9) ITEM 304 - AGGREGATE BASE, AS PER PLAN
- (10) ITEM 305 - 9" OR 10" CONCRETE BASE, AS PER PLAN
- (11) ITEM 407 - TACK COAT
- (12) ITEM 408 - BITUMINOUS PRIME COAT
- (13) ITEM 446 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1H, AS PER PLAN (1 1/2")
- (14) ITEM 446 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-28 (2 1/2")
- ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
- (15) ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22 (UNDER GUARDRAIL), AS PER PLAN
- (16) ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
- (17) ITEM 606 - GUARDRAIL, TYPE 5
- (18) ITEM 606 - GUARDRAIL, BARRIER DESIGN, TYPE 5
- (19) ITEM 612 - CONCRETE MEDIAN
- (20) ITEM 617 - COMPACTED AGGREGATE, TYPE A, AS PER PLAN
- (21) ITEM 622 - CONCRETE BARRIER, TYPE B, AS PER PLAN
- (22) ITEM SPECIAL - ENGINEERED FILL, CLASS II
- (23) ITEM SPECIAL - ENGINEERED FILL, CLASS IV
- (24) ITEM SPECIAL - GEOTEXTILE FABRIC, 712.09, TYPE D

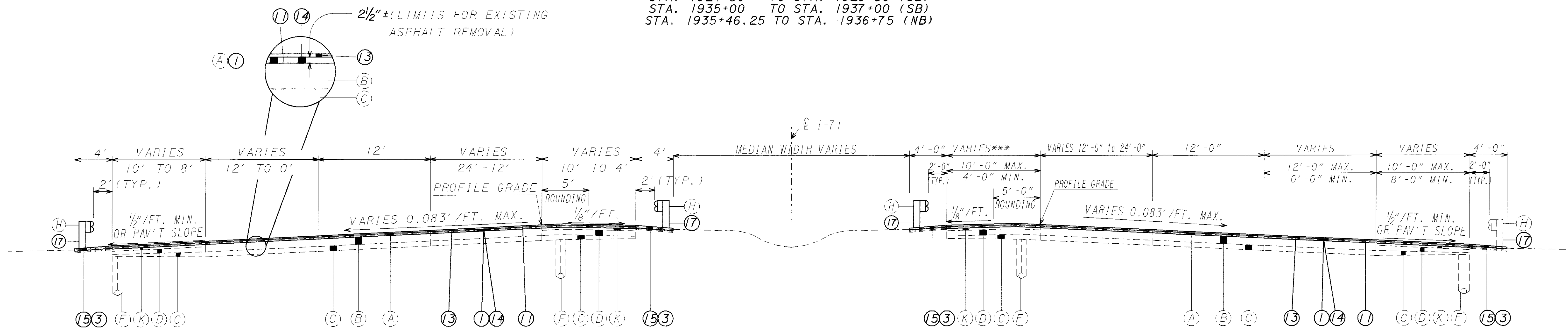
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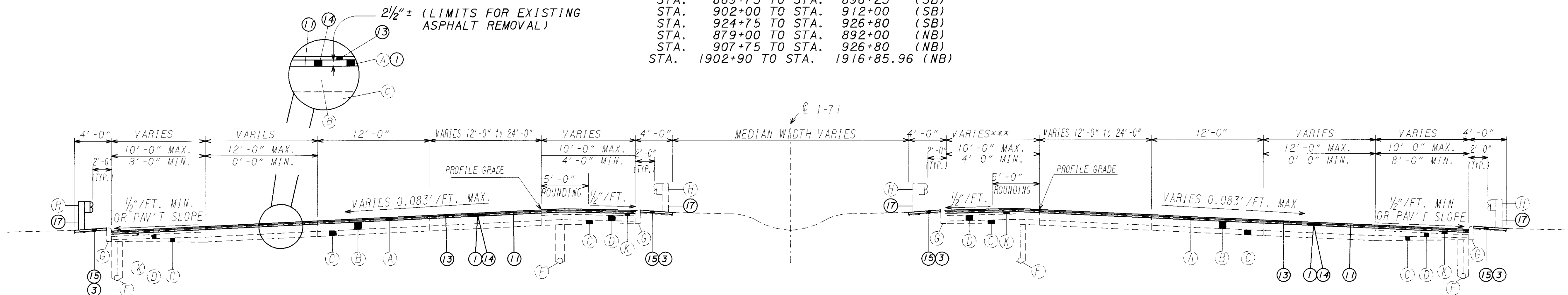
NORMAL CURBED DIVIDED SECTION

STA. 1924+50 TO STA. 1929+50 (SB)
STA. 1935+00 TO STA. 1937+00 (SB)
STA. 1935+46.25 TO STA. 1936+75 (NB)



SUPERELEVATED UNCURBED SECTION (3 OR 4 LANES)

STA. 869+75 TO STA. 896+25 (SB)
STA. 902+00 TO STA. 912+00 (SB)
STA. 924+75 TO STA. 926+80 (SB)
STA. 879+00 TO STA. 892+00 (NB)
STA. 907+75 TO STA. 926+80 (NB)
STA. 1902+90 TO STA. 1916+85.96 (NB)



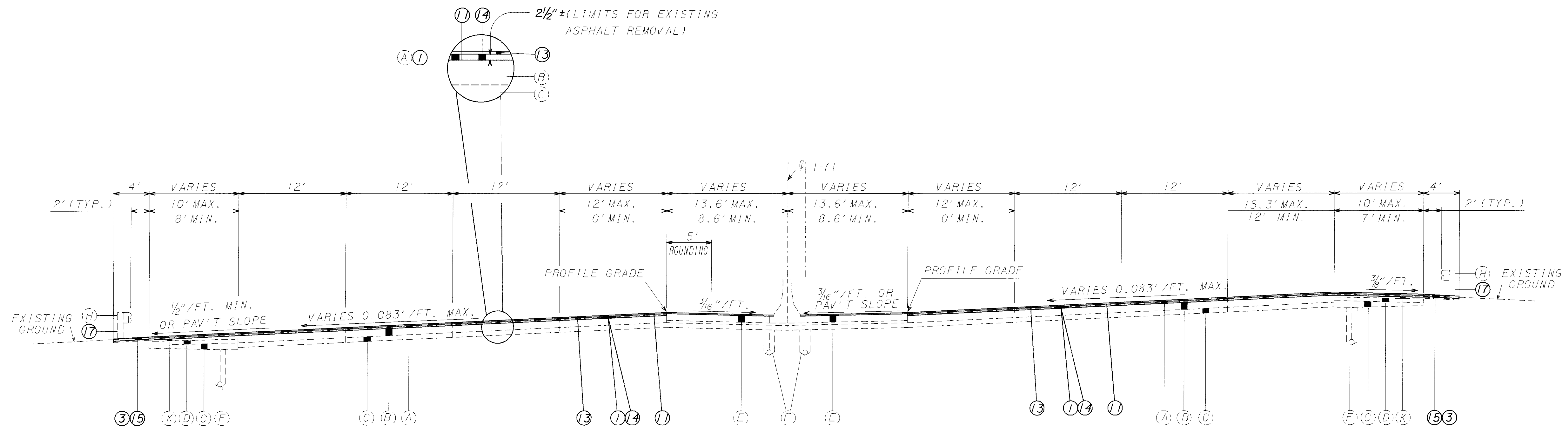
SUPERELEVATED CURBED SECTION (3 OR 4 LANES)

STA. 1902+90 TO STA. 1924+50 (SB)
STA. 1937+75 TO STA. 1947+85 (SB)
STA. 1936+75 TO STA. 1947+85 (NB)

*** 4'-0" SHOULDER AT STA. 1903+15 TO STA. 1917+10.96 N.B. I-71
STA. 901+11.07 TO STA. 914+87 S.B. I-71
5'-0" SHOULDER AT STA. 1902+90 TO STA. 1903+15 N.B. I-71
STA. 1902+90 TO STA. 1917+50 S.B. I-71
THE SHOULDER SLOPES AT THESE LOCATIONS ARE:
1/2" / FT. MIN. OR PAV'T SLOPE

FOR LEGEND, SEE SHEET 5

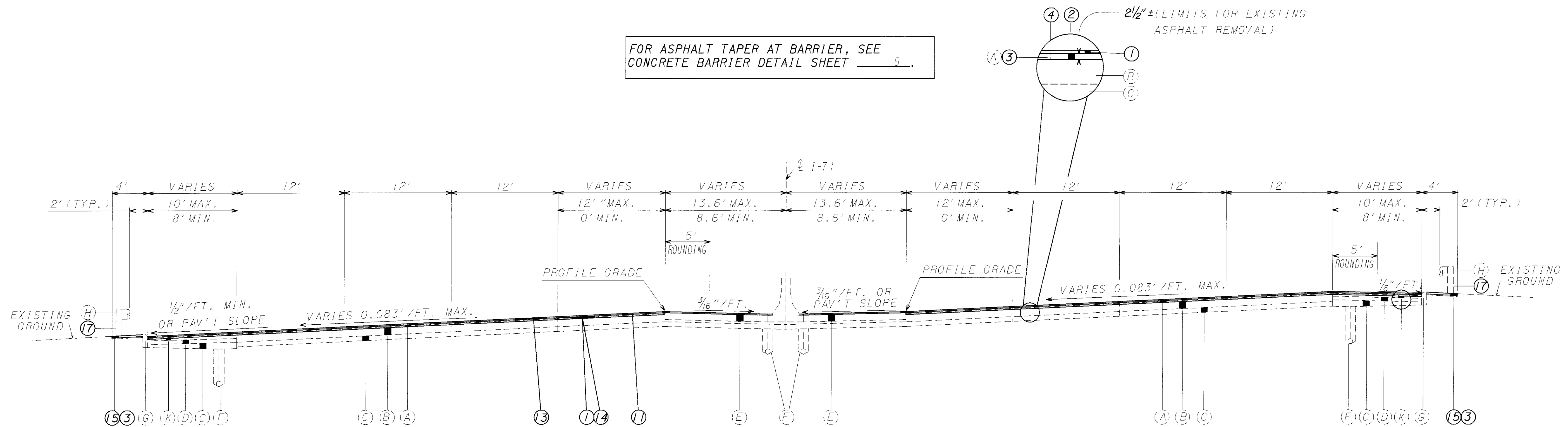
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SUPERELEVATED UNCURBED SECTION (3 OR 4 LANES)

STA. 926+80 TO STA. 932+50
STA. 939+91.73 TO STA. 970+00
STA. 1895+51 TO STA. 1902+90

FOR ASPHALT TAPER AT BARRIER, SEE
CONCRETE BARRIER DETAIL SHEET 9.

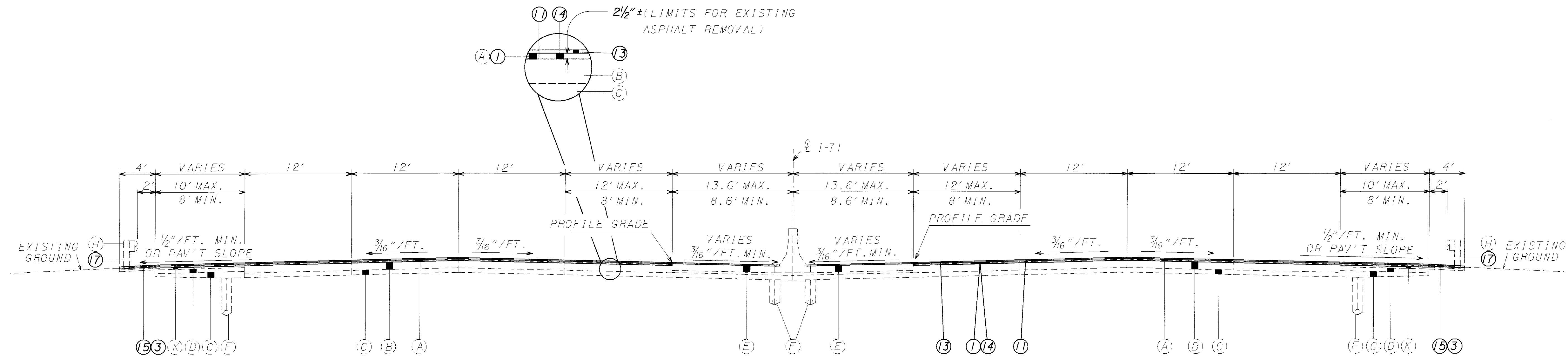


SUPERELEVATED CURBED SECTION (3 OR 4 LANES)

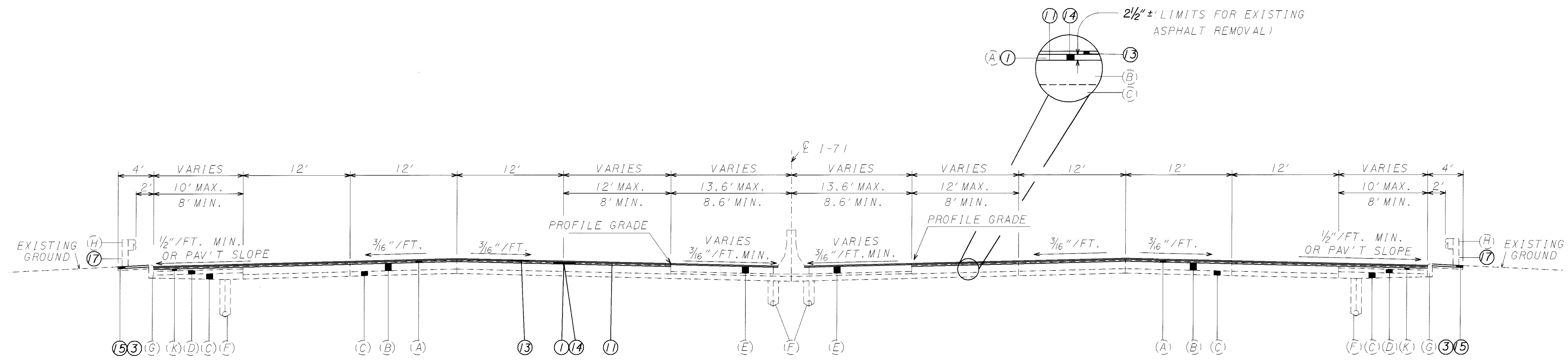
STA. 970+00 TO STA. 975+75
STA. 1887+00 TO STA. 1895+51
STA. 1947+85 TO STA. 1954+00

FOR LEGEND, SEE SHEET 5

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NORMAL UNCURBED SECTION (3 OR 4 LANES)
STA. 1972+71.58 TO STA. 1980+97.79



NORMAL CURBED SECTION (3 OR 4 LANES)

STA. 975+75 TO STA. 982+16.03 (BK)=STA. 1879+48.88 (AH)
STA. 1879+48.88 TO STA. 1887+00
STA. 1954+00 TO STA. 1967+34.92

FOR LEGEND, SEE SHEET 5

12

6

0

SCALE IN FEET

CALCULATED

KAS

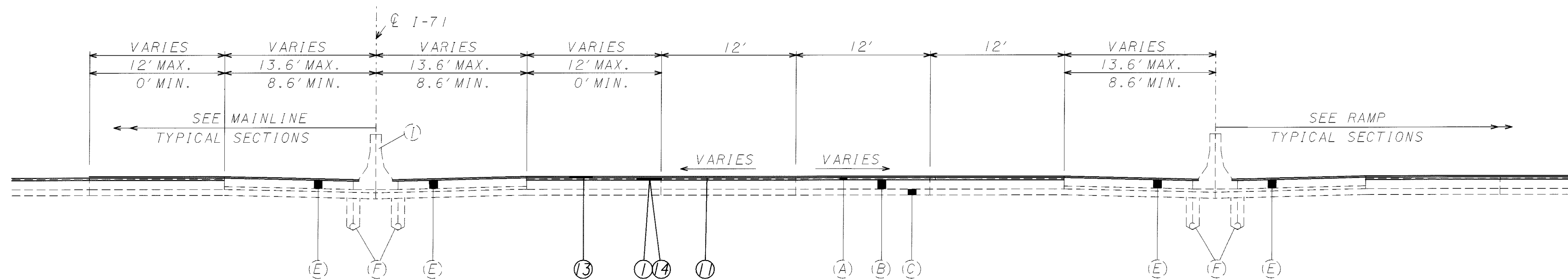
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TYPICAL SECTIONS
IR-71

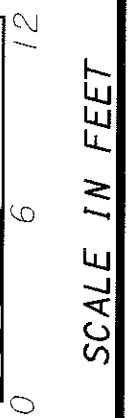
CUYAHOGA COUNTY
CUY-71-14.96

8
127



BARRIER MAINLINE-RAMP

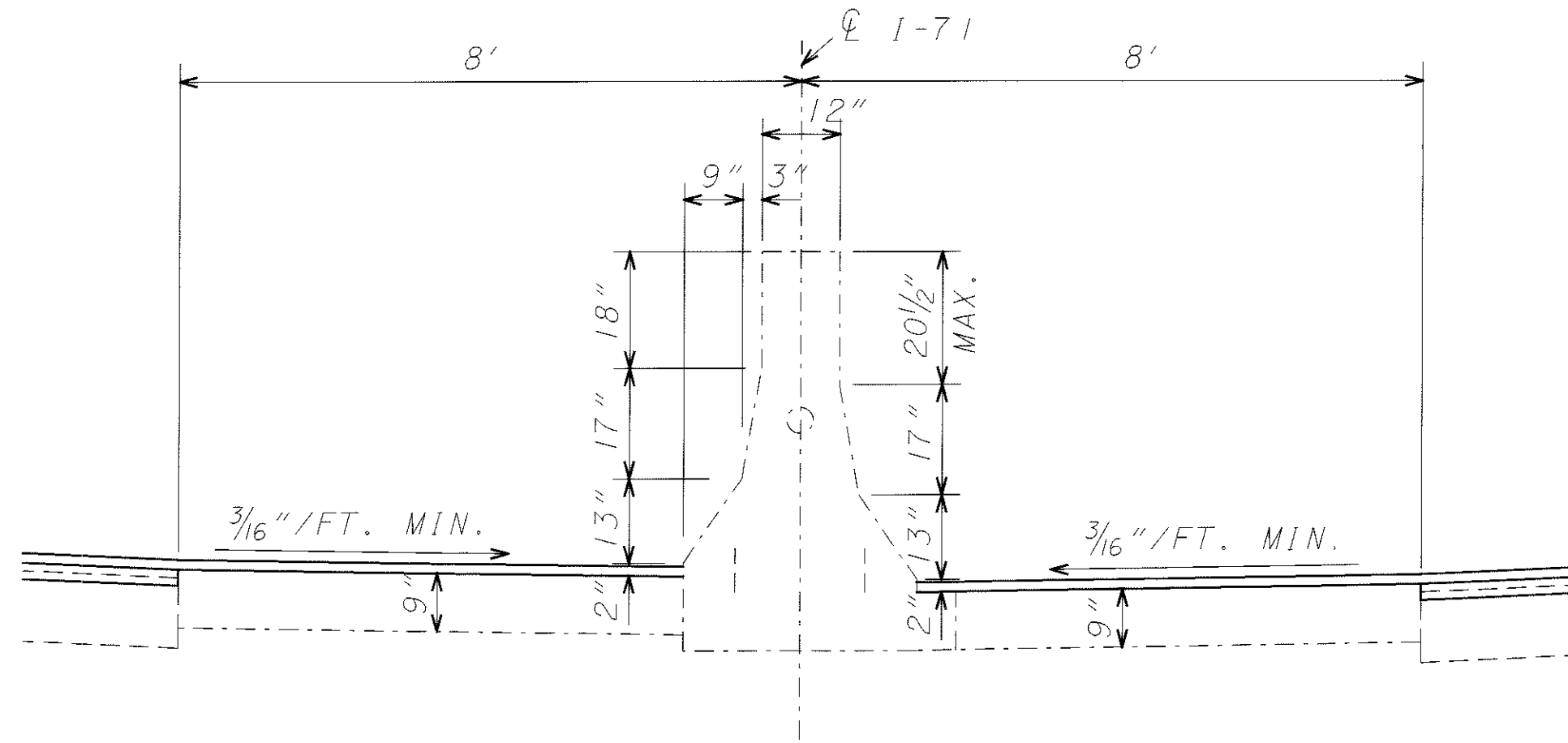
STA. 946+88 TO STA. 971+75 (NB) I-71 (LINE F)
STA. 955+22 TO STA. 972+00 (SB) I-71 (LINE B)
STA. 1895+51 TO STA. 1908+10 (SB) I-71 (LANE J)



CALCULATED
KAS
CHECKED
LDH

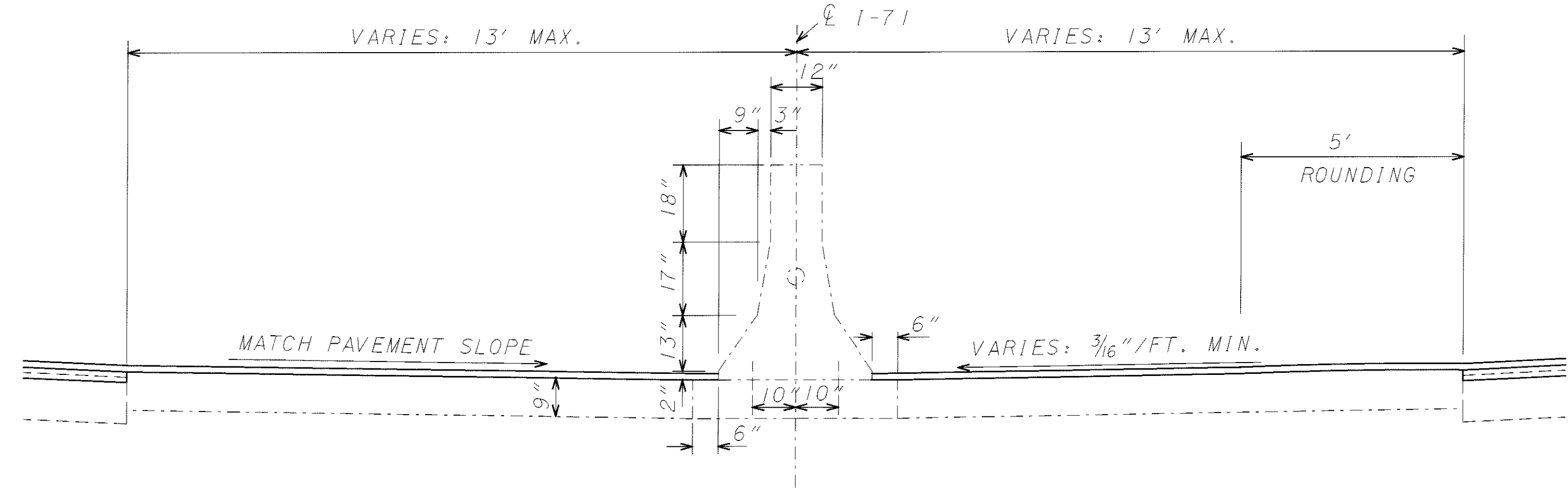
TYPICAL SECTIONS
IR-71

CUYAHOGA COUNTY
CUY-71-14.96



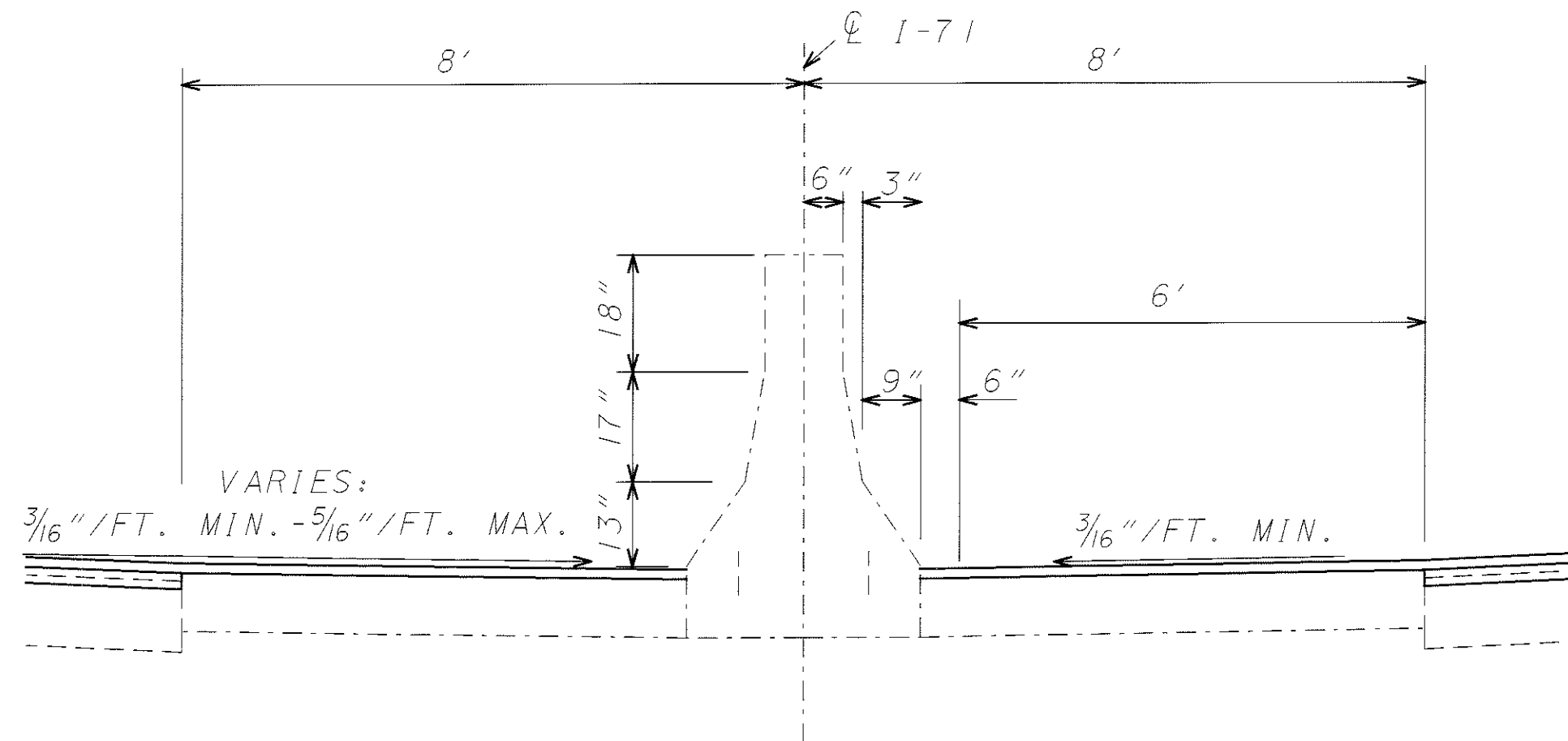
CONCRETE BARRIER TYPE C-50

STA. 1947+85 TO STA. 1949+00 @ I-71



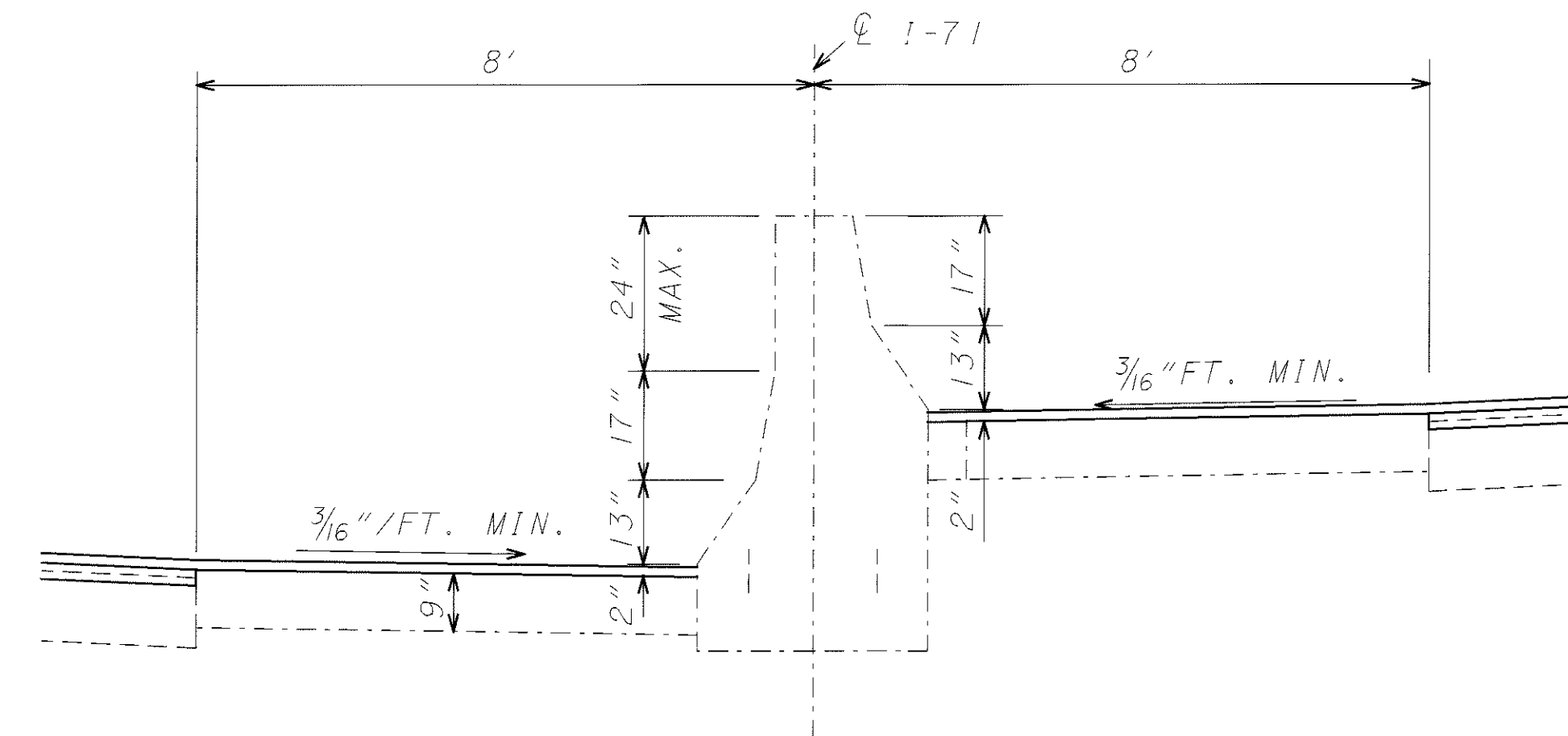
CONCRETE BARRIER TYPE B 50

STA. 926+80 TO STA. 982+16.03(BK) @ I-71 = STA. 1879 + 48.88(AH)
STA. 1879+48.88 TO STA. 1902+90 @ I-71



CONCRETE BARRIER TYPE B 50

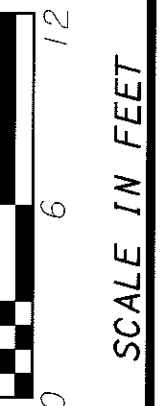
STA. 1949+00 TO STA. 1967+75.75 @ I-71
STA. 1972+48.45 TO STA. 1980+97.79 @ I-71



LINE F

STA. 960+00 TO STA. 964+50

FOR LEGEND, SEE SHEET 5

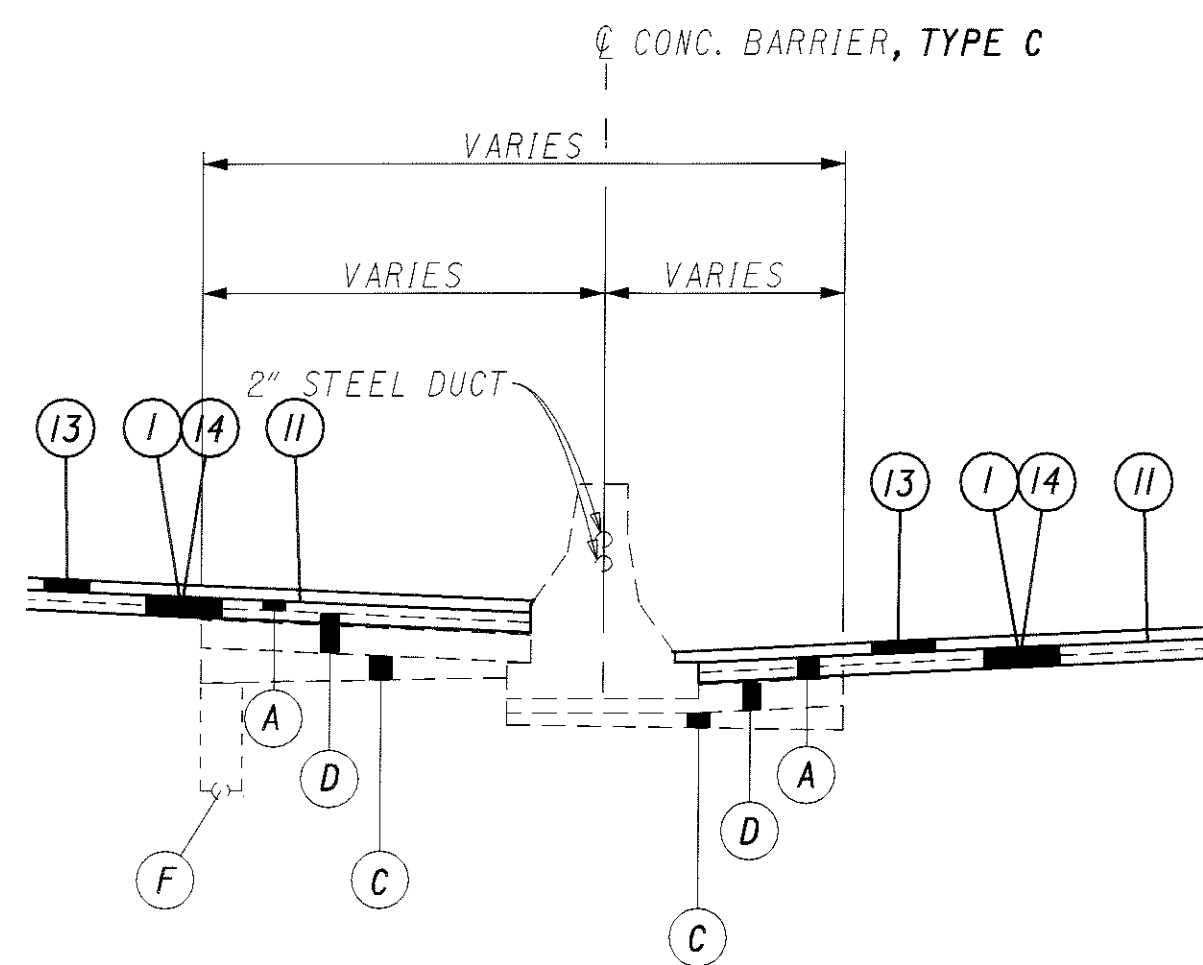


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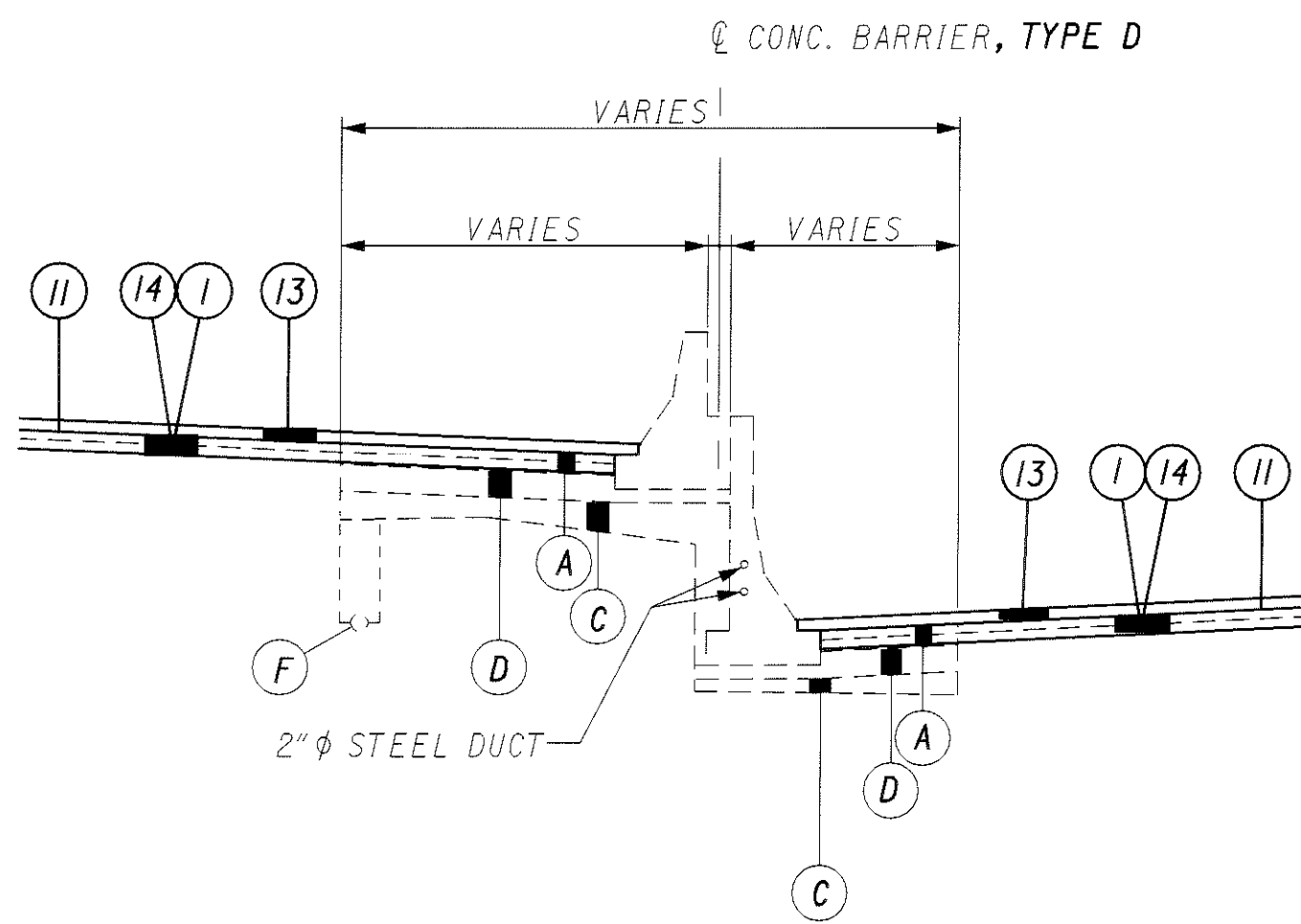
TYPICAL SECTIONS
I-71

CUYAHOGA COUNTY
CUY-71-14.96

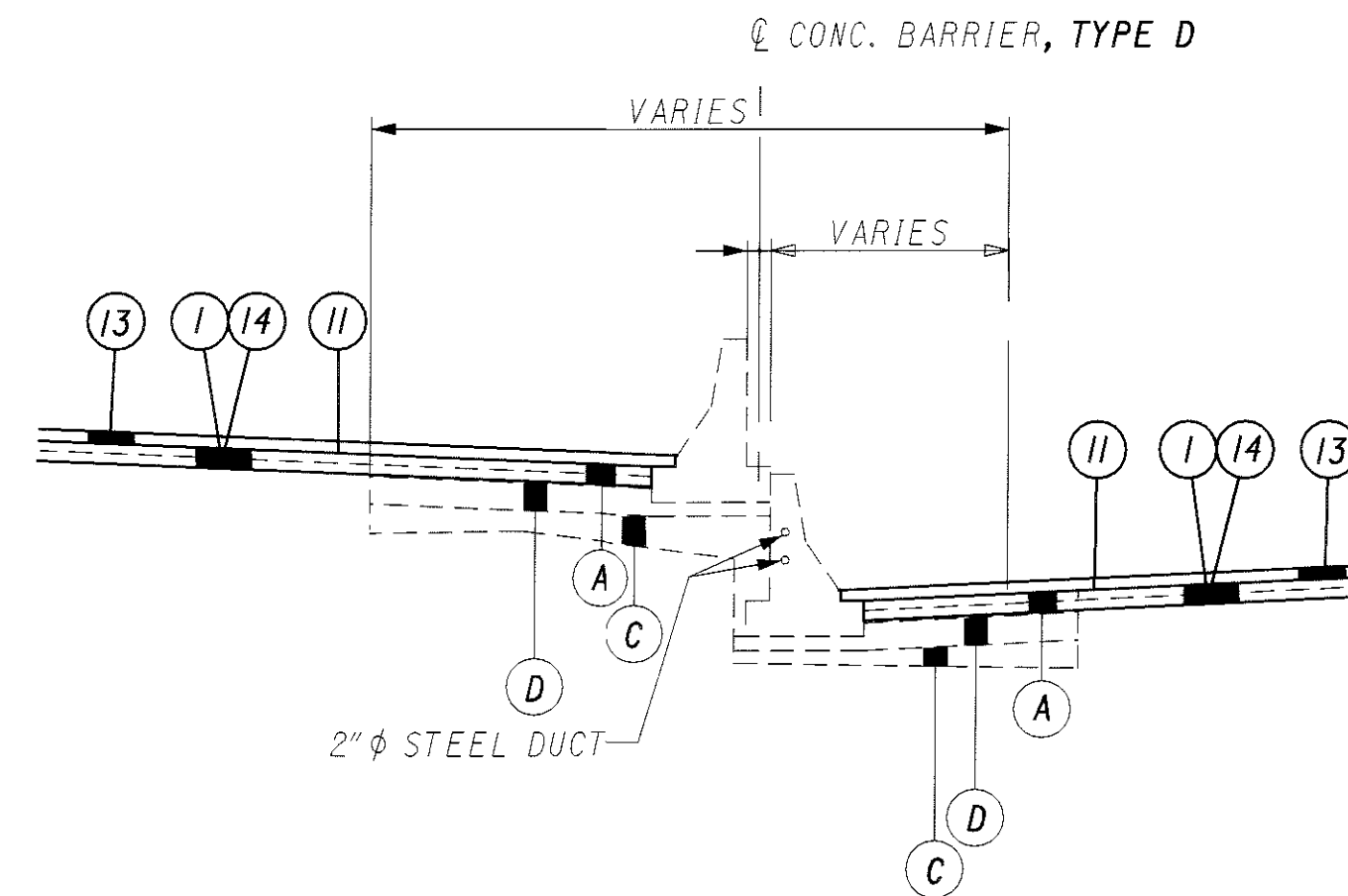
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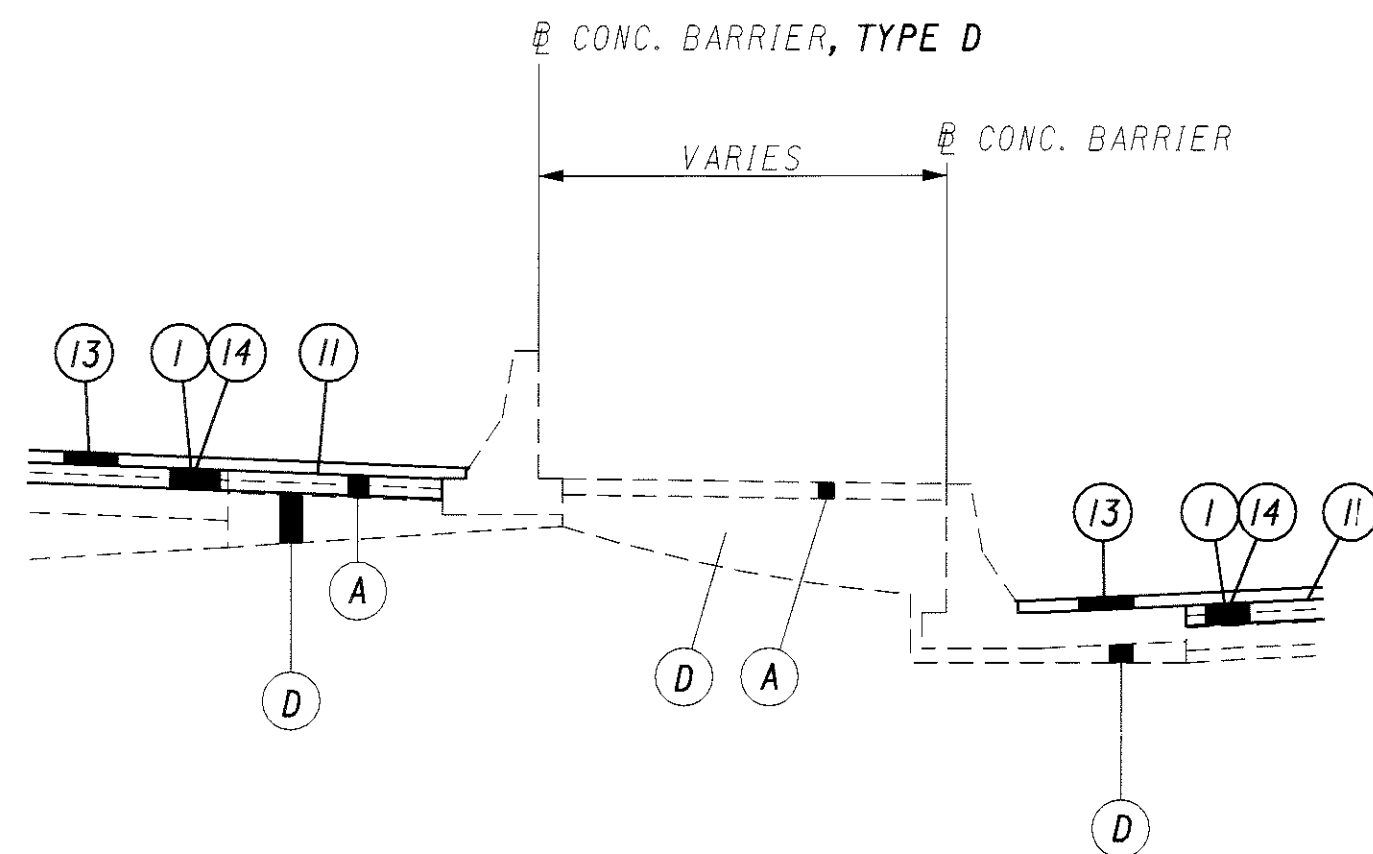
LINE B - FULTON RD.
STA. 963+50.00 TO STA. 969+50.00



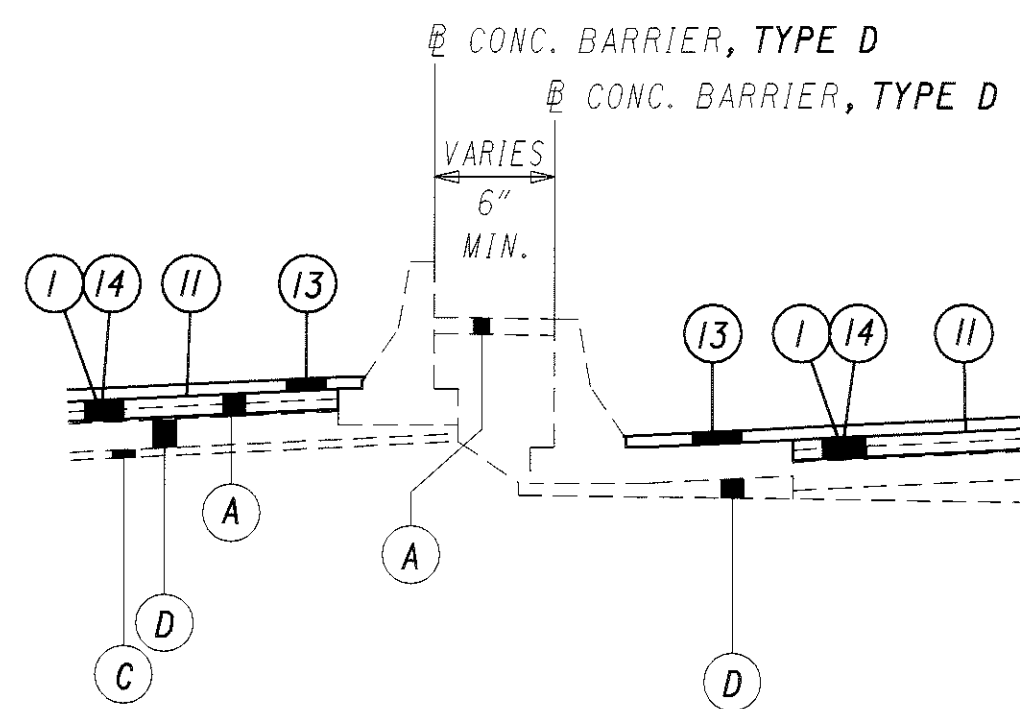
LINE B - FULTON RD.
STA. 969+50.00 TO STA. 970+00.00
BETWEEN STA. 969+50.00 TO STA. 969+83.00
* VARIES 0" TO 32"
** VARIES 24" TO 0"



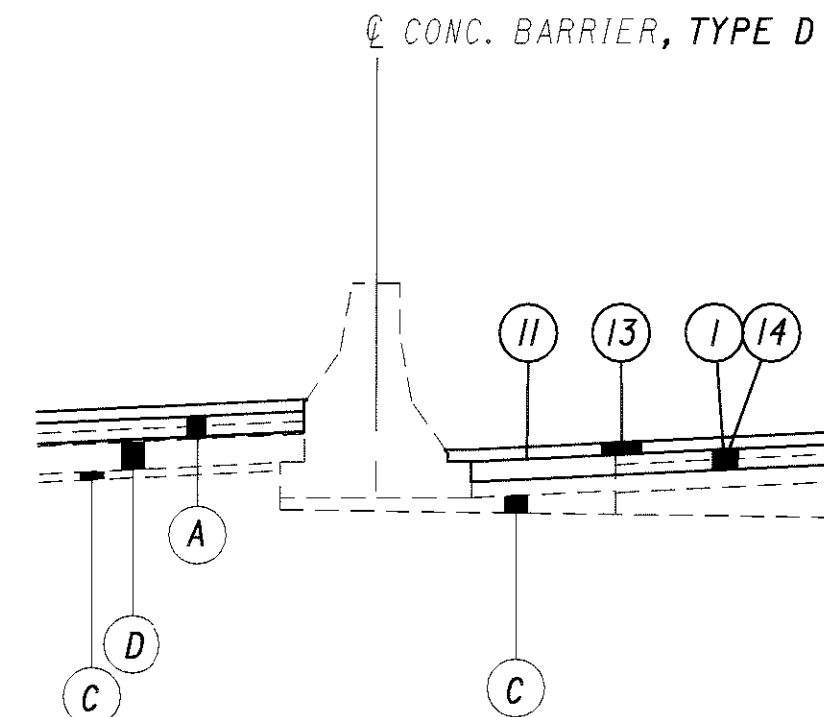
LINE B - FULTON RD.
STA. 970+00.00 TO STA. 971+00.00



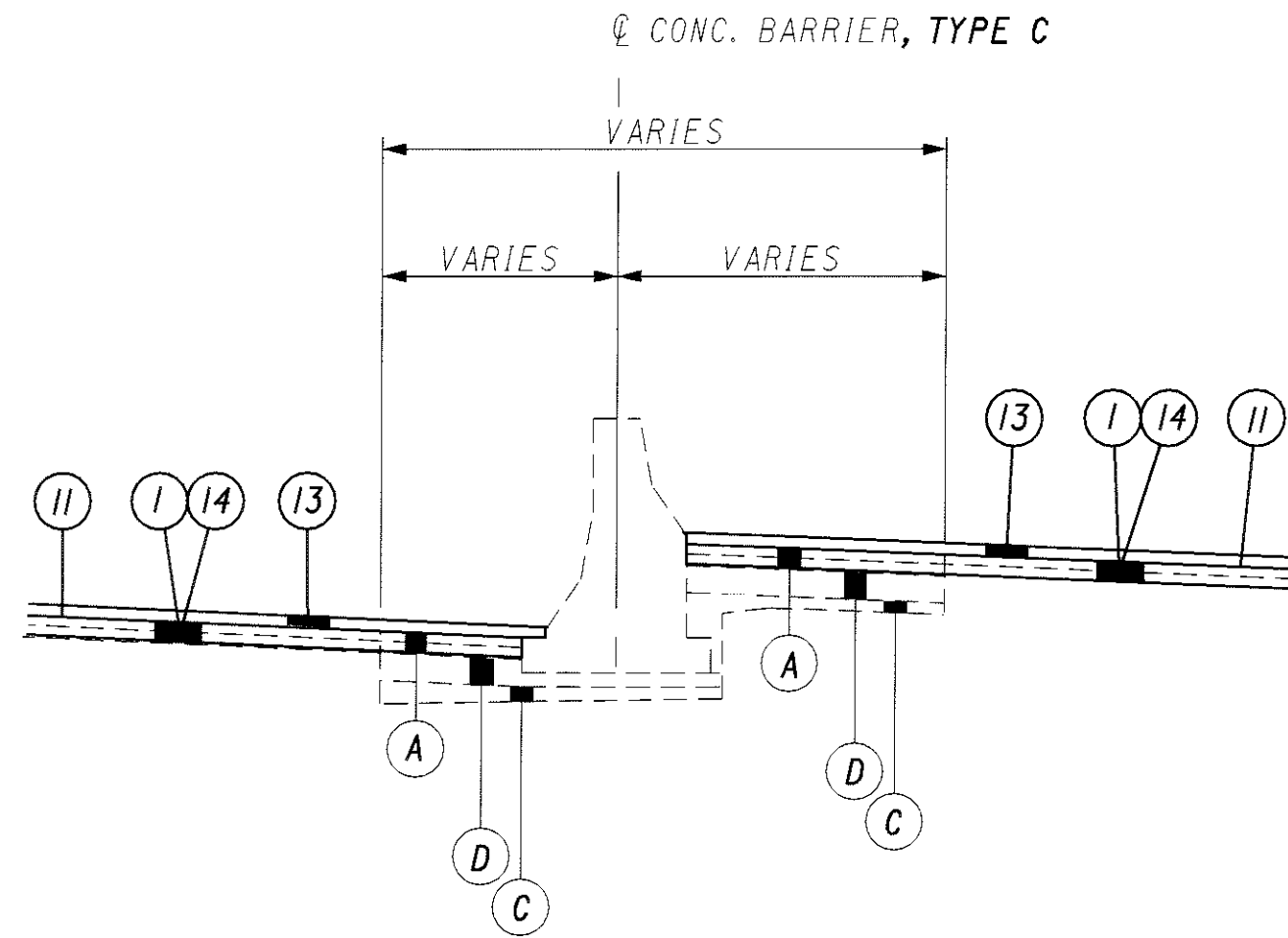
LANE J - W. 25th ST.
STA. 896+51.00 AH. TO STA. 898+15.00 AH.



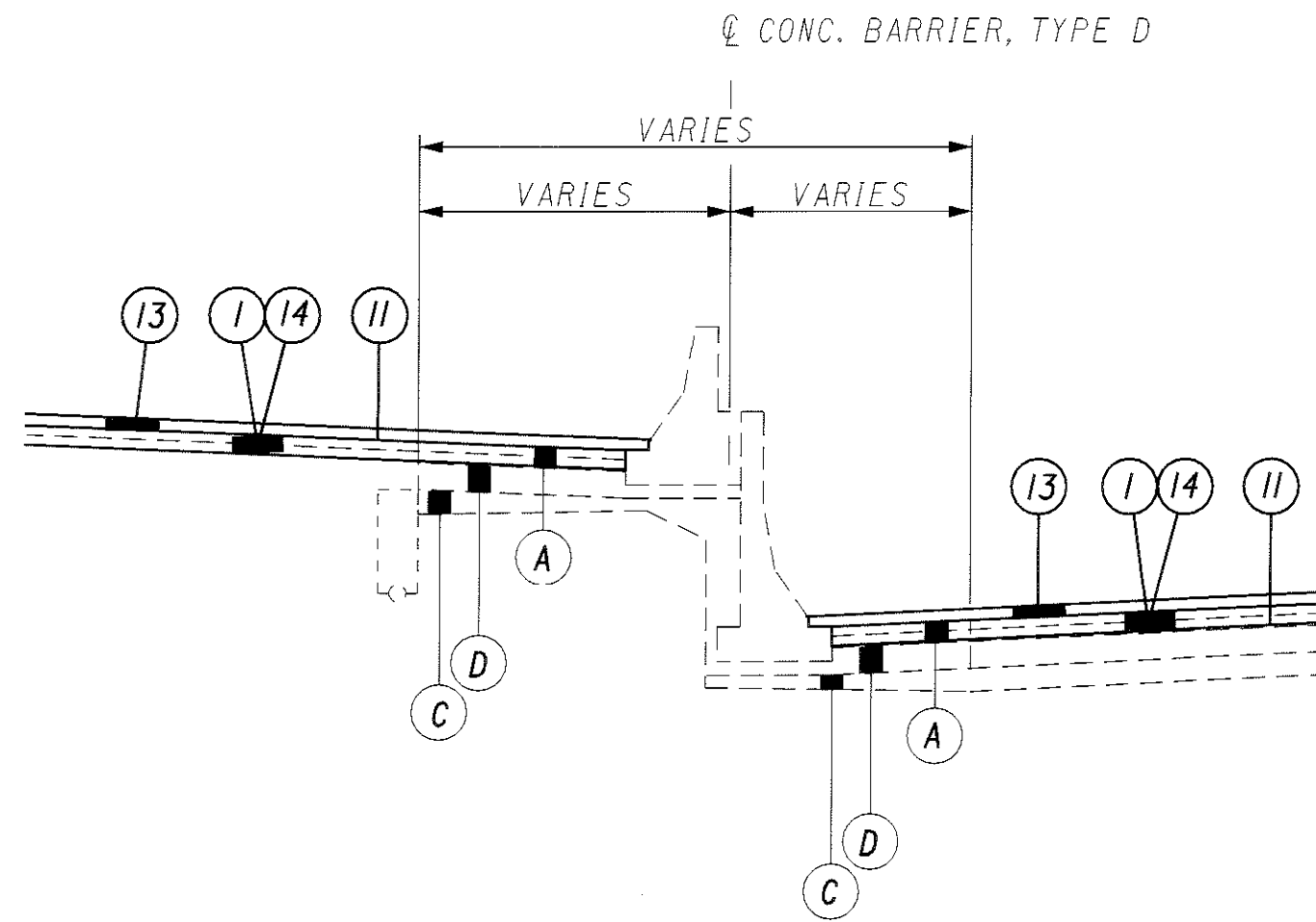
LANE J - W. 25th ST.
STA. 898+15.00 AH. TO STA. 899+65.00 AH.



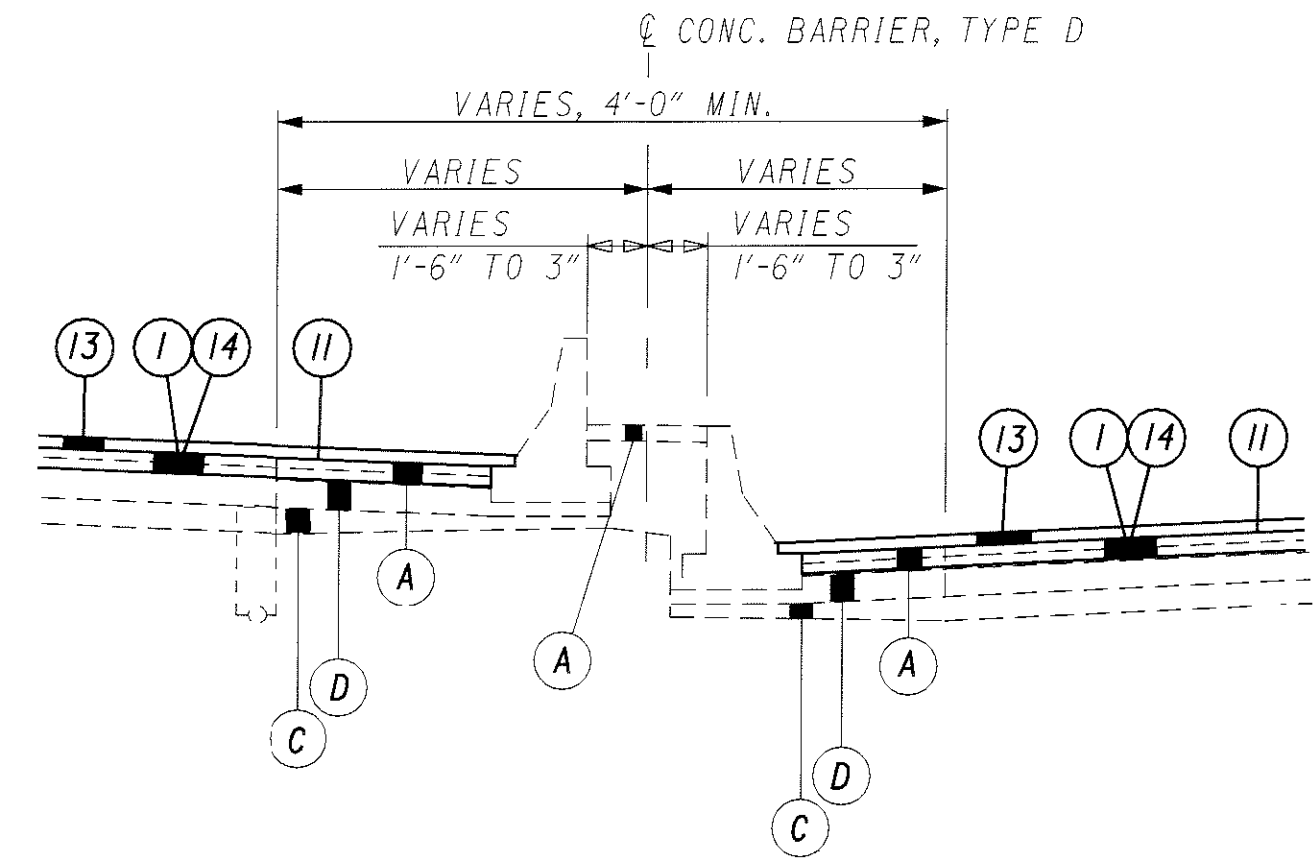
LANE J - W. 25th ST.
STA. 960+00.00 TO STA. 964+50.00
VARIES 18" TO 12"



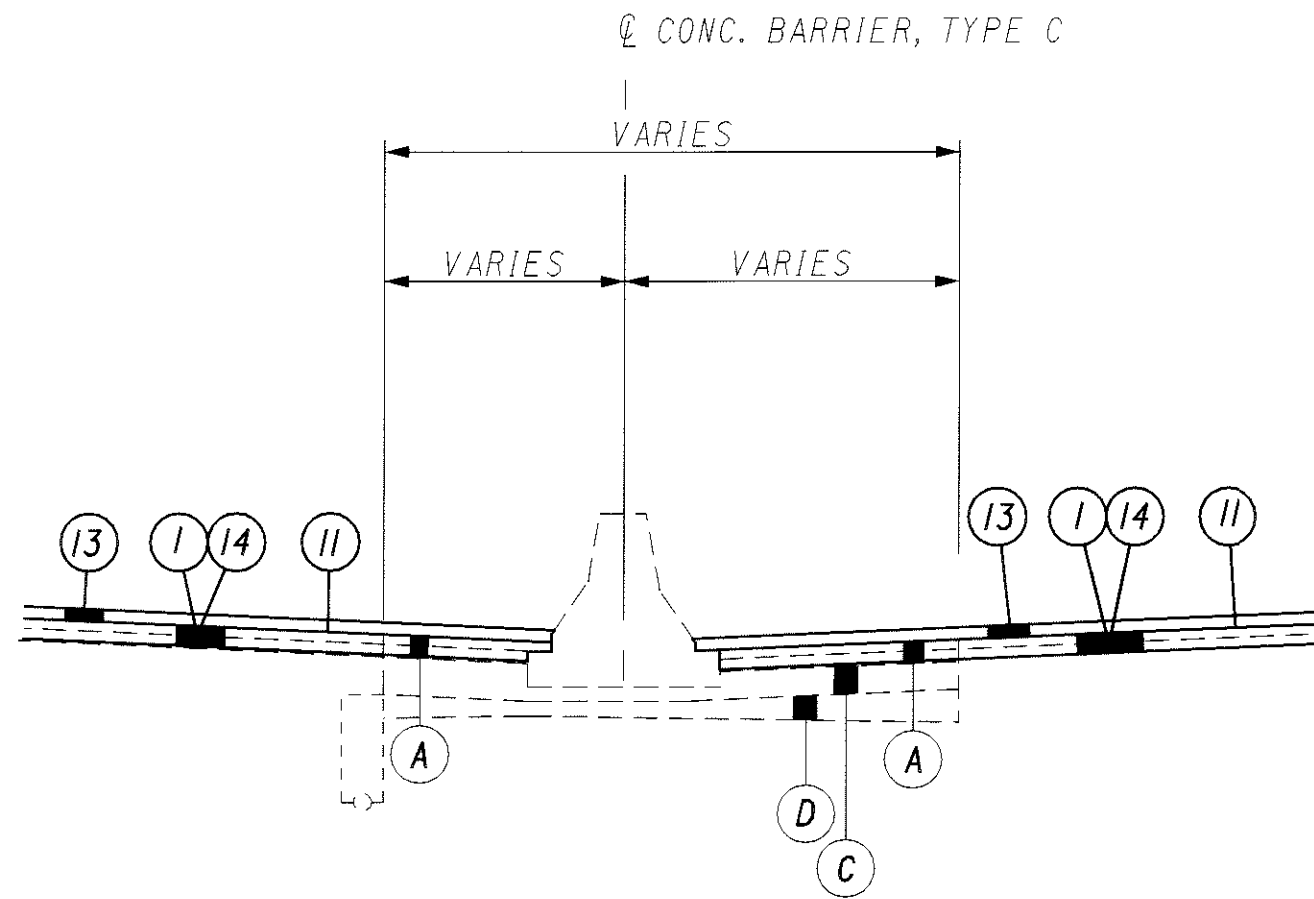
LINE F - FULTON RD.
STA. 960+00.00 TO STA. 964+50.00



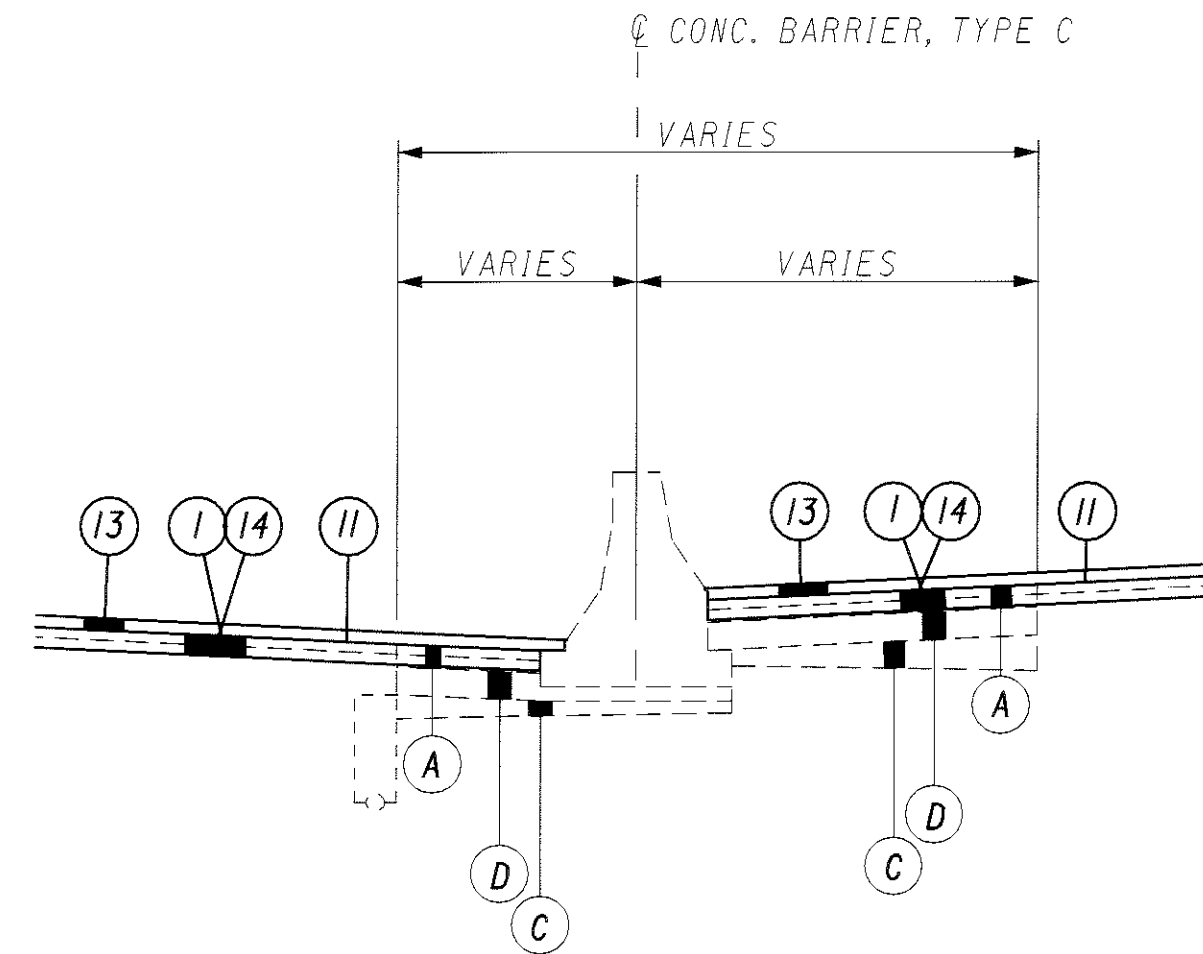
LINE F - FULTON RD.
STA. 950+39.00 TO STA. 951+10.00
BETWEEN STA. 950+52.00 TO STA. 951+10.00



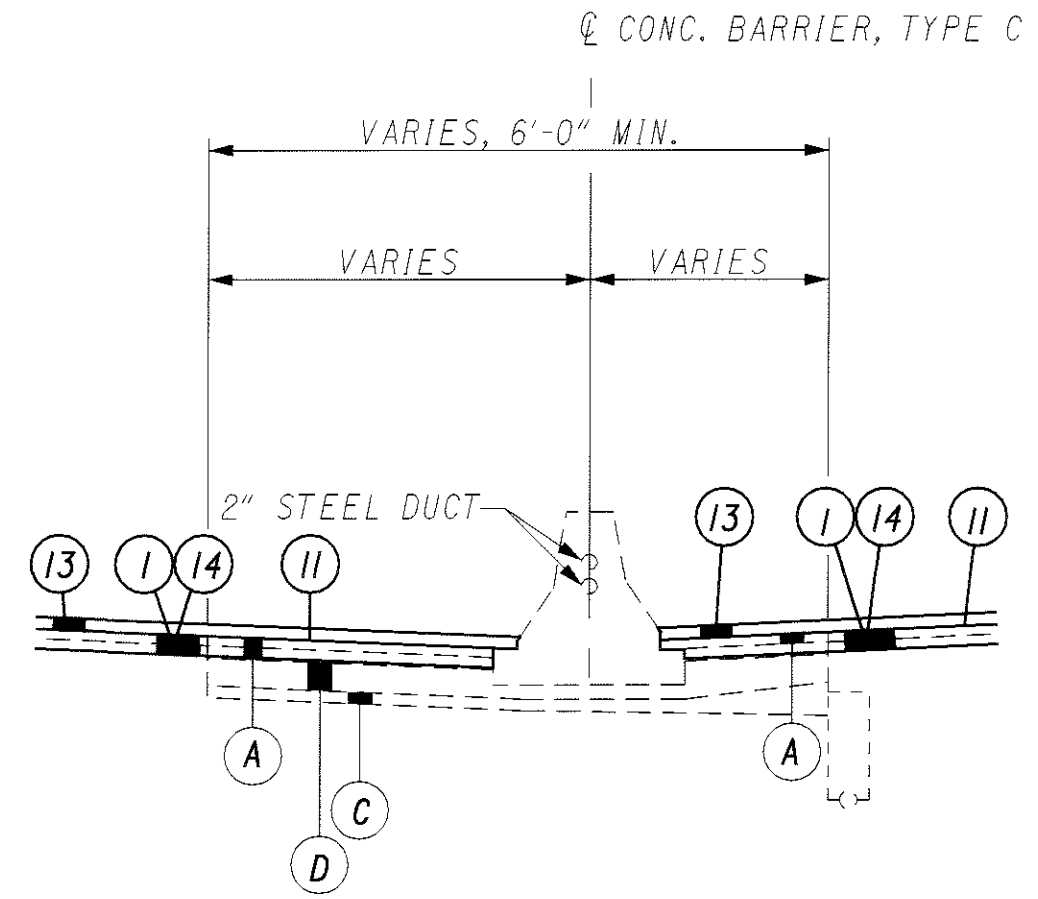
LINE F - FULTON RD.
STA. 946+88.00 TO STA. 950+39.00



LINE F - FULTON RD.
STA. 951+00.00 TO STA. 952+40.00

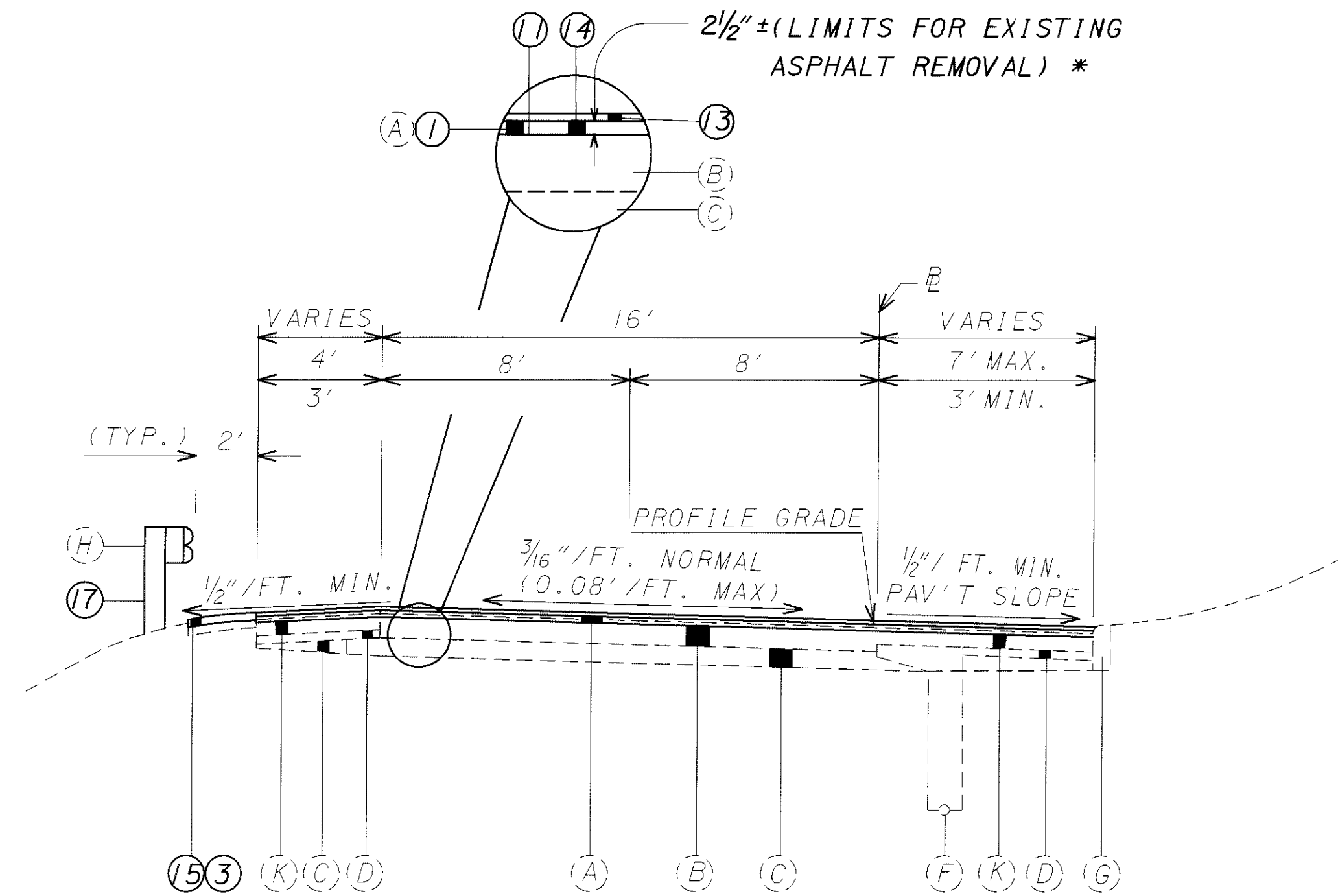


LINE F - FULTON RD.
STA. 960+00.00 TO STA. 964+50.00



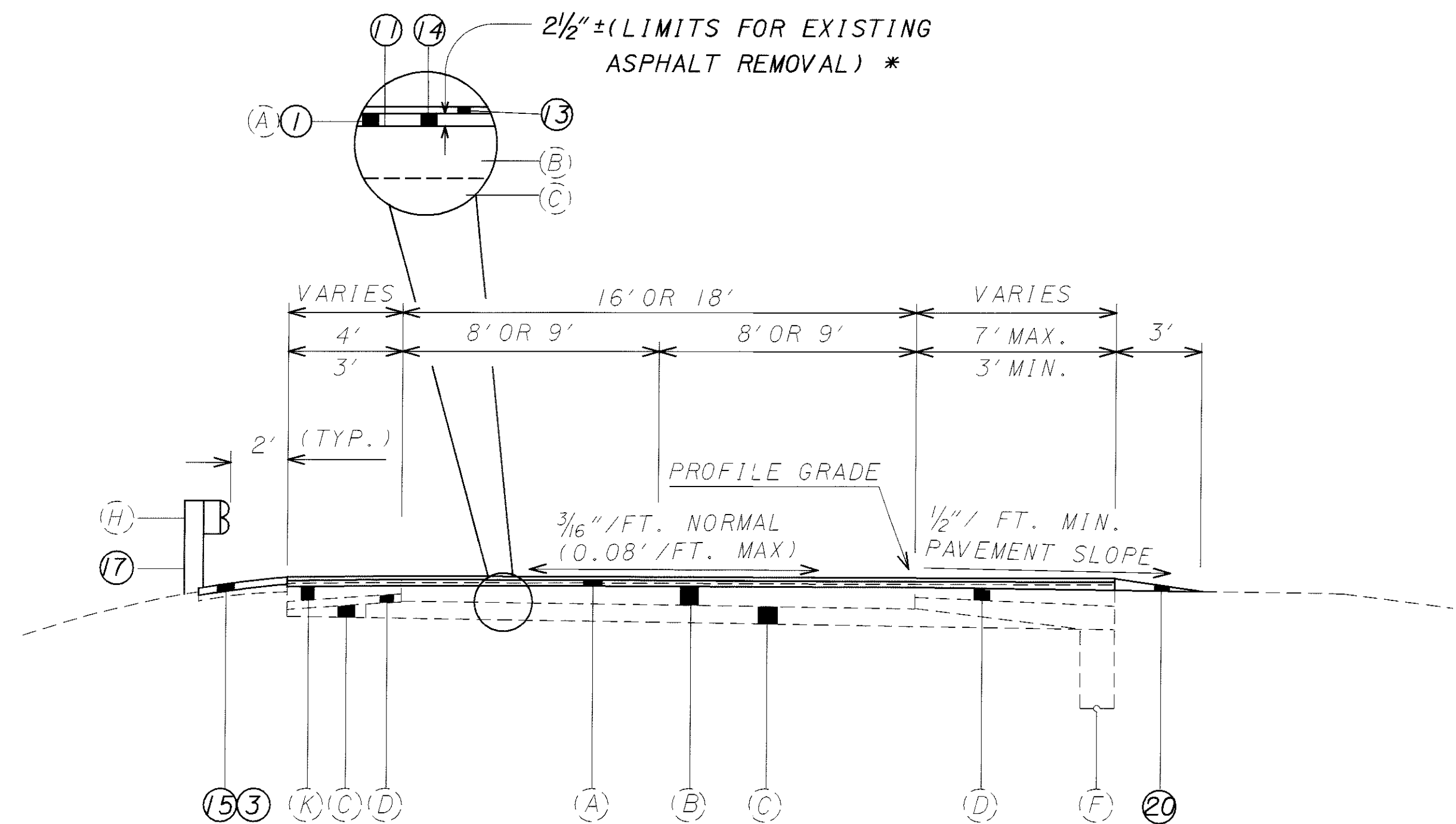
LINE F - FULTON RD.
STA. 956+10.00 TO STA. 963+50.00

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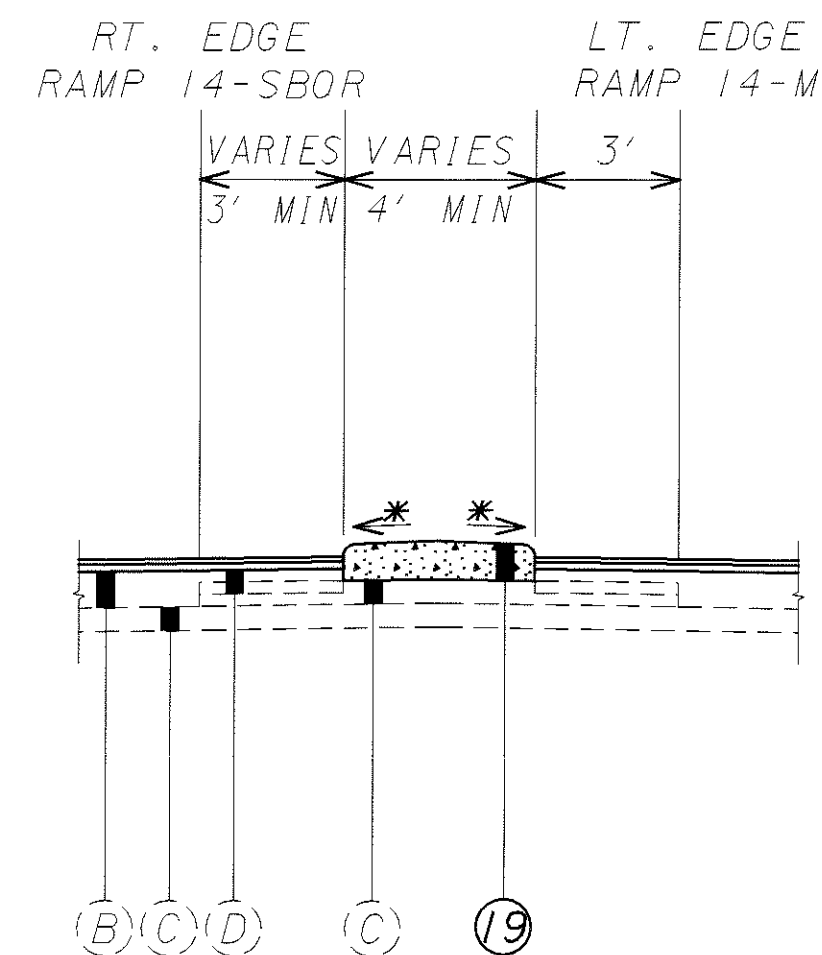
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WITH OR WITHOUT GUARDRAIL

(CURB ON ONE SIDE)



TANGENT - CURVE RIGHT OR LEFT
WITH OR WITHOUT GUARDRAIL

(NO CURB)



MEDIAN SECTION

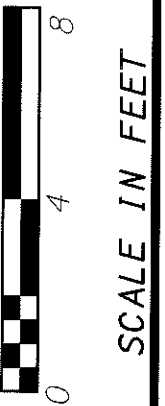
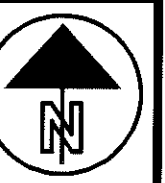
RAMP 14-SBOR STA. 0+00.09 TO STA. 4+75.00
RAMP 14-M STA. 3+79.99 TO STA. 8+54.00

ONE LANE RAMP SECTIONS

LANE H (STA. 10+35 TO STA. 24+09)
LINE A
LINE B (STA. 956+75 TO STA. 971+17.56)
LINE C
LINE E
LINE F (STA. 952+34 TO STA. 969+98.80)
LINE G
LANE M-J
LANE S-W
LANE J (STA. 5+40 TO STA. 9+60.09)
& (STA. 18+68 TO STA. 27+19)
RAMP 14-M
RAMP I
RAMP NBOR-14
RAMP SBOR-14
RAMP SBOR-M
RAMP G
RAMP O (STA. 4+60 TO STA. 13+61)
RAMP D (STA. 0+00 TO STA. 9+00)
RAMP D-JN
RAMP JN-D
RAMP J-JR (STA. 2+47 TO STA. 12+24.62)
RAMP JR-J (STA. 9+35.87 TO STA. 11+35.87)

FOR LEGEND, SEE SHEET 5

* LANE S-W - NO EXISTING ASPHALT OVERLAY

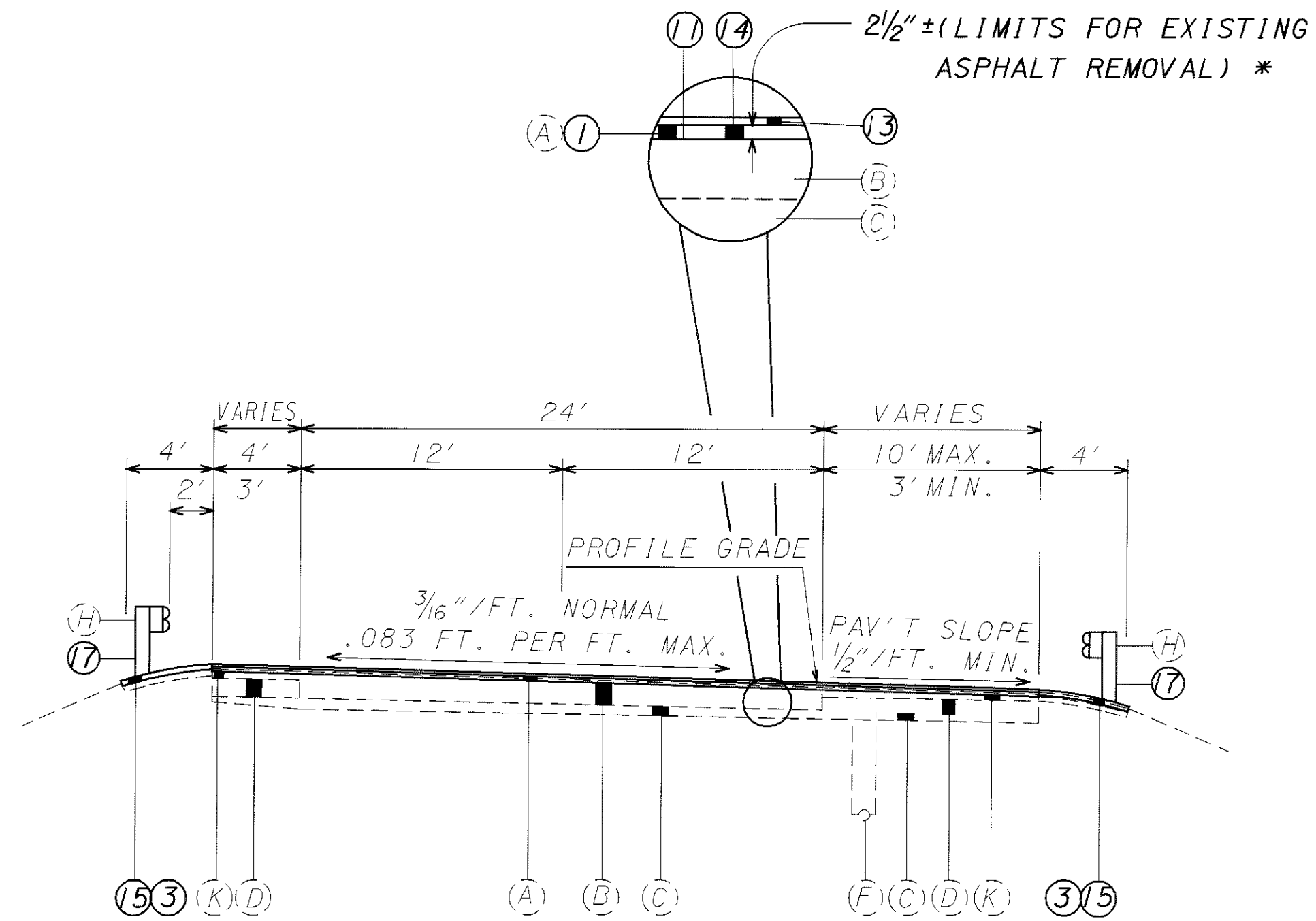


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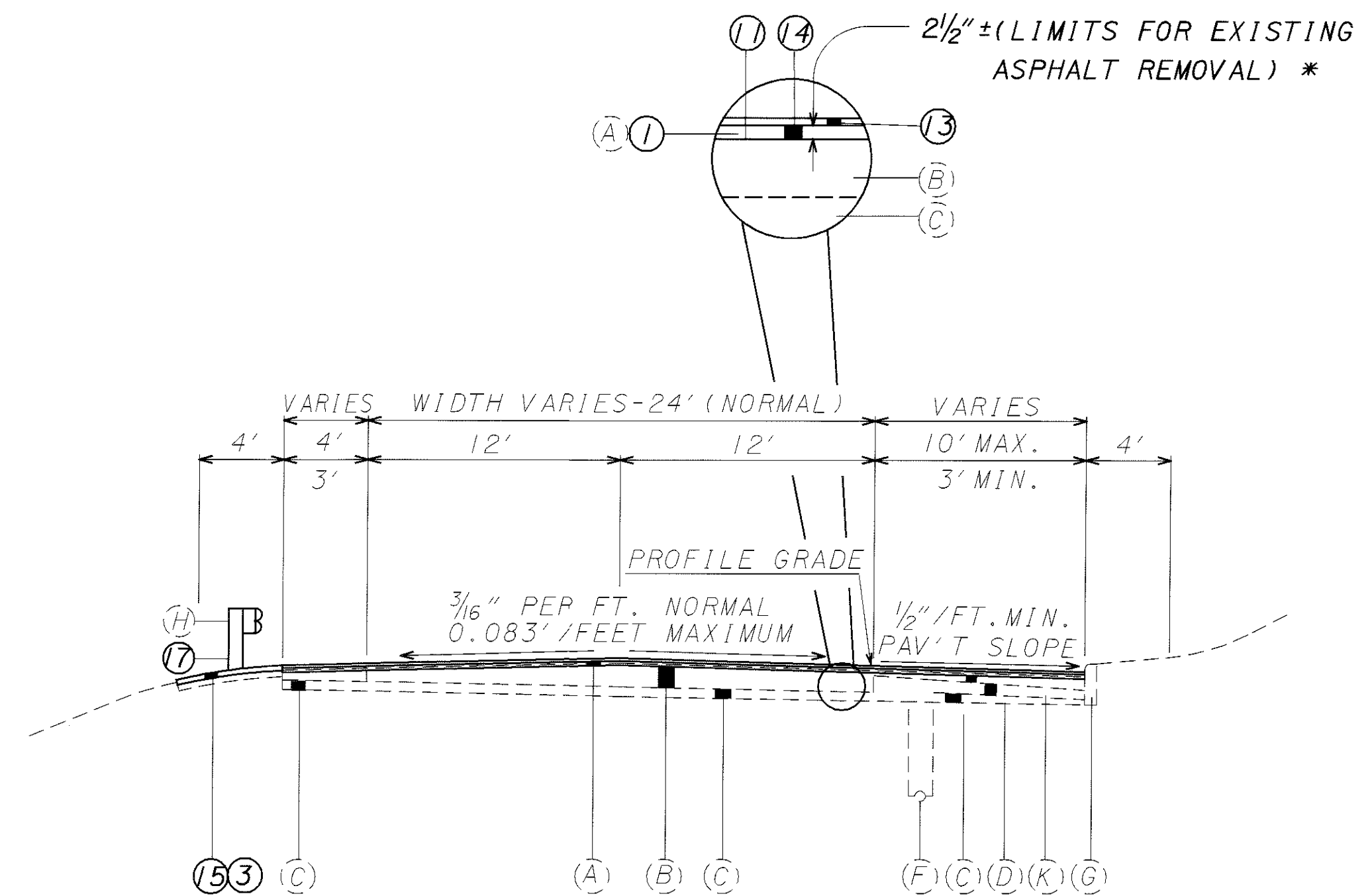
TYPICAL SECTIONS
IR-71

CUYAHOGA COUNTY
CUI-71-14.96

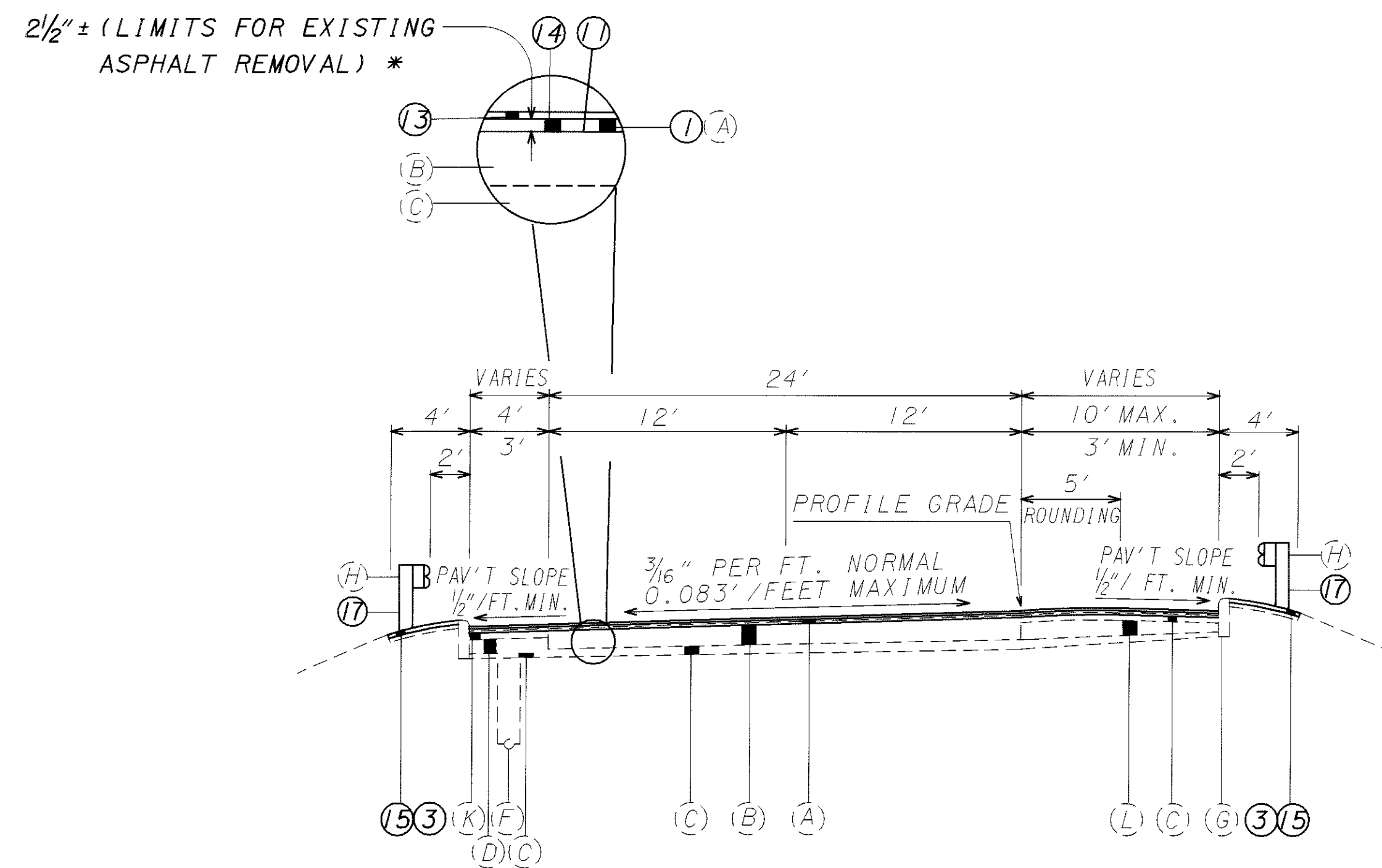
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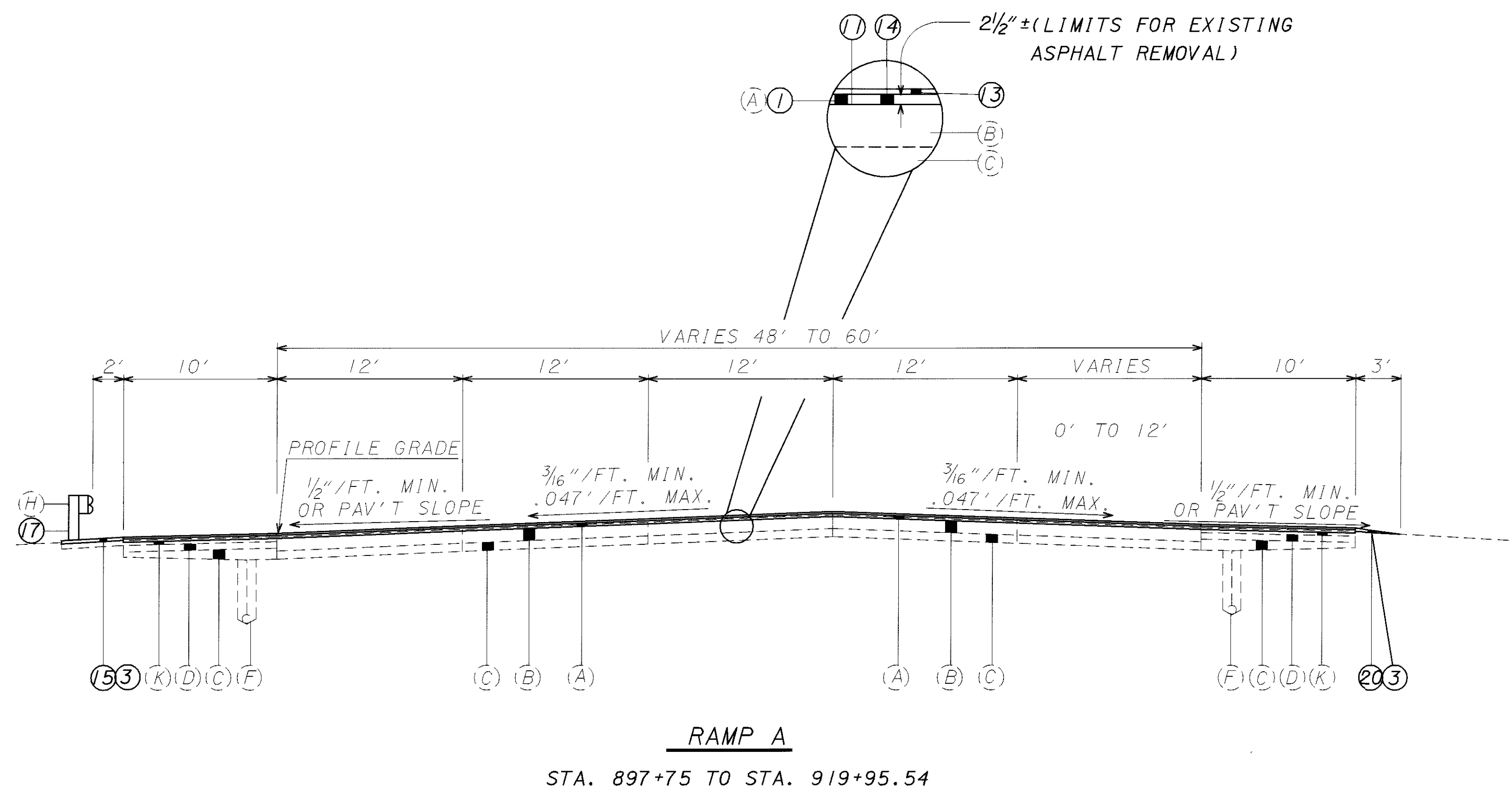
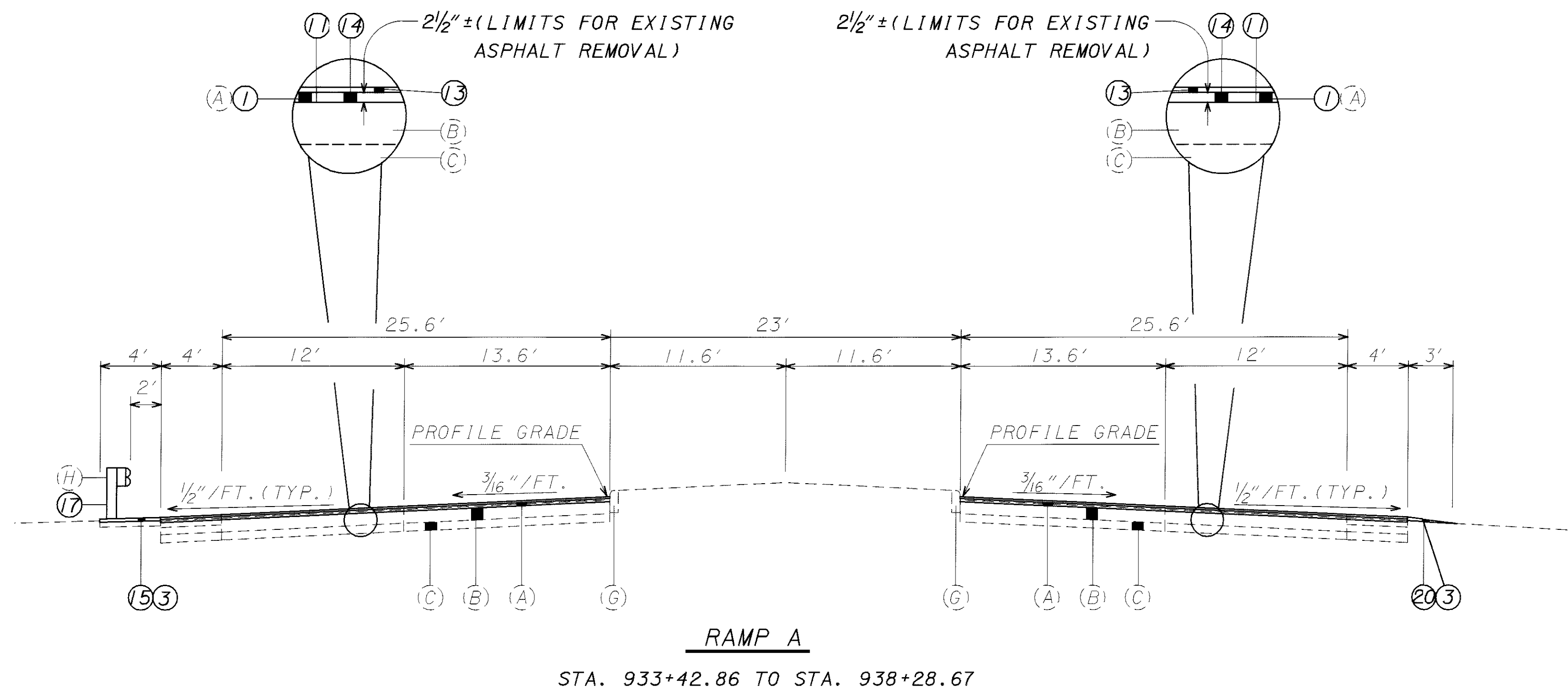
TYPICAL RAMP AND
TWO LANE ROADWAY SECTIONS

- LINE D
- LANE H
- LANE J
- LANE E-S
- LANE S-E
- LANE S-W
- LANE NBOR
- LANE SBOR
- RAMP SBOR-M
- RAMP J-NBOR
- LINE B
- LINE F

FOR LEGEND, SEE SHEET 5

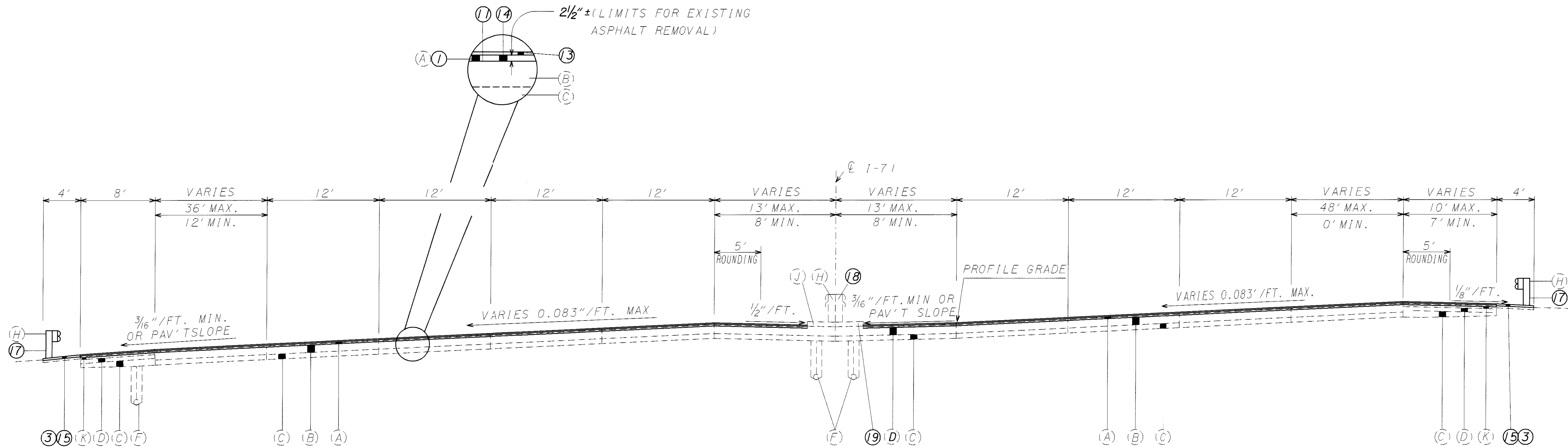
* LANE E-S, S-E AND S-W - NO EXISTING ASPHALT OVERLAY

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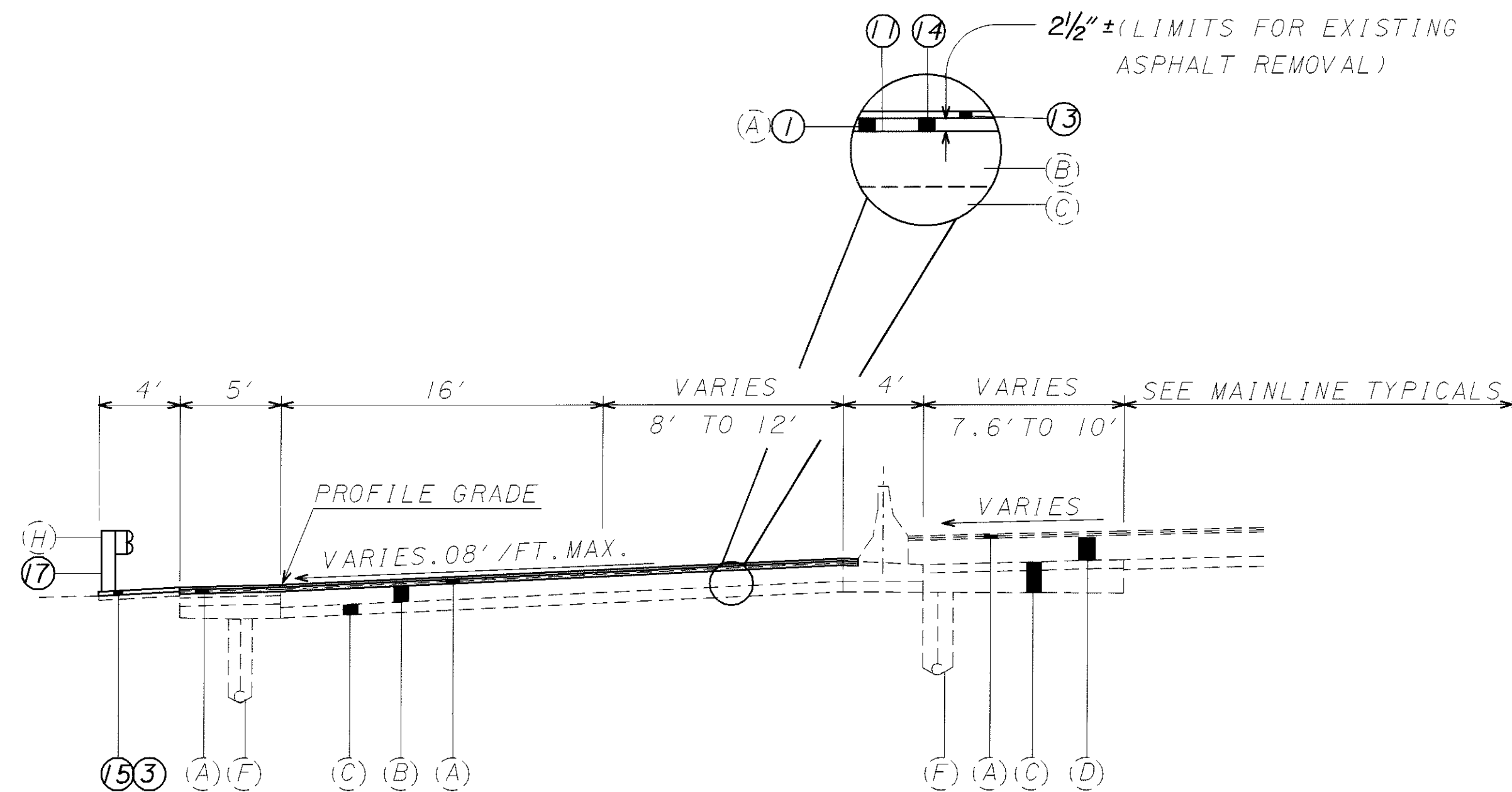
FOR LEGEND, SEE SHEET 5

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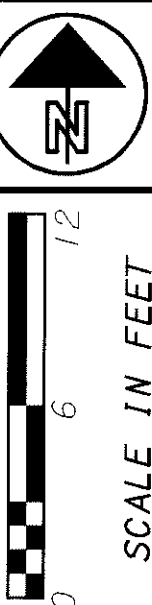
RAMP A

STA. 919+95.54 TO STA. 931+25.76



RAMP A

STA. 878+56.28 TO STA. 897+75



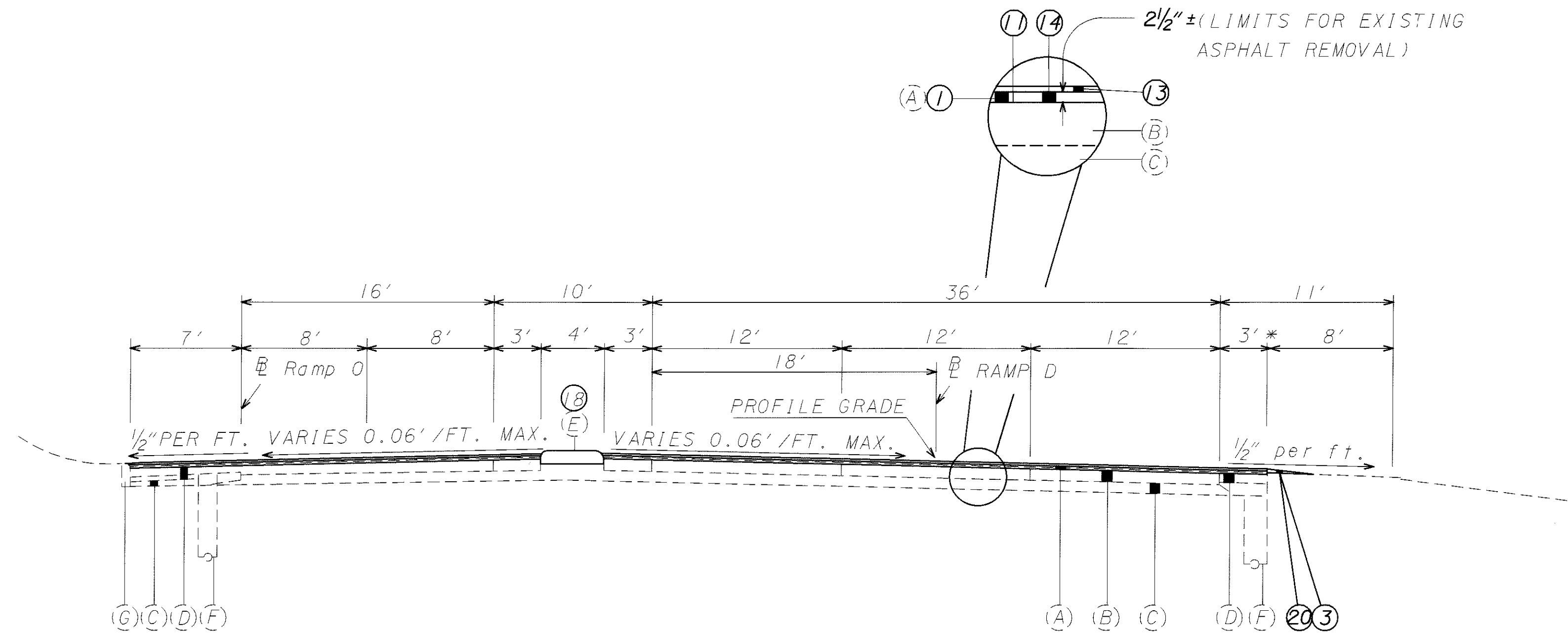
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TYPICAL SECTIONS
IR-71

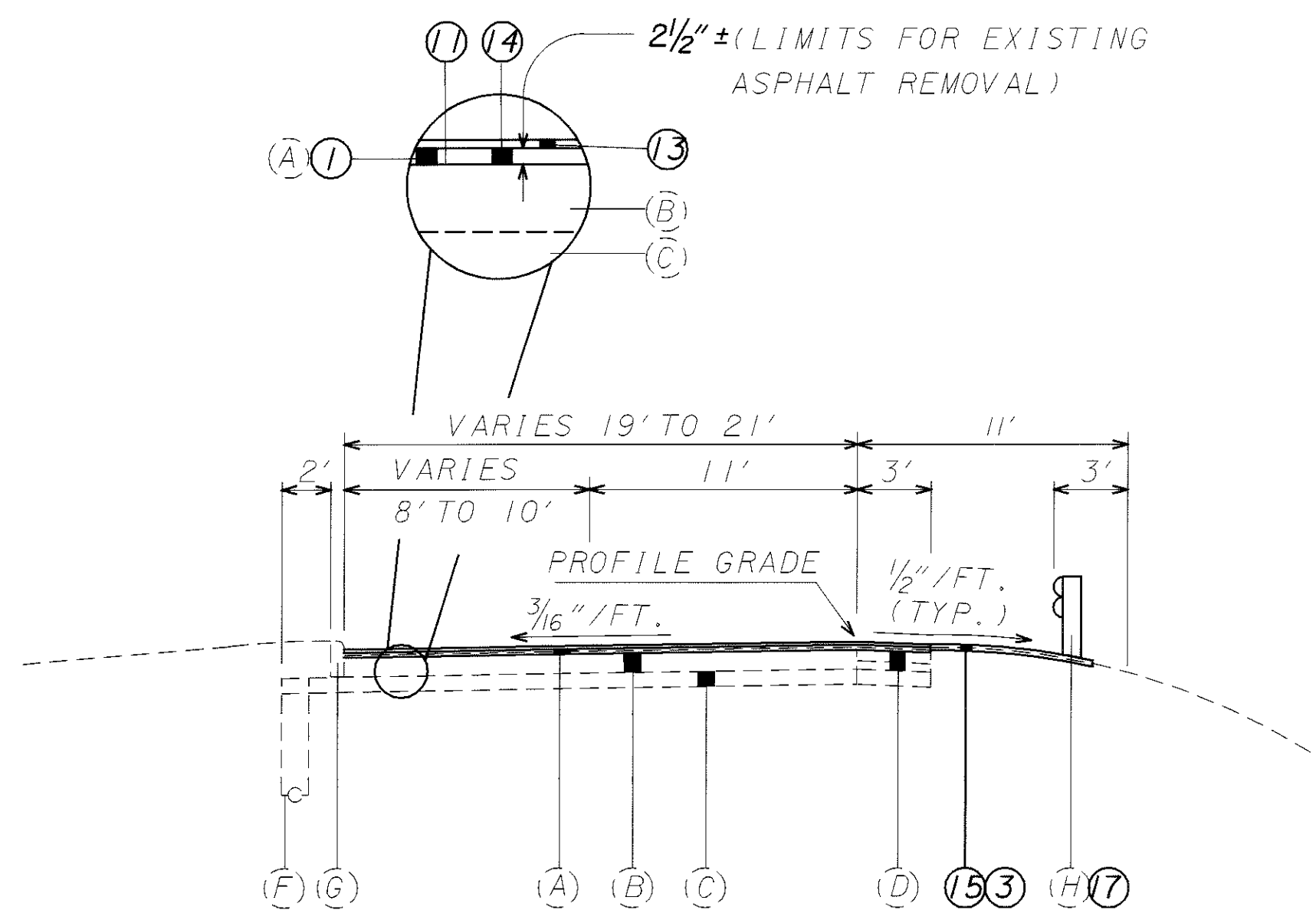
CUYAHOGA COUNTY
CUY-71-14.96

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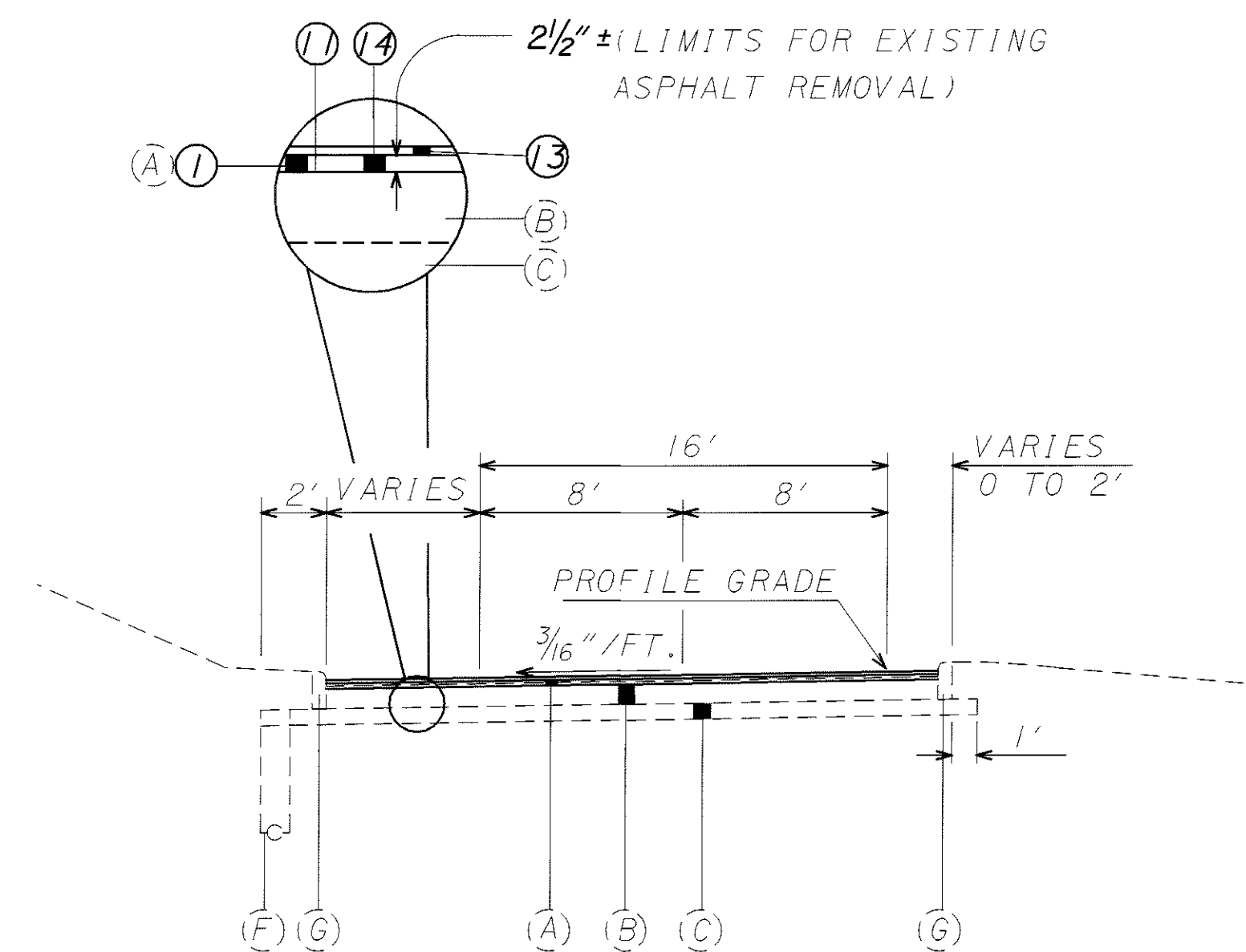
FOR LEGEND, SEE SHEET 5



TYPICAL SECTION RAMP "D" & RAMP "O"
 RAMP D STA. 9+00 TO STA. 13+09.61
 RAMP O STA. 0+00 TO STA. 4+60



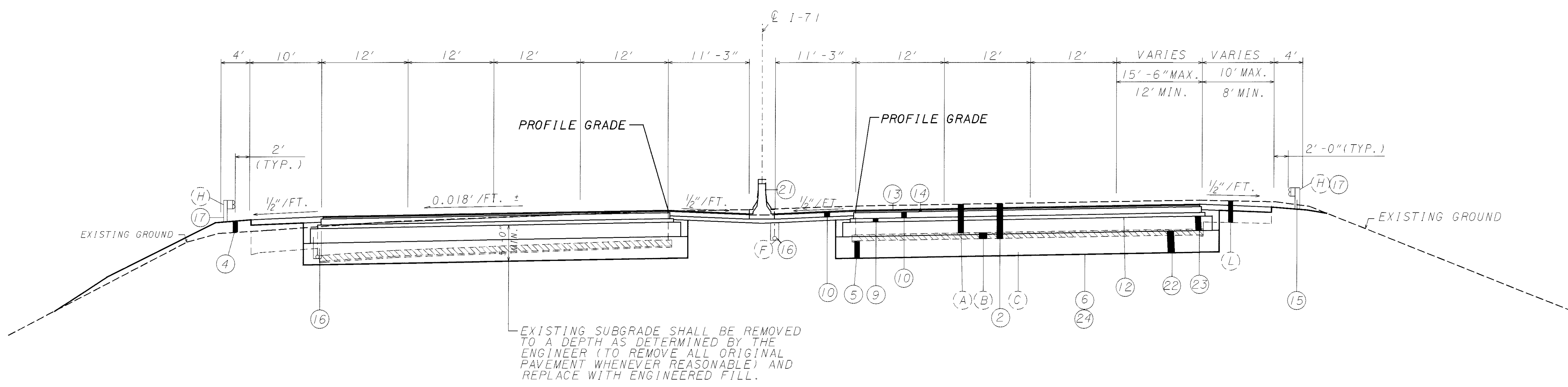
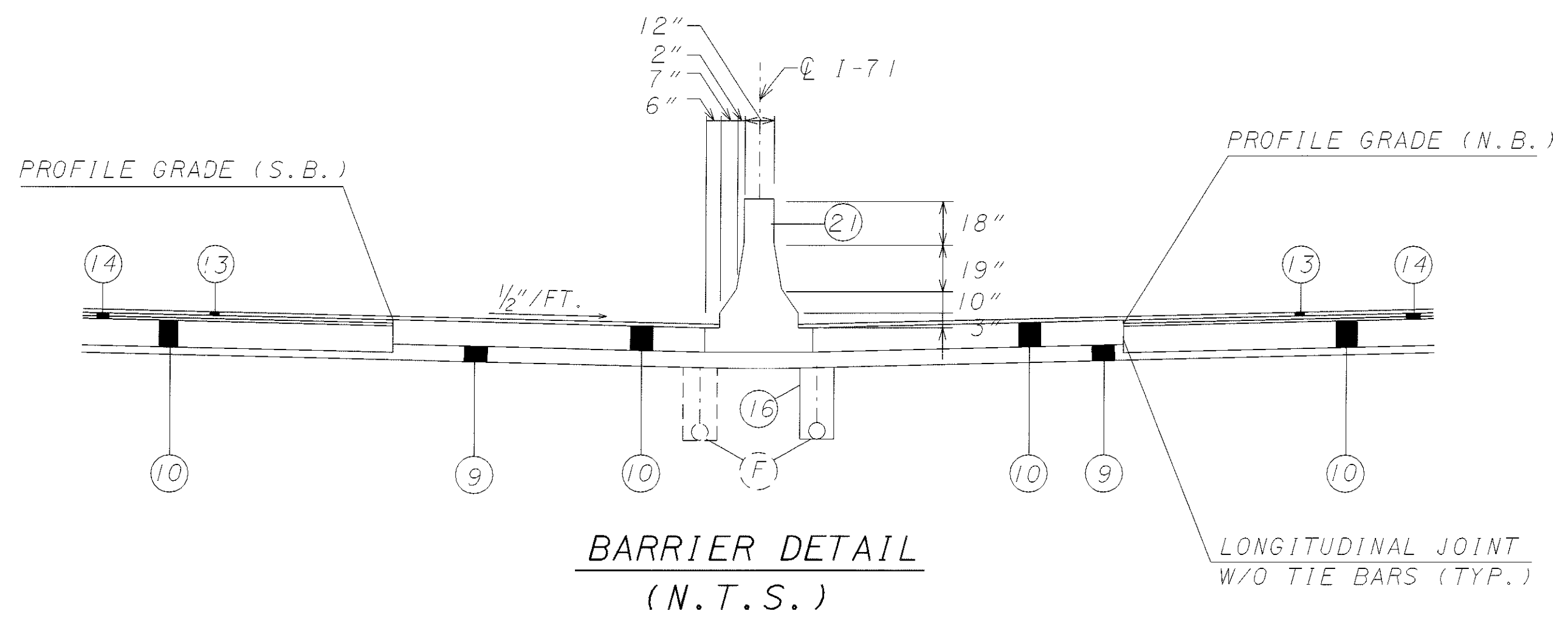
RAMP J-14A
 STA. 13+59.97 TO STA. 16+06.33



RAMP J-14
 STA. 13+09.49 TO STA. 15+09.59

FOR LEGEND, SEE SHEET 5

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STA. 932+50 TO STA. 939+91.73

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TYPICAL SECTIONS

IR-71

CUYAHOGA COUNTY

CUY-71-14.96

18

127

FOR LEGEND, SEE SHEET 5
FOR PAVEMENT DETAILS, SEE SHEETS 66-73

GENERAL NOTES

GENERAL

PROJECT DESCRIPTION

THIS PROJECT SHALL CONSIST OF THE SAFETY UPGRADING AND RESURFACING OF IR-71 FROM 0.6 MILES SOUTH OF RIDGE ROAD TO IR-90 IN THE CITIES OF CLEVELAND AND BROOKLYN. WORK SHALL ALSO INCLUDE APPROXIMATELY 600 FT. OF PAVEMENT REPLACEMENT TO CORRECT THE PROFILE. ITEMS INCLUDED SHALL BE GUARDRAIL, ASPHALT CONCRETE OVERLAY, PAVEMENT REPAIR, AND EROSION CONTROL.

RIGHT OF WAY

ALL WORK SHALL BE PERFORMED WITHIN THE EXISTING RIGHT OF WAY OR EASEMENTS.

EXISTING TYPICAL SECTIONS

EXISTING TYPICAL SECTIONS HAVE BEEN TAKEN FROM THE RECORDS AND ARE BELIEVED TO REPRESENT THE EXISTING PAVEMENT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THE SAME.

FOR FURTHER INFORMATION IN REGARD TO THE EXISTING TYPICAL SECTIONS THE CONTRACTOR SHALL REFER TO THE PREVIOUS CONSTRUCTION PLANS. THESE PLANS MAY BE REVIEWED AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT TWELVE OFFICES, 5500 TRANSPORTATION BLVD., GARFIELD HEIGHTS, OHIO 44125.

UNDERGROUND UTILITIES

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THE PROJECT. THE OHIO DEPARTMENT OF TRANSPORTATION HAS USED THE BEST AVAILABLE INFORMATION TO DETERMINE THE UTILITY COMPANIES SERVING THIS AREA, BUT CANNOT GUARANTEE THE UTILITY COMPANY LIST IS COMPLETE.

UTILITIES

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

1. THE ILLUMINATING CO.
6896 MILLER RD.
BRECKSVILLE, OHIO 44141
(440) 546-8748

2. AMERITECH
13630 LORIAN AVE.-4th FLOOR
CLEVELAND, OHIO 44111
(216) 476-6142

3. THE EAST OHIO GAS CO.
1201 EAST 55TH ST.
CLEVELAND, OHIO 44103
(216) 736-6755

4. CITY OF CLEVELAND,
WATER POLLUTION CONTROL
12302 KIRBY AVE.
CLEVELAND, OHIO 44108
(216) 664-2786

5. CLEVELAND PUBLIC POWER (MELP)
1300 LAKESIDE AVE.
CLEVELAND, OHIO 44114
(216) 664-4245, EXT. 115

6. CUYAHOGA COUNTY SANITARY
ENGINEER
6100 WEST CANAL RD.
VALLEY VIEW, OHIO 44125
(216) 443-8204

7. CITY OF CLEVELAND,
DEPT. OF WATER
1201 LAKESIDE AVE.
CLEVELAND, OHIO 44114
(216) 664-24444 EXT. 5555

8. CITY OF CLEVELAND,
DIVISION OF SAFETY SIGNAL
310 CARNEGIE AVE.
CLEVELAND, OHIO 44115
(216) 664-3247

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL COOPERATE AND COORDINATE HIS OPERATIONS WITH THE CONTRACTOR'S ON OTHER PROJECTS THAT MAY BE IN FORCE DURING THE LIFE OF THIS CONTRACT. NO WAIVER OF ANY PROVISIONS OF 105.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS IS INTENDED.

EQUIPMENT AND MATERIAL STORAGE

IN ORDER TO PROVIDE FOR THE SAFETY OF THE TRAVELING PUBLIC THE CONTRACTOR'S ATTENTION IS DIRECTED TO 614.03. IN ADDITION THE FOLLOWING PROVISIONS SHALL APPLY:

- 1) ANY REMOVED ITEMS SHALL NOT BE STORED ON THE RIGHT OF WAY FOR MORE THAN THIRTY DAYS.
- 2) THE STORAGE OF EQUIPMENT, MATERIALS, AND VEHICLES WITHIN THE HIGHWAY RIGHT OF WAY WILL BE PERMITTED. THE NUMBER OF AREAS AND EXACT LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
- 3) ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE STATE.

ITEM 202 - FENCE REMOVED, AS PER PLAN
ITEM 607 - FENCE, TYPE CLT

THE FOLLOWING ESTIMATED QUANTITIES SHALL BE USED TO REMOVE THE EXISTING FENCE AND SUBSEQUENTLY REPLACE IT WITH TYPE CLT FENCE IN ITS CURRENT LOCATION. THE LIMITS FOR THE REMOVAL AND REPLACEMENT FOR BOTH SOUTHBOUND AND NORTHBOUND IR-71 ARE FROM 0.6 MILES SOUTH OF RIDGE ROAD TO IR-90 INCLUDING ALL INTERCHANGES AND OVERPASSES.

THE LIMITS FOR REMOVAL AND REPLACEMENT SHALL ALSO INCLUDE 3928 LIN.FT. OF FENCE BETWEEN BROOKPARK ROAD AND SNOW ROAD SB-71. CONTACT THE CUYAHOGA COUNTY MANAGER PROIR TO REMOVAL OF THE FENCE IN THIS LOCATION AT (216)581-2333 EXT. 277.

THE EXISTING FENCE LOCATIONS ARE NOT SHOWN THE PLANS, THEREFORE THE CONTRACTOR SHALL STAKE ALL HORIZONTAL DEFLECTION POINTS OF THE EXISTING FENCE DURING REMOVAL TO USE FOR LAYING OUT THE PROPOSED FENCE. STAKING OF DEFLECTION POINTS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202 - FENCE REMOVED, AS PER PLAN. ANY TREES OR OTHER VEGETATION GROWING THROUGH OR NEAR THE PROPOSED FENCE SHALL BE REMOVED AND DISPOSED OF AS PER ITEM 201 - CLEARING AND GRUBBING.

AT THE END OF EACH WORK DAY, THE CONTRACTOR SHALL EITHER HAVE THE PROPOSED FENCE PLACED AFTER THE REMOVAL OF THE EXISTING FENCE OR PLACE TEMPORARY FENCE AT NO ADDITIONAL COST TO THE STATE.

IN ADDITION TO THE FENCE REMOVAL AND REPLACEMENT QUANTITIES, QUANTITIES FOR 4' WALK GATE AND 10' SWING GATE HAVE BEEN ADDED, TO BE USED AS DIRECTED BY THE ENGINEER TO REPLACE EXISTING GATE IF NECESSARY AND TO PROVIDE AT LEAST (2) 4' WALK GATES AT EACH STRUCTURE. REMOVAL OF THE EXISTING GATE SHALL BE PAID FOR UNDER ITEM 202 - GATE REMOVED.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

- ITEM 202 - FENCE REMOVED, AS PER PLAN. 53169 LIN.FT.
- ITEM 607 - FENCE, TYPE CLT. 53169 LIN.FT.
- ITEM 202 - GATE REMOVED. 2 EACH
- ITEM 607 - GATE, TYPE CLT (4' WALK). 12 EACH
- ITEM 607 - GATE, TYPE CLT (10' SWING). 1 EACH

ROADWAY

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

ALL CORNERS SHALL BE ROUNDED (4' MINIMUM) EVEN THOUGH SHOWN OTHERWISE ON THESE PLANS.

ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

THIS ITEM SHALL BE USED TO REMOVE THE EXISTING ASPHALT OVERLAYS FULL WIDTH. THE TYPICAL REMOVAL SHALL BE TO THE TOP OF THE CONCRETE BASE. IN AREAS WHERE THERE IS FLEXIBLE PAVEMENT OR SHOULDERS, THE REMOVAL SHALL BE TO A DEPTH EQUAL TO THAT OF THE REMOVAL OVER THE CONCRETE BASE.

AREAS WHICH HAVE TRANSVERSE WEDGES (BUTT JOINTS AND STRUCTURES) ARE TO BE REMOVED ON TWO PASSES AS REQUIRED FOR MAINTAINING TRAFFIC. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THE SECOND PASS.

PRIOR TO REMOVING ANY AREA OF WEARING COURSE, THE CONTRACTOR SHALL REFERENCE ALL BADLY DISTRESSED JOINTS OR CRACKS. BADLY DISTRESSED JOINTS OR CRACKS ARE THOSE WHICH INDICATE REPEATED PATCHING AND/OR SIGNIFICANT SEPARATION. THESE JOINTS TYPICALLY INDICATE SURFACE FAILURE DUE TO SIGNIFICANT VERTICAL JOINT MOVEMENT. THE CRITERIA FOR DETERMINING THE JOINTS WHICH ARE TO BE REFERENCED SHALL BE AS APPROVED BY THE ENGINEER.

THE JOINT REFERENCING SHALL INCLUDE THE APPROPRIATE LANE NUMBER AND SHALL BE MARKED BEYOND THE SHOULDER LIMITS DIRECTLY IN LINE WITH THE FAILED JOINT.

ALL ADDITIONAL COSTS FOR THIS FIELD SURVEY AND JOINT REFERENCING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN.

ITEM 203 - EMBANKMENT, AS PER PLAN

THE METHOD OF MEASUREMENT FOR THIS ITEM SHALL BE BY THE METHOD OF AVERAGE END AREAS WHERE CROSS SECTIONS ARE INCLUDED IN THE PLANS. WHERE CROSS SECTIONS ARE NOT INCLUDED IN THE PLANS, THE METHOD OF MEASUREMENT SHALL BE BY CALCULATIONS BASED UPON TYPICAL SECTIONS.

THE TOP 3 INCHES OF EMBANKMENT SHALL CONSIST OF LOOSE, FRIABLE, LOAMY SOIL WITHOUT THE ADMIXTURE OF REFUSE OR STONE GREATER THAN 1 INCH. THE SOIL SHALL BE CAPABLE OF SUPPORTING VEGETATION.

ITEM 254 - PAVEMENT PLANING, PORTLAND CEMENT CONCRETE

THIS ITEM SHALL CONSIST OF CHIPPING THE EXISTING CONCRETE PAVEMENT AS DETAILED AND DESCRIBED ON SHEET NO.76,78,AND AS DIRECTED BY THE ENGINEER. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 254 - PAVEMENT PLANING, PORTLAND CEMENT CONCRETE 5330 SQ.YD.

ITEM 201 - CLEARING AND GRUBBING

THIS ITEM IS SPECIFICALLY INTENDED TO PROVIDE FOR THE REMOVAL OF TREES AND OTHER VEGETATION WHICH RESTRICTS SIGHT DISTANCE OR BLOCKS THE VIEW OF THE EXISTING OR PROPOSED SIGNS THROUGH-OUT THIS PROJECT. THIS ITEM SHALL ALSO BE USED TO CLEAR TREES AND VEGETATION WHEN REPLACING FENCE. THIS ITEM OF WORK SHALL BE PERFORMED AT THE BEGINNING OF THE CONTRACT WORK.

NO TREE REMOVAL SHALL OCCUR BETWEEN APRIL 15 AND SEPTEMBER 15.

GENERAL NOTES

ROADWAY

ITEM 202 - RAISED PAVEMENT MARKERS REMOVED FOR STORAGE, AS PER PLAN

RAISED PAVEMENT MARKERS SHALL BE REMOVED FROM THE ROADWAY IN A MANNER THAT PREVENTS DAMAGE TO THE CASTINGS. REMOVED MARKERS SHALL BE COLLECTED, STORED IN 55 GALLON DRUMS (WITH AMOUNT CLEARLY MARKED) AND THEN DELIVERED TO THE ODOT WARRENSVILLE YARD, 25609 EMERY RD., WARRENSVILLE HTS., OHIO 44128 (SR 175 AT INTERSECTION OF I-271 AND EMERY RD.), BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER. THE PROJECT ENGINEER SHALL GIVE THE WARRENSVILLE TRAFFIC DEPARTMENT (292-5801) 48 HOUR NOTICE PRIOR TO ANY DELIVERIES. THE PROJECT ENGINEER SHALL BE RESPONSIBLE FOR FURNISHING ALL NECESSARY TRANSFER/RECEIVING DOCUMENTATION TO THE YARD. ALL COSTS ASSOCIATED WITH THE REMOVAL, STORAGE AND DELIVERY OF THESE MARKERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202 - RAISED PAVEMENT MARKERS REMOVED FOR STORAGE, AS PER PLAN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED THROUGHOUT THIS PROJECT:

ITEM 202-RAISED PAVEMENTMARKERS REMOVED FOR STORAGE, AS PER PLAN 1,100 EACH

FASTENING OF BRIDGE TERMINAL ASSEMLIES

THIS ITEM REQUIRES THE USE OF POLYESTER RESIN ANCHORS WITH FEMALE THREADED INSERTS (10 INCH LONG) TO ACCEPT 7/8" DIAMETER BOLTS WHEN THRU BOLTS CANNOT BE USED.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

SEE NOTES AND DETAILS ON SHEET 59 FOR THIS ITEM.

ITEM 202 - GUARDRAIL REMOVED

THIS ITEM SHALL INCLUDE BOTH STANDARD AND BARRIER TYPE RAILS INCLUDING ANCHOR ASSEMBLIES AND TERMINAL ASSEMBLIES.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING 203, LINEAR GRADING, AND PAVING UNDER THE GUARDRAIL USING 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL), AS PER PLAN.

ITEM 203, LINEAR GRADING, SHALL CONSIST OF EXCAVATING TOPSOIL, PLACING GRANULAR MATERIAL AND APPLYING HERBICIDE AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 203.05.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 203.02 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

HERBICIDE SHALL BE TREFLAN E. C., SPIKE OR AN APPROVED EQUAL AND SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

ONLY PROPERLY LICENSED PERSONNEL SHALL APPLY HERBICIDES AS REQUIRED BY THE OHIO REVISED CODE.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 203, LINEAR GRADING.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

- METHOD A:
- 1) SET GUARDRAIL POSTS
- 2) PLACE ITEM 448
- METHOD B:
- 1) PLACE ITEM 448
- 2) BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
- 3) SET GUARDRAIL POSTS
- 4) PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE A BITUMINOUS CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL) AS PER PLAN.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

TYPE 5 GUARDRAIL POST SPACING

WHEN THE OFFSET BETWEEN THE FACE OF THE GUARDRAIL AND BRIDGE PIERS, MAJOR SIGNS, SIGN SUPPORTS, OR OTHER FIXED OBSTACLES IS LESS THAN 5 FT.- 6 INCH, THE GUARDRAIL SHALL BE STIFFENED BY PROVIDING 3 FT.-1.5 INCH POST SPACING FROM 12.5 FEET IN ADVANCE OF THE OBSTRUCTION TO ITS END, AS PER STD. DRAWING GR-2.1M.

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.

CONVERSION OF METRIC STANDARD DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 1997 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

ITEM 618 - RUMBLE STRIPS, TYPE 2 (ASPHALT)

THE FOLLOWING ESTIMATED QUANTITY SHALL BE USED TO CONSTRUCT ITEM 618, RUMBLE STRIPS, TYPE 2 (ASPHALT) AS PER STANDARD DRAWING BP-9.1:

ITEM 618 - RUMBLE STRIPS, TYPE 2 (ASPHALT) . . 17.92 MILE

ITEM 203 - DITCH CLEANOUT

THIS WORK SHALL CONSIST OF RE-ESTABLISHING THE CROSS-SECTION OF AN EXISTING DITCH. SURPLUS OR UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER, SHALL BE DISPOSED OF AS PER 203.05. EMBANKMENT REQUIRED FOR ERODED CONDITIONS SHALL MEET THE REQUIREMENTS OF 203.07 EXCEPT THAT THE COMPACTION REQUIREMENTS ARE WAIVED.

MEASUREMENT OF THE DITCH CLEANOUT SHALL BE THE ACTUAL LINEAR FEET MEASURED ALONG THE CENTERLINE OF THE DITCH.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203, DITCH CLEANOUT

THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED TO PERFORM THIS WORK AS DIRECTED BY THE ENGINEER:

ITEM 203 - DITCH CLEANOUT 1,000 LIN. FT.

DUST CONTROL

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR DUST CONTROL:

ITEM 616 - CALCIUM CHLORIDE..... 5 TON

ITEM 616 - WATER..... 10 M.GAL.

ITEM 203 - LINEAR GRADING, METHOD A

THIS ITEM OF WORK SHALL CONSIST OF GRADING ALONG THE OUTSIDE EDGE OF THE PAVED SHOULDER, AS DETAILED ON THE TYPICAL SECTIONS, TO PREPARE THE GROUND SURFACE FOR PAVING UNDER GUARDRAIL.THIS ITEM SHALL BE USED TO PREPARE PROPOSED GUARDRAIL AND EXISTING GUARDRAIL RUNS.

ALL COLLECTED DEBRIS SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 203 - LINEAR GRADING, METHOD A AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THIS ITEM OF WORK.

THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED TO PERFORM THIS WORK AS DIRECTED BY THE ENGINEER.

ITEM 203 - LINEAR GRADING.....445 STA.

ITEM 203 - LINEAR GRADING, METHOD B

THIS ITEM OF WORK SHALL CONSIST OF GRADING ALONG THE OUTSIDE EDGE OF THE PAVED SHOULDER, AS DETAILED ON THE TYPICAL SECTIONS,TO ENSURE POSITIVE DRAINAGE.

ALL COLLECTED DEBRIS SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATION.

THIS ITEM SHALL BE MEASURED IN STATIONS PER EACH SIDE OF THE ROADWAY THAT THIS WORK IS PERFORMED. PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 203 - LINEAR GRADING, METHOD B AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THIS WORK.

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GENERAL NOTES

ROADWAY (CONTINUED)

ITEM 606 - IMPACT ATTENUATOR, TYPE 2-98 QUADGUARD
#QS3607, UNIDIRECTIONAL

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A QUADGUARD IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG. REV. DATE	ODOT APPROVAL DATE
QSTSCVR-U	QUADGUARD SYSTEM WITH TENSION STRUT BACKUP	7/10/96 Rev. A	3/6/98
QSCBCVR-U	QUADGUARD SYSTEM WITH CONCRETE BACKUP	4/28/97 Rev. E	3/6/98
QFTSCVR-U	QUADGUARD SYSTEM W/ 69" & 90" TENSION STRUT BACKUPS	9/5/97 Rev. C	3/6/98
QFCBCVR-U	QUADGUARD SYSTEM W/ 69" & 90" CONCRETE BACKUPS	9/4/97 Rev. D	3/6/98
35-40-20	DEFLECTOR ASSEMBLY, CONCRETE BACKUP RETROFIT, QC	11/14/97 Rev. B	7/31/98
35-40-03	QUADGUARD SYSTEM BACKUP ASSEMBLY, TS, QG	3/19/99 Rev. F	8/27/99
35-40-08	QUADGUARD SYSTEM CONCRETE BACKUP, QG	10/14/97 Rev. F	8/27/99
2 SHEETS	ON GRADE & ON EXISTING CONCRETE STRUCTURE	10/14/97 Rev. F	8/27/99
35-40-21	TRANSITION ASSEMBLY QUAD-BEAM TO W-BEAM	11/6/97 Rev. B	8/27/99
2 SHEETS		7/14/97 Rev. A	8/27/99
35-40-22	TRANSITION ASSEMBLY QUAD-BEAM TO THRIE-BEAM	7/15/97 Rev. A	8/27/99
2 SHEETS		7/11/97 Rev. A	8/27/99
35-40-15	QUADGUARD SYSTEM END SHOE ASSEMBLY, QG	9/11/98 Rev. F	8/27/99
3540211	QG TRANSITION ASSEMBLY QUAD-BEAM TO W-BEAM-WIDE	8/29/97 Rev. A	8/27/99
2 SHEETS		8/29/97 Rev. A	8/27/99
3540221	QG TRANSITION ASSEMBLY QUAD-BEAM TO THRIE-BEAM-WIDE	8/29/97 Rev. A	8/27/99
2 SHEETS		8/29/97 Rev. A	8/27/99

3540498 QG SYSTEM NOSE ASSEMBLY, QG, 24, 30, 36, W/BELTING 12/30/98 8/27/99

3540150 QUADGUARD TRANSITION TO VERTICAL CONCRETE BARRIER 9/96 8/27/99

WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2-98 QUADGUARD #QS3607, UNIDIRECTIONAL, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

PAVEMENT

SPREADING EQUIPMENT

AN AUTOMATIC SCREED CONTROL HAVING A 40 FOOT SKI ARM SHALL BE USED FOR PLACING THE INTERMEDIATE COURSE (SEE PROPOSAL NOTE). FOR FULL WIDTH PAVING, THE WIDTH LAID SHALL NOT EXCEED THE PAVER'S RATED WIDTH AS RECOMMENDED BY THE PAVER MANUFACTURER.

LONGITUDINAL JOINTS

LONGITUDINAL JOINTS BETWEEN A PAVEMENT LANE AND ADJOINING BERM OR SPEED CHANGE LANE, AND BETWEEN A SPEED CHANGE LANE AND THE ADJOINING BERM SHALL BE MADE THE SAME DAY. ALL LONGITUDINAL JOINTS SHALL BE HOT WITH THE EXCEPTION OF ONE COLD JOINT PER ROADWAY. LONGITUDINAL JOINT LOCATIONS SHALL BE AS APPROVED BY THE ENGINEER. EACH RAMP SHALL HAVE ONLY ONE LONGITUDINAL COLD JOINT LOCATED APPROXIMATELY HALFWAY ACROSS THE RAMP.

ALIGNMENT AND PROFILE

THE WORK PROPOSED BY THIS PROJECT IS FOR THE RESURFACING OF THE EXISTING PAVEMENT. THE PROFILE OF THE PROPOSED SURFACE WILL BE APPROXIMATELY 1½ INCH ABOVE THAT OF THE EXISTING PAVEMENT.

CONCRETE BASE REPAIR

AFTER THE REMOVAL OF THE WEARING COURSE IT IS ANTICIPATED THAT THE EXISTING CONCRETE BASE WILL SHOW NUMEROUS CRACKS. IT IS NOT THE INTENT OF THESE PLANS TO REPAIR ALL CRACKS AND JOINTS. TYPICALLY, THOSE JOINTS AND CRACKS WHICH WERE REFERENCED PRIOR TO THE WEARING COURSE REMOVAL SHALL BE CONSIDERED FOR TOTAL REPLACEMENT. THE ENGINEER SHALL DETERMINE THE REPAIR LOCATIONS AND APPROXIMATE REPAIR METHODS. THE REPAIR METHODS FOR THIS PROJECT ARE:

- 1) PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN
- 2) FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN

THIS WORK SHALL BE PERFORMED PRIOR TO RESURFACING. THE QUANTITIES PROVIDED ARE TO REPAIR UNSOUND OR COLD-PATCH AREAS OR POP-OUTS. THICKNESS WILL VARY FROM 2" TO 3".

PARTIAL DEPTH REPAIRS SHALL ONLY BE PERFORMED ON PAVEMENTS THAT WILL RECEIVE AN ASPHALT OVERLAY.

FOR ADDITIONAL NOTES, DETAILS AND QUANTITIES, SEE SHEET 77.

ITEM 305 - PORTLAND CEMENT CONCRETE BASE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 305.01, LOAD TRANSFER DEVICES ARE REQUIRED AT ALL TRANSVERSE CONTRACTION, CONSTRUCTION, AND EXPANSION JOINTS.

WHERE PROPOSED 305 BASE PAVEMENT IS TIED LONGITUDINALLY TO EXISTING PAVEMENT, TRANSVERSE JOINT SPACING AS REQUIRED IN BP-2.2 SHALL BE WAIVED. TRANSVERSE JOINTS SHALL BE LOCATED IN THE PROPOSED 305 BASE PAVEMENT AT ALL EXISTING TRANSVERSE JOINTS TO REMAIN AND ALL PROPOSED TYPE Y OR TYPE T JOINTS. JOINTS SHALL BE CONSTRUCTED TO FORM A CONTINUOUS LINE IN THE SAME ALIGNMENT AS THE TRANSVERSE JOINT IN THE ADJACENT EXISTING PAVEMENT.

WHERE PROPOSED 305 BASE PAVEMENT IS NOT TIED LONGITUDINALLY TO EXISTING PAVEMENT, JOINT SPACING IN THE PROPOSED 305 BASE SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARD DRAWING.

ITEM 413 - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, 705.04

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED TO PERFORM THIS ITEM OF WORK:

ITEM 413 - SAWING AND SEALING ASPHALT CONCRETE JOINTS, 705.04....100000 L. F.

PROTECTION FOR EXCAVATION/PAVEMENT REMOVAL

IN THE PAVEMENT REPLACEMENT AREA (STA. 932+50 TO STA. 939+91.73), THE CONTRACTOR SHALL PROTECT THE EXCAVATION/PAVEMENT REMOVAL AGAINST COLLAPSE AS PER ITEM 503 - COFFERDAMS, CRIBS AND SHEETING.

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

ITEM 503 - COFFERDAMS, CRIBS AND SHEETING.....LUMP SUM

LONGITUDINAL JOINTS (FLEXIBLE PAVEMENT)

LONGITUDINAL JOINTS BETWEEN A PAVEMENT LANE AND ADJOINING BERM OR SPEED CHANGE LANE, AND BETWEEN A SPEED CHANGE LANE AND THE ADJOINING BERM SHALL BE MADE THE SAME DAY. ALL LONGITUDINAL JOINTS SHALL BE HOT WITH THE EXCEPTION OF ONE COLD JOINT PER ROADWAY. LONGITUDINAL JOINT LOCATIONS SHALL BE AS APPROVED BY THE ENGINEER. EACH RAMP SHALL HAVE ONLY ONE LONGITUDINAL COLD JOINT LOCATED APPROXIMATELY HALFWAY ACROSS THE RAMP.

GENERAL NOTES

CUYAHOGA COUNTY
CUY-71-14.96

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PAVEMENT

ITEM 622 - CONCRETE BARRIER, AS PER PLAN

THIS ITEM OF WORK SHALL BE USED TO CONSTRUCT CONCRETE BARRIERS. FOR QUANTITIES, SEE SHEET 73 .

IF CONCRETE FOUNDATIONS (FOOTINGS) ARE ENCOUNTERED DURING CONCRETE BARRIER PILE EXCAVATION, THE 6'-0" DEPTH MAY BE SHORTENED TO ABOUT THE FOOTING. THE #601 BARS SHALL BE TRIMMED, REPAIRED, AND DOWELED (8" MIN.) INTO THE FOOTING AS PER ITEMS 509 AND 510. ALL WORK SHALL BE AS DIRECTED BY THE ENGINEER AND INCLUDED UNDER ITEM 622 - CONCRETE BARRIER, AS PER PLAN.

ITEM 446 - ASPHALT CONCRETE SURFACE COURSE, TYPE IH, AS PER PLAN

THE GRADATION FOR THIS ITEM SHALL BE AS PER 441.02, TABLE A, TYPE I SURFACE, MEDIUM. ALL OTHER SPECIFICATIONS SHALL BE AS PER TYPE IH. COARSE AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO AIR COOLED BLAST FURNACE SLAG OR LIMESTONE.

ITEM 407 - TACK COAT

THE RATE OF APPLICATION OF THE 407 - TACK COAT SHALL BE SUBJECT TO ADJUSTMENTS. AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.10 GAL/SQ.YD. FOR ESTIMATION PURPOSES ONLY.

THE RATE OF THE 407 TACK COAT FOR INTERMEDIATE COURSE SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.05 GAL/SQ.YD. FOR ESTIMATION PURPOSES ONLY.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 407 - TACK COAT.....43255 GAL.
ITEM 404 - TACK COAT FOR INTERMEDIATE COURSE...21628 GAL.

ASPHALT APPROACHES AT BRIDGES

THE ASPHALT APPROACHES TO STRUCTURES SHALL BE PLACED AS SHOWN ON THE DETAILS ON SHEET NO. 76 .

ALL COSTS OF SAID SURVEY SHALL BE INCLUDED UNDER ITEM 623 - CONSTRUCTION LAYOUT STAKES, AS PER PLAN.

ITEM 304 - AGGREGATE BASE, AS PER PLAN

THE ONLY SLAG MATERIALS PERMITTED FOR THIS ITEM SHALL BE CRUSHED AIR-COOLED BLAST FURNACE SLAG, A MIXTURE OF CRUSHED AND GRANULATED SLAGS, OR OPEN HEARTH SLAG FROM APPROVED SOURCES ON FILE AT THE LABORATORY.

ALL MATERIALS OR BLENDED MATERIALS SHALL MEET THE GRADATION REQUIREMENTS OF 304.02.

ANY GRANULATED SLAG MATERIAL USED SHALL MEET THESE GRADATION REQUIREMENTS IN LIEU OF 703.08

PREFORMED EXPANSION JOINT MATERIAL

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE BARRIER, CURB, OR NEW CONCRETE OF ANOTHER PAY ITEM, PREFORMED EXPANSION JOINT MATERIAL, AS PER 705.03, SHALL BE PLACED BETWEEN THE CONCRETE. ALL COSTS FOR THE JOINT MATERIAL SHALL BE INCLUDED IN THE PERTINENT CONCRETE ITEM.

GENERAL NOTES

ITEM 617 - COMPACTED AGGREGATE, TYPE A, AS PER PLAN

THIS ITEM SHALL BE USED ALONG ALL RESURFACED SHOULDERS EXCEPT THOSE WHICH ARE IN A REGRADING AREA, OR WHICH ABUT CURB OR ASPHALT CONCRETE UNDER GUARDRAIL. MATERIAL SHALL BE LIMITED TO CRUSHED AIR-COOLED BLAST FURNACE SLAG OR LIMESTONE.

IF THE COMPACTED AGGREGATE IS NOT PLACED WITHIN 7 DAYS OF THE LINEAR GRADING OPERATION, THEN THE AREAS SHALL BE TEMPORARY SEEDED AND MULCHED AT NO ADDITIONAL COST TO THE STATE.

THE ACTUAL DEPTH USED WILL VARY DEPENDING UPON EXISTING CONDITIONS. FOR CALCULATION PURPOSES, AN AVERAGE DEPTH OF 3 INCHES WILL BE USED. WATER, IF NEEDED, SHALL BE APPLIED AS PER 617 AND INCLUDED UNDER ITEM 617 - COMPACTED AGGREGATE, TYPE A, AS PER PLAN

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 617 - COMPACTED AGGREGATE, 824 CU.YDS.
TYPE A, AS PER PLAN

ITEM SPECIAL - PRESSURE RELIEF JOINTS, TYPE A

THESE ITEMS OF WORK SHALL BE USED TO RECONSTRUCT EXISTING PRESSURE RELIEF JOINTS. CARE SHOULD BE TAKEN AS TO NOT DISTURB THE EXISTING PRESSURE RELIEF JOINT UNDERDRAIN, EXCEPT IN THE PAVEMENT REPLACEMENT AREA.

PRESSURE RELIEF JOINTS, TYPE A SHALL CROSS THE ENTIRE JOINT. WORK SHALL CONFORM TO STD. CONST. DRAWING BP-2.3.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE:

ITEM SPEC - PRESSURE RELIEF JOINT, TYPE A... 893 L.F.

CONTRACTION JOINTS IN CONCRETE PAVEMENT

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, CONTRACTION JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING CONCRETE.

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2. IF NECESSARY, ADDITIONAL JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM SPACING.

ITEM 623 - CONSTRUCTION LAYOUT STAKES, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 623, THE CONTRACTOR SHALL PROVIDE FIELD SURVEY FOR ALL ASPHALT TRANSITIONS. (SEE SHEET NO. 76).

PRIOR TO THE PLANING OF PAVEMENT BENEATH ALL OVERHEAD STRUCTURES, A LICENSED SURVEYOR SHALL MEASURE THE VERTICAL CLEARANCES AND DOCUMENT THE MEASUREMENTS ON AN APPROVED OHIO DEPARTMENT OF TRANSPORTATION FORM AVAILABLE FROM THE DISTRICT BRIDGE OFFICE. THE MEASUREMENTS SHALL BE TAKEN AT THE LOCATIONS INDICATED ON THE APPROVED ODOT FORM AND SUBMITTED TO THE PROJECT ENGINEER. AFTER THE NEW PAVING HAS BEEN COMPLETED, A REGISTERED SURVEYOR AGAIN SHALL TAKE VERTICAL CLEARANCE MEASUREMENTS AT LOCATIONS INDICATED ON THE APPROVED ODOT FORM. THESE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT BRIDGE ENGINEER. THE RECORD SHALL BEAR THE STAMP OR SEAL OF THE LICENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS AND WILL VERIFY THAT VERTICAL CLEARANCES HAVE BEEN PRESERVED.

ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN A

ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B

ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A

ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B

THIS ITEM SHALL CONSIST OF REPLACING EXISTING PAVEMENT IN ACCORDANCE WITH ITEM 255 AND THE NOTES BELOW. PAYMENT SHALL BE MADE FOR "CLASS MS" OR "CLASS FS" ALTHOUGH THE CONTRACTOR MAY USE EITHER, "CLASS MS", "CLASS FS".

EXISTING CONCRETE PAVEMENT THICKNESS MAY VARY FROM THAT SHOWN ON THE TYPICAL SECTIONS BY PLUS OR MINUS TWO INCHES. NO ADJUSTMENT IN PAYMENT FOR THIS ITEM SHALL BE MADE PROVIDING THAT THE AVERAGE PAVEMENT THICKNESS IS WITHIN A HALF INCH OF THE THICKNESS SHOWN ON THE TYPICAL SECTIONS. ADDITIONAL COMPENSATION SHALL BE MADE BY CHANGE ORDER FOR THE MATERIAL COST OF CONCRETE ONLY WHEN THE AVERAGE THICKNESS EXCEEDS THE ONE HALF INCH MAXIMUM TOLERANCE ABOVE. THE VOLUME OF ADDITIONAL CONCRETE PAID FOR SHALL BE BASED UPON THE AMOUNT OF CONCRETE ABOVE THE ONE HALF INCH TOLERANCE LIMIT.

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 COMPACTED 304 AGGREGATE. QUANTITIES OF ITEM 203, EXCAVATION AND ITEM 304, AGGREGATE BASE HAVE BEEN PROVIDED TO REPAIR SAID FAILED SUBBASE OR SUBGRADE AREAS.

PAVEMENT REPAIR LESS THAN OR EQUAL TO TEN (10) FEET IN LENGTH SHALL BE PAID FOR UNDER "FULL DEPTH RIGID PAVEMENT REMOVAL AND REPLACEMENT, MS OR FS, AS PER PLAN, A". PAVEMENT REPAIRS GREATER THAN TEN (10) FEET IN LENGTH SHALL BE PAID FOR UNDER "FULL DEPTH RIGID PAVEMENT REMOVAL AND REPLACEMENT, MS OR FS, AS PER PLAN, B".

ALL LANE CLOSURES TO PERFORM THE ABOVE DESCRIBED WORK SHALL ONLY BE ALLOWED ACCORDING TO THE LATEST REVISION OF THE PERMITTED LANE CLOSURE WEB PAGE AT www.dot.state.oh.us/dist12/workzone/laneclo.htm. THE LATEST REVISION, 14 DAYS PRIOR TO THE BID DATE, SHALL BE IN EFFECT FOR THIS PROJECT.

PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
203	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
304	CU. YD.	AGGREGATE BASE, AS PER PLAN
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN A
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A
255	SQ. FT.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B
255	LIN. FT.	FULL DEPTH PAVEMENT SAWING

FOR ESTIMATED QUANTITIES, SEE SHEET 77.

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ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

- 1) THE ET-2000 (1997) MANUFACTURED BY
SYRO, INC.
1170 N. STATE STREET
GIRARD, OHIO 44420
TELEPHONE: (330) 545-4373.

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 15.24 m (50 FT), INCLUSIVE OF TWO 7.62 m (25 FT) LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PREAPPROVED SHOP DRAWING:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL
SS265M	ET-2000 (1997) PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98

- 2) THE SKT-350 MANUFACTURED BY
ROAD SYSTEMS, INC.
NEW CASTLE DRIVE
FRANKFORT, IL 60423
TELEPHONE: (815) 464-5917.

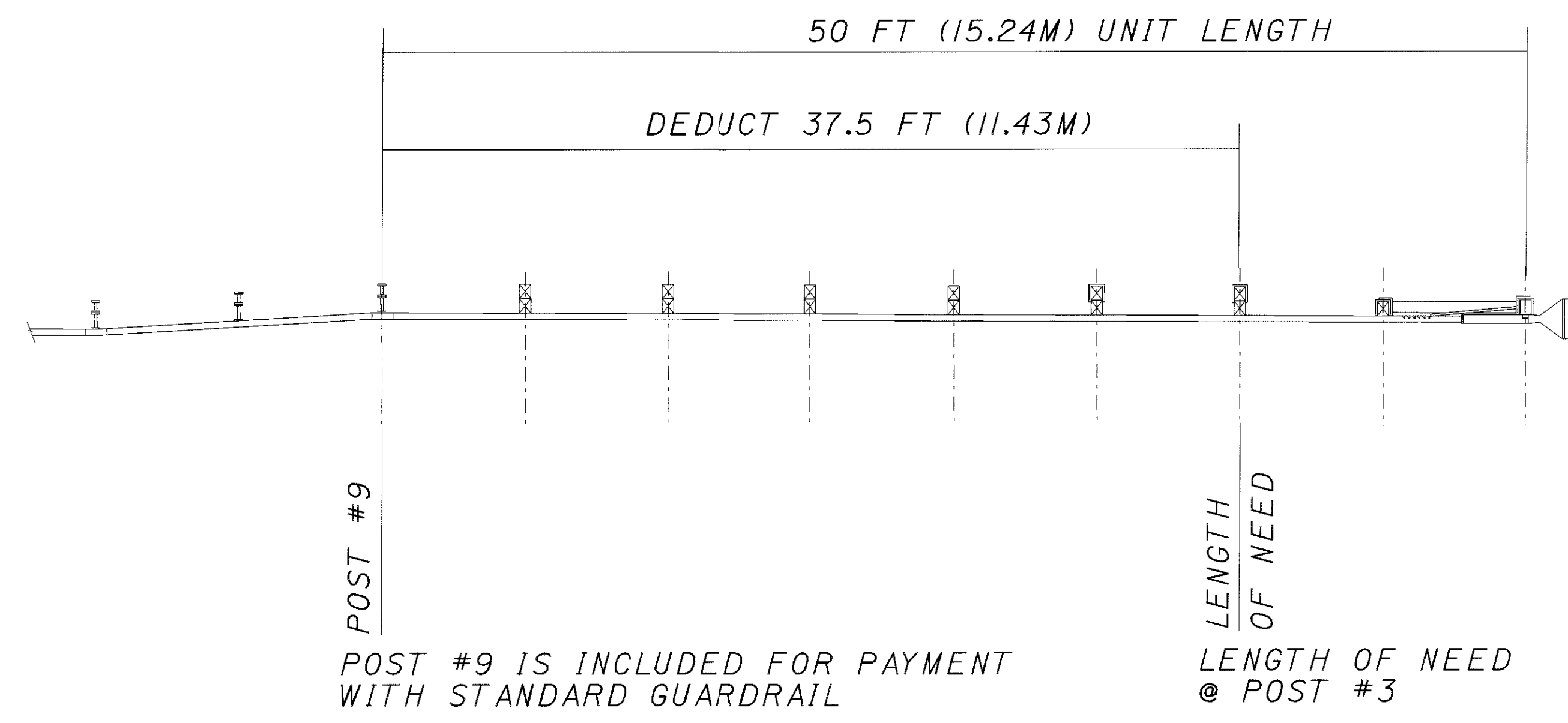
THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 15.24 m (50 FT), INCLUSIVE OF FOUR 3.81 m (12.5 FT) LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

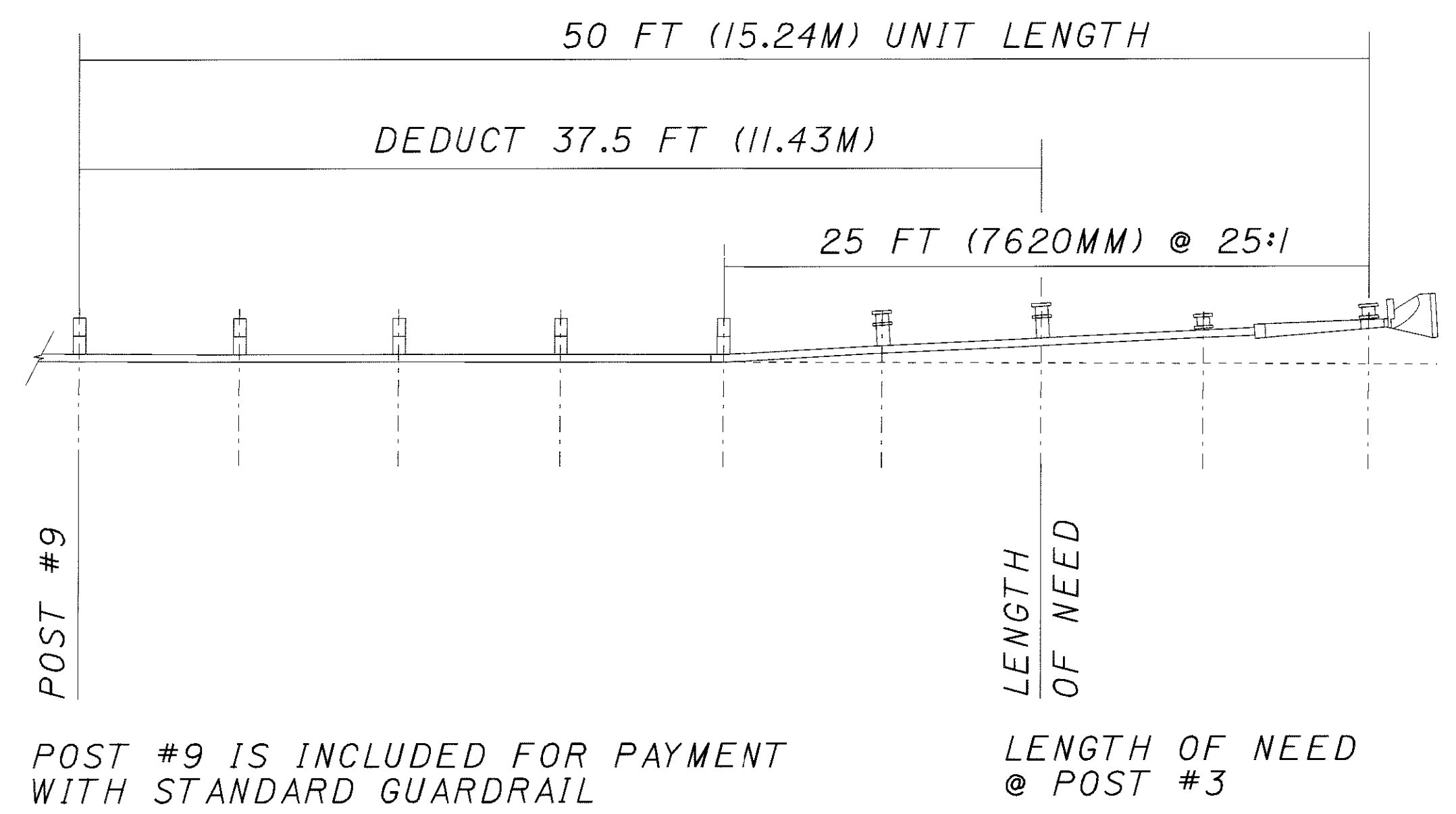
THE FACE OF THE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18"x18".

A TYPE C DELINEATOR SHALL BE INSTALLED AT THE HEAD OF ALL TYPE E-98 UNITS LOCATED ON THE RIGHT SIDE OF THE THROUGH ROADWAY.
A TYPE D DELINEATOR SHALL BE INSTALLED AT THE HEAD OF ALL TYPE E-98 UNITS LOCATED ON THE LEFT SIDE OF THE THROUGH ROADWAY.
DELINEATORS SHALL COMPLY WITH STANDARD TRAFFIC DRAWING TC-61.10M.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM; INCLUDING ALL RELATED TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.



ET-2000



SKT-350

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ITEM 606 - IMPACT ATTENUATOR, TYPE 1-98 (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING IMPACT ATTENUATORS:

1) THE C-A-T MANUFACTURED BY SYRO, INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330.545-4373).

THE LENGTH OF THE C-A-T SYSTEM IS CONSIDERED TO BE 31.25 FT. LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

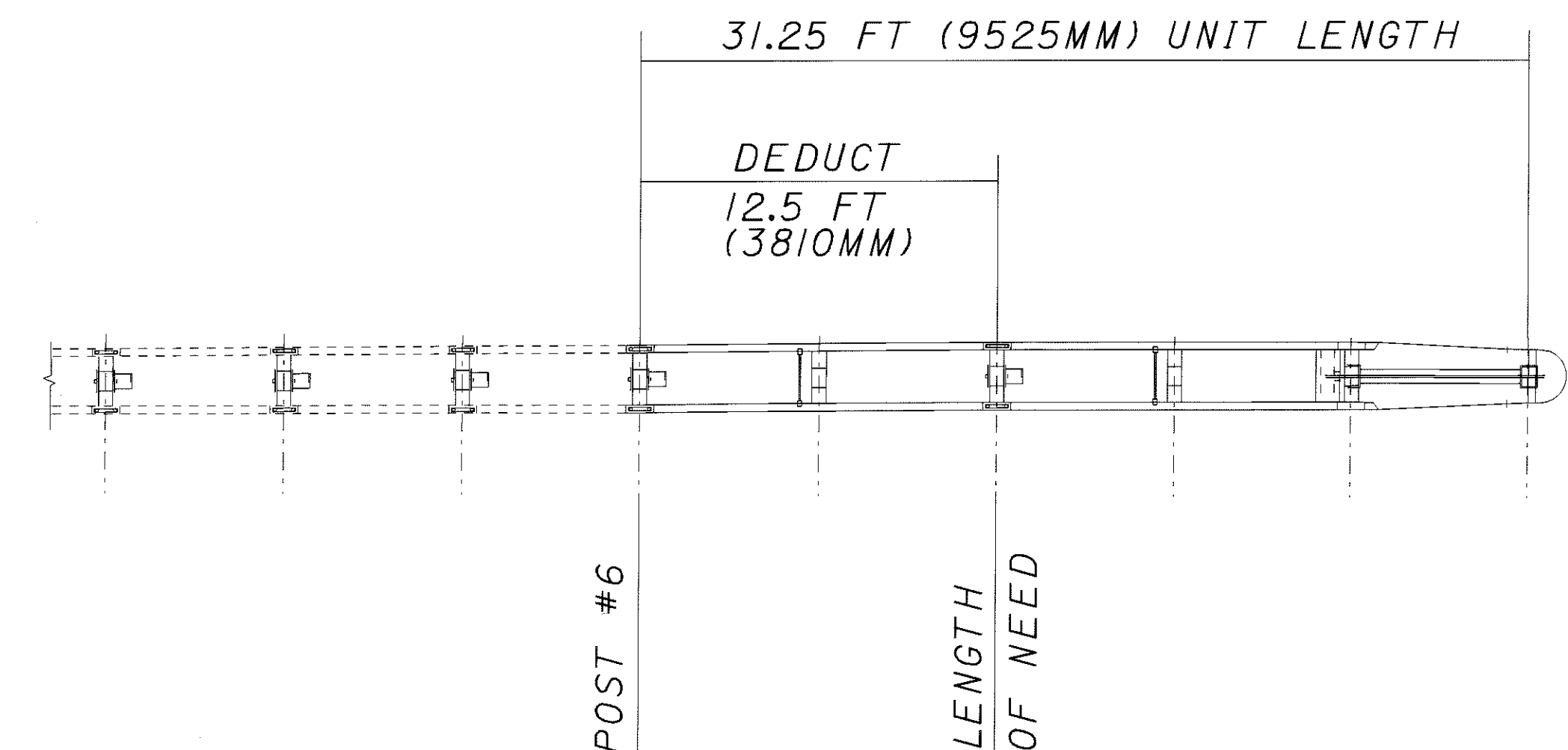
DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL
SS245M	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS. FOR USE AS A LONGITUDINAL MEDIAN BARRIER TERMINAL OR CRASH CUSHION ATTENUATOR	4-10-97	3-6-98
SS224M	C-A-T TRANSITION TO MEDIAN BARRIER GUARDRAIL PLAN, ELEVATION & SECTIONS.	4-26-96	3-6-98
SS226M	C-A-T TRANSITION TO VERTICAL WALL OR PIER PLAN, ELEVATION & SECTIONS.	4-26-96	3-6-98

2) THE BREAKMASTER MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312.467-6750).

THE LENGTH OF THE BREAKMASTER IS CONSIDERED TO BE 32'-8" LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

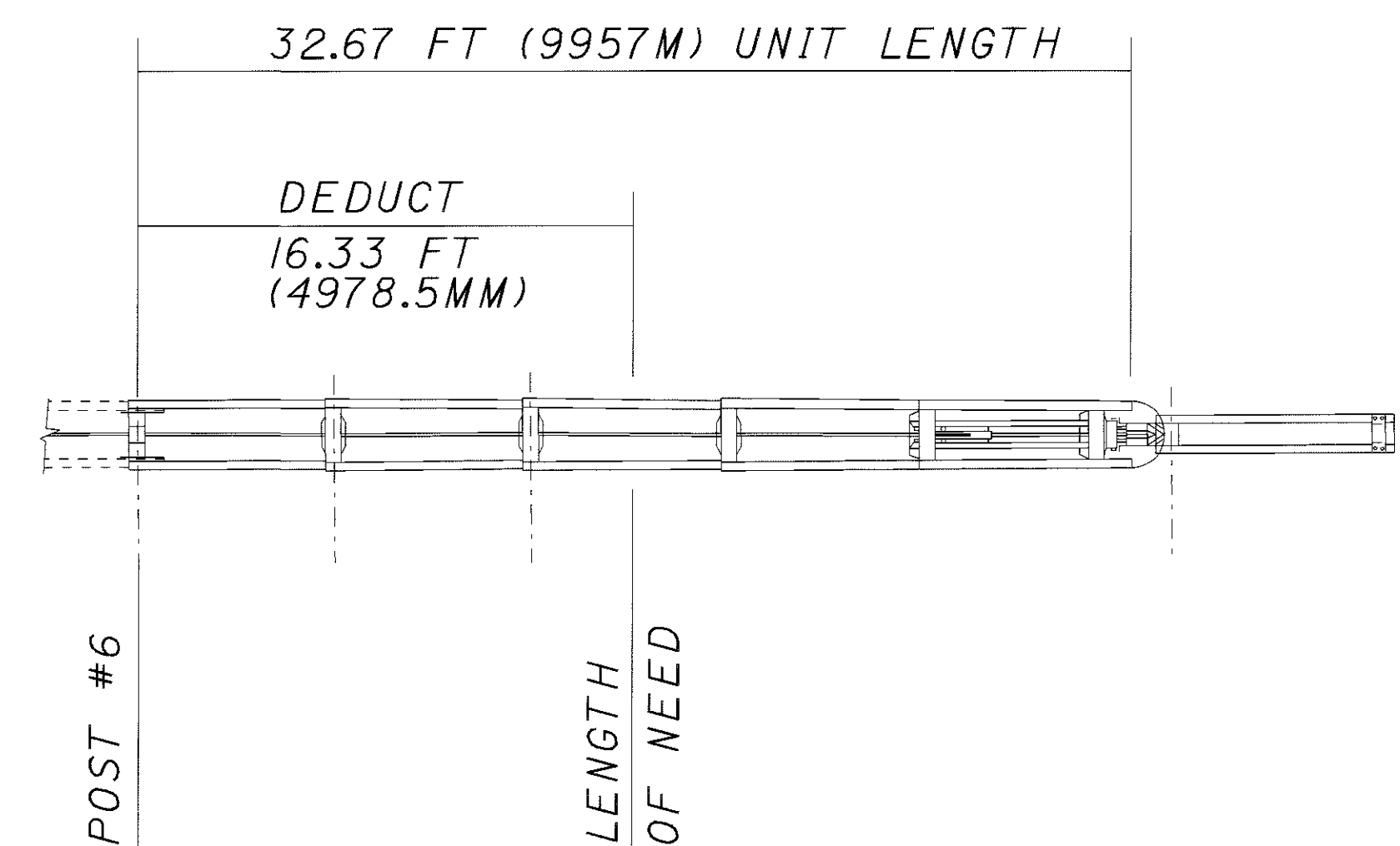
DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL
92-00-01	BREAKMASTER GENERAL ASSEMBLY (UNIDIRECTIONAL SYSTEM)	3-6-97	3-6-98
92-00-81	BREAKMASTER (UNIDIRECTIONAL) WITH FOUNDATION TUBES	2-9-98	3-6-98
92-00-02	BREAKMASTER GENERAL ASSEMBLY (BIDIRECTIONAL SYSTEM)	3-10-97	3-6-98
92-00-82	BREAKMASTER (BIDIRECTIONAL) WITH FOUNDATION TUBES	2-9-98	3-6-98
9202024- 0000	ANCHOR ASSEMBLY, FOUNDATION TUBE, 6 1/2 FT., BRS	6-12-97	3-6-98

THE FACE OF THE TYPE 1-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 36" x 12" (915 mm W x 305 mm H). PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1-98 (UNIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPERATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.



IS INCLUDED FOR PAYMENT
WITH STANDARD GUARDRAIL

C-A-T



POST #6
IS INCLUDED FOR PAYMENT
WITH STANDARD GUARDRAIL

BRAKEMASTER

NCHRP REPORT 350 COMPLIANCE

TYPE 1-98 IMPACT ATTENUATOR DETAILS

CUYAHOGA COUNTY
CUY-71-14.96

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PAVEMENT

PAVEMENT SETTLEMENT CORRECTION

THIS ITEM OF WORK SHALL BE USED TO CORRECT THE ROADWAY PROFILE FROM STA.932+50 TO STA.939+91.73. THIS ITEM OF WORK SHALL INCLUDE THE REMOVAL AND REPLACEMENT OF EXISTING SETTLED PAVEMENT TO A DEPTH AS DETERMINED BY THE ENGINEER, (AVERAGE DEPTH OF 5 FEET FOR ESTIMATING PURPOSES ONLY). REPLACEMENT SHALL CONSIST OF GEOTEXTILE FABRIC, ENGINEERED FILL, CONCRETE BASE, AND ASPHALT OVERLAY. THIS ITEM OF WORK SHALL ALSO INCLUDE REMOVAL AND REPLACEMENT OF BARRIER, GUARDRAIL, MEDIAN INLET AND CONDUIT. FOR ADDITIONAL DETAILS, NOTES, AND QUANTITIES, SEE SHEET NUMBER L8.

ITEM SPECIAL - ENGINEERED FILL, CLASS II
ITEM SPECIAL - ENGINEERED FILL, CLASS IV

DESCRIPTION

THIS WORK SHALL CONSIST OF FURNISHING AND PLACING THE ENGINEERED FILL IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH DETAILS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER. WORK NOT INCLUDED BUT RELATED TO THE WORK UNDER THIS ITEM INCLUDES EXCAVATION AND PREPARATION OF THE SITE FOR THE ENGINEERED FILL AND FINAL SURFACE WATERPROOFING (ITEM 408 - BITUMINOUS PRIME COAT) OVER THE ENGINEERED FILL.

QUALITY ASSURANCE

USE SKILLED WORKERS WHO ARE TRAINED, EXPERIENCED AND FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND THE METHODS FOR PROPER PERFORMANCE OF THIS WORK. FOR THIS PORTION OF THE WORK, THE CERTIFIED SUPPLIER/PRODUCER SHALL BE PRE-QUALIFIED BY THE STATE AND APPROVED IN WRITING BY THE MANUFACTURER OF THE ENGINEERED FILL.

THE SPECIALIZED BATCHING, MIXING, AND PLACING EQUIPMENT SHALL BE AUTOMATED AND SHALL COMPLY TO SECTION 499.04 EQUIPMENT, (A) BATCHING PLANTS AND (B) MIXERS.

THE CERTIFIED SUPPLIER/PRODUCER SHALL BE REGULARLY ENGAGED IN THE PLACEMENT OF ENGINEERED FILL INCLUDING COMPLETION OF MASS FILLS FOR INTERSTATE HIGHWAYS HAVING A MINIMUM OF 40,000 TOTAL CUBIC YARDS IN THE PAST THREE YEARS. THE ENGINEERED FILL MATERIAL SHALL HAVE BEEN SUCCESSFULLY APPLIED ON AT LEAST FIVE PROJECTS WHICH HAVE PERFORMED SATISFACTORILY FOR AT LEAST FIVE YEARS.

THE CONTRACTOR SHALL SUBMIT A LIST OF COMPLETED PROJECTS TO THE PROJECT ENGINEER IN A TYPED REPORT AT THE PRECONSTRUCTION CONFERENCE. THE SUBCONTRACTOR WILL BE APPROVED OR REJECTED BY THE DIRECTOR FOR PARTICIPATION IN THIS PROJECT WITHIN 21 DAYS AFTER THE PRECONSTRUCTION CONFERENCE.

SUBMITTALS

THE CONTRACTOR SHALL LIST THE PROPERLY QUALIFIED SUPPLIER/PRODUCER FOR THE ENGINEERED FILL FOR THIS PROJECT AND SHALL NOT EMPLOY ANY PRODUCT NOR SUPPLIER/PRODUCER WITHOUT THE PRIOR WRITTEN APPROVAL OF THE DEPARTMENT. AFTER AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT:

- 1. A MATERIAL LIST OF ITEMS TO BE PROVIDED UNDER THIS SECTION.
- 2. MANUFACTURER'S SPECIFICATIONS, CATALOG CUTS, AND OTHER ENGINEERING DATA NEEDED TO DEMONSTRATE TO THE DEPARTMENT COMPLIANCE WITH THE SPECIFIED REQUIREMENTS.
- 3. THE ENGINEERED FILL MIX DESIGN FROM THE MANUFACTURER DEMONSTRATING COMPLIANCE WITH THE SPECIFIED PROPERTIES.
- 4. WRITTEN APPROVAL OF THE CERTIFIED SUPPLIER/PRODUCER AND THE CERTIFIED EQUIPMENT BY THE MANUFACTURER OF THE ENGINEERED FILL.

MATERIALS

PROVIDE THE ENGINEERED FILL AS SPECIFIED. THE MATERIALS SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SPECIFICATIONS:

CEMENT:THE PORTLAND CEMENT SHALL COMPLY WITH ASTM C150, PROZZOLANS AND OTHER CEMENTITIOUS MATERIAL MAY BE USED WHEN SPECIFICALLY APPROVED BY THE MANUFACTURER OF THE ENGINEERED FILL.
WATER:USE WATER WHICH IS POTABLE AND FREE FROM DELETERIOUS AMOUNTS OF ALKALI, ACID, AND ORGANIC MATERIALS WHICH WOULD ADVERSELY AFFECT THE SETTING TIME OR STRENGTH OF THE ENGINEERED FILL.
ADMIXTURES:ADMIXTURES FOR WATER REDUCING, RETARDING,ACCELERATING, IMPROVING THE BOND, AND FOR OTHER SPECIFIC PROPERTIES MAY BE USED WHEN SPECIFICALLY APPROVED BY THE MANUFACTURER OF THE ENGINEERED FILL.
ASPHALT PRIMER:THE ASPHALT PRIMER PER ITEM 408 SHALL BE APPLIED TO FINAL HORIZONTAL SURFACE. THE COVERAGE RATE SHALL BE 0.2 GALLON PER SQUARE YARD.
APPROVED ENGINEERED FILL: THE ENGINEERED FILL SHALL MEET THE SPECIFICATIONS LISTED UNDER PROPERTIES.

PROPERTIES

THE ENGINEERED FILL SHALL HAVE THE FOLLOWING PROPERTIES:

	CLASS II	CLASS IV
MAXIMUM CAST DENSITY	30 PCF	42 PCF
MINIMUM COMPRESSIVE STRENGTH	40 PSI	120 PSI
COEFFICIENT OF PERMEABILITY @ 2.5 PSI (CM/SEC) PER ASTM D2434	1.0X10(-3)	1.0X10(-5)

WATER ABSORPTION - THE 24 HOUR TOTAL IMMERSION WATER ABSORPTION SHALL BE LESS THAN 25% BY VOLUME. FROST HEAVE FOR CLASS IV MATERIAL SHALL BE <0.05 INCHES AFTER 250 HOURS OF EXPOSURE PER BBRL LABORATORY REPORT LR90.

SUBGRADE CONDITIONS: THE AREAS AND THE CONDITIONS UNDER WHICH THE ENGINEERED FILL IS TO BE PLACED SHALL BE INSPECTED PRIOR TO INSTALLATION. ANY CONDITIONS ENCOUNTERED WHICH ARE DETRIMENTAL TO THE TIMELY AND PROPER COMPLETION OF THE WORK SHALL BE CORRECTED BEFORE PROCEEDING WITH THE WORK AS DIRECTED BY THE ENGINEER.

INSTALLATION: THE AREA TO BE FILLED SHALL BE FREE OF STANDING WATER PRIOR TO PLACEMENT OF THE ENGINEERED FILL. ANY ITEMS TO BE ENCASED IN THE FILL SHALL BE PROPERLY SET AND STABLE PRIOR TO THE INSTALLATION OF THE ENGINEERED FILL.

WEATHER CONDITIONS: THE ENGINEERED FILL SHALL NOT BE PLACED AT TEMPERATURES LESS THAN 32 DEGREES FAHRENHEIT NOR WHEN FREEZING CONDITIONS ARE EXPECTED IN LESS THAN 8 HOURS. IF THIS CONDITION CANNOT BE MET, THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER AND THE MANUFACTURER TO DETERMINE WHAT PRECAUTIONS ARE NECESSARY TO ASSURE INSTALLATION OF AN ACCEPTABLE ENGINEERED FILL.

MIXING AND CONVEYING: USING ONLY THE AUTOMATED JOB SITE PROPORTIONING, MIXING, AND PLACING EQUIPMENT CERTIFIED BY THE MANUFACTURER OF THE ENGINEERED FILL, MIX THE MATERIALS ACCORDING TO THE MIX DESIGN, AND CONVEY PROMPTLY TO THE LOCATION OF FINAL PLACEMENT. AVOID EXCESSIVE HANDLING OF THE ENGINEERED FILL. THE FINAL SURFACE FINISH SHALL BE WITHIN +/- 0.1 FOOT IN 5 FEET UNLESS SPECIFICALLY NOTED ON THE PLANS. BACKFILL OR OTHER UNUSUAL LOADINGS ON THE ENGINEERED FILL SHALL NOT BE PERMITTED UNTIL IT HAS ATTAINED A COMPRESSIVE STRENGTH OF AT LEAST 20 PSI.

TESTING

TESTING SHALL BE ACCORDING TO THE FOLLOWING PROCEDURES:
CAST DENSITY: DURING PLACEMENT OF THE INITIAL BATCHES, CHECK THE DENSITY AND ADJUST THE MIX AS REQUIRED TO OBTAIN THE SPECIFIED CAST DENSITY AT THE POINT OF PLACEMENT. AT HOURLY INTERVALS, DURING PLACING, MONITOR THE DENSITY AND ADJUST AS NECESSARY TO MAINTAIN THE SPECIFIC CAST DENSITY.
SAMPLING: TAKE AT LEAST FOUR (4) TEST SPECIMENS FOR EACH 300 CUBIC YARDS OF ENGINEERED FILL PLACED OR FOR EACH FOUR (4) HOURS OF PLACING. TEST IN ACCORDANCE WITH ASTM C495 EXCEPT:
1. UNLESS OTHERWISE APPROVED BY THE ENGINEER, THE SPECIMENS SHALL BE 3" X 6" CYLINDERS. TO PREVENT DAMAGE AND LOSS OF MOISTURE, COVER AND PROTECT SPECIMENS IMMEDIATELY AFTER CASTING.
2. MOIST CURE SPECIMENS FOR A PERIOD OF UP TO SEVEN (7) DAYS PRIOR TO THE 28-DAY COMPRESSIVE STRENGTH TEST. DO NOT OVEN DRY SPECIMENS THAT ARE TO BE LOAD TESTED.
3. SPECIMENS MAY BE TESTED AT ANY AGE TO MONITOR THE COMPRESSIVE STRENGTH OF THE ENGINEERED FILL ALTHOUGH CLASS II MATERIAL MAY REQUIRE SPECIAL HANDLING AND TESTING TECHNIQUES PER THE MANUFACTURER OF THE ENGINEERED FILL.

APPROVALS

ENGINEERED FILL REPORT - AFTER PLACING THE ENGINEERED FILL AND PRIOR TO FINAL PAYMENT FOR THIS ITEM, THE CONTRACTOR SHALL FURNISH THE PROJECT ENGINEER WITH SIX (6) COPIES OF THE ENGINEERED FILL REPORT. THE REPORT SHALL CONTAIN THE FOLLOWING INFORMATION.
1. DOCUMENTATION OF ALL MATERIAL TESTING RESULTS.
2. THE SEQUENCE OF CONSTRUCTION PROCEDURES PRESENTED IN A DIARY FORMAT.
3. A DISCUSSION OF CONSTRUCTION TECHNIQUES AND THE METHOD(S) OF DEALING WITH ANY PROBLEMS THAT OCCURRED, AND
4. A PROJECT SUMMARY DISCUSSING THE PROJECT PLANS AND SPECIFICATIONS WITH REGARD TO THE RECOMMENDATIONS FOR CHANGES AND/OR IMPROVEMENTS.

THE REPORT SHALL BE PREPARED UNDER THE DIRECTION OF AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER.

METHOD OF MEASUREMENT

THE ENGINEERED FILL WILL BE MEASURED BY THE NUMBER OF CUBIC YARDS PLACED AND ACCEPTED AS DETERMINED BY A METHOD INVOLVING THREE DIMENSIONAL MEASUREMENT.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES AS SPECIFIED IN THIS SECTION WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER CUBIC YARD FOR:

ITEM SPECIAL - ENGINEERED FILL, CLASS II
ITEM SPECIAL - ENGINEERED FILL, CLASS IV

THE PRIME COAT WILL BE PAID SEPARATELY UNDER ITEM 408-BITUMINOUS PRIME COAT.

GENERAL NOTES

CUYAHOGA COUNTY
CUY-71-14.96

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PAVEMENT

ITEM SPECIAL - GEOTEXTILE FABRIC, TYPE D

THIS ITEM SHALL CONSIST OF FURNISHING AND PLACING A GEOTEXTILE FABRIC MEETING THE REQUIREMENTS OF ITEM 712.09, TYPE D ON A PROPERLY PREPARED AND COMPACTED SURFACE PRIOR TO THE CONSTRUCTION OF THE PROPOSED ENGINEERED FILL.

THE SURFACE TO RECEIVE THE FABRIC SHALL BE PREPARED TO A RELATIVELY SMOOTH SURFACE IN ACCORDANCE WITH THE PROVISIONS OF ITEM 203.

THE FABRIC SHALL BE PLACED WITH THE LONG DIMENSIONS PARALLEL TO THE ROADWAY PAVEMENT AND SHALL BE LAID WITHOUT WRINKLES AND CREASES. ALL JOINTS IN THE FABRIC SHALL BE OVERLAPPED BY 26 INCHES. EXPOSURE OF GEOTEXTILES TO THE ELEMENTS BETWEEN LAYDOWN AND COVER SHALL BE A MAXIMUM OF FOURTEEN (14) DAYS TO MINIMIZE DAMAGE POTENTIAL.

DAMAGED GEOTEXTILES, AS IDENTIFIED BY THE ENGINEER, SHALL BE REPAIRED IMMEDIATELY. CLEAR THE DAMAGED AREA, PLUS AN ADDITIONAL THREE FEET AROUND THE DAMAGED AREA OF ALL FILL MATERIAL. COVER THE DAMAGED AREA WITH A GEOTEXTILE PATCH EXTENDING THREE FEET BEYOND THE PERIMETER OF THE DAMAGE. REPLACE THE REMOVED SUBBASE MATERIAL, COMPACTING TO THE SPECIFIED DENSITY. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.

THE CONTRACTOR SHALL BE PAID FOR THIS WORK AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD FOR ITEM SPECIAL, GEOTEXTILE FABRIC, TYPE D.

THE AREA OF FABRIC TO BE PAID SHALL BE THE ACTUAL IN PLACE AREA AS MEASURED UPON COMPLETION OF THE WORK, EXCLUSIVE OF JOINT LAPS.

GENERAL NOTES
EROSION CONTROL/DRAINAGE

REVIEW OF DRAINAGE FACILITIES

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

EXISTING UNDERDRAINS

EXISTING UNDERDRAINS ENCOUNTERED DURING CONSTRUCTION, SHOULD BE PROVIDED A POSITIVE OUTLET, WHERE FEASIBLE. THE FOLLOWING CONTINGENCY QUANTITIES SHALL BE USED AS NEEDED TO PROVIDE POSITIVE OUTLETS. THESE ITEMS SHALL INCLUDE ANY ADDITIONAL WORK NECESSARY TO MODIFY THE PROPOSED DRAINAGE STRUCTURE TO ACCEPT THE ADDITIONAL UNDERDRAIN OUTLETS.

603, 6" CONDUIT, TYPE F 50 L.F.
605, 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP 200 L.F.
605, 6" UNCLASSIFIED UNDERDRAIN, WITH FABRIC WRAP 200 L.F.
604, PRECAST REINFORCED CONCRETE OUTLET 10 EACH

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBIS FROM THE LAST 10' OF EXISTING UNDERDRAIN CONDUITS TO AN OUTLET. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 203.05. ALL UNDERDRAINS MUST BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT BID PRICE FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL PIPE CLEANOUT 500 LIN.FT.

ITEM 604-CATCH BASINS, ADJUSTED TO GRADE, AS PER PLAN
ITEM 604-INLETS, ADJUSTED TO GRADE, AS PER PLAN
ITEM 604-MANHOLES, ADJUSTED TO GRADE, AS PER PLAN

ALL CASTINGS, EXCEPT THOSE OWNED BY PRIVATE COMPANIES SHALL BE ADJUSTED BY THE CONTRACTOR. THE TIME BETWEEN ADJUSTING THE CASTINGS AND RESURFACING SHALL BE AN ABSOLUTE MINIMUM. ADJUSTING RINGS SHALL NOT BE USED.

THE ESTIMATED QUANTITIES FOR THE ABOVE MENTIONED WORK ARE AS FOLLOWS:

ITEM 604-CATCH BASINS, ADJUSTED TO GRADE,... 5 EA.
AS PER PLAN
ITEM 604-INLETS, ADJUSTED TO GRADE, 20 EA.
AS PER PLAN
ITEM 604-MANHOLES, ADJUSTED TO GRADE, 5 EA.
AS PER PLAN

ITEM 604 - MANHOLES, CATCH BASINS OR INLETS
RECONSTRUCTED TO GRADE

THE CONTRACTOR AND FIELD ENGINEER SHALL FIELD CHECK ALL EXISTING MANHOLES, CATCH BASINS, OR CURB INLETS LOCATED WITHIN THE LIMITS OF THE PROJECT. ANY MANHOLE, CATCH BASIN, OR CURB INLET FOUND THAT EXHIBITS SUBSTANTIAL DETERIORATION AND REQUIRES MORE WORK THAN IS SPECIFIED UNDER CASTINGS ADJUSTED TO GRADE, SHALL BE RECONSTRUCTED TO GRADE AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM	DESCRIPTION	QUANTITY	UNIT
604	CATCH BASIN, RECONSTRUCTED TO GRADE	37	EACH
604	MANHOLE, RECONSTRUCTED TO GRADE	44	EACH
604	INLET, RECONSTRUCTED TO GRADE	5	EACH

EROSION CONTROL/DRAINAGE

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE PLACED BY THE CONTRACTOR WITH THE ENGINEER'S CONCURRENCE FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

601, ROCK CHANNEL PROTECTION	<u>100</u> CU.YD.
877, TEMPORARY SEEDING AND MULCHING	<u>1000</u> SQ.YD.
877, TEMPORARY PERIMETER FILTER FABRIC FENCE	<u>1200</u> LIN.FT.
877, TEMPORARY INLET PROTECTION FILTER FABRIC FENCE	<u>16</u> LIN.FT.
877, DITCH CHECK	<u>100</u> LIN.FT.
877, SEDIMENT REMOVAL	<u>100</u> CU.YD.
870, REPAIR SEEDING AND MULCHING	<u>100</u> SQ.YD.
870, WATER	<u>2</u> M.GAL.

SEEDING AND MULCHING

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

870, SEEDING AND MULCHING	<u>21328</u> SQ.YD.
870, COMMERCIAL FERTILIZER	<u>1.92</u> TON
870, AGRICULTURAL LIME	<u>9.60</u> TON
870, WATER	<u>2</u> M.GAL.

GENERAL NOTES

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 SPECIAL, MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIALS SHALL MEET ITEM 604 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL 5000 LB. LB.

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

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PUBLIC SAFETY

THE FOLLOWING PROVISIONS "A", "B",AND "C" SHALL APPLY WHEN THE LANE ADJACENT TO THE GUARDRAIL IS OPEN TO TRAFFIC:

THE PERIOD OF TIME THAT A HAZARD IS LEFT UNPROTECTED BY THE REMOVAL OF GUARDRAIL SHALL BE HELD TO AN ABSOLUTE MINIMUM AND IN NO CASE SHALL SUCH A PERIOD BE LONGER THAN ONE WORKING DAY. IF, AFTER ONE DAY, THE ENTIRE RUN OF GUARDRAIL CONSTRUCTION IS NOT COMPLETE THE FOLLOWING SHALL APPLY:

- A. IN AREAS WHERE EXISTING GUARDRAIL HAS BEEN REMOVED OR THE GUARDRAIL IS IN A PARTIAL STAGE OF COMPLETION. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN DRUMS WITHIN THE LIMITS OF THE UNPROTECTED AREA. THE DRUMS SHALL BE PLACED AT 50' INTERVALS AND OFFSET AT LEAST TWO FEET FROM THE EDGE OF THE TRAVELED ROADWAY AND IN CLOSE PROXIMITY TO THE CONSTRUCTION. THE APPROACH END OF A PARTIALLY COMPLETED RUN OF GUARDRAIL SHALL BE FASTENED AT GROUND LEVEL TO A STEEL DRUM.
- B. DURING THE REPAIR OF WINGWALL PARAPETS OR IF THE EXISTING GUARDRAIL IS FOR THE PROTECTION OF AN OBSTACLE (I.E. SIGN SUPPORT, BRIDGE PARAPET, ETC.) THE CONTRACTOR SHALL ERECT PORTABLE CONCRETE BARRIER IN THE DIRECTION OF TRAFFIC. THE REQUIREMENTS OF PARAGRAPH "A" SHALL APPLY TO THE REMAINING GUARDRAIL WITHIN THE RUN. TEMPORARY BARRIER SHALL BE FLARED AT A 13:1 (MINIMUM) TAPER RATE AND SHALL INCLUDE A TEMPORARY END TERMINAL AS PER RM-4.2M.
- C. THE REQUIREMENTS STATED IN "A" SHALL APPLY FOR A PERIOD NOT TO EXCEED ONE WEEK. WHERE THE REBUILDING OR CONSTRUCTION OF ANY RUN OF GUARDRAIL CANNOT BE ACCOMPLISHED WITHIN ONE WEEK. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY CONCRETE BARRIER IN THE INTERIM TIME IT TAKES TO COMPLETE THE WORK THE APPROACH END OF THE PORTABLE CONCRETE BARRIER SHALL BE BE FLARED 10 FEET, (130 FEET @ 13:1 TAPER) AND SHALL INCLUDE A TEMPORARY END TERMINAL AS PER RM-4.2M. IN ADDITION, A TYPE II BARRICADE WITH TYPE B (HIGH INTENSITY FLASHER) WARNING LIGHT SHALL BE PLACED IN FRONT OF THIS INITIAL SECTION OF TEMPORARY BARRIERS TO PROVIDE FOREWARNING TO THE APPROACHING TRAFFIC.

WHEN THE LANE ADJACENT TO THE GUARDRAIL IS CLOSED TO TRAFFIC THE PROVISIONS OF PARAGRAPH "A" ABOVE SHALL APPLY AFTER 1 DAY. THE PROVISIONS OF PARAGRAPH "B" ABOVE SHALL APPLY AFTER 10 DAYS AND THE PROVISIONS OF PARAGRAPH "C" ABOVE SHALL APPLY AFTER 15 DAYS.

THE TERM "GUARDRAIL" AS USED HEREIN SHALL BE UNDERSTOOD TO COVER ALL TYPES OF GUARDRAIL, EXISTING OR PROPOSED FOR THE PROJECT, INCLUDING BARRIER DESIGN GUARDRAIL, BRIDGE WINGWALL PARAPETS, AND CONCRETE BARRIER.

THE COST OF COMPLYING WITH THESE SAFETY PROCEDURES SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614 - MAINTAINING TRAFFIC

GENERALLY THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO MAKE THE PROPOSED REPAIR WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY AFFECTED BY THE WORK DONE UNDER THIS CONTRACT. FURTHERMORE, IN ADDITION TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

- I. NOTIFICATION
- SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT, IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED OF FUTURE LANE CLOSURES AND TRAFFIC CONSTRICIONS. THEREFORE, THE CONTRACTOR SHALL SUBMIT A WRITTEN SCHEDULE TO THE ENGINEER, RESPONSIBLE LAW ENFORCEMENT AGENCIES, AND THE ODOT PUBLIC INFORMATION OFFICE (216-581-2333 EXT 244) INDICATING THE LOCATIONS AND DATES OF THE LANE CLOSURES AT LEAST 3 DAYS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES.

- II. NIGHTTIME WORK (THE HOURS FROM SUNSET TO SUNRISE 7:00 PM - 6:00 AM)

NIGHTTIME WORK SHALL BE PERMITTED IN ACCORDANCE WITH THESE PLANS AND NOTES. THE CONTRACTOR SHALL PROVIDE FLOOD LIGHTING OF THE WORK AREA IN ORDER TO ASSURE THE SAFEST CONDITIONS DURING NIGHTTIME WORK. LIGHTING PLAN FOR NIGHT-TIME OPERATIONS SHALL BE PRESENTED TO AND APPROVED BY THE ENGINEER.

III. RESTRICTIONS

SEE "PARAMETERS FOR MAINTAINING TRAFFIC CONTROL" NOTE ON SHEET 29.

IV. MAINTENANCE OF TRAFFIC SYSTEMS

A. WHEN REQUIRED

WHENEVER ANY PART OF THE TRAVELED SURFACE IS BEING WORKED UPON OR IS OTHERWISE NOT SUITABLE FOR SAFE AND CONVENIENT USE BY VEHICLES, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS TO ASSURE THE SAFE AND CONVENIENT PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, HEREINAFTER REFERRED TO AS THE "MANUAL". THE TRAFFIC CONTROL DEVICE SYSTEM SHALL CONSTITUTE THE MINIMUM PROVISIONS FOR TRAFFIC CONTROL FOR EACH PARTICULAR SITUATION. WHENEVER THE ENGINEER DEEMS IT NECESSARY ESPECIALLY WHERE A GRADE, CURVE, OR MERGE CONDITIONS EXISTS, HE MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED.

B. CONDITIONS

DURING ALL PARTS OF THIS PROJECT, SIGNING, BARRICADES, FLASHING ARROWS, ETC. SHALL BE LOCATED AS INDICATED IN THE MANUAL. THE NUMBER OF LANES AND THE MINIMUM LANE WIDTHS MAINTAINED SHALL BE AS INDICATED ON THE PERMITTED LANE CLOSURE WEB PAGE AT www.dot.state.oh/dist12/Workzone/laneclo.htm.

C. ADVANCE WARNING SIGNS

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPLICABLE.

D. FLASHING ARROW REQUIREMENT

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORISTS SHALL BE WARNED AND DIRECTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW FOR EACH LANE CLOSED. ADDITIONALLY, THE PROVISIONS SET FORTH IN THE "MANUAL" AND THE APPLICABLE STANDARD CONSTRUCTION DRAWINGS SHALL BE MET.

E. PROTECTION OF PUBLIC

PERSONAL CARS SHALL NOT BE PARKED WITHIN THE L/A.

F. FAILURE TO COMPLY

IF THERE IS ANY FAILURE TO COMPLY WITH PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES, OR WITH THE PROVISIONS OF THE "MANUAL", THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL NOT BE CONSIDERED IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY, IN THE VICINITY OF THE WORK AREA, IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

MAINTENANCE OF TRAFFIC MATERIALS

A. SIGNS

SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES SHALL BE AS PROVIDED IN THE "MANUAL", OR IN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THE PROJECT.

B. SIGN SUPPORTS

SIGN SUPPORTS SHALL BE OF SUFFICIENT SIZE AND HEIGHT AS TO SUPPORT THE SIGNS AT THE APPROPRIATE HEIGHT. SUPPORTS SHALL BE ADEQUATE IN MASS AND STABILITY TO PREVENT THE SIGNS FROM BEING BLOWN OVER BY WIND OR VEHICULAR GENERATED AIR TURBULENCE.

C. FLASHING ARROWS

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORIST SHALL BE WARNED AND DIVERTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW BARRICADE FOR EACH LANE CLOSED. THE CONTRACTOR SHALL REFER TO STANDARD CONSTRUCTION DRAWING MT-35.10 AND THE PROVISIONS SET FORTH IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS FOR ALL INFORMATION REGARDING FURNISHING, MAINTAINING, AND USE OF FLASHING ARROW BARRICADES. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

D. DRUMS

DRUMS SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ALL COSTS FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID DRUMS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614- MAINTAINING TRAFFIC.

E. FLASHERS

FLASHERS SHALL BE 12 VOLT BATTERY-OPERATED MODELS WITH 7 INCH DIAMETER YELLOW LENSES ILLUMINATED BY RAPID INTERMITTENT FLASHERS OF SHORT DURATION AND SHALL BE PLACED ON ALL SIGNS AT ALL TIMES.

F. SMALL BARRICADES

TYPE II BARRICADES MAY BE USED IN PLACE OF DRUMS TO CLOSE LANES WHERE REQUIRED FOR NIGHT-TIME RESURFACING. THESE BARRICADES SHALL BE AT LEAST 36" HIGH AND 12" WIDE. NEAR THE TOP OF THE BARRICADE THERE SHALL BE A PANEL WITH ALTERNATE ORANGE AND REFLECTORIZED WHITE 6" WIDE STRIPS. THIS PANEL SHALL BE AT LEAST 12" WIDE AND 24" HIGH. A SINGLE FACED FLASHER SHALL BE LOCATED AT THE TOP OF THE BARRICADE AT THE END NEAREST TO TRAFFIC. THE FLASH SHALL FACE ONCOMING TRAFFIC. THE BARRICADES SHALL BE OF SUFFICIENT STABILITY SO THAT WIND OR TRAFFIC AIR TURBULENCE WILL NOT UPSET THEM. BARRICADES SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

VI. PAYMENT

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING TEMPORARY MAINTENANCE OF TRAFFIC CONTROL DEVICES SHALL BE MADE UNDER THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC NOTES

CUYAHOGA COUNTY
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ITEM SPECIAL - TRAFFIC CONTROL PLANNING AND IMPLEMENTATION

THIS ITEM SHALL INCLUDE THE PREPARATION AND IMPLEMENTATION OF TRAFFIC CONTROL PLANS BASED ON THE CONTRACTOR'S SCHEDULE OF WORK ACTIVITIES. THIS WILL REQUIRE A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF OHIO, TO BE IN CHARGE OF DESIGNING, IMPLEMENTING AND MONITORING TRAFFIC MAINTENANCE PLANS COORDINATED WITH THE SCHEDULE FOR THE WORK. THIS ENGINEER IS HEREIN REFERRED TO AS THE TRAFFIC CONTROL ENGINEER.

THE TRAFFIC CONTROL ENGINEER AND HIS/HER STAFF SHALL HAVE EXPERIENCE IN THIS FIELD SATISFACTORY TO THE OHIO DEPARTMENT OF TRANSPORTATION. THIS DOCUMENTATION SHALL BE FURNISHED AT THE PRELIMINARY CONSTRUCTION MEETING FOR REVIEW AND APPROVAL. IN ADDITION, THE TRAFFIC CONTROL ENGINEER SHALL HAVE DESIGN EXPERIENCE IN THIS FIELD ACCEPTABLE TO ODOT.

THE TRAFFIC CONTROL ENGINEER AND HIS/HER TEAM SHALL HAVE EXPERTISE AND RESOURCES TO:

1. DEVELOP AND DESIGN TRAFFIC CONTROL PLANS MEETING CURRENT STANDARDS. THESE PLANS SHALL BE SUBMITTED TO AND APPROVED BY ODOT.
2. MONITOR ACCIDENT DATA AND RECOMMEND CHANGES, IF NEEDED AFTER APPROVAL AND IMPLEMENTATION, BASED ON THIS ANALYSIS.
3. PROVIDE, INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE THE REQUIRED TRAFFIC CONTROL EQUIPMENT AND PAVEMENT MARKING FEATURES.
4. PROVIDE QUICK RESPONSE TO ON SITE PROBLEMS OR ACCIDENT DAMAGE.

THE FOLLOWING REQUIREMENTS SHALL BE INCLUDED IN THIS ITEM:

1. TRAFFIC CONTROL PLANS:

TRAFFIC CONTROL PLANS PROPOSED SHALL BE SUBMITTED TO ODOT TWO WEEKS PRIOR TO WORK IN THE AREA COVERED BY THE PLAN. THIS SUBMITTAL SHALL CONSIST OF FIVE COPIES OF THE PLANS FOR REVIEW AND DISTRIBUTION. NO WORK SHALL BEGIN AT ANY LOCATION UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED BY ODOT.

2. PLAN CHANGES:

THE TRAFFIC CONTROL ENGINEER SHALL OBTAIN ACCIDENT DATA FROM THE LAW ENFORCEMENT AGENCY AND ANALYZE CAUSES AND FURNISH RECOMMENDATION FOR CHANGE TO REDUCE THE ACCIDENT FREQUENCY. NO CHANGES TO THE APPROVED TRAFFIC CONTROL PLAN SHALL BE MADE UNTIL APPROVAL IS OBTAINED FROM ODOT IN WRITING.

3. PLAN IMPLEMENTATION:

THE TRAFFIC CONTROL ENGINEER SHALL BE RESPONSIBLE FOR PROVIDING, INSTALLING, MAINTAINING AND THE SUBSEQUENT REMOVAL OF ALL TRAFFIC CONTROL EQUIPMENT, PAVEMENT MARKING, SIGNS, OVERLAYS OR OTHER FEATURES NECESSARY TO IMPLEMENT THE APPROVED PLAN AT EACH WORK SITE. ALL REQUIREMENTS OF ITEM 614 SHALL APPLY TO THIS CONTRACT. EXCEPT AS LISTED HEREAFTER, THIS WORK SHALL BE INCLUDED FOR PAYMENT WITH THIS ITEM SPECIAL.

4. RESPONSE PLAN:

PROVIDE A MEANS OF QUICK RESPONSE TO ON SITE PROBLEMS OR ACCIDENTS TO MAINTAIN THE SYSTEM 24 HOURS A DAY AND 7 DAYS A WEEK TO THE SATISFACTION OF THE ENGINEER. THE TRAFFIC CONTROL ENGINEER SHALL HAVE NECESSARY AUTHORITY TO PERFORM ANY WORK NECESSARY TO RECTIFY ANY PROBLEMS. THE TRAFFIC CONTROL ENGINEER AND THE PROJECT ENGINEER SHALL HAVE A CONSTANT MEANS OF COMMUNICATION FOR THE PURPOSE OF MAINTAINING TRAFFIC CONTROL. THE MEANS OF COMMUNICATIONS SHALL BE A TWO-WAY RADIO, OR EQUIVALENT, FURNISHED AND SERVICED BY THE CONTRACTOR.

A REACTION PLAN SHALL BE DEVELOPED SO AS TO MINIMIZE RESPONSE TIME TO CORRECT ON SITE PROBLEMS IMMEDIATELY AFTER NOTIFICATION OF ODOT OF THE NEED. CORRECTION SHALL BE MADE WITHIN FOUR HOURS OF NOTIFICATION. THIS PLAN SHALL BE FURNISHED TO THE ENGINEER PRIOR TO THE START OF WORK AND SHALL BE UPDATED AS REQUIRED BY THE ENGINEER.

5. COORDINATION:

COORDINATION OF THE CONTRACTOR'S ACTIVITIES WITH SPECIAL EVENTS MAY BE NECESSARY. THE TRAFFIC CONTROL ENGINEER SHALL BE AVAILABLE TO ASSIST THE ENGINEER IN THIS AREA IF NECESSARY. HOWEVER, ALL INSTRUCTIONS SHALL BE FURNISHED BY THE PROJECT ENGINEER.

6. PAYMENT:

PAYMENT SHALL BE MADE AS FOLLOWS: AT THE LUMP SUM BID FOR ITEM SPECIAL, TRAFFIC CONTROL PLANNING AND IMPLEMENTATION.

-30% UPON APPROVAL AND IMPLEMENTATION OF THE INITIAL PLAN AND INSTALLATION OF REQUIRED TRAFFIC CONTROL DEVICES.

-70% PRORATED OVER THE REMAINING WORKING TIME IN THE CONTRACT. THE ENGINEER SHALL CONSIDER THE MAGNITUDE OF TRAFFIC CONTROL BEING IMPLEMENTED TO THE ESTIMATE PERIOD AND PRORATE THE COST ACCORDINGLY.

PARAMETERS FOR MAINTAINING TRAFFIC CONTROL

THE TRAFFIC CONTROL ENGINEER SHALL DESIGN PLANS TO MEET THE FOLLOWING REQUIREMENTS:

1. IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENIENCE TO, AND THE MAXIMUM SAFETY TO THE CONTRACTOR AND THE TRAVELING PUBLIC. ANY VARIANCES FROM THESE MAINTENANCE OF TRAFFIC NOTES MUST BE APPROVED IN ADVANCE BY ODOT EXCEPT AS MODIFIED BELOW OR AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS. THE REQUIREMENTS FOR MAINTAINING TRAFFIC AS INDICATED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION WITH LATEST REVISIONS, AND PERTINENT ITEMS OF THE SPECIFICATIONS AND PROPOSAL SHALL APPLY.
2. THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS 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. VEHICLES AND EQUIPMENT SHALL NOT PARK OR STOP EXCEPT WITHIN DESIGNATED WORK AREAS, AND SHALL ENTER AND LEAVE WORK AREAS IN A MANNER WHICH WILL NOT BE HAZARDOUS TO, OR INTERFERE WITH THE NORMAL TRAFFIC FLOW. PERSONAL VEHICLES WILL NOT BE PERMITTED TO PARK WITHIN THE RIGHT OF WAY EXCEPT IN SPECIFIC AREAS AS DESIGNATED BY THE ENGINEER.
3. A "ROAD CONSTRUCTION AHEAD" SIGN (OW-128) SHALL BE PLACED ON ALL RAMPS APPROACHING THE WORK AREAS. THERE SHALL BE AVAILABLE ON THE JOB, AT ALL TIMES, SPECIAL BLACK AND ORANGE "WATCH FOR STOPPED TRAFFIC" SIGNS (OW-166 48" X 48") WITH TYPE A FLASHING WARNING LIGHTS ON TOP. THERE SHALL BE TWO FOR EACH DIRECTION OF TRAFFIC. THESE SIGNS SHALL BE MOUNTED ON A PORTABLE BARRICADE AND ARE TO BE USED IN THE VENT THAT TRAFFIC BACKS UP. THEY SHALL BE LOCATED APPROXIMATELY 1300 FT. IN ADVANCE OF THE BACKUP AND WILL BE MOVED BACK AS THE BACKUP INCREASES.
4. IN ANY INSTANCE WHERE EITHER THE ACCELERATION LANE OR THE DECELERATION LANE IS SHORTENED OR OBSTRUCTED DUE TO WORK AND/OR STANDARD LANE CLOSURES, SUCH WORK SHALL BE COMPLETED "AS SOON AS POSSIBLE" TO PERMIT THE LANE CLOSURES TO BE MOVED TO A LOCATION WHERE SAID ACCELERATION OR DECELERATION LANES ARE NO LONGER SHORTENED.
5. LANE CLOSURES SHALL ONLY BE ALLOWED ACCORDING TO THE LATEST REVISION OF THE PERMITTED LANE CLOSURE WEB PAGE AT www.dot.state.oh.us/dist12/Workzone/laneclo.htm. THE LATEST REVISION, 14 DAYS PRIOR TO THE BID DATE, SHALL BE IN EFFECT FOR THIS PROJECT. IN THE PAVEMENT REPLACEMENT AREA, (FROM STA. 932+50 TO STA. 939+91.73 @ 71), THE CONTRACTOR SHALL MAINTAIN AT LEAST (3) 10' LANES MIN. IN EACH DIRECTION, AT ALL TIMES. THE CONTRACTOR SHALL PLAN HIS WORK TO ASSURE MINIMUM DANGER AND INCONVENIENCE TO THE MOTORING PUBLIC. THE LANE CLOSURES DUE TO THE PAVEMENT REPLACEMENT OPERATIONS SHALL NOT EXCEED 30 CALENDAR DAYS.

SHOULDER CLOSURES

SHOULDER CLOSURES SHALL ONLY BE ALLOWED AT THE TIMES SPECIFIED FOR LANE CLOSURES.

SPECIAL EVENTS

LANE CLOSURES TIME SHALL BE ADJUSTED FOR SPECIAL EVENTS THAT EXCEED 25000 IN ATTENDANCE IN THE DOWNTOWN CLEVELAND AREA. THE CONTRACTOR SHALL NOT CLOSE A LANE (S) IN THE INBOUND DIRECTION 2 HOURS BEFORE AND EVENT AND IN THE OUTBOUND DIRECTION 2 HOURS AFTER AN EVENT ENDS.

HOLIDAYS

THERE SHALL BE NO LANE CLOSURES ON HOLIDAYS OR HOLIDAY WEEKENDS. THE FOLLOWING ARE CONSIDERED HOLIDAYS. MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING, CHRISTMAS, NEW YEARS, EASTER. NO LANE CLOSURES ARE ALLOWED AFTER 12 NOON ON THE DAY PRECEDING A HOLIDAY. FOR HOLIDAY WEEKENDS NO LANE CLOSURES ARE ALLOWED AFTER FRI. 12 NOON UNTIL 6 AM THE DAY AFTER THE HOLIDAY.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN THE AMOUNT OF \$68.00 PER EACH MINUTE THESE REQUIREMENTS ARE NOT MET.

6. DROP-OFFS IN WORK ZONES SHALL BE TREATED ACCORDING TO THE DETAILS ON SHEET 18.
7. CHANGES IN TRAFFIC PATTERNS WILL NOT BE PERMITTED BETWEEN THE HOURS OF 6:00 A.M. TO 9:00 A.M., AND 3:00 P.M. TO 6:00 P.M. ON ANY WEEKDAY.
8. A PORTABLE ELECTRIC FLASHING ARROW PANEL AS DESCRIBED ON STANDARD DRAWING MT-35.10M (REVISION 1/30/95) SHALL BE PLACED AT THE FORWARD END OF ALL TAPERS.
9. PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE USED AS REQUIRED FOR THE PURPOSE OF ADVANCED WARNING.
10. BERMS AND SHOULDER AREAS MAY BE USED TO MAINTAIN TRAFFIC, IF APPROVED.
11. ALL OPERATIONS AFFECTING THE FLOW OF TRAFFIC SHALL BE RESTRICTED TO ONE SIDE OF DIRECTIONAL LANES UNLESS OTHERWISE APPROVED.
12. ALL NECESSARY TEMPORARY AN/OR PAVEMENT SIGNING AND PAVEMENT MARKING SHALL BE IN PLACE PRIOR TO REOPENING PAVEMENT TO TRAFFIC.
13. THE ADVISORY SPEED SHALL BE 45 MPH ON MAINLINE PAVEMENT.

UNLESS SEPARATELY ITEMIZED IN THE PLANS, THE ABOVE WORK SHALL BE PAID FOR AS ITEM SPECIAL, MAINTAINING TRAFFIC, MISC.: TRAFFIC CONTROL PLANNING AND IMPLEMENTATION.

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR ESTIMATING PURPOSES ONLY:

ITEM 622 - PORTABLE CONCRETE BARRIER, 32"----- 1800 LF
ITEM 614 - BIT. CONC. FOR MAINT. TRAFFIC-----200 CU YD
ITEM 614 - TEMP. EDGE LINE, CLASS 1, 642 PAINT-----108 MILE
ITEM 614 - TEMP. EDGE LINE, CLASS 1, 740.06 TYPE 1-----2.0 MILE
ITEM 614 - TEMP. CHAN. LINE, CLASS 1, 740.06 TYPE 1 ---6000 LF
ITEM 614 - TEMP. CHAN. LINE, CLASS 1, 642 PAINT-----58752 LF
ITEM 614 - TEMP. LANE LINE, CLASS 1, 642 PAINT----- 69 MILE
ITEM 616 - WATER----- 10 M. GAL
ITEM 616 - CALCIUM CHLORIDE-----1 TON

MAINTENANCE OF TRAFFIC NOTES

CUYAHOGA COUNTY
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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 TO THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED BUT GOOD CONDITION SUBJECT TO APPROVAL BY THE ENGINEER. PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER SQUARE METER 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 50 SQUARE FEET HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 - WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS (R-10) (50 SPEED LIMIT) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS. THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS WITHIN THE REDUCED SPEED ZONE. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS. THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN 4 HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN 4 HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. (THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 DAYS, OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF DIVIDED HIGHWAYS, 500 FEET IN ADVANCE OF THE LANE REDUCTION TAPER. THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 250 FEET IN ADVANCE OF THE LANE REDUCTION TAPER ON UNDIVIDED HIGHWAYS. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY 1 MILE FOR 60 MPH ZONES AND EVERY ½ MILE FOR 50 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH OPEN ENTRANCE RAMP WITHIN THE ZONE.) A SIGN(S) TO INDICATE THE RESUMPTION OF THE STATURORY SPEED LIMIT SHALL ERECTED AT THE END OF ANY REDUCED SPEED ZONE. R-10 SIGNS (SPEED LIMIT)SHALL BE USED ON UNDIVIDED ROADWAY. R-10 (SPEED LIMIT) AND R-9A SIGNS (SPEED LIMIT) SHALL BE USED ON DIVIDED ROADWAYS. WHEN USED THE R-10 AND R-9A SIGNS SHALL BE MOUNTED SIDE-BY-SIDE ON SEPARATE SUPPORTS. THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III-C SHEETING, FP-85. WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO (2) ITEM 630 GROUND MOUNTED SUPPORTS, NO. 3 POSTS. WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE

DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT. PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVING THE SIGNS AND SUPPORTS.

614, WORK ZONE SPEED LIMIT SIGN 10 EACH

GUARDRAIL PROTECTION

NO SIGN SUPPORTS SHALL BE ERECTED BEFORE THE NECESSARY GUARDRAIL PROTECTION IS IN PLACE. SIMILARLY, EXISTING GUARDRAIL WHICH PROTECTS AN OBSTRUCTION OR SLOPE WHICH IS TO BE UPGRADED TO ELIMINATE GUARDRAIL, SHALL NOT BE REMOVED UNTIL THAT WORK HAS BEEN COMPLETED. EXISTING GUARDRAIL WHICH IS SCHEDULED TO BE REPLACED WITH TYPE 5 GUARDRAIL, SHALL NOT BE REMOVED UNTIL THE NEW GUARDRAIL IS READY TO BE INSTALLED, UNDER NO CIRCUMSTANCES SHALL ANY HAZARD BE WITHOUT GUARDRAIL PROTECTION FOR MORE THAN 24 HOURS. (SEE PUBLIC SAFETY NOTE ON SHEET 14)

ITEM 614 - BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO THE APPROPRIATE PROPOSAL NOTE AND ITEM 626 EXCEPT THAT THE SPACING SHALL BE 25 FEET. AN ESTIMATED QUANTITY OF 180 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B, AND 180 EACH OF ITEM 614 OBJECT MARKERS HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR MAINTAINING TRAFFIC.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE WHEN NO LONGER NEEDED A PORTABLE CHANGEABLE MESSAGE SIGN (S). THE PCMS SHALL BE OF THE TYPE SHOWN ON THE LIST OF APPROVED PCMS MAINTAINED BY THE DIRECTOR. THE PCMS SHALL BE A CLASS I OR II TYPE UNIT.

THE PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE MOUNTED ON A TRAILER. THE LOCATION OF THE PCMS SHALL BE AS DIRECTED BY THE ENGINEER. THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE LINK WHICH WILL ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER THE SOFTWARE NECESSARY TO CONTROL THE PCMS REMOTELY.

THE PCMS SHALL BE EQUIPPED WITH A MYRIAD SAFETY BEAM OR AN APPROVED EQUAL AS DETERMINED BY THE ENGINEER. THE MYRIAD SAFETY BEAM SENDS OUT A SIGNAL THAT ACTIVATES RADAR DETECTORS. THE BEAM IS APPROVED BY THE F.C.C. THE MYRIAD SAFETY BEAM SHALL USE THE SAME POWER SUPPLY AS THE PCMS. THE MYRIAD SAFETY BEAM SHALL BE ABLE TO BE ACTIVATED WITH THE PCMS RUNNING OR NOT. THE MYRIAD SAFETY BEAM IS DISTRIBUTED BY THE TRIPLEX GROUP, INC., P.O. BOX 428. NEW HOPE, PA. 18938. PHONE (215) 862-5077.

NO FLIP DISK UNITS ARE ALLOWED.

AT THE DIRECTION OF THE ENGINEER THE PCMS MAY BE REMOVED FOR PERIODS OR TIMES WHEN NOT IN USE. NO PAYMENT WILL BE MADE FOR THESE TIMES (EX. WINTER MONTHS).

THERE SHALL BE TWO CLASS I OR II CHANGEABLE MESSAGE SIGN AT 8 MONTHS EACH.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 32 SIGN-MONTHS

WINTER TRAFFIC LIMITATION

ALL LANES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 1 AND APRIL 15. NOVEMBER 1 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE, AND USER COSTS SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR EACH CALENDAR DAY THAT ALL LANES ARE NOT OPEN AND AVAILABLE TO TRAFFIC.

MAINTENANCE OF TRAFFIC NOTES

CUYAHOGA COUNTY
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ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF ITEM 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 TOTAL CLOSURES OF EXIT RAMPS.
- WHEN DIRECTED BY THE ENGINEER.

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.

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 W/PATROL CAR . .200 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.

NIGHT VEST

ALL OF THE CONTRACTORS AND SUB-CONTRACTORS PERSONNEL WORKING DURING THE HOURS OF DARKNESS SHALL WEAR A 100% SILVER REFLECTIVE VEST. THE SAFETY VEST SHALL BE PROVIDED BY THE CONTRACTOR. THE VEST MAY HAVE SEVERAL LIME OR ORANGE STRIPES ON IT.

FLASHING ARROW PANEL

DURING ANY CONSTRUCTION PHASE WHEN FLASHING ARROW PANELS ARE SHOWN ON THE PLANS, ELECTRIC POWERED EQUIPMENT OR SOLAR POWERED EQUIPMENT APPROVED BY THE ENGINEER SHALL BE EXCLUSIVELY UTILIZED WHEN LOCATED WITHIN 300 FEET OF ANY RESIDENCE. DIESEL OR GASOLINE POWERED GENERATORS WILL NOT BE PERMITTED IN THESE AREAS.

PLANED SURFACES

THE DURATION OF TIME BETWEEN PLANING THE EXISTING ASPHALT PAVEMENT SHALL BE KEPT TO A MINIMUM. IN NO INSTANCE SHALL THIS TIME EXCEED 14 CALENDAR DAYS. THIS IS TO ENSURE THAT THE POTENTIAL DEGRADATION OF THE EXISTING PAVEMENT DUE TO TRAFFIC IS KEPT TO A MINIMUM. IN THE EVENT THAT THE TIME BETWEEN PLANING THE PAVEMENT AND PLACING THE ASPHALT INTERMEDIATE COURSE EXCEEDS 14 CALENDAR DAYS, LIQUIDATED DAMAGES AS PER 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS MANUAL SHALL BE ASSESSED.

ITEM 614 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC, AS PER PLAN

THIS ITEM SHALL BE USED TO REPAIR HOLES IN BRIDGE DECKS, ROADWAY SURFACE AND BERMS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MONITOR THE ROADWAY TO DETERMINE WHEN THE HOLES SHALL BE PATCHED. THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR HIS/HER APPROVAL.

THE CONTRACTOR WILL BE RESPONSIBLE FOR DAMAGES TO MOTORIST VEHICLES IF THE HOLES ARE NOT FILLED IN A REASONABLE AMOUNT OF TIME.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE ROADWAY, BRIDGE DECKS AND BERMS (IN THE DIRECTION WORK IS BEING PERFORMED) FROM THE FIRST DAY OF WORK UNTIL CONSTRUCTION IS COMPLETE. THIS INCLUDES PERIODS WHEN WORK IS SUSPENDED.

THE CONTRACTOR HAS A MAXIMUM TIME OF 2 HOURS AFTER HE HAS BEEN INFORMED OF A POT HOLE, BY PROJECT PERSONNEL, TO TAKE CORRECTIVE ACTION. IF THE CONTRACTOR FAILS TO TAKE ACTION TO FIX THE POT HOLE WITHIN THE 2 HOUR LIMIT, THE CONTRACTOR SHALL BE CHARGED A LIQUIDATED DAMAGE OF \$1000 PER OCCURENCE.

THE PROCEDURE FOR PATCHING A HOLE IS:

REMOVE ALL LOOSE AND DISINTEGRATED ASPHALT OR CONCRETE TO AN EXTENT TO EXPOSE SOUND CONCRETE OR ASPHALT. THE PERIMETER OF ALL REMOVAL AREAS SHALL BE VERTICAL.

CARE SHALL BE TAKEN ON BRIDGE DECKS NOT TO PUNCTURE THE DECK OR DAMAGE THE REINFORCING STEEL. THE CONTRACTOR SHALL TAKE WHAT EVER STEPS NECESSARY TO MAKE THE BRIDGE DECK PASSABLE.

THE SURFACE TO BE PATCHED MUST BE CLEANED AND DRIED.

THE ENTIRE SURFACE SHALL BE TACK COATED, INCLUDING THE VERTICAL FACES.

ASPHALT CONCRETE SHALL BE IN ACCORDANCE TO ITEM 404 OR 402 AS DETERMINED BY THE ENGINEER. IT SHALL BE PLACED IN 2 INCH LIFTS AND COMPACTED TO THE LEVEL OF THE WEARING SURFACE.

DURING WINTER MONTHS ONLY WHEN ASPHALT IS NOT AVAILABLE OR AT THE DIRECTION OF THE ENGINEER COLD MIX MAY BE USED. COMPACTION EQUIPMENT MUST BE APPROVED BY THE ENGINEER.

ALL TRAFFIC CONTROL NEEDED FOR THIS ITEM OF WORK SHALL BE INCLUDED IN THIS ITEM OF WORK.

TRAFFIC CONTROL AND SEQUENCE OF ASPHALT CONCRETE WORK

ALL ASPHALT CONCRETE OPERATIONS SHALL BE CONDUCTED IN A MANNER THAT WILL ASSURE MINIMUM DANGER AND INCONVENIENCE TO THE HIGHWAY USERS. ALL ASPHALT WORK SHALL BE PERFORMED AT THE TIMES PROVIDED ON THE WEB SITE. THE PROCEDURE FOR INSTALLATION OF ANY ASPHALT LAYER SHALL BE SUCH THAT NO GREATER THAN 1-1/2 INCH DISCONTINUITY IN THE ELEVATION OF THE TRAVELED SURFACE SHALL BE EXPOSED TO TRAFFIC.

THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS SUCH THAT ALL HALF-WIDTH OVERLAYS ARE NOT EXPOSED TO TRAFFIC FOR MORE THAN 24 HOURS.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS ANY PART-WIDTH RESURFACING JOINT EXCEPT AS IS NECESSARY DURING THE ACTUAL RESURFACING OPERATION. ANY PART WIDTH RESURFACING JOINTS WHICH MUST BE EXPOSED TO TRAFFIC SHALL BE RAMPED USING ITEM 614 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC AT A RATE NOT TO EXCEED 2 INCHES IN 1 FOOT (LONGITUDINAL JOINTS).

TEMPORARY TRANSVERSE RESURFACING JOINTS WHICH MUST BE EXPOSED TO TRAFFIC SHALL BE RAMPED USING ITEM 614 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC AT A RATE NOT TO EXCEED 1 INCH IN 10 FEET.

WHENEVER TRAFFIC IS SUBJECTED TO HALF-WIDTH OVERLAYS PRIOR TO COMPLETING THE ASPHALT COURSE, THE CONTRACTOR SHALL PROVIDE OW-171-48 AND OW-P-171-24 SIGNS (DUAL SIGN INSTALLATION). PLACEMENT SHALL BE AS DIRECTED BY THE ENGINEER AND INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

TRAFFIC MUST BE MAINTAINED AT ALL TIMES IN BOTH DIRECTIONS IN ACCORDANCE WITH THE LATEST REVISION OF THE PERMITTED LANE CLOSURE WEB PAGE AT www.dot.state.oh.us/dist12/workzone/laneclo.htm. THE LATEST REVISION, 14 DAYS PRIOR TO THE BID DATE, SHALL BE IN EFFECT FOR THIS PROJECT.

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORISTS SHALL BE WARNED AND DIVERTED BY THE CONTRACTOR THROUGH THE USE OF A FLASHING ARROW, IN ADDITION TO THOSE PROVISIONS SET FORTH IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

PRIOR TO OPENING THE ROADWAY TO NORMAL TRAFFIC DURING WINTER MONTHS, ALL ASPHALT WORK INCLUDING THE SURFACE COURSE MUST BE COMPLETED AN EQUAL FULL WIDTH DISTANCE. NO INTERMEDIATE LEVELING COURSE IS TO BE TRAVELED ON DURING WINTER MONTHS NOR SHALL ANY PART WIDTH RESURFACING REMAIN DURING THE WINTER. THE CONTRACTOR IS CAUTIONED TO SCHEDULE HIS OPERATIONS TO MEET THIS REQUIREMENT. IF THE CONTRACTOR DOES NOT MEET THIS REQUIREMENT OR HAS THIS REQUIREMENT WAIVED, THE CONTRACTOR SHALL INCREASE THE THICKNESS OF THE 446 SURFACE COURSE BY 1/2" ENTIRELY AT HIS EXPENSE FOR LABOR, MATERIALS, AND EQUIPMENT.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

VEHICLES AND EQUIPMENT SHALL ALWAYS MOVE WITH, AND NOT ACROSS OR AGAINST THE FLOW OF TRAFFIC. VEHICLES AND OTHER EQUIPMENT SHALL NOT PARK OR STOP EXCEPT WITHIN DESIGNATED WORK AREAS; AND SHALL NOT ENTER AND LEAVE WORK AREAS IN A MANNER WHICH WILL BE HAZARDOUS TO, OR INTERFERE WITH THE NORMAL TRAFFIC FLOW. PERSONAL VEHICLES WILL NOT BE PERMITTED TO PARK WITHIN THE RIGHT-OF-WAY EXCEPT IN SPECIFIC AREAS DESIGNATED BY THE ENGINEER.

EQUIPMENT, VEHICLES AND MATERIALS SHALL NOT BE STORED OR PARKED WITHIN 30 FEET OF THE TRAVELED WAY UNLESS 6 FEET BEHIND PCB OR GUARDRAIL.

ALL WORK VEHICLES AND EQUIPMENT THAT ENTERS THE WORK ZONE MORE THAN ONCE A DAY MUST BE EQUIPPED WITH AT LEAST ONE FLASHING, ROTATING, OR OSCILLATING AMBER LIGHT THAT IS VISIBLE IN ALL DIRECTIONS OF TRAFFIC FOR AT LEAST ONE QUARTER OF A MILE, DAY OR NIGHT.

LOCATION		SIDE	END WIDTHS	SURFACE AREA	446		202	
					1 1/2" ASPHALT CONCRETE COURSE TYPE 1H A.P.P.	2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 PG 64-28	WEARING COURSE REMOVED A.P.P.	
FROM	TO		LIN FT	SQ YDS	CU YDS	CU YDS	SQ YDS	
MAINLINE								
865+00	870+00	NB	48	2667	111	185	2667	
870+00	871+86.50	NB	48-62	1140	48	79	1140	
871+86.50	873+72	NB	62-74	1402	58	97	1402	
873+72	877+82	NB	74-86	3644	152	253	3644	
877+82	878+85	NB	41-44.5	489	20	34	489	
878+85	892+28	NB	36	5372	224	373	5372	
892+28	895+13	NB	38-46	1330	55	92	1330	
895+13	936+13	NB	48	21867	911	1519	21867	
936+13	940+09	NB	48-51	2178	91	151	2178	
941+60	943+78	NB	56-62	1429	60	99	1429	
943+78	945+80	NB	62-71	1493	62	104	1493	
945+80	946+82	NB	46	521	22	36	521	
946+82	982+16.03	NB	36	14136	589	982	14136	
1879+48.88	1907+33	NB	36	11137	464	773	11137	
1907+33	1912+02	NB	48-61	2840	118	197	2840	
1912+02	1917+10.96	NB	48	2714	113	188	2714	
1935+21.25	1946+04	NB	24	2887	120	200	2887	
1946+04	1950+49.72	NB	36-49	2105	88	146	2105	
1950+49.72	1967+75.75	NB	36	6904	288	479	6904	
1972+48.45	1980+97.79	NB	36	3397	142	236	3397	
865+00	887+20	SB	48	11840	493	822	11840	
887+20	892+00	SB	48-60	2880	120	200	2880	
892+00	898+00	SB	60	4000	167	278	4000	
898+00	901+11.07	SB	60-76	2350	98	163	2350	
901+11.07	915+89	SB	36	5912	246	411	5912	
915+89	918+87	SB	38-41	1308	55	91	1308	
918+87	921+30	SB	46-55	1364	57	95	1364	
921+30	924+97.42	SB	45-48	1898	79	132	1898	
924+97.42	940+09	SB	48	8062	336	560	8062	
941+60	943+30	SB	48	907	38	63	907	
943+30	945+94	SB	48-50	1437	60	100	1437	
945+94	951+26	SB	50-61	3281	137	228	3281	
951+26	982+16.03	SB	36	12360	515	858	12360	
1879+48.88	1908+00	SB	36	11405	475	792	11405	
1908+00	1909+00	SB	46	511	21	35	511	
1909+00	1914+54	SB	48-71	3663	153	254	3663	
1914+54	1915+56	SB	36-48	476	20	33	476	
1915+56	1920+80	SB	36	2096	87	146	2096	
1920+80	1921+80	SB	46	511	21	35	511	
1921+80	1925+78	SB	48-76	2742	114	190	2742	
1925+78	1929+50	SB	48	1984	83	138	1984	
1929+50	1939+23	SB	48-73	6541	273	454	6541	
1939+23	1967+75.75	SB	36	11411	476	792	11411	
1972+48.45	1980+97.79	SB	36	3397	142	236	3397	
SUB TOTALS				191988	8002	13329	191988	

LOCATION		SIDE	END WIDTHS	446				202	
				SURFACE AREA	1 1/2" ASPHALT CONCRETE COURSE TYPE 1H A.P.P.	2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 PG 64-28	WEARING COURSE REMOVED A.P.P.		
FROM	TO		LIN FT	SQ YDS	CU YDS	CU YDS	SQ YDS		
MAINLINE		INSIDE SHOULDER							
865+00	878+88	NB	10	1542	64	107	1542		
878+88	885+00	NB	10	680	28	47	680		
885+00	885+25	NB	9.5-10	27	1	2	27		
885+25	898+62	NB	9.5	1411	59	98	1411		
898+62	929+42	NB	10	3422	143	238	3422		
1902+90	1917+10.96	NB	4	632	26	44	632		
1935+26	1948+00	NB	5	708	30	49	708		
865+00	926+80	SB	10	6867	286	477	5949		
1902+92	1919+55	SB	5	924	39	64	924		
1919+55	1920+80	SB	5-10	104	4	7	104		
1921+80	1934+75	SB	4	576	24	40	576		
1934+75	1935+00	SB	4-5	13	1	1	13		
1935+00	1947+85	SB	5	714	30	50	714		
MAINLINE		OUTSIDE SHOULDER							
865+00	938+00	NB	10	8111	338	563	8111		
938+00	939+00	NB	8-10	100	4	7	100		
939+00	940+09	NB	8	97	3	7	97		
941+60	945+80	NB	8	373	16	26	373		
946+82	982+16.03	NB	10	3927	164	273	3927		
1879+48.88	1902+90	NB	10	2601	108	181	2601		
1902+90	1907+33	NB	11-20	763	32	53	763		
1907+33	1908+33	NB	7-8	83	3	6	83		
1908+33	1911+29	NB	8	263	11	18	263		
1911+29	1912+01	NB	8-10	64	2	4	64		
1912+01	1917+10.96	NB	10	567	24	39	567		
1935+26	1940+28	NB	9	502	21	35	502		
1940+28	1940+53	NB	9-10	26	1	2	26		
1940+53	1943+58	NB	10	339	14	24	339		
1943+58	1946+05	NB	10-20	412	17	29	412		
1946+05	1948+50	NB	8	218	9	15	218		
1948+50	1950+50	NB	8-10	200	8	14	200		
1950+50	1967+75.75	NB	10	1918	80	133	1918		
1972+48.45	1980+97.79	NB	10	944	39	66	944		
865+00	901+11.07	SB	10	4012	167	279	4012		
901+11.07	940+09	SB	10	4331	180	301	4331		
941+60	951+20	SB	10	1067	44	74	1067		
951+20	956+10	SB	11-16	735	31	51	735		
956+10	982+16.03	SB	10	2896	121	201	2896		
1879+48.88	1908+00	SB	10	3168	132	220	3168		
1909+09	1915+56	SB	8	575	24	40	575		
1915+56	1939+23	SB	10	2630	110	183	2630		
1939+23	1941+72	SB	10-20	415	17	29	415		
1941+72	1967+75.75	SB	10	2893	121	201	2893		
1972+48.45	1980+97.79	SB	10	944	39	66	944		
SUB TOTALS				62794	2615	4364	61876		
TOTALS (THIS SHEET)				254782	10617	17693	253864		

LOCATION		SIDE	END WIDTHS	SURFACE AREA	446		202	
					1 1/2" ASPHALT CONCRETE COURSE TYPE 1H A.P.P.	2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 PG 64-28	WEARING COURSE REMOVED A.P.P.	
FROM	TO		LIN FT	SQ YDS	CU YDS	CU YDS	SQ YDS	
RAMP A								
878+56.28	884+26		29	1836	77	128	1836	
884+26	891+58		29-33	2521	105	175	2521	
891+58	893+00		33-39	568	24	39	568	
893+00	894+76		39	763	32	53	763	
894+76	895+87		42-50	567	24	39	567	
895+87	897+10		50-54	711	30	49	711	
897+10	902+59.74		60-79	4245	177	295	4245	
902+59.74	908+06.22		68-79	4463	186	310	4463	
908+06.22	914+26		68	4683	195	325	4683	
917+70	926+10		68	6347	264	441	6347	
926+10	926+60		66-68	372	16	26	372	
926+60	931+50		66-88	4192	175	291	4192	
933+43	934+00		38	241	10	17	241	
934+00	934+40		30-32	138	6	10	138	
934+40	937+74		29.5	1095	46	76	1095	
937+74	938+29		29.5-88	274	11	19	274	
TOTAL				33016	1378	2293	33016	
LINE A								
951+20	954+67.50		24-34	1120	47	78	1120	
954+67.50	955+50		34-36	321	13	22	321	
955+50	956+75		36-44	556	23	39	556	
956+75	958+32.31		22-25	411	17	29	411	
958+32.31	964+20		26	1698	71	118	1698	
964+20	964+95		26-88	342	14	24	342	
TOTAL				4448	185	310	4448	
LINE B								
956+75	957+51.5		22-32	230	10	16	230	
957+51.5	969+50		25	3329	139	231	2930	
969+50	970+00		25-26	142	6	10	125	
970+00	972+17.56		26	629	26	44	629	
972+17.56	976+82		34-59	2400	100	167	2400	
976+82	982+45.26		34	2128	89	148	2128	
TOTAL				8858	370	616	8442	
RAMP C								
964+40	965+15		34-90	386	16	27	386	
965+15	967+00		34	699	29	49	699	
967+00	968+00		26-34	333	14	23	333	
968+00	971+18.49		26	920	38	64	920	
971+18.49	972+18.49		26-28	300	13	21	300	
TOTAL				2638	110	184	2638	
LINE D								
938+29	937+79		29.5-88	319	13	22	319	
937+79	934+00		29.5	1242	52	86	1242	
934+00	933+43		38	241	10	17	241	
928+70.02	923+20.02		78	4767	199	331	4767	
923+20.02	918+28.61		78-97	4778	199	331	4778	
918+28.61	917+28.61		39-42	450	19	31	450	
917+28.61	901+06.77		39	7028	293	488	7028	
TOTAL				18825	785	1306	18825	
SUB TOTALS				67785	2828	4709	67369	

LOCATION		SIDE	END WIDTHS	SURFACE AREA	446		202	
					1 1/2" ASPHALT CONCRETE COURSE TYPE 1H A.P.P.	2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 PG 64-28	WEARING COURSE REMOVED A.P.P.	
FROM	TO		LIN FT	SQ YDS	CU YDS	CU YDS	SQ YDS	
RAMP E								
951+44.37	952+20		27	227	10	16	185	
952+20	954+00		26	520	22	36	520	
954+00	955+00		26-33	328	13	22	289	
955+00	958+47		33-75	1333	56	93	1240	
TOTAL				2408	101	167	2234	
LINE F								
945+80.93	946+30.70		27-29	155	6	11	138	
946+30.70	951+34.76		27-58	2380	100	167	2212	
951+34.76	952+34.76		26-28	300	13	21	300	
952+34.76	955+50		26	911	38	63	911	
955+50	955+75		25-26	71	3	5	63	
955+75	968+16		25	3447	144	239	3034	
968+16	969+98.80		22-32	548	23	38	548	
969+98.80	972+42.61		34-44	1057	44	73	1057	
972+42.61	981+87.18		34	3568	149	248	3568	
TOTAL				12437	520	865	11831	
LINE G								
958+50	959+42		28-70	288	12	20	288	
959+42	968+42		26	2600	108	181	2600	
968+42	970+02		21-25	409	17	28	409	
TOTAL				3297	137	229	3297	
LANE H								
0+00	4+05		34	1530	64	106	1530	
4+05	5+46		34-36	548	23	38	548	
5+46	7+51		36-45	923	38	64	923	
7+51	9+35.31		45-59	1065	44	74	1065	
9+35.31	10+35.31		26-28	300	13	21	300	
10+35.31	10+60.31		25-26	71	3	5	63	
10+60.31	22+75		25	3374	141	234	2969	
22+75	24+09.81		22-32	404	17	28	404	
24+09.81	28+08.71		25-44	1529	64	106	1529	
28+08.71	29+08.71		21-25	256	11	18	256	
TOTAL				10000	418	694	9587	
LANE J								
5+39	9+60		22-35	1333	56	93	1333	
9+60	12+00		36-44	1067	44	74	1067	
12+00	15+40		34-36	1322	56	93	1322	
15+40	18+69.18		34-59	1701	71	118	1701	
18+69.18	19+69.18		26-28	300	13	21	300	
19+69.18	20+69.18		25-26	283	13	21	271	
20+69.18	26+21		25	1533	64	106	1349	
26+21	27+18.42		22-32	292	13	21	292	
27+18.42	29+58.20		34-44	1039	43	72	1039	
29+58.20	34+41.42		34	1826	76	127	1826	
TOTAL				10696	449	746	10500	
SUB TOTALS				38838	1625	2701	37449	
TOTALS (THIS SHEET)				106623	4453	7410	104818	

LOCATION		SIDE	END WIDTHS	SURFACE AREA	446		202	
					1 1/2" ASPHALT CONCRETE COURSE TYPE 1H A.P.P.	2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 PG 64-28	WEARING COURSE REMOVED A.P.P.	
FROM	TO		LIN FT	SQ YDS	CU YDS	CU YDS	SQ YDS	
RAMP G								
5+46.49	6+46.49		26-28	300	13	21	300	
6+46.49	10+00		26	1021	43	71	1021	
10+00	11+00		26-34	333	14	23	333	
11+00	12+06		34	400	17	28	400	
12+06	12+86		34-78	359	15	25	359	
TOTAL				2413	102	168	2413	
RAMP O								
0+60	1+21		26-66	195	8	14	195	
1+21	10+42		26	2661	111	185	2661	
10+42	11+42		23-26	272	11	19	272	
11+42	12+41.52		21-23	244	10	17	244	
TOTAL				3372	140	235	3372	
RAMP D								
3+75.89	4+00.89		27-28	76	3	5	76	
4+00.89	8+61.28		27	1381	58	96	1381	
8+61.28	11+29		27-45	1071	45	74	1071	
11+29	12+04		42-45	363	15	25	363	
12+04	12+62		42-98	356	15	25	356	
TOTAL				3247	136	225	3247	
RAMP I								
0+39	1+13		26-69	194	8	13	194	
1+13	5+54.12		26	1274	53	88	1274	
5+54.12	7+54.12		21-26	522	22	36	522	
TOTAL				1990	83	137	1990	
RAMP 14-M								
3+79	22+25.96		26	5336	222	371	5336	
22+25.96	24+25.96		21-26	522	22	36	522	
TOTAL				5858	244	407	5858	
LANE SBOR								
3+62	11+41		51-83	5799	242	403	5799	
11+41	12+50		39	472	20	33	472	
TOTAL				6271	262	436	6271	
LANE SBOR-M								
7+87	11+79		36-39	1633	68	113	1633	
LANE M-J								
3+95.50	8+97.21		21-29	1394	58	97	1394	
8+97.21	10+17		20-21	273	11	19	273	
10+17	10+97.21		18-30	214	9	15	214	
TOTAL				1881	78	131	1881	
SUB TOTALS								
				26665	1113	1852	26665	

LOCATION		SIDE	END WIDTHS	SURFACE AREA	446		202	
					1 1/2" ASPHALT CONCRETE COURSE TYPE 1H A.P.P.	2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 PG 64-28	WEARING COURSE REMOVED A.P.P.	
FROM	TO		LIN FT	SQ YDS	CU YDS	CU YDS	SQ YDS	
LANE NBOR								
7+95.56	9+74.14		52-72	1230	51	85	1230	
9+74.14	15+20.02		39	2366	99	164	2366	
15+20.02	17+20.02		36-39	833	35	58	833	
17+20.02	21+63		63-76	3421	143	238	3421	
21+63	27+50.88		50-63	3691	154	256	3691	
TOTAL				11541	482	801	11541	
RAMP J-NBOR								
7+40.90	8+08		39-41	298	12	21	298	
8+08	10+89.24		39-49	1375	57	96	1375	
TOTAL				1673	69	117	1673	
RAMP J-14								
13+09.49	13+60.56		41-54	270	11	19	270	
13+60.56	15+10		16-21	307	13	21	307	
TOTAL				577	24	40	577	
RAMP J-14A								
13+59.97	15+40		27	540	23	38	540	
15+40	16+15		24	200	8	14	200	
TOTAL				740	31	52	740	
RAMP NBOR-14								
4+39.57	4+89.57		25-29	150	6	10	150	
4+89.57	9+34.45		25	1236	52	86	1236	
9+34.45	10+31.30		19-22	221	9	15	221	
10+31.30	11+56		22-26	333	14	23	333	
10+75	11+56(45' RT)		24	268	11	19	268	
TOTAL				2208	92	153	2208	
SUB TOTALS								
				16744	698	1163	16744	
TOTALS (THIS SHEET)								
				43409	1811	3015	43409	

SHEET NO.	REFERENCE NO.	SIDE	LOCATION	EXISTING		PROPOSED		202	202	203	606						622	622	626	626	448	606
				STA. AT BEGINNING	STA. AT END	STA. AT BEGINNING	STA. AT END	REMOVAL PORTABLE CONCRETE BARRIER	GUARDRAIL REMOVED	LINEAR GRADING	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	GUARDRAIL, TYPE 5A	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	PORTABLE CONCRETE BARRIER, 32"	CONCRETE BARRIER, TYPE D	BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR, TYPE B	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1. (UNDER GUARDRAIL)	IMPACT ATTENUATOR, TYPE E-98
								EACH	LIN. FT.	LIN.FT.	EACH	EACH	LIN. FT.	LIN. FT.	EACH	EACH	LIN. FT.	LIN. FT.	EACH	EACH	CU. YD.	EACH
43	G-1	LT	NB-71	866+00	870+50	865+87.5	870+50		450	463			12.5	400	/				6		17	
44	G-2	LT	NB-71	870+50	874+12.5	870+50	874+12.5		362.5	363				350		/			5		14	
44	G-3	RT	NB-71	872+81	875+31	872+50	876+50		250	400				337.5	/	/			4		15	
44	G-4	LT	SB-71	871+75	874+75	871+87.5	876+37.5		300	450				387.5	/	/			5		17	
44	G-5	RT	SB-71	869+96	880+70	872+27.5	880+70		1074	843		/		805		/			9		31	
45	G-6	RT	SB-71	882+75	892+36.5	882+75	892+36.5		961.5	962	/			942.75					10		36	
45	G-7	RT	NB-71			895+15	895+50			35					/						1	
46	G-8	RT	NB-71	896+38	899+25.5	895+50	898+90		287.5	340				312.5		/			4		13	
46	G-9	RT	SB-71	892+36.5	905+11 D	892+36.5	905+11 D		1274.5	1275				1274.5					13		47	
46	G-10	LT	SB-71	894+00	896+75	894+53	897+53		275	300				237.5	/	/			3		11	
47	G-11	RT	LINE D	905+11	917+90	905+11	917+90		1279	1279				1279					13		47	
47	G-12	LT	RAMP A	912+20.9	913+45.9	909+81.75	913+63		125	381	/			312.5	/				4		14	
47	G-13	RT	RAMP A	906+44.6	914+44.6	911+69.25	913+63		800	194	/			125	/				2		7	
47	G-14	RT	RAMP A	917+90	918+27.5	917+90	918+27.5		37.5	38		/		25							1	
47	G-15	RT	RAMP A	918+20	920+57	918+20	920+57	237									237			3		
47	G-16	RT	SB-71	913+37.5	918+71	913+67.5	918+71		533.5	504				491		/			6		19	
47	G-17	LT	SB-71	912+62.5	916+50	913+12.5	917+00		387.5	388				325	/	/			4		14	
47	G-18	LT	NB-71	911+50	913+62.5	911+80	913+17.5		212.5	138				75	/	/			2		5	
47	G-19	RT	NB-71	911+50.5	920+50	911+67.75	920+50		899.5	882			25	808.25	/				9		32	
48	G-20	RT	SB RAMP A	918+27.5	931+40	918+27.5	931+40		1312.5	1313		/		1300					14		49	
48	G-21	RT	NB RAMP A	920+57	933+30	920+57	933+30	1273									1273			13		
48	G-22	RT	SB RAMP A	933+40	938+30	933+40	938+30		587.5	588				575		/			7		22	
48	G-23	RT	NB RAMP A	933+43	937+05.5	933+43	937+05.5		512.5	513				500		/			6		19	
49	G-24	RT	NB-71	920+50	931+57	920+50	931+57		1107	1107				1107					12		41	
49	G-25	RT	SB-71	918+71	924+80	918+71	924+80		609	609		/		596.5					7		23	
49	G-26	RT	SB-71	927+37.5	929+85	927+37.5	929+85		247.5	248	/			228.75					3		9	
50	G-27	RT	SB-71	929+85	939+47.42¢	929+85	939+47.42¢		840	840		/		827.5					9		31	
50	G-28	RT	NB-71	931+57	940+00 ¢	931+57	940+00 ¢		892	892	/			873.25					10		33	
50	G-29	RT	SB-71	941+18.5	944+07	941+18.5	944+07		288.5	289	/			269.75					4		11	
50	G-30	RT	NB-71	941+85.5	944+07	941+85.5	944+07		221.5	222	/	2		125.75				52	2	2	8	
51	G-31	RT	SB-71	944+07	949+47.5	944+07	950+68.5		540.5	662	/	/		480.25	/			100	6	2	25	
51	G-32	RT	NB-71	944+07	950+70.5	944+07	950+43.75		663.5	637				624.25		/			7		24	
51	G-33	LT	RAMP E	952+75	956+56	951+94	956+56		381	462				412	/				5		17	
52	G-34	LT	RAMP E	956+56	958+00	956+56	958+06.5		144	151				138		/			2		6	
52	G-35	RT	LINE F	958+53.5	962+91	957+00	961+62.5		400	488				425	/	/			5		18	
52	G-36	RT	LINE B	961+74.5	964+74.5	961+95	966+07.5		300	438				375	/	/			5		16	
53	G-37	RT	LINE B	974+59	976+09	974+59	976+15.25		150	169	/		12.5	87.5	/				2		6	
53	G-38	LT	LINE B	973+75	977+50	971+97.25	982+16.03		375	1019	/			1000					11		38	
53	G-39	LT	LINE F	978+75	980+50	977+93.75	980+11		175	217	/			112.5	/			36	2	2	8	
53	G-40	RT	LINE F	978+75	980+50	977+67.75	980+11		175	242	/	/		175				36	2	2	8	
53	G-41	LT	NB-71	980+20	982+16.03	981+67.4	982+16.03		186	49					/						1	
54	G-42	LT	NB-71	982+16.03	1881+47	982+16.03	1881+12.5		198	164			12.5	137.5		/			2		6	
54	G-43	LT	LANE J	32+62	34+62	982+16.03	31+94		200	250				187.5	/	/			3		9	
54	G-44	RT	LANE J	32+62	34+62	32+71.5	33+96.5		200	125			12.5	50	/	/			2		5	
54	G-45	LT	LANE J			22+05	26+01.25			396				383.75		/			5		14	
54	G-46	LT	LANE H	6+50	12+25	6+12.5	12+64		575	652				601.5	/				7		24	
54	G-47	RT	LANE H	6+50	8+25	6+75	8+00		175	125			12.5	50	/	/			2		5	
54	G-48	RT	NB-71	1890+37.5	1891+99	1890+33.75	1891+99		161.5	165				115.25	/				2		6	
SUB-TOTAL 1 (THIS SHEET)								1510	21127	22267	12	9	87.5	20246.5	22	20	1510	224	243	24	823	

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SHEET NO.	REFERENCE NO.	SIDE	LOCATION	EXISTING		PROPOSED		202	202	203	606						622	622	626	626	448	606	606
				STA. AT BEGINNING	STA. AT END	STA. AT BEGINNING	STA. AT END	REMOVAL MISC.: IMPACT ATTENUATOR	GUARDRAIL REMOVED	LINEAR GRADING	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	GUARDRAIL, TYPE 5A	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	PORTABLE CONCRETE BARRIER, 32"	CONCRETE BARRIER, TYPE D	BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR, TYPE B	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1. (UNDER GUARDRAIL)	IMPACT ATTENUATOR, TYPE 1-98	GUARDRAIL, BARRIER DESIGN TYPE 5
								EACH	LIN. FT.	LIN.FT.	EACH	EACH	LIN. FT.	LIN. FT.	EACH	EACH	LIN. FT.	LIN. FT.	EACH	EACH	CU. YD.	EACH	LIN. FT.
54	G-49	LT	RAMP G	6+43.5	8+81	6+16.5	8+81		237.5	265				214.5	/				3		10		
55	G-50	LT	RAMP G	8+81	12+81	8+81	12+66.5		400	386				373		/			5		14		
55	G-51	LT	RAMP H			12+64	20+83			819				819					9		30		
55	G-52	RT	NB-71	1891+99	1898+54	1891+99	1900+00		713.5	801	/	/		657.25				112.5	8	2	30		
55	G-53	LT	LANE J			20+45	22+05			160	/			141.25					2		6		
55	G-54	RT	LANE J	14+17	18+42	14+47	17+55.25		425	306	/	/		212.5	/	/			3		11		
55	G-57	LT	RAMP I	0+62.5	4+25	0+50	4+43.75		362.5	394	/			362.5		/			5		15		
55	G-58	RT	LANE H	15+50	18+25	15+12.5	18+00		275	288				225	/	/			3		11		
56	G-59	LT	LANE H	20+83	24+43	20+83	23+75		360	292				279.5		/			4		11		
56	G-60	RT	NB-71	1900+75	1902+75	1900+00	1903+02.5		200	303				290		/			4		11		
56	G-61	RT	SB-71			1909+52.5	1910+50	/		98				120		2			2		7		
56	G-63	LT	SB-71	1909+50	1911+00	1909+52.5	1910+50		150	98	/		25	42.75				36	2	2	4		
56	G-64	LT	NB-71	1902+90	1910+50	1902+90	1910+50		760	760		/		747.5					8		28		
57	G-65	RT	SB-71			1910+50	1911+52.5			103				205					3		8	/	
57	G-66	LT	NB-71	1910+50	1917+06	1910+50	1917+02		656	652	/			633.25					7		24		
57	G-67	LT	SB-71			1910+50	1912+94.75			245				194.75	/				3		9		
57	G-68	RT	SB-71	1914+75	1916+87.5	1915+47.5	1917+10		212.5	163				100	/	/			2		6		
57	G-69	RT	NB-71	1913+82.5	1916+45	1913+51.25	1916+45		262.5	294	/		12.5	212.5	/				3		11		
57	G-70	RT	RAMP I4 SBOR	0+30	5+55	0+23.75	5+55		525	531	/			162.5					2		20	/	350
58	G-71	LT	SB-71	1923+20	1935+50	1923+13.75	1935+50		1230	1236	/			1217.5					13		46		
58	G-72	RT	RAMP I4M	1+66.5	4+91.5	1+75	3+12.5		325	138			12.5	62.5	/	/			2		5		
58	G-73	LT	RAMP I4M	2+29	3+29	1+37.5	3+12.5		100	175			12.5	100	/	/			2		7		
58	G-74	RT	SB-71	1929+47	1931+22	1929+87.5	1931+04.75		175	118	/			12.5	/			36	1	2	4		
58	G-75	RT	NB-176	74+56	75+38	74+56	75+38		82	82		/		69.5					2		3		
58	G-76	LT	NB-176	74+56	75+38	74+56	75+38		82	82		/		69.5					2		3		
58	G-77	RT	SBOR	19+00	19+90	19+00	19+55		90	55				42.5		/			2		2		
59	G-78	RT	SBOR	17+40	19+00	16+05	19+00		240	295				245	/				3		11		
59	G-79	RT	SB-71	1935+25	1938+00	1935+75	1938+50		275	275				212.5	/	/			3		10		
59	G-80	LT	SBOR	16+87.5	19+25	14+95	18+95		237.5	400				337.5	/	/			4		15		
59	G-81	LT	SB-71	1935+50	1938+26.52	1935+50	1938+82.5		276.5	333			62.5	220	/				3		12		
59	G-82	LT	NB-71	1937+11	1948+00	1937+33	1947+83		1089	1050	/	/	12.5	1006					11		39		
59	G-83	LT	NB-176	75+38	81+56	75+38	80+56		618	518			12.5	493		/			6		19		
59	G-84	RT	NBOR-14	2+81	5+06	2+84	4+46.5		225	163		/		137.5		/			2		6		
59	G-85	RT	NB-176	75+38	81+15	75+38	80+56		577	518			12.5	493		/			6		19		
59	G-86	RT	NB-71	1940+13	1942+13	1940+13	1942+13		200	200		/		175		/			3		7		
59	G-87	LT	SB-71	1941+47.5	1947+85	1941+85	1947+85		637.5	600		/	12.5	562.5		/			7		22		
59	G-88	RT	NB-71	85+81.34	1947+85	1944+32	1947+19.5		200	288				225	/	/			3		11		
59	G-89	LT	J-NBOR	11+85	13+69	11+22.5	13+22.5		184	200			12.5	125	/	/			2		7		
59	G-90	RT	NBOR	18+14.5	20+02	17+93	19+55.5		187.5	163				100	/	/			2		6		
59	G-91	RT	SB-71	1946+65	1948+00	1946+91	1948+00		135	109				96.5		/			2		4		
59	G-92	LT	SBOR			6+70.25	7+37.5			67	/			12.5				36	1	2	2		
59	G-93	RT	SBOR			6+70.25	7+37.5			67	/			12.5				36	1	2	2		
59	G-94	RT	RAMPJ-14A	13+19	15+94	13+19	15+94		275	275		/		250		/			4		10		
60	G-95	RT	SBOR			6+20.25	6+70.25			50					/						2		
60	G-96	LT	SBOR			4+70.25	6+70.25			200				150	/				2		7		
60	G-97	RT	SB-71	1948+00	1954+79	1948+00	1954+79		679	679				643				36	7	2	25		
60	G-98	RT	NB-71	1953+50	1954+79	1951+75.5	1954+79		129	303				253.25	/				4		11		
60	G-99	LT	NBOR	25+55	26+38	25+12.5	27+19		83	207				156.5	/				3		8		
60	G-100	RT	NBOR	26+38	27+19	25+62.5	27+19		81	157				106.5	/				2		6		
61	G-101	RT	LANE E-S	33+35	35+15	33+78	36+28		180	250				187.5	/	/			3		9		
61	G-102	LT	LANE E-S	33+35	35+15	33+25	36+37.5		180	313				250	/	/			4		12		
SUB-TOTAL (THIS SHEET)								/	14312.5	16524	13	10	187.5	14017	23	26		292.5	190	12	618	2	350

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* QUANTITY BASED ON 4' WIDE X 1.5" DEEP

COMPACTED AGGREGATE					
LOCATION	SIDE	STATION		617	
				COMPACTED AGGREGATE, TYPE A, AS PER PLAN	
		FROM	TO	C.Y.	
NB I-71	LT	865+00	866+25	2	
	RT	865+00	873+03	15	
	RT	874+03	895+50	40	
	LT	874+12.5	911+97.5	70	
	RT	898+87.5	912+05	24	
	LT	913+10	929+42	30	
	RT	943+85.5	970+00	48	
	RT	1902+90	1913+70	20	
SB I-71	LT	865+00	872+00	13	
	RT	865+00	872+46	14	
	LT	876+12.5	894+59	34	
	LT	897+34	913+25	30	
	RT	902+00	913+74.5	22	
	LT	916+87.5	926+80	18	
	RT	924+87	927+37.5	5	
	RT	942+68.5	946+94	8	
	RT	949+56.5	970+00	38	
	RT	1895+51	1909+65	26	
	LT	1902+90	1909+65	13	
	RT	1911+03	1914+54	7	
LINE F	RT	955+50	957+87.5	4	
	RT	961+62.5	969+98.80	16	
	LT	973+00	978+78	11	
RAMP E	RT	950+00	952+20		
LINE B	LT	956+10	971+56	29	
	RT	957+52	961+95	10	
	RT	965+32.5	970+00	9	
TOTALS				575	

COMPACTED AGGREGATE					
LOCATION	SIDE	STATION		617	
				COMPACTED AGGREGATE, TYPE A, AS PER PLAN	
		FROM	TO	C.Y.	
LINE A	LT	958+72	965+00	12	
LINE G	LT	958+80	966+50	14	
RAMP C	LT	964+75	970+00	10	
LANE H	LT	0+00	6+62	12	
	LT	11+75	14+53	5	
	RT	3+91	6+55	5	
	RT	7+80	9+81	4	
	RT	10+35	15+22	9	
LANE J	RT	17+85	22+75	9	
	LT	34+41	33+97	1	
	LT	32+22	26+07	11	
	RT	29+58	27+18	4	
	RT	26+00	19+69	12	
RAMP I	RT	18+69	17+95	1	
	RT	1+15	8+20	13	
RAMP D	RT	3+75	12+03	15	
	LT	4+76	8+00	6	
RAMP O	LT	10+30	5+75	8	
LANE NBOR	RT	10+74	17+25	12	
RAMP SBOR-14	LT	0+00	0+78	1	
RAMP 14-M	LT	0+60	1+31	1	
TOTALS				165	

COMPACTED AGGREGATE					
LOCATION	SIDE	STATION		617	
				COMPACTED AGGREGATE, TYPE A, AS PER PLAN	
		FROM	TO	C.Y.	
RAMP NBOR-14	RT	4+81	9+25	8	
	LT	5+40	10+22	9	
LANE S-E	LT	9+75	11+10	3	
	LT	14+73	21+25	12	
LANE S-W	LT	0+00	1+56	3	
	LT	3+56	9+25	11	
	RT	6+97	9+65	5	
	RT	14+79	18+80	7	
LANE E-S	LT	8+01	9+13	2	
	RT	22+38	27+89	10	
	LT	22+38	30+00	14	
TOTALS				84	

ITEM 870 - COMMERCIAL FERTILIZER
$(21328) \text{ S.Y.} \times \frac{9 \text{ S.F.}}{\text{S.Y.}} \times \frac{20 \text{ LBS.}}{1000 \text{ S.F.}} \times \frac{\text{TON}}{2000 \text{ LBS.}} = 1.92 \text{ TONS}$
ITEM 870 - AGRICULTURAL LIMING
$(21328) \text{ S.Y.} \times \frac{9 \text{ S.F.}}{\text{S.Y.}} \times \frac{100 \text{ LBS.}}{1000 \text{ S.F.}} \times \frac{\text{TON}}{2000 \text{ LBS.}} = 9.60 \text{ TONS}$
ITEM 870 - SEEDING AND MULCHING
21328 S.Y.

[illegible]

GENERAL SUMMARY

I:\PROJECTS\PI\09870\dgn\SUMMARY\09870GGC.DGN 24-OCT-2001 12:15PM jgrmovse

SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	26	27	29	30	31	38	73												
																		DRAINAGE	
	500													SPECIAL	20270100	500	LIN FT	PIPE CLEANOUT	
	50													603	01500	50	LIN FT	6" CONDUIT, TYPE F, 707.17	
							85							603	05900	85	LIN FT	15" CONDUIT, TYPE B	
	5													604	09001	5	EACH	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	
	37													604	09501	37	EACH	CATCH BASIN RECONSTRUCTED TO GRADE, AS PER PLAN	
							1							604	14601	1	EACH	INLET, NO. 3-B, AS PER PLAN	
	20													604	20601	20	EACH	INLET ADJUSTED TO GRADE, AS PER PLAN	
	5													604	20801	5	EACH	INLET RECONSTRUCTED TO GRADE, AS PER PLAN	
	5													604	34501	5	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	
	44													604	35501	44	EACH	MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN	
	10													SPECIAL	60436600	10	EACH	PRECAST REINFORCED CONCRETE OUTLET	
		5000												SPECIAL	60450000	5000	POUND	MISCELLANEOUS METAL	
	200						1379							605	11110	1579	LIN FT	6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP	
	200													605	13410	200	LIN FT	6" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP	
																		MAINTENANCE OF TRAFFIC	
					200									614	11100	200	HOURS	LAW ENFORCEMENT OFFICER WITH CAR	
				10										614	12470	10	EACH	WORK ZONE SPEED LIMIT SIGN	
			200											614	13000	200	CU.YD.	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	
				32										614	18601	32	SIGN MOS	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	
			69											614	20100	69	MILE	TEMPORARY LANE LINE, CLASS I, 642 PAINT	
			108											614	22100	108	MILE	TEMPORARY EDGE LINE, CLASS I, 642 PAINT	
			2											614	22200	2	MILE	TEMPORARY EDGE LINE, CLASS I, 740.06 TYPE I	
			58752											614	23200	58752	LIN FT	TEMPORARY CHANNELIZING LINE, CLASS I, 642 PAINT	
			6000											614	23400	6000	LIN FT	TEMPORARY CHANNELIZING LINE, CLASS I, 740.06 TYPE I	
														614	18002		LUMP	MAINTAINING TRAFFIC MISC.: TRAFFIC CONTROL PLANNING AND IMPLEMENTATION	29
														616	10000	10	MGAL	WATER	
														616	20000	1	TON	CALCIUM CHLORIDE	
			1800	2908										622	40020	4708	LIN FT	PORTABLE CONCRETE BARRIER, 32"	

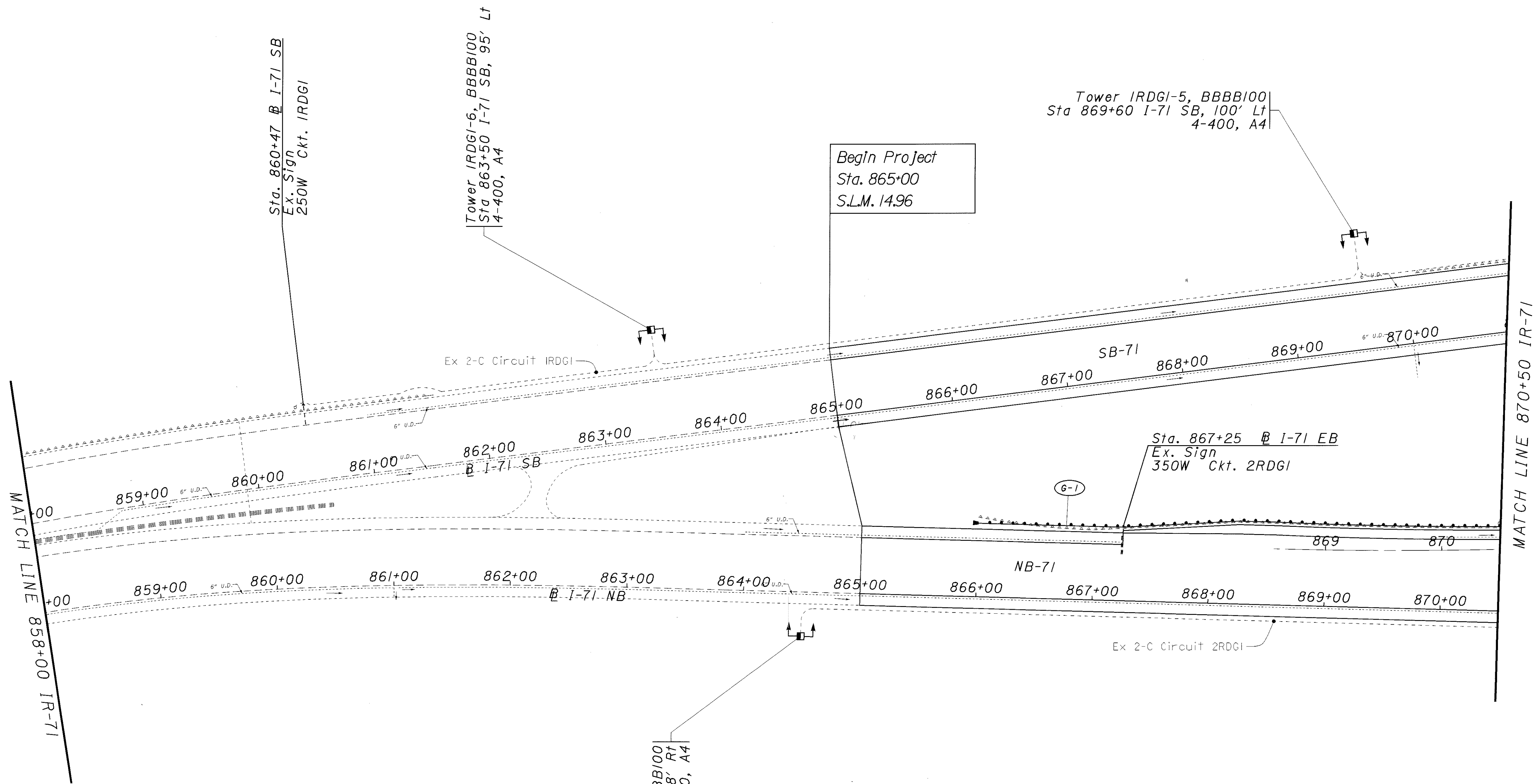
GENERAL SUMMARY

CUYAHOGA COUNTY
CUY-71-14.96

42
127

DESIGN AGENCY
O.D.O.T.
DISTRICT TWELVE
L & D DEPARTMENT

CALCULATED
KAS
CHECKED
LDH



CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32
GUARDRAIL	36
TRAFFIC CONTROL PLANS	88
LIGHTING	117

CALCULATED

CHECKED

0

50

100

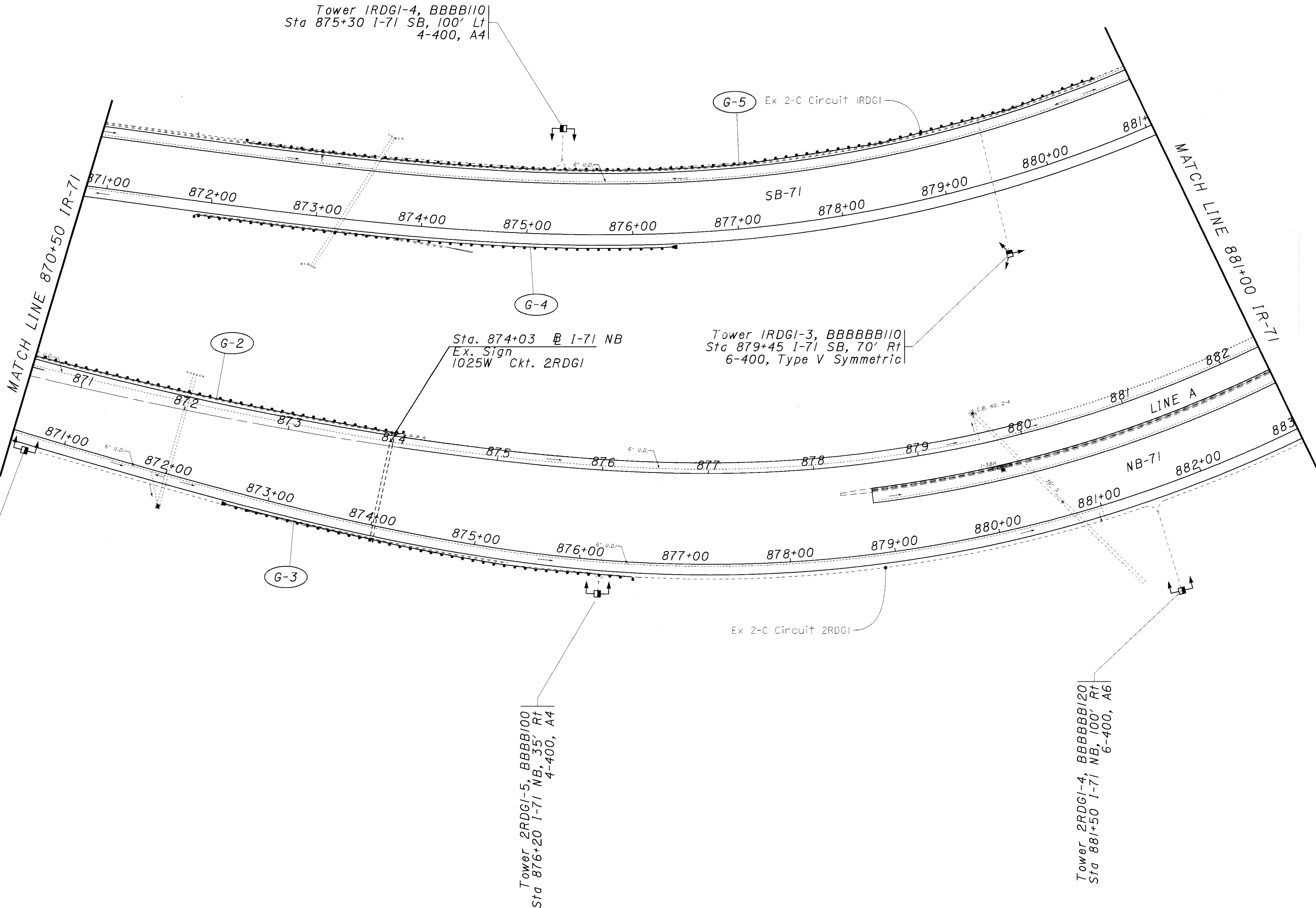
HORIZONTAL
SCALE IN FEET

PLAN SHEET
Sta 858+00 to Sta 870+50 I-71 NB

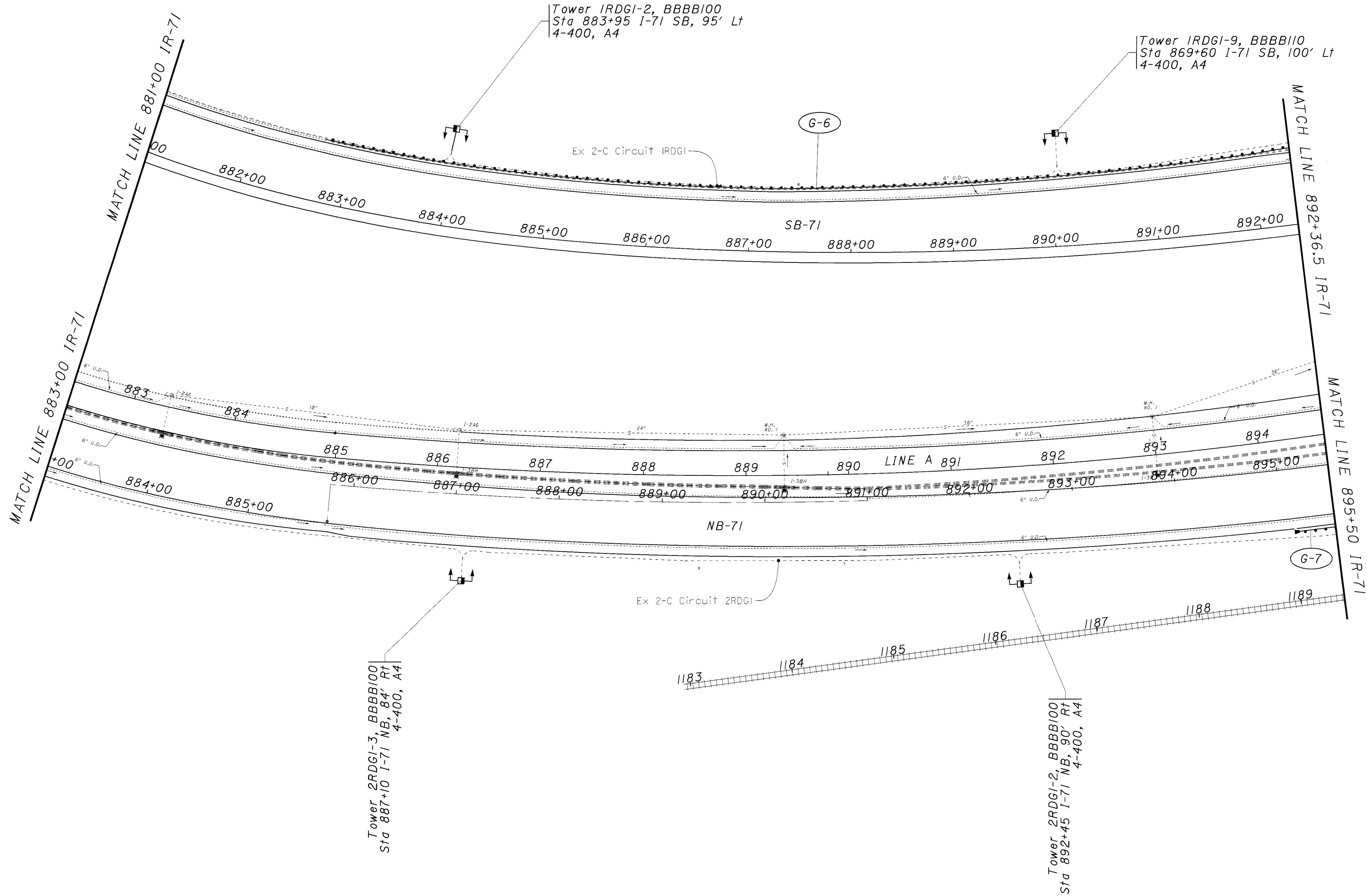
CUY-71-14.96

43
127

Tower 2RDGI-6, BBBB100
Sta 870+65 I-71 NB, 16' Rt
4-400, A4



CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32
GUARDRAIL	36
TRAFFIC CONTROL PLANS	89
LIGHTING LEGEND	117



CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32
GUARDRAIL	36
TRAFFIC CONTROL PLANS	89, 90
LIGHTING LEGEND	117

CALCULATED

CHECKED

0

50

100

HORIZONTAL
SCALE IN FEET

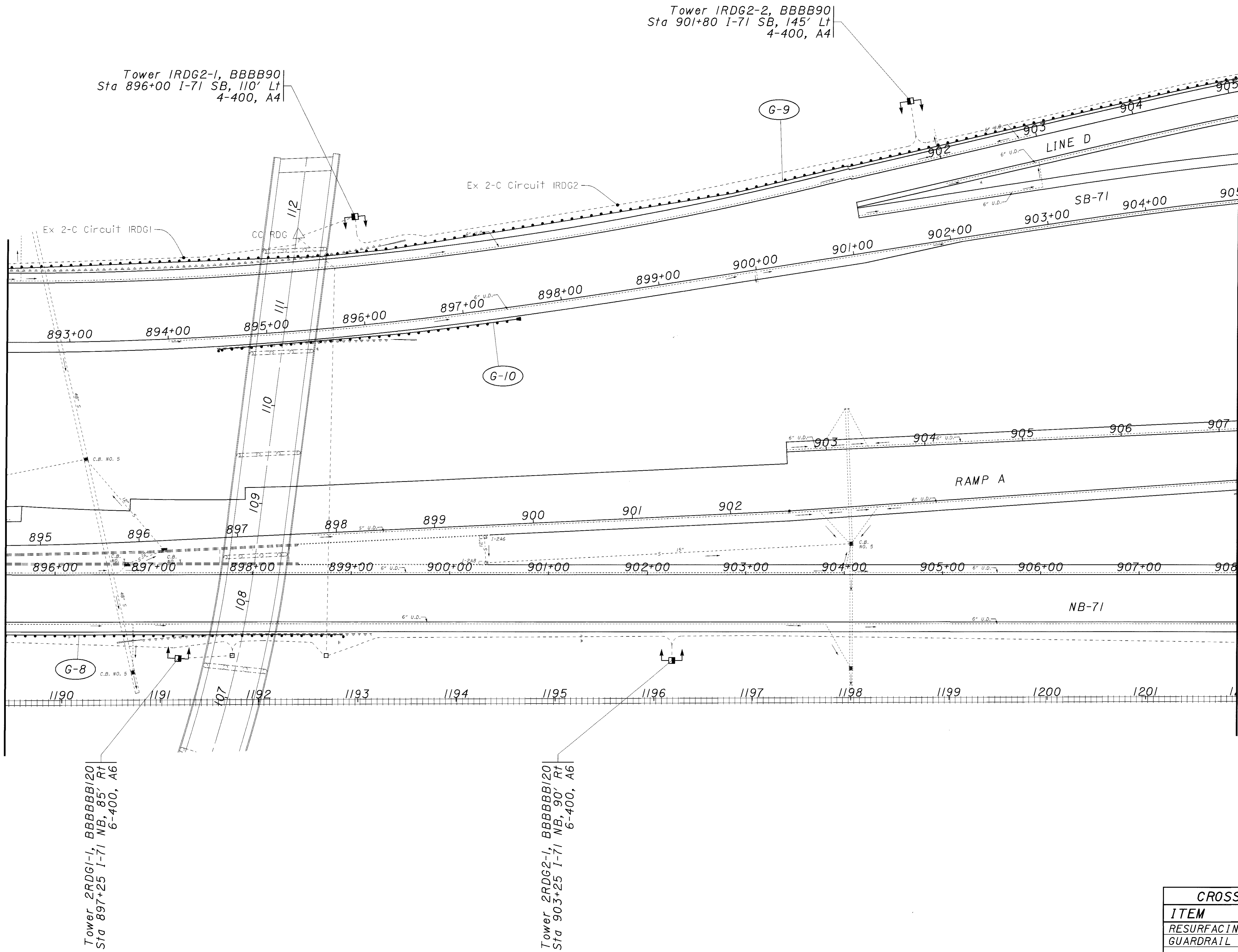
PLAN SHEET

Sta 883+00 to Sta 895+50 I-71 NB

CUY-71-14.96

45
127

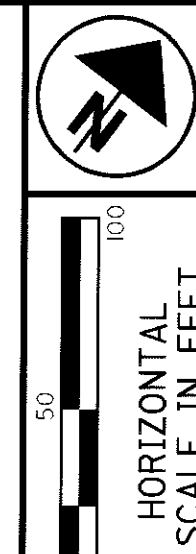
MATCH LINE 895+50 IR-71



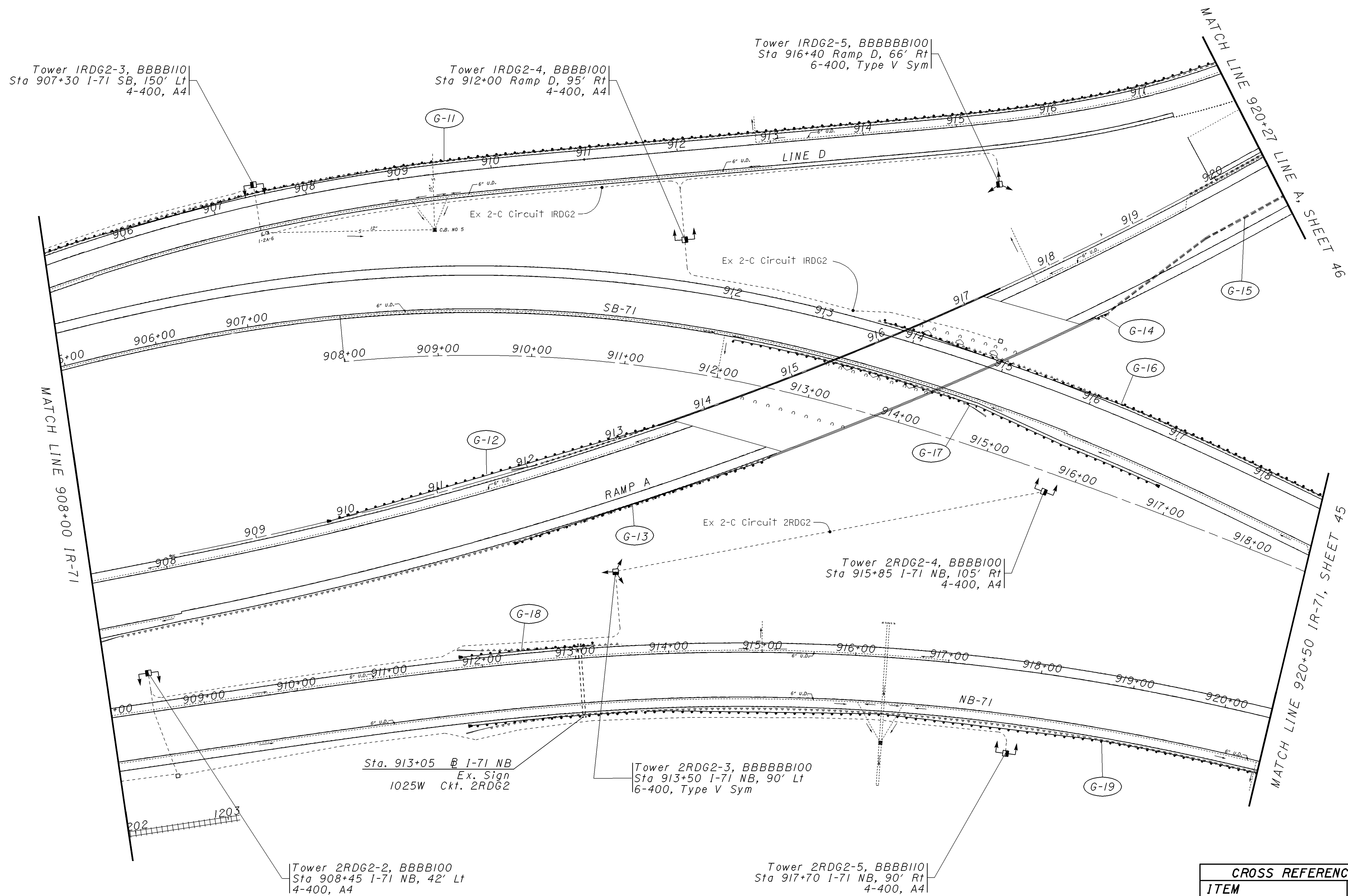
CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,33
GUARDRAIL	36
TRAFFIC CONTROL PLANS	90
LIGHTING LEGEND	117

PLAN SHEET
Sta 895+50 to Sta 908+00 I-71 NB

CUY-71-14.96

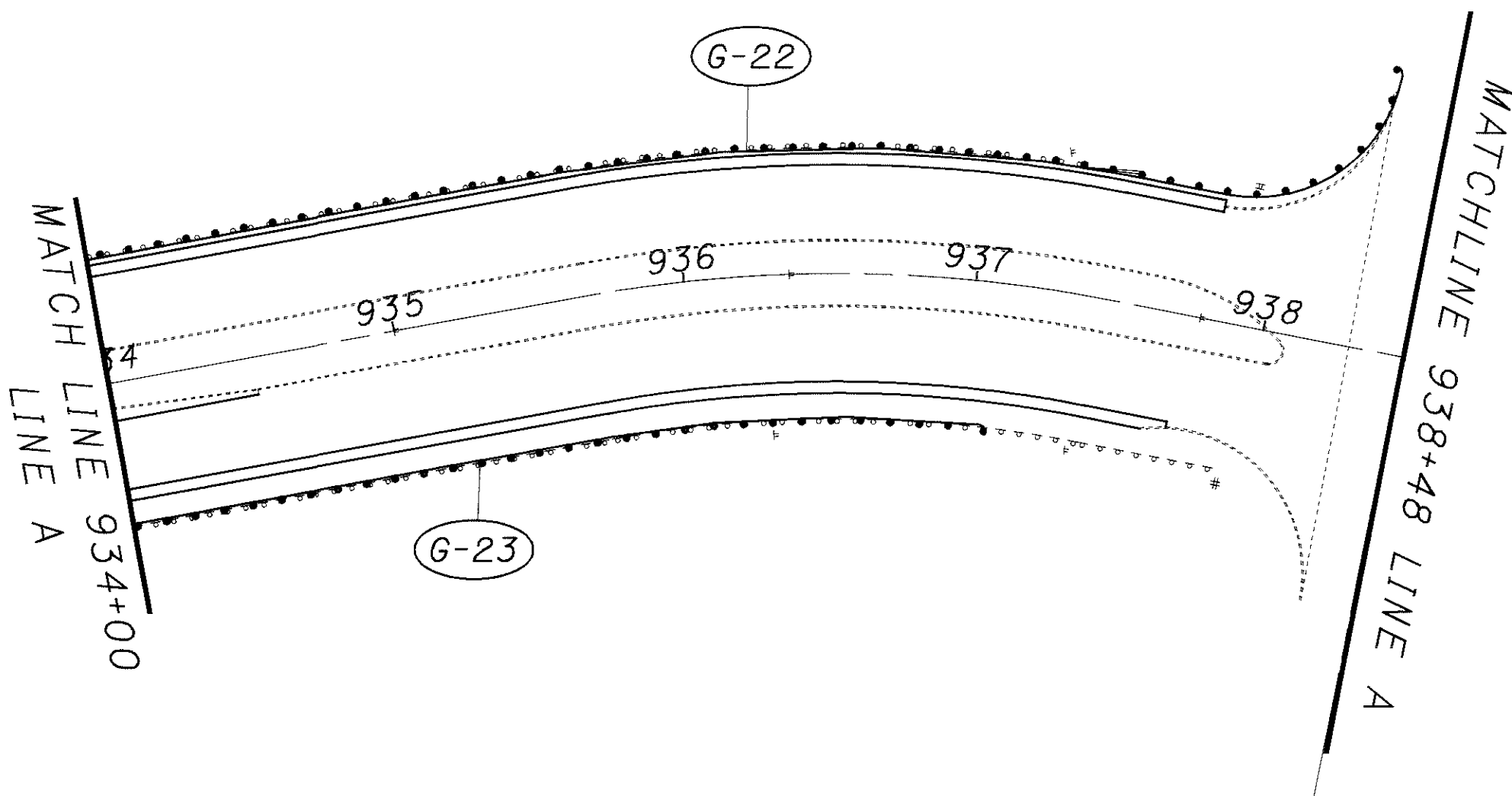
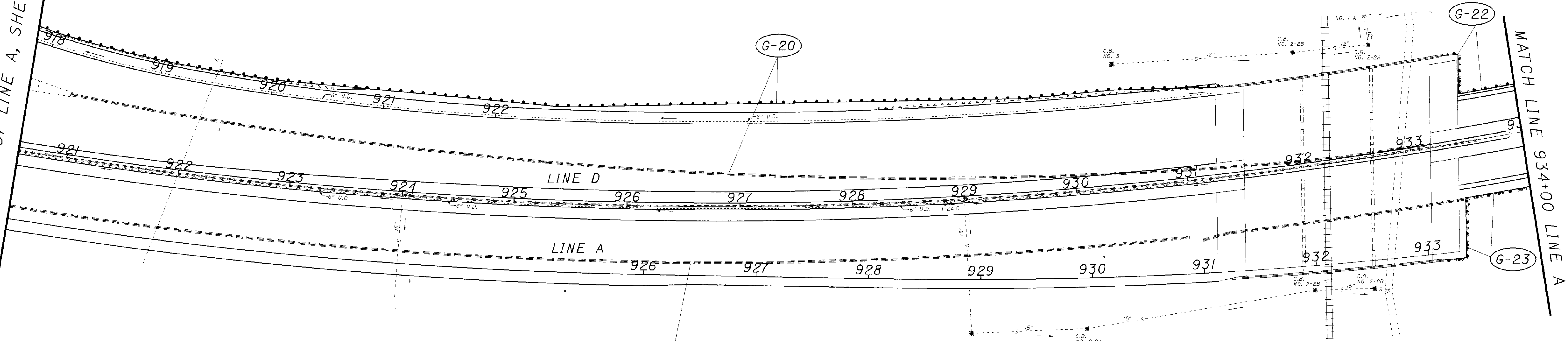


CALCULATED
CHECKED

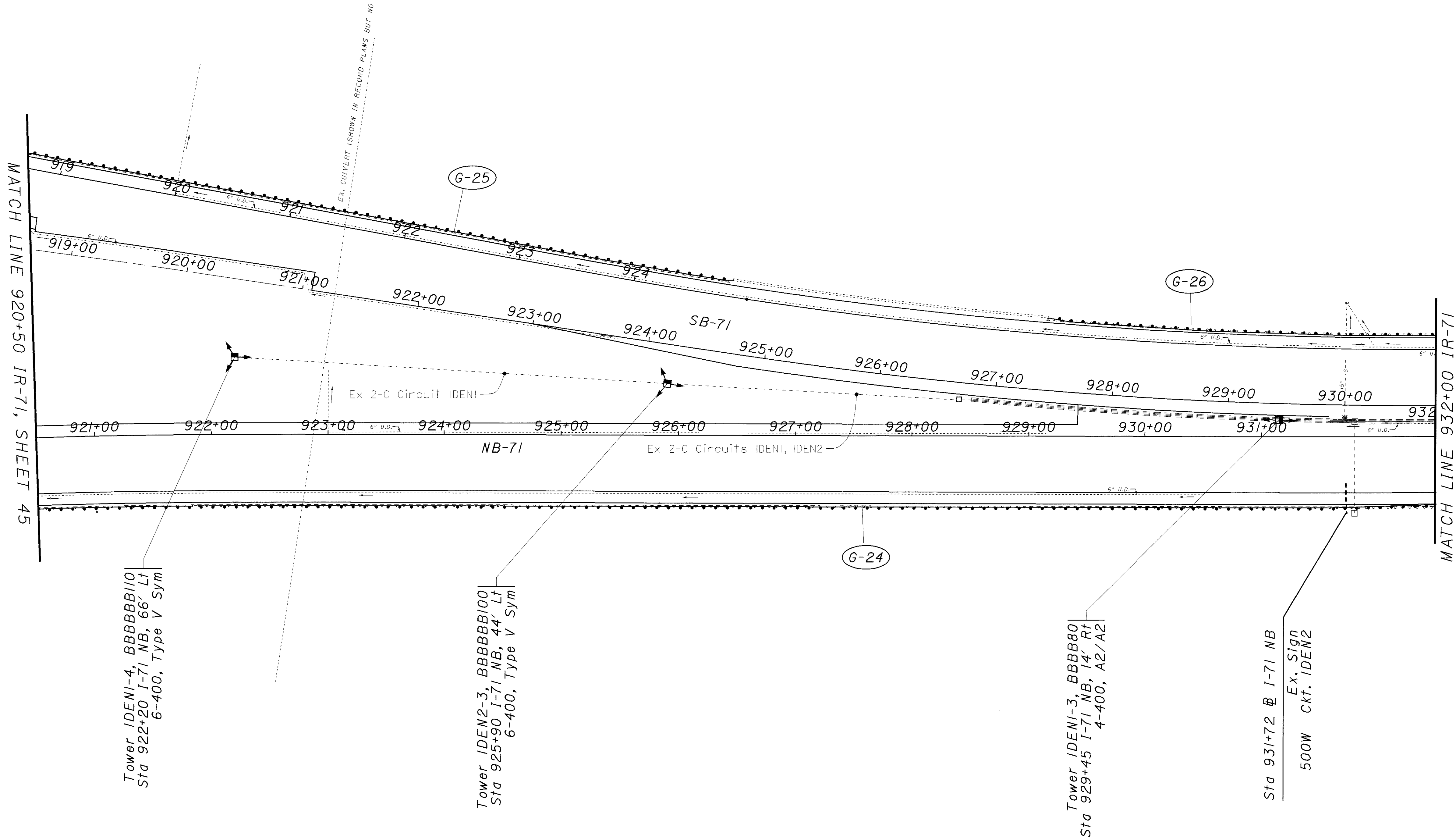


CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,33
GUARDRAIL	36
TRAFFIC CONTROL PLANS	91
LIGHTING LEGEND	117

MATCH LINE 920+57 LINE A, SHEET 45

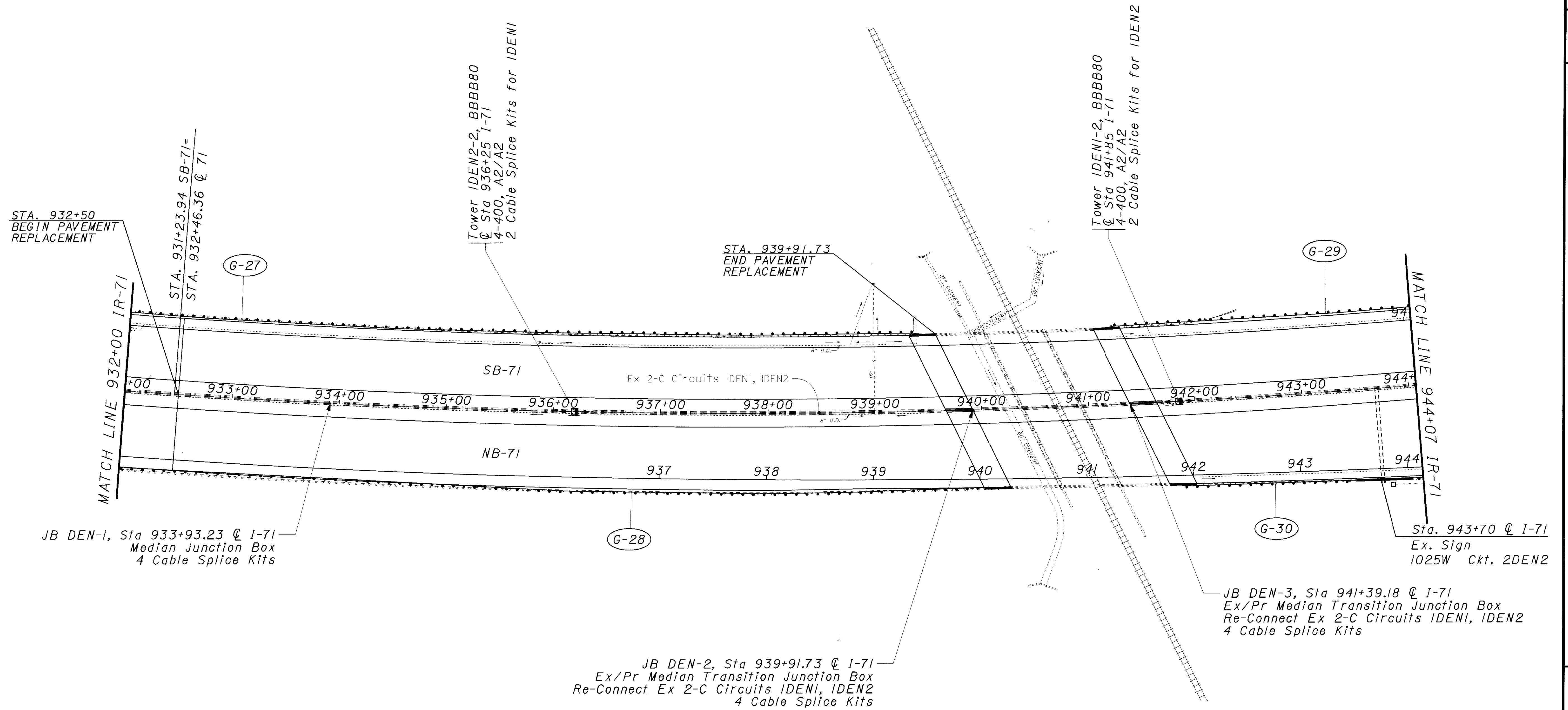


CROSS REFERENCE	
ITEM	SHEET
RESURFACING	33
GUARDRAIL	36
TRAFFIC CONTROL PLANS	105
LIGHTING LEGEND	117



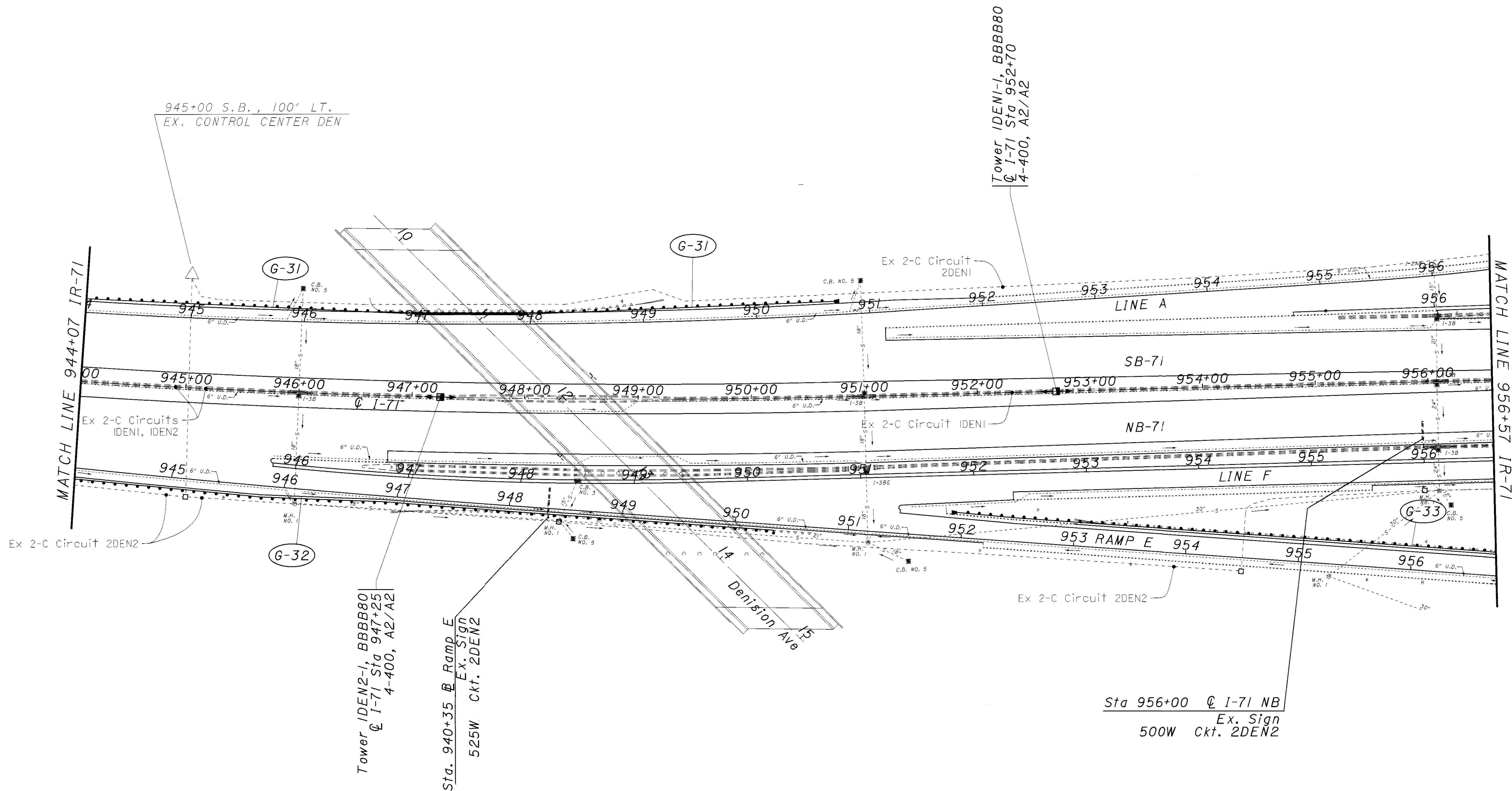
CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32
GUARDRAIL	36
TRAFFIC CONTROL PLANS	92
LIGHTING LEGEND	117

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CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32
GUARDRAIL	36
TRAFFIC CONTROL PLANS	92
LIGHTING LEGEND	117

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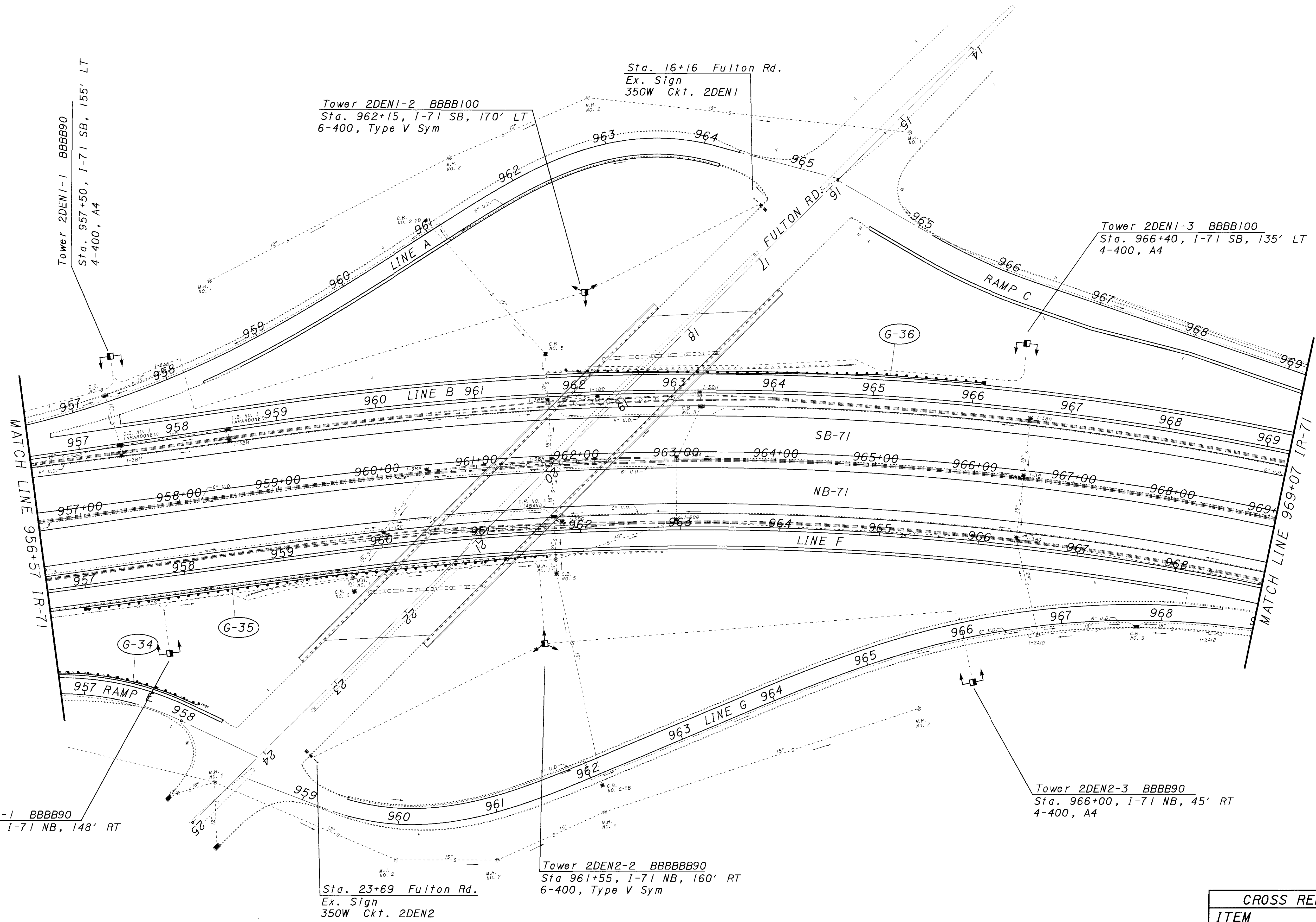
CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,33
GUARDRAIL	36
TRAFFIC CONTROL PLANS	92,93
LIGHTING LEGEND	117

CUY-71-14.96

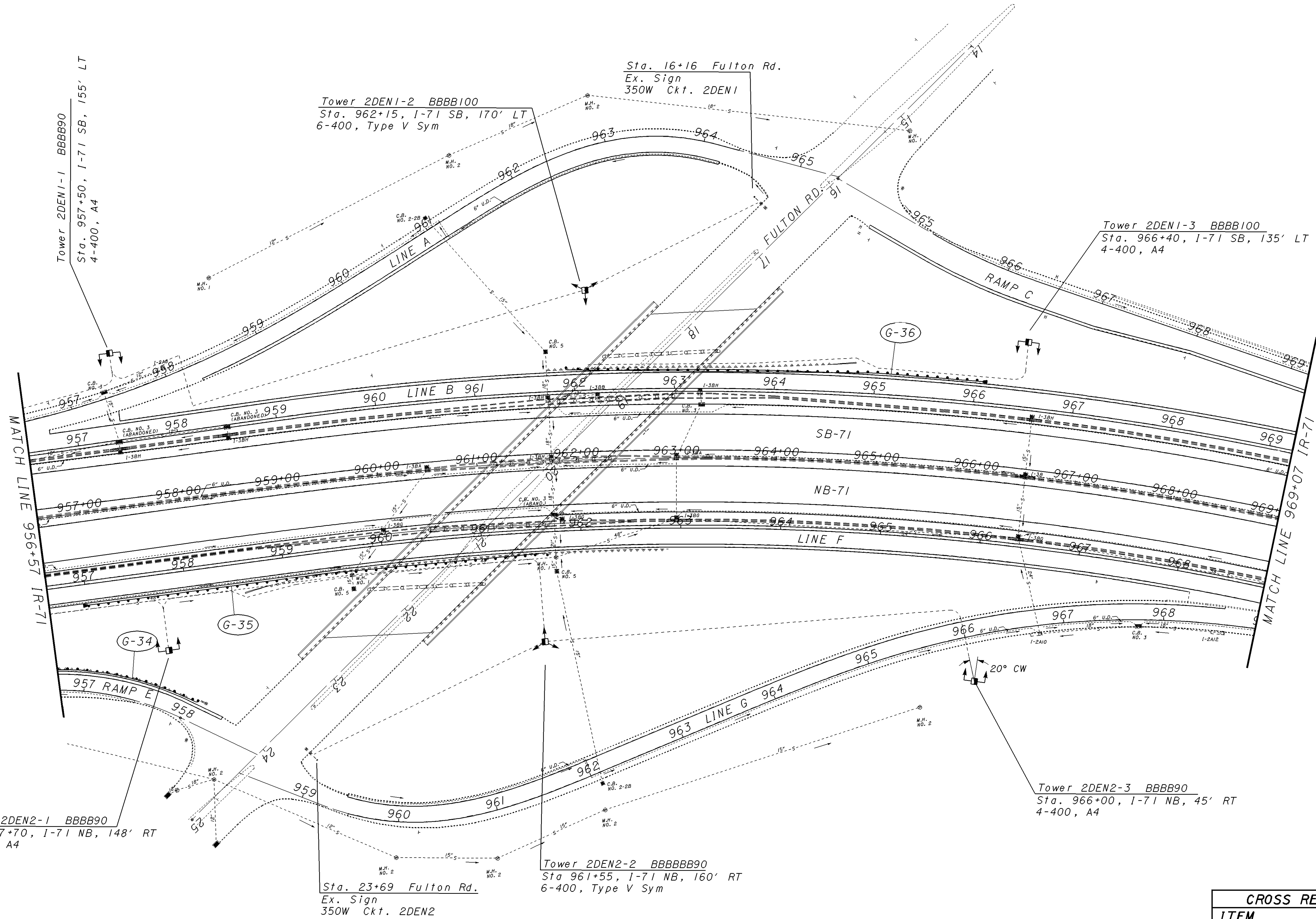
PLAN SHEET
Sta 944+07 to Sta 956+57 I-71 NB

CALCULATED
CHECKED

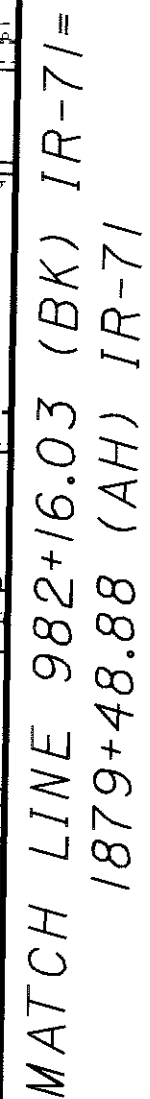
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SCALE IN FEET
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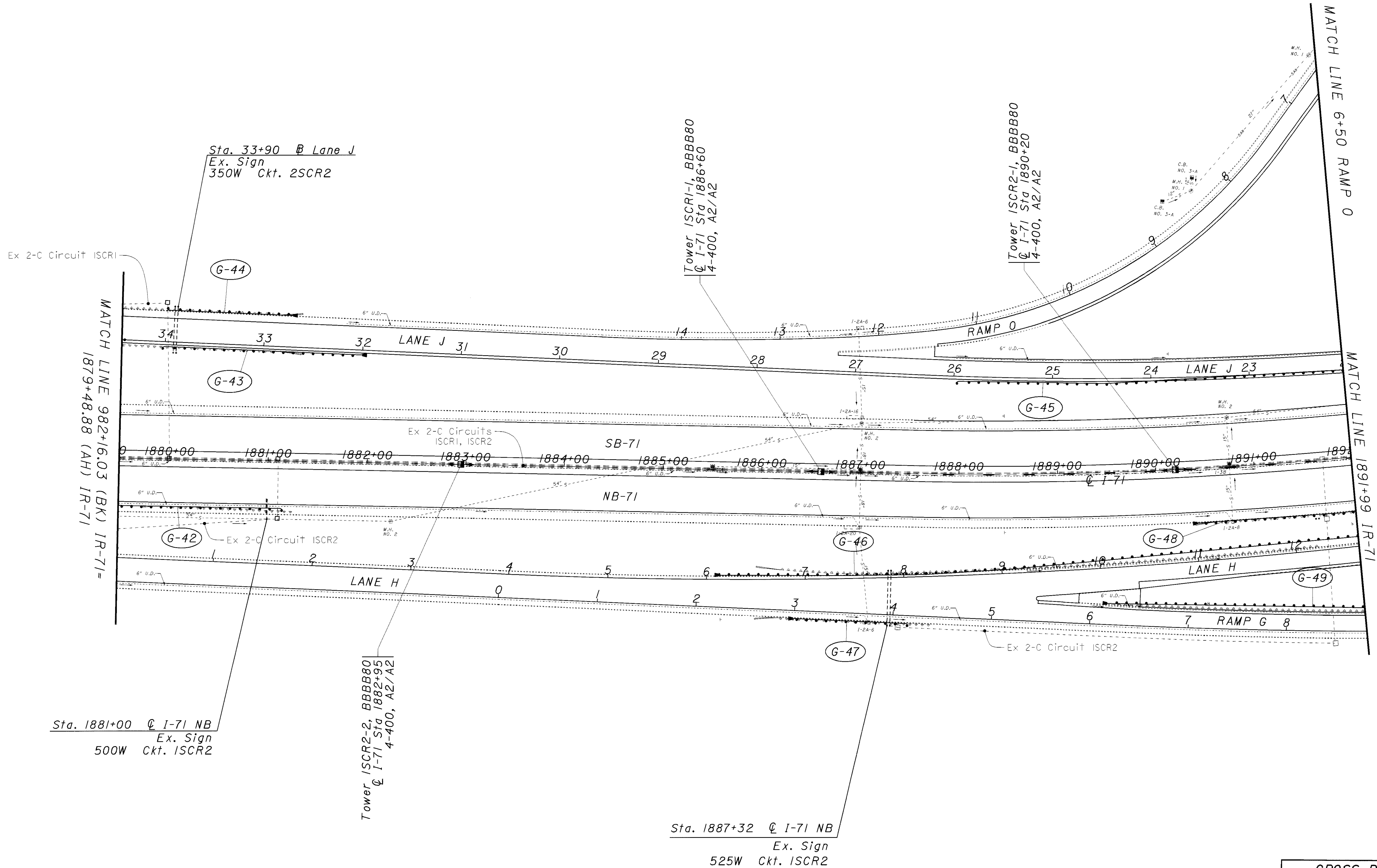
CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,33
GUARDRAIL	36
TRAFFIC CONTROL PLANS	93,94
LIGHTING LEGEND	117



CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,33
GUARDRAIL	36
TRAFFIC CONTROL PLANS	93,94
LIGHTING LEGEND	117

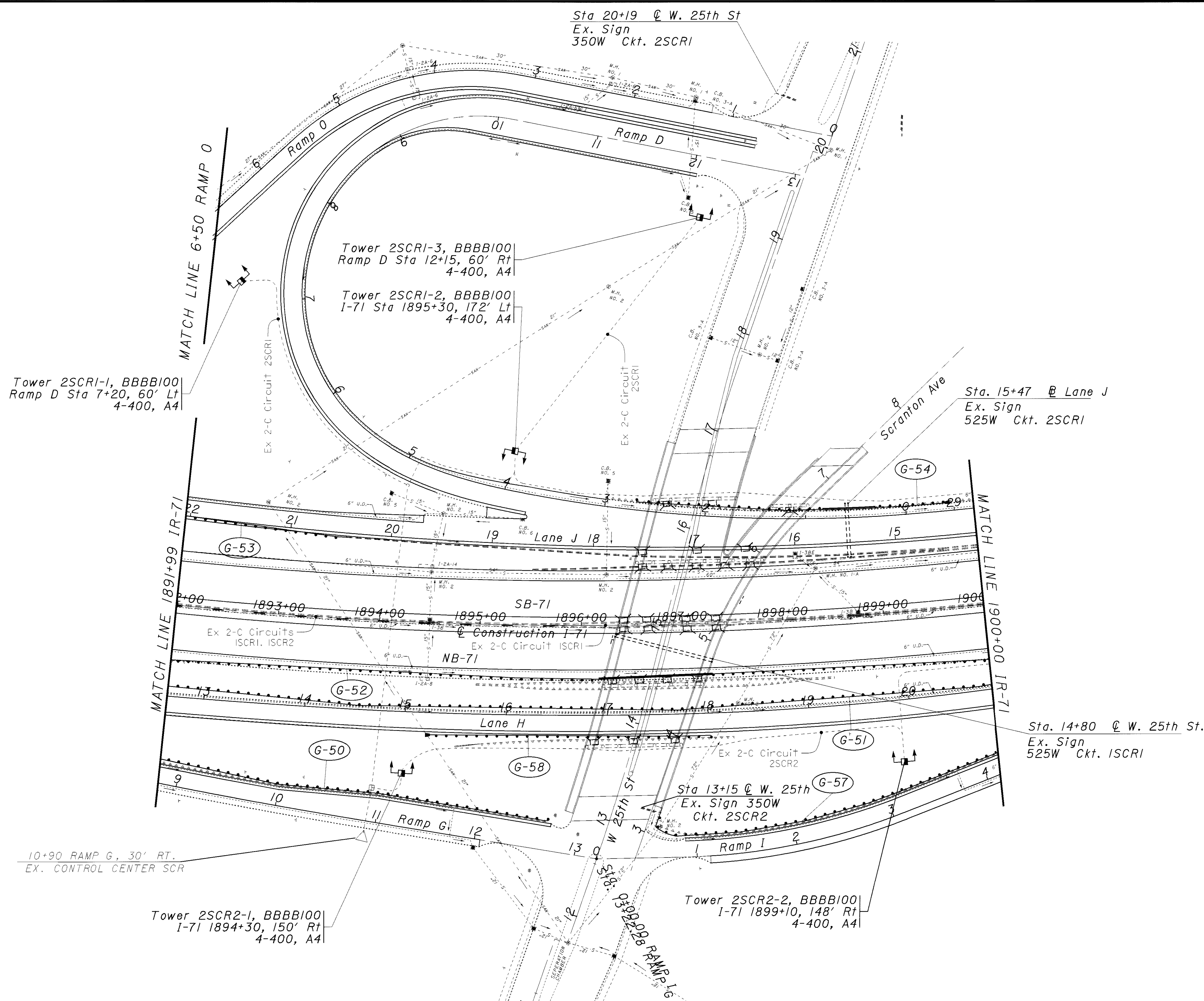

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CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,33,34
GUARDRAIL	36,37
TRAFFIC CONTROL PLANS	95,96
LIGHTING LEGEND	117

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PLAN SHEET

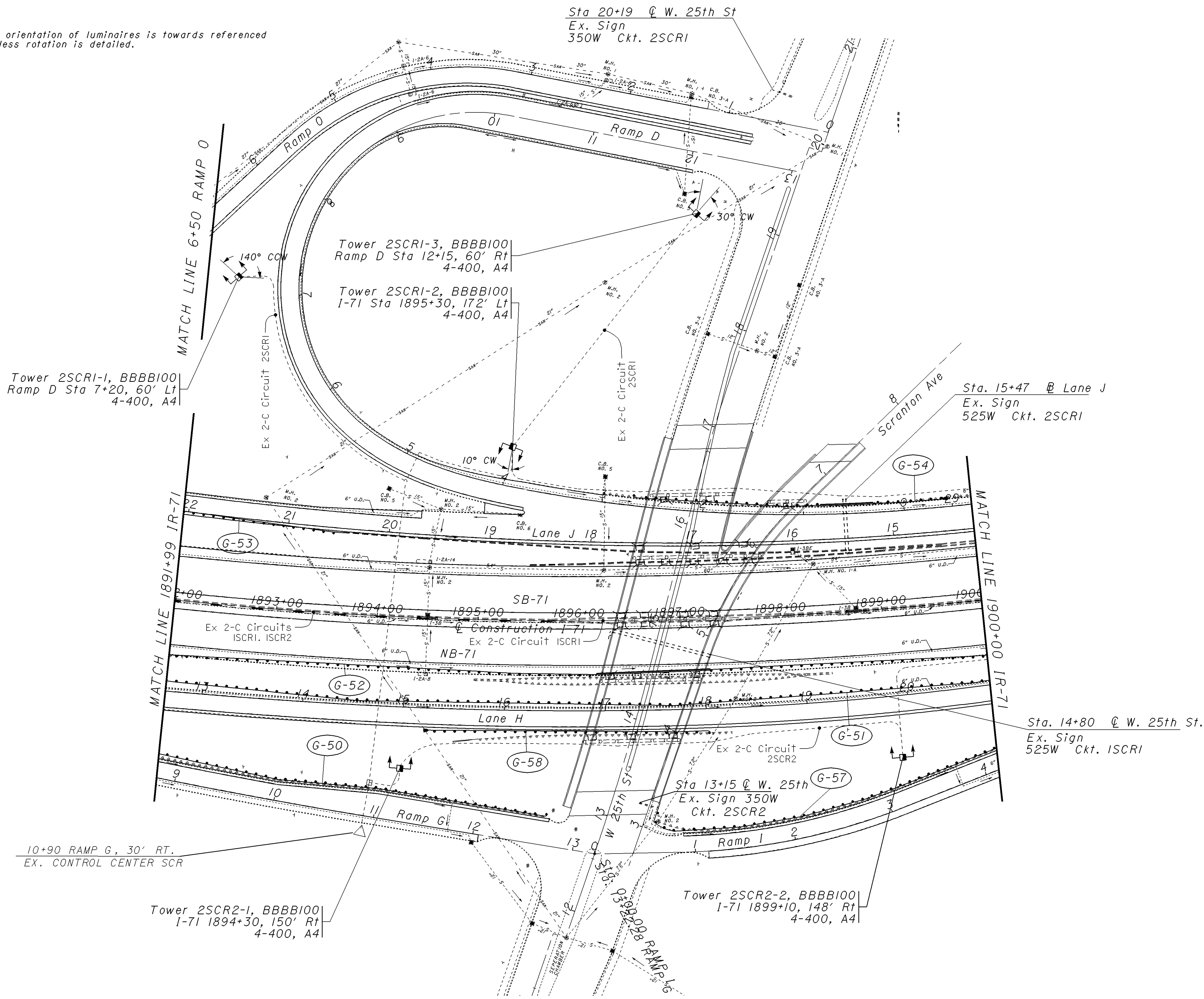
Sta 1891+99 to Sta 1900+00 I-71 NB

CUY-71-14.96

55
127

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,33,34
GUARDRAIL	37,29
TRAFFIC CONTROL PLANS	96,97
LIGHTING LEGEND	117

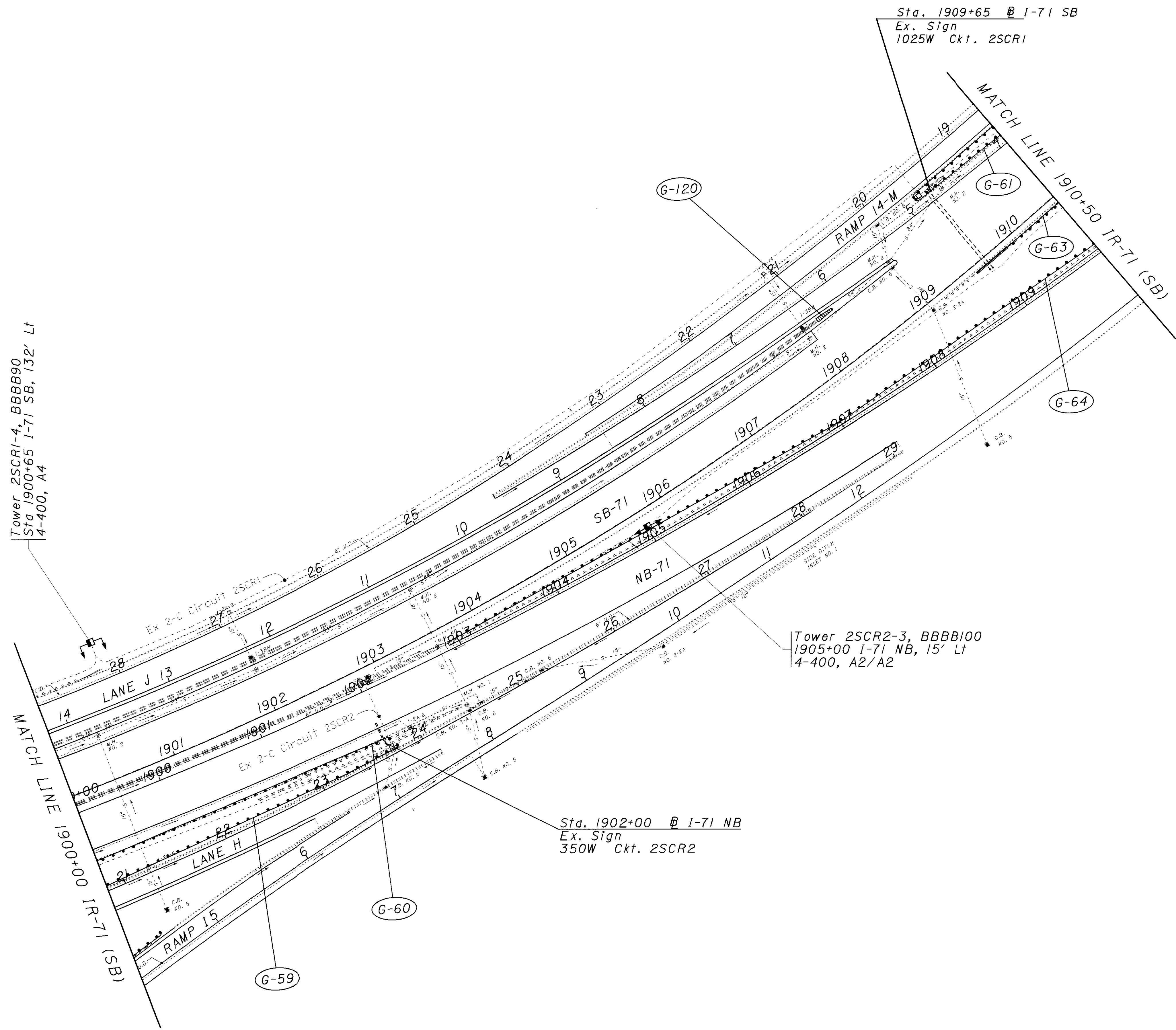
Primary orientation of luminaires is towards referenced line, unless rotation is detailed.



CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,33,34
GUARDRAIL	37,29
TRAFFIC CONTROL PLANS	96,97
LIGHTING LEGEND	117

PLAN SHEET
Sta 1891+99 to Sta 1900+00 I-71 NB

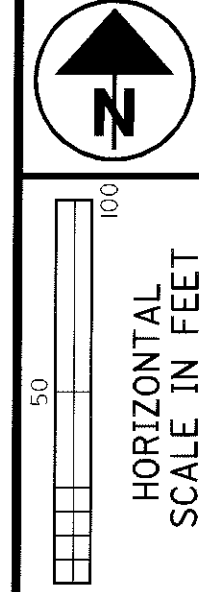
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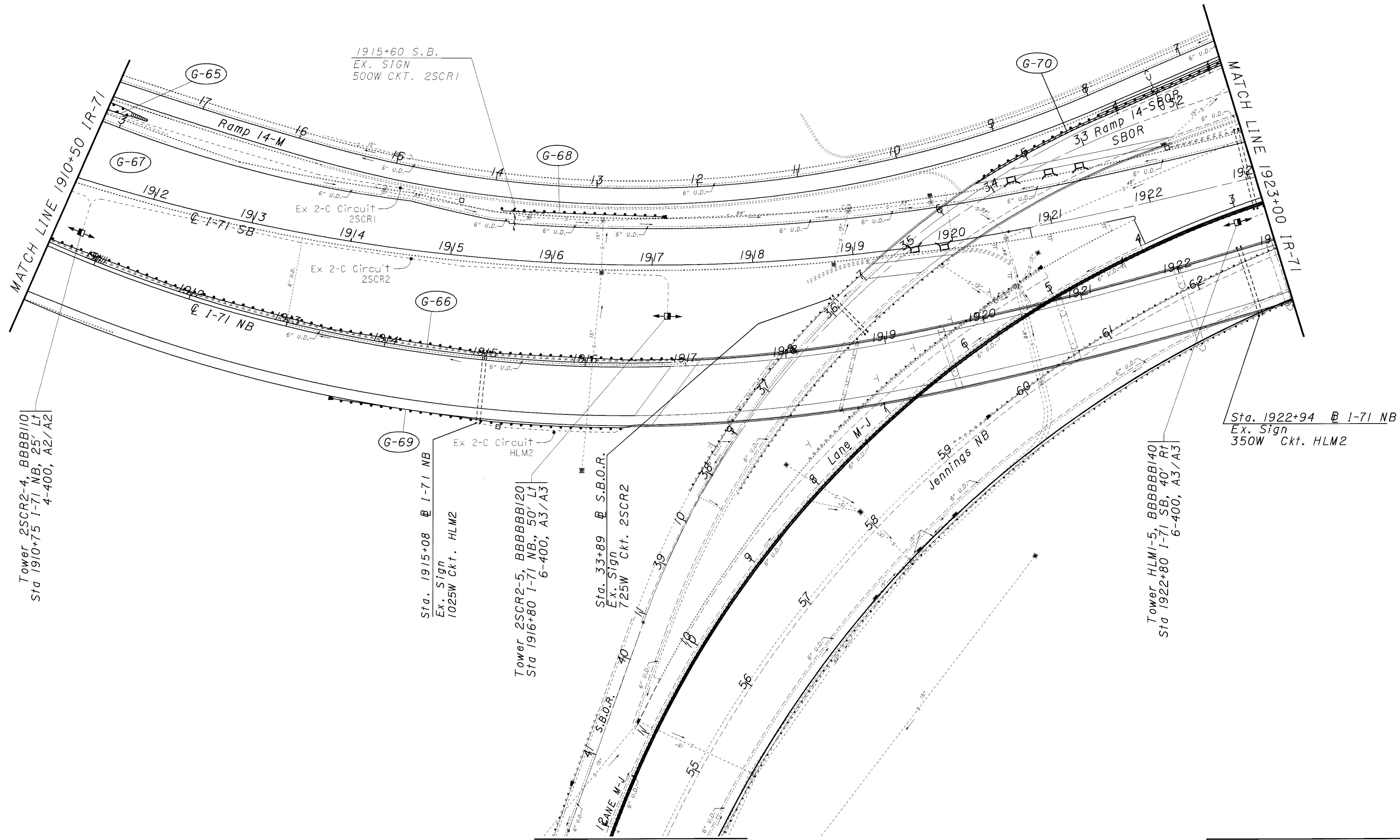
CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32, 33,
GUARDRAIL	34
TRAFFIC CONTROL PLANS	37
LIGHTING LEGEND	97
	117

PLAN SHEET
Sta 1900+00 to Sta 1910+50 I-71 NB

CUY-71-14.96



CALCULATED
CHECKED



Tower 2SCR2-4, BBBB110
Sta 1910+75 I-71 NB, 25' LT
4-400, A2/A2

1915+60 S.B.
EX. SIGN
500W CKT. 2SCR1

Sta. 1915+08 @ I-71 NB
Ex. Sign
1025W Ckt. HLM2

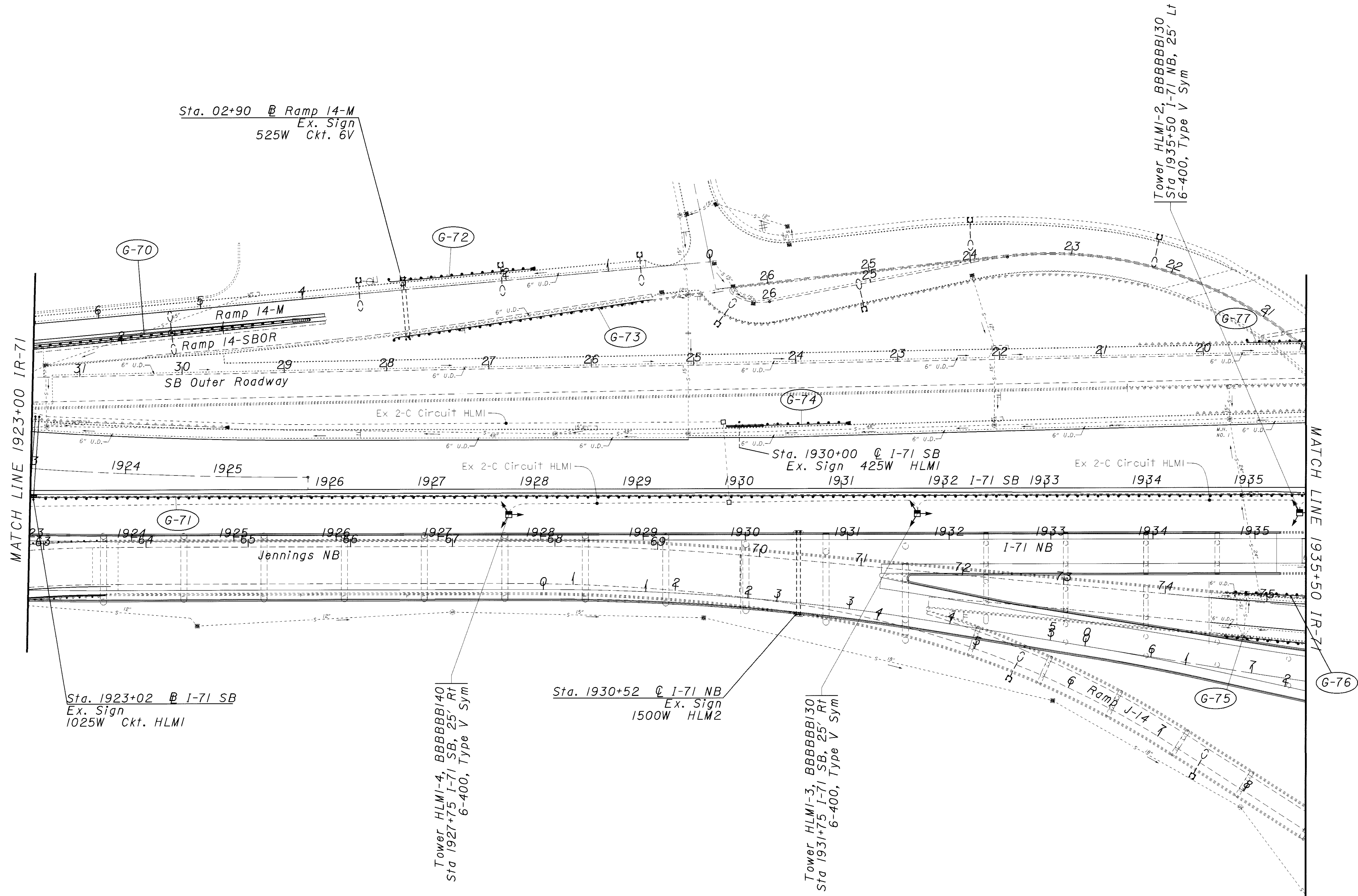
Tower 2SCR2-5, BBBB120
Sta 1916+80 I-71 NB, 50' LT
6-400, A3/A3

Sta. 33+89 @ S.B.O.R.
Ex. Sign
725W Ckt. 2SCR2

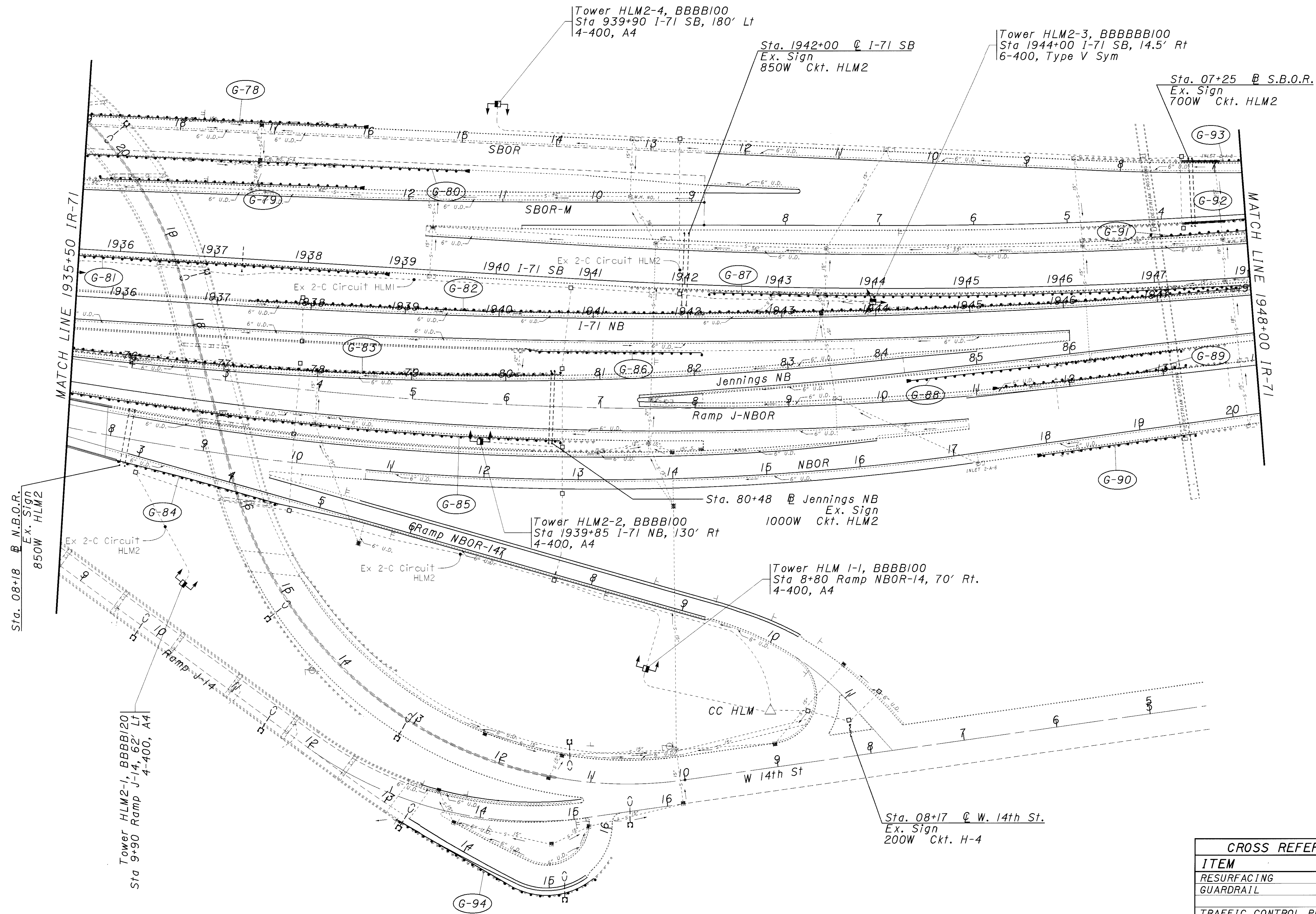
Tower HLM1-5, BBBB140
Sta 1922+80 I-71 SB, 40' RT
6-400, A3/A3

Sta. 1922+94 @ I-71 NB
Ex. Sign
350W Ckt. HLM2

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,34
GUARDRAIL	37
TRAFFIC CONTROL PLANS	97,98
LIGHTING LEGEND	117



CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,34
GUARDRAIL	37
TRAFFIC CONTROL PLANS	98,99
LIGHTING LEGEND	117



Sta. 08+18 @ N.B.O.R.
Ex. Sign
850W HLM2

Tower HLM2-1, BBBBI00
Sta 9+90 Ramp J-14, 62' Lt
4-400, A4

Tower HLM2-4, BBBBI00
Sta 939+90 I-71 SB, 180' Lt
4-400, A4

Sta. 1942+00 @ I-71 SB
Ex. Sign
850W Ckt. HLM2

Tower HLM2-3, BBBBI00
Sta 1944+00 I-71 SB, 14.5' Rt
6-400, Type V Sym

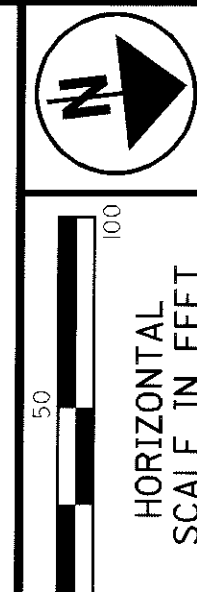
Sta. 07+25 @ S.B.O.R.
Ex. Sign
700W Ckt. HLM2

Tower HLM2-2, BBBBI00
Sta 1939+85 I-71 NB, 130' Rt
4-400, A4

Sta. 80+48 @ Jennings NB
Ex. Sign
1000W Ckt. HLM2

Tower HLM 1-1, BBBBI00
Sta 8+80 Ramp NBOR-14, 70' Rt.
4-400, A4

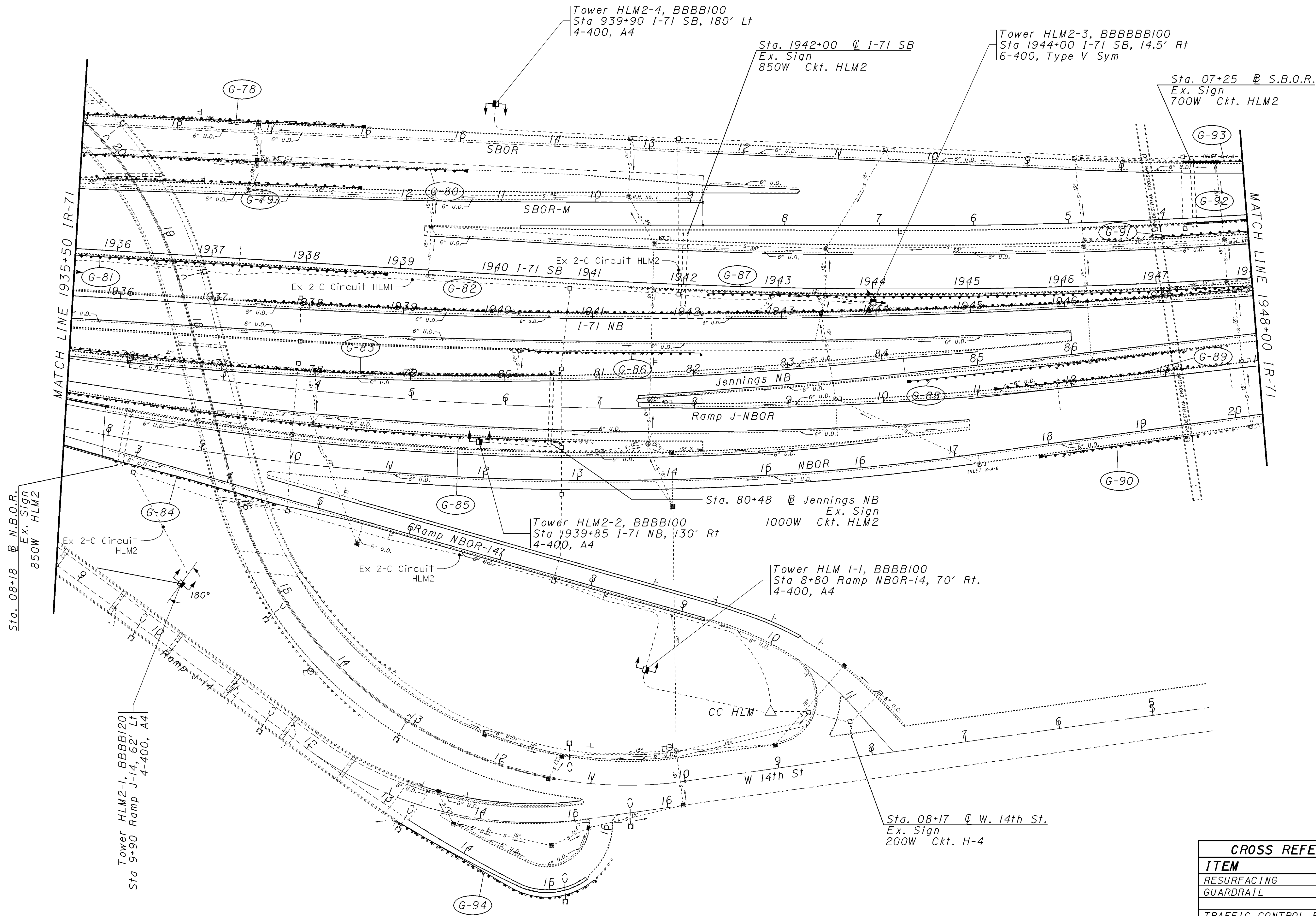
Sta. 08+17 @ W. 14th St.
Ex. Sign
200W Ckt. H-4



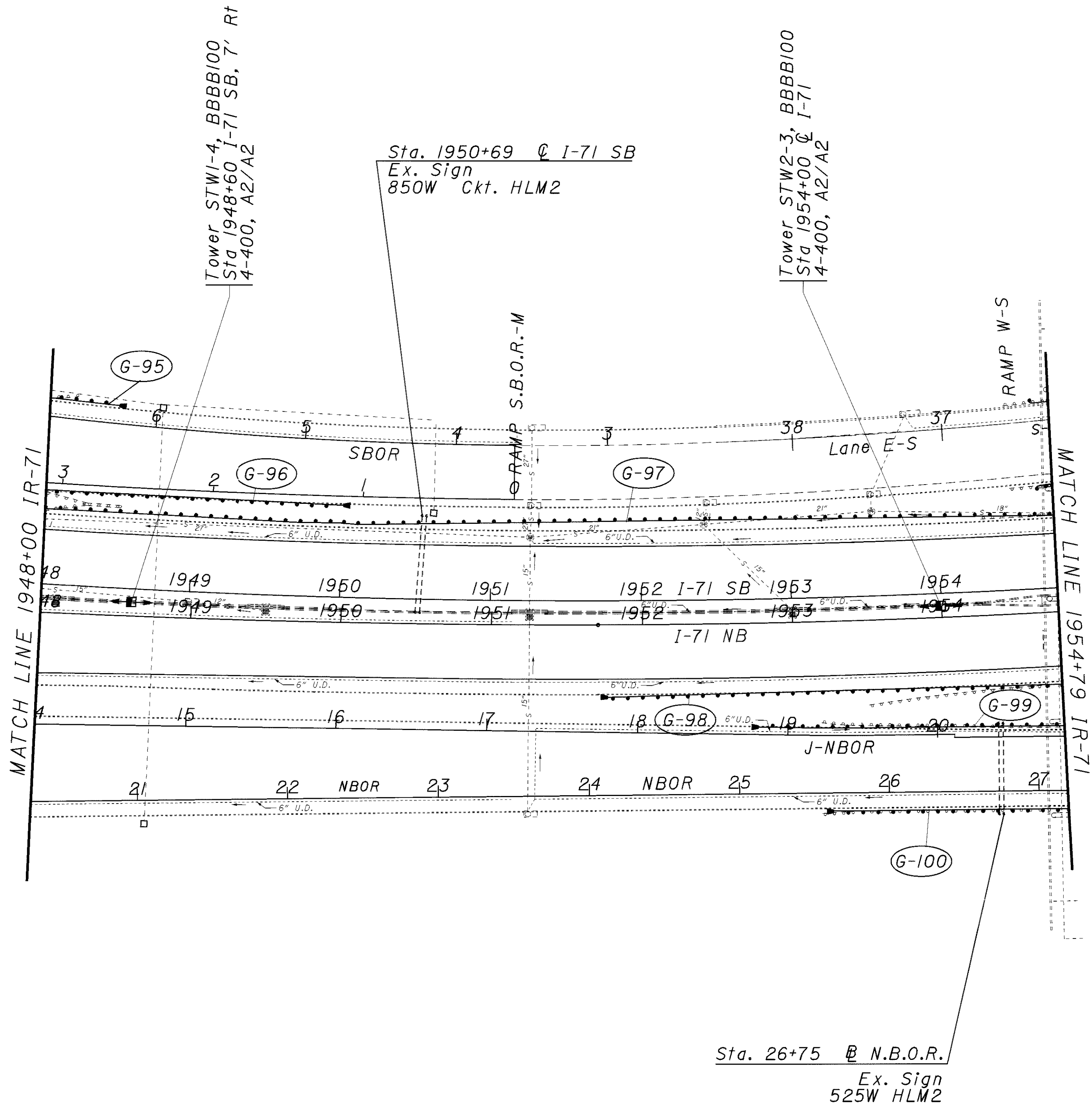
PLAN SHEET
Sta 1935+50 to Sta 1948+00 I-71 NB

CUY-71-14.96

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,34
GUARDRAIL	37
TRAFFIC CONTROL PLANS	99,100
LIGHTING LEGEND	117

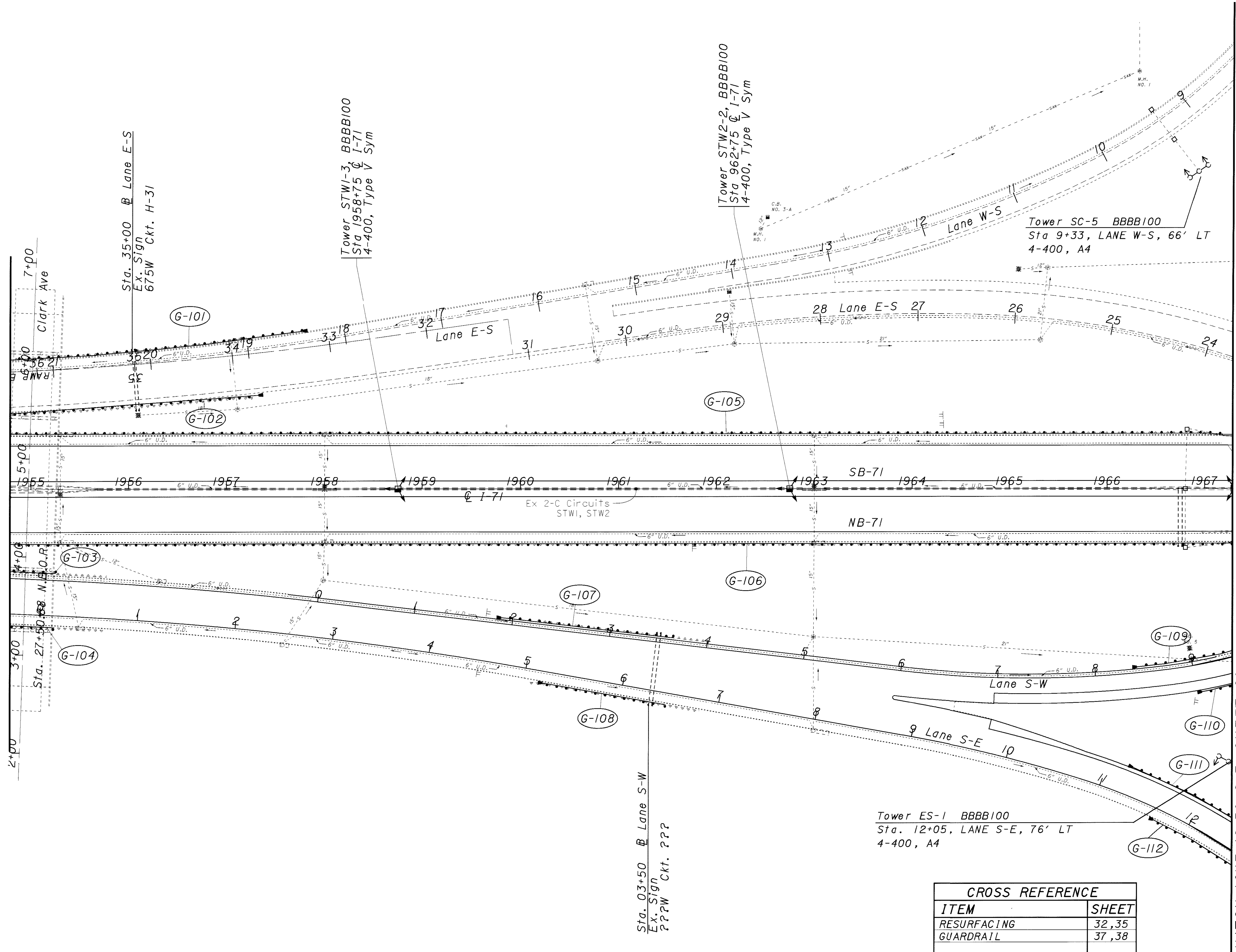


CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,34
GUARDRAIL	37
TRAFFIC CONTROL PLANS	99,100
LIGHTING LEGEND	117



CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,34
GUARDRAIL	37
TRAFFIC CONTROL PLANS	
LIGHTING LEGEND	100,101 117

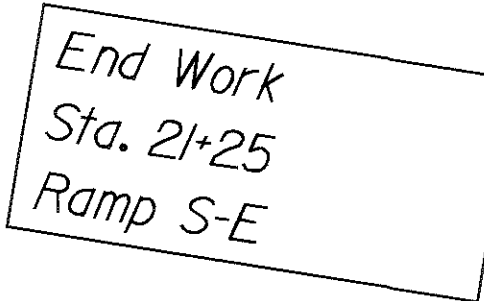
MATCH LINE 1954+79 IR-71

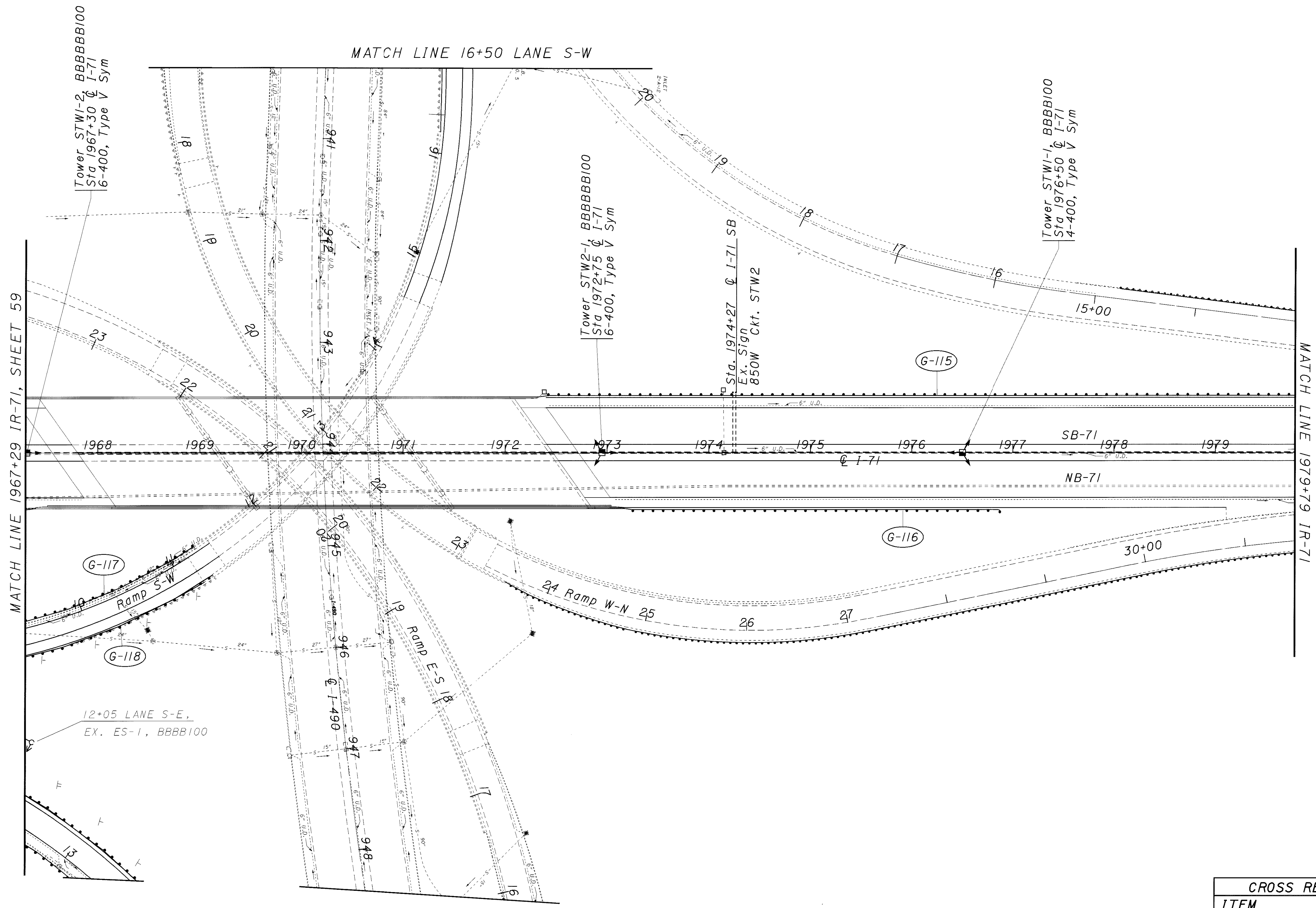


CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,35
GUARDRAIL	37,38
TRAFFIC CONTROL PLANS	101,102
LIGHTING LEGEND	117

MATCH LINE 1967+29 IR-71, SHEET 61

MATCH LINE 12+50 S-E, SHEET 60

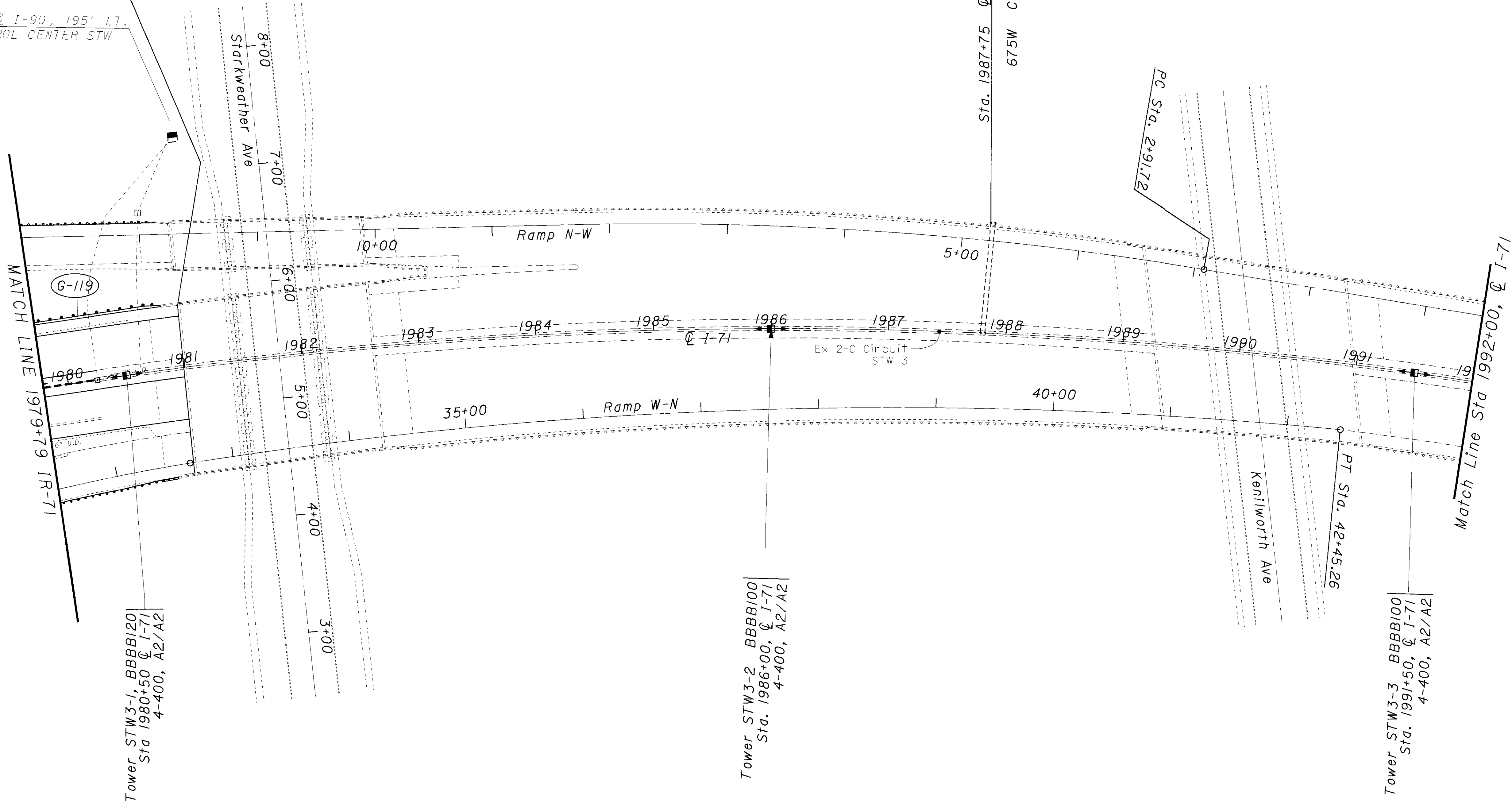

$$\frac{62}{127}$$



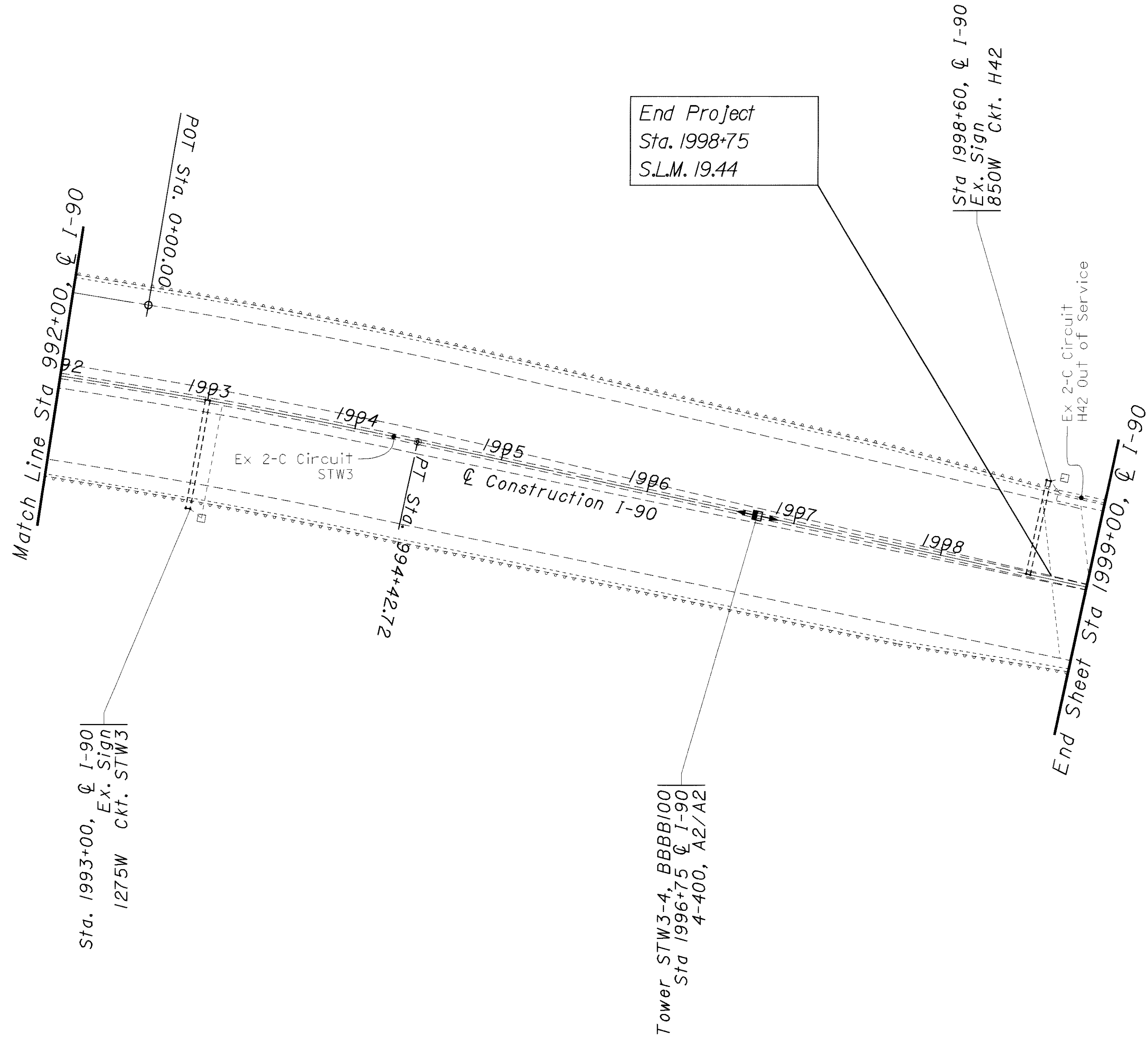
CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,35
GUARDRAIL	38
TRAFFIC CONTROL PLANS	102,104
LIGHTING LEGEND	117

End Resurfacing
Sta. 1980+97.79
S.L.M. 19.10

1981+10 @ I-90, 195' LT.
EX. CONTROL CENTER STW

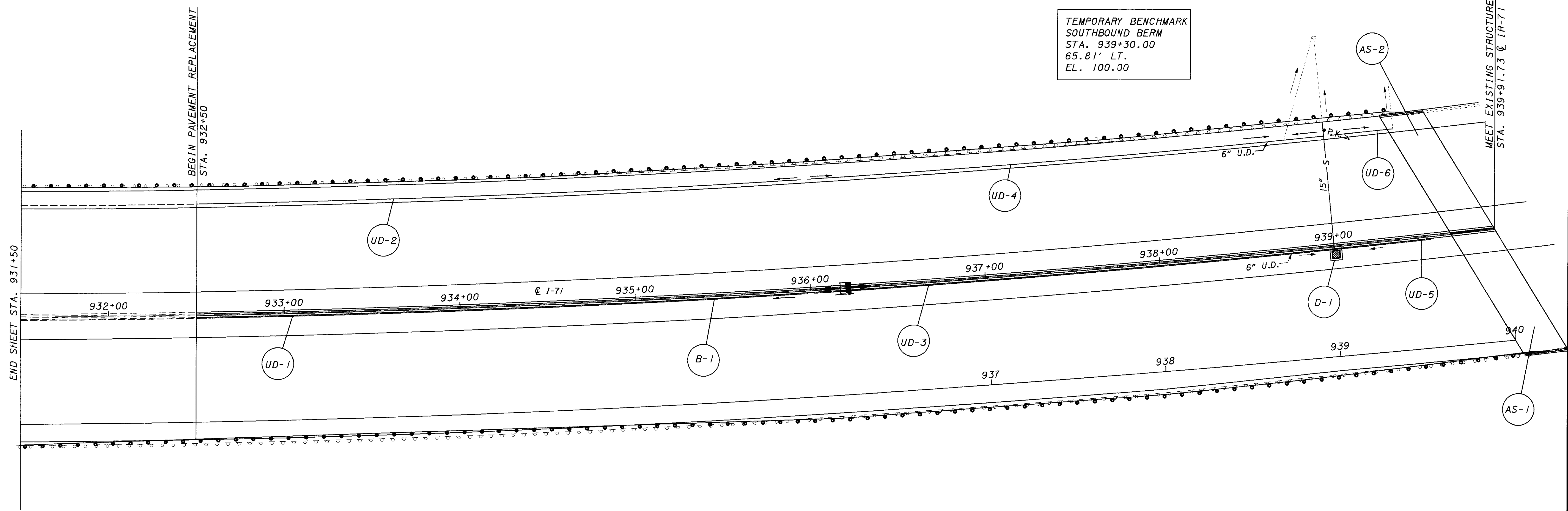
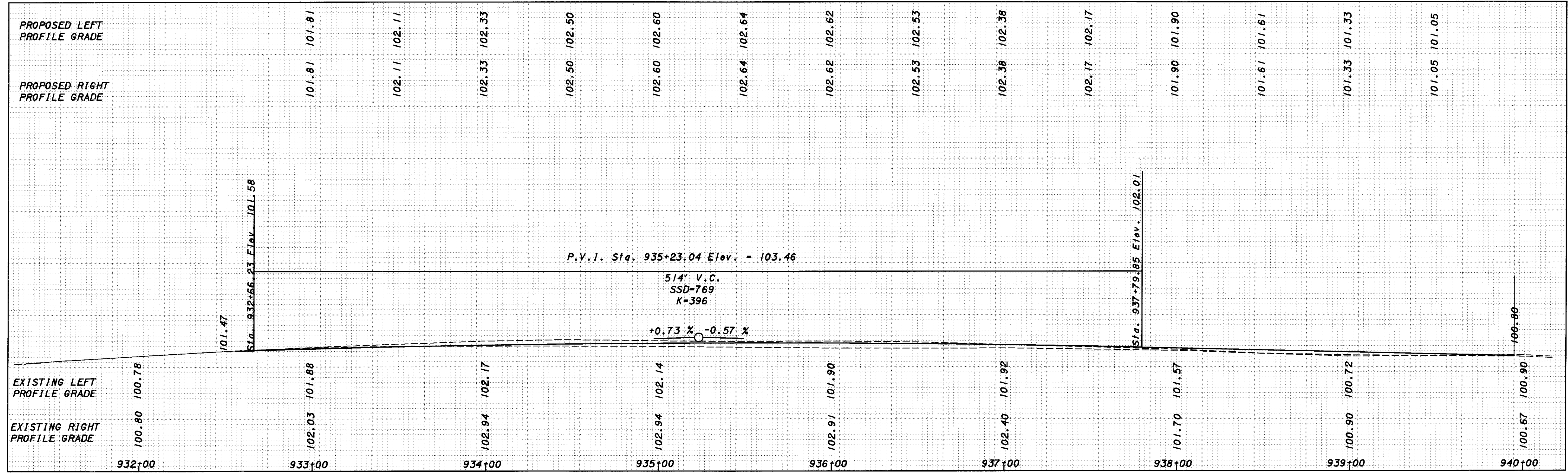


CROSS REFERENCE	
ITEM	SHEET
RESURFACING	32,35
GUARDRAIL	38
TRAFFIC CONTROL PLANS	102,103
LIGHTING LEGEND	117



CROSS REFERENCE	
ITEM	SHEET
TRAFFIC CONTROL PLANS	103
LIGHTING LEGEND	117

SUPERELEVATION TABLE												
LEFT SIDE					CENTERLINE CONTROL			RIGHT SIDE				
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION
100.18		-1.28	-0.027	48.00	101.46	932+50	101.46	48.00	0.018	0.87		102.33
100.46		-1.18	-0.025	48.00	101.64	932+75	101.64	48.00	0.018	0.87		102.51
100.74		-1.07	-0.022	48.00	101.81	933+00	101.81	48.00	0.018	0.87		102.68
101.00		-0.97	-0.020	48.00	101.97	933+20	101.97	48.00	0.018	0.86		102.83
101.24		-0.87	-0.018	48.00	102.11	933+50	102.11	48.00	0.018	0.86		102.97
101.37		-0.86	-0.018	48.00	102.23	933+75	102.23	48.00	0.018	0.86		103.09
101.47		-0.86	-0.018	48.00	102.33	934+00	102.33	48.00	0.018	0.87		103.20
101.56		-0.86	-0.018	48.00	102.42	934+25	102.42	48.00	0.018	0.86		103.28
101.64		-0.86	-0.018	48.00	102.50	934+50	102.50	48.00	0.018	0.86		103.36
101.70		-0.86	-0.018	48.00	102.56	934+75	102.56	48.00	0.018	0.86		103.42
101.74		-0.86	-0.018	48.00	102.60	935+00	102.60	48.00	0.018	0.86		103.46
101.77		-0.86	-0.018	48.00	102.63	935+25	102.63	48.00	0.018	0.86		103.49
101.78		-0.86	-0.018	48.00	102.64	935+50	102.64	48.00	0.018	0.86		103.50
101.78		-0.86	-0.018	48.00	102.64	935+75	102.64	48.00	0.018	0.86		103.50
101.75		-0.87	-0.018	48.00	102.62	936+00	102.62	48.00	0.018	0.86		103.48
101.71		-0.87	-0.018	48.00	102.58	936+25	102.58	48.00	0.018	0.86		103.44
101.67		-0.86	-0.018	48.00	102.53	936+50	102.53	48.00	0.018	0.86		103.39
101.60		-0.86	-0.018	48.00	102.46	936+75	102.46	48.00	0.018	0.86		103.32
101.52		-0.86	-0.018	48.00	102.38	937+00	102.38	48.30	0.018	0.87		103.25
101.42		-0.86	-0.018	48.00	102.28	937+25	102.28	48.60	0.018	0.87		103.15
101.30		-0.87	-0.018	48.00	102.17	937+50	102.17	48.90	0.018	0.88		103.05
101.17		-0.87	-0.018	48.00	102.04	937+75	102.04	49.20	0.018	0.89		102.93
101.03		-0.87	-0.018	48.00	101.90	938+00	101.90	49.50	0.018	0.89		102.79
100.89		-0.86	-0.018	48.00	101.75	938+25	101.75	49.80	0.018	0.90		102.65
100.75		-0.86	-0.018	48.00	101.61	938+50	101.61	50.10	0.018	0.90		102.51
100.61		-0.86	-0.018	48.00	101.47	938+75	101.47	50.40	0.018	0.91		102.38
100.47		-0.86	-0.018	48.00	101.33	939+00	101.33	50.70	0.018	0.91		102.24
100.33		-0.86	-0.018	48.00	101.19	939+25	101.19	51.00	0.018	0.92		102.11
100.18		-0.87	-0.018	48.00	101.05	939+50	101.05	51.30	0.018	0.92		101.97
100.05		-0.86	-0.018	48.00	100.91	939+75	100.91	51.60	0.018	0.93		101.84
99.94		-0.86	-0.018	48.00	100.80	939+92	100.80	51.80	0.018	0.93		101.73



TEMPORARY BENCHMARK
SOUTHBOUND BERM
STA. 939+30.00
65.81' LT.
EL. 100.00

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SEEDING	
END WIDTH	SO. YDS.

110

100

90

80

70

110

100

90

80

70

110

100

90

80

100

50

0

50

100

110

100

90

80

70

110

100

90

80

70

110

100

90

80

END AREA		VOLUME	
CUT	FILL	CUT	FILL

742 32

1372 37

740 8

1370 35

741 8

1368 35

CALCULATED	CHECKED
XXX	XXX

CROSS SECTION SHEET
IR-7
STA. 932+50 TO STA. 933+50

CUYAHOGA COUNTY
CUY-7 I-14.96

68
127

2:1

8:1

2:1

8:1

2:1

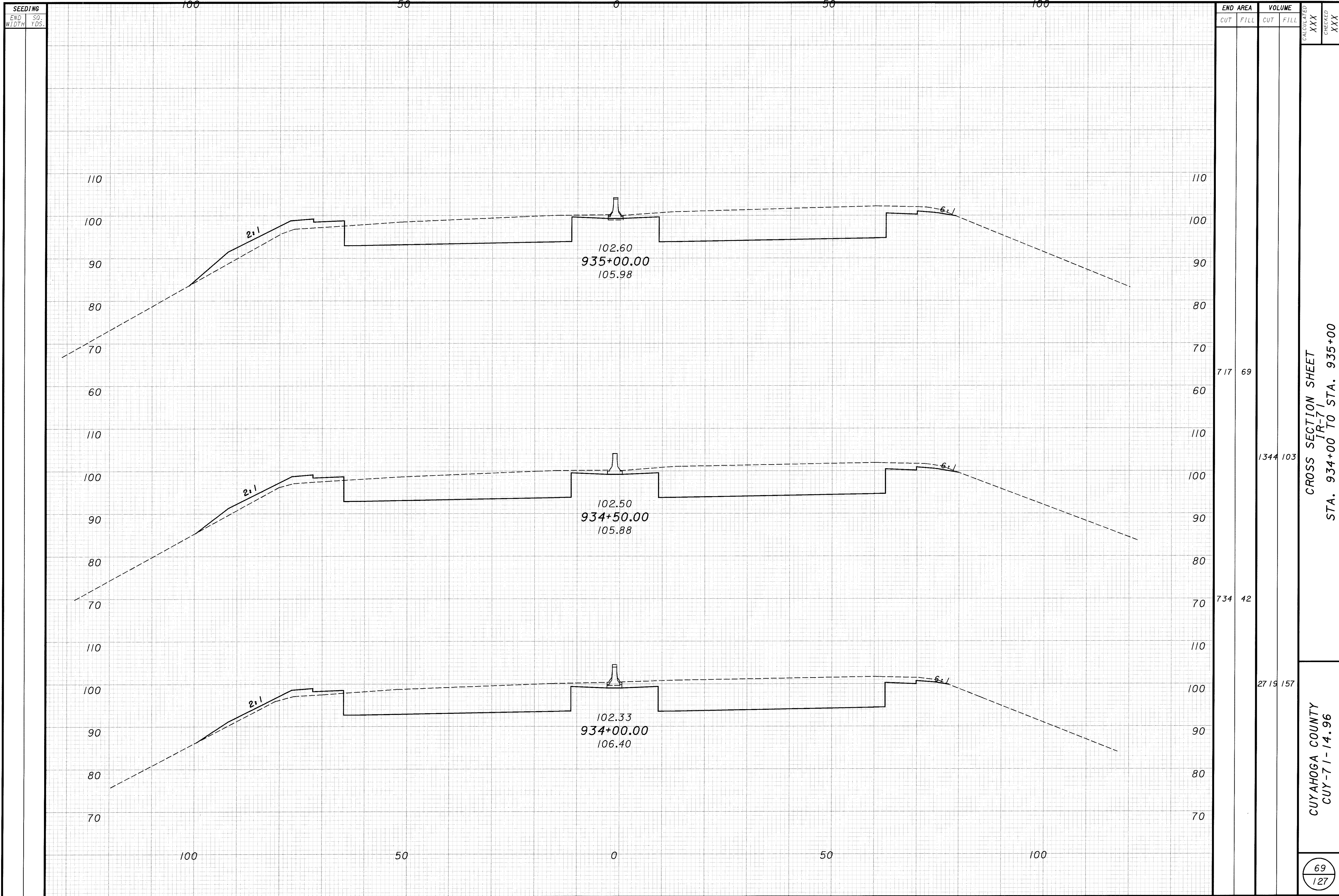
2:1

102.11
933+50.00
106.30

101.81
933+00.00
105.45

101.46
932+50.00
100.57

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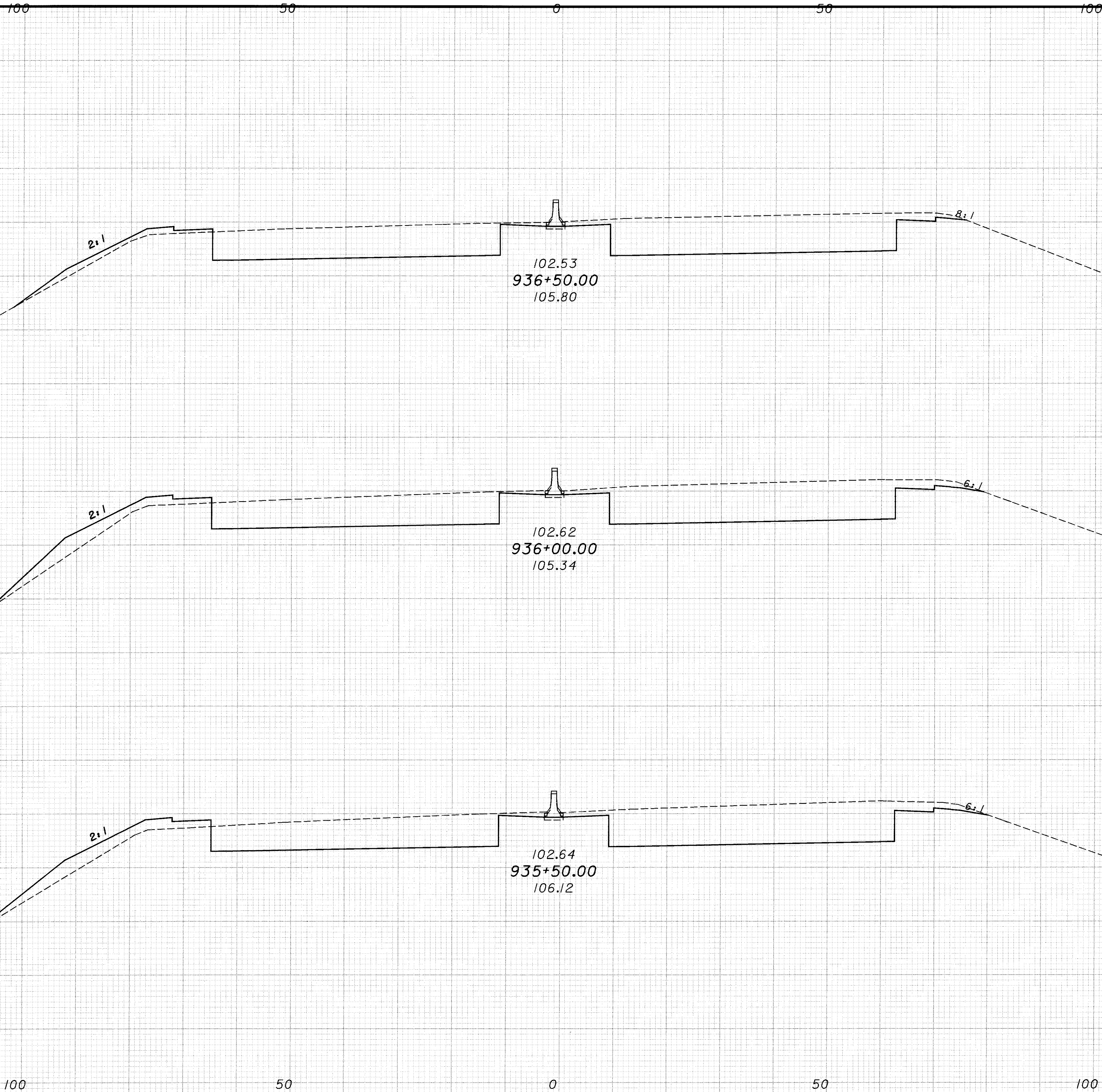
CROSS SECTION SHEET
IR-71
STA. 934+00 TO STA. 935+00

CUYAHOGA COUNTY
CUI-71-14.96

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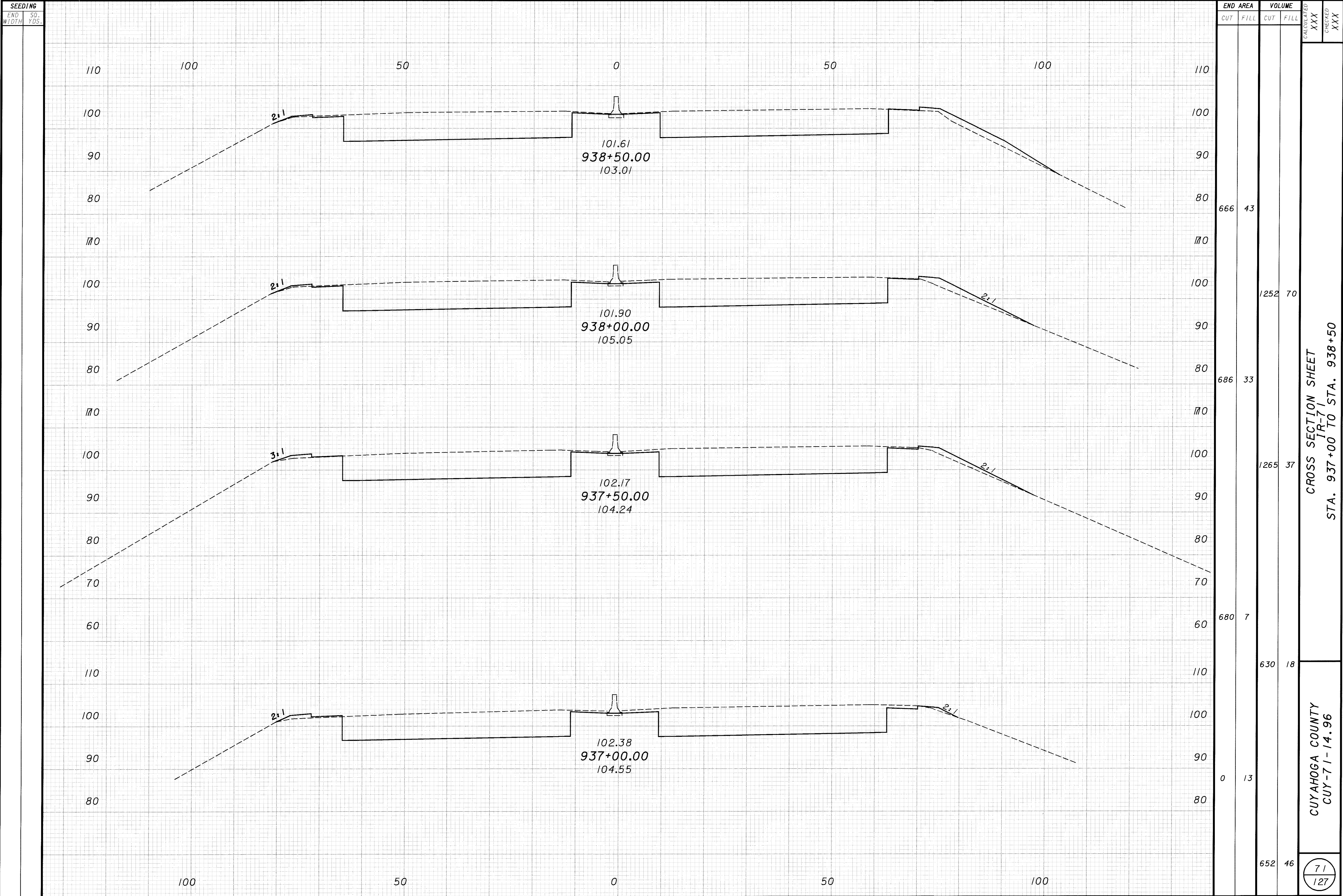
SEEDING	
END WIDTH	SQ. YDS.

110
100
90
80
70
110
100
90
80
70
60
110
100
90
80
70
60



END AREA		VOLUME		CALCULATED XXX	CHECKED XXX
CUT	FILL	CUT	FILL		
705	37	1306	108	CROSS SECTION SHEET IR-7 I STA. 935+50 TO STA. 936+50	
706	80	1314	152		
713	84	1325	142		
				CUYAHOGA COUNTY CUI-7 I-14.96	<div>70 127</div>

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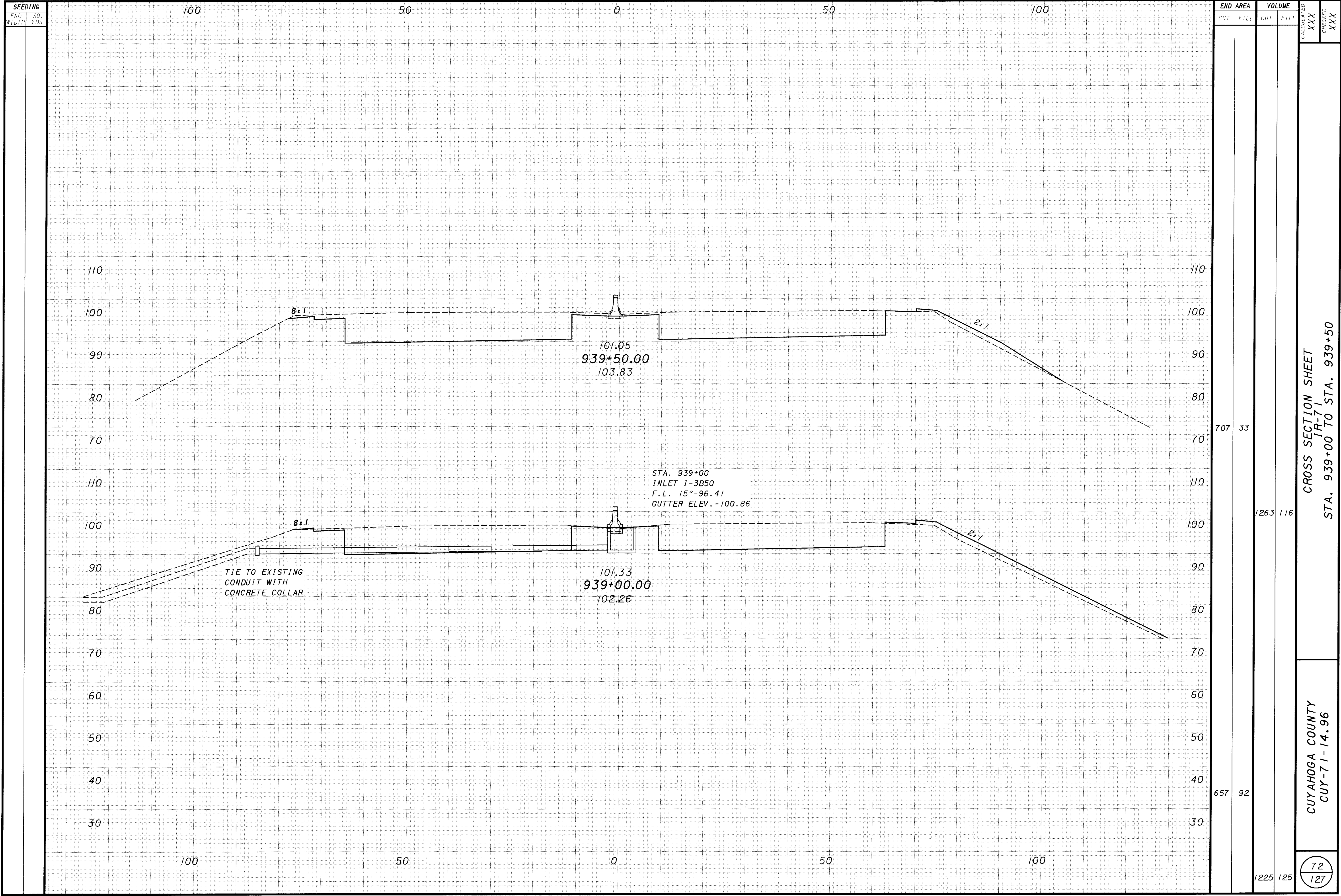


CROSS SECTION SHEET
IR-71
STA. 937+00 TO STA. 938+50

CUYAHOGA COUNTY
CUY-71-14.96

71
127

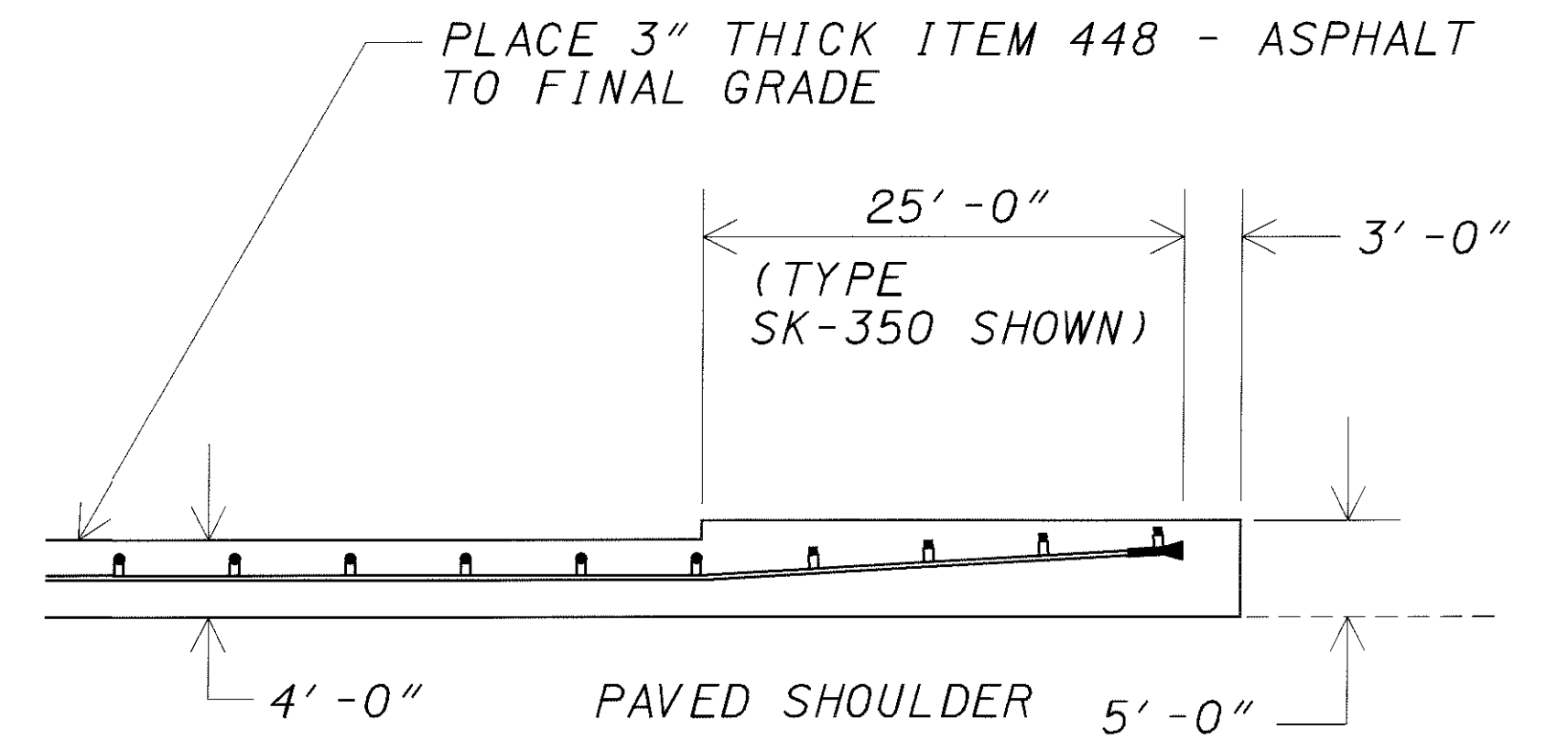
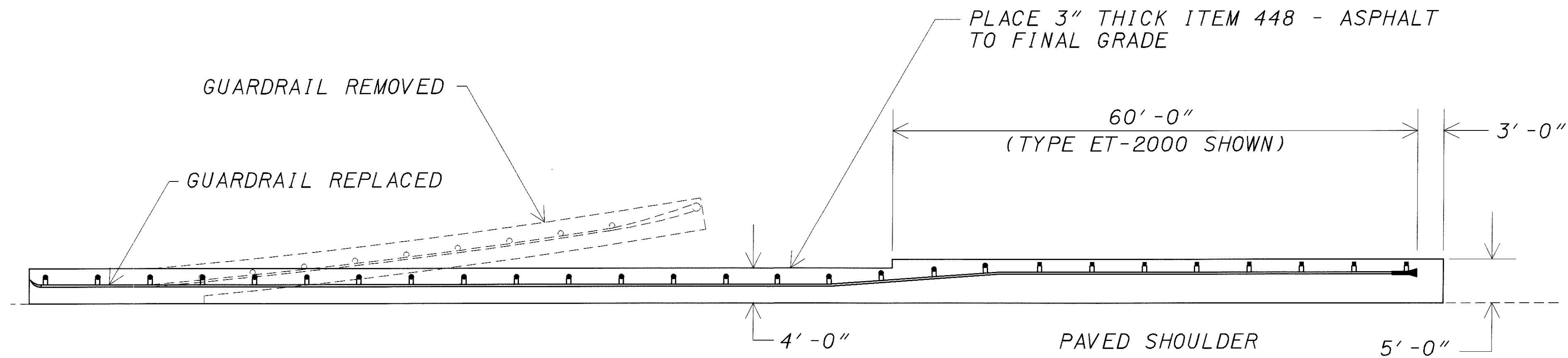
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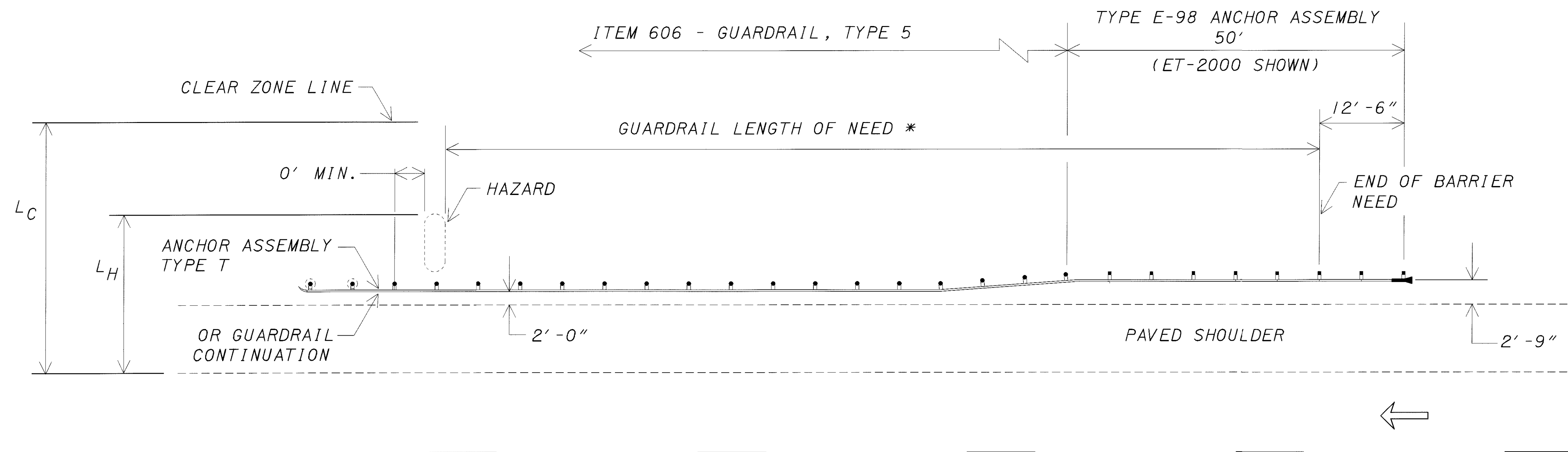
REFERENCE NUMBER	STATION		202	202	202	203	203	305	305	408	SPECIAL	SPECIAL	SPECIAL	622	877	203	604	603	605	202
			INLET REMOVED	PAVEMENT REMOVED	PIPE REMOVED, 24" AND UNDER	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	EMBANKMENT, AS PER PLAN	AGGREGATE BASE, AS PER PLAN	10" CONCRETE BASE, AS PER PLAN	BITUMINOUS PRIME COAT	GEOTEXTILE FABRIC, 712.09, TYPE D	ENGINEERED FILL, CLASS II	ENGINEERED FILL, CLASS IV	CONCRETE BARRIER, TYPE B-50, AS PER PLAN	SEEDING AND MULCHING	SUBGRADE COMPACTION	INLET I-3B50	15" CONDUIT	6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP	CONCRETE BARRIER REMOVED
	FROM	TO	EACH	SQ. YD.	LIN. FT.	CU. YD.	CU. YD.	CU. YD.	SQ. YD.	GAL.	SQ. YD.	CU. YD.	CU. YD.	LIN. FT.	SQ. YD.	SQ. YD.	EACH	LIN. FT.	LIN. FT.	LIN. FT.
P-1	932+50	939+91.73		11460		18405	1181	1910	11460	714	11666	11666	7777		1070	11460				742
B-1														742						
D-1			1		85												1	85		
AS-1																				
AS-2																				
UD-1																			348	
UD-2																			344	
UD-3																			298	
UD-4																			296	
UD-5																			55	
UD-6																			36	
	TOTALS		1	11460	85	15222	1181	1910	11460	714	11666	11666	7777	742	1070	11460	1	85	1379	742



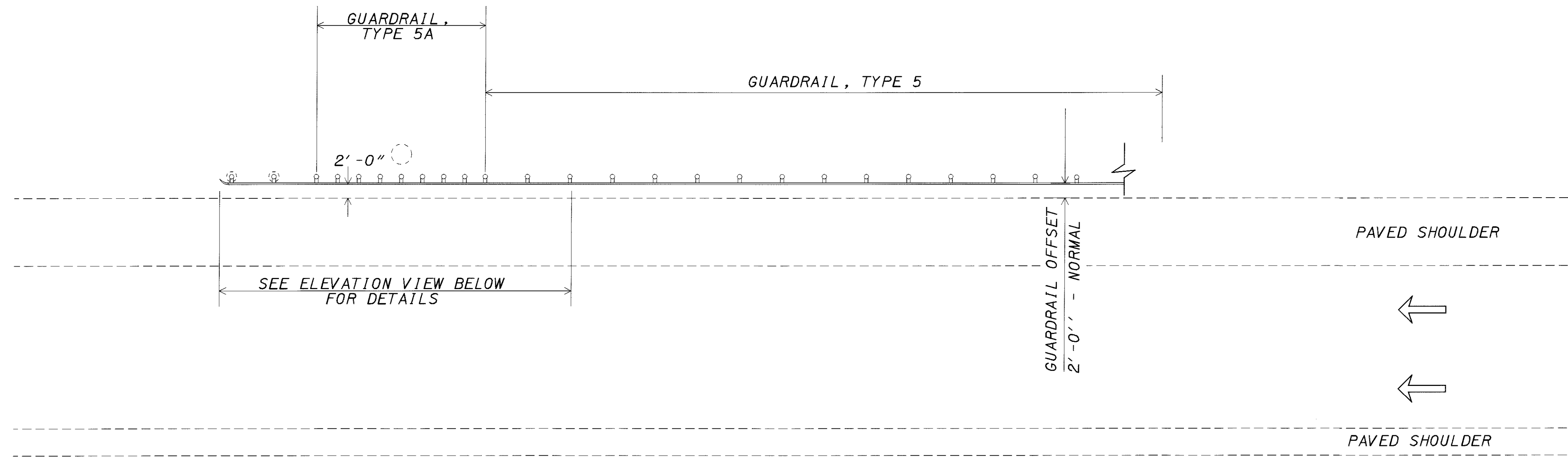
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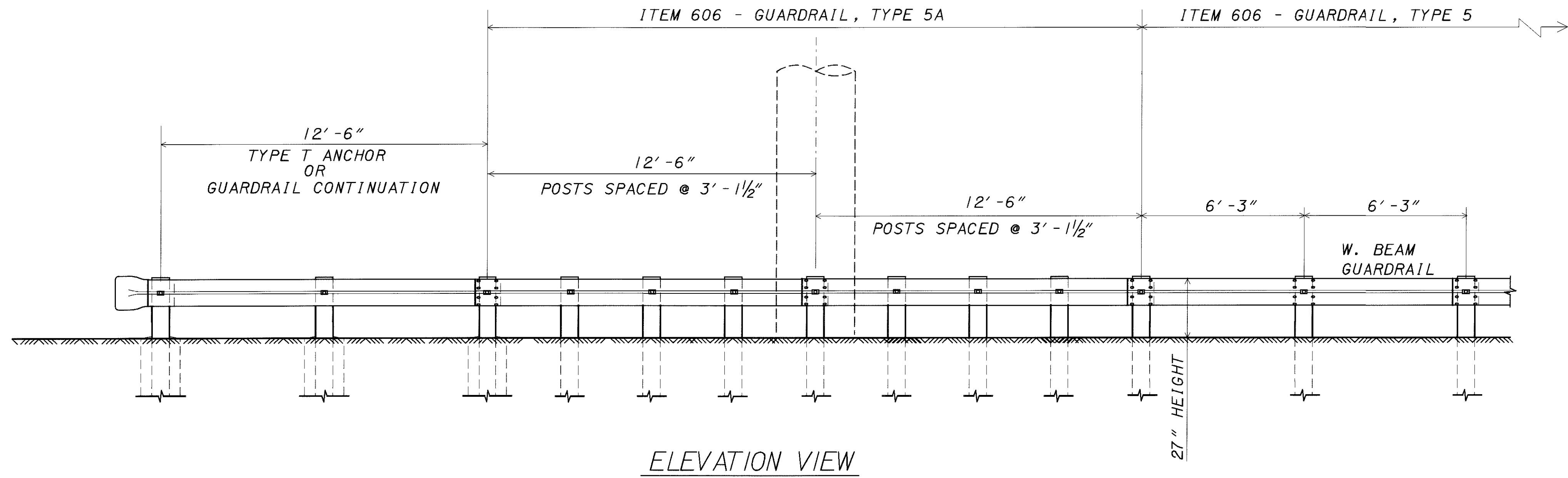
ITEM 448 FOR EROSION CONTROL WITH TYPE E-98 ANCHOR ASSEMBLY



TYPICAL GUARDRAIL PROTECTION OF HAZARDS

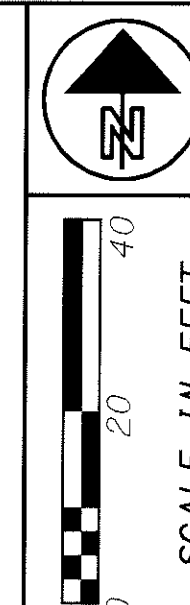


TYPE 5A GUARDRAIL PROTECTION FOR OVERHEAD SIGN SUPPORTS
 REQUIRED WHEN FACE OF HAZARD IS BETWEEN 5'-6" AND 3'-6" OF FACE OF GUARDRAIL



ELEVATION VIEW

FEATHER DETAILS

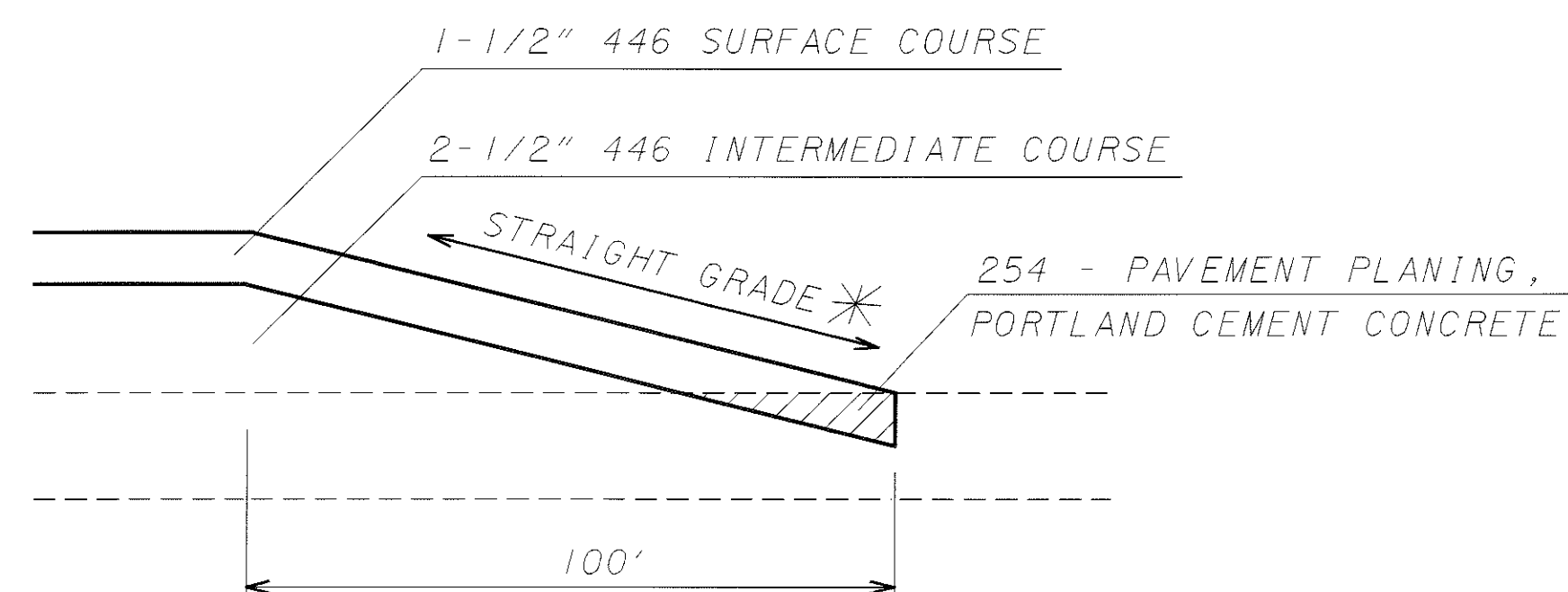


CALCULATED
KAS
CHECKED
LDH

FEATHER DETAILS

CUYAHOGA COUNTY
CUY-71-14.96

76
127



4" OVERLAY BUTT JOINT MEETING PAVEMENT WITH NO OVERLAY

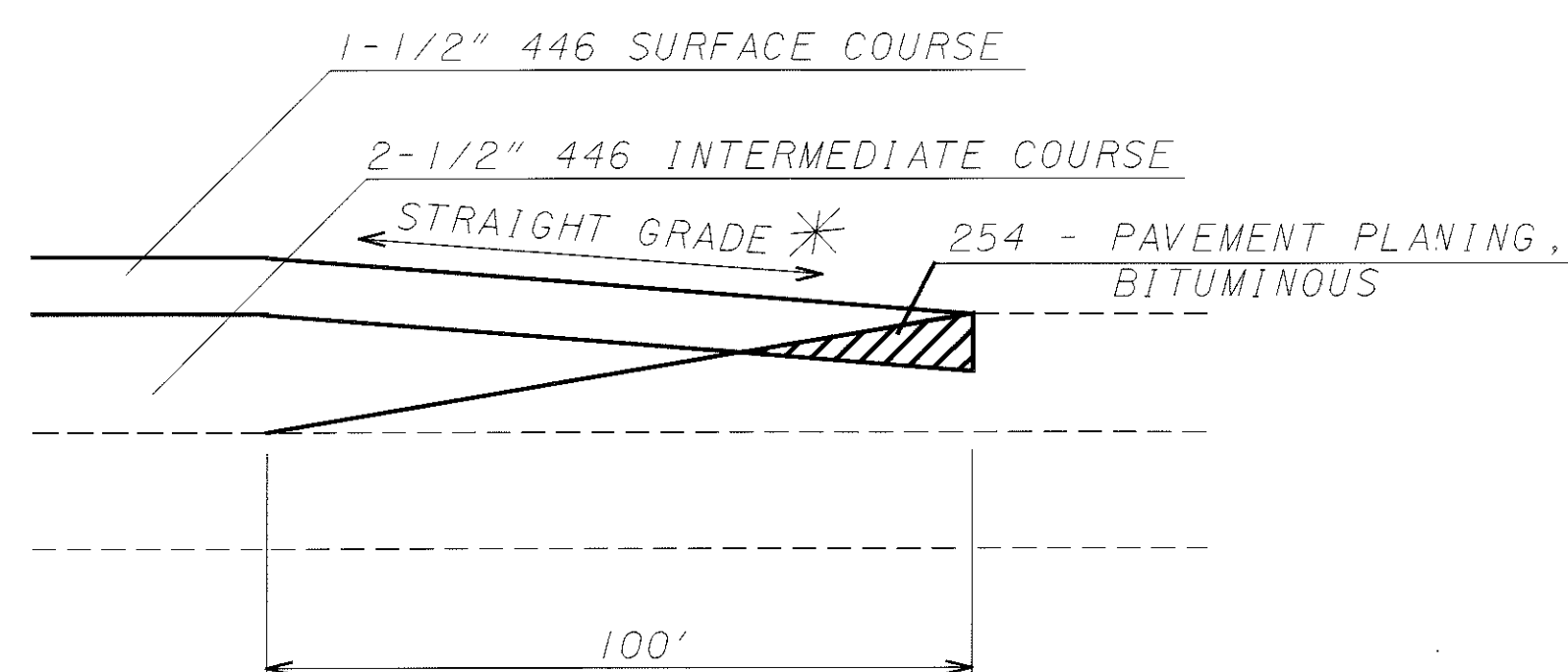
*- STRAIGHT GRADE - THE ASPHALT TRANSITIONS SHALL BE CONSIDERED UNACCEPTABLE IF THE FINAL GRADE VARIES FROM THE DESIRED STRAIGHT GRADE BY GREATER THAN 3/8 INCHES ANYWHERE THROUGHOUT THE LENGTH OF THE TRANSITION. THIS TOLERANCE IS REDUCED TO 1/4 INCH FOR THE FIRST 5 FEET ADJACENT TO AN EXPANSION JOINT.

PAYMENT WILL BE HELD FOR 1 C.Y. OF ASPHALT PER FOOT OF PAVING WIDTH AT EACH TRANSITION LOCATION UNTIL THE TRANSITION IS SHOWN TO BE ACCEPTABLE. THE CONTRACTOR IS TO PROVIDE THE NECESSARY SURVEY WORK TO SHOW THAT THESE STRAIGHT GRADES ARE MET ALONG EACH EDGE LINE AND LANE LINE.

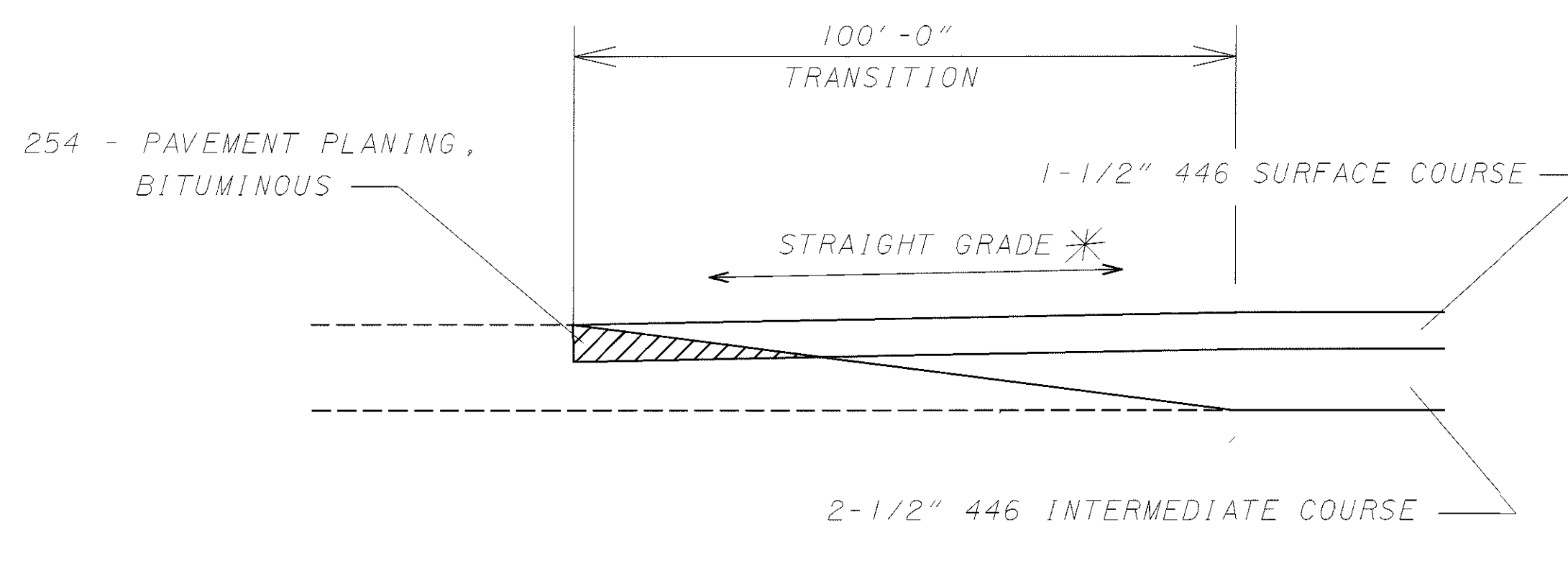
ALL UNACCEPTABLE ASPHALT TRANSITIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE. THE REPAIR METHOD SHALL BE AS FOLLOWS:

- DETERMINE FINAL GRADE LINE BY EXTENDING A STRAIGHT LINE FROM THE TOP OF THE BRIDGE END DAM JOINT TO A POINT ON THE TOP OF RESURFACING. (SEE DETAILS AT LEFT FOR DISTANCE.)
- REMOVE ASPHALT CONCRETE EXACTLY 1" BELOW THE FINAL GRADE.
- PLACE ITEM 407 - TACK COAT AND ITEM 446 - ASPHALT CONCRETE, TO DESIRED GRADE.
- SURVEY TRANSITION TO VERIFY THAT THE REPAIR IS WITHIN THE ALLOWABLE TOLERANCE.

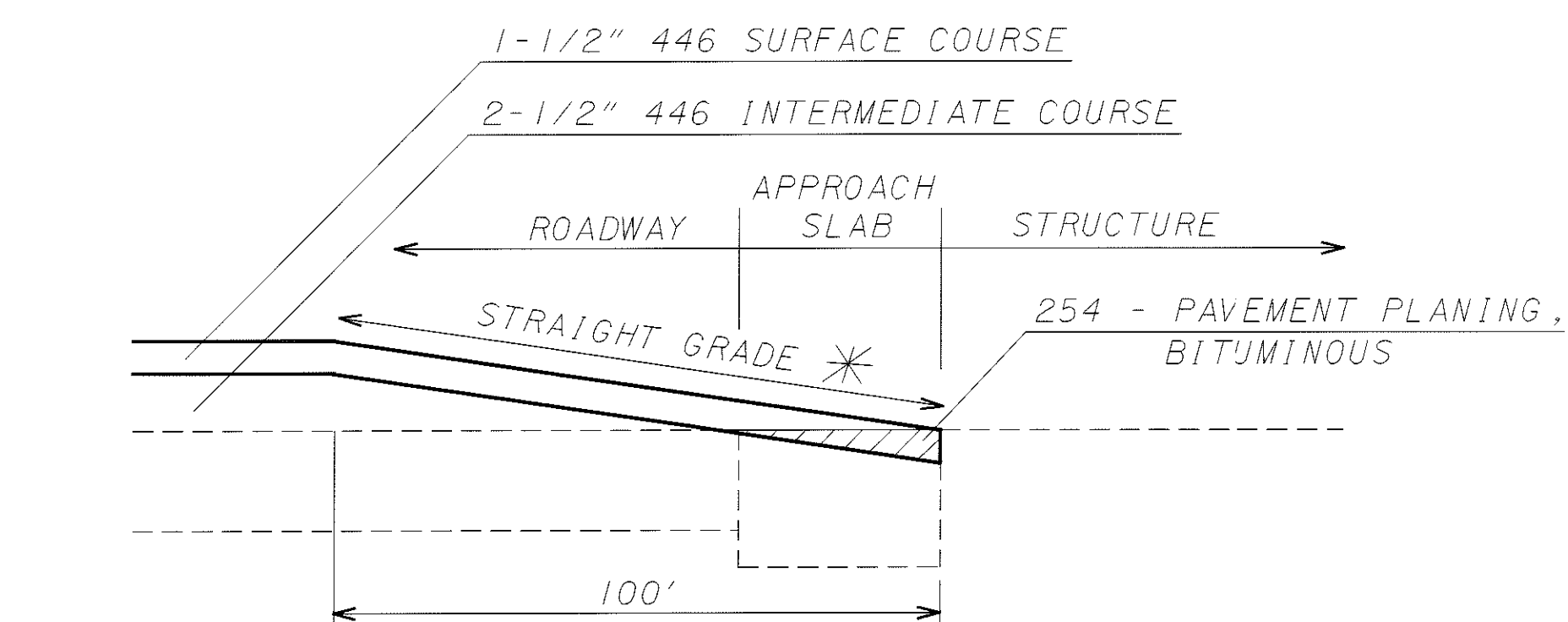
ALL WORK INCLUDED UNDER ITEM 623-CONSTRUCTION LAYOUT STAKES, AS PER PLAN.



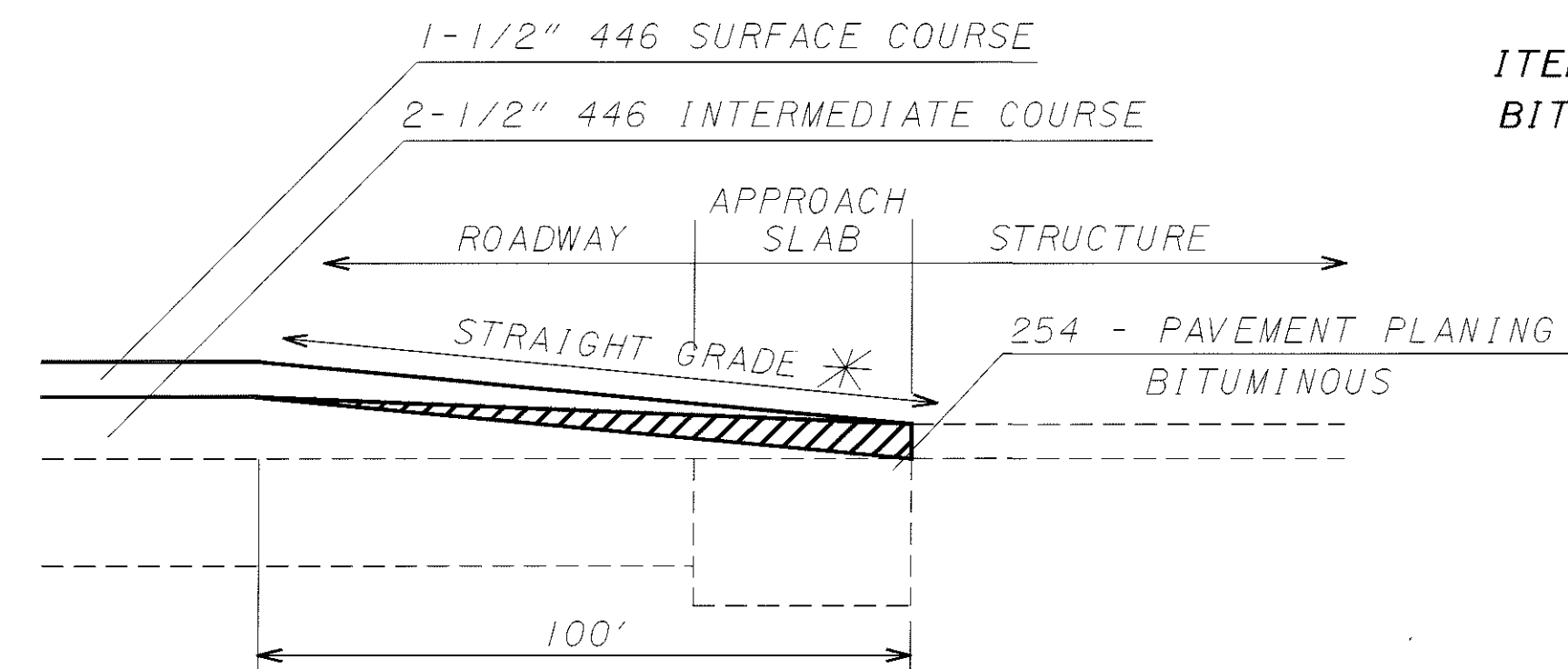
4" OVERLAY BUTT JOINT MEETING EXISTING PAVEMENT WITH 2 1/2" OVERLAY



4" OVERLAY BUTT JOINT MEETING EXISTING PAVEMENT WITH 3 1/2" OVERLAY



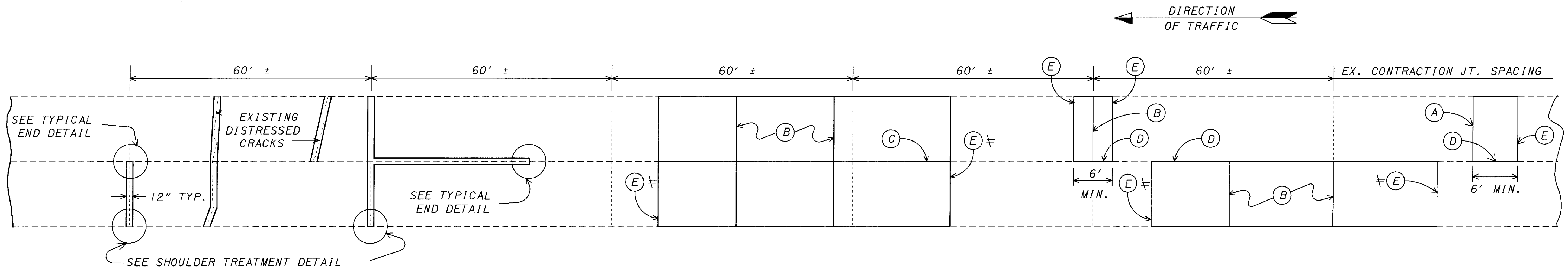
TYPICAL OVERLAY DETAIL AT BRIDGE ROADWAY WITH 4" OVERLAY BRIDGE WITH NO OVERLAY



TYPICAL OVERLAY DETAIL AT BRIDGE ROADWAY WITH 4" OVERLAY BRIDGE WITH 1 1/2" OVERLAY

ITEM 254 - PAVEMENT PLANING, BITUMINOUS.....5521 SQ.YD.

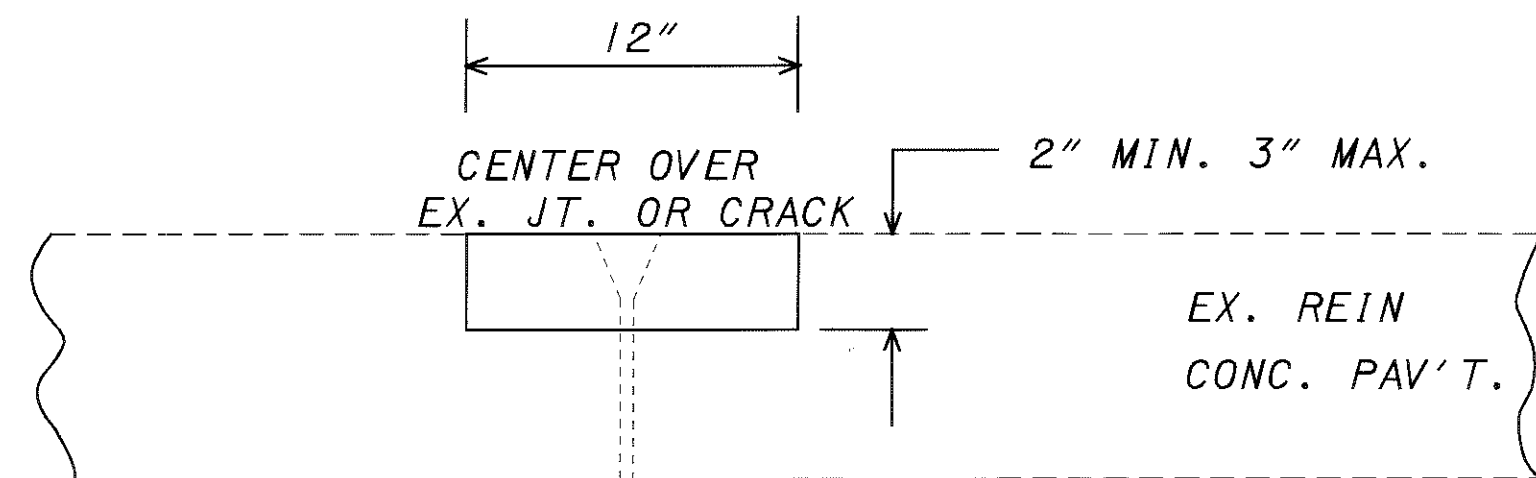
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PARTIAL DEPTH JOINT OR CRACK REPAIR

TYPICAL TWO LANE REPLACEMENT

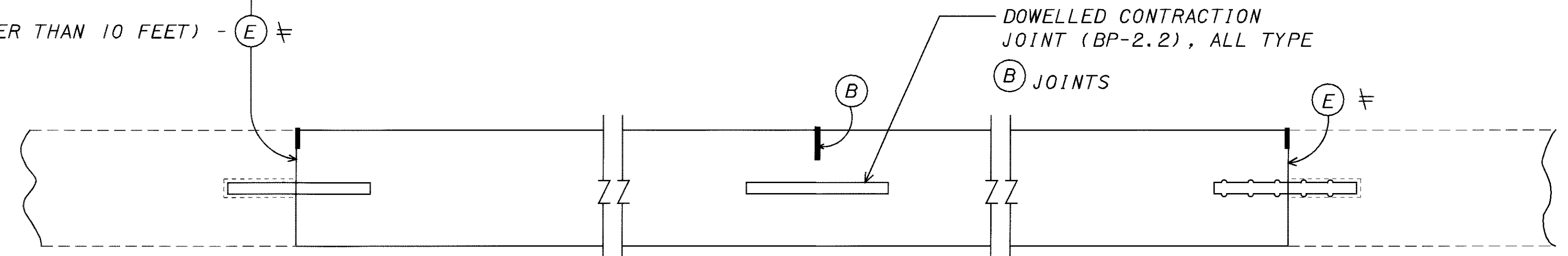
TYPICAL ONE LANE REPLACEMENT



ITEM 251 - PARTIAL DEPTH PAV'T REPAIR

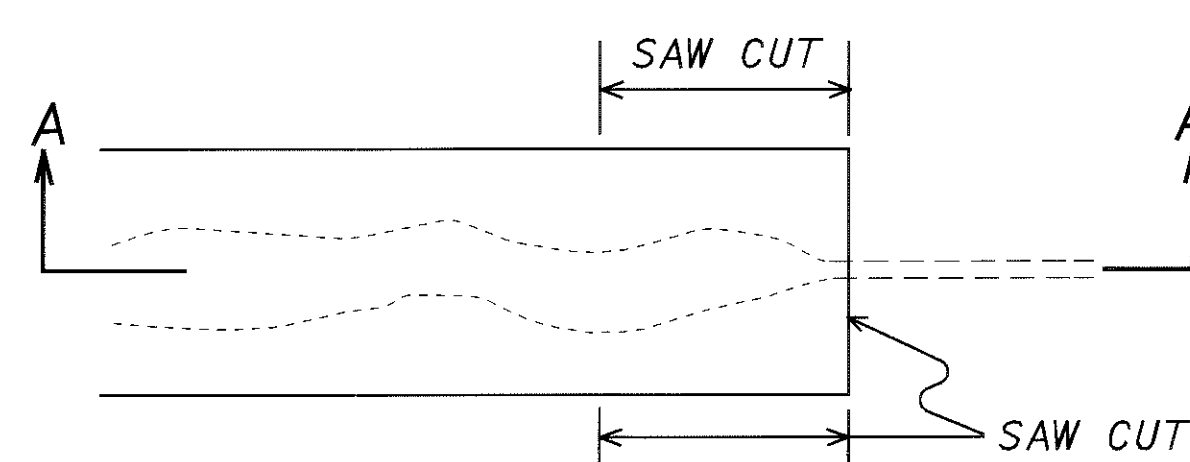
- CRACK REPAIRS (NO JOINT WITHIN REPAIR) - (A)
JOINT REPAIRS (LESS THAN 10 FEET) - (E)
PANEL REPAIRS (GREATER THAN 10 FEET) - (E)

USE (A) JOINT IF EITHER ADJACENT (EXISTING OR PROPOSED) CONTRACTION JOINT IS FARTHER THAN 20 FEET.

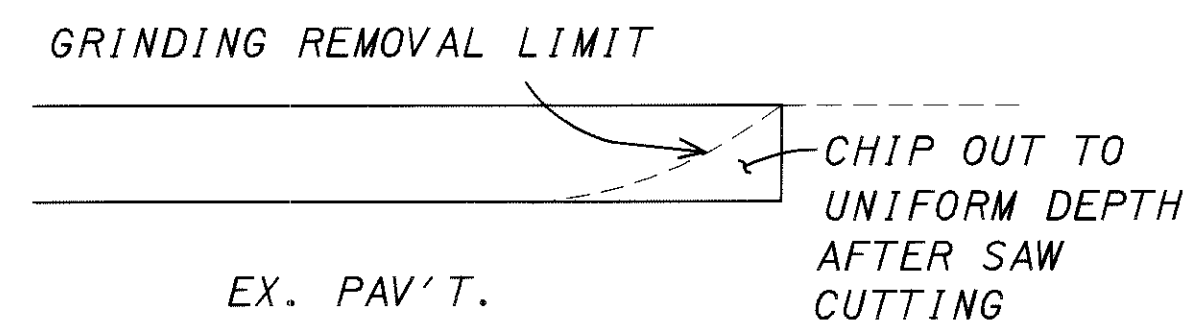


ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

SEE GENERAL NOTES ON SHEET 22 FOR ADDITIONAL INFORMATION.



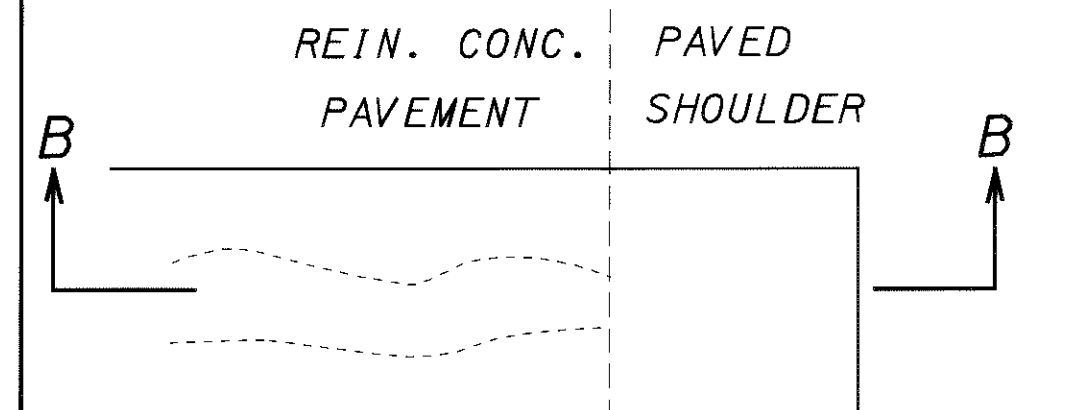
DISTRESSED JOINT-PLAN VIEW



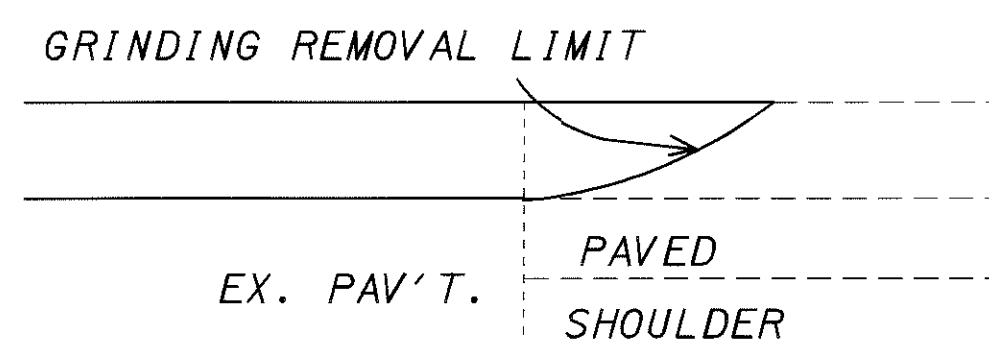
SECTION A-A

TYPICAL END DETAIL

NO SEPARATE PAYMENT WILL BE MADE FOR THESE SAW CUTS



DISTRESSED JOINT-PLAN VIEW



SECTION B-B

SHOULDER TREATMENT DETAIL

MEASURED QUANTITY SHALL NOT INCLUDE THE PAVED SHOULDER AREA

LEGEND

- (A) TYPE Y DOWELLED REPAIR JOINTS, AS PER BP-2.5
(B) SAWED CONTRACTION JOINT AS PER BP-2.2, WITH DOWELS, MAX. SPACING 20' C/C FOR ONE LANE REPLACEMENTS ALIGN JOINT WITH EXISTING CRACKS IN THE ADJACENT LANE WHENEVER POSSIBLE. (EX. CRACKS OCCUR APPROX. 15' C/C)
(C) LONGITUDINAL BUTT JOINT AS PER BP-2.1 (USING HOOK BOLTS)
(D) TYPE D JOINT AS PER BP-2.1 FOR PATCHES 10' OR GREATER IN LENGTH
(E) TYPE T TIED REPAIR JOINT, AS PER BP-2.5

ESTIMATED QUANTITY *

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN 38217 SQ. YD.

* QUANTITY ESTIMATES ARE BASED ON VISUAL INSPECTION. AN ADDITIONAL 5% WAS ADDED TO THE REPAIR AREA TO COMPENSATE FOR ANY ROADWAY DETERIORATION THAT MAY OCCUR BETWEEN THE TIME OF PLAN PREPARATION AND ACTUAL CONSTRUCTION.

VISUAL SURVEY DATE - 10/15/01

EXISTING 10" PORTLAND CEMENT CONCRETE SURFACE AREA - 254782 S. Y.

NOTE: PARTIAL DEPTH REPAIR ONLY TO BE USED WHERE PAVEMENT IS TO BE OVERLAYED

ESTIMATED QUANTITIES*		
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN A	3822 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B	2548 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A	3822 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B	2548 SQ.YD.
ITEM 255	FULL DEPTH PAVEMENT SAWING	11,506 LIN. FT.
ITEM 203	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	50 CU. YD.
ITEM 304	AGGREGATE BASE, AS PER PLAN	50 CU. YD.

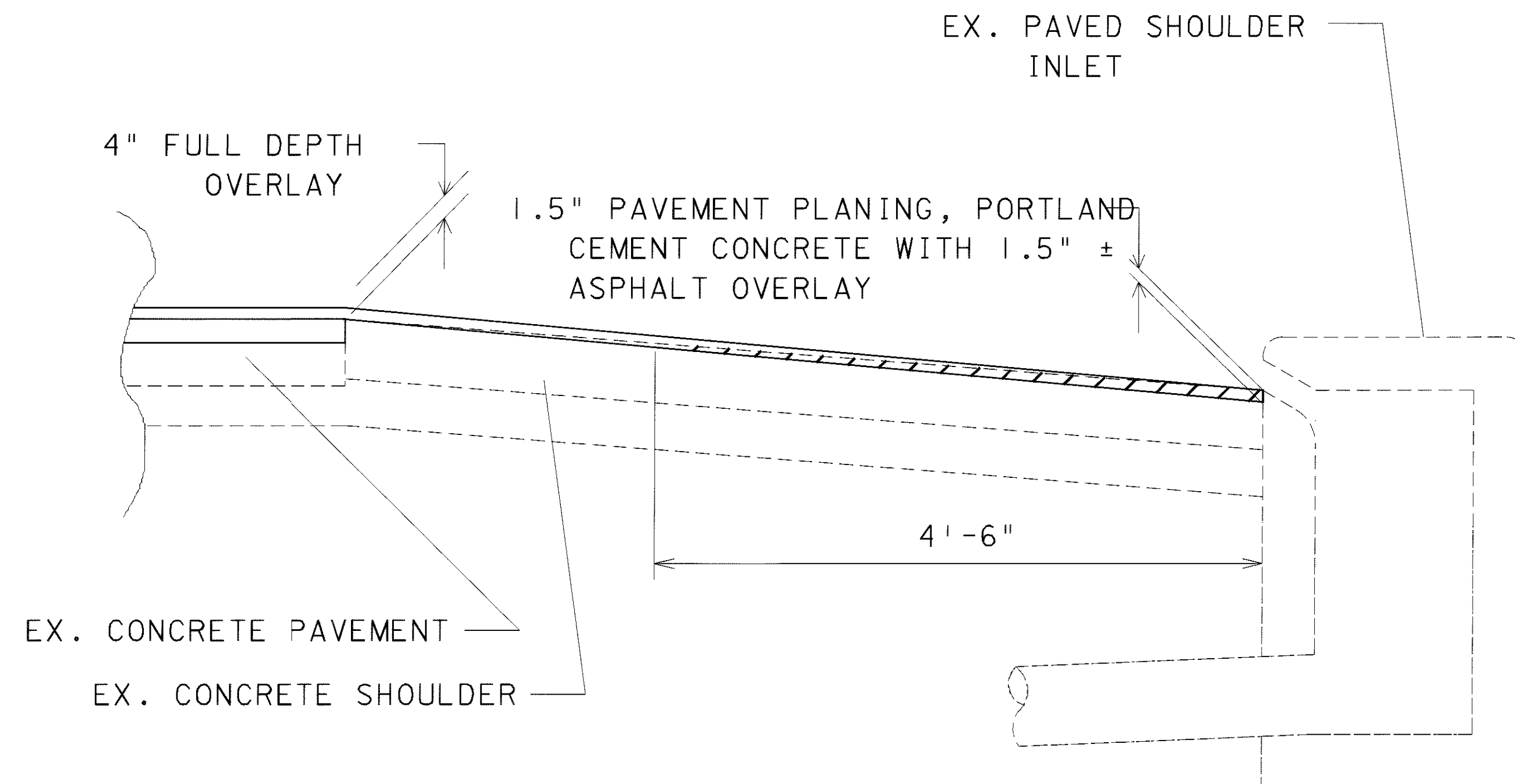
CALCULATED
KAS
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LDH

PAVEMENT REPAIR DETAILS & ESTIMATED QUANTITIES

CUYAHOGA COUNTY
CUY-71-14.96

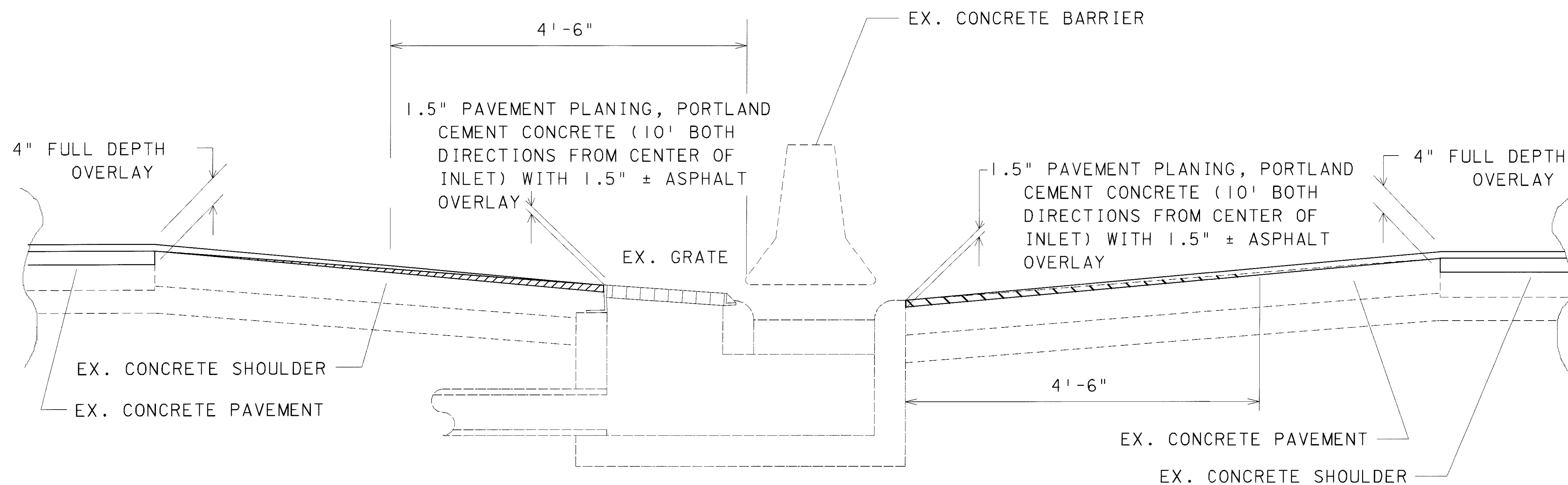
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PLANING AT SHOULDER INLET

▨ — ITEM 254 - PAVEMENT PLANING, PORTLAND CEMENT CONCRETE



PLANING AT MEDIAN INLET

(NOT TO SCALE)

▨ — ITEM 254 - PAVEMENT PLANING, PORTLAND CEMENT CONCRETE

TRAFFIC CONTROL

RAISED PAVEMENT MARKERS

MATERIALS SUPPLIED BY THE DEPARTMENT

FOR THIS PROJECT, THE RPM CASTINGS SUPPLIED BY O.D.O.T. WILL COME WITH REFLECTORS ATTACHED.

ALL MATERIALS ARE TO BE CONTRACTOR FURNISHED, EXCEPT THAT THE DEPARTMENT SHALL SUPPLY RPM MATERIALS IN THE QUANTITIES SHOWN HEREIN TO THE CONTRACTOR. PAY ITEMS FOR THE DEPARTMENT SUPPLIED MATERIALS SHALL BE INDICATED AS "INSTALLATION ONLY". THE TYPE OF DEPARTMENT SUPPLIED MATERIAL SHALL BE RAISED PAVEMENT MARKER CASTINGS.

THE CONTRACTOR SHALL PICK UP THE DEPARTMENT SUPPLIED RPM MATERIALS AT THE OPI WAREHOUSE IN COLUMBUS, OHIO.

THE CONTRACTOR SHALL PICK UP DEPARTMENT SUPPLIED RPM MATERIALS AT THE SPECIFIED LOCATION(S) FOR TRANSPORT TO THE WORK SITE OR TO THE CONTRACTOR'S STORAGE FACILITY. THE RECYCLED RAISED PAVEMENT MARKER (RPM) AUTHORIZATION FORM IS TO BE SIGNED BY THE DISTRICT CONSTRUCTION ENGINEER PRIOR TO PICK UP OF THE RPMS. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND / OR THE PARTIES LISTED ON THE AUTHORIZATION FORM IN WRITING AT LEAST FIVE (5) CALENDAR DAYS PRIOR TO PICK UP OF THE DEPARTMENT SUPPLIED MATERIALS. THE CONTRACTOR SHALL STORE THE RPMS WITHOUT DAMAGE OR CONTAMINATION WITH FOREIGN MATTER. A DEDUCTION IN THE AMOUNT OF THE ACTUAL COST TO THE DEPARTMENT SHALL BE MADE FOR MATERIALS DAMAGED BY THE CONTRACTOR OR FOR CASTINGS RECEIVED BY THE CONTRACTOR WHICH WERE NOT INSTALLED AND WERE NOT RETURNED TO THE DEPARTMENT.

RETURN OF NON-PERFORMED RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT

RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT, THAT ARE NON-PERFORMED SHALL BE CAREFULLY REPACKED OR PACKED IN THE BOXES IN THE SAME STYLE AND QUANTITY AS ORIGINALLY RECEIVED FROM THE DEPARTMENT. CASTING STYLES SHALL NOT BE MIXED WITHIN ANY ONE CONTAINER. THE CONTRACTOR SHALL CLEARLY MARK ON THE OUTSIDE OF EACH CONTAINER THE STYLE OF CASTING. BOXES SHALL BE PLACED ON SKIDS OR PALLETS IN THE SAME STYLE (LOW PROFILE OR CONVENTIONAL, REFLECTORISED OR NON REFLECTORISED) AND NO MORE THAN 420 RPMS (OR 21 BOXES) ON ONE SKID.

ONLY USE THE BOXES SUPPLIED BY THE RAISED PAVEMENT MARKER RECYCLER. BOXES MUST BE MARKED WITH THE RECYCLER'S PART OR CATALOG NUMBER AND THE PROJECT NUMBER. THE RECYCLER'S CATALOG OR PART NUMBERS MAY BE OBTAINED FROM THE OFFICE OF TRAFFIC ENGINEERING IN COLUMBUS, OHIO OR FROM THE RECYCLER. BOXES NOT MARKED WITH THE PROPER RECYCLER'S CATALOG OR PART NUMBERS, AND THE DEPARTMENT'S PROJECT NUMBER WILL NOT BE ACCEPTED AT THE RECYCLER'S WAREHOUSE.

NON PERFORMED MATERIALS WILL BE RETURNED TO THE LOCATION AS SPECIFIED BY THE DISTRICT CONSTRUCTION ENGINEER WITHIN 30 DAYS OF THE COMPLETION OF THE PROJECT.

THE ABOVE WORK INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL NEEDED TO PERFORM THE WORK, SHALL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE PAY ITEM.

IF THE DEPARTMENT HAS TO REPACKAGE THE RPMS CORRECTLY, THE CONTRACTOR WILL BE ASSESSED THE ACTUAL COST FOR REPACKAGING THE MATERIALS BY THE DEPARTMENT'S FORCES.

LOADING OF MATERIALS SUPPLIED BY THE DEPARTMENT AT THE RECYCLER'S WAREHOUSE

TRUCKS SHALL HAVE A LOADING HEIGHT OF 48 INCHES AND BE ABLE TO BACK UP FLUSH TO THE LOADING DOCK.

TRUCKS SHALL NOT HAVE ANY OBSTRUCTIONS OR PROTRUSIONS THAT PREVENT THE LOADING BY A STANDARD FORKLIFT OR LIFT TRUCK.

SEMI TRUCKS OR 20 FOOT COMMERCIAL TRUCKS ARE THE MOST APPROPRIATE TRUCKS FOR LOADS IN EXCESS OF 4 PALLETS (ONE PALLET = 21 BOXES = 2100 LBS).

STAKE BODY TRUCKS ARE APPROPRIATE TO LOAD LESS THAN 4 PALLETS, PROVIDED THE TRUCK IS RATED FOR THE LOAD AND THE LOAD CAN BE SAFELY SECURED FOR TRANSPORT BY CHAINING OR STRAPPING DOWN AS NEEDED.

PICKUP TRUCKS ARE APPROPRIATE FOR LOADS OF APPROXIMATELY ONE PALLET, PROVIDED THE PICKUP TRUCK IS RATED FOR THE LOAD AND THE LOAD CAN BE SAFELY SECURED FOR TRANSPORT.

DUMP TRUCKS, TILT BED TRUCKS, AND NON COMMERCIAL MOVING VANS WILL NOT BE LOADED BY THE RECYCLERS WAREHOUSE.

THE WAREHOUSE SUPERVISOR WILL REFUSE TO LOAD ANY TRUCK THAT IS UNSAFE TO LOAD OR UNSUITABLE FOR THE LOAD BEING PLACED ON THE TRUCK.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY. THE CONTRACTOR SHALL INSTALL RECYCLED RAISED PAVEMENT MARKERS WITH PRISMATIC REFLECTORS:

ITEM 621-RAISED PAVEMENT MARKER, INSTALLATION ONLY.....1521 EACH

RAISED PAVEMENT MARKERS ON STRUCTURES

RAISED PAVEMENT MARKER CASTINGS SHALL NOT BE REMOVED AND REPLACED ON STRUCTURES.

RETROREFLECTOR REPLACEMENT

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER TO REPLACE THE RETROREFLECTORS IN THE RPM CASTINGS THAT ARE ON THE BRIDGE DECKS WITHIN THE PROJECT LIMITS.

THIS ITEM SHALL INCLUDE THE COST OF REMOVING THE RETROREFLECTOR AND REPLACING IT WITH A CONTRACTOR SUPPLIED REFLECTOR OF THE REQUIRED COLOR.

ITEM 621-PRISMATIC RETROREFLECTOR, AS PER PLAN.....84 EACH

RAISED PAVEMENT MARKER SPACING

THE RAISED PAVEMENT MARKER SPACING SHALL BE 120 FEET (36 m) AS PER STANDARD DRAWING TC-65.10M.

ENTRANCE AND EXIT MARKINGS

THE ENTRANCE AND EXIT PAVEMENT MARKINGS SHALL BE LOCATED AND INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-72.20. PLAN DETAILS SHOWING GORE LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM AS MANY MEASUREMENTS AS NEEDED TO DETERMINE THE CORRECT LOCATION OF THE MARKINGS.

AUXILIARY MARKINGS

THE AUXILIARY PAVEMENT MARKINGS SHALL BE LOCATED AND INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-71.10M.

PROTECTIVE COATING OF OVERHEAD SIGN SUPPORT SECTIONS

GENERAL

OVERHEAD SIGN SUPPORTS CAN BE SEPARATED INTO MAJOR SECTIONS SUCH AS END FRAMES, TRUSSES, VERTICAL POLES AND CANTILEVER ARMS. DURING THE IMPLEMENTATION OF THIS WORK ITEM IT WILL BE BENEFICIAL TO REFER TO THE MAJOR SECTIONS OF THE OVERHEAD SIGN SUPPORTS RATHER THAN THE WHOLE SUPPORT. MORE SPECIFIC INSTRUCTIONS AND FLEXIBILITY CAN BE GIVEN BASED UPON THE UNIT OF MEASURE AND PAYMENT PER MAJOR SUPPORT SECTION.

THE PROTECTIVE COATING OF OVERHEAD SIGN SUPPORT SECTIONS SHALL BE A FOUR PART PROCESS TO INCLUDE SURFACE PREPARATION FOLLOWED BY A THREE STEP COATING SYSTEM. THIS THREE STEP COATING SYSTEM SHALL CONSIST OF AN EPOXY PRIME COAT, AN EPOXY INTERMEDIATE COAT, AND A URETHANE TOP COAT, WITH EACH COAT A DIFFERENT COLOR. FOR AN EXPLANATION OF THE MATERIALS TO BE USED SEE NOTE ENTITLED "COATING SYSTEM". THE PURPOSE OF THIS COATING IS TO PROVIDE PROTECTION FOR NEW (UNWEATHERED) AND OLDER (WEATHERED) GALVANIZED STEEL SUPPORT SECTIONS FROM CORROSIVE ELEMENTS IN THE ATMOSPHERE. COATING AND SURFACE PREPARATION OF THE NEW GALVANIZED SUPPORT SECTIONS SHALL BE DONE BY THE MANUFACTURER AS PER THE COATING SUPPLIER'S SPECIFICATIONS LISTED IN THIS NOTE.

FIELD COATING OF SIGN SUPPORTS

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION LAWS. RULES OR REGULATIONS OF FEDERAL, STATE, OR LOCAL AGENCIES. THE COATING MATERIALS SPECIFIED FOR THE WORK CAN BE HAZARDOUS TO THE HEALTH OF THE APPLICATOR IF NOT APPLIED AS PER THE MANUFACTURER'S INSTRUCTIONS. THE CONTRACTOR SHALL FOLLOW THE DATA SHEET AND THE LABEL ON THE PAINT CONTAINERS. THESE PRECAUTIONS SHALL INCLUDE THE USE OF RESPIRATORS AND EYE AND SKIN PROTECTION AS SPECIFIED. THE CONTRACTOR SHALL ALSO INSURE THAT HIS PAINTING OPERATIONS AND LOCATION WILL NOT ENDANGER OR ADVERSELY AFFECT THE PUBLIC IN GENERAL.

THE PROPOSED CLEANING AND COATING OPERATIONS SHALL BE PERFORMED ONLY WHEN THE AMBIENT TEMPERATURE IS 50 DEGREES F OR ABOVE FOR A PERIOD OF 24 CONTINUOUS HOURS. PAINT SHALL NOT BE APPLIED DURING RAIN, FOG, OR MIST, OR WHEN THE STEEL SURFACE TEMPERATURE IS LESS THAN 5 DEGREES F ABOVE THE DEW POINT. PAINT SHALL NOT BE APPLIED TO WET OR DAMP SURFACES OR ON FROSTED OR ICE COATED SURFACES. PAINT SHALL NOT BE APPLIED WHEN THE RELATIVE HUMIDITY IS GREATER THAN 85%. ALL STEEL SURFACES OF TRUSS AND END FRAMES INCLUDING THE WELDED AREAS, BALLAST ENCLOSURE MOUNTING BRACKET AND THE BASE PLATES ARE TO BE CLEANED AND COATED. BEFORE EACH COATING IS APPLIED, IT SHALL BE MIXED WITH AN APPROVED POWER MECHANICAL MIXER TO A UNIFORM CONSISTENCY WHICH SHALL BE MAINTAINED DURING ITS APPLICATION. EACH COAT SHALL BE APPLIED IN A WORKMANLIKE MANNER AS A CONTINUOUS FILM OF UNIFORM THICKNESS WHICH IS FREE OF HOLIDAYS, PORES, RUNS, OR SAGS. ALL COATS SHALL BE APPLIED BY BRUSH. THINNING OF PAINT IS STRICTLY PROHIBITED. PAINT NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED. THE COATING SHALL PENETRATE ALL JOINTS AND CONNECTIONS. THE ENGINEER SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CLEANING OR COATING OPERATIONS SO THAT INSPECTION SERVICES CAN BE PROVIDED.

TO PROVIDE ASSURANCES THAT NO THINNING OF THE PROTECTIVE COATING MATERIAL IS BEING DONE, PERIODIC CHECKS BY A STATE INSPECTOR WILL BE MADE OF THE MATERIAL. THESE CHECKS WILL BE MADE UTILIZING A VISCOSITY TEST CUP PROCEDURE AS PROVIDED BY THE MANUFACTURER OF THE MATERIAL. THE FREQUENCY OF THESE CHECKS WILL BE DETERMINED BY THE ENGINEER BASED UPON FIELD EVALUATION AND JOB PERFORMANCE.

IF THE VISCOSITY CHECK REVEALS THAT THE MATERIAL HAS BEEN THINNED, IMMEDIATE REJECTION OF THE MATERIAL SHALL BE MADE. THIS REJECTION SHALL REQUIRE THE CONTRACTOR TO IMMEDIATELY STOP USING THE MATERIAL AND PROVIDE NEW MATERIAL OF THE PROPER SPECIFICATION PER PLAN. IN ADDITION, THE COATING OF THE SIGN

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TRAFFIC CONTROL GENERAL NOTES

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SUPPORT WITH THE NON-APPROVED MATERIAL BE COSIDERED UNACCEPTABLE. THEREFORE THE SUPPORT SHALL BE STRIPPED AND RE-COATED WITH AP-PROVED MATERIAL (UNTHINNED MATERIAL).

3 TO 4 VISCOSITY CHECKS INDICATING A PERPETUAL QUALITY CONTROL PROBLEM (THINNED MATERIAL) SHALL BE CONSIDERED SUFFICIENT JUS-TIFICATION TO TERMINATE THE CONTRACT.

THE COST FOR THE VISCOSITY TEST KIT SHALL BE BORN BY THE CONTRAC-TOR AND CONSIDERED INCIDENTAL TO THE ITEM SPECIALS PER COAT.THE TEST KIT SHALL CONTAIN ITEMS SUCH AS INSTRUCTIONS, VISCOSITY CUP, STANDARD COMPARISON RATES, CARRYING CASE, CLEANING EQUIPMENT, STOPWATCH, ETC. THE KIT SHALL BE GIVEN TO THE STATE INSPECTOR FOR USE DURING THE PERFORMANCE OF THE WORK. AFTER THE PROJECT IS COMPLETE, THE TEST KIT SHALL REVERT TO THE STATE AS STATE PROPER-TY.

COATING SYSTEM

THE COATING SYSTEM SHALL CONSIST OF A POLYAMIDE-CURED EPOXY PRIME COAT, A POLYAMIDE-CURED EPOXY INTERMEDIATE COAT AND AN ALIPHATIC POLYURETHANE TOP COAT. THE COATING MATERIALS USED SHALL BE THOSE AS LISTED FROM ONE OF THE FOLLOWING MANUFACTURERS OR AN APPROVED EQUAL:

1.

AMERON
210 NORTH BERRY STREET
BREA, CALIFORNIA 92622
LOCAL TELEPHONE CONTACT : (419) 885-5336
PRIME COAT : AMERCOAT 385
INTERMEDIATE COAT : AMERLOCK 400
TOP COAT : AMERCOAT 450 HS
2.

ICI/DEVOE COATINGS
5480 CLOVERLEAF PKWY. #5
VALLEY VIEW, OHIO 44125
LOCAL TELEPHONE CONTACT : (216) 328-1581
PRIME COAT : DEVRAN 4170 CORROSION RESISTANT EPOXY
INTERMEDIATE COAT : DEVRAN 4170 CORROSION RESISTANT EPOXY
TOP COAT : DEVTHANE 4708 ALIPHATIC URETHANE ENAMEL
3.

PORTER PAINT CO.
400 SOUTH 13TH STREET
LOUISVILLE, KY 40201
LOCAL TELEPHONE CONTACT : (419) 666-0026
PRIME COAT : PORTER PAINTS MCR 4300
INTERMEDIATE COAT : PORTER PAINTS MCR 4300
TOP COAT : PORTER PAINTS HYTHANE
4.

POLYCARB
33095 BAINBRIDGE ROAD
P.O. BOX 39278
OLON, OHIO 44139
LOCAL TELEPHONE CONTACT : (440) 248-1223
PRIME COAT : MARK-60 (ULTRAPOX)
INTERMEDIATE COAT : MARK-60 (ULTRAPOX)
TOP COAT : MARK-73 (ULTRA-KOTE)
5.

SHERWIN-WILLIAMS COMPANY
671 BETA DRIVE
MAYFIELD VILLAGE, OHIO 44143
LOCAL TELEPHONE CONTACT : (440) 461-3310
PRIME COAT : TILE-CLAD II HI-BILD PRIMER
INTERMEDIATE COAT : HI-SOLIDS CATALYZED EPOXY
TOP COAT : HI-BILD ALIPHATIC POLYURETHANE ENAMEL

ALL THREE COATS OF THE SYSTEM SHALL BE MANUFACTURED BY THE SAME COMPANY TO INSURE COMPATIBILITY AMONG COATS.

SURFACE PREPARATIONS, NEW SUPPORT SECTIONS

NEW UNWEATHERED GALVANIZED SUPPORT SECTIONS SHALL HAVE THEIR SURFACE PREPARATION AS WELL AS THEIR PROTECTIVE COATING DONE AT THE MANUFACTURER OF THE SUPPORT SECTIONS.

THE SUPPORT SECTIONS SHALL BE PREPARED FOR COATING BY SSPC - SPI FOLLOWED BY SSPC - SP7 (SOLVENT CLEANING) FOLLOWED BY A BRUSH-OFF BLAST. BLASTING ABRASIVES CONTAINING MORE THAN 1% FREE SILICA SHALL NOT BE ALLOWED. BEFORE THE PREPARED SURFACE DE-GRADES FROM THE PRESCRIBED STANDARDS, THE PRIME COAT SHALL BE APPLIED. IN EVERY CASE, THE SURFACE SHALL BE COATED WITH THE EPOXY PRIME COAT ON THE SAME DAY OF SURFACE PREPARATION. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT AND SCRAPING, MARRING, OR OTHER SURFACE DAMAGE TO THE PREPARED SURFACE.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING, TRANSPORTATION COSTS AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK PER MAJOR SUPPORT SECTION.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM 630-SURFACE PREPARATION, NEW SUPPORT SECTIONS AT THE CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

SURFACE PREPARATION, EXISTING SUPPORT SECTIONS

EXISTING, WEATHERED GALVANIZED SUPPORT SECTIONS SHALL HAVE THEIR SURFACE PREPRATION AS WELL AS THEIR PROTECTIVE COATING UNDER CONDITIONS OF TEMPERATURE AND HUMIDITY WITHIN THE SAME RANGE AS SPECIFIED BY THE MANUFACTURER OF THE EPOXY - PRIME COAT MATERIAL TO BE USED IMMEDIATELY AFTER THIS CLEANING OPERATION. THE SUPPORT SECTIONS SHALL BE PREPARED FOR COATING BY SSPC - SPI FOLLOWED BY SSPC - SP6 (SOLVENT CLEANING FOLLOWED BY A COMMERCIAL BLAST CLEANING). BEFORE THE PREPARED SURFACE DEGRADES FROM THE PRESCRIBED STANDARDS, THE PRIME COAT SHALL BE APPLIED. IN EVERY CASE, THE SURFACE SHALL BE COATED WITH THE EPOXY PRIME COAT ON THE SAME DAY AS THE SURFACE PREPARATION. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING, OR OTHER SURFACE DAMAGE TO THE PREPARED SURFACE.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING, TRANSPORTATION COSTS AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK PER MAJOR SUPPORT SECTION.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM 630-SURFACE PREPARATION, EXISTING SUPPORT SECTIONS AT THE CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

COATING, EPOXY PRIME COAT, SUPPORT SECTIONS

THIS ITEM SHALL CONSIST OF ONE (1) COAT OF AN EPOXY PRIMER TO SUPPORT SECTIONS. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL BE BETWEEN 1.5 AND 2.0 MILS. IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THAT COAT SHALL BE BORNE BY THE CONTRACTOR.

FIELD COATING: THIS COAT SHALL IN ALL CASES BE APPLIED BY BRUSH OVER SURFACES THAT WERE PREPARED EARLIER THAT SAME DAY. THE THINNING OF THE EPOXY MATERIAL IS STRICTLY PROHIBITED. MATE-RIAL NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED.

WHEN THE AVERAGE DRY FILM THICKNESS OF THIS COAT OVER THE ENTIRE SUPPORT SECTION IS LESS THAN THE SPECIFIED 1.5 BUT IS AT LEAST 1.25 MILS, THE CONTRACT BID PRICE FOR THIS ITEM SHALL BE REDUCED IN DIRECT PROPORTION TO THE PERCENT DEFICIENCY OF COATING UP TO 16-2/3%. IF THE DEFICIENCY OF COATING IS MORE THAN 16-2/3% (1.E. THE AVERAGE DRY FILM THICKNESS IS LESS THAN 1.25 MILS) THE WORK FOR THIS ITEM SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RECOATED AT THE FULL EXPENSE OF THE CONTRACTOR, INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL.

THE EPOXY PRIME COAT CHOSEN BY THE CONTRACTOR SHALL BE ONE OF THE FOLLOWING TWO-COMPONENT COMPOSITIONS CONFORMING TO ITS LISTED PROPERTIES:

AMERCOAT 385
% SOLIDS BY VOLUME : 47% +/- 3 %
POT LIFE : 8 HRS. @ 77 DEGREES F (25 DEGREES C)
DRYING TIME : 4 HRS. @ 77 DEGREES F

DEVRAN 4170 CORROSION RESISTANT EPOXY PRIMER 5465 SERIES
% SOLIDS BY VOLUME : 54% +/- 1%
% SOLIDS BY WEIGHT : 71 % +/- 1%
POT LIFE : 4 HRS. @ 77 DEGREES F
DRYING TIME : TOUCH 1-2 HRS., RECOAT 7 HRS.
VISCOSITY : 95-100 KU

MCR-4301 EPOXY PRIMER
% SOLIDS BY VOLUME : 48.0% +/- 2%
POT LIFE : 30 HRS. @ 50-60 DEGREES F
16 HRS. @ 80-100 DEGREES F
DRYING TIME : 4-6 HRS. @ 50-60 DEGREES F

MARK-60 ULTRAPOX
% SOLIDS BY WEIGHT : 70-75% +/- 2%
POT LIFE : 6 HRS. @ 75 DEGREES F
DRYING TIME : 2-3 HRS. INITIAL SET @ 75 DEGREES F
VISCOSITY : 300-500 CPS @ 75 DEGREES F

TILE-CLAD II HI-BILD PRIMER
% SOLIDS BY VOLUME : 48% +/- 2%
% SOLIDS BY WEIGHT : 63% +/- 2%
POT LIFE : 8 HRS. @ 77 DEGREES F
@ 77 DEGREES F
DRYING TIME : 1 HR. TO TOUCH, 6 HRS. TO RECOAT

FOR NEW SUPPORT SECTIONS THIS PRIME COAT SHALL BE DONE AT THE MANUFACTURER OF THE SUPPORT SECTIONS. VERIFICATION BY THE MANUFACTURER OF THE COATING MATERIAL FOR THE PRIME COAT PROCEDURES WILL BE REQUIRED. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING OR OTHER SURFACE DAMAGE TO THE PRIME COAT.

THE PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING COSTS, AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK. THIS PRIME COAT SHALL BE MANUFACTURED BY THE SAME COMPANY SUPPLYING THE INTERMEDIATE AND TOP COATS. A PROPERLY CALIBRATED DRY FILM THICKNESS INSTRUMENT WILL BE USED TO CHECK THE COATING.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM 630-COATING, EPOXY PRIME COAT, SUPPORT SECTIONS, AT THE CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

COATING EPOXY INTERMEDIATE COAT, SUPPORT SECTIONS

THIS ITEM SHALL CONSIST OF THE APPLICATION OF ONE (1) COAT OF EPOXY TO SUPPORT SECTIONS. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL NOT BE LESS THAN SIX (6.0) MILS. IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THAT COAT SHALL BE BORNE BY THE CONTRACTOR.

FIELD COATING: THIS COAT SHALL BE APPLIED BY BRUSH. THINNING OF THE EPOXY MATERIAL IS STRICTLY PROHIBITED. MATERIAL NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED.

WHEN THE AVERAGE DRY FILM THICKNESS OF THIS COAT OVER THE ENTIRE SUPPORT SECTION IS LESS THAN THE SPECIFIED SIX (6.0) MILS, BUT IS AT LEAST FIVE (5.0) MILS, THE CONTRACT PRICE FOR THIS ITEM SHALL BE REDUCED IN DIRECT PROPORTION TO THE PERCENT DEFICIENCY OF COATING UP TO 16-2/3%. IF THE DEFICIENCY OF COATING IS MORE THAN 16-2/3 %, (1.E. THE AVERAGE FILM THICKNESS IS LESS THAN 5.0 MILS), THE WORK FOR THIS ITEM SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RECOATED AT THE FULL EXPENSE OF THE CONTRACTOR, INCLUDING ALL LABOR, EQUIPMENT, AND MATERIAL. THE

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EPOXY INTERMEDIATE COAT CHOSEN BY THE CONTRACTOR SHALL BE ONE OF THE FOLLOWING TWO-COMPONENT COMPOSITIONS CONFORMING TO ITS LISTED PROPERTIES:

AMERLOCK 400
% SOLIDS BY VOLUME : 83% +/- 2%
POT LIFE : 2-1/2 HRS. @ 70 DEGREES F
DRYING TIME : 20 HRS. @ 70 DEGREES F

DEVTRAN 4170 CORROSION RESISTANT EPOXY PRIMER 5465 SERIES
% SOLIDS BY VOLUME : 54% +/- 1%
% SOLIDS BY WEIGHT : 71 % +/- 1%
POT LIFE : 4 HRS. @ 77 DEGREES F
DRYING TIME : TOUCH 1-2 HRS. , RECOAT 7 HRS.
VISCOSITY : 95-100 KU
70 DEGREES F, 50% R.H.

MCR-4301 EPOXY PRIMER
% SOLIDS BY VOLUME : 48.0% +/- 2%
POT LIFE : 30 HRS. @ 50-0 DEGREES F, 16 HRS.
@ 80 DEGREES F
DRYING TIME : 1-2 HRS. @ 60-80 DEGREES F

MARK-60 ULTRAPOX
% SOLIDS BY WEIGHT : 70-75% +/- 2%
POT LIFE : 6 HRS. @ 75 DEGREES F
DRYING TIME : 2-3 HRS. INITIAL SET @ 75 DEGREES F

HI-SOLIDS CATALYZED EPOXY
% SOLIDS BY VOLUME : 61% +/- 2% (SLATE GRAY)
% SOLIDS BY WEIGHT : 77% +/- 2%
POT LIFE : 5 HRS. @ 77 DEGREES F
DRYING TIME : 1 HR. TO TOUCH, 4 HRS. TACK FREE
6 HRS. TO RECOAT @ 77 DEGREES F, 50% R.H.

AT LEAST 24 HOURS BUT NO MORE THAN THREE (3) DAYS SHALL ELAPSE AFTER THE APPLICATION OF THE EPOXY PRIME COAT AND BEFORE THE APPLICATION OF THE EPOXY INTERMEDIATE COAT. SURFACES SHALL IN ALL CASES BE CLEAN BEFORE THE INTERMEDIATE COAT IS APPLIED.

FOR NEW SUPPORT SECTIONS, THE INTERMEDIATE COAT SHALL BE DONE AT THE MANUFACTURER OF THE SUPPORT SECTIONS. VERIFICATION BY THE MANUFACTURER FOR THE INTERMEDIATE COAT PROCEDURE WILL BE REQUIRED. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING OR OTHER SURFACE DAMAGE TO THE INTERMEDIATE COAT.

THE PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING COSTS AND MATERIAL NECESSARY TO ACCOMPLISH THIS ITEM OF WORK. THIS INTERMEDIATE COAT SHALL BE MANUFACTURED BY THE SAME COMPANY SUPPLYING THE PRIME AND TOP COATS. A PROPERLY CALIBRATED DRY FILM THICKNESS INSTRUMENT WILL BE USED TO CHECK THE COATING.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM 630-COATING, EPOXY, INTERMEDIATE COAT, SUPPORT SECTIONS AT THE CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

COATING, URETHANE TOP COAT, SUPPORT SECTIONS

THIS ITEM SHALL CONSIST OF THE APPLICATION OF ONE (1) COAT OF URETHANE TO SUPPORT SECTIONS. THE TOTAL DRY FILM THICKNESS OF THIS COAT SHALL NOT BE LESS THAN ONE AND ONE-HALF (1.5) MILS. IF MORE THAN ONE PASS IS NECESSARY TO OBTAIN THE REQUIRED THICKNESS, THAT COAT SHALL BE BORNE BY THE CONTRACTOR.

FIELD COATING: THIS COAT SHALL BE APPLIED BY BRUSH. THINNING OF THE URETHANE MATERIAL IS STRICTLY PROHIBITED. MATERIAL NOT CAPABLE OF BEING APPLIED AS SPECIFIED SHALL NOT BE USED.

WHEN THE AVERAGE DRY FILM THICKNESS OF THIS COAT OVER THE ENTIRE SUPPORT SECTION IS LESS THAN THE SPECIFIED ONE AND ONE-HALF (1.5) MILS BUT IS AT LEAST ONE (1.0) MIL, THE CONTRACT PRICE FOR

THIS ITEM SHALL BE REDUCED IN DIRECT PROPORTION TO THE PERCENT DEFICIENCY OF COATING UP TO 33 1/3%. IF THE DEFICIENCY OF THE COATING IS MORE THAN 33 1/3% , (I.E. THE AVERAGE DRY FILM THICKNESS IS LESS THAN 1.0 MIL), THE WORK FOR THIS ITEM SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RECOATED AT THE FULL EXPENSE OF THE CONTRACTOR, INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL.

THE URETHANE TOP COAT CHOSEN BY THE CONTRACTOR SHALL BE ONE OF THE FOLLOWING MATERIALS CONFORMING TO ITS LISTED PROPERTIES:

AMERCOAT 450 HS
% SOLIDS BY VOLUME : 45% +/- 2%
POT LIFE : 20 HRS. @ 77 DEGREES F
DRYING TIME : 8 HRS. @ 77 DEGREES F DRY THROUGH

DEVTHANE 4708 ALIPHATIC URETHANE ENAMEL (6200/6252)
% SOLIDS BY VOLUME : 48 +/- 1%
% SOLIDS BY WEIGHT : 59 +/- 1%
POT LIFE : 6 HRS. @ 70 DEGREES F
DRYING TIME: 4 HRS. @ 77 DEGREES F RECOAT

HYTHANE
% SOLIDS BY VOLUME : 42 +/- 2%
POT LIFE : 16 HRS. @ 50 DEGREES F
12 HRS. @ 75 DEGREES F

MARK-73 (ULTRA-KOTE)
% SOLIDS BY VOLUME : 52.5% +/- 2%
% SOLIDS BY WEIGHT : 55% +/- 2%
POT LIFE : 8 HRS. @ 75 DEGREE F
DRYING TIME : 4-5 HRS. @ 75 DEGREES F TACK FREE
VISCOSITY : 70-75 KU @ 75 DEGREES F

HI-BILD ALIPHATIC POLYURETHANE ENAMEL
% SOLIDS BY VOLUME : 40% +/- 2% (CATALYZED)
% SOLIDS BY WEIGHT : 48 % +/- 2%
POT LIFE : 6 HRS. @ 77 DEGREES F
DRYING TIME : 30 MIN. TO TOUCH, 4 HRS. TAK FREE
18 HRS. MIN. 72 HRS. MAX TO RECOAT

AT LEAST 24 HOURS BUT NO MORE THAN THREE (3) DAYS SHALL ELAPSE AFTER THE APPLICATION OF THE EPOXY INTERMEDIATE COAT AND BEFORE THE APPLICATION OF THE URETHANE TOP COAT. SURFACES SHALL IN ALL CASES BE CLEAN BEFORE THE TOP COAT IS APPLIED.

FOR NEW SUPPORT SECTIONS, THIS TOP COAT SHALL BE DONE AT THE MANUFACTURER OF THE SUPPORT SECTIONS. VERIFICATION BY THE MANUFACTURER FOR THE TOP COAT PROCEDURE WILL BE REQUIRED. CAREFUL HANDLING AND STORAGE WILL BE REQUIRED TO PREVENT ANY SCRAPING, MARRING OR OTHER SURFACE DAMAGE TO THE TOP COAT.

THE PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, HANDLING COST AND MATERIALS NECESSARY TO ACCOMPLISH THIS ITEM OF WORK. THIS TOP COAT SHALL BE MANUFACTURED BY THE SAME COMPANY SUPPLYING THE PRIME AND INTERMEDIATE COATS. A PROPERLY CALIBRATED DRY FILM INSTRUMENT WILL BE USED TO CHECK THE COATING.

BASIS OF PAYMENT WILL BE AS FOLLOWS:
ITEM 630-COATING, URETHANE TOP COAT, SUPPORT SECTIONS AT THE CONTRACT BID PRICE PER EACH MAJOR SUPPORT SECTION.

PREQUALIFICATION

PRIOR TO USE, THE CONTRACTOR SHALL SUBMIT TO THE DIRECTOR COPIES OF THE MANUFACTURER'S CERTIFIED TEST DATA SHOWING THAT THE MATERIAL COMPLIES WITH THE REQUIREMENTS OF THIS SPECIFICATION. THE TEST DATA SHALL INCLUDE THE BRAND NAME OF THE PAINT, NAME OF MANUFACTURER, NUMBER OF THE LOT TESTED AND DATE OF MANUFACTURE. WHEN THE PAINT HAS BEEN APPROVED BY THE DIRECTOR, FURTHER PERFORMANCE TESTING BY THE MANUFACTURER WILL NOT BE REQUIRED UNLESS THE FORMULATION OR MANUFACTURING PROCESS HAS BEEN CHANGED, IN WHICH CASE NEW CERTIFIED TEST RESULTS WILL BE REQUIRED.

ACCEPTANCE

THE MANUFACTURER SHALL SUBMIT CERTIFIED TEST DATA IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SPECIFICATION. THE STATE RESERVES THE RIGHT TO SAMPLE AND TEST DELIVERED LOTS FOR COMPLIANCE.

LOCATIONS

THE FOLLOWING SUMMARY OF MAJOR SUPPORT SECTIONS TO HAVE A PROTECTIVE COATING APPLIED IS NOTED BELOW:

SUPPORT NO.	MAJOR SECTIONS
1	1 POLE, 1 ARM
2	2 END FRAMES
3	2 END FRAMES
4	1 POLE, 1 ARM
5	2 END FRAMES
6	1 POLE, 1 ARM
7	1 POLE, 1 ARM
8	2 END FRAMES
9	2 END FRAMES
10	1 POLE, 1 ARM
11	2 END FRAMES
12	2 END FRAMES
13	1 POLE, 1 ARM
14	2 END FRAMES
15	1 POLE, 1 ARM
16	2 END FRAMES
17	2 END FRAMES
18	2 END FRAMES
19	2 END FRAMES
20	1 POLE, 1 ARM
20A	1 POLE, 1 ARM
21	2 END FRAMES
22	2 END FRAMES
23	2 END FRAMES
24	2 END FRAMES
25	2 END FRAMES
26	2 END FRAMES
27	2 END FRAMES

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO PERFORM THIS WORK:

ITEM 630-SURFACE PREPARATION, EXISTING SUPPORT SECTIONS...56 EACH
ITEM 630-COATING, EPOXY PRIME COAT, SUPPORT SECTIONS.....56 EACH
ITEM 630-COATING, EPOXY INTERMEDIATE COAT, SUPPORT SECTIONS.....56 EACH
ITEM 630-COATING, URETHANE TOP COAT, SUPPORT SECTIONS.....56 EACH

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LOOP DETECTORS

AN ESTIMATED QUANTITY OF ITEM 632-DETECTOR LOOP HAS BEEN PROVIDED AS A CONTINGENCY WHEN WIRE IS CUT, BROKEN, OR DESTROYED DUE TO PAVEMENT REPAIR OR BUTT JOINT OPERATIONS.

NEW LOOP DETECTORS SHALL BE PLACED AT THE SAME LOCATIONS AND SAME SIZE AS THE EXISTING. THE LOOP DETECTOR WIRE SHALL BE REPLACED TO THE PULL BOX OR POLE, WHICHEVER IS APPLICABLE, UNDER ITEM 632 AND TC-82.10.THE NEW CABLE SPLICE KITS SHALL BE INCLUDED IN THIS PAY ITEM.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY:

ITEM 632-DETECTOR LOOP 12 EACH

LOCATION	STATION		828											621					
			EDGE LINES		LANE LINES	CHANNELIZING LINES		TRANSVERSE LINES		DOTTED LINE, 4"	STOP LINES	CROSSWALK LINES	LANE ARROWS	WORD ON PAVEMENT, 72"	RAISED PAVEMENT MARKER, INSTALLATION ONLY				
	W	Y	LIN. FT.	LIN. FT.	LIN. FT.	GORE	*	W	Y	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	W	Y	W/R	Y/R	
FROM	TO	LIN. FT.				LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.						LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
IR-71 NB	865+00	867+25	225	225	675										6				
	867+25	870+20	295	295	885					295					8				
	870+20	872+20	200	200	800										6				
	872+20	878+85	665	665	1995	1330		965							16		33		
	878+85	935+00	5615	5615	16845										140				
	935+00	941+00	600	600	1200		600								16				
	941+00	946+90	590	590	1180	2360		835							10		59		
	946+90	982+16.02 BK	3527	3527	7054										60				
	1879+48.88AH	1907+35	2787	2787	5574										48				
	1907+35	1910+25	580	290	580	290									6		7		
	1910+25	1922+00	1175	1175	3525										30				
	1922+00	1928+00	600	600	1200		600								15				
	1928+00	1931+35	335	335	670	670		480							6		16		
	1931+35	1946+05	1470	1470	1470										13				
	1946+05	1948+75	540	270	270	270									3		6		
	1948+75	1966+80	1805	1805	3610										30				
	1966+80	1980+75	1395	1395															
	1980+75	1990+90	2030	1015	2030	1015									16		25		
	1990+90	1998+90	800	800	2400										21				
IR-71 SB	865+00	898+45	3345	3345	10035										84				
	898+45	901+10	530	265	530	265									4		6		
	901+10	946+55	4545	4545	9090										75				
	946+55	949+35	280	280	840										9				
	949+35	951+20	370	185	370	185									3		4		
	951+20	982+16.02 BK	3097	3097	6194										52				
	1879+48.88AH	1908+00	2852	2852	5704										48				
	1908+00	1912+05	405	405	810	810		580							8		20		
	1912+05	1913+40	135	135	405										2				
	1913+40	1920+75	735	735	1470										14				
	1920+75	1924+00	325	325	650	650		420							6		16		
	1924+00	1931+95	795	795	1590					795					13				
	1931+95	1935+00	610	305	610	305									6		8		
	1935+00	1983+35	4835	4835	9670										80				
	1983+35	1989+60	625	625	1875	1250									18		32		
	1989+60	1998+75	915	915	2745										24				
RAMP A (W65TH)	878+50	893+00	1450	1450														18	
	893+00	936+75	4375	4375	4375													54	
	936+75	938+17	142	142			142				60	280	4	2				1	
TOTAL			55600	53270	108926	9400	1342	3280		1090	60	280	4	2	896		232	73	
SHEET TOTALS			= 20.62 MILE		= 20.63 MILE	10742		3280		1090	60	280	4	2	71		13	1117	

QUANTITIES CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY ON SHEET 87 .

QUANTITIES CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY ON SHEET 87 .

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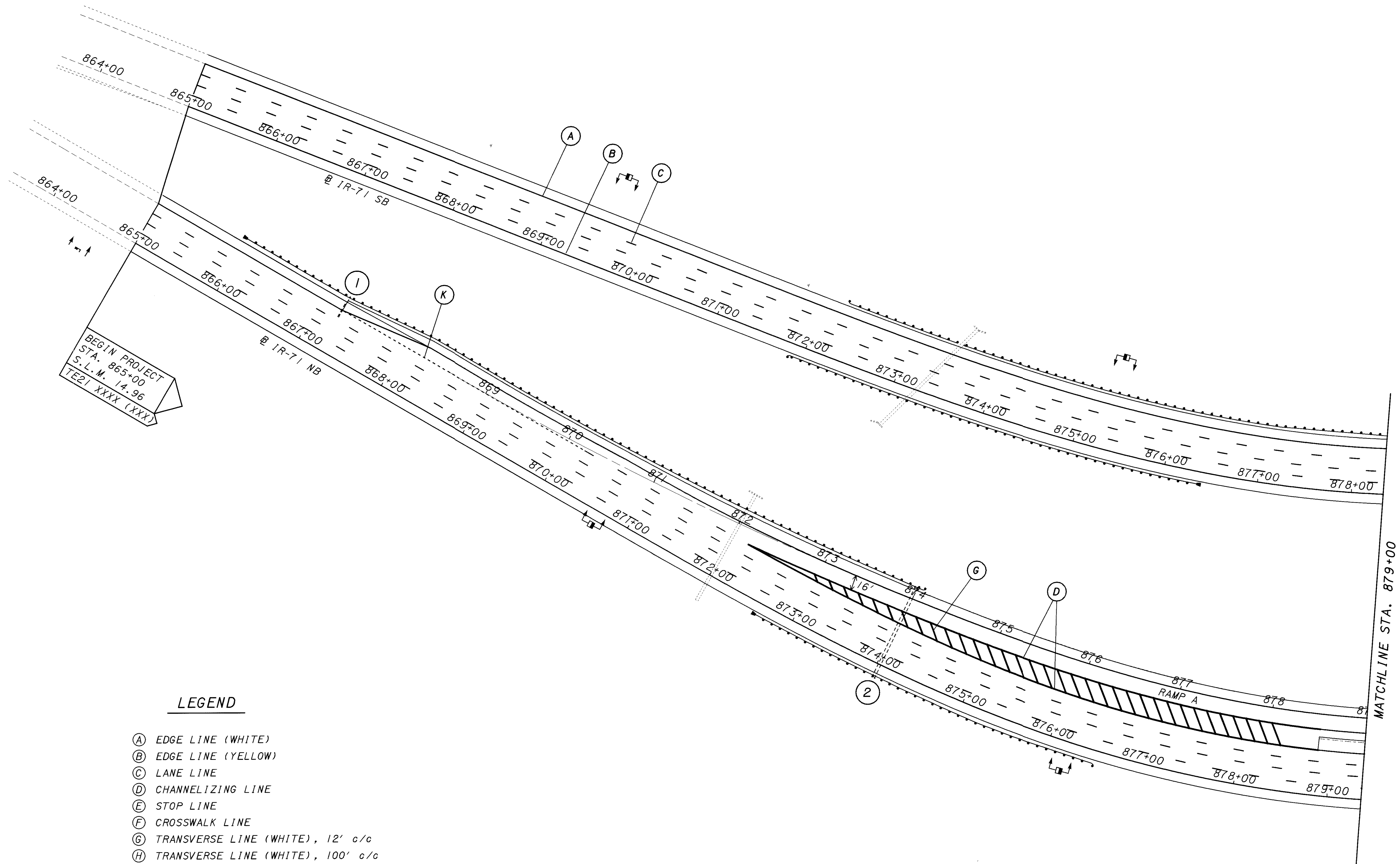
QUANTITIES CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY ON SHEET 87 .

Material Furnished by the Department Installation Only

Description	One-Way White		One-Way Yellow		Two-Way White		Two-Way Yellow		Two-Way White-Red		Two-Way Yellow-Red	
	Cols.	Dist.	Cols.	Dist.	Cols.	Dist.	Cols.	Dist.	Cols.	Dist.	Cols.	Dist.
Raised Pavement Marker, Installation Only	891								408		222	
Total By Color	891								408		222	

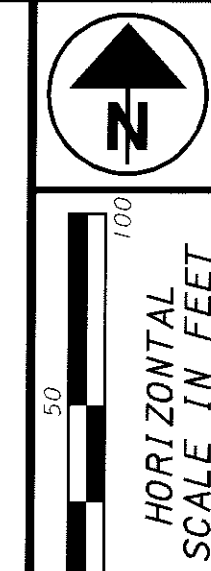
	Total	Number of Conventional High Profile	Number of Tapered Low Profile	District Stored	Columbus Stored
Raised Pavement Marker, Installation Only	<u>1521</u>	<u> </u>	<u>1521</u>	<u> </u>	<u>1521</u>
Raised Pavement Marker Casting, Installation Only	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Prismatic Retro-Reflectors	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Raised Pavement Marker Misc.: Replacement of Raised Pavement Marker	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

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LEGEND

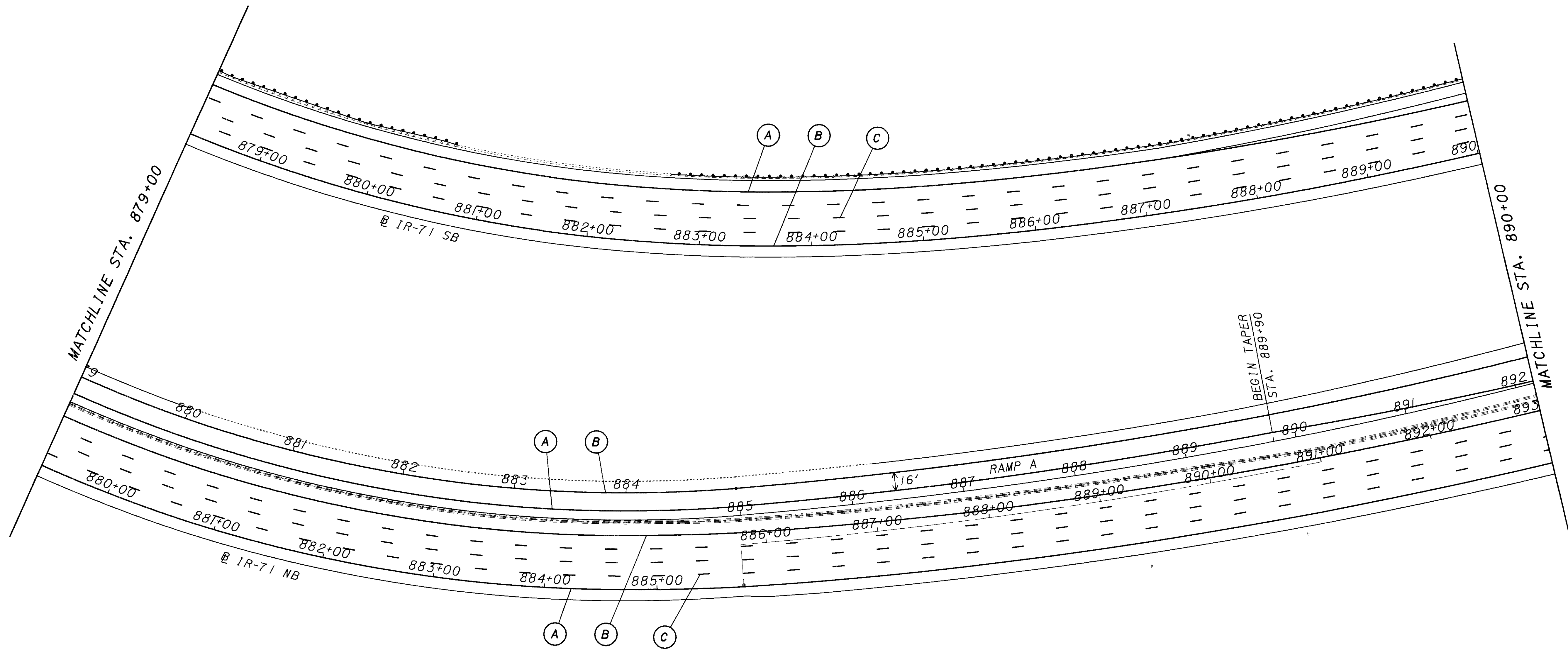
- (A) EDGE LINE (WHITE)
- (B) EDGE LINE (YELLOW)
- (C) LANE LINE
- (D) CHANNELIZING LINE
- (E) STOP LINE
- (F) CROSSWALK LINE
- (G) TRANSVERSE LINE (WHITE), 12' c/c
- (H) TRANSVERSE LINE (WHITE), 100' c/c
- (J) TRANSVERSE LINE (YELLOW), 100' c/c
- (K) DOTTED LINE, 4"



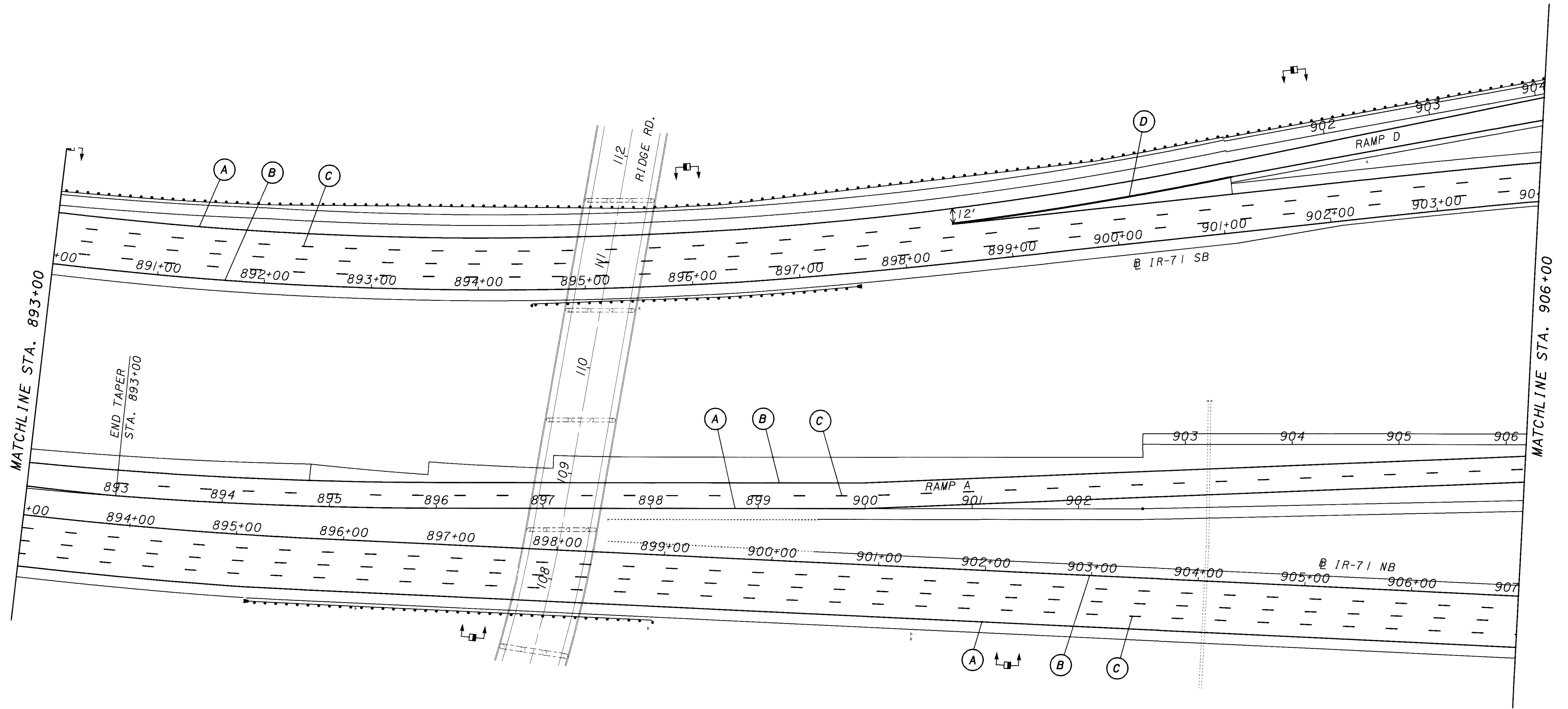
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PAVEMENT MARKING LAYOUT - IR 71
STA. 865+00 TO STA. 879+00

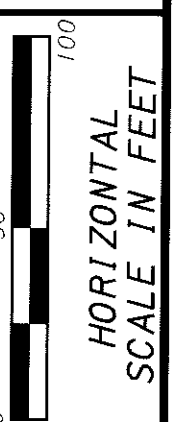
CUY-71-14.96



SEE SHEET 88 FOR LEGEND



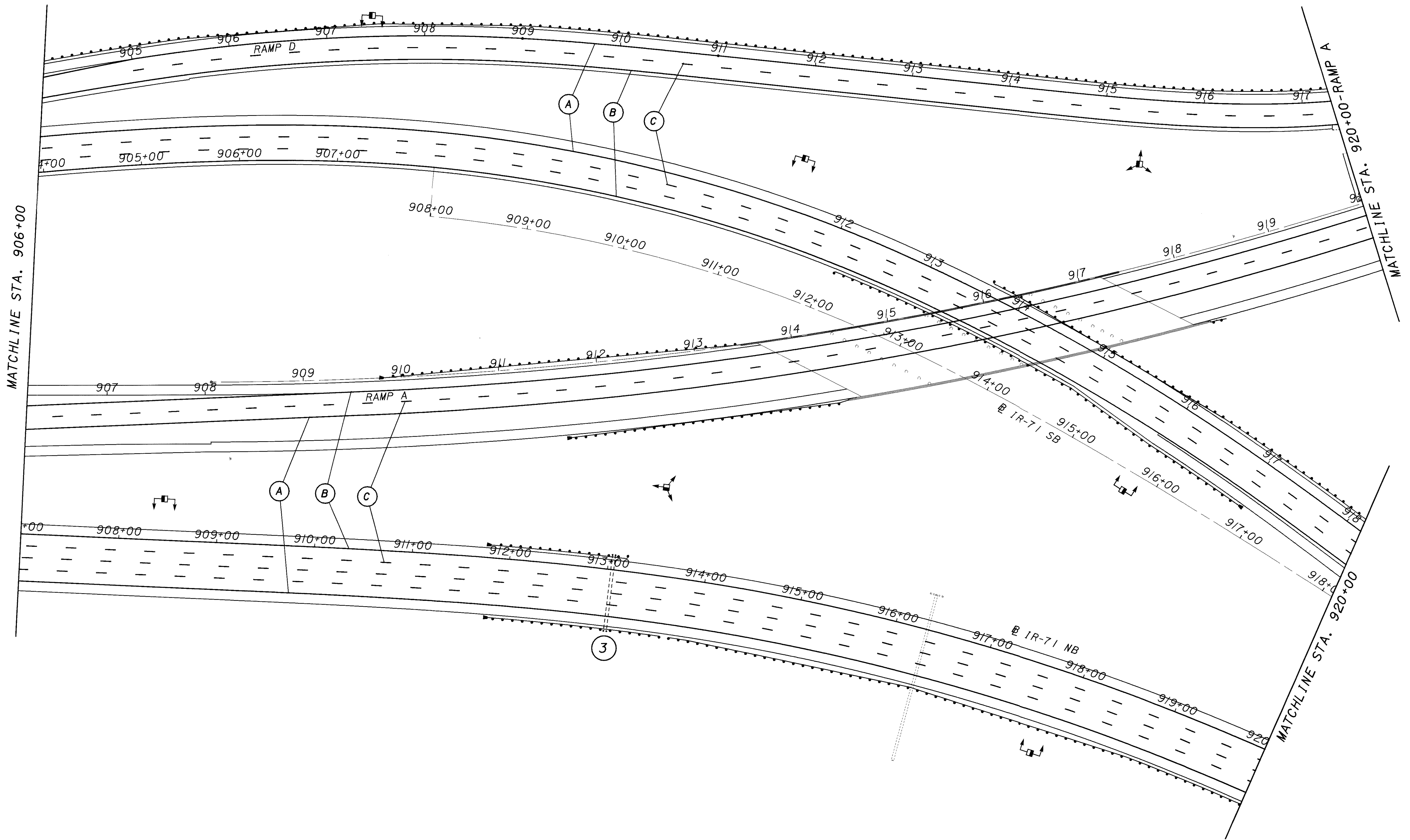
SEE SHEET 88 FOR LEGEND



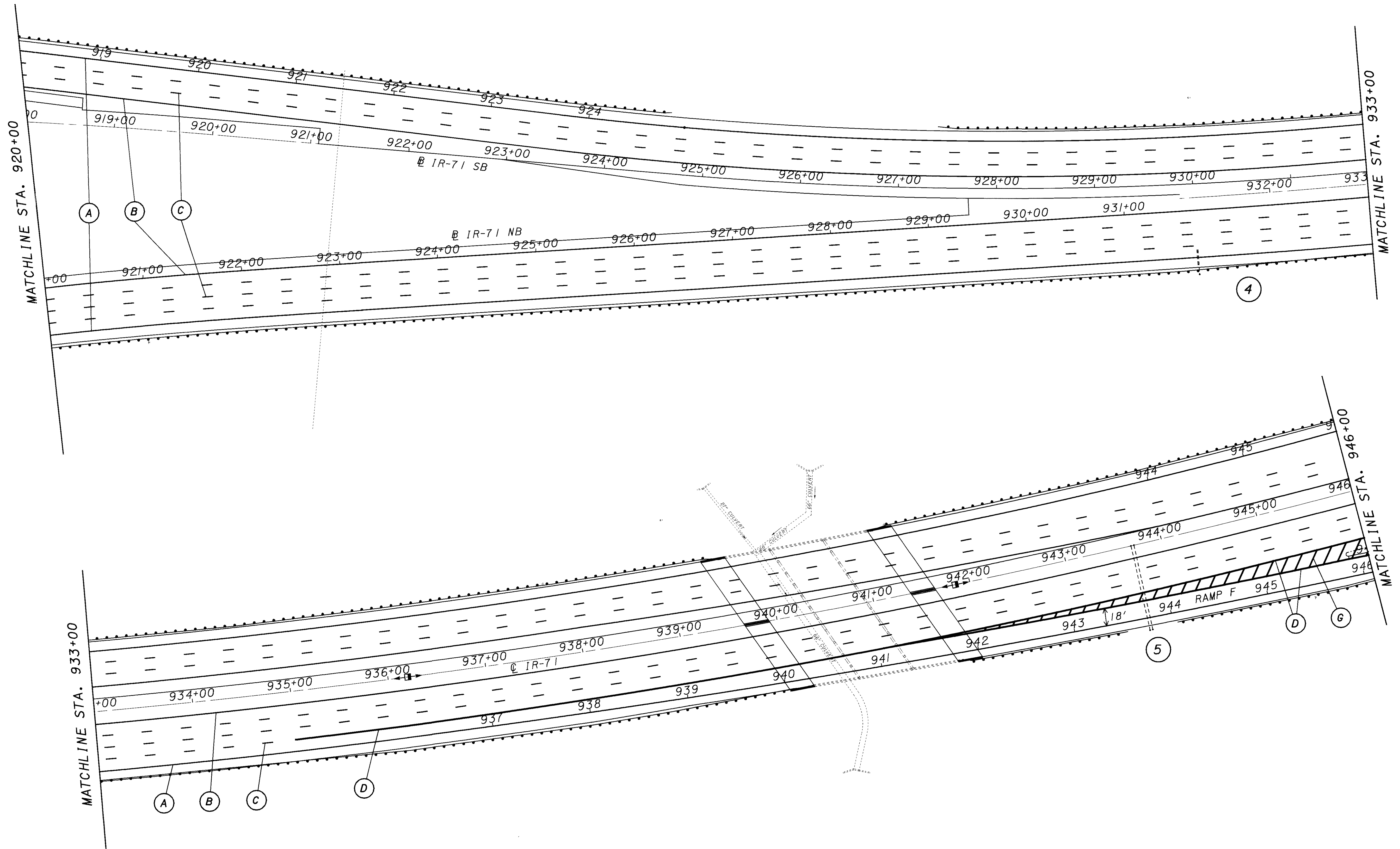
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STA. 893+00 TO STA. 907+00

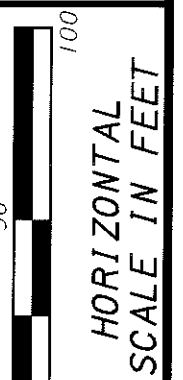
CUY-71-14.96



SEE SHEET 88 FOR LEGEND



SEE SHEET 88 FOR LEGEND

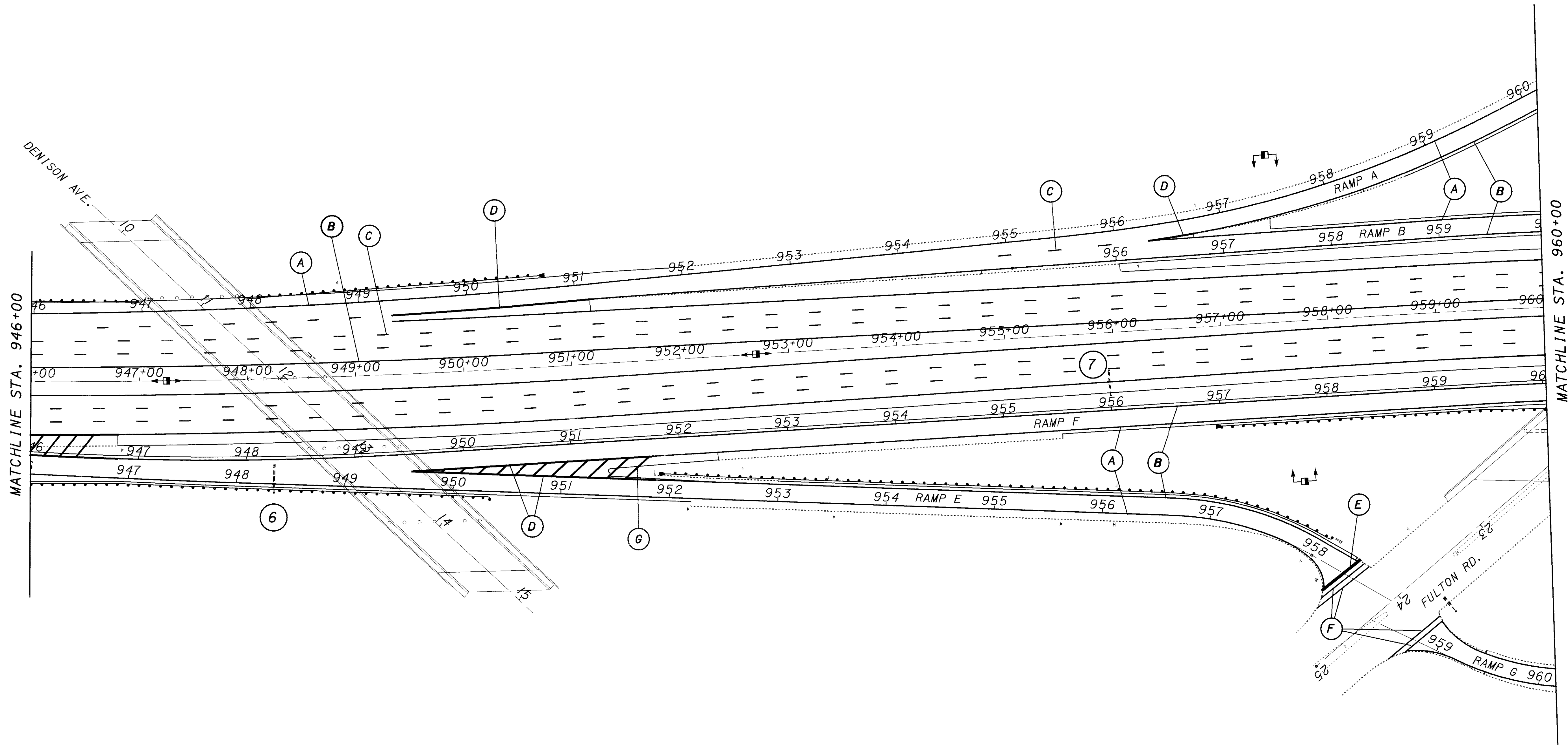


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PAVEMENT MARKING LAYOUT - IR 71
STA. 920+00 TO STA. 946+00

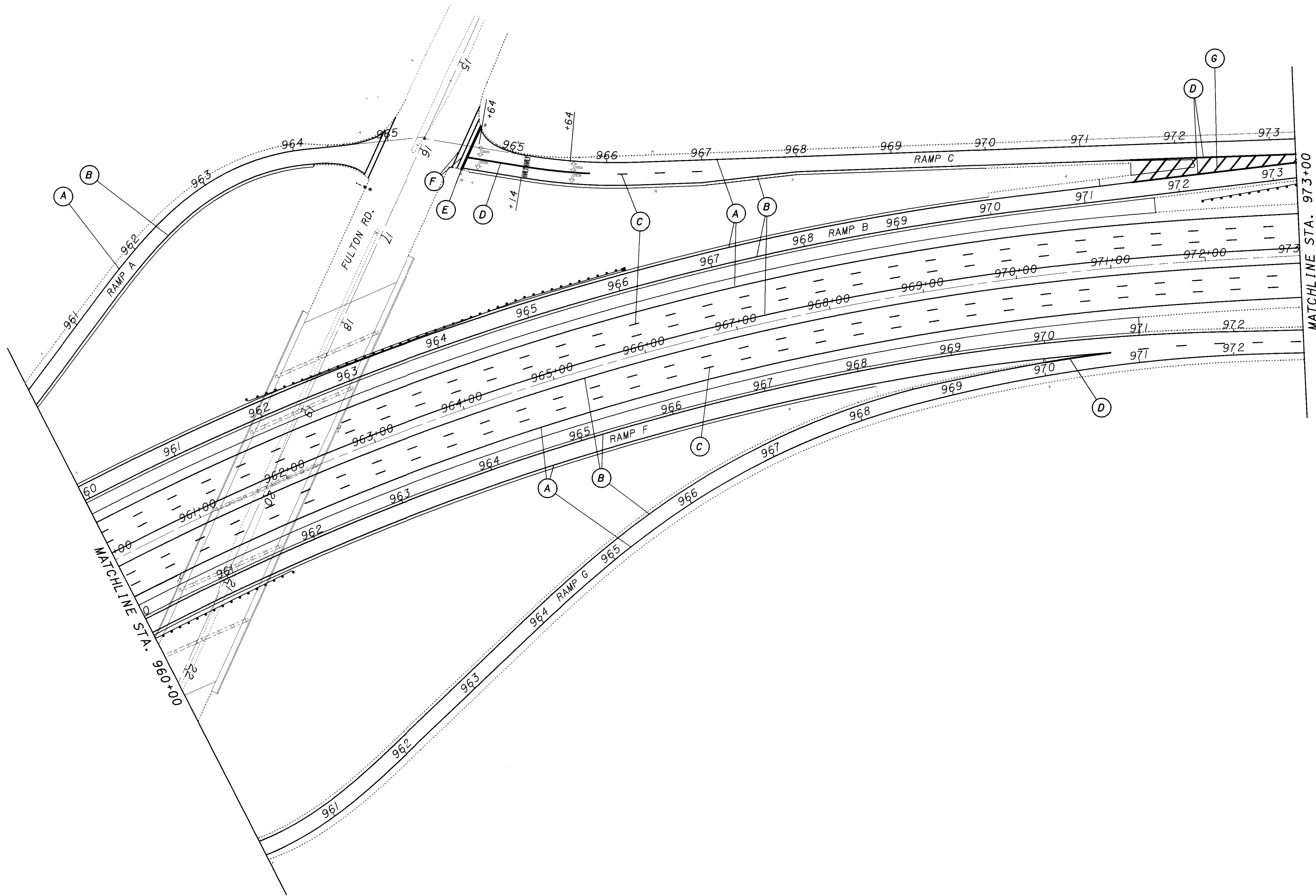
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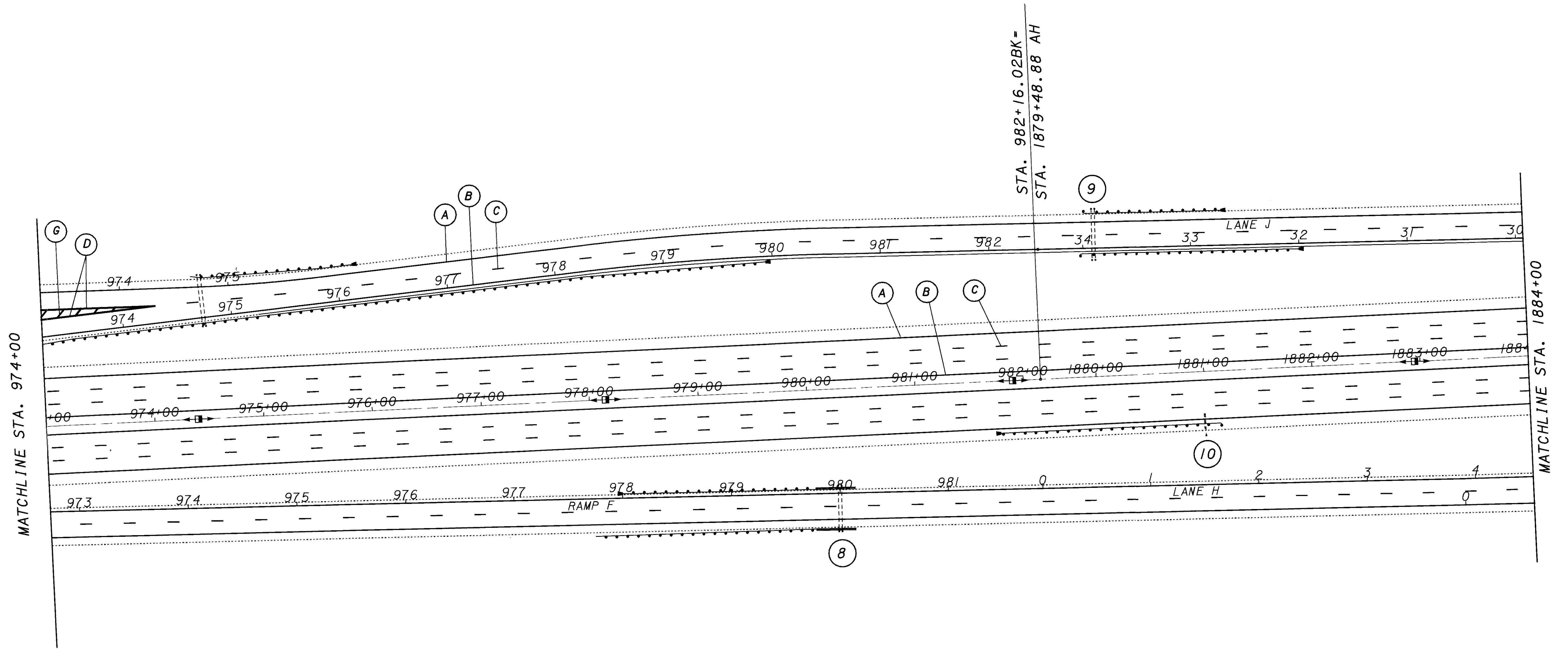


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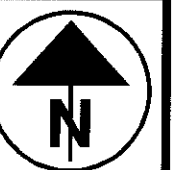
93 127	CUY-71-14.96	PAVEMENT MARKING LAYOUT - IR 71		CALCULATED FLK CHECKED KAS	 HORIZONTAL SCALE IN FEET 0 50 100
		STA. 946+00 TO STA. 960+00			



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HORIZONTAL
SCALE IN FEET
0 50 100

CALCULATED
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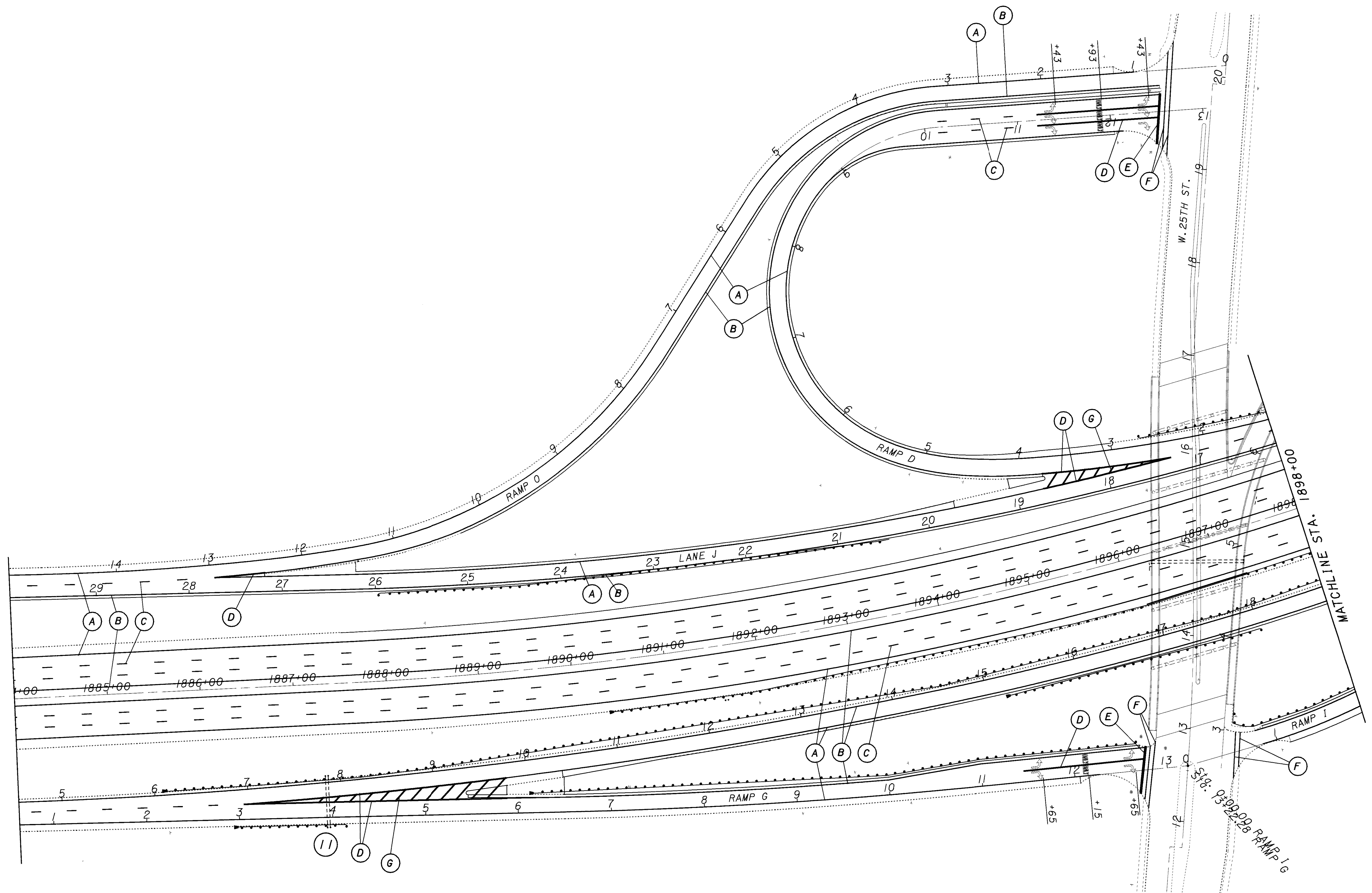
PAVEMENT MARKING LAYOUT - IR 71
STA. 974+00 TO STA. 1884+00

CUY-71-14.96

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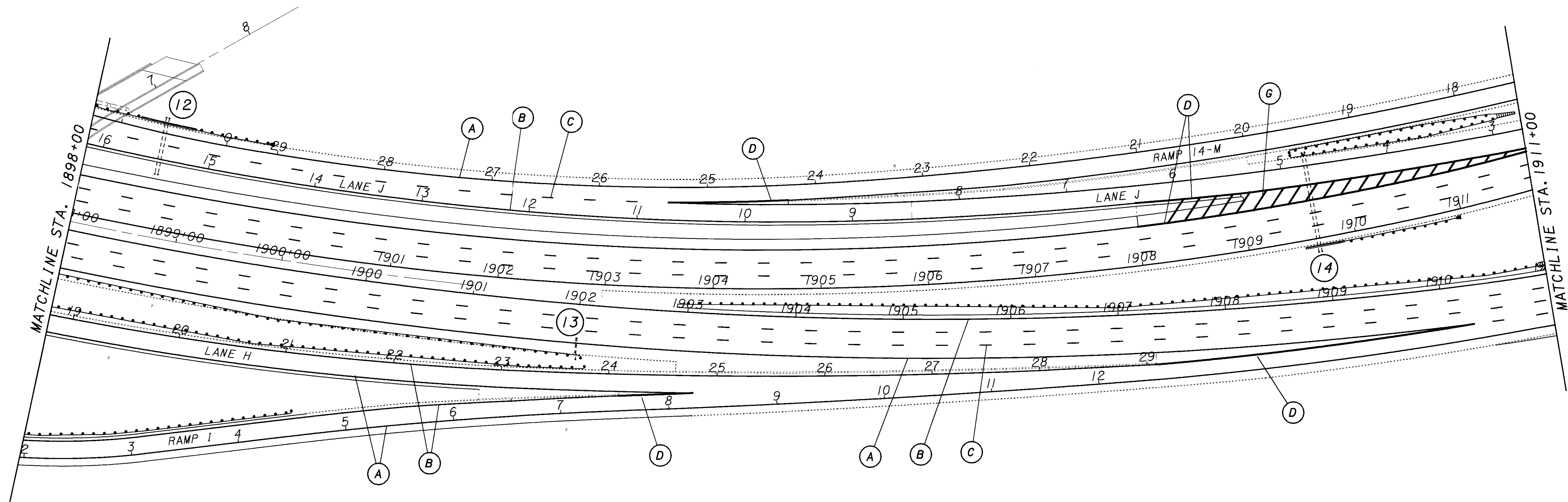
MATCHLINE STA. 1884+00



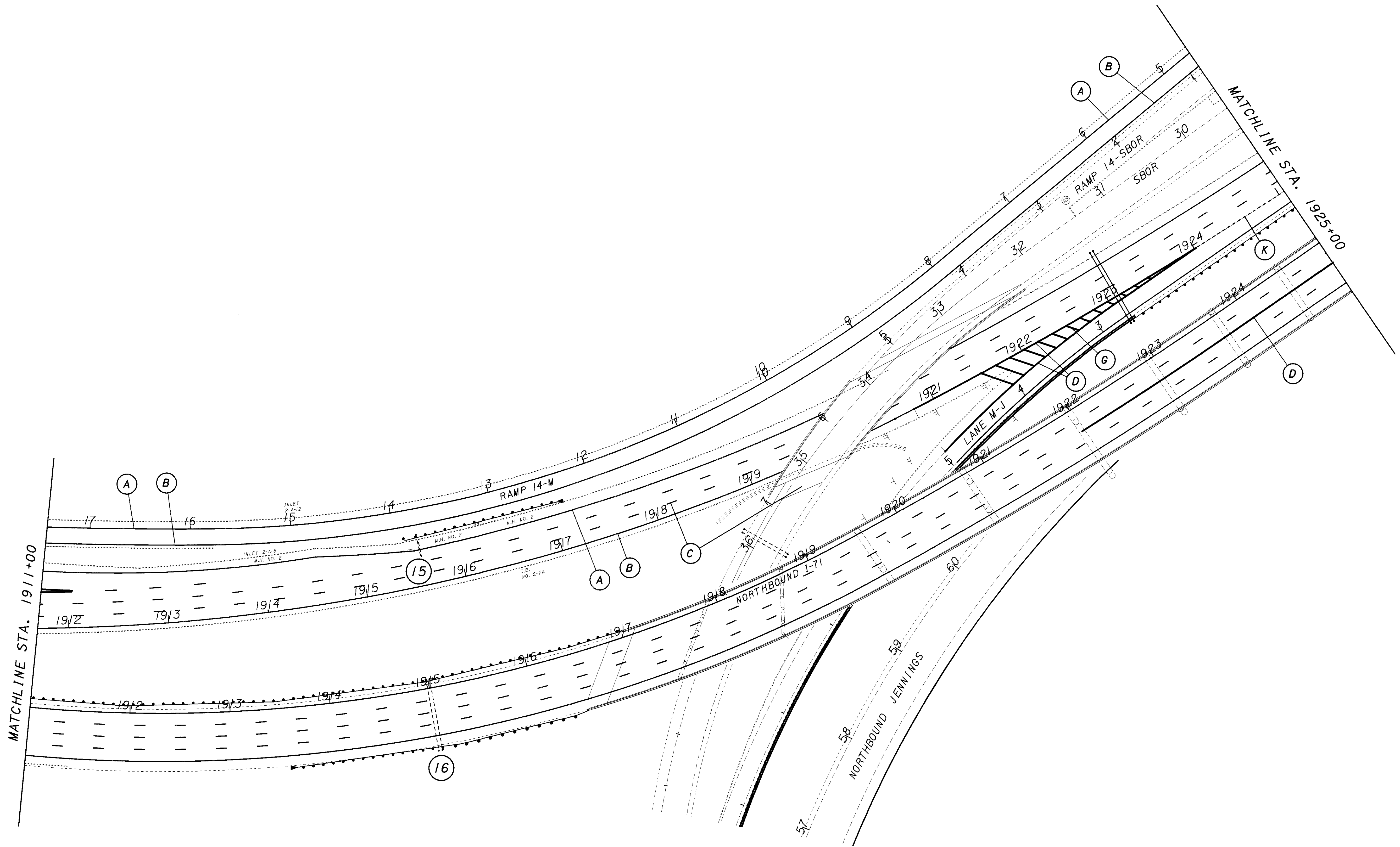
SEE SHEET 88 FOR LEGEND

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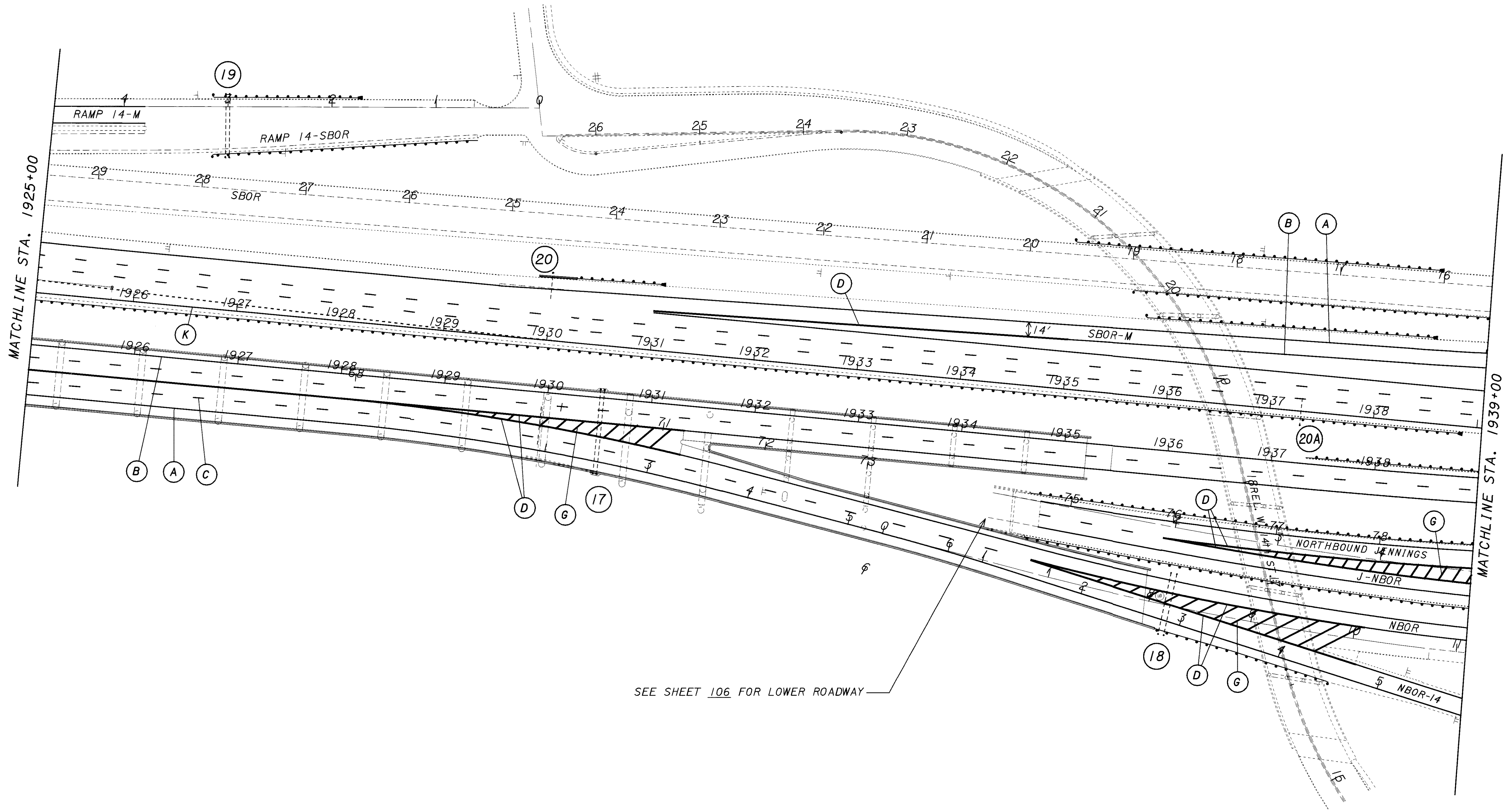
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0 50 100



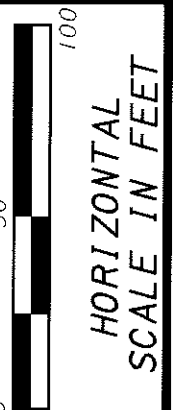
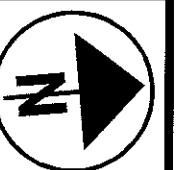
SEE SHEET 88 FOR LEGEND



SEE SHEET 88 FOR LEGEND



SEE SHEET 88 FOR LEGEND

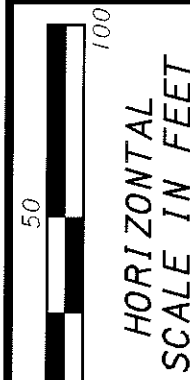
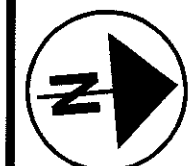
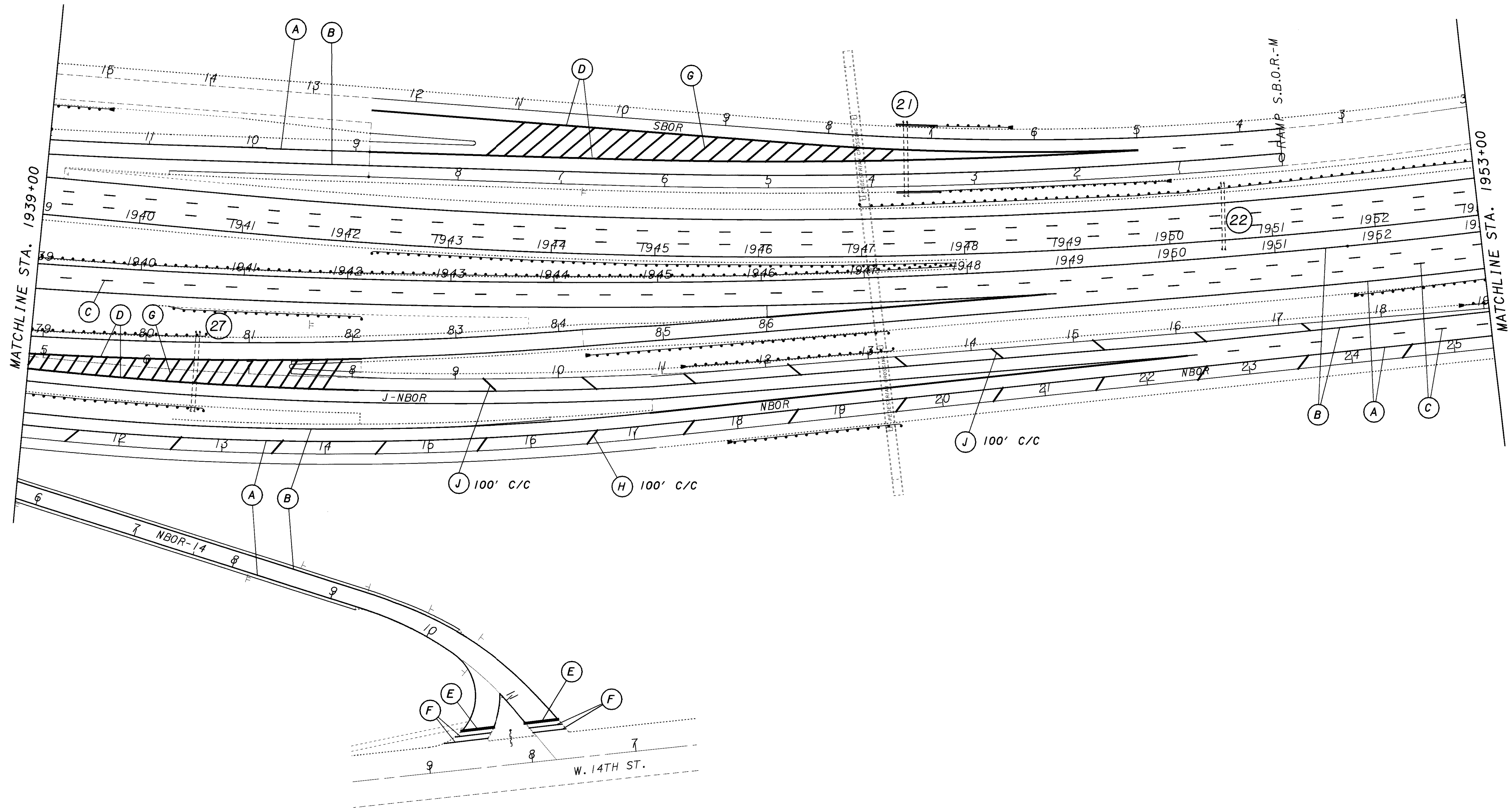


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PAVEMENT MARKING LAYOUT - IR 71
STA. 1925+00 TO STA. 1939+00

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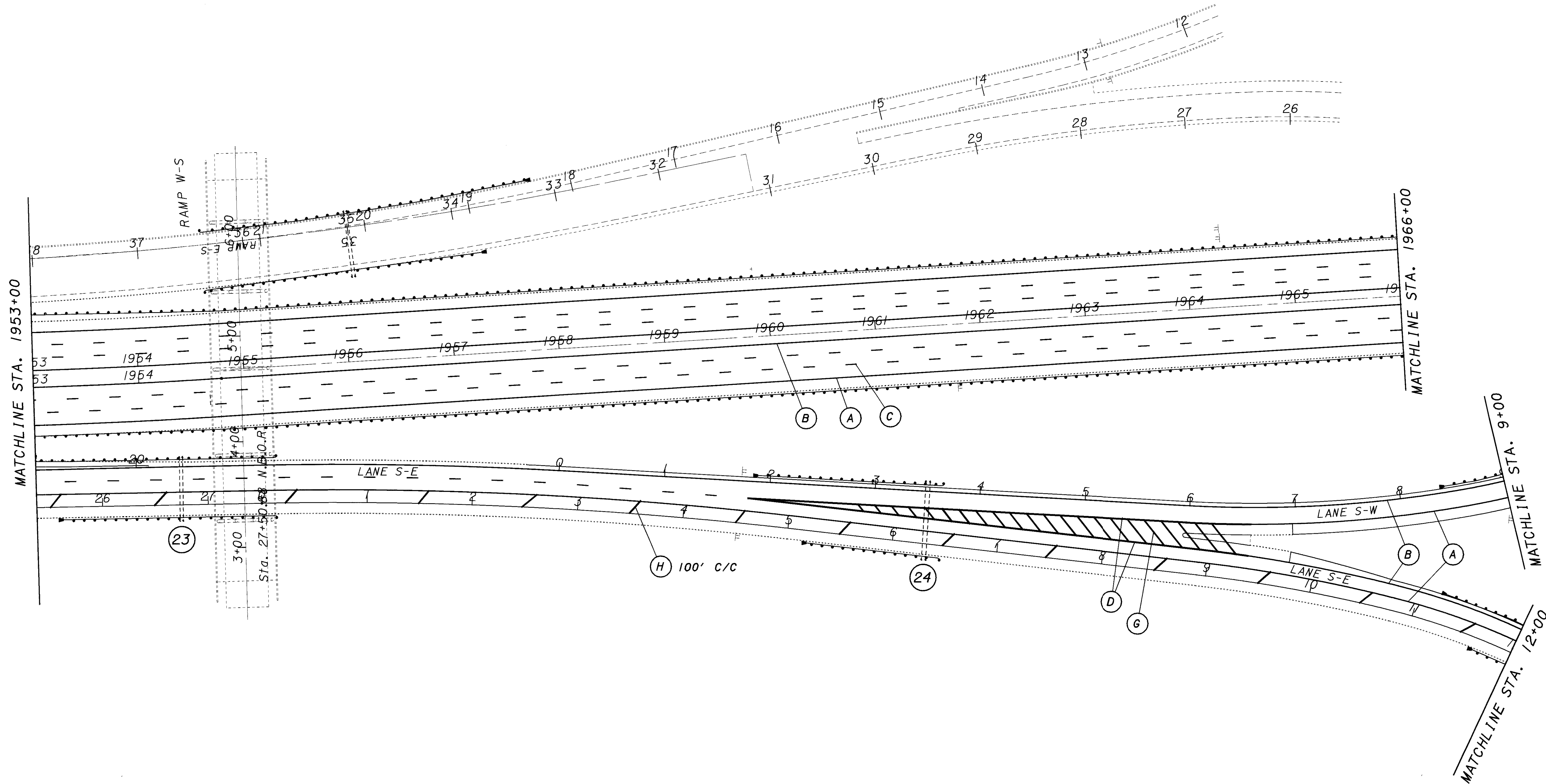
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STA. 1939+00 TO STA. 1953+00

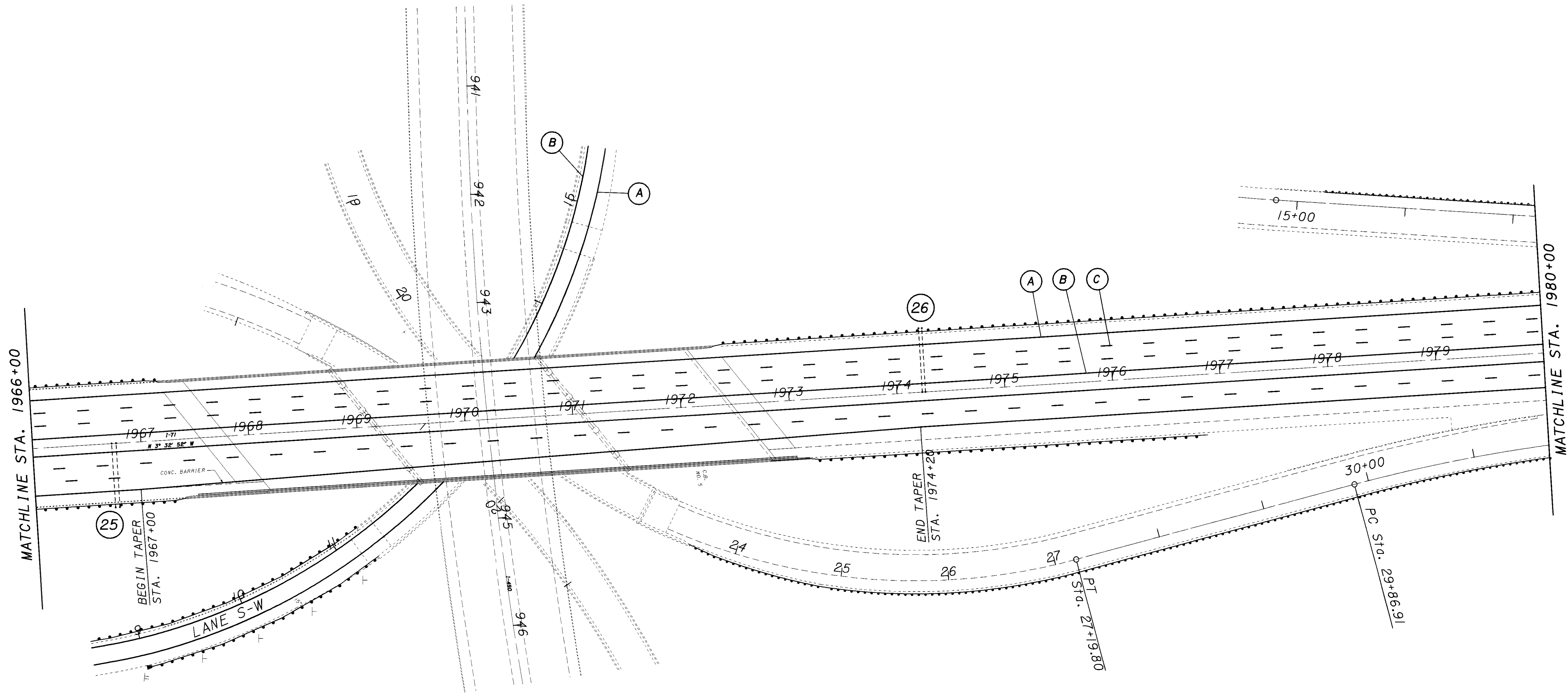
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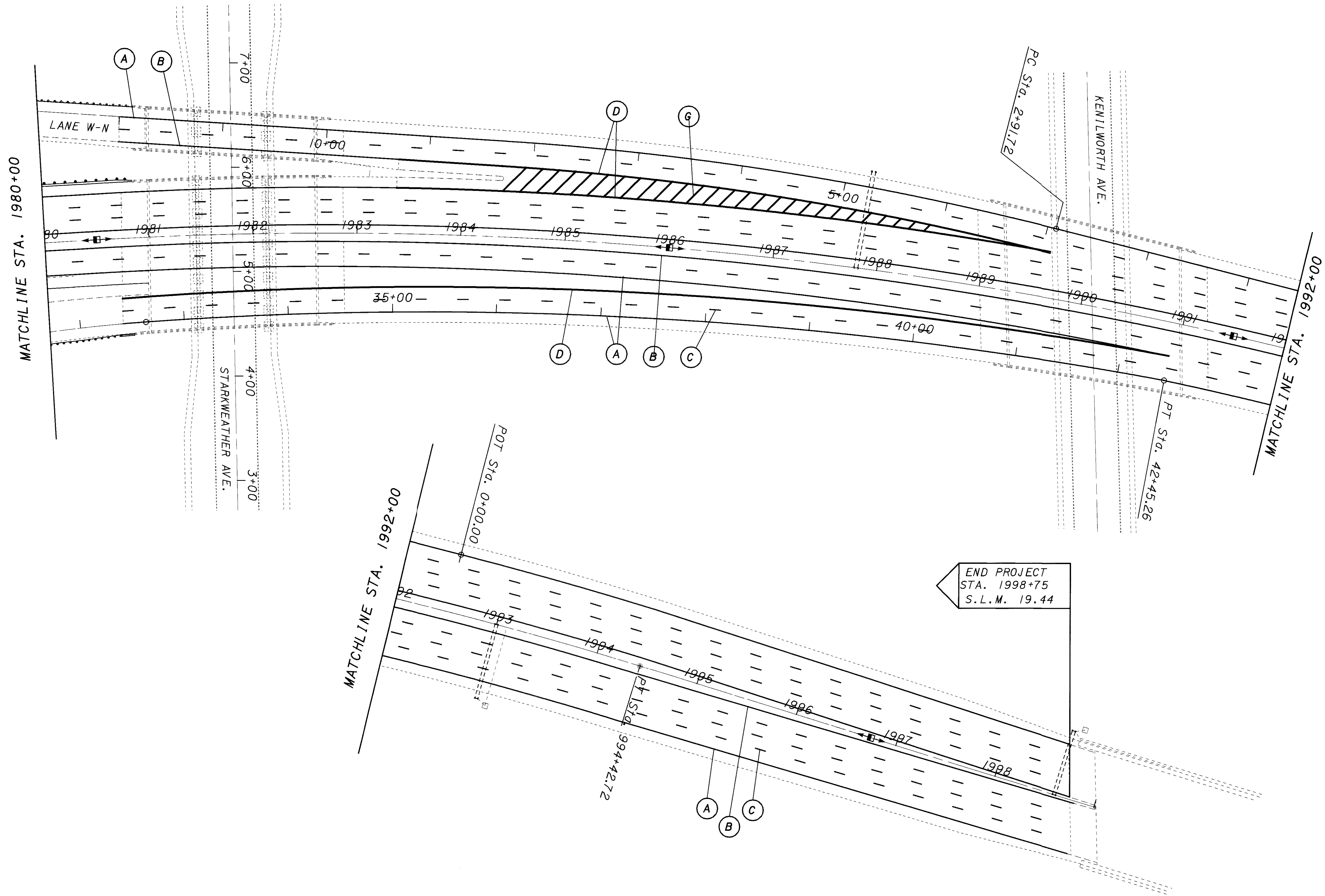
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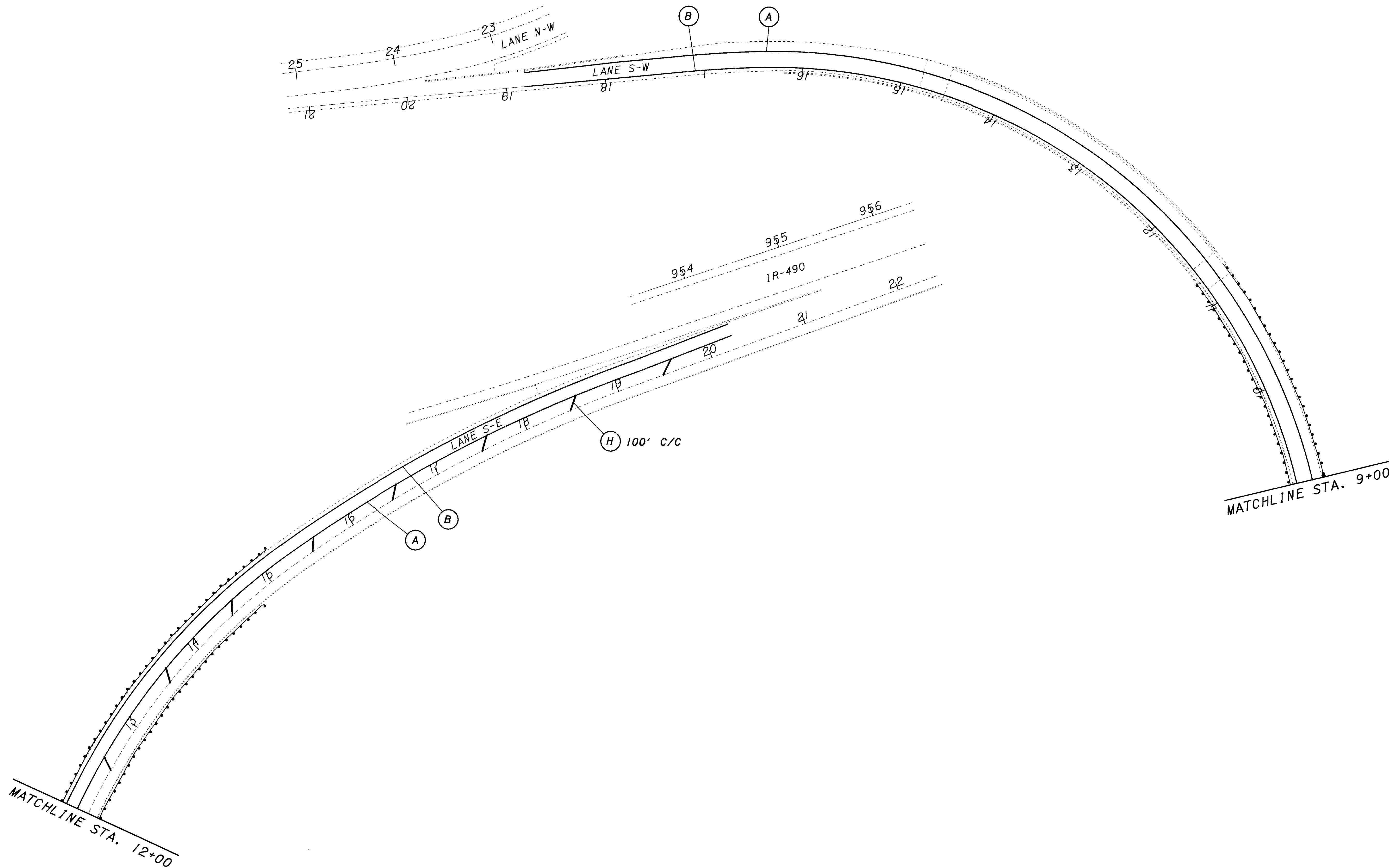


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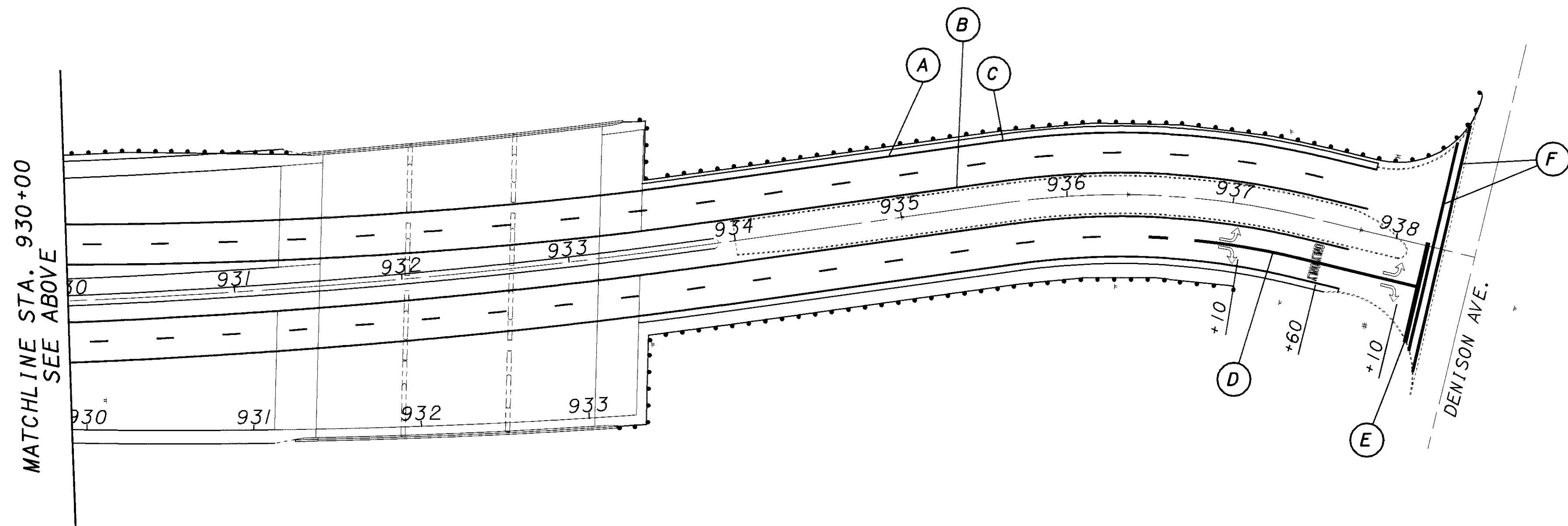
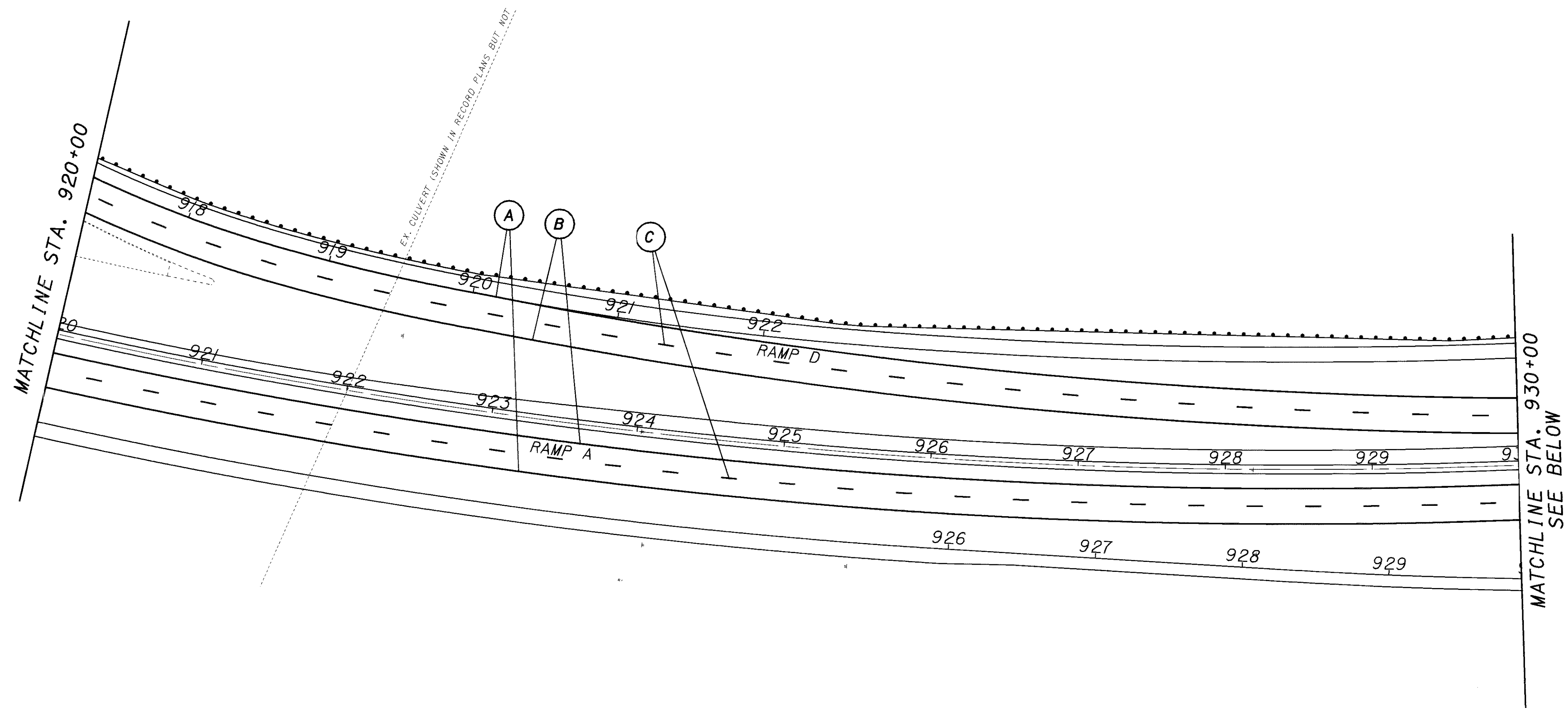
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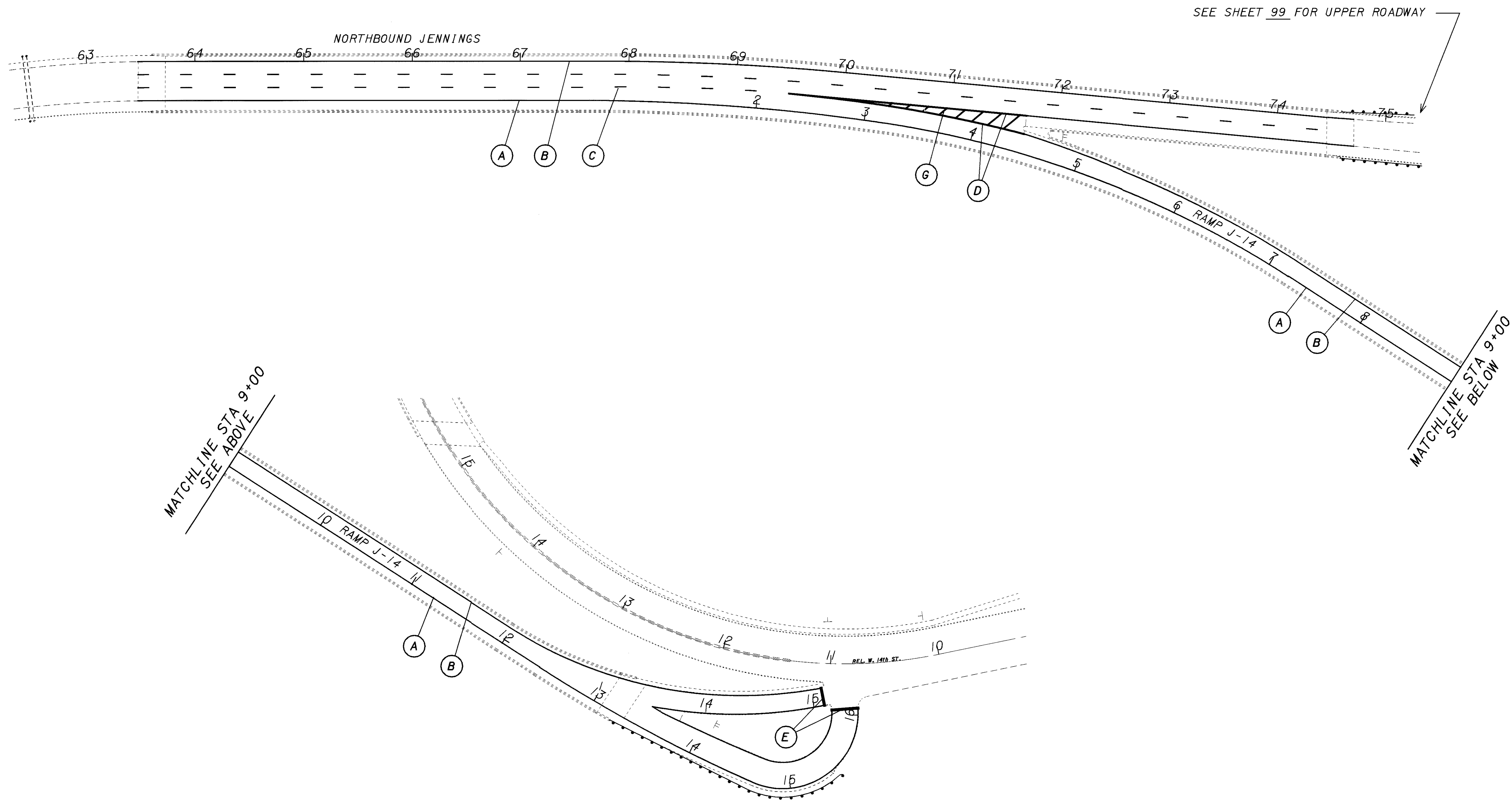


SEE SHEET 88 FOR LEGEND

 HORIZONTAL SCALE IN FEET	CALCULATED FLK	PAVEMENT MARKING LAYOUT - IR 71 LANE S-E / LANE S-W	CUY-71-14.96	
	CHECKED KAS			



SEE SHEET 88 FOR LEGEND



SEE SHEET 88 FOR LEGEND

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REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

LISTED ON THE TITLE SHEET.

AND TO SUPPLEMENTAL SPECIFICATIONS:

LISTED ON THE TITLE SHEET.

AND TO PROPOSAL NOTES:

SEALING OF CONCRETE SURFACES

CONVERSION OF METRIC STANDARD DRAWINGS:

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE CMS. THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROXIMATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C.M.S. SECTIONS 102.05 AND 105.02. THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGE ARE AVAILABLE UPON REQUEST AT THE DISTRICT 12 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, GARFIELD HEIGHTS, OHIO.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED ON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997, 1998 AND 1999 INTERIM SPECIFICATIONS, AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

CONCRETE - CLASS S COMPRESSIVE STRENGTH 4500 PSI

REINFORCING STEEL - ASTM A615, A616 OR A617
GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD:
MICRO-SILICA OVERLAY
SEALING CONSTRUCTION JOINTS WITH HMWM

ABBREVIATIONS

C.J.	CONSTRUCTION JOINT
EX.	EXISTING
FA	FORWARD ABUTMENT
F.F.	FAR FACE
F.S.	FAR SIDE
N.F.	NEAR FACE
N.S.	NEAR SIDE
OPT.C.J.	OPTIONAL CONSTRUCTION JOINT
PR.	PROPOSED
RA	REAR ABUTMENT
TYP.	TYPICAL

ASBESTOS INFORMATION

A VISUAL ASBESTOS INSPECTION DID NOT IDENTIFY ASBESTOS CONTAINING MATERIALS (ACM) PRESENT ON THE STRUCTURE IN THE FORM OF UTILITY CONDUIT PIPE. HOWEVER, THE 1977 CONSTRUCTION PLANS (CUI-71-14.96 PAGE 169/172) INDICATE ASBESTOS PACKING SHEETS WERE USED IN THE EXPANSION JOINT FOR THE MEDIAN BARRIER. REMOVAL OF THIS SMALL AMOUNT OF ASBESTOS DOES NOT REQUIRE NOTIFICATION TO THE LOCAL AIR QUALITY AUTHORITY NOR DOES IT REQUIRE AN ONSITE INSPECTOR CERTIFIED OF ASBESTOS HANDLING. HOWEVER, THE REMOVAL AND DISPOSAL OF ALL ASBESTOS CONTAINING MATERIAL DEMOLITION OF THE PARAPET MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD AND REMOVAL AND WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

THE WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

ITEM 202 - APPROACH SLAB REMOVED, AS PER PLAN

THIS ITEM SHALL BE USED TO REMOVE THE EXISTING APPROACH SLABS AT STRUCTURE CUY-71-1640 AND TO REMOVE ANY ADDITIONAL MATERIAL BOTH BELOW AND NEXT TO THE EXISTING APPROACH SLAB NECESSARY FOR THE INSTALLATION OF THE PROPOSED APPROACH SLAB. THE REMOVAL OF ADDITIONAL MATERIAL IS INCIDENTAL TO THIS ITEM AND WILL NOT BE PAID FOR SEPARATELY.

THIS ITEM ALSO INCLUDES THE REMOVAL OF THE EXISTING CONCRETE MEDIAN BARRIER THAT WILL BE REPLACED WITH THE NEW APPROACH SLAB. BEFORE REMOVING THE EXISTING MEDIAN, THE PARAPET SHALL BE SAWCUT. PAYMENT FOR THE REMOVAL SAWCUT IS INCLUDED IN THIS ITEM.

ITEM SPECIAL - STRUCTURE, MISC.: PLUGGING EXISTING SCUPPERS

THIS ITEM SHALL BE USED TO PLUG THE EXISTING SCUPPERS ON THE BRIDGE. THE CONTRACTOR SHALL CAP THE BOTTOM OF THE SCUPPER DRAIN PIPE. THE SCUPPERS SHALL BE COMPLETELY FILLED WITH ITEM 848.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER EACH FOR ITEM SPECIAL - STRUCTURE, MISC.: PLUGGING EXISTING SCUPPER WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 601 - DUMPED ROCK FILL, TYPE B, AS PER PLAN

DUMPED ROCK FILL SHALL BE PLACED AT THE LOCATION SHOWN IN THE PLAN. PRIOR TO PLACING THE DUMPED ROCK FILL, THE CONTRACTOR SHALL REGRADE THE EXISTING SLOPE PROTECTION TO FILL THE WASHED OUT AREA UNDER THE CENTERLINE FORWARD ABUTMENT SCUPPERS.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 601 - DUMPED ROCK FILL, TYPE B, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

STRUCTURE GENERAL NOTES

DESIGN AGENCY
DISTRICT TWELVE
PRODUCTION DEPARTMENT

DATE
mm/yy
REVIEWED
rtr
STRUCTURE FILE NUMBER

DRAWN
NRC
DESIGNED
NRC
CHECKED
ccc
REVISED

CUY-71-14.96

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ITEM 517 - RAILING FACED, AS PER PLAN

DESCRIPTION:
THIS ITEM OF WORK SHALL CONSIST OF FACING CURB STYLE PARAPETS, USING CAST IN PLACE CONCRETE, TO OBTAIN THE DEFLECTOR SHAPE AS SHOWN IN THE PLANS.

REMOVAL:
THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXISTING ALUMINUM RAILING, POSTS, CURB PLATES, EXISTING CONCRETE CURB AND BULB ANGLE GUTTER. ALL LOOSE OR UNSOUND CONCRETE SHALL BE REMOVED. ALSO TO BE REMOVED SHALL BE ANY SOUND CONCRETE NECESSARY TO OBTAIN A MINIMUM 4 INCH THICKNESS OF NEW CONCRETE.

DOWEL HOLES AND REINFORCING STEEL:
DOWEL HOLES SHALL BE DRILLED WHERE SHOWN IN THE PLANS. ALL REINFORCING STEEL SHALL BE EPOXY COATED. REINFORCING STEEL SHALL BE INSTALLED USING EPOXY GROUT PER CMS 510 AND CMS 705.20. ALL REINFORCING STEEL BARS IN THE AREA OF THE DOWEL HOLE SHALL BE LOCATED WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER) PRIOR TO DRILLING THE HOLES. IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF THE EXISTING BAR. ALL REINFORCING STEEL, DOWEL HOLES AND GROUTING SHALL BE INCLUDED WITH ITEM 517 FOR PAYMENT.

SURFACE PREPARATION:
THE PARAPET SURFACE IN CONTACT WITH THE REFACING SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING, WITH ENVIRONMENTAL CONTROLS, FOLLOWED BY AN AIR BLAST. USE OF HAND TOOLS MAY BE NECESSARY TO REMOVE SCALE FROM ANY EXPOSED REINFORCING STEEL. THE SURFACE SHALL BE MADE FREE FROM SPALLS, LATENCE, AND ALL TRACES OF FOREIGN MATERIAL. DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING AS NECESSARY TO ENSURE REMOVAL OF CONTAMINANTS THAT ARE DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

SLIPFORMING:
THE CONTRACTOR IS ALLOWED THE OPTION OF SLIPFORMING PARAPETS OVER NON-TRAVELED WAYS. A MINIMUM OF THREE (3) DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER.

APPROVAL TO SLIPFORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIPFORMING RESULT IS OBTAINED.

THE ENGINEER WILL INSPECT THE SLIPFORMED SURFACE FOR HORIZONTAL CRACKING NO EARLIER THAN 21 DAYS AFTER COMPLETION OF THE SLIPFORMING OPERATION. ALL HORIZONTAL CRACKS SHALL BE REPAIRED BY EPOXY INJECTION. IF A CONCRETE SEALER HAS BEEN APPLIED, ANY DAMAGE TO THE SEALER SHALL BE REPAIRED AFTER THE EPOXY INJECTION HAS BEEN COMPLETED. THE AFOREMENTIONED REPAIRS SHALL BE MADE AT NO ADDITIONAL COST TO THE STATE.

IN ADDITION TO THE ABOVE REQUIREMENTS, THE ENGINEER WILL INSPECT THE SLIPFORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIPFORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

SLIPFORMING SHALL NOT BE PERFORMED DIRECTLY OVER AREAS WHERE THERE IS OR WILL BE VEHICULAR OR PEDESTRIAN TRAFFIC. AT THESE LOCATIONS, THE PARAPETS SHALL BE FORMED AND THE FOLLOWING REQUIREMENTS FOLLOWED.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF ALL CONCRETE PARAPETS SHALL BE 6 INCHES. THE MAXIMUM SLUMP ALLOWED DURING PLACEMENT IS 8 INCHES.

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

CONTROL JOINTS:
CONTROL JOINTS SHALL BE CONSTRUCTED 1½” DEEP AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE. THE SAWCUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT A MINIMUM OF 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼ INCH. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT-S-00227E TO A MINIMUM DEPTH OF A INCH. THE BOTTOM ½ INCH OF THE INSIDE AND OUTSIDE FACES SHOULD BE LEFT UNSEALED TO ALLOW WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

METHOD OF MEASUREMENT:
THE QUANTITY SHALL BE THE ACTUAL LENGTH OF RAILING FACED AS MEASURED FROM END OF WINGWALL TO END OF WINGWALL. THIS ITEM SHALL INCLUDE ALL FURNISHING OF ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS WORK. ALL COSTS OF REMOVAL, DOWEL HOLES, REINFORCING STEEL, CONCRETE AND SHRINKAGE CONTROL JOINTS, EPOXY INJECTION, INSPECTION PLATFORMS, COMPLETE AND IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
517	FEET	RAILING FACED, AS PER PLAN

ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T=15”), AS PER PLAN

THIS ITEM SHALL BE USED AS DETAILED IN THE PLANS. OVERLAY THE BACKWALLS AS NECESSARY TO MATCH EXISTING ELEVATIONS. CONCRETE SHALL BE CLASS S. ALL REINFORCING STEEL SHALL BE EPOXY COATED. FOR ALL INFORMATION NOT PROVIDED, REFER TO BRIDGE STANDARD DRAWING AS-I-81.

APPROACH SLAB DOWEL BARS SHALL BE EPOXY GROUTED PER CMS 510. PAYMENT FOR ALL WORK AND MATERIALS ASSOCIATED WITH THE APPROACH SLAB DOWEL BAR IS INCLUDED WITH THIS ITEM 611.

THIS ITEM ALSO INCLUDES PEJF AS SHOWN AND POLYSTYRENE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T=15”), AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEMS 848

THESE ITEMS SHALL BE PERFORMED PER SUPPLEMENTAL SPECIFICATION “BRIDGE DECK REPAIR AND OVERLAY WITH CONCRETE USING HYDRO-DEMOLITION” WITH THE FOLLOWING REQUIREMENTS:

THE DEPTH OF HYDRODEMOLITION SHALL BE AS SPECIFIED IN THE PLANS.

CONSTRUCTION JOINTS WILL NOT BE PERMITTED IN THE WHEEL LINE.

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

ITEM 842 - CLASS S CONCRETE, MISC.: PARAPET

DESCRIPTION:
THIS ITEM OF WORK SHALL CONSIST OF INSTALLING APPROACH PARAPETS, USING CAST IN PLACE CONCRETE AS SHOWN IN THE PLANS. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

SLIPFORMING:
THE CONTRACTOR IS ALLOWED THE OPTION OF SLIPFORMING PARAPETS OVER NON-TRAVELED WAYS. A MINIMUM OF THREE (3) DAYS AFTER PLACING THE TEST SECTION, THE CONTRACTOR SHALL CORE THE TEST SECTION (A MINIMUM OF 3 CORES) AT LOCATIONS AS DIRECTED BY THE ENGINEER.

APPROVAL TO SLIPFORM SHALL NOT BE GRANTED UNTIL AFTER THE CORING AND AFTER A SUCCESSFUL SLIPFORMING RESULT IS OBTAINED.

THE ENGINEER WILL INSPECT THE SLIPFORMED SURFACE FOR HORIZONTAL CRACKING NO EARLIER THAN 21 DAYS AFTER COMPLETION OF THE SLIPFORMING OPERATION. ALL HORIZONTAL CRACKS SHALL BE REPAIRED BY EPOXY INJECTION. IF A CONCRETE SEALER HAS BEEN APPLIED, ANY DAMAGE TO THE SEALER SHALL BE REPAIRED AFTER THE EPOXY INJECTION HAS BEEN COMPLETED. THE AFOREMENTIONED REPAIRS SHALL BE MADE AT NO ADDITIONAL COST TO THE STATE.

IN ADDITION TO THE ABOVE REQUIREMENTS, THE ENGINEER WILL INSPECT THE SLIPFORMED SURFACE FOR HORIZONTAL CRACKING 6 MONTHS AFTER COMPLETION OF THE SLIPFORMING OPERATION. ANY ADDITIONAL CRACKS FOUND SHALL BE REPAIRED AS PER THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE STATE.

SLIPFORMING SHALL NOT BE PERFORMED DIRECTLY OVER AREAS WHERE THERE IS OR WILL BE VEHICULAR OR PEDESTRIAN TRAFFIC. AT THESE LOCATIONS, THE PARAPETS SHALL BE FORMED AND THE FOLLOWING REQUIREMENTS FOLLOWED.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF ALL CONCRETE PARAPETS SHALL BE 6 INCHES. THE MAXIMUM SLUMP ALLOWED DURING PLACEMENT IS 8 INCHES.

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

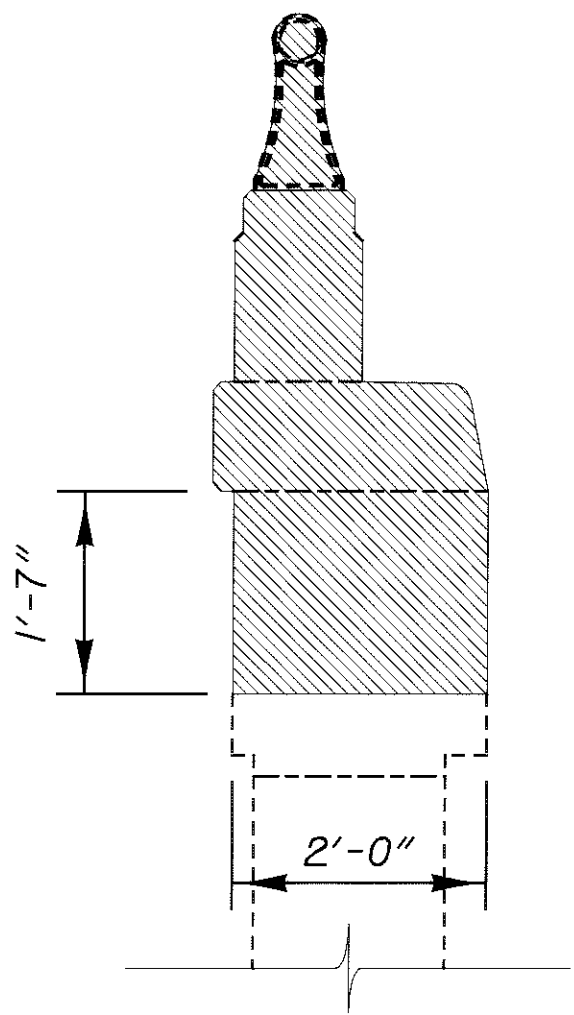
CONTROL JOINTS:
CONTROL JOINTS SHALL BE CONSTRUCTED 1½” DEEP AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE. THE SAWCUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT A MINIMUM OF 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼ INCH. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT-S-00227E TO A MINIMUM DEPTH OF A INCH. THE BOTTOM ½ INCH OF THE INSIDE AND OUTSIDE FACES SHOULD BE LEFT UNSEALED TO ALLOW WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

METHOD OF MEASUREMENT:
THE QUANTITIES OF CONCRETE, REINFORCING STEEL, DEFLECTION JOINT SAWCUT AND CAULKING MATERIAL FOR PARAPET ARE INCLUDED WITH THIS ITEM FOR PAYMENT. THE FURNISHING OF ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR:

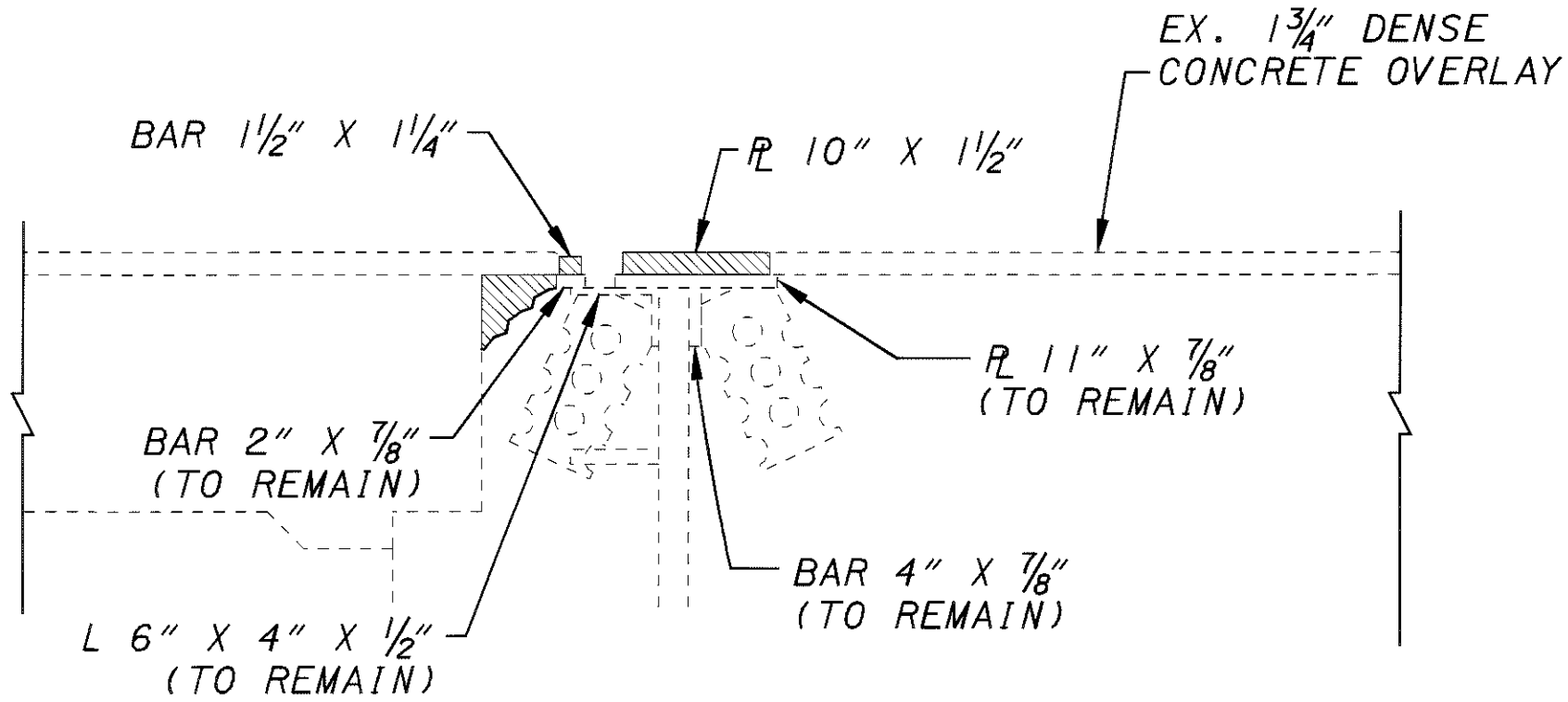
ITEM	UNIT	DESCRIPTION
842	CU. YD.	CLASS S CONCRETE, MISC.: PARAPET

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
				STRUCTURE NO.: CUY-71-1640
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	22901	820	SQUARE YARD	APPROACH SLAB REMOVED, AS PER PLAN
516	11801	319	LINEAR FEET	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN
517	76201	295	LINEAR FEET	RAILING FACED, AS PER PLAN
SPECIAL	5300040	20	EACH	STRUCTURE, MISC.: PLUGGING OF EXISTING SCUPPER
601	26001	49	CUBIC YARD	DUMPED ROCK FILL, TYPE B, AS PER PLAN
611	25001	820	SQUARE YARD	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN
842	34450	30	CUBIC YARD	CLASS S CONCRETE, MISC.: PARAPET
848	10000	2293	SQUARE YARD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2½" THICK)
848	20000	2293	SQUARE YARD	SURFACE PREPARATION USING HYDRODEMOLITION
848	30000	48	CUBIC YARD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY
848	50000	69	SQUARE YARD	HAND CHIPPING
848	50100	LUMP		TEST SLAB
848	50320	2293	SQUARE YARD	EXISTING CONCRETE OVERLAY REMOVED (1¾" DENSE CONCRETE)
864	10100	898	SQUARE YARD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

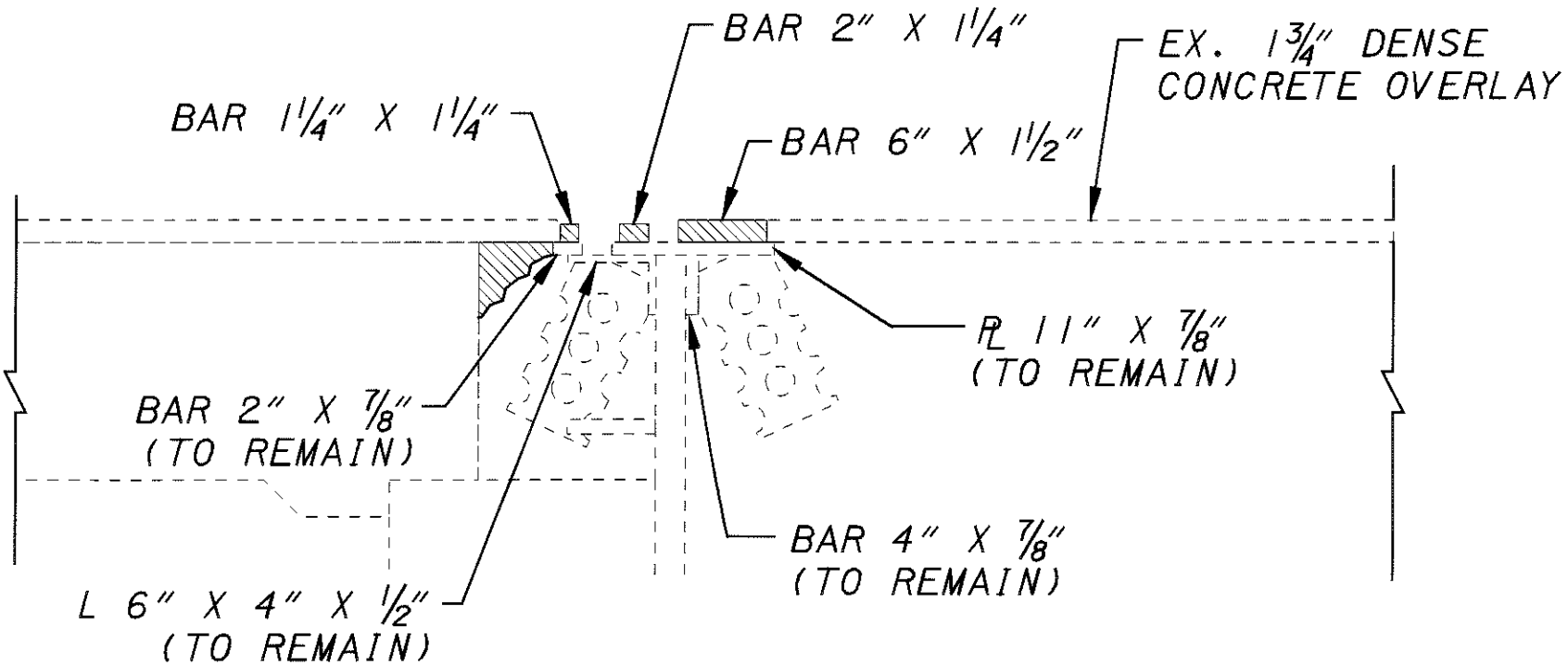
 ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN



TYPICAL WINGWALL REMOVAL

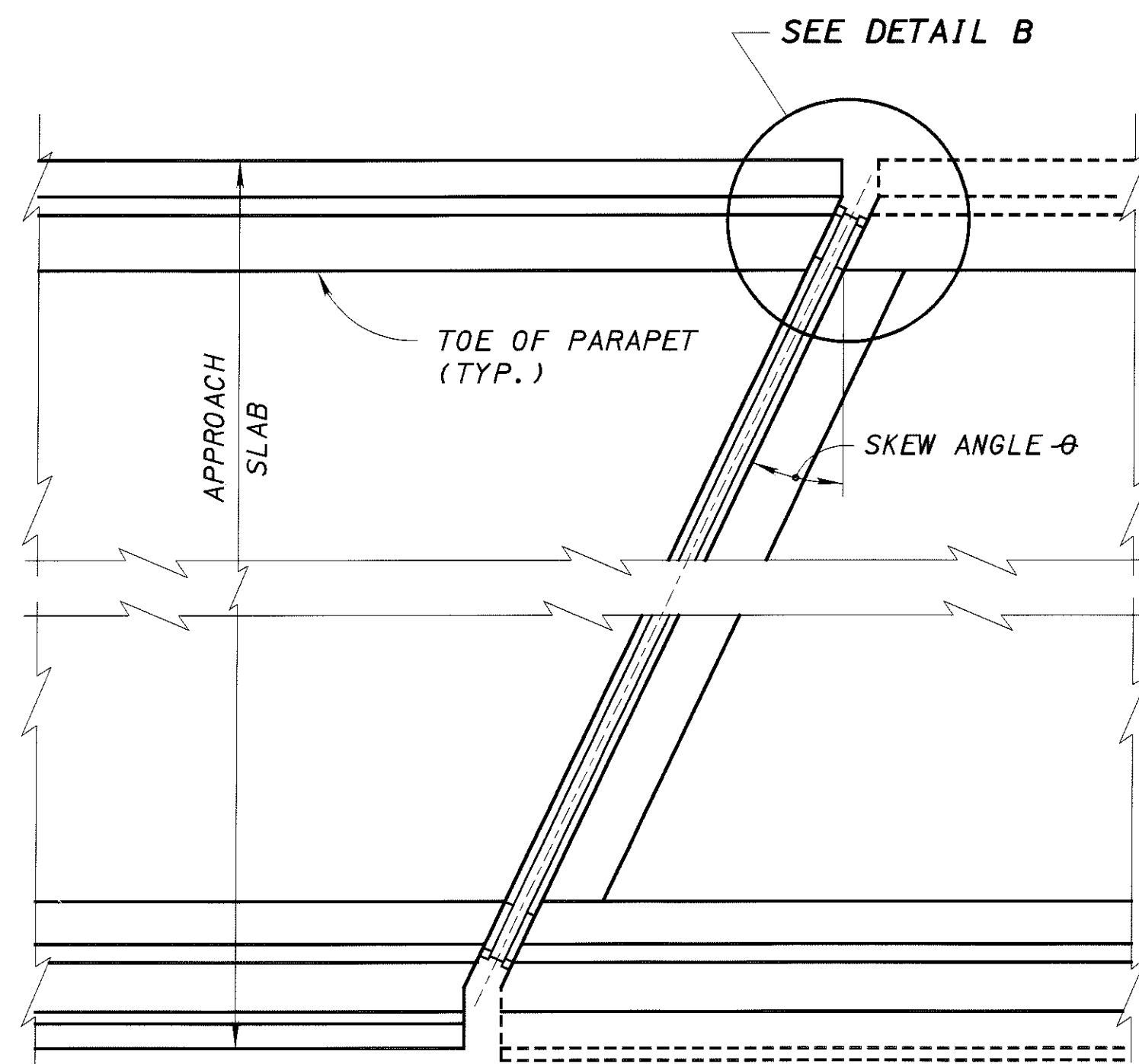


EXISTING TRANSVERSE EXPANSION JOINT
(SOUTHBOUND JOINTS)

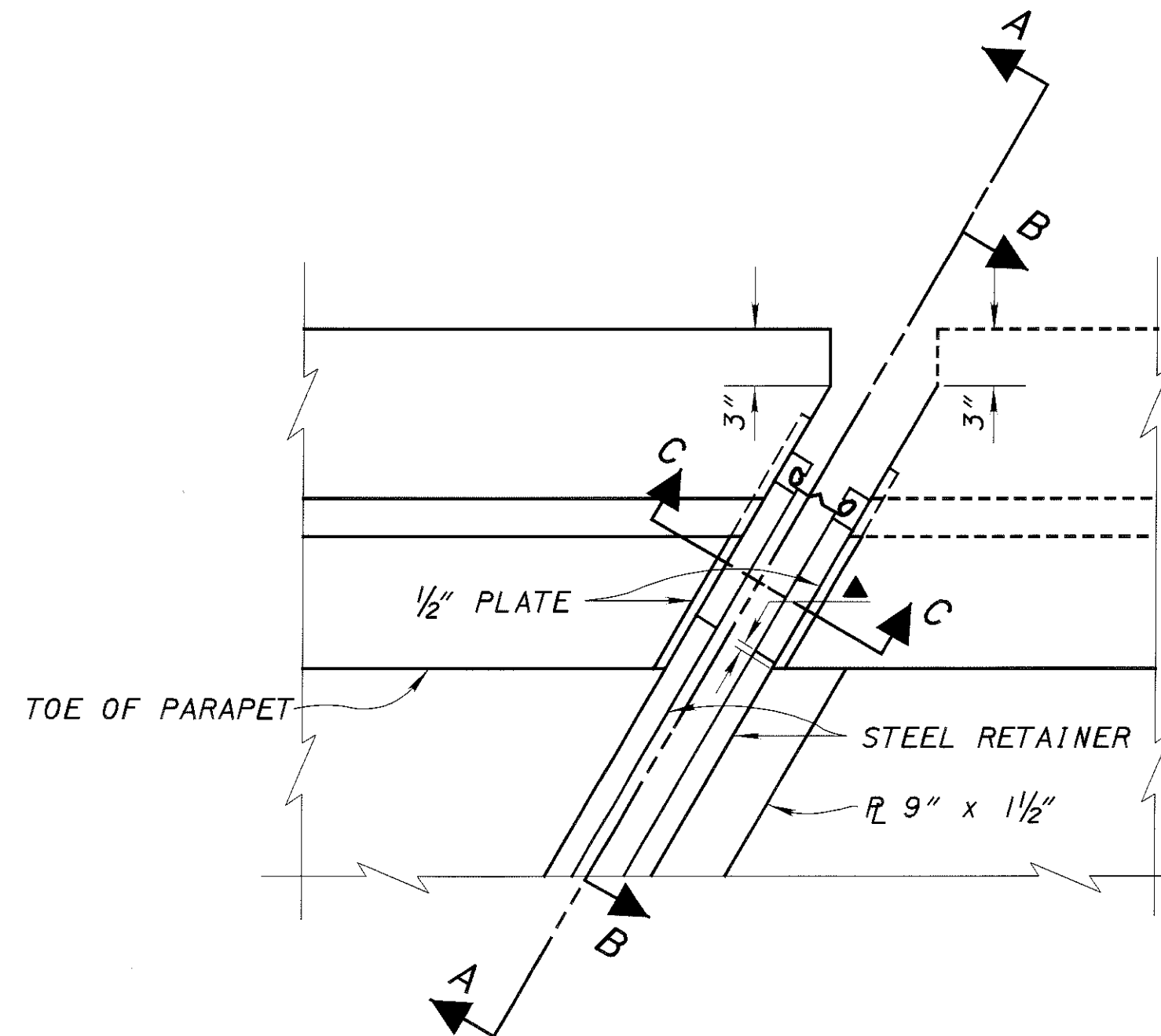


EXISTING TRANSVERSE EXPANSION JOINT
(NORTHBOUND JOINTS)

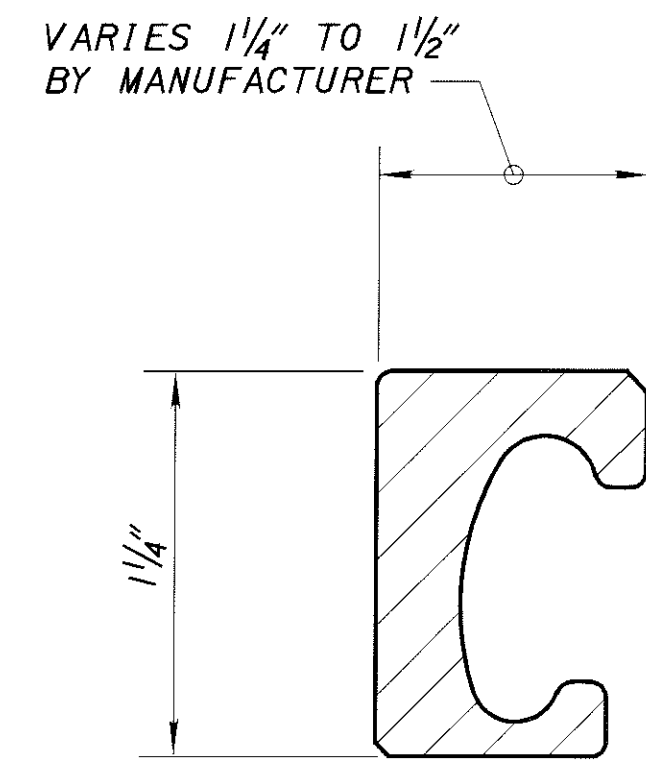
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HALF PLAN AT ABUTMENT
FOR SKEWED BRIDGES (OVER 15°)
WITH DEFLECTOR PARAPET RAILING

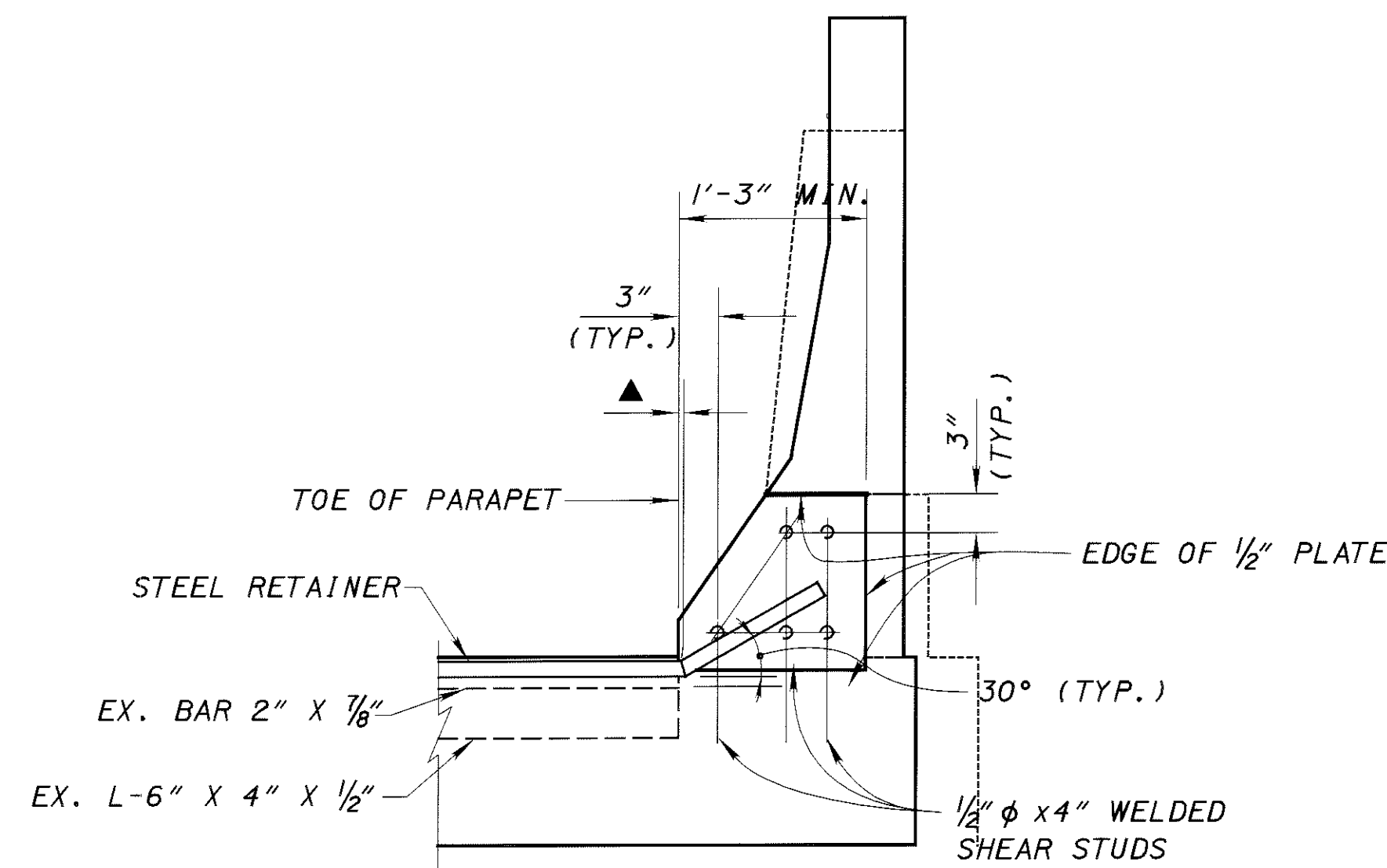


DETAIL B



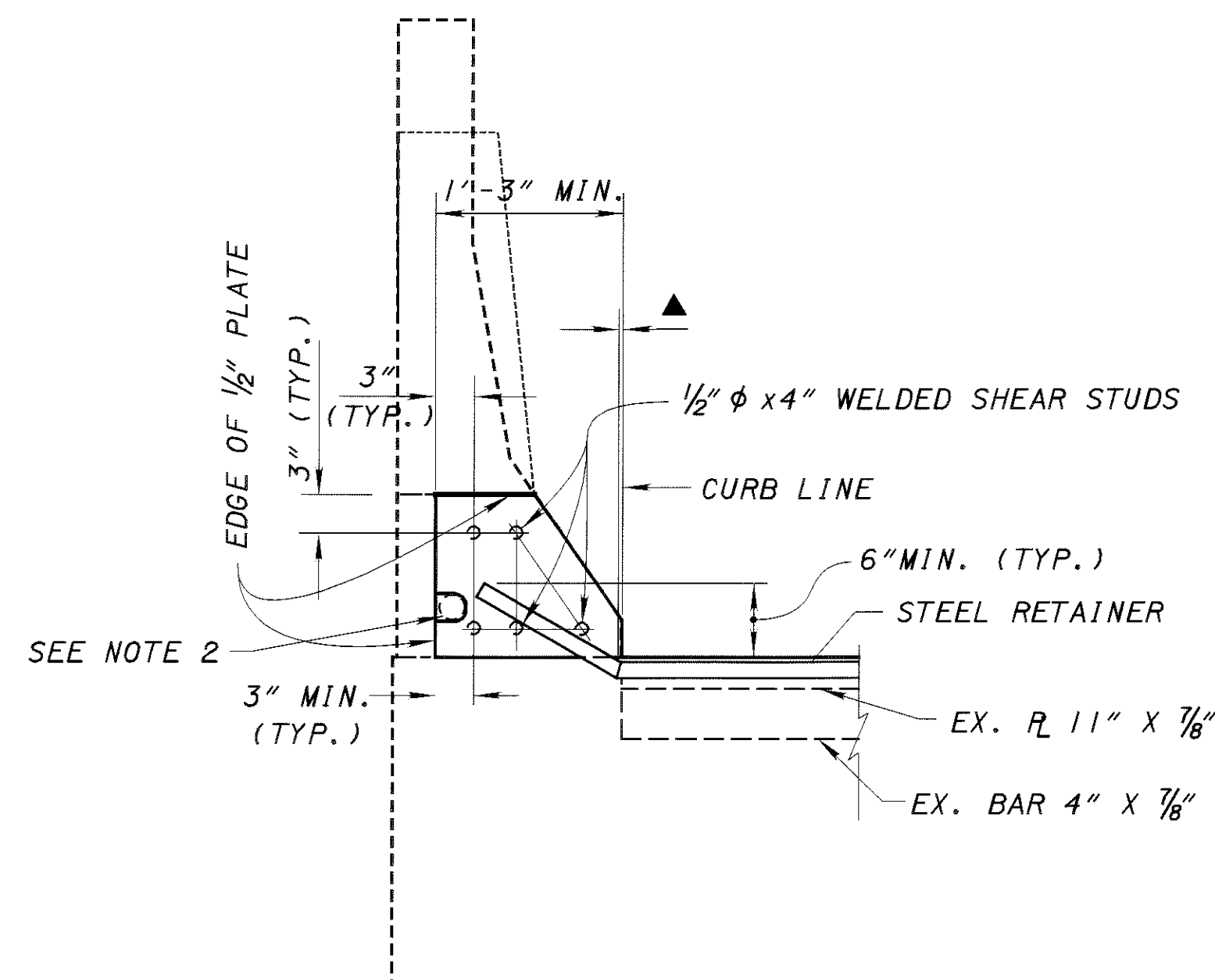
RETAINER DETAIL

▲ - 0" MIN. TO 1/2" MAX. AT BREAKPOINT IN RETAINER FOR SQUARE BRIDGES. ON SKEWED BRIDGES THIS DIMENSION WILL ONLY APPLY TO THE SIDE OF JOINT ASSEMBLY WHICH IS NEAREST TO THE CURB LINE



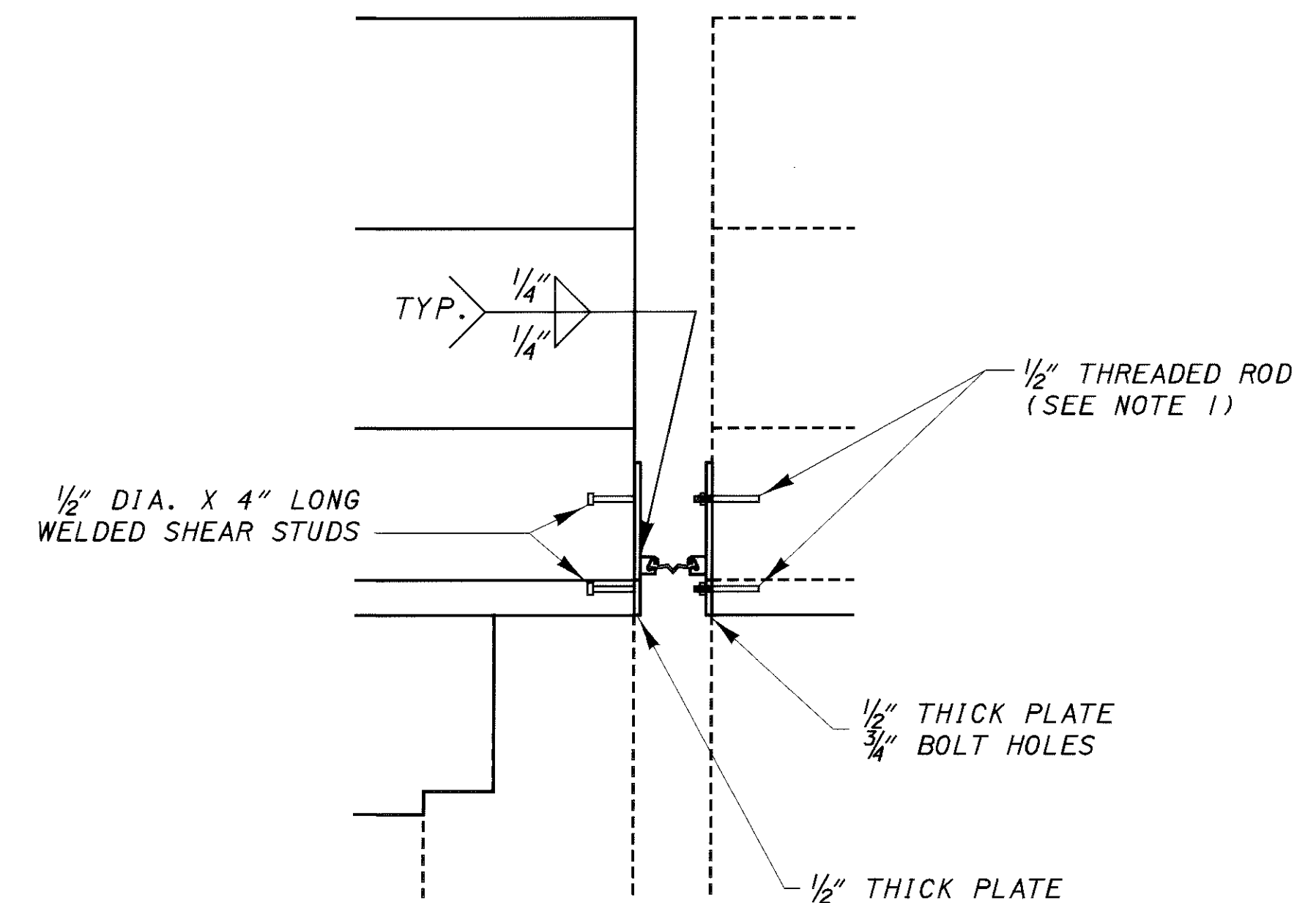
SECTION A-A

(MEDIAN PARAPET SHAPE SHOWN - SOLID,
OUTSIDE PARAPET SHOWN - DOTTED)



SECTION B-B

(MEDIAN PARAPET SHAPE SHOWN - DASHED,
OUTSIDE PARAPET SHOWN - DOTTED)



SECTION C-C

NOTES:

1. CORE DRILL 3/4" DIAMETER HOLES 4" DEEP INTO EXISTING CONCRETE PARAPET. THREADED ROD SHALL BE EPOXY GROUTED PER CMS 510. BOLT PLATE TO THE EXISTING PARAPET.
2. EXISTING 2" DIAMETER LIGHTING RACEWAY IN RIGHT MEDIAN BARRIER ONLY. THE PLATE MAY BE CUT TO ACCOMMODATE THE RACEWAY.

GENERAL NOTES:

STRIP SEAL: MATERIAL SHALL BE AN EXTRUDED POLYCHLOROPRENE CONFORMING TO ASTM D2628. THE RECOVERY TEST IS NOT APPLICABLE, DUE TO CONFIGURATION OF THE SEAL. PHYSICAL PROPERTIES OF THE STRIP SEAL SHALL CONFORM TO TABLE "E".

THE MANUFACTURER OR AN ACCREDITED LABORATORY SHALL TEST EACH LOT AS SPECIFIED AND SUBMIT TWO COPIES OF CERTIFIED TEST DATA SHOWING COMPLIANCE TO THE ODOT OFFICE OF MATERIALS MANAGEMENT. THE SEAL AND RETAINER ARE AN INTEGRAL SYSTEM DESIGNED AND SUPPLIED BY THE SAME MANUFACTURER. SEE "CONSTRUCTION PROCEDURE" FOR INSTALLATION.

TABLE E (PHYSICAL PROPERTIES OF SEAL ELEMENT)		
PROPERTY	REQUIREMENT	ASTM METHOD
TENSILE STRENGTH, MIN. PSI	2000	D412
ELONGATION @ BREAK, MIN. (PERCENT)	250	D412
HARDNESS, TYPE A DUROMETER, POINTS	60 ± 5	MODIFIED D2240
OVEN AGING, 70 HR @ 212°F TENSILE STRENGTH, LOSS, MAX. ELONGATION, LOSS, MAX. HARDNESS, TYPE A DUROMETER, POINTS CHANGE	20 PERCENT 20 PERCENT 0 TO +10	D573 MODIFIED D2240
OIL SWELL, ASTM OIL 3 70 HR @ 212°F, WEIGHT CHANGE MAX	45 PERCENT	D471
OZONE RESISTANCE 20 PERCENT STRAIN, 300 PPHM IN AIR, 70 HR @ 104°F (WIPE WITH TOLUENE TO REMOVE SURFACE CONTAMINATION)	NO CRACKS	D1149
LOW TEMPERATURE STIFFENING 7 DAYS @ 14°F HARDNESS, TYPE A DUROMETER, POINTS CHANGE COMPRESSION SET, 70 HR @ 212°F MAX.	0 TO +15 40 PERCENT	D2240 D395 METHOD B

LUBRICANT-ADHESIVE: ONE PART MOISTURE CURING POLYURETHANE COMPOUND MEETING THE REQUIREMENTS OF ASTM D4070 AND AS SPECIFIED BY THE SEAL MANUFACTURER. SEE "CONSTRUCTION PROCEDURE" FOR APPLICATION.

JOINTS IN STRIP SEALS: NO JOINTS ARE ALLOWED UNLESS APPROVED BY THE DIRECTOR.

SEAL RETAINERS: EXTRUDE, HOT ROLL OR MACHINE, STEEL RETAINERS INTO A SOLID SHAPE AS DIMENSIONED ON SHEET 2 / 5 "RETAINER DETAIL". RETAINERS MANUFACTURED FROM BENT PLATE OR BUILT UP PIECES ARE NOT ACCEPTABLE. THE INTERNAL DIMENSIONS OF THE RETAINER SHALL BE SPECIFIED BY THE MANUFACTURER TO ACHIEVE POSITIVE SEAL ANCHORAGE.

AT JOINT UPTURNS, ESPECIALLY ON SKEWED BRIDGE DECKS, THE USE OF SPLIT RETAINERS MAY BE NECESSARY TO ENSURE GOOD SEAL GLAND INSTALLATION. WHEN THE SPLIT RETAINER IS USED, THE DESIGN SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL.

ANY DEFECTS IN THE STEEL RETAINER OR THE ACTUAL EXPANSION JOINT THAT COULD CAUSE DAMAGE TO THE GLAND SHALL BE CORRECTED BEFORE THE GLAND IS INSTALLED.

JOINTS IN RETAINERS: WELDS SHALL BE WATER TIGHT, PARTIAL PENETRATION WELDS AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. GRIND FLUSH ALL WELDS IN CONTACT

JOINTS IN RETAINERS: <CONTINUED> WITH THE SEAL AND JOINT ARMOR. DO NOT USE SHORT PIECES OF RETAINERS LESS THAN 6'-0" LONG, UNLESS REQUIRED AT CURBS OR SIDEWALKS. DO NOT PROVIDE ADDITIONAL SPLICES IN RETAINERS AT CURB OR SIDEWALK SECTIONS OTHER THAN THOSE DETAILED IN THE STANDARD BRIDGE DRAWINGS.

ARMOR STEEL: ALL STEEL PARTS OF THE JOINT ASSEMBLY, INCLUDING RETAINERS, SHALL BE ASTM A709, GRADE 50.

JOINTS IN ARMOR STEEL: SHOP OR FIELD JOINTS IN THE ARMOR SHALL BE COMPLETE PENETRATION WELDS GROUND FLUSH WHERE IN CONTACT WITH THE RETAINER.

ARMOR COATING: ALL STEEL PARTS OF THE JOINT ASSEMBLY REQUIRE METALIZING WITH 100% ZINC WIRE. SURFACE PREPARATION AND APPLICATION OF THE COATING SHALL BE AS PER THE SOCIETY FOR PROTECTIVE COATINGS SSPC-CS-23.00(1). THE COATING THICKNESS SHALL BE 6 MILS MINIMUM. METALIZED SURFACES EMBEDDED OR PARTIALLY EMBEDDED IN CAST-IN-PLACE CONCRETE REQUIRE SEALING. THE SEALER SHALL BE THE INTERMEDIATE EPOXY COATING MEETING THE REQUIREMENTS OF SS910.03. THE SEALER SHALL COVER ALL PEAKS, VALLEYS AND SURFACE ROUGHNESS ATTRIBUTED TO METALIZING. THE METALIZED COATING SHOULD NOT BE FIELD PAINTED, EXCEPT FOR THE METALIZED SURFACES ON THE 1/2" GUSSET PLATES DAMAGED DURING CROSSFRAME INSTALLATION. THESE AREAS SHALL BE CLEANED AND PAINTED IN CONFORMANCE WITH THE STRUCTURE'S PAINT SYSTEM.

THE METALIZED COATING SHALL BE PROTECTED WHEN BLASTING OR COATING ADJACENT STEEL MEMBERS. OVERSPRAY NEED NOT BE REMOVED.

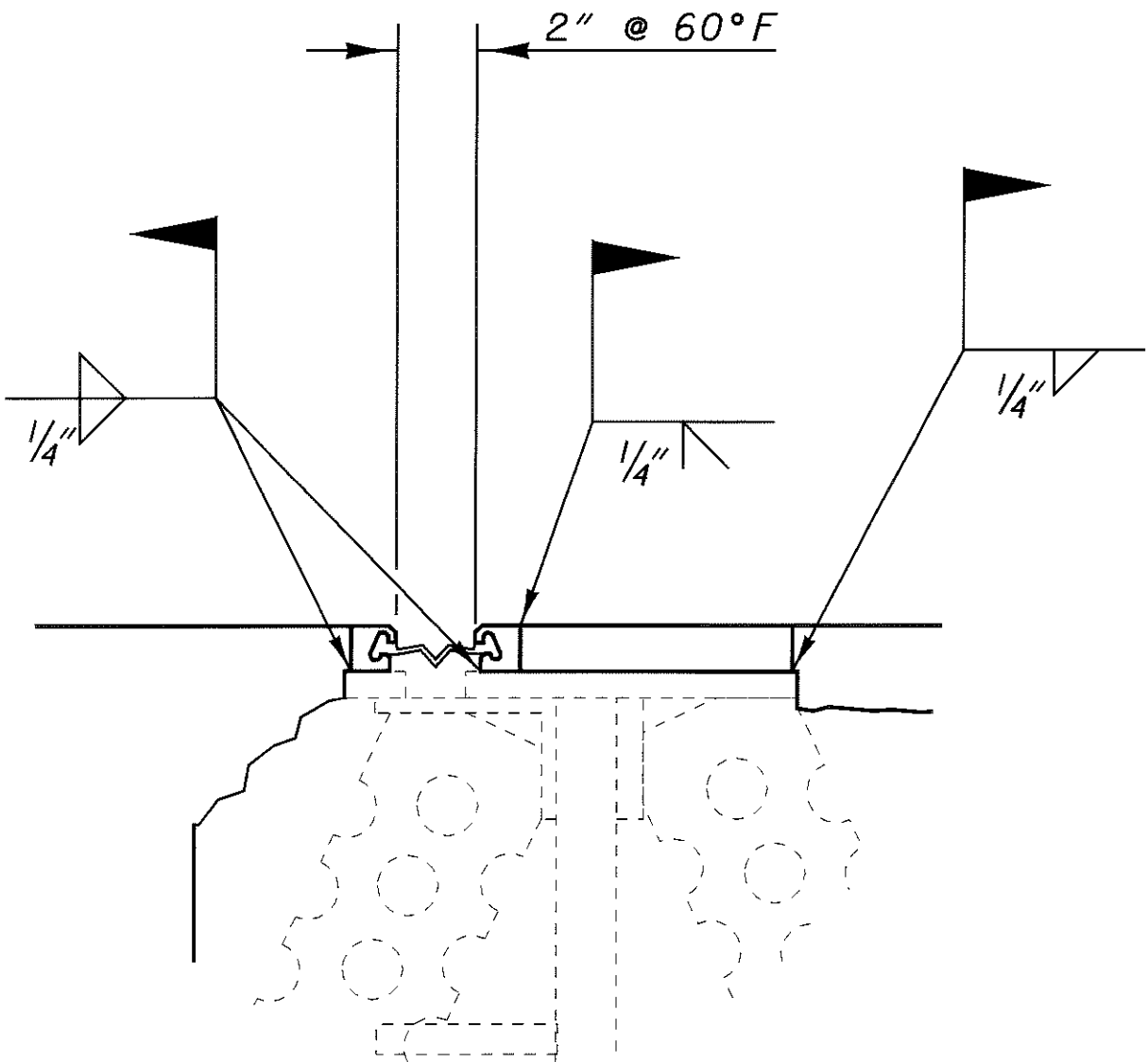
COATING REPAIRS: COATINGS DAMAGED DURING FABRICATION SHALL BE REPAIRED BY COMPLETE REMOVAL AND RE-METALIZING PER ARMOR COATING NOTES ABOVE. COATINGS DAMAGED DURING SHIPPING, CONSTRUCTION OR FIELD WELDING, EXCEPT AS NOTED IN "ARMOR COATING" NOTES, SHALL BE REPAIRED BY ASTM A780, ANNEX A1, "REPAIR USING ZINC BASED ALLOYS". THE PROCEDURE SHALL BE AS FOLLOWS: REMOVE SURFACE CONTAMINATES, PREHEAT TO 600°F, APPLY ZINC COATING BY RUBBING WITH A PURE ZINC STICK OR SPRINKLING ZINC POWDER ON THE PREHEATED SURFACE TO ACHIEVE A MINIMUM COATING THICKNESS OF 6 MILS.

MEASUREMENT: MEASUREMENT AND PAYMENT PER ITEM 516 SHALL INCLUDE ALL LABOR, MATERIALS, COATINGS AND EQUIPMENT NECESSARY TO COMPLETE THE JOINT IN PLACE.

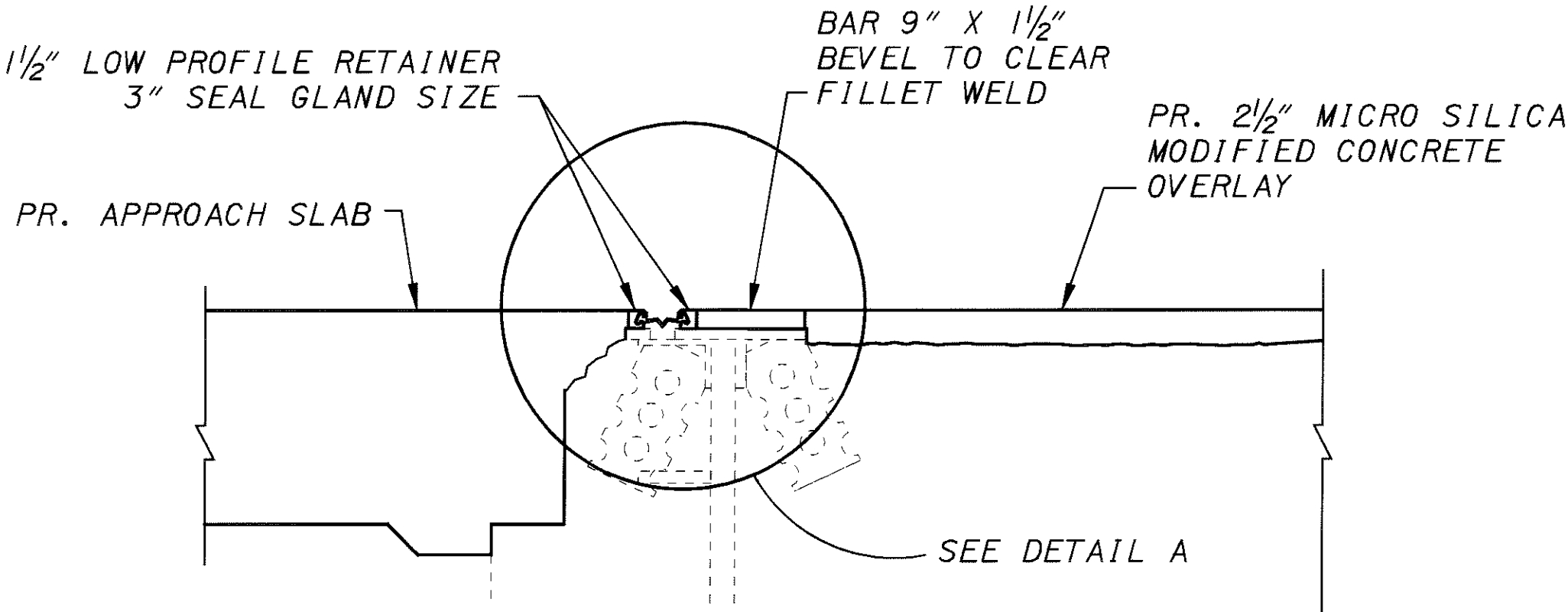
CONSTRUCTION PROCEDURE:

- ARMOR INSTALLATION:
1. PLACE JOINT ASSEMBLY SO THE CHANNEL AND ANGLE REMAIN PARALLEL TO EACH OTHER AND PERPENDICULAR TO THE ROADWAY GRADIENT.
 2. PLACE ABUTMENT BACKWALL CONCRETE AFTER THE SUPERSTRUCTURE CONCRETE IS PLACED IN THE SPAN ADJACENT TO THE ABUTMENT.
 3. SET ABUTMENT EXPANSION JOINT WIDTH TO DIMENSION "A" NO MORE THAN FOUR HOURS PRIOR TO THE DAY'S PEAK AMBIENT TEMPERATURE. SEE PROJECT PLANS FOR DIMENSION "A".
 4. PLACE THE BACKWALL CONCRETE DURING STABLE OR RISING AMBIENT TEMPERATURES. CONCLUDE PLACEMENT AT OR IMMEDIATELY BEFORE THE DAY'S PEAK AMBIENT TEMPERATURE.
 5. HAND PLACE AND VIBRATE CONCRETE UNDER JOINT ARMOR TO ACHIEVE COMPLETE CONSOLIDATION.
 6. LOOSEN ANY TEMPORARY JOINT ARMOR SUPPORTS AFTER INITIAL SET OF THE CONCRETE, PREFERABLY NOT LATER THAN TWO HOURS AFTER CONCLUSION OF THE CONCRETE PLACEMENT.

- SEAL INSTALLATION:
1. EXAMINE THE RETAINER FOR SOILAGE OR DEFECTS THAT CAN DAMAGE THE SEAL PRIOR TO SEAL INSTALLATION. REPAIR DEFECTS.
 2. NOT MORE THAN 24 HOURS PRIOR TO SEAL INSTALLATION, BLAST THE RETAINER INTERIOR PER SSPC SP6 "COMMERCIAL BLAST CLEANING", WITHOUT DAMAGING ADJACENT COATINGS. REMOVE ALL BLASTING MEDIA FROM THE RETAINER.
 3. CLEAN ALL SURFACES OF THE SEAL WITH METHYL ETHYL KETONE (MEK), TOLUENE (T) OR OTHER MANUFACTURER SPECIFIED SOLVENT USING CLEAN DISPOSABLE CLOTHS. MAINTAIN THE SURFACE CLEANLINESS UNTIL INSTALLATION.
 4. IMMEDIATELY BEFORE APPLYING THE LUBRICANT-ADHESIVE, BONDING SURFACES MUST BE CLEAN, DRY AND WARMER THAN 45°F. BONDING SURFACES MUST BE MAINTAINED IN THIS CONDITION UNTIL THE SEAL IS INSTALLED. LIBERALLY APPLY THE LUBRICANT-ADHESIVE TO BOTH THE RETAINER AND THE SEAL USING THE MANUFACTURER'S SPECIFIED METHODS FOR COMPLETE AND UNIFORM COVERAGE.
 5. INSTALL THE SEAL WITH EQUIPMENT AND PROCEDURE SPECIFIED BY THE MANUFACTURER. ELONGATION OF THE SEAL OR STRUCTURAL DAMAGE TO THE SEAL CAUSED BY INSTALLATION METHODS WILL BE CAUSE FOR REJECTION.
 6. REMOVE EXCESS LUBRICANT-ADHESIVE AFTER INSTALLATION.



DETAIL A



PROPOSED TRANSVERSE EXPANSION JOINT
(NORTHBOUND AND SOUTHBOUND EXPANSION JOINTS)

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DESIGN AGENCY
DISTRICT TWELVE
PRODUCTION DEPARTMENT

DATE
10/01
REVIEWED
MJM
STRUCTURE FILE NUMBER
1805223

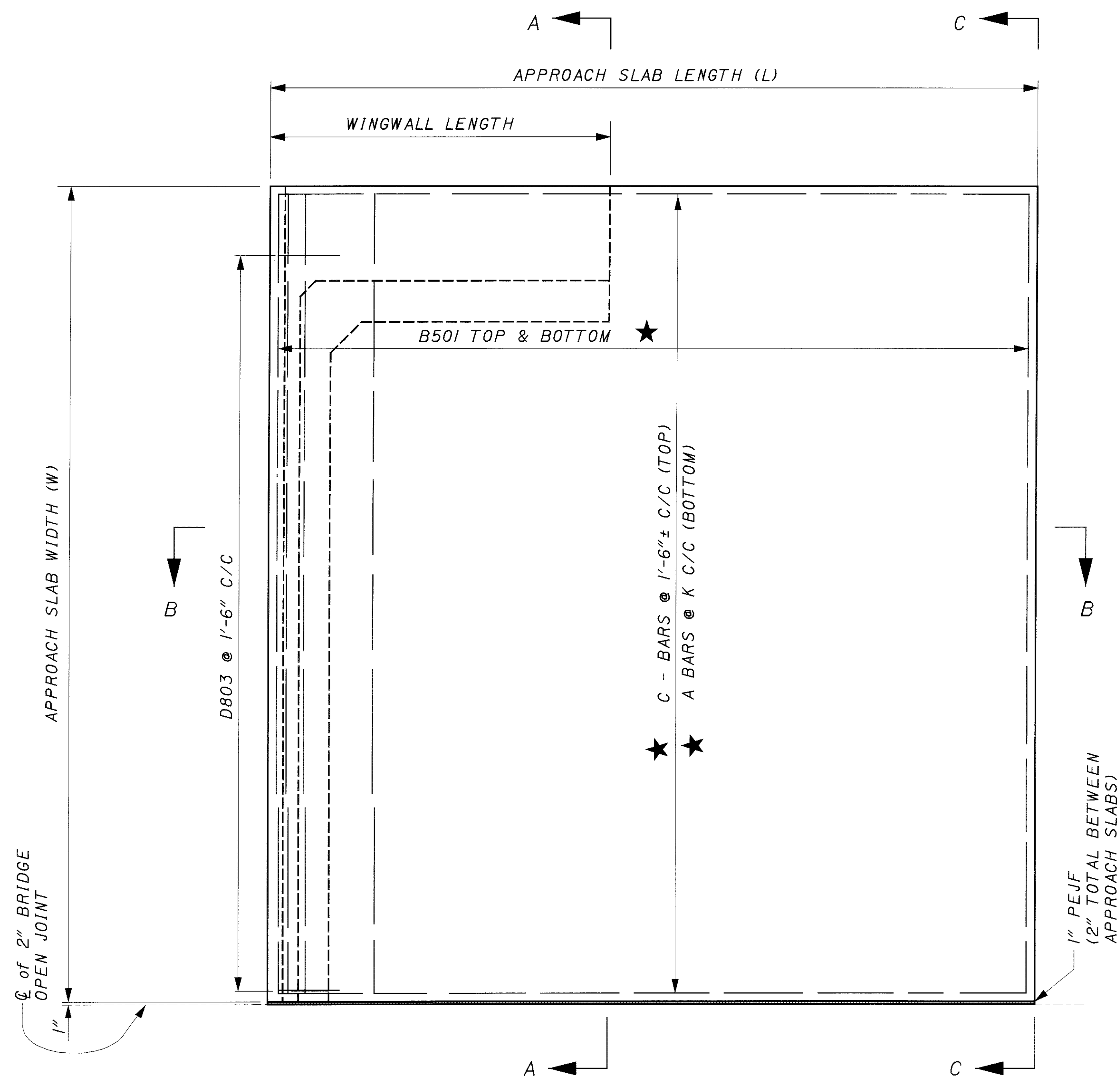
DRAWN
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DESIGNED
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MODIFIED EXPANSION JOINTS
BRIDGE NO. CUY-71-1640
OVER N & W RR

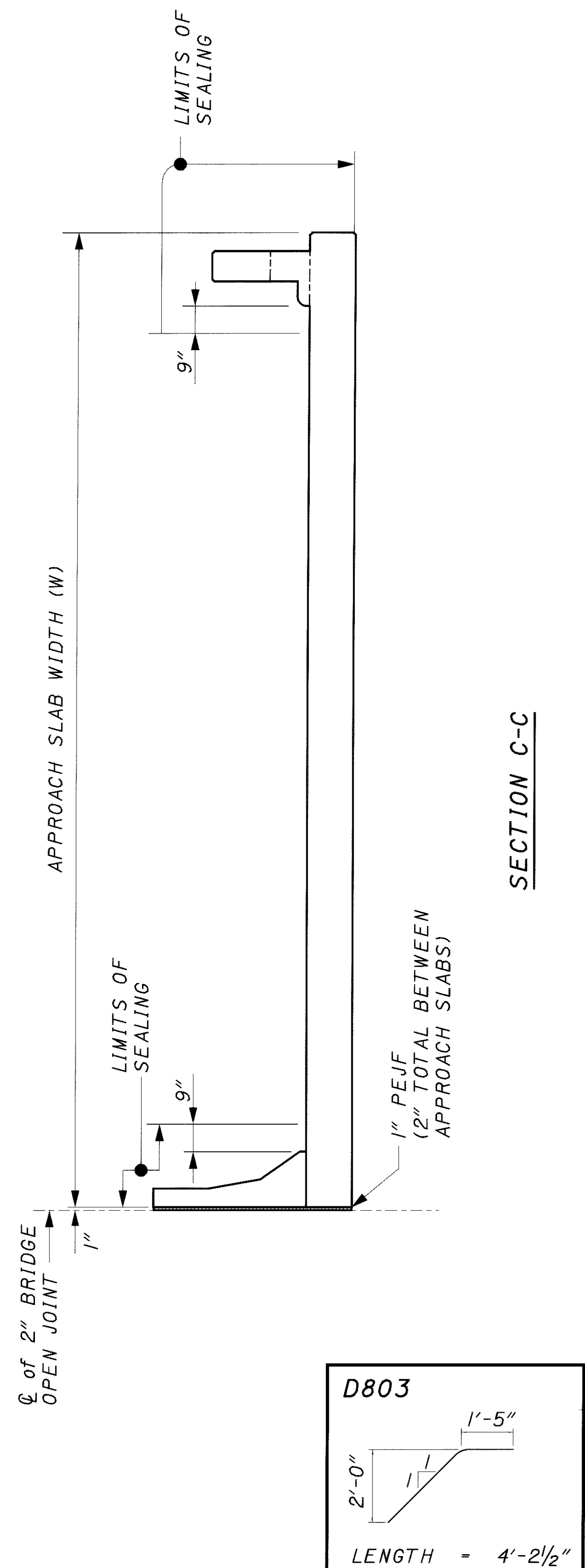
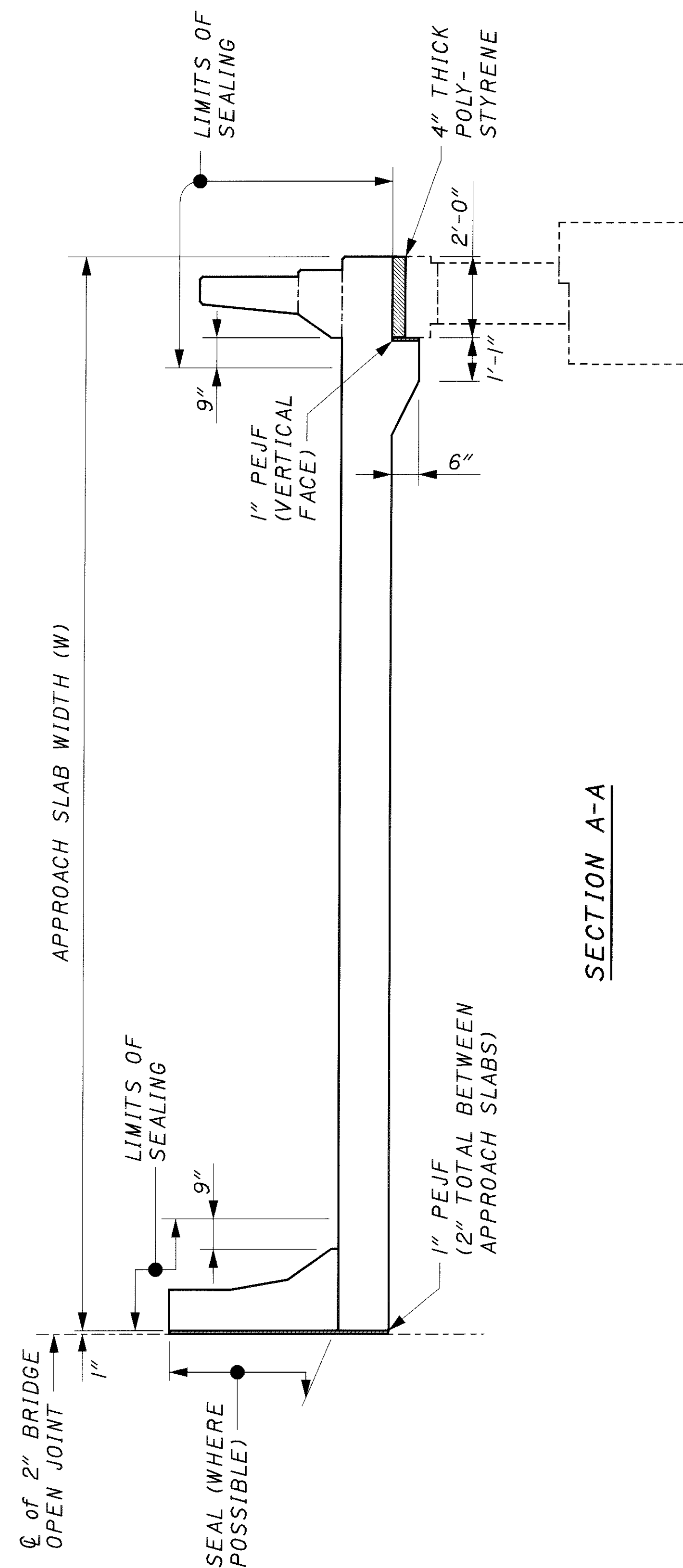
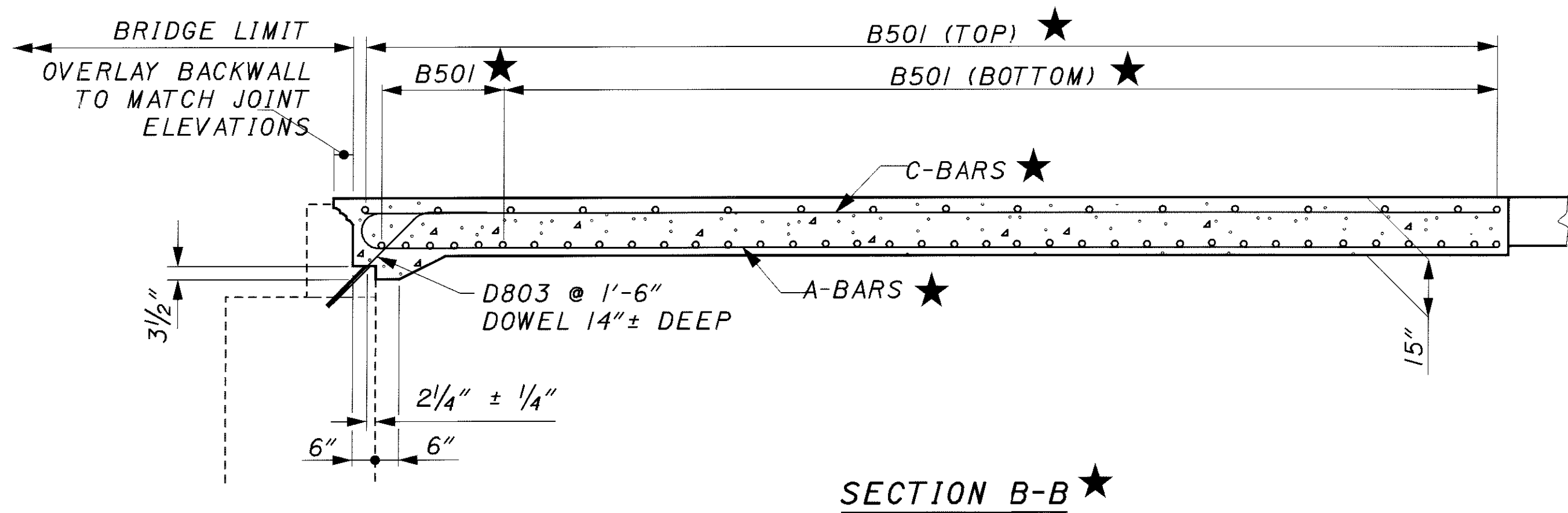
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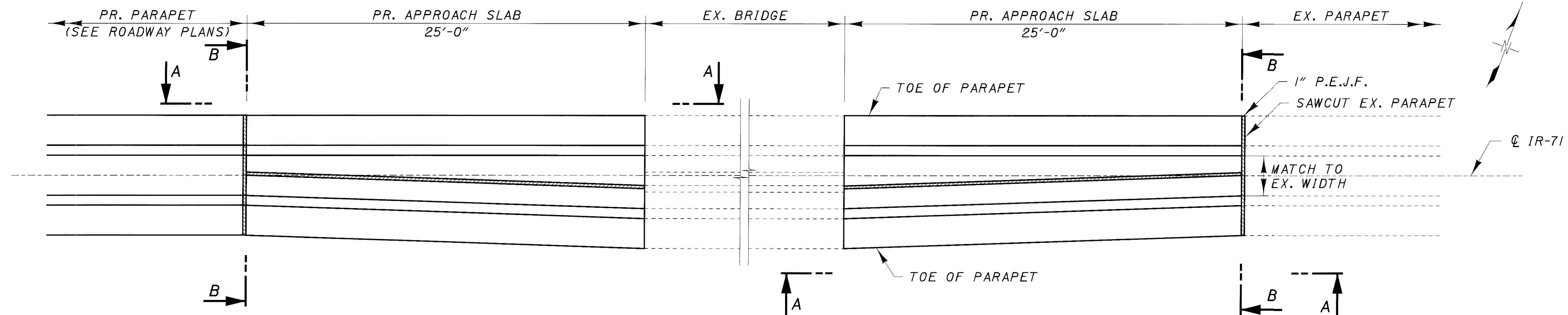
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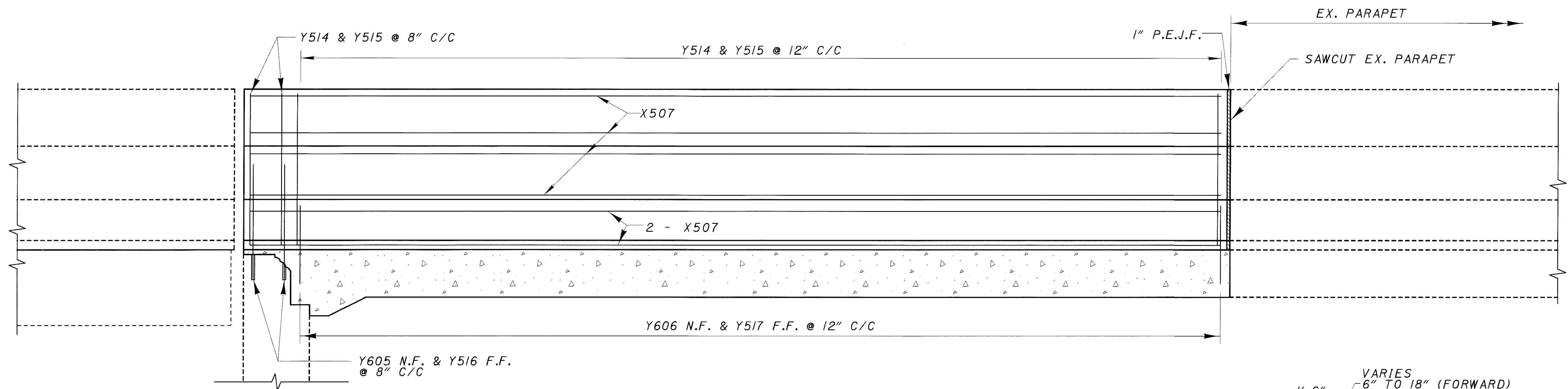
★ REFER TO STANDARD DRAWING AS-1-81



	LEFT RA	LEFT FA	RIGHT RA	RIGHT FA
LENGTH (L)	25'-0"	25'-0"	25'-0"	25'-0"
WIDTH (W)	72'-4"	72'-4"	73'-3 1/2" to 73'-8 1/2"	76'-2 1/8" to 76'-7 1/8"
SKEW (θ)	24°24'50" RF	24°24'50" RF	24°24'50" RF	24°24'50" RF
AREA	201 SY	201 SY	205 SY	213 SY
THICKNESS (T)	15"	15"	15"	15"
#D803 BARS	49	49	50	51



MEDIAN PARAPET TRANSITION PLAN



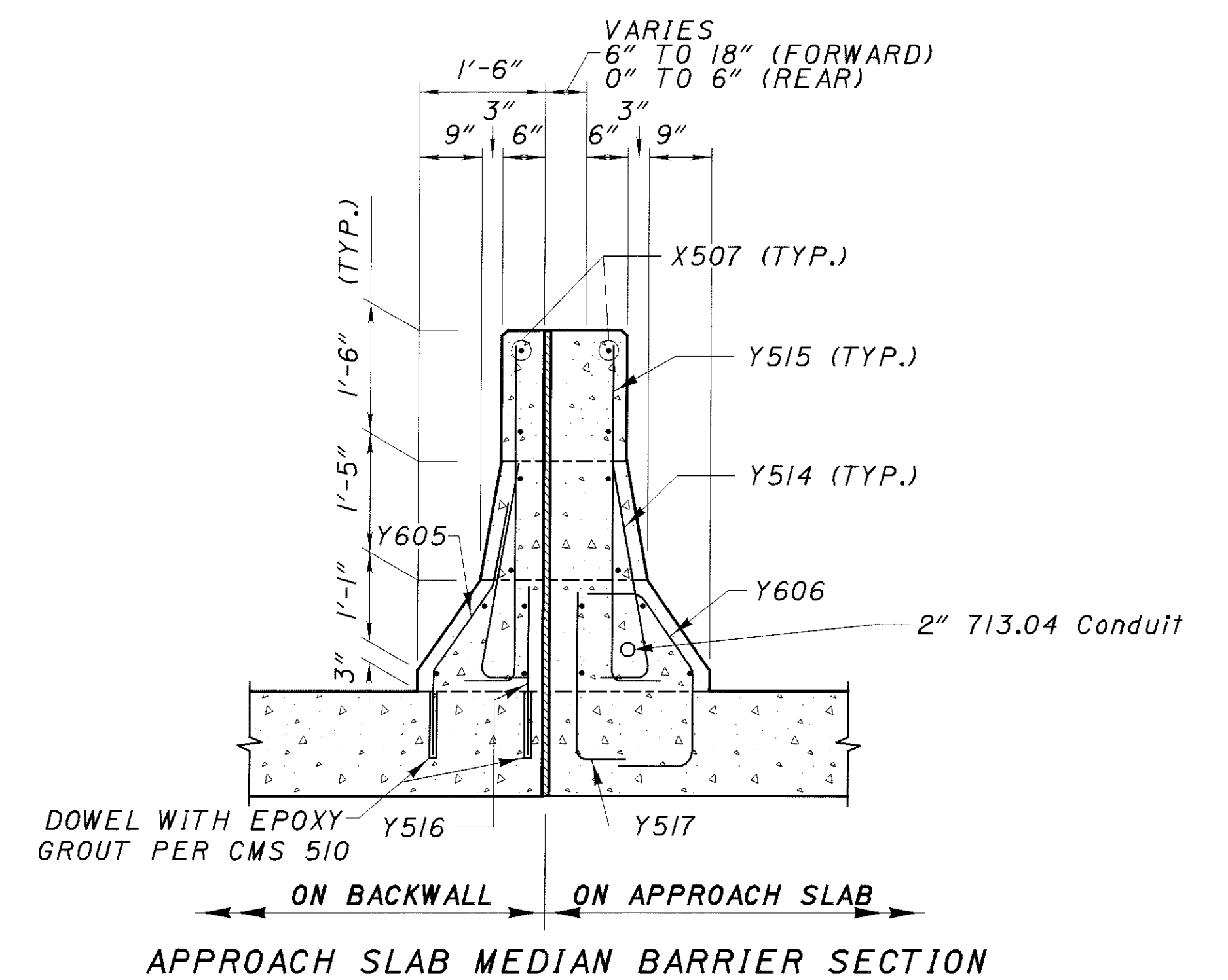
SECTION A-A

NOTES: FOR REINFORCING BARS, SEE SHEET 7/7.

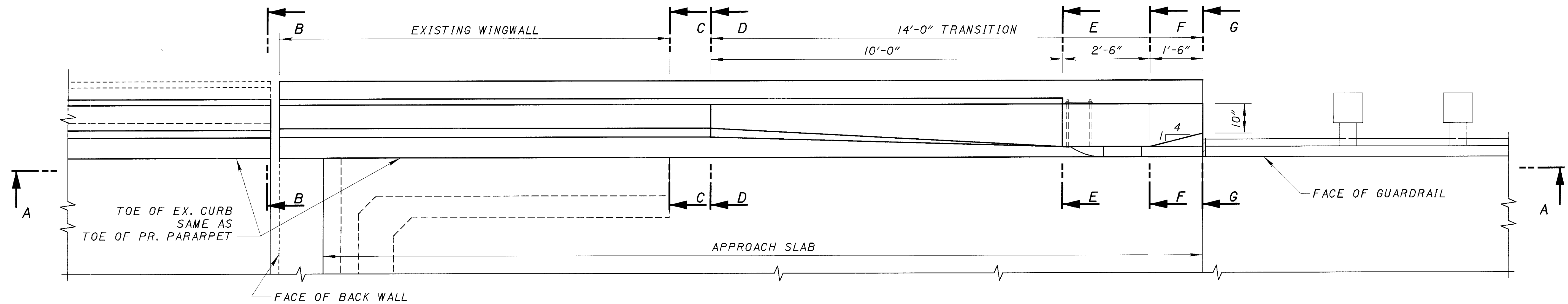
CLEAR COVER FOR REINFORCING SHALL BE 2" MINIMUM.

AREA OF 1'-6" WIDE SECTION IS 469.2 Sq. In.

SAWCUT 1 1/2" DEEP PER GENERAL NOTES.

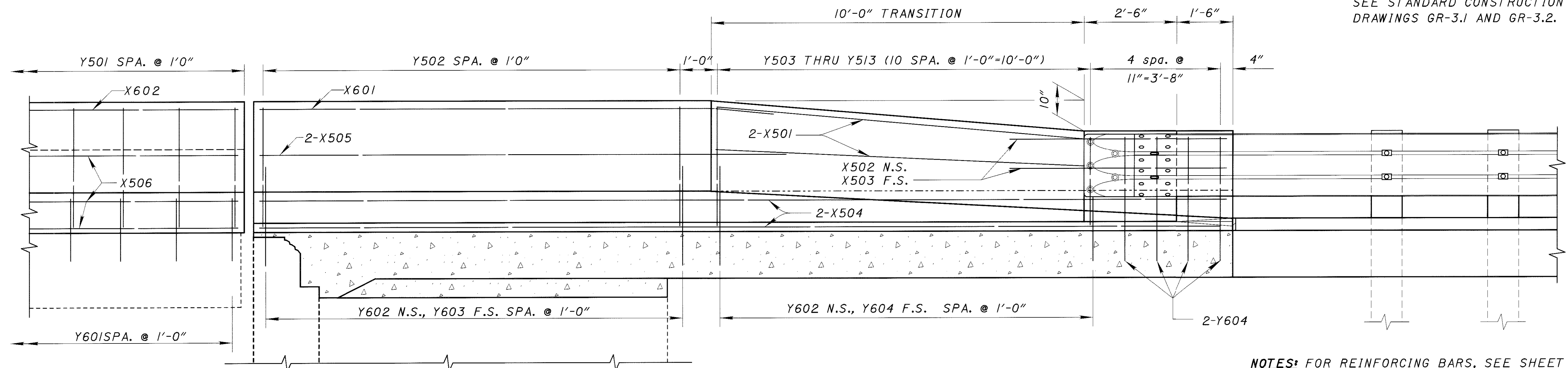


APPROACH SLAB MEDIAN BARRIER SECTION



PART PLAN AT ABUTMENT

NOTE: FOR BRIDGE TERMINAL ASSEMBLY
SEE STANDARD CONSTRUCTION
DRAWINGS GR-3.1 AND GR-3.2.

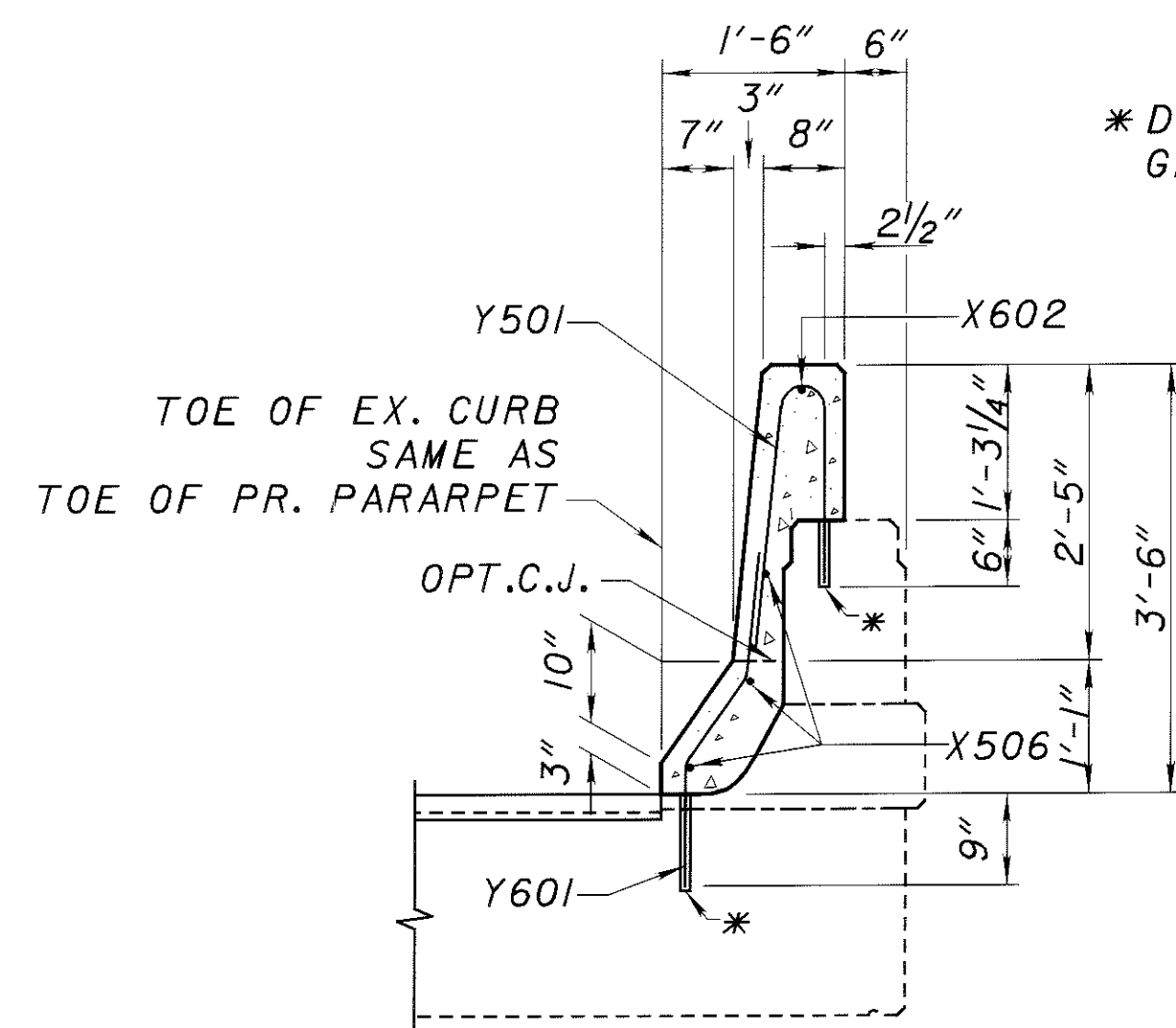


SECTION A-A

NOTES: FOR REINFORCING BARS, SEE SHEET 7/7.

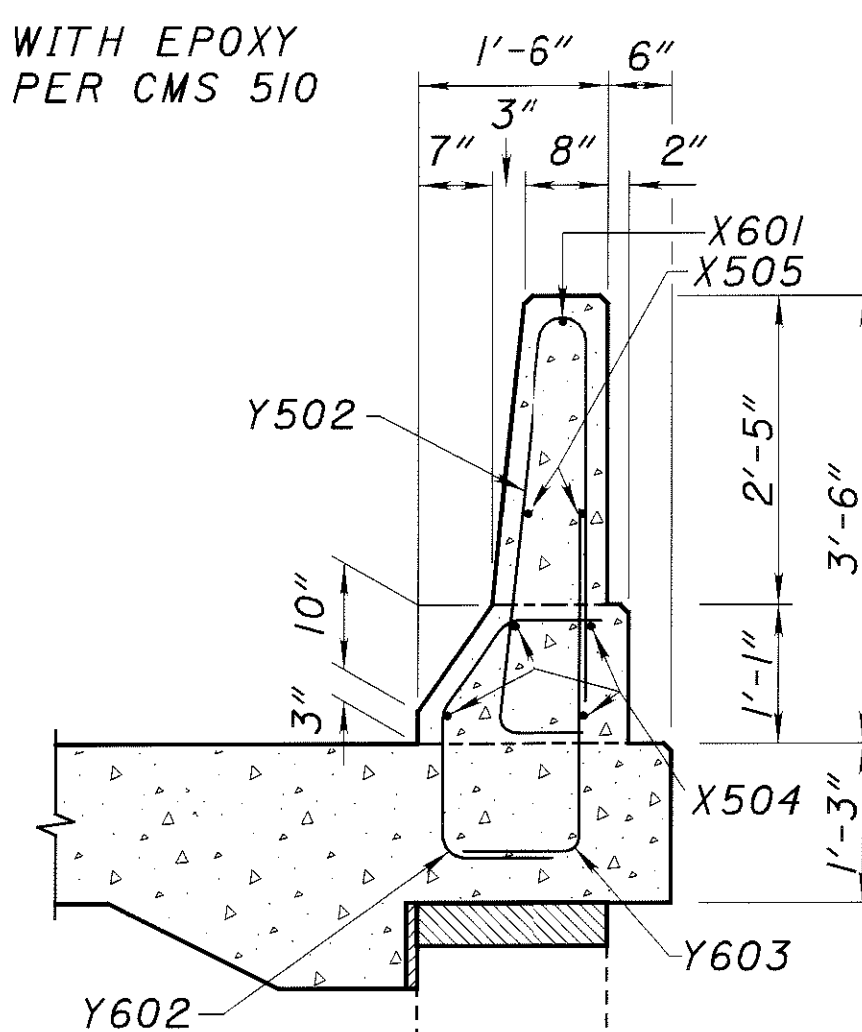
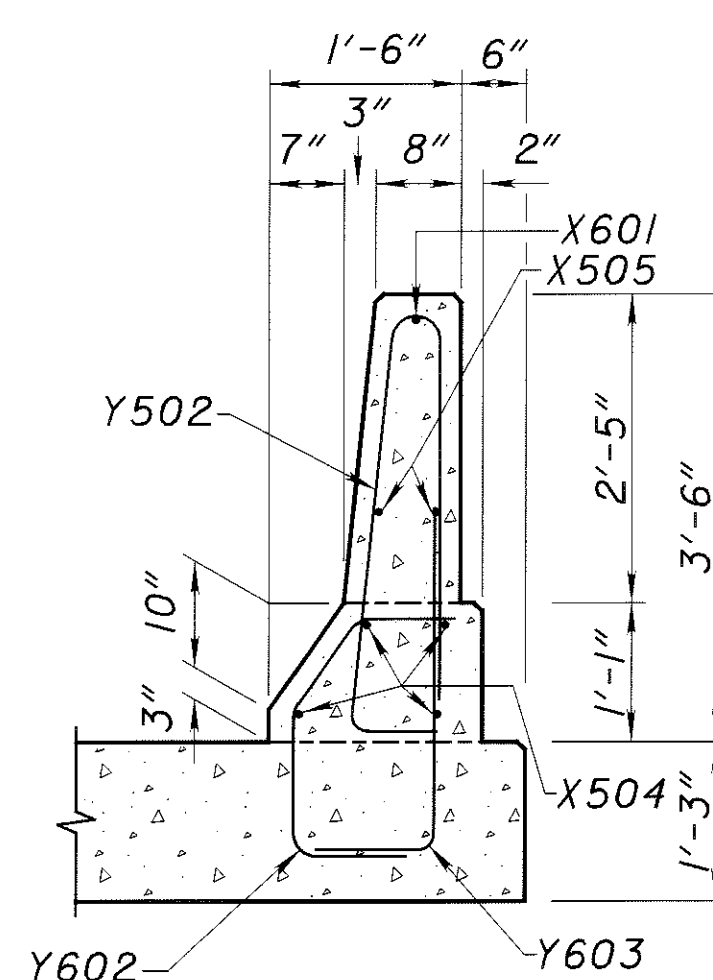
VOLUME OF 14'-0" TRANSITION SECTION
IS 1.78 CU. YD.

SAWCUT 1 1/2" DEEP PER GENERAL NOTES.

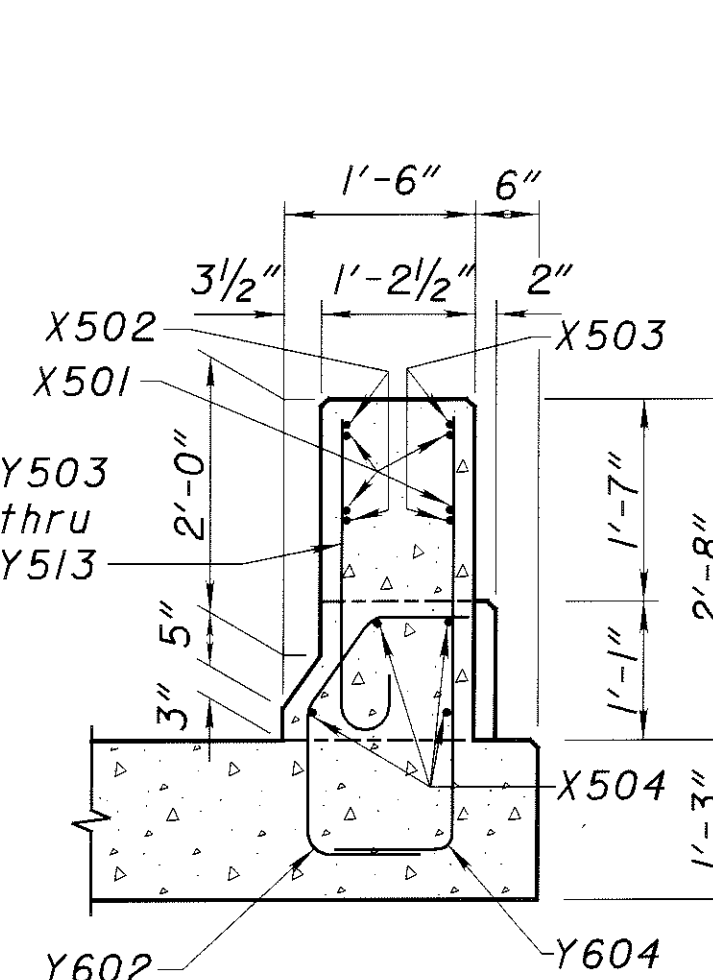


SECTION B-B

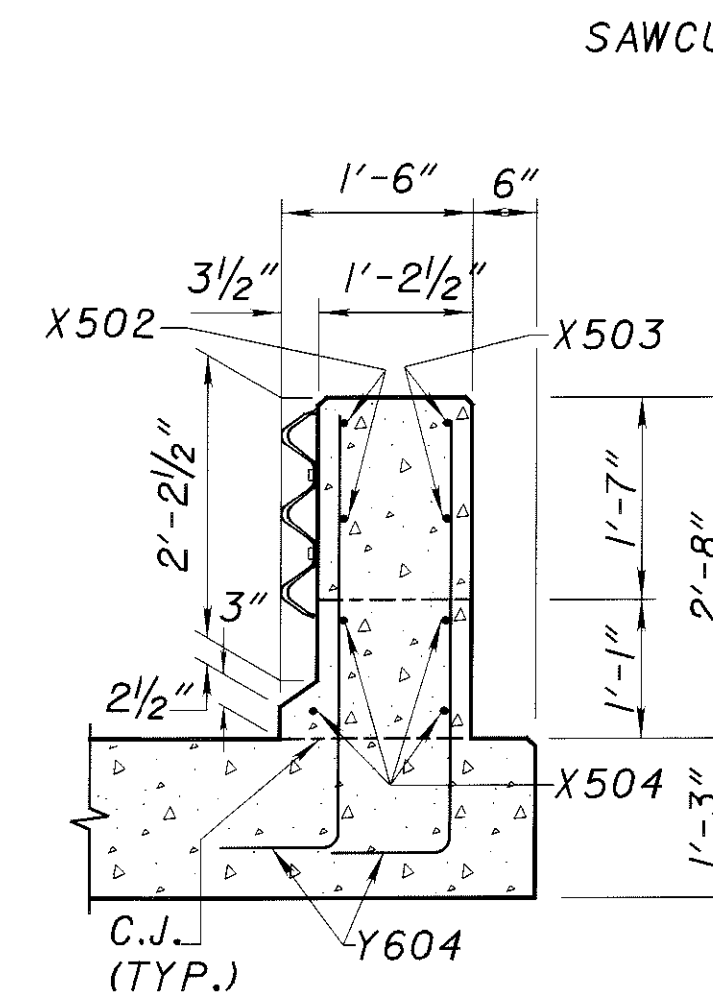
* DOWEL WITH EPOXY
GROUT PER CMS 510

SECTION C-C
Area = 500.5 Sq. In.

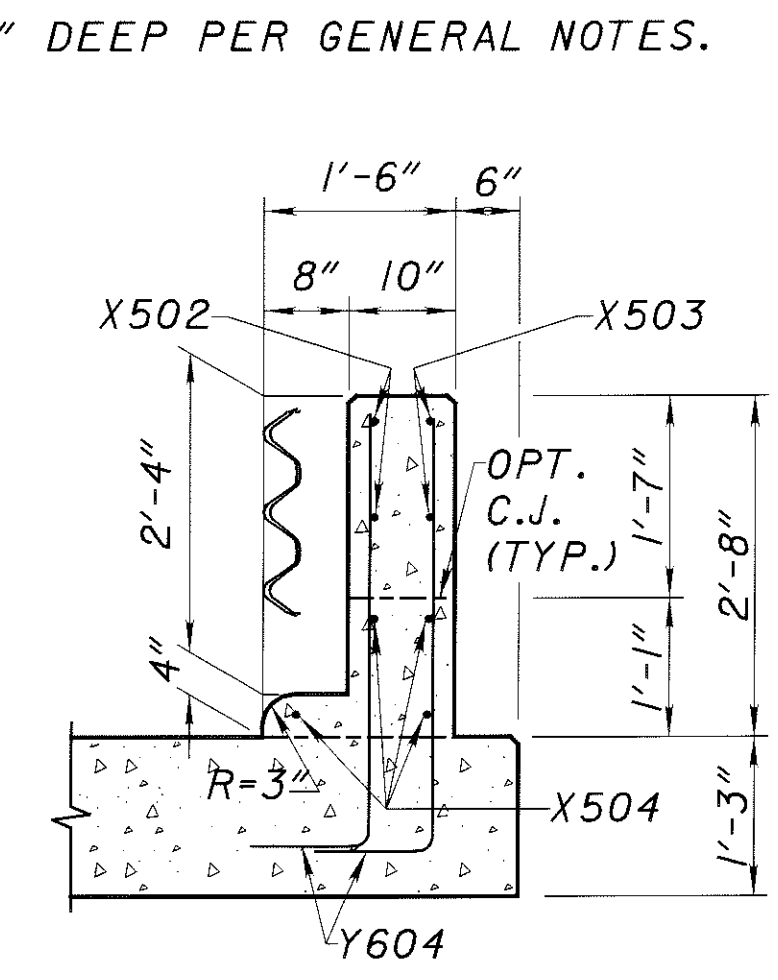
SECTION D-D



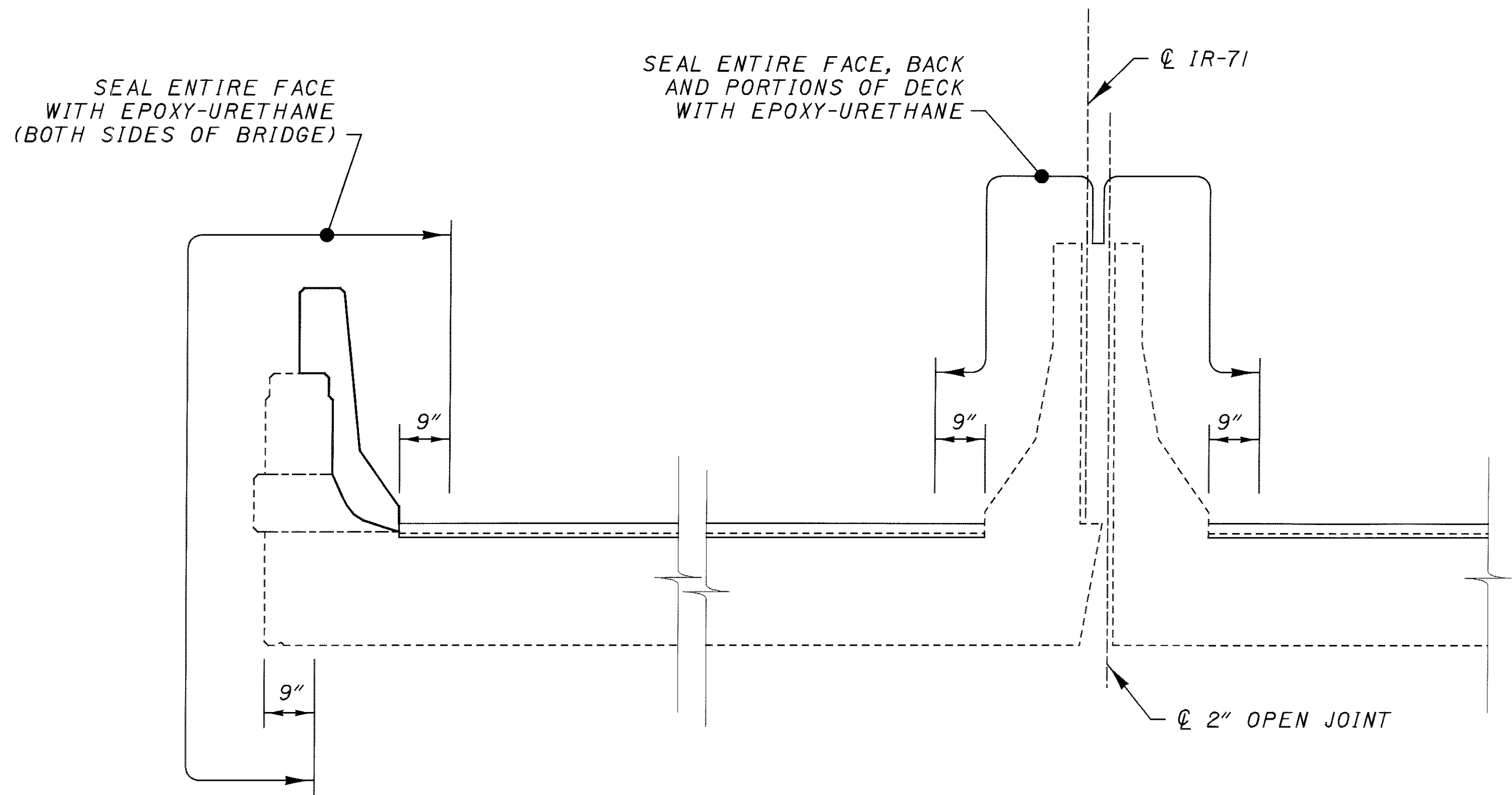
SECTION E-E



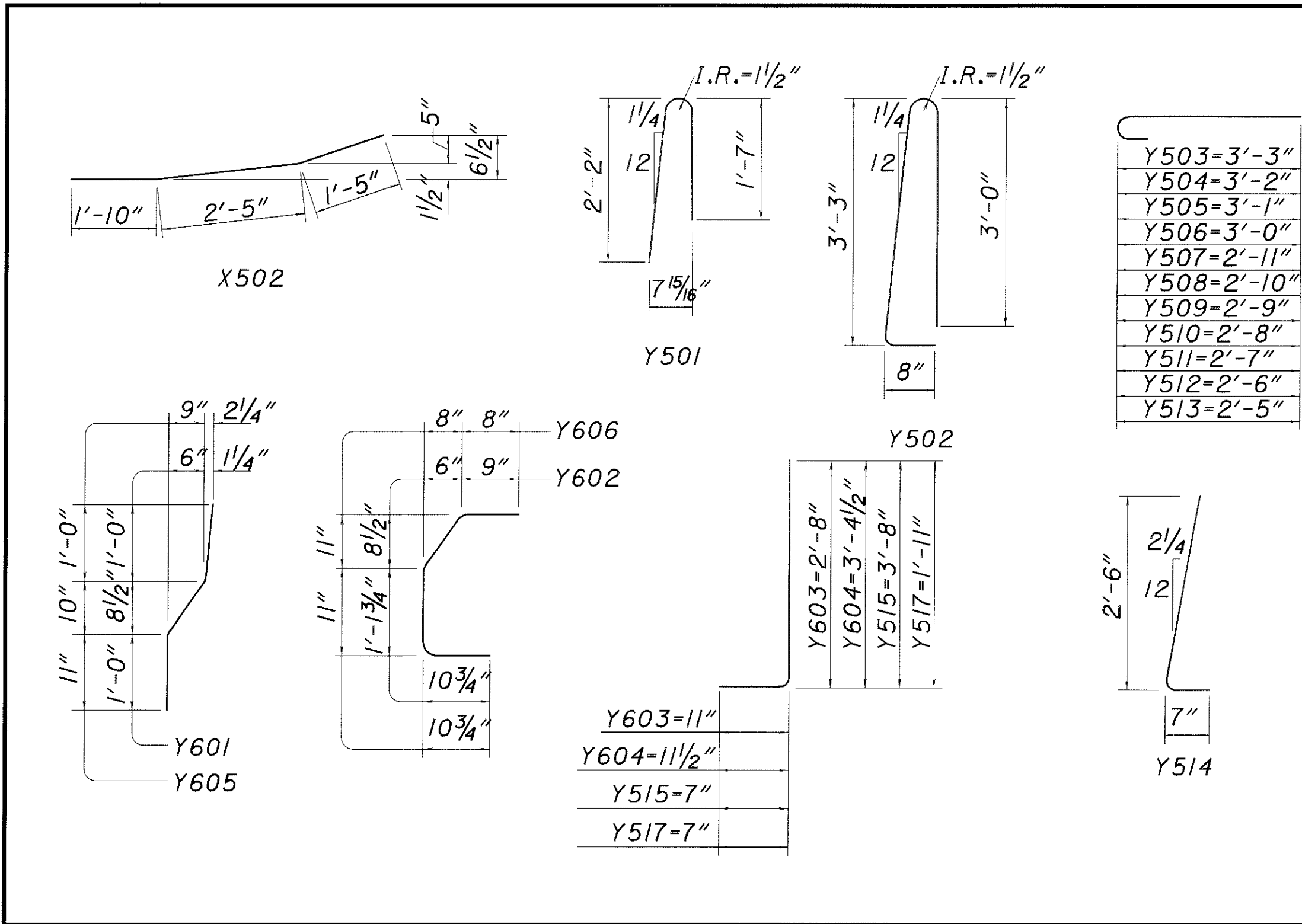
SECTION F-F



SECTION G-G



TYPICAL PARAPET SEALING LIMITS
(ON DECK)



MARK	LENGTH	SHAPE	OUTSIDE APPROACH SLAB PARAPET	OUTSIDE DECK PARAPET	MEDIAN APPROACH SLAB PARAPET	WEIGHT
X501	10'-0"	STRAIGHT	16			166.8 LBS
X502	5'-8"	BENT	8			47.3
X503	5'-8"	STRAIGHT	8			47.3
X504	25'-6"	STRAIGHT	16			425.5
X505	14'-2"	STRAIGHT	8			118.2
X506	31'-4"	STRAIGHT		30		980.4
X507	24'-6"	STRAIGHT			32	817.7
X601	17'-8"	STRAIGHT	4			106.1
X602	31'-9"	STRAIGHT		10		476.9
Y501	4'-0"	BENT		296		1234.9
Y502	7'-1"	BENT	44			325.1
Y503	3'-10"	BENT	4			16.0
Y504	3'-9"	BENT	4			15.6
Y505	3'-8"	BENT	4			15.3
Y506	3'-7"	BENT	4			14.9
Y507	3'-6"	BENT	4			14.6
Y508	3'-5"	BENT	4			14.3
Y509	3'-4"	BENT	4			13.9
Y510	3'-3"	BENT	4			13.6
Y511	3'-2"	BENT	4			13.2
Y512	3'-1"	BENT	4			12.9
Y513	3'-0"	BENT	4			12.5
Y514	3'-0"	BENT			104	325.4
Y515	4'-1 1/2"	BENT			104	447.4
Y516	1'-11"	STRAIGHT			8	16.0
Y517	2'-5"	BENT			96	41.7
Y601	2'-10 1/2"	BENT		296		1278.2
Y602	3'-4"	BENT	44			220.3
Y603	3'-5"	BENT	44			225.8
Y604	4'-2"	BENT	76			475.6
Y605	3'-1 1/2"	BENT			8	37.6
Y606	3'-6"	BENT			96	504.7

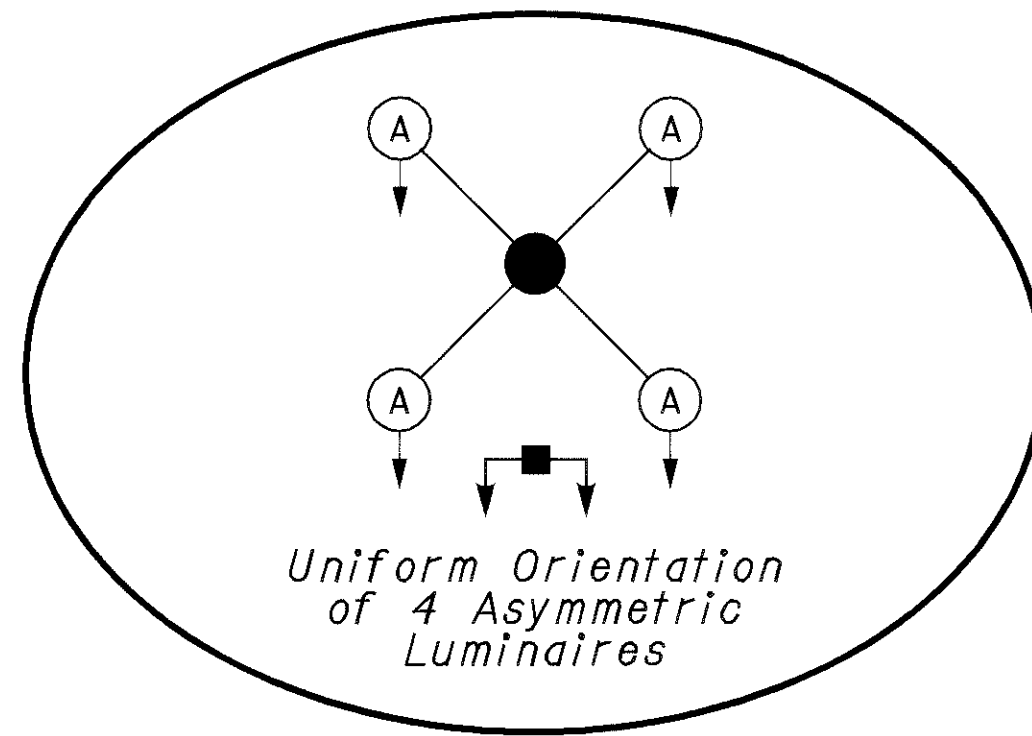
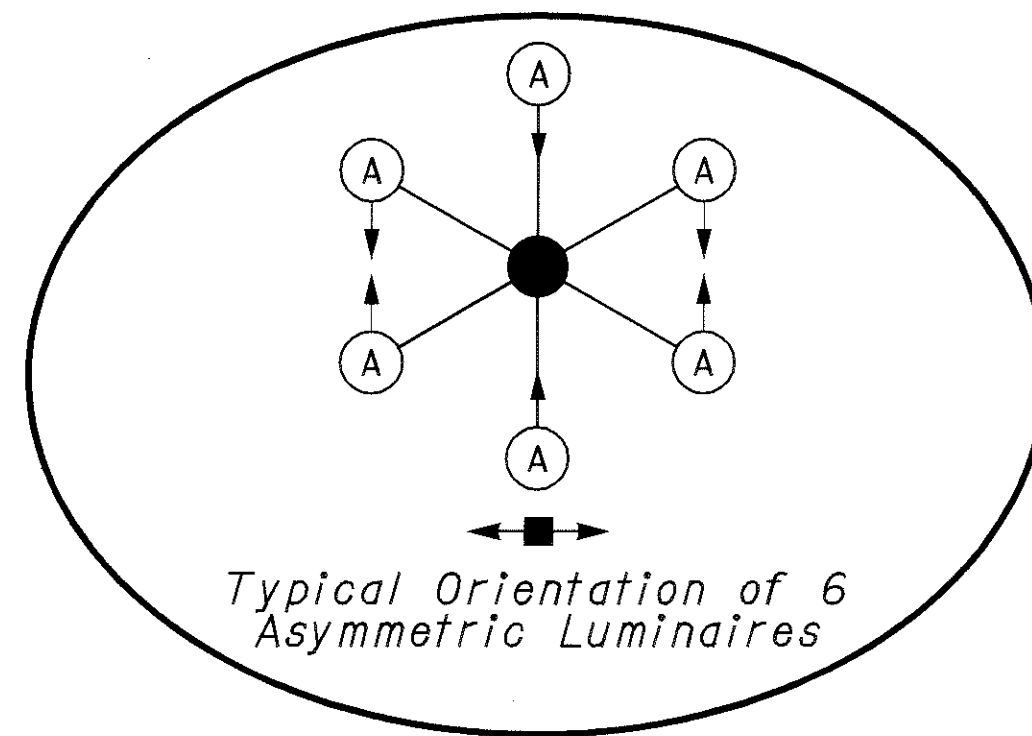
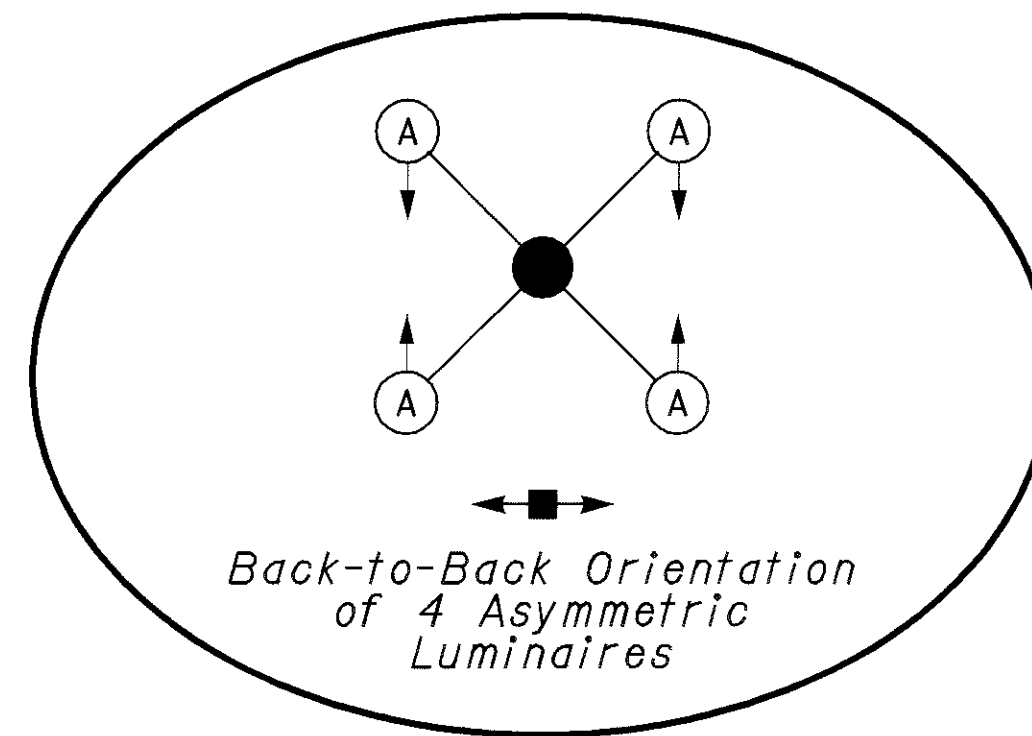
LEGEND--EXISTING

- BRIDGE MOUNTED SIGN SUPPORT
- CANTILEVER SIGN SUPPORT
- TRUSS SIGN SUPPORT
- PULL BOX
- CIRCUIT CABLE
- UNDERPASS LIGHT
- LIGHT POLE (NO WORK)
- CONTROL CENTER
- UTILITY POLE

LEGEND--PROPOSED

- 1 1/2" DUCT CABLE IN TRENCH, NO. 4 AWG (UNLESS NOTED)
- DISTRIBUTION CABLE EXISTING IN RACEWAY OR METAL CONDUIT, NO. 4 AWG (UNLESS NOTED)
- DISTRIBUTION CABLE IN 3" CONDUIT, 713.04 JACKED OR DRILLED UNDER PAVEMENT, NO. 4 AWG (UNLESS NOTED)
- PULL BOX, 713.08, 18" OR 24"
- PULLBOX, 713.08, 18" OR 24", REMOVED AND REPLACED
- LIGHT TOWER REPLACED, ASYMMETRIC, 4 OR 6 LUMINAIRES, 400W HIGH PRESSURE SODIUM, 713.2I, 480V
- LIGHT TOWER REPLACED, SYMMETRIC, 6 LUMINAIRES, 400W HIGH PRESSURE SODIUM, 713.2I, 480V
- LIGHT TOWER REPLACED, ASYMMETRIC 4 LUMINAIRES, 400W HIGH PRESSURE SODIUM, 713.2I, 480V

LUMINAIRE DETAILS



Indicates "street side" orientation of luminaire.

"A2/A2" indicates 2 asymmetries in each direction.

"A3/A3" indicates 3 asymmetries in each direction.

Proposed Work

The intent of these lighting plans is to replace existing light towers and luminaires by re-using existing foundations and circuitry.

Additional lighting items are provided to replace light tower 1DEN2-2 (Sta 936+25 I-71) in its entirety. This structure falls within the pavement replacement area.

Work Scheduling and Time Limitations

Towers and luminaires shall remain in service until their removal. Once removed, the towers shall be replaced and returned to service within 7 days, with the exception of 1DEN2-2. The Contractor shall order materials and schedule operations accordingly.

Existing Lighting Items, Signs, Duct Cable and Conduit

The locations of existing lighting items, signs, conduit and duct cable shown on the plans have been obtained by searches of available records and field checks. It is believed that they are essentially correct, however, the State of Ohio does not guarantee their accuracy or completeness. Several light poles and signs have been rewired overhead since the original construction. Field verify all circuits.

Existing plans and construction project no. are:

CUY-71-18.65/CUY-90-14.90 (Circuits STW1-3), Project 828-78

CUY-71-14.96, Project 87-79

High Mast Luminaries

The luminaire arrays 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 tower lighting shall meet the following requirements.

- Symmetric, Type V, luminaires for tower lighting shall be Holophane "HMSC" Test #43842, GE 6312, or approved equal.
- Asymmetric, Type II, luminaires for tower lighting shall be Holophane "HMSC" Test #43191, GE 7365(II), or approved equal.

In addition, other cut off style luminaires will be considered if the designed intensity and uniformity are provided using the designed pole locations and the designed number and type of fixtures per pole.

Item 202 Light Pole Foundation Removed

This item of work shall consist of removing an existing light pole foundation to a minimum of one foot below the proposed median barrier base.

Item 625 Light Tower Foundation, Misc.: Median-Mounted, 36"x15' Deep

This item shall be used to construct a median light tower foundation as shown in the plans.

Payment will be made for each foundation and shall be full compensation including all labor, materials, and incidentals required to complete the work. Junction boxes shall be paid for separately.

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Item Special Maintain Existing Lighting

Existing roadways which are to remain open to traffic during construction of this project and which are lighted shall have the lighting maintained as described herein. Before any work is started in the immediate vicinity of any existing 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 this 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 luminaire 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 representatives of the state, the maintaining agency, and the Contractor.

If, as a result of this inspection, it is determined that the condition of the existing system is below that required for the safety of the traveling public, then the maintaining agency shall make repairs 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 knock downs due to traffic accidents. Replacement of knocked down units shall be done only when the Engineer has determined that the replacement of the knocked down unit is necessary and shall be paid separately on a unit basis.

Betterments shall be covered in items of work pertaining to the construction of permanent improvements. Should the Contractor desire the removal of 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. Temporary lighting to maintain the existing lighting is not required provided that service is only interrupted for a total of 60 days or less.

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 intensity of 1.2 foot candles with and 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 the grade "A" for strength requirement 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 Maintain Existing Lighting shall include payment for all labor, equipment, and materials, and incidentals necessary to maintain the existing lighting as specified herein.

Underdrains for Pull Boxes

Reference is made to standard drawing HL-30.11 for details of draining pull boxes. Underdrains for pull boxes shall be used as directed by the Engineer and shall be provided wherever existing pullbox drainage is missing or not functioning. The following estimated quantity has been included in the general summary to be used as outlined above to drain existing pullboxes.

Item 603 4" Conduit, Type E 100 Lin Ft

Tower Lightning Protection System

An approved tower lightning protection system as detailed in the standard drawings shall be provided and installed for each tower erected. The cost of all labor, materials, and equipment needed to install this protection shall be included in the unit bid price for each Item 625 light tower.

High Mast Light Towers

The manufacturer shall submit a report from an independent testing laboratory to show that the luminaires do not receive more than the specified acceleration load. The testing laboratory's report shall specify in detail the mounting locations of the accelerometers and the test procedures used. In addition to this report, ODOT reserves the right to conduct field measurements of those acceleration loads and to accept only those designs in which the tested installations meet the specifications.

The terminal block shown on the standard construction drawings shall be included in the price of the tower.

Item 625 Pull Box, 713.08, 24"

The following estimated contingency quantity shall be used as directed by the Engineer to replace any badly damaged pullboxes that are to remain in service. This item shall include all costs of removing the old pullbox. If pullboxes are found to be adequate, this item shall be non-performed. The following estimated quantity has been carried to the General Summary:

Item 625 Pullbox, 713.08. 24" 5 Each

Item 625 Light Tower, by Type, as per Plan

This item of work shall consist of placing a new light tower on the existing foundation utilizing the existing anchor bolts and circuitry. In addition to the specification requirements of this item, it is the Contractor's responsibility to field check and measure existing bolt circles to match the existing bolt circles and bolt sizes to the proposed light tower.

The Contractor is advised that Department records indicate that towers 1SCR1-1, STW1-4, STW2-3 built on Project 87-79 were built on special foundations (spread footings.) Further, the tower 2RDG1-1 was replaced in the 1990's as part of the Ridge Road bridge replacement. The foundations for these towers may have bolt circles that differ from the majority of others on the project.

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From	Station	To	Station		202	202	202	625		625	625	625	625	625	625		625		625	625	625									625	625
					Light Tower Removed Each	Light Pole Foundation Removed Each	Luminaire Removed Each	Cable Splicing Kit Each		Light Tower, BBBB80 Each	Light Tower, BBBB80, As Per Plan Each	Light Tower, BBBB90, As Per Plan Each	Light Tower, BBBBI00, As Per Plan Each	Light Tower, BBBBI00, As Per Plan Each	Light Tower, BBBBI20, As Per Plan Each		Light Tower, BBBBBBI00, As Per Plan Each		Light Tower, BBBBBBI20, As Per Plan Each	Light Tower, BBBBBBI30, As Per Plan Each	Light Tower, BBBBBBI40, As Per Plan Each							Luminaire, Symmetric, 400 Watt High Pressure Sodium, 713.2L, 480 Volt Each	Luminaire, Asymmetric, 400 Watt High Pressure Sodium, 713.2L, 480 Volt Each		
ISCR1-1	886+60				/		2				/																				4
ISCR1-2	981+90				/		2				/																				4
ISCR1-3	974+40				/		2				/																				4
ISCR2-1	890+20				/		2				/																				4
ISCR2-2	882+95				/		2				/																				4
ISCR2-3	978+15				/		2				/																				4
ISCR2-4	970+65				/		2				/																				4
2SCR1-1	7+20 RAMP D				/		2						/																		4
2SCR1-2	1895+30				/		2						/																		4
2SCR1-3	12+15 RAMP D				/		2						/																		4
2SCR1-4	900+65 S.B.				/		2					/																			4
2SCR2-1	894+30.0				/		2						/																		4
2SCR2-2	899+10.0				/		2						/																		4
2SCR2-3	905+00 N.B.				/		2						/																		4
2SCR2-4	910+75 N.B.				/		2						/																		4
2SCR2-5	916+80 N.B.				/		3											/													6
HLM1-1	8+80 RAMP N.B.O.R.-14				/		2						/																		4
HLM1-2	935+50 N.B.				/		3												/												6
HLM1-3	931+75 S.B.				/		3												/												6
HLM1-4	927+75 S.B.				/		3														/										6
HLM1-5	922+80 S.B.				/		3														/										6
HLM2-1	9+90 RAMP J-14				/		2								/																4
HLM2-2	939+85 N.B.				/		2						/																		4
HLM2-3	944+00 S.B.				/		3								/																6
HLM2-4	939+90 S.B.				/		2						/																		4
STW1-1	976+50.0				/		2						/																		4
STW1-2	967+30.0				/		3										/														6
STW1-3	958+75.0				/		2						/																		4
STW1-4	948+60 S.B.				/		2						/																		4
STW2-1	972+75.0				/		3										/														6
STW2-2	962+75				/		2						/																		4
STW2-3	954+00				/		2						/																		4
STW3-1	1980+50				/		2						/																		4
STW3-1	1986+00				/		2						/																		4
STW3-1	1991+50				/		2						/																		4
STW3-1	1996+75.0				/		2						/																		4
Totals Carried to General Summary:					36		80				7	/	18	/	/		3		/	2	2									48	112

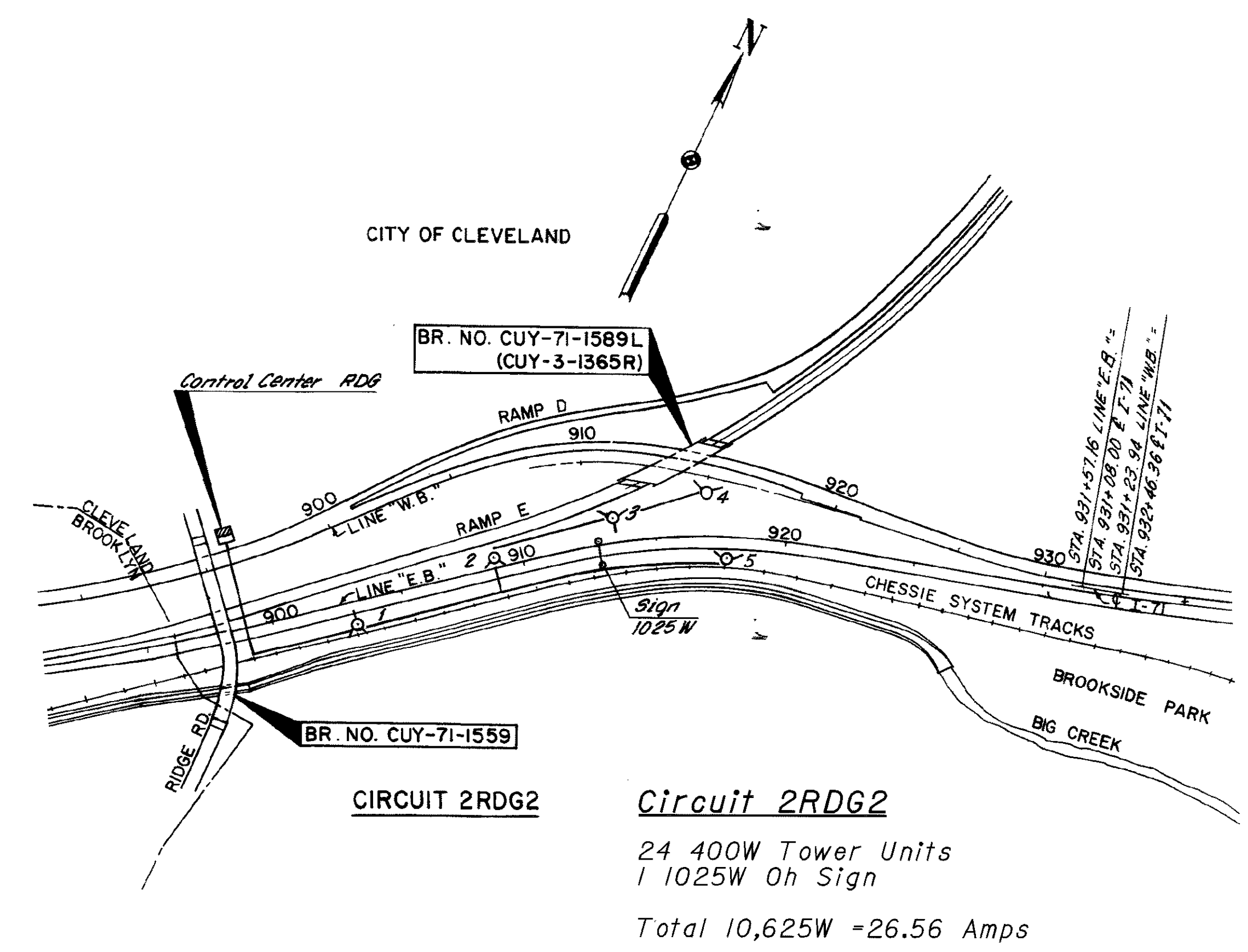
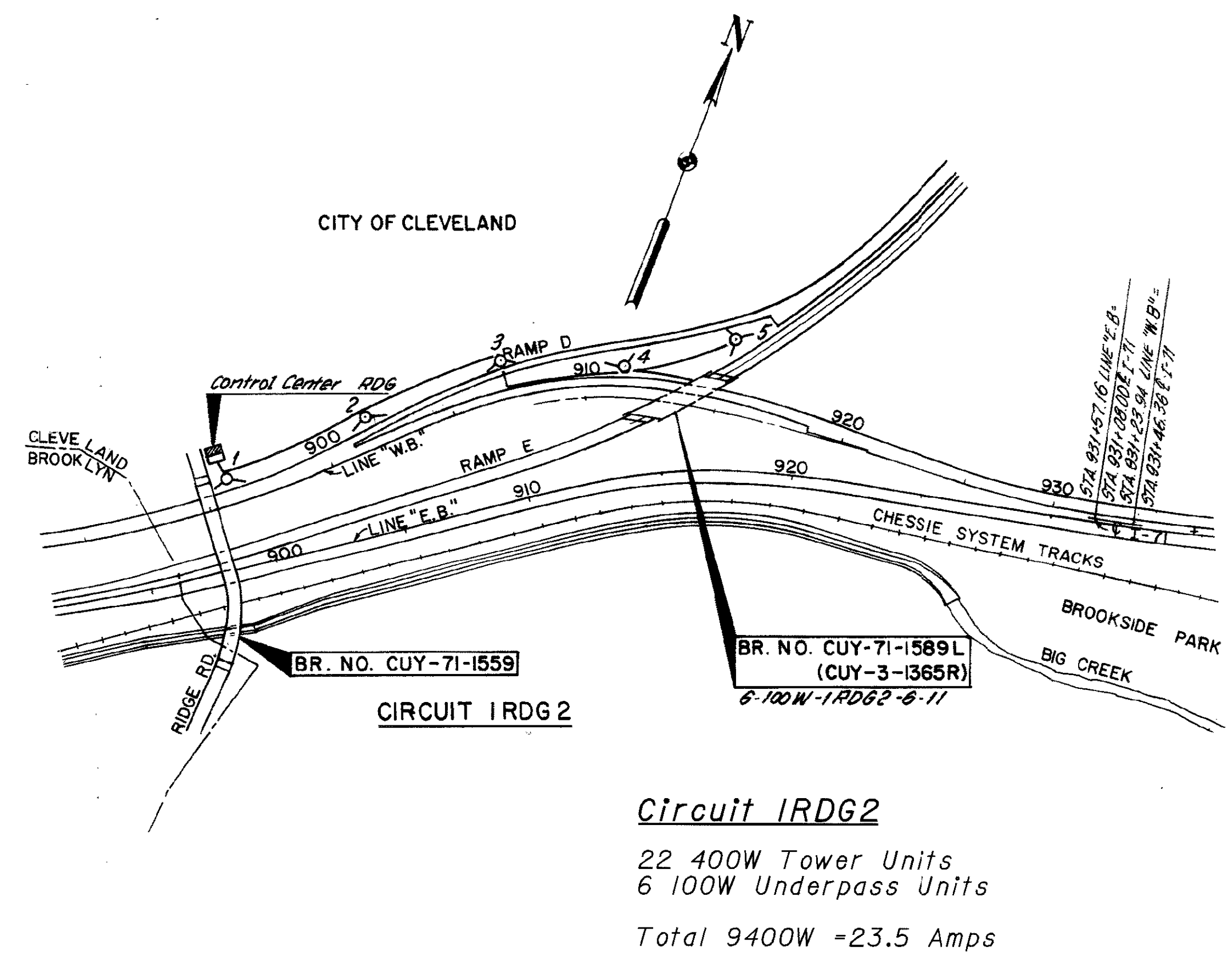
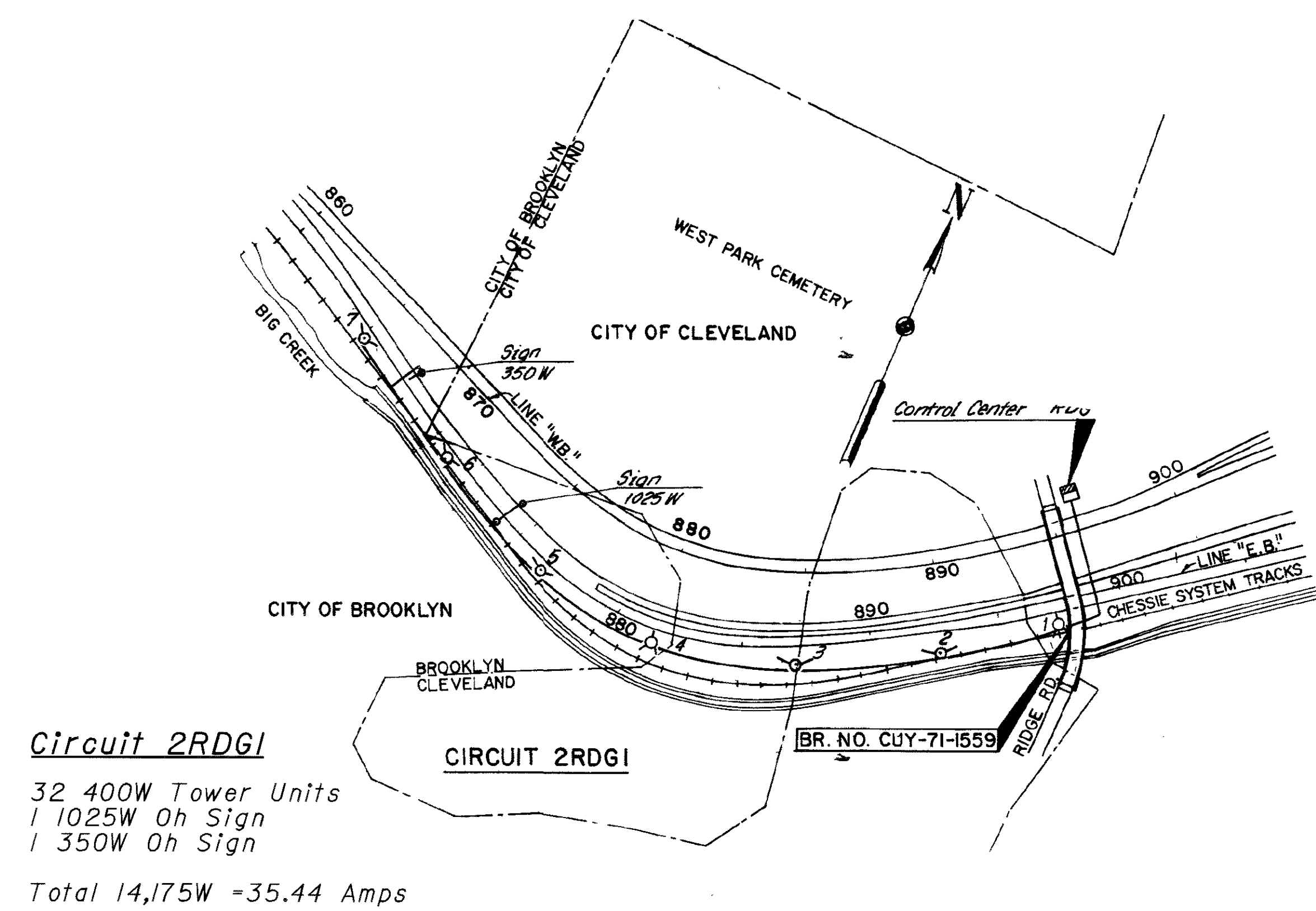
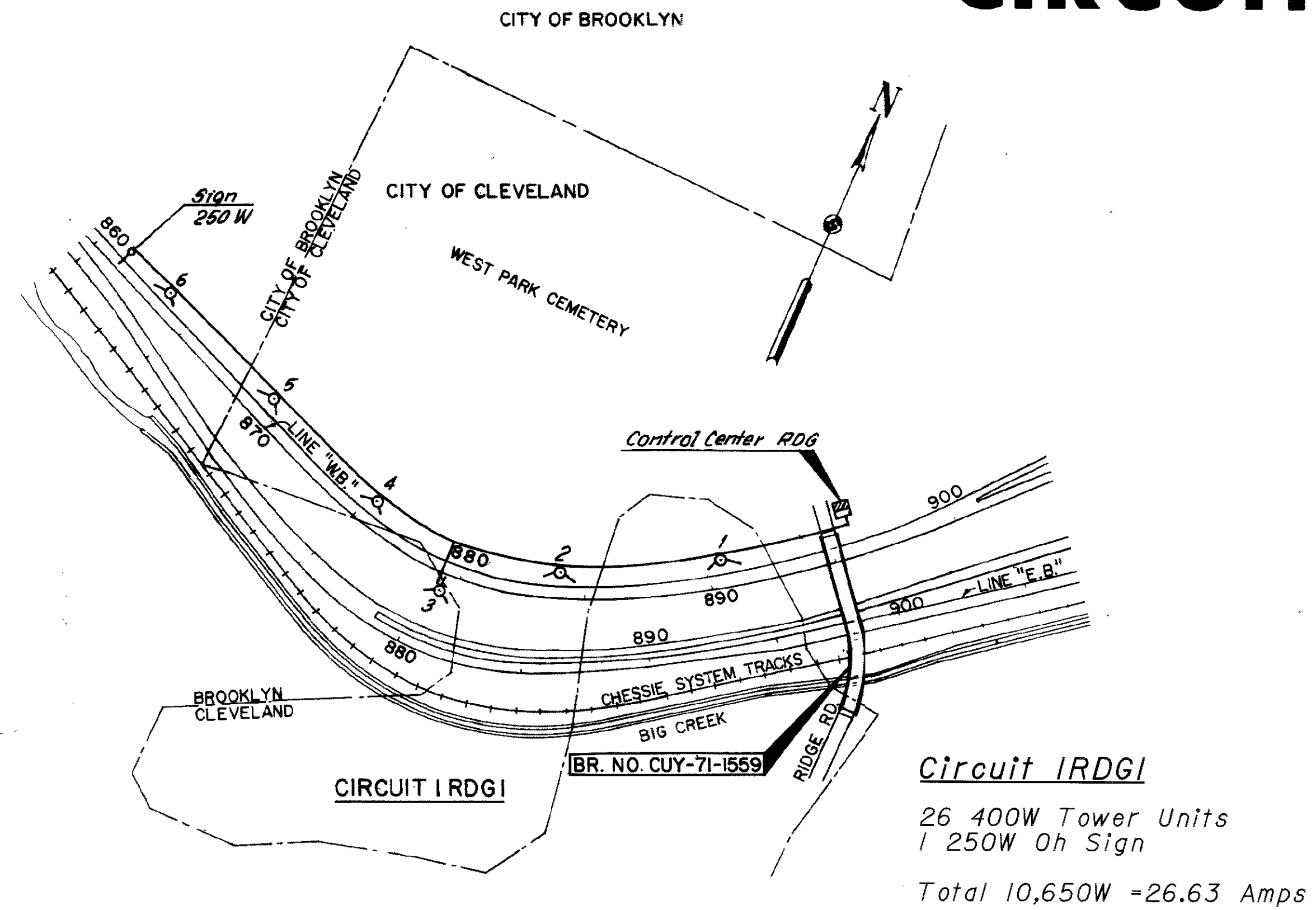
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BMB
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LDH

Lighting Sub-Summary

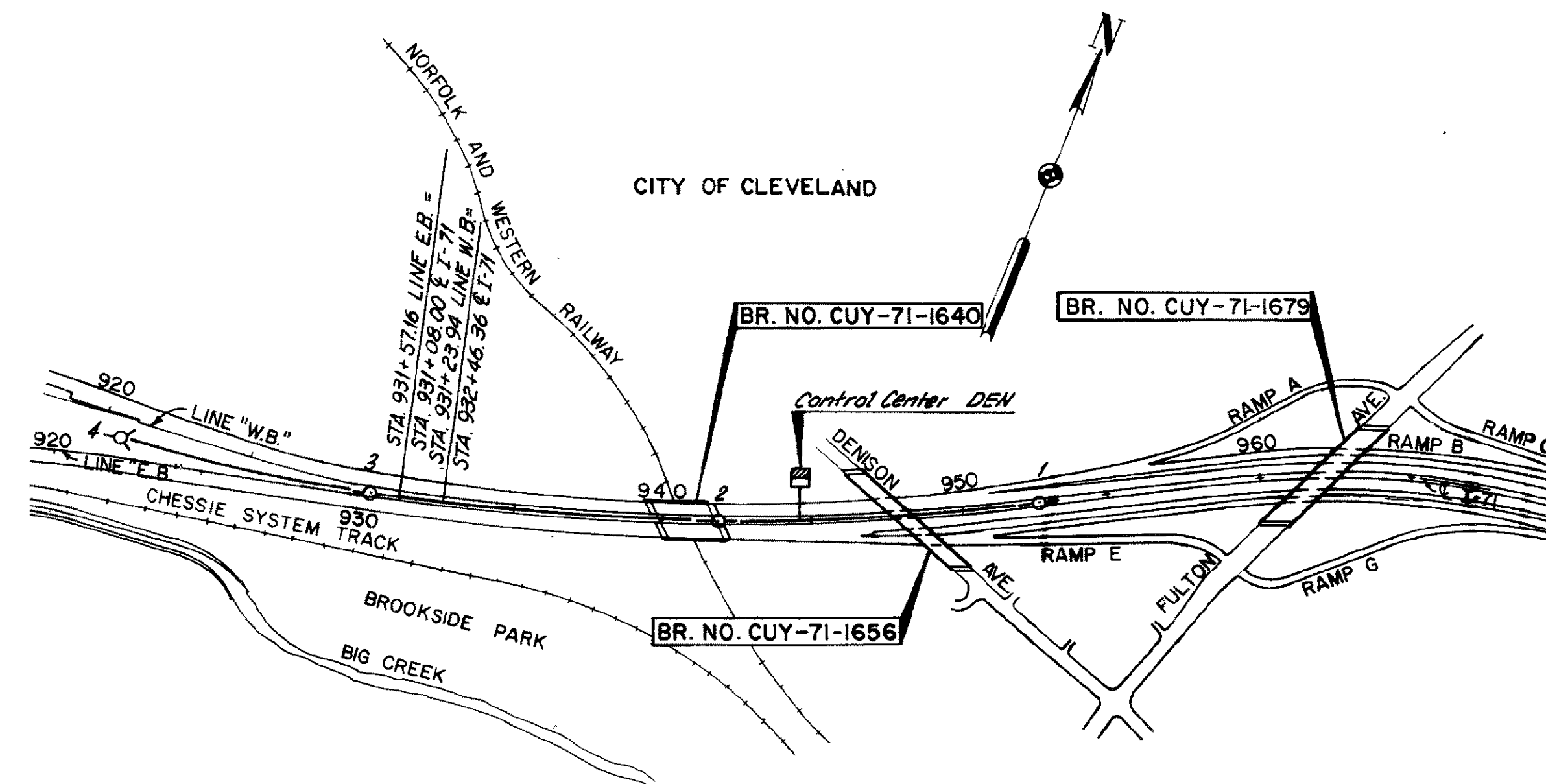
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CIRCUIT LAYOUT MAPS



CIRCUIT LAYOUT MAPS

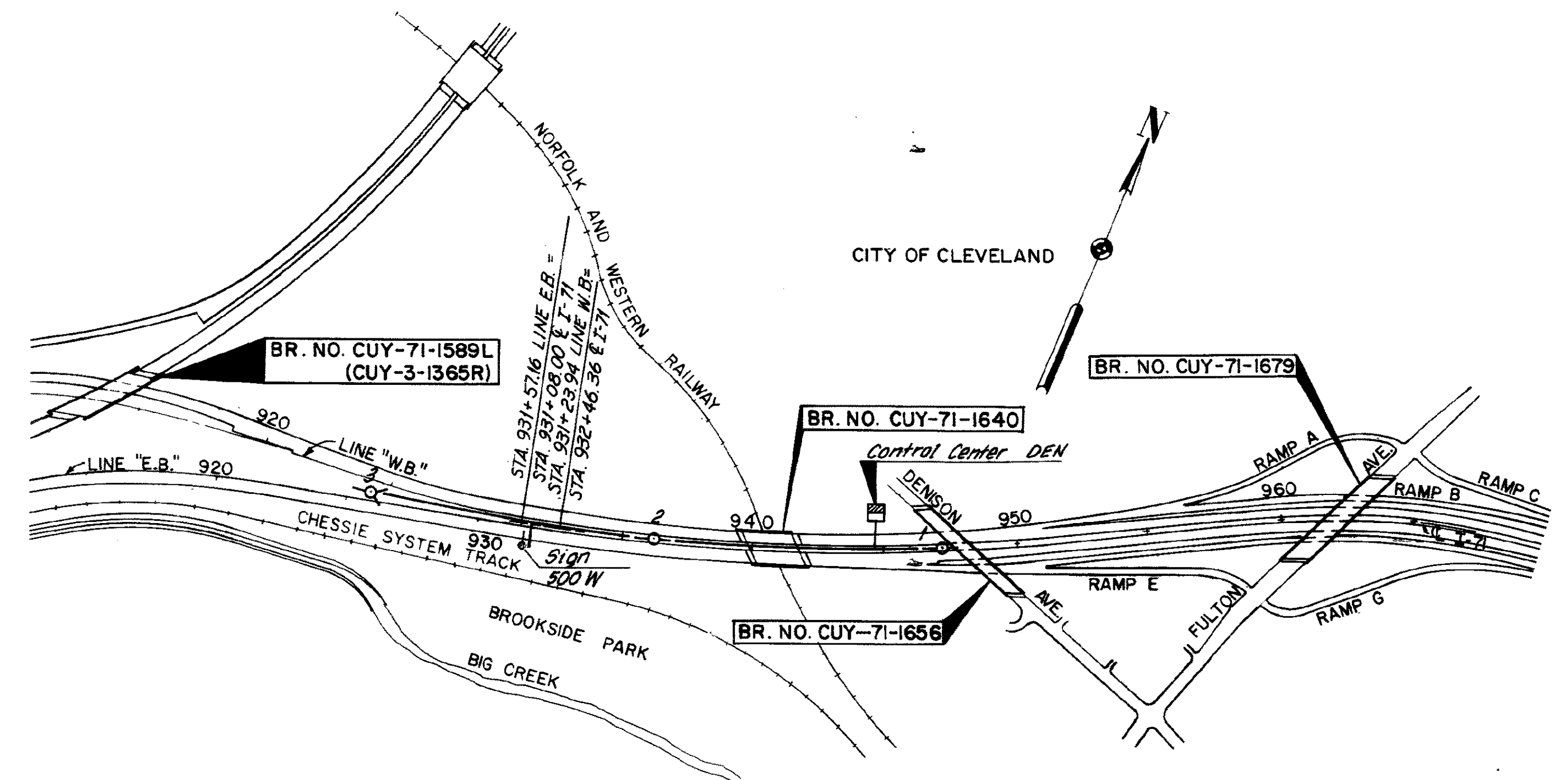


CIRCUIT IDEN1

Circuit IDEN1

18 400W Tower Units

Total 7200W =18.00 Amps

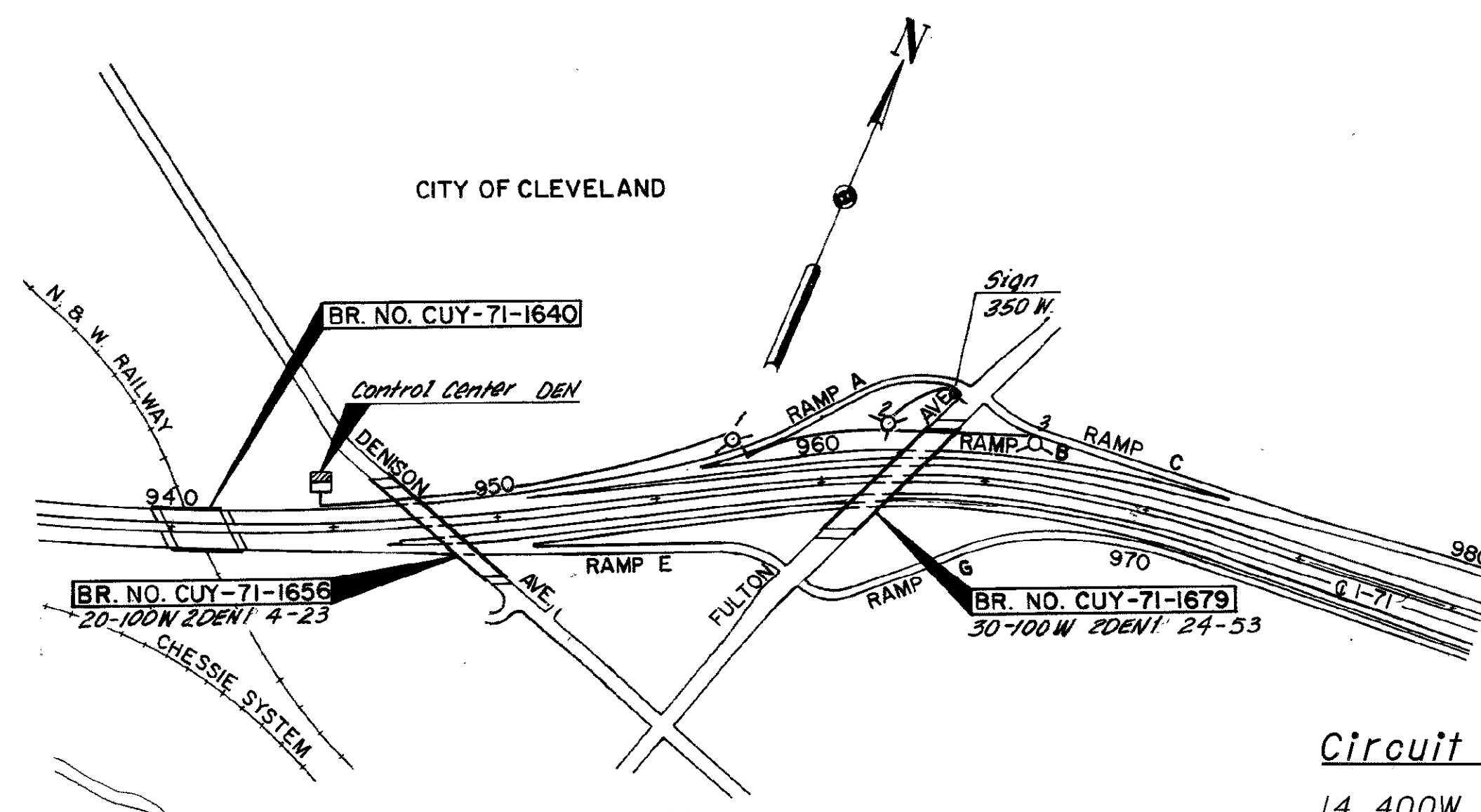


CIRCUIT IDEN2

Circuit IDEN2

14 400W Tower Units
1 500W Oh Sign

Total 6100W =15.25 Amps

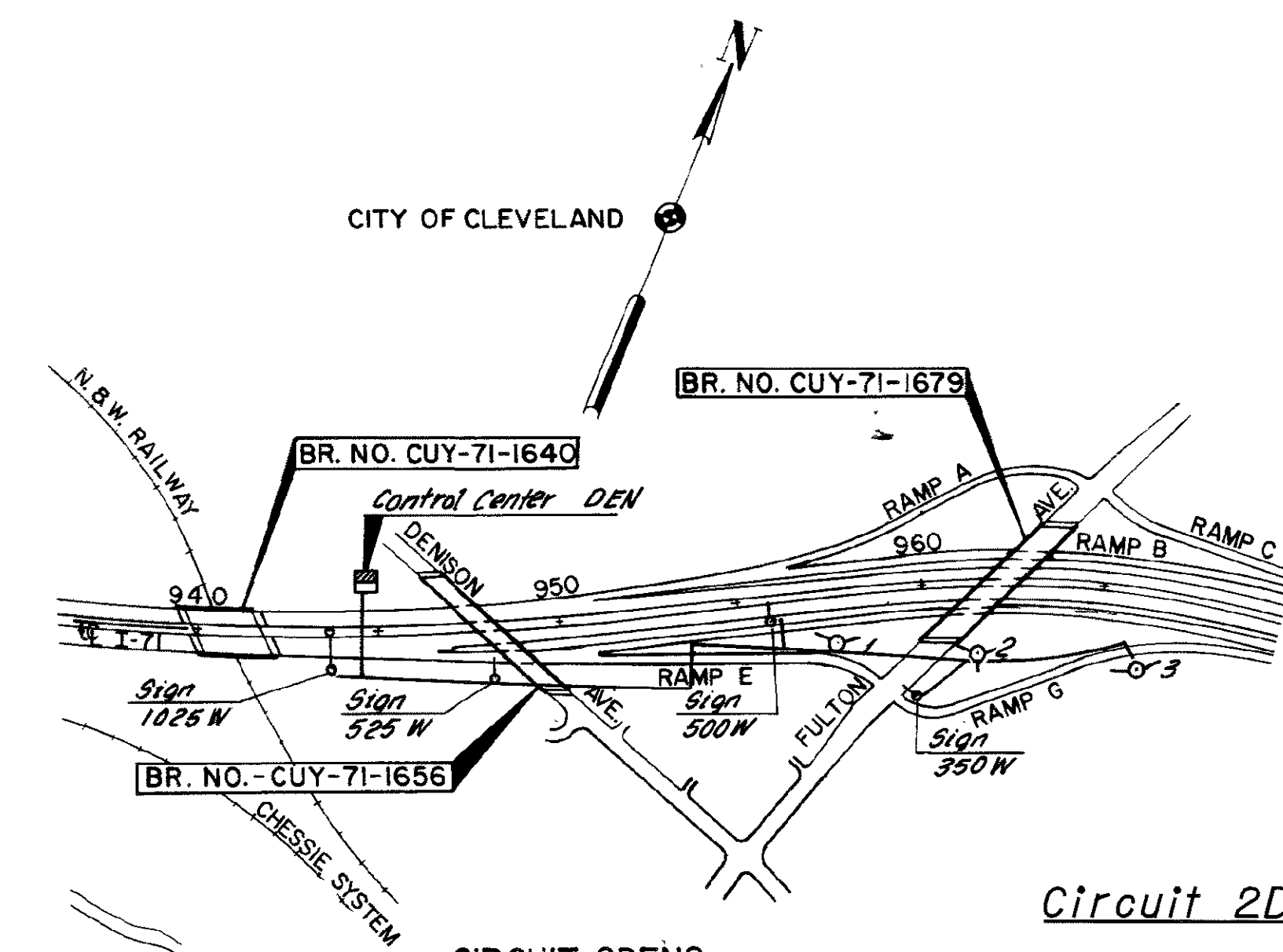


CIRCUIT 2 DEN1

Circuit 2DEN1

14 400W Tower Units
1 350W Oh Sign
50 100W Underpass Units

Total 10,950W =27.38 Amps



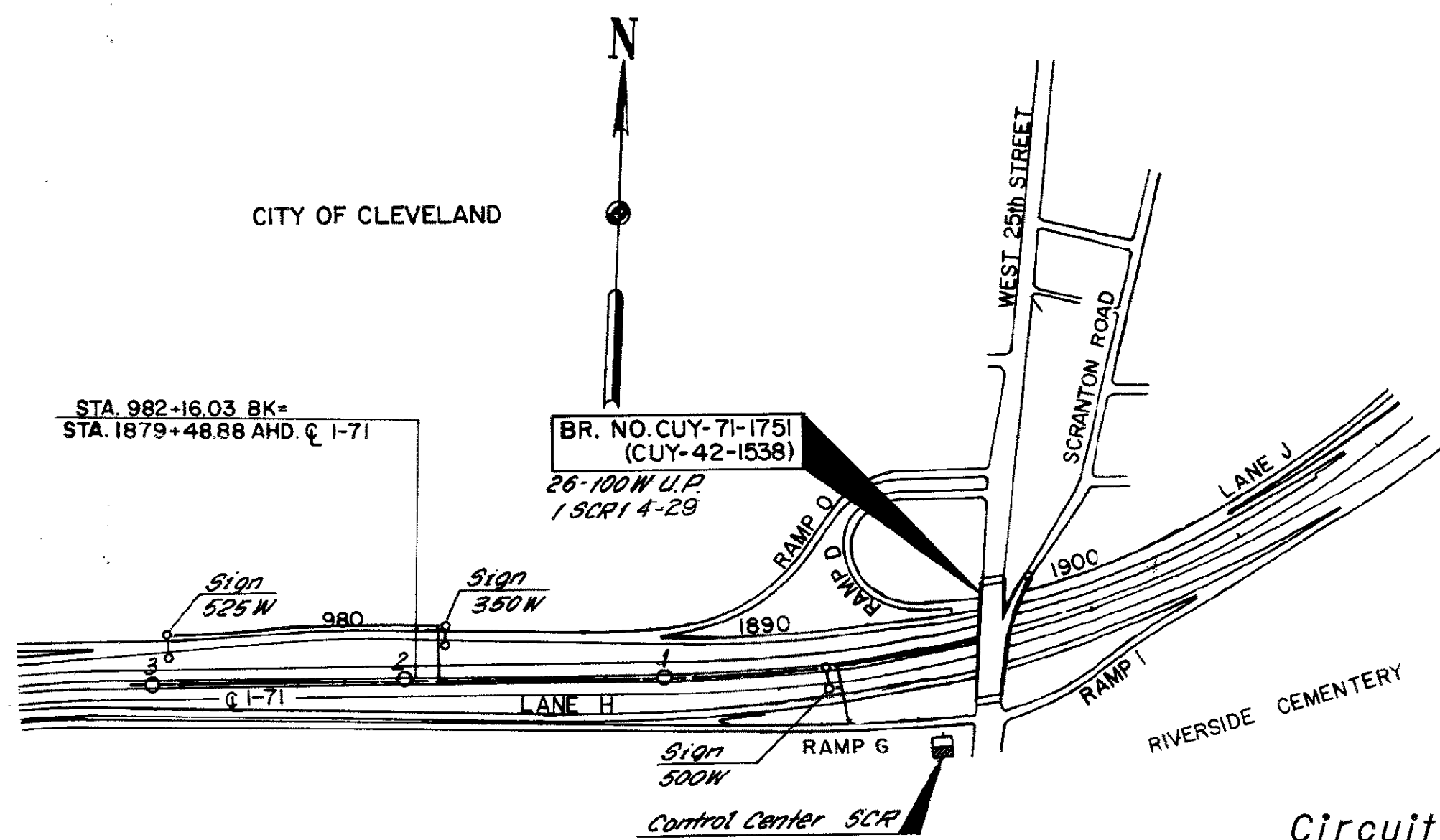
CIRCUIT 2DEN2

Circuit 2DEN2

14 400W Tower Units
1 1025W Oh Sign
1 525W Oh Sign
1 500W Oh Sign
1 350W Oh Sign

Total 8000W =20.00 Amps

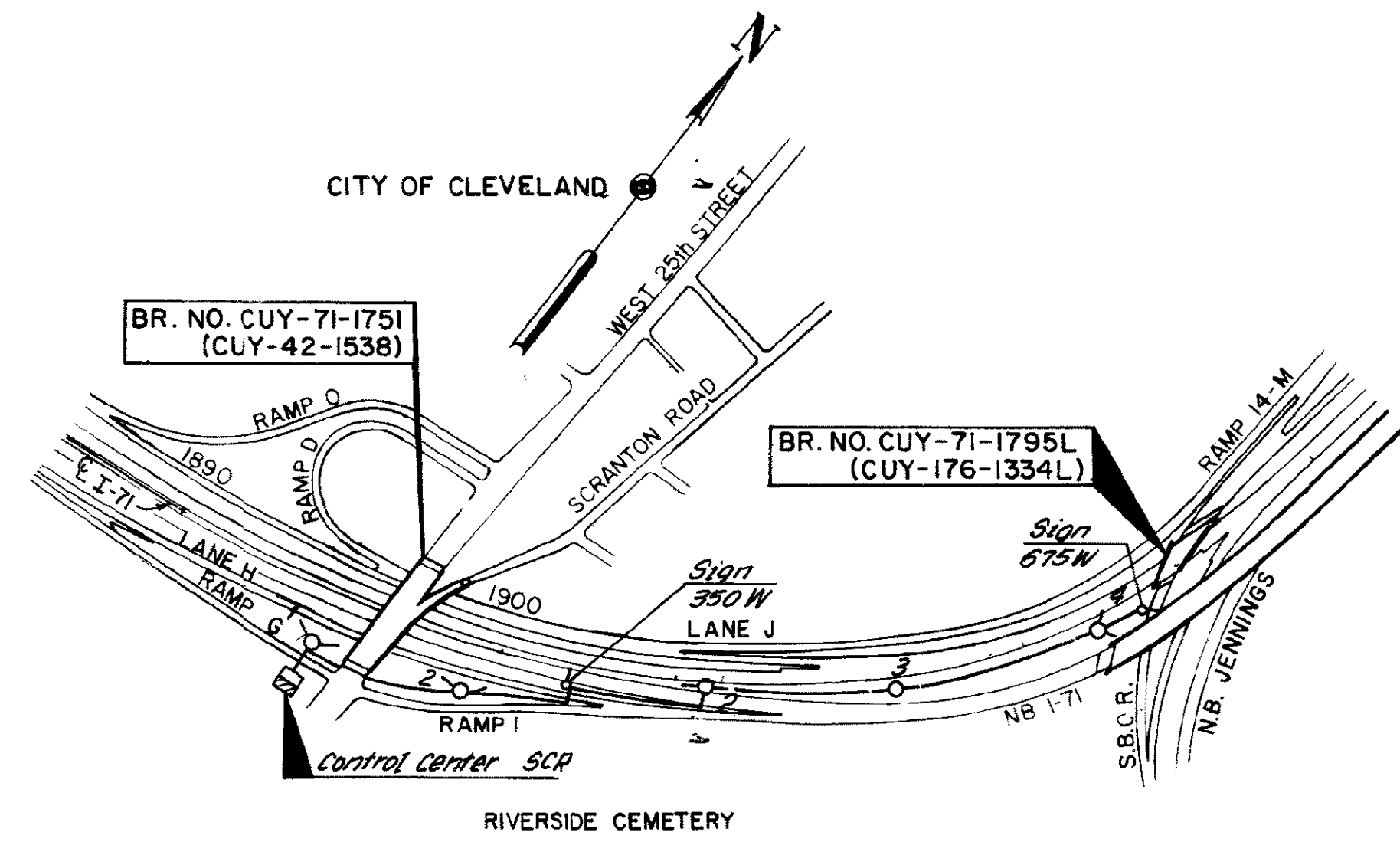
CIRCUIT LAYOUT MAPS



CIRCUIT 1SCR1

Circuit 1SCR1

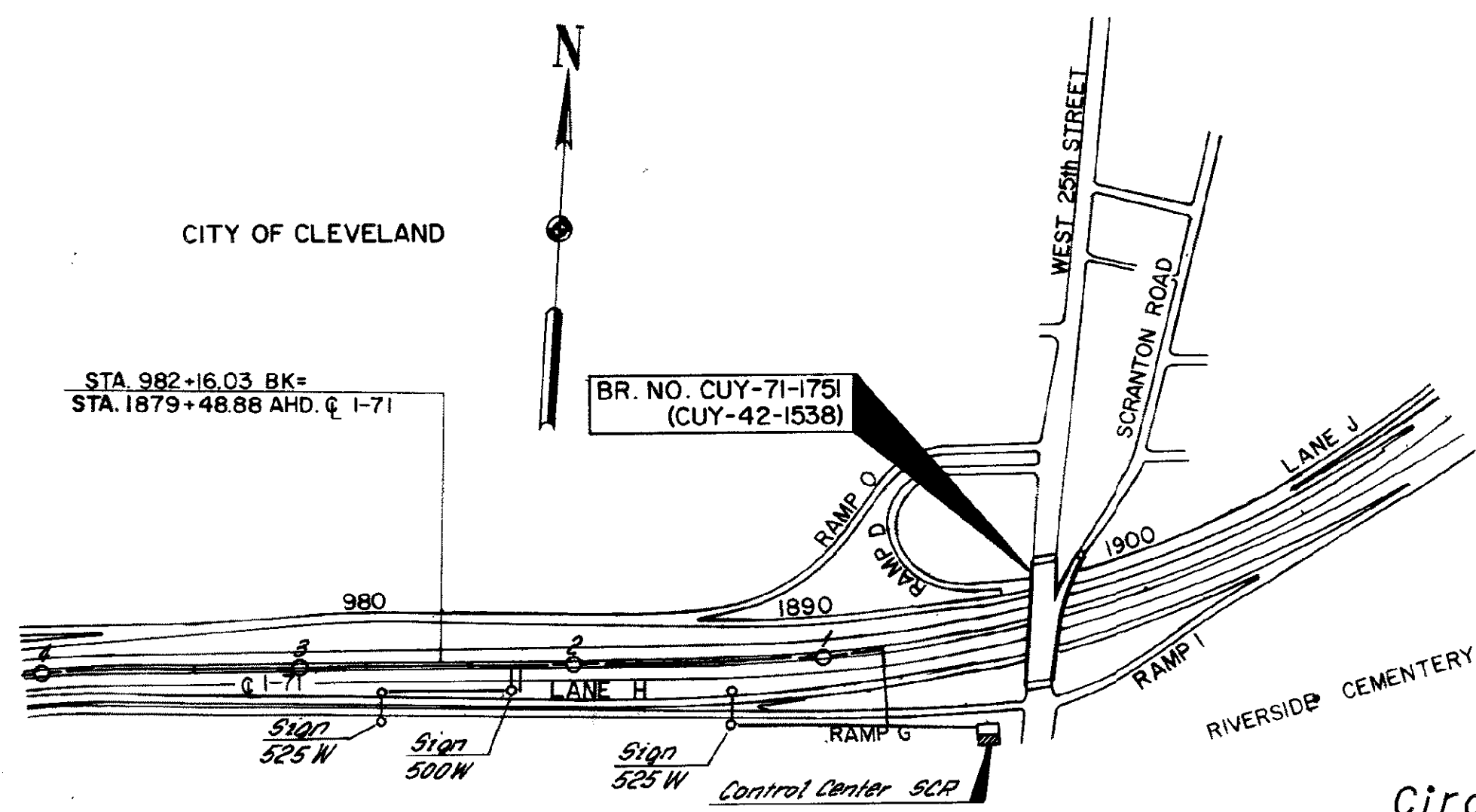
12 400W Tower Units
26 100W Underpass Units
1 525W Oh Sign
1 500W Oh Sign
Total 8425W = 21.06 Amps



CIRCUIT 2SCR2

Circuit 2SCR2

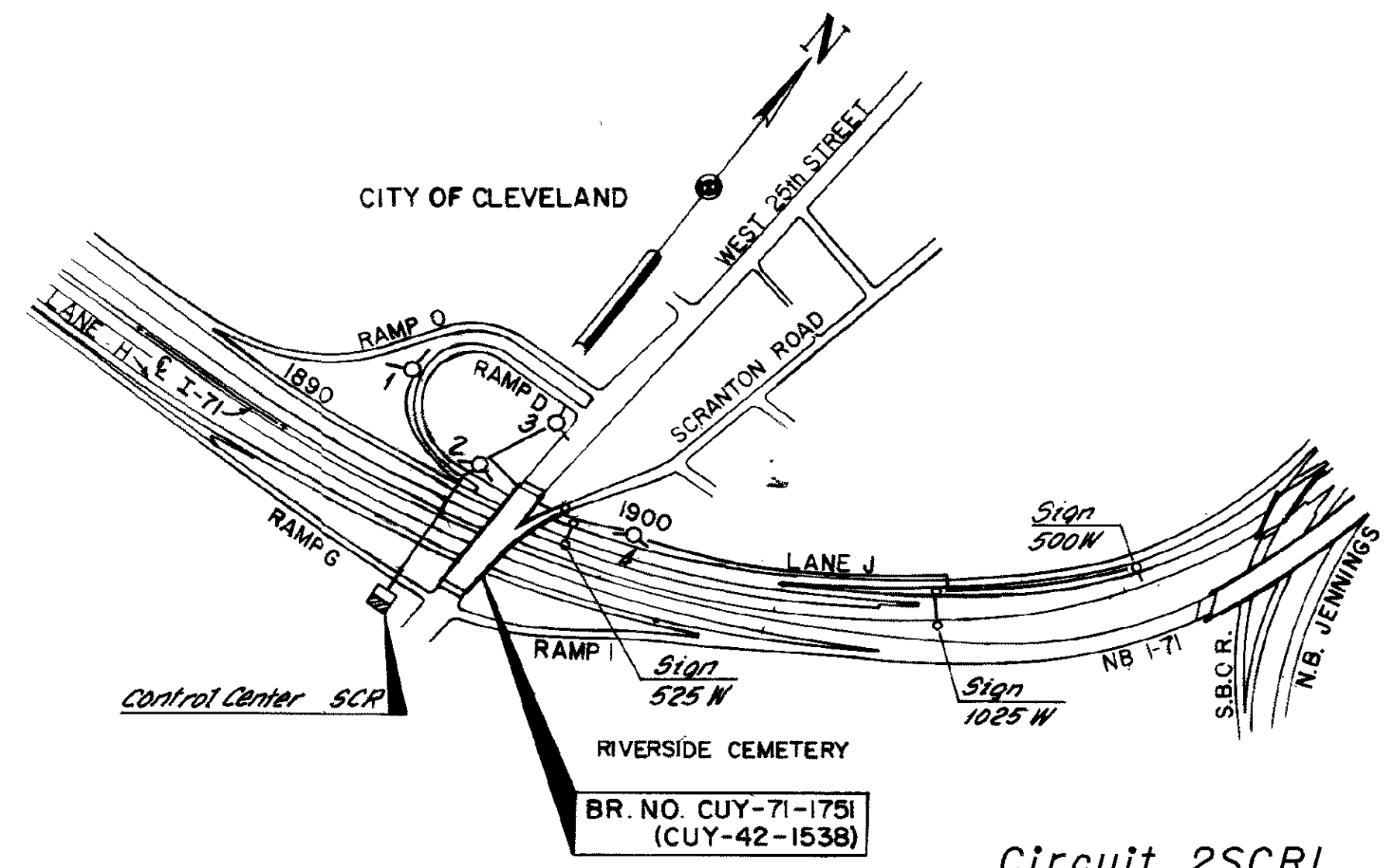
22 400W Tower Units
1 350W Oh Sign
1 675W Oh Sign
Total 8225W = 24.56 Amps



CIRCUIT 1SCR2

Circuit 1SCR2

16 400W Tower Units
1 525W Oh Sign
1 500W Oh Sign
1 525W Oh Sign
Total 7950W = 19.88 Amps



CIRCUIT 2SCR1

Circuit 2SCR1

16 400W Tower Units
1 525W Oh Sign
1 1025W Oh Sign
1 500W Oh Sign
Total 8450W = 21.13 Amps

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Total 8425W = 21.06 Amps

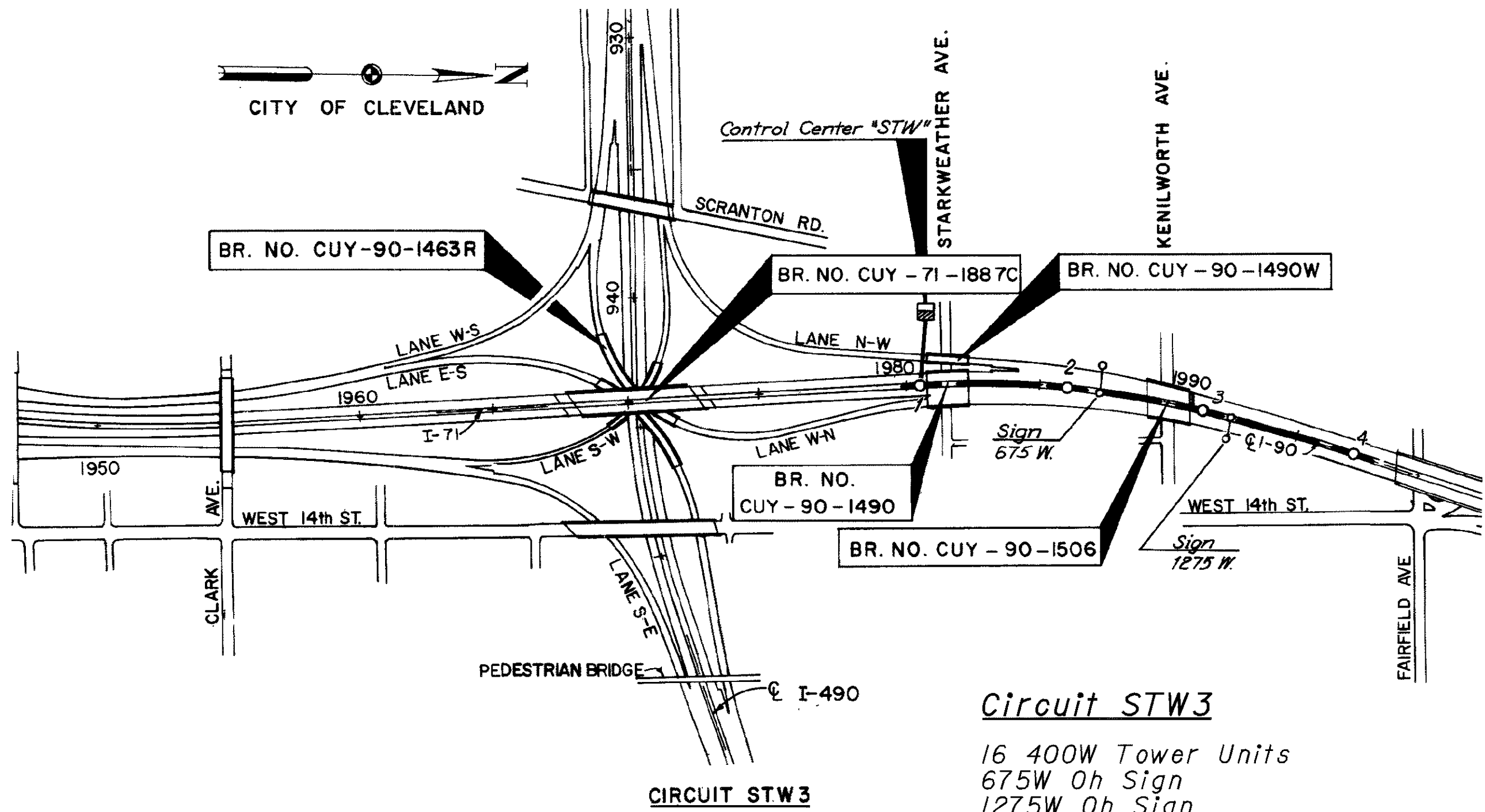


Total 11,200W = 18.00 Amps

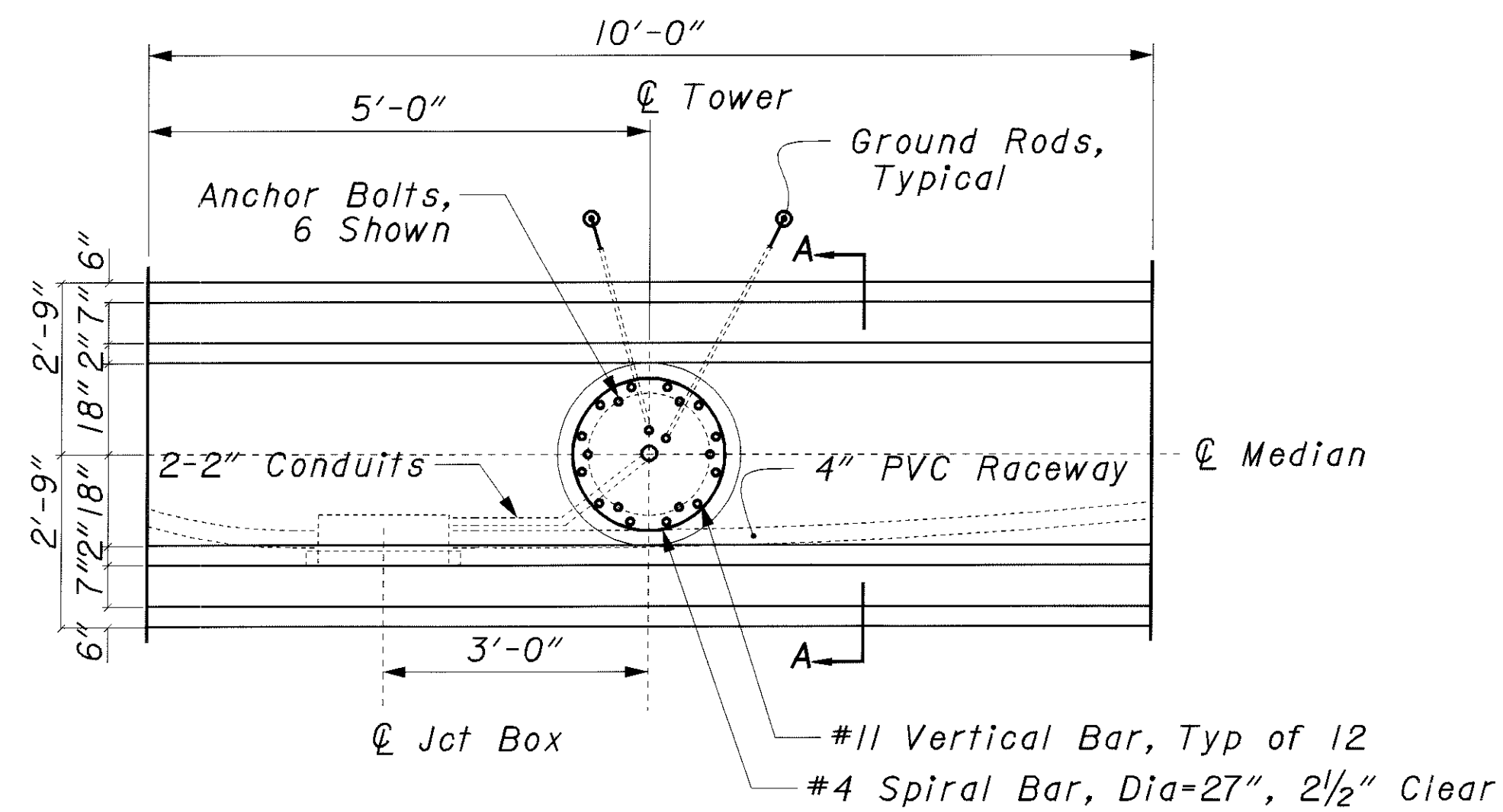


Total 8525W = 19.31 Amps

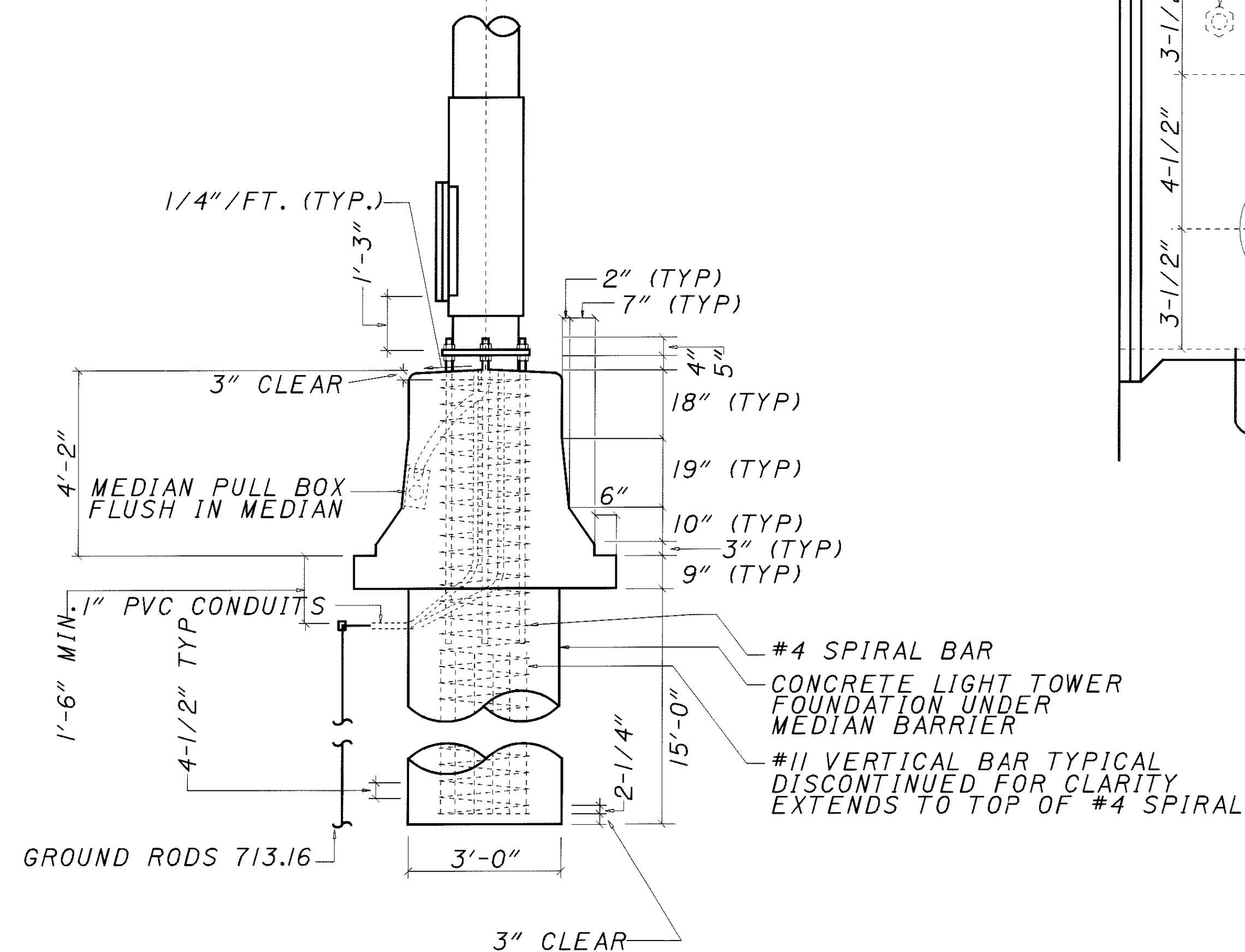
CIRCUIT LAYOUT MAPS



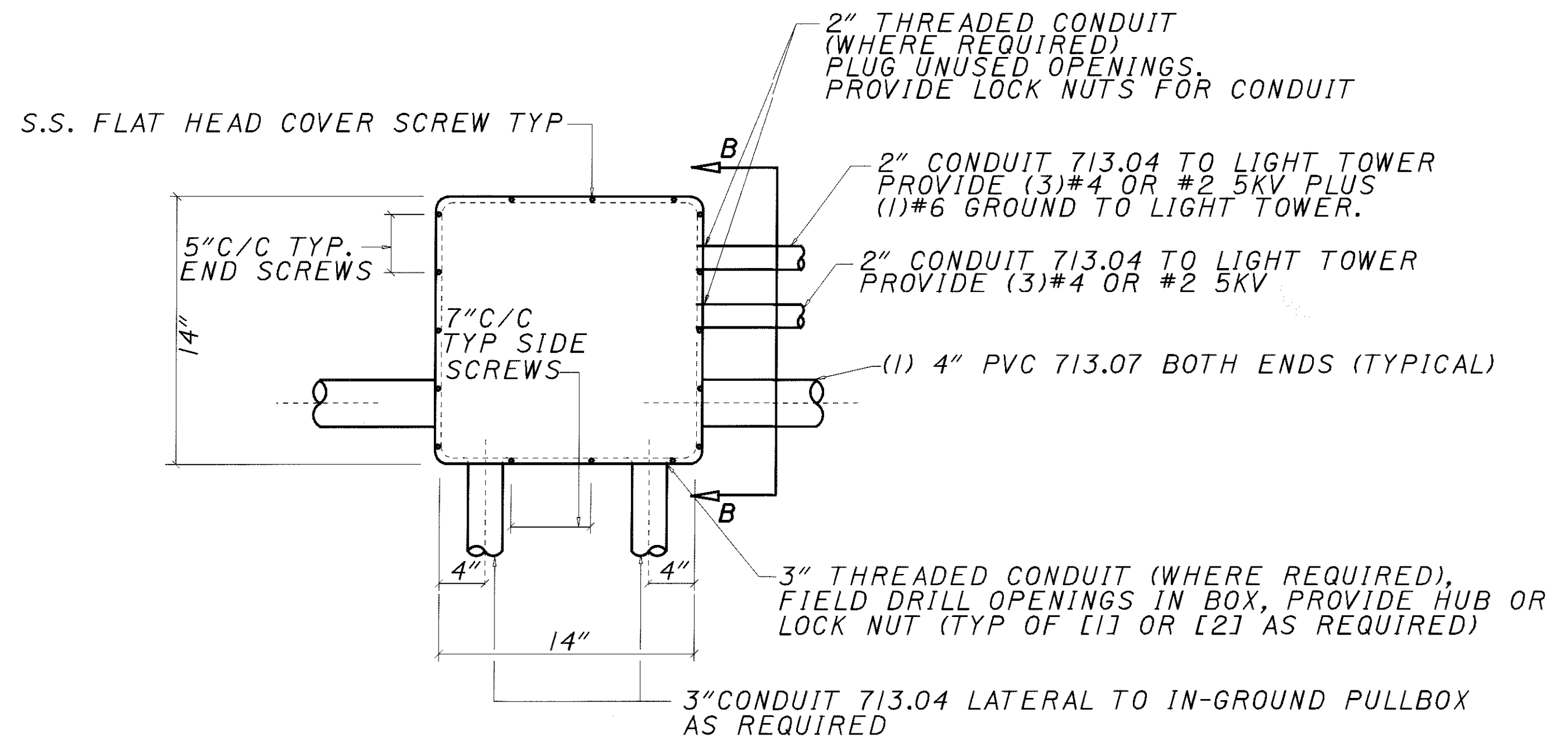
Circuit STW3
16 400W Tower Units
675W Oh Sign
1275W Oh Sign
Total 8350W =20.88 Amps



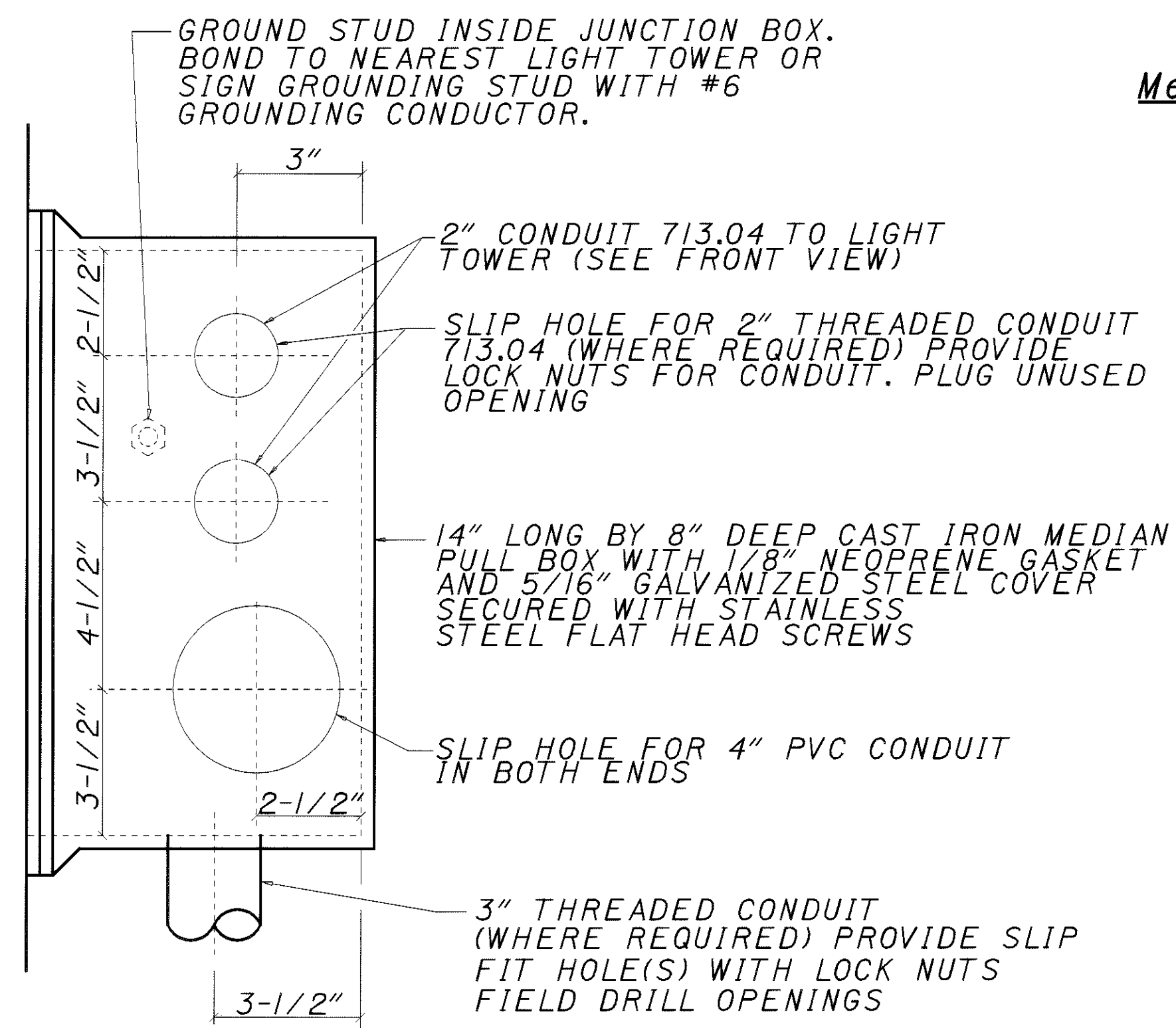
Plan



Section A-A



Median Pull Box



Section B-B

Notes

1. Foundation shall be cast-in-place Class "C" concrete as per, SS 899.
2. Reinforcing to comply with and be placed in accordance with 509.
3. Light pole anchor bolt size and spacing to fit mounting plate supplied with tower; however, bolt circle shall be equal to or less than 26". The minimum length anchor bolt shall be 70" and the bolts shall have either a 6" "I" bend or a 5" x 5" plate on the embedded end.
4. Construction shall conform to the requirements of 622, 625, and SS 842, 830, 865, 899.
5. Ground rods will be paid separately.
6. See lighting plans to determine number and sizes of conduits entering median pull boxes at each tower light foundation location and at each conduit crossover and sign service location.
7. The unit price bid for each Item 625 Light Tower Foundation, Misc: Median Mounted, 36" x15' Deep, shall be full compensation for furnishing and placing anchor bolts, concrete foundation, conduit raceways, reinforcing, median pull box, EMT, the 10' section of concrete barrier, and all labor, material, equipment, and incidentals necessary to complete the work as specified.
8. Deduct 10 linear feet from Item 622 Concrete Barrier for each median mounted light tower foundation.
9. Provide two 2" conduits from pull box to each light tower base.
10. All wiring shall be fed through the pull box directly into the base of the light tower where all connections shall be made. No connections or splices shall be made in the pull box.
11. Refer to HL-20.13M for junction box details not shown.