STATE OF OHIO

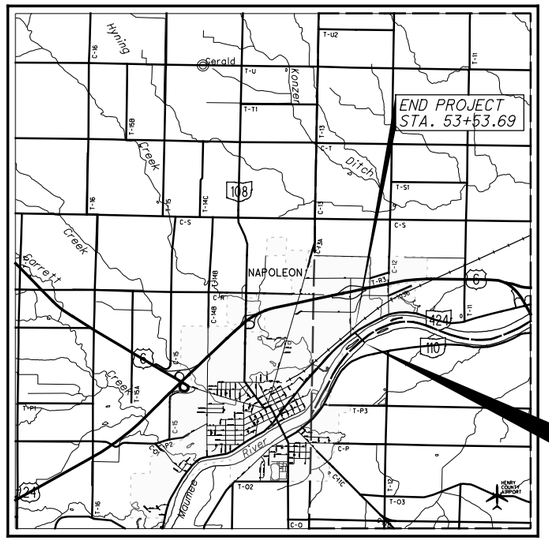
DEPARTMENT OF TRANSPORTATION

HEN-NEW MAUMEE RIVER BRIDGE

CITY OF NAPOLEON

HARRISON TOWNSHIP

HENRY COUNTY



LOCATION MAP

LATITUDE: 41°24'17" LONGITUDE: 84°06'14"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

FEDERAL ROUTES

STATE ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

DESIGN DESIGNATION

SEE SCHEMATIC SHEET 2

NHS PROJECT NO

DESIGN EXCEPTIONS

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

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

PLAN PREPARED BY:

Mannik Smith GROUP
TECHNICAL SKILL. CREATIVE SPIRIT.
www.MannikSmithGroup.com

INDEX OF SHEETS:

PROJECT DESCRIPTION

EXTENSION OF INDUSTRIAL DRIVE OVER THE MAUMEE RIVER. THE PROJECT INCLUDE THE CONSTRUCTION OF A NEW STRUCTURE, NEW ROADWAY FROM RIVERVIEW AVE. TO S.R. 110, THE RECONSTRUCTION OF INDUSTRIAL DR., RIVERVIEW AVE. AND S.R. 110 AND TWO ROUNDABOUTS.

PROJECT EARTH DISTURBED AREA: 8.10 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 1.80 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 9.90 ACRES

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE PART TIME CLOSING OF THE HIGHWAY TO TRAFFIC, AS NOTED ON SHEET . DURING WHICH TIME DETOURS WILL BE PROVIDED AS SHOWN HEREIN. PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

2013 SPECIFICATIONS

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

ENGINEERS SEAL:

SIGNED:
DATE:

ENGINEERS SEAL:

SIGNED:
DATE:

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS

STAGE 2 SUBMITTAL
MAY. 22, 2015

APPROVED
DATE DISTRICT DEPUTY DIRECTOR

APPROVED
DATE DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. G020069

PID NO. 22984

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
MICHIGAN SOUTHERN RAILROAD

HEN-NEW MAUMEE RIVER BRIDGE

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S.R. 110
CURVE DATA
P.I. STA. 97+48.28
Δ = 21° 40′ 09″ (RT)
Dc = 2° 00′ 00″
R = 2,864.80′
T = 548.28′
L = 1,083.46′
E = 51.99′
emax = 0.045

S.R. 110
CURVE DATA
P.I. STA. 103+94.64
Δ = 20° 59′ 50″ (LT)
Dc = 9° 32′ 57″
R = 600.00′
T = 111.19′
L = 219.88′
E = 10.22′
emax = NC

S.R. 110
EX. CURVE DATA
P.I.STA. 90+33.37
Δ = 49° 52′ 00″ (RT)
Dc = 2° 00′ 00″
R = 2,864.80′
T = 1,331.82′
L = 2,493.34′
E = 294.45′
emax=0.045

S.R. 110
CURVE DATA
P.I. STA. 105+83.15
Δ = 18° 08′ 21″ (RT)
Dc = 11° 27′ 33″
R = 500.00′
T = 79.81′
L = 158.29′
E = 6.33′
emax = NC

S.R. 110
CURVE DATA
P.I. STA. 107+61.70
Δ = 11° 25′ 43″ (RT)
Dc = 5° 43′ 46″
R = 1,000.00′
T = 100.06′
L = 199.47′
E = 4.99′
emax = NC

S.R. 110
CURVE DATA
P.I. STA. 111+03.62
Δ = 10° 20′ 30″ (LT)
Dc = 2° 08′ 16″
R = 2,680.00′
T = 242.53′
L = 483.74′
E = 10.95′
emax = NC

INDUSTRIAL DR.
CURVE DATA
P.I. STA. 36+63.17
Δ = 22° 55′ 17″ (RT)
Dc = 7° 23′ 35″
R = 775.00′
T = 157.12′
L = 310.04′
E = 15.77′
emax = NC

INDUSTRIAL DR.
CURVE DATA
P.I.STA. 33+37.88
Δ = 52° 05′ 04″ (LT)
Dc = 14° 19′ 26″
R = 400.00′
T = 195.46′
L = 363.62′
E = 45.20′
emax = NC

INDUSTRIAL DR.
CURVE DATA
P.I.STA. 52+17.04
Δ = 43° 25′ 15″ (RT)
Dc = 16° 22′ 13″
R = 350.00′
T = 139.36′
L = 265.24′
E = 26.72′
emax = NC

RIVERVIEW AVE.
EX. CURVE DATA
P.I. STA. 596+98.18
Δ = 12° 59′ 05″ (RT)
Dc = 1° 00′ 00″
R = 5,729.16′
T = 651.98′
L = 1,298.38′
E = 36.98′
emax=0.025

BEGIN WORK STA. 101+00.00
PT STA. 101+94.89
PRC STA. 102+83.46
PC STA. 31+42.43
PRC STA. 105+03.34
PRC STA. 35+06.04
PCC STA. 106+61.63
PRC STA. 108+61.10
PT STA. 113+44.83 BK= STA. 113+34.33 AHD
END WORK STA. 113+44.83
BEGIN PROJECT STA. 31+42.43 S.L.M. 0.00
GO20069
PT STA. 38+16.09
STA. 32+01.52 ℄ R/W & CONST. INDUSTRIAL DR.= STA. 106+42.53 ℄ CONST S.R. 110
PC STA. 31+42.43 ℄ R/W & CONST. INDUSTRIAL DR.= STA. 106+40.00 ℄ EX. S.R. 110
STA. 50+59.41 ℄ R/W & CONST. INDUSTRIAL DR.= STA. 593+78.62 ℄ R/W & CONST. RIVERVIEW AVE.
STRUCTURE NO HEN-INDUSTRIAL DR. - 0000
CORPORATION LIMIT STA. 43+11.18
BEGIN WORK STA. 587+00
PC STA. 590+46.19
PC STA. 595+77.88
PT STA. 53+42.92 BK = STA. 53+42.92 AHD
END WORK STA. 598+95.61
PT STA. 603+44.57
END PROJECT STA. 53+53.69 S.L.M. 0.42
GO20069
RAILROAD STA. 53+63.19

℄ R/W S.R. 110
℄ CONST. 110
℄ R/W & CONST. S.R. 110
℄ R/W & CONST. INDUSTRIAL DR.
℄ R/W & CONST. RIVERVIEW AVE.

HARRISON TOWNSHIP
CITY OF NAPOLEON
CULTIVATED
MAUMEE RIVER
UNCONTROLLED FILL AREA
INDUSTRIAL DR.
RESIDENTIAL
RIVERVIEW AVE.
MICHIGAN SOUTHERN RAILROAD
Ex R/W

DESIGN DESIGNATION

	INDUSTRIAL DRIVE	RIVERVIEW AVENUE	S.R. 110
CURRENT ADT (2015)	7390	3230	5740
DESIGN YEAR ADT (2035)	8010	3510	6230
DESIGN HOURLY VOLUME (2035)	910	380	700
DIRECTIONAL DISTRIBUTION	55%	50%	50%
TRUCKS (24 HOUR B&C)	9%	12%	6%
T_D	5%	7%	14%
DESIGN SPEED	40	55	60
LEGAL SPEED	35	50	55
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN COLLECTOR	URBAN MINOR ARTERIAL	URBAN MINOR ARTERIAL

HORIZONTAL SCALE IN FEET
0 50 100 200

SCHEMATIC PLAN

HEN-NEW MAUMEE RIVER BRIDGE

2
180

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CALCULATED | CHECKED

BENCHMARKS AND HORIZONTAL CONTROL

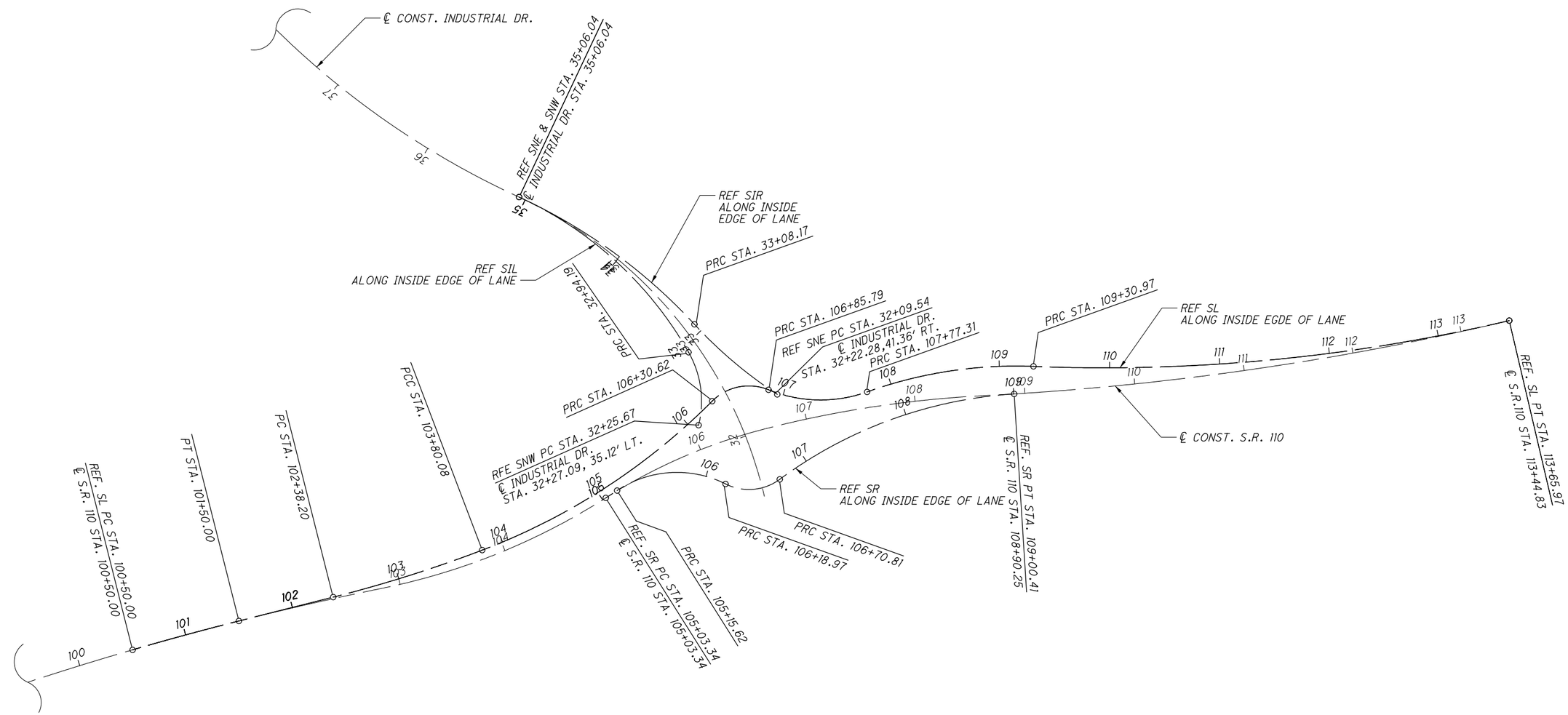
HEN-NEW MAUMEE RIVER BRIDGE

PRIMARY PROJECT CONTROL INFORMATION

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
ARP1	638573.6970	1528220.3138	678.11	IPINS /CIR
ARP2	638206.8882	1528219.4996	678.39	IPINS /CIR
ARP3	638499.0526	1529338.0111	674.81	IPINS /CIR
ARP4	637071.1187	1527468.4342	671.16	IPINS /CIR
ARP5	636091.1981	1528575.4343	667.46	IPINS /CIR
ARP6	635754.7549	1528038.3710	671.21	IPINS /CIR
JAS500	637266.4642	1527666.6053	670.59	MAG SPIKE
JEW1	636329.8015	1529263.7085	667.21	IPINS /CIR
JEW2	636549.8196	1530198.8952	665.77	IPINS /CIR
JEW3	636112.8419	1530882.4102	671.58	IPINS /CIR
JEW4	637659.8855	1528148.4581	678.13	IPINS /CIR
JEW5	637834.1903	1528370.4531	677.75	IPINS /CIR
JEW6	637483.2673	1528308.0899	657.38	IPINS /CIR
JEW7	637594.2634	1528367.7320	658.49	IPINS /CIR
JEW8	637725.4669	1528460.3426	660.03	MAG
JEW9	637889.5540	1528167.4761	678.45	IPINS /CAP
JEW10	637533.8146	1528056.8241	676.36	IPIN -CAP
JEW11	637404.8315	1527907.9181	675.19	IPIN -CAP
JEW12	637242.5817	1527729.1355	673.40	IPIN -CAP
JJL1	638118.1772	1528248.0499	678.06	IPINS /CIR
JJL2	637886.5906	1528504.3997	675.99	IPINS
JJL3	638056.5414	1528759.0865	674.94	IPINS
JJL4	638204.6910	1529006.4512	673.59	IPINS
JJL5	638131.5868	1528882.9361	674.10	MAGS
MSGBASE1	637271.9148	1526923.5899	678.73	IPINS /CIR

VERTICAL CONTROL INFORMATION

POINT NO.	ELEVATION	DESCRIPTION	
BM18	680.83	CMON /BRASS DISC	STA. 65+94.80-134.94' LT CL INDUSTRIAL DR.
BM38	672.71	CMON /BRASS DISC	STA. 55+02.58-19.45' RT CL SR110
BM82	677.06	CMON /BRASS DISC	STA. 578+65.55-540.18' LT CL RIVERVIEW

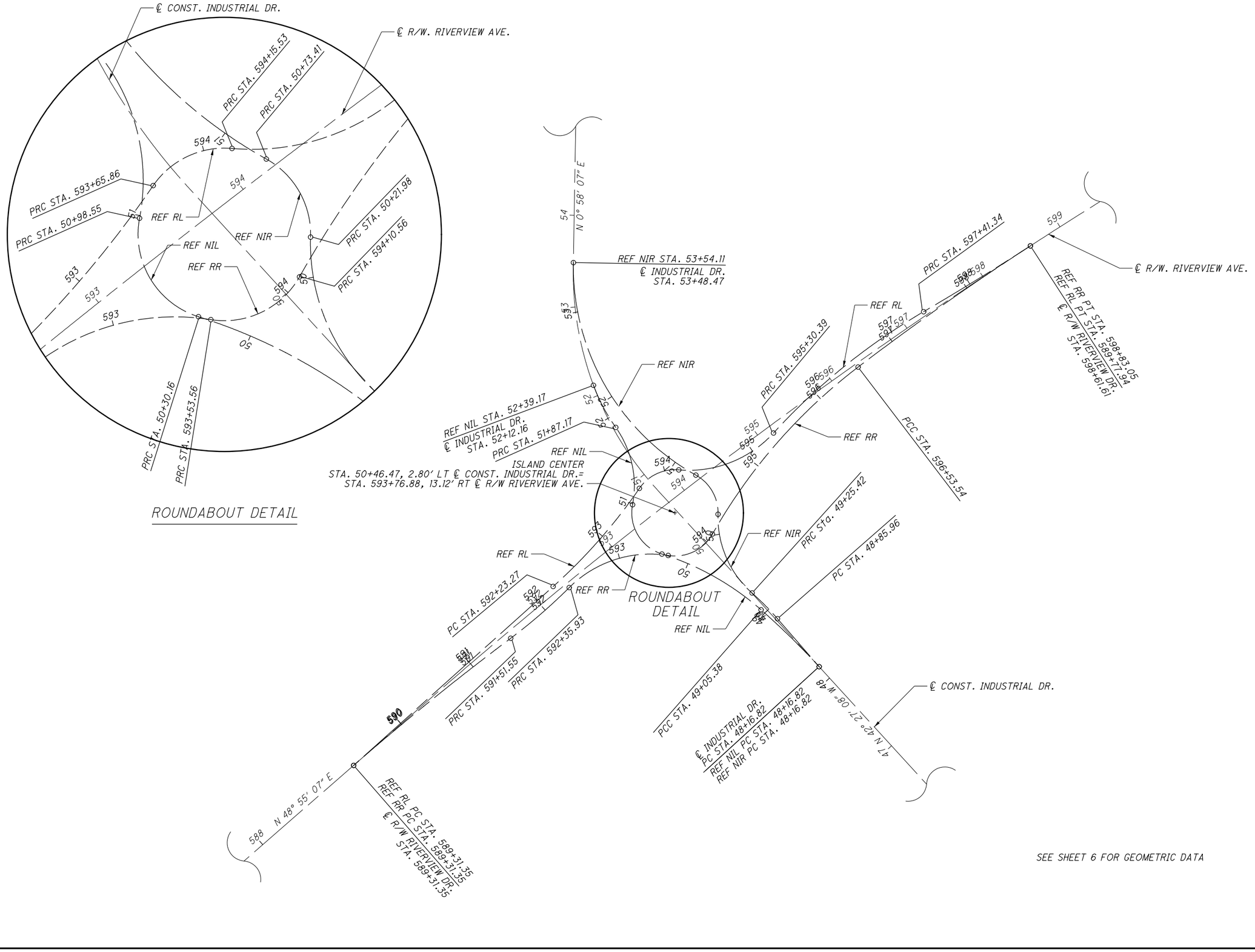


HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED | CHECKED

ROUNDABOUT GEOMETRIC LAYOUT
S.R.110 & INDUSTRIAL DR.

HEN-NEW MAUMEE RIVER BRIDGE



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0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

ROUNDABOUT GEOMETRIC LAYOUT
RIVERVIEW AVE. & INDUSTRIAL DR.

HEN-NEW MAUMEE RIVER BRIDGE

REF. ALIGNMENT	P.I./P.O.T. STATION	NORTHING	EASTING	Degree	Delta	T (FT.)	L (FT.)	R (FT.)	BEGIN CURVE/CHAIN	END CURVE/CHAIN	AHEAD/BACK BEARING
SL		636247.79	1529035.18						100+50.00		
	101+00.01	636261.73	1529083.21	2° 00' 00"	2° 00' 00"	50.00	100.00	2864.80			
		636273.98	1529131.69							101+50.00	75°48'47"
		636295.60	1529217.19						102+38.20		
	103+09.22	636313.01	1529286.05	4° 40' 38"	6° 38' 10"	71.02	141.88	1225.00			
		636338.25	1529352.43							103+80.08	
	105+07.25	636383.46	1529471.30	9° 40' 42"	24° 14' 52"	127.17	250.54	592.00			
		636473.50	1529561.11							106+30.62	
	106+61.89	636495.63	1529583.19	121° 58' 06"	67°17' 54"	31.27	55.18	46.98			
		636483.80	1529612.14							106+85.79	
	107+33.71	636465.68	1529656.50	45° 50' 12"	41°56' 56"	47.92	91.52	125.00			
		636481.85	1529701.60							107+77.31	
	108+55.10	636508.10	1529774.83	14° 19' 26"	22°00' 35"	77.79	153.66	400.00			
		636504.99	1529852.55							109+30.97	
	111+49.82	636496.25	1530071.23	3° 34' 52"	15°34' 38"	218.85	435.00	1600.00			
		636546.56	1530284.22							113+65.97	
SR		636385.63	1529464.50						105+03.34		
	105+09.48	636388.93	1529469.67	9°32' 57"	1° 10' 21"	6.14	12.28	600.00			
		636392.34	1529474.78							105+15.62	
	105+72.68	636423.99	1529522.26	58°27' 54"	60°25' 29"	57.07	103.35	98.00			
		636398.32	1529573.23							106+18.97	
	106+47.88	636385.31	1529599.05	121°54' 21"	63°11' 45"	28.91	51.84	47.00			
		636402.49	1529622.30							106+70.81	
	107+88.87	636472.65	1529717.26	14°19' 26"	32°53' 17"	118.06	229.60	400.00			
		636480.00	1529835.09							109+00.41	
SIL		636451.62	1529548.76						32+25.67		
	32+61.69	636486.57	1529557.44	63°39' 43"	43°37' 15"	36.02	68.52	90.00			
		636517.87	1529539.61							32+94.19	
	34+03.68	636613.00	1529485.41	16°51' 06"	35°42' 04"	109.49	211.86	340.00			
		636658.63	1529385.87							35+06.04	
SIR		636479.63	1529620.09						32+09.54		
	32+59.11	636506.75	1529578.60	14°19' 26"	14°07'41"	49.57	98.63	400.00			
		636543.18	1529544.99							33+08.17	
	34+08.42	636616.86	1529477.00	11°27' 33"	22°40' 28"	100.25	197.87	500.00			
		636658.63	1529385.87							35+06.04	

REF. ALIGNMENT	P.I./P.O.T. STATION	NORTHING	EASTING	Degree	Delta	T (FT.)	L (FT.)	R (FT.)	BEGIN CURVE/CHAIN	END CURVE/CHAIN	AHEAD/BACK BEARING
RL		637470.89	1527954.44						589+31.35		48° 07' 23"
		637665.76	1528171.80						592+23.27		
	592+94.90	637713.57	1528225.14	9° 32' 57"	13° 36'58"	71.63	142.59	600.00			
		637772.60	1528265.72							593+65.86	
	593+93.30	637795.21	1528281.26	121° 54' 21"	60° 33' 21"	27.44	49.67	47.00			
		637792.79	1528308.59							594+15.53	
	594+77.38	637787.33	1528370.19	45° 50' 12"	52°38' 48"	61.84	114.86	125.00			
		637832.99	1528411.91							595+30.39	
	596+36.67	637911.45	1528483.59	8° 11' 06"	17°15' 58"	106.28	210.95	700.00			
		637965.10	1528575.34							597+41.34	
	598+09.65	637999.58	1528634.31	1° 54' 35"	2°36' 32"	68.31	136.60	3000.00			
		638036.71	1528691.64							598+77.94	
RR		637470.89	1527954.44						589+31.35		
	590+41.50	637543.27	1528037.47	1° 54' 35"	4° 12'20"	110.15	220.20	3000.00			
		637609.37	1528125.58							591+51.55	
	591+93.81	637634.73	1528159.39	9°32' 57"	8°03' 27"	42.26	84.38	600.00			
		637664.57	1528189.30							592+35.93	
	592+99.51	637709.48	1528234.31	45°50' 12"	53°54' 59"	63.58	117.63	125.00			
		637699.55	1528297.11							593+53.56	
	593+86.16	637694.46	1528329.31	121°54' 21"	69°29' 43"	32.60	57.00	47.00			
		637722.84	1528345.36							594+10.56	
	595+33.74	637830.06	1528405.99	9°32' 57"	23°12' 09"	123.18	242.97	600.00			
		637904.72	1528503.96							596+53.54	
	597+68.35	637974.31	1528595.28	1°54' 35"	4°23' 00"	114.81	229.51	3000.00			
		638036.71	1528691.64							598+83.05	
NIL		637578.42	1528461.52						48+16.82		
	48+61.14	637611.12	1528431.60	7°03'53"	6°15' 24"	44.33	88.56	811.00			
		637640.37	1528398.30							49+05.38	
	49+68.69	637682.14	1528350.73	19°05' 55"	23°49' 54"	63.31	124.78	300.00			
		637701.14	1528290.34							50+30.16	
	50+72.01	637713.70	1528250.42	121°54' 21"	83°22' 00"	41.85	68.39	47.00			
		637754.80	1528258.28							50+98.55	
	51+45.42	637800.84	1528267.09	52°05' 14"	46°09' 40"	46.87	88.62	110.00			
		637839.08	1528239.98							51+87.17	
	52+13.32	637860.41	1528224.85	28°38' 52"	14°53' 47"	26.15	52.00	200.00			
		637884.91	1528215.72							52+39.17	
NIR		637578.42	1528461.52						48+16.82		40°57' 08"
		637630.64	1528416.20						48+85.96		
	49+05.72	637645.56	1528403.25	19°05' 55"	7°32'06"	19.76	39.45	300.00			
		637658.65	1528388.46							49+25.42	
	49+77.06	637692.88	1528349.79	52°05' 13"	50°17' 40"	51.64	96.56	110.00			
		637744.49	1528351.42							50+21.98	
	50+50.61	637773.11	1528352.33	121°54' 21"	62°41' 51"	28.63	51.43	47.00			
		637787.04	1528327.31							50+73.41	
	52+29.20	637862.83	1528191.20	22°02' 13"	61°51' 32"	155.79	280.71	260.00			
		638018.59	1528193.83							53+54.11	

CALCULATED XF
CHECKED CEB

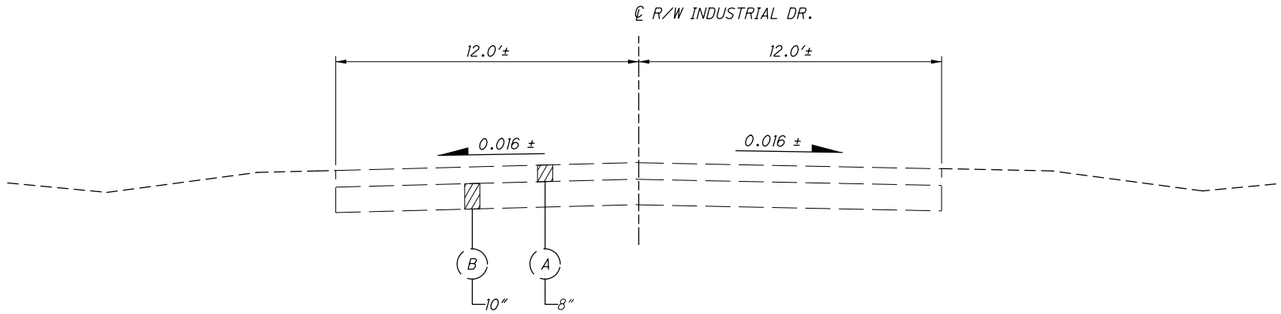
ROUNDABOUT GEOMETRIC DATA

HEN-NEW MAUMEE RIVER BRIDGE

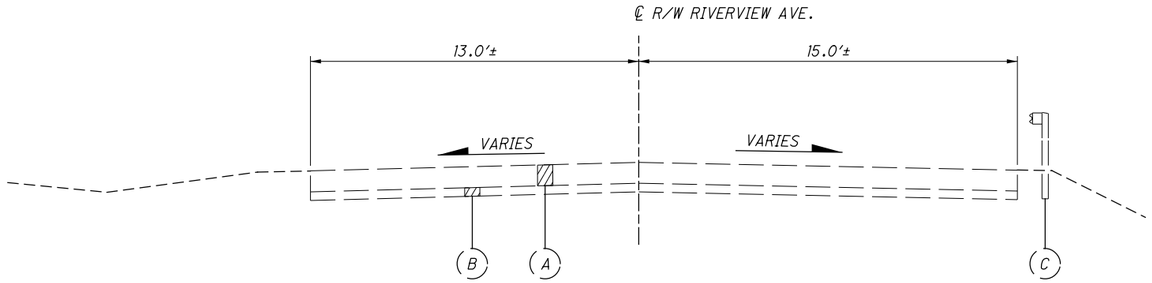
LEGEND

(1) ITEM 441 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN
(2) ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446), AS PER PLAN
(3) ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22
(4) ITEM 304 - 6" AGGREGATE BASE
(5) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL/SY)
(6) ITEM 407 - TACK COAT (0.075 GAL/SY)
(7) ITEM 203 - SUBGRADE COMPACTION
(8) ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP
(9) ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2
(10) ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 3, AS PER PLAN
(11) ITEM 609 - CURB, TYPE 2-A
(12) ITEM 609 - CURB, TYPE 6
(13) ITEM 452 - NON-REINFORCED CONCRETE PAVEMENT, MISC.: DECORATIVE, 8" THICK (TRUCK APRON)
(14) ITEM 608 WALKWAY MISC.: DECORATIVE CONCRETE, 6" THICK (SPLITTER ISLAND)
(15) ITEM 608 - 4" CONCRETE WALK
(16) ITEM 659 - SEEDING AND MULCHING
(17) ITEM 526 - REINFORCED CONCRETE APPROACH SLAB. (T=17"), AS PER PLAN
(18) ITEM 606 - GUARDRAIL, TYPE MGS WITH LONG POSTS
(19) ITEM 204 - EXCAVATION OF SUBGRADE
ITEM 204 - GRANULAR MATERIAL, TYPE B
(20) ITEM 609 - CURB, TYPE 4C
(21) ITEM 608 - 1" AGGREGATE WALK (LIMESTONE SCREENINGS)
(22) ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448) (DEPTH VARIES TO ESTABLISH CROSS SLOPE)
(23) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (DEPTH VARIES FROM 1.25" TO 1.75")
(24) ITEM 409 - SEALING MISC.: LONGITUDINAL JOINT SEALER

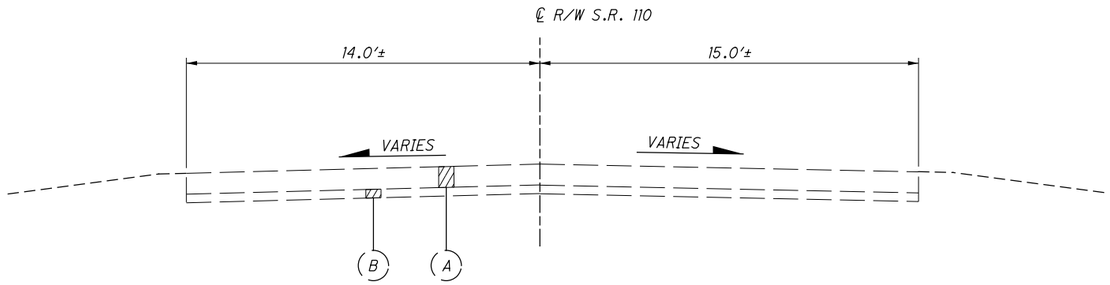
(A) 10" ASPHALT (UNLESS OTHERWISE SHOWN)
(B) 4" AGGREGATE BASE (UNLESS OTHERWISE SHOWN)
(C) GUARDRAIL



EXISTING SECTION - INDUSTRIAL DR.



EXISTING SECTION - RIVERVIEW AVE.

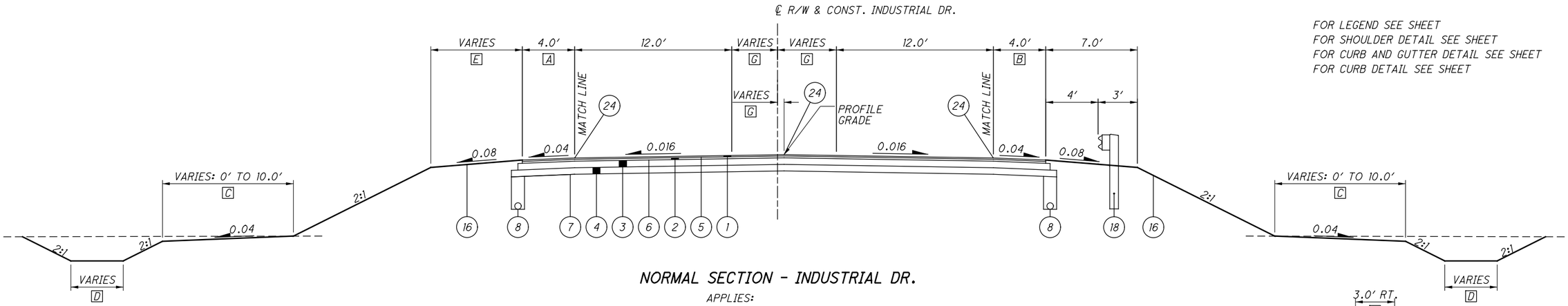


EXISTING SECTION - S.R. 110

TYPICAL SECTIONS - EXISTING ROAD

HEN-NEW MAUMEE RIVER BRIDGE

7
180



NORMAL SECTION - INDUSTRIAL DR.

APPLIES:
STA. 33+64.83 TO STA. 35+06.04

FOR LEGEND SEE SHEET
FOR SHOULDER DETAIL SEE SHEET
FOR CURB AND GUTTER DETAIL SEE SHEET
FOR CURB DETAIL SEE SHEET

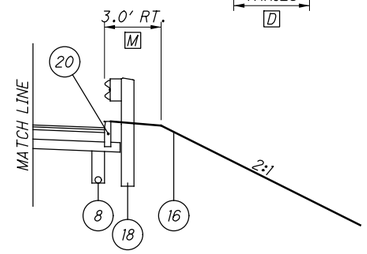
[A] VARIES: 2.0′ AT STA. 33+64.83 TO 4.0′ AT STA. 33+73.11
4.0′ FROM STA. 33+73.11 TO STA. 35+06.04

[B] VARIES: 2.0′ AT STA. 33+64.90 TO 4.0′ AT STA. 33+72.99
4.0′ FROM STA. 33+72.99 TO STA. 35+06.04

[C] VARIES: 0′ AT STA. 33+75.00 TO 10.0′ AT STA. 34+75.00
10.0′ FROM STA. 34+75 TO STA. 35+06.04

[D] VARIES: 4.0′ AT STA. 33+75.00 TO 6.0′ AT STA. 34+75.00
6.0′ FROM STA. 34+75 TO STA. 35+06.04

[E] VARIES: 20.5′ FROM STA. 33+74.49 TO 24.5′ AT STA. 33+92.06
24.5′ FROM STA. 33+92.06 TO STA. 35+06.04



CURB SECTION

APPLIES:
STA. 33+64.83 TO STA. 33+73.11
STA. 38+43.09 TO STA. 39+00.65

16″ APPLIES:
STA. 50+11.63 TO 53+64.45

NORMAL SECTION - INDUSTRIAL DR.

APPLIES:
STA. 49+08.32 TO STA. 49+27.57
STA. 52+15.45 TO STA. 53+64.45

[F] 24.5′ FROM STA. 35+06.04 TO STA. 37+65.15
VARIES: 24.5′ AT STA. 37+65.15 TO 11.4′ AT STA. 38+74.65

[G] VARIES: SEE GEOMETRIC DETAILS

[H] VARIES: SEE GRADING PLAN

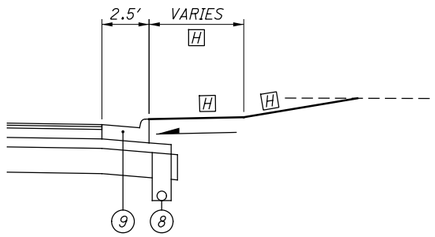
[I] 12.0′ FROM STA. 35+06.04 TO STA. 38+16.09
VARIES: 12.0′ AT STA. 38+16.09 TO 11.0′ AT STA. 38+52.65
11.0′ FROM STA. 38+52.65 TO STA. 39+00.65

[J] 12.0′ FROM STA. 35+06.04 TO STA. 38+16.09
VARIES: 12.0′ AT STA. 38+16.09 TO 11.0′ AT STA. 38+43.09
11.0′ FROM STA. 38+43.09 TO STA. 39+00.65

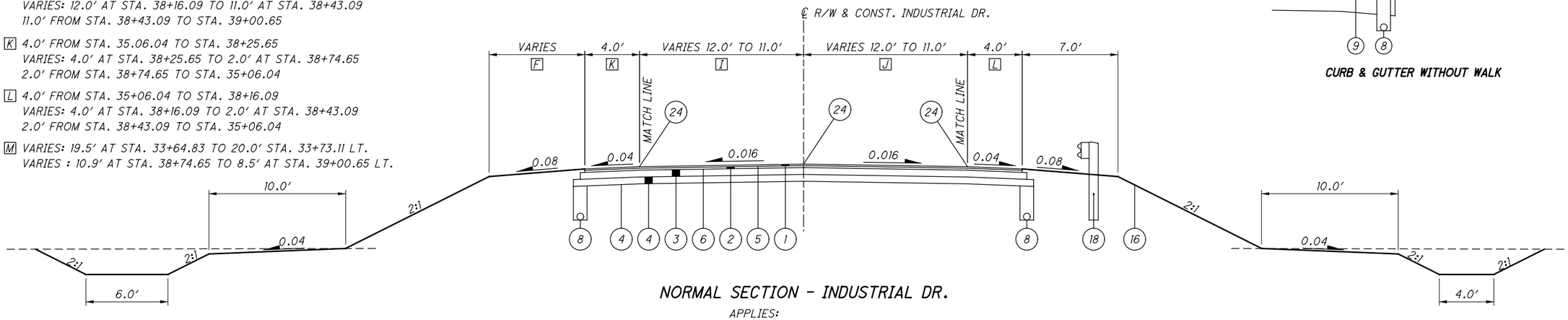
[K] 4.0′ FROM STA. 35.06.04 TO STA. 38+25.65
VARIES: 4.0′ AT STA. 38+25.65 TO 2.0′ AT STA. 38+74.65
2.0′ FROM STA. 38+74.65 TO STA. 35+06.04

[L] 4.0′ FROM STA. 35+06.04 TO STA. 38+16.09
VARIES: 4.0′ AT STA. 38+16.09 TO 2.0′ AT STA. 38+43.09
2.0′ FROM STA. 38+43.09 TO STA. 35+06.04

[M] VARIES: 19.5′ AT STA. 33+64.83 TO 20.0′ STA. 33+73.11 LT.
VARIES : 10.9′ AT STA. 38+74.65 TO 8.5′ AT STA. 39+00.65 LT.



CURB & GUTTER WITHOUT WALK



NORMAL SECTION - INDUSTRIAL DR.

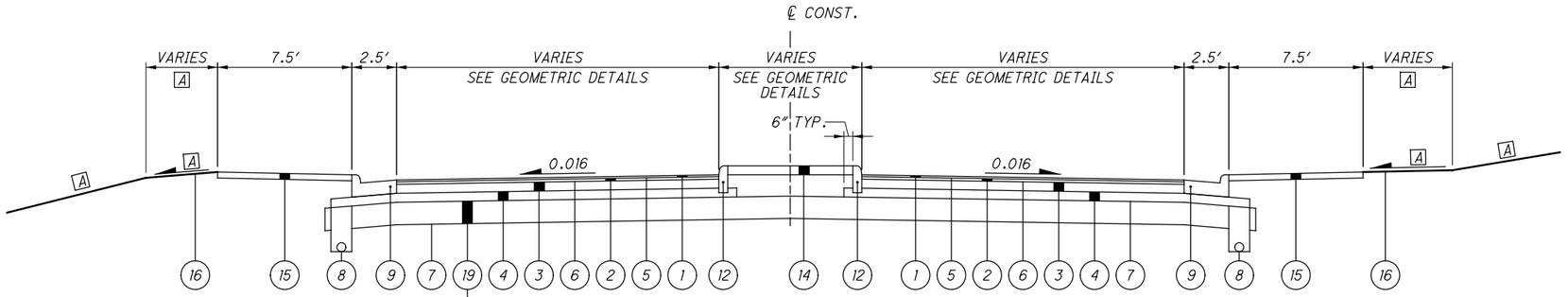
APPLIES:
STA. 35+06.04 TO STA. 39+00.65

TYPICAL SECTIONS - INDUSTRIAL DR.

HEN-NEW MAUMEE RIVER BRIDGE

8
180

W:\Projects\Projects F-JNH2530002\22984\roadway\sheets\22984GY002.dgn 5/22/2015 4:03:42 PM SValentin

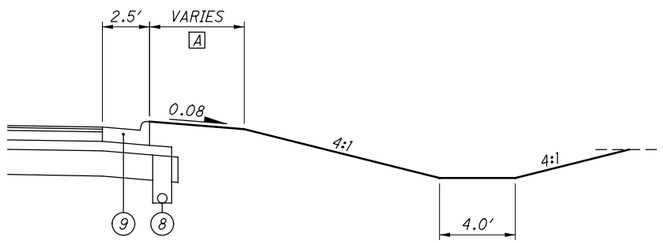


NORMAL SECTION - SPLITTER ISLANDS

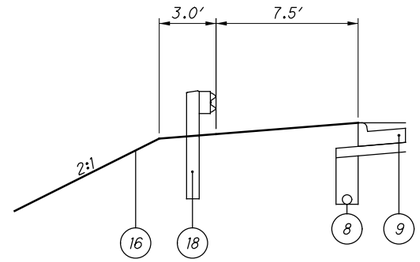
APPLIES:
INDUSTRIAL DR.
STA. 32+64.77 TO STA. 33+63.77
STA. 49+27.51 TO STA. 49+81.05
STA. 51+11.17 TO STA. 52+15.46

RIVERVIEW AVE.
STA. 591+11.11 TO STA. 593+12.97
STA. 594+42.37 TO STA. 596+34.91

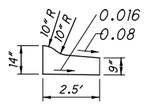
S.R. 110
STA. 103+78.89 TO STA. 105+79.01
STA. 107+09.47 TO STA. 110+94.51



CURB & GUTTER WITHOUT WALK

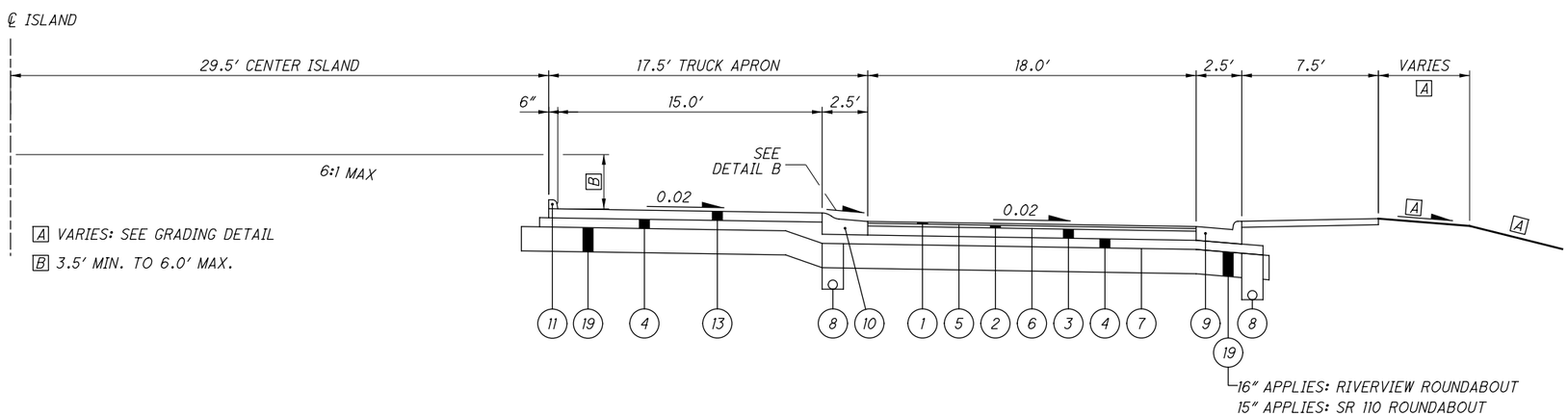


BARRIER GRADING DETAIL



DETAIL B

COMBINATION CURB AND GUTTER,
TYPE 3, AS PER PLAN

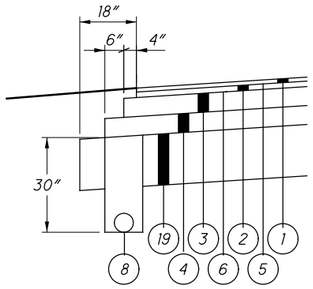


NORMAL SECTION - ROUNDABOUT

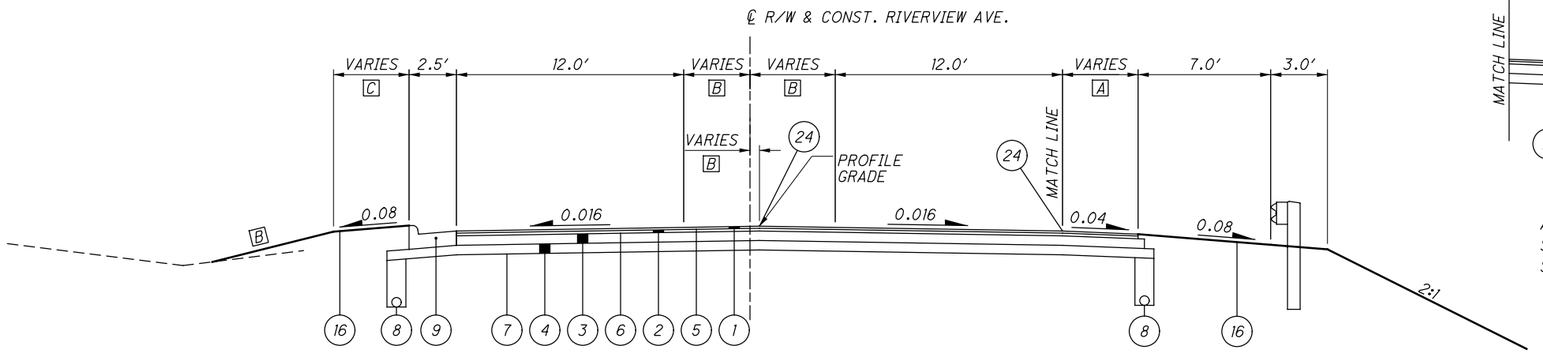
FOR LEGEND SEE SHEET 7
FOR SHOULDER DETAIL SEE SHEET
FOR CURB AND GUTTER DETAIL SEE SHEET

TYPICAL SECTIONS - ROUNDABOUT

HEN-NEW MAUMEE
RIVER BRIDGE



SHOULDER DETAIL



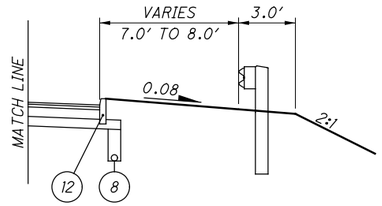
NORMAL SECTION - RIVERVIEW AVE.

APPLIES:
STA. 588+87.77 TO STA. 591+11.11
STA. 596+34.91 TO STA. 598+95.61

A 3.0′ FROM STA. 588+87.77 TO STA. 591+06.20
VARIES: 3.0′ AT STA. 591+06.20 TO 2.0′ AT STA. 591+10.33
VARIES: 2.0′ AT STA. 596+35.53 TO 3.0′ AT STA. 596+39.63
3.0′ FROM STA. 596+39.63 TO STA. 598+95.61

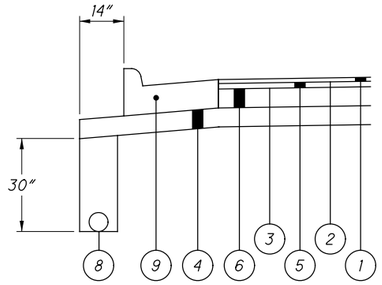
B VARIES: SEE GEOMETRIC DETAILS

C VARIES: SEE GRADING DETAIL

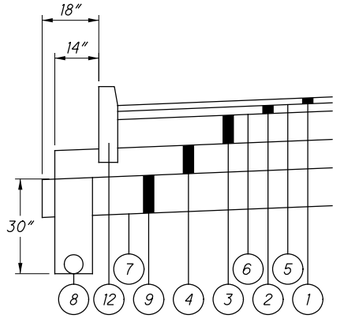


CURB SECTION

APPLIES:
STA. 591+06.20 TO STA. 591+10.33 RT.
STA. 596+35.53 TO STA. 596+39.63 RT.



CURB & GUTTER DETAIL



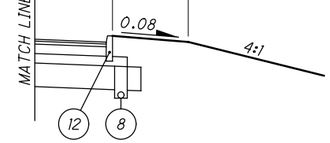
CURB DETAIL

NORMAL SECTION - S.R. 110

APPLIES:
STA. 101+00.00 TO STA. 103+78.89
STA. 110+94.51 TO STA. 113+44.83

D 3.0′ FROM STA. 101+00.00 TO STA. 103+74.75
VARIES: 3.0′ AT STA. 103+74.75 TO 2.0′ AT STA. 103+78.86
VARIES: 2.0′ AT STA. 110+95.52 TO 3.0′ AT STA. 110+99.70
3.0′ FROM STA. 110+99.70 TO STA. 113+44.83

E 3.0′ FROM STA. 101+00.00 TO STA. 103+74.89
VARIES: 3.0′ AT STA. 103+74.89 TO 2.0′ AT STA. 103+78.89
VARIES: 2.0′ AT STA. 110+94.51 TO 3.0′ AT STA. 110+98.51
3.0′ FROM STA. 110+98.51 TO STA. 113+44.83



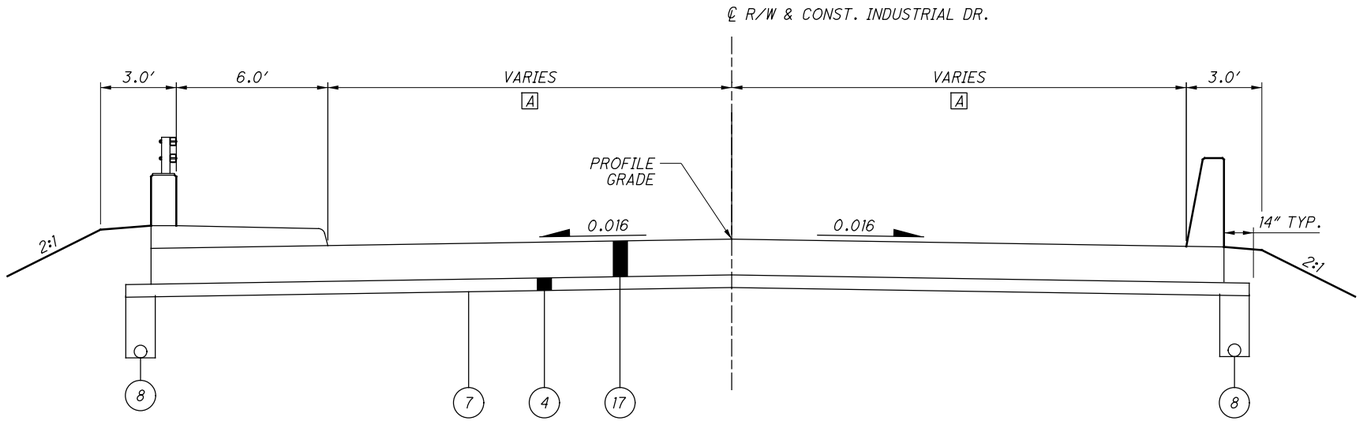
CURB SECTION

APPLIES:
STA. 33+64.83 TO STA. 33+73.11
STA. 38+43.09 TO STA. 39+00.65

FOR LEGEND, SEE SHEET 7

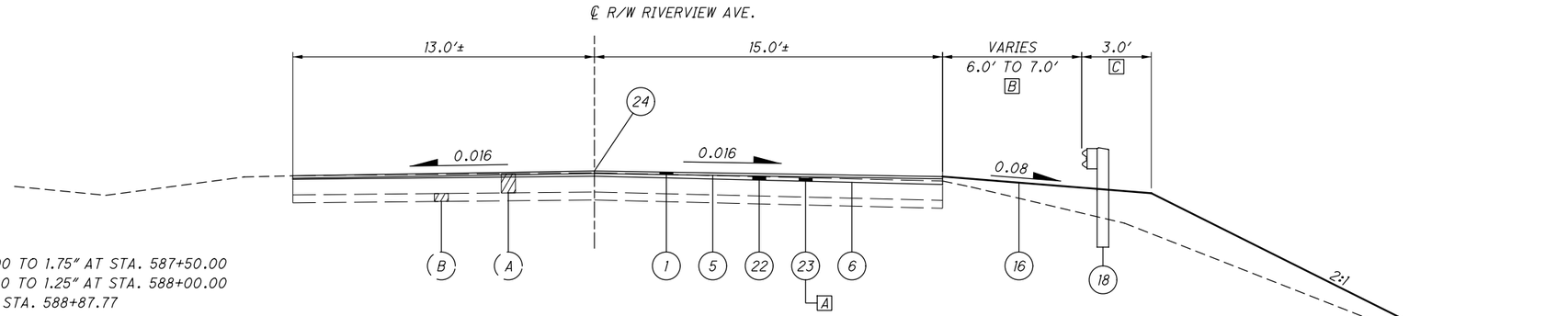
TYPICAL SECTIONS - RIVERVIEW AVE. & S.R. 110

HEN-NEW MAUMEE RIVER BRIDGE



NORMAL SECTION - APPROACH SLAB

APPLIES:
STA. 39+06.32 TO STA. 39+31.32
STA. 48+76.82 TO STA. 49+08.32



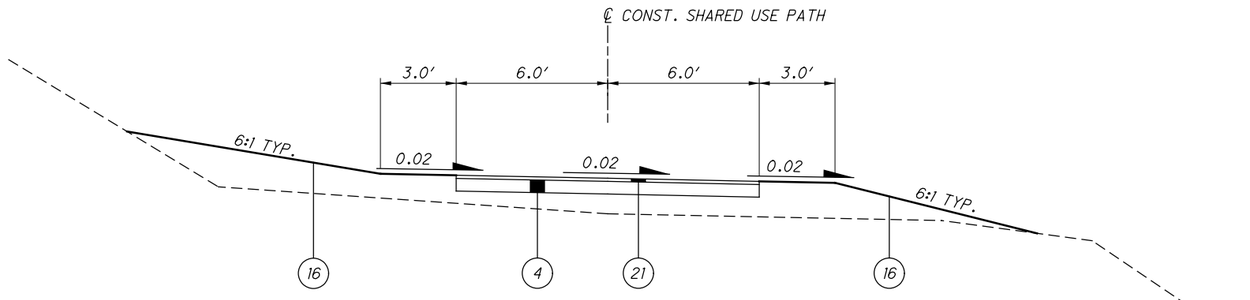
A VARIES: 1.25″ AT STA. 587+00.00 TO 1.75″ AT STA. 587+50.00
VARIES: 1.75″ AT STA. 587+50.00 TO 1.25″ AT STA. 588+00.00
1.25″ FROM STA. 588+00.00 TO STA. 588+87.77

B VARIES: 6.0′ AT STA. 587+00 TO 7.0′ AT STA. 588+00
7.0′ FROM STA. 588+00 TO STA. 588+87.77

C 0′ FROM STA. 587+00.00 TO STA. 587+25.00
VARIES: 0′ AT STA. 587+25.00 TO 3.0′ AT STA. 587+50
3.0′ FROM STA. 587+50.00 TO STA. 588+87.77

EXISTING SECTION - RIVERVIEW AVE.

APPLIES:
STA. 587+00 TO STA. 588+87.77



NORMAL SECTION - SHARED USE PATH

FOR LEGEND, SEE SHEET 7

TYPICAL SECTIONS

HEN-NEW MAUMEE RIVER BRIDGE

ROUNDING

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

UTILITIES

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

UTILITY OWNERSHIP

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

TIME WARNER CABLE

CITY OF NAPOLEON
255 WEST RIVERVIEW
NAPOLEON, OH 43545
(419) 592-4010

OHIO GAS
335 E. LEGGETT STREET
WASEON, OH 43567
(419) 825-5368

TOLEDO EDISON
300 MADISON AVENUE
TOLEDO, OH 43652
(419)249-5218

CENTURY LINK
812 DOLAN ST.
DEFIANCE, OH 43512

SURVEYING PARAMETERS

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

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

PROJECT CONTROL

POSITIONING METHOD: ODOT VRS
MONUMENT TYPE: CORS STATIONS

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID9

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (CORS96)
ELLIPSOID: GRS 80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE - NORTH ZONE
COMBINED SCALE FACTOR: 1.0000675074
ORIGIN OF COORDINATE
SYSTEM: 0.00, 0.00

SURVEYING PARAMETERS (CONT.)

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 823.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN

ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN SHALL FOLLOW THE SPECIFICATIONS FOR 441 EXCEPT FOR SECTION 441.02 THAT THE BINDER SHALL BE PG88-22M FOR THE SURFACE COURSE AND A MAXIMUM OF 10% RAP BY DRY WEIGHT OF MIX CAN BE USED.

THE PG88-22M BINDER USED FOR THIS MIXTURE SHALL BE SAMPLED AT THE SUPPLIER TERMINAL AND TESTED BY THE DEPARTMENT PRIOR TO SHIPMENT TO THE ASPHALT PLANT. CONTACT THE DISTRICT FOR SAMPLING. IF THE SUPPLIER IS CERTIFIED FOR THE BINDER DO NOT SAMPLE AT THE TERMINAL. OBTAIN FOUR 1-QUART SAMPLES OF THE BINDER FROM THE ASPHALT PLANT STORAGE TANK AND HOLD FOR THE DISTRICT.

THE USE OF WARM MIX IS NOT PERMITTED FOR THIS MIXTURE.

ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (446), AS PER PLAN

ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (446), AS PER PLAN SHALL FOLLOW THE SPECIFICATIONS FOR 441 EXCEPT FOR SECTION 441.02 THAT THE BINDER SHALL BE PG88-22M FOR THE INTERMEDIATE COURSE AND A MAXIMUM OF 10% RAP BY DRY WEIGHT OF MIX CAN BE USED.

THE PG88-22M BINDER USED FOR THIS MIXTURE SHALL BE SAMPLED AT THE SUPPLIER TERMINAL AND TESTED BY THE DEPARTMENT PRIOR TO SHIPMENT TO THE ASPHALT PLANT. CONTACT THE DISTRICT FOR SAMPLING. IF THE SUPPLIER IS CERTIFIED FOR THE BINDER DO NOT SAMPLE AT THE TERMINAL. OBTAIN FOUR 1-QUART SAMPLES OF THE BINDER FROM THE ASPHALT PLANT STORAGE TANK AND HOLD FOR THE DISTRICT.

THE USE OF WARM MIX IS NOT PERMITTED FOR THIS MIXTURE.

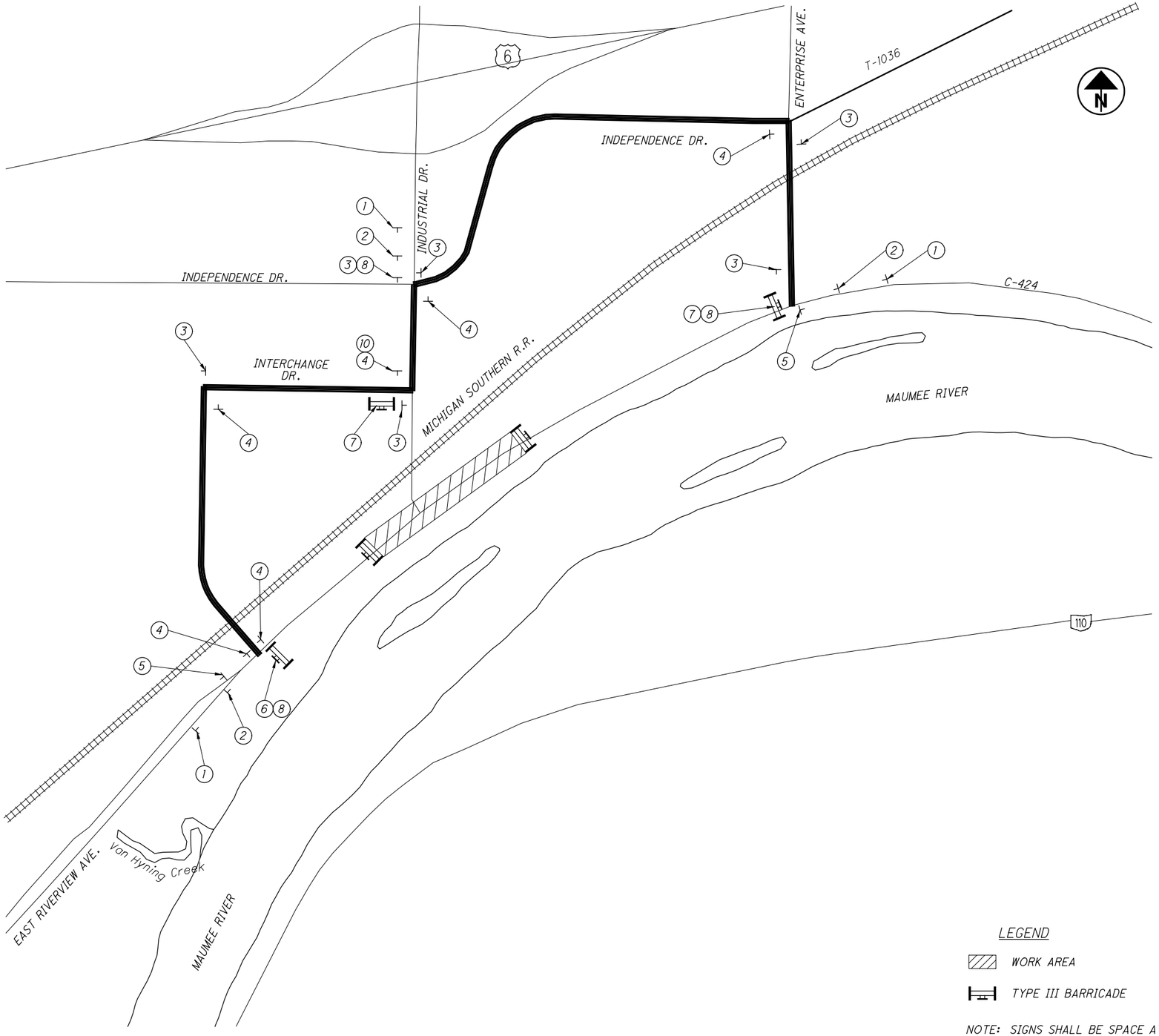
UNCONTROLLED FILL AREA

THE UNCONTROLLED FILL IDENTIFIED IN THE PLANS CONSISTS OF UNCONTROLLED AND OTHER DELETERIOUS MATERIALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE EXISTING MATERIAL THAT IS WITHIN THE PROJECT CONSTRUCTION LIMITS TO A DEPTH OF 7 FEET BELOW THE EXISTING GRADE AND REPLACING WITH GRANULAR EMBANKMENT.

CALCULATED | CHECKED

GENERAL NOTES

HEN-NEW MAUMEE RIVER BRIDGE



(1) ROAD CLOSED AHEAD — M-20-3-36

(2) DETOUR AHEAD — W20-2-36

(3) * Riverview Ave — D3-1 — DETOUR — M4-9L-30

(4) * Riverview Ave — D3-1 — DETOUR — M4-9R-30

(5) END DETOUR — M4-8A-24

(6) ROAD CLOSED LOCAL TRAFFIC ONLY — R11-3-60 — DETOUR — M4-10L-48

(7) ROAD CLOSED LOCAL TRAFFIC ONLY — R11-3-60 — DETOUR — M4-10R-48

(8)* NO ACCESS TO INDUSTRIAL DRIVE

(9)* WEST — M3-2-24

(10)* EAST — M3-4-24

* SIGN SHALL BE BLACK ON ORANGE

LEGEND

WORK AREA

TYPE III BARRICADE

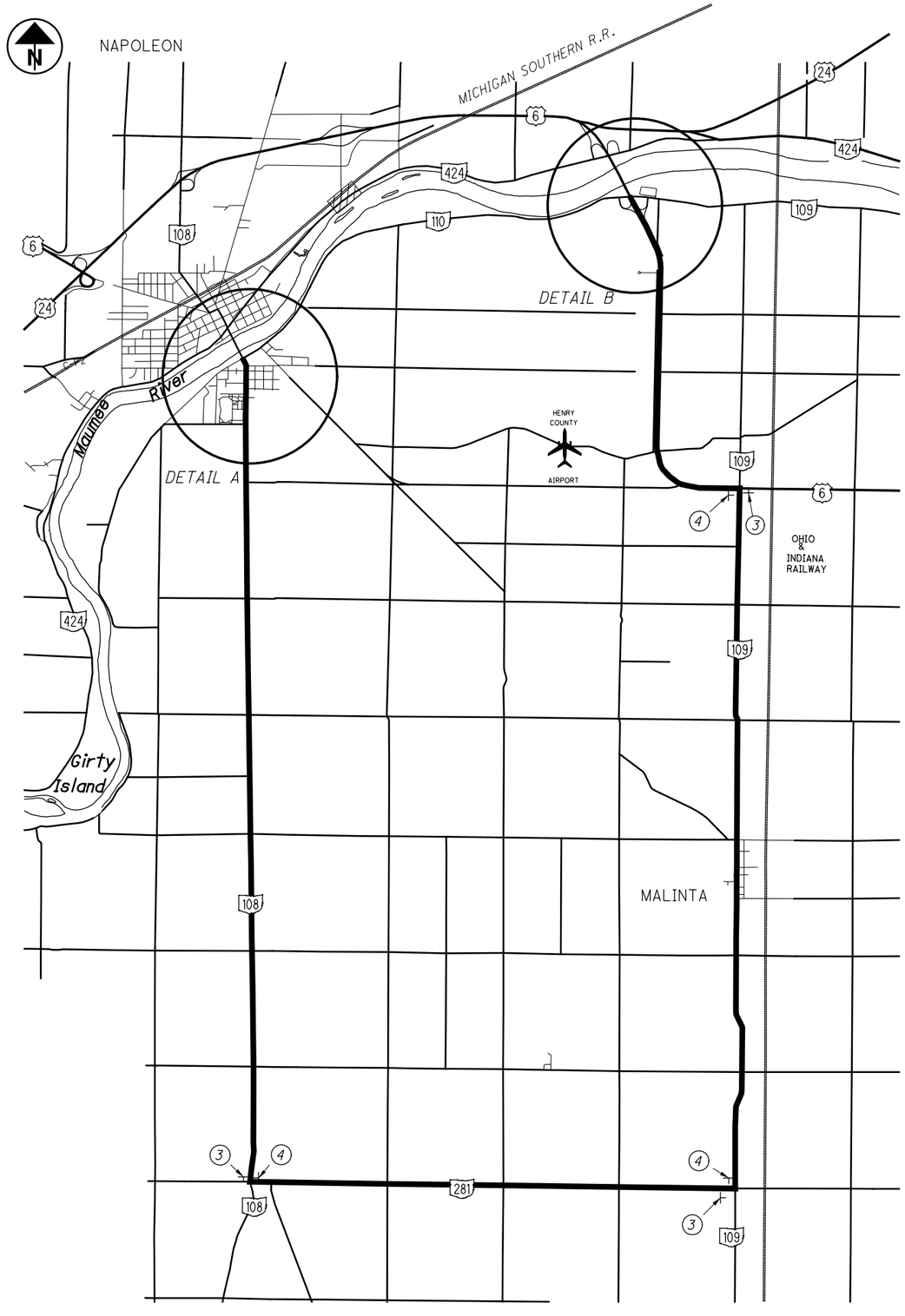
NOTE: SIGNS SHALL BE SPACE AT 200' FOR INDUSTRIAL DR. AND 350' FOR RIVERVIEW AVE.

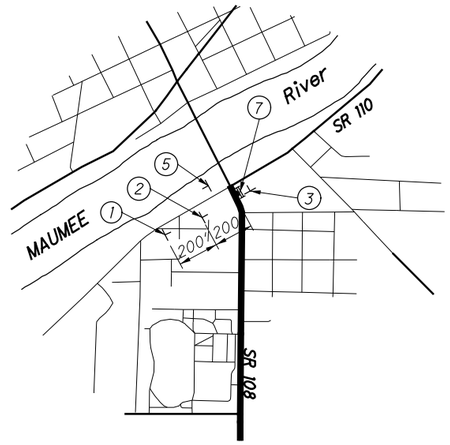
CONTRACTOR SHALL CLOSE RIVERVIEW AVE AND INDUSTRIAL DR AT THE PROJECT WORK LIMITS WHILE MAINTAINING ACCESS TO ALL PROPERTIES.

CALCULATED | CHECKED

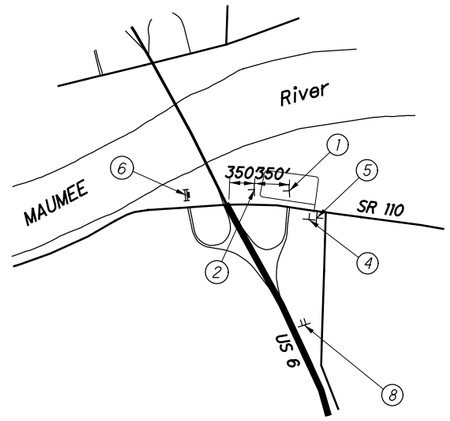
MAINTENANCE OF TRAFFIC
DETOUR MAP- RIVERVIEW AVE.

HEN-NEW MAUMEE RIVER BRIDGE





DETAIL A
S.R. 108 AND S.R. 110

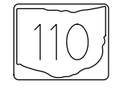


DETAIL B
U.S. 6 AND S.R. 110

M-20-3-36

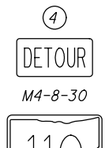
W20-2-36

M4-8-30



M1-5-30-3

M6-1-30

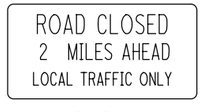


M4-8-30

M1-5-30-3

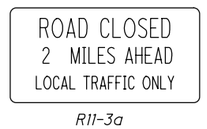
M6-1-30

M4-8A-24

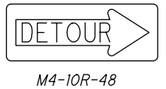


R11-3a

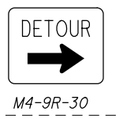
M4-10L-48



R11-3a



M4-10R-48



M4-9R-30

LEGEND

WORK AREA

TYPE III BARRICADE

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC DETOUR MAP - S.R. 110

HEN-NEW MAUMEE RIVER BRIDGE

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED __ CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET ___ OR THE USE OF ONE WAY SIGNAL OPERATION.
DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $_____ FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.
RIVERVIEW DRIVE AND SR 110 SHALL NOT BE CLOSED AT THE SAME TIME.

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

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

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

ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B _____ CU. YD.
ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE C _____ CU. YD.
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC _____ CU. YD.
ITEM 616, WATER _____ M. GAL.

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

OVERNIGHT TRENCH CLOSING

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

DUST CONTROL

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

ITEM 616, WATER _____ M. GAL

ITEM 614, REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

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

AN ESTIMATED QUANTITY OF _____ EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, REPLACEMENT DRUM

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

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CON-TRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF ____ EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF ___ EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND ___ EACH OF ITEM 614 OBJECT MARKER, __-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

FULLY-ACTUATED OPERATION OF WORK ZONE TRAFFIC SIGNAL

THE WORK ZONE SIGNAL CONTROL REQUIRED FOR THIS PROJECT AND SHOWN ON SHEETS _____ AND SCDS MT-96.11, 96.20 AND 96.26 SHALL BE FULLY TRAFFIC-ACTUATED AND OPERATE IN A MANNER SIMILAR TO THAT DESCRIBED IN SECTION 733.02 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

THE INITIAL CONTROLLER TIMING SHALL BE AS FOLLOWS:

	RIVER AVE PHASE *			
	1 (All Red) Dummy Phase	2 Mainline Direction	3 (All Red) Dummy Phase	4 Mainline Direction
MIN. GREEN		10		10
EXTENSION		4		4
MAX. GREEN		30		30
YELLOW		3.5		3.5
ALL RED	30		30	
RECALL	MAX.	MIN.	MAX.	MIN.

	SR 110 PHASE *			
	1 (All Red) Dummy Phase	2 Mainline Direction	3 (All Red) Dummy Phase	4 Mainline Direction
MIN. GREEN		10		10
EXTENSION		4		4
MAX. GREEN		30		30
YELLOW		3.5		3.5
ALL RED	30		30	
RECALL	MAX.	MIN.	MAX.	MIN.

*PHASES AS SHOWN ON SCD MT-96.20 FOR ACTUATED CONTROL. ADD MORE PHASES AS NEEDED TO ACCOMMODATE SIDE STREETS, DRIVEWAYS, ETC.
+/- PROVIDE TIMING FOR THE SIGNAL LOCATION UNDER CONSIDERATION.

1 INDICATE DIRECTION OF GREEN.

THE CONTRACTOR SHALL ALSO DESIGN, FURNISH, INSTALL AND MAINTAIN A TRAFFIC DETECTOR ON EACH TRAFFIC APPROACH WHICH WILL RELIABLY DETECT ALL LEGAL TRAFFIC APPROACHING (BUT NOT LEAVING) THE SIGNAL AS IT PASSES OR WAITS IN THE DESIGNATED DETECTOR ZONE SHOWN IN THE PLANS. DETECTOR DESIGNS WHICH DO NOT PROVIDE RELIABLE DETECTION, FREE FROM FALSE CALLS, SHALL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.

SEQUENCE OF CONSTRUCTION

GENERAL

THE CONSTRUCTION OF THE NEW STRUCTURE MAY BE PERFORMED AT ANY TIME DURING THE CONSTRUCTION SEQUENCE SO LONG AS ALL REQUIREMENTS OF THESE PLANS AND THE PROJECT SCHEDULE ARE MET.

STAGE 1

SETUP THE TEMPORARY TRAFFIC CONTROL AS DETAILED ON SHEETS XX-XX AND PERFORM THE FOLLOWING WORK. TRAFFIC SHALL BE MAINTAINED ON EXISTING PAVEMENT OF SR 110 AND RIVERVIEW AVENUE.

-CONSTRUCT THE NEW INDUSTRIAL DRIVE ALIGNMENT OUTSIDE OF THE EXISTING PAVEMENT TO THE PROPOSED SUBGRADE.

STAGE 2

UPON THE COMPLETION OF STAGE 1 INSTALL TEMPORARY SIGNALS AT RIVERVIEW AVENUE AND SR 110. UPON THE INSTALLATION OF THE TEMPORARY SIGNALS SETUP THE TEMPORARY TRAFFIC CONTROL AS DETAILED ON SHEETS XX-XX AND PERFORM THE FOLLOWING WORK.

-CONSTRUCT EB SIDE OF RIVERVIEW AVENUE TO THE PROPOSED SUBGRADE.

-CONSTRUCT WB SIDE OF SR 110 TO THE PROPOSED SUBGRADE.

STAGE 3

UPON COMPLETION OF STAGE 2 CLODE INDUSTRIAL DRIVE, RIVERVIEW AVE., AND SR 110 TO THROUGH TRAFFIC AND DETOUR TRAFFIC AS SHOWN ON SHEETS XX-XX AND PERFORM THE FOLLOWING WORK. AT THE COMPLETION OF PHASE 3 THE CONTRACTOR SHALL OPEN THE BRIDGE TO TRAFFIC.

-CONSTRUCT INDUSTRIAL DRIVE NORTH OF RIVERVIEW AVENUE AVE AND SR 110 TO THE FINAL SURFACE COURSE.

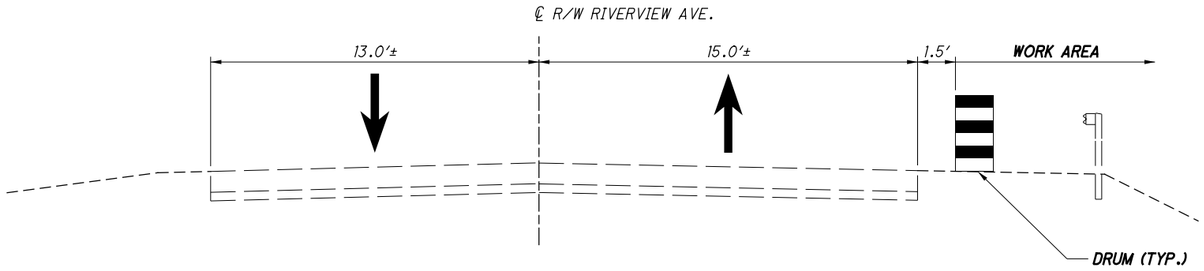
-CONSTRUCT THE RIVERVIEW AVENUE AND SR 110 ROUNDABOUTS TO THE FINAL SURFACE COURSE.

-INSTALL PAVEMENT MARKINGS AND SIGNS. MARKINGS AND SIGNS FOR THE ROUNDABOUT SHALL BE INSTALLED PRIOR TO OPENING THE ROUNDABOUT TO TRAFFIC.

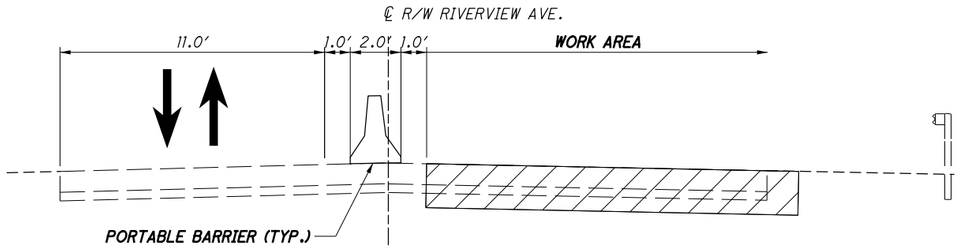
CALCULATED GJM CHECKED ALT

MAINTENANCE OF TRAFFIC GENERAL NOTES

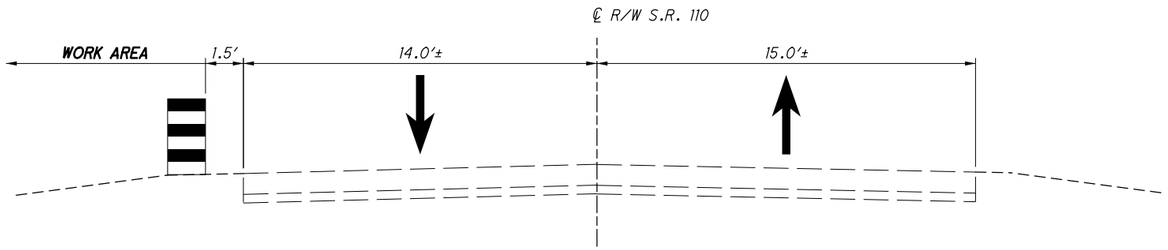
HEN-NEW MAUMEE RIVER BRIDGE



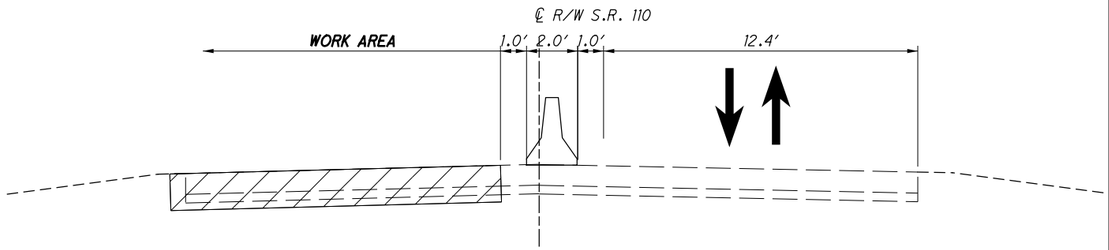
TYPICAL SECTION - STAGE 1
RIVERVIEW AVE.



TYPICAL SECTION - STAGE 2
RIVERVIEW AVE.



TYPICAL SECTION - STAGE 1
S.R. 110



TYPICAL SECTION - STAGE 2
S.R. 110

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

HEN-NEW MAUMEE
RIVER BRIDGE

LEGEND

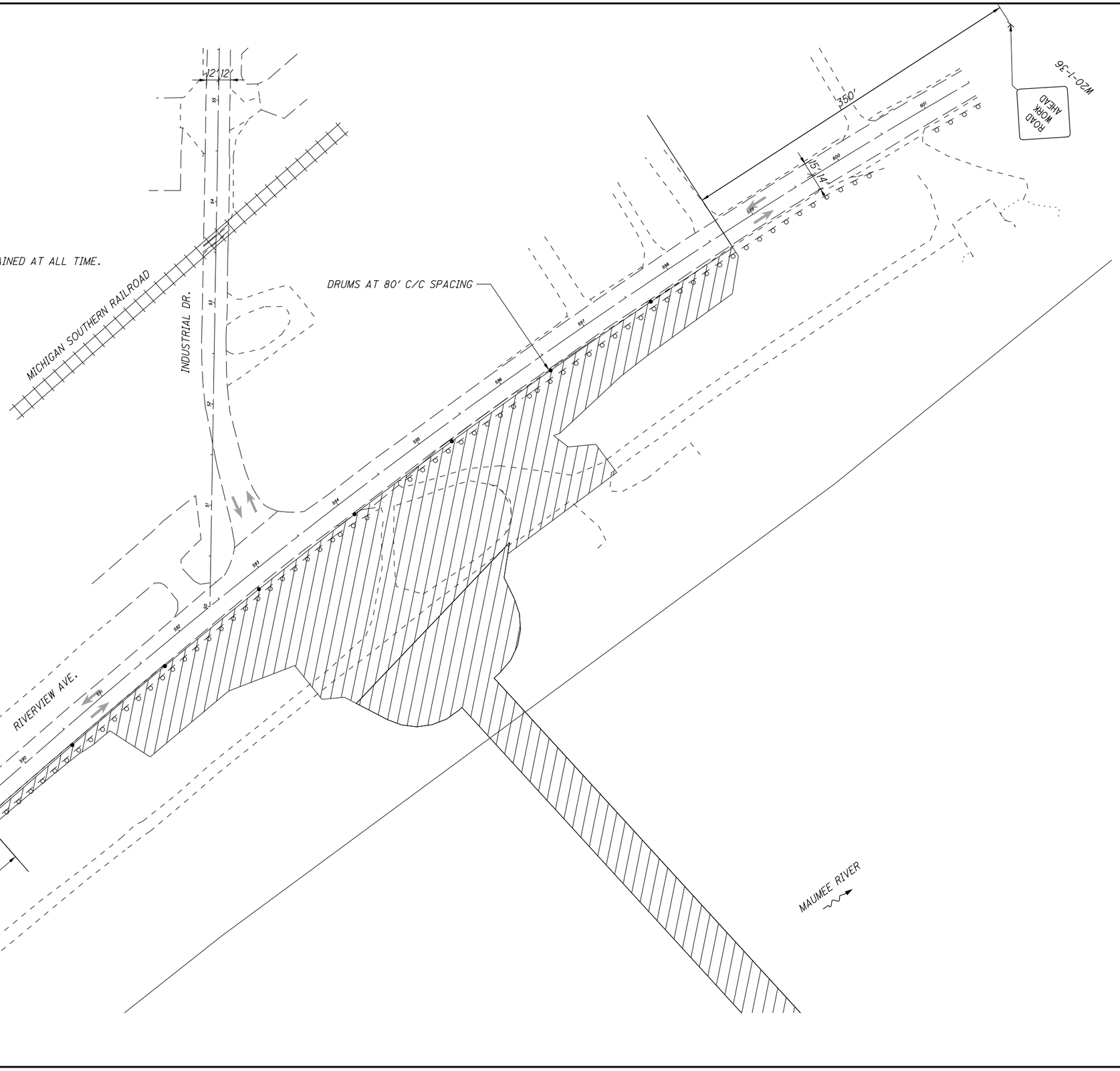
AREA TO BE CONSTRUCTED

TRAFFIC FLOW

DRUM

NOTES

1. ACCESS TO PRIVATE DRIVES SHALL BE MAINTAINED AT ALL TIME.



N

0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC
STAGE 1

HEN-NEW MAUMEE RIVER BRIDGE

17
180

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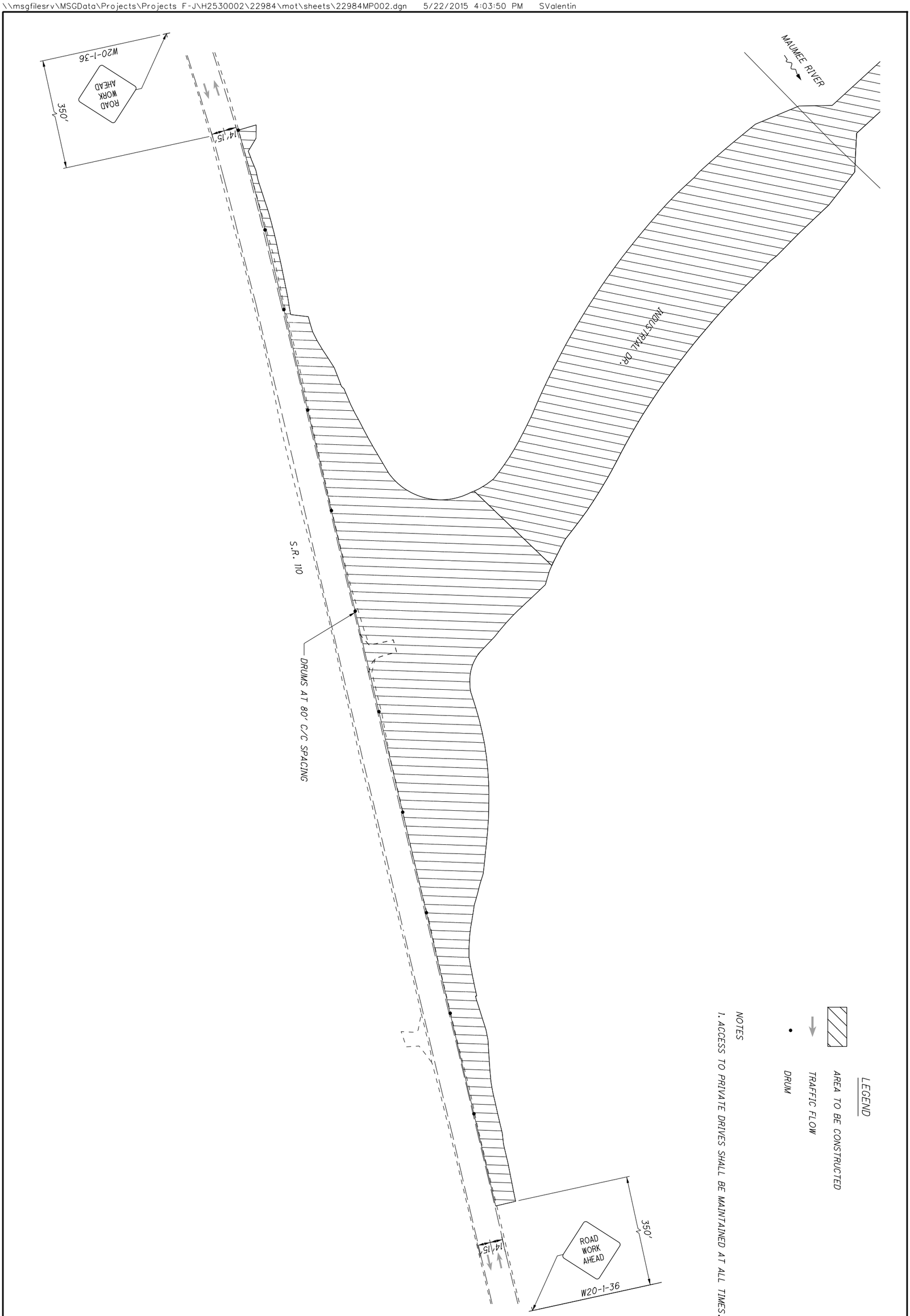


180 / 18	HEN-NEW MAUMEE RIVER BRIDGE	MAINTENANCE OF TRAFFIC STAGE 1	CALCULATED / CHECKED	0 25 50 100 HORIZONTAL SCALE IN FEET

LEGEND

AREA TO BE CONSTRUCTED

TRAFFIC FLOW

TYPE III BARRICADE

PORTABLE BARRIER

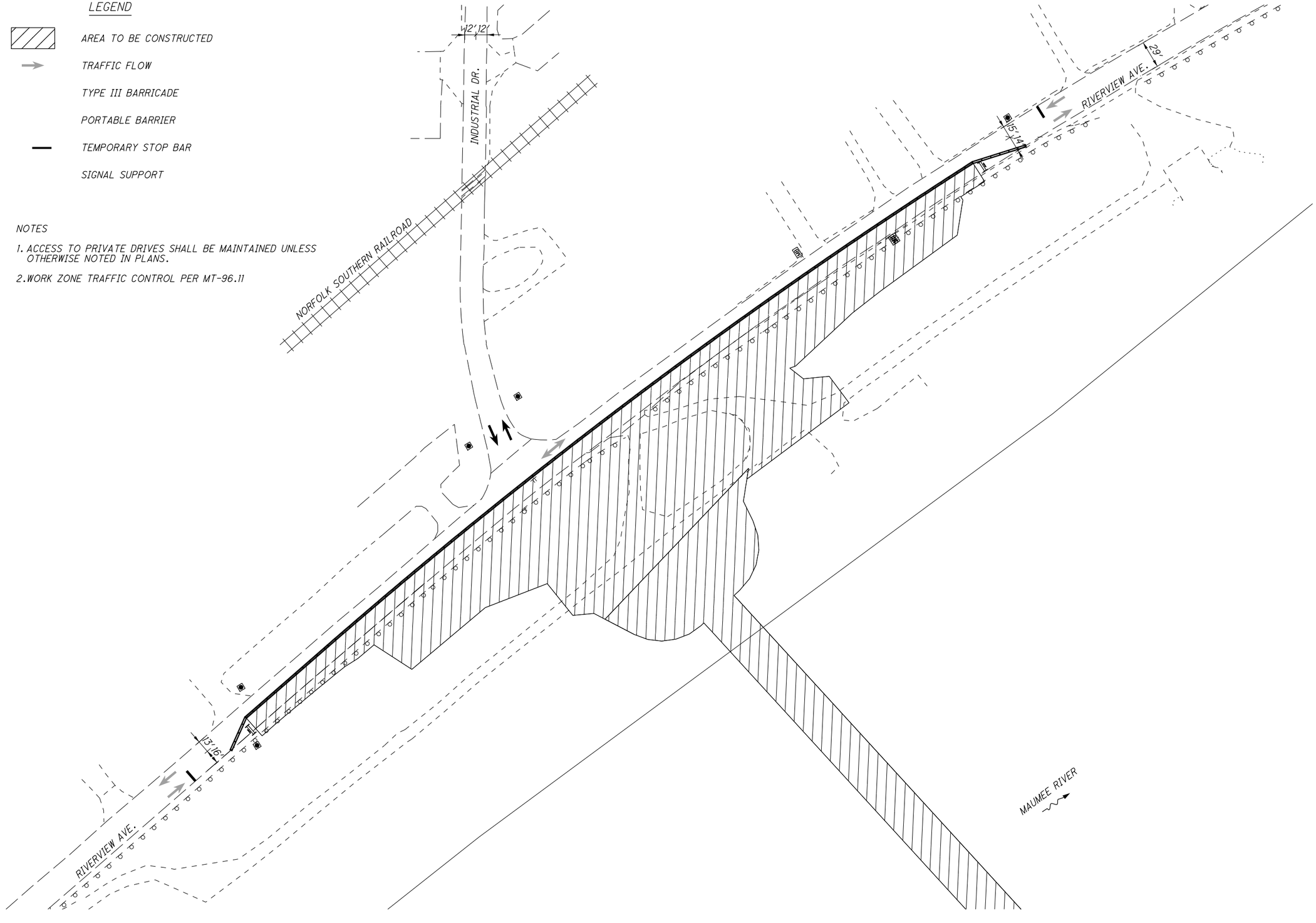
TEMPORARY STOP BAR

SIGNAL SUPPORT

NOTES

1. ACCESS TO PRIVATE DRIVES SHALL BE MAINTAINED UNLESS OTHERWISE NOTED IN PLANS.

2. WORK ZONE TRAFFIC CONTROL PER MT-96.11



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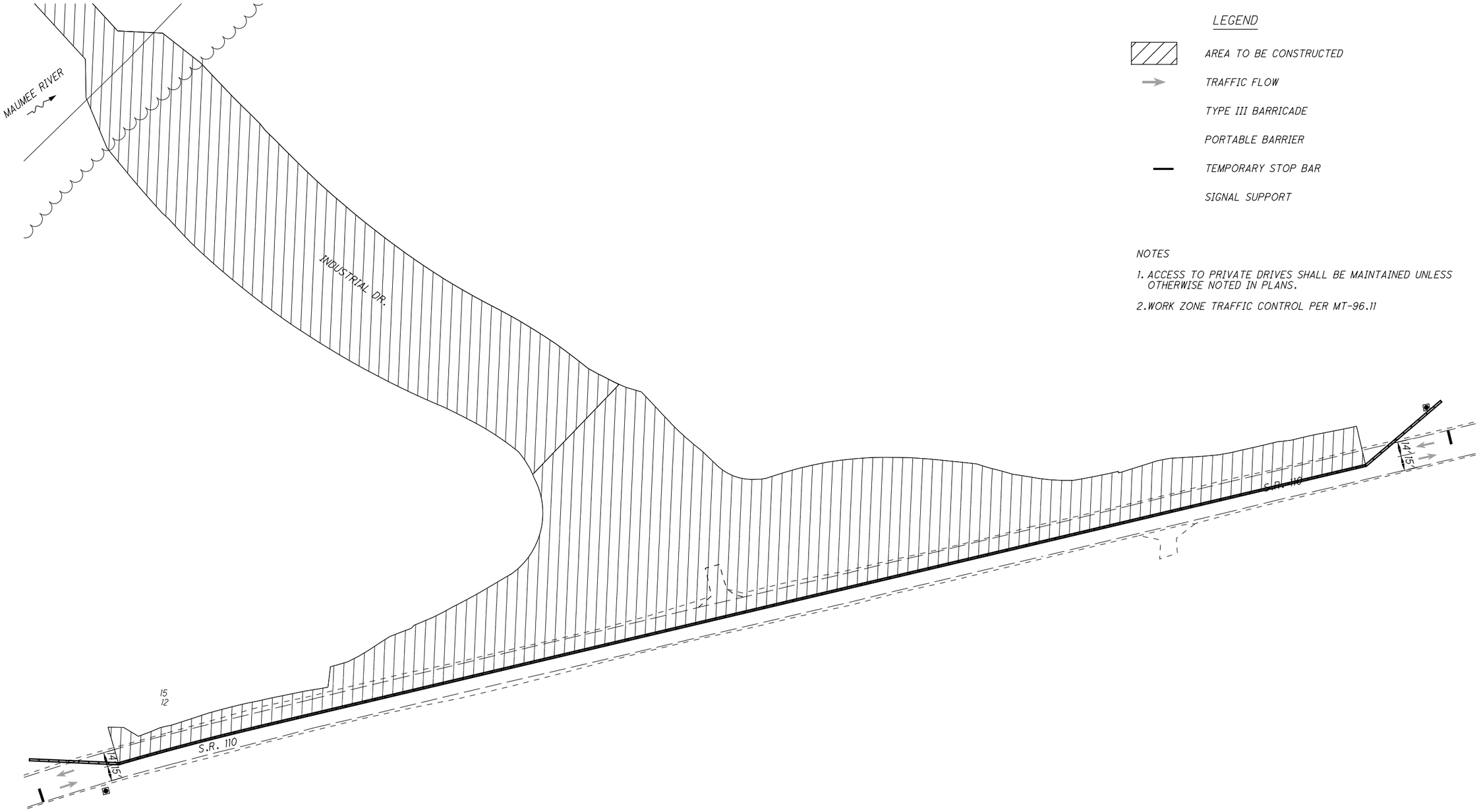
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC
STAGE 2

HEN-NEW MAUMEE
RIVER BRIDGE

19
180



LEGEND

- AREA TO BE CONSTRUCTED
- TRAFFIC FLOW
- TYPE III BARRICADE
- PORTABLE BARRIER
- TEMPORARY STOP BAR
- SIGNAL SUPPORT

NOTES

1. ACCESS TO PRIVATE DRIVES SHALL BE MAINTAINED UNLESS OTHERWISE NOTED IN PLANS.
2. WORK ZONE TRAFFIC CONTROL PER MT-96.11

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC STAGE 2

HEN-NEW MAUMEE RIVER BRIDGE

20
180

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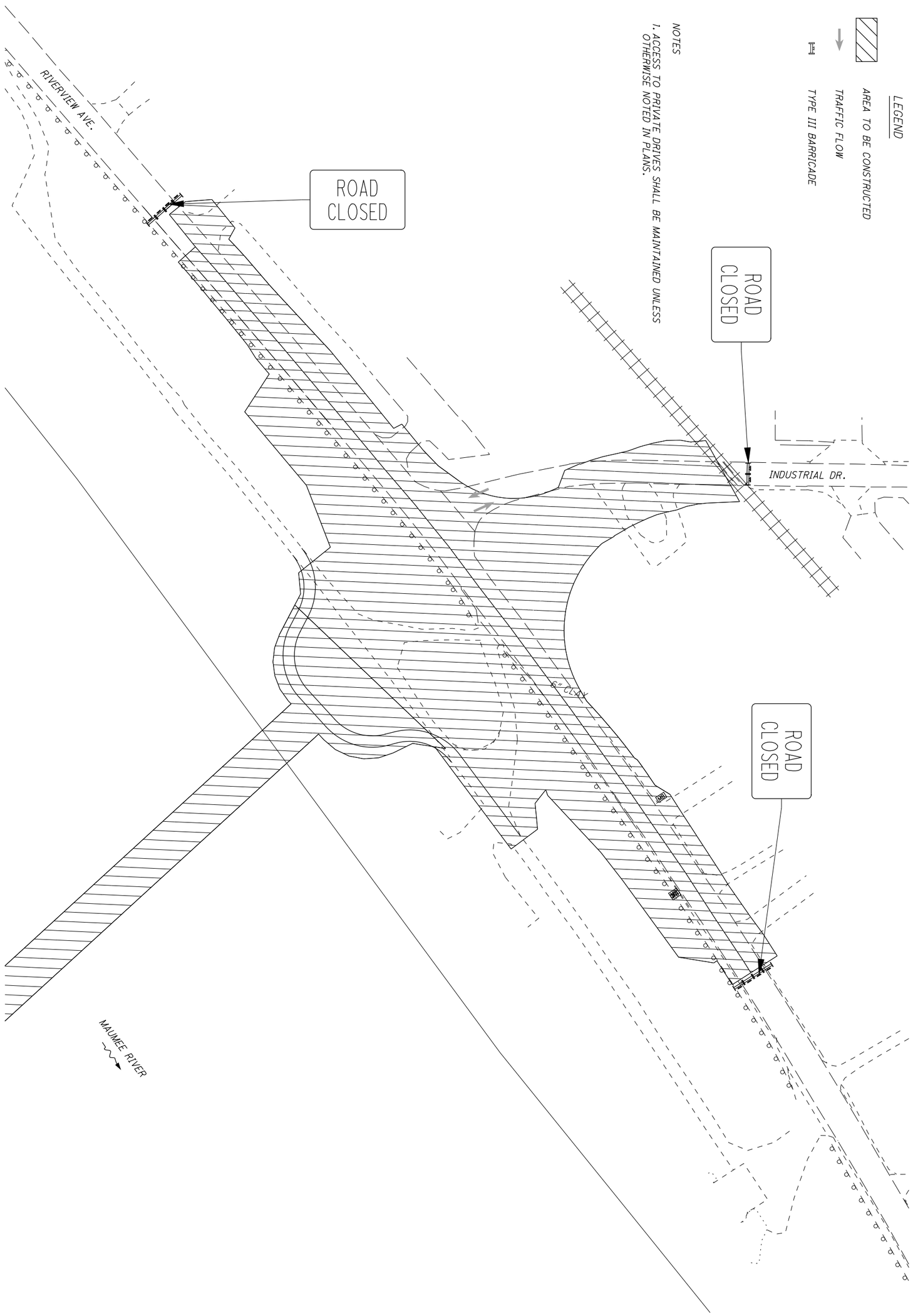
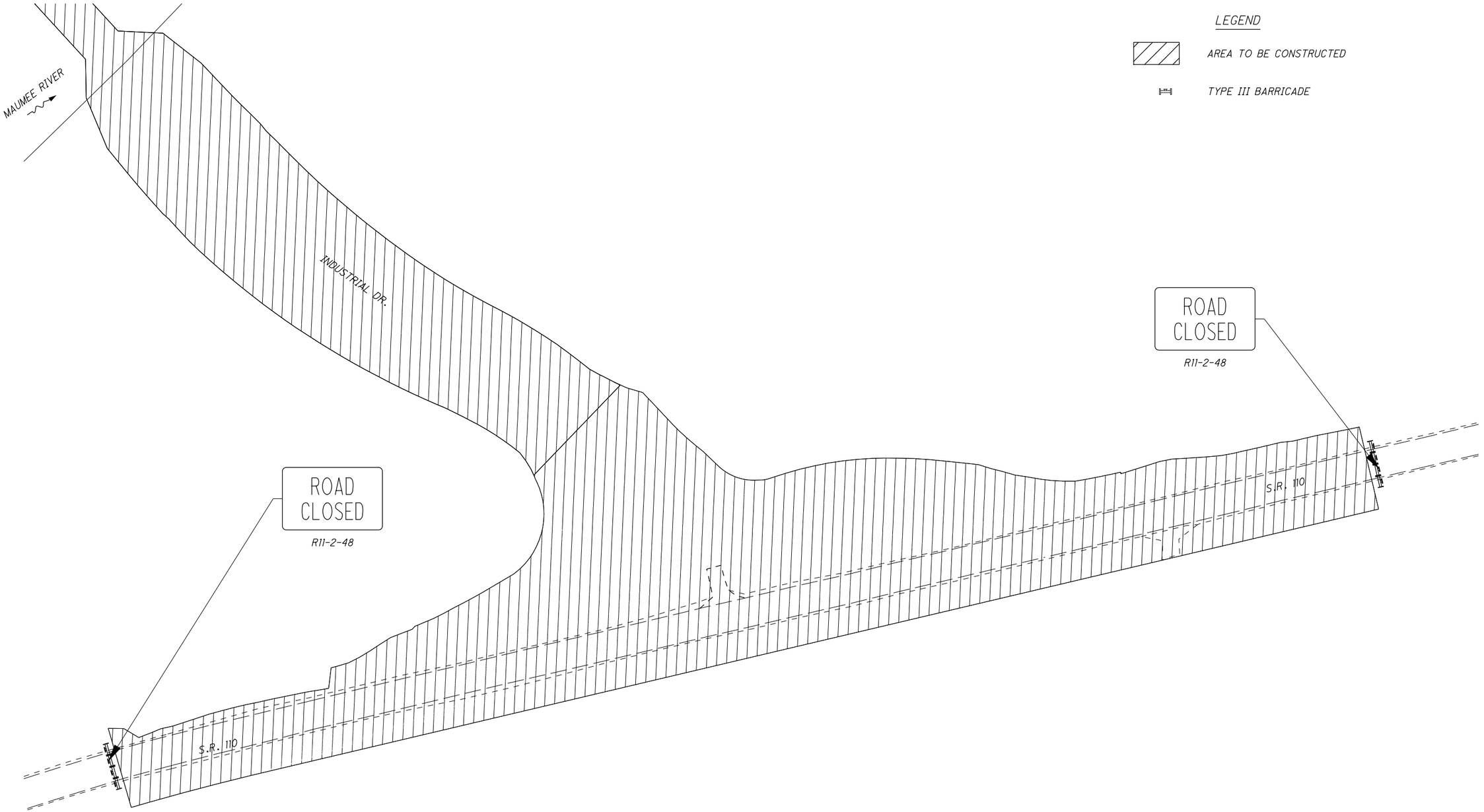


21 / 180	**HEN-NEW MAUMEE RIVER BRIDGE**	**MAINTENANCE OF TRAFFIC STAGE 3**	CALCULATED / CHECKED	0 25 50 100 HORIZONTAL SCALE IN FEET



NOTES

1. ACCESS TO PRIVATE DRIVES SHALL BE MAINTAINED UNLESS OTHERWISE NOTED IN PLANS.

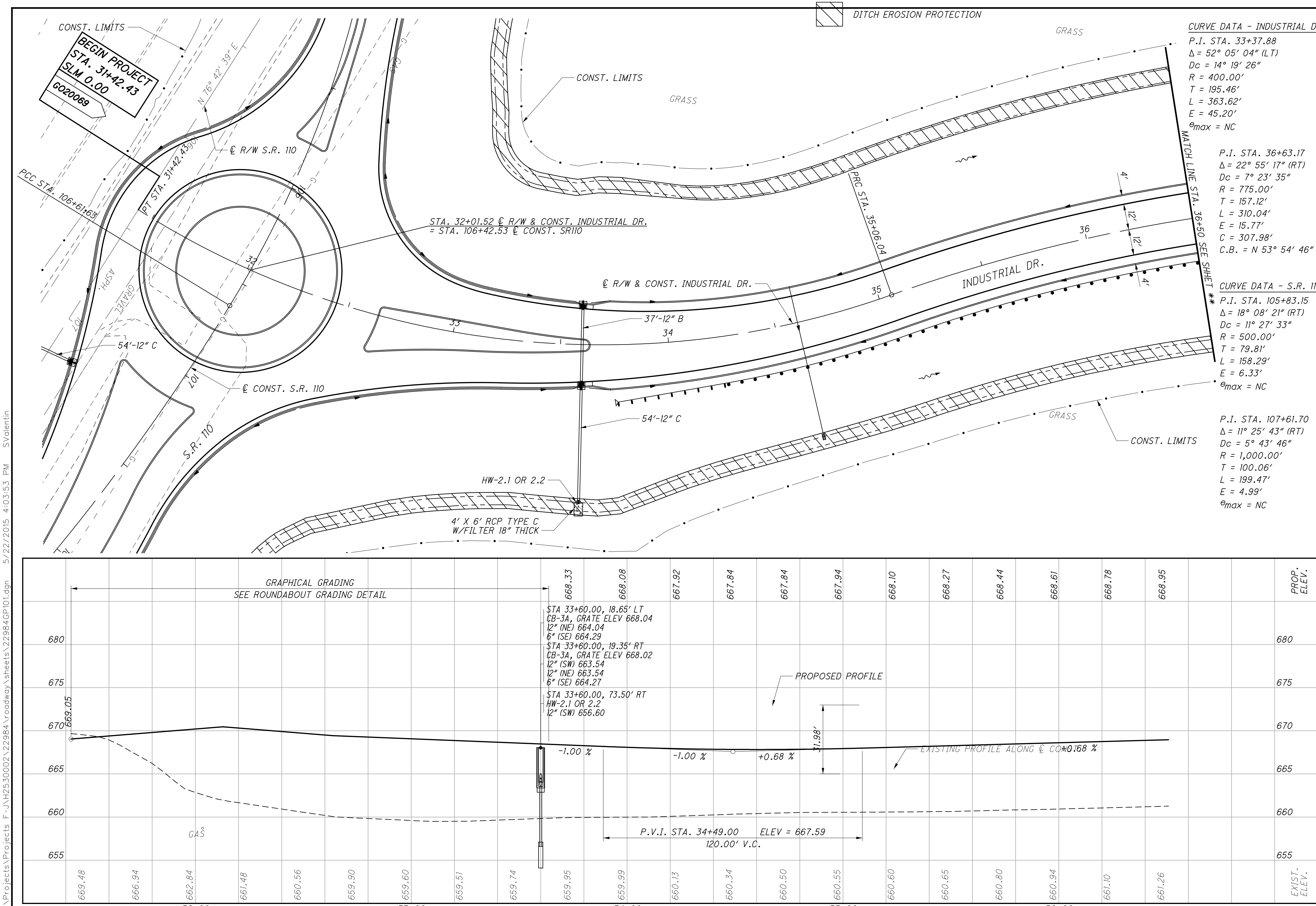
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC STAGE 3

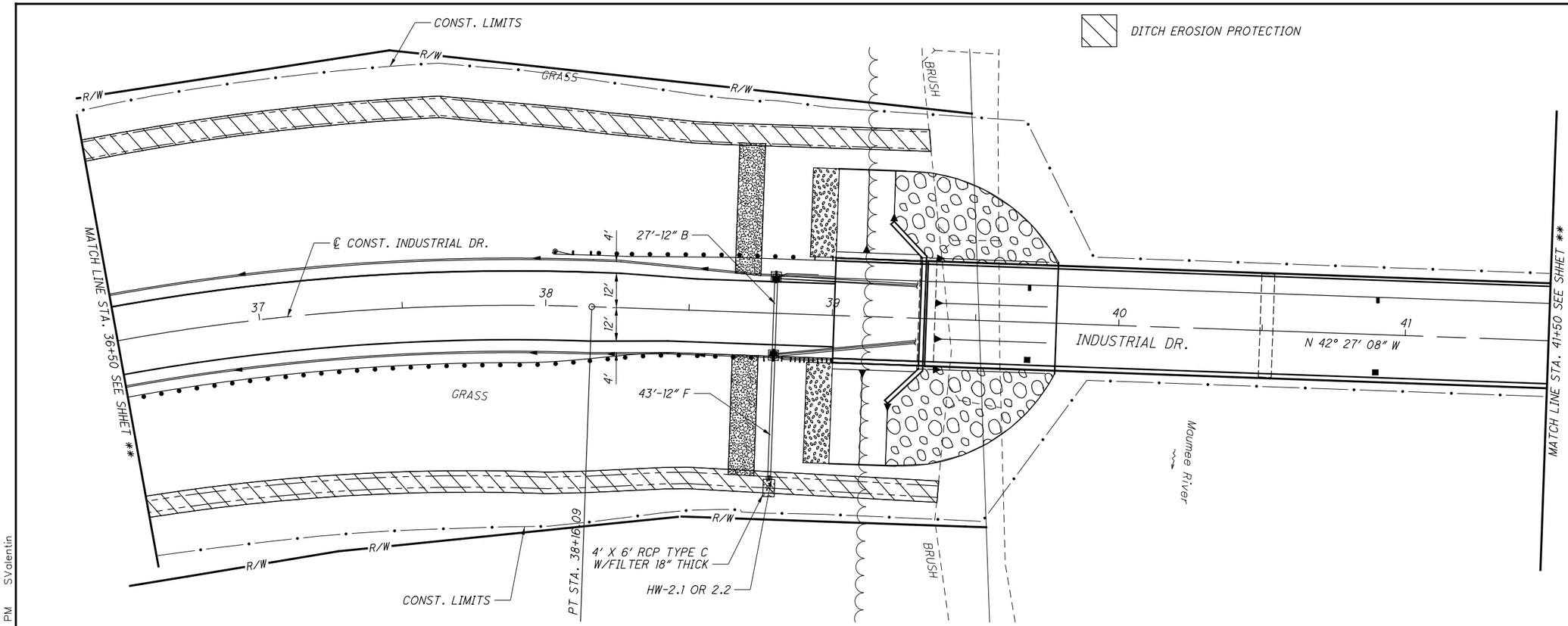
HEN-NEW MAUMEE RIVER BRIDGE

22
180



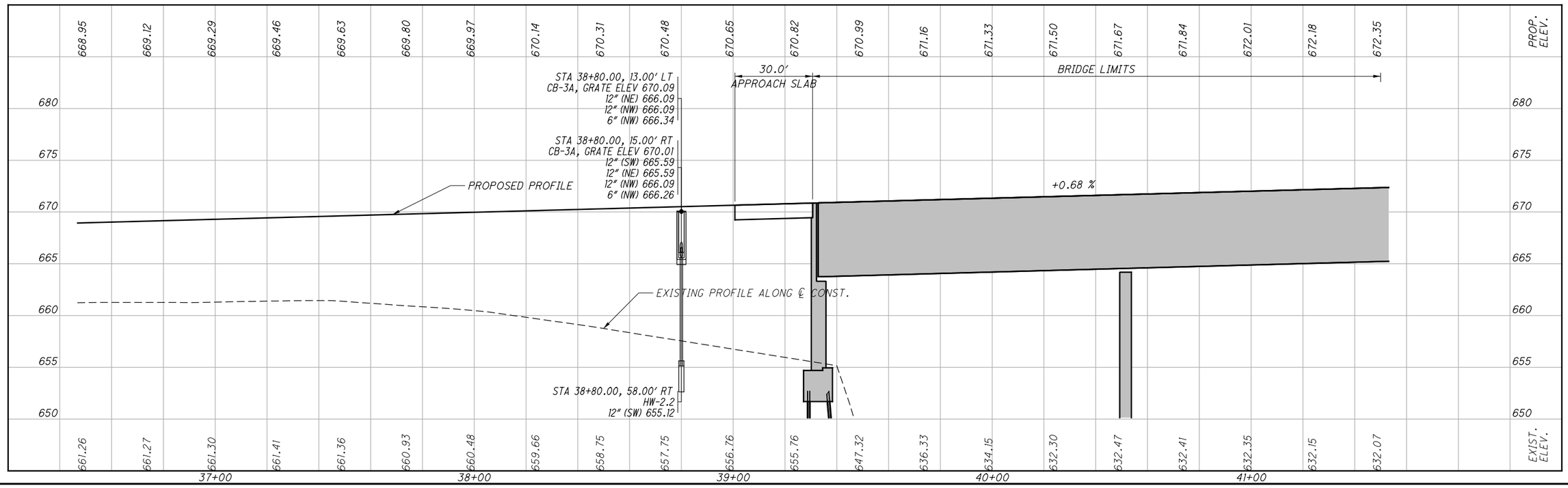
PLAN AND PROFILE - INDUSTRIAL DR, STA. 31+42.43 TO STA. 36+50.00

HEN-NEW MAUMEE RIVER BRIDGE



CURVE DATA - INDUSTRIAL DR.

P.I. STA. 36+63.17
Δ = 22° 55' 17" (RT)
Dc = 7° 23' 35"
R = 775.00'
T = 157.12'
L = 310.04'
E = 15.77'
C = 307.98'
C.B. = N 53° 54' 46" W



HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED
CHECKED

PLAN AND PROFILE - INDUSTRIAL DR.
STA. 36+50.00 TO STA. 41+50.00

HEN-NEW MAUMEE RIVER BRIDGE

24
180

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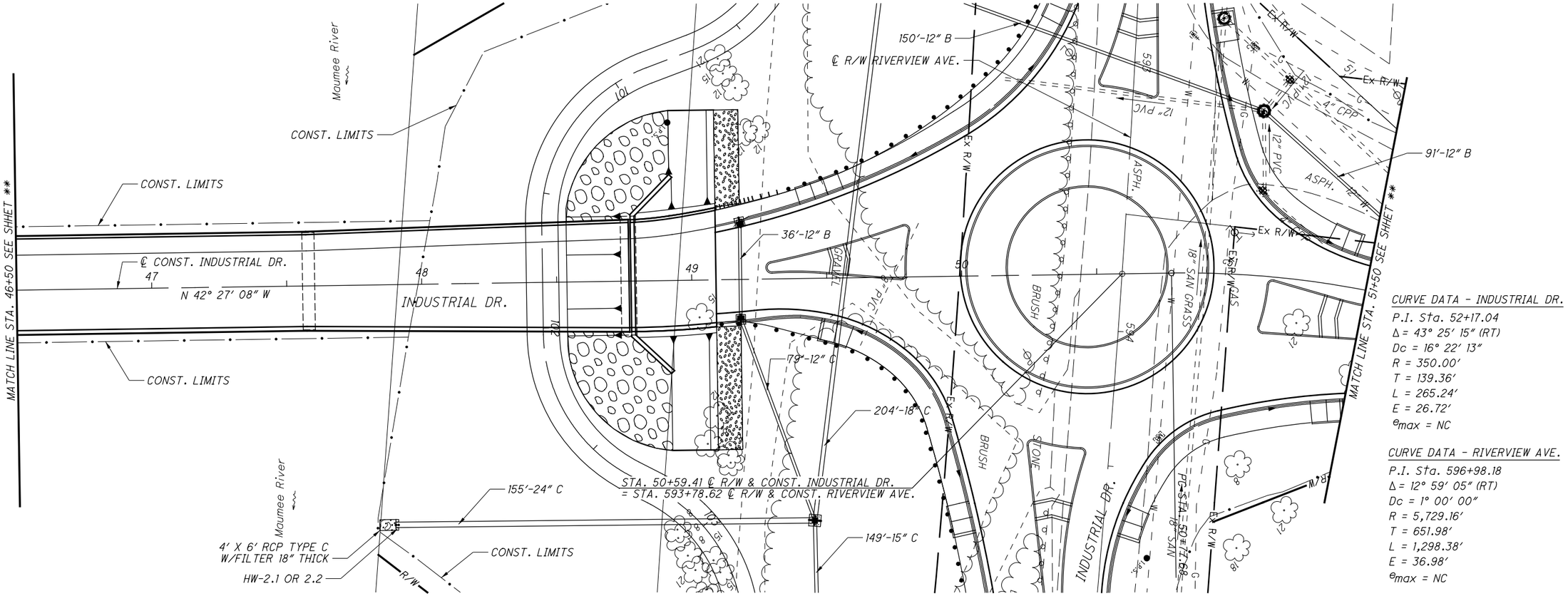

PLAN AND PROFILE - INDUSTRIAL DR.
STA. 46+50.00 TO STA. 51+50.00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED

CHECKED

HEN-NEW MAUMEE RIVER BRIDGE

25
180

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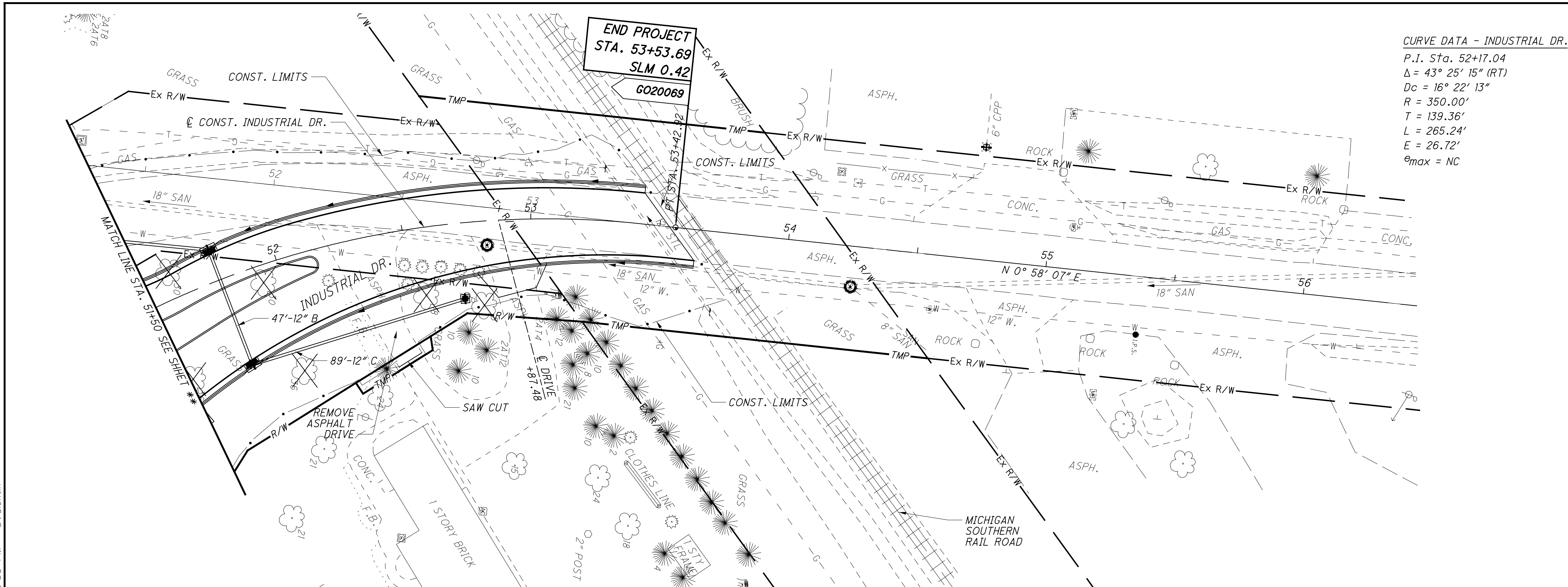
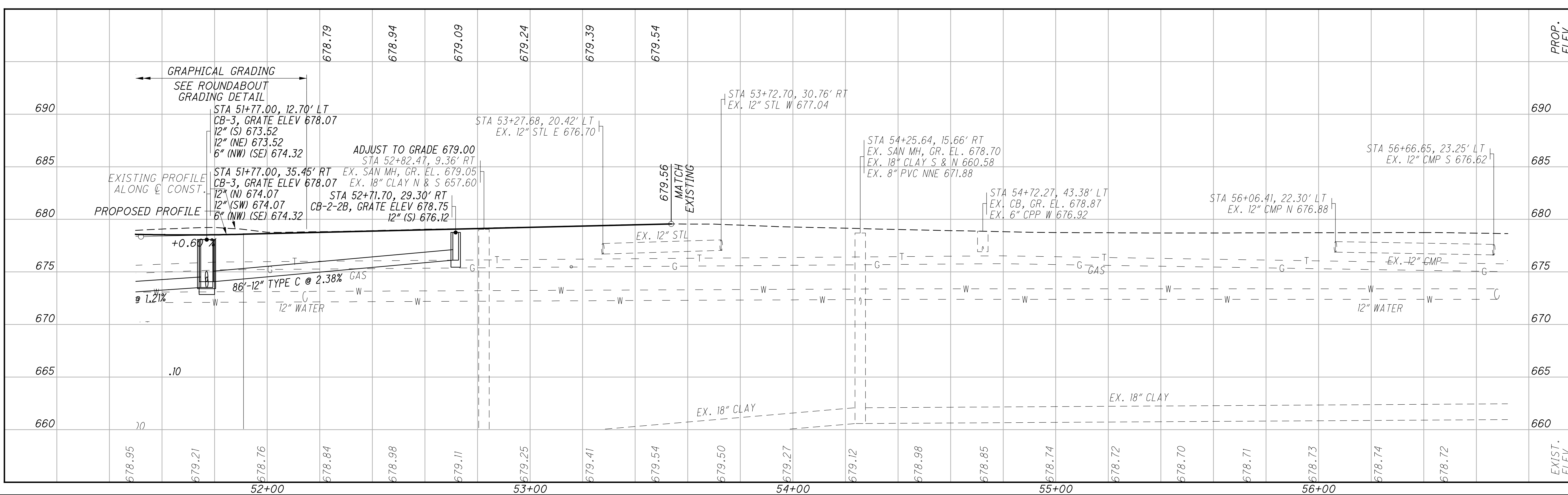

END PROJECT
STA. 53+53.69
SLM 0.42
GO20069
CURVE DATA - INDUSTRIAL DR.
P.I. Sta. 52+17.04
Δ = 43° 25' 15" (RT)
Dc = 16° 22' 13"
R = 350.00'
T = 139.36'
L = 265.24'
E = 26.72'
emax = NC
CONST. LIMITS
℄ CONST. INDUSTRIAL DR.
INDUSTRIAL DR.
MATCH LINE STA. 51+50 SEE SHEET **
47'-12" B
89'-12" C
REMOVE ASPHALT DRIVE
SAW CUT
℄ DRIVE +87.48
PT STA. 53+42.32
N 0° 58' 07" E
18" SAN
12" W.
CLOTHES LINE
1 STORY BRICK
2" POST
MICHIGAN SOUTHERN RAIL ROAD
HORIZONTAL SCALE IN FEET


PROP. ELEV.
678.79
678.94
679.09
679.24
679.39
679.54
GRAPHICAL GRADING
SEE ROUNDABOUT GRADING DETAIL
STA 51+77.00, 12.70' LT
CB-3, GRATE ELEV 678.07
12" (S) 673.52
12" (NE) 673.52
6" (NW) (SE) 674.32
STA 51+77.00, 35.45' RT
CB-3, GRATE ELEV 678.07
12" (N) 674.07
12" (SW) 674.07
6" (NW) (SE) 674.32
EXISTING PROFILE ALONG ℄ CONST.
PROPOSED PROFILE
ADJUST TO GRADE 679.00
STA 52+82.47, 9.36' RT
EX. SAN MH, GR. EL. 679.05
EX. 18" CLAY N & S 657.60
STA 52+71.70, 29.30' RT
CB-2-2B, GRATE ELEV 678.75
12" (S) 676.12
STA 53+27.68, 20.42' LT
EX. 12" STL E 676.70
679.56 MATCH EXISTING
STA 53+72.70, 30.76' RT
EX. 12" STL W 677.04
STA 54+25.64, 15.66' RT
EX. SAN MH, GR. EL. 678.70
EX. 18" CLAY S & N 660.58
EX. 8" PVC NNE 671.88
STA 54+72.27, 43.38' LT
EX. CB, GR. EL. 678.87
EX. 6" CPP W 676.92
STA 56+06.41, 22.30' LT
EX. 12" CMP N 676.88
STA 56+66.65, 23.25' LT
EX. 12" CMP S 676.62
+0.60%
86'-12" TYPE C @ 2.38%
@ 1.21%
EX. 12" STL
EX. 12" CMP
12" WATER
GAS
EX. 18" CLAY
690
685
680
675
670
665
660
EXIST. ELEV.
678.95
679.21
678.76
678.84
678.98
679.11
679.25
679.41
679.54
679.50
679.27
679.12
678.98
678.85
678.74
678.72
678.70
678.71
678.73
678.74
678.72
52+00
53+00
54+00
55+00
56+00

PLAN AND PROFILE - INDUSTRIAL DR.
STA. 51+50.00 TO STA. 56+50.00

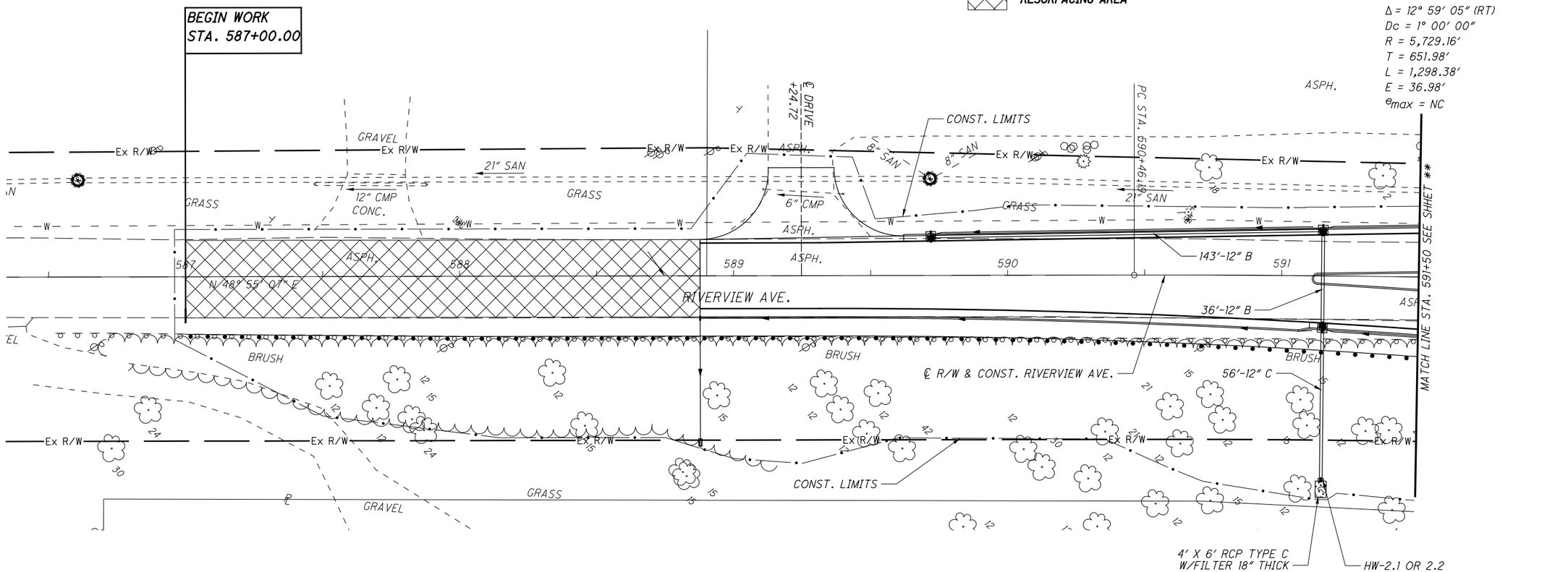
HEN-NEW MAUMEE RIVER BRIDGE

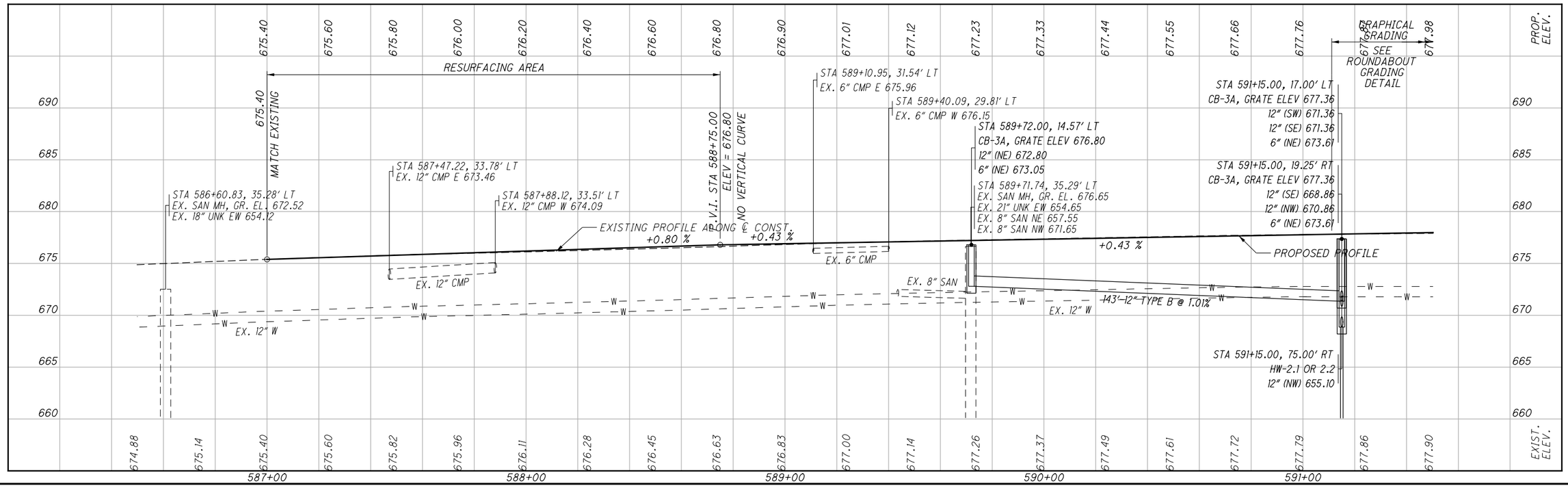
CALCULATED — CHECKED

RESURFACING AREA

BEGIN WORK
STA. 587+00.00

CURVE DATA - RIVERVIEW AVE.
P.I. Sta. 596+98.18
Δ = 12° 59′ 05″ (RT)
Dc = 1° 00′ 00″
R = 5,729.16′
T = 651.98′
L = 1,298.38′
E = 36.98′
emax = NC





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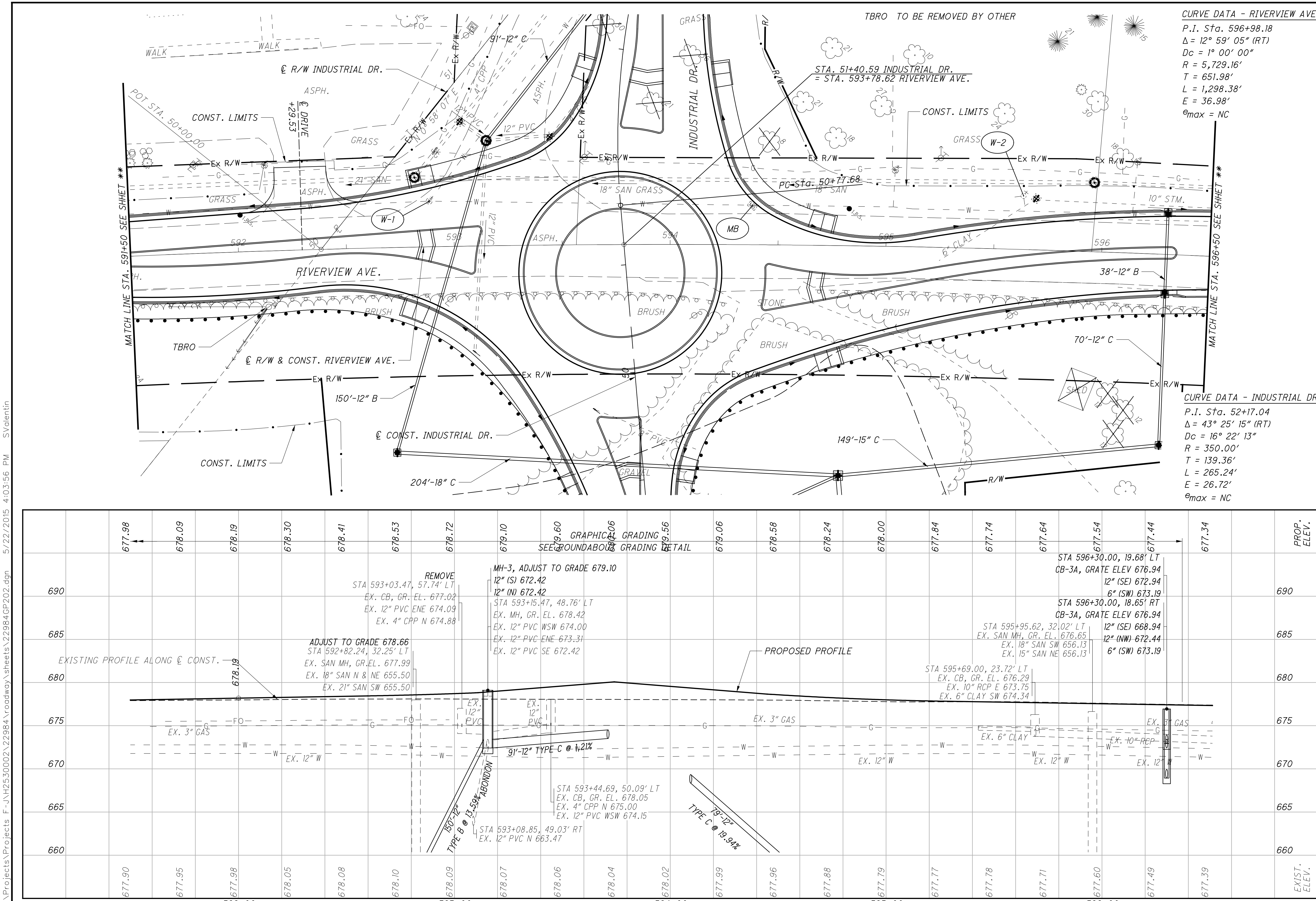
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED
CHECKED

PLAN_AND_PROFILE_-_RIVERVIEW_AVE.
STA. 586+50.00 TO STA. 591+50.00

HEN-NEW MAUMEE RIVER BRIDGE

27
180


TBRO TO BE REMOVED BY OTHER
CURVE DATA - RIVERVIEW AVE.
P.I. Sta. 596+98.18
Δ = 12° 59′ 05″ (RT)
Dc = 1° 00′ 00″
R = 5,729.16′
T = 651.98′
L = 1,298.38′
E = 36.98′
emax = NC
STA. 51+40.59 INDUSTRIAL DR.
= STA. 593+78.62 RIVERVIEW AVE.
℄ R/W INDUSTRIAL DR.
CONST. LIMITS
℄ DRIVE +29.53
POT STA. 50+00.00
INDUSTRIAL DR.
RIVERVIEW AVE.
PC-Sta. 50+77.68
MATCH LINE STA. 591+50 SEE SHEET **
MATCH LINE STA. 596+50 SEE SHEET **
TBRO
℄ R/W & CONST. RIVERVIEW AVE.
150′-12″ B
℄ CONST. INDUSTRIAL DR.
204′-18″ C
149′-15″ C
70′-12″ C
38′-12″ B
91′-12″ C
CURVE DATA - INDUSTRIAL DR.
P.I. Sta. 52+17.04
Δ = 43° 25′ 15″ (RT)
Dc = 16° 22′ 13″
R = 350.00′
T = 139.36′
L = 265.24′
E = 26.72′
emax = NC
GRAPHICAL GRADING
SEE ROUNDABOUT GRADING DETAIL
REMOVE
STA 593+03.47, 57.74′ LT
EX. CB, GR. EL. 677.02
EX. 12″ PVC ENE 674.09
EX. 4″ CPP N 674.88
MH-3, ADJUST TO GRADE 679.10
12″ (S) 672.42
12″ (N) 672.42
STA 593+15.47, 48.76′ LT
EX. MH, GR. EL. 678.42
EX. 12″ PVC WSW 674.00
EX. 12″ PVC ENE 673.31
EX. 12″ PVC SE 672.42
ADJUST TO GRADE 678.66
STA 592+82.24, 32.25′ LT
EX. SAN MH, GR.EL. 677.99
EX. 18″ SAN N & NE 655.50
EX. 21″ SAN SW 655.50
EXISTING PROFILE ALONG ℄ CONST.
PROPOSED PROFILE
STA 596+30.00, 19.68′ LT
CB-3A, GRATE ELEV 676.94
12″ (SE) 672.94
6″ (SW) 673.19
STA 596+30.00, 18.65′ RT
CB-3A, GRATE ELEV 676.94
12″ (SE) 668.94
12″ (NW) 672.44
6″ (SW) 673.19
STA 595+95.62, 32.02′ LT
EX. SAN MH, GR. EL. 676.65
EX. 18″ SAN SW 656.13
EX. 15″ SAN NE 656.13
STA 595+69.00, 23.72′ LT
EX. CB, GR. EL. 676.29
EX. 10″ RCP E 673.75
EX. 6″ CLAY SW 674.34
91′-12″ TYPE C @ 1.21%
150′-12″ TYPE B @ 13.59%
ABONDON
STA 593+44.69, 50.09′ LT
EX. CB, GR. EL. 678.05
EX. 4″ CPP N 675.00
EX. 12″ PVC WSW 674.15
STA 593+08.85, 49.03′ RT
EX. 12″ PVC N 663.47
79′-12″ TYPE C @ 19.94%
PROP. ELEV.
EXIST. ELEV.
592+00
593+00
594+00
595+00
596+00

PLAN AND PROFILE - RIVERVIEW AVE.

STA. 591+50.00 TO STA. 596+50.00

HEN-NEW MAUMEE RIVER BRIDGE

HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

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CURVE DATA - RIVERVIEW AVE.
P.I. Sta. 596+98.18
Δ = 12° 59′ 05″ (RT)
Dc = 1° 00′ 00″
R = 5,729.16′
T = 651.98′
L = 1,298.38′
E = 36.98′
emax = NC

END WORK
STA. 598+95.61

MATCH LINE STA. 596+50 SEE SHHET **

℄ DRIVE +05.35
℄ DRIVE +97.51
℄ DRIVE +57.80
CONST. LIMITS
GRASS
Ex R/W
15″ SAN
10″ STM.
8″ CPP
ASPH.
CONC.
MB
597
598
599
600
601
RIVERVIEW AVE.
℄ R/W & CONST. RIVERVIEW AVE.
6″ PVC
15″ SAN
8″ STM.
10″ CLAY
BRUSH
80′-12″ B
GRAVEL
CONST. LIMITS
TMP
4′ X 6′ RCP TYPE C
W/FILTER 18″ THICK
HW-2.1 OR 2.2

677.34 677.24 677.14 677.04 676.94 676.84 676.74 676.64 676.53 676.40
676.82 676.79 676.78 676.71 676.74 676.61 676.69 676.48 676.63 676.35 676.56 676.20 676.47 676.03
P.V.I. STA 598+39.00 ELEV = 676.59 NO CURVE
6″ (SW) 672.47
6″ (S) 672.13
676.27 MATCH EXISTING
ADJUST TO GRADE 677.11
STA 598+36.99, 35.91′ LT
EX. SAN MH, GR. EL. 676.88
EX. 15″ UNK EW 656.44
STA 597+86.38, 29.34′ LT
EX. 8″ CMP E 674.88
PROPOSED PROFILE
-0.40 %
-0.52 %
STA 599+27.93, 34.94′ LT
EX. 6″ PVC N 675.41
STA 599+85.43, 30.57′ LT
EX. CB, GR. EL. 674.86
EX. 8″ CPP W 673.14
EX. 6″ UNK N 670.66
EX. 10″ UNK E 669.66
EX. 10″ UNK W 669.71
STA 600+98.38, 30.18′ LT
EX. CB, GR. EL. 674.76
EX. 6″ CLAY N 669.97
EX. 10″ CLAY S 669.74
EXISTING PROFILE ALONG ℄ CONST.
EX. 3″ GAS
EX. 10″ RCP
EX. 8″ CMP
EX. 6″ PVC
EX. 10″ UNK
EX. 10″ CLAY
EX. 12″ W
STA 598+85.00, 66.00′ RT
HW-2.2
12″ (NW) 655.50
EX. 15″ SAN
EX. 15″ UNK
685 680 675 670 665 660 655
LT. EOP PROP.
RT. EOP ELEV.
EXIST. ELEV.
677.39 677.27 677.12 676.99 676.90 676.82 676.77 676.71 676.55 676.38 676.25 676.13 676.01 675.89 675.78 675.68 675.58 675.49 675.41 675.37 675.31
597+00 598+00 599+00 600+00 601+00

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED
CHECKED

PLAN AND PROFILE - RIVERVIEW AVE.
STA. 596+50 TO STA. 601+50.00

HEN-NEW MAUMEE RIVER BRIDGE

29
180

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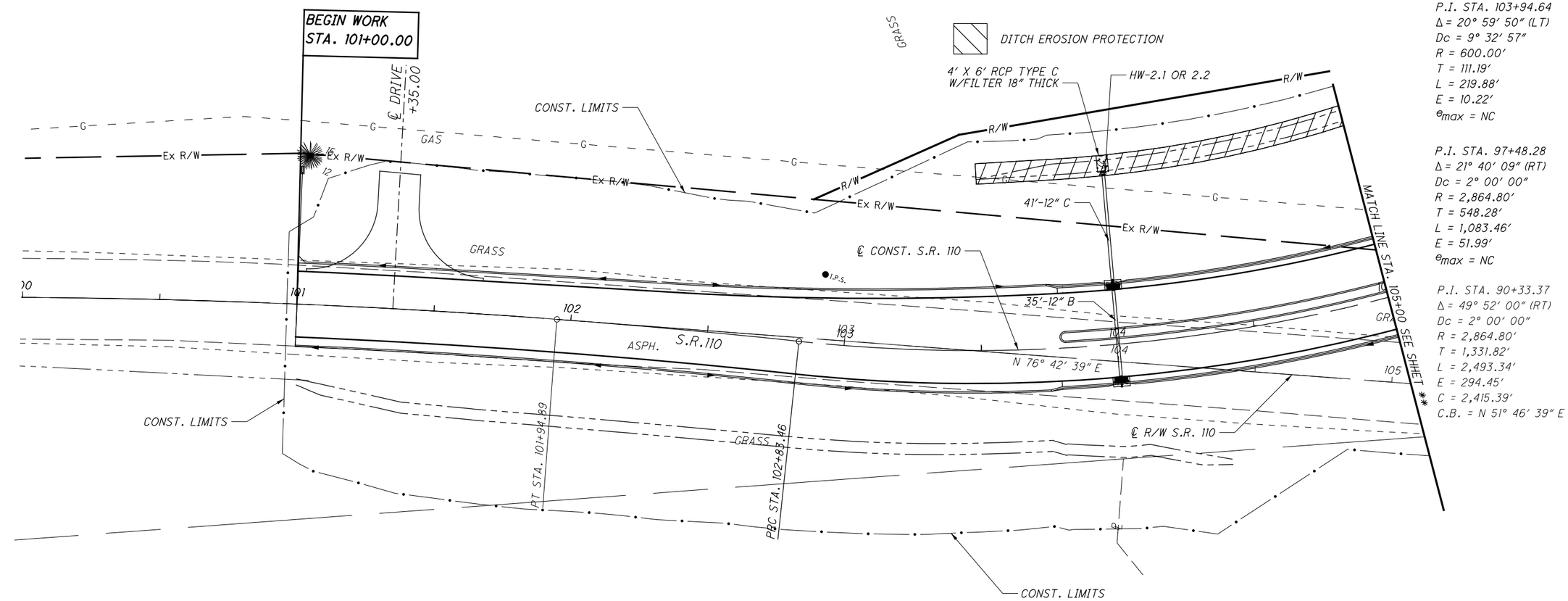

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED | CHECKED

PLAN AND PROFILE - S.R.110
STA. 100+00.00 TO STA. 105+00.00

HEN-NEW MAUMEE RIVER BRIDGE

30
180

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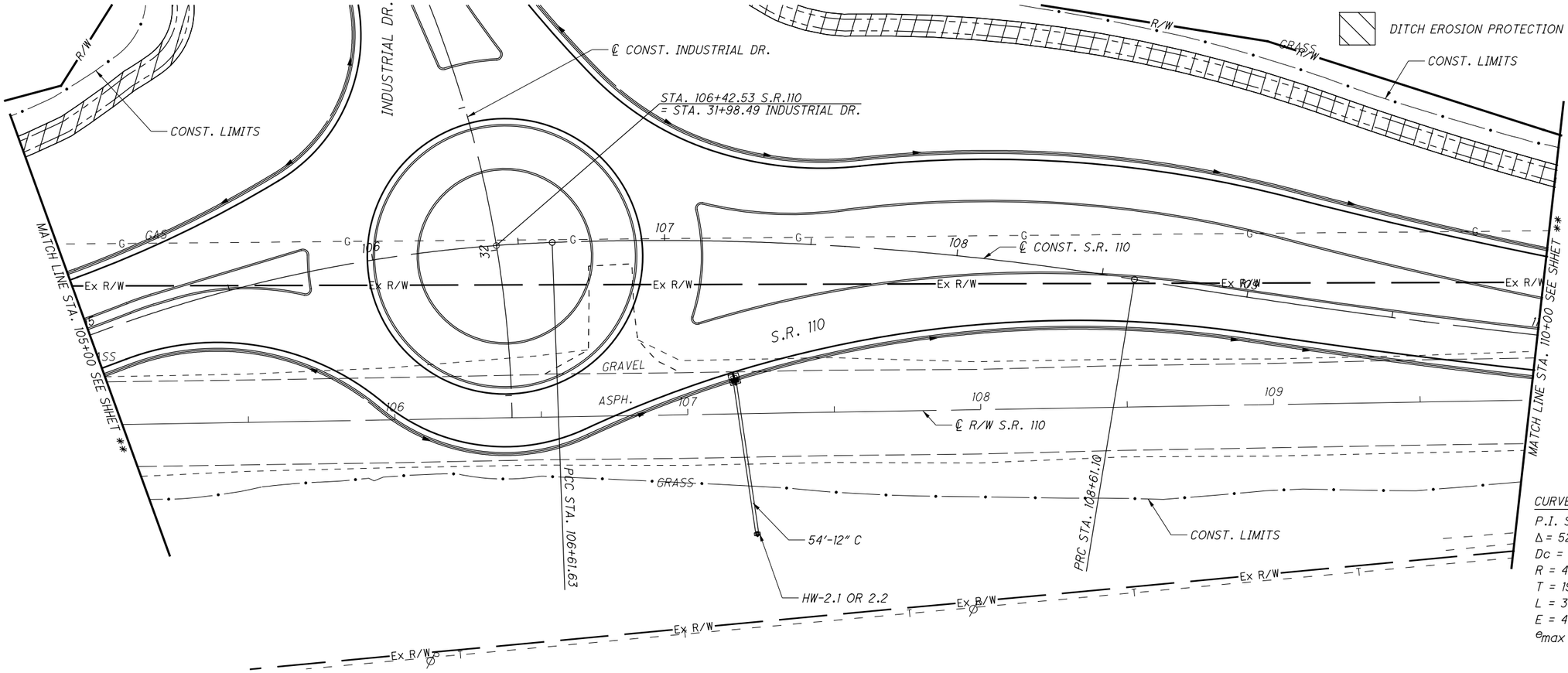

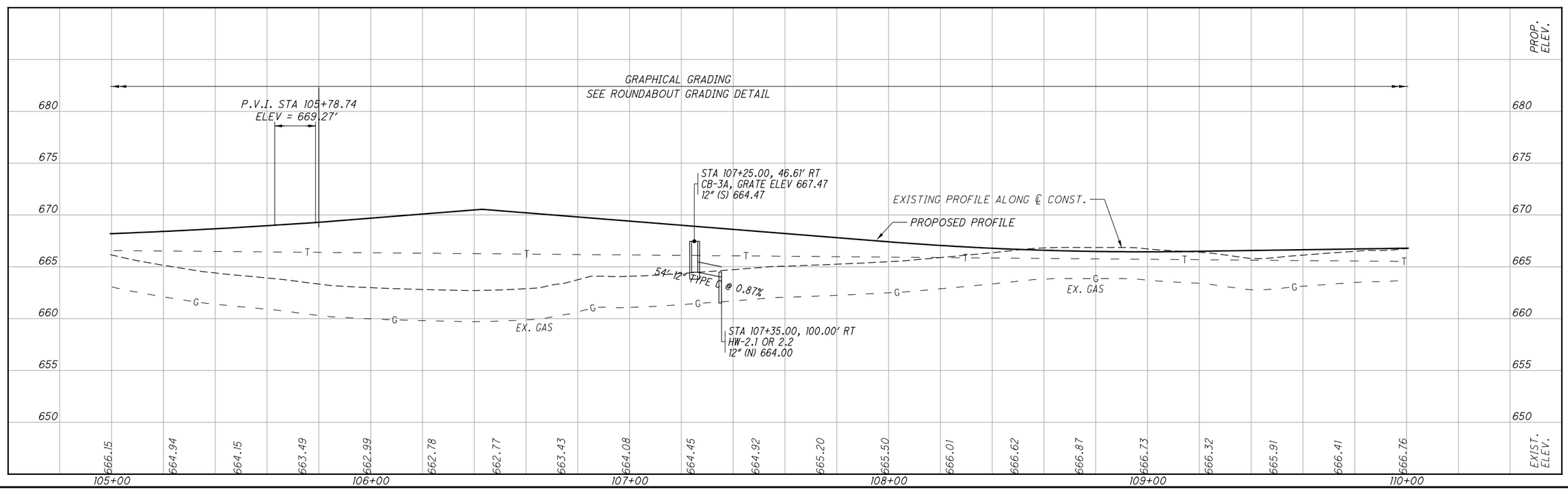

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED | CHECKED

PLAN AND PROFILE - S.R.110
STA. 105+00.00 TO STA. 110+00.00

HEN-NEW MAUMEE RIVER BRIDGE

31
180

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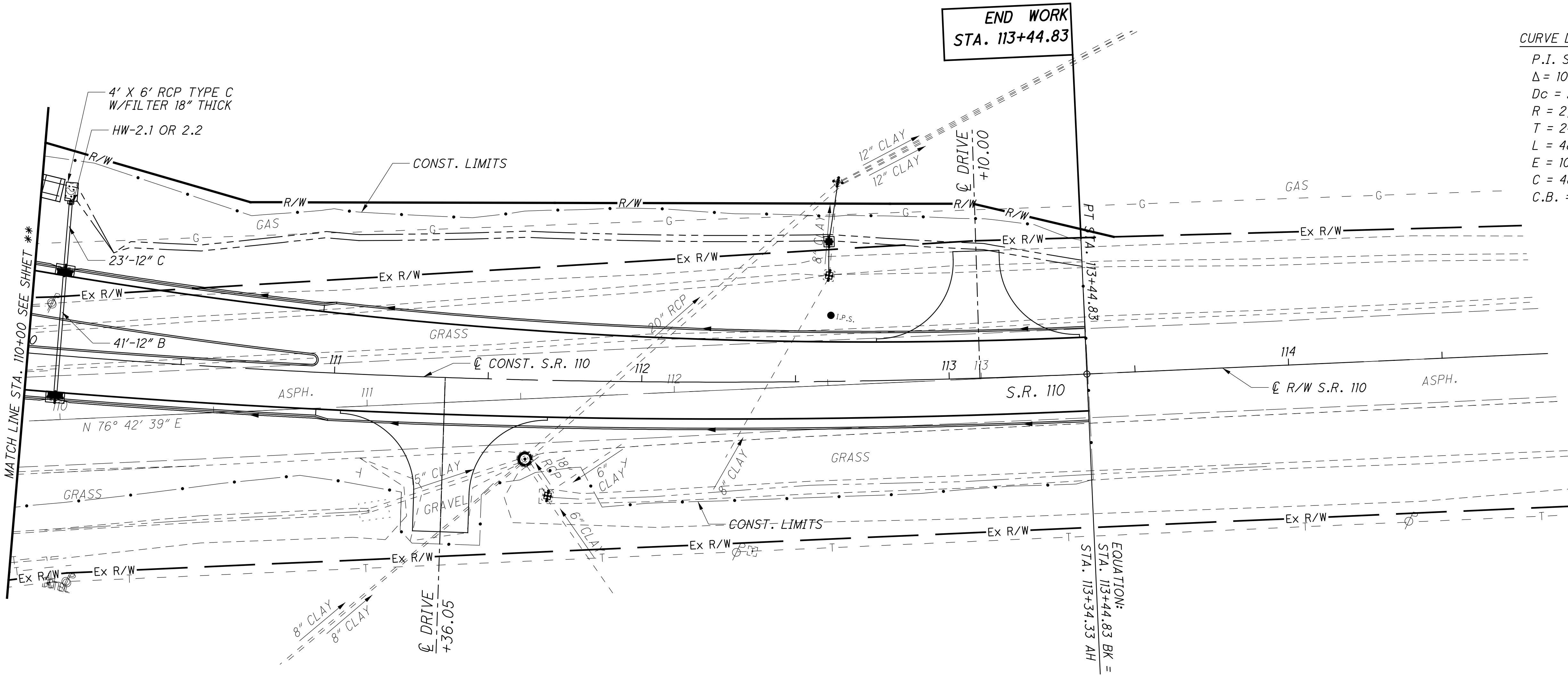
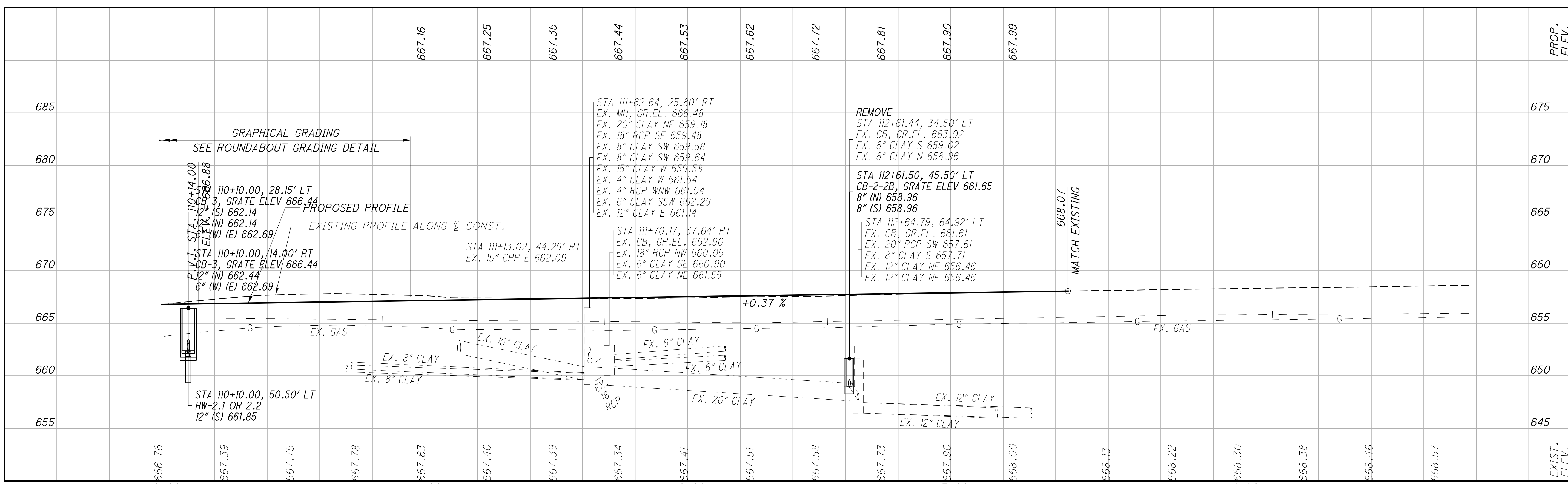
CURVE DATA - S.R. 110

P.I. STA. 111+03.62
Δ = 10° 20' 30" (LT)
Dc = 2° 08' 16"
R = 2,680.00'
T = 242.53'
L = 483.74'
E = 10.95'
C = 483.08'
C.B. = N 81° 52' 55" E



END WORK
STA. 113+44.83
4' X 6' RCP TYPE C
W/FILTER 18" THICK
HW-2.1 OR 2.2
CONST. LIMITS
23'-12" C
41'-12" B
MATCH LINE STA. 110+00 SEE SHEET **
R/W
Ex R/W
GAS
GRASS
ASPH.
GRAVEL
℄ CONST. S.R. 110
S.R. 110
N 76° 42' 39" E
℄ R/W S.R. 110
℄ DRIVE +10.00
℄ DRIVE +36.05
12" CLAY
8" CLAY
6" CLAY
5" CLAY
20" RCP
18" RCP
I.P.S.
PT STA. 113+44.83
EQUATION:
STA. 113+44.83 BK =
STA. 113+34.33 AH



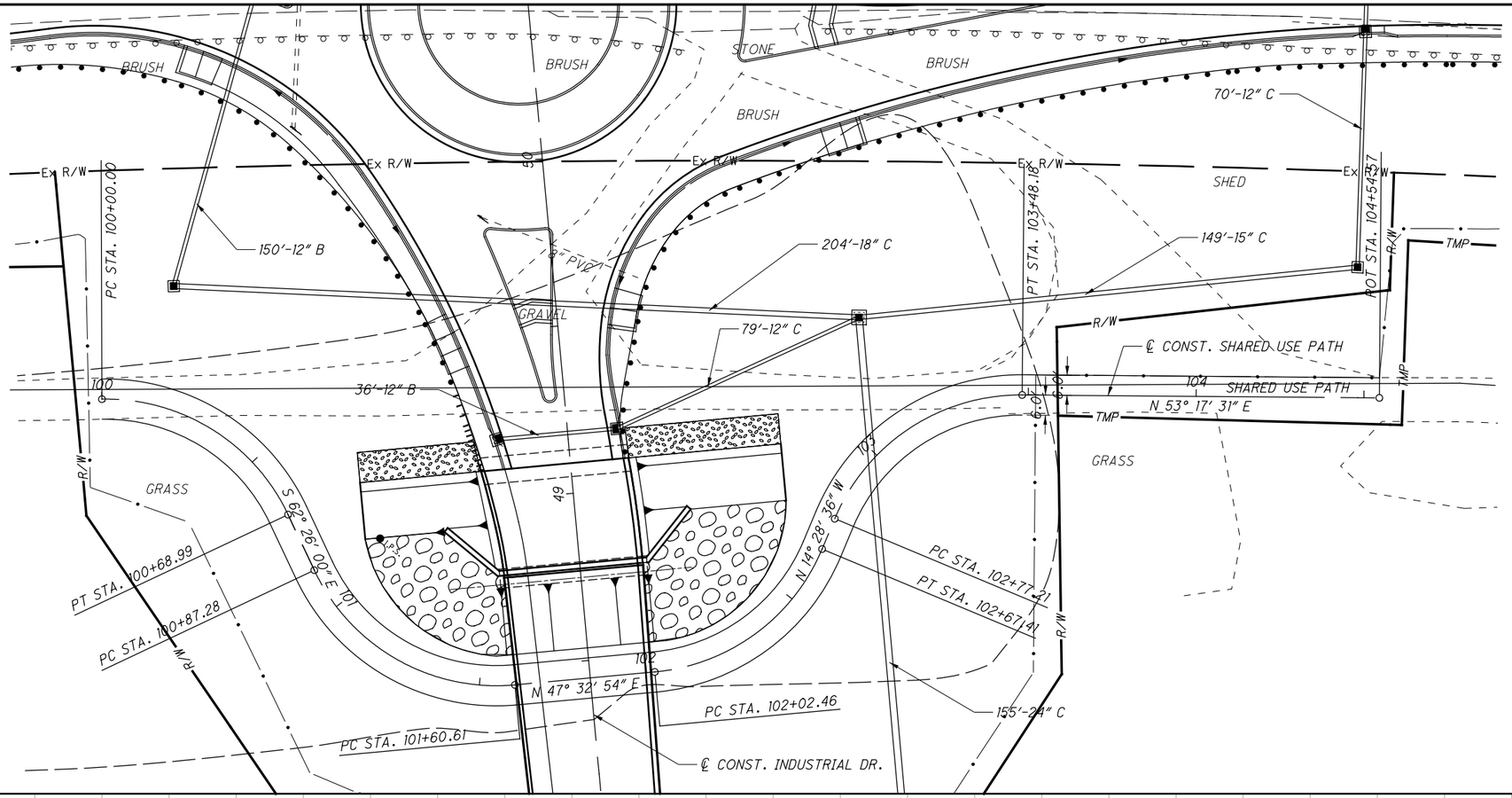
PROP. ELEV.
667.16
667.25
667.35
667.44
667.53
667.62
667.72
667.81
667.90
667.99
GRAPHICAL GRADING
SEE ROUNDABOUT GRADING DETAIL
P.V.I. STA. 110+14.00
ELEV. = 666.88
STA 110+10.00, 28.15' LT
CB-3, GRATE ELEV 666.44
12" (S) 662.14
12" (N) 662.14
6" (W) (E) 662.69
STA 110+10.00, 14.00' RT
CB-3, GRATE ELEV 666.44
12" (N) 662.44
6" (W) (E) 662.69
PROPOSED PROFILE
EXISTING PROFILE ALONG ℄ CONST.
STA 111+13.02, 44.29' RT
EX. 15" CPP E 662.09
STA 111+62.64, 25.80' RT
EX. MH, GR.EL. 666.48
EX. 20" CLAY NE 659.18
EX. 18" RCP SE 659.48
EX. 8" CLAY SW 659.58
EX. 8" CLAY SW 659.64
EX. 15" CLAY W 659.58
EX. 4" CLAY W 661.54
EX. 4" RCP WNW 661.04
EX. 6" CLAY SSW 662.29
EX. 12" CLAY E 661.14
STA 111+70.17, 37.64' RT
EX. CB, GR.EL. 662.90
EX. 18" RCP NW 660.05
EX. 6" CLAY SE 660.90
EX. 6" CLAY NE 661.55
REMOVE
STA 112+61.44, 34.50' LT
EX. CB, GR.EL. 663.02
EX. 8" CLAY S 659.02
EX. 8" CLAY N 658.96
STA 112+61.50, 45.50' LT
CB-2-2B, GRATE ELEV 661.65
8" (N) 658.96
8" (S) 658.96
STA 112+64.79, 64.92' LT
EX. CB, GR.EL. 661.61
EX. 20" RCP SW 657.61
EX. 8" CLAY S 657.71
EX. 12" CLAY NE 656.46
EX. 12" CLAY NE 656.46
668.07
MATCH EXISTING
+0.37 %
EX. GAS
EX. 15" CLAY
EX. 8" CLAY
EX. 6" CLAY
EX. 18" RCP
EX. 20" CLAY
EX. 12" CLAY
STA 110+10.00, 50.50' LT
HW-2.1 OR 2.2
12" (S) 661.85
685
680
675
670
665
660
655
675
670
665
660
655
650
645
EXIST. ELEV.
666.76
667.39
667.75
667.78
667.63
667.40
667.39
667.34
667.41
667.51
667.58
667.73
667.90
668.00
668.13
668.22
668.30
668.38
668.46
668.57
110+00
111+00
112+00
113+00
114+00

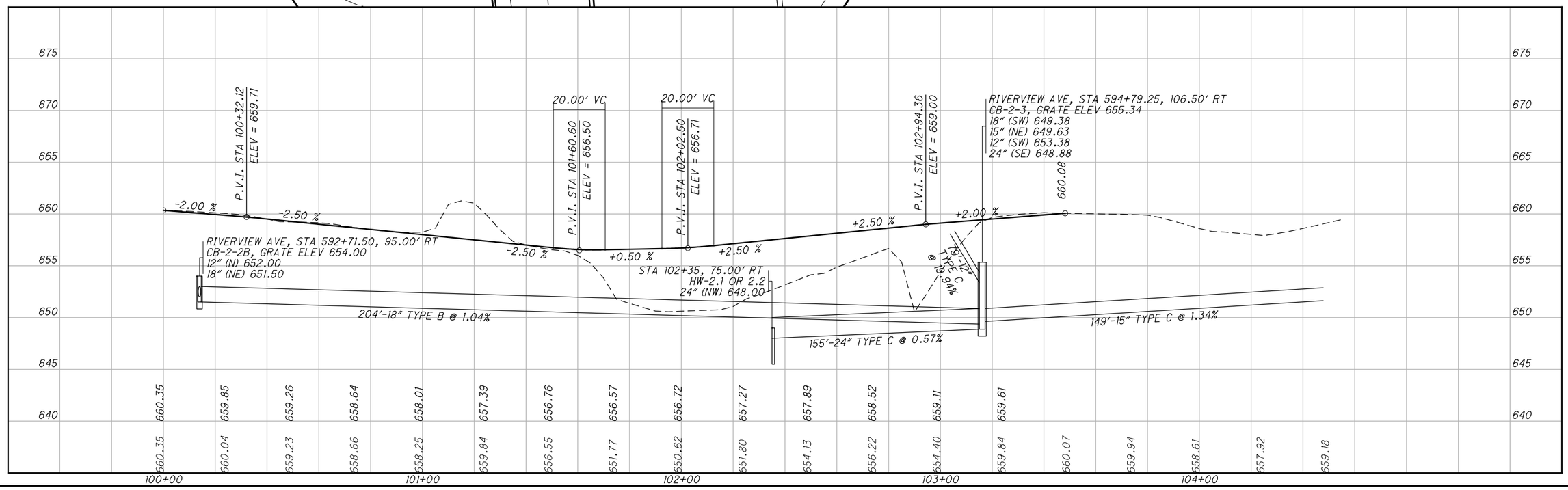
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED | CHECKED

PLAN AND PROFILE - S.R. 110
STA. 110+00.00 TO STA. 115+00.00

HEN-NEW MAUMEE RIVER BRIDGE





CURVE DATA - SHARED USE PATH

P.I. Sta. 100+38.87	P.I. Sta. 101+29.31
Δ = 65° 52' 36" (RT)	Δ = 70° 01' 06" (LT)
Dc = 95° 29' 35"	Dc = 95° 29' 35"
R = 60.00'	R = 60.00'
T = 38.87'	T = 42.03'
L = 68.99'	L = 73.32'
E = 11.49'	E = 13.25'
e_{max} = NC	e_{max} = NC
P.I. Sta. 102+38.53	P.I. Sta. 103+17.50
Δ = 62° 01' 29" (LT)	Δ = 67° 46' 06" (RT)
Dc = 95° 29' 35"	Dc = 95° 29' 35"
R = 60.00'	R = 60.00'
T = 36.07'	T = 40.29'
L = 64.95'	L = 70.97'
E = 10.01'	E = 12.27'
e_{max} = NC	e_{max} = NC

VERTICAL CLEARANCE

MINIMUM VERTICAL CLEARANCE IS 12.82'
AT STA. 102+01.43, 6.0' LT.

DESIGN SPEED

DESIGN SPEED IS 18 MPH

HORIZONTAL SCALE IN FEET
0 10 20 50

CALCULATED | CHECKED

PLAN AND PROFILE - SHARED USE PATH
STA. 100+00.00 TO 104+54.57

HEN-NEW MAUMEE RIVER BRIDGE

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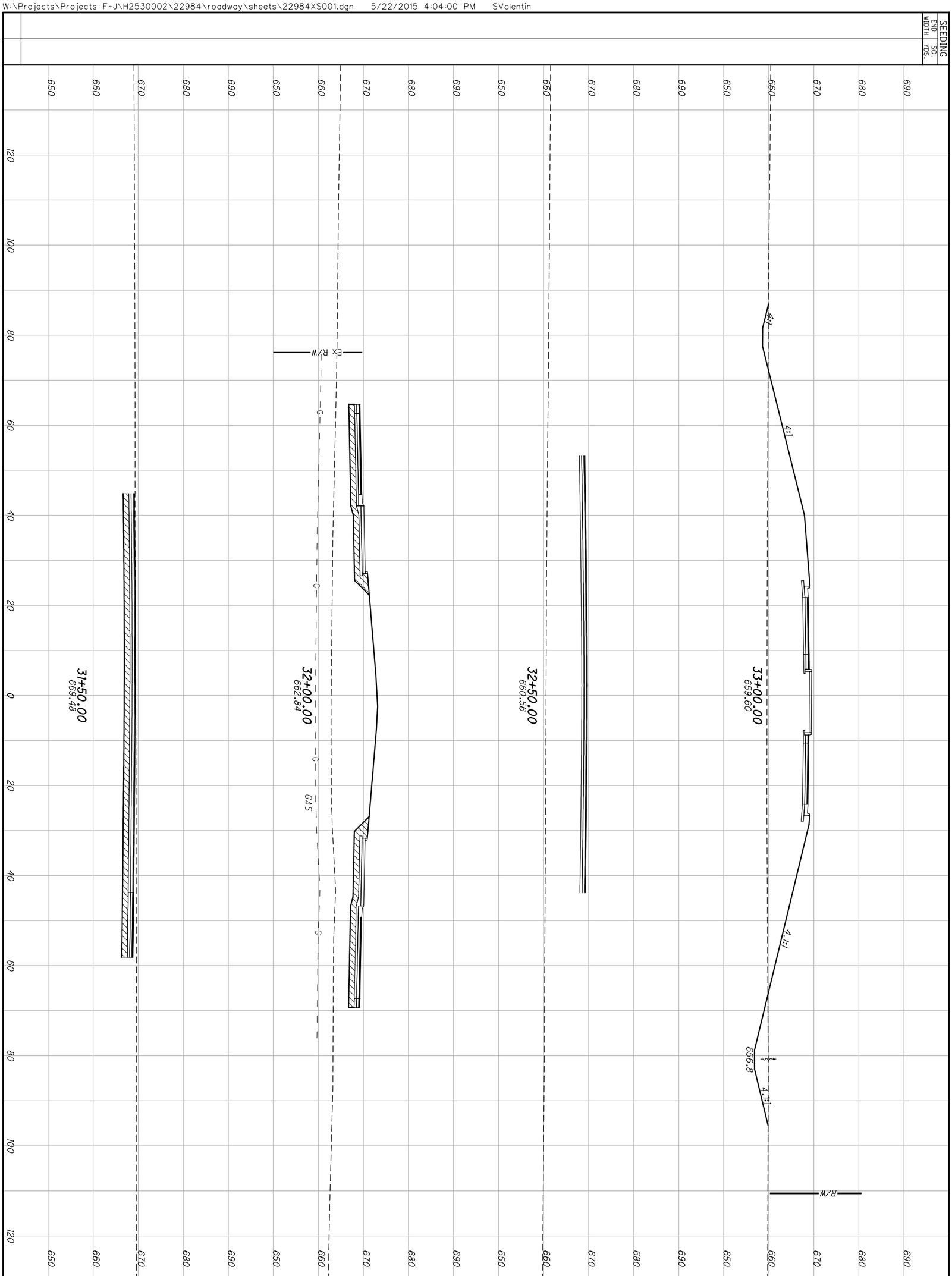


END AREA CUT FILL VOLUME CUT FILL

34/180

HEN-NEW MAUMEE RIVER BRIDGE

CROSS SECTIONS INDUSTRIAL DR.
STA. 31+50.00 TO STA. 33+00.00

CALCULATED

CHECKED

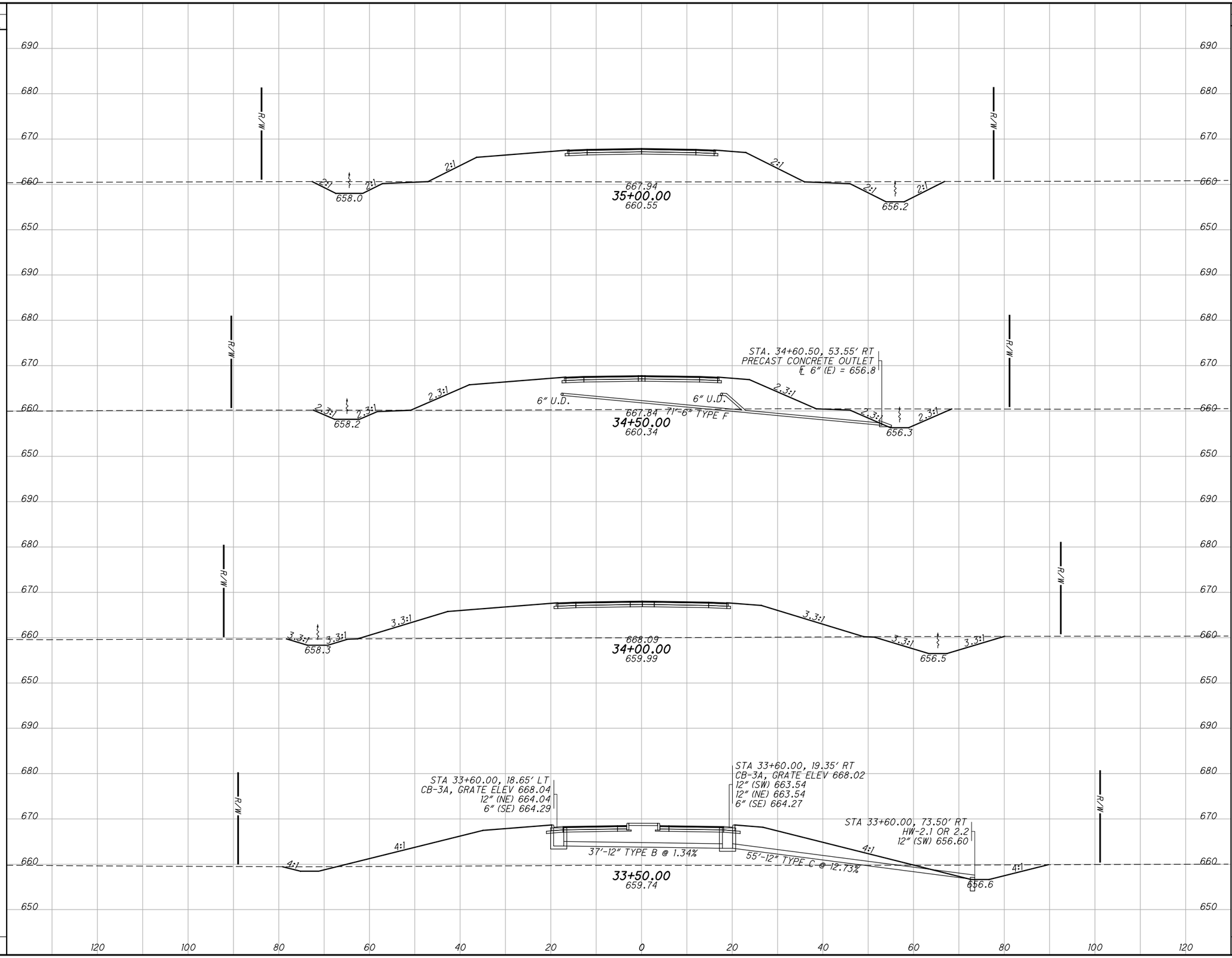
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED

CHECKED



CROSS SECTIONS INDUSTRIAL DR.
STA. 33+50.00 TO STA. 35+00.00

HEN-NEW MAUMEE RIVER BRIDGE

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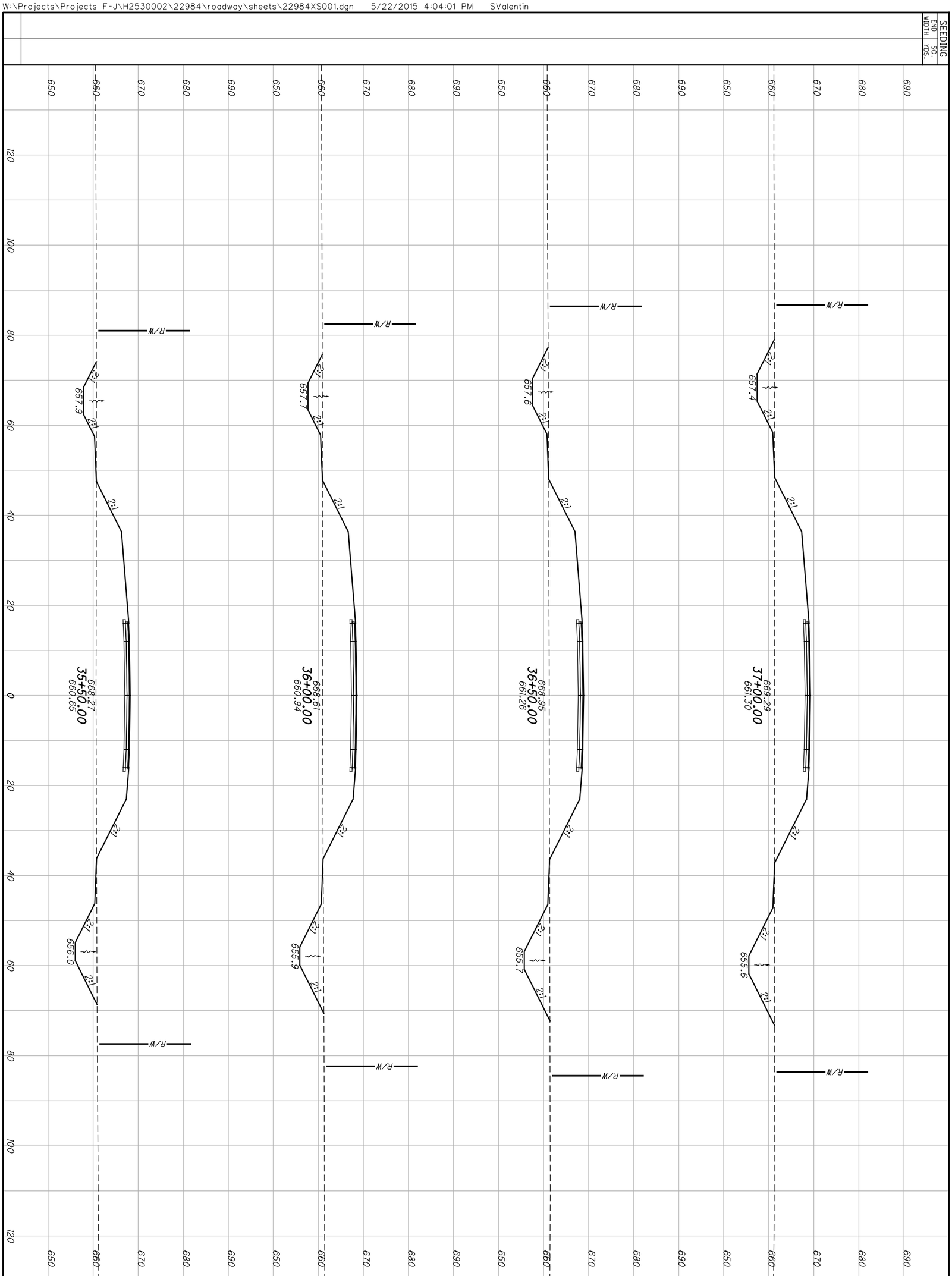


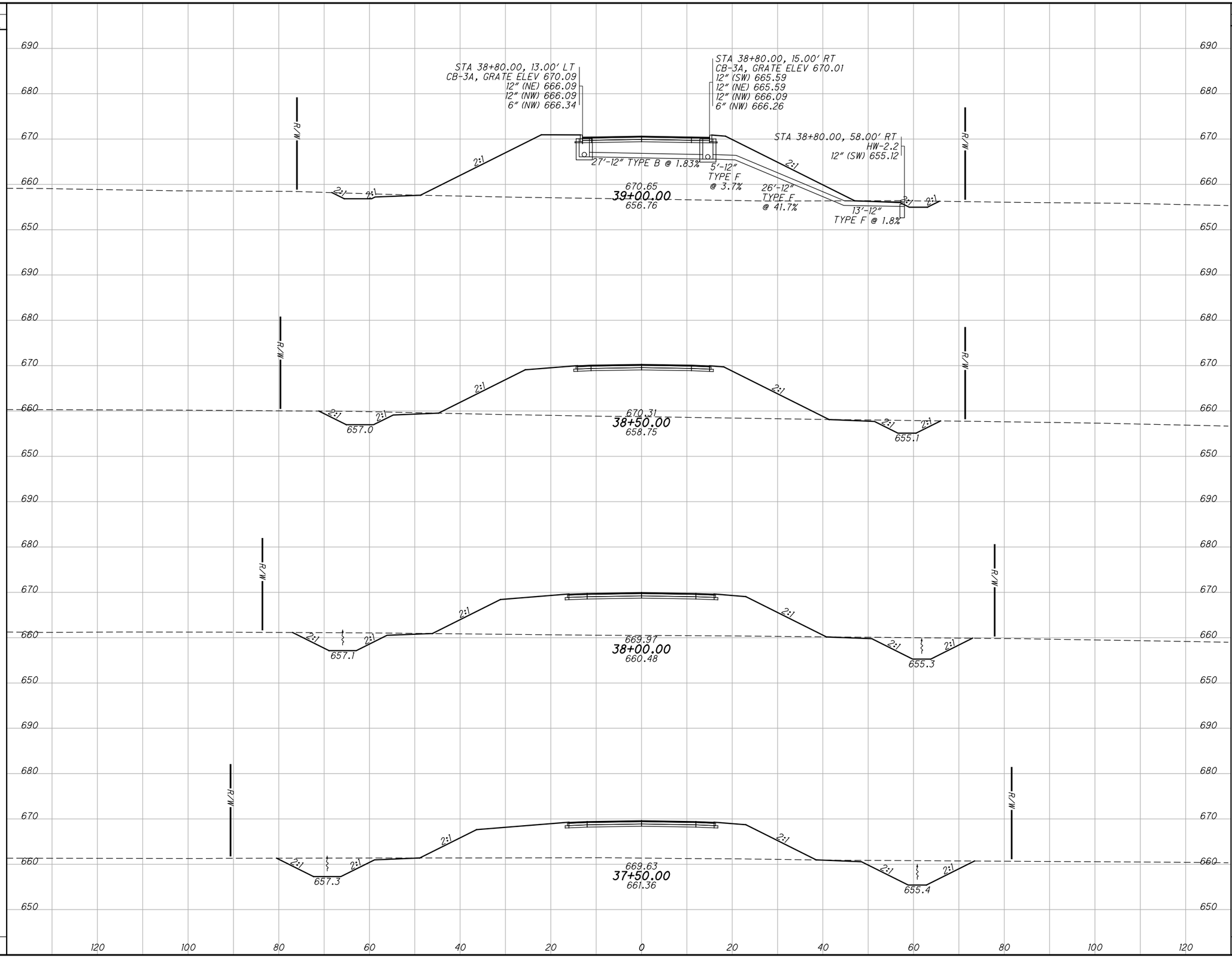
36 / 180	**HEN-NEW MAUMEE RIVER BRIDGE**	**CROSS SECTIONS INDUSTRIAL DR.** **STA. 35+50.00 TO STA. 37+00.00**
		CALCULATED CHECKED

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED



CROSS SECTIONS INDUSTRIAL DR.
STA. 37+50.00 TO STA. 39+00.00

HEN-NEW MAUMEE RIVER BRIDGE

37
180

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SEEDING	
END WIDTH	SQ. YDS.

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE B
UNCONTROLLED FILL AREA

ADJUST TO GRADE 678.66
STA 50+94.21, 94.51' LT
EX. SAN MH, GRATE ELEV 677.99'
18" CLAY N 655.50
18" CLAY NE 655.50
21" CLAY SW 655.50

STA 51+14.95, 73.37' LT
EX. CB, GRATE ELEV 677.02'
12" PVC ENE 674.09
4" CPP N 674.88

REMOVE
STA 51+09.23, 31.57' LT
EX. CB, GRATE ELEV 678.05'
4" CPP N 675.00
12" PVC WSW 674.15

13.7:1

12" PVC

12" WL.

150'-12" TYPE B @ 13.59%

12" PVC 91'-12" TYPE C @ 1.21%

A.D.J. 679.10
12" (S) 672.42
12" (N) 672.42
STA 51+07.68, 61.01' LT
EX. MH, GRATE ELEV 678.42'
~~12" PVC WSW 674.00~~
12" PVC ENE 673.31
12" PVC SE 672.42

18" CLAY

51+00.00
678.34

12" PVC

12" TYPE B

50+50.00
677.75

STA 50+15.79, 72.98' LT
EX. PIO, GRATE ELEV 663.47'
12" PVC N 663.47

STA 49+84.34, 19.86' LT
EX. PIO, GRATE ELEV 655.15'
8" PVC E 655.15

50+00.00
660.74

8" PVC

2.2:1

STA 49+18.00, 21.50' LT
CB-3A, GRATE ELEV 677.17
12" (NE) 672.00
6" (NW) 673.42

36'-12" TYPE B @ 1.39%

79'-12" TYPE C @ 19.94%

2:1

12" TYPE C

49+50.00
662.65

204'-18" TYPE B @ 1.04%

STA 49+18.00, 15.15' RT
CB-3A, GRATE ELEV 677.20
12" (SW) 671.50
12" (NE) 669.20
6" (NW) 673.45

18" TYPE B

STA 594+79.25, 106.50' RT
CB-2-3, GRATE ELEV 655.34
12" (SW) 653.38
18" (SW) 649.38
15" (NE) 649.63
24" (SE) 648.88

690 680 670 660 650 640

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

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED

CROSS SECTIONS INDUSTRIAL DR.
STA. 49+50.00 TO STA. 51+00.00

HEN-NEW MAUMEE RIVER BRIDGE

38
180

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SEEDING	
END WIDTH	SQ. YDS.

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE B

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED

ADJUST TO GRADE 679.00
STA 52+82.47, 9.36' RT
EX. SAN MH, GRATE ELEV 679.05'
18" CLAY N 657.60
18" CLAY S 657.60

6.5:1 16:1

FIBER OPTICS
GAS GAS

12" WL.

679.23
53+00.00
679.26

STA 52+71.70, 29.30' RT
CB-2-2B, GRATE ELEV 678.75
12" (S) 676.12

45.5:1 827.4:1

FIBER OPTICS
GAS

12" WL.

678.93
52+50.00
679.02

86'-12" TYPE C @ 2.38%

STA 51+77.00, 12.70' LT
CB-3, GRATE ELEV 678.07
12" (NE) 673.52
12" (S) 673.52
6" (NW) (SE) 674.32

STA 51+77.00, 35.45' RT
CB-3, GRATE ELEV 678.07
12" (N) 674.07
12" (SW) 674.07
6" (NW) (SE) 674.32

50.4:1 26.5:1

FIBER OPTICS
GAS

91'-12" TYPE C @ 1.21%

12" WL.

47'-12" TYPE B @ 1.16%

86'-12" TYPE C @ 2.38%

52+00.00
678.76

53.7:1 24.7:1

FIBER OPTICS
FIBER OPTICS
GAS

12" WL. 12" TYPE C

51+50.00
678.95

690 680 670 660 650

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

CROSS SECTIONS INDUSTRIAL DR. STA. 51+50.00 TO STA. 53+00.00

HEN-NEW MAUMEE RIVER BRIDGE

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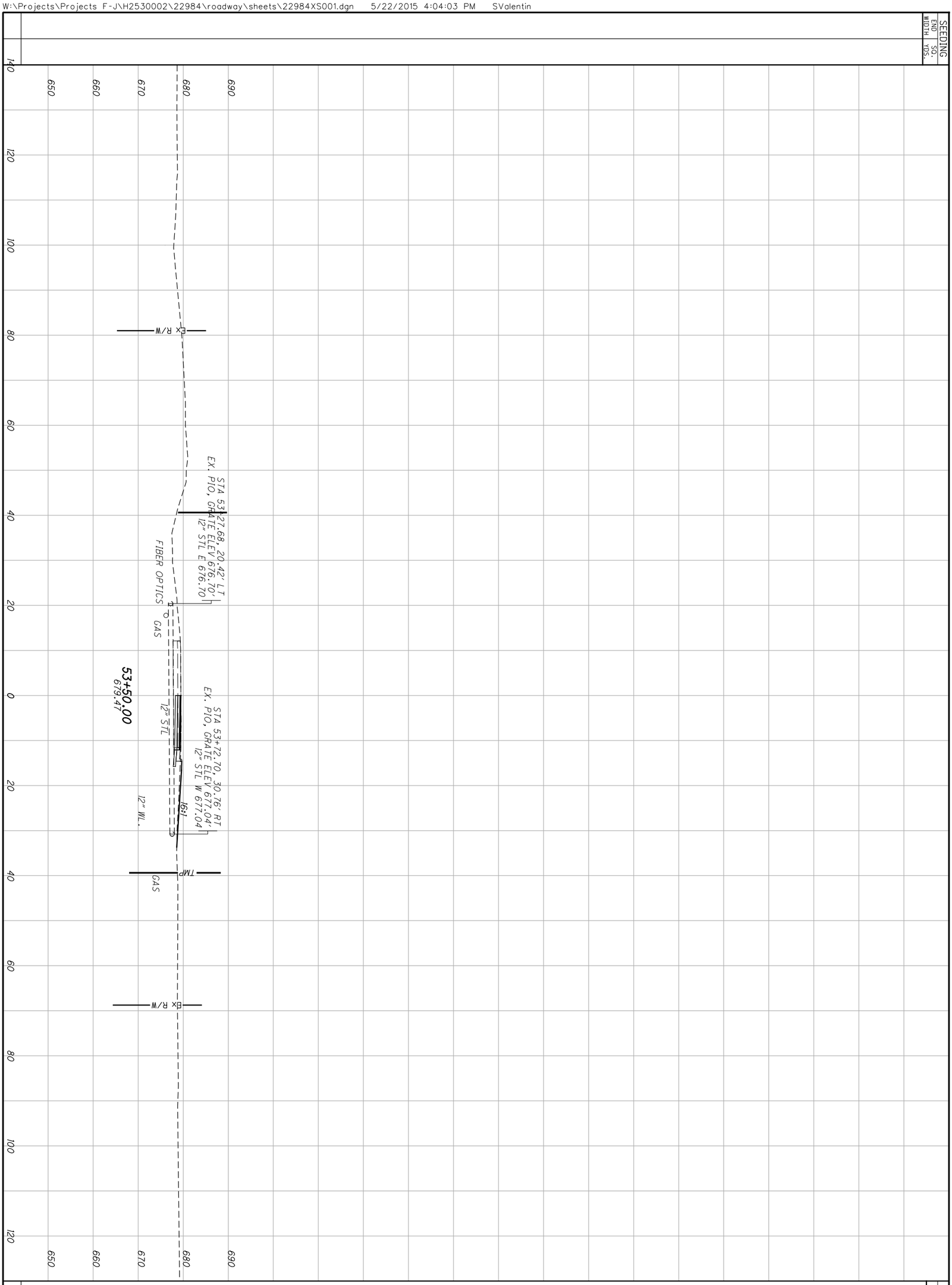

40
180

HEN-NEW MAUMEE RIVER BRIDGE

CROSS SECTIONS INDUSTRIAL DR.

STA. 53+50.00

CALCULATED

CHECKED

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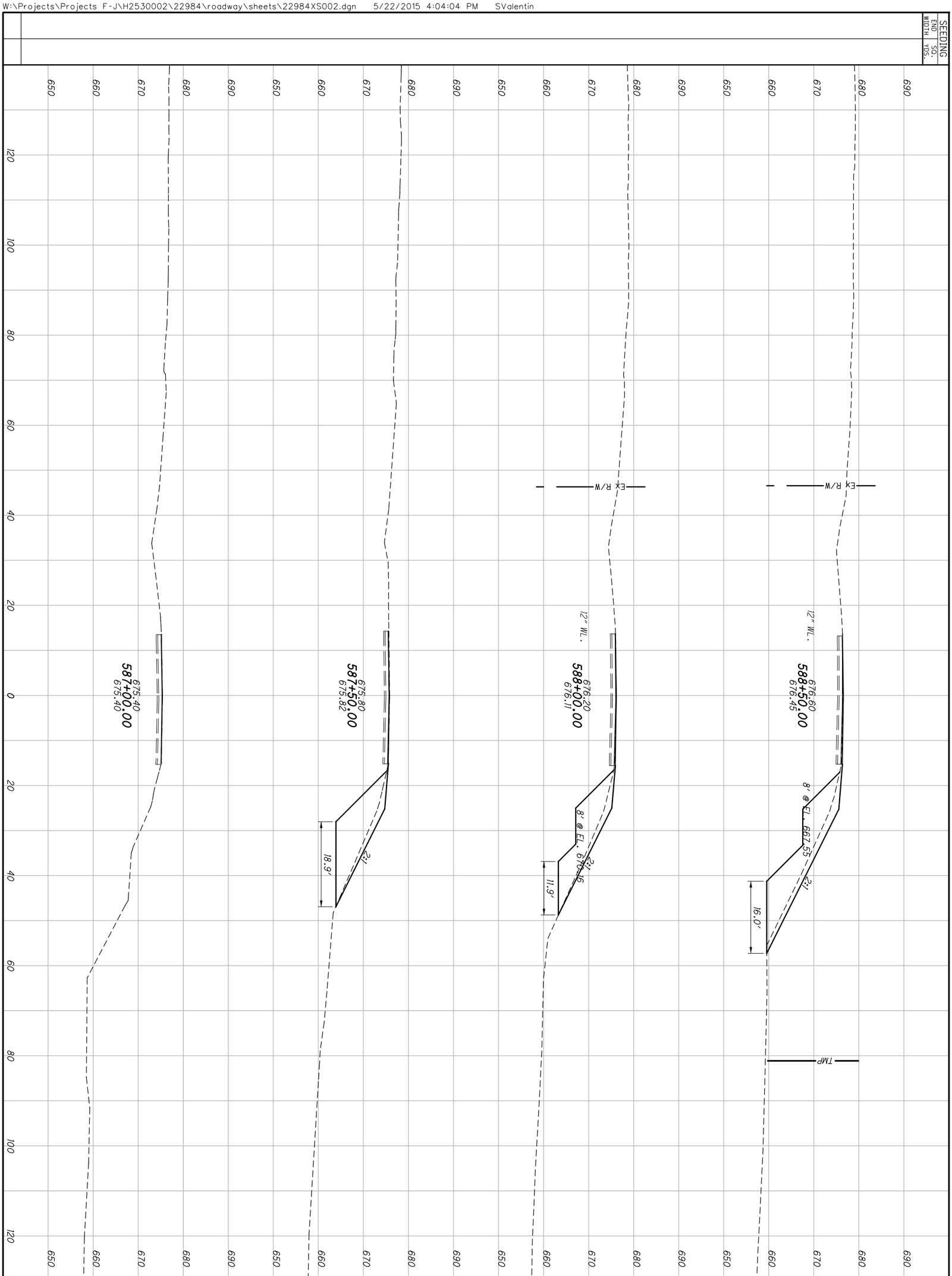


41
180

HEN-NEW MAUMEE RIVER BRIDGE

CROSS SECTIONS RIVERVIEW AVE.
STA. 587+00.00 TO STA. 588+50.00

CALCULATED

CHECKED

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED

CHECKED

690
680
670
660
650

Ex R/W

10:1 49.9:1

12.5:1

12" TYPE B
12" WL.
677.55
590+50.00
677.60

8' @ EL. 668.41

2:1

11.8'

TMP

21" SAN

Ex R/W

10:1 49.9:1

12.5:1

12" TYPE B
12" WL.
677.33
590+00.00
677.37

8' @ EL. 668.21

2:1

16.6'

TMP

21" SAN

STA 589+71.74, 35.29' LT
EX. SAN MH, GRATE ELEV 676.65'
21" UNK EW 654.65
8" CLAY NE 657.55
8" CLAY NW 671.65

Ex R/W

STA 589+72.00, 14.57' LT
CB-3A, GRATE ELEV 676.80
12" (NE) 672.80

12.5:1

2:1

12" WL.
677.12
589+50.00
677.14

EL. 667.77

16.2'

TMP

STA 589+40.09, 29.81' LT
EX. PIO, GRATE ELEV 676.15'
6" CMP W 676.15

STA 589+10.95, 31.54' LT
EX. PIO, GRATE ELEV 675.96'
6" CMP E 675.96

Ex R/W

STA. 597+87.77, 60.00' RT
PRECAST CONCRETE OUTLET
EL 6" (NW) = 658.65

6" U.D.
47'-6" TYPE E
8' @ EL. 667.86

12" WL.
589+00.00
676.83

2:1

8' @ EL. 659.86

10.9'

TMP

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

CROSS SECTIONS RIVERVIEW AVE.
STA. 589+00.00 TO STA. 590+50.00

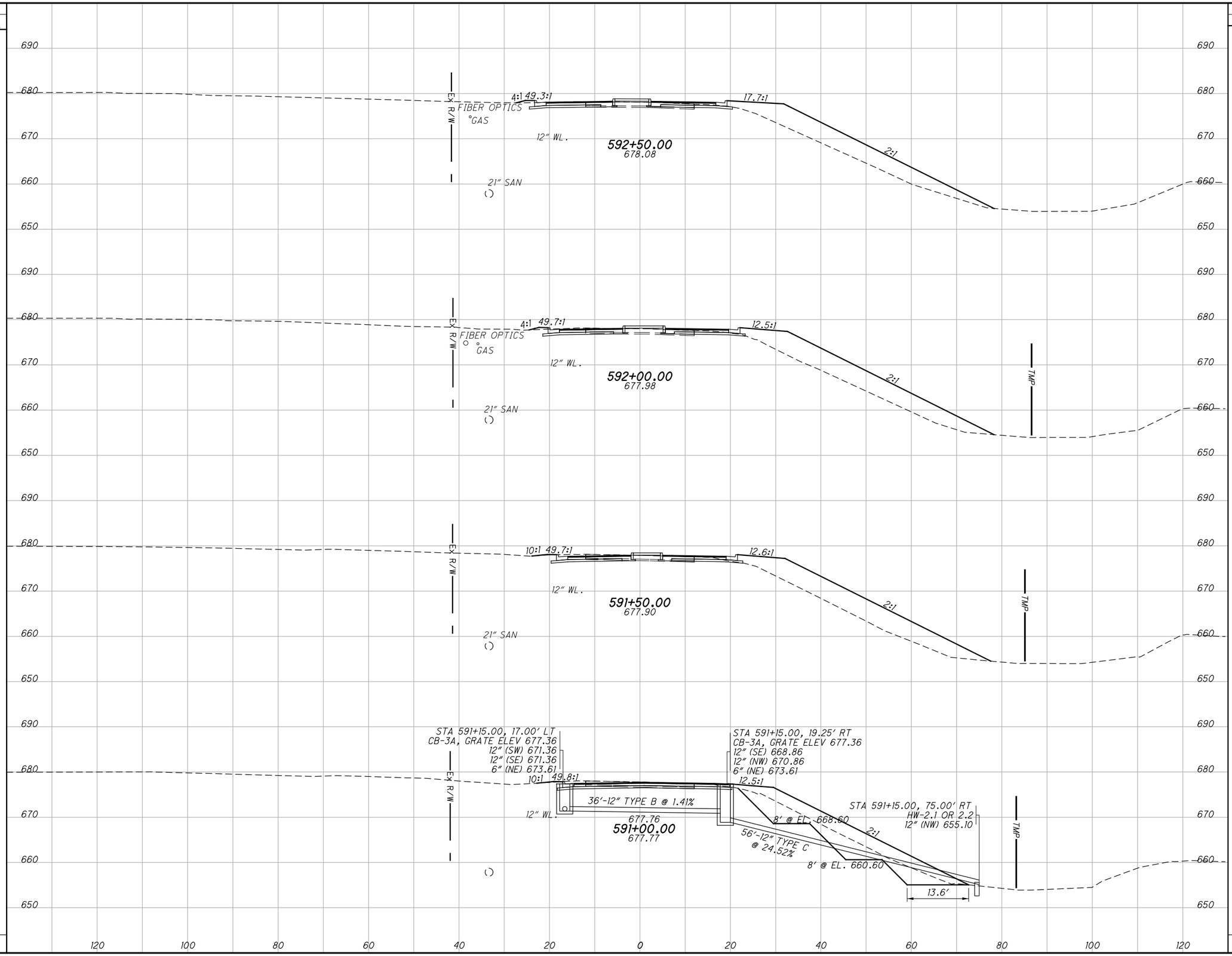
HEN-NEW MAUMEE RIVER BRIDGE

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED



CROSS SECTIONS RIVERVIEW AVE.
STA. 591+00.00 TO STA. 592+50.00

HEN-NEW MAUMEE RIVER BRIDGE

SEEDING	
END WIDTH	SQ. YDS.

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE B

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED

CHECKED

690
680
670
660
650

EX R/W

GAS

12" WL.

594+50.00
677.96

18" SAN

12" TYPE C

18" TYPE B

594+00.00
678.02

REMOVE
STA 593+44.69, 50.09' LT
EX. CB, GRATE ELEV 678.05'
4" CPP N 675.00
12" PVC WSW 674.15

4" CPP

593+50.00
678.06

REMAIN
STA 593+03.47, 57.74' LT
EX. CB, GRATE ELEV 677.02'
12" PVC ENE 674.09
4" CPP N 674.88

5.4:1

41.4:1

12" PVC

91'-12" TYPE C @ 1.55%

ADJUST TO GRADE = 679.10
12" (S) 672.42
12" (N) 672.42

STA 593+15.47, 48.76' LT
EX. MH, GRATE ELEV 678.42'
PLUG 12" PVC WSW 674.00
PLUG 12" PVC ENE 673.31
12" PVC SE 672.42

18" CLAY

ADJUST TO GRADE 678.66
STA 592+82.24, 32.25' LT
EX. SAN MH, GRATE ELEV 677.99'
18" CLAY N 655.50
18" CLAY NE 655.50
21" CLAY SW 655.50

150'-12" TYPE B @ 13.59%

STA 593+08.85, 49.03' RT
EX. PIO, GRATE ELEV 663.47'
12" PVC NL 663.47

ABANDON THE PIPE

150'-12" TYPE B @ 13.59%

STA 592+71.50, 95.00' RT
CB-2-2B, GRATE ELEV 654.00
12" (N) 652.00
18" (NE) 651.50

204'-18" TYPE B @ 1.04%

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

CROSS SECTIONS RIVERVIEW AVE.
STA. 593+00.00 TO STA. 594+50.00

HEN-NEW MAUMEE RIVER BRIDGE

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE B

STA 596+30.00, 19.68' LT
CB-3A, GRATE ELEV 676.94
12" (SE) 672.94
6" (SW) 673.19

STA 596+30.00, 18.65' RT
CB-3A, GRATE ELEV 676.94
12" (SE) 668.94
12" (NW) 672.44
6" (SW) 673.19

STA 596+30.00, 88.50' RT
CB-2-2B, GRATE ELEV 653.88
15" (SW) 651.63
12" (NW) 651.88

596+50.00
677.41

596+00.00
677.60

595+50.00
677.78

595+00.00
677.79

REMAIN
STA 595+69.00, 23.72' LT
EX. CB, GRATE ELEV 676.29'
10" RCP E 673.75
6" CLAY SW 674.34

STA 595+95.62, 32.02' LT
EX. SAN MH, GRATE ELEV 676.65'
18" CLAY SW 656.13
15" CLAY NE 656.13

38'-12" TYPE B @ 1.33%
70'-12" TYPE C @ 24.42%
149'-15" TYPE C @ 1.34%

8' @ EL. 668.07
8' @ EL. 660.07
13.4'

6:1 50.2:1 12.5:1 2:1
6:1 51:1 12.7:1 2:1
12.6:1 52.1:1 12.8:1 2:1
12.3:1 51.4:1 13.3:1 2.1:1

Ex R/W
TMP
R/W

GAS
10" STM.
12" WL.
15" SAN
18" SAN
6" CLAY
15" TYPE C

690 680 670 660 650

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

CROSS SECTIONS RIVERVIEW AVE. STA. 595+00.00 TO STA. 596+50.00

HEN-NEW MAUMEE RIVER BRIDGE

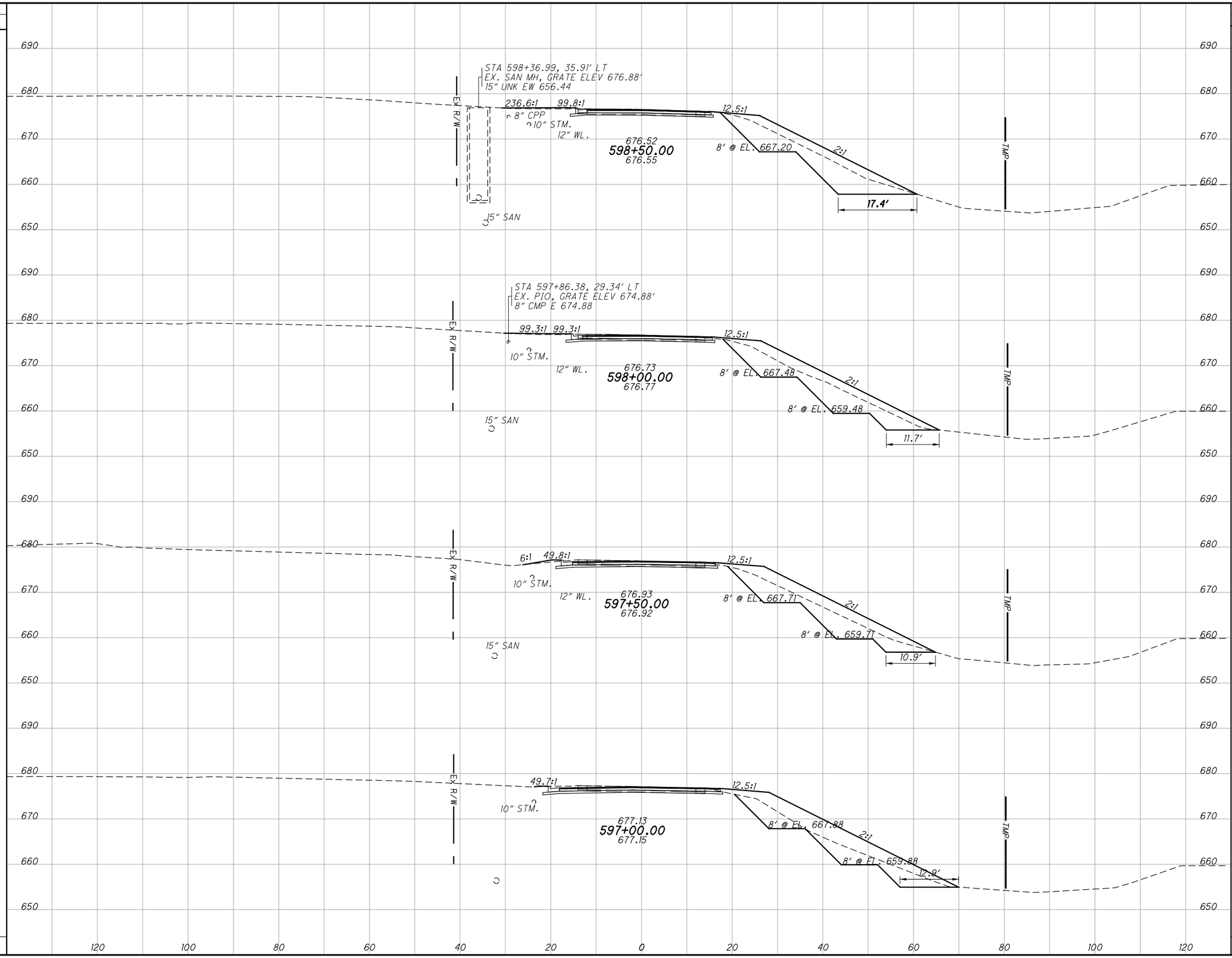
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED

CHECKED



CROSS SECTIONS RIVERVIEW AVE.
STA. 597+00.00 TO STA. 598+50.00

HEN-NEW MAUMEE RIVER BRIDGE

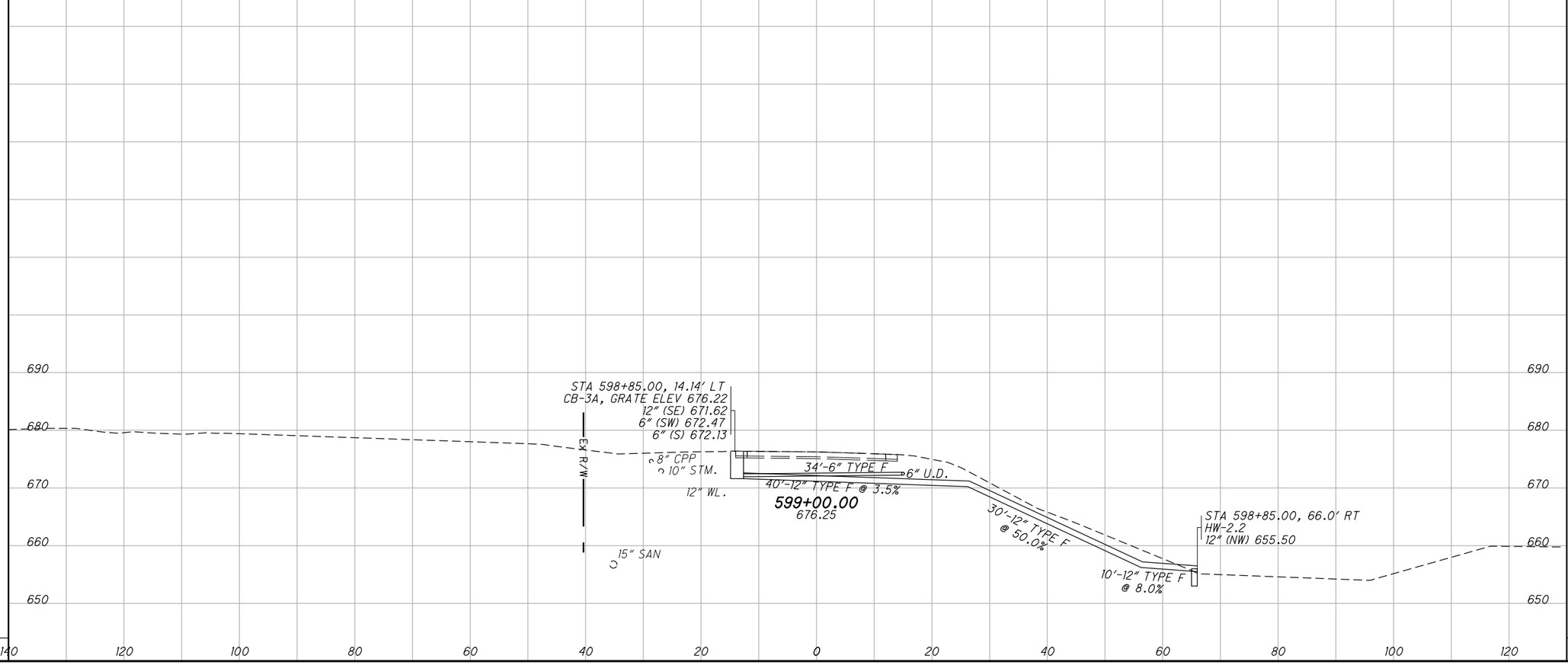
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED

CHECKED



CROSS SECTIONS RIVERVIEW AVE.
STA. 599+00.00

HEN-NEW MAUMEE RIVER BRIDGE

SEEDING	
END WIDTH	SQ. YDS.

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE B

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED

CHECKED

680 670 660 650 640

Ex R/W

GAS

4:1 12.5:1 12.5:1 4:1 4:1

664.5

668.14
102+50.00
668.34

668.13
102+00.00
668.10

667.99
101+50.00
667.97

STA. 101+00, 48.00' LT
PRECAST CONCRETE OUTLET
℄ 6" (E) = 661.6

6" U.D.
63'-6" TYPE F
6" U.D.

667.81
101+00.00
667.81

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

CROSS SECTIONS S.R. 110
STA. 101+00.00 TO STA. 102+50.00

HEN-NEW MAUMEE RIVER BRIDGE

48
180

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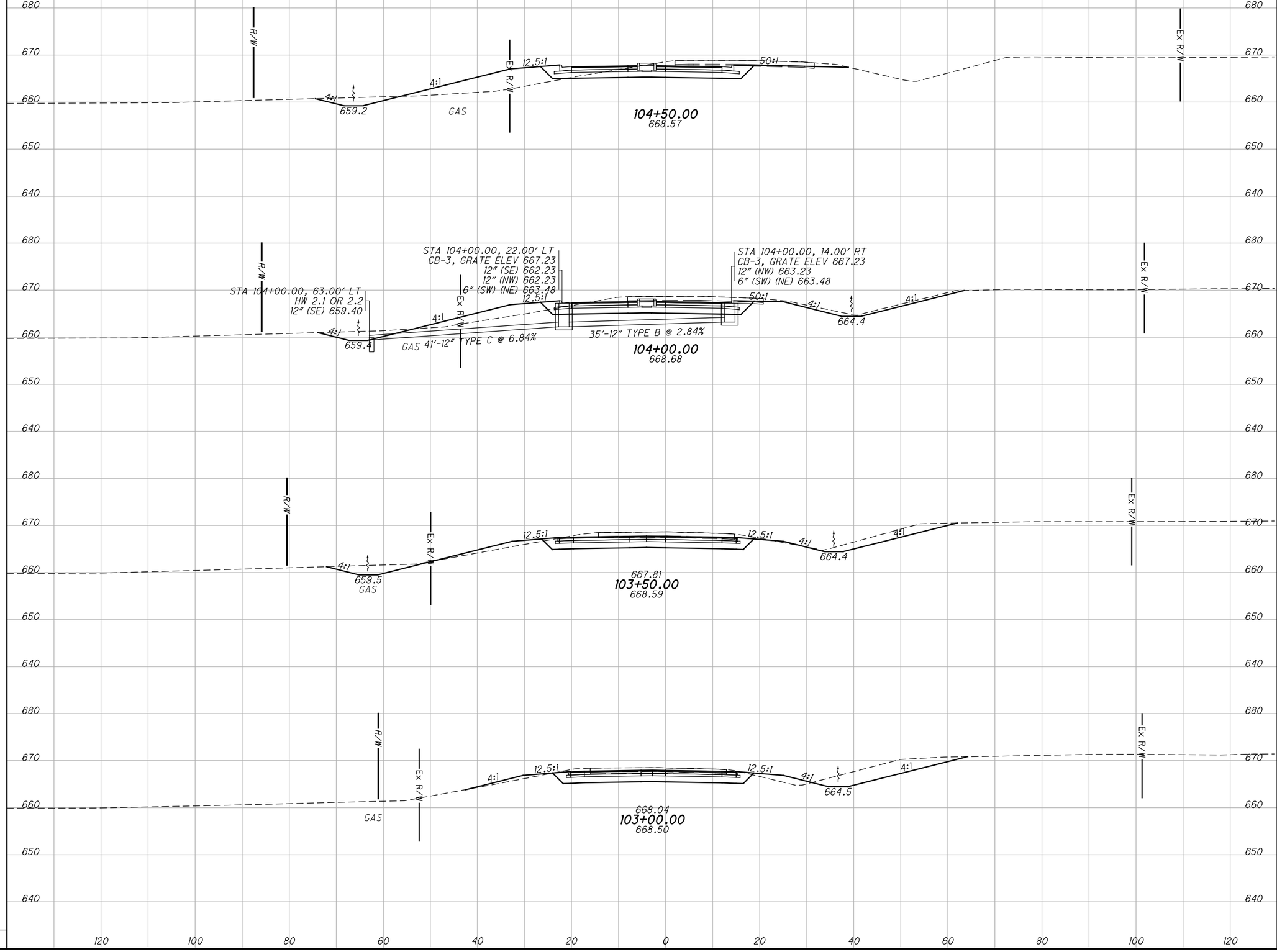
SEEDING	
END WIDTH	SQ. YDS.

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE B



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED

CROSS SECTIONS S.R. 110
STA. 103+00.00 TO STA. 104+50.00

HEN-NEW MAUMEE RIVER BRIDGE

49
180

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SEEDING	
END WIDTH	SQ. YDS.

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE B

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED

CHECKED

680 670 660 650 640

Ex R/W

GAS

106+50.00
662.77

680 670 660 650 640

Ex R/W

GAS

106+00.00
662.99

680 670 660 650 640

13.4:1

99.5:1

4.2:1

4.3:1

658.9

Ex R/W

GAS

105+50.00
664.15

680 670 660 650 640

M/R/W

4:1

4:1

659.1

12.5:1

50:1

50:1

Ex R/W

GAS

105+00.00
666.15

680 670 660 650 640

Ex R/W

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

CROSS SECTIONS S.R. 110
STA. 105+00.00 TO STA. 106+50.00

HEN-NEW MAUMEE RIVER BRIDGE

50
180

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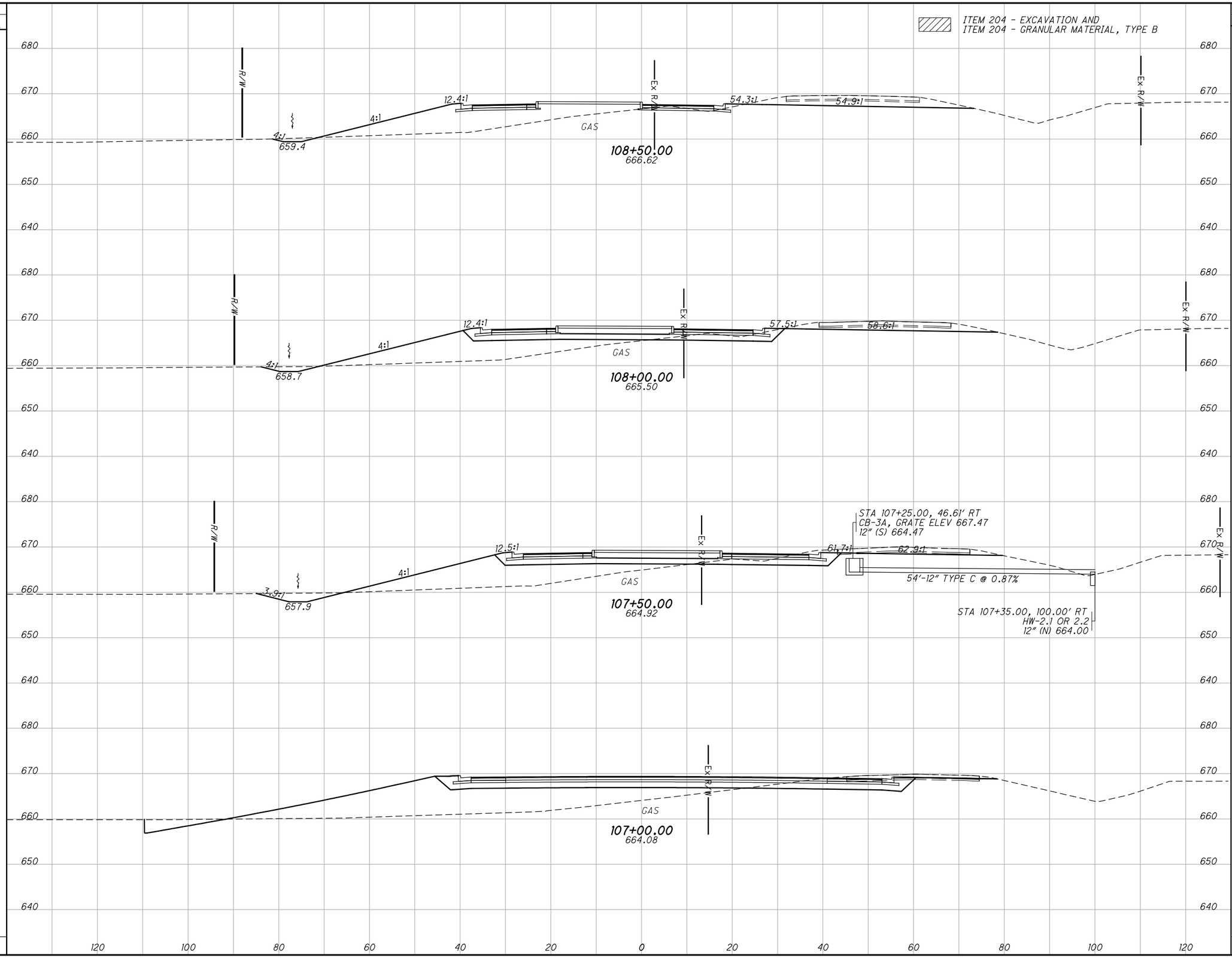
SEEDING	
END WIDTH	SQ. YDS.

ITEM 204 - EXCAVATION AND
ITEM 204 - GRANULAR MATERIAL, TYPE B

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED



CROSS SECTIONS S.R. 110
STA. 107+00.00 TO STA. 108+50.00

HEN-NEW MAUMEE
RIVER BRIDGE

51
180

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED

CHECKED

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CROSS SECTIONS S.R. 110
STA. 109+00.00 TO STA. 110+50.00

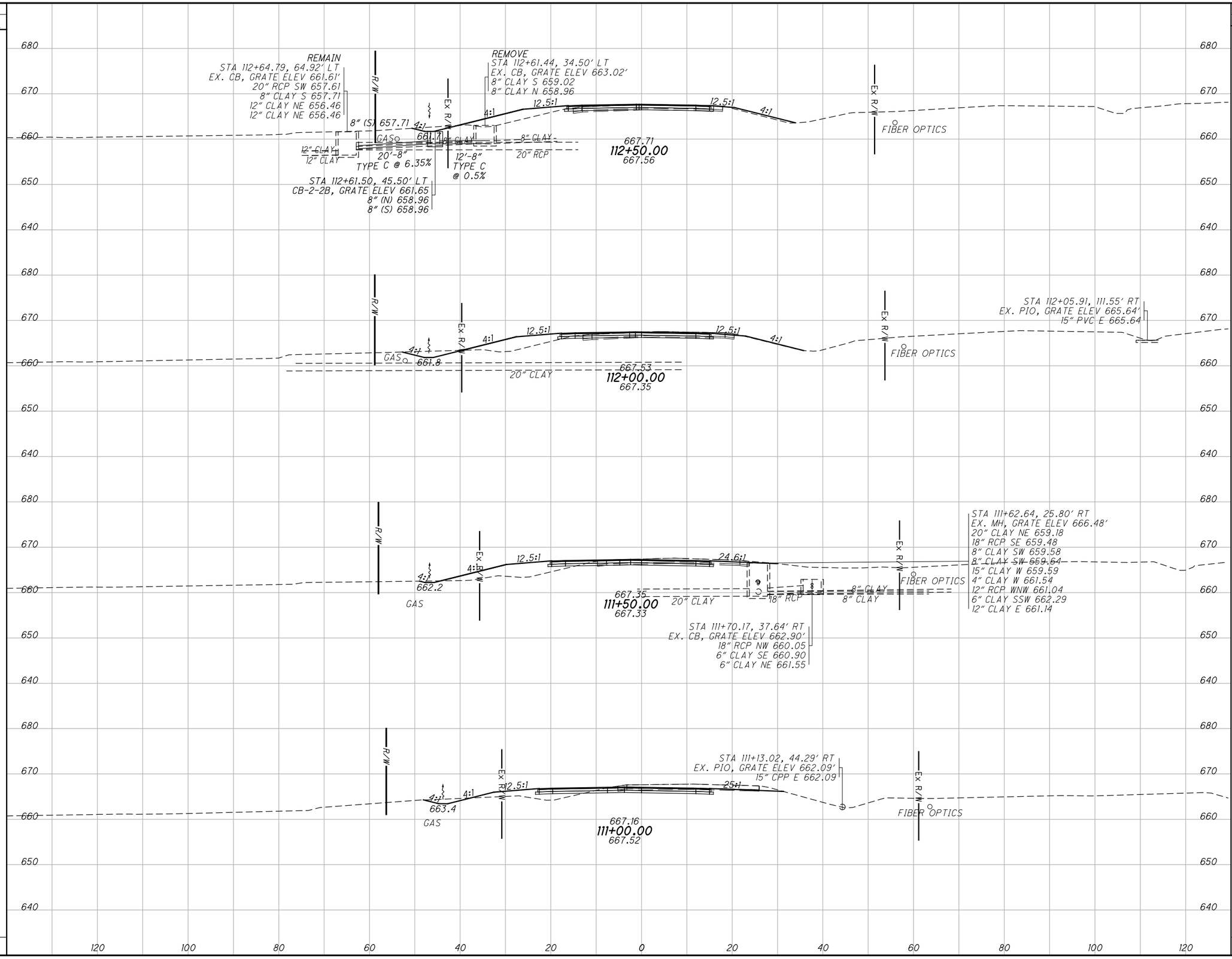
HEN-NEW MAUMEE RIVER BRIDGE

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED



CROSS SECTIONS S.R. 110
STA. 111+00.00 TO STA. 112+50.00

HEN-NEW MAUMEE
RIVER BRIDGE

53
180

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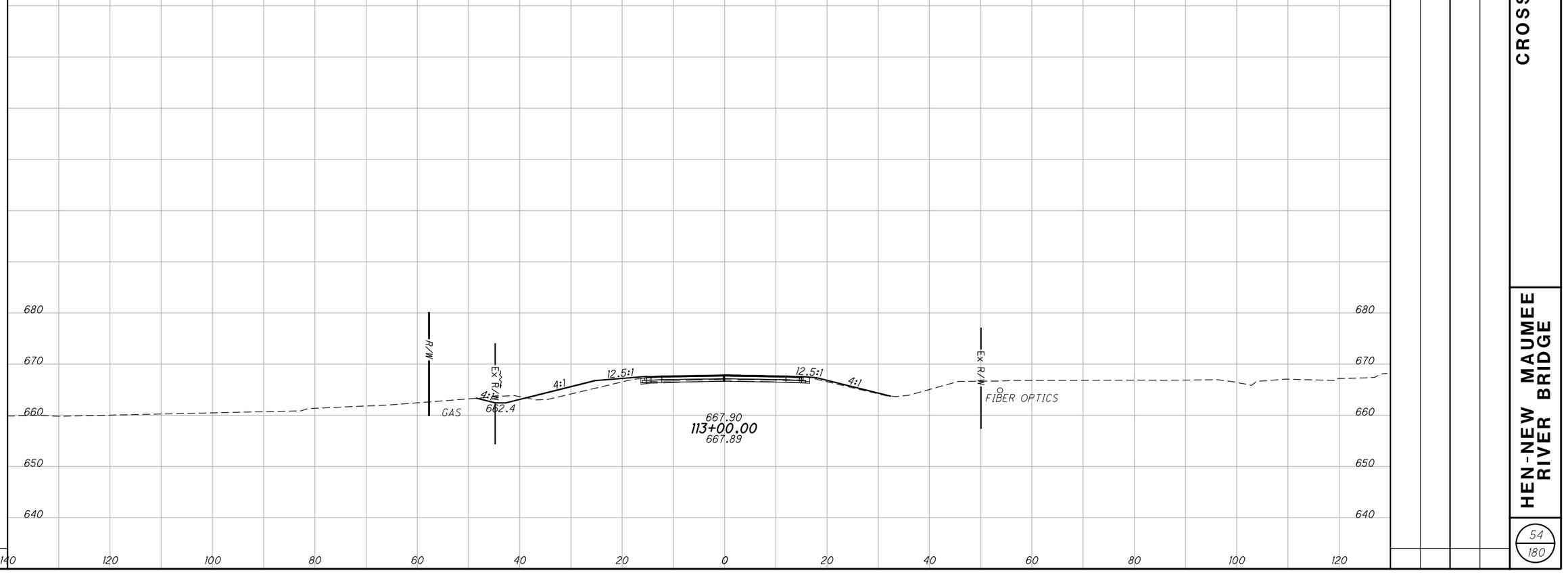
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED

CHECKED



CROSS SECTIONS S.R. 110
STA. 113+00.00

HEN-NEW MAUMEE RIVER BRIDGE

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED

670
665
660

41.41' LT.
16.86%
25.15' LT.
8.00%
10.0' V.C.
K=0.8

667.94
101+35.00
667.94

670
665
660

670
665
660

115.00' RT.
3.09%
50.26' RT.

667.25
111+36.05
667.39

670
665
660

49.50' LT.
25.00%
25.00' LT.
8.00%
10.0' V.C.
K=0.8

667.94
101+35.00
667.93

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

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CROSS SECTIONS
S.R.110 FIELD DRIVE

HEN-NEW MAUMEE RIVER BRIDGE

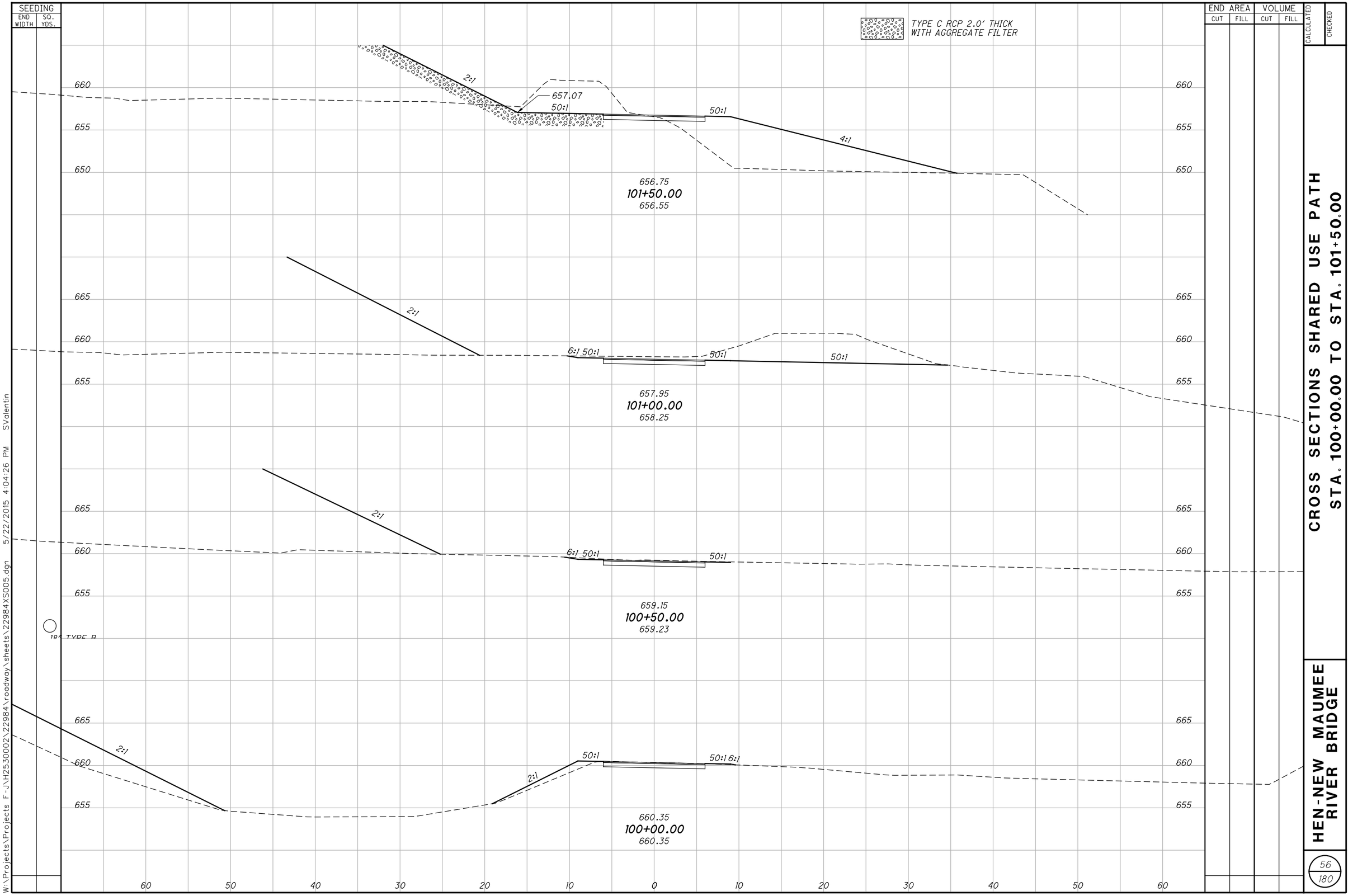
SEEDING	
END WIDTH	SQ. YDS.

TYPE C RCP 2.0' THICK
WITH AGGREGATE FILTER

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED



CROSS SECTIONS SHARED USE PATH
STA. 100+00.00 TO STA. 101+50.00

HEN-NEW MAUMEE
RIVER BRIDGE

56
180

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SEEDING	
END WIDTH	SQ. YDS.

TYPE C RCP 2.0' THICK
WITH AGGREGATE FILTER

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED

660
655
650

103+50.00
660.07

15" TYPE C

RIVERVIEW, STA 594+79.25, 106.50' RT
CB-2-3, GRATE ELEV 655.34
24" (SE) 648.88
18" (SW) 649.38
15" (NE) 649.63
12" (SW) 653.38

50:1
50:1
6:1

79'-12" TYPE C @ 19.94%

18" TYPE B

658.96
103+00.00
654.40

155'-24" TYPE C @ 0.57%

2:1
658.17
50:1
50:1
6:1

657.80
102+50.00
654.13

24" TYPE C

2:1
657.04
50:1
50:1
6:1

656.72
102+00.00
650.62

60 50 40 30 20 10 0 10 20 30 40 50 60

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CROSS SECTIONS SHARED USE PATH
STA. 102+00.00 TO STA. 103+50.00

HEN-NEW MAUMEE
RIVER BRIDGE

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED

CHECKED

680
675

28.50' LT.
1.41%
14.50' LT.
12" WL.
676.48
598+57.80
676.50

680
675

26.96' LT.
2.62%
15.54' LT.
12" WL.
676.74
597+97.51
676.78

19.24' RT.
0.95%
28.89' RT.
680
675
G
GAS
679.15
52+87.48
679.19
12" WL.

680
675

28.84' LT.
5.03%
20.36' LT.
12" WL.
677.11
597+05.35
677.11

680
675

38.47' LT.
1.18%
21.61' LT.
FIBER OPTICS
GAS
12" WL.
678.21
592+29.53
678.10

680
675

38.42' LT.
4.57%
20.00' LT.
1.60%
13.85' LT.
12" WL.
677.07
589+24.72
677.00

60 50 40 30 20 10 0 10 20 30 40 50 60

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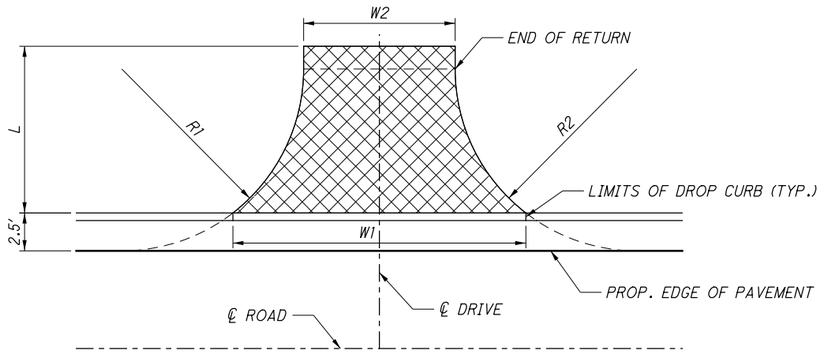
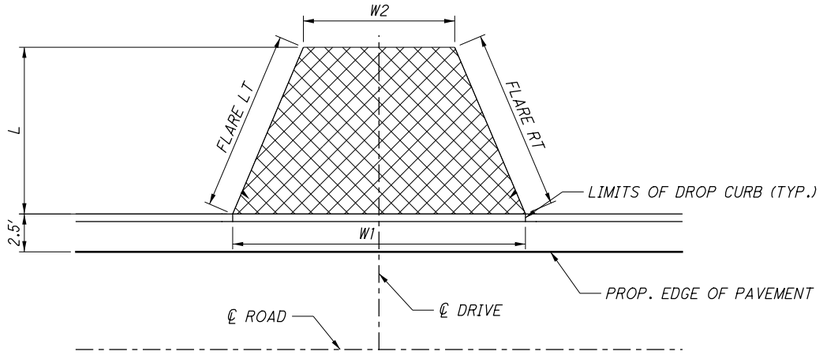
DRIVEWAY PROFILES
INDUSTRIAL DR.

HEN-NEW MAUMEE RIVER BRIDGE

MATCH EXISTING DRIVE MATERIAL

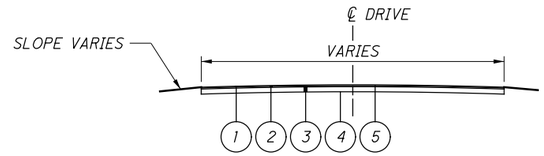


DRIVE PLAN DETAIL

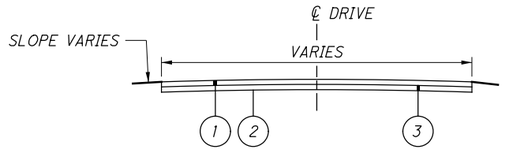


DRIVE PLAN DETAIL

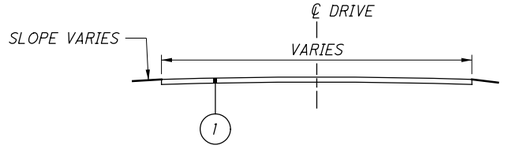
SHEET NO.	STATION	SIDE	DRIVE TYPE	EXISITING DRIVE MATERIAL	DRIVE ANGLE	APRON LENGTH "L"	WIDTH "W1"	WIDTH "W2"	R1 (LEFT SIDE RADII OF DRIVE LOOKING FROM CL)	R2 9RIGHT SIDE RADII LOOKING FROM CL)	FLARED RATE (LT)	FLARED RATE (RT)
					DEG.	FT	FT	FT	FT	FT	FT	FT
RIVERVIEW AVE.												
GP201	589+24.72	LT	RES.	ASPH.	90.00	25.58	74.30	24.04	25.00	25.00		
GP202	592+29.53	LT	RES.	ASPH.	90.00	16.86	40.13	24.00	15.00	15.00		
GP203	597+05.35	LT	RES.	CONC.	91.86	8.50	28.65	20.00			9.47	9.86
GP203	597+97.51	LT	RES.	ASPH.	92.30	11.43	25.79	14.38			12.86	12.65
GP203	598+57.80	LT	RES.	CONC.	86.42	13.30	34.06	20.00			14.41	16.87
INDUSTRIAL DR.												
GP105	52+87.48	RT	RES.	ASPH.	78.36	9.65	26.73	15.00			9.95	11.98
S.R. 110												
GP301	101+35.00	LT	FIELD	GRVL	90.00	34.50	64.57	15.00	25.00	25.00		
GP303	111+36.05	RT	FIELD	GRVL	90.00	35.26	67.35	18.00	25.00	25.00		
GP303	113+10.00	LT	FIELD	GRVL	90.00	26.26	66.08	15.00	25.00	25.00		



1. ITEM 441 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) (DRIVEWAYS)
2. ITEM 441 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) (DRIVEWAYS)
3. ITEM 304 8" AGGREGATE BASE
4. ITEM 204, SUBGRADE COMPACTION
5. ITEM 690, SPECIAL-MISC.: TRACKLESS TACK COAT (0.04 GAL./SY. YD.)



1. ITEM 452 8" NON-REINFORCED CONCRETE PAVEMENT
2. ITEM 204 SUBGRADE COMPACTION
3. ITEM 304 6" AGGREGATE BASE



1. ITEM 304 6" AGGREGATE BASE

CALCULATED | CHECKED

DRIVE DETAILS

HEN-NEW MAUMEE RIVER BRIDGE

59
180

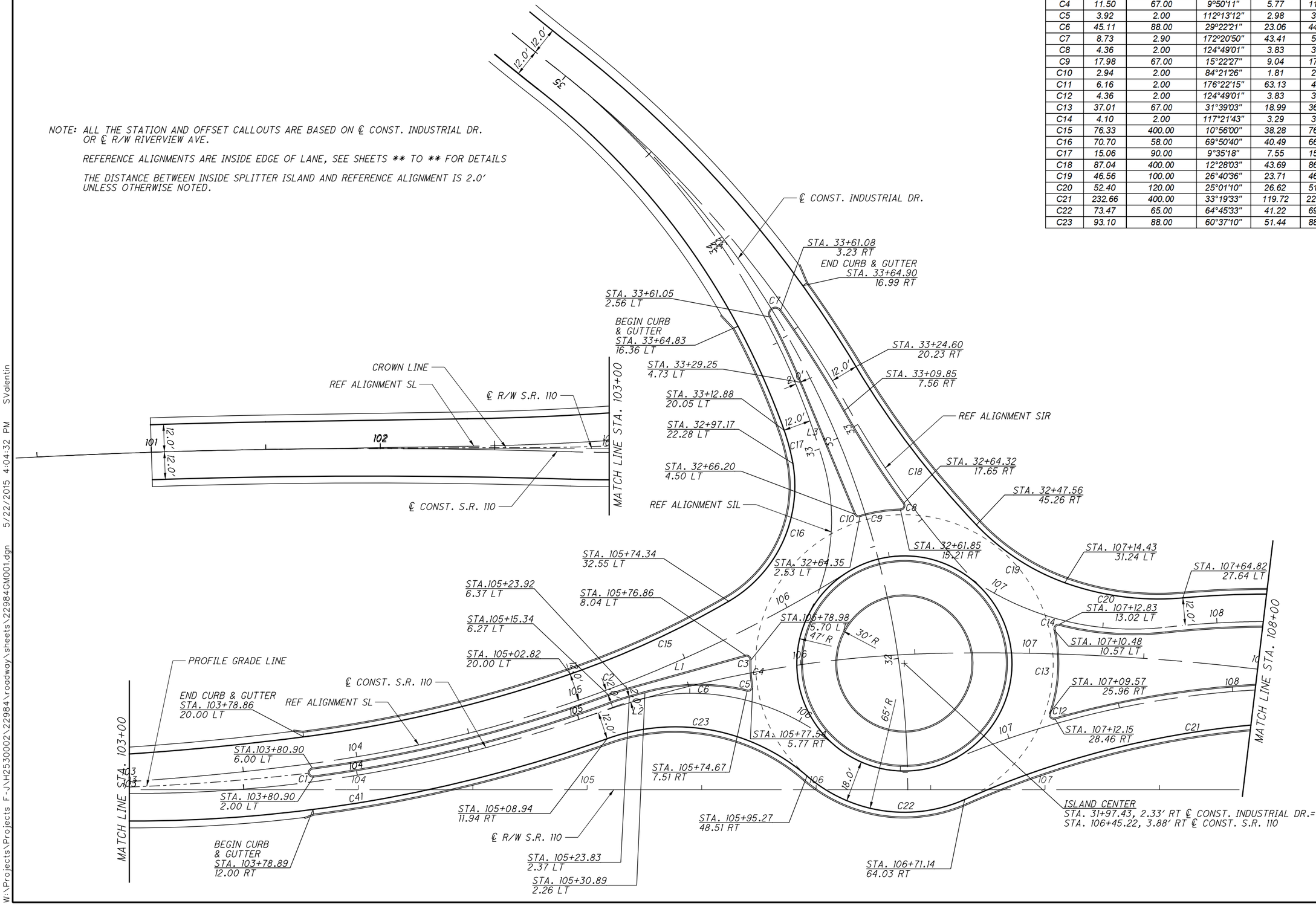
NOTE: ALL THE STATION AND OFFSET CALLOUTS ARE BASED ON ℄ CONST. INDUSTRIAL DR. OR ℄ R/W RIVERVIEW AVE.

REFERENCE ALIGNMENTS ARE INSIDE EDGE OF LANE, SEE SHEETS ** TO ** FOR DETAILS

THE DISTANCE BETWEEN INSIDE SPLITTER ISLAND AND REFERENCE ALIGNMENT IS 2.0′ UNLESS OTHERWISE NOTED.

LINE TABLE		
LINE	LENGTH	BEARING
L1	53.71	N 61°05'54" E
L2	7.09	N 61°05'54" E
L3	62.27	N 35°44'47" W

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BRG
C1	6.28	2.00	180°0'00"	N/A	4.00	S 20°49'23" E
C2	8.69	104.00	4°47'9"	4.35	8.68	N 58°42'20" E
C3	3.73	2.00	106°59'20"	2.70	3.22	S 65°24'26" E
C4	11.50	67.00	9°50'11"	5.77	11.49	S 16°49'51" E
C5	3.92	2.00	112°13'12"	2.98	3.32	N 34°21'40" E
C6	45.11	88.00	29°22'21"	23.06	44.62	S 75°47'05" W
C7	8.73	2.90	172°20'50"	43.41	5.79	S 45°08'07" W
C8	4.36	2.00	124°49'01"	3.83	3.55	N 12°51'43" E
C9	17.98	67.00	15°22'27"	9.04	17.92	S 67°35'00" W
C10	2.94	2.00	84°21'26"	1.81	2.69	S 77°55'30" E
C11	6.16	2.00	176°22'15"	63.13	4.00	N 6°04'48" W
C12	4.36	2.00	124°49'01"	3.83	3.55	N 56°46'10" W
C13	37.01	67.00	31°39'03"	18.99	36.54	S 10°11'11" E
C14	4.10	2.00	117°21'43"	3.29	3.42	N 32°40'09" E
C15	76.33	400.00	10°56'00"	38.28	76.21	N 52°04'06" E
C16	70.70	58.00	69°50'40"	40.49	66.41	N 11°40'46" E
C17	15.06	90.00	9°35'18"	7.55	15.04	S 28°02'14" E
C18	87.04	400.00	12°28'03"	43.69	86.87	S 50°31'40" E
C19	46.56	100.00	26°40'36"	23.71	46.14	N 70°05'59" W
C20	52.40	120.00	25°01'10"	26.62	51.99	N 84°03'08" E
C21	232.66	400.00	33°19'33"	119.72	229.39	S 69°29'47" W
C22	73.47	65.00	64°45'33"	41.22	69.62	S 85°12'47" W
C23	93.10	88.00	60°37'10"	51.44	88.82	S 87°16'59" W



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED | CHECKED

ROUNDABOUT GEOMETRIC DETAIL
INDUSTRIAL DR. & S.R. 110

HEN-NEW MAUMEE RIVER BRIDGE

60
180

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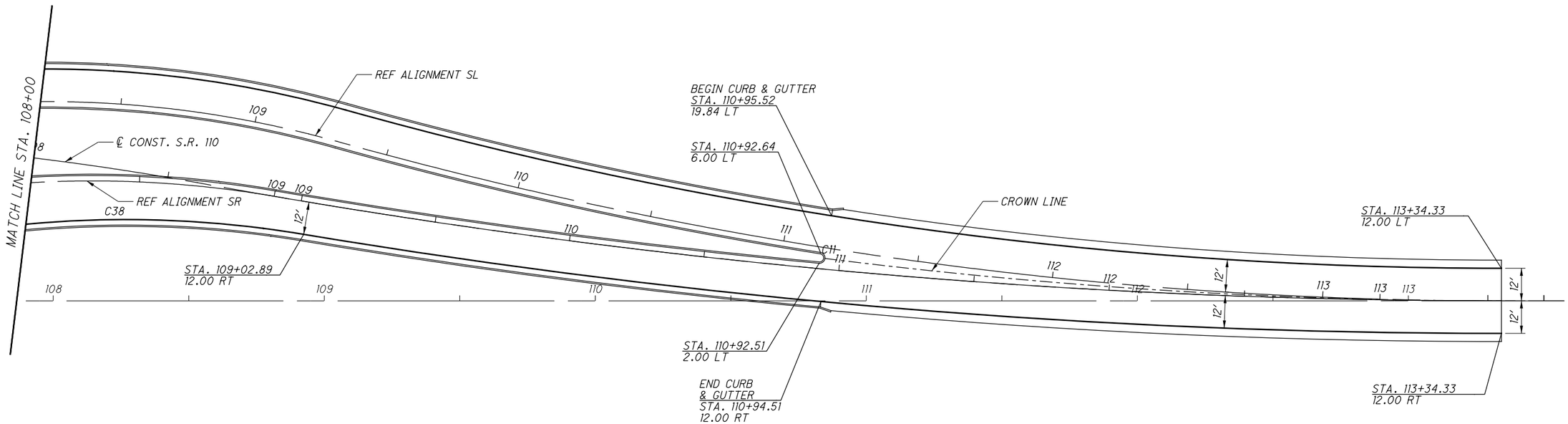
NOTE: ALL THE STATION AND OFFSET CALLOUTS ARE BASED ON ℄ CONST. S.R. 110.

REFERENCE ALIGNMENTS ARE INSIDE EDGE OF LANE, SEE SHEETS ** TO ** FOR DETAILS.

THE DISTANCE BETWEEN INSIDE SPLITTER ISLAND AND REFERENCE ALIGNMENT IS 2.0' UNLESS OTHERWISE NOTED.

SEE SHEET ** FOR CURVE AND LINE DATA.

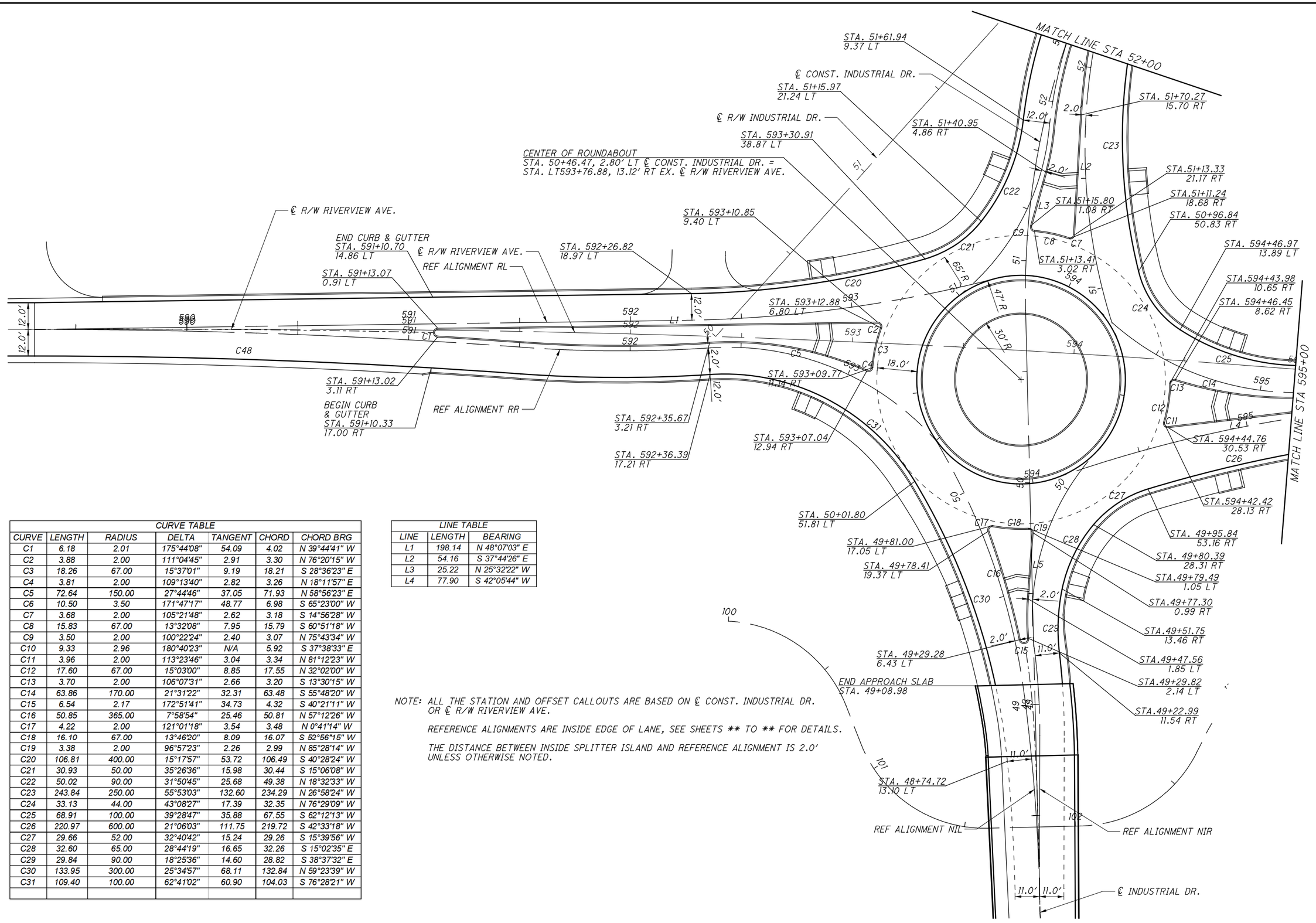


HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED | CHECKED

ROUNDABOUT GEOMETRIC DETAIL
INDUSTRIAL DR. & S.R. 110

HEN-NEW MAUMEE RIVER BRIDGE



CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BRG
C1	6.18	2.01	175°44'08"	54.09	4.02	N 39°44'41" W
C2	3.88	2.00	111°04'45"	2.91	3.30	N 76°20'15" W
C3	18.26	67.00	15°37'01"	9.19	18.21	S 28°36'23" E
C4	3.81	2.00	109°13'40"	2.82	3.26	N 18°11'57" E
C5	72.64	150.00	27°44'46"	37.05	71.93	N 58°56'23" E
C6	10.50	3.50	171°47'17"	48.77	6.98	S 65°23'00" W
C7	3.68	2.00	105°21'48"	2.62	3.18	S 14°56'28" W
C8	15.83	67.00	13°32'08"	7.95	15.79	S 60°51'18" W
C9	3.50	2.00	100°22'24"	2.40	3.07	N 75°43'34" W
C10	9.33	2.96	180°40'23"	N/A	5.92	S 37°38'33" E
C11	3.96	2.00	113°23'46"	3.04	3.34	N 81°12'23" W
C12	17.60	67.00	15°03'00"	8.85	17.55	N 32°02'00" W
C13	3.70	2.00	106°07'31"	2.66	3.20	S 13°30'15" W
C14	63.86	170.00	21°31'22"	32.31	63.48	S 55°48'20" W
C15	6.54	2.17	172°51'41"	34.73	4.32	S 40°21'11" W
C16	50.85	365.00	7°58'54"	25.46	50.81	N 57°12'26" W
C17	4.22	2.00	121°01'18"	3.54	3.48	N 0°41'14" W
C18	16.10	67.00	13°46'20"	8.09	16.07	S 52°56'15" W
C19	3.38	2.00	96°57'23"	2.26	2.99	N 85°28'14" W
C20	106.81	400.00	15°17'57"	53.72	106.49	S 40°28'24" W
C21	30.93	50.00	35°26'36"	15.98	30.44	S 15°06'08" W
C22	50.02	90.00	31°50'45"	25.68	49.38	N 18°32'33" W
C23	243.84	250.00	55°53'03"	132.60	234.29	N 26°58'24" W
C24	33.13	44.00	43°08'27"	17.39	32.35	N 76°29'09" W
C25	68.91	100.00	39°28'47"	35.88	67.55	S 62°12'13" W
C26	220.97	600.00	21°06'03"	111.75	219.72	S 42°33'18" W
C27	29.66	52.00	32°40'42"	15.24	29.26	S 15°39'56" W
C28	32.60	65.00	28°44'19"	16.65	32.26	S 15°02'35" E
C29	29.84	90.00	18°25'36"	14.60	28.82	S 38°37'32" E
C30	133.95	300.00	25°34'57"	68.11	132.84	N 59°23'39" W
C31	109.40	100.00	62°41'02"	60.90	104.03	S 76°28'21" W

LINE TABLE		
LINE	LENGTH	BEARING
L1	198.14	N 48°07'03" E
L2	54.16	S 37°44'26" E
L3	25.22	N 25°32'22" W
L4	77.90	S 42°05'44" W

NOTE: ALL THE STATION AND OFFSET CALLOUTS ARE BASED ON ℄ CONST. INDUSTRIAL DR. OR ℄ R/W RIVERVIEW AVE.

REFERENCE ALIGNMENTS ARE INSIDE EDGE OF LANE, SEE SHEETS ** TO ** FOR DETAILS.

THE DISTANCE BETWEEN INSIDE SPLITTER ISLAND AND REFERENCE ALIGNMENT IS 2.0' UNLESS OTHERWISE NOTED.

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED
CHECKED

ROUNDABOUT GEOMETRIC DETAIL
INDUSTRIAL DR. & RIVERVIEW AVE.

HEN-NEW MAUMEE RIVER BRIDGE

62
180

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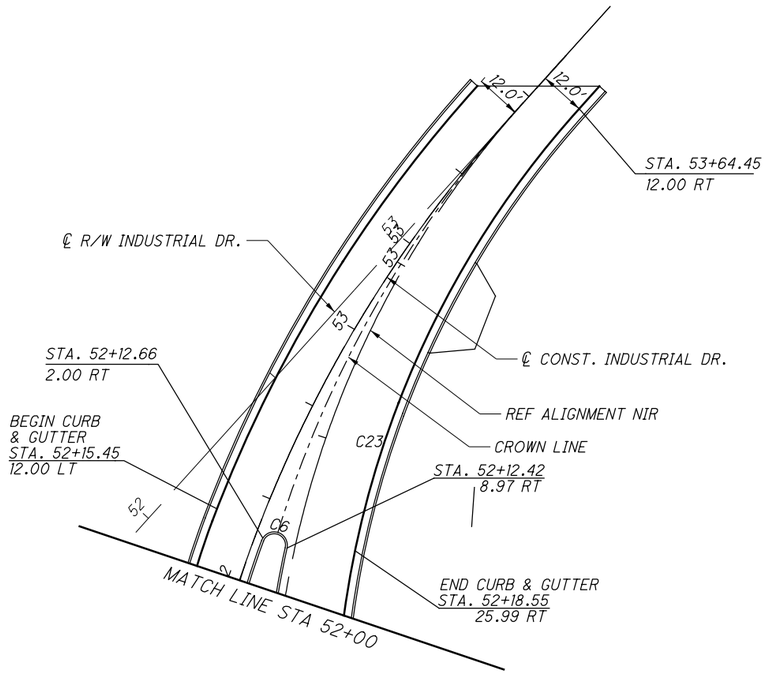
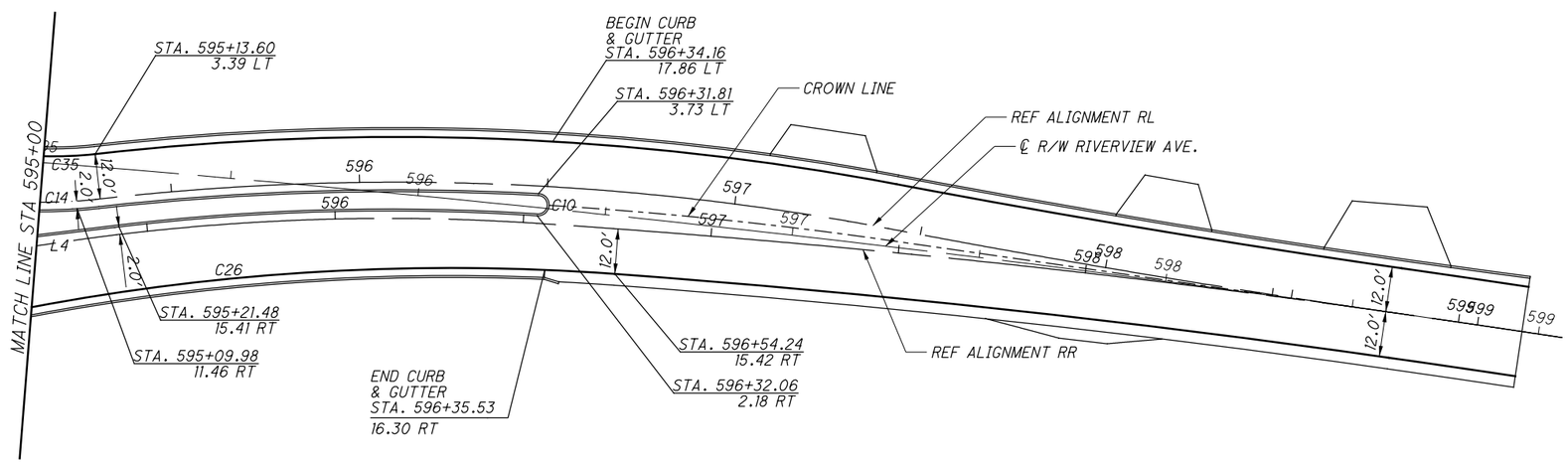


NOTE: ALL THE STATION AND OFFSET CALLOUTS ARE BASED ON ℄ CONST. INDUSTRIAL DR. OR ℄ R/W RIVERVIEW AVE.

REFERENCE ALIGNMENTS ARE INSIDE EDGE OF LANE, SEE SHEETS ** TO ** FOR DETAILS.

THE DISTANCE BETWEEN INSIDE SPLITTER ISLAND AND REFERENCE ALIGNMENT IS 2.0' UNLESS OTHERWISE NOTED.

SEE SHEET ** FOR CURVE AND LINE DATA.



NOTE: SEE SHEET XX FOR CURB AND LINE DATA

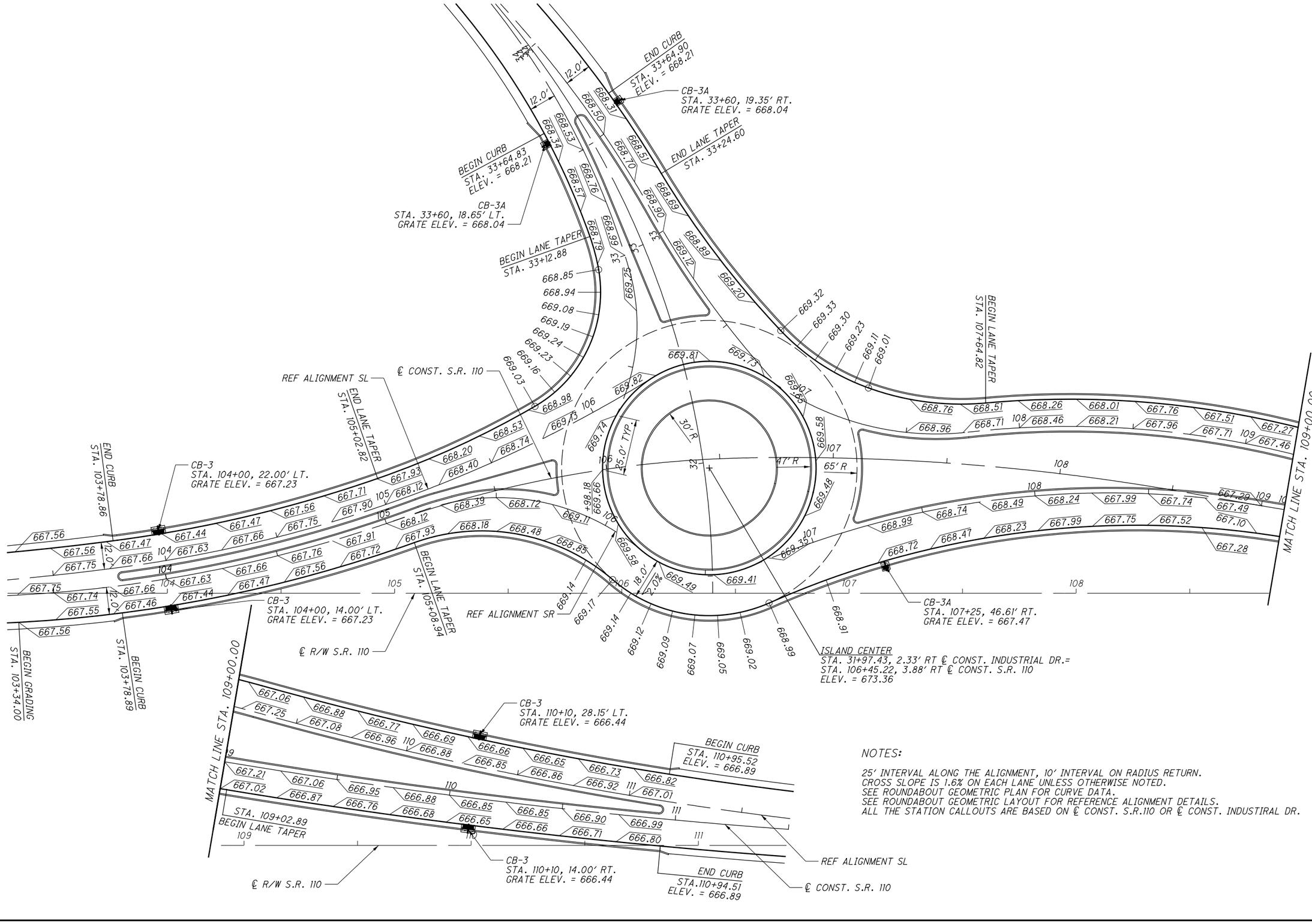
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED | CHECKED

ROUNDABOUT GEOMETRIC DETAIL
INDUSTRIAL DR. & RIVERVIEW AVE.

HEN-NEW MAUMEE RIVER BRIDGE

63
180



NOTES:

25' INTERVAL ALONG THE ALIGNMENT, 10' INTERVAL ON RADIUS RETURN.
CROSS SLOPE IS 1.6% ON EACH LANE UNLESS OTHERWISE NOTED.
SEE ROUNDABOUT GEOMETRIC PLAN FOR CURVE DATA.
SEE ROUNDABOUT GEOMETRIC LAYOUT FOR REFERENCE ALIGNMENT DETAILS.
ALL THE STATION CALLOUTS ARE BASED ON ℄ CONST. S.R.110 OR ℄ CONST. INDUSTIRAL DR.

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED
CHECKED

ROUNDABOUT GRADING DETAIL
INDUSTRIAL DR. & S.R. 110

HEN-NEW MAUMEE RIVER BRIDGE

64
180

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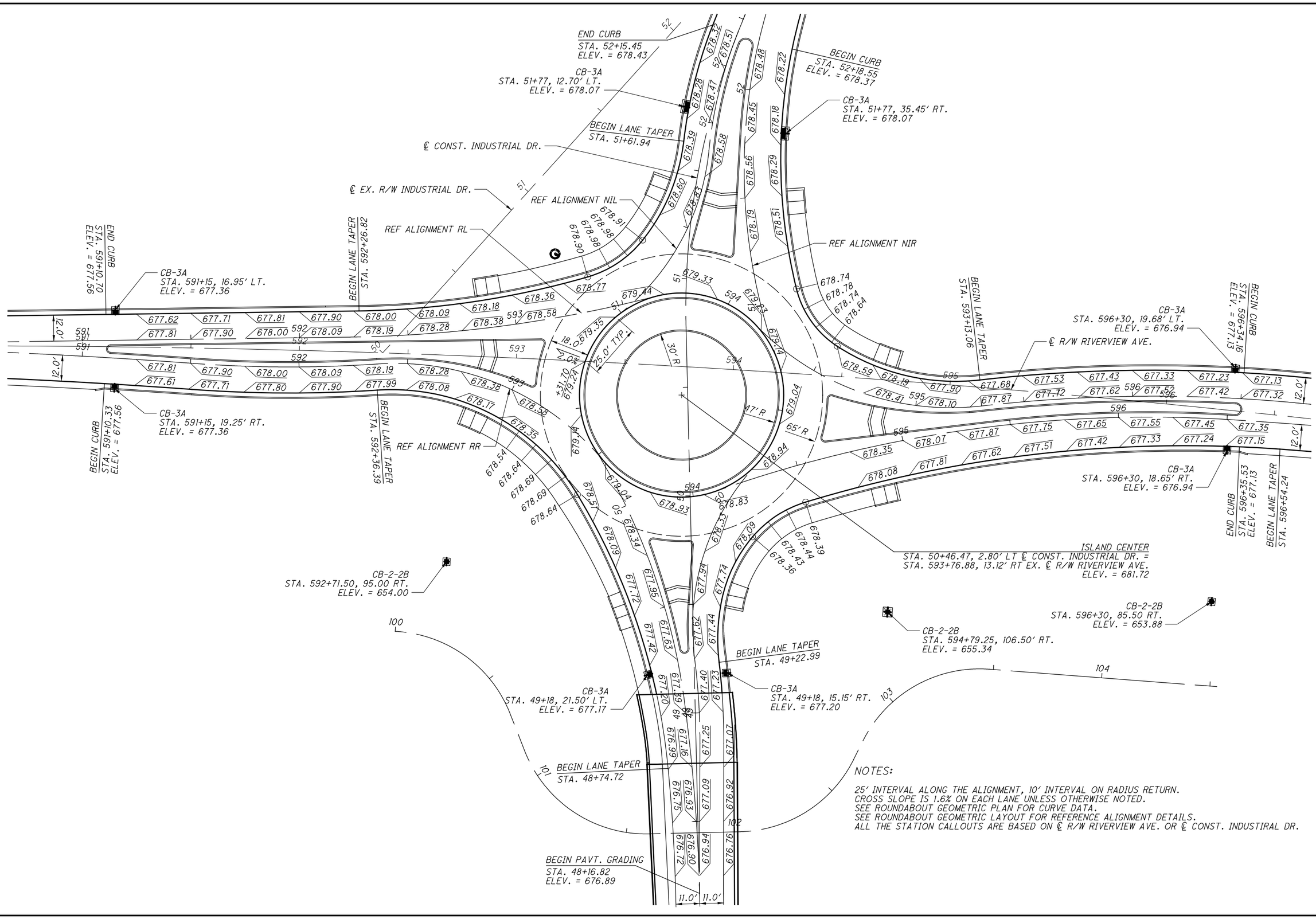

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED
CHECKED

ROUNDABOUT GRADING DETAIL
INDUSTRIAL DR. & RIVERVIEW AVE.

HEN-NEW MAUMEE RIVER BRIDGE

LEGEND

CS	CENTER LINE, DOUBLE SOLID
CP	CENTER LINE, SOLID/DASHED
DW	DOTTED LINE, WHITE 12"
EW	EDGE LINE, WHITE, 4"
EY	EDGE LINE, YELLOW, 4"
WL	CROSSWALK LINE
RR	RAILROAD SYMBOL MARKING
TY	TRANSVERSE/DIAGONAL LINE, YELLOW
YL	YIELD LINE (24" X 36' TRIANGLES)
LA	LANE ARROW

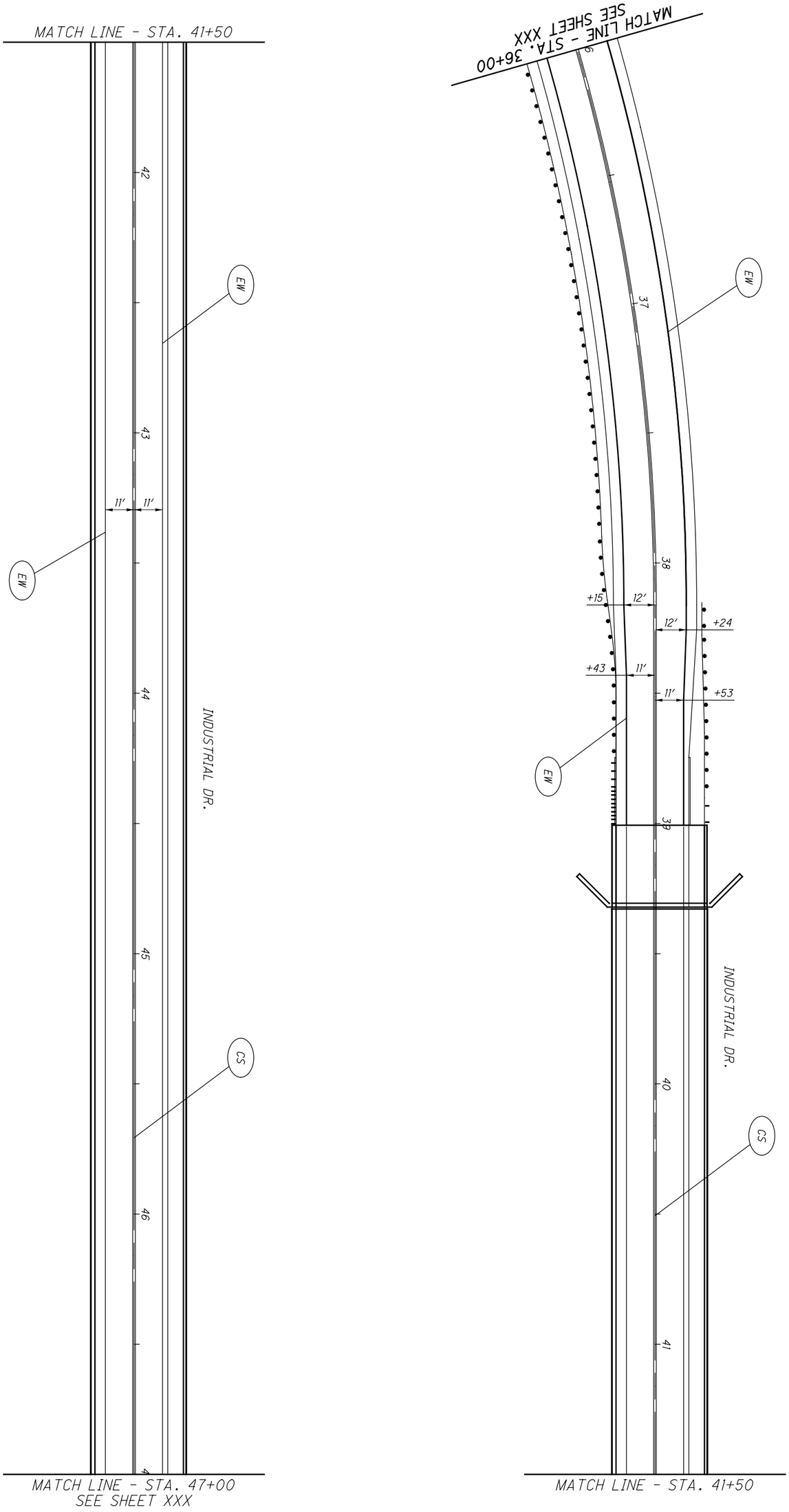
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED
CHECKED

PAVEMENT MARKING PLAN
ROUNDABOUT

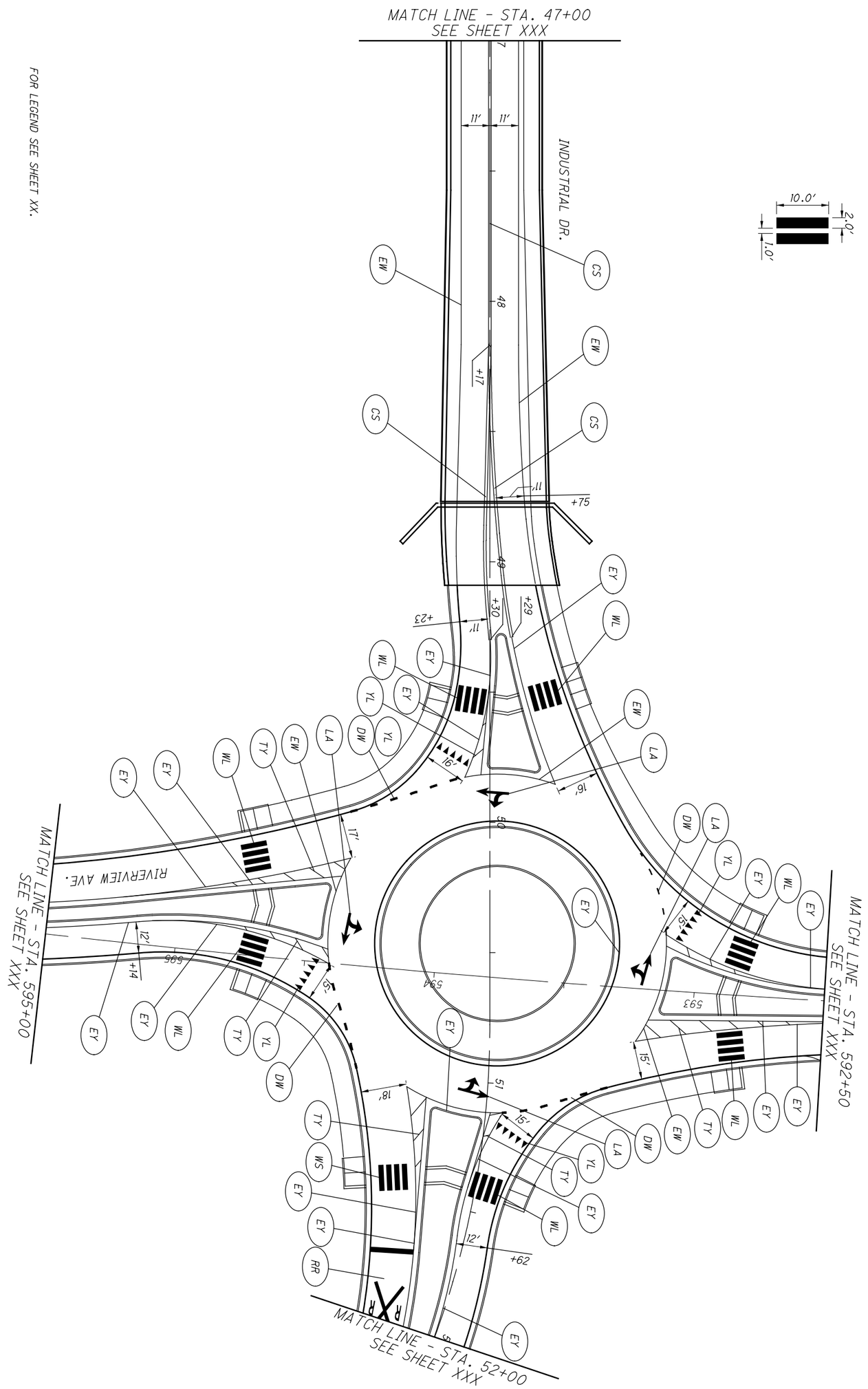
HEN-NEW MAUMEE RIVER BRIDGE

66
180

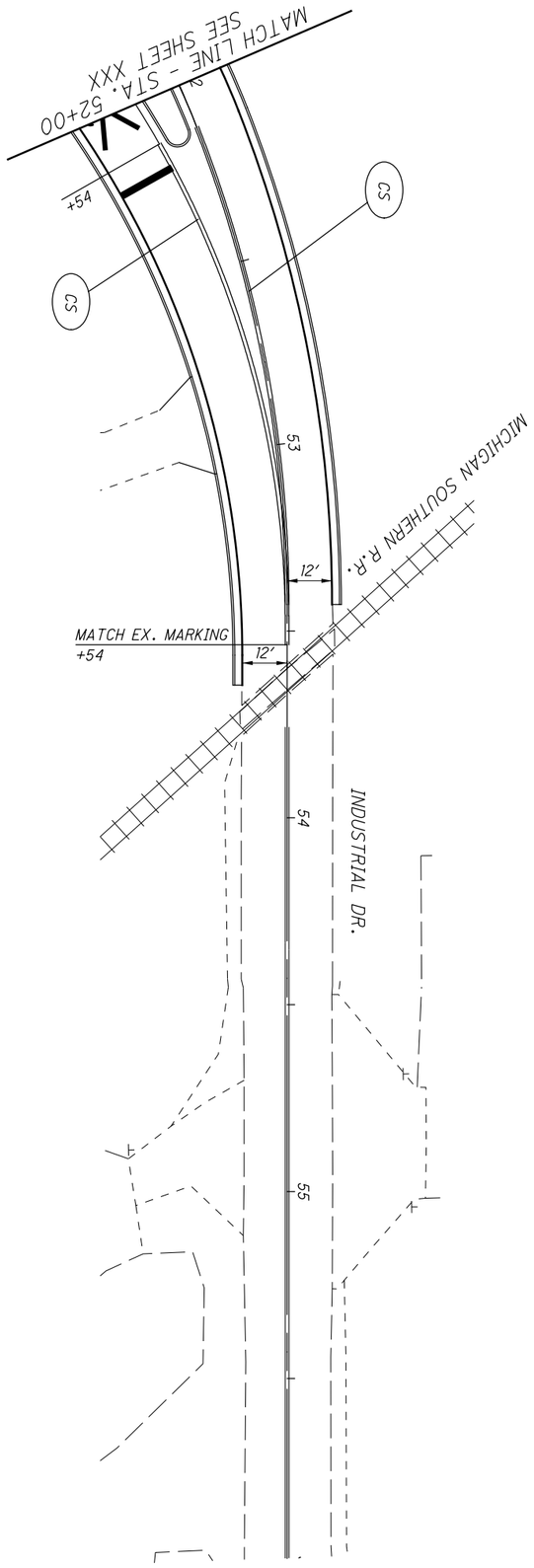


FOR LEGEND, SEE SHEET XX.

927 180	**HEN-NEW MAUMEE RIVER BRIDGE**	**SIGNING AND PAVEMENT MARKING PLAN INDUSTRIAL DR.**	CALCULATED ___ CHECKED ___	0 20 10 40 HORIZONTAL SCALE IN FEET

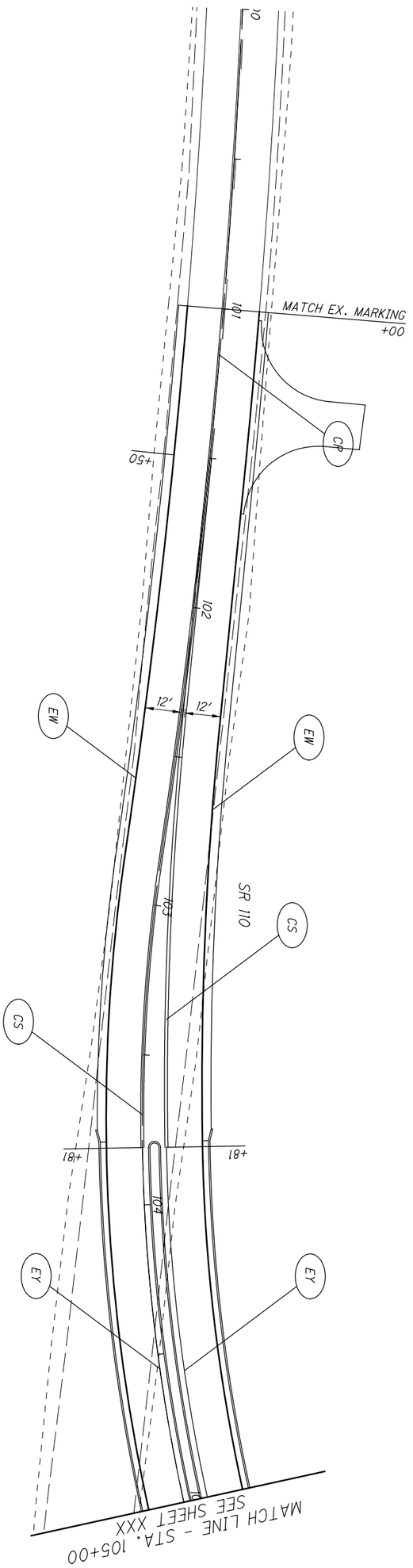


923 180	HEN-INDUSTRIAL DR.	PAVEMENT MARKING PLAN ROUNDABOUT	CALCULATED ___ CHECKED ___ HORIZONTAL SCALE IN FEET



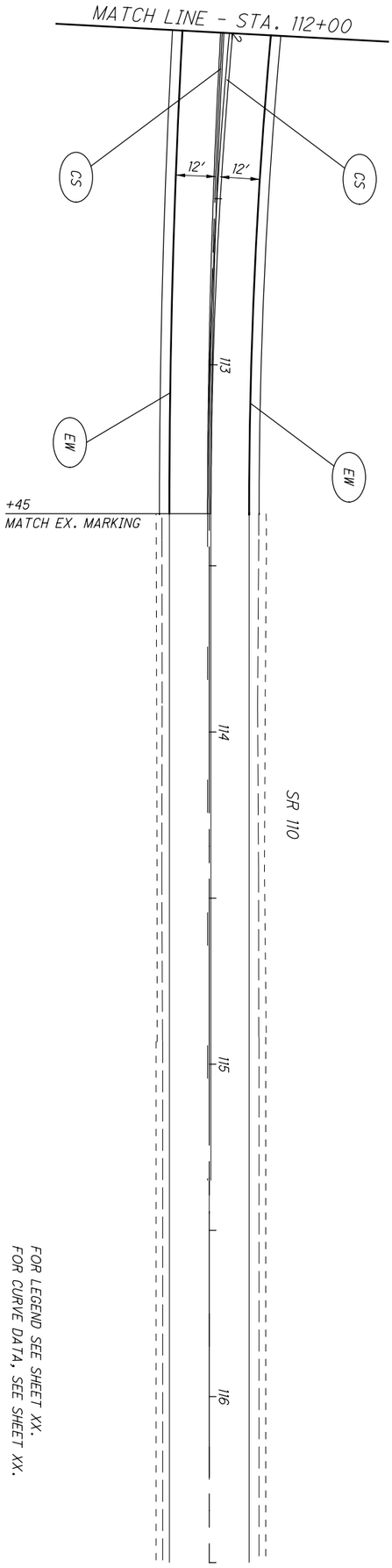
FOR LEGEND, SEE SHEET XX.

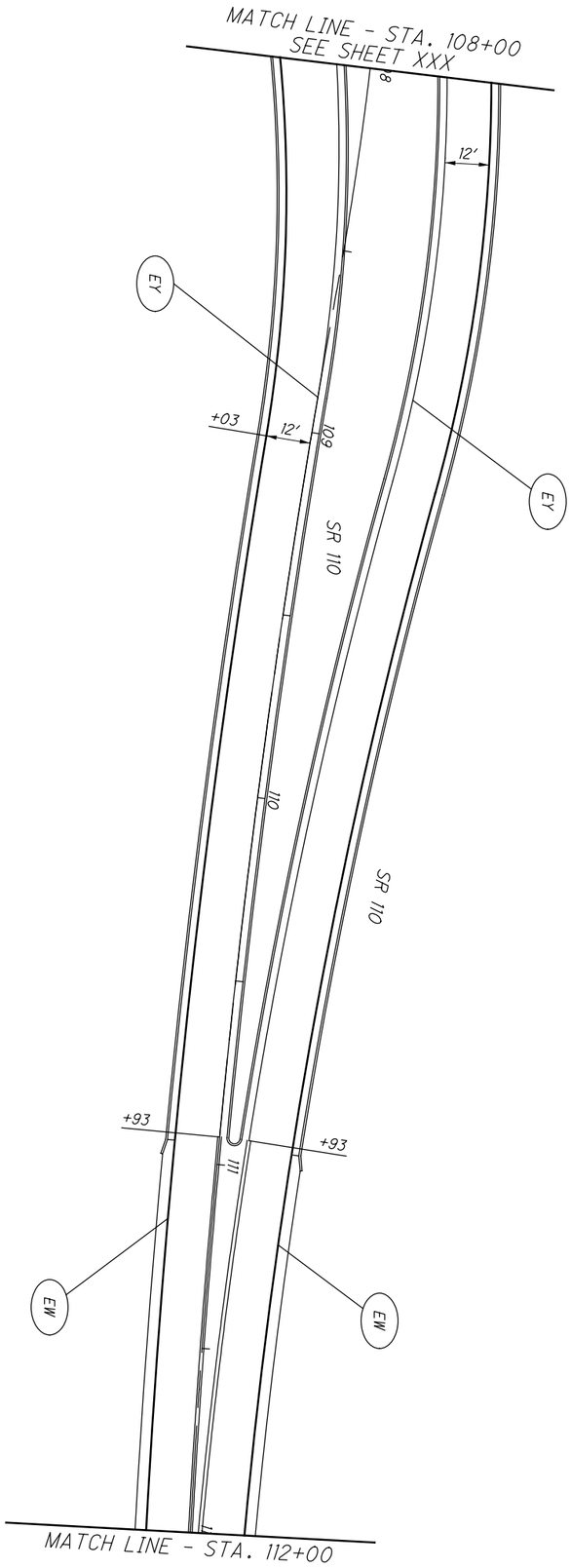
180	HEN-NEW MAUMEE RIVER BRIDGE	SIGNING AND PAVEMENT MARKING PLAN INDUSTRIAL DR.	CALCULATED CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET



FOR LEGEND, SEE SHEET XX.

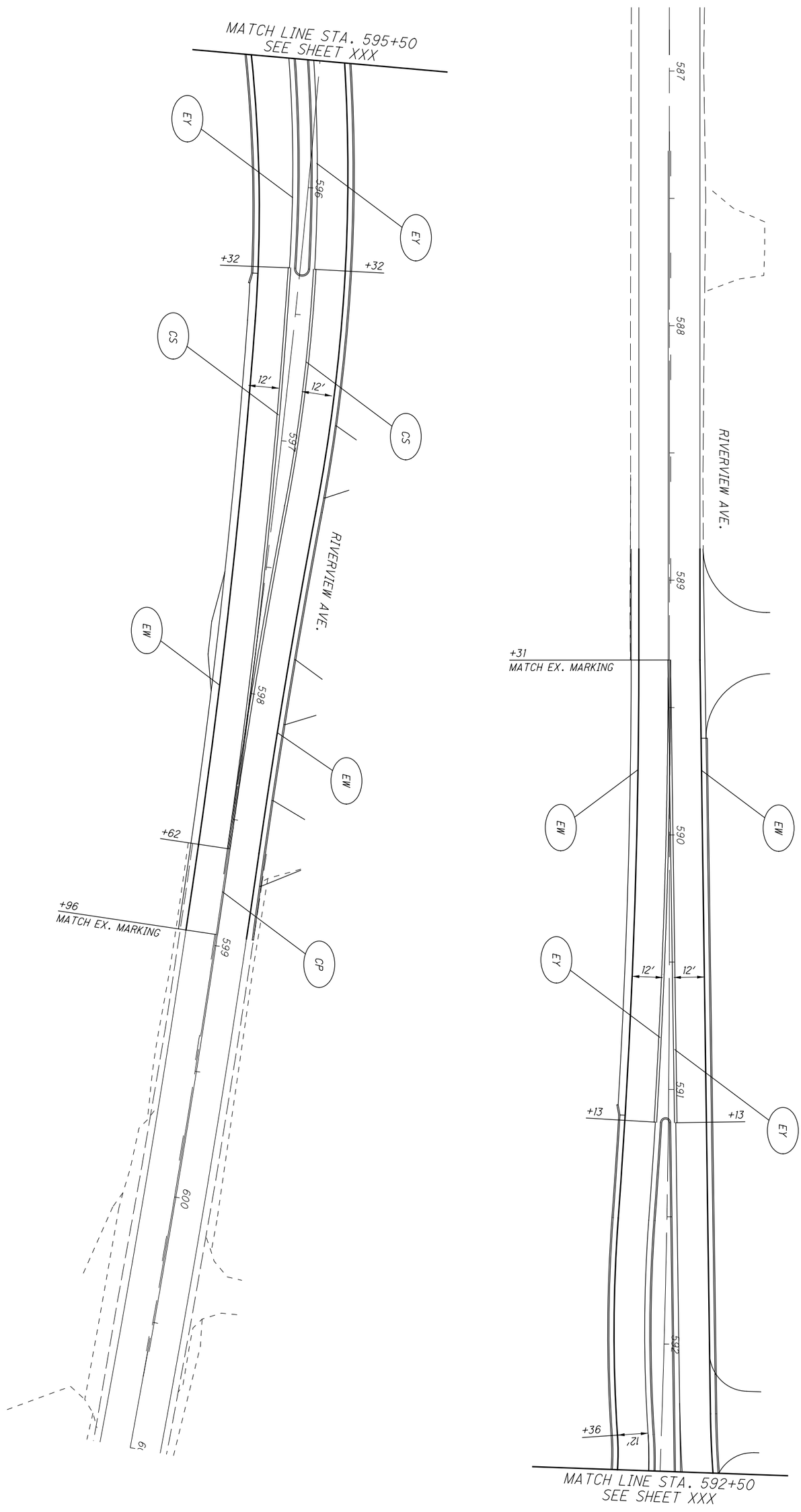
20 / 180	HEN-NEW MAUMEE RIVER BRIDGE	SIGNING AND PAVEMENT MARKING PLAN SR 110	CALCULATED ___ CHECKED ___	0 20 10 40 HORIZONTAL SCALE IN FEET





FOR LEGEND SEE SHEET XX.
FOR CURVE DATA, SEE SHEET XX.

77 / 180	HEN-NEW MAUMEE RIVER BRIDGE	SIGNING AND PAVEMENT MARKING PLAN SR 110	CALCULATED ___ CHECKED ___	0 20 10 40 HORIZONTAL SCALE IN FEET



72 / 180	**HEN-NEW MAUMEE RIVER BRIDGE**	**SIGNING AND PAVEMENT MARKING PLAN RIVERVIEW AVE.**	CALCULATED ___ CHECKED ___	0 10 20 40 HORIZONTAL SCALE IN FEET

LEGEND

EXISTING SIGN TO REMAIN

EXISTING SIGN TO BE REMOVED

PROPOSED SIGN

1	2	3
R6-4-30	R1-2-36	W11-2-30
		W16-7PL-24

MATCH LINE - STA. 105+00
SEE SHEET XXX

2 STA. 105+74

2 STA. 105+65

1 STA. 106+18

WEST
M3-4-24
110
M1-5-30-3

M6-2-21
STA. 105+75

1 STA. 106+32

2 STA. 32+78

2 STA. 32+68

INDUSTRIAL DR.

MATCH LINE - STA. 36+00
SEE SHEET XXX

M6-2-21
STA. 107+13

M1-5-30-3
110
M3-2-24
EAST

SR 110

1 STA . 106+70

2 STA. 107+17

2 STA. 107+15

Industrial Dr
D1-H1A-48
STA. 32+66

R2-1-30
STA. 33+65

SPEED LIMIT 35

MATCH LINE - STA. 108+00
SEE SHEET XXX

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED
CHECKED

ROUNDABOUT SIGNING PLAN
INDUSTRIAL DR.

HEN-NEW MAUMEE RIVER BRIDGE

73
180

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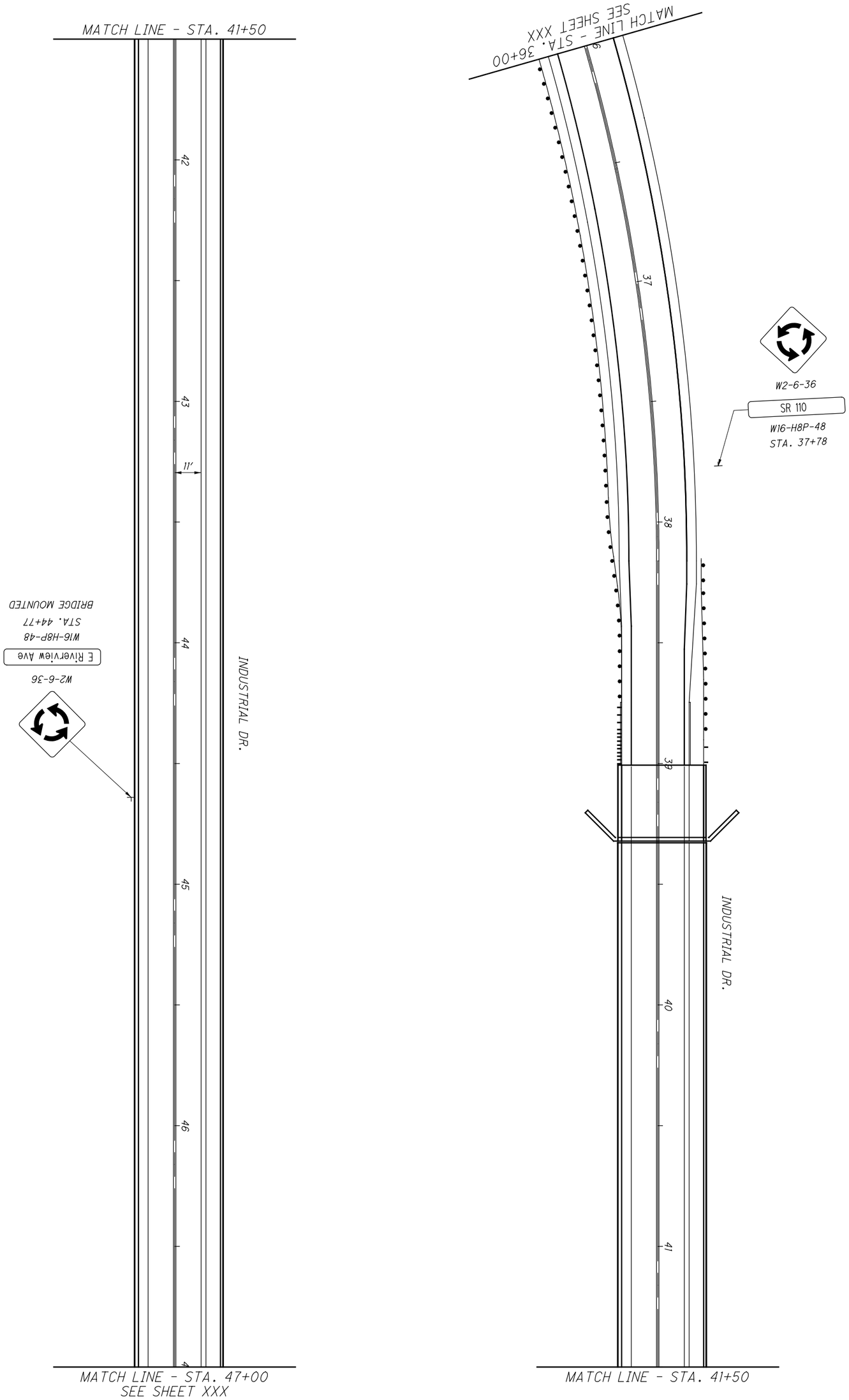


74 / 180	HEN-NEW MAUMEE RIVER BRIDGE	SIGNING AND PAVEMENT MARKING PLAN INDUSTRIAL DR.	CALCULATED ___ CHECKED ___	0 20 10 40 HORIZONTAL SCALE IN FEET

FOR LEGEND SEE SHEET

HORIZONTAL SCALE IN FEET

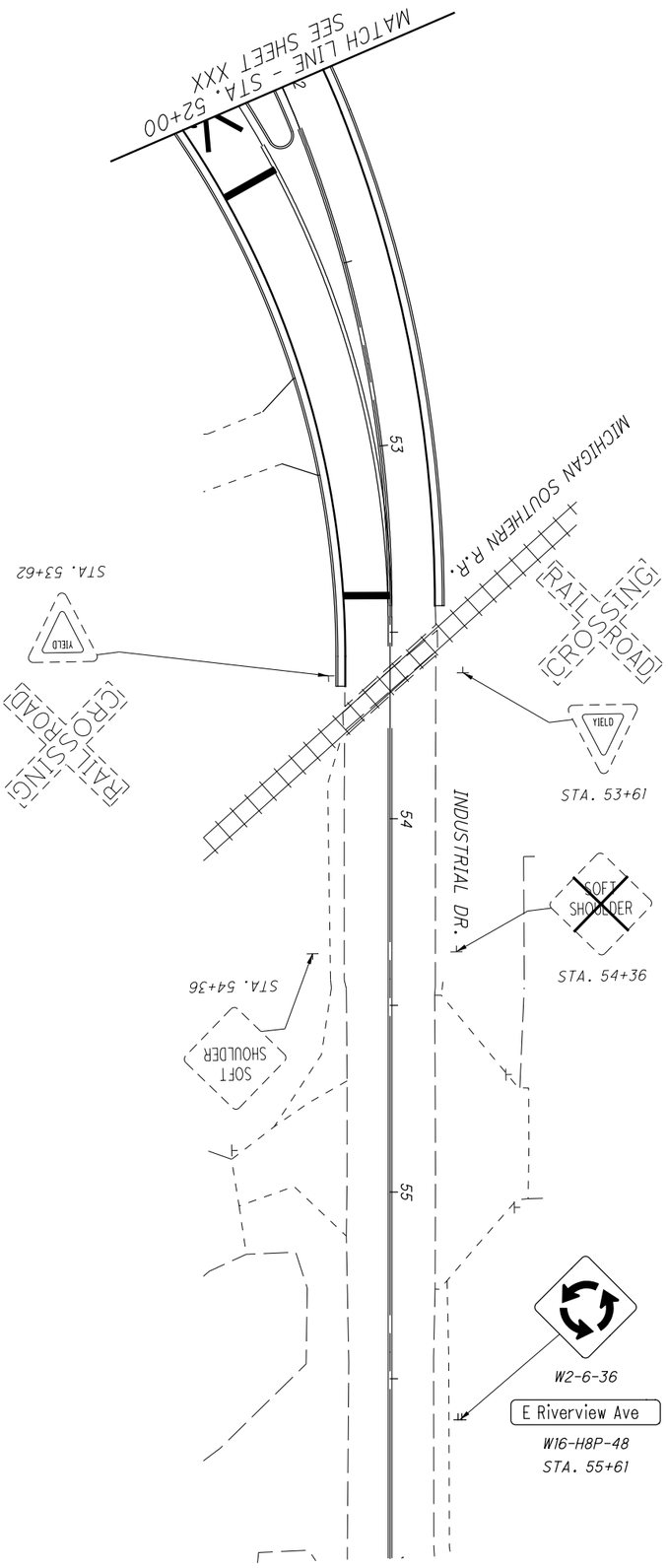
0

CALCULATED

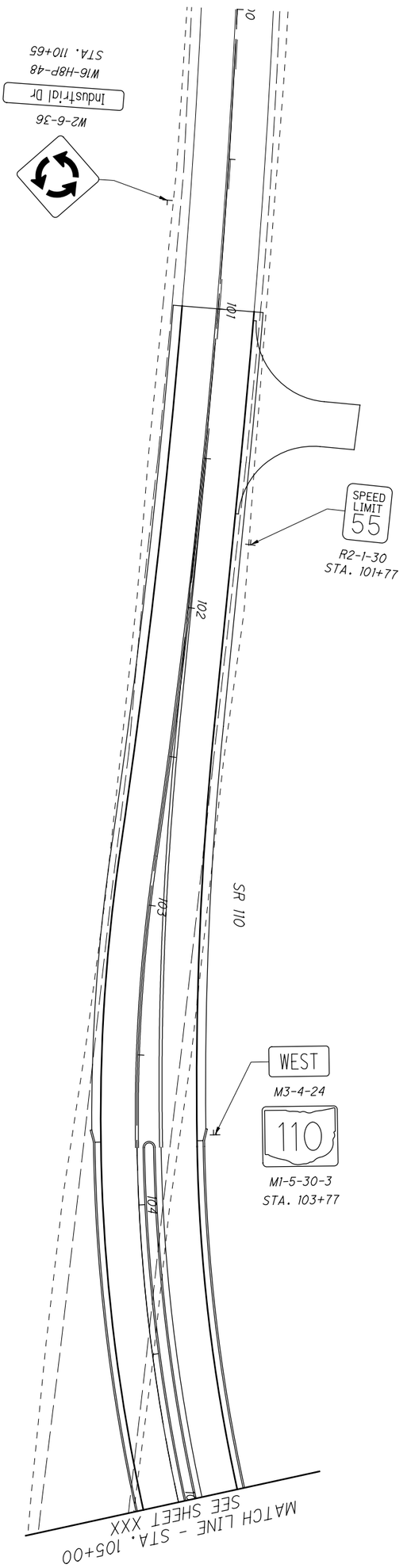
CHECKED

SIGNING PLAN ROUNDABOUT

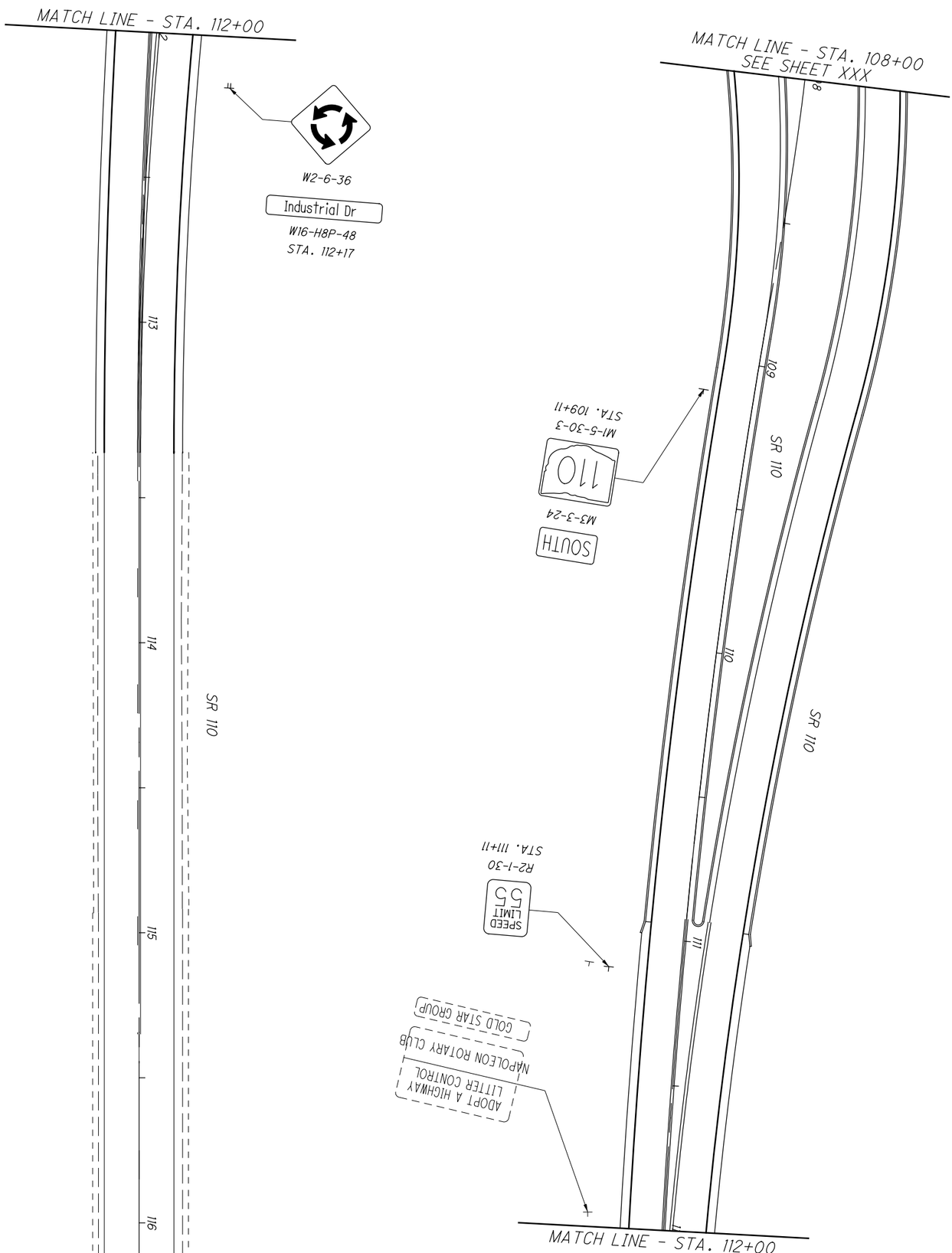
HEN-NEW MAUMEE RIVER BRIDGE



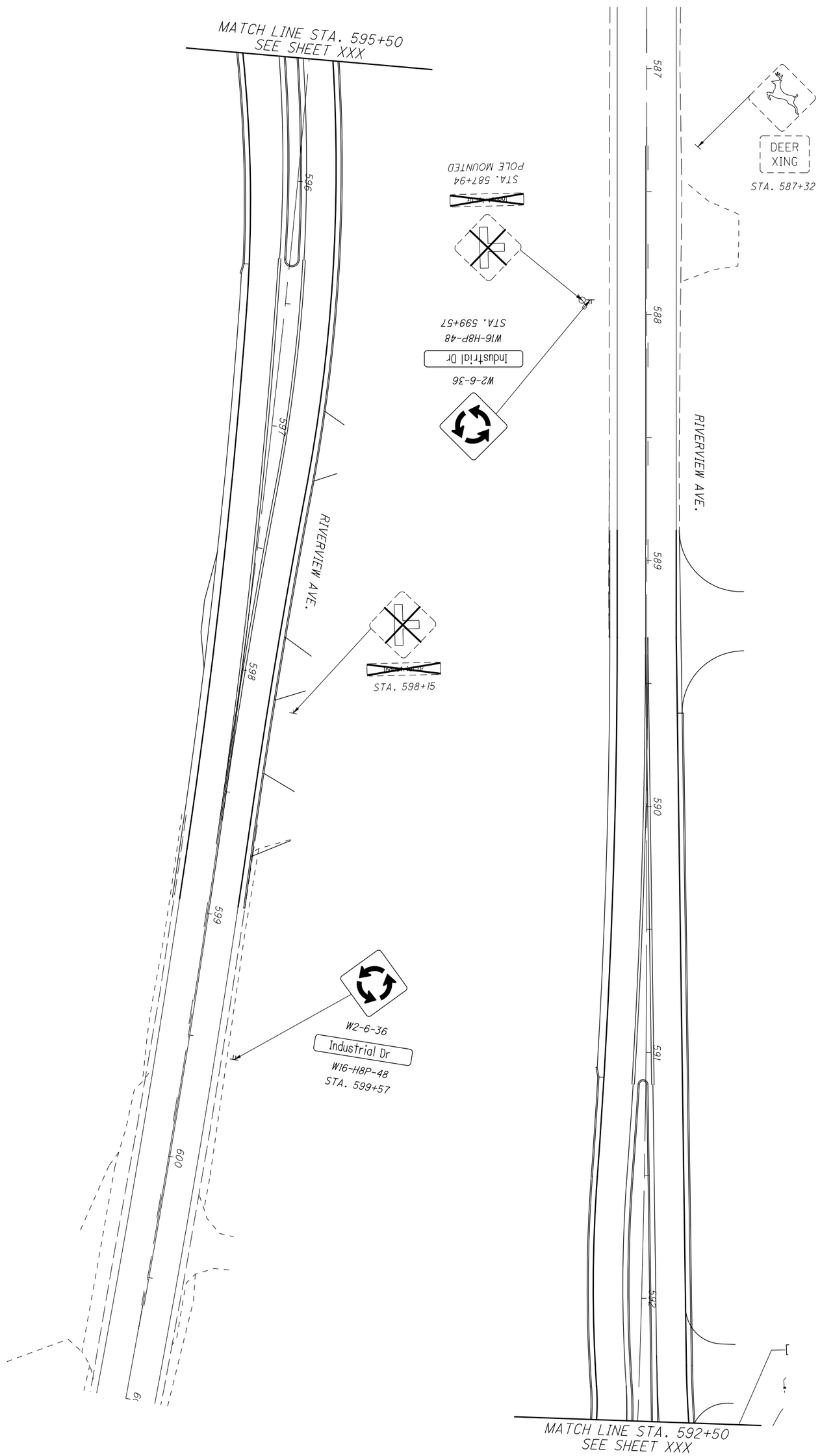
26 of 180	HEN-NEW MAUMEE RIVER BRIDGE	SIGNING AND PAVEMENT MARKING PLAN INDUSTRIAL DR.	CALCULATED ___ CHECKED ___	0 20 10 40 HORIZONTAL SCALE IN FEET



77 / 180	**HEN-NEW MAUMEE RIVER BRIDGE**	**SIGNING AND PAVEMENT MARKING PLAN SR 110**	CALCULATED ___ CHECKED ___	0 10 20 40 HORIZONTAL SCALE IN FEET



226 180	HEN-NEW MAUMEE RIVER BRIDGE	SIGNING AND PAVEMENT MARKING PLAN SR 110	CALCULATED ___ CHECKED ___	0 20 10 40 HORIZONTAL SCALE IN FEET



25 180	HEN-NEW MAUMEE RIVER BRIDGE	SIGNING AND PAVEMENT MARKING PLAN RIVERVIEW AVE.	CALCULATED ___ CHECKED ___	0 20 10 40 HORIZONTAL SCALE IN FEET

SPECIFICATIONS

LIGHTING GENERAL NOTES ARE SUPPLEMENTAL TO ITEMS 625 AND 725 OF THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS, DATED JANUARY 1, 2013, WHICH SHALL GOVERN ALL WORK OF THIS PROJECT, EXCEPT AS HEREINAFTER MODIFIED.

REFERENCES SHALL BE MADE TO STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET.

UNDERDRAINS FOR PULL BOXES

REFERENCE IS MADE TO ODOT STANDARD DRAWING HL-30.11 FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED 20 FEET. THE COST FOR THIS WORK IS TO BE INCLUDED IN THE PULLBOX ITEMS.

625, POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

TOLEDO EDISON
MS: A-HLOC-2332
6099 ANGOLA ROAD
TOLEDO, OHIO, 43528
MR. BRAD RUETZ
419-249-5903

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH CMS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

CONTROL CENTER DATA

CONTROL CENTER	LINE VOLTS	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CONDUCTOR SIZE-AWG	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD AMPS	CIRCUIT FUSE SIZE AMPS	CIRCUIT FUSE SIZE AWG	MAINTAINING AGENCY
	120/240V SINGLE PHASE		PER TOLEDO EDISON	100					ODOT / CITY

NOTE: FOR ADDITIONAL CONTROL CENTER DETAILS, SEE STANDARD DRAWINGS

CALCULATED ___ CHECKED ___

LIGHTING NOTES

HEN-NEW MAUMEE RIVER BRIDGE

80
180

PLAN LEGEND

- PROPOSED POWER SERVICE
- A /// NO. 4 — 1-1/2" DUCT CABLE IN 24" DEEP TRENCH (CIRCUIT, AWG SIZE, #CONDUCTORS)
- CIRCUIT PB-X# PB REF. NO. — PULL BOX, (725.08, 18")
- EXISTING LUMINAIRE & BRACKET ARM
- EXISTING WOOD LIGHT POLE/ UTILITY POLE
- PROPOSED X" CONDUIT
- PROPOSED LUMINAIRE & BRACKET ARM
- CIRCUIT LP-X# POLE REF. NO. — PROPOSED HL-10.12 LIGHT POLE & HL-20.11 LIGHT POLE FOUNDATION

PB-A-3 PULL BOX STA 593+52, 98 LT

LP-A-3 LIGHT POLE STA 593+52, 77 LT

LP-A-2 LIGHT POLE STA 592+92, 41 LT

LP-A-8 LIGHT POLE STA 592+83, 76 RT

LP-A-1 LIGHT POLE STA 593+45, 106 RT

PB-A-1 PULL BOX STA 593+48, 122 RT

PULL BOX STA. 594+25, 95 LT PB-A-4

Light Pole 594+31, 72 LT LP-A-4

LIGHT POLE STA 594+65, 19 LT LP-A-5

PULL BOX STA 595+11, 15 LT PB-A-5

PULL BOX STA 595+29, 45 RT PB-A-6

LIGHT POLE STA 594+68, 61 RT LP-A-6

LIGHT POLE STA 594+16, 98 RT LP-A-7

PULL BOX STA. 594+16, 190 RT PB-A-2

CONST. LIMIT

RIVERVIEW AVE

INDUSTRIAL DRIVE

S 00° 00' 00" E

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HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED CHECKED

LIGHTING PLAN
RIVERVIEW AVE. AND INDUSTRIAL DR.

HEN-NEW MAUMEE
RIVER BRIDGE

81
180

PLAN LEGEND

- PROPOSED POWER SERVICE
- A /// NO. 4 — 1-1/2" DUCT CABLE IN 24" DEEP TRENCH (CIRCUIT, AWG SIZE, #CONDUCTORS)
- CIRCUIT PB-X# PB REF. NO. — PULL BOX, (725.08, 18")
- EXISTING LUMINAIRE & BRACKET ARM
- EXISTING WOOD LIGHT POLE/ UTILITY POLE
- PROPOSED X" CONDUIT
- PROPOSED LUMINAIRE & BRACKET ARM
- CIRCUIT LP-X# POLE REF. NO. — PROPOSED HL-10.12 LIGHT POLE & HL-20.11 LIGHT POLE FOUNDATION

PB-B-4 PULL BOX STA. 106+30, 134' LT

LP-B-6 LIGHT POLE STA. 106+41, 121' LT

LP-B-5 LIGHT POLE STA. 107+18, 46' LT

PB-B-1 PULL BOX STA. 105+80, 110' LT

LP-B-1 LIGHT POLE STA. 105+83, 97' LT

LP-B-2 LIGHT POLE STA. 105+46, 28' LT

PB-B-2 PULL BOX STA. 105+34, 26' LT

LP-B-4 LIGHT POLE STA. 107+19, 45' RT

LP-B-3 LIGHT POLE STA. 105+43, 28' RT

PB-B-3 PULL BOX STA. 105+31, 24' RT

℄ CONST. INDUSTRIAL DR.

℄ CONST. S.R. 110

CONST. LIMIT

R/W

Ex R/W

GRASS

GRAVEL

ASPH.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED

CHECKED

LIGHTING PLAN
S.R. 110 AND INDUSTRIAL DRIVE
HEN-NEW MAUMEE RIVER BRIDGE

82
180

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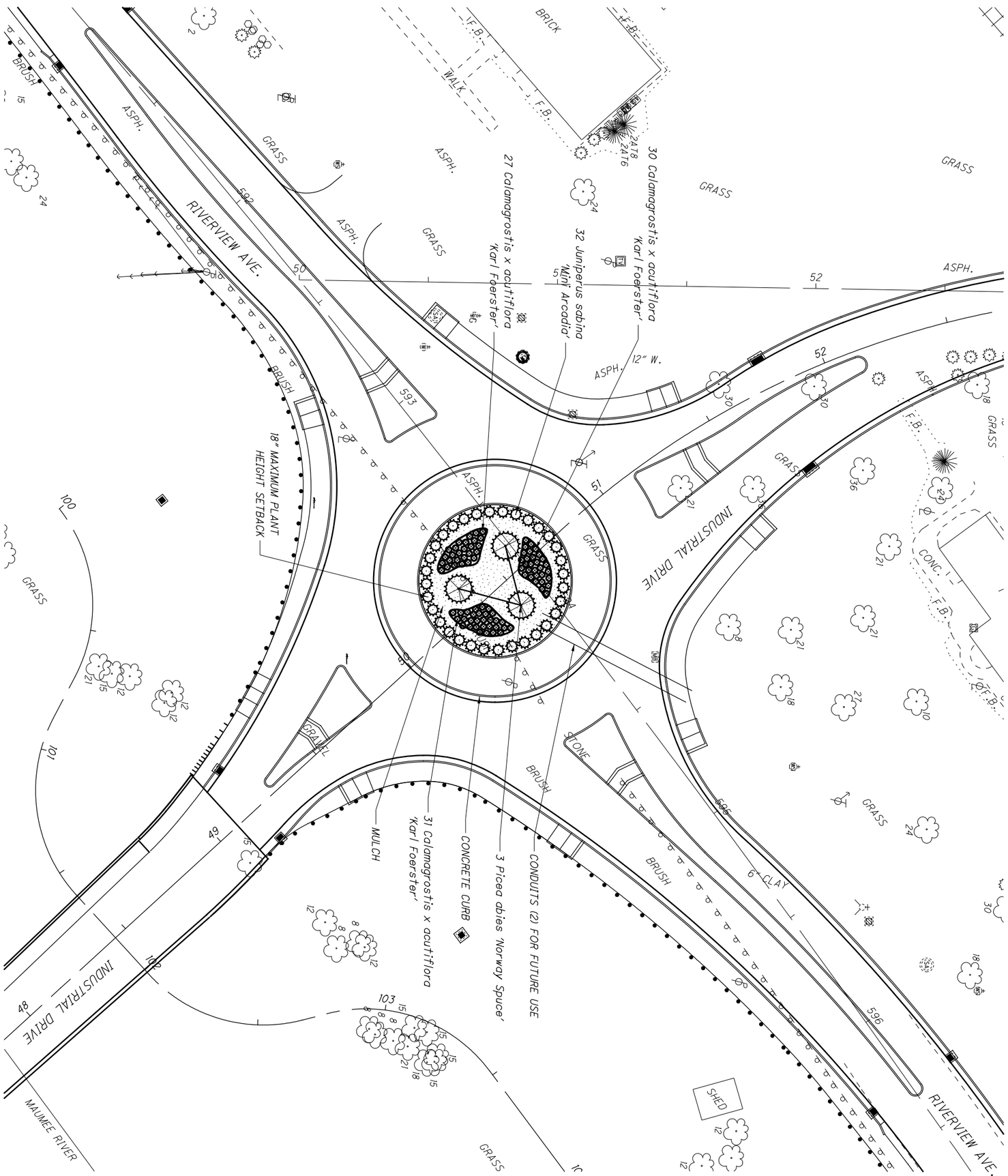


ITEM	KEY	DESCRIPTION: BOTANICAL NAME-COMMON NAME	SIZE	COND.	QTY.
1		Juniperus sabina - 'Mini Arcadia'	12"	Cont.	32
2		Picea abies - 'Norway Spuce'	8'	B&B	3
3		Calamagrostis x acutiflora - 'Karl Foerster'	1 Gal.	Cont.	88
4		MULCH	C.Y.		37
5		LANDSCAPE WATERING	M GAL		700

NOTES:

1980	HEN-NEW MAUMEE RIVER BRIDGE	LANDSCAPE PLAN	CALCULATED / CHECKED	0 20 / 10 40 HORIZONTAL SCALE IN FEET

NOTES:

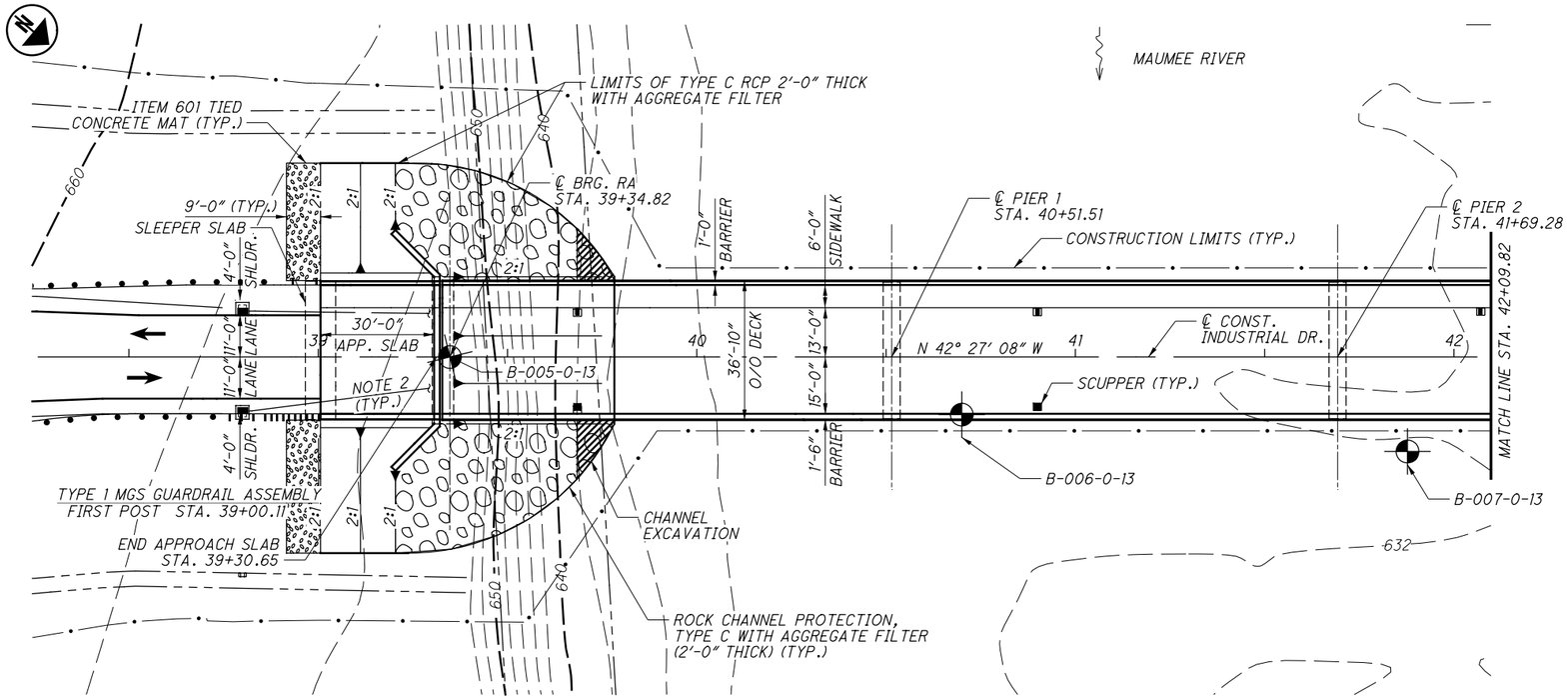
ITEM	KEY	DESCRIPTION: BOTANICAL NAME-COMMON NAME	COND.	QTY.	SIZE
1		*Juniperus sabina - 'Mini Arcadia'*	*Cont.*	*32*	*12"*
2		*Picea abies - 'Norway Spuce'*	*B&B*	*3*	*8'*
3		*Calamagrostis x acutiflora - 'Karl Foerster'*	*Cont.*	*88*	*1 Gal.*
4		*MULCH*		*37*	*C.Y.*
5		*LANDSCAPE WATERING*		*100*	*M GAL*

HORIZONTAL SCALE IN FEET
0 10 20 40

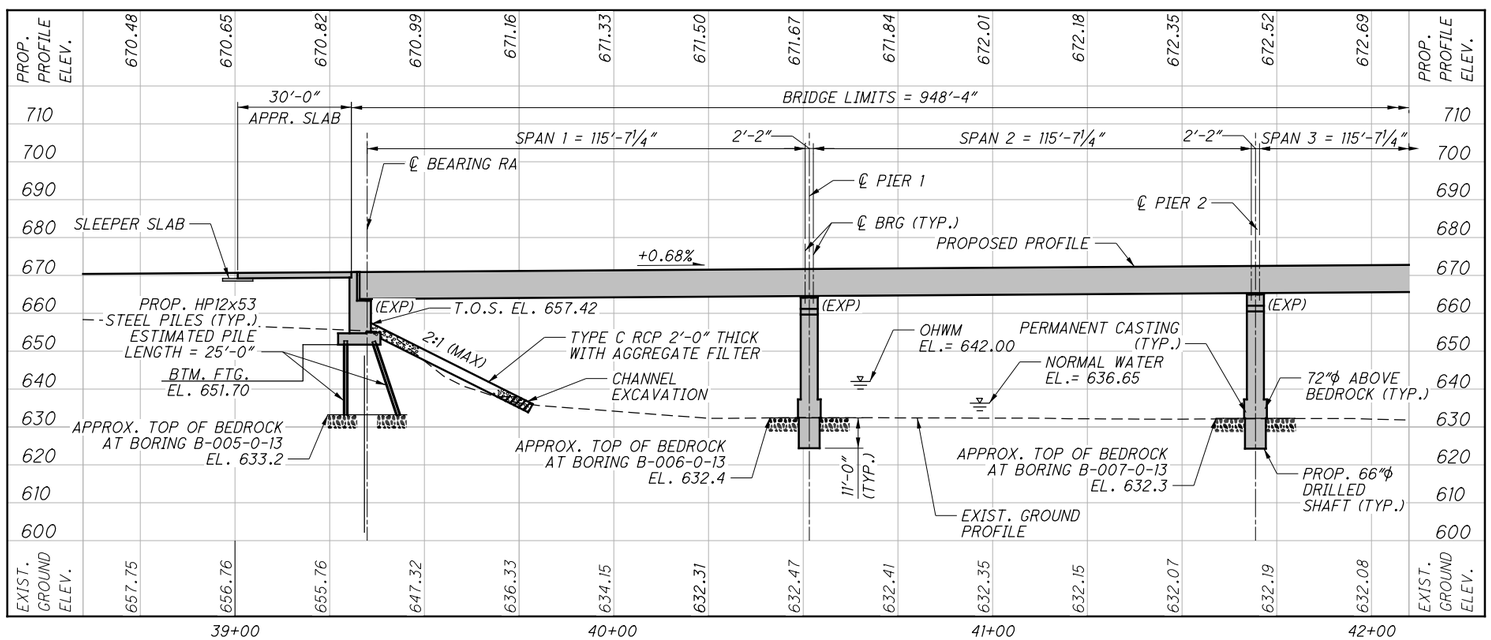
CALCULATED | CHECKED

LANDSCAPE PLAN

HEN-NEW MAUMEE RIVER BRIDGE



PART PLAN



PART PROFILE ALONG ℄ CONST. INDUSTRIAL DRIVE

BENCHMARK DATA		
BM #1 STA. 55+02.58	ELEV. 672.71	OFFSET 19.45' RT
BM #2 STA. 65+94.80	ELEV. 680.83	OFFSET 134.94' LT
BM #3 STA.	ELEV.	OFFSET
BM #4 STA.	ELEV.	OFFSET

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. 12"ϕ PVC, SDR 35 (707.45), OUTLET TO CATCH BASINS. SEE ROADWAY PLANS FOR MORE INFORMATION.

DESIGN TRAFFIC:
2015 ADT = 7660 2015 ADTT = 690
2035 ADT = 9860 2035 ADTT = 890
DIRECTIONAL DISTRIBUTION = 0.55

LEGEND

- ⌖ - BORING LOCATION
- ▨ - CHANNEL EXCAVATION
- T.O.S. - TOP OF SLOPE
- RCP - ROCK CHANNEL PROTECTION
- ⣿ - CONCRETE MAT
- ▬ - PROPOSED STRUCTURE

HYDRAULIC DATA

DRAINAGE AREA = 5650 SQ. MILES
Q (25) = 87780 CFS V (25) = 5.00 FT/S
Q (100) = 110100 CFS V (100) = 5.49 FT/S
STRUCTURE CLEARS THE 25 YEAR
DESIGN HW BY 8.48 FEET.

APPROXIMATE TOP OF BEDROCK ELEVATIONS

B-005-0-13	EL. 633.2
B-006-0-13	EL. 632.4
B-007-0-13	EL. 632.3
B-008-0-13	EL. 631.0
B-008-1-13	EL. 631.8
B-009-0-13	EL. 632.2
B-010-0-13	EL. 634.3
B-011-0-13	EL. 631.3
B-012-0-13	EL. 634.8
B-013-1-13	EL. 631.3

PROPOSED STRUCTURE

TYPE: EIGHT SPAN COMPOSITE PRESTRESSED I-BEAM SUPERSTRUCTURE WITH REINFORCED CONCRETE DECK SUPPORTED BY REINFORCED CONCRETE ABUTMENTS AND PIERS WITH SLOPED EMBANKMENTS

SPANS: 8 SPANS @ 115'-7¼", 115'-7¼", 115'-7¼", 115'-7¼", 115'-7¼", 115'-7¼", 115'-7¼" AND 115'-7¼" C/C BEARINGS MEASURED ALONG ℄ CONSTRUCTION INDUSTRIAL DR.

ROADWAY: VARIABLE WIDTH 28'-0" MIN. TO 32'-0" MAX. TOE/TOE BARRIER WITH 6'-0" SIDEWALK (LEFT SIDE)

LOADING: HL-93 W/ 60 PSF FUTURE WEARING SURFACE

SKEW: NONE

APPROACH SLABS: 30'-0" LONG (AS-1-15) MODIFIED

ALIGNMENT: TANGENT

CROWN: 0.016 FT/FT

WEARING SURFACE: 1" MONOLITHIC CONCRETE

COORDINATES: LATITUDE N 41° 24' 17"
LONGITUDE W 84° 06' 14"

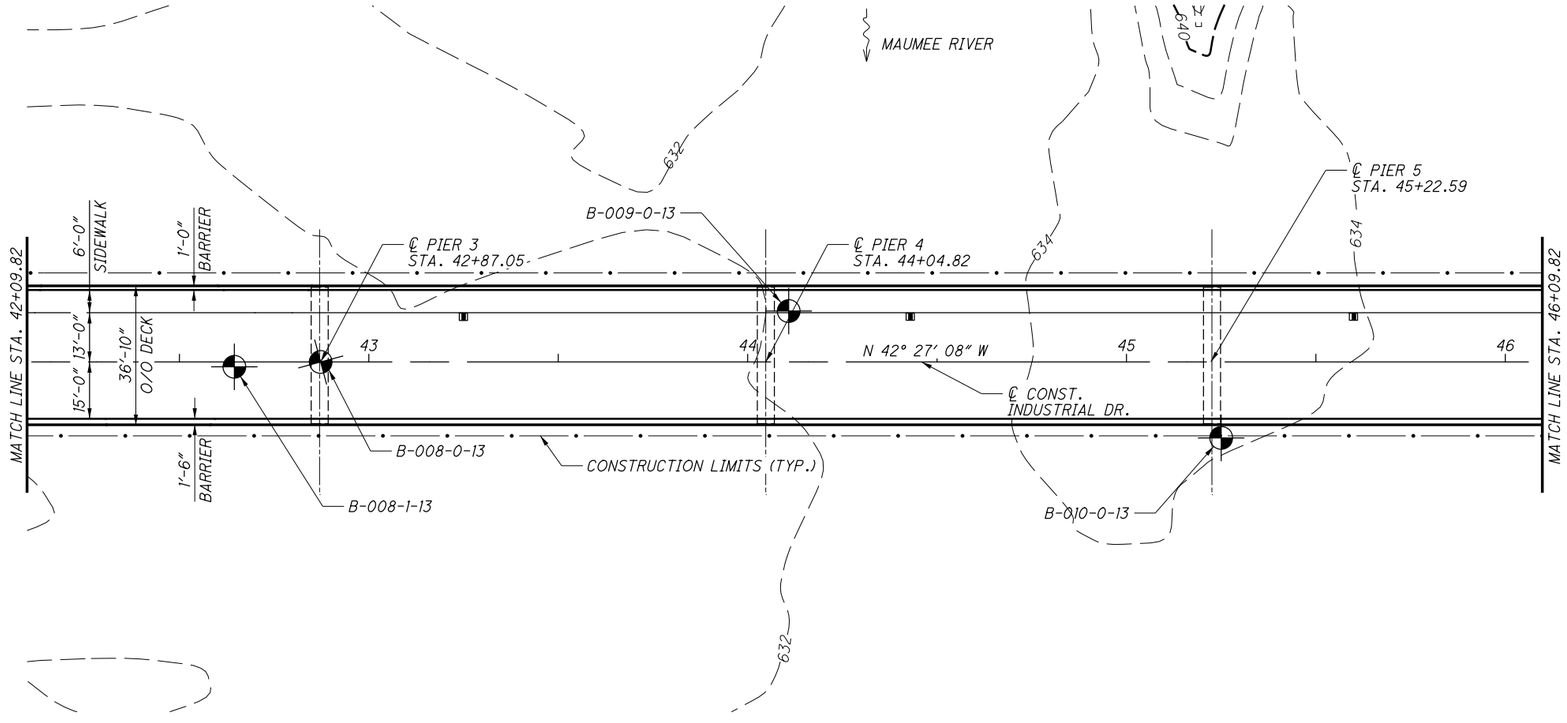
Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN AMK | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED | STRUCTURE FILE NUMBER TBD

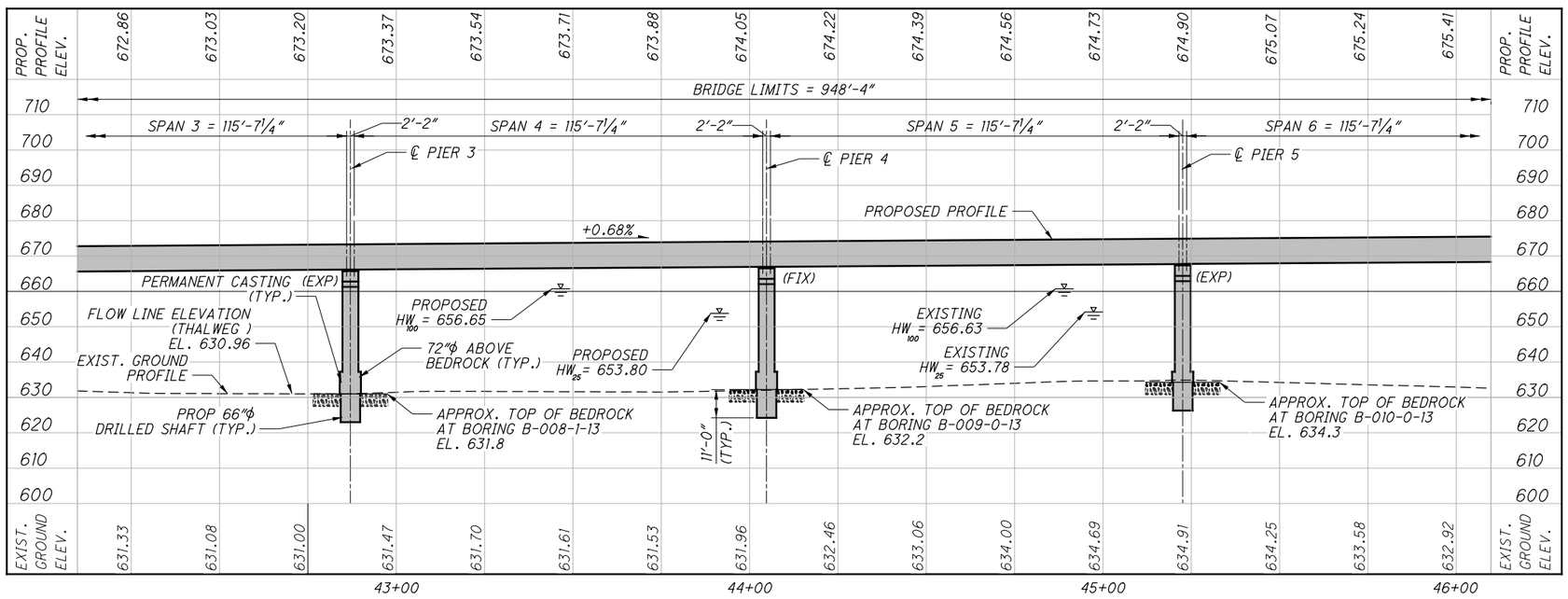
HENRY COUNTY
STA. 39+46.50
STA. 48+93.50

SITE PLAN
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



PART PLAN



PART PROFILE ALONG ℄ CONST. INDUSTRIAL DRIVE

NOTES

1. FOR PLAN NOTES AND LEGEND SEE SHEET 1/64

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	AMK	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT		TBD	

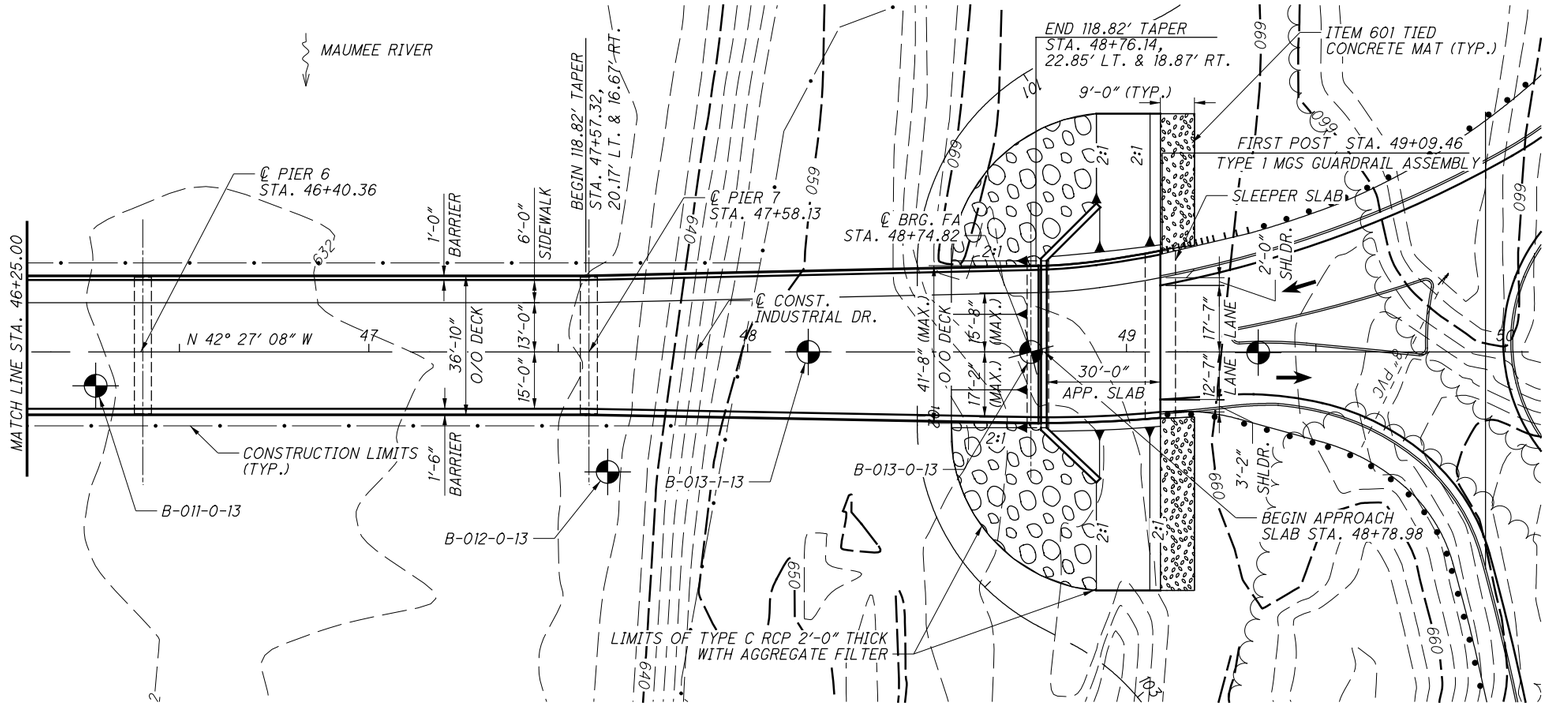
HENRY COUNTY
STA. 39+46.50
STA. 48+93.50

SITE PLAN
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

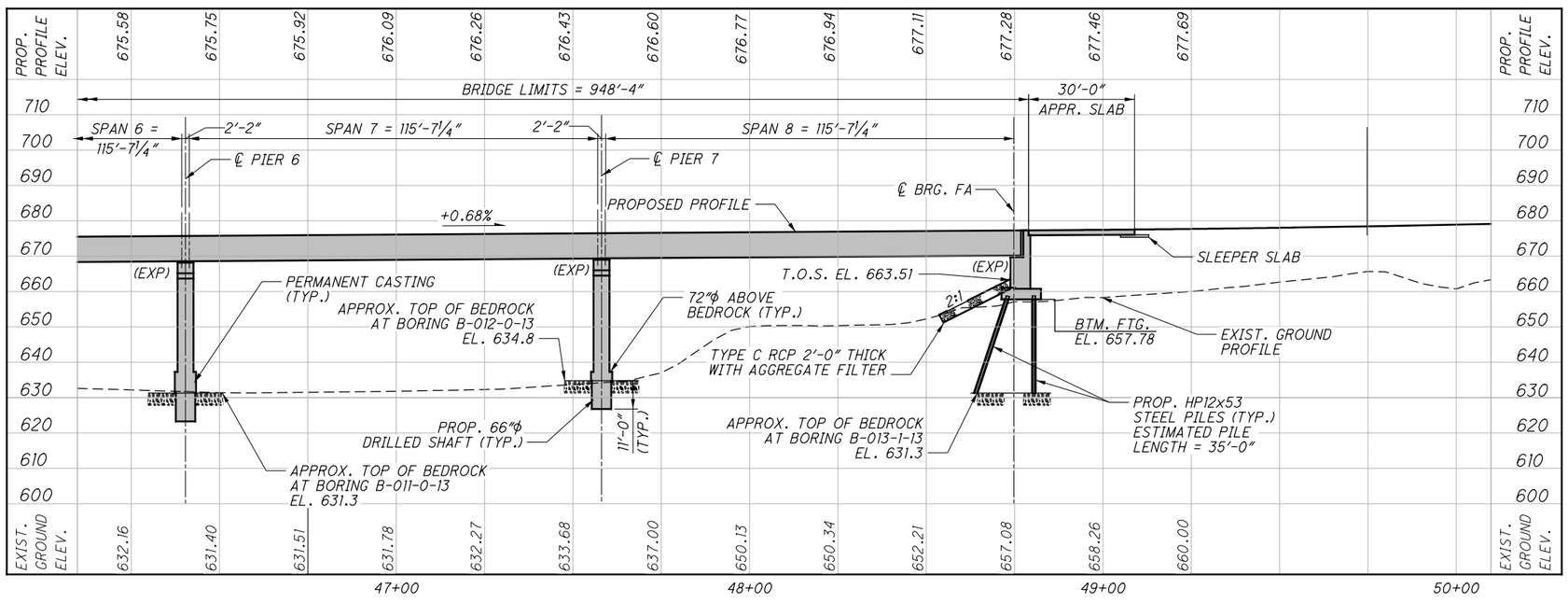
HEN-IND-00.00
PID No. 22984

2 / 64

86 / 180



PART PLAN



PART PROFILE ALONG ℄ CONST. INDUSTRIAL DRIVE

NOTES

1. FOR PLAN NOTES AND LEGEND SEE SHEET 1/64

1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537
Mannik Smith GROUP

DESIGNED	DRAWN	REVIEWED	DATE
KRH	AMK	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT		TBD	

HENRY COUNTY
STA. 39+46.50
STA. 48+93.50

SITE PLAN
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15 DATED/REVISED 1/16/2015

AS-2-15 DATED/REVISED 1/16/2015

BR-2-98 DATED/REVISED 7/20/2012

EXJ-6-06 DATED/REVISED 1/18/2013

PSID-1-13 DATED/REVISED 1/16/2015

SBR-1-13 DATED/REVISED 1/17/2014

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED 4/17/2015 832 DATED 1/17/2014

846 DATED 4/17/2015

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 8TH EDITION, INCLUDING THE 2013 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

LOAD MODIFIER FOR OPERATIONAL IMPORTANCE

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA

DESIGN DATA:
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.0 KSI (DRILLED SHAFT)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

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

DESIGN DATA

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 7.0 KSI
COMPRESSIVE STRENGTH (RELEASE) - 5.0 KSI
PRESTRESSING STRAND:
AREA = 0.217 SQ. IN.
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2.5" CONCRETE COVER

PILE DRIVING CONSTRAINTS

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 FT BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

PILES TO BEDROCK

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 RECIEVING 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 317 KIPS PER PILE FOR THE REAR ABUTMENT PILES AND 336 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES. THE ABUTMENT PILES INCLUDE AN ADDITIONAL 36 KIPS OF FACTORED LOAD PER PILE TO ACCOUNT FOR POSSIBLE DOWNDRAG FORCES.

ABUTMENT PILES:
REAR:
26 HP12X53 PILES 25 FEET LONG, ORDER LENGTH
FORWARD:
28 HP12X53 PILES 35 FEET LONG, ORDER LENGTH

PILE SPLICES

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, NJ 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 203 EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 38+34.82 TO 49+74.82.

ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL PLACED BEHIND THE ABUTMENTS SHALL BE 703.17 MATERIAL PLACED IN 6 INCH LIFTS AS PER 304.05.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

ITEM - 509 EPOXY COATED REINFORCING STEEL, AS PER PLAN: IN ADDITION TO THE PROVISIONS OF TIEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00

DECK PLACEMENT DESIGN ASSUMPTIONS:

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

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.2 KIPS FOR A TOTAL MACHINE LOAD OF 17.6 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 IN.

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

MONOLITHIC WEARING SURFACE

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

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA CONCRETE, SUPERSTRUCTURE, AS PER PLAN (BRIDGE DECK)

DESCRIPTION:

IN ADDITION TO THE WORK REQUIREMENTS OF 511,THE CONTRACTOR MAY EITHER PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508 OR DESIGN, BUILD, PROVIDE, AND CONSTRUCT GALVANIZED STEEL STAY-IN-PLACE (SIP) FABRICATED METAL FORMS CONFORMING TO CMS 508 AND THESE ADDITIONAL REQUIREMENTS. THE DEPARTMENT WILL NOT SEPARATELY PAY FOR SIP FORMS. THE COST OF THIS WORK IF CHOSEN BY THE CONTRACTOR SHALL BE INCLUDED FOR PAYMENT IN THE PRICE BID FOR ITEM 511. THE DEPARTMENT WILL PAY NO EXTRA FOR ANY ADDITIONAL CONCRETE, REINFORCEMENT STEEL, OR STRUCTURAL STEEL THAT MAY BE REQUIRED WHEN USING SIP FORMS. ANY ADDITIONAL COST AND/OR DESIGN ASSOCIATED WITH THE USE OF SIP FORMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE ADDITIONAL DEAD LOAD OF THE SIP FORM PLUS THE WEIGHT OF THE ADDITIONAL CONCRETE SHALL BE DETERMINED FROM THE REQUIRED BEAM SPACING AND DEPTH OF FORM. THIS LOAD WILL BE IN ADDITION TO THE LOADS AS SPECIFIED AS DESIGN LOADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DESIGN, FABRICATION, AND INSTALLATION MODIFICATIONS TO THE BRIDGE COMPONENTS INCLUDING THE BRIDGE BEAMS OR GIRDERS, CAMBER DIAGRAMS, DECK SCREED TABLES, BRIDGE BEARINGS, AND SUBSTRUCTURES. ALL PLAN MODIFICATIONS SHALL BE PREPARED AS PER 501.

DESIGN, BUILD, SIP FORMS WILL NOT BE PERMITTED AT OVERHANGS, AND WITHIN EIGHT FEET OF ALL EXPANSION JOINTS AND FOUR FEET OF ALL THROUGH DECK DRAINAGE SYSTEMS. IN ADDITION SIP FORMS WILL NOT BE PERMITTED WITHIN STRINGER BAYS WHERE CONSTRUCTION IS PHASED OR CLOSURE POURS ARE USED.

IF THE CONTRACTOR ELECTS TO USE CONVENTIONAL FORM METHODS OR SIP FORMS, THEN THE FORM METHOD SELECTED SHALL BE USED FOR THE ENTIRE BRIDGE PROJECT UNLESS SPECIFIED IN THE PLANS OR APPROVED BY THE ENGINEER. THIS INCLUDES PROJECTS UTILIZING PHASED CONSTRUCTION AND STIPULATES THAT ALL PHASES BE CONSTRUCTED ALIKE.

DESIGN:
SUBMIT CONSTRUCTION PLANS ACCORDING TO 501.05.B.3. DESIGN SIP FORMS TO SUPPORT THE SELF WEIGHT OF SIP FORMS, REINFORCEMENT, WET CONCRETE FOR THE DECK, ANY CONSTRUCTION EQUIPMENT LOADS, AND AT LEAST A 50 PSI LOAD FOR CONSTRUCTION LIVE LOADS MEET THE DEFLECTION REQUIREMENTS OF 508.

DESIGN SIP FORMS THAT HAVE THE DEPTH OF THE FORM CORRUGATION FILLED WITH CONCRETE.

INCLUDED THE FOLLOWING INFORMATION IN THE CONSTRUCTION PLAN:
A: DESIGN CALCULATIONS
B: PHYSICAL PROPERTIES OF THE SIP FORMS (GAGE, SECTION MODULUS, WEIGHT, DEPTH, AND PITCH)
C: CROSS SECTION VIEW AND DIMENSIONS OF: SIP FORMS, SUPPORT ANGLES, CHANNELS CLOSURES, SAFETY STOPS, CLIPS, PLATES, AND HARDWARE.
D: INCLUDE AN OVERALL LAYOUT PLAN WITH
1. WORKING POINTS OR CONTROL ELEVATIONS NECESSARY TO SET SUPPORT ANGLES.
2. TYPICAL AND SPECIFIC CROSS SECTIONS OR DETAILS: SUPPORT CONNECTIONS TO THE STRUCTURAL MEMBERS, SIP FORM CONNECTIONS TO SUPPORTS, FORM LAPS, AND CLOSURE SECTIONS.
3. MINIMUM BEARING LENGTHS (EDGE DISTANCES) OF SIP FORMS TO THE SUPPORT ANGLES.
4. WELDING DETAILS: SIZE, LENGTH, LOCATIONS, ELECTRODES, AND PROCESS.
E: WORKER SAFETY RESTRICTIONS.
F: INSTALLATION INSPECTION CHECK LISTS.

MATERIALS:

SUBMIT 501.06 TEST REPORTS AND WRITTEN ACCEPTANCE LETTERS TO THE ENGINEER. MATERIALS INSPECTION AND ACCEPTANCE IS PERFORMED BY THE ENGINEER AT THE PROJECT SITE. FURNISH FORM, SUPPORT MATERIALS, AND HARDWARE CONFORMING TO THE FOLLOWING:

A: FORM AND SUPPORT MATERIAL, ASTM A653 HAVING A COATING DESIGNATION OF G235, AND CONFORMING TO THE MECHANICAL PROPERTIES THE DESIGN REQUIRES.
B: PROVIDE DECK FORMS WITH A 2 INCH MINIMUM FORM DEPTH.
C: PROVIDE MINIMUM MATERIAL THICKNESS AS FOLLOWS: SIP FORMS (20 GAGE), SUPPORT ANGLES (12 GAGE) AND SUPPORT BARS (12 GAGE).
D: SUPPLY DECK, SELF DRILLING FASTENERS WITH CADMIUM PLATING PER ASTM B766 WITH MINIMUM THICKNESS OF 5, TEN THOUSANDTHS. (0.0005 INCH). THE HEADS OF THESE FASTENERS WILL BE A HIGHLY VISIBLE COLOR, RED OR OTHER, TO AID INSPECTION.

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED DRH | DRAWN RJS | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

GENERAL NOTES (1 OF 3)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00 PID No. 22984

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA CONCRETE, BRIDGE DECK, AS PER PLAN (CONTINUED)

WELDING:

DO NOT WELD SIP FORM OR THEIR SUPPORTS TO THE STEEL BRIDGE MEMBERS. SIP SUPPORTS MAY BE WELDED TO ANCHORS CAST INTO PRECAST CONCRETE BRIDGE MEMBERS. PERFORM WELDING PER 513.21.

INSTALLATION LIMITATIONS:

A: FIELD CUT SIP FORMS USING MECHANICAL CUTTING METHODS. THERMAL CUTTING IS NOT PERMITTED.

B: PLACE FORMS ON FORM SUPPORTS. DO NOT INSTALL SIP FORMS DIRECTLY TO THE BRIDGE'S STRUCTURAL MEMBERS.

C: ADJUST THE SCREED ELEVATIONS BY PRORATING THE CONCRETE DEAD LOAD DEFLECTION TO ACCOUNT FOR THE ADDITIONALPERMANENT DEAD LOADS ASSOCIATED WITH CONCRETE FILLED STAY IN PLACE FORMS.

D: SET THE HEIGHT OF THE FORM SUPPORTS TO DEVELOP THE ADJUSTED SCREED ELEVATIONS, DECK THICKNESS, AND PLAN PROFILE.

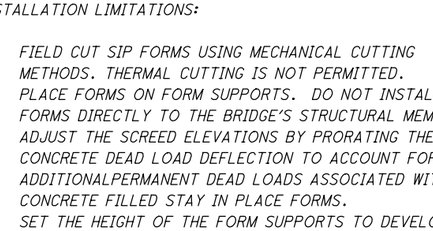
E: PLACE SIP FORMS TO FORM SUPPORTS TO ACHIEVE MINIMUM BEARING LENGTH PER MANUFACTURES DESIGN.

F: CONNECT SIP FORMS TO FORM SUPPORTS BEFORE USING THE SIP AS A WORKING SURFACE AND BEFORE THE END OF EACH WORK SHIFT.

G: PROVIDE SAFETY STOPS TO ELIMINATE HAZARDS FROM SUDDEN UPLIFT AND LATERAL MOVEMENT. AFTER THE DECK CONCRETE MEETS THE LOADING REQUIREMENTS OF C&MS 511.17, REMOVE THE VISIBLE PORTION OF ALL SAFETY STOPS.

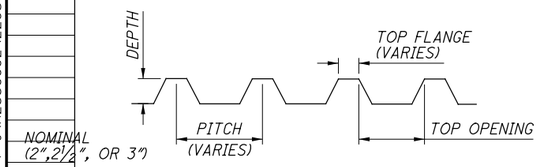
H: COATINGS DAMAGED BY MECHANICAL CUTTING OR FIELD WELDING NEED NOT BE REPAIRED UNLESS SPECIFIED BY THE SIP FORM MANUFACTURER.

I: THE CONTRACTOR SHALL PROTECT INSTALLED SIP FORMS FROM ANY CLEANING SOLUTIONS, BLASTING, OR OTHER WORK OPERATIONS THAT MAY DAMAGE THE FORM COATING. FORMS THAT ARE DAMAGED FROM LACK OF PROTECTION SHALL BE REPAIRED OR REMOVED AS DIRECTED BY THE ENGINEER. IF DIRECTED TO REPAIR, THE DAMAGED AREAS SHALL BE METALIZED AS PER 516.03 AND SUPPLEMENTAL SPECIFICATION 845. ALL COST FOR THE REPAIR OR REMOVAL SHALL BE PAID BY THE CONTRACTOR.



STAY IN PLACE DECK ELEVATION

NTS



SECTION A-A

STAY IN PLACE FORM TYPICAL DETAIL (OPTIONAL)

NTS

INSPECTIONS:

THE ENGINEER WILL CHECK SIP MATERIALS MEET DESIGN REQUIREMENTS AND EVALUATE INSTALLATION BASED ON CONSTRUCTION PLAN.

BASIS OF PAYMENT:

THE DEPARTMENT WILL NOT SEPARATELY PAY FOR SIP FORMS. THE COST OF THIS WORK IS INCLUDED FOR PAYMENT IN THE PRICE BID FOR THE ITEM FOR WHICH THE SIP FORMS ARE USED.

ITEM 513 STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

ALL MATERIAL, LABOR, AND INIDENTALS ASSOCIATED WITH INTERMEDIATE SCUPPER SUPPORTS SHALL BE INCLUDED WITH ABOVE ITEM 513 FOR PAYMENT.

ITEM 515 INTERMEDIATE DIAPHRAGM, AS PER PLAN

THE GALVANIZED STEEL OPTION FOR INTERMEDIATE DIAPHRAGMS SHALL BE USED. THE CONCRETE OPTION SHALL NOT BE USED.

ITEM 516 SPECIAL: MODULAR EXPANSION JOINT

ABUTMENT JOINTS SHALL BE WATSON BOWMAN ACME (WABO) MODULAR D-600, DS BROWN D-160, OR APPROVED ALTERNATE. THE MANUFACTURER SHALL SUBMIT DESIGN CALCULATIONS SHOWING THAT THE DEVICE CAN MEET THE IMPACT AND FATIGUE DESIGN REQUIREMENTS SET FORTH BY AASHTO LRFD BRIDGE DESIGN SPECIFCATIONS, 6TH EDITION, SECTION 14.5.

A. DESCRIPTION:

FURNISH ALL MATERIALS, SERVICES, LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS NECESSARY TO DESIGN, FABRICATE, INSPECT, TEST AND INSTALL MODULAR EXPANSION JOINTS IN ACCORDANCE WITH THE PLANS AND THESE NOTES. ALL REQUIREMENTS OF 513, SF LEVEL FABRICATION APPLY, UNLESS MODIFIED BY THESE NOTES.

B. DESIGN:

1. PREPARE AND CHECK THE DESIGN UNDER THE AUTHORITY OF AN OHIO REGISTERED PROFESSIONAL ENGINEER. THE REGISTERED ENGINEER SHALL SEAL, SIGN, AND DATE THE DESIGN CALCULATIONS AND SHOP DRAWINGS.

2. INCLUDE DESIGN CALCULATIONS WITH THE CONTRACTOR'S SUBMISSION OF SHOP DRAWINGS PER 513.06.

3. PROVIDE A DETAILED INSTALLATION PROCEDURE AND INCLUDE ANY SPECIFIC MANUFACTURER'S NOTES NECESSARY FOR COMPLETION OF THE WORK.

4. DESIGN AND TEST THE MODULAR JOINT COMPONENTS, JOINT ARMOR AND ANCHORAGES ACCORDING TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 402 "FATIGUE DESIGN OF MODULAR BRIDGE EXPANSION JOINTS" APPENDIX A AND B.

5. DESIGN TEMPORARY AND FIELD CONNECTIONS TO THE BRIDGE TO ACCOMMODATE ADJUSTMENTS FOR ROADWAY GEOMETRY AND VARYING TEMPERATURE.

6. DESIGN FOR THE PLAN SPECIFIED MOVEMENT PER AASHTO LRFD 3.12.2 FOR A COLD CLIMATE (TEMPERATE RANGE IS FROM -30°F TO +120°F WITH BASE TEMPERATURE SET TO 60°F).

7. SUPPLY SUPPORT BAR BEARINGS TO TRANSFER THE LOAD FROM THE SUPPORT BARS TO THE JOINT ARMOR.

8. FOR DESIGN OF THE DECK JOINT AT ALL LIMIT STATES, THE DYNAMIC LOAD ALLOWANCE (IM) SHALL BE TAKEN AS 125% OF THE STASIC EFFECT OF EITHER THE DESIGN TRUCK OR THE DESIGN TANDEM.

9. SUPPLY EQUIALIZATION SPRINGS TO COUNTER THE COMPRESSION FORCES FROM THE SEALING ELEMENTS AND MAINTAIN EQUAL EXPANSION PROPERTIES FOR EACH SEALING ELEMENT ACROSS THE JOINT.

10. SUPPLY CONTROL SPRINGS WHICH WORK LONGITUDINALLY TO MAINTAIN EQUAL DISTANT SPACING BETWEEN TRANSVERSE SEPERATION BEAMS.

11. SUPPLY SEPERATION BEAMS/TRANSVERSE DIVIDERS/ CENTER BEAMS TO LIMIT TOTAL HORIZONTAL MOVEMENT IN ANY INDIVIDUAL STRIP SEAL.

12. SUPPLY A STRIP SEAL TYPE SEAL CONNECTED TO MATCHING RETAINERS CONNECTED TO THE JOINT ARMOR AND THE SEPERATION BEAMS. DO NOT EXCEED 3.15 INCHES OF TOTAL HORIZONTAL MOVEMENT IN ANY INDIVIDUAL STRIP SEAL.

13. SUPPLY REMOVABLE AND REPLACEABLE NEOPRENE SEALS, SUPPORT BAR BEARINGS AND EQUILIZATION SPRINGS.

14. SET SEALS AND RETAINERS 1/8" LOWER THAN THE ROADWAY SURFACE.

15. DESIGN AND FABRICATE THE MODULAR JOINT AS A CONTINOUS FULL LENGTH MEMBER WITHOUT FIELD SPLICES.

C. MATERIALS:

1. SUPPLY STRUCTURAL STEEL MEETING ASTM A709 GRADE 50. SUPPLY SEPERATION BEAMS/TRANSVERSE DIVIDERS/CENTER BEAMS, EDGE BEAMS AND JOINT ARMOR MEETING CHARPY V NOTCH IMPACT REQUIREMENTS PER ASTM A709 TABLE S12 ZONE 2 TEMPERATURE RANGE. SUPPLY TUBE SECTIONS MEETING ASTM A501 OR A500 GRADE B.

2. SUPPLY ASTM A240, TYPE 304 STAINLESS STEEL, 13 GAGE MINIMUM THICKNESSES WITH NO. 8 FINISH FOR SLIDING SURFACES IN CONTACT WITH PTFE.

3. SUPPLY TESTING AND REPORTS BY THE MANUFACTURER OR AN INDEPENDENT TESTING LABORATORY FOR ALL ELASTOMERIC, PTFE URETHANE AND PREFORMED FABRIC MATERIALS USED IN ALL BEARINGS AND SPRINGS. THE SUBMISSION OF MATERIAL CERTIFICATION AND TESTING DATA SHALL BE PER 514.08. THESE MATERIALS SHALL BE TESTED ACCORDING TO THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 402 APPENDIX A "A GUIDELINE FOR DURABILITY (NCHRP) REPORT 402 APPENDIX A "A GUIDELINE FOR DURABILITY TESTING OF SPRINGS AND BEARINGS FOR MBEJ."

4. SUPPLY STRIP SEALS CONFORMING TO ASTM D5973. SUBMIT CERTIFIED TEST DATA PER 513.08 FORM THE MANUFACTURER OR AN ACCREDITED LABORATORY. D5973 SECTION 8, LOT SIZE IS ONE SAMPLE PER JOINT. A SAMPLE IS A PIECE 4 FEET LONG WITH ALL MANUFACTURES' MARKINGS. THE SEAL AND RETAINER ARE AN INTEGRAL SYSTEM SUPPLIED BY ONE MANUFACTURER.

5. SEAL RETAINERS: EXTRUDE, HOT ROLL OR MACHINE, STEEL RETAINERS INTO A SOLID SHAPE. RETAINERS MANUFACTURED FROM BENT PLATE OR BUILT UP PIECES ARE NOT ACCEPTABLE. THE INTERNAL DIMENSION OF THE RETAINER SHALL BE SPECIFIED BY THE MANUFACUTRER TO ACHIEVE POSITIVE SEAL ANCHORAGE.

6. SEPERATION BEAMS/TRANSVERSE DIVIDERS/CENTER BEAMS SHALL BE A SOLID, NON WELDED MACHINED OR EXTRUDED STEEL SECTION.

7. LUBRICANT - ADHESIVE, ONE PART MOISTURE CURING POLYURETHANE COMPOUND MEETING THE REQUIREMENTS OF ASTM D4070 AND AS SPECIFIED BY THE SEAL MANUFACTURER.

8. HARDWARE SHALL BE ASTM AS325 TYPE 1, GALVANIZED, OR A449 GALVANIZED.

D. FABRICATION:

1. THE MODULAR JOINTS SHALL BE FABRICATED ACCORDING TO CMS 513.

2. SHOP ASSEMBLE THE MODULAR JOINT WITH ALL COMPONENTS EXCEPT, NEOPRENE SEALS, PER 513.24 EXCEPT THAT FULL ASSEMBLY IS REQUIRED WITH PHASED CONSTRUCTION.

3. JOINTS IN STRIP SEALS: NO JOINTS ARE ALLOWED.

4. JOINTS IN RETAINERS: WELDS ARE WATER TIGHT, PARTIAL PENETRATION WELDS AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. MAKE SPLICES ONLY IN COMPRESSION ZONES OF THE JOINT ARMOR. GRIND FLUSH ALL WELDS IN CONTACT WITH THE SEAL AND JOINT ARMOR. DO NOT USE SHORT PIECES OF RETAINERS LESS THAN 6'-0" LONG, UNLESS REQUIRED. AT CURBS OR SIDEWALKS. DO NOT PROVIDE ADDITONAL SPLICES IN RETAINERS AT CURB OR SIDEWALK SECTIONS OTHER THAN REQUIRED FOR GEOMETRY.

5. SHOP OR FIELD WELDS OR CENTER BEAMS AND JOINT ARMOR, SHALL BE COMPLETE PENETRATION WELDS, GROUND TO PROVIDE SMOOTH TRANSITIONS AND BE 100% ULTRASONICALLY TESTED PER AASHTO/AWS BRIDGE WELDING CODE, WITH TENSION ACCEPTANCE CRITERIA, WITNESSED BY THE DEPARTMENT.

6. CODE, WITH TENSION ACCEPTANCE CRITERIA, WITNESSED BY THE DEPARTMENT. SUPPORT BAR CONNECTIONS SHALL BE COMPLETE PENETRATION WELDS GROUND TO PROVIDE SMOOTH TRANSITIONS AND BE 100% ULTRANSONICALLY TESTED PER AASHTO/AWS BRIDGE WELDING CODE, WITH TENSION ACCEPTANCE CRITERIA, WITNESSED BY THE DEPARTMENT.

7. TEMPORARY SUPPORTS: FABRICATOR DESIGNED AND INSTALLED SUPPORTS ARE REQUIRED TO SUPPORT SHIPPPING, ERECTION AND CONSTRUCTION FORCES WITHOUT DAMAGE TO THE STEEL ARMOR OR COATINGS. THESE SUPPORTS SHALL BE ADJUSTABLE FOR FIELD TEMPERATURE SETTING.

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
DRH	RJS	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT	----	TBD	

GENERAL NOTES (2 OF 3)

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00

PID No. 22984

ITEM 516 SPECIAL: MODULAR EXPANSION JOINT (CONTINUED)

E. COATING:

1. GALVANIZE OR METALIZE ALL STEEL SURFACES AND COMPNENTS, EXCEPT AT STAINLESS STEEL AND PTFE SLIDING SURFACES. THESE COATING MAY BE MIXED ON ONE ASSEMBLY, IF ALL SIMILAR COMPONENTS OF THE ASEMBLY HAVE THE SAME COATING TYPE.

2. PROVIDE A GALVANIZED COATING PER ASTM A123, WITH A MINIMUM THICKNESS OF 4 MILS. CLEAN EXCESSIVE GALVANIZING AS NECESSARY TO ACHIEVE MECHANICAL MOVEMENT AND SEAL INSTALLATION.

3. PROVIDE A METALIZED COATING PER SOCIETY FOR PROTECTIVE COATINGS (SSPC) SPECIFICATION SSPC-CS23.00 (MARCH 17, 2003) FOR THERMAL SPRAY METALLIC COATINGS. THE COATING SHALL BE A MINIMUM OF 8 MILS THICK. THE METALIZING WIRE SHALL BE 100% ZINC. AREAS OF STRUCTURAL STEEL THAT ARE IN CONTACT WITH CAST-IN-PLACE CONCRETE SHALL HAVE AN ADDITONAL COATING. THE COATING SHALL BE THE EPOXY INTERMEDIAT COAT SPECIFIED IN CMS 514. THE COATING THICKNESS WILL COVER ALL PEAKS, VALLEYS AND SURFACE ROUGHNESS ATTRIBUTED TO METALIZING.

4. COATING REPAIRS: DAMAGED COATINGS SHALL BE REPAIRED BY ASTM A780, ANNEX "A1. REPAIR USING ZINC BASED ALLOYS". THE PROCEDURE SHALL BE AS FOLLOWS: REMOVE SURFACE CONTAMINATES, PREHEAT TO 600°F, AND APPLY ZINC COATING BY RUBBING WITH A PURE ZINC STICK OR SPRINKLING ZINC POWDER ON THE PREHEATED SURFACE, TO ACHIEVE A MINIMUM COARING. THICKNESS OF 6 MILS.

5. THE METALIZED OR GALVANIZED COATINGS SHOULD NOT BE FIELD PAINTED. DAMAGED AREAS SHALL BE METALIZED AS PER 516.03 AND SUPPLEMENTAL SPECIFICATION 845.

6. PRIOR TO SHIPPING, RETAINER GROOVES SHALL BE PROTECTED FROM CONSTRUCTION DEBRIS BY THE INSTALLATION OF BACKER RODS OR OTHER EFFECTIVE MASKING TECHNIQUES.

F. INSTALLATION:

1. A JOINT MANUFACTURER'S TECHNICAL REPRESENTATIVE TO PHYSICALLY OVERSEE THE FABRICATION, INSTALLATION, ADJUSTMENT AND TESTING DURING ALL OPERATIONS. WHERE SPECIAL INSTRUCTIONS ARE NOT CONTAINED HEREIN OR ELSEWHERE IN THESE NOTES, DIRECTION FOR THE INSTALLATION SHALL BE ACCORDING TO THE RECOMMENDATIONS OF THE TECHNICAL REPRESENTATIVE.

2. COORDINATE AND SCHEDULE THE TECHNICAL REPRESENTATIVE.

3. INSTALL THE SUPERSTRUCTURE SUPPORTING UNITS BEFORE INSTALLING THE MODULAR JOINT. POSITION THE JOINT TO MATCH ROADWAY GEOMETRY SUPERSTRUCTURE CONNECTIONS AND TEMPERATURE OPENING. TAKE CARE TO MAINTAIN EXACT ALIGNMENT OF ADJACENT ENDS OF THE ARMOR AND SEPARATION BEAS/TRANSVERSE DIVIDERS/CENTER BEAMS FOR FIELD WELDED UNITS. PROVIDE TEMPORARY SUPPORTS AS DIRECTED BYT HE MANUFACTURER TO MAINTAIN THE PROPER POSITIONING. FOR PHASED CONSTRUCTION, THE CONTRACTOR'S METHODS FOR INSTALLATION AND TEMPORARY SUPPORTS SHALL ACHIEVE SEPARATION OF THE PHASES AND UNRESTRICTED TEMPERATURE MOVEMENT.

4. PERFORM CONCRETE PLACEMENT USING VIBRATION AND HAND WORK AS NECESSARY TO ACHIEVE CONSOLIDATION AND ELIMINATE AIR VOIDS. THE MAXIMUM AGGREGATE SIZE SHALL BE #8 FOR CONCRETE BLOCKOUT AREAS.

5. PLACE THE DECK CONCRETE FIRST. CHECK THE ABUTMENT OR ADJACENT SPAN SIDE OF THE MODULAR JOINT FOR ALIGNMENT AND TEMPERATURE ADJUSTMENT. THE TEMPERATURE SHALL BE MEASURED AT THE UNDERSIDE OF THE CONCETE DECK AT EACH END AND MID-SPAN TO ACHIEVE THE AVERAGE SUPERSTRUCTURE TEMPERATURE. PLACE THE BACKWALL OR ADJACENT SPAN CONCRETE SECOND. THE MANUFACTURER'S REPRESENTATIVE SHALL CHECK THAT TEMPERATURE MOVEMENT HAS NOT CAUSED ANY DAMAGE TO THE BOND BETWEEN THE JOINT AND THE CONCRETE.

6. EXAMINE SEAL RETAINERS FOR SOIL OR DEFECTS THAT CAN DAMAGE THE SEAL. REPAIR ANY DEFECTS AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE.

7. SOLVENT CLEAN THE NEOPRENE SEAL ELEMENTS AND THE RETAINER GROOVES TO REMOVE OIL, GREASE OR OTHER SOIL IMMEDIATELY PRIOR TO INSTALLING THE SEALS. INSTALL SEALS USING PROCEDURES AND ADHESIVE SPECIFIED BY THE JOINT MANUFACTURER. KEEP THE BONDING SURFACES CLEAN, DRY AND WARMER THAN 45°F.

8. TEST THE INSTALLED MODULAR JOINT FOR LEAKS. FLOOD THE TOTAL EXPANSION JOINT LENGTH WITH WATER FOR A PERIOD OF NOT LESS THAN ONE HOUR. COVER THE ENTIRE JOINT SYSTEM BY EITHER PONDING OR FLOWING WATER. LOCATE ANY POINTS OR LEAKAGE AND TAKE ANY AND ALL MEASURES NECESSARY TO STOP THE LEAKAGE. PERFORM THIS WORK AT THE CONTRACTOR'S EXPENSE. PERFORM A SECOND WATER TEST AFTER ALL REPAIRS HAVE BEEN MADE.

ITEM 524 DRILLED SHAFTS, AS PER PLAN

DRILLED SHAFTS:
THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1367 KIPS AT PIERS 1 - 6 AND 1407 KIPS AT THE PIER 7. 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 5.5 KSF, ASSUMED TO ACT ALONG THE BOTTOM 8 FEET OF THE BEDROCK SOCKET FOR THE PIERS. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 91.5 KSF.

FOR HOLE EXCAVATION SEE C&MS 524.04, CASE D PERMANENT CASING CONSTRUCTION METHOD SHALL BE USED TO CONSTRUCT PIERS 1 THRU 7.

SUPPLY ALL REQUIRED EQUIPMENT AND PERSONNEL NECESSARY TO PERFORM VIDEO INSPECTION OF THE DRILLED SHAFT EXCAVATION, INCLUDING THE INSPECTIONS PERFORMED UNDERWATER OR WITHIN SLURRY. PROVIDE EQUIPMENT CAPABLE OF THE FOLLOWING: MEASURING THE DEPTH OF LOOSE OR DISTURBED MATERIAL AT THE BOTTOM OF THE SHAFT, AND RECORDING COLOR VIDEO IMAGES OF THE INPSECTION TO A DVD OR VIDEOTAPE. FURNISH ALL NECESSARY SUPPLIES, FUEL AND ELECTRIC SERVICE TO OPERATE THE EQUIPMENT. PERFORM THE VIDEO INSPECTION IMMEDIATELY BEFORE POURING THE CONCRETE, AND IN THE PRESENCE OF THE ENGINEER OR INSPECTOR. SUBMIT RECORDINGS OF ALL VIDEO INSPECTIONS TO THE ENGINEER AFTER COMPLETING ALL VIDEO INSPECTIONS, OR WHEN REQUESTED BY THE ENGINEER.

PAYMENT IS FULL COMPENSATION FOR SUPPLYING THE REQUIRED EQUIPMENT AND PERSONNEL, AND FOR PERFORMING THE VIDEO INSPECTION OF THE DRILLED SHAFT EXCAVATIONS. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE LUMP SUM CONTRACT PRICE FOR ITEM 524 DRILLED SHAFT, 66" DIAMETER, INTO BEDROCK, AS PER PLAN

ABBREVIATIONS:

ABUT.	- ABUTMENT	MAX.	- MAXIMUM
APPR.	- APPROACH	MIN.	- MINIMUM
APPROX.	- APPROXIMATELY	NF	- NEAR FACE
BRG	- BEARING	NS	- NEAR SIDE
BOT.	- BOTTOM	NO.	- NUMBER
BTWN.	- BETWEEN	N.P.C.P.P.	- NON-PERFORATED CORRUGATED PLASTIC PIPE
C/C	- CENTER TO CENTER		
CJ	- CONSTRUCTION JOINT	O/O	- OUT TO OUT
CLR.	- CLEAR	P.C.P.P.	- PERFORATED CORRUGATED PLASTIC PIPE
CONST.	- CONSTRUCTION		
DIA.	- DIAMETER	P.E.J.F.	- PREFORMED EXPANSION JOINT FILLER
DWG.	- DRAWING		
EF	- EACH FACE	PG	- PROFILE GRADE
EL.	- ELEVATION	PROP.	- PROPOSED
EQ.	- EQUAL	RA	- REAR ABUTMENT
EXP.	- EXPANSION	RT.	- RIGHT
FA	- FORWARD ABUTMENT	SER	- SERIES
FF	- FAR FACE	SHLDR.	- SHOULDER
FS	- FAR SIDE	SPA.	- SPACE OR SPACES
FWD.	- FORWARD	STA.	- STATION
INV.	- INVERT	STD.	- STANDARD
JT.	- JOINT	STR	- STRAIGHT
JTS.	- JOINTS	T	- TOP
LT.	- LEFT	TEMP.	- TEMPORARY
		THK.	- THICK
		T.O.S.	- TOP OF SLOPE
		T/T	- TOE TO TOE
		TYP.	- TYPICAL
		U.N.O.	- UNLESS NOTED OTHERWISE
		VAR.	- VARIES

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GENERAL NOTES (3 OF 3)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

ESTIMATED QUANTITIES — CALCULATED: RJS DATE: 5-13-15 — CHECKED: DRH DATE: 5-15-15

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING					
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN					4
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION					
507	00200		FT	STEEL PILES HP12X53, FURNISHED					
507	00250		FT	STEEL PILES HP12X53, DRIVEN					
509	10001		POUND	EPOXY COATED REINFORCING STEEL, AS PER PLAN					4
511	21543		CU YD	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN (DECK)					4,5
511	33418		CU YD	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE (DIAPHRAGMS)					
511	34450		CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)					
511	41013		CU YD	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS, AS PER PLAN					21
511	43512		CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING					
511	51512		CU YD	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK					
512	10100		SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
512	33000		SQ YD	TYPE 2 WATERPROOFING					
513	10201		LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN					5
515	15130		EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF72-49					
515	20001		EACH	INTERMEDIATE DIAPHRAGMS, AS PER PLAN					
SPECIAL	51612400		FT	MODULAR EXPANSION JOINT					5,6
516	13600		SQ FT	1" PREFORMED EXPANSION JOINT FILLER					
516	13900		SQ FT	2" PREFORMED EXPANSION JOINT FILLER					
516	44100		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES (14"x22"x2.36") AND LOAD PLATE (15"x41"x2") (NEOPRENE)					
516	44100		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES (14"x22"x2.36") AND LOAD PLATE (15"x41"x2.1875") (NEOPRENE)					
516	44200		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES (14.5"x25"x3.39") AND LOAD PLATE (15.5"x41"x2") (NEOPRENE)					
517	75120		FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)					
518	12001		EACH	SCUPPERS INCLUDING SUPPORTS, AS PER PLAN					59
518	21200		CU YD	POROUS BACKFILL WITH FILTER FABRIC					
518	40000		FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010		FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
518	43300		FT	6" PIPE DOWNSPOUT, INCLUDING SPECIALS					
524	94947		FT	DRILLED SHAFTS, 72" DIAMETER, ABOVE BEDROCK, AS PER PLAN					6
524	94935		FT	DRILLED SHAFTS, 66" DIAMETER, INTO BEDROCK, AS PER PLAN					6
526	30001		SQ YD	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN					57,58
526	90010		FT	TYPE A INSTALLATION					
611	04600		FT	12" CONDUIT, TYPE C, 707.45					
846	00100		FT	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM					

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ESTIMATED QUANITITES
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

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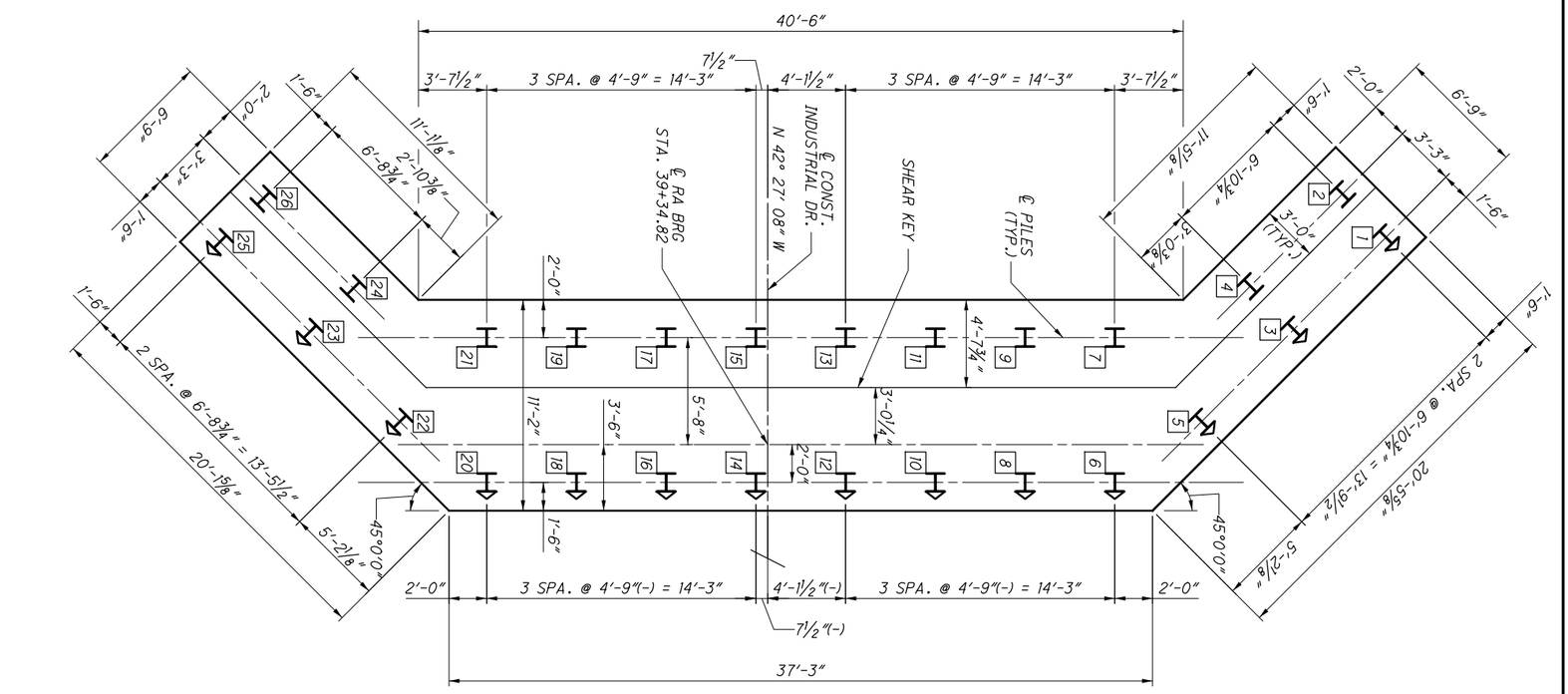
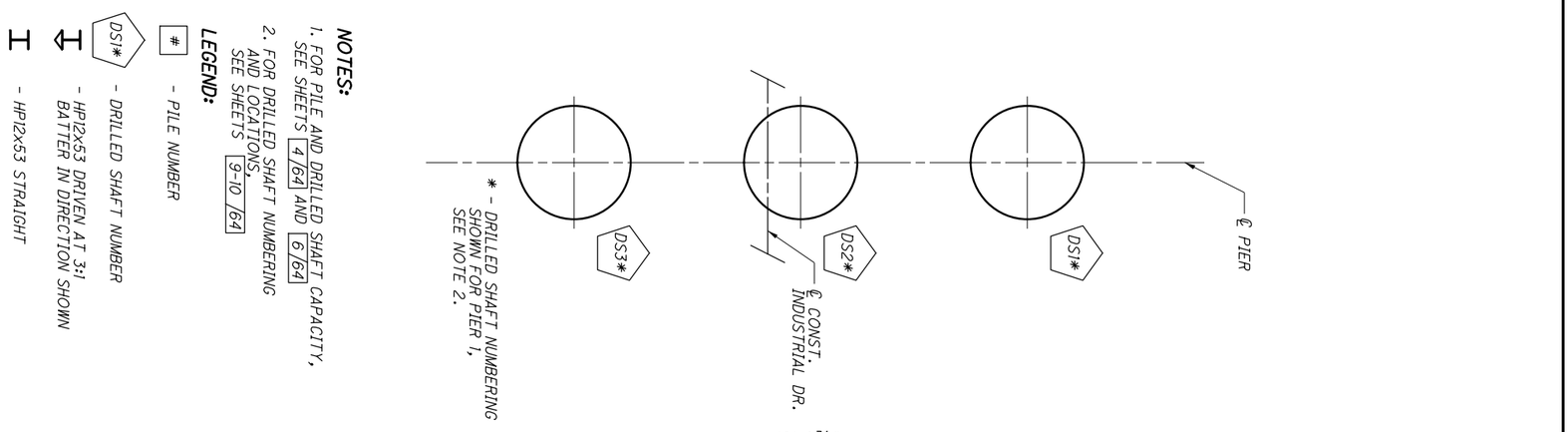


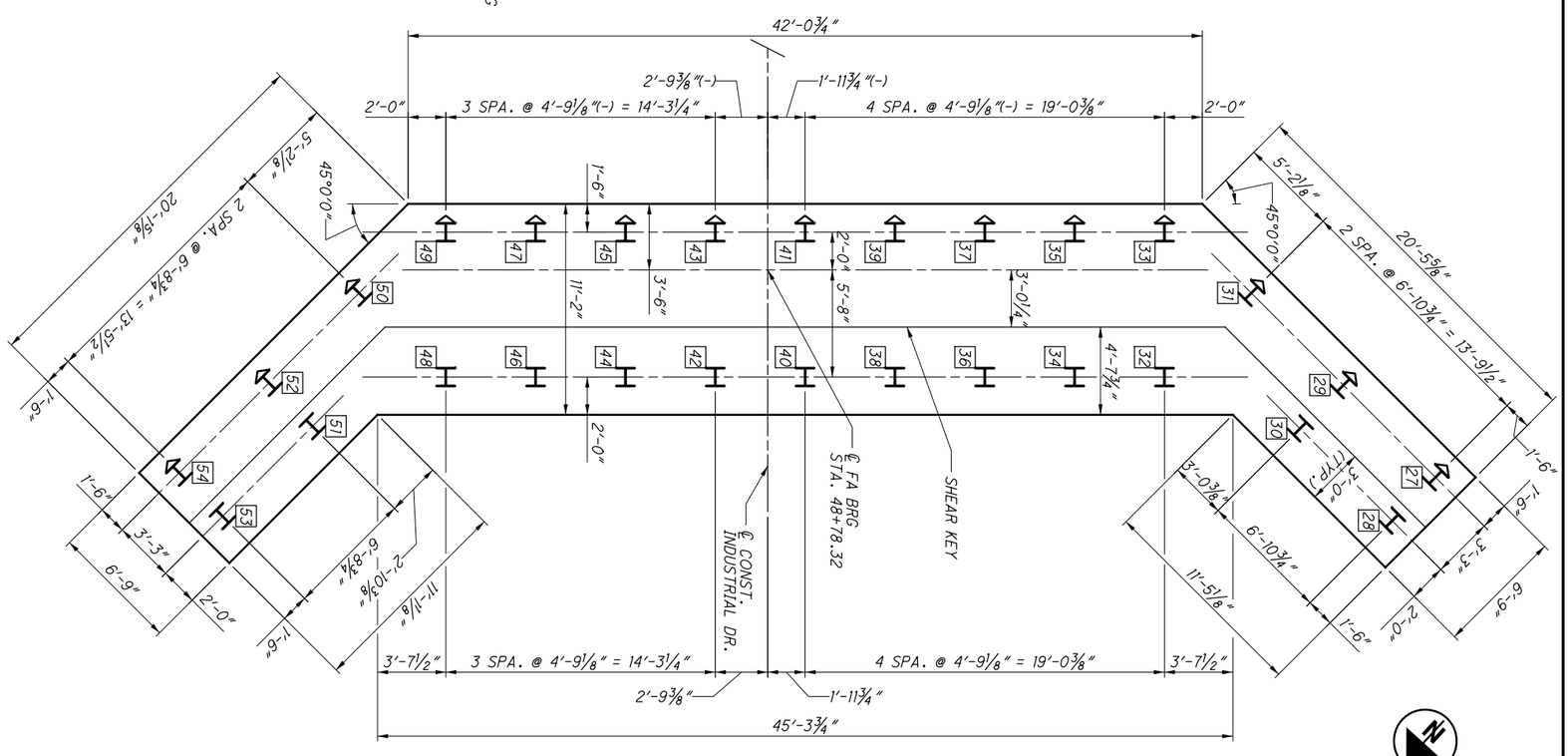


NOTES:

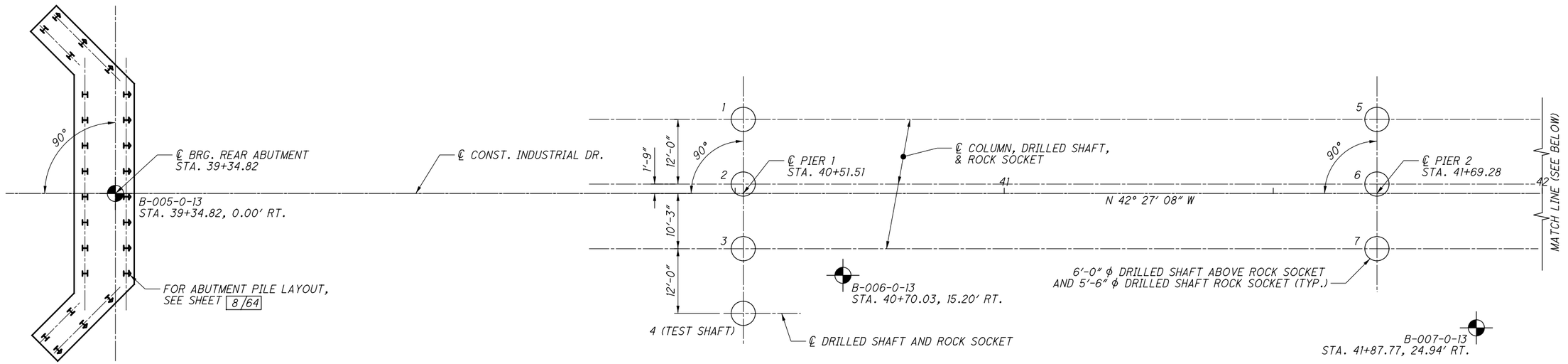
1. FOR PILE AND DRILLED SHAFT CAPACITY, SEE SHEETS 4 /64 AND 6 /64
2. FOR DRILLED SHAFT NUMBERING AND LOCATIONS, SEE SHEETS 9-10 /64

LEGEND:

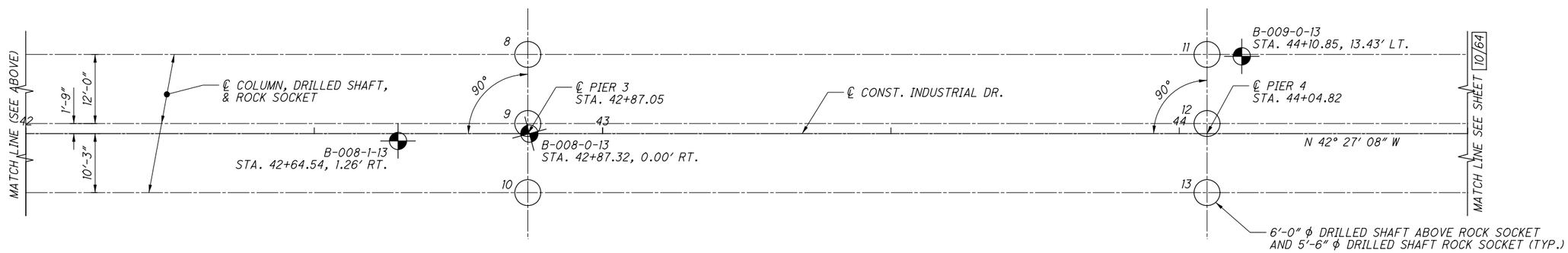
- # - PILE NUMBER
- DS1* - DRILLED SHAFT NUMBER
- HP12x63 DRIVEN AT 3:1 BATTER IN DIRECTION SHOWN
- HP12x63 STRAIGHT



92 / 180	8 / 64	HEN-IND-00.00 PID No. 22984	FOUNDATION PLAN HEN-INDUSTRIAL DRIVE-0000 INDUSTRIAL DRIVE OVER MAUMEE RIVER	DESIGNED KRH	DRAWN KRH	REVIEWED TLR	DATE 05/2015	Mannik Smith GROUP 1800 INDIAN WOOD CIRCLE MAUMEE, OHIO 43537
				CHECKED SCT	REVISED	STRUCTURE FILE NUMBER TBD		



PART FOUNDATION PLAN



PART FOUNDATION PLAN

NOTES:

7 — DENOTES DRILLED SHAFT LOCATION AND NUMBER.

B-010-0-13 — DENOTES SOIL BORING AND NUMBER

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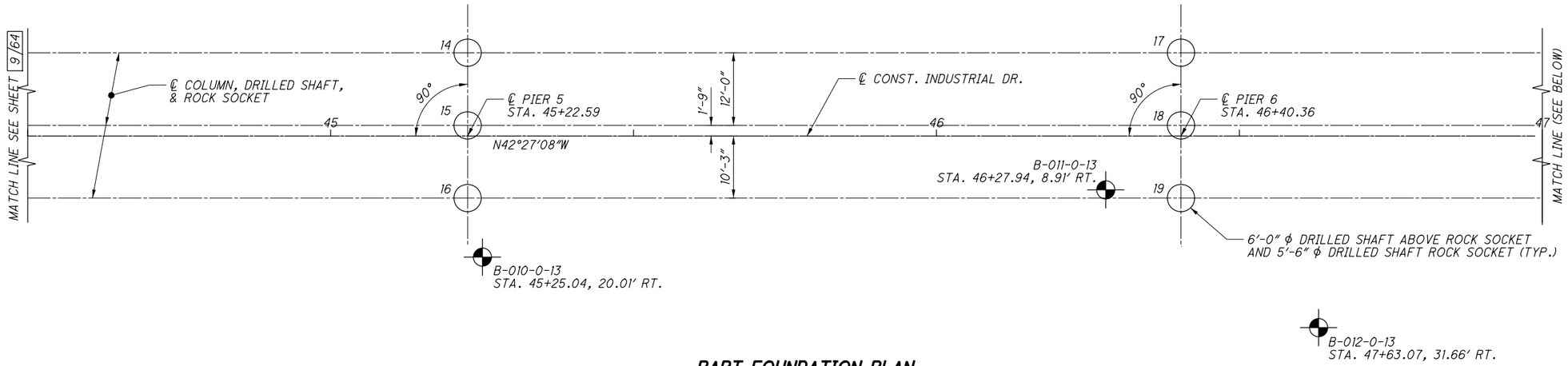
PIER FOUNDATION LAYOUT (1 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

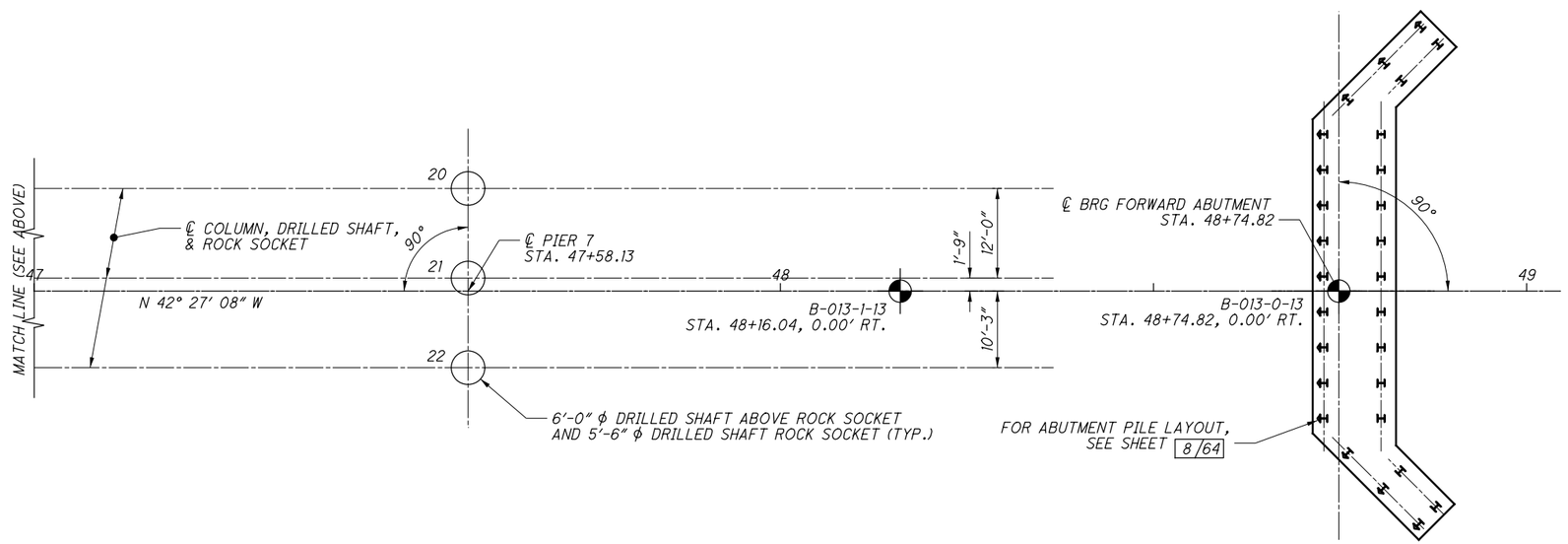
HEN-IND-00.00
PID No. 22984

9 / 64

93 / 180



PART FOUNDATION PLAN



PART FOUNDATION PLAN

NOTES:

19 ○ DENOTES DRILLED SHAFT LOCATION AND NUMBER.

B-010-0-13 ⊕ DENOTES SOIL BORING AND NUMBER

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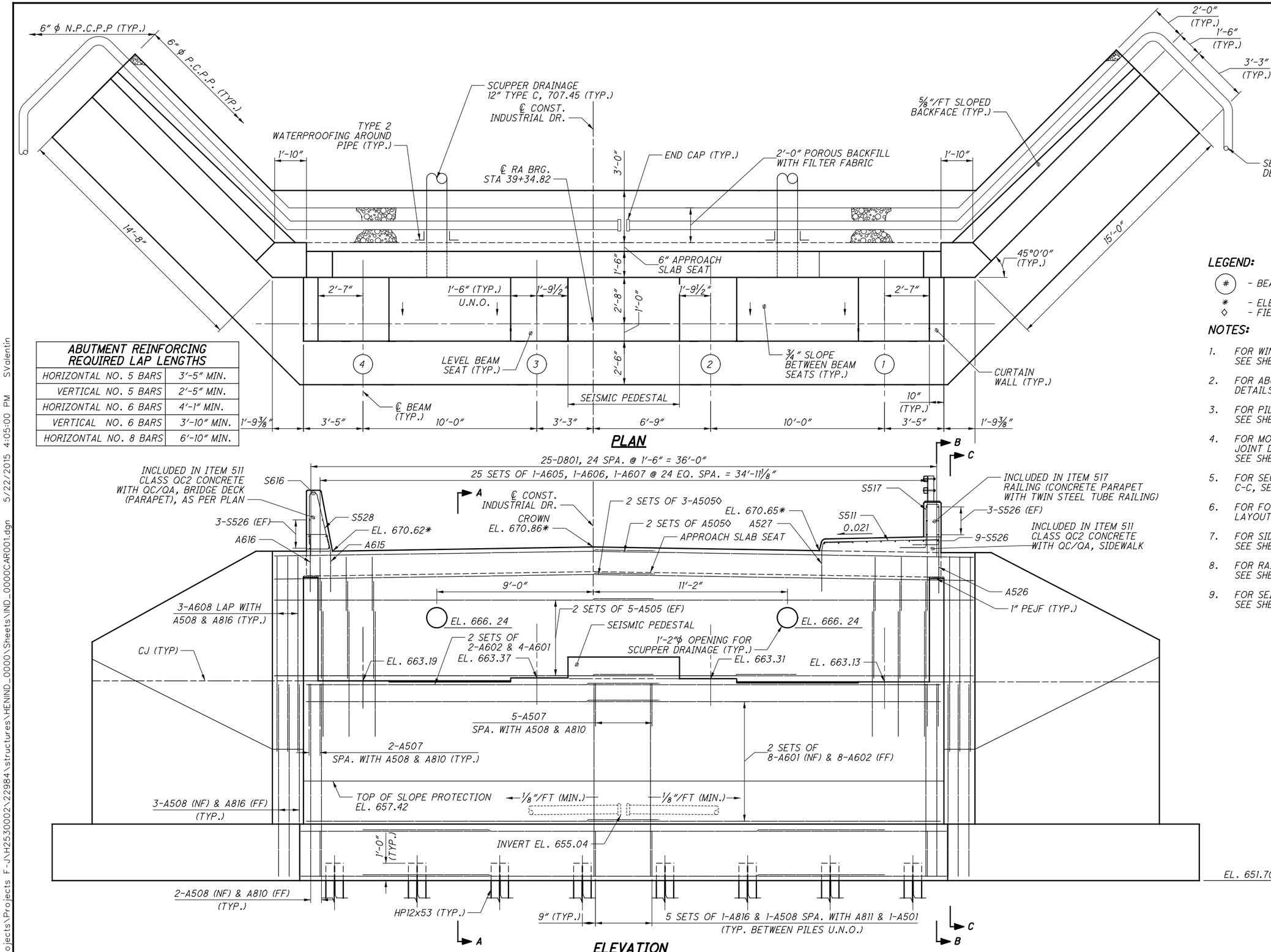
PIER FOUNDATION LAYOUT (2 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

10/64

94/180



ABUTMENT REINFORCING REQUIRED LAP LENGTHS	
HORIZONTAL NO. 5 BARS	3'-5" MIN.
VERTICAL NO. 5 BARS	2'-5" MIN.
HORIZONTAL NO. 6 BARS	4'-1" MIN.
VERTICAL NO. 6 BARS	3'-10" MIN.
HORIZONTAL NO. 8 BARS	6'-10" MIN.

LEGEND:

(#) - BEAM LINE NUMBER

* - ELEVATION AT BRIDGE LIMITS

◇ - FIELD BEND BARS AS NECESSARY

NOTES:

1. FOR WINGWALL DETAILS, SEE SHEET 14-15/64
2. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 35/64
3. FOR PILE LAYOUT, SEE SHEET 8/64
4. FOR MODULAR EXPANSION JOINT DETAILS, SEE SHEETS 54-56/64
5. FOR SECTIONS A-A, B-B C-C, SEE SHEET 13/64
6. FOR FOOTING REINFORCING LAYOUT, SEE SHEET 12/64
7. FOR SIDEWALK DETAILS, SEE SHEET 53/64
8. FOR RAILING DETAILS, SEE SHEETS 49-52/64
9. FOR SEISMIC PEDESTAL, SEE SHEET 13/64

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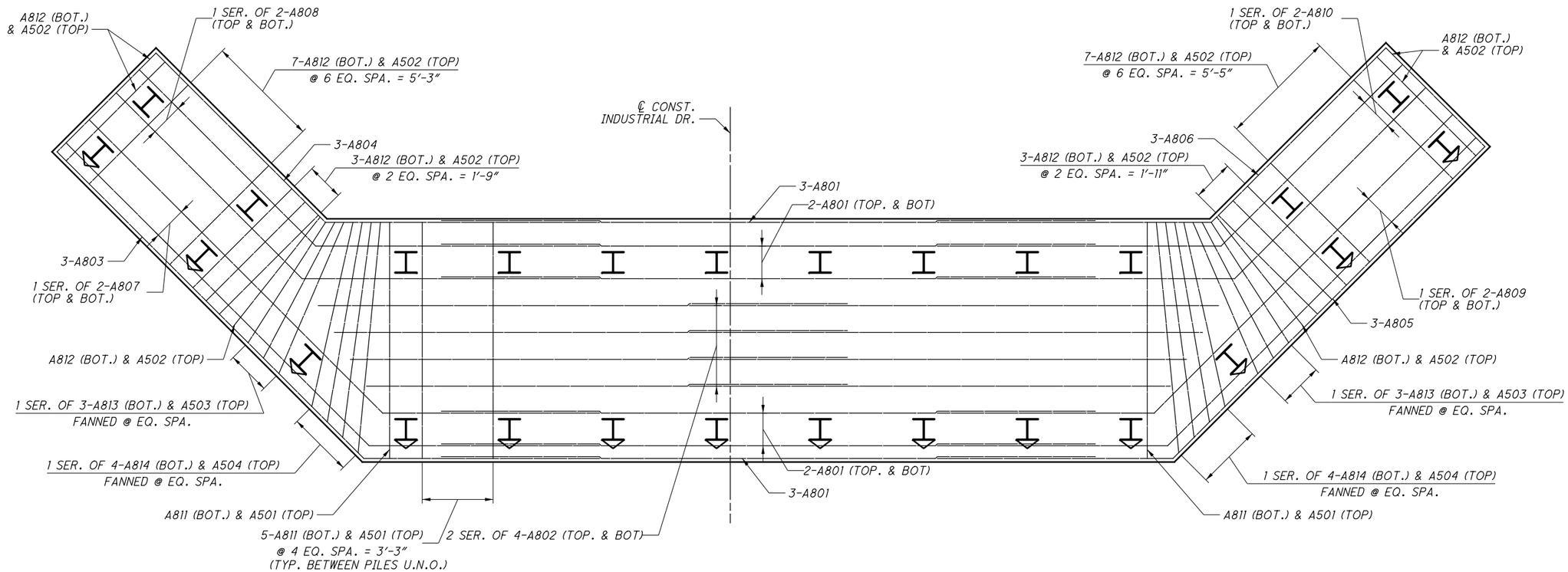
KRH	KRH	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT	----	TBD	

REAR ABUTMENT PLAN AND ELEVATION

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



REAR ABUTMENT FOOTING REINFORCING PLAN

NOTES:

1. FOR ABUTMENT PLAN AND ELEVATION, SEE SHEET 11/64
2. FOR PILE LAYOUT, SEE SHEET 8/64

ABUTMENT REINFORCING REQUIRED LAP LENGTHS	
HORIZONTAL NO. 5 BARS	3'-5" MIN.
VERTICAL NO. 5 BARS	2'-5" MIN.
HORIZONTAL NO. 6 BARS	4'-1" MIN.
VERTICAL NO. 6 BARS	3'-10" MIN.
HORIZONTAL NO. 8 BARS	6'-10" MIN.

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

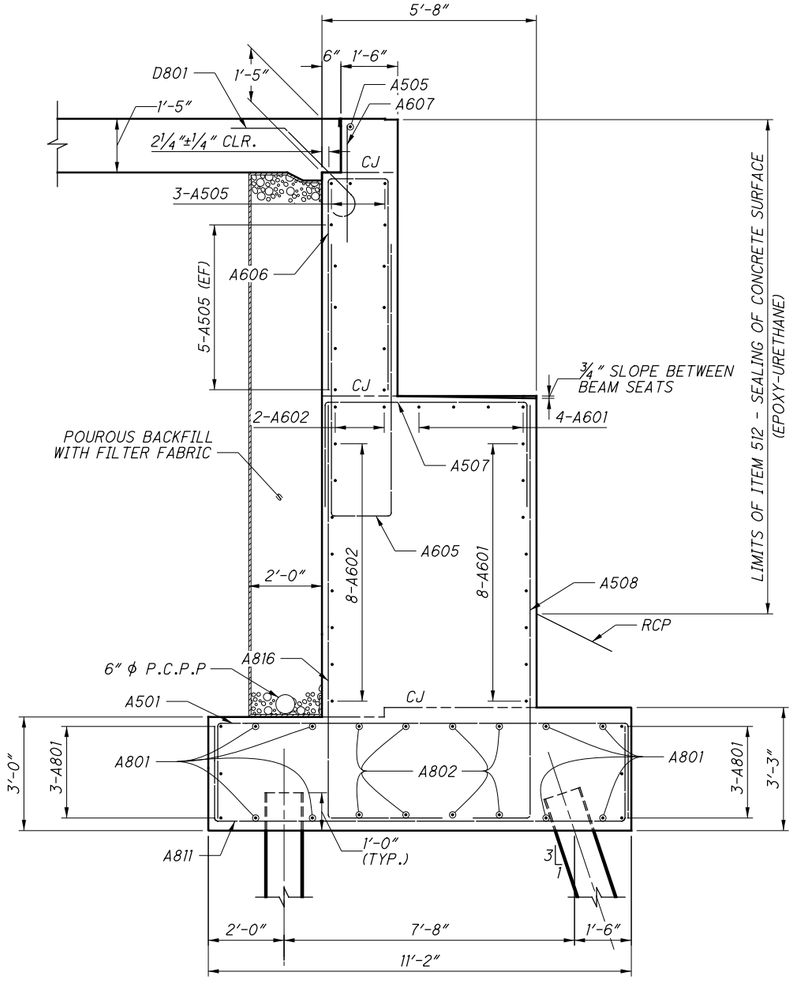
DESIGNED KRH | CHECKED SCT
DRAWN KRH | REVISED ----
REVIEWED TLR | DATE 05/2015
STRUCTURE FILE NUMBER TBD

REAR ABUTMENT FOOTING REINFORCING
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

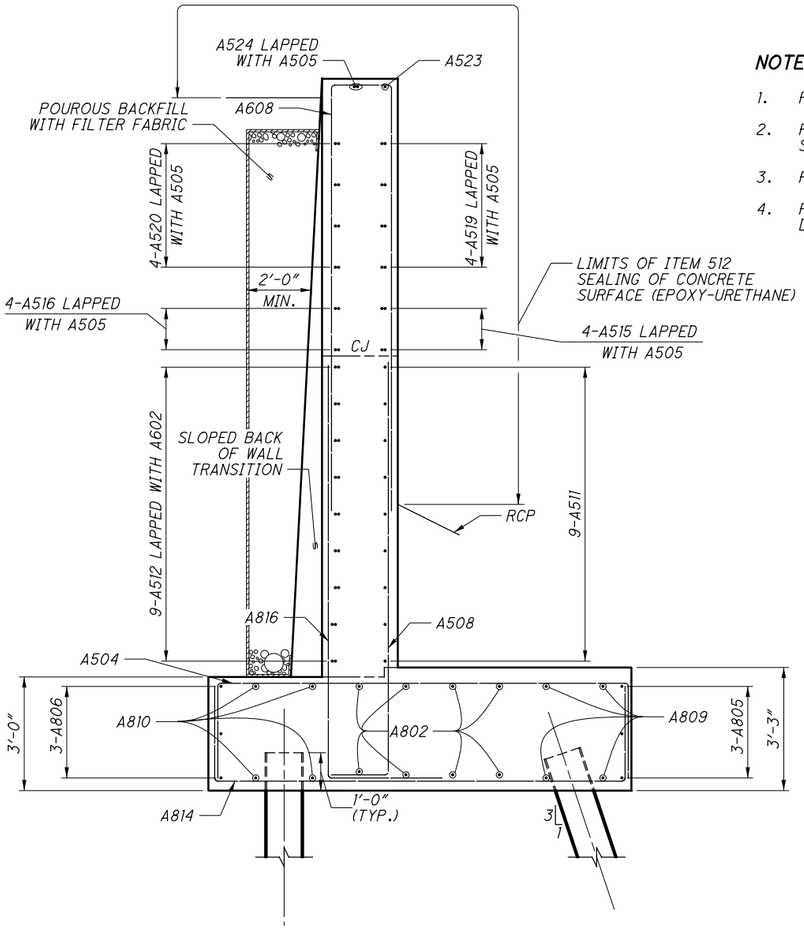
12 / 64

96 / 180



SECTION A-A

FROM SHEET 11/64



SECTION C-C

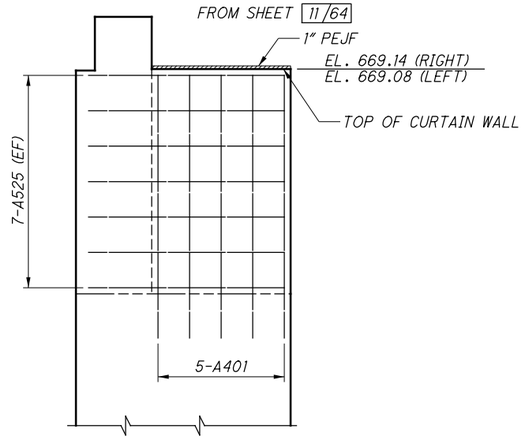
FROM SHEET 11/64

NOTES:

1. FOR WINGWALL DETAILS, SEE SHEET 14-15/64
2. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 35/64
3. FOR PILE LAYOUT, SEE SHEET 8/64
4. FOR MODULAR EXPANSION JOINT (NOT SHOWN) DETAILS, SEE SHEETS 54-56/64

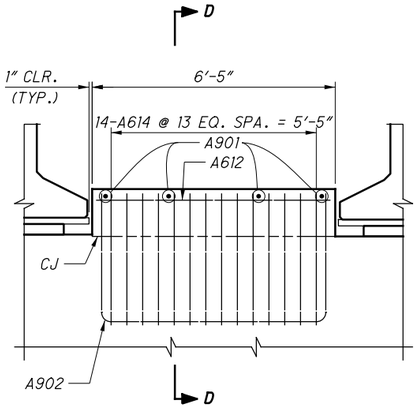
ABUTMENT REINFORCING REQUIRED LAP LENGTHS

HORIZONTAL NO. 5 BARS	3'-5" MIN.
VERTICAL NO. 5 BARS	2'-5" MIN.
HORIZONTAL NO. 6 BARS	4'-1" MIN.
VERTICAL NO. 6 BARS	3'-10" MIN.
HORIZONTAL NO. 8 BARS	6'-10" MIN.

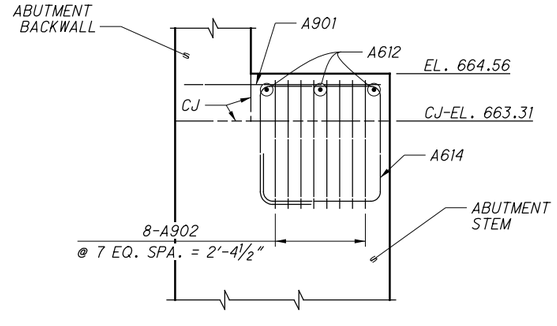


SECTION B-B

FROM SHEET 11/64



SEISMIC PEDISTAL



SECTION D-D

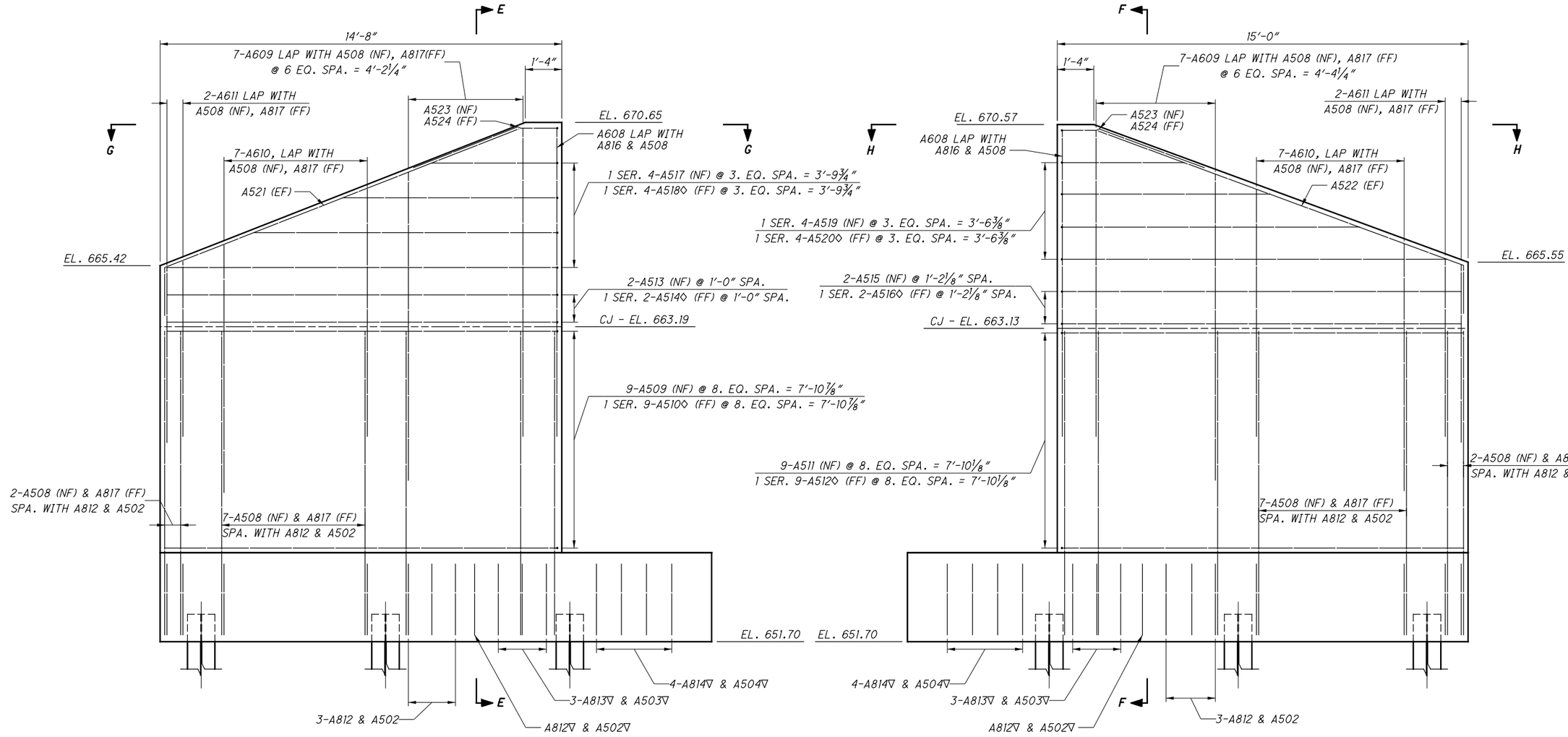
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT	----	TBD	

REAR ABUTMENT DETAILS

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

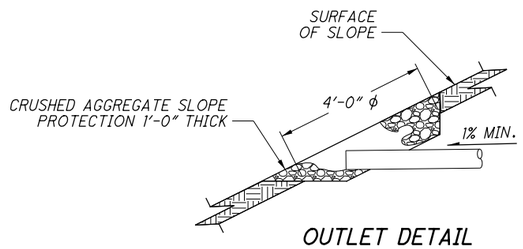


REAR RIGHT WINGWALL

REAR LEFT WINGWALL

▽ - INDICATES FANNED BAR
SEE SHEET 12/64 FOR DETAILS

◇- INDICATES POSSIBLE NECESSITY
FOR FIELD BEND TO MATCH
BATTERED BACK FACE



OUTLET DETAIL

OUTLET TO PAID FOR WITH ITEM 518:
6" NON-PERFORATED COURRUGATED PLASTIC PIPE

ABUTMENT REINFORCING REQUIRED LAP LENGTHS	
HORIZONTAL NO. 5 BARS	3'-5" MIN.
VERTICAL NO. 5 BARS	2'-5" MIN.
HORIZONTAL NO. 6 BARS	4'-1" MIN.
VERTICAL NO. 6 BARS	3'-10" MIN.
HORIZONTAL NO. 8 BARS	6'-10" MIN.

NOTES:

1. FOR ABUTMENT DETAILS, SEE SHEET 11/64
2. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 35/64
3. FOR PILE LAYOUT, SEE SHEET 8/64
4. FOR MODULAR EXPANSION JOINT DETAILS, SEE SHEETS 54-56/64
5. FOR SECTIONS E-E & F-F AND VIEWS G-G & H-H, SEE SHEET 15/64

1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537
Mannik Smith GROUP

DESIGNED	CHECKED
KRH	SCT

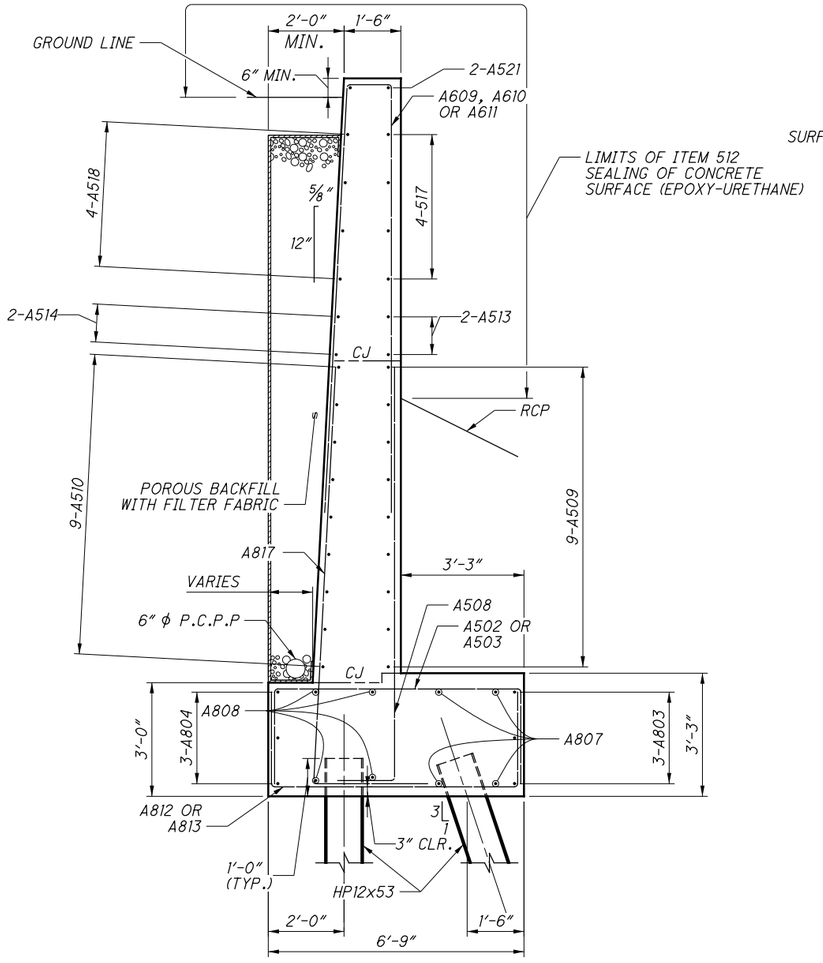
DRAWN	REVISED
KRH	----

REVIEWED	DATE
TLR	05/2015

STRUCTURE FILE NUMBER
TBD

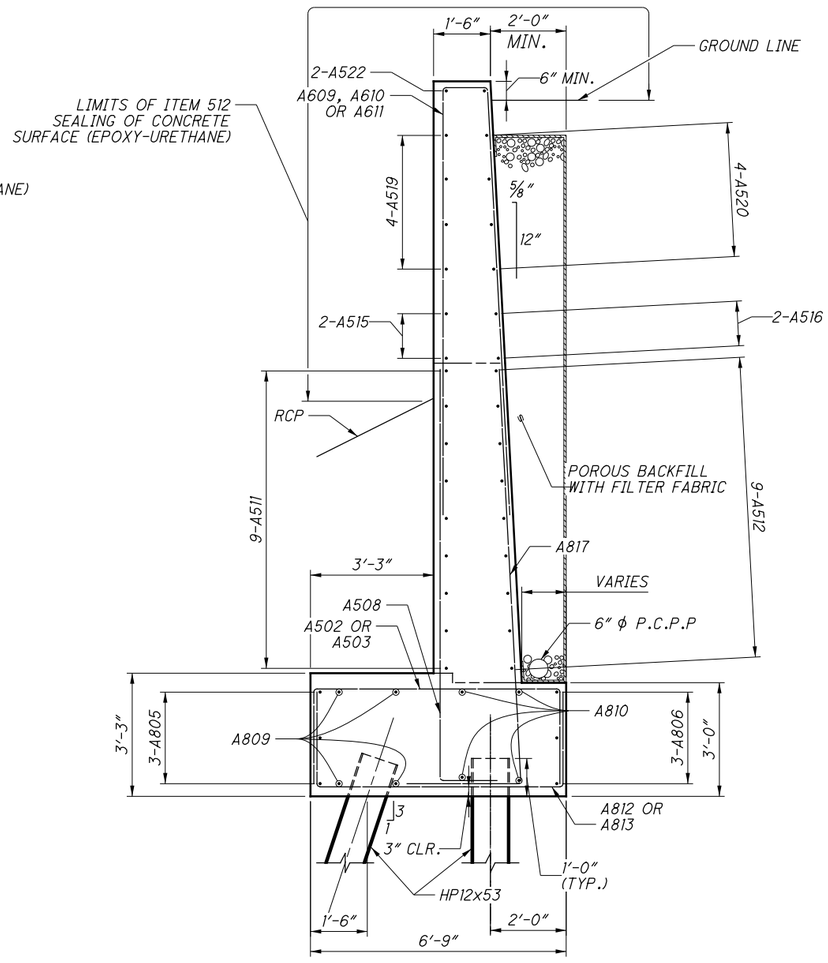
REAR WINGWALL DETAILS
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



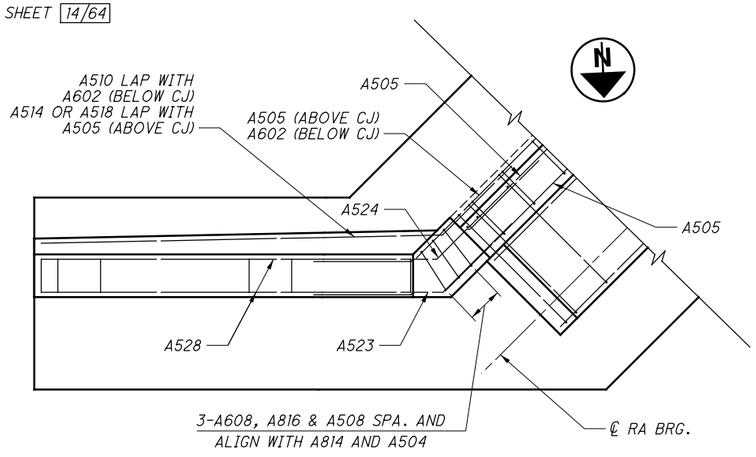
SECTION E-E

FROM SHEET 14/64



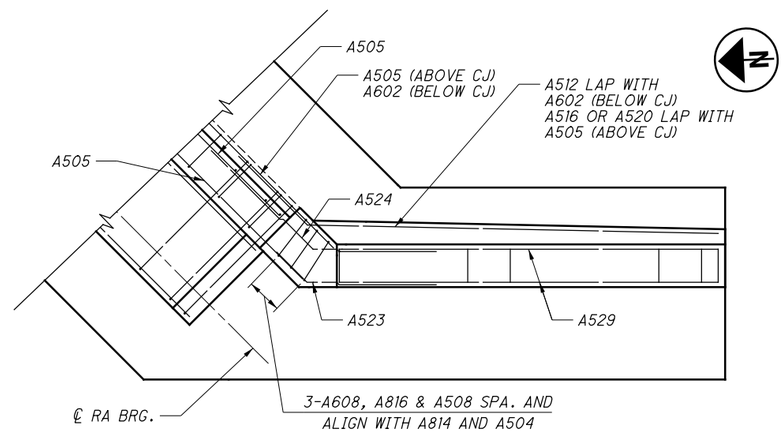
SECTION F-F

FROM SHEET 14/64



VIEW G-G

FROM SHEET 14/64



VIEW H-H

FROM SHEET 14/64

NOTES:

1. FOR ABUTMENT DETAILS, SEE SHEET 11/64
2. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 38/64
3. FOR PILE LAYOUT, SEE SHEET 8/64
4. FOR MODULAR EXPANSION JOINT DETAILS, SEE SHEETS 54-56/64

ABUTMENT REINFORCING REQUIRED LAP LENGTHS	
HORIZONTAL NO. 5 BARS	3'-5" MIN.
VERTICAL NO. 5 BARS	2'-5" MIN.
HORIZONTAL NO. 6 BARS	4'-1" MIN.
VERTICAL NO. 6 BARS	3'-10" MIN.
HORIZONTAL NO. 8 BARS	6'-10" MIN.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

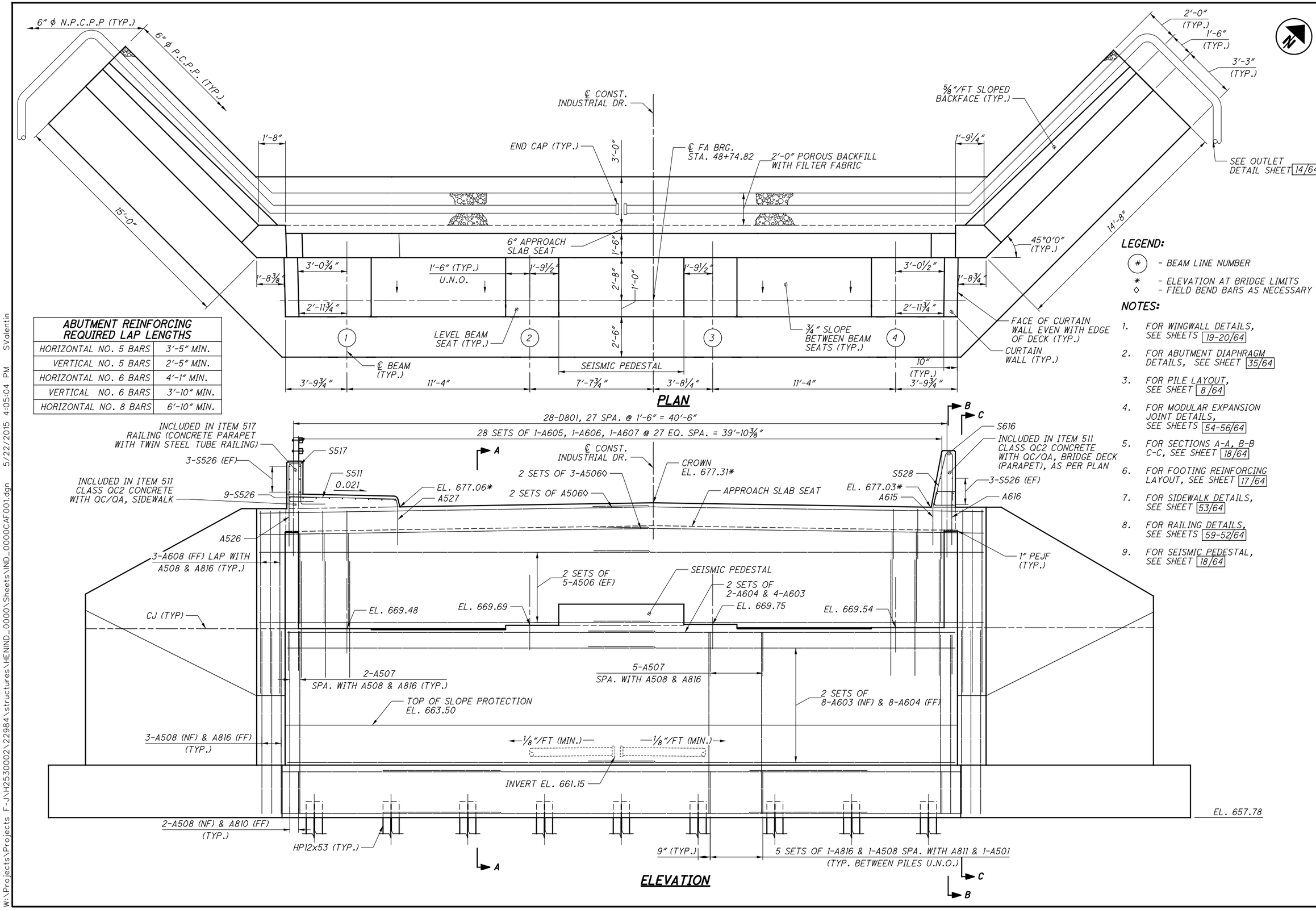
DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

REAR WINGWALL DETAILS
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

15 / 64

99 / 180



ABUTMENT REINFORCING REQUIRED LAP LENGTHS	
HORIZONTAL NO. 5 BARS	3'-5" MIN.
VERTICAL NO. 5 BARS	2'-5" MIN.
HORIZONTAL NO. 6 BARS	4'-1" MIN.
VERTICAL NO. 6 BARS	3'-10" MIN.
HORIZONTAL NO. 8 BARS	6'-10" MIN.

LEGEND:

(#) - BEAM LINE NUMBER

* - ELEVATION AT BRIDGE LIMITS

◇ - FIELD BEND BARS AS NECESSARY

NOTES:

1. FOR WINGWALL DETAILS, SEE SHEETS 19-20/64
2. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 35/64
3. FOR PILE LAYOUT, SEE SHEET 8/64
4. FOR MODULAR EXPANSION JOINT DETAILS, SEE SHEETS 54-56/64
5. FOR SECTIONS A-A, B-B C-C, SEE SHEET 18/64
6. FOR FOOTING REINFORCING LAYOUT, SEE SHEET 17/64
7. FOR SIDEWALK DETAILS, SEE SHEET 53/64
8. FOR RAILING DETAILS, SEE SHEETS 59-52/64
9. FOR SEISMIC PEDESTAL, SEE SHEET 18/64

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

FORWARD ABUTMENT PLAN AND ELEVATION

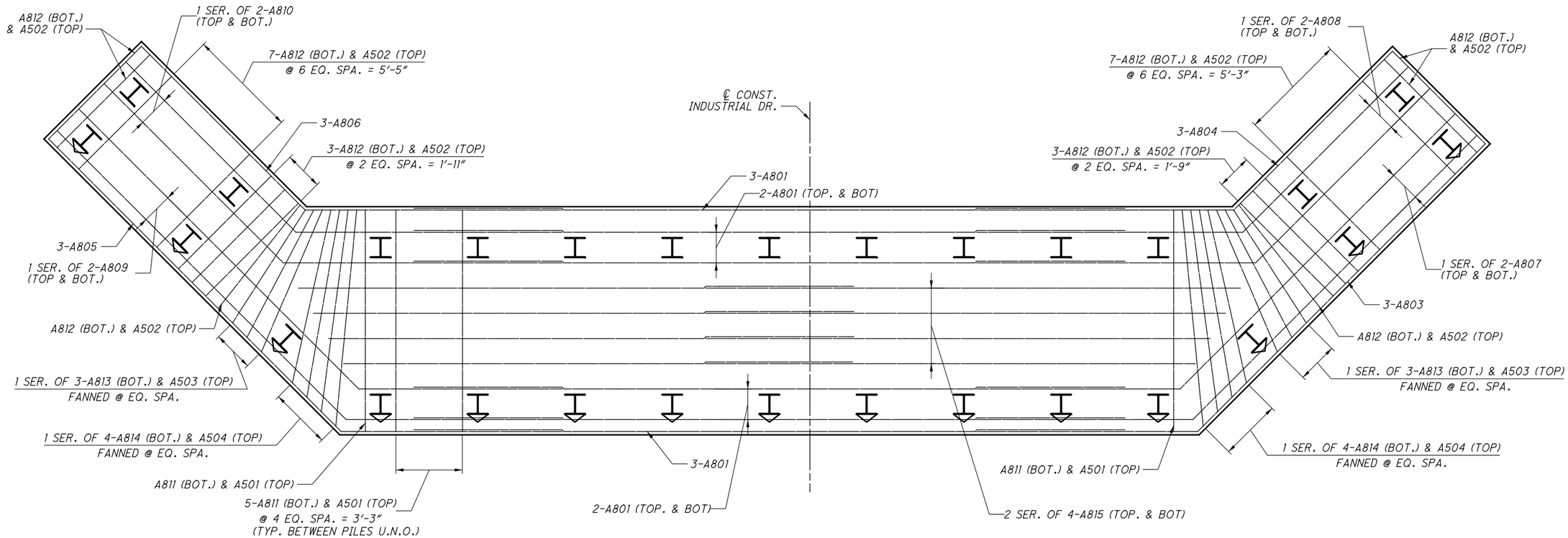
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

16 / 64

100 / 180

W:\Projects\Projects F-UVH2530002\22984\structures\HENIND_0000\Sheets\IND_0000CAF001.dgn 5/22/2015 4:05:04 PM SValentin



FORWARD ABUTMENT FOOTING REINFORCING PLAN

NOTES:

1. FOR ABUTMENT PLAN AND ELEVATION, SEE SHEET 16/64
2. FOR PILE LAYOUT, SEE SHEET 8/64

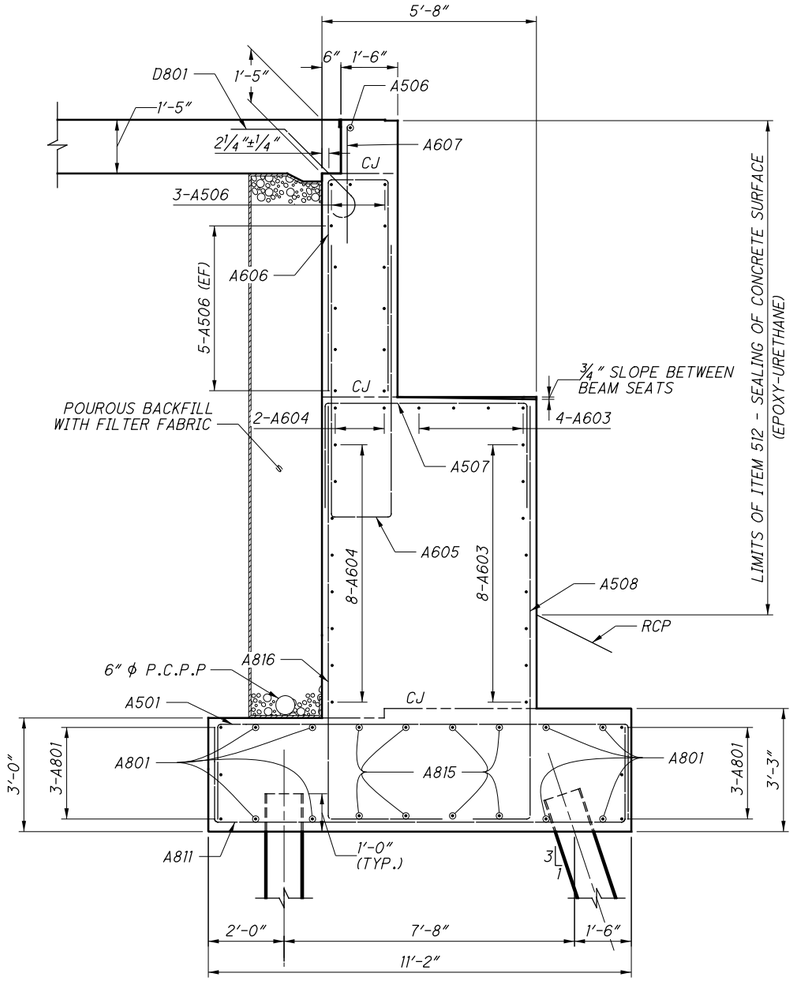
ABUTMENT REINFORCING REQUIRED LAP LENGTHS	
HORIZONTAL NO. 5 BARS	3'-5" MIN.
VERTICAL NO. 5 BARS	2'-5" MIN.
HORIZONTAL NO. 6 BARS	4'-1" MIN.
VERTICAL NO. 6 BARS	3'-10" MIN.
HORIZONTAL NO. 8 BARS	6'-10" MIN.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

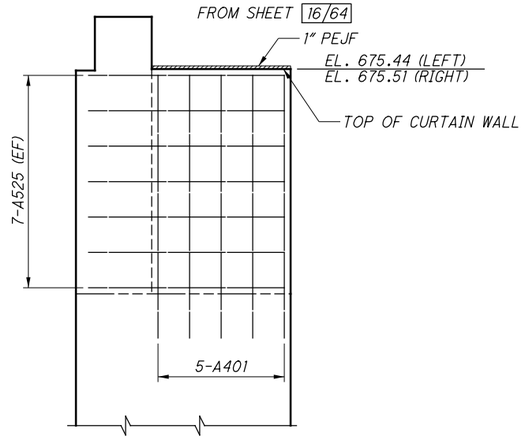
FORWARD ABUTMENT FOOTING REINFORCING
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



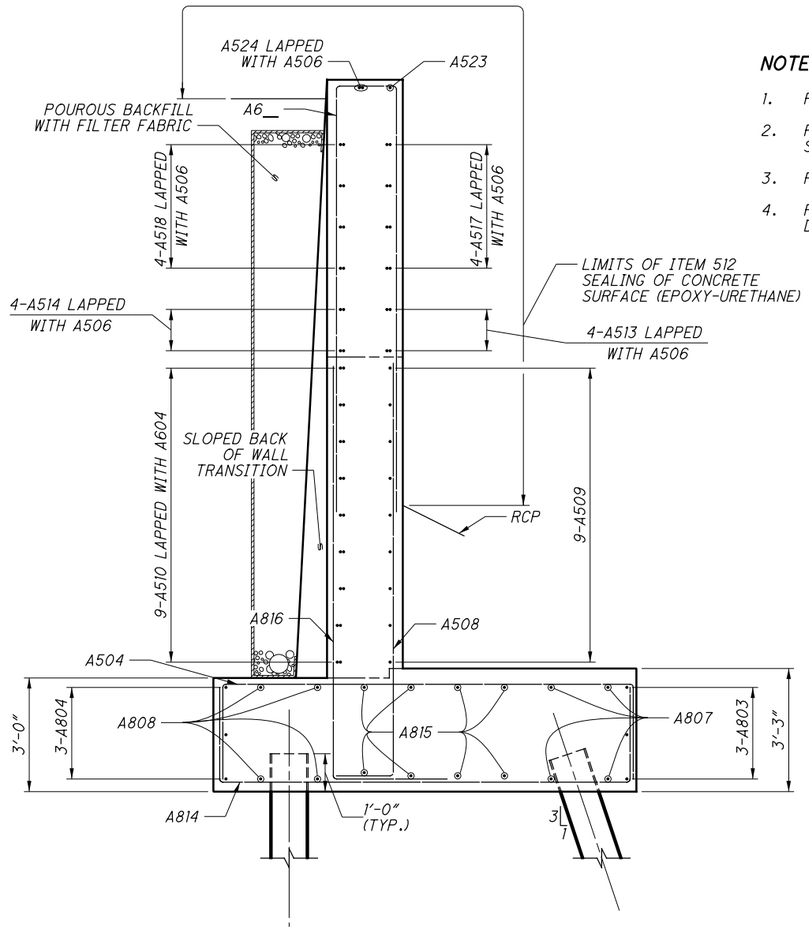
SECTION A-A

FROM SHEET 16/64



SECTION B-B

FROM SHEET 16/64



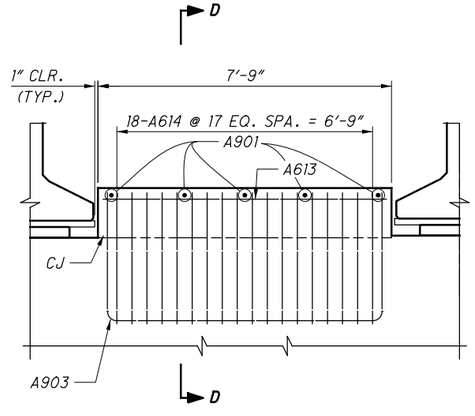
SECTION C-C

FROM SHEET 16/64

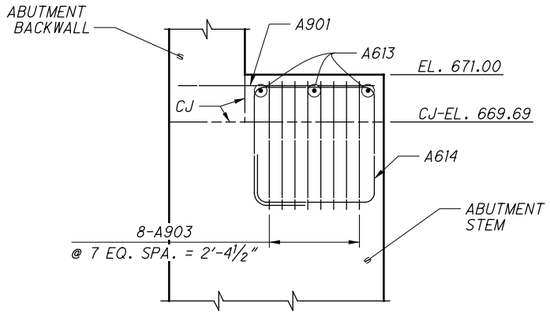
NOTES:

1. FOR WINGWALL DETAILS, SEE SHEETS 19-20/64
2. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 35/64
3. FOR PILE LAYOUT, SEE SHEET 8/64
4. FOR MODULAR EXPANSION JOINT (NOT SHOWN) DETAILS, SEE SHEETS 54-56/64

ABUTMENT REINFORCING REQUIRED LAP LENGTHS	
HORIZONTAL NO. 5 BARS	3'-5" MIN.
VERTICAL NO. 5 BARS	2'-5" MIN.
HORIZONTAL NO. 6 BARS	4'-1" MIN.
VERTICAL NO. 6 BARS	3'-10" MIN.
HORIZONTAL NO. 8 BARS	6'-10" MIN.



SEISMIC PEDISTAL



SECTION D-D

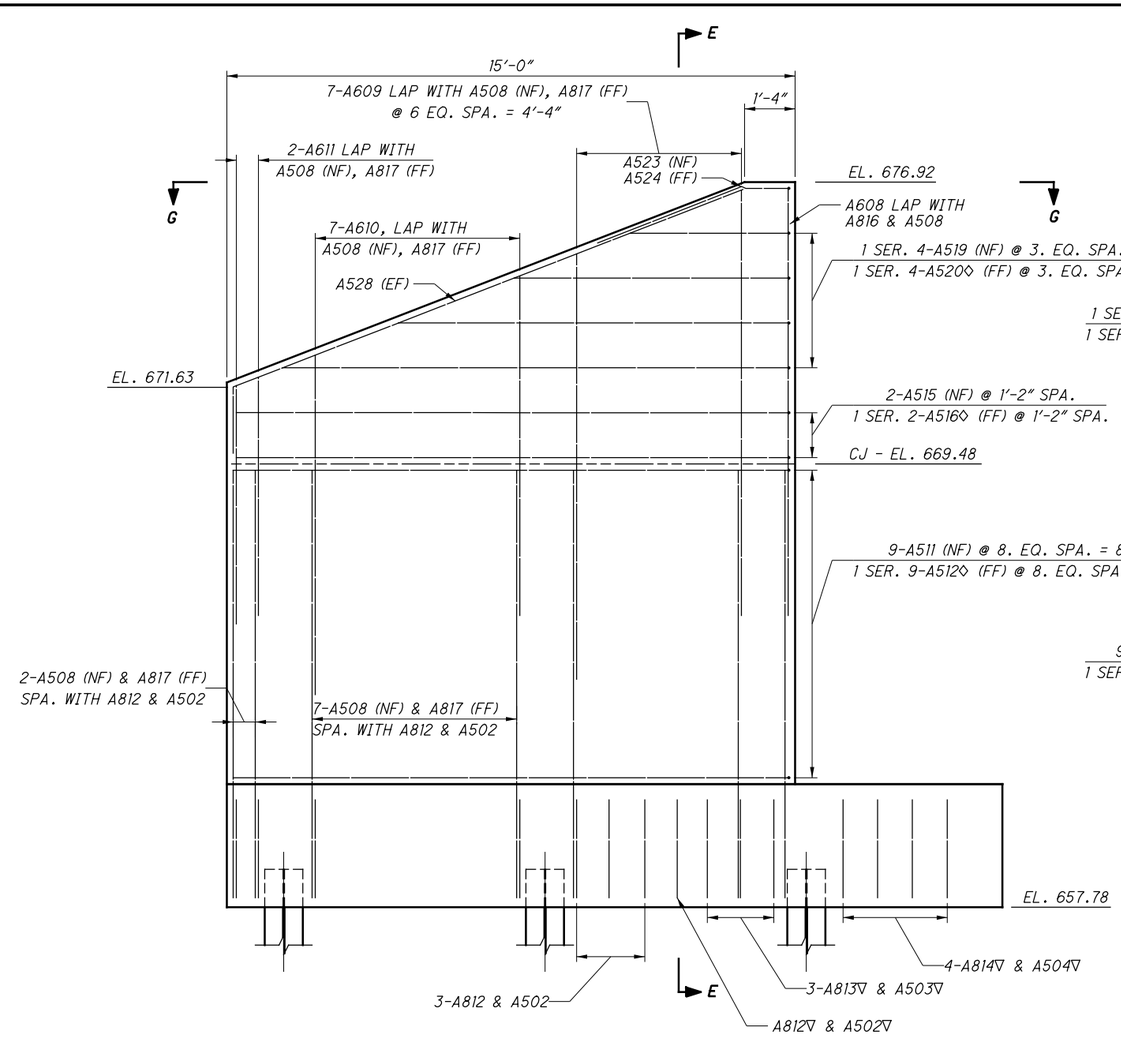
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT	----	TBD	

FORWARD ABUTMENT DETAILS

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



FORWARD LEFT WINGWALL

FORWARD RIGHT WINGWALL

▽ - INDICATES FANNED BAR
SEE SHEET 17/64 FOR DETAILS

◇- INDICATES POSSIBLE NECESSITY
FOR FIELD BEND TO MATCH
BATTERED BACK FACE

ABUTMENT REINFORCING REQUIRED LAP LENGTHS	
HORIZONTAL NO. 5 BARS	3'-5" MIN.
VERTICAL NO. 5 BARS	2'-5" MIN.
HORIZONTAL NO. 6 BARS	4'-1" MIN.
VERTICAL NO. 6 BARS	3'-10" MIN.
HORIZONTAL NO. 8 BARS	6'-10" MIN.

NOTES:

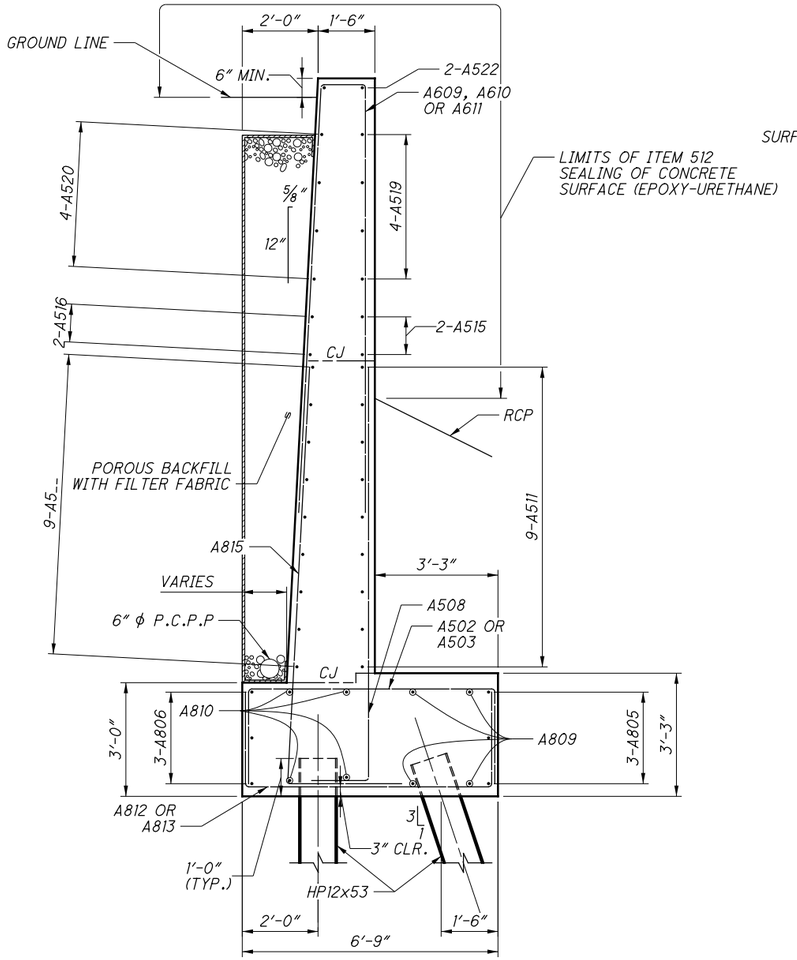
1. FOR ABUTMENT DETAILS, SEE SHEET 16/64
2. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 35/64
3. FOR PILE LAYOUT, SEE SHEET 8/64
4. FOR MODULAR EXPANSION JOINT DETAILS, SEE SHEETS 54-56/64
5. FOR SECTIONS E-E & F-F AND VIEWS G-G & H-H, SEE SHEET 20/64

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT	----	TBD	

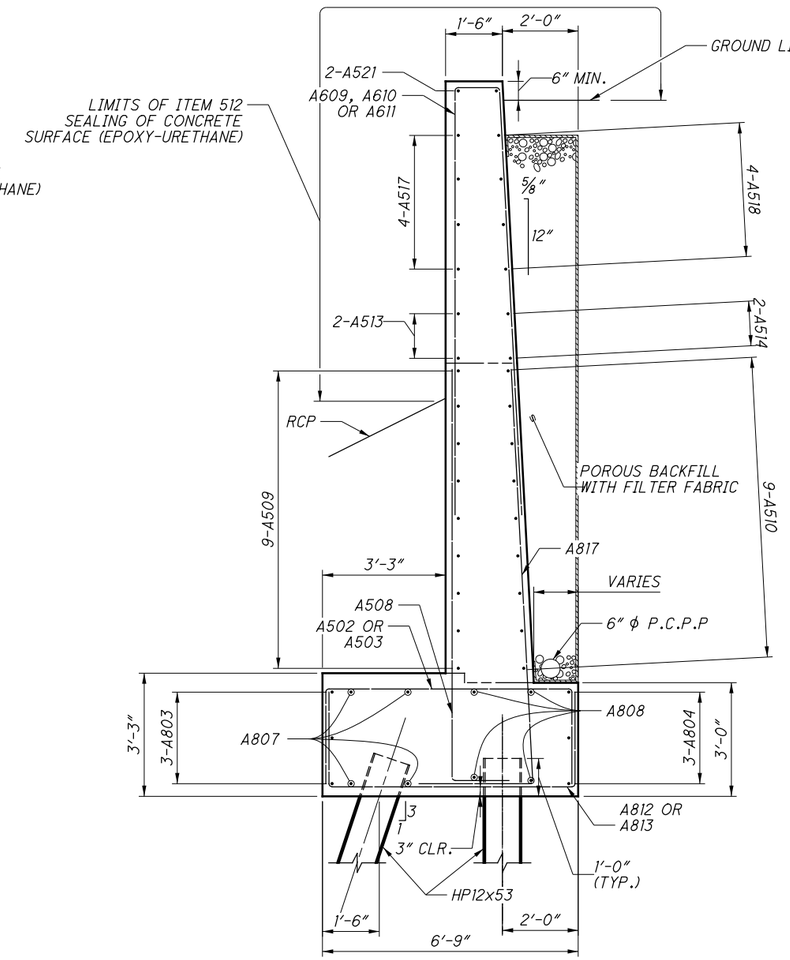
FORWARD WINGWALL DETAILS
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



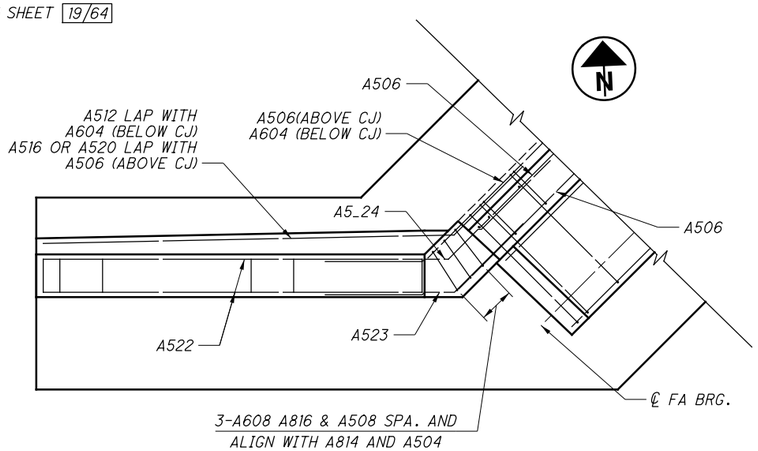
SECTION E-E

FROM SHEET 19/64



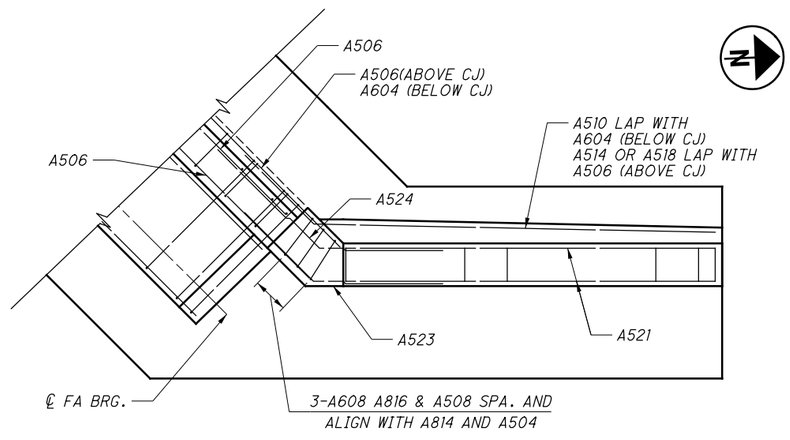
SECTION F-F

FROM SHEET 19/64



VIEW G-G

FROM SHEET 19/64



VIEW H-H

FROM SHEET 19/64

NOTES:

1. FOR ABUTMENT DETAILS, SEE SHEET 16/64
2. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 35/64
3. FOR PILE LAYOUT, SEE SHEET 8/64
4. FOR MODULAR EXPANSION JOINT DETAILS, SEE SHEETS 54-56/64

ABUTMENT REINFORCING REQUIRED LAP LENGTHS	
HORIZONTAL NO. 5 BARS	3'-5" MIN.
VERTICAL NO. 5 BARS	2'-5" MIN.
HORIZONTAL NO. 6 BARS	4'-1" MIN.
VERTICAL NO. 6 BARS	3'-10" MIN.
HORIZONTAL NO. 8 BARS	6'-10" MIN.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

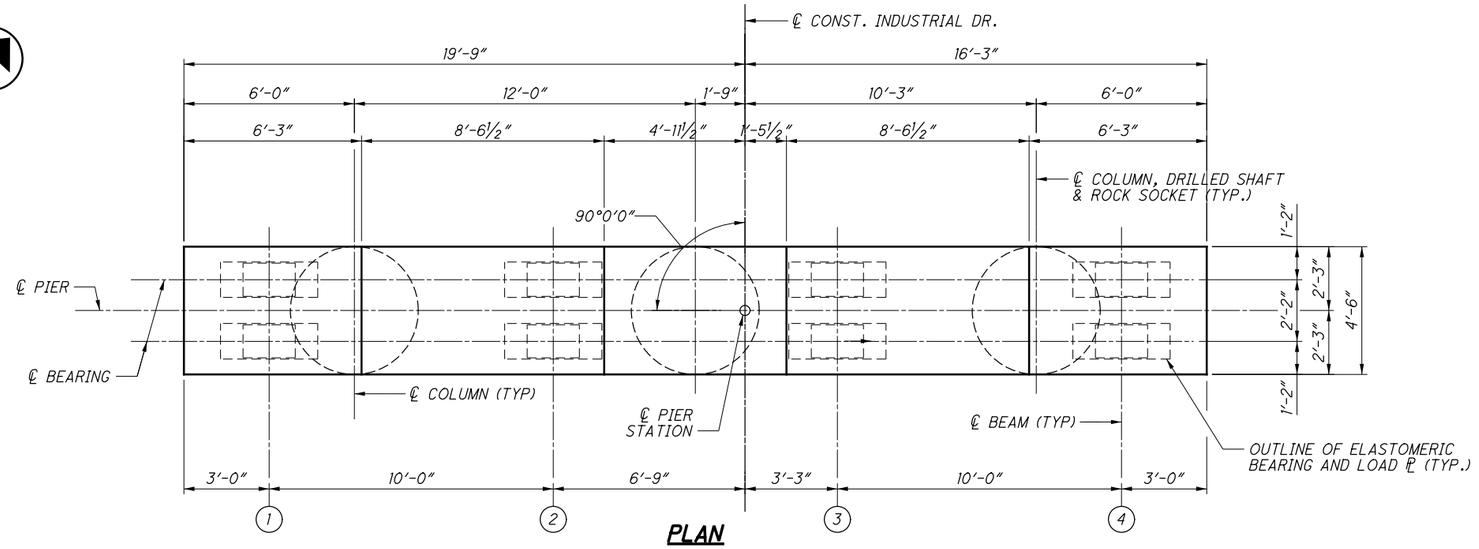
DESIGNED KRH | DRAWN KRH | CHECKED SCT | REVISED ---- | REVIEWED TLR | DATE 05/2015 | STRUCTURE FILE NUMBER TBD

FORWARD WINGWALL DETAILS

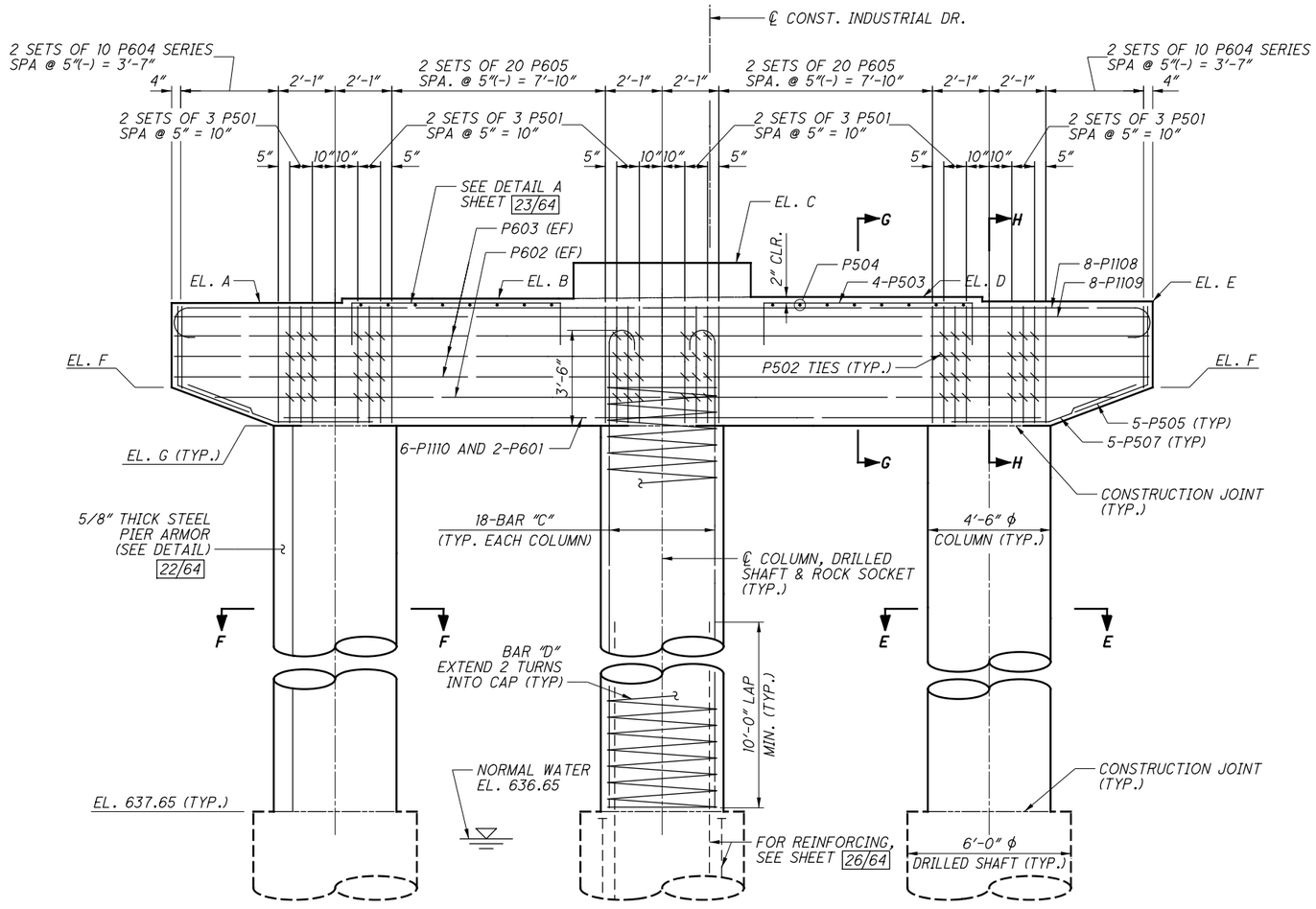
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00

PID No. 22984



PLAN



ELEVATION

PIER NO.	STATION	EL. A	EL. B	EL. C	EL. D	EL. E	EL. F	EL. G
1	40+51.51	664.00	664.18	665.49	664.24	664.06	661.00	659.50
2	41+69.28	664.81	664.98	666.29	665.04	664.86	661.81	660.31
3	42+87.05	665.61	665.78	667.09	665.84	665.66	662.61	661.11
4	44+04.82	666.41	666.58	667.89	666.64	666.46	663.41	661.91
5	45+22.59	667.21	667.38	668.69	667.44	667.26	664.21	662.71
6	46+40.36	668.01	668.19	669.49	668.24	668.06	665.01	663.51
7	47+58.13	668.81	668.99	670.29	669.04	668.87	665.81	664.31

REINFORCING BAR	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7
BAR "C"	P1101	P1102	P1103	P1104	P1105	P1106	P1107
BAR "D"	SP403	SP404	SP405	SP406	SP407	SP408	SP409

LEGEND:

(2) DENOTES PROPOSED BEAM LINE

NOTES:

1. FOR DRILLED SHAFT DETAILS, SEE SHEET 26/64.
2. FOR FOUNDATION PLAN, SEE SHEET 9/64 AND 10/64.
3. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET 34/64.
4. FOR SEISMIC PEDESTAL DETAILS, SEE SHEET 23/64.
5. FOR FIXED PIER DOWEL BAR DETAILS, SEE SHEET 22/64.
6. FOR SECTIONS E-E, F-F, G-G, AND H-H, SEE SHEET 22/64.
7. ALL MATERIAL, LABOR, AND INIDENTALS ASSOCIATED WITH THE STEEL PIER ARMOR SHALL BE INCLUDED IN PAYMENT FOR ITEM 511, CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS, AS PER PLAN.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

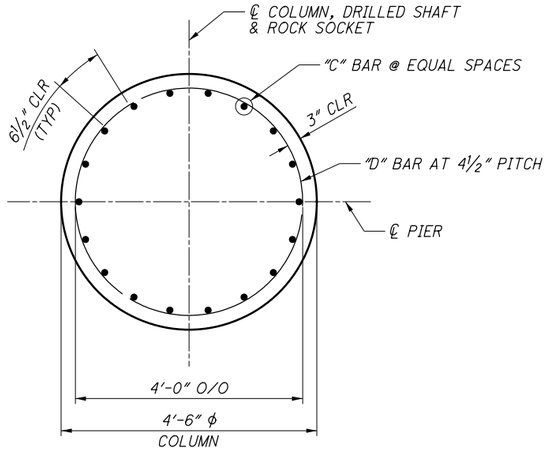
DESIGNED CWE | DRAWN JEC | REVIEWED TLR | DATE 05/2015
CHECKED CMZ | REVISED | STRUCTURE FILE NUMBER TBD

PIER PLAN & ELEVATION
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

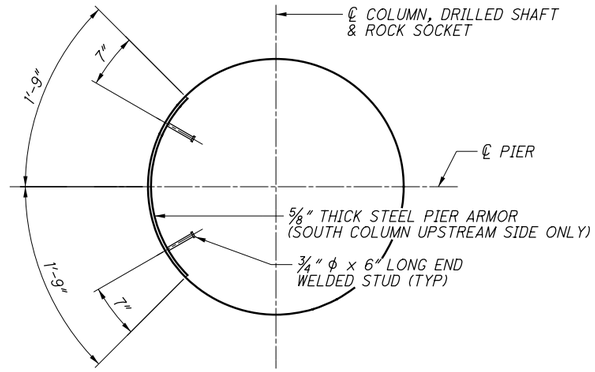
HEN-IND-00.00
PID No. 22984

21 / 64

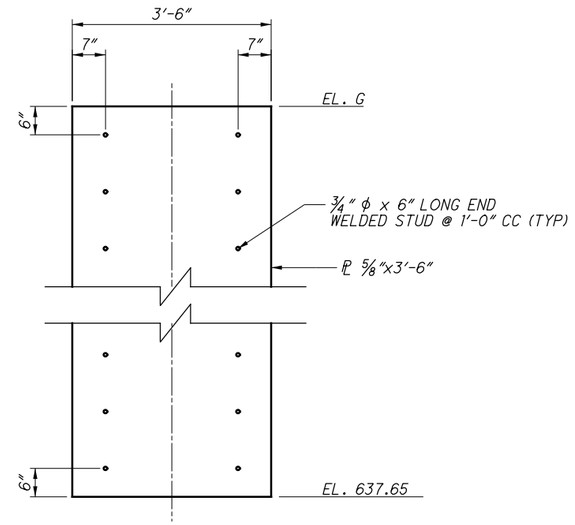
105 / 180



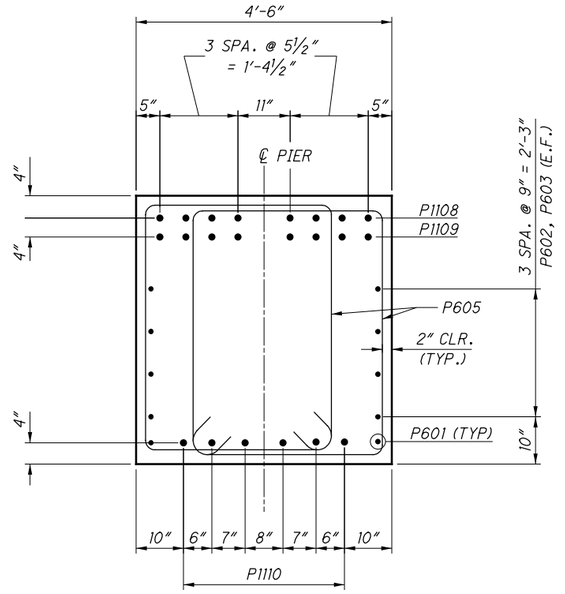
SECTION E-E



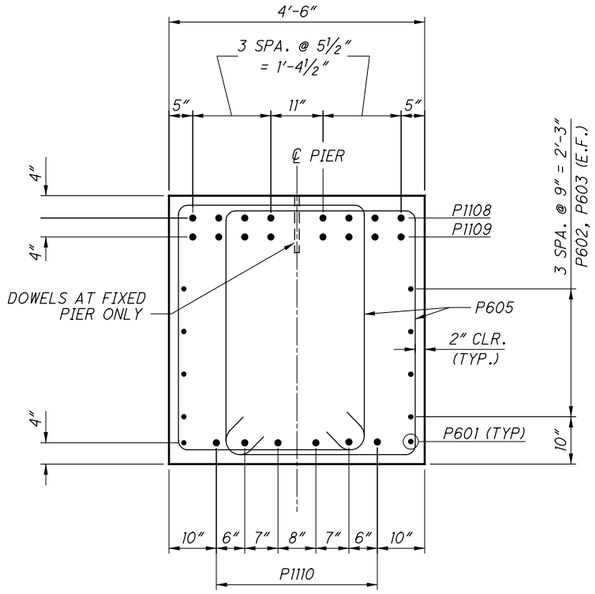
SECTION F-F
(COLUMN REINFORCEMENT NOT SHOWN)



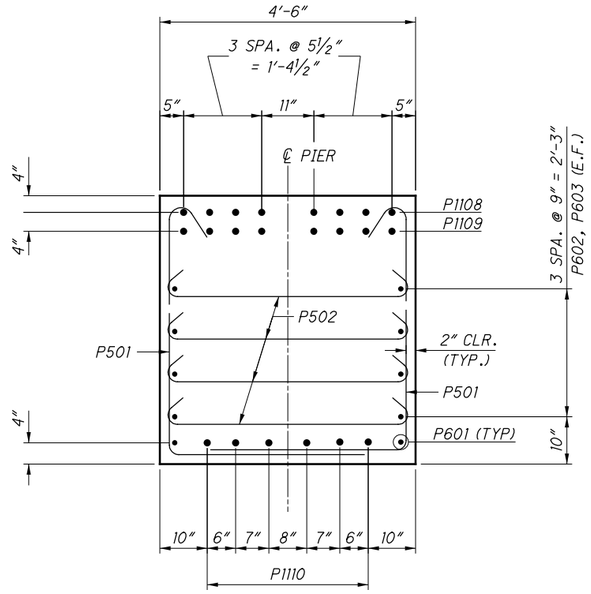
STEEL PIER ARMOR
(SHOWN DEVELOPED)



SECTION G-G



SECTION G-G
(FIXED PIER)
(PIER 4)



SECTION H-H

NOTES:

1. SEE SHEET 21/64 FOR NOTES.

1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

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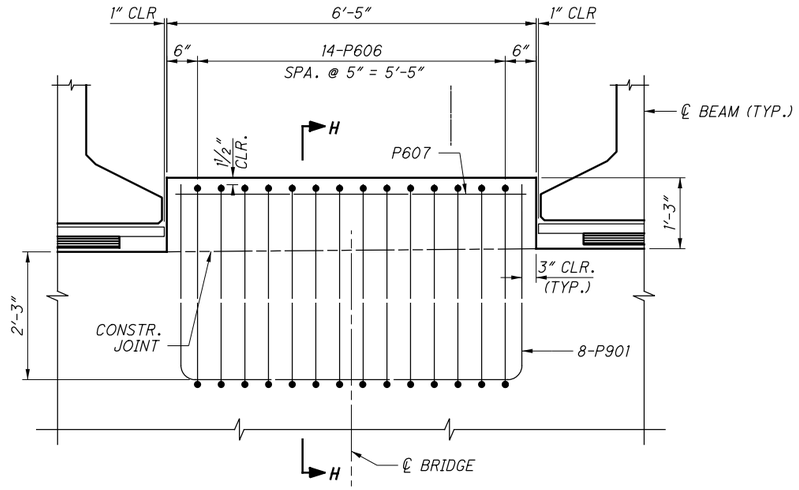
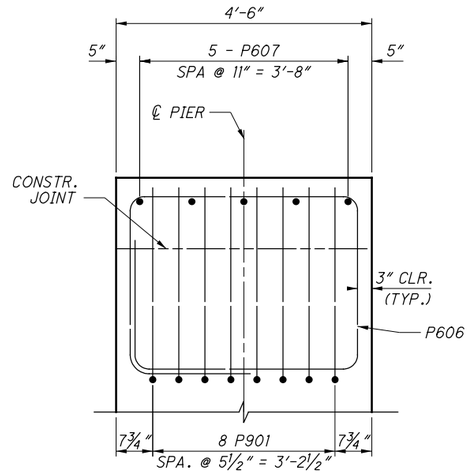
PIER DETAILS
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

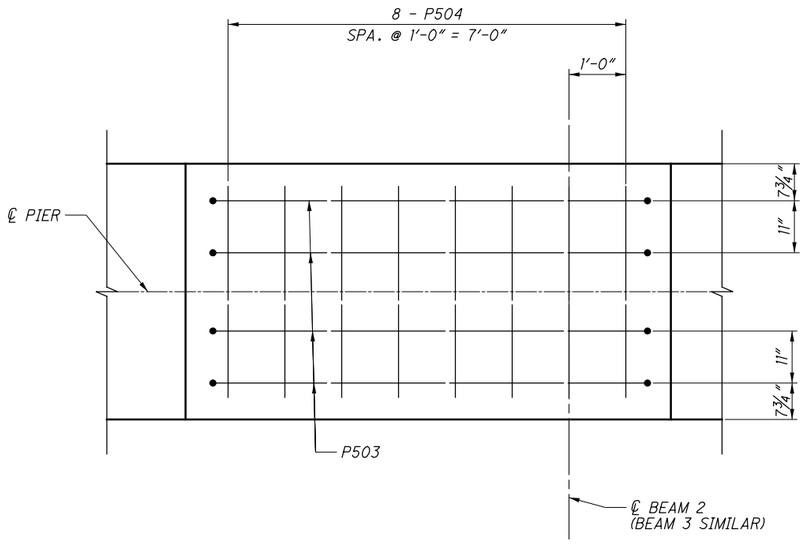
HEN-IND-00.00
PID No. 22984



FRONT VIEW OF SEISMIC PEDESTAL



SECTION H-H



DETAIL A
PIER 4 DOWELS NOT SHOWN

NOTES:

1. SEE SHEET 21/64 FOR NOTES.

Mannik Smith GROUP
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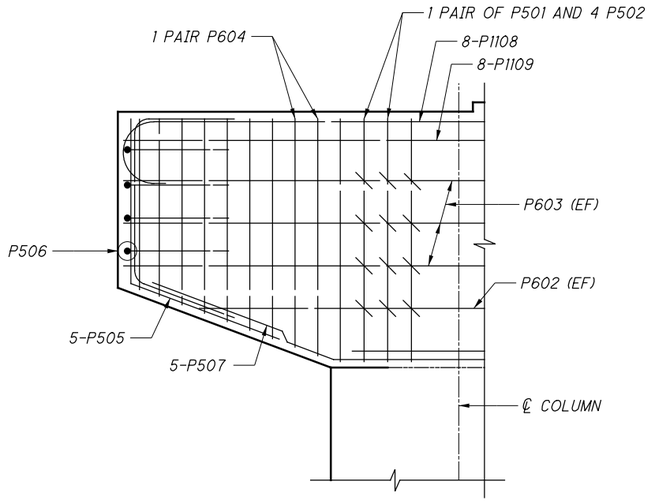
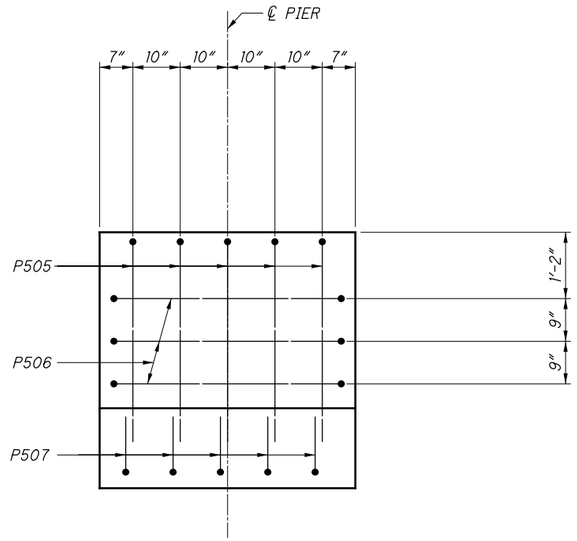
PIER DIAPHRAGM DETAILS
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

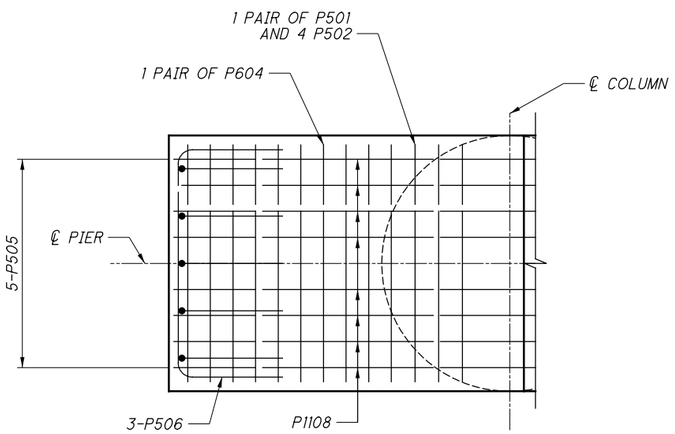


PIER CAP ELEVATION

(COLUMN REINFORCING STEEL AND PIER 4 DOWELS NOT SHOWN)



PIER CAP END DETAIL



PIER CAP SECTION LEFT

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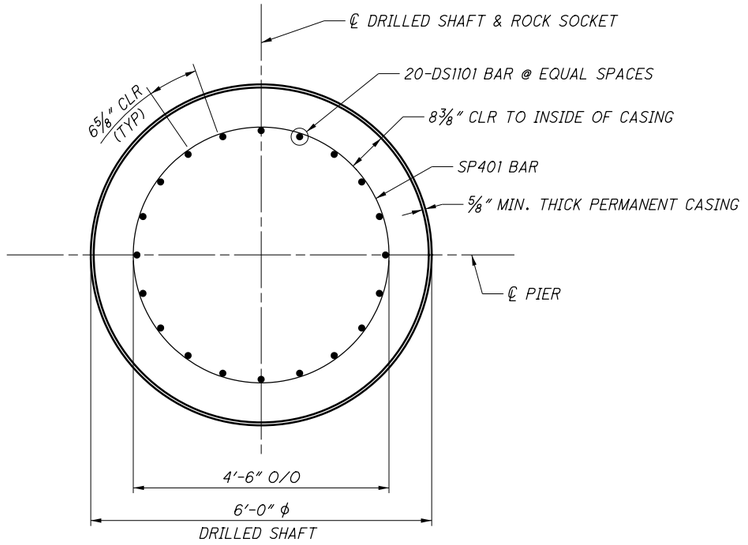
PIER DIAPHRAGM DETAILS

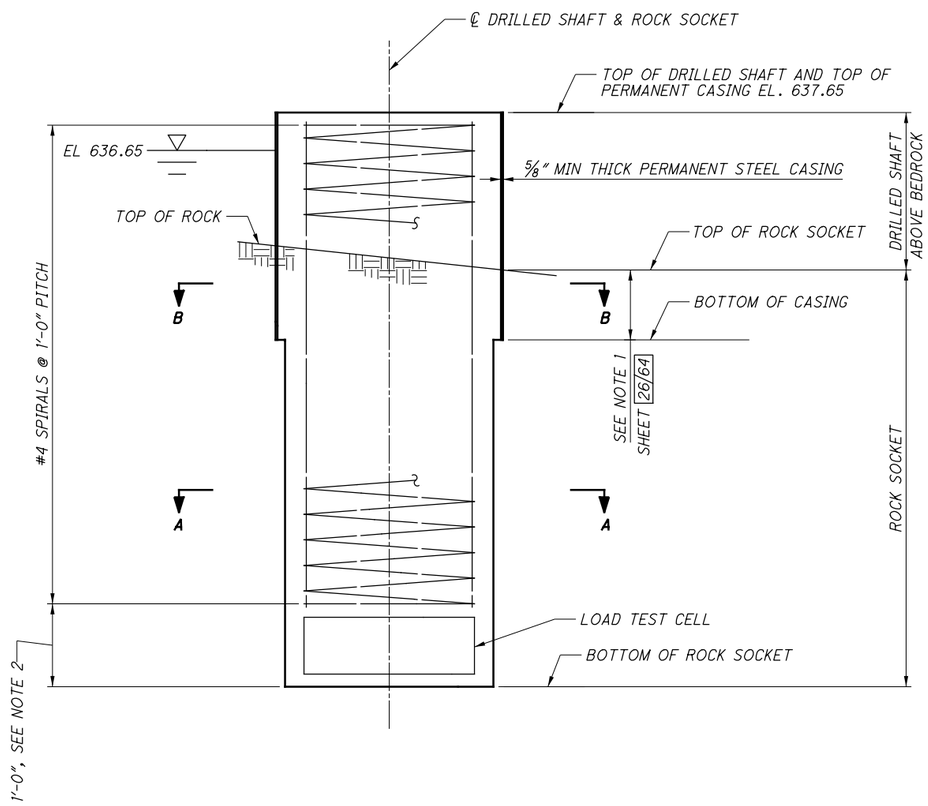
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

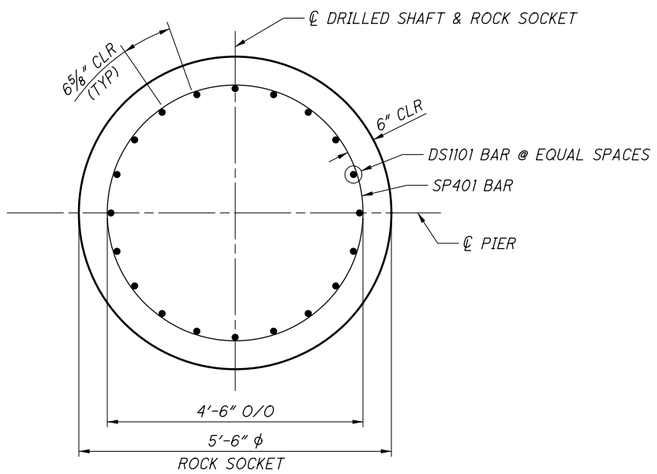
HEN-IND-00.00

PID No. 22984



SECTION B-B





SECTION A-A

NOTES:

1. THE TESTING AT THE TEST SHAFT LOCATION SHALL BE PERFORMED PRIOR TO COMMENCEMENT OF DRILLING FOR THE PRODUCTION SHAFTS.
2. THE TESTING SHALL BE PERFORMED AS OUTLINED IN SECTION 17.2.2.2 OF PUBLICATION NO. FHWA-NHI-10-016 (FHWA GEC 010, MAY 2010). THE USE OF THE CHICAGO METHOD OF TESTING MAY BE WARRANTED. THE CROSS SECTION OF THE TEST DRILLED SHAFT SHOWN IS FOR SCHEMATIC PURPOSES ONLY. SUITABLE MODIFICATIONS TO THE PLACEMENT OF THE LOAD CELL MAY BE MADE TO OBTAIN ACCURATE RESULTS.
3. THE TEST SHAFT WILL BE CONSIDERED TO HAVE PERFORMED SATISFACTORILY IF THE TOTAL (NOMINAL) END BEARING AND SIDE RESISTANCE OF THE DRILLED SHAFT IS EQUAL TO OR GREATER THAN 2,700 KIPS. THE CONTRACTOR SHALL PROVIDE THE RESULTS OF THE TESTS TO THE DESIGN ENGINEER.
4. FOR ADDITIONAL NOTES, SEE SHEET 6, 26/64.
5. FOR DRILLED SHAFT RECORD, SEE SHEET 27/64.

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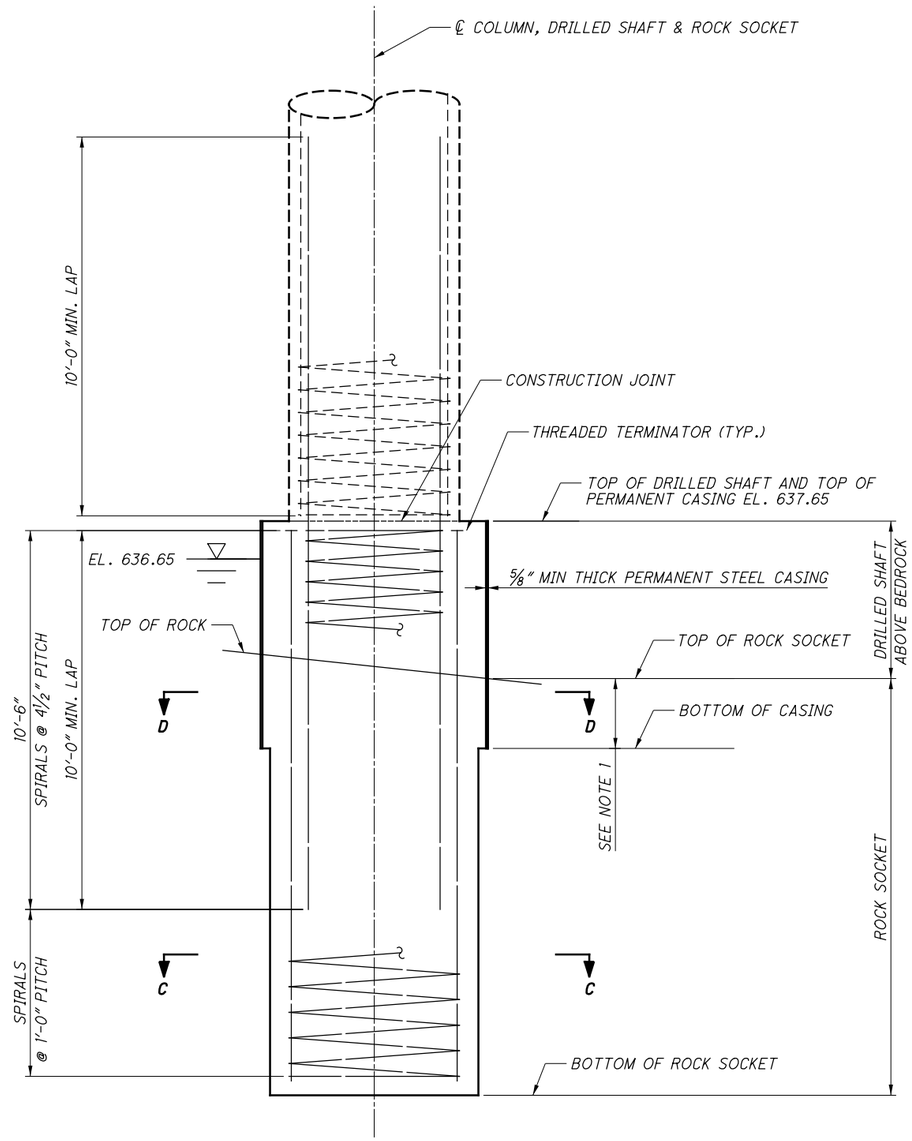
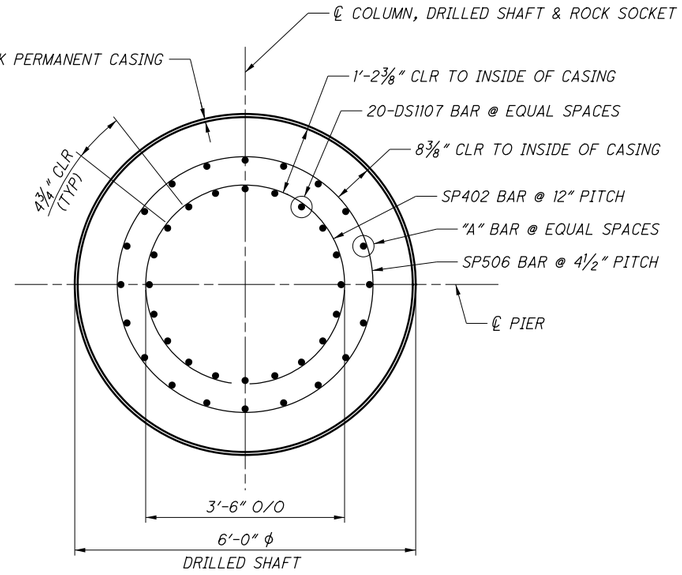
PIER DETAILS - TEST SHAFT

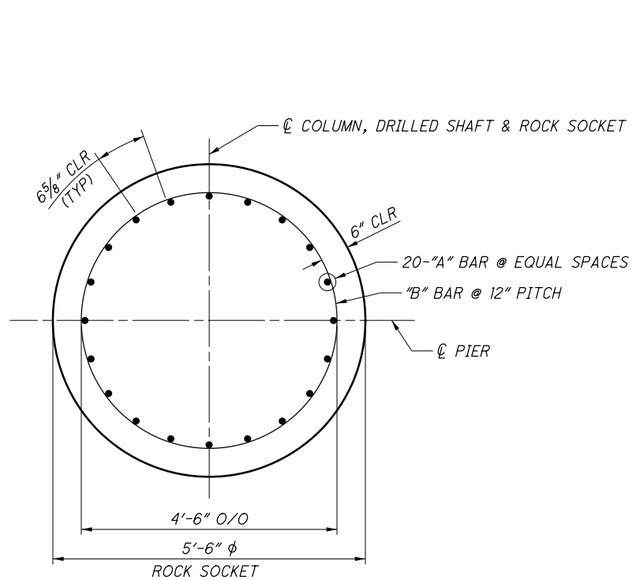
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

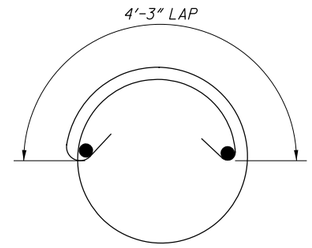




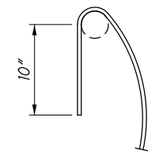
SECTION D-D



SECTION C-C



SPIRAL ANCHOR SPLICE



DETAILS OF 135 DEGREE SPIRAL TIE HOOK

REINFORCING BAR	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7
BAR "A" *	DS1102	DS1102	DS1103	DS1102	DS1104	DS1105	DS1106
BAR "B"	SP501	SP501	SP502	SP501	SP503	SP504	SP505

* THREADED TERMINATOR REQUIRED

NOTES:

1. PERMANENT CASING IS REQUIRED IN WATER AND IN THE OVERBURDEN, AND IT SHALL BE EMBEDDED INTO ROCK TO CREATE AND MAINTAIN A CONCRETE TIGHT SEAL FOR CONSTRUCTION OF THE DRILLED SHAFT. DIMENSION TO BE FIELD VERIFIED.
2. ELEVATIONS FOR THE BOTTOM OF THE DRILLED SHAFT AND BOTTOM OF DRILLED SHAFT ROCK SOCKET WILL BE DETERMINED BY THE OHIO DEPARTMENT OF TRANSPORTATION BASED ON THE RESULTS OF ROCK SOUNDING AND ROCK CORING. QUANTITIES FOR THE DRILLED SHAFTS SHOWN ON THE ESTIMATED QUANTITIES SHEET ARE ESTIMATES. THE PAID QUANTITIES WILL BE THAT OF THE ACTUAL INSTALLED QUANTITY.
3. MECHANICAL COUPLERS SHALL COMPLY WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SEVENTH EDITION, ARTICLE 5.11.5.2.2. WHEN A DRILLED SHAFT IS LENGTHENED IN THE FIELD, 100% OF THE VERTICAL REINFORCEMENT MAY BE SPLICED AT THE BOTTOM OF THE REINFORCEMENT CAGE.
4. SPIRAL SPLICES SHALL BE MECHANICALLY COUPLED, WELDED, OR HOOKED LAPPED SPLICED. ENDS OF SPIRAL REINFORCING SHALL BE HOOKED 135 DEGREES AROUND A VERTICAL REINFORCING BAR. SEE SPLICE DETAIL.
5. 5/8 INCH CASING THICKESS SHOWN IS A MINIMAL STRUCTURAL REQUIREMENT FOR THE DRILLED SHAFTS IN THEIR FINAL IN-SERVICE CONDITION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SIZE THE CASING TO SATISIFY CONSTRUCTION INSTALLATION REQUIREMENTS.
6. FOR DRILLED SHAFT RECORD, SEE SHEET 27/64 .
7. DIMENSIONS SHOWN IN THE DRAWINGS ARE BASED ON THE SATISFACTORY PERFORMANCE OF THE TEST SHAFT. IN THE EVENT OF UNSATISFACTORY PERFORMANCE OF THE TEST SHAFT, THE DESIGN ENGINEER RESERVES THE RIGHT TO REVISE THE DIMENSIONS OF THE PRODUCTION SHAFTS.
8. REINFORCING BARS ARE INCLUDED IN PAYMENT FOR ITEM 524 - DRILLED SHAFT

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PIER DETAILS - PRODUCTION SHAFT
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

PIER NUMBER	DRILLED SHAFT NUMBER	REQUIRED FACTORED RESISTANCE KIPS		ELEVATIONS				DRILLED SHAFT ROCK SOCKET LENGTH	DRILLED SHAFT ABOVE BEDROCK LENGTH
				TOP OF DRILLED SHAFT	TOP OF ROCK (2)	BOTT OF ROCK SOCKET ELEVATION	TOP OF ROCK SOCKET (4)		
		BEARING	LATERAL			PLAN (3)		PLAN	PLAN
1	1	1303	120	637.65	632.40	621.40	632.40	11.00	5.25
	2	1303	120	637.65	632.40	621.40	632.40	11.00	5.25
	3	1303	120	637.65	632.40	621.40	632.40	11.00	5.25
*	4	2700	-	637.65	632.40	621.40	632.40	11.00	5.25
2	5	1303	120	637.65	632.30	621.30	632.30	11.00	5.35
	6	1303	120	637.65	632.30	621.30	632.30	11.00	5.35
	7	1303	120	637.65	632.30	621.30	632.30	11.00	5.35
3	8	1303	120	637.65	631.00	620.00	631.00	11.00	6.65
	9	1303	120	637.65	631.00	620.00	631.00	11.00	6.65
	10	1303	120	637.65	631.00	620.00	631.00	11.00	6.65
4	11	1303	120	637.65	632.20	621.20	632.20	11.00	5.45
	12	1303	120	637.65	632.20	621.20	632.20	11.00	5.45
	13	1303	120	637.65	632.20	621.20	632.20	11.00	5.45
5	14	1303	120	637.65	634.30	623.30	634.30	11.00	3.35
	15	1303	120	637.65	634.30	623.30	634.30	11.00	3.35
	16	1303	120	637.65	634.30	623.30	634.30	11.00	3.35
6	17	1303	120	637.65	631.30	620.30	631.30	11.00	6.35
	18	1303	120	637.65	631.30	620.30	631.30	11.00	6.35
	19	1303	120	637.65	631.30	620.30	631.30	11.00	6.35
7	20	1303	145	637.65	634.80	623.80	634.80	11.00	2.85
	21	1303	145	637.65	634.80	623.80	634.80	11.00	2.85
	22	1303	145	637.65	634.80	623.80	634.80	11.00	2.85

NOTES:

* 1. DRILLED SHAFT NUMBER 4 IS A TEST SHAFT.

2. TOP OF ROCK ELEVATIONS BASED ON 2014 BORINGS / ROCK CORE.

3. BOTTOM OF ROCK SOCKET ELEVATONS WERE SELECTED BASED ON THE TOP OF ROCK ELEVATIONS AT EACH SHAFT AND FOR CONSISTANCY OF TIP ELEVATONS IN A GIVEN ROW.

4. TOP OF ROCK SOCKET ELEVATION IS ESTIMATED FROM THE LOWEST TOP OF ROCK ELEVATION NEAR EACH SHAFT. TOP OF ROCK SOCKET ELEVATION SHALL BE VERIFIED BY THE CONTRACTOR PER C&MS 524.01.

5. THE FOLLOWING RESISTANCE FACTORS WERE CONSIDERED IN CALCULATING REQUIRED NOMINAL GEOTECHNICAL RESISTANCE PER AASHTO LRFD TABLE 10.5.5.2.4-1 AND ARTICLE 10.5.5.3.3:

RESISTANCE FACTOR FOR AXIAL COMPRESSION RESISTANCE (SIDE RESISTANCE IN ROCK) = 0.55
RESISTANCE FACTOR FOR AXIAL COMPRESSION RESISTANCE (TIP RESISTANCE IN ROCK) = 0.50
RESISTANCE FACTOR FOR HORIZONTAL (LATERAL) GEOTECHNICAL RESISTANCE OF SINGLE SHAFT OR SHAFT GROUP = 1.0
RESISTANCE FACTOR FOR AXIAL COMPRESSION RESISTANCE (SIDE RESISTANCE IN ROCK) FOR EXTREME EVENT = 1.0
RESISTANCE FACTOR FOR AXIAL COMPRESSION RESISTANCE (TIP RESISTANCE IN ROCK) FOR EXTREME EVENT = 1.0

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

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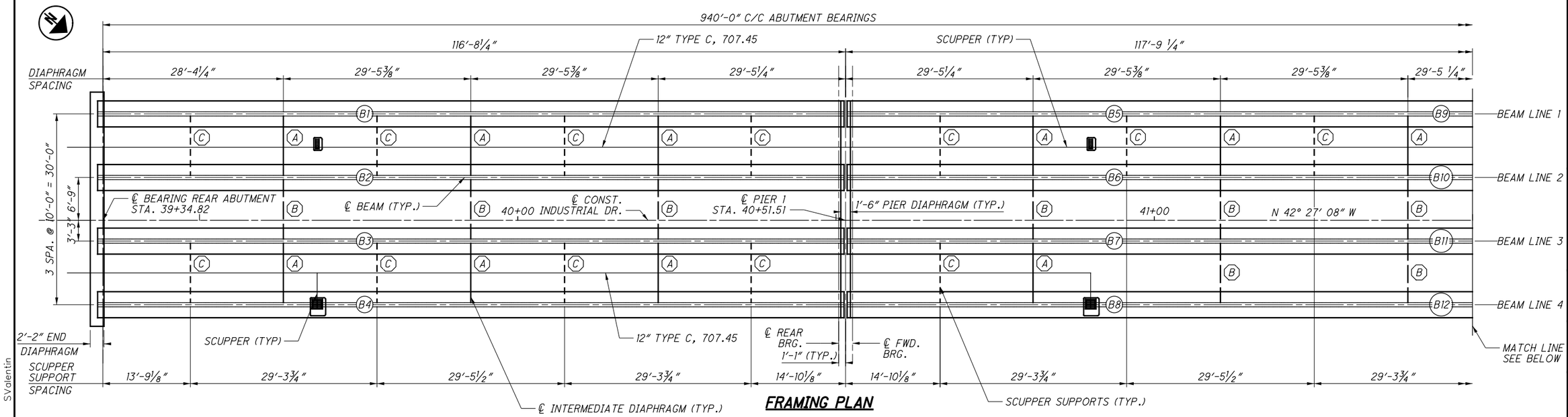
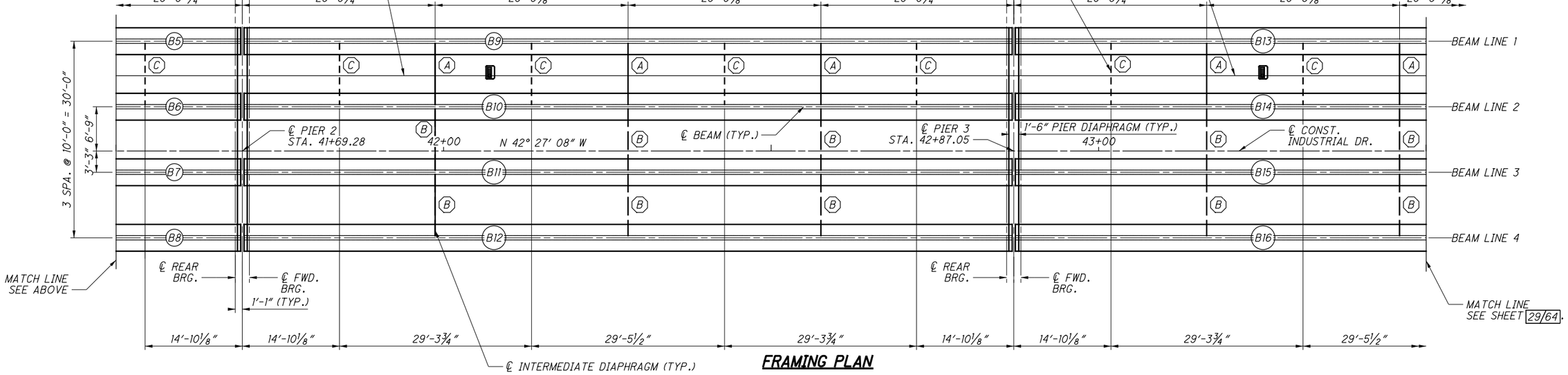
PIER DETAILS
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



FRAMING PLAN



FRAMING PLAN

CAMBER (SPANS 1-7)

CALCULATED CAMBER AT DAY 0 (D30) IS 2.002 INCHES.

CALCULATED CAMBER AT DAY 30 (D30) IS 2.899 INCHES.

DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE DECK, CROSSFRAMES, DIAPHRAGMS, BARRIERS, UTILITIES,ETC.) IS 1.516 INCHES (INTERIOR) AND 1.317 INCHES (FASCIA).

THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D30 WITH A SACRIFICIAL HAUNCH THICKNESS OF 2-INCHES.

LEGEND:

- (BX) - BEAM NUMBER
- (A) - TYPE A INTERMEDIATE DIAPHRAGM
- (B) - TYPE B INTERMEDIATE DIAPHRAGM
- (C) - SCUPPER SUPPORT

NOTES:

1. *FOR ADDITIONAL DETAILS AND NOTES, SEE ODOT STANDARD DRAWING PSID-1-13.*
2. *FOR BEARING DETAILS, SEE SHEETS 33/64 THRU 34/64.*
3. *FOR HAUNCH AND DECK INFORMATION, SEE SHEETS 43/64 THRU 48/64.*
4. *FOR SCREED ELEVATIONS, SEE SHEETS 42/64.*
5. *FOR PRESTRESSED I-BEAM DETAILS, SEE SHEETS 31/64 THRU 32/64.*
6. *FOR END DIAPHRAGM DETAILS, SEE SHEETS 35/64.*
7. *FOR PIER DIAPRAGM DETAILS, SEE SHEETS 36/64.*
8. *INTERMEDIATE DIAPHRAGMS: DO NOT PLACE THE DECK CONCRETE UNTIL ALL INTERMEDIATE DIAPHRAGMS HAVE BEEN PROPERLY INSTALLED.*
9. *THE THREADED INSERTS AND THE THREADED RODS FOR THE DIAPHRAGMS SHALL BE GALVANIZED ACCORDING TO CMS 711.02.*

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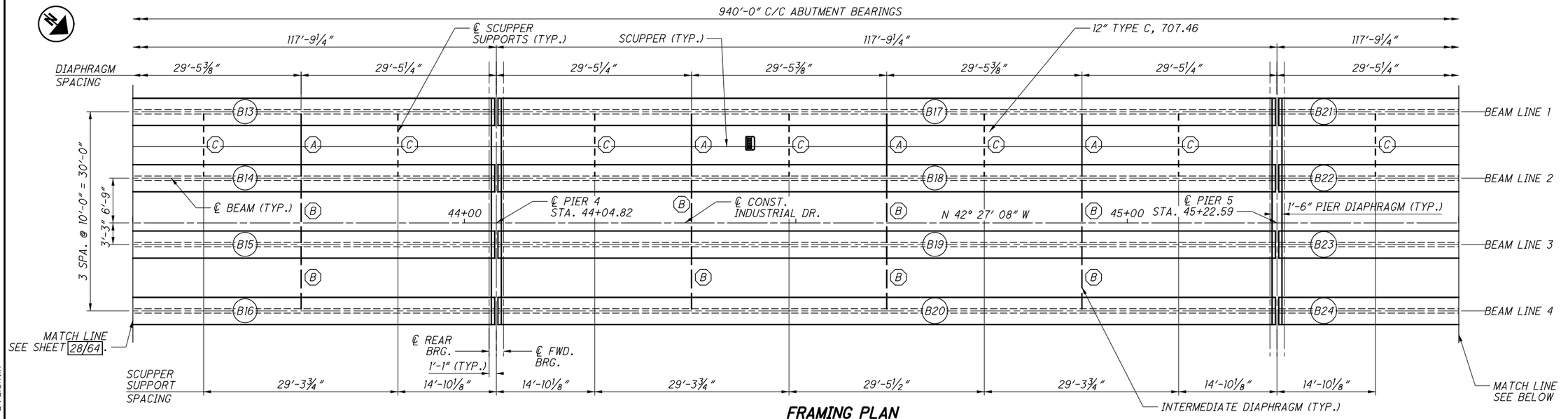
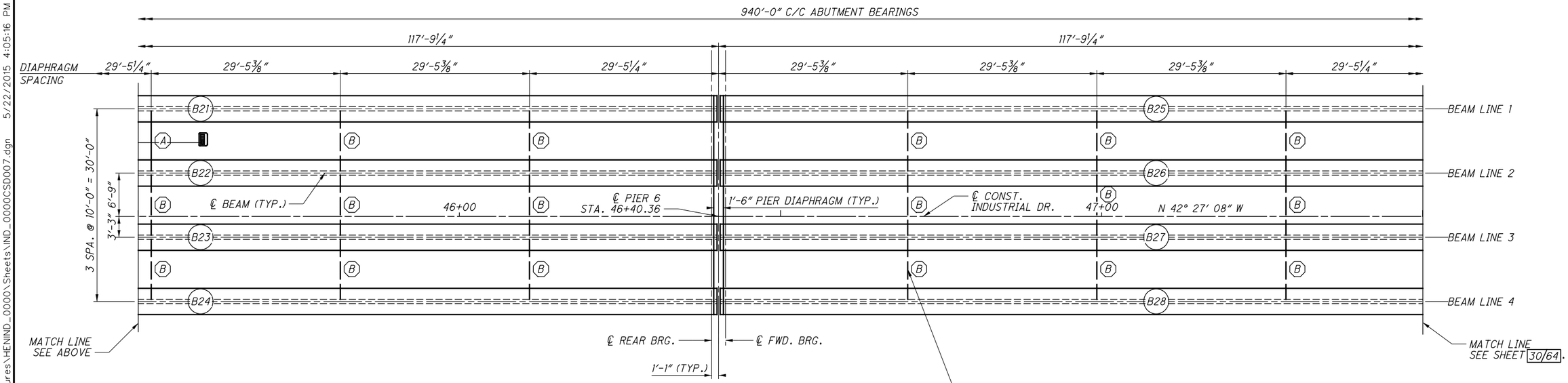
FRAMING PLAN (1 OF 3)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



FRAMING PLAN



FRAMING PLAN

NOTES:

1. FOR NOTES, SEE SHEETS 28/64.

Mannik Smith Group
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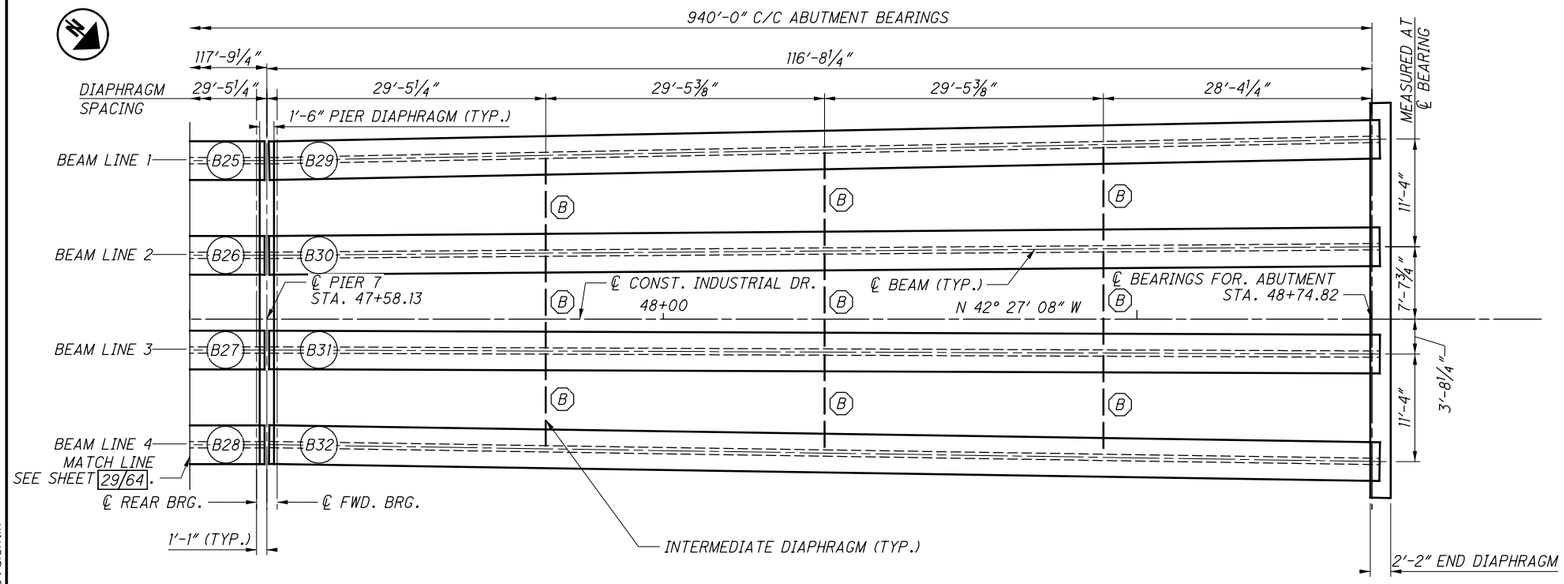
FRAMING PLAN (2 OF 3)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

29 / 64

113 / 180



FRAMING PLAN

CAMBER (SPANS 8)

CALCULATED CAMBER AT DAY 0 (D30) IS 2.002 INCHES.

CALCULATED CAMBER AT DAY 30 (D30) IS 2.899 INCHES.

DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE DECK, CROSSFRAMES, DIAPHRAGMS, BARRIERS, UTILITIES,ETC.) IS 1.8 INCHES (INTERIOR) AND 1.412 INCHES (FASCIA).

THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D30 WITH A SACRIFICIAL HAUNCH THICKNESS OF 2-INCHES.

NOTES:

1. FOR NOTES, SEE SHEETS 28/64.

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
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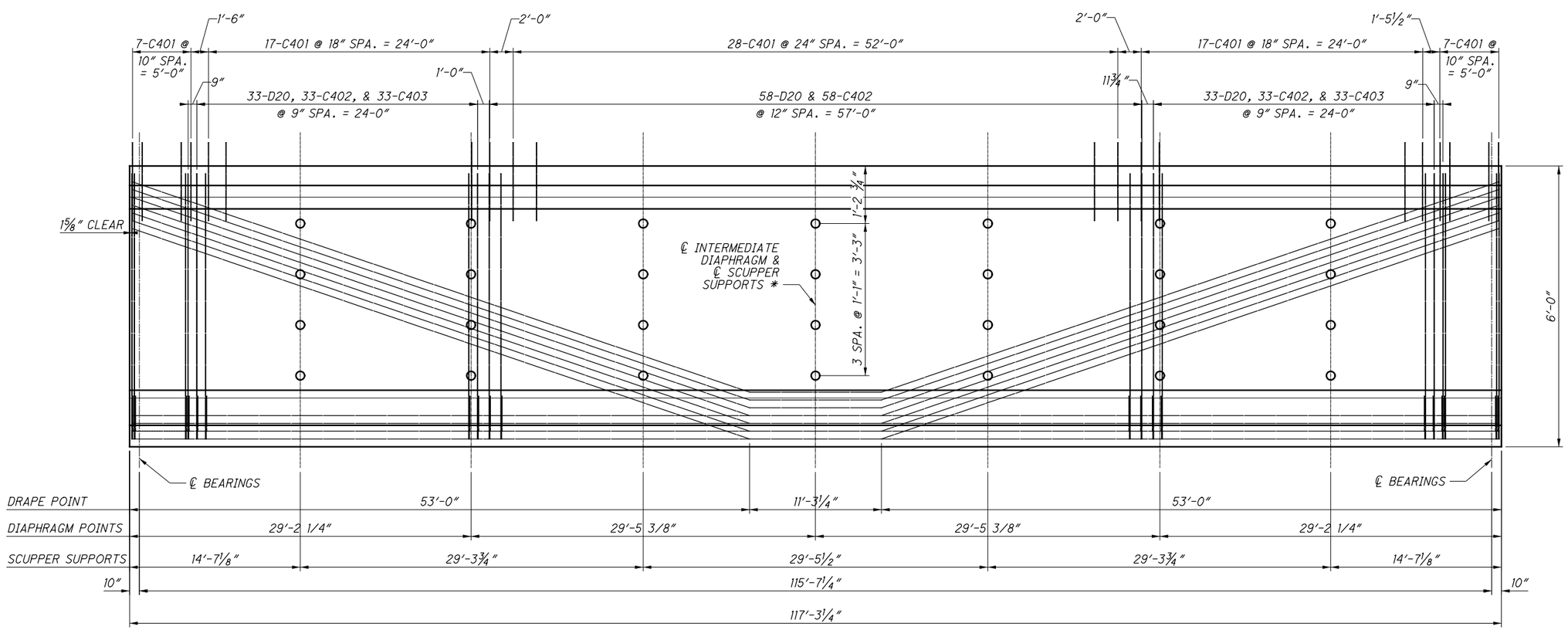
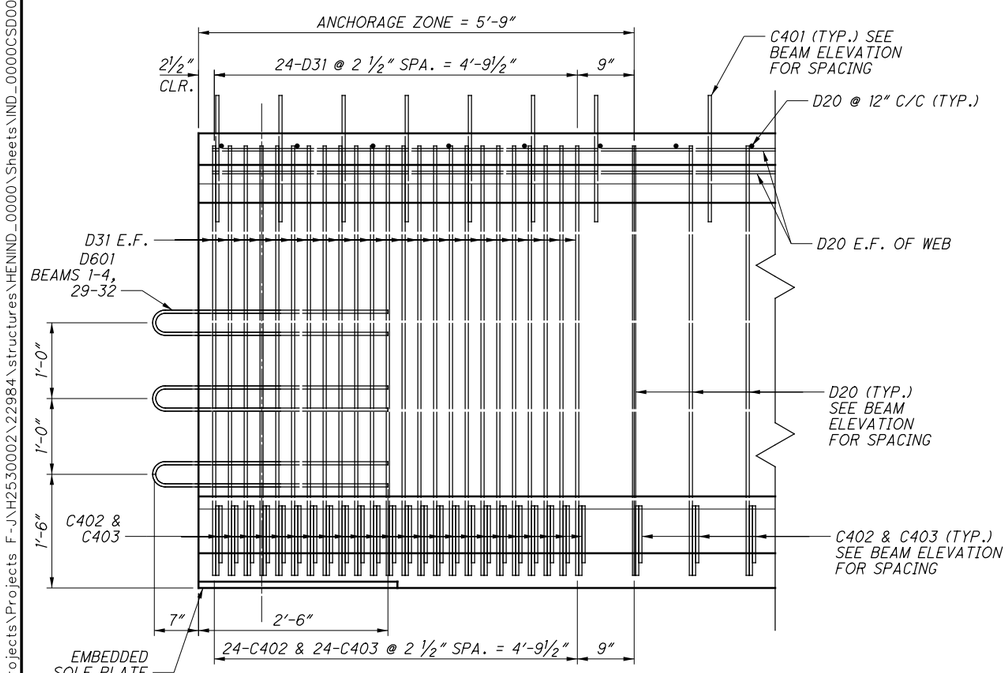
FRAMING PLAN (3 OF 3)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

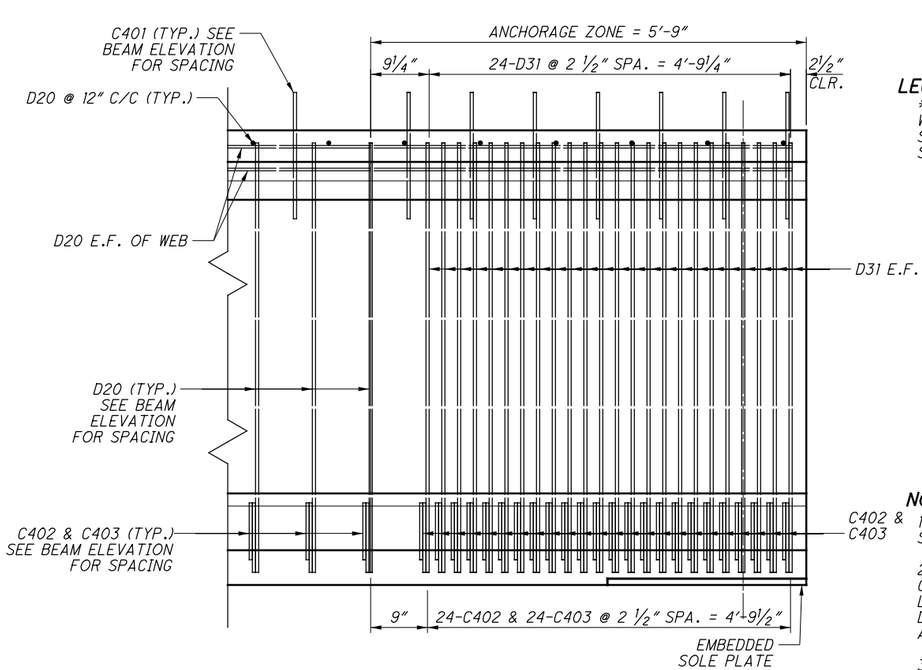
HEN-IND-00.00
PID No. 22984



BEAM ELEVATION



ACHORAGE REINFORCEMENT DETAIL AT ABUTMENTS



ACHORAGE REINFORCEMENT DETAIL AT PIERS

LEGEND:

* - LOCATE BOLT HOLES IN THE I-BEAM WEBS TO AVOID PRESTRESS PRESTRESSING STRANDS. THE MINIMUM CLEAR DISTANCE SHALL BE 1 ½"

NOTES:

1. FOR ADDITIONAL DETAILS AND NOTES, SEE ODOT STANDARD DRAWING PSID-1-13.
2. ALL PRESTRESSING STRANDS SHALL BE GRADE 270 KIPS SEVEN WIRE, UNCOATED, LOW RELAXATION STRAND, WITH A DIAMETER OF 0.6 INCHES AND A NOMINAL AREA OF 0.217 SQUARE INCHES.
3. ONLY THE C401 REINFORCING BARS SHALL BE EPOXY COATED, GRADE 60.

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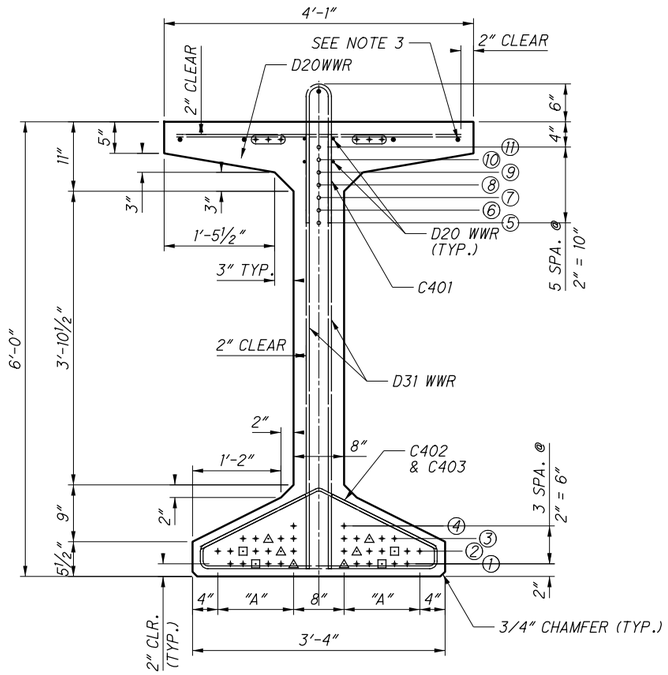
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT	----	TBD	

PRESTRESSED I-BEAM DETAILS

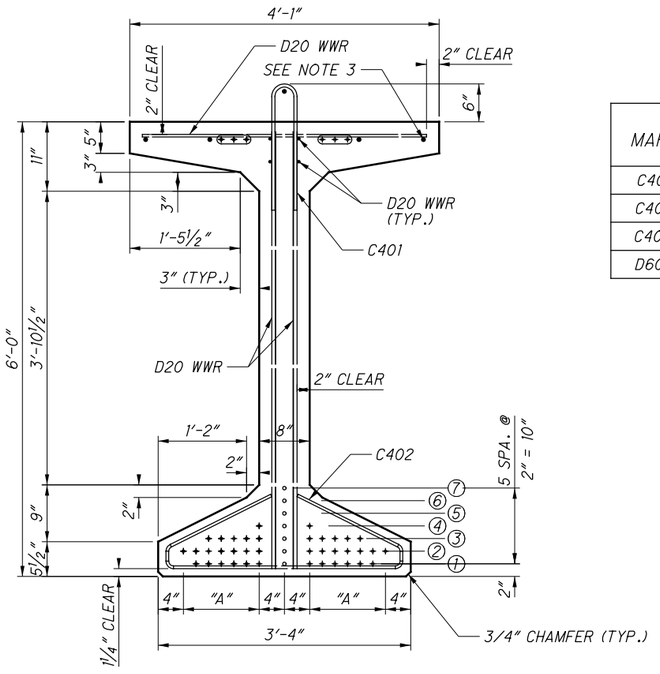
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



END SECTION - WF72-49

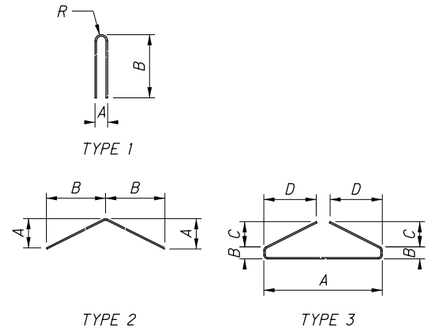
"A" = 6 SPA. @ 2" = 12"



MID-SPAN SECTION - WF72-49

"A" = 6 SPA. @ 2" = 12"

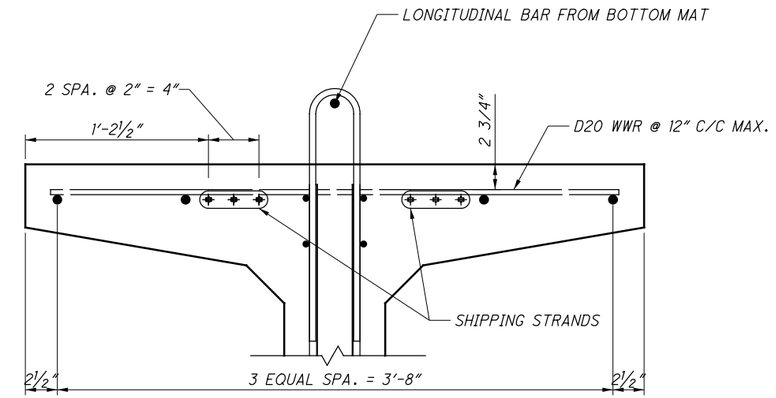
MARK	TYPE	DIMENSIONS					
		A	B	C	D	E	R
C401	1	4"	1'-8"				2"
C402	2	9"	1'-6"				
C403	3	3'-1 1/2"	3 1/2"	7 1/2"	1'-3"		
D601	1	6"	3'-1"				



BENDING DIAGRAMS

PRESTRESSED I-BEAM DESIGN TABLE																					
	NUMBER OF STRANDS PER ROW																		TOTAL STRANDS	CONCRETE STRENGTHS		B401 BARS REQ'D	B402 BARS REQ'D	B403 BARS REQ'D
	END SECTION											MID-SPAN SECTION												
	①	②	③	④	⑤*	⑥*	⑦*	⑧*	⑨*	⑩*	⑪*	①*	②*	③*	④*	⑤*	⑥*	⑦*		f'ci	f'c			
BEAM	12	14	10	2	1	1	1	1	1	1	1	13	15	11	3	1	1	1	45	5.0 KSI	7 KSI	76	114	172

- THE INFORMATION IN THE ABOVE TABLE IS TYPICAL FOR ALL BEAMS.
- SEE GENERAL NOTES , SHEET 4/64, FOR PRESTRESSING STRAND TYPE AND DESIGN DATA.
* DENOTES ROWS WHERE DRAPED STRANDS ARE PRESENT



LAYOUT IN TOP FLANGE

LEGEND:

① - INDICATES STRAND ROW

△ - STRAND DEBONDED 15'-0"

⊡ - STRAND DEBONDED 25'-0"

○ - INDICATED DRAPED STRAND

NOTES:

1. FOR ADDITIONAL DETAILS AND NOTES, SEE ODOT STANDARD DRAWING PSID-1-13.
2. ALL PRESTRESSING STRANDS SHALL BE GRADE 270 KIPS SEVEN WIRE, UNCOATED, LOW RELAXATION STRAND, WITH A DIAMETER OF 0.6 INCHES AND A NOMINAL AREA OF 0.217 SQUARE INCHES.
3. FOUR CONTINUOUS D31 BARS SHALL BE PROVIDED IN THE TOP FLANGE AS SHOWN FOR THE FULL LENGTH OF THE BEAMS PER PSID-1-13.
4. ONLY THE C401 REINFORCING BARS SHALL BE EPOXY COATED, GRADE 60.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN RJS | REVIEWED TLR | DATE 05/2015
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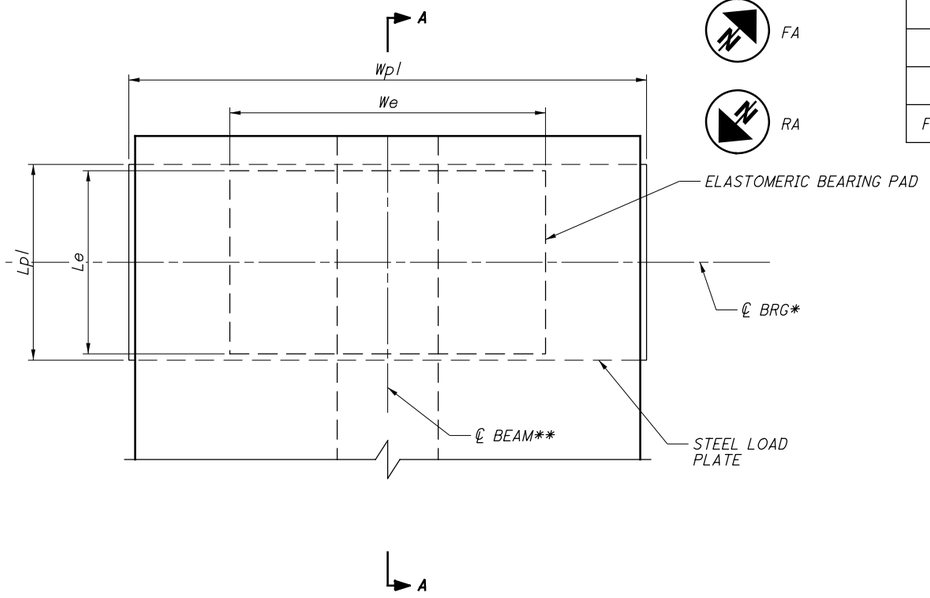
PRESTRESSED I-BEAM DETAILS

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



BEARING LAYOUT

		ELASTOMER							STEEL LAMINATES		LOAD PLATE			LOAD (KIPS)		
LOCATION	TYPE	DUROMETER	Le	We	Te	ti	te	N	P	t	Lpl	Wpl	Tpl	DL	LL	TOTAL
REAR ABUTMENT	EXP	50	14.5″	25″	3.39″	0.44″	0.3″	6	6	0.0747″	15.5″	41″	2″	215	110	325
FORWARD ABUTMENT	EXP	50	14.5″	25″	3.39″	0.44″	0.3″	6	6	0.0747″	15.5″	41″	2″	230	110	340

Le - LENGTH OF LAMINATED ELASTOMERIC BEARING
We - WIDTH OF LAMINATED ELASTOMERIC BEARING
Te - TOTAL THICKNESS OF LAMINATED ELASTOMERIC BEARING
ti - THICKNESS OF INTERNAL ELASTOMER LAYER
te - THICKNESS OF EXTERNAL ELASTOMER LAYER
N - NUMBER OF INTERNAL ELASTOMER LAYERS
t - THICKNESS OF STEEL LAMINATES
P - NUMBER OF STEEL LAMINATES

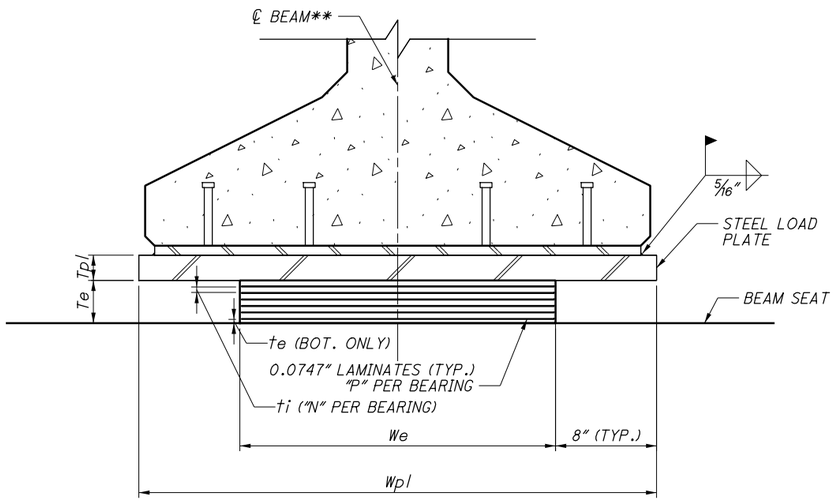
NOTES

1. LOAD PLATE:
   THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
2. ELASTOMERIC BEARING:
   THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
3. STEEL FOR LOAD PLATES AND PEDESTAL SHALL BE ASTM A709 GRADE 50.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

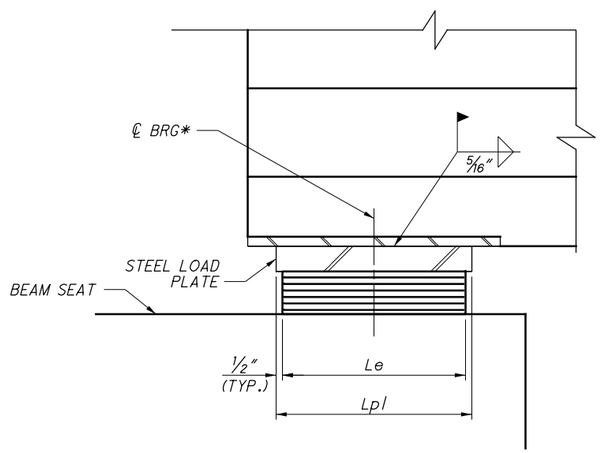
LEGEND

* - DIMENSIONS SYMMETRICAL ABOUT ℄ BRG (& BRG ASSEMBLY)

** - DIMENSIONS SYMMETRICAL ABOUT ℄ BEAM



BEARING ELEVATION



SECTION A-A

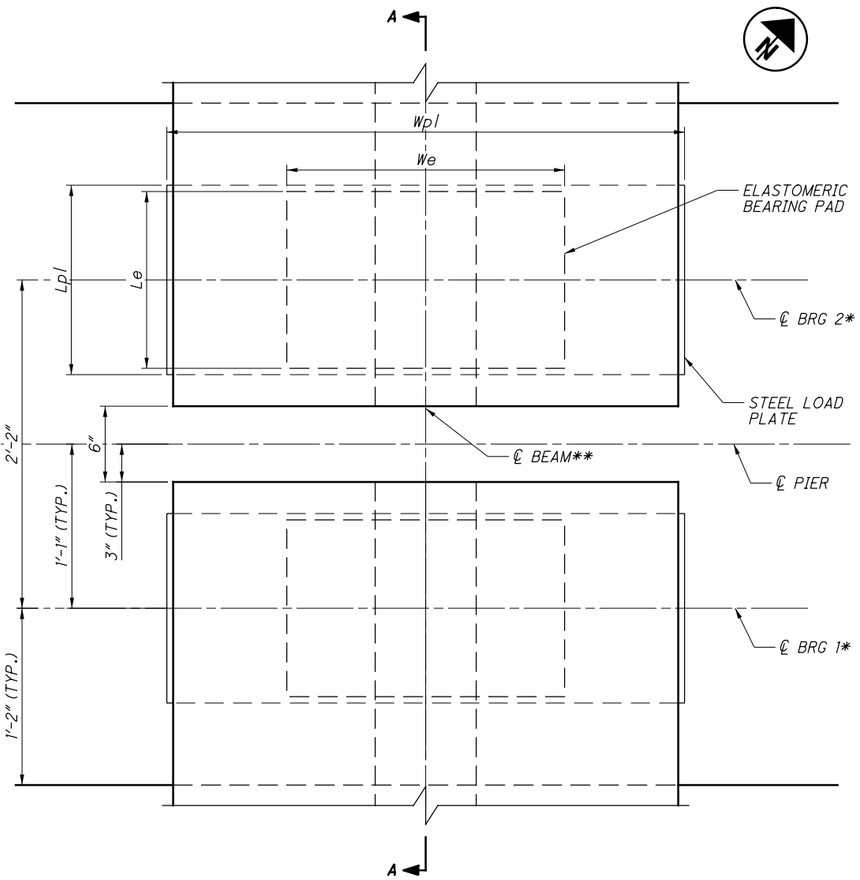
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED | STRUCTURE FILE NUMBER TBD

ABUTMENT BEARING
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

33/64
117/180



BEARING LAYOUT

LOCATION		TYPE	ELASTOMER							STEEL LAMINATES		LOAD PLATE			LOAD (KIPS)		
			DUROMETER	Le	We	Te	ti	te	N	P	t	Lpl	Wpl	Tpl	DL	LL	TOTAL
PIERS 1 THRU 6	BRG 1	EXP	50	14"	22"	2.36"	0.44"	0.3"	4	4	0.0747"	15"	41"	2"	203	110	313
	BRG 2	EXP	50	14"	22"	2.36"	0.44"	0.3"	4	4	0.0747"	15"	41"	2 3/16"	203	110	313
PIERS 7	BRG 1	EXP	50	14"	22"	2.36"	0.44"	0.3"	4	4	0.0747"	15"	41"	2"	203	110	313
	BRG 2	EXP	50	14"	22"	2.36"	0.44"	0.3"	4	4	0.0747"	15"	41"	2"	209	110	319

Le - LENGTH OF LAMINATED ELASTOMERIC BEARING
We - WIDTH OF LAMINATED ELASTOMERIC BEARING
Te - TOTAL THICKNESS OF LAMINATED ELASTOMERIC BEARING
ti - THICKNESS OF INTERNAL ELASTOMER LAYER
te - THICKNESS OF EXTERNAL ELASTOMER LAYER
N - NUMBER OF INTERNAL ELASTOMER LAYERS
t - THICKNESS OF STEEL LAMINATES
P - NUMBER OF STEEL LAMINATES

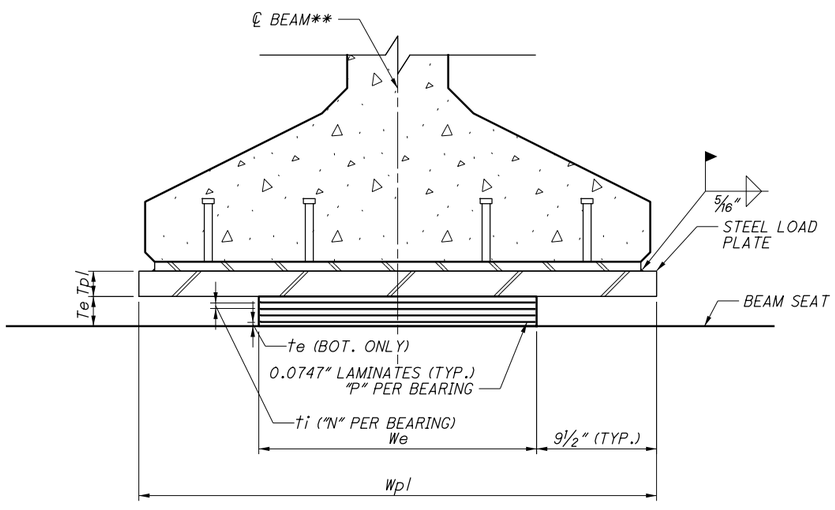
NOTES

1. LOAD PLATE:
   THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
2. ELASTOMERIC BEARING:
   THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
3. STEEL FOR LOAD PLATES AND PEDESTAL SHALL BE ASTM A709 GRADE 50W.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

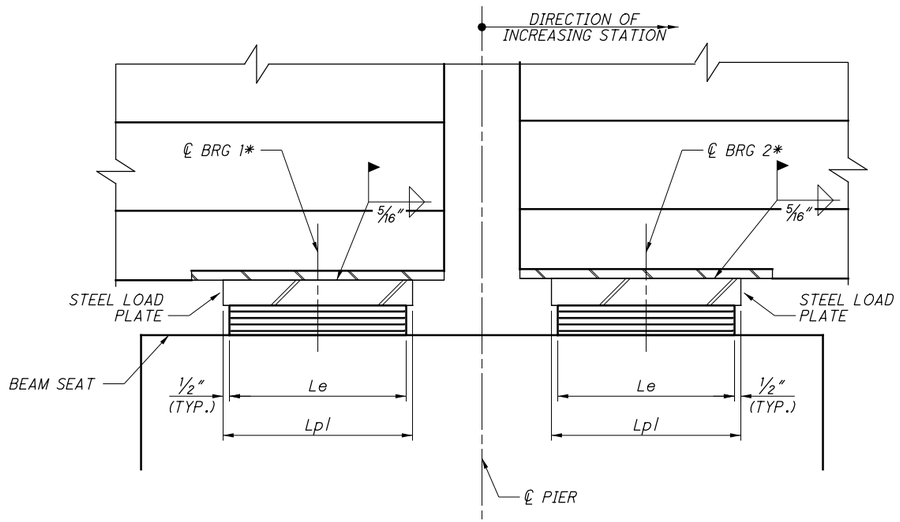
LEGEND

* - DIMENSIONS SYMMETRICAL ABOUT ℄ BRG (& BRG ASSEMBLY)

** - DIMENSIONS SYMMETRICAL ABOUT ℄ BEAM



BEARING ELEVATION



SECTION A-A

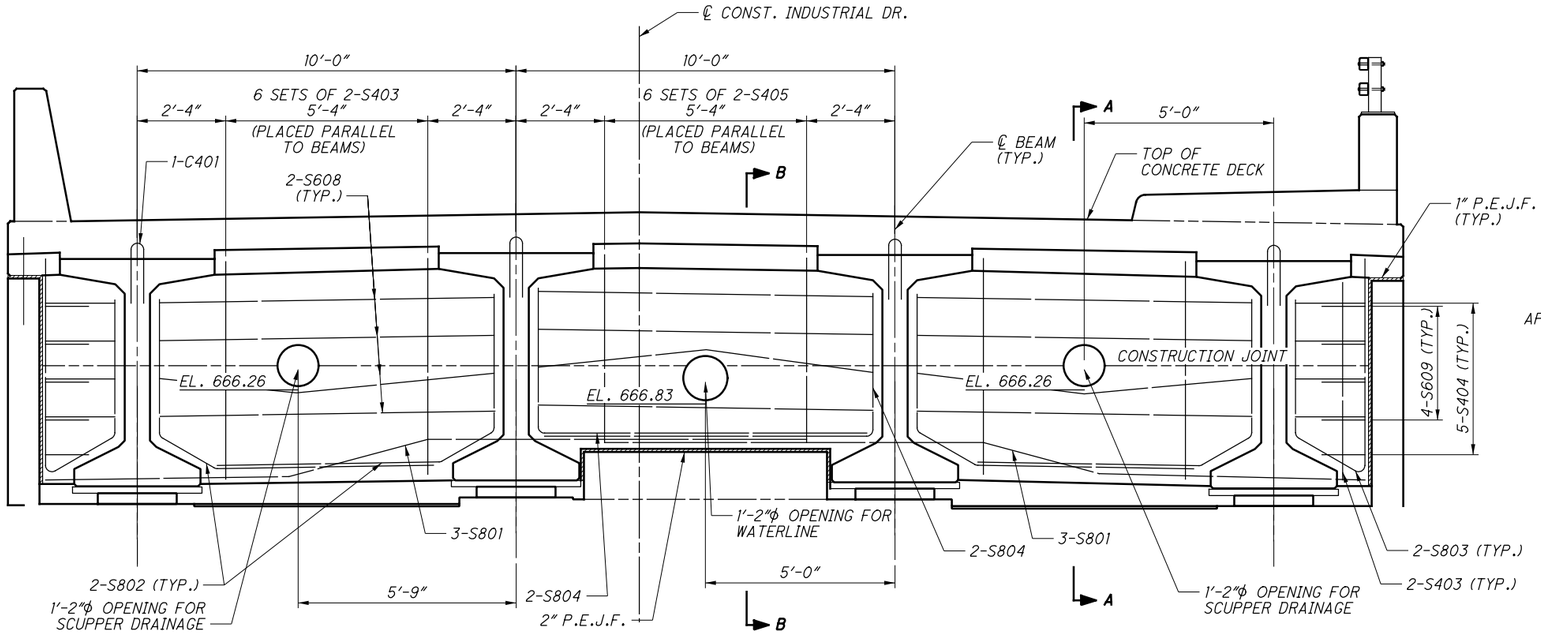
W:\Projects\Projects F-JNH2530002\22984\structures\HENIND_0000\Sheets\IND_0000CBR002.dgn 5/22/2015 4:05:20 PM SValentin

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED | STRUCTURE FILE NUMBER TBD

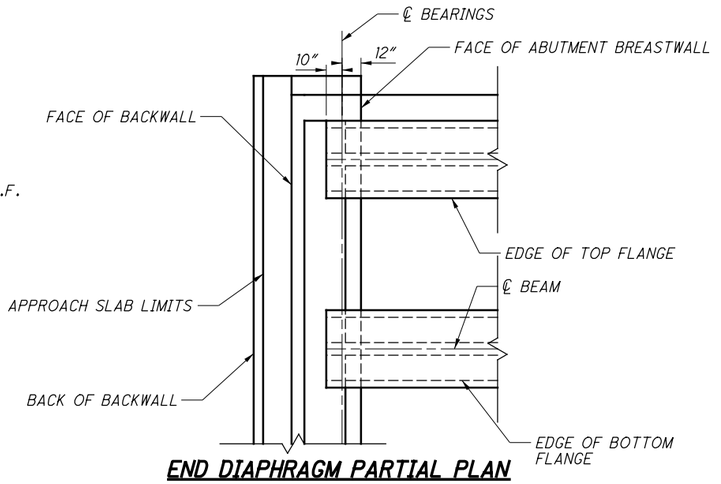
PIER BEARING
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



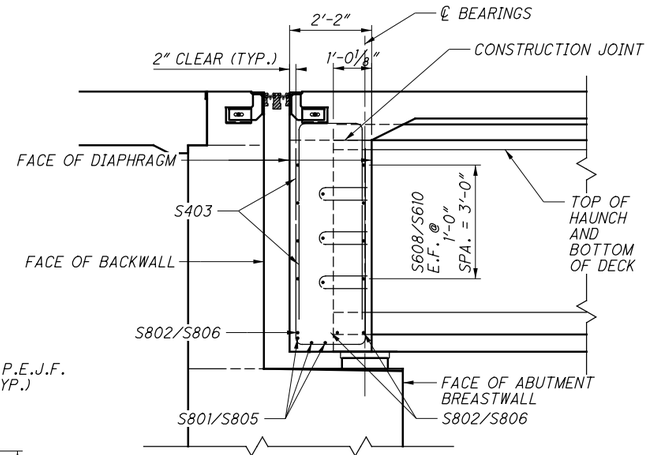
REAR ABUTMENT END DIAPHRAGM ELEVATION

(LOOKING DOWNSTATION)

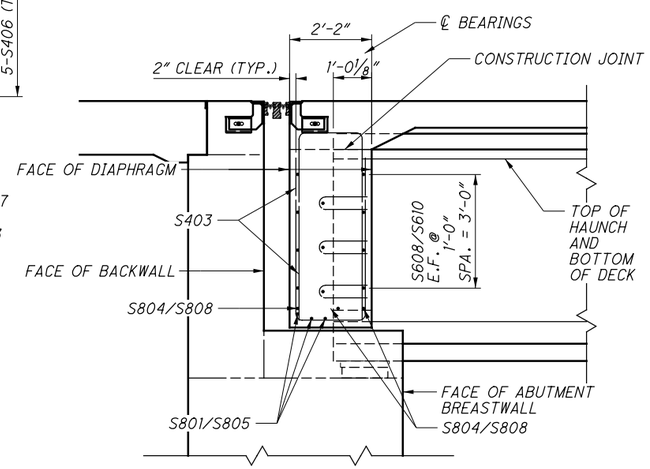


END DIAPHRAGM PARTIAL PLAN

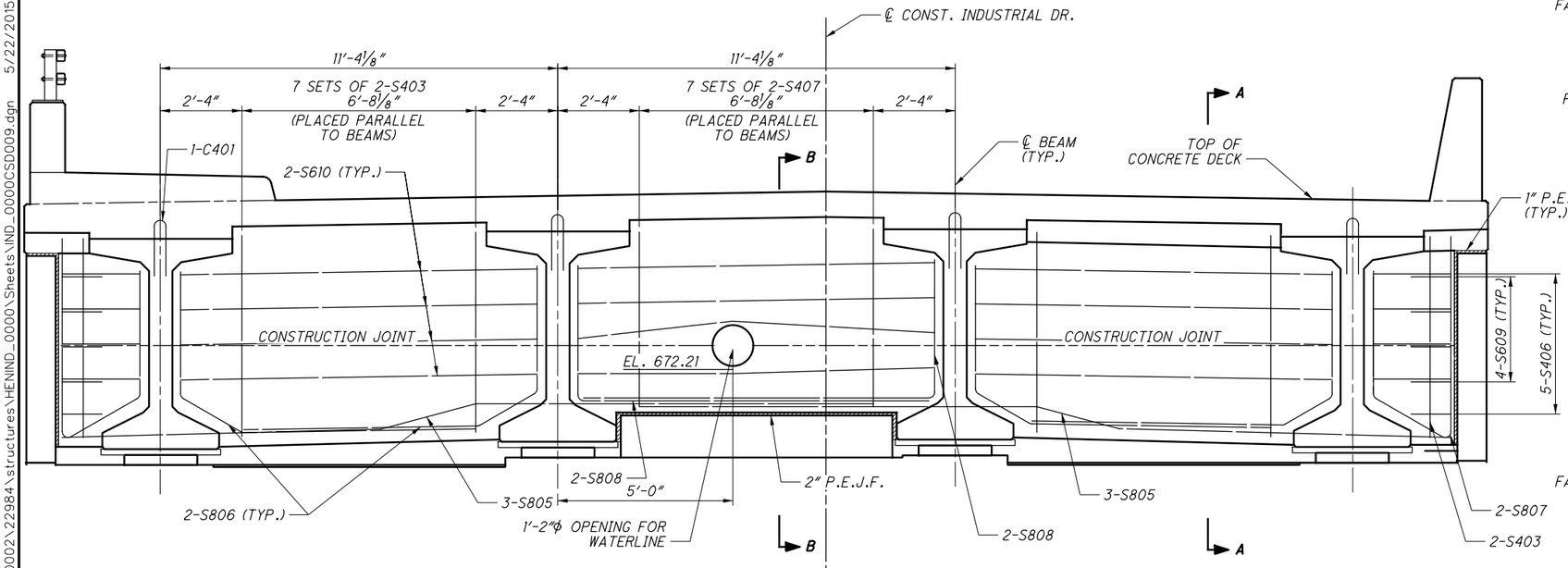
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)
(MODULAR EXPANSION JOINT NOT SHOWN FOR CLARITY)



SECTION A-A



SECTION B-B



FORWARD ABUTMENT END DIAPHRAGM ELEVATION

(LOOKING UPSTATION)

NOTES:

1. FOR ADDITIONAL DETAILS AND NOTES NOT SHOWN, SEE ODOT STANDARD DRAWING PSID-1-13.
2. FIELD BEND #6 BARS AROUND SUPPER AND WATERLINE OPENINGS.
3. FOR BEARING DETAILS, SEE SHEET 33/64 .
4. PLACE VERTICAL BARS PARALLEL TO BEAMS.
6. ABUTMENT DIAPHRAGM, PRESTRESSED I-BEAM SUPERSTRUCTURE: PLACE THE CONCRETE ENCASING THE PRESTRESSED I-BEAM STRUCTURAL MEMBERS AS PART OF THE DECK POUR.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	RJS	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT	----	TBD	

END DIAPHRAGM DETAILS
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

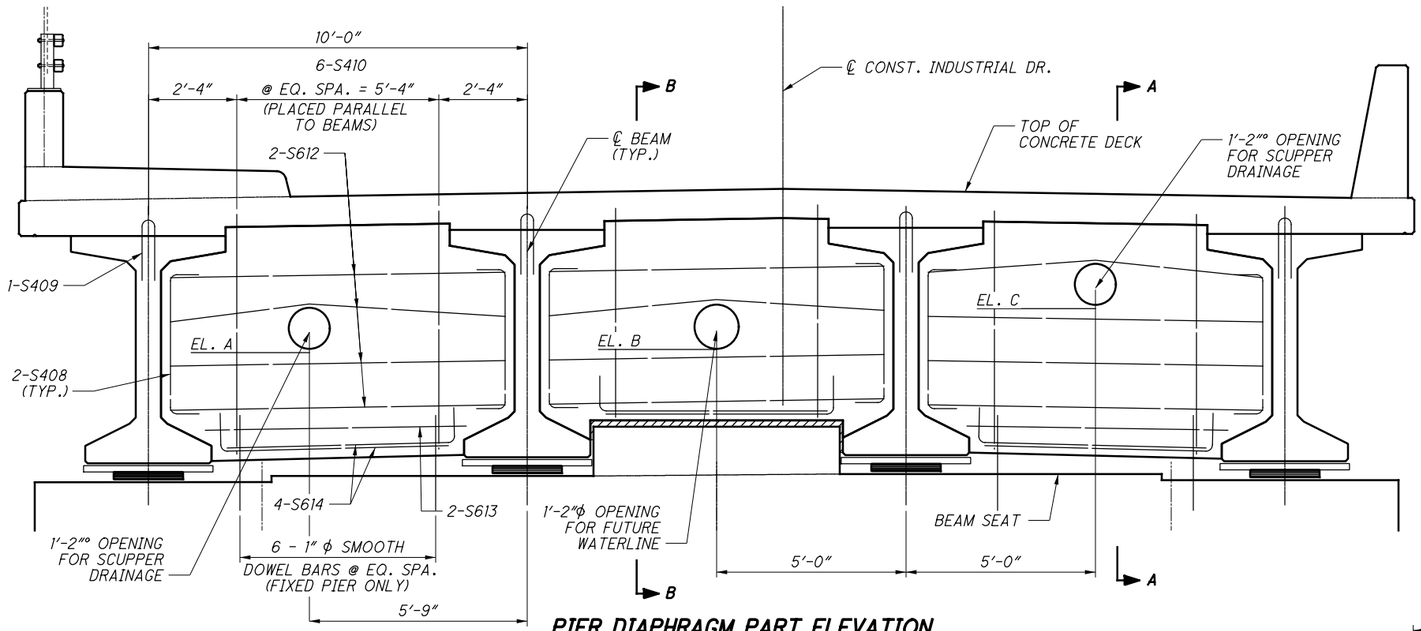
HEN-IND-00.00
PID No. 22984

35 / 64

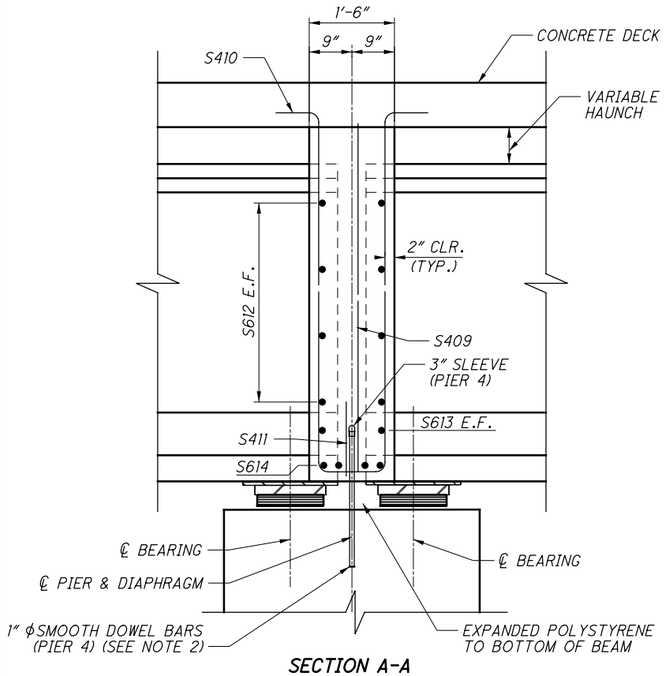
119 / 180

SCUPPER OPENING LOCATION		
PIER	EL. A	EL. C
1	667.43	668.59
2	668.60	-
3	669.76	-
4	670.96	-
5	672.14	-

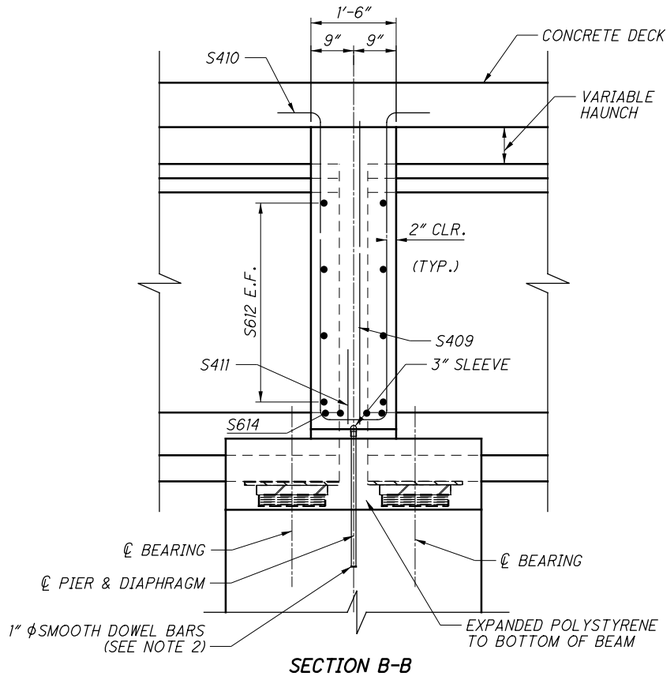
WATERLINE OPENING LOCATION	
PIER	EL. B
1	666.62
2	667.42
3	668.22
4	669.02
5	669.82
6	670.62
7	671.42



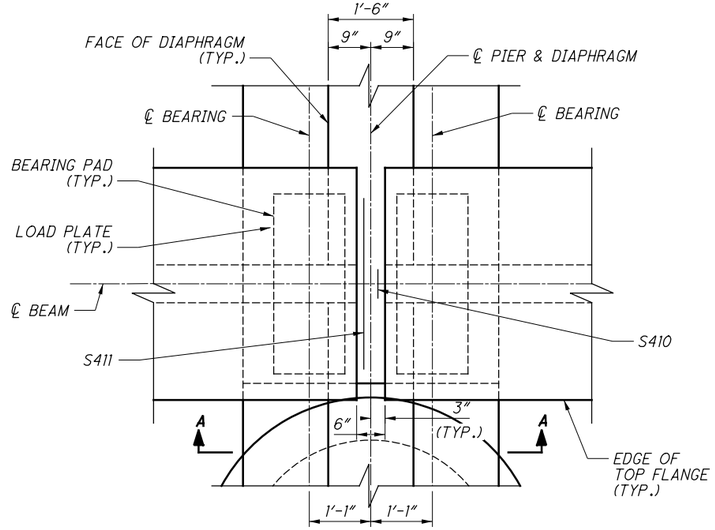
PIER DIAPHRAGM PART ELEVATION
(6 BAYS, LOOKING UPSTATION)



SECTION A-A



SECTION B-B



PIER PARTIAL PLAN

NOTES:

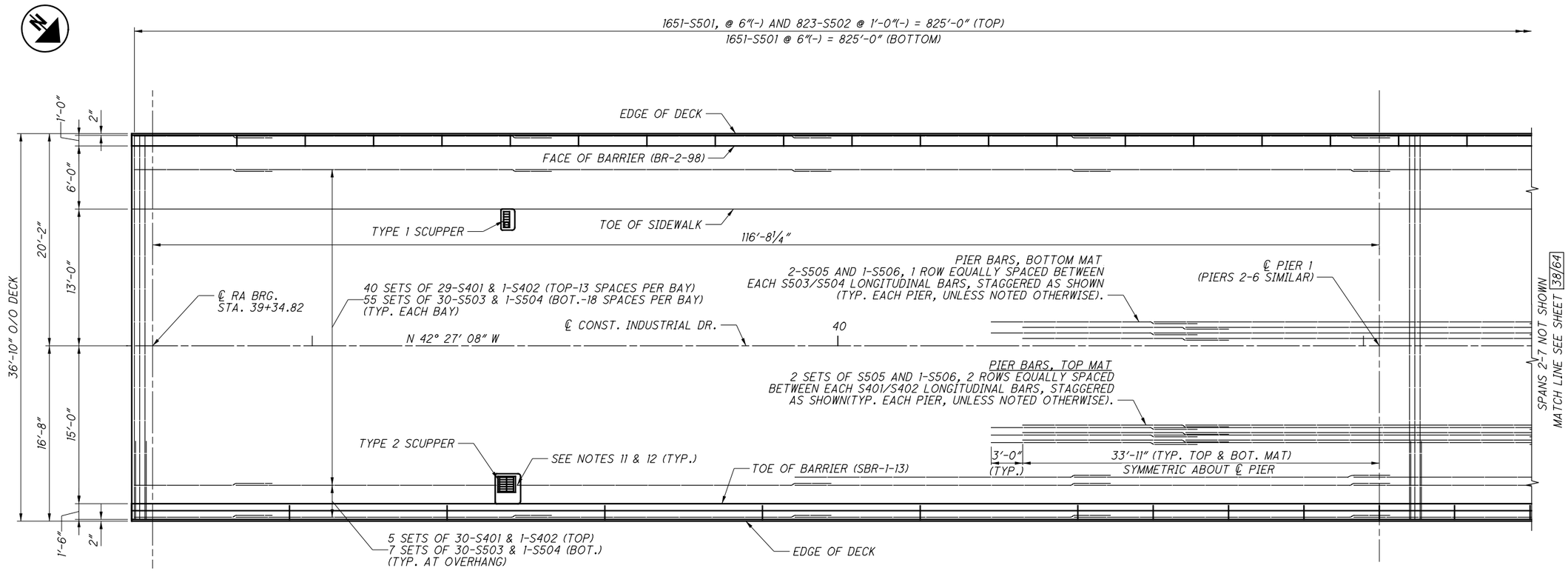
1. FOR ADDITIONAL DETAILS AND NOTES NOT SHOWN, SEE ODOT STANDARD DRAWING PSID-1-13.
2. 1" ϕSMOOTH DOWEL BARS ARE ASTM A311 CLASS A, GRADE 1018, WITH SLEEVE. (INSTALL DOWEL ACCORDING TO ITEM 510 DOWEL HOLES WITH NONSHRINK, NON-METALLIC GROUT, 705.20.) INCLUDED WITH ITEM 515, DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 4 WF 72-49 FOR PAYMENT.
3. FIELD BEND #6 BARS TO AVOID WATERLINE AND SUPPER OPENINGS.
4. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATLY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR HOLES OR THE PRESETTING OF ANCHORS.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED CWE | DRAWN JEC | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

PIER DIAPHRAGM DETAILS
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



DECK REINFORCING REQUIRED LAP LENGTHS	
NO. 4 BARS	2'-7"
NO. 5 BARS	3'-2"
NO. 6 BARS	3'-10"

PARTIAL DECK PLAN

NOTES:

1. SPANS 2 - 7 NOT SHOWN.
2. FOR SPAN 8, SEE SHEET 38/64.
3. FOR RAILING DETAILS, SEE SHEETS 49-52/64.
4. FOR TRANSVERSE SECTION, SEE SHEETS 39-40/64.
5. FOR APPROACH SLAB DEATILS, SEE SHEETS 57-58/64.
6. FOR SIDEWALK DETAILS, SEE SHEET 53/64.
7. FOR SCREED AND TOP OF HAUNCH ELEVATIONS, SEE SHEETS 42-44/64.
8. FOR FINAL DECK SURFACE ELEVATIONS, SEE SHEETS 45-46/64.
9. FOR EXPANSION JOINT DETAILS, SEE SHEET 54-56/64.
10. DECK POUR SEQUENCE SHALL BE AS PER STD. DWG. PSID-1-13.
11. CUT REINFORCING BARS AROUND SCUPPER LOCATIONS (ALLOW 3" COVER) AND REPAIR BAR ENDS PER CMS 509.09.
12. FOR SCUPPER DETAILS, SEE SHEET 59/64.
13. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A VARIABLE HAUNCH THICKNESS OF MINIMUM 2". DEVIATE FROM THIS HAUNCH THICKNESS AS NECESARRY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.

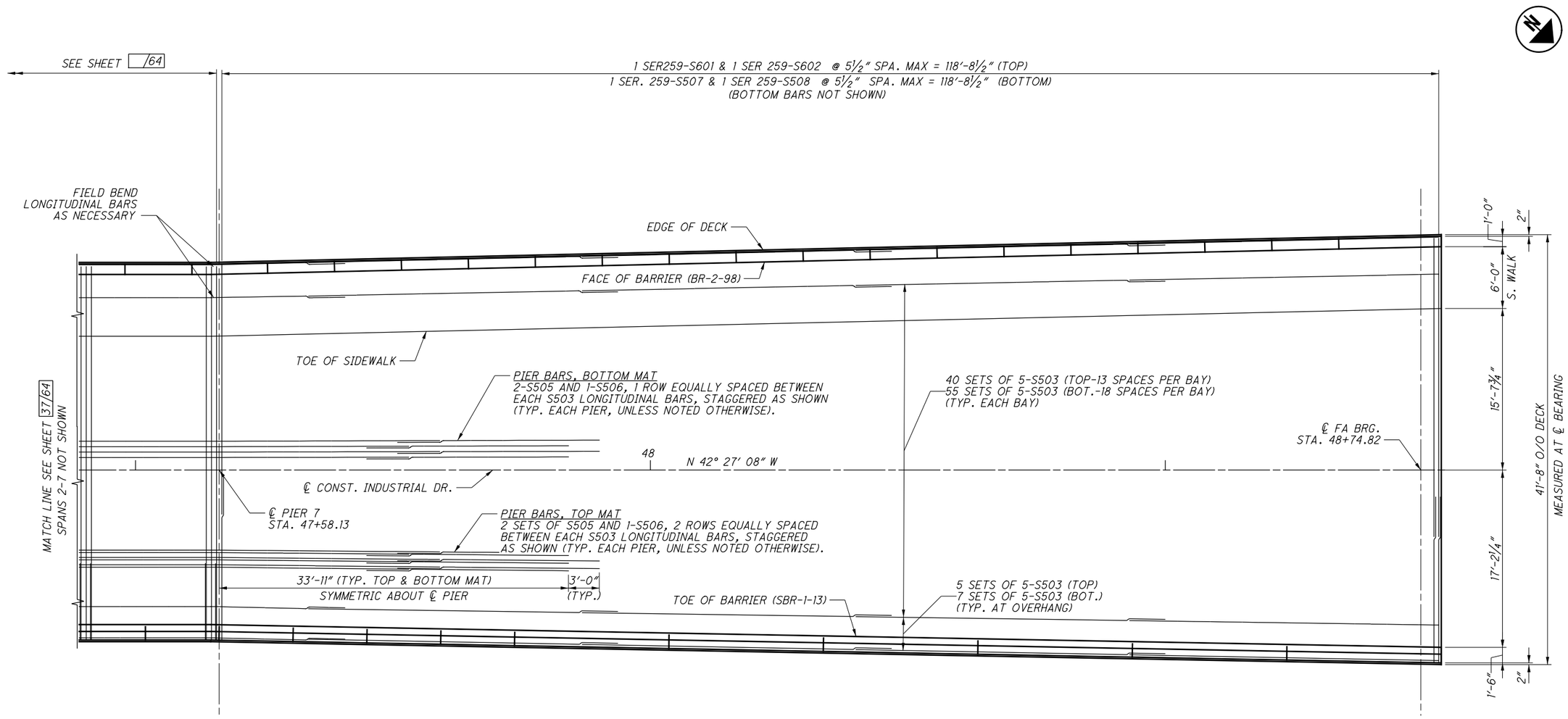
    THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS.

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	AMK	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT		TBD	

DECK PLAN (1 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



PARTIAL DECK PLAN

DECK REINFORCING REQUIRED LAP LENGTHS	
NO. 4 BARS	2'-7" MIN.
NO. 5 BARS	3'-2" MIN.
NO. 6 BARS	3'-10" MIN.

NOTES:

1. FOR NOTES, SEE SHEET 37/64.

MannikSmith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

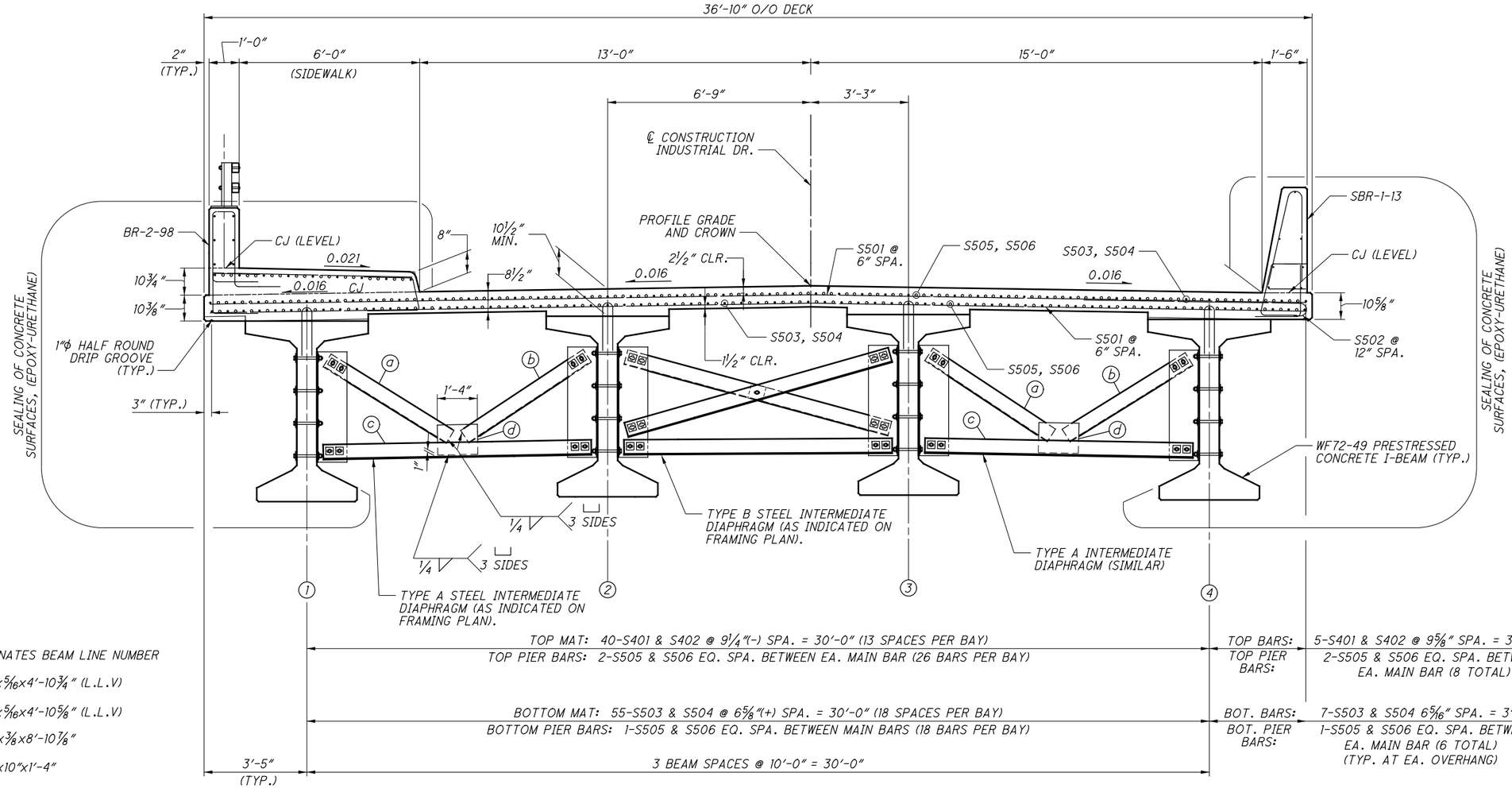
DESIGNED	DRAWN	REVIEWED	DATE
KRH	AMK	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT		TBD	

DECK PLAN (2 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

38/64

122/180



LEGEND:

(#) - DESIGNATES BEAM LINE NUMBER

(a) - L6x4x5/16x4'-10¾" (L.L.V)

(b) - L6x4x5/16x4'-10⅝" (L.L.V)

(c) - L6x6x⅜x8'-10⅞"

(d) - PL ⅝"x10"x1'-4"

DECK REINFORCING REQUIRED LAP LENGTHS	
NO. 4 BARS	2'-7" MIN.
NO. 5 BARS	3'-2" MIN.
NO. 6 BARS	3'-10" MIN.

TRANSVERSE SECTION

(TYPICAL OF SPANS 1 - 7)

NOTES:

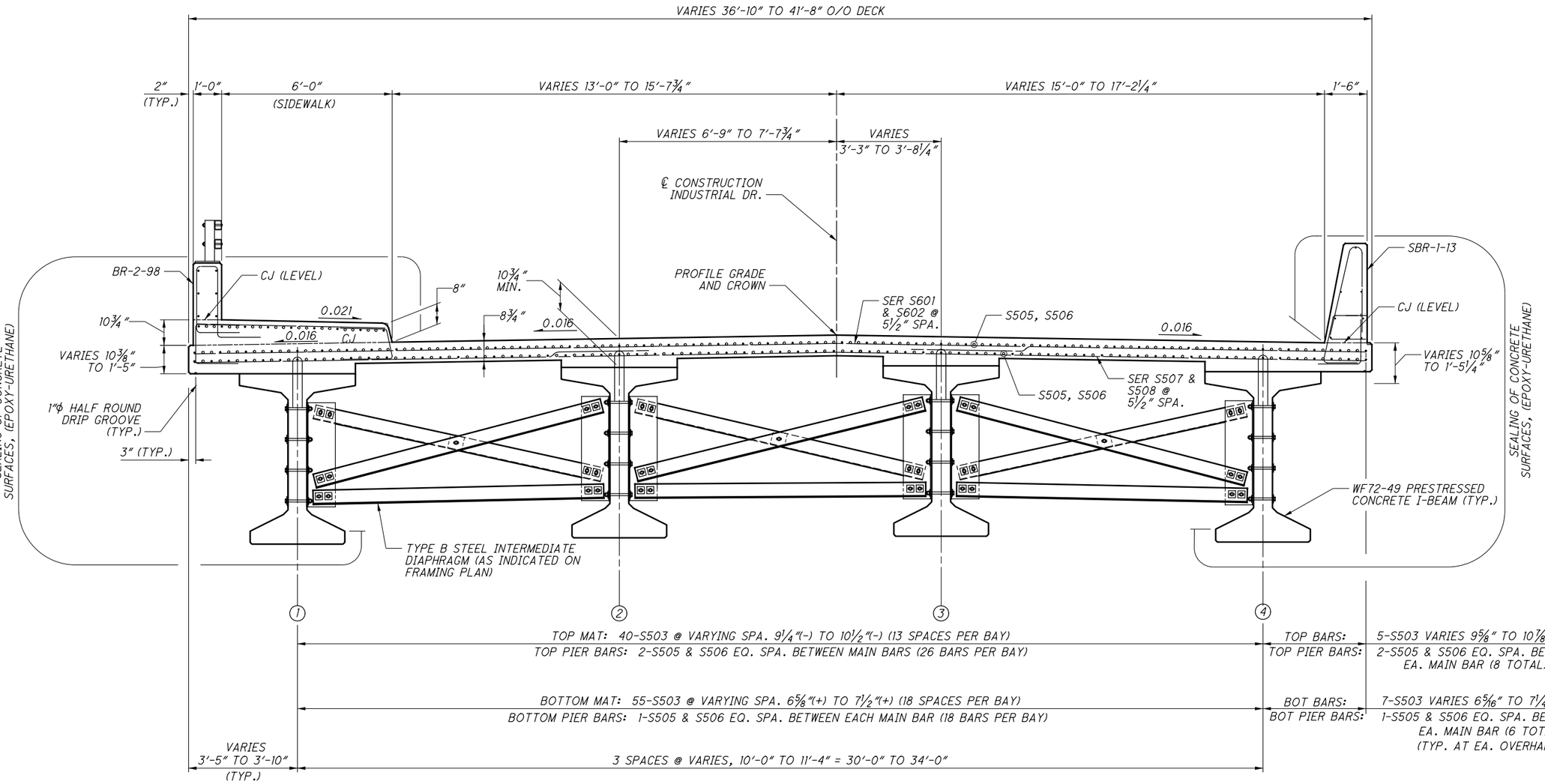
1. FOR TRANSVERSE SECTIONS ALONG SPAN 8, SEE SHEET 40/64.
2. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN FROM THE TOP OF DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM ARE THEORETICAL DIMENSIONS. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH THE DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF THE BEAM ELEVATION AT THE MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.
3. FOR DECK PLAN, SEE SHEETS 37,38/64.
4. FOR FRAMING PLAN, SEE SHEETS 28-30/64.
5. FOR RAILING DETAILS, SEE SHEETS 49-52/64.
6. FOR SIDEWALK DETAILS, SEE SHEET 53/64.
7. FOR PRESTRESSED I-BEAM DETAILS, SEE SHEET 31,32/64.
8. FOR "TYPE B" STEEL INTERMEDIATE DIAPHRAGM DETAILS, SEE STD. DWG. PSID-1-13.
9. FOR "TYPE A" STEEL INTERMEDIATE DIAPHRAGM DETAILS, USE STD. DWG. PSID-1-13 EXCEPT AS DETAILED HEREIN.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN AMK | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED | STRUCTURE FILE NUMBER TBD

TRANSVERSE SECTION (1 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



TRANSVERSE SECTION
SPAN 8

DECK REINFORCING REQUIRED LAP LENGTHS	
NO. 4 BARS	2'-7" MIN.
NO. 5 BARS	3'-2" MIN.
NO. 6 BARS	3'-10" MIN.

LEGEND:

(#) - DESIGNATES BEAM LINE NUMBER

NOTES:

1. FOR TRANSVERSE SECTION ALONG SPANS 1 - 7, AND TRANSVERSE SECTION NOTES, SEE SHEET 39/64.

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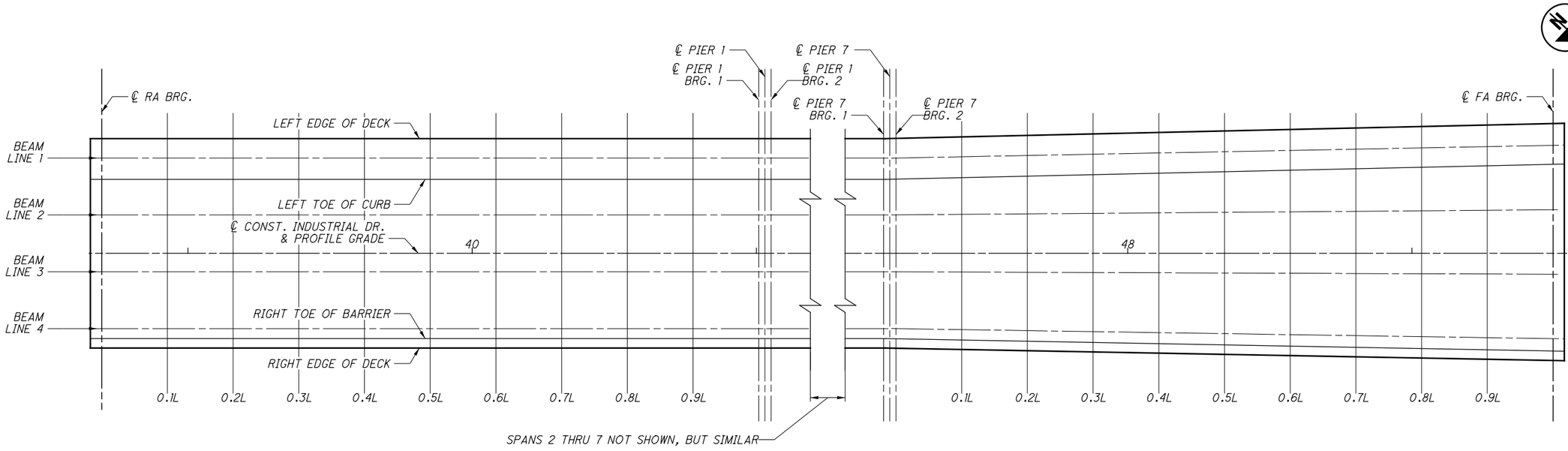
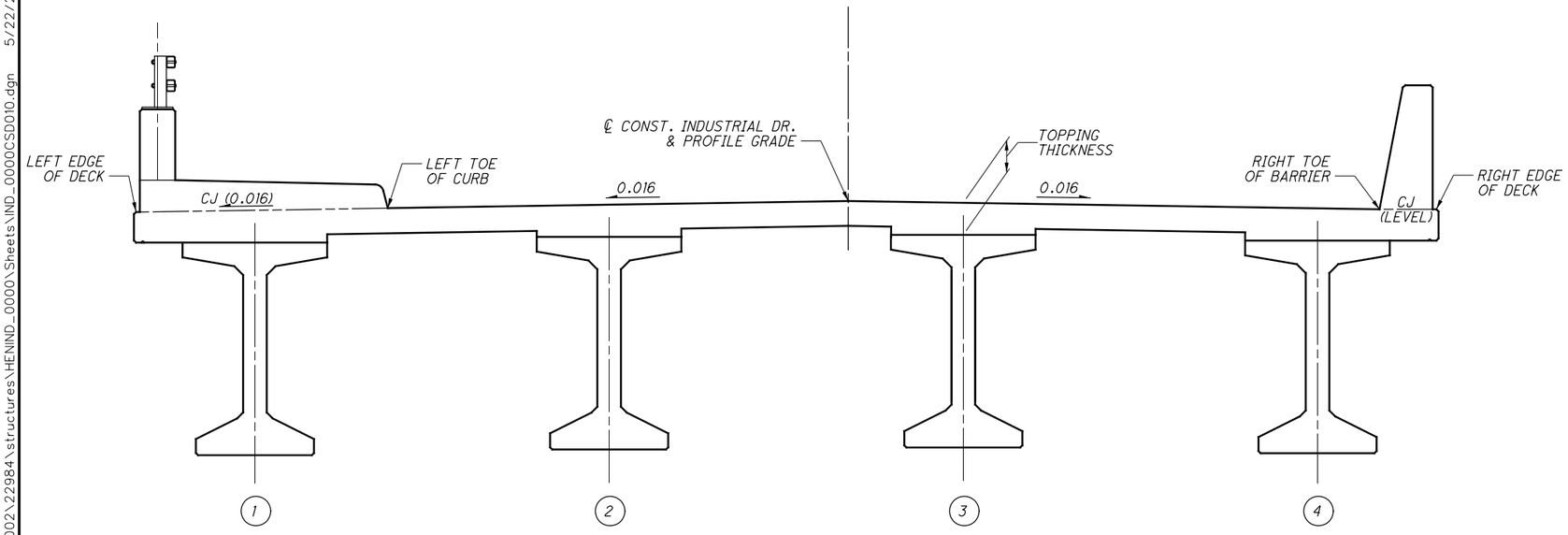
TRANSVERSE SECTION (2 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

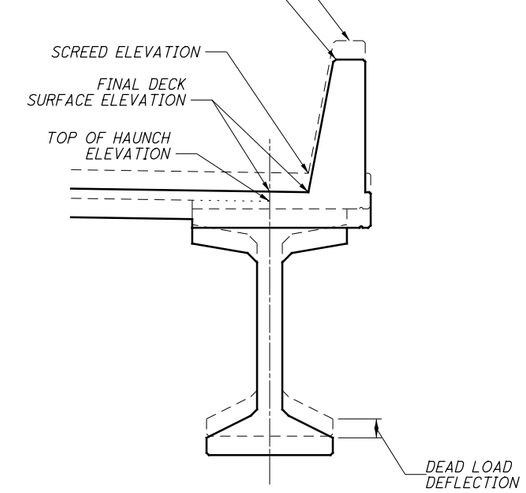
HEN-IND-00.00
PID No. 22984



KEY PLAN



TYPICAL CROSS SECTION



SCREED AND HAUNCH LOCATION

NOTES:

1. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM ARE THEORETICAL DIMENSIONS. THE HAUNCH DEPTH CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THROUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAM S ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.

LEGEND:

(#) - BEAM LINE NUMBER

BEAM LINE	BEAMS
1	B1, B5, B9, B13, B17, B21, B25, AND B29
2	B2, B6, B10, B14, B18, B22, B26, AND B30
3	B3, B7, B11, B15, B19, B23, B27, AND B31
4	B4, B8, B12, B16, B20, B24, B28, AND B32

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KEY PLAN
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

SCREED ELEVATIONS

	LOCATION	LEFT EDGE OF DECK		LEFT TOE OF CURB		CL CONST. IND DR & PG		RIGHT TOE OF BARRIER		RIGHT EDGE OF DECK	
		STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
SPAN 1	CL RA BRG	39+34.82	670.57	39+34.82	670.68	39+34.82	670.89	39+34.82	670.65	39+34.82	670.65
	0.1L	39+46.49	670.68	39+46.49	670.79	39+46.49	671.01	39+46.49	670.76	39+46.49	670.76
	0.2L	39+58.16	670.79	39+58.16	670.90	39+58.16	671.12	39+58.16	670.87	39+58.16	670.87
	0.3L	39+69.83	670.89	39+69.83	671.01	39+69.83	671.23	39+69.83	670.98	39+69.83	670.98
	0.4L	39+81.50	670.99	39+81.50	671.10	39+81.50	671.33	39+81.50	671.07	39+81.50	671.07
	0.5L	39+93.16	671.07	39+93.16	671.19	39+93.16	671.41	39+93.16	671.16	39+93.16	671.16
	0.6L	40+04.83	671.15	40+04.83	671.26	40+04.83	671.49	40+04.83	671.23	40+04.83	671.23
	0.7L	40+16.50	671.21	40+16.50	671.33	40+16.50	671.55	40+16.50	671.29	40+16.50	671.29
	0.8L	40+28.17	671.27	40+28.17	671.38	40+28.17	671.60	40+28.17	671.35	40+28.17	671.35
	0.9L	40+39.84	671.31	40+39.84	671.43	40+39.84	671.64	40+39.84	671.40	40+39.84	671.40
	P1 BRG 1	40+50.42	671.35	40+50.42	671.47	40+50.42	671.68	40+50.42	671.44	40+50.42	671.44
	PIER 1	40+51.51	671.36	40+51.51	671.48	40+51.51	671.68	40+51.51	671.44	40+51.51	671.44
SPAN 2	P1 BRG 2	40+52.59	671.37	40+52.59	671.48	40+52.59	671.69	40+52.59	671.45	40+52.59	671.45
	0.1L	40+63.28	671.47	40+63.28	671.59	40+63.28	671.80	40+63.28	671.56	40+63.28	671.56
	0.2L	40+75.06	671.58	40+75.06	671.70	40+75.06	671.92	40+75.06	671.67	40+75.06	671.67
	0.3L	40+86.84	671.69	40+86.84	671.80	40+86.84	672.03	40+86.84	671.77	40+86.84	671.77
	0.4L	40+98.62	671.79	40+98.62	671.90	40+98.62	672.12	40+98.62	671.87	40+98.62	671.87
	0.5L	41+10.39	671.87	41+10.39	671.99	41+10.39	672.21	41+10.39	671.95	41+10.39	671.95
	0.6L	41+22.17	671.95	41+22.17	672.06	41+22.17	672.28	41+22.17	672.03	41+22.17	672.03
	0.7L	41+33.95	672.01	41+33.95	672.12	41+33.95	672.35	41+33.95	672.09	41+33.95	672.09
	0.8L	41+45.72	672.07	41+45.72	672.18	41+45.72	672.40	41+45.72	672.15	41+45.72	672.15
	0.9L	41+57.50	672.11	41+57.50	672.23	41+57.50	672.44	41+57.50	672.20	41+57.50	672.20
	P2 BRG 1	41+68.19	672.15	41+68.19	672.27	41+68.19	672.48	41+68.19	672.24	41+68.19	672.24
	PIER 2	41+69.28	672.16	41+69.28	672.28	41+69.28	672.48	41+69.28	672.24	41+69.28	672.24
SPAN 3	P2 BRG 2	41+70.36	672.17	41+70.36	672.28	41+70.36	672.49	41+70.36	672.25	41+70.36	672.25
	0.1L	41+81.06	672.27	41+81.06	672.39	41+81.06	672.60	41+81.06	672.36	41+81.06	672.36
	0.2L	41+92.83	672.39	41+92.83	672.50	41+92.83	672.72	41+92.83	672.47	41+92.83	672.47
	0.3L	42+04.61	672.49	42+04.61	672.61	42+04.61	672.83	42+04.61	672.57	42+04.61	672.57
	0.4L	42+16.39	672.59	42+16.39	672.70	42+16.39	672.92	42+16.39	672.67	42+16.39	672.67
	0.5L	42+28.16	672.67	42+28.16	672.79	42+28.16	673.01	42+28.16	672.75	42+28.16	672.75
	0.6L	42+39.94	672.75	42+39.94	672.86	42+39.94	673.09	42+39.94	672.83	42+39.94	672.83
	0.7L	42+51.72	672.81	42+51.72	672.93	42+51.72	673.15	42+51.72	672.89	42+51.72	672.89
	0.8L	42+63.49	672.87	42+63.49	672.98	42+63.49	673.20	42+63.49	672.95	42+63.49	672.95
	0.9L	42+75.27	672.92	42+75.27	673.03	42+75.27	673.24	42+75.27	673.00	42+75.27	673.00
	P3 BRG 1	42+85.97	672.96	42+85.97	673.07	42+85.97	673.28	42+85.97	673.04	42+85.97	673.04
	PIER 3	42+87.05	672.96	42+87.05	673.08	42+87.05	673.29	42+87.05	673.05	42+87.05	673.05
SPAN 4	P3 BRG 2	42+88.13	672.97	42+88.13	673.08	42+88.13	673.29	42+88.13	673.05	42+88.13	673.05
	0.1L	42+98.83	673.08	42+98.83	673.19	42+98.83	673.40	42+98.83	673.16	42+98.83	673.16
	0.2L	43+10.60	673.19	43+10.60	673.30	43+10.60	673.52	43+10.60	673.27	43+10.60	673.27
	0.3L	43+22.38	673.29	43+22.38	673.41	43+22.38	673.63	43+22.38	673.37	43+22.38	673.37
	0.4L	43+34.16	673.39	43+34.16	673.50	43+34.16	673.73	43+34.16	673.47	43+34.16	673.47
	0.5L	43+45.93	673.47	43+45.93	673.59	43+45.93	673.81	43+45.93	673.56	43+45.93	673.56
	0.6L	43+57.71	673.55	43+57.71	673.66	43+57.71	673.89	43+57.71	673.63	43+57.71	673.63
	0.7L	43+69.49	673.61	43+69.49	673.73	43+69.49	673.95	43+69.49	673.69	43+69.49	673.69
	0.8L	43+81.27	673.67	43+81.27	673.78	43+81.27	674.00	43+81.27	673.75	43+81.27	673.75
	0.9L	43+93.04	673.72	43+93.04	673.83	43+93.04	674.04	43+93.04	673.80	43+93.04	673.80
	P4 BRG 1	44+03.74	673.76	44+03.74	673.87	44+03.74	674.08	44+03.74	673.84	44+03.74	673.84

SCREED ELEVATIONS

	LOCATION	LEFT EDGE OF DECK		LEFT TOE OF CURB		CL CONST. IND DR & PG		RIGHT TOE OF BARRIER		RIGHT EDGE OF DECK	
		STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
	PIER 4	44+04.82	673.76	44+04.82	673.88	44+04.82	674.09	44+04.82	673.85	44+04.82	673.85
SPAN 5	P4 BRG 2	44+05.90	673.77	44+05.90	673.89	44+05.90	674.09	44+05.90	673.85	44+05.90	673.85
	0.1L	44+16.60	673.88	44+16.60	673.99	44+16.60	674.20	44+16.60	673.96	44+16.60	673.96
	0.2L	44+28.37	673.99	44+28.37	674.10	44+28.37	674.32	44+28.37	674.07	44+28.37	674.07
	0.3L	44+40.15	674.09	44+40.15	674.21	44+40.15	674.43	44+40.15	674.17	44+40.15	674.17
	0.4L	44+51.93	674.19	44+51.93	674.30	44+51.93	674.53	44+51.93	674.27	44+51.93	674.27
	0.5L	44+63.71	674.27	44+63.71	674.39	44+63.71	674.61	44+63.71	674.36	44+63.71	674.36
	0.6L	44+75.48	674.35	44+75.48	674.46	44+75.48	674.69	44+75.48	674.43	44+75.48	674.43
	0.7L	44+87.26	674.41	44+87.26	674.53	44+87.26	674.75	44+87.26	674.50	44+87.26	674.50
	0.8L	44+99.04	674.47	44+99.04	674.58	44+99.04	674.80	44+99.04	674.55	44+99.04	674.55
	0.9L	45+10.81	674.52	45+10.81	674.63	45+10.81	674.84	45+10.81	674.60	45+10.81	674.60
	P5 BRG 1	45+21.51	674.56	45+21.51	674.67	45+21.51	674.88	45+21.51	674.64	45+21.51	674.64
	PIER 5	45+22.59	674.56	45+22.59	674.68	45+22.59	674.89	45+22.59	674.65	45+22.59	674.65
SPAN 6	P5 BRG 2	45+23.67	674.57	45+23.67	674.69	45+23.67	674.89	45+23.67	674.65	45+23.67	674.65
	0.1L	45+34.37	674.68	45+34.37	674.79	45+34.37	675.00	45+34.37	674.76	45+34.37	674.76
	0.2L	45+46.14	674.79	45+46.14	674.90	45+46.14	675.12	45+46.14	674.87	45+46.14	674.87
	0.3L	45+57.92	674.89	45+57.92	675.01	45+57.92	675.23	45+57.92	674.98	45+57.92	674.98
	0.4L	45+69.70	674.99	45+69.70	675.10	45+69.70	675.33	45+69.70	675.07	45+69.70	675.07
	0.5L	45+81.48	675.07	45+81.48	675.19	45+81.48	675.41	45+81.48	675.16	45+81.48	675.16
	0.6L	45+93.25	675.15	45+93.25	675.26	45+93.25	675.49	45+93.25	675.23	45+93.25	675.23
	0.7L	46+05.03	675.21	46+05.03	675.33	46+05.03	675.55	46+05.03	675.30	46+05.03	675.30
	0.8L	46+16.81	675.27	46+16.81	675.38	46+16.81	675.60	46+16.81	675.35	46+16.81	675.35
	0.9L	46+28.58	675.32	46+28.58	675.43	46+28.58	675.65	46+28.58	675.40	46+28.58	675.40
	P6 BRG 1	46+39.28	675.36	46+39.28	675.47	46+39.28	675.68	46+39.28	675.44	46+39.28	675.44
	PIER 6	46+40.36	675.36	46+40.36	675.48	46+40.36	675.69	46+40.36	675.45	46+40.36	675.45
SPAN 7	P6 BRG 2	46+41.44	675.37	46+41.44	675.49	46+41.44	675.70	46+41.44	675.46	46+41.44	675.46
	0.1L	46+52.14	675.48	46+52.14	675.59	46+52.14	675.81	46+52.14	675.56	46+52.14	675.56
	0.2L	46+63.92	675.59	46+63.92	675.70	46+63.92	675.92	46+63.92	675.67	46+63.92	675.67
	0.3L	46+75.69	675.69	46+75.69	675.81	46+75.69	676.03	46+75.69	675.78	46+75.69	675.78
	0.4L	46+87.47	675.79	46+87.47	675.90	46+87.47	676.13	46+87.47	675.87	46+87.47	675.87
	0.5L	46+99.25	675.88	46+99.25	675.99	46+99.25	676.21	46+99.25	675.96	46+99.25	675.96
	0.6L	47+11.02	675.95	47+11.02	676.06	47+11.02	676.29	47+11.02	676.03	47+11.02	676.03
	0.7L	47+22.80	676.01	47+22.80	676.13	47+22.80	676.35	47+22.80	676.10	47+22.80	676.10
	0.8L	47+34.58	676.07	47+34.58	676.18	47+34.58	676.40	47+34.58	676.15	47+34.58	676.15
	0.9L	47+46.36	676.12	47+46.36	676.23	47+46.36	676.45	47+46.36	676.20	47+46.36	676.20
	P7 BRG 1	47+57.05	676.16	47+57.05	676.27	47+57.05	676.48	47+57.05	676.24	47+57.05	676.24
	PIER 7	47+58.13	676.17	47+58.13	676.28	47+58.13	676.49	47+58.13	676.25	47+58.13	676.25
SPAN 8	P7 BRG 2	47+59.22	676.17	47+59.22	676.29	47+59.22	676.50	47+59.22	676.26	47+59.22	676.26
	0.1L	47+69.80	676.27	47+69.80	676.39	47+69.80	676.61	47+69.80	676.36	47+69.80	676.36
	0.2L	47+81.47	676.38	47+81.47	676.50	47+81.47	676.73	47+81.47	676.47	47+81.47	676.47
	0.3L	47+93.14	676.48	47+93.14	676.60	47+93.14	676.84	47+93.14	676.57	47+93.14	676.57
	0.4L	48+04.81	676.58	48+04.81	676.69	48+04.81	676.94	48+04.81	676.66	48+04.81	676.66
	0.5L	48+16.48	676.66	48+16.48	676.77	48+16.48	677.04	48+16.48	676.75	48+16.48	676.75
	0.6L	48+28.14	676.73	48+28.14	676.84	48+28.14	677.11	48+28.14	676.82	48+28.14	676.82
	0.7L	48+39.81	676.79	48+39.81	676.90	48+39.81	677.17	48+39.81	676.88	48+39.81	676.88
	0.8L	48+51.48	676.84	48+51.48	676.95	48+51.48	677.21	48+51.48	676.93	48+51.48	676.93
	0.9L	48+63.15	676.88	48+63.15	676.99	48+63.15	677.25	48+63.15	676.97	48+63.15	676.97
	CL FA BRG	48+74.82	676.92	48+74.82	677.03	48+74.82	677.28	48+74.82	677.01	48+74.82	677.01

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET 41/64
2. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEETS 43-44/64
3. FOR FINAL DECK ELEVATIONS, SEE SHEETS 45-46/64
4. FOR HAUNCH THICKNESS, SEE SHEETS 47-48/64

SCREED ELEVATIONS

SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

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MAUMEE, OHIO 43537

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CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

SCREED ELEVATIONS
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

TOP OF HAUNCH ELEVATIONS

	LOCATION	BEAM LINE 1			BEAM LINE 2			BEAM LINE 3			BEAM LINE 4		
		STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)
SPAN 1	CL RA BRG	39+34.82	669.91	16.75 LT.	39+34.82	670.07	6.75 LT.	39+34.82	670.13	3.25 RT.	39+34.82	669.97	13.25 RT.
	0.1L	39+46.49	670.03	16.75 LT.	39+46.49	670.19	6.75 LT.	39+46.49	670.25	3.25 RT.	39+46.49	670.08	13.25 RT.
	0.2L	39+58.16	670.14	16.75 LT.	39+58.16	670.31	6.75 LT.	39+58.16	670.36	3.25 RT.	39+58.16	670.19	13.25 RT.
	0.3L	39+69.83	670.24	16.75 LT.	39+69.83	670.41	6.75 LT.	39+69.83	670.47	3.25 RT.	39+69.83	670.30	13.25 RT.
	0.4L	39+81.50	670.34	16.75 LT.	39+81.50	670.51	6.75 LT.	39+81.50	670.57	3.25 RT.	39+81.50	670.39	13.25 RT.
	0.5L	39+93.16	670.42	16.75 LT.	39+93.16	670.60	6.75 LT.	39+93.16	670.65	3.25 RT.	39+93.16	670.48	13.25 RT.
	0.6L	40+04.83	670.49	16.75 LT.	40+04.83	670.67	6.75 LT.	40+04.83	670.73	3.25 RT.	40+04.83	670.55	13.25 RT.
	0.7L	40+16.50	670.56	16.75 LT.	40+16.50	670.73	6.75 LT.	40+16.50	670.79	3.25 RT.	40+16.50	670.61	13.25 RT.
	0.8L	40+28.17	670.61	16.75 LT.	40+28.17	670.78	6.75 LT.	40+28.17	670.84	3.25 RT.	40+28.17	670.67	13.25 RT.
	0.9L	40+39.84	670.66	16.75 LT.	40+39.84	670.83	6.75 LT.	40+39.84	670.88	3.25 RT.	40+39.84	670.72	13.25 RT.
	P1 BRG 1	40+50.42	670.70	16.75 LT.	40+50.42	670.86	6.75 LT.	40+50.42	670.92	3.25 RT.	40+50.42	670.76	13.25 RT.
SPAN 2	P1 BRG 2	40+52.59	670.71	16.75 LT.	40+52.59	670.87	6.75 LT.	40+52.59	670.93	3.25 RT.	40+52.59	670.77	13.25 RT.
	0.1L	40+63.28	670.82	16.75 LT.	40+63.28	670.98	6.75 LT.	40+63.28	671.04	3.25 RT.	40+63.28	670.88	13.25 RT.
	0.2L	40+75.06	670.93	16.75 LT.	40+75.06	671.10	6.75 LT.	40+75.06	671.16	3.25 RT.	40+75.06	670.99	13.25 RT.
	0.3L	40+86.84	671.04	16.75 LT.	40+86.84	671.21	6.75 LT.	40+86.84	671.27	3.25 RT.	40+86.84	671.09	13.25 RT.
	0.4L	40+98.62	671.13	16.75 LT.	40+98.62	671.31	6.75 LT.	40+98.62	671.36	3.25 RT.	40+98.62	671.19	13.25 RT.
	0.5L	41+10.39	671.22	16.75 LT.	41+10.39	671.39	6.75 LT.	41+10.39	671.45	3.25 RT.	41+10.39	671.27	13.25 RT.
	0.6L	41+22.17	671.29	16.75 LT.	41+22.17	671.47	6.75 LT.	41+22.17	671.52	3.25 RT.	41+22.17	671.35	13.25 RT.
	0.7L	41+33.95	671.36	16.75 LT.	41+33.95	671.53	6.75 LT.	41+33.95	671.59	3.25 RT.	41+33.95	671.41	13.25 RT.
	0.8L	41+45.72	671.41	16.75 LT.	41+45.72	671.58	6.75 LT.	41+45.72	671.64	3.25 RT.	41+45.72	671.47	13.25 RT.
	0.9L	41+57.50	671.46	16.75 LT.	41+57.50	671.63	6.75 LT.	41+57.50	671.68	3.25 RT.	41+57.50	671.52	13.25 RT.
	P2 BRG 1	41+68.19	671.50	16.75 LT.	41+68.19	671.66	6.75 LT.	41+68.19	671.72	3.25 RT.	41+68.19	671.56	13.25 RT.
SPAN 3	P2 BRG 2	41+70.36	671.52	16.75 LT.	41+70.36	671.68	6.75 LT.	41+70.36	671.73	3.25 RT.	41+70.36	671.57	13.25 RT.
	0.1L	41+81.06	671.62	16.75 LT.	41+81.06	671.79	6.75 LT.	41+81.06	671.84	3.25 RT.	41+81.06	671.68	13.25 RT.
	0.2L	41+92.83	671.73	16.75 LT.	41+92.83	671.90	6.75 LT.	41+92.83	671.96	3.25 RT.	41+92.83	671.79	13.25 RT.
	0.3L	42+04.61	671.84	16.75 LT.	42+04.61	672.01	6.75 LT.	42+04.61	672.07	3.25 RT.	42+04.61	671.89	13.25 RT.
	0.4L	42+16.39	671.93	16.75 LT.	42+16.39	672.11	6.75 LT.	42+16.39	672.16	3.25 RT.	42+16.39	671.99	13.25 RT.
	0.5L	42+28.16	672.02	16.75 LT.	42+28.16	672.19	6.75 LT.	42+28.16	672.25	3.25 RT.	42+28.16	672.07	13.25 RT.
	0.6L	42+39.94	672.09	16.75 LT.	42+39.94	672.27	6.75 LT.	42+39.94	672.32	3.25 RT.	42+39.94	672.15	13.25 RT.
	0.7L	42+51.72	672.16	16.75 LT.	42+51.72	672.33	6.75 LT.	42+51.72	672.39	3.25 RT.	42+51.72	672.21	13.25 RT.
	0.8L	42+63.49	672.21	16.75 LT.	42+63.49	672.38	6.75 LT.	42+63.49	672.44	3.25 RT.	42+63.49	672.27	13.25 RT.
	0.9L	42+75.27	672.26	16.75 LT.	42+75.27	672.43	6.75 LT.	42+75.27	672.48	3.25 RT.	42+75.27	672.32	13.25 RT.
	P3 BRG 1	42+85.97	672.30	16.75 LT.	42+85.97	672.46	6.75 LT.	42+85.97	672.52	3.25 RT.	42+85.97	672.36	13.25 RT.
SPAN 4	P3 BRG 2	42+88.13	672.32	16.75 LT.	42+88.13	672.48	6.75 LT.	42+88.13	672.53	3.25 RT.	42+88.13	672.37	13.25 RT.
	0.1L	42+98.83	672.42	16.75 LT.	42+98.83	672.59	6.75 LT.	42+98.83	672.64	3.25 RT.	42+98.83	672.48	13.25 RT.
	0.2L	43+10.60	672.53	16.75 LT.	43+10.60	672.70	6.75 LT.	43+10.60	672.76	3.25 RT.	43+10.60	672.59	13.25 RT.
	0.3L	43+22.38	672.64	16.75 LT.	43+22.38	672.81	6.75 LT.	43+22.38	672.87	3.25 RT.	43+22.38	672.69	13.25 RT.
	0.4L	43+34.16	672.73	16.75 LT.	43+34.16	672.91	6.75 LT.	43+34.16	672.97	3.25 RT.	43+34.16	672.79	13.25 RT.
	0.5L	43+45.93	672.82	16.75 LT.	43+45.93	673.00	6.75 LT.	43+45.93	673.05	3.25 RT.	43+45.93	672.87	13.25 RT.
	0.6L	43+57.71	672.89	16.75 LT.	43+57.71	673.07	6.75 LT.	43+57.71	673.13	3.25 RT.	43+57.71	672.95	13.25 RT.
	0.7L	43+69.49	672.96	16.75 LT.	43+69.49	673.13	6.75 LT.	43+69.49	673.19	3.25 RT.	43+69.49	673.01	13.25 RT.
	0.8L	43+81.27	673.01	16.75 LT.	43+81.27	673.18	6.75 LT.	43+81.27	673.24	3.25 RT.	43+81.27	673.07	13.25 RT.
	0.9L	43+93.04	673.06	16.75 LT.	43+93.04	673.23	6.75 LT.	43+93.04	673.28	3.25 RT.	43+93.04	673.12	13.25 RT.
	P4 BRG 1	44+03.74	673.10	16.75 LT.	44+03.74	673.26	6.75 LT.	44+03.74	673.32	3.25 RT.	44+03.74	673.16	13.25 RT.

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET 41/64
2. FOR SCREED ELEVATIONS, SEE SHEET 42/64
3. FOR FINAL DECK ELEVATIONS, SEE SHEETS 45-46/64
4. FOR HAUNCH THICKNESS, SEE SHEETS 47-48/64

TOP OF HAUNCH ELEVATIONS

TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM/GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

TOP OF HAUNCH ELEVATION (1 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

TOP OF HAUNCH ELEVATIONS

	LOCATION	BEAM LINE 1			BEAM LINE 2			BEAM LINE 3			BEAM LINE 4		
		STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)
SPAN 5	P4 BRG 2	44+05.90	673.12	16.75 LT.	44+05.90	673.28	6.75 LT.	44+05.90	673.33	3.25 RT.	44+05.90	673.17	13.25 RT.
	0.1L	44+16.60	673.22	16.75 LT.	44+16.60	673.39	6.75 LT.	44+16.60	673.44	3.25 RT.	44+16.60	673.28	13.25 RT.
	0.2L	44+28.37	673.33	16.75 LT.	44+28.37	673.50	6.75 LT.	44+28.37	673.56	3.25 RT.	44+28.37	673.39	13.25 RT.
	0.3L	44+40.15	673.44	16.75 LT.	44+40.15	673.61	6.75 LT.	44+40.15	673.67	3.25 RT.	44+40.15	673.49	13.25 RT.
	0.4L	44+51.93	673.53	16.75 LT.	44+51.93	673.71	6.75 LT.	44+51.93	673.77	3.25 RT.	44+51.93	673.59	13.25 RT.
	0.5L	44+63.71	673.62	16.75 LT.	44+63.71	673.80	6.75 LT.	44+63.71	673.85	3.25 RT.	44+63.71	673.68	13.25 RT.
	0.6L	44+75.48	673.69	16.75 LT.	44+75.48	673.87	6.75 LT.	44+75.48	673.93	3.25 RT.	44+75.48	673.75	13.25 RT.
	0.7L	44+87.26	673.76	16.75 LT.	44+87.26	673.93	6.75 LT.	44+87.26	673.99	3.25 RT.	44+87.26	673.82	13.25 RT.
	0.8L	44+99.04	673.81	16.75 LT.	44+99.04	673.98	6.75 LT.	44+99.04	674.04	3.25 RT.	44+99.04	673.87	13.25 RT.
	0.9L	45+10.81	673.86	16.75 LT.	45+10.81	674.03	6.75 LT.	45+10.81	674.08	3.25 RT.	45+10.81	673.92	13.25 RT.
	P5 BRG 1	45+21.51	673.90	16.75 LT.	45+21.51	674.06	6.75 LT.	45+21.51	674.12	3.25 RT.	45+21.51	673.96	13.25 RT.
SPAN 6	P5 BRG 2	45+23.67	673.92	16.75 LT.	45+23.67	674.08	6.75 LT.	45+23.67	674.13	3.25 RT.	45+23.67	673.97	13.25 RT.
	0.1L	45+34.37	674.02	16.75 LT.	45+34.37	674.19	6.75 LT.	45+34.37	674.24	3.25 RT.	45+34.37	674.08	13.25 RT.
	0.2L	45+46.14	674.13	16.75 LT.	45+46.14	674.30	6.75 LT.	45+46.14	674.36	3.25 RT.	45+46.14	674.19	13.25 RT.
	0.3L	45+57.92	674.24	16.75 LT.	45+57.92	674.41	6.75 LT.	45+57.92	674.47	3.25 RT.	45+57.92	674.30	13.25 RT.
	0.4L	45+69.70	674.33	16.75 LT.	45+69.70	674.51	6.75 LT.	45+69.70	674.57	3.25 RT.	45+69.70	674.39	13.25 RT.
	0.5L	45+81.48	674.42	16.75 LT.	45+81.48	674.60	6.75 LT.	45+81.48	674.65	3.25 RT.	45+81.48	674.48	13.25 RT.
	0.6L	45+93.25	674.50	16.75 LT.	45+93.25	674.67	6.75 LT.	45+93.25	674.73	3.25 RT.	45+93.25	674.55	13.25 RT.
	0.7L	46+05.03	674.56	16.75 LT.	46+05.03	674.73	6.75 LT.	46+05.03	674.79	3.25 RT.	46+05.03	674.62	13.25 RT.
	0.8L	46+16.81	674.62	16.75 LT.	46+16.81	674.79	6.75 LT.	46+16.81	674.84	3.25 RT.	46+16.81	674.67	13.25 RT.
	0.9L	46+28.58	674.66	16.75 LT.	46+28.58	674.83	6.75 LT.	46+28.58	674.89	3.25 RT.	46+28.58	674.72	13.25 RT.
	P6 BRG 1	46+39.28	674.70	16.75 LT.	46+39.28	674.86	6.75 LT.	46+39.28	674.92	3.25 RT.	46+39.28	674.76	13.25 RT.
SPAN 7	P6 BRG 2	46+41.44	674.72	16.75 LT.	46+41.44	674.88	6.75 LT.	46+41.44	674.93	3.25 RT.	46+41.44	674.77	13.25 RT.
	0.1L	46+52.14	674.82	16.75 LT.	46+52.14	674.99	6.75 LT.	46+52.14	675.04	3.25 RT.	46+52.14	674.88	13.25 RT.
	0.2L	46+63.92	674.94	16.75 LT.	46+63.92	675.10	6.75 LT.	46+63.92	675.16	3.25 RT.	46+63.92	674.99	13.25 RT.
	0.3L	46+75.69	675.04	16.75 LT.	46+75.69	675.21	6.75 LT.	46+75.69	675.27	3.25 RT.	46+75.69	675.10	13.25 RT.
	0.4L	46+87.47	675.14	16.75 LT.	46+87.47	675.31	6.75 LT.	46+87.47	675.37	3.25 RT.	46+87.47	675.19	13.25 RT.
	0.5L	46+99.25	675.22	16.75 LT.	46+99.25	675.40	6.75 LT.	46+99.25	675.45	3.25 RT.	46+99.25	675.28	13.25 RT.
	0.6L	47+11.02	675.30	16.75 LT.	47+11.02	675.47	6.75 LT.	47+11.02	675.53	3.25 RT.	47+11.02	675.35	13.25 RT.
	0.7L	47+22.80	675.36	16.75 LT.	47+22.80	675.53	6.75 LT.	47+22.80	675.59	3.25 RT.	47+22.80	675.42	13.25 RT.
	0.8L	47+34.58	675.42	16.75 LT.	47+34.58	675.59	6.75 LT.	47+34.58	675.64	3.25 RT.	47+34.58	675.47	13.25 RT.
	0.9L	47+46.36	675.47	16.75 LT.	47+46.36	675.63	6.75 LT.	47+46.36	675.69	3.25 RT.	47+46.36	675.52	13.25 RT.
	P7 BRG 1	47+57.05	675.50	16.75 LT.	47+57.05	675.66	6.75 LT.	47+57.05	675.72	3.25 RT.	47+57.05	675.56	13.25 RT.
SPAN 8	P7 BRG 2	47+59.22	675.50	16.75 LT.	47+59.22	675.66	6.75 LT.	47+59.22	675.71	3.25 RT.	47+59.22	675.55	13.25 RT.
	0.1L	47+69.80	675.60	16.96 LT.	47+69.80	675.77	6.84 LT.	47+69.80	675.82	3.29 RT.	47+69.80	675.66	13.41 RT.
	0.2L	47+81.47	675.71	17.18 LT.	47+81.47	675.89	6.93 LT.	47+81.47	675.94	3.33 RT.	47+81.47	675.77	13.59 RT.
	0.3L	47+93.14	675.81	17.41 LT.	47+93.14	676.00	7.02 LT.	47+93.14	676.06	3.37 RT.	47+93.14	675.87	13.77 RT.
	0.4L	48+04.81	675.91	17.63 LT.	48+04.81	676.10	7.11 LT.	48+04.81	676.16	3.42 RT.	48+04.81	675.96	13.94 RT.
	0.5L	48+16.48	675.99	17.86 LT.	48+16.48	676.19	7.20 LT.	48+16.48	676.25	3.46 RT.	48+16.48	676.05	14.12 RT.
	0.6L	48+28.14	676.06	18.08 LT.	48+28.14	676.26	7.29 LT.	48+28.14	676.32	3.51 RT.	48+28.14	676.12	14.30 RT.
	0.7L	48+39.81	676.12	18.31 LT.	48+39.81	676.32	7.38 LT.	48+39.81	676.38	3.55 RT.	48+39.81	676.18	14.48 RT.
	0.8L	48+51.48	676.17	18.53 LT.	48+51.48	676.37	7.47 LT.	48+51.48	676.43	3.59 RT.	48+51.48	676.23	14.66 RT.
	0.9L	48+63.15	676.21	18.76 LT.	48+63.15	676.40	7.56 LT.	48+63.15	676.46	3.64 RT.	48+63.15	676.27	14.84 RT.
	CL FA BRG	48+74.82	676.25	18.98 LT.	48+74.82	676.43	7.65 LT.	48+74.82	676.49	3.68 RT.	48+74.82	676.31	15.02 RT.

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET 41/64
2. FOR SCREED ELEVATIONS, SEE SHEET 42/64
3. FOR FINAL DECK ELEVATIONS, SEE SHEETS 45-46/64
4. FOR HAUNCH THICKNESS, SEE SHEETS 47-48/64

TOP OF HAUNCH ELEVATIONS

TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM/GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

TOP OF HAUNCH ELEVATION (2 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00 PID No. 22984

FINAL DECK ELEVATIONS

	LOCATION	LEFT EDGE OF DECK			BEAM LINE 1			LEFT TOE OF CURB			BEAM LINE 2			CL CONST. IND DR & PG	
		STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.
SPAN 1	CL RA BRG	39+34.82	670.57	20.17 LT.	39+34.82	670.62	16.75 LT.	39+34.82	670.68	13.00 LT.	39+34.82	670.78	6.75 LT.	39+34.82	670.89
	0.1L	39+46.49	670.65	20.17 LT.	39+46.49	670.70	16.75 LT.	39+46.49	670.76	13.00 LT.	39+46.49	670.86	6.75 LT.	39+46.49	670.97
	0.2L	39+58.16	670.73	20.17 LT.	39+58.16	670.78	16.75 LT.	39+58.16	670.84	13.00 LT.	39+58.16	670.94	6.75 LT.	39+58.16	671.05
	0.3L	39+69.83	670.81	20.17 LT.	39+69.83	670.86	16.75 LT.	39+69.83	670.92	13.00 LT.	39+69.83	671.02	6.75 LT.	39+69.83	671.13
	0.4L	39+81.50	670.88	20.17 LT.	39+81.50	670.94	16.75 LT.	39+81.50	671.00	13.00 LT.	39+81.50	671.10	6.75 LT.	39+81.50	671.21
	0.5L	39+93.16	670.96	20.17 LT.	39+93.16	671.02	16.75 LT.	39+93.16	671.08	13.00 LT.	39+93.16	671.18	6.75 LT.	39+93.16	671.29
	0.6L	40+04.83	671.04	20.17 LT.	40+04.83	671.10	16.75 LT.	40+04.83	671.16	13.00 LT.	40+04.83	671.26	6.75 LT.	40+04.83	671.37
	0.7L	40+16.50	671.12	20.17 LT.	40+16.50	671.18	16.75 LT.	40+16.50	671.24	13.00 LT.	40+16.50	671.34	6.75 LT.	40+16.50	671.45
	0.8L	40+28.17	671.20	20.17 LT.	40+28.17	671.26	16.75 LT.	40+28.17	671.32	13.00 LT.	40+28.17	671.42	6.75 LT.	40+28.17	671.52
	0.9L	40+39.84	671.28	20.17 LT.	40+39.84	671.34	16.75 LT.	40+39.84	671.40	13.00 LT.	40+39.84	671.50	6.75 LT.	40+39.84	671.60
	P1 BRG 1	40+50.42	671.35	20.17 LT.	40+50.42	671.41	16.75 LT.	40+50.42	671.47	13.00 LT.	40+50.42	671.57	6.75 LT.	40+50.42	671.68
	PIER 1	40+51.51	671.36	20.17 LT.	40+51.51	671.42	16.75 LT.	40+51.51	671.48	13.00 LT.	40+51.51	671.58	6.75 LT.	40+51.51	671.68
	P1 BRG 2	40+52.59	671.37	20.17 LT.	40+52.59	671.42	16.75 LT.	40+52.59	671.48	13.00 LT.	40+52.59	671.58	6.75 LT.	40+52.59	671.69
	0.1L	40+63.28	671.44	20.17 LT.	40+63.28	671.50	16.75 LT.	40+63.28	671.56	13.00 LT.	40+63.28	671.66	6.75 LT.	40+63.28	671.76
	0.2L	40+75.06	671.52	20.17 LT.	40+75.06	671.58	16.75 LT.	40+75.06	671.64	13.00 LT.	40+75.06	671.74	6.75 LT.	40+75.06	671.84
	0.3L	40+86.84	671.60	20.17 LT.	40+86.84	671.66	16.75 LT.	40+86.84	671.72	13.00 LT.	40+86.84	671.82	6.75 LT.	40+86.84	671.92
SPAN 2	0.4L	40+98.62	671.68	20.17 LT.	40+98.62	671.74	16.75 LT.	40+98.62	671.80	13.00 LT.	40+98.62	671.90	6.75 LT.	40+98.62	672.00
	0.5L	41+10.39	671.76	20.17 LT.	41+10.39	671.82	16.75 LT.	41+10.39	671.88	13.00 LT.	41+10.39	671.98	6.75 LT.	41+10.39	672.08
	0.6L	41+22.17	671.84	20.17 LT.	41+22.17	671.90	16.75 LT.	41+22.17	671.96	13.00 LT.	41+22.17	672.06	6.75 LT.	41+22.17	672.16
	0.7L	41+33.95	671.92	20.17 LT.	41+33.95	671.98	16.75 LT.	41+33.95	672.04	13.00 LT.	41+33.95	672.14	6.75 LT.	41+33.95	672.24
	0.8L	41+45.72	672.00	20.17 LT.	41+45.72	672.06	16.75 LT.	41+45.72	672.12	13.00 LT.	41+45.72	672.22	6.75 LT.	41+45.72	672.32
	0.9L	41+57.50	672.08	20.17 LT.	41+57.50	672.14	16.75 LT.	41+57.50	672.20	13.00 LT.	41+57.50	672.30	6.75 LT.	41+57.50	672.40
	P2 BRG 1	41+68.19	672.15	20.17 LT.	41+68.19	672.21	16.75 LT.	41+68.19	672.27	13.00 LT.	41+68.19	672.37	6.75 LT.	41+68.19	672.48
	PIER 2	41+69.28	672.16	20.17 LT.	41+69.28	672.22	16.75 LT.	41+69.28	672.28	13.00 LT.	41+69.28	672.38	6.75 LT.	41+69.28	672.48
	P2 BRG 2	41+70.36	672.17	20.17 LT.	41+70.36	672.22	16.75 LT.	41+70.36	672.28	13.00 LT.	41+70.36	672.38	6.75 LT.	41+70.36	672.49
	0.1L	41+81.06	672.24	20.17 LT.	41+81.06	672.30	16.75 LT.	41+81.06	672.36	13.00 LT.	41+81.06	672.46	6.75 LT.	41+81.06	672.56
	0.2L	41+92.83	672.32	20.17 LT.	41+92.83	672.38	16.75 LT.	41+92.83	672.44	13.00 LT.	41+92.83	672.54	6.75 LT.	41+92.83	672.64
	0.3L	42+04.61	672.40	20.17 LT.	42+04.61	672.46	16.75 LT.	42+04.61	672.52	13.00 LT.	42+04.61	672.62	6.75 LT.	42+04.61	672.72
SPAN 3	0.4L	42+16.39	672.48	20.17 LT.	42+16.39	672.54	16.75 LT.	42+16.39	672.60	13.00 LT.	42+16.39	672.70	6.75 LT.	42+16.39	672.80
	0.5L	42+28.16	672.56	20.17 LT.	42+28.16	672.62	16.75 LT.	42+28.16	672.68	13.00 LT.	42+28.16	672.78	6.75 LT.	42+28.16	672.88
	0.6L	42+39.94	672.64	20.17 LT.	42+39.94	672.70	16.75 LT.	42+39.94	672.76	13.00 LT.	42+39.94	672.86	6.75 LT.	42+39.94	672.96
	0.7L	42+51.72	672.72	20.17 LT.	42+51.72	672.78	16.75 LT.	42+51.72	672.84	13.00 LT.	42+51.72	672.94	6.75 LT.	42+51.72	673.04
	0.8L	42+63.49	672.80	20.17 LT.	42+63.49	672.86	16.75 LT.	42+63.49	672.92	13.00 LT.	42+63.49	673.02	6.75 LT.	42+63.49	673.12
	0.9L	42+75.27	672.88	20.17 LT.	42+75.27	672.94	16.75 LT.	42+75.27	673.00	13.00 LT.	42+75.27	673.10	6.75 LT.	42+75.27	673.21
	P3 BRG 1	42+85.97	672.96	20.17 LT.	42+85.97	673.01	16.75 LT.	42+85.97	673.07	13.00 LT.	42+85.97	673.17	6.75 LT.	42+85.97	673.28
	PIER 3	42+87.05	672.96	20.17 LT.	42+87.05	673.02	16.75 LT.	42+87.05	673.08	13.00 LT.	42+87.05	673.18	6.75 LT.	42+87.05	673.29
	P3 BRG 2	42+88.13	672.97	20.17 LT.	42+88.13	673.02	16.75 LT.	42+88.13	673.08	13.00 LT.	42+88.13	673.18	6.75 LT.	42+88.13	673.29
	0.1L	42+98.83	673.04	20.17 LT.	42+98.83	673.10	16.75 LT.	42+98.83	673.16	13.00 LT.	42+98.83	673.26	6.75 LT.	42+98.83	673.37
	0.2L	43+10.60	673.12	20.17 LT.	43+10.60	673.18	16.75 LT.	43+10.60	673.24	13.00 LT.	43+10.60	673.34	6.75 LT.	43+10.60	673.45
	0.3L	43+22.38	673.20	20.17 LT.	43+22.38	673.26	16.75 LT.	43+22.38	673.32	13.00 LT.	43+22.38	673.42	6.75 LT.	43+22.38	673.53
SPAN 4	0.4L	43+34.16	673.28	20.17 LT.	43+34.16	673.34	16.75 LT.	43+34.16	673.40	13.00 LT.	43+34.16	673.50	6.75 LT.	43+34.16	673.61
	0.5L	43+45.93	673.36	20.17 LT.	43+45.93	673.42	16.75 LT.	43+45.93	673.48	13.00 LT.	43+45.93	673.58	6.75 LT.	43+45.93	673.69
	0.6L	43+57.71	673.44	20.17 LT.	43+57.71	673.50	16.75 LT.	43+57.71	673.56	13.00 LT.	43+57.71	673.66	6.75 LT.	43+57.71	673.77
	0.7L	43+69.49	673.52	20.17 LT.	43+69.49	673.58	16.75 LT.	43+69.49	673.64	13.00 LT.	43+69.49	673.74	6.75 LT.	43+69.49	673.85
	0.8L	43+81.27	673.60	20.17 LT.	43+81.27	673.66	16.75 LT.	43+81.27	673.72	13.00 LT.	43+81.27	673.82	6.75 LT.	43+81.27	673.93
	0.9L	43+93.04	673.68	20.17 LT.	43+93.04	673.74	16.75 LT.	43+93.04	673.80	13.00 LT.	43+93.04	673.90	6.75 LT.	43+93.04	674.01
	P4 BRG 1	44+03.74	673.76	20.17 LT.	44+03.74	673.81	16.75 LT.	44+03.74	673.87	13.00 LT.	44+03.74	673.97	6.75 LT.	44+03.74	674.08

	LOCATION	BEAM LINE 3			BEAM LINE 4			RIGHT TOE OF BARRIER			RIGHT EDGE OF DECK		
		STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)
SPAN 1	CL RA BRG	39+34.82	670.84	3.25 RT.	39+34.82	670.68	13.25 RT.	39+34.82	670.65	15.00 RT.	39+34.82	670.65	16.67 RT.
	0.1L	39+46.49	670.92	3.25 RT.	39+46.49	670.76	13.25 RT.	39+46.49	670.73	15.00 RT.	39+46.49	670.73	16.67 RT.
	0.2L	39+58.16	671.00	3.25 RT.	39+58.16	670.84	13.25 RT.	39+58.16	670.81	15.00 RT.	39+58.16	670.81	16.67 RT.
	0.3L	39+69.83	671.08	3.25 RT.	39+69.83	670.92	13.25 RT.	39+69.83	670.89	15.00 RT.	39+69.83	670.89	16.67 RT.
	0.4L	39+81.50	671.16	3.25 RT.	39+81.50	671.00	13.25 RT.	39+81.50	670.97	15.00 RT.	39+81.50	670.97	16.67 RT.
	0.5L	39+93.16	671.23	3.25 RT.	39+93.16	671.07	13.25 RT.	39+93.16	671.05	15.00 RT.	39+93.16	671.05	16.67 RT.
	0.6L	40+04.83	671.31	3.25 RT.	40+04.83	671.15	13.25 RT.	40+04.83	671.13	15.00 RT.	40+04.83	671.13	16.67 RT.
	0.7L	40+16.50	671.39	3.25 RT.	40+16.50	671.23	13.25 RT.	40+16.50	671.21	15.00 RT.	40+16.50	671.21	16.67 RT.
	0.8L	40+28.17	671.47	3.25 RT.	40+28.17	671.31	13.25 RT.	40+28.17	671.28	15.00 RT.	40+28.17	671.28	16.67 RT.
	0.9L	40+39.84	671.55	3.25 RT.	40+39.84	671.39	13.25 RT.	40+39.84	671.36	15.00 RT.	40+39.84	671.36	16.67 RT.
	P1 BRG 1	40+50.42	671.62	3.25 RT.	40+50.42	671.46	13.25 RT.	40+50.42	671.44	15.00 RT.	40+50.42	671.44	16.67 RT.
	PIER 1	40+51.51	671.63	3.25 RT.	40+51.51	671.47	13.25 RT.	40+51.51	671.44	15.00 RT.	40+51.51	671.44	16.67 RT.
	P1 BRG 2	40+52.59	671.64	3.25 RT.	40+52.59	671.48	13.25 RT.	40+52.59	671.45	15.00 RT.	40+52.59	671.45	16.67 RT.
	0.1L	40+63.28	671.71	3.25 RT.	40+63.28	671.55	13.25 RT.	40+63.28	671.52	15.00 RT.	40+63.28	671.52	16.67 RT.
	0.2L	40+75.06	671.79	3.25 RT.	40+75.06	671.63	13.25 RT.	40+75.06	671.60	15.00 RT.	40+75.06	671.60	16.67 RT.
	0.3L	40+86.84	671.87	3.25 RT.	40+86.84	671.71	13.25 RT.	40+86.84	671.68	15.00 RT.	40+86.84	671.68	16.67 RT.
SPAN 2	0.4L	40+98.62	671.95	3.25 RT.	40+98.62	671.79	13.25 RT.	40+98.62	671.76	15.00 RT.	40+98.62	671.76	16.67 RT.
	0.5L	41+10.39	672.03	3.25 RT.	41+10.39	671.87	13.25 RT.	41+10.39	671.84	15.00 RT.	41+10.39	671.84	16.67 RT.
	0.6L	41+22.17	672.11	3.25 RT.	41+22.17	671.95	13.25 RT.	41+22.17	671.92	15.00 RT.	41+22.17	671.92	16.67 RT.
	0.7L	41+33.95	672.19	3.25 RT.	41+33.95	672.03	13.25 RT.	41+33.95	672.00	15.00 RT.	41+33.95	672.00	16.67 RT.
	0.8L	41+45.72	672.27	3.25 RT.	41+45.72	672.11	13.25 RT.	41+45.72	672.08	15.00 RT.	41+45.72	672.08	16.67 RT.
	0.9L	41+57.50	672.35	3.25 RT.	41+57.50	672.19	13.25 RT.	41+57.50	672.16	15.00 RT.	41+57.50	672.16	16.67 RT.
	P2 BRG 1	41+68.19	672.42	3.25 RT.	41+68.19	672.26	13.25 RT.	41+68.19	672.24	15.00 RT.	41+68.19	672.24	16.67 RT.
	PIER 2	41+69.28	672.43	3.25 RT.	41+69.28	672.27	13.25 RT.	41+69.28	672.24	15.00 RT.	41+69.28	672.24	16.67 RT.
	P2 BRG 2	41+70.36	672.44	3.25 RT.	41+70.36	672.28	13.25 RT.	41+70.36	672.25	15.00 RT.	41+70.36	672.25	16.67 RT.
	0.1L	41+81.06	672.51	3.25 RT.	41+81.06	672.35	13.25 RT.	41+81.06	672.32	15.00 RT.	41+81.06	672.32	16.67 RT.
	0.2L	41+92.83	672.59	3.25 RT.	41+92.83	672.43	13.25 RT.	41+92.83	672.40	15.00 RT.	41+92.83	672.40	16.67 RT.
	0.3L	42+04.61	672.67	3.25 RT.	42+04.61	672.51	13.25 RT.	42+04.61	672.48	15.00 RT.	42+04.61	672.48	16.67 RT.
SPAN 3	0.4L	42+16.39	672.75	3.25 RT.	42+16.39	672.59	13.25 RT.	42+16.39	672.56	15.00 RT.	42+16.39	672.56	16.67 RT.
	0.5L	42+28.16	672.83	3.25 RT.	42+28.16	672.67	13.25 RT.	42+28.16	672.64	15.00 RT.	42+28.16	672.64	16.67 RT.
	0.6L	42+39.94	672.91	3.25 RT.	42+39.94	672.75	13.25 RT.	42+39.94	672.72	15.00 RT.	42+39.94	672.72	16.67 RT.
	0.7L	42+51.72	672.99	3.25 RT.	42+51.72	672.83	13.25 RT.	42+51.72	672.80	15.00 RT.	42+51.72	672.80	16.67 RT.
	0.8L	42+63.49	673.07	3.25 RT.	42+63.49	672.91	13.25 RT.	42+63.49	672.88	15.00 RT.	42+63.49	672.88	16.67 RT.
	0.9L	42+75.27	673.15	3.25 RT.	42+75.27	672.99	13.25 RT.	42+75.27	672.97	15.00 RT.	42+75.27	672.97	16.67 RT.
	P3 BRG 1	42+85.97	673.23	3.25 RT.	42+85.97	673.07	13.25 RT.	42+85.97	673.04	15.00 RT.	42+85.97	673.04	16.67 RT.
	PIER 3	42+87.05	673.23	3.25 RT.	42+87.05	673.07	13.25 RT.	42+87.05	673.05	15.00 RT.	42+87.05	673.05	16.67 RT.
	P3 BRG 2	42+88.13	673.24	3.25 RT.	42+88.13	673.08	13.25 RT.	42+88.13	673.05	15.00 RT.	42+88.13	673.05	16.67 RT.
	0.1L	42+98.83	673.31	3.25 RT.	42+98.83	673.15	13.25 RT.	42+98.83	673.13	15.00 RT.	42+98.83	673.13	16.67 RT.
	0.2L	43+10.60	673.39	3.25 RT.	43+10.60	673.23	13.25 RT.	43+10.60	673.21	15.00 RT.	43+10.60	673.21	16.67 RT.
	0.3L	43+22.38	673.47	3.25 RT.	43+22.38	673.31	13.25 RT.	43+22.38	673.29	15.00 RT.	43+22.38	673.29	16.67 RT.
SPAN 4	0.4L	43+34.16	673.55	3.25 RT.	43+34.16	673.39	13.25 RT.	43+34.16	673.37	15.00 RT.	43+34.16	673.37	16.67 RT.
	0.5L	43+45.93	673.63	3.25 RT.	43+45.93	673.47	13.25 RT.	43+45.93	673.45	15.00 RT.	43+45.93	673.45	16.67 RT.
	0.6L	43+57.71	673.71	3.25 RT.	43+57.71	673.55	13.25 RT.	43+57.71	673.53	15.00 RT.	43+57.71	673.53	16.67 RT.
	0.7L	43+69.49	673.79	3.25 RT.	43+69.49	673.63	13.25 RT.	43+69.49	673.61	15.00 RT.	43+69.49	673.61	16.67 RT.
	0.8L	43+81.27	673.87	3.25 RT.	43+81.27	673.71	13.25 RT.	43+81.27	673.69	15.00 RT.	43+81.27	673.69	16.67 RT.
	0.9L	43+93.04	673.95	3.25 RT.	43+93.04	673.79	13.25 RT.	43+93.04	673.77	15.00 RT.	43+93.04	673.77	16.67 RT.
	P4 BRG 1	44+03.74	674.03	3.25 RT.	44+03.74	673.87	13.25 RT.	44+03.74	673.84	15.00 RT.	44+03.74	673.84	16.67 RT.

FINAL DECK SURFACE ELEVATIONS

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET 41/64
2. FOR SCREED ELEVATIONS, SEE SHEET 42/64
3. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEETS 43-44/64
4. FOR HAUNCH THICKNESS, SEE SHEETS 47-48/64

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

FINAL DECK ELEVATION (1 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

45/64

129/180

FINAL DECK ELEVATIONS

	LOCATION	LEFT EDGE OF DECK			BEAM LINE 1			LEFT TOE OF CURB			BEAM LINE 2			CL CONST. IND DR & PG		BEAM LINE 3			BEAM LINE 4			RIGHT TOE OF BARRIER			RIGHT EDGE OF DECK		
		STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)	STATION	ELEV.	OFFSET(FT.)
	PIER 4	44+04.82	673.76	20.17 LT.	44+04.82	673.82	16.75 LT.	44+04.82	673.88	13.00 LT.	44+04.82	673.98	6.75 LT.	44+04.82	674.09	44+04.82	674.03	3.25 RT.	44+04.82	673.87	13.25 RT.	44+04.82	673.85	15.00 RT.	44+04.82	673.85	16.67 RT.
SPAN 5	P4 BRG 2	44+05.90	673.77	20.17 LT.	44+05.90	673.83	16.75 LT.	44+05.90	673.89	13.00 LT.	44+05.90	673.99	6.75 LT.	44+05.90	674.09	44+05.90	674.04	3.25 RT.	44+05.90	673.88	13.25 RT.	44+05.90	673.85	15.00 RT.	44+05.90	673.85	16.67 RT.
SPAN 5	0.1L	44+16.60	673.84	20.17 LT.	44+16.60	673.90	16.75 LT.	44+16.60	673.96	13.00 LT.	44+16.60	674.06	6.75 LT.	44+16.60	674.17	44+16.60	674.11	3.25 RT.	44+16.60	673.95	13.25 RT.	44+16.60	673.93	15.00 RT.	44+16.60	673.93	16.67 RT.
SPAN 5	0.2L	44+28.37	673.92	20.17 LT.	44+28.37	673.98	16.75 LT.	44+28.37	674.04	13.00 LT.	44+28.37	674.14	6.75 LT.	44+28.37	674.25	44+28.37	674.19	3.25 RT.	44+28.37	674.03	13.25 RT.	44+28.37	674.01	15.00 RT.	44+28.37	674.01	16.67 RT.
SPAN 5	0.3L	44+40.15	674.00	20.17 LT.	44+40.15	674.06	16.75 LT.	44+40.15	674.12	13.00 LT.	44+40.15	674.22	6.75 LT.	44+40.15	674.33	44+40.15	674.27	3.25 RT.	44+40.15	674.11	13.25 RT.	44+40.15	674.09	15.00 RT.	44+40.15	674.09	16.67 RT.
SPAN 5	0.4L	44+51.93	674.08	20.17 LT.	44+51.93	674.14	16.75 LT.	44+51.93	674.20	13.00 LT.	44+51.93	674.30	6.75 LT.	44+51.93	674.41	44+51.93	674.35	3.25 RT.	44+51.93	674.19	13.25 RT.	44+51.93	674.17	15.00 RT.	44+51.93	674.17	16.67 RT.
SPAN 5	0.5L	44+63.71	674.16	20.17 LT.	44+63.71	674.22	16.75 LT.	44+63.71	674.28	13.00 LT.	44+63.71	674.38	6.75 LT.	44+63.71	674.49	44+63.71	674.43	3.25 RT.	44+63.71	674.27	13.25 RT.	44+63.71	674.25	15.00 RT.	44+63.71	674.25	16.67 RT.
SPAN 5	0.6L	44+75.48	674.24	20.17 LT.	44+75.48	674.30	16.75 LT.	44+75.48	674.36	13.00 LT.	44+75.48	674.46	6.75 LT.	44+75.48	674.57	44+75.48	674.51	3.25 RT.	44+75.48	674.35	13.25 RT.	44+75.48	674.33	15.00 RT.	44+75.48	674.33	16.67 RT.
SPAN 5	0.7L	44+87.26	674.32	20.17 LT.	44+87.26	674.38	16.75 LT.	44+87.26	674.44	13.00 LT.	44+87.26	674.54	6.75 LT.	44+87.26	674.65	44+87.26	674.59	3.25 RT.	44+87.26	674.43	13.25 RT.	44+87.26	674.41	15.00 RT.	44+87.26	674.41	16.67 RT.
SPAN 5	0.8L	44+99.04	674.40	20.17 LT.	44+99.04	674.46	16.75 LT.	44+99.04	674.52	13.00 LT.	44+99.04	674.62	6.75 LT.	44+99.04	674.73	44+99.04	674.67	3.25 RT.	44+99.04	674.51	13.25 RT.	44+99.04	674.49	15.00 RT.	44+99.04	674.49	16.67 RT.
SPAN 5	0.9L	45+10.81	674.48	20.17 LT.	45+10.81	674.54	16.75 LT.	45+10.81	674.60	13.00 LT.	45+10.81	674.70	6.75 LT.	45+10.81	674.81	45+10.81	674.75	3.25 RT.	45+10.81	674.59	13.25 RT.	45+10.81	674.57	15.00 RT.	45+10.81	674.57	16.67 RT.
SPAN 5	P5 BRG 1	45+21.51	674.56	20.17 LT.	45+21.51	674.61	16.75 LT.	45+21.51	674.67	13.00 LT.	45+21.51	674.77	6.75 LT.	45+21.51	674.88	45+21.51	674.83	3.25 RT.	45+21.51	674.67	13.25 RT.	45+21.51	674.64	15.00 RT.	45+21.51	674.64	16.67 RT.
	PIER 5	45+22.59	674.56	20.17 LT.	45+22.59	674.62	16.75 LT.	45+22.59	674.68	13.00 LT.	45+22.59	674.78	6.75 LT.	45+22.59	674.89	45+22.59	674.83	3.25 RT.	45+22.59	674.67	13.25 RT.	45+22.59	674.65	15.00 RT.	45+22.59	674.65	16.67 RT.
SPAN 6	P5 BRG 2	45+23.67	674.57	20.17 LT.	45+23.67	674.63	16.75 LT.	45+23.67	674.69	13.00 LT.	45+23.67	674.79	6.75 LT.	45+23.67	674.89	45+23.67	674.84	3.25 RT.	45+23.67	674.68	13.25 RT.	45+23.67	674.65	15.00 RT.	45+23.67	674.65	16.67 RT.
SPAN 6	0.1L	45+34.37	674.64	20.17 LT.	45+34.37	674.70	16.75 LT.	45+34.37	674.76	13.00 LT.	45+34.37	674.86	6.75 LT.	45+34.37	674.97	45+34.37	674.91	3.25 RT.	45+34.37	674.75	13.25 RT.	45+34.37	674.73	15.00 RT.	45+34.37	674.73	16.67 RT.
SPAN 6	0.2L	45+46.14	674.72	20.17 LT.	45+46.14	674.78	16.75 LT.	45+46.14	674.84	13.00 LT.	45+46.14	674.94	6.75 LT.	45+46.14	675.05	45+46.14	674.99	3.25 RT.	45+46.14	674.83	13.25 RT.	45+46.14	674.81	15.00 RT.	45+46.14	674.81	16.67 RT.
SPAN 6	0.3L	45+57.92	674.80	20.17 LT.	45+57.92	674.86	16.75 LT.	45+57.92	674.92	13.00 LT.	45+57.92	675.02	6.75 LT.	45+57.92	675.13	45+57.92	675.08	3.25 RT.	45+57.92	674.92	13.25 RT.	45+57.92	674.89	15.00 RT.	45+57.92	674.89	16.67 RT.
SPAN 6	0.4L	45+69.70	674.88	20.17 LT.	45+69.70	674.94	16.75 LT.	45+69.70	675.00	13.00 LT.	45+69.70	675.10	6.75 LT.	45+69.70	675.21	45+69.70	675.16	3.25 RT.	45+69.70	675.00	13.25 RT.	45+69.70	674.97	15.00 RT.	45+69.70	674.97	16.67 RT.
SPAN 6	0.5L	45+81.48	674.96	20.17 LT.	45+81.48	675.02	16.75 LT.	45+81.48	675.08	13.00 LT.	45+81.48	675.18	6.75 LT.	45+81.48	675.29	45+81.48	675.24	3.25 RT.	45+81.48	675.08	13.25 RT.	45+81.48	675.05	15.00 RT.	45+81.48	675.05	16.67 RT.
SPAN 6	0.6L	45+93.25	675.04	20.17 LT.	45+93.25	675.10	16.75 LT.	45+93.25	675.16	13.00 LT.	45+93.25	675.26	6.75 LT.	45+93.25	675.37	45+93.25	675.32	3.25 RT.	45+93.25	675.16	13.25 RT.	45+93.25	675.13	15.00 RT.	45+93.25	675.13	16.67 RT.
SPAN 6	0.7L	46+05.03	675.12	20.17 LT.	46+05.03	675.18	16.75 LT.	46+05.03	675.24	13.00 LT.	46+05.03	675.34	6.75 LT.	46+05.03	675.45	46+05.03	675.40	3.25 RT.	46+05.03	675.24	13.25 RT.	46+05.03	675.21	15.00 RT.	46+05.03	675.21	16.67 RT.
SPAN 6	0.8L	46+16.81	675.20	20.17 LT.	46+16.81	675.26	16.75 LT.	46+16.81	675.32	13.00 LT.	46+16.81	675.42	6.75 LT.	46+16.81	675.53	46+16.81	675.48	3.25 RT.	46+16.81	675.32	13.25 RT.	46+16.81	675.29	15.00 RT.	46+16.81	675.29	16.67 RT.
SPAN 6	0.9L	46+28.58	675.28	20.17 LT.	46+28.58	675.34	16.75 LT.	46+28.58	675.40	13.00 LT.	46+28.58	675.50	6.75 LT.	46+28.58	675.61	46+28.58	675.56	3.25 RT.	46+28.58	675.40	13.25 RT.	46+28.58	675.37	15.00 RT.	46+28.58	675.37	16.67 RT.
SPAN 6	P6 BRG 1	46+39.28	675.36	20.17 LT.	46+39.28	675.41	16.75 LT.	46+39.28	675.47	13.00 LT.	46+39.28	675.57	6.75 LT.	46+39.28	675.68	46+39.28	675.63	3.25 RT.	46+39.28	675.47	13.25 RT.	46+39.28	675.44	15.00 RT.	46+39.28	675.44	16.67 RT.
	PIER 6	46+40.36	675.36	20.17 LT.	46+40.36	675.42	16.75 LT.	46+40.36	675.48	13.00 LT.	46+40.36	675.58	6.75 LT.	46+40.36	675.69	46+40.36	675.64	3.25 RT.	46+40.36	675.48	13.25 RT.	46+40.36	675.45	15.00 RT.	46+40.36	675.45	16.67 RT.
SPAN 7	P6 BRG 2	46+41.44	675.37	20.17 LT.	46+41.44	675.43	16.75 LT.	46+41.44	675.49	13.00 LT.	46+41.44	675.59	6.75 LT.	46+41.44	675.70	46+41.44	675.64	3.25 RT.	46+41.44	675.48	13.25 RT.	46+41.44	675.46	15.00 RT.	46+41.44	675.46	16.67 RT.
SPAN 7	0.1L	46+52.14	675.45	20.17 LT.	46+52.14	675.50	16.75 LT.	46+52.14	675.56	13.00 LT.	46+52.14	675.66	6.75 LT.	46+52.14	675.77	46+52.14	675.72	3.25 RT.	46+52.14	675.56	13.25 RT.	46+52.14	675.53	15.00 RT.	46+52.14	675.53	16.67 RT.
SPAN 7	0.2L	46+63.92	675.53	20.17 LT.	46+63.92	675.58	16.75 LT.	46+63.92	675.64	13.00 LT.	46+63.92	675.74	6.75 LT.	46+63.92	675.85	46+63.92	675.80	3.25 RT.	46+63.92	675.64	13.25 RT.	46+63.92	675.61	15.00 RT.	46+63.92	675.61	16.67 RT.
SPAN 7	0.3L	46+75.69	675.61	20.17 LT.	46+75.69	675.66	16.75 LT.	46+75.69	675.72	13.00 LT.	46+75.69	675.82	6.75 LT.	46+75.69	675.93	46+75.69	675.88	3.25 RT.	46+75.69	675.72	13.25 RT.	46+75.69	675.69	15.00 RT.	46+75.69	675.69	16.67 RT.
SPAN 7	0.4L	46+87.47	675.69	20.17 LT.	46+87.47	675.74	16.75 LT.	46+87.47	675.80	13.00 LT.	46+87.47	675.90	6.75 LT.	46+87.47	676.01	46+87.47	675.96	3.25 RT.	46+87.47	675.80	13.25 RT.	46+87.47	675.77	15.00 RT.	46+87.47	675.77	16.67 RT.
SPAN 7	0.5L	46+99.25	675.77	20.17 LT.	46+99.25	675.82	16.75 LT.	46+99.25	675.88	13.00 LT.	46+99.25	675.98	6.75 LT.	46+99.25	676.09	46+99.25	676.04	3.25 RT.	46+99.25	675.88	13.25 RT.	46+99.25	675.85	15.00 RT.	46+99.25	675.85	16.67 RT.
SPAN 7	0.6L	47+11.02	675.85	20.17 LT.	47+11.02	675.90	16.75 LT.	47+11.02	675.96	13.00 LT.	47+11.02	676.06	6.75 LT.	47+11.02	676.17	47+11.02	676.12	3.25 RT.	47+11.02	675.96	13.25 RT.	47+11.02	675.93	15.00 RT.	47+11.02	675.93	16.67 RT.
SPAN 7	0.7L	47+22.80	675.93	20.17 LT.	47+22.80	675.98	16.75 LT.	47+22.80	676.04	13.00 LT.	47+22.80	676.14	6.75 LT.	47+22.80	676.25	47+22.80	676.20	3.25 RT.	47+22.80	676.04	13.25 RT.	47+22.80	676.01	15.00 RT.	47+22.80	676.01	16.67 RT.
SPAN 7	0.8L	47+34.58	676.01	20.17 LT.	47+34.58	676.06	16.75 LT.	47+34.58	676.12	13.00 LT.	47+34.58	676.22	6.75 LT.	47+34.58	676.33	47+34.58	676.28	3.25 RT.	47+34.58	676.12	13.25 RT.	47+34.58	676.09	15.00 RT.	47+34.58	676.09	16.67 RT.
SPAN 7	0.9L	47+46.36	676.09	20.17 LT.	47+46.36	676.14	16.75 LT.	47+46.36	676.20	13.00 LT.	47+46.36	676.30	6.75 LT.	47+46.36	676.41	47+46.36	676.36	3.25 RT.	47+46.36	676.20	13.25 RT.	47+46.36	676.17	15.00 RT.	47+46.36	676.17	16.67 RT.
SPAN 7	P7 BRG 1	47+57.05	676.16	20.17 LT.	47+57.05	676.21	16.75 LT.	47+57.05	676.27	13.00 LT.	47+57.05	676.37	6.75 LT.	47+57.05	676.48	47+57.05	676.43	3.25 RT.	47+57.05	676.27	13.25 RT.	47+57.05	676.24	15.00 RT.	47+57.05	676.24	16.67 RT.
	PIER 7	47+58.13	676.17	20.18 LT.	47+58.13	676.22	16.77 LT.	47+58.13	676.28	13.02 LT.	47+58.13	676.38	6.77 LT.	47+58.13	676.49	47+58.13	676.44	3.27 RT.	47+58.13	676.28	13.27 RT.	47+58.13	676.25	15.02 RT.	47+58.13	676.25	16.68 RT.
SPAN 8	P7 BRG 2	47+59.22	676.17	20.21 LT.	47+59.22	676.23	16.75 LT.	47+59.22	676.29	13.04 LT.	47+59.22	676.39	6.75 LT.	47+59.22	676.50	47+59.22	676.44	3.25 RT.	47+59.22	676.28	13.25 RT.	47+59.22	676.26	15.04 RT.	47+59.22	676.26	16.70 RT.
SPAN 8	0.1L	47+69.80	676.24	20.45 LT.	47+69.80	676.30	16.96 LT.	47+69.80	676.36	13.28 LT.	47+69.80	676.46	6.84 LT.	47+69.80	676.57	47+69.80	676.52	3.29 RT.	47+69.80	676.35	13.41 RT.	47+69.80	676.32	15.23 RT.	47+69.80	676.32	16.90 RT.
SPAN 8	0.2L	47+81.47	676.32	20.71 LT.	47+81.47	676.37	17.18 LT.	47+81.47	676.43	13.54 LT.	47+81.47	676.54	6.93 LT.	47+81.47	676.65	47+81.47	676.59	3.33 RT.	47+81.47	676.43	13.59 RT.	47+81.47	676.40	15.45 RT.	47+81.47	676.40	17.12 RT.
SPAN 8	0.3L	47+93.14	676.39	20.97 LT.	47+93.14	676.45	17.41 LT.	47+93.14	676.51	13.81 LT.	47+93.14	676.61	7.02 LT.	47+93.14	676.73	47+93.14	676.67	3.37 RT.	47+93.14	676.51	13.77 RT.	47+93.14	676.48	15.67 RT.	47+93.14	676.48	17.33 RT.
SPAN 8	0.4L	48+04.81	676.47	21.24 LT.	48+04.81	676.52	17.63 LT.	48+04.81	676.58	14.07 LT.	48+04.81	676.69	7.11 LT.	48+04.81	676.81	48+04.81	676.75	3.42 RT.	48+04.81	676.58	13.94 RT.	48+04.81	676.55	15.88 RT.	48+04.81	676.55	17.55 RT.
SPAN 8	0.5L	48+16.48	676.54	21.50 LT.	48+16.48	676.60	17.86 LT.	48+16.48	676.66	14.33 LT.	48+16.48	676.77	7.20 LT.	48+16.48	676.89	48+16.48	676.83	3.46 RT.	48+16.48	676.66	14.12 RT.	48+16.48	676.63	16.10 RT.	48+16.48	676.63	17.77 RT.
SPAN 8	0.6L	48+28.14	676.62	21.76 LT.	48+28.14	676.68	18.08 LT.	48+28.14	676.73	14.60 LT.	48+28.14	676.85	7.29 LT.	48+28.14	676.96	48+28.14	676.91	3.51 RT.	48+28.14	676.74	14.30 RT.	48+28.14	676.70	16.32 RT.	48+28.14	676.70	17.98 RT.
SPAN 8	0.7L	48+39.81	676.69	22.03 LT.	48+39.81	676.75	18.31 LT.	48+39.81	676.81	14.86 LT.	48+39.81	676.93	7.38 LT.	48+39.81	677.04	48+39.81	676.99	3.55 RT.	48+39.81	676.81	14.48 RT.	48+39.81	676.78	16.53 RT.	48+39.81	676.78	18.20 RT.
SPAN 8	0.8L	48+51.48	676.77	22.29 LT.	48+51.48	676.83	18.53 LT.	48+51.48	676.88	15.12 LT.	48+51.48	677.00	7.47 LT.	48+51.48	677.12	48+51.48	677.07	3.59 RT.	48+51.48	676.89	14.66 RT.	48+51.48	676.86	16.75 RT.	48+51.48	676.86	18.42 RT.
SPAN 8	0.9L	48+63.15	676.84	22.55 LT.	48+63.15	676.90	18.76 LT.	48+63.15	676.96	15.39 LT.	48+63.15	677.08	7.56 LT.	48+63.15	677.20	48+63.15	677.14	3.64 RT.	48+63.15	676.97	14.84 RT.	48+63.15	676.93	16.97 RT.	48+63.15	676.93	18.63 RT.
SPAN 8	FA BRG	48+74.82	676.92	22.82 LT.	48+74.82	676.98	18.98 LT.	48+74.82	677.03	15.65 LT.	48+74.82	677.16	7.65 LT.	48+74.82	677.28	48+74.82	677.22	3.68 RT.	48+74.82	677.04	15.02 RT.	48+74.82	677.01	17.18 RT.	48+74.82	677.01	18.85 RT.

FINAL DECK SURFACE ELEVATIONS

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET 41/64
2. FOR SCREED ELEVATIONS, SEE SHEET 42/64
3. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEETS 43-44/64
4. FOR HAUNCH THICKNESS, SEE SHEETS 47-48/64

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

FINAL DECK ELEVATION (2 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

VARIABLE HAUNCH THICKNESS

	LOCATION	BEAM LINE 1			BEAM LINE 2			BEAM LINE 3			BEAM LINE 4		
		STATION	THICK.	OFFSET(FT)	STATION	THICK.	OFFSET(FT)	STATION	THICK.	OFFSET(FT)	STATION	THICK.	OFFSET(FT)
SPAN 1	CL RA BRG	39+34.82	3.97 in.	16.75 LT.	39+34.82	3.77 in.	6.75 LT.	39+34.82	3.77 in.	3.25 RT.	39+34.82	3.97 in.	13.25 RT.
	0.1L	39+46.49	3.36 in.	16.75 LT.	39+46.49	3.22 in.	6.75 LT.	39+46.49	3.22 in.	3.25 RT.	39+46.49	3.36 in.	13.25 RT.
	0.2L	39+58.16	2.92 in.	16.75 LT.	39+58.16	2.84 in.	6.75 LT.	39+58.16	2.84 in.	3.25 RT.	39+58.16	2.92 in.	13.25 RT.
	0.3L	39+69.83	2.62 in.	16.75 LT.	39+69.83	2.58 in.	6.75 LT.	39+69.83	2.58 in.	3.25 RT.	39+69.83	2.62 in.	13.25 RT.
	0.4L	39+81.50	2.45 in.	16.75 LT.	39+81.50	2.44 in.	6.75 LT.	39+81.50	2.44 in.	3.25 RT.	39+81.50	2.45 in.	13.25 RT.
	0.5L	39+93.16	2.39 in.	16.75 LT.	39+93.16	2.39 in.	6.75 LT.	39+93.16	2.39 in.	3.25 RT.	39+93.16	2.39 in.	13.25 RT.
	0.6L	40+04.83	2.45 in.	16.75 LT.	40+04.83	2.44 in.	6.75 LT.	40+04.83	2.44 in.	3.25 RT.	40+04.83	2.45 in.	13.25 RT.
	0.7L	40+16.50	2.63 in.	16.75 LT.	40+16.50	2.59 in.	6.75 LT.	40+16.50	2.59 in.	3.25 RT.	40+16.50	2.63 in.	13.25 RT.
	0.8L	40+28.17	2.93 in.	16.75 LT.	40+28.17	2.85 in.	6.75 LT.	40+28.17	2.85 in.	3.25 RT.	40+28.17	2.93 in.	13.25 RT.
	0.9L	40+39.84	3.37 in.	16.75 LT.	40+39.84	3.23 in.	6.75 LT.	40+39.84	3.23 in.	3.25 RT.	40+39.84	3.37 in.	13.25 RT.
	P1 BRG 1	40+50.42	3.97 in.	16.75 LT.	40+50.42	3.77 in.	6.75 LT.	40+50.42	3.77 in.	3.25 RT.	40+50.42	3.97 in.	13.25 RT.
SPAN 2	P1 BRG 2	40+52.59	3.97 in.	16.75 LT.	40+52.59	3.77 in.	6.75 LT.	40+52.59	3.77 in.	3.25 RT.	40+52.59	3.97 in.	13.25 RT.
	0.1L	40+63.28	3.36 in.	16.75 LT.	40+63.28	3.22 in.	6.75 LT.	40+63.28	3.22 in.	3.25 RT.	40+63.28	3.36 in.	13.25 RT.
	0.2L	40+75.06	2.92 in.	16.75 LT.	40+75.06	2.84 in.	6.75 LT.	40+75.06	2.84 in.	3.25 RT.	40+75.06	2.92 in.	13.25 RT.
	0.3L	40+86.84	2.62 in.	16.75 LT.	40+86.84	2.58 in.	6.75 LT.	40+86.84	2.58 in.	3.25 RT.	40+86.84	2.62 in.	13.25 RT.
	0.4L	40+98.62	2.45 in.	16.75 LT.	40+98.62	2.44 in.	6.75 LT.	40+98.62	2.44 in.	3.25 RT.	40+98.62	2.45 in.	13.25 RT.
	0.5L	41+10.39	2.39 in.	16.75 LT.	41+10.39	2.39 in.	6.75 LT.	41+10.39	2.39 in.	3.25 RT.	41+10.39	2.39 in.	13.25 RT.
	0.6L	41+22.17	2.45 in.	16.75 LT.	41+22.17	2.44 in.	6.75 LT.	41+22.17	2.44 in.	3.25 RT.	41+22.17	2.45 in.	13.25 RT.
	0.7L	41+33.95	2.63 in.	16.75 LT.	41+33.95	2.59 in.	6.75 LT.	41+33.95	2.59 in.	3.25 RT.	41+33.95	2.63 in.	13.25 RT.
	0.8L	41+45.72	2.93 in.	16.75 LT.	41+45.72	2.85 in.	6.75 LT.	41+45.72	2.85 in.	3.25 RT.	41+45.72	2.93 in.	13.25 RT.
	0.9L	41+57.50	3.37 in.	16.75 LT.	41+57.50	3.23 in.	6.75 LT.	41+57.50	3.23 in.	3.25 RT.	41+57.50	3.37 in.	13.25 RT.
	P2 BRG 1	41+68.19	3.97 in.	16.75 LT.	41+68.19	3.77 in.	6.75 LT.	41+68.19	3.77 in.	3.25 RT.	41+68.19	3.97 in.	13.25 RT.
SPAN 3	P2 BRG 2	41+70.36	3.97 in.	16.75 LT.	41+70.36	3.77 in.	6.75 LT.	41+70.36	3.77 in.	3.25 RT.	41+70.36	3.97 in.	13.25 RT.
	0.1L	41+81.06	3.36 in.	16.75 LT.	41+81.06	3.22 in.	6.75 LT.	41+81.06	3.22 in.	3.25 RT.	41+81.06	3.36 in.	13.25 RT.
	0.2L	41+92.83	2.92 in.	16.75 LT.	41+92.83	2.84 in.	6.75 LT.	41+92.83	2.84 in.	3.25 RT.	41+92.83	2.92 in.	13.25 RT.
	0.3L	42+04.61	2.62 in.	16.75 LT.	42+04.61	2.58 in.	6.75 LT.	42+04.61	2.58 in.	3.25 RT.	42+04.61	2.62 in.	13.25 RT.
	0.4L	42+16.39	2.45 in.	16.75 LT.	42+16.39	2.44 in.	6.75 LT.	42+16.39	2.44 in.	3.25 RT.	42+16.39	2.45 in.	13.25 RT.
	0.5L	42+28.16	2.39 in.	16.75 LT.	42+28.16	2.39 in.	6.75 LT.	42+28.16	2.39 in.	3.25 RT.	42+28.16	2.39 in.	13.25 RT.
	0.6L	42+39.94	2.45 in.	16.75 LT.	42+39.94	2.44 in.	6.75 LT.	42+39.94	2.44 in.	3.25 RT.	42+39.94	2.45 in.	13.25 RT.
	0.7L	42+51.72	2.63 in.	16.75 LT.	42+51.72	2.59 in.	6.75 LT.	42+51.72	2.59 in.	3.25 RT.	42+51.72	2.63 in.	13.25 RT.
	0.8L	42+63.49	2.93 in.	16.75 LT.	42+63.49	2.85 in.	6.75 LT.	42+63.49	2.85 in.	3.25 RT.	42+63.49	2.93 in.	13.25 RT.
	0.9L	42+75.27	3.37 in.	16.75 LT.	42+75.27	3.23 in.	6.75 LT.	42+75.27	3.23 in.	3.25 RT.	42+75.27	3.37 in.	13.25 RT.
	P3 BRG 1	42+85.97	3.97 in.	16.75 LT.	42+85.97	3.77 in.	6.75 LT.	42+85.97	3.77 in.	3.25 RT.	42+85.97	3.97 in.	13.25 RT.
SPAN 4	P3 BRG 2	42+88.13	3.97 in.	16.75 LT.	42+88.13	3.77 in.	6.75 LT.	42+88.13	3.77 in.	3.25 RT.	42+88.13	3.97 in.	13.25 RT.
	0.1L	42+98.83	3.36 in.	16.75 LT.	42+98.83	3.22 in.	6.75 LT.	42+98.83	3.22 in.	3.25 RT.	42+98.83	3.36 in.	13.25 RT.
	0.2L	43+10.60	2.92 in.	16.75 LT.	43+10.60	2.84 in.	6.75 LT.	43+10.60	2.84 in.	3.25 RT.	43+10.60	2.92 in.	13.25 RT.
	0.3L	43+22.38	2.62 in.	16.75 LT.	43+22.38	2.58 in.	6.75 LT.	43+22.38	2.58 in.	3.25 RT.	43+22.38	2.62 in.	13.25 RT.
	0.4L	43+34.16	2.45 in.	16.75 LT.	43+34.16	2.44 in.	6.75 LT.	43+34.16	2.44 in.	3.25 RT.	43+34.16	2.45 in.	13.25 RT.
	0.5L	43+45.93	2.39 in.	16.75 LT.	43+45.93	2.39 in.	6.75 LT.	43+45.93	2.39 in.	3.25 RT.	43+45.93	2.39 in.	13.25 RT.
	0.6L	43+57.71	2.45 in.	16.75 LT.	43+57.71	2.44 in.	6.75 LT.	43+57.71	2.44 in.	3.25 RT.	43+57.71	2.45 in.	13.25 RT.
	0.7L	43+69.49	2.63 in.	16.75 LT.	43+69.49	2.59 in.	6.75 LT.	43+69.49	2.59 in.	3.25 RT.	43+69.49	2.63 in.	13.25 RT.
	0.8L	43+81.27	2.93 in.	16.75 LT.	43+81.27	2.85 in.	6.75 LT.	43+81.27	2.85 in.	3.25 RT.	43+81.27	2.93 in.	13.25 RT.
	0.9L	43+93.04	3.37 in.	16.75 LT.	43+93.04	3.23 in.	6.75 LT.	43+93.04	3.23 in.	3.25 RT.	43+93.04	3.37 in.	13.25 RT.
	P4 BRG 1	44+03.74	3.97 in.	16.75 LT.	44+03.74	3.77 in.	6.75 LT.	44+03.74	3.77 in.	3.25 RT.	44+03.74	3.97 in.	13.25 RT.

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET 41/64
2. FOR SCREED ELEVATIONS, SEE SHEET 42/64
3. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEETS 43-44/64
4. FOR FINAL DECK ELEVATIONS, SEE SHEETS 45-46/64

Mannik Smith GROUP
9800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

VARIABLE HAUNCH THICKNESS (1 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

VARIABLE HAUNCH THICKNESS

	LOCATION	BEAM LINE 1			BEAM LINE 2			BEAM LINE 3			BEAM LINE 4		
		STATION	THICK.	OFFSET(FT)	STATION	THICK.	OFFSET(FT)	STATION	THICK.	OFFSET(FT)	STATION	THICK.	OFFSET(FT)
SPAN 5	P4 BRG 2	44+05.90	3.97 in.	16.75 LT.	44+05.90	3.77 in.	6.75 LT.	44+05.90	3.77 in.	3.25 RT.	44+05.90	3.97 in.	13.25 RT.
	0.1L	44+16.60	3.36 in.	16.75 LT.	44+16.60	3.22 in.	6.75 LT.	44+16.60	3.22 in.	3.25 RT.	44+16.60	3.36 in.	13.25 RT.
	0.2L	44+28.37	2.92 in.	16.75 LT.	44+28.37	2.84 in.	6.75 LT.	44+28.37	2.84 in.	3.25 RT.	44+28.37	2.92 in.	13.25 RT.
	0.3L	44+40.15	2.62 in.	16.75 LT.	44+40.15	2.58 in.	6.75 LT.	44+40.15	2.58 in.	3.25 RT.	44+40.15	2.62 in.	13.25 RT.
	0.4L	44+51.93	2.45 in.	16.75 LT.	44+51.93	2.44 in.	6.75 LT.	44+51.93	2.44 in.	3.25 RT.	44+51.93	2.45 in.	13.25 RT.
	0.5L	44+63.71	2.39 in.	16.75 LT.	44+63.71	2.39 in.	6.75 LT.	44+63.71	2.39 in.	3.25 RT.	44+63.71	2.39 in.	13.25 RT.
	0.6L	44+75.48	2.45 in.	16.75 LT.	44+75.48	2.44 in.	6.75 LT.	44+75.48	2.44 in.	3.25 RT.	44+75.48	2.45 in.	13.25 RT.
	0.7L	44+87.26	2.63 in.	16.75 LT.	44+87.26	2.59 in.	6.75 LT.	44+87.26	2.59 in.	3.25 RT.	44+87.26	2.63 in.	13.25 RT.
	0.8L	44+99.04	2.93 in.	16.75 LT.	44+99.04	2.85 in.	6.75 LT.	44+99.04	2.85 in.	3.25 RT.	44+99.04	2.93 in.	13.25 RT.
	0.9L	45+10.81	3.37 in.	16.75 LT.	45+10.81	3.23 in.	6.75 LT.	45+10.81	3.23 in.	3.25 RT.	45+10.81	3.37 in.	13.25 RT.
	P5 BRG 1	45+21.51	3.97 in.	16.75 LT.	45+21.51	3.77 in.	6.75 LT.	45+21.51	3.77 in.	3.25 RT.	45+21.51	3.97 in.	13.25 RT.
SPAN 6	P5 BRG 2	45+23.67	3.97 in.	16.75 LT.	45+23.67	3.77 in.	6.75 LT.	45+23.67	3.77 in.	3.25 RT.	45+23.67	3.97 in.	13.25 RT.
	0.1L	45+34.37	3.36 in.	16.75 LT.	45+34.37	3.22 in.	6.75 LT.	45+34.37	3.22 in.	3.25 RT.	45+34.37	3.36 in.	13.25 RT.
	0.2L	45+46.14	2.92 in.	16.75 LT.	45+46.14	2.84 in.	6.75 LT.	45+46.14	2.84 in.	3.25 RT.	45+46.14	2.92 in.	13.25 RT.
	0.3L	45+57.92	2.62 in.	16.75 LT.	45+57.92	2.58 in.	6.75 LT.	45+57.92	2.58 in.	3.25 RT.	45+57.92	2.62 in.	13.25 RT.
	0.4L	45+69.70	2.45 in.	16.75 LT.	45+69.70	2.44 in.	6.75 LT.	45+69.70	2.44 in.	3.25 RT.	45+69.70	2.45 in.	13.25 RT.
	0.5L	45+81.48	2.39 in.	16.75 LT.	45+81.48	2.39 in.	6.75 LT.	45+81.48	2.39 in.	3.25 RT.	45+81.48	2.39 in.	13.25 RT.
	0.6L	45+93.25	2.45 in.	16.75 LT.	45+93.25	2.44 in.	6.75 LT.	45+93.25	2.44 in.	3.25 RT.	45+93.25	2.45 in.	13.25 RT.
	0.7L	46+05.03	2.63 in.	16.75 LT.	46+05.03	2.59 in.	6.75 LT.	46+05.03	2.59 in.	3.25 RT.	46+05.03	2.63 in.	13.25 RT.
	0.8L	46+16.81	2.93 in.	16.75 LT.	46+16.81	2.85 in.	6.75 LT.	46+16.81	2.85 in.	3.25 RT.	46+16.81	2.93 in.	13.25 RT.
	0.9L	46+28.58	3.37 in.	16.75 LT.	46+28.58	3.23 in.	6.75 LT.	46+28.58	3.23 in.	3.25 RT.	46+28.58	3.37 in.	13.25 RT.
	P6 BRG 1	46+39.28	3.97 in.	16.75 LT.	46+39.28	3.77 in.	6.75 LT.	46+39.28	3.77 in.	3.25 RT.	46+39.28	3.97 in.	13.25 RT.
SPAN 7	P6 BRG 2	46+41.44	3.97 in.	16.75 LT.	46+41.44	3.77 in.	6.75 LT.	46+41.44	3.77 in.	3.25 RT.	46+41.44	3.97 in.	13.25 RT.
	0.1L	46+52.14	3.36 in.	16.75 LT.	46+52.14	3.22 in.	6.75 LT.	46+52.14	3.22 in.	3.25 RT.	46+52.14	3.36 in.	13.25 RT.
	0.2L	46+63.92	2.92 in.	16.75 LT.	46+63.92	2.84 in.	6.75 LT.	46+63.92	2.84 in.	3.25 RT.	46+63.92	2.92 in.	13.25 RT.
	0.3L	46+75.69	2.62 in.	16.75 LT.	46+75.69	2.58 in.	6.75 LT.	46+75.69	2.58 in.	3.25 RT.	46+75.69	2.62 in.	13.25 RT.
	0.4L	46+87.47	2.45 in.	16.75 LT.	46+87.47	2.44 in.	6.75 LT.	46+87.47	2.44 in.	3.25 RT.	46+87.47	2.45 in.	13.25 RT.
	0.5L	46+99.25	2.39 in.	16.75 LT.	46+99.25	2.39 in.	6.75 LT.	46+99.25	2.39 in.	3.25 RT.	46+99.25	2.39 in.	13.25 RT.
	0.6L	47+11.02	2.45 in.	16.75 LT.	47+11.02	2.44 in.	6.75 LT.	47+11.02	2.44 in.	3.25 RT.	47+11.02	2.45 in.	13.25 RT.
	0.7L	47+22.80	2.63 in.	16.75 LT.	47+22.80	2.59 in.	6.75 LT.	47+22.80	2.59 in.	3.25 RT.	47+22.80	2.63 in.	13.25 RT.
	0.8L	47+34.58	2.93 in.	16.75 LT.	47+34.58	2.85 in.	6.75 LT.	47+34.58	2.85 in.	3.25 RT.	47+34.58	2.93 in.	13.25 RT.
	0.9L	47+46.36	3.37 in.	16.75 LT.	47+46.36	3.23 in.	6.75 LT.	47+46.36	3.23 in.	3.25 RT.	47+46.36	3.37 in.	13.25 RT.
	P7 BRG 1	47+57.05	3.97 in.	16.75 LT.	47+57.05	3.77 in.	6.75 LT.	47+57.05	3.77 in.	3.25 RT.	47+57.05	3.97 in.	13.25 RT.
SPAN 8	P7 BRG 2	47+59.22	3.88 in.	16.75 LT.	47+59.22	3.51 in.	6.75 LT.	47+59.22	3.51 in.	3.25 RT.	47+59.22	3.88 in.	13.25 RT.
	0.1L	47+69.80	3.28 in.	16.96 LT.	47+69.80	2.96 in.	6.84 LT.	47+69.80	2.96 in.	3.29 RT.	47+69.80	3.28 in.	13.41 RT.
	0.2L	47+81.47	2.86 in.	17.18 LT.	47+81.47	2.63 in.	6.93 LT.	47+81.47	2.63 in.	3.33 RT.	47+81.47	2.86 in.	13.59 RT.
	0.3L	47+93.14	2.58 in.	17.41 LT.	47+93.14	2.44 in.	7.02 LT.	47+93.14	2.44 in.	3.37 RT.	47+93.14	2.58 in.	13.77 RT.
	0.4L	48+04.81	2.43 in.	17.63 LT.	48+04.81	2.37 in.	7.11 LT.	48+04.81	2.37 in.	3.42 RT.	48+04.81	2.43 in.	13.94 RT.
	0.5L	48+16.48	2.39 in.	17.86 LT.	48+16.48	2.40 in.	7.20 LT.	48+16.48	2.40 in.	3.46 RT.	48+16.48	2.39 in.	14.12 RT.
	0.6L	48+28.14	2.46 in.	18.08 LT.	48+28.14	2.45 in.	7.29 LT.	48+28.14	2.45 in.	3.51 RT.	48+28.14	2.46 in.	14.30 RT.
	0.7L	48+39.81	2.63 in.	18.31 LT.	48+39.81	2.57 in.	7.38 LT.	48+39.81	2.57 in.	3.55 RT.	48+39.81	2.63 in.	14.48 RT.
	0.8L	48+51.48	2.91 in.	18.53 LT.	48+51.48	2.76 in.	7.47 LT.	48+51.48	2.76 in.	3.59 RT.	48+51.48	2.91 in.	14.66 RT.
	0.9L	48+63.15	3.32 in.	18.76 LT.	48+63.15	3.05 in.	7.56 LT.	48+63.15	3.05 in.	3.64 RT.	48+63.15	3.32 in.	14.84 RT.
	CL FA BRG	48+74.82	3.88 in.	18.98 LT.	48+74.82	3.49 in.	7.65 LT.	48+74.82	3.49 in.	3.68 RT.	48+74.82	3.88 in.	15.02 RT.

NOTES:

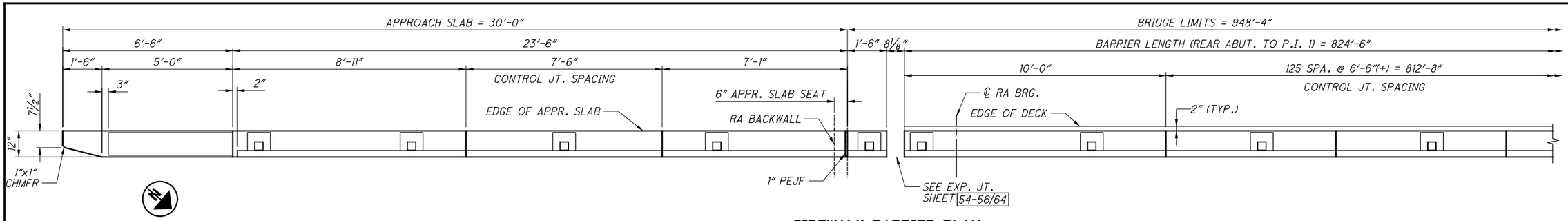
1. FOR DECK KEY PLAN, SEE SHEET 41/64
2. FOR SCREED ELEVATIONS, SEE SHEET 42/64
3. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEETS 43-44/64
4. FOR FINAL DECK ELEVATIONS, SEE SHEETS 45-46/64

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED ---- | STRUCTURE FILE NUMBER TBD

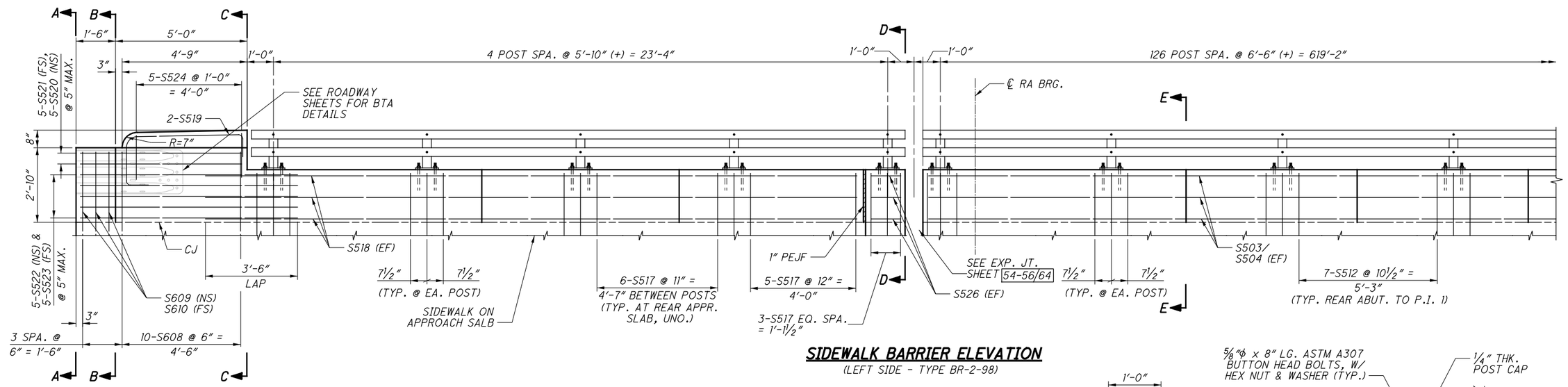
VARIABLE HAUNCH THICKNESS (2 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



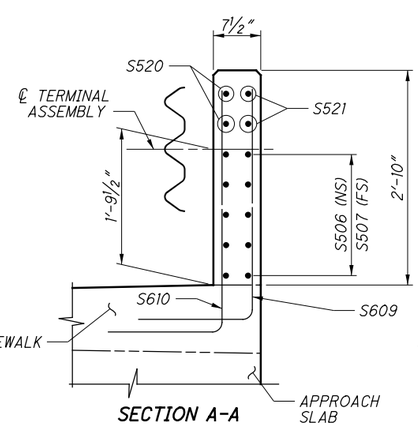
SIDEWALK BARRIER PLAN

(LEFT SIDE - TYPE BR-2-98)



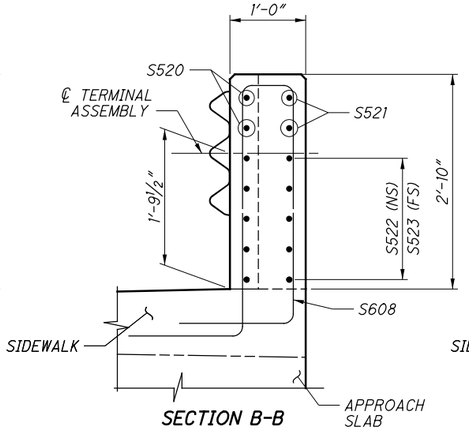
SIDEWALK BARRIER ELEVATION

(LEFT SIDE - TYPE BR-2-98)



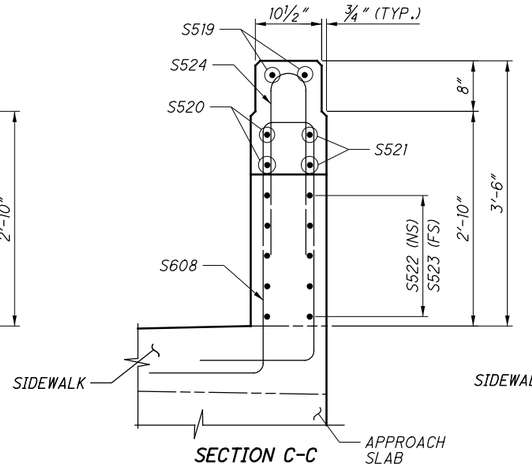
SECTION A-A

(REAR APPROACH SHOWN, FWD. APPROACH OPPOSITE HAND)



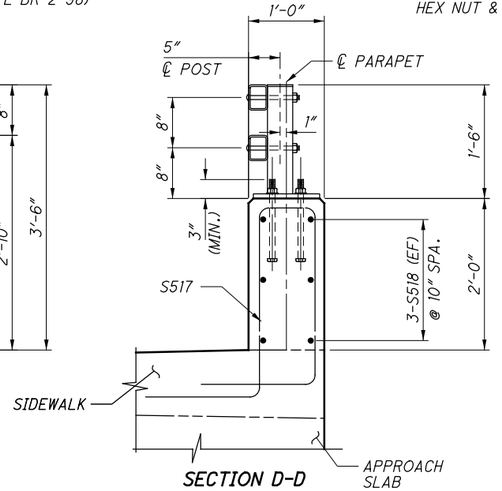
SECTION B-B

(REAR APPROACH SHOWN, FWD. APPROACH OPPOSITE HAND)



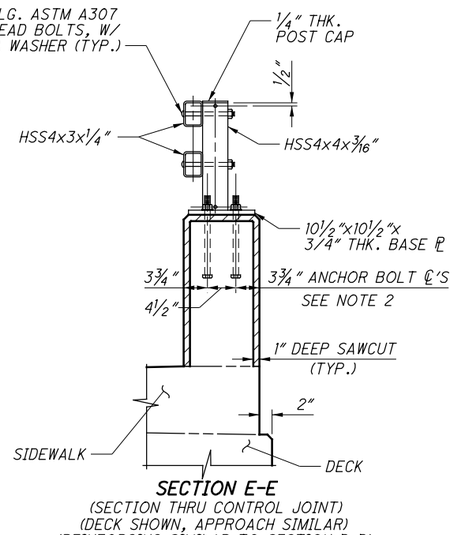
SECTION C-C

(REAR APPROACH SHOWN, FWD. APPROACH OPPOSITE HAND)



SECTION D-D

(REAR APPROACH SHOWN, FWD. APPROACH OPPOSITE HAND)



SECTION E-E

(SECTION THRU CONTROL JOINT)
(DECK SHOWN, APPROACH SIMILAR)
(REINFORCING SIMILAR TO SECTION D-D)

NOTES:

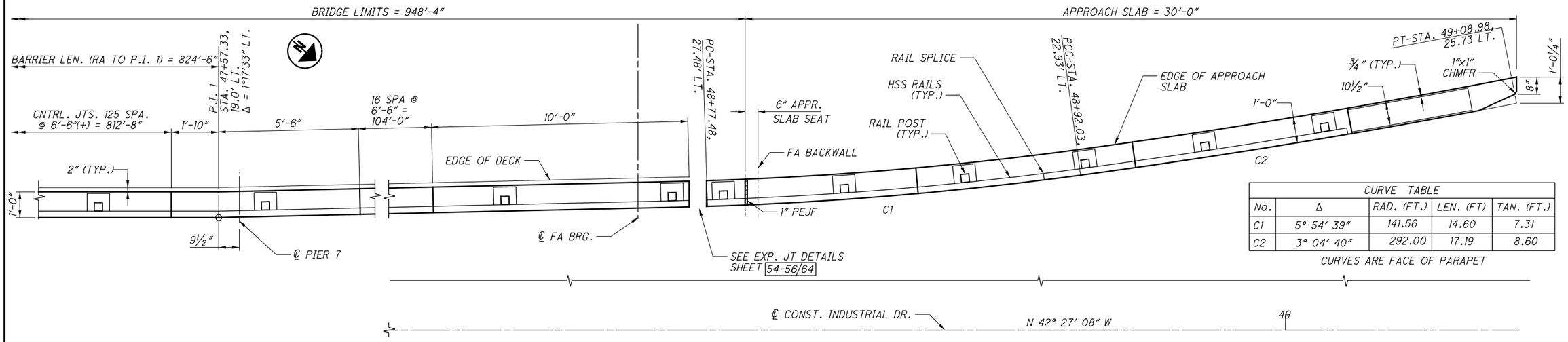
1. CONTRACTOR HAS THE OPTION TO ADJUST RAILING SPLICE LOCATIONS PROVIDED ALL CRITERIA ON ODOT STD. DWG. BR-2-98 WILL BE MET.
2. HORIZONTAL RAILING ELEMENTS SHALL BE PLACED FLUSH WITH THE FACE OF THE PARAPET WALL.
2. ANCHOR BOLTS SHALL BE ASTM A449 ⅞"Ø x1'-1" LG. WITH HEX NUT AND WASHER, AND MIN. 10" EMBEDMENT IN THE CONCRETE PARAPET.
3. FOR ADDITIONAL INFORMATION, SEE ODOT STD. DWG. BR-2-98.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	TLR	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT		TBD	

LEFT RAILING DETAILS (1 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

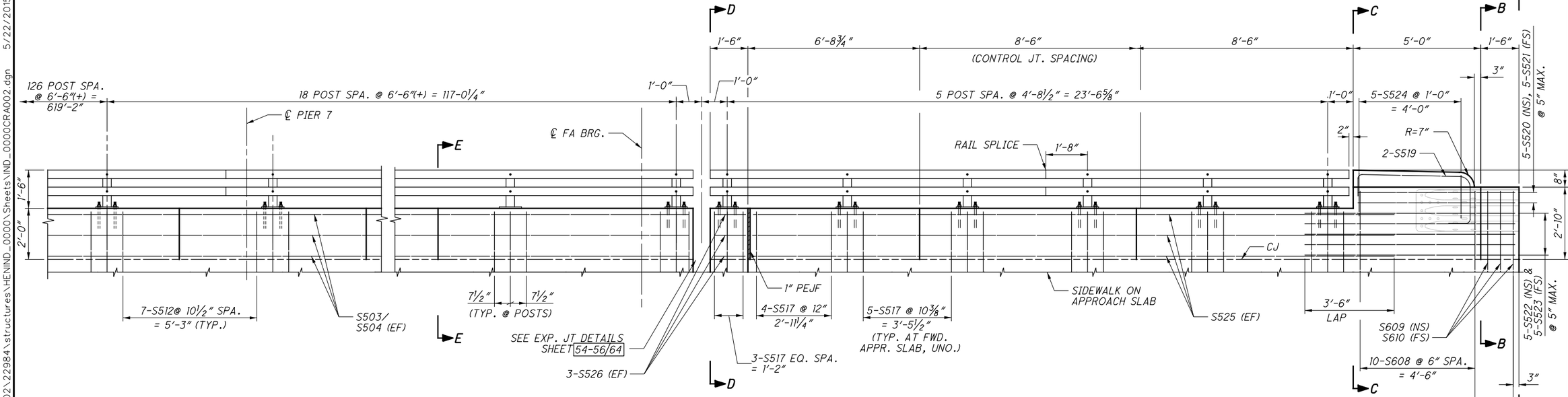


CURVE TABLE				
No.	Δ	RAD. (FT.)	LEN. (FT)	TAN. (FT.)
C1	5° 54' 39"	141.56	14.60	7.31
C2	3° 04' 40"	292.00	17.19	8.60

CURVES ARE FACE OF PARAPET

SIDEWALK BARRIER PLAN

(LEFT SIDE - TYPE BR-2-98)



SIDEWALK BARRIER ELEVATION

(LEFT SIDE - TYPE BR-2-98)

NOTES:

1. FOR SECTIONS A-A THRU E-E, SEE SHEET 49/64.
2. FOR ADDITIONAL NOTES, SEE SHEET 49/64.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED AMK | DRAWN AMK | REVIEWED TLR | DATE 4/15
CHECKED SCT | REVISED | STRUCTURE FILE NUMBER TBD

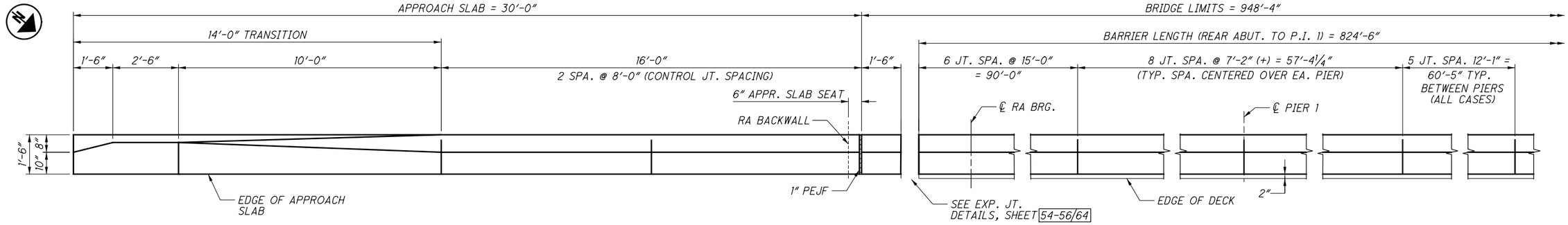
LEFT RAILING DETAILS (2 OF 2)

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

50 / 64

134 / 180

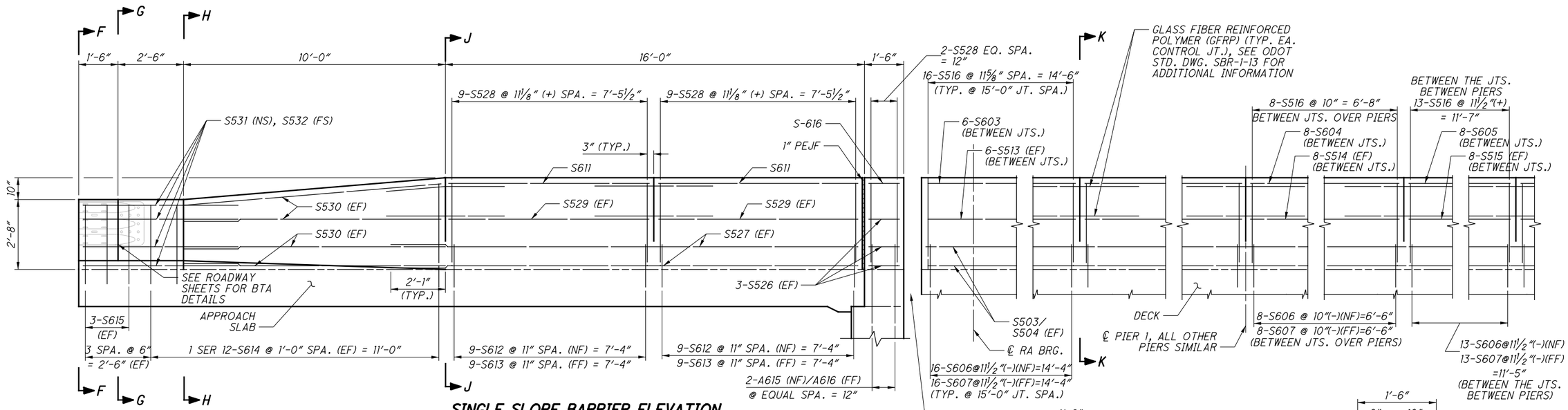


NOTES:

1. FOR ADDTIONAL INFORMATION, SEE ODOT STD. DWG. SBR-1-13.
2. FOR RAILING DETAIL PLAN NOTES, SEE SHEET 52/64.

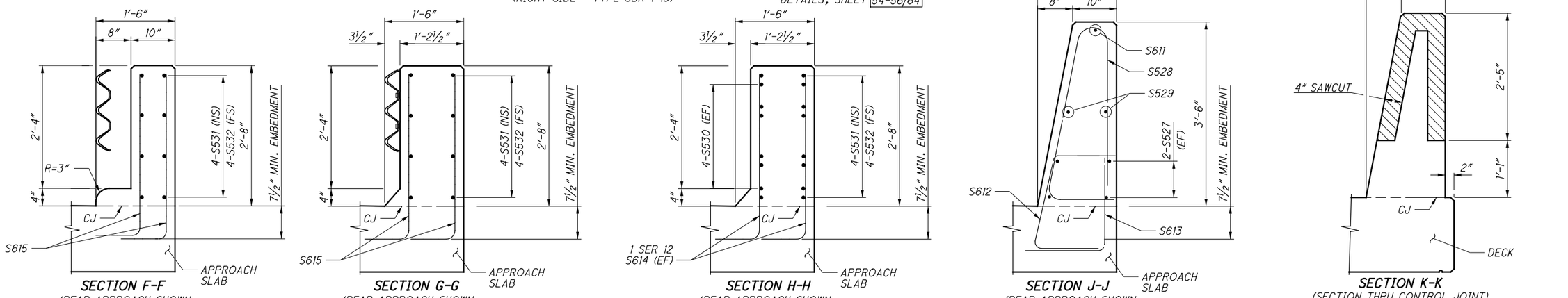
SINGLE SLOPE BARRIER PLAN

(RIGHT SIDE - TYPE SBR-1-13)



SINGLE SLOPE BARRIER ELEVATION

(RIGHT SIDE - TYPE SBR-1-13)

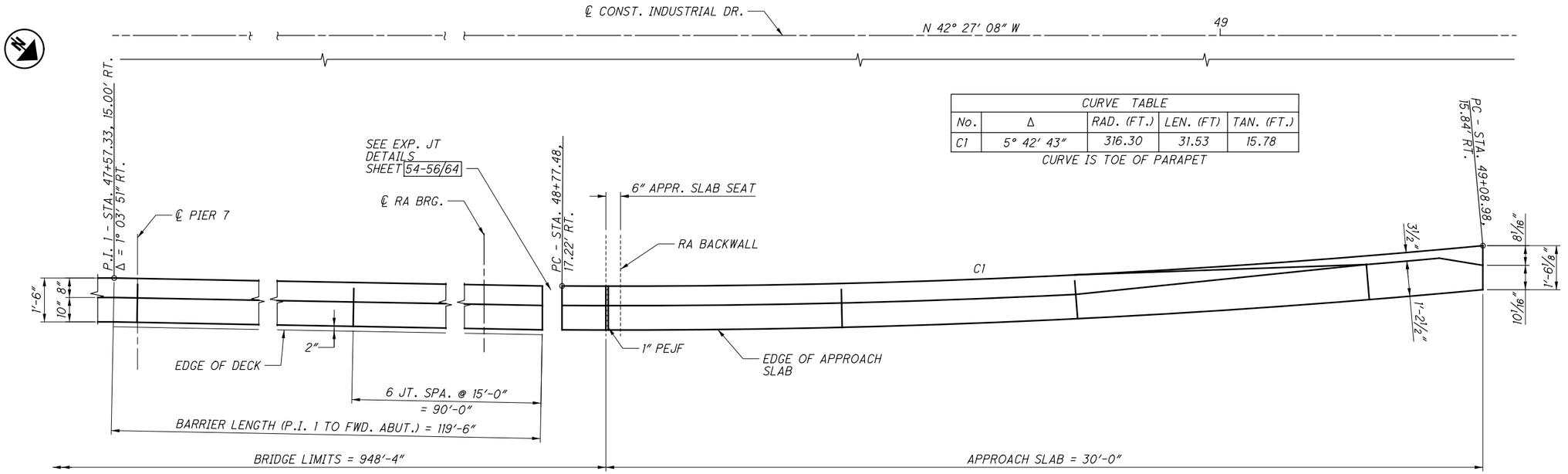


Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	TLR	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT		TBD	

RIGHT RAILING DETAILS (1 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

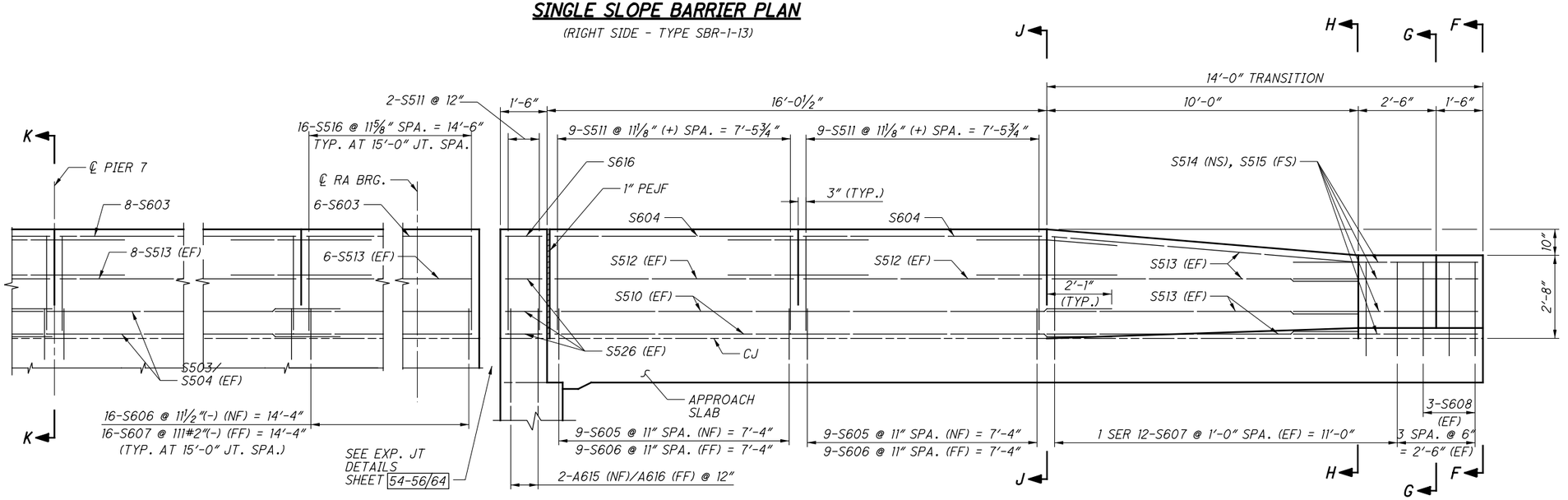


CURVE TABLE				
No.	Δ	RAD. (FT.)	LEN. (FT)	TAN. (FT.)
C1	5° 42′ 43″	316.30	31.53	15.78

CURVE IS TOE OF PARAPET

SINGLE SLOPE BARRIER PLAN

(RIGHT SIDE - TYPE SBR-1-13)



SINGLE SLOPE BARRIER ELEVATION

(RIGHT SIDE - TYPE SBR-1-13)

NOTES:

1. FOR ADDITIONAL APPROACH SLAB INFORMATION, SEE ODOT STD. DWGS. AS-1-15 & AS -2-15.
2. FOR ADDITIONAL SINGLE SLOPE RAILING INFORMATION, SEE ODOT STD. DWGS. SBR-1-13.
3. FOR DECK PLAN, SEE SHEETS 37-38/64.
4. FOR ABUTMENT DETAILS, SEE SHEETS 11-20/64.
5. FOR APPROACH SLAB DETAILS, SEE SHEETS 57-58/64.
6. FOR SECTIONS F-F THRU K-K, SEE SHEET 51/64.

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED AMK | DRAWN AMK | REVIEWED TLR | DATE 4/15
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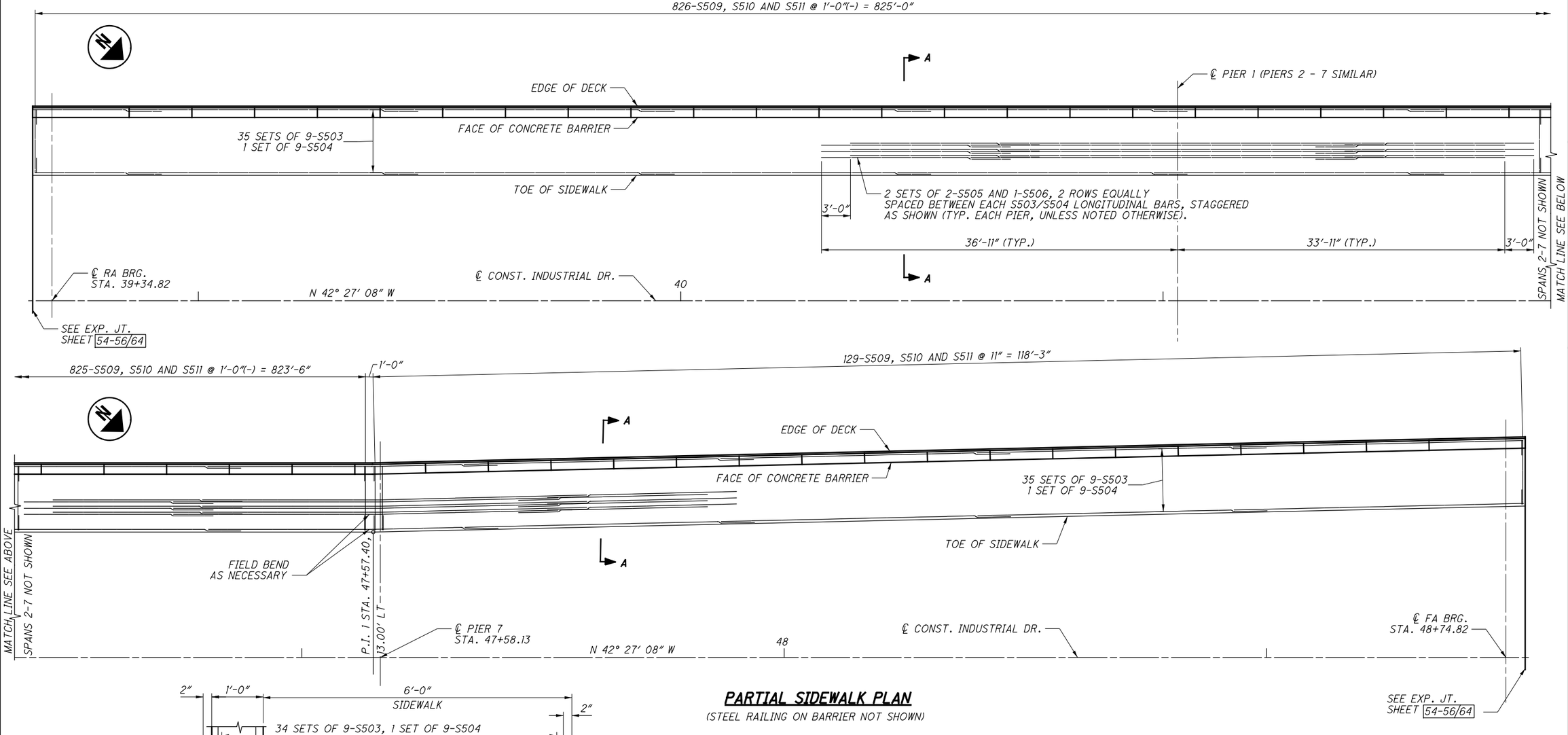
RIGHT RAILING DETAILS (2 OF 2)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

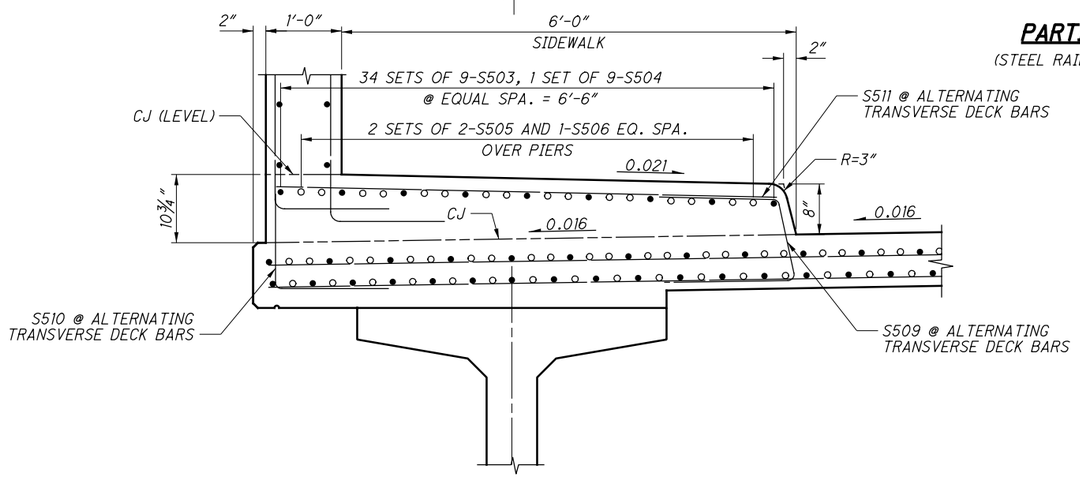
52 / 64

136
180



PARTIAL SIDEWALK PLAN

(STEEL RAILING ON BARRIER NOT SHOWN)



SECTION A-A

(TYP. SIDEWALK SECTION)

NOTES:

1. SPANS 2 - 7 NOT SHOWN.
2. FOR SIDEWALK RAILING DETAILS, SEE SHEETS 49-50/64.
3. FOR TRANSVERSE SECTION INCLUDING CONCRETE SEALING INFORMATION, SEE SHEETS 39-40/64.
4. FOR DECK PLAN, SEE SHEETS 37-38/64.
5. FOR EXPANSION JOINT DETAILS, SEE SHEETS 54-56/64.
6. FOR APPROACH SLAB DETAILS, SEE SHEETS 57-58/64.

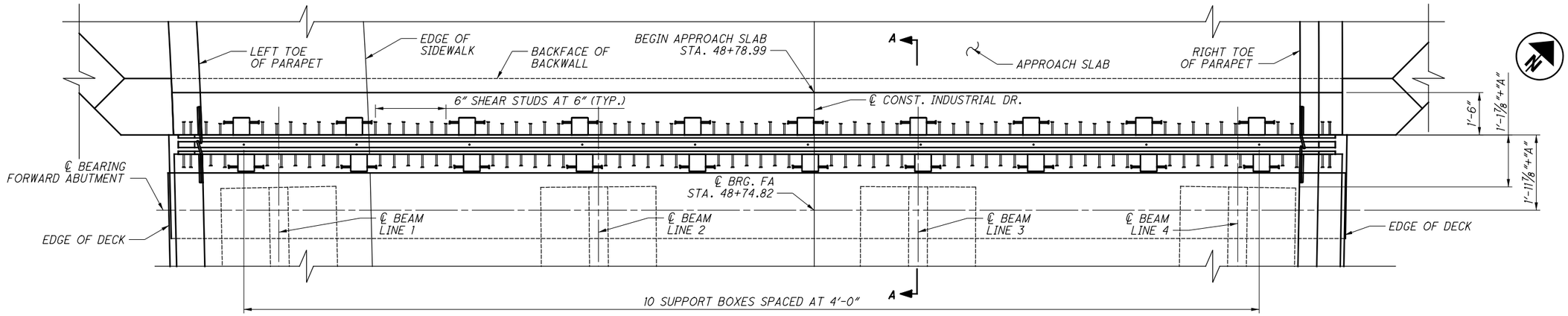
Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN AMK | REVIEWED TLR | DATE 05/2015
SCT SCT | REVISED | STRUCTURE FILE NUMBER TBD

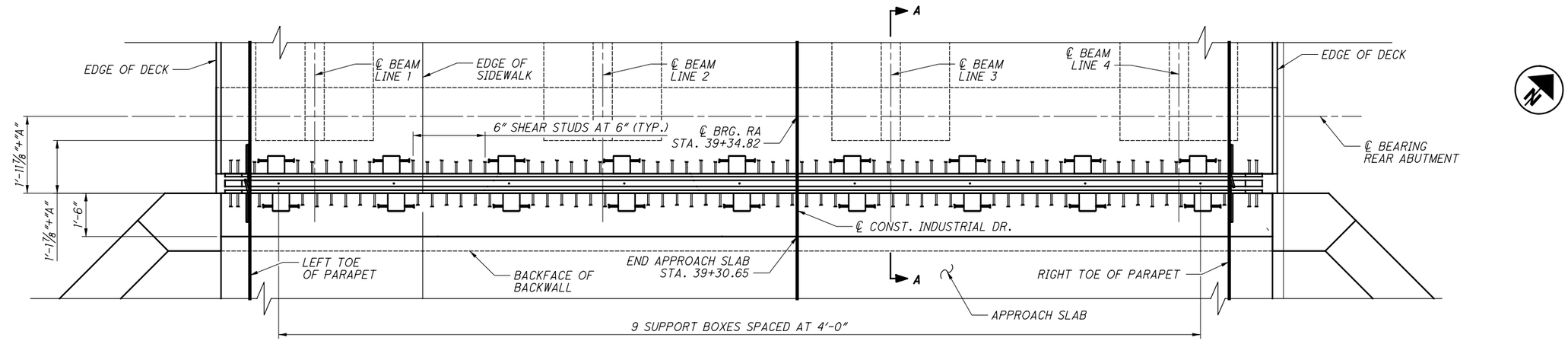
SIDEWALK PLAN AND SECTION

HEN-IND-00.00
PID No. 22984

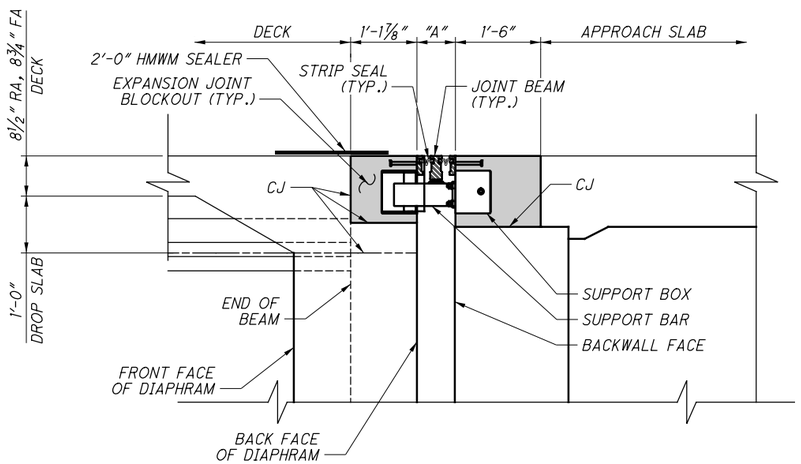
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER



FORWARD ABUTMENT EXPANSION JOINT DETAIL



REAR ABUTMENT EXPANSION JOINT DETAIL



SECTION A-A

MODULAR EXPANSION JOINT OPENINGS		
TEMP	DIMENSION "A" (INCHES)	
	REAR ABUT	FWD ABUT
15°F	9 13/16	9 13/16
20°F	9 5/8	9 5/8
30°F	9 1/4	9 1/4
40°F	8 7/8	8 7/8
50°F	8 1/2	8 1/2
60°F	8 1/8	8 1/8
70°F	7 3/4	7 3/4
80°F	7 3/8	7 3/8
90°F	7	7
95°F	6 13/16	6 13/16

NOTES:

1. SEAL TRANSVERSE DECK CONSTRUCTION JOINT WITH 2'-0" HMWM, CENTERED ABOUT JOINT.
2. THE MODULAR JOINT SPECIFIED SHALL BE A D.S. BROWN "D160-PV-S" STEELFLEX MODULAR EXPANSION JOINT SYSTEM OR EQUIVALENT. IF AN ALTERNATE JOINT IS USED, THE PLANS SHALL BE MODIFIED TO ACCOMODATE THE NEW JOINT SYSTEM.
3. FOR DECK PLAN, SEE SHEETS 37-38/64
4. FOR END DIAPHRAM DETAILS, SEE SHEET 35/64
5. DROP SLAB SHALL EXTEND THE ENTIRE WIDTH OF DECK.
6. CONCRETE PARAPETS TO BE INSTALLED AFTER INSTALLATION OF MODULAR EXPANSION JOINT.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

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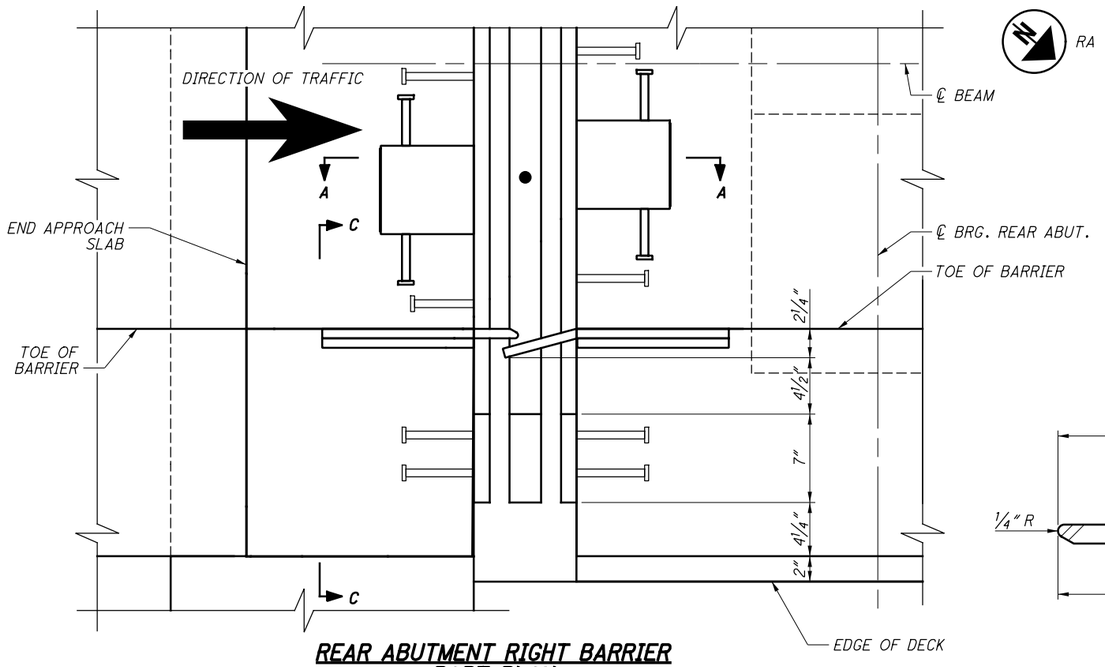
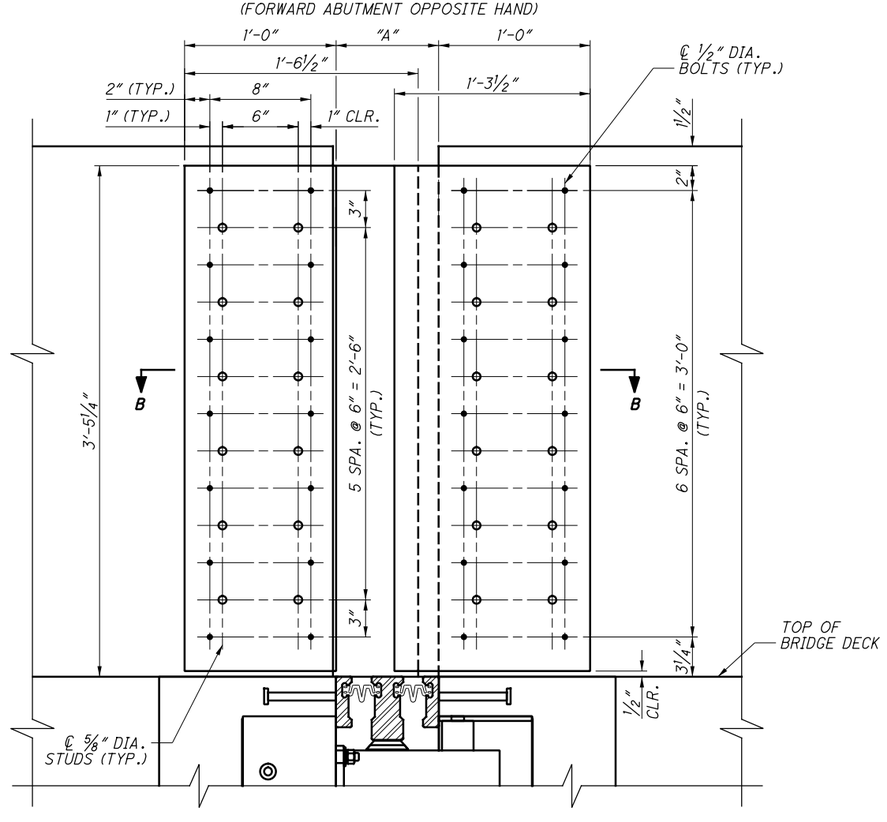
MODULAR EXPANSION JOINT DETAILS (1 OF 3)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



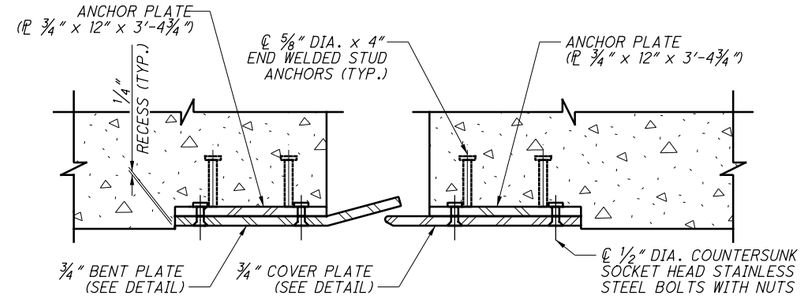
REAR ABUTMENT RIGHT BARRIER PART PLAN

(FORWARD ABUTMENT OPPOSITE HAND)



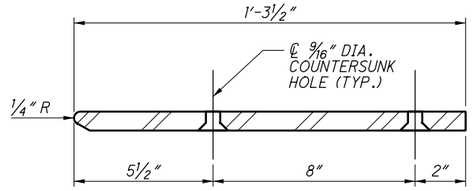
SECTION A-A

(DIMENSIONS MEASURED ARE ALONG THE FACE OF THE PARAPET)

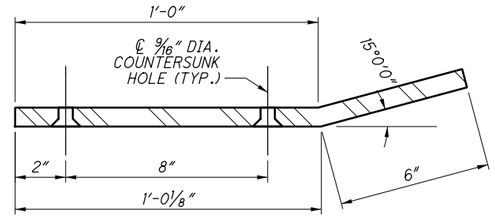


SECTION B-B

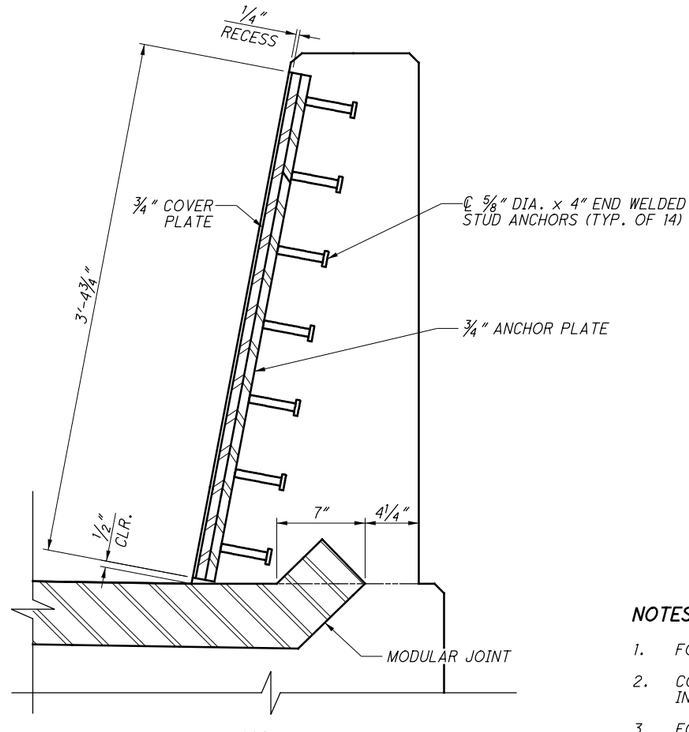
(REAR ABUTMENT RIGHT BARRIER SHOWN)
(ALL OTHER PLATES SIMILAR)



¾" COVER PLATE



¾" BENT PLATE



SECTION C-C

NOTES:

1. FOR DIMENSIONS "A", SEE SHEET 54/64
2. CONCRETE PARAPETS TO BE INSTALLED AFTER INSTALLATION OF MODULAR EXPANSION JOINTS.
3. FOR ADDITIONAL NOTES SEE SHEET 54/64

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

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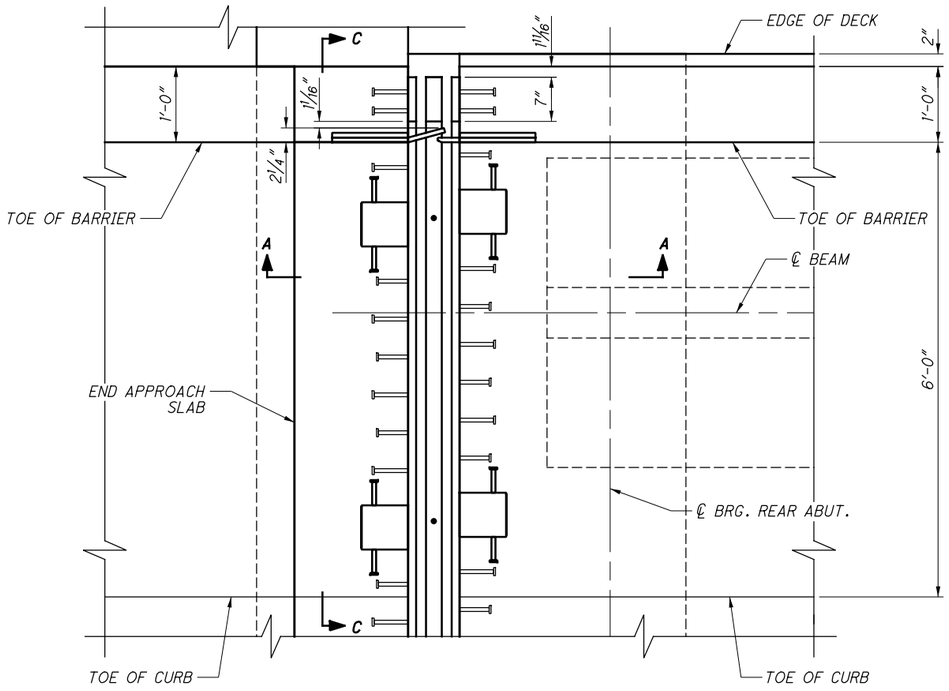
MODULAR EXPANSION JOINT DETAILS (2 OF 3)

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

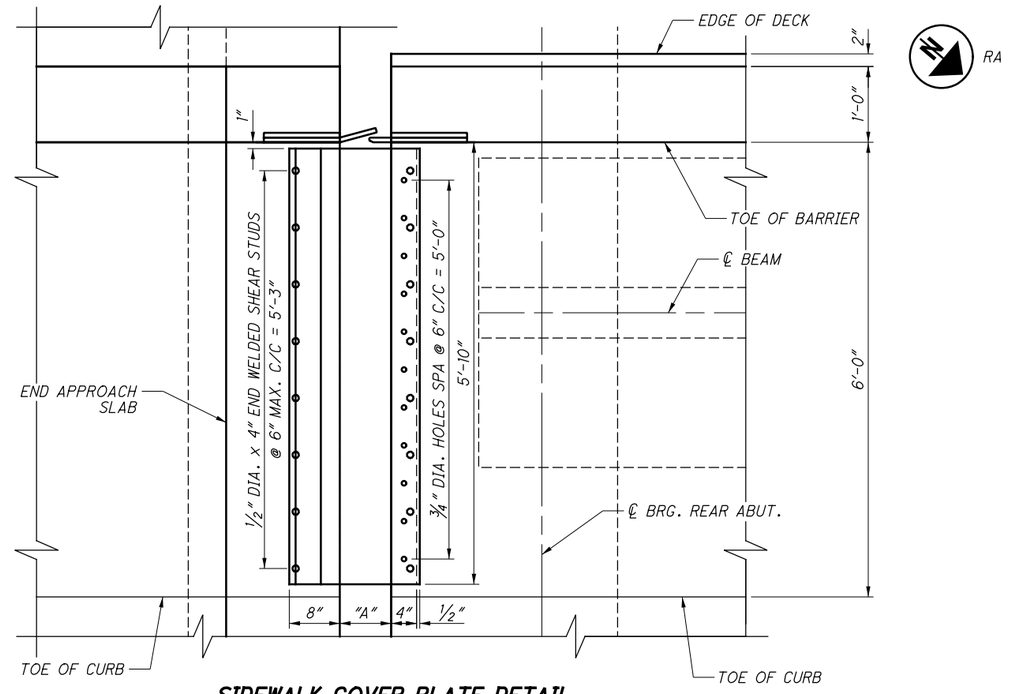
55 / 64

139 / 180

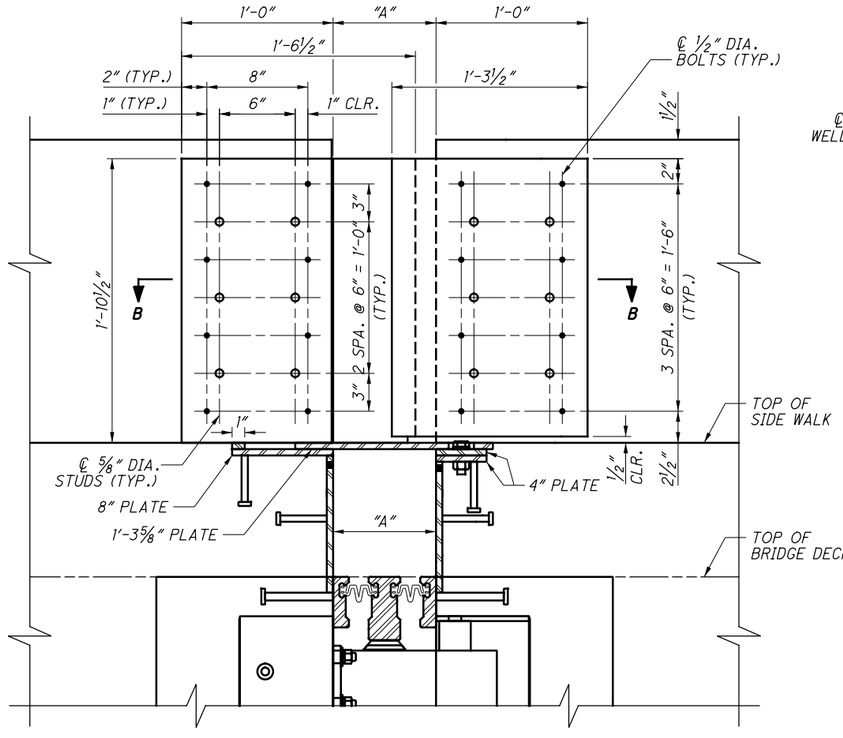


REAR ABUTMENT LEFT BARRIER PART PLAN

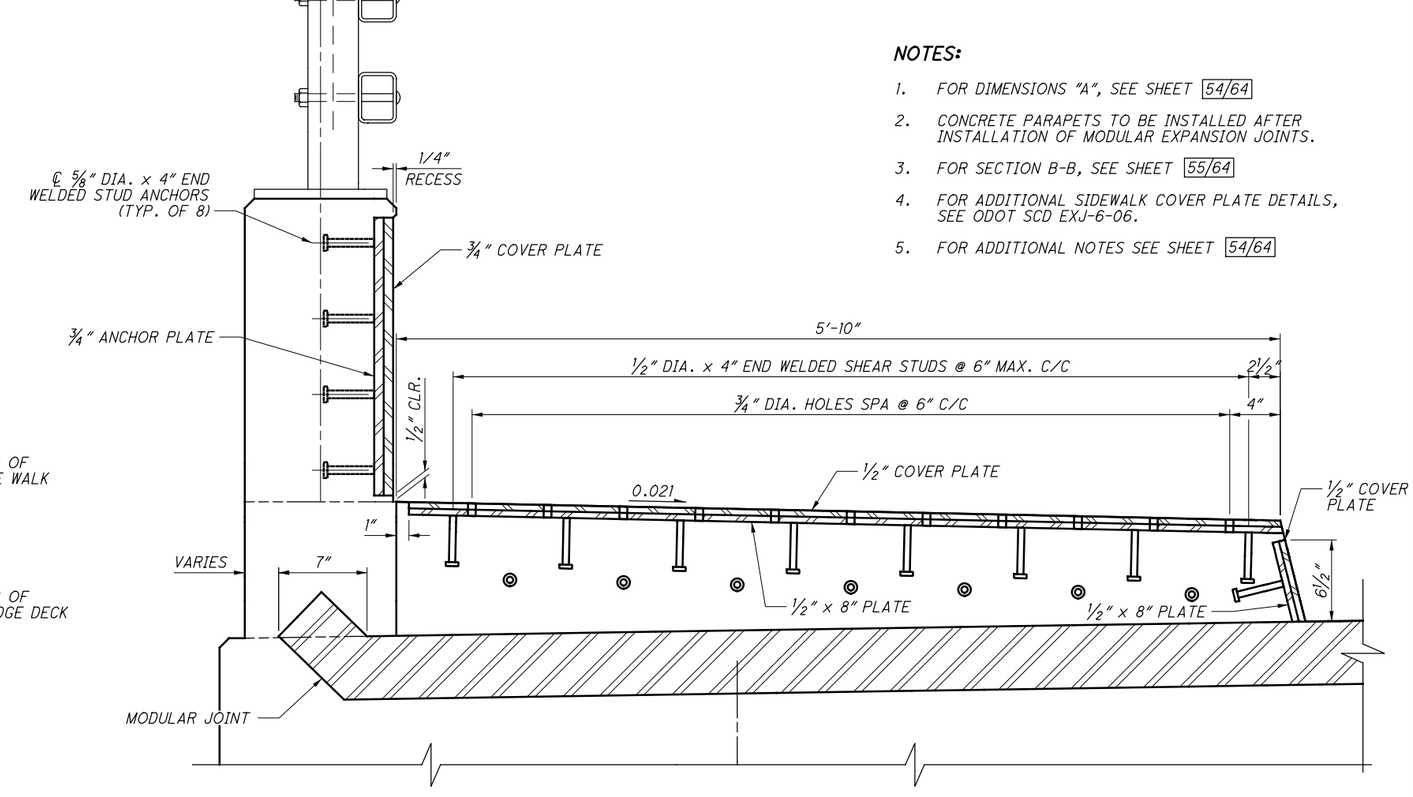
(FORWARD ABUTMENT OPPOSITE HAND)



SIDEWALK COVER PLATE DETAIL



SECTION A-A



SECTION C-C

NOTES:

1. FOR DIMENSIONS "A", SEE SHEET 54/64
2. CONCRETE PARAPETS TO BE INSTALLED AFTER INSTALLATION OF MODULAR EXPANSION JOINTS.
3. FOR SECTION B-B, SEE SHEET 55/64
4. FOR ADDITIONAL SIDEWALK COVER PLATE DETAILS, SEE ODOT SCD EXJ-6-06.
5. FOR ADDITIONAL NOTES SEE SHEET 54/64

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
CWE	JEC	TLR	05/2015
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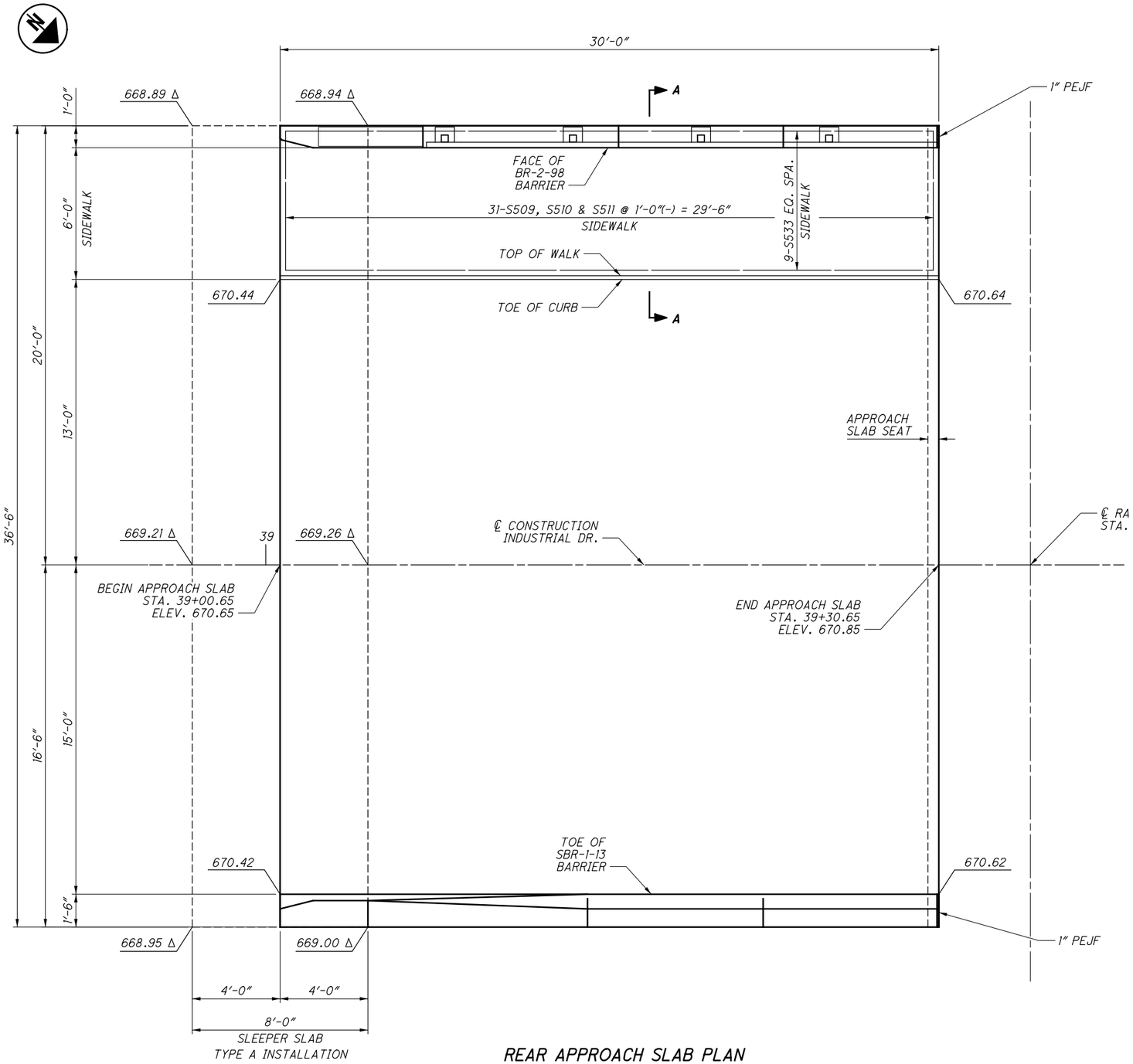
SCT		TBD	

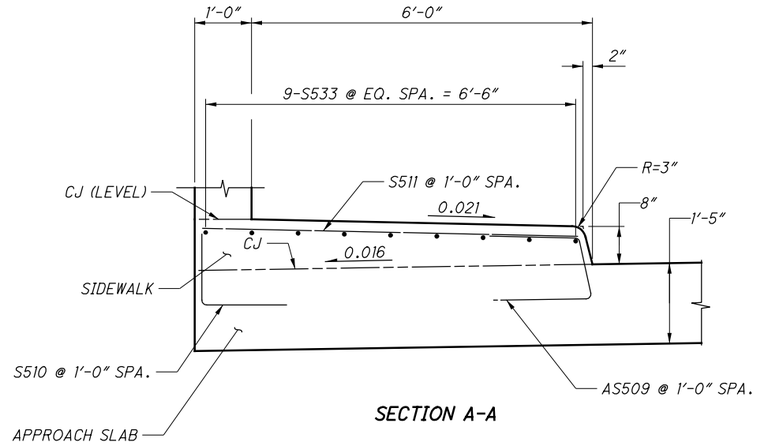
MODULAR EXPANSION JOINT DETAILS (3 OF 3)

HEN-IND-00.00 PID No. 22984

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER



REAR APPROACH SLAB PLAN



SECTION A-A

LEGEND:

Δ - SLEEPER SLAB ELEVATIONS

NOTES:

1. HMWM SEALER INCLUDED WITH ITEM 512 SEALING OF CONCRETE BRIDGE DECKS WITH HMWM RESIN AS PER PLAN FOR PAYMENT.
2. SEE STD. DWG. AS-1-15 AND AS-2-15 FOR ADDITIONAL DETAILS INCLUDING APPROACH SLAB REINFORCING STEEL.
3. FOR SIDEWALK RAILING DETAILS, SEE SHEETS 49-50/64.
4. FOR FORWARD APPROACH SLAB DETAILS, SEE SHEET 58/64.
5. THE CONCRETE AND REINFORCING STEEL FOR THE SIDEWALK PARAPET IS INCLUDED WITH ITEM 517, RAILING MISC.: CONCRETE PARAPET WITH STEEL RAILING.

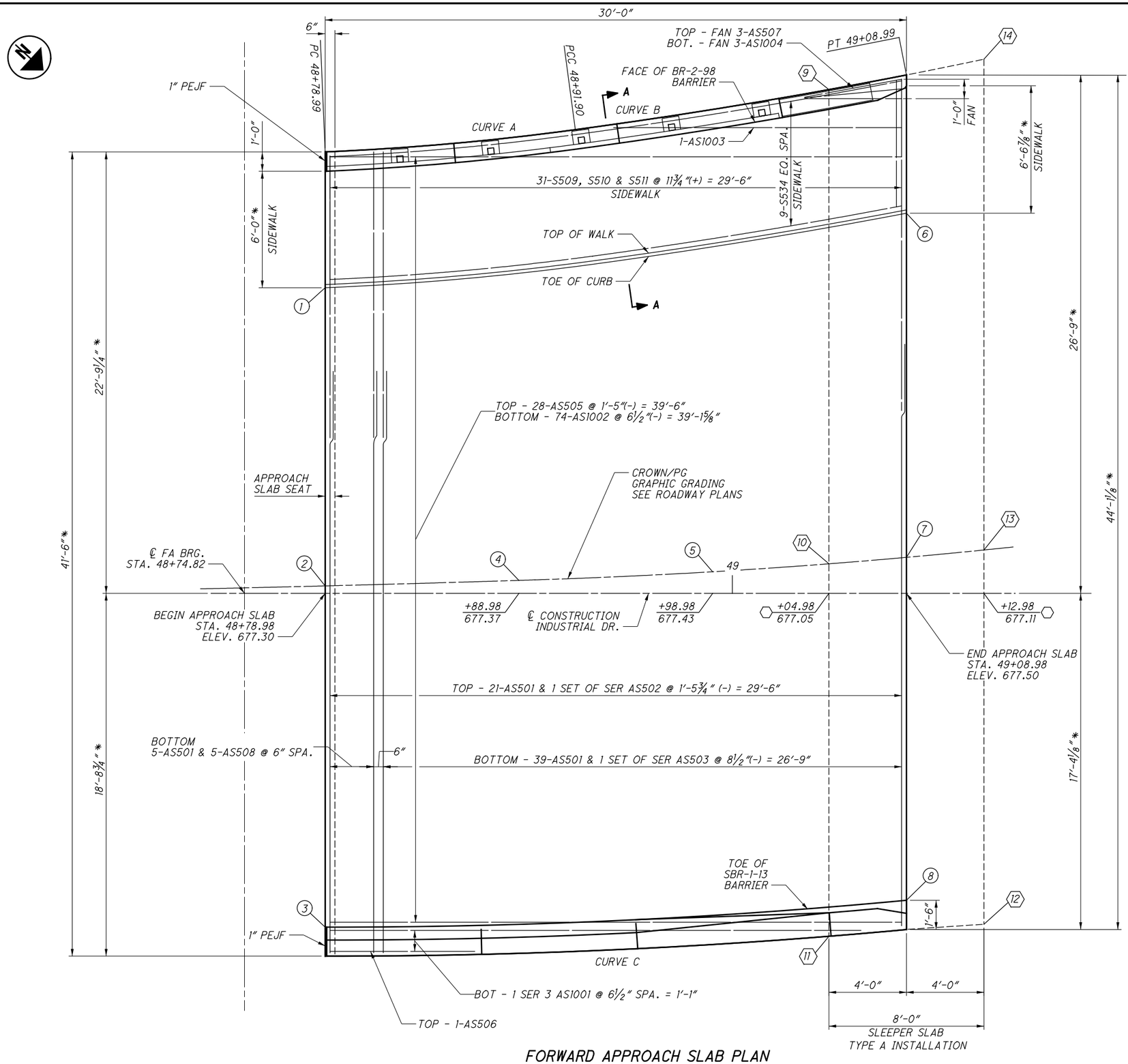
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT	----	TBD	

REAR APPROACH SLAB DETAILS

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



FORWARD APPROACH SLAB PLAN

APPROACH SLAB SURFACE			
No.	STA.	OFFSET	ELEV.
1	48+78.98	15.77 LT	677.07
2	48+78.98	0.38 LT	677.31
3	48+78.98	17.22 RT	677.03
4	48+88.98	0.67 LT	677.38
5	48+98.98	1.11 LT	677.45
6	49+08.98	19.62 LT	677.27
7	49+08.98	1.85 LT	677.53
8	49+08.98	15.84 RT	677.25

SLEEPER SLAB SURFACE			
No.	STA.	OFFSET	ELEV.
9	49+04.99	25.99 LT	675.70
10	49+04.99	1.52' LT	676.08
11	49+04.99	17.70 RT	675.77
12	49+12.99	17.08 RT	675.85
13	49+12.99	2.24 LT	676.15
14	49+12.99	27.56 LT	675.76

APPROACH SLAB CURVE DATA

CURVE A
Δ = 5° 17' 11"
D = 40.76°
R = 140.56'
T = 6.49'
L = 12.97'
CH. = 12.96'
CB = N 84° 55' 05" E

CURVE B
Δ = 3° 24' 38"
D = 19.69°
R = 291.00'
T = 8.66'
L = 17.32'(+)
CH. = 17.32'(-)
CB = N 80° 36' 53" E

CURVE C
Δ = 5° 24' 59"
D = 18.03°
R = 317.80
T = 15.03'
L = 30.04
CH. = 30.03'
CB = N 87° 22' 25" E

APPROACH SLAB REINFORCING REQUIRED LAP LENGTHS	
NO. 5 BARS	3'-5" MIN.

LEGEND:

* MEASURED PERPENDICULAR TO ℄ CONSTRUCTION INDUSTRIAL DR.

⬡ - SLEEPER SLAB ELEVATIONS

NOTES:

1. FOR APPROACH SLAB DETAIL NOTES, SEE SHEET 57/64.
2. FOR SECTION A-A, SEE SHEET 57/64.
3. FORWARD APPROACH SLAB TO BE INCLUDED WITH ITEM 526, REINFORCED CONCRETE APPROACH SLAB WITH QC/QA (T=17") AS PER PLAN.
4. CURVE INFORMATION DEFINES OUTSIDE EDGES OF APPROACH/SLEEPER SLAB.

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN AMK | REVIEWED TLR | DATE 05/2015
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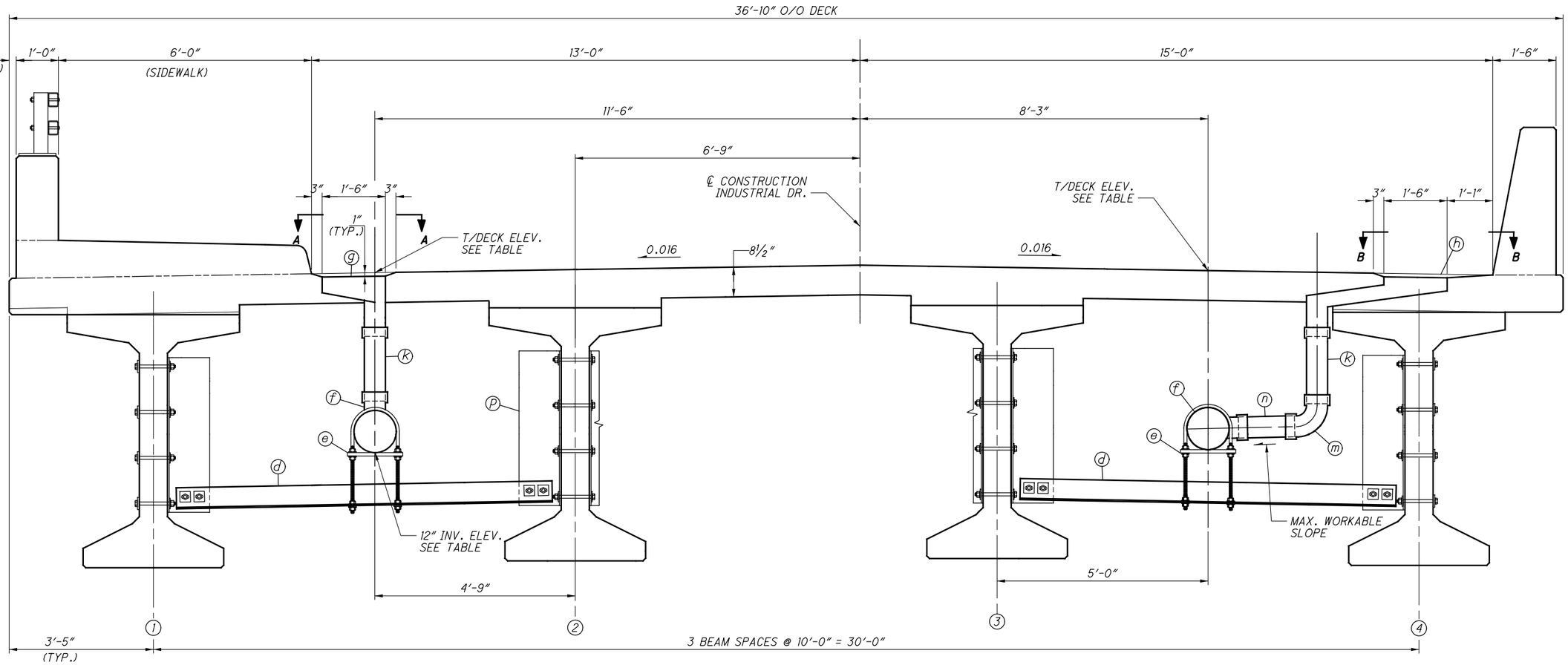
FORWARD APPROACH SLAB DETAILS

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984



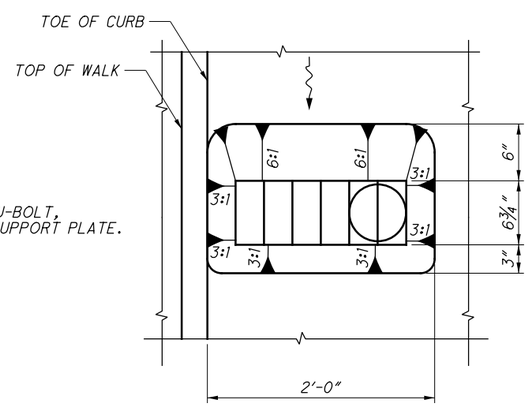
SCUPPER DETAIL

INTERMEDIATE DIAPHRAGM CROSSFRAMING NOT SHOWN

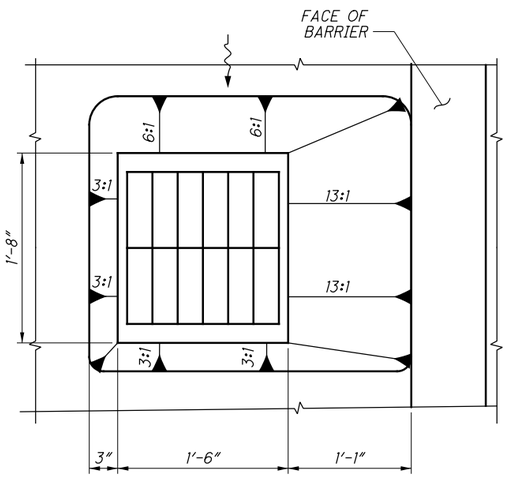
SCUPPER LOCATION TABLE			
STATION	SIDE	T/DECK	INVERT
39+68.50	LEFT	670.94	666.67
39+68.50	RIGHT	670.99	667.00
40+90.00	LEFT	671.76	667.89
40+90.00	RIGHT	671.81	669.43
42+07.00	LEFT	672.56	669.06
43+25.00	LEFT	673.37	670.24
44+43.00	LEFT	674.16	671.42
45+60.00	LEFT	674.96	672.59

LEGEND:

- (#) - DESIGNATES BEAM LINE NUMBER
- (d) - L6x6X⅜ SEE TYPE A CROSSFRAME, SEE SHEET 39/64.
- (e) - 12"ϕ SUPPORT CLAMP, COMPLETE WITH ⅞"ϕ VARIABLE LENGTH U-BOLT, NUTS, FLAT WASHERS, BEVELED WASHERS, LOCK WASHERS AND SUPPORT PLATE.
- (f) - 12"x12"x6" TEE (PVC)
- (g) - TYPE 1 SCUPPER - PER ODOT SD-1-69
- (h) - TYPE 2 SCUPPER - CUSTOMIZED NEENAH TYPE R-3935
- (k) - 6"ϕ STRAIGHT PIPE (PVC), VARIABLE LENGTH, HUB ON ONE END
- (m) - 6"x6" STD. RADIUS 90° BEND (PVC)
- (n) - 6"ϕ STRAIGHT "SPOOL PIECE", NO HUB (PVC)
- (p) - STEEL SUPPORT, SEE STD. DWG. PSID-1-13



SECTION A-A



SECTION B-B

NOTES:

1. FOR TRANSVERSE SECTIONS ALONG SPANS 1 - 7, SEE SHEET 39/64.
2. FOR DECK PLAN, SEE SHEETS 37-38/64.
3. FOR FRAMING PLAN, SEE SHEETS 28-50/64.
4. FOR RAILING DETAILS, SEE SHEETS 49-52/64.
5. FOR SIDEWALK DETAILS, SEE SHEET 53/64.
6. FOR PRESTRESSED I-BEAM DETAILS, SEE SHEET 31-32/64
7. FOR STEEL INTERMEDIATE DIAPHRAGM DETAILS, SEE STD. DWG. PSID-1-13.
8. PROVIDE 12"ϕ PIPE EXPANSION FITTING IN SPAN 1 NEAR REAR ABUTMENT DIAPHRAGM. TYPE SUBJECT TO ENGINEER APPROVAL.
9. ALL PVC PIPE SHALL CONFORM TO ITEM 707.45.
10. INCLUDE (d) AND (p) WITH ITEM 513 FOR PAYMENT.
11. INCLUDE (e), (g) AND (h) WITH ITEM 518 - SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN FOR PAYMENT.
12. INCLUDE (k), (m), (n) AND (f) WITH ITEM 518 - 6" PIPE DOWNSPOUT, INCLUDING SPECIALS FOR PAYMENT.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	TLR	05/2015
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SCT		TBD	

SCUPPER DETAILS

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00

PID No. 22984

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD.	TOTAL				A	B	C	D	E	R	INC
ABUTMENT													
D801													
A401													
A501													
A502													
A503													
A504													
A505													
A506													
A507													
A508													
A509													
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A526													
A527													
A528													
A529													

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD.	TOTAL				A	B	C	D	E	R	INC
ABUTMENT													
A601													
A602													
A603													
A604													
A605													
A606													
A607													
A608													
A609													
A610													
A611													
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A808													
A809													
A810													
A811													
A812													
A813													
A814													
A815													
A816													
A817													
A901													
A902													
A903													
SUB-TOTAL													

NOTES

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. FOR BAR BEND DIAGRAMS, SEE SHEET 64/64.

MANNIK SMITH GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
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SCT		TBD	

REINFORCING STEEL LIST (1 OF 4)

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-0000
PID No. 22984

MARK	NUMBER								TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TEST SHAFT	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7					A	B	C	D	E	R	INC
DRILLED SHAFT*																			
SP401																			
SP402																			
SP501																			
SP502																			
SP503																			
SP504																			
SP505																			
SP506																			
DS1101																			
DS1102																			
DS1103																			
DS1104																			
DS1105																			
DS1106																			
DS1107																			
SUB-TOTAL																			

MARK	NUMBER							TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7					A	B	C	D	E	R	INC
PIER																		
P501																		
P502																		
P503																		
P504																		
P505																		
P506																		
P507																		
P601																		
P602																		
P603																		
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P901																		
P1101																		
P1102																		
P1103																		
P1104																		
P1105																		
P1106																		
P1107																		
P1108																		
P1109																		
P1110																		
SP403																		
SP404																		
SP405																		
SP406																		
SP407																		
SP408																		
SP409																		
SUB-TOTAL																		

NOTES

1. *ALL REINFORCING STEEL SHALL BE EPOXY COATED.*
2. *FOR BAR BEND DIAGRAMS, SEE SHEET 64/64.*
3. ** - INDICATES ITEM IS INCLUDED IN COST OF ITEM 524 DRILLED SHAFTS.*

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED RJS | CHECKED SCT
DRAWN RJS | REVISED
REVIEWED TLR | DATE 05/2015
STRUCTURE FILE NUMBER TBD

REINFORCING STEEL LIST (2 OF 4)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

61/64
145/180

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S401											
S402											
S501											
S502											
S503											
S504											
S505											
S506											
S507											
S508											
S601											
S602											
SUB-TOTAL											
SUPERSTRUCTURE - SIDEWALK											
S503											
S504											
S505											
S506											
S509											
S510											
S511											
SUB-TOTAL											
SUPERSTRUCTURE - BR-2-98											
S503*											
S504*											
S512*											
SUB-TOTAL											
SUPERSTRUCTURE - SBR-1-13											
S503											
S504											
S513											
S514											
S515											
S516											
S603											
S604											
S605											
S606											
S607											
SUB-TOTAL											

MARK	NUMBER REAR	FWD.	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
APPROACH SLAB													
AS501													
AS502													
AS503													
AS505													
AS506													
AS507													
AS508													
AS1001													
AS1002													
AS1003													
AS1004													
SUB-TOTAL													
APPROACH SLAB - SIDEWALK													
S509													
S5010													
S511													
S533													
S534													
SUB-TOTAL													
APPROACH SLAB - BR-2-98													
S517*													
S518*													
S519*													
S520*													
S521*													
S522*													
S523*													
S524*													
S525*													
S526*													
S608*													
S609*													
S610*													
SUB-TOTAL													
APPROACH SLAB - SBR-1-13													
S526													
S527													
S528													
S529													
S530													
S531													
S532													
S611													
S612													
S613													
S614													
S615													
S616													
SUB-TOTAL													

NOTES

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. FOR BAR BEND DIAGRAMS, SEE SHEET 64/64.
3. * - INDICATES ITEM IS INCLUDED IN COST OF ITEM 517 RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING).
4. ** - INDICATES ITEM IS INCLUDED IN COST OF ITEM 526 REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17").

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED RJS | CHECKED SCT
DRAWN RJS | REVISED
REVIEWED TLR | DATE 05/2015
STRUCTURE FILE NUMBER TBD

REINFORCING STEEL LIST (3 OF 4)
HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00
PID No. 22984

62 / 64

146 / 180

MARK	NUMBER							TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7					A	B	C	D	E	R	INC
PIER																		
S408																		
S409																		
S410																		
S411																		
S612																		
S613																		
S614																		
SUB-TOTAL																		

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD.	TOTAL				A	B	C	D	E	R	INC
ABUTMENT DIAPHRAGMS													
S403													
S404													
S405													
S406													
S407													
S608													
S609													
S610													
S611													
S801													
S802													
S803													
S804													
S805													
S806													
S807													
S808													
SUB-TOTAL													

NOTES

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. FOR BAR BEND DIAGRAMS, SEE SHEET 64/64.

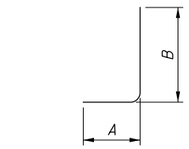
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED RJS | DRAWN RJS | REVIEWED TLR | DATE 05/2015
CHECKED SCT | REVISED | STRUCTURE FILE NUMBER TBD

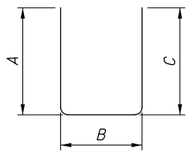
REINFORCING STEEL LIST (4 OF 4)

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

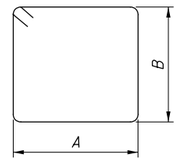
HEN-IND-00.00
PID No. 22984



TYPE-1



TYPE-2



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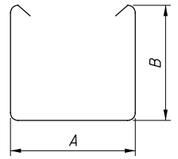

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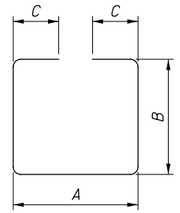
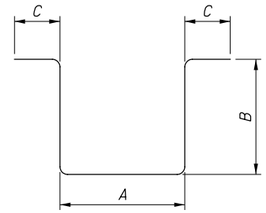
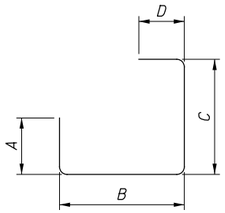


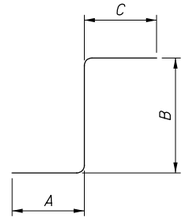
TYPE-5



TYPE-6



TYPE-7



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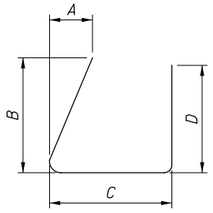
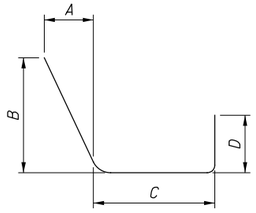
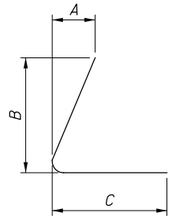


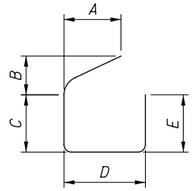
TYPE-9



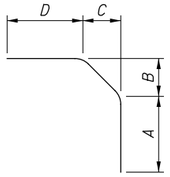
TYPE-10



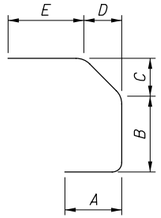
TYPE-11



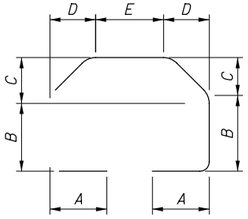
TYPE-12



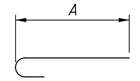
TYPE-13



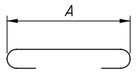
TYPE-14



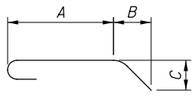
TYPE-15



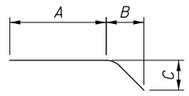
TYPE-16



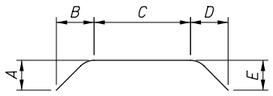
TYPE-17



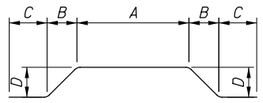
TYPE-18



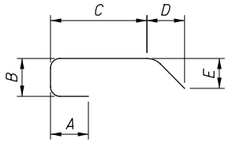
TYPE-19



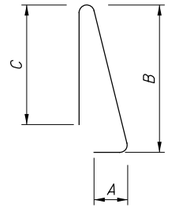
TYPE-20



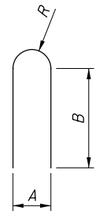
TYPE-21



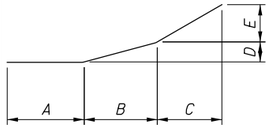
TYPE-22



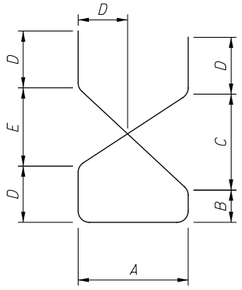
TYPE-23



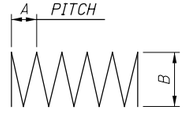
TYPE-24



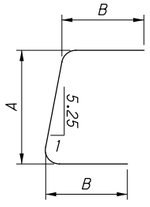
TYPE-25



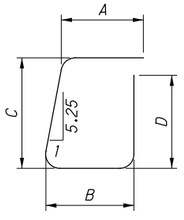
TYPE - 26



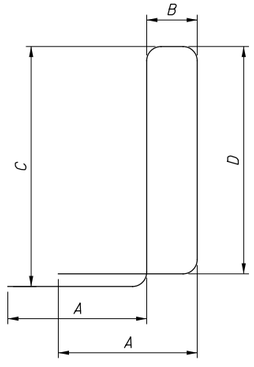
TYPE - 27



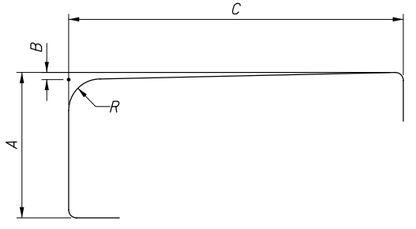
TYPE-28



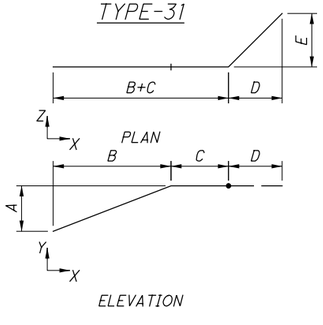
TYPE-29



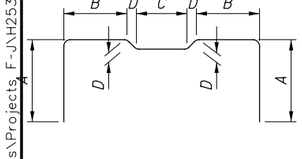
TYPE-30



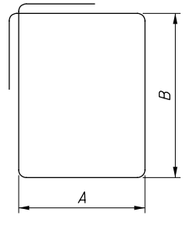
TYPE-31



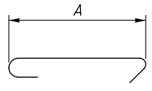
TYPE-53



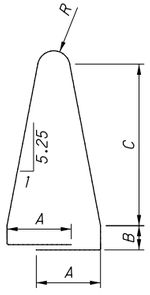
TYPE-32



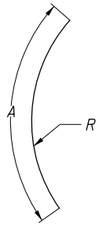
TYPE-33



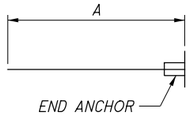
TYPE-34



TYPE-35



TYPE-36



TYPE-51

MANNIK SMITH GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
CWE	JEC	TLR	05/2015
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT	----	TBD	

REINFORCING BENDING DIAGRAM

HEN-INDUSTRIAL DRIVE-0000
INDUSTRIAL DRIVE OVER MAUMEE RIVER

HEN-IND-00.00

PID No. 22984

PROJECT DESCRIPTION

THE PROJECT, HEN-IND-0000, WILL INCLUDE CONSTRUCTING A NEW BRIDGE OVER THE MAUMEE RIVER NEAR THE CITY OF NAPOLEON, OHIO TO PROVIDE A CONNECTION BETWEEN SR 110 ON THE SOUTH SIDE OF THE RIVER TO RIVERVIEW AVENUE ON THE NORTH SIDE OF THE RIVER.

HISTORIC RECORDS

NO HISTORIC BORINGS WERE AVAILABLE FOR THIS PROJECT.

GEOLOGY

THE PROJECT SITE IS LOCATED WITHIN THE MAUMEE LAKE PLAINS PHYSIOGRAPHIC REGION OF OHIO WHICH GENERALLY CONSISTS OF PLEISTOCENE-AGE SILT AND CLAY LACUSTRINE DEPOSITS AND/OR DELTAIC SEDIMENTS OVERLYING GLACIAL TILL AND DEVONIAN-AGE LIMESTONE AND SHALE BEDROCK. THE CLOSE PROXIMITY OF THE SITE TO THE MAUMEE RIVER INDICATES THE SITE MAY CONTAIN RIVER ALLUVIUM WITH OVERBANK DEPOSITS. FLOODPLAINS AND TERRACES FLANK THE MAUMEE RIVER WITH OVERBURDEN SOILS GENERALLY CONSISTING OF SILTY AND CLAYEY FLOODPLAIN DEPOSITS OR SANDY AND LOAMY SOILS IN THE TERRACES. NEARBY WATER WELL LOGS INDICATE THE OVERBURDEN SOILS CONSIST OF CLAY AND GRAVEL OVERLYING SHALE THAT WAS ENCOUNTERED AT DEPTHS RANGING FROM 30 TO 40 FEET BELOW GROUND SURFACE (BGS). DRIFT THICKNESS MAPPING INDICATES THE OVERBURDEN IS APPROXIMATELY 15 TO 45 FEET THICK WITH BEDROCK POTENTIALLY AS SHALLOW AS THE GROUND SURFACE WITHIN THE RIVERBED.

RECONNAISSANCE

PERSONNEL FROM THE MANNIK & SMITH GROUP, INC. (MSG) CONDUCTED A SITE WALKTHROUGH ON JANUARY 20, 2014 TO OBSERVE AND DOCUMENT THE SITE CONDITIONS AND NOTE ANY GEOTECHNICAL RELATED ISSUES. A LARGE UNCONTROLLED FILL AREA IS LOCATED BETWEEN EAST RIVERVIEW AVENUE AND THE MAUMEE RIVER. THE CURRENT PROPERTY OWNER STATED TO MSG PERSONNEL THAT HE HAS BEEN DUMPING CONCRETE DEBRIS AND FILL IN THE AREA FOR SEVERAL YEARS IN ORDER TO ESTABLISH A LEVEL FINISH GRADE. THE PAVEMENT AREAS WITHIN THE PROJECT LIMITS APPEARED TO BE IN GOOD TO FAIR CONDITION WITH MINOR TO MODERATE TRANVERSE AND LONGITUDINAL CRACKING NOTED.

SUBSURFACE EXPLORATION

TWENTY-EIGHT (28) SOIL BORINGS, B-001-0-13 THROUGH B-026-0-13 AND OFFSET BORINGS B-008-1-13 AND B-013-1-13 (HEREAFTER REFERRED TO AS B-001 THROUGH B-026, B-008-1 AND B-013-1) WERE COMPLETED AS PART OF THIS SUBSURFACE EXPLORATION BETWEEN APRIL 22, 2014 AND JUNE 12, 2014. BORINGS B-001 THROUGH B-005 AND B-013 THROUGH B-026 (EXCEPT B-016) WERE DRILLED DURING THE FIRST MOBILIZATION FROM APRIL 22, 2014 TO APRIL 29, 2014. BORINGS B-006 THROUGH B-012 (BARGE DRILLING) AND B-016 WERE DRILLED DURING THE SECOND MOBILIZATION FROM JUNE 3, 2014 TO JUNE 12, 2014. A TRACK-MOUNTED GEOPROBE 7822DT DRILL RIG WAS USED TO ADVANCE THE BORINGS BY MECHANICALLY TURNING 4-1/4-INCH INNER DIAMETER HOLLOW-STEM AUGERS INTO THE SOIL MATERIAL. DISTURBED SOIL SAMPLING WAS CONDUCTED USING THE STANDARD PENETRATION TEST (SPT) IN GENERAL ACCORDANCE WITH ASTM D1586. DISTURBED SAMPLING INTERVALS WERE VARIED DEPENDING ON THE BORING TYPE AND THE PROPOSED TOP OF SUBGRADE RELATIVE TO THE EXISTING TOP OF SUBGRADE. UNDISTURBED SAMPLING (I.E. SHELBY TUBE) WAS ALSO PERFORMED AT BORINGS B-002, B-004, B-005 AND B-013-1. THE AUTOMATIC HAMMER ON THE DRILL RIG WAS CALIBRATED ON MAY 10, 2013 AND HAS A DRILL ROD ENERGY RATIO OF 89.3%. AT THE TWO ABUTMENT LOCATIONS (B-005 AND B-013-1) 10 FEET OF BEDROCK WAS CORED AND AT THE BORINGS FOR THE BRIDGE PIER LOCATIONS (B-006 TO B-012) PERFORMED ON A BARGE IN THE RIVER, 5 TO 20 FEET OF BEDROCK WAS CORED. THE SAMPLING OF THE BEDROCK WAS PERFORMED WITH A TYPE NW SERIES CORE BARREL.

EXPLORATION FINDINGS

SR 110

BORINGS B-017 TO B-021 WERE PERFORMED ALONG SR 110. AT THE GROUND SURFACE OF ALL THE BORINGS EXCEPT B-020, 10 INCHES OF ASPHALT PAVEMENT UNDERLAIN BY 4 INCHES OF AGGREGATE BASE WAS ENCOUNTERED. AT B-020 PEFORMED JUST OUTSIDE THE PAVEMENT, THE SURFICIAL MATERIAL CONSISTED OF 3 INCHES OF TOPSOIL. THE SOIL OVERBURDEN CONSISTS PRIMARILY OF DEPOSITS OF CLAY WITH LAYERS OF SAND AND GRAVEL UNDER THE AGGREGATE BASE IN B-017 AND B-019. SOIL UNIT 1 CONSISTS OF LOOSE TO MEDIUM DENSE, GRAY COARSE AND FINE SAND AND GRAVEL WITH SAND AND SILT (A-3a AND A-2-4) ENCOUNTERED BENEATH THE AGGREGATE BASE TO DEPTHS OF 2.7 FEET AND 4.2 FEET, RESPECTIVELY, IN B-019 AND B-017. THE N_{60} VALUES RANGED FROM 10 TO 22 BLOWS PER FOOT (BPF) WITH AN AVERAGE OF 18 BPF. THE MOISTURE CONTENTS RANGED BETWEEN 6 AND 21 PERCENT WITH AN AVERAGE OF 13 PERCENT. SOIL UNIT 2 CONSISTS PREDOMINANTLY OF STIFF TO HARD, BROWN AND/OR GRAY SILT AND CLAY, SILTY CLAY AND CLAY (A-6a, A-6b AND A-7-6). THIS SOIL UNIT WAS ENCOUNTERED BENEATH SOIL UNIT 1 AT B-017 AND B-019 AND BELOW THE PAVEMENT SECTION IN THE OTHER BORING LOCATIONS AND CONTINUED TO DEPTHS OF 6.2 TO 7.2 FEET (BORING TERMINATION DEPTHS). THE N_{60} VALUES RANGED FROM 10 TO 60 BPF WITH AN AVERAGE OF 32 BPF. THE POCKET PENETROMETER TESTS RESULTS WERE BETWEEN 2.25 AND 4.5+ TONS PER SQUARE FOOT (TSF). THE MOISTURE CONTENTS RANGED BETWEEN 13 AND 27 PERCENT WITH AN AVERAGE OF 19 PERCENT.

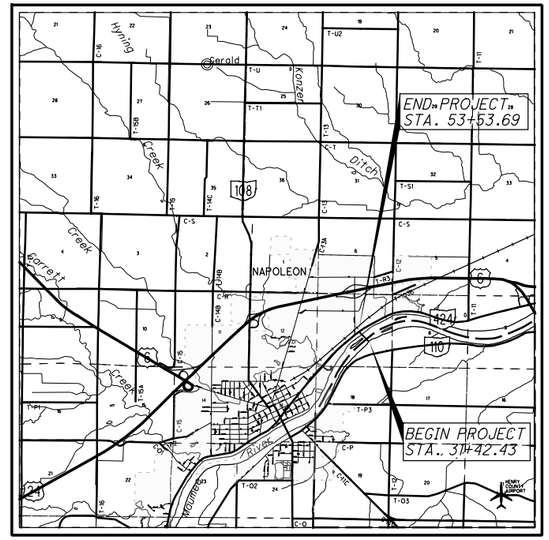
INDUSTRIAL DRIVE

BORINGS B-001 TO B-016 WERE PERFORMED ALONG THE EXISTING AND PROPOSED ALIGNMENT OF INDUSTRIAL DRIVE. AT THE GROUND SURFACE OF BORINGS B-001 TO B-005, B-013-1 AND B-015, 4 TO 12 INCHES OF TOPSOIL WAS ENCOUNTERED. AT BORING B-014, THE SURFICIAL MATERIAL CONSISTED OF 12 INCHES OF GRAVEL BACKFILL. AT BORING B-016 PERFORMED WITHIN THE EXISTING INDUSTRIAL DRIVE PAVEMENT, 8 INCHES OF ASPHALT OVERLYING 12 INCHES OF AGGREGATE BASE WAS ENCOUNTERED. THE SOIL OVERBURDEN CONSISTS PRIMARILY OF DEPOSITS OF SILTY CLAY. THE BEDROCK WAS IDENTIFIED TO BE SHALE. AT B-013, VERY LOOSE BROWN SANDY SILT FILL WAS UNDERLAIN BY CONCRETE RUBBLE. REFUSAL IN THE CONCRETE RUBBLE WAS ENCOUNTERED AT 4 FEET BGS. SOIL UNIT 1 CONSISTS PREDOMINANTLY OF LOOSE TO MEDIUM DENSE, BROWN OR GRAY NON-COHESIVE SANDY SILT (A-4a) ENCOUNTERED BELOW THE SUFICIAL MATERIAL IN BORINGS B-003, B-004 AND B-013-1 TO DEPTHS OF 2.5 TO 6 FEET BGS. THE N_{60} VALUES RANGED FROM 6 TO 12 BPF WITH AN AVERAGE OF 9 BPF. HOWEVER, AT B-004, VERY LOOSE (N_{60} OF 3 BPF) SANDY SILT WAS ENCOUNTERED BETWEEN 3.5 AND 6 FEET BGS. THE MOISTURE CONTENTS GENERALLY RANGED BETWEEN 14 AND 21 PERCENT WITH AN AVERAGE OF 19 PERCENT. THE SOIL UNIT AT B-013-1 HAD TRACE ORGANIC CONTENT AND WATER CONTENT WAS DETERMINED TO BE 47 PERCENT. SOIL UNIT 2 CONSISTS OF SOFT TO MEDIUM STIFF, BROWN AND/OR GRAY COHESIVE SANDY SILT AND SILT (A-4a AND A-4b) AS WELL AS SILT AND CLAY AND SILTY CLAY (A-6a AND A-6b). THE N_{60} VALUES RANGED FROM 3 TO 7 BPF WITH AN AVERAGE OF 5 BPF. HOWEVER, A LAYER OF VERY SOFT (N_{60} VALUE

CONTINUED ON SHEET 2

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	1	0
GRAVEL AND/OR STONE FRAGMENTS WITH SAND, AND SILT	A-2-4	1	1
FINE SAND	A-3	1	0
COARSE AND FINE SAND	A-3a	0	2
SANDY SILT	A-4a	6	14
SILT	A-4b	1	1
SILT AND CLAY	A-6a	12	16
SILTY CLAY	A-6b	7	16
CLAY	A-7-6	10	9
	TOTAL	39	59
CONCRETE	VISUAL		
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
SOD AND TOPSOIL	VISUAL		
SHALE BEDROCK			
EXPLORATION LOCATION - PLAN VIEW			
DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
WC INDICATES WATER CONTENT IN PERCENT.			
N_{60} INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.			
● INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.			
⊖ INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25% OR GREATER THAN 19% WITH A WET APPEARANCE.			
X/Y/D" NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X = NUMBER OF BLOWS FOR 6 INCHES (UNCORRECTED Y/D" = NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL			
▼ INDICATES STATIC WATER ELEVATION.			
W INDICATES FREE WATER ELEVATION.			
* INDICATES A SAMPLE TAKEN WITHIN 3 FT OF PROPOSED GRADE.			
SS INDICATES A SPLIT SPOON SAMPLE.			
ST INDICATES A SHELBY TUBE SAMPLE.			
NP INDICATES A NON-PLASTIC SAMPLE.			
TR INDICATES TOP OF ROCK.			



LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE	

INDEX OF SHEETS

LOCATION FROM STA.	TO STA.	PLAN VIEW SHEET	PROFILE SHEET	CUT MAX.		FILL EMB. MAX.	
INDUSTRIAL DRIVE							
31+42.43	36+50.00	8	8	1	FT	10	FT
36+50.00	41+00.00	9	10	-	FT	16	FT
41+00.00	45+50.00	11	12	-	FT	-	FT
45+50.00	50+50.00	13	14	-	FT	27	FT
50+50.00	56+00.00	15	15	1	FT	2	FT
RIVERVIEW AVENUE							
586+50.00	591+50.00	16	16	-	FT	-	FT
591+50.00	596+50.00	17	17	-	FT	2	FT
596+50.00	601+50.00	18	18	-	FT	-	FT
STATE ROUTE 110							
95+00.00	100+00.00	19	19	-	FT	-	FT
100+00.00	105+00.00	20	20	-	FT	3	FT
105+00.00	110+00.00	21	21	-	FT	5	FT

RECON. - LV 01/20/2014
DRILLING - RJS 04/22 - 06/12/2014
DRAWN - SJV 05/05/2015
REVIEWED - JLS 05/19/2015

DESIGN AGENCY
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

PID NO. 22984

SOIL PROFILE

HEN-IND-0000

EXPLORATION FINDINGS CONTINUED

INDUSTRIAL DRIVE CONTINUED

OF 1 BPF) SILTY CLAY WAS FOUND AT B-013-1 BETWEEN DEPTHS OF 6 AND 7.5 FEET BGS. THE POCKET PENETROMETER TESTS RESULTS WERE BETWEEN 0 AND 3.0 TSF. THE MOISTURE CONTENTS RANGED BETWEEN 17 AND 26 PERCENT WITH AN AVERAGE OF 22 PERCENT. SOIL UNIT 3 CONSISTS OF STIFF TO HARD, BROWN AND/OR GRAY COHESIVE SANDY SILT AND SILT (A-4a AND A-4b) AS WELL AS SILT AND CLAY, SILTY CLAY AND CLAY (A-6a, A-6b AND A-7-6). THIS UNIT WAS ENCOUNTERED BELOW SOIL UNITS 1 OR 2 AND WAS IDENTIFIED UP TO DEPTHS OF 8 TO 20 FEET WHERE THE BORINGS WERE TERMINATED OR BEDROCK WAS ENCOUNTERED. THE N_{60} VALUES RANGED FROM 9 TO 55 BPF WITH AN AVERAGE OF 25 BPF. THE POCKET PENETROMETER TESTS RESULTS WERE BETWEEN 2.0 AND 4.5+ TSF. THE MOISTURE CONTENTS RANGED BETWEEN 9 AND 26 PERCENT WITH AN AVERAGE OF 16 PERCENT. ROCK UNIT 1 CONSISTS OF WEAK TO STRONG, BROWN OR BLACK SHALE. THESE FORMATIONS WERE FOUND AT DEPTHS OF 22 FEET BGS AND 19.2 FEET BGS AT BORINGS B-005 AND B-013-1, RESPECTIVELY, AND AT THE SURFACE FOR THE RIVER BORINGS B-006 TO B-012. THE RQD OF THE ROCK CORES WERE BETWEEN 0 AND 75 PERCENT WITH AN AVERAGE VALUE OF 29 PERCENT. NINE (9) UNCONFINED COMPRESSIVE STRENGTH TESTS PERFORMED ON THE ROCK CORES INDICATED THE UNCONFINED COMPRESSIVE STRENGTH WAS BETWEEN 1,423 AND 7,676 POUNDS PER SQUARE INCH (PSI) WITH AN AVERAGE OF 4,633 PSI. THE ROCK FORMATIONS WERE FOUND TO BE SLIGHTLY TO SEVERELY WEATHERED.

EAST RIVERVIEW AVENUE

BORINGS B-022 TO B-026 WERE PERFORMED ALONG EAST RIVERVIEW AVENUE. AT THE GROUND SURFACE OF ALL THE BORINGS, 10 INCHES OF ASPHALT PAVEMENT UNDERLAIN BY 4 INCHES OF AGGREGATE BASE WAS ENCOUNTERED. THE SOIL OVERBURDEN CONSISTS PRIMARILY OF DEPOSITS OF SILTY CLAY. SOIL UNIT 1 CONSISTS OF LOOSE TO MEDIUM DENSE, BROWN OR GRAY GRAVEL OR GRAVEL WITH SAND AND SILT (A-1-a AND A-2-4) FOUND AT BORINGS B-023 AND B-025. THE DEPOSIT IS ENCOUNTERED BELOW THE PAVEMENT SECTION AND CONTINUES TO A DEPTH OF 2.7 FEET. THE N_{60} VALUES WERE BETWEEN 22 TO 31 BPF WITH AN AVERAGE OF 27 BPF. THE MOISTURE CONTENTS RANGED BETWEEN 3 AND 16 PERCENT WITH AN AVERAGE OF 10 PERCENT. SOIL UNIT 2 CONSISTS OF MEDIUM DENSE TO DENSE, BROWN AND/OR GRAY FINE SAND AND SANDY SILT (A-3 AND A-4a). THESE DEPOSITS WERE FOUND AT ALL THE BORING LOCATIONS EXCEPT B-025 BELOW THE SURFICIAL MATERIAL OR SOIL UNIT 1 WITH A THICKNESS OF ABOUT 1.5 FEET. THE N_{60} VALUES RANGED FROM 16 TO 34 BPF WITH AN AVERAGE OF 22 BPF. THE MOISTURE CONTENTS RANGED BETWEEN 2 AND 21 PERCENT WITH AN AVERAGE OF 10 PERCENT. SOIL UNIT 3 CONSISTS PREDOMINANTLY OF STIFF TO HARD, BROWN AND/OR GRAY SILTY CLAY. THESE DEPOSITS WERE ENCOUNTERED BELOW SOIL UNITS 1 AND 2 AND EXTENDED TO THE BORING TERMINATION DEPTHS AT 7.2 FEET BGS. THE SOIL UNIT WAS IDENTIFIED AS A-4a, A-6a, A-6b AND/OR A-7-6 IN ALL THE SOIL BORINGS. THE N_{60} VALUES RANGED FROM 18 TO 63 BPF WITH AN AVERAGE OF 38 BPF. THE POCKET PENETROMETER TESTS RESULTS WERE BETWEEN 3.0 AND 4.5 TSF. THE MOISTURE CONTENTS RANGED BETWEEN 14 AND 25 PERCENT WITH AN AVERAGE OF 21 PERCENT.

GROUNDWATER

GROUNDWATER WAS ENCOUNTERED IN FOUR (4) OF THE BORINGS DRUING DRILLING ACTIVITIES INCLUDING B-002, B-003, B-005 AND B-031-1 WITH WATER LEVELS MEASURED AT THE COMPLETION OF DRILLING AT DEPTHS RANGING FROM APPROXIMATELY 2.5 TO 16 FEET BGS. THE WATER LEVELS WERE MEASURED IN THE RIVER BORINGS AND INDICATED THAT THE RIVER ELEVATIONS VARIED BETWEEN ELEVATION 638 AND 641 AT THE TIME OF DRILLING.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JULY 2013.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

BEDROCK TEST SUMMARY

BORING NO.	SAMPLE ID	SAMPLE DEPTH	Qu (PSI)
B-006-0-13	RC-2	5'-10'	1423
B-006-0-13	RC-4	15'-20'	1641
B-007-0-13	RC-2	5'-10'	4446
B-008-1-13	RC-2	5'-10'	4862
B-009-0-13	RC-4	15'-20'	1451
B-010-0-13	RC-2	5'-10'	7676
B-011-0-13	RC-1	0'-5'	4644
B-012-0-13	RC-1	0'-5'	5539
B-012-0-13	RC-3	10'-15'	6652

DESIGN AGENCY
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

PID NO. 22984

SOIL PROFILE

HEN-IND-0000

SUMMARY OF SOIL TEST DATA
INDUSTRIAL DRIVE

EXPLORATION NO., STATION & OFFSET	DEPTH FROM - TO	SAMPLE ID	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	SO4 ppm
B-001-0-13	1.0 - 2.5	SS-1	67	0.75	2	3	16	35	44	37	18	19	21	A-6b (12)	
STA. 32+47.39, 102.9 LT.	3.5 - 5.0	SS-2	50	2.0	BROWN MOTTLED WITH GRAY SILT AND CLAY, LITTLE SAND, TRACE GRAVEL								17	A-6a (VISUAL)	
NORTHING = 636432.356	6.0 - 7.5	SS-3	0	-	SAME AS SS-2								-	A-6a (VISUAL)	
EASTING = 1529466.854	8.5 - 10.0	SS-4	61	4.5	5	6	13	35	41	29	15	14	14	A-6a (10)	
	11.0 - 12.5	SS-5	94	4.5	SAME AS SS-4								14	A-6a (VISUAL)	
	13.5 - 15.0	SS-6	25	4.5	SAME AS SS-4								14	A-6a (VISUAL)	
B-002-0-13	1.0 - 2.5	SS-1	33	2.0	BROWN SILTY CLAY, TRACE SAND								21	A-6b (VISUAL)	
STA. 34+29.06, 80.4 LT.	3.5 - 5.5	ST-1	100	4.5+	3	6	15	35	41	29	16	13	22	A-6a (9)	
NORTHING = 636554.632	6.0 - 7.5	SS-2	61	4.0	SAME AS ST-1								14	A-6a (VISUAL)	
EASTING = 1529405.397	8.5 - 10.0	SS-3	72	4.5	SAME AS ST-1								13	A-6a (VISUAL)	
	11.0 - 12.5	SS-4	0	-	SAME AS ST-1								-	A-6a (VISUAL)	
	13.5 - 15.0	SS-5	83	4.5+	3	5	14	35	43	28	16	12	16	A-6a (9)	
B-003-0-13	1.0 - 2.5	SS-1	67	-	SAME AS SS-2								21	A-4a (VISUAL)	
STA. 36+41.71, 24.9 LT.	3.5 - 5.0	SS-2	61	-	1	4	50	34	11	NP	NP	NP	14	A-4a (2)	
NORTHING = 636705.174	6.0 - 7.5	SS-3	78	4.5+	SAME AS SS-6								14	A-6a (VISUAL)	
EASTING = 1529253.905	8.5 - 10.0	SS-4	78	4.5+	SAME AS SS-6								13	A-6a (VISUAL)	
	11.0 - 12.5	SS-5	78	4.5+	SAME AS SS-6								14	A-6a (VISUAL)	
	13.5 - 15.0	SS-6	44	4.5+	3	4	10	41	42	27	16	11	14	A-6a (8)	
B-004-0-13	1.0 - 2.5	SS-1	44	-	SAME AS SS-2								19	A-4a (VISUAL)	
STA. 38+25, 4' RT.	3.5 - 5.0	SS-2	83	-	0	2	29	46	23	NP	NP	NP	21	A-4a (7)	
NORTHING = 636837.733	6.0 - 7.5	SS-3	56	-	SAME AS ST-1								16	A-4a (VISUAL)	
EASTING = 1529144.268	6.0 - 7.5	ST-1	94	-	0	0	41	45	14	22	18	4	11	A-4a (5)	
	8.5 - 10.0	SS-4	83	-	GRAY SANDY SILT, AND CLAY								14	A-4a (VISUAL)	
	11.0 - 12.5	SS-5	72	4.5+	4	5	11	40	40	27	15	12	13	A-6a (9)	
	13.5 - 15.0	SS-6	56	4.5+	SAME AS SS-5								15	A-6a (VISUAL)	
B-014-0-13	1.0 - 2.5	SS-1	78	4.5+	5	7	13	32	43	32	17	15	15	A-6a (10)	
STA. 49+50, CL	3.5 - 5.0	SS-2	17	4.5	SAME AS SS-1								15	A-6a (VISUAL)	
NORTHING = 637665.517	6.0 - 7.5	SS-3	50	4.0	SAME AS SS-1								17	A-6a (VISUAL)	
EASTING = 1528381.896	8.5 - 10.0	SS-4	50	4.5+	2	5	12	34	47	37	16	21	20	A-6b (12)	
	11.0 - 12.5	SS-5	61	3.0	GRAY CLAY, SOME SILT, TRACE GRAVEL					42	18	24	20	A-7-6 (VISUAL)	
	13.5 - 15.0	SS-6	83	4.5	SAME AS SS-6								13	A-7-6 (VISUAL)	
	16.0 - 17.5	SS-7	78	4.5+	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL								17	A-6b (VISUAL)	
	18.5 - 20.0	SS-8	89	4.5+	GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL								9	A-6b (VISUAL)	
B-015-0-13	1.0 - 2.5	SS-1	67	2.5	BROWN SILT AND CLAY, LITTLE SAND								19	A-6a (VISUAL)*	1275
STA. 52+77.55, 26.7 RT.	3.5 - 5.0	SS-2	67	4.5	1	3	3	10	83	48	23	25	26	A-7-6 (16)	
NORTHING = 637952.823	6.0 - 7.5	SS-3	83	4.5	4	6	11	30	49	32	17	15	17	A-6a (10)	
EASTING = 1528225.366	8.5 - 10.0	SS-4	100	4.5	SAME AS SS-3								14	A-6a (VISUAL)	
B-016-0-13	1.7 - 3.2	SS-1	78	3.5	SAME AS SS-2								22	A-6b (VISUAL) *	
STA. 55+57, CL	3.2 - 4.7	SS-2	89	3.0	1	1	3	44	51	39	19	20	25	A-6b (12)	
NORTHING = 638227.110	4.7 - 6.2	SS-3	44	2.5	1	1	4	37	57	44	20	24	28	A-7-6 (14)	
EASTING = 1528197.360	6.2 - 7.7	SS-4	78	3.0	SAME AS SS-3								26	A-7-6 (VISUAL)	1140

NOTE:
Excludes B-005 through B-013

DRAWN | CHECKED

SOIL PROFILE
SUMMARY OF SOIL TEST DATA - INDUSTRIAL DRIVE
HEN-IND-0000

151
180

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SUMMARY OF SOIL TEST DATA
RIVERVIEW AVE.

EXPLORATION NO., STATION & OFFSET	DEPTH FROM - TO	SAMPLE ID	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	SO4 ppm
B-022-0-13	1.2 - 2.7	SS-1	56	-	DARK BROWN SANDY SILT, SOME GRAVEL								3	A-4a (VISUAL)*	160
STA. 587+45, 7' RT.	2.7 - 4.2	SS-2	56	4.0	6	4	5	35	50	44	19	25	23	A-7-6 (15)	
NORTHING = 637343.455	4.2 - 5.7	SS-3	67	4.5	SAME AS SS-2								14	A-7-6 (VISUAL)	
EASTING = 1527818.884	5.7 - 7.2	SS-4	61	4.5	15	10	17	23	35	32	17	15	17	A-6a (7)	
B-023-0-13	1.2 - 2.7	SS-1	61	-	66	18	7	7	2	NP	NP	NP	3	A-1-a (0)*	
STA. 591+43, 9' LT.	2.7 - 4.2	SS-2	61	3.25	GRAY MOTTLED WITH BROWN SANDY SILT, LITTLE CLAY								21	A-4a (VISUAL)	1300
NORTHING = 637615.734	4.2 - 5.7	SS-3	89	4.5	0	4	5	19	72	40	20	20	22	A-6b (12)	
EASTING = 1528108.483	5.7 - 7.2	SS-4	83	4.5	SAME AS SS-3								24	A-6b (VISUAL)	
B-024-0-13	1.2 - 2.7	SS-1	72	-	0	5	85	9	1	NP	NP	NP	14	A-3 (0)	
STA. 594+66, 9' RT.	2.7 - 4.2	SS-2	67	3.0	1	0	1	41	57	49	22	27	25	A-7-6 (17)	
NORTHING = 637800.802	4.2 - 5.7	SS-3	100	4.5	BROWN SILTY CLAY, TRACE SAND								24	A-6b (VISUAL)	2880
EASTING = 1528374.091	5.7 - 7.2	SS-4	50	4.5	SAME AS SS-3								23	A-6b (VISUAL)	
B-025-0-13	1.2 - 2.7	SS-1	83	-	LIGHT GRAY GRAVEL WITH SAND AND SILT, SOME CLAY								16	A-2-4 (VISUAL)*	200
STA. 597+23, 8' LT.	2.7 - 4.2	SS-2	67	4.5	2	6	7	38	47	33	18	15	19	A-6a (10)	
NORTHING = 637966.627	4.2 - 5.7	SS-3	56	4.5	BROWN SILTY CLAY, TRACE SAND AND GRAVEL								19	A-6b (VISUAL)	
EASTING = 1528571.100	5.7 - 7.2	SS-4	78	4.5	SAME AS SS-3								22	A-6b (VISUAL)	
B-026-0-13	1.2 - 2.7	SS-1	50	-	DARK BROWN SANDY SILT, SOME GRAVEL								2	A-4a (VISUAL)*	
STA. 600+30, 5' LT.	2.7 - 4.2	SS-2	50	4.5	BROWN MOTTLED WITH GRAY SILTY CLAY, TRACE SAND								23	A-6b (VISUAL)	1140
NORTHING = 638130.283	4.2 - 5.7	SS-3	78	4.5	3	5	8	22	62	41	20	21	17	A-7-6 (13)	
EASTING = 1528832.319	5.7 - 7.2	SS-4	89	4.5	SAME AS SS-3								15	A-7-6 (VISUAL)	

SUMMARY OF SOIL TEST DATA
S.R. 110

EXPLORATION NO., STATION & OFFSET	DEPTH FROM - TO	SAMPLE ID	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	SO4 ppm
B-017-0-13	1.2 - 2.7	SS-1	56	-	GRAY COARSE AND FINE SAND, LITTLE GRAVEL, TRACE SILT								6	A-3a (VISUAL)	
STA. 97+38, 5' RT.	2.7 - 4.2	SS-2	11	-	SAME AS SS-1								21	A-3a (VISUAL)	560
NORTHING = 636139.886	4.2 - 5.7	SS-3	78	2.5	5	5	14	27	49	41	23	18	22	A-7-6 (11)	
EASTING = 1528743.168	5.7 - 7.2	SS-4	67	2.5	2	6	15	32	45	40	19	21	22	A-6b (12)	
B-018-0-13	1.2 - 2.7	SS-1	72	4.5+	DARK GRAY CLAY, SOME GRAVEL AND SILT, TRACE SAND								13	A-7-6 (VISUAL)	500
STA. 99+90, 8' LT.	2.7 - 4.2	SS-2	67	4.5	2	10	35	20	33	26	12	14	16	A-6a (5)	
NORTHING = 636237.894	4.2 - 5.7	SS-3	67	2.25	1	2	10	16	71	49	20	29	27	A-7-6 (17)	
EASTING = 1528975.860	5.7 - 7.2	SS-4	78	3.5	SAME AS SS-3								20	A-7-6 (VISUAL)	
B-019-0-13	1.2 - 2.7	SS-1	61	-	42	18	10	14	16	23	14	9	16	A-2-4 (0)*	
STA. 103+15, CL	2.7 - 4.2	SS-2	56	4.5+	6	6	8	24	56	39	19	20	17	A-6b (12)	
NORTHING = 636312.038	4.2 - 5.7	SS-3	67	4.5+	SAME AS SS-2								16	A-6b (VISUAL)	760
EASTING = 1529291.934	5.7 - 7.2	SS-4	78	4.5+	SAME AS SS-2								15	A-6b (VISUAL)	
B-020-0-13	0.3 - 1.8	SS-1	61	4.5+	SAME AS SS-2								21	A-7-6 (VISUAL)*	2160
STA. 106+98, 21' LT.	1.8 - 3.3	SS-2	42	4.5+	0	2	11	18	69	49	21	28	23	A-7-6 (17)*	
NORTHING = 636420.916	3.3 - 4.8	SS-3	56	4.5+	1	2	3	16	78	48	24	24	23	A-7-6 (15)	
EASTING = 1529660.274	4.8 - 6.3	SS-4	78	4.5+	SAME AS SS-3								15	A-7-6 (VISUAL)	
B-021-0-13	1.2 - 2.7	SS-1	56	4.5+	13	9	30	23	25	28	15	13	18	A-6a (4)*	
STA. 109+41.6, 6' LT.	2.7 - 4.2	SS-2	61	3.0	SAME AS SS-1								17	A-6a (VISUAL)*	660
NORTHING = 636461.405	4.2 - 5.7	SS-3	67	4.5+	3	4	5	16	72	47	25	22	22	A-7-6 (14)	
EASTING = 1529900.005	5.7 - 7.2	SS-4	78	4.5+	BROWN MOTTLED WITH GRAY SILTY CLAY, TRACE SAND AND GRAVEL								15	A-6b (VISUAL)	

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SOIL PROFILE
SUMMARY OF SOIL TEST DATA- RIVERVIEW AVE, & S.R.110

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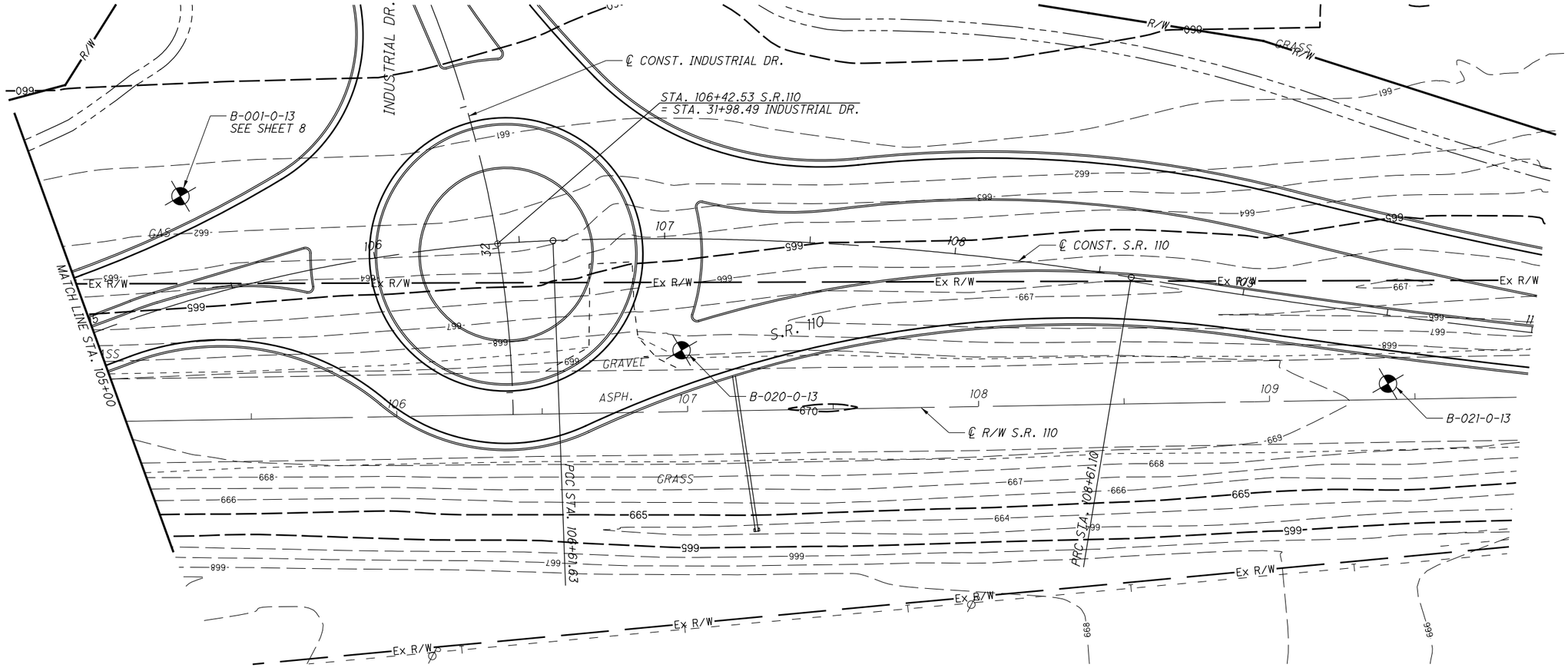

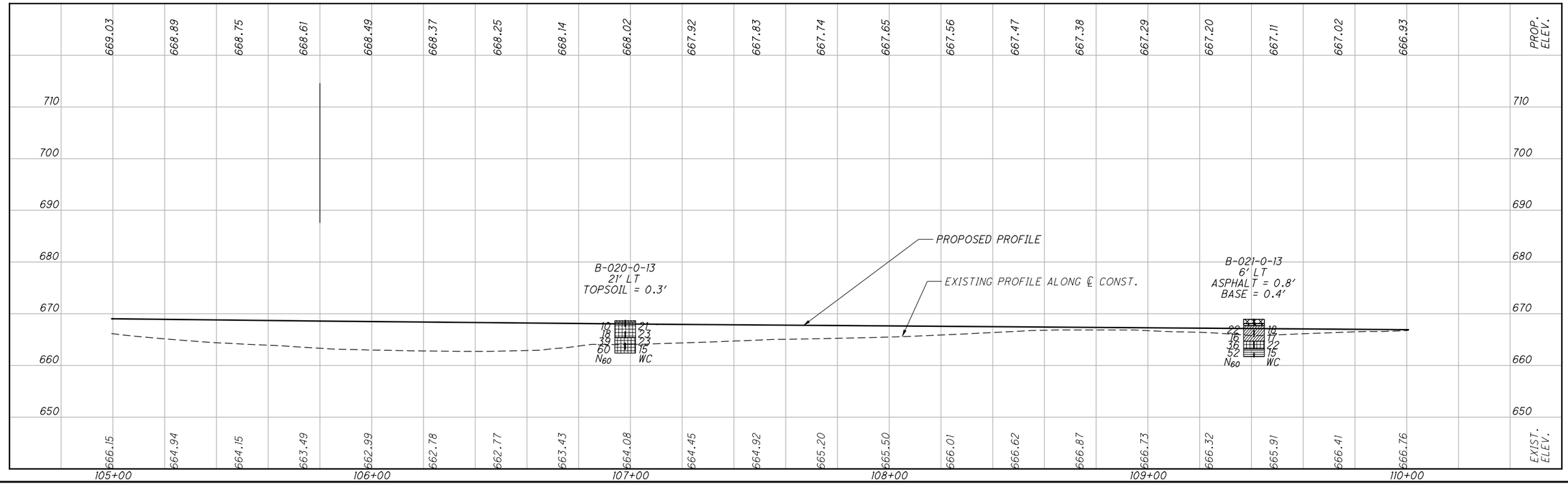

HORIZONTAL SCALE IN FEET
0 10 20 40

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PLAN AND PROFILE - S.R.110
STA. 105+00.00 TO STA. 110+00.00

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Civil Engineering, Surveying and Geoenvironmental Consulting
TOLEDO CANTON LANSING DETROIT MONROE CLEVELAND COLUMBUS

One-Dimensional Consolidation Properties of Soils
ASTM D2435

Project Name:	Maumee River Crossing PID 22984	Project Number:	H2530002
Sample Number:	B-005-ST1	Sample Depth:	13.5'-15'
Soil Classification:	A-4a	Specific Gravity (G):	2.71
		Method Used:	Floating Ring

d_0= Initial zero reading, (in)	0		
Hs= (cm)	1.75	0.70	(in)
H0= (in)	1.00		
A= (in^2)	4.91	31.91	(cm^2)

Load Increment, Pressure (tsf)	(psi)	Deformation @ end of loading or Δ H (in)	Height of sample at the end of loading (in)	Height of Voids, (in)	Strain (Δ H/Ho) (%)	Coefficient of Compressibility a_v (m^2/N)	Void Ratio	Permeability (cm/sec)	Coefficient of Consolidation, Cv @ 50% (in^2/sec)	Coefficient of Consolidation, Cv @ 50% (cm^2/sec)
seating load	0.69	0.000	1.000	0.30	0.00		0.430			
0.25	1.20	0.003	0.997	0.30	0.26	2.09E-05	0.426	3.819E-05	4.090E-03	2.659E-02
0.50	2.00	0.009	0.991	0.29	0.92	3.39E-05	0.417	9.811E-06	6.477E-04	4.210E-03
1.00	3.60	0.020	0.980	0.28	2.00	2.77E-05	0.401	1.803E-05	1.445E-03	9.394E-03
2.00	6.70	0.033	0.967	0.27	3.26	1.67E-05	0.383	1.962E-05	2.584E-03	1.679E-02
4.00	13.00	0.047	0.953	0.25	4.72	9.52E-06	0.362	3.305E-06	7.533E-04	4.897E-03
1.00	3.60	0.042	0.958	0.26	4.21	2.23E-06	0.370	7.362E-08	7.061E-05	4.589E-04
0.25	1.20	0.036	0.964	0.26	3.62	1.01E-05	0.378	1.190E-05	2.531E-03	1.645E-02
0.50	2.00	0.030	0.970	0.27	3.01	-3.13E-05	0.387	-7.471E-06	5.157E-04	3.352E-03
1.00	3.60	0.036	0.964	0.26	3.63	1.59E-05	0.378	1.245E-05	1.702E-03	1.106E-02
2.00	6.70	0.042	0.958	0.26	4.22	7.82E-06	0.370	1.368E-06	3.782E-04	2.458E-03
4.00	13.00	0.054	0.946	0.25	5.40	7.69E-06	0.353	2.656E-06	7.418E-04	4.822E-03
8.00	25.60	0.067	0.933	0.23	6.72	4.30E-06	0.334	9.759E-07	4.812E-04	3.128E-03
16.00	50.80	0.089	0.911	0.21	8.92	3.59E-06	0.302	9.500E-07	5.543E-04	3.603E-03
4.00	13.00	0.090	0.910	0.21	9.00	-8.69E-08	0.301	-2.884E-07	6.777E-03	4.405E-02
1.00	3.60	0.080	0.921	0.22	7.95	4.59E-06	0.316	5.184E-06	2.306E-03	1.499E-02
0.25	1.20	0.062	0.938	0.24	6.17	3.05E-05	0.342	1.924E-05	1.304E-03	8.477E-03

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SOIL PROFILE
LABORATORY TEST DATA

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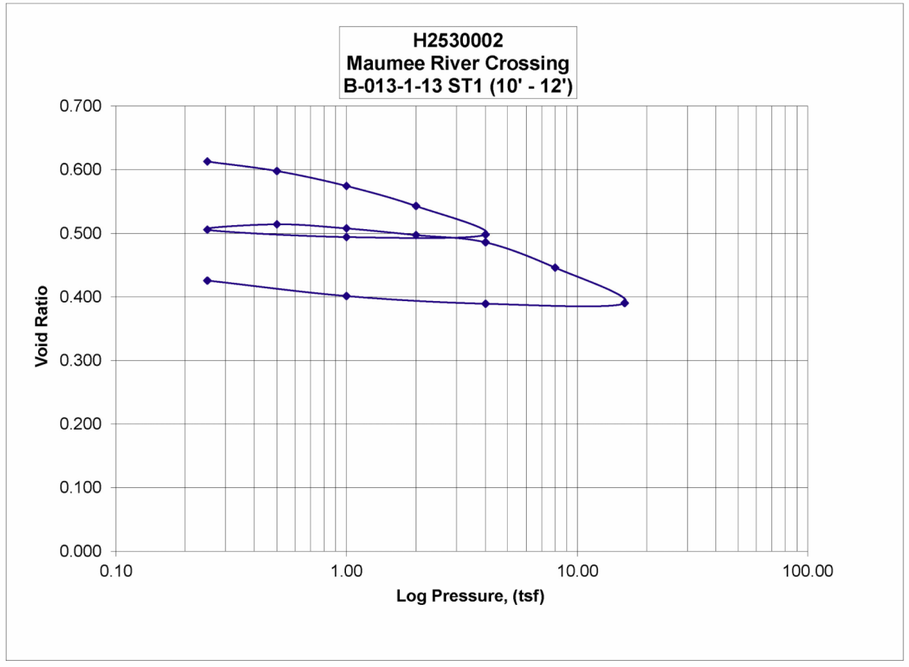
Civil Engineering, Surveying and Geoenvironmental Consulting
TOLEDO CANTON LANSING DETROIT MONROE CLEVELAND COLUMBUS

One-Dimensional Consolidation Properties of Soils
ASTM D2435

Project Name:	Maumee River Crossing	Project Number:	H2530002
Sample Number:	B-013-1-13 ST1	Sample Depth:	10'-12'
Soil Classification:	A-6b	Specific Gravity (G):	2.71
		Method Used:	Floating Ring

d_0= Initial zero reading, (in)	0		
Hs= (cm)	1.53	0.61	(in)
H0= (in)	1.00		
A= (in^2)	4.91	31.91	(cm^2)

Load Increment, Pressure (tsf)	(psi)	Deformation @ end of loading or Δ H (in)	Height of sample at the end of loading (in)	Height of Voids, (in)	Strain (Δ H/Ho) (%)	Coefficient of Compressibility a_v (m^2/N)	Void Ratio	Permeability (cm/sec)	Coefficient of Consolidation, Cv @ 50% (in^2/sec)	Coefficient of Consolidation, Cv @ 50% (cm^2/sec)
seating load	0.69	0.000	1.000	0.39	0.00		0.636			
0.25	1.40	0.014	0.986	0.37	1.40	9.26E-05	0.613	1.458E-05	4.037E-04	2.624E-03
0.50	2.20	0.023	0.977	0.37	2.31	5.34E-05	0.598	1.463E-07	6.925E-06	4.502E-05
1.00	3.80	0.038	0.963	0.35	3.75	4.23E-05	0.574	1.625E-06	9.634E-05	6.262E-04
2.00	6.90	0.057	0.943	0.33	5.68	2.92E-05	0.543	2.202E-06	1.859E-04	1.208E-03
4.00	13.30	0.084	0.916	0.30	8.42	2.01E-05	0.498	2.345E-06	2.821E-04	1.834E-03
1.00	3.80	0.087	0.913	0.30	8.66	-1.19E-06	0.494	-3.453E-07	6.836E-04	4.443E-03
0.25	1.40	0.080	0.920	0.31	7.96	1.37E-05	0.506	3.859E-07	6.600E-05	4.290E-04
0.50	2.20	0.074	0.926	0.31	7.43	-3.11E-05	0.514	-1.861E-06	1.412E-04	9.179E-04
1.00	3.80	0.078	0.922	0.31	7.83	1.17E-05	0.508	1.385E-06	2.800E-04	1.820E-03
2.00	6.90	0.085	0.915	0.30	8.47	9.70E-06	0.497	1.415E-06	3.450E-04	2.243E-03
4.00	13.30	0.092	0.908	0.30	9.17	5.14E-06	0.486	2.979E-06	1.361E-03	8.850E-03
8.00	25.90	0.116	0.884	0.27	11.60	9.06E-06	0.446	1.019E-06	2.622E-04	1.704E-03
16.00	51.30	0.150	0.850	0.24	15.02	6.33E-06	0.390	7.572E-07	2.715E-04	1.765E-03
4.00	13.30	0.151	0.849	0.24	15.07	-6.18E-08	0.389	-3.341E-08	1.178E-03	7.658E-03
1.00	3.80	0.143	0.857	0.25	14.33	3.66E-06	0.401	5.022E-07	2.990E-04	1.944E-03
0.25	1.40	0.128	0.872	0.26	12.84	2.92E-05	0.426	2.069E-06	1.559E-04	1.013E-03



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SOIL PROFILE & LABORATORY TEST DATA

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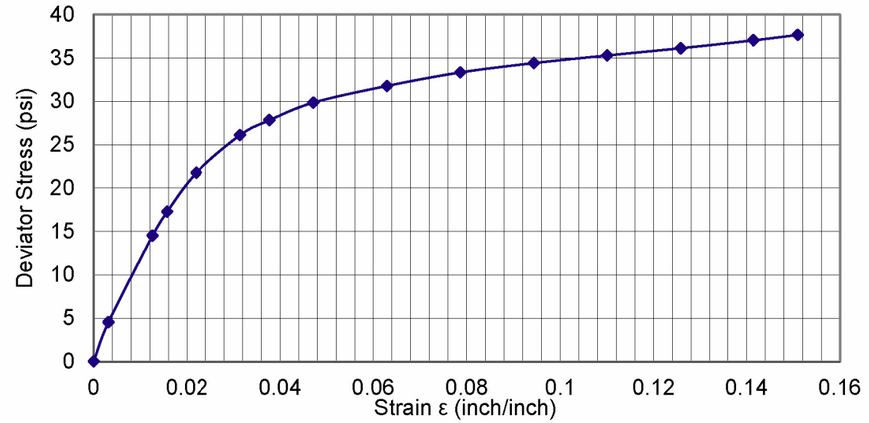
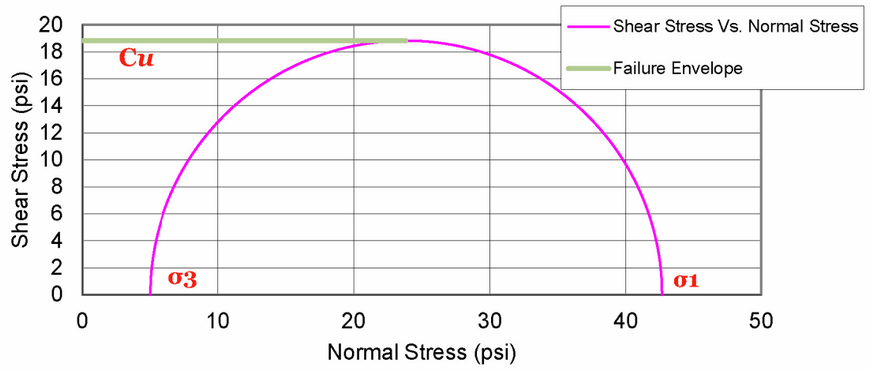
CANTON DETROIT MONROE LANSING
MAUMEE COLUMBUS CLEVELAND TRAVERSE CITY

Civil Engineering, Surveying and Environmental Consulting

Unconsolidated-Undrained Triaxial Compression Test ASTM D2850

Project Name:	Maumee River Crossing PID 22984			Project No:	H2530002
Sample No:	B-002-ST1			Date:	5/27/2014
Visual Description of Soil:	Gray Silty Clay			Depth:	3.5-5.0'
Wet Unit Wt. (lb/ft^3):	132.51	Dry Unit Wt.(lb/ft^3):	108.24	MC %:	22.43
Specific Gravity	2.70	Loading Rate(inch/min)	0.050	Void Ratio:	0.557
Chamber Pressure (psi)	5	Deviator Stress q_u (psi)	37.66	Cu (psi)	18.83





Tested By:	KL	Reviewed By:	TR/CAR	Date:	6/4/2014

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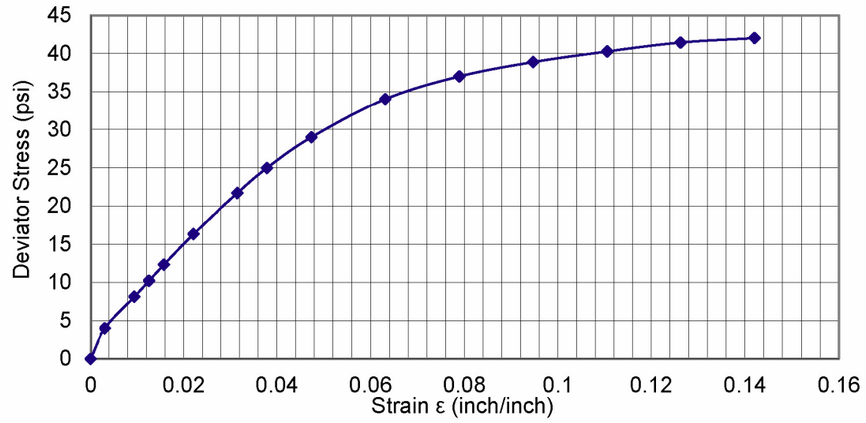
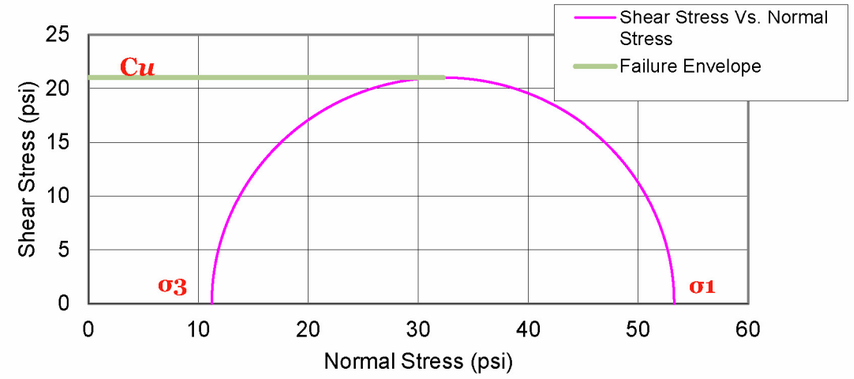
CANTON DETROIT MONROE LANSING
MAUMEE COLUMBUS CLEVELAND TRAVERSE CITY

Civil Engineering, Surveying and Environmental Consulting

Unconsolidated-Undrained Triaxial Compression Test ASTM D2850

Project Name:	Maumee River Crossing PID 22984			Project No:	H2530002
Sample No:	B-005-ST1			Date:	5/27/2014
Visual Description of Soil:	Gray Sandy Silt, some Clay			Depth:	13.5-15.0'
Wet Unit Wt. (lb/ft^3):	135.03	Dry Unit Wt.(lb/ft^3):	113.73	MC %:	18.73
Specific Gravity	2.70	Loading Rate(inch/min)	0.050	Void Ratio:	0.481
Chamber Pressure (psi)	11.25	Deviator Stress q_u (psi)	42.04	Cu (psi)	21.01





Tested By:	KL	Reviewed By:	TR	Date:	6/4/2014

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SOIL PROFILE
LABORATORY TEST DATA

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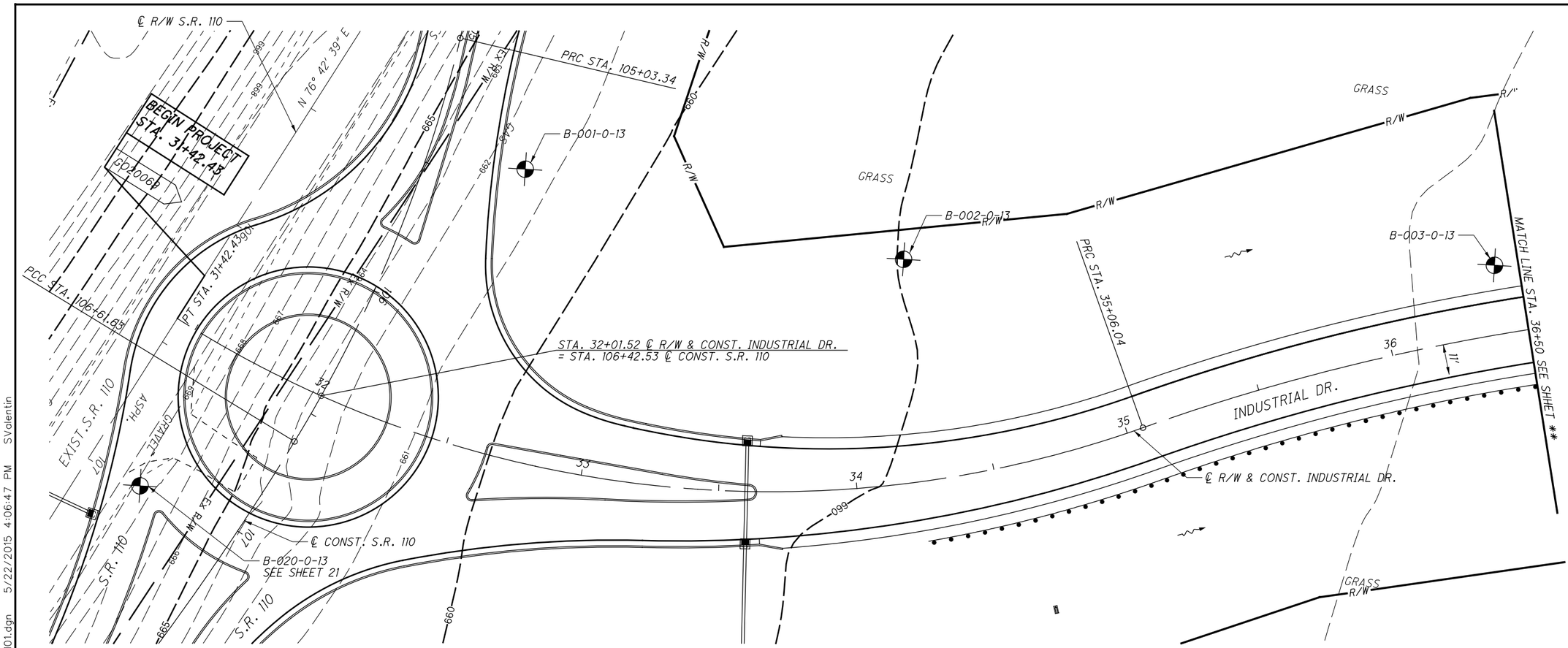

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HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN SVJ
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PLAN AND PROFILE - INDUSTRIAL DR, STA. 31+42.43 TO STA. 36+50.00

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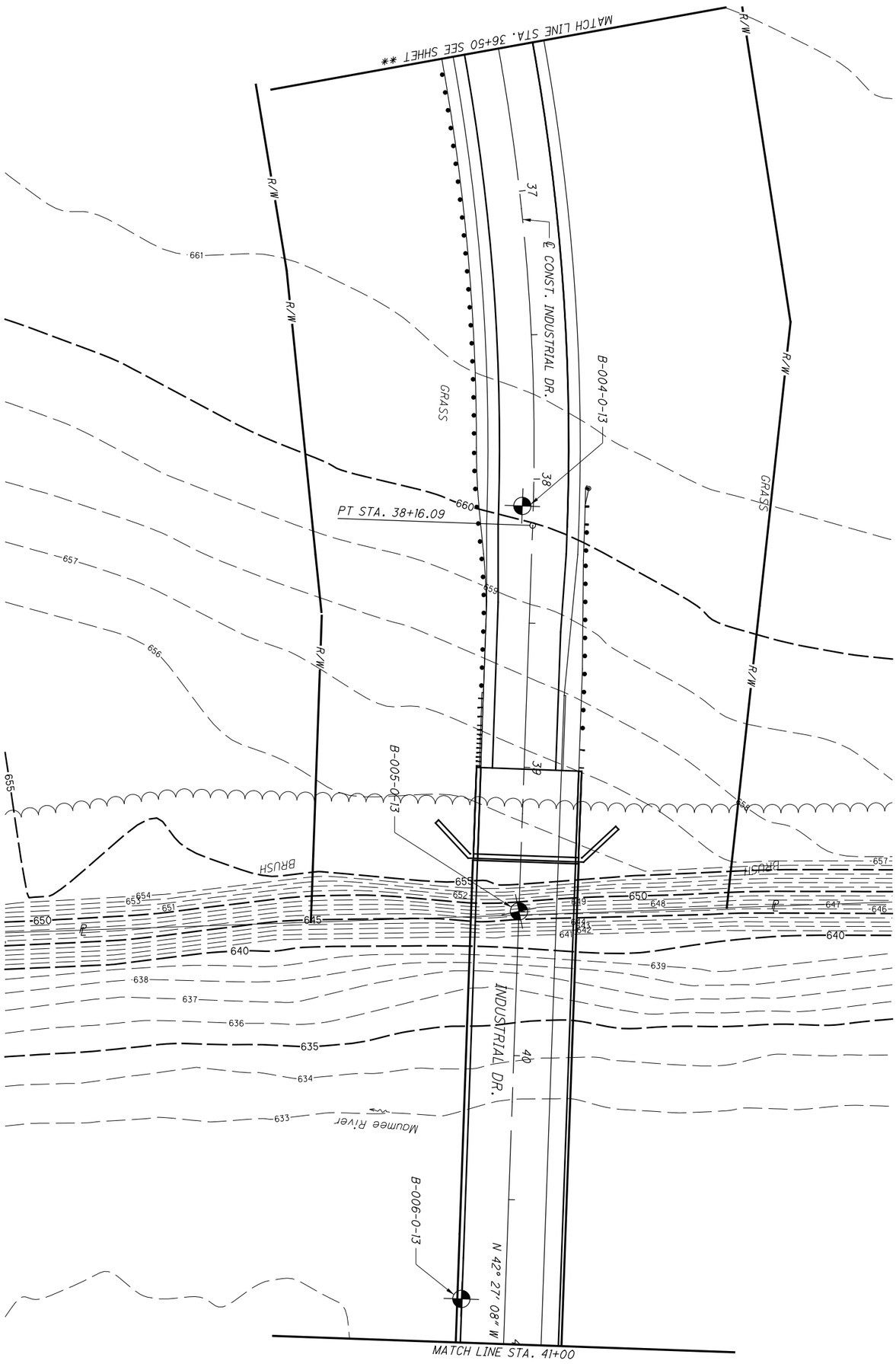
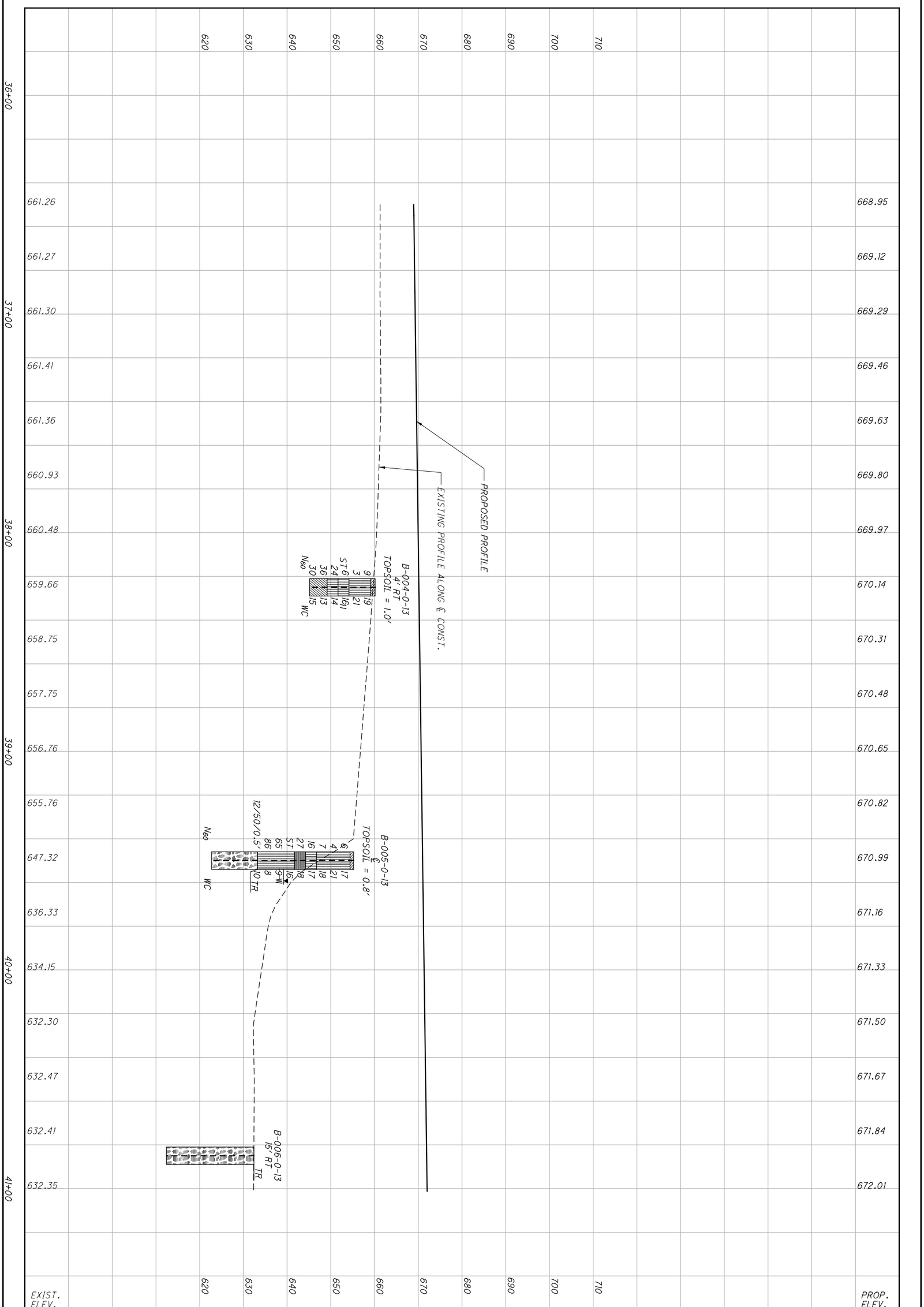
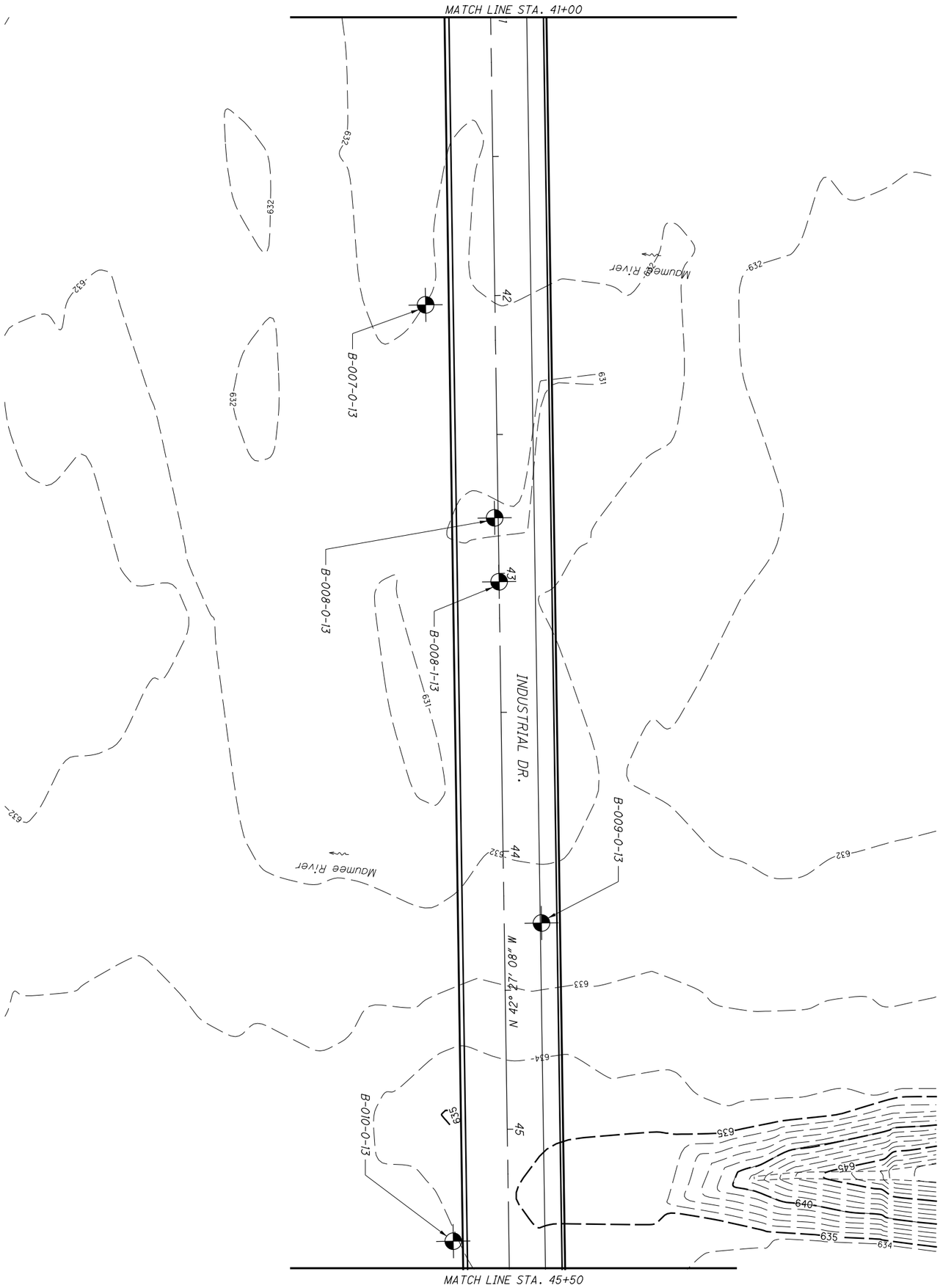


158 / 180	HEN-IND-0000	PLAN AND PROFILE - INDUSTRIAL DR. STA. 36+50.00 TO STA. 41+00.00	DRAWN SVJ CHECKED ___	0 20 10 40 HORIZONTAL SCALE IN FEET	



159 / 180	HEN-IND-0000	PLAN AND PROFILE - INDUSTRIAL DR. STA. 36+50.00 TO STA. 41+00.00	DRAWN SVJ CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET



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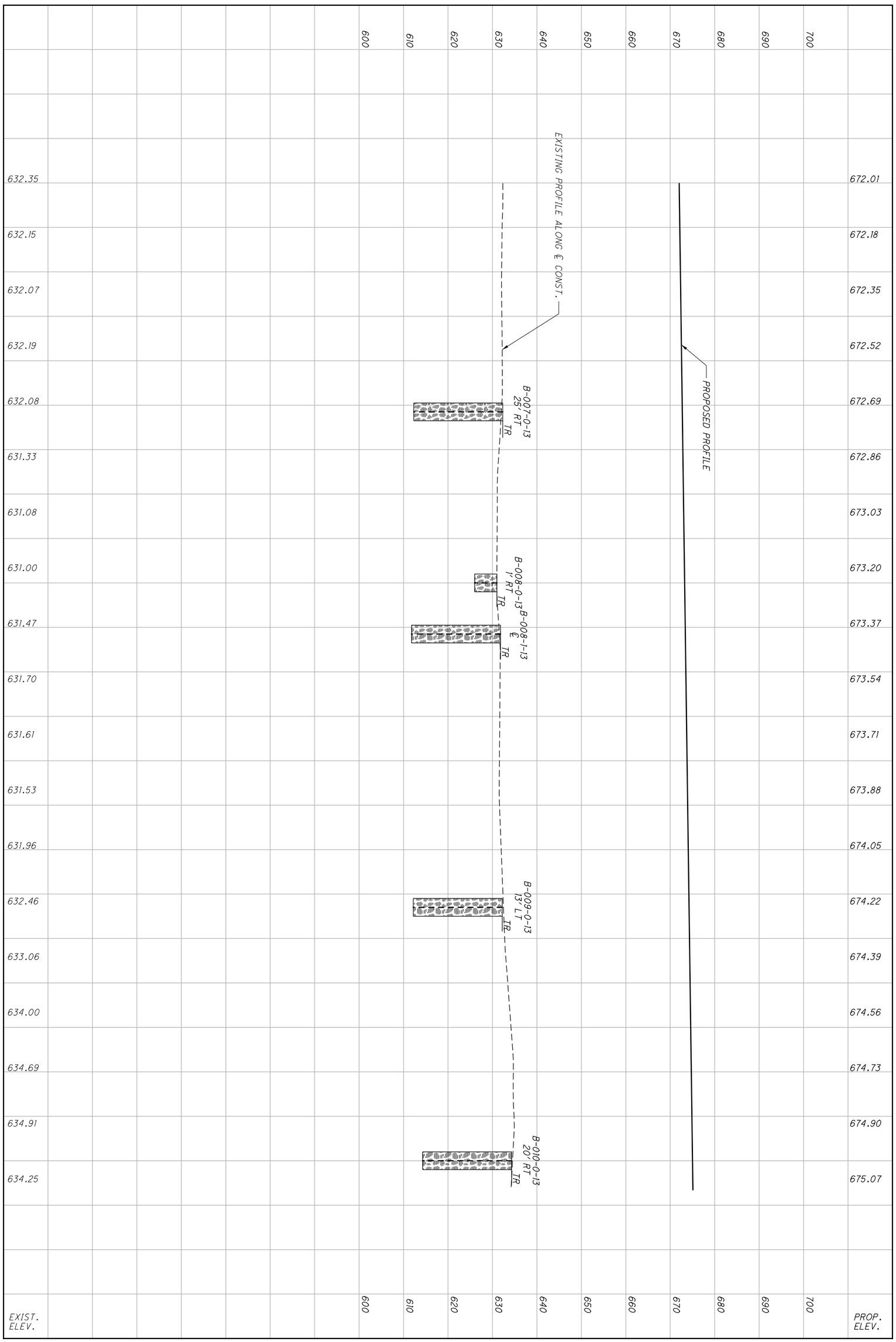
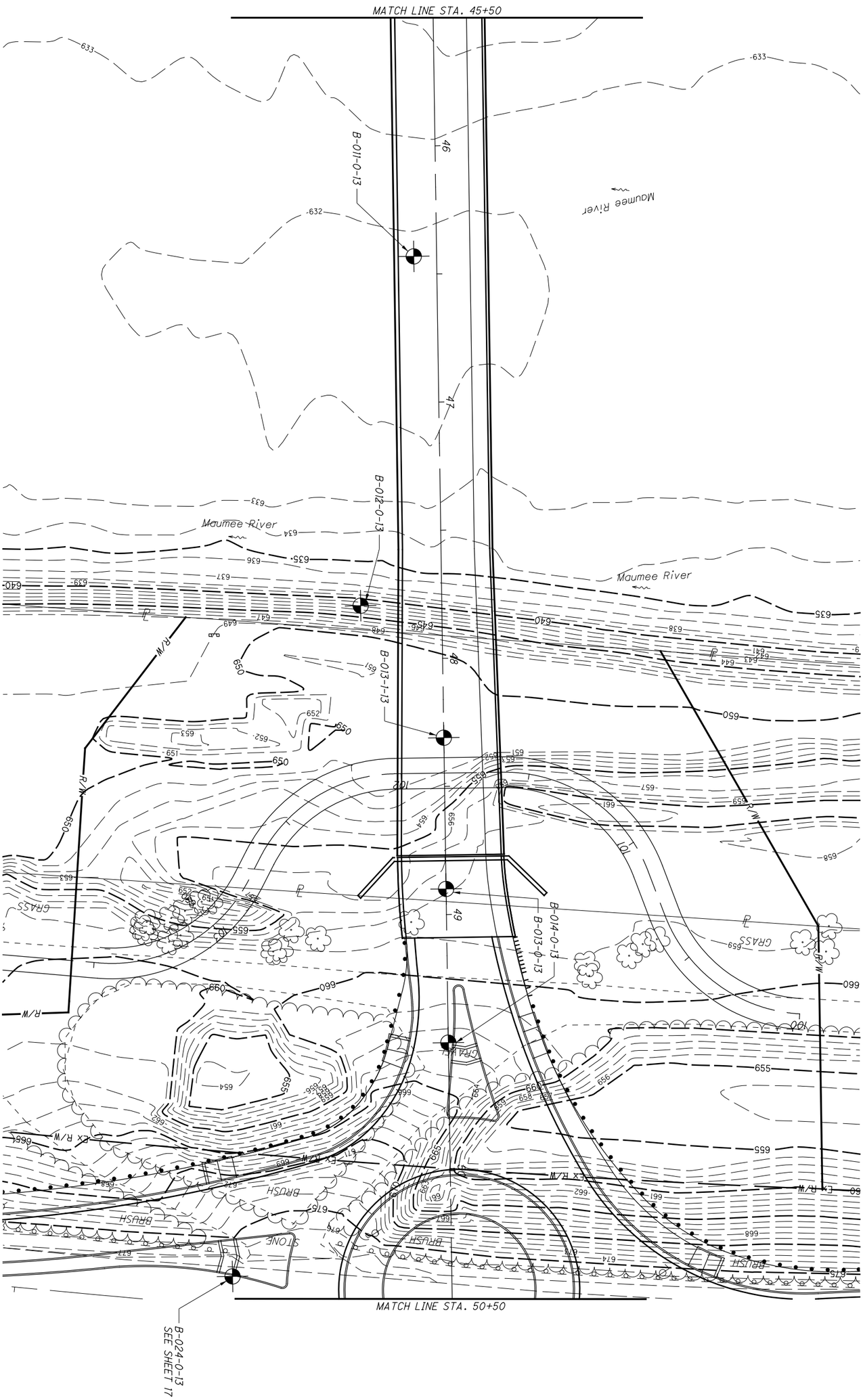


161 / 180	HEN-IND-0000	PLAN AND PROFILE - INDUSTRIAL DR. STA. 41+00.00 TO STA. 45+50.00	DRAWN SVJ CHECKED ___	0 20 10 40 HORIZONTAL SCALE IN FEET



162 / 180	— / —	HEN-IND-0000	PLAN AND PROFILE - INDUSTRIAL DR. STA. 45+50.00 TO STA. 50+50.00	DRAWN SVJ CHECKED ___	0 10 20 40 HORIZONTAL SCALE IN FEET

675.07 675.24 675.41 675.58 675.75 675.92 676.09 676.26 676.43 676.60 676.77 676.94 677.11 677.28 677.46 677.69 678.02 678.41 678.89 679.39 679.89 PROP. ELEV.

710 700 690 680 670 660 650 640 630 620 610

PROPOSED PROFILE

EXISTING PROFILE ALONG ℄ CONST.

B-011-0-13
9' RT
TR

B-012-0-13
32' RT
TR

B-013-1-13
℄
TOPSOIL = 0.3'
12 47
6 17
1 27
3 26 W
ST 27
3 26
20/50/0.2' 10 TR
N_{60} WC

B-013-0-13
℄
1/3/50/0.3'
N_{60}
REFUSAL
(CONCRETE
RUBBLE)

B-014-0-13
℄
GRAVEL = 1.0'
19 15
15 15
16 17
13 20
13 20
25 13
40 17
55 9
N_{60} WC

634.25 633.58 632.92 632.16 631.40 631.51 631.78 632.27 633.68 637.00 650.13 650.34 652.21 657.08 658.26 659.99 662.65 665.67 660.74 671.36 677.75 EXIST. ELEV.

45+00 46+00 47+00 48+00 49+00 50+00

0 10 20 40 HORIZONTAL SCALE IN FEET

DRAWN SVJ CHECKED —

PLAN AND PROFILE - INDUSTRIAL DR.
STA. 45+50.00 TO STA. 50+50.00

HEN-IND-0000

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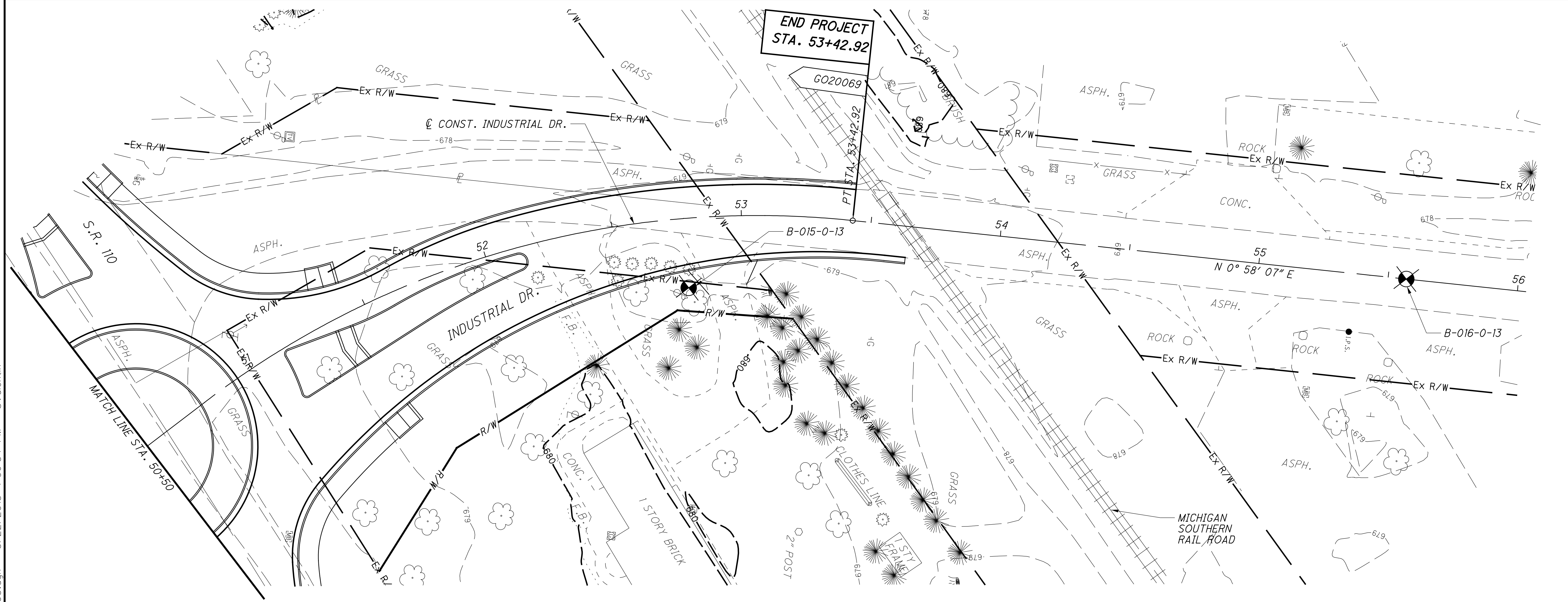

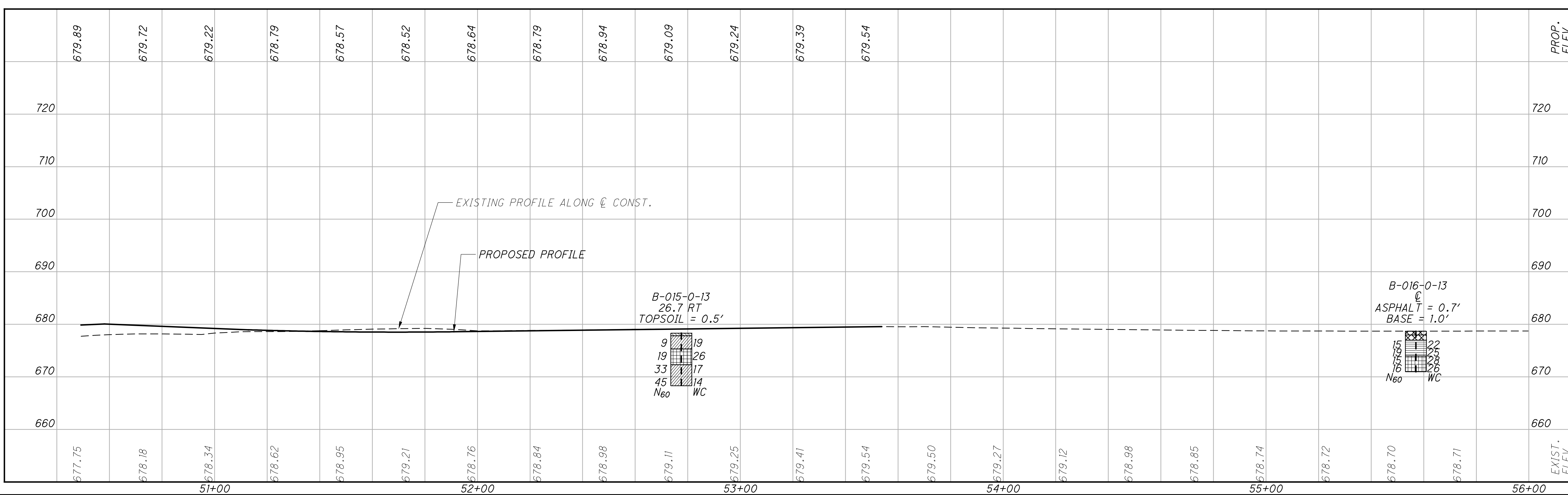

HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN SVJ
CHECKED —

PLAN AND PROFILE - INDUSTRIAL DR.
STA. 50+50.00 TO STA. 56+00.00

HEN-IND-0000

—/—

BEGIN WORK
STA. 589+31.35

PC STA. 590+46.19

MATCH LINE STA. 591+50

℄ R/W RIVERVIEW AVE.

RIVERVIEW AVE.

N 48° 55' 07" E

B-022-0-13

B-023-0-13

GRAVEL

GRASS

CONC.

ASPH.

BRUSH

Ex R/W

EXISTING PROFILE ALONG ℄ CONST.

PROPOSED PROFILE

B-022-0-13
7' RT
ASPHALT = 0.8'
BASE = 0.4'
34 3
18 23
18 14
21 17
N_{60} WC

B-023-0-13
9' LT
ASPHALT = 0.8'
BASE = 0.4'
22 3
16 31
37 22
52 24
N_{60} WC

PROP. ELEV.	677.12	677.23	677.33	677.44	677.55	677.66	677.76	677.87
EXIST. ELEV.	674.88	675.14	675.40	675.60	675.82	675.96	676.11	676.28	676.45	676.63	676.83	677.00	677.14	677.26	677.37	677.49	677.61	677.72	677.79	677.86

720 710 700 690 680 670 660

587+00 588+00 589+00 590+00 591+00

HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN SVJ
CHECKED —

PLAN AND PROFILE - RIVERVIEW AVE.
STA. 586+50.00 TO STA. 591+50.00

HEN-IND-0000

— / —

165
180

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HORIZONTAL SCALE IN FEET

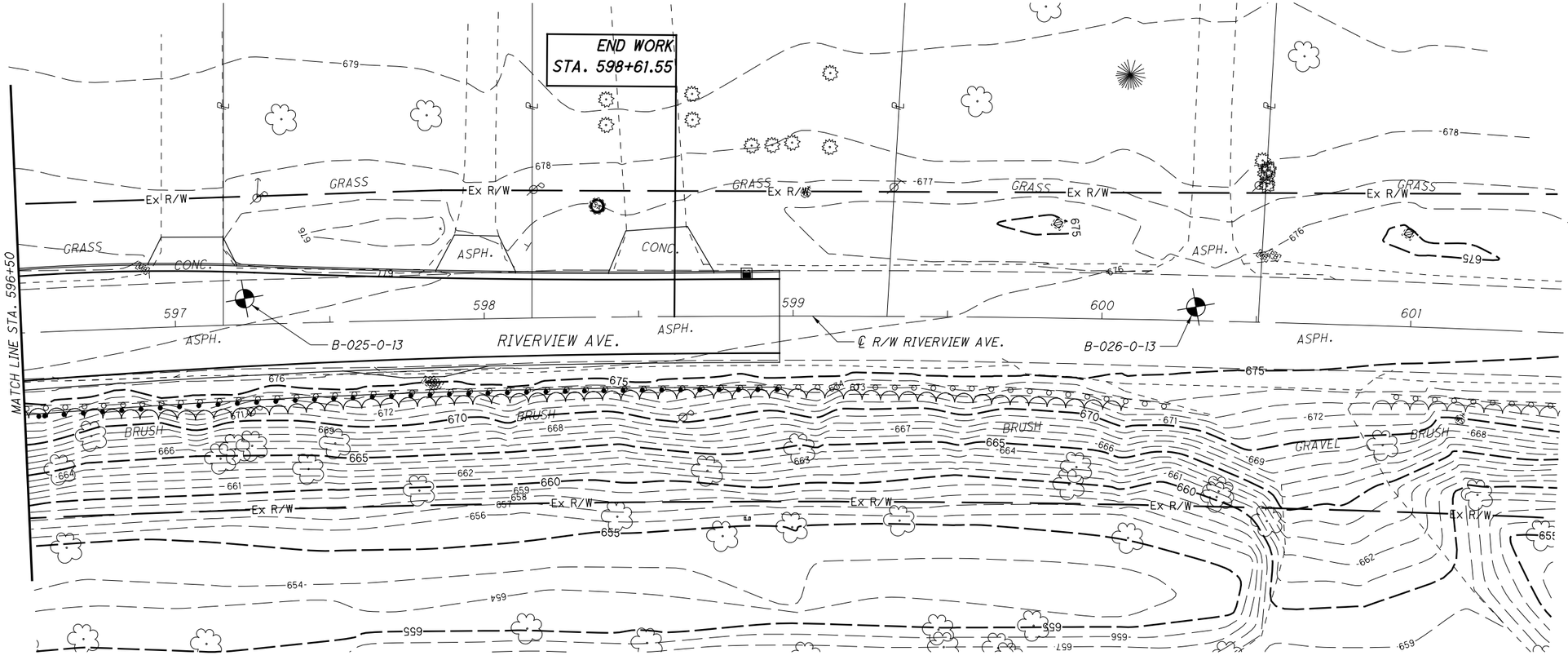
DRAWN SVJ CHECKED —

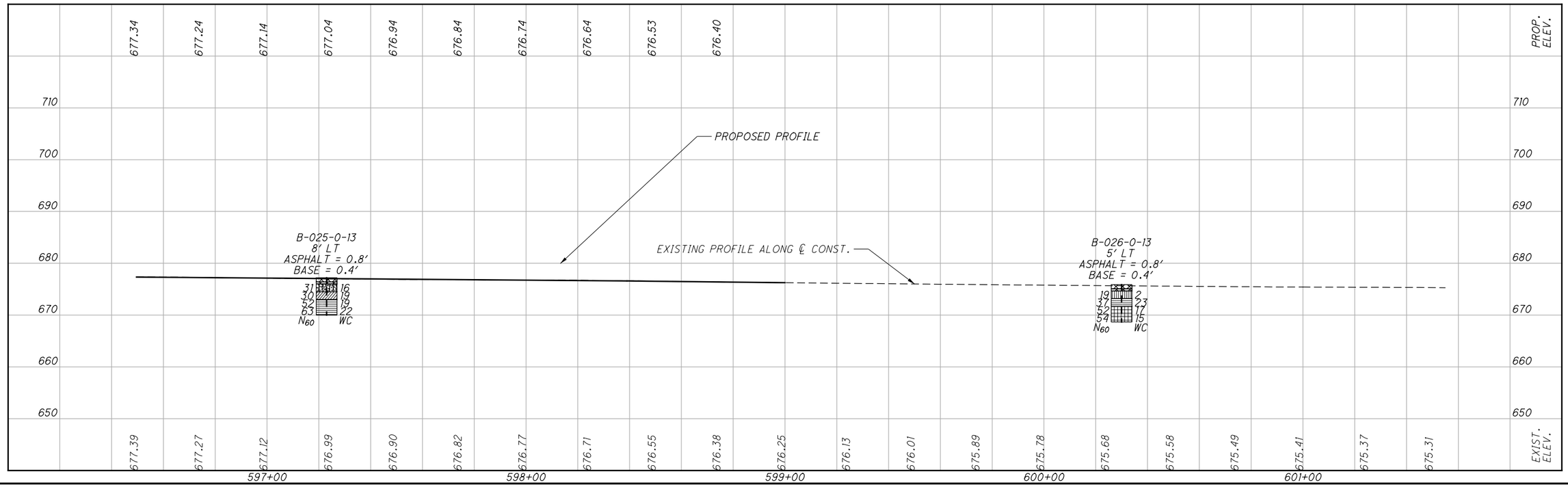
PLAN AND PROFILE - RIVERVIEW AVE. STA. 591+50.00 TO STA. 596+50.00

HEN-IND-0000

-- / --

166
180





HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN SVJ
CHECKED —

PLAN AND PROFILE - RIVERVIEW AVE.
STA. 596+50 TO STA. 601+50.00

HEN-IND-0000

—/—

167
180

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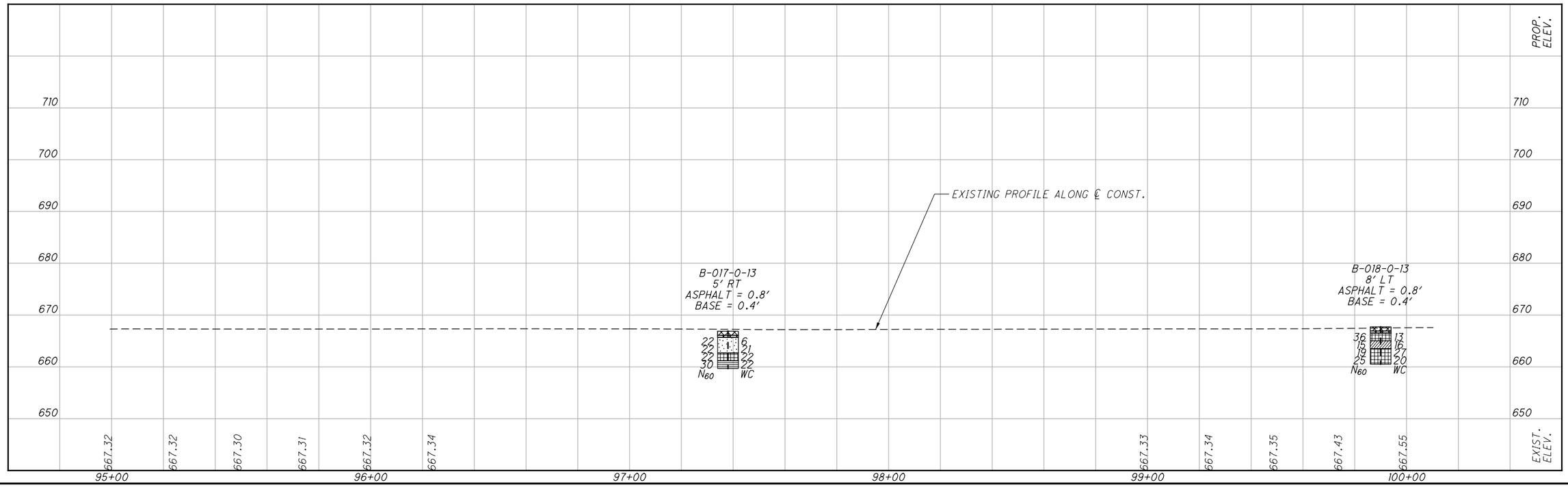

HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN SVJ
CHECKED —

PLAN AND PROFILE - S.R.110
STA. 95+00.00 TO STA. 100+00.00

HEN-IND-0000

— / —

168
180

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BEGIN WORK
STA. 101+50.00

MATCH LINE STA. 100+00

MATCH LINE STA. 105+00

℄ CONST. S.R. 110

℄ R/W S.R. 110

Ex R/W

R/W

GRASS

ASPH.

S.R.110

B-019-0-13

PRC STA. 102+83.46

0 101 102 103 104 105

660 661 662 663 664 665 666 667 668 669 670 671

HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN SVJ
CHECKED —

PLAN AND PROFILE - S.R.110
STA. 100+00.00 TO STA. 105+00.00

HEN-IND-0000

—/—

169
180

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667.72 667.78 667.84 667.91 667.97 668.09 668.21 668.33 668.45 668.57 668.69 668.81 668.93 669.05 669.16 669.21 669.20 669.14 669.03 PROP. ELEV.

667.55 667.64 667.72 667.77 667.81 667.89 667.97 668.04 668.10 668.21 668.31 668.39 668.46 668.53 668.62 668.65 668.68 668.77 668.57 667.55 666.15 EXIST. ELEV.

710 700 690 680 670 660 650

EXISTING PROFILE ALONG ℄ CONST.

PROPOSED PROFILE

B-019-0-13
℄
ASPHALT = 0.8'
BASE = 0.4'

10	16
34	17
48	16
58	15
N_{60}	WC

100+00 101+00 102+00 103+00 104+00 105+00

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 39+50, CL	EXPLORATION ID B-005-0-13
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / M. WELKER	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.	
PID: 22984 BR ID: N/A	DRILLING METHOD: 4.25" HSA / NW	CALIBRATION DATE: 5/10/13	ELEVATION: 655.2 (MSL) EOB: 32.5 ft.	PAGE 1 OF 1
START: 4/23/14 END: 4/23/14	SAMPLING METHOD: SPT/ST/NW CORE BARREL	ENERGY RATIO (%): 89.3	COORD: 636926.243 N, 1529055.188 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 655.2	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL	654.4																	
Soft to medium stiff, brown **SANDY SILT**, some clay; damp			1 2 2	6	61	SS-1	1.50	0	1	25	45	29	25	16	9	17	A-4a (8)	
			1 2 1	4	94	SS-2	-	-	-	-	-	-	-	-	-	21	A-4a (V)	
			1 1 4	7	83	SS-3	-	-	-	-	-	-	-	-	-	18	A-4a (V)	
	646.7																	
Very stiff, brown **SANDY SILT**, some clay, little gravel; damp			3 5 6	16	39	SS-4	3.00	14	5	19	39	23	23	16	7	17	A-4a (5)	
	644.2																	
Very stiff, gray **SILTY CLAY**, trace sand and gravel; damp			4 8 10	27	17	SS-5	-	-	-	-	-	-	-	-	-	18	A-6b (V)	
	641.7																	
Hard, dark gray **SANDY SILT**, some clay, trace gravel; damp					89	ST-1	4.5+	9	10	16	36	29	21	13	8	16	A-4a (6)	
		W	12 18 26	65	78	SS-6	-	-	-	-	-	-	-	-	-	9	A-4a (V)	
			19 25 33	86	89	SS-7	-	-	-	-	-	-	-	-	-	8	A-4a (V)	
	633.2		12 50/6"	-	78	SS-8	-	-	-	-	-	-	-	-	-	10	A-4a (V)	
SHALE, dark brown to black, slightly to moderately weathered, thinly laminated, weak to moderately strong			8		72	RC-1											CORE	
			9		100	RC-2											CORE	
	622.7	EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: 1 BAG BENTONITE CHIPS; SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 10/6/14 11:34 - W:\PROJECTS\PROJECTS F-J\H2530002\22984\GEOTECHNICAL\LABIUPDATED.GPJ

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 40+85, 15 RT	EXPLORATION ID B-006-0-13
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / N. BREIJAK	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.	
PID: 22984 BR ID: N/A	DRILLING METHOD: NW	CALIBRATION DATE: 5/10/13	ELEVATION: 632.4 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 6/10/14 END: 6/10/14	SAMPLING METHOD: NW CORE BARREL	ENERGY RATIO (%): 89.3	COORD: 637037.666 N, 1528976.800 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 632.4	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
SHALE, dark gray to gray, moderately weathered, slightly strong to strong		1																
		2	22		97	RC-1											CORE	
		3																
		4																
		5																
-Unconfined compressive strength (Qu) = 1,423 psi		6																
		7	45		100	RC-2											CORE	
		8																
Becomes severely weathered and weak		9																
		10																
Becomes moderately weathered and strong		11																
		12																
		13	17		83	RC-3											CORE	
		14																
		15																
		16																
		17																
-Unconfined compressive strength (Qu) = 1,641 psi		18	62		100	RC-4											CORE	
		19																
	612.4	EOB 20																

NOTES: BORING PERFORMED ON BARGE, WATER LEVEL IN RIVER ESTIMATED AT ELEVATION 639 FEET DURING DRILLING

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NATURAL COLLAPSE

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 10/6/14 11:34 - W:\PROJECTS\PROJECTS F-J\H2530002\22984\GEOTECHNICAL\LABU\PDATED.GPJ

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 42+03, 25 RT	EXPLORATION ID B-007-0-13
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / N. BREIJAK	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.	
PID: 22984 BR ID: N/A	DRILLING METHOD: NW	CALIBRATION DATE: 5/10/13	ELEVATION: 632.3 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 6/5/14 END: 6/5/14	SAMPLING METHOD: NW CORE BARREL	ENERGY RATIO (%): 89.3	COORD: 637131.112 N, 1528904.521 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 632.3	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
SHALE, dark brown to gray, moderately weathered, slightly strong to strong		1																
		2	9		90	RC-1											CORE	
		3																
		4																
		5																
		6																
-Unconfined compressive strength (Qu) = 4,446 psi		7	29		83	RC-2											CORE	
		8																
		9																
		10																
		11																
		12	42		48	RC-3											CORE	
		13																
		14																
		15																
		16																
		17	43		80	RC-4											CORE	
		18																
		19																
	612.3	EOB 20																

NOTES: BORING PERFORMED ON BARGE. WATER LEVEL IN RIVER ESTIMATED AT ELEVATION 639 FEET DURING DRILLING

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NATURAL COLLAPSE

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 42+80, 1 RT	EXPLORATION ID B-008-0-13
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / N. BREIJAK	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.	
PID: 22984 BR ID: N/A	DRILLING METHOD: NW	CALIBRATION DATE: 5/10/13	ELEVATION: 631.0 (MSL) EOB: 5.0 ft.	PAGE 1 OF 1
START: 6/4/14 END: 6/4/14	SAMPLING METHOD: NW CORE BARREL	ENERGY RATIO (%): 89.3	COORD: 637188.193 N, 1528818.266 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
SHALE, dark gray-brown, moderately weathered, slightly strong to strong	631.0	1 2 3 4	11		100	RC-1											CORE	
	626.0	EOB 5																

NOTES: BORING PERFORMED ON BARGE, WATER LEVEL IN RIVER ESTIMATED AT ELEVATION 638 FEET DURING DRILLING

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NATURAL COLLAPSE

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 10/6/14 11:34 - W:\PROJECTS\PROJECTS F-J\H2530002\22984\GEOTECHNICAL\LAB\UPDATED.GPJ

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 43+03, CL	EXPLORATION ID B-008-1-13
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / N. BREIJAK	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.	
PID: 22984 BR ID: N/A	DRILLING METHOD: NW	CALIBRATION DATE: 5/10/13	ELEVATION: 631.8 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 6/12/14 END: 6/12/14	SAMPLING METHOD: NW CORE BARREL	ENERGY RATIO (%): 89.3	COORD: 637171.773 N, 1528835.231 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
SHALE, dark gray-brown, moderately weathered, strong	631.8	1	0		100	RC-1											CORE	
Becomes highly weathered and slightly strong		5																
Becomes severly weathered and weak		6	35		83	RC-2											CORE	
-Unconfined compressive strength (Qu) = 4,862 psi		10																
		11	0		43	RC-3											CORE	
		15																
		16	0		0	RC-4											CORE	
	611.8	EOB 20																

NOTES: BORING PERFORMED ON BARGE, WATER LEVEL IN RIVER ESTIMATED AT ELEVATION 639 FEET DURING DRILLING

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NATURAL COLLAPSE

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 44+26, 13 LT	EXPLORATION ID B-009-0-13
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / N. BREIJAK	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.	
PID: 22984 BR ID: N/A	DRILLING METHOD: NW	CALIBRATION DATE: 5/10/13	ELEVATION: 632.2 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 6/11/14 END: 6/11/14	SAMPLING METHOD: NW CORE BARREL	ENERGY RATIO (%): 89.3	COORD: 637269.805 N, 1528725.628 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
SHALE, dark gray to gray, moderately weathered, weak to strong	632.2	1	23		95	RC-1											CORE	
		5	37		100	RC-2											CORE	
		10	40		100	RC-3											CORE	
-Unconfined compressive strength (Qu) = 1,451 psi		15	65		100	RC-4											CORE	
	612.2	EOB 20																

NOTES: BORING PERFORMED ON BARGE, WATER LEVEL IN RIVER ESTIMATED AT ELEVATION 640 FEET DURING DRILLING

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NATURAL COLLAPSE

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 45+40, 20 RT	EXPLORATION ID B-010-0-13
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / N. BREIJAK	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.	
PID: 22984 BR ID: N/A	DRILLING METHOD: NW	CALIBRATION DATE: 5/10/13	ELEVATION: 634.3 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 6/6/14 END: 6/6/14	SAMPLING METHOD: NW CORE BARREL	ENERGY RATIO (%): 89.3	COORD: 637376.638 N, 1528673.227 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
SHALE, dark gray to gray, moderately to severely weathered, weak to strong	634.3		7		100	RC-1											CORE	
-Unconfined compressive strength (Qu) = 7,676 psi			10		97	RC-2											CORE	
			23		100	RC-3											CORE	
			45		98	RC-4											CORE	
	614.3	EOB 20																

NOTES: BORING PERFORMED ON BARGE, WATER LEVEL IN RIVER ESTIMATED AT ELEVATION 640 FEET DURING DRILLING

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NATURAL COLLAPSE

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 46+43, 9 RT
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / N. BREIJAK	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.
PID: 22984 BR ID: N/A	DRILLING METHOD: NW	CALIBRATION DATE: 5/10/13	ELEVATION: 631.3 (MSL) EOB: 10.0 ft.
START: 6/6/14 END: 6/6/14	SAMPLING METHOD: NW CORE BARREL	ENERGY RATIO (%): 89.3	COORD: 637445.066 N, 1528595.585 E

EXPLORATION ID: B-011-0-13

PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 631.3	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
SHALE, dark brown-gray, moderately to highly weathered, strong to weak		1																
		2																
-Unconfined compressive strength (Qu) = 4,644 psi		3	27		100	RC-1											CORE	
		4																
		5																
		6																
		7	17		100	RC-2											CORE	
	621.3	8																
		9																
	EOB	10																

NOTES: BORING PERFORMED ON BARGE, WATER LEVEL IN RIVER ESTIMATED AT ELEVATION 640 FEET DURING DRILLING

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NATURAL COLLAPSE

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 47+79, 32 RT	EXPLORATION ID B-012-0-13
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / N. BREIJAK	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.	
PID: 22984 BR ID: N/A	DRILLING METHOD: NW	CALIBRATION DATE: 5/10/13	ELEVATION: 634.8 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 6/7/14 END: 6/7/14	SAMPLING METHOD: NW CORE BARREL	ENERGY RATIO (%): 89.3	COORD: 637560.130 N, 1528521.160 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
SHALE, dark brown-dark gray, moderately weathered, weak to strong	634.8																	
-Unconfined compressive strength (Qu) = 5,539 psi		1–5	13		100	RC-1											CORE	
		6–10	18		100	RC-2											CORE	
Unconfined compressive strength (Qu) = 6,652 psi		11–15	40		92	RC-3											CORE	
		16–20	8		83	RC-4											CORE	
	614.8	EOB																

NOTES: BORING PERFORMED ON BARGE, WATER LEVEL IN RIVER ESTIMATED AT ELEVATION 641 FEET DURING DRILLING

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NATURAL COLLAPSE

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 48+90, CL	EXPLORATION ID B-013-0-13
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / J. FAITEL	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.	
PID: 22984 BR ID: N/A	DRILLING METHOD: 4.25" HSA	CALIBRATION DATE: 5/10/13	ELEVATION: 657.7 (MSL) EOB: 4.0 ft.	PAGE 1 OF 1
START: 4/22/14 END: 4/22/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 89.3	COORD: 637621.240 N, 1528422.325 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 657.7	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
Very loose, brown **SANDY SILT**, little gravel, trace clay; damp (FILL)	655.5	1	1 3 50/4"	-	38	SS-1	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
CONCRETE RUBBLE	653.7	2 3 EOB 4																

NOTES: REFUSAL IN CONCRETE RUBBLE AT 4'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BENTONITE CHIPS; SOIL CUTTINGS

PROJECT: HEN-IND-0000	DRILLING FIRM / OPERATOR: MSG / R. SCHIPPERT	DRILL RIG: GEOPROBE 7822DT	STATION / OFFSET: 48+31, CL	EXPLORATION ID B-013-1-13
TYPE: NEW ALIGNMENT	SAMPLING FIRM / LOGGER: MSG / J. FAITEL	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: INDUSTRIAL DR.	
PID: 22984 BR ID: N/A	DRILLING METHOD: 4.25" HSA / NW	CALIBRATION DATE: 5/10/13	ELEVATION: 650.5 (MSL) EOB: 30.0 ft.	PAGE 1 OF 1
START: 4/22/14 END: 4/22/14	SAMPLING METHOD: SPT/ST/NW CORE BARREL	ENERGY RATIO (%): 89.3	COORD: 637577.840 N, 1528462.050 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL	650.2																	
Loose, brown **SANDY SILT**, some clay, trace organics; damp			2 4 4	12	100	SS-1	-	-	-	-	-	-	-	-	-	47	A-4a (V)	
	647.0																	
Medium stiff, dark brown **SILT AND CLAY**, some sand; damp			2 2 2	6	39	SS-2	1.25	0	1	28	41	30	30	16	14	17	A-6a (9)	
	644.5																	
Very soft to soft, dark brown **SILTY CLAY**, trace sand; moist			0 0 1	1	100	SS-3	0.00	-	-	-	-	-	-	-	-	27	A-6b (V)	
		▼	0 0 2	3	100	SS-4	1.00	-	-	-	-	-	-	-	-	26	A-6b (V)	
	640.5	W																
Soft to medium stiff, brown mottled with gray **SILTY CLAY**, trace sand; moist					100	ST-1	0.50	0	0	8	56	36	32	16	16	27	A-6b (10)	
	637.0																	
Soft, brown **SILT**, some clay and sand; wet			0 0 2	3	100	SS-5	0.25	0	0	22	53	25	25	15	10	26	A-4b (8)	
	632.5																	
Hard, brown **SILT**, some clay and sand; wet	631.3		20 50/2"	-	100	SS-6	-	-	-	-	-	-	-	-	-	10	A-4b (V)	
SHALE, dark brown to brown, slightly to moderately weathered, thinly laminated, weak to moderately strong			43		95	RC-1											CORE	
			47		100	RC-2											CORE	
	620.5	EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: 1 BAG BENTONITE CHIPS; SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 10/6/14 11:34 - W:\PROJECTS\PROJECTS F-J\H2530002\22984\GEOTECHNICAL\LABUPDATED.GPJ