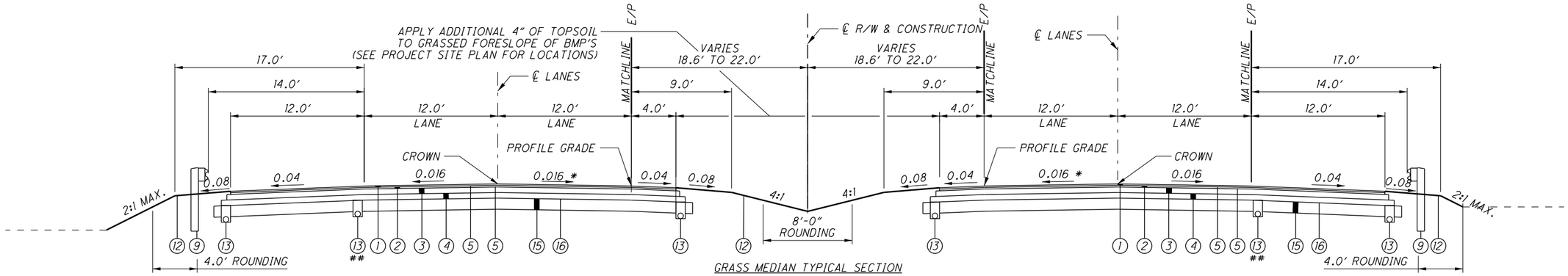
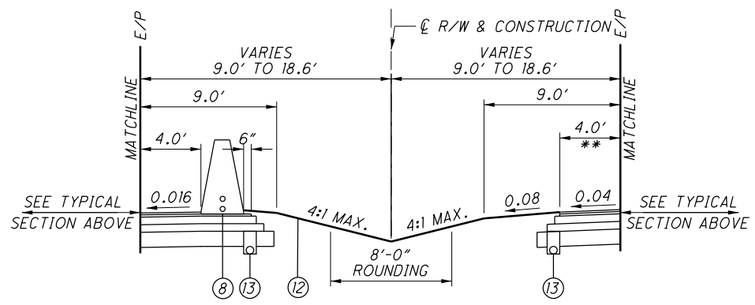
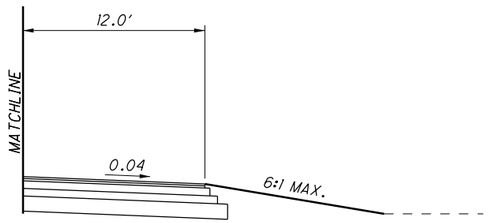


GRASS MEDIAN TYPICAL SECTION
STA. 489+00 TO STA. 495+00
STA. 685+00 TO STA. 689+50



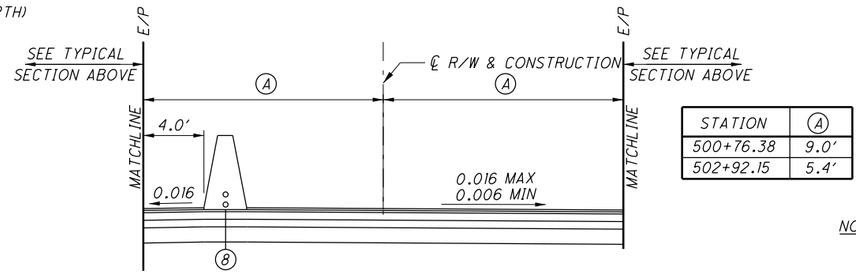
GRASS MEDIAN TYPICAL SECTION - WITH BARRIER
STA. 495+00 TO STA. 500+76.38
STA. 679+09.77 TO STA. 685+00 (MIRROR TYPICAL)



U.S. 30 SHOULDER GRADING - WITHOUT GUARDRAIL (6:1 MAX. SLOPE)

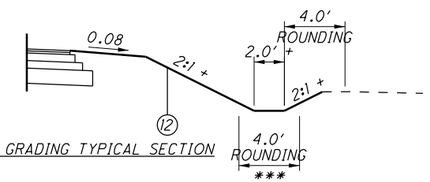
PROPOSED ITEM LEGEND

(1) ITEM 442 - 1 ½" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (447) (SEE NOTE 3)
(2) ITEM 442 - 1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446), AS PER PLAN
(3) ITEM 302 - 6" ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN
(4) ITEM 304 - 6" AGGREGATE BASE
(5) ITEM 407 - NON-TRACKING TACK COAT
(6) ITEM 407 - TACK COAT
(7) ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=13")
(8) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 (WITH TWO 4" RACEWAYS)
(9) ITEM 606 - GUARDRAIL, TYPE MGS
(10) ITEM 204 - SUBGRADE COMPACTION
(11) ITEM 609 - CURB, TYPE 6
(12) ITEM 659 - SEEDING AND MULCHING
(13) ITEM 605 - 6" BASE PIPE UNDERDRAIN WITH GEOTEXTILE FABRIC, 707.31 OR 707.41 (18" NORMAL DEPTH)
(14) ITEM 452 - 10.5" NON-REINFORCED CONCRETE PAVEMENT, CLASS QCIP WITH QC/QA
(15) ITEM 206 - CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP
(16) ITEM 206 - CURING COAT
(17) ITEM 609 - 6" CONCRETE TRAFFIC ISLAND
(18) ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15")
(19) ITEM 608 - 4" CONCRETE WALK
(20) ITEM 609 - CURB, TYPE 4-C
(21) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (SEE TYPICALS FOR DEPTH)
(22) ITEM 617 - COMPACTED AGGREGATE (AVERAGE THICKNESS - 2")
(23) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448), AS PER PLAN (VARIABLE THICKNESS - SEE TYPICALS FOR DEPTH)
(24) ITEM 202 - WEARING COURSE REMOVED
(25) ITEM 442 - 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446), AS PER PLAN
(26) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448), AS PER PLAN (VARIABLE THICKNESS - 1¾" TO 2½")
(27) ITEM 305 - 9" CONCRETE BASE, CLASS QCIP
(28) ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER
(29) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
(30) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN
(31) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1 (WITH 4" RACEWAY)
(32) ITEM 608 - 4" CONCRETE MEDIAN
(33) ITEM 302 - ASPHALT CONCRETE BASE, PG64-22 (VARIABLE THICKNESS - SEE TYPICALS FOR DEPTH)
(34) ITEM 302 - 6" ASPHALT CONCRETE BASE, PG64-22
(35) ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)

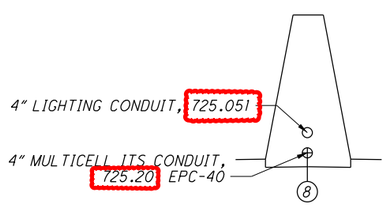


PAVED MEDIAN TYPICAL SECTION - WITH BARRIER DETAIL 1
STA. 500+76.38 TO STA. 502+92.15

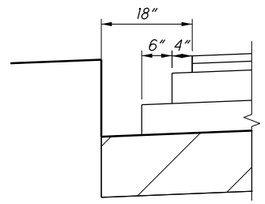
STATION	(A)
500+76.38	9.0'
502+92.15	5.4'



DITCH GRADING TYPICAL SECTION



MEDIAN BARRIER CONDUIT DETAIL



ASPHALT PAVEMENT STEP DETAIL

NOTE:

1. SEE SHEET 26 FOR LEGEND OF EXISTING PAVEMENT.

2. FOR SPEED CHANGE LANE TYPICAL SECTION SEE SHEET 18.

3. THE CONTRACTOR SHALL PROVIDE ANTI-SEGREGATION EQUIPMENT FOR ASPHALT SURFACE COURSE.

* TRANSITION CROSS-SLOPE FROM 0.016 TO -0.016 (SLOPE TOWARDS OUTSIDE SHOULDER) FROM STA. 494+00 TO STA. 495+00 AND STA. 685+00 TO STA. 686+00

** TRANSITION SHOULDER CROSS-SLOPE FROM -0.04 TO +0.009 FROM STA. 500+26.45 TO STA. 500+76.45

*** VEGETATED BIOFILTERS SHALL NOT BE ROUNDED. REFER TO SITE PLAN FOR LOCATIONS.

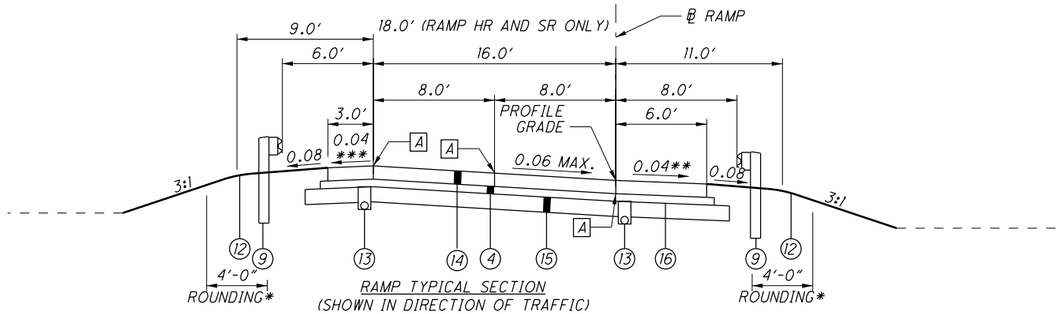
\+ OR AS SHOWN ON CROSS SECTIONS

\#\# THIS UNDERDRAIN MAY BE SHIFTED TOWARDS THE OUTSIDE OF THE SHOULDER AS DIRECTED BY THE ENGINEER, TO ACCOUNT FOR EQUIPMENT TOLERANCES.

CALCULATED | CHECKED

TYPICAL SECTIONS - U.S. 30

RIC-30-9.26



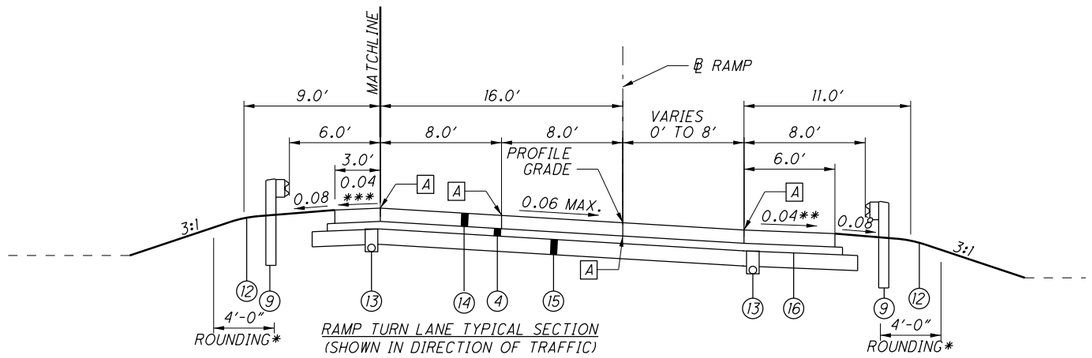
RAMP TYPICAL SECTION
(SHOWN IN DIRECTION OF TRAFFIC)

RAMPS - S.R. 39

G	STA. 360+49.82 TO STA. 371+51.92
HL	STA. 458+19.27 TO STA. 462+35.71
HR	STA. 259+77.68 TO STA. 263+94.48
I	STA. 169+95.32 TO STA. 173+97.70

RAMPS - S.R. 545

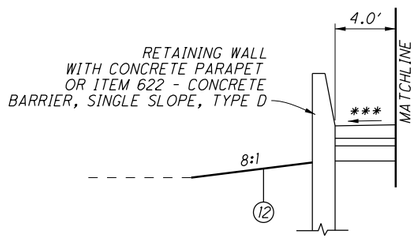
SR	STA. 448+66.53 TO STA. 451+35.36
SL	STA. 348+70.60 TO STA. 351+65.74



RAMP TURN LANE TYPICAL SECTION
(SHOWN IN DIRECTION OF TRAFFIC)

RAMPS - S.R. 13/S.R. 545

W	STA. 136+36.23 TO STA. 140+67.38
X	STA. 238+42.64 TO STA. 241+42.86



TYPICAL SECTION - RAMP X

NOTE:

1. SEE SHEET 12 FOR LEGEND.
2. FOR SPEED CHANGE LANE TYPICAL SECTION SEE SHEET 18.
3. SEE SHEET 12 FOR DITCH GRADING TYPICAL SECTION.

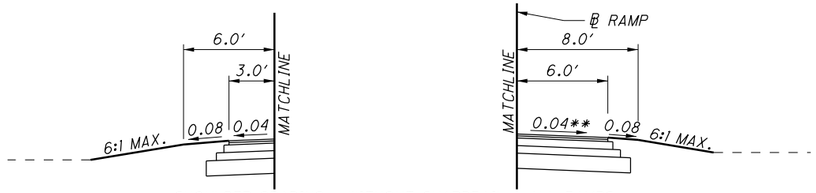
* ROUNDING SHALL BE 10′-0″ WHEN NO BARRIER IS NEEDED

** LOW SIDE OF SUPER-SHOULDER CROSS SLOPE 0.04 OR RATE OF SUPER IF GREATER

*** HIGH SIDE OF SUPER-SHOULDER CROSS SLOPE 0.04 OR LESS NOT TO EXCEED 7% BREAK

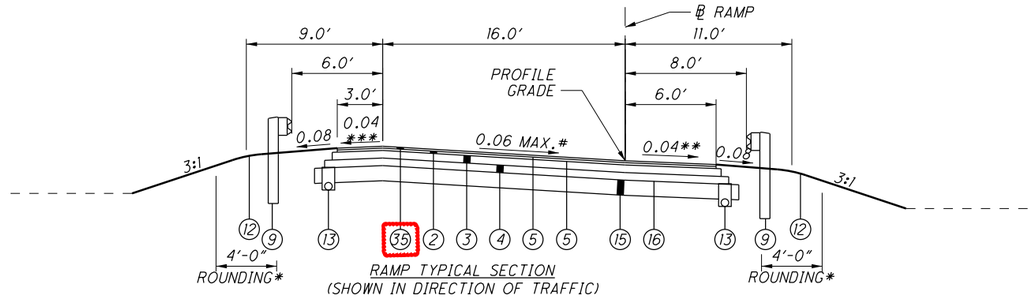
**** FROM STA. 462+35.71 TO STA. 462+48.39 AND FROM STA. 465+65.56 TO STA. 465+78.56 CONTINUE THE CONCRETE PAVEMENT ACROSS THE MEDIAN. BEGIN ITEM 609 - CONCRETE TRAFFIC ISLAND AT STA. 462+48.39.

[A] TIED LONGITUDINAL JOINT PER BP-2.1



SHOULDER GRADING - WITHOUT GUARDRAIL - ALL RAMPS
(6:1 MAX. SLOPE)

ASPHALT PAVEMENT SHOWN - ALSO APPLIES TO CONCRETE PAVEMENT TYPICAL SECTION



RAMP TYPICAL SECTION
(SHOWN IN DIRECTION OF TRAFFIC)

RAMPS - TRIMBLE RD.

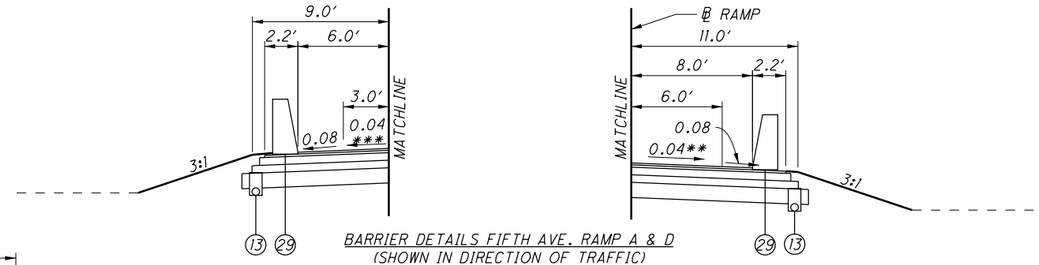
A	STA. 7+17.34 TO STA. 8+60
B	STA. 17+17.34 TO STA. 18+00
C	STA. 19+95.01 TO STA. 21+50.95
D	STA. 9+95.01 TO STA. 11+80

RAMPS - S.R. 13

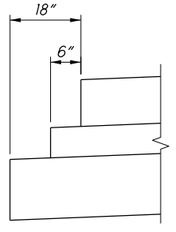
C	STA. 10+89.43 TO STA. 12+50.00
D	STA. 18+00.00 TO STA. 19+41.32

RAMPS - FIFTH AVE.

A	STA. 174+24.14 TO STA. 180+00
B	STA. 369+50 TO STA. 372+37.77
C	STA. 375+25 TO STA. 375+39.32
D	STA. 474+50.25 TO STA. 480+50



BARRIER DETAILS FIFTH AVE. RAMP A & D
(SHOWN IN DIRECTION OF TRAFFIC)



CONCRETE PAVEMENT STEP DETAIL

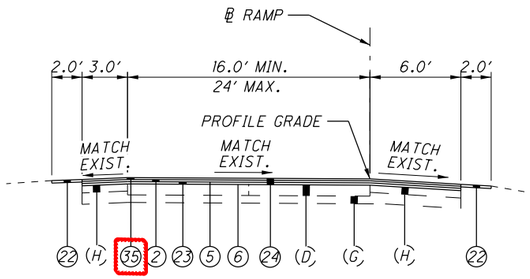
CROSS SLOPE TABLE

RAMP	STATION	CROSS SLOPE	DESCRIPTION
FIFTH AVE. RAMP A	179+90	0.060	
FIFTH AVE. RAMP A	180+00	0.057	MATCH EXISTING
FIFTH AVE. RAMP B	369+50	0.047	MATCH EXISTING
FIFTH AVE. RAMP B	369+85	0.060	
FIFTH AVE. RAMP D	480+25	0.060	
FIFTH AVE. RAMP D	480+50	0.050	MATCH EXISTING

CALCULATED | CHECKED

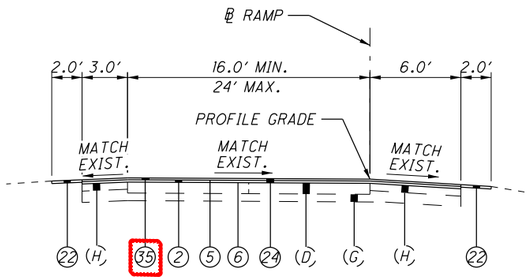
TYPICAL SECTIONS - U.S. 30 - RAMPS

RIC-30-9.26



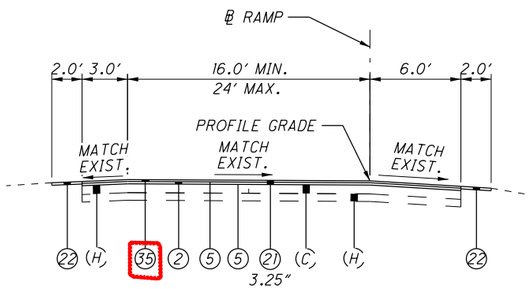
RAMP RESURFACING TYPICAL SECTION
(SHOWN IN DIRECTION OF TRAFFIC)

RAMPS - TRIMBLE RD.#	
A	STA. 8+60 TO STA. 10+45
B	STA. 18+00 TO STA. 19+15
C	STA. 21+50.95 TO STA. 22+25
D	STA. 11+80 TO STA. 13+50



RAMP RESURFACING TYPICAL SECTION
(SHOWN IN DIRECTION OF TRAFFIC)

RAMPS - TRIMBLE RD.#	
A	STA. 10+45 TO STA. 13+33.08
B	STA. 19+15 TO STA. 23+28.07
C	STA. 22+25 TO STA. 26+67.65
D	STA. 13+50 TO STA. 16+81.17



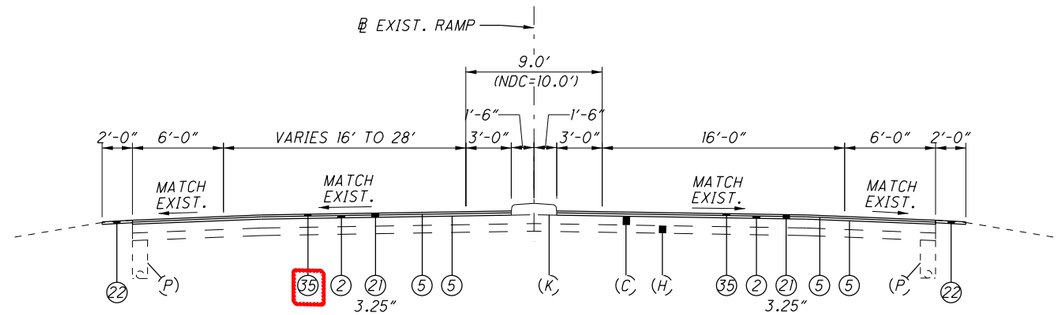
RAMP RESURFACING TYPICAL SECTION
(SHOWN IN DIRECTION OF TRAFFIC)

RAMPS - S.R. 13	
CE	STA. 8+86.20 TO STA. 12+54.37
C	STA. 12+50 TO STA. 14+43.15
D	STA. 14+44.07 TO STA. 18+00

TRIMBLE RD. RAMPS
EXISTING ASPHALT THICKNESS
RAMP A - ±5″
RAMP B - ±3″
RAMP C - ±2″
RAMP D - ±4″

(23) ASPHALT CONCRETE INTERMEDIATE COURSE THICKNESS *					
TRIMBLE RAMP	STA	THICKNESS	TO	STA	THICKNESS
A	8+60	5.25″		10+45	0″
B	18+00	3.25″		19+15	0″
C	21+50.95	2″		22+25	0″
D	11+80	4.75″		13+50	0″

* CONTRACTOR SHALL VERIFY EXISTING ASPHALT OVERLAY THICKNESS IN THE FIELD. WEDGE COURSE THICKNESS AND LENGTH MAY BE ADJUSTED IN THE FIELD PER REQUIREMENTS OF BP-3.1.



RAMP RESURFACING TYPICAL SECTION
(SHOWN IN DIRECTION OF TRAFFIC)

RAMPS - S.R. 13	
CD	STA. 10+26.07 TO STA. 14+44.07

NOTE:

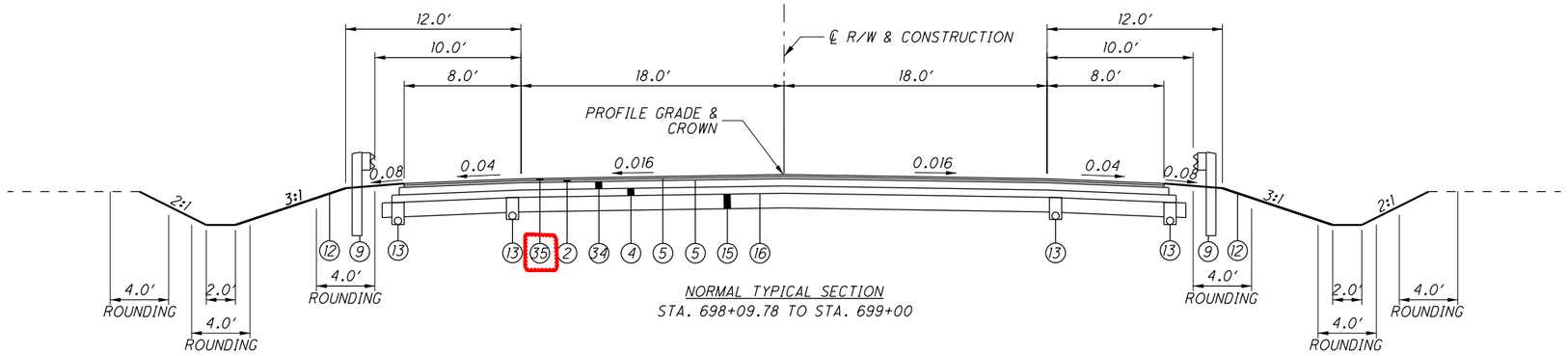
1. SEE SHEET 12 FOR LEGEND.
2. SEE SHEET 26 FOR EXISTING LEGEND.

THE INTENT IS TO REMOVE THE EXISTING ASPHALT TO THE TOP SURFACE OF THE EXISTING CONCRETE PAVEMENT.

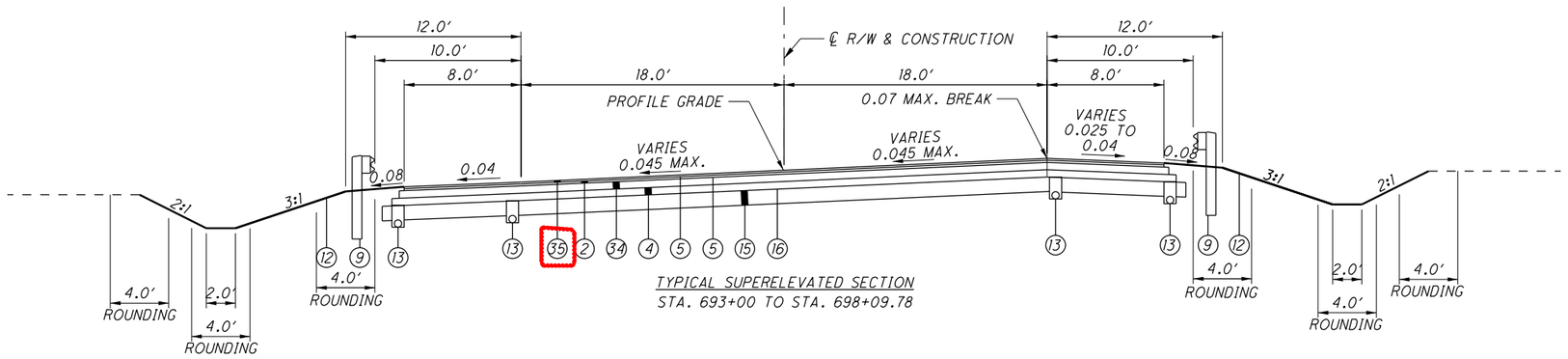
CALCULATED | CHECKED

TYPICAL SECTIONS - U.S. 30 - RAMPS

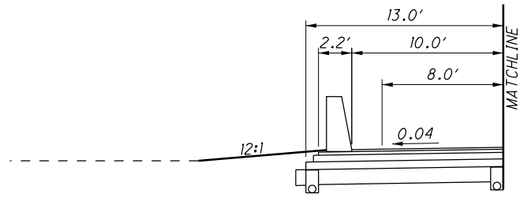
RIC-30-9.26



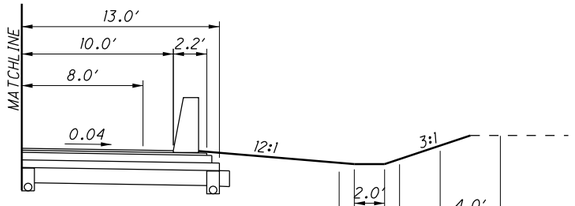
NORMAL TYPICAL SECTION
STA. 698+09.78 TO STA. 699+00



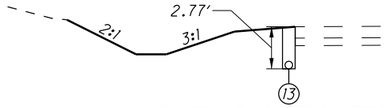
TYPICAL SUPERELEVATED SECTION
STA. 693+00 TO STA. 698+09.78



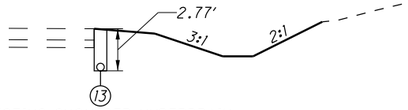
SHOULDER BARRIER
TYPICAL SECTION
STA 697+91.00 TO STA 697+83.04



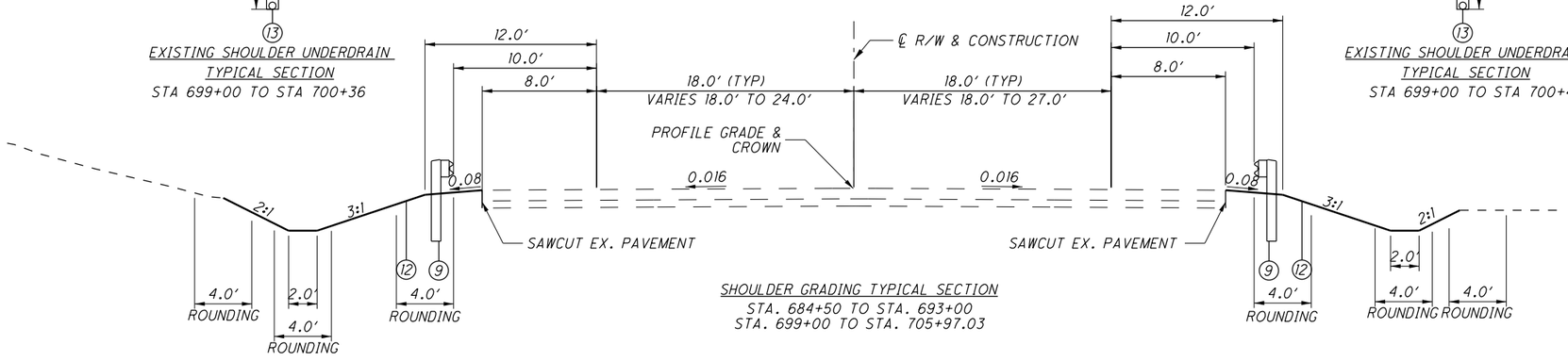
SHOULDER BARRIER
TYPICAL SECTION
STA 695+81.00 TO STA 695+93.75



EXISTING SHOULDER UNDERDRAIN
TYPICAL SECTION
STA 699+00 TO STA 700+36



EXISTING SHOULDER UNDERDRAIN
TYPICAL SECTION
STA 699+00 TO STA 700+48



SHOULDER GRADING TYPICAL SECTION
STA. 684+50 TO STA. 693+00
STA. 699+00 TO STA. 705+97.03

NOTE:

1. SEE SHEET 12 FOR LEGEND.
2. FOR EXISTING PAVEMENT DETAILS SEE SHEET 26.

CALCULATED | CHECKED

TYPICAL SECTIONS - S.R. 39

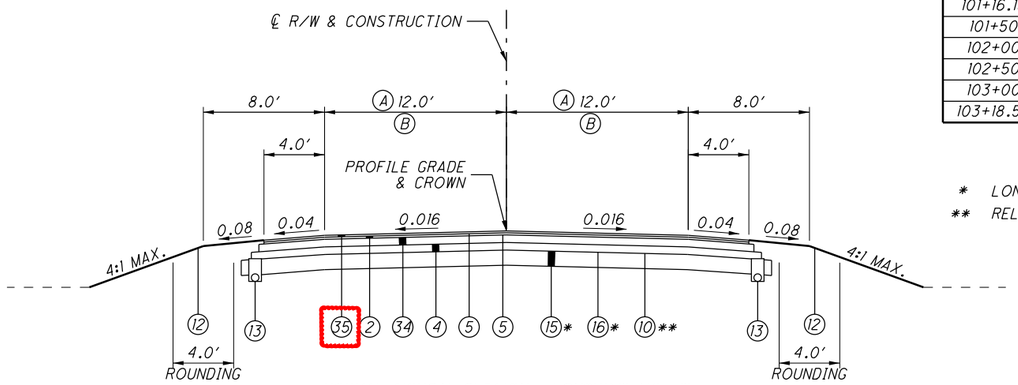
RIC-30-9.26

20
1669

M:\15074\93455\Design\Roadway\Sheets\93455GY0009.dgn 3/25/2020 11:27:53 AM kja282

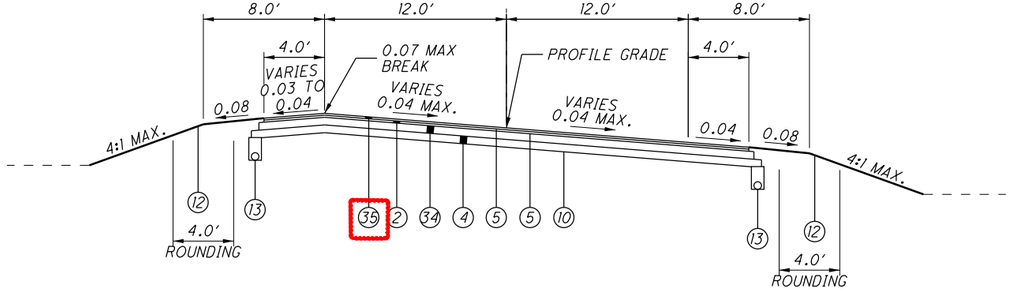
STATION	Ⓑ	
	LEFT	RIGHT
101+16.19	0.00′	99.00′
101+50	10.5′	109.50′
102+00	10.5′	82.67′
102+50	10.5′	19.83′
103+00	10.5′	14.27′
103+18.50	10.5′	12.63′

* LONGVIEW AVE. W ONLY
** RELOCATED LONGVIEW AVE. ONLY

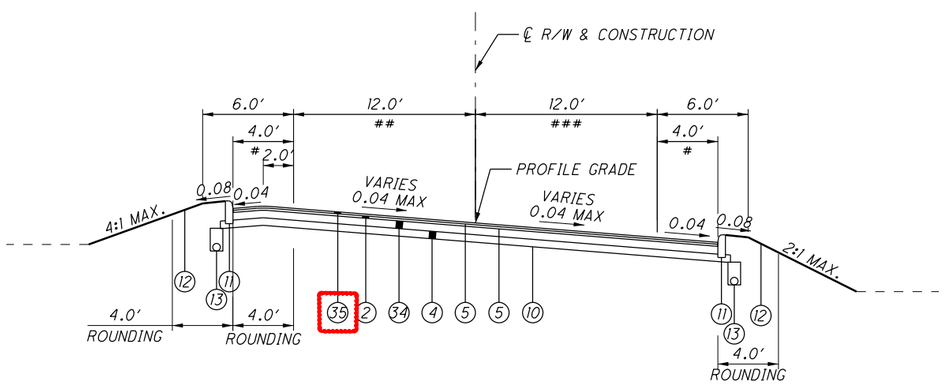


NORMAL TYPICAL SECTION - LONGVIEW AVE. W & RELOCATED LONGVIEW AVE.

Ⓑ STA. 101+16.09 TO STA. 103+18.50
Ⓐ STA. 302+75 TO STA. 302+94.16
STA. 308+14.89 TO STA. 308+94.86

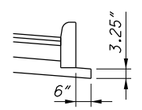


SUPERELEVATED TYPICAL SECTION - RELOCATED LONGVIEW AVE.
STA. 302+94.16 TO STA. 308+14.89
STA. 308+94.86 TO STA. 309+86.31



SUPERELEVATED TYPICAL SECTION WITH CURB - RELOCATED LONGVIEW AVE.
STA. 309+86.31 TO STA. 311+30
STA. 311+30 TO STA. 311+75

\# VARIES 1.0′ TO 2.0′ LT, 4.0′ TO 2.1″ RT
\## VARIES 12.0′ TO 10.5′
\### VARIES 12.0′ TO 13.5′



TYPICAL CURB DETAIL

NOTE:

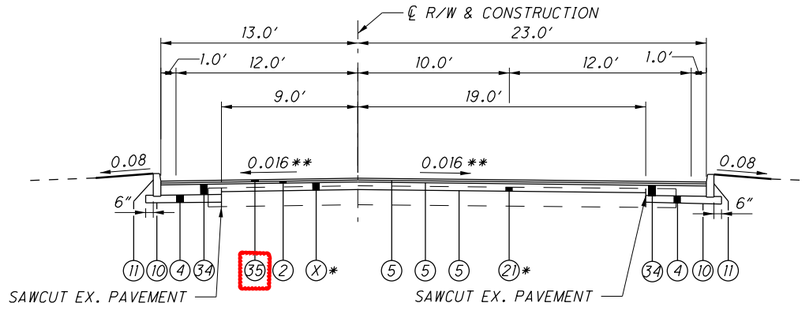
1. SEE SHEET 12 FOR LEGEND.
2. SEE SHEET 12 FOR STANDARD DITCH GRADING TYPICAL SECTION.

CALCULATED | CHECKED

TYPICAL SECTIONS - LONGVIEW AVE.

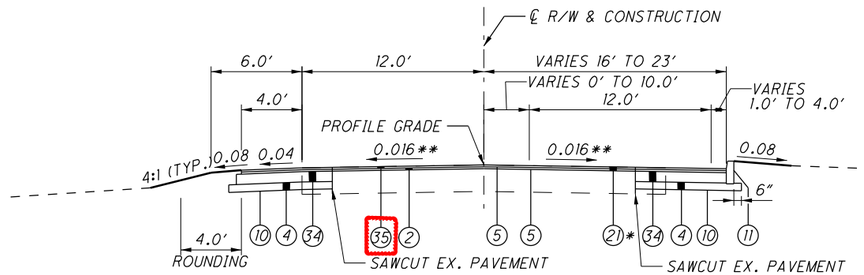
RIC-30-9.26

21
1669



TYPICAL SECTION - LONGVIEW AVE. E

STA. 53+28.73 TO STA. 55+65.34

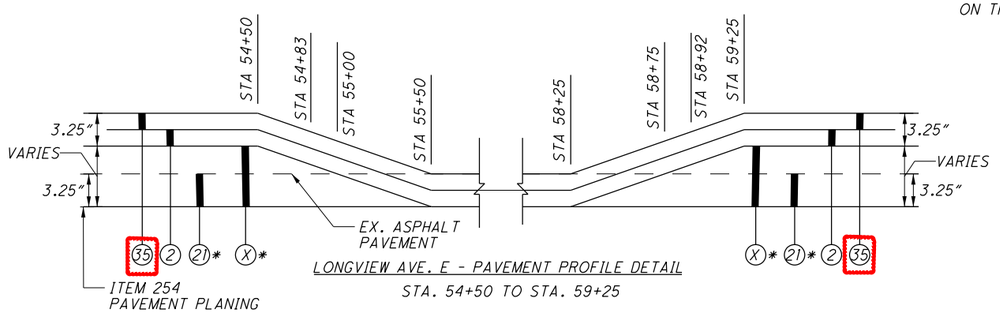


TYPICAL SECTION - LONGVIEW AVE. E

STA. 55+65.34 TO STA. 58+50

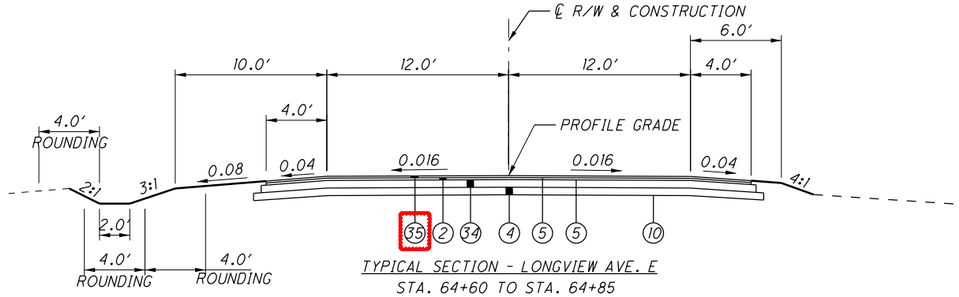
STATION	CROSS SLOPE LEFT	CROSS SLOPE RIGHT
54+50	-0.016	-0.016
54+75	-0.016	-0.014
55+00	-0.016	-0.007
55+25	-0.016	0.000
55+50	-0.017	0.007
55+75	-0.011	0.003
56+00	-0.019	-0.004
56+25	-0.019	-0.010
56+50	-0.010	-0.007
56+75	-0.011	-0.009
57+00	-0.011	-0.007
57+25	-0.003	-0.007
57+50	-0.007	-0.002
57+75	-0.015	-0.007
58+00	-0.002	-0.005
58+25	0.002	-0.003
58+50	-0.011	0.001
58+75	-0.016	-0.005
59+00	-0.016	-0.012
59+25	-0.016	-0.016

** SEE THE INTERSECTION DETAILS, MISCELLANEOUS DETAILS, SUPERELEVATION TABLES, AND THE TABLE ON THIS SHEET.



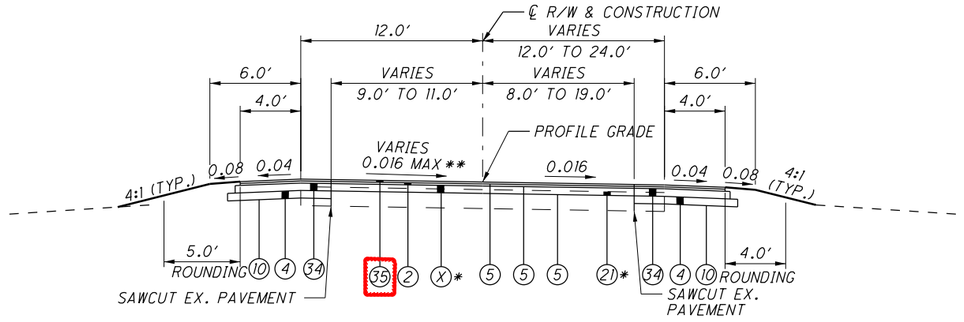
LONGVIEW AVE. E - PAVEMENT PROFILE DETAIL

STA. 54+50 TO STA. 59+25



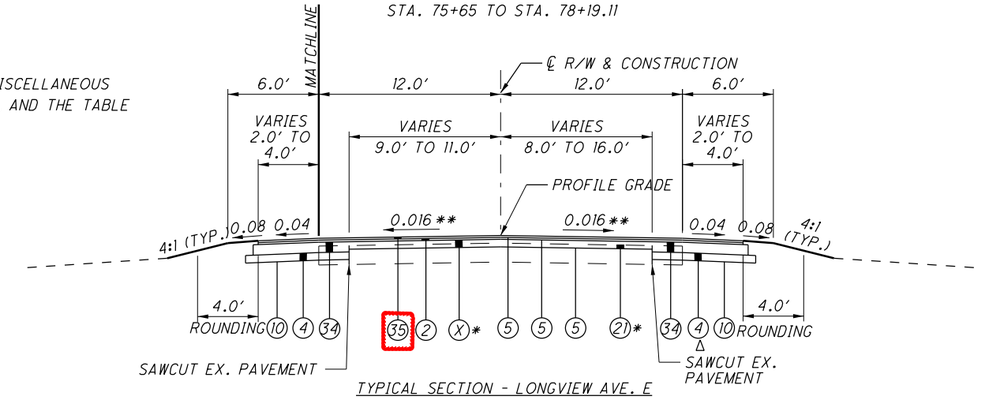
TYPICAL SECTION - LONGVIEW AVE. E

STA. 64+60 TO STA. 64+85



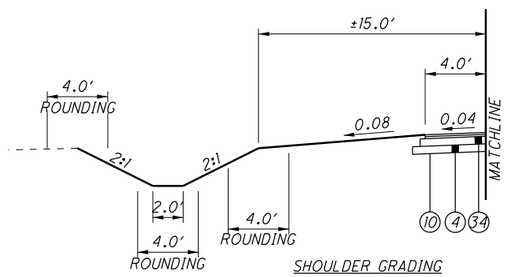
TYPICAL SUPERELEVATED SECTION - LONGVIEW AVE. E

STA. 75+65 TO STA. 78+19.11



TYPICAL SECTION - LONGVIEW AVE. E

STA. 58+50 TO STA. 64+60
STA. 64+85 TO STA. 75+65



SHOULDER GRADING TYPICAL SECTION

STA. 64+85 TO STA. 68+30

△ NO FULL DEPTH PAVEMENT ON THE RIGHT SHOULDER FROM STATION 58+50 TO STATION 62+00.

STATION	SAWCUT OFFSET LEFT	STATION	SAWCUT OFFSET RIGHT
53+24.40	VARIES	53+19.83	VARIES
53+70.40	9.0′	53+58.64	19.0′
57+00	9.0′	57+28.50	19.0′
57+50	10.0′	58+00	14.0′
68+50	10.0′	58+50 (BACK)	14.0′
69+00	11.0′	58+50 (AHEAD)	16.0′
75+50	11.0′	62+00 (BACK)	16.0′
76+00	10.0′	62+00 (AHEAD)	14.0′
77+00	10.0′	67+50	8.0′
77+60	11.0′	75+50	8.0′
		76+00	12.0′
		77+80	12.0′

TRANSITION SAWCUT LINE BETWEEN THE OFFSETS SHOWN IN THE ABOVE TABLE.

* NOTES:

1. SEE SHEET 12 FOR LEGEND.
2. PLANE 3.25″ AT THE CENTERLINE WITH A CROSS SLOPE OF -0.016 EXCEPT WHERE NOTED ON THIS SHEET.
3. BALLOON (X) IS EITHER AN ITEM 442 SCRATCH COURSE OR ITEM 302 ASPHALT CONCRETE BASE COURSE THAT VARIES IN THICKNESS AS SHOWN ON THE TABLE TO PROVIDE THE REQUIRED PAVEMENT SURFACE ELEVATIONS.
4. SEE REFERENCE SPREADSHEET FOR ADDITIONAL INFORMATION.

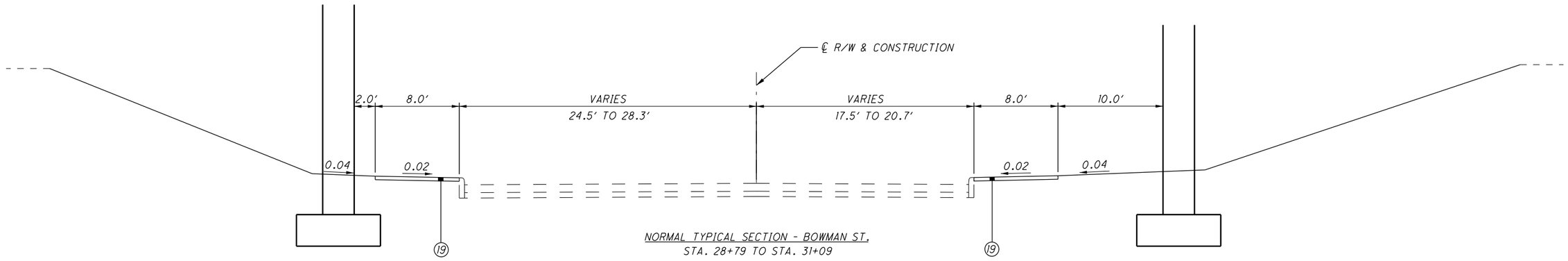
BALLOON (X) DETAILS				
STATION	TO	STATION	THICKNESS	BALLOON
53+28.73		55+50	0″-6″	(23)
55+50		58+25	0″	-
58+25		59+00	0″-4.5″	(23)
59+00		64+60	4.5″-7.25″	(33)
64+85		65+50	4.25″-7.25″	(33)
65+50		72+50	0″-4.5″	(23)
72+50		77+50	4.5″-6″	(33)
77+50		78+19.11	0″-4.5″	(23)

CALCULATED | CHECKED

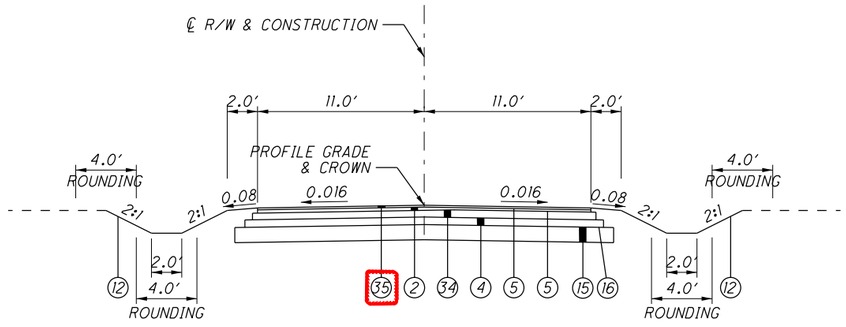
TYPICAL SECTIONS - LONGVIEW AVE. E.

RIC-30-9.26

22
1669



NORMAL TYPICAL SECTION - BOWMAN ST.
STA. 28+79 TO STA. 31+09



NORMAL TYPICAL SECTION - WISE AVE.
STA 20+25.09 TO STA 31+65

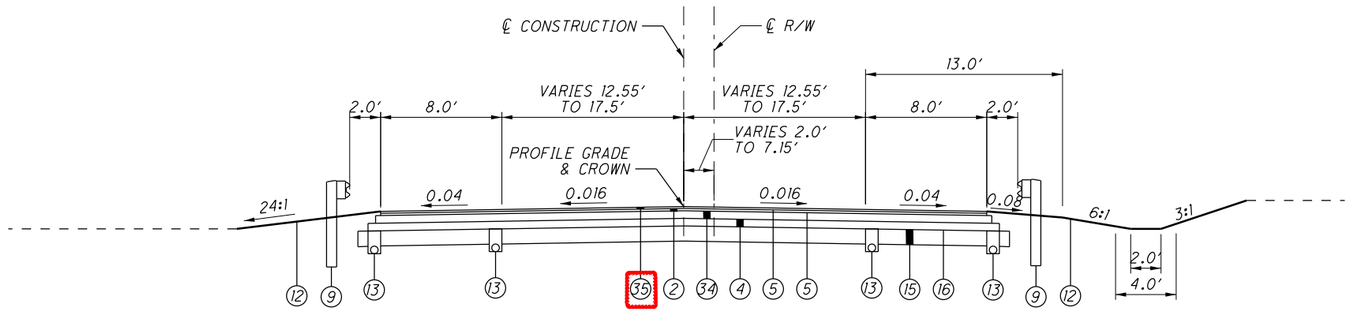
NOTE:

1. SEE SHEET 12 FOR LEGEND.

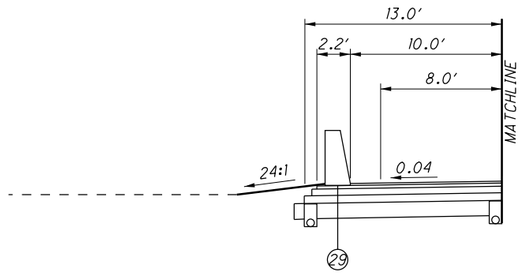
CALCULATED | CHECKED

TYPICAL SECTIONS - BOWMAN ST. & WISE AVE.

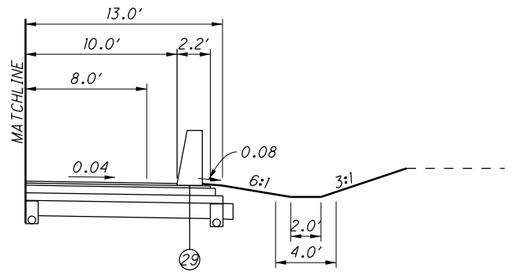
RIC-30-9.26



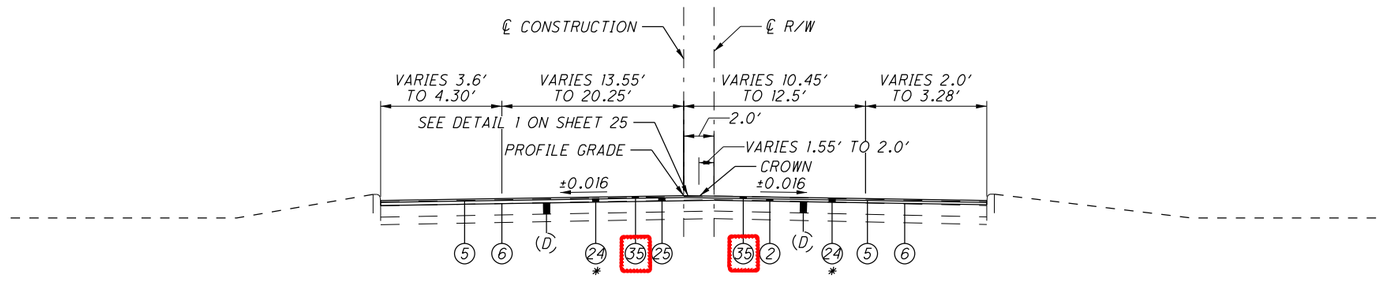
FULL DEPTH PAVEMENT
TYPICAL SECTION
STA 159+75 TO STA 165+25



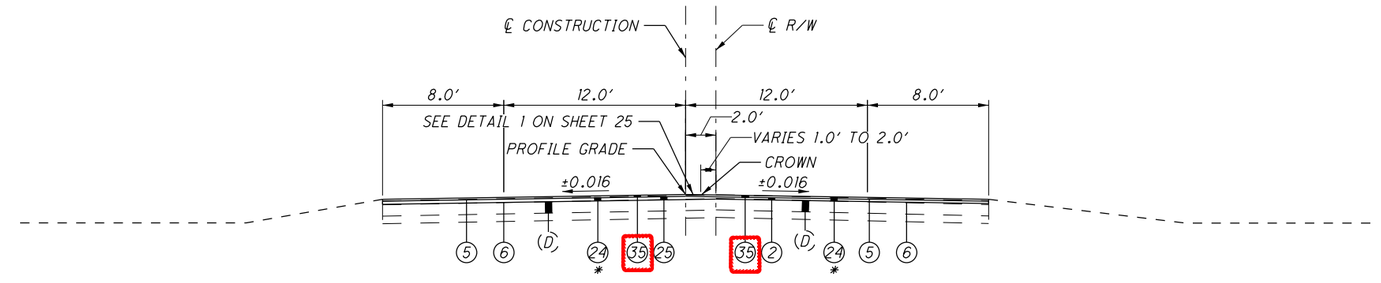
SHOULDER BARRIER
TYPICAL SECTION
STA 160+75.00 TO STA 162+19.00



SHOULDER BARRIER
TYPICAL SECTION
STA 161+20.00 TO STA 162+64.00



RESURFACING TYPICAL SECTION
STA 150+75 TO STA 152+12



RESURFACING TYPICAL SECTION
STA 175+75.62 TO STA 177+00

NOTE:

1. SEE SHEET 12 FOR PROPOSED ITEM LEGEND.

2. SEE SHEET 26 FOR EXISTING ITEM LEGEND.

* THE CONTRACTOR SHALL MILL OFF THE EXISTING ASPHALT OVERLAY TO EXISTING CONCRETE PAVEMENT THEN RESURFACE WITH ASPHALT SURFACE AND INTERMEDIATE COURSE.

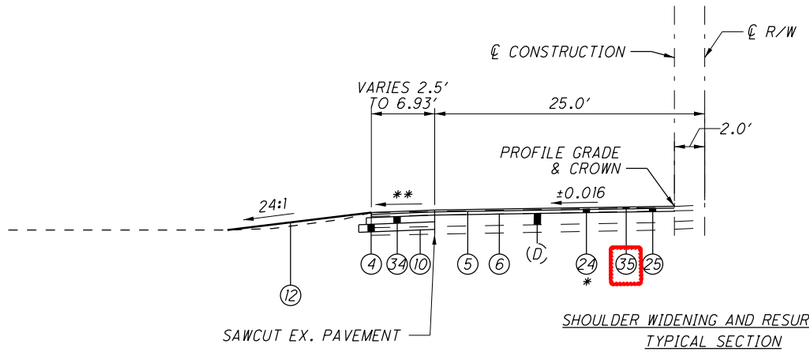
CALCULATED | CHECKED

TYPICAL SECTIONS - S.R. 545

RIC-30-9.26

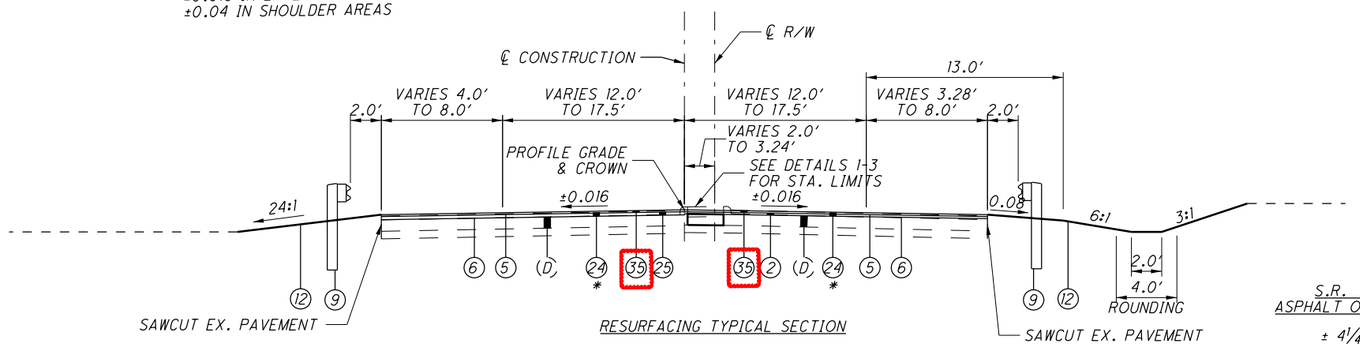
24
1669

M:\15074\93455\Design\Roadway\Sheets\93455GY0013.dgn 3/25/2020 11:53:18 AM kja282



SHOULDER WIDENING AND RESURFACING
TYPICAL SECTION
STA 154+75.89 TO STA 156+35

** - VARIES
±0.016 IN LANE AREAS
±0.04 IN SHOULDER AREAS



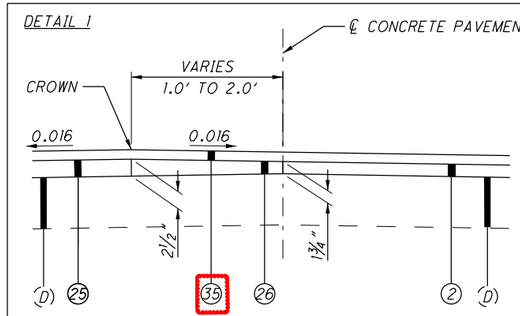
RESURFACING TYPICAL SECTION
STA 152+12 TO STA 159+75
STA 165+25 TO STA 175+75.62

S.R. 545 EXISTING
ASPHALT OVERLAY THICKNESS
± 4¼" AVERAGE

STATION	SAWCUT OFFSET LEFT	STATION	SAWCUT OFFSET RIGHT
152+77	28.01′	152+70#	26.15′
152+77	23′ (AHEAD)	152+76	20.5′
153+50	23′	154+50	20.5′
153+95.60**	61.61′	155+00	20.0′
154+18.60**	81.61′	155+11.50	20.0′
154+50	23′	155+21.31#	29.81′
156+35	23′ (BACK)	155+72.36#	30.64′
156+35	26.41′ (AHEAD)	155+83	20.0′
159+25	20.0′	157+30	20.0′
159+50	20.0′	157+51.5#	29.46′
159+75	21.00′ (BACK)	158+26#	30.09′
165+25	17.5′ (AHEAD)	158+40	20.0′
166+42.02	17.5′ (BACK)	159+25	20.0′
166+42.02	25.5′ (AHEAD)	159+75	21.00′ (BACK)
166+50	25.5′	165+25	25.5′ (AHEAD)
169+00	20.0′	166+50	25.5′
175+40.15	20.0′	169+00	20.0′
175+71.63	25.25′	175+02.30	20.0′
		175+09.96#	38.91′
		175+21.96#	39.79′
		175+29.60	20.0′
		177+00	20.0′
		177+10.28	24.23′

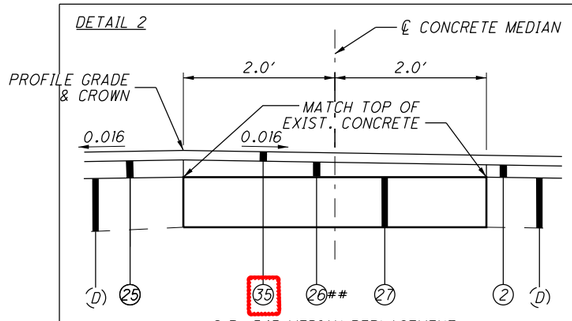
** - NO SAWCUT ACROSS LONGVIEW INTERSECTION
# - NO SAWCUT ACROSS DRIVE APPROACHES

DETAIL 1



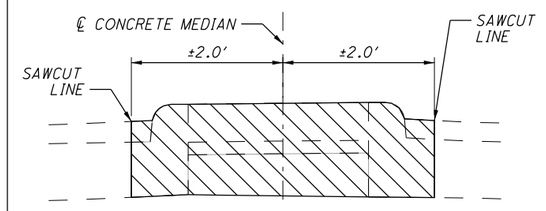
S.R. 545 CROWN SHIFT
STA 150+75 TO STA 158+53
STA 175+75 TO STA 177+00

DETAIL 2



S.R. 545 MEDIAN REPLACEMENT
AND CROWN SHIFT
STA 158+53 TO STA 164+77
STA 165+73 TO STA 175+75

DETAIL 3



S.R. 545 MEDIAN REMOVAL
STA 158+53 TO STA 175+75

NOTE:

1. SEE SHEET 12 FOR PROPOSED ITEM LEGEND.

2. SEE SHEET 26 FOR EXISTING ITEM LEGEND.

* THE CONTRACTOR SHALL MILL OFF THE EXISTING ASPHALT OVERLAY TO EXISTING CONCRETE PAVEMENT THEN RESURFACE WITH ASPHALT SURFACE AND INTERMEDIATE COURSE. THE EXISTING ASPHALT OVERLAY THICKNESS IS ESTIMATED AT ± 4.25" AVERAGE.

TRANSITION (26) FROM 2½" ON THE LEFT EDGE TO 1¾" ON THE RIGHT SIDE

CALCULATED | CHECKED

TYPICAL SECTIONS - S.R. 545

RIC-30-9.26

PHASING	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)		614 WORK ZONE RAISED PAVEMENT MARKER YELLOW	614 WORK ZONE RAISED PAVEMENT MARKER WHITE	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN YELLOW	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN WHITE		614 BARRIER REFLECTOR, TYPE 1, ONE WAY	614 BARRIER REFLECTOR, TYPE 1, BIDIRECTIONAL	614 OBJECT MARKER, ONE WAY	614 OBJECT MARKER, TWO WAY		614 WORK ZONE LANE LINE, CLASS 1, 6", 642 PAINT	614 WORK ZONE CENTER LINE, CLASS 1, 642 PAINT	614 WORK ZONE EDGE LINE, CLASS 1, 6", 642 PAINT WHITE	614 WORK ZONE EDGE LINE, CLASS 1, 6", 642 PAINT YELLOW						
	FT	EACH		EACH	EACH	EACH	EACH		EACH	EACH	EACH	EACH		MILE	MILE	MILE	MILE						
PHASE 1	16,800	24		507	1,120				574	209	574	209		1.67	4.54	11.96	3.32						
PHASE 2	19,260	4		400	954				386		386			3.52		4.23	4.90						
PHASE 3	96,547	8		779	1,358				1,958		891	534		4.21		17.55	17.94						
PHASE 4	23,845	7		587	1,198				476		476			4.22		17.51	17.62						
PHASE 5	20,800	2		635	1,691				416		416			8.33		10.85	10.80						
PHASE 5A	140	1				193	638		3		3												
PHASE 6	75,815	4		262	696				1,517		448	535		4.92		15.44	15.88						
PHASE 7	18,256	9		345	779				555		555			4.92		18.28	16.25						
TOTALS CARRIED TO GENERAL SUMMARY	271,463	59		3,515 / 11,311	7,796	193 / 831	638		5,885	209	3,749	1,278		31.79	4.54	95.82 / 182.53	86.71						

CALCULATED BAD
CHECKED AFS

SUBSUMMARY
MAINTENANCE OF TRAFFIC

RIC-30-9.26

66
1669

M:\5074\93455\Design\MOT\Sheets\93455MS001.dgn 3/27/2020 8:36:04 AM kjq282

PHASING	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 8", 642 PAINT FT	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 12", 642 PAINT FT		614 WORK ZONE DOTTED LINE, CLASS 1, 642 PAINT FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS 1, 642 PAINT FT	614 WORK ZONE STOP LINE, CLASS 1, 642 PAINT FT		614 WORK ZONE CROSSWALK LINE, CLASS 1, 642 PAINT FT	614 WORK ZONE GORE MARKING, CLASS 11, 642 PAINT FT	614 WORK ZONE ARROW, CLASS 1, 642 PAINT EACH		622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	622 PORTABLE BARRIER, "Y" CONNECTOR EACH		642 LANE LINE, 6", TYPE 1 MILE	642 EDGE LINE, 6", TYPE 1 WHITE MILE	642 EDGE LINE, 6", TYPE 1 YELLOW MILE	642 CHANNELIZING LINE, 8", TYPE 1 FT	642 CHANNELIZING LINE, 12", TYPE 1 FT	642 DOTTED LINE, 6", TYPE 1 FT		
PHASE 1	12,641	3,220		3,959	354	554		420	30	50		17,480	180											
PHASE 2	12,668			2,969								19,260												
PHASE 3	17,514	1,025		9,785					12			70,104	1180	1										
PHASE 4	18,098	1,025		13,617					12			23,265	580	2										
PHASE 5	22,823			10,190								20,800												
PHASE 5A												140				10.29	10.58	11.04	3,786	13,042	14,182			
PHASE 6	12,972	1,000		14,117					12			48,095	990											
PHASE 7	16,896	1,000		13,193					12			26,581	640	4										
TOTALS CARRIED TO GENERAL SUMMARY	113,612	7,270		67,830	354	554		420	78	50		225,725	3570	7		10.29	10.58	11.04	3,786	13,042	14,182			
																	21.62							

CALCULATED BAD
CHECKED AFS

SUBSUMMARY
MAINTENANCE OF TRAFFIC

RIC-30-9.26

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES
PHASE 5

CALCULATED BAD | CHECKED AFS

RIC-30-9.26

REF NO.	SHEET NO.	STATION TO STATION			614 INCREASED BARRIER DELINEATION FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH		614 WORK ZONE RAISED PAVEMENT MARKER (YELLOW) EACH	614 WORK ZONE RAISED PAVEMENT MARKER (WHITE) EACH			614 BARRIER REFLECTOR, TYPE 1, ONE WAY EACH	614 OBJECT MARKER, ONE WAY EACH		614 WORK ZONE LANE LINE, CLASS 1, 6", 642 PAINT MILE		614 WORK ZONE EDGE LINE, CLASS 1, 6", 642 PAINT (WHITE) MILE	614 WORK ZONE EDGE LINE, CLASS 1, 6", 642 PAINT (YELLOW) MILE	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 8", 642 PAINT FT		614 WORK ZONE DOTTED LINE, CLASS 1, 642 PAINT FT			622 PORTABLE BARRIER, 50", AS PER PLAN FT	
			TO																						
EL-511	233-255	681+50		725+16													0.83								
LL-501	233-255	445+20		540+35											1.80										
CHL-517	233-255	540+35		556+00															1,565						
LL-502	233-255	556+00		599+50											0.82										
CHL-518	233-255	599+50		614+50															1,500						
LL-503	233-255	614+50		624+00											0.18										
CHL-519	233-255	624+00		637+00															1,300						
LL-504	233-255	637+00		652+00											0.28										
CHL-520	233-255	652+00		665+00															1,300						
LL-505	233-255	665+00		700+00											0.66										
CHL-521	233-255	700+00		710+20															1,020						
LL-506	233-255	710+20		725+16											0.28										
IA-501	233-255	552+60				1																			
PB-501	233-255	552+60		698+00	6,290							126	126											6,290	
EL-512	233-255	444+23		730+62														5.42							
RPM-512	233-255	444+23		541+50					82																
RPM-513	233-255	541+50		558+00				84	168																
RPM-514	233-255	558+00		599+62					36																
RPM-515	233-255	599+62		614+50				75	151																
RPM-516	233-255	614+50		624+00					9																
RPM-517	233-255	624+00		640+82				85	170																
RPM-518	233-255	640+82		697+50					48																
RPM-519	233-255	697+50		707+70				52	104																
PB-502	233-255	553+50		698+60	14,510							290	290											14,510	
IA-502	233-255	698+60				1																			
LL-507	233-255	444+23		541+50											1.84										
CHL-522	233-255	541+50		558+00															1,650						
LL-508	233-255	558+00		599+62											0.79										
CHL-523	233-255	599+62		614+50															1,488						
LL-509	233-255	614+50		624+00											0.18										
CHL-524	233-255	624+00		640+82															1,682						
LL-510	233-255	640+82		697+50											1.07										
CHL-525	233-255	697+50		707+70															1,020						
EL-513	233-255	444+23		489+00													0.85								
CHL-526	233-255	489+00		491+53															253						
CHL-527	233-255	489+00		491+53															253						
DL-509	233-255	491+53		504+67																	1,314				
EL-514	233-255	489+00		511+89													0.43								
CHL-528	233-255	504+67		511+89															722						
CHL-529	233-255	504+67		511+89															722						
EL-515	233-255	511+89		525+35													0.25								
CHL-530	233-255	525+35		527+64															229						
CHL-531	233-255	525+35		527+64															229						
DL-510	233-255	527+64		534+50																	686				
EL-516	233-255	525+35		563+93													0.73								
CHL-532	233-255	563+93		564+80															87						
CHL-533	233-255	563+93		564+80															87						
DL-511	233-255	564+80		569+10																	430				
EL-517	233-255	563+93		633+33													1.31								
SUBTOTALS CARRIED TO SHEET 262					20,800	2		296	768			416	416		7.90		4.40	5.42	15,107		2,430			20,800	

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES
PHASE 5

CALCULATED BAD | CHECKED AFS

RIC-30-9.26

REF NO.	SHEET NO.	STATION TO STATION			614 INCREASED BARRIER DELINEATION FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH		614 WORK ZONE RAISED PAVEMENT MARKER (YELLOW) EACH	614 WORK ZONE RAISED PAVEMENT MARKER (WHITE) EACH			614 BARRIER REFLECTOR, TYPE 1, ONE WAY EACH	614 OBJECT MARKER, ONE WAY EACH		614 WORK ZONE LANE LINE, CLASS 1, 6", 642 PAINT MILE		614 WORK ZONE EDGE LINE, CLASS 1, 6", 642 PAINT (WHITE) MILE	614 WORK ZONE EDGE LINE, CLASS 1, 6", 642 PAINT (YELLOW) MILE	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 8", 642 PAINT FT		614 WORK ZONE DOTTED LINE, CLASS 1, 642 PAINT FT			622 PORTABLE BARRIER, 50", AS PER PLAN FT	
			TO																						
CHL-534	233-255	633+33		633+77															44						
CHL-535	233-255	633+33		633+77															44						
DL-512	233-255	633+77		636+72																	295				
EL-518	233-255	633+00		651+31												0.35									
CHL-536	233-255	651+31		651+51															20						
CHL-537	233-255	651+31		651+51															20						
DL-513	233-255	651+51		655+89																	438				
EL-519	233-255	651+01		674+50												0.44									
DL-514	233-255	664+51		670+07																	556				
CHL-538	233-255	670+07		674+50															443						
CHL-539	233-255	670+07		674+50															443						
EL-520	233-255	674+50		686+51												0.23									
CHL-540	233-255	686+51		689+50															299						
CHL-541	233-255	686+51		689+50															299						
DL-515	233-255	689+50		695+00																	550				
EL-521	233-255	686+38		730+62												0.84									
DL-516	233-255	550+00		556+95																	1295				
RPM-520	233-255	550+00		558+00					41																
EL-522	233-255	550+00		558+20												0.16									
CHL-542	233-255	556+95		558+20															125						
CHL-543	233-255	556+95		558+20															125						
LL-516	245-246	707+70		730+62											0.43										
RPM-530	245-246	707+70		730+62					20																
SUBTOTALS THIS SHEET									61						0.43		2.02		1,862		3,134				
SUBTOTALS SHEET 260								339	862								4.43	5.38	5,854		4,626				
SUBTOTALS SHEET 261					20,800	2		296	768			416	416		7.90		4.40	5.42	15,107		2,430			20,800	
PHASE 5 TOTALS CARRIED TO SHEET 264					20,800	2		635	1691			416	416		8.33		10.85	10.80	22823		10,190			20800	

REF NO.	SHEET NO.	STATION TO STATION			614 INCREASED BARRIER DELINEATION FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKER (YELLOW) EACH	614 WORK ZONE RAISED PAVEMENT MARKER (WHITE) EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (YELLOW) EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (WHITE) EACH	614 BARRIER REFLECTOR, TYPE 1, ONE WAY EACH	614 OBJECT MARKER, ONE WAY EACH	614 WORK ZONE LANE LINE, CLASS 1, 6", 642 PAINT MILE	614 WORK ZONE EDGE LINE, CLASS 1, 6", 642 PAINT MILE	614 WORK ZONE EDGE LINE, CLASS 1, 6", 642 PAINT MILE	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 8", 642 PAINT FT	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS 1, 642 PAINT FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	642 LANE LINE, 6", TYPE 1 MILE	642 EDGE LINE, 6", TYPE 1 (WHITE) MILE	642 EDGE LINE, 6", TYPE 1 (YELLOW) MILE	642 CHANNELIZING LINE, 8", TYPE 1 FT	642 CHANNELIZING LINE, 12", TYPE 1 FT	642 DOTTED LINE, 6", TYPE 1 FT
			TO																							
DL-524	247-254	557+66		561+38																						372
CHL-561	247-254	561+38		561+92																					54	
CHL-562	247-254	561+38		561+92																					54	
EL-535	247-254	561+92		575+34																		0.25				
CHL-563	247-254	575+34		580+91																					557	
CHL-564	247-254	575+34		580+91																					557	
EL-536	247-254	573+85		575+34																			0.03			
EL-537	247-254	573+85		630+30																		1.07				
DL-525	247-254	580+91		586+61																						570
CHL-565		NOT USED																								
RPM-524	247-254	599+50		614+00						13																
LL-513	247-254	614+00		629+29																	0.29					
DL-526	247-254	612+50		626+61																						1,411
RPM-525	247-254	614+00		629+29						14																
CHL-566	247-254	626+61		630+30																					369	
CHL-567	247-254	629+29		630+30																					101	
EL-538	247-254	630+30		675+73																		0.86				
CHL-568	247-254	629+29		640+00																				1,071		
RPM-526	247-254	629+29		640+00					55	109																
LL-514	247-254	640+00		654+50																	0.27					
RPM-527	247-254	640+00		654+50						13																
RPM-528	247-254	654+50		666+00					59	117																
CHL-569	247-254	654+50		666+00																				1,150		
LL-515	247-254	666+00		710+20																	0.84					
RPM-529	247-254	666+00		710+20						38																
DL-527	247-254	667+09		669+18																						209
CHL-570	247-254	669+18		675+73																					655	
CHL-571	247-254	669+18		675+73																					655	
EL-539	247-254	675+73		681+50																		0.11				
EL-540	247-254	681+50		710+20																		0.54				
CHL-572	247-254	681+50		689+74																					824	
CHL-573	247-254	681+50		689+74																					824	
DL-528	247-254	689+74		695+84																						610
SUBTOTALS THIS SHEET									114	304											1.40	2.83	0.03	2,221	4,650	3,172
SUBTOTALS SHEET 263					140	1			79	334	3	3								140	4.22	3.53	6.34	1,565	3,756	6,922
PHASE 5A FROM OFFICE CALCULATIONS																					4.67	4.22	4.67	0	4636	4088
PHASE 5A TOTALS CARRIED TO SHEET 66-67					140	1			193	638	3	3								140	10.29	10.58	11.04	3,786	13,042	14,182
PHASE 5 TOTALS CARRIED TO SHEET 66-67					20,800	2	635	1,691			416	416	8.33	10.85	10.80	22,823		10,190	20,800								

CALCULATED BAD
CHECKED AFS

MAINTENANCE OF TRAFFIC ESTIMATED QUANTITIES
PHASE 5

RIC-30-9.26

264
1669

M:\15074.93455\Design\MOT\Sheets\93455M00505.dgn 3/27/2020 8:52:04 AM kjg282

SHEET NUM.													PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
32-38B	40-65	66-67	369-371	380-383	390	395	918	959	991	1510-1511	1531-1585	OFFICE CALCS	01/NHS/BR	02/NHS/PV	03/NHS/BR	04/NHS/BR						
																					DRAINAGE	
				45.8										45.8			602	20000	45.8	CY	CONCRETE MASONRY	
					2,525									2,525			605	13410	2,525	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	
					93,656									93,656			605	14020	93,656	FT	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	
					2,807			18						2,825			611	00510	2,825	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
				22										22			611	02000	22	FT	8" CONDUIT, TYPE C	
				147										147			611	04400	147	FT	12" CONDUIT, TYPE B	
				182										182			611	04600	182	FT	12" CONDUIT, TYPE C	
				79										79			611	04900	79	FT	12" CONDUIT, TYPE D	
				77										77			611	05700	77	FT	15" CONDUIT, TYPE A	
				2,227										2,227			611	05900	2,227	FT	15" CONDUIT, TYPE B	
				204										204			611	06100	204	FT	15" CONDUIT, TYPE C	
				362										362			611	06700	362	FT	15" CONDUIT, TYPE F, 707.50 TYPE C OR 707.21	
				227										227			611	07400	227	FT	18" CONDUIT, TYPE B	
				306										306			611	07600	306	FT	18" CONDUIT, TYPE C	
				24										24			611	09100	24	FT	21" CONDUIT, TYPE C	
				27										27			611	09400	27	FT	21" CONDUIT, TYPE D	
				103										103			611	10200	103	FT	24" CONDUIT, TYPE A	
				275										275			611	10400	275	FT	24" CONDUIT, TYPE B	
				61										61			611	10600	61	FT	24" CONDUIT, TYPE C	
				96										96			611	11200	96	FT	24" CONDUIT, TYPE F, 707.50 TYPE C OR 707.21	
				228										228			611	11900	228	FT	27" CONDUIT, TYPE B	
				131										131			611	13200	131	FT	30" CONDUIT, TYPE A	
				92										92			611	13400	92	FT	30" CONDUIT, TYPE B	
				253										253			611	16400	253	FT	36" CONDUIT, TYPE B	
				71										71			611	16600	71	FT	36" CONDUIT, TYPE C	
				98										98			611	19400	98	FT	42" CONDUIT, TYPE B	
				164										164			611	20900	164	FT	48" CONDUIT, TYPE B	
				422										422			611	21100	422	FT	48" CONDUIT, TYPE C	
				397										397			611	22400	397	FT	54" CONDUIT, TYPE B	
				88										88			611	52702	88	FT	29" X 45" CONDUIT, TYPE B, 706.04	
				54										54			611	52706	54	FT	29" X 45" CONDUIT, TYPE D, 706.04	
				147										147			611	53000	147	FT	38" X 60" CONDUIT, TYPE A, 706.04	
				137										137			611	96600	137	FT	CONDUIT, BORED OR JACKED, 15", TYPE B	
				196										196			611	96600	196	FT	CONDUIT, BORED OR JACKED, 18", TYPE B	
				181										181			611	96600	181	FT	CONDUIT, BORED OR JACKED, 21, TYPE C	
				133										133			611	96600	133	FT	CONDUIT, BORED OR JACKED, 30", TYPE A	
				241										241			611	96600	241	FT	CONDUIT, BORED OR JACKED, 30", TYPE B	
				392										392			611	96600	392	FT	CONDUIT, BORED OR JACKED, 36", TYPE B	
				246										246			611	96600	246	FT	CONDUIT, BORED OR JACKED, 42", TYPE A	
				182										182			611	96600	182	FT	CONDUIT, BORED OR JACKED, 48", TYPE A	
				389										389			611	96600	389	FT	CONDUIT, BORED OR JACKED, 54", TYPE A	
				265										265			611	96600	265	FT	CONDUIT, BORED OR JACKED, 66", TYPE A	
				229										229			611	96600	229	FT	CONDUIT, BORED OR JACKED, 66", TYPE B	
				234										234			611	96600	234	FT	CONDUIT, BORED OR JACKED, 78", TYPE A	
				4										4			611	98150	4	EACH	CATCH BASIN, NO. 3	
				11										11			611	98180	11	EACH	CATCH BASIN, NO. 3A	
				2										2			611	98270	2	EACH	CATCH BASIN, NO. 4A	
				5										5			611	98370	5	EACH	CATCH BASIN, NO. 6	
				26										26			611	98410	26	EACH	CATCH BASIN, NO. 8	
				9										9			611	98434	9	EACH	CATCH BASIN, NO. 8A	
				1										1			611	98470	1	EACH	CATCH BASIN, NO. 2-2B	
				1										1			611	98570	1	EACH	CATCH BASIN, NO. 2-5	
				2										2			611	98630	2	EACH	CATCH BASIN ADJUSTED TO GRADE	
				2										2			611	99114	2	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D	
				4										4			611	99140	4	EACH	INLET, NO. 4 FOR SINGLE SLOPE BARRIER, TYPE B1	
				9										9			611	99140	9	EACH	INLET, NO. 4 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN	34
				7										7			611	99574	7	EACH	MANHOLE, NO. 3	
				2										2			611	99654	2	EACH	MANHOLE ADJUSTED TO GRADE	
				2										2			611	99660	2	EACH	MANHOLE RECONSTRUCTED TO GRADE	
					60			2						62			611	99710	62	EACH	PRECAST REINFORCED CONCRETE OUTLET	

CALCULATED JJM CHECKED SDS

GENERAL SUMMARY

RIC-30-9.26

354
1669

M:\15074.93455\Design\Roadway\Sheets\93455GG0003.dgn 3/26/2020 11:05:05 AM kja282

SHEET NUM.												OFFICE CALCS	PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
32-38B	40-65	66-67	369-371	380-383	390	395	918	959	991	1510-1511	1531-1585		01/NHS/BR	02/NHS/PV	03/NHS/BR	04/NHS/BR						
																					PAVEMENT	
	69,480						506					12,262		82,248			254	01000	82,248	SY	PAVEMENT PLANING, ASPHALT CONCRETE, DEPTH VARIES	
959														959			254	01600	959	SY	PATCHING PLANED SURFACE	
84							7							91			301	46000	91	CY	ASPHALT CONCRETE BASE, PG64-22	
184														184			301	46001	184	CY	ASPHALT CONCRETE BASE, PG64-22, AS PER PLAN	35
												2,967		2,967			302	46000	2,967	CY	ASPHALT CONCRETE BASE, PG64-22	
												33,186		33,186			302	46001	33,186	CY	ASPHALT CONCRETE BASE, AS PER PLAN PG64-22	34
							122					40,505		40,627			304	20000	40,627	CY	AGGREGATE BASE	
												723		723			305	13010	723	SY	9" CONCRETE BASE, CLASS QC 1P	
51	5,906						83					862		6,902			407	10000	6,902	GAL	TACK COAT	
												26,083		26,083			407	20000	26,083	GAL	NON-TRACKING TACK COAT	
							35							35			441	50400	35	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	
							60							60			441	50600	60	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)	
												7,726		7,726			442	00100	7,726	CY	ANTI-SEGREGATION EQUIPMENT	
	2,895													2,895			442	10000	2,895	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
												11,861		11,861			442	10101	11,861	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446), AS PER	35
																					PLAN, BINDER VARIES	
												7,733		7,733			442	10300	7,733	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (447)	
												350		350			442	20201	350	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448), AS PER	35
																					PLAN, BINDER VARIES	
												2,159		2,159			442	20000	2,159	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)	
							10							10			452	10010	10	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
							463							463			452	12010	463	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
												18,922		18,922			452	14022	18,922	SY	10.5" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P WITH QC/QA	
			166											166			609	24510	166	FT	CURB, TYPE 4-C	
			1,178											1,178			609	26000	1,178	FT	CURB, TYPE 6	
			294											294			609	28001	294	FT	CURB, TYPE 7, AS PER PLAN	1002
			405											405			609	54000	405	SY	6" CONCRETE TRAFFIC ISLAND	
			15											15			609	70000	15	SY	4" CONCRETE MEDIAN	
												79		79			617	10100	79	CY	COMPACTED AGGREGATE	
												1,417		1,417			617	20000	1,417	SY	SHOULDER PREPARATION	
												20		20			618	40600	20	MILE	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)	
																					WATER WORK	
									60					60			638	04900	60	FT	1" COPPER SERVICE BRANCH	
									2					2			638	07800	2	EACH	6" GATE VALVE AND VALVE BOX	
									2					2			638	07900	2	EACH	8" GATE VALVE AND VALVE BOX	
									2					2			638	10200	2	EACH	6" FIRE HYDRANT	
									2					2			638	10480	2	EACH	FIRE HYDRANT REMOVED	
									1					1			638	10500	1	EACH	FIRE HYDRANT REMOVED AND RESET	
									18					18			638	10800	18	EACH	VALVE BOX ADJUSTED TO GRADE	
									2					2			638	10900	2	EACH	SERVICE BOX ADJUSTED TO GRADE	
									2					2			638	98000	2	EACH	WATER WORK, MISC.: CONNECTION ASSEMBLY	986
									28					28			638	98600	28	FT	WATER WORK, MISC.: 6" WATER MAIN AND FITTINGS	986
									663					663			638	98600	663	FT	WATER WORK, MISC.: 8" WATER MAIN AND FITTINGS	986
																					SANITARY SEWER	
			213											213			611	01800	213	FT	8" CONDUIT, TYPE B	
			67											67			611	02000	67	FT	8" CONDUIT, TYPE C	
			1											1			611	99574	1	EACH	MANHOLE, NO. 3	
			14											14			611	99654	14	EACH	MANHOLE ADJUSTED TO GRADE	
																					LIGHTING	
																					FOR LIGHTING ESTIMATED QUANTITIES	1150
																					TRAFFIC SURVEILLANCE	
																					FOR TRAFFIC SURVEILLANCE ESTIMATED QUANTITIES	1004
																					TRAFFIC CONTROL	
			381											381			626	00102	381	EACH	BARRIER REFLECTOR, TYPE 1, (BI-DIRECTIONAL)	
			42											42			626	00102	42	EACH	BARRIER REFLECTOR, TYPE 1, (ONE-WAY)	
			94											94			626	00116	94	EACH	BARRIER REFLECTOR, TYPE 5, (BI-DIRECTIONAL)	
			203											203			626	00116	203	EACH	BARRIER REFLECTOR, TYPE 5, (ONE-WAY)	

CALCULATED JJM CHECKED SDS

GENERAL SUMMARY

RIC-30-9.26

355
1669

M:\15074.93455\Design\Roadway\Sheets\93455GG0004.dgn 3/26/2020 11:19:14 AM kjg282

SHEET NUM.													PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
32-38B	40-65	66-67	369-371	380-383	390	395	918	959	991	1510-1511	1531-1585	OFFICE CALCS	01/NHS/BR	02/NHS/PV	03/NHS/BR	04/NHS/BR						
	34.52	21.62											5.62	50.52			642	00104	56.14	MILE	EDGE LINE, 6", TYPE 1	
	15.05	10.29											2.54	22.8			642	00204	25.34	MILE	LANE LINE, 6", TYPE 1	
		3,786												3,786			642	00400	3,786	FT	CHANNELIZING LINE, 8", TYPE 1	
	21,204	13,042											3,424.6	30,821.4			642	00404	34,246	FT	CHANNELIZING LINE, 12", TYPE 1	
	120													120			642	00500	120	FT	STOP LINE, TYPE 1	
	25,082	14,182											3,926.4	35,337.6			642	01510	39,264	FT	DOTTED LINE, 6", TYPE 1	
																					FOR ADDITIONAL TRAFFIC CONTROL QUANTITIES	1009
																					TRAFFIC SIGNALS	
																					FOR TRAFFIC SIGNALS ESTIMATED QUANTITIES	1147
																					RETAINING WALLS	
																					FOR RETAINING WALL 10B ESTIMATED QUANTITIES	974
																					FOR RETAINING WALL 7B ESTIMATED QUANTITIES	980
																					BUILDING DEMOLITION	
LS														LS			202	56001	LS		BUILDING DEMOLISHED, AS PER PLAN, PARCEL 208, PORTION OF BUILDING	38A
4														4			SPECIAL	69070100	4	SF	ASBESTOS ABATEMENT, WINDOW GLAZING COMPOUND	38A
50														50			SPECIAL	69070100	50	SF	ASBESTOS ABATEMENT, DRYWALL SYSTEMS	38A
1														1			SPECIAL	69070100	1	SF	ASBESTOS ABATEMENT, ELECTRICAL BACKING PLATE	38A
20														20			SPECIAL	69070100	20	SF	ASBESTOS ABATEMENT, RESIDUAL FLASHING	38A
																					NOISE BARRIERS	
								3,190						3,190			605	11101	3,190	FT	6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN	960
								73,704						73,704			SPECIAL	60610210	73,704	SF	NOISE BARRIER (REFLECTIVE)	959
																					STRUCTURES OVER 20 FOOT SPAN	
																					FOR RIC-30-0982 ESTIMATED QUANTITIES	1200
																					FOR RIC-30-1074 ESTIMATED QUANTITIES	1207
																					FOR RIC-30-1135 ESTIMATED QUANTITIES	1273
																					FOR RIC-30-1156 ESTIMATED QUANTITIES	1329
																					FOR RIC-30-1212 ESTIMATED QUANTITIES	1335
																					FOR RIC-30-1219 ESTIMATED QUANTITIES	1347
																					FOR RIC-30-1236 ESTIMATED QUANTITIES	1428
																					FOR RIC-30-1283 ESTIMATED QUANTITIES	1507
																					MAINTENANCE OF TRAFFIC	
	10													10			410	12000	10	CY	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
	275													275			606	98000	275	FT	GUARDRAIL, MISC.: MEDIAN BARRIER PROTECTION	61
	2,500												250	2,250			614	11110	2,500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	58,662	271,463											33,013	297,112			614	11630	330,125	FT	INCREASED BARRIER DELINEATION	
		59												59			614	12336	59	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
	1													1			614	12338	1	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	
	LS													LS			614	12420	LS		DETOUR SIGNING	
	20													20			614	12484	20	EACH	WORK ZONE INCREASED PENALTIES SIGN	
	20													20			614	12500	20	EACH	REPLACEMENT SIGN	
	100												10	90			614	12600	100	EACH	REPLACEMENT DRUM	
	2													2			614	12756	2	EACH	WORK ZONE CROSSOVER LIGHTING SYSTEM	
		11,311											1,131	10,180			614	12800	11,311	EACH	WORK ZONE RAISED PAVEMENT MARKER	
	197	831											103	925			614	12801	1,028	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	45
71	310													381			614	13000	381	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
	1,203	5,885											709	6,379			614	13310	7,088	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY	
		209											21	188			614	13310	209	EACH	BARRIER REFLECTOR, TYPE 1, BIDIRECTIONAL	
	507												51	456			614	13318	507	EACH	BARRIER REFLECTOR, TYPE 5, ONE WAY	
	631	3,749											438	3,942			614	13350	4,380	EACH	OBJECT MARKER, ONE WAY	
	656	1,278											193	1,741			614	13360	1,934	EACH	OBJECT MARKER, TWO WAY	
	750,000												750,000				614	18000	750,000	EACH	MAINTAINING TRAFFIC, MISC.: BRIDGE DECK AND PAVEMENT PATCHING	48
	16													16			614	18000	16	EACH	MAINTAINING TRAFFIC, MISC.: EMERGENCY ACCESS GATE SYSTEMS	48
	90													90			614	18601	90	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	44
		31.79											3.18	28.61			614	20110	31.79	MILE	WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT	
		4.54											0.45	4.09			614	21100	4.54	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
		182.53											18.26	164.27			614	22110	182.53	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT	

CALCULATED JJM
CHECKED SDS

GENERAL SUMMARY

RIC-30-9.26

SHEET NUM.													PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
32-38B	40-65	66-67	369-371	380-383	390	395	918	959	991	1510-1511	1531-1585	OFFICE CALCS	01/NHS/BR	02/NHS/PV	03/NHS/BR	04/NHS/BR						
		113,612											11,361	102,251			614	23200	113,612	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8", 642 PAINT	
		7,270											727	6,543			614	23210	7,270	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT	
		67,830											6,783	61,047			614	24200	67,830	FT	WORK ZONE DOTTED LINE, CLASS I, 4", 642 PAINT	
		354											35	319			614	25200	354	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT	
		554											55	499			614	26200	554	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
		420											42	378			614	27200	420	FT	WORK ZONE CROSSWALK LINE, CLASS I, 642 PAINT	
		78											8	70			614	28200	78	FT	WORK ZONE GORE MARKING, CLASS II, 642 PAINT	
		50											5	45			614	30200	50	EACH	WORK ZONE ARROW, CLASS I, 642 PAINT	
	10													10			614	40050	10	EACH	BUSINESS ENTRANCE SIGN	
	LS													LS			615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
	76,593													76,593			615	20000	76,593	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
	500												50	450			622	41001	500	FT	PORTABLE BARRIER, 32", AS PER PLAN	65
		225,725											22,573	203,152			622	41011	225,725	FT	PORTABLE BARRIER, 50", AS PER PLAN	42
		3,570											3,570				622	41031	3,570	FT	PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN	42
	400													400			622	41031	400	FT	PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN, ROCK PROTECTION	63
		7												7			622	41050	7	EACH	PORTABLE BARRIER, "Y" CONNECTOR	57
	119													119			808	18700	119	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	
	56													56			829	00100	56	SNMT	WORK ZONE EGRESS WARNING SYSTEM	
																LS					***INCIDENTALS***	
													LS	LS	LS		100	00300	LS		PREMIUM ON RAILROADS' PROTECTIVE PUBLIC LIABILITY AND PROPERTY	
																LS					DAMAGE LIABILITY INSURANCE	
													LS	LS	LS	LS	100	50100	LS		DEPARTMENT'S SHARE OF THE DISPUTE RESOLUTION BOARD	
													LS	LS	LS	LS	108	10000	LS		CPM PROGRESS SCHEDULE	
	LS												LS	LS	LS		614	11000	LS		MAINTAINING TRAFFIC	
													10	32		LS	619	16020	42	MNTH	FIELD OFFICE, TYPE C	
													LS	LS	LS	LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	LS	LS		624	10000	LS		MOBILIZATION	

CALCULATED JJM
CHECKED SDS

GENERAL SUMMARY

RIC-30-9.26

356A
1669

REF NO.	SHEET NO.	STATION TO STATION			SIDE	OUTLET				601	605	605	611	611	FOR INFORMATION ONLY									
															BENDS AND BRANCHES									
						STATION	OFFSET	ELEVATION	OUTLET DETAIL #	TIED CONCRETE BLOCK MAT, TYPE 1	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET	6" X 6" TEE	6" X 6" CROSS	6" X 90° BEND	6" X 45° BEND	6" X 22 1/2° BEND	6" X 11 1/4° BEND	6" X 6" X 6" WYE				
										SY	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.	NO.				
		US 30	TO																					
U1	410	489+00		494+25	RT							525												
U2	410	489+00		494+25	RT	494+25	84.02	1288.40	3	2		525	25	1	1		1							
U3	410	489+00		494+39	RT	494+39	0.00	1287.00	5			529	19					1						
U4	410	489+00		494+38	LT	494+39	0.00	1287.00	5			526	22					1						
U5	410	489+02		495+00	LT	495+00	85.96	1287.84	3	2		599	29	1	1		1							
U6	410	489+03		495+00	LT							598												
U7	410	494+26		500+76	RT							628												
U8	410	494+26		500+76	RT	500+54	65.33	1284.53	3	2		628	17	1	1		1							
U9	410	494+53		500+76	RT	500+60	1.00	1286.20	5			603	4					1						
U10	410	494+38		500+76	LT	500+60	1.00	1286.20	5			619	5					1						
U11	410	495+01		505+05	LT	505+05	75.86	1284.32	3	2		1004	27	1	1		1							
U12	410	495+01		505+05	LT							1004												
U1	412	500+77		504+86	RT							424												
U2	412	500+77		504+86	RT	504+86	62.96	1284.48	3	2		424	19	1	1		1							
U3	412	505+34		7+16 (RAMP A)	RT							704												
U4	412	505+34		7+16 (RAMP A)	RT	505+34	61.41	1284.54	3	2		705	17	1	1		1							
U5	412	505+36		8+46 (RAMP D)	LT	505+36	75.69	1284.36	3	2		502	26	1	1		1							
U6	412	505+36		8+46 (RAMP D)	LT							503												
U1	414	511+89		514+49	LT				1			260	46		3		1			1				
U2	414	511+89		514+49	LT							260												
U5	414	512+41		514+99	RT	7+00	32.85	1283.60	1			258	79		3		1	1		1				
U6	414	512+41		514+99	RT							258												
U7	414	514+50		522+33	LT	514+50	59.33	1285.89	8		450	333	30		1		1							
U8	414	514+50		522+33	LT						450	333												
U9	414	515+00		522+33	RT						400	333												
U10	414	515+00		522+33	RT	515+00	58.55	1285.86	8		400	333	29		1		1							
U1	416	522+34		525+88	RT	19+94	18.55	1286.1	2	2		354	55	1	3	1	1			1				
U2	416	522+34		525+88	RT							354												
U3	416	522+34		525+35	LT	17+17	20.47	1286.41	2	2		302	57	1	3	1	1			1				
U4	416	522+34		525+35	LT							302												
U5	416	18+00 (RAMP C)		530+50	RT							266												
U6	416	18+00 (RAMP C)		530+50	RT	530+50	68.58	1286.64	3	2		266	15	1	1		1							
U11	416	529+07		530+50	LT	530+50	60.66	1286.49	3	2		143	17	1	1		1							
U12	416	529+07		530+50	LT							143												
U13	416	530+51		536+18	RT							567												
U14	416	530+51		536+18	RT	536+18	65.77	1278.71	13	2		567	24	1	2		1							
U15	416	530+51		536+00	LT	536+00	66.75	1278.96	3	2		550	35	1	1		1							
U16	416	530+51		536+00	LT							549												
U1	418	536+19		546+34	RT							1015												
U2	418	536+19		546+34	RT	546+34	68.71	1260.22	13	2		1015	37	1	2		1							
U3	418	536+01		545+85	LT	545+85	65.65	1260.52	3	2		984	30	1	1		1							
U4	418	536+01		545+85	LT							984												
SUBTOTALS CARRIED TO SHEET 390										30	1700	21779	664	15	29	2	19	5	0	4	0			

CALCULATED ACB CHECKED SDS

UNDERDRAIN SUBSUMMARY

RIC-30-9.26

REF NO.	SHEET NO.	STATION TO STATION			SIDE	OUTLET				601	605	605	611	611	FOR INFORMATION ONLY									
															BENDS AND BRANCHES									
						STATION	OFFSET	ELEVATION	OUTLET DETAIL #	TIED CONCRETE BLOCK MAT, TYPE 1	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET	6" X 6" TEE	6" X 6" CROSS	6" X 90° BEND	6" X 45° BEND	6" X 22 1/2° BEND	6" X 11 1/4° BEND	6" X 6" X 6" WYE				
										SY	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.	NO.				
			TO																					
U5	420	544+68		547+50	RT	547+50	0.00	1257.92	6A			276	8					1						
U6	420	545+86		548+00	LT	548+00	57.89	1255.96	3	2		213	18	1	1		1							
U7	420	545+86		548+00	LT							213												
U8	420	546+35		550+46	RT							418												
U9	420	546+35		550+46	RT	550+46	58.27	1252.34	13	2		414	26	1	2		1							
U10	420	547+55		549+50	RT	549+50	0.00	1254.15	6A			190	8					1						
U11	420	548+01		457+50 (RAMP HL)	LT	457+50	19.84	1243.88	4	2	150	792	17	1	1	1								
U12	420	548+01		457+50 (RAMP HL)	LT						149	791												
U13	420	549+55		551+50	RT	551+50	0.00	1250.40	6A			190	8					1						
U14	420	550+47		555+95	RT							553												
U15	420	550+47		555+95	RT	555+95	87.95	1243.86	13A	2		552	44	1	1	2								
U16	420	551+55		553+50	RT	553+50	0.00	1246.66	6A			190	8					1						
U17	420	553+55		555+00	RT	555+00	0.00	1244.82	6A			139	8					1						
U1	422	555+05		556+00	RT	556+00	0.00	1244.49	6			89	8					1						
U2	422	556+00		556+77	RT	556+00	0.00	1244.49	6			71	8					1						
U3	422	558+22		563+93	LT	458+19	18.86	1244.25	1	2		571	55	1	3		1			1				
U4	422	558+22		563+93	LT							571												
U5	422	560+51		566+76	RT							636												
U6	422	560+51		566+87	RT	360+50	27.68	1247.37	1	2		625	64	1	4		1			1				
U1	424	569+65		570+75	RT							110												
U2	424	569+65		570+75	RT	569+65	55.63	1273.06	3	2		110	23	1	1		1							
U3	424	568+87		570+75	LT	568+14	69.17	1271.77	11	2		188	88	1				3			1			
U4	424	568+80		570+75	LT							195												
U7	424	570+76		578+00	LT	578+00	58.70	1260.55	3	2		725	26	1	1		1							
U8	424	570+76		578+00	LT							724												
U9	424	570+76		573+96	RT							320												
U10	424	570+76		573+96	RT	173+98	19.34	1268.96	3	2		320	54	1	1		1			1				
U11	424	173+99 (RAMP I)		578+00	RT							400												
U12	424	173+99 (RAMP I)		578+00	RT	578+00	70.62	1260.42	3	2		402	17	1	1		1							
U1	426	578+01		584+00	LT	584+00	53.95	1242.88	3	2		599	22	1	1		1							
U2	426	578+01		584+00	LT							599												
U3	426	578+01		583+00	RT							499												
U4	426	578+01		583+00	RT	583+00	60.62	1245.78	3	2		499	18	1	1		1							
U5	426	583+01		589+74	RT	589+74	53.95	1232.41	3	2		671	22	1	1		1							
U6	426	583+01		589+74	RT							670												
U9	426	584+54		587+50	LT	587+50	0.00	1235.83	6A			290	8					1						
U10	426	584+01		589+50	LT	589+50	53.94	1234.28	3	2		551	22	1	1		1							
U13	426	584+01		589+50	LT							552												
U14	426	587+55		589+00	LT	589+00	0.00	1233.96	6A			140	8					1						
SUBTOTALS CARRIED TO SHEET 390										30	299	16058	588	15	20	3	12	12	0	3	1			

CALCULATED ACB CHECKED SDS

UNDERDRAIN SUBSUMMARY

RIC-30-9.26

385
1669

REF NO.	SHEET NO.	STATION TO STATION			SIDE	OUTLET				601	605	605	611	611	FOR INFORMATION ONLY								
															BENDS AND BRANCHES								
						STATION	OFFSET	ELEVATION	OUTLET DETAIL #	TIED CONCRETE BLOCK MAT, TYPE 1	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET	6" X 6" TEE	6" X 6" CROSS	6" X 90° BEND	6" X 45° BEND	6" X 22 1/2° BEND	6" X 11 1/4° BEND	6" X 6" X 6" WYE				
										SY	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.	NO.				
			TO																						
U1	428	589+51		594+00	LT	594+00	53.94	1230.68	3	2		452	22	1	1		1							
U2	428	589+51		594+00	LT							453												
U3	428	589+05		590+50	LT	590+50	0.00	1232.71	6A			140	8					1						
U4	428	589+75		594+00	RT							421												
U7	428	589+75		594+00	RT	594+00	53.94	1229.00	3	2		422	22	1	1		1							
U8	428	590+55		591+90	LT	591+90	0.00	1231.51	6A			130	8					1						
U9	428	591+95		593+50	LT	593+50	0.00	1230.31	6A			149	8					1						
U11	428	593+55		594+50	LT	594+50	0.00	1229.51	6A			89	8					1						
U12	428	594+55		595+85	LT	595+85	0.00	1228.38	6A			124	8					1						
U15	428	594+01		598+88	RT							486												
U16	428	594+01		598+88	RT	598+88	53.93	1222.17	3	2		487	22	1	1		1							
U17	428	594+01		598+92	LT	598+92	5264	1222.09	3	2		491	21	1	1		1							
U18	428	594+01		598+92	LT							492												
U1	430	601+08		605+00	RT							392												
U2	430	601+09		605+00	RT	605+00	54.45	1206.78	3	2		391	19	1	1		1							
U3	430	601+12		605+00	LT	605+00	55.13	1206.77	3	2		388	20	1	1		1							
U4	430	601+13		605+00	LT							387												
U5	430	605+01		610+29	RT							529												
U6	430	605+01		610+29	RT	610+29	73.68	1195.09	3	2		529	19	1	1		1							
U7	430	605+01		609+75	LT	609+74	62.31	1196.77	8			474	16		1		1							
U8	430	605+01		609+75	LT							474												
U1	434	626+85		629+94	RT							309												
U2	434	626+86		629+94	RT	629+94	68.01	1148.13	3	2		309	17	1	1		1							
U3	434	628+86		630+00	LT	630+00	104.01	1147.99	4	2		115	65	1	1	1								
U4	434	628+86		630+00	LT							115												
U5	434	630+00		633+33	LT							333												
U6	434	630+00		633+33	LT							333												
U7	434	630+06		136+36 (RAMP W)	RT							629												
U8	434	630+06		136+36 (RAMP W)	RT	630+06	68.01	1148.13	3	2		630	17	1	1		1							
U1	437	636+37		641+40	RT							502												
U2	437	636+37		641+40	RT	136+36	17.85	1165.57	1	2		502	54	1	3		1				1			
U3	437	18+00 (Ramp D)		638+99	LT							699												
U4	437	19+74 (Ramp D)		638+99	LT							530	8		1		1							
U9	437	639+00		643+61	LT	639+00	61.31	1180.64	3	2		461	20	1	1		1							
U10	437	639+00		643+65	LT							465												
U1	439	646+44		348+70 (RAMP SL)	LT							60												
U2	439	646+44		348+70 (RAMP SL)	LT							225												
U3	439	646+13		651+80	RT	646+44	72.22	1207.68	15	2		567	137	1	3		1	1	2					
U4	439	646+13		651+85	RT							572												
U5	439	648+74		651+31	LT	348+71	25.71	1216.40	1	2		256	62	1	3		1		1					
U6	439	648+74		651+31	LT							256												
SUBTOTALS CARRIED TO SHEET 390										28		15768	581	14	22	1	15	6	3	1	0			

CALCULATED ACB
CHECKED SDS

UNDERDRAIN SUBSUMMARY

RIC-30-9.26

386
1669

M:\15074.93455\Design\Drainage\Sheets\93455DS1003.dgn 3/26/2020 1:30:01 PM kja282

REF NO.	SHEET NO.	STATION TO STATION			SIDE	OUTLET STATION	OUTLET OFFSET	OUTLET ELEVATION	OUTLET DETAIL #	601 TIED CONCRETE BLOCK MAT, TYPE I	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	605 6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	611 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY BENDS AND BRANCHES 6" X 6" TEE	6" X 6" CROSS	6" X 90° BEND	6" X 45° BEND	6" X 22 1/2° BEND	6" X 11 1/4° BEND	6" X 6" X 6" WYE
			TO							SY	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.	NO.
U1	442	654+40		655+69	RT							129									
U2	442	654+40		655+69	RT	654+19	74.65	1244.70	3	2		129	36	1	1		1	1			
U3	442	655+05		665+00	LT	655+05	62.04	1248.39	3	2		997	21	1	1		1				
U4	442	655+05		665+00	LT							997							2		
U5	442	655+70		665+00	RT	655+69	61.87	1250.30	8			927	19		1		1				
U6	442	655+70		665+00	RT							928							4		
U1	444	665+01		174+24 (RAMP A)	RT							923									
U2	444	665+01		174+24 (RAMP A)	RT	174+24	37.13	1251.7	3	2		924	34	1	1		1				
U7	444	665+01		474+50 (RAMP D)	LT	474+50	27.67	1250.78	3	2		950	25	1	1		1				
U8	444	665+01		474+50 (RAMP D)	LT							950									
U9	444	674+25		683+20	RT							895									
U10	444	674+25		683+20	RT	372+37	22.48	1230.15	2	2		895	59	1	3	1	1				
U11	444	674+51		683+61	LT							910									
U12	444	674+51		683+61	LT	683+65	63.00	1230.00	10			910	24		1	1		1			
U1	446	678+70		683+61	LT	683+65	0.00	1231.00	16			491	14		1			1			
U2	446	678+70		683+61	RT	683+65	0.00	1231.00	16			491	14		1			1			
U3	446	683+61		686+52	LT							291									
U4	446	683+61		686+52	LT							291									
U5	446	683+61		689+50	LT							589									
U6	446	683+61		689+50	RT							589									
		LONGVIEW AVE W																			
U1	454	101+10		102+50	LT	102+55	39.90	1255.32	4	2		144	58	1	1		2	1			1
U2	454	100+85		101+50	RT	101+50	125.26	1255.99	4	2		158	9	1	1						
U3	454	101+50		102+49	RT							142									
U4	454	102+50		103+18.50	RT						69										
U5	454	102+50		103+18.50	LT						69										
		SR 39																			
U1	460	693+00		696+70	LT	696+70	26.25	1247.92				366									
U2	460	693+00		696+70	LT	696+70	26.25	1247.92				367	8		1						
U3	460	693+00		696+87	RT	696+87	26.25	1248.56				390	8		1						
U4	460	693+00		696+87	RT	696+87	26.25	1248.24				391									
U5	462	696+70		700+36	LT	696+70	26.25	1248.24				366									
U6	462	696+70		699+00	LT							230									
U7	462	696+87		699+00	RT							213									
U8	462	696+87		700+48	RT	696+87	26.25	1248.34				361									
		RELOCATED LONGVIEW AVE																			
U1	468	302+75		311+25	LT	311+25	16.00	1239.60				871									
U2	468	302+75		311+25	RT	311+25	16.00	1239.60				829									
U3	471	311+25		311+75	LT	311+25	16.00	1239.60				50									
U4	471	311+25		311+75	RT	311+25	16.00	1239.60				50									
SUBTOTALS CARRIED TO SHEET 390										14	138	19134	329	7	15	2	8	5	6	0	1

CALCULATED ACB CHECKED SDS

UNDERDRAIN SUBSUMMARY

RIC-30-9.26

387
1669

M:\15074.93455\Design\Drainage\Sheets\93455DS1004.dgn 3/26/2020 1:32:21 PM kja282

REF NO.	SHEET NO.	STATION TO STATION			SIDE	OUTLET STATION	OUTLET OFFSET	OUTLET ELEVATION	OUTLET DETAIL #	601 TIED CONCRETE BLOCK MAT, TYPE 1	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	605 6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	611 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY BENDS AND BRANCHES 6" X 6" TEE	6" X 6" CROSS	6" X 90° BEND	6" X 45° BEND	6" X 22 1/2° BEND	6" X 11 1/4° BEND	6" X 6" X 6" WYE				
										SY	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.	NO.				
		SR 545	TO																						
U1	497	159+75		165+25	RT							550													
U2	497	159+75		165+25	RT							550													
U3	497	159+75		164+89	LT							524													
U4	497	159+75		163+88	LT	159+13	26.47	1216.82				413	107		3		1	1							
		TRIMBLE RAMP A																							
U1	507	7+17		8+60	RT							143													
U2	507	7+17		8+60	LT							143													
		TRIMBLE RAMP B																							
U1	510	13+47		17+17	RT							369													
U2	510	13+47		17+17	RT							368													
U3	512	17+17		18+00	LT							83													
U4	512	17+17		18+00	RT							83													
		TRIMBLE RAMP C																							
U1	517	18+00		19+95	LT							194													
U2	517	18+00		19+95	LT							194													
U3	517	19+95		21+51	LT							156													
U4	517	19+95		21+51	RT							157													
		TRIMBLE RAMP D																							
U1	520	8+52		9+50	LT							98													
U2	520	8+52		9+50	LT							98													
U3	520	9+50		9+94	LT						44														
U4	520	9+50		11+80	LT						70	160													
U5	520	9+95		11+80	RT						25	160													
		SR 39 RAMP G																							
U1	525	555+95 (US 30)		360+49	RT							454													
U2	525	555+95 (US 30)		360+49	RT							453													
U3	525	360+50		365+25	RT							474													
U4	525	360+50		364+50	LT							407													
U1	527	364+51		368+00	LT	368+00	29.92	1254.96	3	2		347	11	1			1								
U2	529	365+26		369+50	RT	369+50	18.70	1255.33	3	2		425	16	1			1								
U4	529	368+01		371+31	LT						125	186													
U1	531	369+51		371+13	RT							164	54		1			2			1				
U3	531	371+13		371+36	RT							32													
		SR 39 RAMP H																							
U1	533	458+19 (RAMP HL)		465+50	LT							751													
U2	533	261+50 (RAMP HR)		465+50	RT							468													
		SR 39 RAMP HL																							
U2	535	457+50		458+18	LT							68													
U3	535	457+50		458+18	LT							69													
U4	535	458+19		462+19	RT							418													
SUBTOTALS CARRIED TO SHEET 390										4	264	9159	188	2	4	0	3	3	0	0	1				

CALCULATED ACB
CHECKED SDS

UNDERDRAIN SUBSUMMARY

RIC-30-9.26

388
1669

REF NO.	SHEET NO.	STATION TO STATION			SIDE	OUTLET				601	605	605	611	611	FOR INFORMATION ONLY									
															BENDS AND BRANCHES									
						STATION	OFFSET	ELEVATION	OUTLET DETAIL #	TIED CONCRETE BLOCK MAT, TYPE I	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET	6" X 6" TEE	6" X 6" CROSS	6" X 90° BEND	6" X 45° BEND	6" X 22 1/2° BEND	6" X 11 1/4° BEND	6" X 6" X 6" WYE				
										SY	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.	NO.				
		SR 39 RAMP HR	TO																					
U1	539	259+93		261+50	RT	261+50	24.61	1247.17	10			172	42		1	1								
U3	539	261+50		263+94	RT							259												
U4	539	261+50		263+93	LT							244												
U1	541	263+94		265+82	LT							187												
U2	541	263+94		266+05	LT	263+94	20.47	1259.99	3	2		210	18	1	1		1							
U5	541	265+85		265+97	LT	265+85	10.00	1266.45	6A			9	3					1						
		SR 39 RAMP I																						
U1	544	170+21		173+97	LT							386												
U2	544	170+36		173+97	RT							362	63				1	2			1			
		SR 13 RAMP C																						
U1	549	9+30		12+25	LT						50	237												
U2	549	10+88		12+25	RT	12+25	21.14	1144.88	3	2		151	38	1	1		1							
		SR 13 RAMP D																						
U1	553	18+00		19+42	RT	18+00	25.82	1146.98	3	2		150	43	1	1		1							
		RAMP W																						
U1	558	136+36		138+00	RT							162												
U2	558	136+36		138+00	LT							168												
U3	560	138+01		140+67	LT							285	17		1		1							
U4	560	138+01		67+25 (LONGVIEW W)	RT	67+25	31.36	1148.78	3	2		477	12	1			1							
		RAMP X																						
U1	562	238+43		241+43	LT							321	17		1		1							
U2	562	236+67 (Ramp Y)		643+20 (US 30)	RT	237+00	45.21	1156.24	10			654	35		1			1						
		RAMP Y																						
U1	565	69+50 (LONGVIEW W)		236+67	RT							92												
		SR 545 RAMP SL																						
U1	567	348+71		357+60 (RAMP S)	LT							956												
U2	567	348+71		351+00	RT							241												
U3	567	351+01		351+70 (RAMP S)	RT	351+70	2.00	1225.45	5			67	3					1						
		SR 545 RAMP SR																						
U1	569	449+00		452+33	LT							332												
U2	569	449+00		451+35	RT	449+00	18.88	1223.93	10	2		258	35	1	1	1								
U3	569	448+67		449+00	RT							36												
U4	569	357+28 (Ramp S)		449+00	LT							554												
		FIFTH RAMP A																						
U1	577	174+25		180+00	RT							569	73		1		1	1	1		1			
U2	577	174+24		180+00	LT							591												
		FIFTH RAMP B																						
U1	583	369+50		372+38	LT						37	270												
U2	583	369+50		372+38	RT						37	244												
U3	583	372+38		378+68	RT							631												
U4	583	372+38		378+68	RT							631												
SUBTOTALS CARRIED TO SHEET 390										10	124	9906	399	5	9	2	8	6	1	0	2			

CALCULATED ACB CHECKED SDS

UNDERDRAIN SUBSUMMARY

RIC-30-9.26

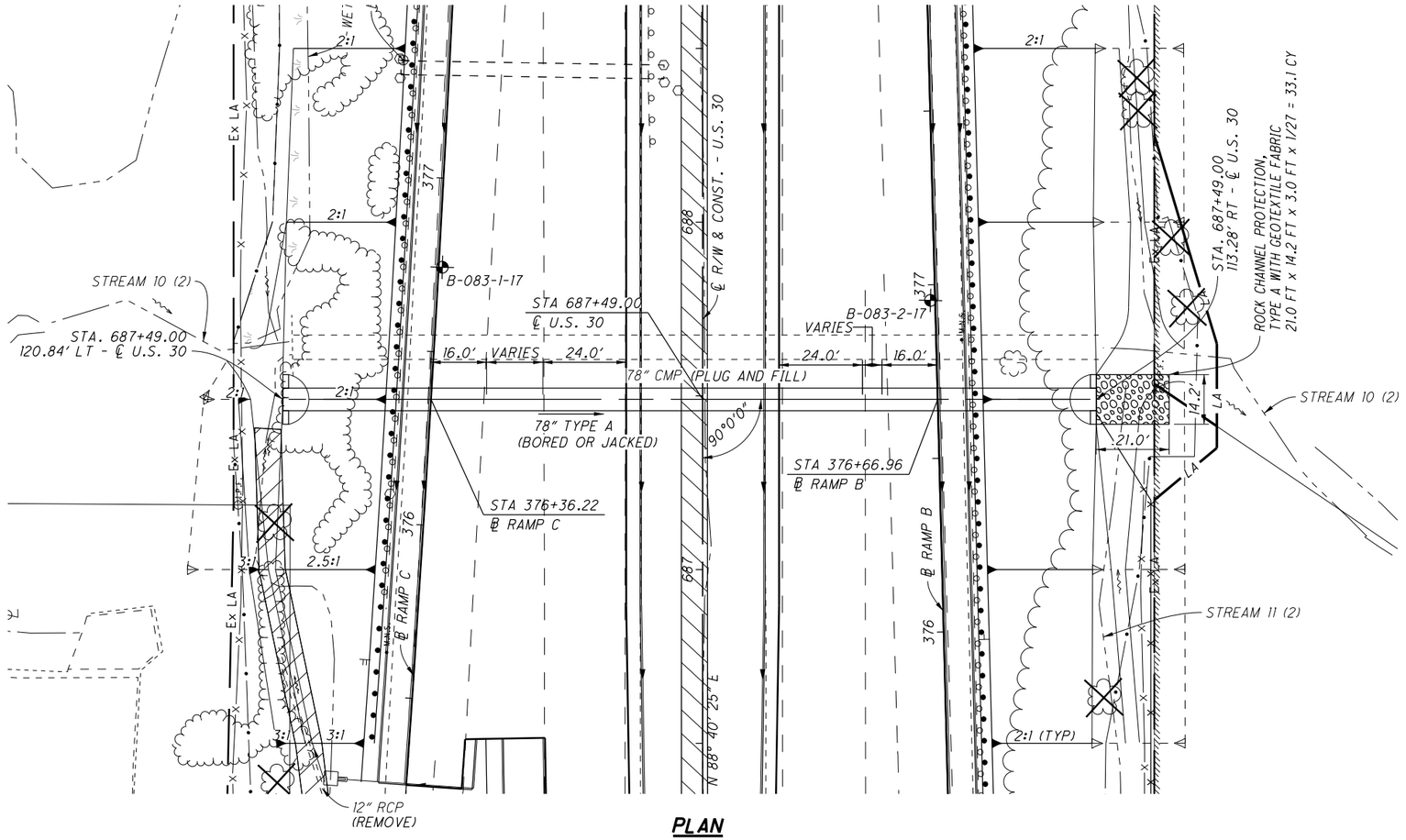
389
1669

UNDERDRAIN SUBSUMMARY

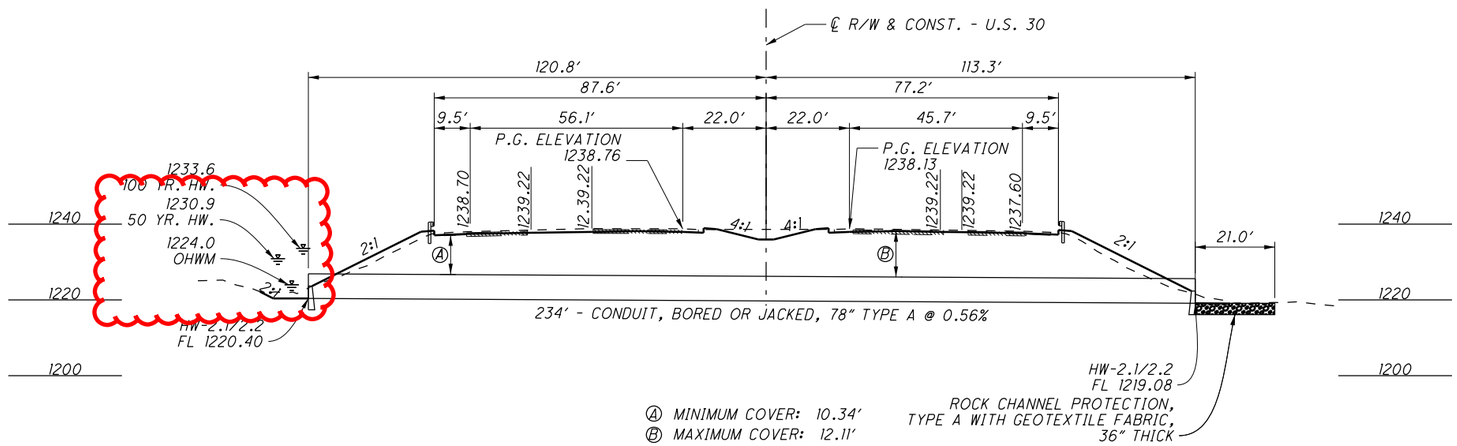
CALCULATED ACB CHECKED SDS

REF NO.	SHEET NO.	STATION TO STATION			SIDE	OUTLET STATION	OUTLET OFFSET	OUTLET ELEVATION	OUTLET DETAIL #	601 TIED CONCRETE BLOCK MAT, TYPE 1	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	605 6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	611 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY BENDS AND BRANCHES 6" X 6" TEE	6" X 6" CROSS	6" X 90° BEND	6" X 45° BEND	6" X 22 1/2° BEND	6" X 11 1/4° BEND	6" X 6" X 6" WYE
										SY	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.	NO.
		FIFTH RAMP C	TO																		
U1	588	375+25		375+40	RT							312									
U2	588	375+25		378+37	LT							312									
U3	588	375+25		378+37	LT	375+25	19.77	1232.64	1	2		14	37	1	2		1				
		FIFTH RAMP D																			
U1	590	474+51		477+45	LT	477+45	18.32	1241.70	4	2		294	10	1	1						
U2	590	474+50		478+00	RT	447+99	31.89	1241.00	10			350	11		1						
U3	592	477+45		480+50	LT							298									
U4	592	478+00		480+50	RT							272									
					SUBTOTALS					4		1852	58	2	4	0	1	0	0	0	0
					SHEET 384					30	1700	21779	664	15	29	2	19	5	0	4	0
					SHEET 385					30	299	16058	588	15	20	3	12	12	0	3	1
					SHEET 386					28		15768	581	14	22	1	15	6	3	1	0
					SHEET 387					14	138	19134	329	7	15	2	8	5	6	0	1
					SHEET 388					4	264	9159	188	2	4	0	3	3	0	0	1
					SHEET 389					10	124	9906	399	5	9	2	8	6	1	0	2
TOTALS CARRIED TO GENERAL SUMMARY										120	2525	93656	2807	60	103	10	66	37	10	8	5

RIC-30-9.26



PLAN



Ⓐ MINIMUM COVER: 10.34'
Ⓑ MAXIMUM COVER: 12.11'

PROFILE ALONG CULVERT
STA. 687+49

LEGEND

SEEDING AND EROSION PROTECTION WITH TURF REINFORCING MAT, TYPE 2

PROJECT BORING LOCATION

ROCK CHANNEL PROTECTION

HYDRAULIC DATA

DRAINAGE AREA = 499 ACRES
Q (50) = 381 CFS V (50) = 13.5 FT/S
Q (100) = 443 CFS V (100) = 15.7 FT/S
DESIGN SERVICE LIFE: 75 YRS
ph: 7.7
ABRASION LEVEL 3

EXISTING STRUCTURE

TYPE: 78" CMP
SKEW: 0° 43' 48"
ALIGNMENT: TANGENT
DATE BUILT: 1956
CULVERT FILE NUMBER: 1874368
COORDINATES: LATITUDE N40°46'45"
LONGITUDE W82°29'29"

PROPOSED STRUCTURE

TYPE: CONDUIT, BORED OR JACKED, 78" TYPE A
ALIGNMENT: TANGENT
CULVERT FILE NUMBER: 1981075
COORDINATES: LATITUDE N40°46'45"
LONGITUDE W82°29'29"

QUANTITIES CARRIED TO SHEETS 380-383.

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
601	33.1	CY	ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC
602	6.74	CY	CONCRETE MASONRY
611	234	FT	CONDUIT, BORED OR JACKED, 78", TYPE A

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED JGL CHECKED JJM

CULVERT DETAIL - U.S. 30 STA 687+49

RIC-30-9.26

950
1669

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162		02/NHS/PV						
36	42	44	34	38	38	38	28	22	12				332	625	00450	332	EACH	CONNECTION, FUSED PULL APART	
9	6	3	6	3	6	9	6	3	6				57	625	00470	57	EACH	CONNECTION, UNFUSED BOLTED	
9	12	12	15	6	3	15	30	51	21				174	625	00480	174	EACH	CONNECTION, UNFUSED PERMANENT	
	8	1				1							10	625	10490	10	EACH	LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT12B40	
4	4	2	8	3		1	7	8	2				39	625	10490	39	EACH	LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT15B40	
	2					3	3	3	4				15	625	10490	15	EACH	LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT18B40	
			7										7	625	10490	7	EACH	LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT20B40	
10	7	19	2	16	11	6	4						75	625	10494	75	EACH	LIGHT POLE, LOW MAST, DESIGN ALM40	
4													4	625	10494	4	EACH	LIGHT POLE, LOW MAST, DESIGN ATLM40	
				4	4		4						12	625	10614	12	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE	
8	14	3	15	3		5	10	11	6				75	625	14100	75	EACH	LIGHT POLE FOUNDATION, 24" X 8' DEEP	
10	7	19	2	15	10	6	3						72	625	14300	72	EACH	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP	
6,507	3,537	10,605	2,049	9,078	11,274	3,387	4,722	2,064	2,646				55,869	625	23200	55,869	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
2,340	3,096	2,766	2,820	2,415	2,520	2,811	2,157	1,842	1,026				23,793	625	23400	23,793	FT	NO. 10 AWG POLE AND BRACKET CABLE	
1,510	2,034	317	1,896	470	187	2,363	1,344	2,700	1,246				14,067	625	24320	14,067	FT	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	
227	84	176	242	167	51	144	292	608	285				2,276	625	25500	2,276	FT	CONDUIT, 3", 725.04	
										1,734	199		1,933	625	25910	1,933	FT	CONDUIT CLEANED AND CABLES REMOVED	
4	14	3	15	3		13	10	11	6				79	625	26253	79	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, 130W, TYPE III, 480V	1149
14	7	19	2	16	11	6	4						79	625	26273	79	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, 209W, TYPE V, 480V	1149
					8								8	625	26273	8	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, 319W, TYPE V, 480V	1149
									8				8	625	27503	8	EACH	LUMINAIRE, UNDERPASS, SOLID STATE (LED), AS PER PLAN, 39W, TYPE III, 480V	1149
1,632	1,869	453	1,988	592	228	2,357	1,521	3,143	1,466				15,249	625	29000	15,249	FT	TRENCH	
				2	2		3						7	625	29910	7	EACH	TRANSITION JUNCTION BOX	
2	1	1	2	1	2	2	2	1	2				16	625	29930	16	EACH	MEDIAN JUNCTION BOX	
3			3	2	1	1	2	5	1				18	625	30700	18	EACH	PULL BOX, 725.08, 18"	
	2	2	2			1	4	6	3				20	625	30706	20	EACH	PULL BOX, 725.08, 24"	
										3			3	625	31510	3	EACH	PULL BOX REMOVED	
18	21	22	17	18	11	11	13	11	6				148	625	32000	148	EACH	GROUND ROD	
				1	1		2						4	625	33000	4	EACH	STRUCTURE GROUNDING SYSTEM	
1				1	1	1		2					6	625	34001	6	EACH	POWER SERVICE, AS PER PLAN	1149
1,632	1,869	453	1,988	592	228	2,357	1,521	3,143	1,466				15,249	625	36000	15,249	FT	PLASTIC CAUTION TAPE	
									4				4	625	37100	4	EACH	SERVICE TO UNDERPASS LIGHTING	
										2	2		4	625	39520	4	EACH	PULL BOX CLEANED	
													LS	SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	1149
										8	13		21	625	75400	21	EACH	LIGHT POLE REMOVED	
										8	13		21	625	75500	21	EACH	LIGHT POLE FOUNDATION REMOVED	
										44	47		91	625	75506	91	EACH	LUMINAIRE REMOVED	
										1			1	625	75510	1	EACH	POWER SERVICE REMOVED	
										20	13		33	625	75801	33	EACH	DISCONNECT CIRCUIT, AS PER PLAN	1149
1				1	1	1		2					6	625	76000	6	EACH	ARC FLASH CALCULATIONS AND LABEL, FOR EACH POWER SERVICE	1149
											4		4	625	98000	4	EACH	LIGHTING, MISC.: SERVICE TO UNDERPASS LIGHTING, REMOVED	1149

CALCULATED TRL
CHECKED JCS

LIGHTING GENERAL SUMMARY

RIC-30-9.26

1150
1669

Z:\2014 proj\14-003-01 RIC-30 Lighting\CAD\Projects\RIC\93455\lighting\sheets\93455LG001.dgn 27-MAR-2020 11:20AM JordanS

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	CIRCUIT NODES	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTION, UNFUSED BOLTED	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT15B40	625 LIGHT POLE, LOW MAST, LIGHT POLE, LOW MAST, DESIGN ALM40	625 LIGHT POLE, LOW MAST, DESIGN ATLM40	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 MEDIAN LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 NO. 4 AWG 2400 VOLT DISTIRBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 LUMINAIRE, CONV., SOLID STATE (LED), APP, 130W, TYPE III, 480V	625 LUMINAIRE, LOW MAST, SOLID STATE (LED), APP, 209W, TYPE V, 480V	625 TRENCH	625 PULL BOX, 725.08, 18"	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 POWER SERVICE, AS PER PLAN	625 PLASTIC CAUTION TAPE	625 ARC FLASH CALCULATIONS AND LABEL					
				* = MATCH LINE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	FT	EACH					
1174	LT	U.S. 30	STA. 489+30.6	AA-25	2					1	1			120				1				1							
1174	LT	U.S. 30	STA. 489+30.6 TO STA. 490+07.0	AA-25 TO AA-24											187				177					177					
1174	LT	U.S. 30	STA. 490+07.0	AA-24	2					1	1			120				1				1							
1174	LT	U.S. 30	STA. 490+07.0 TO STA. 492+83.1	AA-24 TO AA-23											186				176					176					
1174	LT	U.S. 30	STA. 492+83.1	AA-23	2					1	1			120				1				1							
1174	LT	U.S. 30	STA. 492+83.1 TO STA. 494+58.6	AA-23 TO AA-22											185				175					175					
1174	LT	U.S. 30	STA. 494+58.6	AA-22	2					1	1			120				1				1							
1174	LT	U.S. 30	STA. 494+58.6 TO STA. 495+03.7	AA-22 TO MJB-2											58				48					48					
1174	LT	U.S. 30	STA. 495+03.7	MJB-2			3														1								
1174	LT	U.S. 30	STA. 495+03.7 TO STA. 496+36.8	MJB-2 TO AA-21									432																
1174	LT	U.S. 30	STA. 496+36.8	AA-21	2				1			1		120				1				1							
1174	LT	U.S. 30	STA. 496+36.8 TO STA. 498+11.9	AA-21 TO AA-20									555																
1174	LT	U.S. 30	STA. 498+11.9	AA-20	2				1			1		120				1				1							
1174	LT	U.S. 30	STA. 498+11.9 TO STA. 499+86.1	AA-20 TO AA-19									552																
1174	LT	U.S. 30	STA. 499+86.1	AA-19	2				1			1		120				1				1							
1174	LT	U.S. 30	STA. 499+86.1 TO STA. 501+00	AA-19 TO *									357																
1175	LT	U.S. 30	STA. 501+00 TO STA. 501+11.9	* TO AA-18									201																
1175	LT	U.S. 30	STA. 501+11.9	AA-18	2				1			1		120				1				1							
1175	LT/℄	U.S. 30	STA. 501+11.9 TO STA. 503+56.7	AA-18 TO AA-17									558																
1175	℄	U.S. 30	STA. 503+56.7	AA-17	2				1			1		120				1				1							
1175	℄	U.S. 30	STA. 503+56.7 TO STA. 505+36.7	AA-17 TO AA-16									627																
1175	℄	U.S. 30	STA. 505+36.7	AA-16	2				1			1		120				1				1							
1175	℄	U.S. 30	STA. 505+36.7 TO STA. 507+89.7	AA-16 TO AA-15									489																
1175	℄	U.S. 30	STA. 507+89.7	AA-15	2				1			1		120				1				1							
1175	℄	U.S. 30	STA. 507+89.7 TO STA. 509+85.0	AA-15 TO AA-14									555																
1175	℄	U.S. 30	STA. 509+85.0	AA-14	2				1			1		120				1				1							
1175	℄	U.S. 30	STA. 509+85.0 TO STA. 510+81.0	AA-14 TO AA-13									678																
1175	℄	U.S. 30	STA. 510+81.0	AA-13	2				1			1		120				1				1							
1175	℄	U.S. 30	STA. 510+81.0 TI STA. 511+84.4	AA-13 TO MJB-1									339																
1175	℄	U.S. 30	STA. 511+84.4	MJB-1			6														1								
1175	℄	U.S. 30	STA. 511+84.4 TO STA. 512+21.4	MJB-1 TO AA-12									141																
1175	℄	U.S. 30	STA. 512+21.4	AA-12	2				1			1		120				1				1							
1175	℄	U.S. 30	STA. 512+21.4 TO STA. 513.00	AA-12 TO *									252																
1175	℄/RT	US 30 / RAMP A	STA. 511+84.4 TO STA. 6+62.8	MJB-1 TO PB-3									264			78			78					78					
1175	RT	RAMP A	STA. 6+62.8	PB-3		3														1									
1175	RT	RAMP A	STA. 6+62.8 TO STA. 7+79.9	PB-3 TO *											124				119					119					
1175	℄/LT	US 30 / RAMP D	STA. 511+84.4 TO STA. 9+91.9	MJB-1 TO PB-2									279			83			83					83					
1175	LT	RAMP D	STA. 9+91.9	PB-2		3														1									
1175	LT	RAMP D	STA. 9+91.9 TO STA. 11+08.8	PB-2 TO *											124				119					119					
1176	LT	RAMP D	STA. 11+08.8 TO STA. 11+50.9	* TO AA-4											45				40					40					
1176	LT	RAMP D	STA. 11+50.9	AA-4	2			1			1			165			1					1							
1176	LT	RAMP D	STA. 11+50.9 TO STA. 13+41.4	AA-4 TO AA-3											200				190					190					
1176	LT	RAMP D	STA. 13+41.4	AA-3	2			1			1			165			1					1							
1176	LT	RAMP D	STA. 13+41.4 TO STA. 14+97.1	AA-3 TO AA-2											166				156					156					
1176	LT	RAMP D	STA. 14+97.1	AA-2	2			1			1			165			1					1							
1176	LT	RAMP D	STA. 14+97.1 TO STA. 16+47.2	AA-2 TO AA-1											113				103					103					
1176	LT	RAMP D	STA. 16+47.2	AA-1	2			1			1			165			1					1							
1176	LT	RAMP D	STA. 16+47.2 TO STA. 16+40.3	AA-1 TO P.S. 'A'											60				50					50					
1176	LT	RAMP D	STA. 16+40.3	PWR SVC 'A'																			1		1				
1176	LT	RAMP D	STA. 16+40.3 TO STA. 16+92.0	P.S. 'A' TO PB-1											62				52					52					
1176	LT	RAMP D	STA. 16+92.0	PB-1		3														1									
1176	LT/RT	RAMP D / RAMP B	STA. 16+92.0 TO STA. 23+34.0	PB-1 TO PB-4									228			66			66					66					
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY					**36**	**9**	**9**	**4**	**10**	**4**	**8**	**10**	**6507**	**2340**	**1510**	**227**	**4**	**14**	**1632**	**3**	**2**	**18**	**1**	**1632**					

CALCULATED TRL CHECKED JCS

LIGHTING SUBSUMMARY

RIC-30-9.26

1151
1669

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	CIRCUIT NODES	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTION, UNFUSED BOLTED	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT12B40	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT15B40	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT18B40	625 LIGHT POLE, LOW MAST, DESIGN ALM40	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 MEDIAN LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 LUMINAIRE, CONV., SOLID STATE (LED), APP, 130W, TYPE III, 480V	625 LUMINAIRE, LOW MAST, SOLID STATE (LED), APP, 209W, TYPE V, 480V	625 TRENCH	625 PULL BOX, 725.08, 24"	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 PLASTIC CAUTION TAPE						
				* = MATCH LINE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	FT						
1176	RT	RAMP B	STA. 23+34.0	PB-4		6																1								
1176	RT	RAMP B	STA. 23+34.0 TO STA. 23+28.4	PB-4 TO AB-1												25				15				15						
1176	RT	RAMP B	STA. 23+28.4	AB-1	2			1				1			156			1					1							
1176	RT	RAMP B	STA. 23+34.0 TO STA. 22+56.3	PB-4 TO AB-2												105				95				95						
1176	RT	RAMP B	STA. 22+56.3	AB-2	2			1				1			156			1					1							
1176	RT	RAMP B	STA. 22+56.3 TO STA. 21+46.3	AB-2 TO AB-3												120				110				110						
1176	RT	RAMP B	STA. 21+46.3	AB-3	2			1				1			156			1					1							
1176	RT	RAMP B	STA. 21+46.3 TO STA. 20+05.3	AB-3 TO AB-4												151				141				141						
1176	RT	RAMP B	STA. 20+05.3	AB-4	2			1				1			156			1					1							
1176	RT	RAMP B	STA. 20+05.3 TO STA. 18+59.6	AB-4 TO AB-5												156				146				146						
1176	RT	RAMP B	STA. 18+59.6	AB-5	2			1				1			156			1					1							
1176	RT	RAMP B	STA. 18+59.6 TO STA. 17+55.8	AB-5 TO *												107				102				102						
1176	℄	U.S. 30	STA. 513+00 TO STA. 513+98.2	* TO AA-11										324																
1176	℄	U.S. 30	STA. 513+98.2	AA-11	2						1		1		120				1				1							
1176	℄	U.S. 30	STA. 513+98.2 TO STA. 515+73.8	AA-11 TO AA-10										558																
1176	℄	U.S. 30	STA. 515+73.8	AA-10	2						1		1		120				1				1							
1176	℄	U.S. 30	STA. 515+73.8 TO STA. 517+51.2	AA-10 TO AA-9										561																
1176	℄	U.S. 30	STA. 517+51.2	AA-9	2						1		1		120				1				1							
1176	℄	U.S. 30	STA. 519+30.5	AB-12	2						1		1		120				1				1							
1176	℄	U.S. 30	STA. 519+30.5 TO STA. 521+07.0	AB-12 TO AB-13										558																
1176	℄	U.S. 30	STA. 521+07.0	AB-13	2						1		1		120				1				1							
1176	℄	U.S. 30	STA. 521+07.0 TO STA. 522+84.1	AB-13 TO AB-14										561																
1176	℄	U.S. 30	STA. 522+84.1	AB-14	2						1		1		120				1				1							
1176	℄	U.S. 30	STA. 522+84.1 TO STA. 524+62.4	AB-14 TO AB-15										564																
1176	℄	U.S. 30	STA. 524+62.4	AB-15	2						1		1		120				1				1							
1176	℄	U.S. 30	STA. 524+62.4 TO STA. 525+00	AB-15 TO *										129																
1176	RT	RAMP A	STA. 7+79.9 TO STA. 8+28.5	* TO AA-5												52				47				47						
1176	RT	RAMP A	STA. 8+28.5	AA-5	2				1			1			165			1					1							
1176	RT	RAMP A	STA. 8+28.5 TO STA. 10+12.5	AA-5 TO AA-6												194				184				184						
1176	RT	RAMP A	STA. 10+12.5	AA-6	2					1		1			174			1					1							
1176	RT	RAMP A	STA. 10+12.5 TO STA. 11+61.2	AA-6 TO AA-7												159				149				149						
1176	RT	RAMP A	STA. 11+61.2	AA-7	2			1				1			156			1					1							
1176	RT	RAMP A	STA. 11+61.2 TO STA. 12+53.6	AA-7 TO AA-8												103				93				93						
1176	RT	RAMP A	STA. 12+53.6	AA-8	2			1				1			156			1					1							
1176	LT	RAMP C	STA. 26+26.4	AB-11	2			1				1			156			1					1							
1176	LT	RAMP C	STA. 26+26.4 TO STA. 24+84.4	AB-11 TO AB-10												152				142				142						
1176	LT	RAMP C	STA. 24+84.4	AB-10	2				1			1			165			1					1							
1176	LT	RAMP C	STA. 24+84.4 TO STA. 23+36.7	AB-10 TO AB-9												160				150				150						
1176	LT	RAMP C	STA. 23+36.7	AB-9	2				1			1			165			1					1							
1176	LT	RAMP C	STA. 23+36.7 TO STA. 21+49.4	AB-9 TO AB-8												197				187				187						
1176	LT	RAMP C	STA. 21+49.4	AB-8	2				1			1			165			1					1							
1176	LT	RAMP C	STA. 21+49.4 TO STA. 20+85.0	AB-8 TO *												68				63				63						
1177	RT	RAMP B	STA. 17+55.8 TO STA. 17+11.0	* TO PB-5												57				52				52						
1177	RT	RAMP B	STA. 17+11.0	PB-5		6															1									
1177	RT	RAMP B	STA. 17+11.0 TO STA. 16+48.6	PB-5 TO AB-6												72				62				62						
1177	RT	RAMP B	STA. 16+48.6	AB-6	2					1		1			174			1					1							
1177	RT/℄	RAMP B / US 30	STA. 17+11.0 TO STA. 525+47.4	PB-5 TO MJB-3										282			84			84				84						
1177	℄	U.S. 30	STA. 525+47.4	MJB-3			6															1								
1177	℄	U.S. 30	STA. 525+00 TO STA. 525+47.4	* TO MJB-3												156				47				47						
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY					42	12	6	8	4	2	7	14	7	3537	3096	2034	84	14	7	1869	2	1	21	1869						

CALCULATED TRL CHECKED JCS

LIGHTING SUBSUMMARY

RIC-30-9.26

1152
1669

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	CIRCUIT NODES	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTION, UNFUSED BOLTED	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT12B40	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT15B40	625 LIGHT POLE, LOW MAST, DESIGN ALM40	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 MEDIAN LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 NO. 4 AWG 2400 VOLT DISTIRBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 LUMINAIRE, CONV., SOLID STATE (LED), APP, 130W, TYPE III, 480V	625 LUMINAIRE, LOW MAST, SOLID STATE (LED), APP, 209W, TYPE V, 480V	625 TRENCH	625 PULL BOX, 725.08, 24"	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 PLASTIC CAUTION TAPE
				* = MATCH LINE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	FT
1177	℄	U.S. 30	STA. 525+47.4 TO STA. 526+41.1	MJB-3 TO AB-16									312										
1177	℄	U.S. 30	STA. 526+41.1	AB-16	2					1		1		120				1				1	
1177	℄	U.S. 30	STA. 526+41.1 TO STA. 528+17.5	AB-16 TO AB-17									555										
1177	℄	U.S. 30	STA. 528+17.5	AB-17	2					1		1		120				1				1	
1177	℄	U.S. 30	STA. 528+17.5 TO STA. 529+95.5	AB-17 TO AB-18									567										
1177	℄	U.S. 30	STA. 529+95.5	AB-18	2					1		1		120				1				1	
1177	℄	U.S. 30	STA. 529+95.5 TO STA. 531+74.1	AB-18 TO AB-19									564										
1177	℄	U.S. 30	STA. 531+74.1	AB-19	2					1		1		120				1				1	
1177	℄	U.S. 30	STA. 531+74.1 TO STA. 533+51.4	AB-19 TO AB-20									561										
1177	℄	U.S. 30	STA. 533+51.4	AB-20	2					1		1		120				1				1	
1177	℄	U.S. 30	STA. 533+51.4 TO STA. 535+29.3	AB-20 TO AB-21									564										
1177	℄	U.S. 30	STA. 535+29.3	AB-21	2					1		1		120				1				1	
1177	℄	U.S. 30	STA. 535+29.3 TO STA. 537+00	AB-21 TO *									525										
1177	℄/RT	US 30 / RAMP C	STA. 525+47.4 TO STA. 20+33.1	MJB-3 TO PB-6									294			88			88				88
1177	RT	RAMP C	STA. 20+33.1	PB-6		6														1			
1177	RT	RAMP C	STA. 20+85.0 TO STA. 20+33.1	* TO PB-6											59				54				54
1177	RT	RAMP C	STA. 20+33.1 TO STA. 19+71.9	PB-6 TO AB-7											71				61				61
1177	RT	RAMP C	STA. 19+71.9	AB-7	2			1			1			156			1					1	
1178	℄	U.S. 30	STA. 537+00 TO STA. 537+06.7	* TO AB-22									51										
1178	℄	U.S. 30	STA. 537+06.7	AB-22	2					1		1		120				1				1	
1178	℄	U.S. 30	STA. 537+06.7 TO STA. 538+85.0	AB-22 TO AB-23									564										
1178	℄	U.S. 30	STA. 538+85.0	AB-23	2					1		1		120				1				1	
1178	℄	U.S. 30	STA. 538+85.0 TO STA. 540+62.5	AB-23 TO AB-24									564										
1178	℄	U.S. 30	STA. 540+62.5	AB-24	2					1		1		120				1				1	
1178	℄	U.S. 30	STA. 540+62.5 TO STA. 542+39.3	AB-24 TO AB-25									558										
1178	℄	U.S. 30	STA. 542+39.3	AB-25	2					1		1		120				1				1	
1178	℄	U.S. 30	STA. 542+39.3 TO STA. 544+18.0	AB-25 TO AB-26									567										
1178	℄	U.S. 30	STA. 544+18.0	AB-26	2					1		1		120				1				1	
1178	℄	U.S. 30	STA. 544+18.0 TO STA. 545+95.9	AB-26 TO AB-27									564										
1178	℄	U.S. 30	STA. 545+95.9	AB-27	2					1		1		120				1				1	
1178	℄	U.S. 30	STA. 545+95.9 TO STA. 547+75.6	AB-27 TO AB-28									570										
1178	℄	U.S. 30	STA. 547+75.6	AB-28	2					1		1		120				1				1	
1179	℄	U.S. 30	STA. 549+87.5	BD-25	2					1		1		120				1				1	
1179	℄	U.S. 30	STA. 549+87.5 TO STA. 551+77.9	BD-25 TO BD-24									600										
1179	℄	U.S. 30	STA. 551+77.9	BD-24	2					1		1		120				1				1	
1179	℄	U.S. 30	STA. 551+77.9 TO STA. 553+84.8	BD-24 TO BD-23									648										
1179	℄	U.S. 30	STA. 553+84.8	BD-23	2					1		1		120				1				1	
1179	℄	U.S. 30	STA. 553+84.8 TO STA. 555+60.3	BD-23 TO BD-22									558										
1179	℄	U.S. 30	STA. 555+60.3	BD-22	2					1		1		120				1				1	
1179	℄	U.S. 30	STA. 555+60.3 TO STA. 557+37.5	BD-22 TO BD-21									561										
1179	℄	U.S. 30	STA. 557+37.5	BD-21	2					1		1		120				1				1	
1179	℄	U.S. 30	STA. 557+37.5 TO STA. 558+20.0	BD-21 TO MJB-4									276										
1179	℄	U.S. 30	STA. 558+20.0	MJB-4			3														1		
1179	℄	U.S. 30	STA. 558+20.0 TO STA. 558+92.1	MJB-4 TO BD-20									249										
1179	℄	U.S. 30	STA. 558+92.1	BD-20	2					1		1		120				1				1	
1179	℄	U.S. 30	STA. 558+92.1 TO STA. 559+00	BD-20 TO *									39										
1179	℄/LT	US 30 / RAMP HL	STA. 558+20.0 TO STA. 458+28.7	MJB-4 TO PB-7									294			88			88				88
1179	LT	RAMP HL	STA. 458+28.7	PB-7		6														1			
1179	LT	RAMP HL	STA. 458+28.7 TO STA. 457+33.7	PB-7 TO BD-9											103				93				93
1179	LT	RAMP HL	STA. 457+33.7	BD-9	2				1		1			165			1					1	
		RAMP HL																					
1179	LT	RAMP HL	STA. 458+28.7 TO STA. 458+70.1	PB-7 TO BD-8											50				40				40
1179	LT	RAMP HL	STA. 458+70.1	BD-8	2				1		1			165			1					1	
1179	LT	RAMP HL	STA. 458+70.1 TO STA. 459+00	BD-8 TO *											34				29				29
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY					44	12	3	1	2	19	3	19	10605	2766	317	176	3	19	453	2	1	22	453

CALCULATED TRL
CHECKED JCS

LIGHTING SUBSUMMARY

RIC-30-9.26

1153
1669

Z:\2014 proj\14-003-01 RIC-30 Lighting\CAD\Projects\RIC\93455\lighting\sheets\93455LS003.dgn 27-MAR-2020 11:20AM JordanS

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	CIRCUIT NODES	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTION, UNFUSED BOLTED	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT15B40	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT20B40	625 LIGHT POLE, LOW MAST, DESIGN ALM40	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 MEDIAN LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 NO. 4 AWG 2400 VOLT DISTIRBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 LUMINAIRE, CONV., SOLID STATE (LED), APP, 130W, TYPE III, 480V	625 LUMINAIRE, LOW MAST, SOLID STATE (LED), APP, 209W, TYPE V, 480V	625 TRENCH	625 PULL BOX, 725.08, 18"	625 PULL BOX, 725.08, 24"	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 PLASTIC CAUTION TAPE
				* = MATCH LINE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	FT
1180	LT	RAMP HL	STA. 459+00 TO STA. 460+86.7	* TO BD-7											184				179					179
1180	LT	RAMP HL	STA. 460+86.7	BD-7	2			1			1			165			1						1	
1180	℄	U.S. 30	STA. 559+00.1 TO STA. 560+89.6	* TO BD-19									600											
1180	℄	U.S. 30	STA. 560+89.6	BD-19	2					1		1		120				1					1	
1180	℄	U.S. 30	STA. 560+89.6 TO STA. 561+83.6	BD-19 TO MJB-5									312											
1180	℄	U.S. 30	STA. 561+83.6	MJB-5			3															1		
1180	℄	U.S. 30	STA. 561+83.6 TO STA. 562+39.2	MJB-5 TO MJB-6									198											
1180	℄	U.S. 30	STA. 562+39.2	MJB-6			3															1		
1180	℄	U.S. 30	STA. 562+39.2 TO STA. 562+60.4	MJB-6 TO BD-18									93											
1180	℄	U.S. 30	STA. 562+60.4	BD-18	2					1		1		120				1					1	
1180	℄/RT	U.S. 30	STA. 561+83.6 TO STA. 561+88.9	MJB-5 TO PB-12									201			57			57					57
1180	RT	U.S. 30	STA. 561+88.9	PB-12																1				
1180	RT	US 30 / RAMP G	STA. 561+88.9 TO STA. 361+95.6	PB-12 TO PB-13									204			58			58					58
1180	RT	RAMP G	STA. 361+95.6	PB-13		6															1			
1180	RT	RAMP G	STA. 361+95.6 TO STA. 360+67.7	PB-13 TO BD-10											136				126					126
1180	RT	RAMP G	STA. 360+67.7	BD-10	2				1		1			180			1						1	
1180	RT	RAMP G	STA. 361+95.6 TO STA. 362+49.7	PB-13 TO BD-11											63				53					53
1180	RT	RAMP G	STA. 362+49.7	BD-11	2				1		1			180			1						1	
1180	RT	RAMP G	STA. 362+49.7 TO STA. 363+91.8	BD-11 TO BD-12											149				139					139
1180	RT	RAMP G	STA. 363+91.8	BD-12	2				1		1			180			1						1	
1180	RT	RAMP G	STA. 363+91.8 TO STA. 365+30.4	BD-12 TO BD-13											146				136					136
1180	RT	RAMP G	STA. 365+30.4	BD-13	2				1		1			180			1						1	
1180	RT	RAMP G	STA. 365+30.4 TO STA. 366+71.6	BD-13 TO BD-14											151				141					141
1180	RT	RAMP G	STA. 366+71.6	BD-14	2				1		1			180			1						1	
1180	RT	RAMP G	STA. 366+71.6 TO STA. 368+16.6	BD-14 TO BD-15											160				150					150
1180	RT	RAMP G	STA. 368+16.6	BD-15	2			1			1			165			1						1	
1180	RT	RAMP G	STA. 368+16.6 TO STA. 369+66.9	BD-15 TO BD-16											170				160					160
1180	RT	RAMP G	STA. 369+66.9	BD-16	2			1			1			165			1						1	
1180	RT	RAMP G	STA. 369+66.9 TO STA. 371+07.2	BD-16 TO BD-17											158				148					148
1180	RT	RAMP G	STA. 371+07.2	BD-17	2				1		1			180			1						1	
1180	RT	RAMP I	STA. 170+49.9	CE-30	2				1		1			180			1						1	
1180	RT	RAMP I	STA. 170+49.9 TO STA. 171+00	CE-30 TO *											55				50					50
1180	℄/RT	US 30 / RAMP HR	STA. 562+39.2 TO STA. 262+51.2	MJB-6 TO PB-11									225			65			65					65
1180	RT	RAMP HR	STA. 262+51.2	PB-11																1				
1180	RT/LT	RAMP HR	STA. 262+51.2 TO STA. 262+32.2	PB-11 TO PB-10									216			62			62					62
1180	LT	RAMP HR	STA. 262+32.2	PB-10		3														1				
1180	LT	RAMP HR	STA. 262+32.2 TO STA. 262+14.3	PB-10 TO BD-5											27				17					17
1180	LT	RAMP HR	STA. 262+14.3	BD-5	2			1			1			165			1						1	
1180	LT	RAMP HR	STA. 262+14.3 TO STA. 261+20.9	BD-5 TO BD-4											96				86					86
1180	LT	RAMP HR	STA. 261+20.9	BD-4	2			1			1			165			1						1	
1180	LT	RAMP HR	STA. 261+20.9 TO STA. 259+90.6	BD-4 TO BD-3											110				100					100
1180	LT	RAMP HR	STA. 259+90.6	BD-3	2			1			1			165			1						1	
1180	LT/RT	RAMP HR/RAMP H	STA. 259+90.6 TO STA. 463+87.7	BD-3 TO BD-2											142				132					132
1180	RT	RAMP H	STA. 463+87.7	BD-2	2			1			1			165			1						1	
1180	RT	RAMP H	STA. 463+87.7 TO STA. 464+97.0	BD-2 TO PB-9											113				103					103
1180	RT	RAMP H	STA. 464+97.0	PB-9		6															1			
1180	RT	RAMP H	STA. 464+97.0 TO STA. 465+22.9	PB-9 TO BD-1											36				26					26
1180	RT	RAMP H	STA. 465+22.9	BD-1	2			1			1			165			1						1	
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY					34	15	6	8	7	2	15	2	2049	2820	1896	242	15	2	1988	3	2	2	17	1988

CALCULATED TRL
CHECKED JCS

LIGHTING SUBSUMMARY

RIC-30-9.26

1154
1669

Z:\2014 proj\14-003-01 RIC-30 Lighting\CAD\Projects\RIC\93455\lighting\sheets\93455LS004.dgn 27-MAR-2020 11:20AM JordanS

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	CIRCUIT NODES	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTION, UNFUSED BOLTED	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN ATI5B40	625 LIGHT POLE, LOW MAST, DESIGN ALM40	625 LIGHT POLE ANCHOR BOLTS ON STRUCTURE	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 MEDIAN LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 NO. 4 AWG 2400 VOLT DISTIRBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 LUMINAIRE, CONV., SOLID STATE (LED), APP, 130W, TYPE III, 480V	625 LUMINAIRE, LOW MAST, SOLID STATE (LED), APP, 209W, TYPE V, 480V	625 TRENCH	625 PULL BOX, 725.08, 18"	625 TRANSITION JUNCTION BOX	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 POWER SERVICE, AS PER PLAN	625 PLASTIC CAUTION TAPE	625 STRUCTURE GROUNDING SYSTEM	625 ARC FLASH CALCULATIONS AND LABEL			
				* = MATCH LINE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH	FT	EACH	EACH			
1180	RT/LT	RAMP H	STA. 464+97.0 TO STA. 464+97.0	PB-9 TO PB-8									258			76			76						76					
1180	LT	RAMP H	STA. 464+97.0	PB-8		3														1										
1180	LT	RAMP H	STA. 494+97.0 TO STA. 465+21.7	PB-8 TO BD-6											35				25						25					
1180	LT	RAMP H	STA. 465+21.7	BD-6	2			1			1			165			1						1							
1180	RT	RAMP H	STA. 464+97.0 TO STA. 463+27.5	PB-9 TO P.S. 'B'											156				146						146					
1180	RT	RAMP H	STA. 463+27.5	PWR SVC 'B'																				1			1			
1180	℄	U.S. 30	STA. 564+44.9	CE-27	2				1			1		120				1					1							
1180	℄	U.S. 30	STA. 564+44.9 TO STA. 566+23.1	CE-27 TO CE-26									564																	
1180	℄	U.S. 30	STA. 566+23.1	CE-26	2				1			1		120				1					1							
1180	℄	U.S. 30	STA. 566+23.1 TO STA. 566+78.1	CD-26 TO TJB-8									195																	
1180	℄	U.S. 30	STA. 566+78.1	TJB-8																		1								
1180	℄	U.S. 30	STA. 566+78.1 TO STA. 567+98.5	TJB-8 TO CE-25									390																	
1180	℄	U.S. 30	STA. 567+98.5	CE-25	2				1	4				120				1												
1180	℄	U.S. 30	STA. 567+98.5 TO STA. 568+92.6	CE-25 TO TJB-9									312																	
1180	℄	U.S. 30	STA. 568+92.6	TJB-9																		1								
1180	℄	U.S. 30	STA. 568+92.6 TO STA. 569+75.0	TJB-9 TO CE-24									276																	
1180	℄	U.S. 30	STA. 569+75.0	CE-24	2				1			1		120				1					1							
1180	℄	U.S. 30	STA. 569+75.0 TO STA. 571+00	CE-24 TO *									393																	
1180	℄	U.S. 30	STA. 567+00	STRUCTURE																						1				
1181	℄	U.S. 30	STA. 571+00 TO STA. 571+51.8	* TO CE-23									171																	
1181	℄	U.S. 30	STA. 571+51.8	CE-23	2				1			1		120				1					1							
1181	℄	U.S. 30	STA. 571+51.8 TO STA. 573+29.3	CE-23 TO CE-22									564																	
1181	℄	U.S. 30	STA. 573+29.3	CE-22	2				1			1		120				1					1							
1181	℄	U.S. 30	STA. 573+29.3 TO STA. 573+68.3	CE-22 TO MJB-7									147																	
1181	℄	U.S. 30	STA. 573+68.3	MJB-7			3																1							
1181	℄	U.S. 30	STA. 573+68.3 TO STA. 575+09.1	MJB-7 TO CE-21									453																	
1181	℄	U.S. 30	STA. 575+09.1	CE-21	2				1			1		120				1					1							
1181	℄	U.S. 30	STA. 575+09.1 TO STA. 576+85.6	CE-21 TO CE-20									561																	
1181	℄	U.S. 30	STA. 576+85.6	CE-20	2				1			1		120				1					1							
1181	℄	U.S. 30	STA. 576+85.6 TO STA. 578+61.7	CE-20 TO CE-19									558																	
1181	℄	U.S. 30	STA. 578+61.7	CE-19	2				1			1		120				1					1							
1181	℄	U.S. 30	STA. 578+61.7 TO STA. 580+39.0	CE-19 TO CE-18									561																	
1181	℄	U.S. 30	STA. 580+39.0	CE-18	2				1			1		120				1					1							
1181	℄	U.S. 30	STA. 580+39.0 TO STA. 581+00	CE-18 TO *									198																	
1181	RT	RAMP I	STA. 171+00 TO STA. 171+93.2	* TO CE-29											95				90						90					
1181	RT	RAMP I	STA. 171+93.2	CE-29	2			1			1			165			1						1							
1181	RT	RAMP I	STA. 171+93.2 TO STA. 173+36.6	CE-29 TO CE-28											149				139						139					
1181	RT	RAMP I	STA. 173+36.6	CE-28	2			1			1			165			1						1							
1181	RT	RAMP I	STA. 173+36.6 TO STA. 173+61.8	CE-28 TO PB-14											35				25						25					
1181	RT	RAMP I	STA. 173+61.8	PB-14		3														1										
1181	RT/℄	RAMP I / US 30	STA. 173+61.8 TO STA. 573+68.3	PB-14 TO MJB-7									303			91			91						91					
1182	℄	U.S. 30	STA. 581+00 TO STA. 582+42.5	* TO CE-17									441																	
1182	℄	U.S. 30	STA. 582+42.5	CE-17	2				1			1		120				1					1							
1182	℄	U.S. 30	STA. 582+42.5 TO STA. 583+80.0	CE-17 TO CE-16									441																	
1182	℄	U.S. 30	STA. 583+80.0	CE-16	2				1			1		120				1					1							
1182	℄	U.S. 30	STA. 583+80.0 TO STA. 585+70.5	CE-16 TO CE-15									600																	
1182	℄	U.S. 30	STA. 585+70.5	CE-15	2				1			1		120				1					1							
1182	℄	U.S. 30	STA. 585+70.5 TO STA. 587+13.6	CE-15 TO CE-14									459																	
1182	℄	U.S. 30	STA. 587+13.6	CE-14	2				1			1		120				1					1							
1182	℄	U.S. 30	STA. 587+13.6 TO STA. 588+52.0	CE-14 TO CE-13									444																	
1182	℄	U.S. 30	STA. 588+52.0	CE-13	2				1			1		120				1					1							
1182	℄	U.S. 30	STA. 588+52.0 TO STA. 590+86.2	CE-13 TO CE-12									732																	
1182	℄	U.S. 30	STA. 590+86.2	CE-12	2				1			1		120				1					1							
1182	℄	U.S. 30	STA. 590+86.2 TO STA. 591+00	CE-12 TO *									57																	
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY					38	6	3	3	16	4	3	15	9078	2415	470	167	3	16	592	2	2	1	18	1	592	1				

CALCULATED TRL CHECKED JCS

LIGHTING SUBSUMMARY

RIC-30-9.26

1155
1669

Z:\2014 proj\14-003-01 RIC-30 Lighting\CAD\Projects\RIC\93455\lighting\sheets\93455LS005.dgn 27-MAR-2020 11:20AM JordanS

LIGHTING SUBSUMMARY

CALCULATED TRL | CHECKED JCS

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	CIRCUIT NODES	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTION, UNFUSED BOLTED	625 LIGHT POLE, LOW MAST, DESIGN ALM40	625 MEDIAN LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 LIGHT POLE ANCHOR BOLTS ON STRUCTURE	625 NO. 4 AWG 2400 VOLT DISTIRBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 LUMINAIRE, LOW MAST, SOLID STATE (LED), APP, 209W, TYPE V, 480V	625 LUMINAIRE, LOW MAST, SOLID STATE (LED), APP, 319W, TYPE V, 480V	625 TRENCH	625 PULL BOX, 725.08, 18"	625 TRANSITION JUNCTION BOX	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 POWER SERVICE, AS PER PLAN	625 PLASTIC CAUTION TAPE	625 STRUCTURE GROUNDING SYSTEM	625 ARC FLASH CALCULATIONS AND LABEL					
				* = MATCH LINE	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH	FT	EACH	EACH					
1183	℄	U.S. 30	STA. 591+00 TO STA. 592+57.9	* TO CE-11							504																			
1183	℄	U.S. 30	STA. 592+57.9	CE-11	2			1	1			120			1						1									
1183	℄	U.S. 30	STA. 592+57.9 TO STA. 594+14.2	CE-11 TO CE-10							498																			
1183	℄	U.S. 30	STA. 594+14.2	CE-10	2			1	1			120			1						1									
1183	℄	U.S. 30	STA. 594+14.2 TO STA. 595+60.4	CE-10 TO CE-9							468																			
1183	℄	U.S. 30	STA. 595+60.4	CE-9	2			1	1			120			1						1									
1183	℄	U.S. 30	STA. 595+60.4 TO STA. 597+40.4	CE-9 TO CE-8							570																			
1183	℄	U.S. 30	STA. 597+40.4	CE-8	2			1	1			120			1						1									
1183	℄	U.S. 30	STA. 597+40.4 TO STA. 598+98.0	CE-8 TO CE-7							501																			
1183	℄	U.S. 30	STA. 598+98.0	CE-7	2			1	1			120			1						1									
1183	℄	U.S. 30	STA. 598+98.0 TO STA. 599+16.6	CE-7 TO TJB-2							87																			
1183	℄	U.S. 30	STA. 599+16.6	TJB-2																1										
1183	℄	U.S. 30	STA. 599+16.6 TO STA. 600+76.75	TJB-2 TO CE-6							510																			
1183	℄	U.S. 30	STA. 600+76.75	CE-6	2			1		4		120			1						1									
1183	℄	U.S. 30	STA. 600+76.75 TO STA. 600+87.0	CE-6 TO TJB-1							60																			
1183	℄	U.S. 30	STA. 600+87.0	TJB-1																1										
1183	℄	U.S. 30	STA. 600+87.0 TO STA. 601+65.5	TJB-1 TO MJB-8							264																			
1183	℄	U.S. 30	STA. 601+65.5	MJB-8			3														1									
1183	℄	U.S. 30	STA. 601+65.5 TO STA. 602+00	MJB-8 TO *							120																			
1183	℄	U.S. 30	STA. 599+50	STRUCTURE																						1				
1183	℄/LT	U.S. 30	STA. 601+65.5 TO STA. 601+64.2	MJB-8 TO PB-15							183			51			51							51						
1183	LT	U.S. 30	STA. 601+64.2	PB-15		3												1												
1183	LT	U.S. 30/BOWMAN	STA. 601+64.2 TO STA. 31+19.8	PB-15 TO P.S.'C'									187				177							177						
1183	LT	BOWMAN	STA. 31+19.8	PWR SVC 'C'																			1				1			
1184	℄	U.S. 30	STA. 602+00 TO STA. 602+51.4	* TO CE-5							168																			
1184	℄	U.S. 30	STA. 602+51.4	CE-5	2			1	1			120			1						1									
1184	℄/RT	U.S. 30	STA. 602+51.4 TO STA. 604+28.7	CE-5 TO CE-4							561																			
1184	RT	U.S. 30	STA. 604+28.7	CE-4	2			1	1			120			1						1									
1184	RT	U.S. 30	STA. 604+28.7 TO STA. 606+00.7	CE-4 TO CE-3							564																			
1184	RT	U.S. 30	STA. 606+00.7	CE-3	2			1	1			120			1						1									
1184	RT	U.S. 30	STA. 606+00.7 TO STA. 607+85.0	CE-3 TO CE-2							564																			
1184	RT	U.S. 30	STA. 607+85.0	CE-2	2			1	1			120			1						1									
1184	RT	U.S. 30	STA. 607+85.0 TO STA. 609+63.5	CE-2 TO CE-1							564																			
1184	RT	U.S. 30	STA. 609+63.5	CE-1	2			1	1			120			1						1									
1185	RT	U.S. 30	STA. 611+55.41	DG-19	2							150				1														
1185	RT	U.S. 30	STA. 611+55.41 TO STA. 613+70.51	DG-19 TO DG-18							675																			
1185	RT	U.S. 30	STA. 613+70.51	DG-18	2							150				1														
1185	RT	U.S. 30	STA. 613+70.51 TO STA. 615+96.51	DG-18 TO DG-17							708																			
1185	RT	U.S. 30	STA. 615+96.51	DG-17	2							150				1														
1185	RT	U.S. 30	STA. 615+96.51 TO STA. 618+21.43	DG-17 TO DG-16							705																			
1185	RT	U.S. 30	STA. 618+21.43	DG-16	2							150				1														
1185	RT	U.S. 30	STA. 618+21.43 TO STA. 620+23.33	DG-16 TO DG-15							633																			
1185	RT	U.S. 30	STA. 620+23.33	DG-15	2							150				1														
1185	RT	U.S. 30	STA. 620+23.33 TO STA. 622+66.85	DG-15 TO DG-14							759																			
1185	RT	U.S. 30	STA. 622+66.85	DG-14	2							150				1														
1185	RT	U.S. 30	STA. 622+66.85 TO STA. 623+00	DG-14 TO *							114																			
1186	RT	U.S. 30	STA. 623+00 TO STA. 624+22.00	* TO DG-13							384																			
1186	RT	U.S. 30	STA. 624+22.00	DG-13	2							150				1														
1186	RT	U.S. 30	STA. 624+22.00 TO STA. 625+60.39	DG-13 TO DG-12							444																			
1186	RT	U.S. 30	STA. 625+60.39	DG-12	2							150				1														
1186	RT	U.S. 30	STA. 625+60.39 TO STA. 626+70.7	DG-12 TO EX-TJB							360																			
1186	RT	U.S. 30	STA. 626+70.7	EX-TJB																										
1186	RT	U.S. 30	STA. 626+70.7 TO STA. 627+62.7	EX-TJB TO MJB-9							306																			
1186	RT	U.S. 30	STA. 627+62.7	MJB-9			3														1									
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY					38	3	6	11	10	4	11274	2520	187	51	11	8	228	1	2	2	11	1	228	1						

RIC-30-9.26

1156
1669

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	CIRCUIT NODES	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTION, UNFUSED BOLTED	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT12B40	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT15B40	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT18B40	625 LIGHT POLE, LOW MAST, DESIGN ALM40	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 MEDIAN LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 LUMINAIRE, CONV., SOLID STATE (LED), APP, 130W, TYPE III, 480V	625 LUMINAIRE, LOW MAST, SOLID STATE (LED), APP, 209W, TYPE V, 480V	625 TRENCH	625 PULL BOX, 725.08, 18"	625 PULL BOX, 725.08, 24"	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 POWER SERVICE, AS PER PLAN	625 PLASTIC CAUTION TAPE	625 ARC FLASH CALCULATIONS AND LABEL			
				* = MATCH LINE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH	FT	EACH			
1186	RT/LT	U.S. 30	STA. 627+62.7 TO STA. 627+63.8	MJB-9 TO MJB-8										90			20			20						20				
1186	LT	U.S. 30	STA. 627+63.8	MJB-8			3																	1						
1186	LT	U.S. 30	STA. 627+63.8 TO STA. 628+00.7	MJB-8 TO DG-8										141																
1186	LT	U.S. 30	STA. 628+00.7	DG-8	2						1		1		120				1						1					
1186	LT	U.S. 30	STA. 628+00.7 TO STA. 629+80.9	DG-8 TO DG-9										570																
1186	LT	U.S. 30	STA. 629+80.9	DG-9	2						1		1		120				1						1					
1186	LT	U.S. 30	STA. 629+80.9 TO STA. 631+61.1	DG-9 TO DG-10										570																
1186	LT	U.S. 30	STA. 631+61.1	DG-10	2						1		1		120				1						1					
1186	LT	U.S. 30	STA. 631+61.1 TO STA. 633+41.8	DG-10 TO DG-11										573																
1186	LT	U.S. 30	STA. 633+41.8	DG-11	2						1		1		120				1						1					
1186	RT	RAMP W	STA. 134+32.9	DH-12	2					1		1			174			1							1					
1186	RT	RAMP W	STA. 134+32.9 TO STA. 135+00	DH-12 TO *												73				68						68				
1186	LT	US 30 / RAMP C	STA. 627+63.8 TO STAL 627+67.7	MJB-8 TO PB-16										225			65			65						65				
1186	LT	RAMP C	STA. 627+67.7	PB-16		3															1									
1186	LT	RAMP C	STA. 627+67.7 TO STA. 10+53.5	PB-16 TO DG-7												85				75						75				
1186	LT	RAMP C	STA. 10+53.5	DG-7	2				1			1			165			1							1					
1186	LT	RAMP C	STA. 10+53.5 TO STA. 12+34.6	DG-7 TO DG-6												177				167						167				
1186	LT	RAMP C	STA. 12+34.6	DG-6	2			1			1				156			1							1					
1186	LT	RAMP C	STA. 12+34.6 TO STA. 13+84.2	DG-6 TO DG-5												150				140						140				
1186	LT	RAMP C	STA. 13+84.2	DG-5	2										156			1												
1186	LT/RT	RAMP C/RAMP CD	STA. 13+84.2 TO STA. 13+34.0	DG-5 TO DG-4												175				165						165				
1186	RT	RAMP CD	STA. 13+34.0	DG-4	2										156			1												
1186	RT	RAMP CD/RAMP CE	STA. 13+34.0 TO STA. 11+32.0	DG-4 TO EX. PB												203				193						193				
1186	RT	RAMP CE	STA. 11+32.0	EX. PB		3																								
1186	RT	RAMP CE	STA. 11+32.0 TO STA. 11+22.1	EX. PB TO DG-3												19				9						9				
1186	RT	RAMP CE	STA. 11+22.1	DG-3	2										156			1												
1186	RT	RAMP CE	STA. 11+22.1 TO STA. 9+36.9	DG-3 TO DG-2												188				178						178				
1186	RT	RAMP CE	STA. 9+36.9	DG-2	2										156			1												
1186	RT	RAMP CE/SR 13	STA. 9+36.9 TO STA. 901+43.3	DG-2 TO DG-1												137				127						127				
1186	RT	S.R. 13	STA. 901+43.3	DG-1	2										156			1												
1186	RT	RAMP CE/RAMP CD	STA. 11+32.0 TO STA. 10+94.7	EX.PB TO EX.PB										177																
1186	RT/LT	RAMP CD	STA. 10+94.7 TO STA. 10+94.6	EX.PB TO EX.PB										252																
1186	LT	RAMP CD	STA. 10+94.6	EX.PB		3																								
1186	LT	RAMP CD	STA. 10+94.6 TO STA. 10+93.4	EX.PB TO P.S.'D'										18																
1186	LT	RAMP CD	STA. 10+93.4	PWR SVC 'D'																							1		1	
1186	LT	RAMP CD	STA. 10+94.6 TO STA. 11+09.6	EX.PB TO DH-1												26				16						16				
1186	LT	RAMP CD	STA. 11+09.6	DH-1	2										156			1												
1186	LT	RAMP CD/RAMP D	STA. 11+09.6 TO STA. 15+65.0	DH-1 TO DH-2												492				482						482				
1186	LT	RAMP D	STA. 15+65.0	DH-2	2										156			1												
1186	LT	RAMP D	STA. 15+65.0 TO STA. 17+60.3	DH-2 TO DH-3												205				195						195				
1186	LT	RAMP D	STA. 17+60.3	DH-3	2										156			1												
1186	LT	RAMP D	STA. 17+60.3 TO STA. 19+76.4	DH-3 TO DH-4												218				208						208				
1186	LT	RAMP D	STA. 19+76.4	DH-4	2					1		1			174			1							1					
1186	LT	RAMP D	STA. 19+76.4 TO STA. 21+05.7	DH-4 TO *												130				125						125				
1187	LT	U.S. 30	STA. 635+00 TO STA. 635+43.9	* TO PB-17												54				44						44				
1187	LT	U.S. 30	STA. 635+43.9	PB-17		6															1									
1187	LT	U.S. 30	STA. 635+43.9 TO STA. 635+64.8	PB-17 TO DH-5												31				21						21				
1187	LT	U.S. 30	STA. 635+64.8	DH-5	2					1		1			174			1							1					
1187	LT/℄	U.S. 30	STA. 625+43.9 TO STA. 635+41.8	PB-17 TO MJB-10										207			59			59						59				
1187	℄	U.S. 30	STA. 635+41.8	MJB-10			6																	1						
1187	℄	U.S. 30	STA. 635+41.8 TO STA. 635+22.2	MJB-10 TO DH-6										90																
1187	℄	U.S. 30	STA. 635+22.2	DH-6	2						1		1		120				1						1					
1187	℄	U.S. 30	STA. 635+41.8 TO STA. 636+90.1	MJB-10 TO DH-7										474																
1187	℄	U.S. 30	STA. 636+90.1	DH-7	2						1		1		120				1						1					
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY					38	15	9	1	1	3	6	5	6	3387	2811	2363	144	13	6	2357	1	1	2	11	1	2357				

CALCULATED TRL
CHECKED JCS

LIGHTING SUBSUMMARY

RIC-30-9.26

1157
1669

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	CIRCUIT NODES	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTION, UNFUSED BOLTED	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT15B40	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT18B40	625 LIGHT POLE, LOW MAST, DESIGN ALM40	625 LIGHT POLE ANCHOR BOLTS ON STRUCTURE	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 MEDIAN LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 NO. 4 AWG 2400 VOLT DISTIRBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 LUMINAIRE, CONV., SOLID STATE (LED), APP, 130W, TYPE III, 480V	625 LUMINAIRE, LOW MAST, SOLID STATE (LED), APP, 209W, TYPE V, 480V	625 TRENCH	625 PULL BOX, 725.08, 18"	625 PULL BOX, 725.08, 24"	625 MEDIAN JUNCTION BOX	625 TRANSITION JUNCTION BOX	625 GROUND ROD	625 PLASTIC CAUTION TAPE	625 STRUCTURE GROUNDING SYSTEM			
				* = MATCH LINE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH	FT	EACH			
1187	℄	U.S. 30	STA. 636+90.1 TO STA. 638+71.0	DH-7 TO DH-8										573															
1187	℄	U.S. 30	STA. 638+71.0	DH-8	2					1			1		120				1						1				
1187	℄	U.S. 30	STA. 638+71.0 TO STA. 640+51.5	DH-8 TO DH-9										570															
1187	℄	U.S. 30	STA. 640+51.5	DH-9	2					1			1		120				1						1				
1187	℄	U.S. 30	STA. 640+51.5 TO STA. 642+45.2	DH-9 TO DH-10										612															
1187	℄	U.S. 30	STA. 642+45.2	DH-10	2					1			1		120				1						1				
1187	℄	U.S. 30	STA. 642+45.2 TO STA. 643+58.1	DH-10 TO TJB-5										369															
1187	℄	U.S. 30	STA. 643+58.1	TJB-5																				1					
1187	℄	U.S. 30	STA. 643+58.1 TO STA. 644+20.4	TJB-5 TO DH-11										216															
1187	℄	U.S. 30	STA. 644+20.4	DH-11	2					1	4				120				1										
1187	℄	U.S. 30	STA. 645+00	STRUCTURE																								1	
1187	RT	RAMP W	STA. 135+00 TO STA. 135+41.3	* TO PB-18												45				40					40				
1187	RT	RAMP W	STA. 135+41.3	PB-18		6																1							
1187	RT/℄	RAMP W / US 30	STA. 135+41.3 TO STA. 635+41.8	PB-18 TO MJB-10										255			75			75					75				
1187	RT	RAMP W	STA. 135+41.3 TO STA. 136+93.2	PB-18 TO DH-13												61				51					51				
1187	RT	RAMP W	STA. 136+93.2	DH-13	2			1				1			165			1							1				
1187	RT	RAMP W	STA. 136+93.2 TO STA. 137+64.4	DH-13 TO DH-14												141				131					131				
1187	RT	RAMP W	STA. 137+64.4	DH-14	2			1				1			165			1							1				
1187	RT	RAMP W	STA. 137+64.4 TO STA. 138+61.6	DH-14 TO DH-15												139				129					129				
1187	RT	RAMP W	STA. 138+61.6	DH-15	2			1				1			165			1							1				
1187	RT/LT	RAMP W/RAMP Y	STA. 138+61.6 TO STA. 237+39.3	DH-15 TO PB-19												255				245					245				
1187	LT	RAMP Y	STA. 237+39.3	PB-19		3															1								
1187	LT/RT	RAMP Y	STA. 237+39.3 TO STA. 237+37.1	PB-19 TO PB-20										246			72			72					72				
1187	RT	RAMP Y	STA. 237+37.1	PB-20		6																1							
1187	RT	RAMP Y	STA. 237+37.1 TO STA. 237+05.4	PB-20 TO DH-16												42				32					32				
1187	RT	RAMP Y	STA. 237+05.4	DH-16	2			1				1			165			1							1				
1187	RT	RAMP Y/RAMP X	STA. 237+37.1 TO STA. 238+72.1	PB-20 TO DH-17												143				133					133				
1187	RT	RAMP X	STA. 238+72.1	DH-17	2			1				1			165			1							1				
1187	RT	RAMP X	STA. 238+72.1 TO STA. 240+39.8	DH-17 TO DH-18												167				157					157				
1187	RT	RAMP X	STA. 240+39.8	DH-18	2			1				1			165			1							1				
1187	RT	RAMP X	STA. 240+39.8 TO STA. 241+87.6	DH-18 TO DH-19												150				140					140				
1187	RT	RAMP X	STA. 241+87.6	DH-19	2			1				1			165			1							1				
1188	LT	U.S. 30	STA. 655+92.6	EK-1	2				1			1			174			1							1				
1188	LT	U.S. 30	STA. 655+92.6 TO STA. 655+41.5	EK-1 TO PB-29												61				51					51				
1188	LT	U.S. 30	STA. 655+41.5	PB-29		3															1								
1188		U.S. 30	STA. 655+41.5 TO STA. 655+43.8	PB-29 TO MJB-12										204			58			58					58				
1188	℄	U.S. 30	STA. 655+43.8	MJB-12			3																1						
1188	℄	U.S. 30	STA. 655+43.8 TO STA. 654+34.0	MJB-12 TO TJB-7										366															
1188	℄	U.S. 30	STA. 654+34.0	TJB-7																				1					
1188	℄	U.S. 30	STA. 654+34.0 TO STA. 652+64.1	TJB-7 TO TJB-6										534															
1188	℄	U.S. 30	STA. 652+64.1	TJB-6																				1					
1188	℄	U.S. 30	STA. 652+64.1 TO STA.651+22.2	TJB-6 TO MJB-11										456															
1188	℄	U.S. 30	STA. 651+22.2	MJB-11			3																1						
1188		U.S. 30	STA 651+22.2 TO STA. 651+19.9	MJB-11 TO PB-25										171			47			47					47				
1188	LT	U.S. 30	STA. 651+19.9	PB-25		6															1								
1188		U.S. 30	STA. 651+19.9 TO STA. 651+03.2	PB-25 TO EK-6												27				17					17				
1188	LT	U.S. 30	STA. 651+03.2	EK-6	2				1			1			174			1							1				
1188	℄	U.S. 30	STA. 653+00	STRUCTURE																								1	
1188		U.S. 30/RAMP SR	STA. 651+19.9 TO STA. 451+28.1	PB-25 TO PB-24										150			40			40					40				
1188	LT	RAMP SR	STA. 451+28.1	PB-24		6															1								
1188	LT	RAMP SR/U.S. 30	STA. 451+28.1 TO STA. 652+40.1	PB-24 TO EK-2												113				103					103				
1188	LT	U.S.30	STA. 652+40.1	EK-2	2				1			1			174			1							1				
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY					28	30	6	7	3	4	4	10	3	4722	2157	1344	292	10	4	1521	2	4	2	3	13	1521	2			

CALCULATED TRL
CHECKED JCS

LIGHTING SUBSUMMARY

RIC-30-9.26

1158
1669

Z:\2014 proj\14-003-01 RIC-30 Lighting\CAD\Projects\RIC\93455\lighting\sheets\93455LS008.dgn 27-MAR-2020 11:20AM JordanS

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	CIRCUIT NODES	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTION, UNFUSED BOLTED	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT15B40	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT18B40	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 NO. 4 AWG 2400 VOLT DISTIRBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 LUMINAIRE, CONV., SOLID STATE (LED), APP, 130W, TYPE III, 480V	625 TRENCH	625 PULL BOX, 725.08, 18"	625 PULL BOX, 725.08, 24"	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 POWER SERVICE, AS PER PLAN	625 PLASTIC CAUTION TAPE	625 ARC FLASH CALCULATIONS AND LABEL
				* = MATCH LINE	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	FT	EACH	EACH	EACH	EACH	EACH	FT	EACH
1188	LT	RAMP SR	STA. 451+28.1 TO STA. 450+54.9	PB-24 TO EK-3									79			69						69	
1188	LT	RAMP SR	STA. 450+54.9	EK-3	2			1		1		165			1					1			
1188	LT	RAMP SR	STA. 450+54.9 TO STA. 450+03.6	EK-3 TO PB-23									45			35						35	
1188	LT	RAMP SR	STA. 450+03.6	PB-23		6												1					
1188	LT	RAMP SL	STA. 347+18.5	EK-5	2			1		1		165			1					1			
1188	LT	RAMP SL	STA. 347+18.5 TO STA. 349+00.4	EK-5 TO EK-4									183			173						173	
1188	LT	RAMP SL	STA. 349+00.4	EK-4	2			1		1		165			1					1			
1188	LT	RAMP SL	STA. 349+00.4 TO STA. 350+15.5	EK-4 TO PB-21									117			107						107	
1188	LT	RAMP SL	STA. 350+15.5	PB-21		3											1						
1188	LT/RT	RAMP SL	STA. 350+15.5 TO STA. 350+33.0	PB-21 TO PB-22							222			64		64						64	
1188	RT	RAMP SL	STA. 350+33.0	PB-22		3											1						
1188	RT/LT	RAMP SL	STA. 350+33.0 TO STA. 450+03.6	PB-22 TO PB-23							198			56		56						56	
1188	LT/RT	RAMP SL / RAMP S	STA. 450+03.6 TO STA. 356+82.8	PB-23 TO PB-26									576			566						566	
1188	RT	RAMP S	STA. 356+82.8	PB-26		6												1					
1188	RTLT	RAMP S / S.R.545	STA. 356+82.8 TO STA. 164+43.7	PB-26 TO EK-6									72			62						62	
1188	LT	S.R. 545	STA. 164+43.7	EK-6	2			1		1		165			1					1			
1188	RT	S.R 545	STA. 166+02.4	EK-7	2				1	1		174			1					1			
1188	RT	S.R 545	STA. 166+02.4 TO STA. 165+70.4	EK-7 TO PB-28									42			32						32	
1188	RT	S.R 545	STA. 165+70.4	PB-28		3											1						
1188	RT/LT	S.R. 545 / RAMP S	STA. 65+70.2 TO STA. 356+98.6	PB-28 TO PB-27							381			117		117						117	
1188	LT	RAMP S	STA. 356+98.6	PB-27		6												1					
1188	RT/LT	RAMP S	STA. 356+82.8 TO STA. 356+98.6	PB-26 TO PB-27							369			113		113						113	
1188	LT	RAMP S	STA. 356+98.6 TO STA. 356+50.8	PB-27 TO P.S.E.									67			57						57	
1188	LT	RAMP S	STA. 356+50.8	PWR SVC 'E'																	1		1
1189	LT	U.S. 30	STA. 672+49.1	FL-2	2			1		1		165			1					1			
1189	LT	US 30 / RAMP D	STA. 672+49.1 TO STA. 474+77.7	FL-2 TO FL-1									238			228						228	
1189	LT	RAMP D	STA. 474+77.7	FL-1	2			1		1		165			1					1			
1189	LT	RAMP D	STA, 474+77.7 TO STA. 475+53.8	FL-1 TO PB-30									86			76						76	
1189	LT	RAMP D	STA. 475+53.8	PB-30		3											1						
1189	LT	RAMP D / U.S. 30	STA. 475+53.8 TO STA. 675+51.1	PB-30 TO MJB-13							294			88		88						88	
1189	℄	U.S. 30	STA. 675+51.1	MJB-13			3												1				
1189	℄/RT	U.S. 30	STA. 675+51.1 TO STA. 675+51.1	MJB-13 TO PB-31							180			50		50						50	
1189	RT	U.S. 30	STA. 675+51.1	PB-31		6												1					
1189	RT	U.S. 30	STA. 675+51.1 TO STA. 675+30.5	PB-31 TO FL-3									29			19						19	
1189	RT	U.S. 30	STA. 675+30.5	FL-3	2			1		1		165			1					1			
1189	RT	U.S. 30 / RAMP A	STA. 675+51.1 TO STA. 175+51.9	PB-31 TO PB-32							168			46		46						46	
1189	RT	RAMP A	STA. 175+51.9	PB-32		6												1					
1189	RT	RAMP A	STA. 172+14.2	FL-4	2				1	1		174			1					1			
1189	RT	RAMP A	STA. 172+14.2 TO STA. 174+87.6	FL-4 TO FL-5									183			173						173	
1189	RT	RAMP A	STA. 174+87.6	FL-5	2				1	1		174			1					1			
1189	RT	RAMP A	STA. 174+87.6 TO STA. 175+51.9	FL-5 TO PB-32									175			165						165	
1189	RT	RAMP A	STA. 175+51.9 TO STA. 175+66.7	PB-32 TO FL-6									25			15						15	
1189	RT	RAMP A	STA. 175+66.7	FL-6	2			1		1		165			1					1			
1189	RT	RAMP A	STA. 175+66.7 TO STA. 180+41.2	FL-6 TO PB-33									465			455						455	
1189	RT	RAMP A	STA. 180+41.2	PB-33		3											1						
1189	RT/LT	RAMP A	STA. 180+41.2 TO STA. 180+60.5	PB-33 TO PB-34							252			74		74						74	
1189	LT	RAMP A	STA. 180+60.5	PB-34		6												1					
1189	LT	RAMP A	STA. 180+60.5 TO STA. 180+75.0	PB-34 TO P.S.F									34			24						24	
1189	LT	RAMP A	STA. 180+75.0	PWR SVC 'F'																	1		1
1189	LT/RT	RAMP A / U.S. 30	STA. 180+75 TO STA. 683.00	PB-34 TO *									284			279						279	
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY					22	51	3	8	3	11	2064	1842	2700	608	11	3143	5	6	1	11	2	3143	

CALCULATED TRL
CHECKED JCS

LIGHTING SUBSUMMARY

RIC-30-9.26

1159
1669

Z:\2014 proj\14-003-01 RIC-30 Lighting\CAD\Projects\RIC\ 93455\lighting\sheets\93455LS009.dgn 27-MAR-2020 11:20AM JordanS

SHEET NO.	SIDE	ROADWAY	STATION TO STATION	CIRCUIT NODES	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTION, UNFUSED BOLTED	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT15B40	625 LIGHT POLE, CONVENTIONAL, DAVIT STYLE, DESIGN AT18B40	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP	625 NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 LUMINAIRE, CONV., SOLID STATE (LED), APP, 130W, TYPE III, 480V	625 LUMINAIRE, UNDERPASS, SOLID STATE (LED), APP, 39W, TYPE III, 480V	625 TRENCH	625 PULL BOX, 725.08, 18"	625 PULL BOX, 725.08, 24"	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 PLASTIC CAUTION TAPE	625 SERVICE TO UNDERPASS LIGHTING
				* = MATCH LINE	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	FT	EACH
1190	RT	U.S. 30	STA, 683.00 TO STA. 683+09.8	* TO FL-7									15				10					10	
1190	RT	U.S. 30	STA. 683+09.8	FL-7	2				1	1		174			1						1		
1190	RT	U.S. 30	STA. 683+09.8 TO STA 683+51.0	FL-7 TO PB-35									51				41					41	
1190	RT	U.S. 30	STA. 683+51.0	PB-35		6													1				
1190	RT	U.S. 30	STA. 683+51.0 TO STA 685+44.8	PB-35 TO FL-8									204				194					194	
1190	RT	U.S. 30	STA. 685+44.8	FL-8	2				1	1		174			1						1		
1190	RT	U.S. 30	STA. 683+51.0 TO STA 683+50.1	PB-35 TO MJB-14							282			84			84					84	
1190	RT	U.S. 30	STA. 683+50.1	MJB-14			3													1			
1190	RT	U.S. 30	STA. 683+50.1 TO STA. 684+96.2	MJB-14 TO MJB-15							486												
1190	RT	U.S. 30	STA. 684+96.2	MJB-15			3													1			
1190	RT/℄	U.S. 30	STA+684+96.2 TO STA, 685+71.6	MJB-15 TO PB-36							276			82			82					82	
1190	℄	U.S. 30	STA. 685+71.6	PB-36		3												1					
1190	℄/RT	U.S. 30/RAMP C	STA. 685+71.6 TO STA. 374+61.5	PB-36 TO PB-37							228			76			76					76	
1190	RT	RAMP C	STA. 374+61.5	PB-37		6													1				
1190	RT	RAMP C	STA. 374+61.5 STA. 374+36.3	PB-37 TO FL-9									36				26					26	
1190	RT	RAMP C	STA. 374+36.3	FL-9	2				1	1		174			1						1		
1190	RT/LT	RAMP C	STA.. 374+61.5 TO STA. 374+19.1	PB-37 TO PB-38							159			43			43					43	
1190	LT	RAMP C	STA. 374+19.1	PB-38		6													1				
1190	LT	RAMP C	STA. 374+19.1 TO STA. 374+00.0	PB-38 TO FL-10									70				60					60	
1190	LT	RAMP C	STA. 374+00.0	FL-10	2				1	1		174			1						1		
1190	LT	RAMP C	STA. 374+19.1 TO STA. 375+79.3	PB-38 TO FL-11									130				120					120	
1190	LT	RAMP C	STA. 375+79.3	FL-11	2			1		1		165			1						1		
1190	LT	RAMP C	STA. 375+79.3 TO STA. 383+10.7	FL-11 TO FL-12									740				730					730	
1190	LT	RAMP C	STA. 383+10.7	FL-12	2			1		1		165			1						1		
1190	RT	U.S. 30/S.R. 13	STA. 901+43.3 TO STA. 901+06.0	DG-1 TO EX.PB							141												
1190	RT	S.R. 13	STA. 901+06.0	EX.PB																			
1190	RT	S.R. 13	STA. 901+06.0 TO STA. 900+30.8	EX.PB TO EX.PB							282												
1191	RT	S.R. 13	STA. 900+30.8	EX PB																			
1191	RT	S.R. 13	STA. 900+30.8 TO STA. 900+20.0	EX-PB TO UP							63												
1191	RT	S.R. 13	STA. 900+20.0	UNDERPASS												2							1
1191	RT	S.R. 13	STA. 900+30.8 TO STA. 900+40.2	EX-PB TO UP							60												
1191	RT	S.R. 13	STA. 900+40.2	UNDERPASS												2							1
1191	RT/LT	S.R. 13	STA. 901+0.60 TO STA. 900+89.9	EX.PB TO EX.PB							297												
1191	LT	S.R. 13	STA. 900+89.9 TO STA. 900+18.6	EX.PB TO EX.PB							252												
1191	LT	S.R. 13	STA. 900+18.6	EX PB																			
1191	LT	S.R. 13	STA. 900+18.6 TO STA. 900+07.7	EX-PB TO UP							63												
1191	LT	S.R. 13	STA. 900+07.7	UNDERPASS												2							1
1191	LT	S.R. 13	STA. 900+18.6 TO STA. 900+27.9	EX-PB TO UP							57												
1191	LT	S.R. 13	STA. 900+27.9	UNDERPASS												2							1
TOTALS CARRIED TO LIGHTING GENERAL SUMMARY					12	21	6	2	4	6	2646	1026	1246	285	6	8	1466	1	3	2	6	1466	4

CALCULATED TRL
CHECKED JCS

LIGHTING SUBSUMMARY

RIC-30-9.26

1160
1669

STANDARD DRAWINGS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7-17-15
AS-2-15	REVISED	1-18-19
GSD-1-19	DATED	1-18-19
PCB-91	REVISED	1-18-13
SBR-1-13	REVISED	7-20-18
SBR-2-13	REVISED	7-20-18
SICD-1-96	REVISED	7-18-14
SICD-2-14	DATED	7-18-14
VPF-1-90	REVISED	7-20-18

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, 8TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

DESIGN LOADING
HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT^2.

DESIGN DATA
CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

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

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

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

DECK PROTECTION METHOD
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

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

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT 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 OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK 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. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05

ITEM 203 EMBANKMENT, AS PER PLAN
PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 564+75 TO 570+75.

PILE DRIVING CONSTRAINTS
PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND THE PIER PILES, UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

DECK PLACEMENT ASSUMPTIONS
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.42 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

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

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

THE TOTAL FACTORED LOAD IS 125 KIPS PER PILE FOR THE ABUTMENT PILES. THE TOTAL FACTORED LOAD IS 262 KIPS PER PILE FOR THE PIER NO. 1 PILES.

ABUTMENT PILES: (HP 10X42)
70 PILES 45 FEET LONG, ORDER LENGTH

PIER NO. 1 PILES (HP 10X42)
36 PILES 35 FEET LONG, ORDER LENGTH

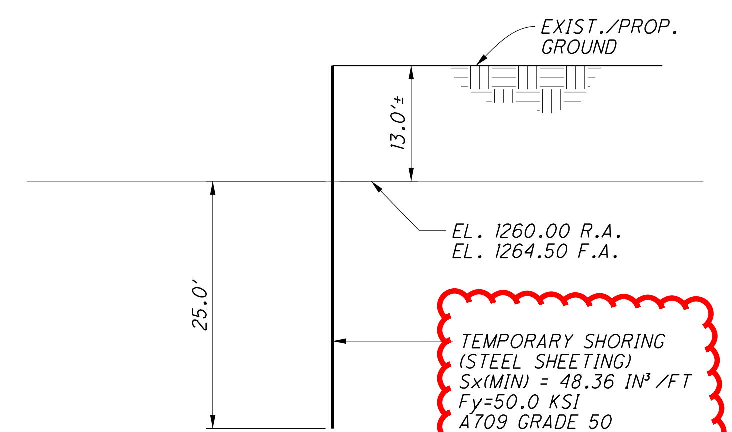
PIER NO. 2 PILES (HP 10X42)
36 PILES 20 FEET LONG, ORDER LENGTH

STRUCTURE PAINTING: ALL BRIDGE FINISH COATS SHALL BE THE SAME COLOR.

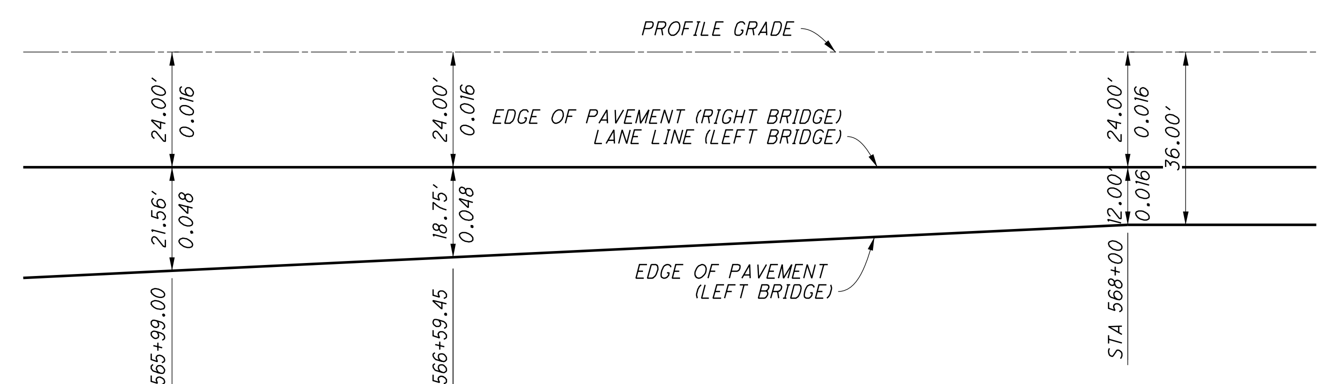
INSTALLATION OF MULTI-CELL CONDUIT ON STRUCTURES
ONE MULTI-CELL CONDUIT IS CONTINUOUS FOR THE ENTIRE PROJECT. THE SECOND MULTI-CELL CONDUIT SHALL BE PLACED ONLY WITHIN THE LIMITS OF THE BRIDGES AND APPROACH SLABS AND SHALL TERMINATE AT A JUNCTION BOX AS SHOWN IN STANDARD DRAWING HL-30.33.

ABBREVIATIONS

ABUT.	-	ABUTMENT
APPR.	-	APPROACH
BRG.	-	BEARING
BOT.	-	BOTTOM
CONST. JT.	-	CONSTRUCTION JOINT
CLR.	-	CLEAR
CONST.	-	CONSTRUCTION
CORR.	-	CORRUGATED
DIA.	-	DIAMETER
DIM.	-	DIMENSION
DWG.	-	DRAWING
EL.	-	ELEVATION
E.F.	-	EACH FACE
EXIST.	-	EXISTING
F.A.	-	FORWARD ABUTMENT
FWD.	-	FORWARD
F.F.	-	FRONT FACE
FT.	-	FEET
LBS.	-	POUNDS
MAX.	-	MAXIMUM
MEAS.	-	MEASURED
MIN.	-	MINIMUM
OPT.	-	OPTIONAL
P.E.J.F.	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
R.F.	-	REAR FACE
REQ'D.	-	REQUIRED
SPA.	-	SPACING
STA.	-	STATION
T.O.S.	-	TOP OF SLOPE
TYP.	-	TYPICAL
U.O.N.	-	UNLESS OTHERWISE NOTED
VAR.	-	VARIES
W/	-	WITH



SECTION A-A
TEMPORARY SHORING DETAIL
NOTE: SEE SHEET 2/66 FOR LOCATION.



PAVEMENT TRANSITION DETAIL

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001119	

GENERAL NOTES
BRIDGE NO. RIC-30-1074
OVER S.R.39

RIC-30-9.26
PID No. 93455

M:\15074\93455\Design\Structures\RIC030_1074C\Sheets\030_1074CSN001.dgn 3/26/2020 8:34:01 PM tac230

CALC:	TAC	DATE:	5/7/2019
CHECKED:	RLE	DATE:	5/21/2019

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL 01/NHS/BR	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3/66
202	22900	311	SY	APPROACH SLAB REMOVED				311	
202	23500	311	SY	WEARING COURSE REMOVED				311	
202	98200	124	FT	REMOVAL MISC.:STEEL PILE (HP12x53)	54	70			17/66 & 18/66
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	3/66
503	21100	1174	CY	UNCLASSIFIED EXCAVATION	747	427			
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
507	00101	5130	FT	STEEL PILES HP10X42, FURNISHED, AS PER PLAN	3150	1980			17/66 & 18/66
507	00151	4420	FT	STEEL PILES HP10X42, DRIVEN, AS PER PLAN	2800	1620			17/66 & 18/66
507	93300	142	EACH	STEEL POINTS OR SHOES				142	
509	10000	304979	LB	EPOXY COATED REINFORCING STEEL	38719	67518	198742		
511	21523	878	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			878		35/66 & 44/66
511	33500	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE			4		
511	41012	206	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		206			
511	44112	178	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	178				
511	46512	360	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	232	128			
512	10100	1590	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	93	606	804	87	
512	10300	408	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			368	40	
512	33000	27	SY	TYPE 2 WATERPROOFING	27				
513	10260	603922	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			603922		
513	20000	11466	EACH	WELDED STUD SHEAR CONNECTORS			11466		
514	00800	603922	LB	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			603922		
514	00851	603922	LB	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			603922		3/66
514	10000	29	EACH	FINAL INSPECTION REPAIR			29		
516	10010	264	FT	ARMORLESS PREFORMED JOINT SEAL				264	
516	13600	32	SF	1" PREFORMED EXPANSION JOINT FILLER			32		
516	13900	624	SF	2" PREFORMED EXPANSION JOINT FILLER			181	443	
516	14020	333	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	333				
516	44101	26	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 13/16"x1'-2 1/2"x1'-5" W/ † x1'-3 1/2"x1'-6" BEVELED LOAD PLATE		26			31/66
516	44101	26	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 15/16"x1'-0"x1'-1" W/ 1 5/8"x1'-1"x1'-2" BEVELED LOAD PLATE	26				31/66
518	21200	185	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	185				
518	40000	348	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	348				
518	40010	62	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	62				
526	25001	666	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				666	48/66 THRU 53/66
526	90030	274	FT	TYPE C INSTALLATION				274	
601	21000	1501	SY	CONCRETE SLOPE PROTECTION				1501	
607	39900	354	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			354		

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
BELLEFAIRE, KIRTLAND, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-6077

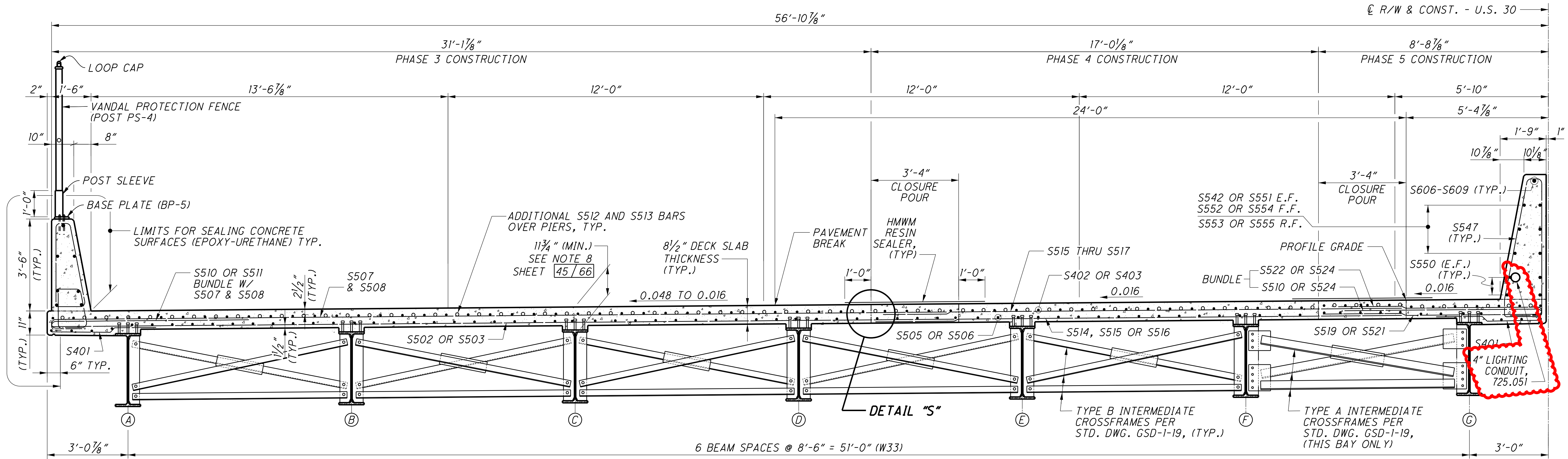
REVIEWED SDS DATE 9-24-19
DRAWN TAC REVISED
DESIGNED HK CHECKED BDH
STRUCTURE FILE NUMBER 7001119

ESTIMATED QUANTITIES
BRIDGE NO. RIC-30-1074
OVER S.R. 39

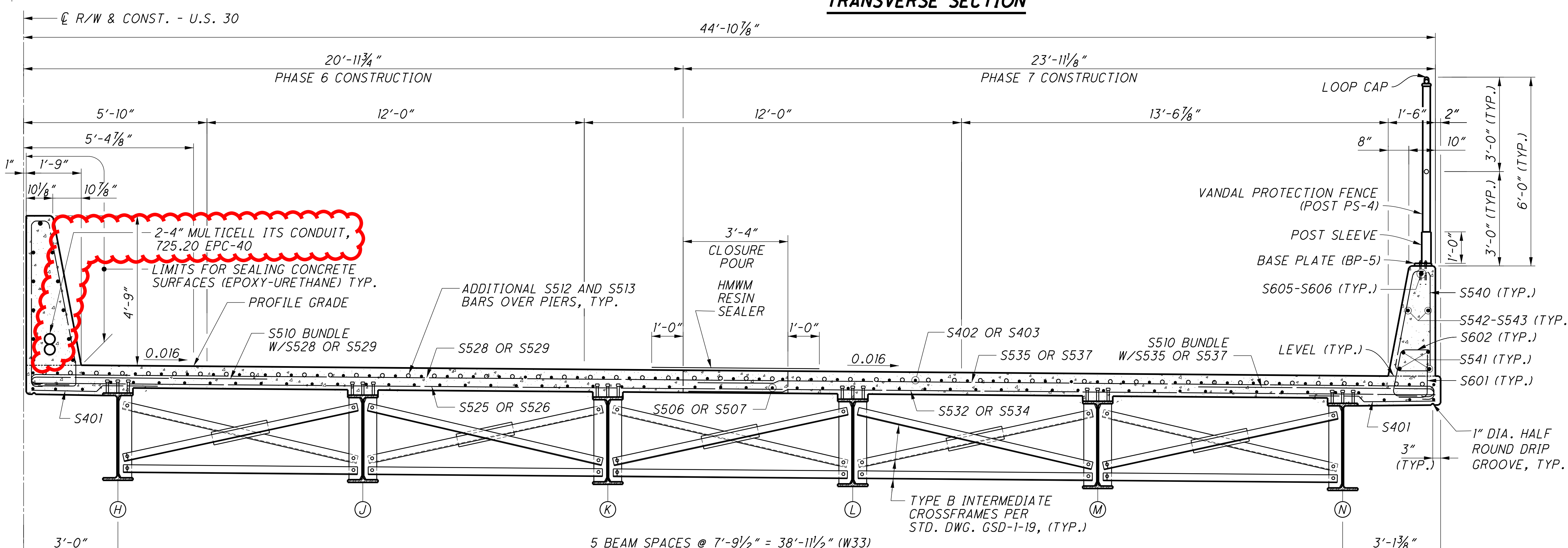
RIC-30-9.26
PID No. 93455

4/66

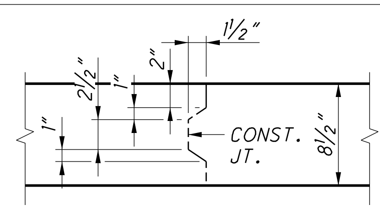
1207
1669



TRANSVERSE SECTION



TRANSVERSE SECTION



CONST. JOINT DETAIL
DETAIL "S" (TYPICAL)

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/66.
2. FOR SLAB PLAN SEE SHEET 45/66 AND 46/66.
3. FOR SCREED ELEVATIONS SEE SHEET 41/66.
4. FOR BARRIER MEDIAN AND RAILING DETAILS SEE SHEETS 47/66 THRU 50/66.

   THE CLOSURE POUR SHALL BE SEALED WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN IN ACCORDANCE OF ITEM 512. THE RESIN SHALL COVER THE ENTIRE CLOSURE POUR SECTION AND OVERLAP EACH CONSTRUCTION JOINT 1'-0".

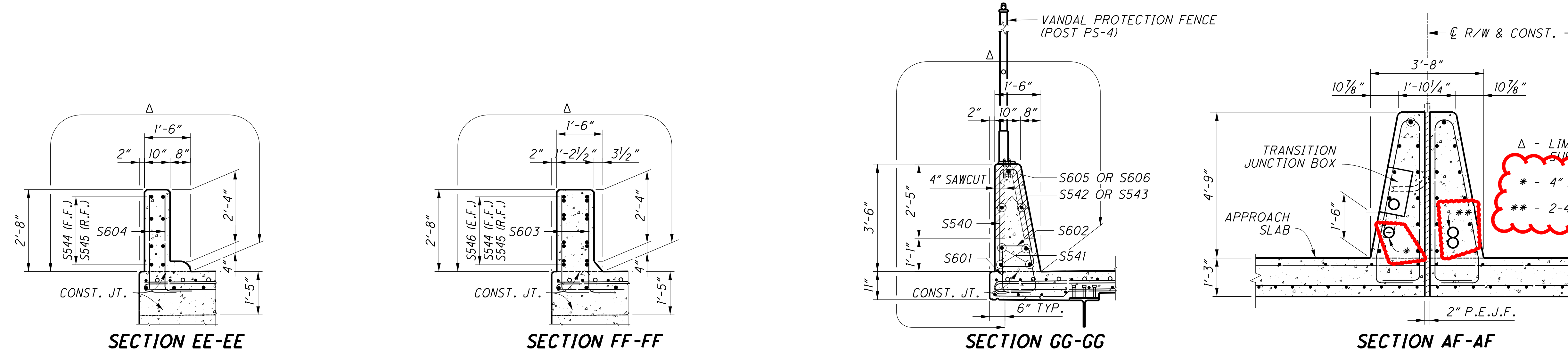
5. MINIMUM BAR LAPS:
   - NO.4 BAR = 1'-11"
   - NO. 5 BARS = 2'-5"
   - NO. 5 BARS = 3'-0" S502, S504, S514, S516, S519, S525, S527, S532 & S533
   - NO. 6 BAR = 3'-7"
6. 4" LIGHTING CONDUIT, 725.051, AND 4" MULTICELL ITS CONDUIT, 725.20 EPC-40, AND JUNCTION BOXES WHERE REQUIRED SHALL BE PLACED IN THE MEDIAN BARRIER AS SHOWN IN THE PLANS. THE COST OF PLACEMENT, MATERIALS, EQUIPMENT AND LABOR SHALL BE CONSIDERED INCIDENTAL AND INCLUDED FOR PAYMENT IN ITEM 511 CLASS QC2 CONCRETE WITH QC/QA SUPERSTRUCTURE, AS PER PLAN.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-8077

DESIGNED HK	DRAWN RLE	REVIEWED SDS	DATE 9-24-19
CHECKED BDH	REVISED ---	STRUCTURE FILE NUMBER 7001119	

TRANSVERSE SECTION
BRIDGE NO. RIC-30-1074
OVER S.R. 39

RIC-30-9.26
PID No. 93455



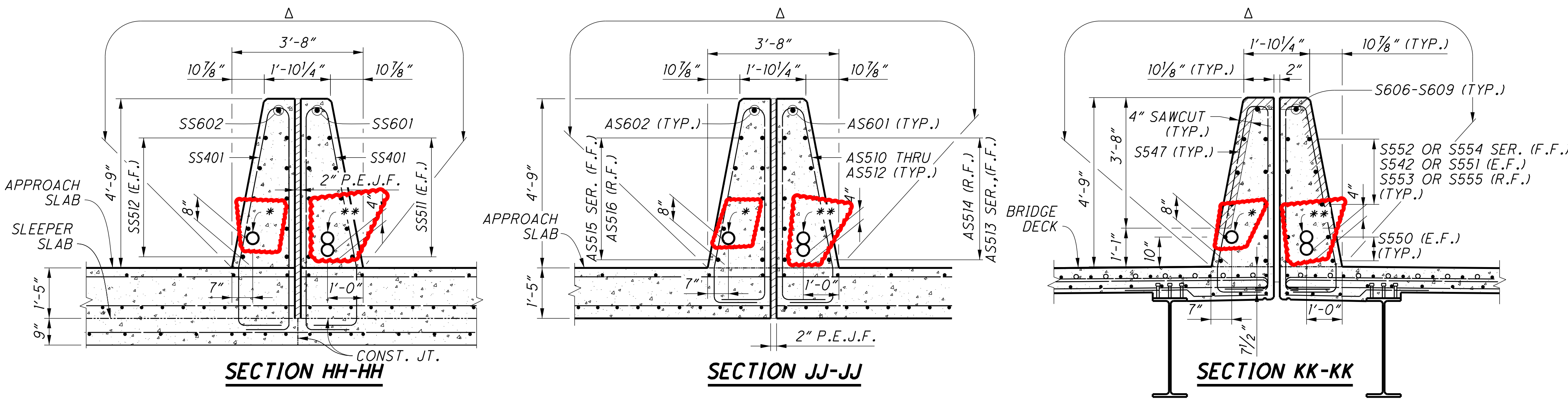
SECTION EE-EE — SECTION FF-FF — SECTION GG-GG — SECTION AF-AF

LEGEND

Δ - LIMITS FOR SEALING CONCRETE SURFACES (EPOXY-URETHANE) TYP.

* - 4" LIGHTING CONDUIT, 725.051

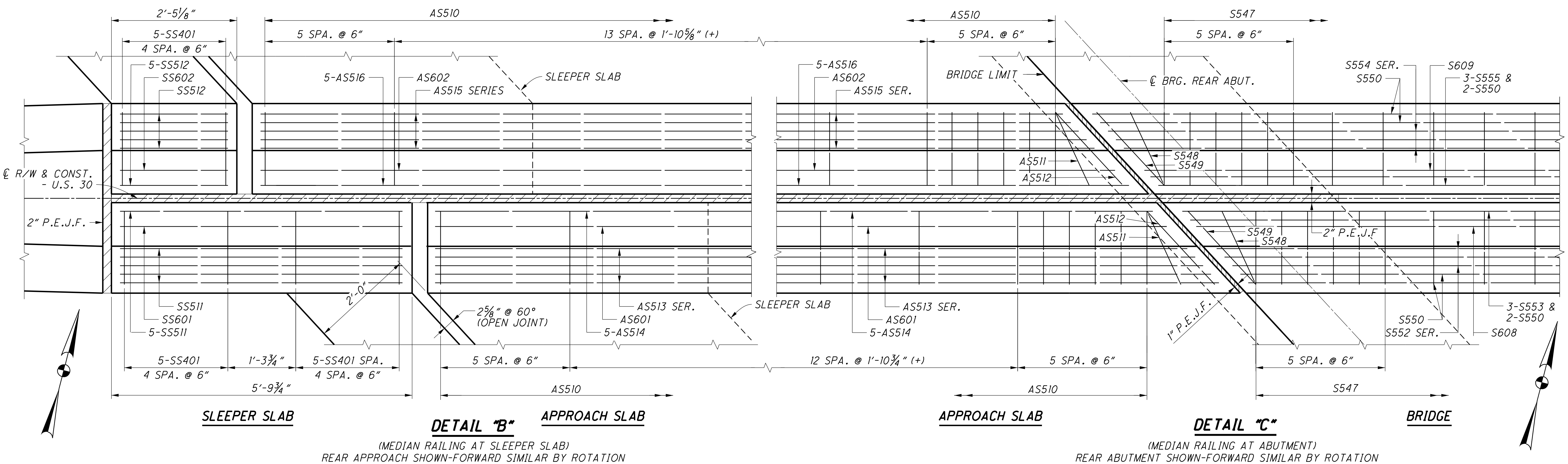
** - 2-4" MULTICELL ITS CONDUIT, 725.20 EPC-40



SECTION HH-HH — SECTION JJ-JJ — SECTION KK-KK

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3 / 66 .
2. FOR LOCATIONS OF SECTIONS EE-EE, FF-FF & GG-GG SEE SHEET 47 / 66 .
3. FOR LOCATIONS OF SECTIONS HH-HH, JJ-JJ, KK-KK, AF-AF & DETAILS "B" & "C" SEE SHEETS 48 / 66 & 49 / 66 .
4. FOR DETAILS NOT SHOWN SEE STANDARD DRAWING SBR-1-13 AND SBR-2-13.
5. 4" LIGHTING CONDUIT, 725.051, AND 4" MULTICELL ITS CONDUIT, 725.20 EPC-40, AND JUNCTION BOXES WHERE REQUIRED SHALL BE PLACED IN THE MEDIAN BARRIER AS SHOWN IN THE PLANS. THE COST OF PLACEMENT, MATERIALS, EQUIPMENT AND LABOR SHALL BE CONSIDERED INCIDENTAL AND INCLUDED FOR PAYMENT IN ITEM 526 REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN.



SLEEPER SLAB — APPROACH SLAB — APPROACH SLAB — BRIDGE

DETAIL "B"
(MEDIAN RAILING AT SLEEPER SLAB)
REAR APPROACH SHOWN-FORWARD SIMILAR BY ROTATION

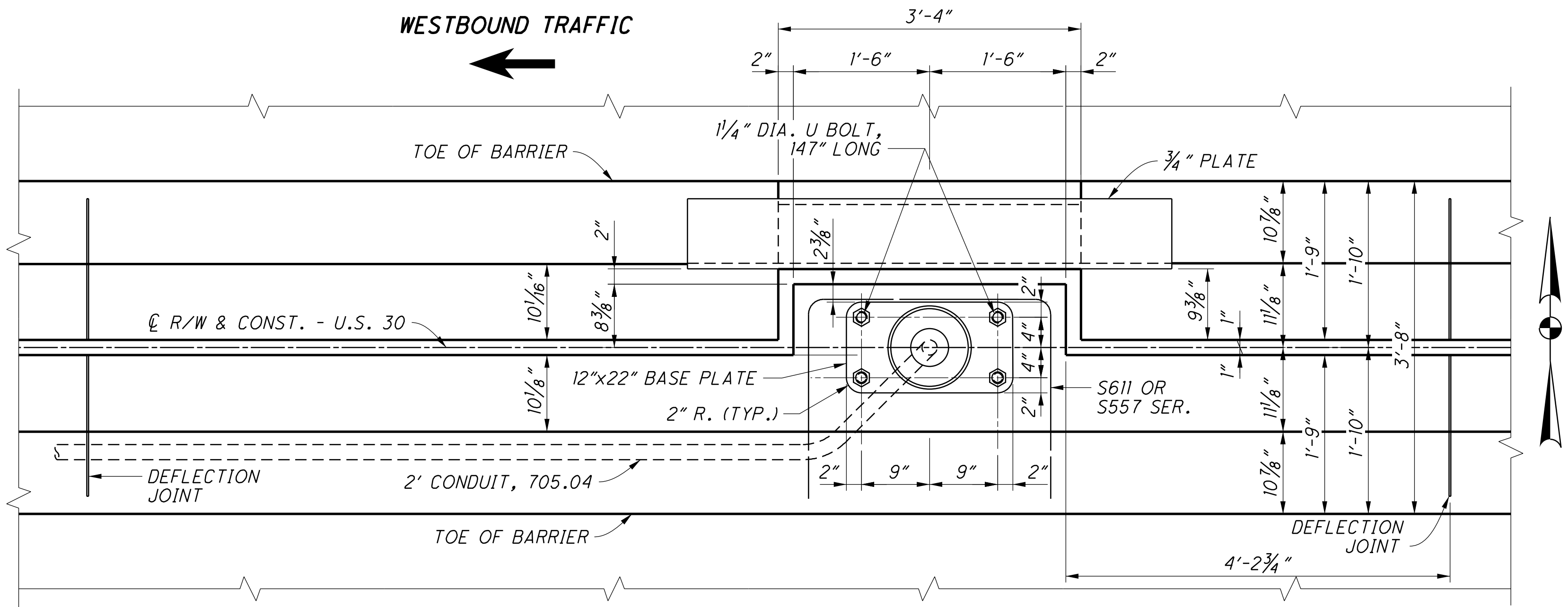
DETAIL "C"
(MEDIAN RAILING AT ABUTMENT)
REAR ABUTMENT SHOWN-FORWARD SIMILAR BY ROTATION

BRIDGE RAILING DETAILS
BRIDGE NO. RIC-30-1074
OVER S.R. 39

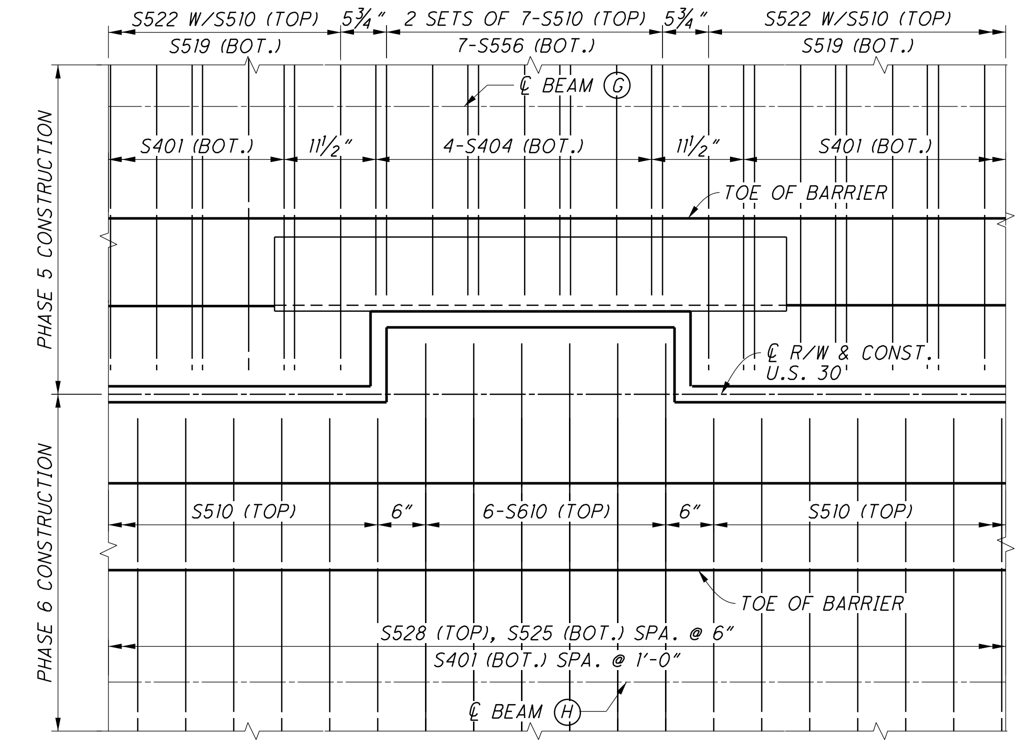
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
HK	BDH	TAC	---	SDS	9-24-19	7001119

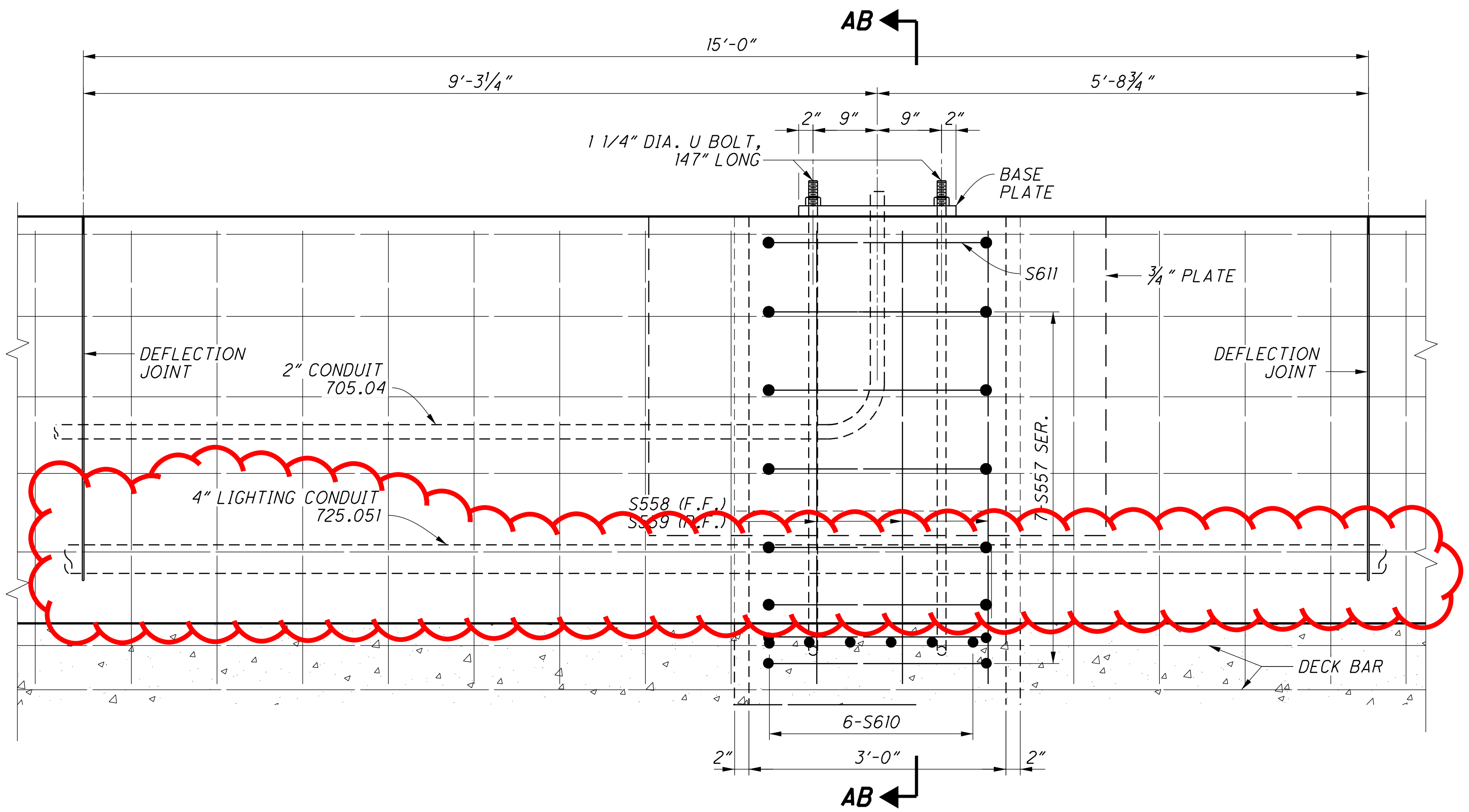
RIC-30-9.26
PID No. 93455



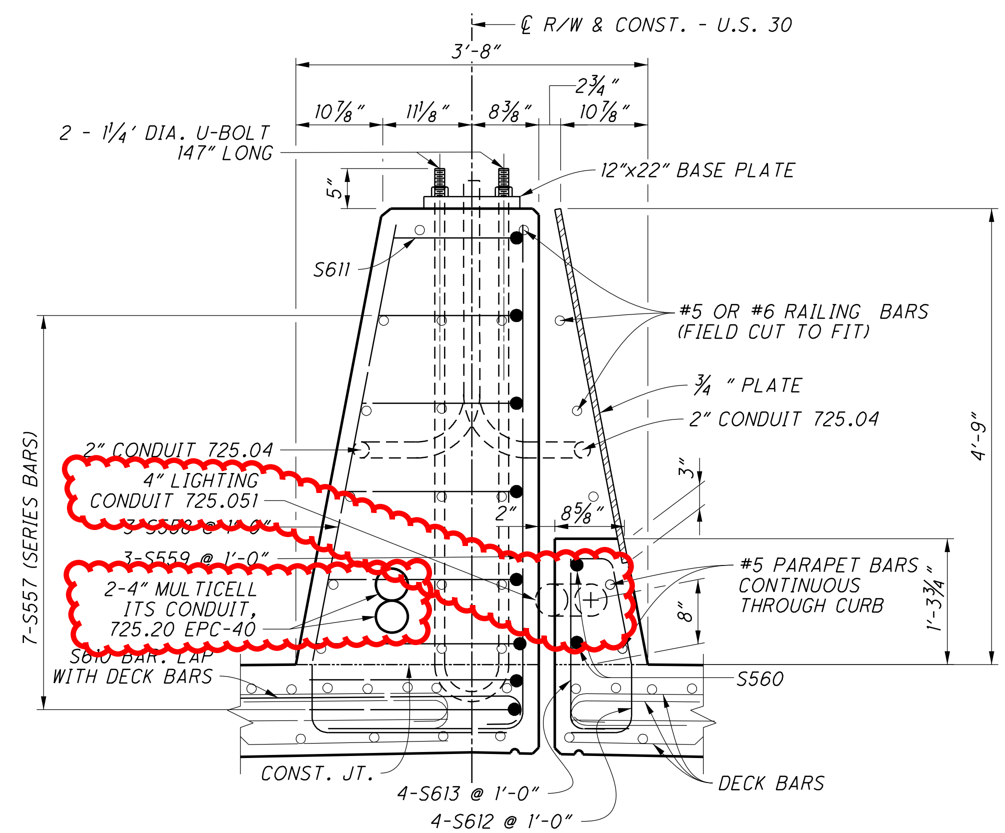
PLAN



SLAB REINFORCING PLAN



ELEVATION



SECTION AB-AB

NOTES

1. MATERIALS: STEEL PLATES SHALL BE ASTM A709, GR. 50. PLATES SHALL BE METALIZED OR GALVANIZED PER 516.03.

2. PAYMENT FOR THE MATERIAL AND INSTALLATION OF MEDIAN BARRIER PLATES AND FASTENERS SHALL BE INCLUDED AS INCIDENTAL TO ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

3. FOR LIGHT SUPPORT LOCATION SEE SHEET 1180/1669.

M:\15074\93455\Design\Structures\RIC030_1074C\Sheets\030_1074CSA005.dgn 3/27/2020 11:15:37 AM tac230

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001119	

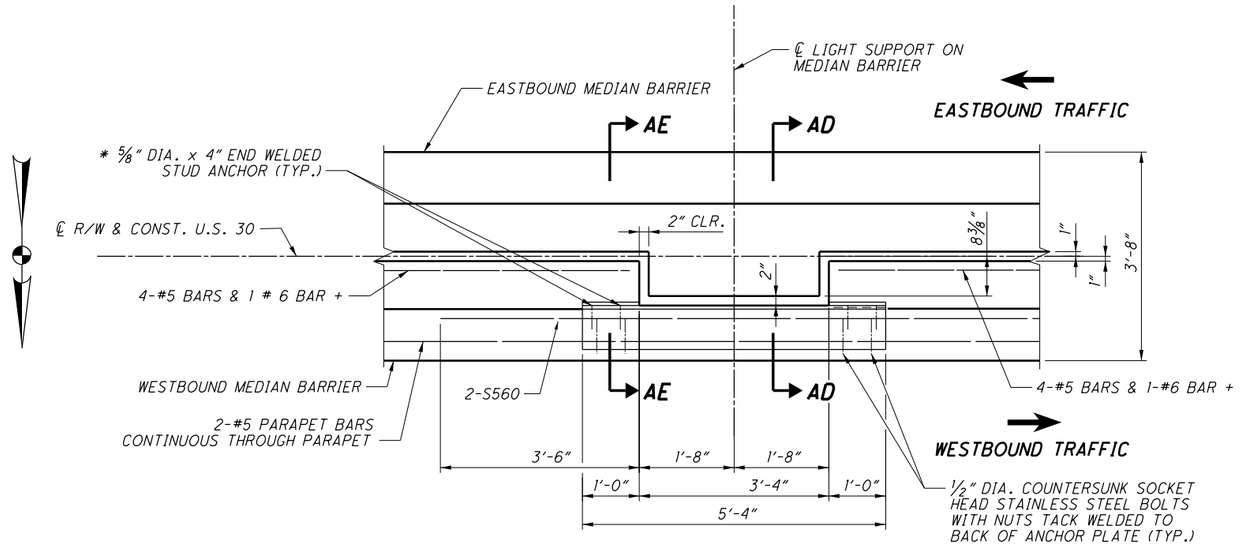
MEDIAN BARRIER AT LIGHT SUPPORT STA. 567+98.50

BRIDGE NO. RIC-30-1074
OVER S.R. 39

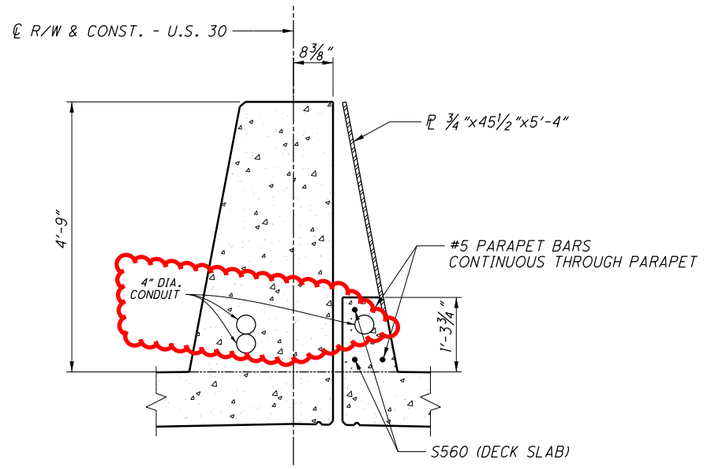
RIC-30-9.26
PID No. 93455

50A/66

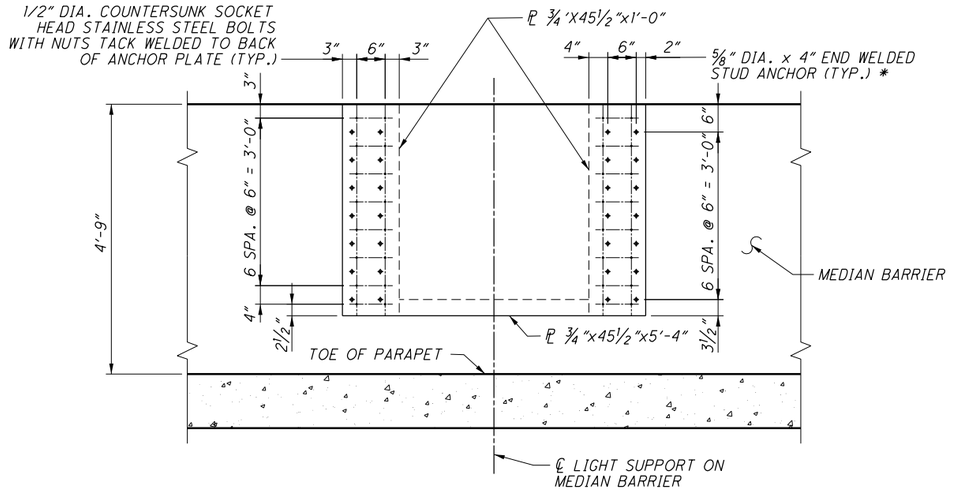
1253A/1669



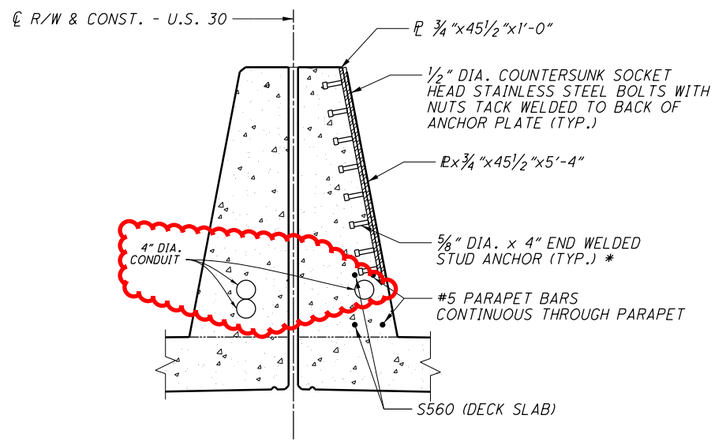
PLAN



SECTION AD-AD



ELEVATION



SECTION AE-AE

PLATE AT LIGHT SUPPORT

LEGEND

* - WELDED WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT OR 5/16" MINIMUM FILLET WELD ALL AROUND

\+ - FIELD CUT OR ADJUST LAP TO FIT GAP

NOTES

1. ADDITIONAL NOTES SEE SHEETS 50A/66 .

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WILLOUGHBY HILLS, OHIO 44094
TELEPHONE (330) 946-9558
FAX (330) 946-8077

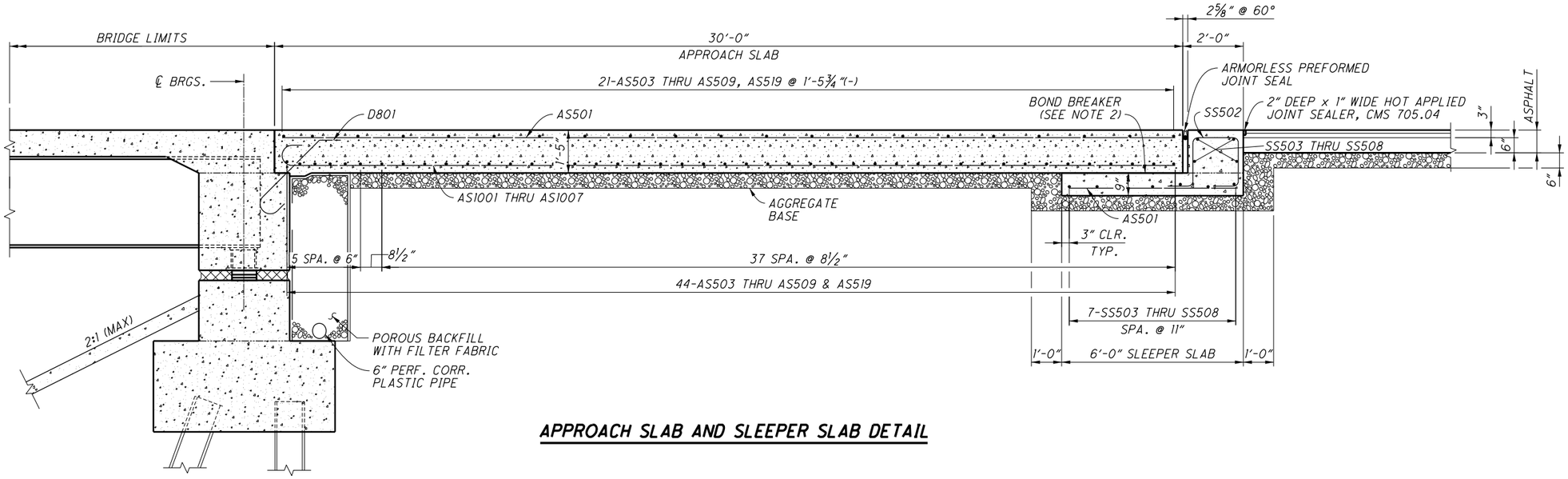
DESIGNED HK | DRAWN RLE | CHECKED BDH | REVIEWED SDS | DATE 9-24-19 | REVISED --- | STRUCTURE FILE NUMBER 7001119

MEDIAN BARRIER AT LIGHT SUPPORT DETAILS
BRIDGE NO. RIC-30-1074
OVER S.R. 39

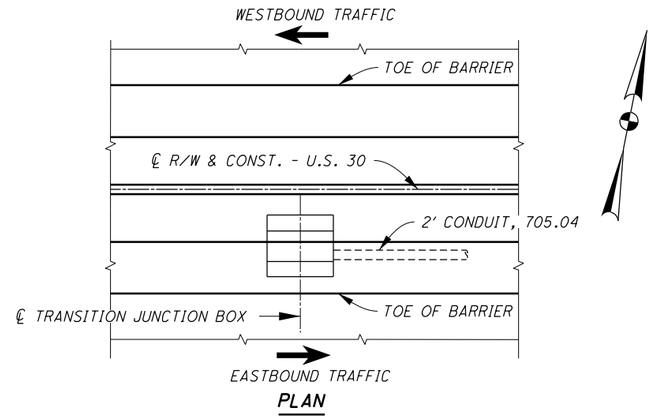
RIC-30-9.26
PID No. 93455

50B/66

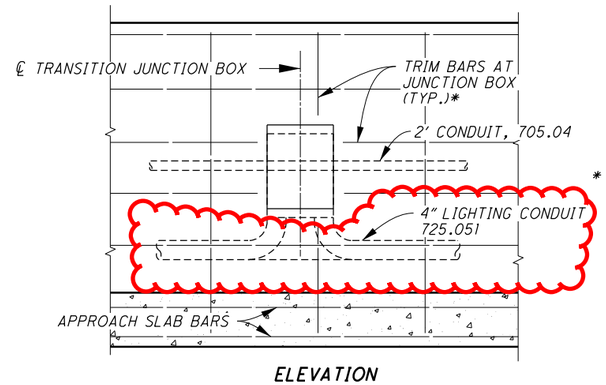
1253B
1669



APPROACH SLAB AND SLEEPER SLAB DETAIL



PLAN



ELEVATION

TRANSITION JUNCTION BOX DETAIL

LEGEND

* - CUT OR ADJUST BARS AS NEEDED TO AVOID JUNCTION BOX IN BARRIER

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/66 .
2. APPLY BOND BREAKER TO THE ENTIRE TOP SURFACE OF THE CONCRETE SLEEPER SLAB.
3. FOR ADDITIONAL NOTES NOT SHOWN SEE STANDARD DRAWING AS-2-15 SHEET 14/14.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WHEELING, WEST VIRGINIA, OHIO 44691
TELEPHONE (330) 345-6556
FAX: (330) 345-6077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001119	

APPROACH SLAB DETAILS
BRIDGE NO. RIC-30-1074
OVER S.R. 39

RIC-30-9.26
PID No. 93455

1256
1669

STANDARD DRAWINGS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7-17-15
AS-2-15	REVISED	1-18-19
GSD-1-19	DATED	1-18-19
PCB-91	REVISED	1-18-13
SBR-1-13	REVISED	7-20-18
SBR-2-13	REVISED	7-20-18
SICD-1-96	REVISED	7-18-14
SICD-2-14	DATED	7-18-14
VPF-1-90	REVISED	7-20-18

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, 8TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFIACTIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

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

DESIGN DATA
CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

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

CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

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

DECK PROTECTION METHOD
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

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

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT 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 OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK 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. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05

SUBSTRUCTURE CONCRETE REMOVAL:
REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

ITEM 203 EMBANKMENT, AS PER PLAN
PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 597+50 to 602+50.

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

THE TOTAL FACTORED LOAD IS 132 KIPS PER PILE FOR THE ABUTMENT PILES.

REAR ABUTMENT PILES: (HP 10X42)
23 PILES 50 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES: (HP 10X42)
23 PILES 60 FEET LONG, ORDER LENGTH

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

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

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

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

DECK PLACEMENT ASSUMPTIONS
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.3 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

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

MECHANICAL CONNECTORS:
AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES.

CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATINGS USED SHALL CONFORM TO THE SAME SPECIFICATION. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATION WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL WHICH MEET THE SPECIFICATIONS. CONNECTORS SHALL BE INCLUDED IN ITEM 509 FOR PAYMENT.

REINFORCING STEEL LENGTHS IN THE TABLES FOR BARS THAT ARE TO BE MECHANICALLY SPLICED ASSUME AN END TO END TYPE CONNECTOR WILL BE USED. IF THE CONTRACTOR ELECTS TO USE ANOTHER TYPE OF CONNECTOR THE FABRICATOR SHALL BE DIRECTED TO MAKE ADJUSTMENTS TO THE REINFORCING STEEL LENGTHS ACCORDINGLY.

DRILLED SHAFTS:
THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 265 KIPS AT THE PIERS. THIS LOAD IS RESISTED BY SIDE RESISTANCE WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE IS 0 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 0 FEET OF THE BEDROCK SOCKET FOR THE PIERS. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 2400 KIPS.

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

STRUCTURE PAINTING: ALL BRIDGE FINISH COATS SHALL BE THE SAME COLOR.

INSTALLATION OF MULTI-CELL CONDUIT ON STRUCTURES
ONE MULTI-CELL CONDUIT IS CONTINUOUS FOR THE ENTIRE PROJECT. THE SECOND MULTI-CELL CONDUIT SHALL BE PLACED ONLY WITHIN THE LIMITS OF THE BRIDGES AND APPROACH SLABS AND SHALL TERMINATE AT A JUNCTION BOX AS SHOWN IN STANDARD DRAWING HL-30.33.

ABBREVIATIONS

ABUT.	-	ABUTMENT
APPR.	-	APPROACH
BRG.	-	BEARING
BOT.	-	BOTTOM
CONST. JT.	-	CONSTRUCTION JOINT
CLR.	-	CLEAR
CONST.	-	CONSTRUCTION
CORR.	-	CORRUGATED
DIA.	-	DIAMETER
DIM.	-	DIMENSION
DWG.	-	DRAWING
EL.	-	ELEVATION
E.F.	-	EACH FACE
EXIST.	-	EXISTING
F.A.	-	FORWARD ABUTMENT
FWD.	-	FORWARD
F.F.	-	FRONT FACE
FT.	-	FEET
LBS.	-	POUNDS
MAX.	-	MAXIMUM
MEAS.	-	MEASURED
MIN.	-	MINIMUM
OPT.	-	OPTIONAL
P.E.J.F.	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
R.F.	-	REAR FACE
REQ'D.	-	REQUIRED
SPA.	-	SPACING
STA.	-	STATION
T.O.S.	-	TOP OF SLOPE
TYP.	-	TYPICAL
U.O.N.	-	UNLESS OTHERWISE NOTED
VAR.	-	VARIES
W/	-	WITH

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WHEELING, WEST VIRGINIA, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED HK | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED BDH | REVISED | STRUCTURE FILE NUMBER 7001143

GENERAL NOTES

BRIDGE NO. RIC-30-1135
BOWMAN STREET

RIC-30-9.26
PID No. 93455

CALC: RLE DATE: 5/28/2019
CHECKED: TAC DATE: 6/1/2019

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL 01/NHS/BR	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3/56
202	22900	258	SY	APPROACH SLAB REMOVED				258	
202	23500	258	SY	WEARING COURSE REMOVED				258	
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	3/56
503	21100	384	CY	UNCLASSIFIED EXCAVATION	384				
504	11100	3840	SF	STEEL SHEET PILING LEFT IN PLACE, Sx = 34.8 IN^3/FT				3840	
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
507	00100	2530	FT	STEEL PILES HP10X42, FURNISHED	2530				
507	00150	2300	FT	STEEL PILES HP10X42, DRIVEN	2300				
509	10001	199496	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	21843	30975	146678		23/56
510	10000	40	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	24	16			
511	21523	645	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			645		5/56 & 33/56 & 40/56
511	33500	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE			4		
511	41012	153	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		153			
511	44112	85	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	85				
511	46512	148	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	148				
512	10100	1155	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	48	397	654	56	
512	10300	233	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			204	29	
512	33000	16	SY	TYPE 2 WATERPROOFING	16				
513	10260	371800	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			371800		
513	20000	8676	EACH	WELDED STUD SHEAR CONNECTORS			8676		
514	00800	371800	LB	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			371800		
514	00851	371800	LB	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			371800		3/56
514	10000	19	EACH	FINAL INSPECTION REPAIR			19		
516	10010	176	FT	ARMORLESS PREFORMED JOINT SEAL				176	
516	13600	26	SF	1" PREFORMED EXPANSION JOINT FILLER			26		
516	13900	285	SF	2" PREFORMED EXPANSION JOINT FILLER			60	225	
516	14020	261	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	261				
516	44101	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 13/16"x1'-2"x1'-5" W/ † x1'-3"x1'-6" BEVELED LOAD PLATE		24			28/56
516	44101	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 1/2"x11"x1'-0" W/ 1 5/8"x1'-0"x1'-1" BEVELED LOAD PLATE	24				28/56
518	21200	97	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	97				
518	40001	220	FT	6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN	220				15/56 & 19/56
518	40010	22	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	22				
524	95434	84	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK WITH QC/QA		84			
524	95442	278	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK WITH QC/QA		278			
526	15001	390	SY	REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN				390	43/56 THRU 47/56
526	90030	176	FT	TYPE C INSTALLATION				176	
601	21000	932	SY	CONCRETE SLOPE PROTECTION				932	
607	39900	289	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			289		

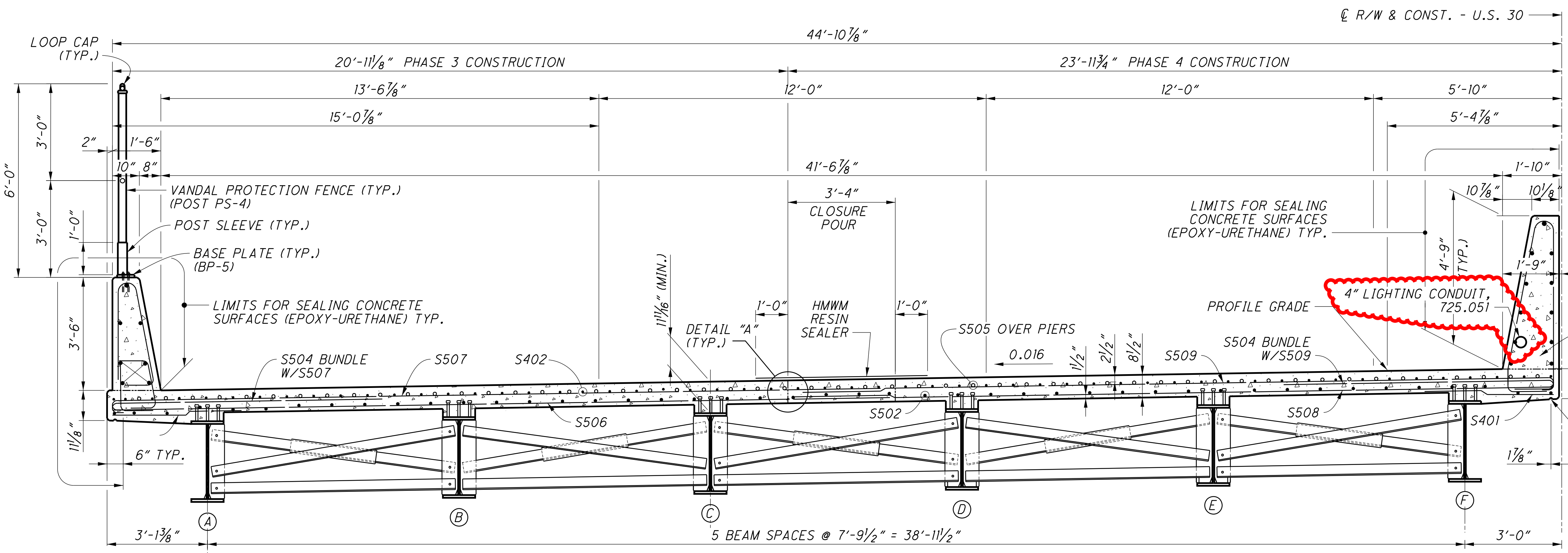
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WEST LAFAYETTE, INDIANA 47906
TELEPHONE (330) 345-6556
FAX (330) 345-6077

REVIEWED SDS DATE 9-24-19
STRUCTURE FILE NUMBER 7001143
DRAWN TAC REVISED XXX
DESIGNED HK CHECKED BDH

ESTIMATED QUANTITIES
BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

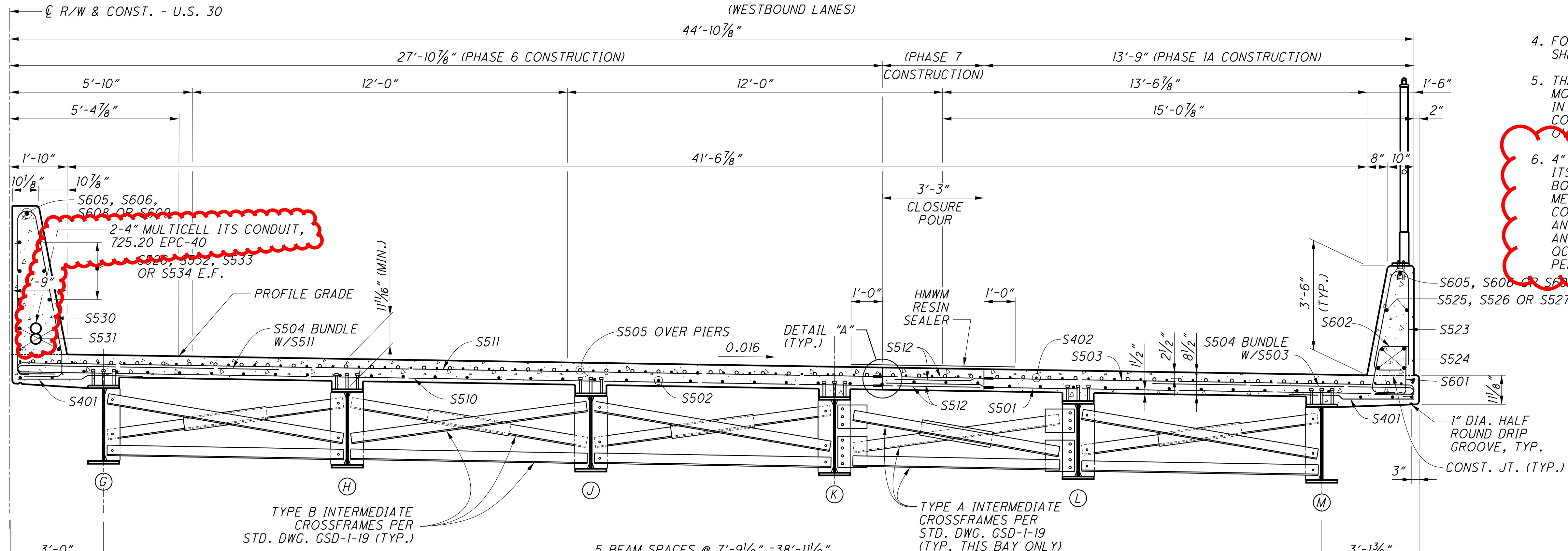
RIC-30-9.26
PID No. 93455

1273
1669



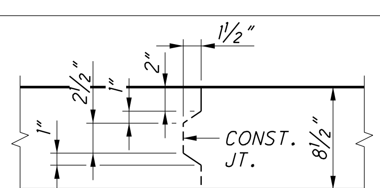
TRANSVERSE SECTION

(WESTBOUND LANES)



TRANSVERSE SECTION

(EASTBOUND LANES)



CONST. JOINT DETAIL

DETAIL "A"

LEGEND

—▬— DENOTES MECHANICAL CONNECTOR

NOTES

1. FOR SLAB PLAN SEE SHEET 41/56.
2. FOR ABBREVIATIONS SEE SHEET 3/56.
3. MINIMUM REINFORCING STEEL SPLICE LENGTH UNLESS OTHERWISE NOTED:
   - NO. 4 BAR = 1'-11"
   - NO. 5 BAR = 2'-5"
   - NO. 5 BAR = 3'-0" (BOTTOM OF SLAB)
   - NO. 6 BAR = 3'-7"
4. FOR BARRIER MEDIAN AND RAILING DETAILS SEE SHEETS 42/56 THRU 45/56 .
5. THE CLOSURE POUR SHALL BE SEALED WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN IN ACCORDANCE OF ITEM 512. THE RESIN SHALL COVER THE ENTIRE CLOSURE POUR SECTION AND OVERLAP EACH CONSTRUCTION JOINT 1'-0".
6. 4" LIGHTING CONDUIT, 725.051, AND 4" MULTICELL ITS CONDUIT, 725.20 EPC-40, AND JUNCTION BOXES WHERE REQUIRED SHALL BE PLACED IN THE MEDIAN BARRIER AS SHOWN IN THE PLANS. THE COST OF PLACEMENT, MATERIALS, EQUIPMENT AND LABOR SHALL BE CONSIDERED INCIDENTAL AND INCLUDED FOR PAYMENT IN ITEM 511 CLASS QC2 CONCRETE WITH QC/QA SUPERSTRUCTURE, AS PER PLAN.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-8077

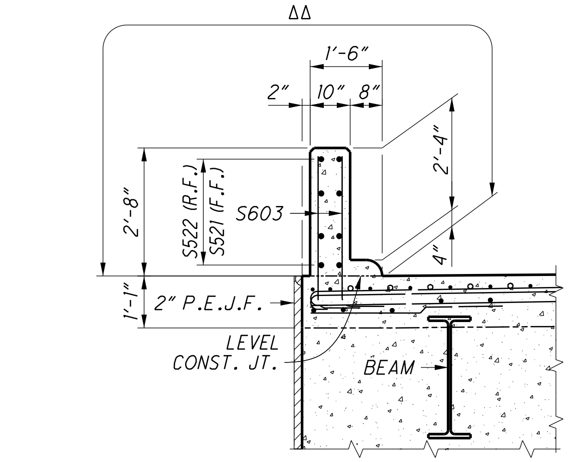
DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001143	

TRANSVERSE SECTION

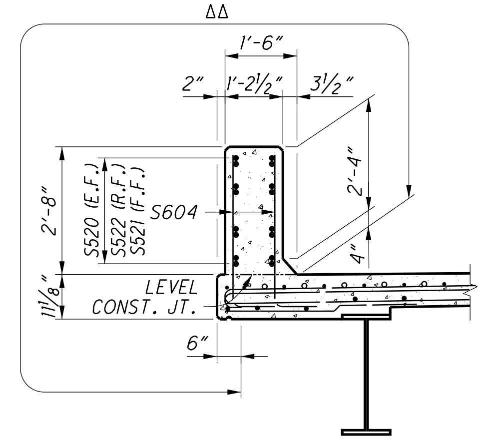
BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

RIC-30-9.26

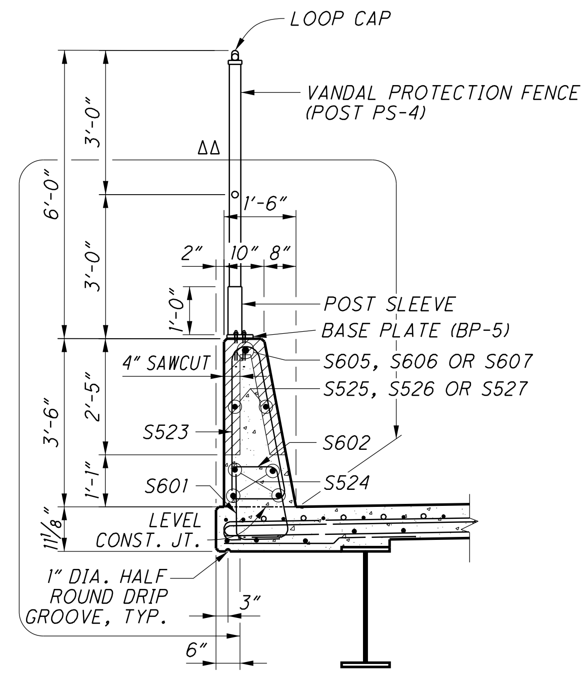
PID No. 93455



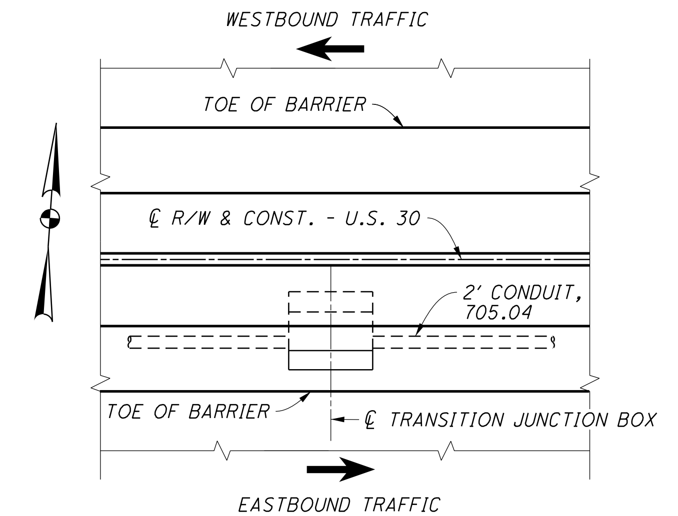
SECTION D-D



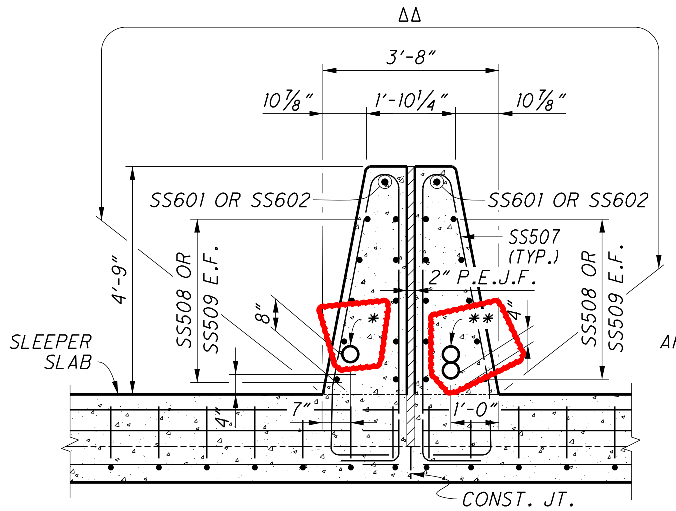
SECTION E-E



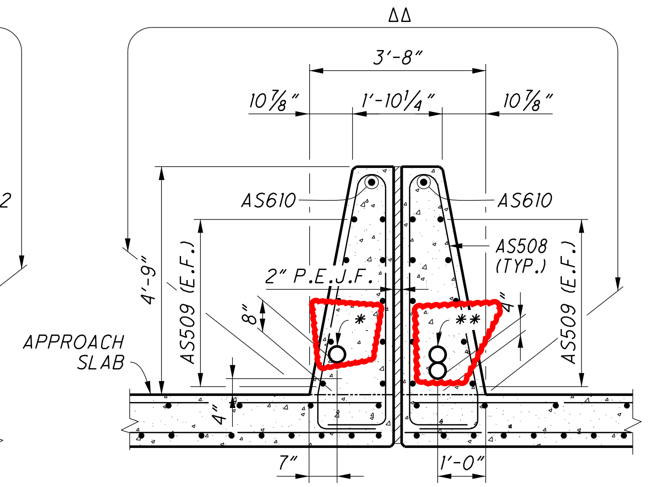
SECTION F-F



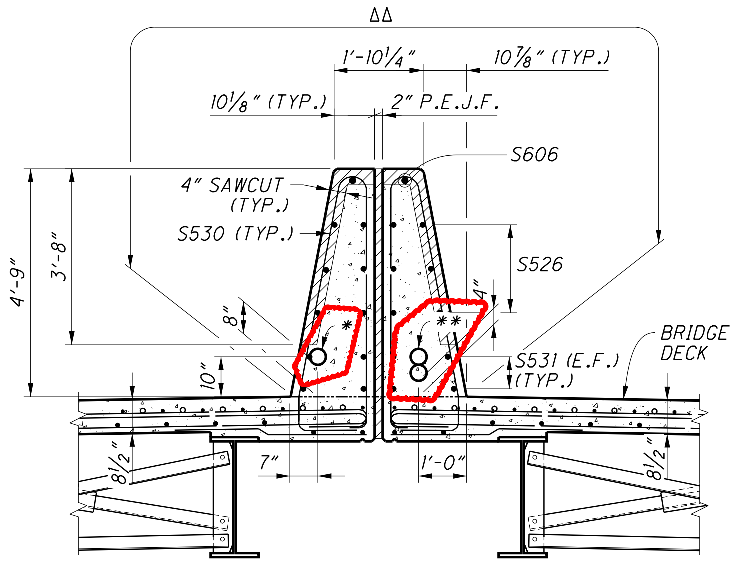
PLAN



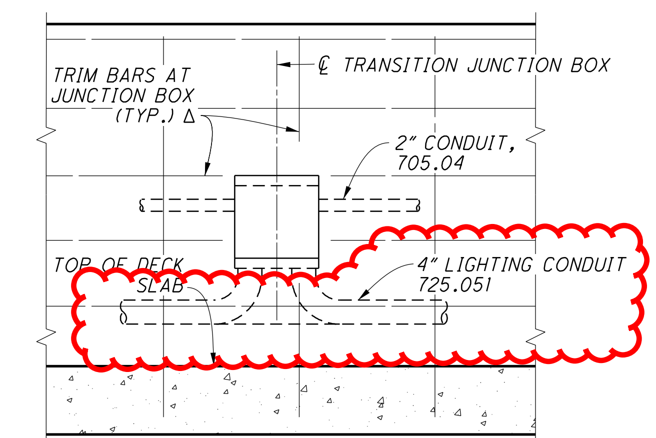
SECTION DD-DD



SECTION EE-EE

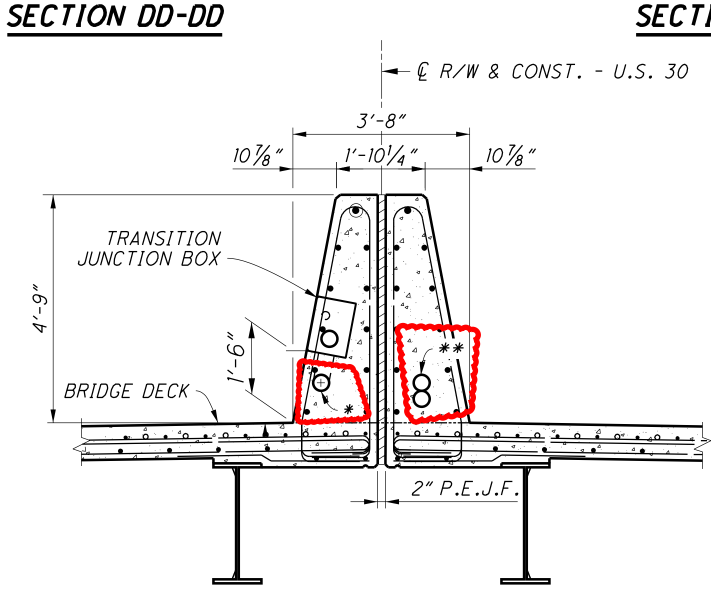


SECTION FF-FF



ELEVATION

TRANSITION JUNCTION BOX DETAILS



SECTION AF-AF

LEGEND

Δ - CUT OR ADJUST BARS AS NEEDED TO AVOID JUNCTION BOX IN BARRIER

ΔΔ - LIMITS FOR SEALING CONCRETE SURFACES (EPOXY-URETHANE)

* - 4" LIGHTING CONDUIT, 725.051

** - 2-4" MULTICELL ITS CONDUIT, 725.20 EPC-40

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/56 .
2. FOR LOCATIONS OF SECTIONS D-D, E-E & F-F SEE SHEET 42/56 .
3. FOR LOCATIONS OF SECTIONS DD-DD, EE-EE, FF-FF & AF-AF SEE SHEETS 43/56 & 44/56.
4. 4" LIGHTING CONDUIT, 725.051, AND 4" MULTICELL ITS CONDUIT, 725.20 EPC-40, AND JUNCTION BOXES WHERE REQUIRED SHALL BE PLACED IN THE MEDIAN BARRIER AS SHOWN IN THE PLANS. THE COST OF PLACEMENT, MATERIALS, EQUIPMENT AND LABOR SHALL BE CONSIDERED INCIDENTAL AND INCLUDED FOR PAYMENT IN ITEM 526 REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN.

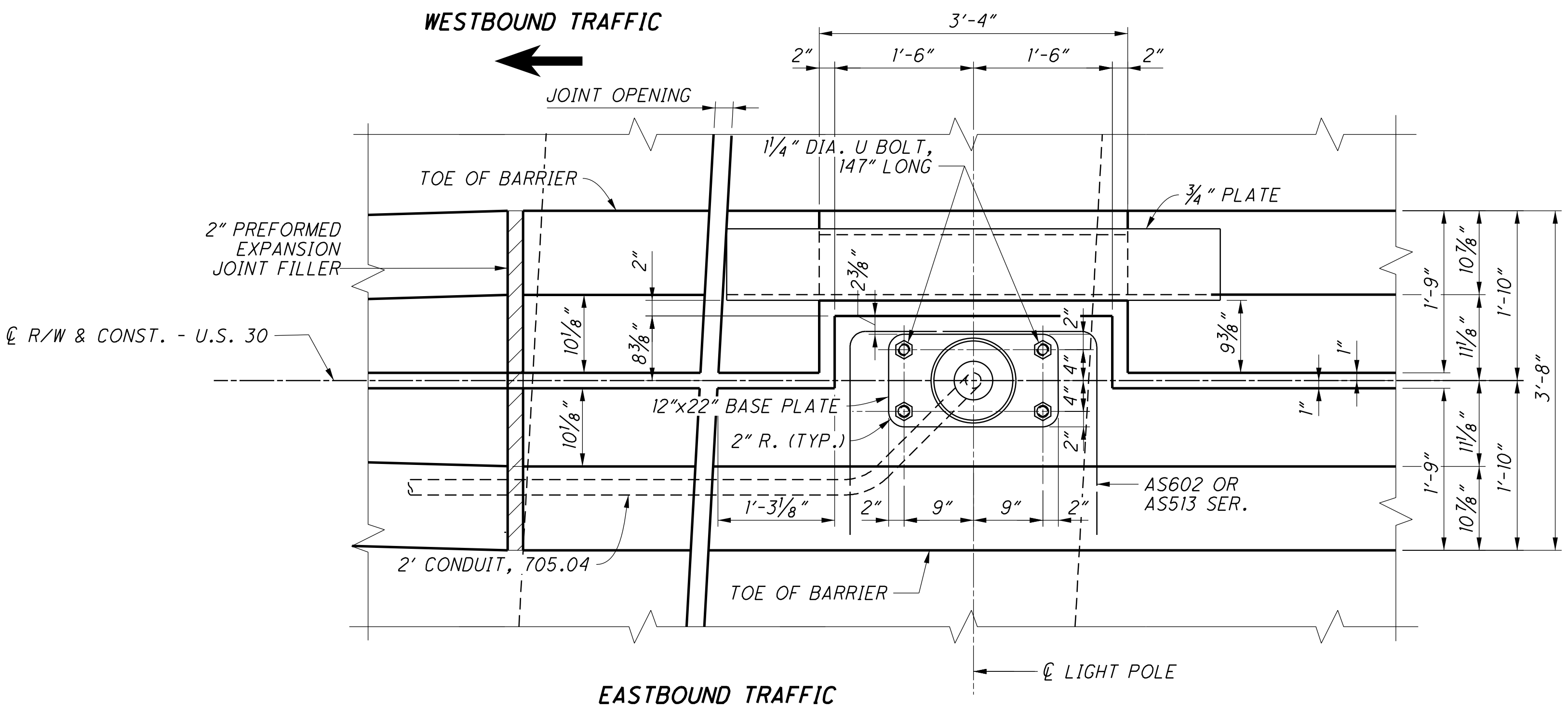
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-8077

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
HK	BDH	RLE	---	SDS	9-24-19	7001143

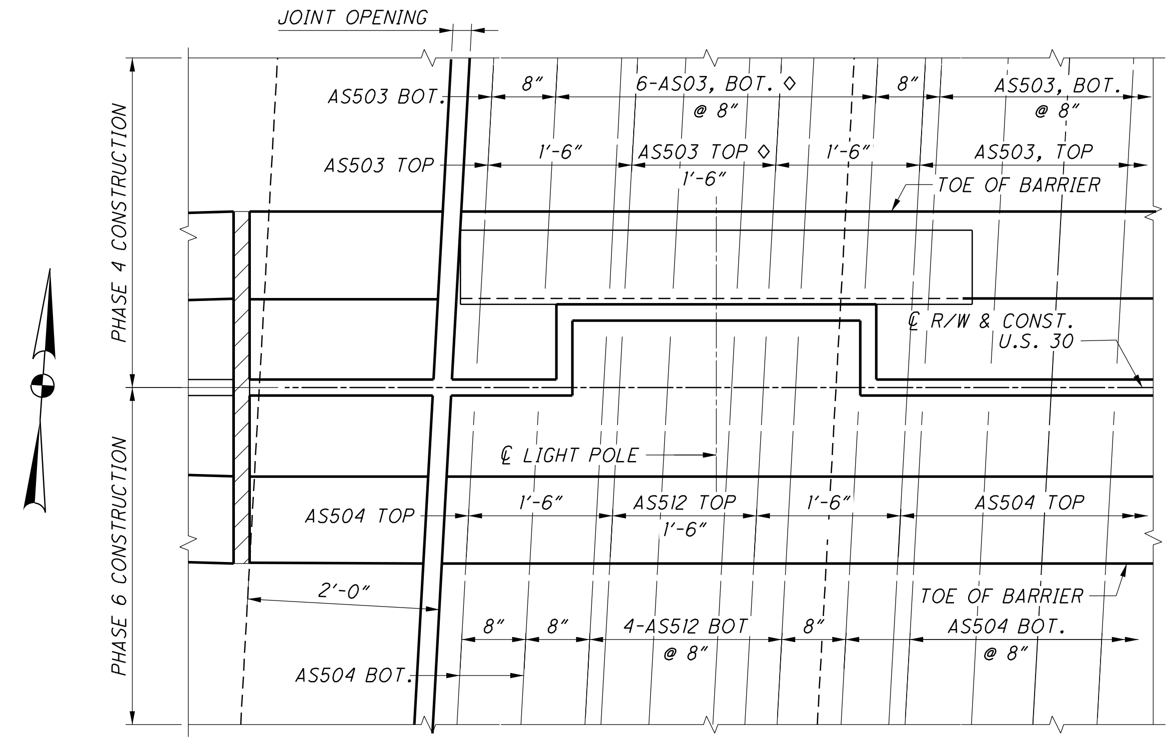
BRIDGE RAILING AND MEDIAN BARRIER DETAILS

BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

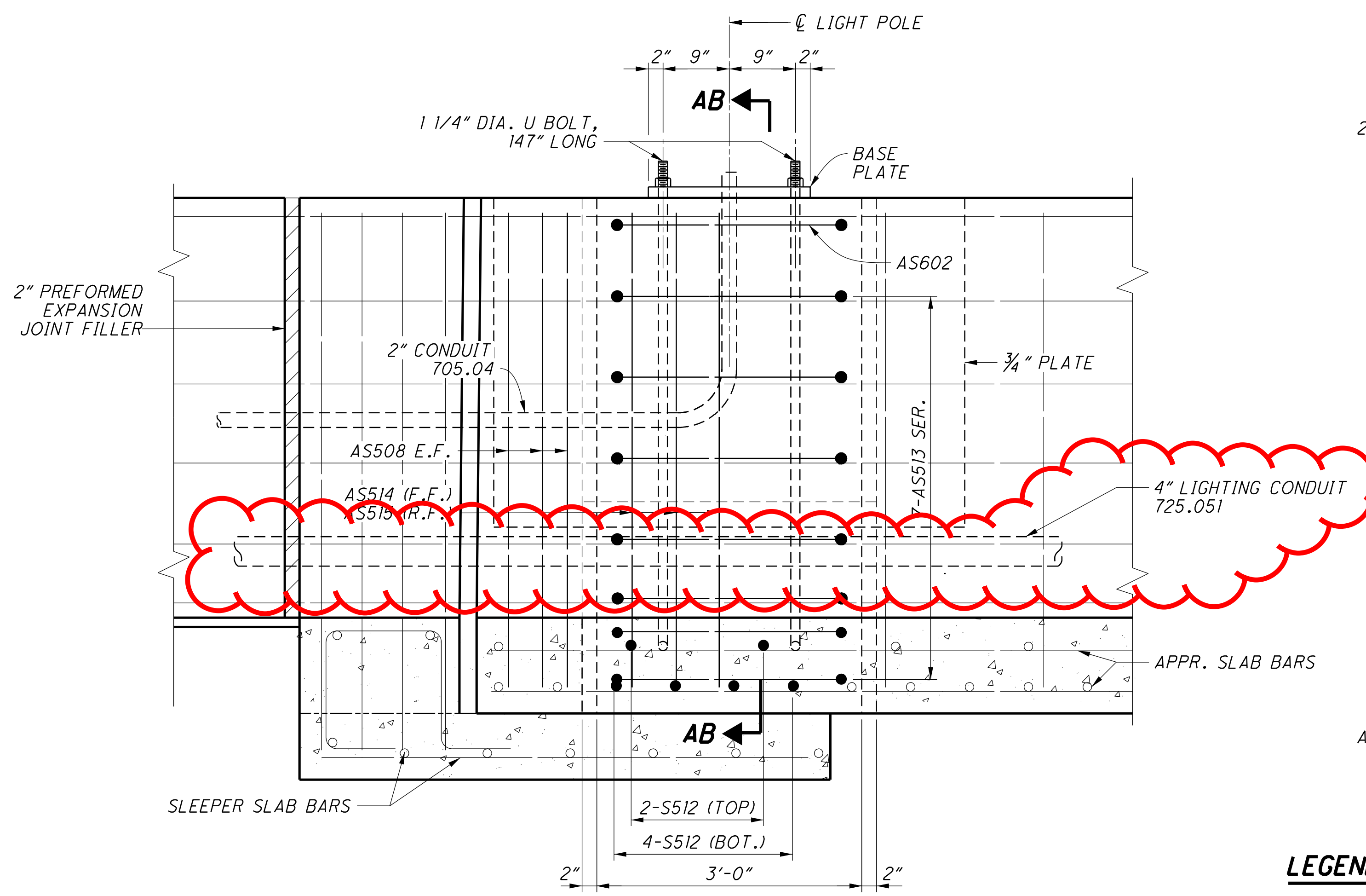
RIC-30-9.26
PID No. 93455



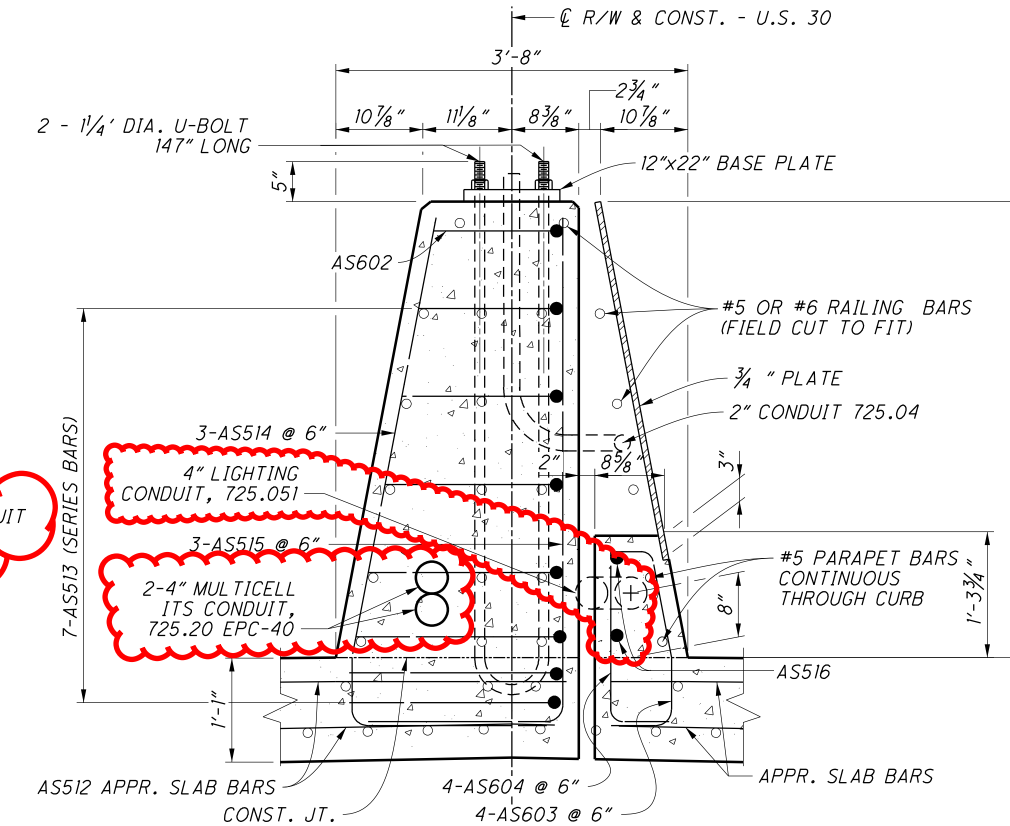
PLAN



SLAB REINFORCING PLAN



ELEVATION



SECTION AB-AB

LEGEND

◇ - FIELD CUT SLAB BARS

NOTES

1. MATERIALS: STEEL PLATES SHALL BE ASTM A709, GR. 50. PLATES SHALL BE METALIZED OR GALVANIZED PER 516.03.
2. PAYMENT FOR THE MATERIAL AND INSTALLATION OF MEDIAN BARRIER PLATES AND FASTENERS SHALL BE INCLUDED AS INCIDENTAL TO ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.
3. FOR LIGHT SUPPORT LOCATION SEE SHEET 1183/1669.

DESIGN AGENCY: ENGINEERING ASSOCIATES, INC. 1935 EAGLE PASS - WOOSTER, OHIO 44691 TELEPHONE (330) 345-6556 FAX (330) 345-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001143	

MEDIAN BARRIER AT LIGHT SUPPORT STA. 598+98.00

BRIDGE NO. RIC-30-1135 OVER BOWMAN STREET

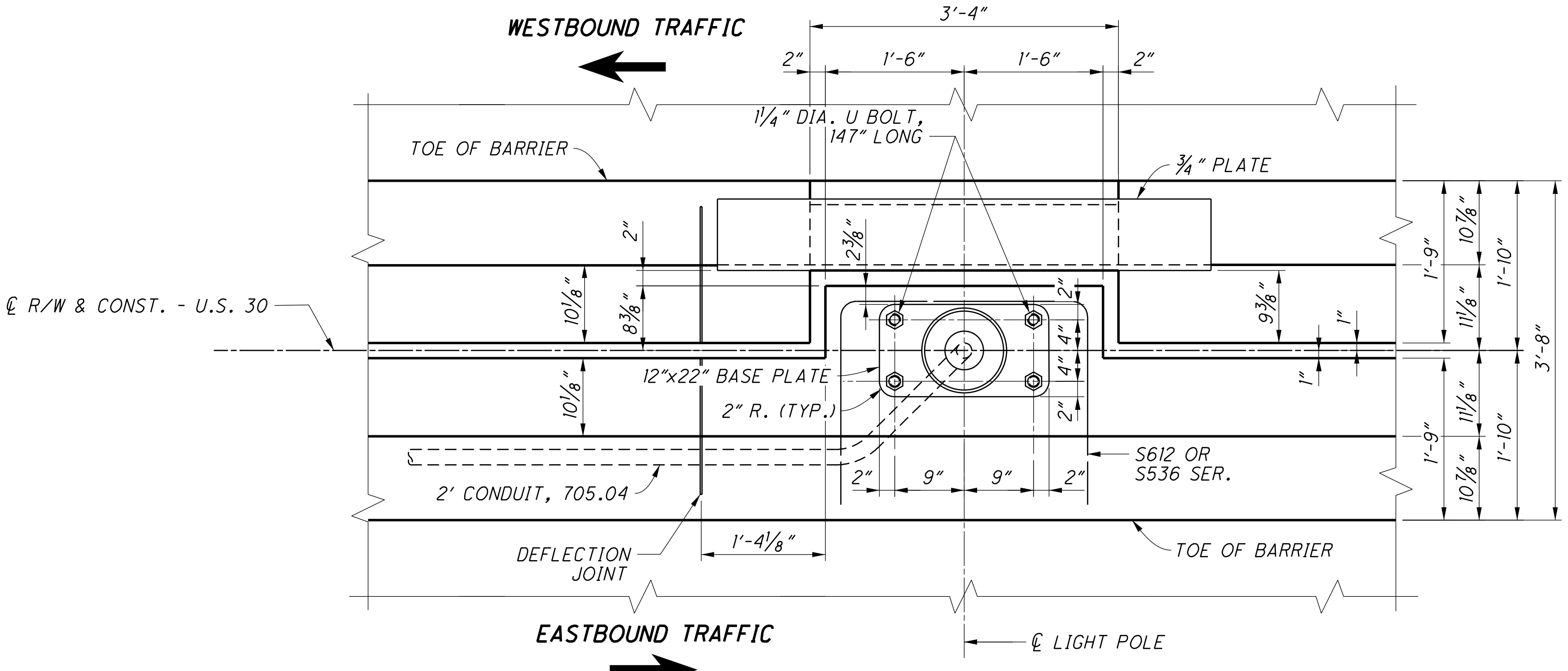
RIC-30-9.26

PID No. 93455

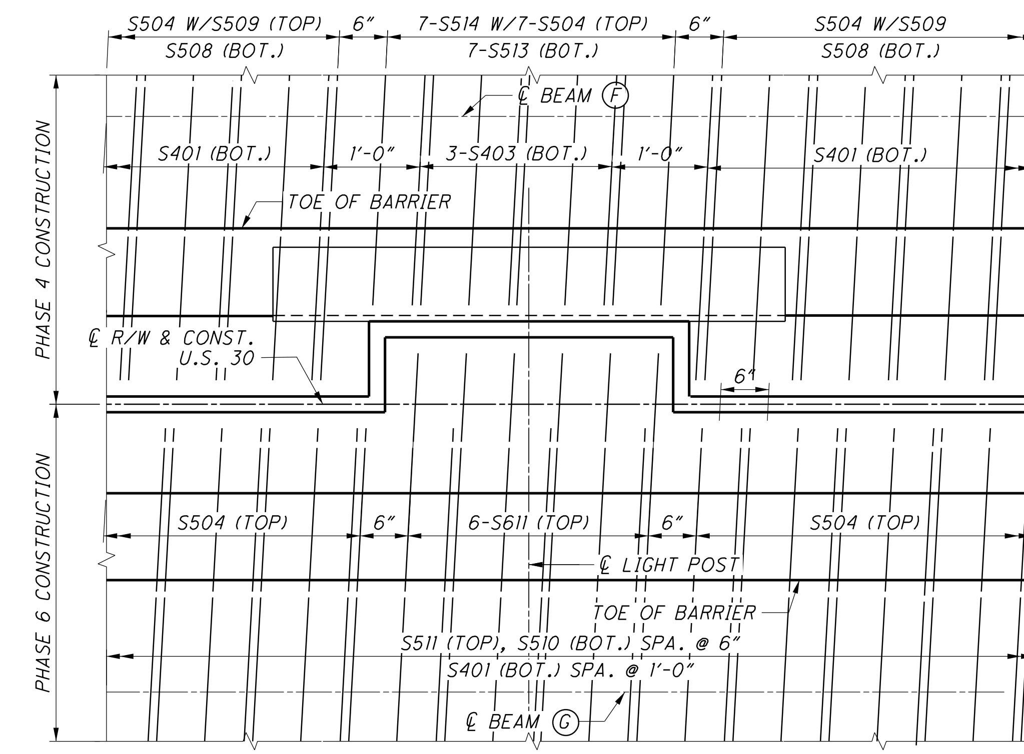
45A/56

1314A/1669

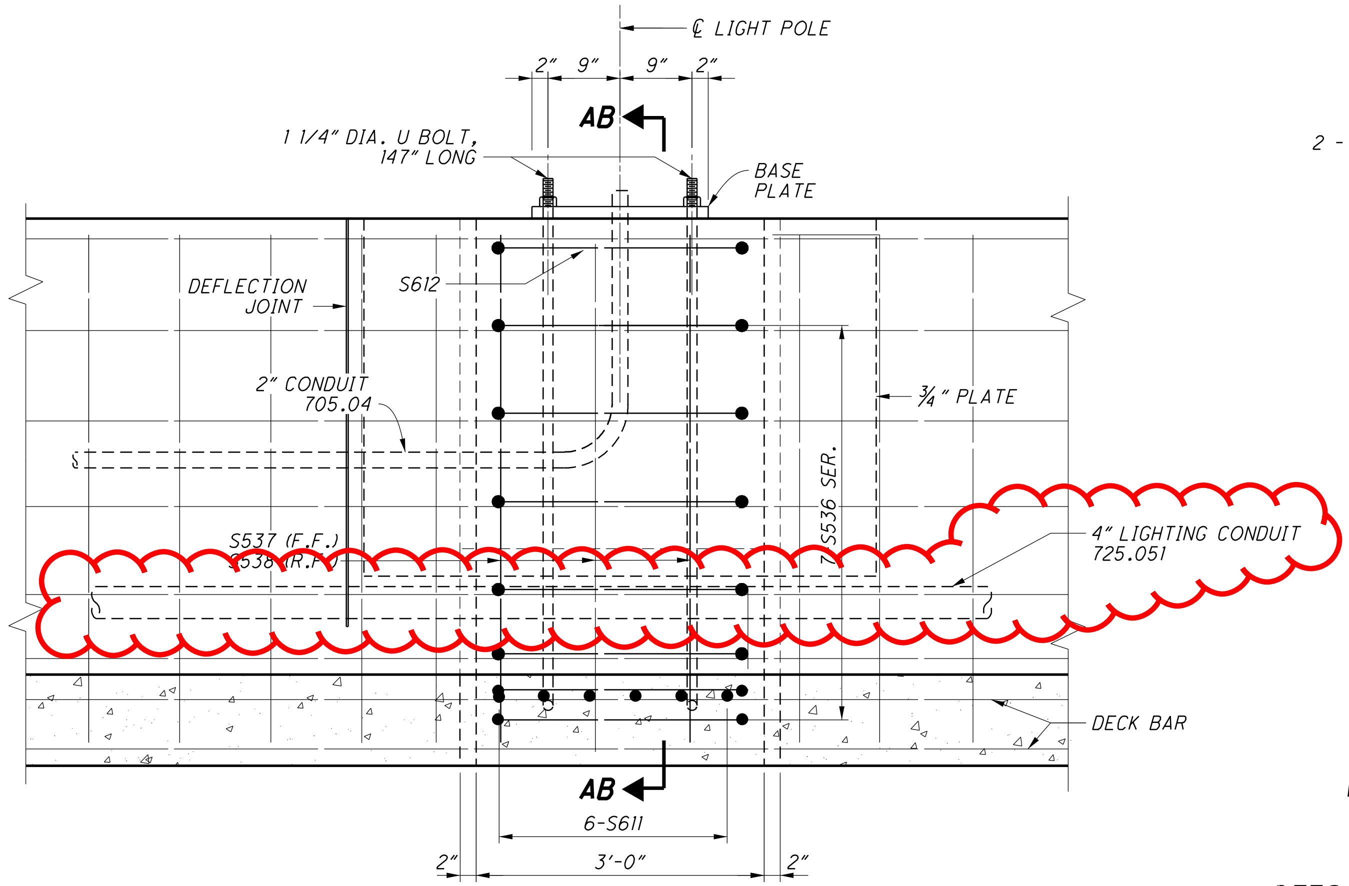
M:\15074\93455\Design\Structures\RIC030_1135C\Sheets\030_1135CSA005.dgn 3/27/2020 10:19:23 AM tac230



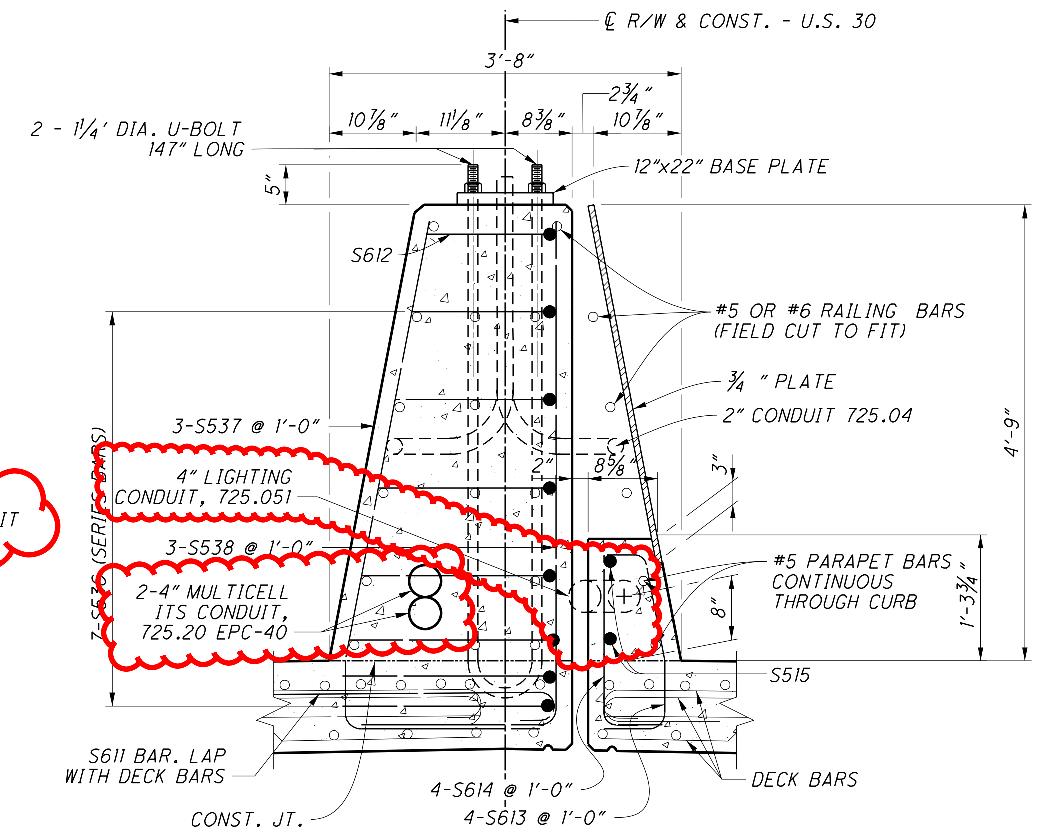
PLAN



SLAB REINFORCING PLAN



ELEVATION



SECTION AB-AB

NOTES

1. MATERIALS: STEEL PLATES SHALL BE ASTM A709, GR. 50. PLATES SHALL BE METALIZED OR GALVANIZED PER 516.03.
2. PAYMENT FOR THE MATERIAL AND INSTALLATION OF MEDIAN BARRIER PLATES AND FASTENERS SHALL BE INCLUDED AS INCIDENTAL TO ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.
3. FOR LIGHT SUPPORT LOCATION SEE SHEET (1183/1669).

MEDIAN BARRIER AT LIGHT SUPPORT STA. 600+76.75
BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

DESIGN AGENCY: ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
HK	BDH	TAC	---	SDS	9-24-19

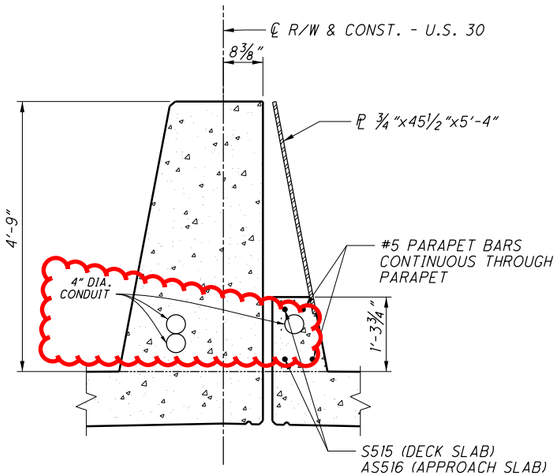
STRUCTURE FILE NUMBER 7001143

RIC-30-9.26
PID No. 93455

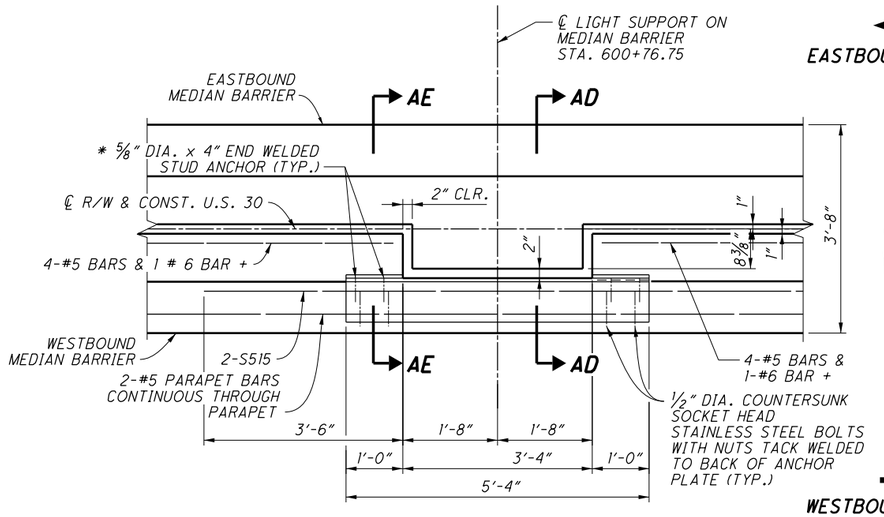
45B/56

1314B/1669

M:\15074\93455\Design\Structures\RIC030_1135C\Sheets\030_1135CSA006.dgn 3/27/2020 10:23:15 AM tac230



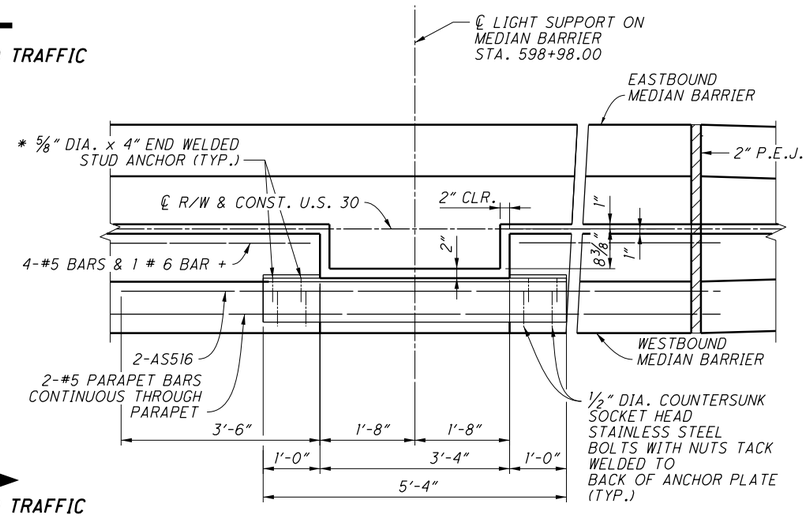
SECTION AD-AD



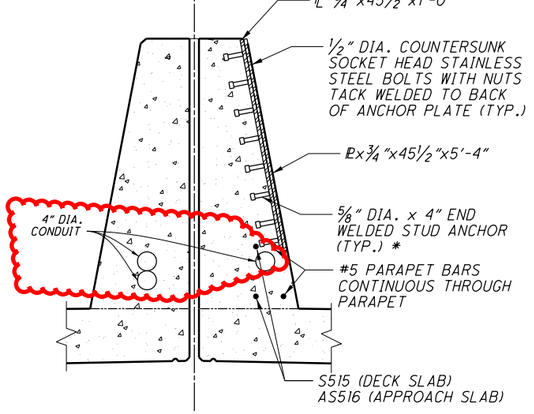
PLAN

EASTBOUND TRAFFIC

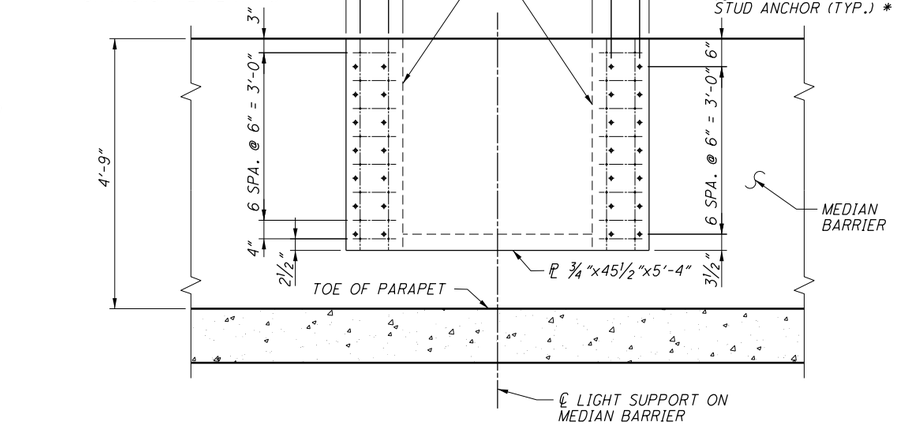
WESTBOUND TRAFFIC



PLAN



SECTION AE-AE



ELEVATION

PLATE AT LIGHT SUPPORT

LEGEND

* - WELDED WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT OR 5/16" MINIMUM FILLET WELD ALL AROUND

\+ - FIELD CUT OR ADJUST LAP TO FIT GAP

NOTES

1. ADDITIONAL NOTES SEE SHEETS 45A/56 & 45B/56.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WEST CHESTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED	CHECKED
HK	BDH

DRAWN	REVISED
RLE	---

REVIEWED	DATE
SDS	9-24-19

STRUCTURE FILE NUMBER 7001143

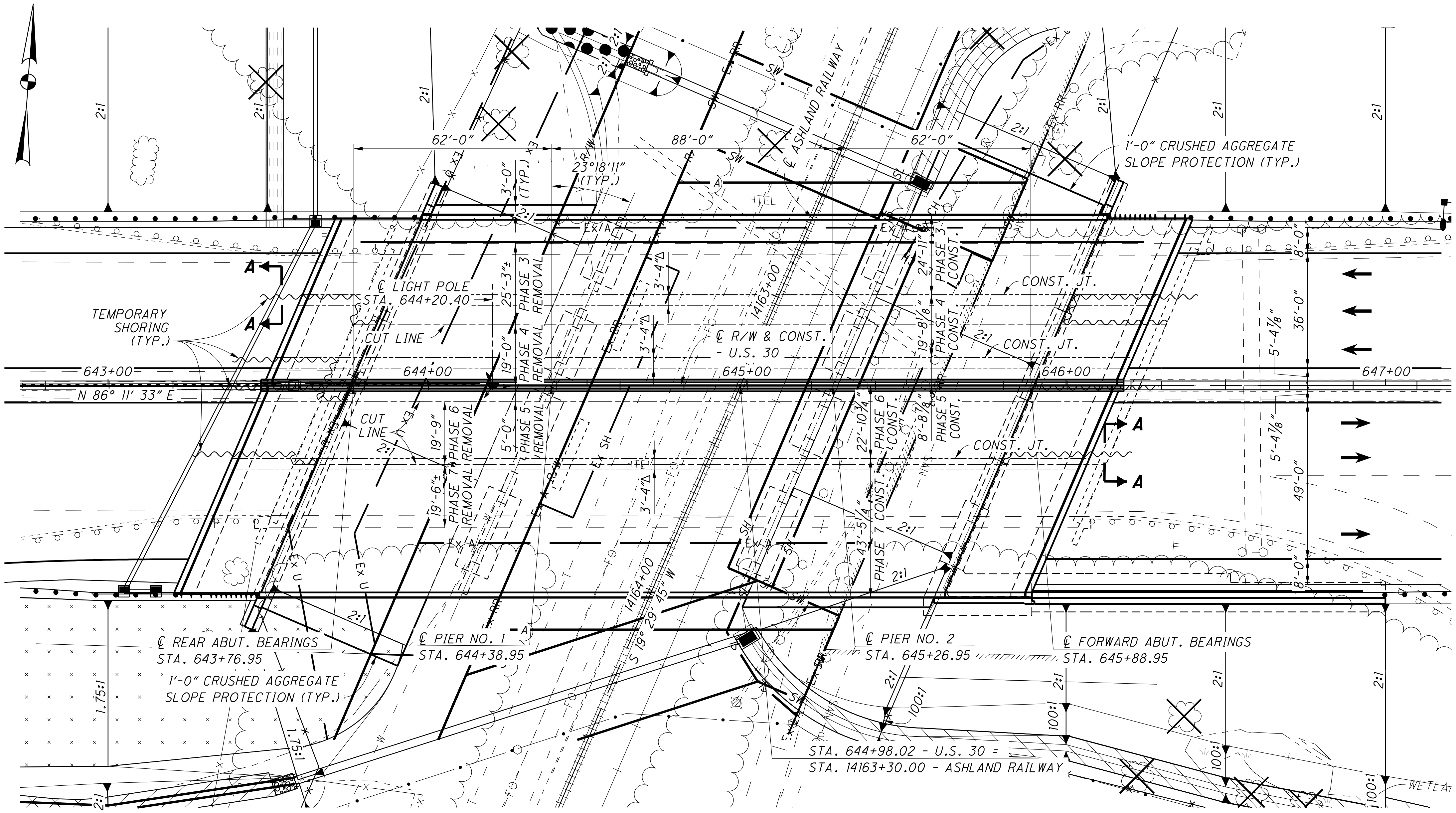
MEDIAN BARRIER AT LIGHT SUPPORT DETAILS

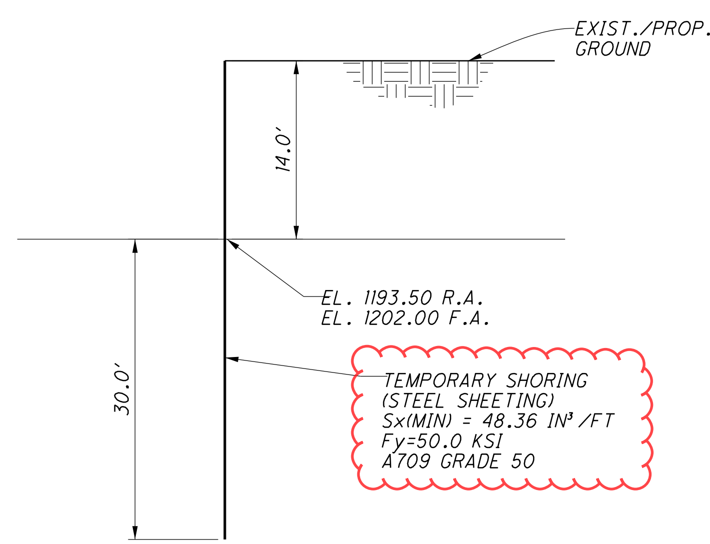
BRIDGE NO. RIC-30-1135
OVER BOWMAN STREET

RIC-30-9.26
PID No. 93455

45C/56

1314C
1669





SECTION A-A
TEMPORARY SHORING DETAIL

LEGEND

Δ - CLOSURE POUR

NOTES

1. FOR ABBREVIATIONS AND SECTION SEE SHEET 3/79 .

ITEM 203 EMBANKMENT, AS PER PLAN
PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 642+50 TO 647+00.

EMBANKMENT AT THE FORWARD ABUTMENT IS TO BE PLACED AT THE ELEVATION SHOWN IN THE PLANS AS SOON AS POSSIBLE. SETTLEMENT OF THE PROPOSED EMBANKMENT IS TO BE MONITORED BY SETTLEMENT PLATFORMS AND DOCUMENTED BY THE CONTRACTOR.

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	-	7001232	

GENERAL PLAN & NOTES
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

RIC-30-9.26
PID No. 93455

STANDARD DRAWINGS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7-17-15
AS-2-15	REVISED	1-18-19
GSD-1-19	DATED	1-18-19
PCB-91	REVISED	1-18-13
SBR-1-13	REVISED	7-20-18
SBR-2-13	REVISED	7-20-18
SICD-1-96	REVISED	7-18-14
SICD-2-14	DATED	7-18-14
VPF-1-90	REVISED	7-20-18

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, 8TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

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

DESIGN DATA
CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

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

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

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

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT 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 OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK 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. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05

PILES DRIVEN TO TIP ELEVATION FOR SOIL/PILE SETUP
THE ULTIMATE BEARING VALUE IS 220 KIPS PER PILE FOR THE ABUTMENT PILES. THE ULTIMATE BEARING VALUE AT PIERS IS 352.0 KIPS PER PILE LEFT BRIDGE AND 338.5 KIPS PER PILE RIGHT BRIDGE. PART OF THE ULTIMATE BEARING VALUE WILL BE ACHIEVED THROUGH PILE/SOIL SETUP, WHICH IS A TIME DEPENDENT INCREASE IN RESISTANCE THAT OCCURS IN SOME SOILS.

NOTIFY THE ENGINEER AT LEAST 5 DAYS BEFORE DRIVING PILES SO THAT THE ENGINEER CAN NOTIFY THE DISTRICT GEOTECHNICAL ENGINEER, THE OFFICE OF CONSTRUCTION ADMINISTRATION, AND THE OFFICE OF GEOTECHNICAL ENGINEERING.

DRIVE THE FIRST TWO PILES IN EACH SUBSTRUCTURE TO THE TIP ELEVATION GIVEN BELOW FOR THE SUBSTRUCTURE, DRIVE THE THIRD AND FOURTH PILES TO 75% AND 85% OF THE LENGTH OF THE FIRST TWO PILES. PERFORM DYNAMIC LOAD TESTING ON ALL FOUR PILES WHILE DRIVING. AFTER DRIVING THE FOUR PILES, CEASE ALL DRIVING OPERATIONS AT THE SUBSTRUCTURE FOR A MINIMUM OF 7 DAYS. INCLUDE THE WAITING PERIOD AS A SEPARATE ACTIVITY IN THE PROGRESS SCHEDULE. AFTER THE WAITING PERIOD, PERFORM PILE RESTRIKES ON THE FOUR PILES (TWO RESTRIKE ITEMS). SUBMIT ALL TEST RESULTS TO THE ENGINEER. THE ENGINEER WILL REVIEW THE TEST RESULTS AND ESTABLISH DRIVING CRITERIA FOR THE PILING IN THE SUBSTRUCTURE WITH THE ASSISTANCE OF THE DISTRICT GEOTECHNICAL ENGINEER, AND THE OFFICE OF GEOTECHNICAL ENGINEERING.

THE DRIVING CRITERIA WITH PILE SETUP SHALL BE PERFORMED FOR THE FIRST STAGE OF BRIDGE CONSTRUCTION. THE CONTRACTOR SHALL NOT ORDER PILES FOR SUBSEQUENT PHASES UNTIL AFTER THE DRIVING CRITERIA HAS BEEN ESTABLISHED WITH SETUP. THE DEPARTMENT WILL ADJUST THE FURNISHED PILE QUANTITIES BASED ON THE RESTRIKE TEST RESULTS.

IF THE DYNAMIC LOAD TESTING INDICATES A PILE HAS ACHIEVED THE ULTIMATE BEARING VALUE ABOVE THE TIP ELEVATION DURING THE INITIAL DRIVING, (BEFORE THE WAITING PERIOD), STOP DRIVING AND NOTIFY THE ENGINEER. IF THE RESTRIKE TEST RESULTS ON THE FOUR PILES INDICATE THAT A PILE DID NOT ACHIEVE THE REQUIRED ULTIMATE BEARING VALUE, DRIVE THE PILE TO THE ESTABLISHED DRIVING CRITERIA. SPLICING OF THE PILES BEYOND THE ESTIMATED LENGTH PROVIDED IN THE PLANS WILL BE PAID BY THE DEPARTMENT UNDER CMS 109.05 WITH A NEGOTIATED PRICE PER SPLICE.

LEFT BRIDGE:	NO. OF PILES	PILE TIP ELEV.	ORDER LENGTH
REAR ABUTMENT	14	1142.9	60'
PIER NO. 1	30	1104.1	75'
PIER NO. 2	30	1104.7	80'
FORWARD ABUTMENT	14	1149.8	60'

RIGHT BRIDGE:	NO. OF PILES	PILE TIP ELEV.	ORDER LENGTH
REAR ABUTMENT	17	1142.9	60'
PIER NO. 1	36	1106.9	80'
PIER NO. 2	36	1109.3	75'
FORWARD ABUTMENT	28	1149.8	60'

ABUTMENT PILES: (12" DIA. C-I-P CONCRETE)
1 DYNAMIC LOAD TEST
PIER PILES: (16" DIA. C-I-P CONCRETE)
1 STATIC LOAD TEST
2 DYNAMIC LOAD TESTS
2 RESTRIKES

PILE DRIVING CONSTRAINTS
PILE DRIVING MAY NOT BEGIN UNTIL SUFFICIENT EMBANKMENT SETTLEMENT HAS OCCURRED AS DOCUMENTED BY THE SETTLEMENT PLATFORMS. THE ANTICIPATED WAITING PERIOD TO PERMIT SUFFICIENT EMBANKMENT SETTLEMENT IS 30 DAYS. THE DISTRICT GEOTECHNICAL ENGINEER MAY REDUCE OR EXTEND THE WAITING PERIOD BASED ON THE MAGNITUDE AND RATE OF THE EMBANKMENT SETTLEMENT AS DETERMINED BY THE SETTLEMENT PLATFORMS. THE SETTLEMENT WAITING PERIOD BEGINS ONCE THE APPROACH EMBANKMENT REACHES THE DESIGN SUBGRADE LEVEL FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. BEGIN PILE DRIVING ONLY FOLLOWING TERMINATION OF THE SETTLEMENT MONITORING WAITING PERIOD BY THE DISTRICT GEOTECHNICAL ENGINEER.

ITEM 507 - CAST-IN-PLACE REINFORCED CONCRETE PILES, AS PER PLAN
MINIMUM PIPE PILE WALL THICKNESS IS 0.375".

FOR ENCASED PILES, PILE SLEEVE MATERIAL SHALL BE CORRUGATED POLYETHYLENE SMOOTH LINED PIPE CONFORMING TO EITHER 707.33 OR ASTM F2648, OR PVC CORRUGATED SMOOTH INTERIOR PIPE CONFORMING TO 707.42. INSIDE DIAMETER OF SLEEVE SHALL BE 14 INCHES. THE ESTIMATED SLEEVE LENGTH SHALL BE 15 FEET.

IF FURNISHING PLASTIC PIPE MANUFACTURED FROM RECYCLED POLYETHYLENE, SUBMIT CERTIFIED TEST DATA THAT SHOWS THE PIPE CONFORMS WITH ASTM F2648. CLEARLY MARK ALL PIPE MANUFACTURED FROM RECYCLED POLYETHYLENE SO THAT IT IS USED ONLY FOR PILE SLEEVES ON THE PROJECT.

AFTER PILES ARE DRIVEN, SLEEVES ARE TO BE FILLED WITH GRANULAR MATERIAL CONFORMING TO 703.11, STRUCTURAL BACKFILL TYPE 2, EXCEPT 100 PERCENT OF THE MATERIAL SHALL PASS THROUGH A ¾-INCH SIEVE.

FOR ITEM SPECIAL, SETTLEMENT PLATFORM SEE SHEET 1335/1669.

SETTLEMENT PLATFORM LOCATIONS

POINT	STATION	OFFSET	CONSTRUCTED IN STAGE
1	645+94.24	41.36' LT	-
2	645+82.37	13.81' LT	-
3	645+70.51	13.75' RT	-
4	645+58.64	41.30' RT	-

DECK PLACEMENT ASSUMPTIONS
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.38 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

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

STRUCTURE PAINTING: ALL BRIDGE FINISH COATS SHALL BE THE SAME COLOR.

INSTALLATION OF MULTI-CELL CONDUIT ON STRUCTURES
ONE MULTI-CELL CONDUIT IS CONTINUOUS FOR THE ENTIRE PROJECT. THE SECOND MULTI-CELL CONDUIT SHALL BE PLACED ONLY WITHIN THE LIMITS OF THE BRIDGES AND APPROACH SLABS AND SHALL TERMINATE AT A JUNCTION BOX AS SHOWN IN STANDARD DRAWING HL-30.33.

ABBREVIATIONS

ABUT.	-	ABUTMENT
APPR.	-	APPROACH
BRG.	-	BEARING
BOT.	-	BOTTOM
CONST. JT.	-	CONSTRUCTION JOINT
CLR.	-	CLEAR
CONST.	-	CONSTRUCTION
CORR.	-	CORRUGATED
DIA.	-	DIAMETER
DIM.	-	DIMENSION
DWG.	-	DRAWING
EL.	-	ELEVATION
E.F.	-	EACH FACE
EXIST.	-	EXISTING
F.A.	-	FORWARD ABUTMENT
FWD.	-	FORWARD
F.F.	-	FRONT FACE
FT.	-	FEET
LBS.	-	POUNDS
MAX.	-	MAXIMUM
MEAS.	-	MEASURED
MIN.	-	MINIMUM
OPT.	-	OPTIONAL
P.E.J.F.	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
R.F.	-	REAR FACE
REQ'D.	-	REQUIRED
SPA.	-	SPACING
STA.	-	STATION
T.O.S.	-	TOP OF SLOPE
TYP.	-	TYPICAL
U.O.N.	-	UNLESS OTHERWISE NOTED
VAR.	-	VARIES
W/	-	WITH

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WILLIAMSBURG, OHIO 45176
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED HK | DRAWN TAC | CHECKED BDH | REVIEWED SDS | DATE 9-24-19 | REVISED | STRUCTURE FILE NUMBER 7001232

GENERAL NOTES
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

RIC-30-9.26
PID No. 93455

CALC:	HK	DATE:	6/28/2019
CHECKED:	TAC	DATE:	6/28/2019

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL 01/NHS/BR	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3/79
202	22900	411	SY	APPROACH SLAB REMOVED				411	
202	23500	411	SY	WEARING COURSE REMOVED				411	
SPECIAL	20365000	4	EACH	SETTLEMENT PLATFORM				4	3/79
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	2/79
503	21100	1967	CY	UNCLASSIFIED EXCAVATION	810	1157			
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
506	11100	LS		STATIC LOAD TEST		LS			
507	00501	4015	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN	4015				3/79 & 23/79
507	00551	4380	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN	4380				3/79 & 23/79
507	00701	9570	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN		9570			3/79
507	00751	10230	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN		10230			3/79
509	10000	411193	LB	EPOXY COATED REINFORCING STEEL	42869	136266	232058		
511	21523	1026	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			1026		42/79, 52/79, 53/79 & 61/79
511	33500	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE			4		
511	41012	437	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		437			
511	44112	203	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	203				
511	46512	496	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	256	240			
512	10100	2037	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	237	982	723	95	
512	10300	414	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			381	33	
512	33000	42	SY	TYPE 2 WATERPROOFING	42				
513	10260	754305	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			754305		
513	20000	11778	EACH	WELDED STUD SHEAR CONNECTORS			11778		
514	00800	754305	LB	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			754305		
514	00851	754305	LB	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			754305		3/79
514	10000	31	EACH	FINAL INSPECTION REPAIR			31		
516	10010	249	FT	ARMORLESS PREFORMED JOINT SEAL				249	
516	13600	75	SF	1" PREFORMED EXPANSION JOINT FILLER			75		
516	13900	646	SF	2" PREFORMED EXPANSION JOINT FILLER			245	401	
516	14020	300	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	300				
516	44101	28	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 3 1/8"x1'-4"x1'-7" WITH 2 3/8" (AVG)x1'-5"x1'-8" BEVELED LOAD PLATE		28			38/79
516	44101	28	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 1/2"x1'-0"x1'-2" WITH 1 3/4" (AVG)x1'-1"X1'-3" BEVELED LOAD PLATE	28				38/79
518	21200	225	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	225				
518	40000	320	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	320				
518	40010	45	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	45				
523	20000	3	EACH	DYNAMIC LOAD TESTING	1	2			
523	20500	2	EACH	RESTRIKE		2			
526	25001	657	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				657	60/79, 63/79 THRU 65/79
526	90030	258	FT	TYPE C INSTALLATION				258	
601	20010	612	CY	CRUSHED AGGREGATE SLOPE PROTECTION				612	

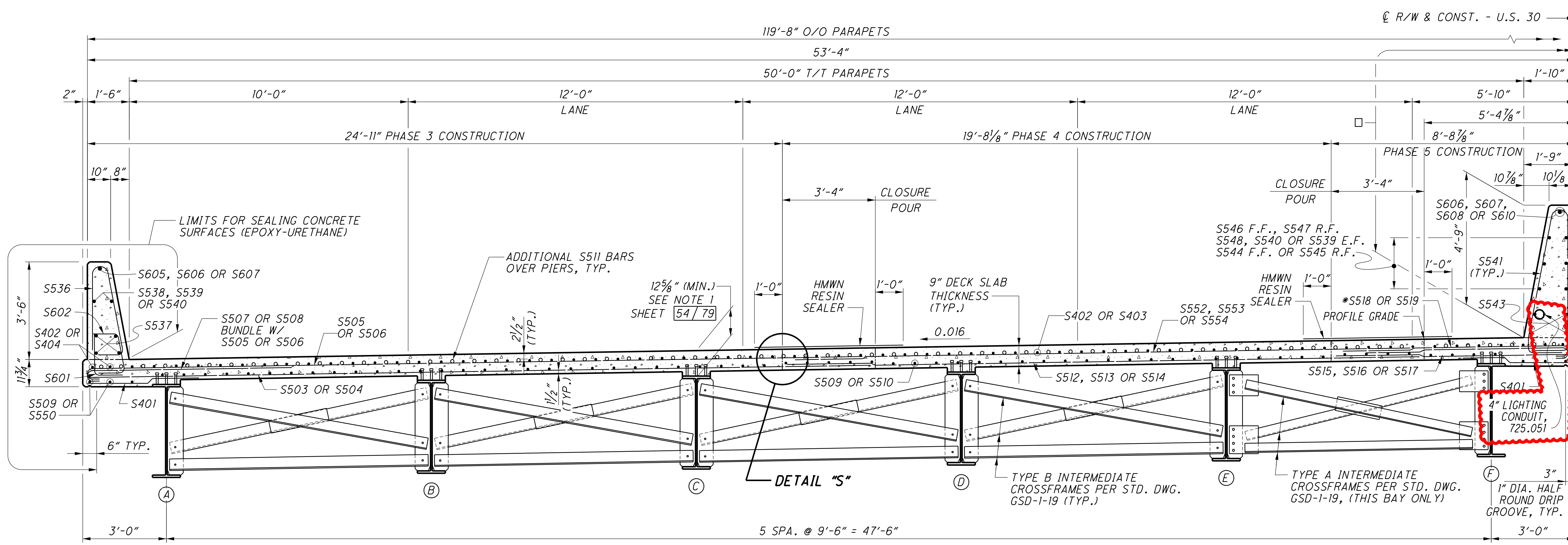
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
BELLEFAIRE, ASHTABULA, OHIO 44851
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED HK | CHECKED BDH
DRAWN TAC | REVISED
REVIEWED SDS | DATE 9-24-19
STRUCTURE FILE NUMBER 7001232

ESTIMATED QUANTITIES
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

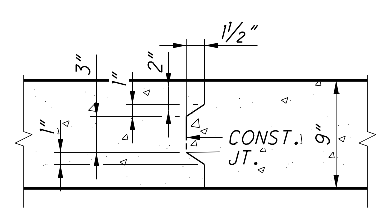
RIC-30-9.26
PID No. 93455

1347
1669



TRANSVERSE SECTION

(WESTBOUND LANES)



CONST. JOINT DETAIL

DETAIL "S"

(TYPICAL)

LEGEND

□ - LIMITS FOR SEALING CONCRETE SURFACES (EPOXY-URETHANE)

* - S507 OR S553 BUNDLE W/S518 OR S519

NOTES

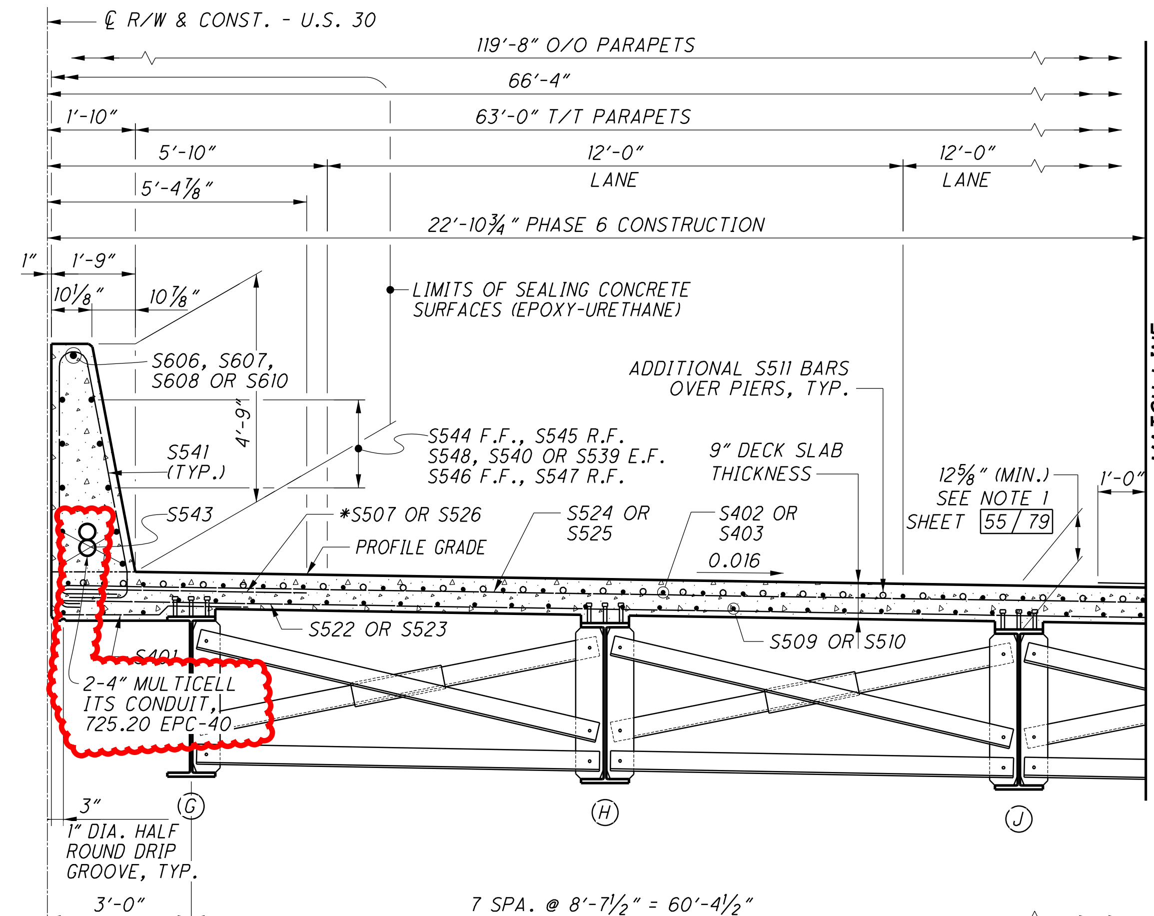
1. MINIMUM REINFORCING STEEL SPLICE LENGTH UNLESS OTHERWISE NOTED:
   NO. 5 BAR = 2'-5"
   S502 THRU S504,
   S509 & S510,
   S512 THRU S517 = 3'-0" (BOTTOM OF SLAB)
2. FOR RAILING AND MEDIAN BARRIER DETAILS SEE SHEET 56/79 THRU 60/79.
3. FOR SLAB PLAN - LEFT (WESTBOUND) SEE SHEET 54/79.
4. FOR ABBREVIATIONS SEE SHEET 3/79.
5. 4" LIGHTING CONDUIT, 725.051, AND 4" MULTICELL ITS CONDUIT, 725.20 EPC-40, AND JUNCTION BOXES WHERE REQUIRED SHALL BE PLACED IN THE MEDIAN BARRIER AS SHOWN IN THE PLANS. THE COST OF PLACEMENT, MATERIALS, EQUIPMENT AND LABOR SHALL BE CONSIDERED INCIDENTAL AND INCLUDED FOR PAYMENT IN ITEM 511 CLASS QC2 CONCRETE WITH QC/QA SUPERSTRUCTURE, AS PER PLAN.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED HK | CHECKED BDH | DRAWN RLE | REVISED --- | REVIEWED SDS | DATE 9-24-19 | STRUCTURE FILE NUMBER 7001232

TRANSVERSE SECTION - LEFT (WESTBOUND)
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

RIC-30-9.26
PID No. 93455



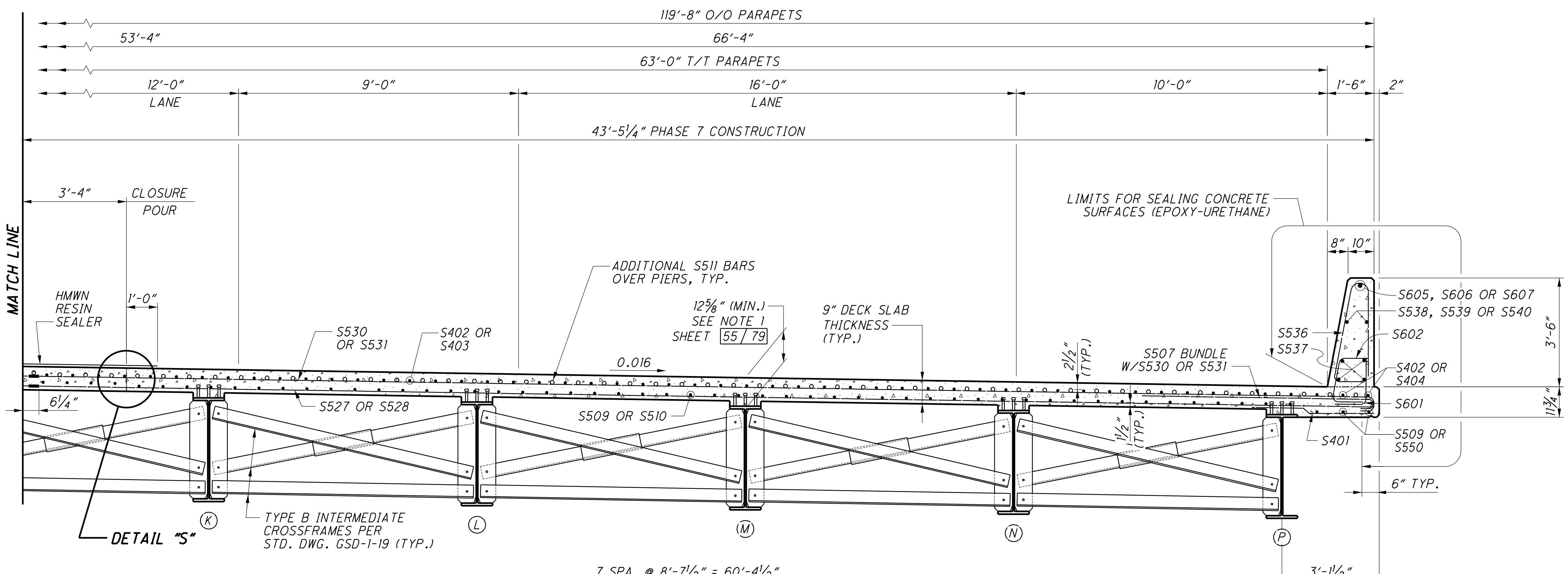
TRANSVERSE SECTION
(EASTBOUND LANES)

LEGEND

* - S507 & S526 BUNDLE WITH S524 OR S525

NOTES

1. MINIMUM REINFORCING STEEL SPLICE LENGTH UNLESS OTHERWISE NOTED:
   NO. 5 BAR = 2'-5"
   S521 THRU S523, S527 THRU S529 = 3'-0" (BOTTOM OF SLAB)
2. FOR RAILING AND MEDIAN BARRIER DETAILS SEE SHEET 56/79 THRU 60/79.
3. FOR SLAB PLAN - RIGHT (EASTBOUND) SEE SHEET 55/79.
4. FOR ABBREVIATIONS SEE SHEET 3/79.
5. ~~FOR DETAIL "S" SEE SHEET 62/79~~
6. 4" LIGHTING CONDUIT, 725.051, AND 4" MULTICELL ITS CONDUIT, 725.20 EPC-40, AND JUNCTION BOXES WHERE REQUIRED SHALL BE PLACED IN THE MEDIAN BARRIER AS SHOWN IN THE PLANS. THE COST OF PLACEMENT, MATERIALS, EQUIPMENT AND LABOR SHALL BE CONSIDERED INCIDENTAL AND INCLUDED FOR PAYMENT IN ITEM 511 CLASS QC2 CONCRETE WITH QC/QA SUPERSTRUCTURE, AS PER PLAN.



TRANSVERSE SECTION
(EASTBOUND LANES)

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	RLE	SDS	9-24-19

CHECKED	REVISED	STRUCTURE FILE NUMBER
BDH	---	7001232

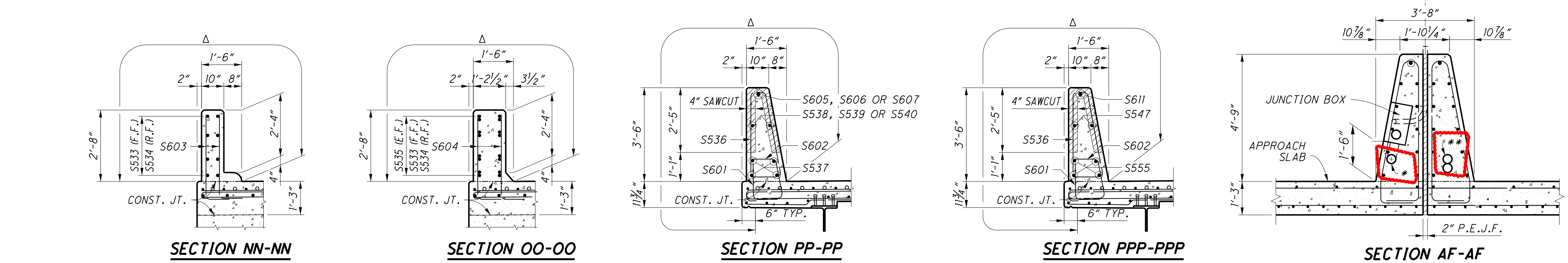
TRANSVERSE SECTION - RIGHT (EASTBOUND)
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

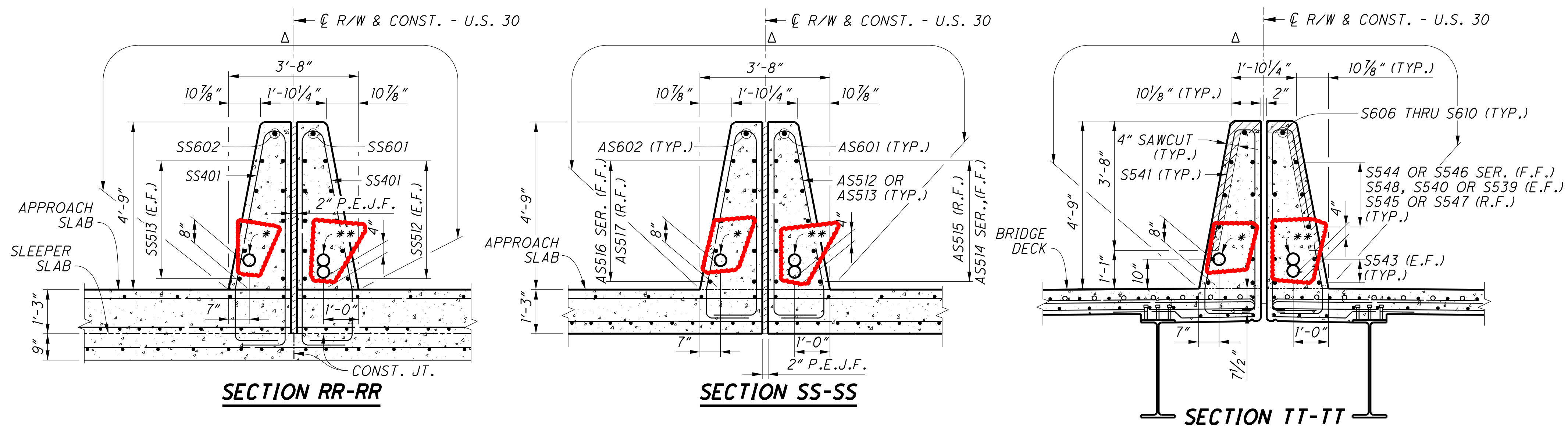
RIC-30-9.26
PID No. 93455

53/79

1396/1669

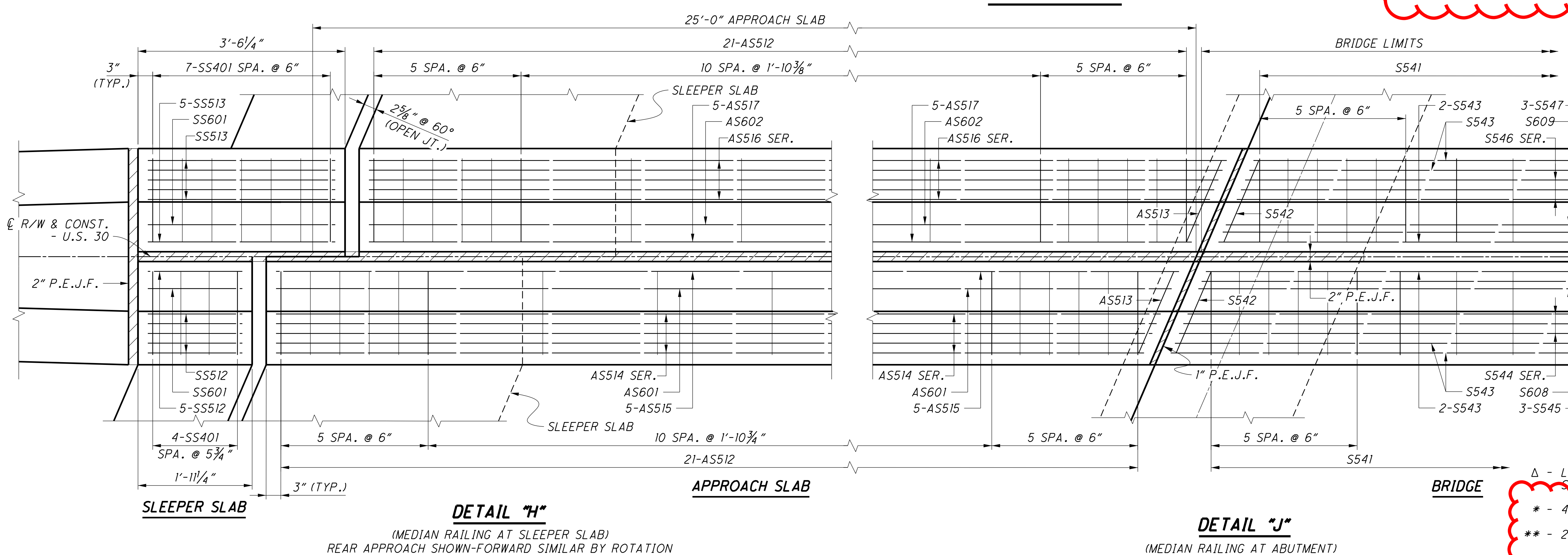
M:\15074\93455\Design\Structures\RIC030_1219C\Sheets\030_1219CST002.dgn 3/27/2020 8:56:52 AM tac230





NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/79.
2. FOR LOCATIONS OF SECTIONS NN-NN THRU PP-PP SEE SHEETS 56/79 & 57/79.
3. FOR LOCATIONS OF SECTIONS RR-RR THRU TT-TT, AF-AF & DETAILS "H" & "J" SEE SHEETS 58/79 & 59/79.
4. FOR DETAILS NOT SHOWN SEE STANDARD DRAWING SBR-1-13 AND SBR-2-13.
5. 4" LIGHTING CONDUIT, 725.051, AND 4" MULTICELL ITS CONDUIT, 725.20 EPC-40, AND JUNCTION BOXES WHERE REQUIRED SHALL BE PLACED IN THE MEDIAN BARRIER AS SHOWN IN THE PLANS. THE COST OF PLACEMENT, MATERIALS, EQUIPMENT AND LABOR SHALL BE CONSIDERED INCIDENTAL AND INCLUDED FOR PAYMENT IN ITEM 526 REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN.



DETAIL "H"
(MEDIAN RAILING AT SLEEPER SLAB)
REAR APPROACH SHOWN-FORWARD SIMILAR BY ROTATION

DETAIL "J"
(MEDIAN RAILING AT ABUTMENT)

LEGEND

Δ - LIMITS FOR SEALING CONCRETE SURFACES (EPOXY-URETHANE) TYP.
* - 4" LIGHTING CONDUIT, 725.051
** - 2-4" MULTICELL ITS CONDUIT, 725.20 EPC-40

BRIDGE RAILING DETAILS
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

DESIGN AGENCY: ENGINEERING ASSOCIATES, INC., 1935 EAGLE PASS - WOOSTER, OHIO 44691, TELEPHONE (330) 345-6556, FAX (330) 345-8077

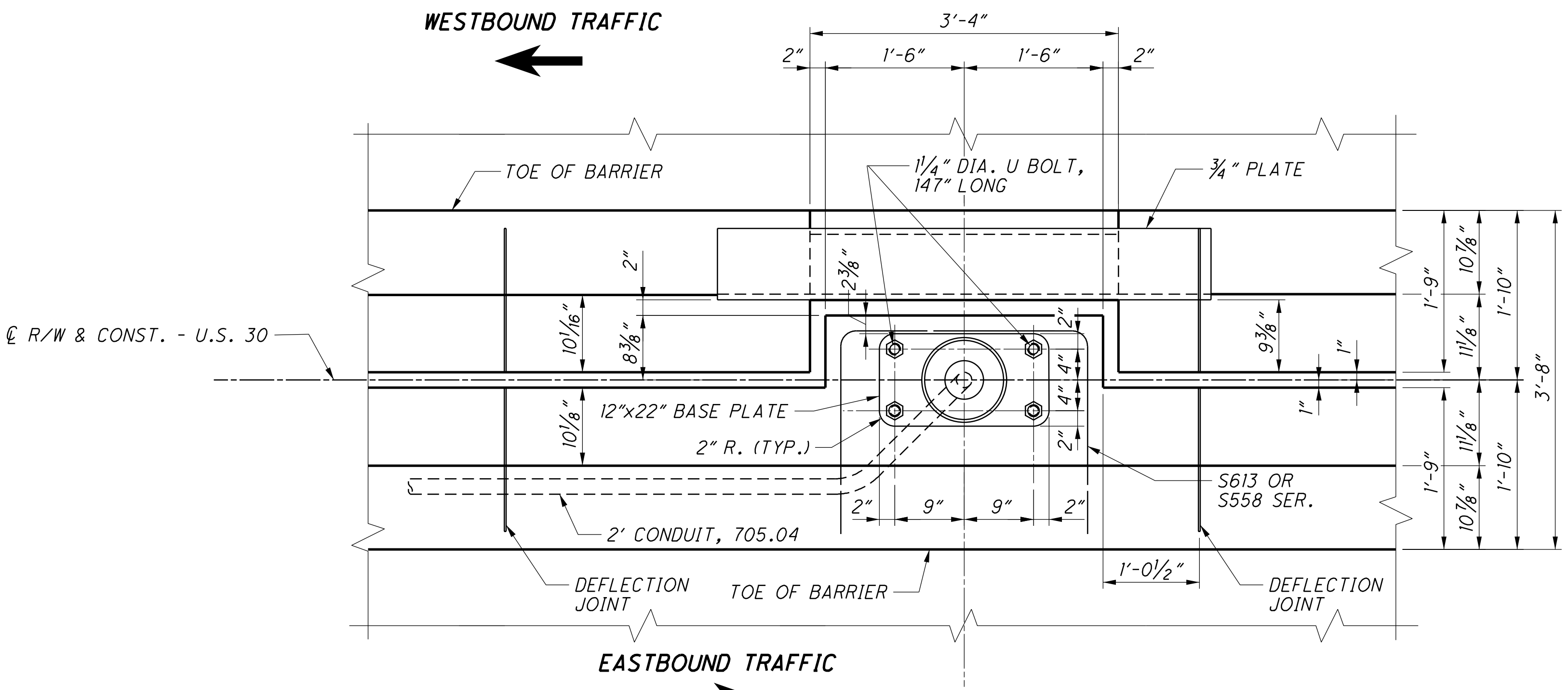
DESIGNED HK | CHECKED BDH | DRAWN TAC | REVISED --- | REVIEWED SDS | DATE 9-24-19 | STRUCTURE FILE NUMBER 7001232

RIC-30-9.26
PID No. 93455

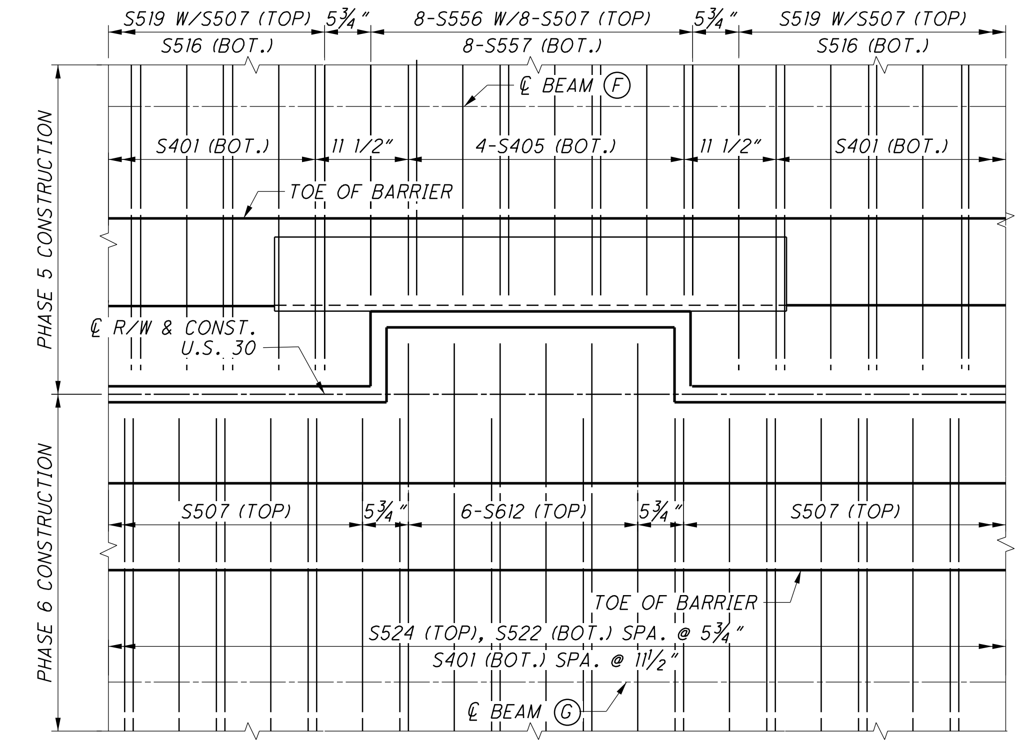
60/79

1403/1669

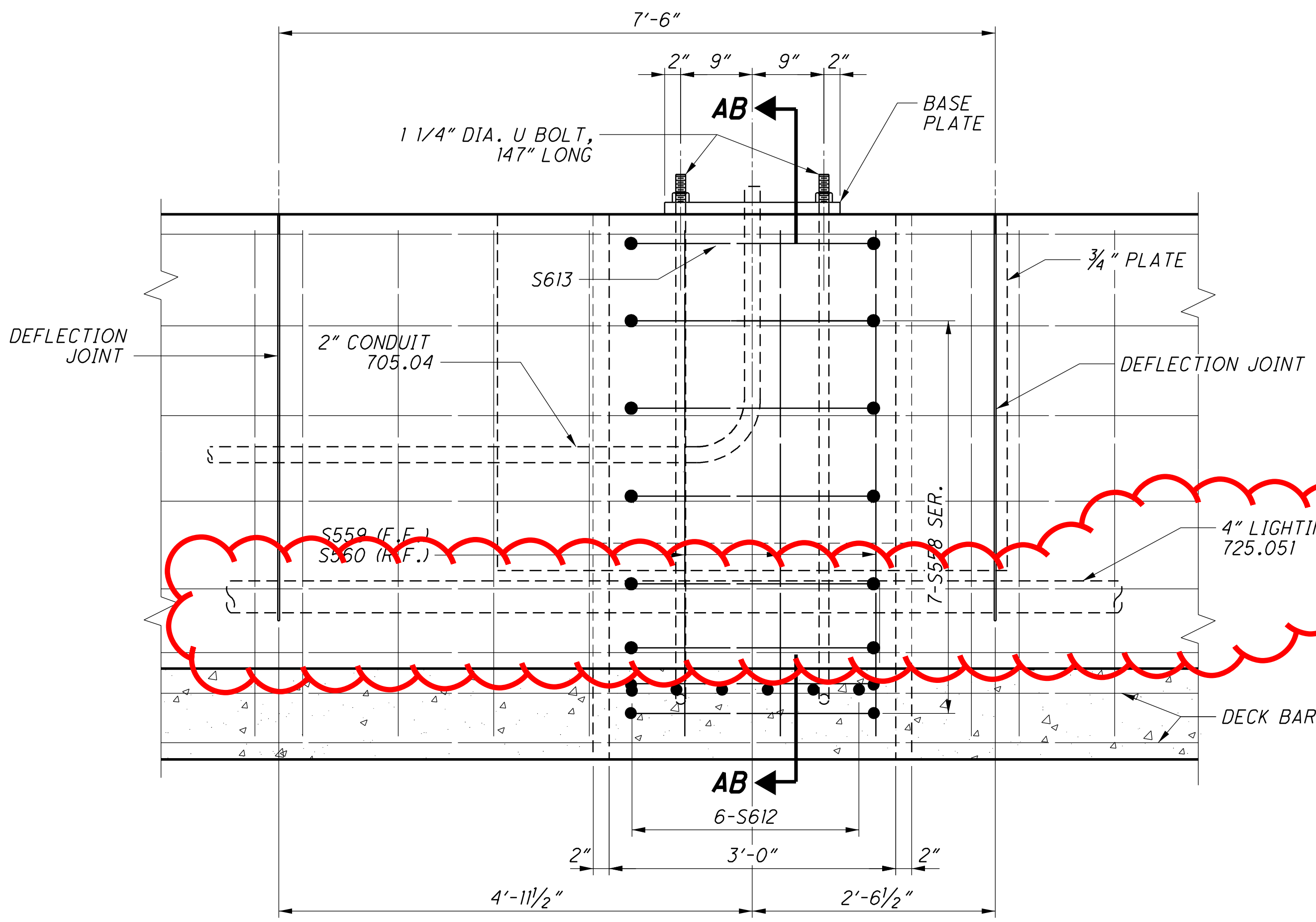
M:\15074\93455\Design\Structures\RIC030_1219C\Sheets\030_1219CSA005.dgn 3/27/2020 10:03:17 AM toc230



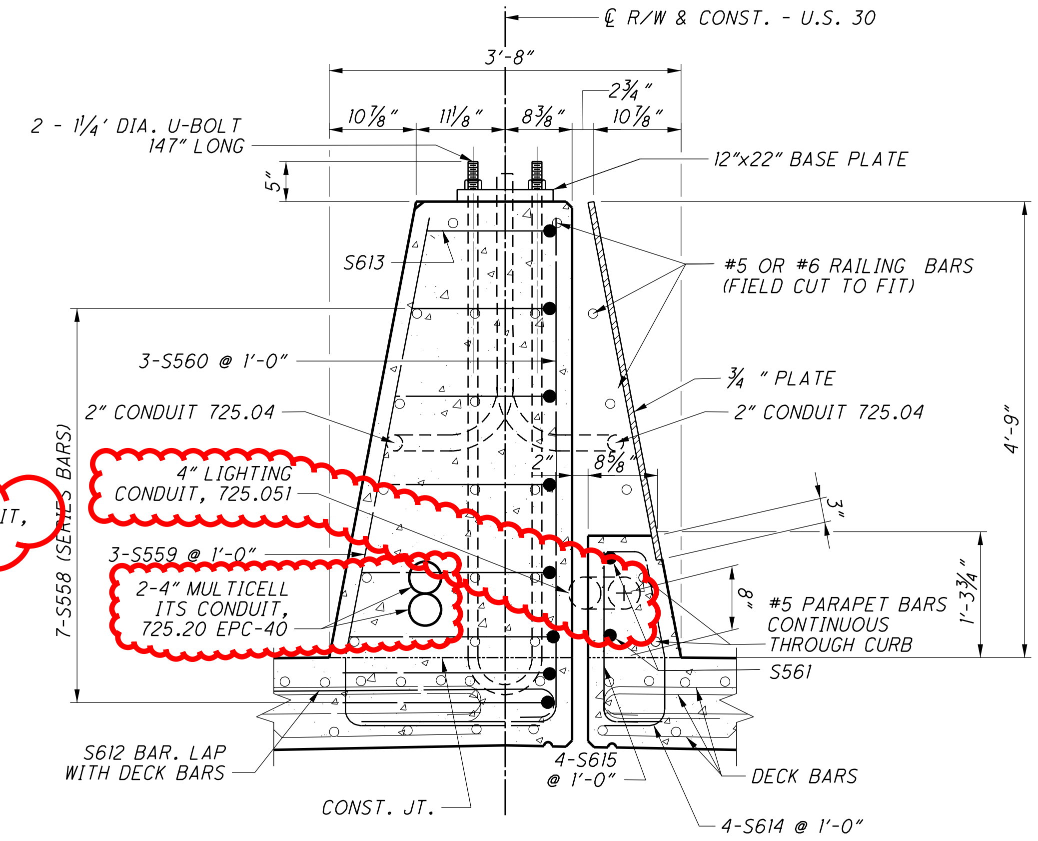
PLAN



SLAB REINFORCING PLAN



ELEVATION



SECTION AB-AB

NOTES

1. MATERIALS: STEEL PLATES SHALL BE ASTM A709, GR. 50. PLATES SHALL BE METALIZED OR GALVANIZED PER 516.03.

2. PAYMENT FOR THE MATERIAL AND INSTALLATION OF MEDIAN BARRIER PLATES AND FASTENERS SHALL BE INCLUDED AS INCIDENTAL TO ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

3. FOR LIGHT SUPPORT LOCATION SEE SHEET 1187/1669.

DESIGN AGENCY: ENGINEERING ASSOCIATES, INC.

DESIGNED HK | CHECKED BDH | DRAWN TAC | REVIEWED SDS | DATE 9-24-19 | STRUCTURE FILE NUMBER 7001232

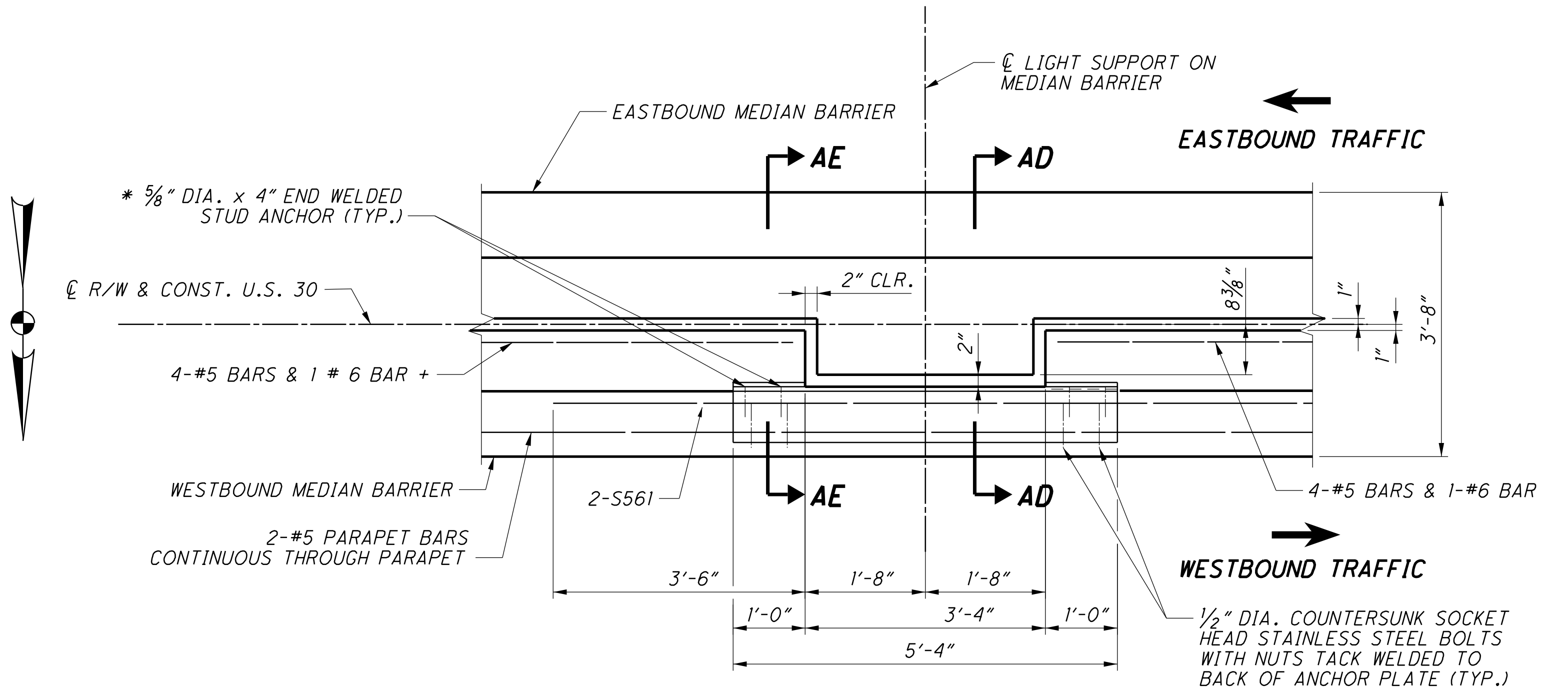
MEDIAN BARRIER AT LIGHT SUPPORT STA. 644+20.40

BRIDGE NO. RIC-30-1219 OVER ASHLAND RAILWAY

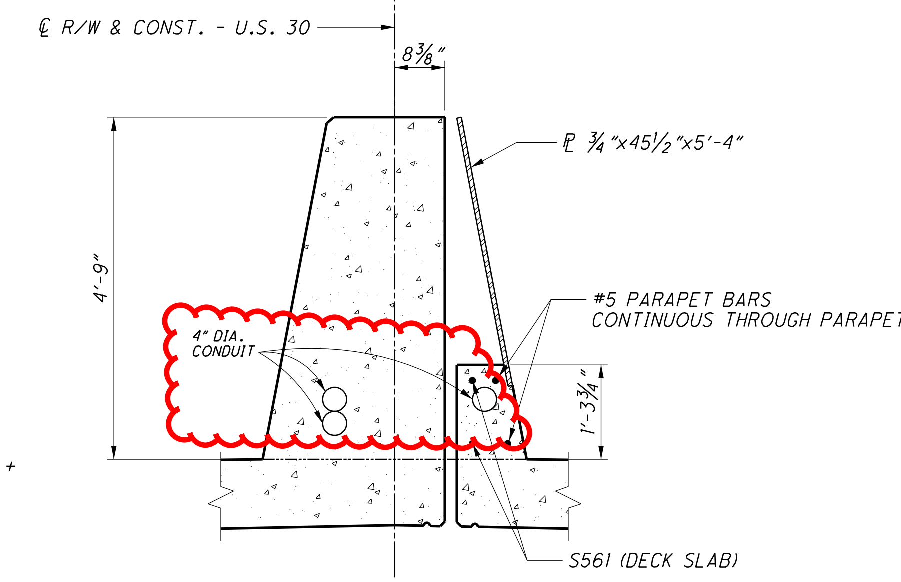
RIC-30-9.26

PID No. 93455

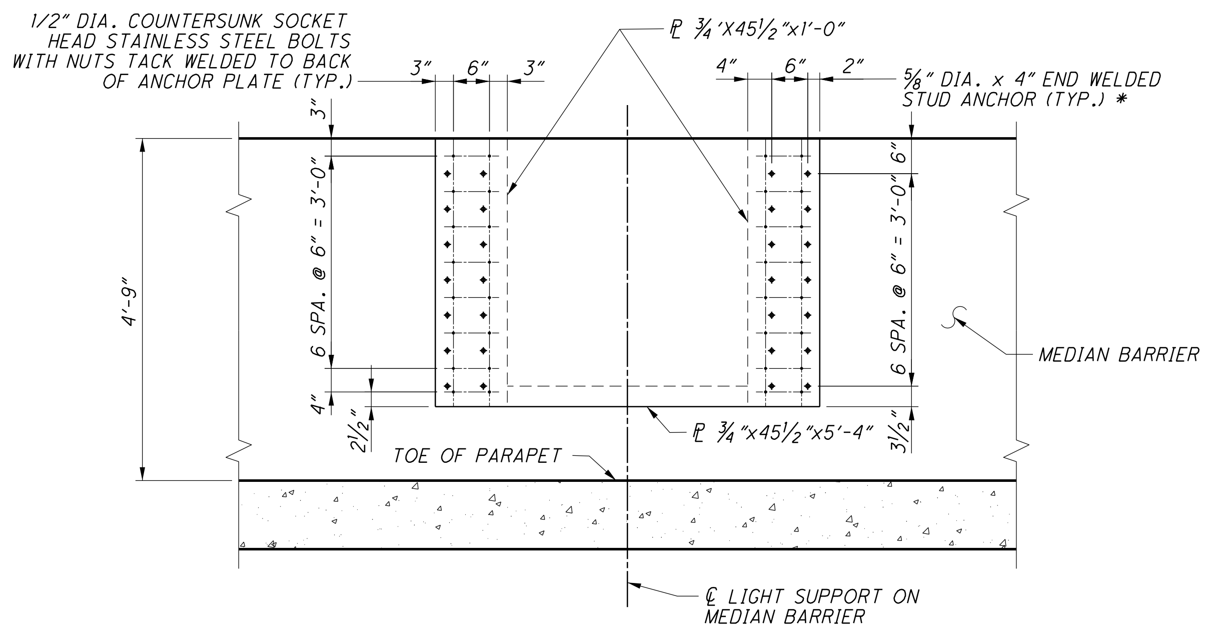
M:\15074\93455\Design\Structures\RIC030_1219C\Sheets\030_1219CSA006.dgn 3/27/2020 10:01:26 AM tac230



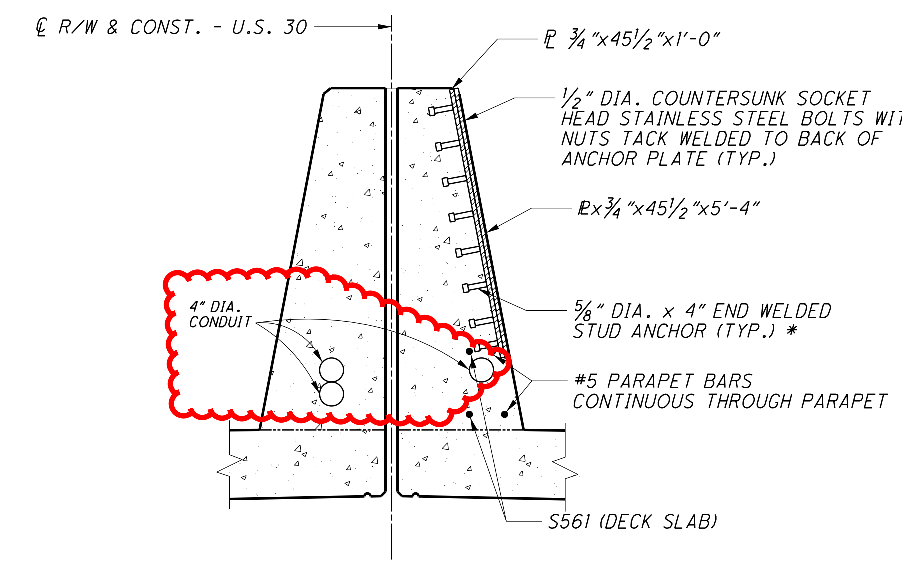
PLAN



SECTION AD-AD



ELEVATION



SECTION AE-AE

PLATE AT LIGHT SUPPORT

LEGEND

* - WELDED WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT OR 5⁄16" MINIMUM FILLET WELD ALL AROUND

+ - FIELD CUT OR ADJUST LAP TO FIT GAP

NOTES

1. ADDITIONAL NOTES SEE SHEETS 61/79 .

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	RLE	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001232	

MEDIAN BARRIER AT LIGHT SUPPORT DETAILS
BRIDGE NO. RIC-30-1219
OVER ASHLAND RAILWAY

RIC-30-9.26
PID No. 93455

STANDARD DRAWINGS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7-17-15
AS-2-15	REVISED	1-18-19
GSD-1-19	DATED	1-18-19
PCB-91	REVISED	1-18-13
SBR-1-13	REVISED	7-20-18
SBR-2-13	REVISED	7-20-18
SICD-1-96	REVISED	7-18-14
SICD-2-14	DATED	7-18-14
VPF-1-90	REVISED	7-20-18

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, 8TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

DESIGN LOADING
HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT^2.

DESIGN DATA
CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

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

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

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

DECK PROTECTION METHOD
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

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

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT 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 OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK 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. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05

ITEM 203 EMBANKMENT, AS PER PLAN
PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 650+50 TO 656+50.

PILE DRIVING CONSTRAINTS
PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND THE PIER PILES, UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

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

THE TOTAL FACTORED LOAD IS 125 KIPS PER PILE FOR THE ABUTMENT PILES. THE TOTAL FACTORED LOAD IS 235 KIPS PER PILE FOR THE PIER PILES.

	LEFT BRIDGE		RIGHT BRIDGE	
	NO. OF PILES	ORDER LENGTH	NO. OF PILES	ORDER LENGTH
REAR ABUTMENT	22	65 FT	23	65 FT
PIER NO. 1	17	50 FT	22	45 FT
PIER NO. 2	16	35 FT	20	35 FT
FORWARD ABUTMENT	17	40 FT	18	45 FT

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

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

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

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

DECK PLACEMENT ASSUMPTIONS
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.34 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

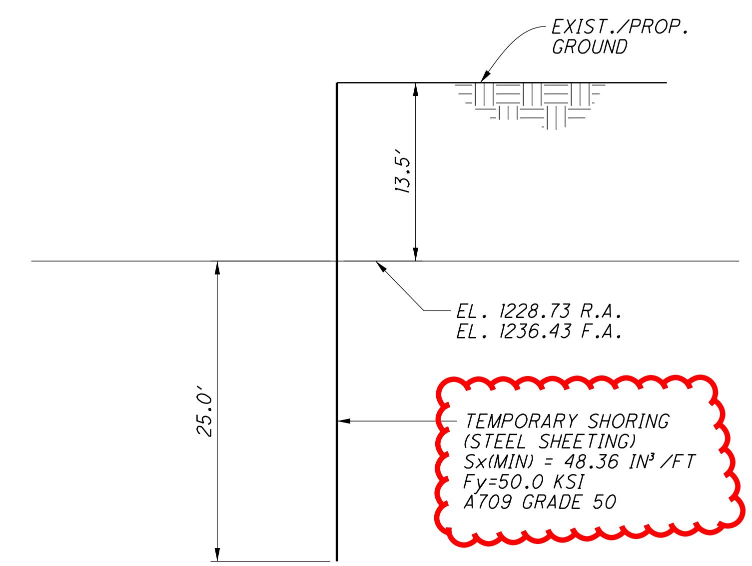
A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

STRUCTURE PAINTING: ALL BRIDGE FINISH COATS SHALL BE THE SAME COLOR.

UTILITIES TO REMAIN: EXISTING TELEPHONE DUCT SHALL NOT BE DISTURBED.

INSTALLATION OF MULTI-CELL CONDUIT ON STRUCTURES
ONE MULTI-CELL CONDUIT IS CONTINUOUS FOR THE ENTIRE PROJECT. THE SECOND MULTI-CELL CONDUIT SHALL BE PLACED ONLY WITHIN THE LIMITS OF THE BRIDGES AND APPROACH SLABS AND SHALL TERMINATE AT A JUNCTION BOX AS SHOWN IN STANDARD DRAWING HL-30.33.

ABUT.	-	ABUTMENT
APPR.	-	APPROACH
BRG.	-	BEARING
BOT.	-	BOTTOM
CONST. JT.	-	CONSTRUCTION JOINT
CLR.	-	CLEAR
CONST.	-	CONSTRUCTION
CORR.	-	CORRUGATED
DIA.	-	DIAMETER
DIM.	-	DIMENSION
DWG.	-	DRAWING
EL.	-	ELEVATION
E.F.	-	EACH FACE
EXIST.	-	EXISTING
F.A.	-	FORWARD ABUTMENT
FWD.	-	FORWARD
F.F.	-	FRONT FACE
FT.	-	FEET
LBS.	-	POUNDS
MAX.	-	MAXIMUM
MEAS.	-	MEASURED
MIN.	-	MINIMUM
OPT.	-	OPTIONAL
P.E.J.F.	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
R.F.	-	REAR FACE
REQ'D.	-	REQUIRED
SPA.	-	SPACING
STA.	-	STATION
T.O.S.	-	TOP OF SLOPE
TYP.	-	TYPICAL
U.O.N.	-	UNLESS OTHERWISE NOTED
VAR.	-	VARIES
W/	-	WITH



SECTION A-A
TEMPORARY SHORING DETAIL
NOTE: SEE SHEET 2/73 FOR LOCATION

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE: (330) 345-6556
FAX: (330) 345-8077

DESIGNED HK | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED BDH | REVISED | STRUCTURE FILE NUMBER 7001267

GENERAL NOTES
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-9.26
PID No. 93455

3/73

1427
1669

M:\15074\93455\Design\Structures\RIC030_1236C\Sheets\030_1236CSN001.dgn 3/27/2020 11:06:54 AM tac230

CALC:	BDH	DATE:	8/30/2019
CHECKED:	HK	DATE:	8/30/2019

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL 01/NHS/BR	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3/73
202	22900	347	SY	APPROACH SLAB REMOVED				347	
202	23500	167	SY	WEARING COURSE REMOVED				167	
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	3/73
503	21100	1693	CY	UNCLASSIFIED EXCAVATION	1234	459			
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
507	00100	7515	FT	STEEL PILES HP10X42, FURNISHED	4415	3100			
507	00150	6740	FT	STEEL PILES HP10X42, DRIVEN	4015	2725			
507	92200	585	FT	PREBORED HOLES		585			
509	10000	294385	LB	EPOXY COATED REINFORCING STEEL	39137	56695	198553		
511	21523	943	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN	122		821		35/73, 36/73, 46/73 & 47/73
511	33500	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE			4		
511	41012	189	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		189			
511	44112	190	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	190				
511	46512	357	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	226	131			
512	10100	1539	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	82	561	823	73	
512	10300	369	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			335	34	
512	33000	35	SY	TYPE 2 WATERPROOFING	35				
513	10260	560936	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			560936		
513	20000	10335	EACH	WELDED STUD SHEAR CONNECTORS			10335		
514	00800	560936	LB	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			560936		
514	00851	560936	LB	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			560936		3/73
514	10000	25	EACH	FINAL INSPECTION REPAIR			25		
516	10010	256	FT	ARMORLESS PREFORMED JOINT SEAL				256	
516	13600	30	SF	1" PREFORMED EXPANSION JOINT FILLER			30		
516	13900	787	SF	2" PREFORMED EXPANSION JOINT FILLER			230	557	
516	14020	279	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	279				
516	44101	26	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 2 1/2"x1'-0"x1'-2" W/ 1 1/2"x1'-1"x1'-3" BEVELED LOAD PLATE	26				32/73
516	44101	26	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 3 1/8"x1'-3"x1'-6" W/ 2 5/16"(AVG)x1'-4"x1'-7" BEVELED LOAD PLATE		26			32/73
518	21200	190	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	190				
518	40000	339	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	339				
518	40010	66	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	66				
526	25001	617	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				617	53/73 THRU 58/73
526	90030	267	FT	TYPE C INSTALLATION				267	
601	21000	1154	SY	CONCRETE SLOPE PROTECTION				1154	
607	39900	320	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			320		

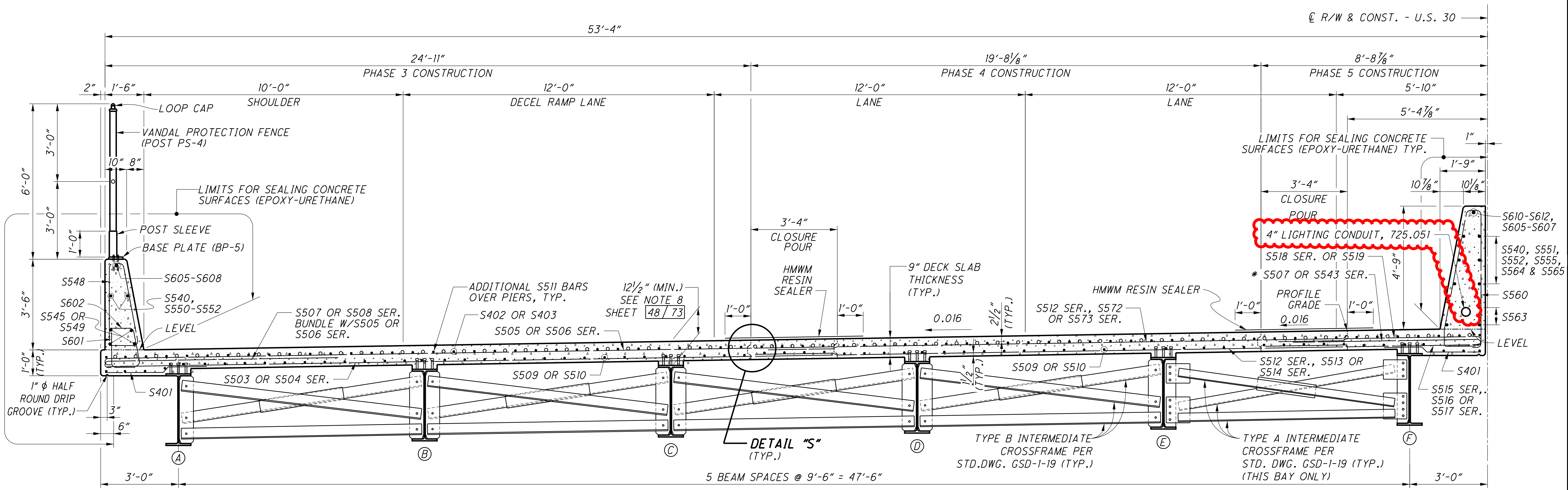
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1836 EAST MAIN STREET, KENT, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-6077

DESIGNED HK | DRAWN TAC | REVIEWED SDS | DATE 9-24-19
CHECKED BDH | REVISED | STRUCTURE FILE NUMBER 7001267

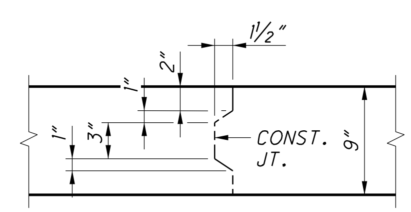
ESTIMATED QUANTITIES
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-9.26
PID No. 93455

1428
1669



TRANSVERSE SECTION
(WESTBOUND LANES)



CONST. JOINT DETAIL
DETAIL "S"

LEGEND

* - S507 & S543 BUNDLE W/S518 SER., OR S519

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/73 .
2. FOR NOTES SEE SHEETS 48/73 THRU 50/73 .
3. FOR EASTBOUND TRANSVERSE SECTION SEE 47/73 .
4. 4" LIGHTING CONDUIT, 725.051, AND 4" MULTICELL ITS CONDUIT, 725.20 EPC-40, AND JUNCTION BOXES WHERE REQUIRED SHALL BE PLACED IN THE MEDIAN BARRIER AS SHOWN IN THE PLANS. THE COST OF PLACEMENT, MATERIALS, EQUIPMENT AND LABOR SHALL BE CONSIDERED INCIDENTAL AND INCLUDED FOR PAYMENT IN ITEM 511 CLASS QC2 CONCRETE WITH QC/QA SUPERSTRUCTURE, AS PER PLAN.

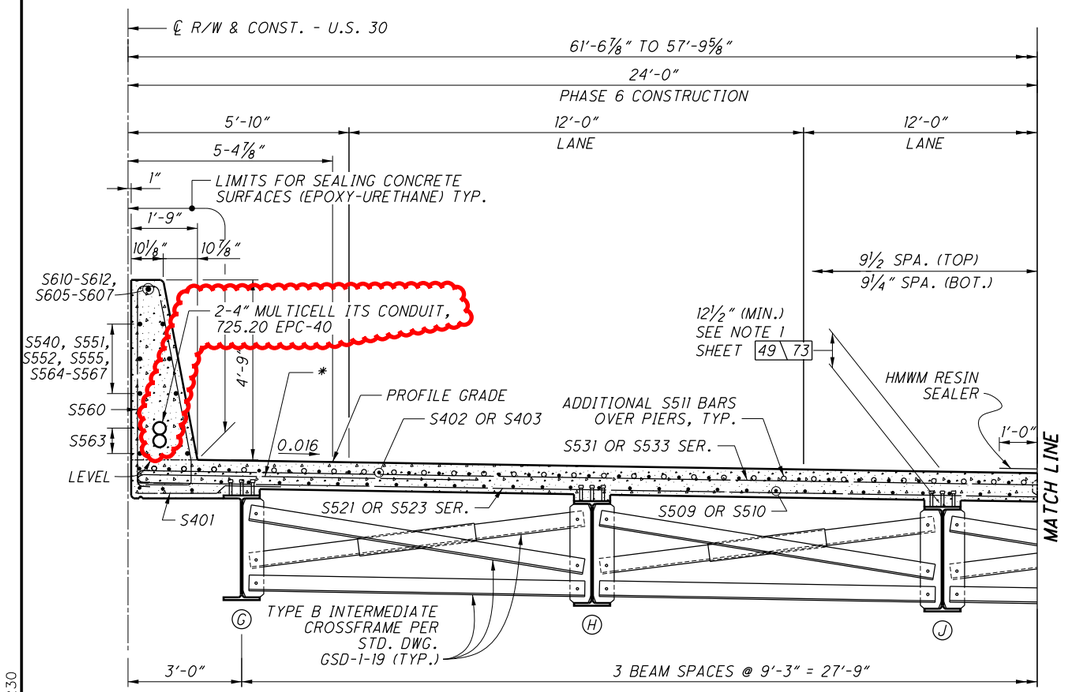
DESIGN AGENCY: ENGINEERING ASSOCIATES, INC.

DESIGNED HK | CHECKED BDH | DRAWN RLE | REVIEWED SDS | DATE 9-24-19 | STRUCTURE FILE NUMBER 7001267

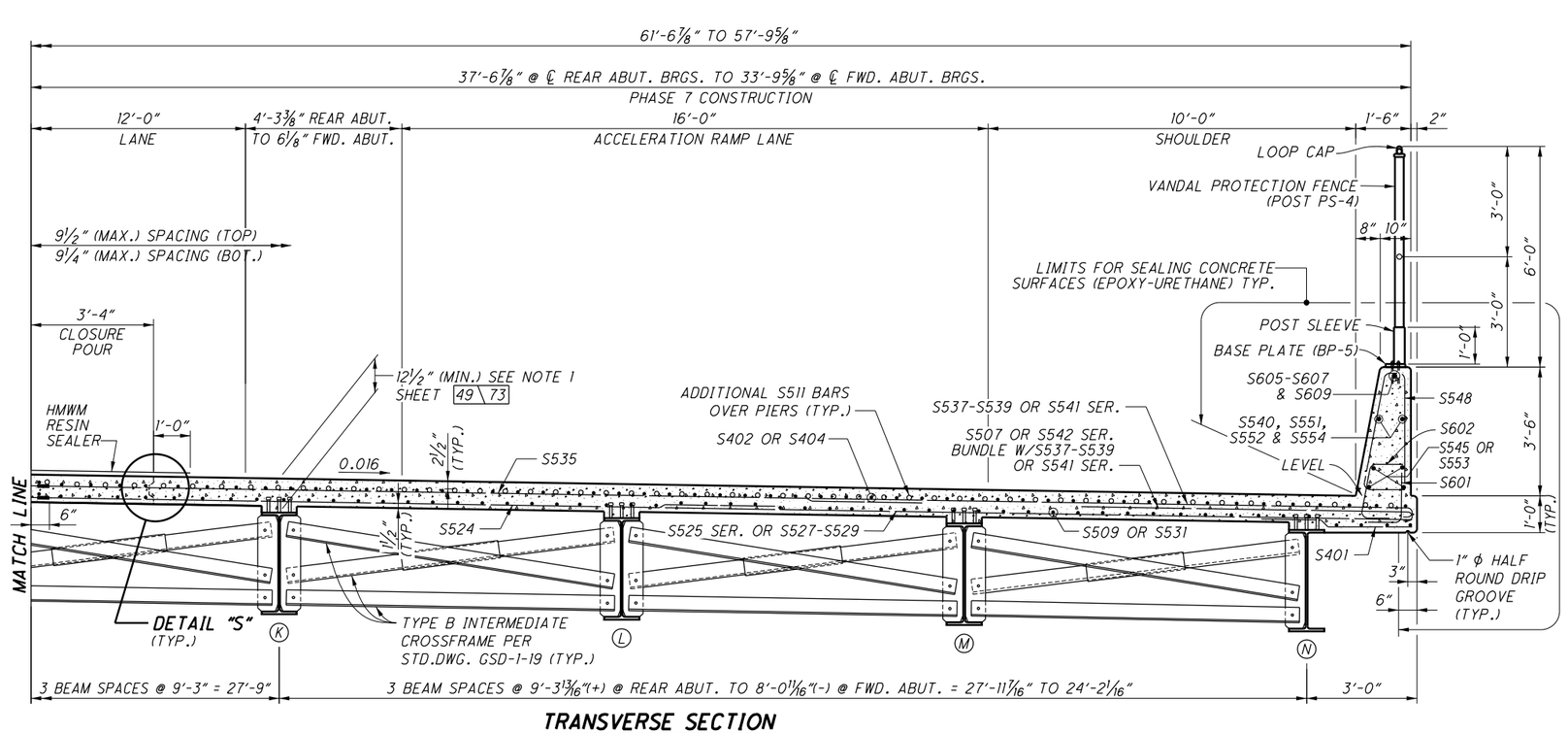
TRANSVERSE SECTION - LEFT (WESTBOUND)
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-9.26
PID No. 93455

M:\15074\93455\Design\Structures\RIC030_1236C\Sheets\030_1236CST001.dgn 3/27/2020 11:23:55 AM tac230



TRANSVERSE SECTION
(EASTBOUND LANES PHASE 6)



TRANSVERSE SECTION
(EASTBOUND LANES PHASE 7)

LEGEND

—▬— DENOTES MECHANICAL REBAR CONNECTOR

* - S507 & S534 SER. BUNDLE W/S531 OR S533 SER.

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/73 .
2. FOR NOTES SEE SHEETS 48/73 THRU 50/73 .
3. FOR WESTBOUND TRANSVERSE SECTION & DETAIL "S" SEE 46/73
4. 4" LIGHTING CONDUIT, 725.051, AND 4" MULTICELL ITS CONDUIT, 725.20 EPC-40, AND JUNCTION BOXES WHERE REQUIRED SHALL BE PLACED IN THE MEDIAN BARRIER AS SHOWN IN THE PLANS. THE COST OF PLACEMENT, MATERIALS, EQUIPMENT AND LABOR SHALL BE CONSIDERED INCIDENTAL AND INCLUDED FOR PAYMENT IN ITEM 511 CLASS QC2 CONCRETE WITH QC/QA SUPERSTRUCTURE, AS PER PLAN.

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
WILLOUGHBY HILLS, OHIO 44094
TELEPHONE (330) 345-6558
FAX: (330) 345-6077

DESIGNED	DRAWN	REVIEWED	DATE
HK	RLE	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH		7001267	

TRANSVERSE SECTION - RIGHT (EASTBOUND)
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-9.26
PID No. 93455

47/73

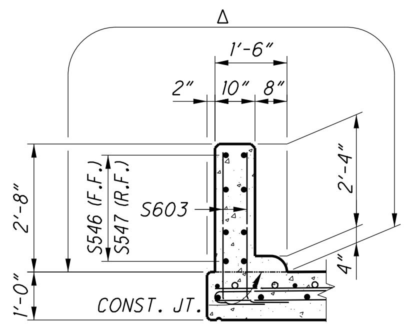
1471
1669

LEGEND

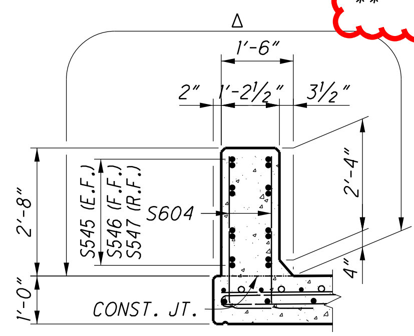
Δ - LIMITS FOR SEALING CONCRETE SURFACES (EPOXY-URETHANE) TYP.

* - 4" LIGHTING CONDUIT, 725.051

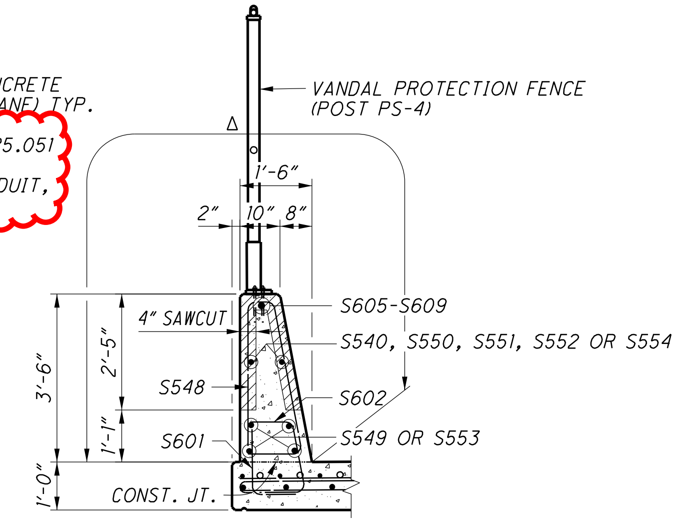
** - 2-4" MULTICELL ITS CONDUIT, 725.20 EPC-40



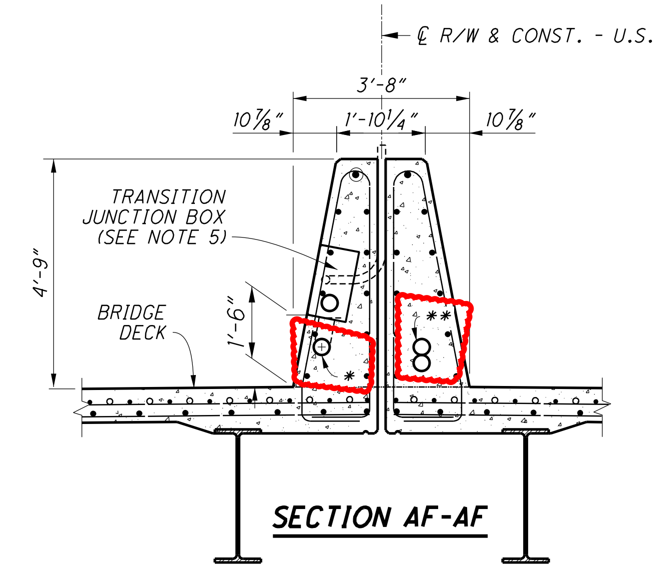
SECTION EE-EE



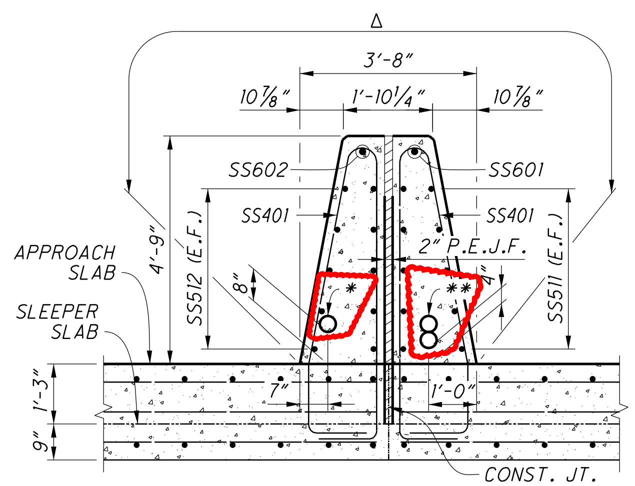
SECTION FF-FF



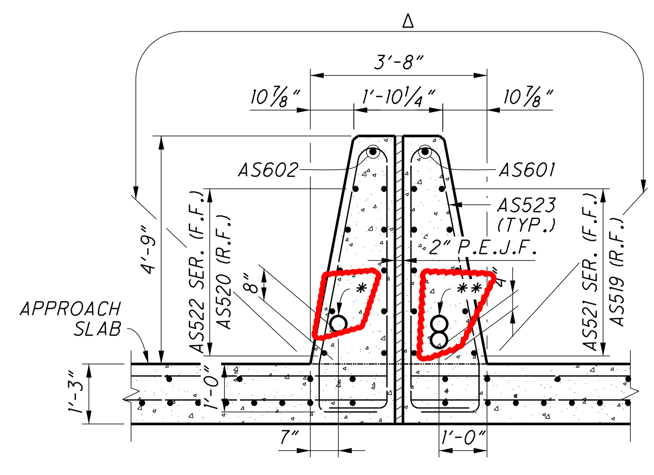
SECTION GG-GG



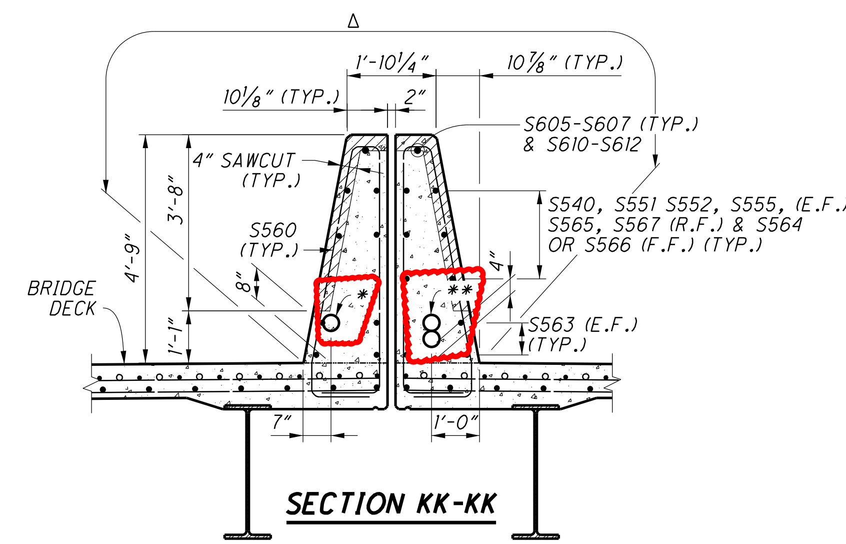
SECTION AF-AF



SECTION HH-HH



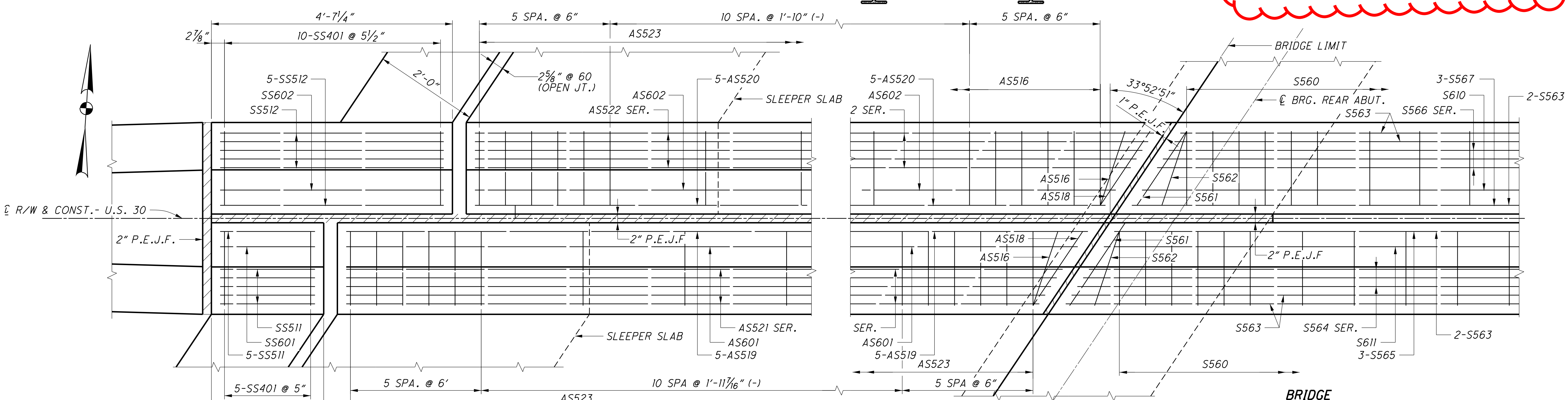
SECTION JJ-JJ



SECTION KK-KK

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/73 .
2. FOR LOCATIONS OF SECTIONS EE-EE, FF-FF & GG-GG SEE SHEET 51/73 & 52/73 .
3. FOR LOCATIONS OF SECTIONS HH-HH, JJ-JJ, KK-KK & DETAILS "B" & "C" SEE SHEETS 53/73 & 54/73 .
4. FOR DETAILS NOT SHOWN SEE STANDARD DRAWING SBR-1-13 AND SBR-2-13.
5. FOR ADDITIONAL DETAILS OF TRANSITION JUNCTION BOX SEE SHEET 58/73 .
6. 4" LIGHTING CONDUIT, 725.051, AND 4" MULTICELL ITS CONDUIT, 725.20 EPC-40, AND JUNCTION BOXES WHERE REQUIRED SHALL BE PLACED IN THE MEDIAN BARRIER AS SHOWN IN THE PLANS. THE COST OF PLACEMENT, MATERIALS, EQUIPMENT AND LABOR SHALL BE CONSIDERED INCIDENTAL AND INCLUDED FOR PAYMENT IN ITEM 526 REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN.



DETAIL "B"

(MEDIAN RAILING AT APPROACH SLAB)
(REAR APPROACH SHOWN-FORWAR SIMILAR BY ROTATION)

DETAIL "C"

(MEDIAN RAILING AT ABUTMENT)
(REAR ABUTMENT SHOWN - FORWARD ABUTMENT SIMILAR BY ROTATION)

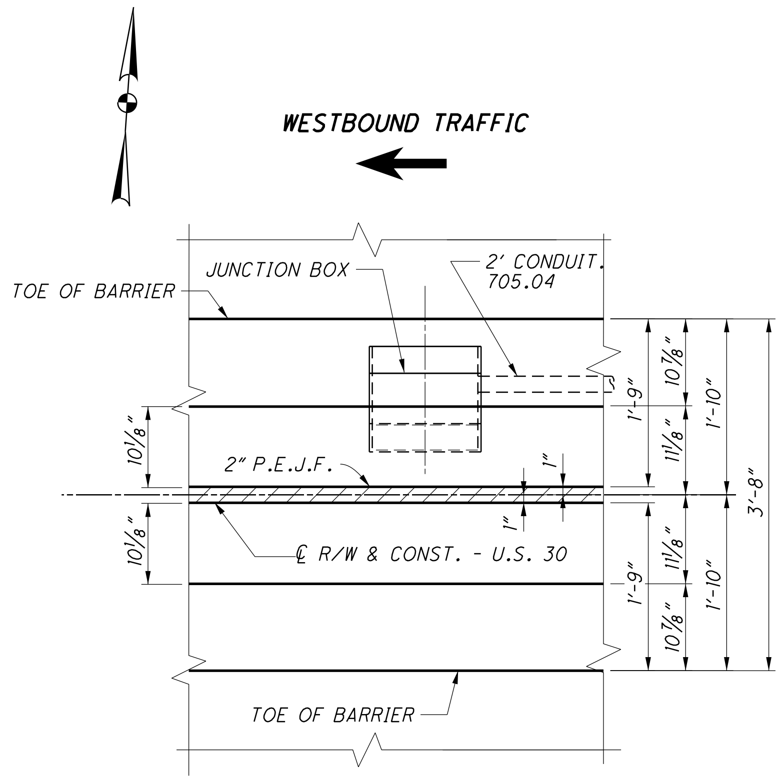
DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED HK	DRAWN TAC	REVIEWED SDS
CHECKED BDH	REVISED ---	DATE 9-24-19
		STRUCTURE FILE NUMBER 7001267

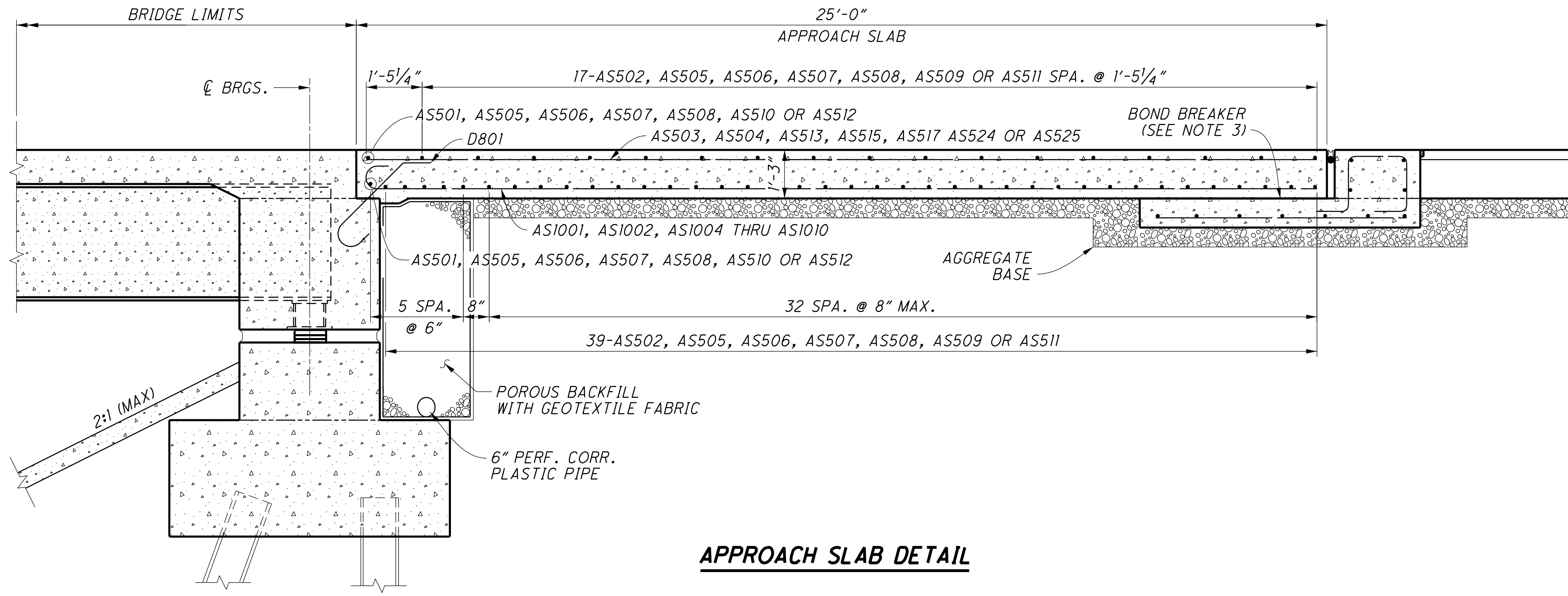
BRIDGE RAILING DETAILS

BRIDGE NO. RIC-30-1236
OVER S.R. 545

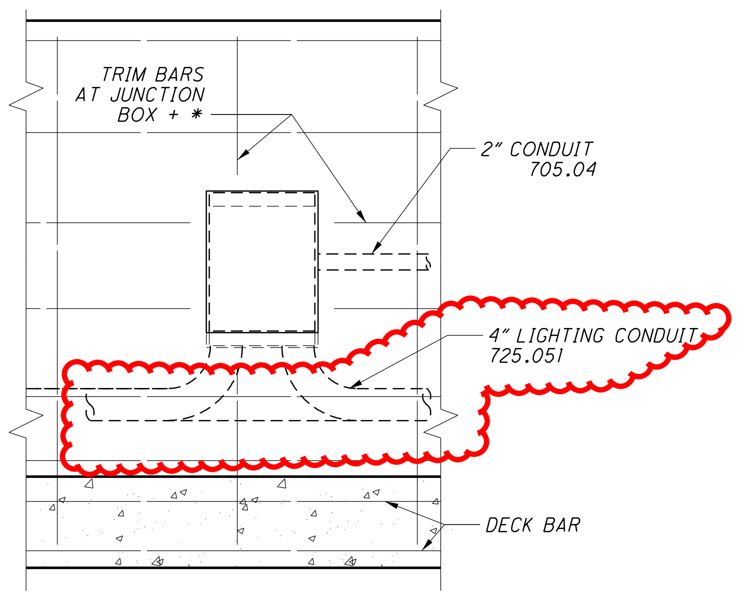
RIC-30-9.26
PID No. 93455



PLAN

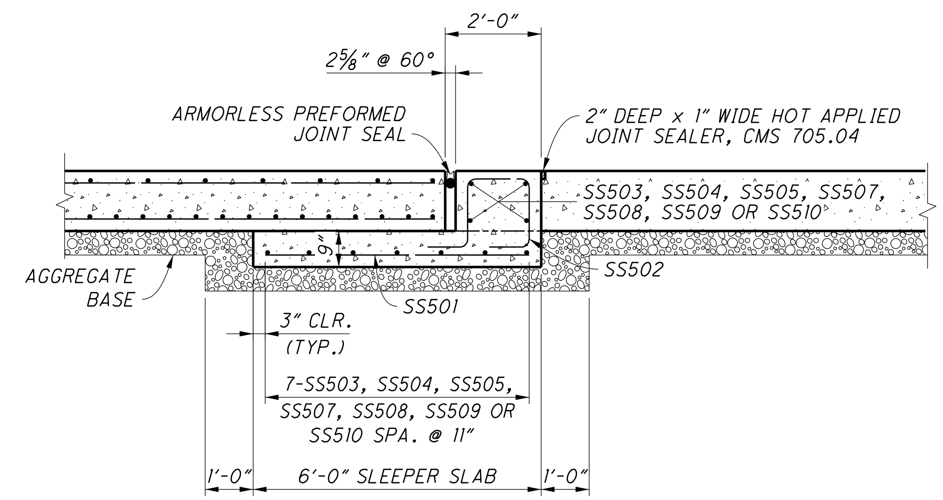


APPROACH SLAB DETAIL



ELEVATION

JUNCTION BOX DETAIL



SLEEPER SLAB DETAIL
SECTION LL-LL

LEGEND

\+ ADJUST BARS AS NEEDED TO AVOID JUNCTION BOX IN BARRIER

* CUT BAR AS NEEDED TO AVOID JUNCTION BOX IN BARRIER

NOTES

1. FOR ABBREVIATIONS SEE SHEET 3/73 .
2. FOR LOCATION OF SECTION LL-LL SEE SHEETS 56/73 & 57/73 .
3. APPLY BOND BREAKER TO THE ENTIRE TOP SURFACE OF THE CONCRETE SLEEPER SLAB.
4. FOR ADDITIONAL NOTES NOT SHOWN SEE STANDARD DRAWING AS-2-15, 4/14 .

DESIGN AGENCY
ENGINEERING ASSOCIATES, INC.
1935 EAGLE PASS - WOOSTER, OHIO 44691
TELEPHONE (330) 345-6556
FAX (330) 345-8077

DESIGNED	DRAWN	REVIEWED	DATE
HK	TAC	SDS	9-24-19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDH	---	7001267	

APPROACH SLAB DETAILS
BRIDGE NO. RIC-30-1236
OVER S.R. 545

RIC-30-9.26
PID No. 93455