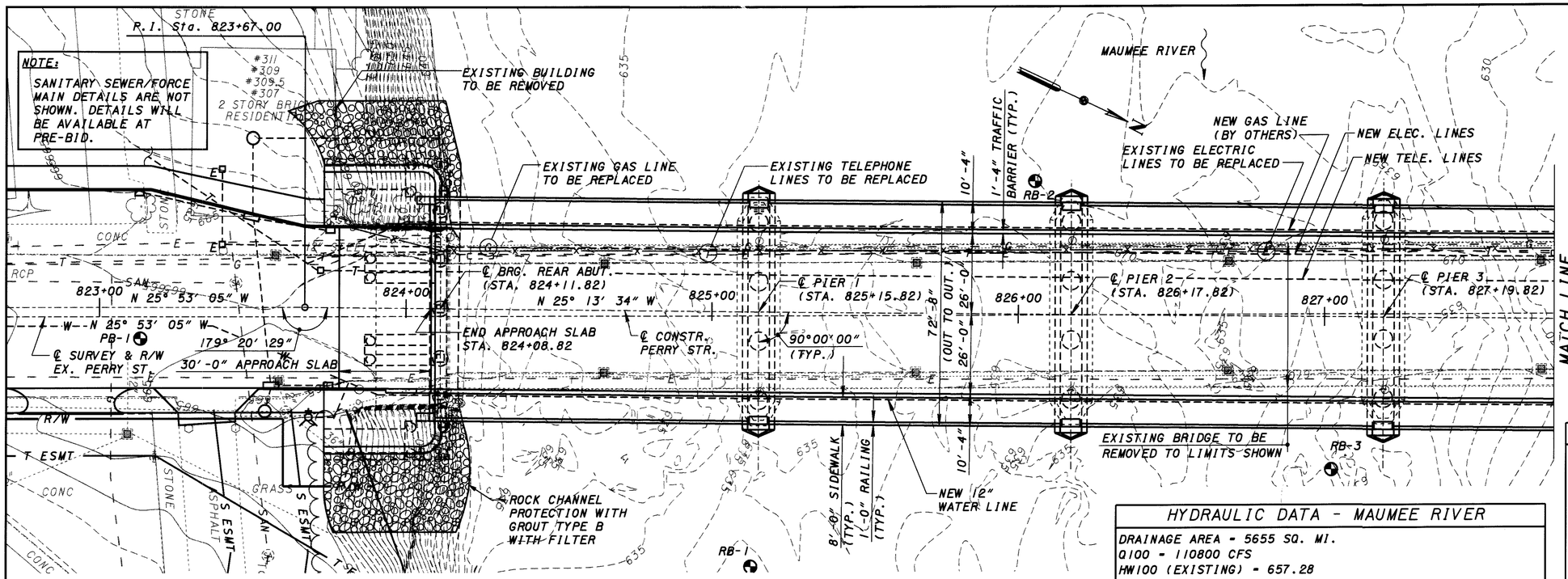


PART PLAN

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.
2. FOR BENCHMARK DESCRIPTION SEE ROADWAY SHEETS.
3. FOR ADDITIONAL GRADING DETAILS AT THE REAR ABUTMENT , SEE SHEET 6 OF 106.

TRAFFIC DATA
TRAFFIC 2003 ADT - 14,070
ADTT - 422
TRAFFIC 2023 ADT - 17,920
ADTT - 538

BORING LOCATIONS		
	STATION	OFFSET
PB-1	823+13.30	10.00' RT.
RB-1	825+13.66	82.80' RT.
RB-2	826+04.94	43.27' LT.
RB-3	826+02.87	49.47' RT.

BENCH MARK (SEE NOTES)		
℄ CONSTR. STREET		
STATION	OFFSET	ELEVATION
820+68.87	20.13' LT.	670.28

HYDRAULIC DATA - MAUMEE RIVER

DRAINAGE AREA = 5655 SQ. MI.
Q100 = 110800 CFS
HW100 (EXISTING) = 657.28
HW100 (PROPOSED) = 657.24
V100 (PROPOSED) = 6.70 FPS
WATERWAY AREA (EXISTING) = 16,565 SF
WATERWAY AREA (PROPOSED) = 16,533 SF
NOTE: THE PROJECT LIES WITHIN A NFIP DESIGNATED FLOOD PLAIN. THE PROPOSED BRIDGE PRODUCES NO RISE IN THE BASE FLOOD WATER SURFACE ELEVATION, AND NO ENCROACHMENT ON THE FLOODWAY FRINGE ACCORDING TO THE FIS DATED 11/2/95 (COMMUNITY NO. 390266).

EXISTING STRUCTURE

TYPE: SEVEN SPAN REINFORCED CONCRETE EARTH FILLED ARCH

SPANS: 7 SPANS @ 95'-0" CLEAR SPANS

WIDTH: ARCH 48'-4", ROADWAY 36'-0", TWO 5'-0" SIDEWALKS

LENGTH: 714'-0" F/F ABUTMENTS

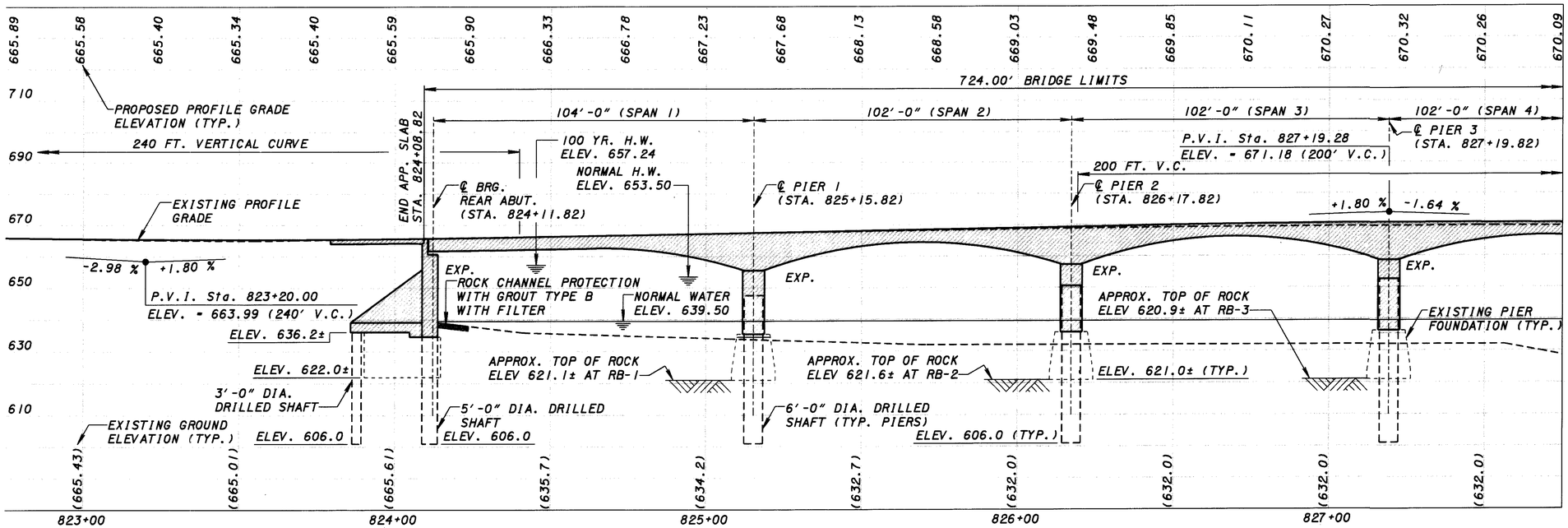
SKEW: NONE

WEARING SURFACE: ASPHALT ON CONCRETE

DATE BUILT: 1928, REHABILITATE 1960

STRUCTURE FILE NUMBER: 3502376

DESIGN LOADING: H-15



PART PROFILE ALONG ℄ CONSTRUCTION PERRY ST.

PROPOSED STRUCTURE

TYPE: PRECAST, PRESTRESSED AND SPLICED POST-TENSIONED CONCRETE GIRDERS WITH MONOLITHIC POST-TENSIONED SLAB AND REINFORCED CONCRETE SUBSTRUCTURE

SPANS: 1 SPAN @ 104'-0", 5 SPANS @ 102'-0", 1 SPAN @ 104'-0" C/C BRG

ROADWAY: 52'-0" F/F BARRIER WITH 8'-0" SIDEWALKS

LOADINGS: HS25 AND THE ALTERNATE MILITARY LOADING

SKEW: NONE

WEARING SURFACE: MICRO-SILICA CONC. OVERLAY

APPROACH SLABS: AS-1-81 (30'-0" LONG) (MODIFIED)

ALIGNMENT: TANGENT

CROWN: .0156 FT /FT

STRUCTURE FILE NUMBER: 3502384

BRIDGE COORDINATES: N 41°23'12" W 84°07'18"

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DATE: REVISED 01/16/04 R/W
STRUCTURE FILE NUMBER: 3502384

DRAWN: JAD
REVISED

DESIGNED: JAD
CHECKED: JLV

HENRY COUNTY
STA. 824+08.82
STA. 831+32.82

SITE PLAN
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

1 / 106

72 / 183

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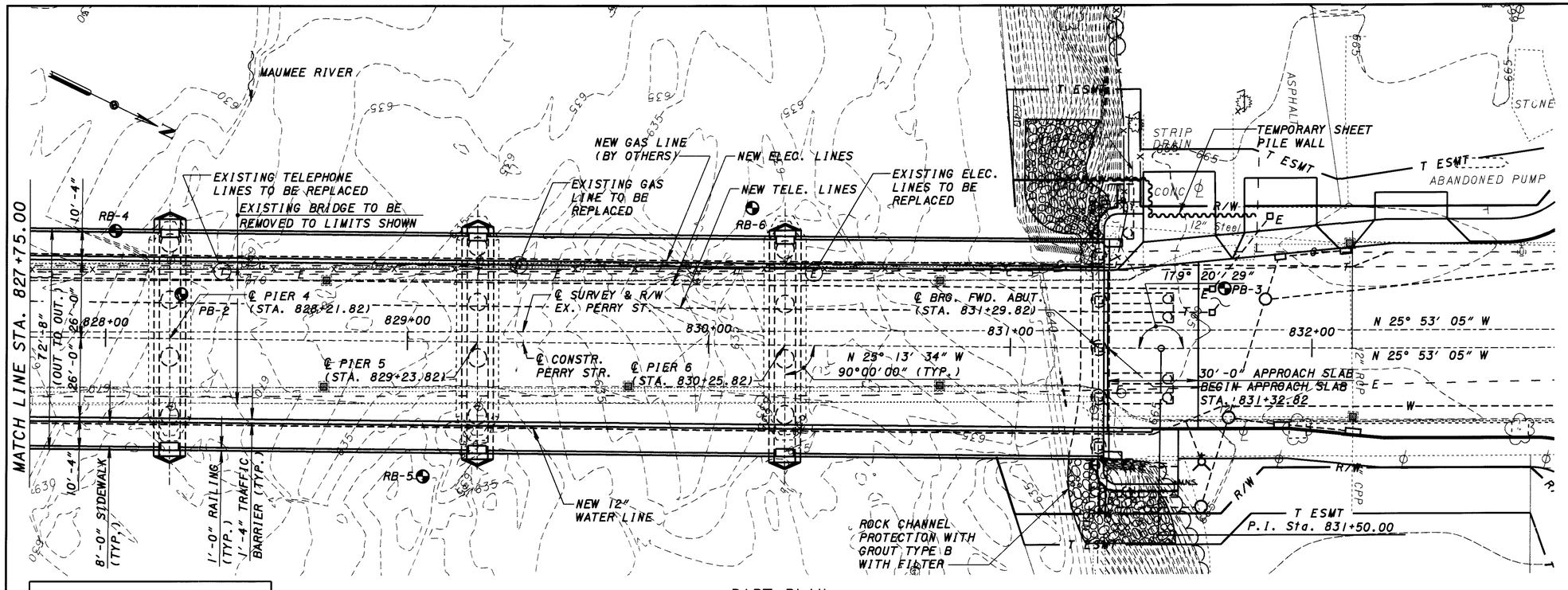
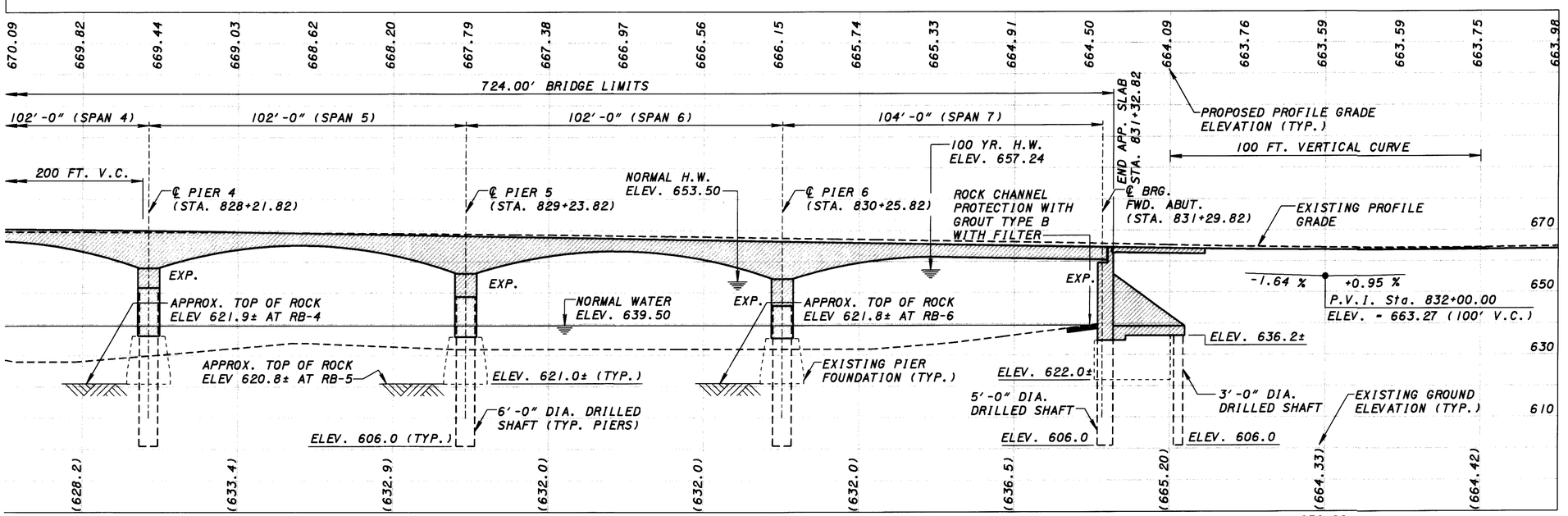


PART PLAN

BORING LOCATIONS		
	STATION	OFFSET
RB-4	828+02.84	35.70' LT.
PB-2	828+24.90	15.00' LT.
RB-5	829+05.74	44.12' RT.
RB-6	830+13.83	38.05' LT.
PB-3	831+71.00	20.00' LT.

BENCH MARK (SEE NOTES)		
℄ CONSTR. STREET		
STATION	OFFSET	ELEVATION
831+25.35	29.39' LT.	670.08



PART PROFILE ALONG ℄ CONSTRUCTION PERRY ST.

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.
2. FOR BENCHMARK DESCRIPTION, SEE ROADWAY SHEETS.
3. FOR ADDITIONAL GRADING DETAILS AT THE FORWARD ABUTMENT, SEE SHEET 6 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JAD	JAD	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

HENRY COUNTY
STA. 624+08.82
STA. 831+32.82

SITE PLAN
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

2 / 106

73 / 183

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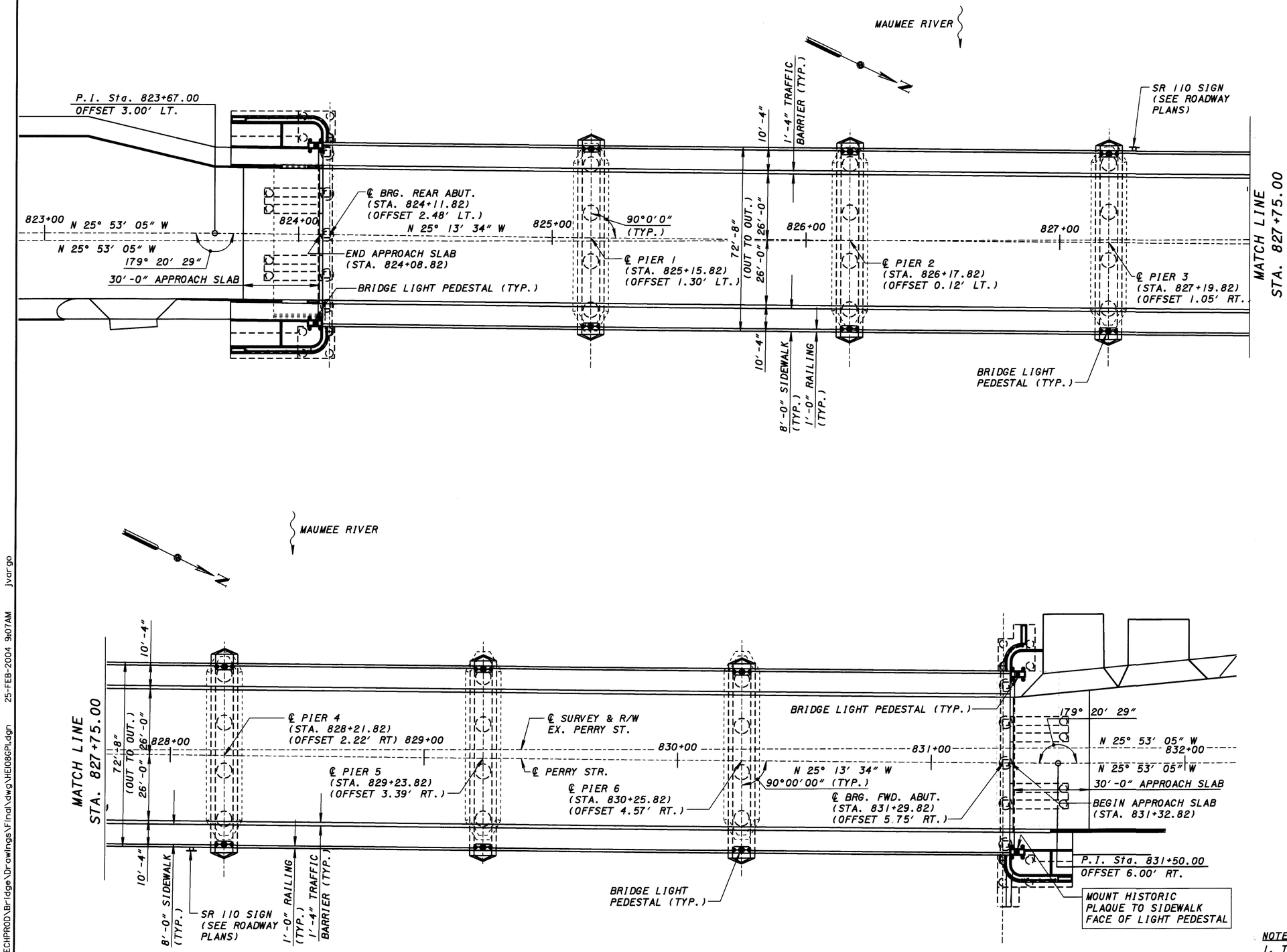

NOTES:
1. THE OFFSETS PROVIDED ON THE GENERAL PLAN INDICATE THE DISTANCE FROM THE ℄ EXISTING SURVEY & R/W OF PERRY STREET TO THE ℄ OF CONSTRUCTION OF PERRY STREET.

DESIGN AGENCY
HNTB 55 Erieview Plaza, Suite 800 Cleveland, Ohio 44114-1816
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JAD	BBB	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

GENERAL PLAN
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

3/106

74/183

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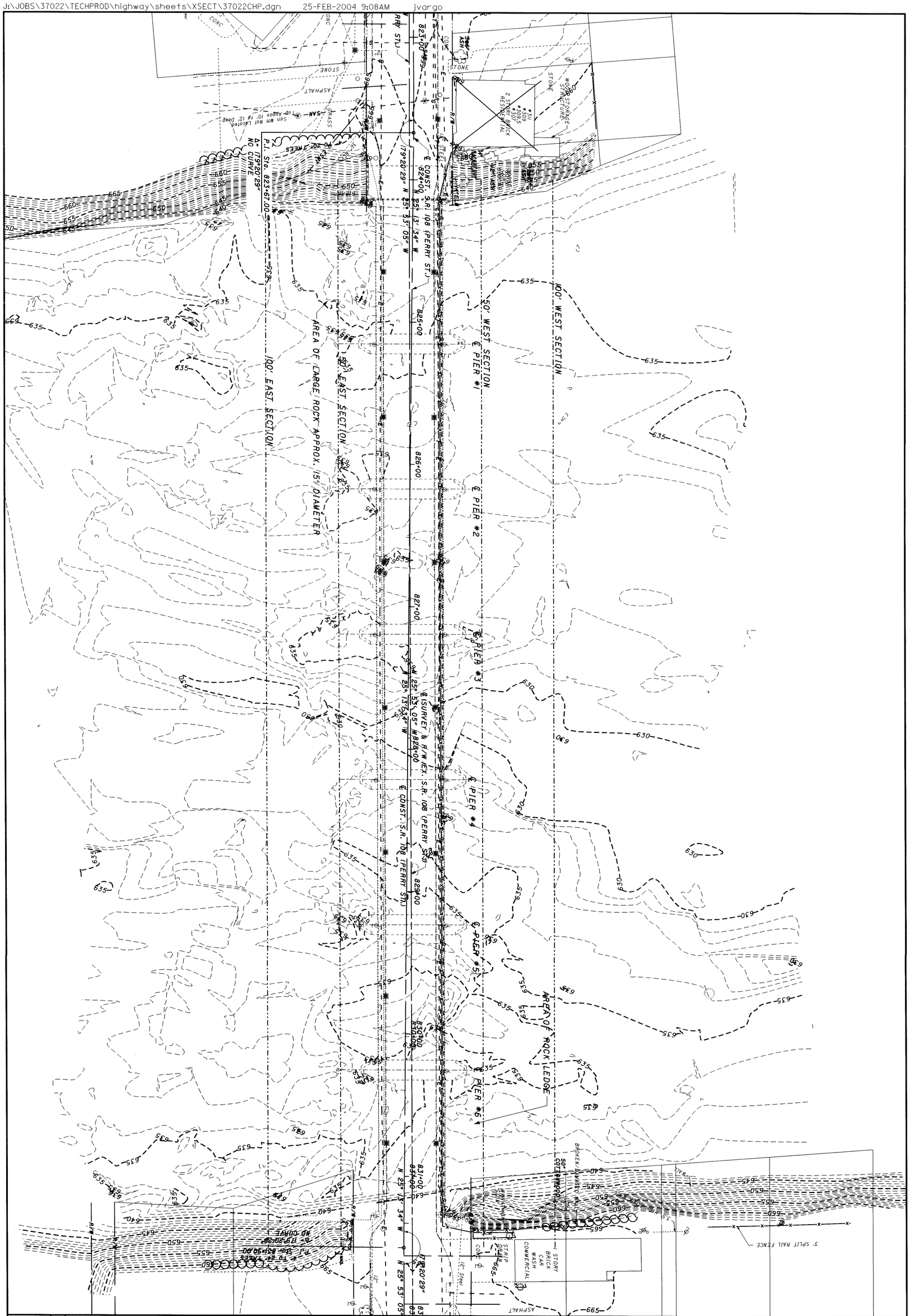
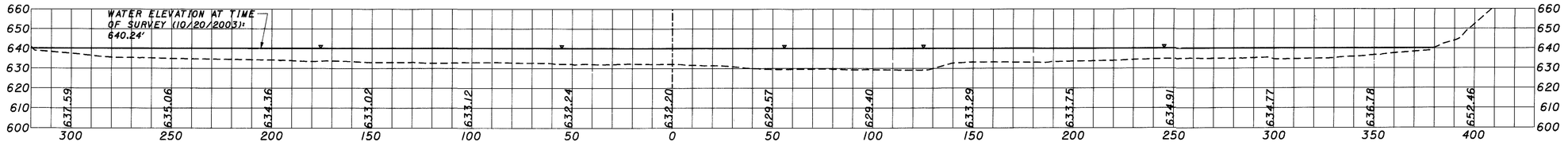
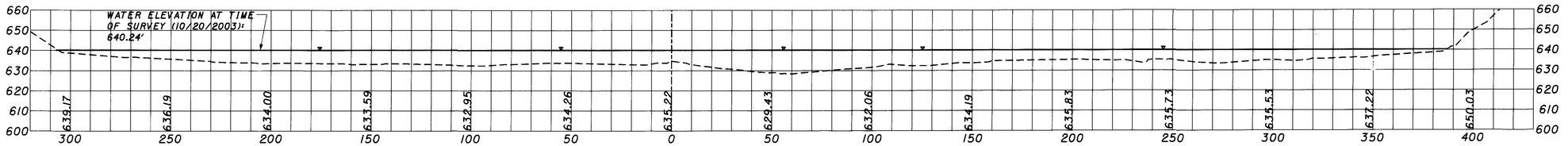


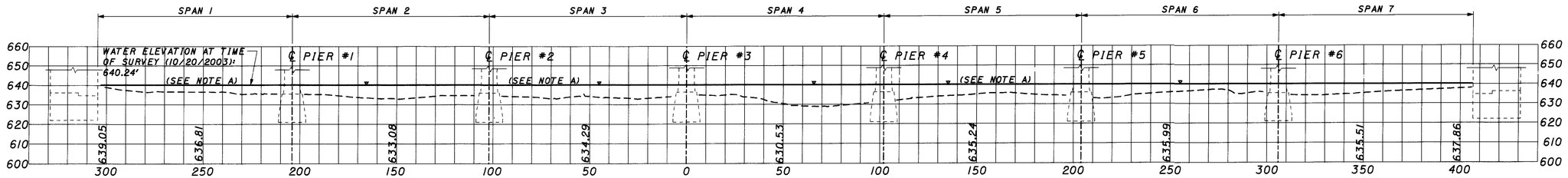
75/183	4/106	HEN-108-15.55	MAUMEE RIVER SITE PLAN	CALCULATED JSU / CHECKED RHW	0 30 60 HORIZONTAL SCALE IN FEET



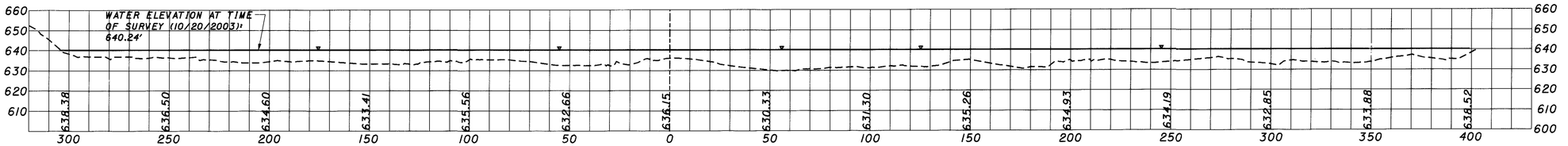
100' WEST SECTION



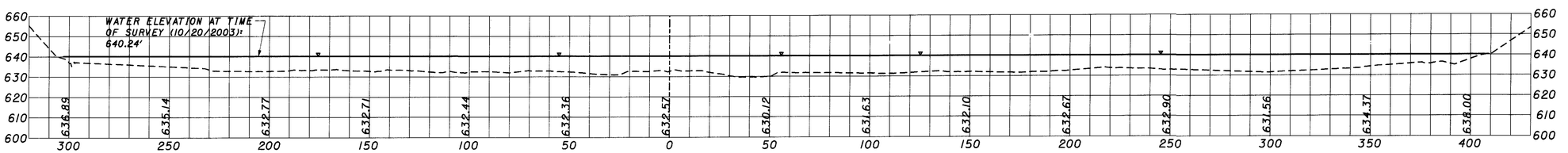
50' WEST SECTION



SECTION ALONG ℄ EXISTING BRIDGE



50' EAST SECTION



100' EAST SECTION

NOTE A

IN AREAS BELOW AND ADJACENT TO SPANS 1, 3 & 5 THE RIVER BOTTOM MAY CONTAIN MASONRY RUBBLE DUE TO REMANTS OF STRUCTURE THAT EXISTED AT THE SITE PRIOR TO 1928.

CHANNEL BOTTOM ELEVATIONS AND WATER ELEVATION ARE BASED ON SURVEY TAKEN OCTOBER 10, 2003 AND DO NOT NECESSARLIY REPRESENT THE CURRENT CONDITIONS OF THE SITE.

HORIZONTAL SCALE IN FEET
0 30 60

CALCULATED JSU
CHECKED RHW

MAUMEE RIVER SECTIONS

HEN-108-15.55

5 / 106

76 / 183

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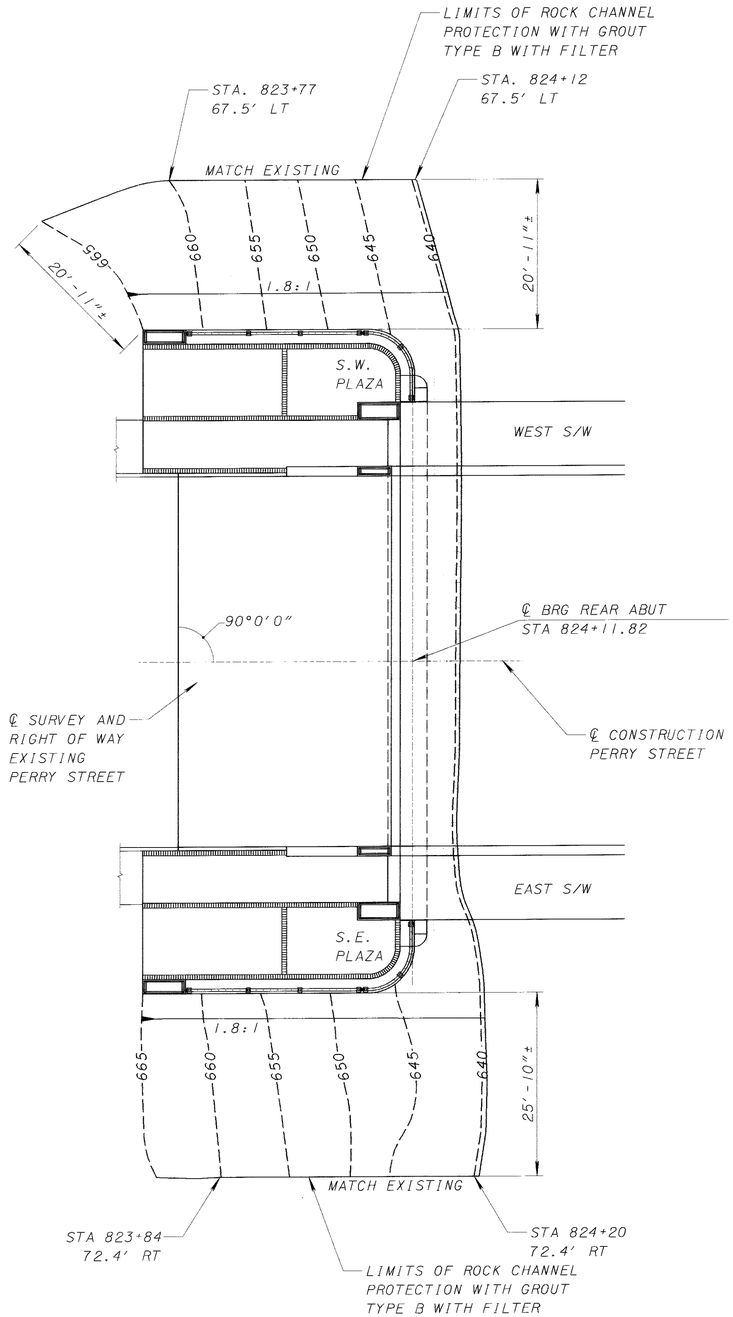
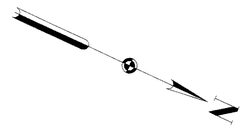
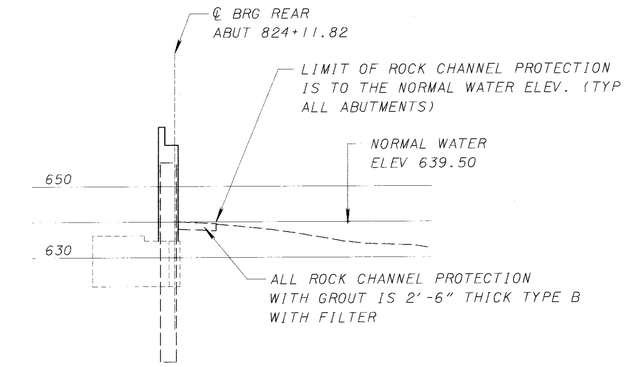


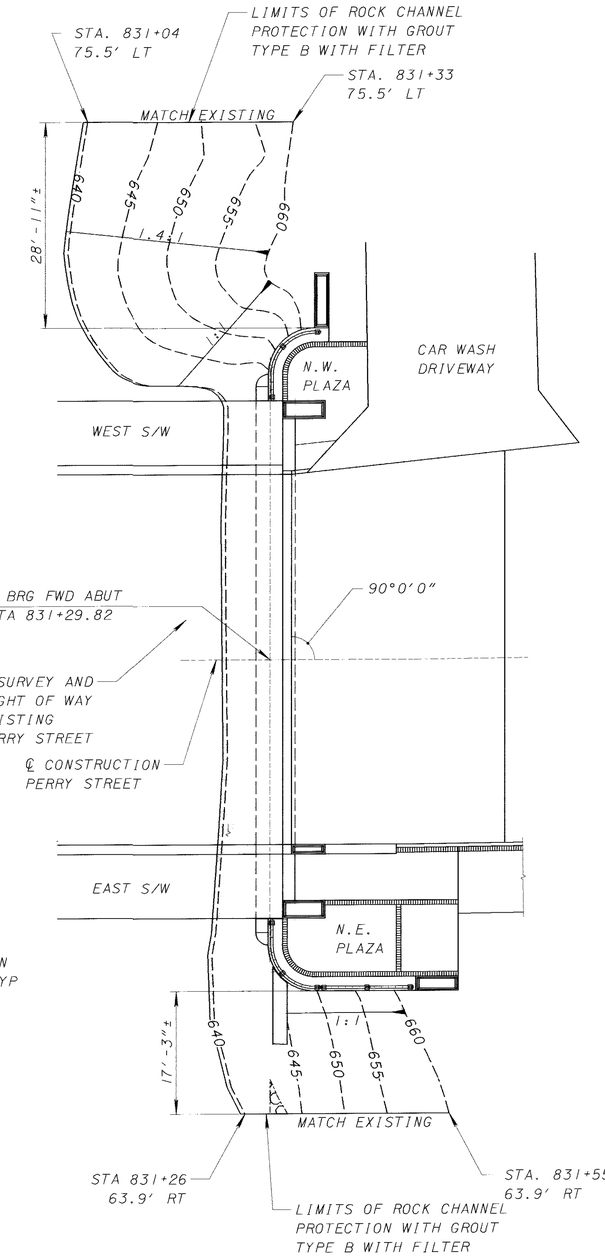
REAR ABUTMENT GRADING PLAN



MAUMEE RIVER



(REAR ABUTMENT SHOWN FORWARD ABUTMENT SIMILAR)



FORWARD ABUTMENT GRADING PLAN

6289 RIVERSIDE DRIVE, SUITE 100
DUBLIN, OHIO 43017
(614) 825-4443
E.L.Robinson Engineering of Ohio Co.

DESIGNED	DRAWN	REVIEWED	DATE
FA/JN	JEG	RLE	01/07/2004
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

ABUTMENT GRADING PLANS
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

ESTIMATED QUANTITIES

CALC.	DATE	CHK'D	DATE
JDM	1/04	BBB	1/04

ITEM	ITEM EXTENSION	PARTICIPATION* A	PARTICIPATION* B	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL	REFERENCE SHEET NO. OR AS PER PLAN SHEET NO.
202	11203	LUMP		LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	9
451	10001	197		197	SQ YD	6" REINFORCED CONCRETE PAVEMENT, AS PER PLAN				197	11
503	11101	LUMP		LUMP		COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN				LUMP	8,30
503	21301	LUMP		LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN				LUMP	10
504	11101	1350		1350	SQ FT	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN (MINIMUM	1350				10,16,27,41
						SECTION MODULUS OF 30 IN.^{3} PER FOOT)					
505	11100	LUMP		LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00300	945		945	FT	STEEL PILES HP14X73, FURNISHED	945				8,16,17
507	00350	795		795	FT	STEEL PILES HP14X73, DRIVEN	795				8,16,17
507	93300	30		30	EACH	STEEL POINTS OR SHOES	30				8,16,17
509	10000	429273		429273	POUND	EPOXY COATED REINFORCING STEEL	343956		85317		18-20,22-29,31-33,35-42,44,74,87-92
511	32204	671		671	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE (SIDEWALK, BARRIER, AND ABUT. DIAPHRAGMS)			671		87-92
511	34450	327		327	CU YD	CLASS S CONCRETE, MISC.: PIER ABOVE FOOTING		327			14,44
511	44100	1046		1046	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	1046				22-29,35-42
511	46500	275		275	CU YD	CLASS C CONCRETE, FOOTING	275				18,31
511	71100	1232		1232	CU YD	CLASS C CONCRETE, MISC.: PIER		1232			50
511	81300	12		12	EACH	CONCRETE MISC.: PRECAST PIER DOME		12			10,47
512	33000	72		72	SQ YD	TYPE 2 WATERPROOFING	72				22-25,35-38,42
513	10000	LUMP		LUMP		STRUCTURAL STEEL MEMBERS, LEVEL UF (STEEL CROSSFRAMES)				LUMP	67,68
513	10200		56320 **	56320	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF (UTILITY SUPPORTS)			56320		56-60
516	11211	142		142	FT	STRUCTURAL EXPANSION JOINT, INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			142		97
516	13600	200		200	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	200				22,26,35,39,42
516	44201	18		18	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE),			18		96
						AS PER PLAN (9" X 1'-3" X 3 3/32")					
516	44301	54		54	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE),			54		96
						AS PER PLAN (1'-7" X 1'-7" X 4 7/32")					
517	76300	1482		1482	FT	RAILING, MISC.: DECORATIVE METAL RAILING, AS PER PLAN (BRIDGE MOUNTED,			1482		11,93-95
						54" HIGH)					
518	21230	LUMP		LUMP		POROUS BACKFILL WITH FILTER FABRIC				LUMP	24,25,37,38
518	40000	215		215	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	215				24,25,37,38
518	40010	32		32	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	32				24,25,37,38
524	94703	211		211	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN	211				9,16-18,20,31,33
524	94704	406		406	FT	DRILLED SHAFTS, 36" DIAMETER INTO BEDROCK	406				9,16-18,20,31,34
524	94915	15		15	FT	DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK, AS PER PLAN	15				9,16-18,20,31,35
524	94919	262		262	FT	DRILLED SHAFTS, 60" DIAMETER, INTO BEDROCK AS PER PLAN	262				9,16-18,20,31,36
524	94951	719		719	FT	DRILLED SHAFTS, 72" DIAMETER, INTO BEDROCK, AS PER PLAN		719			9,16,17,44
524	95100	30		30	EACH	DRILLED SHAFT MISC., CROSS-HOLE SONIC LOGGING (CSL) TESTS				30	16,17
524	95100	30		30	EACH	DRILLED SHAFT MISC., SHAFT INSPECTION DEVICE				30	16,17
526	30001	361		361	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T - 17"), AS PER PLAN				361	98,99
SPECIAL	53000300	73703		73703	POUND	STRUCTURE, MISC.: POST-TENSIONING STRAND	2798	21276	49629		34,47,75
SPECIAL	53000400	18		18	EACH	STRUCTURE, MISC.: PRECAST END SPAN MODULE			18		55,56
SPECIAL	53000400	54		54	EACH	STRUCTURE, MISC.: PRECAST PIER MODULE			54		69-71
SPECIAL	53000400	45		45	EACH	STRUCTURE, MISC.: PRECAST MID-SPAN MODULE			45		72,73
SPECIAL	53000400	18		18	EACH	STRUCTURE, MISC.: PRECAST PIER CAP MODULE		18			45-47
SPECIAL	53000400	4		4	EACH	STRUCTURE, MISC.: PRECAST ABUTMENT CAP MODULE	4				21,34
SPECIAL	53000400	1		1	EACH	STRUCTURE, MISC.: MOUNT PLAQUE				1	11
SPECIAL	53000400		82	82	EACH	STRUCTURE, MISC.: HANGER ASSEMBLIES FOR 6" GAS LINE (100% OHIO GAS COST)				82	11,57-59
601	34400	373		373	CU YD	ROCK CHANNEL PROTECTION, WITH GROUT TYPE B WITH FILTER	373				6
625	25920		724	724	FT	CONDUIT, MISC.:(6)-4" IPS NOMINAL SIZE FIBERGLASS,HEAVY WALL,(TELEPHONE:100% SPRINTCOST)				724	11,56,58-60
625	25920		724	724	FT	CONDUIT, MISC.: (3) - 6" NOMINAL SIZE PVC, SCHEDULE 80, (ELECTRIC)				724	11,56,58-60
638	98000		82	82	EACH	WATER WORK, MISC.: HANGER ASSEMBLIES FOR 12" WATER LINE				82	11,57-59
SPECIAL	69091000	LUMP		LUMP		AS-BUILT CONSTRUCTION PLANS				LUMP	
848	10001	4147		4147	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER			4147		12,79,86
						PLAN (1½" THICKNESS)					
848	30001	146		146	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL			146		12,79,86
						ONLY, AS PER PLAN					
848	50100	LUMP		LUMP		TEST SLAB				LUMP	
864	10050	2680		2680	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)			2680		89
864	10101	2934		2934	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	600		2334		10,89
898	98000	183		183	CU YD	QC/QA CONCRETE MISC., CLASS QSC3, SUPERSTRUCTURE CLOSURE JOINT CONCRETE			183		74

PARTICIPATION*
A - PROJECT
B - CITY OF NAPOLEON, 100% UNLESS AS NOTED IN DESCRIPTION

** THE STRUCTURAL STEEL QUANTITY INCLUDES THE FOLLOWING AMOUNTS OF STEEL TO BE PAID FOR BY THE UTILITY COMPANIES:

SPRINT	14080
OHIO GAS	14080
CITY OF NAPOLEON	28160

DESIGN AGENCY
HNTB 28 Erieview Plaza, Suite 500 Cleveland, Ohio 44114-1816
ARCHITECTS ENGINEERS PLANNERS

REVIEWED RHW DATE 01/16/04
STRUCTURE FILE NUMBER 3502384
DRAWN JLV
REVISED
DESIGNED JLV
CHECKED BBB/JDM

ESTIMATED QUANTITIES
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

7/106

78/183

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STRUCTURE GENERAL NOTES

STANDARD DRAWINGS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:
AS-1-81 DATED (REVISED) 07-19-02
EXJ-6-95 DATED (REVISED) 07-19-02
PSID-1-99 DATED (REVISED) 07-18-03
BR-2-98 DATED (REVISED) 07-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
848 DATED 02-08-02 898 DATED 07-18-03
864 DATED 07-11-00 954 DATED 09-09-97

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, (17TH EDITION) AND THE 2003 ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

HS25 AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) OF 60 PSF.
ASSUMED TEMPORARY CONSTRUCTION LOAD = 10 PSF
ASSUMED STRONGBACK WEIGHT = 500 LBS EACH
LATERAL EARTH PRESSURE ON ABUTMENTS = 60 PCF AT-REST PRESSURE

DESIGN DATA:

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS S - COMPRESSIVE STRENGTH 4,500 PSI (PIER COLUMN AND DRILLED SHAFTS)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4,000 PSI (ABUTMENTS PIER WALLS AND PRECAST PIER DOWES)
HIGH EARLY STRENGTH CONCRETE, CLASS QC/QA - COMPRESSIVE STRENGTH 7,000 PSI (GIRDER CLOSURES)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

CONCRETE FOR PRESTRESSED SUPERSTRUCTURE AND SUBSTRUCTURE MODULES
COMPRESSIVE STRENGTH (FINAL) - 7,000 PSI
COMPRESSIVE STRENGTH (RELEASE) - 5,500 PSI

PRESTRESSING STRAND ASTM A416
AREA -½" DIAMETER = 0.167 SQ. IN., 0.6" DIAMETER = 0.217 SQ. IN.
ULTIMATE STRENGTH - 270 KSI
INITIAL STRESS - 202.5 KSI MAXIMUM (LOW RELAXATION STRANDS)
(SEE PLANS FOR POST-TENSIONED STRAND INITIAL STRESS)

STRUCTURAL STEEL:
ASTM A709 GRADE 50 - YIELD STRENGTH 50,000 PSI (UTILITY SUPPORT AND STEEL CROSS FRAME CONNECTION ANGLES)
ASTM A500 GRADE B - YIELD STRENGTH 46,000 PSI OR
ASTM A501 - YIELD STRENGTH 50,000 PSI (RAILING PIPE AND TUBE SECTIONS)
ASTM A500 GRADE B - YIELD STRENGTH 46,000 PSI OR
ASTM A618 - YIELD STRENGTH 50,000 PSI (UTILITY SUPPORT TUBE SECTIONS)
ASTM A572 - YIELD STRENGTH 50,000 PSI (SHEET PILING)
ASTM A36 - YIELD STRENGTH 36,000 PSI (H-PILES AND H-BEAM WHALERS)

POST-TENSIONING:

MATERIALS:

CONCRETE-28 DAY STRENGTH
PRECAST PRESTRESSED MODULES - 7,000 PSI.
PRECAST PRESTRESSED MODULES MINIMUM RELEASE STRENGTH - 5,500 PSI.
HIGH EARLY STRENGTH CONCRETE - 7,000 PSI.
HIGH EARLY STRENGTH CONCRETE MINIMUM STRENGTH DURING POST-TENSIONING - 5,000 PSI

POST TENSIONING GROUT
(SEE SPECIAL PROVISIONS)

NON - AGGRESSIVE EXPOSURE CONDITION
GROUT FOR LONGITUDINAL SLAB JOINTS - 3,000 PSI PRIOR TO STRESSING
TRANSVERSE TENDONS

STEEL
MILD REINFORCEMENT - ASTM A416 OR A996 GRADE 60, EPOXY COATED

POST TENSIONING STEEL
0.5 OR 0.6 INCH DIAMETER SEVEN WIRE STRAND - ASTM A416 GRADE 270 LOW RELAXATION
THREAD BARS - ASTM A722 GRADE 150 TYPE II

ALLOWABLE STRESSES:

APPARENT MODULUS OF ELASTICITY OF PRESTRESSING STEEL - 29,000 KSI.

ALLOWABLE CONCRETE STRESSES FOR SERVICE LOAD CONDITIONS

REINFORCED CONCRETE @ SERVICE LOADS..... $0.45f'c$

PRESTRESSED CONCRETE
TEMPORARY STRESSES
COMPRESSION..... $0.60f'ci$
TENSION WITH NO BONDED REINFORCEMENT..... $3\sqrt{f'ci}$
(BONDED STRAND CAN BE BONDED REINFORCEMENT)
SERVICE STRESSES AFTER LOSSES HAVE OCCURRED
COMPRESSION..... $0.6f'c$
TENSION..... $6\sqrt{f'c}$
PRESTRESSING STEEL
PRETENSIONED TENDONS
STRESS IMMEDIATELY PRIOR TO TRANSFER..... $0.75f's$

POST-TENSIONED TENDONS
STRESS IMMEDIATELY AFTER ANCHOR SET ..... $0.7f's$
STRESS AT THE END OF SEATING LOSS ZONE ..... $0.83f*y$
STRESS AT SERVICE LOAD AFTER ALL LOSSES ..... $0.80f*y$

TENDON LOSSES

ANCHOR SET FOR LONGITUDINAL PRETENSION AND POST-TENSION ..... ⅜"
ANCHOR SET FOR TRANSVERSE TENDONS ..... 0"
FRICTION LOSS ASSUMPTIONS (GALVANIZED DUCT)
WOBBLE COEFFICIENT (K) 0.0002
FRICTION COEFFICIENT (M) 0.20
FRICTION LOSS ASSUMPTIONS (POLYETHLENE DUCT)
WOBBLE COEFFICIENT (K) 0.0002
FRICTION COEFFICIENT (M) 0.23

DIMENSIONS

DIMENSIONS ARE MEASURED HORIZONTALLY AND AT 60°F UNLESS NOTED OTHERWISE.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
SEALING OF CONCRETE SURFACES (SIDEWALKS)
MICRO-SILICA CONCRETE OVERLAY

ITEM 503, COFFERDAMS CRIBS AND SHEETING, AS PER PLAN:

INCLUDED WITH THIS ITEM OF WORK IS THE TEMPORARY SHEET PILE WALL TO BE CONSTRUCTED AT THE LEFT END OF THE FORWARD ABUTMENT. THE DETAILS FOR THE WALL ARE SHOWN ON SHEET 30 OF 106. THE STEEL SHEET PILES SHALL HAVE A MINIMUM SECTION MODULUS OF 48 IN^3 PER FOOT OF WALL. THIS ITEM INCLUDES THE FURNISHING, INSTALLATION AND REMOVAL OF THE TEMPORARY WALL AS SHOWN IN THE PLANS AND IS TO BE PAID AS LUMP SUM. THE TIEBACK WORK IS TO COMPLY WITH THE SPECIAL PROVISION ENTITLED TIEBACKS.

ITEM 507, STEEL POINTS, AS PER PLAN:

USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. FURNISH STEEL POINTS FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFTON, NEW JERSEY 07014; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC., 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28014; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL INC., 1618 N.E. FIRST AVE., PORTLAND, OREGON 97232; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATTHEWS, NORTH CAROLINA 28104; OR BY A MANUFACTUERER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE DIRECTOR. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27/A27M 65/35 [450/240] - CLASS 2 - HEAT TREATED OR AASHTO M103/M103M 65/35 [450/240] - HEAT TREATED. WELD THE PILE POINTS TO THE PILE IN ACCORDANCE WITH AWS D1.5 OR THE MANUFACTURER'S WRITTEN WELDING PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED. SUBMIT A NOTARIZED COPY OF THE MILL TEST REPORT TO THE ENGINEER.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVISED	DATE
RHW	JMS	RHW	01/16/04

CHECKED	REVISED	STRUCTURE FILE NUMBER
JAO		3502384

GENERAL NOTES
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

STRUCTURE GENERAL NOTES

ITEM 524, 36" DIAMETER DRILLED SHAFTS AT ABUTMENTS

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 397 TONS AT THE ABUTMENTS. THIS LOAD IS RESISTED BY SHAFT ADHESION WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY SHAFT END BEARING. THE ALLOWABLE BEDROCK SOCKET ADHESION IS ONE TON PER SQUARE FOOT (120 TONS), ASSUMED TO ACT ALONG THE BOTTOM 13 FEET OF THE BEDROCK SOCKET FOR THE ABUTMENTS. THE ALLOWABLE END BEARING PRESSURE IS 60 TONS PER SQUARE FOOT. THE REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO 709.00.

ITEM 524, 36" DIAMETER DRILLED SHAFTS AT COUNTERFORTS

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 50 TONS AT THE COUNTERFORTS. THIS LOAD IS RESISTED BY SHAFT ADHESION WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY SHAFT END BEARING. THE ALLOWABLE BEDROCK SOCKET ADHESION IS ONE TON PER SQUARE FOOT (120 TONS), ASSUMED TO ACT ALONG THE BOTTOM 13 FEET OF THE BEDROCK SOCKET FOR THE COUNTERFORTS. THE ALLOWABLE END BEARING PRESSURE IS 60 TONS PER SQUARE FOOT. THE REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO 709.00.

ITEM 524, DRILLED SHAFTS 36" DIAMETER ABOVE BEDROCK, AS PER PLAN

THE CONSTRUCTION OF ALL 36 INCH DIAMETER DRILLED SHAFTS REQUIRE THE USE OF A STEEL CASING TO REMAIN IN PLACE. THE WALL THICKNESS OF THE STEEL CASING SHALL BE AT LEAST 0.22 INCHES AND THE CASING SHALL EXTEND FROM THE TOP OF THE DRILLED SHAFT DOWN TO THE TOP OF BEDROCK. THE CONTRACTOR SHALL SEAT THE CASING INTO THE BEDROCK TO ATTEMPT TO SEAL OUT THE ADJACENT WATER. THE COST OF THE CASING IS INCLUDED WITH THIS ITEM.

ITEM 524, 60" DIAMETER DRILLED SHAFTS AT ABUTMENTS

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1235 TONS AT THE ABUTMENTS. THIS LOAD IS RESISTED BY SHAFT ADHESION WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY SHAFT END BEARING. THE ALLOWABLE BEDROCK SOCKET ADHESION IS ONE TON PER SQUARE FOOT (200 TONS), ASSUMED TO ACT ALONG THE BOTTOM 13 FEET OF THE BEDROCK SOCKET FOR THE ABUTMENTS. THE ALLOWABLE END BEARING PRESSURE IS 60 TONS PER SQUARE FOOT. THE REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO 709.00.

ITEM 524, DRILLED SHAFTS 60" DIAMETER INTO BEDROCK, AS PER PLAN

DEPENDING UPON THE REMOVAL LIMITS OF THE EXISTING ABUTMENT AS DETERMINED BY THE CONTRACTOR, PORTIONS OF THE ABUTMENT DRILLED SHAFTS MAY HAVE TO BE CONSTRUCTED THROUGH THE EXISTING ABUTMENT CONCRETE.

ITEM 524, DRILLED SHAFTS 60" DIAMETER ABOVE BEDROCK, AS PER PLAN

THE CONSTRUCTION OF DRILLED SHAFTS NUMBERS 23 AND 76 REQUIRE THE USE OF A STEEL CASING TO REMAIN IN PLACE. THE WALL THICKNESS OF THE STEEL CASING SHALL BE AT LEAST 0.22 INCHES AND THE CASING SHALL EXTEND FROM THE TOP OF THE DRILLED SHAFT DOWN TO THE TOP OF BEDROCK. THE CONTRACTOR SHALL SEAT THE CASING INTO THE BEDROCK TO ATTEMPT TO SEAL OUT THE ADJACENT WATER. THE COST OF THE CASING IS INCLUDED WITH THIS ITEM.

ITEM 524, 72" DIAMETER DRILLED SHAFTS AT PIERS

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1423 TONS AT THE PIERS. THIS LOAD IS RESISTED BY SHAFT ADHESION WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY SHAFT END BEARING. THE ALLOWABLE BEDROCK SOCKET ADHESION IS ONE TON PER SQUARE FOOT (245 TONS), ASSUMED TO ACT ALONG THE BOTTOM 13 FEET OF THE BEDROCK SOCKET FOR THE PIERS. THE ALLOWABLE END BEARING PRESSURE IS 60 TONS PER SQUARE FOOT. THE REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO 709.00.

ITEM 524, DRILLED SHAFTS 72" DIAMETER INTO BEDROCK, AS PER PLAN

DO NOT REMOVE THE EXISTING PIER FOOTINGS EXCEPT AS NECESSARY TO CONSTRUCT THE PROPOSED PIER DRILLED SHAFTS. THE CONTRACTOR SHALL DRILL THROUGH THE EXISTING CONCRETE FOOTING TO THE LIMITS SHOWN IN THE PLANS. THE DRILLING WORK NECESSARY FOR PENETRATING THROUGH THE EXISTING CONCRETE IS TO BE CLASSIFIED AND PAID FOR AS DRILLING THROUGH BEDROCK.

PILE DRIVING CONSTRAINTS:

PRIOR TO DRIVING PILES AT THE ABUTMENT WINGWALLS, THE REQUIRED SLOPES SHOULD BE CONSTRUCTED AND THE REQUIRED SHEETING SHALL BE INSTALLED SO THAT FOOTING ELEVATION CAN BE ESTABLISHED.

PILES TO BEDROCK:

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES TO A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR BY CONTACTING HARD BEDROCK AND THE PILE RECEIVING AT LEAST 20 BLOWS. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL. THE ULTIMATE BEARING VALUE IS 107 TONS PER PILE FOR THE HP 14 X 73 ABUTMENT PILES.

REAR AND FORWARD WINGWALL ABUTMENT PILES:

9 PILES 20 FEET LONG, ORDER LENGTH 25 FEET.
9 PILES 22 FEET LONG, ORDER LENGTH 30 FEET.
6 PILES 30 FEET LONG, ORDER LENGTH 35 FEET.
6 PILES 32 FEET LONG, ORDER LENGTH 40 FEET.

UTILITY LINES:

UNLESS OTHERWISE PROVIDED FOR IN THE PROJECT PLANS, THE UTILITY (IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY (IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 202-PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED. THIS WORK SHALL CONSIST OF THE REMOVAL OF THE WEARING COURSE, PAVEMENT, TEMPORARY CONCRETE BARRIER, SPANDREL WALLS, ARCH RING, EXISTING FILL, PORTIONS OF THE PIERS AND ABUMENTS AS INDICATED IN THE PLANS. THE EXISTING ARCH FILL MATERIAL SHALL NOT BE PERMITTED TO FALL INTO THE MAUMEE RIVER. THE EXISTING TEMPORARY CONCRETE BARRIER SHALL BE DELIVERED TO A SITE SELECTED BY THE ENGINEER. THE CONTRACTOR SHALL ALSO CAREFULLY REMOVE THE EXISTING BRIDGE PLAQUE AND GIVE IT TO THE PROJECT ENGINEER.

ITEM 202-PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (CONT.):

IF THE CONTRACTOR CHOOSES TO INCORPORATE BLASTING TO REMOVE PORTIONS OF THE STRUCTURE, HE MUST PREPARE A BLASTING PROCEDURE IN A MANUAL FOR REVIEW AND APPROVAL BY THE ENGINEER. THE MANUAL SHALL ADDRESS THE DESIGN OF THE BLASTING, THE SAFETY PROCEDURES TO BE INCORPORATED, WILDLIFE AND FISH PROTECTION AND PROTECTION OF ADJACENT PROPERTIES. WRITTEN PERMISSION SHALL BE OBTAINED FROM THE CHIEF OF THE DIVISION OF WILDLIFE. ANY RUBBLE LARGER THAN SIX INCHES IN DIAMETER SHALL BE REMOVED FROM THE RIVER BED AND DISPOSED OF AT AN APPROVED SITE. THE MANUAL SHALL BE SUBMITTED FOR REVIEW BY THE ENGINEER AT LEAST NINETY DAYS BEFORE PLACEMENT OF CHARGES IS TO BEGIN.

SUGGESTED REMOVAL LIMITS TO EXISTING SUBSTRUCTURE CONSTRUCTION JOINTS HAVE BEEN SHOWN IN THE PLANS. AT THE CONTRACTOR'S OPTION, PORTIONS OF THE SUBSTRUCTURE SHOWN FOR REMOVAL MAY REMAIN IN PLACE PROVIDED THE NEW SUBSTRUCTURE CAN BE CONSTRUCTED PROPERLY BY SATISFYING ALL PLAN REQUIREMENTS. ALL PORTIONS OF THE ABUTMENT MUST BE REMOVED TO AT LEAST 10 FEET BELOW THE PAVEMENT ELEVATION TO PERMIT APPROPRIATE COMPACTION OF THE ROADWAY APPROACH EMBANKMENT. AS DEFINED BY THIS NOTE, THE REMOVAL LIMITS ARE PERMITTED TO VARY BUT THE PAYMENT PRICE SHALL REMAIN EQUAL TO THE CONTRACTOR'S LUMP SUM BID PRICE FOR THIS ITEM.

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

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

ADDITIONAL EXISTING BRIDGE DATA:

REFER TO GEOTECHNICAL SUBSURFACE INVESTIGATION PLANS, TWO CORES THAT WERE REMOVED FROM THE EXISTING PIER STEMS INDICATE A CONCRETE STRENGTH OF 8,000 PSI. ALSO NOTE THAT BORING PB-2 INDICATES THAT THE EXISTING ARCH FILL MAY CONSIST OF RELATIVELY STIFF MATERIAL.

BASE CONTRACT BID PRICES UPON RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

THE EXISTING BRIDGE PLANS ARE ON FILE WITH THE DISTRICT 2 OFFICE 317 EAST POE ROAD, BOWLING GREEN, OHIO 43402.

DESIGN AGENCY: HNTB ARCHITECTS ENGINEERS PLANNERS

DESIGNED RHW | CHECKED JAO | DRAWN JMS | REVISED | REVIEWED RHW | DATE 01/16/04 | STRUCTURE FILE NUMBER 3502384

GENERAL NOTES
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

STRUCTURE GENERAL NOTES

<u>ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:</u>
THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE ITEM 304, PLACED AND COMPACTED IN 6 INCH LIFTS.

<u>SHOP DRAWINGS AND SUBMITTALS:</u>
SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL PRECAST ELEMENTS SHOWING CONCRETE LINES, REINFORCEMENT, PRESTRESSING HARDWARE AND ANY EMBEDMENTS, AND SHALL BE IN CONFORMANCE WITH SECTION 501.04, 501.05 AND 513.06 OF THE 2002 OHIO CONSTRUCTION AND MATERIAL SPECIFICATIONS. IN ADDITION TO THE REQUIREMENTS OF 501, FOR THE ITEMS LISTED BELOW, SUBMIT TO THE ENGINEER FOR REVIEW AND ACCEPTANCE, THREE COPIES OF SHOP DRAWINGS, UNLESS ADDITIONAL COPIES ARE REQUESTED. DO NOT BEGIN FABRICATION UNTIL WRITTEN ACCEPTANCE OF THE SUBMITTED DRAWINGS HAS BEEN RECEIVED FROM THE ENGINEER. FOLLOWING ACCEPTANCE OF THE DRAWINGS, SUBMIT SIX COMPLETE SETS TO THE ENGINEER UNLESS ADDITIONAL COPIES ARE REQUESTED.

THE CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS, WHICH INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, THE FOLLOWING:

COMPLETE DETAILS OF THE DECORATIVE METAL RAILING, UTILITY SUPPORTS, CROSSFRAMES AND EXPANSION JOINT ARMOR.

COMPLETE DETAILS FOR THE POST-TENSIONING DUCTS, ANCHORAGE HARDWARE, ANY ADDITIONAL ANCHORAGE REINFORCING, INSERTS AND LIFTING DEVICES TO BE EMBEDDED IN THE MODULES. FOR ANY CONTRACTOR-PROPOSED PRESTRESSING OPTIONS, A COMPLETE GEOMETRIC LAYOUT FOR EACH POST-TENSIONING TENDON SHALL ALSO BE SUBMITTED. SEE PRESTRESS SHOP DRAWINGS SECTION IN SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

COMPLETE DETAILS OF HANDLING, STORING AND TRANSPORTING MODULES. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF A LIFTING SYSTEM FOR HANDLING AND STABILIZING GIRDERS AT THE PLANT AND DURING TRANSPORTATION. THE SUBMITTED DETAILS SHALL INCLUDE, FOR EACH TYPE OF MODULE, THE METHOD OF LIFTING (LOCATION OF ANY INSERTS, CONFIGURATION OF LIFTING DEVICES, ETC.) AND THE METHOD OF SUPPORTING MODULES DURING STORAGE AND TRANSPORTATION, THE PLANNED ROUTE FOR TRANSPORTING THE MODULES AND THE AXLE LOADS FOR THE MODULE HAULER. THE DETAILS SHALL BE ACCOMPANIED BY CALCULATIONS INDICATING THAT THE FORCES IMPOSED ON A MODULE DURING LIFTING, STORAGE AND TRANSPORTATION WILL NOT ADVERSELY AFFECT THE STRUCTURAL ADEQUACY OF THE MODULE.

IF THE MODULES ARE TO BE STACKED, CALCULATIONS SHOWING THE STRESSES INDUCED BY STACKING SHALL BE PREPARED, COMPARED TO ALLOWABLES AND SUBMITTED FOR APPROVAL.

A MANUAL FOR THE DETAILED STEP-BY-STEP ERECTION AND GEOMETRY CONTROL OF THE MODULES INCLUDING ALL INTERMEDIATE PROCEDURES RELATING TO ANY ERECTION EQUIPMENT, FALSEWORK, MOVEMENT OF EQUIPMENT, COUNTERWEIGHTS, SUPPORT JACKING, STRESSING OF TEMPORARY POST-TENSIONING BARS, CLOSURE OPERATIONS INCLUDING ANY PARTIAL STRESSING ACROSS THE CLOSURE DURING CONCRETE CURING, LOCATION AND SIZE OF SHIM BLOCKS, MAIN POST-TENSIONING TENDON SEQUENCES, STRESSING LOADS AND ELONGATIONS, ERECTION ELEVATIONS, THE FIELD SURVEY AND ALIGNMENT CONTROL METHODS TO BE EMPLOYED FOR SETTING THE MODULES AND ANY OTHER RELEVANT OPERATIONS. (THIS IS REFERRED TO AS THE "ERECTION MANUAL"). THE ERECTION MANUAL SHALL INCLUDE DETAILED PROCEDURES FOR ERECTING THE PRECAST PIER AND ABUTMENT CAPS.

<u>SHOP DRAWINGS AND SUBMITTALS (CONT.):</u>
THE DETAILED STEP-BY-STEP PROCEDURE FOR ERECTION OF MODULES SHALL INCLUDE THE SEQUENCE IN WHICH THESE ITEMS ARE TO BE ERECTED ALONG WITH A TABLE OF THEORETICAL ELEVATIONS AND ALIGNMENT OF THE GEOMETRY CONTROL POINTS. STAGES FOR WHICH THEORETICAL POSITIONS OF CONTROL POINTS ARE TO BE COMPUTED SHALL INCLUDE THE MODULE IN PLACE PRIOR TO APPLYING POST-TENSIONING AND THE MODULE WITH POST-TENSIONING APPLIED.

THE THEORETICAL POSITION SHALL BE COMPUTED TAKING INTO CONSIDERATION:

A. EFFECT OF AS-CAST GEOMETRY.
B. EFFECTS OF CONSTRUCTION LOADS, DEAD LOAD AND LIVE LOADS.
C. EFFECTS OF POST-TENSIONING.
D. EFFECT OF THE FINAL PROFILE OF THE ROADWAY AS SHOWN IN THE PLANS.

THE PROCEDURE SHALL ALSO INCLUDE A METHOD FOR MEASURING AND RECORDING THE ELEVATIONS AND ALIGNMENT OF ALL CONTROL POINTS AT EACH STAGE OF ERECTION.

THE CONTRACTOR'S ERECTION PROCEDURE SHALL INCLUDE ANY ADDITIONAL TEMPORARY DIAPHRAGMS OR SUPPORTS NEEDED TO ASSURE THE MODULES WILL REMAIN STABLE BEFORE, DURING AND THROUGH COMPLETION OF THE TRANSVERSE POST-TENSIONING OF THE DECK.

THE ERECTION MANUAL SHALL BE SUBMITTED AT LEAST 60 DAYS BEFORE THE ACTUAL ERECTION. ERECTION SHALL NOT BEGIN UNTIL THE ERECTION PROCEDURE HAS BEEN APPROVED.

THE CONTRACTOR SHALL SUBMIT A NEW ERECTION PROCEDURE AT ANY TIME THAT HE PROPOSES TO DEVIATE FROM THE SEQUENCE OF SCHEDULE OF ERECTION CONTAINED IN THE APPROVED ERECTION PROCEDURE UNDER WHICH HE IS OPERATING.

THE CONTRACTOR SHALL SUBMIT DETAILS AND DESIGN COMPUTATIONS FOR TEMPORARY MODULE SUPPORT APPARATUS E.G. HANGER BEAMS/STRONGBACKS FOR REVIEW BY THE ENGINEER. THE ENGINEER WILL REVIEW THIS DETAIL FOR COMPLETENESS AND DESIGNER SIGNATURE. THE REVIEW WILL NOT INCLUDE ANY CONTRACTOR MEANS OR METHODS OTHER THAN THOSE WHICH AFFECT THE CONSTRUCTION OR SERVICE STRESSES IN THE BRIDGE.

ALL SUBMITTALS SHALL BE PREPARED UNDER THE DIRECTION OF AND SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO.

<u>CONTRACTOR PROPOSED OPTIONS:</u>
THE CONTRACTOR MAY PROPOSE, FOR CONSIDERATION BY THE ENGINEER, CERTAIN VARIATIONS FROM THE CONSTRUCTION AND ERECTION SCHEMES SHOWN IN THE CONTRACT DOCUMENTS. ANY APPROVED OPTIONS SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE WITHOUT ANY INCREASED PAYMENT OR ALLOTTED CONSTRUCTION TIME. ALL CONTRACTOR PROPOSED OPTIONS SHALL BE PREPARED UNDER THE DIRECTION OF, AND SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO.

OPTIONS FOR CONSTRUCTION DETAILS COVERED BY THIS SECTION ARE LIMITED TO THE FOLLOWING:

OPTIONAL POST-TENSIONING SYSTEMS OR LAYOUTS SUCH THAT THE PROPOSED OPTIONAL SYSTEMS MEET THE PROJECT SPECIFIC DESIGN CRITERIA, THE REQUIREMENTS SPECIFIED HEREINAFTER AND THE REQUIREMENTS SET OUT IN THE POSTENSIONING SYSTEM SPECIAL PROVISION.

RESTRICTIONS TO CONTRACTOR PROPOSED OPTIONS

ANY MODIFICATION WITH REGARD TO METHOD OF SUPERSTRUCTURE CONSTRUCTION OR PRESTRESSING DIFFERING IN ANY RESPECT FROM THE STRUCTURE AS DESIGNED AND DETAILED ON THE PLANS SHALL COMPLY WITH THE FOLLOWING:

THE EXTERIOR SHAPE, EXTERIOR DIMENSIONS AND APPEARANCE SHALL NOT BE CHANGED FROM THOSE ON THE CONTRACT PLANS. THE OVERALL APPEARANCE OF THE NEW BRIDGE WAS DETERMINED BY THE CITIZENS OF NAPOLEON. SUBSTANTIAL DEVIATION FROM THAT APPERANCE WILL NOT BE APPROVED.

THE CONTRACTOR SHALL DEMONSTRATE THAT ANY PROPOSED OPTION OR MODIFICATION MEETS THE DESIGN CRITERIA NOTED ON THE PLANS AND IN THE SPECIFICATIONS.

<u>ITEM 864 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN:</u>
PRIOR TO SEALING ANY BRIDGE SURFACES, PREPARE FOUR SAMPLE CONCRETE PANELS, EACH PANEL BEING 4' X 4', CLASS C CONCRETE PER 511. ORIENT THE PANELS VERTICALLY PARALLEL TO THE BRIDGE AT A LOCATION THAT WILL RECEIVE DIRECT SUNLIGHT AND SHADE AT DIFFERENT TIMES OF THE DAY. FOR THE FOUR PANELS, APPLY EPOXY-URETHANE SEALER PER SUPPLEMENTAL SPECIFICATION 864 USING FEDERAL COLOR STANDARD NO. 27722, 37722, 27778 AND 37778. THE ENGINEER WILL DETERMINE WHICH ONE OF THE COLORS IS ADEQUATE.

DURING SEALING OF ANY PORTION OF THE BRIDGE, AN APPROPRIATE APRON SHALL BE UTILIZED TO PREVENT DEBRIS AND SEALER OVERSPRAY FROM ENTERING THE RIVER.

SEALER SHALL NOT BE APPLIED TO THE SURFACES BELOW THE BEARINGS.

<u>ITEM 511, 530 AND 898 - CONCRETE FINISH REQUIREMENTS:</u>
ON ALL EXPOSED SURFACES OF THE CLASS C CONCRETE ABUTMENT, ABUTMENT WINGWALLS, BOTTOM AND EXTERIOR FACES OF ITEM 898 HIGH EARLY STRENGTH GIRDER CLOSURES, SURFACES OF THE TRANSVERSE DECK POST TENSIONING BLOCKOUTS AND THE FASCIA EDGE OF THE CAST IN PLACE SIDEWALK, PROVIDE SURFACE FINISH PER 511.18, EXCEPT USE RUBBED FINISH PROCEDURES PER 511.18B.

<u>ITEM 504, STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN:</u>
THE STEEL SHEET PILING TO BE LEFT IN PLACE FOR THE CONSTRUCTION OF THE STEPPED FOOTINGS AT EACH ABUTMENT SHALL HAVE A MINIMUM SECTION MODULUS OF 30 IN^3 PER FOOT OF WALL. THIS ITEM IS TO BE PAID FOR PER SQUARE FOOT.

<u>ITEM 511 CONCRETE MISC. PRECAST PIER DOME</u>
PRECAST REINFORCED CONCRETE DOMES SHALL BE FURNISHED AS PER THE DESIGN DIMENSIONS SHOWN IN THE PLANS. THE CONCRETE SHALL BE 511 CLASS C AND THE REINFORCING STEEL SHALL BE AS PER 509, EPOXY COATED.

ALL MATERIAL AND HARDWARE NECESSARY TO FABRICATE, DELIVER, AND INSTALL THE PRECAST REINFORCED CONCRETE DOMES ARE INCLUDED WITH THIS ITEM FOR PAYMENT AT THE CONTRACT PRICE PER EACH.

<u>ITEM 898, QC/QA CONCRETE, MISC., CLASS QSC3, SUPERSTRUCTURE CLOSURE JOINT CONCRETE</u>
THE FORMS FOR THE CLOSURE JOINTS SHALL BE MADE OF STEEL OR HIGH GRADE PLYWOOD MADE ESPECIALLY FOR FORMING CONCRETE. THE FINAL SURFACE SHALL MATCH THE PRECAST MODULES IN SMOOTHNESS, TEXTURE AND COLOR.

898.03: MATERIALS
USE THE SAME KIND AND COLOR OF AGGREGATES FOR THE CLOSURE POUR AS USED FOR THE PRECAST MODULES.

898.05: CONCRETE MIX DESIGN
COMPRESSIVE STRENGTH: 5000 PSI PRIOR TO POST-TENSIONING
7000 PSI MINIMUM f'c

PERMEABILITY: < 1500 COULOMBS

DESIGN AGENCY: HNTB — ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
RHW	JMS	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

GENERAL NOTES
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

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STRUCTURE GENERAL NOTES

ITEM SPECIAL - STRUCTURE, MISC: MOUNT PLAQUE:
MOUNTING: THE HISTORIC PLAQUE SHALL BE PROVIDED BY THE DEPARTMENT. MOUNT THE PLAQUE FLUSH WITH THE SURFACE OF THE CONCRETE LIGHT PEDESTAL. NO OPEN GAPS OR SPACE IS ALLOWED BETWEEN THE MOUNTING SURFACE AND THE BACK OF THE PLAQUE. SEAL THE CONTACT SURFACE PERIMETER BETWEEN THE BACK OF THE PLAQUE AND THE MOUNTING SURFACE WITH WATERPROOFING MATERIAL APPROVED BY THE ENGINEER. SEE SHEET 3 OF 106 FOR MOUNTING LOCATION.

HARDWARE AND FASTENERS: BRONZE OR BRASS BOLTS

PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITY AT THE CONTRACT PRICE BID FOR THE ITEM SPECIAL, "STRUCTURE, MISC.: INSTALL HISTORIC PLAQUE" WHICH INCLUDES ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY USE AND INSTALLATION OF THIS ITEM ARE CONSIDERED INCIDENTAL TO THE BID PRICE FOR THIS ITEM.

ITEM 517-RAILING, MISC: DECORATIVE METAL RAILING AS PER PLAN (BRIDGE MOUNTED, 54" HIGH):
HOT DIP GALVANIZING AND PAINTING OF BRIDGE & PLAZA RAILING: GALVANIZE THE RAILING AS PER THE REQUIREMENTS OF THESE NOTES AND CMS 711.02. AFTER GALVANIZING, PAINT THE RAILING AS PER THESE REQUIREMENTS & ALL APPLICABLE PORTIONS OF CMS 514 NOT EXPRESSLY COVERED IN THESE NOTES.

RAILING MATERIALS, ANCHOR BOLTS, NEOPRENE PADS, FABRICATIONS, AND ASSEMBLIES ARE SPECIFIED TO BE FURNISHED AND INSTALLED AS NOTED ON SHEET 94 OF 106.

ITEM 625 - CONDUIT MISC.: (6) - 4" IPS NOMINAL SIZE FIBERGLASS, HEAVY WALL, (TELEPHONE):
THIS WORK INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE FIBERGLASS CONDUIT ON THE BRIDGE INCLUDING CONDUIT, CONDUIT SUPPORT ASSEMBLIES, BRACING, EXPANSION JOINTS, AND MOUNTING HARDWARE. PROVIDE 4" IPS NOMINAL SIZE FIBERGLASS CONDUITS WHICH MEET NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION (NEMA) TC-14. PROVIDE CONDUIT SUPPORT ASSEMBLIES FROM OSBURN ASSOCIATES SUPPORT SYSTEMS, FURNISHED BY OSBURN ASSOCIATES, INC., P O BOX 912, LOGAN, OHIO, TEL. 800-523-8917, OR EQUAL SUBJECT TO THE APPROVAL OF SPRINT. INSTALL THE CONDUIT AND CONDUIT SUPPORT ASSEMBLIES AS PER THE MANUFACTURER'S INSTRUCTIONS. PLACE CONDUIT BELLS AND/OR COUPLINGS NO CLOSER THAN 6" TO THE OUTSIDE EDGE OF ANY SUPPORT ANGLE. GALVANIZE ALL STEEL MOUNTING HARDWARE AS PER 711.02

TEM 625 - CONDUIT, MISC.: (3) - 6" NOMINAL SIZE PVC, SCHEDULE 80, (ELECTRIC):
THIS WORK INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL ALL THE PVC CONDUIT ON THE BRIDGE INCLUDING CONDUIT, CONDUIT SUPPORT ASSEMBLIES, BRACING, EXPANSION JOINTS, AND MOUNTING HARDWARE. PROVIDE 6" NOMINAL SIZE PVC CONDUITS WHICH MEET NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION (NEMA) TC-2. PROVIDE CONDUIT SUPPORT ASSEMBLIES FROM OSBURN ASSOCIATES SUPPORT SYSTEMS, FURNISHED BY OSBURN ASSOCIATES, INC., P.O. BOX 912, LOGAN, OHIO, TEL. 800-523-8917, OR EQUAL, SUBJECT TO THE APPROVAL OF THE CITY OF NAPOLEON. INSTALL THE CONDUIT AND CONDUIT SUPPORT ASSEMBLIES AS PER THE MANUFACTURER'S INSTRUCTIONS. PLACE CONDUIT BELLS AND/OR COUPLINGS NO CLOSER THAN 6" TO THE OUTSIDE EDGE OF ANY SUPPORT ANGLE. GALVANIZE ALL STEEL MOUNTING HARDWARE AS PER 711.02.

ITEM 638 - WATER WORK, MISC.: HANGER ASSEMBLIES FOR 12" WATER LINE:
THIS WORK INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE HANGER ASSEMBLIES ON THE BRIDGE INCLUDING THREADED HANGER RODS, PIPE ROLLS, PIPE SADDLES AND MOUNTING HARDWARE.

SEE SHEETS 57 TO 59 OF 106 FOR ADDITIONAL NOTES AND DETAILS.

ALSO SEE THE WATER MAIN PLANS FOR ADDITIONAL REQUIREMENTS. DURING TESTING, PROVIDE RESTRAINT FOR THE WATER LINES AT THE PROPOSED LINE AND GRADE AS REQUIRED.

ITEM SPECIAL - STRUCTURE, MISC.: HANGER ASSEMBLIES FOR 6" GAS LINE:
THIS WORK INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE HANGER ASSEMBLIES ON THE BRIDGE INCLUDING THREADED HANGER RODS; PIPE ROLLS PIPE SADDLES AND MOUNTING HARDWARE. GAS LINE TO BE INSTALLED BY OTHERS.

ITEM 451-6" REINFORCED CONCRETE PAVEMENT, AS PER PLAN:

1. THIS WORK INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND TRANSPORTATION REQUIRED TO COMPLETE THE INSTALLATION OF THE ABUTMENT PLAZA SLABS INCLUDING A STAMPED CONCRETE SURFACE TREATMENT AS SHOWN IN THE PLANS. THE CONTRACTOR FOR THIS WORK SHALL BE A BOMANITE LICENSED CONTRACTOR WHO HAS BEEN TRAINED AND EQUIPPED BY: BOMANITE CORPORATION, P. O. BOX 599, MADERA, CALIFORNIA 93639-0599 OR AN APPROVED EQUAL.

2. BOMANITE IS A CAST-IN-PLACE CONCRETE SLAB TREATMENT, HAVING THE SURFACE COLORED AND IMPRINTED WITH A PATTERN. THE WORK IS PERFORMED ON THE JOB SITE BY TRAINED AND EXPERIENCED WORKMEN.

3. THIS WORK ALSO INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO PLACE A 2" SUB-BASE OF ITEM 304 MATERIAL AS NOTED ON THE PLANS.

RELATED WORK:

1. PROVIDE AND APPLY BOMANITE COLOR HARDENER (HEAVY DUTY).

2. PROVIDE AND APPLY BOMANITE IMPRINTING TOOLS IN THE PROPER PATTERNS AS SHOWN IN THE PLANS.

3. PROVIDE AND APPLY CURING COMPOUND.

QUALITY ASSURANCE:

1. ALL BOMANITE WORK SHALL BE INSTALLED BY A LICENSED BOMANITE CONTRACTOR WHO SHALL PROVIDE A FOREMAN OR SUPERVISOR WHO HAS AT LEAST FIVE YEARS OF EXPERIENCE IN STAMPED AND COLORED CONCRETE WORK AND HAS COMPLETED AT LEAST THREE BOMANITE INSTALLATIONS OF SIMILAR SIZE AND SCOPE AS THIS PROJECT.

2. ALL BOMANITE WORK SHALL COMPLY WITH CURRENT SPECIFICATIONS AND QUALITY STANDARDS ISSUED BY THE BOMANITE CORPORATION.

3. PROVIDE A JOB SITE SAMPLE FOR THE PATTERN SHOWN IN THE PLANS WITH COLOR VARIATIONS FOR AN AUTHENTIC APPEARANCE TO BE APPROVED BY THE ENGINEER PRIOR TO START OF CONSTRUCTION. THE WIDTH OF EACH SAMPLE PATTERN SHALL MATCH THE WIDTH OF THE FINAL PATTERN SHOWN IN THE PLANS. THE LENGTH OF EACH SAMPLE PATTERN SHALL BE EQUAL TO THE WIDTH OR 2 FEET WHICHEVER IS GREATER.

4. PROVIDE WARRANTY AGAINST CRACKING, SPALLING AND GENERAL WORKMANSHIP FOR ONE (1) YEAR AND WARRANTY COLOR FOR THREE (3) YEARS.

PRODUCTS AND MATERIAL:

1. CONCRETE MIX DESIGN: CLASS C PER ITEM 451.

2. BOMANITE COLOR HARDENER: THE CONCRETE SHALL BE COLORED WITH BOMANITE COLOR HARDENER. COLOR SHALL CLOSELY MATCH EXISTING AND PROPOSED BRICK PAVERS IN SIDEWALK AT THE NORTHERN APPROACH ROADWAY, OR AS DIRECTED BY THE ENGINEER. THE GRADE OF THE BOMANITE COLOR HARDENER SHALL BE HEAVY-DUTY.

INSTALLATION:

1. PLACE AND SCREED TO THE FINISH GRADE AND FLOAT TO A UNIFORM SURFACE IN THE STANDARD METHOD.

2. APPLY BOMANITE COLOR HARDENER EVENLY TO THE PLASTIC SURFACE BY THE DRY-SHAKE METHOD USING A MINIMUM OF 60 POUNDS PER 100 SQUARE FEET. APPLY IN TWO OR MORE SHAKES, FLOATED AFTER EACH, AND TROWELED ONLY AFTER THE FINAL FLOATING.

3. WHILE THE CONCRETE IS STILL IN THE PLASTIC STAGE OF SET, APPLY THE BOMANITE IMPRINTING TOOLS TO MAKE THE DESIRED IMPRESSION ON THE SURFACE. PROVIDE A NEAT JOB WITH ALIGNED JOINTS, AND GIVE EXTRA CARE TO ENSURE PATTERN LAYOUT MATCHES THE LAYOUT SHOWN IN THESE PLANS AND CONFORMS TO THE QUALITY AND REPRESENTATIVE APPEARANCE OF THE JOB SITE SAMPLE.

4. AFTER STAMPED CONCRETE HAS SET UP, POWER WASH AND CLEAN SURFACES, AND APPLY ONE COAT OF CURE AND SEAL SEALER.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS
DESIGNED RHW | DRAWN JWS | CHECKED JAO | REVISED
REVIEWED RHW | DATE 01/16/04
STRUCTURE FILE NUMBER 3502384

GENERAL NOTES
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

STRUCTURE GENERAL NOTES

<u>ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRO-DEMOLITION , 1½" THICK, AS PER PLAN:</u>
<u>ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN:</u>

THE SURFACES OF THE TOP FLANGE OF THE GIRDER ELEMENTS SHALL BE CLEANED PER 848.24.

HYDRO-DEMOLITION IS NOT REQUIRED.

IN SECTION 848.04 THE COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

IN SECTION 848.29 THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS OR UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL OF 705.07, TYPE 1 OR 1D, AS PER CMS 511.17 METHOD (B) MEMBRANE CURING. TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER THE COMPLETION OF THE 24 HOUR WET CURE, AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 600PSI.

IN SECTION 848.31 THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS AT 12 HOURS, 24 HOURS, 36 HOURS AND 48 HOURS. THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TEST, AND THE MODULUS OF RUPTURE.

THIS WORK ALSO INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO SEAL JOINTS AND CRACKS PER 848.27.

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

<u>RIVER ELEVATIONS EFFECTING CONTRACTOR OPERATIONS:</u>
UNLESS THE WATER ELEVATION IS OVER ELEVATION 645.0 FOR A SUSTAINED PERIOD OF MORE THAN 8 HOURS, THERE SHALL BE NO CLAIM OF DELAY IN THE CONTRACTORS WORK DUE TO RIVER CONDITIONS. IF A CLAIM FOR DELAY IS MADE IT SHALL BE SUBSTANTIATED WITH BACKUP SHOWING ON THE APPROVED CPM THAT THE ADVERSE CONDITIONS IMPACTED A TASK ON THE CRITICAL PATH THAT COULD NOT BE RESCHEDULED AND THE MAGNITUDE OF THAT IMPACT.

THE FOLLOWING IS A LIST OF ABBREVIATIONS USED IN THESE PLANS.

ABUT. - ABUTMENT
APPROX. - APPROXIMATE
B.F. - BACK FACE
B - BOTTOM
BOT. - BOTTOM
BRG. - BEARING
BTM. - BOTTOM
C/C - CENTER TO CENTER
C.F.S. - CUBIC FEET PER SECOND
CLR. - CLEAR
CONST. - CONSTRUCTION
CONSTR. - CONSTRUCTION
C.P.P. - CORRUGATED PLASTIC PIPE
CTR. - CENTER
CU. YD. - CUBIC YARDS
DIA. - DIAMETER
D.S. - DRILLED SHAFT
DWG. - DRAWING
E - EAST
EA - EACH
E.F. - EACH FACE
EL. - ELEVATION
ELEV. - ELEVATION
EQ. - EQUAL
EXP - EXPANSION
F/F - FACE TO FACE
F.A. - FORWARD ABUTMENT
F.F. - FRONT FACE
FGL - FIBERGLASS
F.P.S. - FEET PER SECOND
FT. - FOOT/FEET
FTG. - FOOTING
FWD. - FORWARD
GDR. - GIRDER
H - HEIGHT
HORZ. - HORIZONTAL
H.S. - HIGH STRENGTH
I.D. - INSIDE DIAMETER
INV. - INVERT
I.R. - INSIDE RADIUS
JT. - JOINT
LBS. - POUNDS
LT. - LEFT
MAX. - MAXIMUM
MEAS. - MEASURED
MIN. - MINIMUM
MISC. - MISCELLANEOUS
N - NORTH
N.E. - NORTHEAST
N.W. - NORTHWEST
NON-PERF - NON PERFORATED
OPT. - OPTIONAL
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
P.T. - POST-TENSIONING/POST-TENSIONED
PVI - POINT OF VERTICAL INTERSECTION
PVMT. - PAVEMENT
R. - RADIUS
R.A. - REAR ABUTMENT
REQ'D. - REQUIRED
RT. - RIGHT
S.E. - SOUTHEAST
SER. - SERIES
SHLD. - SHOULDER
SPA. - SPACES
SQ. FT. - SQUARE FEET
SQ. MI. - SQUARE MILES
SQ. YD. - SQUARE YARDS
ST. - STREET
STA. - STATION
STD. - STANDARD
STR. - STREET
S/W - SIDEWALK
S.W. - SOUTHWEST
T - TOP
TYP. - TYPICAL
VC - VERTICAL CURVE
VERT. - VERTICAL
W. - WIDTH

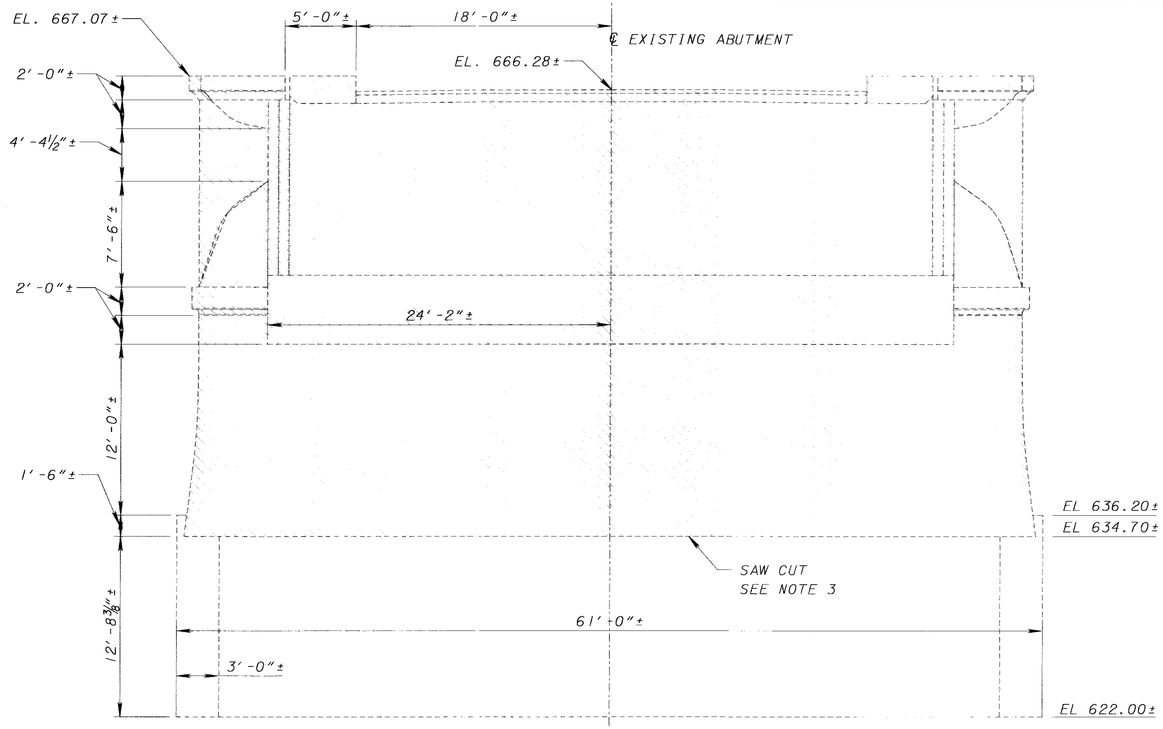
DESIGN AGENCY: HNTB ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
RHW	JMS	RHW	01/16/04

CHECKED	REVISED	STRUCTURE FILE NUMBER
JAO		3502384

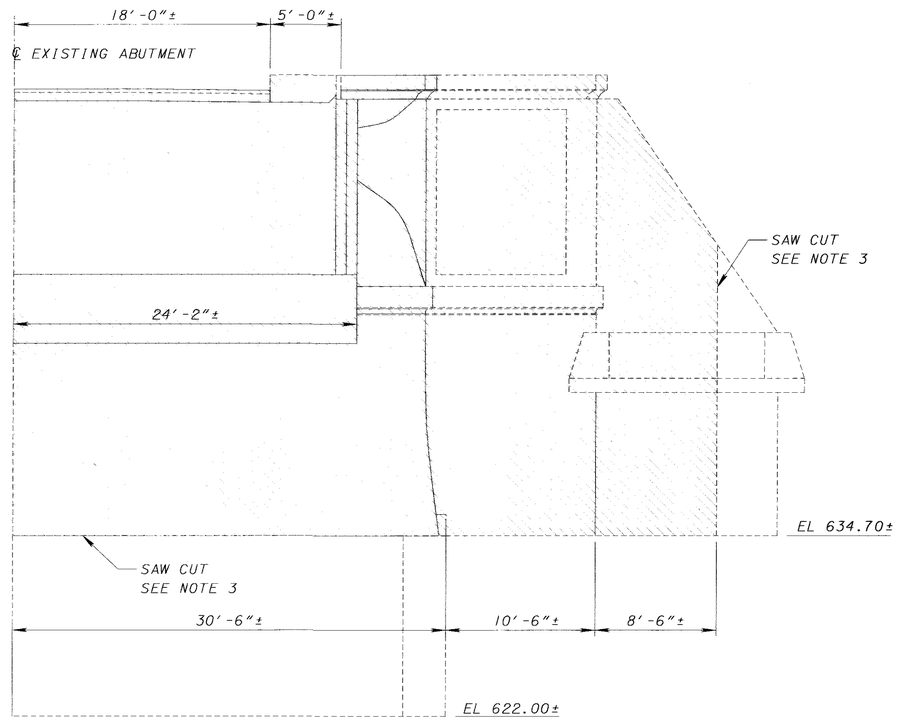
GENERAL NOTES
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55



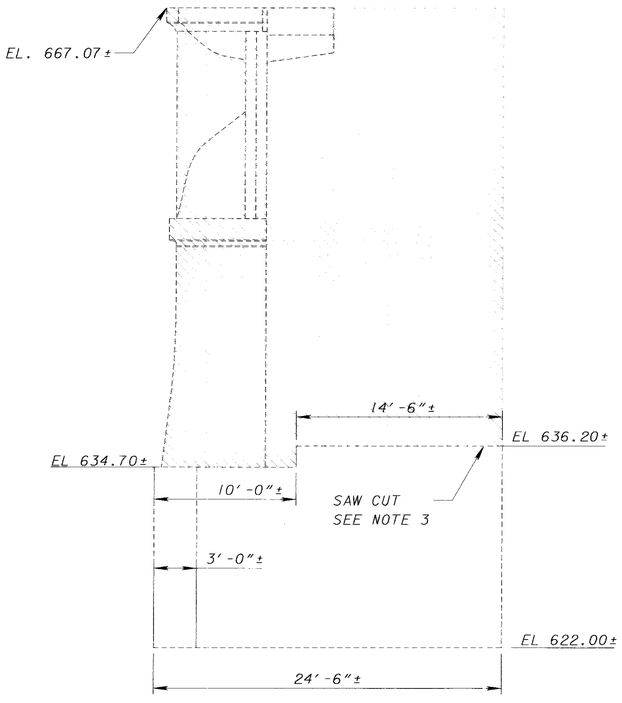
ABUTMENT FRONT ELEVATION

(REAR ABUTMENT SHOWN FORWARD ABUTMENT SIMILAR)

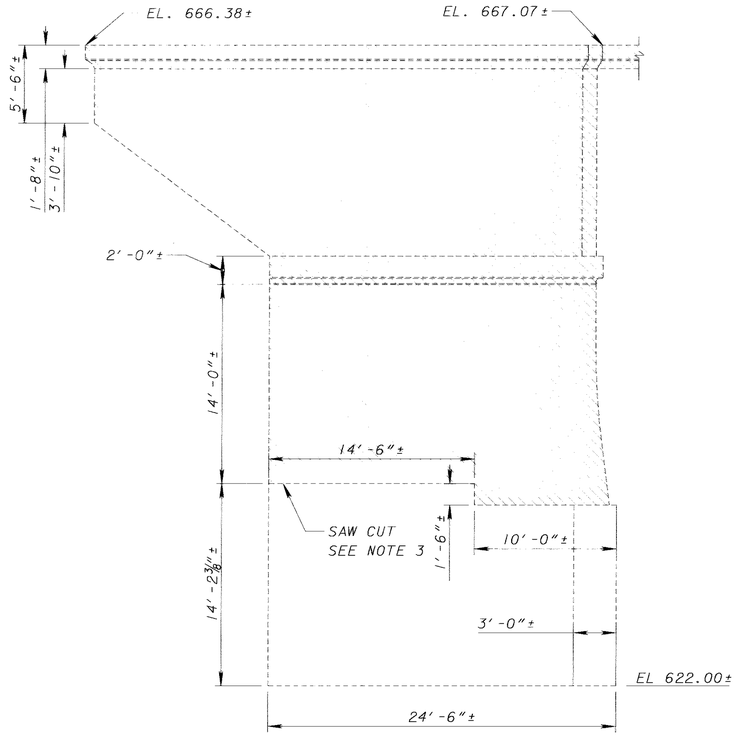


FORWARD ABUTMENT HALF FRONT ELEVATION

(SYMMETRICAL ABOUT ℄ - UP TO AND INCLUDING 10'-6"± DIMENSION)



FORWARD ABUTMENT WALL & WINGWALL
TYPICAL SIDE ELEVATION



REAR ABUTMENT WALL & WINGWALL
TYPICAL SIDE ELEVATION

NOTES:

1. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE TAKEN FROM CONTRACT PLANS DATED OCTOBER 1928 AND SHOULD BE TREATED AS APPROXIMATE(±), FOR INFORMATION ONLY.
2. EXISTING UTILITIES ARE NOT SHOWN. PLEASE REFER TO THE SITE PLAN FOR THE LOCATION.
3. SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

LEGEND:

- LIMITS OF STRUCTURE TO BE REMOVED. SEE GENERAL NOTES

6209 RIVERSIDE DRIVE, SUITE 100
DUBLIN, OHIO 43017
(614) 923-1445
E.L. Robinson Engineering of Ohio Co.

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FA/JN	JVE	RLE	01/07/2004
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

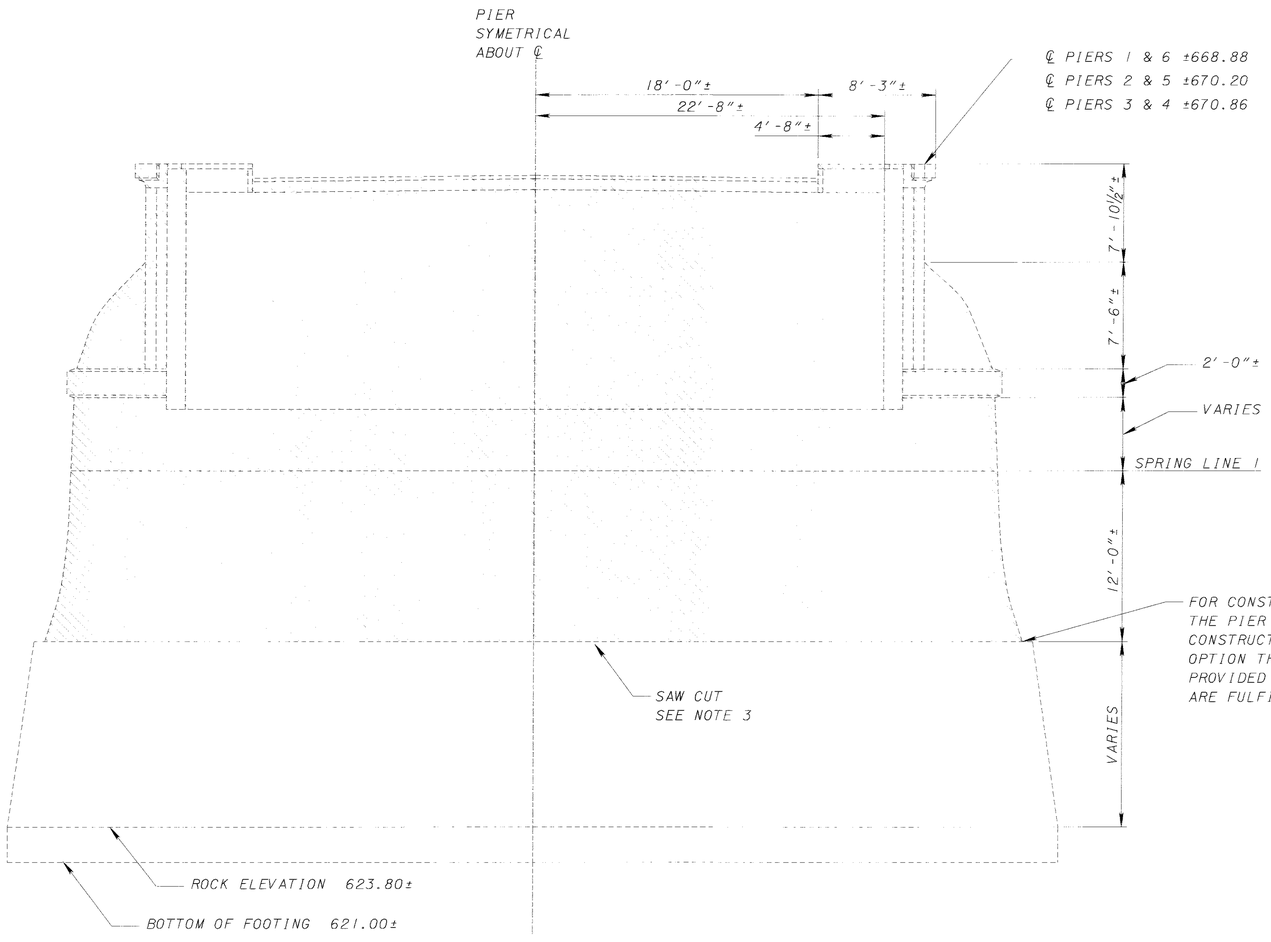
ABUTMENT REMOVAL PLAN

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

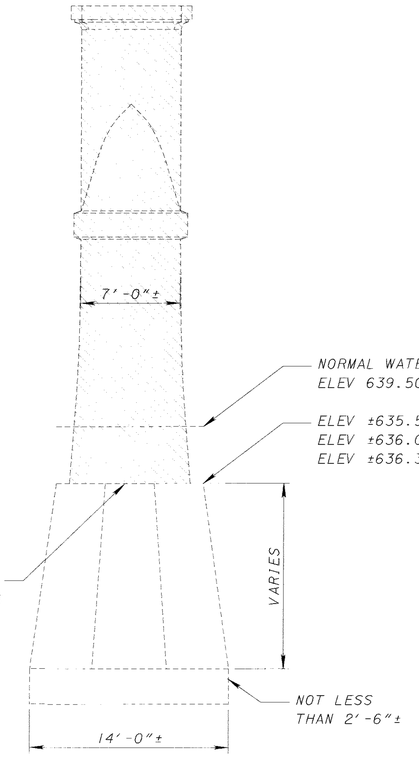
13/106

84/183



PIERS 1 THRU 6
TYP FRONT ELEV

FOR CONSTRUCTION PLAN PREPARATION THE PIER REMOVAL IS SHOWN AT EXISTING CONSTRUCTION JOINT. AT THE CONTRACTORS OPTION THE REMOVAL LIMIT CAN BE HIGHER PROVIDED ALL OTHER PLAN REQUIREMENTS ARE FULFILLED.



PIERS 1 THRU 6
TYP SIDE ELEV

LEGEND:

- SUGGESTED LIMITS OF STRUCTURE TO BE REMOVED. SEE GENERAL NOTES

NOTES:

1. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE TAKEN FROM CONTRACT PLANS DATED OCTOBER 1928 AND SHOULD BE TREATED AS APPROXIMATE(±), FOR INFORMATION ONLY.
2. EXISTING UTILITIES ARE NOT SHOWN. PLEASE REFER TO THE SITE PLAN FOR THE LOCATION.
3. SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

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PIERS 1 THRU 6 - REMOVAL PLAN

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

14/106

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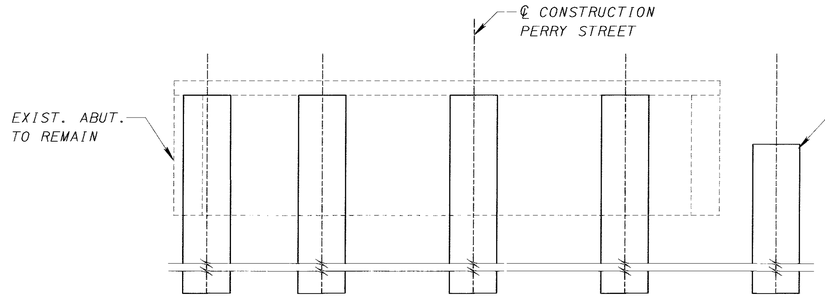
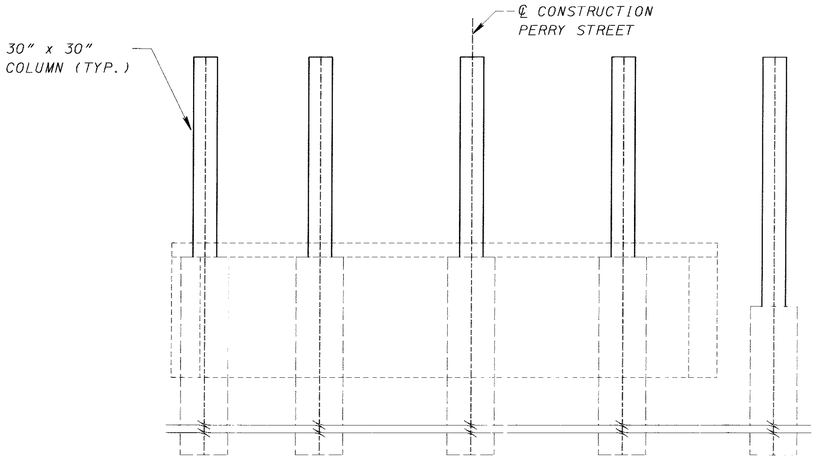


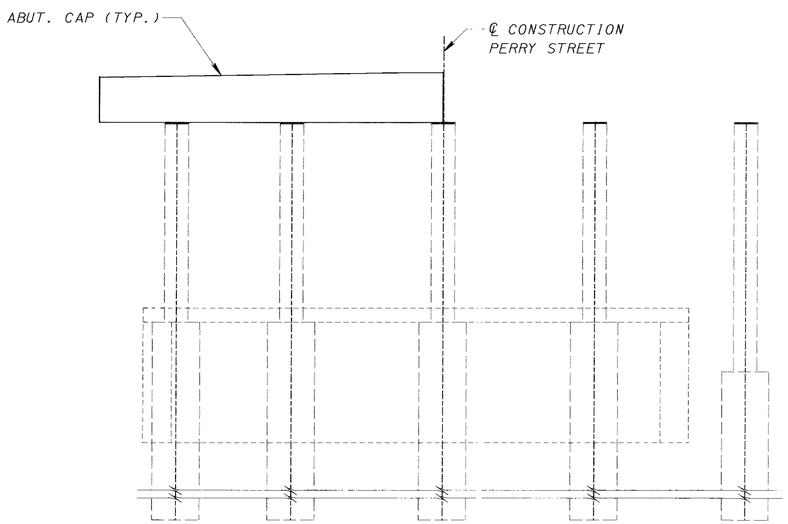
STEP 1

CONSTRUCT DRILLED SHAFTS



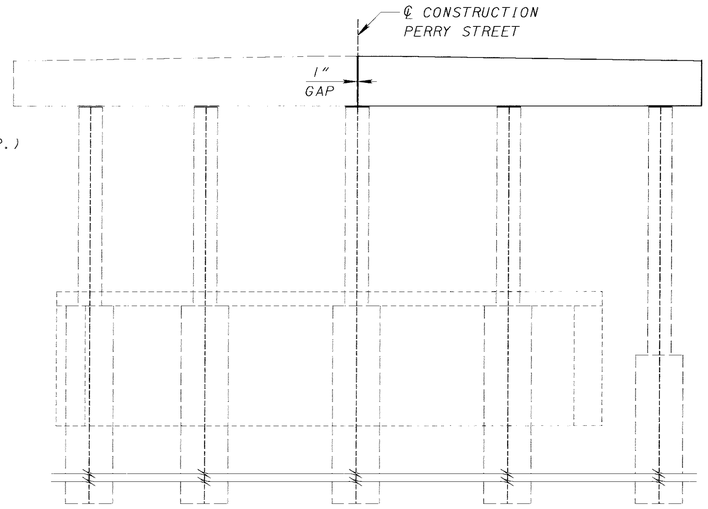
STEP 2

CONSTRUCT COLUMNS ATOP DRILLED SHAFTS



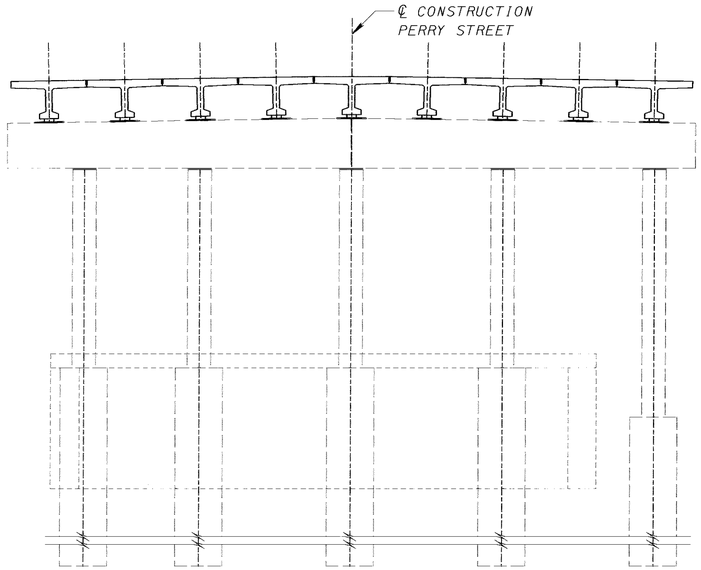
STEP 3

CONSTRUCT FIRST PORTION OF ABUTMENT CAP
LEVEL ABUTMENT CAP AND GROUT TOP OF COLUMNS



STEP 4

CONSTRUCT REMAINING PORTION OF ABUTMENT CAP
LEVEL ABUTMENT CAP AND GROUT TOP OF COLUMNS
POST TENSION ABUTMENT CAP SECTIONS



STEP 5

INSTALL BEARINGS & GIRDERS
INSTALL SEISMIC RESTRAINTS

SUGGESTED SEQUENCE OF CONSTRUCTION (ABUTMENTS)

1. INSTALL DRILLED SHAFTS FOR THE SUPPORT OF PRECAST ABUTMENT CAPS AT THE PLAN LOCATIONS, THE PLAN VIEW LOCATION TOLERANCE IS 3 INCHES.

2. THE DRILLED SHAFTS CAN BE INSTALLED THROUGH THE EXISTING FOOTING OR THE EXISTING FOOTING CAN BE REMOVED.

3. FOR PLAN PREPARATION PURPOSES THE ABUTMENT REMOVAL LIMIT IS SHOWN AT AN EXISTING CONSTRUCTION JOINT AT THE TOP OF THE FOOTING. AT THE CONTRACTORS OPTION THE REMOVAL LIMITS CAN BE HIGHER PROVIDED ALL PLAN REQUIREMENTS ARE FULFILLED.

4. PLACE REINFORCING STEEL AND CONCRETE AS PER ITEM 524. THE REINFORCING STEEL EXTENDING OUT OF THE DRILLED SHAFT AND INTO THE ABUTMENT COLUMN IS INCLUDED WITH THE DRILLED SHAFT FOR PAYMENT.

5. THE 30" SQUARE ABUTMENT COLUMN MUST BE LOCATED & CONSTRUCTED TO PLAN DIMENSIONS. THE COLUMNS MUST BE VERTICAL.

6. AFTER THE ABUTMENT COLUMN CONCRETE HAS SET, STEEL SHIMS CAN BE PLACED ON TOP OF THE ABUTMENT COLUMN TO SUPPORT THE PRECAST ABUTMENT CAP AT THE PLAN ELEVATION.

7. PLACE GROUT ON TOP OF ABUTMENT COLUMN TO THE BOTTOM ELEVATION OF THE PRECAST ABUTMENT CAP.

8. THE GROUT SHALL BE THE SAME AS USED IN THE LONGITUDINAL DECK JOINTS. COST IS CONSIDERED TO BE INCIDENTAL TO THE COST OF PRECAST CAP

9. SET PRECAST ABUTMENT CAP SEGMENT.

10. INSTALL POST TENSIONING GROUT SEAL.

11. SET ADJACENT ABUTMENT CAP SEGMENT.

12. GROUT THE 1 INCH VERTICAL GAP BETWEEN THE PRECAST ABUTMENT CAPS, USE SIKA 212 OR APPROVED EQUAL. COST IS CONSIDERED TO BE INCIDENTAL TO THE COST OF PRECAST CAP

13. WAIT ONE DAY FOR GROUT TO CURE

14. INSTALL TENDONS

15. STRESS TENDONS AND PLACE GROUT

16. GROUT VERTICAL DUCTS CONTAINING THE POST-TENSIONING BARS WITH POST-TENSIONING GROUT, AND GROUT THE SURFACE RECESS AREAS WITH THE GROUT USED IN THE SUPERSTRUCTURE LONGITUDINAL DECK JOINTS.

17. INSTALL BEARINGS AND GIRDERS.

18. INSTALL SEISMIC RESTRAINTS AFTER THE GIRDERS ARE IN PLACE.

NOTE:

REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR.

6209 RIVERSIDE DRIVE, SUITE 100
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E.L.Robinson Engineering of Ohio Co.

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FA/JN	JVE	RLE	01/07/2004
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

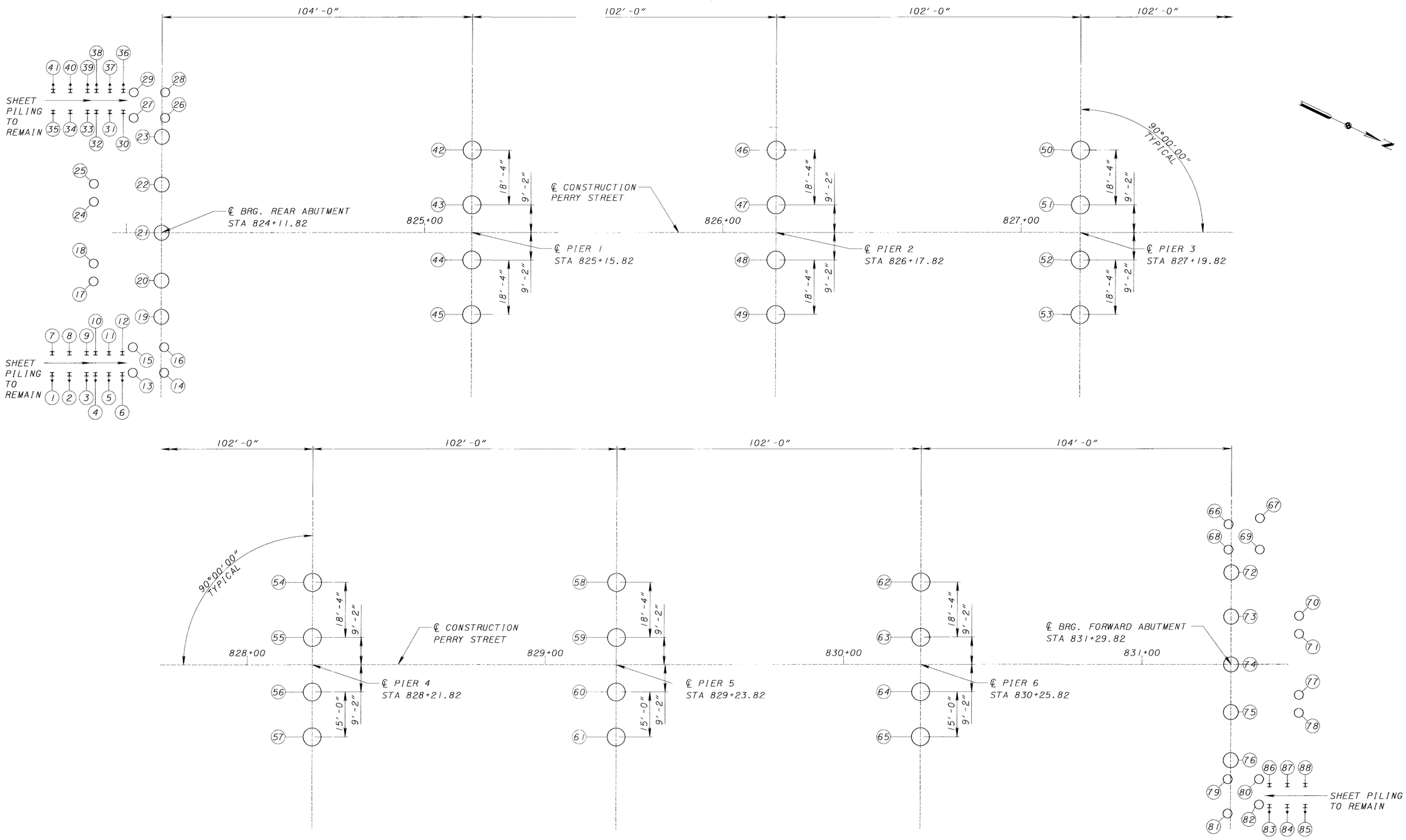
ABUTMENT CONSTRUCTION SEQUENCE

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

15/106

86/183



PILE AND DRILLED SHAFT LAYOUT

NOTES:
1. FOR ABUTMENT DIMENSIONS SEE SHEET 17 OF 106.

(*) - INDICATES PILE & DRILLED SHAFT NUMBERING

7 - 12, 30 - 35, & 86 - 88 ARE HP 14X73 PILES
1 - 6, 36 - 41, & 83 - 85 ARE HP 14X73 PILES, BATTERED (1:4)
13 - 18, 24 - 29, 66 - 71, & 77 - 82 ARE 3'-0" DIAMETER DRILLED SHAFTS
19 - 23 & 72 - 76 ARE 5'-0" DIAMETER DRILLED SHAFTS
42 - 65 ARE 6'-0" DIAMETER DRILLED SHAFTS

PILE LEGEND:

- BATTERED (1:4)
- STRAIGHT

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VH		3502384	

PILE AND DRILLED SHAFT LAYOUT 1 OF 2
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

16/106

87/183

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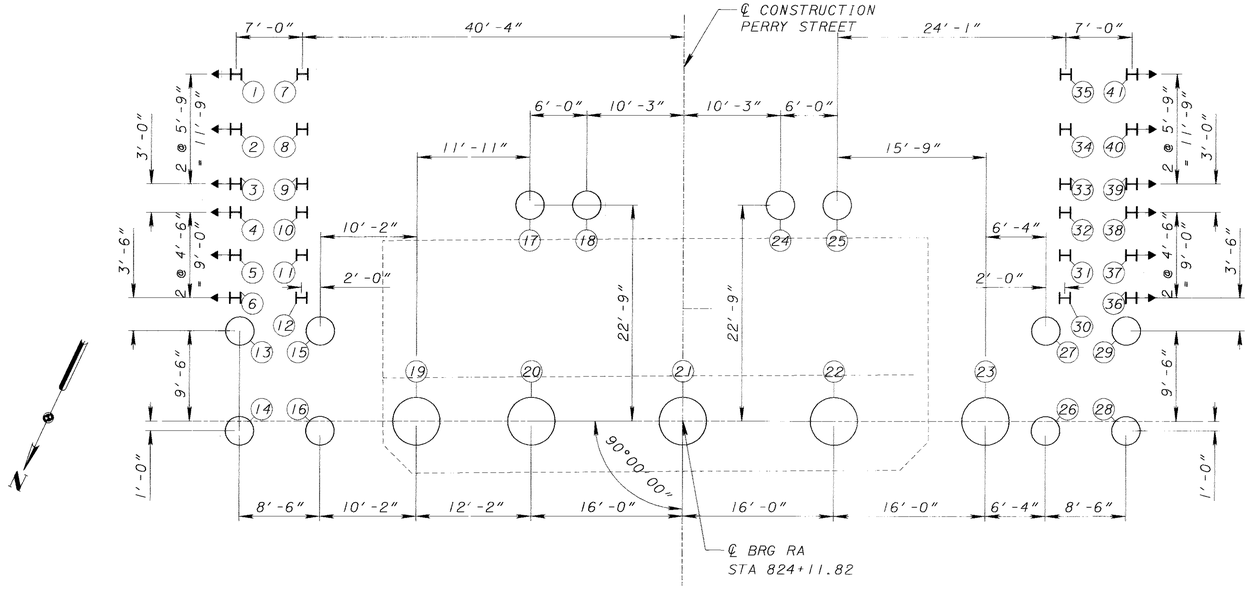


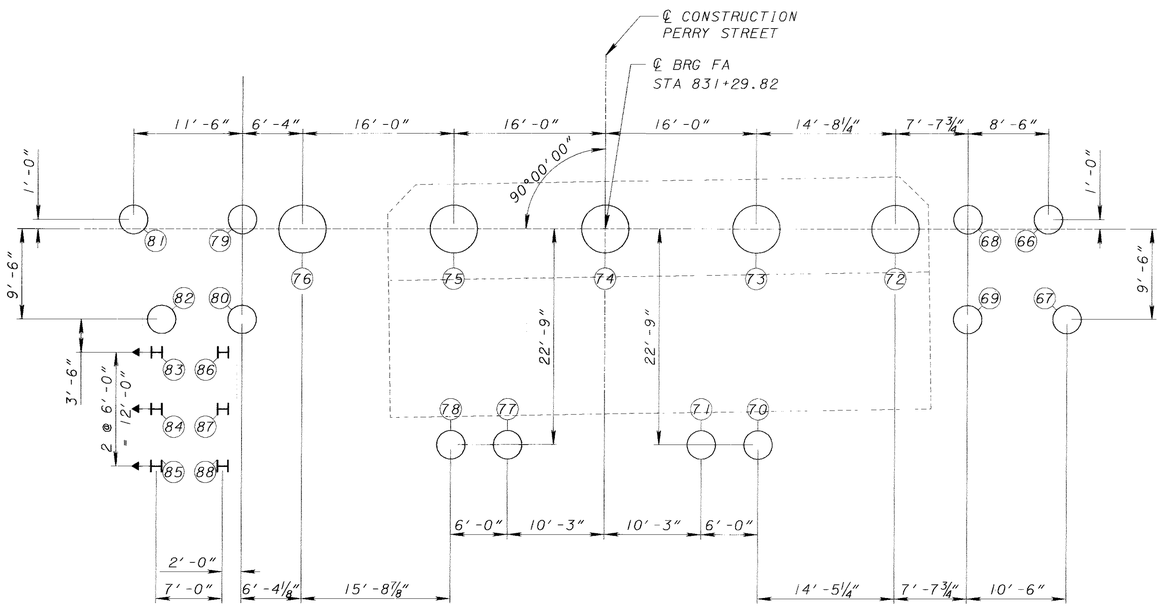
REAR ABUTMENT PILES AND DRILLED SHAFTS LAYOUT

ESTIMATED PILE LENGTHS**						
PILE #	ALIGN.	TOP ELEV (FT)	BOTTOM ELEV (FT)	PILE LENGTH (FT)	FURNISHED LENGTH (FT)	DRIVEN LENGTH (FT)
1	B	650	620	32	40	35
2	B	650	620	32	40	35
3	B	650	620	32	40	35
4	B	640	620	22	30	25
5	B	640	620	22	30	25
6	B	640	620	22	30	25
7	V	650	620	30	35	30
8	V	650	620	30	35	30
9	V	650	620	30	35	30
10	V	640	620	20	25	20
11	V	640	620	20	25	20
12	V	640	620	20	25	20
30	V	640	620	20	25	20
31	V	640	620	20	25	20
32	V	640	620	20	25	20
33	V	650	620	30	35	30
34	V	650	620	30	35	30
35	V	650	620	30	35	30
36	B	640	620	22	30	25
37	B	640	620	22	30	25
38	B	640	620	22	30	25
39	B	650	620	32	40	35
40	B	650	620	32	40	35
41	B	650	620	32	40	35
83	B	640	620	22	30	25
84	B	640	620	22	30	25
85	B	640	620	22	30	25
86	V	640	620	20	25	20
87	V	640	620	20	25	20
88	V	640	620	20	25	20

** ALL PILES HAVE PILE POINTS.

SUMMARY OF PILE LENGTHS

LENGTH	# OF PILES
20	9
25	9
30	6
35	6



FORWARD ABUTMENT PILES AND DRILLED SHAFTS LAYOUT

✳ - INDICATES PILE & DRILLED SHAFT NUMBERING

7 - 12, 30 - 35, & 86 - 88 ARE HP 14X73 PILES
1 - 6, 36 - 41, & 83 - 85 ARE HP 14X73 PILES, BATTERED (1:4)
13 - 18, 24 - 29, 66 - 71, & 77 - 83 ARE 3′-0″ DIAMETER DRILLED SHAFTS
19 - 23 & 72 - 76 ARE 5′-0″ DIAMETER DRILLED SHAFTS

PILE LEGEND:

- BATTERED (1:4)
- STRAIGHT

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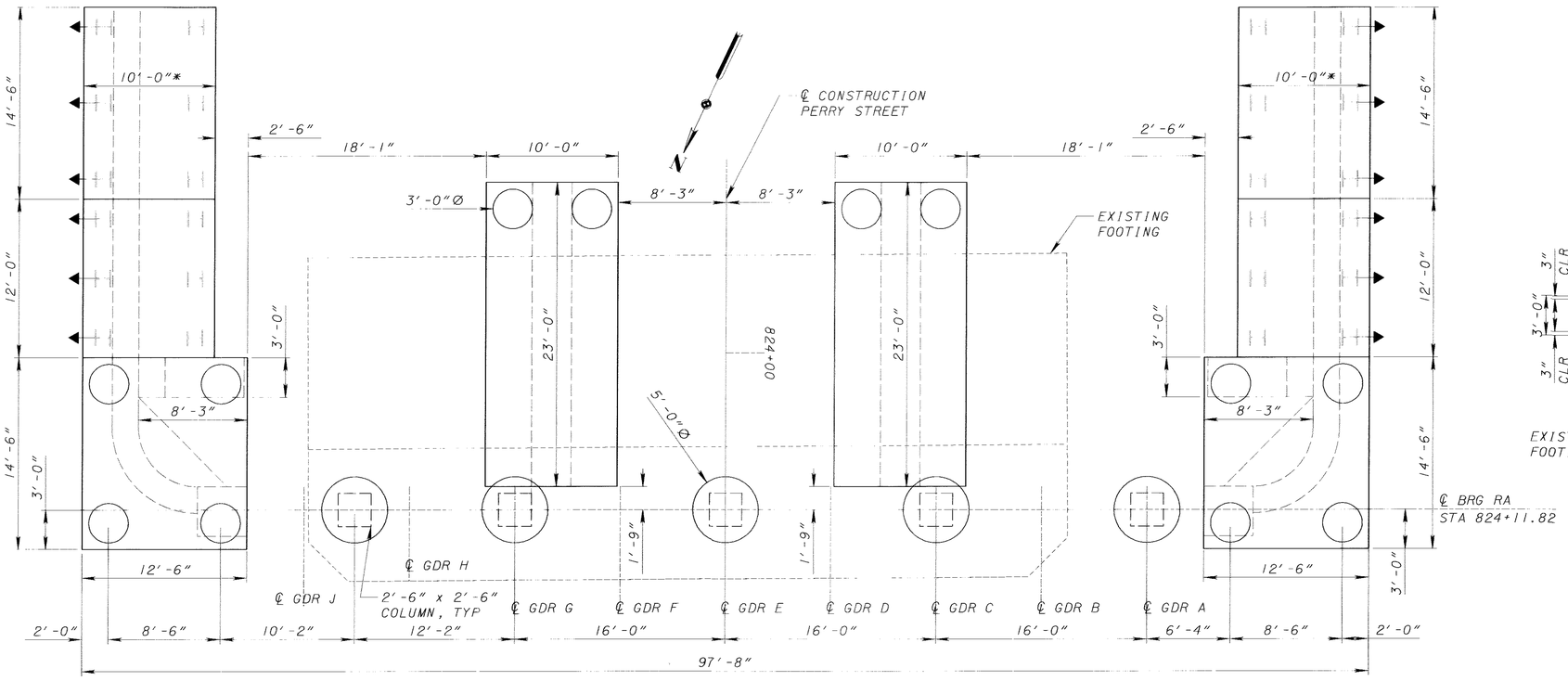
PILE AND DRILLED SHAFT LAYOUT 2 OF 2
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

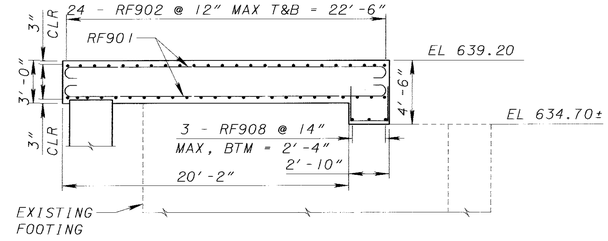
HEN-108-15.55

17/106

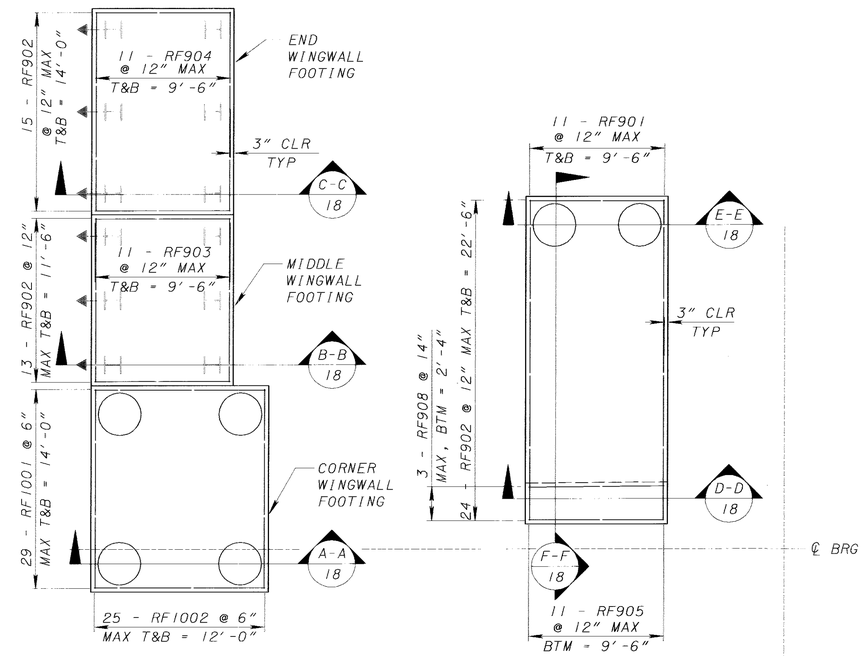
88/183



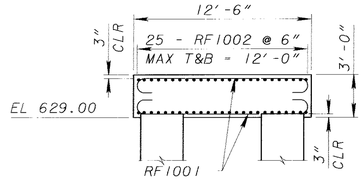
PLAN



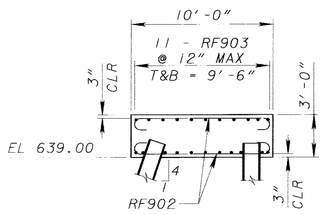
SECTION F-F



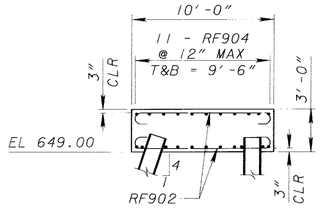
REINFORCING PLAN



SECTION A-A



SECTION B-B



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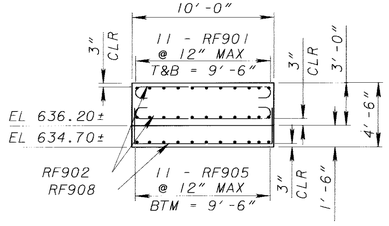
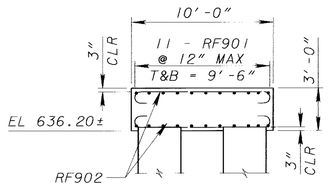


SECTION D-D



SECTION E-E

NOTES:

1. WINGWALL AND COUNTERFORT REBAR NOT SHOWN FOR CLARITY. SEE REAR ABUTMENT DETAILS - FOOTING LAYOUT 2 OF 2.
2. FOR WINGWALL DETAILS SEE SHEETS 27-28 OF 106.
3. FOR COUNTERFORT DETAILS SEE SHEETS 24 & 29 OF 106.
4. FOR DRILLED SHAFT DETAILS SEE SHEET 20 OF 106.
5. FOR SHEET PILING LOCATIONS. SEE NOTE 5 ON SHEET 27 OF 106.
6. 10'-0"* DIMENSION DEFINES THE LIMIT OF THE SHEET PILING LEFT IN PLACE AS SHOWN ON SHEET 27 OF 106. TYPICAL BOTH ABUTMENTS.

LEGEND:

BRG - BEARING
BTM - BOTTOM
℄ - CENTERLINE
CONST - CONSTRUCTION
CLR - CLEAR
EA - EACH
MAX - MAXIMUM
T&B - TOP AND BOTTOM
TYP - TYPICAL

◀⊣ - BATTERED (1:4)

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REAR ABUTMENT FOOTING LAYOUT 1 OF 2
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

18/106

89/183

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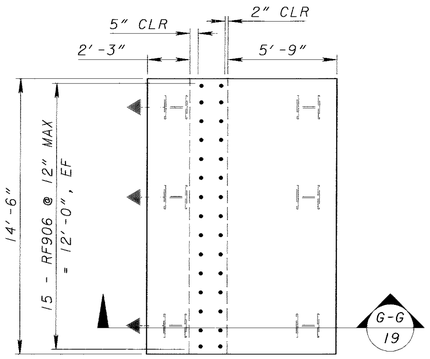
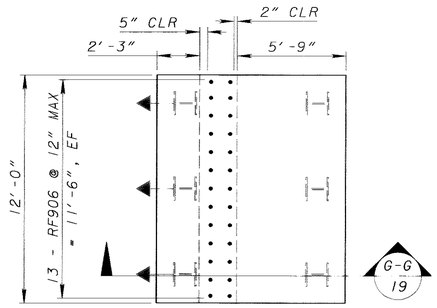


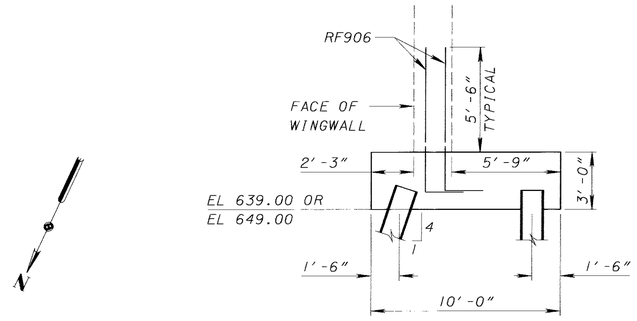
END WINGWALL FOOTING

TYPICAL

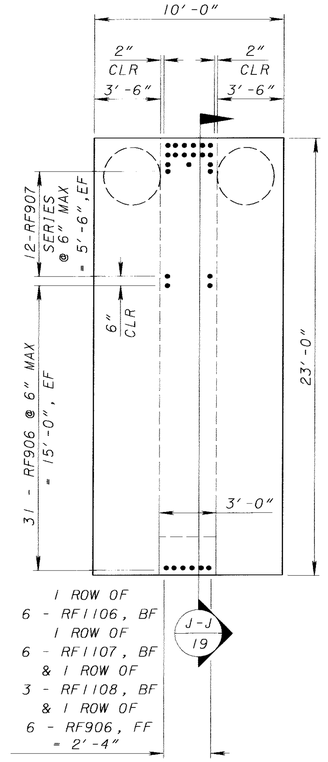


MIDDLE WINGWALL FOOTING

TYPICAL

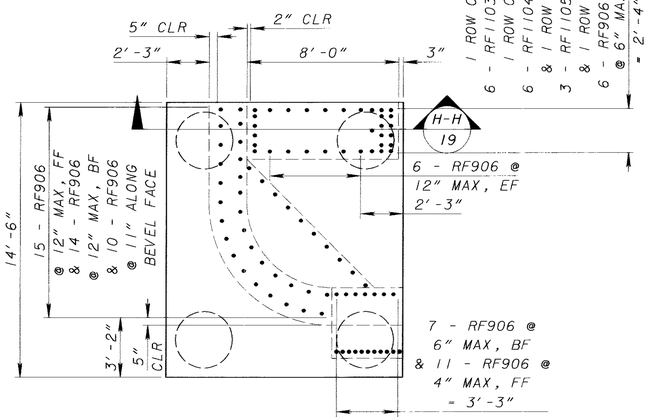


SECTION G-G



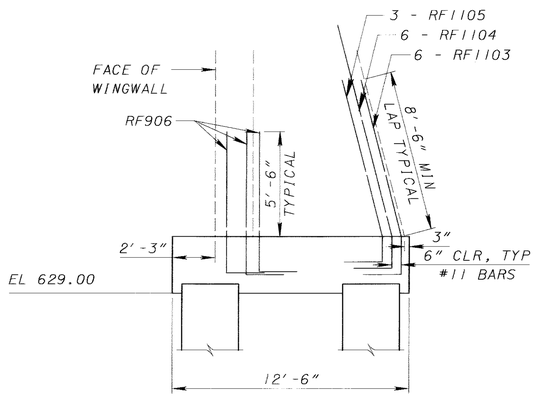
COUNTERFORT FOOTING

TYPICAL

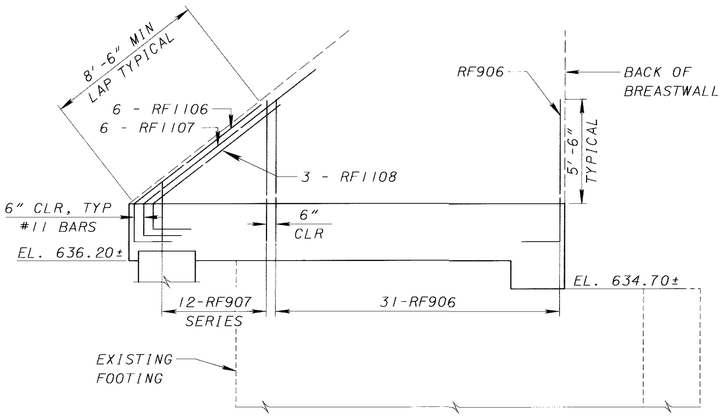


CORNER WINGWALL FOOTING

TYPICAL



SECTION H-H



SECTION J-J

NOTES:

1. FOOTING REBAR NOT SHOWN FOR CLARITY.
2. FOR ADDITIONAL FOOTING DETAILS SEE SHEET 18 OF 106.
3. FOR WINGWALL DETAILS SEE SHEETS 27-28 OF 106.
4. FOR COUNTERFORT DETAILS SEE SHEETS 24 & 29 OF 106.
5. FOR DRILLED SHAFT DETAILS SEE SHEETS 20 OF 106.

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REAR ABUTMENT FOOTING LAYOUT 2 OF 2
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

19/106

90/183

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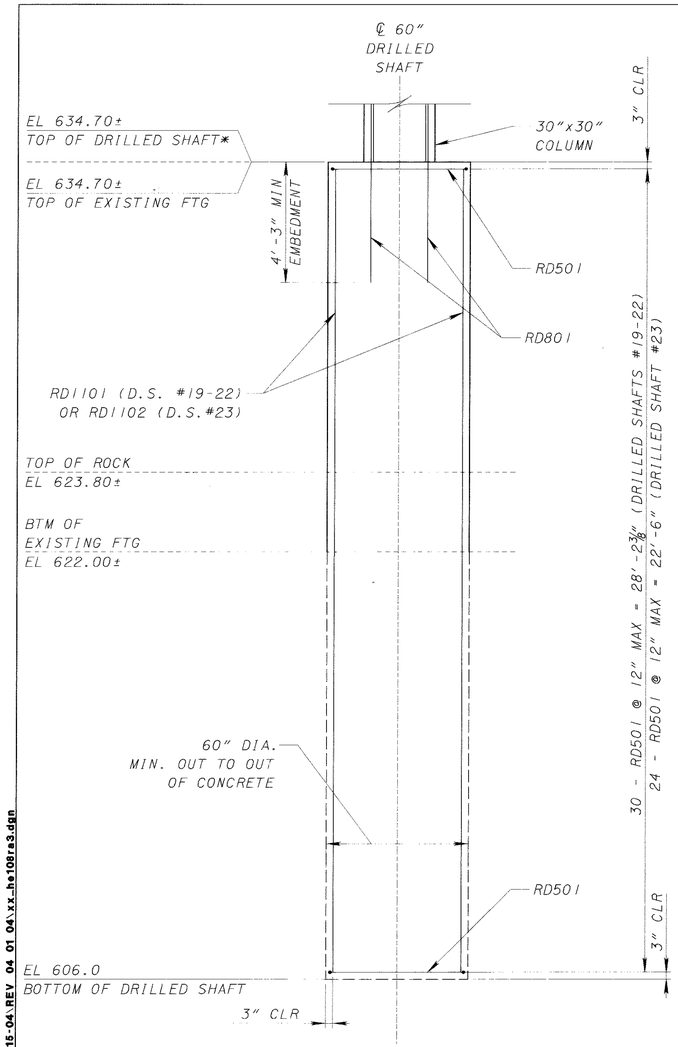
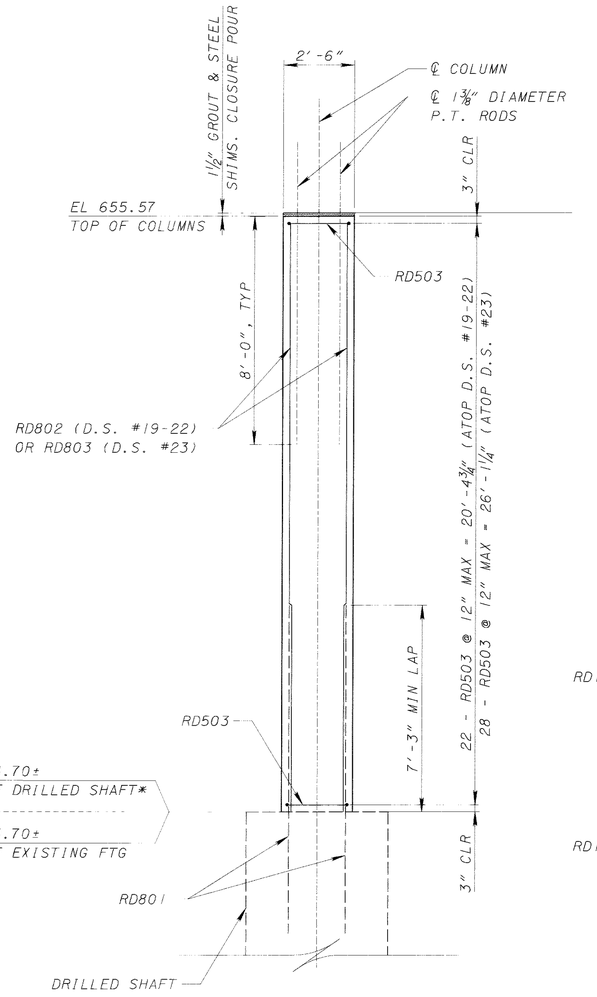


ELEVATION VIEW (60" DIA DRILLED SHAFT)

* TOP OF 60" DRILLED SHAFT LOCATED OUTSIDE OF EXISTING FOOTING IS 629.00

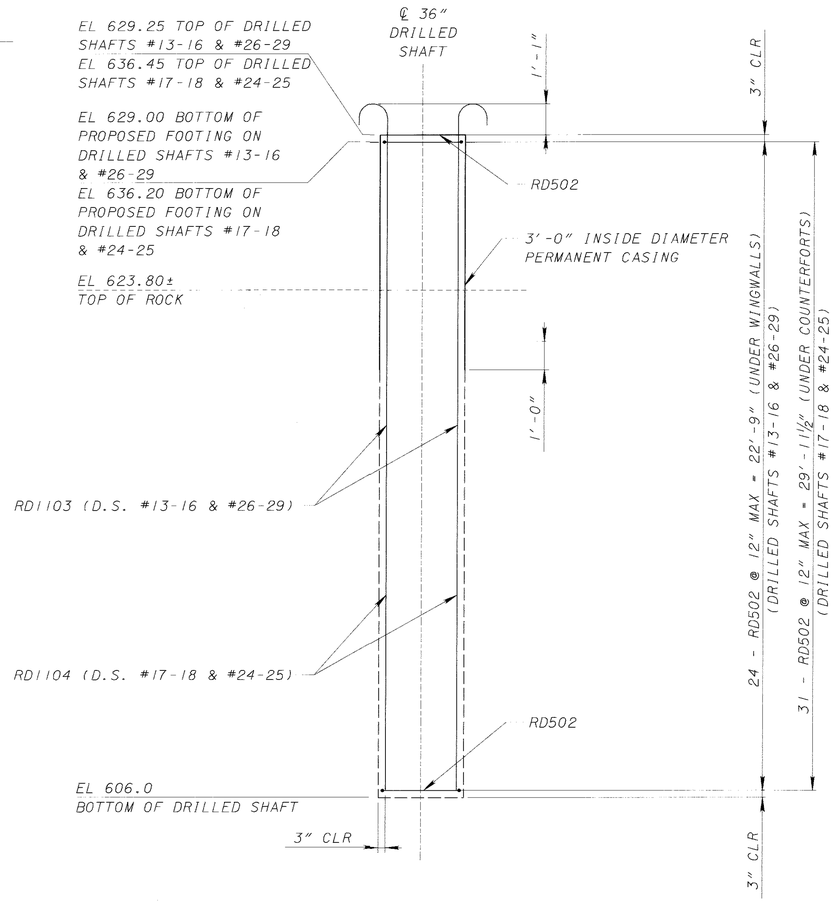


COLUMN ELEVATION VIEW

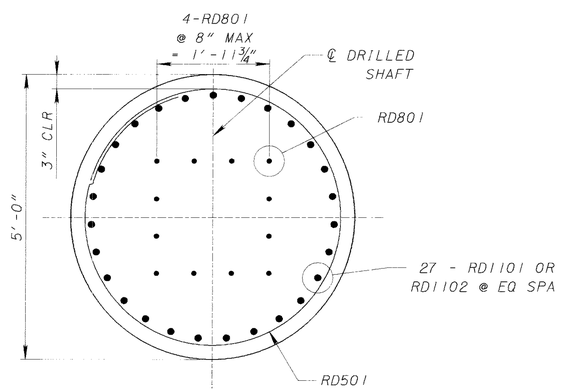
* TOP OF 60" DRILLED SHAFT LOCATED OUTSIDE OF EXISTING FOOTING IS 629.00

NOTES:

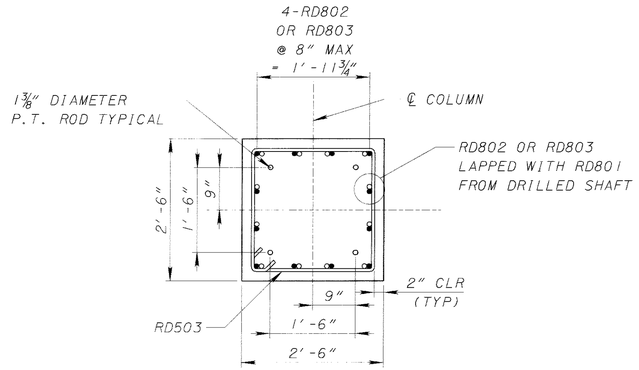
1. COST OF 1⅜" DIA P.T. BARS (TOTAL 20 PIECES AT 13'-6") SHALL BE INCLUDED IN ITEM SPECIAL, "STRUCTURE, MISC.: PRECAST ABUTMENT CAP MODULE", EA.
2. RD1103 AND RD1104 SHALL BE PLACED TO AVOID INTERFERENCE WITH FOOTING FORMS.



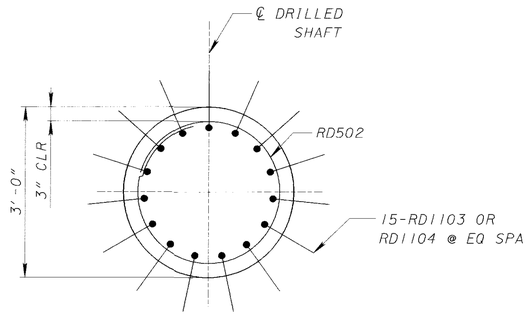
ELEVATION VIEW (36" DIA DRILLED SHAFT)



SECTION (60" DIA)



COLUMN SECTION



SECTION (36" DIA)

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REAR ABUTMENT COLUMNS AND DRILLED SHAFTS

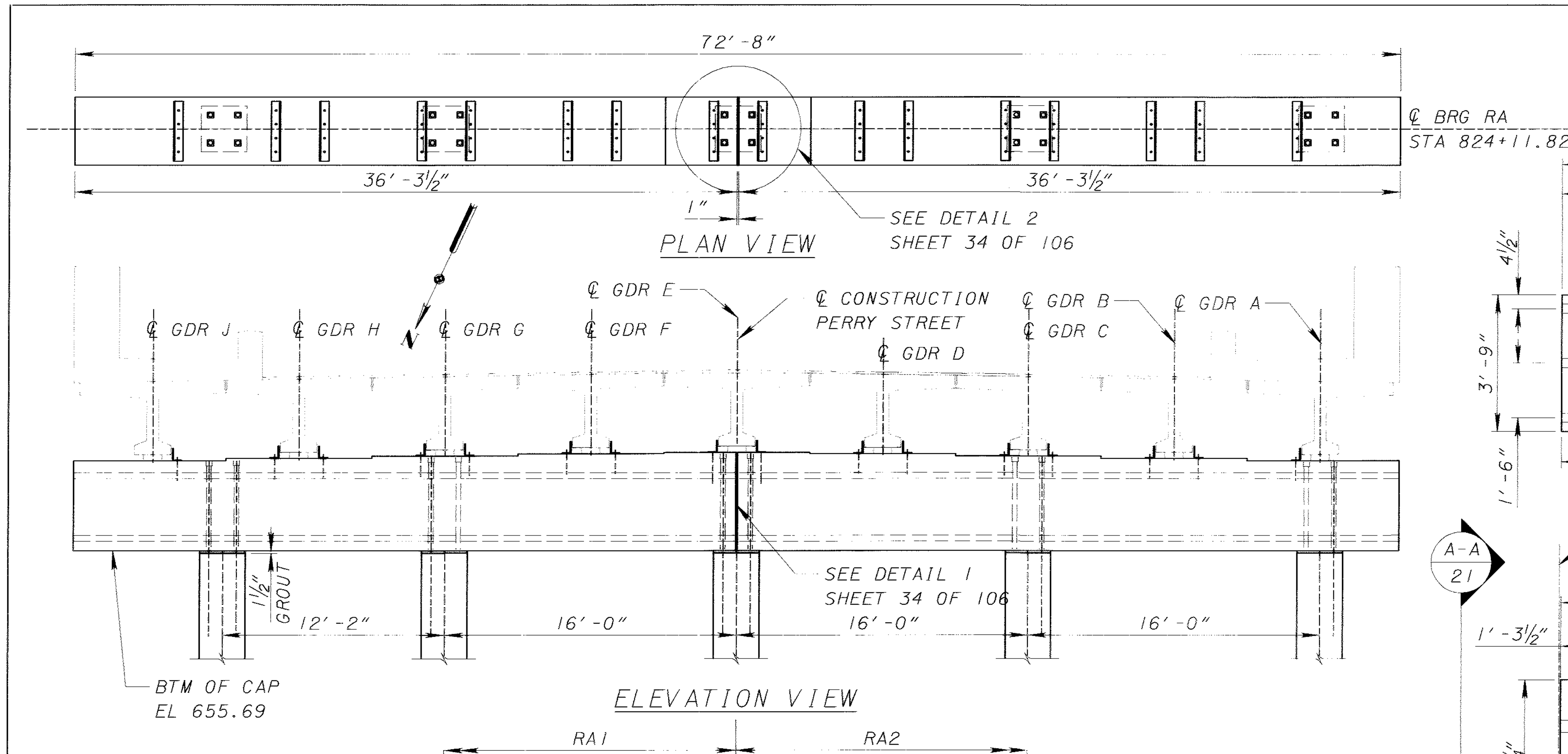
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

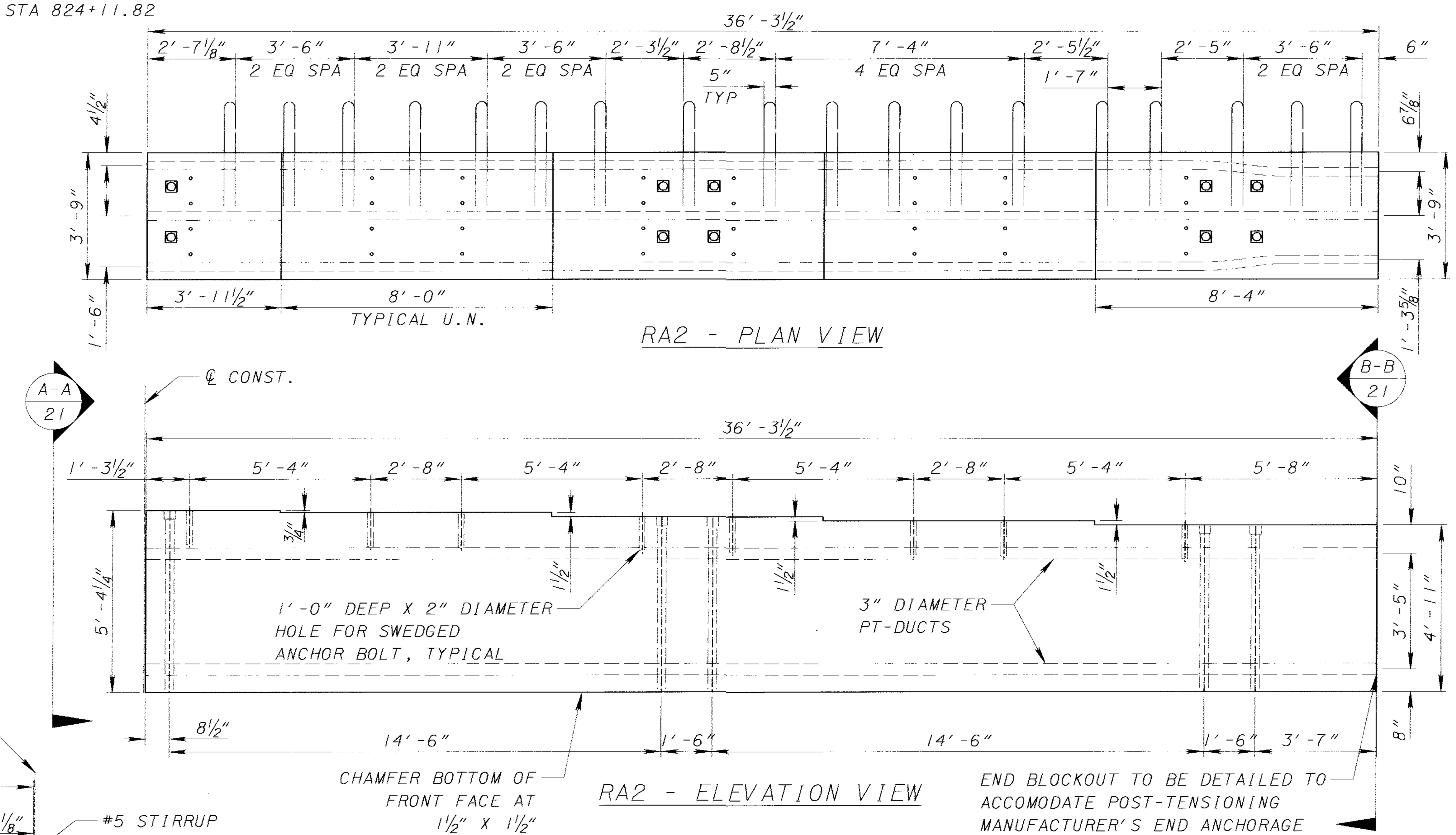
20/106

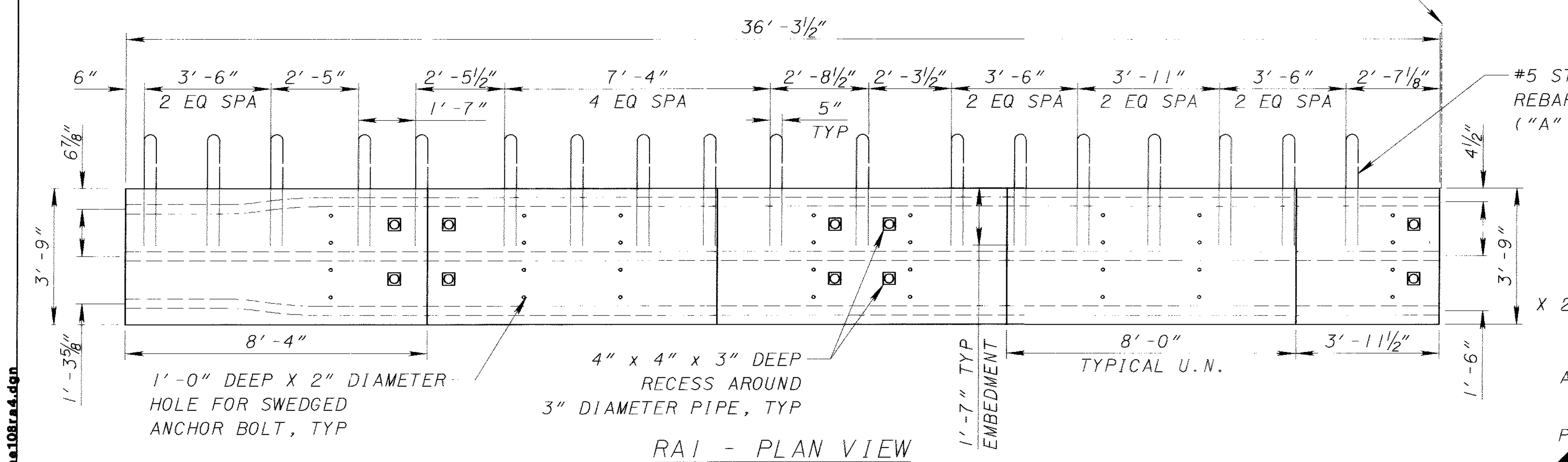
91/183

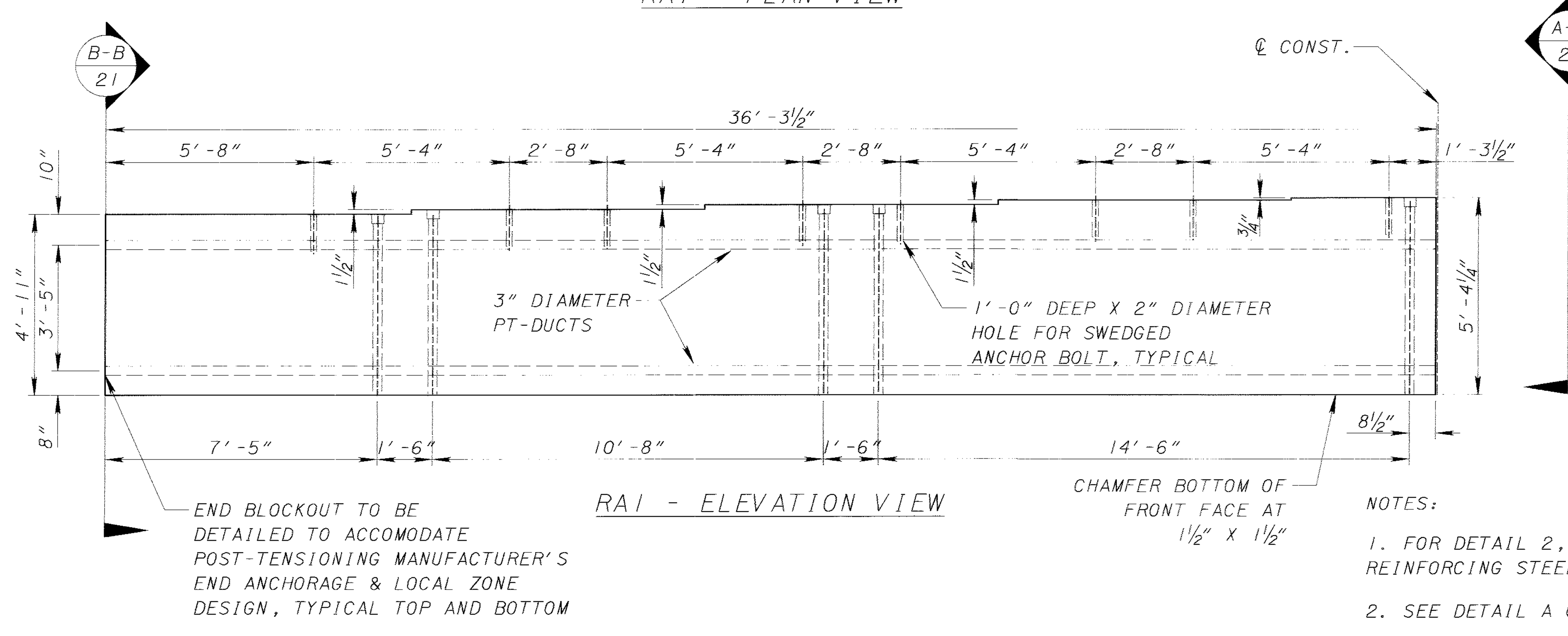
PLOTTED 04:39 PM Tue. 06 Apr 2004 jelkins \\Main\(09)Highway\Henry108\02-15-04\REV 04 01 04\xx_he108ra3.dgn

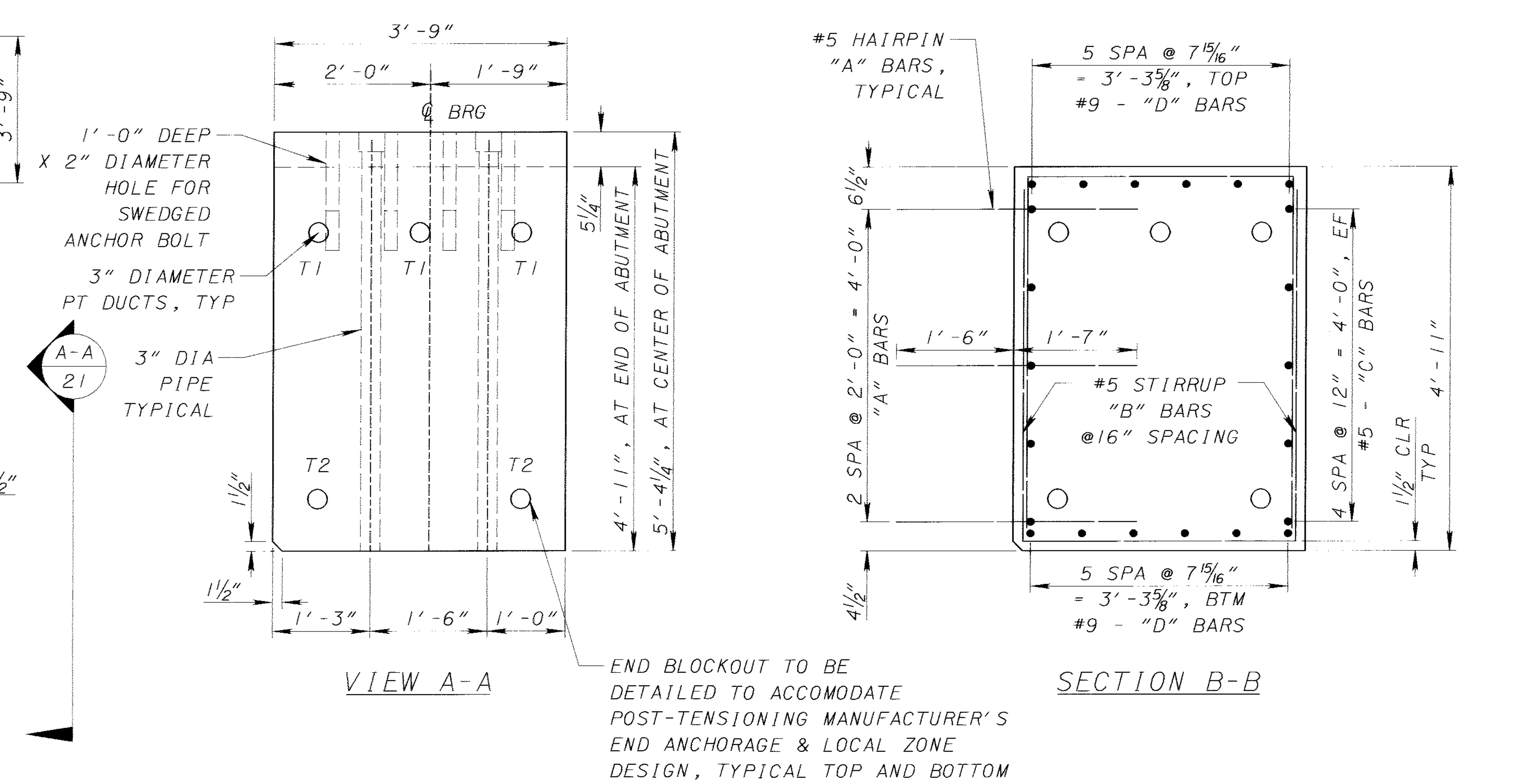


GIRDER SEAT ELEVATIONS					
GIRDER	ELEV	GIRDER	ELEV	GIRDER	ELEV
GDR A	660.61	GDR D	660.98	GDR G	660.85
GDR B	660.74	GDR E	661.05	GDR H	660.74
GDR C	660.85	GDR F	660.98	GDR J	660.61









NOTES:

1. FOR DETAIL 2, SEISMIC RESTRAINT DETAILS, & REINFORCING STEEL DETAILS. SEE SHEET 34 OF 106
2. SEE DETAIL A ON SHEET 45 OF 106 FOR GROUT SEAL
3. SEE DETAIL 1 & 2 ON SHEET 46 OF 106 FOR TIEDOWN DETAILS
4. SEE SHEET 34 OF 106 FOR POST-TENSIONING DETAIL & STRAND QUANTITIES
5. COST OF 1⅜" DIA P.T. BARS (TOTAL 20 PIECES AT 13'-6") SHALL BE INCLUDED IN ITEM 530, "STRUCTURE, MISC.: PRECAST ABUTMENT CAP MODULE", EA.
6. PRIOR TO GROUTING THE VERTICAL JOINT, THE CONTRACTOR SHALL APPLY PRESSURE TO THE PRECAST CONCRETE AT VERTICAL JOINT AS NECESSARY TO SEAL THE POST TENSIONING DUCTS.

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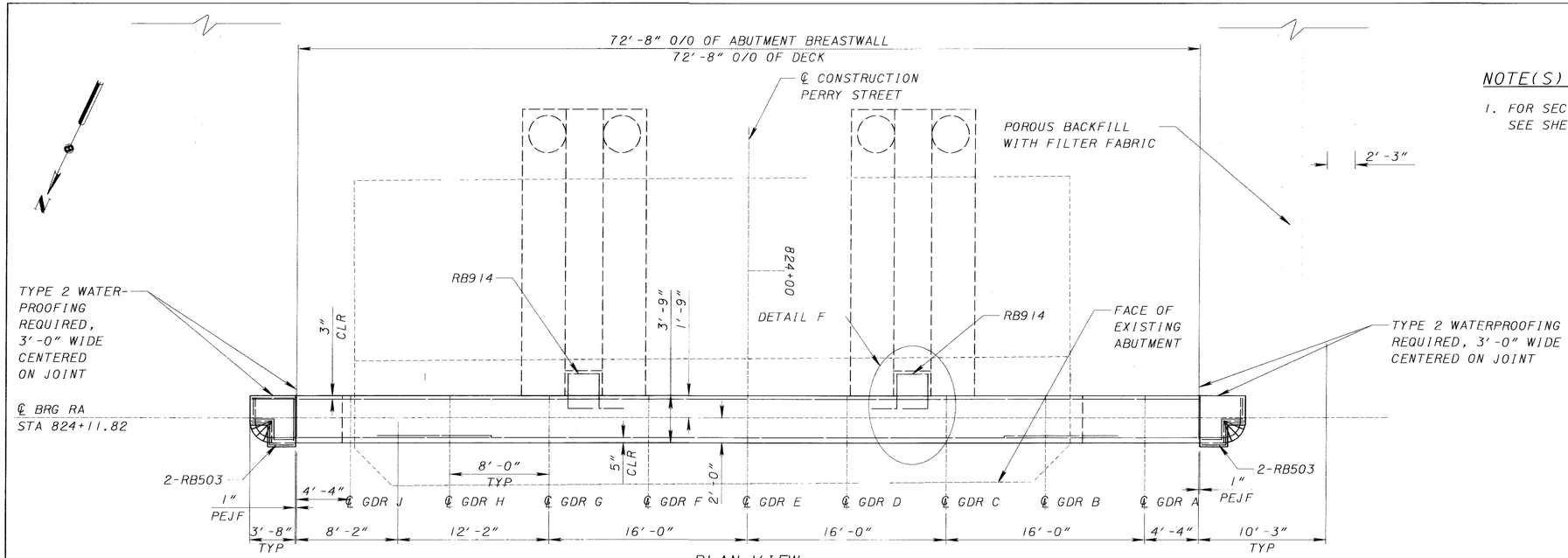
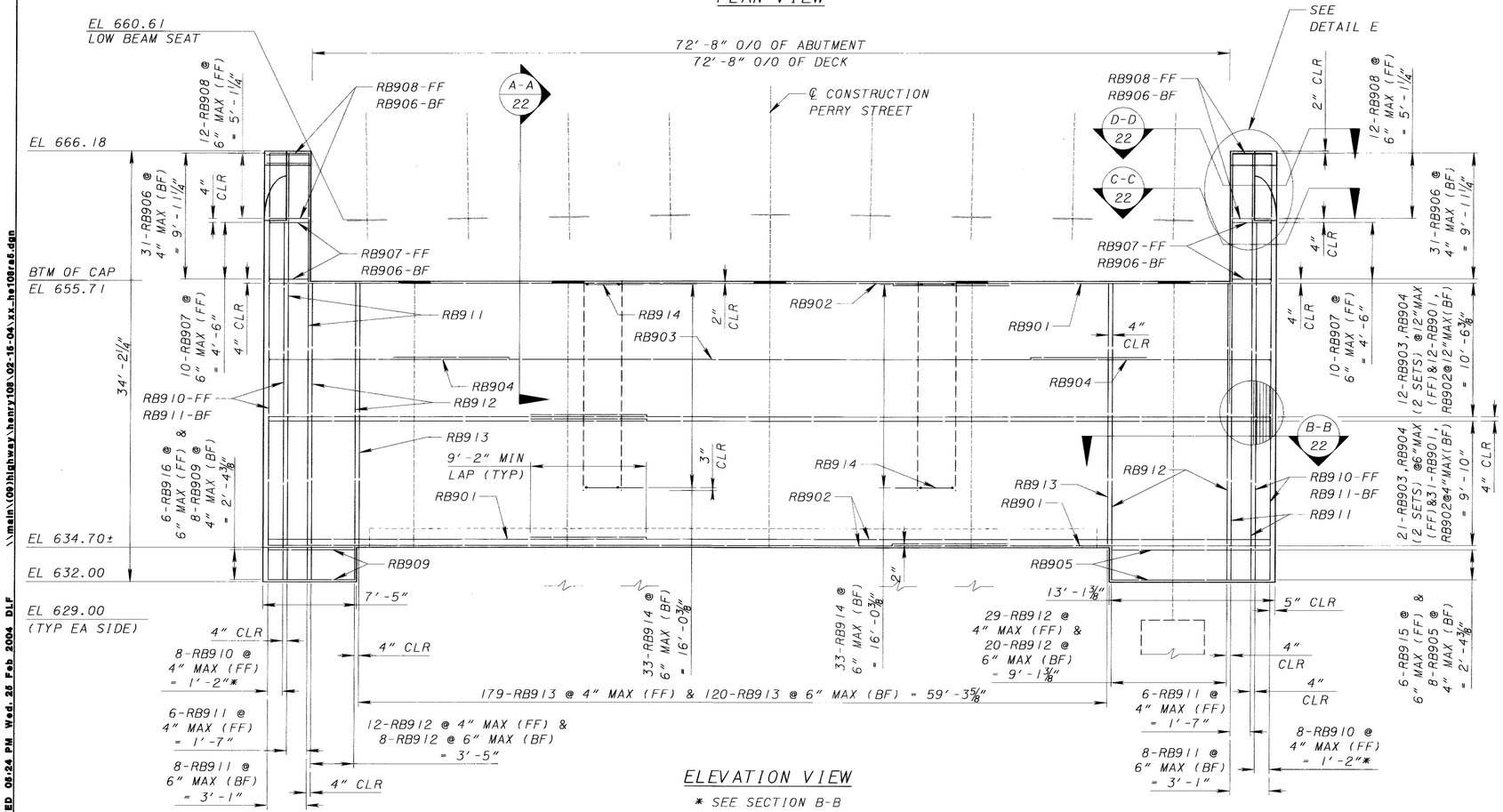
REAR ABUTMENT PRECAST COLUMN CAPS

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55



PLAN VIEW



ELEVATION VIEW

* SEE SECTION B-B
SEE SECTION D-D FOR DOME REINFORCEMENT

NOTE(S):

1. FOR SECTIONS A-A, B-B, C-C, D-D, & DETAILS E & F SEE SHEET 23 OF 106, "REAR ABUTMENT BREASTWALL 2 OF 2"

LEGEND:

FF - FRONT FACE

BF - BACK FACE

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REAR ABUTMENT BREASTWALL 1 OF 2

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

22/106

93/183

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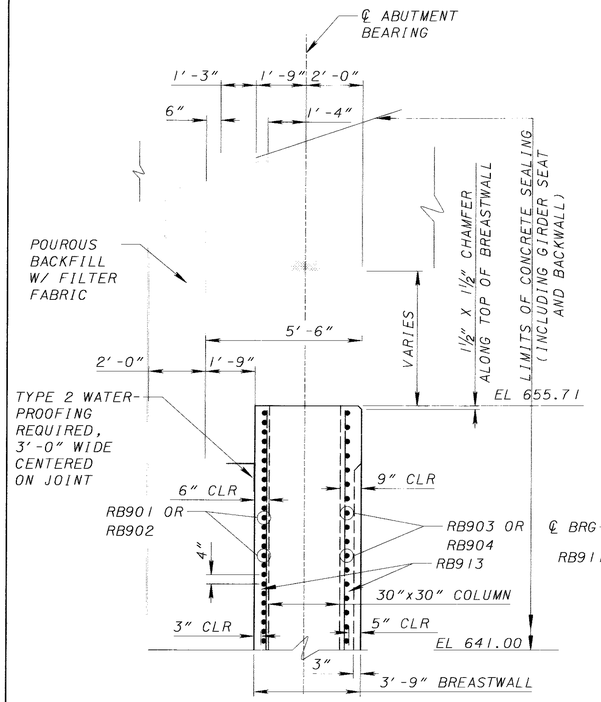
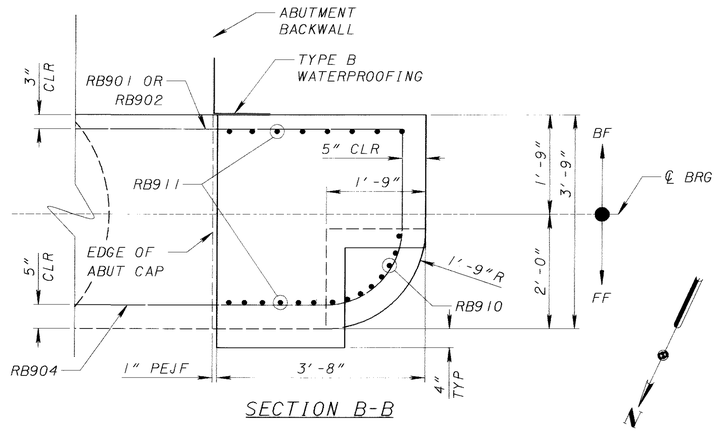
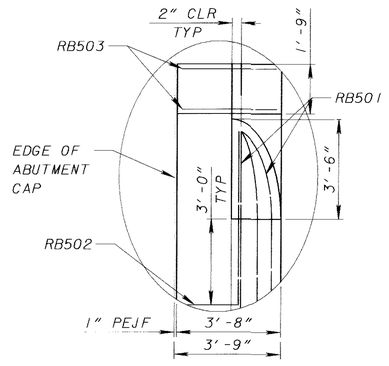


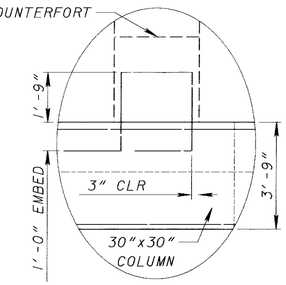
SECTION A-A



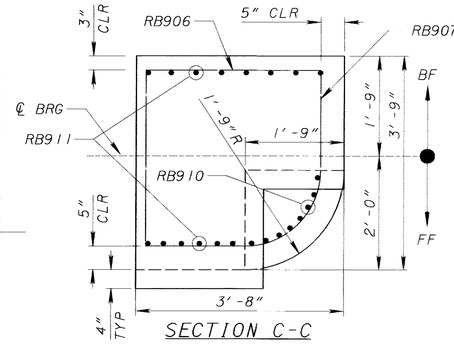
SECTION B-B



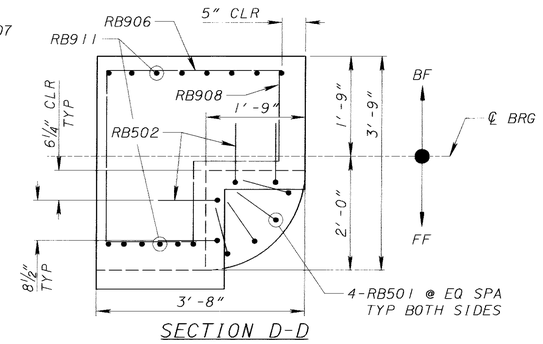
DETAIL E



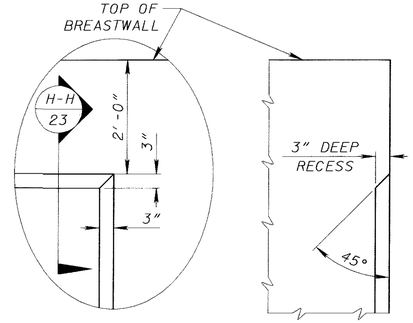
DETAIL F



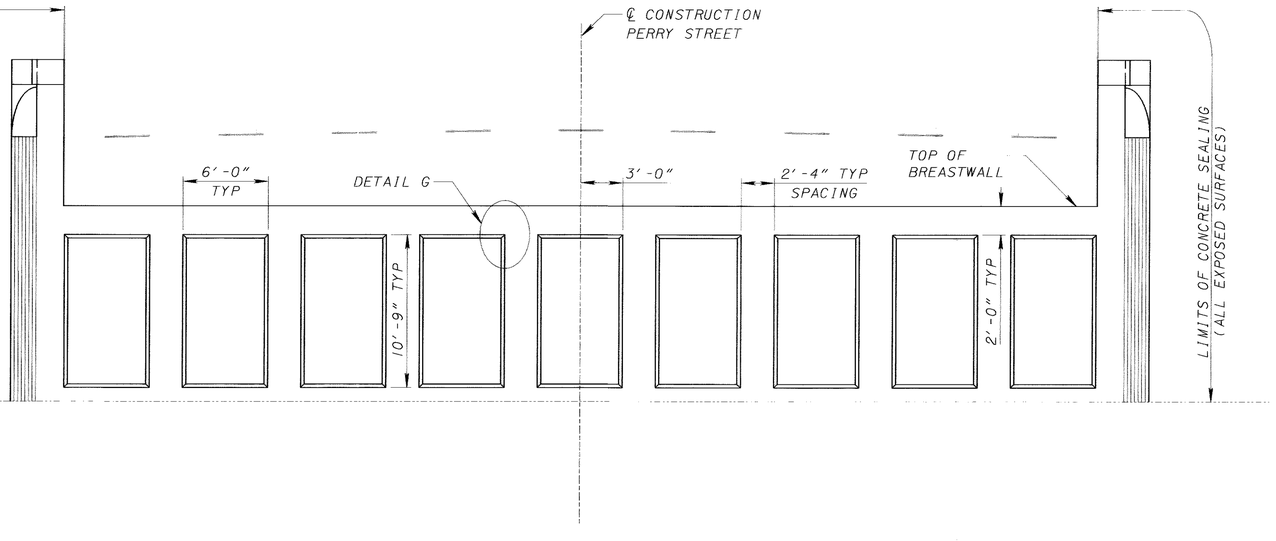
SECTION C-C



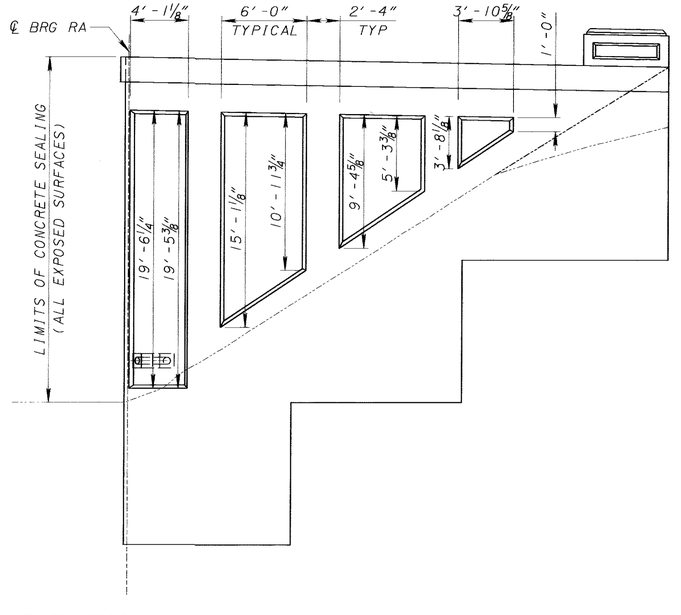
SECTION D-D



DETAIL G SECTION H-H



ELEVATION - BREASTWALL ARCHITECTURAL TREATMENT



ELEVATION - WINGWALL ARCHITECTURAL TREATMENT

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VH		3502384	

REAR ABUTMENT BREASTWALL
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

23/106

94/183

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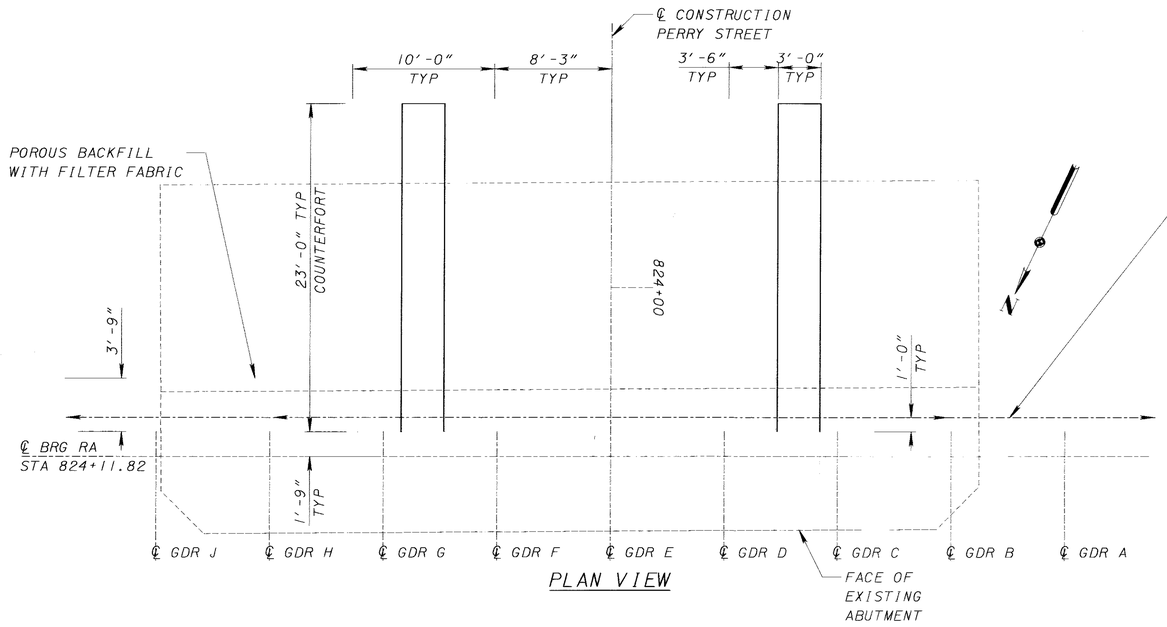
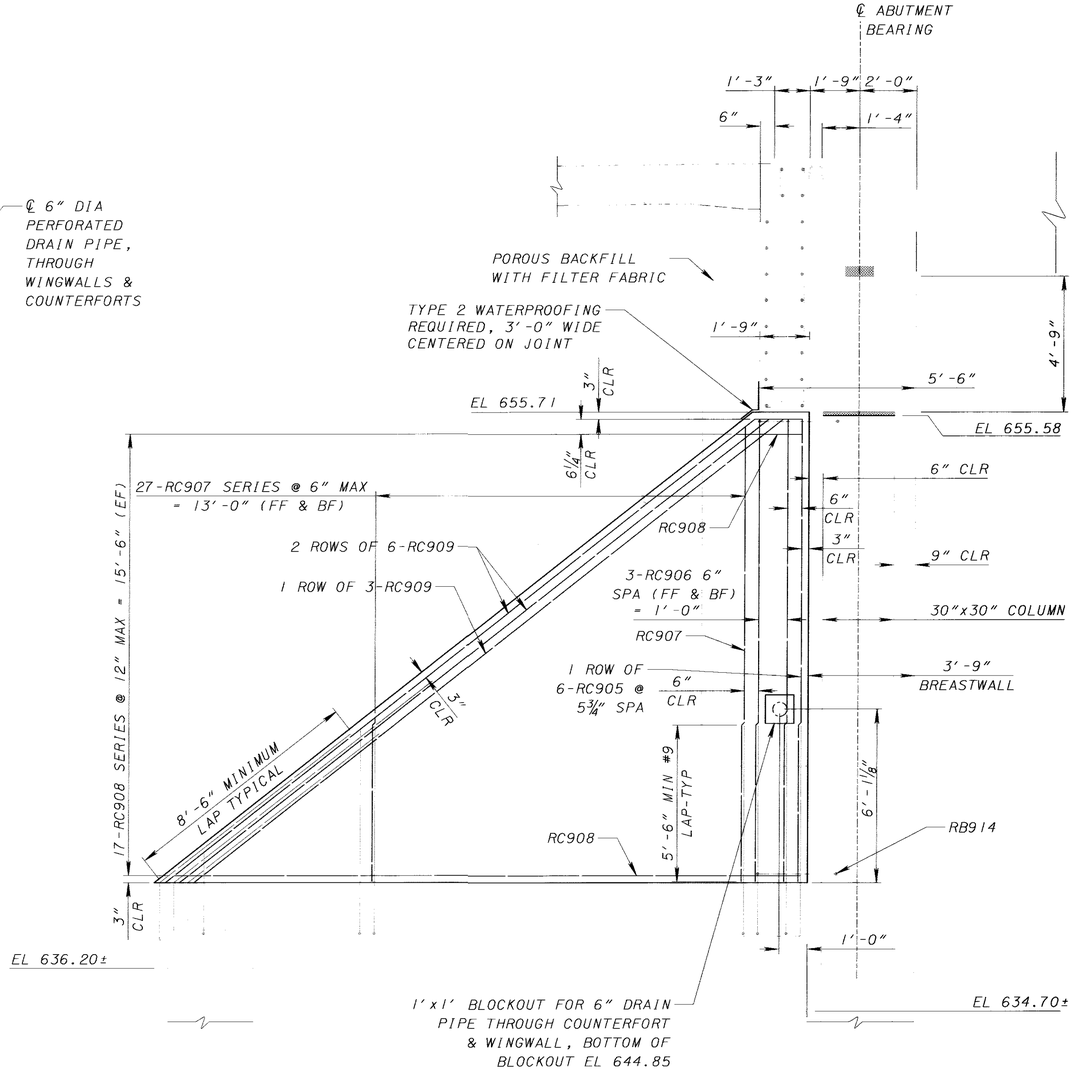
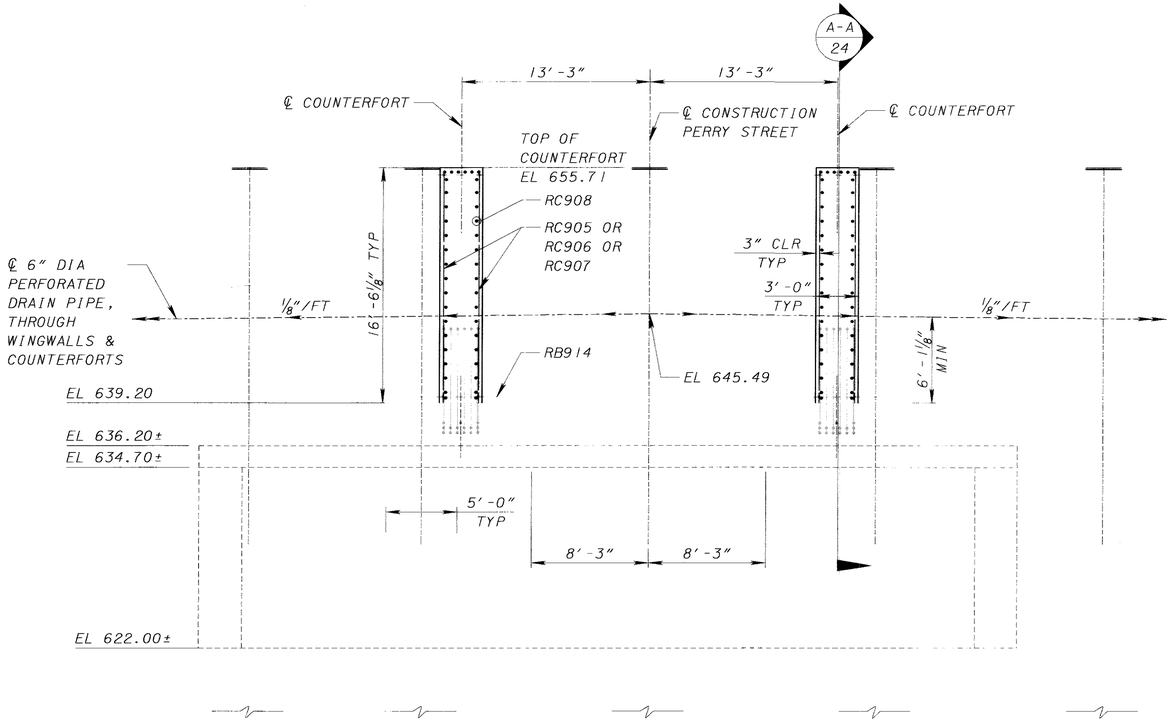


PLAN VIEW



SECTION A-A



ELEVATION VIEW

NOTES:

1. FIELD CUT REBAR TO CLEAR UTILITY AND DRAIN PIPE OPENINGS AND REPAIR BAR ENDS PER 509.9. THE CONTRACTOR MAY CHOOSE TO FORM CIRCULAR OPENINGS FOR THE WATER AND ELECTRIC LINES. IF CIRCULAR OPENINGS ARE USED, USE THE SIZE OF THE OPENINGS AS NOTED ON THE PLANS (-0, +2"). FOLLOWING INSTALLATION OF UTILITIES, FILL REMAINDER OF OPENINGS WITH QUICK SETTING CONCRETE MORTAR TYPE 2, PER 705.21. IF UTILITIES ARE INSTALLED BEFORE BACKWALL IS CONSTRUCTED, BACKWALL CONCRETE MAY BE CAST DIRECTLY AGAINST UTILITIES WITHOUT FORMING AN OPENING. INCLUDE COST OF FORMING OPENINGS AND SUPPLYING, MIXING, AND PLACING MORTAR WITH ABUTMENT CONCRETE FOR PAYMENT. INLCUDE COST OF CUTTING AND REPAIRING REBAR WITH ITEM 509 FOR PAYMENT.

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VH		3502384	

REAR ABUTMENT BREASTWALL COUNTERFORTS

BRIDGE NO. HEN-108-156 /
OVER MAUMEE RIVER

HEN-108-15.55

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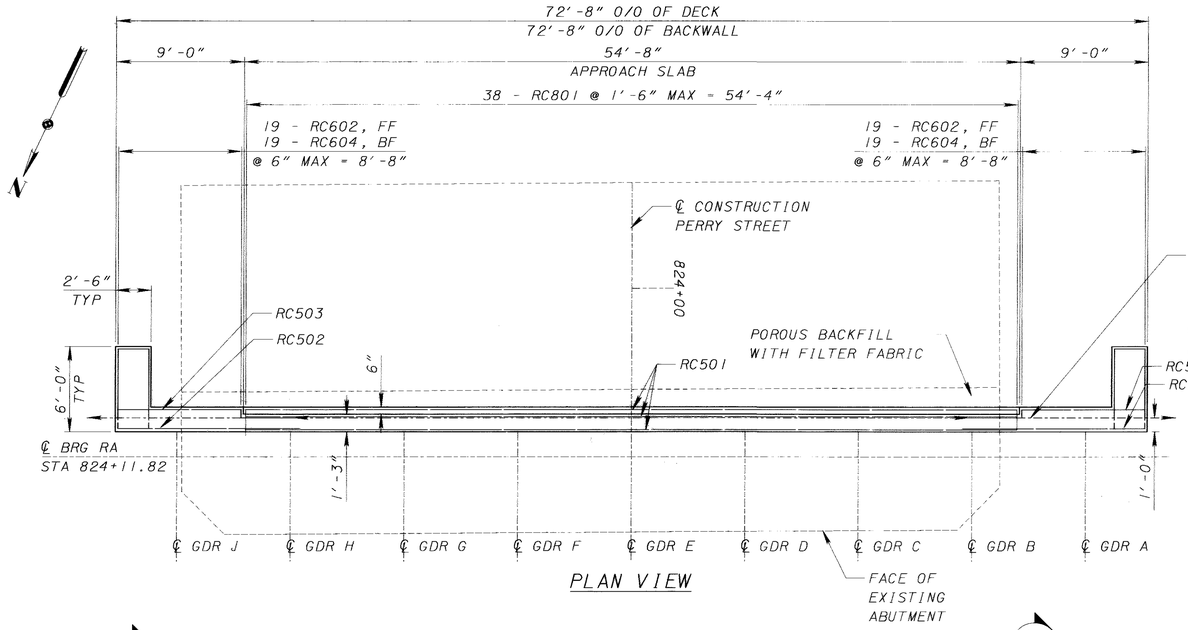
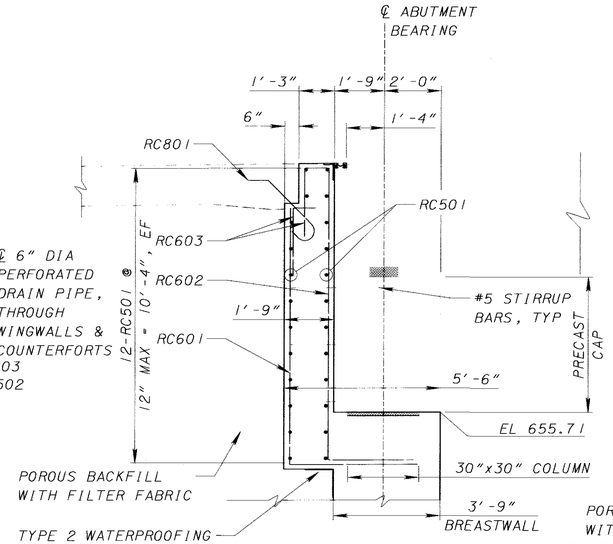
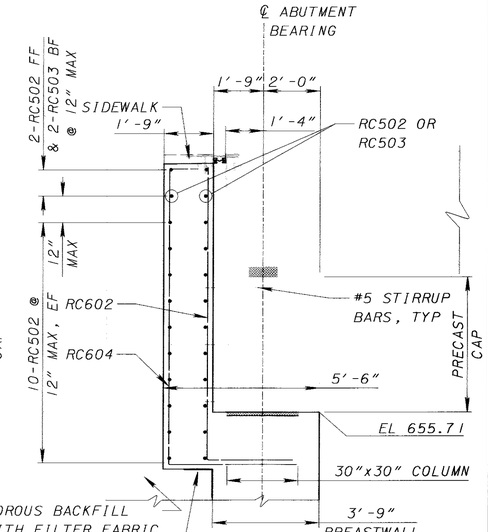


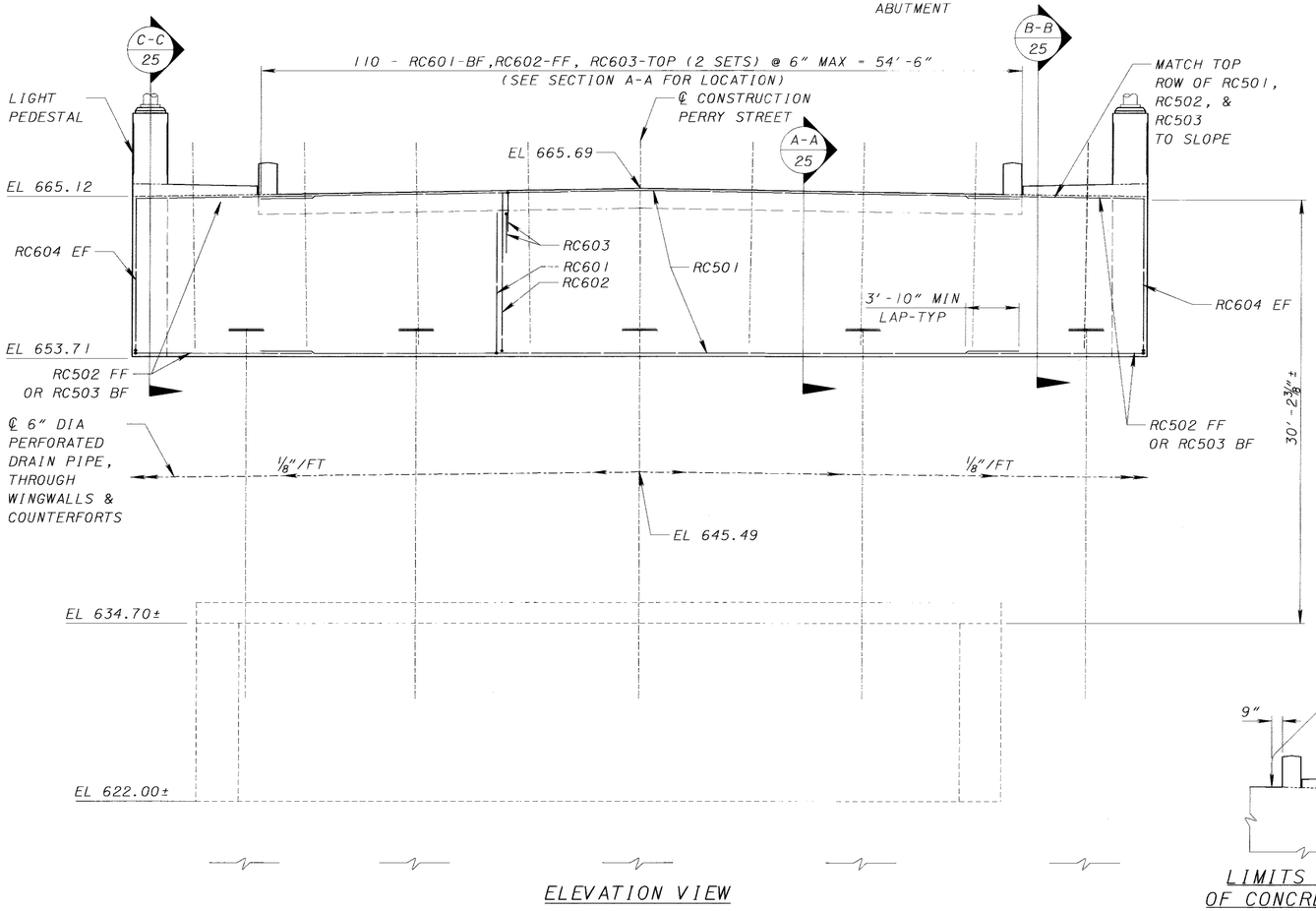
PLAN VIEW



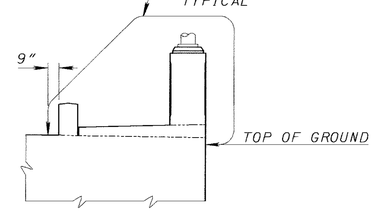
SECTION A-A



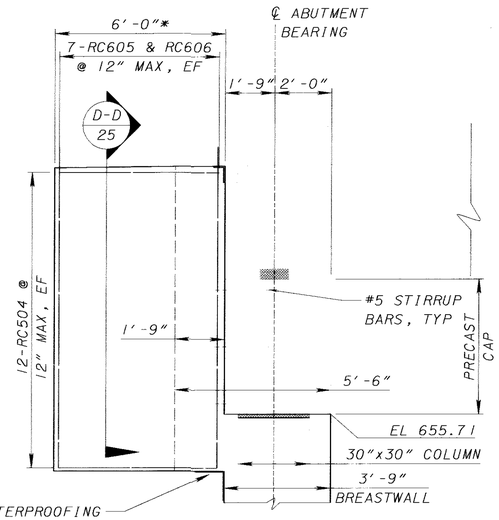
SECTION B-B



ELEVATION VIEW

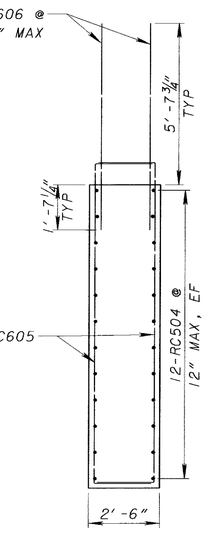


LIMITS OF SEALING OF CONCRETE SURFACES



SECTION C-C

* SEE REAR ABUTMENT DETAILS - BACKWALL 2 OF 2.



SECTION D-D

SIDEWALK AND LIGHT PEDESTAL NOT SHOWN FOR CLARITY

NOTES:

1. FOR UTILITY BLOCKOUT LOCATIONS, LIGHT PEDESTAL, AND SIDEWALK DETAILS SEE REAR ABUTMENT DETAILS - BACKWALL 2 OF 2.

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VH		3502384	

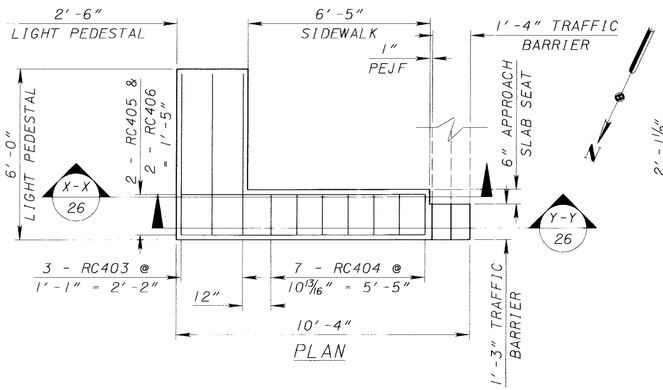
REAR ABUTMENT BACKWALL 1 OF 2

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

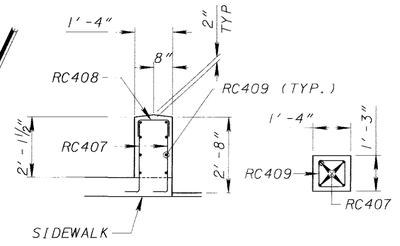
HEN-108-15.55

25/106

96/183

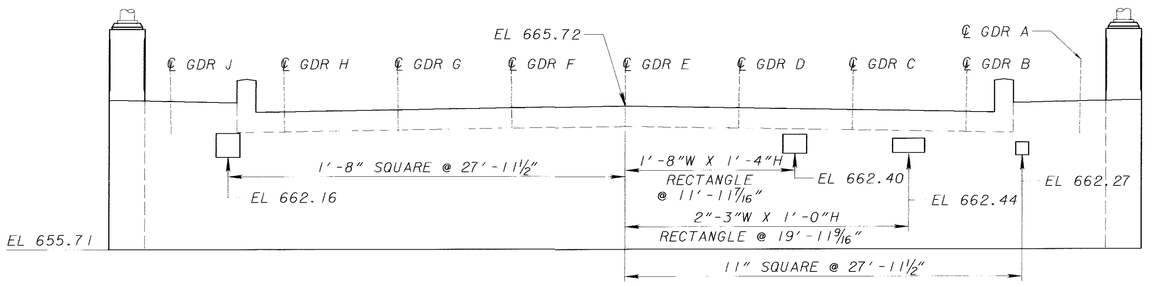


PLAN

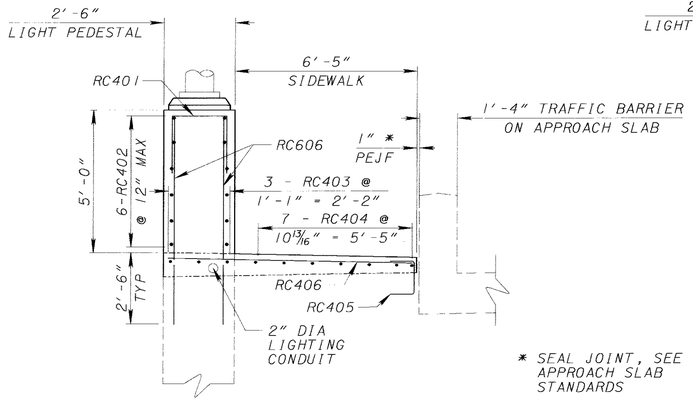


ELEVATION SECTION

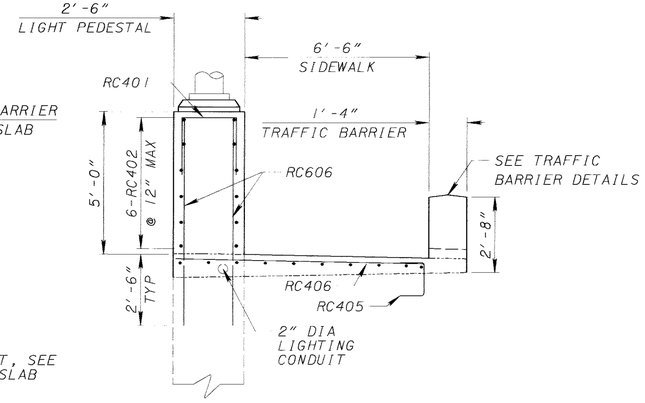
TRAFFIC BARRIER



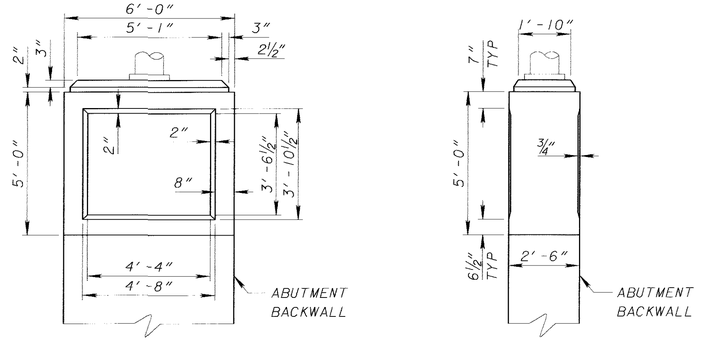
UTILITY BLOCKOUT LOCATIONS



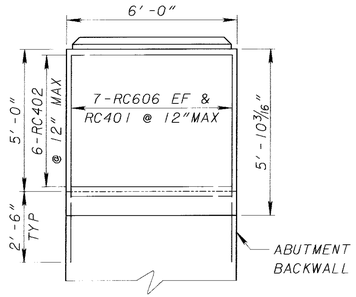
SECTION X-X



SECTION Y-Y



LIGHT PEDESTAL DETAILS



LIGHT PEDESTAL REBAR DETAILS

NOTES:

1. FIELD CUT REBAR TO CLEAR UTILITY AND DRAIN PIPE OPENINGS AND REPAIR BAR ENDS PER 509.9. THE CONTRACTOR MAY CHOOSE TO FORM CIRCULAR OPENINGS FOR THE WATER AND ELECTRIC LINES. IF CIRCULAR OPENINGS ARE USED, USE THE SIZE OF THE OPENINGS AS NOTED ON THE PLANS (-0, +2"). FOLLOWING INSTALLATION OF UTILITIES, FILL REMAINDER OF OPENINGS WITH QUICK SETTING CONCRETE MORTAR TYPE 2, PER 705.21. IF UTILITIES ARE INSTALLED BEFORE BACKWALL IS CONSTRUCTED, BACKWALL CONCRETE MAY BE CAST DIRECTLY AGAINST UTILITIES WITHOUT FORMING AN OPENING. INCLUDE COST OF FORMING OPENINGS AND SUPPLYING, MIXING, AND PLACING MORTAR WITH ABUTMENT CONCRETE FOR PAYMENT. INCLUDE COST OF CUTTING AND REPAIRING REBAR WITH ITEM 509 FOR PAYMENT.

6209 RIVERSIDE DRIVE, SUITE 100
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E.L.Robinson Engineering of Ohio Co.

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VH		3502384	

REAR ABUTMENT DETAILS - BACKWALL 2 OF 2
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

26/106

97/183

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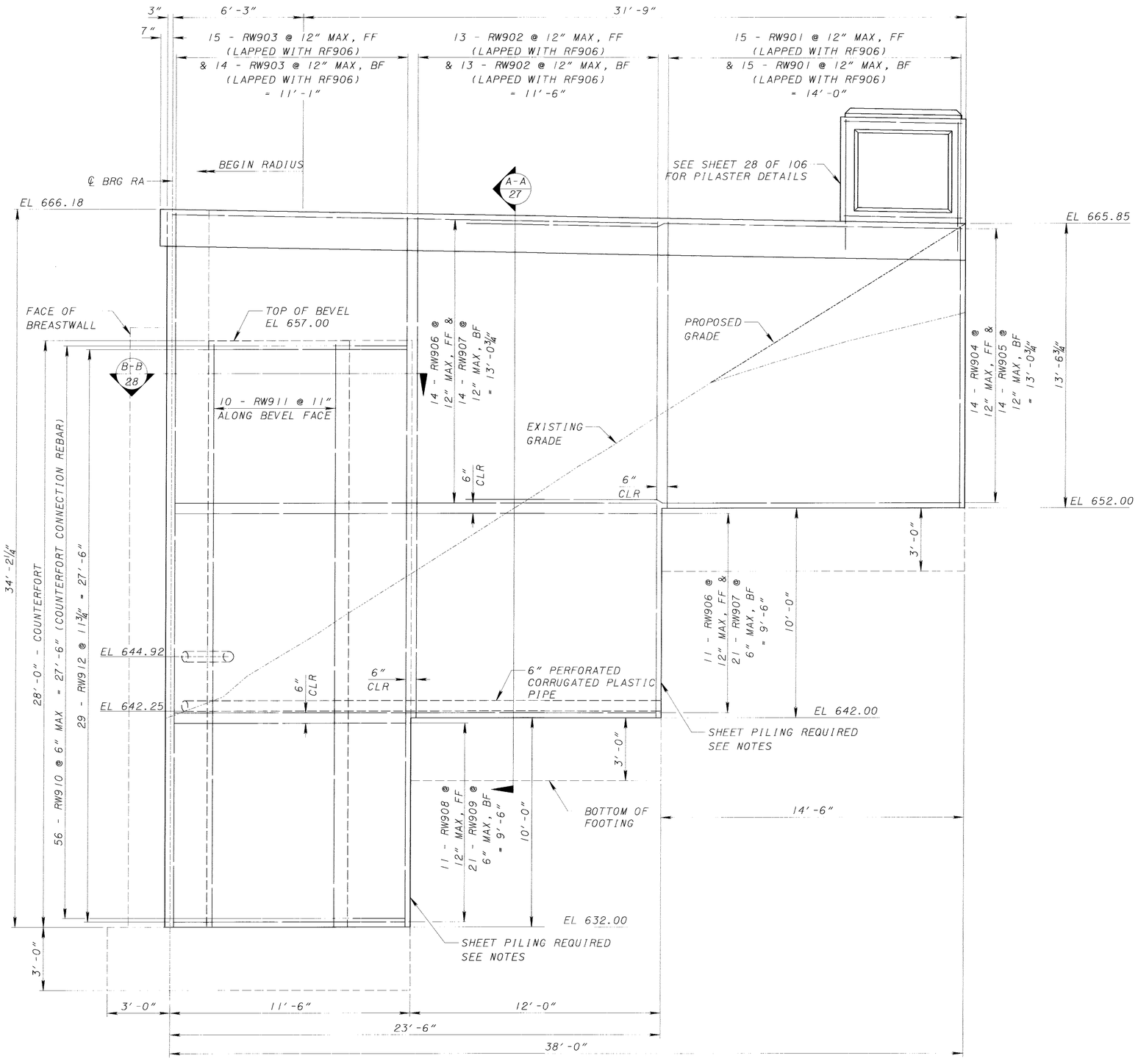
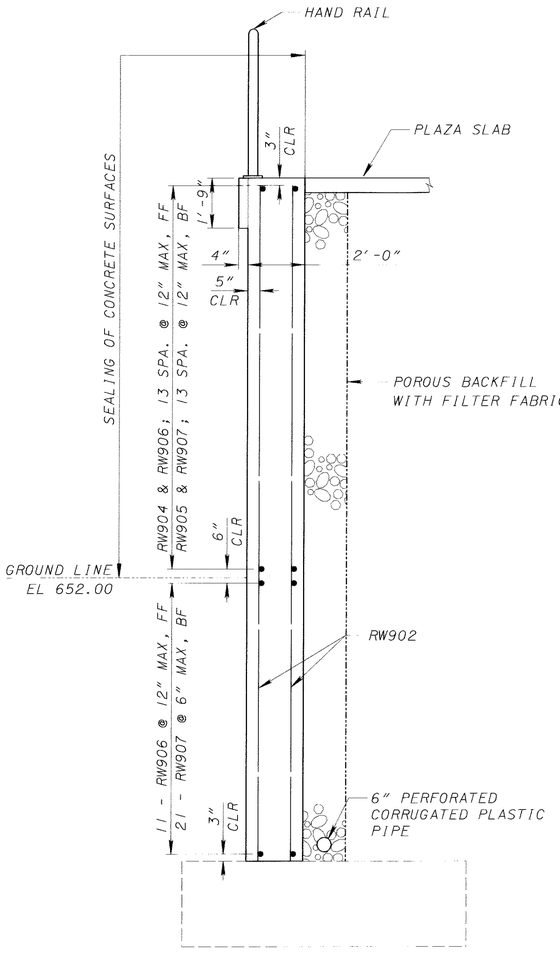


REAR ABUTMENT - WEST WINGWALL ELEVATION



SECTION A-A

NOTES:

1. REAR ABUTMENT - EAST WINGWALL SIMILAR.
2. FOR FOOTING DETAILS SEE SHEETS 18-19 OF 106.
3. FOR COUNTERFORT DETAILS SEE SHEETS 24 & 29 OF 106.
4. FOR BACKWALL DETAILS SEE SHEETS 25-26 OF 106.
5. SHEET PILING IS TO BE LEFT IN PLACE. USE SHEET PILING (SECTION MODULUS 30 CUBIC INCHES PER FOOT). SHEET PILING SHALL BE A MINIMUM OF 17'-0" LONG AND BE DRIVEN A MINIMUM OF 10-0"' INTO THE GROUND.
6. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. PLACE TWO CUBIC FEET OF BAGGED NO.3 AGGREGATE AT EACH WEEPHOLE. THE BAGGED AGGREGATE IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

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VH		3502384	

REAR ABUTMENT WINGWALLS 1 OF 2
BRIDGE NO. HEN-108-15.61
OVER MAUMEE RIVER

HEN-108-15.55

27/106

98/183

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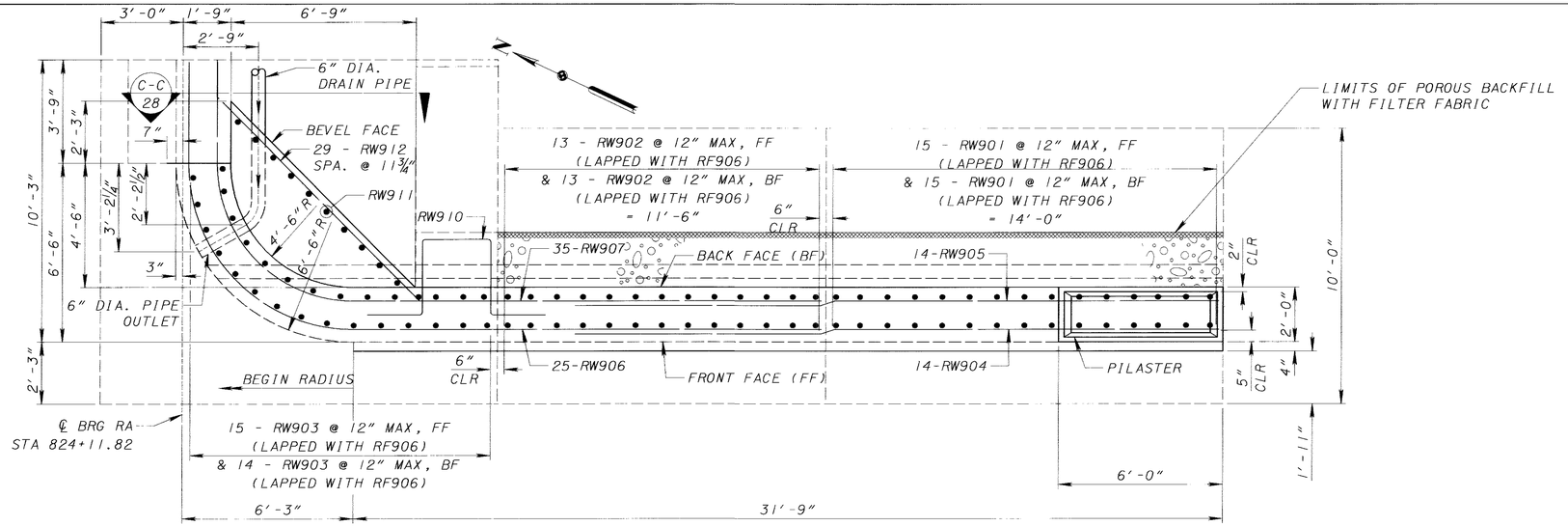
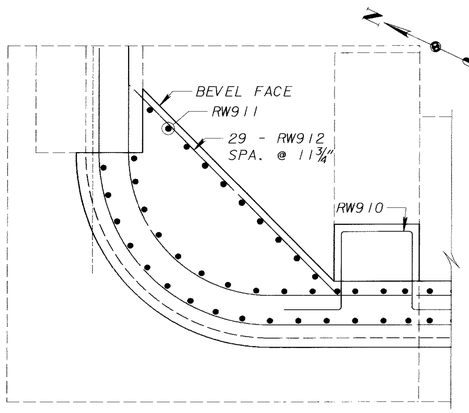
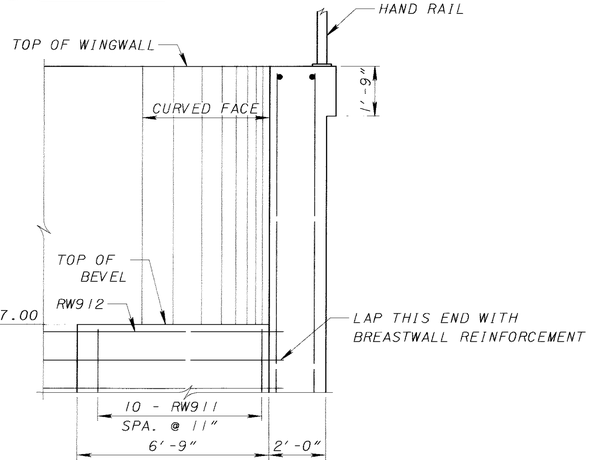


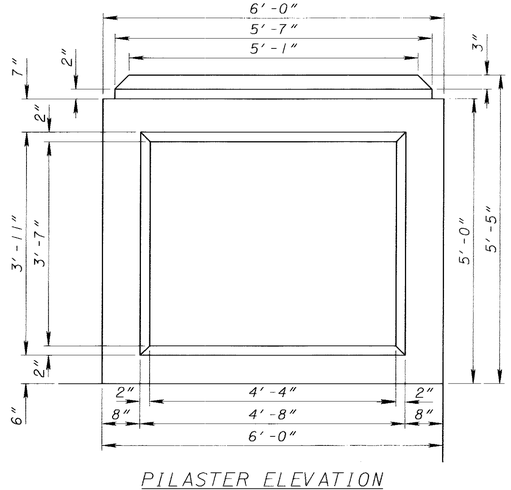
REAR ABUTMENT - WEST WINGWALL PLAN



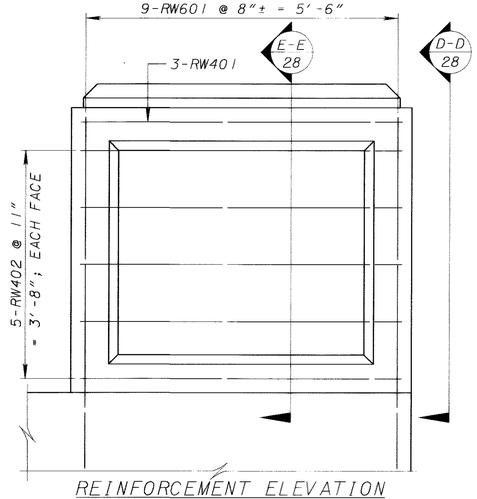
SECTION B-B



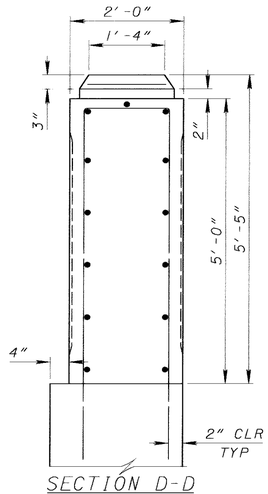
SECTION C-C



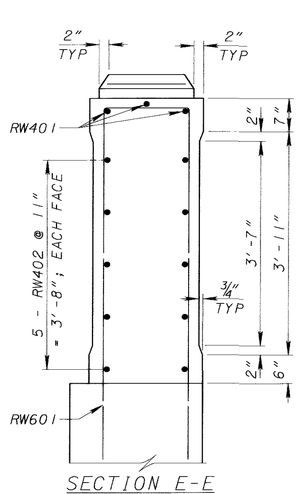
PILASTER ELEVATION



REINFORCEMENT ELEVATION



SECTION D-D



SECTION E-E

NOTES:

1. SEE SHEET 27 OF 106 FOR APPLICABLE NOTES.

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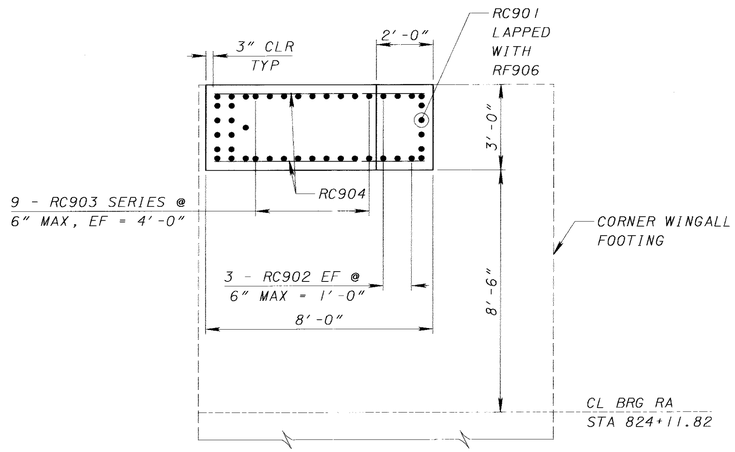
VH		3502384	

REAR ABUTMENT WINGWALLS 2 OF 2
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

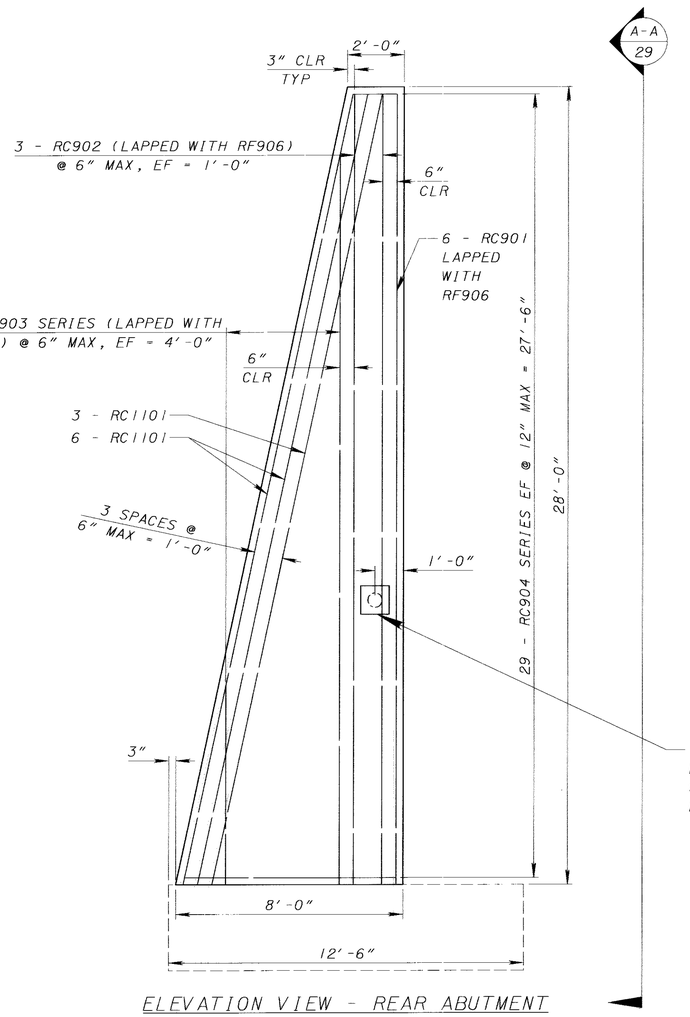
HEN-108-15.55

28/106

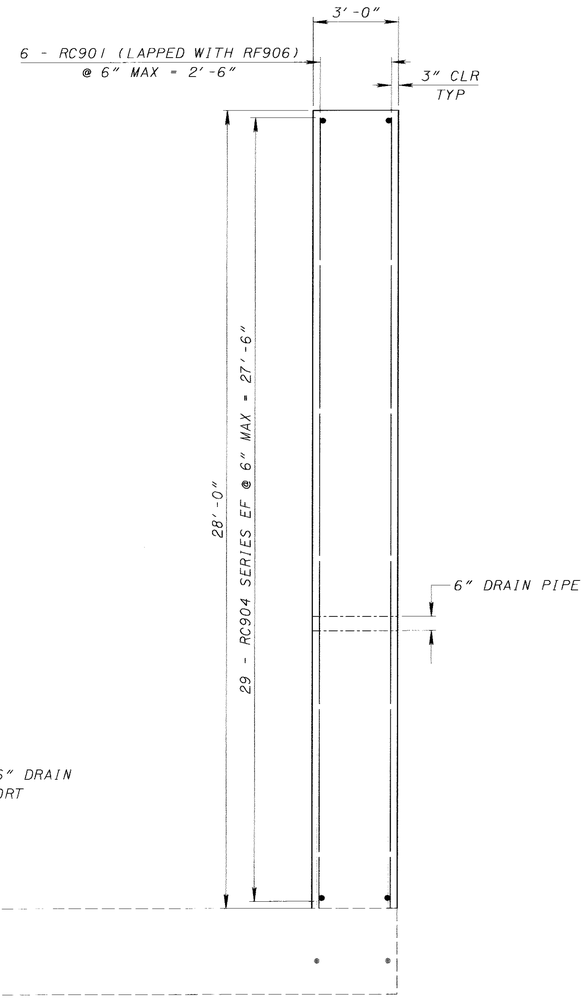
99/183



PLAN VIEW - REAR ABUTMENT
WEST WINGWALL COUNTERFORT



ELEVATION VIEW - REAR ABUTMENT
WEST WINGWALL COUNTERFORT



VIEW A-A

NOTES:

1. REAR ABUTMENT - EAST WINGWALL SIMILAR.
2. FOR FOOTING DETAILS SEE SHEETS 18-19 OF 106.
3. FOR COUNTERFORT DETAILS SEE SHEETS 24 & 29 OF 106.
4. FOR BACKWALL DETAILS SEE SHEETS 25-26 OF 106.

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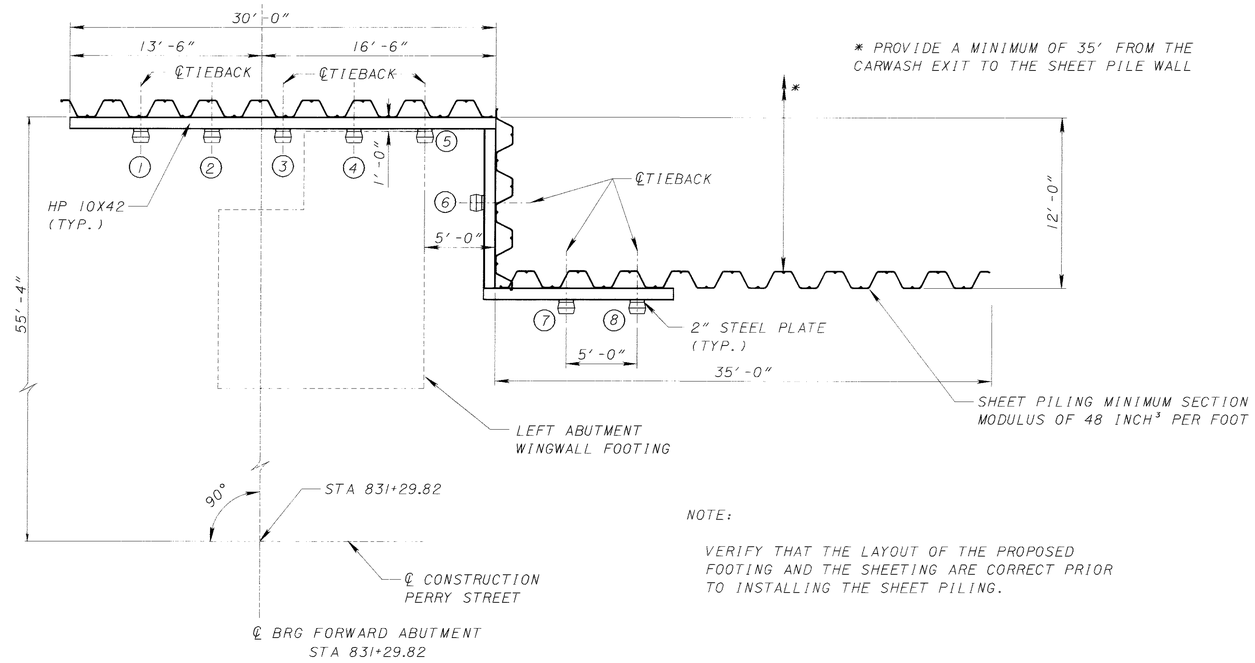
REAR ABUTMENT WINGWALL COUNTERFORTS
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

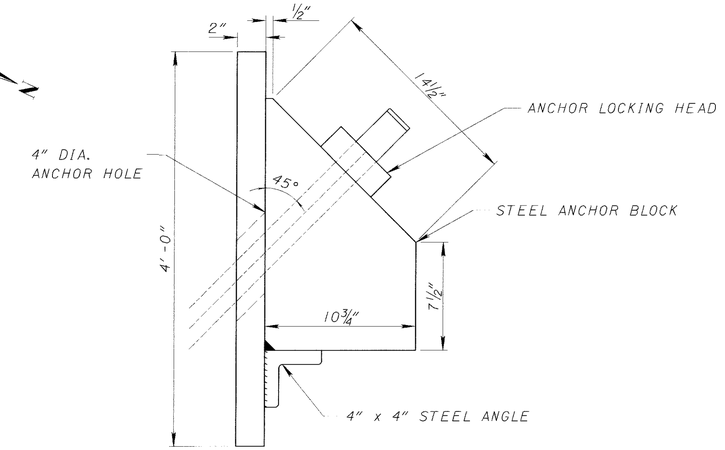
HEN-108-15.55



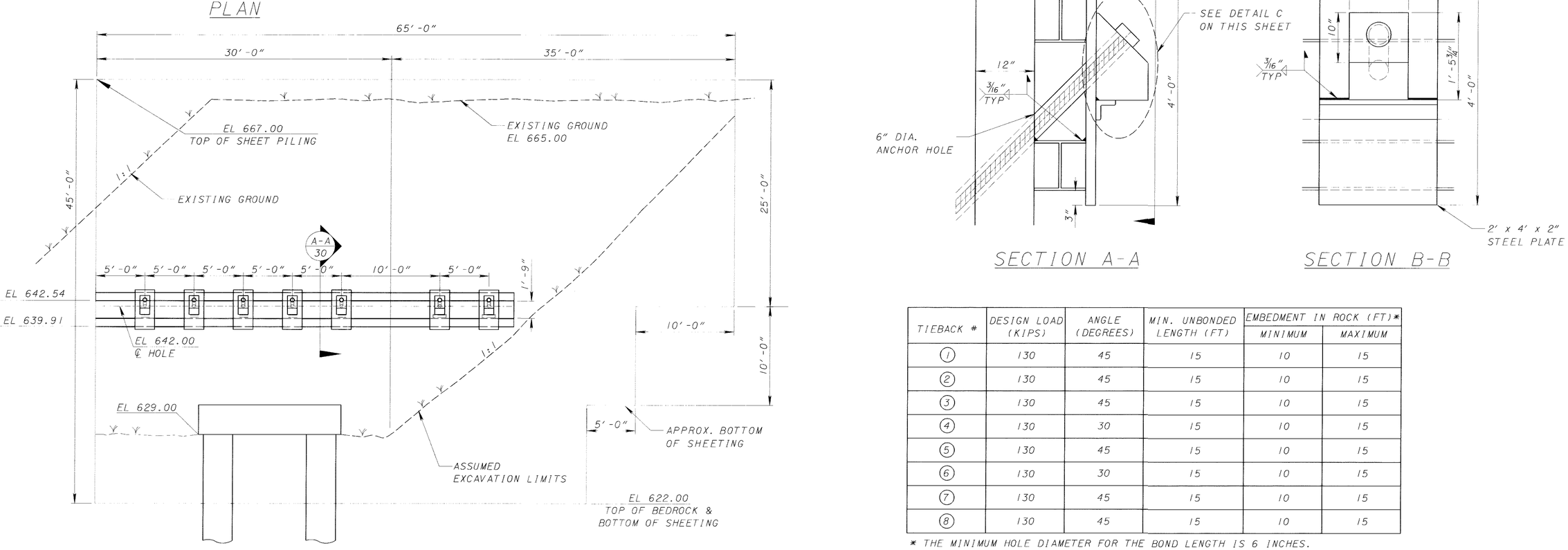
PLAN

NOTE:

VERIFY THAT THE LAYOUT OF THE PROPOSED FOOTING AND THE SHEETING ARE CORRECT PRIOR TO INSTALLING THE SHEET PILING.



DETAIL C



ELEVATION

SECTION A-A

SECTION B-B

TIEBACK #	DESIGN LOAD (KIPS)	ANGLE (DEGREES)	MIN. UNBONDED LENGTH (FT)	EMBEDMENT IN ROCK (FT)*	
				MINIMUM	MAXIMUM
①	130	45	15	10	15
②	130	45	15	10	15
③	130	45	15	10	15
④	130	30	15	10	15
⑤	130	45	15	10	15
⑥	130	30	15	10	15
⑦	130	45	15	10	15
⑧	130	45	15	10	15

* THE MINIMUM HOLE DIAMETER FOR THE BOND LENGTH IS 6 INCHES.

NOTE:
MINIMUM SECTION MODULUS FOR SHEET PILING IS 48 IN³ PER FOOT, A572 STEEL GRADE 50.

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DESIGNED	DRAWN	REVIEWED	DATE
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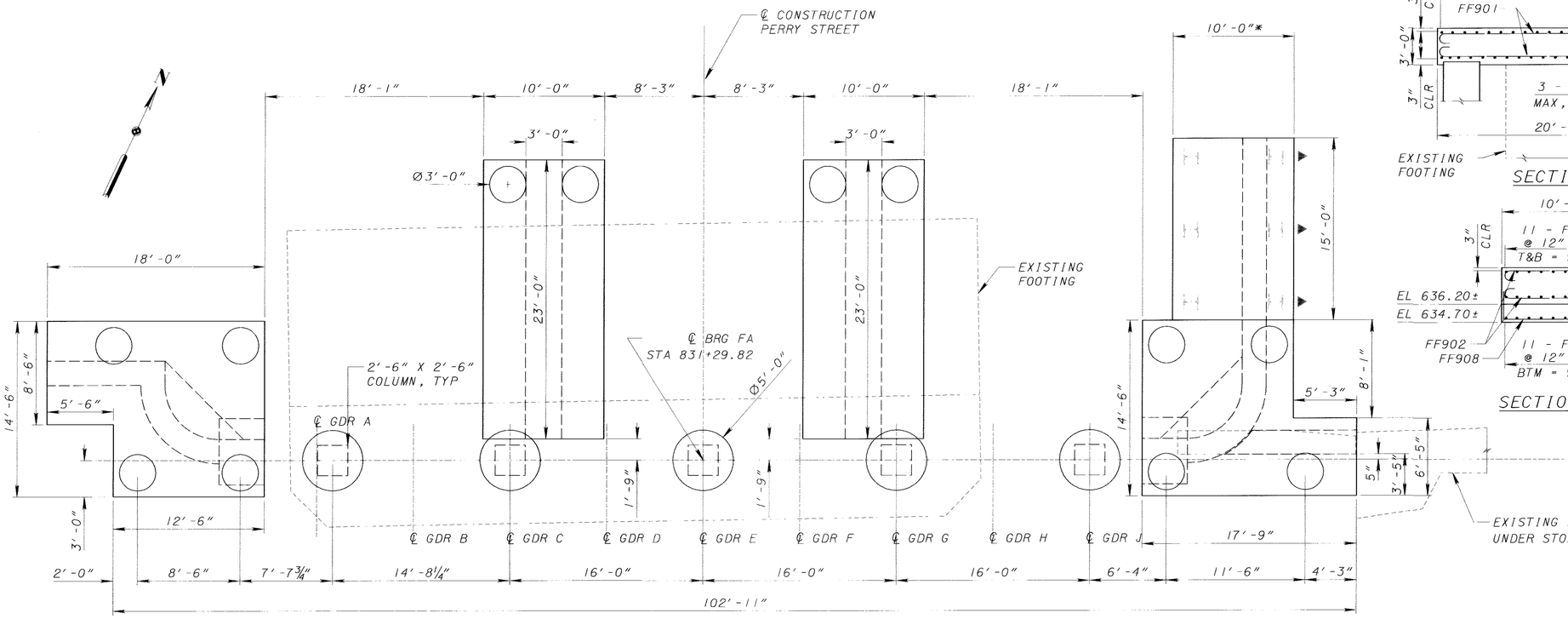
RLE		3502384	

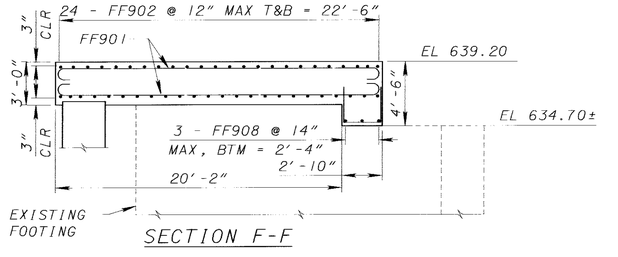
TEMPORARY SHEET PILE WALL DETAILS

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

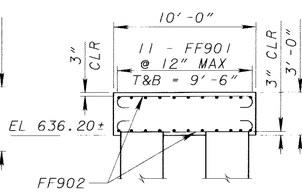


PLAN

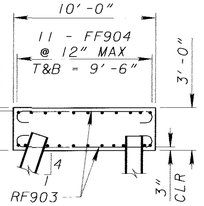


SECTION F-F

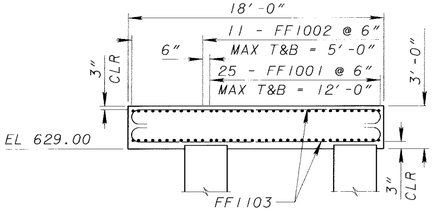
SECTION D-D



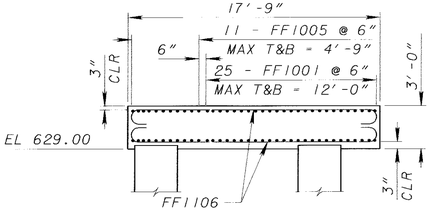
SECTION E-E



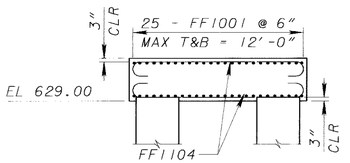
SECTION G-G



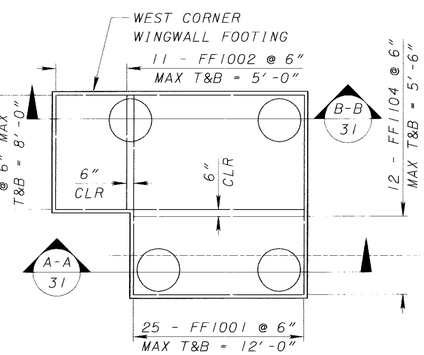
SECTION B-B

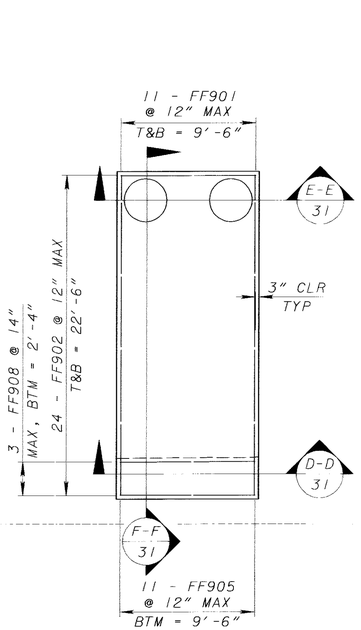


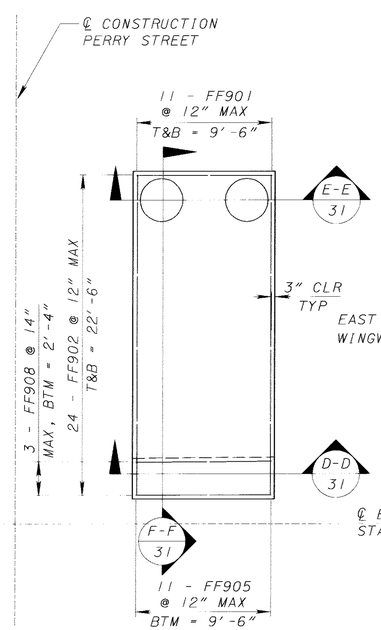
SECTION C-C

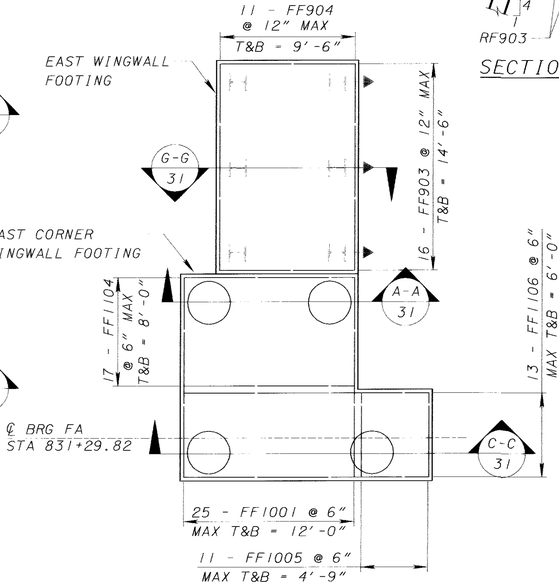


SECTION A-A









NOTES:

1. WINGWALL AND COUNTERFORT REBAR NOT SHOWN FOR CLARITY. SEE FORWARD ABUTMENT DETAILS - FOOTING LAYOUT 2 OF 2.
2. FOR WINGWALL DETAILS SEE SHEETS 40-42 OF 106.
3. FOR COUNTERFORT DETAILS SEE SHEET 32 OF 106.
4. FOR DRILLED SHAFT DETAILS SEE SHEET 26 OF 106.
5. FOR SHEET PILING LOCATIONS AND NOTES SEE SHEET 30 OF 106.
6. * 10′-0″ DIMENSION DEFINES THE LIMIT OF THE SHEET PILING LEFT IN PLACE AS SHOWN ON SHEET 30 OF 106. TYPICAL BOTH ABUTMENTS.

LEGEND:

BRG - BEARING
BTM - BOTTOM
℄ - CENTERLINE
CONST - CONSTRUCTION
CLR - CLEAR
EA - EACH
MAX - MAXIMUM
T&B - TOP AND BOTTOM
TYP - TYPICAL

▶ - BATTERED (1:4)

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6309 RIVERSIDE DRIVE, SUITE 100
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
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FORWARD ABUTMENT FOOTING LAYOUT 1 OF 2

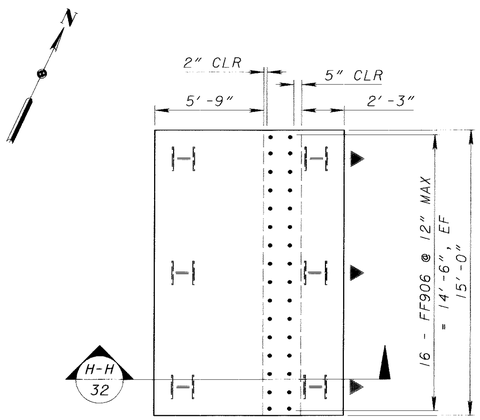
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

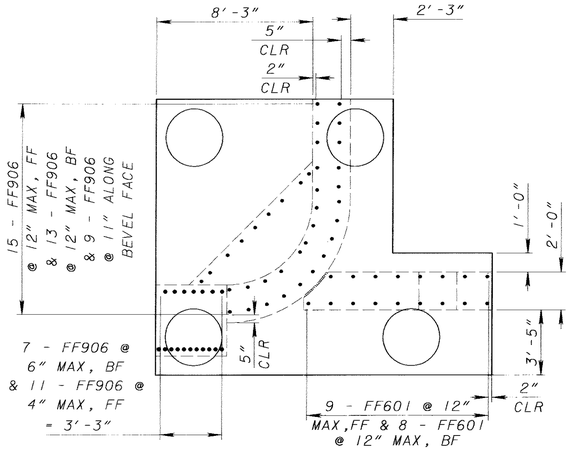
31/106

102/183

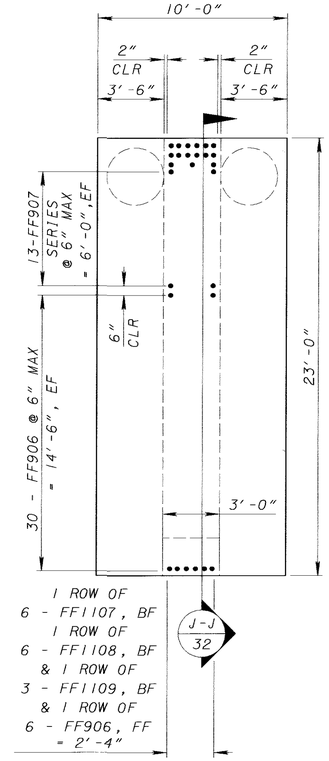
PLOTTED 10:24 AM Fri, 06 Mar 2004 jelkins \\Main\(09)Highway\Henry108\02-16-04\xx_he108fa1.dgn



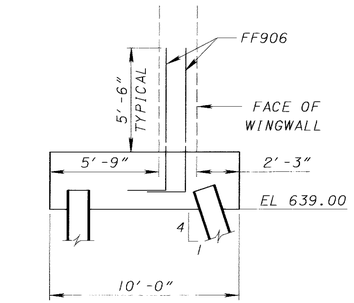
EAST WINGWALL FOOTING



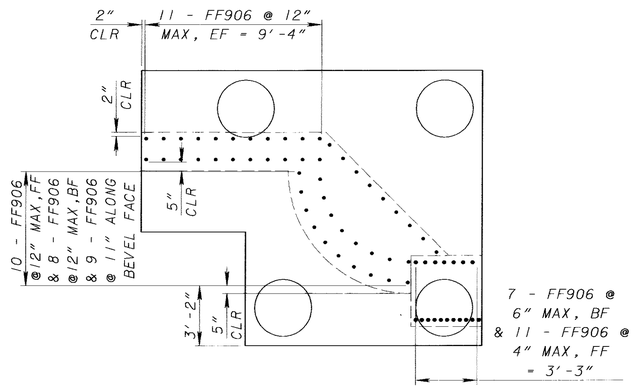
EAST CORNER
WINGWALL FOOTING



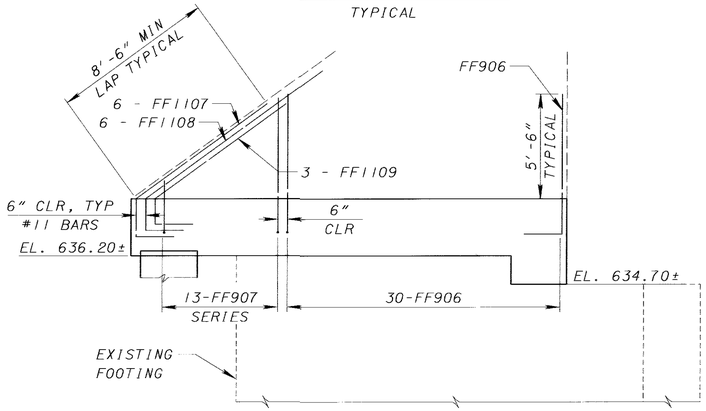
COUNTERFORT FOOTING
TYPICAL



SECTION H-H



WEST CORNER
WINGWALL FOOTING



SECTION J-J

NOTES:

1. FOOTING REBAR NOT SHOWN FOR CLARITY.
2. FOR ADDITIONAL FOOTING DETAILS SEE SHEET 31 OF 106.
3. FOR WINGWALL DETAILS SEE SHEETS 40-42 OF 106.
4. FOR COUNTERFORT DETAILS SEE SHEET 37 OF 106.
5. FOR DRILLED SHAFT DETAILS SEE SHEET 33 OF 106.

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FORWARD ABUTMENT FOOTING LAYOUT 2 OF 2

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

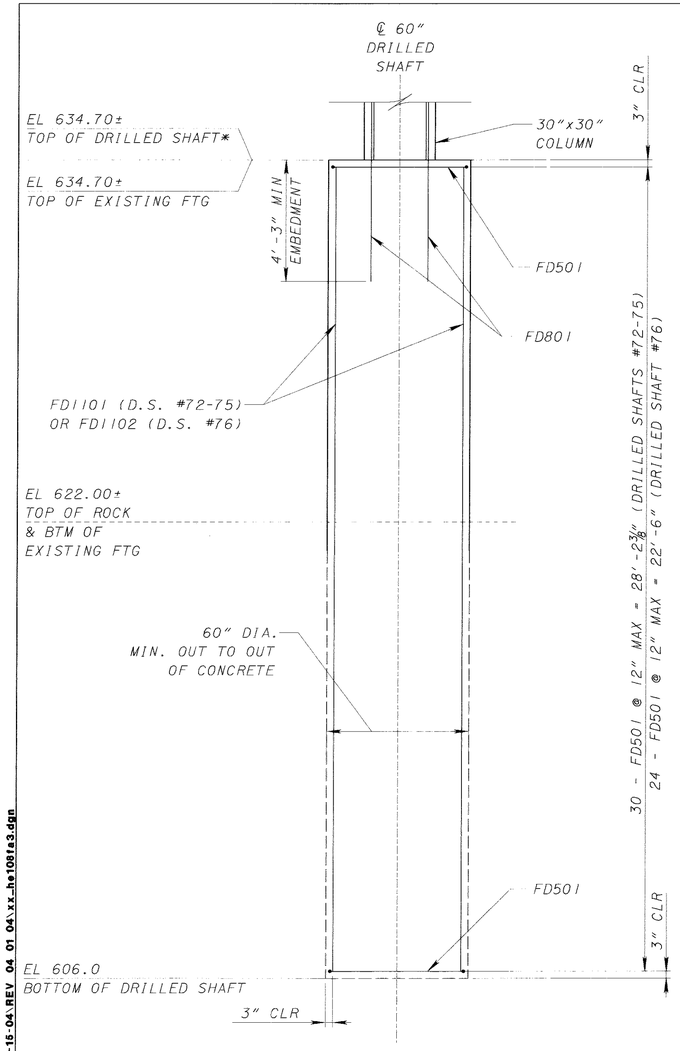
HEN-108-15.55

32/106

103/183

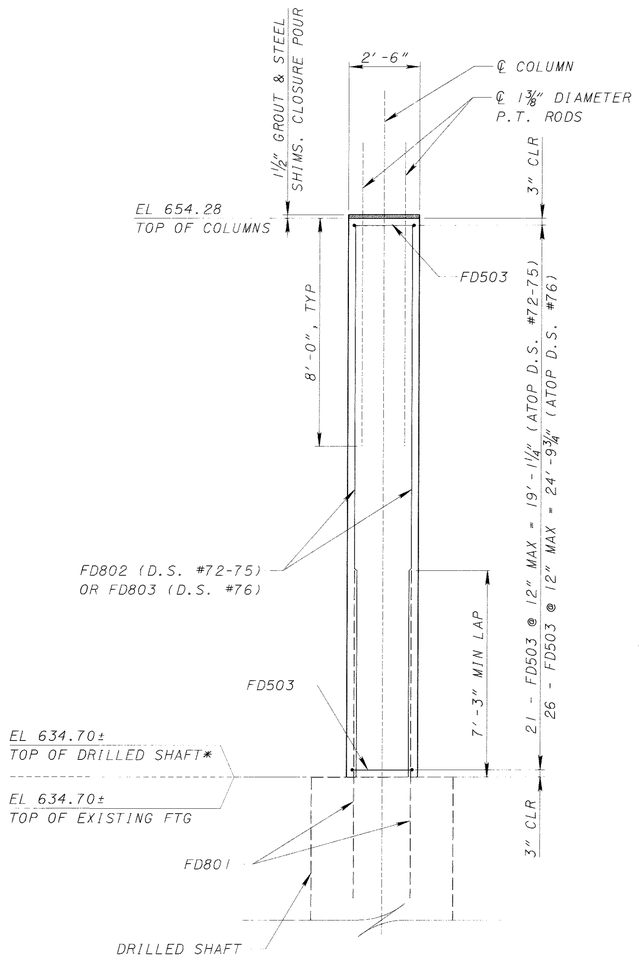
NOTE:
1. COST OF 1⅜" DIA P.T. BARS (TOTAL 20 PIECES AT 13'-6") SHALL BE INCLUDED IN ITEM SPECIAL, "STRUCTURE, MISC.: PRECAST ABUTMENT CAP MODULE", EA.

2. FD1103 AND FD1104 SHALL BE PLACED TO AVOID INTERFERENCE WITH FOOTING FORMS.



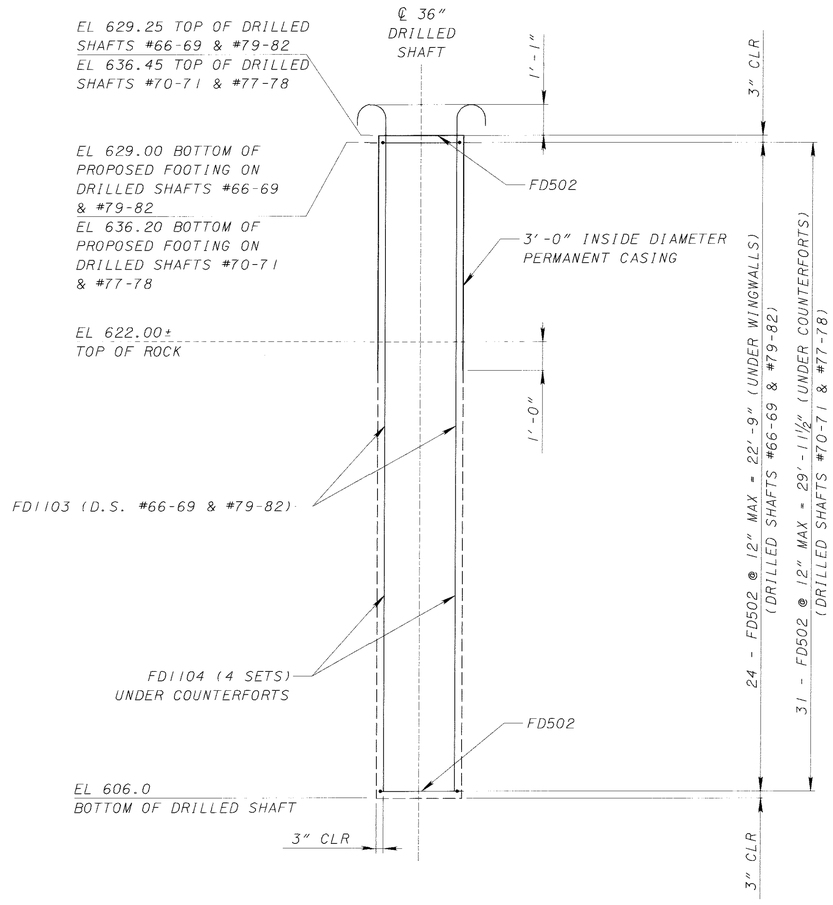
ELEVATION VIEW (60" DIA DRILLED SHAFT)

* TOP OF 60" DRILLED SHAFT LOCATED OUTSIDE OF EXISTING FOOTING IS 629.00

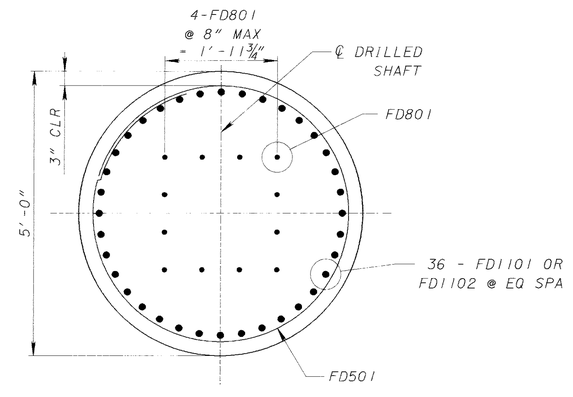


COLUMN ELEVATION VIEW

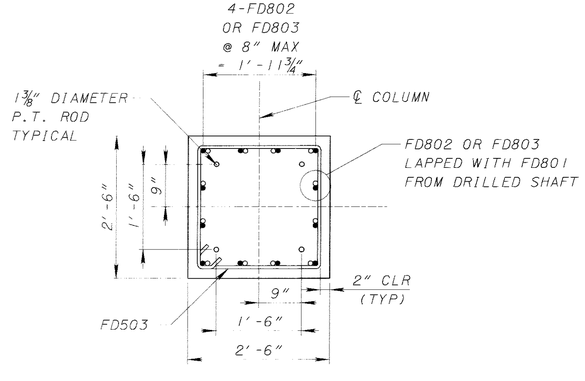
* TOP OF 60" DRILLED SHAFT LOCATED OUTSIDE OF EXISTING FOOTING IS 629.00



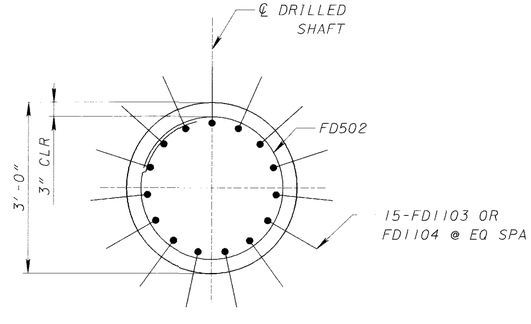
ELEVATION VIEW (36" DIA DRILLED SHAFT)



SECTION (60" DIA)



COLUMN SECTION



SECTION (36" DIA)

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FORWARD ABUTMENT COLUMNS AND DRILLED SHAFTS

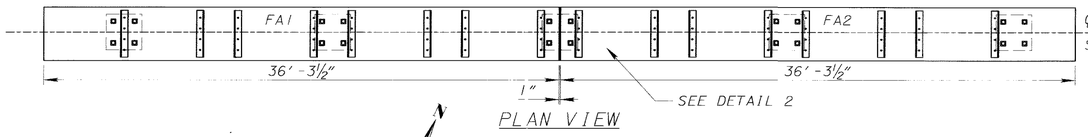
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

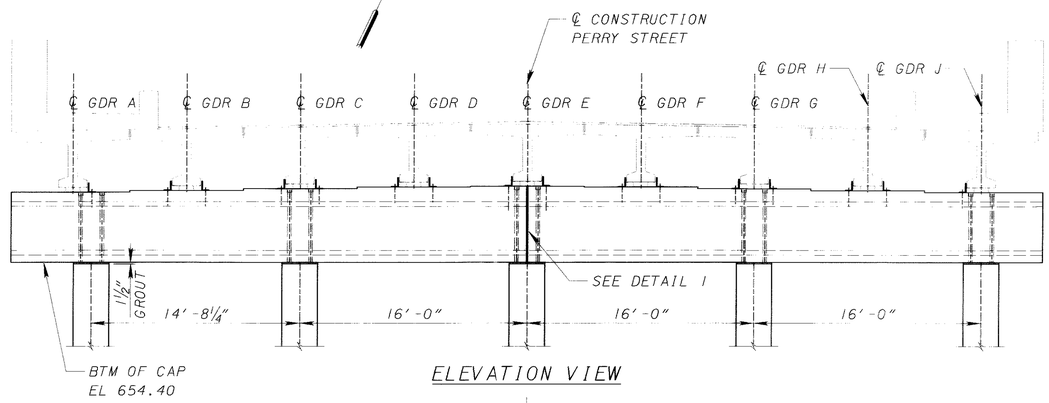
33/106

104/183

PLOTTED 04:41 PM Tue. 06 Apr 2004 jelkins \\Main\(09)Highway\Henry108.02-15-04\REV 04 01 04\xx_he108fa3.dgn

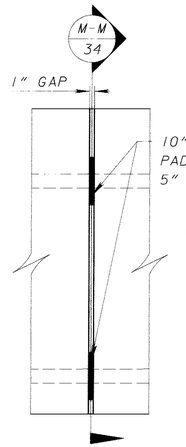


PLAN VIEW

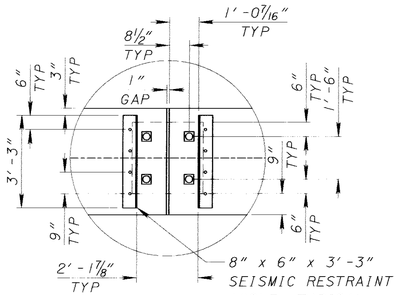


ELEVATION VIEW

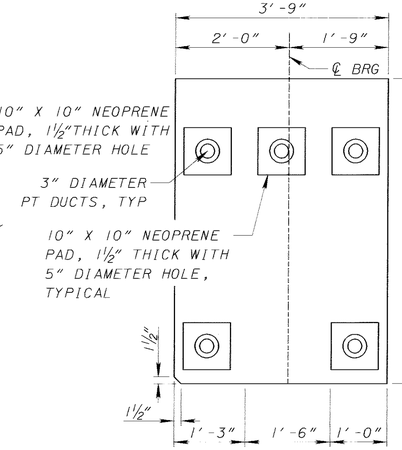
GIRDER SEAT ELEVATIONS					
GIRDER	ELEV	GIRDER	ELEV	GIRDER	ELEV
GDR A	659.32	GDR D	659.69	GDR G	659.56
GDR B	659.44	GDR E	659.75	GDR H	659.44
GDR C	659.56	GDR F	659.69	GDR J	659.32



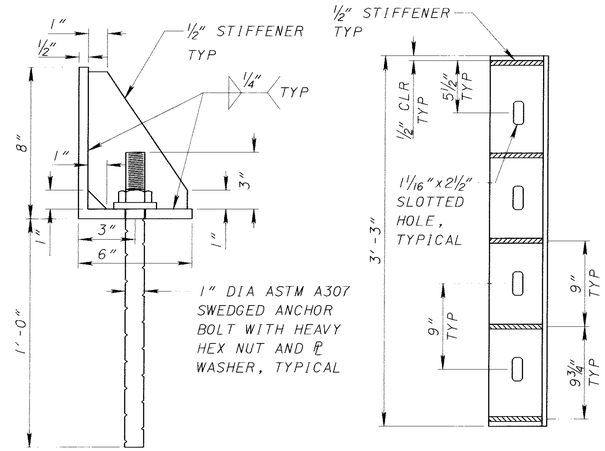
DETAIL 1



DETAIL 2



SECTION M-M



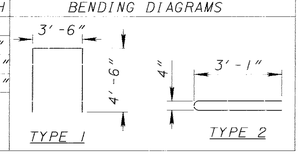
ELEVATION PLAN VIEW

SEISMIC RESTRAINT ANGLES

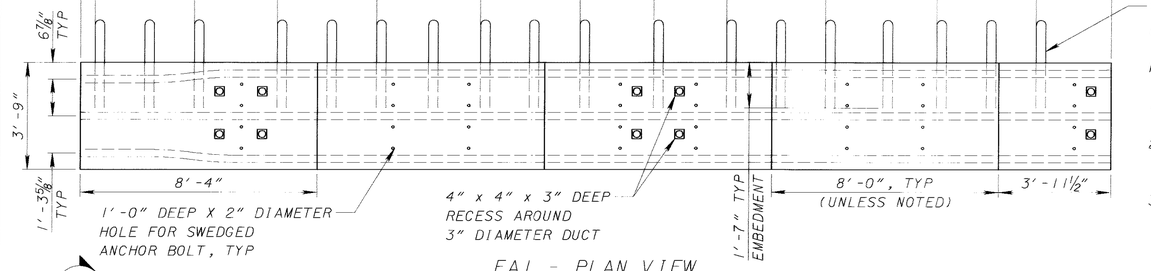
ALL MATERIALS SHALL BE HOT DIPPED GALVANIZED. COST OF ANGLES, ANCHOR BOLTS, WASHERS, NUTS, & ALL GROUTING FOR INSTALLATION SHALL BE INCLUDED IN THE PRECAST ABUTMENT CAP MODULE PAY ITEM.

ABUTMENT CAP MODULE REINFORCING					
MARK	NO.	SIZE	TYPE	LENGTH	BENDING DIAGRAMS
A	54	5	1	6′-4″	
B	56	5	2	12′-3″	
C	10	5	STR	35′-11″	
D	12	9	STR	35′-11″	

INCLUDE PAYMENT IN PRECAST ABUTMENT CAP MODULE PAY ITEM.



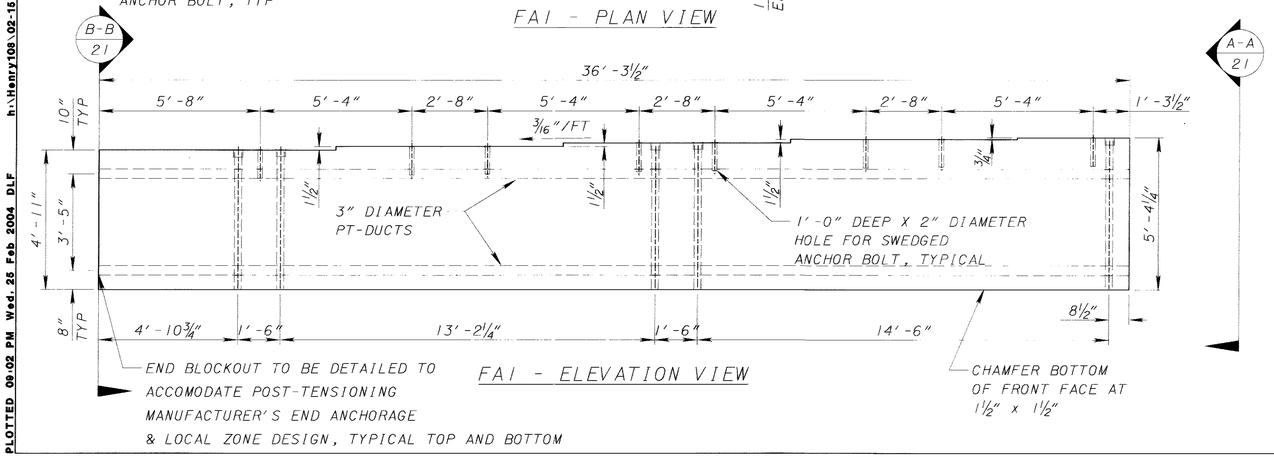
THE REINFORCING SCHEDULE SHOWN ABOVE IS FOR EACH PRECAST CAP MODULE. THERE ARE 4 TOTAL MODULES(RA1, RA2, FA1, FA2). COST OF REINFORCING IS INCLUDED IN THE PRECAST ABUTMENT CAP MODULE.



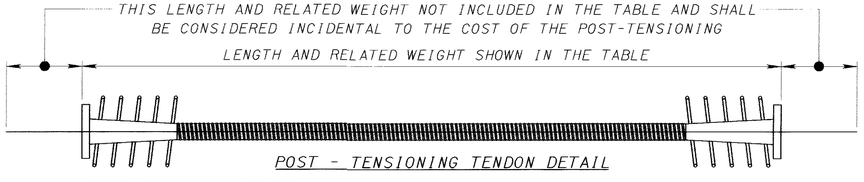
FA1 - PLAN VIEW

NOTES:

1. FA2 IS SIMILAR TO RA2
2. FOR RA2 SEE REAR ABUTMENT DETAILS - COLUMN CAP.
3. FOR VIEW A-A AND CAP SECTION SEE REAR ABUTMENT DETAILS - COLUMN CAP.



FA1 - ELEVATION VIEW



POST - TENSIONING TENDON DETAIL

* SEE VIEW A-A ON SHEET 21 FOR T1 & T2 LOCATIONS

POST-TENSIONING STRAND QUANTITIES (EACH ABUTMENT CAP)							
MODULES	TENDON NUMBER	TENDON SIZE	TENDON LENGTH (FT)	TENDON WEIGHT (LBS)	NUMBER OF TENDONS	TOTAL WEIGHT (LBS)	JACKING FORCE (KIPS)
FA1 & FA2	T1	6 x 0.6″	72.67	323	3	969	256
	T2	4 x 0.6″	72.67	215	2	430	171
RA1 & RA2	T1	6 x 0.6″	72.67	323	3	969	256
	T2	4 x 0.6″	72.67	215	2	430	171

POST-TENSIONING NOTES:

1. THE DUCT SIZE FOR THE 0.6″ DIA. STRAND TENDONS HAVE BEEN ASSUMED BY THE DESIGNER TO BE: 2.99″ (INSIDE DIAMETER) AND 3.19″ (OUTSIDE DIAMETER).
2. WEIGHTS TABULATED ABOVE ARE MEASURED FROM ANCHOR PLATE TO ANCHOR PLATE. ADDITIONAL STRAND BEYOND THE PLATES FOR JACKING AND THE WEIGHT OF ANY ANCHORAGE HARDWARE IS NOT INCLUDED.
3. COST OF 1⅜″ DIA P.T. BARS (TOTAL 20 PIECES AT 13′-6″) SHALL BE INCLUDED IN ITEM 530, "STRUCTURE, MISC.: PRECAST ABUTMENT CAP MODULE", EA.
4. PRIOR TO GROUTING THE VERTICAL JOINT, THE CONTRACTOR SHALL APPLY PRESSURE TO THE PRECAST CONCRETE AT VERTICAL JOINT AS NECESSARY TO SEAL THE POST TENSIONING DUCTS.

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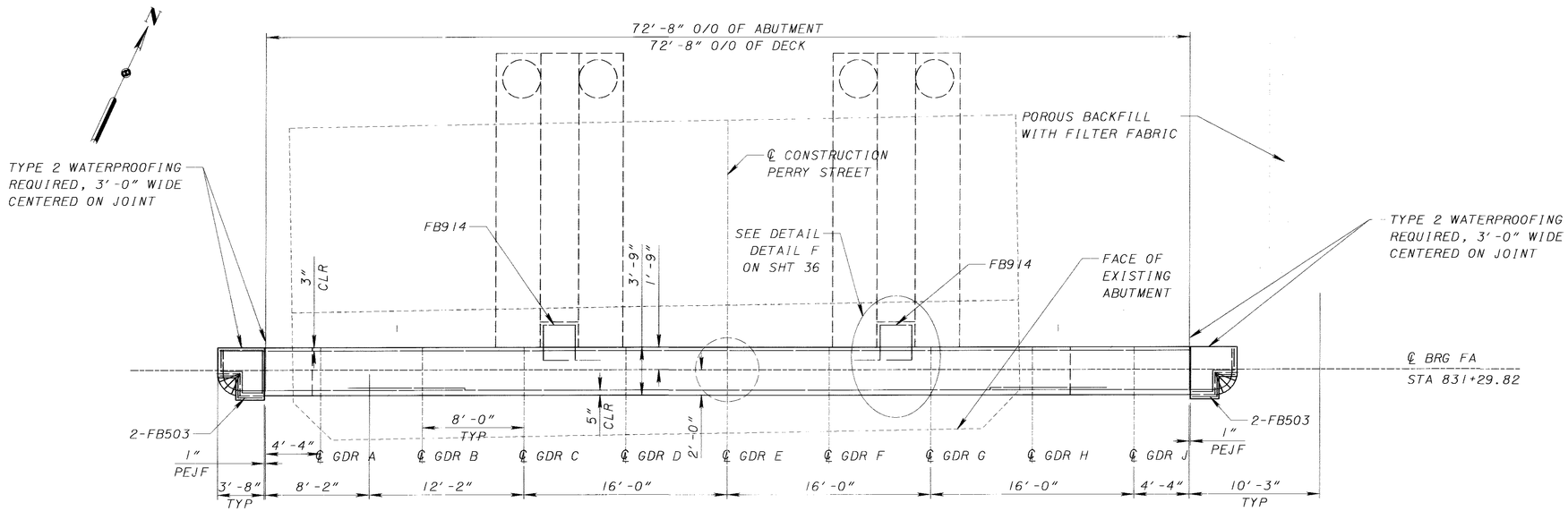
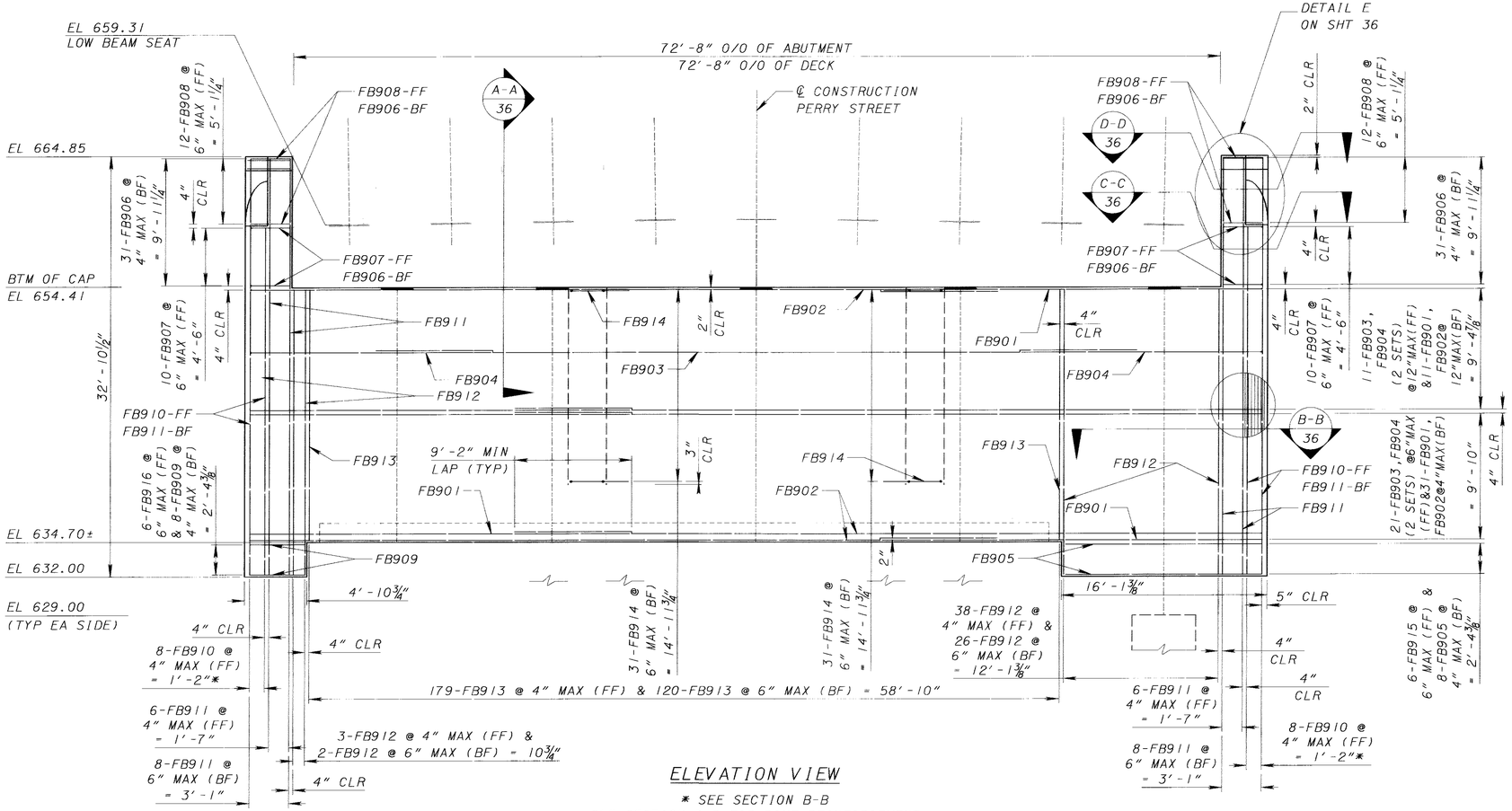
FORWARD ABUTMENT PRECAST COLUMN CAPS

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55



PLAN VIEW



ELEVATION VIEW

* SEE SECTION B-B
SEE SECTION D-D FOR DOME REINFORCEMENT

NOTES:

1. FOR SECTIONS A-A, B-B, C-C, D-D, & DETAILS E & F SEE SHEET 36 OF 106
2. 6" DIA DRAIN PIPE NOT SHOWN FOR CLARITY

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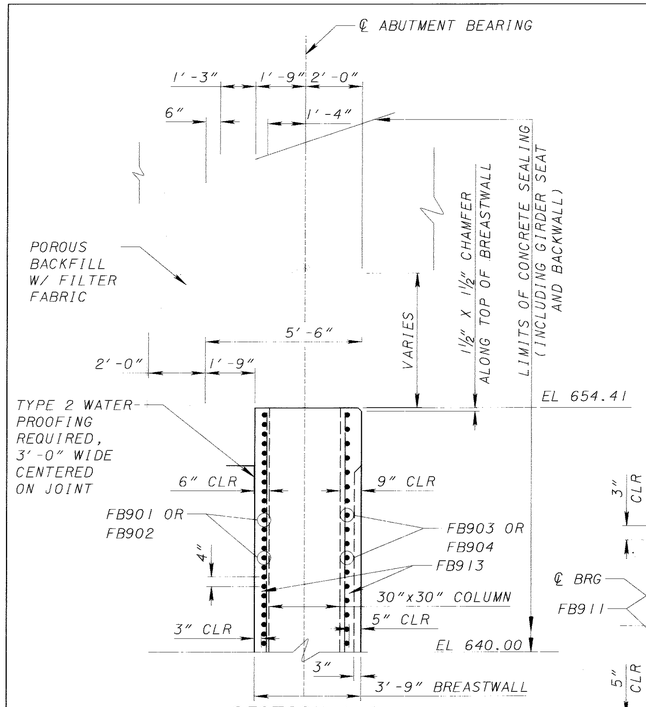
FORWARD ABUTMENT BREASTWALL 1 OF 2

BRIDGE NO. HEN-108-156/
OVER MAUMEE RIVER

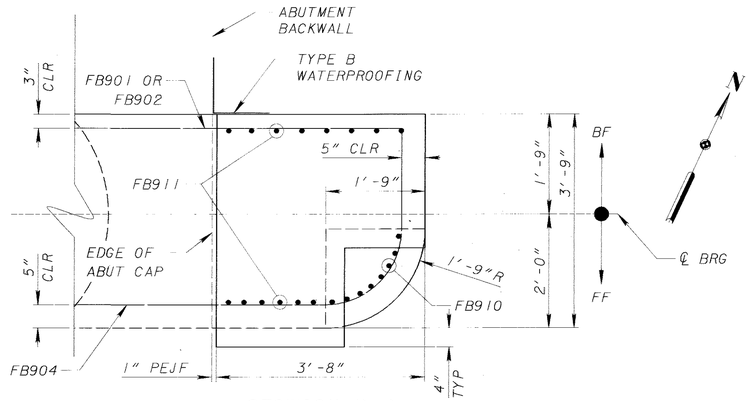
HEN-108-15.55

35/106

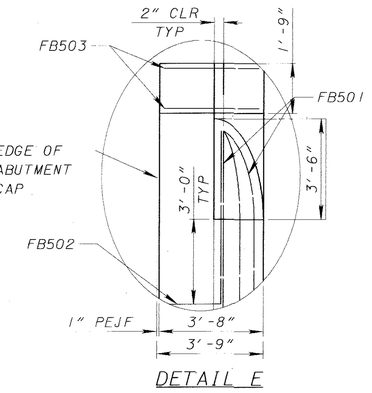
106/183



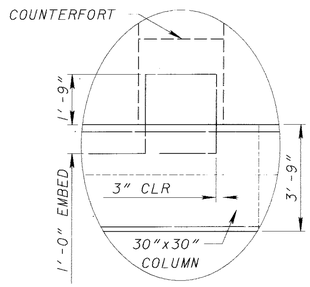
SECTION A-A



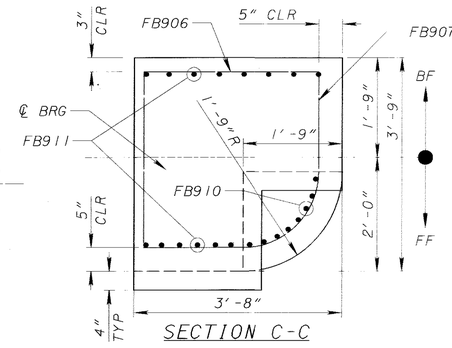
SECTION B-B



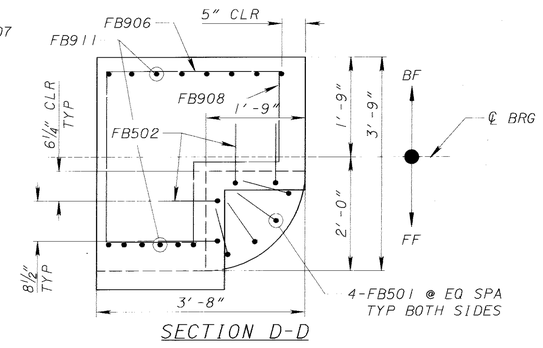
DETAIL E



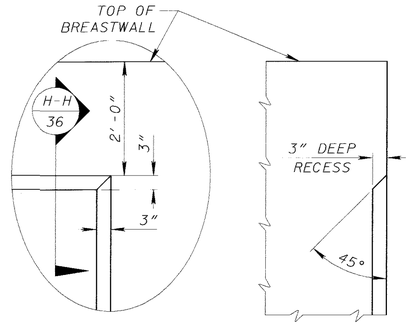
DETAIL F



SECTION C-C

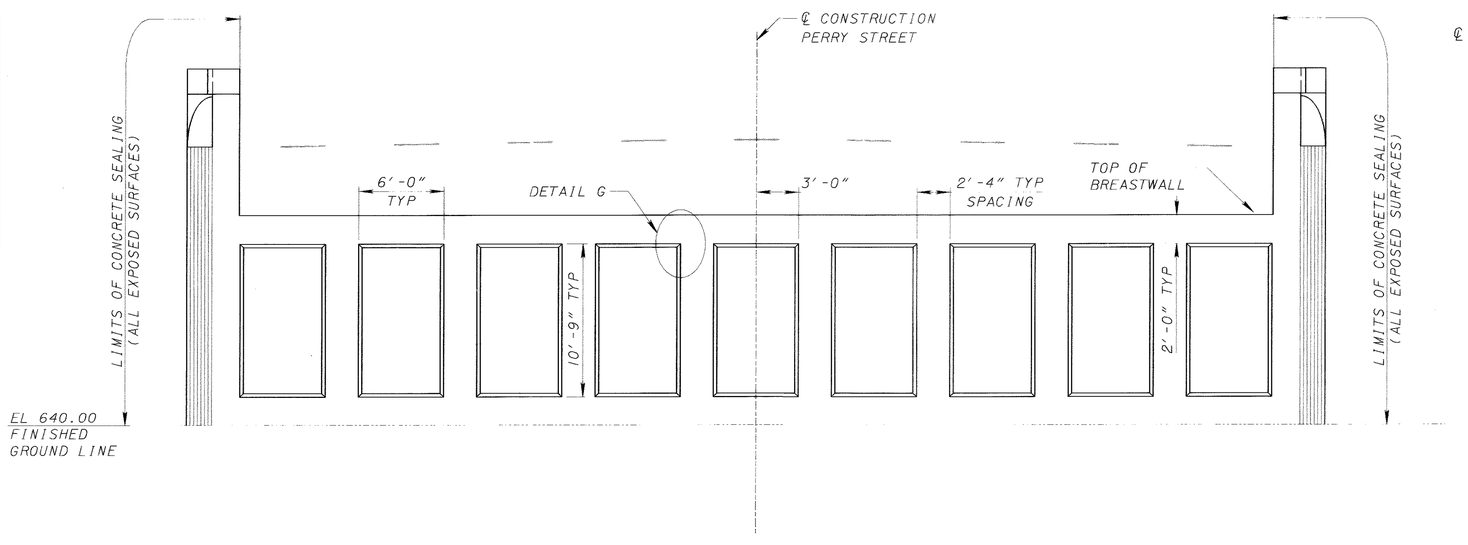


SECTION D-D

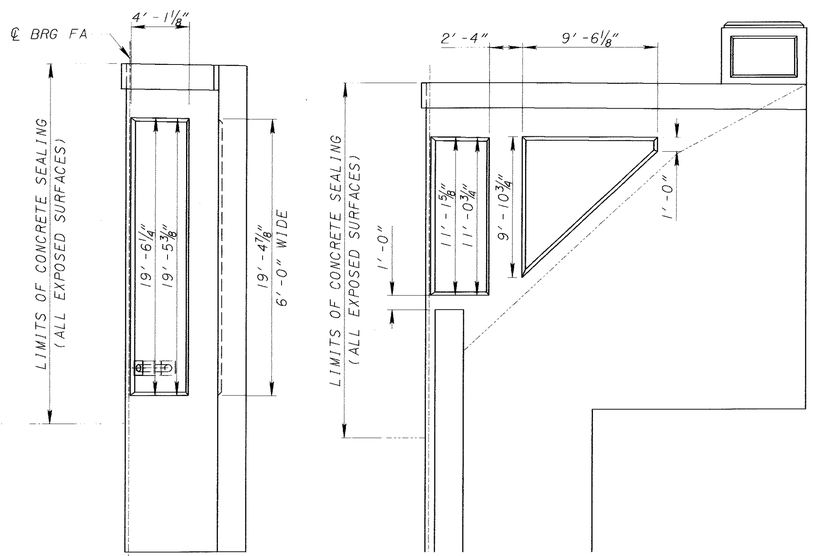


DETAIL G

SECTION H-H



ELEVATION - BREASTWALL ARCHITECTURAL TREATMENT



WEST WINGWALL

EAST WINGWALL

ELEVATION - WINGWALL ARCHITECTURAL TREATMENT

6809 RIVERSIDE DRIVE, SUITE 100
DUBLIN, OHIO 43017
(614) 923-1473
E.L.Robinson Engineering of Ohio Co.

REVIEWED	DATE
RLE	01/07/2004
DRAWN	REVISED
JEG	
DESIGNED	CHECKED
FA/JN	VH

STRUCTURE FILE NUMBER 3502384

FORWARD ABUTMENT BREASTWALL

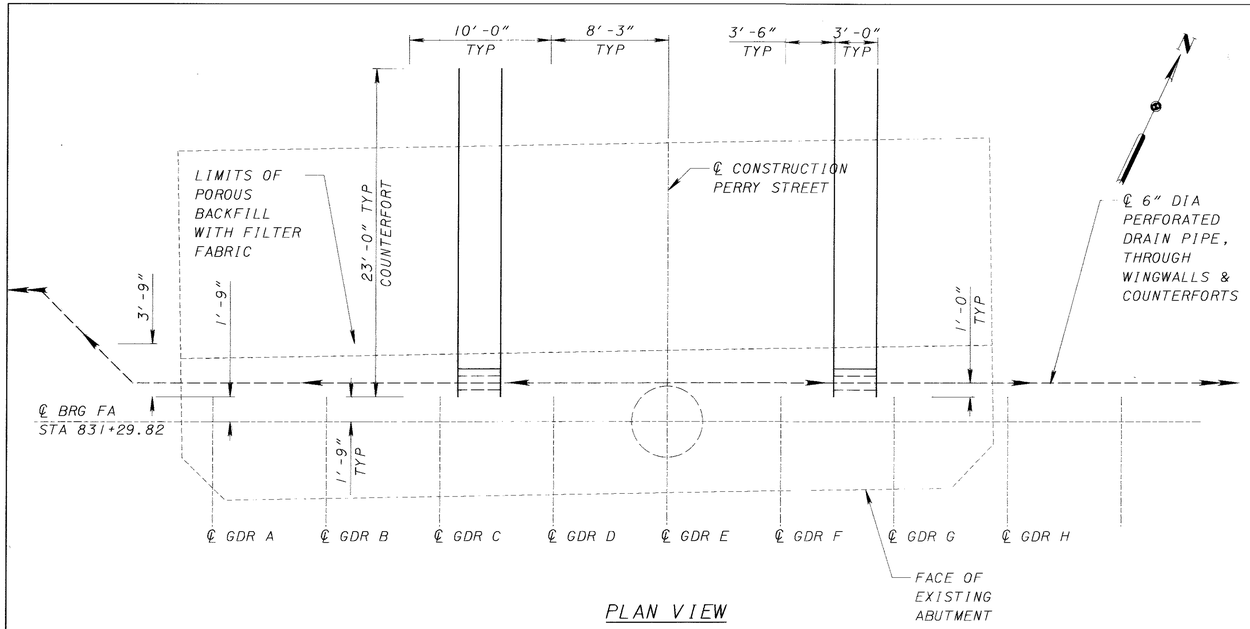
BRIDGE NO. HEN-108-15.55
OVER MAUMEE RIVER

HEN-108-15.55

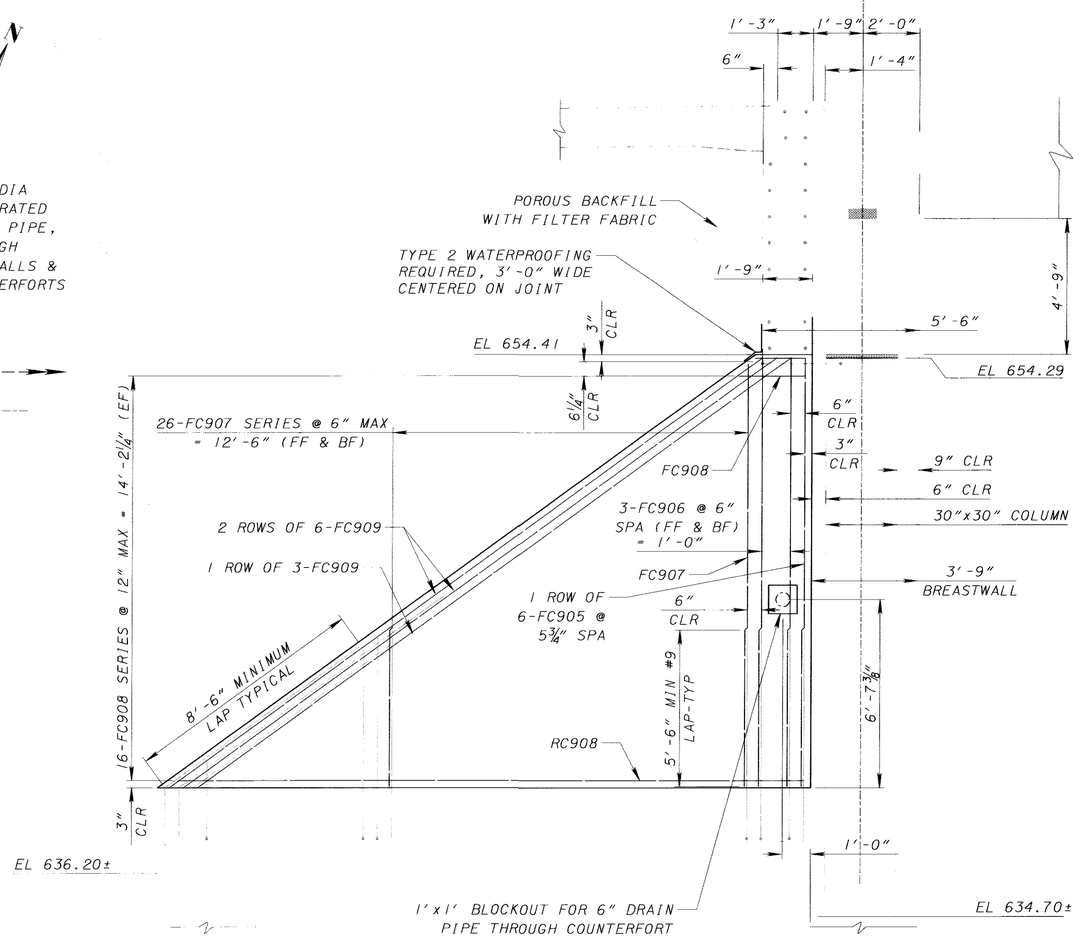
36/106

107/183

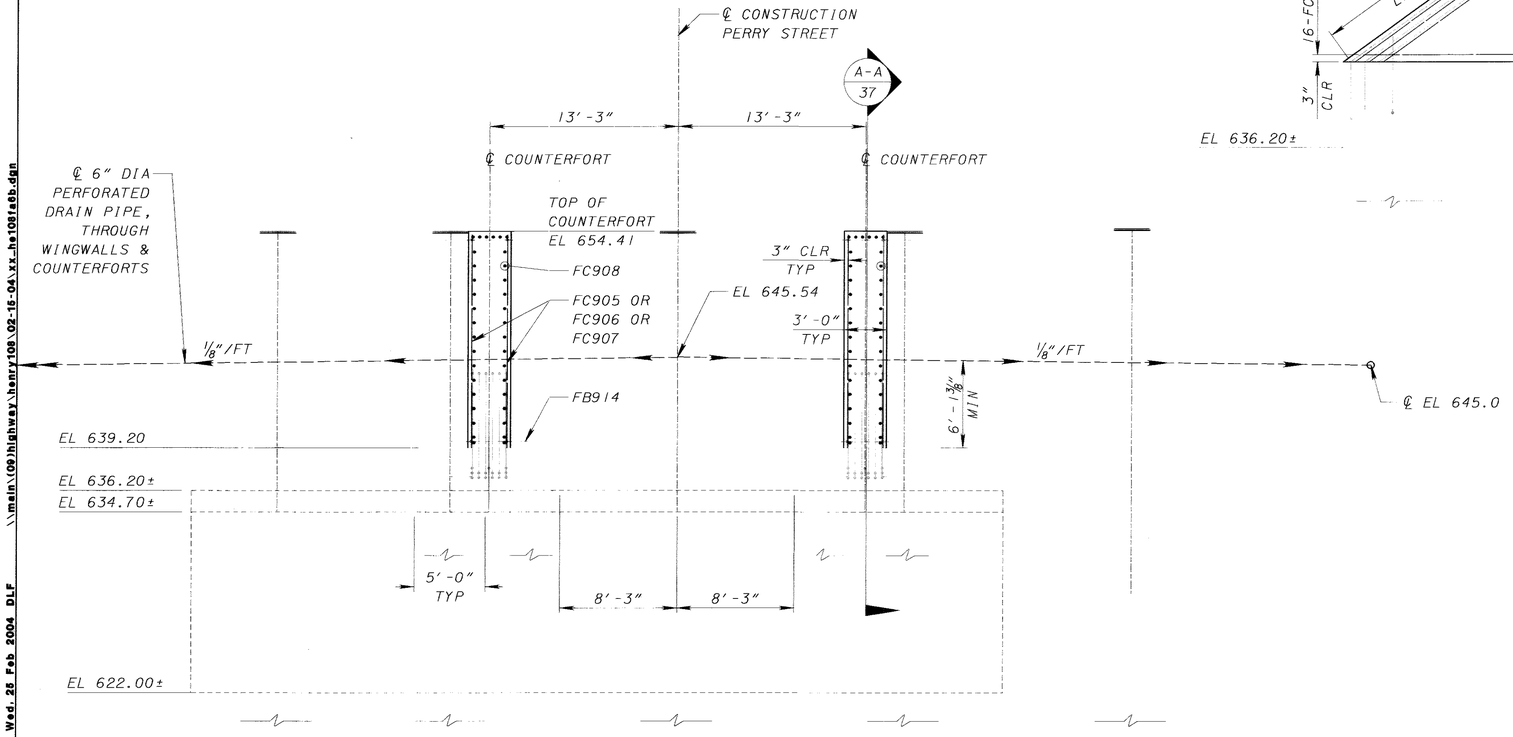
PLOTTED 09:17 PM Wed. 28 Feb 2004 DLF h:\Henry108\02-16-04\xx_he108e8a.dgn



PLAN VIEW



SECTION A-A



ELEVATION VIEW

NOTES:

1. FIELD CUT REBAR TO CLEAR UTILITY AND DRAIN PIPE OPENINGS AND REPAIR BAR ENDS PER 509.9. THE CONTRACTOR MAY CHOOSE TO FORM CIRCULAR OPENINGS FOR THE WATER AND ELECTRIC LINES. IF CIRCULAR OPENINGS ARE USED, USE THE SIZE OF THE OPENINGS AS NOTED ON THE PLANS (-0, +2"). FOLLOWING INSTALLATION OF UTILITIES, FILL REMAINDER OF OPENINGS WITH QUICK SETTING CONCRETE MORTAR TYPE 2, PER 705.21. IF UTILITIES ARE INSTALLED BEFORE BACKWALL IS CONSTRUCTED, BACKWALL CONCRETE MAY BE CAST DIRECTLY AGAINST UTILITIES WITHOUT FORMING AN OPENING. INCLUDE COST OF FORMING OPENINGS AND SUPPLYING, MIXING, AND PLACING MORTAR WITH ABUTMENT CONCRETE FOR PAYMENT. INLCUDE COST OF CUTTING AND REPAIRING REBAR WITH ITEM 509 FOR PAYMENT.

6209 RIVERSIDE DRIVE, SUITE 100
DUBLIN, OHIO 43017
(614) 923-7473
E.L.Robinson Engineering of Ohio Co.

DESIGNED	DRAWN	REVIEWED	DATE
FAJ/N	JEG	RLE	01/07/2004
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

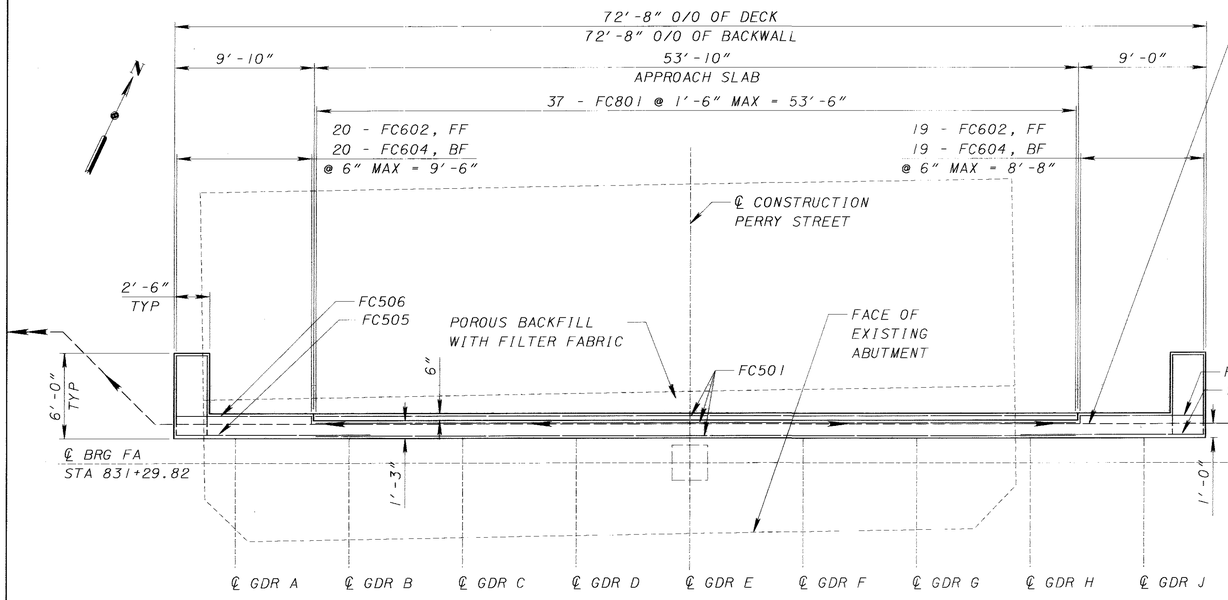
FORWARD ABUTMENT BREASTWALL COUNTERFORTS

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

37/106

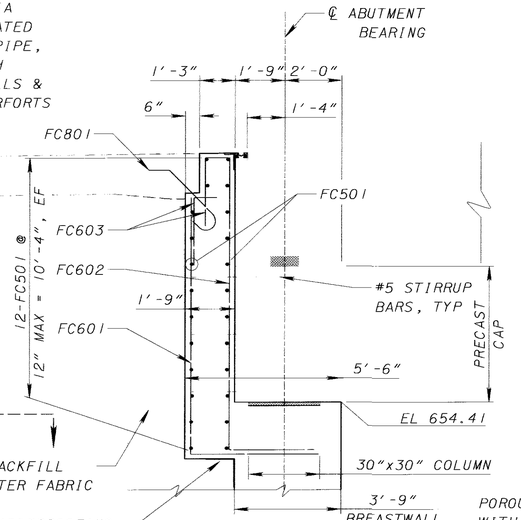
108/183



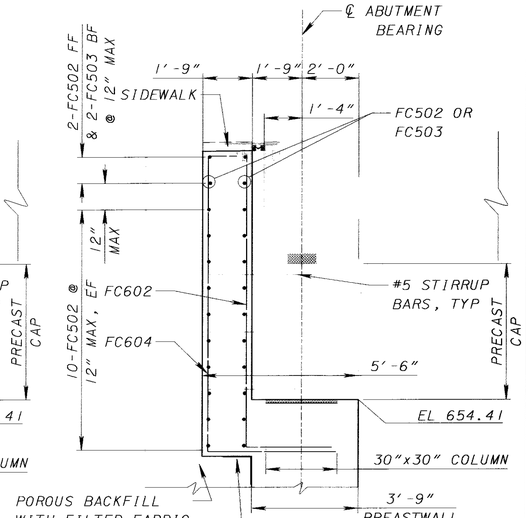
℄ 6" DIA PERFORATED DRAIN PIPE, THROUGH WINGWALLS & COUNTERFORTS

POROUS BACKFILL WITH FILTER FABRIC

TYPE 2 WATERPROOFING REQUIRED, 3'-0" WIDE CENTERED ON JOINT



SECTION A-A

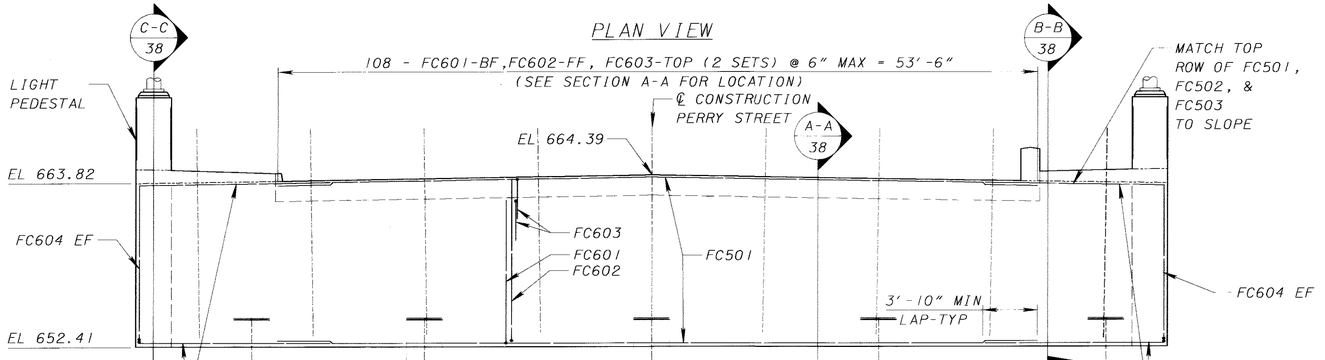


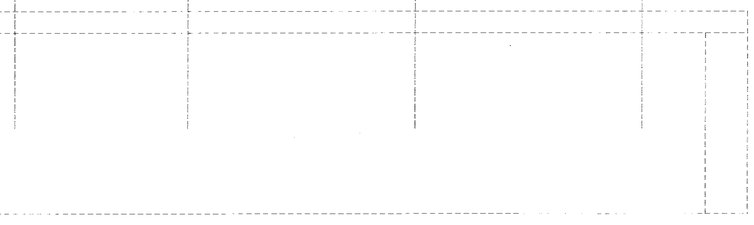
POROUS BACKFILL WITH FILTER FABRIC

TYPE 2 WATERPROOFING REQUIRED, 3'-0" WIDE CENTERED ON JOINT

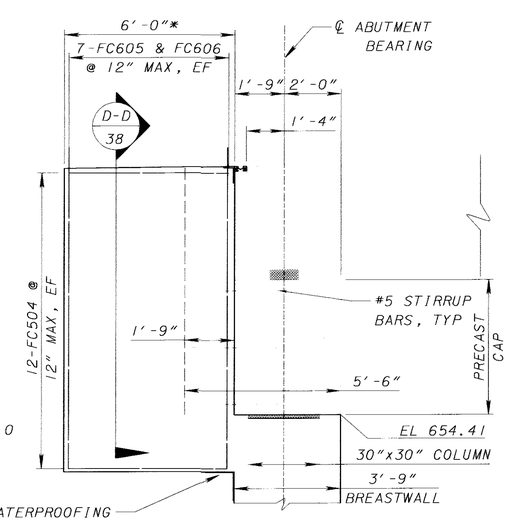
SECTION B-B

PLAN VIEW





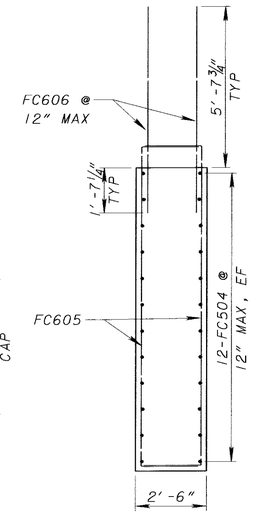
ELEVATION VIEW



TYPE 2 WATERPROOFING REQUIRED, 3'-0" WIDE CENTERED ON JOINT

SECTION C-C

* SEE FORWARD ABUTMENT DETAILS - BACKWALL 2 OF 2.

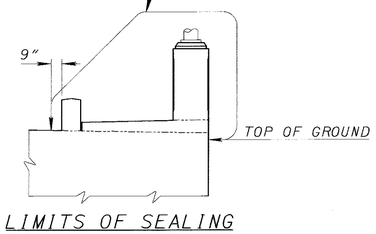


SECTION D-D

SIDEWALK AND LIGHT PEDESTAL NOT SHOWN FOR CLARITY

NOTES:

1. FOR UTILITY BLOCKOUT LOCATIONS, LIGHT PEDESTAL, AND SIDEWALK DETAILS SEE FORWARD ABUTMENT DETAILS - BACKWALL 2 OF 2.



LIMITS OF SEALING OF CONCRETE SURFACES

6209 RIVERSIDE DRIVE, SUITE 100
DUBLIN, OHIO 43017
(614) 761-1010
C.L.Robinson Engineering of Ohio Co.

DESIGNED	DRAWN	REVIEWED	DATE
FAJN	JEG	RLE	01/07/2004
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

FORWARD ABUTMENT BACKWALL 1 OF 2

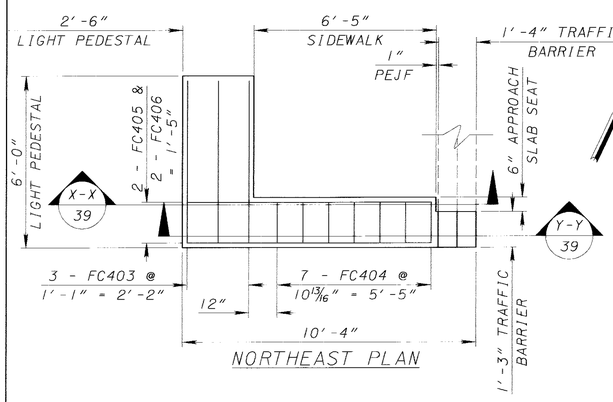
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

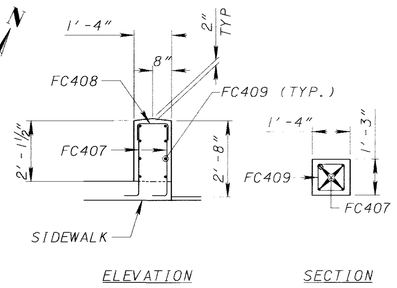
38/106

109/183

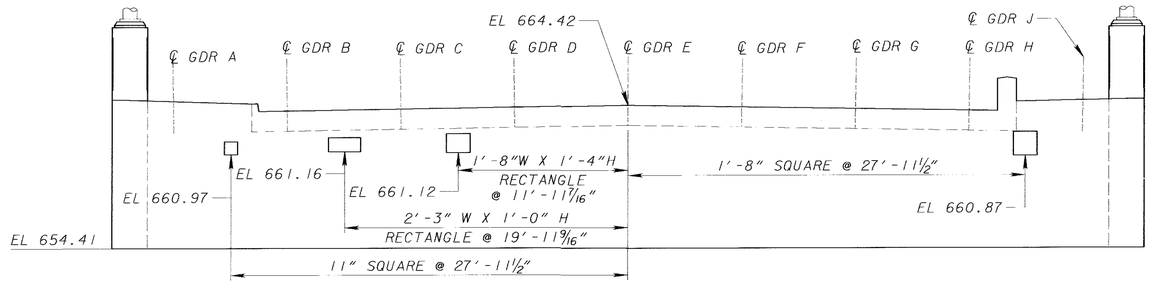
PLOTTED: 08:37 PM Wed. 26 Feb 2004 DLF \\main\(09)highway\henry108\02-15-04\rx_he108fa8.dgn



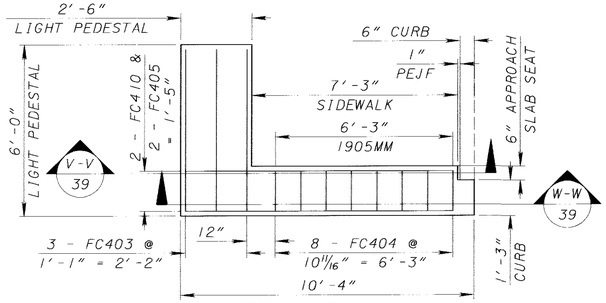
NORTHEAST PLAN



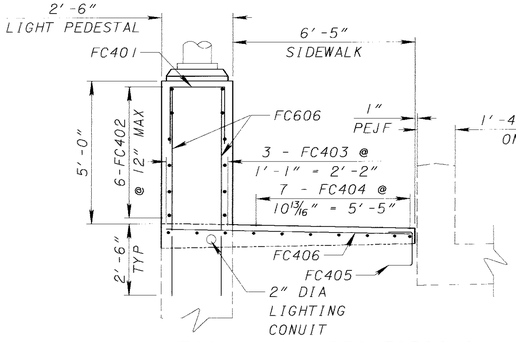
TRAFFIC BARRIER



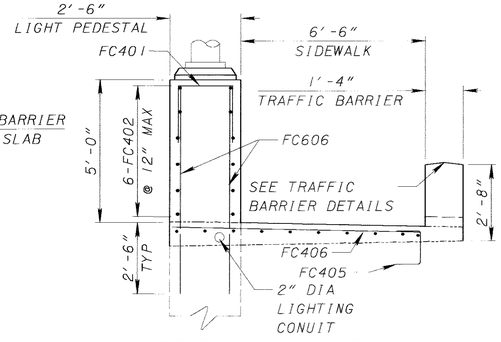
UTILITY BLOCKOUT LOCATIONS



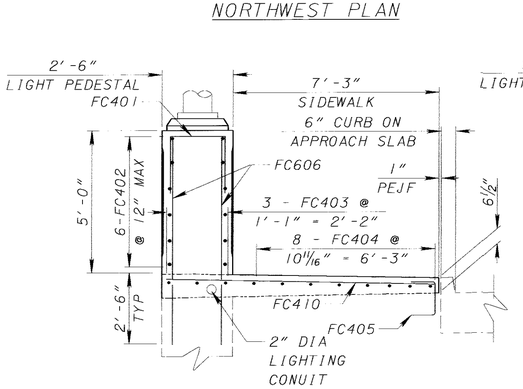
NORTHWEST PLAN



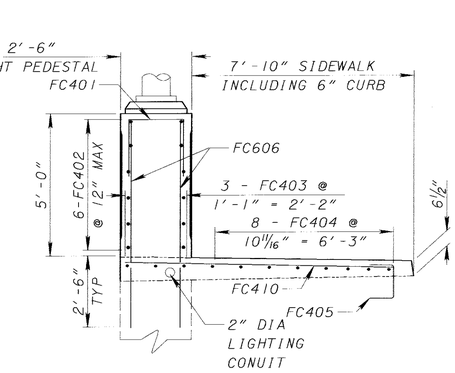
SECTION X-X - REINFORCING



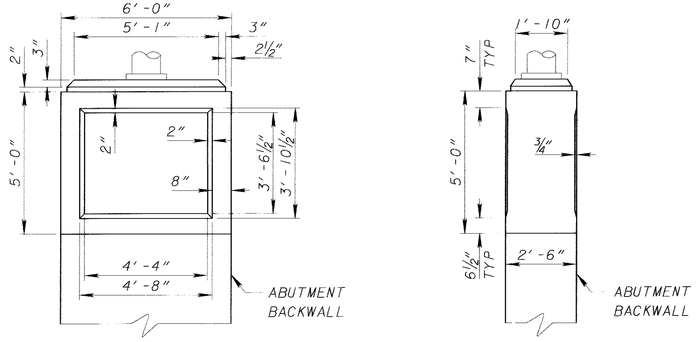
SECTION Y-Y - REINFORCING



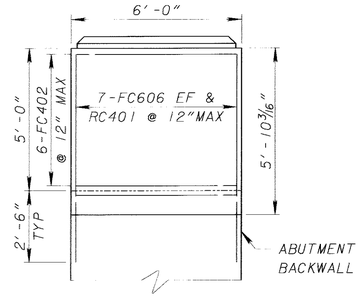
SECTION V-V - REINFORCING



SECTION W-W - REINFORCING



LIGHT PEDESTAL DETAILS



LIGHT PEDESTAL REBAR DETAILS

NOTES:

1. FIELD CUT REBAR TO CLEAR UTILITY AND DRAIN PIPE OPENINGS AND REPAIR BAR ENDS PER 509.9. THE CONTRACTOR MAY CHOOSE TO FORM CIRCULAR OPENINGS FOR THE WATER AND ELECTRIC LINES. IF CIRCULAR OPENINGS ARE USED, USE THE SIZE OF THE OPENINGS AS NOTED ON THE PLANS (-0, +2"). FOLLOWING INSTALLATION OF UTILITIES, FILL REMAINDER OF OPENINGS WITH QUICK SETTING CONCRETE MORTAR TYPE 2, PER 705.21. IF UTILITIES ARE INSTALLED BEFORE BACKWALL IS CONSTRUCTED, BACKWALL CONCRETE MAY BE CAST DIRECTLY AGAINST UTILITIES WITHOUT FORMING AN OPENING. INCLUDE COST OF FORMING OPENINGS AND SUPPLYING, MIXING, AND PLACING MORTAR WITH ABUTMENT CONCRETE FOR PAYMENT. INCLUDE COST OF CUTTING AND REPAIRING REBAR WITH ITEM 509 FOR PAYMENT.

3. THE RECESS DIMENSIONS IN THE SURFACE OF THE INSIDE FACE OF THE WALL OF THE LIGHT PEDESTAL AT THE RIGHT FORWARD WINGWALL MAY HAVE TO BE ADJUSTED AS NECESSARY TO BE COMPATIBLE WITH A PERMANENT BRIDGE PLAQUE THAT WILL BE MOUNTED TO THIS PILASTER. THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE PROJECT ENGINEER PRIOR TO PREPARING THE FORMS FOR THIS PILASTER IN ORDER TO VERIFY IF THE PLAN DIMENSIONS NEED TO BE ADJUSTED.

6203 RIVERSIDE DRIVE, SUITE 100
DUBLIN, OHIO 43017
(614) 924-7412
E.L.Robinson Engineering of Ohio Co.

DESIGNED	DRAWN	REVIEWED	DATE
FA/JN	JEG	RLE	01/07/2004
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

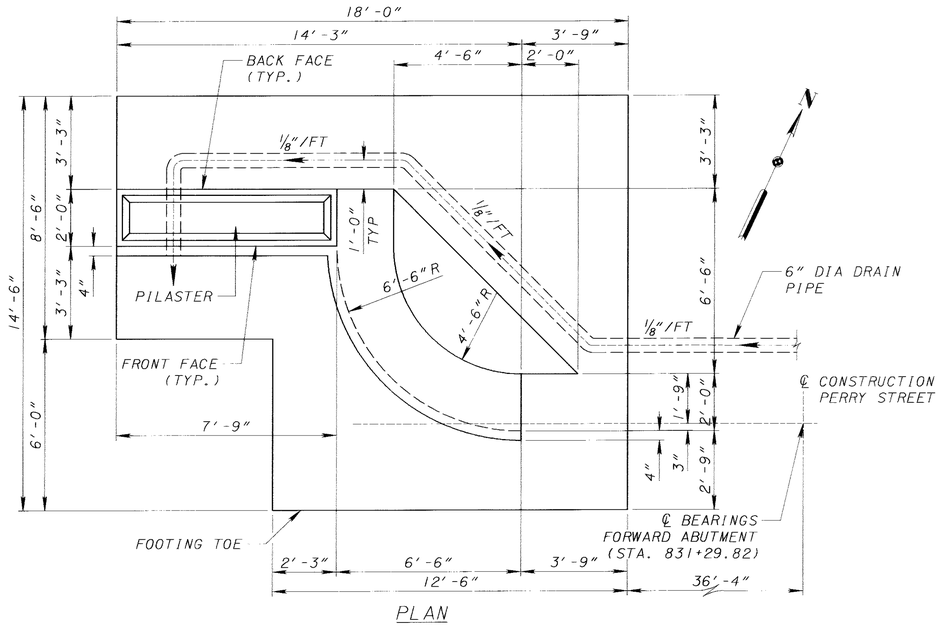
FORWARD ABUTMENT BACKWALL
BRIDGE NO. HEN-108-15.61
OVER MAUMEE RIVER

HEN-108-15.55

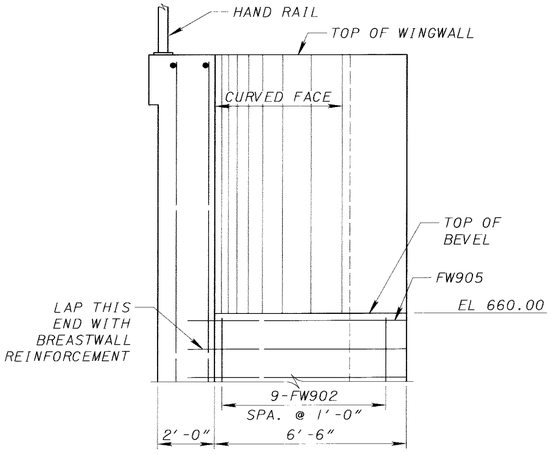
39/106

110/183

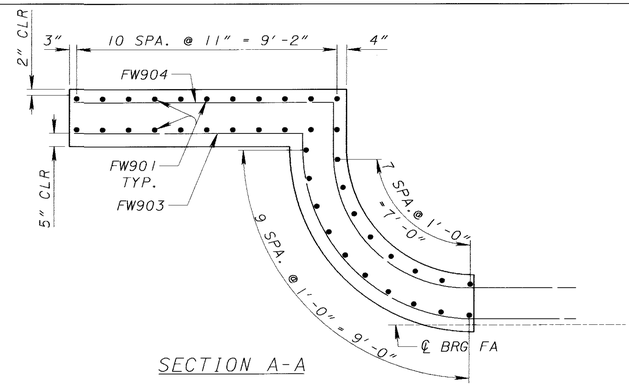
PLOTTED: 10:24 AM Fri, 05 Mar 2004 jelkins \\Main\(09)Highway\Henry108\02-16-04\xx_he108fa6A.dgn



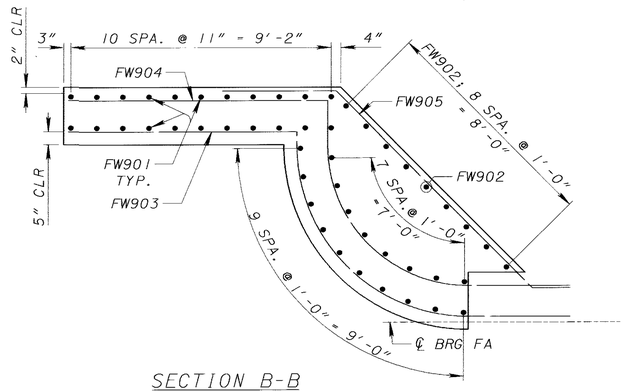
PLAN



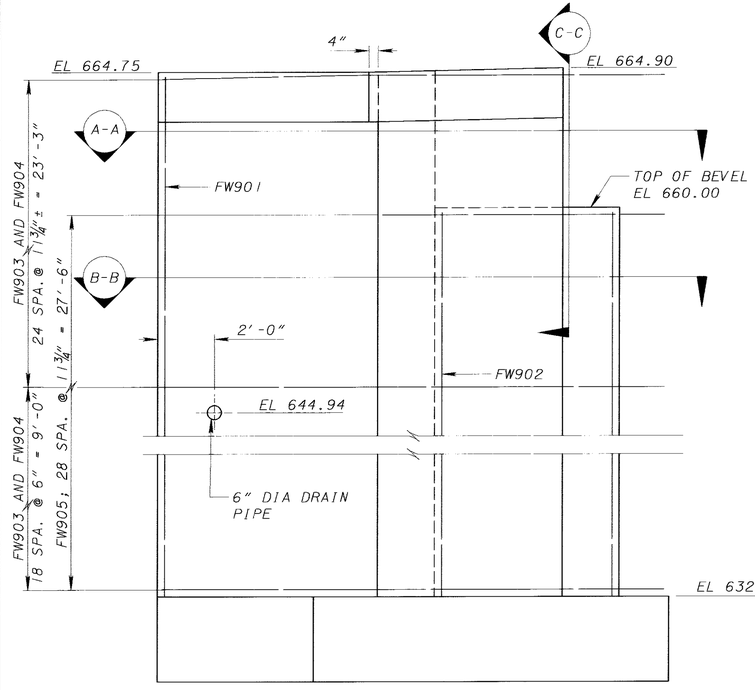
SECTION C-C



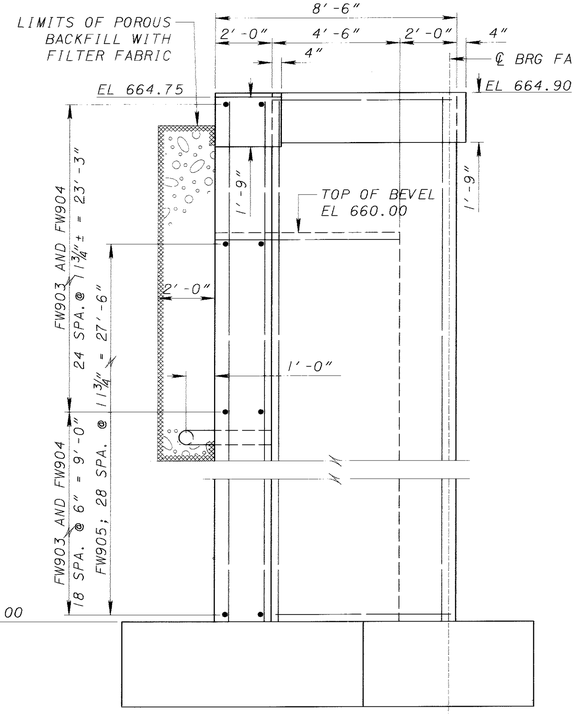
SECTION A-A



SECTION B-B

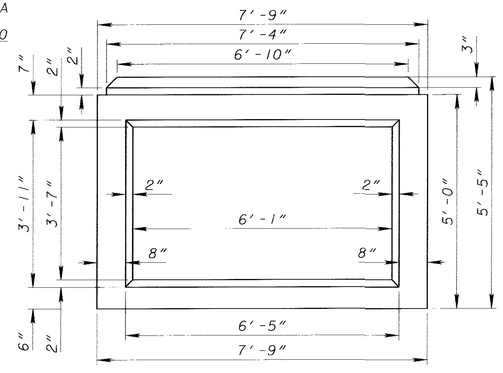


FRONT ELEVATION
(LOOKING NORTH)

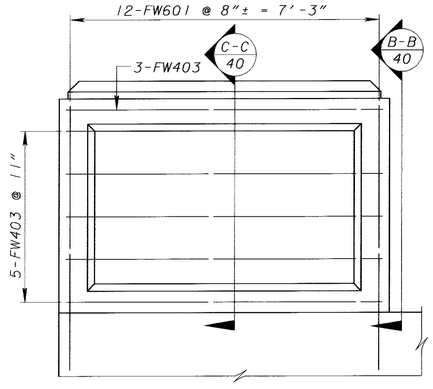


SIDE ELEVATION
(LOOKING EAST)

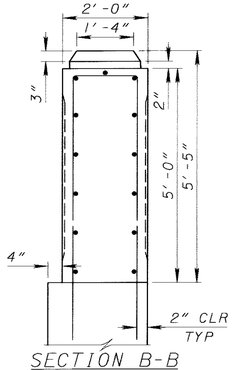
FORWARD ABUTMENT - WEST WINGWALL



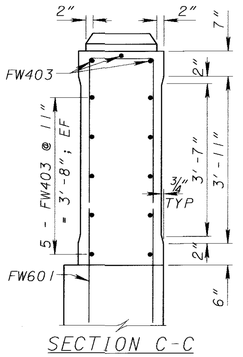
PILASTER ELEVATION



REINFORCEMENT ELEVATION



SECTION B-B



SECTION C-C

NOTES:

1. FOR FOOTING DETAILS SEE SHEETS 31-32 OF 106.
2. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

6809 RIVERSIDE DRIVE, SUITE 100
DUBLIN, OHIO 43017
(614) 923-1415
E.L.Robinson Engineering of Ohio Co.

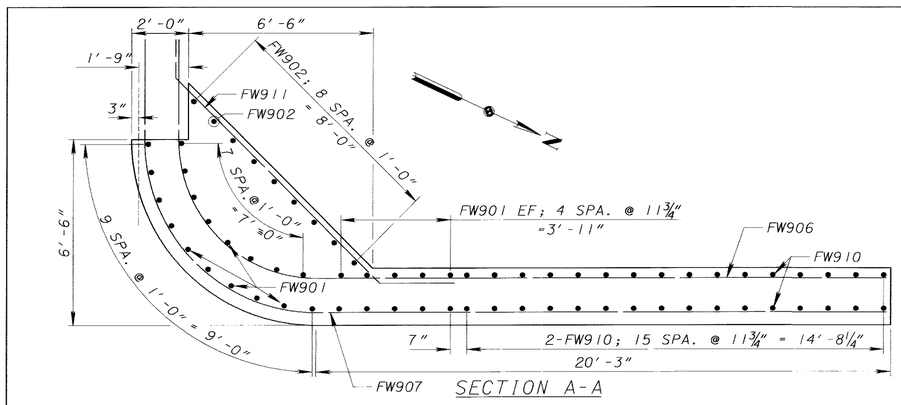
DESIGNED	DRAWN	REVIEWED	DATE
FA/JN	ABH/JVE	RLE	01/07/2004
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

FORWARD ABUTMENT WINGWALLS 1 OF 3
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

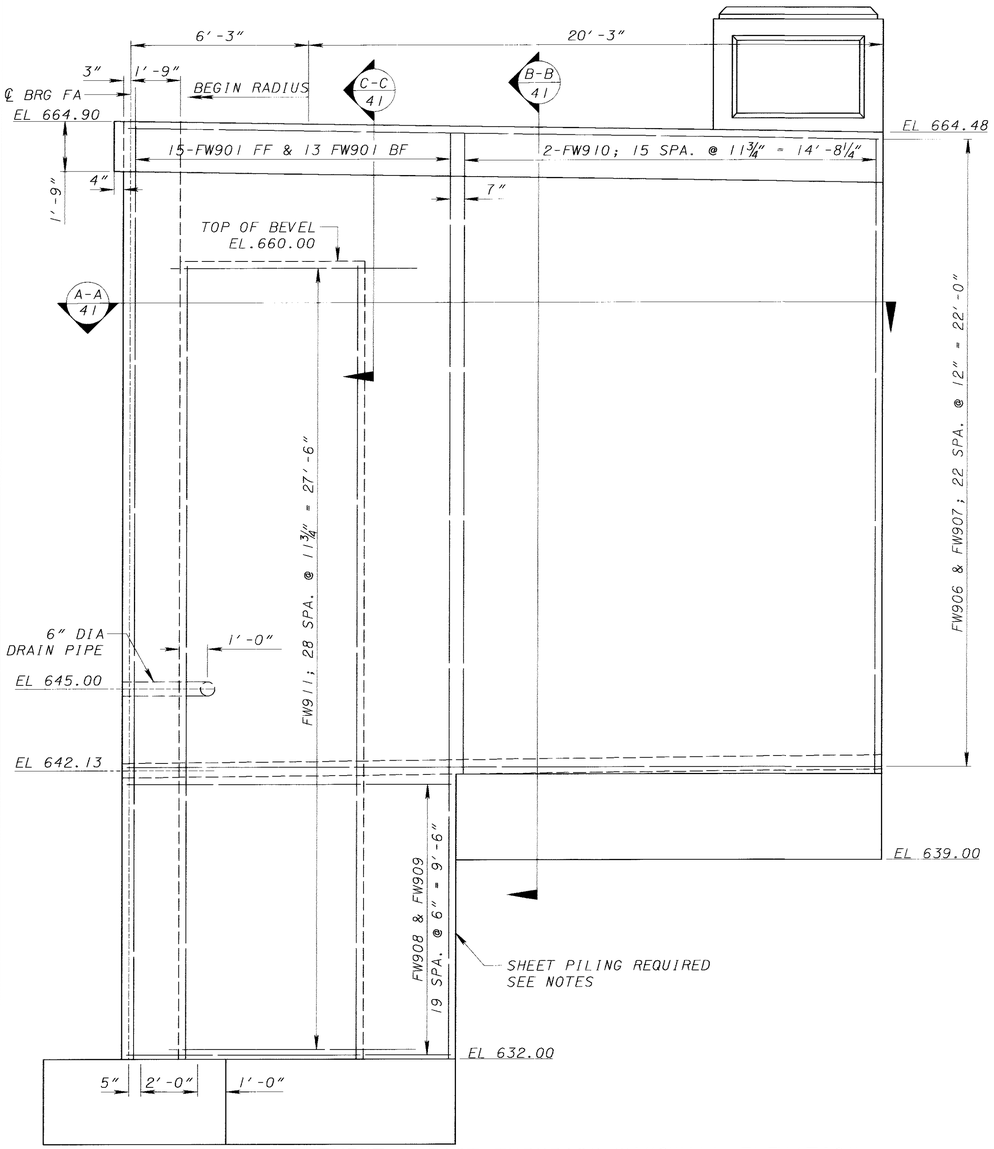
HEN-108-15.55

40/106

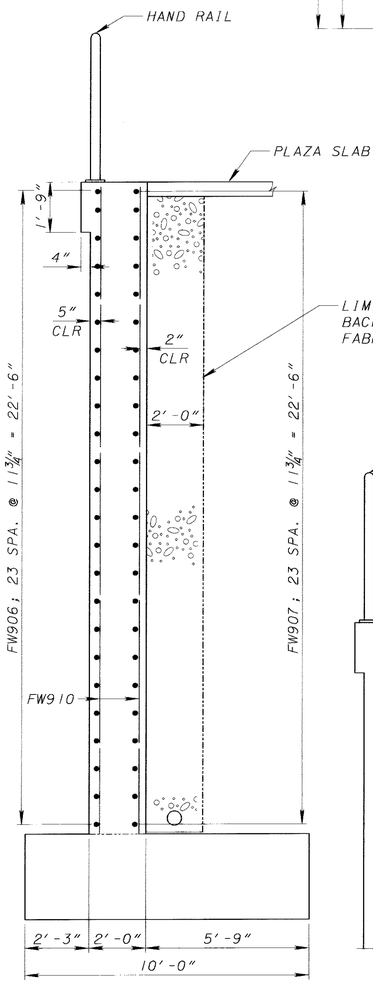
111/183



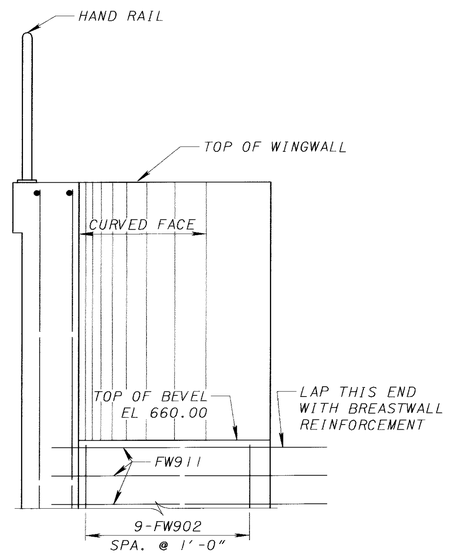
SECTION A-A



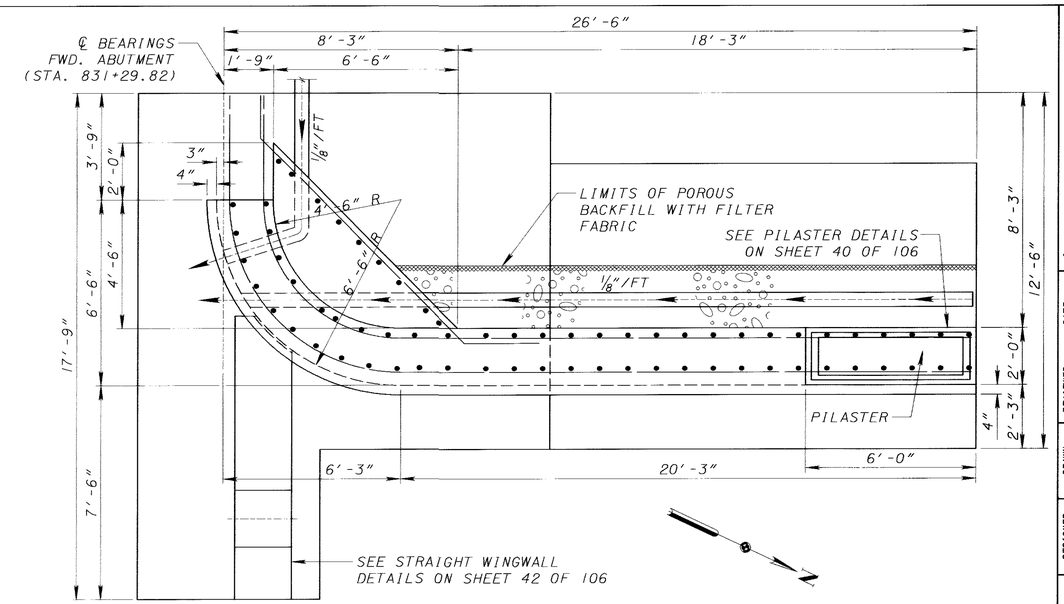
FORWARD ABUTMENT - EAST TURNBACK WINGWALL ELEVATION
(LOOKING WEST)



SECTION B-B



SECTION C-C



FORWARD ABUTMENT - EAST TURNBACK WINGWALL PLAN

NOTES:

1. FOR FOOTING DETAILS SEE SHEETS 31-32 OF 106.
2. FOR COUNTERFORT DETAILS SEE SHEET 37 OF 106.
3. FOR BACKWALL DETAILS SEE SHEETS 38-39 OF 106.
4. SHEET PILING IS TO BE LEFT IN PLACE. USE SHEET PILING (SECTION MODULUS 30 CUBIC INCHES PER FOOT). SHEET PILING SHALL BE A MINIMUM OF 17'-0" LONG AND BE DRIVEN A MINIMUM OF 10-0'' INTO THE GROUND. SHEET PILING SHALL BE INCLUDED WITH ITEM 511 CLASS C FOOTING CONCRETE FOR PAYMENT.
5. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. PLACE TWO CUBIC FEET OF BAGGED NO.3 AGGREGATE AT EACH WEEPHOLE. THE BAGGED AGGREGATE IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

6209 RIVERSIDE DRIVE, SUITE 100
DUBLIN, OHIO 43017
(614) 761-1010
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VH		3502384	

FORWARD ABUTMENT WINGWALLS 2 OF 3

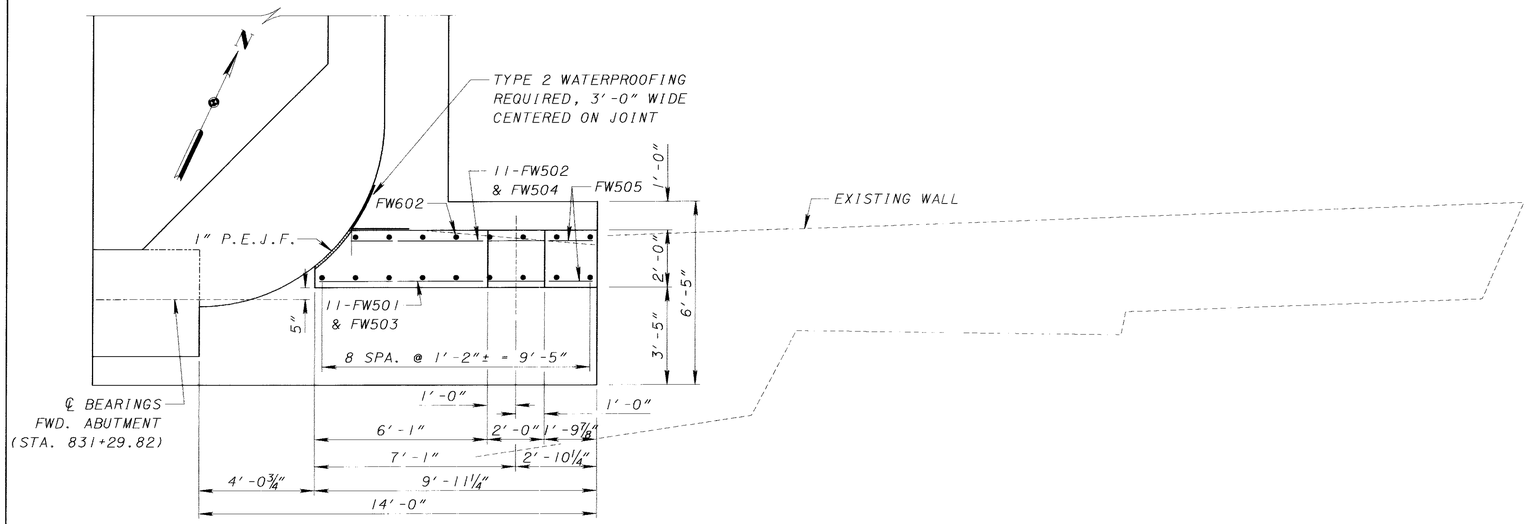
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

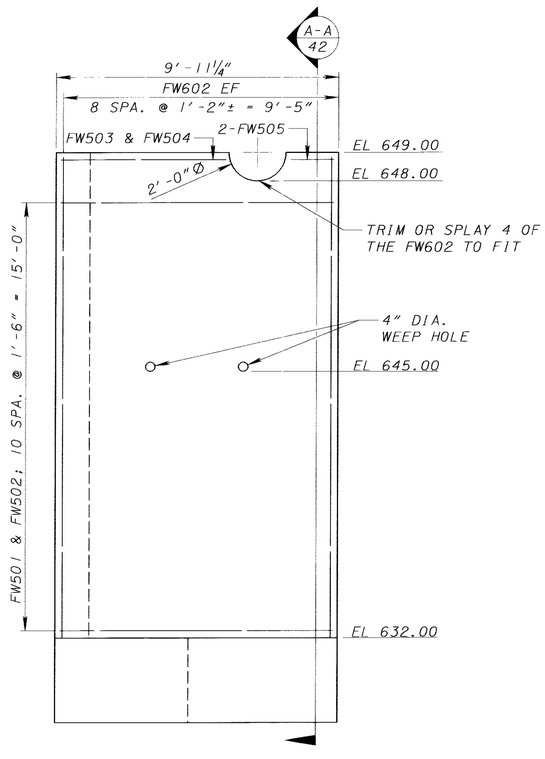
41/106

112/183

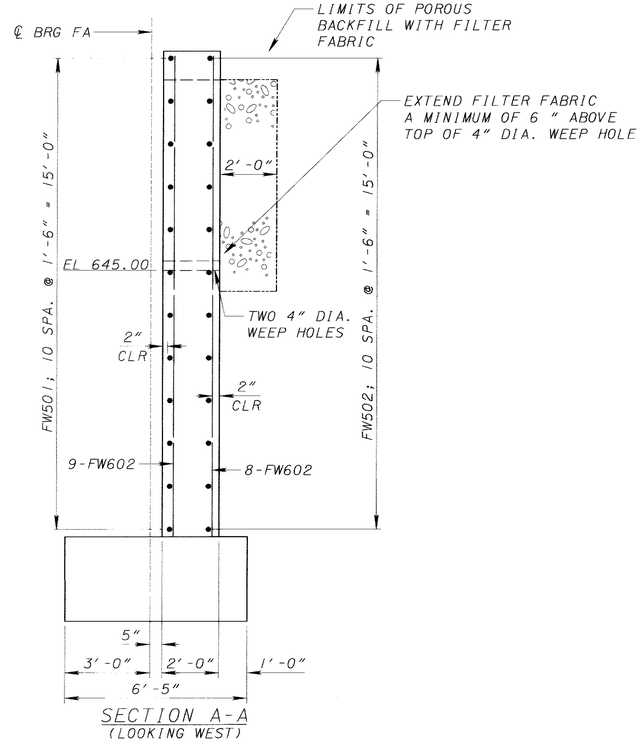
PLOTTED 06:37 PM Wed. 25 FeB\2004 \\main\09\highway\henry108\02-16-04\xx_he108te7a.dgn



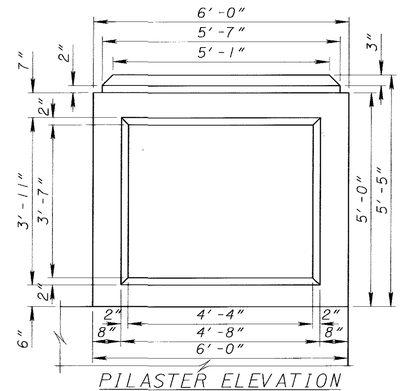
FORWARD ABUTMENT - EAST STRAIGHT WINGWALL PLAN



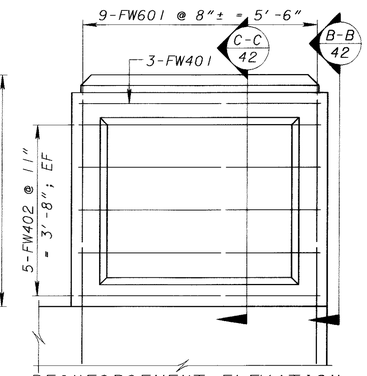
FORWARD ABUTMENT - EAST STRAIGHT WINGWALL ELEVATION
(LOOKING NORTH)



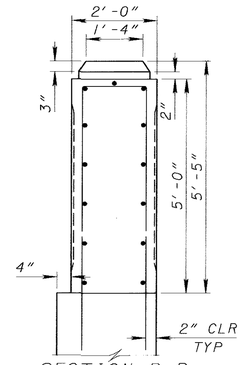
SECTION A-A
(LOOKING WEST)



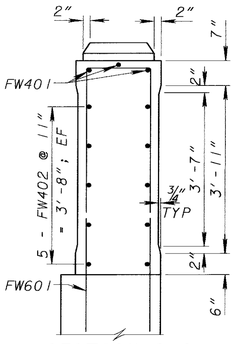
PILASTER ELEVATION



REINFORCEMENT ELEVATION



SECTION B-B



SECTION C-C

NOTES:

1. FOR FOOTING DETAILS SEE SHEETS 31-32 OF 106.
2. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. PLACE TWO CUBIC FEET OF BAGGED NO.3 AGGREGATE AT EACH WEEPHOLE. THE BAGGED AGGREGATE IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

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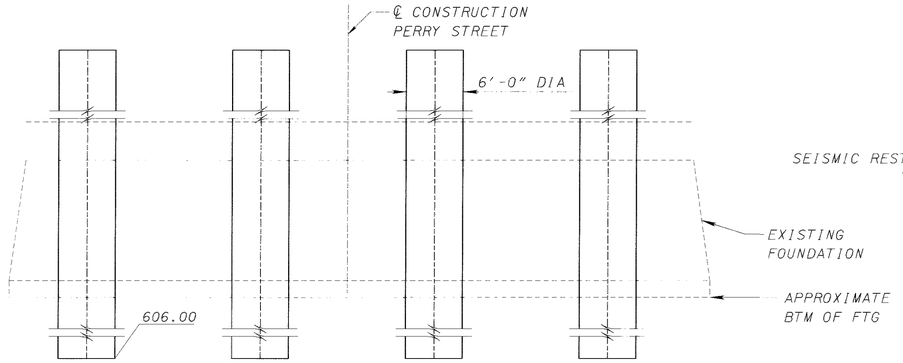
FORWARD ABUTMENT DETAILS - STRAIGHT WINGWALL

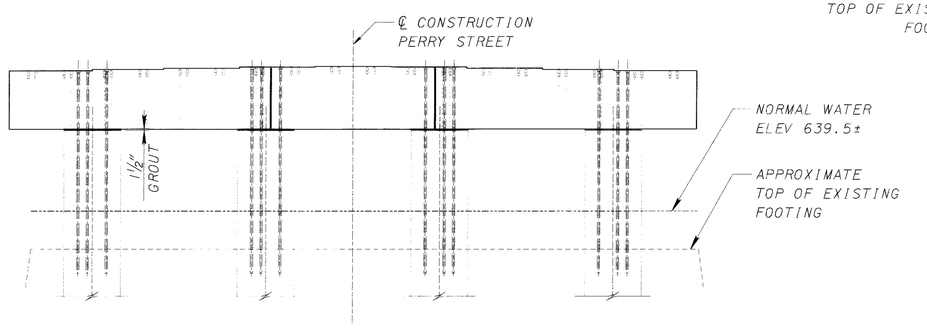
BRIDGE NO. HEN-108-156/
OVER MAUMEE RIVER

HEN-108-15.55



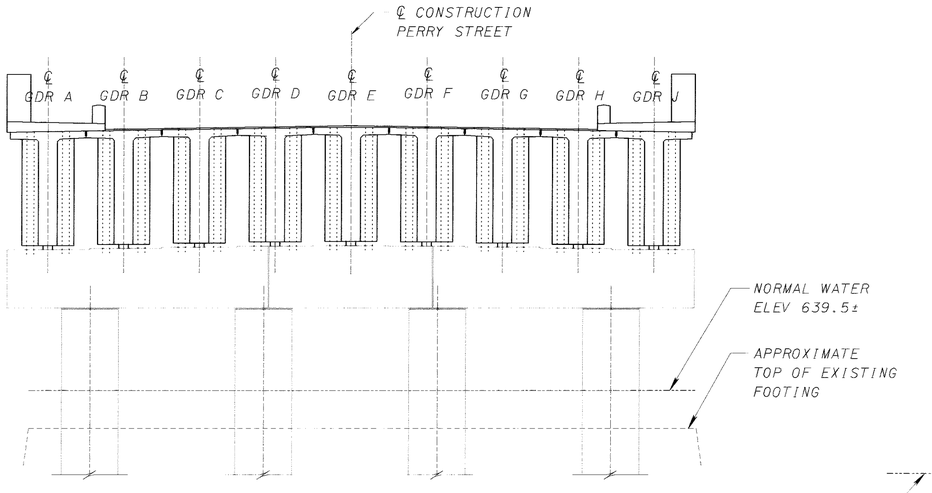
STEP 1

CONSTRUCT DRILLED SHAFTS



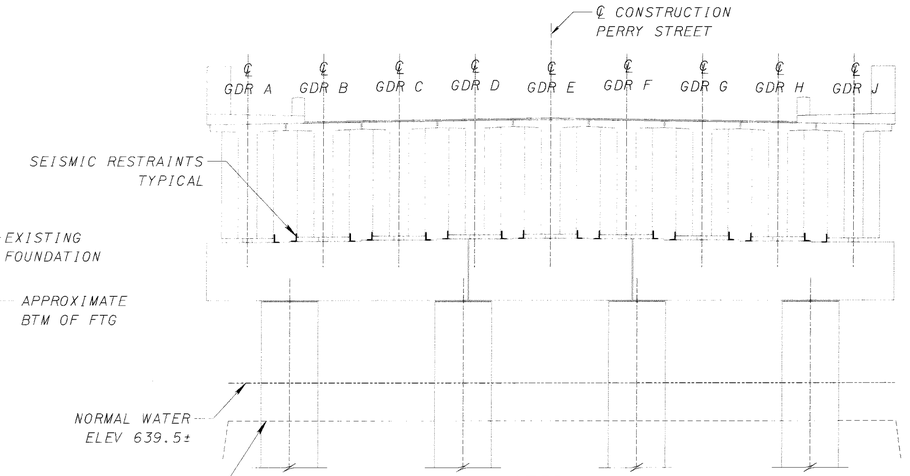
STEP 2

INSTALL PIER CAPS
LEVEL PIER CAPS AND GROUT TOP OF SHAFTS
POST TENSION PIER CAP SECTIONS



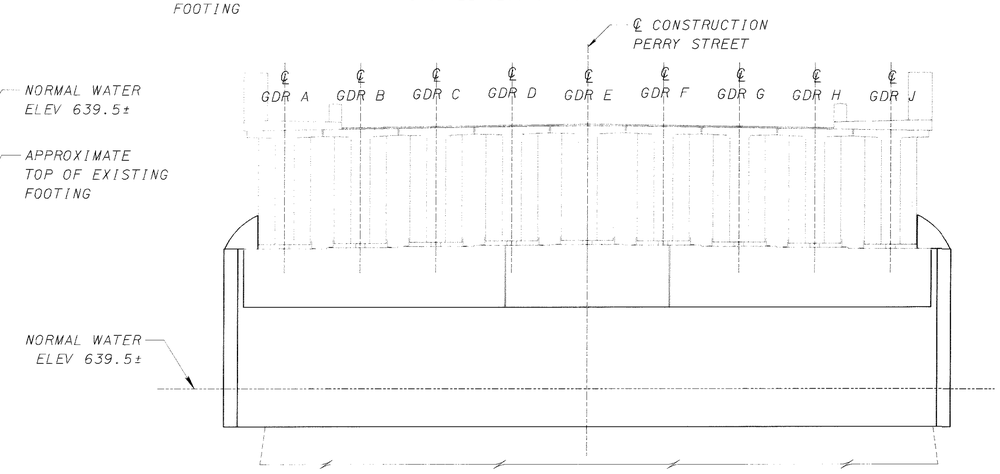
STEP 3

INSTALL BEARINGS & PLACE GIRDERS WITH DIAPHRAGMS



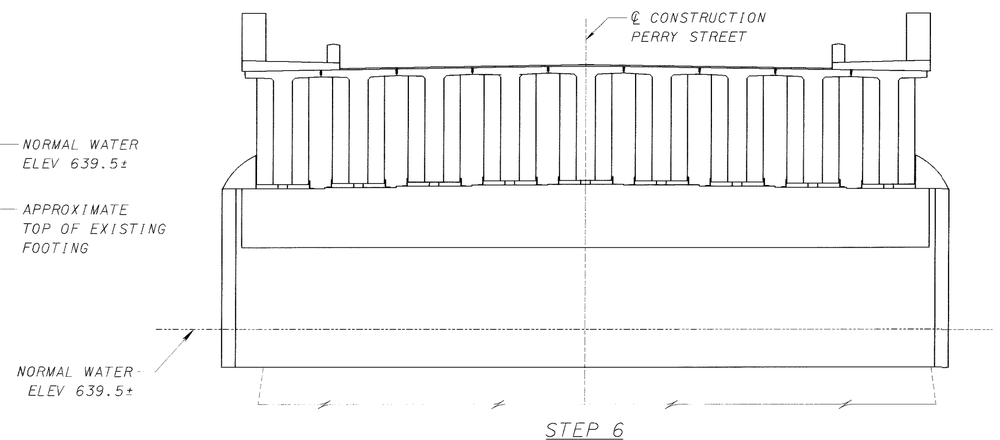
STEP 4

INSTALL SEISMIC RESTRAINT BENT PLATES



STEP 5

CONSTRUCT PIERS WALLS, INCLUDING SEAL AND FORMWORK
AND PLACE DECORATIVE PIER CAP DOMES



STEP 6

FINISHED PIER

SUGGESTED SEQUENCE OF CONSTRUCTION

1. STEP 1, INSTALL DRILLED SHAFTS AT THE PLAN LOCATIONS, THE PLAN VIEW LOCATION TOLERANCE IS 4 INCHES.
2. THE DRILLED SHAFTS CAN BE INSTALLED THROUGH THE EXISTING FOOTING OR THE EXISTING FOOTING CAN BE REMOVED.
3. FOR PLAN PREPARATION PURPOSES THE PIER REMOVAL LIMIT IS SHOWN AT AN EXISTING CONSTRUCTION JOINT AT THE TOP OF THE FOOTING. AT THE CONTRACTORS OPTION THE REMOVAL LIMITS CAN BE HIGHER PROVIDED ALL PLAN REQUIREMENTS ARE FULFILLED.
4. PLACE REINFORCING STEEL AND CONCRETE AS PER ITEM 524. THE REINFORCING STEEL EXTENDING OUT OF THE DRILLED SHAFT AND INTO THE PIER COLUMN IS INCLUDED WITH THE DRILLED SHAFT FOR PAYMENT.
5. THE PIER COLUMN MUST BE LOCATED & CONSTRUCTED TO PLAN DIMENSIONS. THE COLUMNS MUST BE VERTICAL.
6. AFTER THE PIER COLUMN CONCRETE HAS SET, STEEL SHIMS CAN BE PLACED ON TOP OF THE PIER COLUMN TO SUPPORT THE PRECAST PIER CAP AT THE PLAN ELEVATION.
7. PLACE GROUT ON TOP OF PIER COLUMN TO THE BOTTOM ELEVATION OF THE PRECAST PIER CAP. COST IS CONSIDERED TO BE INCIDENTAL TO THE COST OF PRECAST CAP.
8. THE GROUT SHALL BE THE SAME AS USED IN THE LONGITUDINAL DECK JOINTS.
9. STEP 2, SET PRECAST PIER CAP SEGMENT.
10. INSTALL POST TENSIONING GROUT SEAL.
11. SET ADJACENT PIER CAP SEGMENT.
12. INSTALL POST TENSIONING GROUT SEAL.
13. SET THIRD PIER CAP SEGMENT
14. GROUT THE TWO 1 INCH VERTICAL GAPS BETWEEN THE PRECAST PIER CAPS, USE SIKA 212 OR APPROVED EQUAL. COST IS CONSIDERED TO BE INCIDENTAL TO THE COST OF PRECAST CAP
15. WAIT ONE DAY FOR GROUT TO CURE
16. INSTALL TENDONS
17. STRESS TENDONS AND PLACE GROUT
18. STRESS THE POST-TENSIONING BARS CONNECTING THE PRECAST CAP TO THE PIER COLUMNS, LOCK OFF.
19. GROUT VERTICAL DUCTS CONTAINING THE POST-TENSIONING BARS, AND GROUT THE SURFACE RECESS AREAS.
20. PLACE BEARINGS AND GIRDERS.
21. STEP 4, INSTALL SEISMIC RESTRAINTS.
22. STEP 5, COMPLETE THE PIER WALL CONSTRUCTION AS PER PLAN AND INSTALL DECORATIVE PIER CAP DOMES.

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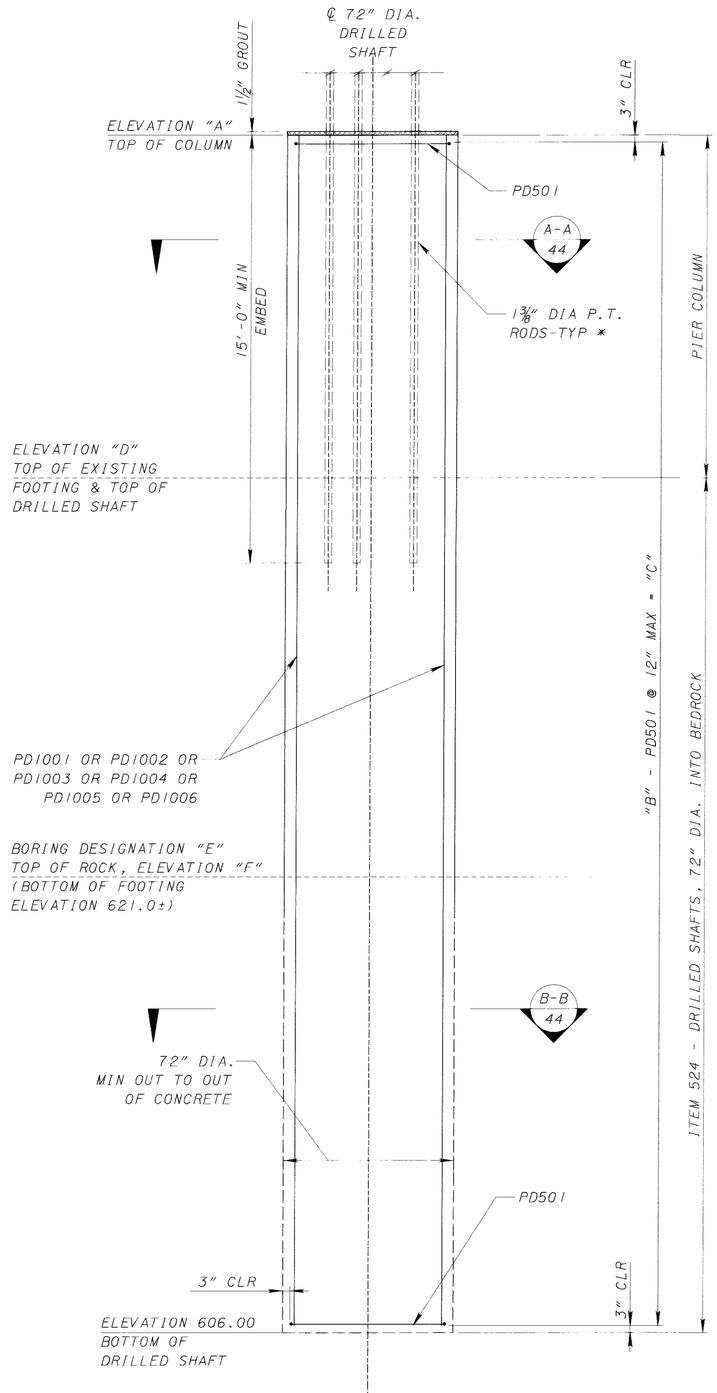
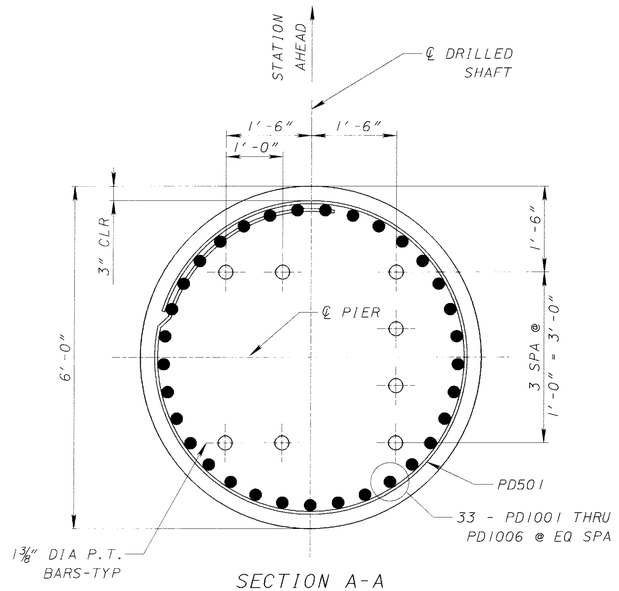
PIERS 1 THRU 6 - CONSTRUCTION SEQUENCE

BRIDGE NO. HEN-108-15.61
OVER MAUMEE RIVER

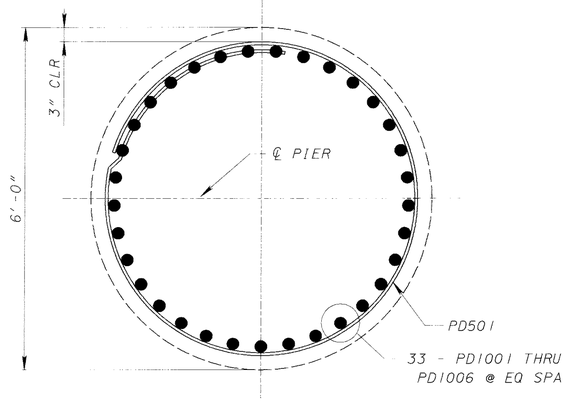
HEN-108-15.55



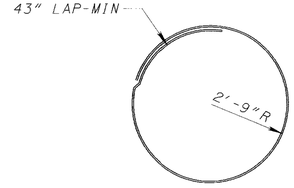
ELEVATION
72" DIA DRILLED SHAFT



SECTION A-A
(DRILLED SHAFT)
NOTE: LAYOUT OF 1⅜" DIA P.T. BARS IS SYMMETRICAL ABOUT ℄ CONST (SEE SHTS 45 & 46 OF 106)



SECTION B-B
(ROCK SOCKET)



PD501
(RADIUS IS TO OUTSIDE OF REBAR)

PD1001 = 41'-6"
PD1002 = 43'-4"
PD1003 = 44'-3"
PD1004 = 43'-6"
PD1005 = 41'-10"
PD1006 = 40'-8"

DRILLED SHAFT DETAILS							LENGTH
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"	D.S. (FT.)
PIER 1	648.00	43	41'-6⅛"	635.5±	RB-1	621.1±	29'-6"
PIER 2	649.83	45	43'-4⅛"	636.0±	RB-2	621.6±	30'-0"
PIER 3	650.77	46	44'-9⅜"	636.35±	RB-3	620.9±	30'-4"
PIER 4	649.97	45	43'-11¾"	636.35±	RB-4	621.9±	30'-4"
PIER 5	648.32	44	42'-3"	636.0±	RB-5	620.8±	30'-0"
PIER 6	646.64	42	40'-7¾"	635.5±	RB-6	621.8±	29'-6"

* THE CONTRACTOR SHALL LOCATE THE RODS IN PLAN POSITION BY USING A TEMPLATE AND ACCURATE SURVEY METHODS. THE RODS MUST BE INSTALLED VERTICAL.

NOTE(S):

1. COST OF 1⅜" DIA P.T. BARS (TOTAL 192 PIECES AT 22') SHALL BE INCLUDED IN ITEM SPECIAL, "STRUCTURE, MISC.: PRECAST PIER CAP MODULE", EA.
2. SEE SHT 43 OF 106 FOR PIER DRILLED SHAFT INSTALLATION TOLERANCES.
3. ITEM 511, CLASS S CONCRETE, MISC.: PIER ABOVE FOOTING. THIS ITEM CONSISTS OF THE CONCRETE FOR THE PIER COLUMN ABOVE THE DRILLED SHAFTS.

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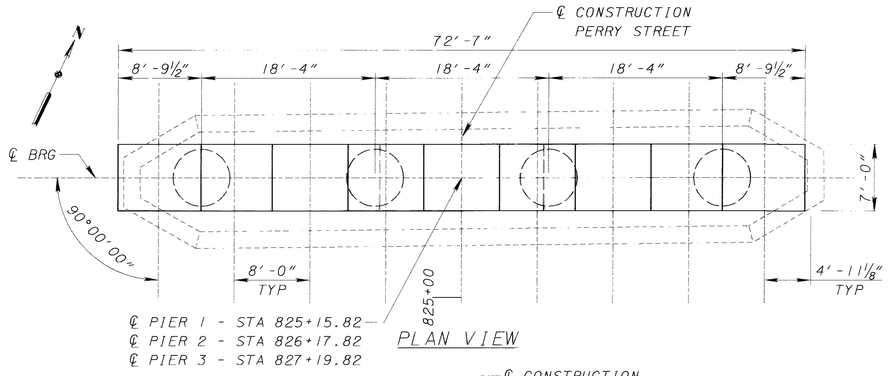
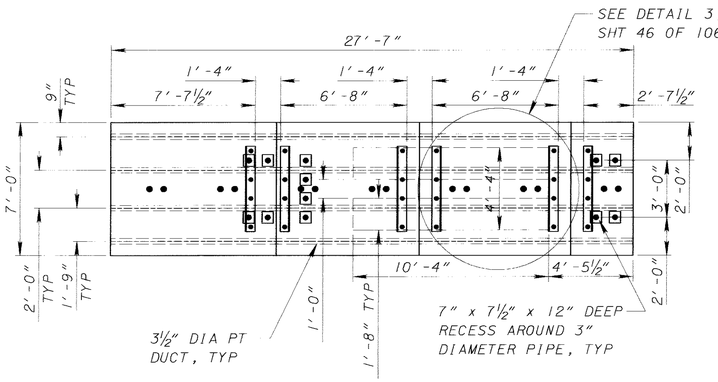
PIERS 1 THRU 6 - DRILLED SHAFT DETAILS
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

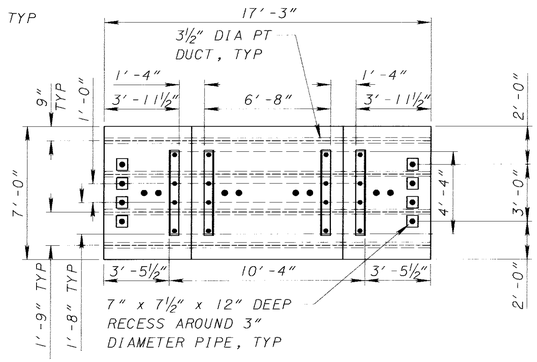
PLOTTED 04:42 PM Tue. 06 Apr 2004 jelkins \\Main\(09)Highway\Henry108\02-15-04\REV 04 01 04\xx_he108pd3.dgn



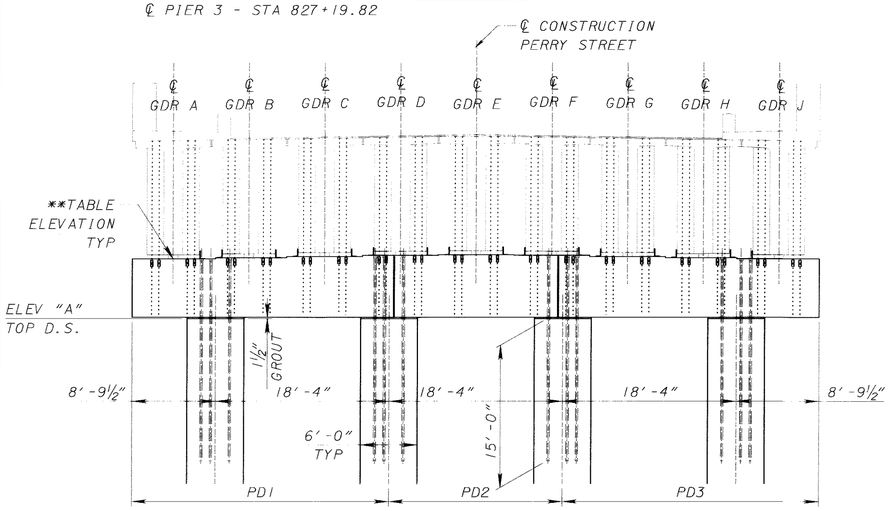
PLAN VIEW



PD1 - PLAN VIEW
(MIRROR FOR PD3)



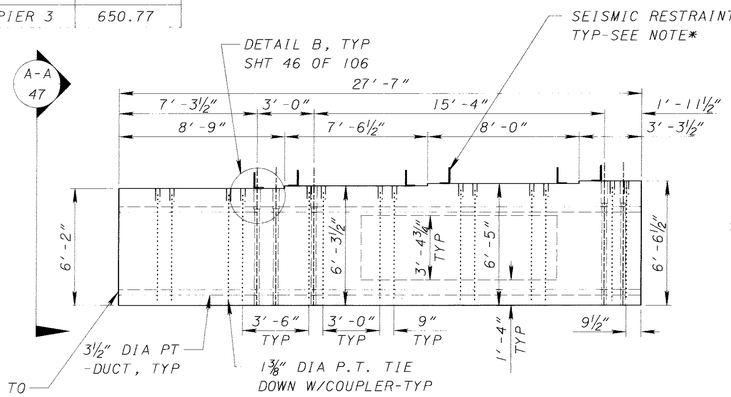
PD2 - PLAN VIEW



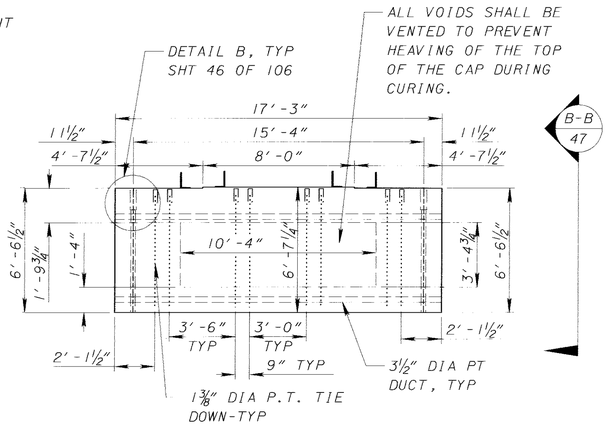
ELEVATION VIEW
(FOR GIRDER SEAT
ELEVATIONS SEE TABLE)

DRILLED SHAFT (DS) ELEV	
LOCATION	"A"
PIER 1	648.00
PIER 2	649.83
PIER 3	650.77

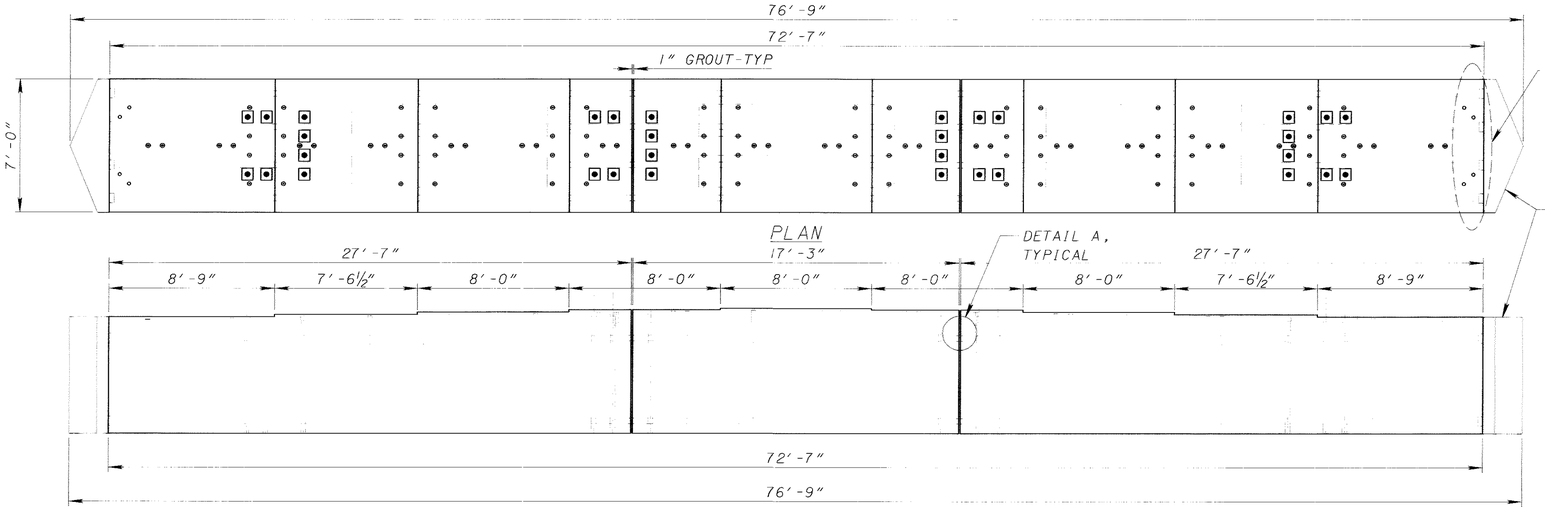
END BLOCKOUT TO BE DETAILED TO ACCOMODATE POST-TENSIONING END ANCHORAGE AS PER MANUFACTURERS RECOMMENDATION & LOCAL ZONE DESIGN, TYPICAL TOP AND BOTTOM



PD1 - ELEVATION VIEW
(MIRROR FOR PD3)



PD2 - ELEVATION VIEW



PLAN

ELEVATION

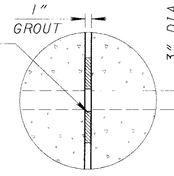
PIER CAP - PIERS 1, 2, & 3
PIERS 4, 5, & 6 SIMILAR

FOR PIER CAP DOME STEEL PIN INSERT HOLES, SEE SHT 47 OF 106, DETAILS 2A & 2B

FOR CAST-IN-PLACE CAP NOSING DETAILS SEE SHT 49 OF 106

PROVIDE 1½"x10"x10" NEOPRENE PAD WITH 5" DIA HOLE AROUND DUCT TO KEEP THE GROUT FROM OBSTRUCTING PT DUCT. COSTS SHALL BE INCLUDED IN THE COST OF THE PRE-CAST PIER CAP MODULE PAY ITEM.

PROVIDE SEAL & VENTS DURING GROUTING AS RECOMMENDED BY GROUT MANUFACTURER



DETAIL A

GIRDER SEAT ELEVATIONS TABLE						
PIER	GIRDER	ELEV	GIRDER	ELEV	GIRDER	ELEV
1	GDR A	654.29	GDR D	654.66	GDR G	654.54
	GDR B	654.42	GDR E	654.73	GDR H	654.42
	GDR C	654.54	GDR F	654.66	GDR J	654.29
2	GDR A	656.12	GDR D	656.49	GDR G	656.37
	GDR B	656.25	GDR E	656.56	GDR H	656.25
	GDR C	656.37	GDR F	656.49	GDR J	656.12
3	GDR A	657.06	GDR D	657.43	GDR G	657.31
	GDR B	657.18	GDR E	657.49	GDR H	657.18
	GDR C	657.31	GDR F	657.43	GDR J	657.06

NOTES:

1. PIER 1 SHOWN, PIERS 2 AND 3 ARE SIMILAR.
2. FOR REBAR DETAILS SEE SHT 47 OF 106.
3. P.T. TIE DOWN RODS ARE BASED ON DYWIDAG THREADED POST TENSIONING STEEL RODS CONFORMING TO ASTM A722, TYPE II. COSTS SHALL BE INCLUDED IN THE COST OF THE PRE-CAST PIER CAP MODULE PAY ITEM.
4. FOR VIEWS A-A & B-B, SEE SHT 47 OF 106
* SEISMIC RESTRAINTS TO BE INSTALLED AFTER GIRDERS AND DIAPHRAGMS ARE IN PLACE, SEE SHT 46 OF 106 FOR FABRICATION DETAILS.

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PIERS 1, 2, AND 3 DETAILS
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

45/106

116/183

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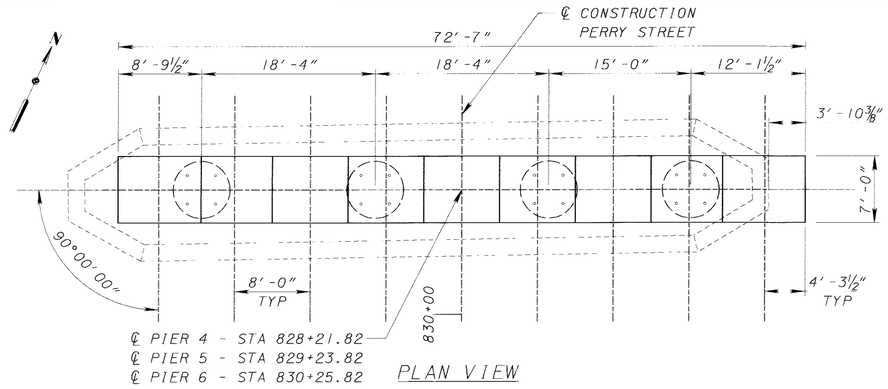
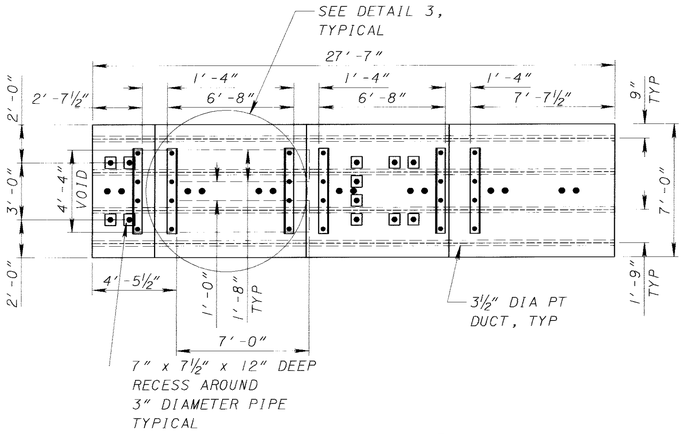
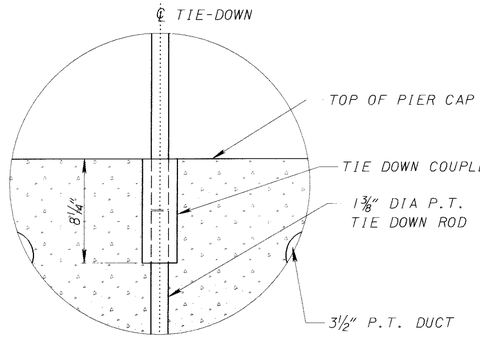


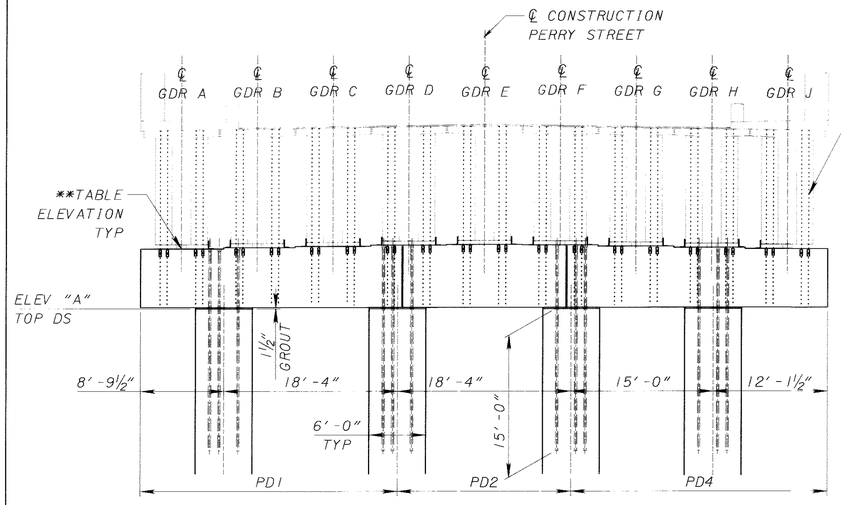
PLAN VIEW



PD4 - PLAN VIEW

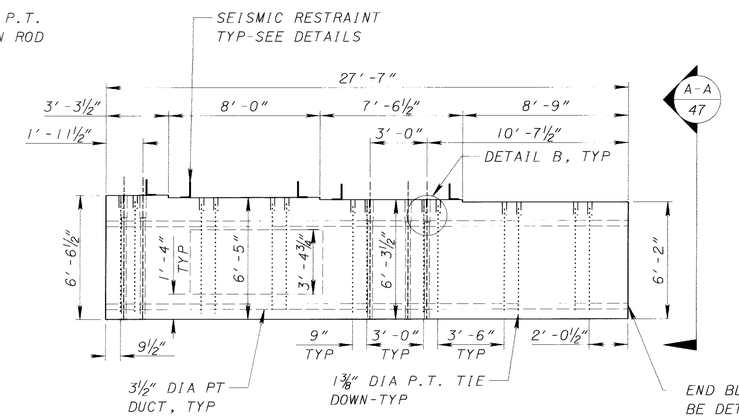


DETAIL 1

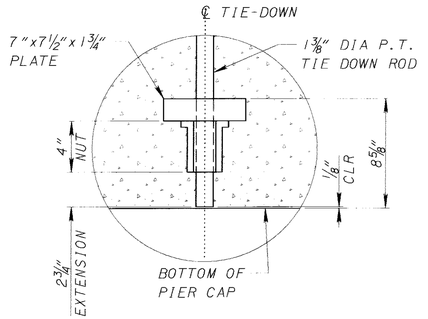


TOP OF COLUMN ELEV	
LOCATION	"A"
PIER 4	649.97
PIER 5	648.32
PIER 6	646.64

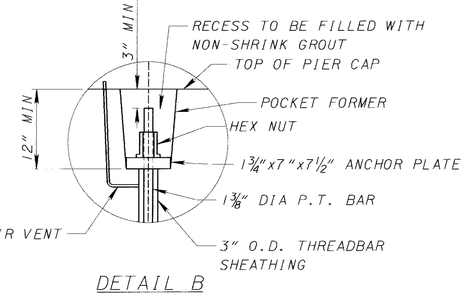
ELEVATION VIEW
(FOR GIRDER SEAT
ELEVATIONS SEE TABLE)



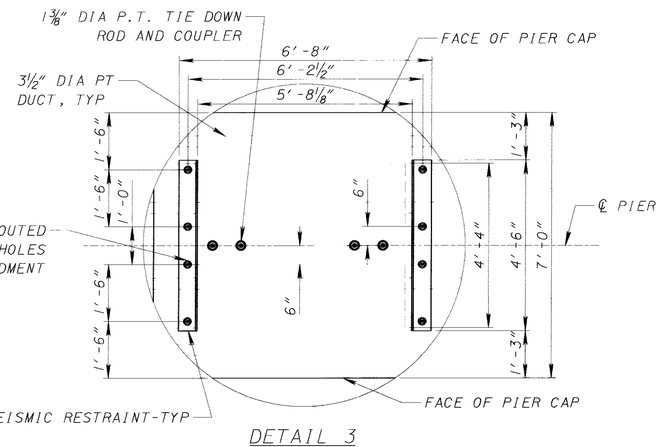
PD4 - ELEVATION VIEW



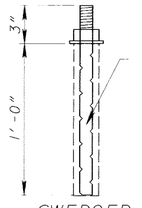
DETAIL 2



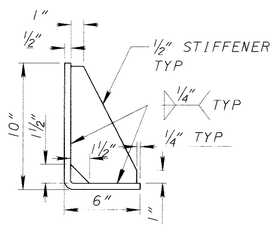
DETAIL B
TYPICAL PIER CAP ANCHOR



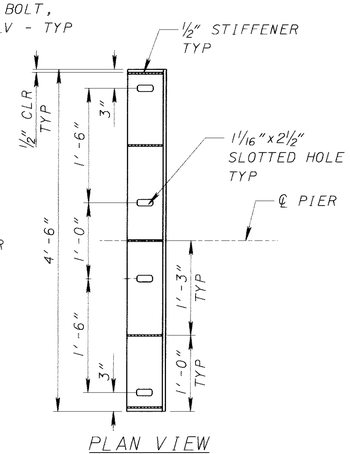
DETAIL 3



SWEDGED
ANCHOR BOLT



ELEVATION



PLAN VIEW

SEISMIC RESTRAINT & BOLTS
(10"x6"x½" BENT PLATES)
HOT DIPPED GALVANIZED AFTER FABRICATION

GIRDER SEAT ELEVATIONS TABLE						
PIER	GIRDER	ELEV	GIRDER	ELEV	GIRDER	ELEV
4	GDR A	656.26	GDR D	656.64	GDR G	656.51
	GDR B	656.39	GDR E	656.70	GDR H	656.39
	GDR C	656.51	GDR F	656.64	GDR J	656.26
5	GDR A	654.61	GDR D	654.99	GDR G	654.86
	GDR B	654.74	GDR E	655.05	GDR H	654.74
	GDR C	654.86	GDR F	654.99	GDR J	654.61
6	GDR A	652.93	GDR D	653.30	GDR G	653.18
	GDR B	653.05	GDR E	653.37	GDR H	653.05
	GDR C	653.18	GDR F	653.30	GDR J	652.93

NOTES:

1. FOR PD1 AND PD2 DETAILS SEE SHT 45 OF 106.
2. PIER 6 SHOWN, PIERS 4 AND 5 ARE SIMILAR.
3. P.T. TIE DOWN RODS ARE BASED ON DYWIDAG THREADED POST TENSIONING STEEL RODS CONFORMING TO ASTM A722, TYPE II.
4. FOR VIEW A-A, SEE SHT 47 OF 106.
5. ALL COSTS ASSOCIATED WITH FABRICATION & INSTALLATION OF SEISMIC RESTRAINTS SHALL BE INCLUDED IN THE COST OF THE PRECAST PIER CAP MODULE PAY ITEM.
6. PRIOR TO GROUTING THE VERTICAL JOINT, THE CONTRACTOR SHALL APPLY PRESSURE TO THE PRECAST CONCRETE AT VERTICAL JOINT AS NECESSARY TO SEAL THE POST TENSIONING DUCTS.

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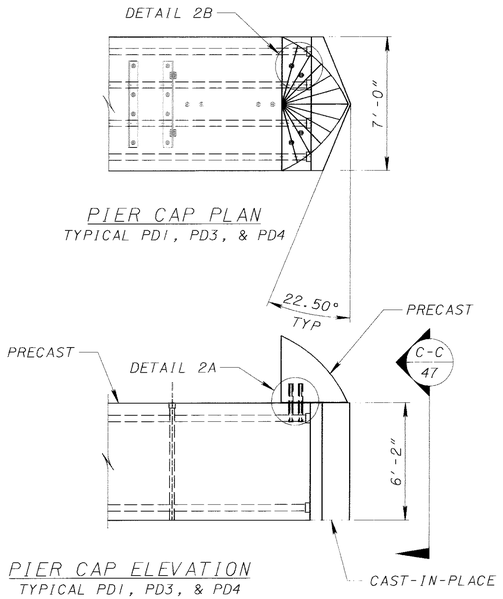
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

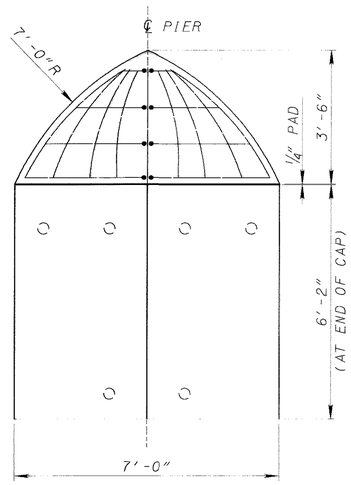
PIERS 4, 5, AND 6 DETAILS
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

HEN-108-15.55

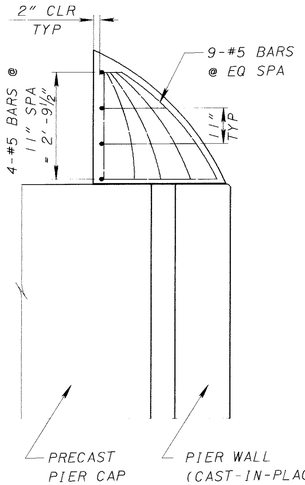


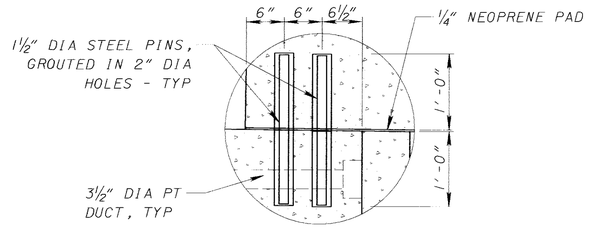
PIER CAP PLAN
TYPICAL PD1, PD3, & PD4

PIER CAP ELEVATION
TYPICAL PD1, PD3, & PD4

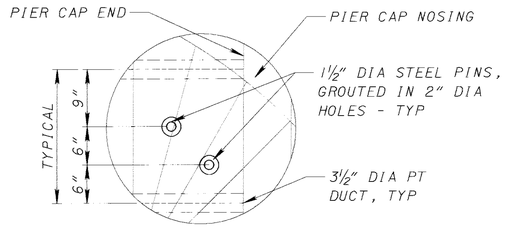


VIEW C-C (PRECAST PIER DOME)
(PD3 SHOWN, PD1 & PD4 SIMILAR)





DETAIL 2A

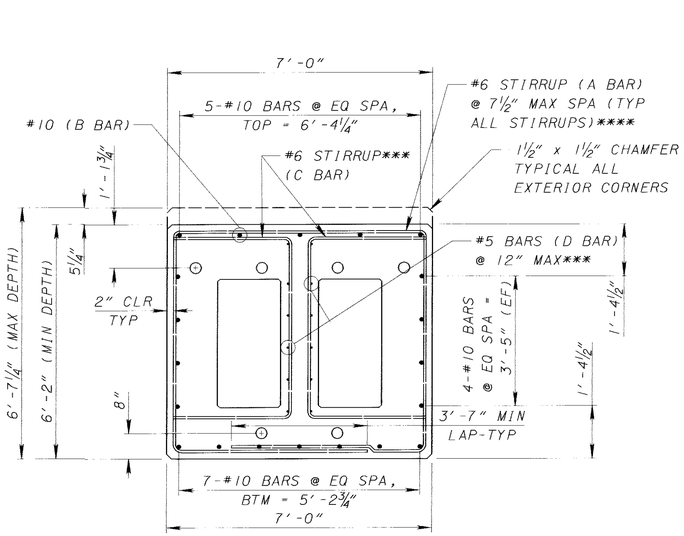


DETAIL 2B

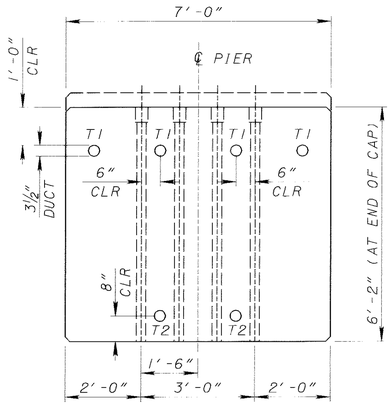
PIER CAP MODULE REINFORCING (PD1, PD3, OR PD4)						
BAR	NO.	SIZE	TYPE	LENGTH	A	B
A	44	6	1	27'-0"	6'-7 1/4"	5'-9 1/4"
B	22	10	STR	27'-3"		
C	88	6	2	10'-7"	3'-1"	4'-8"
D	12	5	STR	27'-3"		

PIER CAP MODULE REINFORCING (PD2)						
BAR	NO.	SIZE	TYPE	LENGTH	A	B
A	28	6	1	27'-0"	6'-7 1/4"	5'-9 1/4"
B	20	10	STR	16'-11"		
C	56	6	2	10'-7"	3'-1"	4'-8"
D	12	5	STR	16'-11"		

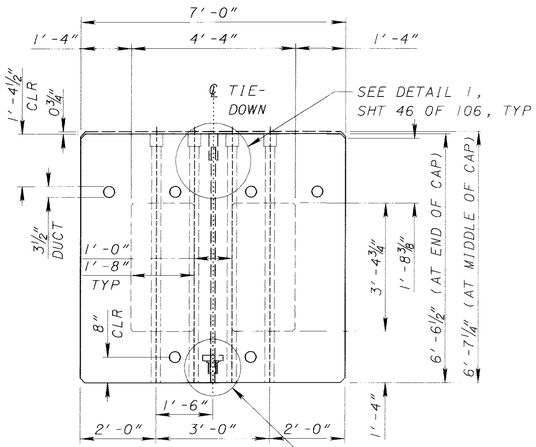
THE REINFORCING SCHEDULE SHOWN ABOVE IS FOR EACH PRECAST CAP MODULE. THERE ARE 6 PD1, 6 PD2, 3 PD3, AND 3 PD4 MODULES. COST OF REINFORCING IS INCLUDED IN THE PRECAST PIER CAP MODULE.



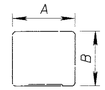
TYPICAL SECTION
(REINFORCEMENT TYPICAL PD1 THRU PD4)
***THIS REBAR IN 1'-0" WALL B'TWN VOIDS ONLY
****STIRRUPS AT OUTSIDE ENDS OF PD1, PD3, & PD4 SHALL BE AS PER MANUFACTURES RECOMMEDATION FOR END BLOCK ANCHORAGE



PD1 - VIEW A-A
(PD4 SIMILAR)

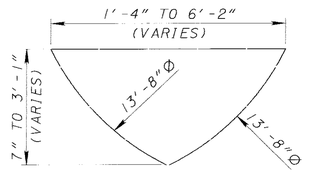


PD2 - VIEW B-B

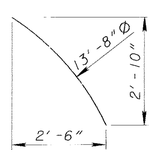


TYPE 1

TYPE 2

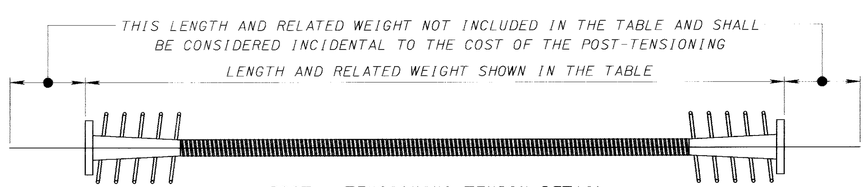


(A) #5 BAR



(B) #5 BAR

POST-TENSIONING STRAND QUANTITIES (EACH PIER CAP)							
MODULES	TENDON NUMBER	TENDON SIZE	TENDON LENGTH (FT)	TENDON WEIGHT (LBS)	NUMBER OF TENDONS	TOTAL WEIGHT (LBS)	JACKING FORCE (KIPS)
PD1, PD2, & PD3	T1	11 x 0.6"	72.58	591	4	2364	470
	T2	11 x 0.6"	72.58	591	2	1182	470
PD1, PD2, & PD4	T1	11 x 0.6"	72.58	591	4	2364	470
	T2	11 x 0.6"	72.58	591	2	1182	470



POST - TENSIONING TENDON DETAIL

POST-TENSIONING NOTES:

1. THE DUCT SIZE FOR THE 0.6" DIA. STRAND TENDONS HAVE BEEN ASSUMED BY THE DESIGNER TO BE: 2.99" (INSIDE DIAMETER) AND 3.19" (OUTSIDE DIAMETER).
2. WEIGHTS TABULATED ABOVE ARE MEASURED FROM ANCHOR PLATE TO ANCHOR PLATE. ADDITIONAL STRAND BEYOND THE PLATES FOR JACKING AND THE WEIGHT OF ANY ANCHORAGE HARDWARE IS NOT INCLUDED.
3. COST OF 1 3/8" DIA P.T. BARS (TOTAL 192 PIECES AT 22') SHALL BE INCLUDED IN ITEM 530, "STRUCTURE, MISC.: PRECAST PIER CAP MODULE", EA.

NOTES:

1. FOR LOCATION OF VIEW A-A & B-B SEE SHEETS 45 & 46 OF 106
2. FOR DETAILS 1 & 2, SEE SHT 46 OF 106

6209 RIVERSIDE DRIVE, SUITE 100
DUBLIN, OHIO 43017
PH: (614) 923-7477
E.L.Robinson Engineering of Ohio Co.

DESIGNED FA/JN | DRAWN JEG | CHECKED VH | REVISED | REVIEWED RLE 01/07/2004 | DATE | STRUCTURE FILE NUMBER 3502384

PIERS 1 THRU 6 - MISCELLANEOUS DETAILS

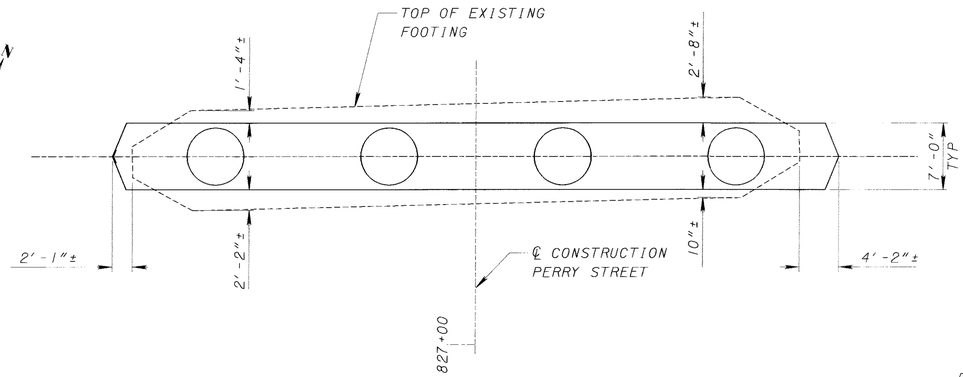
HEN-108-15.55

BRIDGE NO. HEN-108-156 I
OVER MAUMEE RIVER

47/106

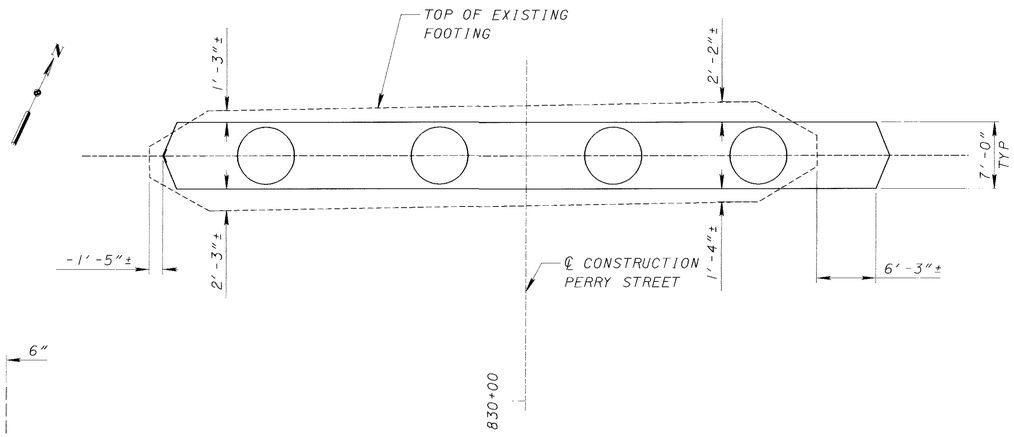
118/183

PLOTTED 09:49 PM Wed. 25 Feb 2004 DLF h:\Henry108\02-15-04\xx_he108pd6.dgn



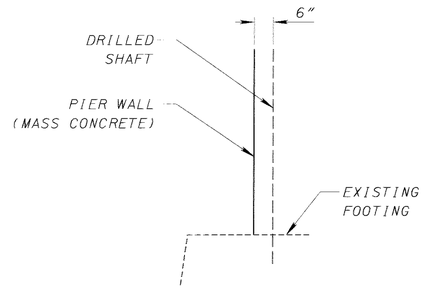
PIER NO. 3

MAUMEE RIVER

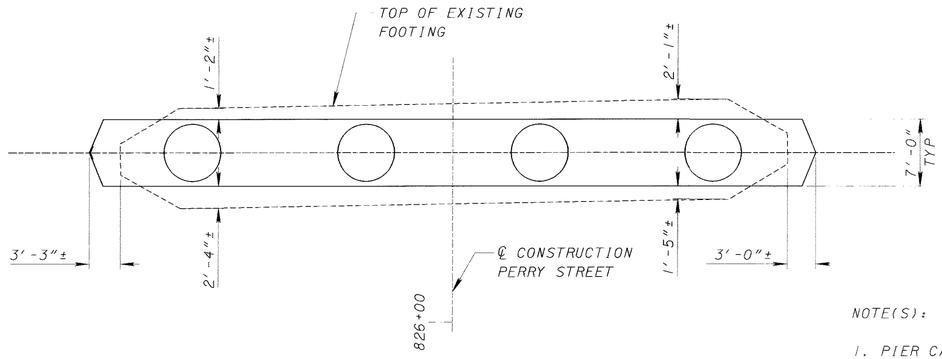


PIER NO. 6

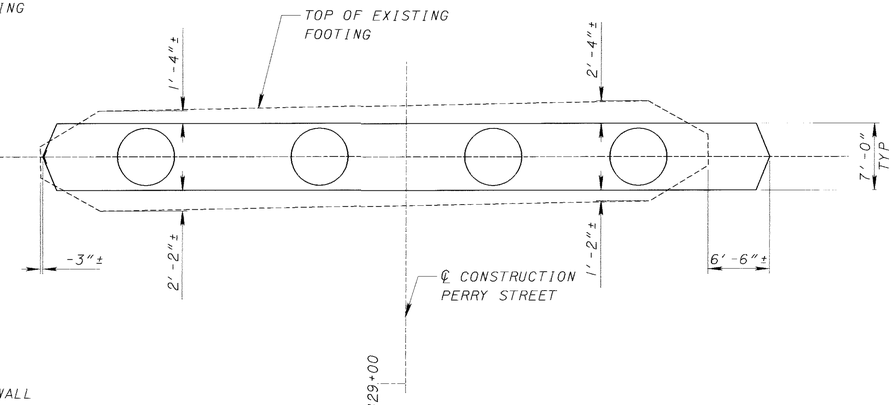
MAUMEE RIVER



DETAIL



PIER NO. 2

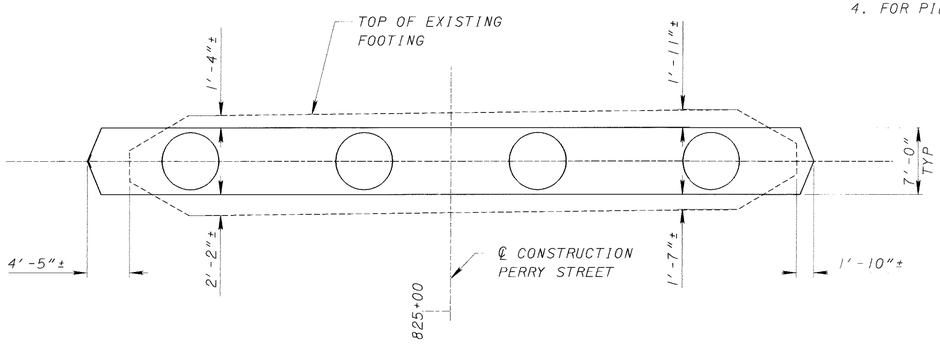


PIER NO. 5

NOTE(S):

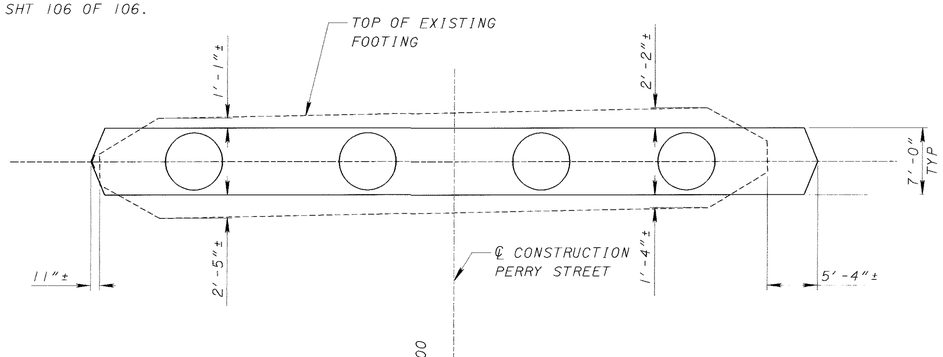
1. PIER CAP NOT SHOWN FOR CLARITY.
2. THE DIMENSIONS SHOWN ARE ESTIMATED DISTANCES FROM THE FACE OF THE PIER WALL (MASS CONCRETE) TO THE EDGE OF CONCRETE ON THE EXISTING FOOTING. THESE ESTIMATED DIMENSIONS ARE PROVIDED FOR INFORMATION ONLY.
3. AT THE OPTION OF THE CONTRACTOR ANY CONCRETE LEFT IN PLACE ABOVE CUTLINE SHOWN IN PLANS SHALL HAVE A MINIMUM OF 12" CLEAR BETWEEN FACE OF EXISTING CONCRETE AND FACE OF PIER WALL.
4. FOR PIER WALL REINFORCEMENT SEE SHT 106 OF 106.

MAUMEE RIVER



PIER NO. 1

MAUMEE RIVER



PIER NO. 4

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

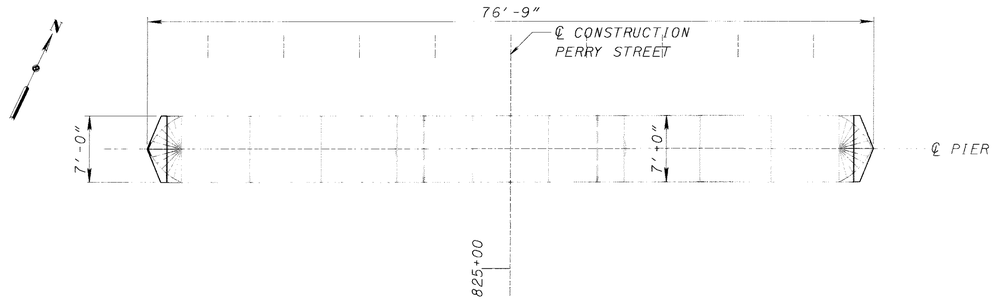
PIER WALL LAYOUT

BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

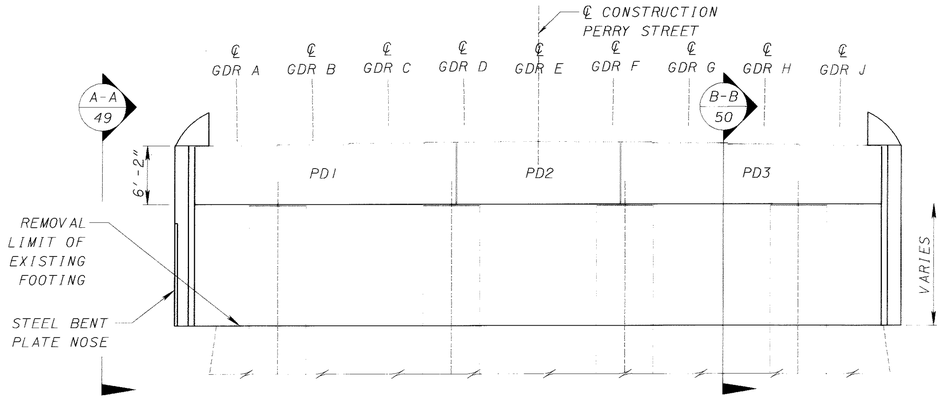
HEN-108-15.55

48/106

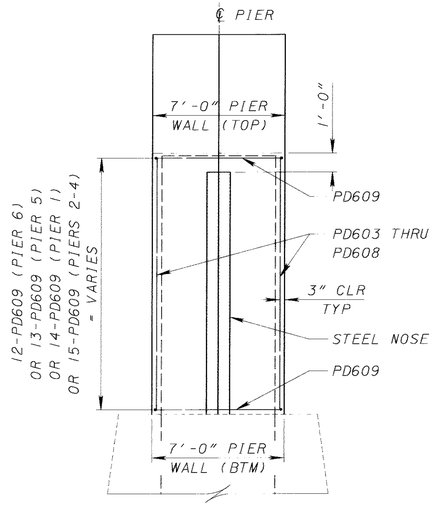
119/183



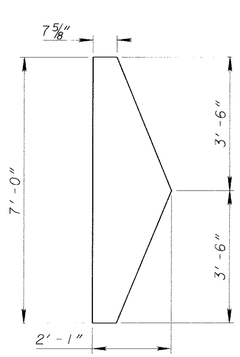
PLAN VIEW
PIER NO. 1 SHOWN



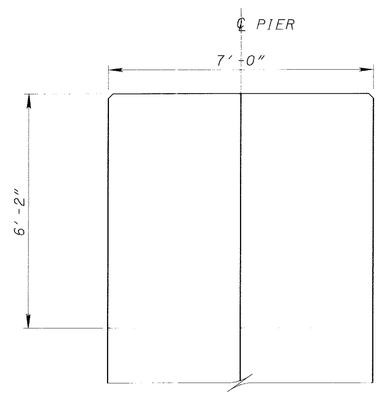
ELEVATION VIEW
PIER NO. 1 SHOWN
OTHERS SIMILAR



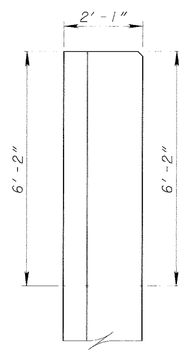
VIEW A-A (PIER WALL END REINFORCEMENT)



PLAN VIEW

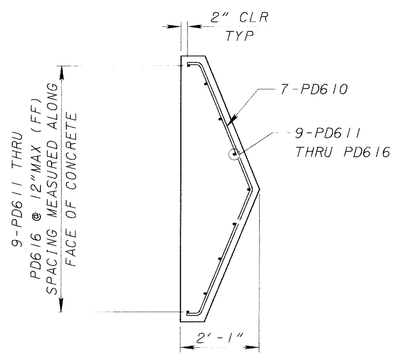


END VIEW

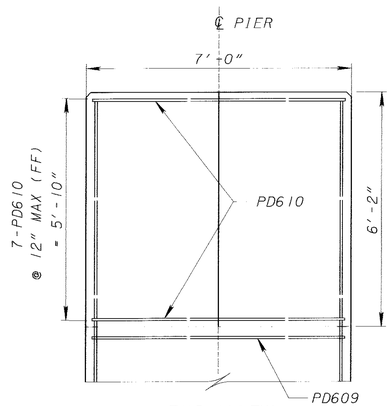


SIDE ELEVATOIN

CAST-IN-PLACE CAP NOSING
(POURED WITH PIER WALL)



PLAN VIEW



END VIEW

NOSING REINFORCEMENT

REBAR SPACING SHALL BE ADJUSTED TO CLEAR STUDS AND CONNECTION BOLT POCKETS

NOTE(S):

SEE APPLICABLE NOTES ON SHT 50 OF 106

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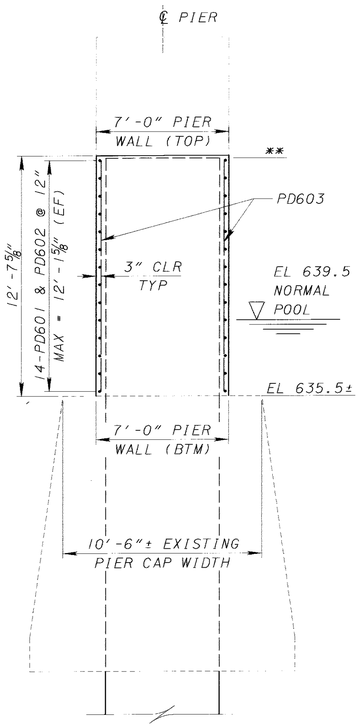
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

PIER WALL DETAILS - 1 OF 2
BRIDGE NO. HEN-108-1561
OVER MAUMEE RIVER

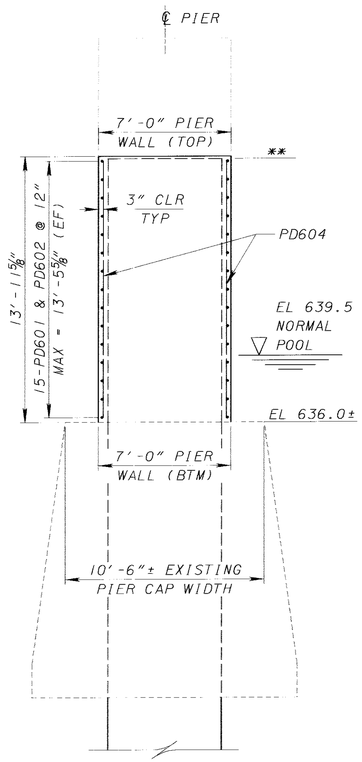
HEN-108-15.55

49/106

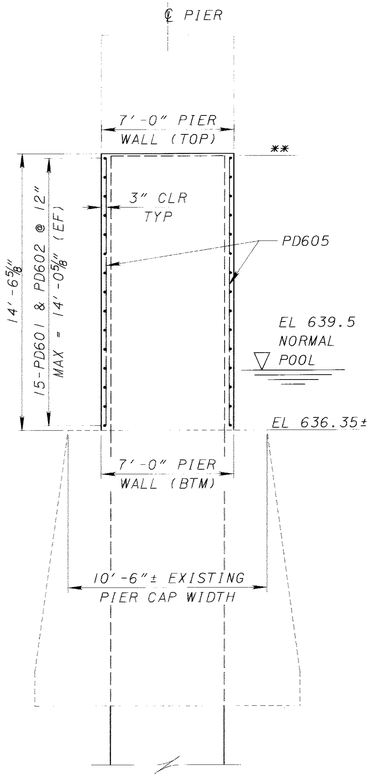
120/183



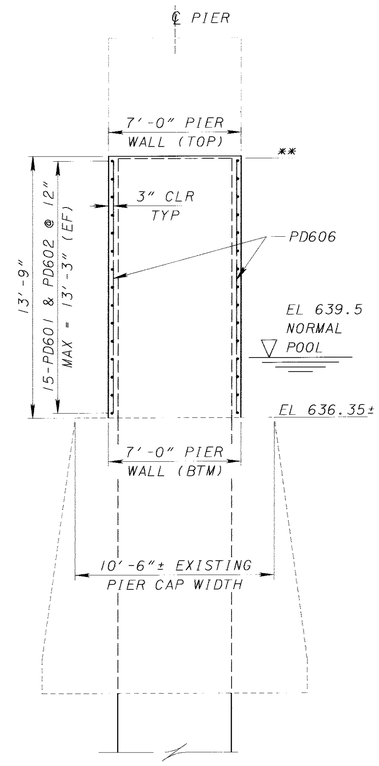
SECTION B-B (PIER 1)



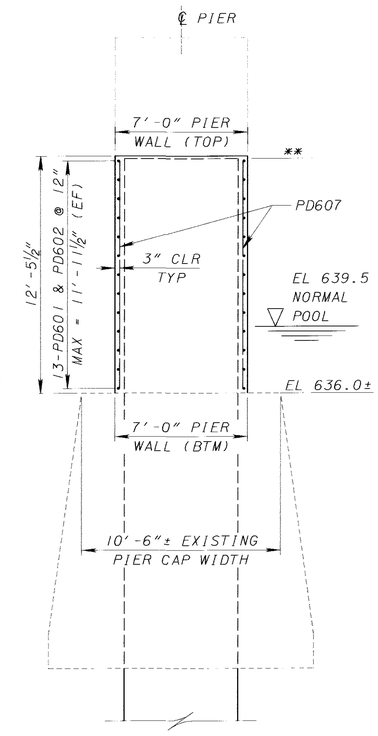
SECTION B-B (PIER 2)



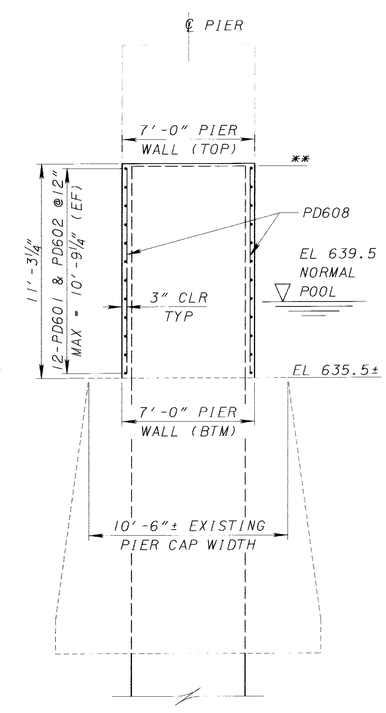
SECTION B-B (PIER 3)



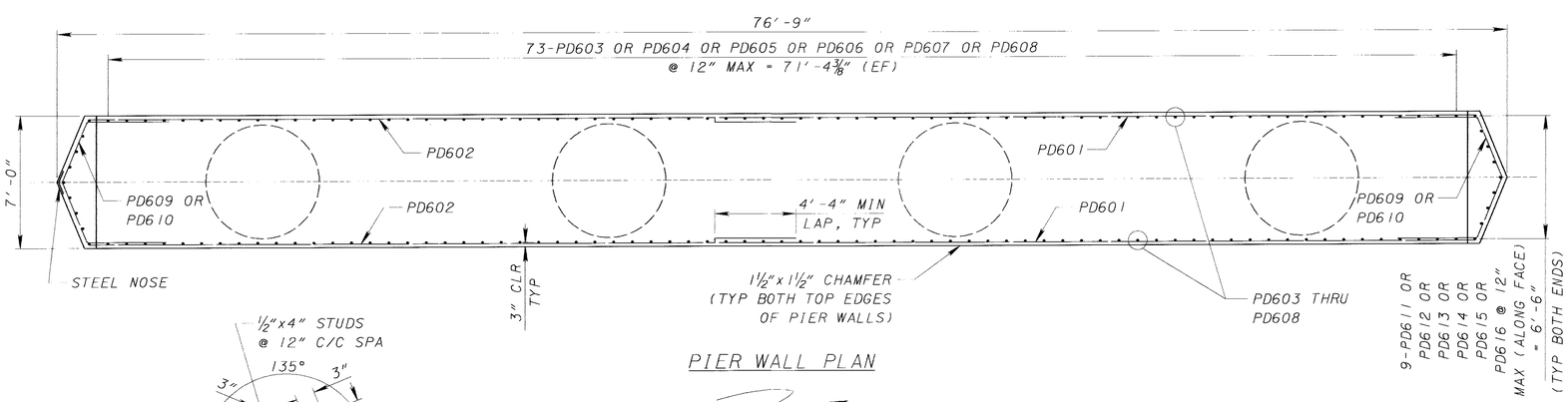
SECTION B-B (PIER 4)



SECTION B-B (PIER 5)

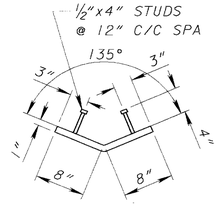


SECTION B-B (PIER 6)



PIER WALL PLAN

MAUMEE RIVER



STEEL NOSE

8"x8"x1"x13'-0" BENT PLATE (NOSE COVER) FLUSH WITH BOTTOM EDGE OF PIER WALL & 1'-0" FROM BOTTOM OF PIER CAP. (TYP ALL UPSTREAM ENDS OF PIER WALLS) ALL MATERIAL SHALL BE ASTM A36 STEEL & HOT DIPPED GALVANIZED AFTER FABRICATION PER 711.02

** ELEVATION TABLE		
	ELEVATION	
LOCATION	COLUMN TOP	EX FOOTING
PIER 1	648.00	635.5±
PIER 2	649.83	636.0±
PIER 3	650.77	636.35±
PIER 4	649.97	636.35±
PIER 5	648.32	636.0±
PIER 6	646.64	635.5±

NOTES:

1. FOR SURFACE PREPARATION OF CONTACT BETWEEN NEW CONCRETE AND EXISTING CONCRETE SEE SHEET 14 OF 106, NOTE 3.
2. CONTRACTOR IS ADVISED TO FIELD VERIFY ALL ELEVATIONS AFTER EXISTING PIER REMOVAL AND INSTALLATION OF PIER BENT CAPS BEFORE ORDERING PIER WALL REINFORCEMENT.
3. AT THE OPTION OF THE CONTRACTOR ANY CONCRETE LEFT IN PLACE ABOVE CUTLINE SHOWN IN PLANS SHALL HAVE A MINIMUM OF 12" BETWEEN FACE OF EXISTING CONCRETE AND FACE OF PIER WALL.
4. FOR LOCATION OF SECTION B-B, SEE SHT 49 OF 106.

- CONT' D

5. ITEM 511, CONCRETE, MISC.: CLASS C CONCRETE, PIER INCLUDES THE 511 CAST-IN-PLACE CLASS C CONCRETE, 509 EPOXY COATED REINFORCING STEEL AND THE STEEL NOSE TO CREATE THE FINAL FORM OF THE PIERS WHEN CONSTRUCTED TO PLAN DIMENSIONS.

ALTERNATE CONSTRUCTION METHODS UTILIZING PERMANENT PRECAST CONCRETE ELEMENTS AS FORMS/FALSEWORK MAY BE UTILIZED BY THE CONTRACTOR FOR THE CONSTRUCTION OF THE PIERS TO THE DIMENSIONS DETAILED IN THE PLANS. WHEN PRECAST CONCRETE ELEMENTS ARE UTILIZED AS FORMS/FALSEWORK THE VOID SHALL BE FILLED WITH CLASS C CONCRETE. THE PERMANENT PRECAST CONCRETE ELEMENTS SHALL BE DESIGNED IN A MANNER THAT THEY ACT INTEGRALLY WITH THE CLASS C CONCRETE POURED WITHIN THE VOID FORMED BY THESE ELEMENTS. ANY PROPOSED MODIFICATION TO THE DESIGN SHOWN IN THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. ANY APPROVED CHANGES IN THE DESIGN OR MEANS OF CONSTRUCTION ARE TO BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COSTS TO THE PROJECT.

6209 RIVERSIDE DRIVE, SUITE 100
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E.L.Robinson Engineering of Ohio Co.

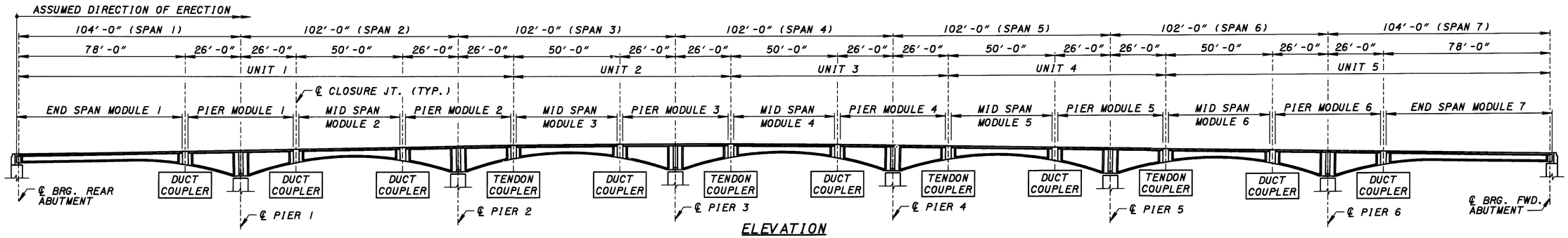
DESIGNED	DRAWN	REVIEWED	DATE
FAX/JN	JEG	RLE	01/07/2004
CHECKED	REVISED	STRUCTURE FILE NUMBER	
VH		3502384	

PIER WALL DETAILS - 2 OF 2

BRIDGE NO. HEN-108-15.55
OVER MAUMEE RIVER

HEN-108-15.55

PLOTTED 10:28 AM Fri. 05 Mar 2004 jelkins \\Main\09Highway\Henry\08\02-15-04\xx_he108pd9.dgn



ELEVATION

NOTES:

1. MAXIMUM REACTIONS ON TIE-DOWN CONNECTION PER SEGMENT (EXCLUDING CONSTRUCTION LOADS IN EXCESS OF THOSE SPECIFIED IN THE GENERAL NOTES) ARE AS FOLLOWS:

	VERTICAL LOAD P (KIPS)	*MOMENT M (KIP-FT)
PIER 1, STEP 2	182	-1071
PIER 1, STEP 3	198	893
PIER 2, STEP 2	182	1071
PIER 3, STEP 5	182	1129
PIER 4, STEP 7	183	1151
PIER 5, STEP 9	183	1141
PIER 6, STEP 11B	182	1071
PIER 6, STEP 11D	243	-515

*(POSITIVE MOMENTS ARE COUNTERCLOCKWISE)

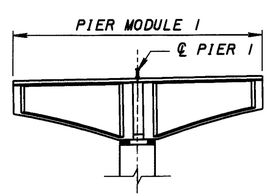
THE VERTICAL LOAD IS THE VERTICAL REACTION AT THE CENTERLINE OF THE PIER (NOT INCLUDING TIE-DOWN FORCE) DURING THE ERECTION STEP SPECIFIED IN THE TABLE.

THE MOMENT IS THE OVERTURNING MOMENT ACTING AT THE PIER DURING THAT STEP.

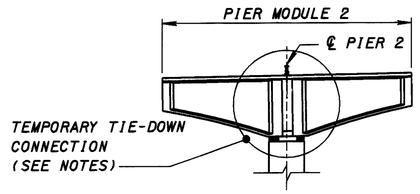
2. MAXIMUM REACTION ON STRONGBACK PER SEGMENT (EXCLUDING CONSTRUCTION LOADS) IS P = 61 KIPS AT END SPANS AND 41 KIPS AT MID SPANS.

3. REACTIONS SHOWN SHALL BE ADJUSTED FOR ANY CONSTRUCTION LOADS PROPOSED BY THE CONTRACTOR, INCLUDING THE WEIGHT OF THE TIE-DOWN AND STRONGBACK CONNECTIONS.

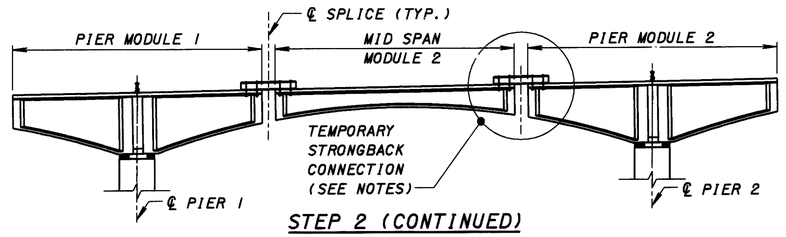
4. TRANSVERSE POST-TENSIONING OPERATIONS SHALL NOT BEGIN IN A PARTICULAR SPAN UNTIL ERECTION HAS PROCEEDED AT LEAST TWO SPANS BEYOND THAT SPAN.



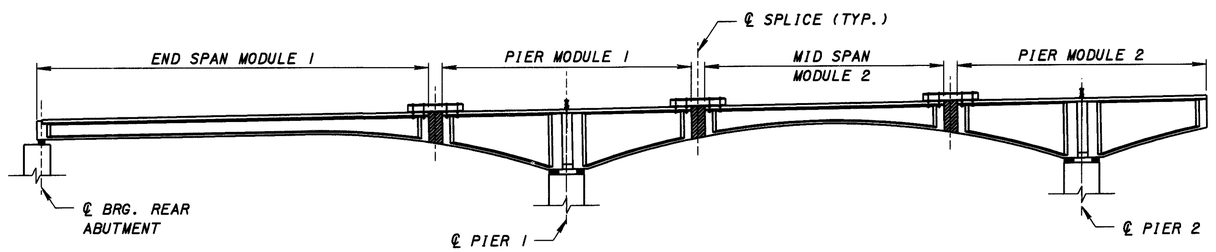
STEP 1



STEP 2



STEP 2 (CONTINUED)



STEP 3

NOTES:

1. THE PLACEMENT OF THE ABUTMENT BACKWALL SHALL NOT INTERFERE WITH THE GIRDER LONGITUDINAL POST-TENSIONING PROCEDURES (INCLUDING GIRDER LONGITUDINAL DUCT GROUTING).

2. FOR ADDITIONAL INFORMATION ON TEMPORARY TIE-DOWN CONNECTIONS AND TEMPORARY STRONGBACK CONNECTIONS, SEE SHEET 53 OF 106.

3. FOR TEMPORARY STRONG BACK CONNECTION SHOP DRAWING REQUIREMENTS, SEE GENERAL NOTES.

NOTE:

THE GIRDERS WERE DESIGNED FOR THE CONSTRUCTION SEQUENCE SHOWN. HOWEVER THIS SEQUENCE IS NOT MANDATORY AND IS NOT MEANT TO DICTATE THE CONTRACTOR'S MEANS AND METHODS. IF THE CONTRACTOR ELECTS TO PROPOSE AN ALTERNATE SEQUENCE, REVISED DESIGN CALCULATIONS AND DETAILS MUST BE SUBMITTED FOR APPROVAL. SEE THE GENERAL NOTES FOR REQUIREMENTS ON CONTRACTOR PROPOSED MODIFICATIONS. IN EITHER CASE, AN ERECTION MANUAL MUST BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS IN THE GENERAL NOTES.

ERECTION PROCEDURE FOR CONCRETE GIRDER MODULES

NOTE: THIS ERECTION PROCEDURE ASSUMES ALL GIRDER LINES A THRU J ARE ERECTED IN EACH STEP RESPECTIVELY.

STEP 1:
- A) ERECT PIER MODULE 1.
- B) INSTALL AND STRESS TIE-DOWNS AT PIER MODULE 1.

STEP 2:
- A) ERECT PIER MODULE 2.
- B) INSTALL AND STRESS TIE-DOWNS AT PIER MODULE 2.
- C) INSTALL HANGERS FOR MID SPAN MODULE 2.
- D) ERECT AND SECURE MID SPAN MODULE 2.

STEP 3:
- A) INSTALL HANGERS FOR END SPAN MODULE 1.
- B) ERECT AND SECURE END SPAN MODULE 1.
- C) COUPLE POST-TENSIONING DUCTS
- D) INSTALL LONGITUDINAL POST-TENSIONING TENDONS.
- E) PLACE CLOSURE JOINT CONCRETE.
- F) AFTER SPECIFIED CLOSURE JOINT CONCRETE STRENGTH IS OBTAINED, STRESS LONGITUDINAL TENDONS FROM PIER MODULE 2.
- G) RELEASE TIE-DOWNS AT PIER MODULES 1 AND 2.
- H) REMOVE SHIMS AT PIER MODULES 1 AND 2.

STEP 4:
- A) ERECT PIER MODULE 3.
- B) INSTALL AND STRESS TIE-DOWNS AT PIER MODULE 3.

STEP 5:
- A) INSTALL HANGERS FOR MID SPAN MODULE 3.
- B) ERECT AND SECURE MID SPAN MODULE 3.
- C) COUPLE POST-TENSIONING DUCTS
- D) INSTALL LONGITUDINAL POST-TENSIONING TENDONS BY COUPLING AT PIER MODULE 2.
- E) PLACE CLOSURE JOINT CONCRETE AT MID SPAN MODULE 3.
- F) AFTER SPECIFIED CLOSURE JOINT CONCRETE STRENGTH IS OBTAINED, STRESS LONGITUDINAL TENDONS FROM PIER MODULE 3.
- G) RELEASE TIE-DOWNS AT PIER MODULE 3.
- H) REMOVE SHIMS AT PIER MODULE 3.

STEPS 6 THRU 9:
- A) REPEAT STEPS 4 AND 5 AT SEQUENTIAL PIERS AND SPANS.

STEP 10:
- A) ERECT PIER MODULE 6.
- B) INSTALL AND STRESS TIE-DOWNS AT PIER MODULE 6.

STEP 11:
- A) INSTALL HANGERS FOR MID SPAN MODULE 6.
- B) ERECT AND SECURE MID SPAN MODULE 6.
- C) INSTALL HANGERS FOR END SPAN MODULE 7.
- D) ERECT END SPAN MODULE 7.
- E) COUPLE POST-TENSIONING DUCTS
- F) INSTALL LONGITUDINAL POST-TENSIONING TENDONS BY COUPLING AT PIER MODULE 5.
- G) PLACE CLOSURE JOINT CONCRETE.
- H) AFTER SPECIFIED CLOSURE JOINT CONCRETE STRENGTH IS OBTAINED, STRESS LONGITUDINAL TENDONS FROM ABUTMENT END.
- I) RELEASE TIE-DOWNS AT PIER MODULE 6.
- J) REMOVE SHIMS AT PIER MODULE 6.

STEP 12:
- A) GROUT ALL LONGITUDINAL POST-TENSIONING TENDONS ACCORDING TO SPECIAL PROVISIONS.

DESIGN AGENCY: HNTB, 56 Roberson Plaza, Suite 300, Cleveland, Ohio 44115-3010, ARCHITECTS ENGINEERS PLANNERS

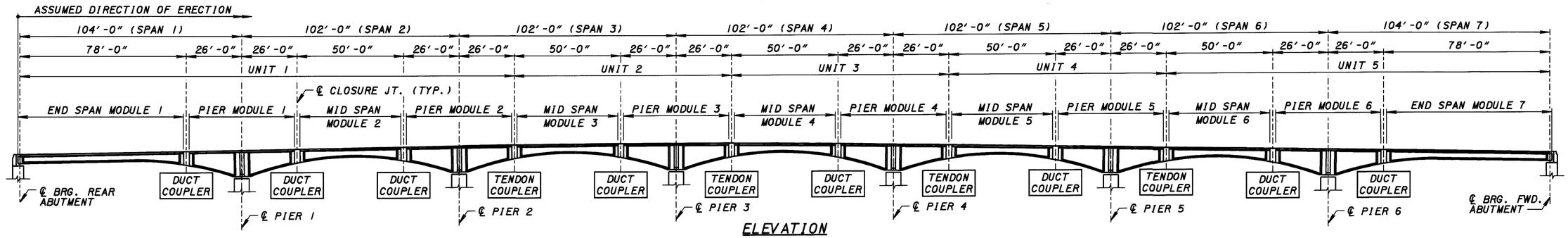
DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV/BBB	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

CONSTRUCTION SEQUENCE DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

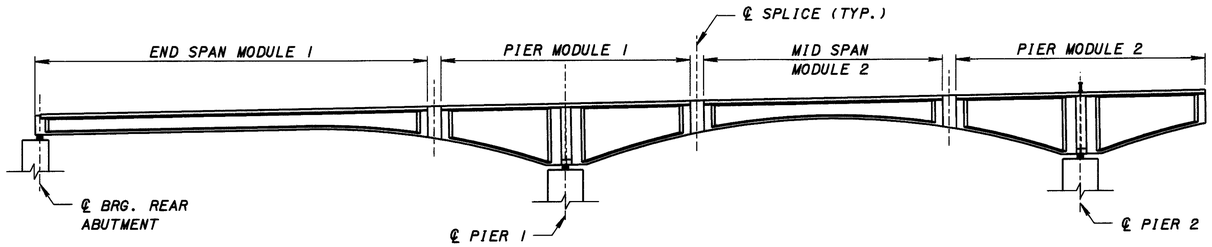
HEN-108-15.55

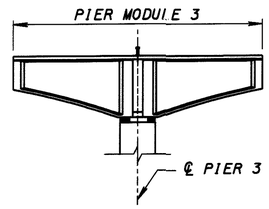
51/106

122/183



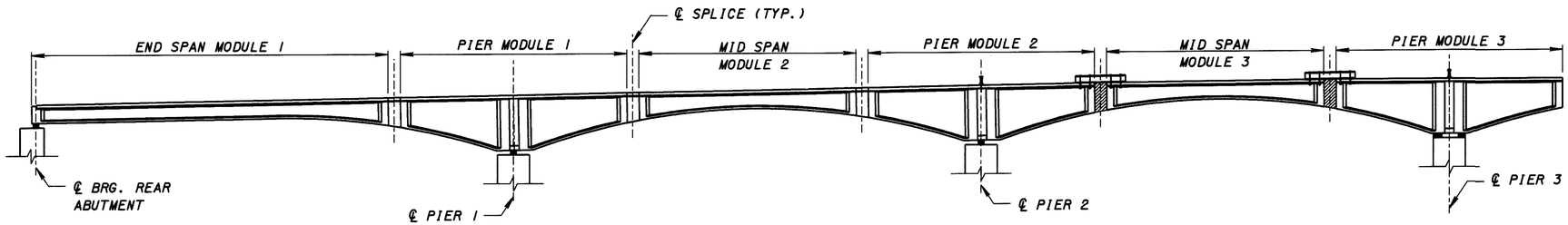
ELEVATION





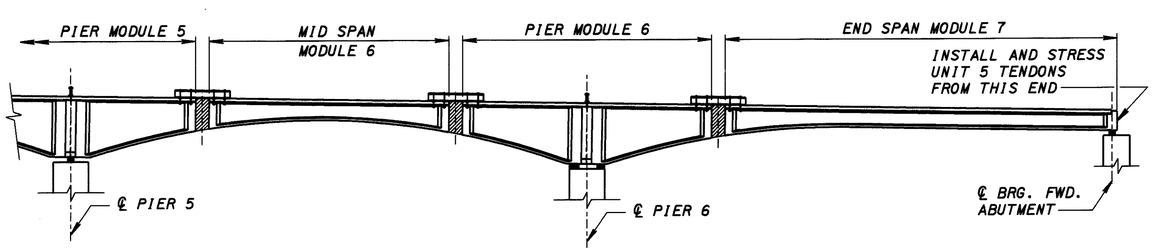
STEP 4

(STEP 4 SHOWN, STEP 6 FOR SPAN 4,
STEP 8 FOR SPAN 5, AND STEP 10 FOR SPAN 6 SIMILAR)



STEP 5

(STEP 5 SHOWN, STEP 7 FOR SPAN 4 AND
STEP 9 FOR SPAN 5 SIMILAR)



STEP 11

NOTE:

THE GIRDERS WERE DESIGNED FOR THE CONSTRUCTION SEQUENCE SHOWN. HOWEVER THIS SEQUENCE IS NOT MANDATORY AND IS NOT MEANT TO DICTATE THE CONTRACTOR'S MEANS AND METHODS. IF THE CONTRACTOR ELECTS TO PROPOSE AN ALTERNATE SEQUENCE, REVISED DESIGN CALCULATIONS AND DETAILS MUST BE SUBMITTED FOR APPROVAL. SEE THE GENERAL NOTES FOR REQUIREMENTS ON CONTRACTOR PROPOSED MODIFICATIONS. IN EITHER CASE, AN ERECTION MANUAL MUST BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS IN THE GENERAL NOTES.

NOTES:

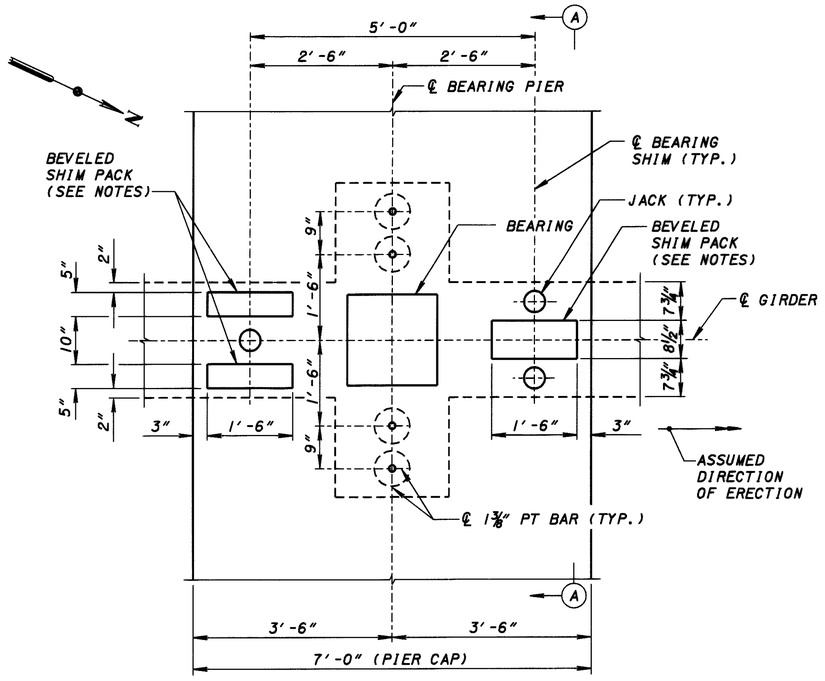
1. THE PLACEMENT OF THE ABUTMENT BACKWALLS SHALL NOT INTERFERE WITH THE GIRDER LONGITUDINAL POST-TENSIONING PROCEDURES (INCLUDING GIRDER LONGITUDINAL DUCT GROUTING).
2. FOR ADDITIONAL CONSTRUCTION SEQUENCE NOTES, SEE SHEET 51 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV/BBB	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

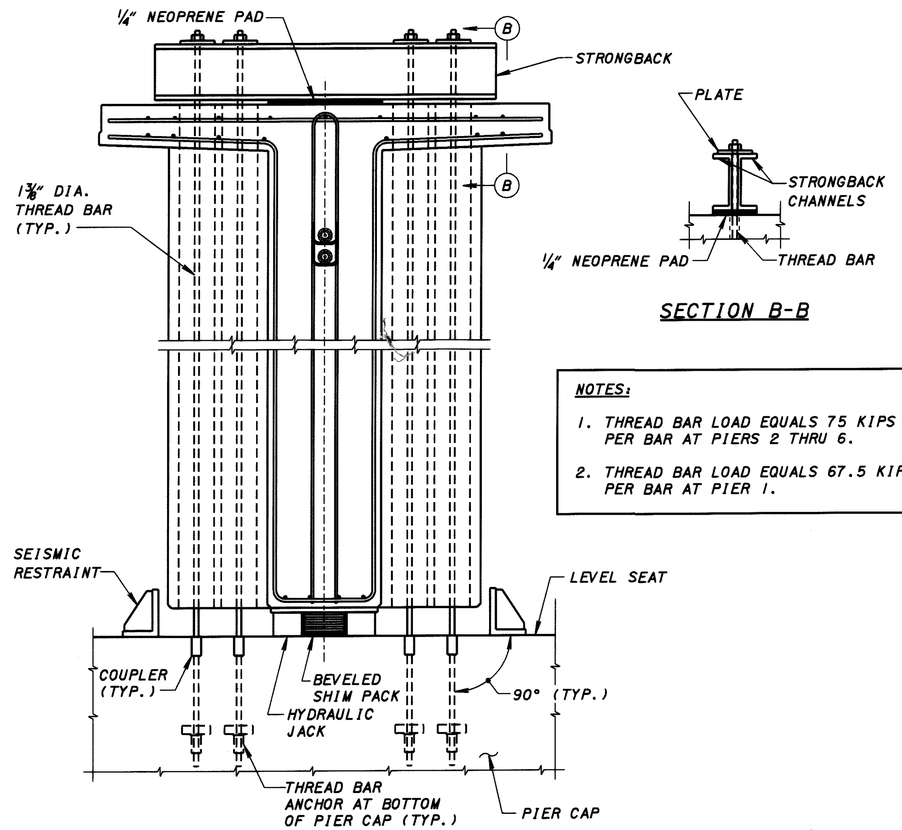
CONSTRUCTION SEQUENCE DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55



PART PLAN - TEMPORARY TIE-DOWN

(PIERS 2 THRU 6 SHOWN, PIER 1 OPPOSITE HAND)



SECTION A-A

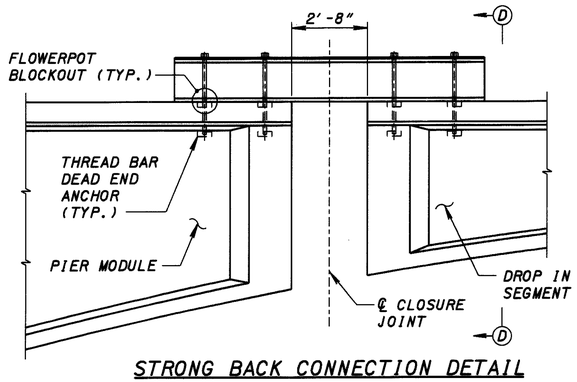
SECTION B-B

NOTES:

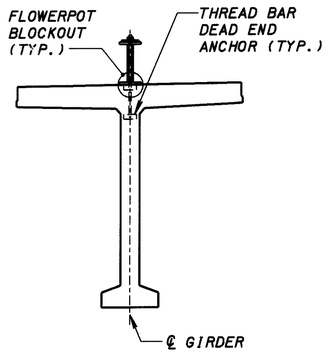
1. THREAD BAR LOAD EQUALS 75 KIPS PER BAR AT PIERS 2 THRU 6.
2. THREAD BAR LOAD EQUALS 67.5 KIPS PER BAR AT PIER 1.

NOTE:

THE DRAWINGS ON THIS SHEET ARE CONCEPTUAL ONLY. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND DETAILS OF ALL TEMPORARY MODULE SUPPORT APPARATUS. SEE THE GENERAL NOTES FOR REQUIREMENTS.



STRONG BACK CONNECTION DETAIL



SECTION D-D

NOTES:

1. THE SHIM PACKS SHALL BE MADE UP OF VARIOUS PLATES SO THAT THE AVERAGE DEPTH AT THE CENTER LINE OF THE SHIM PACK WILL BE ⅛ INCH GREATER THAN THE DEPTH OF THE ELASTOMERIC BEARING. THE SHIM PACKS SHALL BE BEVELED TO ALLOW FOR THE SETTING OF THE PIER MODULES AS SHOWN ON SHEET 78 OF 106.
2. THE 7½" DIA. HOLES IN THE PIER MODULES FOR THE 1¾" DIA. THREAD BARS SHALL BE FILLED WITH A NON-SHRINK GROUT SUCH AS 5-STAR OR AN APPROVED EQUIVALENT AND SHALL BE FINISHED TO A NEAT LINE OF THE STRUCTURAL ELEMENT. THE GROUT MIX SHALL BE APPROVED BY THE ENGINEER PRIOR TO IT'S USE.
3. FOR ADDITIONAL THREAD BAR DETAILS AND SEISMIC RETAINER DETAILS, SEE PIER DETAIL SHEETS.
4. FOR ADDITIONAL CONSTRUCTION SEQUENCE NOTES, SEE SHEET 51 OF 106.
5. FOR TEMPORARY STRONG BACK CONNECTION SHOP DRAWING REQUIREMENTS, SEE GENERAL NOTES.

DESIGN AGENCY
HNTB 20 Erieview Plaza, Suite 300 Cleveland, Ohio 44114-1888
ARCHITECTS ENGINEERS PLANNERS

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JAO	MU/JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

CONSTRUCTION SEQUENCE DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

53/106

124/183

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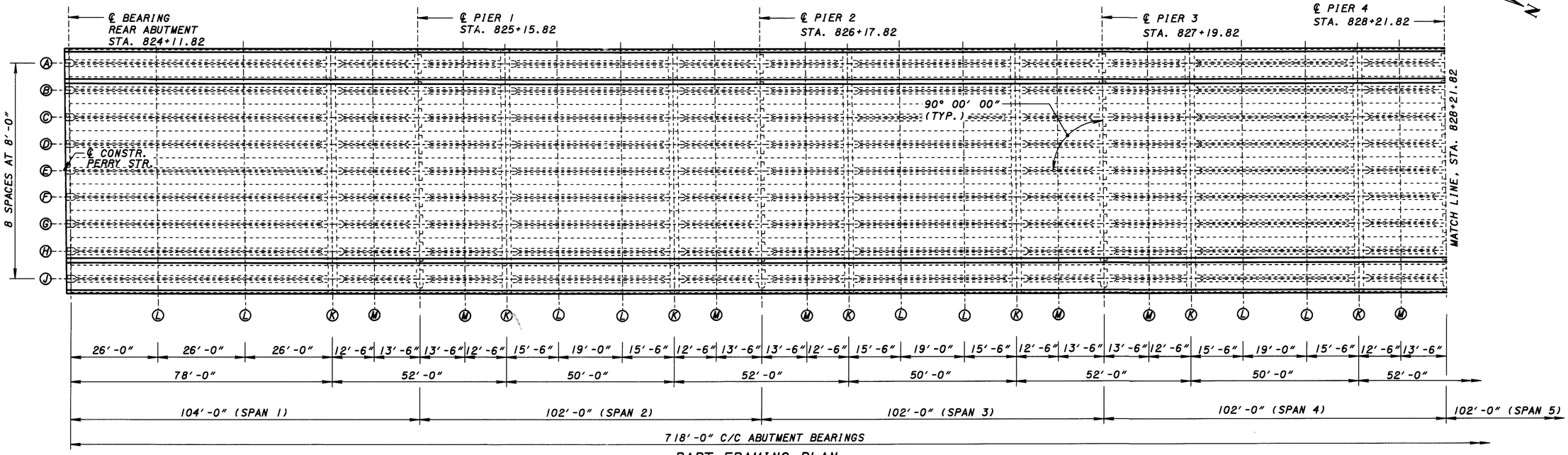
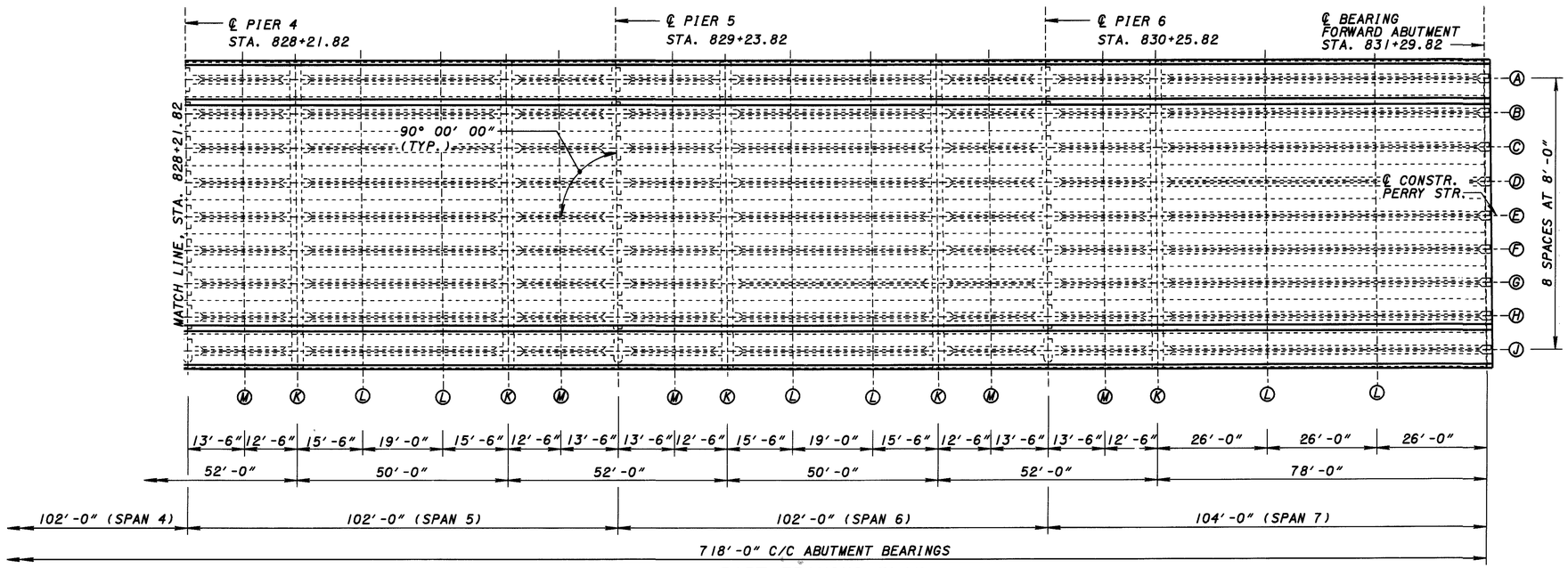


PART FRAMING PLAN
(UTILITIES AND UTILITY SUPPORTS NOT SHOWN)



PART FRAMING PLAN
(UTILITIES AND UTILITY SUPPORTS NOT SHOWN)

LEGEND:

- Ⓐ THRU Ⓙ GIRDER DESIGNATION
- Ⓚ ℄ CLOSURE JOINT
- Ⓛ ℄ STEEL INTERMEDIATE DIAPHRAGM -
  - TYPE 1 - BETWEEN GIRDERS Ⓓ THRU Ⓗ
  - TYPE 3 - BETWEEN GIRDERS Ⓐ THRU Ⓓ AND GIRDERS Ⓗ THRU Ⓙ
- Ⓜ ℄ STEEL INTERMEDIATE DIAPHRAGM -
  - TYPE 2 - BETWEEN GIRDERS Ⓐ THRU Ⓙ

NOTES:

1. FOR TYPE 1, TYPE 2 AND TYPE 3 INTERMEDIATE DIAPHRAGM DETAILS, SEE SHEET 55 OF 106.
2. FOR UTILITY SUPPORT SPACING, SEE SHEETS 56 AND 57 OF 106.

DESIGN AGENCY
HNTB
88 Erieview Plaza, Suite 500
Cleveland, Ohio 44114-1888
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVISED	DATE
JOL	BBB	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDM		3502384	

FRAMING PLAN
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

54/106

125/183

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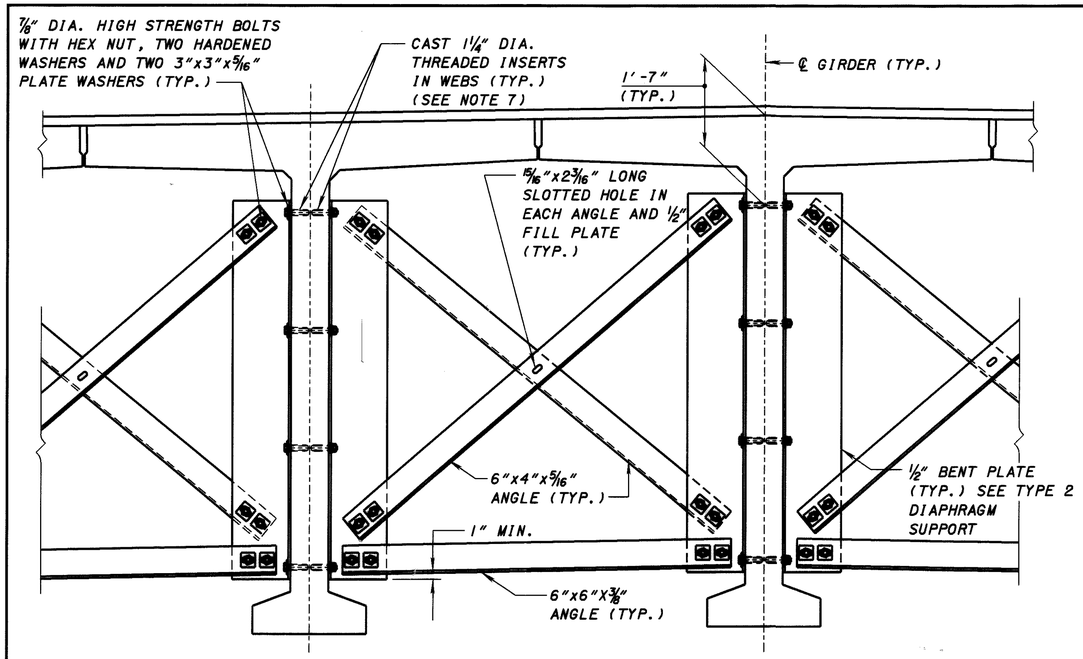
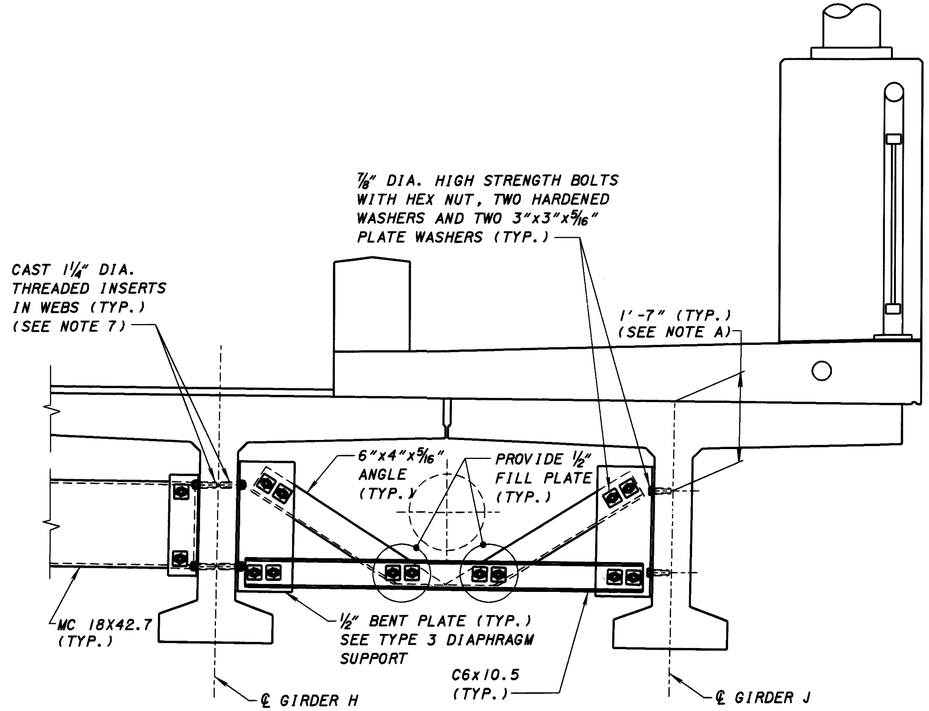
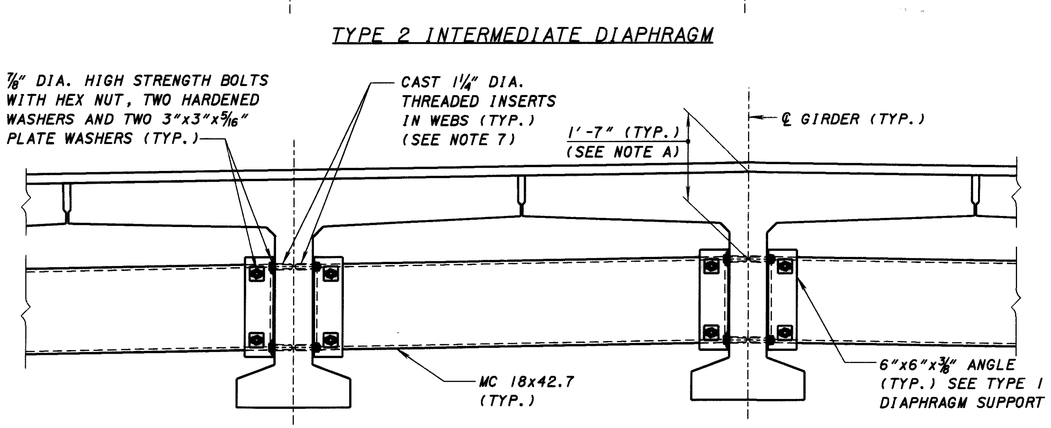


TYPE 2 INTERMEDIATE DIAPHRAGM

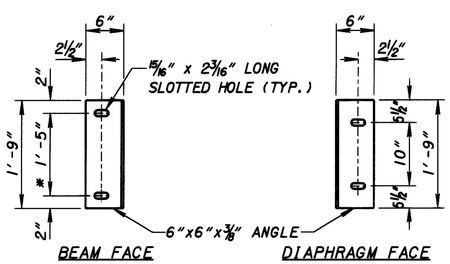


TYPE 3 INTERMEDIATE DIAPHRAGM

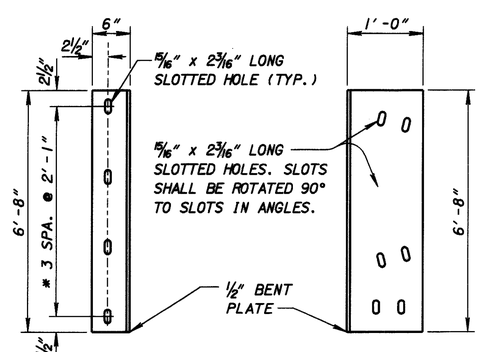


TYPE 1 INTERMEDIATE DIAPHRAGM

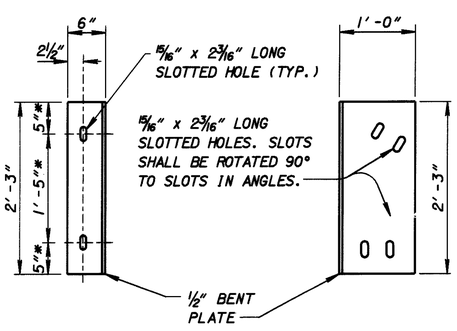
NOTE A:
1'-5" IN ENDSPAN MODULES



TYPE 1 DIAPHRAGM SUPPORT
* ADJUST AS REQUIRED TO MISS PRESTRESS STRAND AND POST-TENSIONING DUCT



TYPE 2 DIAPHRAGM SUPPORT
* ADJUST AS REQUIRED TO MISS PRESTRESS STRAND AND POST-TENSIONING DUCT



TYPE 3 DIAPHRAGM SUPPORT
* ADJUST AS REQUIRED TO MISS PRESTRESS STRAND AND POST-TENSIONING DUCT

NOTES:

1. FOR ADDITIONAL INFORMATION SEE ODOT STANDARD DRAWINGS PSID-1-99, 1 THROUGH 8.
2. FOR LOCATIONS OF TYPE 1, TYPE 2, AND TYPE 3 INTERMEDIATE DIAPHRAGMS SEE SHEET 54 OF 106.
3. FOR STRUCTURAL STEEL ANGLES, PROVIDE ASTM A572/A709, GRADE 50.
4. FOR STRUCTURAL STEEL, THREADED INSERTS, BOLTS, NUTS, AND WASHERS, GALVANIZE AFTER WELDING AS PER 711.02.
5. FOR ALL BOLTS, PROVIDE A325, TYPE 1 GALVANIZED, CONFORMING TO 513.20.
6. FOR ALL STRUCTURAL STEEL, INCLUDING BOLTS, NUTS, WASHERS, AND PLATE WASHERS FOR INTERMEDIATE DIAPHRAGMS, CONFORM TO THE REQUIREMENTS OF 513, AND INCLUDE FOR PAYMENT UNDER ITEM 513.
7. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE CAST 1 1/4" DIA. THREADED INSERTS, TO BE REVIEWED BY THE ENGINEER.

DESIGN AGENCY
HNTB 8 Batterson Park, Suite 300 Farmington, CT 06032
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JOL	BBB	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDM		3502384	

INTERMEDIATE DIAPHRAGM DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-106-15.55

55/106

126/183

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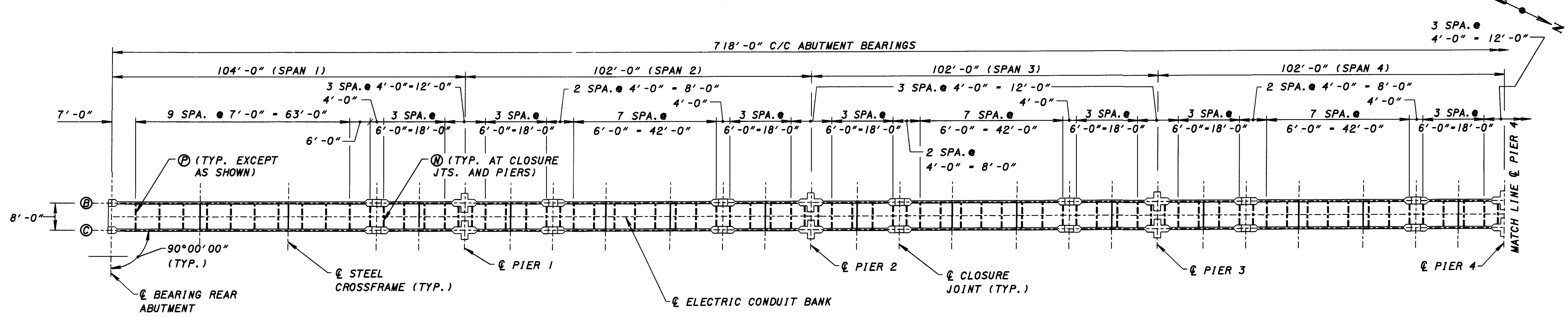
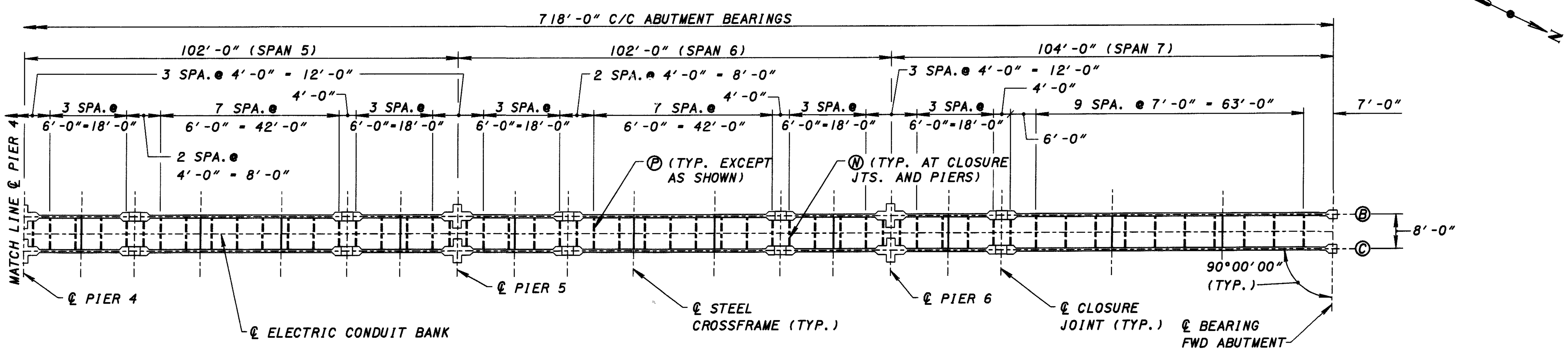




ELECTRIC CONDUIT AND TELEPHONE CONDUIT SUPPORT FRAMING PLAN

* - NOTE: ELECTRIC CONDUIT SUPPORT SPACING SHOWN. TELEPHONE CONDUIT SUPPORT SPACING BETWEEN GIRDERS C AND D IS THE SAME AS SHOWN FOR THE ELECTRIC CONDUIT.

LEGEND:

Ⓐ THRU Ⓙ GIRDER DESIGNATION
Ⓝ 6'-0" UTILITY SUPPORT
Ⓟ 7'-4" UTILITY SUPPORT

NOTES:

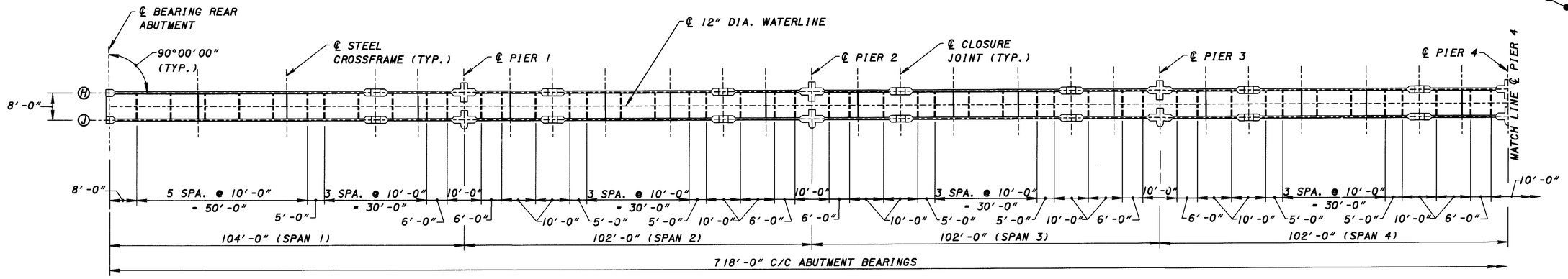
1. FOR UTILITY SUPPORT DETAILS, SEE SHEETS 58 THRU 60 OF 106.
2. FOR WATERLINE AND GASLINE SUPPORT FRAMING PLAN SEE SHEET 57 OF 106.
3. FOR GIRDER FRAMING PLAN SEE SHEET 54 OF 106.

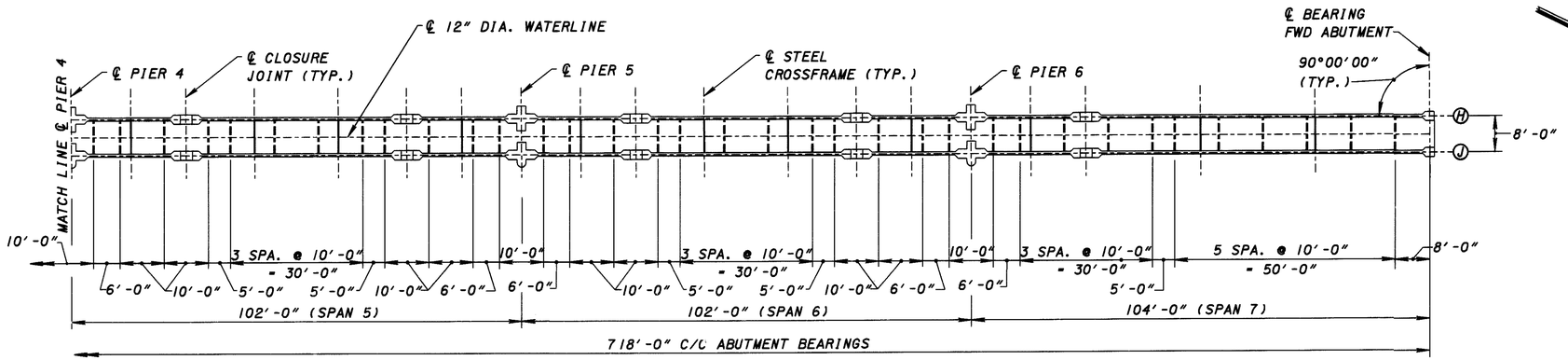
DESIGN AGENCY: HNTB — ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JDM	JDM	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3502384	

UTILITY SUPPORT FRAMING PLAN
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55





12" DIA. WATERLINE AND 6" DIA. GASLINE SUPPORT FRAMING PLAN

* - NOTE: WATERLINE SUPPORT SPACING SHOWN. GASLINE SUPPORT SPACING BETWEEN GIRDERS A AND B IS THE SAME AS SHOWN FOR THE WATERLINE.

LEGEND:

Ⓐ THRU Ⓙ GIRDER DESIGNATION

NOTES:

1. FOR UTILITY SUPPORT DETAILS, SEE SHEETS 58 THRU 60 OF 106.
2. FOR ELECTRIC AND TELEPHONE CONDUIT SUPPORT FRAMING PLAN, SEE SHEET 56 OF 106.
3. FOR GIRDER FRAMING PLAN SEE SHEET 54 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JDM	JDM	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3502384	

UTILITY SUPPORT FRAMING PLAN
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

57/106

128/183

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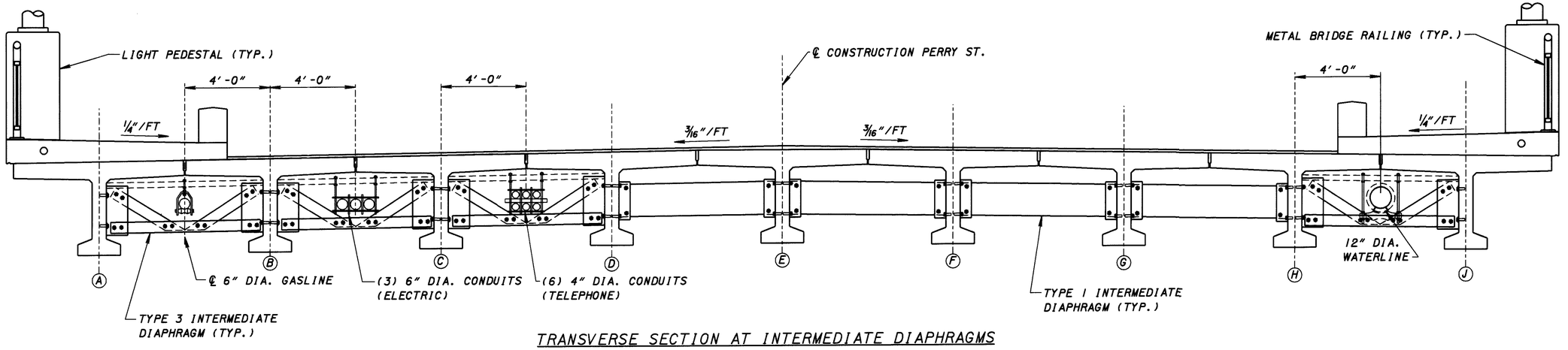
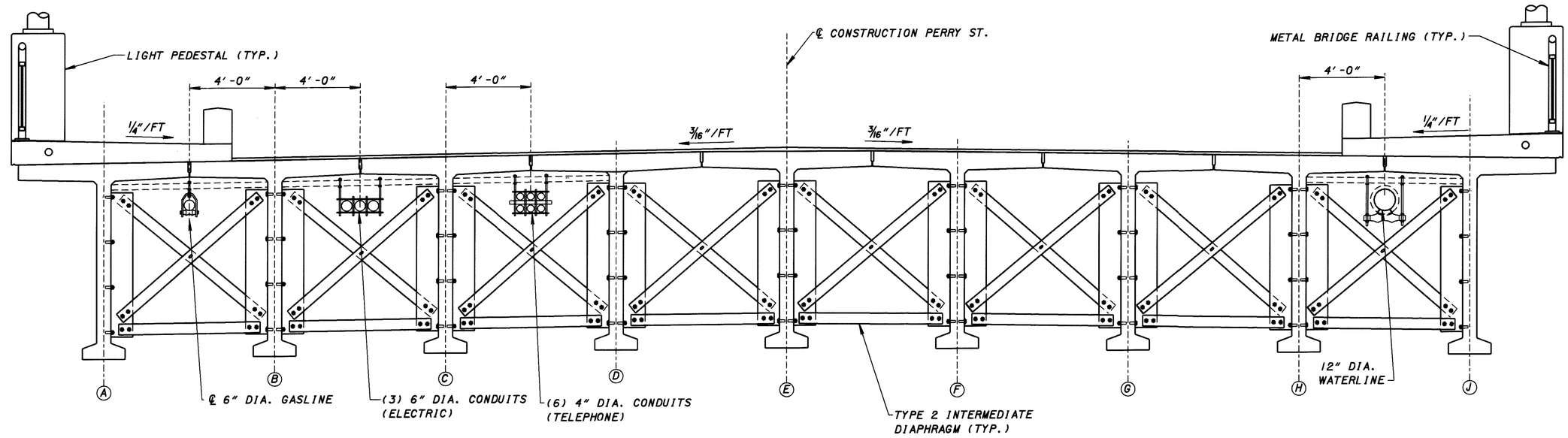


TRANSVERSE SECTION AT INTERMEDIATE DIAPHRAGMS

TYPE 1 AND TYPE 3 INTERMEDIATE DIAPHRAGMS SHOWN
(LOOKING UPSTATION)



TRANSVERSE SECTION AT INTERMEDIATE DIAPHRAGMS

TYPE 2 INTERMEDIATE DIAPHRAGMS SHOWN
(LOOKING UPSTATION)

NOTES:

1. FOR DIAPHRAGM LOCATIONS, SEE FRAMING PLAN SHEET 54 OF 106. FOR DIAPHRAGM DETAILS, SEE SHEET 55 OF 106.
2. FOR UTILITY SUPPORT LOCATIONS, SEE SHEETS 56 AND 57 OF 106.
3. DIAPHRAGM CONNECTIONS AND UTILITY SUPPORTS SHALL REMAIN LOOSE UNTIL CLOSURE POURS HAVE BEEN COMPLETED AND THE LONGITUDINAL AND TRANSVERSE TENDONS HAVE BEEN STRESSED.
4. FOR SIDEWALK DETAILS, SEE SHEET 88 OF 106.
5. FOR SEALING DETAILS, SEE SHEET 89 OF 106.
6. PAYMENT FOR INTERMEDIATE DIAPHRAGMS SHALL BE AT THE CONTRACT PRICE FOR ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF (STEEL CROSSFRAMES).

DESIGN AGENCY
HNTB 8 Addison Plaza, Suite 300 Cleveland, Ohio 44114-3369
ARCHITECTS/ENGINEERS/PLANNERS

DESIGNED	DRAWN	REVISED	DATE
JDM	JDM	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3502384	

UTILITY SUPPORT DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

58/106

129/183

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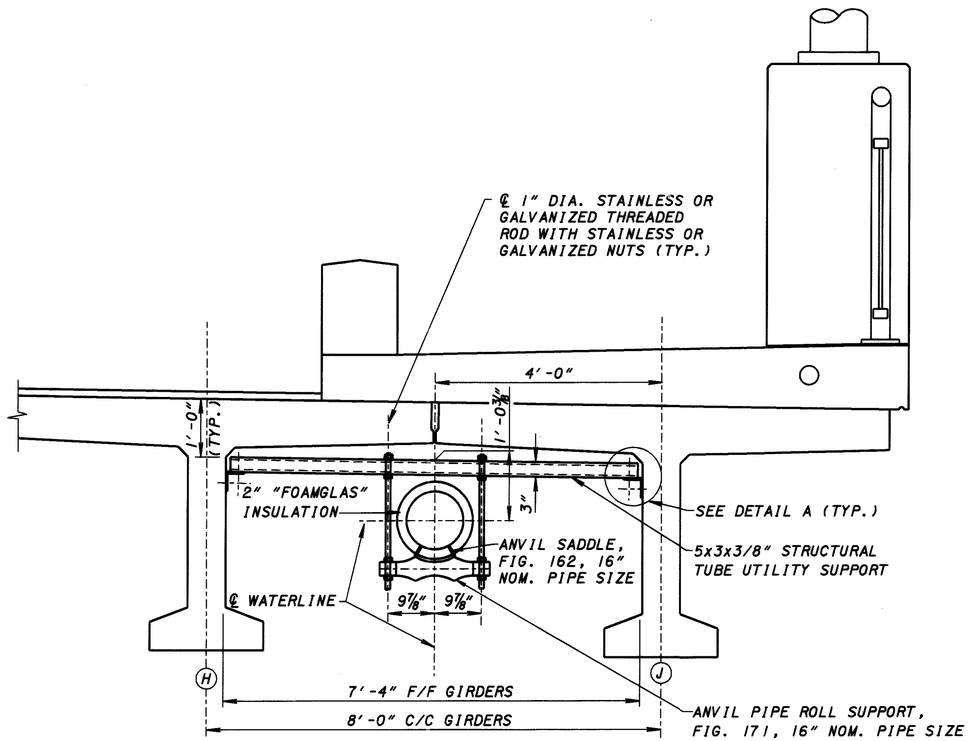
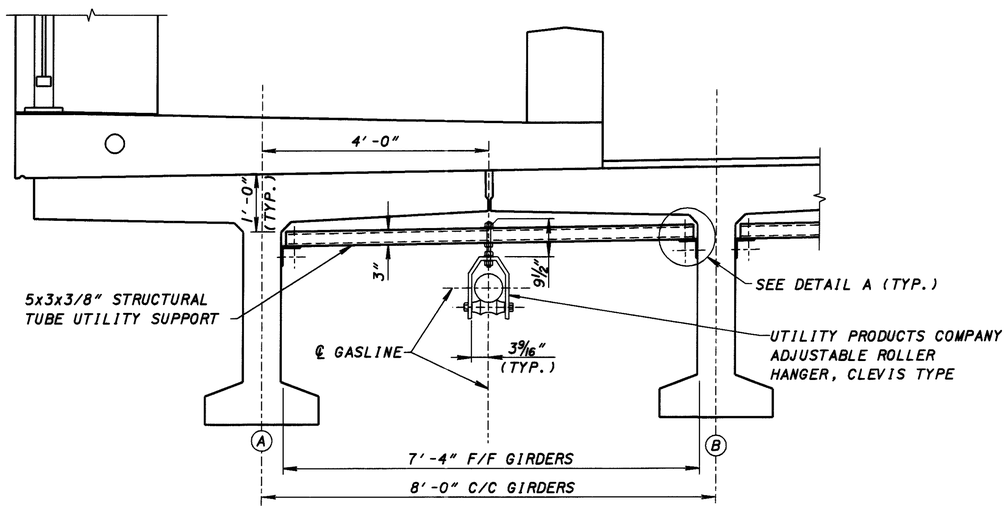
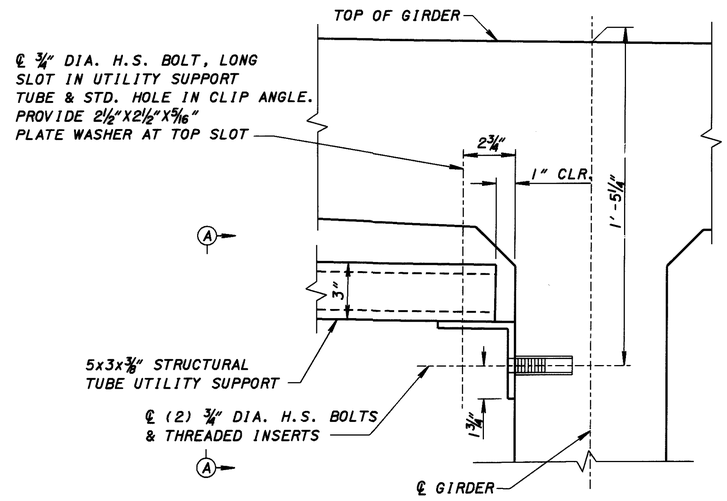


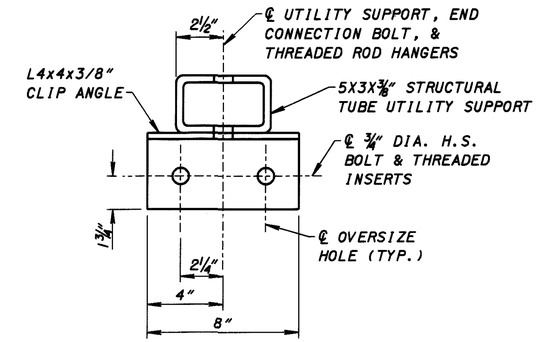
12" DIA. WATERLINE SUPPORT DETAIL



6" DIA. GASLINE SUPPORT DETAIL



DETAIL A



VIEW A-A

NOTES:

1. SECURE PIPE SADDLES WITH A MINIMUM OF 2 STAINLESS STEEL BAND CLAMPS.
2. SEE SHEETS 56 AND 57 OF 106 FOR UTILITY SUPPORT LOCATIONS.
3. FOR STRUCTURAL STEEL ANGLES AND TEES, PROVIDE ASTM A572/A709, GRADE 50. FOR STRUCTURAL TUBES, PROVIDE ASTM A500 GRADE B (46 KSI YIELD) OR A501 (46 KSI YIELD). GALVANIZE ALL STRUCTURAL STEEL, THREADED INSERTS, BOLTS, NUTS AND WASHERS AS PER 711.02.
4. FOR ALL BOLTS (EXCEPT HANGER RODS) PROVIDE A325, TYPE 1 GALVANIZED, CONFORMING TO 513.20. USE A LOCK WASHER OR LOCTITE (OR EQUAL) ON ALL BOLTS (NUTS) NOT DESIGNATED HIGH STRENGTH.
5. FOR ALL STRUCTURAL STEEL, INCLUDING BOLTS, NUTS, WASHERS, AND PLATE WASHERS (EXCLUDING THREADED UTILITY SUPPORT HANGER BOLTS) CONFORM TO THE REQUIREMENTS OF 513, AND INCLUDE FOR PAYMENT UNDER ITEM 513, STRUCTURAL STEEL MEMEBERS, LEVEL UF, AS PER PLAN (UTILITY SUPPORTS).
6. FOR WATER AND GAS LINES, ALL THREADED HANGER RODS, PIPE ROLLS, PIPE SADDLES, NUTS, WASHERS, AND ALIGNMENT GUIDES ARE INCLUDED IN THE RESPECTIVE ITEMS 638 & 530 FOR PAYMENT.
7. FOR TELEPHONE AND ELECTRIC, ALL CONDUIT, CONDUIT SUPPORT ASSEMBLIES, BRACING, EXPANSION JOINTS, AND MOUNTING HARDWARE ARE INCLUDED IN THE RESPECTIVE ITEMS 625 FOR PAYMENT.
8. PROVIDE THREADED INSERTS HAVING A MINIMUM SAFE WORKING PULL-OUT LOAD OF 3,000 LBS. (F.S. = 3) AND INSTALL AS PER MANUFACTURER'S REQUIREMENTS. INCLUDE WITH ITEM 515 FOR PAYMENT.
9. SEE WATERLINE PLANS FOR ADDITIONAL INFORMATION AND PAYMENT FOR PIPE, INSULATION, AND JACKETING.
10. GASLINE PIPE TO BE INSTALLED BY OTHERS.

DESIGN AGENCY
HNTB 55 Public Square, Suite 800 Cleveland, Ohio 44113-1910
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JDM	JDM	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3502384	

UTILITY SUPPORT DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

59/106

130/183

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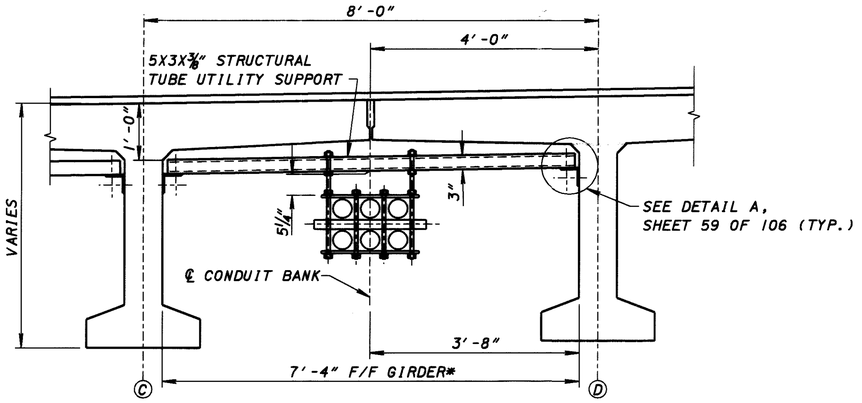
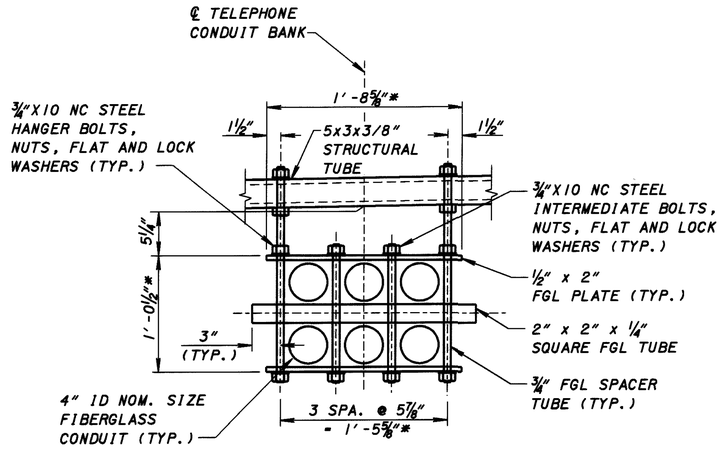


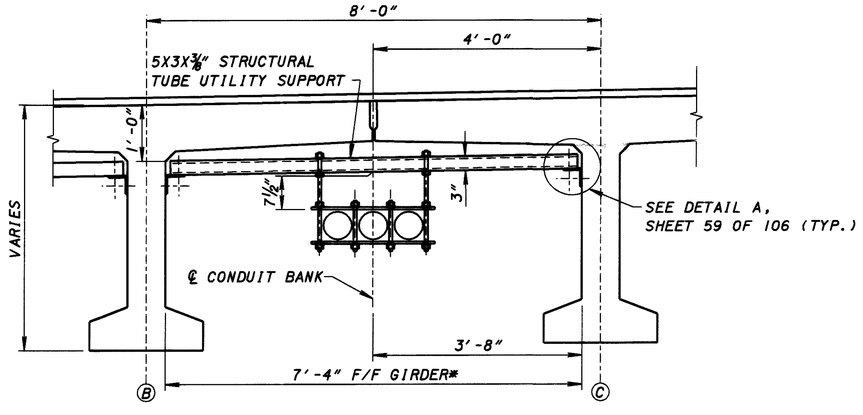
TELEPHONE CONDUIT BANK SUPPORT DETAIL

* - 6'-0" F/F GIRDER AT CLOSURE JOINTS AND PIERS



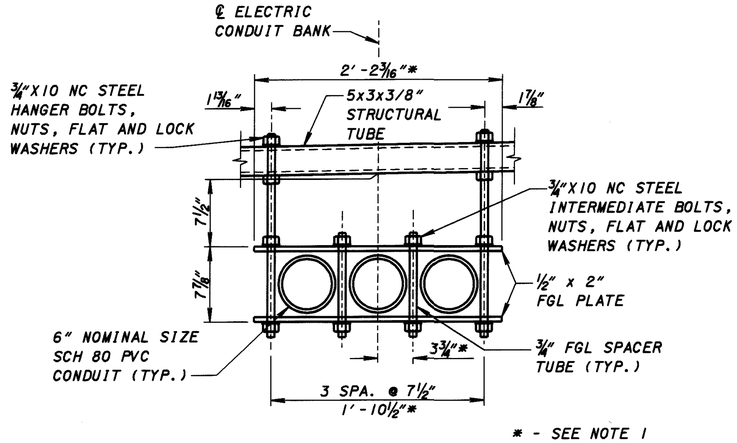
* - SEE NOTE 1

TELEPHONE CONDUIT BANK SUPPORT DETAIL



ELECTRIC CONDUIT BANK SUPPORT DETAIL

* - 6'-0" F/F GIRDER AT CLOSURE JOINTS AND PIERS



* - SEE NOTE 1

ELECTRIC CONDUIT BANK SUPPORT DETAIL

NOTES:

1. VERIFY THESE DIMENSIONS WITH CONDUIT SUPPORT MANUFACTURER/SUPPLIER BEFORE DRILLING HOLES IN UTILITY SUPPORT ANGLES. ADDITIONALLY, VERIFY THAT CHOSEN UTILITY SUPPORT SYSTEMS PROVIDE ADEQUATE CLEARANCES/SPACING BETWEEN UTILITIES AND STEEL CROSSFRAMES, GIRDER CLOSURE DIAPHRAGMS, AND PIER/ABUTMENT DIAPHRAGMS.
2. FOR ADDITIONAL NOTES, SEE SHEET 59 OF 106.
3. FOR DETAIL A, SEE SHEET 59 OF 106.

DESIGN AGENCY
HNTB 8 Broadway Plaza, Suite 800 Cleveland, Ohio 44114-1818
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JDM	JDM	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3502384	

UTILITY SUPPORT DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

60/106

131/183

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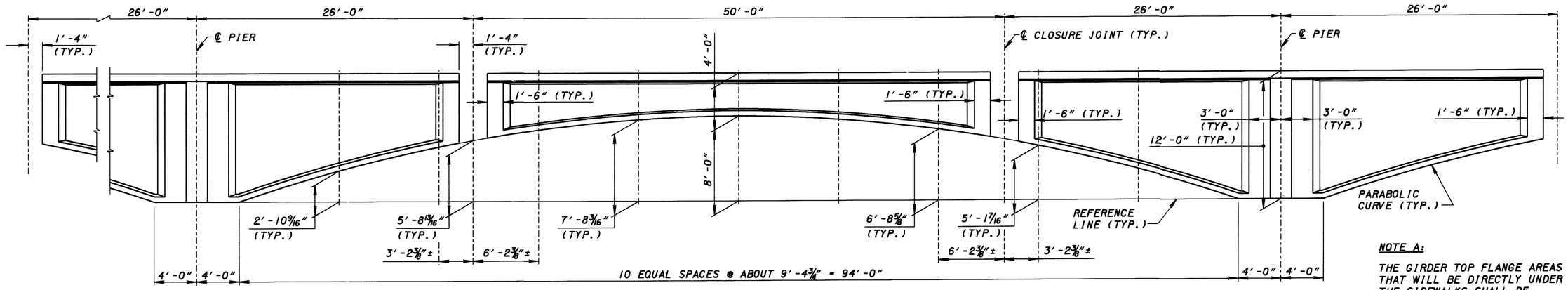
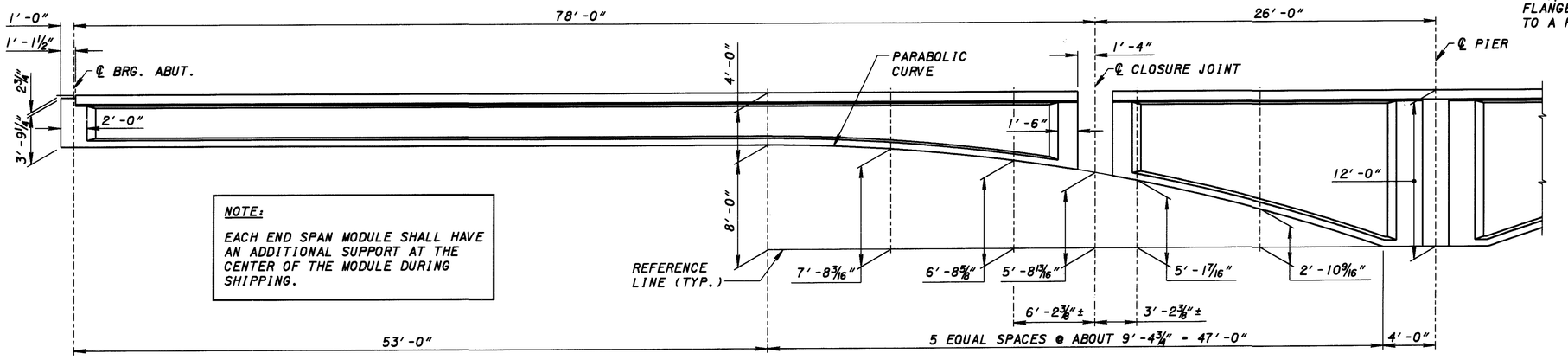


GIRDER GEOMETRY - PIER MODULE AND MID SPAN MODULE



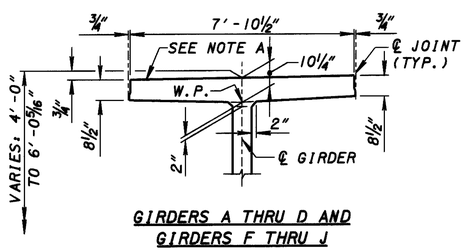
NOTE:

EACH END SPAN MODULE SHALL HAVE AN ADDITIONAL SUPPORT AT THE CENTER OF THE MODULE DURING SHIPPING.

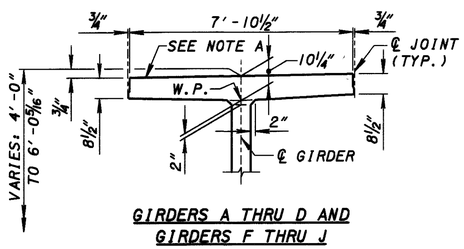
NOTE A:

THE GIRDER TOP FLANGE AREAS THAT WILL BE DIRECTLY UNDER THE SIDEWALKS SHALL BE ROUGHENED TO A FULL AMPLITUDE OF ¼ INCH. ALL OTHER GIRDER TOP FLANGE AREAS SHALL BE ROUGHENED TO A FULL AMPLITUDE OF ⅛ INCH.

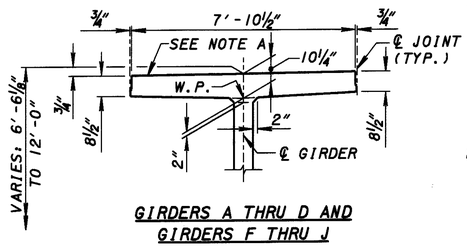
GIRDER GEOMETRY - END SPAN MODULE



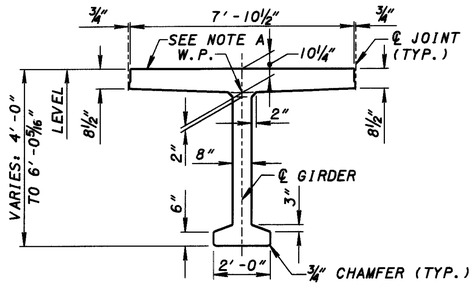
GIRDERS A THRU D AND GIRDERS F THRU J



GIRDERS A THRU D AND GIRDERS F THRU J

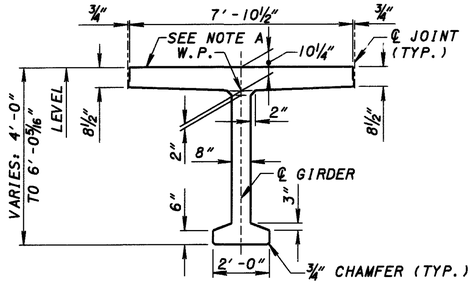


GIRDERS A THRU D AND GIRDERS F THRU J



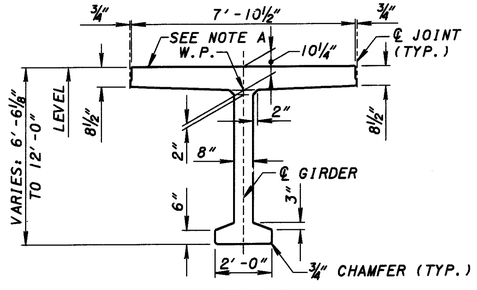
GIRDER E

TYPICAL GIRDER SECTION END SPAN MODULE



GIRDER E

TYPICAL GIRDER SECTION MID SPAN MODULE

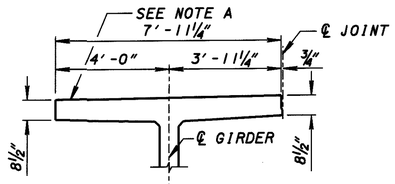


GIRDER E

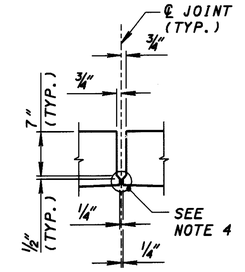
TYPICAL GIRDER SECTION PIER MODULE

NOTES:

1. THE GIRDER DEPTHS SHOWN ARE MEASURED ALONG THE ℄ OF GIRDER. THE TOP FLANGE OF GIRDERS A THRU D AND GIRDERS F THRU J SHALL BE SLOPED TO MATCH THE DECK CROSS-SECTION (3/16" PER FOOT). THE TOP FLANGE OF GIRDER E SHALL BE SET NORMAL TO THE GIRDER WEB.
2. THE DIMENSIONS MEASURED ALONG THE LENGTH OF THE GIRDERS DO NOT CONTAIN AN ALLOWANCE FOR THE EFFECT OF LONGITUDINAL GRADE. ANY FIT-UP ADJUSTMENTS REQUIRED IN THE FIELD DUE TO LONGITUDINAL GRADE WILL BE TAKEN UP IN THE CLOSURE JOINT POURS.
3. THE LONGITUDINAL JOINTS SHALL BE PACKED WITH A NON-SHRINK GROUT SUCH AS SIKA GROUT 212 OR EQUIVALENT AND SHALL BE FINISHED TO A NEAT LINE OF THE STRUCTURAL ELEMENTS. SEE SPECIAL PROVISIONS.
4. PROVIDE A STRIP OF OAKUM IN BOTTOM OF LONGITUDINAL JOINTS TO PREVENT GROUT FROM DROPPING THROUGH THE JOINT. ALL MATERIAL, LABOR AND INCIDENTALS REQUIRED FOR THE PLACEMENT OF OAKUM SHALL BE CONSIDERED INCIDENTAL TO ITEM 530.
5. FOR GIRDER MODULE DIMENSIONAL TOLERANCES, SEE SHEET 63 OF 106.



FASCIA GIRDER FLANGE DETAIL



GIRDER JOINT DETAIL

DESIGN AGENCY
HNTB 08 Summer Street, Suite 300 Boston, MA 02110
ARCHITECTS ENGINEERS PLANNERS

DATE	REVISED	DRAWN	DESIGNED
01/16/04	RHW	JLV	JAO

STRUCTURE FILE NUMBER 3502384

REVISED	CHECKED
	JAO

GIRDER DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

61/106

132/183

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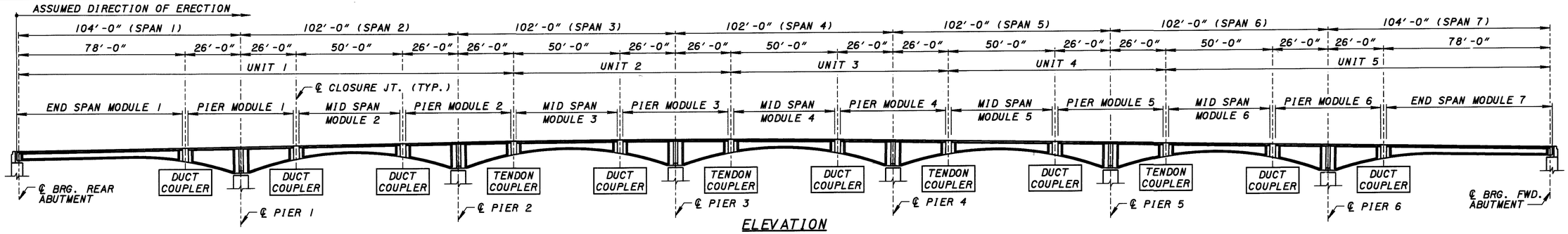
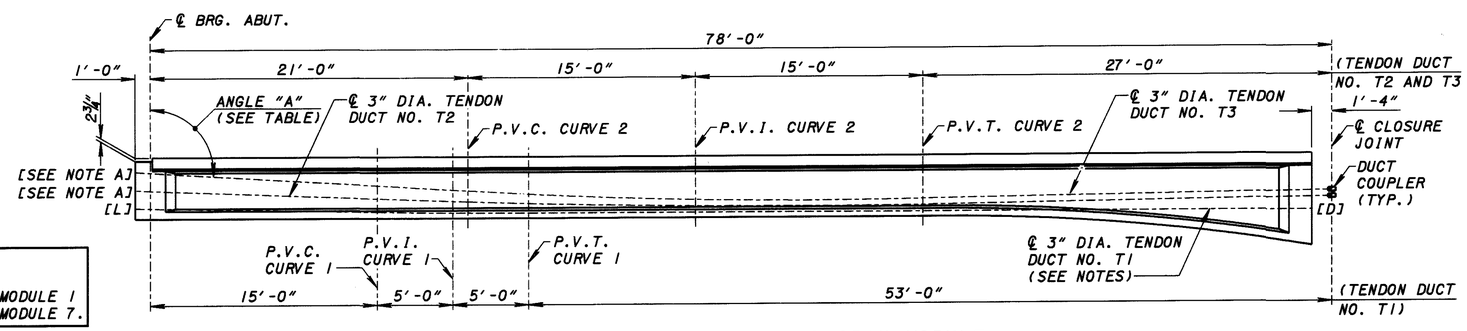


ELEVATION

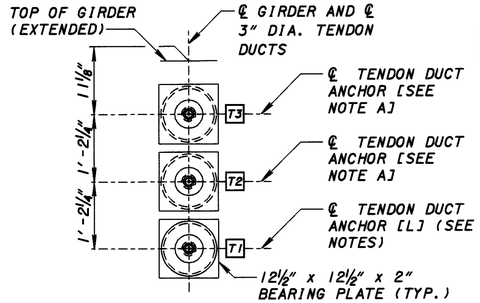
ANGLE A	
TENDON	ANGLE
T3	93°17'57"
T2	92°06'29"
T1	90°59'40"

NOTE A:

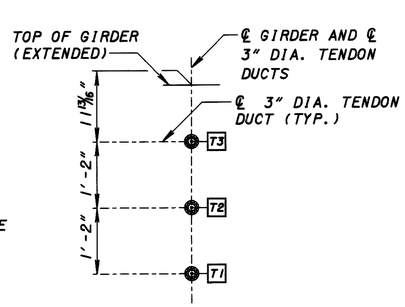
[D] AT END SPAN MODULE 1
[L] AT END SPAN MODULE 7.



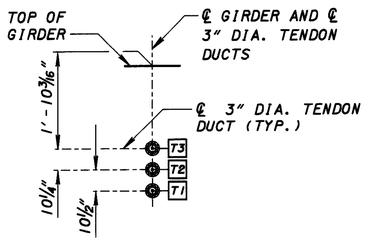
P.T. TENDON PROFILE - END SPAN MODULE



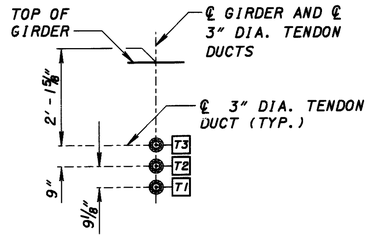
P.T. TENDON DUCT PATTERN AT END OF GIRDER
(ADJACENT TO ABUTMENT)



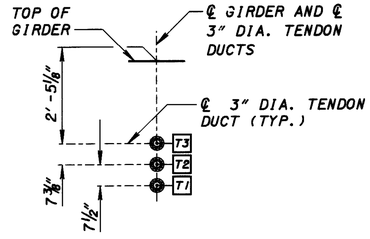
P.T. TENDON DUCT PATTERN AT ℄ BRG. ABUT.



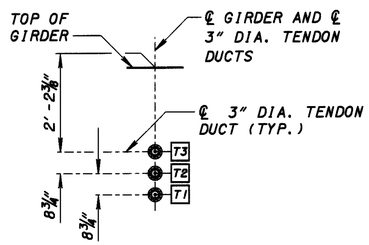
P.T. TENDON DUCT PATTERN AT P.V.C. CURVE 1



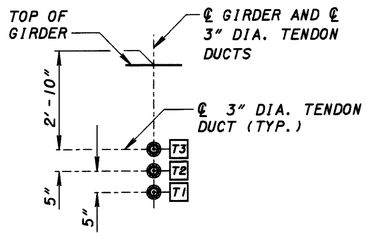
P.T. TENDON DUCT PATTERN AT P.V.I. CURVE 1



P.T. TENDON DUCT PATTERN AT P.V.T. CURVE 1



P.T. TENDON DUCT PATTERN AT P.V.C. CURVE 2



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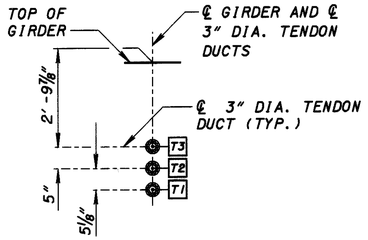

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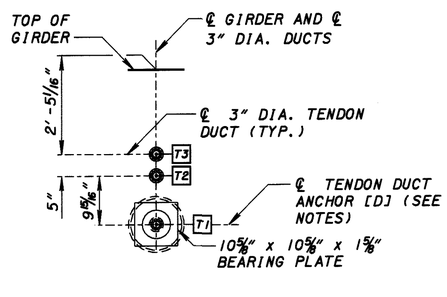

P.T. TENDON DUCT PATTERN AT END OF GIRDER
(ADJACENT TO PIER MODULE)

NOTES:

1. [D] DENOTES TENDON STRESSING FROM OPPOSITE END.
   [L] DENOTES TENDON STRESSING FROM THAT END.
2. TENDON T1 SHALL BE STRESSED IN THE CASTING FORM PRIOR TO LIFTING. TENDON T1 SHALL NOT BE STRESSED UNTIL THE GIRDER CONCRETE HAS REACHED A MINIMUM STRENGTH OF 6000 PSI. TENDON T1 SHALL BE GROUTED IN THE SHOP PRIOR TO SHIPPING.
3. FOR ADDITIONAL NOTES, SEE SHEET 61 OF 106.

DESIGN AGENCY
HNTB 8 Industrial Way, Suite 100 Salem, NH 03079
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVISED	DATE
JAO	JLV	RHW	01/16/04

CHECKED	REVISED	STRUCTURE FILE NUMBER
JAO		3502384

GIRDER DETAILS
BRIDGE NO. HEN-108-156 I
OVER THE MAUMEE RIVER

HEN-108-15.55

62/106

133/183

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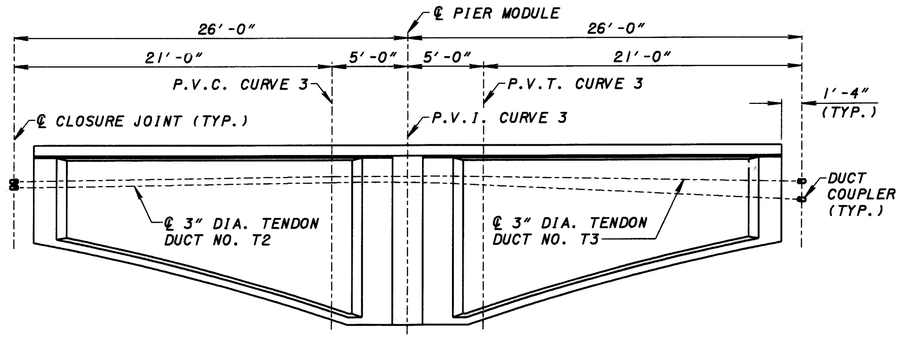
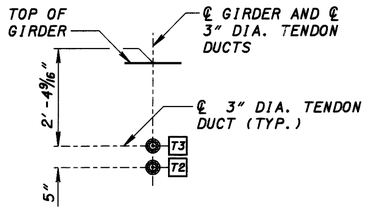


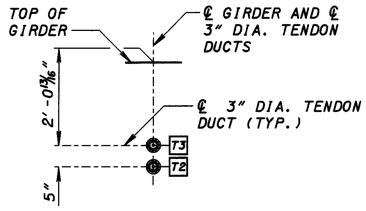
P.T. TENDON PROFILE - PIER MODULE 1 AND 6

(PIER MODULE 1 SHOWN, PIER MODULE 6 OPPOSITE HAND)

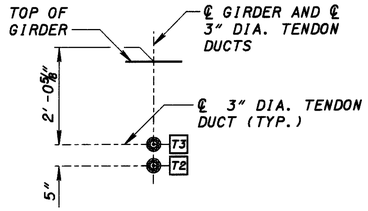


P.T. TENDON DUCT PATTERN AT END OF GIRDER

(ADJACENT TO END SPAN MODULE)



P.T. TENDON DUCT PATTERN AT P.V.C. CURVE 3



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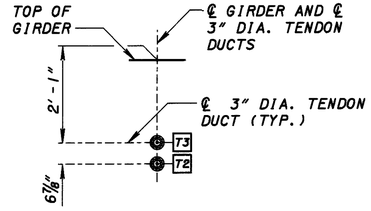
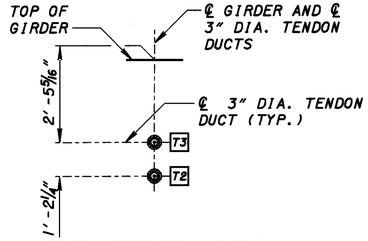


P.T. TENDON DUCT PATTERN AT P.V.T. CURVE 3

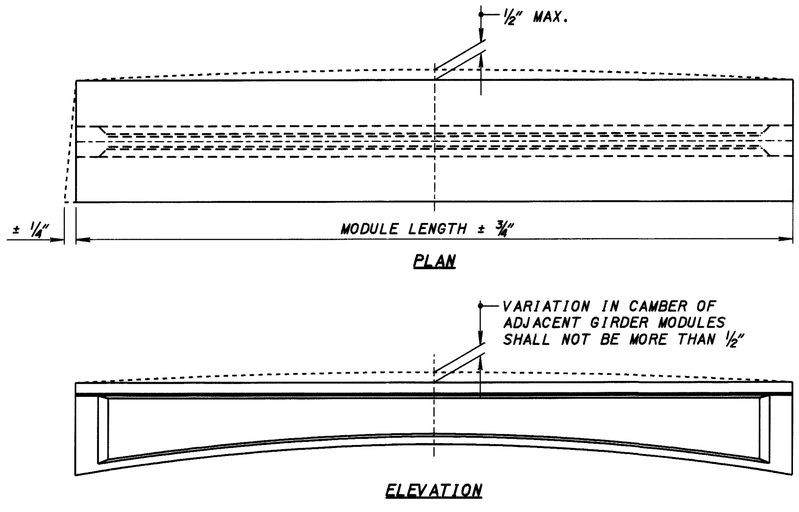


P.T. TENDON DUCT PATTERN AT END OF GIRDER

(ADJACENT TO MID SPAN MODULE)

NOTE:

1. FOR ADDITIONAL NOTES, SEE SHEET 61 OF 106.



GIRDER MODULE DIMENSIONAL TOLERANCES

(MID SPAN MODULE SHOWN, OTHERS SIMILAR)

GIRDER MODULE DIMENSIONAL TOLERANCES	
DESCRIPTION	**TOLERANCES**
LENGTH OF BEAM	3/4"
WIDTH OF FLANGES INCLUDING FILLETS	+3/8", -1/4"
TOTAL DEPTH	+1/2", -1/4"
WIDTH OF WEB	+3/8", -1/4"
DEPTH OF FLANGES AND DEPTH OF WEB (INCLUDING FILLETS)	±1/4"
HORIZONTAL ALIGNMENT (DEVIATION FROM A STRAIGHT LINE PARALLEL TO ℄ OF MEMBER)	±1/8" PER 10'-0", 1/2" MAX.
STRAND POSITION, C.G. OF STRAND GROUP AND INDIVIDUAL STRANDS	±1/4"
POSITION OF LIFTING DEVICES	±6"
SIDE INSERTS (℄ TO END)	+1/2", -0"
SIDE INSERTS (℄ TO ℄)	±1/2"
GIRDER ENDS DEVIATION FROM SQUARE, HORIZONTAL	±1/4"
GIRDER ENDS DEVIATION FROM SQUARE, VERTICAL	±1/8" PER 12" OF GIRDER HEIGHT
STIRRUP BARS, LONGITUDINAL SPACING (ANCHORAGE ZONE)	±1/4"
STIRRUP BARS, LONGITUDINAL SPACING	±1"

DIMENSIONAL VARIATION IN EXCESS OF THE TOLERANCES SHOWN MAY BE CAUSE FOR REJECTION OF THE MEMBER GENERALLY THE DIMENSIONS SHOULD BE WELL WITHIN THE TOLERANCE LIMIT.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

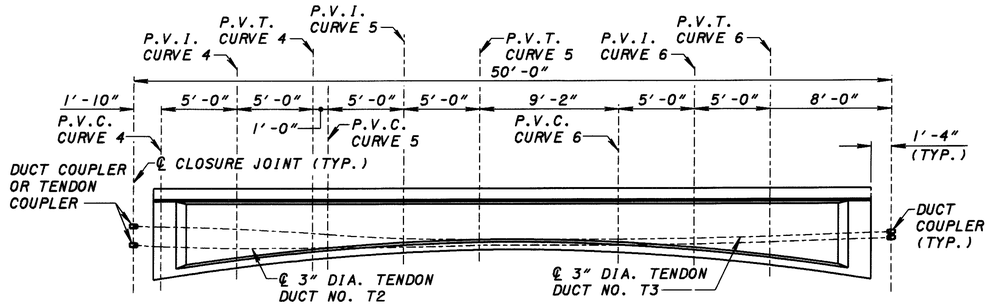
DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHN	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

GIRDER DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

63/106

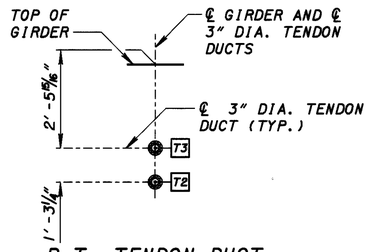
134/183



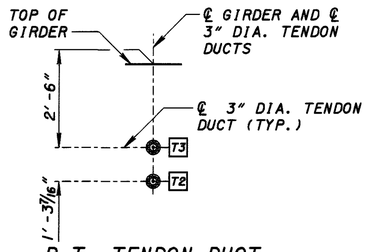
P.T. TENDON PROFILE - MID SPAN MODULES 2 THRU 5

NOTE:

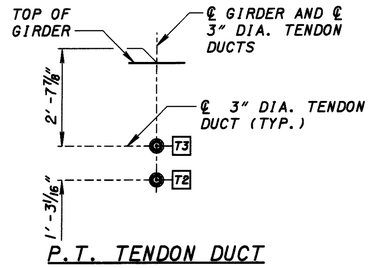
1. FOR ADDITIONAL NOTES, SEE SHEET 61 OF 106.



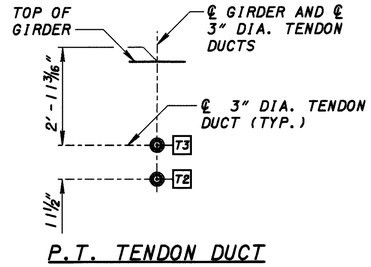
P.T. TENDON DUCT PATTERN AT END OF GIRDER
(ADJACENT TO REAR PIER MODULE)



P.T. TENDON DUCT PATTERN AT P.V.C. CURVE 4



P.T. TENDON DUCT PATTERN AT P.V.I. CURVE 4



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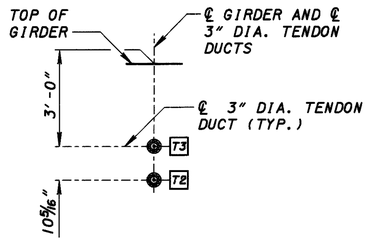
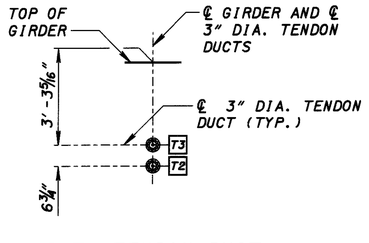
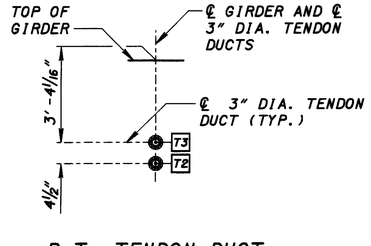


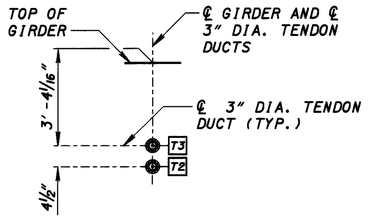
P.T. TENDON DUCT PATTERN AT P.V.C. CURVE 5



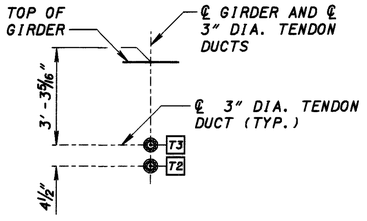
P.T. TENDON DUCT PATTERN AT P.V.I. CURVE 5



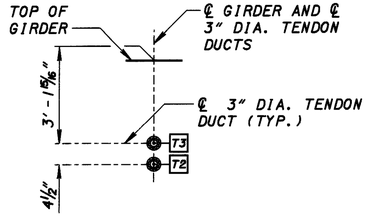
P.T. TENDON DUCT PATTERN AT P.V.T. CURVE 5



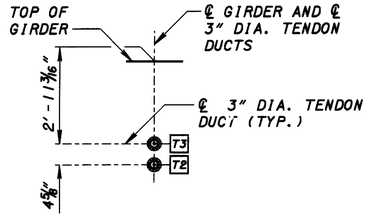
P.T. TENDON DUCT PATTERN AT P.V.C. CURVE 6



P.T. TENDON DUCT PATTERN AT P.V.I. CURVE 6



P.T. TENDON DUCT PATTERN AT P.V.T. CURVE 6



P.T. TENDON DUCT PATTERN AT END OF GIRDER
(ADJACENT TO FORWARD PIER MODULE)

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

GIRDER DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

64/106

135/183

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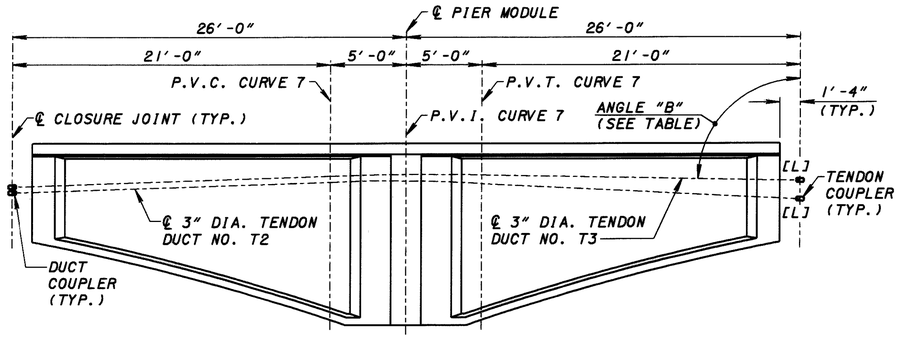
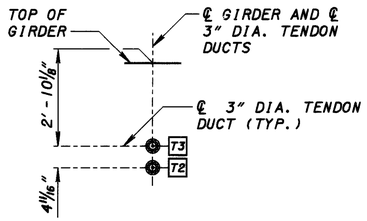
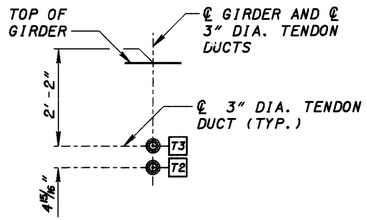


P.T. TENDON PROFILE - PIER MODULE 2 THRU 5

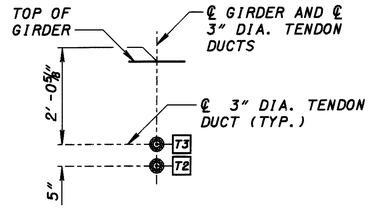
ANGLE B	
TENDON	ANGLE
T3	88°57'02"
T2	87°09'44"



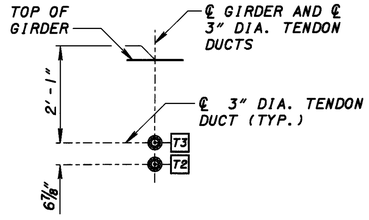
P.T. TENDON DUCT
PATTERN AT END OF GIRDER
(ADJACENT TO REAR MID SPAN MODULE)



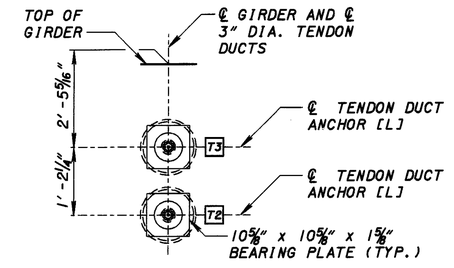
P.T. TENDON DUCT
PATTERN AT P.V.C. CURVE 7



P.T. TENDON DUCT
PATTERN AT P.V.I. CURVE 7



P.T. TENDON DUCT
PATTERN AT P.V.T. CURVE 7



P.T. TENDON DUCT
PATTERN AT END OF GIRDER
(ADJACENT TO FORWARD MID SPAN MODULE)

NOTES:

1. [L] DENOTES TENDON STRESSING FROM THAT END.
2. FOR ADDITIONAL NOTES, SEE SHEET 61 OF 106.

DESIGN AGENCY
HNTB 28 Erieview Plaza, Suite 800 Cleveland, Ohio 44114-1888
ARCHITECTS ENGINEERS PLANNERS

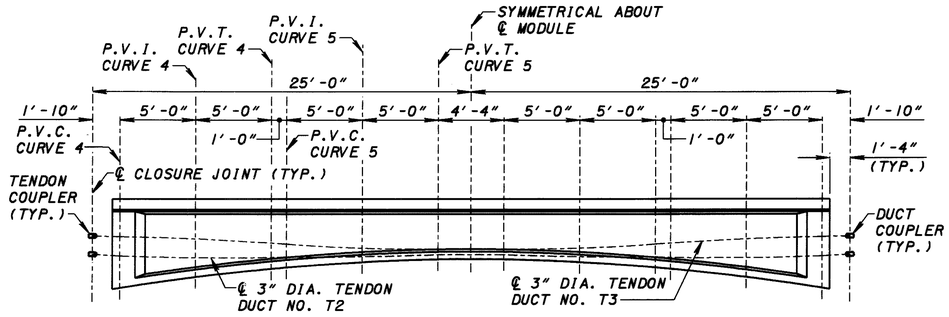
DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

GIRDER DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

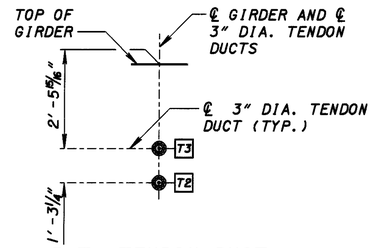
HEN-108-15.55

65/106

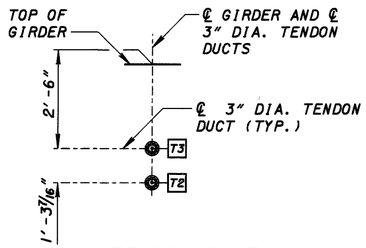
136/183



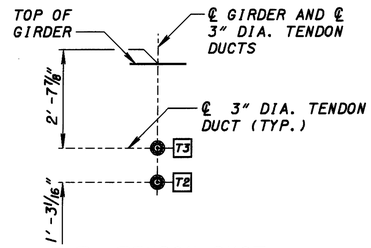
P.T. TENDON PROFILE - MID SPAN MODULE 6



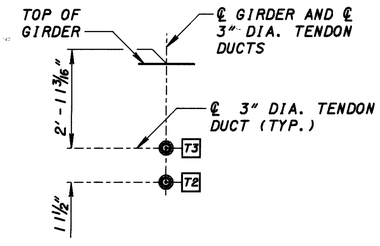
P.T. TENDON DUCT
PATTERN AT END OF GIRDER
(ADJACENT TO PIER MODULE 5)



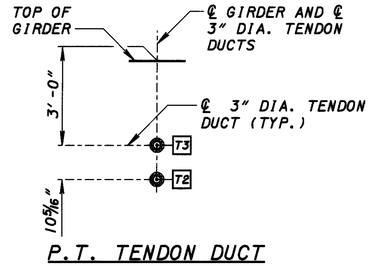
P.T. TENDON DUCT
PATTERN AT P.V.C. CURVE 4



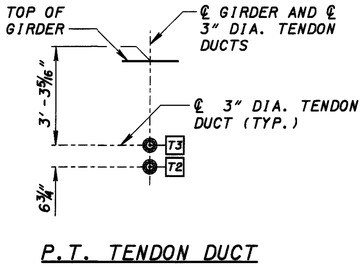
P.T. TENDON DUCT
PATTERN AT P.V.I. CURVE 4



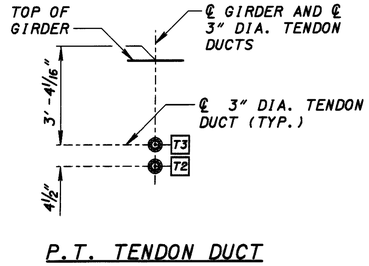
P.T. TENDON DUCT
PATTERN AT P.V.T. CURVE 4



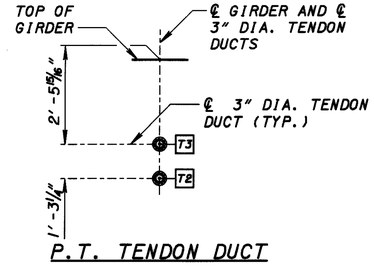
P.T. TENDON DUCT
PATTERN AT P.V.C. CURVE 5



P.T. TENDON DUCT
PATTERN AT P.V.I. CURVE 5



P.T. TENDON DUCT
PATTERN AT P.V.T. CURVE 5



P.T. TENDON DUCT
PATTERN AT END OF GIRDER
(ADJACENT TO PIER MODULE 6)

NOTE:

1. FOR ADDITIONAL NOTES, SEE SHEET 61 OF 106.

DESIGN AGENCY
HNTB 55 Erieview Plaza, Suite 800 Cleveland, Ohio 44114-1818
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

GIRDER DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

66/106

137/183

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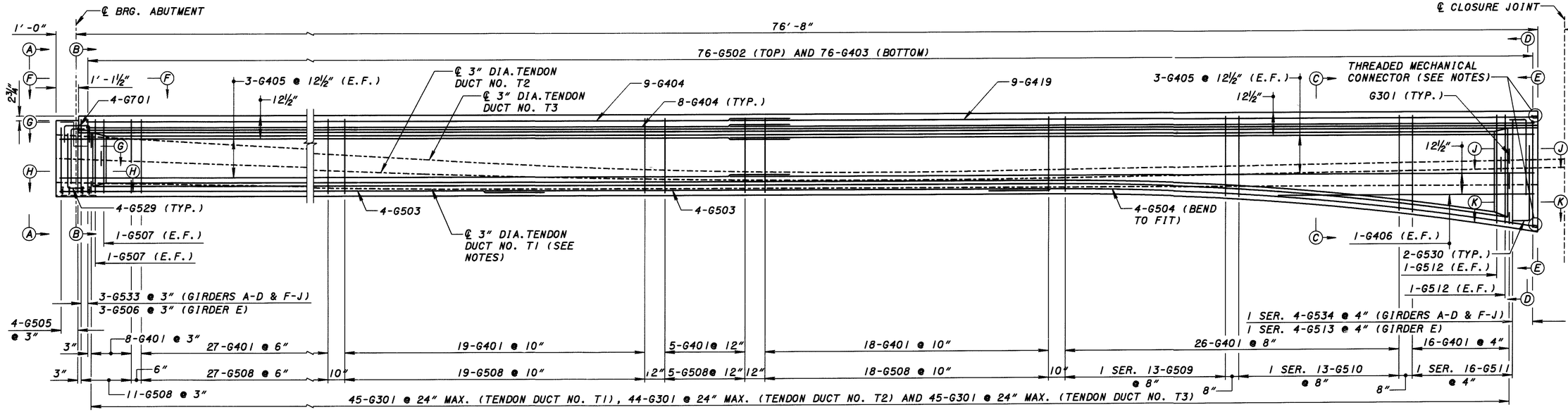
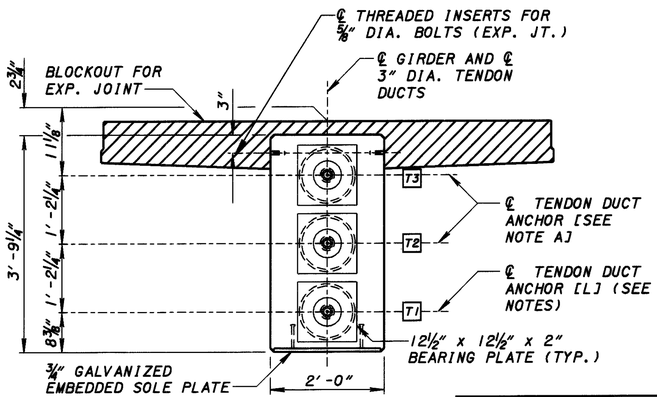


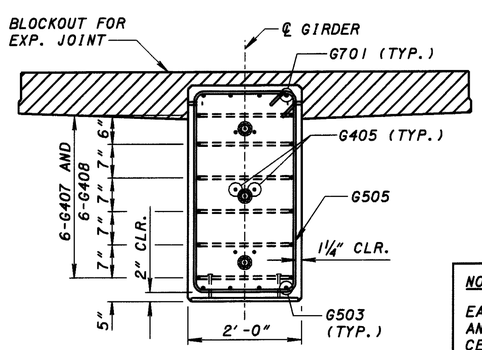
ELEVATION - END SPAN MODULE



VIEW A-A

NOTE A:

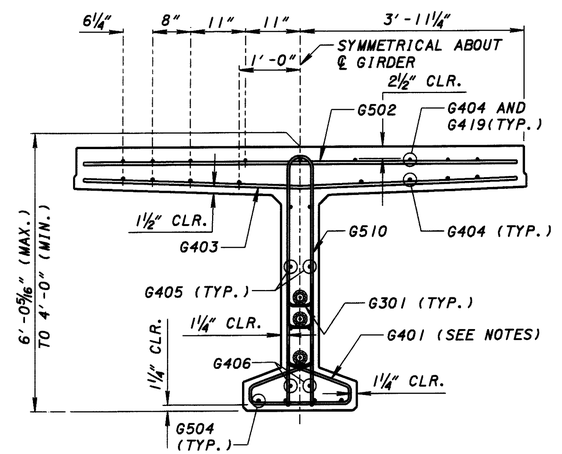
[D] AT END SPAN MODULE 1
[L] AT END SPAN MODULE 7.



SECTION B-B

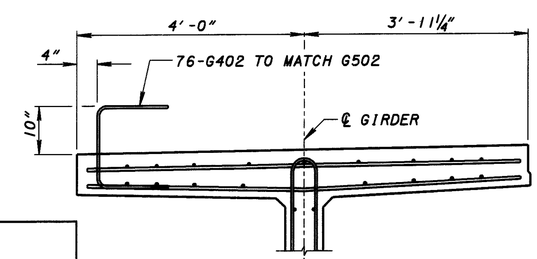
NOTE:

EACH END SPAN MODULE SHALL HAVE AN ADDITIONAL SUPPORT AT THE CENTER OF THE MODULE DURING SHIPPING.



SECTION C-C

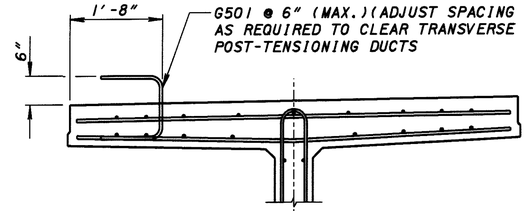
(TYPICAL ALL GIRDERS EXCEPT AS SHOWN)



PART SECTION C-C (GIRDER A AND J)

(FASCIA GIRDER A SHOWN, FASCIA GIRDER J OPP. HAND)

REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ. AND VERT.)	2'-0" MIN.
NO. 5 BARS (HORIZ. AND VERT.)	2'-6" MIN.



PART SECTION C-C (GIRDER B AND H)

(INTERIOR GIRDER B SHOWN, INTERIOR GIRDER H OPP. HAND)

NOTES:

1. THE G401 BARS SHALL BE SHOP CUT AS REQUIRED TO CLEAR THE TENDON DUCTS. ALL AREAS OF EXPOSED REINFORCING STEEL SHALL BE CLEANED AND SHALL HAVE THE EPOXY COATING RE-APPLIED AND SHALL BE ADEQUATELY CURED PRIOR TO THE PLACING OF CONCRETE. THE COST FOR CUTTING AND REPAIRING THE G401 BARS SHALL BE INCLUDED WITH ITEM 530, FOR PAYMENT.
2. [D] DENOTES TENDON STRESSING FROM OPPOSITE END
   [L] DENOTES TENDON STRESSING FROM THAT END.
3. TENDON T1 SHALL BE STRESSED IN CASTING FORM PRIOR TO LIFTING. TENDON T1 SHALL NOT BE STRESSED UNTIL THE GIRDER CONCRETE HAS REACHED A MINIMUM STRENGTH OF 6000 PSI. TENDON T1 SHALL BE GROUTED IN THE SHOP PRIOR TO SHIPPING.
4. MECHANICAL CONNECTORS SHALL BE CAPABLE OF DEVELOPING 125 PERCENT OF THE YIELD STRENGTH OF THE BARS JOINED.
5. THREADED INSERTS FOR END DIAPHRAGMS, INTERMEDIATE DIAPHRAGMS AND UTILITY SUPPORTS ARE NOT SHOWN. FOR DETAILS, SEE SHEETS 54 THRU 60 AND 87 OF 106.
6. THREADED INSERTS FOR ⅝" DIA. EXP. JT. BOLTS SHALL HAVE A MINIMUM SAFE WORKING PULL-OUT LOAD OF 3000 LBS. (F.S. = 3) AND SHALL BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
7. FOR SECTION D-D, VIEW E-E, VIEW F-F AND SECTIONS G-G THRU K-K, SEE SHEET 68 OF 106.
8. FOR ADDITIONAL EXP. JOINT DETAILS, SEE SHEET 97 OF 106.
9. FOR REINFORCING SCHEDULE, SEE SHEET 103 OF 106.
10. FOR ADDITIONAL NOTES, SEE SHEET 61 OF 106.

DESIGN AGENCY: HNTB 28 Stimson Blvd., Suite 600, Cleveland, Ohio 44114-2518, ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHN	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

END SPAN MODULE DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

67/106

138/183

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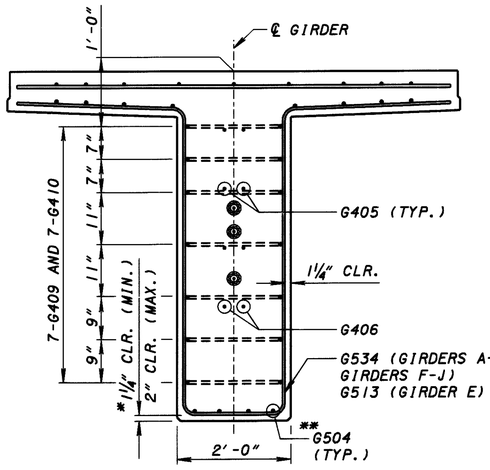
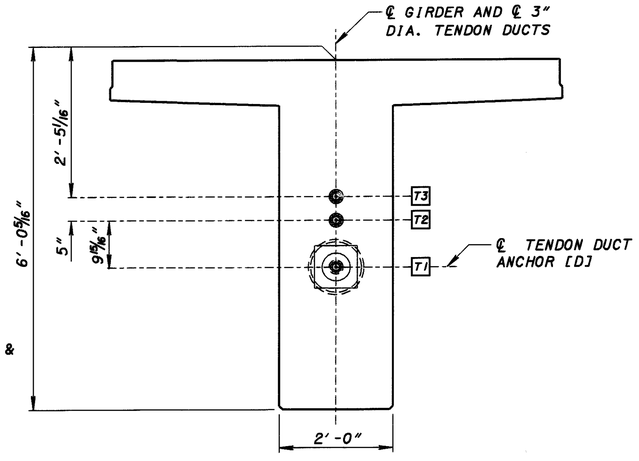
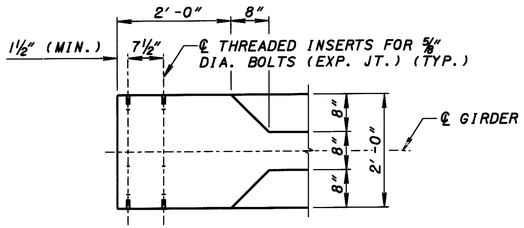


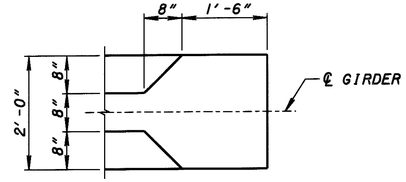
SECTION D-D



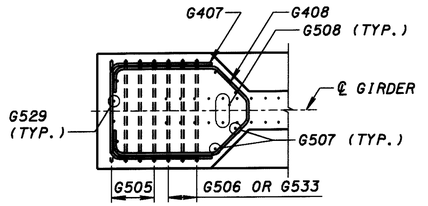
VIEW E-E



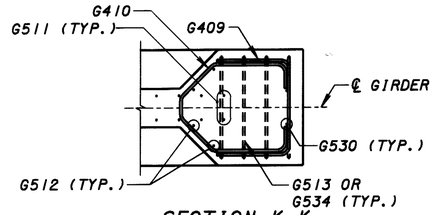
SECTION G-G



SECTION J-J



SECTION H-H

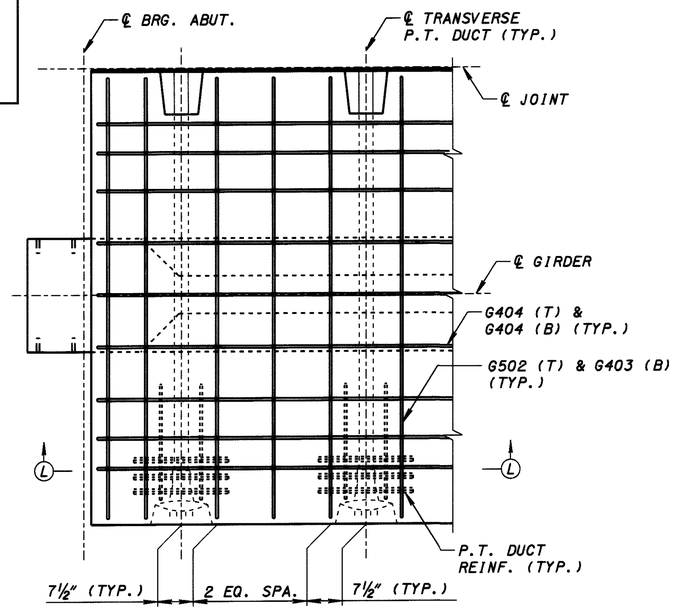


SECTION K-K

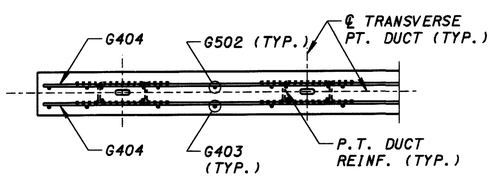
NOTES:

* 1¼" CLEAR ADJACENT TO G401 BAR AND 2" CLEAR ADJACENT TO GIRDER END.

** SPACE G504 BARS 5½" APART AT END OF GIRDER.



VIEW F-F



SECTION L-L

REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ. AND VERT.)	2'-0" MIN.
NO. 5 BARS (HORIZ. AND VERT.)	2'-6" MIN.

NOTES:

1. [D] DENOTES TENDON STRESSING FROM OPPOSITE END.
2. FOR LOCATION OF SECTIONS D-D, VIEW E-E, VIEW F-F, AND SECTIONS G-G THRU K-K, SEE SHEET 67 OF 106.
3. FOR TRANSVERSE P.T. DUCT DETAILS, SEE SHEET 76 AND 77 OF 106.
4. FOR REINFORCING SCHEDULE, SEE SHEET 103 OF 106.
5. FOR ADDITIONAL NOTES, SEE SHEET 61 AND 67 OF 106.

DESIGN AGENCY
HNTB
80 Monument Plaza, Suite 600
Cleveland, Ohio 44113-1006
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVISED	DATE
JAO	JLV		01/16/04
CHECKED	REVISED		
JAO	RHW		STRUCTURE FILE NUMBER
			3502384

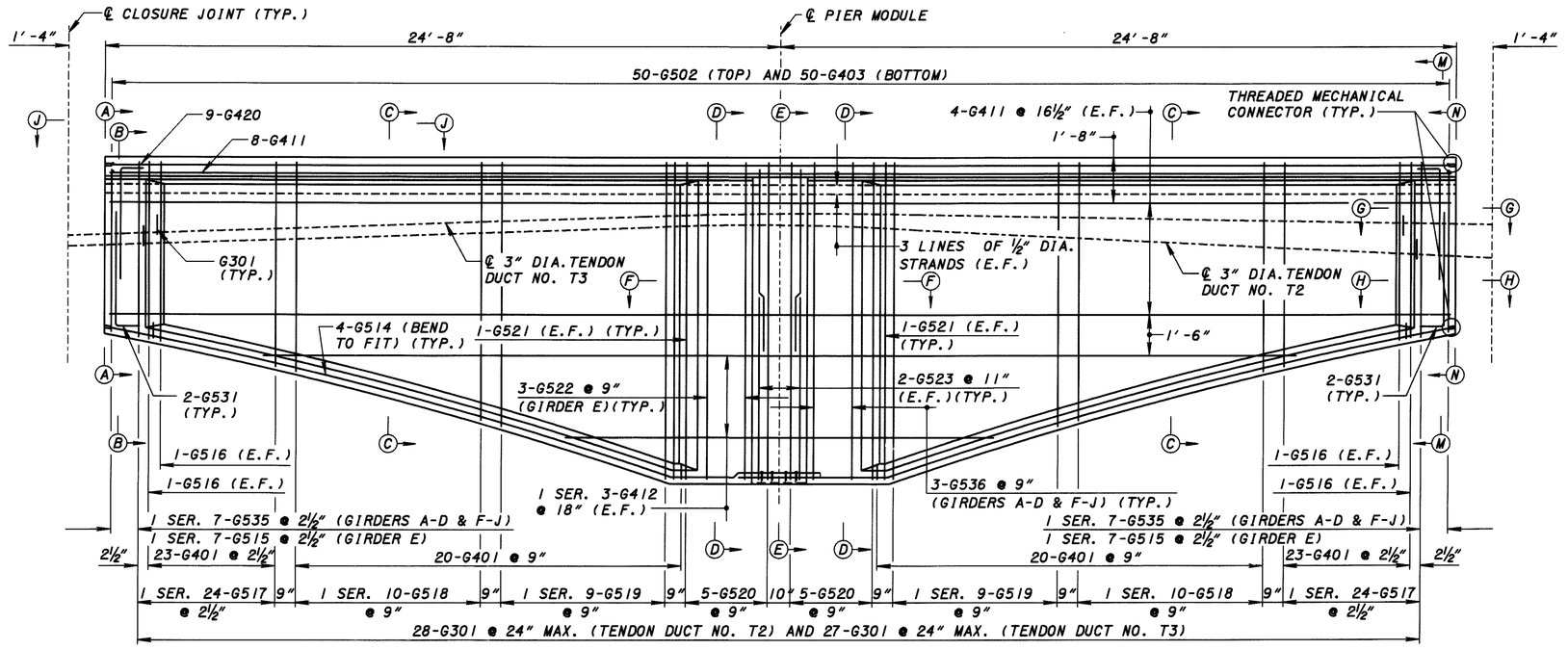
END SPAN MODULE DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

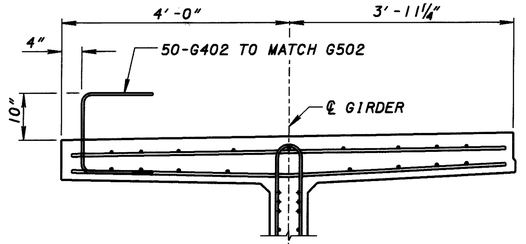
68/106

139/183



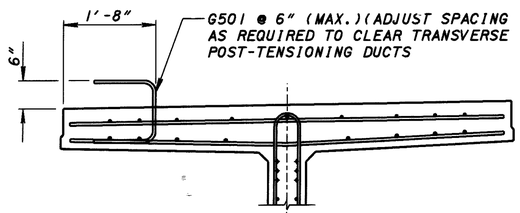
ELEVATION - PIER MODULE

(PIER MODULES 1 THRU 5 SHOWN, PIER MODULE 6 OPPOSITE HAND)



PART SECTION C-C (GIRDER A AND J)

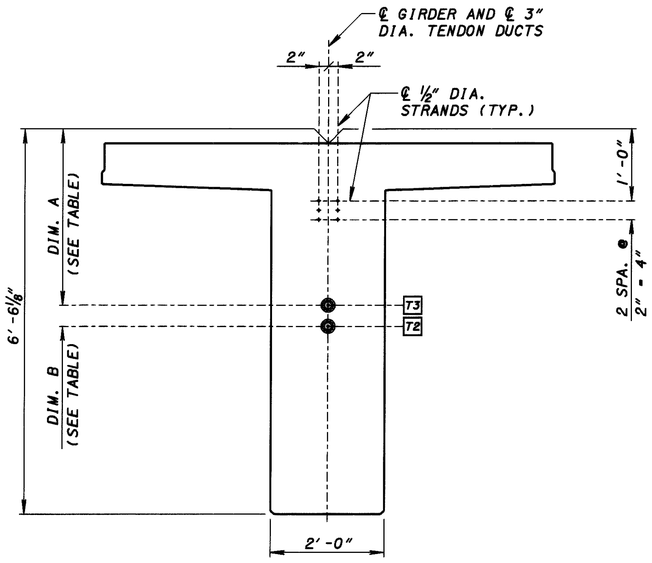
(FASCIA GIRDER A SHOWN, FASCIA GIRDER J OPP. HAND)



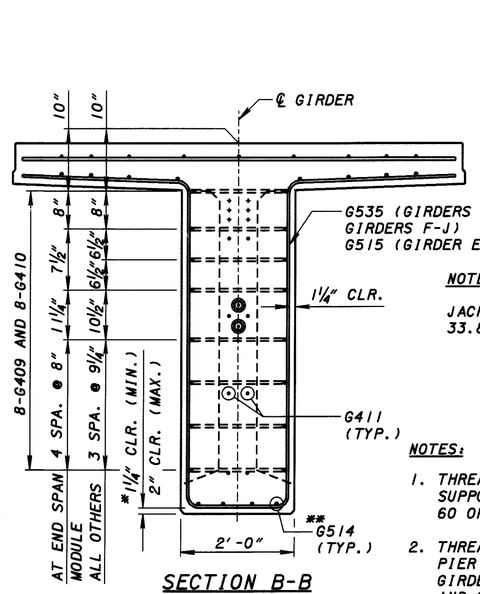
PART SECTION C-C (GIRDER B AND H)

(INTERIOR GIRDER B SHOWN, INTERIOR GIRDER H OPP. HAND)

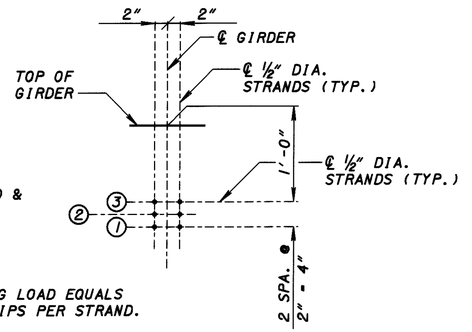
REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ. AND VERT.)	2'-0" MIN.
NO. 5 BARS (HORIZ. AND VERT.)	2'-6" MIN.



VIEW A-A



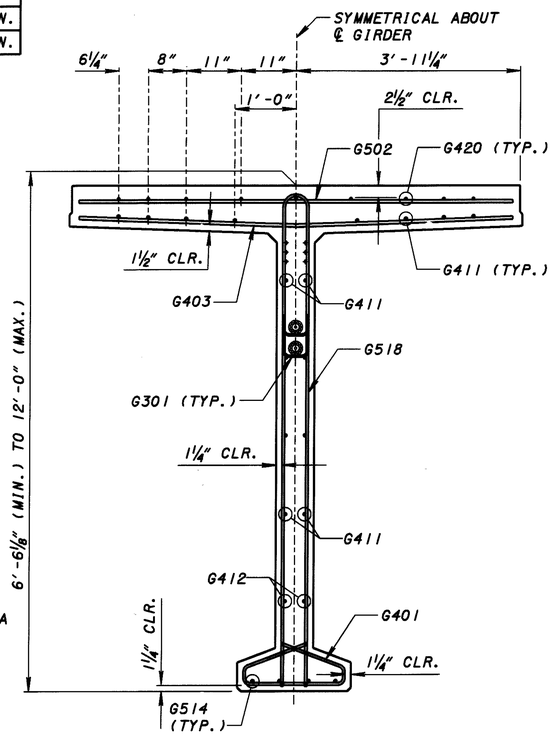
SECTION B-B



STRAND PATTERN DETAIL

NOTE:

JACKING LOAD EQUALS 33.8 KIPS PER STRAND.



SECTION C-C

(TYPICAL ALL GIRDERS EXCEPT AS SHOWN)

DIMENSIONS		
LOCATION	DIM. A	DIM. B
PM1 (SOUTH END)	2'-4Ⅸ₁₆"	5"
PM6 (NORTH END)	2'-4Ⅸ₁₆"	5"
ALL OTHERS	2'-10⅛"	4¹¹⁄₁₆"

NOTES:

* 1¼" CLEAR ADJACENT TO G401 BAR AND 2" CLEAR ADJACENT TO GIRDER END.

** SPACE G514 BARS 5½" APART AT END OF GIRDER.

NOTES:

1. THREADED INSERTS FOR INTERMEDIATE DIAPHRAGMS AND UTILITY SUPPORTS ARE NOT SHOWN. FOR DETAILS, SEE SHEETS 54 THRU 60 OF 106.
2. THREADED INSERTS FOR OVERPASS SIGN ATTACHED TO PIER MODULE 3 - FASCIA GIRDER A AND PIER MODULE 4 - FASCIA GIRDER J ARE NOT SHOWN. SEE TRAFFIC CONTROL PLAN SHEETS AND SIGNING SUBSUMMARY FOR ADDITIONAL DETAILS.
3. FOR SECTIONS D-D THRU F-F, SEE SHEET 70 OF 106.
4. FOR SECTIONS G-G AND H-H, VIEW J-J, SECTION M-M AND VIEW N-N, SEE SHEET 71 OF 106.
5. FOR REINFORCING SCHEDULE, SEE SHEET 103 OF 106.
6. FOR ADDITIONAL NOTES, SEE SHEET 61 AND 67 OF 106.

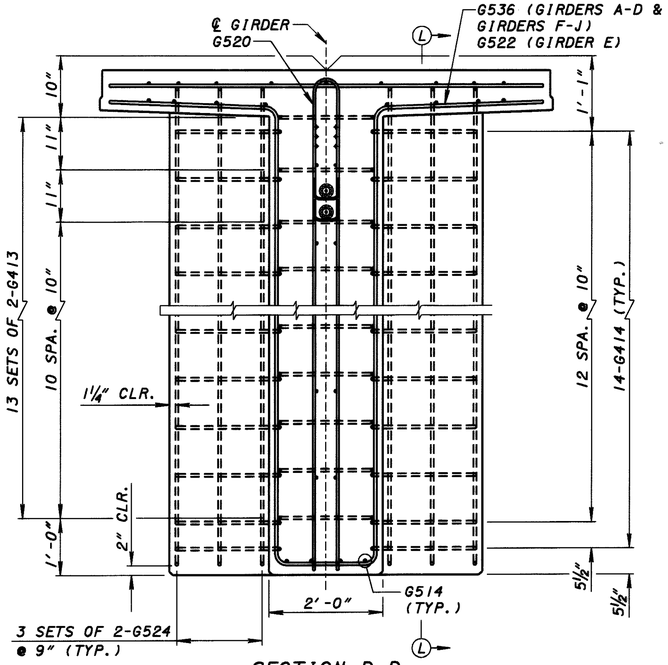
DESIGN AGENCY
HNTB
88 Erieview Plaza, Suite 800 Cleveland, Ohio 44114-1818
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

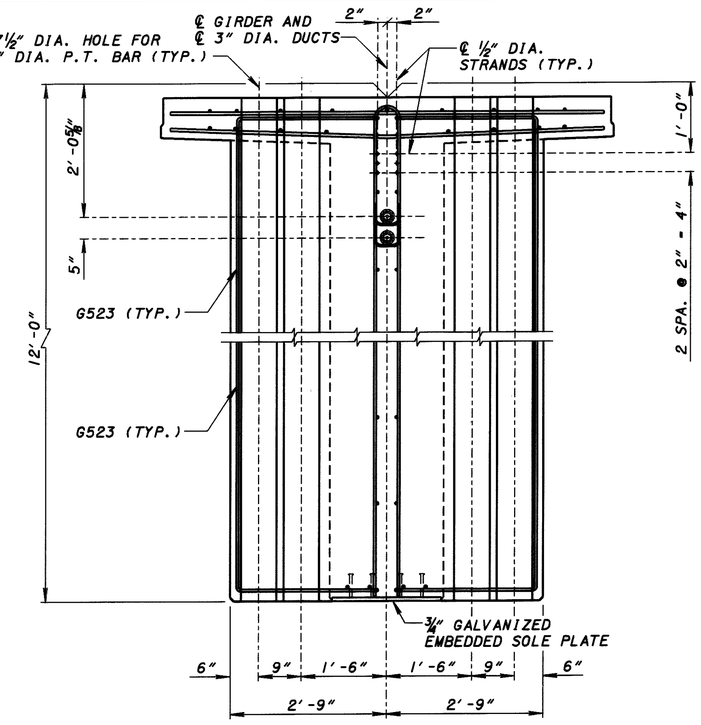
PIER MODULE DETAILS

BRIDGE NO. HEN-108-1561 OVER THE MAUMEE RIVER

HEN-108-15.55

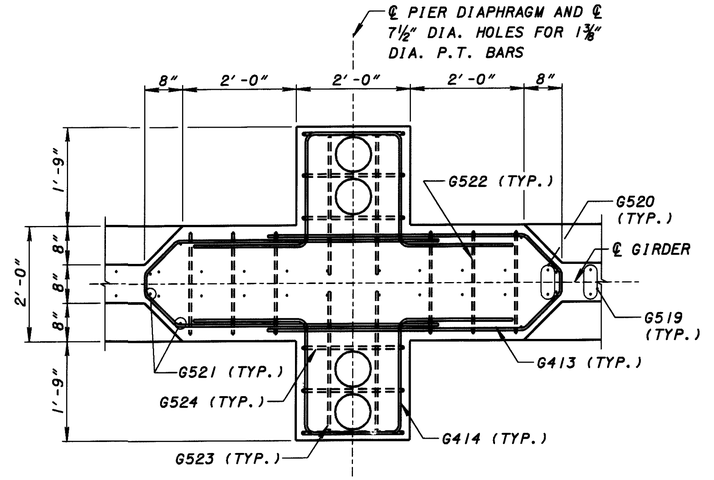


SECTION D-D
(TYPICAL ALL GIRDERS EXCEPT AS SHOWN)

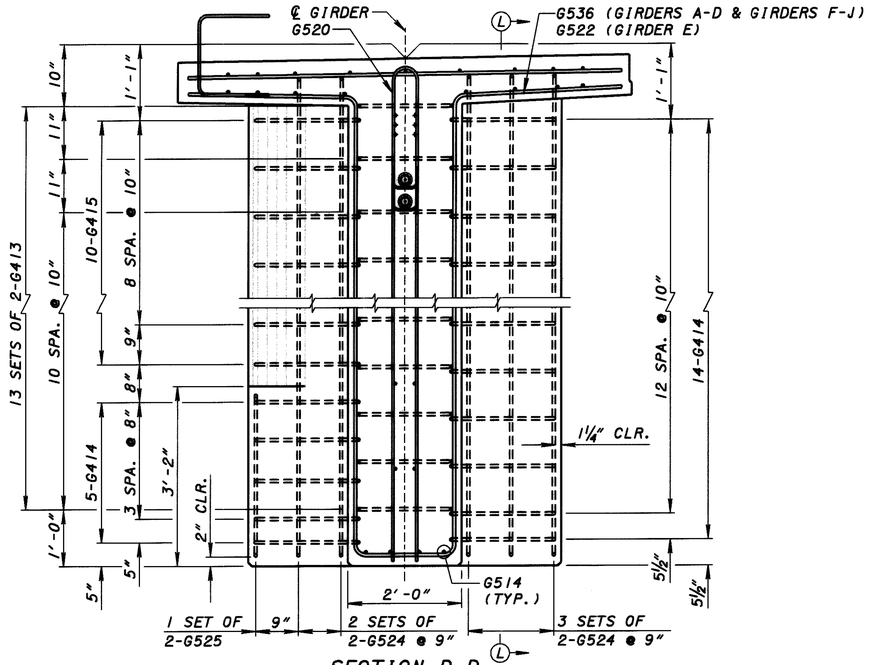


SECTION E-E
(ADDITIONAL REBAR THRU SECTION NOT SHOWN FOR CLARITY)

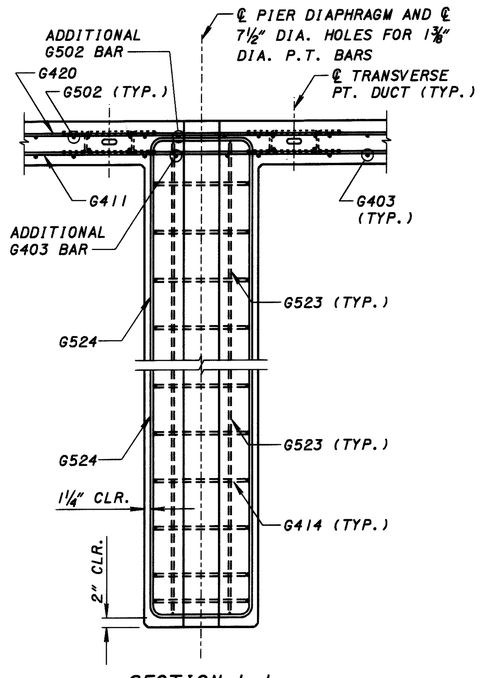
REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ. AND VERT.)	2'-0" MIN.
NO. 5 BARS (HORIZ. AND VERT.)	2'-6" MIN.



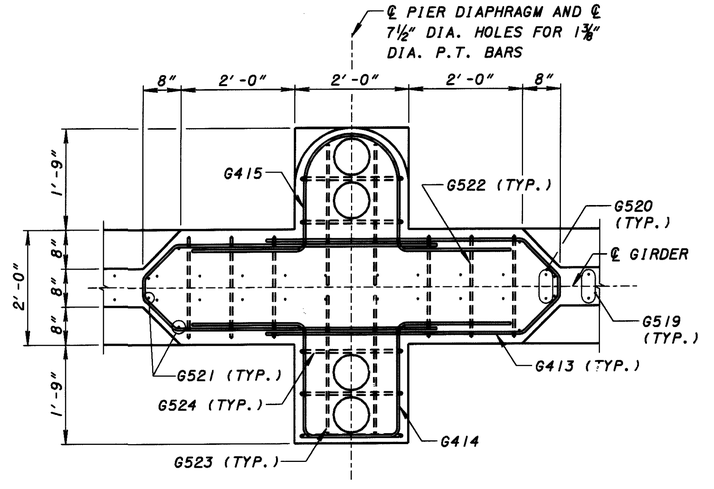
SECTION F-F
(TYPICAL ALL GIRDERS EXCEPT AS SHOWN)



SECTION D-D
(GIRDER A AND J)
(FASCIA GIRDER A SHOWN, FASCIA GIRDER J OPP. HAND)



SECTION L-L



SECTION F-F
(GIRDER A AND J)
(FASCIA GIRDER A SHOWN, FASCIA GIRDER J OPP. HAND)

NOTES:

1. FOR LOCATION OF SECTIONS D-D THRU F-F, SEE SHEET 69 OF 106.
2. FOR REINFORCING SCHEDULE, SEE SHEET 103 OF 106.
3. FOR ADDITIONAL NOTES, SEE SHEET 61 AND 69 OF 106.

DESIGN AGENCY
HNTB 30 Richardson Plaza, Suite 800 Cincinnati, Ohio 45216-2888
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

PIER MODULE DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

70/106

141/183

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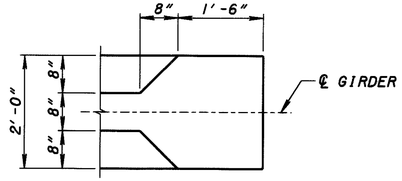
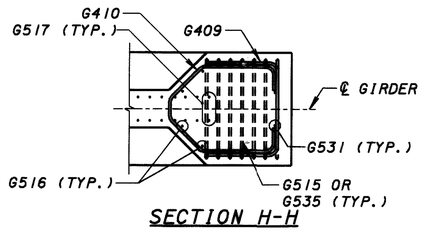
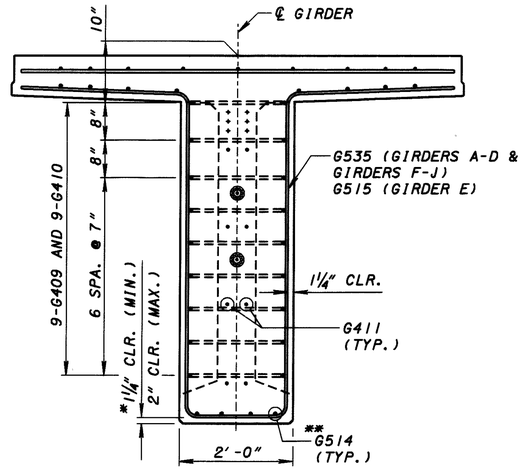


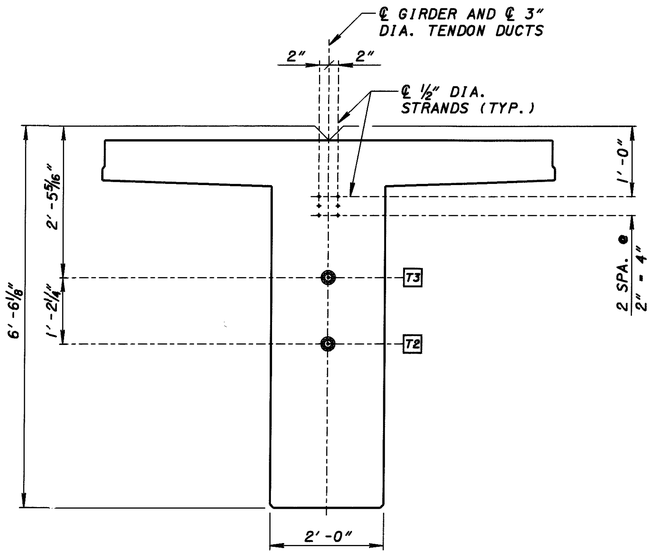
SECTION G-G



SECTION H-H



SECTION M-M

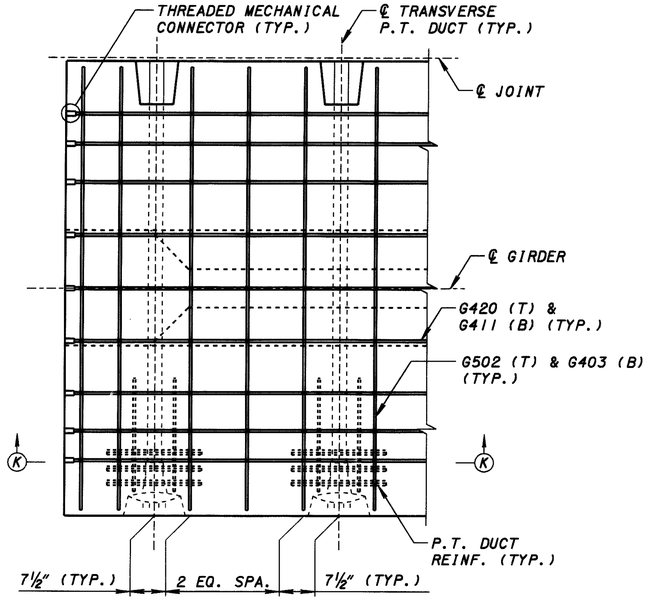


VIEW N-N
(PIER MODULE 1 AND 6)

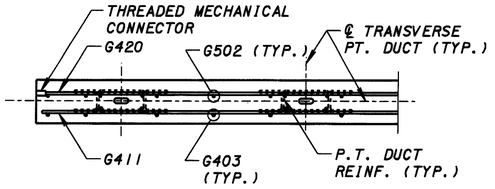
NOTES:

* 1¼" CLEAR ADJACENT TO G401 BAR AND 2" CLEAR ADJACENT TO GIRDER END.

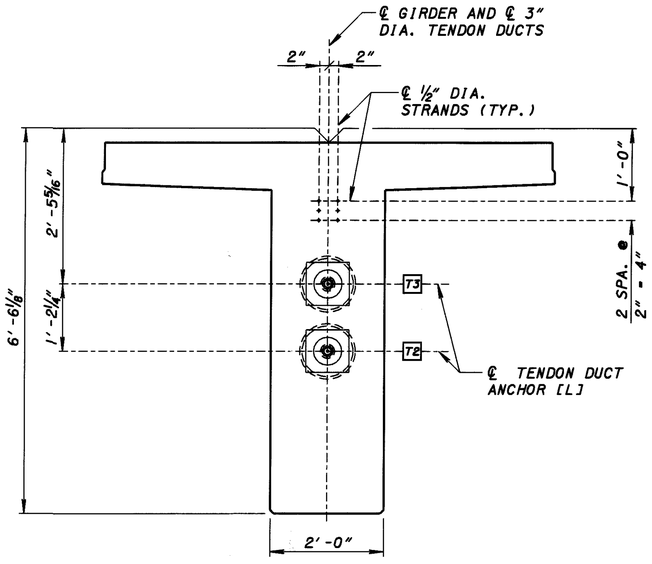
** SPACE G514 BARS 5½" APART AT END OF GIRDER.



VIEW J-J



SECTION K-K



VIEW N-N
(PIER MODULES 2 THRU 5)

REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ. AND VERT.)	2'-0" MIN.
NO. 5 BARS (HORIZ. AND VERT.)	2'-6" MIN.

NOTES:

1. [L] DENOTES TENDON STRESSING FROM THAT END.
2. FOR LOCATION OF SECTIONS G-G, H-H, VIEW J-J, SECTION M-M AND VIEW N-N, SEE SHEET 69 OF 106.
3. FOR TRANSVERSE P.T. DUCT DETAILS, SEE SHEET 76 AND 77 OF 106.
4. FOR REINFORCING SCHEDULE, SEE SHEET 103 OF 106.
5. FOR ADDITIONAL NOTES, SEE SHEET 61 AND 69 OF 106.

DESIGN AGENCY
HNTB 88 Erieview Plaza, Suite 800 Cleveland, Ohio 44114-1818
ARCHITECTS ENGINEERS PLANNERS

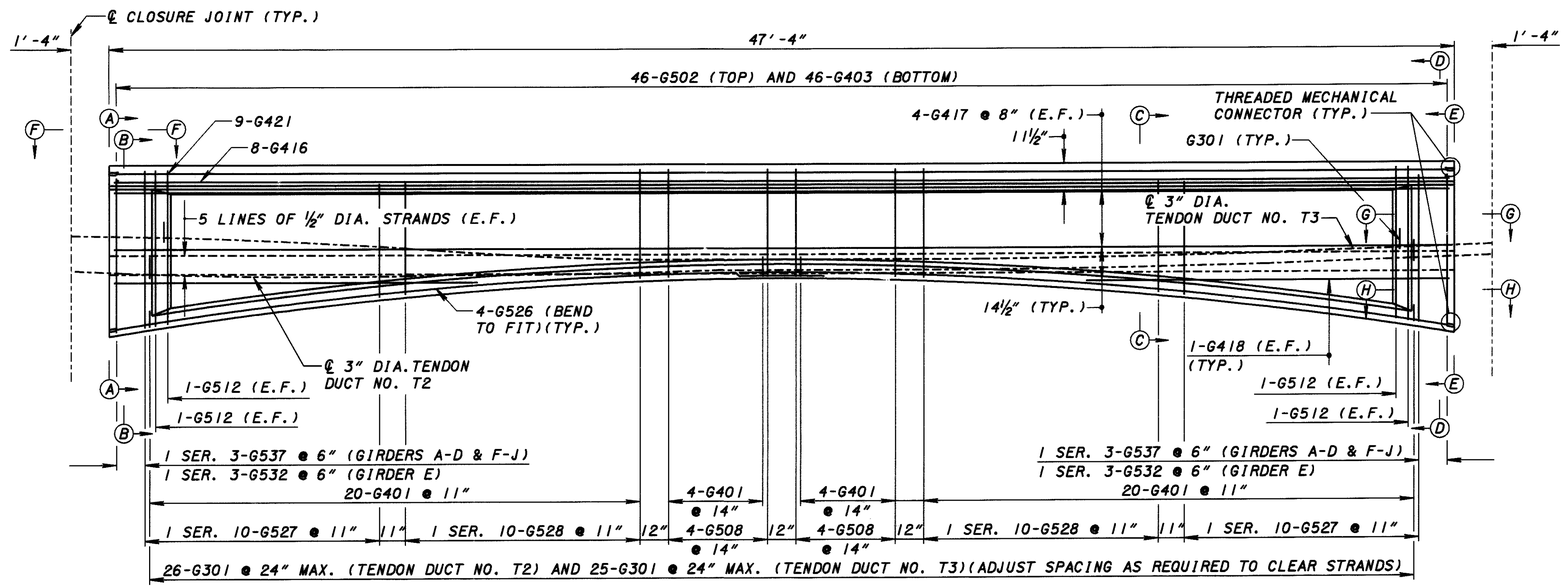
DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

PIER MODULE DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

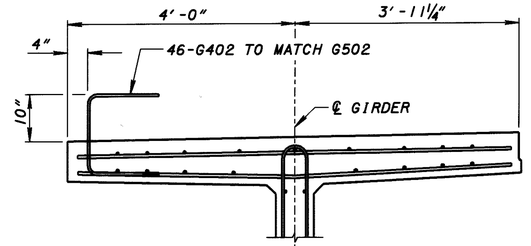
71/106

142/183



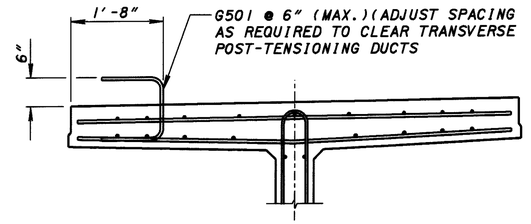
ELEVATION - MID SPAN MODULE

(MID SPAN MODULES 2 THRU 5 SHOWN, MID SPAN MODULE 6 SIMILAR)



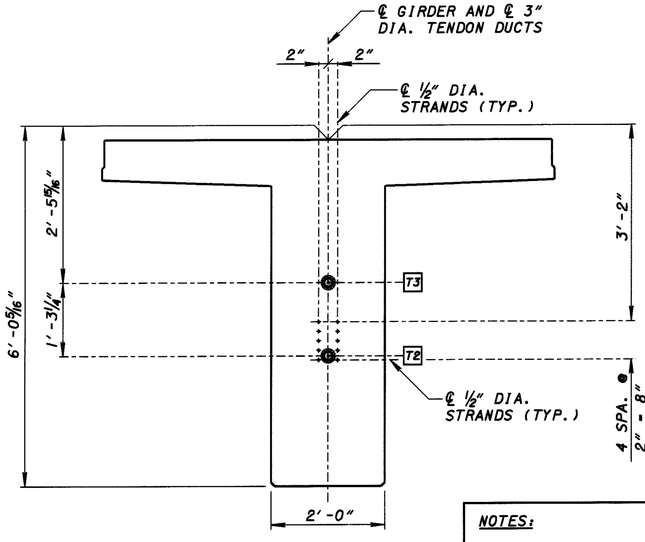
PART SECTION C-C (GIRDER A AND J)

(FASCIA GIRDER A SHOWN, FASCIA GIRDER J OPP. HAND)

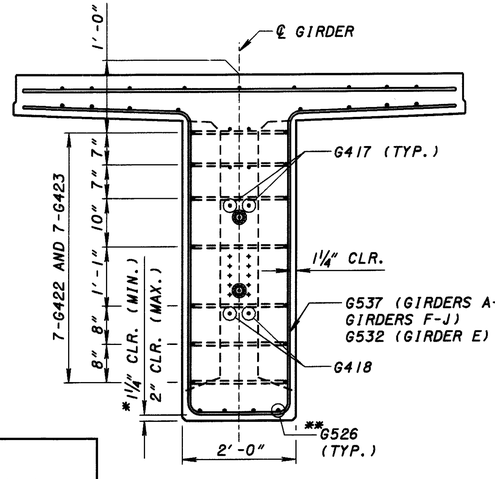


PART SECTION C-C (GIRDER B AND H)

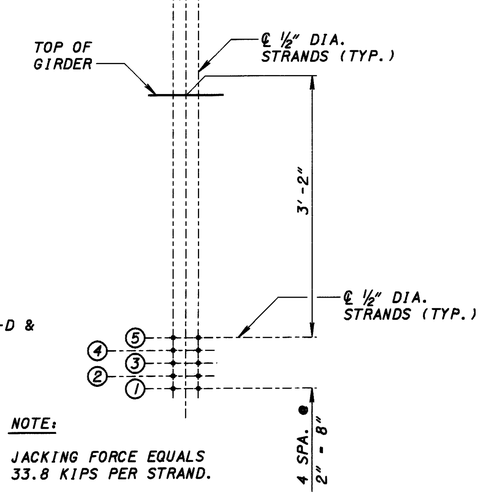
(INTERIOR GIRDER B SHOWN, INTERIOR GIRDER H OPP. HAND)



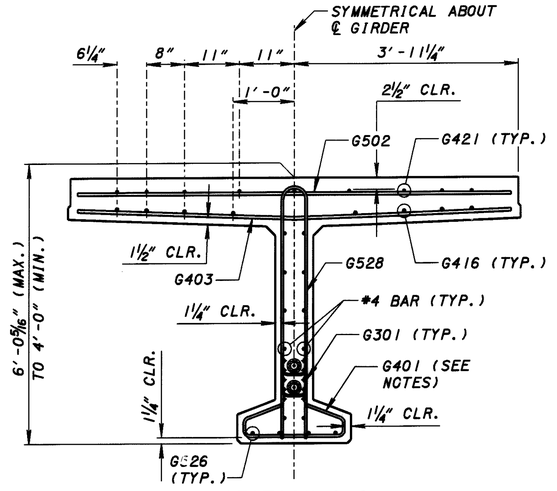
VIEW A-A



SECTION B-B



STRAND PATTERN DETAIL



SECTION C-C

(TYPICAL ALL GIRDERS EXCEPT AS SHOWN)

NOTES:

* 1¼" CLEAR ADJACENT TO G401 BAR AND 2" CLEAR ADJACENT TO GIRDER END.

** SPACE G526 BARS 5½" APART AT END OF GIRDER.

REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ. AND VERT.)	2'-0" MIN.
NO. 5 BARS (HORIZ. AND VERT.)	2'-6" MIN.

NOTE:

JACKING FORCE EQUALS 33.8 KIPS PER STRAND.

NOTES:

1. THE G401 BARS SHALL BE SHOP CUT AS REQUIRED TO CLEAR THE TENDON DUCTS AND PRESTRESSING STRANDS. ALL AREAS OF EXPOSED REINFORCING STEEL SHALL BE CLEANED AND SHALL HAVE THE EPOXY COATING REAPPLIED AND SHALL BE ADEQUATELY CURED PRIOR TO THE PLACING OF CONCRETE. THE COST FOR CUTTING AND REPAIRING THE G401 BARS SHALL BE INCLUDED WITH ITEM 530, FOR PAYMENT.
2. THREADED INSERTS FOR INTERMEDIATE DIAPHRAGMS AND UTILITY SUPPORTS ARE NOT SHOWN. FOR DETAILS, SEE SHEET 54 THRU 60 OF 106.
3. FOR SECTION D-D, VIEW E-E, VIEW F-F AND SECTIONS G-G AND H-H, SEE SHEET 73 OF 106.
4. FOR REINFORCING SCHEDULE, SEE SHEET 103 OF 106.
5. FOR ADDITIONAL NOTES, SEE SHEET 61 AND 67 OF 106.

DESIGN AGENCY: HNTB, 28 Stewart Place, Suite 300, Fairfield, New Jersey 07004, ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	CHECKED	REVISED	REVISED	DATE
JAO	JLV	JAO		RHM	01/16/04

STRUCTURE FILE NUMBER 3502384

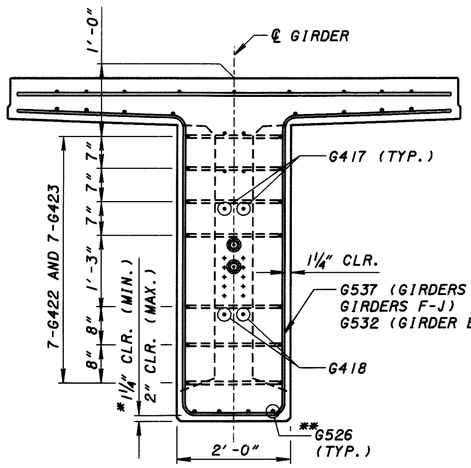
MID SPAN MODULE DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

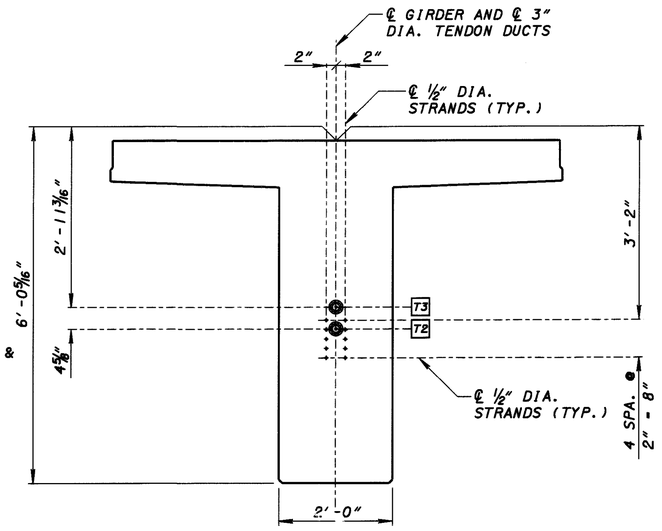
72/106

143/183

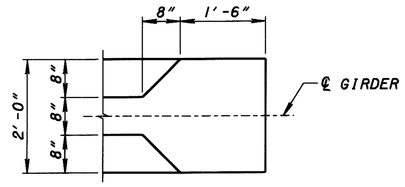
J:\JOBS\37022\TECHPROD\Bridge\Drawings\Final\dwg\HEI08SD4-GRD4.dgn 25-FEB-2004 8:48AM jvargo



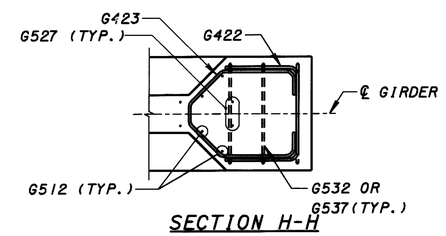
SECTION D-D
(MID SPAN MODULES 2 THRU 5)



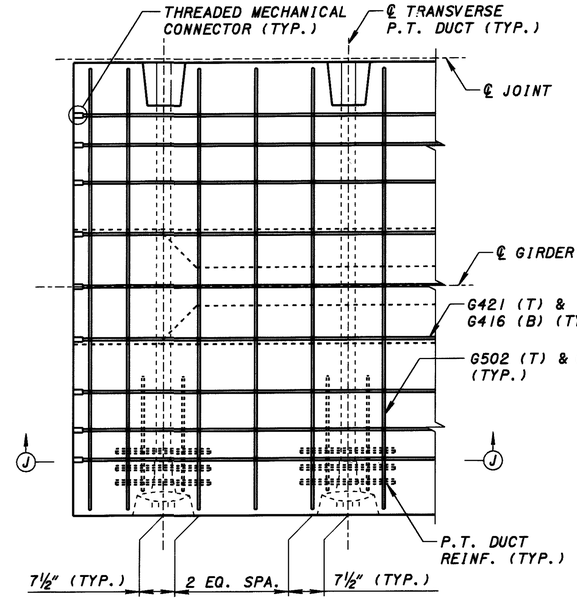
VIEW E-E
(MID SPAN MODULES 2 THRU 5)



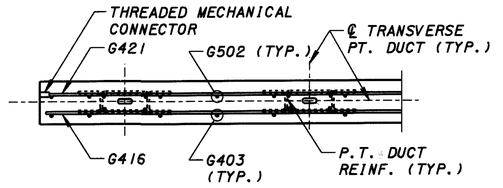
SECTION G-G



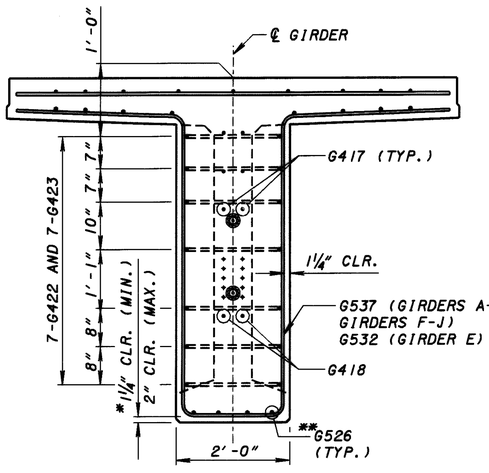
SECTION H-H



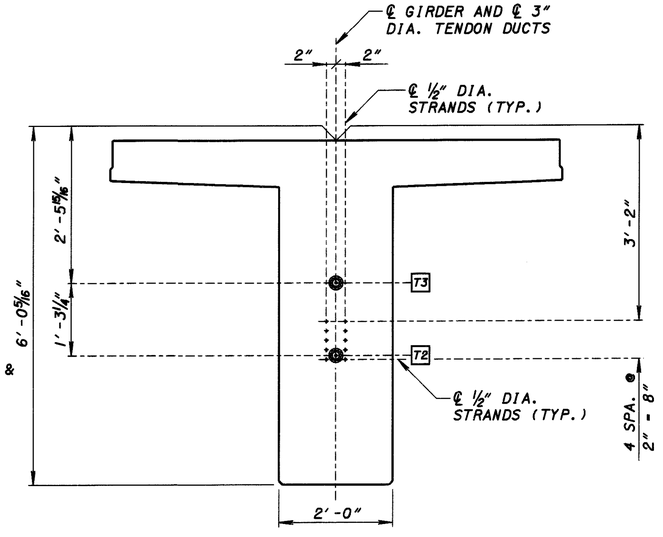
VIEW F-F



SECTION J-J



SECTION D-D
(MID SPAN MODULE 6)



VIEW E-E
(MID SPAN MODULE 6)

NOTES:

* 1¼" CLEAR ADJACENT TO G401 BAR AND 2" CLEAR ADJACENT TO GIRDER END.

** SPACE G526 BARS 5½" APART AT END OF GIRDER.

REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ. AND VERT.)	2'-0" MIN.
NO. 5 BARS (HORIZ. AND VERT.)	2'-6" MIN.

NOTES:

1. FOR LOCATION OF SECTION D-D, VIEW E-E, VIEW F-F, AND SECTION G-G AND H-H, SEE SHEET 72 OF 106.
2. FOR TRANSVERSE P.T. DUCT DETAILS, SEE SHEET 76 AND 77 OF 106.
3. FOR REINFORCING SCHEDULE, SEE SHEET 103 OF 106.
4. FOR ADDITIONAL NOTES, SEE SHEET 61 AND 72 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHN	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

MID SPAN MODULE DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

73/106

144/183

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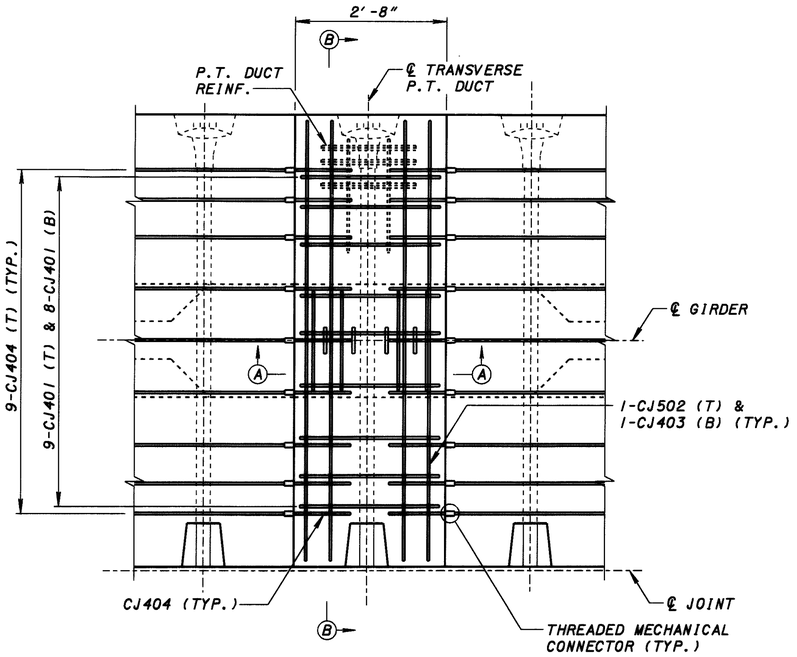
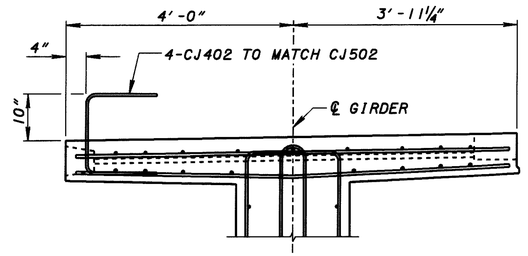
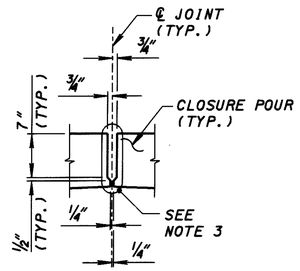


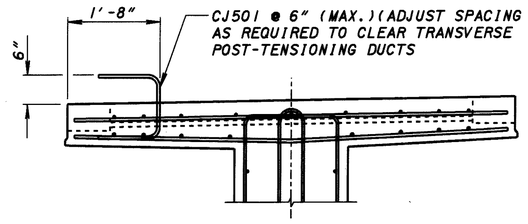
PART PLAN AT CLOSURE JOINT



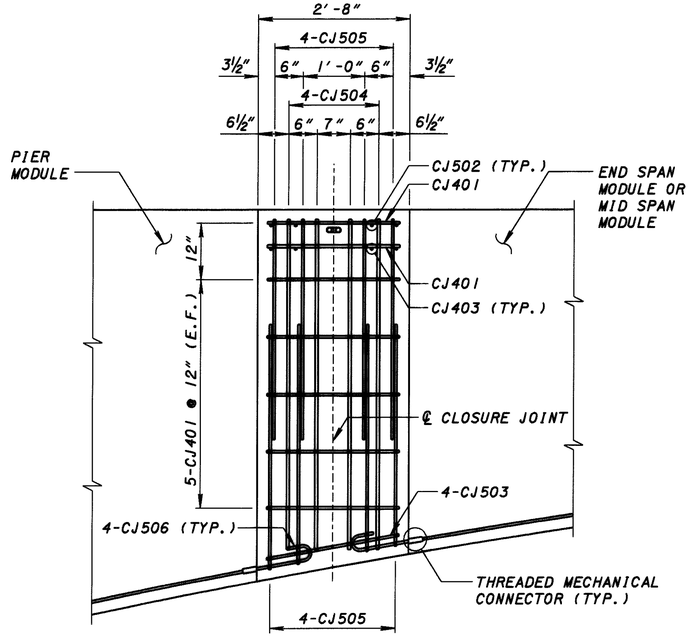
PART SECTION B-B
(GIRDER A AND J)
(FASCIA GIRDER A SHOWN, FASCIA GIRDER J OPP. HAND)



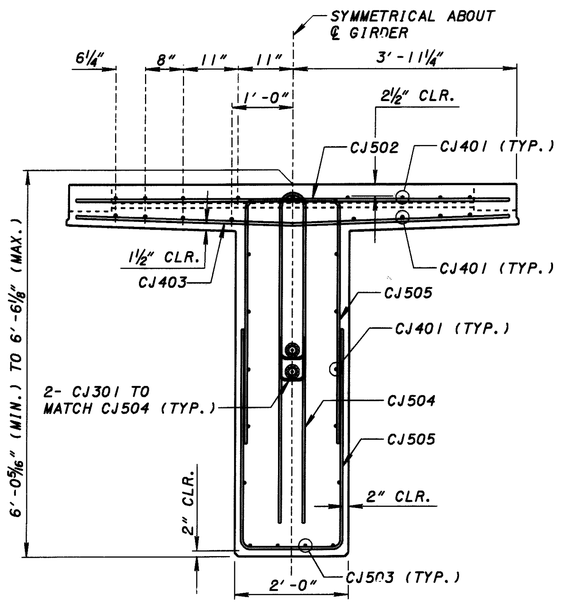
CLOSURE POUR JOINT DETAIL



PART SECTION B-B
(GIRDER B AND H)
(INTERIOR GIRDER B SHOWN, INTERIOR GIRDER H OPP. HAND)



SECTION A-A
(CJ404 BARS NOT SHOWN)



SECTION B-B
(TYPICAL ALL GIRDERS EXCEPT AS SHOWN)
(CJ404 AND CJ506 BARS NOT SHOWN)

REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ. AND VERT.)	2'-0" MIN.
NO. 5 BARS (HORIZ. AND VERT.)	2'-6" MIN.

NOTES:

1. THE LONGITUDINAL TENDONS SHALL NOT BE STRESSED UNTIL THE CLOSURE JOINT CONCRETE HAS REACHED A MINIMUM STRENGTH OF 5000 PSI.
2. THE CLOSURE JOINTS ARE PAID FOR UNDER ITEM 898. THE REINFORCING STEEL IN THE CLOSURE JOINTS ARE PAID FOR UNDER ITEM 509. THE TRANSVERSE P.T. DUCTS SHALL BE INCLUDED WITH ITEM 530 FOR PAYMENT.
3. PLACE TEMPORARY STYROFOAM FORM BETWEEN CLOSURE JOINT POURS. AFTER ADJACENT CLOSURE JOINT POURS HAVE SET, REMOVE THE STYROFOAM AND PLACE A STRIP OF OAKUM TO PREVENT GROUT FROM DROPPING THROUGH THE JOINT. ALL MATERIAL, LABOR AND INCIDENTALS REQUIRED FOR THE PLACEMENT OF STRYOFOAM AND OAKUM SHALL BE CONSIDERED INCIDENTAL TO ITEM 530.
4. FOR LOCATION OF CLOSURE JOINTS, SEE SHEET 54 OF 106.
5. FOR TRANSVERSE P.T. DUCT DETAILS AND NOTES, SEE SHEET 76 AND 77 OF 106.
6. FOR REINFORCING SCHEDULE, SEE SHEET 103 OF 106.
7. FOR ADDITIONAL NOTES, SEE SHEET 61 OF 106.

DESIGN AGENCY
HNTB 55 Erieview Plaza, Suite 800 Cleveland, Ohio 44114-1815
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JAO		3502384	

CLOSURE JOINT DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

74/106

(145/183)

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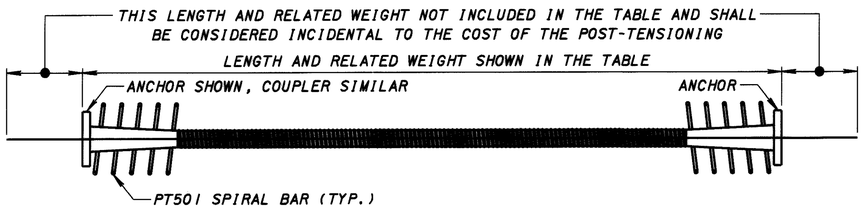
LONGITUDINAL POST-TENSIONING TENDON QUANTITIES

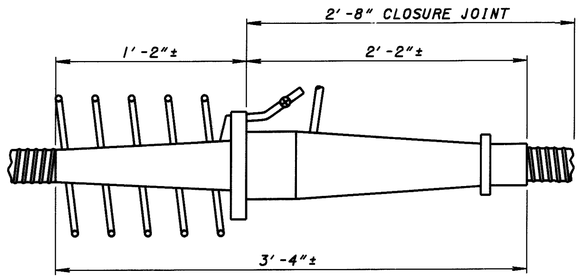
	MODULES	TENDON NUMBER	TENDON SIZE	TENDON LENGTH (FT)	TENDON WEIGHT (LBS)	NUMBER OF TENDONS	TOTAL WEIGHT (LBS)	JACKING FORCE (KIPS)
UNIT 1	END SPAN MODULE 1	T1	12 x 0.6"	77.67	690	9	6210	513
		(SEE NOTE A)						
	END SPAN MODULE 1 THRU PIER MODULE 2	T2	12 x 0.6"	231.75	2058	9	18,522	513
		T3	12 x 0.6"	231.76	2058	9	18,522	513
UNIT 2	MID SPAN MODULE 3 THRU PIER MODULE 3	T2	12 x 0.6"	102.04	906	9	8154	513
		T3	12 x 0.6"	102.02	906	9	8154	513
UNIT 3	MID SPAN MODULE 4 THRU PIER MODULE 4	T2	12 x 0.6"	102.04	906	9	8154	513
		T3	12 x 0.6"	102.02	906	9	8154	513
UNIT 4	MID SPAN MODULE 5 THRU PIER MODULE 5	T2	12 x 0.6"	102.04	906	9	8154	513
		T3	12 x 0.6"	102.02	906	9	8154	513
UNIT 5	MID SPAN MODULE 6 THRU END SPAN MODULE 7	T2	12 x 0.6"	182.38	1620	9	14,580	513
		T3	12 x 0.6"	182.41	1620	9	14,580	513
	END SPAN MODULE 7	T1	12 x 0.6"	77.67	690	9	6210	513
		(SEE NOTE A)						



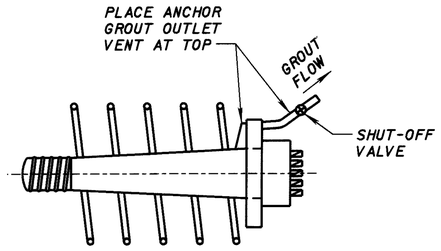
LONGITUDINAL POST - TENSIONING TENDON DETAIL

NOTES:

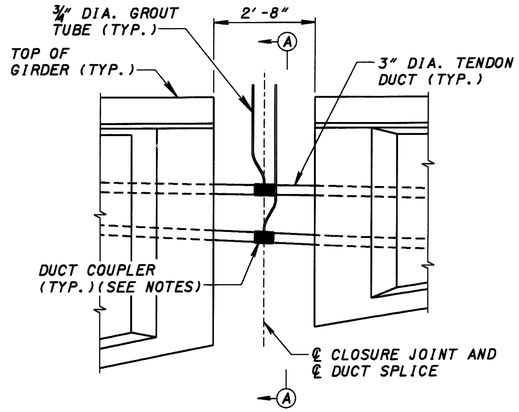
1. THE DUCT SIZE FOR THE 12 x 0.6" TENDONS HAS BEEN ASSUMED BY THE DESIGNER TO BE: 2.99" (INSIDE DIAMETER) AND 3.19" (OUTSIDE DIAMETER).
2. WEIGHTS TABULATED ABOVE ARE MEASURED FROM ANCHOR PLATE OR END OF COUPLER TO ANCHOR PLATE. ADDITIONAL STRAND BEYOND THE PLATES FOR JACKING AND THE WEIGHT OF ANY ANCHORAGE HARDWARE IS NOT INCLUDED.



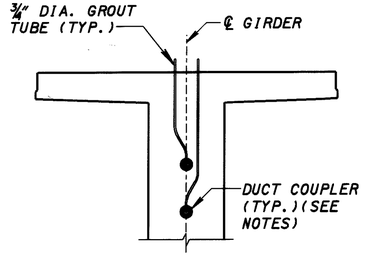
COUPLER AND ANCHOR DETAIL



ANCHOR DETAIL



GROUT TUBE DETAIL AT CLOSURE JOINT
(STRONG BACK CONNECTION NOT SHOWN)

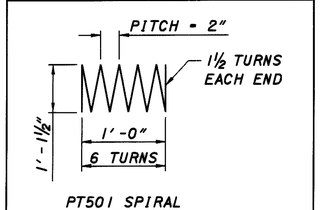


SECTION A-A
(STRONG BACK CONNECTION NOT SHOWN)

NOTE A:
TENDON T1 SHALL BE STRESSED IN CASTING FORM PRIOR TO LIFTING. TENDON T1 SHALL NOT BE STRESSED UNTIL THE GIRDER CONCRETE HAS REACHED A MINIMUM STRENGTH OF 6000 PSI. TENDON T1 SHALL BE GROUTED IN THE SHOP PRIOR TO SHIPPING.

NOTE B:
TENDONS T2 AND T3 SHALL NOT BE STRESSED UNTIL THE CLOSURE JOINT CONCRETE HAS REACHED A MINIMUM STRENGTH OF 5000 PSI.

BAR BENDING DIAGRAM
(ALL DIMENSIONS ARE OUT TO OUT)



PT501 SPIRAL
(NO. 5 BAR)

BAR SCHEDULE		
MARK	NUMBER REQ'D	LENGTH (EACH)
PT501	144	30'-4"

REINFORCING STEEL NOTES:

1. BAR DIMENSIONS MAY CHANGE FOR MANUFACTURER'S RECOMMENDED REINFORCEMENT REQUIREMENTS.
2. ALL BAR BENDS SHALL BE IN ACCORDANCE WITH A.C.I. STANDARDS.
3. THE PT501 SPIRAL BARS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF POST - TENSIONING.

NOTES:

1. THE 3" DIA.TENDON DUCTS SHALL BE MADE WATERTIGHT IMMEDIATELY AFTER TENDON IS INSTALLED.
2. THE DUCT SPLICES SHALL BE WRAPPED WITH DUCT TAPE TO MAINTAIN A GROUT TIGHT CONDITION
3. THE PLACEMENT OF THE DUCT COUPLERS SHALL BE AS PER THE MANUFACTURER'S SPECIFICATIONS.
4. FOR ADDITIONAL NOTES, SEE SHEET 61 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED JAO | DRAWN BBB/JLV | CHECKED JAO | REVISED | REVISED RHW | DATE 01/16/04
STRUCTURE FILE NUMBER 3502384

P.T. QUANTITY & STRESSING SCHEDULE AND DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

75/106

146/183

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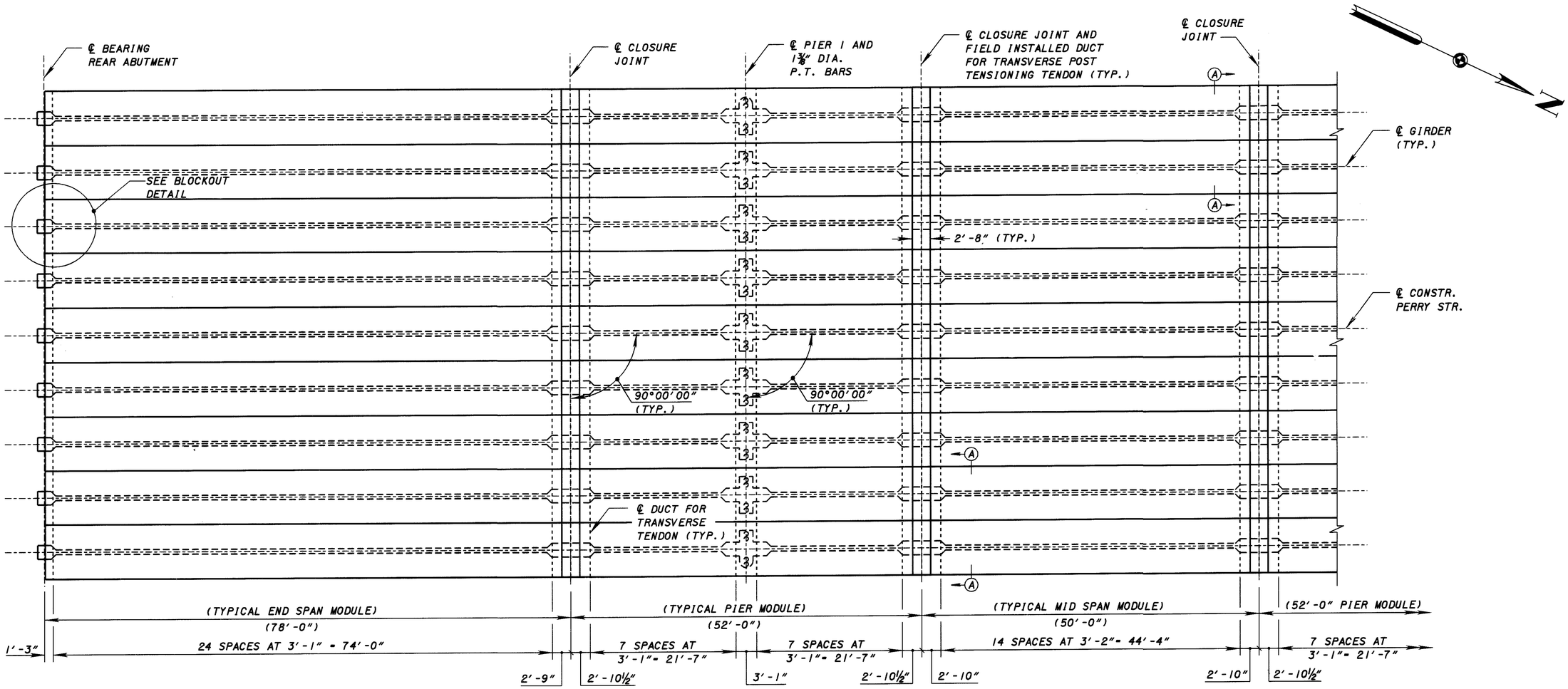
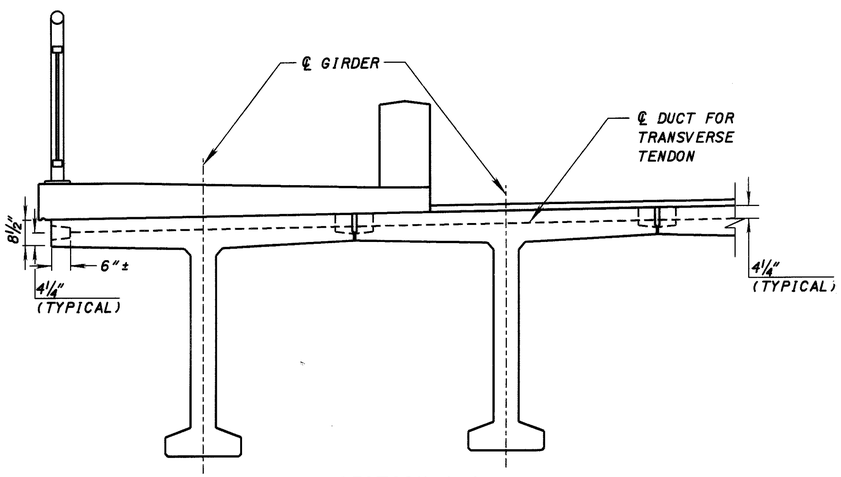
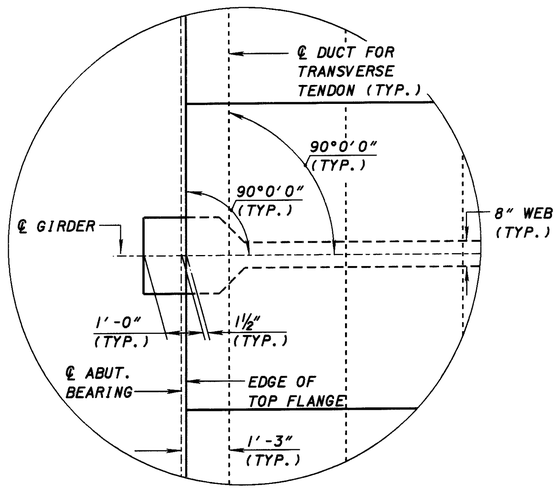


PART PLAN - TYPICAL TRANSVERSE POST-TENSIONING TENDONS



SECTION A-A



BLOCKOUT DETAIL
(END DIAPHRAGM NOT SHOWN)

NOTES:

1. FOR ADDITIONAL GIRDER DETAILS SEE SHEETS 61 THRU 75 OF 106.

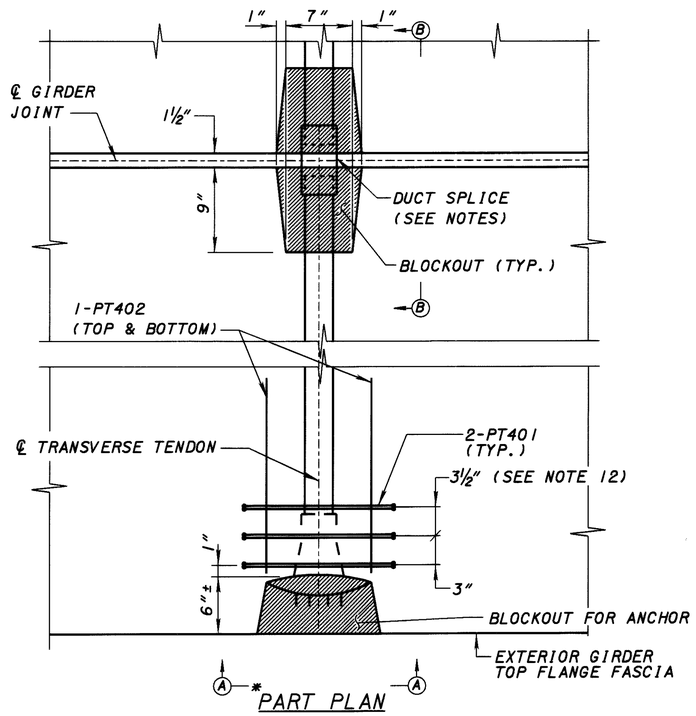
2. FOR ADDITIONAL TRANSVERSE TENDON DETAILS, SEE SHEET 77 OF 106.

DESIGN AGENCY
HNTB 55 Public Square, Suite 800 Cleveland, Ohio 44113-1906
ARCHITECTS/ENGINEERS/PLANNERS

DESIGNED	DRAWN	REVISED	DATE
AMC	BBB	RAW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

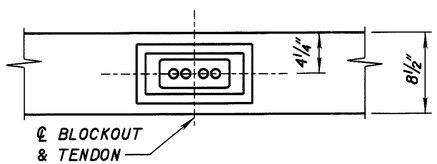
TRANSVERSE POST-TENSIONING DETAILS
BRIDGE NO. HEN-108-15.55
OVER THE MAUMEE RIVER

HEN-108-15.55

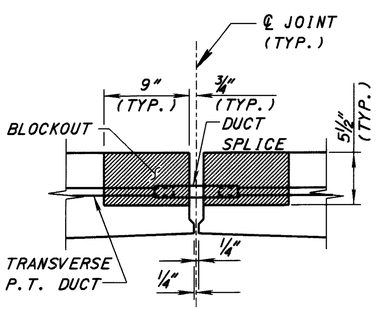


PART PLAN

*** NOTE:**
TRANSVERSE TENDON DETAIL FOR GIRDERS SHOWN. TRANSVERSE TENDON DETAIL FOR CLOSURE JOINTS SIMILAR.



VIEW A-A



SECTION B-B

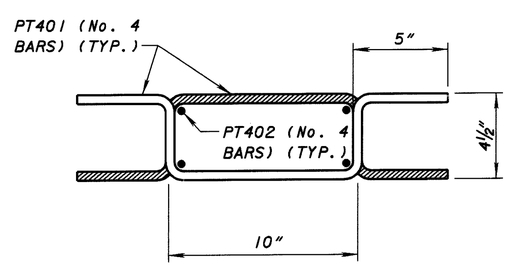
BAR SCHEDULE		
MARK	NUMBER REQ'D	LENGTH (EACH)
PT401	2796	2'-1"
PT402	1864	2'-0"

REINFORCING STEEL NOTES:

1. BAR DIMENSIONS MAY CHANGE FOR MANUFACTURER'S RECOMMENDED REINFORCEMENT REQUIREMENTS.

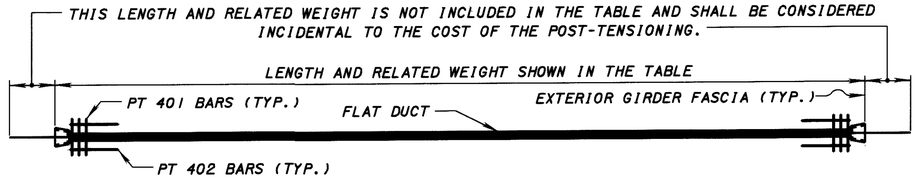
2. ALL BAR BENDS SHALL BE IN ACCORDANCE WITH A.C.I. STANDARDS.

3. THE PT401 AND PT402 BARS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF POST-TENSIONING.



PT401 AND PT402 BAR BENDING DIAGRAM

TRANSVERSE POST TENSIONING TENDON QUANTITIES						
MODULES AND CLOSURE JOINTS	TENDON SIZE	TENDON LENGTH (FT)	TENDON WEIGHT (LBS)	NUMBER OF TENDON	TOTAL WEIGHT (LBS)	JACKING FORCE (KIPS)
END SPAN MODULES	4 x 0.6"	72.00	213	50	10,650	180
PIER MODULES	4 x 0.6"	72.00	213	96	20,448	180
MID SPAN MODULES	4 x 0.6"	72.00	213	75	15,975	180
CLOSURE JOINTS	4 x 0.6"	72.00	213	12	2,556	180



TRANSVERSE POST-TENSIONING TENDON DETAIL

NOTES:

1. THE FLAT DUCTS FOR THE 4 x 0.6" TENDONS HAVE BEEN ASSUMED TO HAVE A NOMINAL WIDTH OF 3" AND A NOMINAL THICKNESS OF ⅞".

2. WEIGHTS TABULATED ABOVE ARE MEASURED FROM EXTERIOR GIRDER "A" TOP FLANGE FASCIA TO EXTERIOR GIRDER "J" TOP FLANGE FASCIA. ADDITIONAL STRAND FOR JACKING AND THE WEIGHT OF ANY ANCHORAGE HARDWARE IS NOT INCLUDED.

TRANSVERSE TENDON STRESSING NOTES:

1. ALL TRANSVERSE TENDONS ARE ASSUMED TO BE SINGLE END STRESSED. THE CONTRACTOR SHALL FURNISH THE DEAD END OF THE TENDONS WITH THE SAME ANCHORAGE TYPE AS THE LIVE END TO HAVE THE CAPABILITY TO STRESS TENDONS FROM BOTH ENDS IF ACTUAL FRICTION LOSSES ARE GREATER THAN THEORETICAL LOSSES.

2. IF ACTUAL FRICTION LOSSES ARE WITHIN ACCEPTABLE TOLERANCES OF THEORETICAL LOSSES, THE SINGLE END STRESSING OF THE TRANSVERSE TENDONS SHALL BE ALTERNATED FROM SIDE TO SIDE.

3. THE TRANSVERSE DUCTS SHALL BE KEPT COMPLETELY SEALED FROM INFILTRATION OF GROUT AND CONCRETE FROM OTHER CONSTRUCTION STAGES.

4. THE DUCT SPLICES SHALL BE WRAPPED WITH DUCT TAPE TO PROVIDE A GROUT TIGHT CONNECTION.

5. THE PLACEMENT OF THE DUCT COUPLERS SHALL BE AS PER THE MANUFACTURER'S SPECIFICATIONS. IT IS SUGGESTED THAT THE FINAL DUCT COUPLER CONNECTION BE MADE AFTER THE TENDON IS INSTALLED.

6. THE DUCT SPLICES SHALL BE MADE WATERTIGHT IMMEDIATELY AFTER THE TENDON IS INSTALLED.

7. TRANSVERSE POST-TENSIONING OPERATIONS SHALL NOT BEGIN IN A PARTICULAR SPAN UNTIL ERECTION HAS PROCEEDED AT LEAST TWO SPANS BEYOND THAT SPAN AND AS INDICATED IN NOTE 8.

8. THE TRANSVERSE TENDONS SHALL NOT BE STRESSED UNTIL THE GROUT IN THE LONGITUDINAL JOINTS HAS ATTAINED A MINIMUM STRENGTH OF 3000 PSI.

9. THE ANCHORAGE COMPONENTS SHALL BE COATED WITH AN ANTI-CORROSION PROTECTION COATING AS SET FORTH IN THE SPECIFICATIONS.

10. EXPOSED CONCRETE SURFACES OF THE RECESSES AND BLOCK-OUTS SHALL BE TREATED WITH AN APPROVED BONDING AGENT IMMEDIATELY PRIOR TO FILLING RECESSES AND BLOCKOUTS. THE RECESSES AND BLOCK-OUTS SHALL BE FILLED WITH A NON-SHRINK GROUT SUCH AS A 5-STAR OR EQUIVALENT AND SHALL BE FINISHED TO NEAT LINES OF THE STRUCTURAL ELEMENTS. SEE SPECIAL PROVISIONS.

11. THE GROUTING OF THE FLAT DUCTS SHALL NOT BE DONE UNTIL AFTER THE RECESS AND BLOCKOUT PACKED GROUT HAS ATTAINED A MINIMUM STRENGTH OF 3000 PSI.

12. A MINIMUM OF 1 INCH CLEAR SHALL BE MAINTAINED BETWEEN THE PT401 BARS AND NORMAL LONGITUDINAL GIRDER REINFORCING BARS.

DESIGN AGENCY
HNTB 8 Broadway Plaza, Suite 200 Cincinnati, Ohio 45202-5310
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	CHECKED	REVISED
AMC	BBB	JLV	

REVIEWED	DATE
RHW	01/16/04

STRUCTURE FILE NUMBER 3502384

TRANSVERSE POST-TENSIONING DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

77/106

148/183

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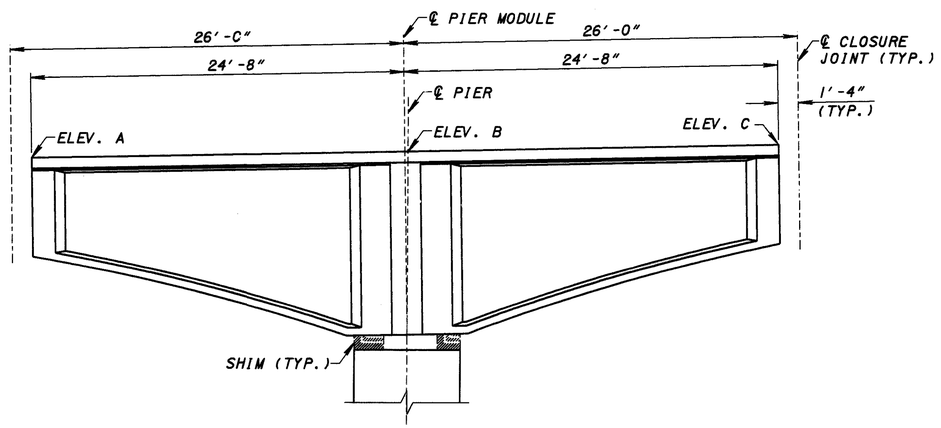
INITIAL TOP OF PIER MODULE ELEVATIONS ALONG ℄ GIRDER

		℄ GIRDER A		℄ GIRDER B		℄ GIRDER C		℄ GIRDER D		℄ GIRDER E		℄ GIRDER F		℄ GIRDER G		℄ GIRDER H		℄ GIRDER J		
	LOCATION	STATION	INITIAL ELEV.	STATION	INITIAL ELEV.	STATION	INITIAL ELEV.	STATION	INITIAL ELEV.	STATION	INITIAL ELEV.	STATION	INITIAL ELEV.	STATION	INITIAL ELEV.	STATION	INITIAL ELEV.	STATION	INITIAL ELEV.	LOCATION
PIER 1	ELEV A	824+91.15	666.37	824+91.15	666.50	824+91.15	666.62	824+91.15	666.75	824+91.15	666.87	824+91.15	666.75	824+91.15	666.62	824+91.15	666.50	824+91.15	666.37	ELEV A
	ELEV B	825+15.82	666.80	825+15.82	666.93	825+15.82	667.05	825+15.82	667.18	825+15.82	667.30	825+15.82	667.18	825+15.82	667.05	825+15.82	666.93	825+15.82	666.80	ELEV B
	ELEV C	825+40.49	667.22	825+40.49	667.34	825+40.49	667.47	825+40.49	667.59	825+40.49	667.72	825+40.49	667.59	825+40.49	667.47	825+40.49	667.34	825+40.49	667.22	ELEV C
PIER 2	ELEV A	825+93.15	668.27	825+93.15	668.40	825+93.15	668.52	825+93.15	668.65	825+93.15	668.77	825+93.15	668.65	825+93.15	668.52	825+93.15	668.40	825+93.15	668.27	ELEV A
	ELEV B	826+17.82	668.64	826+17.82	668.76	826+17.82	668.89	826+17.82	669.01	826+17.82	669.14	826+17.82	669.01	826+17.82	668.89	826+17.82	668.76	826+17.82	668.64	ELEV B
	ELEV C	826+42.49	668.95	826+42.49	669.07	826+42.49	669.20	826+42.49	669.32	826+42.49	669.45	826+42.49	669.32	826+42.49	669.20	826+42.49	669.07	826+42.49	668.95	ELEV C
PIER 3	ELEV A	826+95.15	669.58	826+95.15	669.70	826+95.15	669.83	826+95.15	669.95	826+95.15	670.08	826+95.15	669.95	826+95.15	669.83	826+95.15	669.70	826+95.15	669.58	ELEV A
	ELEV B	827+19.82	669.60	827+19.82	669.73	827+19.82	669.85	827+19.82	669.98	827+19.82	670.10	827+19.82	669.98	827+19.82	669.85	827+19.82	669.73	827+19.82	669.60	ELEV B
	ELEV C	827+44.49	669.52	827+44.49	669.64	827+44.49	669.77	827+44.49	669.89	827+44.49	670.02	827+44.49	669.89	827+44.49	669.77	827+44.49	669.6:	827+44.49	669.52	ELEV C
PIER 4	ELEV A	827+97.15	669.18	827+97.15	669.31	827+97.15	669.43	827+97.15	669.56	827+97.15	669.68	827+97.15	669.56	827+97.15	669.43	827+97.15	669.31	827+97.15	669.18	ELEV A
	ELEV B	828+21.82	668.78	828+21.82	668.90	828+21.82	669.03	828+21.82	669.15	828+21.82	669.28	828+21.82	669.15	828+21.82	669.03	828+21.82	668.90	828+21.82	668.78	ELEV B
	ELEV C	828+46.49	668.32	828+46.49	668.44	828+46.49	668.57	828+46.49	668.69	828+46.49	668.82	828+46.49	668.69	828+46.49	668.57	828+46.49	668.44	828+46.49	668.32	ELEV C
PIER 5	ELEV A	828+99.15	667.54	828+99.15	667.66	828+99.15	667.79	828+99.15	667.91	828+99.15	668.04	828+99.15	667.91	828+99.15	667.79	828+99.15	667.66	828+99.15	667.54	ELEV A
	ELEV B	829+23.82	667.10	829+23.82	667.22	829+23.82	667.35	829+23.82	667.47	829+23.82	667.60	829+23.82	667.47	829+23.82	667.35	829+23.82	667.22	829+23.82	667.10	ELEV B
	ELEV C	829+48.49	666.66	829+48.49	666.78	829+48.49	666.91	829+48.49	667.03	829+48.49	667.16	829+48.49	667.03	829+48.49	666.91	829+48.49	666.78	829+48.49	666.66	ELEV C
PIER 6	ELEV A	830+01.15	665.82	830+01.15	665.94	830+01.15	666.07	830+01.15	666.19	830+01.15	666.32	830+01.15	666.19	830+01.15	666.07	830+01.15	665.94	830+01.15	665.82	ELEV A
	ELEV B	830+25.82	665.42	830+25.82	665.55	830+25.82	665.67	830+25.82	665.80	830+25.82	665.92	830+25.82	665.80	830+25.82	665.67	830+25.82	665.55	830+25.82	665.42	ELEV B
	ELEV C	830+50.49	665.05	830+50.49	665.17	830+50.49	665.30	830+50.49	665.42	830+50.49	665.55	830+50.49	665.42	830+50.49	665.30	830+50.49	665.17	830+50.49	665.05	ELEV C



PIER MODULES 1 THRU 6

NOTES:

1. FOR THEORETICAL OVERLAY THICKNESS DIAGRAM, SEE SHEET 79 OF 106.
2. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - WEST HALF OF BRIDGE, SEE SHEET 85 OF 106.
3. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - EAST HALF OF BRIDGE, SEE SHEET 86 OF 106.
4. THESE SETTING ELEVATIONS WERE CALCULATED BASED ON THE FOLLOWING ASSUMPTIONS:
   - ELASTIC SHORTENING OCCURS IN THE PIER DRILLED SHAFTS
   - ROTATION OF THE PIERS IS ACCOUNTED FOR
   - PIER MODULE SETTING ELEVATIONS CONTROL LOCATION OF MIDSPAN SETTING ELEVATIONS
   - SETTING ELEVATIONS WERE SET IN ORDER TO MINIMIZE TOPPING THICKNESSES AND TO ALIGN THE FINAL PIER MODULE ELEVATIONS WITH THE PROFILE GRADE.
   - ELEVATION B IS AT THE INTERSECTION OF THE ℄ PIER AND THE TOP OF PIER MODULE AND IS PROVIDED FOR CHECKING THE PLACEMENT OF THE PIER MODULE.
5. THESE SETTING ELEVATIONS HAVE BEEN INCREASED BY 1/8″ TO ACCOUNT FOR THE PRESENCE OF STEEL SHIMS AS DISCUSSED IN THE CONSTRUCTION SEQUENCE DETAILS, SHEET 53 OF 106.

DESIGN AGENCY
HNTB Corporation, Ohio Office, One Cascade Plaza, Akron, Ohio 44308
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVISED	DATE
JDM	JDM/JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3502384	

INITIAL TOP OF PIER MODULE ELEVATIONS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

78/106

149/183

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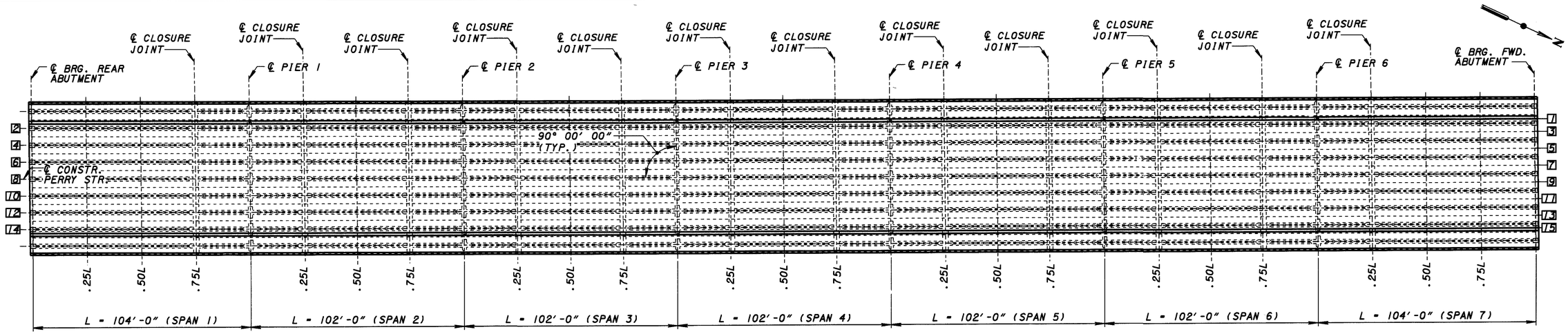
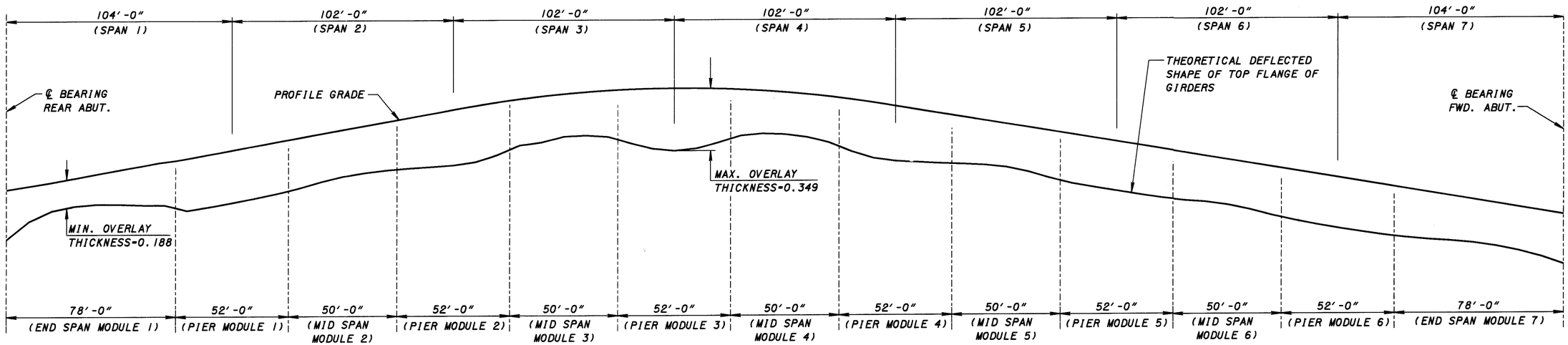


FINAL TOP OF PAVEMENT LINES LAYOUT



CONCRETE OVERLAY DETAILS

NOTES:

1. FOR FINAL PAVEMENT ELEVATIONS OF WEST HALF OF BRIDGE, SEE SHEET 83 OF 106.
2. FOR FINAL PAVEMENT ELEVATIONS OF EAST HALF OF BRIDGE, SEE SHEET 84 OF 106.
3. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS, SEE SHEETS 85 AND 86 OF 106.
4. FOR TOPPING THICKNESSES ON SOUTH HALF OF BRIDGE, SEE SHEET 80 OF 106.
5. FOR TOPPING THICKNESSES ON NORTH HALF OF BRIDGE, SEE SHEET 81 OF 106.

DESIGN AGENCY
HNTB 8 Triskett Place, Suite 300 Columbus, Ohio 43016-3830
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVISED	DATE
JOL	JLV/JDM	RHW	01/16/04

CHECKED	REVISED	STRUCTURE FILE NUMBER
BBB		3502384

PAVEMENT ELEVATION DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

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MSC CONCRETE OVERLAY THEORECTICAL THICKNESS TABLE - SOUTH HALF OF BRIDGE

	LOCATION	STATION	LINE 1 (WEST GUTTER) DEPTH (FEET)	LINE 2 (℄ GIR. B) DEPTH (FEET)	LINE 3 (FLANGE EDGE) DEPTH (FEET)	LINE 4 (℄ GIR. C) DEPTH (FEET)	LINE 5 (FLANGE EDGE) DEPTH (FEET)	LINE 6 (℄ GIR. D) DEPTH (FEET)	LINE 7 (FLANGE EDGE) DEPTH (FEET)	LINE 8 (℄ GIR. E) DEPTH (FEET)	LINE 9 (FLANGE EDGE) DEPTH (FEET)	LINE 10 (℄ GIR. F) DEPTH (FEET)	LINE 11 (FLANGE EDGE) DEPTH (FEET)	LINE 12 (℄ GIR. G) DEPTH (FEET)	LINE 13 (FLANGE EDGE) DEPTH (FEET)	LINE 14 (℄ GIR. H) DEPTH (FEET)	LINE 15 (EAST GUTTER) DEPTH (FEET)
SPAN NO.1	0.00 L	824+11.82	.225	.225	.225	.225	.225	.225	.225	.288	.225	.225	.225	.225	.225	.225	.225
	0.10 L	824+22.22	.160	.160	.160	.160	.160	.160	.160	.222	.160	.160	.160	.160	.160	.160	.160
	0.20 L	824+32.62	.130	.130	.130	.130	.130	.130	.130	.192	.130	.130	.130	.130	.130	.130	.130
	0.25 L	824+37.82	.125	.125	.125	.125	.125	.125	.125	.188	.125	.125	.125	.125	.125	.125	.125
	0.30 L	824+43.02	.128	.128	.128	.128	.128	.128	.128	.191	.128	.128	.128	.128	.128	.128	.128
	0.40 L	824+53.42	.138	.138	.138	.138	.138	.138	.138	.201	.138	.138	.138	.138	.138	.138	.138
	0.50 L	824+63.82	.157	.157	.157	.157	.157	.157	.157	.219	.157	.157	.157	.157	.157	.157	.157
	0.60 L	824+74.22	.179	.179	.179	.179	.179	.179	.179	.241	.179	.179	.179	.179	.179	.179	.179
	0.70 L	824+84.62	.197	.197	.197	.197	.197	.197	.197	.260	.197	.197	.197	.197	.197	.197	.197
	0.75 L	824+89.82	.225	.225	.225	.225	.225	.225	.225	.288	.225	.225	.225	.225	.225	.225	.225
	0.80 L	824+95.02	.238	.238	.238	.238	.238	.238	.238	.300	.238	.238	.238	.238	.238	.238	.238
	0.90 L	825+05.42	.240	.240	.240	.240	.240	.240	.240	.303	.240	.240	.240	.240	.240	.240	.240
SPAN NO.2	0.00 L	825+15.82	.241	.241	.241	.241	.241	.241	.241	.304	.241	.241	.241	.241	.241	.241	.241
	0.10 L	825+26.02	.240	.240	.240	.240	.240	.240	.240	.303	.240	.240	.240	.240	.240	.240	.240
	0.20 L	825+36.22	.237	.237	.237	.237	.237	.237	.237	.300	.237	.237	.237	.237	.237	.237	.237
	0.25 L	825+41.32	.231	.231	.231	.231	.231	.231	.231	.293	.231	.231	.231	.231	.231	.231	.231
	0.30 L	825+46.42	.221	.221	.221	.221	.221	.221	.221	.284	.221	.221	.221	.221	.221	.221	.221
	0.40 L	825+56.62	.213	.213	.213	.213	.213	.213	.213	.276	.213	.213	.213	.213	.213	.213	.213
	0.50 L	825+66.82	.210	.210	.210	.210	.210	.210	.210	.272	.210	.210	.210	.210	.210	.210	.210
	0.60 L	825+77.02	.213	.213	.213	.213	.213	.213	.213	.275	.213	.213	.213	.213	.213	.213	.213
	0.70 L	825+87.22	.221	.221	.221	.221	.221	.221	.221	.283	.221	.221	.221	.221	.221	.221	.221
	0.75 L	825+92.32	.227	.227	.227	.227	.227	.227	.227	.289	.227	.227	.227	.227	.227	.227	.227
	0.80 L	825+97.42	.232	.232	.232	.232	.232	.232	.232	.294	.232	.232	.232	.232	.232	.232	.232
	0.90 L	826+07.62	.244	.244	.244	.244	.244	.244	.244	.306	.244	.244	.244	.244	.244	.244	.244
SPAN NO.3	0.00 L	826+17.82	.255	.255	.255	.255	.255	.255	.255	.318	.255	.255	.255	.255	.255	.255	.255
	0.10 L	826+28.02	.258	.258	.258	.258	.258	.258	.258	.320	.258	.258	.258	.258	.258	.258	.258
	0.20 L	826+38.22	.241	.241	.241	.241	.241	.241	.241	.303	.241	.241	.241	.241	.241	.241	.241
	0.25 L	826+43.32	.229	.229	.229	.229	.229	.229	.229	.291	.229	.229	.229	.229	.229	.229	.229
	0.30 L	826+48.42	.213	.213	.213	.213	.213	.213	.213	.275	.213	.213	.213	.213	.213	.213	.213
	0.40 L	826+58.62	.199	.199	.199	.199	.199	.199	.199	.262	.199	.199	.199	.199	.199	.199	.199
	0.50 L	826+68.82	.196	.196	.196	.196	.196	.196	.196	.258	.196	.196	.196	.196	.196	.196	.196
	0.60 L	826+79.02	.200	.200	.200	.200	.200	.200	.200	.262	.200	.200	.200	.200	.200	.200	.200
	0.70 L	826+89.22	.213	.213	.213	.213	.213	.213	.213	.276	.213	.213	.213	.213	.213	.213	.213
	0.75 L	826+94.32	.230	.230	.230	.230	.230	.230	.230	.292	.230	.230	.230	.230	.230	.230	.230
	0.80 L	826+99.42	.247	.247	.247	.247	.247	.247	.247	.309	.247	.247	.247	.247	.247	.247	.247
	0.90 L	827+09.62	.276	.276	.276	.276	.276	.276	.276	.338	.276	.276	.276	.276	.276	.276	.276
SPAN NO.4	0.00 L	827+19.82	.287	.287	.287	.287	.287	.287	.287	.349	.287	.287	.287	.287	.287	.287	.287
	0.10 L	827+30.02	.276	.276	.276	.276	.276	.276	.276	.338	.276	.276	.276	.276	.276	.276	.276
	0.20 L	827+40.22	.247	.247	.247	.247	.247	.247	.247	.309	.247	.247	.247	.247	.247	.247	.247
	0.25 L	827+45.32	.230	.230	.230	.230	.230	.230	.230	.292	.230	.230	.230	.230	.230	.230	.230
	0.30 L	827+50.42	.213	.213	.213	.213	.213	.213	.213	.275	.213	.213	.213	.213	.213	.213	.213
	0.40 L	827+60.62	.198	.198	.198	.198	.198	.198	.198	.261	.198	.198	.198	.198	.198	.198	.198
	0.50 L	827+70.82	.194	.194	.194	.194	.194	.194	.194	.257	.194	.194	.194	.194	.194	.194	.194

NOTES:

1. FOR PAVEMENT ELEVATION DETAILS, SEE SHEET 79 OF 106.
2. FOR FINAL PAVEMENT ELEVATIONS AT QUARTER POINTS - WEST HALF OF BRIDGE, SEE SHEET 83 OF 106.
3. FOR FINAL PAVEMENT ELEVATIONS AT QUARTER POINTS - EAST HALF OF BRIDGE, SEE SHEET 84 OF 106.
4. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - WEST HALF OF BRIDGE, SEE SHEET 85 OF 106.
5. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - EAST HALF OF BRIDGE, SEE SHEET 86 OF 106.
6. FOR MSC CONCRETE OVERLAY THEORETICAL THICKNESS TABLE - NORTH HALF OF BRIDGE, SEE SHEET 81 OF 106.

DESIGN AGENCY
HNTB 8 Brooks Place, Suite 600 Concord, New Hampshire 03301
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JDM	JDM	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3502384	

CONCRETE OVERLAY DEPTHS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

MSC CONCRETE OVERLAY THEORETICAL THICKNESS TABLE - NORTH HALF OF BRIDGE

			LINE 1 (WEST GUTTER)	LINE 2 (℄ GIR. B)	LINE 3 (FLANGE EDGE)	LINE 4 (℄ GIR. C)	LINE 5 (FLANGE EDGE)	LINE 6 (℄ GIR. D)	LINE 7 (FLANGE EDGE)	LINE 8 (℄ GIR. E)	LINE 9 (FLANGE EDGE)	LINE 10 (℄ GIR. F)	LINE 11 (FLANGE EDGE)	LINE 12 (℄ GIR. G)	LINE 13 (FLANGE EDGE)	LINE 14 (℄ GIR. H)	LINE 15 (EAST GUTTER)
	LOCATION	STATION	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)	DEPTH (FEET)
SPAN NO.4	0.60 L	827+81.02	.198	.198	.198	.198	.198	.198	.198	.261	.198	.198	.198	.198	.198	.198	.198
	0.70 L	827+91.22	.212	.212	.212	.212	.212	.212	.212	.275	.212	.212	.212	.212	.212	.212	.212
	0.75 L	827+96.32	.229	.229	.229	.229	.229	.229	.229	.291	.229	.229	.229	.229	.229	.229	.229
	0.80 L	828+01.42	.240	.240	.240	.240	.240	.240	.240	.303	.240	.240	.240	.240	.240	.240	.240
	0.90 L	828+11.62	.256	.256	.256	.256	.256	.256	.256	.318	.256	.256	.256	.256	.256	.256	.256
SPAN NO.5	0.00 L	828+21.82	.253	.253	.253	.253	.253	.253	.253	.315	.253	.253	.253	.253	.253	.253	.253
	0.10 L	828+32.02	.242	.242	.242	.242	.242	.242	.242	.305	.242	.242	.242	.242	.242	.242	.242
	0.20 L	828+42.22	.231	.231	.231	.231	.231	.231	.231	.294	.231	.231	.231	.231	.231	.231	.231
	0.25 L	828+47.32	.226	.226	.226	.226	.226	.226	.226	.289	.226	.226	.226	.226	.226	.226	.226
	0.30 L	828+52.42	.218	.218	.218	.218	.218	.218	.218	.281	.218	.218	.218	.218	.218	.218	.218
	0.40 L	828+62.62	.206	.206	.206	.206	.206	.206	.206	.268	.206	.206	.206	.206	.206	.206	.206
	0.50 L	828+72.82	.200	.200	.200	.200	.200	.200	.200	.263	.200	.200	.200	.200	.200	.200	.200
	0.60 L	828+83.02	.205	.205	.205	.205	.205	.205	.205	.267	.205	.205	.205	.205	.205	.205	.205
	0.70 L	828+93.22	.218	.218	.218	.218	.218	.218	.218	.280	.218	.218	.218	.218	.218	.218	.218
	0.75 L	828+98.32	.225	.225	.225	.225	.225	.225	.225	.288	.225	.225	.225	.225	.225	.225	.225
	0.80 L	829+03.42	.226	.226	.226	.226	.226	.226	.226	.288	.226	.226	.226	.226	.226	.226	.226
	0.90 L	829+13.62	.227	.227	.227	.227	.227	.227	.227	.289	.227	.227	.227	.227	.227	.227	.227
SPAN NO.6	0.00 L	829+23.82	.227	.227	.227	.227	.227	.227	.227	.290	.227	.227	.227	.227	.227	.227	.227
	0.10 L	829+34.02	.227	.227	.227	.227	.227	.227	.227	.289	.227	.227	.227	.227	.227	.227	.227
	0.20 L	829+44.22	.226	.226	.226	.226	.226	.226	.226	.288	.226	.226	.226	.226	.226	.226	.226
	0.25 L	829+49.32	.225	.225	.225	.225	.225	.225	.225	.288	.225	.225	.225	.225	.225	.225	.225
	0.30 L	829+54.42	.220	.220	.220	.220	.220	.220	.220	.283	.220	.220	.220	.220	.220	.220	.220
	0.40 L	829+64.62	.211	.211	.211	.211	.211	.211	.211	.274	.211	.211	.211	.211	.211	.211	.211
	0.50 L	829+74.82	.208	.208	.208	.208	.208	.208	.208	.270	.208	.208	.208	.208	.208	.208	.208
	0.60 L	829+85.02	.212	.212	.212	.212	.212	.212	.212	.275	.212	.212	.212	.212	.212	.212	.212
	0.70 L	829+95.22	.221	.221	.221	.221	.221	.221	.221	.283	.221	.221	.221	.221	.221	.221	.221
	0.75 L	830+00.32	.226	.226	.226	.226	.226	.226	.226	.288	.226	.226	.226	.226	.226	.226	.226
	0.80 L	830+05.42	.227	.227	.227	.227	.227	.227	.227	.290	.227	.227	.227	.227	.227	.227	.227
	0.90 L	830+15.62	.230	.230	.230	.230	.230	.230	.230	.292	.230	.230	.230	.230	.230	.230	.230
SPAN NO.7	0.00 L	830+25.82	.231	.231	.231	.231	.231	.231	.231	.293	.231	.231	.231	.231	.231	.231	.231
	0.10 L	830+36.22	.230	.230	.230	.230	.230	.230	.230	.293	.230	.230	.230	.230	.230	.230	.230
	0.20 L	830+46.62	.228	.228	.228	.228	.228	.228	.228	.290	.228	.228	.228	.228	.228	.228	.228
	0.25 L	830+51.82	.225	.225	.225	.225	.225	.225	.225	.288	.225	.225	.225	.225	.225	.225	.225
	0.30 L	830+57.02	.223	.223	.223	.223	.223	.223	.223	.285	.223	.223	.223	.223	.223	.223	.223
	0.40 L	830+67.42	.215	.215	.215	.215	.215	.215	.215	.277	.215	.215	.215	.215	.215	.215	.215
	0.50 L	830+77.82	.204	.204	.204	.204	.204	.204	.204	.267	.204	.204	.204	.204	.204	.204	.204
	0.60 L	830+88.22	.196	.196	.196	.196	.196	.196	.196	.259	.196	.196	.196	.196	.196	.196	.196
	0.70 L	830+98.62	.194	.194	.194	.194	.194	.194	.194	.256	.194	.194	.194	.194	.194	.194	.194
	0.75 L	831+03.82	.195	.195	.195	.195	.195	.195	.195	.257	.195	.195	.195	.195	.195	.195	.195
	0.80 L	831+09.02	.197	.197	.197	.197	.197	.197	.197	.260	.197	.197	.197	.197	.197	.197	.197
	0.90 L	831+19.42	.207	.207	.207	.207	.207	.207	.207	.270	.207	.207	.207	.207	.207	.207	.207
	1.00 L	831+29.82	.225	.225	.225	.225	.225	.225	.225	.288	.225	.225	.225	.225	.225	.225	.225

NOTES:

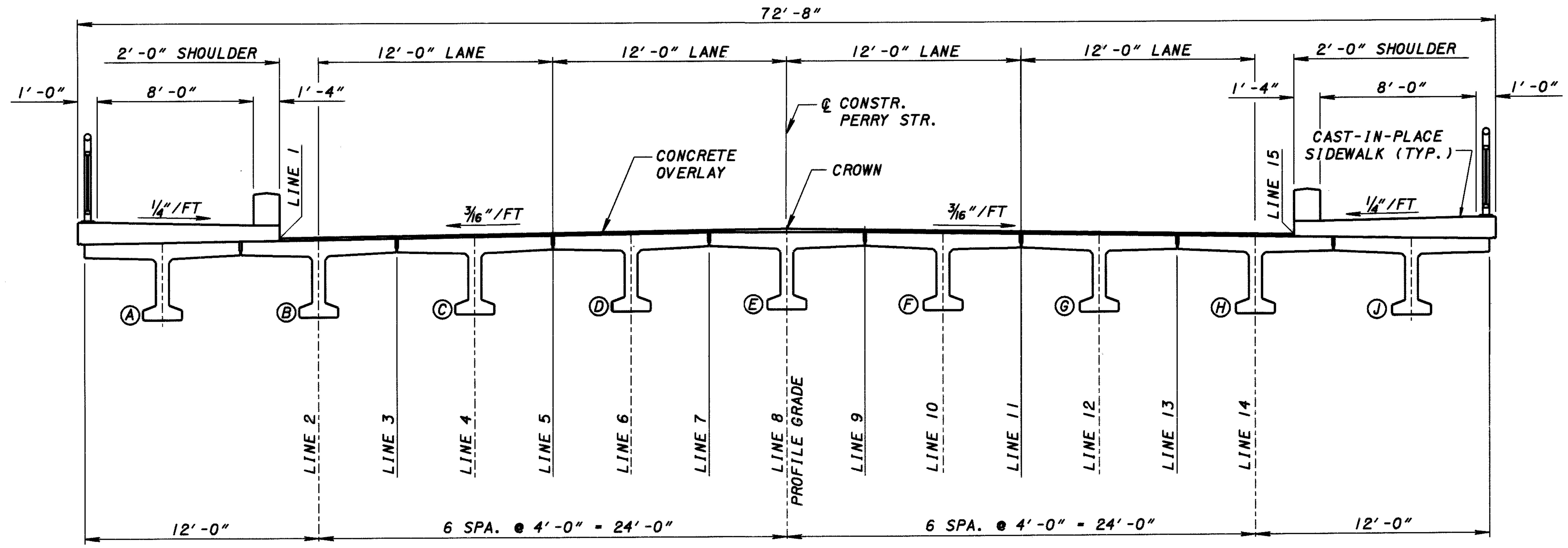
1. FOR PAVEMENT ELEVATION DETAILS, SEE SHEET 79 OF 106.
2. FOR FINAL PAVEMENT ELEVATIONS AT QUARTER POINTS - WEST HALF OF BRIDGE, SEE SHEET 83 OF 106.
3. FOR FINAL PAVEMENT ELEVATIONS AT QUARTER POINTS - EAST HALF OF BRIDGE, SEE SHEET 84 OF 106.
4. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - WEST HALF OF BRIDGE, SEE SHEET 85 OF 106.
5. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - EAST HALF OF BRIDGE, SEE SHEET 86 OF 106.
6. FOR MSC CONCRETE OVERLAY THEORETICAL THICKNESS TABLE - SOUTH HALF OF BRIDGE, SEE SHEET 80 OF 106.

DESIGN AGENCY: HNTB ARCHITECTS ENGINEERS PLANNERS

DESIGNED JDM | DRAWN JDM | REVIEWED RHW | DATE 01/16/04
CHECKED BBB | REVISED | STRUCTURE FILE NUMBER 3502384

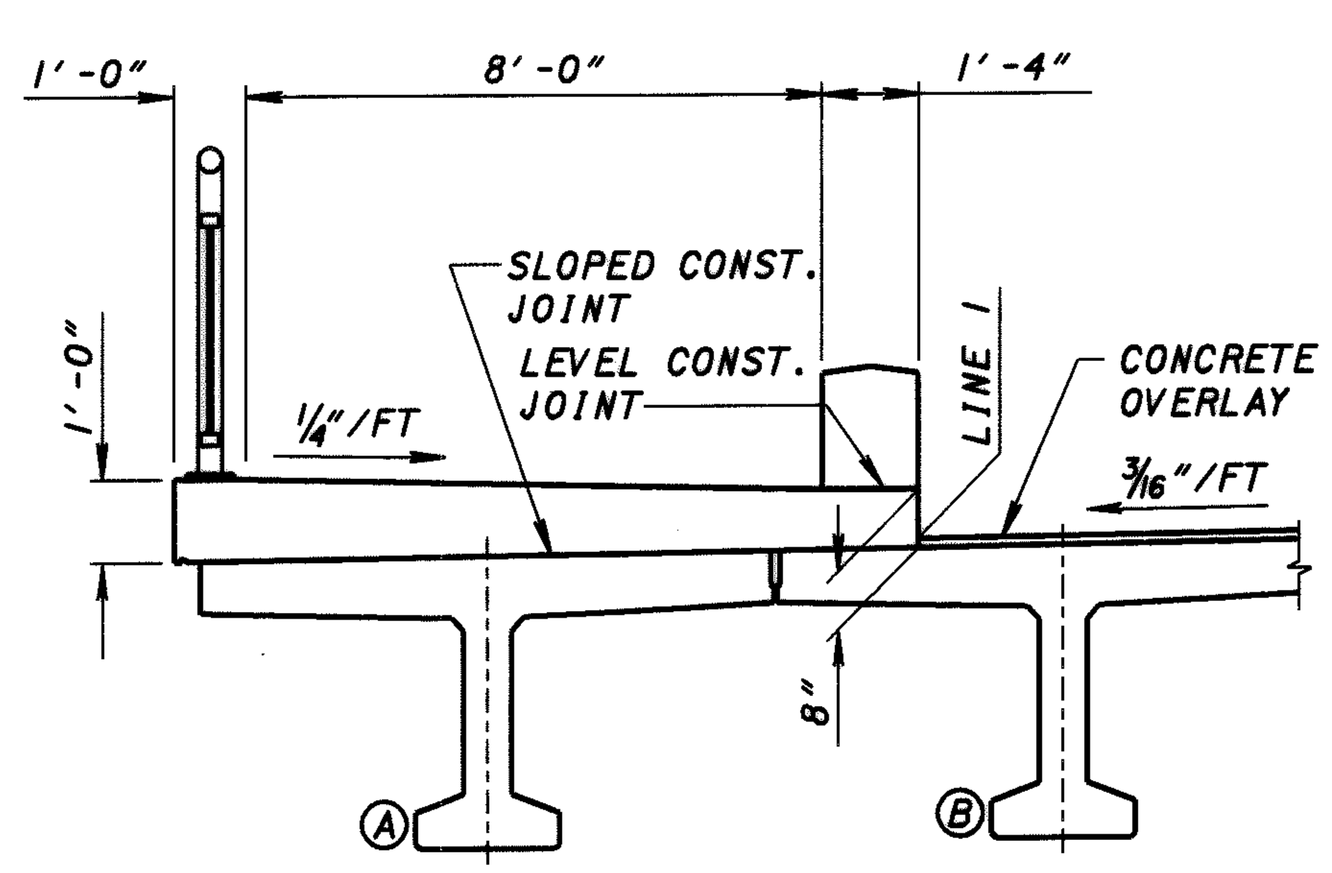
CONCRETE OVERLAY DEPTHS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55



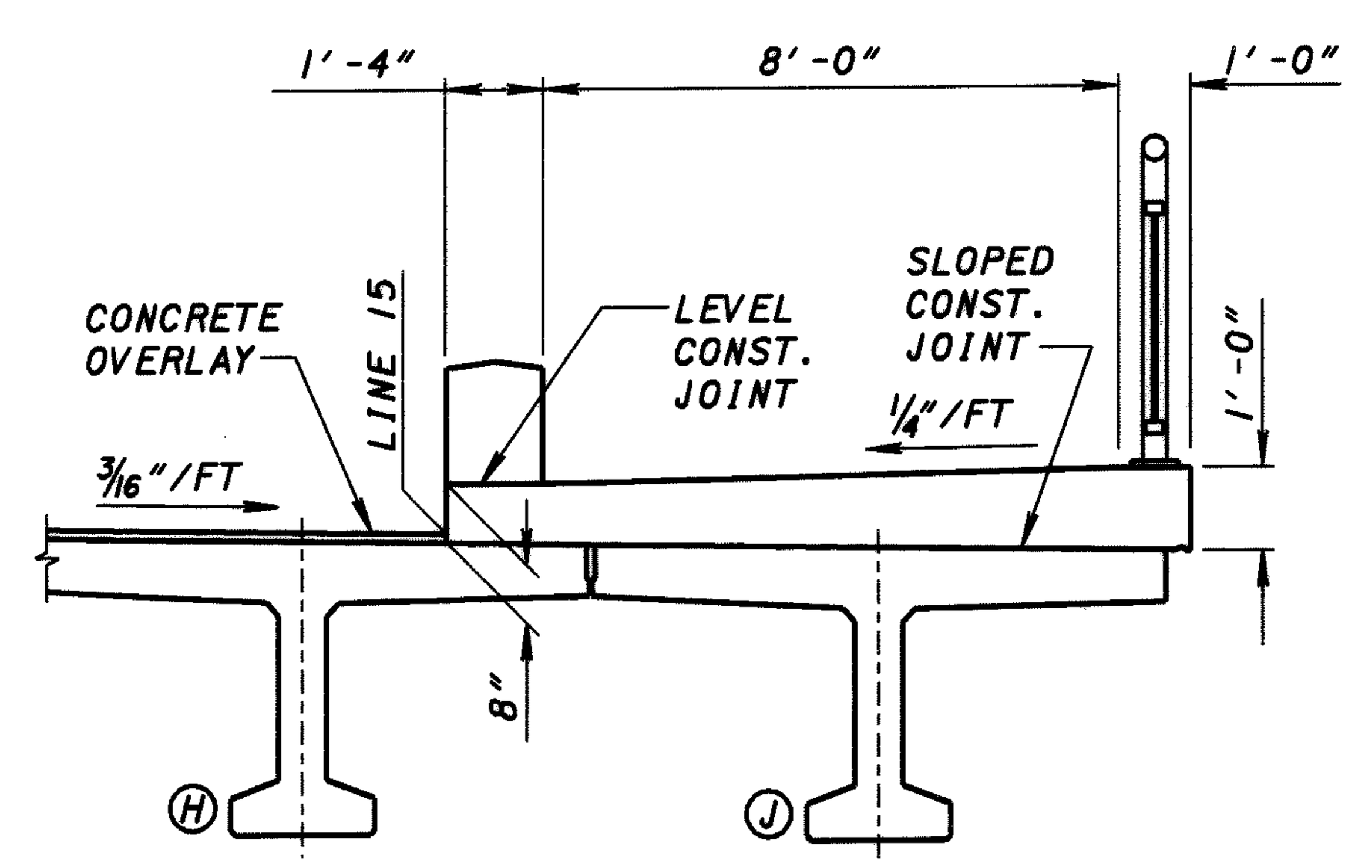
DECK ELEVATION LOCATIONS

(LOOKING UPSTATION)
(CROSSFRAMES AND UTILITIES NOT SHOWN)



SIDEWALK DETAIL AT WEST FASCIA

(CROSSFRAMES AND UTILITIES NOT SHOWN)



SIDEWALK DETAIL AT EAST FASCIA

(CROSSFRAMES AND UTILITIES NOT SHOWN)

NOTES:

1. FOR FINAL PAVEMENT ELEVATION OF WEST HALF OF BRIDGE, SEE SHEET 83 OF 106.
2. FOR FINAL PAVEMENT ELEVATIONS OF EAST HALF OF BRIDGE, SEE SHEET 84 OF 106.
3. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS, SEE SHEETS 85 AND 86 OF 106.
4. (A) INDICATES GIRDER DESIGNATION.

DESIGN AGENCY: HNTB ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JLV	MU/JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3502384	

PAVEMENT ELEVATION DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

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FINAL TOP OF PAVEMENT ELEVATIONS AT QUARTER POINTS - WEST HALF OF BRIDGE

		LINE 1 (WEST GUTTER)		LINE 2 (℄ GIRDER B)		LINE 3 (FLANGE EDGE)		LINE 4 (℄ GIRDER C)		LINE 5 (FLANGE EDGE)		LINE 6 (℄ GIRDER D)		LINE 7 (FLANGE EDGE)		LINE 8 (PROFILE GRADE)		
	LOCATION	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	LOCATION
SPAN NO. 1	0.00 L	824+11.82	665.32	824+11.82	665.35	824+11.82	665.41	824+11.82	665.47	824+11.82	665.53	824+11.82	665.60	824+11.82	665.66	824+11.82	665.72	0.00 L
	0.25 L	824+37.82	665.70	824+37.82	665.74	824+37.82	665.80	824+37.82	665.86	824+37.82	665.92	824+37.82	665.99	824+37.82	666.05	824+37.82	666.11	0.25 L
	0.50 L	824+63.82	666.17	824+63.82	666.20	824+63.82	666.27	824+63.82	666.33	824+63.82	666.39	824+63.82	666.45	824+63.82	666.52	824+63.82	666.58	0.50 L
	0.75 L	824+89.82	666.64	824+89.82	666.67	824+89.82	666.73	824+89.82	666.80	824+89.82	666.86	824+89.82	666.92	824+89.82	666.98	824+89.82	667.05	0.75 L
SPAN NO. 2	0.00 L	825+15.82	667.11	825+15.82	667.14	825+15.82	667.20	825+15.82	667.26	825+15.82	667.33	825+15.82	667.39	825+15.82	667.45	825+15.82	667.51	0.00 L
	0.25 L	825+41.32	667.57	825+41.32	667.60	825+41.32	667.66	825+41.32	667.72	825+41.32	667.79	825+41.32	667.85	825+41.32	667.91	825+41.32	667.97	0.25 L
	0.50 L	825+66.82	668.03	825+66.82	668.06	825+66.82	668.12	825+66.82	668.18	825+66.82	668.25	825+66.82	668.31	825+66.82	668.37	825+66.82	668.43	0.50 L
	0.75 L	825+92.32	668.49	825+92.32	668.52	825+92.32	668.58	825+92.32	668.64	825+92.32	668.70	825+92.32	668.77	825+92.32	668.83	825+92.32	668.89	0.75 L
SPAN NO. 3	0.00 L	826+17.82	668.94	826+17.82	668.98	826+17.82	669.04	826+17.82	669.10	826+17.82	669.16	826+17.82	669.23	826+17.82	669.29	826+17.82	669.35	0.00 L
	0.25 L	826+43.32	669.36	826+43.32	669.39	826+43.32	669.45	826+43.32	669.51	826+43.32	669.58	826+43.32	669.64	826+43.32	669.70	826+43.32	669.76	0.25 L
	0.50 L	826+68.82	669.65	826+68.82	669.69	826+68.82	669.75	826+68.82	669.81	826+68.82	669.87	826+68.82	669.94	826+68.82	670.00	826+68.82	670.06	0.50 L
	0.75 L	826+94.32	669.84	826+94.32	669.87	826+94.32	669.93	826+94.32	670.00	826+94.32	670.06	826+94.32	670.12	826+94.32	670.18	826+94.32	670.25	0.75 L
SPAN NO. 4	0.00 L	827+19.82	669.91	827+19.82	669.94	827+19.82	670.01	827+19.82	670.07	827+19.82	670.13	827+19.82	670.19	827+19.82	670.26	827+19.82	670.32	0.00 L
	0.25 L	827+45.32	669.87	827+45.32	669.91	827+45.32	669.97	827+45.32	670.03	827+45.32	670.09	827+45.32	670.16	827+45.32	670.22	827+45.32	670.28	0.25 L
	0.50 L	827+70.82	669.72	827+70.82	669.76	827+70.82	669.82	827+70.82	669.88	827+70.82	669.94	827+70.82	670.01	827+70.82	670.07	827+70.82	670.13	0.50 L
	0.75 L	827+96.32	669.46	827+96.32	669.49	827+96.32	669.55	827+96.32	669.62	827+96.32	669.68	827+96.32	669.74	827+96.32	669.80	827+96.32	669.87	0.75 L
SPAN NO. 5	0.00 L	828+21.82	669.08	828+21.82	669.11	828+21.82	669.18	828+21.82	669.24	828+21.82	669.30	828+21.82	669.36	828+21.82	669.43	828+21.82	669.49	0.00 L
	0.25 L	828+47.32	668.66	828+47.32	668.69	828+47.32	668.76	828+47.32	668.82	828+47.32	668.88	828+47.32	668.94	828+47.32	669.01	828+47.32	669.07	0.25 L
	0.50 L	828+72.82	668.24	828+72.82	668.27	828+72.82	668.34	828+72.82	668.40	828+72.82	668.46	828+72.82	668.52	828+72.82	668.59	828+72.82	668.65	0.50 L
	0.75 L	828+98.32	667.82	828+98.32	667.85	828+98.32	667.92	828+98.32	667.98	828+98.32	668.04	828+98.32	668.10	828+98.32	668.17	828+98.32	668.23	0.75 L
SPAN NO. 6	0.00 L	829+23.82	667.40	829+23.82	667.44	829+23.82	667.50	829+23.82	667.56	829+23.82	667.62	829+23.82	667.69	829+23.82	667.75	829+23.82	667.81	0.00 L
	0.25 L	829+49.32	666.98	829+49.32	667.02	829+49.32	667.08	829+49.32	667.14	829+49.32	667.20	829+49.32	667.27	829+49.32	667.33	829+49.32	667.39	0.25 L
	0.50 L	829+74.82	666.57	829+74.82	666.60	829+74.82	666.66	829+74.82	666.72	829+74.82	666.78	829+74.82	666.85	829+74.82	666.91	829+74.82	666.97	0.50 L
	0.75 L	830+00.32	666.15	830+00.32	666.18	830+00.32	666.24	830+00.32	666.30	830+00.32	666.36	830+00.32	666.43	830+00.32	666.49	830+00.32	666.55	0.75 L
SPAN NO. 7	0.00 L	830+25.82	665.73	830+25.82	665.76	830+25.82	665.82	830+25.82	665.88	830+25.82	665.95	830+25.82	666.01	830+25.82	666.07	830+25.82	666.13	0.00 L
	0.25 L	830+51.82	665.30	830+51.82	665.33	830+51.82	665.39	830+51.82	665.46	830+51.82	665.52	830+51.82	665.58	830+51.82	665.64	830+51.82	665.71	0.25 L
	0.50 L	830+77.82	664.87	830+77.82	664.90	830+77.82	664.97	830+77.82	665.03	830+77.82	665.09	830+77.82	665.15	830+77.82	665.22	830+77.82	665.28	0.50 L
	0.75 L	831+03.82	664.44	831+03.82	664.47	831+03.82	664.54	831+03.82	664.60	831+03.82	664.66	831+03.82	664.72	831+03.82	664.79	831+03.82	664.85	0.75 L
	1.00 L	831+29.82	664.02	831+29.82	664.05	831+29.82	664.11	831+29.82	664.17	831+29.82	664.23	831+29.82	664.30	831+29.82	664.36	831+29.82	664.42	1.00 L

NOTES:

1. FOR PAVEMENT ELEVATION DETAILS, SEE SHEET 82 OF 106.
2. FOR FINAL PAVEMENT ELEVATIONS AT QUARTER POINTS - EAST HALF OF BRIDGE, SEE SHEET 84 OF 106.
3. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - WEST HALF OF BRIDGE, SEE SHEET 85 OF 106.
4. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - EAST HALF OF BRIDGE, SEE SHEET 86 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS
REVIEWED RHW DATE 01/16/04
STRUCTURE FILE NUMBER 3502384
DRAWN MU/JLV REVISED
DESIGNED JLV CHECKED BBB

FINAL PAVEMENT ELEVATIONS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

FINAL TOP OF PAVEMENT ELEVATIONS AT QUARTER POINTS - EAST HALF OF BRIDGE

		LINE 8 (PROFILE GRADE)		LINE 9 (FLANGE EDGE)		LINE 10 (℄ GIRDER F)		LINE 11 (FLANGE EDGE)		LINE 12 (℄ GIRDER G)		LINE 13 (FLANGE EDGE)		LINE 14 (℄ GIRDER H)		LINE 15 (EAST GUTTER)		
	LOCATION	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	LOCATION
SPAN NO. 1	0.00 L	824+11.82	665.72	824+11.82	665.66	824+11.82	665.60	824+11.82	665.53	824+11.82	665.47	824+11.82	665.41	824+11.82	665.35	824+11.82	665.32	0.00 L
	0.25 L	824+37.82	666.11	824+37.82	666.05	824+37.82	665.99	824+37.82	665.92	824+37.82	665.86	824+37.82	665.80	824+37.82	665.74	824+37.82	665.70	0.25 L
	0.50 L	824+63.82	666.58	824+63.82	666.52	824+63.82	666.45	824+63.82	666.39	824+63.82	666.33	824+63.82	666.27	824+63.82	666.20	824+63.82	666.17	0.50 L
	0.75 L	824+89.82	667.05	824+89.82	666.98	824+89.82	666.92	824+89.82	666.86	824+89.82	666.80	824+89.82	666.73	824+89.82	666.67	824+89.82	666.64	0.75 L
SPAN NO. 2	0.00 L	825+15.82	667.51	825+15.82	667.45	825+15.82	667.39	825+15.82	667.33	825+15.82	667.26	825+15.82	667.20	825+15.82	667.14	825+15.82	667.11	0.00 L
	0.25 L	825+41.32	667.97	825+41.32	667.91	825+41.32	667.85	825+41.32	667.79	825+41.32	667.72	825+41.32	667.66	825+41.32	667.60	825+41.32	667.57	0.25 L
	0.50 L	825+66.82	668.43	825+66.82	668.37	825+66.82	668.31	825+66.82	668.25	825+66.82	668.18	825+66.82	668.12	825+66.82	668.06	825+66.82	668.03	0.50 L
	0.75 L	825+92.32	668.89	825+92.32	668.83	825+92.32	668.77	825+92.32	668.70	825+92.32	668.64	825+92.32	668.58	825+92.32	668.52	825+92.32	668.49	0.75 L
SPAN NO. 3	0.00 L	826+17.82	669.35	826+17.82	669.29	826+17.82	669.23	826+17.82	669.16	826+17.82	669.10	826+17.82	669.04	826+17.82	668.98	826+17.82	668.94	0.00 L
	0.25 L	826+43.32	669.76	826+43.32	669.70	826+43.32	669.64	826+43.32	669.58	826+43.32	669.51	826+43.32	669.45	826+43.32	669.39	826+43.32	669.36	0.25 L
	0.50 L	826+68.82	670.06	826+68.82	670.00	826+68.82	669.94	826+68.82	669.87	826+68.82	669.81	826+68.82	669.75	826+68.82	669.69	826+68.82	669.65	0.50 L
	0.75 L	826+94.32	670.25	826+94.32	670.18	826+94.32	670.12	826+94.32	670.06	826+94.32	670.00	826+94.32	669.93	826+94.32	669.87	826+94.32	669.84	0.75 L
SPAN NO. 4	0.00 L	827+19.82	670.32	827+19.82	670.26	827+19.82	670.19	827+19.82	670.13	827+19.82	670.07	827+19.82	670.01	827+19.82	669.94	827+19.82	669.91	0.00 L
	0.25 L	827+45.32	670.28	827+45.32	670.22	827+45.32	670.16	827+45.32	670.09	827+45.32	670.03	827+45.32	669.97	827+45.32	669.91	827+45.32	669.87	0.25 L
	0.50 L	827+70.82	670.13	827+70.82	670.07	827+70.82	670.01	827+70.82	669.94	827+70.82	669.88	827+70.82	669.82	827+70.82	669.76	827+70.82	669.72	0.50 L
	0.75 L	827+96.32	669.87	827+96.32	669.80	827+96.32	669.74	827+96.32	669.68	827+96.32	669.62	827+96.32	669.55	827+96.32	669.49	827+96.32	669.46	0.75 L
SPAN NO. 5	0.00 L	828+21.82	669.49	828+21.82	669.43	828+21.82	669.36	828+21.82	669.30	828+21.82	669.24	828+21.82	669.18	828+21.82	669.11	828+21.82	669.08	0.00 L
	0.25 L	828+47.32	669.07	828+47.32	669.01	828+47.32	668.94	828+47.32	668.88	828+47.32	668.82	828+47.32	668.76	828+47.32	668.69	828+47.32	668.66	0.25 L
	0.50 L	828+72.82	668.65	828+72.82	668.59	828+72.82	668.52	828+72.82	668.46	828+72.82	668.40	828+72.82	668.34	828+72.82	668.27	828+72.82	668.24	0.50 L
	0.75 L	828+98.32	668.23	828+98.32	668.17	828+98.32	668.10	828+98.32	668.04	828+98.32	667.98	828+98.32	667.92	828+98.32	667 85	828+98.32	667.82	0.75 L
SPAN NO. 6	0.00 L	829+23.82	667.81	829+23.82	667.75	829+23.82	667.69	829+23.82	667.62	829+23.82	667.56	829+23.82	667.50	829+23.82	667.44	829+23.82	667.40	0.00 L
	0.25 L	829+49.32	667.39	829+49.32	667.33	829+49.32	667.27	829+49.32	667.20	829+49.32	667.14	829+49.32	667.08	829+49.32	667.02	829+49.32	666.98	0.25 L
	0.50 L	829+74.82	666.97	829+74.82	666.91	829+74.82	666.85	829+74.82	666.78	829+74.82	666.72	829+74.82	666.66	829+74.82	666.60	829+74.82	666.57	0.50 L
	0.75 L	830+00.32	666.55	830+00.32	666.49	830+00.32	666.43	830+00.32	666.36	830+00.32	666.30	830+00.32	666.24	830+00.32	666.18	830+00.32	666.15	0.75 L
SPAN NO. 7	0.00 L	830+25.82	666.13	830+25.82	666.07	830+25.82	666.01	830+25.82	665.95	830+25.82	665.88	830+25.82	665.82	830+25.82	665.76	830+25.82	665.73	0.00 L
	0.25 L	830+51.82	665.71	830+51.82	665.64	830+51.82	665.58	830+51.82	665.52	830+51.82	665.46	830+51.82	665.39	830+51.82	665.33	830+51.82	665.30	0.25 L
	0.50 L	830+77.82	665.28	830+77.82	665.22	830+77.82	665.15	830+77.82	665.09	830+77.82	665.03	830+77.82	664.97	830+77.82	664.90	830+77.82	664.87	0.50 L
	0.75 L	831+03.82	664.85	831+03.82	664.79	831+03.82	664.72	831+03.82	664.66	831+03.82	664.60	831+03.82	664.54	831+03.82	664.47	831+03.82	664.44	0.75 L
	1.00 L	831+29.82	664.42	831+29.82	664.36	831+29.82	664.30	831+29.82	664.23	831+29.82	664.17	831+29.82	664.11	831+29.82	664.05	831+29.82	664.02	1.00 L

NOTES:

1. FOR PAVEMENT ELEVATION DETAILS, SEE SHEET 82 OF 106.
2. FOR FINAL PAVEMENT ELEVATIONS AT QUARTER POINTS - WEST HALF OF BRIDGE, SEE SHEET 83 OF 106.
3. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - WEST HALF OF BRIDGE, SEE SHEET 85 OF 106.
4. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - EAST HALF OF BRIDGE, SEE SHEET 86 OF 106.

DESIGN AGENCY
HNTB 55 Erieview Plaza, Suite 800 Cleveland, Ohio 44114-1818
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JLV	MU/JLV	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3502384	

FINAL PAVEMENT ELEVATIONS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

84/106

155/183

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FINAL TOP OF PAVEMENT ELEVATIONS AT CLOSURE JOINTS - WEST HALF OF BRIDGE

		LINE 1 (WEST GUTTER)		LINE 2 (℄ GIRDER B)		LINE 3 (FLANGE EDGE)		LINE 4 (℄ GIRDER C)		LINE 5 (FLANGE EDGE)		LINE 6 (℄ GIRDER D)		LINE 7 (FLANGE EDGE)		LINE 8 (PROFILE GRADE)		
	LOCATION	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	LOCATION
SPAN NO.1	BEGIN JOINT	824+88.49	666.62	824+88.49	666.65	824+88.49	666.71	824+88.49	666.77	824+88.49	666.84	824+88.49	666.90	824+88.49	666.96	824+88.49	667.02	BEGIN JOINT
	END JOINT	824+91.15	666.66	824+91.15	666.70	824+91.15	666.76	824+91.15	666.82	824+91.15	666.88	824+91.15	666.95	824+91.15	667.01	824+91.15	667.07	END JOINT
SPAN NO.2	BEGIN JOINT	825+40.49	667.55	825+40.49	667.58	825+40.49	667.65	825+40.49	667.71	825+40.49	667.77	825+40.49	667.83	825+40.49	667.90	825+40.49	667.96	BEGIN JOINT
	END JOINT	825+43.15	667.60	825+43.15	667.63	825+43.15	667.69	825+43.15	667.76	825+43.15	667.82	825+43.15	667.88	825+43.15	667.94	825+43.15	668.01	END JOINT
	BEGIN JOINT	825+90.49	668.45	825+90.49	668.48	825+90.49	668.55	825+90.49	668.61	825+90.49	668.67	825+90.49	668.73	825+90.49	668.80	825+90.49	668.86	BEGIN JOINT
	END JOINT	825+93.15	668.50	825+93.15	668.53	825+93.15	668.59	825+93.15	668.66	825+93.15	668.72	825+93.15	668.78	825+93.15	668.84	825+93.15	668.91	END JOINT
SPAN NO.3	BEGIN JOINT	826+42.49	669.35	826+42.49	669.38	826+42.49	669.44	826+42.49	669.50	826+42.49	669.56	826+42.49	669.63	826+42.49	669.69	826+42.49	669.75	BEGIN JOINT
	END JOINT	826+45.15	669.38	826+45.15	669.41	826+45.15	669.48	826+45.15	669.54	826+45.15	669.60	826+45.15	669.66	826+45.15	669.73	826+45.15	669.79	END JOINT
	BEGIN JOINT	826+92.49	669.83	826+92.49	669.86	826+92.49	669.92	826+92.49	669.99	826+92.49	670.05	826+92.49	670.11	826+92.49	670.17	826+92.49	670.24	BEGIN JOINT
	END JOINT	826+95.15	669.84	826+95.15	669.87	826+95.15	669.94	826+95.15	667.00	826+95.15	670.06	826+95.15	670.12	826+95.15	670.19	826+95.15	670.25	END JOINT
SPAN NO.4	BEGIN JOINT	827+44.49	669.88	827+44.49	669.91	827+44.49	669.97	827+44.49	670.03	827+44.49	670.10	827+44.49	670.16	827+44.49	670.22	827+44.49	670.28	BEGIN JOINT
	END JOINT	827+47.15	669.87	827+47.15	669.90	827+47.15	669.96	827+47.15	670.02	827+47.15	670.09	827+47.15	670.15	827+47.15	670.21	827+47.15	670.27	END JOINT
	BEGIN JOINT	827+94.49	669.48	827+94.49	669.52	827+94.49	669.58	827+94.49	669.64	827+94.49	669.70	827+94.49	669.77	827+94.49	669.83	827+94.49	669.89	BEGIN JOINT
	END JOINT	827+97.15	669.45	827+97.15	669.48	827+97.15	669.54	827+97.15	669.61	827+97.15	669.67	827+97.15	669.73	827+97.15	669.79	827+97.15	669.86	END JOINT
SPAN NO.5	BEGIN JOINT	828+46.49	668.68	828+46.49	668.71	828+46.49	668.77	828+46.49	668.83	828+46.49	668.89	828+46.49	668.96	828+46.49	669.02	828+46.49	669.08	BEGIN JOINT
	END JOINT	828+49.15	668.63	828+49.15	668.66	828+49.15	668.73	828+49.15	668.79	828+49.15	668.85	828+49.15	668.91	828+49.15	668.98	828+49.15	669.04	END JOINT
	BEGIN JOINT	828+96.49	667.85	828+96.49	667.89	828+96.49	667.95	828+96.49	668.01	828+96.49	668.07	828+96.49	668.14	828+96.49	668.20	828+96.49	668.26	BEGIN JOINT
	END JOINT	828+99.15	667.81	828+99.15	667.84	828+99.15	667.90	828+99.15	667.97	828+99.15	668.03	828+99.15	668.09	828+99.15	668.15	828+99.15	668.22	END JOINT
SPAN NO.6	BEGIN JOINT	829+48.49	667.00	829+48.49	667.03	829+48.49	667.09	829+48.49	667.15	829+48.49	667.22	829+48.49	667.28	829+48.49	667.34	829+48.49	667.40	BEGIN JOINT
	END JOINT	829+51.15	666.95	829+51.15	666.99	829+51.15	667.05	829+51.15	667.11	829+51.15	667.17	829+51.15	667.24	829+51.15	667.30	829+51.15	667.36	END JOINT
	BEGIN JOINT	829+98.49	666.18	829+98.49	666.21	829+98.49	666.27	829+98.49	666.33	829+98.49	666.39	829+98.49	666.46	829+98.49	666.52	829+98.49	666.58	BEGIN JOINT
	END JOINT	830+01.15	666.13	830+01.15	666.16	830+01.15	666.23	830+01.15	666.29	830+01.15	666.35	830+01.15	666.41	830+01.15	666.48	830+01.15	666.54	END JOINT
SPAN NO.7	BEGIN JOINT	830+50.49	665.32	830+50.49	665.35	830+50.49	665.41	830+50.49	665.48	830+50.49	665.54	830+50.49	665.60	830+50.49	665.66	830+50.49	665.73	BEGIN JOINT
	END JOINT	830+53.15	665.28	830+53.15	665.31	830+53.15	665.37	830+53.15	665.43	830+53.15	665.50	830+53.15	665.56	830+53.15	665.62	830+53.15	665.68	END JOINT

NOTES:

1. FOR PAVEMENT ELEVATION DETAILS, SEE SHEET 82 OF 106.
2. FOR FINAL PAVEMENT ELEVATIONS AT QUARTER POINTS - WEST HALF OF BRIDGE, SEE SHEET 83 OF 106.
3. FOR FINAL PAVEMENT ELEVATIONS AT QUARTER POINTS - EAST HALF OF BRIDGE, SEE SHEET 84 OF 106.
4. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - EAST HALF OF BRIDGE, SEE SHEET 86 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED JLV | DRAWN MU/JLV | REVISED | DATE 01/16/04
CHECKED BBB | REVIEWED RHN | STRUCTURE FILE NUMBER 3502384

FINAL PAVEMENT ELEVATIONS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

85/106

(156/183)

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FINAL TOP OF PAVEMENT ELEVATIONS AT CLOSURE JOINTS - EAST HALF OF BRIDGE

		LINE 8 (PROFILE GRADE)		LINE 9 (FLANGE EDGE)		LINE 10 (℄ GIRDER F)		LINE 11 (FLANGE EDGE)		LINE 12 (℄ GIRDER G)		LINE 13 (FLANGE EDGE)		LINE 14 (℄ GIRDER H)		LINE 15 (EAST GUTTER)		
	LOCATION	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	STATION	FINAL ELEV.	LOCATION
SPAN NO.1	BEGIN JOINT	824+88.49	667.02	824+88.49	666.96	824+88.49	666.90	824+88.49	666.84	824+88.49	666.77	824+88.49	666.71	824+88.49	666.65	824+88.49	666.62	BEGIN JOINT
	END JOINT	824+91.15	667.07	824+91.15	667.01	824+91.15	666.95	824+91.15	666.88	824+91.15	666.82	824+91.15	666.76	824+91.15	666.70	824+91.15	666.66	END JOINT
SPAN NO.2	BEGIN JOINT	825+40.49	667.96	825+40.49	667.90	825+40.49	667.83	825+40.49	667.77	825+40.49	667.71	825+40.49	667.65	825+40.49	667.58	825+40.49	667.55	BEGIN JOINT
	END JOINT	825+43.15	668.01	825+43.15	667.94	825+43.15	667.88	825+43.15	667.82	825+43.15	667.76	825+43.15	667.69	825+43.15	667.63	825+43.15	667.60	END JOINT
	BEGIN JOINT	825+90.49	668.86	825+90.49	668.80	825+90.49	668.73	825+90.49	668.67	825+90.49	668.61	825+90.49	668.55	825+90.49	668.48	825+90.49	668.45	BEGIN JOINT
	END JOINT	825+93.15	668.91	825+93.15	668.84	825+93.15	668.78	825+93.15	668.72	825+93.15	668.66	825+93.15	668.59	825+93.15	668.53	825+93.15	668.50	END JOINT
SPAN NO.3	BEGIN JOINT	826+42.49	669.75	826+42.49	669.69	826+42.49	669.63	826+42.49	669.56	826+42.49	669.50	826+42.49	669.44	826+42.49	669.38	826+42.49	669.35	BEGIN JOINT
	END JOINT	826+45.15	669.79	826+45.15	669.73	826+45.15	669.66	826+45.15	669.60	826+45.15	669.54	826+45.15	669.48	826+45.15	669.41	826+45.15	669.38	END JOINT
	BEGIN JOINT	826+92.49	670.24	826+92.49	670.17	826+92.49	670.11	826+92.49	670.05	826+92.49	669.99	826+92.49	669.92	826+92.49	669.86	826+92.49	669.83	BEGIN JOINT
	END JOINT	826+95.15	670.25	826+95.15	670.19	826+95.15	670.12	826+95.15	670.06	826+95.15	667.00	826+95.15	669.94	826+95.15	669.87	826+95.15	669.84	END JOINT
SPAN NO.4	BEGIN JOINT	827+44.49	670.28	827+44.49	670.22	827+44.49	670.16	827+44.49	670.10	827+44.49	670.03	827+44.49	669.97	827+44.49	669.91	827+44.49	669.88	BEGIN JOINT
	END JOINT	827+47.15	670.27	827+47.15	670.21	827+47.15	670.15	827+47.15	670.09	827+47.15	670.02	827+47.15	669.96	827+47.15	669.90	827+47.15	669.87	END JOINT
	BEGIN JOINT	827+94.49	669.89	827+94.49	669.83	827+94.49	669.77	827+94.49	669.70	827+94.49	669.64	827+94.49	669.58	827+94.49	669.52	827+94.49	669.48	BEGIN JOINT
	END JOINT	827+97.15	669.86	827+97.15	669.79	827+97.15	669.73	827+97.15	669.67	827+97.15	669.61	827+97.15	669.54	827+97.15	669.48	827+97.15	669.45	END JOINT
SPAN NO.5	BEGIN JOINT	828+46.49	669.08	828+46.49	669.02	828+46.49	668.96	828+46.49	668.89	828+46.49	668.83	828+46.49	668.77	828+46.49	668.71	828+46.49	668.68	BEGIN JOINT
	END JOINT	828+49.15	669.04	828+49.15	668.98	828+49.15	668.91	828+49.15	668.85	828+49.15	668.79	828+49.15	668.73	828+49.15	668.66	828+49.15	668.63	END JOINT
	BEGIN JOINT	828+96.49	668.26	828+96.49	668.20	828+96.49	668.14	828+96.49	668.07	828+96.49	668.01	828+96.49	667.95	828+96.49	667.89	828+96.49	667.85	BEGIN JOINT
	END JOINT	828+99.15	668.22	828+99.15	668.15	828+99.15	668.09	828+99.15	668.03	828+99.15	667.97	828+99.15	667.90	828+99.15	667.84	828+99.15	667.81	END JOINT
SPAN NO.6	BEGIN JOINT	829+48.49	667.40	829+48.49	667.34	829+48.49	667.28	829+48.49	667.22	829+48.49	667.15	829+48.49	667.09	829+48.49	667.03	829+48.49	667.00	BEGIN JOINT
	END JOINT	829+51.15	667.36	829+51.15	667.30	829+51.15	667.24	829+51.15	667.17	829+51.15	667.11	829+51.15	667.05	829+51.15	666.99	829+51.15	666.95	END JOINT
	BEGIN JOINT	829+98.49	666.58	829+98.49	666.52	829+98.49	666.46	829+98.49	666.39	829+98.49	666.33	829+98.49	666.27	829+98.49	666.21	829+98.49	666.18	BEGIN JOINT
	END JOINT	830+01.15	666.54	830+01.15	666.48	830+01.15	666.41	830+01.15	666.35	830+01.15	666.29	830+01.15	666.23	830+01.15	666.16	830+01.15	666.13	END JOINT
SPAN NO.7	BEGIN JOINT	830+50.49	665.73	830+50.49	665.66	830+50.49	665.60	830+50.49	665.54	830+50.49	665.48	830+50.49	665.41	830+50.49	665.35	830+50.49	665.32	BEGIN JOINT
	END JOINT	830+53.15	665.68	830+53.15	665.62	830+53.15	665.56	830+53.15	665.50	830+53.15	665.43	830+53.15	665.37	830+53.15	665.31	830+53.15	665.28	END JOINT

NOTES:

1. FOR PAVEMENT ELEVATION DETAILS, SEE SHEET 82 OF 106.
2. FOR FINAL PAVEMENT ELEVATIONS AT QUARTER POINTS - WEST HALF OF BRIDGE, SEE SHEET 83 OF 106.
3. FOR FINAL PAVEMENT ELEVATIONS AT QUARTER POINTS - EAST HALF OF BRIDGE, SEE SHEET 84 OF 106.
4. FOR FINAL PAVEMENT ELEVATIONS AT CLOSURE JOINTS - WEST HALF OF BRIDGE, SEE SHEET 85 OF 106.

DESIGN AGENCY
HNTB 115 Nicollet Mall, Suite 1000, Minneapolis, MN 55401
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JLV	MU/JLV	RHN	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3502384	

FINAL PAVEMENT ELEVATIONS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

86/106

157/183

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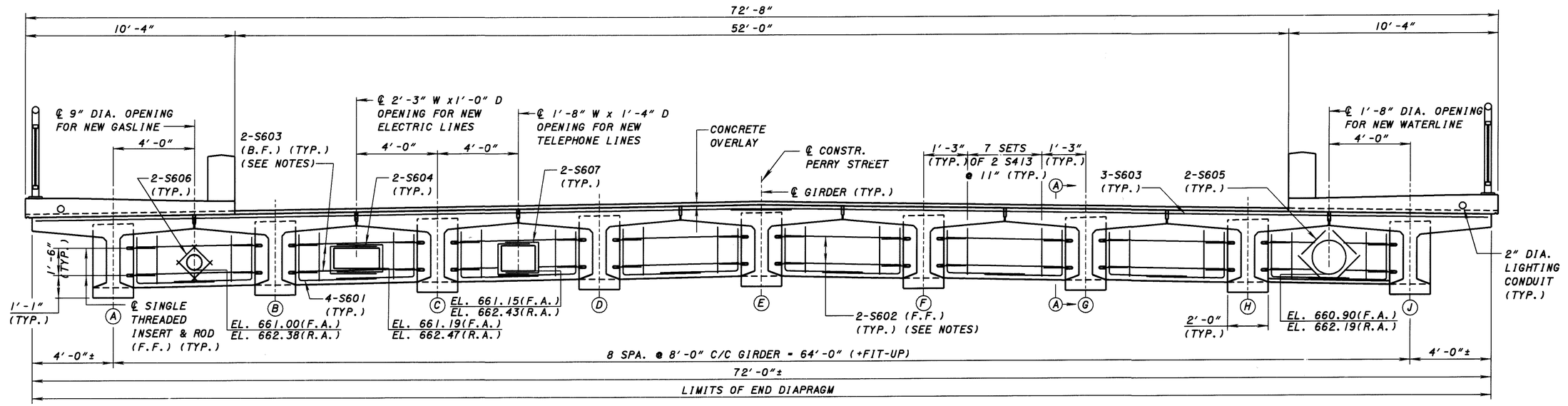
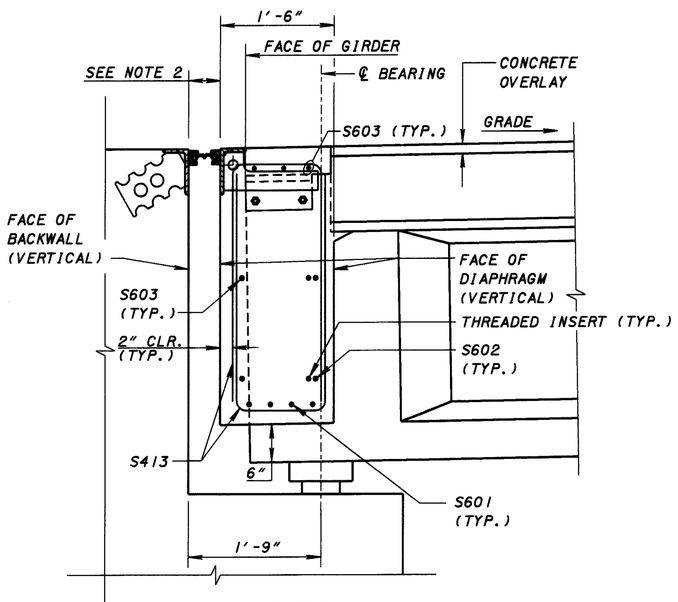


ELEVATION - END DIAPHRAGM

(FORWARD ABUTMENT SHOWN, REAR ABUTMENT OPPOSITE HAND)

MINIMUM BAR LAP	
#4 BAR	2'-0"
#6 BAR	3'-0"



SECTION A-A

NOTES:

1. FOR ADDITIONAL END DIAPHRAGM DETAILS INCLUDING THREADED INSERT AND THREADED ROD DETAILS SEE ODOT STANDARD DRAWINGS PSID-1-99.
2. FOR EXPANSION JOINT DETAILS SEE SHEET 97 OF 106.
3. FOR GIRDER DETAILS SEE SHEETS 61 THRU 73 OF 106.
4. FOR REINFORCEMENT SCHEDULE SEE SHEET 104 OF 106.
5. FIELD CUT S413, S602, AND S603 BARS AS REQUIRED TO CLEAR UTILITY OPENINGS. REPAIR BAR ENDS PER 509.09. THE COST OF CUTTING AND REPAIRING THE S413, S602 AND S603 BARS SHALL BE INCLUDED WITH ITEM 511 FOR PAYMENT.

DESIGN AGENCY
HNTB 28 Nationwide Blvd., Suite 500 Columbus, Ohio 43215
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
BRB	BBB	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

END DIAPHRAGM DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

87/106

158/183

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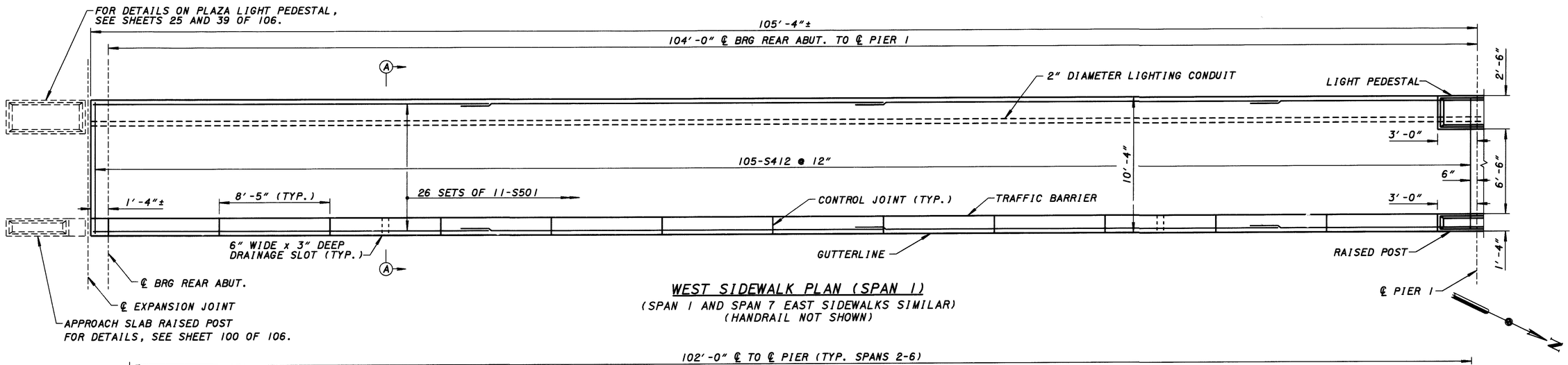
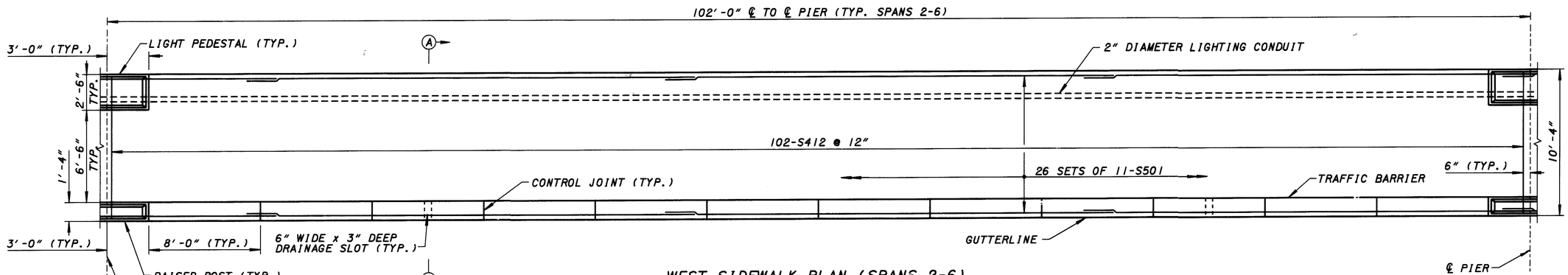


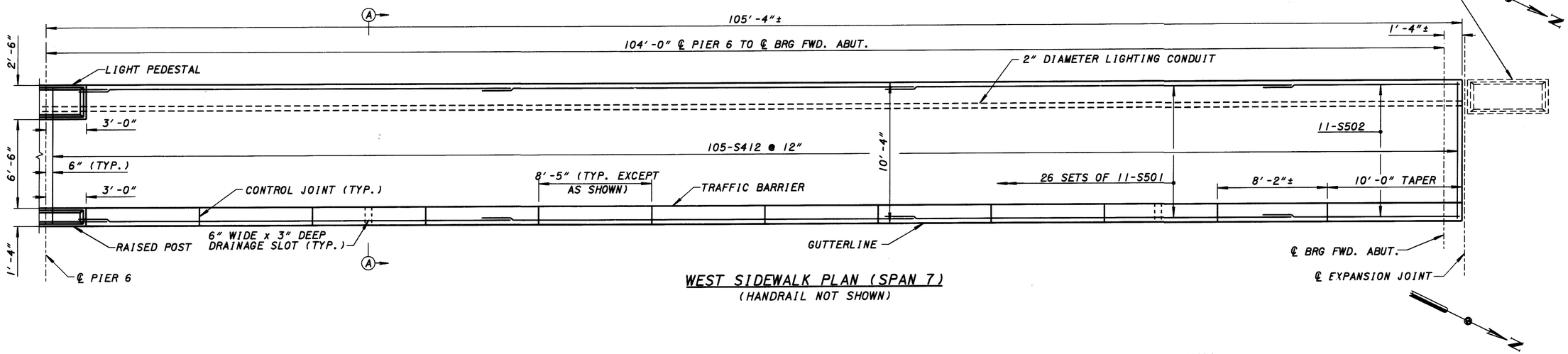
WEST SIDEWALK PLAN (SPAN 1)

(SPAN 1 AND SPAN 7 EAST SIDEWALKS SIMILAR)
(HANDRAIL NOT SHOWN)



WEST SIDEWALK PLAN (SPANS 2-6)

EAST SIDEWALK SIMILAR
(HANDRAIL NOT SHOWN)



WEST SIDEWALK PLAN (SPAN 7)

(HANDRAIL NOT SHOWN)

REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ.)	2'-3" MIN.
NO. 5 BARS (HORIZ.)	2'-9" MIN.

NOTES:

1. FOR SECTION A-A, SEE SHEET 89 OF 106.
2. FOR TRAFFIC BARRIER DETAILS, SEE SHEET 90 THRU 92 OF 106.
3. FOR SIDEWALK RAILING DETAILS, SEE SHEET 93 THRU 95 OF 106.
4. FOR CONTROL JOINT DETAILS, SEE SHEET 92 OF 106, AND ODOT STANDARD DRAWING BR-2-98, SHEETS 2 OF 3 AND 3 OF 3.

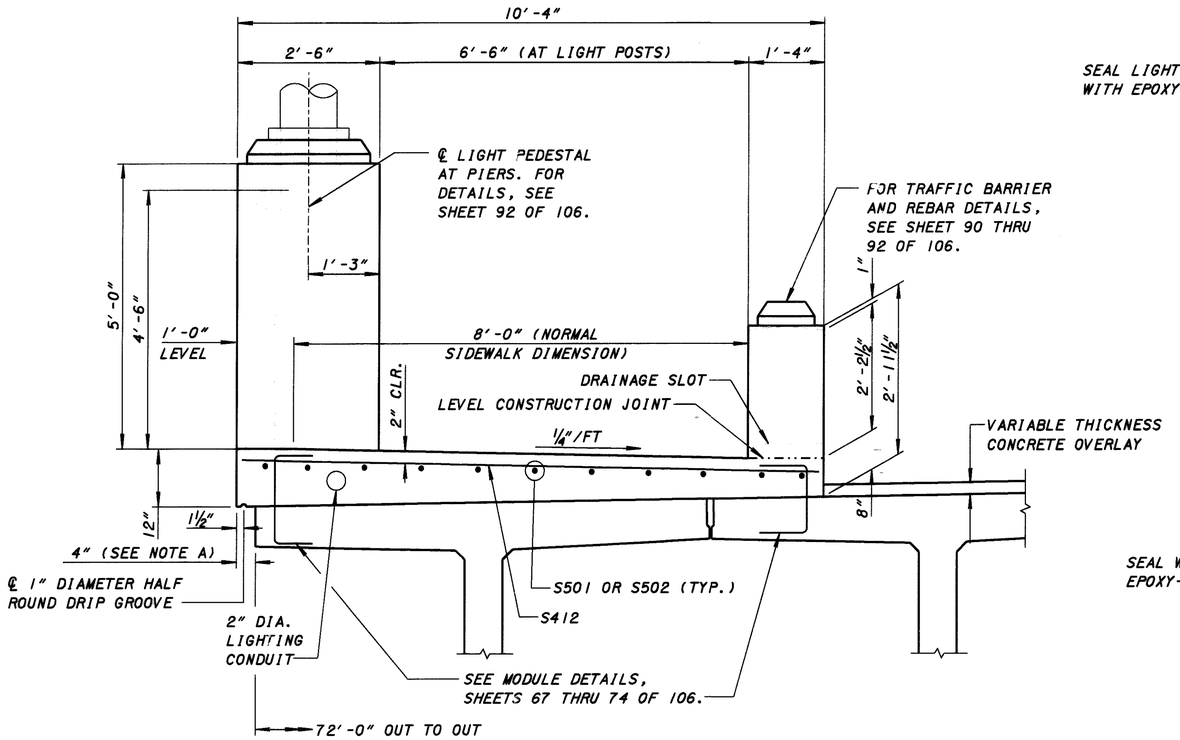
DESIGN AGENCY
HNTB 8 Discovery, Suite 300, Irvine, CA 92618-3105
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVISED	DATE
NBR	NBR	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

SIDEWALK DETAILS

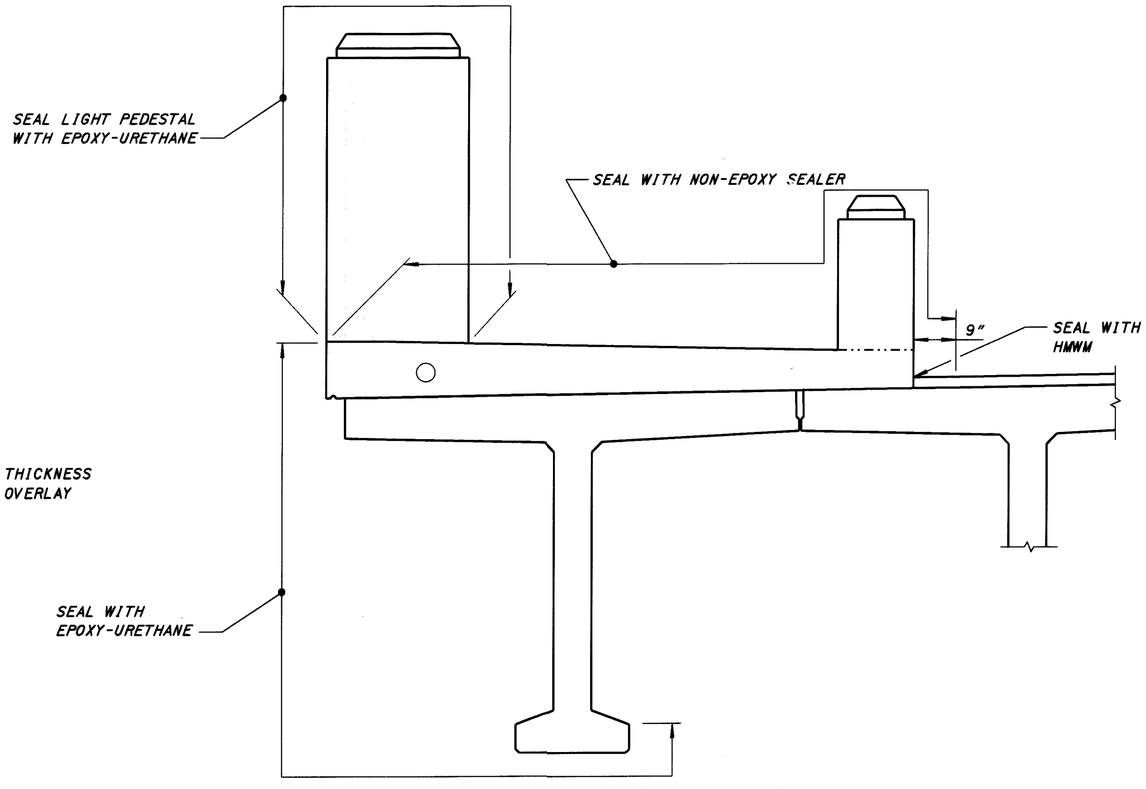
BRIDGE NO. HEN-108-15b1
OVER THE MAUMEE RIVER

HEN-108-15.55



SECTION A-A

(LIGHT PEDESTAL AND TRAFFIC BARRIER REINFORCING NOT SHOWN)



SEALING DETAIL

NOTE A:

THE 4" DIMENSION IS A NOMINAL DIMENSION AND WILL VARY IN ACCORDANCE WITH THE GIRDER DIMENSIONAL TOLERANCES. THE MINIMUM AND MAXIMUM OVERHANG DIMENSIONS SHALL BE DETERMINED IN THE FIELD FOR EACH FASCIA GIRDER MODULE AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE SETTING OF FORMS FOR THE SIDEWALK SLAB.

NOTES:

1. FOR LOCATION OF SECTION A-A, SEE SHEET 88 OF 106.
2. FOR TRAFFIC BARRIER DETAILS, SEE SHEET 90 THRU 92 OF 106.
3. FOR SIDEWALK RAILING DETAILS, SEE SHEET 93 THRU 95 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

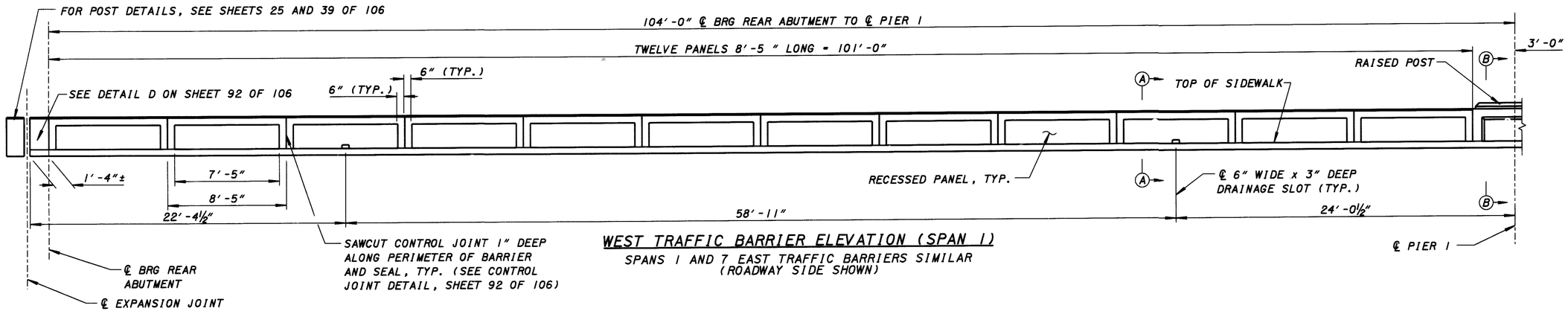
SIDEWALK DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

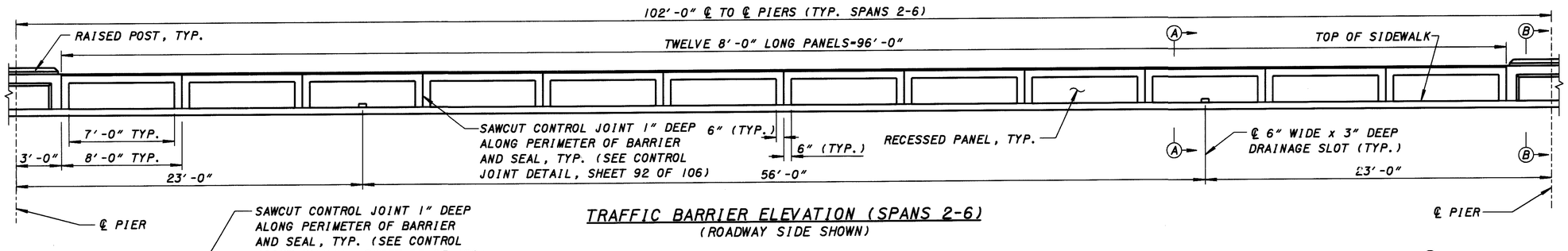
89/106

160/183



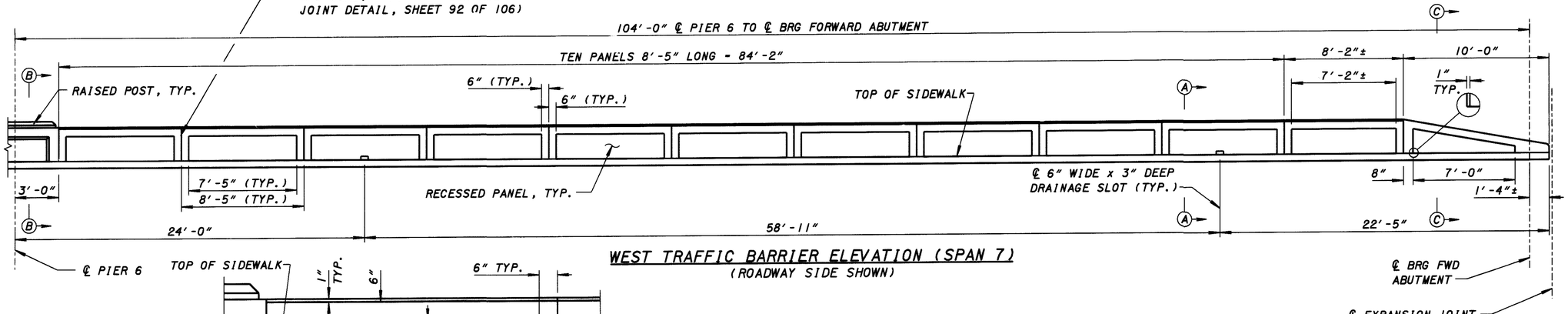
WEST TRAFFIC BARRIER ELEVATION (SPAN 1)

SPANS 1 AND 7 EAST TRAFFIC BARRIERS SIMILAR
(ROADWAY SIDE SHOWN)



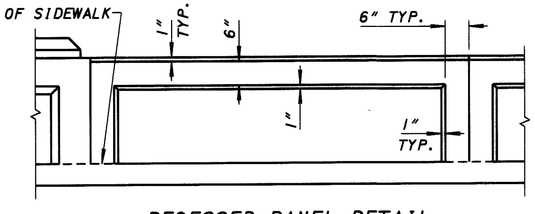
TRAFFIC BARRIER ELEVATION (SPANS 2-6)

(ROADWAY SIDE SHOWN)



WEST TRAFFIC BARRIER ELEVATION (SPAN 7)

(ROADWAY SIDE SHOWN)



RECESSED PANEL DETAIL

(ROADWAY SIDE SHOWN)
(SIDEWALK SIDE SIMILAR)

NOTES:
1. FOR SECTIONS A-A, B-B AND C-C, SEE SHEET 92 OF 106.
2. FOR TRAFFIC BARRIER REBAR DETAILS, SEE SHEET 91 OF 106.

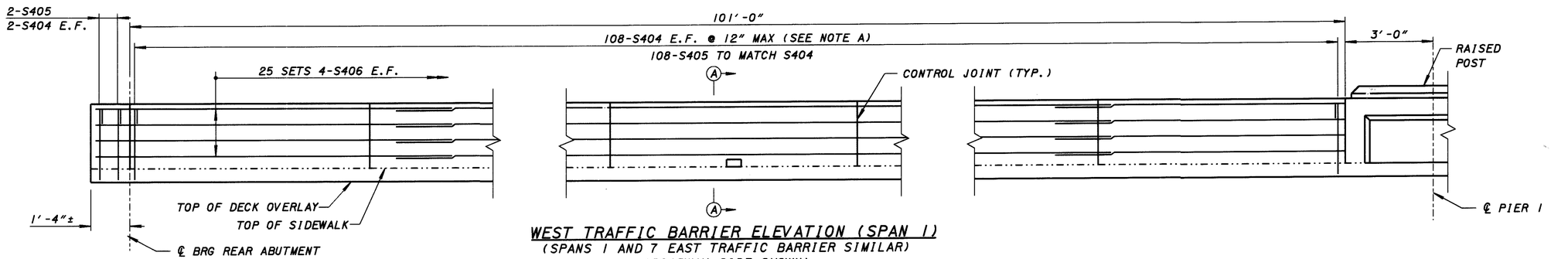
DESIGN AGENCY
HNTB 8350 Broadway, Suite 300, Merrillville, Indiana 46410
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVISED	DATE
NBR	NBR	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502364	

TRAFFIC BARRIER DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

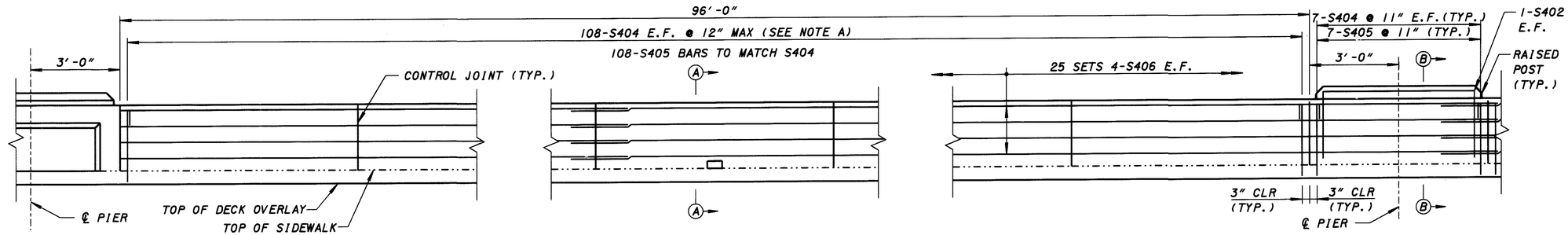
HEN-108-15.55



WEST TRAFFIC BARRIER ELEVATION (SPAN 1)

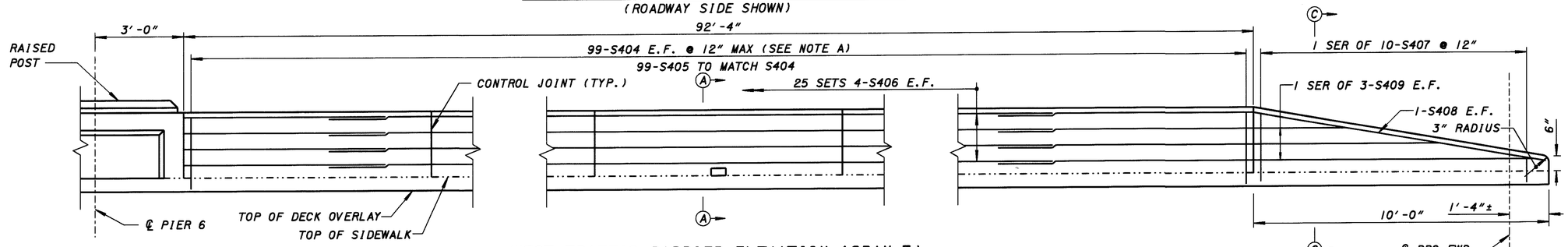
(SPANS 1 AND 7 EAST TRAFFIC BARRIER SIMILAR)

(ROADWAY SIDE SHOWN)



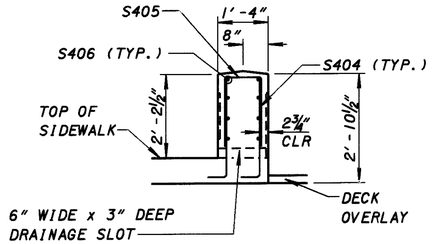
TRAFFIC BARRIER ELEVATION (SPANS 2-6)

(ROADWAY SIDE SHOWN)

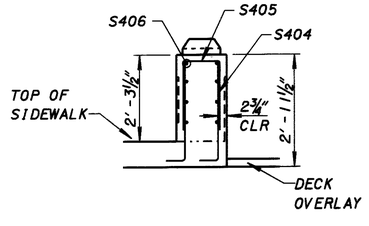


WEST TRAFFIC BARRIER ELEVATION (SPAN 7)

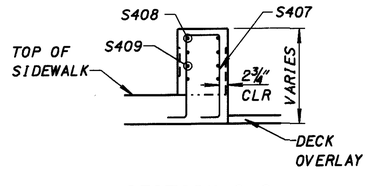
(ROADWAY SIDE SHOWN)



SECTION A-A



SECTION B-B



SECTION C-C

REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ.)	2'-3" MIN.

NOTE A:

VERTICAL REINFORCING STEEL SHALL CLEAR THE CONTROL JOINTS AND DRAINAGE SLOTS BY 3 INCHES MINIMUM. OBTAIN CLEARANCE BY FIELD ADJUSTING THE REINFORCING STEEL SPACING.

DESIGN AGENCY: HNTB 8 Bidwell Place, Suite 300, St. Paul, MN 55102-1616, 651.291.8800, ARCHITECTS ENGINEERS PLANNERS

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NBR	NBR	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

TRAFFIC BARRIER REINFORCING DETAILS

BRIDGE NO. HEN-108-1561 OVER THE MAUMEE RIVER

HEN-108-15.55

91/106

162/183

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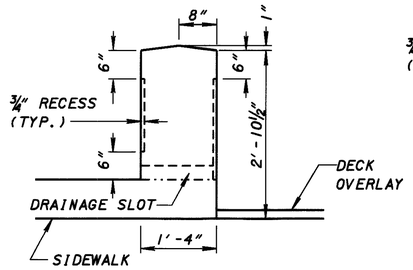
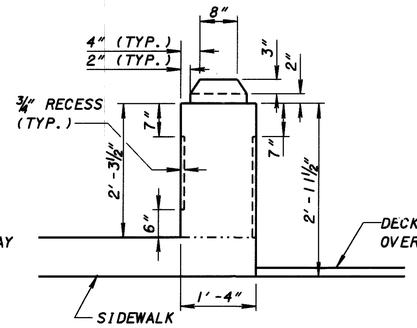
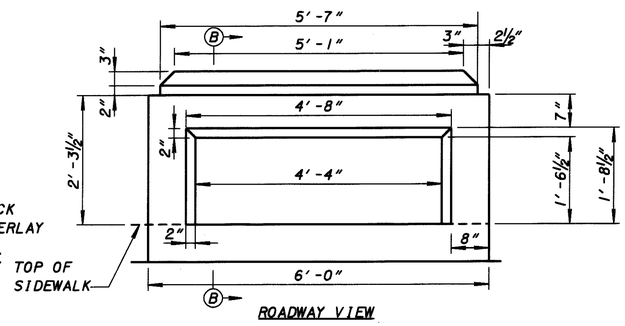
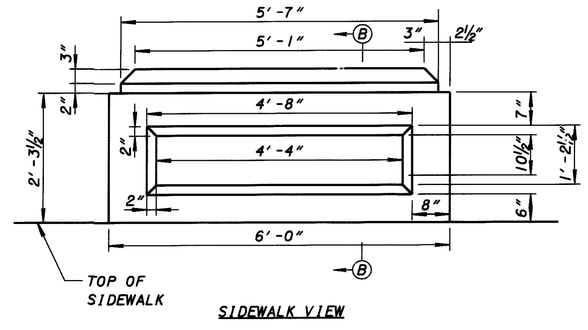


SECTION A-A

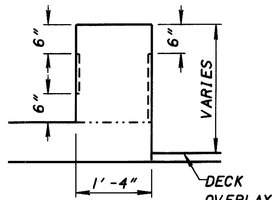


SECTION B-B

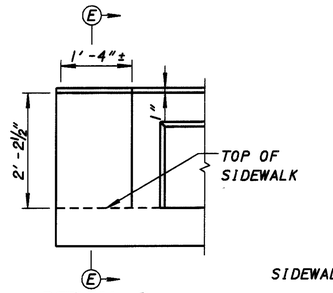




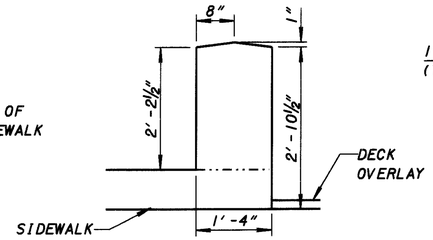
TRAFFIC BARRIER - RAISED POST DETAILS



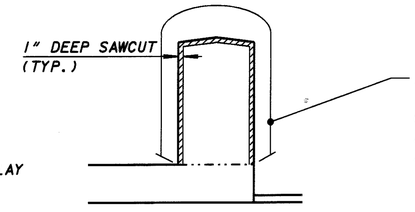
SECTION C-C



DETAIL D

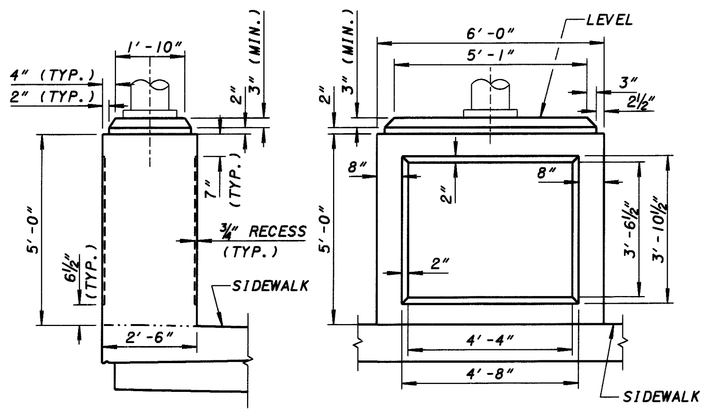


SECTION E-E

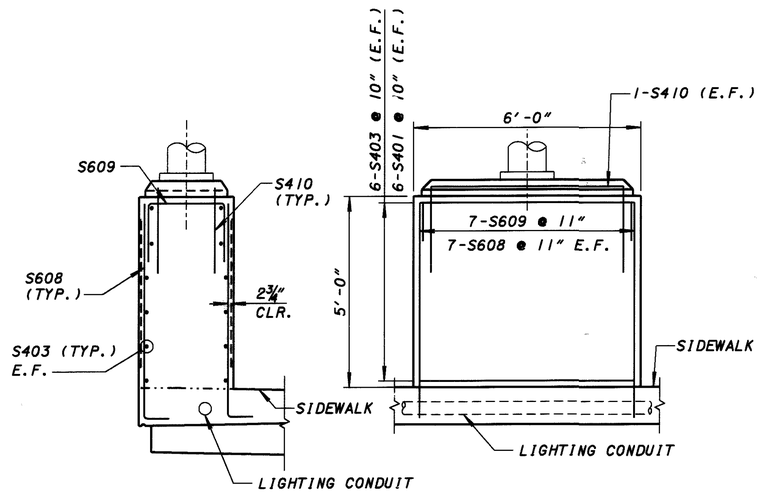


CONTROL JOINT DETAIL

SEAL PERIMETER OF CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE BOTTOM ½" OF BOTH INSIDE AND OUTSIDE FACES OF BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.



LIGHT PEDESTAL DETAIL



LIGHT PEDESTAL REBAR DETAIL

NOTES:
1. FOR TRAFFIC BARRIER DETAILS, AND LOCATIONS OF SECTIONS A-A, B-B AND C-C, SEE SHEET 90 OF 106.
2. FOR TRAFFIC BARRIER REBAR DETAILS, SEE SHEET 91 OF 106.
3. FOR SIDEWALK RAILING DETAILS, SEE SHEET 93 THRU 95 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
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TRAFFIC BARRIER AND LIGHT PEDESTAL DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

92/106

163/183

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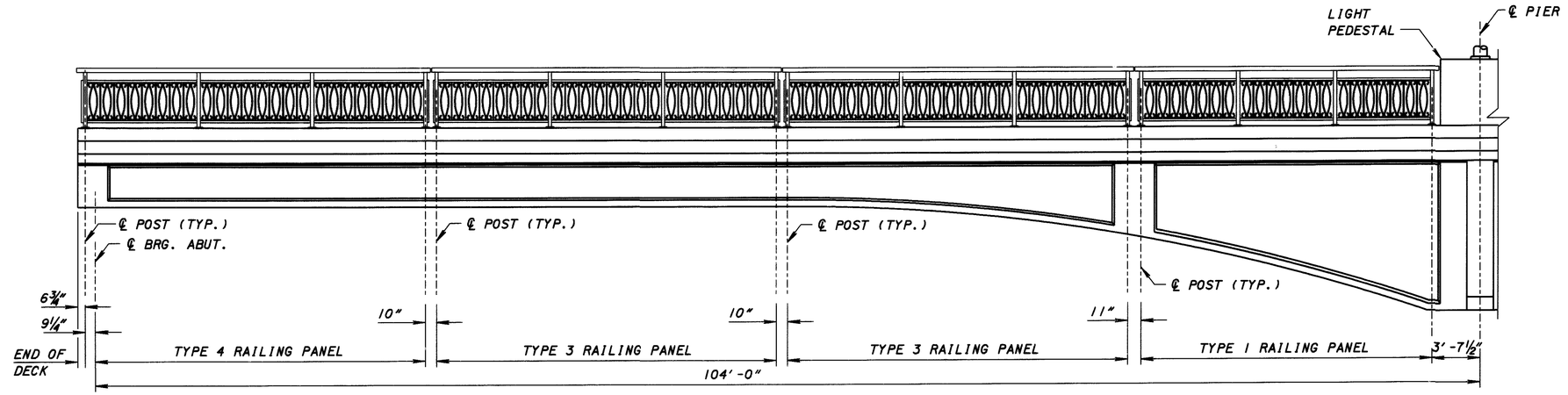
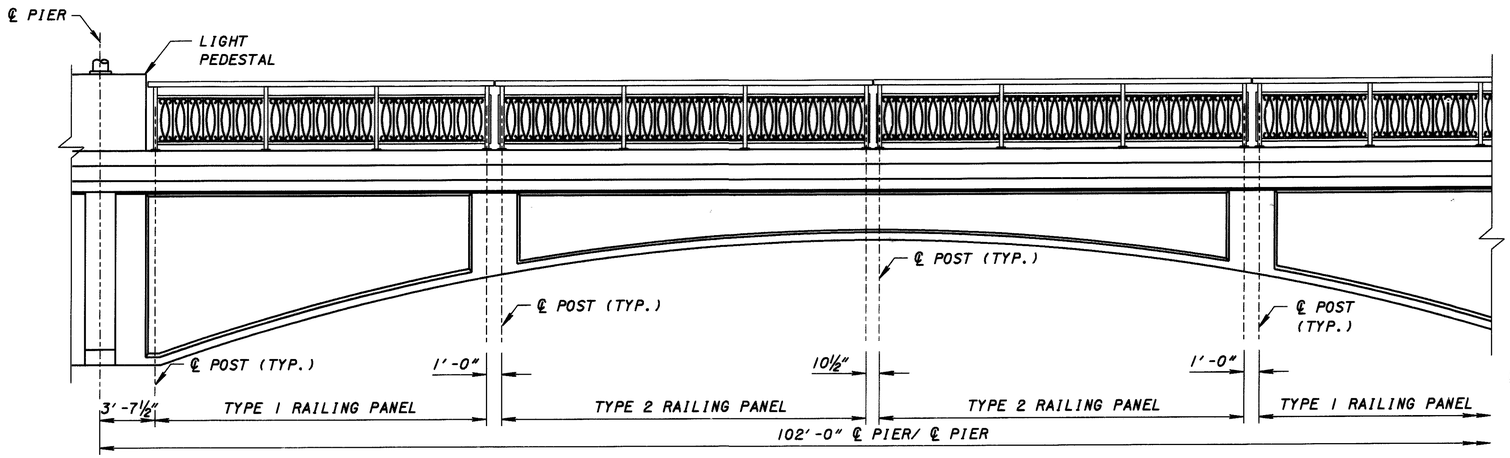
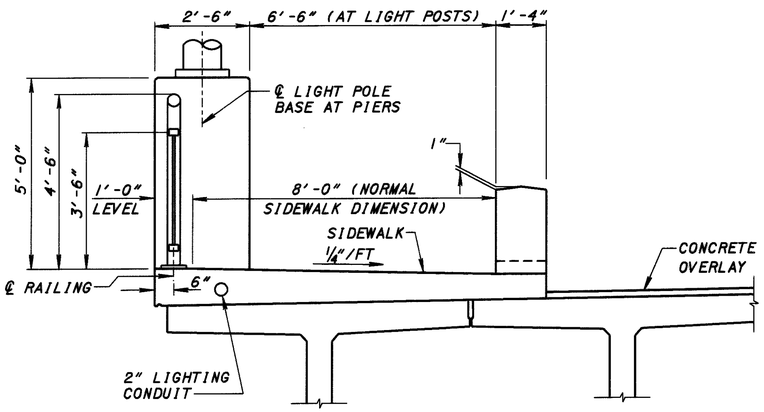


TYPICAL ENDSPAN RAILING ELEVATION



TYPICAL MIDSPAN RAILING ELEVATION



SIDEWALK SECTION

NOTES:

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE SIDEWALK RAILING AND POSTS TO THE ENGINEER.

2. THE RAILING COMPONENTS SHALL BE GALVANIZED PER 711.02 AND MODIFIED FOR PAINTING HEREIN. PROPER SURFACE PREPARATION PRIOR TO GALVANIZING AND PAINTING IS MANDATORY. VENT HOLES MAY BE ADDED AS NEEDED FOR PROPER GALVANIZING. ALL MATERIAL SHALL BE FREE OF PAINT MARKS. AFTER GALVANIZING THE STEEL SHALL BE QUENCHED. THE GALVANIZED SURFACE SHALL BE FREE FROM ALL CONTAMINANTS AND THE SURFACE ADEQUATELY ROUGHENED BEFORE PAINTING. PRIOR TO PAINTING, THE GALVANIZED SURFACE SHALL BE GIVEN AN ACID WASH WITH A CLEAN, WARM WATER RINSE, THEN A LIGHT SWEEP BLAST IN THE SHOP AND SHALL BE PAINTED WITHIN 12 HOURS OF SWEEP BLASTING. THE SWEEP BLAST SHOULD BE SOFT (FRIABLE) MATERIAL SIMILAR TO MAGNESIUM/ALUMINUM SILICATE ABRASIVE. THE SWEEP BLAST SHALL BE TO SUCH AN EXTENT TO SUFFICIENTLY ROUGHEN THE SURFACE TO AID IN PAINT ADHESION BUT NOT REMOVING MORE THAN 10 MICRONS OF ZINC. FIELD CONNECTION AREAS SHALL HAVE A UNIFORM GALVANIZED COATING, FREE OF LOCAL EXCESSIVE ROUGHNESS WHICH WOULD PREVENT THE FIELD CONNECTIONS FROM MAKING INTIMATE CONTACT. ALL DAMAGED GALVANIZING SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780, METHOD A1 OR A3.

   THE PAINT SHALL BE SHOP APPLIED. (IF PAINTED WITHIN 48 HOURS AFTER GALVANIZING, AN ACID WASH WILL NOT BE NECESSARY, ONLY THE LIGHT SWEEP BLAST.) THE PAINT SYSTEM SHALL BE PER 514, 1ZEU, A TIE COAT OF EPOXY PAINT AND TOP COAT OF EPOXY URETHANE PAINT. THE INORGANIC ZINC PRIMER SHALL BE NON-PERFORMED. ALL EXPOSED AREAS OF THE RAILING, BASE PLATES, CONNECTIONS, BOLTS, WASHERS, AND NUTS SHALL BE PAINTED. TOUCH UP OF ANY DAMAGED PAINT DURING HANDLING AND ERECTION IS REQUIRED AND SHALL BE AS DIRECTED BY THE PROJECT ENGINEER. THE COLOR OF THE FINISHED RAILING SHALL BE BRONZE. THE COLOR SHALL BE COORDINATED THROUGH THE DISTRICT AND SHALL MATCH THE COLOR OF THE DECORATIVE LIGHT POLES.

3. FOR ADDITIONAL NOTES, INCLUDING PAYMENT FOR GALVANIZING AND PAINTING NOTE AND RAILING PANEL DETAILS SEE SHEETS 94 AND 95 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
JDM	BBB	RHM	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDM		3502384	

SIDEWALK RAILING DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

93/106

164/183

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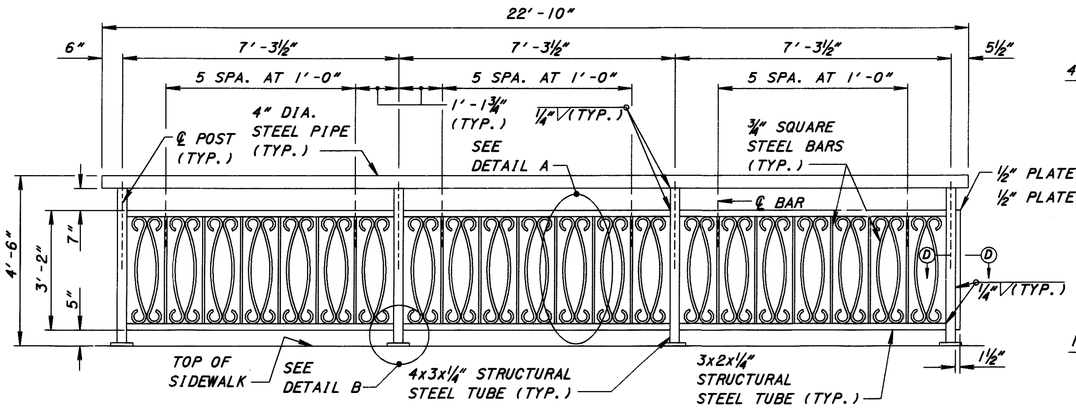
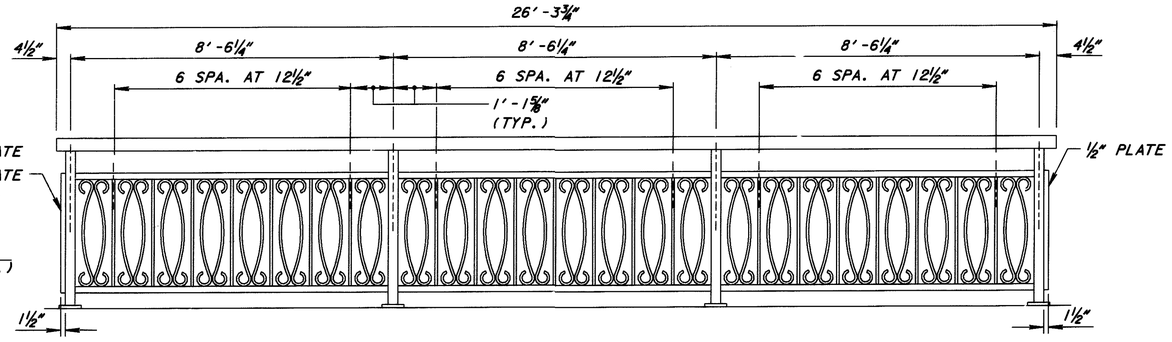
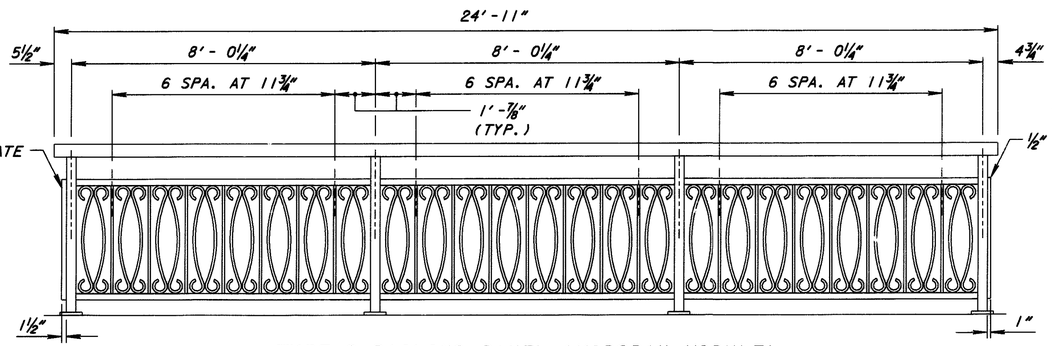


TYPE 1 RAILING PANEL (PIER MODULE)



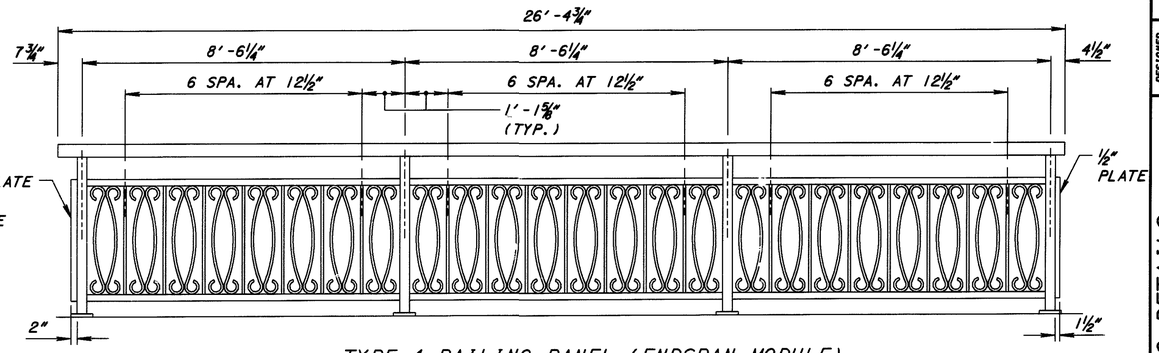
TYPE 3 RAILING PANEL (ENDSPAN MODULE)

SEE TYPE 1 RAILING PANEL FOR ADDITIONAL INFORMATION



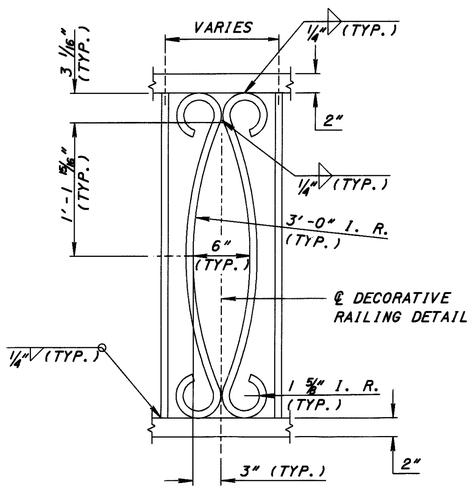
TYPE 2 RAILING PANEL (MIDSPAN MODULE)

SEE TYPE 1 RAILING PANEL FOR ADDITIONAL INFORMATION

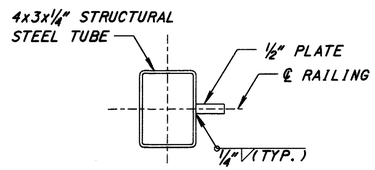


TYPE 4 RAILING PANEL (ENDSPAN MODULE)

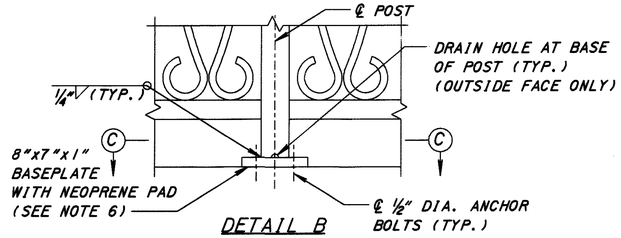
SEE TYPE 1 RAILING PANEL FOR ADDITIONAL INFORMATION



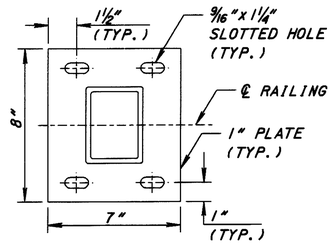
DETAIL A



SECTION D-D



DETAIL B



SECTION C-C

NOTES:

1. STRUCTURAL STEEL PLATES AND BARS SHALL BE ASTM A709 GRADE 50. STRUCTURAL STEEL TUBING SHALL BE ASTM A500, GRADE B OR ASTM 501.
2. USE ASTM A325 TYPE 1 GALVANIZED BOLTS, NUTS, AND WASHERS. PAINT ALL EXPOSED SURFACES . USE VANDAL PROOF NUTS OR BURN THREADS OF ANCHOR BOLTS AFTER TIGHTENING NUTS.
3. BEFORE ANY ANCHOR HOLES ARE DRILLED, THE LOCATION OF THE SIDEWALK REBARS SHALL BE FOUND AND MARKED BY USE OF A REBAR LOCATOR. IF A SIDEWALK BAR IS FOUND AT THE SAME LOCATION AS THE DOWEL HOLE, THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF THE SLOTTED HOLE TO CLEAR THE SIDEWALK BAR. IF POSSIBLE AVOID CORE DRILLING. HOLES SHALL NOT EXTEND BELOW THE BOTTOM OF THE SIDEWALK.
4. EXTEND THE POST ANCHOR BOLTS 2" ABOVE THE CONCRETE.
5. EPOXY RESIN SHALL BE AS PER 705.20.
6. POSTS SHALL BE NORMAL TO LONGITUDINAL GRADE AFTER INSTALLATION. A NEOPRENE PAD SHALL BE PLACED BETWEEN THE BASE PLATES AND THE CONCRETE SURFACE.
7. THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, ANCHORS, NEOPRENE PADS, GALVANIZING, PAINTING AND INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION OF THE RAILING. PAYMENT SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 517 RAILING, MISC.: DECORATIVE METAL RAILING, AS PER PLAN, (BRIDGE MOUNTED, 54" HIGH).
8. FOR LOCATION OF RAILING PANELS AND MATERIAL SPECIFICATIONS SEE SHEET 93 OF 106.
9. ½ INCH DIA. ANCHOR BOLTS SHALL HAVE A MINIMUM PULLOUT CAPACITY OF 3.5 KIPS.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS
(5) Nationwide Plaza, Suite 800
Columbus, Ohio 43215-2530

DESIGNED	DRAWN	REVIEWED	DATE
JDM	BBB	RHW	01/16/04
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JDM		3502384	

SIDEWALK RAILING DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

94/106

165/183

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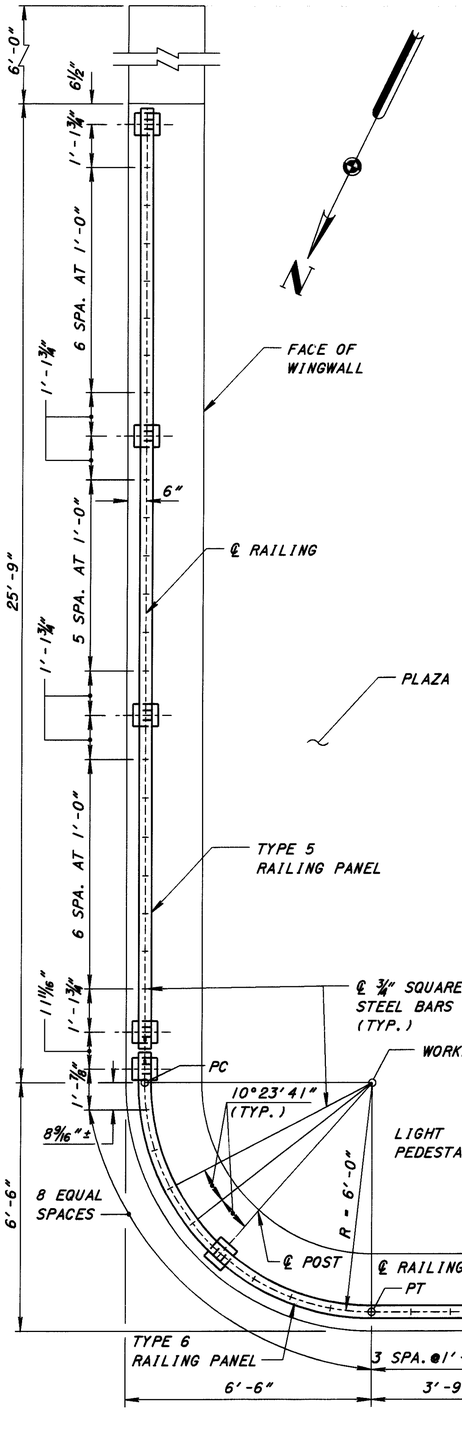
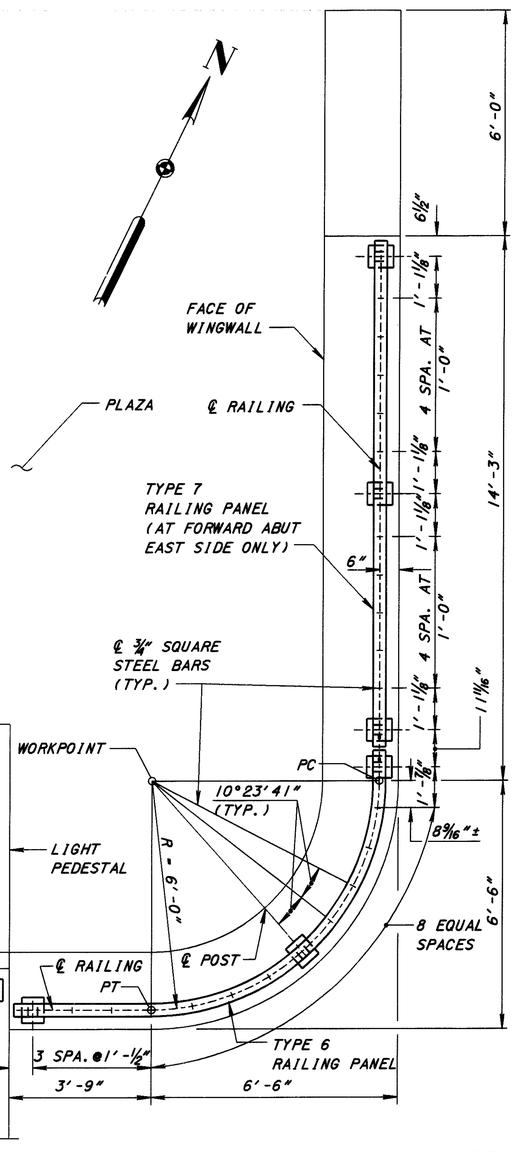


PLAN - RAILING AT REAR ABUTMENT (EAST SIDE)

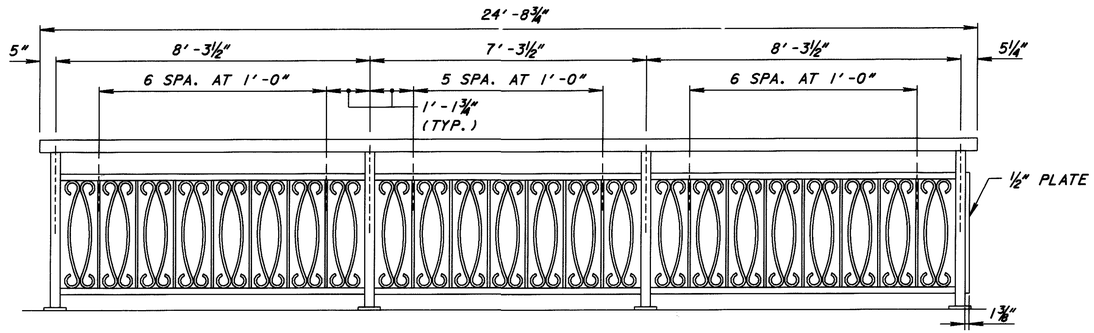
(REAR ABUTMENT WEST SIDE, OPPOSITE HAND)



PLAN - RAILING AT FORWARD ABUTMENT (EAST SIDE)

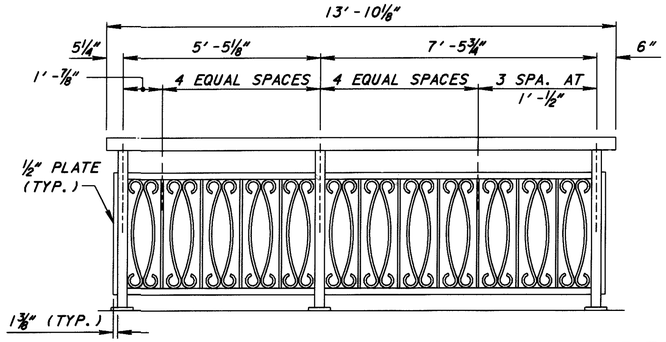
(FORWARD ABUTMENT WEST SIDE, OPPOSITE HAND)

(NOTE: TYPE 7 RAILING PANEL NOT INCLUDED AT FORWARD ABUTMENT, WEST SIDE)



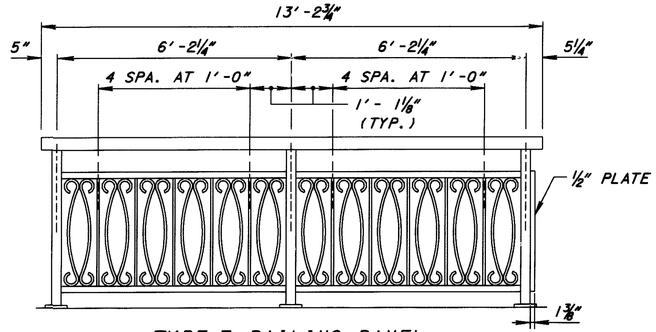
TYPE 5 RAILING PANEL (REAR ABUTMENT)

SEE TYPE 1 RAILING PANEL FOR ADDITIONAL INFORMATION



TYPE 6 DEVELOPED RAILING PANEL (BOTH ABUTMENTS)

SEE TYPE 1 RAILING PANEL FOR ADDITIONAL INFORMATION



TYPE 7 RAILING PANEL
(FORWARD ABUTMENT, EAST SIDE ONLY)

SEE TYPE 1 RAILING PANEL FOR ADDITIONAL INFORMATION

NOTES:

1. FOR ADDITIONAL RAILING NOTES AND DETAILS SEE SHEETS 93 AND 94 OF 106.
2. FOR PLAZA DETAILS SEE SHEETS 101 AND 102 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVISED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDM		350284	

ABUTMENT RAILING DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

95/106

166/183

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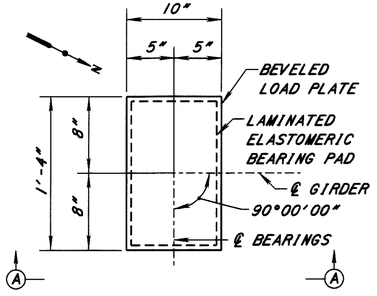
LAMINATED ELASTOMERIC BEARINGS													
LOCATION	TYPE	NO. REQ'D.	ELASTOMERIC BEARING DIMENSIONS								TOP BEVELED STEEL LOAD PLATE	REACTIONS (K)		TOTAL LOAD (K)
			L	W	ti	te	T	Ni	Ne	N	LENGTH X WIDTH X THICKNESS	DL	*LL	(DL+LL)
ABUTMENTS	EXP	18	9"	1'-3"	.350"	.230"	3.08"	6	2	7	10" x 1-4" x 1½"	125.1	64.2	189.3
PIERS	RES	54	1'-7"	1'-7"	.500"	.350"	4.22"	6	2	7	1'-8" x 1'-8" x 1½"	322.1	129.3	451.4

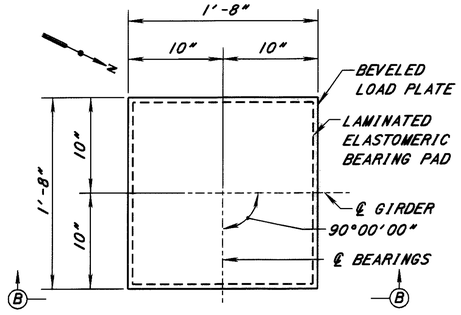
ti = THICKNESS OF INTERNAL LAYER
te = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.0747"
DUROMETER OF ELASTOMER = 60 DUROMETER
TOP BEVELED LOAD PLATE THICKNESS IS MEASURED AT ℄ BEARINGS.

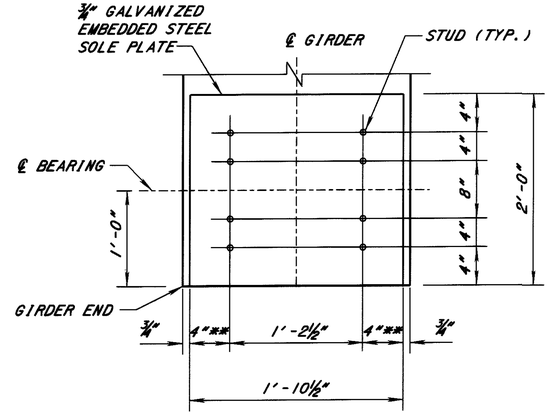
K - DENOTES KIPS
* LIVE LOAD WITHOUT IMPACT



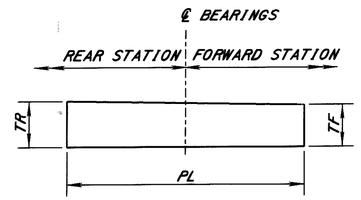
PLAN
(AT ABUTMENTS ONLY)



PLAN
(AT PIERS ONLY)

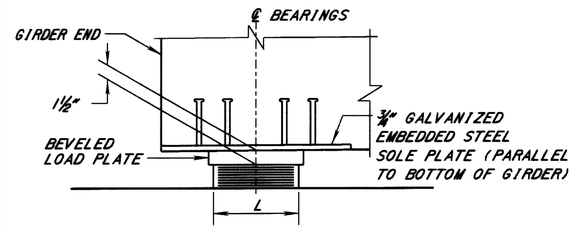


SECTION C-C
(BEARING AND LOAD PLATE NOT SHOWN)
** - IN ORDER TO ALLOW FOR FIT-UP, THE PLATE WIDTH MAY BE DECREASED BY ⅜". ALL DIMENSIONS SHALL BE CORRECTED ACCORDINGLY.

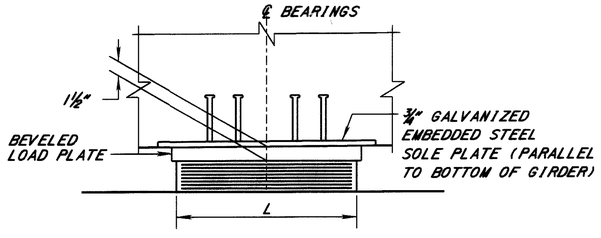


BEVELED LOAD PLATE DETAIL

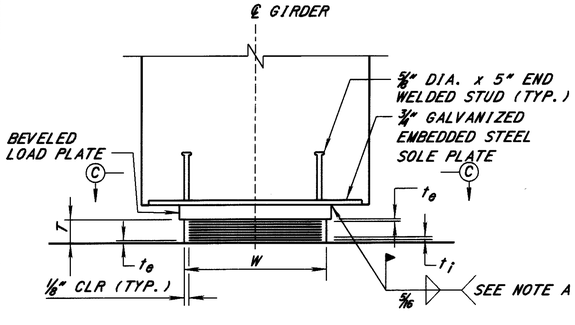
SUPPORT	PL	TR	TF
REAR ABUT.	10"	1 1/16"	1 9/16"
PIER 1	1'-8"	1 3/16"	1 11/16"
PIER 2		1 5/16"	1 13/16"
PIER 3		1½"	1½"
PIER 4		1 5/16"	1 13/16"
PIER 5		1 3/16"	1 11/16"
PIER 6		1 1/16"	1 5/16"
FWD. ABUT.	10"	1 1/16"	1 1/16"



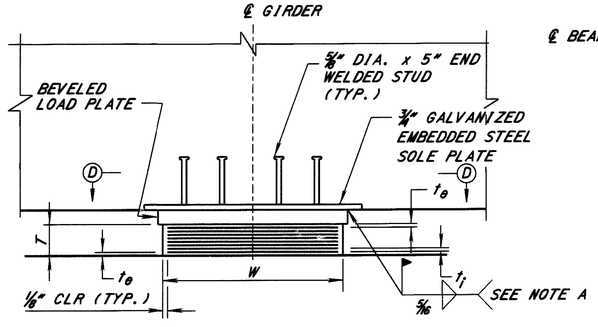
VIEW A-A



VIEW B-B

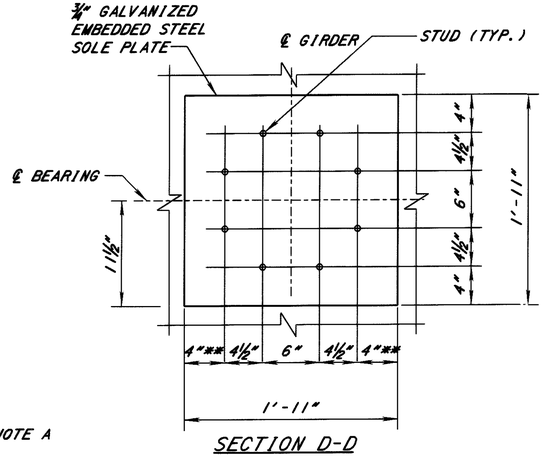


LAMINATED ELASTOMERIC BEARING
(AT ABUTMENTS ONLY)



LAMINATED ELASTOMERIC BEARING
(AT PIERS ONLY)

NOTE A:
FIELD WELDING OF THE BEVELED LOAD PLATE TO THE EMBEDDED SOLE PLATE MAY BE PERFORMED ON SITE PRIOR TO ERECTING THE MODULE OR PERFORMED ON THE SUBSTRUCTURE UNIT (ABUTMENT OR PIER CAP). THE BEVELED LOAD PLATE SHALL NOT BE SHOP WELDED TO THE EMBEDDED SOLE PLATE.



SECTION D-D
(BEARING AND LOAD PLATE NOT SHOWN)
** - IN ORDER TO ALLOW FOR FIT-UP, THE PLATE WIDTH MAY BE DECREASED BY ⅜". ALL DIMENSIONS SHALL BE CORRECTED ACCORDINGLY.

NOTES:

1. ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND ASSHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 18, BEARING DEVICES DIVISION II, CONSTRUCTION, ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 60 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE. BEARINGS WERE DESIGNED UNDER SECTION 14.6.5 OF SECTION 14, BEARINGS, DIVISION I, DESIGN. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.
2. EARTHQUAKE RETAINER ANGLES, BENT PLATES, AND ANCHOR BOLTS SHALL BE INCLUDED WITH ITEM 516 FOR PAYMENT.
3. IF THE CONCRETE BEAMS ARE ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40 °F AND THE BEARINGS SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F ± 10°F, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.
4. THE STEEL LOAD PLATES AND SOLE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572 GRADE 50 AND SHALL BE GALVANIZED PER 711.02.
5. THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
6. WELDING OF THE LOAD PLATE TO THE SOLE PLATE SHALL BE CONTROLLED SO THAT THE LOAD PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
7. SHOP MARK THE STEEL LOAD PLATES WITH THE FOLLOWING INFORMATION: TOP, FORWARD STATION DIRECTION, LOCATION, AND GIRDER LINE NUMBER.
8. THE WELDED STUDS MAY BE MOVED SLIGHTLY IN ORDER TO AVOID REINFORCING STEEL AND PRESTRESSING STRANDS
9. WELDED SHEAR STUD CONNECTORS SHALL CONFORM TO ITEM 513.
10. THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARING EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS, WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

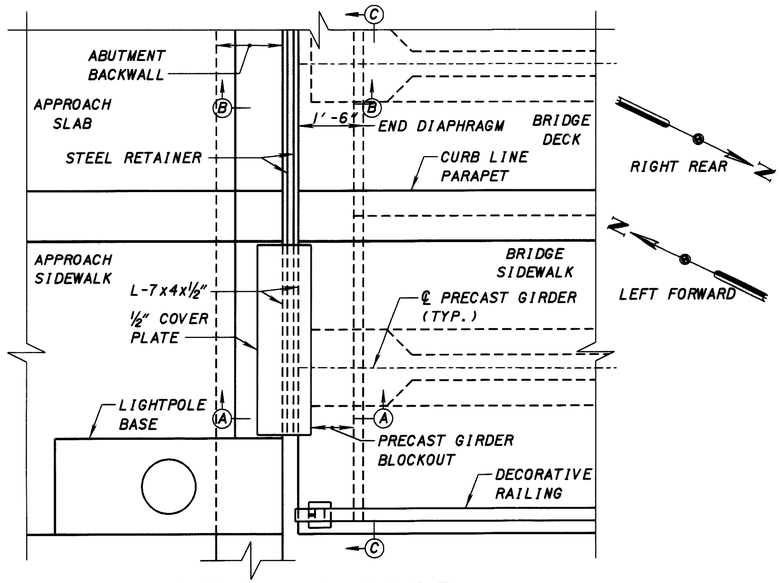
DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED JDM
DRAWN BBB
CHECKED JDM
REVISED
REVIEWED RHW
DATE 01/16/04
STRUCTURE FILE NUMBER 3502384

ELASTOMERIC BEARING DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

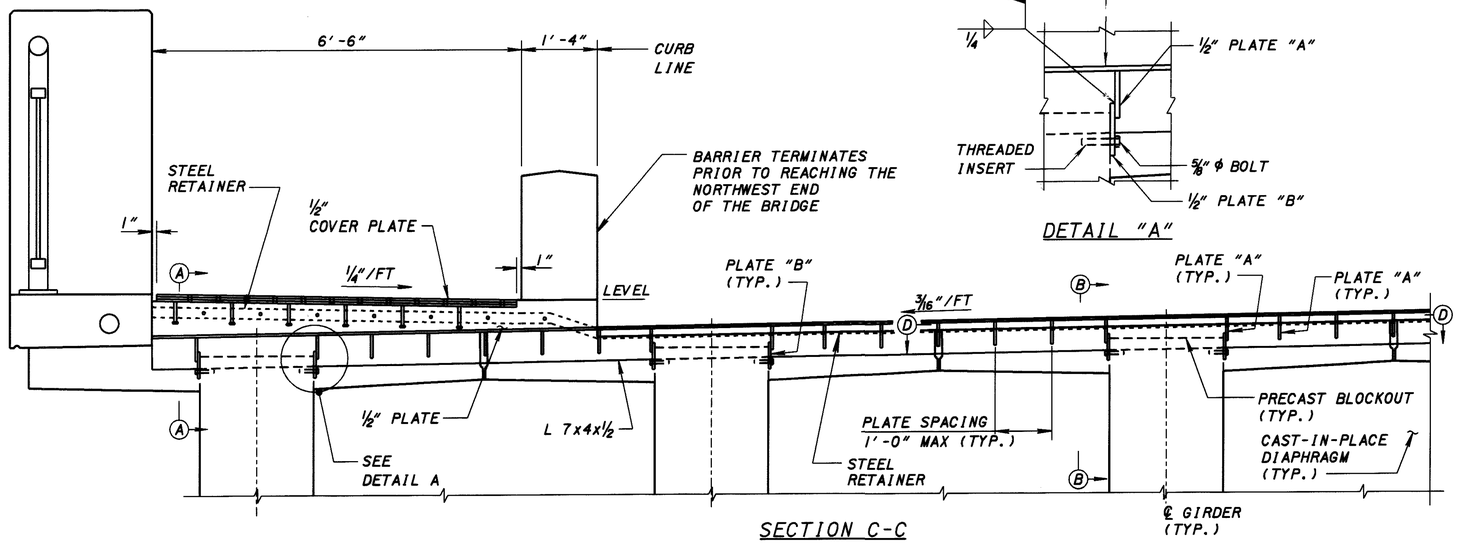
HEN-108-15.55

96/106
167/183



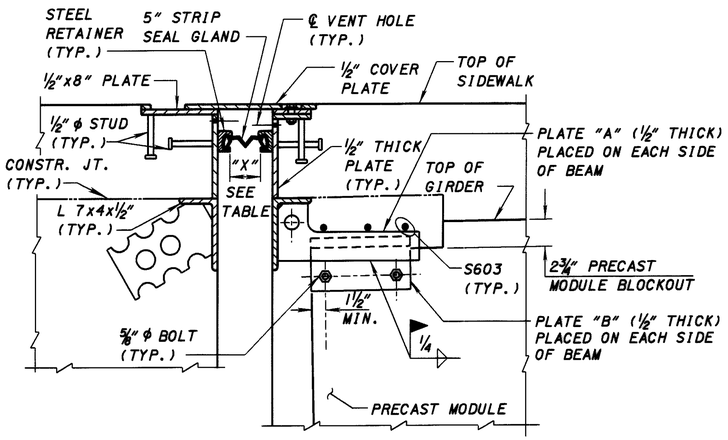
PART PLAN AT ABUTMENT

(RIGHT REAR AND LEFT FORWARD QUADRANTS SHOWN, OTHERS SIMILAR)



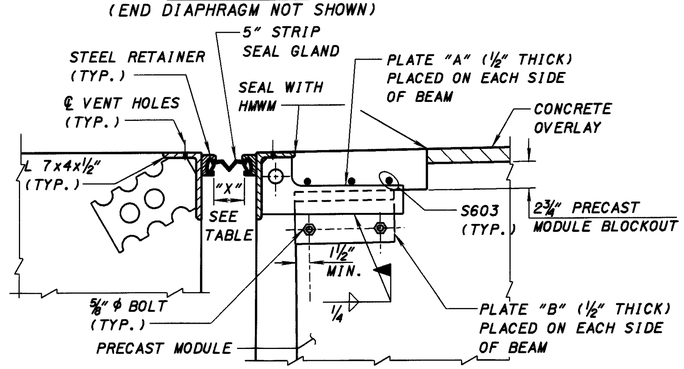
SECTION C-C

DETAIL "A"



SECTION A-A

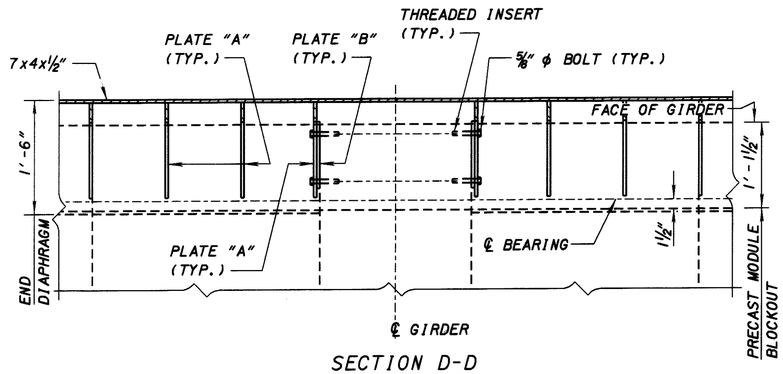
(END DIAPHRAGM NOT SHOWN)



SECTION B-B

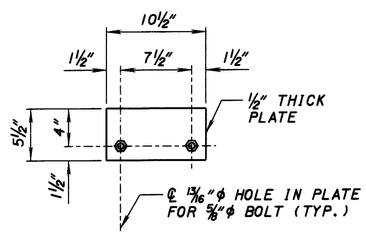
(END DIAPHRAGM NOT SHOWN)

JOINT OPENING	
TEMP.	"X"
30° F	3¼"
40° F	2⅞"
50° F	2⅝"
60° F	2⅜"
70° F	2⅛"
80° F	1¾"
90° F	1½"

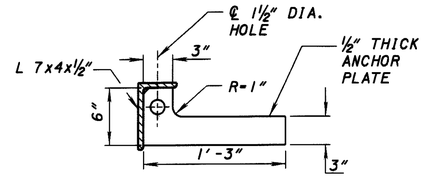


SECTION D-D

(REINFORCEMENT NOT SHOWN FOR CLARITY)



DETAIL OF PLATE "B"



DETAIL OF PLATE "A"

NOTES:

1. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS FOR EXPANSION JOINTS AND SUBMIT THEM TO THE ENGINEER FOR REVIEW. THE DRAWINGS SHALL CONTAIN ALL COMPONENTS NECESSARY FOR THE IN-PLACE JOINTS ALONG WITH SIDEWALK JOINT ASSEMBLIES. IN ADDITION TO THE DETAILS AS SHOWN IN THIS DRAWING, REFER TO ODOT STANDARD DRAWINGS EXJ-6-95 SHEETS 1 THROUGH 5 FOR ADDITIONAL DETAILS.

2. FOR END DIAPHRAM DETAILS, SEE SHEET 87 OF 106.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DATE 01/16/04
REVIEWED RHW
STRUCTURE FILE NUMBER 3502384
DRAWN BBB
REVISED
DESIGNED BBB
CHECKED JLV

EXPANSION JOINT DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

97/106

168/183

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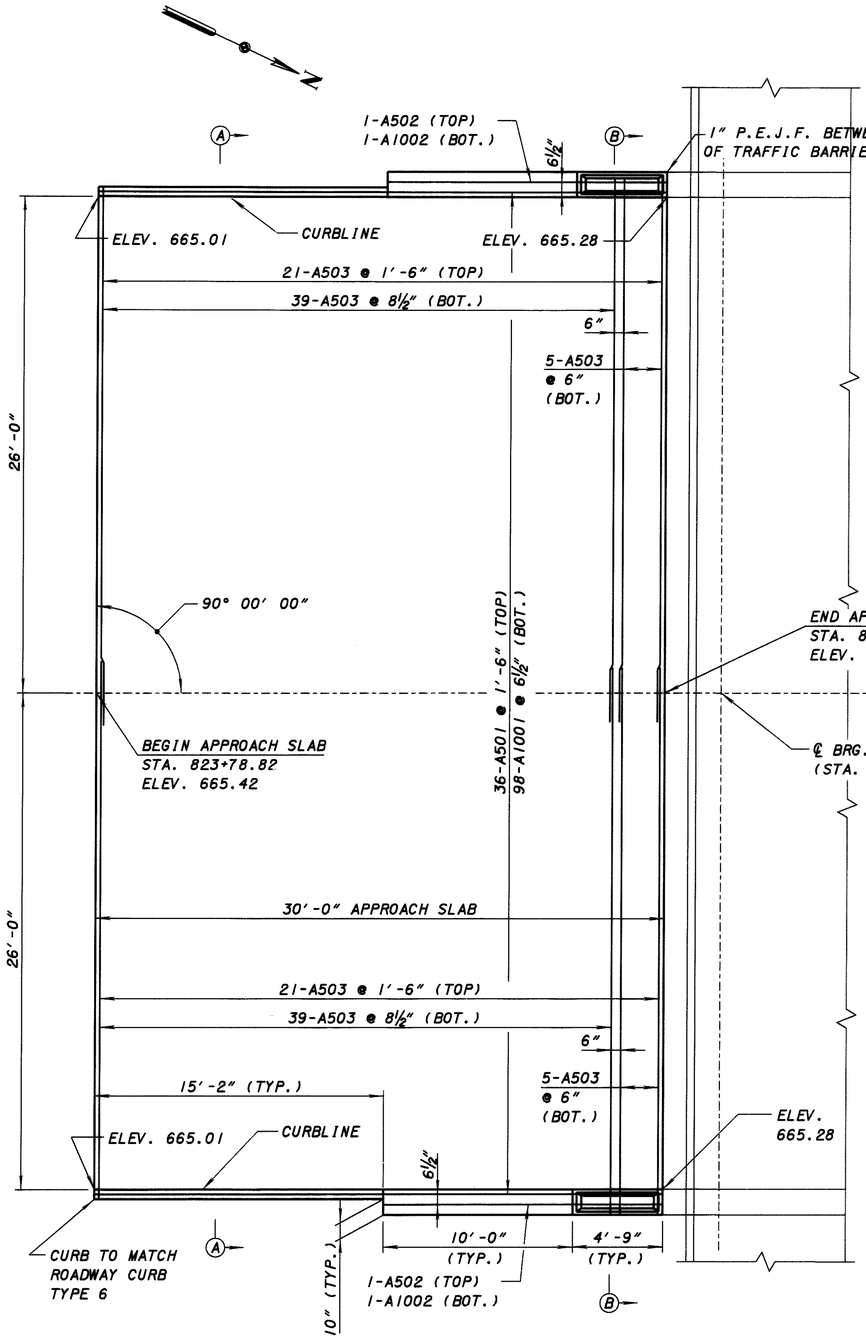
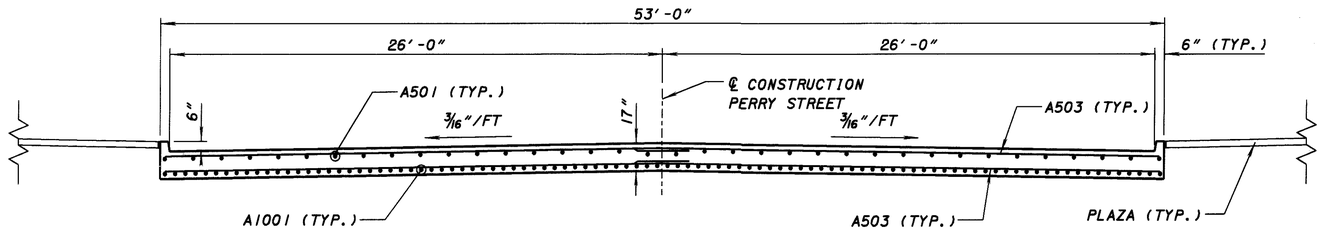
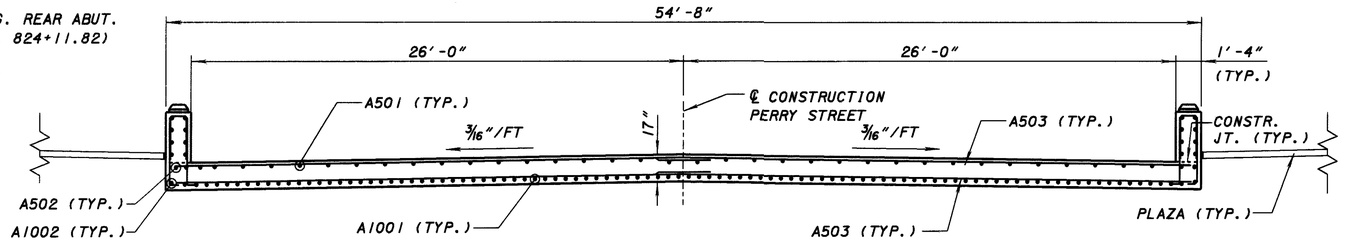


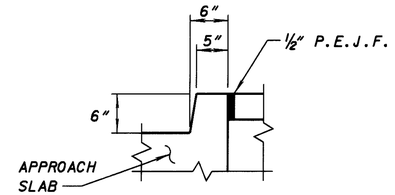
REAR APPROACH SLAB PLAN
(PLAZAS NOT SHOWN)



SECTION A-A



SECTION B-B



CURB DETAIL

REQUIRED LAP LENGTHS	
NO. 5 BARS (HORIZ.)	2'-9" MIN.

NOTES:

1. FOR FORWARD APPROACH SLAB DETAILS, SEE SHEET 99 OF 106.
2. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE ODOT STANDARD DRAWING AS-1-81.
3. FOR RAISED POST DETAILS, SEE SHEET 100 OF 106
4. FOR REBAR SCHEDULE, SEE SHEET 104 OF 106.
5. FOR PLAZA DETAILS, SEE SHEET 101 OF 106.

DESIGN AGENCY
HNTB 55 Erieview Plaza, Suite 600 Cleveland, Ohio 44114-1815
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

REAR APPROACH SLAB DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-13.55

98/106

169/183

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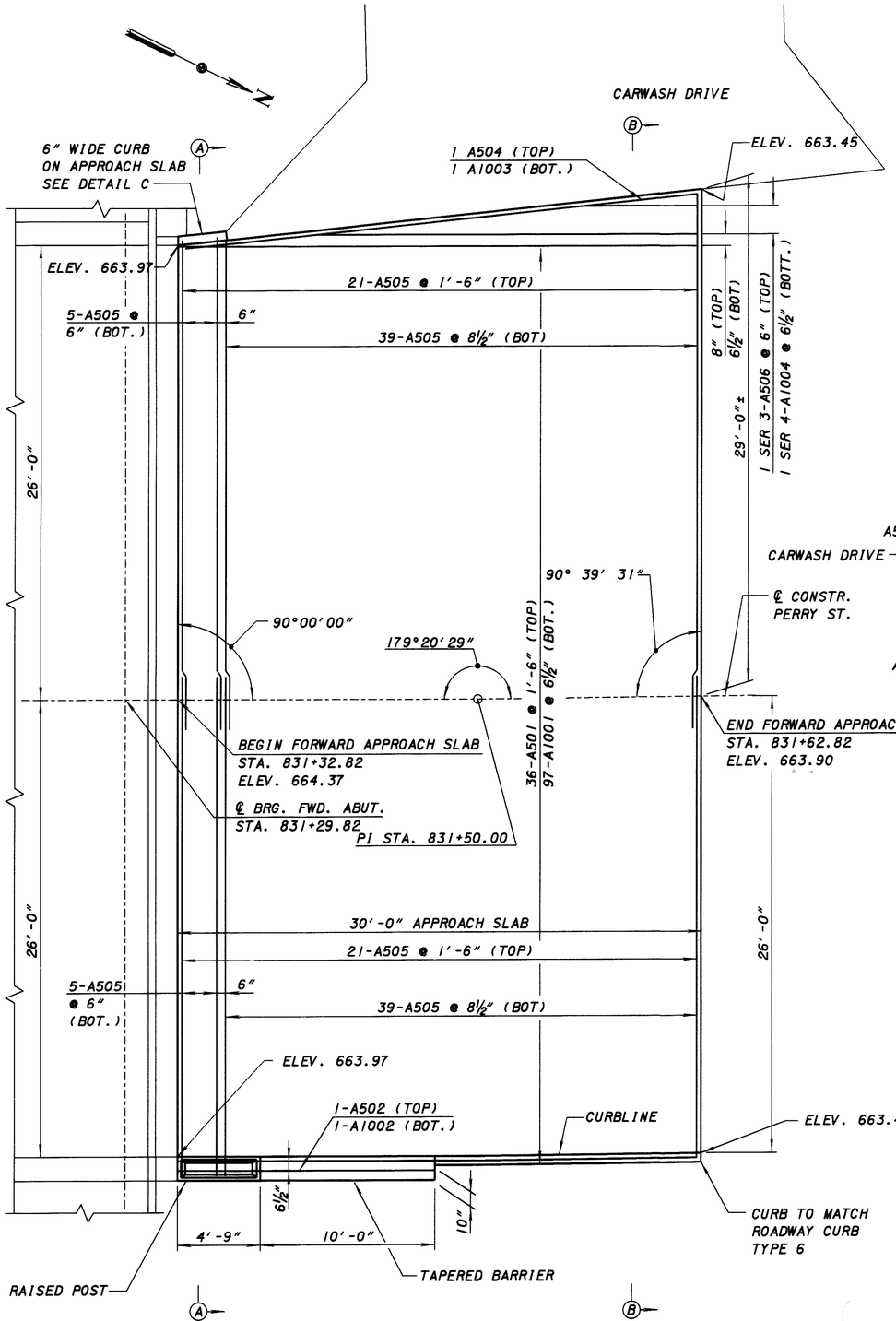
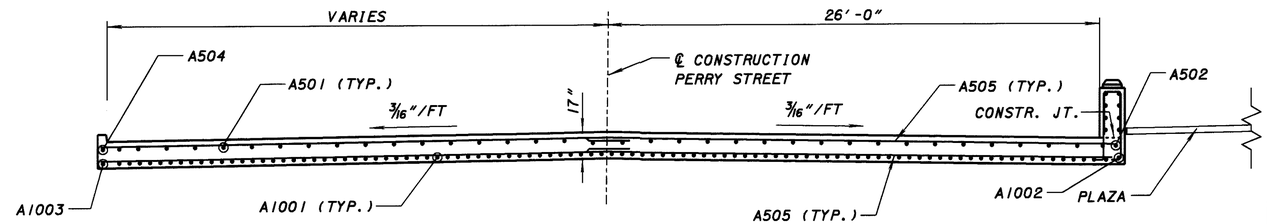
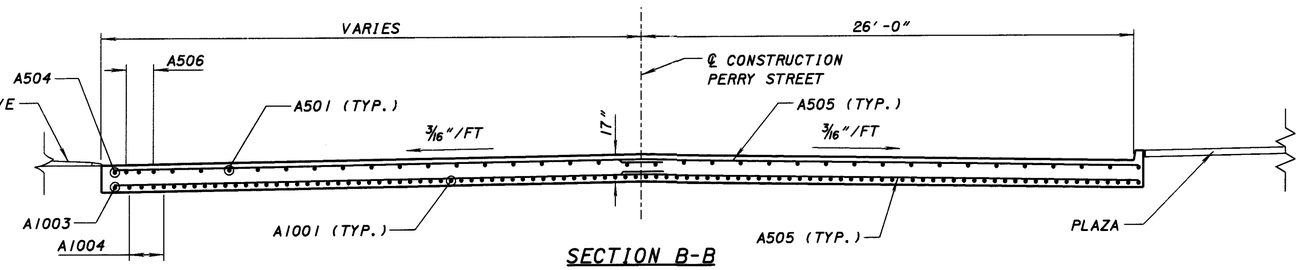


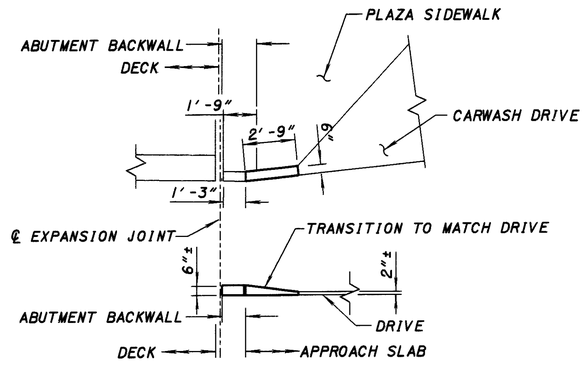
FORWARD APPROACH SLAB PLAN
(PLAZAS NOT SHOWN)



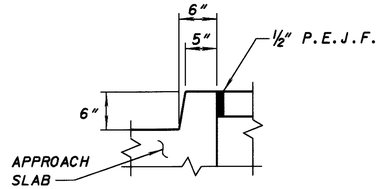
SECTION A-A



SECTION B-B



DETAIL C



CURB DETAIL

REQUIRED LAP LENGTHS	
NO. 5 BARS (HORIZ.)	2'-9" MIN.

NOTES:

1. FOR REAR APPROACH SLAB DETAILS, SEE SHEET 89 OF 106.
2. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE ODOT STANDARD DRAWING AS-1-81.
3. FOR DETAILS ON THE RAISED POST AND TAPERED BARRIER, SEE SHEET 100 OF 106.
4. FOR REBAR SCHEDULE, SEE SHEET 104 OF 106.
5. FOR PLAZA DETAILS, SEE SHEET 101 OF 106.

DESIGN AGENCY
HNTB
OHNTB Corporation, Suite 500
Columbus, Ohio 43215
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVISED	DATE
NBR	NBR		01/16/04
CHECKED	REVISED		
JLV			

STRUCTURE FILE NUMBER 3502384

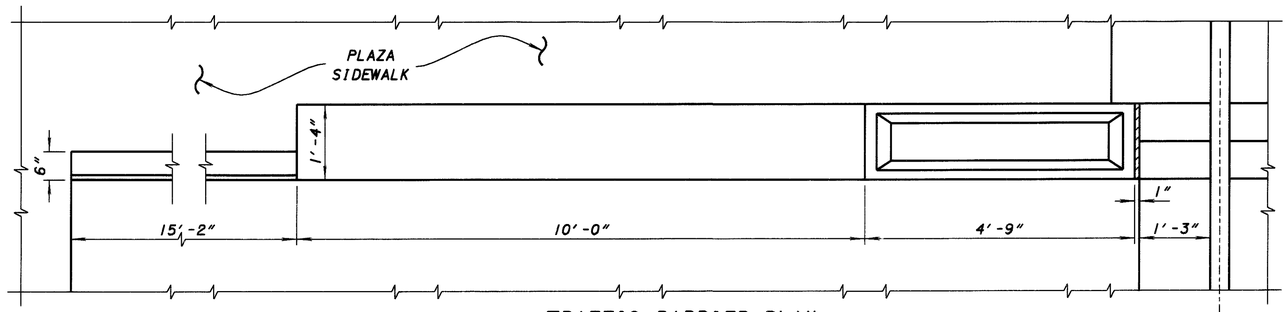
FORWARD APPROACH SLAB DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

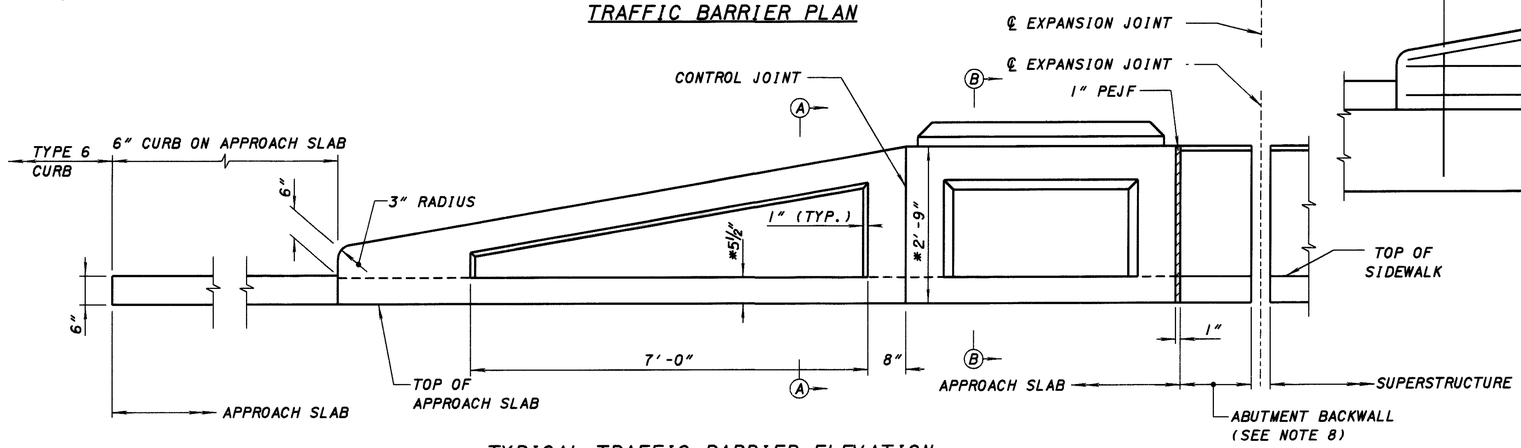
HEN-108-15.55

99/106

170/183

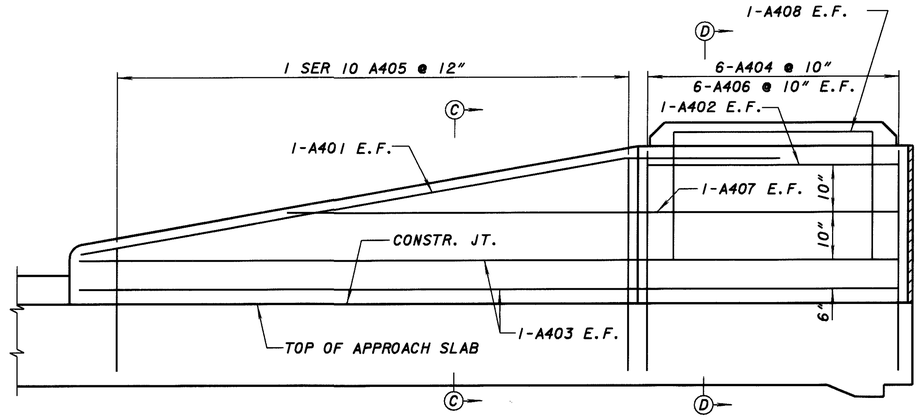


TRAFFIC BARRIER PLAN



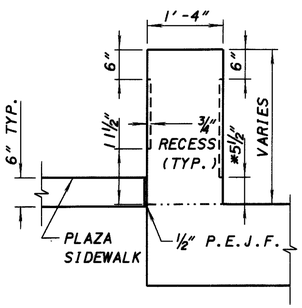
TYPICAL TRAFFIC BARRIER ELEVATION

(ROADWAY SIDE SHOWN)

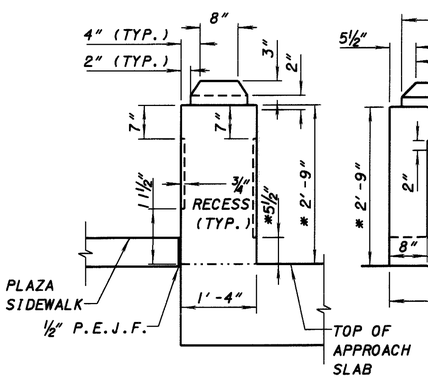


TYPICAL REBAR LAYOUT

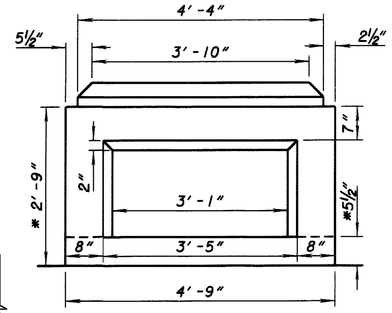
LOCATED ON APPROACH SLABS



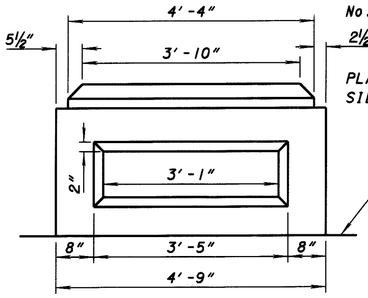
SECTION A-A



SECTION B-B

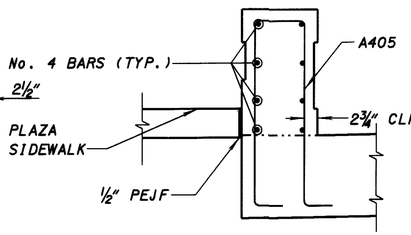


ROADWAY SIDE

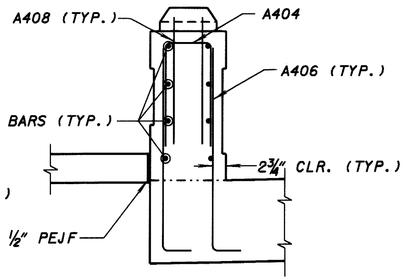


SIDEWALK SIDE

RAISED POST DETAILS



SECTION C-C



SECTION D-D

REQUIRED LAP LENGTHS	
NO. 4 BARS (HORIZ.)	2'-3" MIN.

*** NOTE:**

THESE ARE NOMINAL DIMENSIONS AND SHALL BE ADJUSTED AS REQUIRED TO MATCH THE TRAFFIC BARRIER ON THE BRIDGE.

NOTES:

1. APPROACH SLAB TRAFFIC BARRIERS AND REINFORCING SHALL BE INCLUDED WITH ITEM 526 FOR PAYMENT.
2. DETAILS SHOWN ARE TYPICAL FOR THE SOUTHEAST, SOUTHWEST AND NORTHEAST TRAFFIC BARRIERS ON THE APPROACH SLABS.
3. FOR APPROACH SLAB DETAILS, SEE SHEETS 98 AND 99 OF 106.
4. FOR DETAILS ON THE PLAZAS, SEE SHEET 101 OF 106.
5. FOR REBAR SCHEDULE, SEE SHEET 104 OF 106.
6. FOR DECK TRAFFIC BARRIER DETAILS, SEE SHEET 91 OF 106.
7. FOR CONTROL JOINT DETAIL, SEE SHEET 92 OF 106.
8. FOR TRAFFIC BARRIER DETAILS ON ABUTMENT BACKWALL, SEE ABUTMENT DETAILS.

DESIGN AGENCY
HNTB
ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

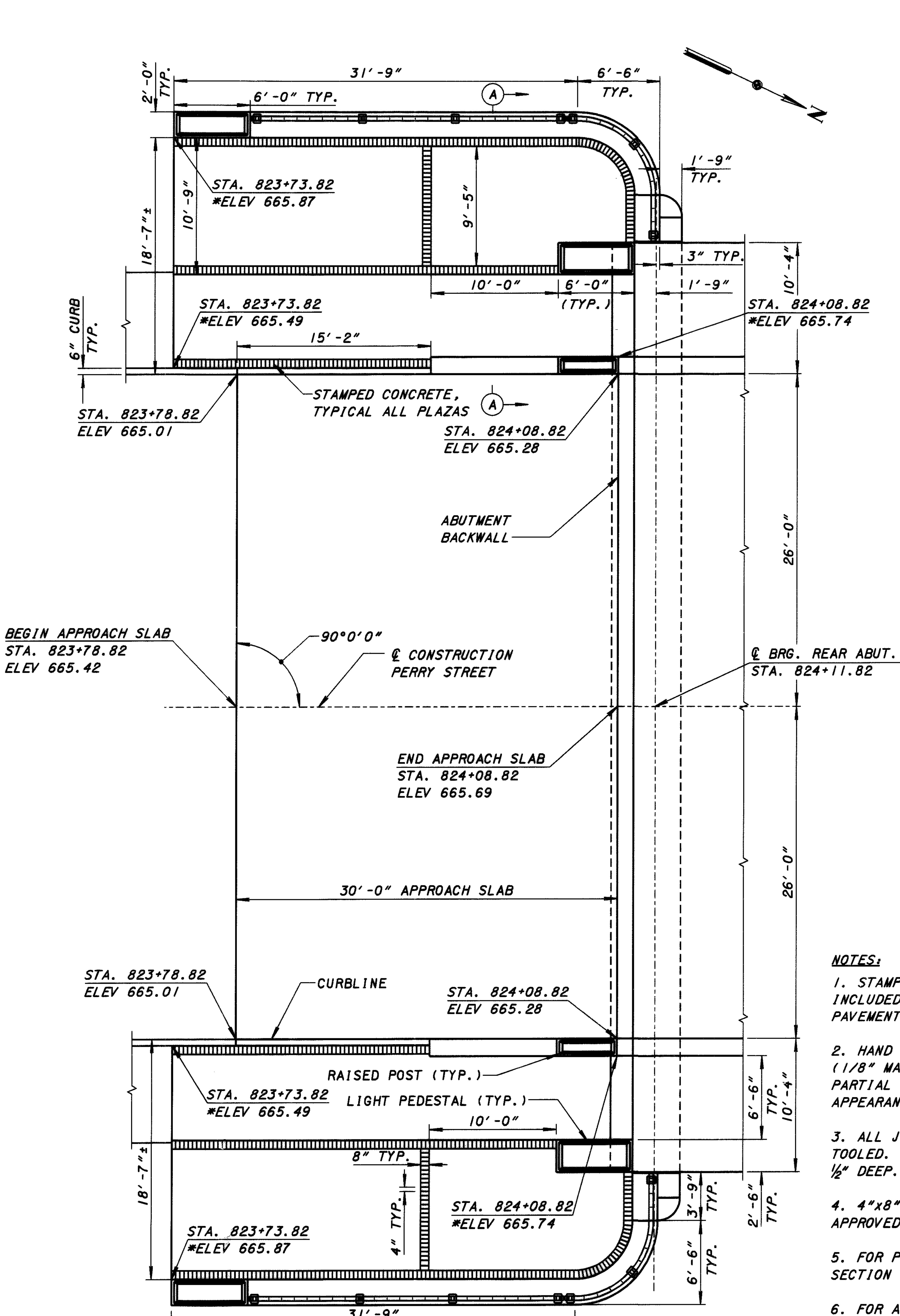
APPROACH SLAB TRAFFIC BARRIER DETAILS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

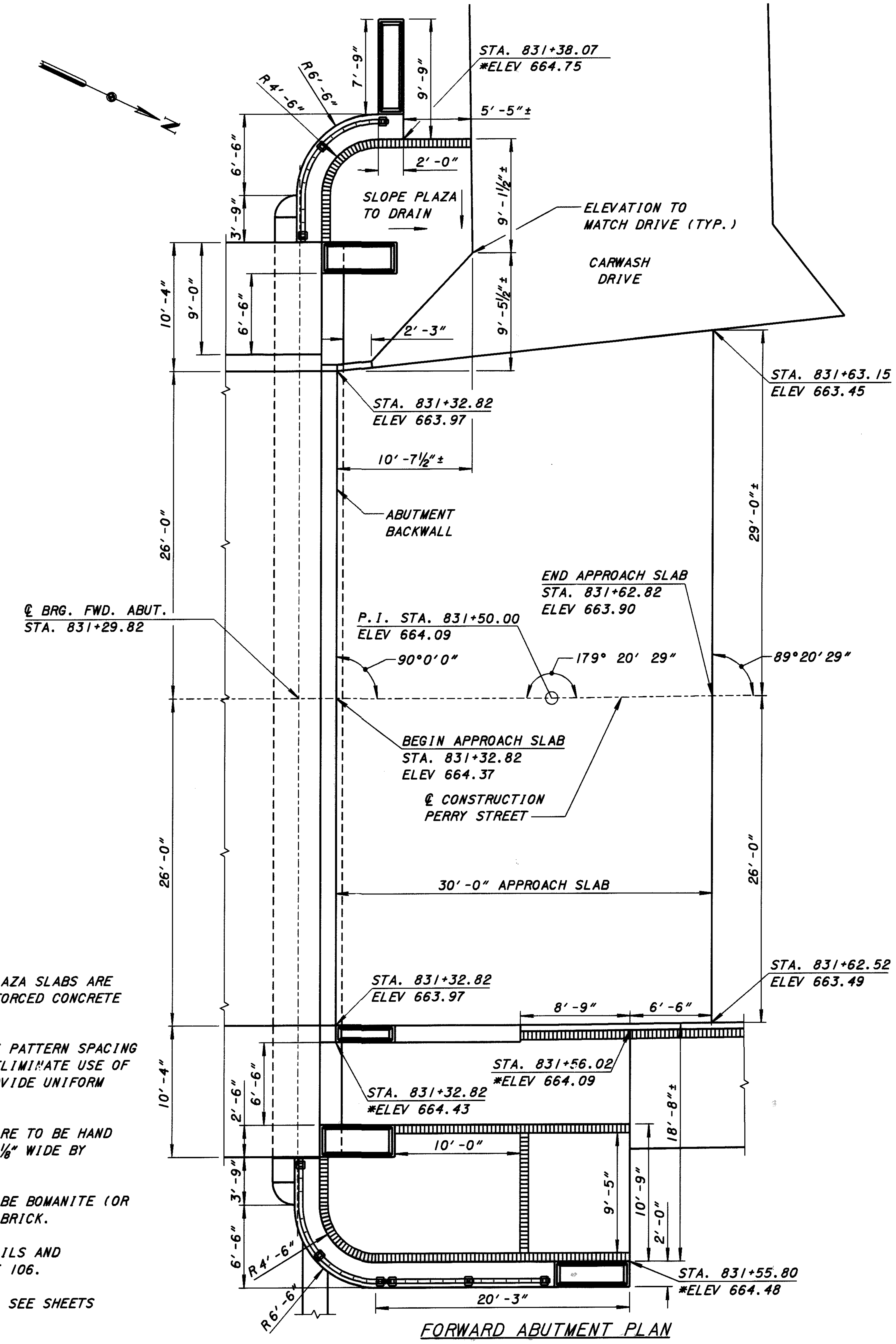
HEN-108-15.55

100/106

171/183



REAR ABUTMENT PLAN



FORWARD ABUTMENT PLAN

<u>NOTES:</u>

1. STAMPED CONCRETE AND 6" PLAZA SLABS ARE INCLUDED IN ITEM 451 6" REINFORCED CONCRETE PAVEMENT, AS PER PLAN.

2. HAND TOOL AND ADJUST BRICK PATTERN SPACING (1/8" MAX.) AS NECESSARY TO ELIMINATE USE OF PARTIAL BRICK PATTERN AND PROVIDE UNIFORM APPEARANCE OF BRICKS.

3. ALL JOINTS IN PLAZA SLAB ARE TO BE HAND TOOLED. THE JOINTS ARE TO BE 1/8" WIDE BY 1/2" DEEP.

4. 4"x8" BRICK PATTERN SHALL BE BOMANITE (OR APPROVED EQUAL) RUNNING BOND BRICK.

5. FOR PLAZA REINFORCING DETAILS AND SECTION A-A, SEE SHEET 102 OF 106.

6. FOR APPROACH SLAB DETAILS, SEE SHEETS 98 THRU 100 OF 106.

7. * INDICATES TOP OF SIDEWALK ELEVATION.

DESIGN AGENCY: HNTB ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

PLAZA DETAILS
BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55

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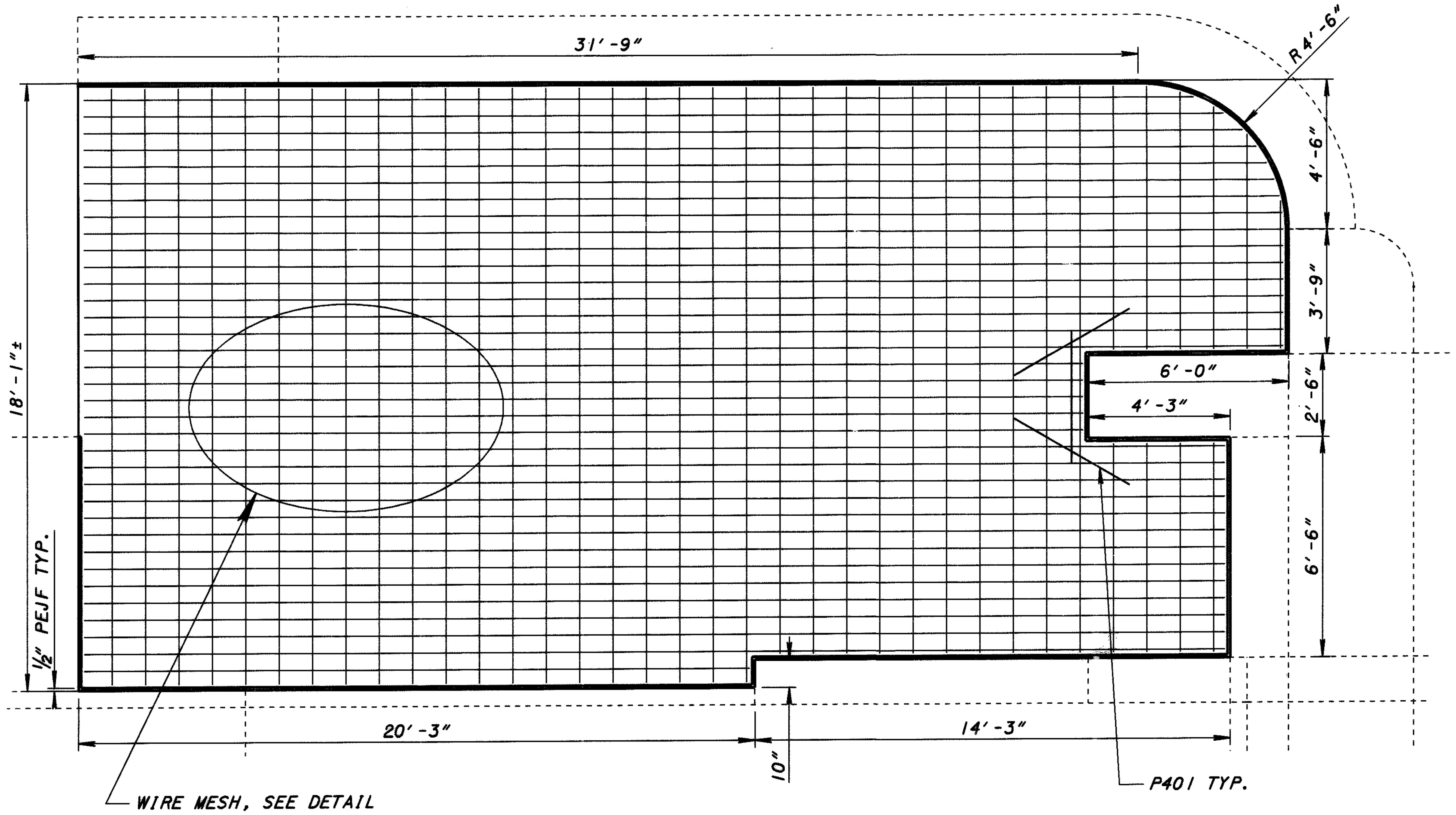
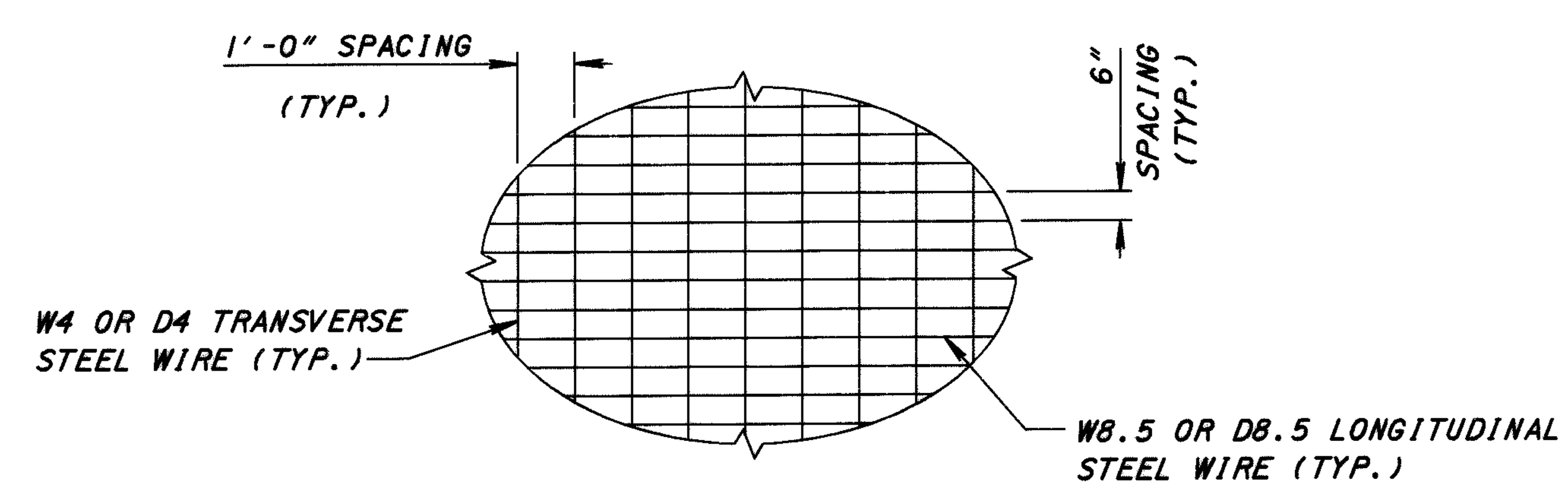
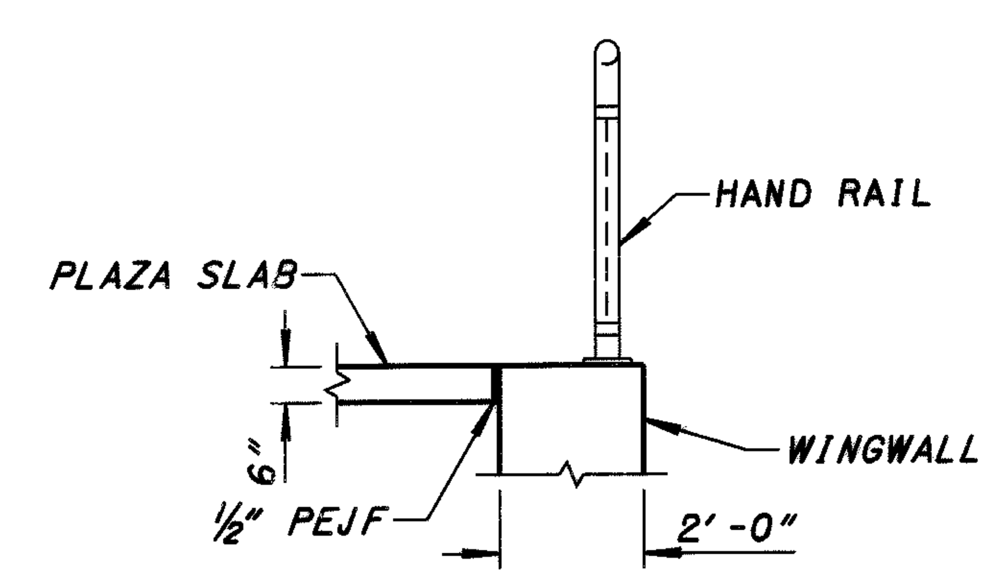


REAR ABUTMENT WEST PLAZA

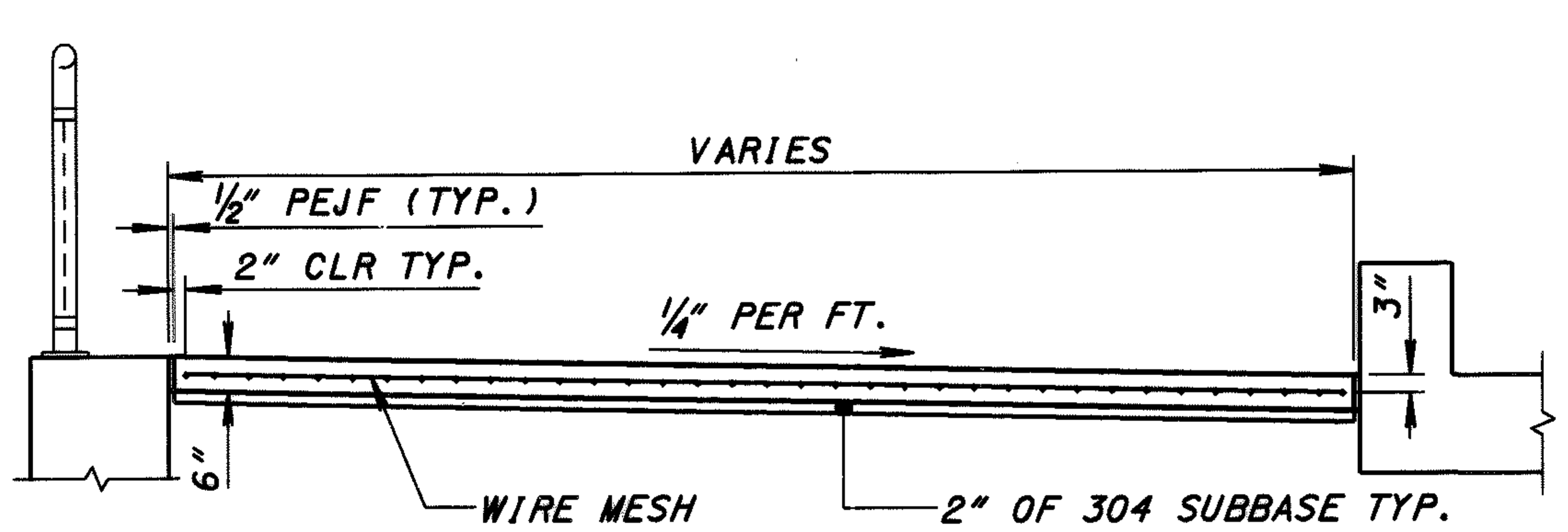
REAR ABUTMENT EAST PLAZA SYMMETRICAL ABOUT PERRY STREET CENTERLINE



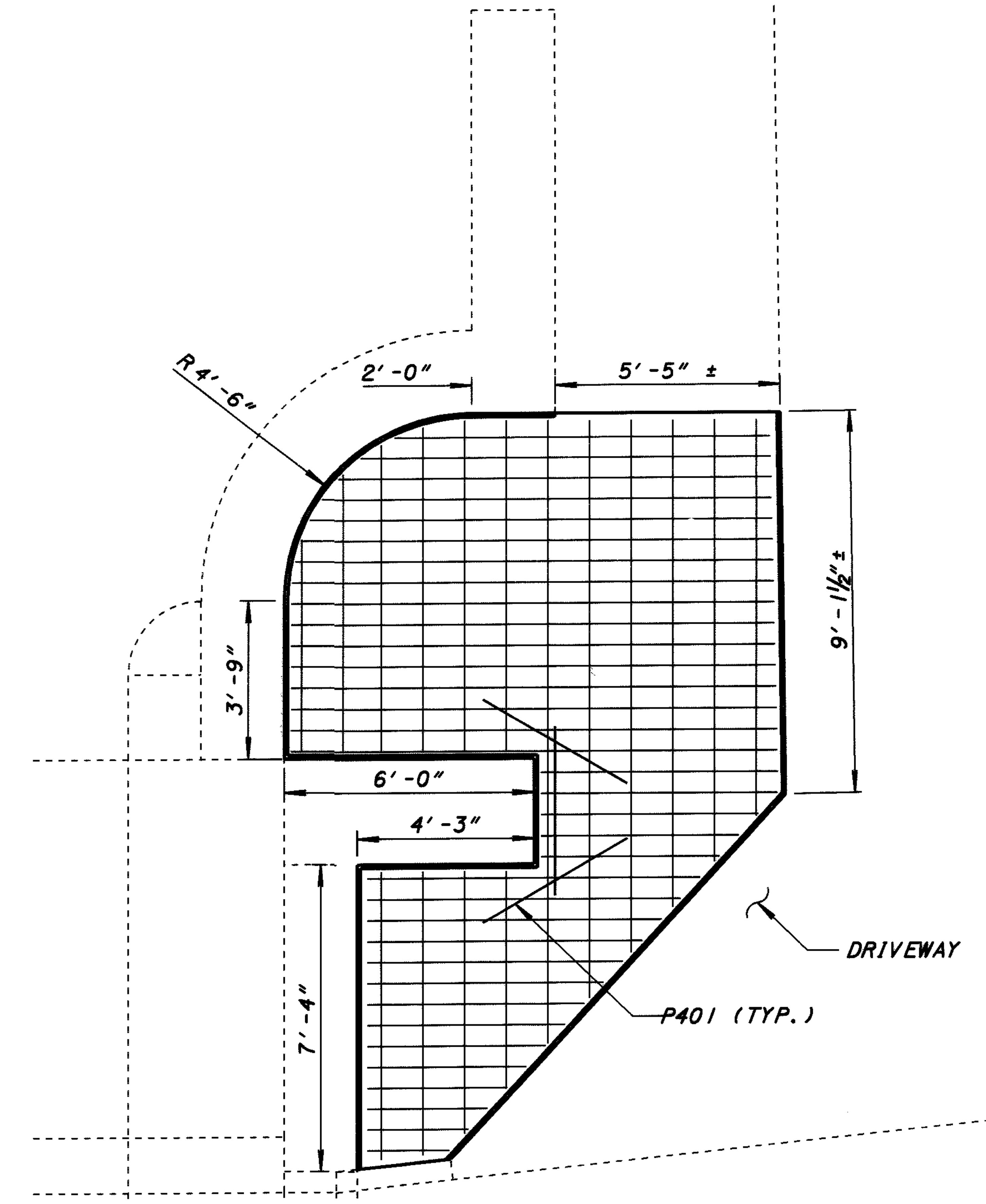
WIRE MESH DETAIL (TYP.)



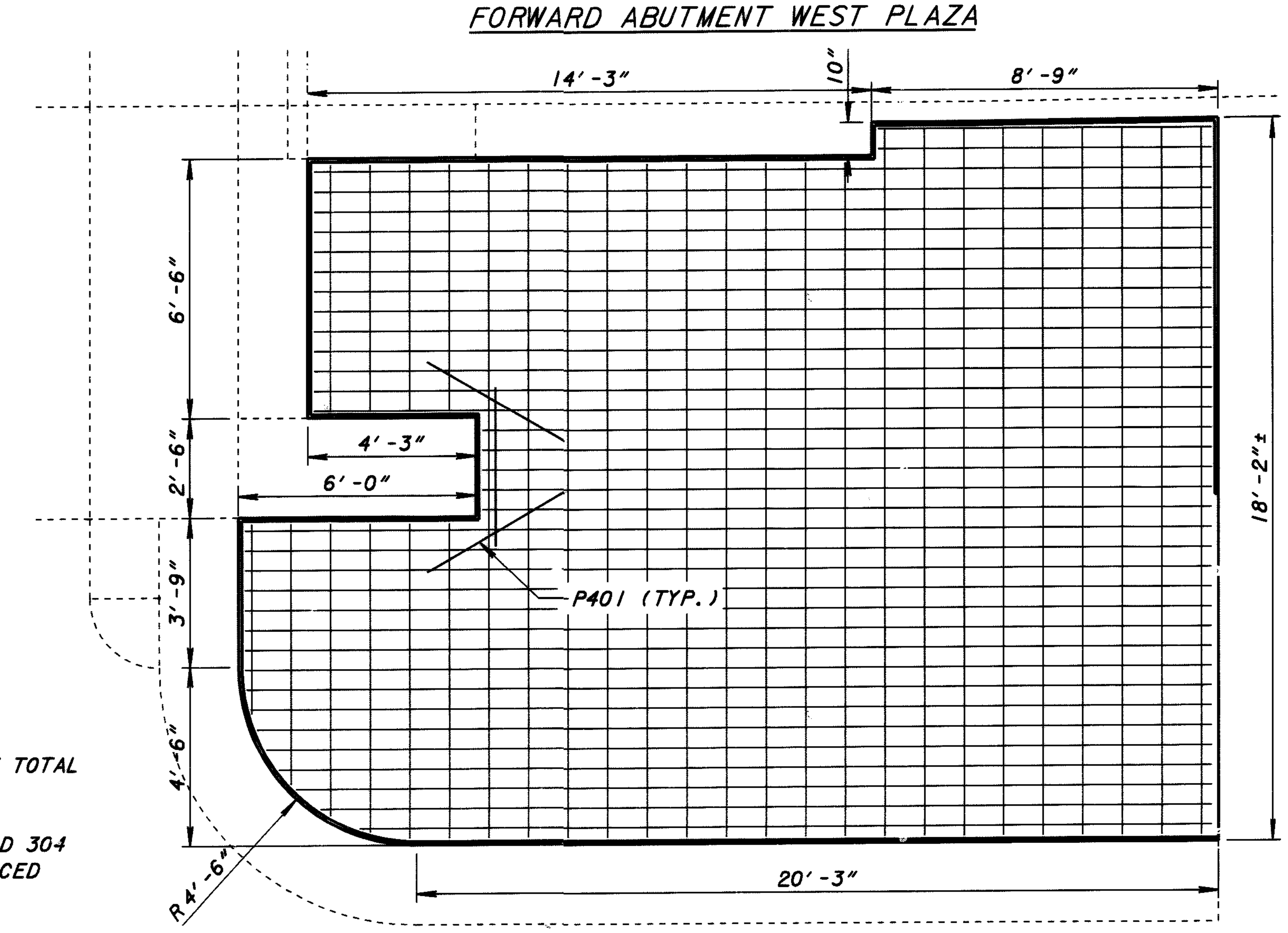
WINGWALL DETAIL



SECTION A-A



FORWARD ABUTMENT WEST PLAZA



FORWARD ABUTMENT EAST PLAZA

NOTES:

1. THE P401 BARS ARE 4'-0" LONG NO. 4 BARS. THE TOTAL NUMBER REQUIRED ARE 12.
2. THE WIRE REINFORCING, P401 BARS, ½" P.E.J.F. AND 304 SUBBASE ARE INCLUDED WITH ITEM 451 6" REINFORCED CONCRETE PAVEMENT, AS PER PLAN, FOR PAYMENT.
3. FOR LOCATION OF SECTION A-A, SEE SHEET 101 OF 106.

DESIGN AGENCY: HNTB ARCHITECTS ENGINEERS PLANNERS

DESIGNED	DRAWN	REVIEWED	DATE
NBR	NBR	RHW	01/16/04
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLV		3502384	

PLAZA SLAB REINFORCING PLANS

BRIDGE NO. HEN-108-1561
OVER THE MAUMEE RIVER

HEN-108-15.55