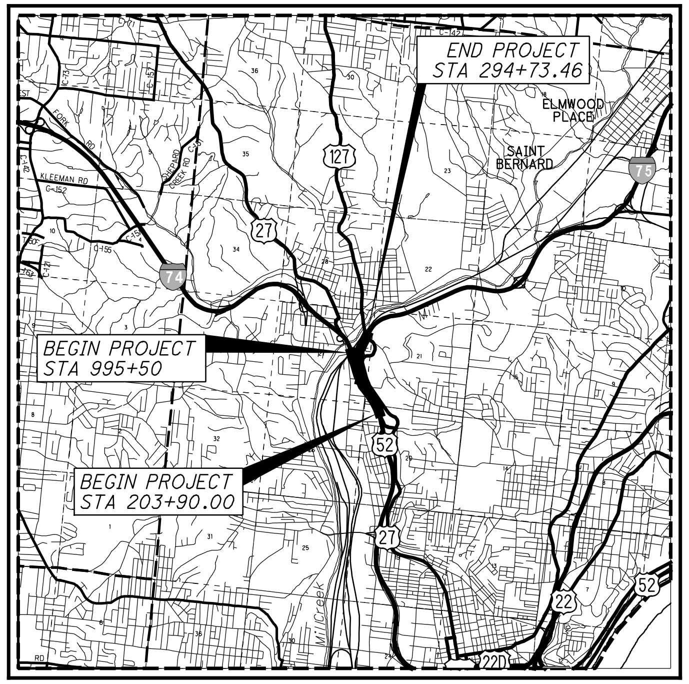
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

HAM-75-3.84
HAM-74-1908S

HAMILTON COUNTY
CITY OF CINCINNATI



LOCATION MAP

LATITUDE: 39° 09' 03" LONGITUDE: 84° 32' 24"

SCALE IN MILES 0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

PROJECT DESCRIPTION

THIS IS PHASE 5A OF THE HAMILTON 75 CORRIDOR PROJECTS (MCE). THE PROJECT ADDS A LANE TO IR 75 SB, PROVIDES 4-LANE CONTINUITY NB, AND RECONFIGURES IR 74 EB RAMPS TO IR 75. THE PROJECT ALSO INCLUDES SURFACE COURSE AND ADDITIONAL PAVEMENT WORK TO THE SOUTH AND IMPROVEMENTS TO RAMP A AT THE HOPPLE ST INTERCHANGE.

BUILDABLE UNIT 7 DESCRIPTION

THIS BUILDABLE UNIT COVERS THE REQUIREMENTS FOR BU-07 SUBSTRUCTURE AND DECK FOR THE NEW HAM-74-1908S BRIDGE.

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

INDEX OF SHEETS:

* REVIEWED IN BU-05 SUBMISSION

2016 SPECIFICATIONS

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

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

DESIGN DESIGNATION

	IR 75		IR 74		DIRECTIONAL ROADWAY	
	SOUTH OF MITCHELL	SOUTH OF IR 74	WEST OF BEEKMAN	EAST OF BEEKMAN	IR 75 NB TO IR 74 WB	IR 74 EB TO IR 75 SB
CURRENT ADT (2010)	149,400	152,100	75,000	88,300	25,300	25,300
DESIGN YEAR ADT (2030)	174,300	179,200	89,300	102,000	29,800	29,800
DESIGN HOURLY VOLUME (2030)	14,640	15,050	8,040	9,180	4,100	4,380
DIRECTIONAL DISTRIBUTION	0.54	0.70	0.72	0.73	1.00	1.00
TRUCKS (24 HOUR B&C)	0.16	0.13	0.15	0.13	0.03	0.08
DESIGN SPEED	60 MPH	60 MPH	60 MPH	60 MPH	50 MPH	50 MPH
LEGAL SPEED	55 MPH	55 MPH	55 MPH	55 MPH	50 MPH	50 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN INTERSTATE	URBAN INTERSTATE	URBAN INTERSTATE	URBAN INTERSTATE	URBAN INTERSTATE	URBAN INTERSTATE
NHS PROJECT	YES					

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATES	SHEET NUMBERS SEE BU-14
STOP. SIGHT DIST. - SB IR 75 (CURVE 6)	4/6/18	
SHOULDER WIDTH - IR 74-1892R BRIDGE	4/10/18	
SHOULDER WIDTH - RAMP P 1908S BRIDGE	4/11/18	
CURVE RADIUS - RAMP P 1908S BRIDGE	4/11/18	
STOP. SIGHT DIST. - RAMP P 1908S BRIDGE	4/11/18	
S.E. RATE - IR 74 EB CURVE 14, 1908R BRIDGE	4/26/18	

ENGINEERS SEAL:	ENGINEERS SEAL:
FOR ENTIRE PLAN EXCEPT STRUCTURES OVER 20'	FOR STRUCTURES OVER 20'
STATE OF OHIO BRUCE FRASER E-59019 REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO THOMAS E. STORA 66634 REGISTERED PROFESSIONAL ENGINEER
SIGNED: DATE:	SIGNED: DATE:

The DBT confirms that the record drawings have been updated to incorporate all red-lined changes and have been approved by the appropriate parties. These updated drawings represent the final and accurate record of the buildable unit's design and construction.

STATE OF OHIO ANGELA M TRAUTMAN E-82339 REGISTERED PROFESSIONAL ENGINEER

Angela Trautman

The following sheets have been updated: 2, 8, 9, 17, 18, 19A, 19B, 22, 24A, 24B, 25, 27, 34, 35, 35A, 35B, 36, 38, 43, 48, 53, 58, 62, 63, 64, 68, 75, and 76.

AS-BUILT PLANS

STANDARD CONSTRUCTION DRAWINGS

												SUPPLEMENTAL SPECIFICATIONS	
BP-1.1	7/28/00	I-2.4	1/15/16	MGS-5.3	7/15/16	VPF-1-90	1/19/18	MT-95.32	7/21/17	TC-21.50	7/15/16	800-2016	1/19/18
BP-2.1	7/17/15			MGS-6.1	1/19/18	HL-10.11	1/19/18	MT-95.50	7/21/17	TC-22.10	10/18/13	806	3/2/15
BP-2.2	7/18/08	MH-1.2	1/15/16			HL-10.12	1/20/17	MT-95.73	1/19/18	TC-22.20	1/17/14	808	10/16/15
BP-2.3	7/18/14			RM-1.1	7/18/14	HL-10.13	1/20/17	MT-98.30	7/21/17	TC-41.30	10/18/13	809	1/19/18
BP-2.4	7/19/13	DM-1.1	7/21/17	RM-4.1	7/21/17	HL-10.15	7/17/15	MT-99.30	1/19/18	TC-42.10	10/18/13	814	7/15/16
BP-3.1	7/18/14	DM-1.2	1/18/13	RM-4.3	7/18/14	HL-20.11	4/21/17	MT-101.70	1/17/14	TC-42.20	10/18/13	821	4/20/12
BP-6.1	7/19/13	DM-1.3	7/18/14	RM-4.4	7/21/17	HL-20.21	1/19/18	MT-101.75	7/15/16	TC-52.10	10/18/13	832	1/17/14
BP-8.1	7/18/08	DM-2.1	1/18/13	RM-4.5	7/21/17	HL-20.24	1/19/18	MT-101.80	1/16/18	TC-52.20	1/19/18	869	10/17/14
		DM-4.1	1/15/16	RM-4.6	7/19/13	HL-30.11	1/19/18	MT-101.90	7/21/17	TC-61.30	1/20/17	908	10/20/17
CB-1.1	1/15/16	DM-4.2	7/20/12	A-1-69	7/19/02	HL-30.21	1/17/14	MT-102.20	7/18/14	TC-65.10	1/17/14	914	7/15/16
CB-1.2	1/15/16	DM-4.3	1/15/16	AS-1-15	7/17/15	HL-30.22	1/17/14	MT-104.10	10/16/15	TC-65.11	7/21/17	921	4/20/12
CB-1.3	1/15/16	DM-4.4	1/15/16	AS-2-15	1/19/18	HL-30.31	1/17/14	MT-105.10	7/19/13	TC-71.10	1/19/18	939	7/17/15
CB-2.1	1/15/16			EXJ-4-87	1/19/18	HL-30.32	1/17/14			TC-72.20	7/15/16		
CB-2.2	1/15/16	MGS-1.1	1/19/18	GSD-1-96	7/19/02	HL-30.33	1/17/14	TC-7.65	1/15/16				
CB-2.3	1/15/16	MGS-2.1	1/19/18	PCB-91	1/18/13	HL-30.41	1/19/18	TC-9.10	1/19/18	ITS-13.10	7/17/15	**SPECIAL PROVISIONS**	
CB-3.1	1/15/16	MGS-3.1	1/19/18	PSID-1-13	7/15/16	HL-40.10	1/20/17	TC-9.30	1/19/18	ITS-14.10	7/17/15		
CB-3.3	1/15/16	MGS-3.2	1/18/13	RB-1-55	7/19/13	HL-40.20	1/20/17	TC-12.30	1/19/18	ITS-14.11	7/17/15		
		MGS-4.1	1/20/17	SBR-1-13	1/14/14	HL-50.11	1/16/15	TC-15.115	10/18/13	ITS-15.10	7/17/15		
I-2.1	1/15/16	MGS-4.2	7/19/13	SBR-2-13	1/14/14	HL-50.21	1/19/18	TC-16.21	1/19/18	ITS-15.11	7/17/15		
I-2.2	1/15/16	MGS-4.3	1/18/13	SICD-1-96	7/18/14	MT-95.30	7/21/17	TC-21.10	7/21/17	ITS-50.10	1/19/18		
I-2.3	1/15/16	MGS-5.2	7/15/16	SICD-2-14	7/18/14	MT-95.31	7/21/17	TC-21.20	1/19/18				

PLAN PREPARED BY:

PRIME

540 WHITE POND DRIVE, STE E
AKRON, OH 44320
(614) 839-0250

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS **BEFORE YOU DIG**.

Ohio Utilities Protection Service
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

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

FEDERAL PROJECT NO. E170 (713)

PID NO. 104667

CONSTRUCTION PROJECT NO. 183000

RAILROAD INVOLVEMENT CSXT (CSX OP# OH1179) NORFOLK SOUTHERN

HAM-75-3.84

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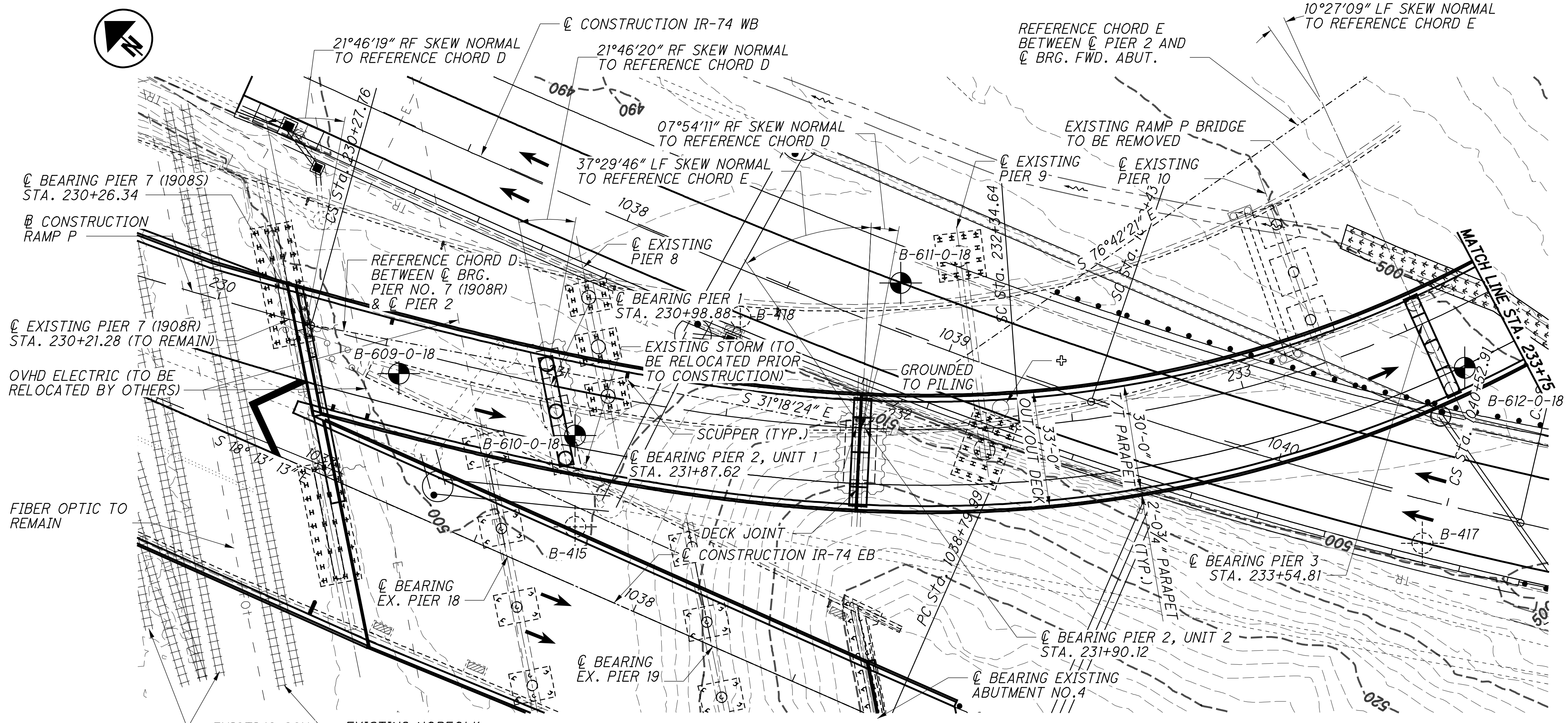
$USER $DATES $FILEA$ STIMESTAMPS



PLAN

EXISTING STRUCTURE

TYPE: CONTINUOUS WELDED PLATE GIRDER AND CONTINUOUS ROLLED STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: UNIT 3 - 90'-0"±, 110'-0"±, 93'-0"±, 71'-3¼"±
UNIT 4 - 45'-11¾"±, 63'-9"±, 79'-0"±, 63'-0"±
UNIT 5 - 46'-7⅜"±, 63'-4¼"±, 64'-0"±, 41'-0"±

ROADWAY: VARIES

LOADING: CF 2000 (57) AND ALTERNATE MILITARY

SKEW: VARIES

APPROACH SLABS: AS-1-67 (25' LONG)

ALIGNMENT: VARIES

CROWN: VARIES

STRUCTURAL FILE NUMBER: 3109798

DATE BUILT: 1973

DISPOSITION: TO BE REMOVED (IN PHASES)

PROPOSED STRUCTURE

TYPE: CONTINUOUS 48" WEB (UNIT 1) AND 78" WEB (UNIT 2) STEEL PLATE GIRDERS WITH COMPOSITE REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: UNIT 1 - 72'-6¼", 88'-9⅛"
UNIT 2 - 164'-8¼", 170'-0⅛", 120'-2¼"
C/C BEARINGS MEASURED ALONG ℄ CONSTRUCTION RAMP P

ROADWAY: 30'-0" TOE/TOE PARAPET

LOADING: HL93 & 60 PSF FWS

WEARING SURFACE: 1" MONOLITHIC CONCRETE

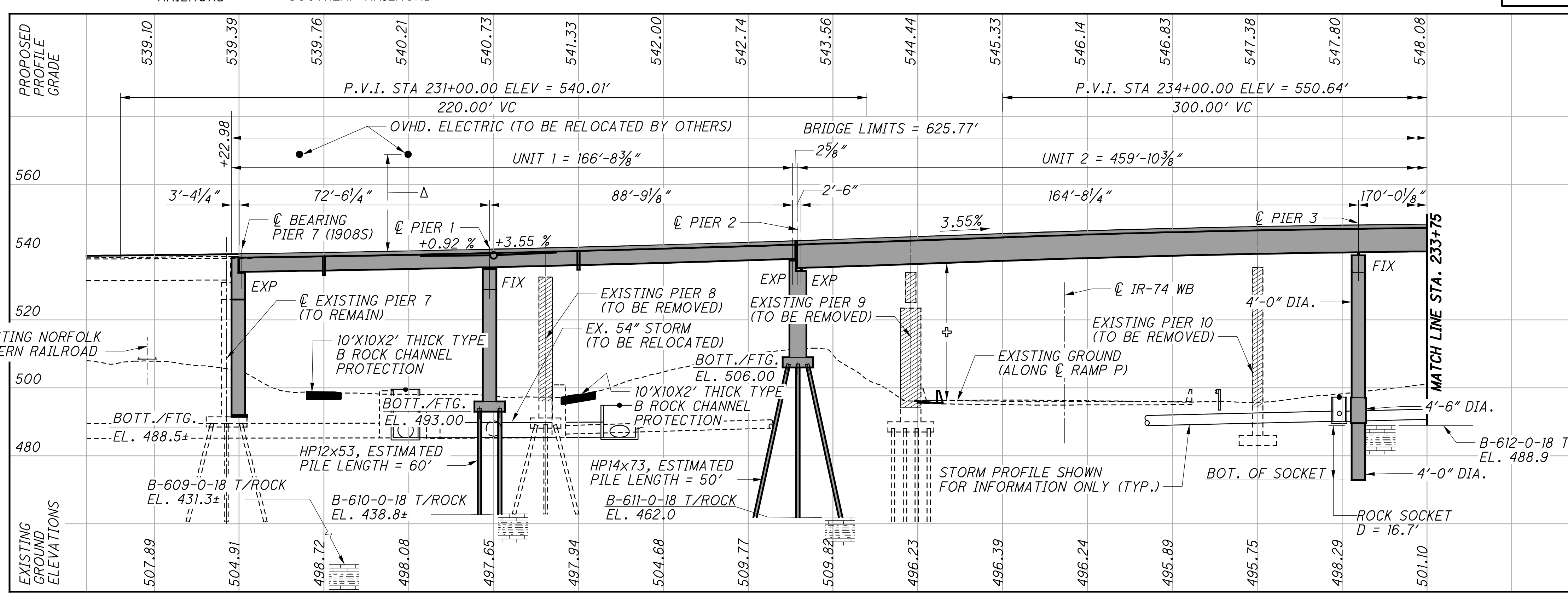
SKEW: VARIES

APPROACH SLABS: 30'-0" LONG (AS-1-15 & AS-2-15)

ALIGNMENT: 2°15'00" & 16°45'00" CURVE LEFT

SUPERELEVATION: 0.06 FT/FT MAX

COORDINATES: LATITUDE 39°09'07.00" N
LONGITUDE 84°32'28.46" W



PROFILE ALONG ℄ CONSTRUCTION RAMP P

ALL DIMENSIONS ARE ALONG ℄ CONSTRUCTION RAMP P, UNLESS NOTED OTHERWISE

HORIZONTAL CURVE DATA RAMP P

C36 (45mph)	C37 (35mph)
PI STA 228+61.19	PI STA 231+58.60
Δ = 7° 21' 05" (LT)	Ls= 206.88'
Dc = 2° 12' 13"	f s = 19° 36' 22"
R = 2,600.00'	LT = 130.84'
T = 167.03'	ST = 77.84'
L = 333.59'	x = 204.17'
E = 5.36'	y = 26.12'
C = 333.36'	k = 103.04'
C.B. = S 22° 50' 36" E	p = 4.51'
e_{max}= 0.033	e_{max}= 0.06

NOTES:

1. FOR NOTES, SEE SHEET 3/79.
2. RAMP P BUILT IN STAGE 1, PHASE 2, STEP 2 CONSTRUCTION.

LEGEND

- LIMITS OF SUBSTRUCTURE REMOVAL
- I-74 WB: REQUIRED VERTICAL CLEARANCE = 15'-6"; PROPOSED VERTICAL CLEARANCE = 40'-5"
- Δ - DUKE OVHD ELECTRIC LINES: EXISTING VERTICAL CLEARANCE = 30'-6"±; PROPOSED VERTICAL CLEARANCE = 29'-9"
- PROP. BORING
- HISTORICAL BORING LOCATION
- TEMPORARY SHORING

DESIGN AGENCY: PRIME AE, 540 WHITE POND DR., SUITE E, AKRON, OH 44320

REVIEWED	DATE	STRUCTURE FILE NUMBER
TES	11/1/2018	3109798

DRAWN	REVISED	DESIGNED	CHECKED
KDC		KDC	CRG

HAMILTON COUNTY
STA. 230+22.98
STA. 236+48.75

SITE PLAN (1 OF 2)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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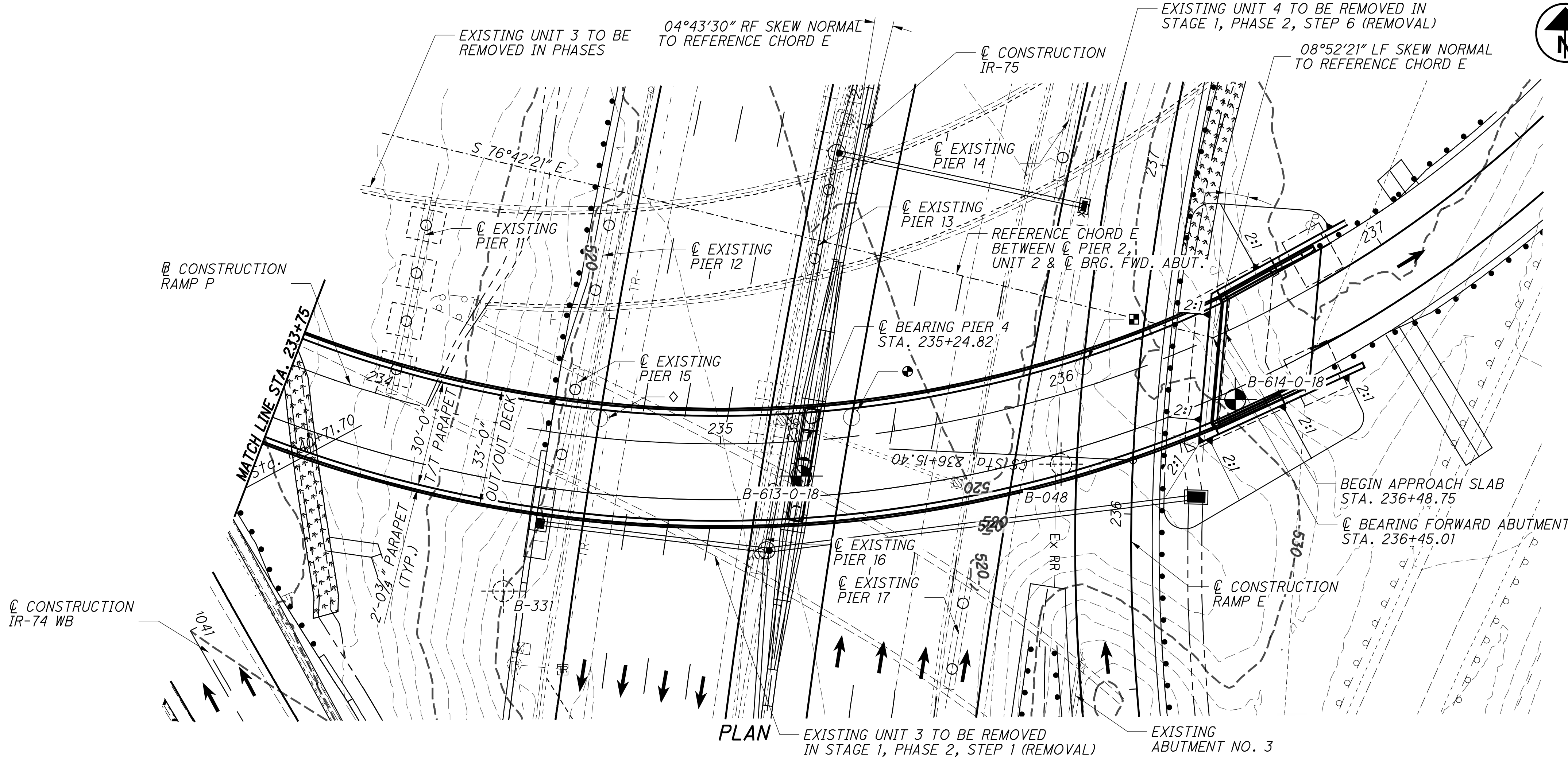


LEGEND

- LIMITS OF SUBSTRUCTURE REMOVAL

◇ - I-75 SB:
EXISTING VERTICAL CLEARANCE = 14'-10"±
REQUIRED VERTICAL CLEARANCE = 15'-6"
PROPOSED VERTICAL CLEARANCE = 15'-10"

- I-75 NB:
EXISTING VERTICAL CLEARANCE = 17'-0"±
REQUIRED VERTICAL CLEARANCE = 15'-6"
PROPOSED VERTICAL CLEARANCE = 16'-4"

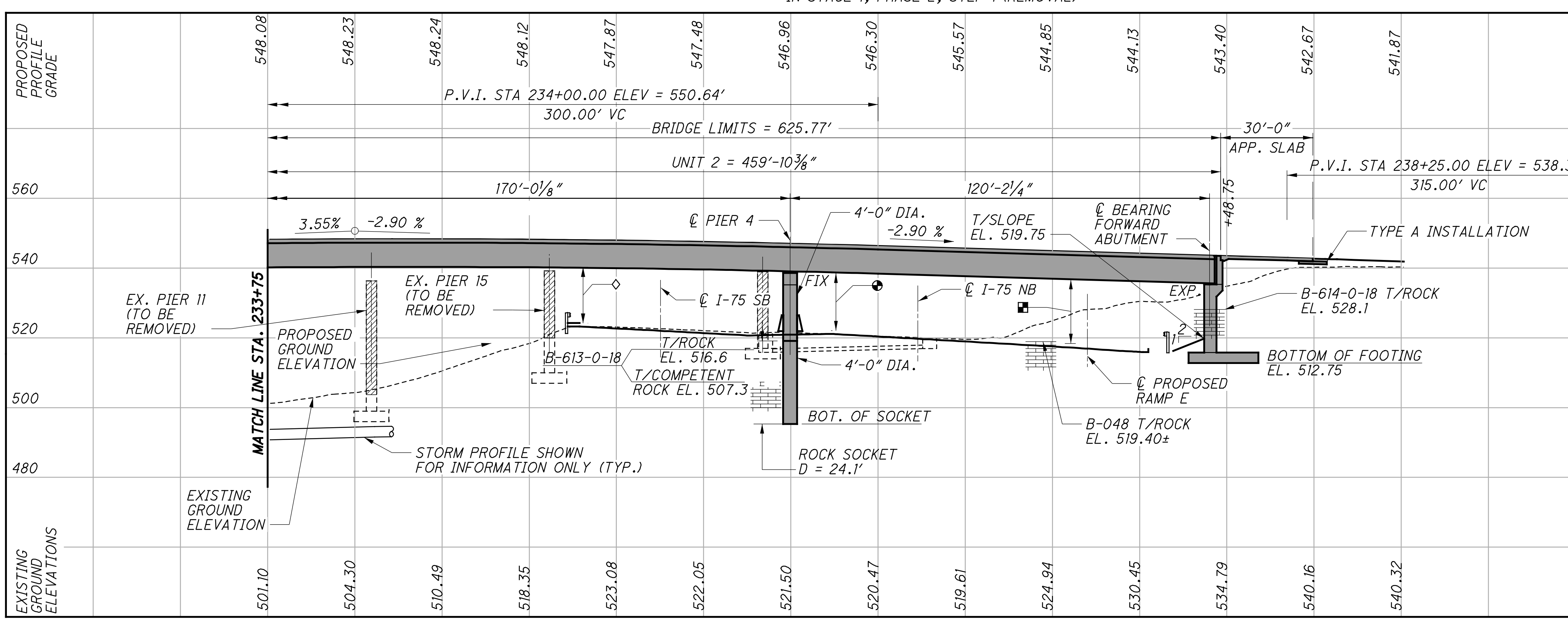
- I-75 PROP. RAMP:
REQUIRED VERTICAL CLEARANCE = 15'-6"
PROPOSED VERTICAL CLEARANCE = 15'-10"

- PROP. BORING

- HISTORICAL BORING LOCATION

BENCHMARK DATA

FOR BENCHMARK DATA SEE BU-14



PROFILE ALONG ℄ CONSTRUCTION RAMP P

ALL DIMENSIONS ARE ALONG ℄ CONSTRUCTION RAMP P, UNLESS NOTED OTHERWISE

HORIZONTAL CURVE DATA RAMP P

C38 PI STA 239+29.98
Δ = 127° 36' 41" (LT)
35mph Dc = 16° 45' 00"
DE2 R = 342.06'
T = 695.34'
L = 761.86'
E = 432.86'
C = 613.87'
C.B. = N 70° 04' 09" E
e_{max} = 0.06

NOTES:

1. SEE BU DS-01 FOR ADDITIONAL INFORMATION REGARDING GEOMETRICS.
2. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
3. RAMP P BUILT IN STAGE 1, PHASE 2, STEP 2 CONSTRUCTION.
4. FOR REFERENCE CHORD DETAILS, SEE SHEET 6/79.

DESIGN AGENCY PRIME AE 540 WHITE POND DR., SUITE E AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	11/1/2018
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

HAMILTON COUNTY
STA. 230+22.98
STA. 236+48.75

SITE PLAN (2 OF 2)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

3/79

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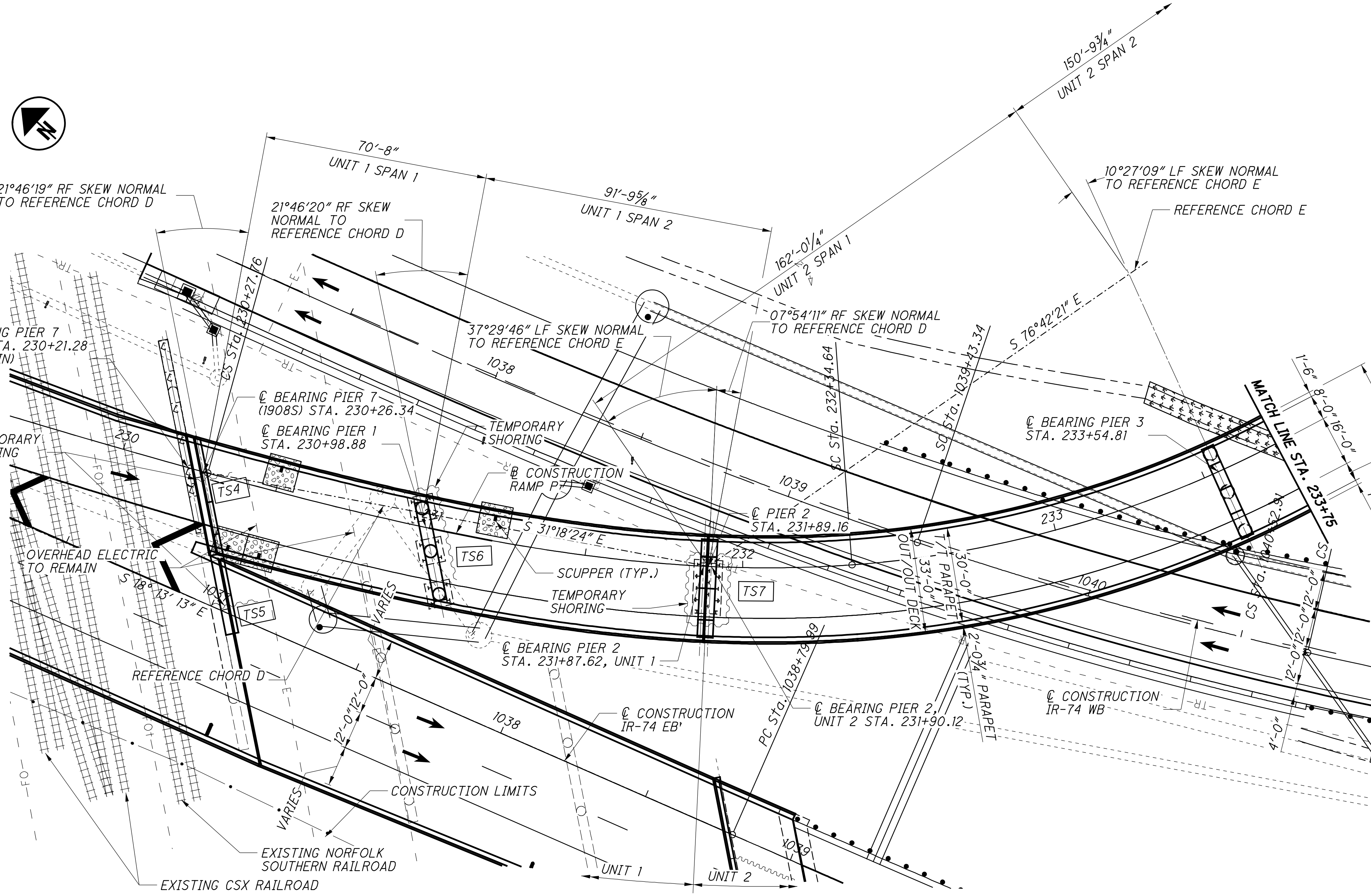

PLAN

C36 PI STA 228+61.19
45mph
Δ = 7° 21' 05" (LT)
Dc = 2° 12' 13"
R = 2,600.00'
T = 167.03'
L = 333.59'
E = 5.36'
C = 333.36'
C.B. = S 22° 50' 36" E
e_{max} = 0.033

C37 PI STA 231+58.60
35mph
Ls = 206.88'
θs = 19° 36' 22"
LT = 130.84'
ST = 77.84'
x = 204.17'
y = 26.12'
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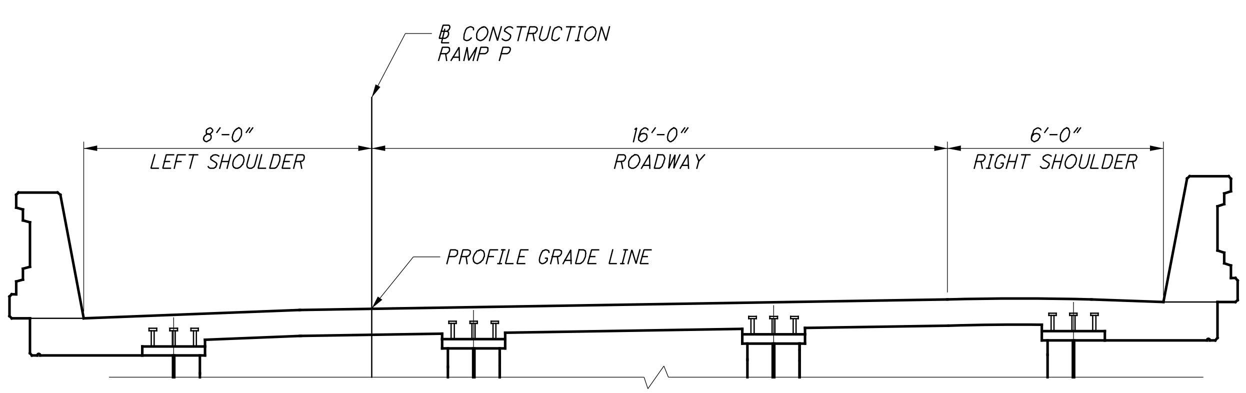

SUPERELEVATION TRANSITION DIAGRAM

SUPERELEVATION TABLE			
STATION	LEFT SHOULDER	ROADWAY	RIGHT SHOULDER
228+13.68	0.01	0.033	-
230+27.76	0.01	0.033	0.037
232+34.64	0.06	0.06	0.01
239+59.10	0.06	0.06	0.01

LEGEND

〰 - TEMPORARY SHORING

TS# - TEMPORARY SHORING LOCATION

NOTE:

1. FOR DESCRIPTION OF PROPOSED WORK, SEE SHEET 7/79.

DESIGN AGENCY: PRIME AE, 540 WHITE POND DR., SUITE E, AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	11/1/2018
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

HAMILTON COUNTY
STA. 230+22.98
STA. 236+48.26

GENERAL PLAN (1 OF 2)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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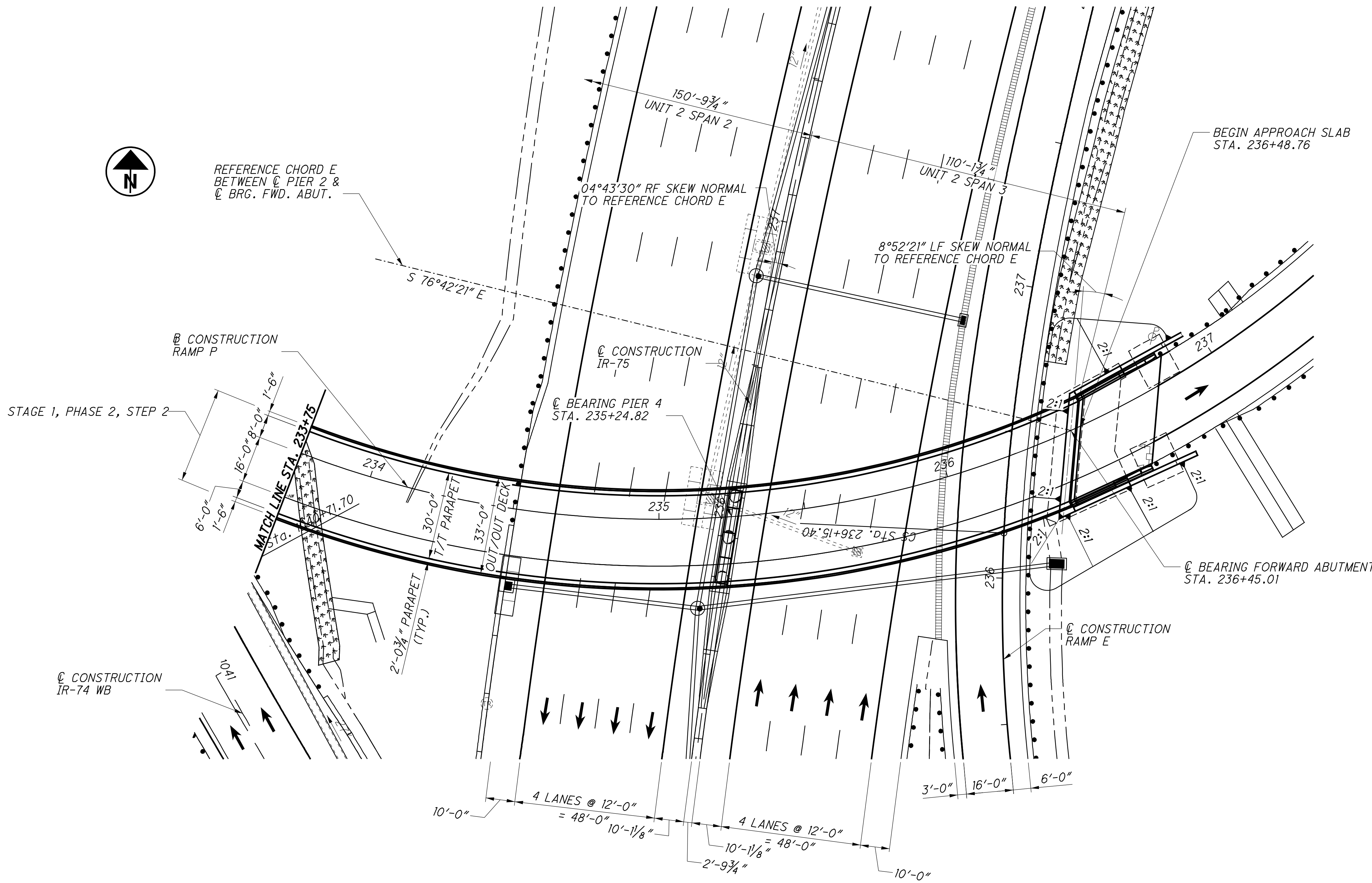

PLAN

HORIZONTAL CURVE DATA RAMP P

C38 PI STA 239+29.98
Δ = 127° 36' 41" (LT)
35mph Dc = 16° 45' 00"
DE2 R = 342.06'
T = 695.34'
L = 761.86'
E = 432.86'
C = 613.87'
C.B. = N 70° 04' 09" E
e_{max} = 0.06

NOTE:

1. FOR DESCRIPTION OF PROPOSED WORK, SEE SHEET 7/79.

DESIGN AGENCY PRIME 540 WHITE POND DR., SUITE E AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	11/1/2018
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

HAMILTON COUNTY
STA. 230+22.98
STA. 236+48.26

GENERAL PLAN (2 OF 2)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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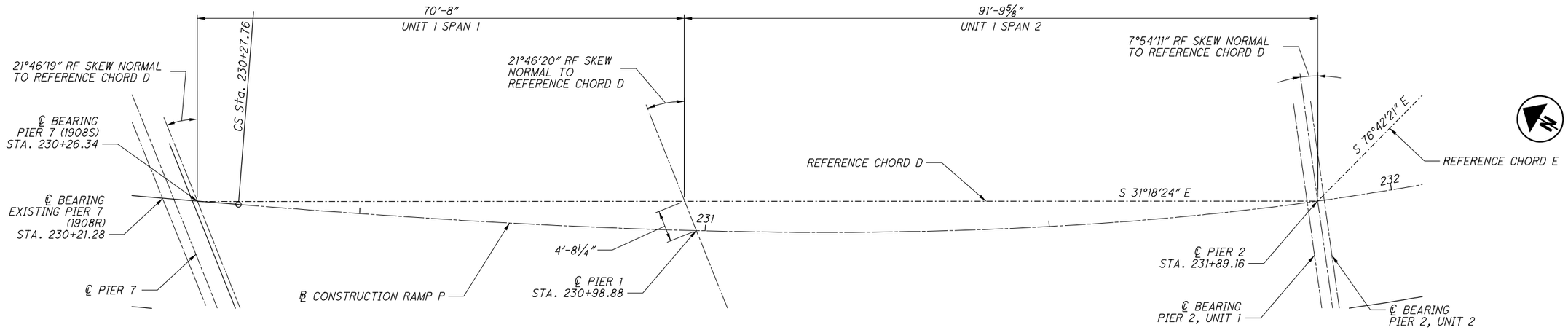
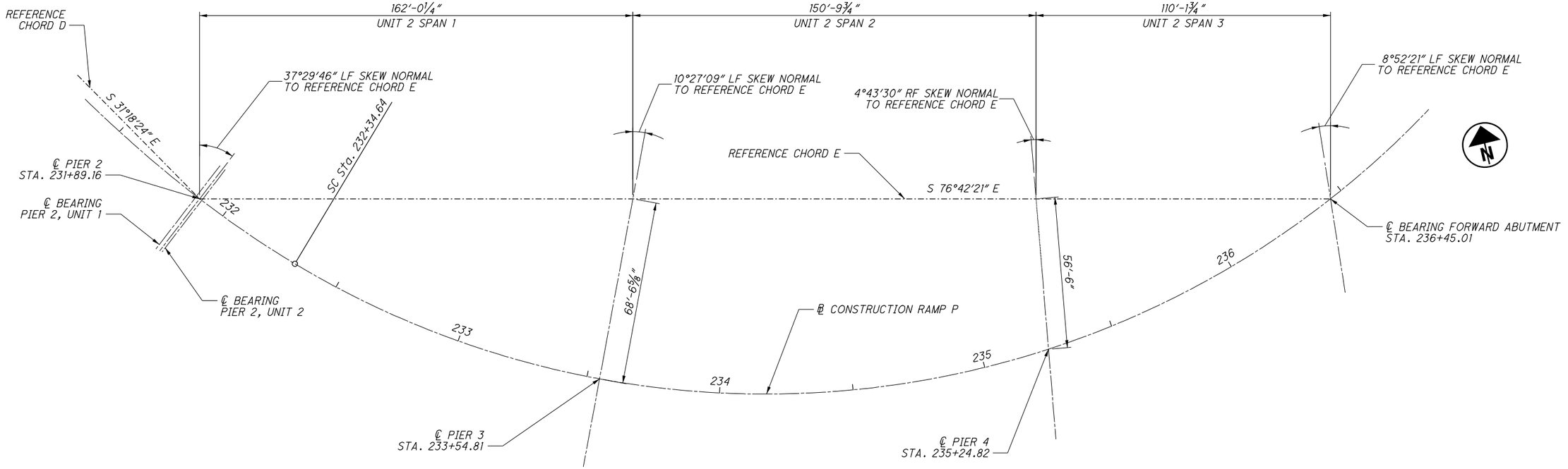


PLAN - UNIT 1



PLAN - UNIT 2

NOTES:

1. FOR ADDITIONAL NOTES, SEE SHEET 4/79

DESIGN AGENCY
PRIME AE
540 WEST POOL DR. SUITE E
MARION, OH 43302

DESIGNED	DRAWN	REVIEWED	DATE
KDC	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

REFERENCE CHORD LAYOUT
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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79

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STRUCTURE GENERAL NOTES

STANDARD DRAWINGS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	07-17-15
AS-2-15	REVISED	01-19-18
VPF-1-90	REVISED	01-19-18
SBR-1-13	REVISED	01-14-14
EXJ-4-87	REVISED	01-19-18
GSD-1-96	REVISED	07-19-02

AND THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

869 DATED 10-17-14

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 8TH EDITION AND THE 2018 INTERIMS, INCLUDING THE 2018 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

SPECIAL DESIGN SPECIFICATIONS:

THIS BRIDGE REQUIRED THE USE OF A THREE DIMENSIONAL MODEL USING THE FINITE ELEMENT DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS "MDX". THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD AND THE DEAD AND LIVE LOAD DISTRIBUTIONS WERE AS FOLLOWS:

DEAD LOAD DISTRIBUTION: SLAB DEAD LOADS ARE DISTRIBUTED BASED ON GIRDER SPACING. FUTURE WEARING SURFACE AND PARAPET LOADS ARE DISTRIBUTED DIRECTLY TO THE SLAB.

LIVE LOAD DISTRIBUTION: THE DESIGN PROGRAM CREATED A LIVE LOAD INFLUENCE SURFACE OVER THE DECK SURFACE AND DISTRIBUTED THE LOADS BASED ON THE LONGITUDINAL AND TRANSVERSE STIFFNESS. THE LIVE LOAD DISTRIBUTION FACTORS VARY ALONG THE LENGTH AND WIDTH OF THE STRUCTURE.

DESIGN DATA:

REDUNDANCY: THE DRILLED SHAFTS SUPPORTING THE PIERS WERE DESIGNED AS NON-REDUNDANT PER SCOPE OF SERVICES. THE SHAFT RESISTANCE WAS REDUCED TO 80% IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 10.5.5.2.3.

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

DESIGN LOADING:

HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ. FT.

DESIGN STRESSES:

CONCRETE CLASS QC3 WITH QC/QA-COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC3 WITH QC/QA-COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
CONCRETE CLASS QC5 WITH QC/QA-COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI.
STRUCTURAL STEEL - ASTM A709 GRADE 50W - YIELD STRENGTH 50 KSI.
STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

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

PROPOSED BRIDGE WORK:

THE PROPOSED WORK CONSISTS OF REMOVING PORTIONS OF THE EXISTING STRUCTURES AS SHOWN IN THE PLANS AND CONSTRUCTING THE PROPOSED BRIDGE.

RAILROAD CONSTRUCTION CLEARANCE:

MAINTAIN A CONSTRUCTION CLEARANCE OF 12 FEET HORIZONTALLY FROM THE CENTER OF NEAREST TRACKS. ANY TEMPORARY VERTICAL CLEARANCE LESS THAN 23 FEET, OVER THE TRACKS, WILL REQUIRE SPECIAL PERMISSION, WITH NO GUARANTEE OF APPROVAL FROM CSX.

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

THE PROPOSED WORK CONSISTS OF REMOVING PORTIONS OF THE EXISTING STRUCTURES AS SHOWN IN THE PLANS AND CONSTRUCTING THE PROPOSED BRIDGE.

ALL REQUIREMENTS OF ODOT CMS 202.03 SHALL APPLY WITH THE FOLLOWING ADDITIONS. THIS WORK SHALL INCLUDE THE PHASED REMOVAL OF THE EXISTING STRUCTURES AS INDICATED IN THE PLANS AND GENERAL NOTES. THE STRUCTURE WILL BE CAREFULLY REMOVED BY PHASED CONSTRUCTION METHODS AS FURTHER DESCRIBED IN THE FOLLOWING SECTIONS. THE USE OF EXPLOSIVES AND HEADACHE BALLS WILL NOT BE PERMITTED FOR ANY DEMOLITION OF EXISTING STRUCTURES.

PHASED CONCRETE DECK REMOVAL:
WHEN NO LONGER REQUIRED TO MAINTAIN TRAFFIC, REMOVE THE CONCRETE DECK IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION SHOWN IN THE PLANS. PERFORM WORK CAREFULLY DURING THE CUTTING OF THE DECK SLAB AND DURING DECK PICKING OPERATIONS TO AVOID ANY DAMAGE.

EXISTING WELDED ATTACHMENTS:
REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION:
THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

PHASED CONCRETE ABUTMENT REMOVAL:
WHEN NO LONGER REQUIRED TO MAINTAIN TRAFFIC, THE EXISTING ABUTMENT SHALL BE REMOVED TO 1'-0" BELOW FINISHED GRADE.

PHASED CONCRETE PIER REMOVAL:
THE EXISTING PIERS SHALL BE REMOVED IN PHASES WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC. WHEN PORTIONS OF THE EXISTING STRUCTURE ARE TO REMAIN TO MAINTAIN TRAFFIC DURING PHASED CONSTRUCTION, HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED WITHIN TWO FEET OF THE PORTION TO BE TEMPORARILY PRESERVED. HAMMERS NOT EXCEEDING 90 POUNDS MAY BE USED TO REMOVE THE REMAINING TWO FOOT PORTION OF CONCRETE WITH CARE NOT TO DAMAGE THE REINFORCING STEEL AND CONCRETE OF THE PORTION OF STRUCTURE TO BE PRESERVED.

EXISTING PIERS THAT ARE NO LONGER NEEDED TO MAINTAIN TRAFFIC MAY BE REMOVED USING HOE-RAM TYPE HAMMERS AND PNEUMATIC TYPE HAMMERS. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ADJACENT NEW AND EXISTING CONCRETE STRUCTURES DURING THE PHASED CONSTRUCTION PROCESS AND SHALL PERFORM THE DEMOLITION OPERATIONS SUCH THAT THERE IS NO DAMAGE TO THE NEW STRUCTURE OR TO PORTIONS OF THE EXISTING STRUCTURE BEING TEMPORARILY MAINTAINED.

DECK PLACEMENT DESIGN ASSUMPTIONS:

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

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.2 KIPS.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 77 INCHES.

PILES TO BEDROCK:

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

THE TOTAL FACTORED LOAD IS 224 KIPS PER PILE FOR THE EX. PIER 7 PILES.
THE TOTAL FACTORED LOAD IS 343 KIPS PER PILE FOR THE PIER 1 PILES.
THE TOTAL FACTORED LOAD IS 311 KIPS PER PILE FOR THE PIER 2 PILES.

PIER PILES:
PIER 1: HP12X53 PILES 65 FEET LONG, ORDER LENGTH
PIER 2: HP14X73 PILES 55 FEET LONG, ORDER LENGTH

PILE SPLICES:

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:
ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

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

DRILLED SHAFTS:

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1663 KIPS AT PIER NO. 3. THIS LOAD IS RESISTED BY SIDE RESISTANCE WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE IS 1206 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 16 FEET OF THE BEDROCK SOCKET FOR THE PIERS. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 503 KIPS.

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1340 KIPS AT PIER NO. 4. THIS LOAD IS RESISTED BY SIDE RESISTANCE WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE IS 905 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 12 FEET OF THE BEDROCK SOCKET FOR THE PIERS. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 503 KIPS.

CONFIRM DRILL SHAFT INTEGRITY FOR ALL DRILLED SHAFTS 4-FEET. IN DIAMETER OR GREATER OR WITH A DEPTH TO BEDROCK OF MORE THAN 45-FEET. WITH CROSS-HOLE SONIC LOGGING AND THERMAL INTEGRITY. PERFORM CROSS-HOLE SONIC LOGGING AND THERMAL INTEGRITY TESTING PER THE SPECIFICATIONS OUTLINED IN APPENDIX G OF THE SCOPE OF SERVICES AND ASTM D7949 - "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS".

FOUNDATION BEARING RESISTANCE:

ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 8.26 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 11.88 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 18 KIPS PER SQUARE FOOT.

SPREAD FOOTINGS:

SPREAD FOOTINGS ARE TO BE CUT NEAT WITHOUT FORMING.

PAINTING OF STRUCTURAL STEEL:

THE OUTSIDE FASCIA GIRDER AND BOTTOM FLANGE WILL BE PAINTED IZEU FEDERAL COLOR 595B-34058 (DARK GREEN). ANY BOLTED CONNECTIONS ON THE FASCIA GIRDER WILL BE PAINTED ON ALL SIDES OF THE STEEL WITHIN THE BOLTED AREA. ALL INTERNAL BEAM/GIRDER LINES INCLUDING CROSS FRAMES, SCUPPERS, BEARINGS AND OTHER STEEL WITHIN 10 FEET OF A SUBSTRUCTURE UNIT WILL BE PAINTED. THE PRIME COAT SHALL BE 708.01. THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B-20045 OR 20059 (THE COLOR OF WEATHERING STEEL).

AS-BUILT NOTE: SHERWIN WILLIAMS DOT HP ACRYLIC URETHANE USED ON UNIT 1 GIRDERS.

DESIGN AGENCY
PRIME AE
540 WEST POINT PARK, SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

GENERAL NOTES (1 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

P:\Projects\2018\20H03DB-18232 HAM-75-03.84\104667\structures\HAM074_1908S\sheets\074_1908S_GN001.dgn 10/26/2023 2:58:41 PM odesimone

STRUCTURE GENERAL NOTES

ITEM 512 SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION):

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. THE EPOXY URETHANE SEALER SHALL BE FEDERAL COLOR NUMBER 17778.

ALTERNATIVE MASONARY COATING, CHEMMASTER TEXTURRE DOT, WAS APPLIED AT PIER 3, EXISTING PIER 7, AND UNIT 1 PARAPET.

TEMPORARY SHORING:

ALL TEMPORARY SHORING DESIGN WILL BE PERFORMED IN ACCORDANCE WITH CMS 501 AND SUBMITTED PRIOR TO CONSTRUCTION.

ITEM 203, EMBANKMENT, AS PER PLAN:

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT.

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, 105.02 AND 513.04.

EXISTING BRIDGE PLANS:

EXISTING AND REHABILITATION BRIDGE PLANS HAVE BEEN PROVIDED BY ODOT DISTRICT 8.

RAILROAD RIGHT-OF-WAY REQUIREMENTS:

ALL CONSTRUCTION WORK ON, OVER, UNDER OR ADJACENT TO THE NORFOLK-SOUTHERN (NS) OR CSX RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE NORFOLK-SOUTHERN "SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS" (NS SPECIAL PROVISIONS) OR CSX PUBLIC PROJECTS MANUAL.

RAILROAD EXCAVATION REQUIREMENTS:

THERE SHALL BE NO EXCAVATION ON OR AT THE TOE OF THE NORFOLK SOUTHERN OR CSX TRACK STRUCTURE SLOPES WITHOUT REVIEW AND COMPLIANCE WITH THE NORFOLK SOUTHERN AND CSX "SHORING REQUIREMENTS".

MAINTENANCE OF TRAFFIC:

SEE BU-04 AND BU-23 FOR MAINTENANCE OF TRAFFIC PLANS

UTILITIES:

THE UTILITY(IES) SHALL BORE 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.

FOR A LISTING OF UTILITIES IN THE PROJECT AREA, SEE BU-14.

STRUCTURE GROUNDING:

STRUCTURE TO BE GROUNDED IN ACCORDANCE WITH STD. DWG. HL-50.21. SEE DETAILS ON SHEET 9/79.

LIGHTING:

SEE BU-19 FOR REQUIRED LIGHTING WORK.

AESTHETIC SURFACE TREATMENT:

THE FRONT FACE OF CIP ABUTMENT AND WINGWALLS SHALL HAVE A "FRACTURED FIN" FINISH WITH A RELIEF OF 1½" APPLIED TO THE LIMITS SHOWN IN THE PLANS. THE VERTICAL FINS AND VALLEYS IN THE FRACTURED FIN AESTHETIC TREATMENT SHALL ALIGN VERTICALLY FROM THE BOTTOM OF THE WALL TO THE TOP.

THE "FRACTURED FIN" FINISH ON THE ABUTMENT FACE AND WINGWALLS SHALL MATCH AND BE SUPPLIED BY THE SAME FORMLINER MANUFACTURER AS THAT USED ON THE RETAINING WALLS (BU-09).

CLASS QC3 CONCRETE WITH QC/QA, SUBSTRUCTURE, AS PER PLAN

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC INTO THE SUBSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE	499.03, CLASS QC 3, WITH MACRO-SYNTHETIC FIBERS WITH MODIFICATION PER 511.02
FIBERS FOR CONCRETE	ASTM C 1116, TYPE III

THE CLASS QC3 CONCRETE FOR THE SUBSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA: WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 IN. MIN. TO 2.5 IN. MAX.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR CO-POLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYNTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AND ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURE'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT AND MOISTURE.

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C 1609. MACRO-SYNTHETIC FIBERS IS TO BE USED AS AN ADMIXTURE TO CONTROL CRACKING AND IS NOT TO BE USED TO SUPPLEMENT OR REPLACE REINFORCING STEEL IN THE DESIGN. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OR EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX, WILL BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CONCRETE SUPPLIER'S CHOICE OF ADMIXTURES DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS.

CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC INTO THE SUPERSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE	499.03, CLASS QC3, WITH MACRO-SYNTHETIC FIBERS WITH MODIFICATION PER 511.02
FIBERS FOR CONCRETE	ASTM C 1116, TYPE III

THE CLASS QC3 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA: WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 IN. MIN. TO 2.5 IN. MAX.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR CO-POLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYNTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70
KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AND ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURE'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT AND MOISTURE.

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C 1609. MACRO-SYNTHETIC FIBERS IS TO BE USED AS AN ADMIXTURE TO CONTROL CRACKING AND IS NOT TO BE USED TO SUPPLEMENT OR REPLACE REINFORCING STEEL IN THE DESIGN. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OR EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX, WILL BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CONCRETE SUPPLIER'S CHOICE OF ADMIXTURES DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS.

APPROACH SLABS, DIAPHRAGMS, AND BRIDGE RAILING CONCRETE ARE TO USE THE SAME MIX DESIGN AS THE BRIDGE DECK (WHEN APPLICABLE). USE SELF-COMPACTING CONCRETE ON DECORATIVE RAILING SIMILAR TO TEXAS RAILING AND MACRO-SYNTHETIC CONCRETE PER THIS SPECIFICATION ON TRADITIONAL CONCRETE RAILING.

THE PLACING OF THE DECK AND THE APPROACH SLABS IN THE SAME CONCRETE POUR IS NOT PERMITTED.

DESIGN AGENCY
PRIME
540 WEST POINT PIKE, SUITE E
WILLOW GROVE, PA 19090

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

GENERAL NOTES (2 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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STRUCTURE GENERAL NOTES

ABBREVIATIONS

ABUT. - ABUTMENT
APPROX. - APPROXIMATELY
BOTT. - BOTTOM
BRG. - BEARING
BTW. - BETWEEN
C/C - CENTER TO CENTER
C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CONST. - CONSTRUCTION
DIA. - DIAMETER
DWG. - DRAWING
EA. - EACH
E.F. - EACH FACE
EL. OR ELEV. - ELEVATION
EMB. - EMBEDMENT
EQ. - EQUAL
EX. - EXISTING
EXIST. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
JT. - JOINT
MIN. - MINIMUM
MAX. - MAXIMUM
MOT - MAINTENANCE OF TRAFFIC
N.F. - NEAR FACE
NO. - NUMBER
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
R.A. - REAR ABUTMENT
REQ'D. - REQUIRED
SPA. - SPACE(D) OR SPACING
STA. - STATION
STD. DWG. OR SCD - STANDARD CONSTRUCTION DRAWING
STR. - STRAIGHT
SQ. - SQUARE
T - TOP
T.B.D. - TO BE DETERMINED
T&B - TOP AND BOTTOM
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE
W/ - WITH

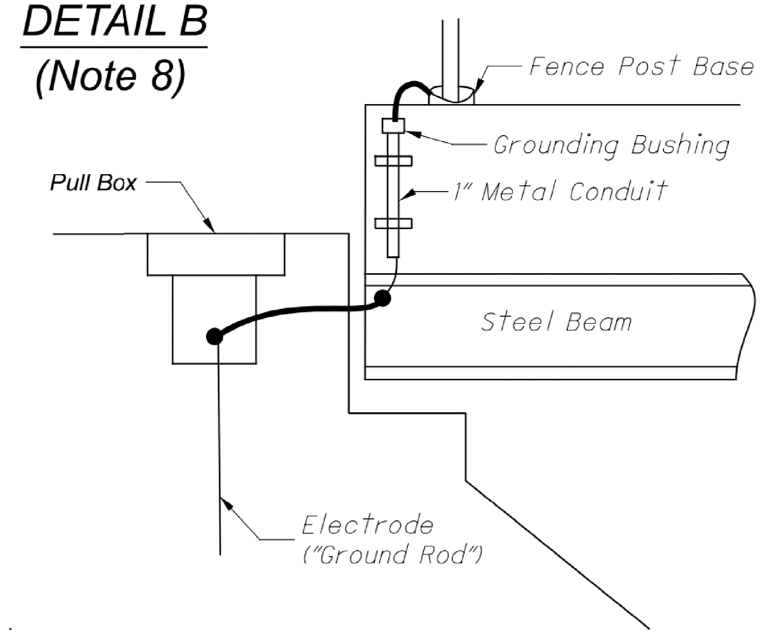
ASTM A490 BOLTS IN CROSSFRAME CONNECTIONS

ASTM A490 BOLTS (1¼" ϕ) SHALL ONLY BE USED FOR CROSSFRAME CONNECTIONS. ALL BOLTS SHALL BE CLEARLY MARKED TO ENSURE PROPER PLACEMENT. ADDITIONALLY, A BOLT TRACKING LOG SHALL BE USED TO TRACK ALL BOLTED CONNECTIONS, INCLUDING THE BOLT TYPE, SIZE, LENGTH AND TESTING REQUIREMENTS. A SAMPLE OF THE BOLT TRACKING LOG SHALL BE PROVIDED WITH THE STEEL ERECTION CONSTRUCTION SUBMITTAL.

A490 BOLTS CANNOT BE GALVANIZED. FOR PROTECTION, A490 BOLTS SHALL BE COATED ACCORDING TO ASTM F3125 ANNEX A1.

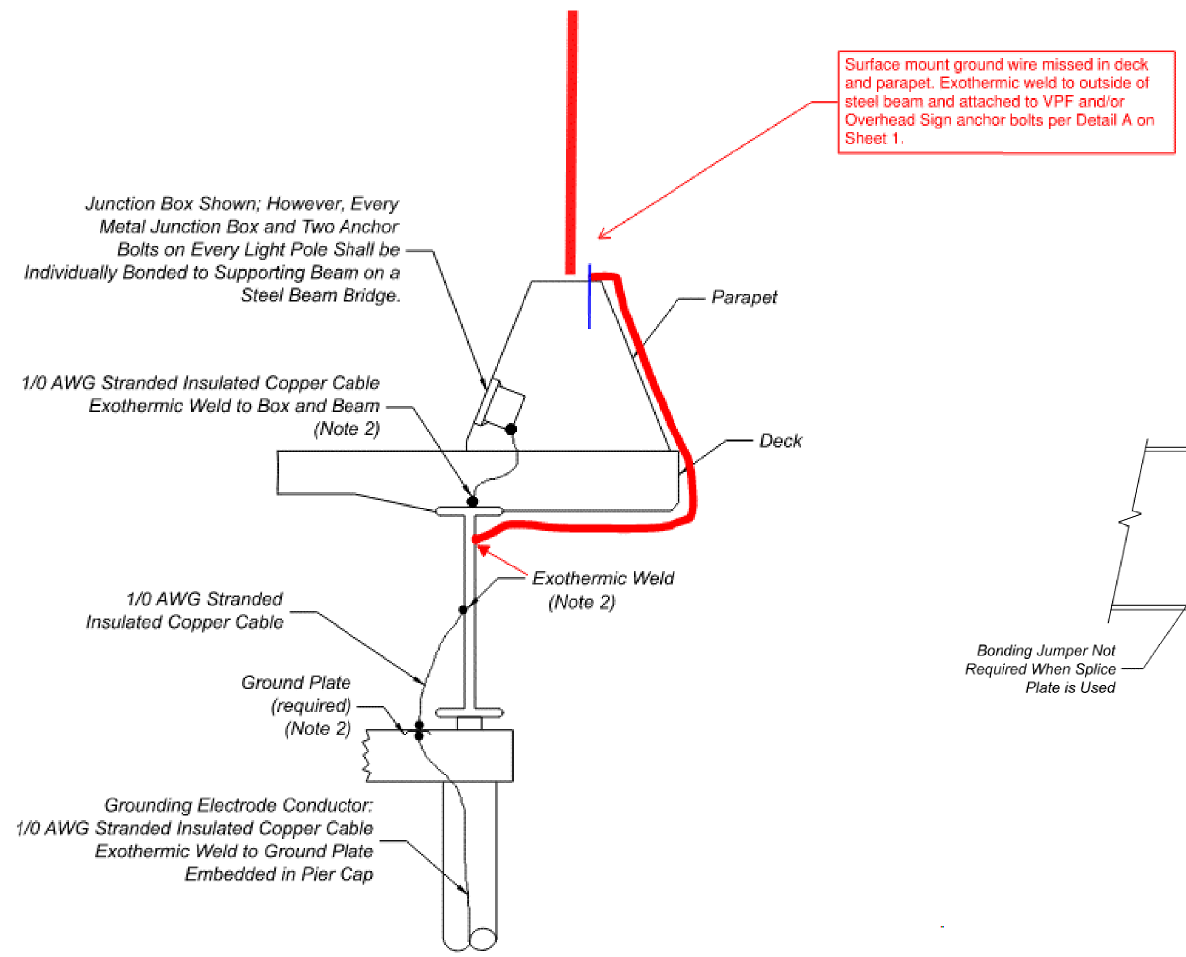
THE MINIMUM TEST PRETENSION FOR 1¼" ϕ A490 BOLTS SHALL BE 102K. THE MAXIMUM PERMITTED TORQUE SHALL BE 2656 FT/LBS. THE MINIMUM TEST PRETENSION AFTER ROTATION SHALL BE 117K. A BOLT ROCAP TESTING AND PRE-VERIFICATION INSTALLATION WORKSHEET TRACKING THE TESTING REQUIREMENTS FOR ALL BOLTS INCLUDING TENSIONING, TORQUE AND ROTATION REQUIREMENTS SHALL BE PROVIDED WITH THE STEEL ERECTION CONSTRUCTION SUBMITTAL.

DETAIL B
(Note 8)

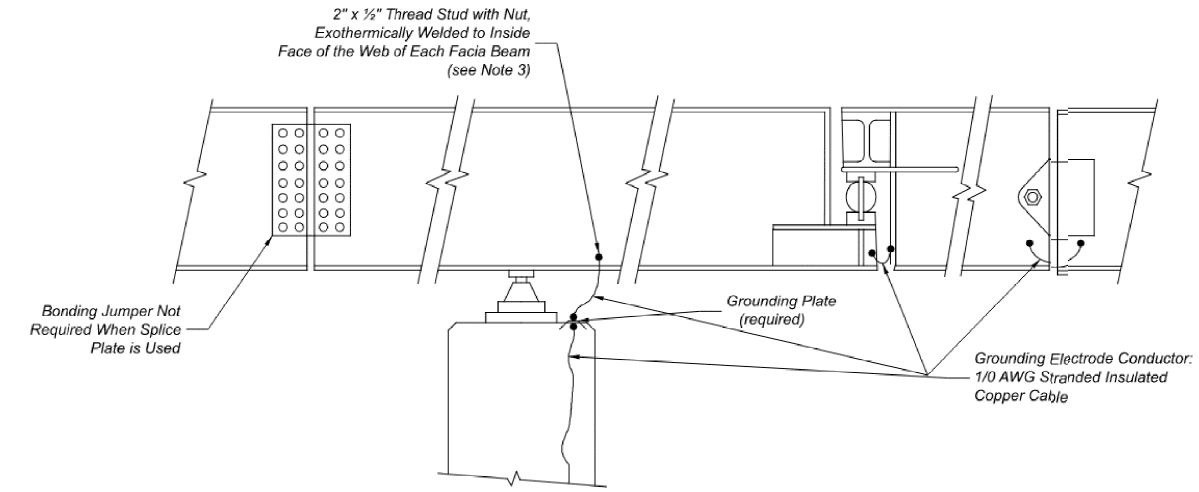


NOTES:

1. There shall be a minimum of four (4) electrodes.
2. Wet locations shall be used rather than dry locations for electrodes.
3. No point on the structure shall be more than two spans from an electrode.
4. Provide two electrodes at each abutment.
5. Provide a grounding electrode conductor within each outside column at pier.
6. Provide grounding plates for each grounding electrode conductor.
7. Do not use surface-mounted ground conductors for new construction.
8. Alternate method at abutments: See Detail B. Route grounding conductors through one or more 1" metal conduits to an electrode located in a pull box. Assure all metal conduits enclosing grounding conductors are bonded at each end. Conduit and pullbox are incidental. Alternate method by permission of the Engineer only, or by Plan Note.



STEEL BEAM CONNECTIONS



STEEL BEAM CONTINUITY (Typ.)

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED KDC	CHECKED CRG	
DRAWN KDC	REVISED	
REVIEWED TES	DATE 8/22/2019	STRUCTURE FILE NUMBER 3109798

GENERAL NOTES (3 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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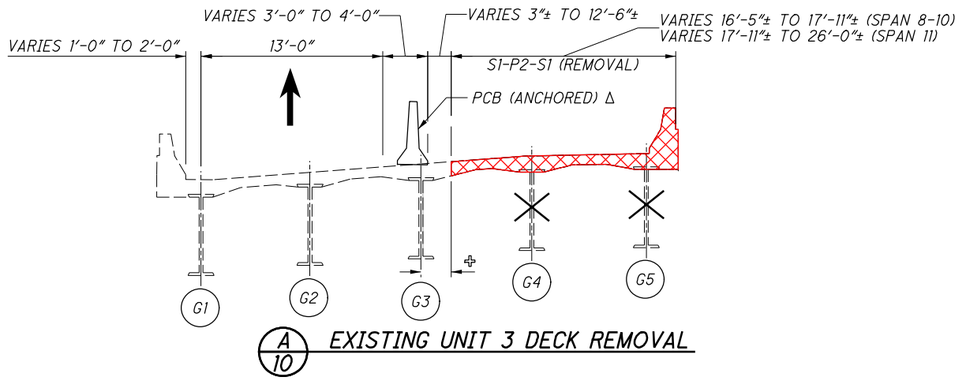
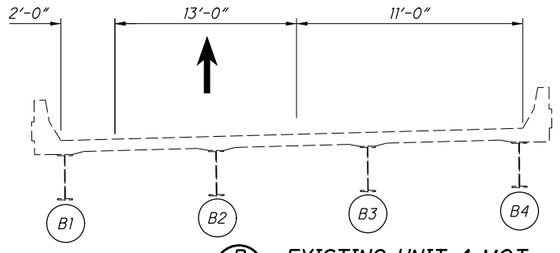


A/10 EXISTING UNIT 3 DECK REMOVAL



B/10 EXISTING UNIT 4 MOT

C/10 EXISTING UNIT 5 DECK REMOVAL

DECK REMOVAL SEQUENCE:

(1) REMOVE PORTION OF UNIT 3 FROM EXISTING HINGE 2 TO EXISTING HINGE 3. REMOVE UNIT 5 FROM EXISTING HINGE 3 TO EXISTING ABUTMENT 3.

NOTES:

1. REMOVAL DETAILS ARE FOR RAMP P (HAM-74-1908S) ONLY. FOR CORRESPONDING REMOVAL DETAILS FOR I-74 EB (HAM-74-1908R), SEE BU-10.
2. THE CONTRACTOR HAS THE OPTION TO PERFORM ALL RELATED SUBSTRUCTURE REMOVAL DURING STAGE 1, PHASE 2, STEP 6 (REMOVAL).
3. PRIOR TO ANY REMOVALS OF UNIT 3, UNIT 5 OR UNIT 6, CONTRACTOR SHALL WELD PLATES TO THE BEARING LINKS AS DETAILED IN BU-05 REMOVAL SET.
4. FOR SUBSTRUCTURE REMOVAL DETAILS, SEE SHEETS 13/79 THRU 16/79 .
5. FOR GENERAL NOTES AND MOT REFERENCE, SEE SHEETS 7/79 AND 8/79 .

LEGEND:

- INDICATES LIMITS OF DECK REMOVAL (S1-P2-S1)

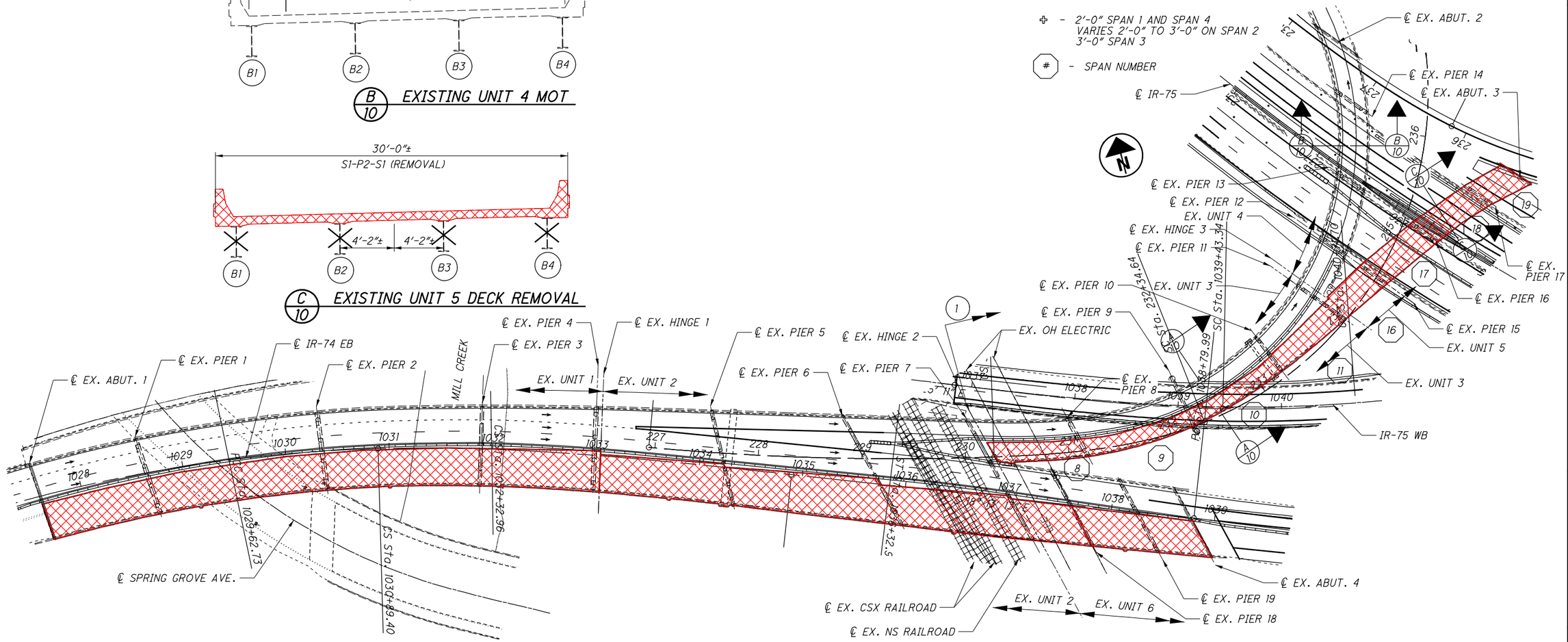
SX-PX-SX - STAGE X, PHASE X, STEP X (MOT PHASING)

- INDICATES BEAM REMOVAL

Δ - 2 ANCHORS PER SEGMENT SPANS 1 & 4
4 ANCHORS PER SEGMNET SPANS 2 & 3

✣ - 2'-0" SPAN 1 AND SPAN 4
VARIES 2'-0" TO 3'-0" ON SPAN 2
3'-0" SPAN 3

(#) - SPAN NUMBER



DECK REMOVAL - STAGE 1, PHASE 2, STEP 1

DESIGN AGENCY
PRIME AE
540 WEST POINT PIKE, SUITE E
WAYNE, PA 19087

DESIGNED	DRAWN	REVIEWED	DATE
CRG	CRG	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

DECK REMOVAL - STAGE 1, PHASE 2, STEP 1
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

10 / 79

10
79

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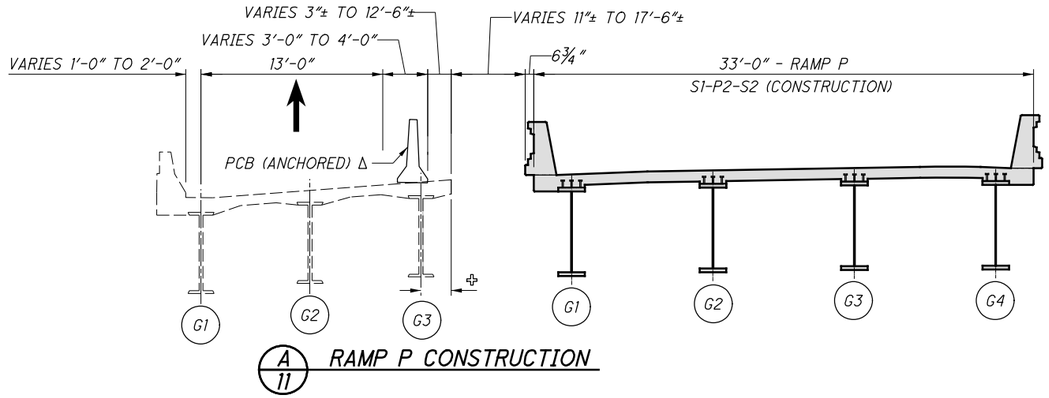
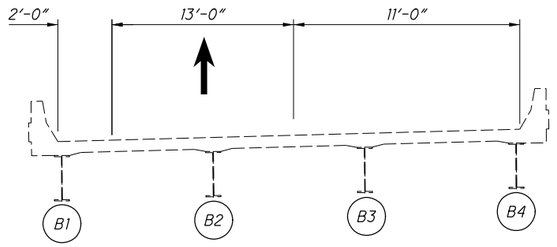


A/11 RAMP P CONSTRUCTION



B/11 EXISTING UNIT 4 MOT

NOTES:

1. CONSTRUCTION DETAILS ARE FOR RAMP P (HAM-74-1908S) ONLY. FOR CORRESPONDING CONSTRUCTION DETAILS FOR I-74 EB (HAM-74-1908R), SEE BU-10.
2. FOR GENERAL NOTES AND MOT REFERENCE, SEE SHEETS 7/79 AND 8/79.

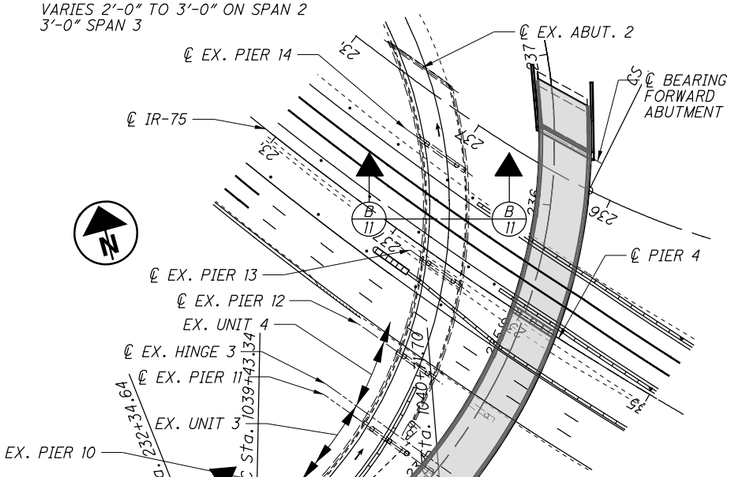
LEGEND:

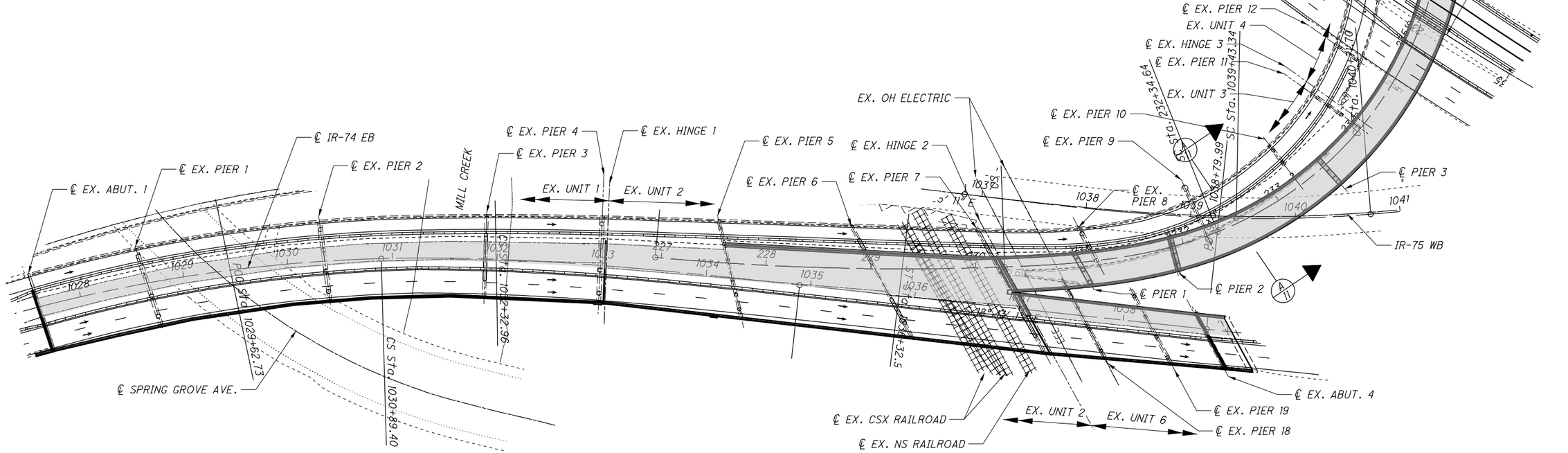
- INDICATES LIMITS OF DECK CONSTRUCTION (S1-P2-S2)

SX-PX-SX - STAGE X, PHASE X, STEP X (MOT PHASING)

Δ - 2 ANCHORS PER SEGMENT SPANS 1 & 4
4 ANCHORS PER SEGMNET SPANS 2 & 3

✣ - 2'-0" SPAN 1 AND SPAN 4
VARIES 2'-0" TO 3'-0" ON SPAN 2
3'-0" SPAN 3





DECK CONSTRUCTION - STAGE 1, PHASE 2, STEP 2

DESIGN AGENCY
PRIME AE
540 WEST POOL DR. SUITE E
MARION, OR 43320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	CRG	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

DECK CONSTRUCTION - STAGE 1, PHASE 2, STEP 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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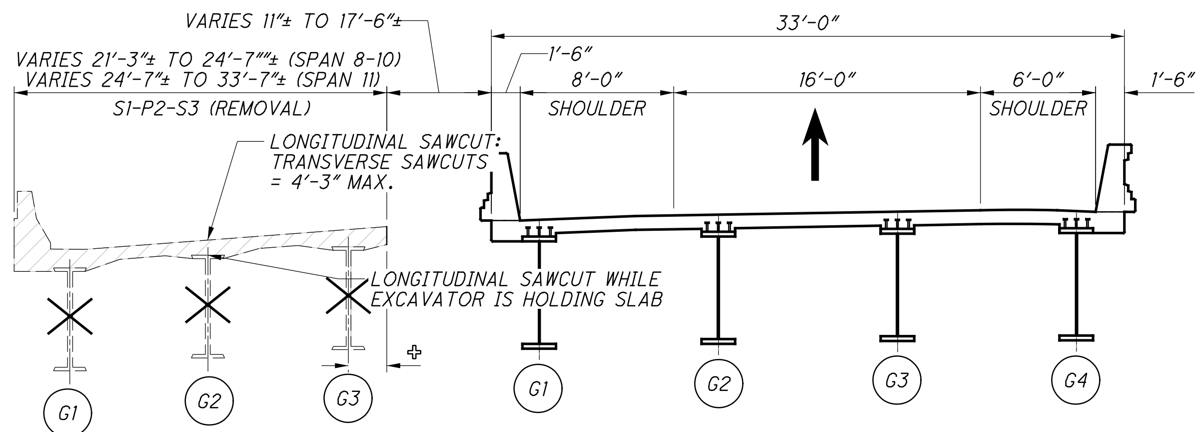
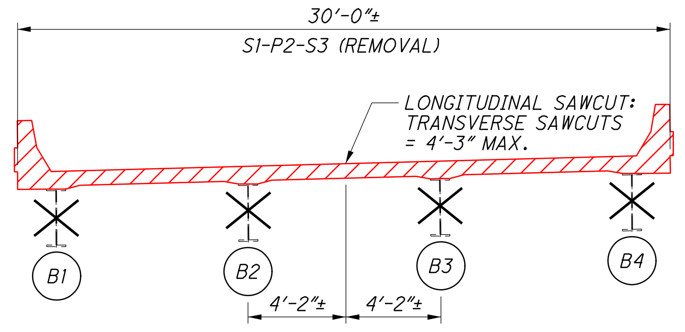


A/12 EXISTING UNIT 3 REMOVAL



B/12 EXISTING UNIT 4 REMOVAL

LEGEND:

- INDICATES LIMITS OF SLAB OUT DECK REMOVAL (S1-P2-S3)
- INDICATES LIMITS OF HOE RAM OR SLAB OUT DECK REMOVAL (S1-P2-S3)
- INDICATES LIMITS OF HOE RAM DECK REMOVAL (S1-P2-S3)

SX-PX-SX - STAGE X, PHASE X, STEP X (MOT PHASING)

- INDICATES BEAM REMOVAL

- 2′-0″ SPAN 1 AND SPAN 4
VARIES 2′-0″ TO 3′-0″ ON SPAN 2
3′-0″ SPAN 3

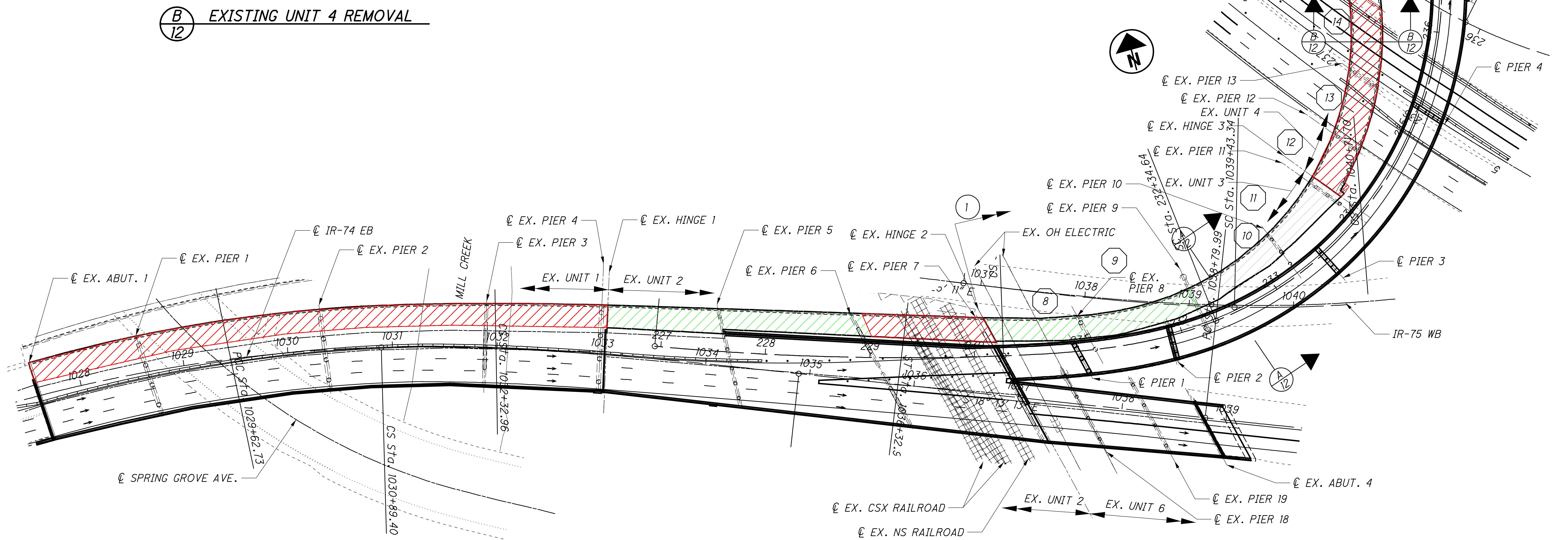
\# - SPAN NUMBER

DECK REMOVAL SEQUENCE:

1. BEFORE DEMOLITION BEGINS, THE CONTRACTROR SHALL WELD PLATES NEAR LINKS AT EXISTING HINGE 2 AND EXISTING HINGE 3. BOTH TOP AND BOTTOM AND ON EACH SIDE, TO THE BEARING PLATES PER DETAIL SHOWN ON SHEETS 1908SRE /79 THRU 1908SRE /79. ADDITIONALLY, THE CONTRACTOR SHALL ALSO WELD THE PLATES TO THE BEARINGS AT EXISTING PIER 8 AND EXISTING PIER 12 AS SHOWN ON SHEET 1908SPC /79.
2. REMOVE 1908S FROM EXISTING ABUTMENT 2 TO EXISTING EXISTING HINGE 2.

NOTES:

1. REMOVAL DETAILS ARE FOR RAMP P (HAM-74-1908S) ONLY. FOR CORRESPONDING REMOVAL DETAILS FOR I-74 EB (HAM-74-1908R), SEE BU-10.
2. PRIOR TO ANY REMOVALS OF UNIT 3, UNIT 4 OR UNIT 6, CONTRACTOR SHALL WELD PLATES TO THE BEARING LINKS AS DETAILED IN BU-05 REMOVAL SET.
3. FOR SUBSTRUCTURE REMOVAL DETAILS, SEE SHEETS 13/79 THRU 16/79.
4. FOR GENERAL NOTES AND MOT REFERENCE, SEE SHEETS 7/79 AND 8/79.



DECK REMOVAL - STAGE 1, PHASE 2, STEP 3

PRIME AE, 540 WHITE POND DR., SUITE E, AKRON, OH 44320

DESIGN AGENCY	
REVIEWED TES	DATE 8/22/2019
STRUCTURE FILE NUMBER	3109798
DRAWN CRG	REVISED
DESIGNED CRG	CHECKED KDC

DECK REMOVAL - STAGE 1, PHASE 2, STEP 3
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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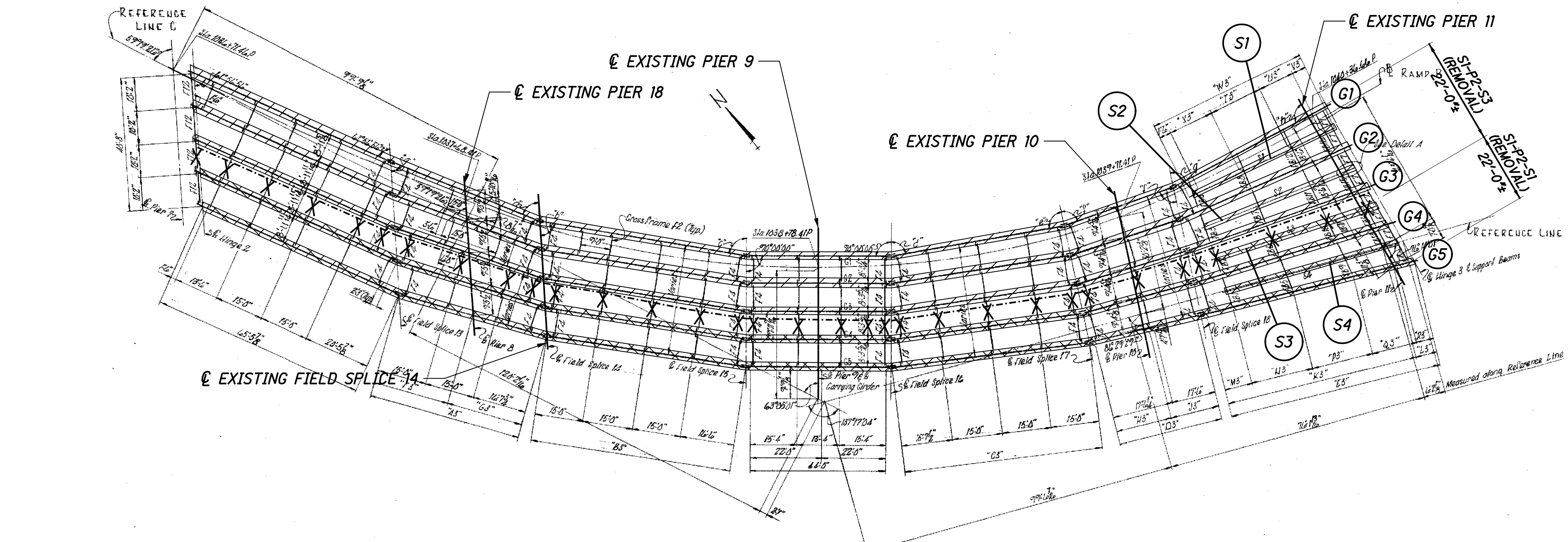
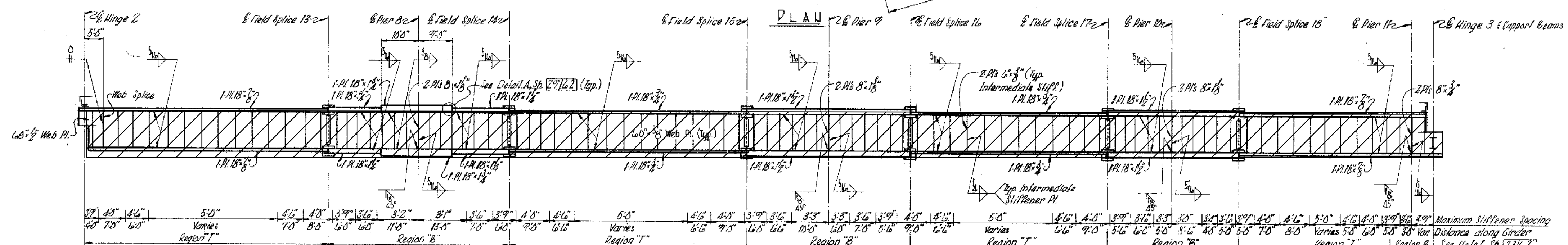
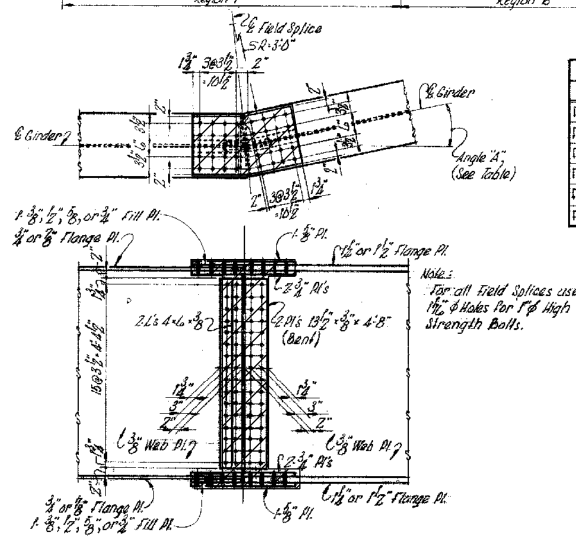


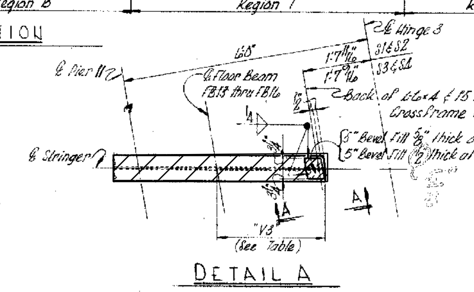


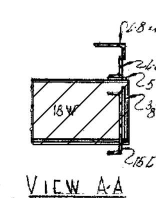
GIRDER DIMENSIONS & ANGLES					
	G1	G2	G3	G4	G5
A3	48'-9 13/16"	48'-2 5/8"	47'-7 15/16"	47'-1 5/8"	46'-7 3/4"
B3	64'-0 3/4"	63'-5 1/16"	62'-9 5/16"	62'-1 11/16"	61'-6"
C3	53'-4 9/16"	55'-2 1/8"	56'-11 13/16"	58'-9 5/8"	60'-7 1/2"
D3	35'-3 9/16"	35'-2 5/16"	35'-1 3/8"	35'-0 11/16"	35'-0 1/4"
E3	52'-4 1/8"	55'-5 7/8"	58'-11 3/4"	62'-7 1/16"	66'-4 1/4"
F3	24'-4 15/16"	24'-1 5/16"	23'-10"	23'-6 13/16"	23'-3 7/8"
G3	24'-4 7/8"	24'-1 5/16"	23'-9 15/16"	23'-6 13/16"	23'-3 7/8"
H3	17'-1 3/4"	17'-1 1/8"	17'-0 11/16"	17'-0 5/16"	17'-0 1/8"
J3	18'-1 13/16"	18'-1 3/16"	18'-0 11/16"	18'-0 3/8"	18'-0 1/8"
K3	46'-4 1/8"	49'-5 9/16"	52'-10 3/4"	56'-5 1/4"	60'-1 9/16"
L3	6'-0"	6'-0 5/16"	6'-1"	6'-1 13/16"	6'-2 11/16"
M3	4'-4 1/8"	5'-6 11/16"	6'-9 9/16"	8'-0 3/4"	9'-4 1/4"
N3	17'-0"	17'-4 7/16"	17'-10 1/4"	18'-4 7/8"	19'-0"
P3	16'-0"	16'-7 3/4"	17'-4 3/4"	18'-2 1/8"	19'-0"
Q3	11'-0"	11'-10 13/16"	12'-10 1/2"	13'-10 1/8"	14'-10 3/16"
R3	4'-0"	4'-0 3/16"	4'-0 11/16"	4'-1 5/16"	4'-1 13/16"
a	64°17'50"	65°50'51"	67°24'05"	68°57'28"	70°36'55"
b	76°12'04"	76°31'06"	76°50'19"	77°10'02"	77°30'09"
c	79°57'39"	80°16'35"	80°35'54"	80°55'37"	81°15'44"
d	79°41'07"	80°31'01"	81°17'45"	82°01'37"	82°42'50"
e	88°01'27"	87°11'33"	86°24'49"	85°40'57"	84°59'44"
f	82°35'08"	83°57'25"	85°20'11"	86°43'17"	88°06'37"
g	73°18'11"	78°04'24"	82°18'20"	85°22'44"	88°06'37"
h	89°25'19"	84°39'07"	80°25'11"	77°20'47"	74°36'54"

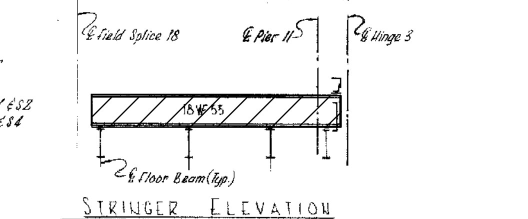
STRINGER DIMENSIONS				
	S1	S2	S3	S4
X3	17'-2"	17'-7 5/16"	18'-1 1/2"	18'-8 3/8"
T3	16'-3 11/16"	17'-0 1/8"	17'-9 3/8"	18'-7"
U3	11'-5 1/4"	12'-4 9/16"	13'-4 1/4"	14'-4 1/8"
V3	2'-5 3/8"	2'-5 9/16"	2'-6"	2'-6 3/8"
W3	48'-10 5/16"	50'-11 7/16"	53'-3 1/8"	55'-7 7/8"

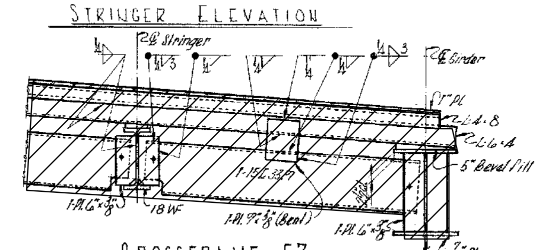


ANGLE "A"					
GIRDER	G1	G2	G3	G4	G5
Field Splice 13	2°22'54"	3°53'55"	5°27'09"	7°02'32"	8°39'59"
Field Splice 14	11°52'14"	10°40'09"	9°26'14"	8°10'34"	6°55'14"
Field Splice 15	10°02'21"	9°43'25"	9°24'06"	9°04'23"	8°44'16"
Field Splice 16	10°18'53"	9°28'59"	8°42'15"	7°58'23"	7°17'10"
Field Splice 17	9°23'30"	8°51'02"	8°15'00"	7°35'46"	6°53'39"
Field Splice 18	9°16'52"	5°53'01"	3°01'51"	1°20'33"	0°00'00"









GIRDER REMOVAL PROCEDURES FOR STAGE 1, PHASE 2, STEP 3 WILL BE SUBMITTED SEPARATELY.

EXISTING UNIT 3 REMOVAL DETAILS

LEGEND:

- ☒ - INDICATES LIMITS OF REMOVAL (S1-P2-S1)
- ▨ - INDICATES LIMITS OF REMOVAL (S1-P2-S3)
- SX-PX-SX - STAGE X PHASE X STEP X (MOT PHASING)
- SX - STRINGER X
- ✕ - INDICATES EXISTING CROSSFRAME TO BE REMOVED IN S1-P2-S3

NOTES:

1. FOR ADDITIONAL DETAILS, SEE SHEET 14/79.
2. SEE SHEETS 10/79 THRU 12/79 FOR CONSTRUCTION SEQUENCE INFORMATION.
3. REMOVE G4 & G5 AND S3 & S4 DURING S1-P2-S1 AND THE CROSSFAMES CONNECTING THEM TO G3. TAKE CARE NOT TO DAMAGE G3 DURING THE REMOVAL PROCESS.
4. REMOVE G1-G3 AND S1-S2 DURING S1-P2-S2.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

EXISTING FRAMING PLAN UNIT 3 REMOVAL DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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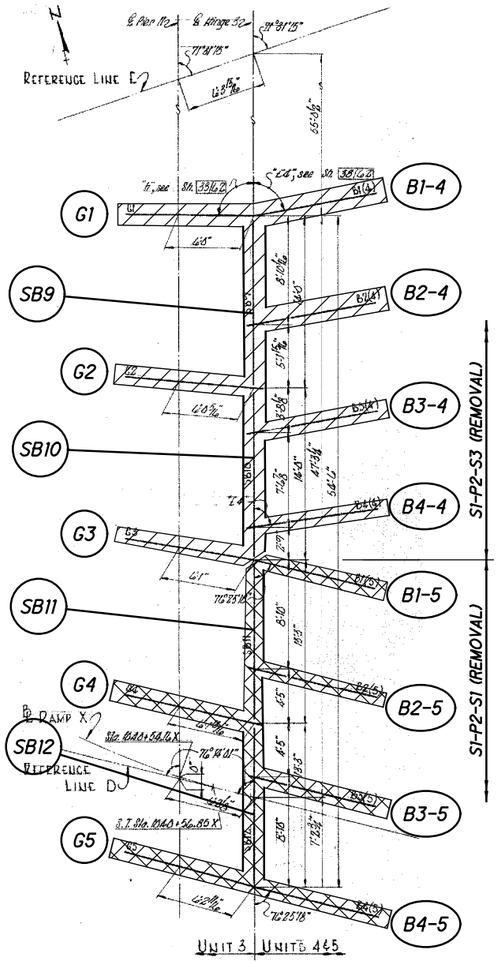
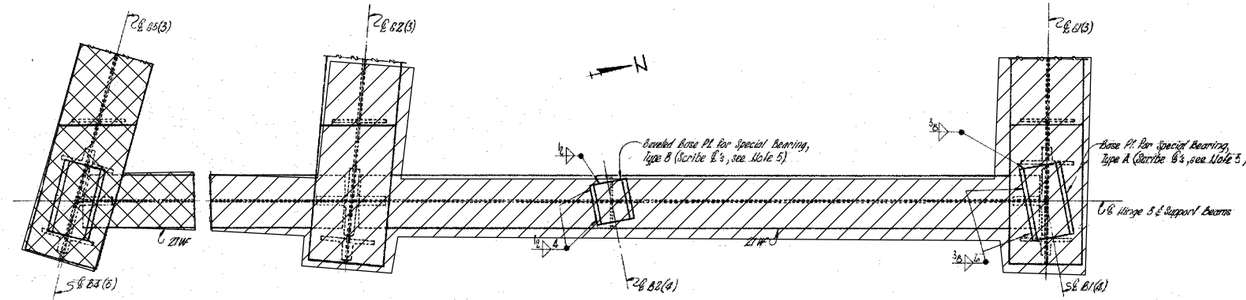
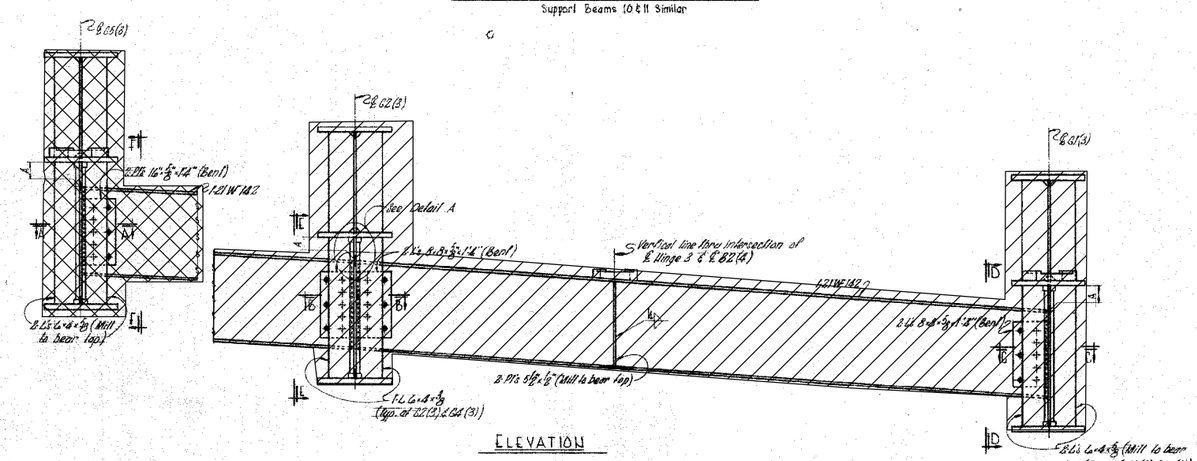
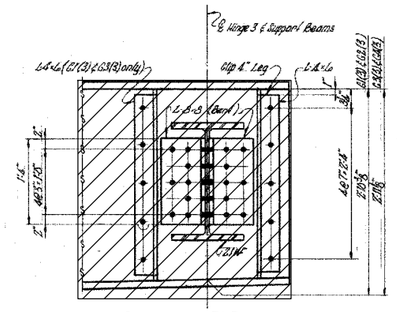
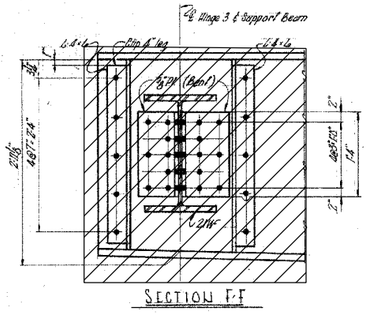


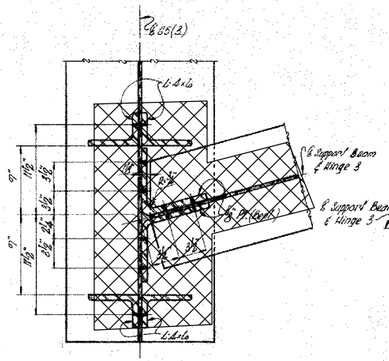
PLAN OF FRAMING AT HINGE 3

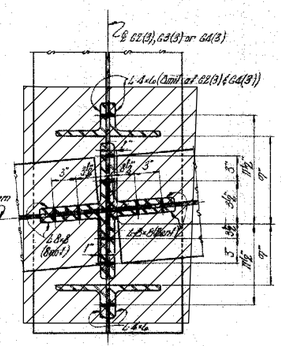


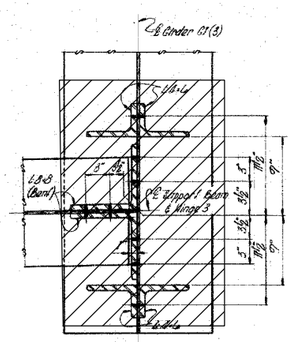


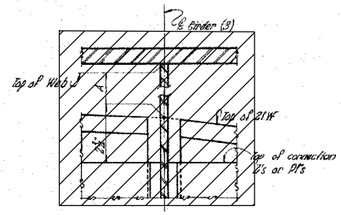












	Dim. A
G1(3)	5⅛"
G2(3)	5⅛"
G3(3)	6⅜"
G4(3)	6⅜"
G5(3)	6⅜"

LEGEND:

- ⊠ - INDICATES LIMITS OF REMOVAL (S1-P2-S1)
- ▨ - INDICATES LIMITS OF REMOVAL (S1-P2-S3)
- SX-PX-SX - STAGE X PHASE X STEP X (MOT PHASING)
- BX-X - BEAM X UNIT X
- SBX - SUPPORT BEAM X

EXISTING SUPPORT BEAMS AT HINGE 3 REMOVAL DETAILS

NOTES:

1. FOR ADDITIONAL DETAILS, SEE SHEET 13/79 .
2. SEE SHEETS 10/79 THRU 12/79 FOR CONSTRUCTION SEQUENCE INFORMATION.
3. REMOVE G4 AND G5, B1-5 THRU B4-5, AND SB11 & SB12 DURING S1-P2-S1. CONTRACTOR SHALL TAKE CARE TO NOT DAMAGE G3 AND SB10 DURING REMOVAL.
4. REMOVE REMAINING BEAMS DURING S1-P2-S3.

DESIGN AGENCY
PRIME
540 WEST POINT DR. SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	ADS	TES	8/22/2019
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KDC		3109798	

EX. SUPPORT BEAMS AT HINGE 3 REMOVAL DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

14 / 79

14
79

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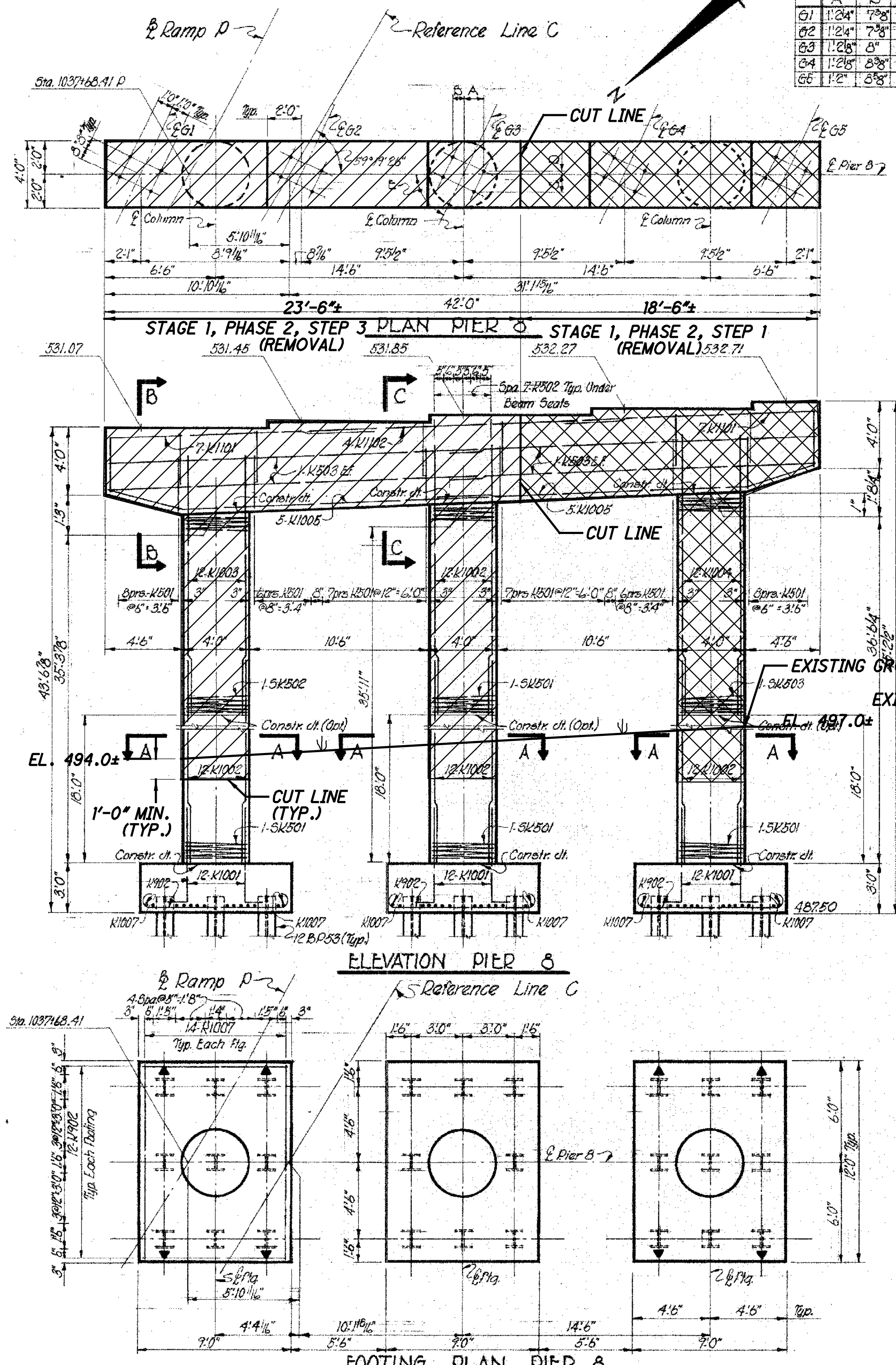
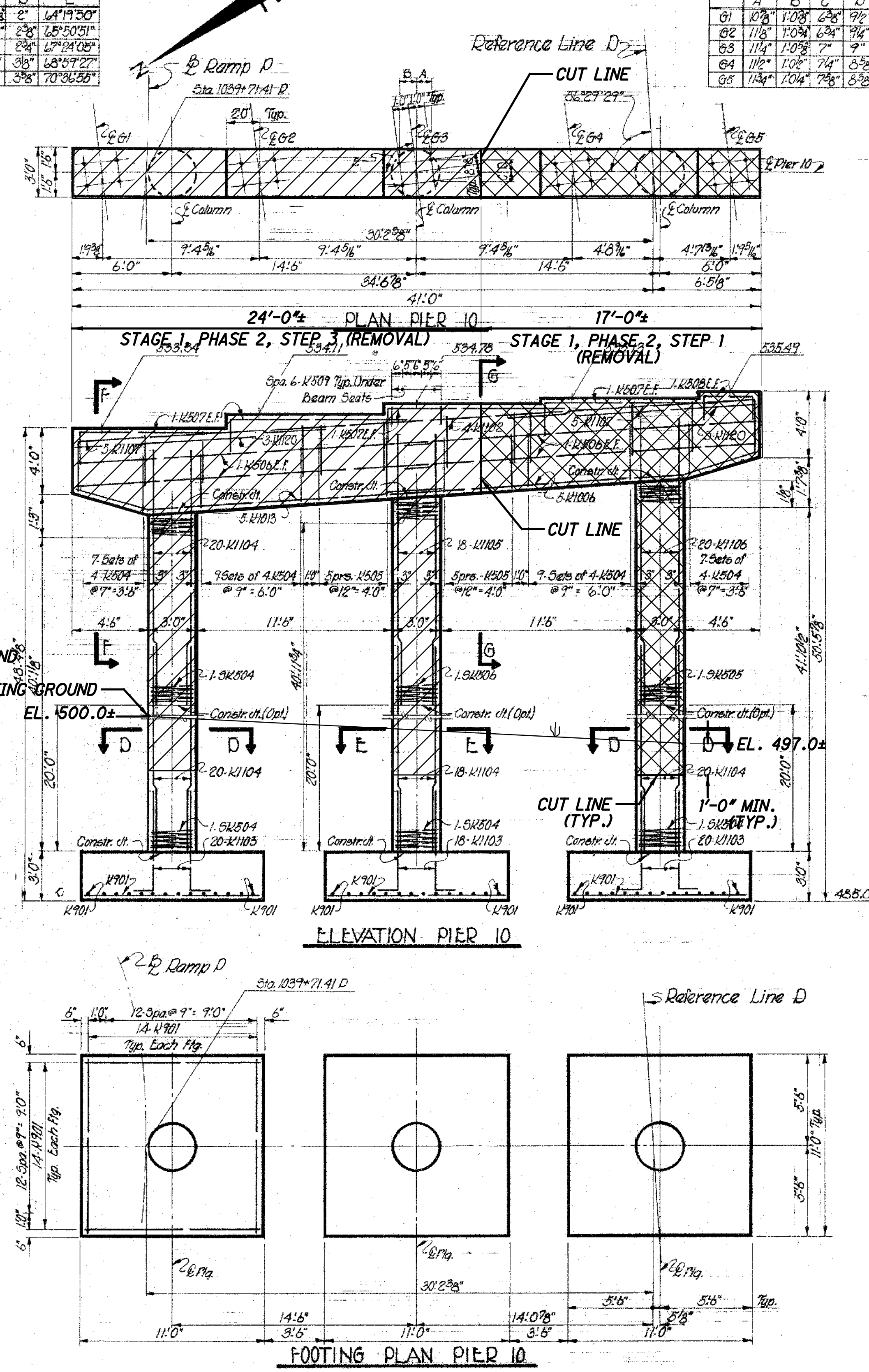
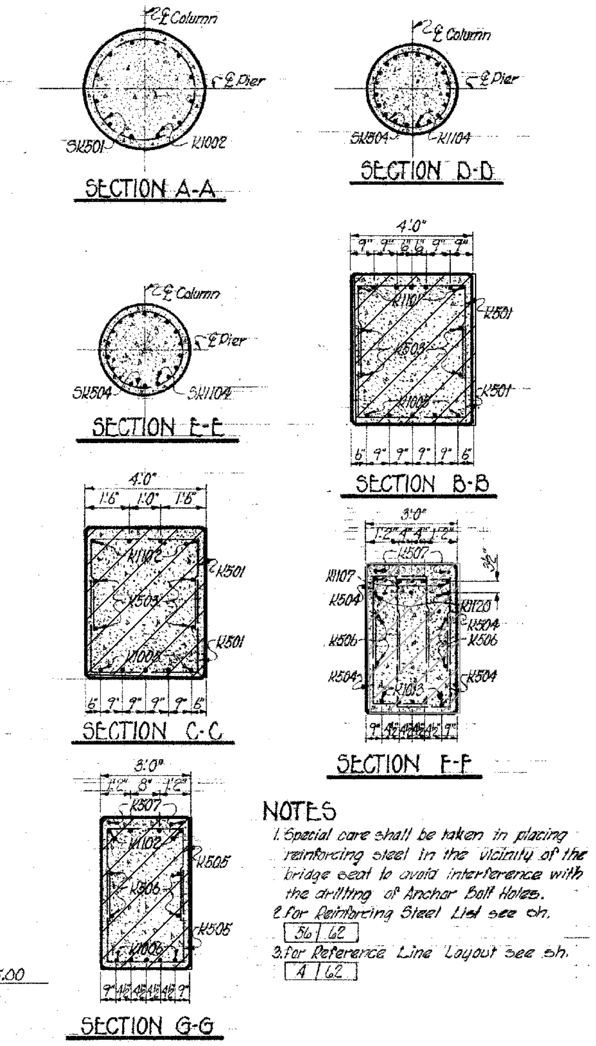
PIER 8	A	B	C	D	E
G1	1'-2 1/4"	7 3/8"	1'-0 3/8"	2"	64°19'50"
G2	1'-2 1/4"	7 5/8"	1'-0 1/4"	2 3/8"	65°50'51"
G3	1'-2 1/8"	8"	1'-0"	2 3/4"	67°24'05"
G4	1'-2 1/8"	8 3/8"	11 3/4"	3 1/8"	68°57'27"
G5	1'-2"	8 5/8"	11 1/2"	3 5/8"	70°36'55"

PIER 10	A	B	C	D	E
G1	10 7/8"	1'-0 7/8"	6 3/8"	9 1/2"	82°35'03"
G2	11 1/8"	1'-0 3/4"	6 3/4"	9 1/4"	83°57'25"
G3	11 1/4"	1'-0 5/8"	7"	9"	85°20'11"
G4	11 1/2"	1'-0 1/2"	7 1/4"	8 5/8"	86°43'17"
G5	11 3/4"	1'-0 1/4"	7 5/8"	8 3/8"	88°06'37"







NOTES

1. Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat to avoid interference with the drilling of Anchor Bolt Holes.
2. For Reinforcing Steel List see sh. 36/62
3. For Reference Line Layout see sh. 4/62

LEGEND:

- ☒ – INDICATES LIMITS OF REMOVAL (S1-P2-S1)
- ▨ – INDICATES LIMITS OF REMOVAL (S1-P2-S3)

SX-PX-SX – STAGE X PHASE X STEP X (MOT PHASING)

EXISTING PIERS NO. 8 & 10 REMOVAL DETAILS

NOTES:

1. SEE SHEETS 10/79 THRU 12/79 FOR CONSTRUCTION SEQUENCE INFORMATION.
2. THE CONTRACTOR HAS THE OPTION TO REMOVE THE ENTIRE PIER IN S1-P2-S3.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
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CRG		3109798	

EXISTING PIERS 8 & 10 REMOVAL DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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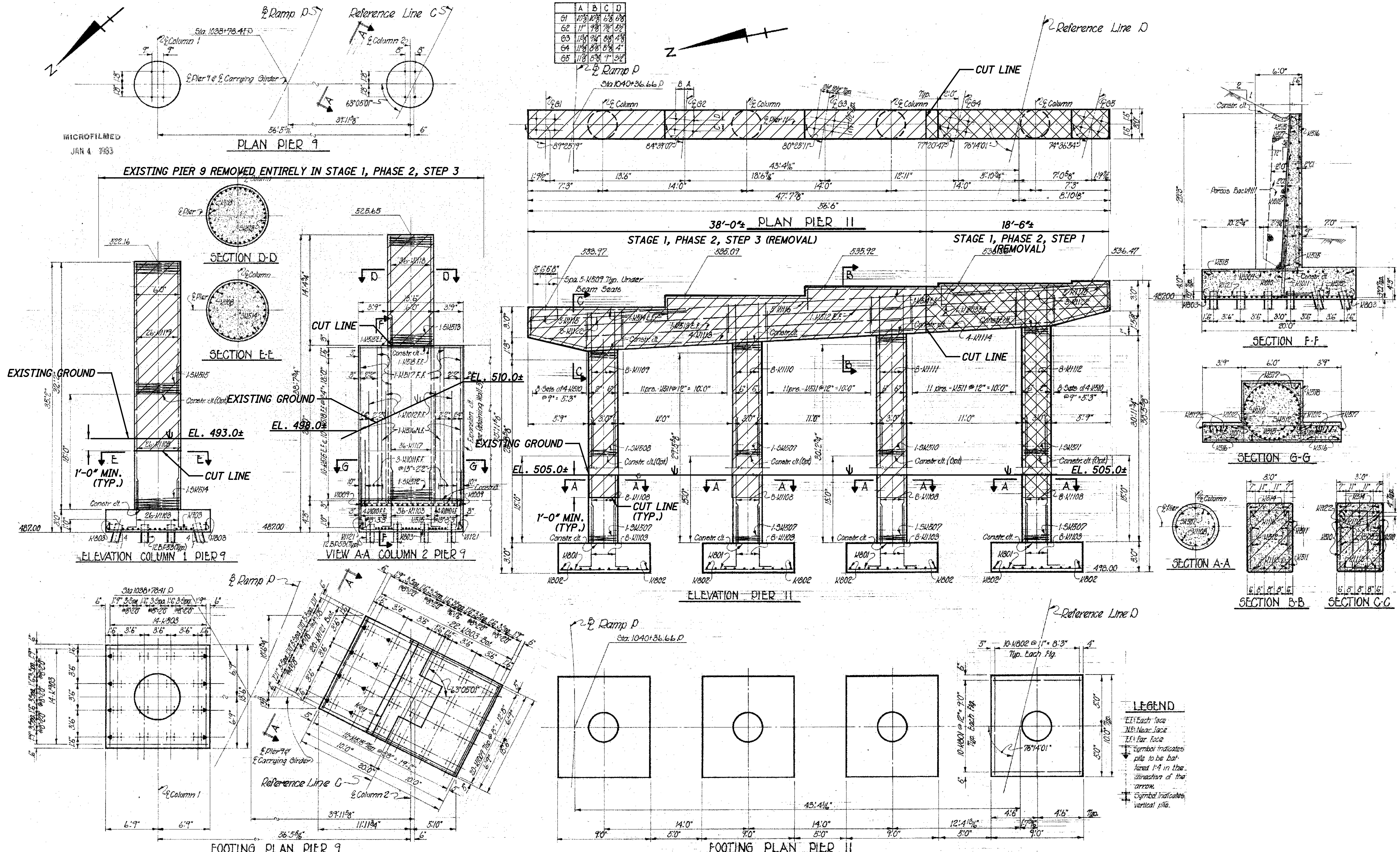

EXISTING PIERS 9 & 11 REMOVAL DETAILS

LEGEND:

- (cross-hatch) – INDICATES LIMITS OF REMOVAL (S1-P2-S1)
- (single hatch) – INDICATES LIMITS OF REMOVAL (S1-P2-S3)

SX-PX-SX – STAGE X PHASE X STEP X (MOT PHASING)

NOTES:

1. SEE SHEETS 10/79 THRU 12/79 FOR CONSTRUCTION SEQUENCE INFORMATION.
2. THE CONTRACTOR HAS THE OPTION TO REMOVE THE ENTIRE PIER IN S1-P2-S3.
3. REMOVE EXISTING PIER 9 IN STAGE 1, PHASE 2, STEP 3. CONTRACTOR CANNOT REMOVE ANY PART OF EXISTING PIER 9 (INCLUDING BEARING BASE PLATE) UNTIL AFTER TRAFFIC IS SHIFTED ONTO NEW RAMP P.

DESIGN AGENCY: PRIME — 540 WHITE POND DR., SUITE E, AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
MK	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

EXISTING PIERS 9 & 11 REMOVAL DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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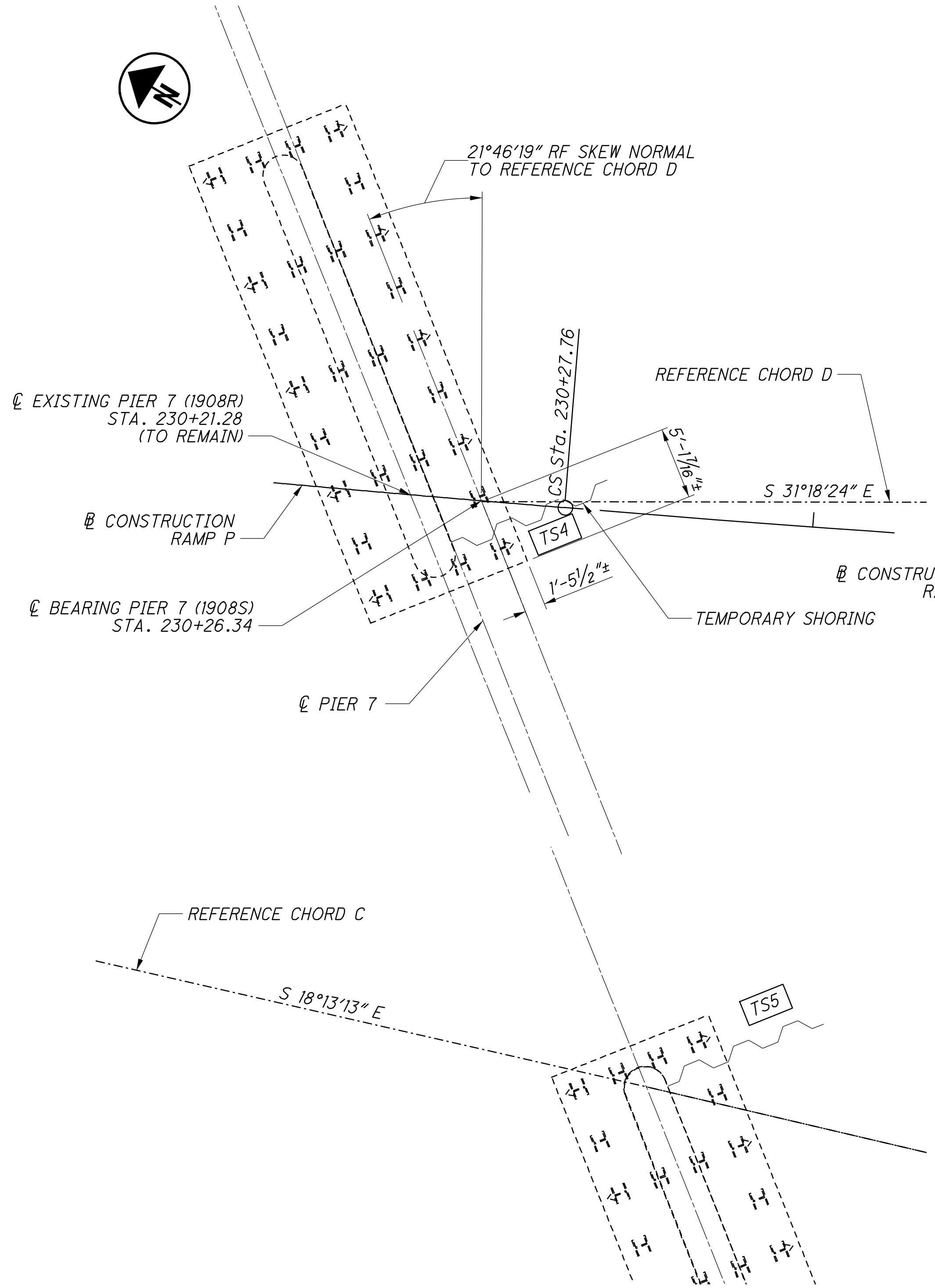
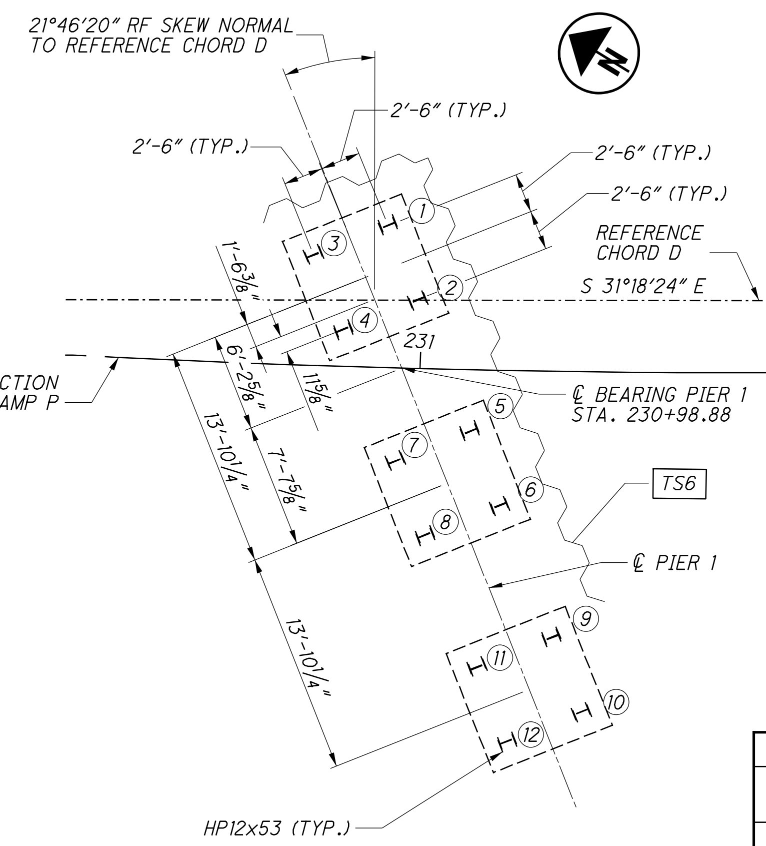
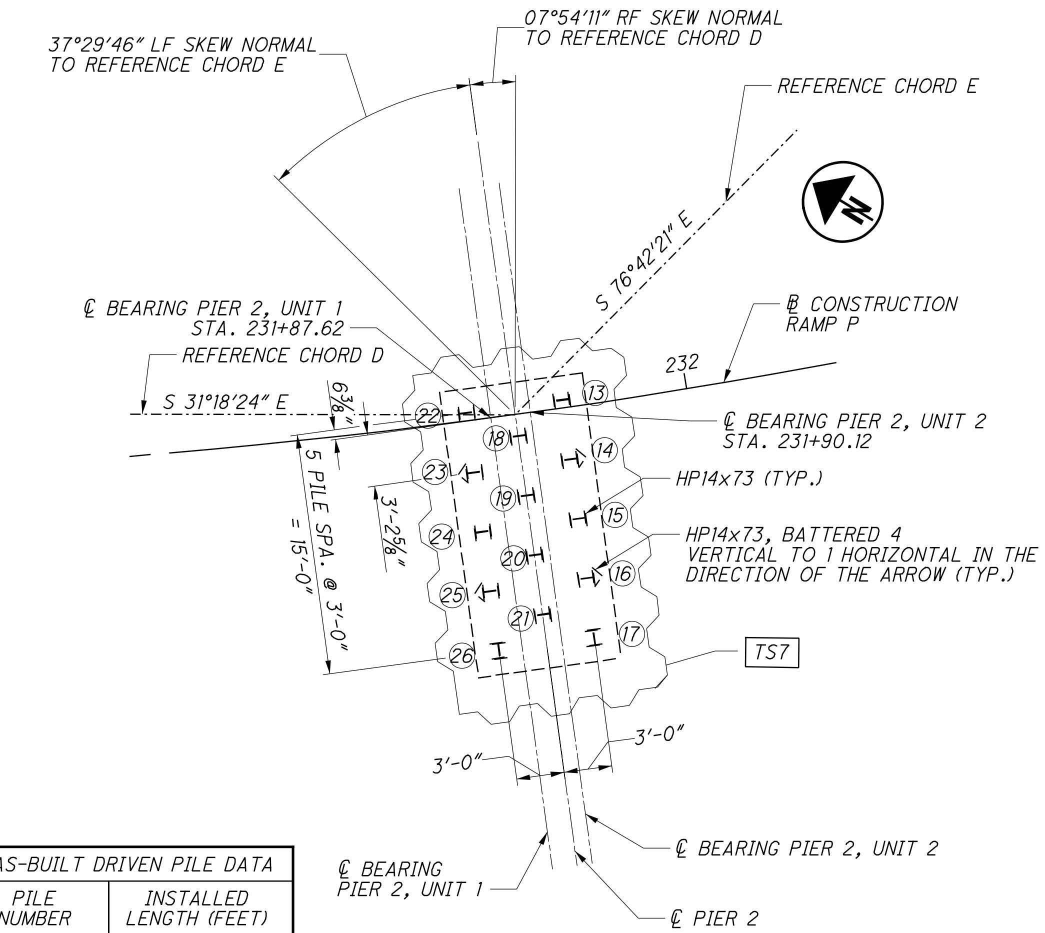


EXISTING FOUNDATION PLAN - PIER 7 (1908S)



FOUNDATION PLAN - PIER 1



FOUNDATION PLAN - PIER 2

NOTE: SEE AS-BUILT TABLE AT RIGHT FOR MORE INFORMATION

PILE DATA				
LOCATION	PILE TYPE	PILE NUMBER	PILE CUTOFF ELEVATION	ESTIMATED PILE LENGTH (EACH) (FEET)
PIER 1	HP12X53	1 - 12	494.0	60
PIER 2	HP14X73	13 - 26	507.0	50

LEGEND:

- (1) - INDICATED PILE NUMBER
- INDICATES EXISTING VERTICAL PILE HP12x53 (TO REMAIN)
- INDICATES EXISTING PILE HP12x53 BATTERED 1(H):4(V) IN THE DIRECTION SHOWN (TO REMAIN)
- TEMPORARY SHORING
- TS# - TEMPORARY SHORING LOCATION
- * - INDICATES FURNISHED LENGTH

AS-BUILT DRIVEN PILE DATA	
PILE NUMBER	INSTALLED LENGTH (FEET)
1	54.08
2	53.75
3	55.00
4	54.50
5	54.08
6	54.25
7	54.25
8	55.00
9	54.08
10	54.08
11	65.00
12	55.25
13	48.50
14	50.25
15	48.50
16	48.25
17	55.00*
18	55.00*
19	55.00*
20	55.00*
21	55.00*
22	48.75
23	52.25
24	48.25
25	47.33
26	55.00*

NOTES:

1. FOR UNIT 1 GENERAL PLAN, SHEET 4/79.
2. FOR UNIT 2 GENERAL PLAN, SEE SHEETS 4/79 AND 5/79.
3. FOR REFERENCE CHORD LAYOUT, SEE SHEET 6/79.
4. FOR ADDITIONAL PILE NOTES, SEE SHEET 7/79.
5. FOR PIER 1 FOOTING DETAILS, SEE SHEET 21/79.
6. FOR PIER 2 FOOTING DETAILS, SEE SHEET 23/79.

DESIGN AGENCY
PRIME AE
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
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FOUNDATION PLAN (1 OF 2)

BRIDGE NO. HAM-74-1908S

RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84

PID No. 104667

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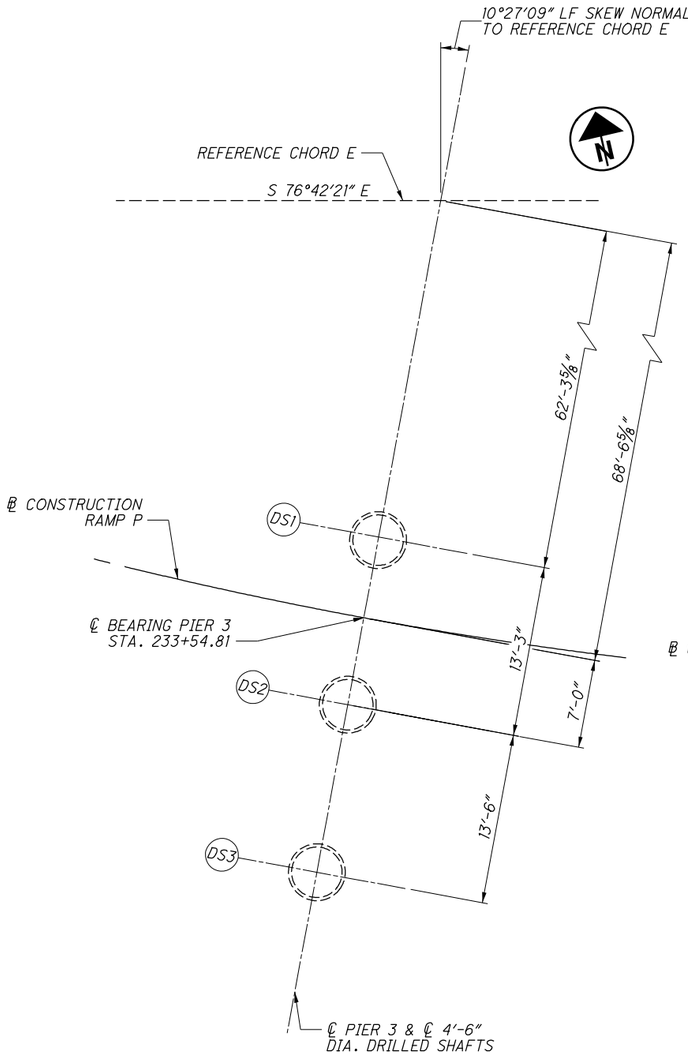
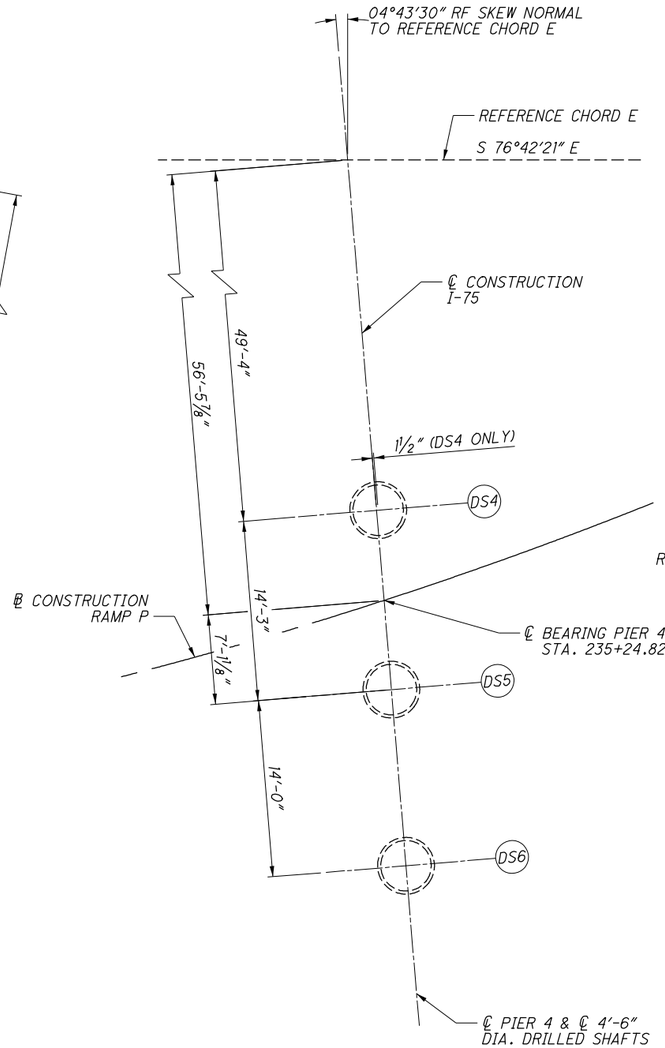
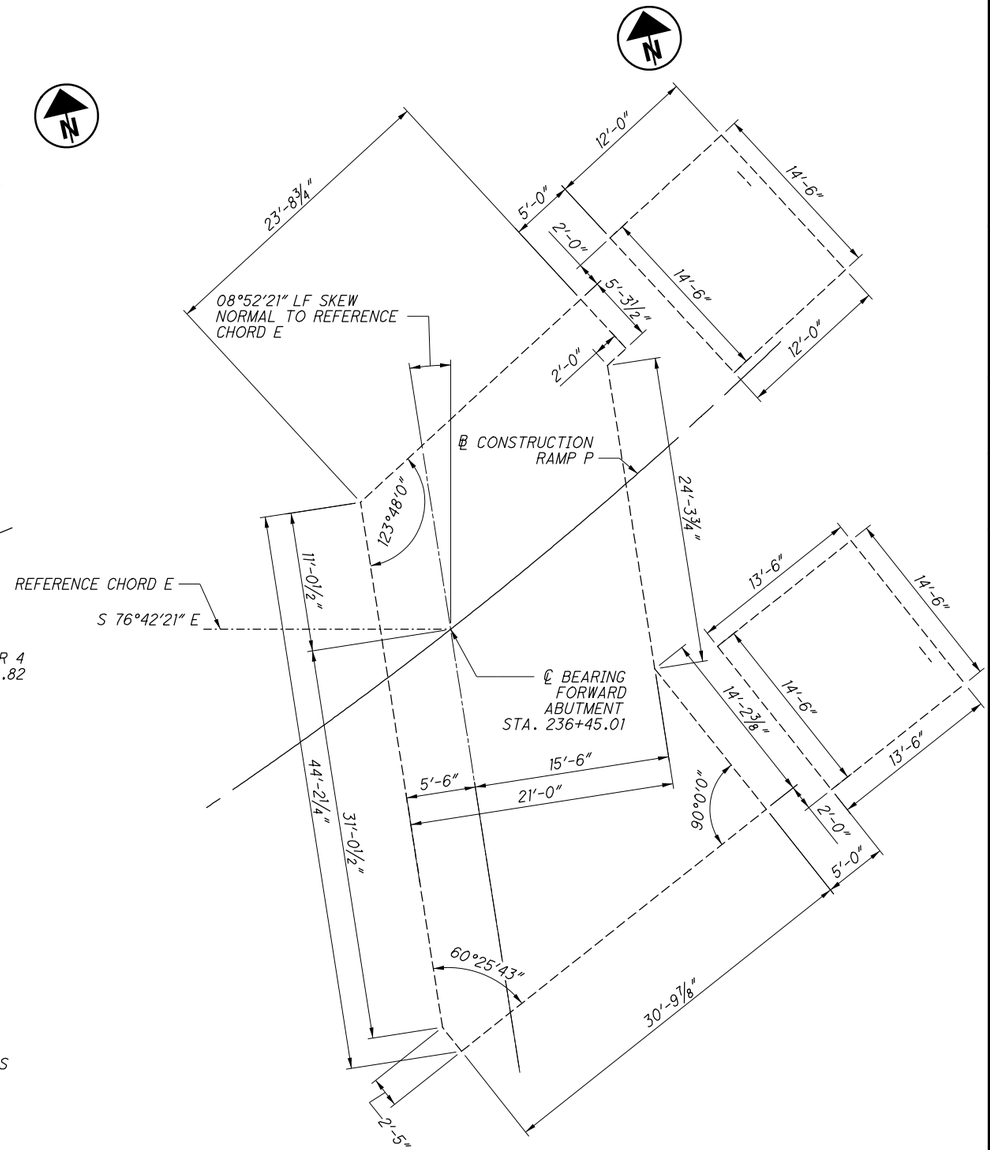


FOUNDATION PLAN - PIER 3



FOUNDATION PLAN - PIER 4



FOUNDATION PLAN - FORWARD ABUTMENT

LEGEND:

(DS1) - INDICATES DRILLED SHAFT NUMBER

AS-BUILT DRILLED SHAFT TABLE

LOCATION	DATE	DS No.	DIA. (INCHES)		TOP OF OVERBURDEN	THROUGH OVERBURDEN	ELEVATION TOP OF SOCKET	ELEVATION BOTTOM OF SOCKET	SOCKET (FT.)
			SHAFT	SOCKET					
PIER 3	5/8/19	DS1	54	48	496.7	7.5	489.6	472.9	16.7
	5/9/19	DS2	54	48	496.6	7.9	488.7	472.7	16.0
	5/14/19	DS3	54	48	496.5	7.8	488.7	474.7	16.0
PIER 4	5/21/19	DS4	48	48	0	0	519.3	495.2	24.1
	5/21/19	DS5	48	48	0	0	519.3	495.2	24.1
	5/20/19	DS6	48	48	0	0	519.3	494.9	24.1

NOTES:

1. FOR UNIT 2 GENERAL PLAN, SEE SHEETS 4/79 AND 5/79.
2. FOR REFERENCE CHORD LAYOUT, SEE SHEET 6/79.
3. FOR ADDITIONAL SHAFT AND BEARING NOTES, SEE SHEET 6/79.
4. FOR PIER 3 AND PIER 4 DRILLED SHAFT DETAILS, SEE SHEET 25/79.
5. FOR FORWARD ABUTMENT FOOTING DETAILS, SEE SHEET 28/79.

DESIGN AGENCY
PRIME AE
540 WHITE POND DR. SUITE E
AKRON, OH 44320

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FOUNDATION PLAN (2 OF 2)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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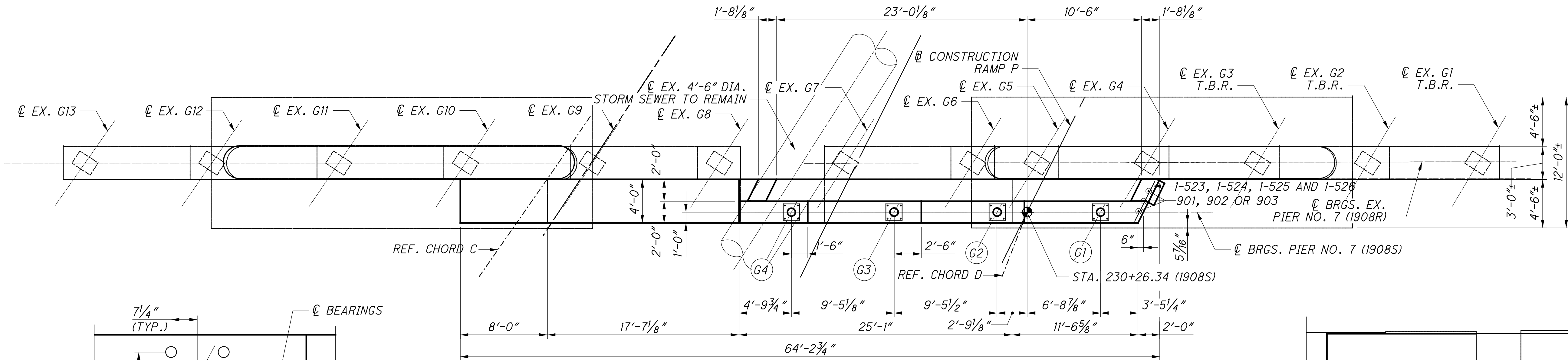
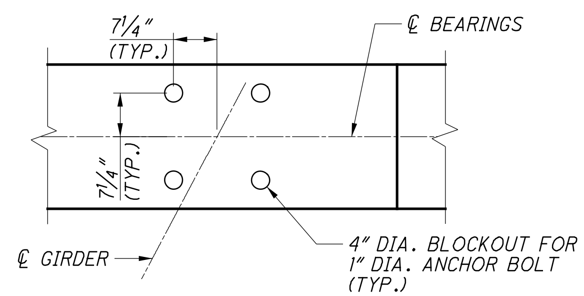


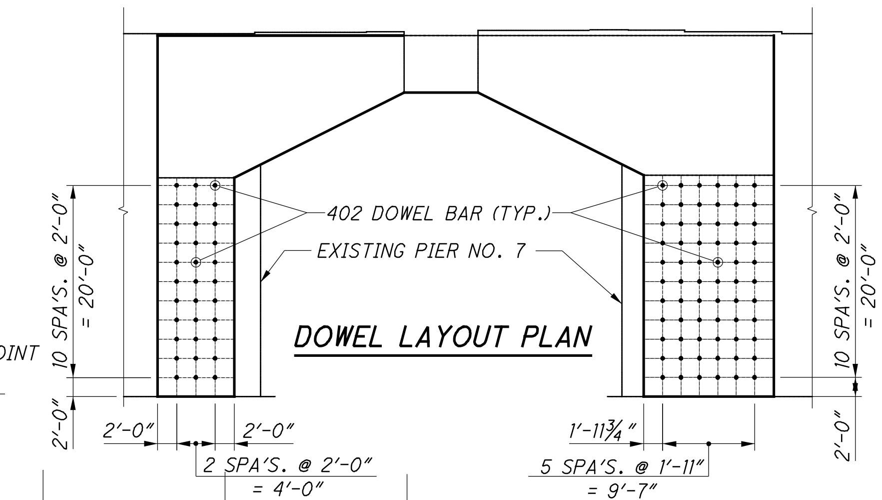
PLAN

(EXISTING PILES NOT SHOWN FOR CLARITY)

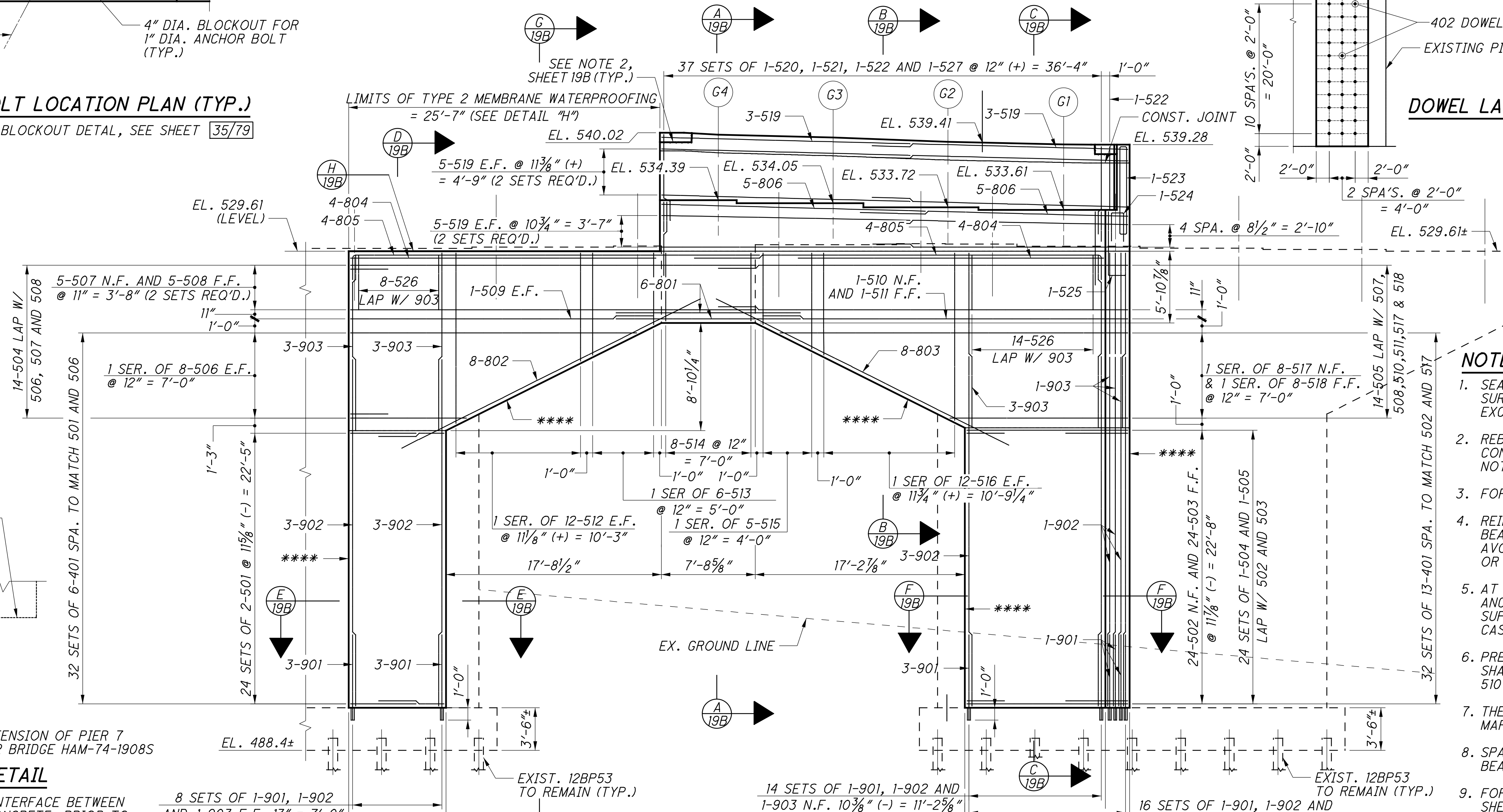


ANCHOR BOLT LOCATION PLAN (TYP.)

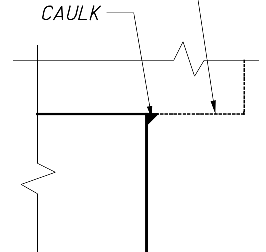
FOR ANCHOR BOLT BLOCKOUT DETAL, SEE SHEET 35/79



DOWEL LAYOUT PLAN



ELEVATION



CAULK DETAIL

**** - CAULK THE INTERFACE BETWEEN EXISTING AND NEW CONCRETE, PRIOR TO SEALING. CAULK THE CONTROL JOINTS WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C 920, TYPE S

MIN. REQUIRED LAP LENGTH		
	VERT.	HORIZ.
#5 BARS	29"	37"
#8 BARS	57"	64"
#9 BARS	70"	79"

NOTES:

1. SEAL ALL EXPOSED (ABOVE GROUND) CONCRETE SURFACES OF PROPOSED AND EXISTING PIER, EXCEPT BEAM SEATS, WITH EPOXY URETHANE.
2. REBAR CLEARANCE MEASURED TO THE FACE OF CONCRETE SHALL BE 2" UNLESS OTHERWISE NOTED.
3. FOR REINFORCING SCHEDULE, SEE SHEET 74/79
4. REINFORCING STEEL IN THE VICINITY OF THE BEAM SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE PRE-SETTING OR DRILLING OF BEARING ANCHORS
5. AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST-IN-PLACE
6. PRE-SET OR DRILLED ANCHOR BOLT HOLES SHALL BE GROUTED IN ACCORDANCE WITH CMS 510.
7. THE PREFIX "7P" SHALL BE ADDED TO ALL BAR MARKS FOR PIER NO. 7
8. SPACE TOP REINFORCING BARS TO MISS BEARING ANCHOR BOLTS.
9. FOR BEARING LOCATION DETAILS, SEE SHEET 36/79
10. FOR GEOMETRIC REFERENCE, SEE REFERENCE CHORD LAYOUT SHEET 6/79.

DESIGN AGENCY
PRIME AE
540 WHITE POND DR., SUITE E
AKRON, OH 44320

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KDC		3109798	

EX. PIER 7 DETAILS

BRIDGE NO. HAM-74-1908S

RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84

PID No. 104667

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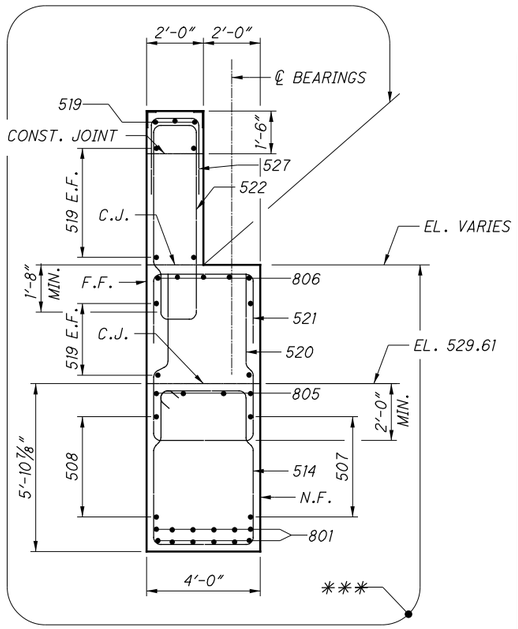
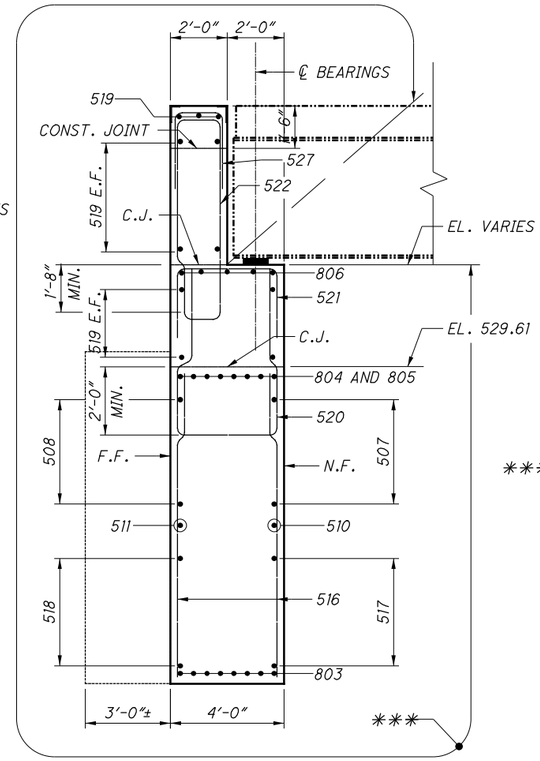
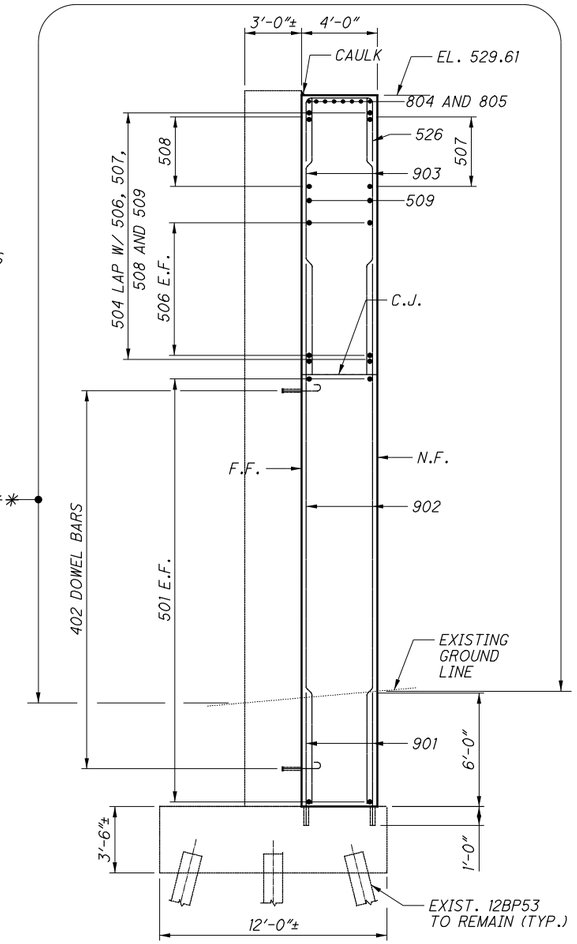


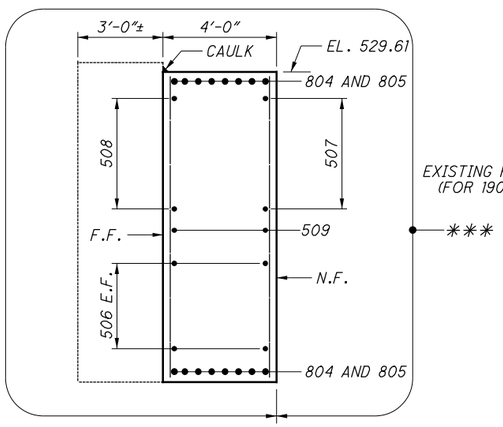
A/19 SECTION THRU PIER



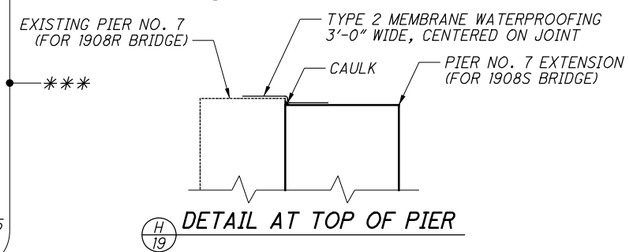
B/19 SECTION THRU PIER



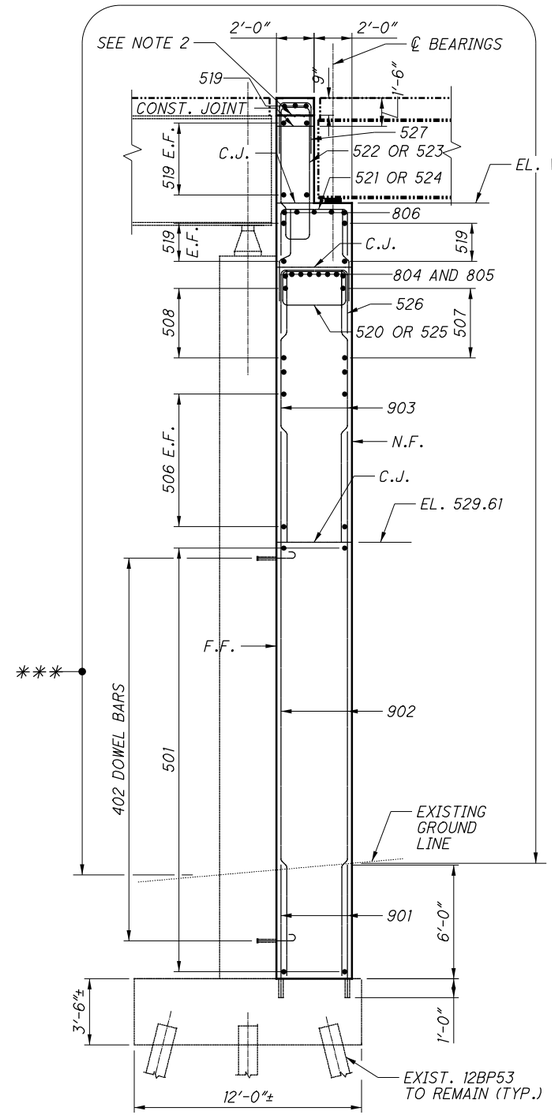
D/19 SECTION THRU PIER



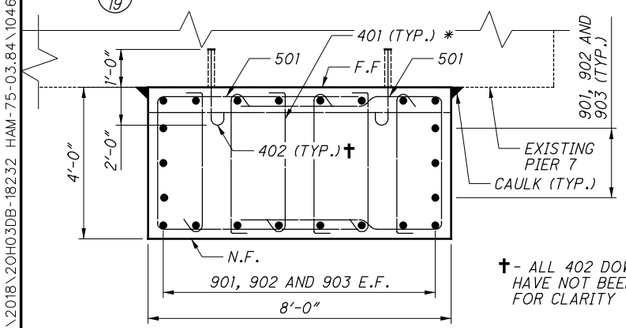
G/19 SECTION THRU PIER



H/19 DETAIL AT TOP OF PIER



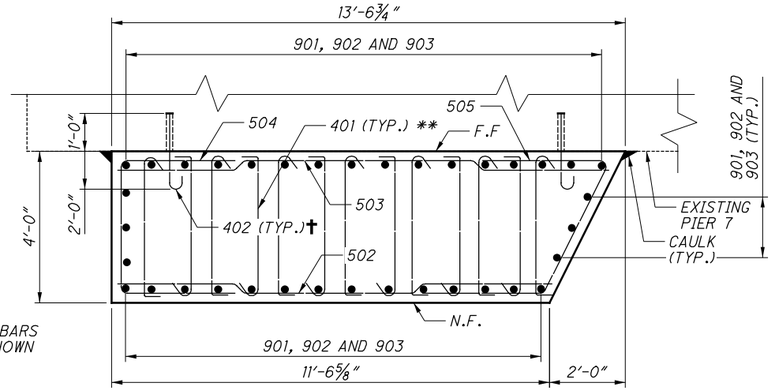
C/19 SECTION THRU PIER



E/19 SECTION THRU PIER

** - SPACE TO MATCH 501 BARS VERTICALLY

† - ALL 402 DOWEL BARS HAVE NOT BEEN SHOWN FOR CLARITY



F/19 SECTION THRU PIER

** - SPACE TO MATCH 502 AND 503 BARS VERTICALLY

LEGEND

*** LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

NOTES:

1. FOR NOTES, SEE SHEET 19/79.
2. REMOVE AND REPLACE TOP 9" OF BACKWALL AT EACH END OF BACKWALL FROM END OF BACKWALL TO APPROX. THE TOE OF PARAPET. PLACE HMWM AROUND JOINTS.

DESIGN AGENCY
PRIME
540 WEST POOL DR. SUITE E
MEDFORD, OR 97504

DESIGNED	DRAWN	REVIEWED	DATE
CRG	CRG	TES	8/22/2019
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KDC		3109798	

EX. PIER 7 DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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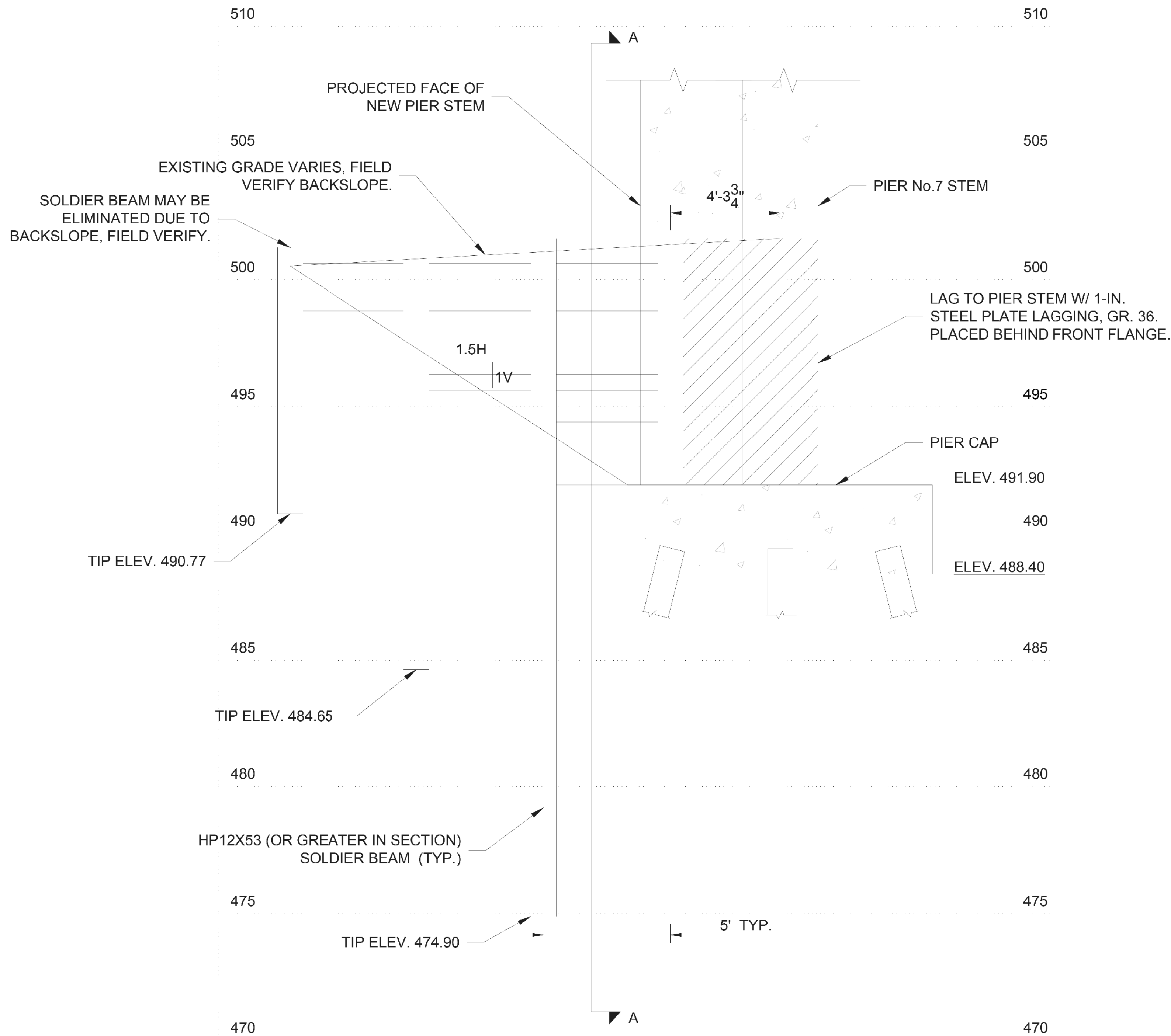
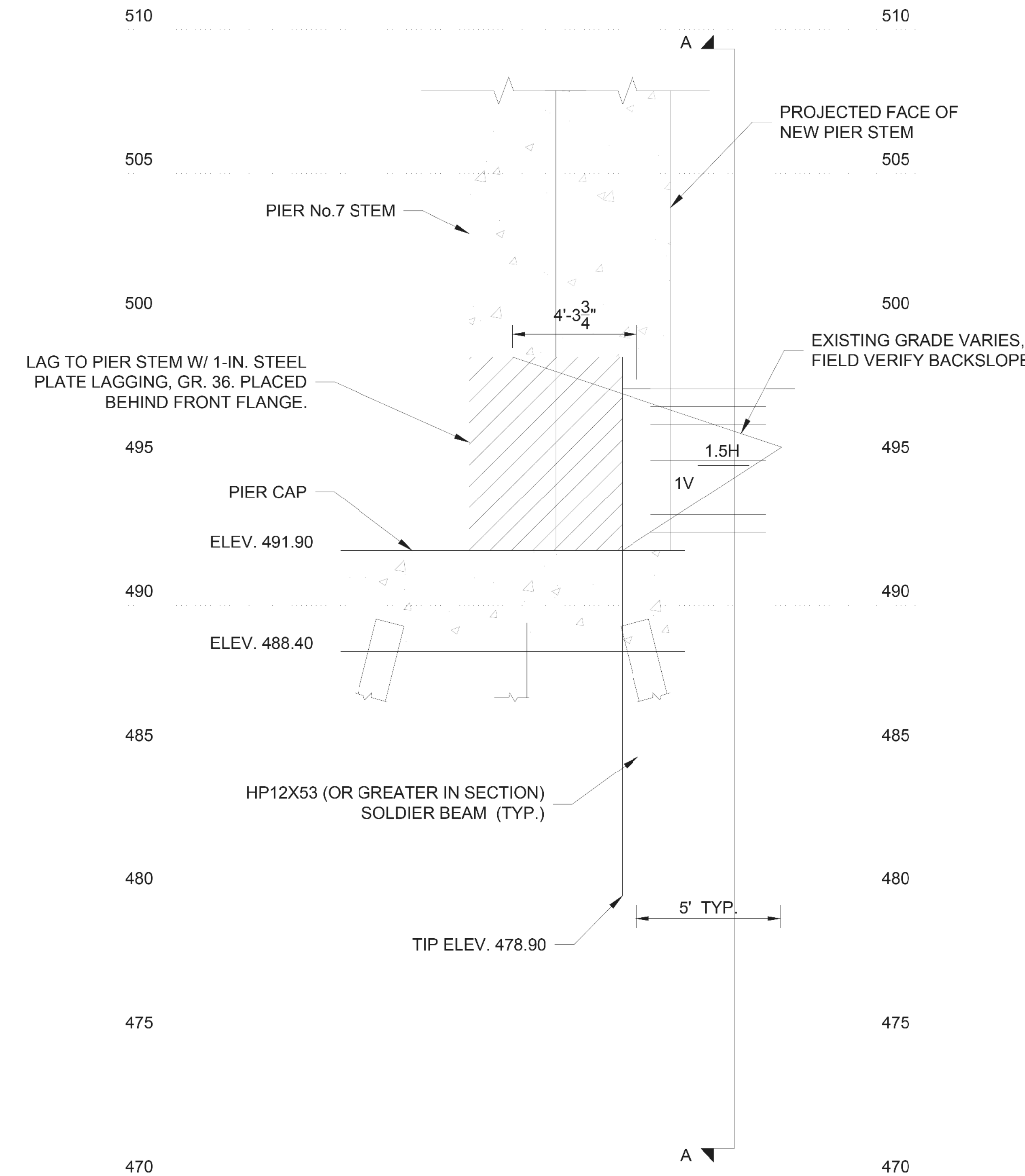


SOUTH ELEVATION VIEW - SOE FOR PIER No. 7 (LOOKING SOUTH)
SCALE: $^3/_{16}$" = 1'-0"



NORTH ELEVATION VIEW - SOE FOR PIER No. 7 (LOOKING NORTH)
SCALE: $^3/_{16}$" = 1'-0"

STATE OF OHIO
SCOTT J. LUDLOW
E59231
REGISTERED
PROFESSIONAL ENGINEER

5/24/19
DATE

NOTES

1. All structural steel shall be ASTM A572 or A992, Grade 50. unless noted otherwise.
2. Field verify soldier beam locations in relation to existing utilities.
3. Refer to Construction Plans for locations/orientation of existing foundations at pier.

ELEVATION AT PIER No. 7

PROJECT: I-75 BRIDGE STRUCTURES - HAM-75-3.85 - SOE FOR PIER No.7
LOCATION: HAMILTON CO., OH
CLIENT: WALSH CONSTRUCTION CO.
SJL PROJ. NO.: 1-19-029
SCALE: AS SHOWN

PROJECT ENG: SJL
APPROVED BY: SJL
DRAWN BY: KAL
DATE AND TIME: 5/24/19
DRAWING NO.:
1-19-029.B3

S.J. Ludlow Consulting Engineers, Inc.
450 E. 96th St., Suite 500
Indianapolis, IN 46240
317-371-5539

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

REVIEWED TES	DATE 8/22/2019	STRUCTURE FILE NUMBER 3109798	
DRAWN EEB	REVISED XXX		
DESIGNED EEB	CHECKED AMT		

EX. PIER 7 DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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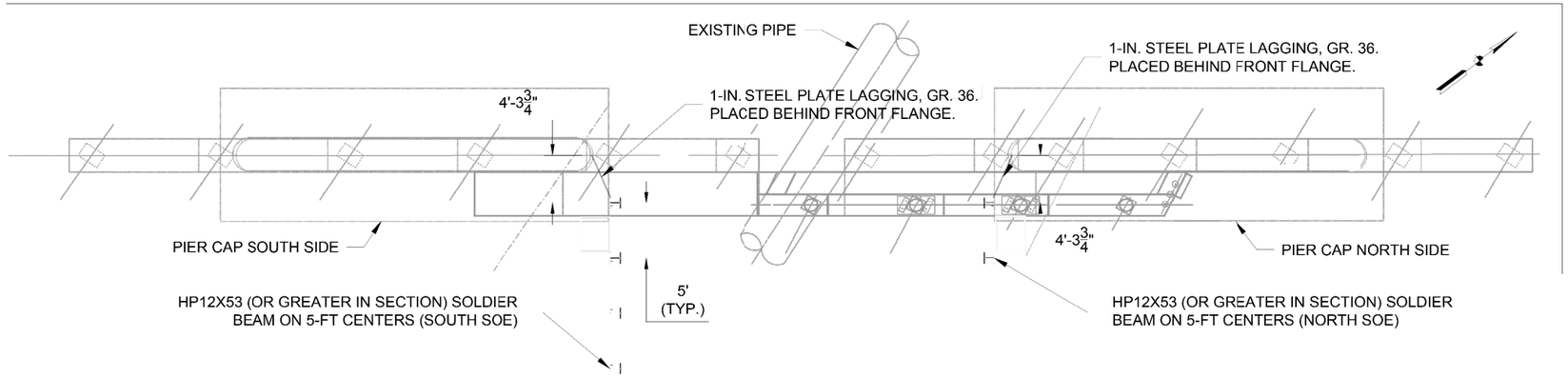
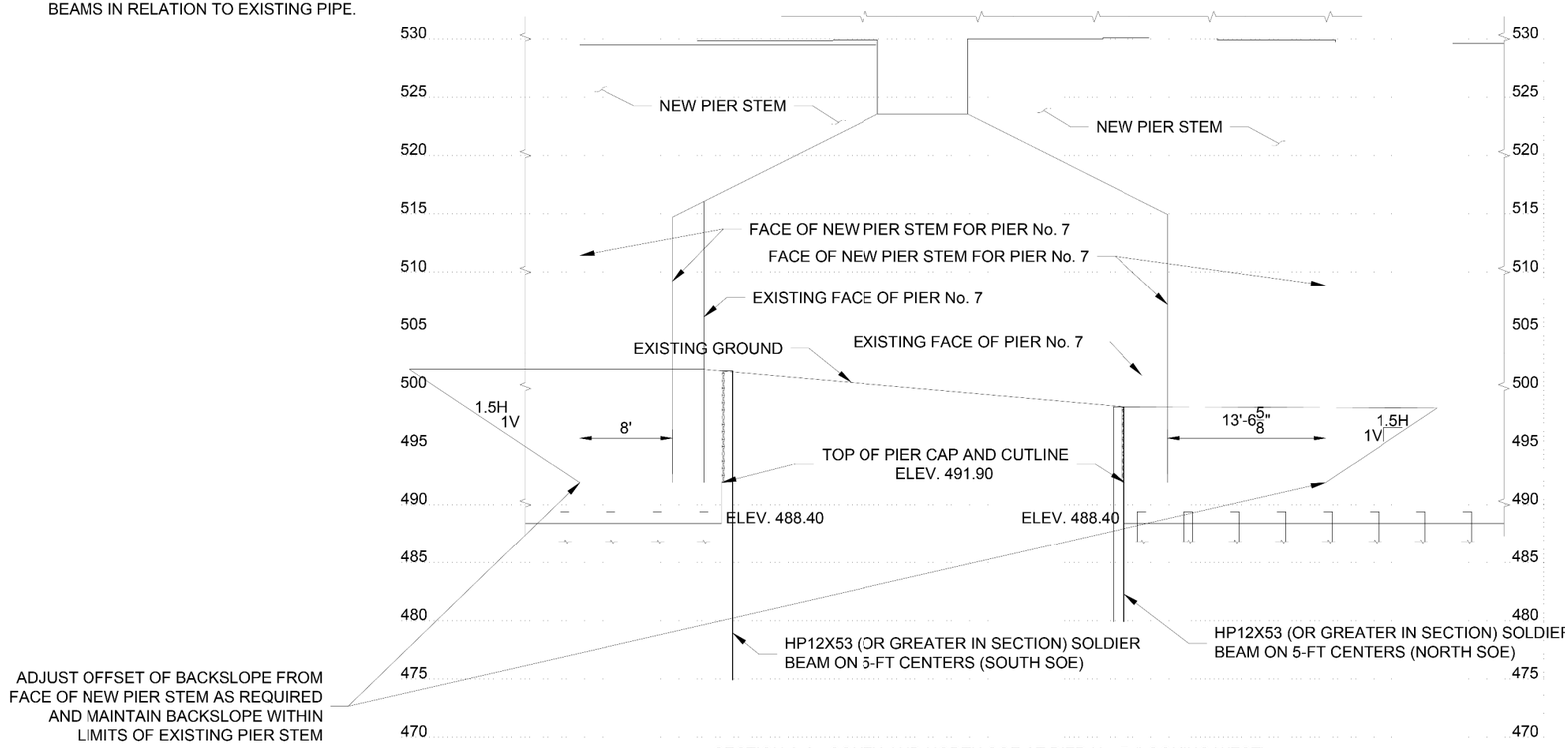


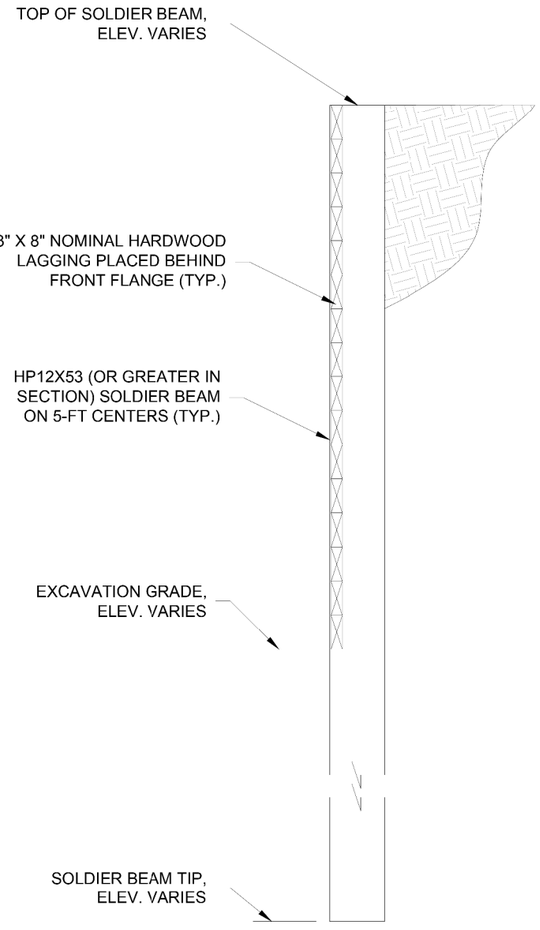
NOTE:
FIELD VERIFY LOCATION OF SOLDIER BEAMS IN RELATION TO EXISTING PIPE.

PLAN VIEW
SCALE: 1:150



ADJUST OFFSET OF BACKSLOPE FROM FACE OF NEW PIER STEM AS REQUIRED AND MAINTAIN BACKSLOPE WITHIN LIMITS OF EXISTING PIER STEM

SECTION A-A - SOUTH AND NORTH SOE AT PIER No. 7 (LOOKING WEST)
SCALE: 1:150



TYPICAL CANTILEVERED SECTION
SCALE: $\frac{3}{8}$" = 1'-0"

NOTE:
PILES MAY BE FIELD SPLICED AS REQUIRED FOR LOW HEADROOM INSTALLATION.

STATE OF OHIO
SCOTT J. LUDLOW
E59231
REGISTERED
PROFESSIONAL ENGINEER

5/24/19
DATE

NOTES

1. All structural steel shall be ASTM A572 or A992, Grade 50, unless noted otherwise.
2. No construction surcharge shall be applied between pier caps.
3. All welds shall be E70xx electrodes according to AWS D1.1.
4. Refer to Construction Plans for locations/orientation of existing foundations at pier.

PLAN VIEW AND SECTIONS

PROJECT: I-75 BRIDGE STRUCTURES - HAM-75-3.85 - SOE FOR PIER No.7
LOCATION: HAMILTON CO., OH
CLIENT: WALSH CONSTRUCTION CO.
SJL PROJ. NO.:1-19-029
SCALE: AS SHOWN

PROJECT ENG: SJL
APPROVED BY: SJL
DRAWN BY: KAL
DATE AND TIME: 5/24/19
DRAWING NO.:
1-19-029.B4

S.J. Ludlow Consulting Engineers, Inc.
450 E. 96th St., Suite 500
Indianapolis, IN 46240
317-371-5539

DESIGN AGENCY
PRIME AE GROUP
540 METRO PLACE S, SUITE E
DUBLIN, OH 43220

DESIGNED	DRAWN	REVIEWED	DATE
EEB	EEB	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AMT	XXX	3109798	

EX. PIER 7 DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

19B / 79

19B
79

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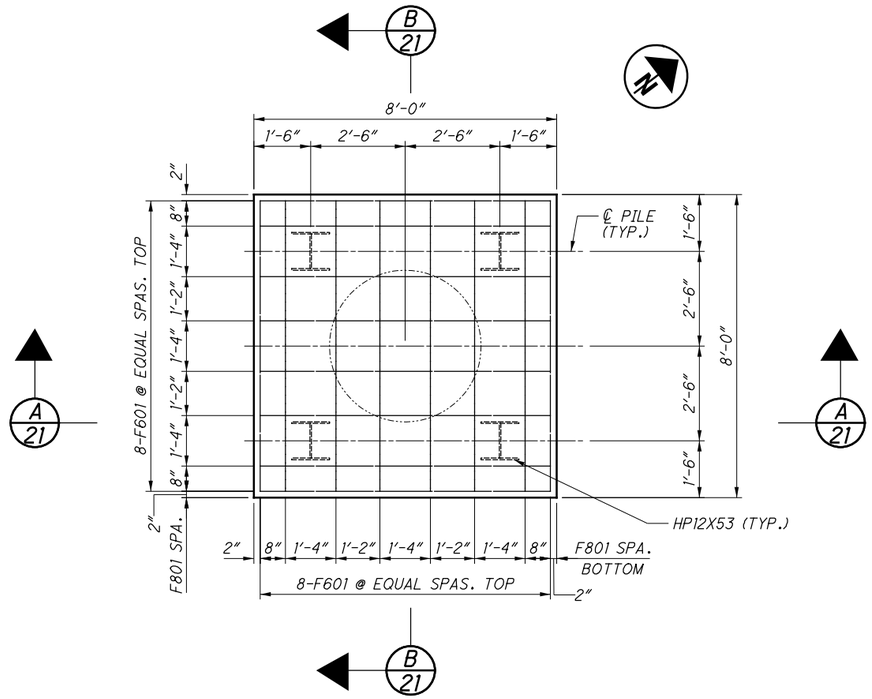
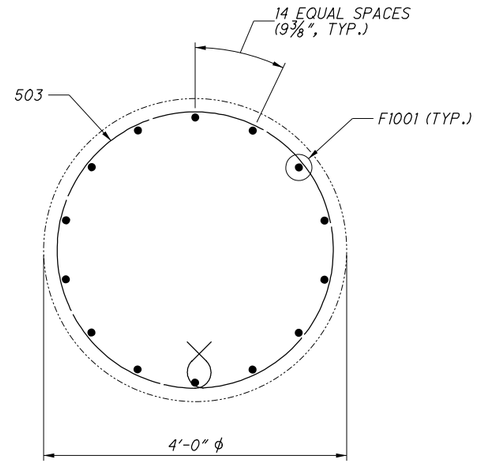
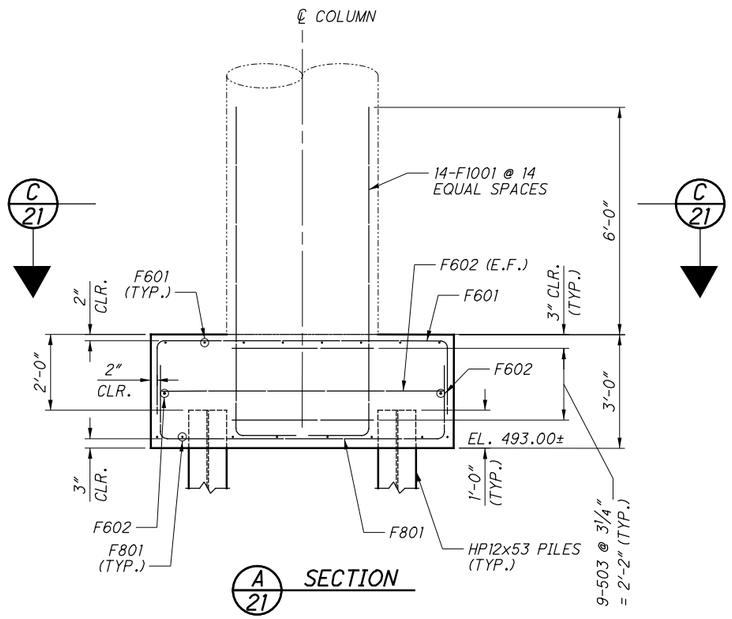


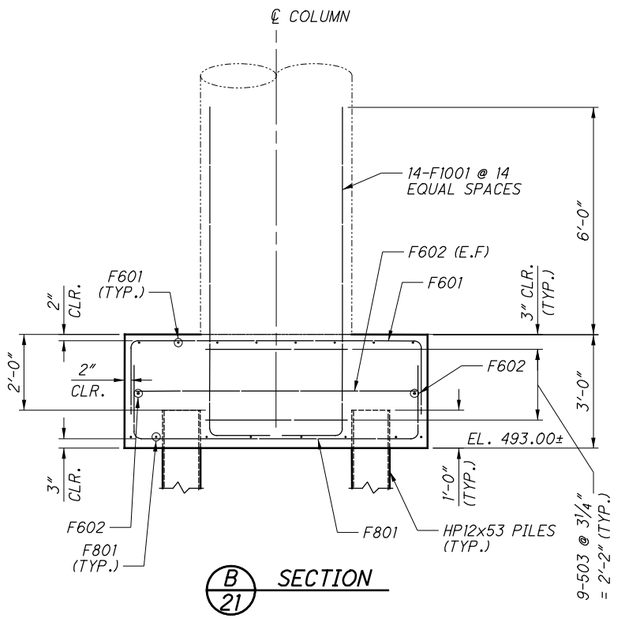
FOOTING PLAN - PIER 1
(3 REQ'D)



C 21 SECTION



A 21 SECTION



B 21 SECTION

NOTES:

1. FOR REINFOCING SCHEDULE, SEE SHEETS 74/79 AND 79/79.

DESIGN AGENCY
PRIME
540 WEST POINT DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	MN	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

PIER 1 FOOTING DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

21 / 79

21
79

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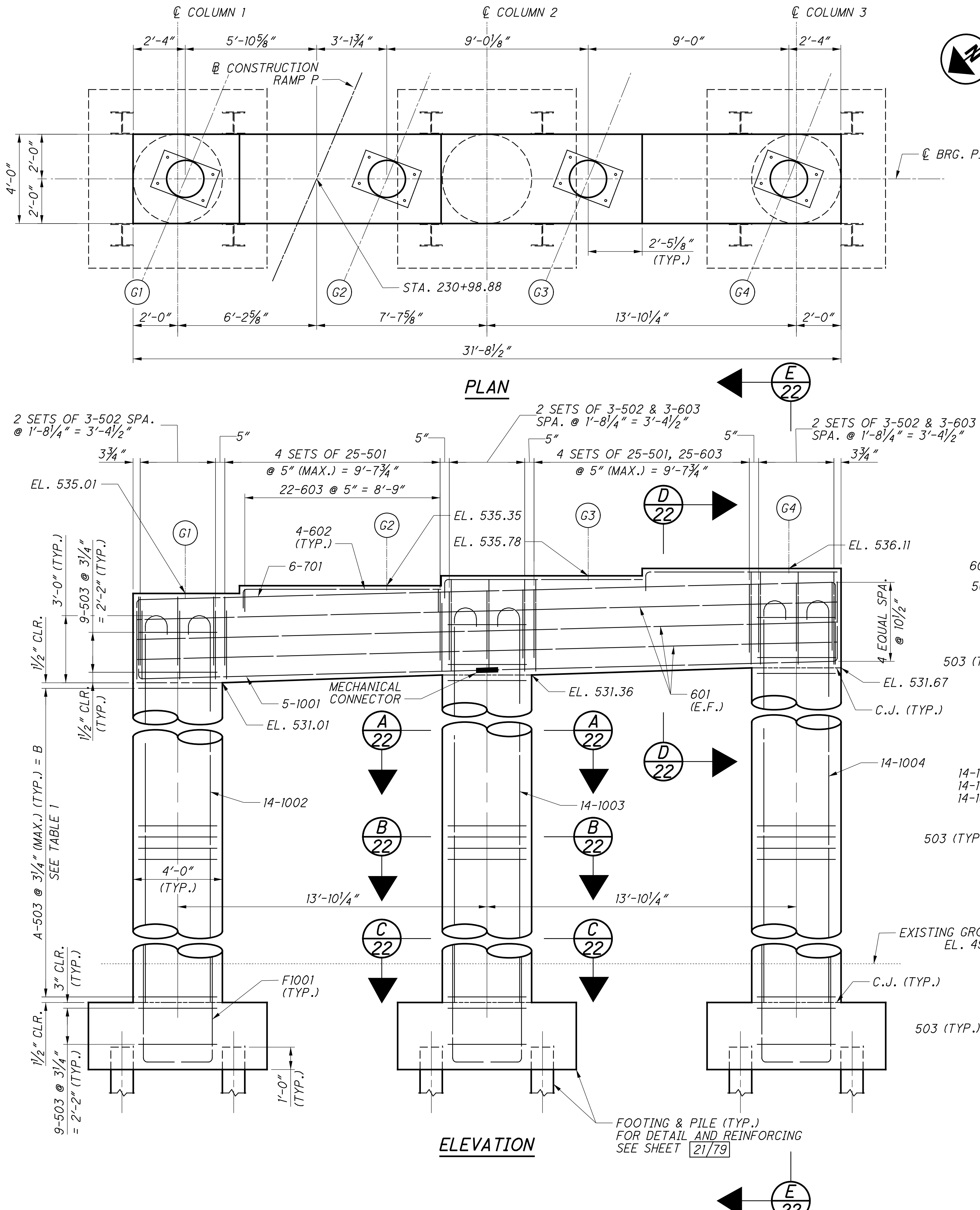

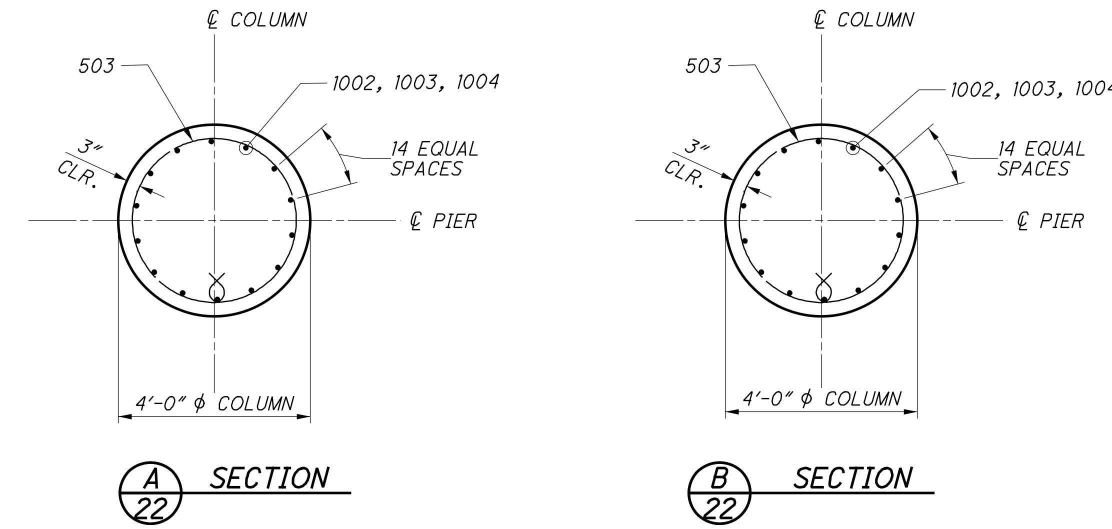

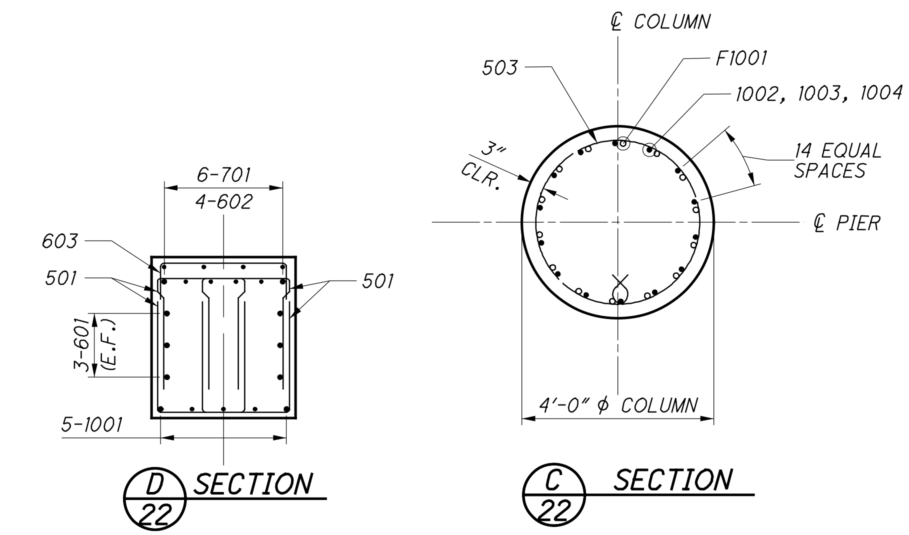

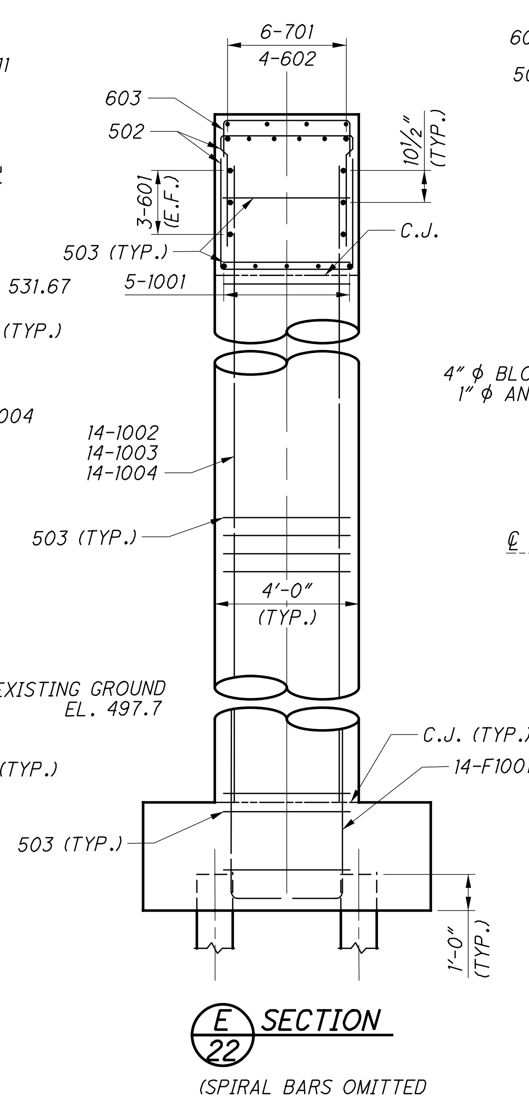

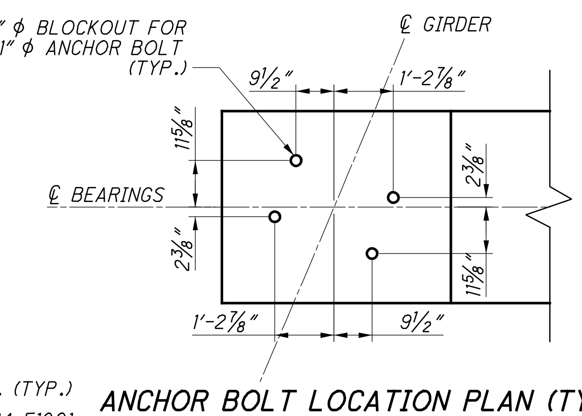

ANCHOR BOLT LOCATION PLAN (TYP.)

TABLE 1 (503 BARS)

COLUMN	A	B
1	130	34'-9"
2	131	35'-1¼"
3	132	35'-5"

MIN. REQUIRED LAP LENGTH	
#5 VERTICAL	29"
#5 HORIZONTAL	34"
#10 VERTICAL	72"

NOTES:

1. SEAL ALL EXPOSED (ABOVE GROUND) CONCRETE SURFACES OF PROPOSED PIER, EXCEPT BEAM SEATS, WITH EPOXY URETHANE.
2. FOR BEARING LOCATION DETAILS SEE SHEET 36/79.
3. SPACE TOP REINFORCING BARS TO CLEAR BEARING ANCHOR BOLTS.
4. FOR ANCHOR BOLT BLOCKOUT DETAILS SEE SHEET 35/79.
5. FOR ADDITIONAL NOTES, SEE SHEET 19/79.
6. THE PREFIX "1P" SHALL BE ADDED TO ALL BAR MARKS FOR PIER NO. 1.
7. FOR REINFORCING SCHEDULE, SEE SHEET 74/79.
8. FOR GEOMETRIC REFERENCE, SEE REFERENCE CHORD LAYOUT SHEET 6/79.

DESIGN AGENCY
PRIME AE
540 WHITE POND DR., SUITE E
AKRON, OH 44320
REVIEWED TES DATE 8/22/2019
STRUCTURE FILE NUMBER 3109798
DESIGNED CRG DRAWN MN REVISED
CHECKED KDC

PIER 1 DETAILS

BRIDGE NO. HAM-74-1908S

RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84

PID No. 104667

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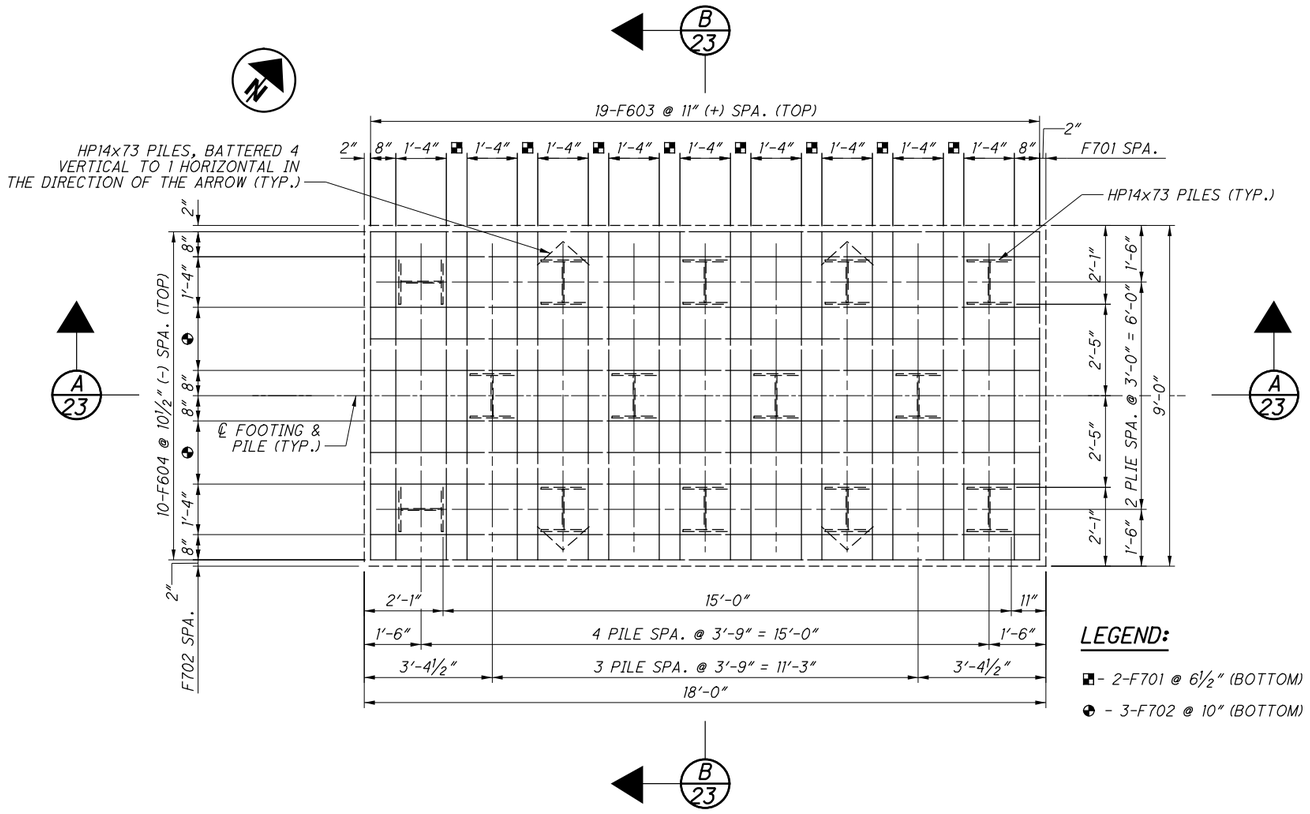


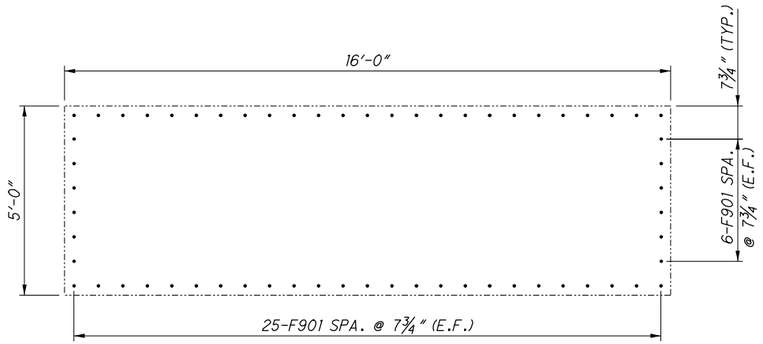
FOOTING PLAN - PIER 2

LEGEND:

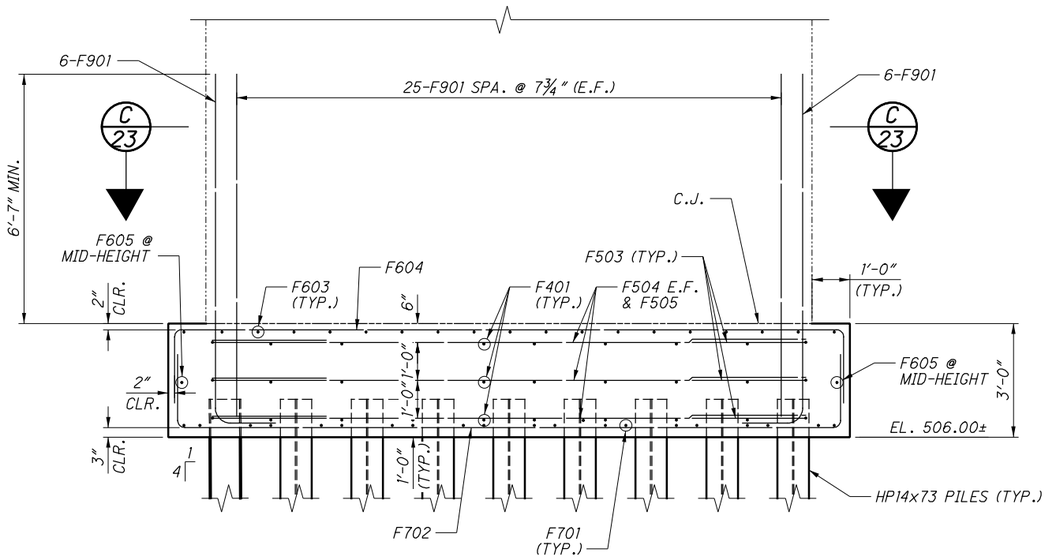
- ■ - 2-F701 @ 6½" (BOTTOM)
- ◆ - 3-F702 @ 10" (BOTTOM)

NOTES:

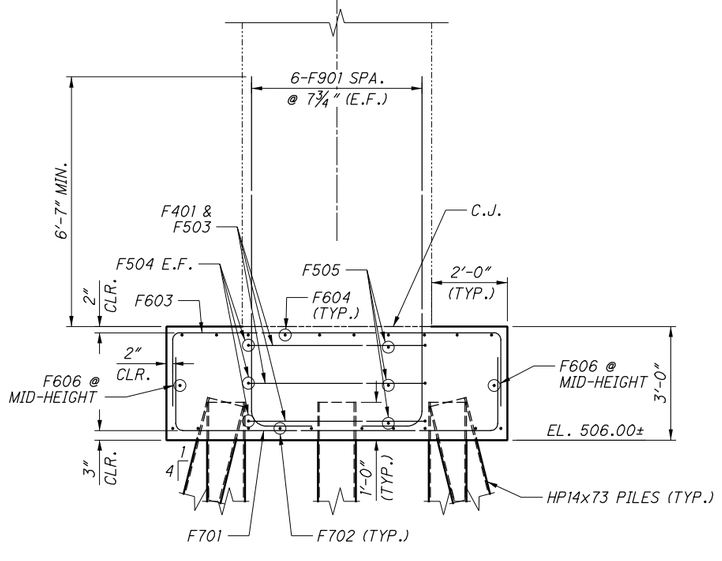
1. FOR REINFORCING SCHEDULE, SEE SHEETS 74/79 AND 79/79.



C 23 SECTION THRU WALL



A 23 SECTION THRU FOOTING



B 23 SECTION THRU FOOTING

DESIGN AGENCY
PRIME AE
540 WHITE POND DR. SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	MN	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

PIER 2 FOOTING DETAILS

BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

23 / 79

23
79

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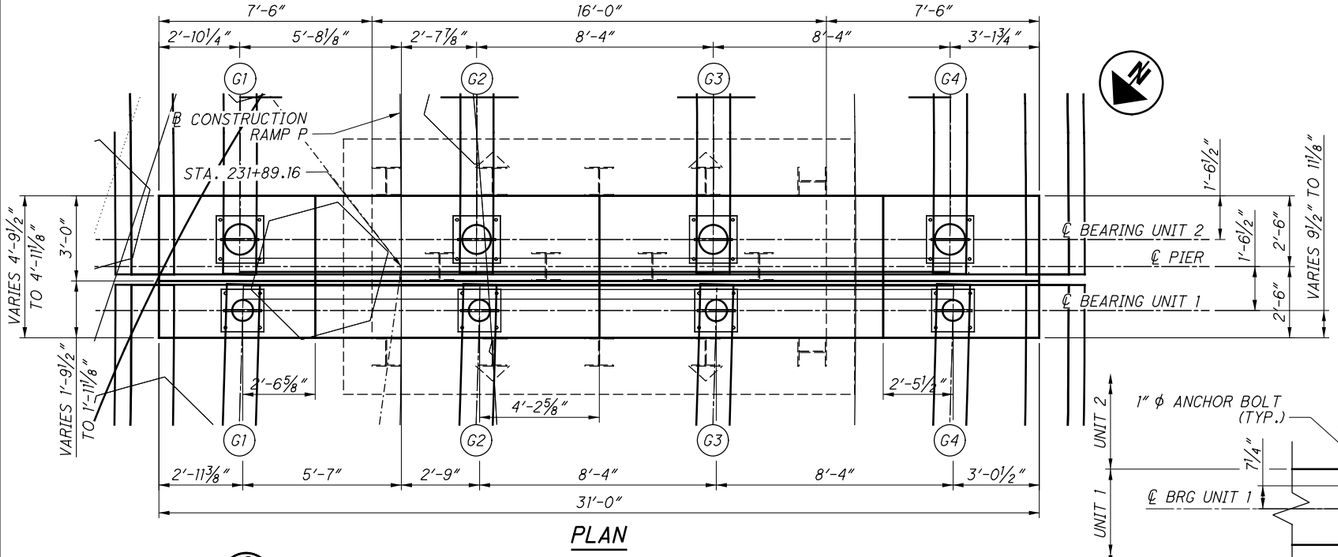
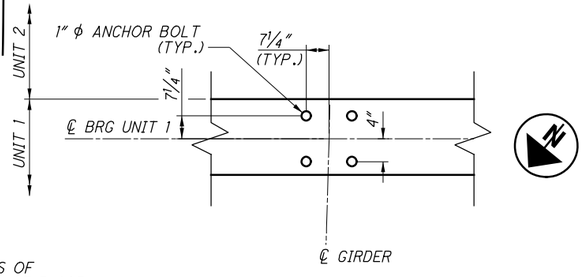
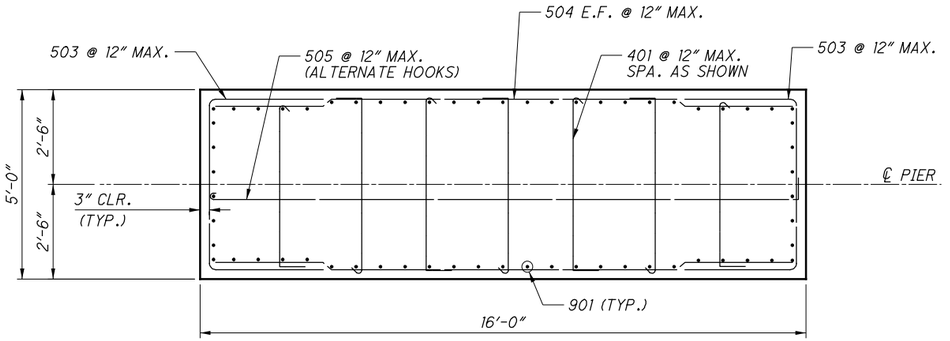


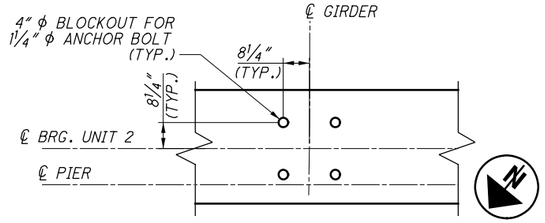
PLAN



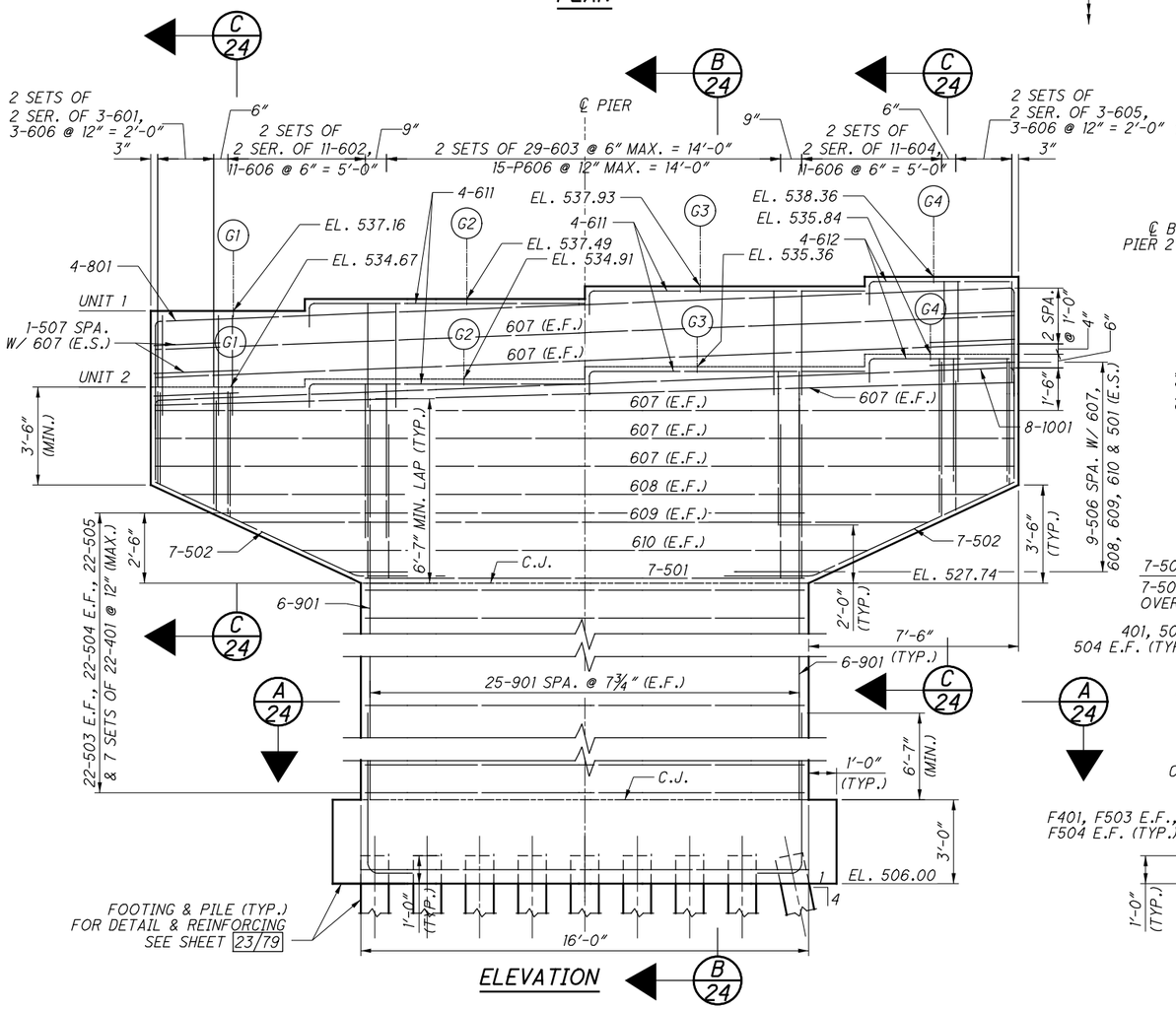
ANCHOR BOLT LOCATION PLAN (TYP.)
UNIT 1



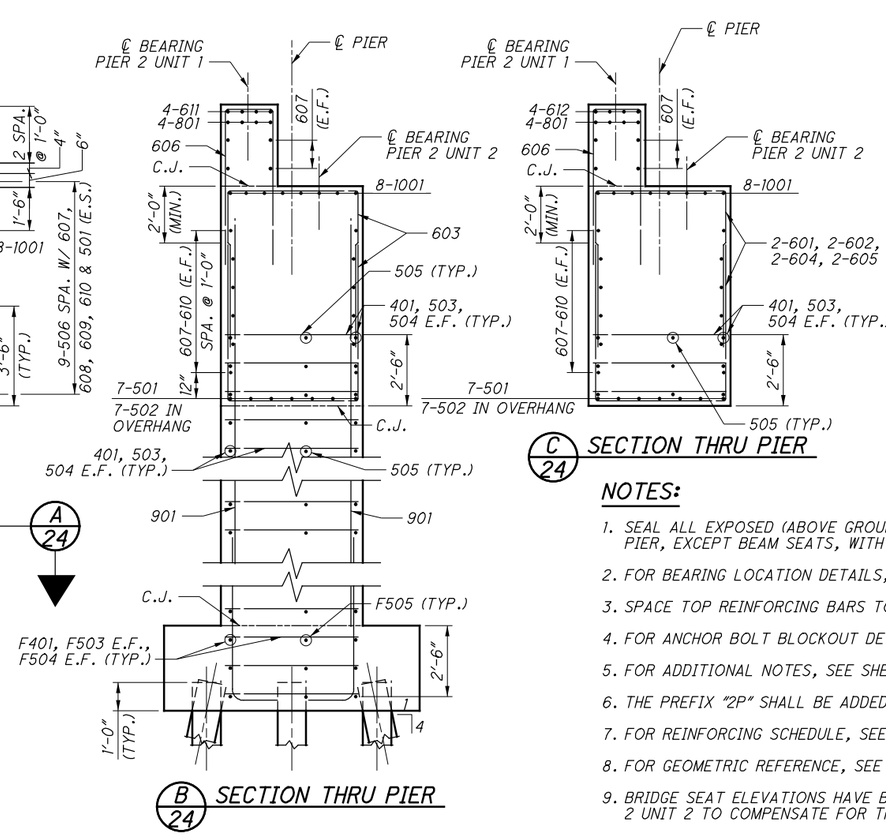
A/24 SECTION THRU PIER WALL



ANCHOR BOLT LOCATION PLAN (TYP.)
UNIT 2



ELEVATION



B/24 SECTION THRU PIER

C/24 SECTION THRU PIER

MIN. REQUIRED LAP LENGTH	
#5 HORIZONTAL	37"
#6 VERTICAL	43"
#7 HORIZONTAL	40"
#9 VERTICAL	79"

NOTES:

1. SEAL ALL EXPOSED (ABOVE GROUND) CONCRETE SURFACES OF PROPOSED PIER, EXCEPT BEAM SEATS, WITH EPOXY URETHANE.
2. FOR BEARING LOCATION DETAILS, SEE SHEET 36/79.
3. SPACE TOP REINFORCING BARS TO CLEAR BEARING ANCHOR BOLTS.
4. FOR ANCHOR BOLT BLOCKOUT DETAILS, SEE SHEET 35/79.
5. FOR ADDITIONAL NOTES, SEE SHEET 19/79.
6. THE PREFIX "2P" SHALL BE ADDED TO ALL BAR MARKS FOR PIER NO. 2.
7. FOR REINFORCING SCHEDULE, SEE SHEET 75/79.
8. FOR GEOMETRIC REFERENCE, SEE REFERENCE CHORD LAYOUT SHEET 6/79.
9. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.148 INCHES AT PIER 2 UNIT 2 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

DESIGN AGENCY
PRIME AE
540 WEST POINT PIKE, SUITE E
WILLOW GROVE, PA 19090

DESIGNED	DRAWN	REVIEWED	DATE
KDC	MN	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

PIER 2 DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

24 / 79

24
79

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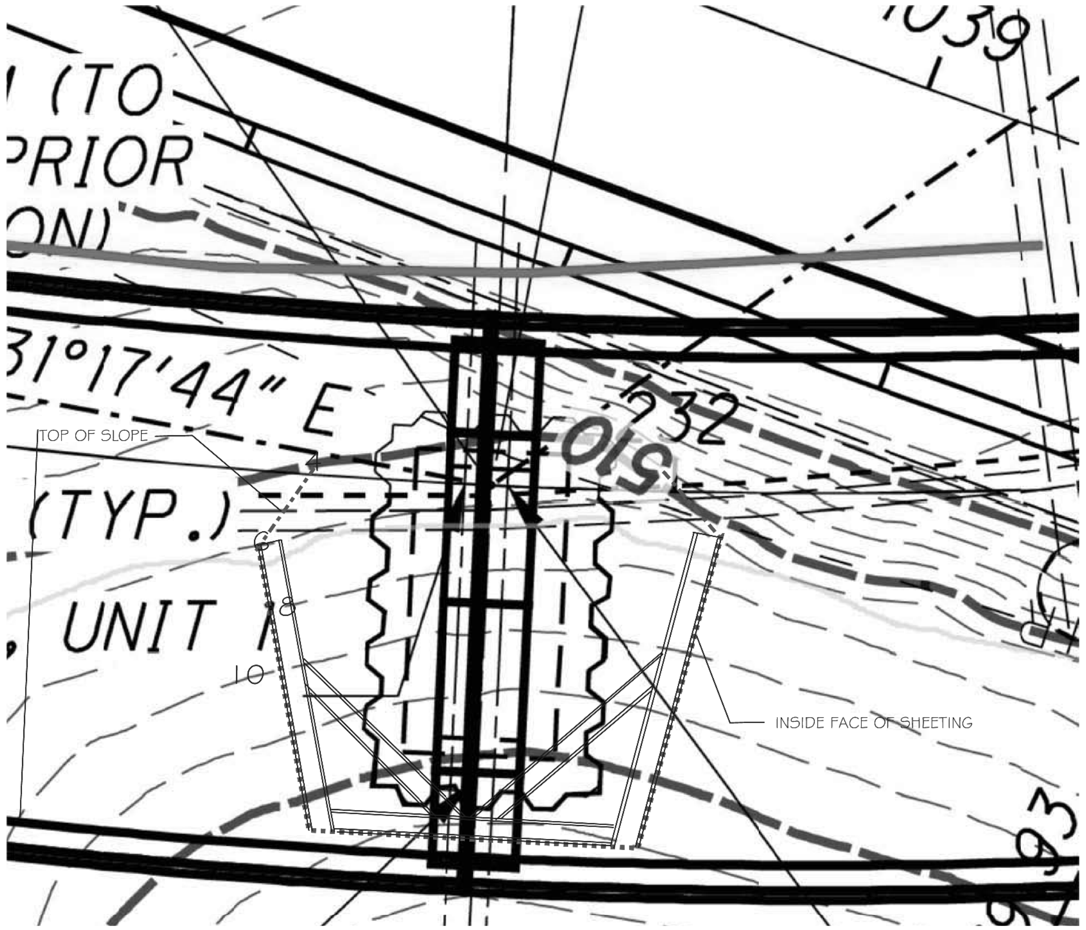
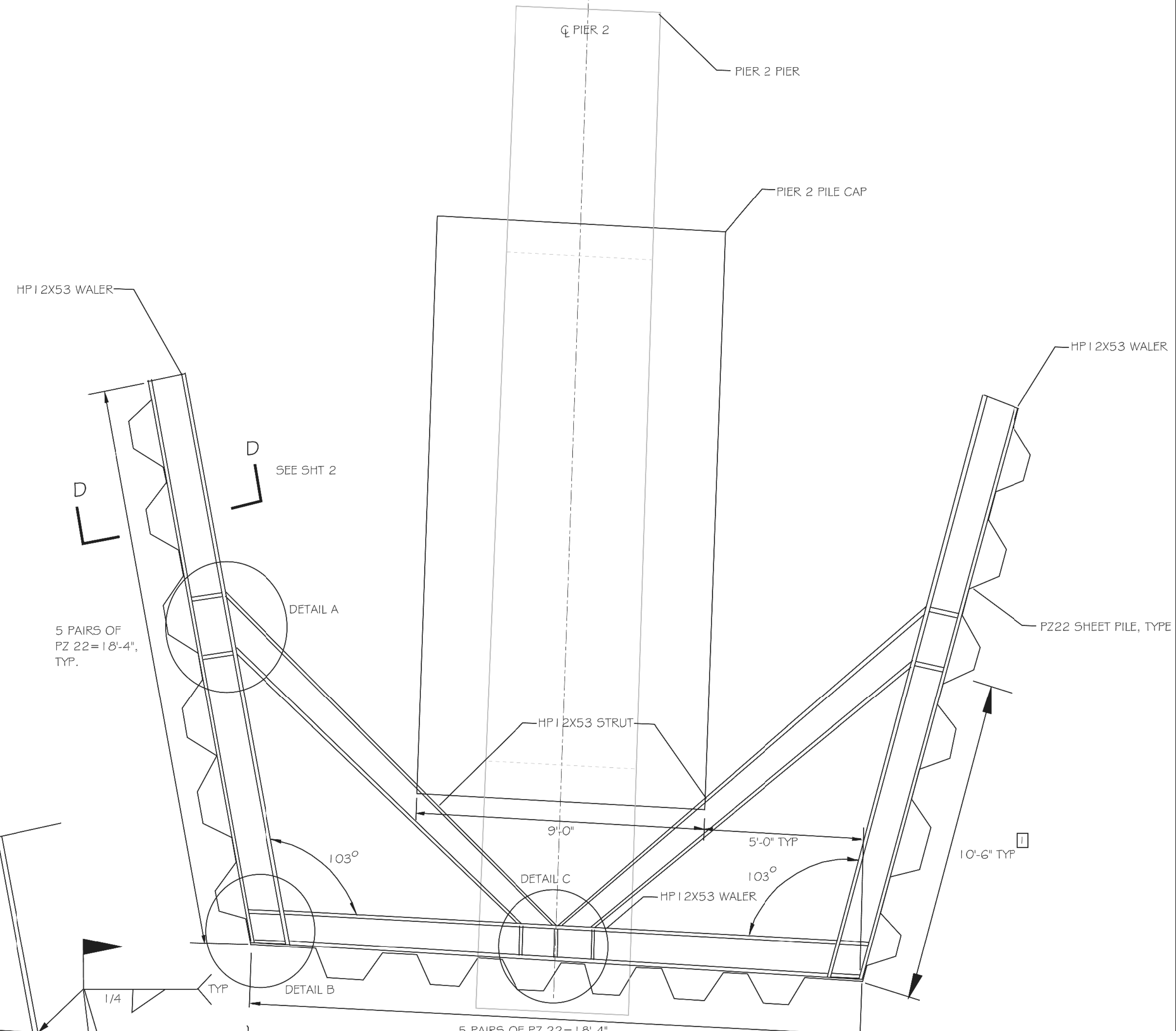
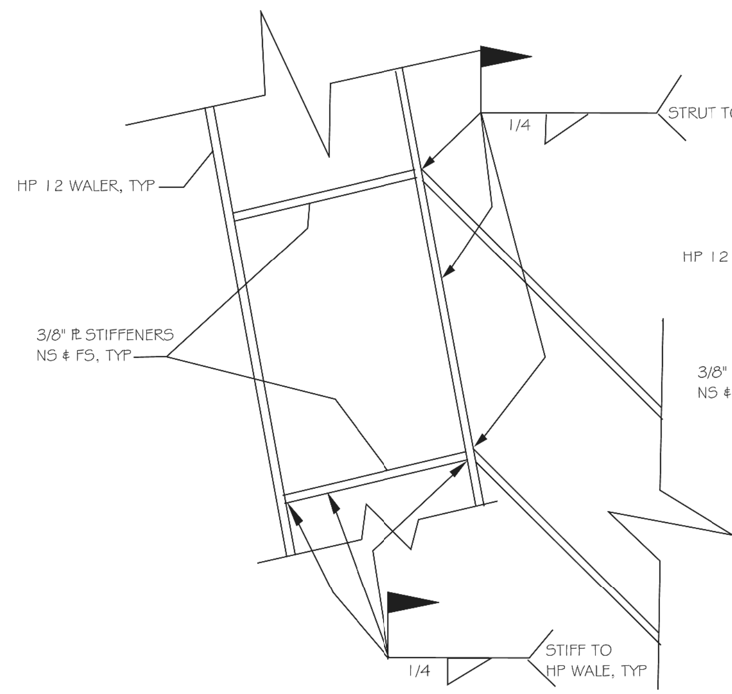
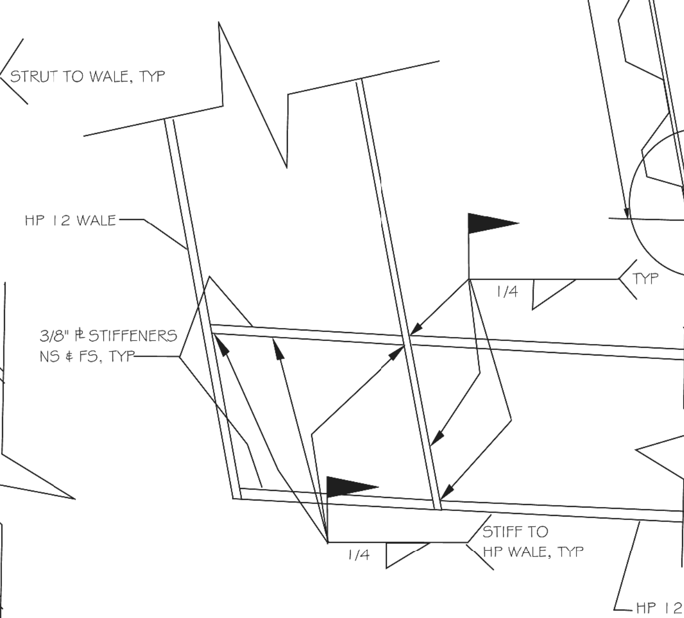




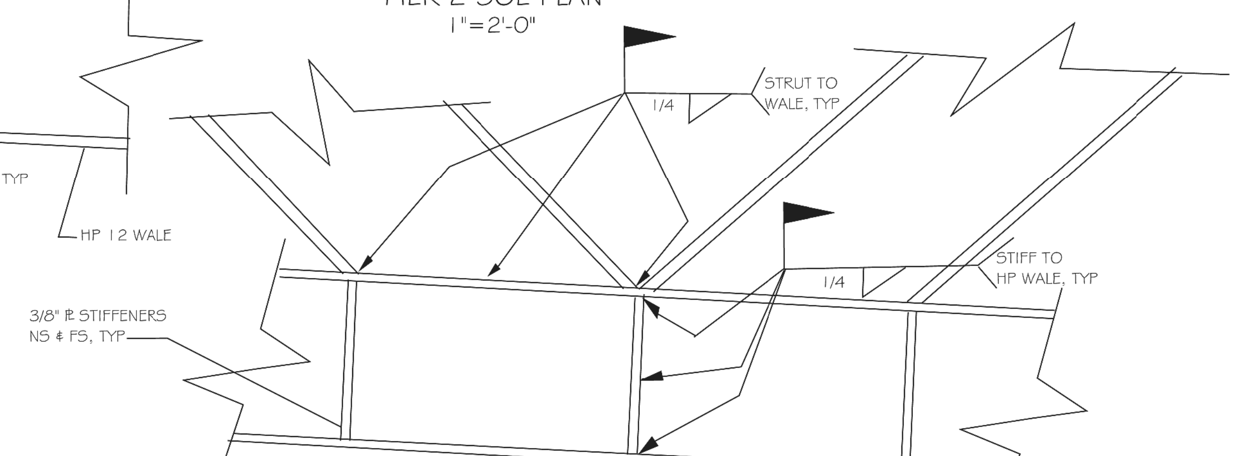
PIER 2 SOE PLAN
1"=2'-0"



DETAIL A
1/2"= 1'-0"



DETAIL B
1/2"= 1'-0"



DETAIL C
1/2"= 1'-0"

SME
www.sme-usa.com

Orientation | Scale
GRAPHIC SCALE: 1" = 1'

Project
HAM-75-3.84
BRIDGE NO.
HAM-74-1908 S
RAMP P O/IR-74 WB
& IR-75 AND RAMP E

Project Location
HAMILTON COUNTY
CITY OF CINCINNATI
OHIO

Sheet Name
PIER 2
SOE PLAN
AND DETAILS

Engineer's Seal
STATE OF OHIO
TIMOTHY H. BEDENIS
E-83626
REGISTERED
PROFESSIONAL ENGINEER

Revisions

REV	ISSUED FOR	DATE	BY
1	ADDED DIMENSION	2-13-19	DWB

Date: 2-5-2019
SME Project No.: 79059.01
Project Manager: TH BEDENIS
Designer: DW BIRD
CADD: DW BIRD
Checked By: TH BEDENIS
Sheet No.: 1 OF 2

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

REVIEWED TES | DATE 8/22/2019 | STRUCTURE FILE NUMBER 3109798
DRAWN EEB | REVISED XXX
DESIGNED EEB | CHECKED AMT

PIER 2 DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

24A/79

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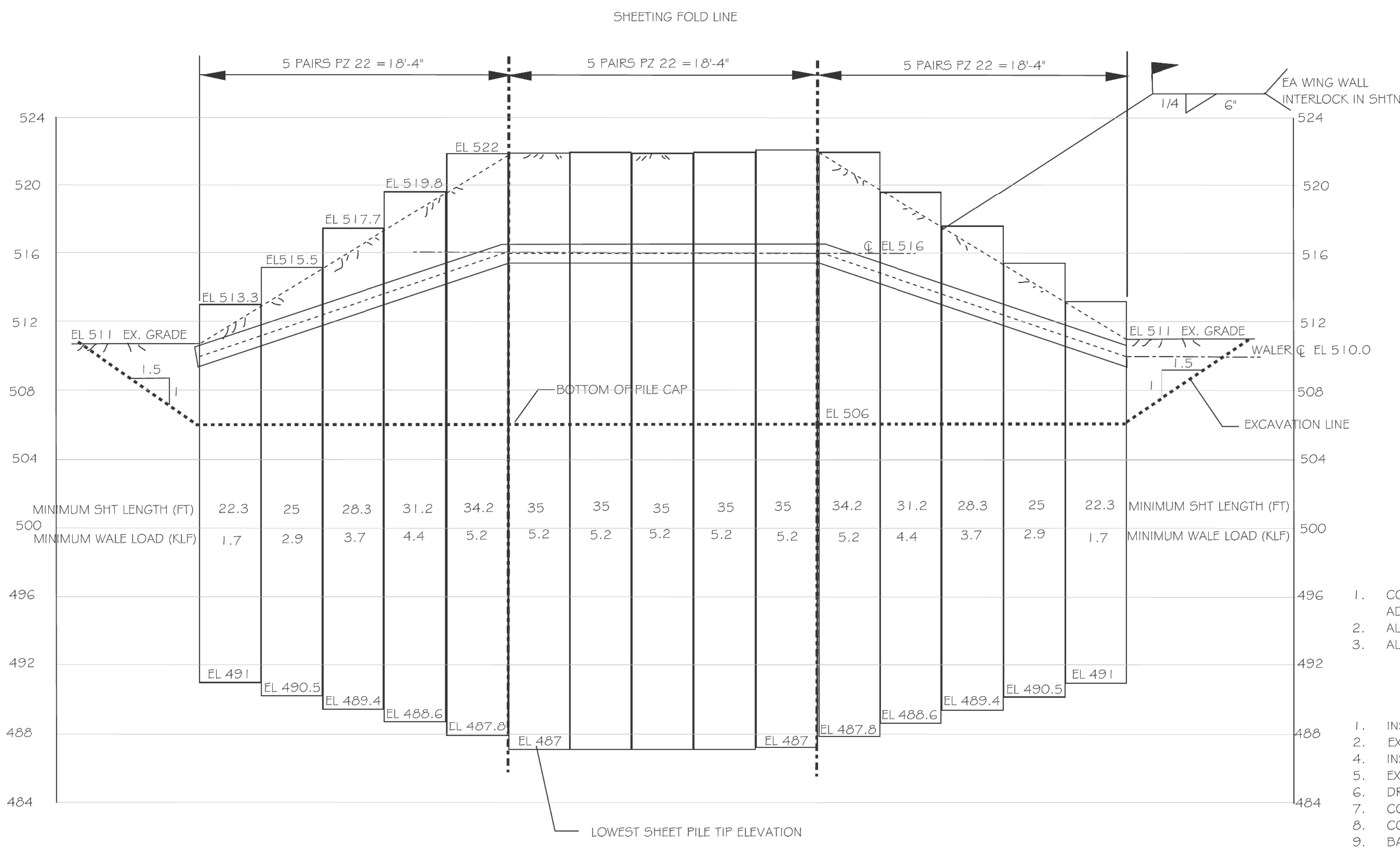
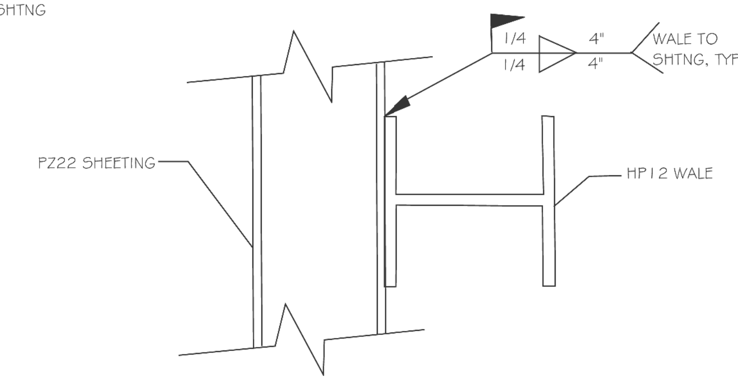


UNFOLDED SOE ELEVATION VIEW
1/4" = 1'-0"



SECTION D-D
NTS

SOE INSTALLATION CONSTRUCTION NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY INCLUDING INSTALLATION OF FALL PROTECTION AND ADHERENCE TO OSHA EXCAVATION SAFETY REQUIREMENTS.
2. ALL STEEL SHALL BE FURNISHED IN GR 50.
3. ALL WELDING SHALL BE WITH E70XX ELECTRODES IN ACCORDANCE WITH AWS D1.1.

SOE SEQUENCE OF ACTIVITIES

1. INSTALL SOE SHEETING.
2. EXCAVATE TO REQUIRED ELEVATION IN OPEN CUT AREA. EXCAVATE SHEETING AREA TO 2 FT BELOW WALE ELEV.
4. INSTALL WALERS AND CORNER BRACE STRUTS.
5. EXCAVATE TO ELEV 506 (BOTTOM OF PILE CAP ELEV).
6. DRIVE PILES TO REQUIRED CAPACITY/TIP ELEVATION.
7. CONSTRUCT PILE CAP.
8. CONSTRUCT PIER STEM.
9. BACKFILL EXCAVATION, REMOVING BRACING WHEN BACKFILL REACHES BRACING ELEVATION.
10. CUT THE INTERLOCK WELDS LOOSE.
11. BACKFILL TO FINAL GRADE AND EXTRACT SHEETING.

SME
www.sme-usa.com

Orientation: NORTH
Scale: GRAPHIC SCALE: 1" = 1'

Project: HAM-75-3.84 BRIDGE NO. HAM-74-1908 S RAMP P O/IR-74 WB & IR-75 AND RAMP E

Project Location: HAMILTON COUNTY CITY OF CINCINNATI OHIO

Sheet Name: PIER 2 SOE ELEVATION AND NOTES

Engineer's Seal: STATE OF OHIO TIMOTHY H. BEDENIS E-83628 REGISTERED PROFESSIONAL ENGINEER

Revisions

REV	ISSUED FOR	DATE	BY

Date: 2-5-2019
SME Project No.: 79059.01
Project Manager: TH BEDENIS
Designer: DW BIRD
CADD: DW BIRD
Checked By: TH BEDENIS
Sheet No.: 2 OF 2

DESIGN AGENCY: PRIME AE, 540 WHITE POND DR., SUITE E, AKRON, OH 44320

DESIGNED EEB	CHECKED AMT
DRAWN EEB	REVISED XXX
REVIEWED TES	DATE 8/22/2019
STRUCTURE FILE NUMBER 3109798	

PIER 2 DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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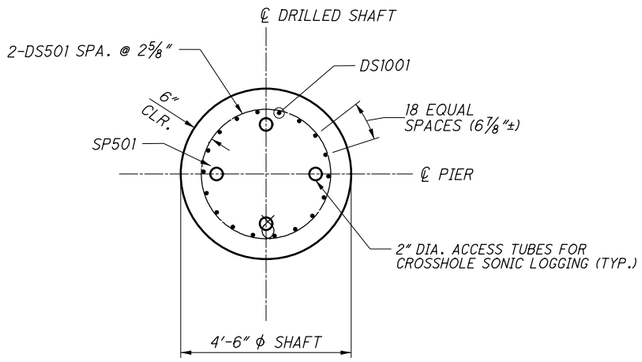
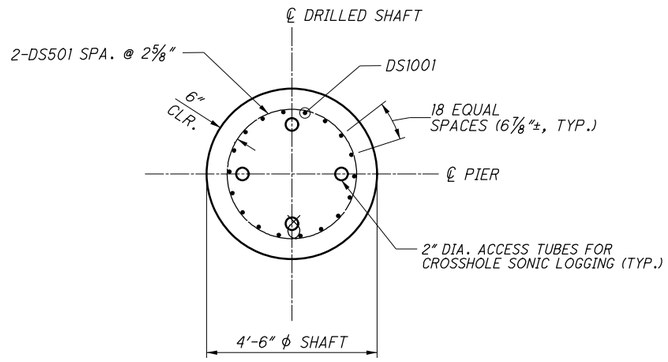
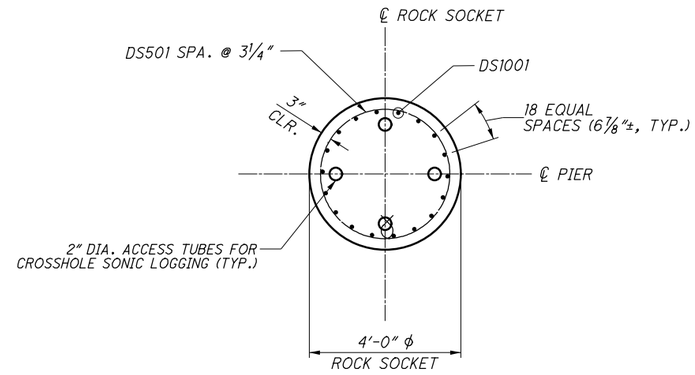


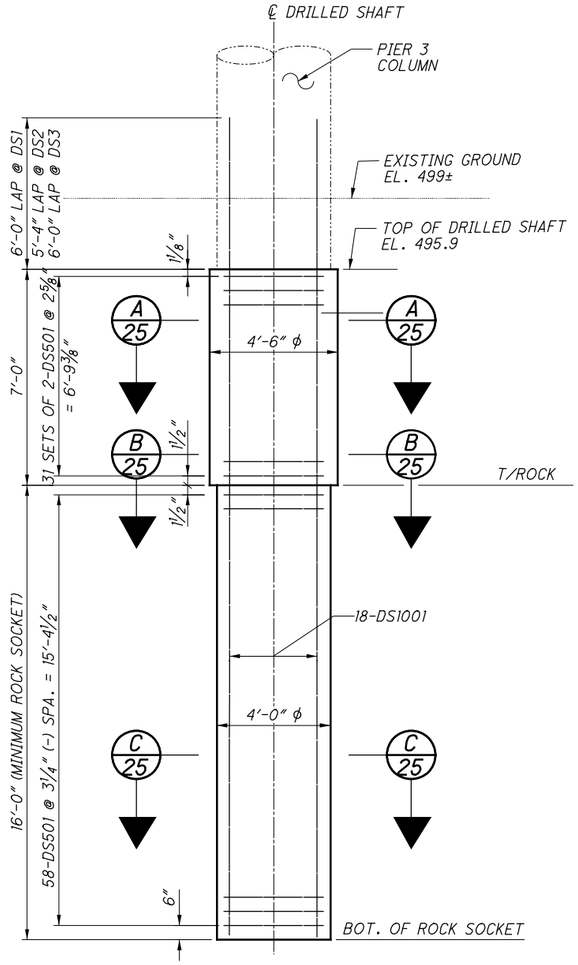
A/25 SECTION THRU SHAFT



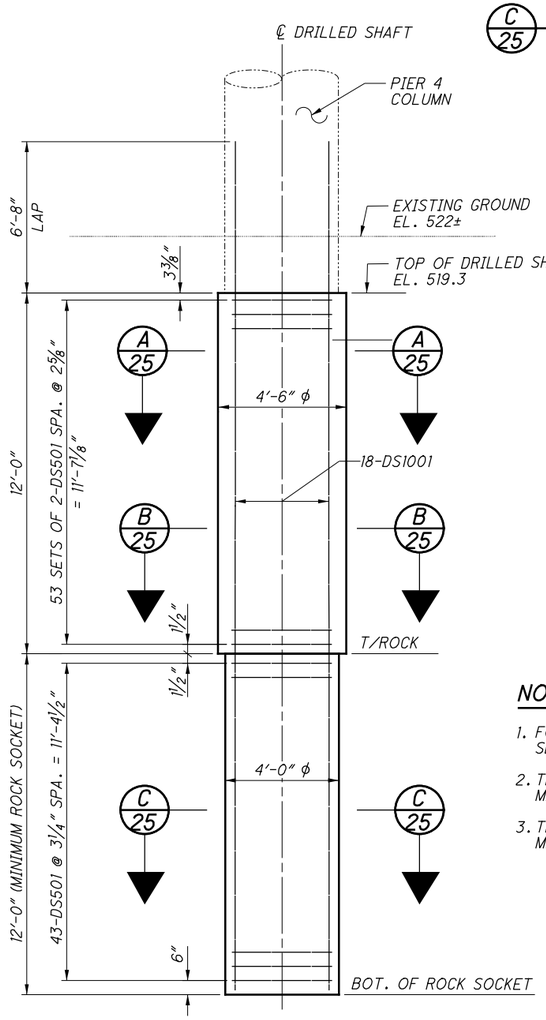
B/25 SECTION THRU SHAFT



C/25 SECTION THRU SOCKET



PIER 3 DRILLED SHAFT - ELEVATION
(3 REQ'D)



PIER 4 DRILLED SHAFT - ELEVATION
(3 REQ'D)

MIN. REQUIRED LAP LENGTH	
#5 HORIZONTAL	37"

NOTES:

1. FOR REINFORCEMENT SCHEDULE, SEE SHEETS 74/79 AND 79/79.
2. THE PREFIX "3" SHALL BE ADDED TO ALL BAR MARKS FOR PIER 3 DRILLED SHAFT.
3. THE PREFIX "4" SHALL BE ADDED TO ALL BAR MARKS FOR PIER 4 DRILLED SHAFT.

DESIGN AGENCY
PRIME AE
540 WEST POINT DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	MN	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDS		3109798	

FOUNDATION DETAILS - PIERS 3 & 4
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

25 / 79

25/79

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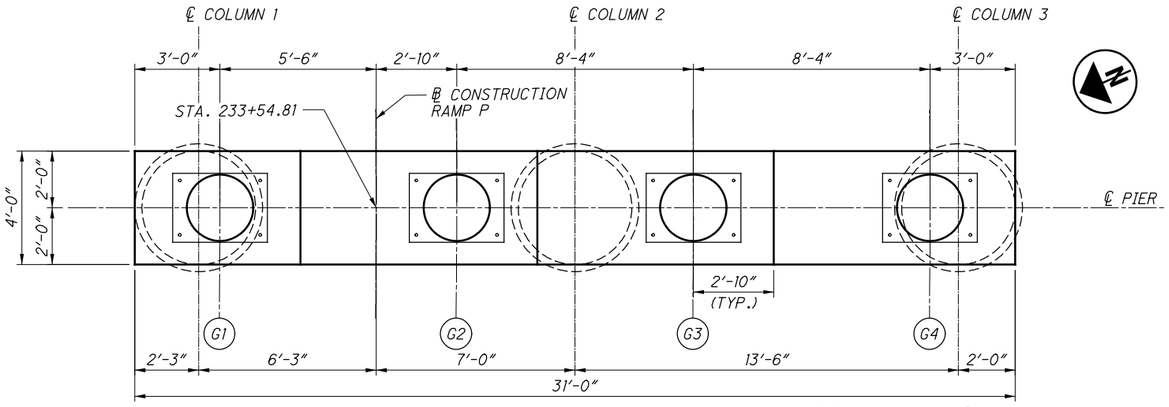
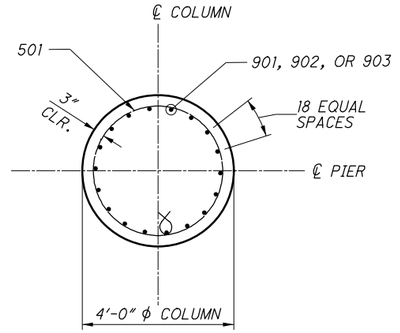
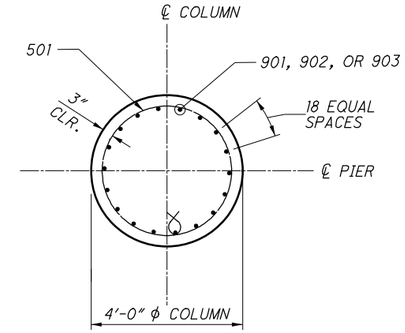


PLAN



A 26 SECTION THRU COLUMN



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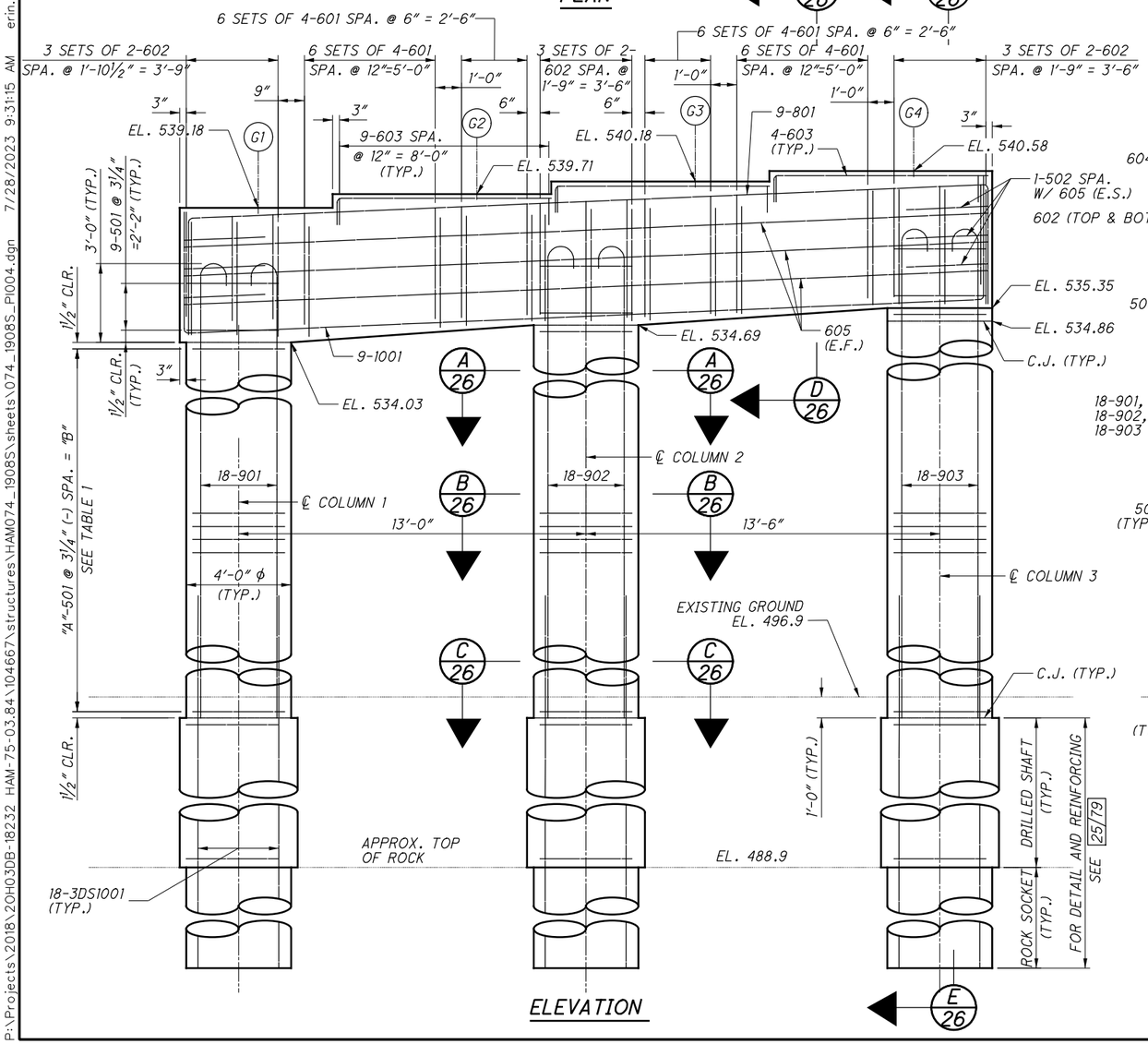
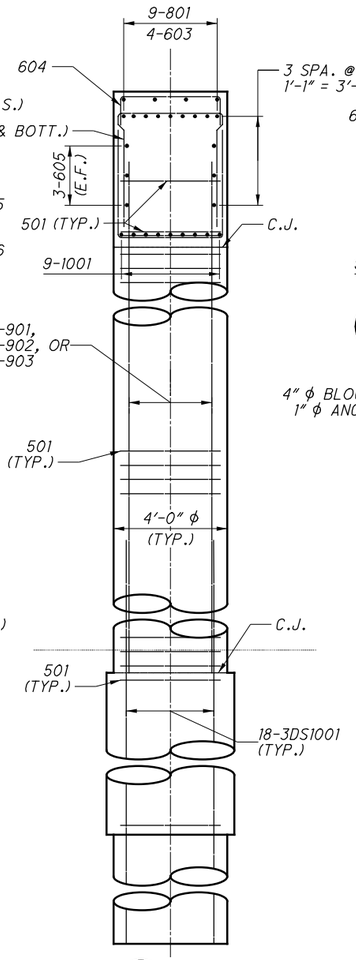
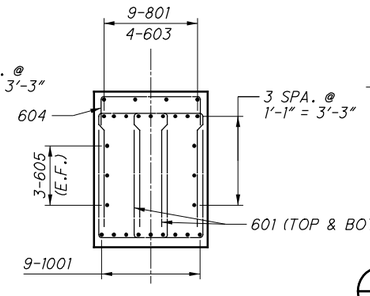


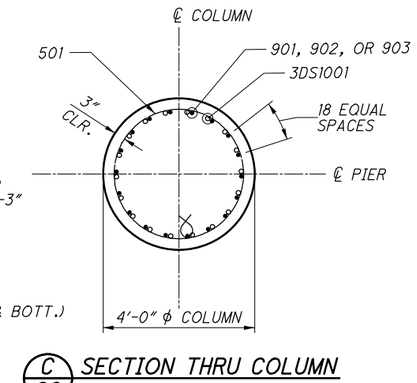
ELEVATION



E 26 SECTION
SPIRAL BARS OMITTED FOR CLARITY.



D 26 SECTION THRU CAP



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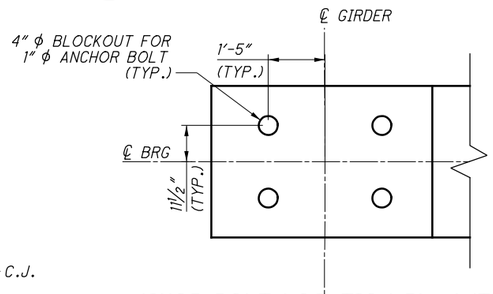

ANCHOR BOLT LOCATION PLAN (TYP.)

TABLE 1 (501 BARS)		
COLUMN	"A"	"B"
1	141	37'-10⅝"
2	144	38'-6⅝"
3	146	39'-2½"

MIN. REQUIRED LAP LENGTH	
#5 HORIZONTAL	3'-1"
#6 VERTICAL	3'-7"
#9 VERTICAL	5'-4"

NOTES:

1. SEAL ALL EXPOSED (ABOVE GROUND) CONCRETE SURFACES OF PROPOSED PIER, EXCEPT BEAM SEATS, WITH EPOXY URETHANE.
2. FOR BEARING LOCATION DETAILS SEE SHEET 36/79.
3. SPACE TOP REINFORCING BARS IN CAP TO MISS BEARING ANCHOR BOLTS.
4. FOR ANCHOR BOLT BLOCKOUT DETAILS SEE SHEET 35/79.
5. FOR ADDITIONAL FOUNDATION DETAILS, SEE SHEET 17/79 & 25/79.
6. THE PREFIX "3P" SHALL BE ADDED TO ALL BAR MARKS FOR PIER NO. 3.
7. FOR REINFORCING SCHEDULE, SEE SHEET 75/79.
8. FOR GEOMETRIC REFERENCE, SEE REFERENCE CHORD LAYOUT SHEET 6/79.
9. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.135 INCHES AT PIER 3 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

DESIGN AGENCY
PRIME
540 WEST POOL DR., SUITE E
MERLIN, OR 97532

DESIGNED	DRAWN	REVIEWED	DATE
KDC	MN	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

PIER 3 DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

26 / 79

26
79

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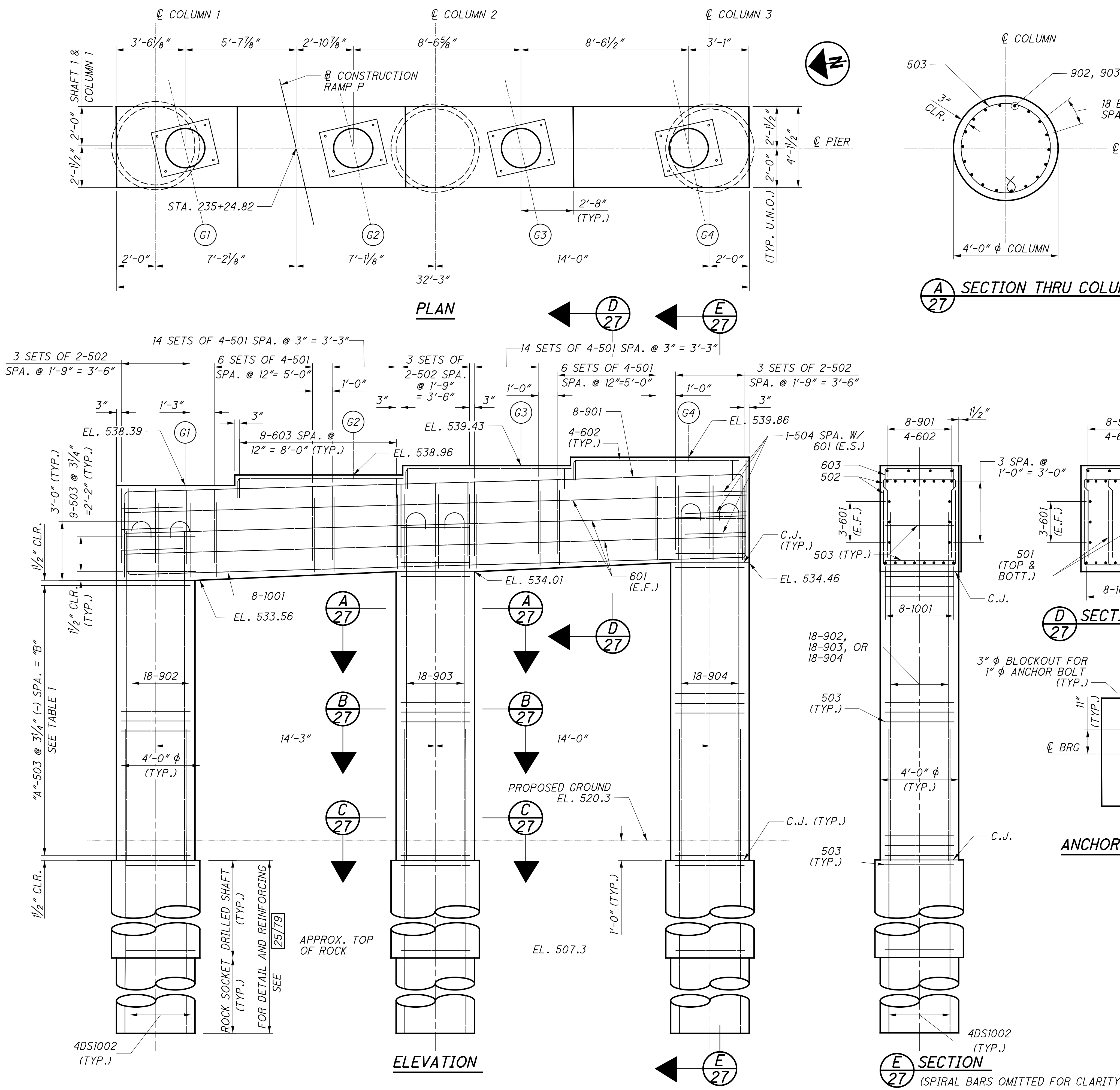
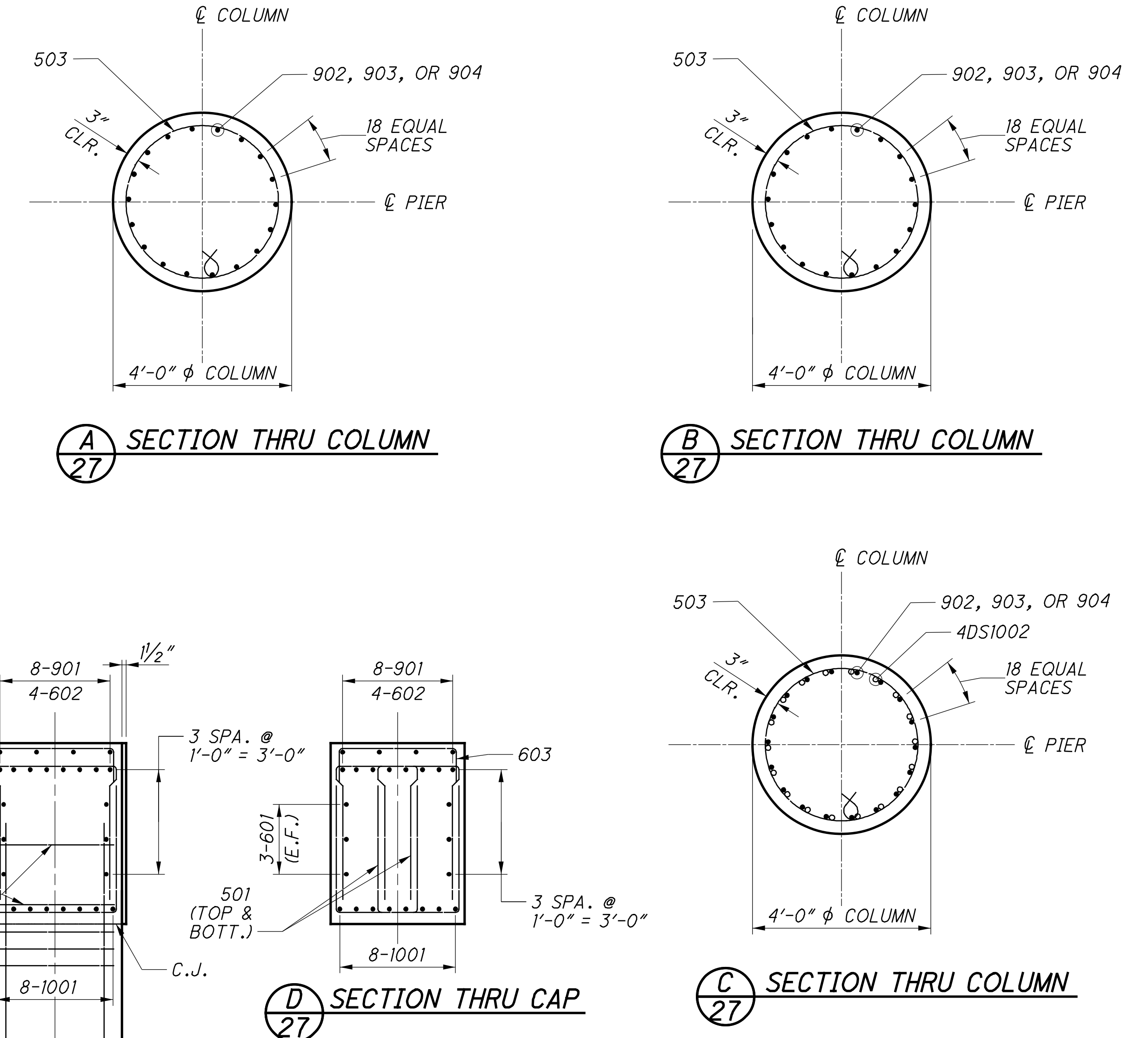
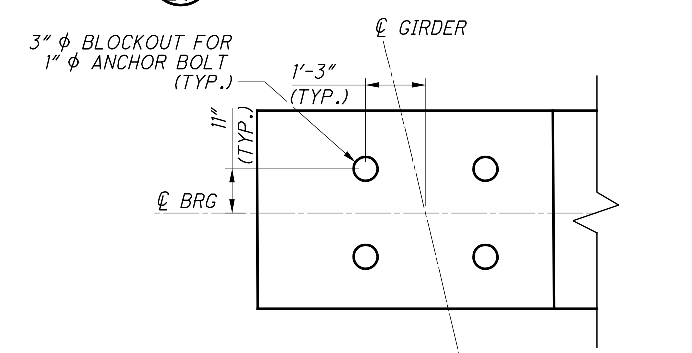






ANCHOR BOLT LOCATION PLAN (TYP.)

TABLE 1 (503 BARS)

COLUMN	"A"	"B"
1	53	14'-0¼"
2	55	14'-5⅝"
3	56	14'-11"

MIN. REQUIRED LAP LENGTH	
#5 HORIZONTAL	2'-5"
#5 HORIZONTAL	3'-1"
#9 VERTICAL	5'-4"

NOTES:

1. SEAL ALL EXPOSED (ABOVE GROUND) CONCRETE SURFACES OF PROPOSED PIER, EXCEPT BEAM SEATS, WITH EPOXY URETHANE.
2. FOR BEARING LOCATION DETAILS SEE SHEET 36/79.
3. SPACE TOP REINFORCING BARS IN CAP TO MISS BEARING ANCHOR BOLTS.
4. FOR ANCHOR BOLT BLOCKOUT DETAILS SEE SHEET 35/79.
5. FOR ADDITIONAL FOUNDATION DETAILS, SEE SHEET 17/79 & 25/79.
6. THE PREFIX "4P" SHALL BE ADDED TO ALL BAR MARKS FOR PIER NO. 4.
7. FOR REINFORCING SCHEDULE, SEE SHEET 76/79.
8. FOR GEOMETRIC REFERENCE, SEE REFERENCE CHORD LAYOUT SHEET 6/79.
9. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.121 INCHES AT PIER 4 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

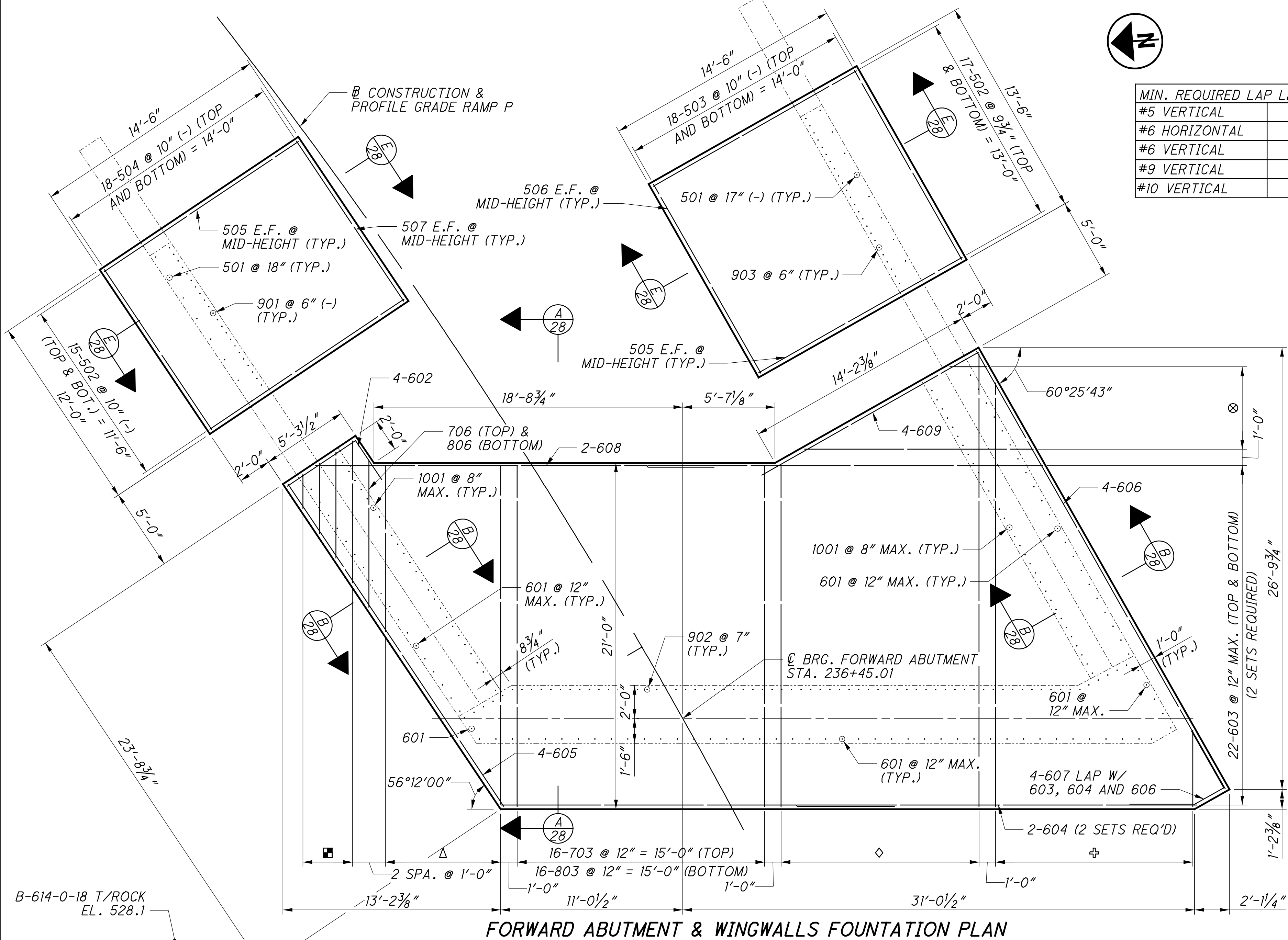
DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

REVIEWED TES DATE 8/22/2019
STRUCTURE FILE NUMBER 3109798
DRAWN MN REVISED
DESIGNED CRG CHECKED KDC

PIER 4 DETAILS

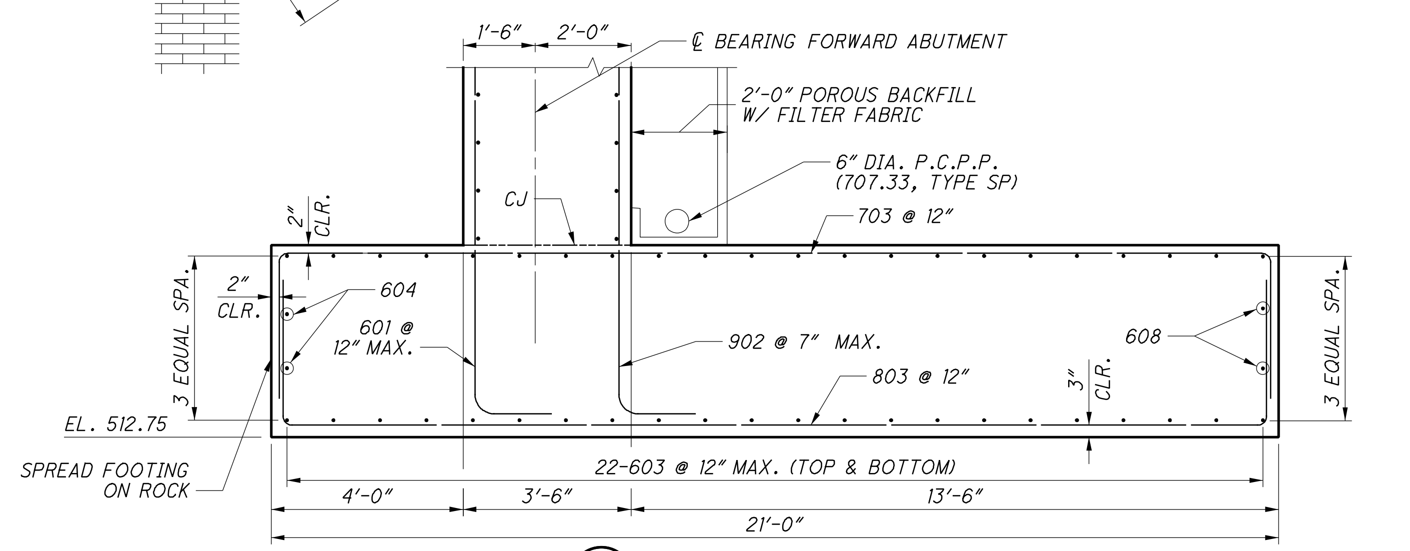
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

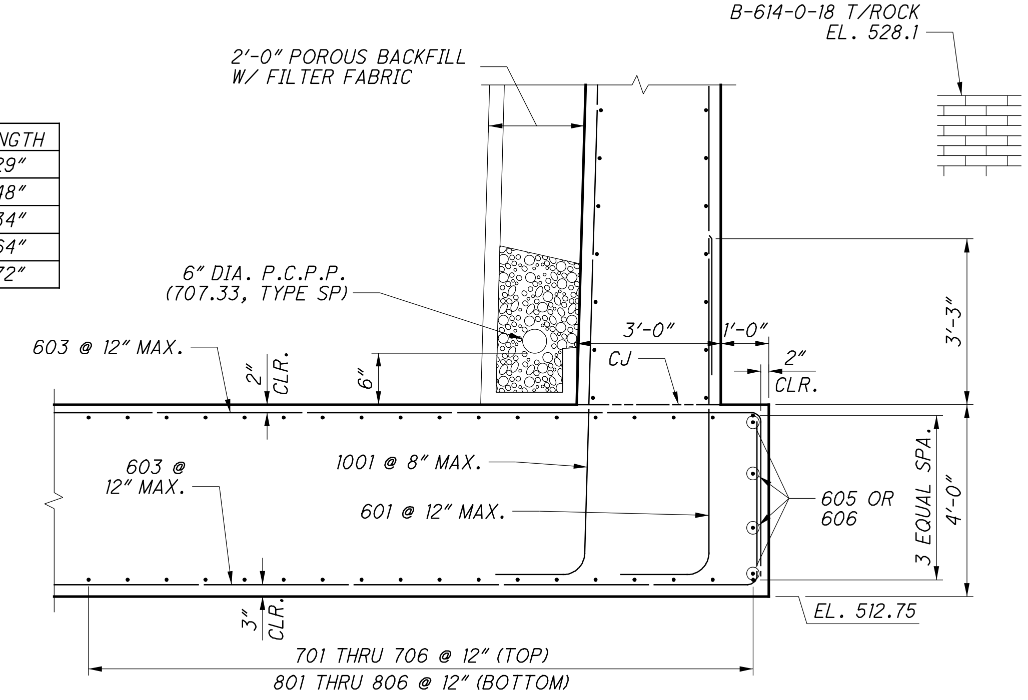


FORWARD ABUTMENT & WINGWALLS FOUNTATION PLAN

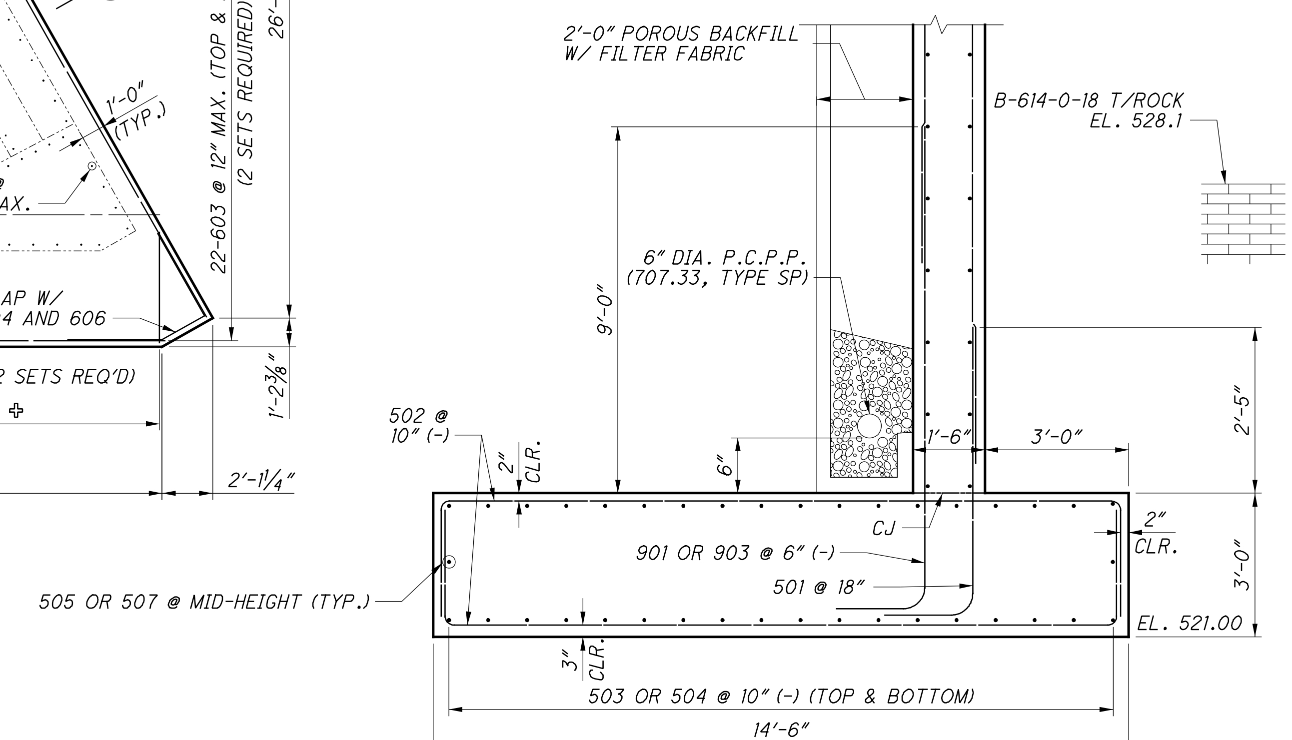
MIN. REQUIRED LAP LENGTH	
#5 VERTICAL	29"
#6 HORIZONTAL	48"
#6 VERTICAL	34"
#9 VERTICAL	64"
#10 VERTICAL	72"



A/28 SECTION THRU FOOTING



B/28 SECTION THRU ABUTMENT FOOTING



E/28 SECTION THRU WINGWALL FOOTING

NORTH WINGWALL SHOWN, SOUTH WINGWALL SIMILAR

LEGEND:

- △ - 1 SER. OF 8-702 @ 12" (TOP), 1 SER. OF 8-802 @ 12" (BOTTOM)
- ✥ - 1 SER. OF 13-705 @ 12" (TOP) 1 SER. OF 13-805 @ 12" (BOTTOM)
- ◇ - 1 SER. OF 13-704 @ 12" (TOP) 1 SER. OF 13-804 @ 12" (BOTTOM)
- ⊗ - 1 SER. OF 6-610 @ 12" (TOP) 1 SER. OF 6-610 @ 12" (BOTTOM)
- ◪ - 1 SER. OF 4-701 @ 12" (TOP) 1 SER. OF 4-801 @ 12" (BOTTOM)

NOTES:

1. SEAL ALL EXPOSED (ABOVE GROUND) CONCRETE SURFACES OF PROPOSED ABUTMENT WITH EPOXY URETHANE.
2. THE PREFIX "FAF" SHALL BE ADDED TO ALL BAR MARKS FOR THE FORWARD ABUTMENT FOOTINGS.
3. FOR REINFORCING SCHEDULE, SEE SHEETS 74/79 AND 79/79.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E AKRON, OH 44320

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
KDC	CRG	KDC		TES	8/22/2019

STRUCTURE FILE NUMBER 3109798

FORWARD ABUMENT DETAILS (1 OF 4)

BRIDGE NO. HAM-74-1908S

RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84

PID No. 104667

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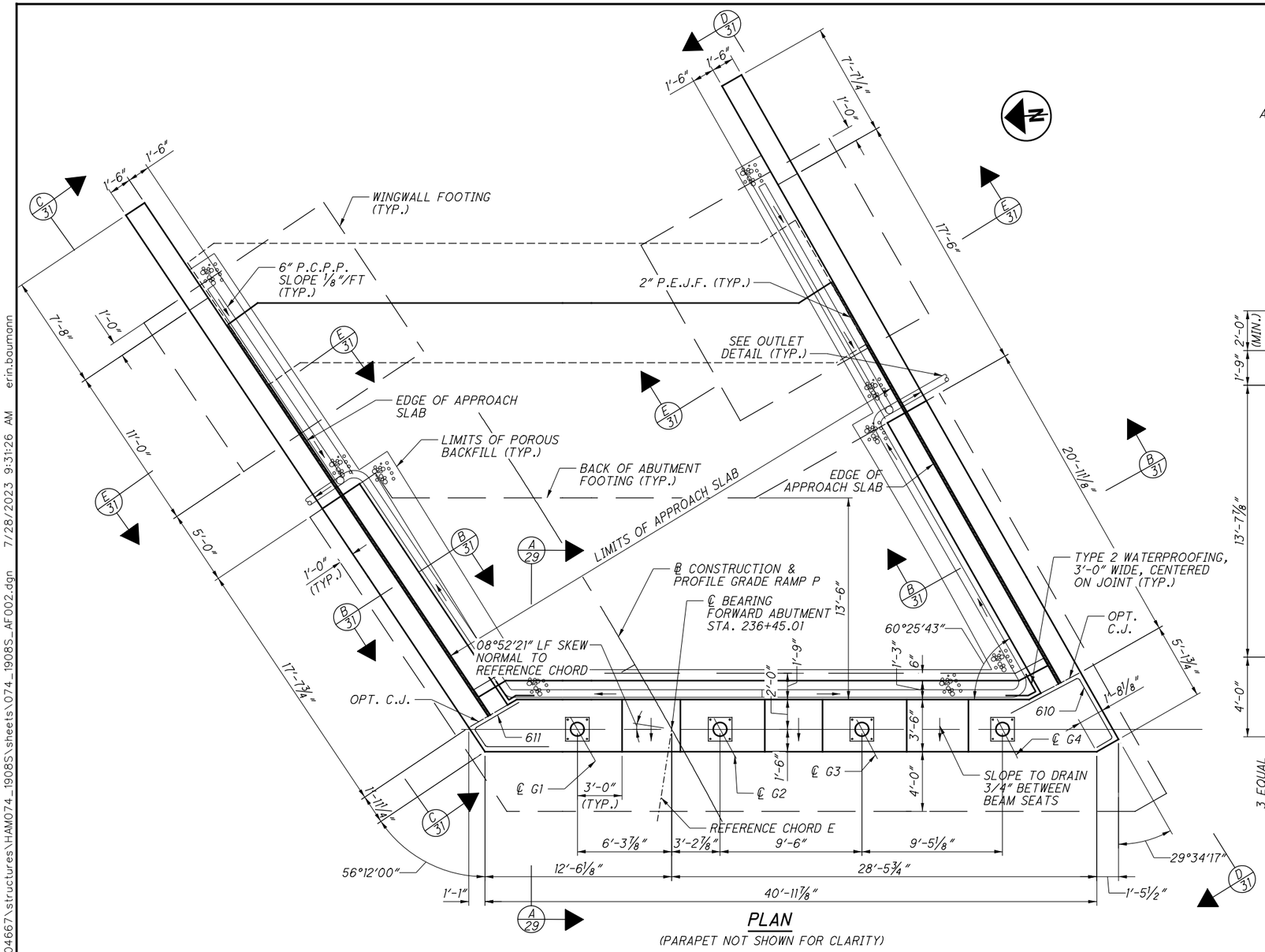
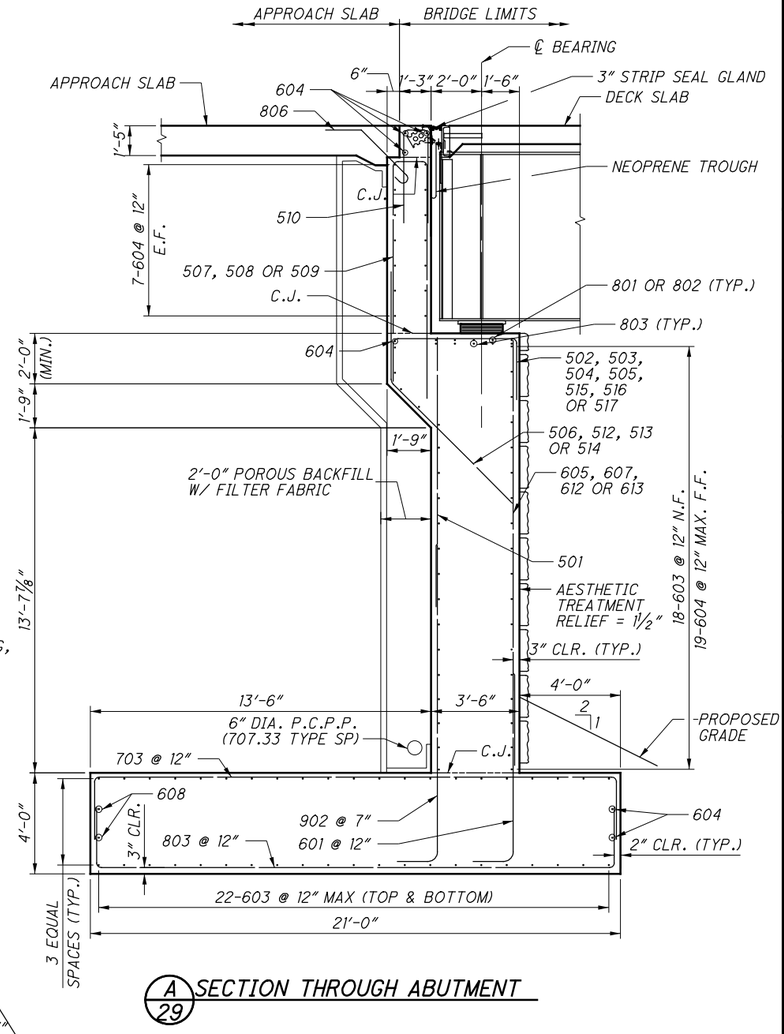
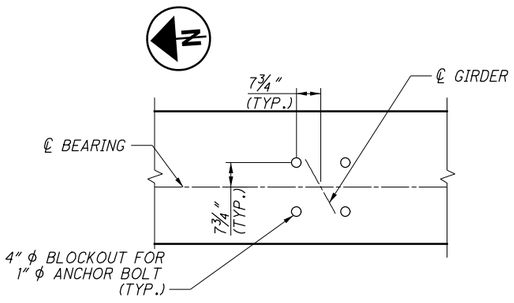


PLAN

(PARAPET NOT SHOWN FOR CLARITY)



A 29 SECTION THROUGH ABUTMENT



ANCHOR BOLT LOCATION PLAN

GIRDER 2, 3

MIN. REQUIRED LAP LENGTH	
#5 VERTICAL	29"
#6 HORIZONTAL	48"
#6 VERTICAL	34"
#8 HORIZONTAL	45"

NOTES:

1. SEAL ALL EXPOSED (ABOVE GROUND) CONCRETE SURFACES OF PROPOSED ABUTMENT WITH EPOXY URETHANE.
2. FOR BEARING LOCATION DETAILS, SEE SHEET 36/79.
3. SPACE TOP REINFORCING BARS IN CAP TO CLEAR BEARING ANCHOR BOLTS.
4. FOR ADDITIONAL FOUNDATION DETAILS, SEE SHEET 28/79 & 31/79.
5. THE PREFIX "FA" SHALL BE ADDED TO ALL BAR MARKS FOR THE FORWARD ABUTMENT. THE PREFIX "FAF" SHALL BE ADDED TO ALL BAR MARKS FOR THE FORWARD ABUTMENT FOOTING.
6. FOR REINFORCING SCHEDULE, SEE SHEETS 76/79.
7. WINGWALL ELEVATIONS GIVEN ARE TO THE FRONT FACE OF WALL.
8. LOCATE 6" P.C.P.P. AS CLOSE TO THE TOP OF FOOTING AS PRACTICAL WHILE MAINTAINING A 1/8" PER FOOT SLOPE TOWARDS THE OUTLET.

DESIGN AGENCY
PRIME
540 WHITEPOND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	CRG	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

FORWARD ABUTMENT DETAILS (2 OF 4)

BRIDGE NO. HAM-74-1908S

RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84

PID No. 104667

29 / 79

29
79

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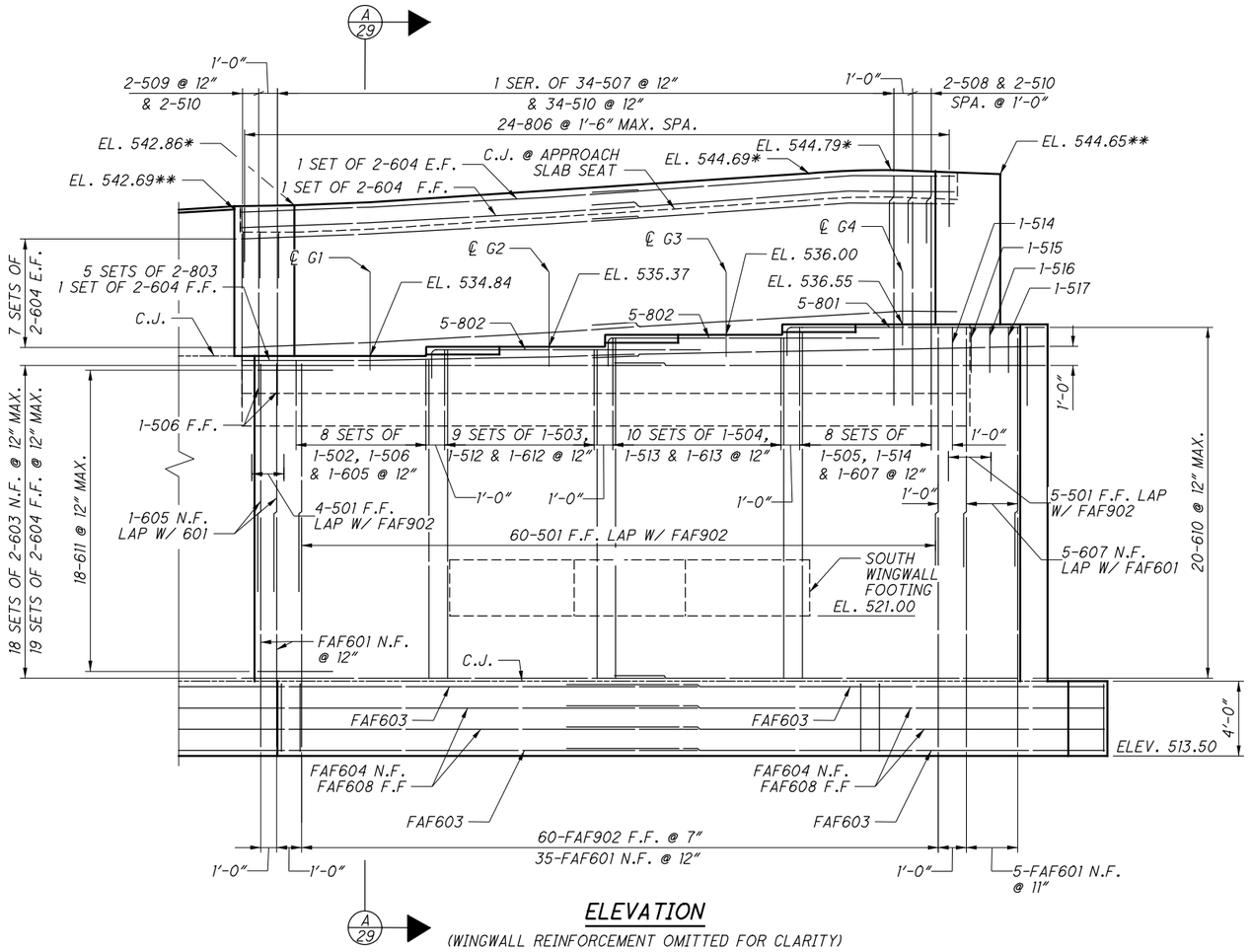


ELEVATION

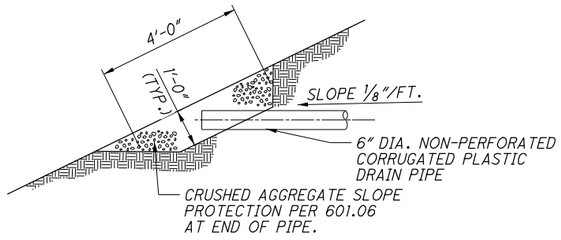
(WINGWALL REINFORCEMENT OMITTED FOR CLARITY)

MIN. REQUIRED LAP LENGTH	
#5 VERTICAL	29"
#6 HORIZONTAL	48"
#6 VERTICAL	34"
#8 HORIZONTAL	45"

LEGEND:

* - ELEVATIONS ARE TO THE FRONT FACE OF BACKWALL

** -ELEVATIONS ARE TO THE FRONT FACE OF WINGWALL



OUTLET DETAIL

NOTES:

1. FOR ABUTMENT PLAN, SEE SHEET 29/79 .
2. SEAL ALL EXPOSED (ABOVE GROUND) CONCRETE SURFACES OF PROPOSED ABUTMENT WITH EPOXY URETHANE.
3. FOR BEARING LOCATION DETAILS, SEE SHEET 36/79 .
4. SPACE TOP REINFORCING BARS IN CAP TO CLEAR BEARING ANCHOR BOLTS.
5. FOR ADDITIONAL FOUNDATION DETAILS, SEE SHEET 28/79 & 31/79 .
6. THE PREFIX "FA" SHALL BE ADDED TO ALL BAR MARKS FOR THE FORWARD ABUTMENT. THE PREFIX "FAF" SHALL BE ADDED TO ALL BAR MARKS FOR THE FORWARD ABUTMENT FOOTING.
7. FOR REINFORCING SCHEDULE, SEE SHEETS 76/79 .
8. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 0.088 INCHES AT FORWARD ABUTMENT TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

DESIGN AGENCY
PRIME AE
540 WHITE POND DR. SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	CRG	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

FORWARD ABUMENT DETAILS (3 OF 4)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

30 / 79

30
79

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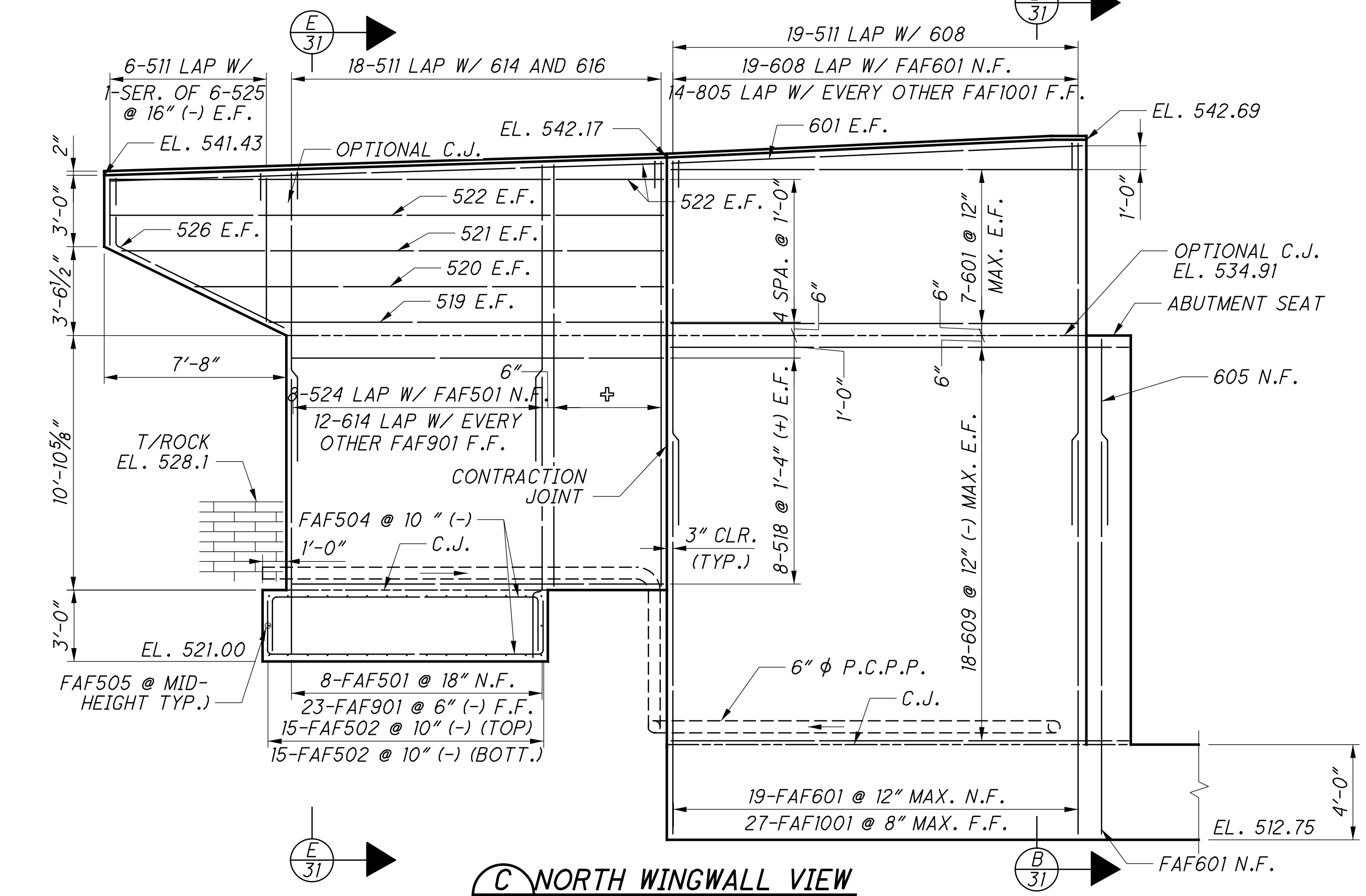
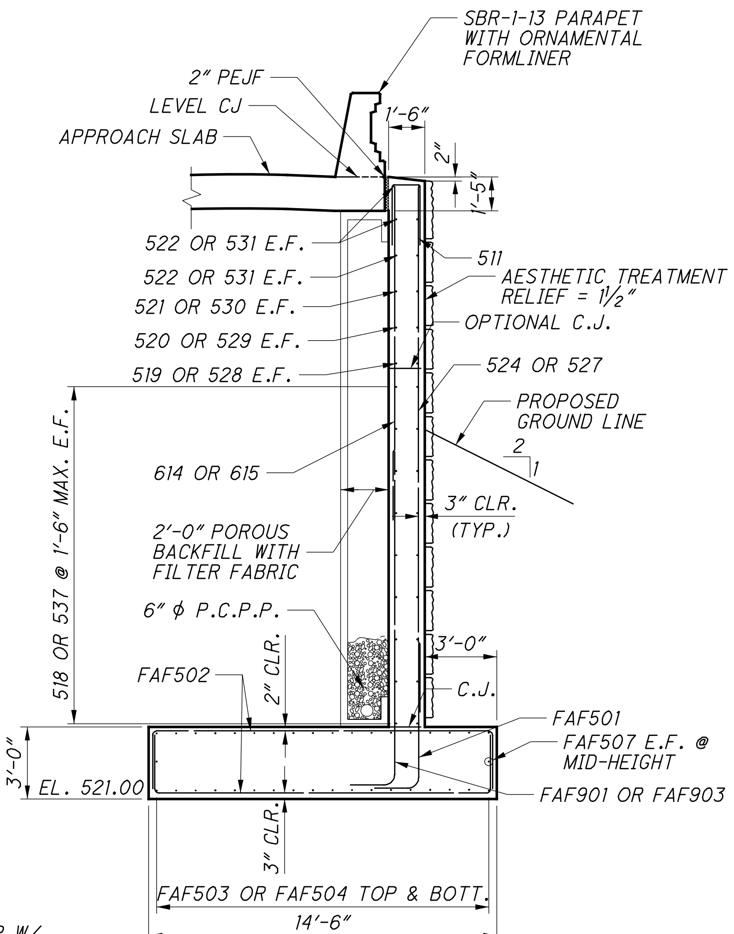
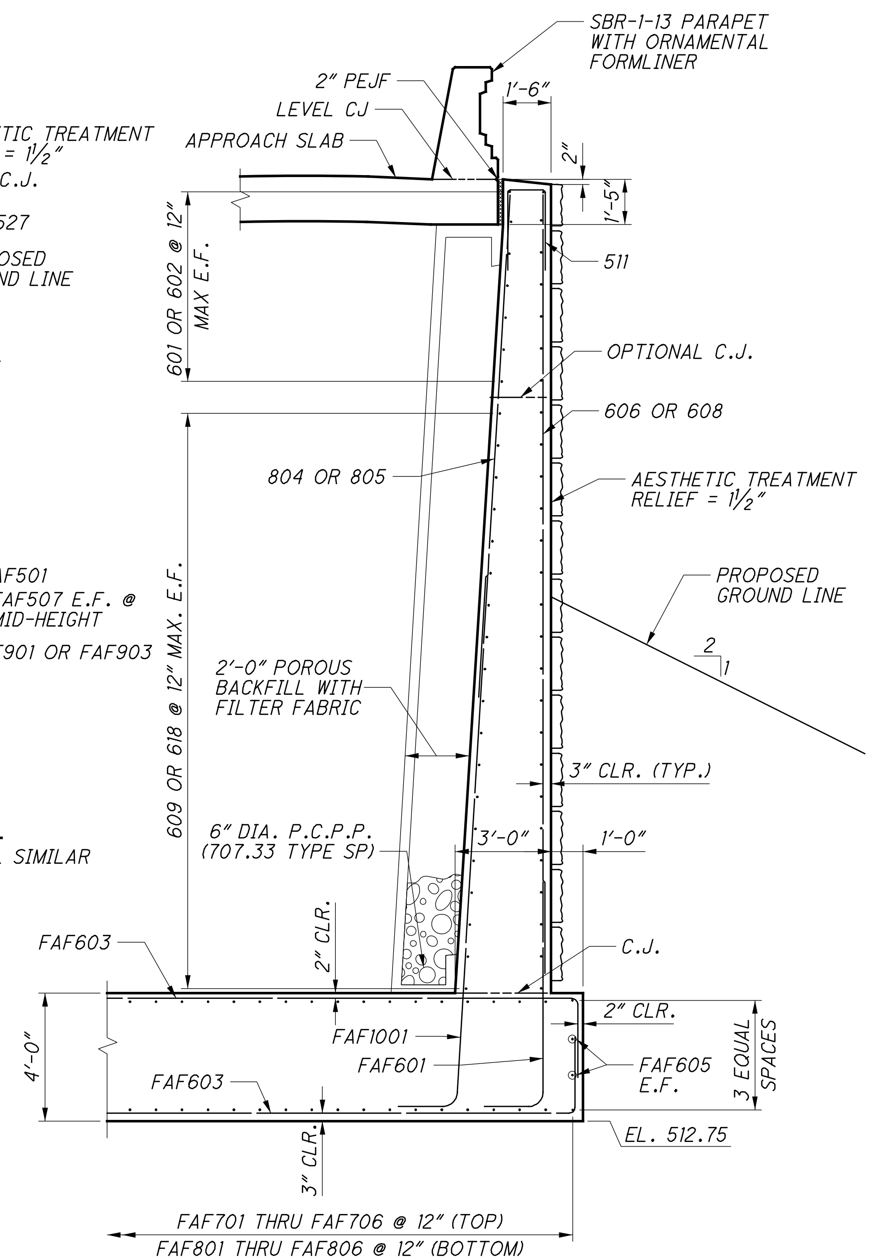


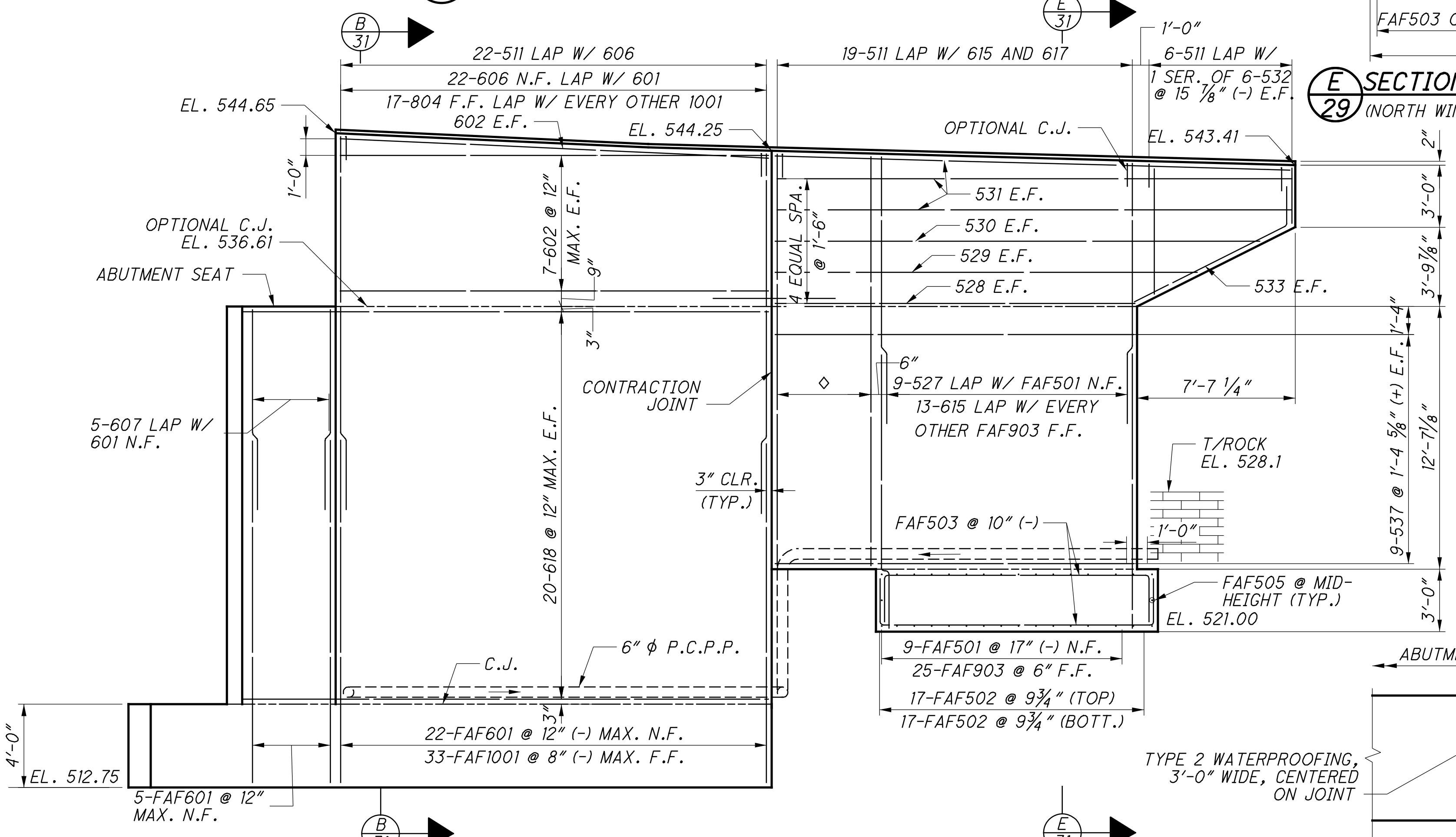
C/29 NORTH WINGWALL VIEW



E/29 SECTION THROUGH WINGWALL
(NORTH WINGWALL SHOWN, SOUTH WINGWALL SIMILAR



B/31 SECTION THROUGH WINGWALL

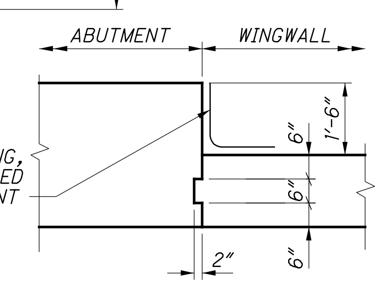


D/29 SOUTH WINGWALL VIEW
(ABUTMENT FOOTING REINFORCING OMITTED FOR CLARITY)

LEGEND:

✣ - 4-535 N.F. @ 18" & 6-616 F.F. @ 9"

◇ - 4-536 N.F. @ 18" & 7-617 F.F. @ 9"



CONTRACTION JOINT DETAIL

MIN. REQUIRED LAP LENGTH	
#5 HORIZONTAL	35"
#5 VERTICAL	29"
#6 VERTICAL	34"
#8 VERTICAL	45"

NOTES:

1. THE PREFIX "FA" SHALL BE ADDED TO ALL BAR MARKS FOR THE FORWARD ABUTMENT. THE PREFIX "FAF" SHALL BE ADDED TO ALL BAR MARKS FOR THE FORWARD ABUTMENT FOOTINGS.
2. FOR REINFORCEMENT SCHEDULE, SEE SHEET 76/79.
3. WINGWALL ELEVATIONS SHOWN ARE TO THE FRONT FACE OF WALL.
4. SEAL ALL EXPOSED SURFACES (ABOVE GROUND) SURFACES OF PROPOSED WINGWALLS WITH EPOXY URETHANE.

DESIGN AGENCY PRIME 540 WHITE POND DR., SUITE E AKRON, OH 44320

REVIEWED	DATE
TES	8/22/2019
STRUCTURE FILE NUMBER	
3109798	
DRAWN CRG	REVISED
DESIGNED CRG	CHECKED KDC

FORWARD ABUMENT DETAILS (4 OF 4)

BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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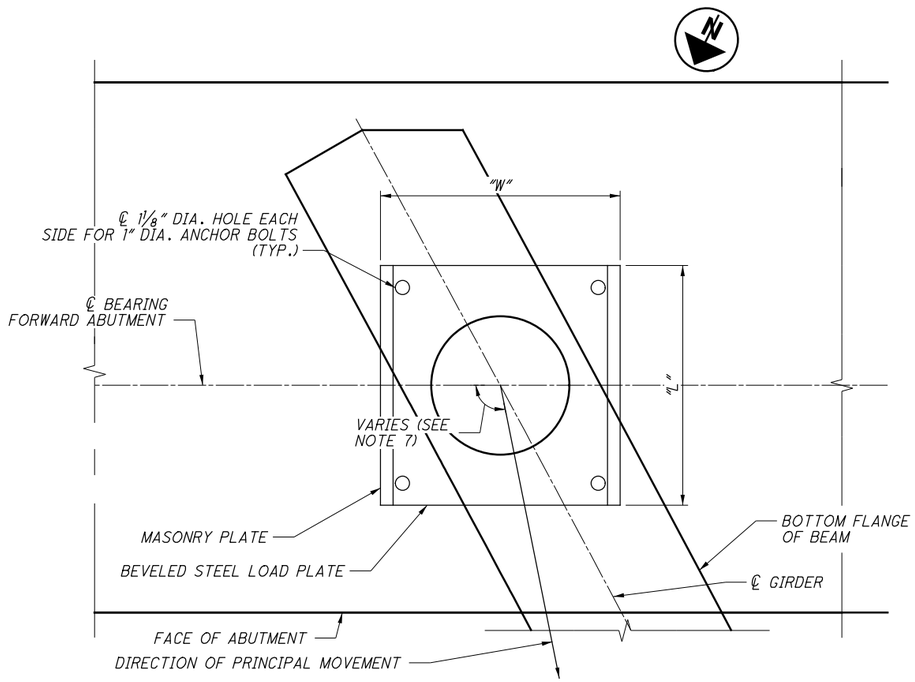
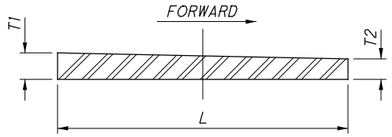


PLAN

(GIRDERS 2 & 3 FORWARD ABUTMENT SHOWN, GIRDERS 2 & 3 AT: EXISTING PIER 7, UNIT 1, PIER 2 UNIT 1 & AT PIER 2 UNIT 2 SIMILAR)



BEVELED LOAD PLATE DETAIL

BEVELED LOAD PLATE TABLE

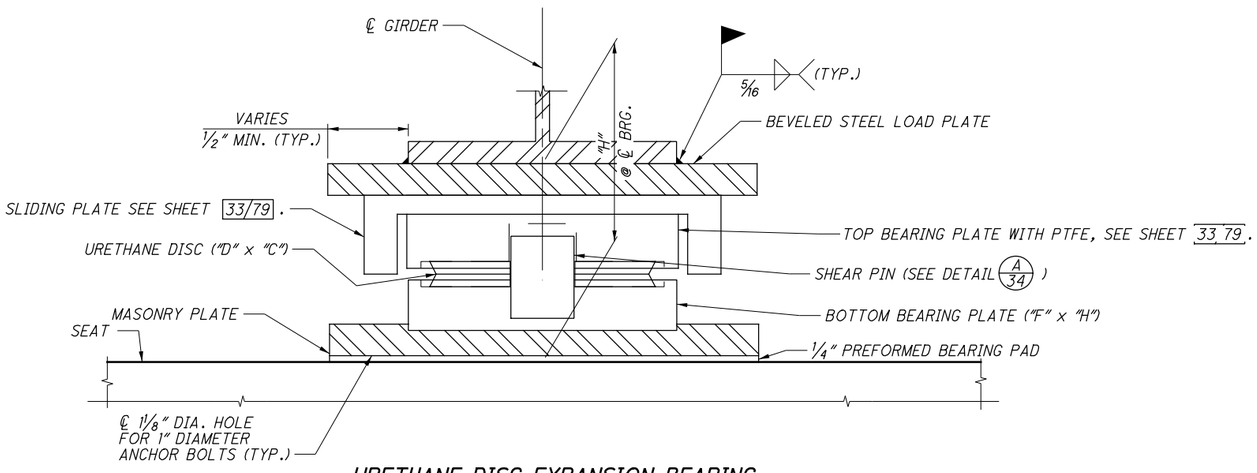
	EX. PIER 7 UNIT 1		PIER 2 UNIT 1		PIER 2 UNIT 2		FWD. ABUT. UNIT 2	
LOCATION	T1	T2	T1	T2	T1	T2	T1	T2
GIRDER 2	1.379"	1.621"	1⅜"	1⅝"	1"	2"	1 13/16"	1 3/16"
GIRDER 3	1¼"	1¾"	1⅜"	1⅝"	1"	2"	1 13/16"	1 3/16"

BEVELED LOAD PLATE TABLE

	EX. PIER 7 UNIT 1		PIER 2 UNIT 1		PIER 2 UNIT 2		FWD. ABUT. UNIT 2	
LOCATION	W	L	W	L	W	L	W	L
GIRDER 2	16"	16"	16"	16"	22"	24"	20"	20½"
GIRDER 3	16"	16"	16"	16"	22"	24"	20"	20½"

NOTES:

1. LOAD PLATES:
   THE STEEL LOAD AND MASONRY PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50 AND SHALL BE BONDED TO THE ELASTOMER BY VULCANIZATION DURING THE MOLDING PROCESS IN ACCORDANCE WITH ITEM 516. CONTROL WELDING SO THAT THE PLATE TEMPERATURE DOES NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC SENSORS OR OTHER TEMPERATURE MONITORING DEVICES.
2. COMPONENTS OF THE BEARING DEVICES SHALL MEET THE REQUIREMENTS OF ODOT SUPPLEMENTAL SPECIFICATION 869.
3. MARKINGS:
   ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
4. CORROSION PROTECTION:
   ALL STEEL SURFACES AND COMPONENTS, EXCEPT THE TOP OF THE STEEL LOAD PLATE, STAINLESS STEEL AND PTFE SURFACES SHALL BE METALLIZED IN ACCORDANCE WITH ODOT SUPPLEMENTAL SPECIFICATION 869.
5. DESIGN LOAD:
   TOTAL DESIGN LOAD FOR BEARINGS EQUALS THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING TABLE. LOADS SHOWN ARE WITHOUT IMPACT FACTORS INCLUDED.
6. BEARING ORIENTATION:
   FOR BEARING ORIENTATION AT SUBSTRUCTURE UNITS, SEE INDIVIDUAL PLAN SHEETS.
7. THE PTFE SLIDING SURFACE SHALL BE DIMPLE LUBRICATED.
8. THE MAXIMUM COEFFICIENT OF FRICTION TO BE USED IN THE DESIGN OF THE BEARINGS SHALL BE 0.035 AT A TEMPERATURE OF -13° F.



URETHANE DISC EXPANSION BEARING

LEGEND:

* - CLIPPED, FOR DETAIL SEE C/35 CLIP DETAIL

TABLE 1 - HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS

LOCATION	BEARING TYPE	NO. OF BEARINGS	TOP BEARING PLATE SIZE (KxL)	URETHANE DISC SIZE (DxC)	BOTTOM BEARING PLATE SIZE (FxH)	MASONRY PLATE SIZE (LxWxT)	SLIDING PLATE SIZE	VERTICAL LOADS (KIPS) SERVICE LIMIT STATE DL + FWS	VERTICAL LOADS (KIPS) SERVICE LIMIT STATE LIVE LOAD	VERTICAL LOADS (KIPS) SERVICE LIMIT STATE TOTAL LOAD	VERTICAL LOADS (KIPS) STR. LIMIT STATE TOTAL LOAD	HORIZONTAL LOADS (KIPS) SERVICE LIMIT STATE LONG.	HORIZONTAL LOADS (KIPS) SERVICE LIMIT STATE TRANS.	HORIZONTAL LOADS (KIPS) STR. LIMIT STATE LONG.	HORIZONTAL LOADS (KIPS) STR. LIMIT STATE TRANS.	ROTATION (RADIANS) STR. LIMIT STATE TOTAL	MAX. ONE WAY MVT. (IN) STR. LIMIT STATE LONG.
EXISTING PIER 7 - UNIT 1	GUIDED EXP.	2	SEE SHEET 33/79.	7.230" ϕ x 1.000"	8.930" ϕ x 1.969"	18"x18"x1¼"	SEE SHEET 33/79.	51.6	68.2	119.8	187.6	5.1	8.9	4.2	11.1	0.012	0.51
PIER 2 - UNIT 1	GUIDED EXP.	2	SEE SHEET 33/79.	7.230" ϕ x 1.000"	8.930" ϕ x 1.969"	18"x18"x1¼"	SEE SHEET 33/79.	71.1	69.5	140.6	214.3	20.0	13.6	10.0	17.0	0.006	0.63
PIER 2 - UNIT 2	GUIDED EXP.	2	SEE SHEET 33/79.	11.330" ϕ x 1.250"	13.030" ϕ x 2.342"	20"x20"x1¾"	SEE SHEET 33/79.	254.1	126.1	380.2	550.6	61.2	29.0	30.6	36.6	0.019	1.79
FORWARD ABUT. - UNIT 2	GUIDED EXP.	2	SEE SHEET 33/79.	9.130" ϕ x 1.000"	10.830" ϕ x 2.026"	19"x19"x1½"	SEE SHEET 33/79.	138.4	111.6	250.0	375.3	41.6	25.4	33.9	31.7	0.004	1.52

DESIGN AGENCY
PRIME AE
540 WEST POINT PIKE, SUITE E
WAYNE, PA 19087

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

GUIDED EXPANSION BEARING DETAILS (1 OF 2)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

32 / 79

32
79

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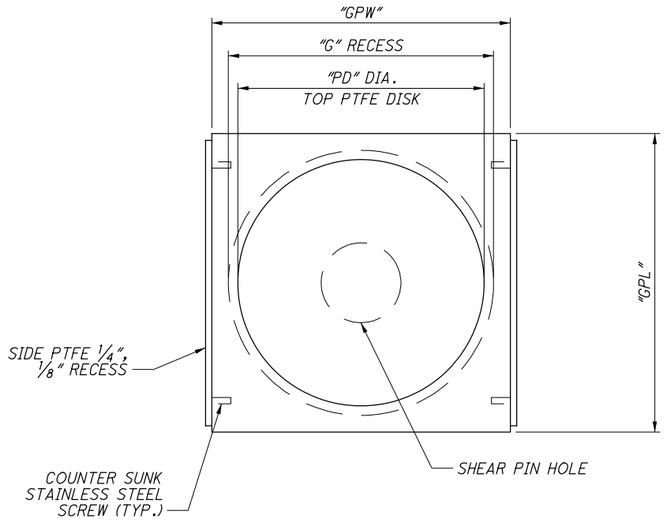
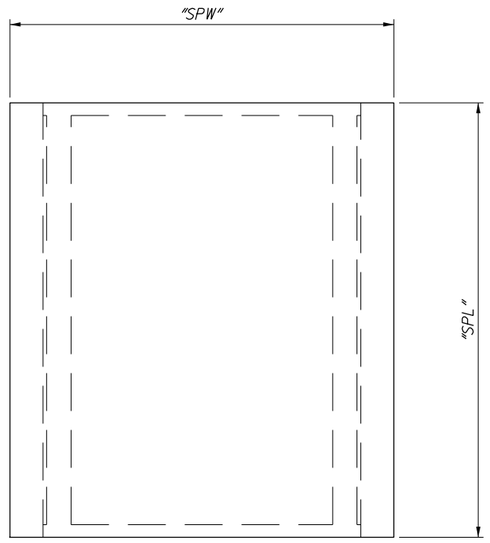


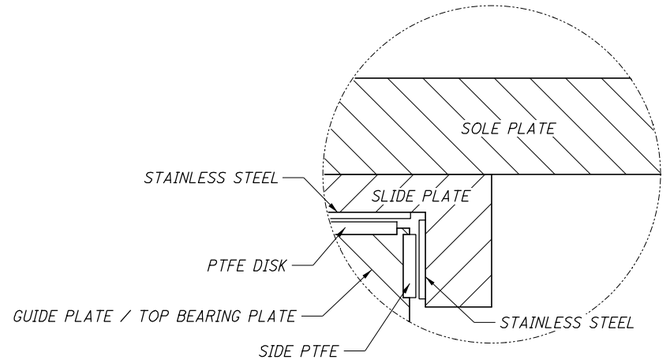
TOP BEARING GUIDE PLAN

(GIRDERS 2 & 3 FORWARD ABUTMENT SHOWN, GIRDERS 2 & 3 AT: EXISTING PIER 7, UNIT 1, PIER 2 UNIT 1 & AT PIER 2 UNIT 2 SIMILAR)

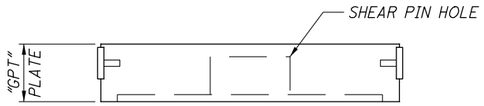


SLIDE PLATE PLAN

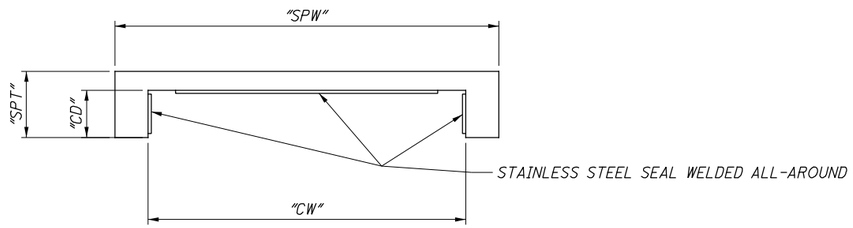
(GIRDERS 2 & 3 FORWARD ABUTMENT SHOWN, GIRDERS 2 & 3 AT: EXISTING PIER 7, UNIT 1, PIER 2 UNIT 1 & AT PIER 2 UNIT 2 SIMILAR)



GUIDED EXPANSION DETAILS



TOP BEARING GUIDE ELEVATION



SLIDE PLATE ELEVATION

TABLE 1 - TOP SLIDE AND GUIDE PLATE DIMENSIONS

LOCATION	BEARING TYPE	NO. OF BEARINGS	TOP BEARING GUIDE PLATE					TOP BEARING GUIDE PLATE				
			GPW	GPL	GPT	G	PD	SPW	SPW	SPT	CW	CD
EXISTING PIER 7 - UNIT 1	GUIDED EXP.	2	9.930"	9.930"	2.250"	7.930"	7.500"	13.305"	13.435"	2.375"	10.680"	1.625"
PIER 2 - UNIT 1	GUIDED EXP.	2	9.930"	9.930"	2.250"	7.930"	7.500"	13.305"	13.435"	2.375"	10.680"	1.625"
PIER 2 - UNIT 2	GUIDED EXP.	2	14.030"	14.030"	2.492"	12.030"	12.000"	17.655"	19.905"	3.125"	15.030"	2.375"
FORWARD ABUT. - UNIT 2	GUIDED EXP.	2	11.830"	11.830"	2.276"	9.830"	9.750"	15.205"	17.205"	2.625"	12.580"	1.875"

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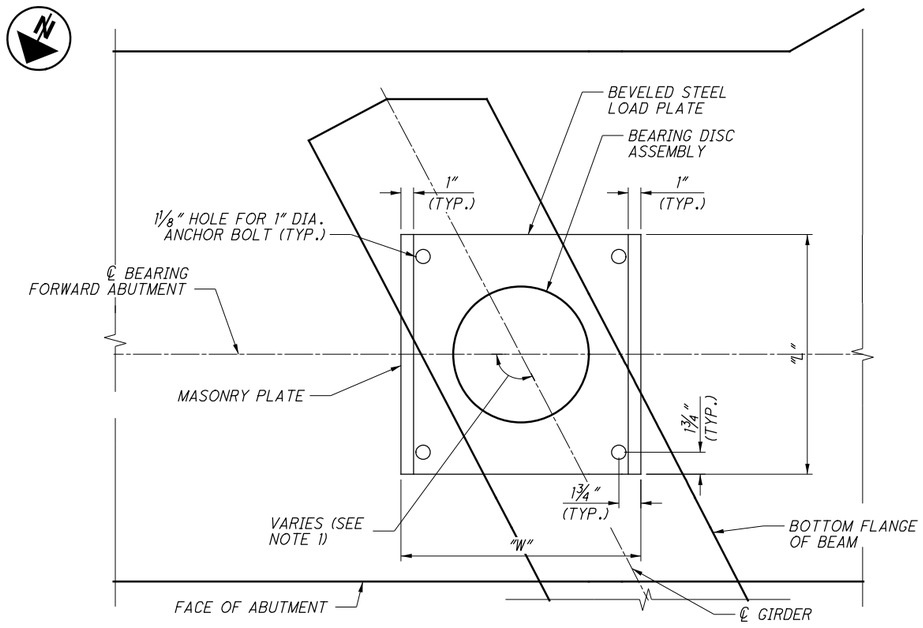
DESIGN AGENCY
PRIME AE
540 WEST POINT PARK, SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

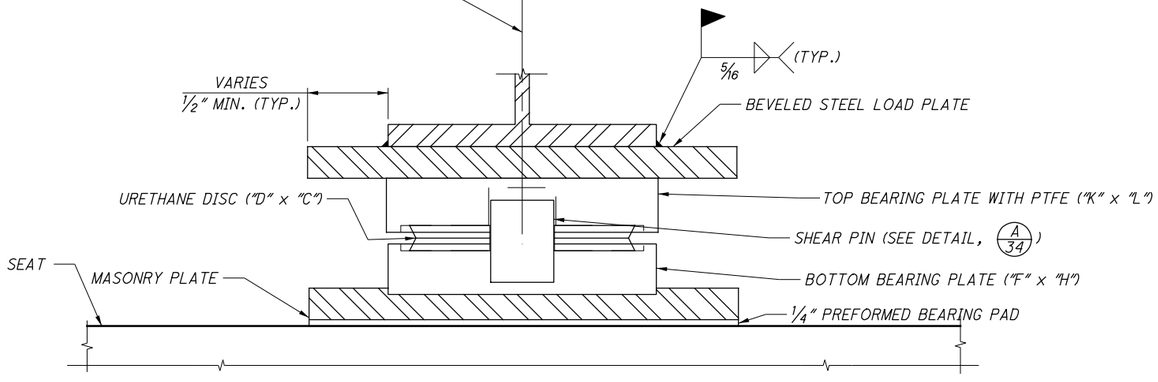
GUIDED EXPANSION BEARING DETAILS (2 OF 2)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

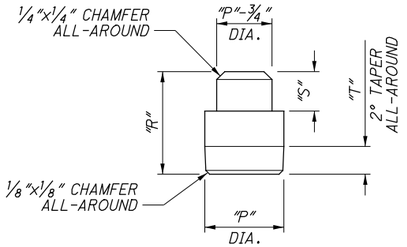


PLAN

(GIRDER 4 AT FORWARD ABUTMENT SHOWN)
(TYPICAL FOR GIRDERS 1 & 4 AT EX. PIER 7 UNIT 1, PIER 2 UNITS 1 & 2 & FORWARD ABUTMENT UNIT 2)



URETHANE DISC EXPANSION BEARING

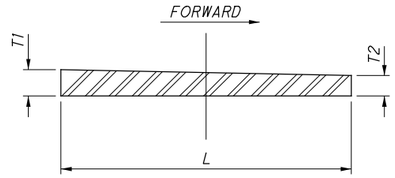


A / 32,34 SHEAR PIN DETAIL

NON-GUIDED EXPANSION BEARINGS				
LOCATION	DIM. "P"	DIM. "R"	DIM. "S"	DIM. "T"
EXISTING PIER 7 - UNIT 1, GIRDERS 1 & 4	2.000"	3.250"	1.250"	0.875"
PIER 2 - UNIT 1, GIRDERS 1 & 4	2.000"	3.250"	1.250"	0.875"
PIER 2 - UNIT 2, GIRDERS 1 & 4	3.000"	3.375"	1.500"	0.875"
FORWARD ABUT. - UNIT 2, GIRDERS 1 & 4	2.500"	3.250"	1.250"	0.875"

AS-BUILT NOTE:
A ½" THICK SHIM WAS PLACED BETWEEN BOTTOM OF BEAM AND TOP OF SOLE PLATE AT PIER 2 - UNIT 1, GIRDER 4, WELDED TO BEAM AND TO SOLE PLATE WITH 5/16" FILLET. THE SHIM IS 15" WIDE X 14" LONG.

GUIDED EXPANSION BEARINGS				
LOCATION	DIM. "P"	DIM. "R"	DIM. "S"	DIM. "T"
EXISTING PIER 7 - UNIT 1, GIRDERS 2 & 3	2.500"	3.250"	1.250"	0.875"
PIER 2 - UNIT 1, GIRDERS 2 & 3	2.500"	3.250"	1.250"	0.875"
PIER 2 - UNIT 2, GIRDERS 2 & 3	3.600"	3.875"	1.500"	1.000"
FORWARD ABUT. - UNIT 2, GIRDERS 2 & 3	3.000"	3.250"	1.250"	0.875"



BEVELED LOAD PLATE DETAIL

BEVELED LOAD PLATE TABLE								
	EX. PIER 7 UNIT 1		PIER 2 UNIT 1		PIER 2 UNIT 2		FWD. ABUT. UNIT 2	
LOCATION	T1	T2	T1	T2	T1	T2	T1	T2
GIRDER 1	1⅛"	1⅜"	1 1/16"	1 1/16"	⅞"	1⅝"	1½"	1"
GIRDER 4	1⅛"	1⅜"	1⅛"	1⅜"	1"	1½"	1½"	1"

BEVELED LOAD PLATE TABLE								
	EX. PIER 7 UNIT 1		PIER 2 UNIT 1		PIER 2 UNIT 2		FWD. ABUT. UNIT 2	
LOCATION	W	L	W	L	W	L	W	L
GIRDER 1	16"	14"	16"	14"	19"	19"	19"	17"
GIRDER 4	16"	14"	16"	14"	29"	19"	19"	17"

NOTE:

1. FOR NOTES, SEE SHEET 32/79 .

TABLE 1 - NON-GUIDED EXPANSION BEARING SCHEDULE

LOCATION	BEARING TYPE	NO. OF BEARINGS	TOP BEARING PLATE SIZE (KxL)	URETHANE DISC SIZE (DxC)	BOTTOM BEARING PLATE SIZE (FxH)	MASONRY PLATE SIZE (LxWxT)	VERTICAL LOADS (KIPS)				HORIZONTAL LOADS (KIPS)				ROTATION (RADIANS)	MAX. ONE WAY MVT. (IN)
							SERVICE LIMIT STATE			STR. LIMIT STATE	SERVICE LIMIT STATE		STR. LIMIT STATE		STR. LIMIT STATE	STR. LIMIT STATE
							DL + FWS	LIVE LOAD	TOTAL LOAD	TOTAL LOAD	LONG.	TRANS.	LONG.	TRANS.	TOTAL	LONG.
EXISTING PIER 7 - UNIT 1	EXP.	2	9.000" ϕ x 2.095"	7.730" ϕ x 1.000"	8.730" ϕ x 1.970"	18"x18"x1¼"	51.6	68.2	119.8	186.7	4.5	10.1	1.8	12.6	0.013	0.51
PIER 2 - UNIT 1	EXP.	2	9.000" ϕ x 2.095"	7.730" ϕ x 1.000"	8.730" ϕ x 1.970"	18"x18"x1¼"	71.1	69.5	140.6	214.3	10.0	13.9	5.0	17.4	0.006	0.63
PIER 2 - UNIT 2, GIRDER 1	EXP.	1	12.875" ϕ x 2.215"	11.030" ϕ x 1.125"	12.730" ϕ x 2.000"	20"x20"x1¼"	254.1	126.1	380.2	550.6	30.6	47.8	15.3	59.8	0.018	1.79
PIER 2 - UNIT 2, GIRDER 4	EXP.	1	12.875" ϕ x 2.215"	11.030" ϕ x 1.125"	12.730" ϕ x 2.000"	20"x20"x1¼"	254.1	126.1	380.2	550.6	30.6	47.8	15.3	59.8	0.004	1.79
FORWARD ABUT. - UNIT 2	EXP.	2	11.000" ϕ x 2.145"	8.930" ϕ x 1.000"	10.630" ϕ x 2.000"	19"x19"x1¼"	138.4	111.6	250.0	375.3	20.8	34.7	17.0	43.4	0.005	1.52

DESIGN AGENCY
PRIME AE
540 WEST POINT PARK, SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

NON-GUIDED EXPANSION BEARING DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

34 / 79

34/79

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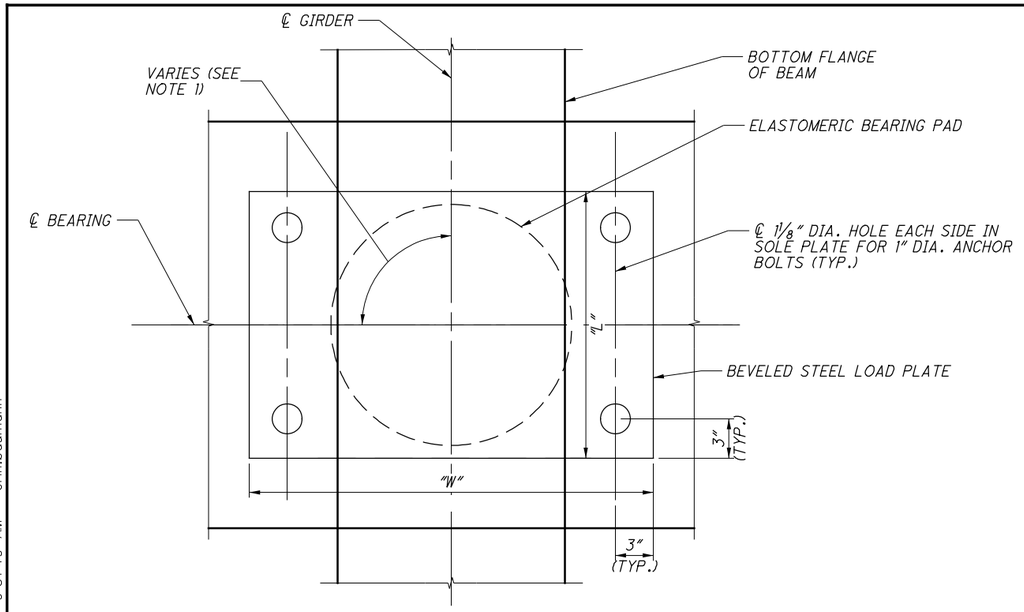
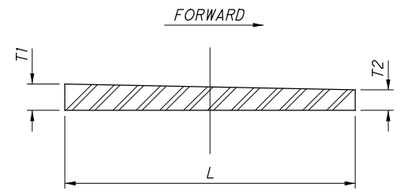


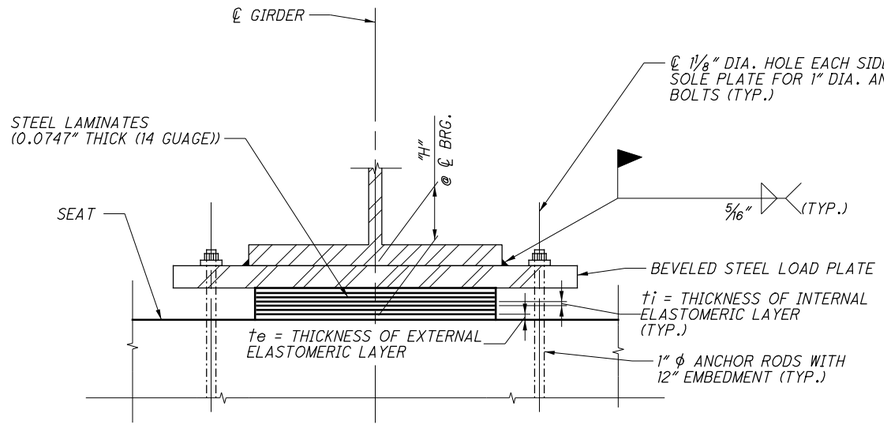
PLAN



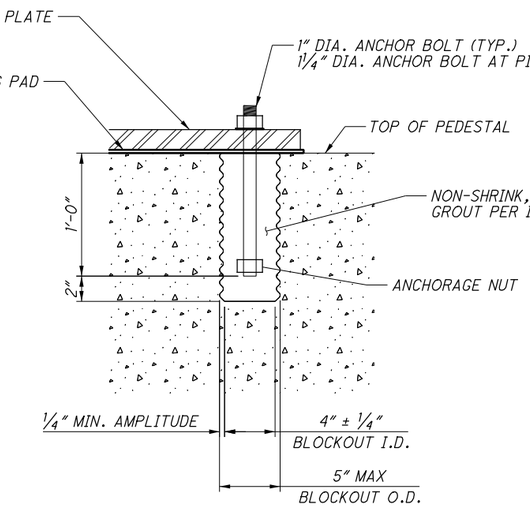
BEVELED LOAD PLATE DETAIL

BEVELED LOAD PLATE TABLE

	PIER 1 UNIT 1		PIER 3 UNIT 2		PIER 4 UNIT 2	
LOCATION	T1	T2	T1	T2	T1	T2
GIRDER 1	1¼"	1¾"	1 13/16"	2 3/16"	1¾"	1¼"
GIRDER 2	1¼"	1¾"	1⅛"	2⅛"	1¾"	1¼"
GIRDER 3	1¼"	1 13/16"	1⅞"	2 1/16"	1¾"	1¼"
GIRDER 4	1 3/16"	1 13/16"	1 15/16"	2 1/16"	1¾"	1¼"



LAMINATED ELASTOMERIC FIXED BEARING



ANCHOR BOLT BLOCKOUT DETAIL

AS-BUILT NOTE:

TO DECREASE THE UNBRACED LENGTH AND THUS INCREASE THE CAPACITY OF THE 1" DIAMETER ANCHOR RODS, STEEL SHEAR BLOCKS HAVE BEEN INSTALLED AROUND EACH ROD BETWEEN THE BOTTOM OF BEVELED LOAD PLATE AND TOP OF CONCRETE PIER. THE SHEAR BLOCKS WERE INSTALLED AT FIXED BEARING LOCATIONS INDICATED IN TABLE BELOW. SEE SHEET 35A/79 AND 35B/79 FOR DETAILS.

TABLE 2 - FIXED BEARING SCHEDULE * = LIVE LOAD WITHOUT IMPACT

LOCATION	BEARING TYPE	NO. OF BEARINGS	ELASTOMERIC BEARING PAD SIZE	NO. OF STEEL LAMINATES 0.0747" THICK (14 GAGE)	EXTERNAL LAYERS (te) (THICK.)	INTERNAL LAYERS (ti) (#, THICK.)	"H" (IN.)	STEEL LOAD PLATE SIZE (LxWxT)	UNFACTORED DESIGN LOADS		
									DEAD LOAD (K)	LIVE LOAD (K)*	TOTAL LOAD (K)
PIER 1 - UNIT 1	FIXED	4	20" ϕx2.55"	4	0.250"	4 @ 0.500"	4.05"	21"x32"x1½"	220.7	113.1	333.8
PIER 3 - UNIT 2	FIXED	4	28" ϕx4.85"	8	0.250"	8 @ 0.500"	6.85"	29"x40"x2"	525.2	200.4	725.6
PIER 4 - UNIT 2	FIXED	4	24" ϕx4.27"	7	0.250"	7 @ 0.500"	5.77"	28"x36"x1½"	386.4	168.1	554.5

NOTE:

1. FOR BEARING NOTES, SEE SHEET 32/79.
2. THE BLOCKOUT DIMENSIONS ARE BASED ON A 3 ½" PVC PIPE THAT IS WRAPPED IN HIGH GRADE BUBBLE BUBBLE WRAP WITH ½" BUBBLES THAT WILL BE REMOVED AFTER THE CONCRETE HAS SET.

DESIGN AGENCY
PRIME AE
540 WHITE POND DR. SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

FIXED BEARING DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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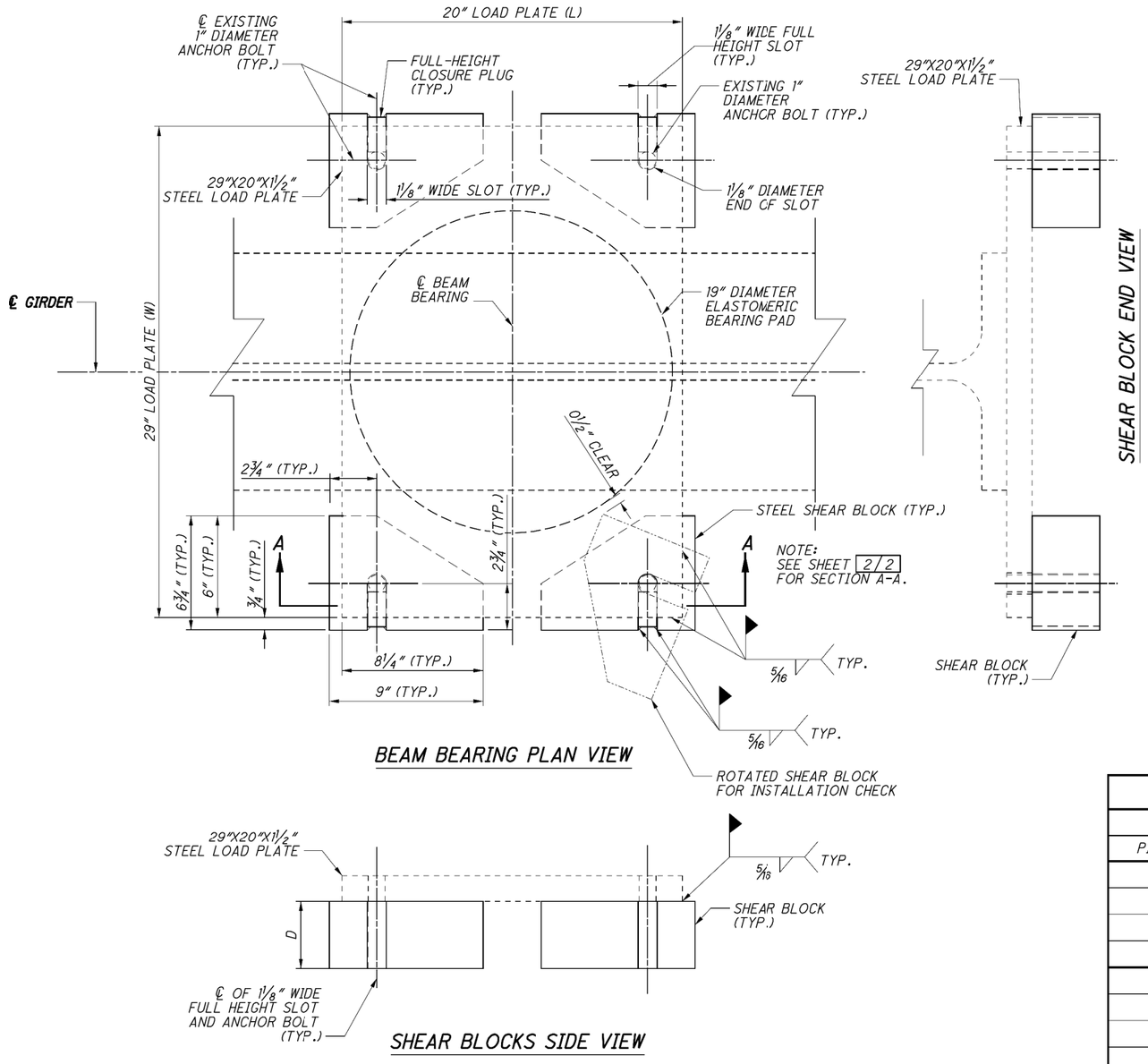

PROPOSED WORK

THE PURPOSE OF THESE PLANS IS IN RESPONSE TO RFI 123 1908S. THESE PLANS ARE FOR THE FABRICATION AND INSTALLATION OF STEEL SHEAR BLOCKS AROUND THE BEAM ANCHOR BOLTS AT PIERS 1, 3, AND 4.

QUANTITIES

16 EACH - 2" TALL SHEAR BLOCKS AND PLUGS FOR PIER 1
16 EACH - 4.25" TALL SHEAR BLOCKS AND PLUGS FOR PIER 3
16 EACH - 3.75" TALL SHEAR BLOCKS AND PLUGS FOR PIER 4

GENERAL NOTES:

1. ALL ANCHOR BOLTS WERE FIELD MEASURED AND ARE 1 INCH DIAMETER.

2. THE MEASURED ANCHOR BOLT DRIFT CAN BE IN ANY DIRECTION, THEREFORE, THE 1⅛" WIDE FULL-HEIGHT SLOT AND THE FULL-HEIGHT PLUG WILL NEED TO BE ADJUSTED TO FIT IN THE FIELD BY A COMBINATION OF GRINDING AND WELD FILLER. THE INSIDE OF THE PLUG SHALL TOUCH THE BOLT FOR SNUG FIT. EACH SHEAR BLOCK SHALL BE DELIVERED TO THE FIELD GALVANIZED AND WITH THE FULL-HEIGHT SLOT CUT ASSUMING A PLUMB ANCHOR BOLT.

3. MATERIAL OF THE SHEAR BLOCKS AND FULL-HEIGHT PLUGS SHALL BE GALVANIZED A709 GRADE 50 STEEL. WELDING MATERIAL SHALL BE PER CMS 711.08. WELDING SHALL FOLLOW THE AMERICAN WELDING SOCIETY (AWS BRIDGE WELDING CODE), THE SPECIFICATIONS OF THE EXISTING BRIDGE AND CMS 513.21. GALVANIZING SHALL BE PER ASTM A 123. GALVANIZING SHALL BE REPAIRED AFTER WELDING OF SHEAR BLOCKS WITH GALVANIZING PAINT PER CMS 711.02.

4. CONTROL THE FIELD WELDING ON EXISTING ELASTOMERIC BEARING LOAD PLATES SO THAT THE TEMPERATURE OF THE ELASTOMER DOES NOT EXCEED 300°F.

SHEAR BLOCK SCHEDULE

LOCATION		HEIGHT OF BEARING PAD (MEASURED IN FIELD)	HEIGHT OF SHEAR BLOCK DIMENSION "D"	ANCHOR BOLT DRIFT (FIELD MEASURED (IN./ 6 IN.))
PIER	GIRDER			
1	G4	2.55"	2.00"	0"
1	G3	2.55"	2.00"	0"
1	G2	2.55"	2.00"	0"
1	G1	2.55"	2.00"	0"
3	G4	4.85"	4.25"	0.125"
3	G3	4.85"	4.25"	0.125"
3	G2	4.85"	4.25"	0.125"
3	G1	4.85"	4.25"	0.125"
4	G4	4.27"	3.75"	0.125"
4	G3	4.27"	3.75"	0.480"
4	G2	4.27"	3.75"	0.125"
4	G1	4.27"	3.75"	0.360"

STATE OF OHIO
BRADLEY T. JONES
E-65081
REGISTERED
PROFESSIONAL ENGINEER
SIGNED
DATE: 6-6-2022

NOTE: THIS PLAN IS THE PRIME AE RESPONSE TO RFI 123 1908S

DESIGN AGENCY
PRIME AE
540 WEST POINT PARK, SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
BTJ	BTJ	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AMT		3109798	

SHEAR BLOCK RETROFIT AT PIER 1, 3, AND 4 (A)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

35A 79

35A 79

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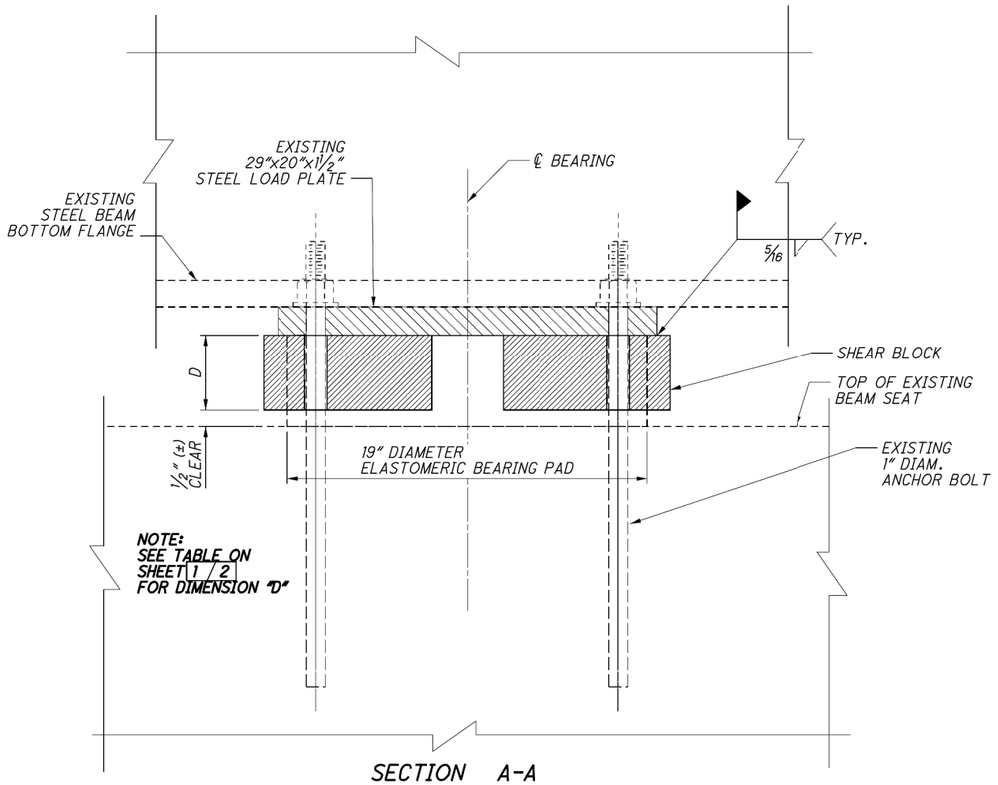
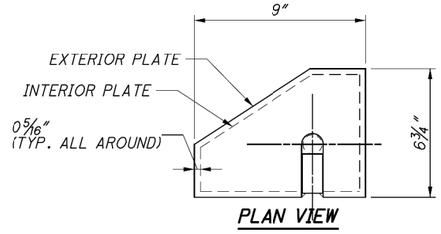
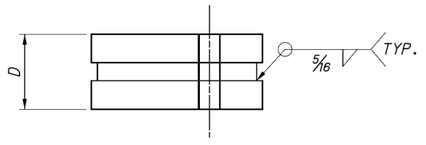


SECTION A-A



PLAN VIEW

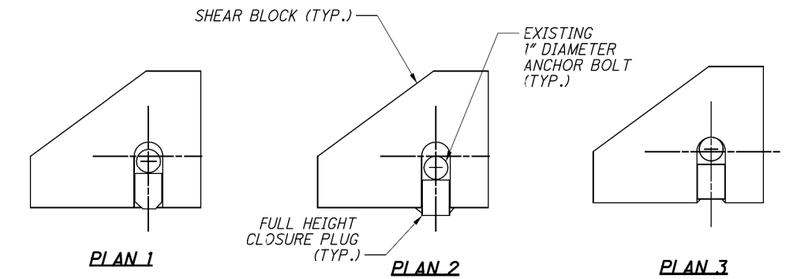


ELEVATION

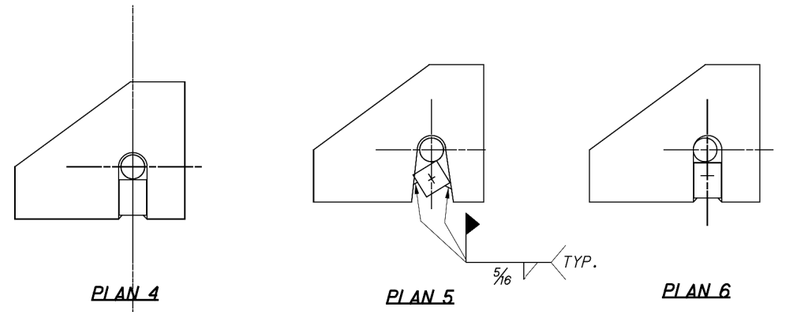
NOTES:

1. DETAIL SHOWN IS APPLICABLE FOR THREE PLATE SHEAR BLOCKS ONLY - TWO THICKER AND ONE THINNER. THE THICKER PLATES SHALL BE EXTERIOR PLATES.
2. SEE SHEET 35A/79 FOR THE REQUIRED DIMENSION D.

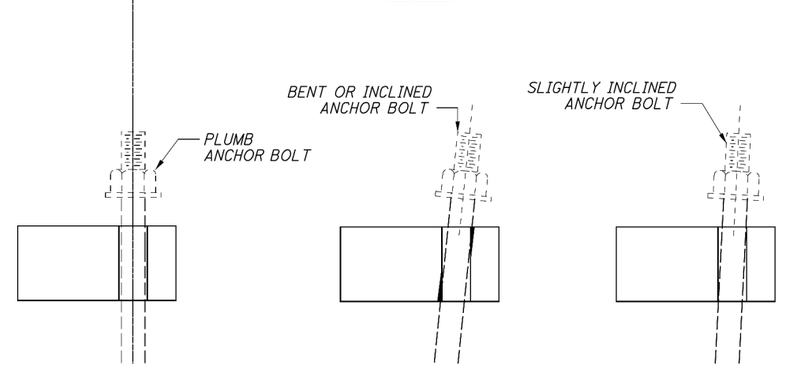
BUILT-UP PLATE ALTERNATIVE DETAIL



PLAN 1 | PLAN 2 | PLAN 3



PLAN 4 | PLAN 5 | PLAN 6



ALIGNMENT A | ALIGNMENT B | ALIGNMENT C

POSSIBLE BOLT ALIGNMENT ISSUES AND CLOSURE PLUG WELDING

THE ABOVE DETAILS INDICATE SOME POSSIBLE SCENARIOS WHEN INSTALLING THE SHEAR BLOCKS ON BENT OR MISSALIGNED ANCHOR BOLTS. DO NOT ADJUST THE EXISTING ANCHOR BOLTS IN ANY WAY. THE SHEAR BLOCK SHALL FULLY ENVELOP THE BOLT AND ENGAGE WITH A SNUG FIT. THE DETAIL NAMES ARE GIVEN FOR REFERENCE ONLY.

STATE OF OHIO
BRADLEY T. JONES
E-65081
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Bradley T. Jones
DATE: 6-6-2022

NOTE: THIS PLAN IS THE PRIME AE RESPONSE TO RFI 123 1908S

DESIGN AGENCY
PRIME AE
540 METROPOOL DR, SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
BTJ	BTJ	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AMT		3109798	

SHEAR BLOCK RETROFIT AT PIER 1, 3, AND 4 (B)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

35B / 79

35B
79

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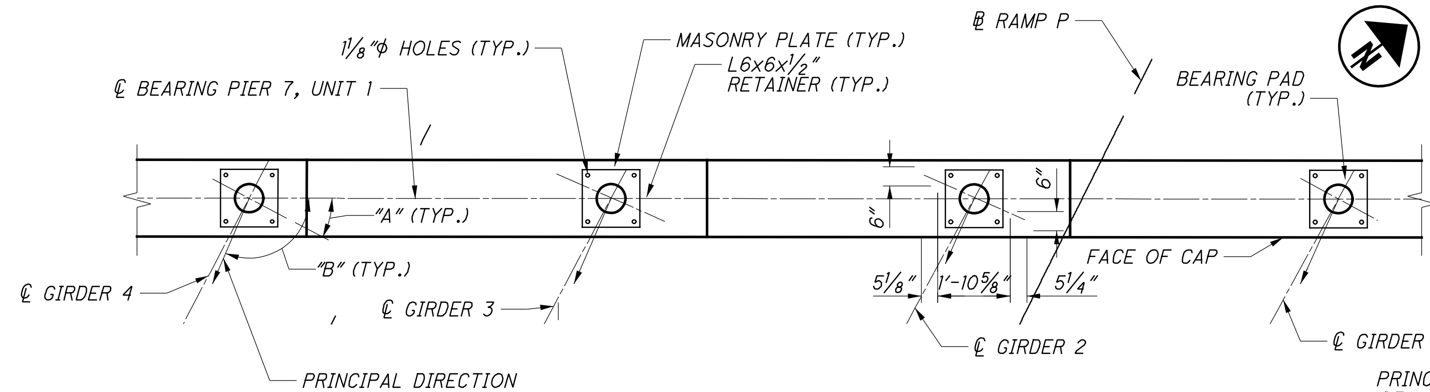
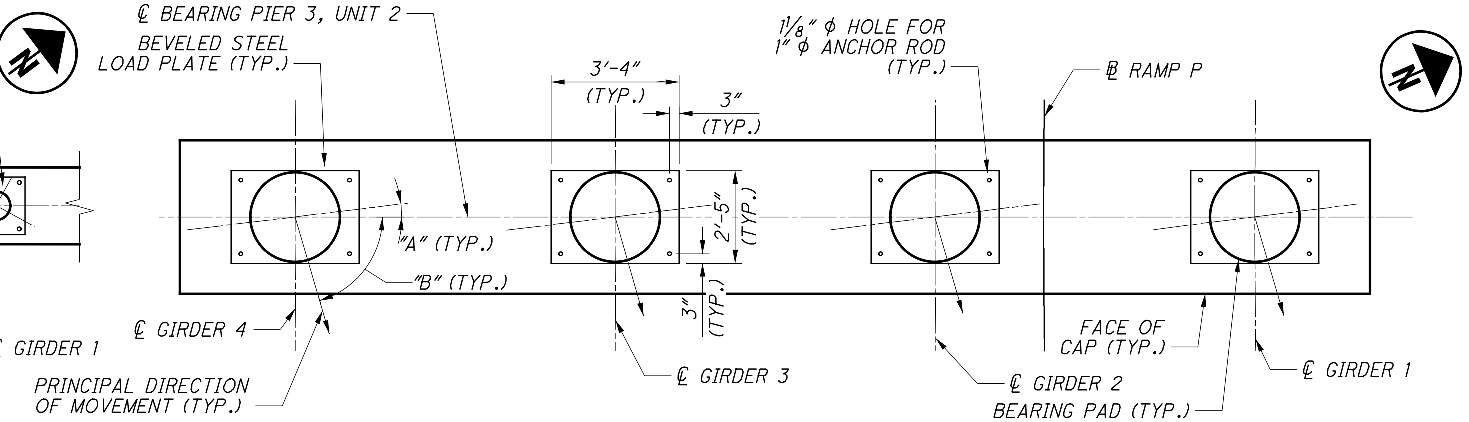
BEARING ORIENTATION DETAILS

BRIDGE NO. HAM-74-1908S

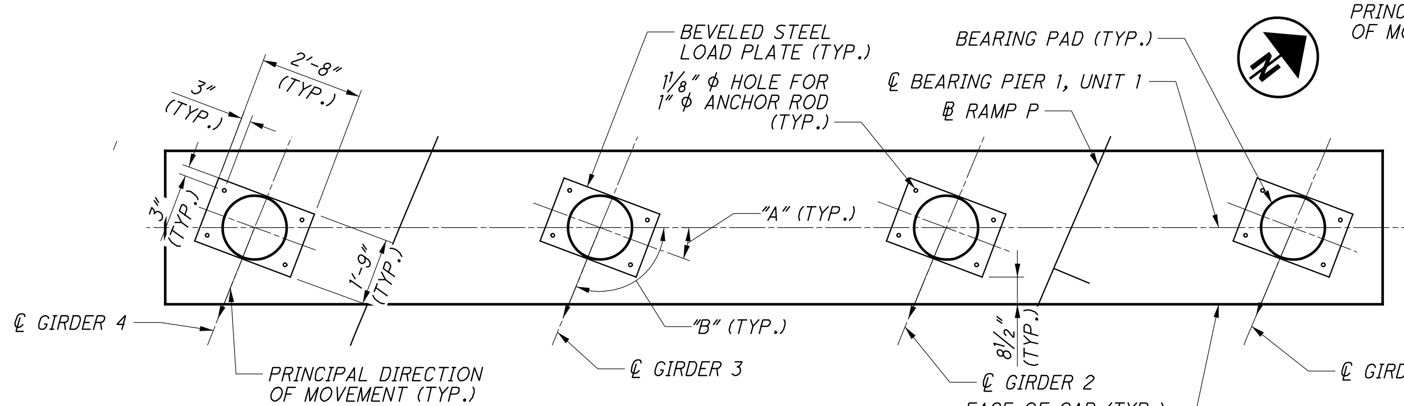
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E



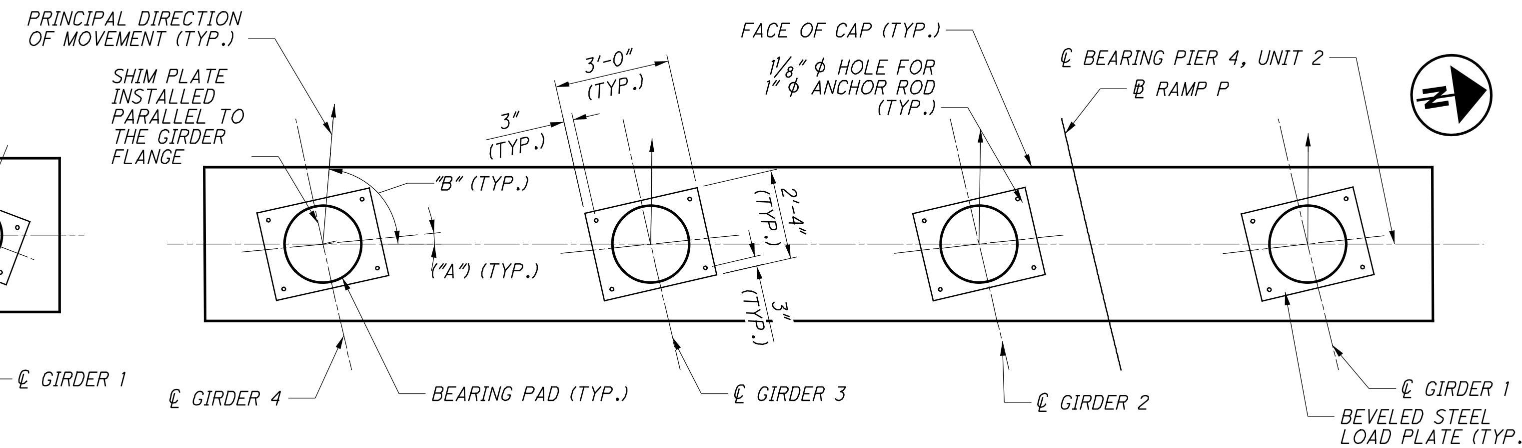
EXISTING PIER 7 UNIT 1 (EXP.)



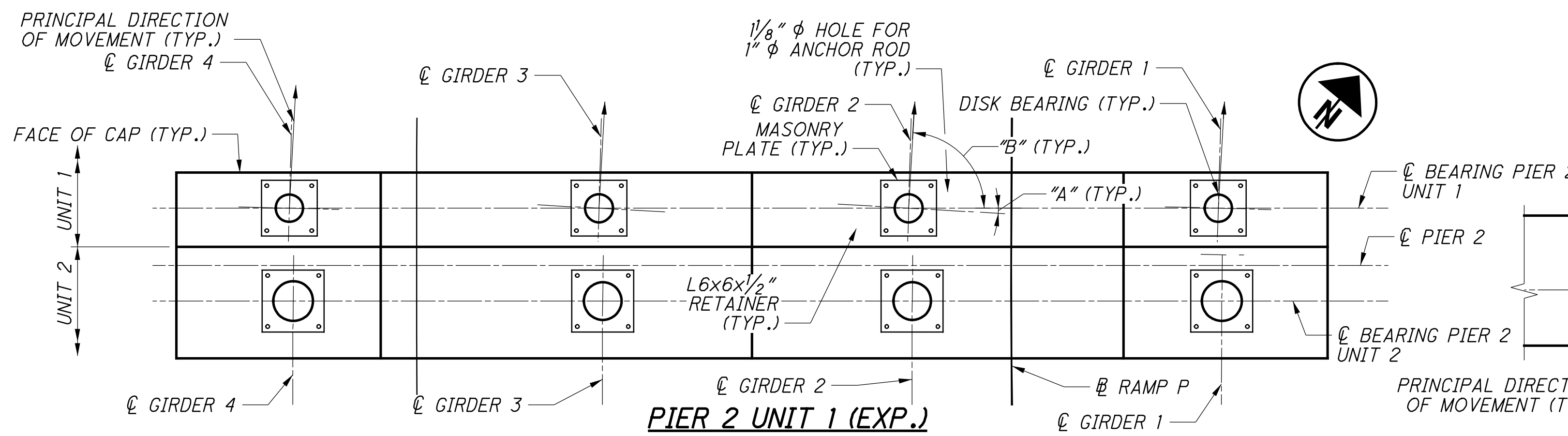
PIER 3 UNIT 2 (FIXED)



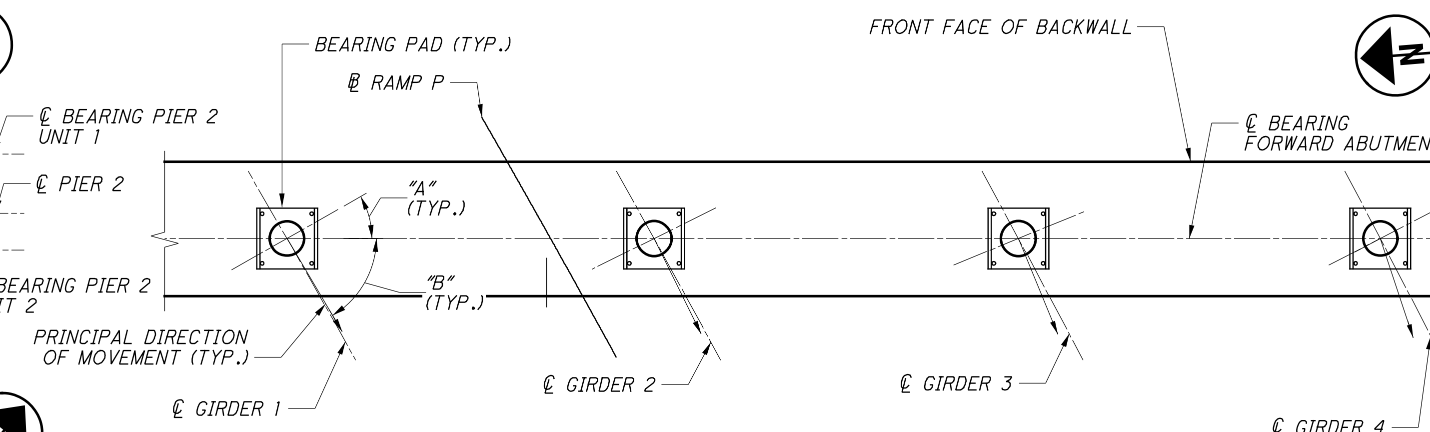
PIER 1 UNIT 1 (FIXED)



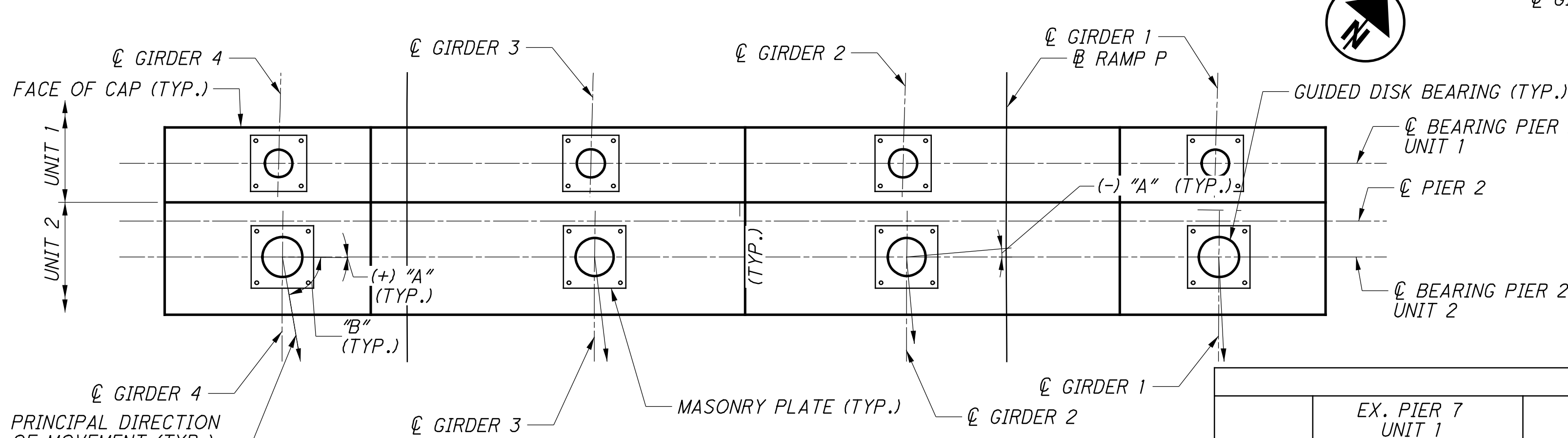
PIER 4 UNIT 2 (FIXED)



PIER 2 UNIT 1 (EXP.)



FORWARD ABUTMENT (EXP.)



PIER 2 UNIT 2 (EXP.)

NOTES

1. FOR BEARING DETAILS, SEE SHEETS 32/79 THRU 35/79.

BEARING ANGLES

LOCATION	EX. PIER 7 UNIT 1 "A"	EX. PIER 7 UNIT 1 "B"	PIER 1 UNIT 1 "A"	PIER 1 UNIT 1 "B"	PIER 2 UNIT 1 "A"	PIER 2 UNIT 1 "B"	PIER 2 UNIT 2 "A"	PIER 2 UNIT 2 "B"	PIER 3 UNIT 2 "A"	PIER 3 UNIT 2 "B"	PIER 4 UNIT 2 "A"	PIER 4 UNIT 2 "B"	FORDWARD ABUT. UNIT 2 "A"	FORDWARD ABUT. UNIT 2 "B"
GIRDER 1	28°47'05"	113°56'25"	20°56'07"	112°48'34"	01°33'03"	86°38'50"	00°26'13"	87°09'53"	07°10'29"	73°38'43"	06°20'48"	89°50'14"	29°34'58"	59°20'06"
GIRDER 2	23°40'42"	113°40'42"	20°43'02"	112°31'32"	03°16'06"	86°43'54"	-04°56'46"	85°03'14"	07°05'30"	73°56'29"	06°05'50"	89°09'09"	26°15'08"	63°44'52"
GIRDER 3	23°25'24"	113°25'24"	20°30'17"	112°14'50"	03°11'09"	86°48'51"	-06°53'39"	83°06'21"	07°00'45"	73°54'47"	05°51'35"	89°24'25"	22°14'41"	67°45'19"
GIRDER 4	27°42'17"	113°10'30"	20°17'51"	111°58'33"	01°28'58"	86°53'40"	00°24'53"	80°13'24"	06°55'59"	73°39'26"	05°37'46"	85°18'35"	27°26'59"	71°34'03"

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

HAM-75-3.84
PID No. 104667

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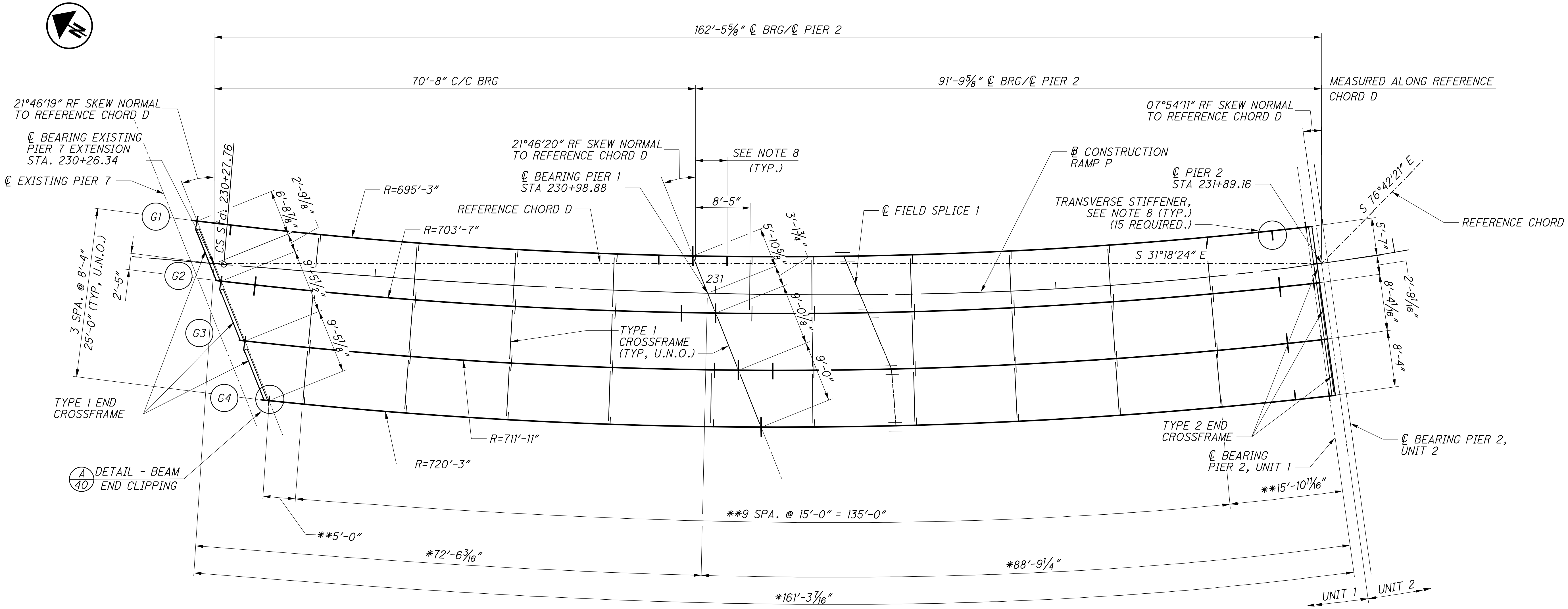

FRAMING PLAN - UNIT 1

LEGEND:

* - DIMENSIONS SHOWN ARE MEASURED ALONG ℗ CONSTRUCTION RAMP P

** - MEASURED ALONG ℄ GIRDER 4

| - TRANSVERSE STIFFENER

NOTES:

1. ALL CROSSFRAMES ARE TYPE 1, UNLESS NOTED OTHERWISE.
2. ALL CROSSFRAMES ARE RADIALLY CONNECTED.
3. ALL STEEL SHALL BE ASTM A709, GRADE 50W, Fy = 50 KSI (CVN).
4. FOR UNIT 2 FRAMING PLAN, SEE SHEET 42/79.
5. FOR GIRDER ELEVATION, SEE SHEET 38/79.
6. FOR CROSSFRAME AND SPLICE DETAILS, SEE SHEET 39/79.
7. PARTIAL PAINTING OF A709, GRADE 50W STEEL: PAINT THE OUTSIDE FASCIA GIRDER AND BOTTOM FLANGE IZEU FEDERAL COLOR 595B-34058 (DARK GREEN). ANY BOLTED CONNECTIONS ON THE FASCIA GIRDER WILL BE PAINTED ON ALL SIDES OF THE STEEL WITHIN THE BOLTED AREA. ALL INTERNAL BEAM/GIRDER LINES INCLUDING CROSS FRAMES, SCUPPERS, BEARINGS AND OTHER STEEL WITHIN 10 FEET OF A SUBSTRUCTURE UNIT WILL BE PAINTED. THE PRIME COAT SHALL BE 708.01. THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B-20045 OR 20059 (THE COLOR OF WEATHERING STEEL).
8. INTERMEDIATE STIFFNERS SHALL BE LOCATED 5'-0" FROM ℄ SUBSTRUCTURE BEARING, PERPENDICULAR TO GIRDER.
9. FOR GENERAL NOTES, SEE SHEETS 7/79 AND 8/79.

DESIGN AGENCY PRIME 540 WHITE POND DR., SUITE E AKRON, OH 44320

REVIEWED	DATE
TES	8/22/2019
STRUCTURE FILE NUMBER	
3109798	

DESIGNED	DRAWN	REVIEWED
CRG	ADS	TES
CHECKED	REVISED	
KDC		

FRAMING PLAN - UNIT 1
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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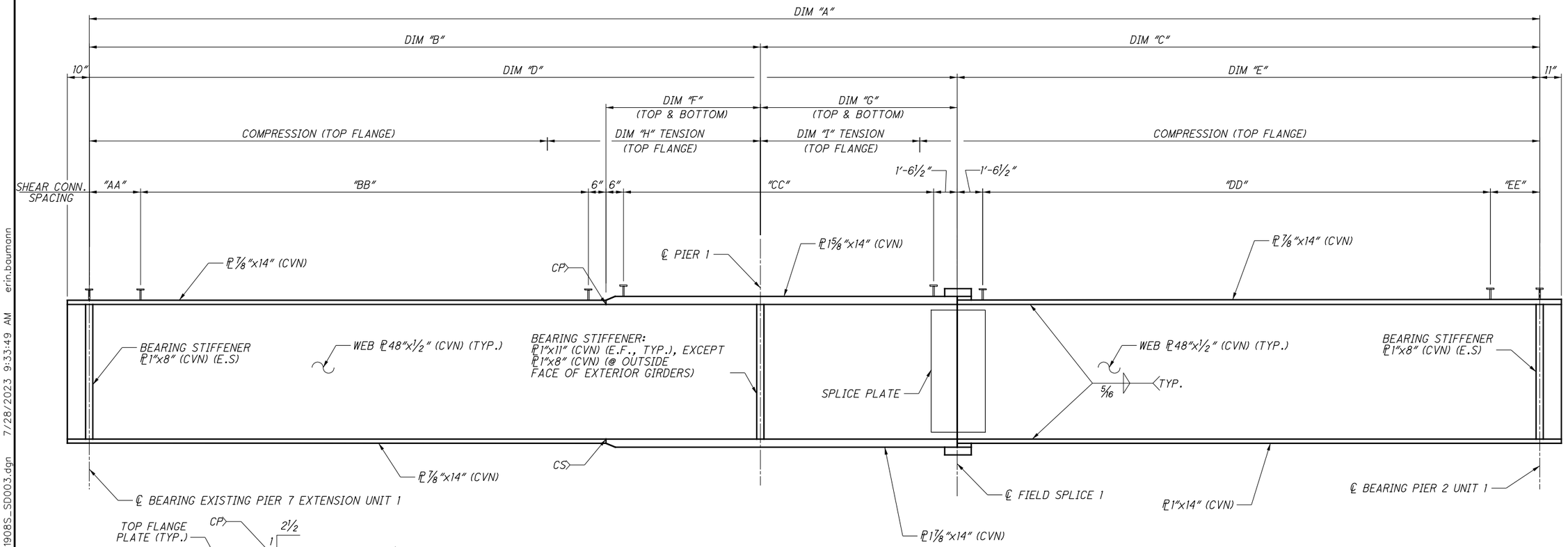

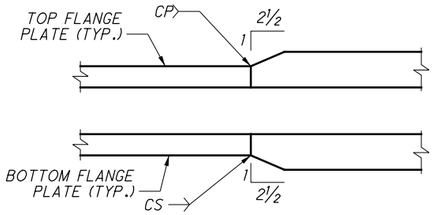

GIRDER FLANGE THICKNESS TRANSITION DETAIL

GIRDER ELEVATION - UNIT 1

(DIMENSIONS SHOWN ARE MEASURED ALONG ℄ OF GIRDER)
(INTERMEDIATE STIFFNERS NOT SHOWN)

GIRDER DIMENSIONS										
		SPAN LENGTHS			SEGMENT LENGTHS		DIMS. AT PIERS		TOP FLANGE TENSION AREAS	
GIRDER	RADIUS	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "I"
G1	695'-3"	163'-0 5/8"	72'-11 3/16"	90'-1 1/16"	95'-0"	68'-0 5/8"	15'-11 3/16"	22'-0 13/16"	27'-3 3/8"	20'-8 1/2"
G2	703'-7"	160'-7 3/4"	72'-8 3/4"	87'-11"	95'-0"	65'-7 13/16"	15'-8 13/16"	22'-3 3/16"	28'-4 1/16"	19'-8 1/2"
G3	711'-11"	158'-3 1/8"	72'-6 1/16"	85'-8 11/16"	95'-0"	63'-3 1/8"	15'-6 1/16"	22'-5 9/16"	29'-3 9/16"	19'-0 3/8"
G4	720'-3"	155'-10 11/16"	72'-4 1/4"	83'-6 7/16"	92'-1 11/16"	63'-9"	15'-2 9/16"	19'-9 7/16"	29'-7"	18'-10 1/16"

SHEAR CONNECTOR SPACING					
GIRDER	"AA"	"BB"	"CC"	"DD"	"EE"
G1	10 SPA. @ 9" = 7'-6"	49 SPA. @ 12" = 49'-0"	40 SPA. @ 10 7/8" (-) = 35'-11½"	57 SPA. @ 12" = 57'-0"	13 SPA. @ 9 1/8" = 9'-10 5/8"
G2	9 SPA. @ 10" = 7'-6"	49 SPA. @ 12" = 49'-0"	37 SPA. @ 11 5/8" (+) = 35'-11½"	63 SPA @ 12" = 63'-0"	2 SPA. @ 8 1/8" (+) = 1'-5 3/16"
G3	9 SPA. @ 10" = 7'-6"	49 SPA. @ 12" = 49'-0"	37 SPA. @ 11 5/8 (+) = 35'-11½"	60 SPA @ 12" = 60'-0"	2 SPA. @ 12½" (+) = 2'-1 1/8"
G4	9 SPA. @ 10" = 7'-6"	49 SPA. @ 12" (+) = 49'-1 11/16"	37 SPA @ 10 5/8" (+) = 32'-11½"	54 SPA @ 12" = 54'-0"	11 SPA. @ 9½" (-) = 8'-7"

NOTES:

1. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50W, UNLESS NOTED OTHERWISE.
2. FOR GIRDER WEBS, FLANGES, BEARING AND INTERMEDIATE STIFFNERS, CROSSFRAMES AND SPLICES, FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN ITEM 711.01.
3. THE GIRDER ENDS AND ALL BEARING STIFFENERS SHALL BE VERTICAL UNDER STEEL DEAD LOAD (CMS 513.13). INTERIOR CROSS FRAMES AND FIELD SPLICES MAY BE NORMAL TO GRADE.
4. BOLTS USED FOR SPLICES SHALL BE ASTM A325, TYPE 3 HIGH STRENGTH BOLTS. ALL OTHER BOLTS SHALL BE ASTM A490, TYPE 3 HIGH STRENGTH BOLTS.
5. FOR UNIT 1 FRAMING PLAN, SEE SHEET 37/79 .
6. THE OPENING BETWEEN GIRDER ENDS AFTER ASSEMBLY SHALL NOT EXCEED ¼". FOR SPLICE DETAILS, SEE SHEET 39/79.
7. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESS UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.
8. WHERE A WELDED BUTT JOINT IS DESIGNATED CP, THE WELD SHALL BE COMPLETE PENETRATION. WELD REINFORCEMENT SHALL BE REMOVED BY GRINDING IN THE DIRECTION OF THE MAIN STRESS.
9. WHERE A WELDED BUTT JOINT WELD IS DESIGNATED CS, THE WELD IS SUBJECT TO COMPRESSIVE STRESS ONLY.
10. SHEAR STUD CONNECTORS SHALL BE WELDED PER ITEM 512.22.
11. FOR DEFLECTIONS AND CAMBER DIAGRAM(S), SEE SHEET 41/79.
12. FOR ADDITIONAL NOTES, SEE SHEET 37/79.
13. CROSS FRAMES SHALL BE DETAILED TO FIT IN THE STEEL DEAD LOAD CONDITION (CMS 513.26).
14. THREADED STUDS WELDED AT 50' INCREMENT FOR HORIZONTAL LIFELINE.

DESIGN AGENCY
PRIME AE
540 WEST POINT DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	ADS	TES	8/22/2019
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KDC		3109798	

GIRDER ELEVATION DETAILS - UNIT 1
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

38 / 79

38
79

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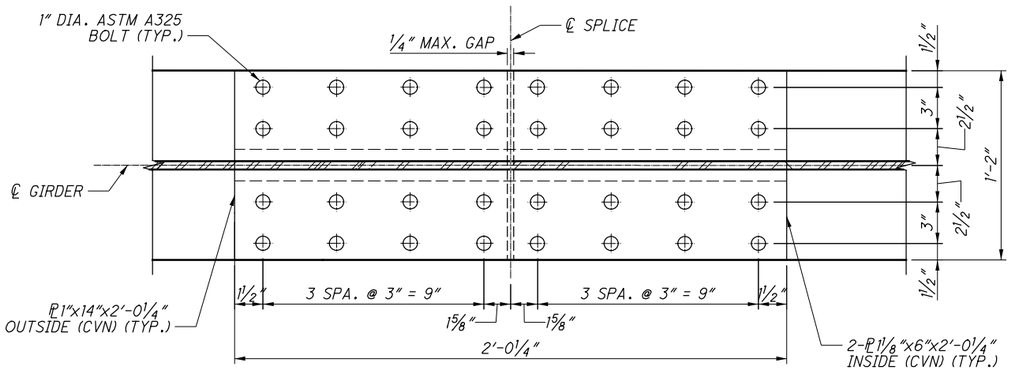
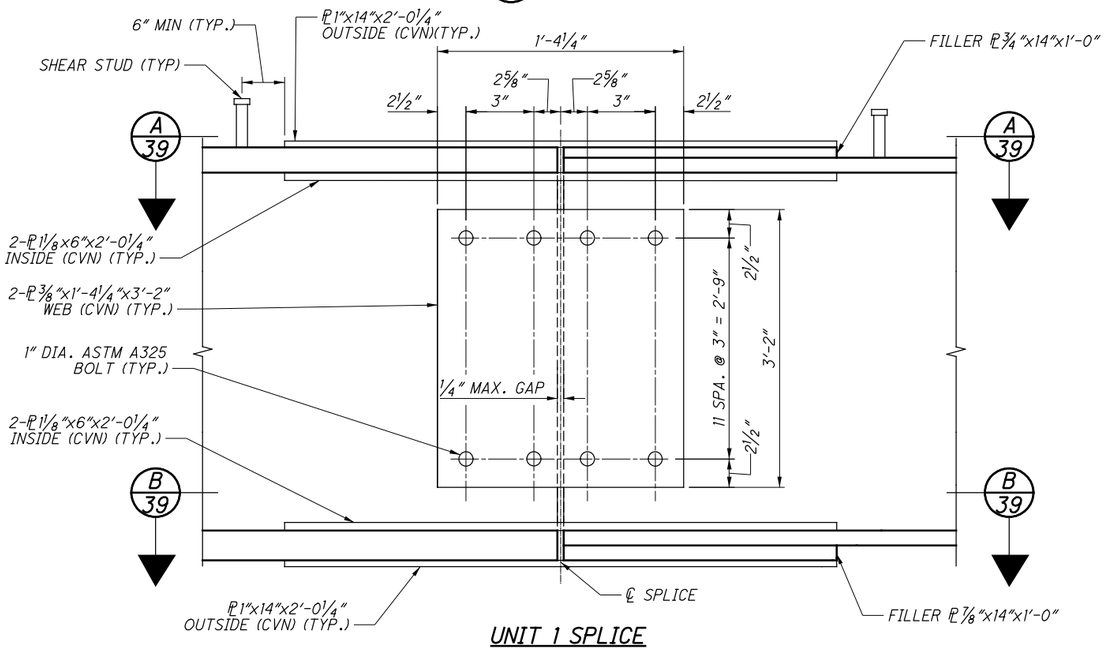
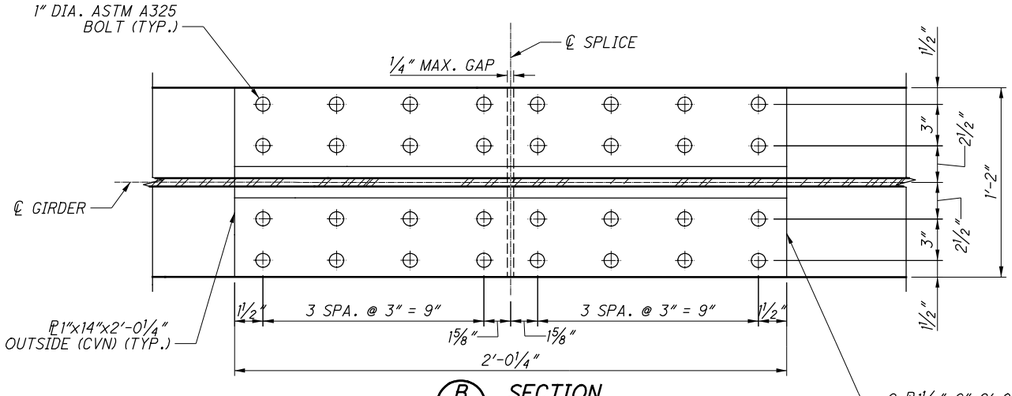


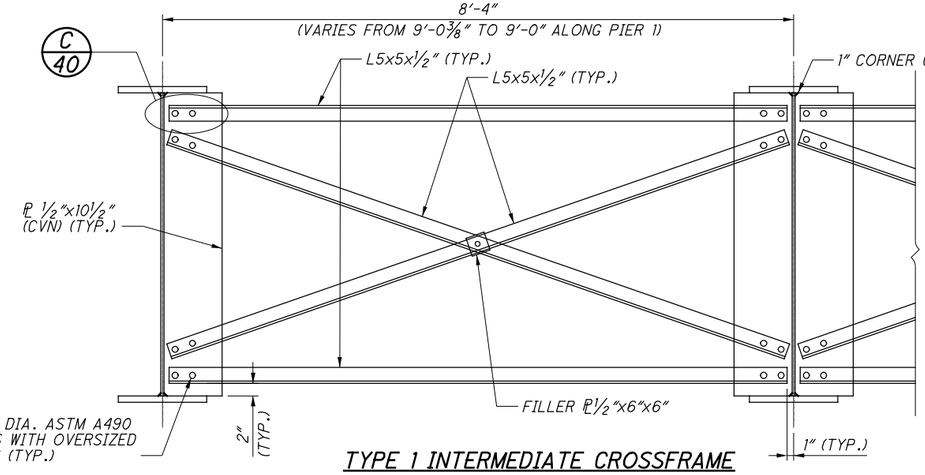
A/39 SECTION



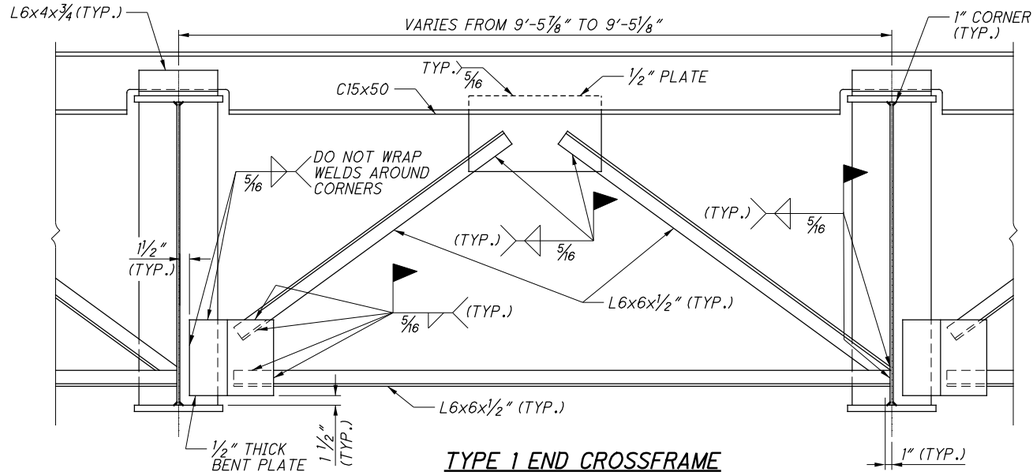
UNIT 1 SPLICE



B/39 SECTION

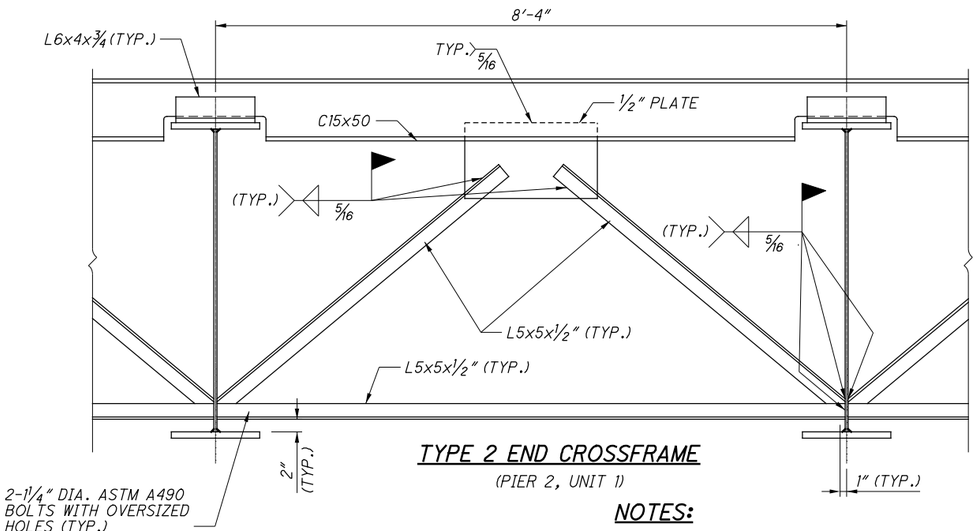


TYPE 1 INTERMEDIATE CROSSFRAME



TYPE 1 END CROSSFRAME

(EX. PIER 7, UNIT 1)



TYPE 2 END CROSSFRAME

(PIER 2, UNIT 1)

NOTES:

1. FOR NOTES, SEE SHEETS 37/79 AND 38/79.
2. FOR ADDITIONAL END FRAME DETAILS, SEE GSD-1-96.

DESIGN AGENCY
PRIME AE
540 WHITE POND DR. SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
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KDC		3109798	

STEEL DETAILS - UNIT 1 (1 OF 2)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

39/79

39/79

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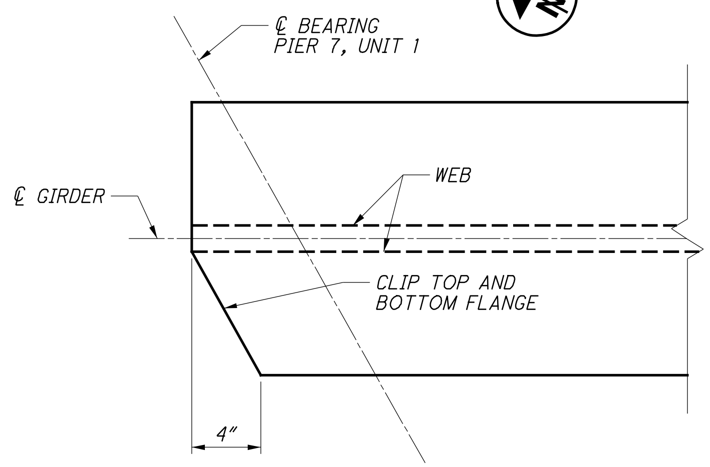
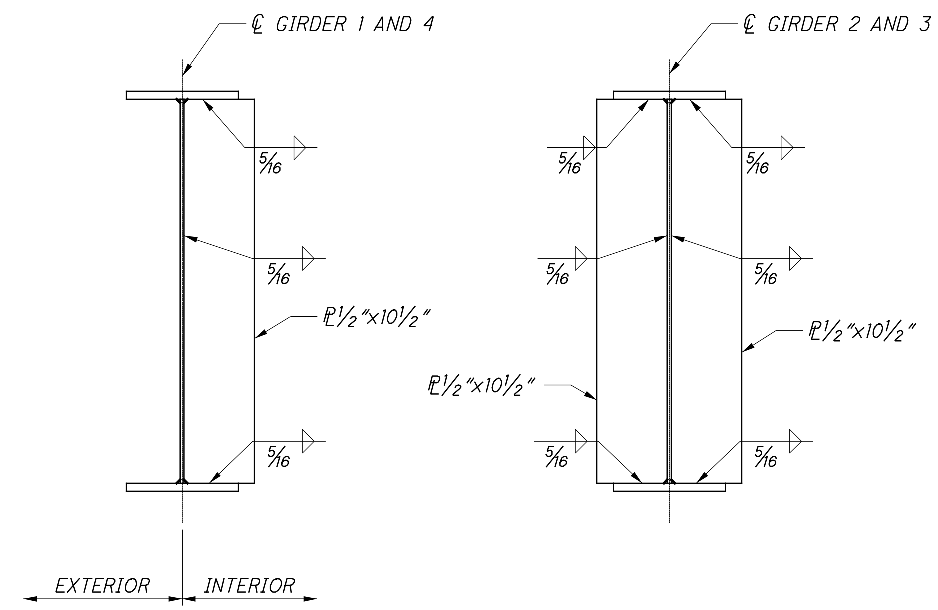


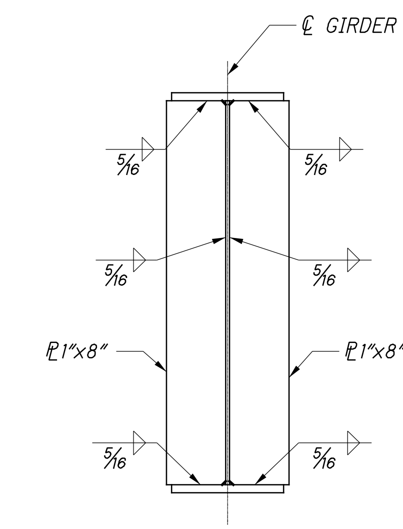
A/37 DETAIL - BEAM END CLIPPING

(TYP. EXISTING PIER 7 EXTENSION)



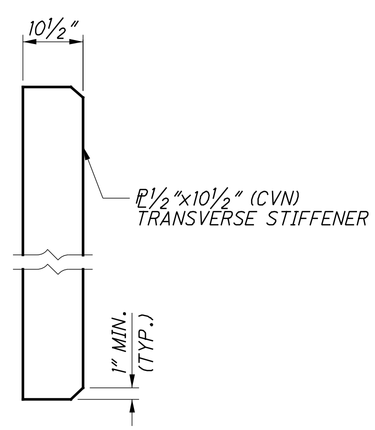
TYPE 1 INTERMEDIATE CROSSFRAME STIFFENERS

(BOLTS NOT SHOWN)

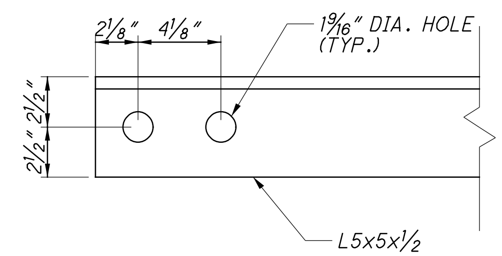


BEARING STIFFENERS

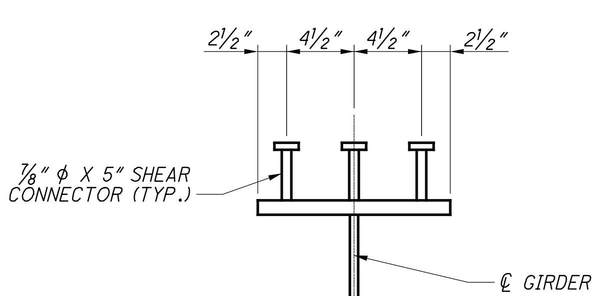
(EX. PIER 7, UNIT 1 SHOWN, OTHERS SIMILAR)



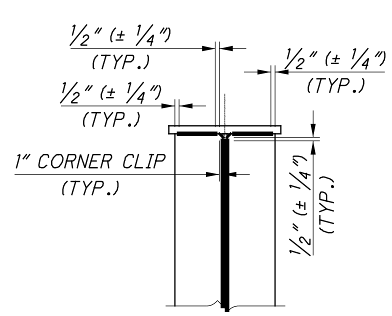
TRANSVERSE STIFFENER DETAIL



C/39,48 DETAIL- TYPE 1 & 2 BOLT HOLE LOCATIONS (TYP.)



SHEAR CONNECTOR DETAIL



WELD TERMINATION DETAIL

NOTE:

1. FOR CROSSFRAME DETAILS, SEE SHEET 39/79 .
2. FOR CROSSFRAME NOTES, SEE SHEETS 37/79 AND 38/79.
3. BOLT HOLE LOCATIONS IN THE TRANSVERSE STIFFENERS WILL BE DETERMINED BY THE FABRICATOR AND VERIFIED THROUGH THE SHOP DRAWING REVIEW PROCESS BY THE ENGINEER PRIOR TO FABRICATION

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
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STEEL DETAILS - UNIT 1 (2 OF 2)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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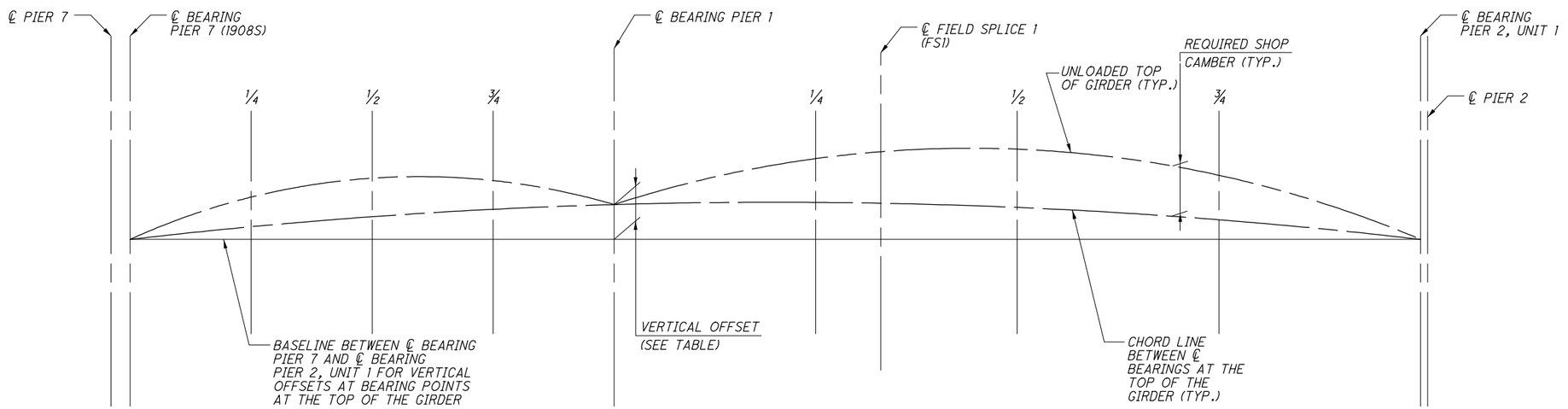

CAMBER DIAGRAM - UNIT 1

DEFLECTION AND CAMBER (INCHES) - GIRDER 1										
	℄ BRG. PIER 7	1/4 POINT	1/2 POINT	3/4 POINT	℄ BRG. PIER 1	1/4 POINT	FS1	1/2 POINT	3/4 POINT	℄ BRG. PIER 2
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/16"	1/16"	-0 "	0"	1/8"	1/8"	3/16"	3/16"	0 "
DEFLECTION DUE TO REMAINING DL	0"	5/16"	1/4"	0 "	0"	5/8"	5/8"	1 1/4"	1 "	0 "
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	- 5/8"	- 7/8"	- 11/16"	0"	-1 3/16"	-1 3/16"	-1 11/16"	-1 5/16"	0"
REQUIRED SHOP CAMBER	0"	- 1/4"	- 9/16"	- 11/16"	0"	- 7/16"	- 7/16"	- 1/4"	- 1/8"	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER 2										
	℄ BRG. PIER 7	1/4 POINT	1/2 POINT	3/4 POINT	℄ BRG. PIER 1	1/4 POINT	FS1	1/2 POINT	3/4 POINT	℄ BRG. PIER 2
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/16"	1/16"	-0 "	0"	1/8"	1/8"	3/16"	3/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	1/4"	1/4"	0 "	0"	9/16"	9/16"	1 3/16"	15/16"	0"
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	- 5/8"	- 13/16"	- 5/8"	0"	-1 1/8"	-1 1/8"	-1 9/16"	-1 3/16"	0"
REQUIRED SHOP CAMBER	0"	- 5/16"	- 1/2"	- 5/8"	0"	- 7/16"	- 7/16"	- 3/16"	- 1/16"	0"

DEFLECTION AND CAMBER (INCHES) -GIRDER 3										
	℄ BRG. PIER 7	1/4 POINT	1/2 POINT	3/4 POINT	℄ BRG. PIER 1	1/4 POINT	FS1	1/2 POINT	3/4 POINT	℄ BRG. PIER 2
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/16"	1/16"	0 "	0"	1/8"	1/8"	3/16"	1/8"	0"
DEFLECTION DUE TO REMAINING DL	0"	1/4"	1/4"	1/16"	0"	9/16"	9/16"	1 1/8"	15/16"	0"
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	- 9/16"	- 3/4"	- 9/16"	0 "	-1 1/16"	-1 1/8"	-1 7/16"	-1 1/8"	0"
REQUIRED SHOP CAMBER	0"	- 1/4"	- 7/16"	- 1/2"	0"	- 3/8"	- 7/16"	- 1/8"	- 1/16"	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER 4										
	℄ BRG. PIER 7	1/4 POINT	1/2 POINT	3/4 POINT	℄ BRG. PIER 1	1/4 POINT	FS1	1/2 POINT	3/4 POINT	℄ BRG. PIER 2
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/16"	1/16"	0 "	0"	1/16"	1/16"	3/16"	1/8"	0"
DEFLECTION DUE TO REMAINING DL	0"	5/16"	5/16"	1/16"	0"	1/2"	1/2"	1 1/16"	7/8"	0"
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	- 3/4"	- 15/16"	- 11/16"	0 "	- 13/16"	- 13/16"	-1 1/16"	- 13/16"	0"
REQUIRED SHOP CAMBER	0"	- 3/8"	- 9/16"	- 5/8"	0"	- 1/4"	- 1/4"	3/16"	3/16"	0"

VERTICAL OFFSET (INCHES)	
	PIER 1
GIRDER 1	- 4 3/4"
GIRDER 2	- 4 7/16"
GIRDER 3	- 4 1/8"
GIRDER 4	- 3 15/16"

NOTES:

1. NEGATIVE VALUES FOR DEFLECTIONS INDICATE DEFLECTIONS UPWARD. NEGATIVE VALUES FOR VERTICAL CURVE ADJUSTMENT AND TOTAL REQUIRED SHOP CAMBER INDICATE VALUES BELOW THE CHORD.
2. DEFLECTIONS AND ADJUSTMENTS FOR VERTICAL CURVES ARE GIVEN TO THE NEAREST 1/16th INCH.
3. FOR GENERAL NOTES, SEE SHEET 7/79 AND 8/79.
4. FOR FRAMING PLAN AND GIRDER DETAILS, SEE SHEETS 37/79 THROUGH 42/79.

DESIGN AGENCY
PRIME AE
540 WHITE POND DR., SUITE E
AKRON, OH 44320

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KDC	KDC	TES	8/22/2019
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CRG		3109798	

CAMBER DIAGRAM AND TABLE - UNIT 1
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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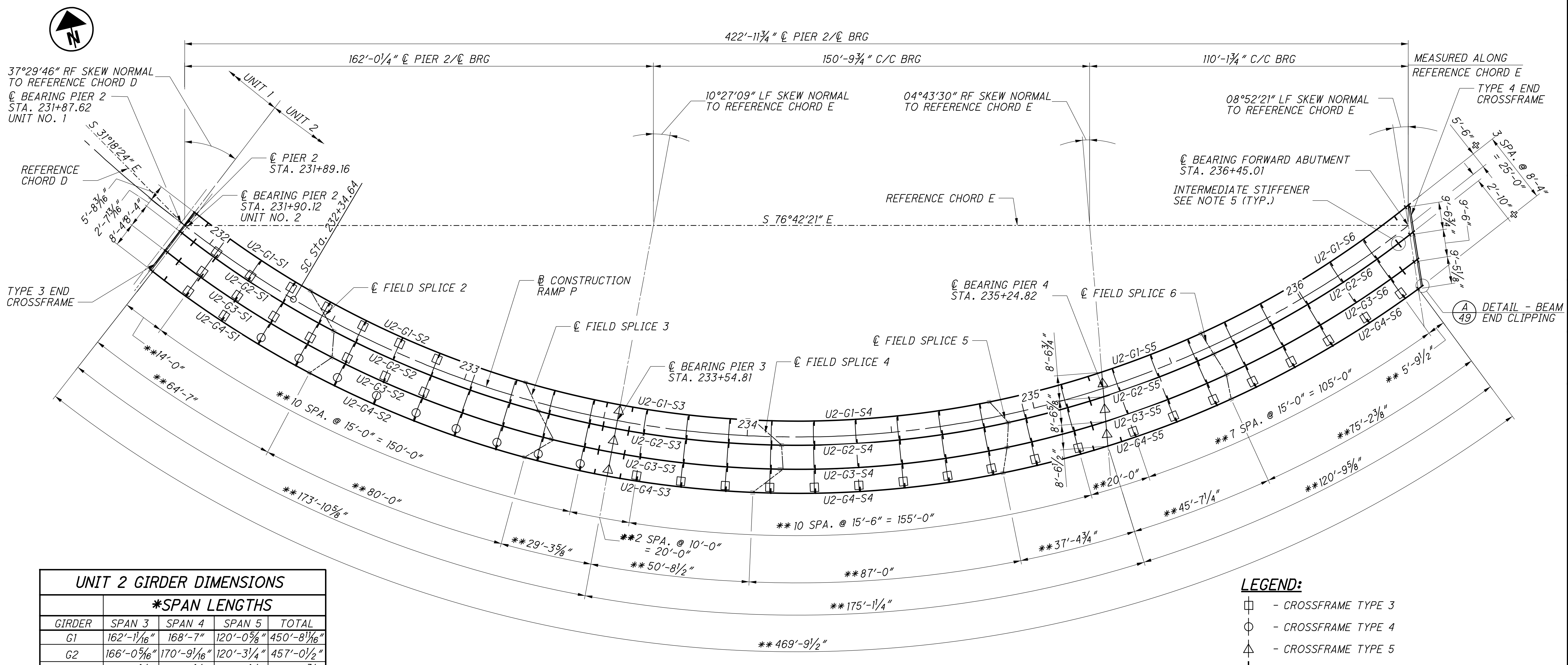


FRAMING PLAN - UNIT 2

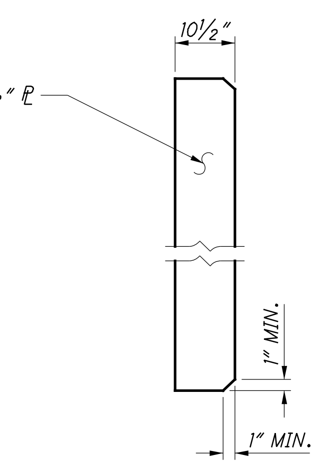
UNIT 2 GIRDER DIMENSIONS

GIRDER	*SPAN LENGTHS SPAN 3	SPAN 4	SPAN 5	TOTAL
G1	162'-1 1/16"	168'-7"	120'-0 5/8"	450'-8 11/16"
G2	166'-0 5/16"	170'-9 1/16"	120'-3 1/4"	457'-0 1/2"
G3	169'-11 1/2"	172'-11 1/8"	120'-6 1/4"	463'-4 7/8"
G4	173'-10 5/8"	175'-1 1/4"	120'-9 5/8"	469'-9 1/2"

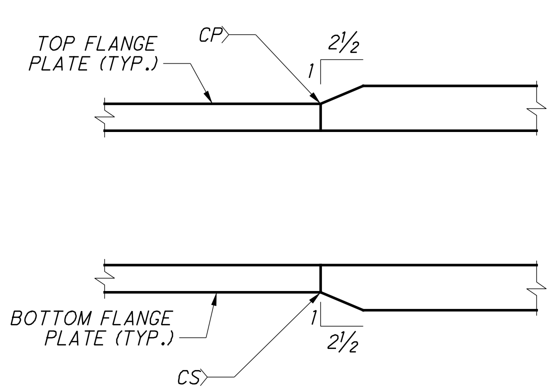
*(DIMENSIONS SHOWN ARE MEASURED ALONG ℄ GIRDER)

LEGEND:

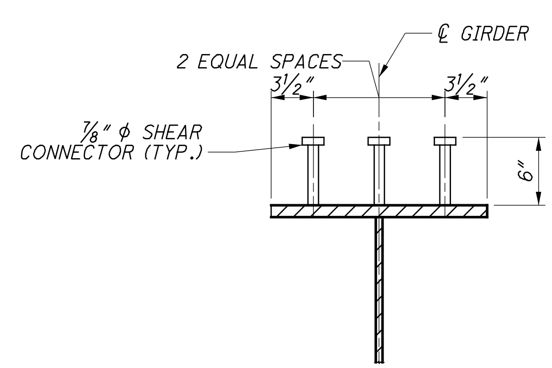
- □ - CROSSFRAME TYPE 3
- ○ - CROSSFRAME TYPE 4
- △ - CROSSFRAME TYPE 5
- | - INTERMEDIATE STIFFENER
- U2-G1-S1 - SPLICE NAME (UNIT 2-GIRDER 1 - SECTION 1) CORRELATING TO GIRDER DIMENSION TABLE
- ** - MEASURED ALONG ℄ GIRDER 4
- ✥ - TYPICAL UNLESS NOTED OTHERWISE



INTERMEDIATE STIFFENER DETAIL



GIRDER FLANGE THICKNESS TRANSITION DETAIL



SHEAR CONNECTOR DETAIL

NOTES:

1. ALL CROSSFRAMES FOR UNIT 2 ARE TYPE 2, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL SPACE CROSSFRAMES TO MAINTAIN 1'-0" CLEAR FROM END OF SPLICE PLATES.
2. ALL CROSSFRAMES ARE RADIALLY CONNECTED.
3. ALL STEEL SHALL BE ASTM A709, GRADE 50W, Fy = 50 KSI (CVN).
4. FOR UNIT 1 FRAMING PLAN, SEE SHEET 37/79.
5. FOR GIRDER ELEVATIONS AND TRANSVERSE STIFFENER LOCATIONS, SEE SHEET 43/79 THRU 45/79.
6. FOR STEEL DETAILS, SEE SHEET 49/79.
7. PARTIAL PAINTING OF A709, GRADE 50W STEEL: PAINT THE OUTSIDE FASCIA GIRDER AND BOTTOM FLANGE IZEU FEDERAL COLOR 595B-34058 (DARK GREEN). ANY BOLTED CONNECTIONS ON THE FASCIA GIRDER WILL BE PAINTED ON ALL SIDES OF THE STEEL WITHIN THE BOLTED AREA. ALL INTERNAL BEAM/GIRDER LINES INCLUDING CROSS FRAMES, SCUPPERS, BEARINGS AND OTHER STEEL WITHIN 10 FEET OF A SUBSTRUCTURE UNIT WILL BE PAINTED. THE PRIME COAT SHALL BE 708.01. THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B-20045 OR 20059 (THE COLOR OF WEATHERING STEEL).

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E AKRON, OH 44320

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KDC		3109798	

FRAMING PLAN - UNIT 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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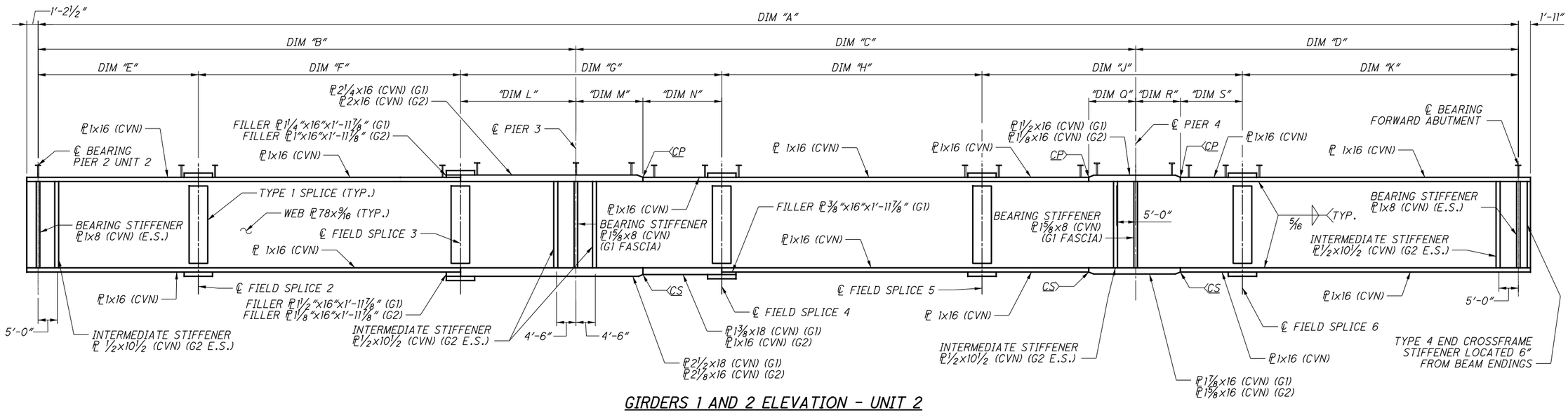
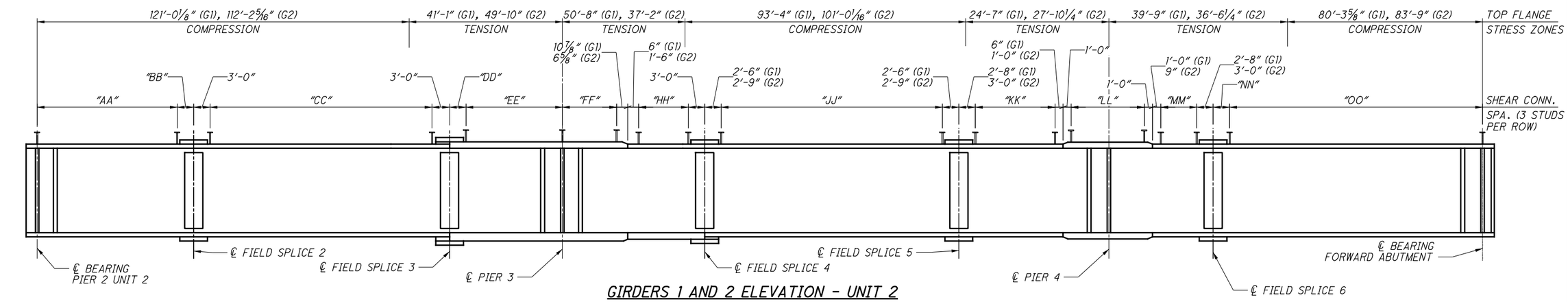


GIRDERS 1 AND 2 ELEVATION - UNIT 2

(DIMENSIONS SHOWN ARE MEASURED ALONG ℄ GIRDER)
(INTERMEDIATE STIFFENERS NOT SHOWN FOR CLARITY)

GIRDER DIMENSIONS																			
		SPAN LENGTHS				SEGMENT LENGTHS						DIMS. AT PIERS							
GIRDER	RADIUS	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	DIM "Q"	DIM "R"	DIM "S"
G1	336'-6¾"	450'-8 1/16"	162'-1 1/16"	168'-7"	120'-0⅝"	47'-5 3/16"	81'-0"	80'-0"	82'-0"	77'-0"	83'-3 3/16"	33'-7 9/16"	20'-4 7/16"	26'-0"	22'-0"	18'-2 9/16"	11'-9 7/16"	25'-0"
G2	344'-10¾"	457'-0½"	166'-0 5/16"	170'-9 1/16"	120'-3¼"	62'-6 15/16"	76'-0"	85'-0"	79'-0"	75'-0"	79'-5 11/16"	27'-5⅜"	21'-6⅝"	36'-0"	25'-0"	9'-2 7/16"	15'-9 9/16"	25'-0"



GIRDERS 1 AND 2 ELEVATION - UNIT 2

(DIMENSIONS SHOWN ARE MEASURED ALONG ℄ GIRDER)
(INTERMEDIATE STIFFENERS NOT SHOWN FOR CLARITY)

SHEAR CONNECTOR SPACING											
GIRDER	"AA"	"BB"	"CC"	"DD"	"EE"	"FF"	"HH"	"JJ"	"KK"	"LL"	"MM"
G1	32 SPA. @ 16⅞" = 45'-0"	2'-5 9/16"	50 SPA. @ 18" = 75'-0"	3'-7 9/16"	20 SPA. @ 18" = 30'-0"	13 SPA. @ 18" = 19'-6"	15 SPA. @ 18" = 22'-6"	52 SPA. @ 18" = 78'-0"	14 SPA. @ 16" = 18'-8"	21 SPA. @ 16" = 28'-0"	16 SPA. @ 16" = 21'-4"
G2	40 SPA. @ 18" = 60'-0"	2'-6 15/16"	56 SPA. @ 15" = 70'-0"	3'-4⅜"	17 SPA. @ 17" = 24'-1"	14 SPA. @ 18" = 21'-0"	21 SPA. @ 18" = 31'-6"	49 SPA. @ 18" = 73'-6"	14 SPA. @ 18" = 21'-0"	23 SPA. @ 12" = 23'-0"	17 SPA. @ 15" = 21'-3"

SHEAR CONNECTOR SPACING		
GIRDER	"NN"	"OO"
G1	3'-3 3/16"	60 SPA. @ 16" = 80'-0"
G2	2'-11 11/16"	51 SPA @ 18" = 76'-6"

NOTES:

1. FOR NOTES AND STEEL DETAILS, SEE SHEET 48/79.
2. FOR FRAMING PLAN, SEE SHEET 42/79.
3. FOR SPLICE DETAILS, SEE SHEET 46/79.
4. THREADED STUDS WELDED AT 50' INCREMENT FOR HORIZONTAL LIFELINE.

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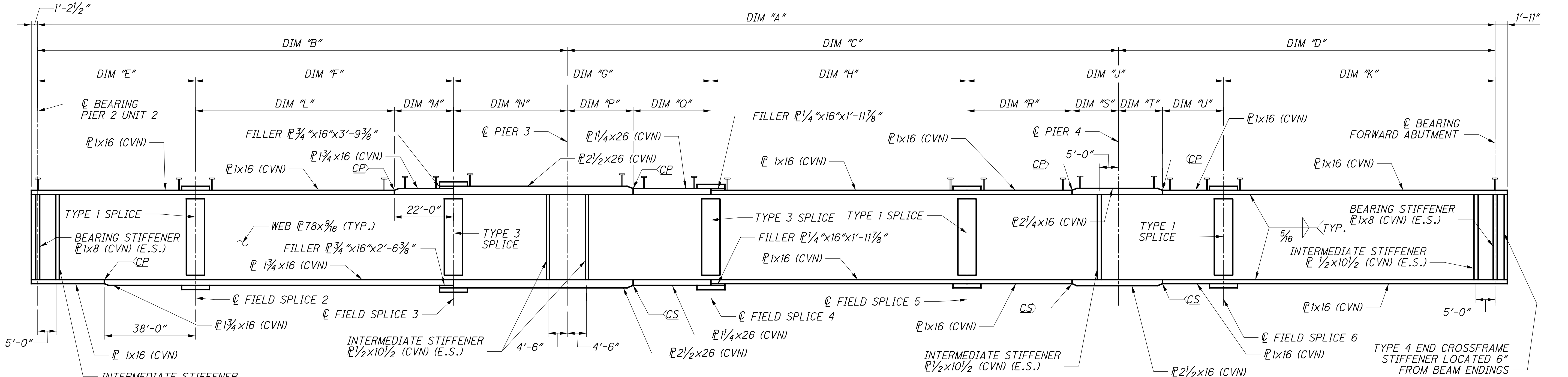
DESIGN AGENCY
PRIME
540 WEST POINT DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	KDC	TES	11/1/2018
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

GIRDER ELEVATION - UNIT 2 (1 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

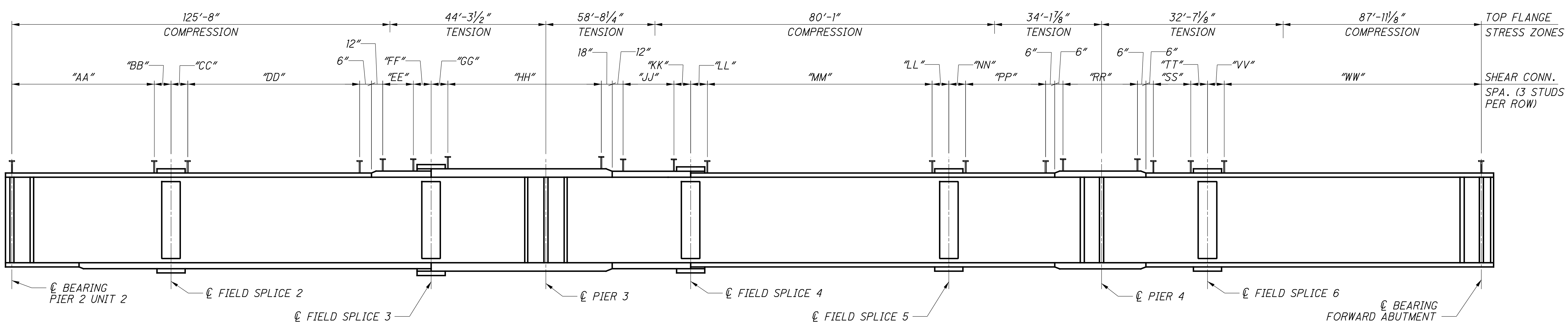
HAM-75-3.84
PID No. 104667



GIRDER 3 ELEVATION - UNIT 2

(DIMENSIONS SHOWN ARE MEASURED ALONG ℄ GIRDER)
(INTERMEDIATE STIFFENERS NOT SHOWN FOR CLARITY)

GIRDER DIMENSIONS																				
		SPAN LENGTHS				SEGMENT LENGTHS						DIMS. AT PIERS								
GIRDER	RADIUS	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	DIM "Q"	DIM "R"	DIM "S"	DIM "T"	DIM "U"
G3	353'-2¾"	463'-4⅞"	169'-11½"	172'-11⅛"	120'-6¼"	67'-7"	82'-0"	80'-0"	78'-0"	80'-0"	75'-9⅞"	60'-0"	22'-0"	20'-4½"	27'-7½"	32'-0"	15'-0"	20'-3⅝"	19'-8⅜"	25'-0"



GIRDER 3 ELEVATION - UNIT 2

(DIMENSIONS SHOWN ARE MEASURED ALONG ℄ GIRDER)
(INTERMEDIATE STIFFENERS NOT SHOWN FOR CLARITY)

SHEAR CONNECTOR SPACING														
GIRDER	"AA"	"BB"	"CC"	"DD"	"EE"	"FF"	"GG"	"HH"	"JJ"	"KK"	"LL"	"MM"	"NN"	"PP"	"RR"
G3	48 SPA. @ 16⅛" = 64'-6"	3'-1"	3'-3"	45 SPA. @ 15" = 56'-3"	14 SPA. @ 14" = 16'-4"	4'-8"	4'-6"	28 SPA. @ 18" = 42'-0"	18 SPA. @ 18" = 27'-0"	4'-0"	3'-0"	48 SPA. @ 18" = 72'-0"	2'-6"	12 SPA. @ 12" = 12'-0"	26 SPA. @ 18" = 39'-0"

SHEAR CONNECTOR SPACING				
GIRDER	"SS"	"TT"	"VV"	"WW"
G3	22 SPA. @ 12" = 22'-0"	2'-6"	3'-9⅞"	48 SPA. @ 18" = 72'-0"

NOTES:

1. FOR NOTES AND STEEL DETAILS, SEE SHEET 48/79.
2. FOR FRAMING PLAN, SEE SHEET 42/79.
3. FOR SPLICE DETAILS, SEE SHEETS 46/79 AND 47/79 .

DESIGN AGENCY: PRIME AE, 540 WHITE POND DR., SUITE E, AKRON, OH 44320

REVIEWED TES, DATE 11/1/2018, STRUCTURE FILE NUMBER 3109798
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DESIGNED CRG, CHECKED KDC

GIRDER ELEVATION - UNIT 2 (2 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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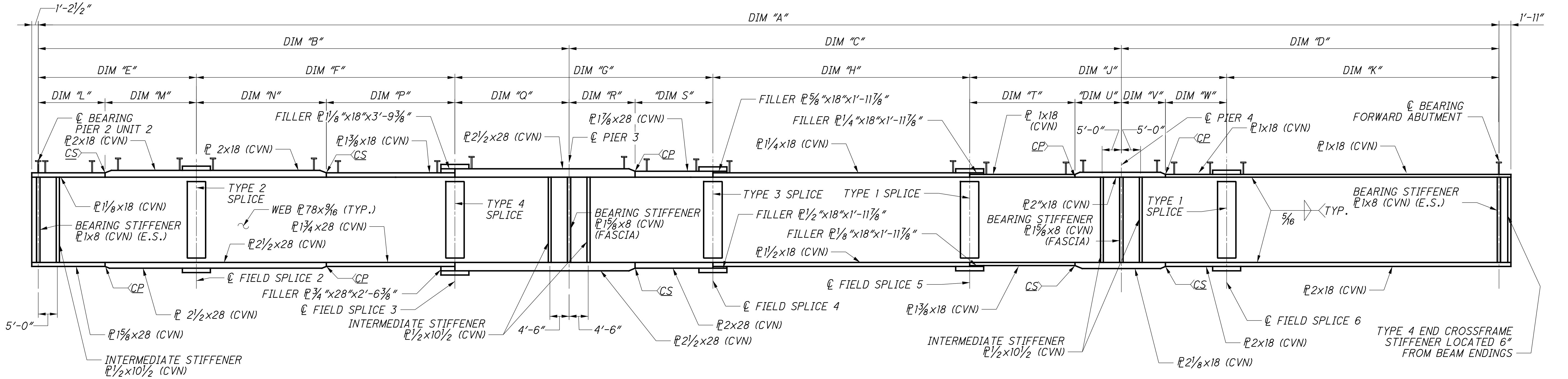
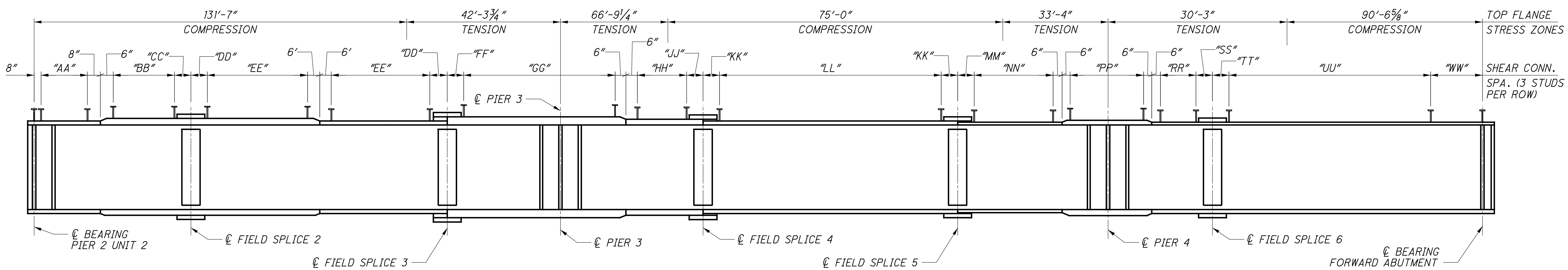


GIRDER 4 ELEVATION - UNIT 2

(DIMENSIONS SHOWN ARE MEASURED ALONG ℄ GIRDER)
(INTERMEDIATE STIFFENERS NOT SHOWN FOR CLARITY)

GIRDER DIMENSIONS																							
		SPAN LENGTHS				SEGMENT LENGTHS						DIMS. AT PIERS											
GIRDER	RADIUS	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"	DIM "P"	DIM "Q"	DIM "R"	DIM "S"	DIM "T"	DIM "U"	DIM "V"	DIM "W"
G4	361'-6¾"	469'-9½"	173'-10⅝"	175'-1¼"	120'-9⅝"	64'-7"	80'-0"	80'-0"	87'-0"	83'-0"	75'-2⅜"	27'-8"	36'-11"	40'-0"	40'-0"	29'-3½"	30'-8½"	20'-0"	23'-0"	14'-4¾"	25'-7¼"	20'-0"



GIRDER 4 ELEVATION - UNIT 2

(DIMENSIONS SHOWN ARE MEASURED ALONG ℄ GIRDER)
(INTERMEDIATE STIFFENERS NOT SHOWN FOR CLARITY)

SHEAR CONNECTOR SPACING														
GIRDER	"AA"	"BB"	"CC"	"DD"	"EE"	"FF"	"GG"	"HH"	"JJ"	"KK"	"LL"	"MM"	"NN"	"PP"
G4	27 SPA. @ 12" = 27'-0"	31 SPA. @ 12" = 31'-0"	4'-9"	4'-10"	26 SPA. @ 16" = 34'-8"	4'-10"	41 SPA. @ 16" = 54'-8"	12 SPA. @ 16" = 16'-0"	3'-6"	2'-10"	61 SPA. @ 16" = 81'-4"	2'-6"	20 SPA. @ 12" = 20'-0"	36 SPA. @ 13" = 39'-0"

SHEAR CONNECTOR SPACING					
GIRDER	"RR"	"SS"	"TT"	"UU"	"WW"
G4	13 SPA. @ 15" = 16'-3"	3'-3"	3'-2⅜"	62 SPA. @ 12" = 62'-0"	12 SPA. @ 10" = 10'-0"

NOTES:

1. FOR NOTES AND STEEL DETAILS, SEE SHEET 48/79.
2. FOR FRAMING PLAN, SEE SHEET 42/79.
3. FOR SPLICE DETAILS, SEE SHEETS 46/79 AND 47/79 .

DESIGN AGENCY
PRIME AE
540 WHITE POND DR., SUITE E
AKRON, OH 44320

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KDC		

GIRDER ELEVATION - UNIT 2 (3 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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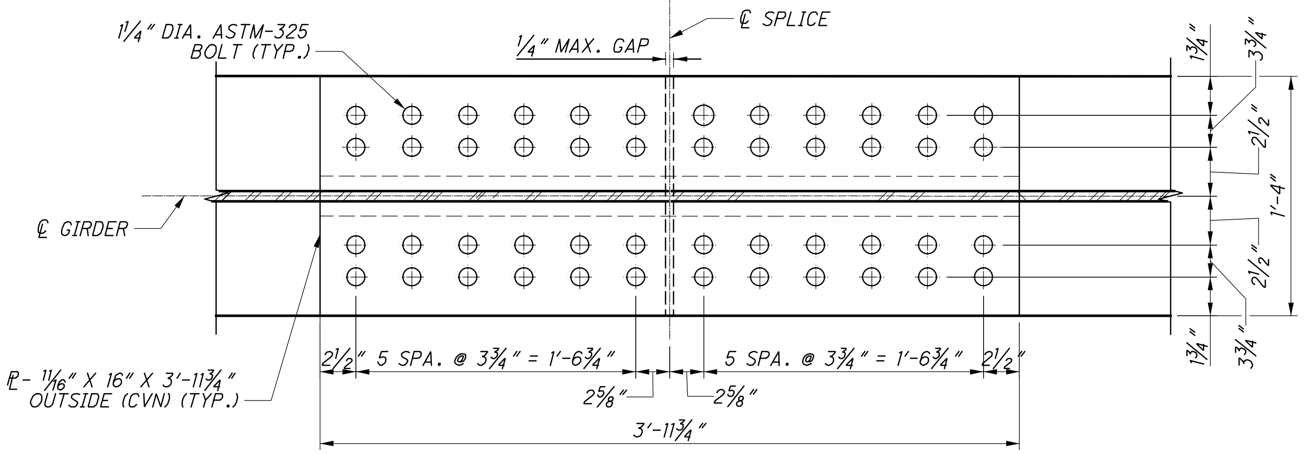
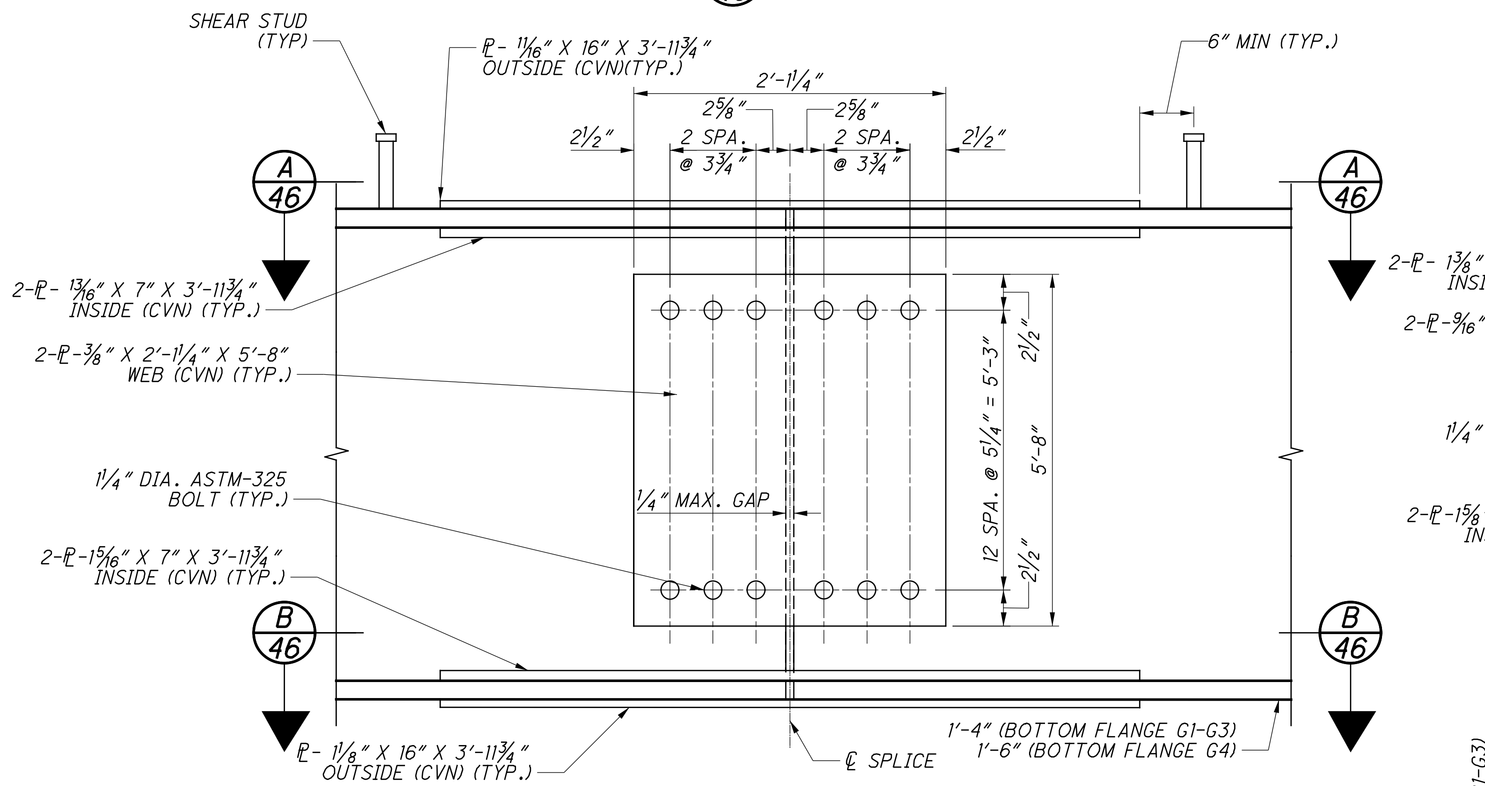
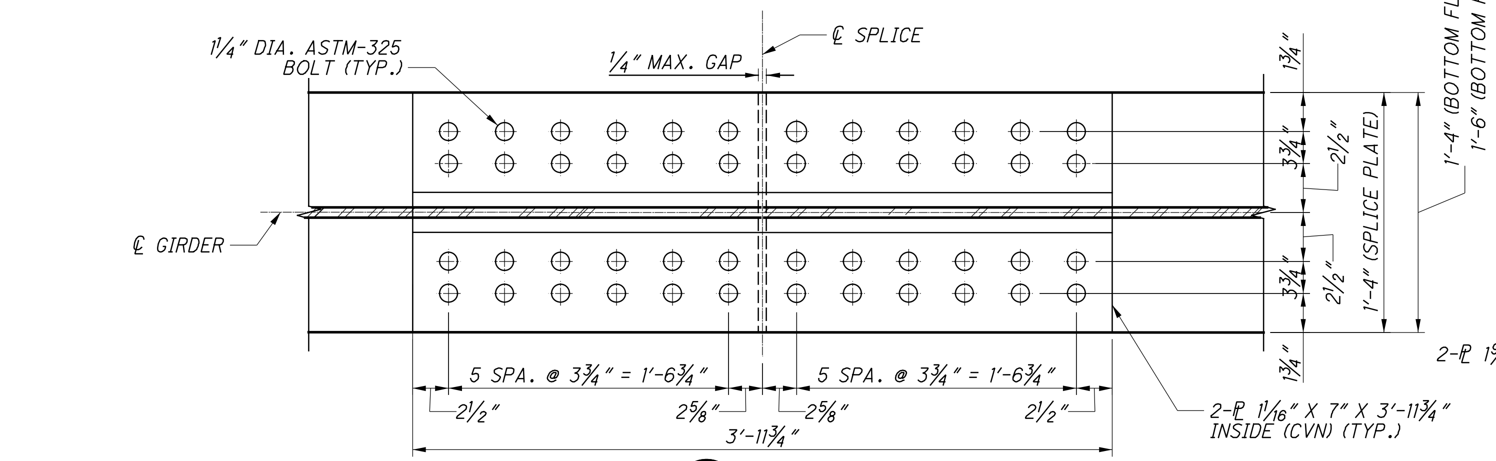


A/46 SECTION



TYPE 1 SPLICE ELEVATION
(FOR FILLER PLATE DETAILS, SEE NOTE 1)



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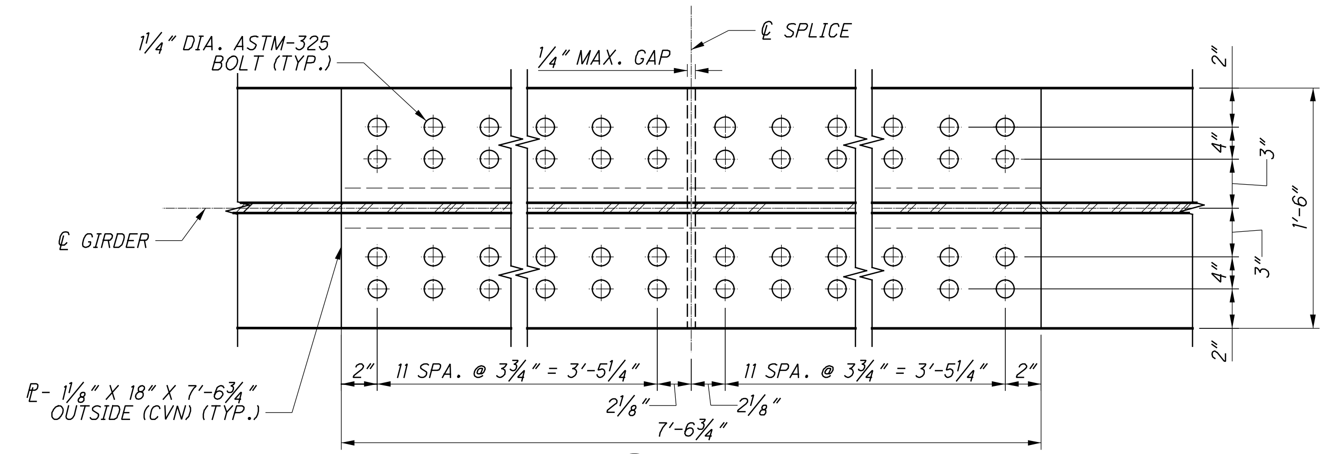
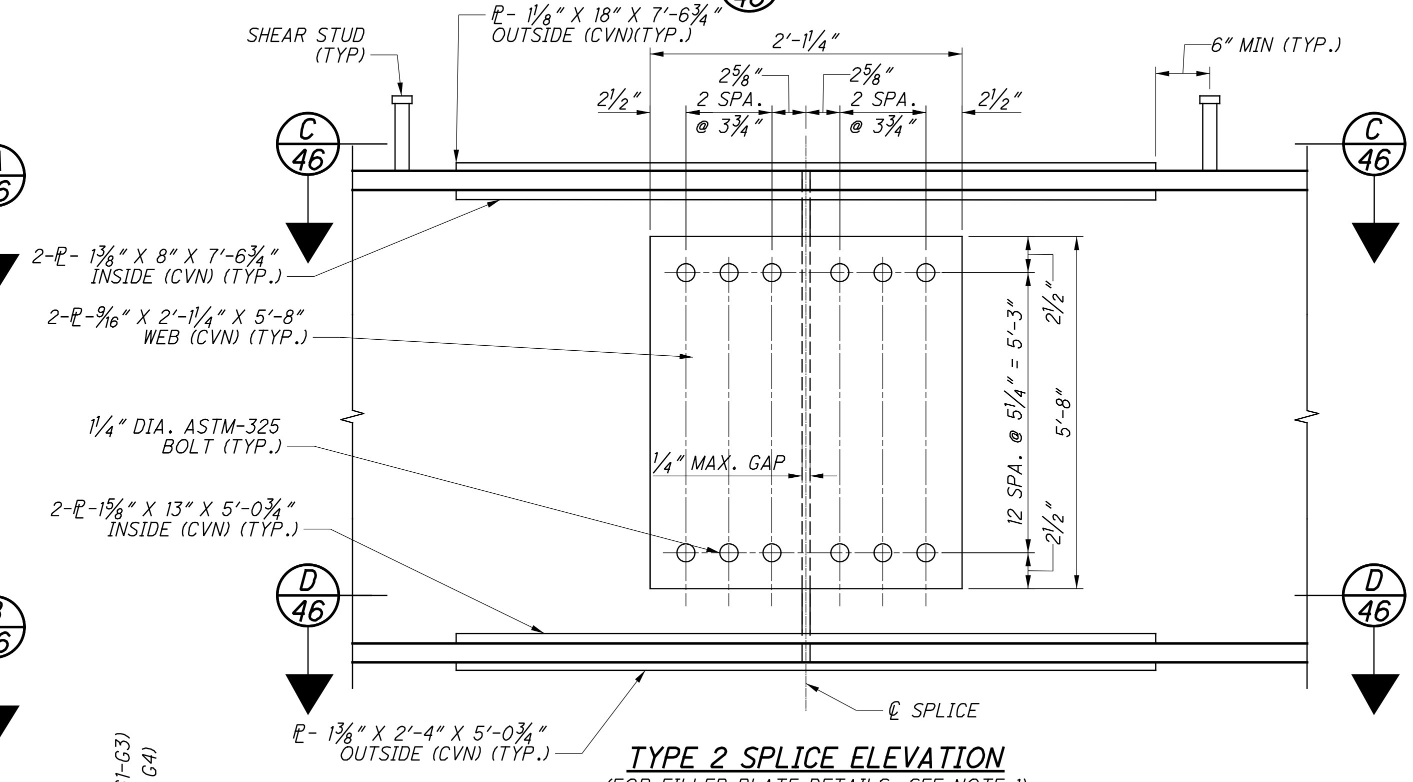
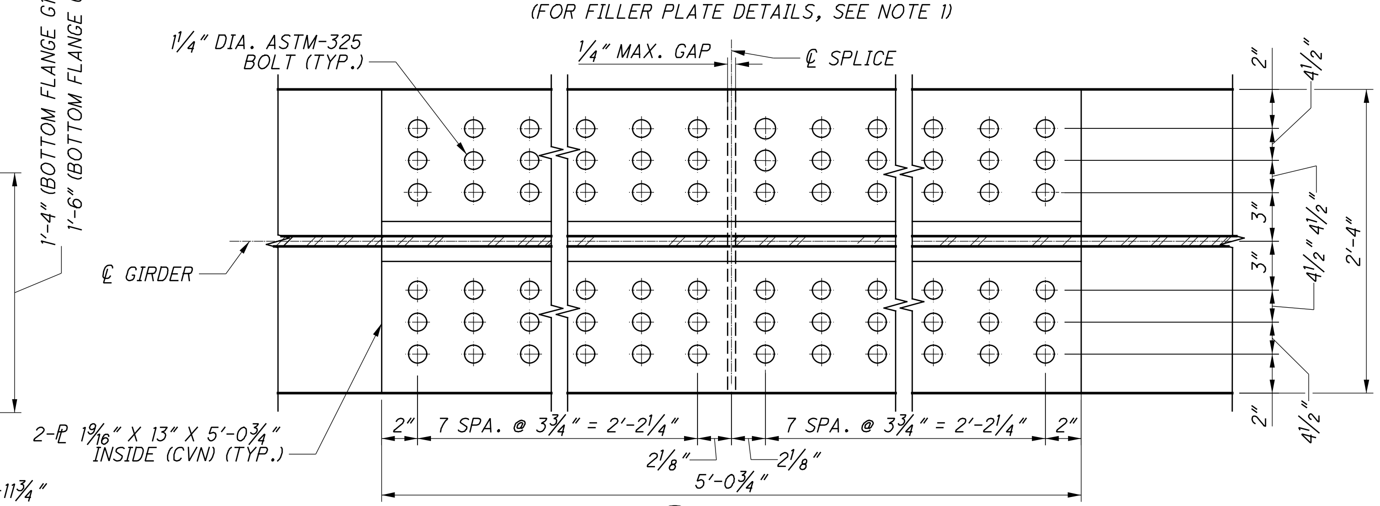


C/46 SECTION



TYPE 2 SPLICE ELEVATION
(FOR FILLER PLATE DETAILS, SEE NOTE 1)



D/46 SECTION

NOTES:

1. FILLER PLATES NOT SHOWN FOR CLARITY:
   FOR GIRDERS 1 AND 2 FILLER PLATE DETAILS, SEE SHEET 43/79 .
   FOR GIRDER 3 FILLER PLATE DETAILS, SEE SHEET 44/79 .
   FOR GIRDER 4 FILLER PLATE DETAILS, SEE SHEET 45/79 .
2. FOR NOTES, SEE SHEET 48/79 .

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

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FIELD SPLICE DETAILS - UNIT 2 (1 OF 2)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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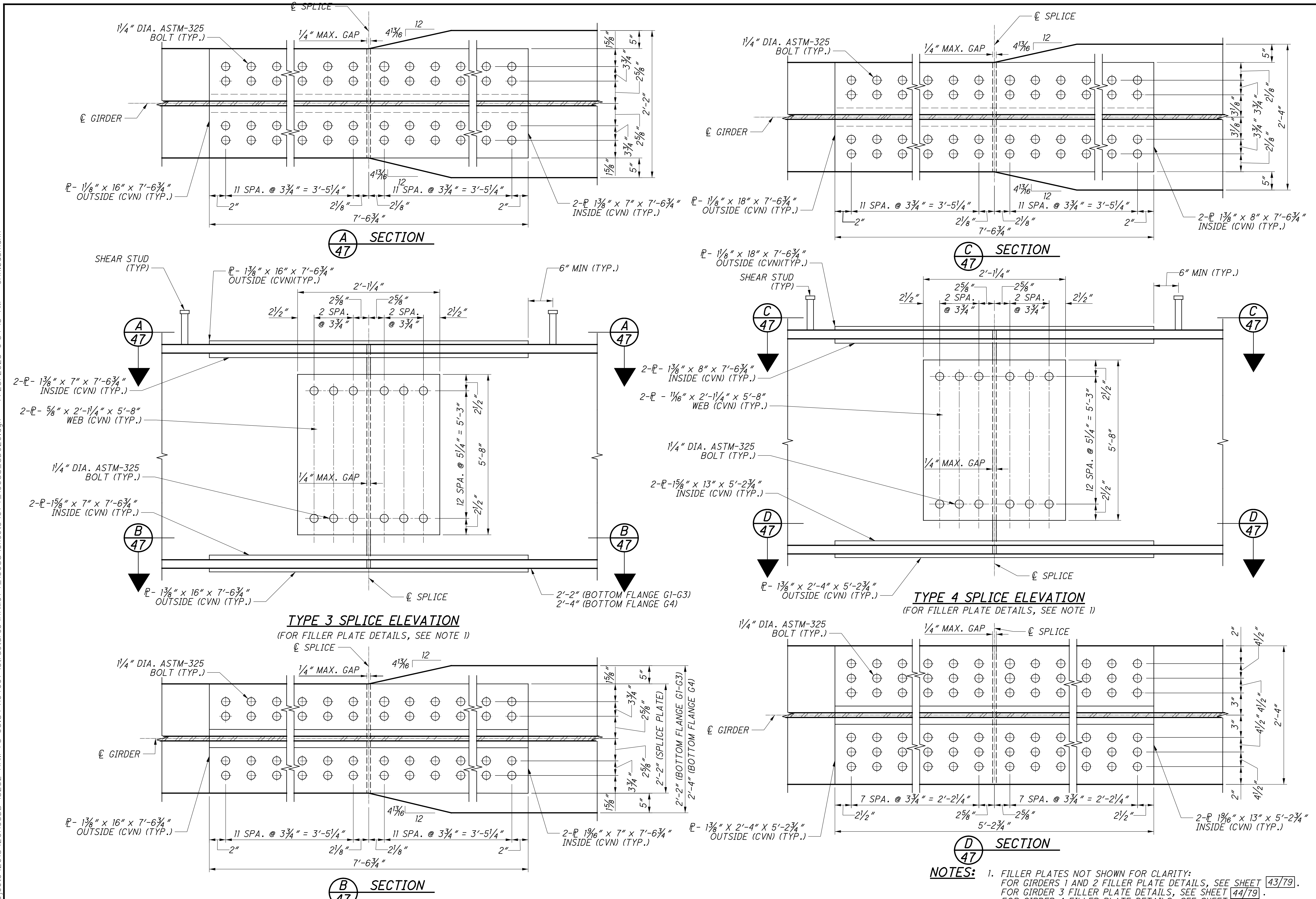

NOTES:

1. FILLER PLATES NOT SHOWN FOR CLARITY:
   FOR GIRDERS 1 AND 2 FILLER PLATE DETAILS, SEE SHEET 43/79.
   FOR GIRDER 3 FILLER PLATE DETAILS, SEE SHEET 44/79.
   FOR GIRDER 4 FILLER PLATE DETAILS, SEE SHEET 45/79.
2. FOR NOTES, SEE SHEET 48/79.

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AKRON, OH 44320

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FIELD SPLICE DETAILS - UNIT 2 (2 OF 2)

BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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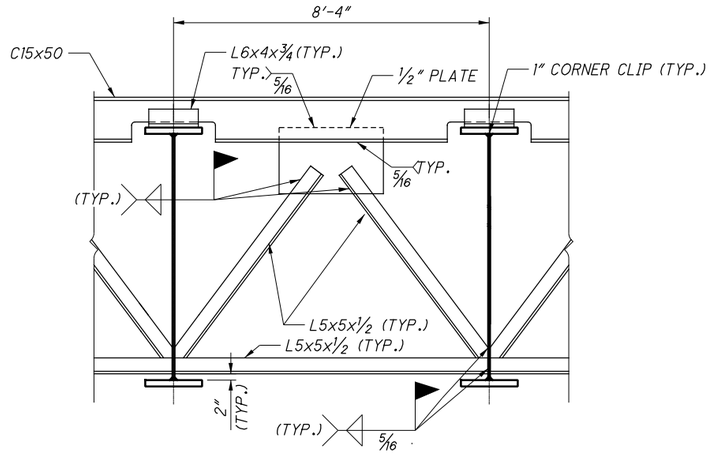
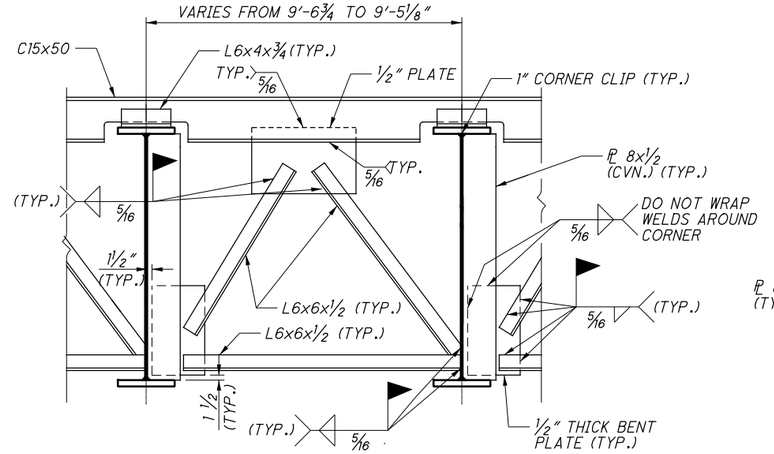
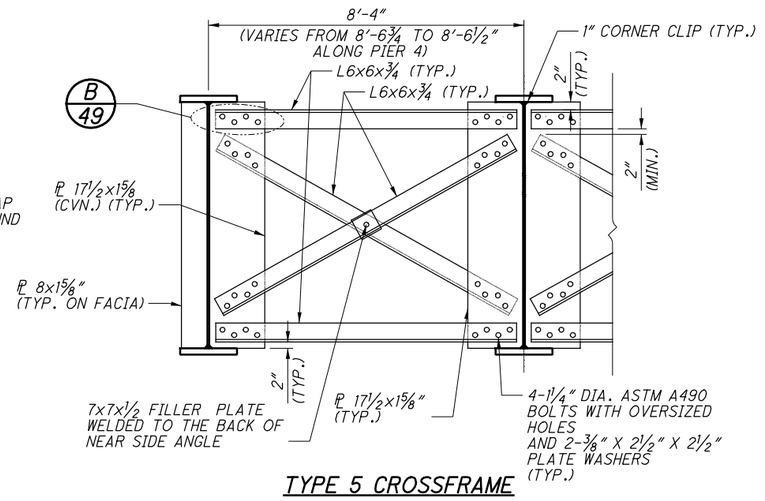


TYPE 3 END CROSSFRAME



TYPE 4 END CROSSFRAME



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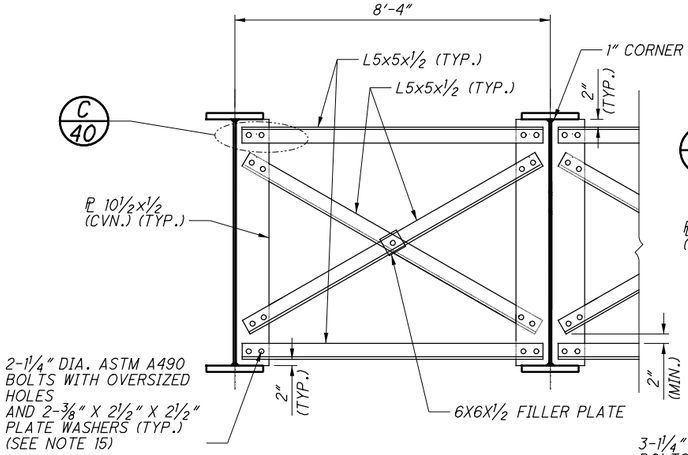
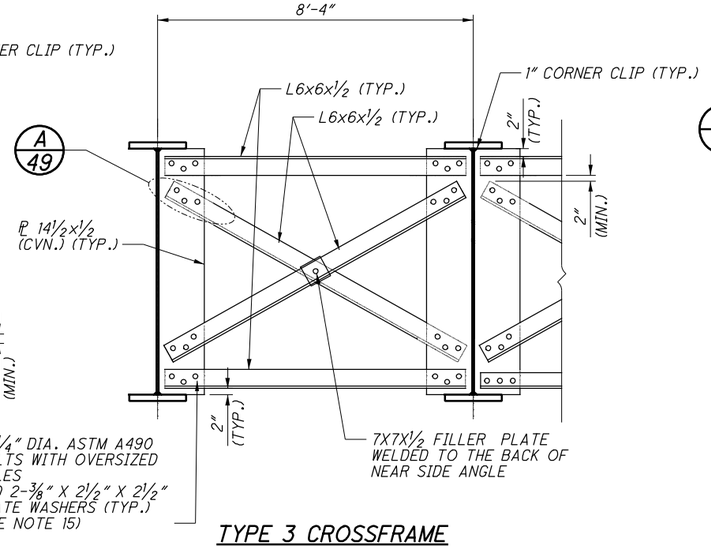
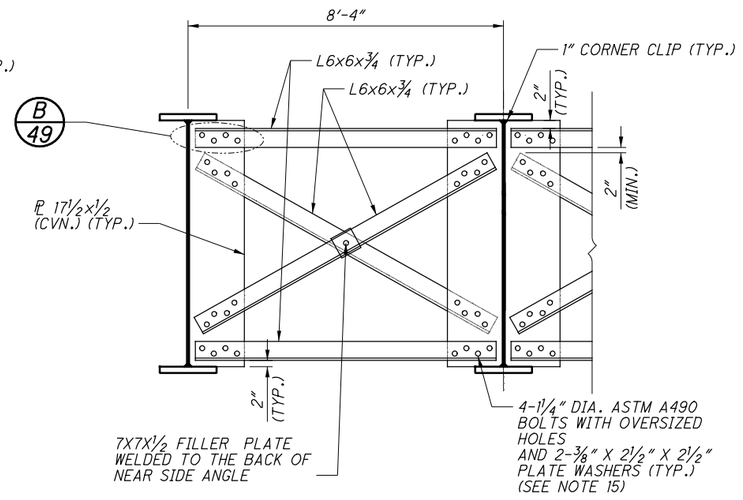


TYPE 2 CROSSFRAME



TYPE 3 CROSSFRAME



TYPE 4 CROSSFRAME

NOTES:

1. ALL STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50W, UNLESS NOTED OTHERWISE.
2. FOR GIRDER WEBS, FLANGES, BEARING AND INTERMEDIATE STIFFENERS, CROSSFRAMES AND SPLICES, FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN ITEM 711.01.
3. THE GIRDER ENDS AND ALL BEARING STIFFENERS SHALL BE VERTICAL UNDER FULL DEAD LOAD. INTERIOR CROSS FRAMES AND FIELD SPLICES MAY BE NORMAL TO GRADE.
4. BOLTS USED FOR SPLICES SHALL BE ASTM A325, TYPE 3 HIGH STRENGTH BOLTS. ALL OTHER BOLTS SHALL BE ASTM A490, TYPE 3 HIGH STRENGTH BOLTS.
5. FOR UNIT 2 FRAMING PLAN, SEE SHEET 42/79 .
6. THE OPENING BETWEEN GIRDER ENDS AFTER ASSEMBLY SHALL NOT EXCEED ¼".
7. WELD ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR 5/16" FOR GREATER THAN ¾".
8. WHERE A WELDED BUTT JOINT IS DESIGNATED CP, THE WELD SHALL BE COMPLETE PENETRATION. WELD REINFORCEMENT SHALL BE REMOVED BY GRINDING IN THE DIRECTION OF THE MAIN STRESS.
9. WHERE A WELDED BUTT JOINT WELD IS DESIGNATED CS, THE WELD IS SUBJECT TO COMPRESSIVE STRESS ONLY.
10. SHEAR STUD CONNECTORS SHALL BE WELDED PER ITEM 512.22.
11. CROSS FRAMES SHALL BE DETAILED TO FIT IN THE STEEL DEAD LOAD CONDITION.
12. FOR DEFLECTION AND CAMBER DIAGRAMS, SEE SHEETS 50/79 THRU 52/79 .
13. FOR ADDITIONAL DETAILS, SEE SHEET 49/79.
14. FOR ADDITIONAL END FRAME CONNECTION DETAILS, SEE GSD-1-96.
15. WASHER DETAIL FOR 1⅜" DIA. OVERSIZE HOLES IN CROSSFRAMES: NUT SIDE = PLATE WASHER (⅜" X 2½" X 2½") AND ASTM F436 WASHER BOLT HEAD SIDE = PLATE WASHER (⅜" X 2½" X 2½")

DESIGN AGENCY
PRIME AE
540 WEST POOL DR., SUITE E
MIAMI, OH 45320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

CROSSFRAME DETAILS - UNIT 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

48 / 79

48
79

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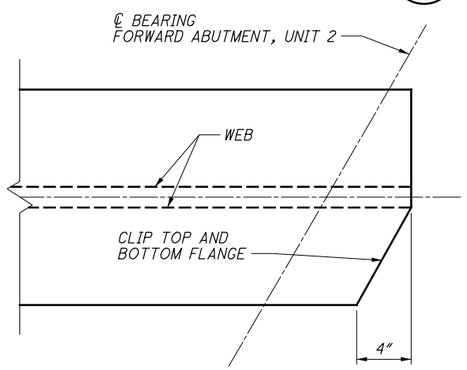
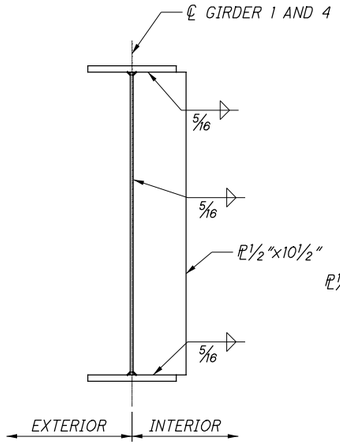
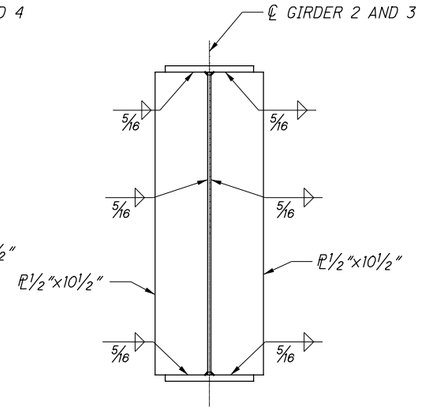


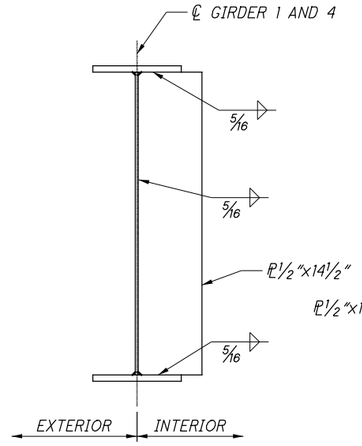
A/42 TYPICAL BEAM END AT FORWARD ABUTMENT

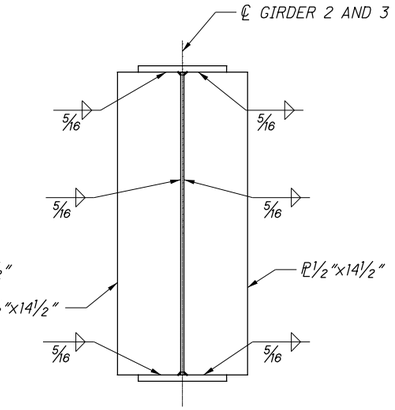




TYPE 2 INTERMEDIATE CROSSFRAME STIFFENERS

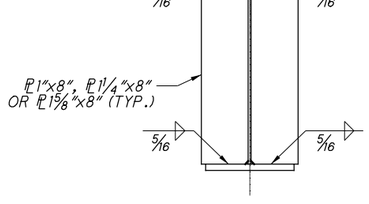
(BOLTS NOT SHOWN)





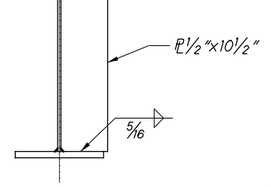
TYPE 3 INTERMEDIATE CROSSFRAME STIFFENERS

(BOLTS NOT SHOWN)



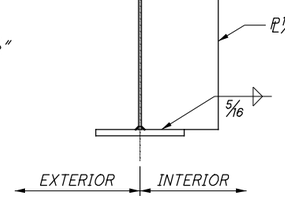
BEARING STIFFENERS

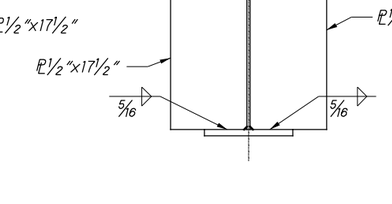
(EX. PIER 7, UNIT 1 SHOWN, OTHERS SIMILAR)



TYPE 4 END CROSSFRAME STIFFENERS

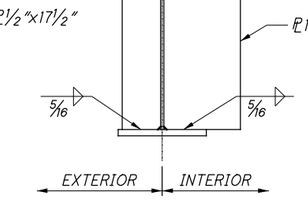
(LOOKING UPSTATION)

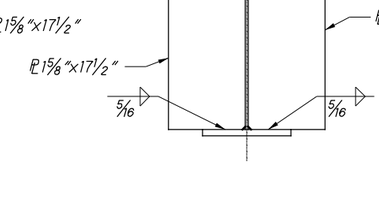




TYPE 4 INTERMEDIATE CROSSFRAME STIFFENERS

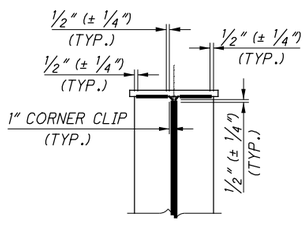
(BOLTS NOT SHOWN)



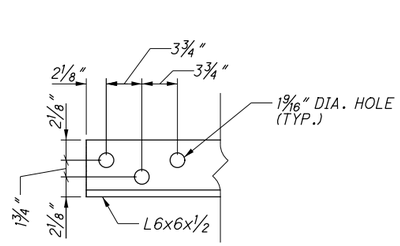


TYPE 5 INTERMEDIATE CROSSFRAME STIFFENERS AT PIER 3 AND 4

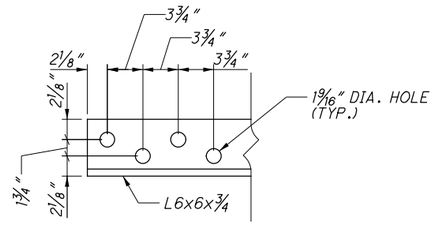
(BOLTS NOT SHOWN)



WELD TERMINATION DETAIL



A/48 DETAIL- TYPE 3 BOLT HOLE LOCATIONS (TYP.)



B/48 DETAIL- TYPE 4 BOLT HOLE LOCATIONS (TYP.)

NOTE:

1. FOR CROSSFRAME DETAILS AND ADDITIONAL NOTES, SEE SHEET 48/79 .
3. BOLT HOLE LOCATIONS IN THE TRANSVERSE STIFFENERS WILL BE DETERMINED BY THE FABRICATOR AND VERIFIED THROUGH THE SHOP DRAWING REVIEW PROCESS BY THE ENGINEER PRIOR TO FABRICATION.

DESIGN AGENCY
PRIME AE
540 WEST POINT DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

STEEL DETAILS - UNIT 2

BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

49/79

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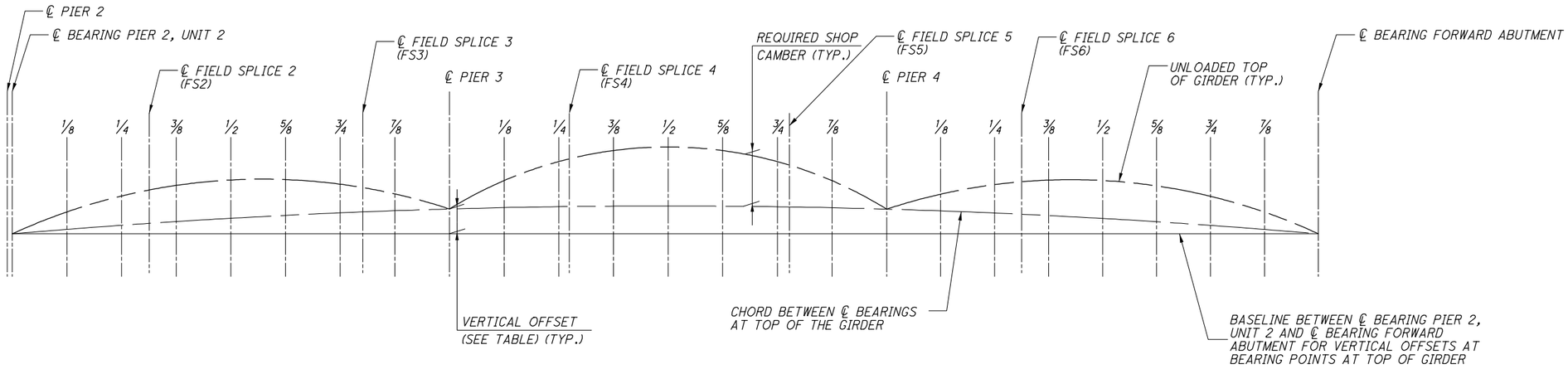

CAMBER DIAGRAM - GIRDER 1 UNIT 2

VERTICAL OFFSET (INCHES)		
	PIER 3	PIER 4
GIRDR 1	54 1/4"	42 1/4"

DEFLECTION AND CAMBER (INCHES) - GIRDER 1																				
	℄ BRG. PIER 2R	1/8 POINT	1/4 POINT	FS2	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	℄ BRG. PIER 3	1/8 POINT	1/4 POINT	FS4	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS5	7/8 POINT	℄ BRG. PIER 4
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/4"	3/8"	7/16"	1/2"	1/2"	3/8"	1/4"	3/16"	1/8"	0"	0 "	1/8"	1/8"	1/4"	5/16"	5/16"	3/16"	3/16"	1/16"	0 "
DEFLECTION DUE TO REMAINING DL	0"	1 1/8"	1 15/16"	2 1/8"	2 3/8"	2 3/8"	1 7/8"	1 3/16"	15/16"	7/16"	0"	1/8"	5/8"	11/16"	1 1/8"	1 7/16"	1 5/16"	7/8"	7/8"	3/8"	0 "
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	1 5/16"	2 15/16"	3 1/2"	4 3/4"	6 "	6 1/8"	5 3/16"	4 5/8"	3 1/8"	0"	4 1/8"	7 1/16"	8 7/8"	8 7/8"	9 7/16"	8 7/8"	7 1/16"	4 1/8"	4 1/8"	0"
REQUIRED SHOP CAMBER	0"	2 11/16"	5 1/4"	6 1/16"	7 5/8"	8 7/8"	8 3/8"	6 5/8"	5 3/4"	3 11/16"	0"	4 1/4"	7 13/16"	9 11/16"	10 1/4"	11 3/16"	10 1/2"	8 1/8"	5 3/16"	4 9/16"	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER 1										
	℄ BRG. PIER 4	1/8 POINT	1/4 POINT	FS6	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	℄ BRG. FA
DEFLECTION DUE TO WEIGHT OF STEEL	0 "	0 "	1/16"	1/8"	1/8"	3/16"	3/16"	3/16"	1/8"	0"
DEFLECTION DUE TO REMAINING DL	0 "	1/16"	5/16"	1/2"	5/8"	13/16"	7/8"	3/4"	1/2"	0"
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	9/16"	9/16"	7/16"	7/16"	3/8"	1/4"	3/16"	1/16"	0"
REQUIRED SHOP CAMBER	0"	5/8"	15/16"	1 1/16"	1 3/16"	1 3/8"	1 5/16"	1 1/8"	11/16"	0"

NOTES:

1. NEGATIVE VALUES FOR DEFLECTIONS INDICATE DEFLECTIONS UPWARD. NEGATIVE VALUES FOR VERTICAL CURVE ADJUSTMENT AND TOTAL REQUIRED SHOP CAMBER INDICATE VALUES BELOW THE CHORD.
2. DEFLECTIONS AND ADJUSTMENTS FOR VERTICAL CURVES ARE GIVEN TO THE NEAREST 1/16th INCH.
3. FOR GENERAL NOTES, SEE SHEETS 7/79 AND 8/79 .
4. FOR FRAMING PLAN AND GIRDER DETAILS, SEE SHEETS 37/79 THROUGH 42/79 .

DESIGN AGENCY
PRIME AE
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

CAMBER DIAGRAM AND TABLE - UNIT 2 (1 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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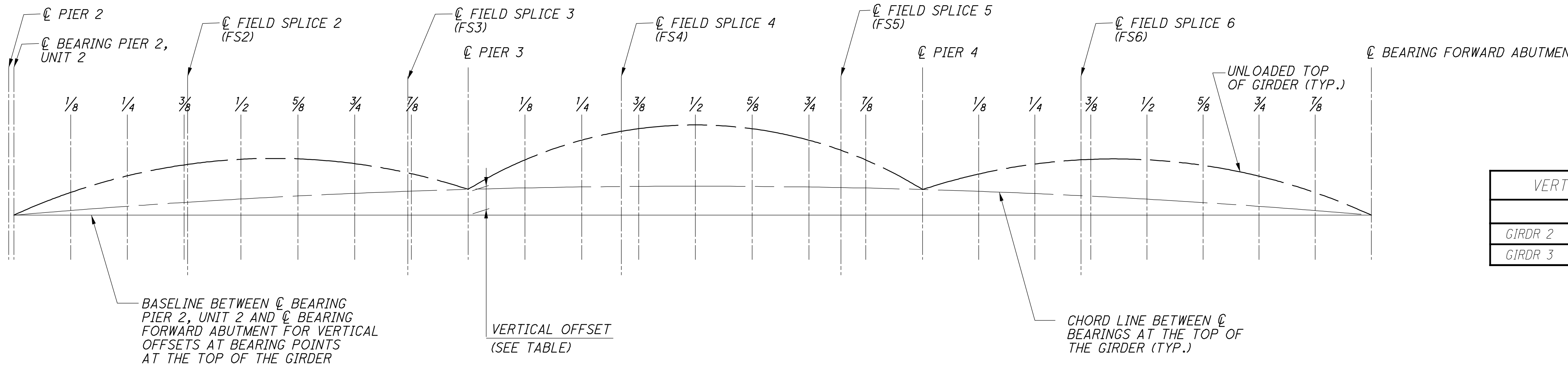

CAMBER DIAGRAM - GIRDERS 2 AND 3 UNIT 2

VERTICAL OFFSET (INCHES)		
	PIER 3	PIER 4
GIRDR 2	54 1/4"	41 7/8"
GIRDR 3	54 "	41 3/8"

DEFLECTION AND CAMBER (INCHES) - GIRDER 2																					
	℄ BRG. PIER 2R	1/8 POINT	1/4 POINT	3/8 POINT	FS2	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	℄ BRG. PIER 3	1/8 POINT	1/4 POINT	FS4	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS5	7/8 POINT	℄ BRG. PIER 4
DEFLECTION DUE TO WEIGHT OF STEEL	0"	7/16"	13/16"	1 1/16"	1 1/16"	1 "	13/16"	9/16"	5/16"	1/4"	0"	- 1/16"	- 1/16"	-0 "	0 "	1/8"	1/8"	1/16"	1/16"	0 "	0"
DEFLECTION DUE TO REMAINING DL	0"	1 1/2"	2 5/8"	3 9/16"	3 9/16"	3 1/4"	2 5/8"	1 5/8"	1 "	11/16"	0"	- 1/16"	1/4"	9/16"	11/16"	1 "	1 "	11/16"	1/2"	1/4"	0"
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	1 11/16"	3 9/16"	5 5/16"	5 3/8"	6 7/16"	6 1/2"	5 7/16"	4 1/16"	3 1/4"	0"	4 1/16"	6 15/16"	8 1/4"	8 11/16"	9 1/4"	8 11/16"	6 15/16"	5 15/16"	4 1/16"	0"
REQUIRED SHOP CAMBER	0"	3 5/8"	7 "	9 15/16"	10 "	10 11/16"	9 15/16"	7 5/8"	5 3/8"	4 3/16"	0"	3 15/16"	7 1/8"	8 13/16"	9 3/8"	10 3/8"	9 13/16"	7 11/16"	6 1/2"	4 5/16"	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER 2										
	℄ BRG. PIER 4	1/8 POINT	1/4 POINT	FS6	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	℄ BRG. FA
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/16"	1/8"	3/16"	1/4"	5/16"	5/16"	1/4"	1/8"	0"
DEFLECTION DUE TO REMAINING DL	0"	1/8"	7/16"	1/2"	3/4"	1 "	1 "	7/8"	1/2"	0"
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	5/8"	5/8"	9/16"	9/16"	7/16"	5/16"	3/16"	1/8"	0 "
REQUIRED SHOP CAMBER	0"	13/16"	1 3/16"	1 1/4"	1 9/16"	1 3/4"	1 5/8"	1 5/16"	3/4"	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER 3																					
	℄ BRG. PIER 2R	1/8 POINT	1/4 POINT	3/8 POINT	FS2	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	℄ BRG. PIER 3	1/8 POINT	1/4 POINT	FS4	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS5	7/8 POINT	℄ BRG. PIER 4
DEFLECTION DUE TO WEIGHT OF STEEL	0"	11/16"	1 3/16"	1 1/2"	1 1/2"	1 1/2"	1 1/4"	13/16"	3/8"	3/8"	0"	- 3/16"	- 1/4"	- 1/4"	- 3/16"	- 1/8"	- 1/16"	- 1/16"	- 1/16"	- 1/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	1 15/16"	3 3/8"	4 1/8"	4 3/16"	4 1/8"	3 3/8"	2 3/16"	15/16"	15/16"	0"	- 5/16"	- 3/16"	1/16"	3/16"	9/16"	5/8"	7/16"	5/16"	1/8"	0"
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	1 7/8"	4 "	5 11/16"	5 15/16"	6 3/4"	6 11/16"	5 9/16"	3 5/16"	3 5/16"	0"	3 15/16"	6 3/4"	8 1/8"	8 1/2"	9 1/16"	8 7/16"	6 3/4"	5 7/8"	3 15/16"	0"
REQUIRED SHOP CAMBER	0"	4 1/2"	8 9/16"	11 5/16"	11 5/8"	12 3/8"	11 5/16"	8 9/16"	4 5/8"	4 5/8"	0"	3 7/16"	6 5/16"	7 15/16"	8 1/2"	9 1/2"	9 "	7 1/8"	6 1/8"	4 "	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER 3										
	℄ BRG. PIER 4	1/8 POINT	1/4 POINT	FS6	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	℄ BRG. FA
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/8"	3/16"	5/16"	5/16"	3/8"	3/8"	5/16"	3/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	3/16"	9/16"	7/8"	7/8"	1 3/16"	1 1/8"	15/16"	1/2"	0"
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	5/8"	3/4"	5/8"	5/8"	1/2"	3/8"	1/4"	1/8"	0"
REQUIRED SHOP CAMBER	0"	15/16"	1 1/2"	1 13/16"	1 13/16"	2 1/16"	1 7/8"	1 1/2"	13/16"	0"

NOTES:

1. NEGATIVE VALUES FOR DEFLECTIONS INDICATE DEFLECTIONS UPWARD. NEGATIVE VALUES FOR VERTICAL CURVE ADJUSTMENT AND TOTAL REQUIRED SHOP CAMBER INDICATE VALUES BELOW THE CHORD.
2. DEFLECTIONS AND ADJUSTMENTS FOR VERTICAL CURVES ARE GIVEN TO THE NEAREST 1/16th INCH.
3. FOR GENERAL NOTES, SEE SHEETS 7/79 AND 8/79 .
4. FOR FRAMING PLAN AND GIRDER DETAILS, SEE SHEETS 37/79 THROUGH 42/79 .

DESIGN AGENCY: PRIME, 540 WHITE POND DR., SUITE E, AKRON, OH 44320

DESIGNED KDC | CHECKED CRG | DRAWN KDC | REVISED | REVIEWED TES | DATE 8/22/2019 | STRUCTURE FILE NUMBER 3109798

CAMBER DIAGRAM AND TABLE - UNIT 2 (2 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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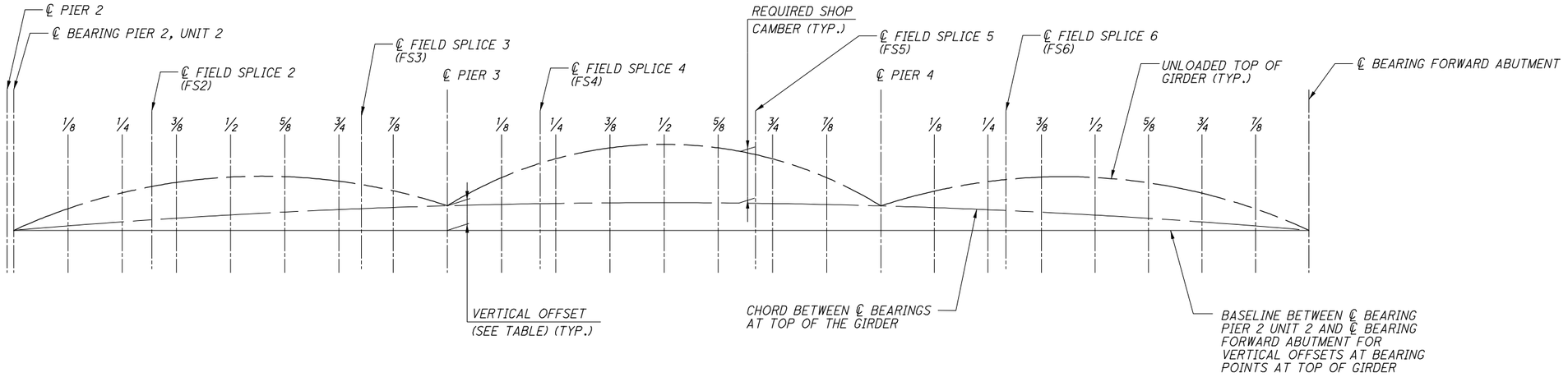

CAMBER DIAGRAM - GIRER 4 UNIT 2

VERTICAL OFFSET (INCHES)		
	PIER 3	PIER 4
GIRDR 4	53 3/4"	40 7/8"

DEFLECTION AND CAMBER (INCHES) - GIRDER 4																				
	℄ BRG. PIER 2R	1/8 POINT	1/4 POINT	FS2	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	℄ BRG. PIER 3	1/8 POINT	1/4 POINT	FS4	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS5	7/8 POINT	℄ BRG. PIER 4
DEFLECTION DUE TO WEIGHT OF STEEL	0"	15/16"	1 5/8"	2 "	2 "	2 1/16"	1 11/16"	1 3/16"	3/4"	9/16"	0"	- 5/16"	- 1/2"	- 1/2"	- 1/2"	- 3/8"	- 1/4"	- 3/16"	- 1/8"	- 1/8"	0"
DEFLECTION DUE TO REMAINING DL	0"	2 3/8"	4 1/8"	5 1/16"	5 1/8"	5 1/8"	4 3/16"	2 3/4"	1 11/16"	1 3/16"	0"	- 9/16"	- 5/8"	- 9/16"	- 5/16"	1/8"	5/16"	3/16"	1/4"	-0 "	0"
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	2 1/16"	4 5/16"	5 15/16"	6 1/16"	7 "	6 7/8"	5 11/16"	4 5/16"	3 3/8"	0"	3 7/8"	6 5/8"	7 1/8"	8 5/16"	8 13/16"	8 5/16"	6 5/8"	5 15/16"	3 7/8"	0"
REQUIRED SHOP CAMBER	0"	5 3/8"	10 1/16"	13 "	13 3/16"	14 3/16"	12 3/4"	9 5/8"	6 3/4"	5 1/8"	0"	3 "	5 1/2"	6 1/16"	7 1/2"	8 9/16"	8 3/8"	6 5/8"	6 1/16"	3 3/4"	0"

DEFLECTION AND CAMBER (INCHES) - GIRDER 4										
	℄ BRG. PIER 4	1/8 POINT	1/4 POINT	FS6	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	℄ BRG. FA
DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/8"	5/16"	5/16"	7/16"	1/2"	1/2"	3/8"	3/16"	0"
DEFLECTION DUE TO REMAINING DL	0"	5/16"	11/16"	13/16"	1 1/8"	1 3/8"	1 5/16"	1 1/16"	5/8"	0"
ADJUSTMENT FOR VERTICAL & HORIZONTAL CURVE	0"	11/16"	13/16"	13/16"	11/16"	9/16"	7/16"	1/4"	1/8"	0"
REQUIRED SHOP CAMBER	0"	1 1/8"	1 13/16"	1 15/16"	2 1/4"	2 7/16"	2 1/4"	1 11/16"	15/16"	0"

NOTES:

1. NEGATIVE VALUES FOR DEFLECTIONS INDICATE DEFLECTIONS UPWARD. NEGATIVE VALUES FOR VERTICAL CURVE ADJUSTMENT AND TOTAL REQUIRED SHOP CAMBER INDICATE VALUES BELOW THE CHORD.
2. DEFLECTIONS AND ADJUSTMENTS FOR VERTICAL CURVES ARE GIVEN TO THE NEAREST 1/16th INCH.
3. FOR GENERAL NOTES, SEE SHEETS 7/79 AND 8/79 .
4. FOR FRAMING PLAN AND GIRDER DETAILS, SEE SHEETS 37/79 THROUGH 42/79 .

DESIGN AGENCY
PRIME AE
540 WEST POOL DR. SUITE E
MARION, OH 43302

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

CAMBER DIAGRAM AND TABLE - UNIT 2 (3 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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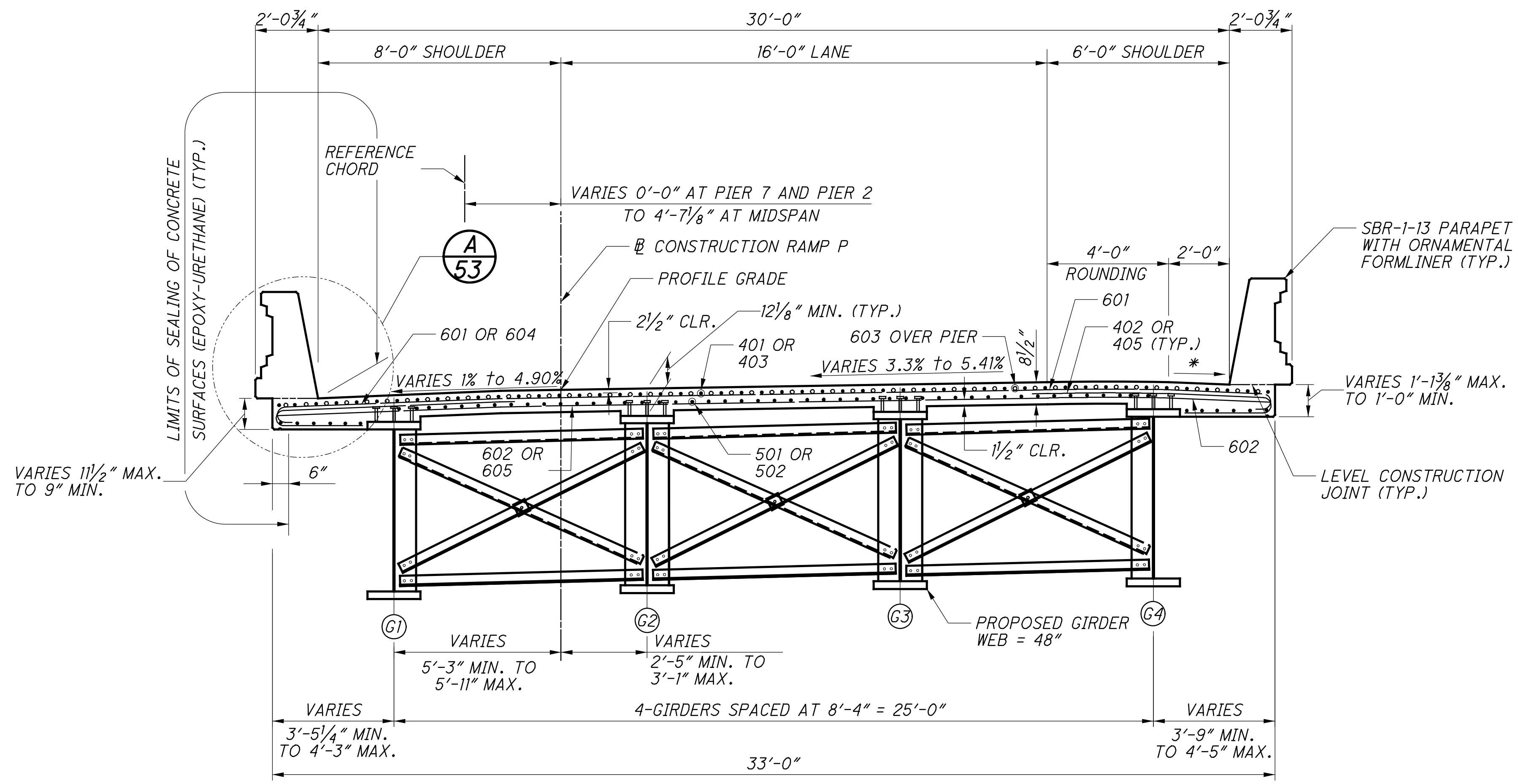
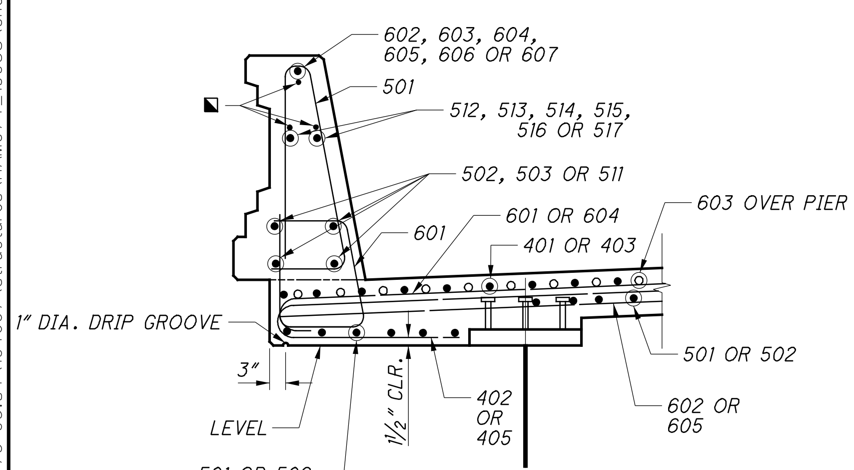


TRANSVERSE SECTION - UNIT 1

(LOOKING UPSTATION)

(PARAPET REINFORCING STEEL NOT SHOWN)



A/53 DETAIL OF DECK OVERHANG

LEGEND:

* - VARIES 3.70% TO 1.59%

◪ - ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT

NOTES:

1. FOR FRAMING PLAN, SEE SHEET 42/79.
2. FOR CROSSFRAME DETAILS, SEE SHEET 48/79.
3. THE PREFIX "IS" SHALL BE ADDED TO ALL BAR MARKS FOR UNIT 1 SLAB AND "IR" FOR UNIT 1 RAILING.
4. ADDITIONAL DECK DETAILS WILL BE INCLUDED IN BU-07.

DESIGN AGENCY: PRIME — 540 WHITE POND DR., SUITE E, AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	CRG	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

TRANSVERSE SECTION - UNIT 1

BRIDGE NO. HAM-74-1908S

RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84

PID No. 104667

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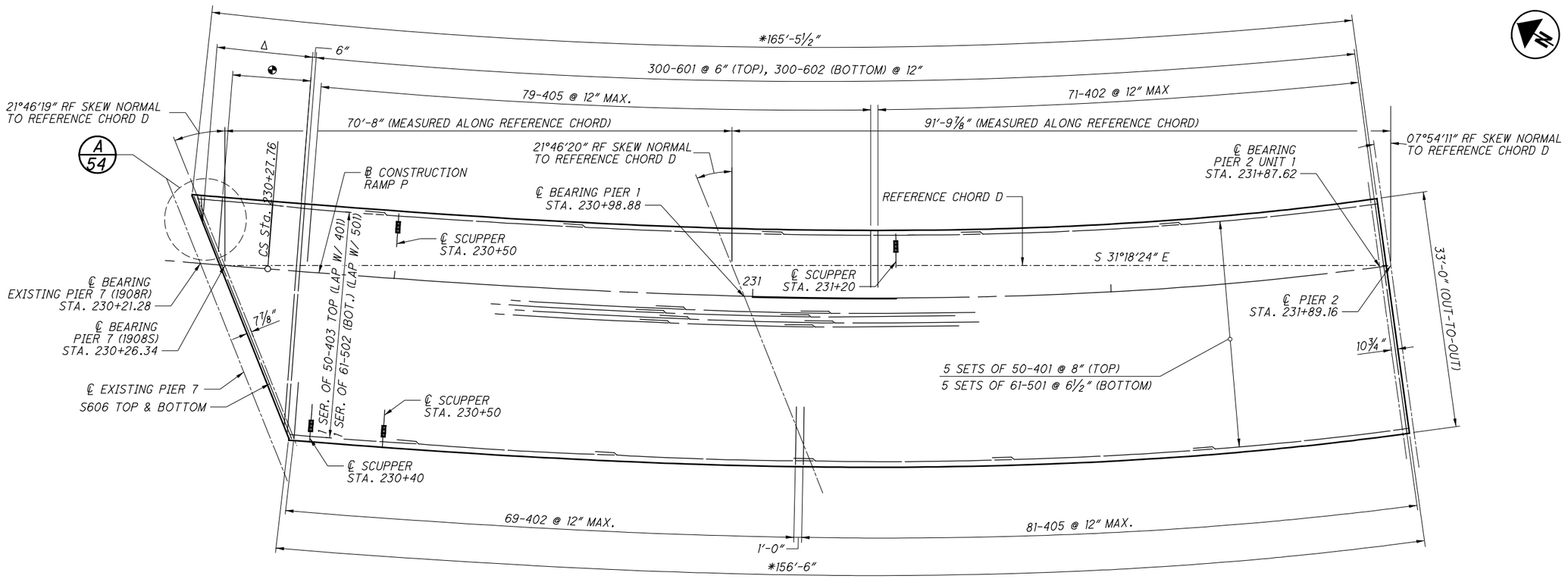
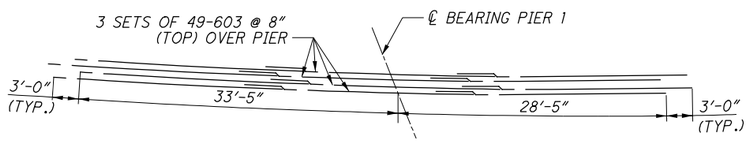


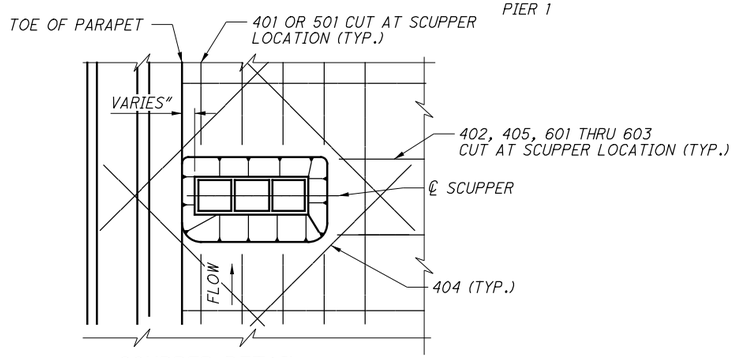
SLAB PLAN - UNIT 1

(PARAPET NOT SHOWN)

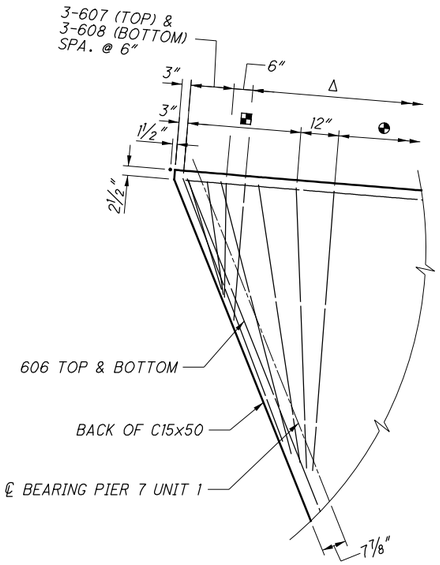


STAGGER DIAGRAM

PIER 1



SCUPPER DETAIL



A 54 DETAIL OF DECK CORNER

LEGEND:

- * - MEASURED ALONG EDGE OF SLAB
- Δ - 1 SER. OF 28-604 @ 6" (TOP), 1 SER. OF 28-605 @ 6" (BOTTOM)
- ◔ - 12-402 SPA. @ 12"
- ◪ - 4-402 SPA. @ 12"

MIN. REQUIRED LAP LENGTH	
#4 LONGITUDINAL	1'-11"
#5 LONGITUDINAL	3'-0"
#6 LONGITUDINAL	3'-7"

NOTES:

1. FOR TRANSVERSE SECTION, SEE SHEET 53/79.
2. FOR EXPANSION JOINT DETAIL, SEE SHEET 63/79.
3. FOR PARAPET DETAILS, SEE SHEET 57/79 THRU 57/79.
4. FOR SCREED, TOP OF HAUNCH AND FINAL DECK ELEVATIONS, SEE SHEET 66/79.
5. FOR REINFORCING STEEL LIST, SEE SHEETS 74/79 THRU 75/79.
6. REBAR CLEARANCE MEASURED TO THE FACE OF CONCRETE SHALL BE 3" UNLESS OTHERWISE NOTED.
7. FIELD BEND LONGITUDINAL BARS TO FIT CURVATURE OF ROADWAY AND TRANSVERSE BARS TO FIT CROWN. EPOXY COATED BARS DAMAGED BY FIELD BENDING SHALL BE REPAIRED IN ACCORDANCE WITH CMS 509.
8. THE PREFIX "IS" SHALL BE ADDED TO ALL BAR MARKS IN UNIT 1 SUPERSTRUCTURE.
9. FOR SCUPPER DETAILS, SEE STD. DWG. GSD-1-96.

DESIGN AGENCY
PRIME
540 WEST POINT STREET, SUITE E
WAUSEON, OH 43567

DESIGNED	DRAWN	REVIEWED	DATE
CRG	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

SLAB PLAN-UNIT 1
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

54/79

54
79

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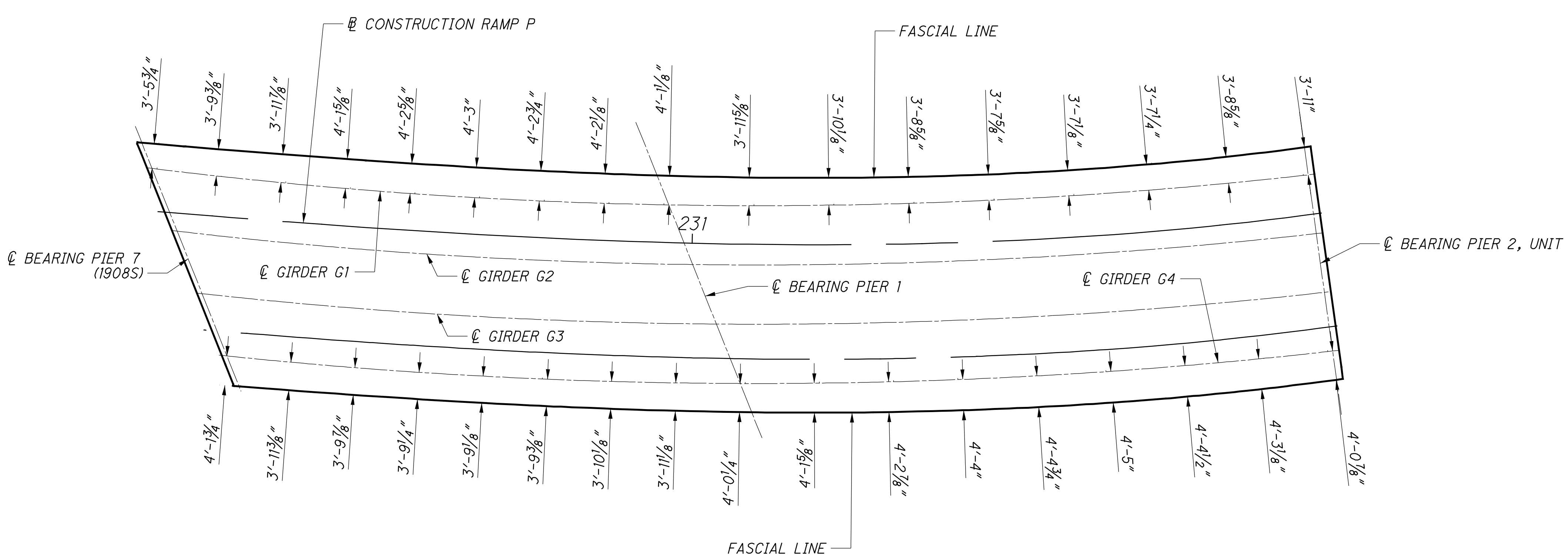
UNIT 1 DECK OVERHANG		
LOCATION	LEFT OVERHANG	RIGHT OVERHANG
℄ BEARING PIER 7	3'-5¾"	4'-1¾"
1/8	3'-9⅜"	3'-11⅜"
1/4	3'-11⅞"	3'-9⅞"
3/8	4'-1⅝"	3'-9¼"
1/2	4'-2⅝"	3'-9⅛"
5/8	4'-3"	3'-9⅜"
3/4	4'-2¾"	3'-10⅛"
7/8	4'-2⅛"	3'-11⅛"
℄ BEARING PIER 1	4'-1⅛"	4'-¼"
1/8	3'-11⅝"	4'-1⅝"
1/4	3'-10⅛"	4'-2⅞"
3/8	3'-8⅝"	4'-4"
1/2	3'-7⅝"	4'-4¾"
5/8	3'-7⅛"	4'-5"
3/4	3'-7¼"	4'-4½"
7/8	3'-8⅝"	4'-3⅛"
℄ BEARING PIER 2, UNIT 1	3'-11"	4'-⅞"



FASCIA OFFSET PLAN

NOTES:

1. FOR ADDITIONAL NOTES, SEE SHEET 54/79 .

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	CRG	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

DECK OVERHANG TABLE - UNIT 1
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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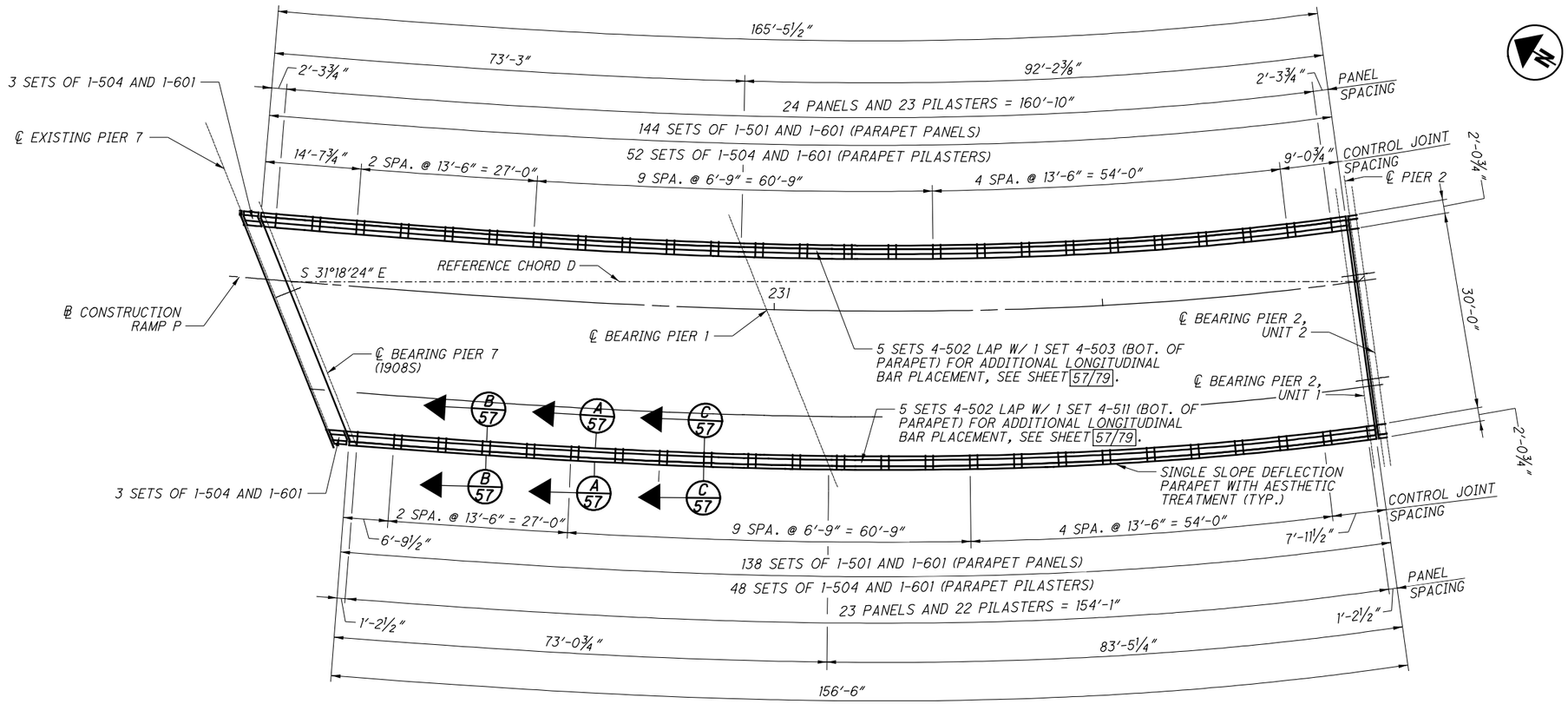

PARAPET PLAN - UNIT 1

REQUIRED MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-3"
NO. 6 BAR	3'-6"

NOTES:

1. SEE SHEET 57/79 FOR PARAPET DETAILS.
2. ALL DIMENSIONS ALONG EDGE OF SLAB UNLESS NOTED OTHERWISE.
3. THE PREFIX "1R" SHALL BE ADDED TO ALL BAR MARKS FOR PARAPET DETAILS.
4. FOR REINFORCING STEEL LIST, SEE SHEET 78/79.

DESIGN AGENCY
PRIME
540 WHITE POND DR. SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

PARAPET AND MEDIAN BARRIER PLAN - UNIT 1
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

56/79

56
79

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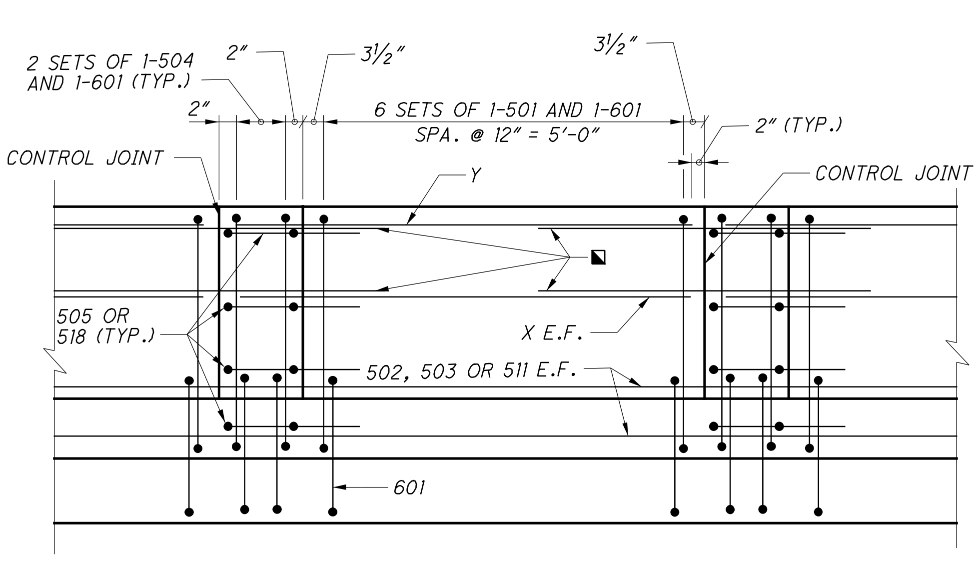
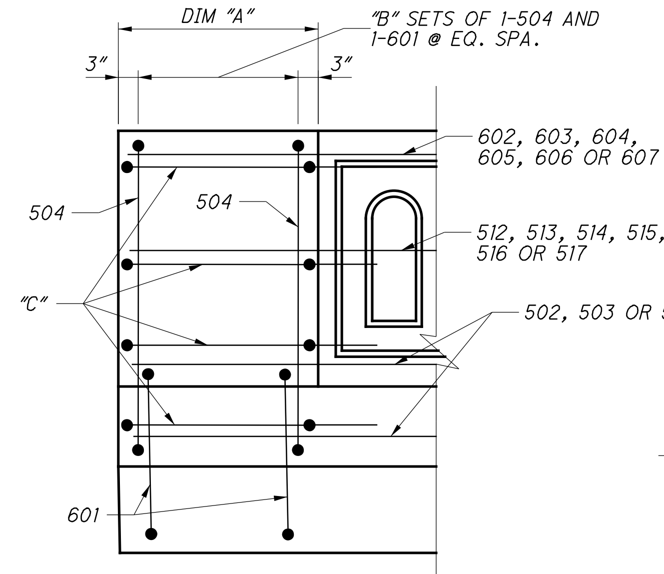
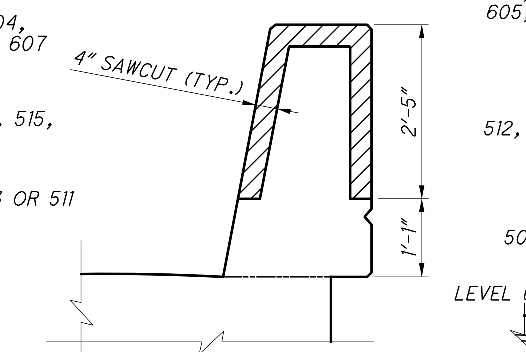


TYPICAL ORNAMENTAL PARAPET PANEL REINFORCING

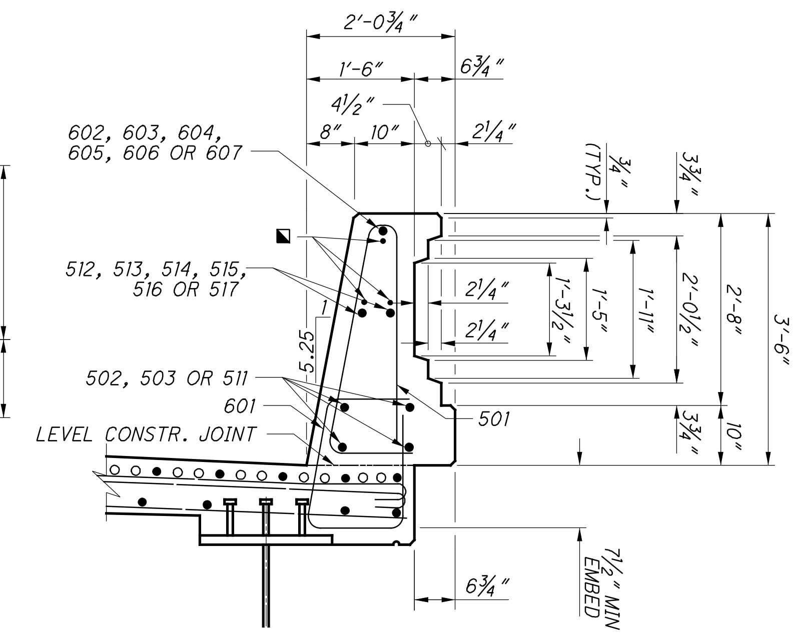
(SINGLE PANEL SHOWN, DOUBLE PANEL SIMILAR)



END PILASTER DETAIL



C 56,61 SECTION THRU CONTROL JOINT DETAIL



A 56,61 SECTION THRU PANEL

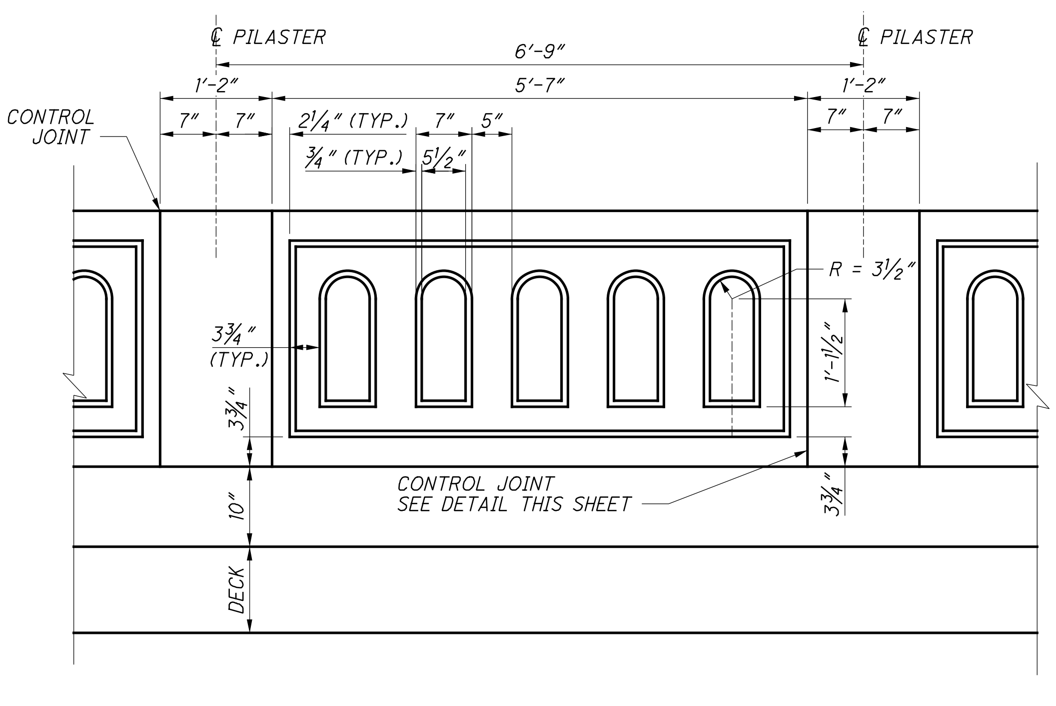
UNIT	CONTROL JT. SPA.	# PANELS	BAR X	BAR Y
1	6'-9"	18	512	602
1	13'-6"	12	513	603
1	14'-7⅝"	1	514	604
1	9'-0⅝"	1	515	605
1	6'-9⅝"	1	516	606
1	7'-11⅝"	1	517	607

UNIT	CONTROL JT. SPA.	# PANELS	BAR X	BAR Y
2	6'-9"	56	512	602
2	13'-6"	38	513	603
2	8'-4½"	1	514	604
2	9'-6½"	1	515	605
2	8'-2⅛"	1	516	606
2	9'-4⅛"	1	517	607

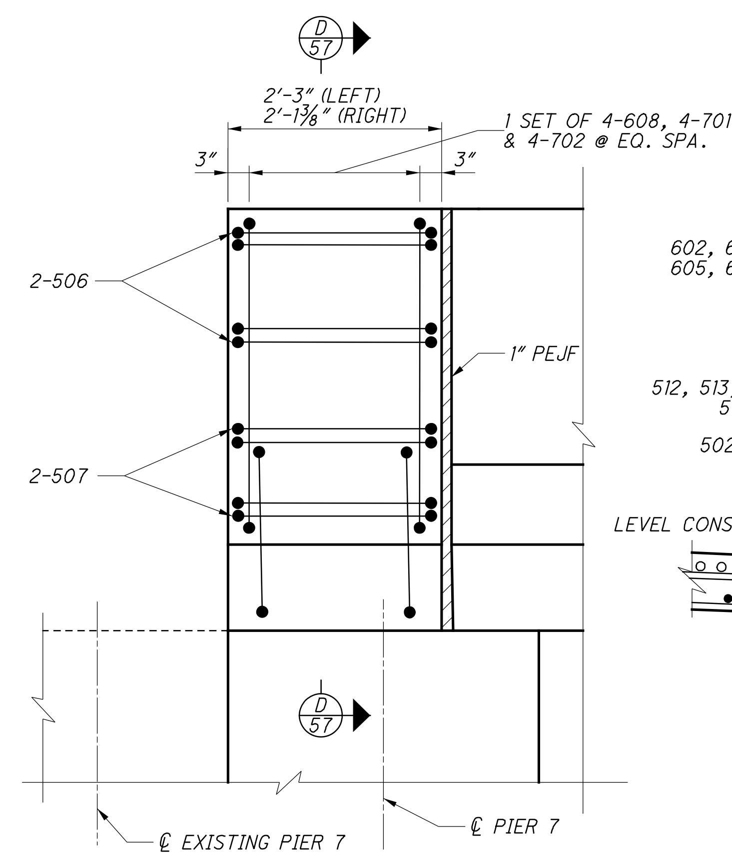
END PILASTERS				
UNIT	SIDE OF SLAB	DIM "A"	"B"	"C"
1	LEFT	2'-3¾"	3	508
1	RIGHT	1'-2½"	2	509
2	LEFT	2'-9½"	4	510
2	RIGHT	2'-8⅛"	4	510

LEGEND:

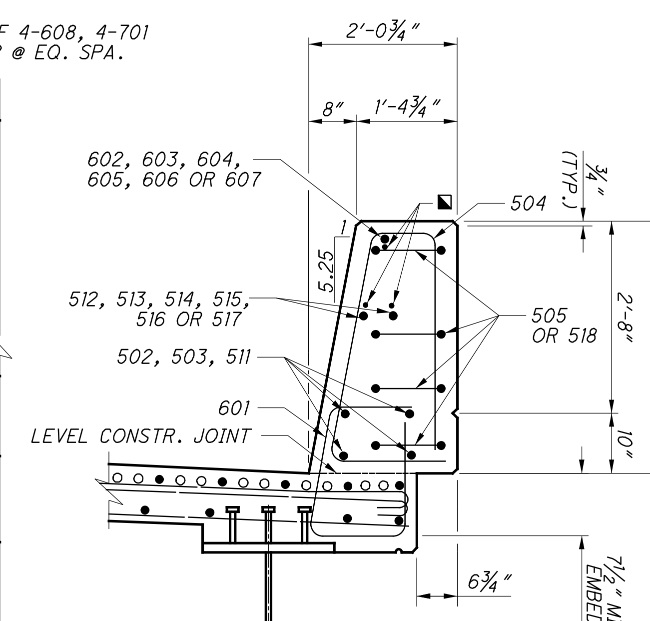
◪ - ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT



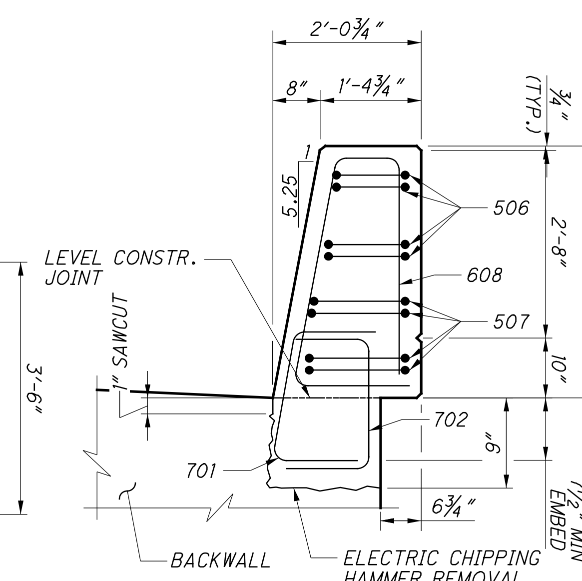
TYPICAL ORNAMENTAL PARAPET PANEL



PIER 7 PARAPET DETAIL



B 56,61 SECTION THRU PILASTER



D 57 SECTION THRU PILASTER

PIER 7

(BACKWALL REINFORCMENT NOT SHOWN)

NOTES:

1. THE PREFIX "IR" SHALL BE ADDED TO ALL BAR MARKS FOR PARAPET DETAILS IN UNIT 1 AND "2R" SHALL BE ADDED TO ALL BAR MARKS FOR PARAPET DETAILS IN UNIT 2.
2. FOR REINFORCING STEEL LIST, SEE SHEET 78/79.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED CRG	DRAWN ADS	REVIEWED TES	DATE 8/22/2019
CHECKED KDC	REVISED	STRUCTURE FILE NUMBER 3109798	

PARAPET DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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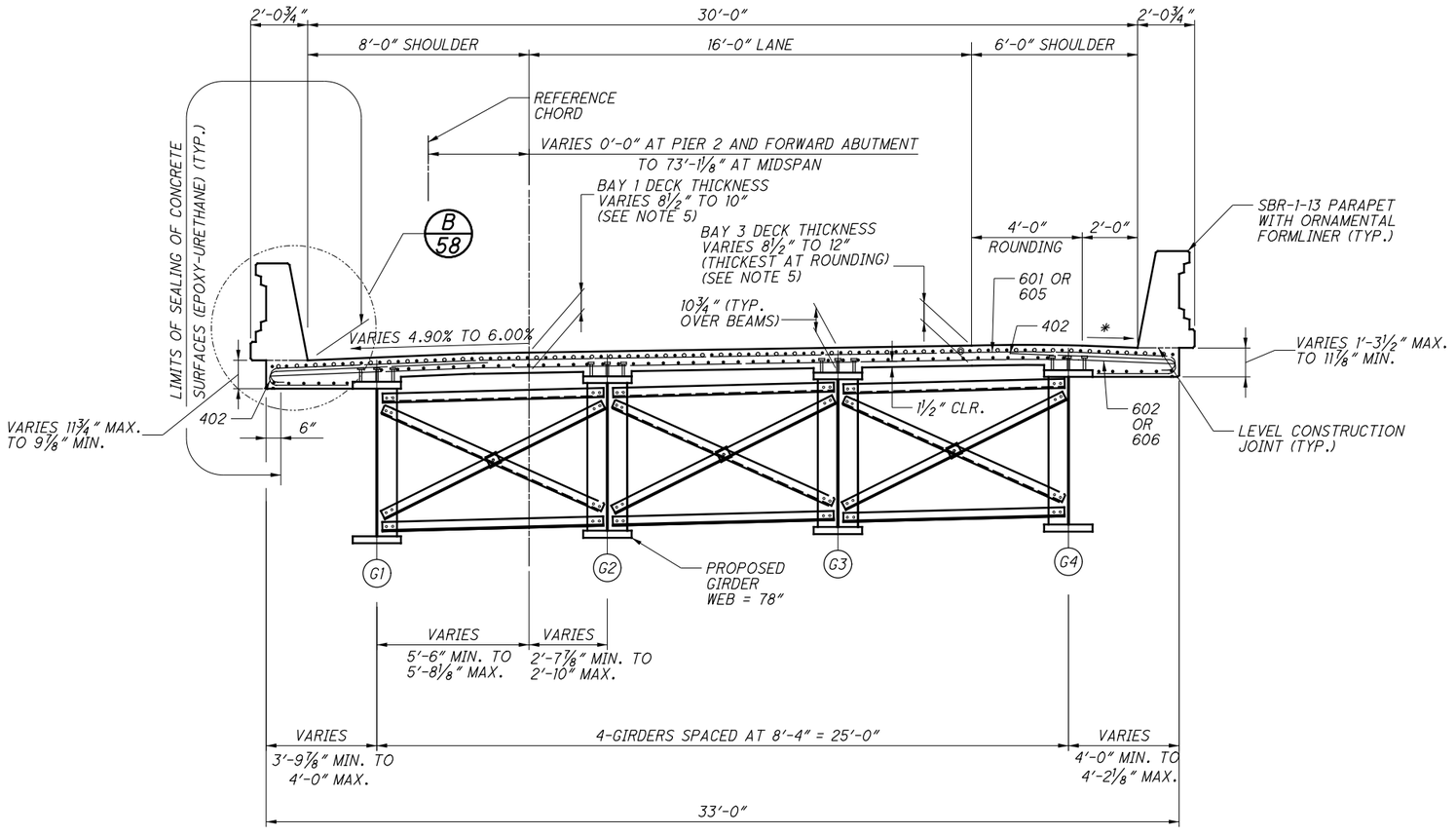
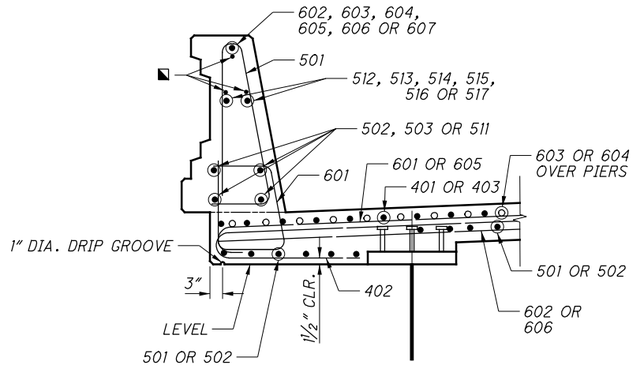


TRANSVERSE SECTION - UNIT 2

(LOOKING UPSTATION)



B/58 DETAIL OF DECK OVERHANG

LEGEND:

* - VARIES 1.59% TO 1%

■ - ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT

NOTES:

1. FOR FRAMING PLAN, SEE SHEET 42/79.
2. FOR CROSSFRAME DETAILS, SEE SHEET 48/79.
3. THE PREFIX "2S" SHALL BE ADDED TO ALL BAR MARKS FOR UNIT 2 SLAB AND "2R" FOR UNIT 2 RAILING.
4. ADDITIONAL DECK DETAILS WILL BE INCLUDED IN BU-07.
5. DIMENSION VARIES AT ROUNDING, VARIABILITY IS THICKEST AT THE ROUNDING AT THE GRADE BREAKS OVER BAY 1 AND BAY 3. BAY 1 VARIES FROM 8½" TO 10" THICK, BAY 3 VARIES FROM 8½" TO 12"

DESIGN AGENCY
PRIME
540 WHITE POND DR. SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	CRG	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

TRANSVERSE SECTION - UNIT 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

58/79

58
79

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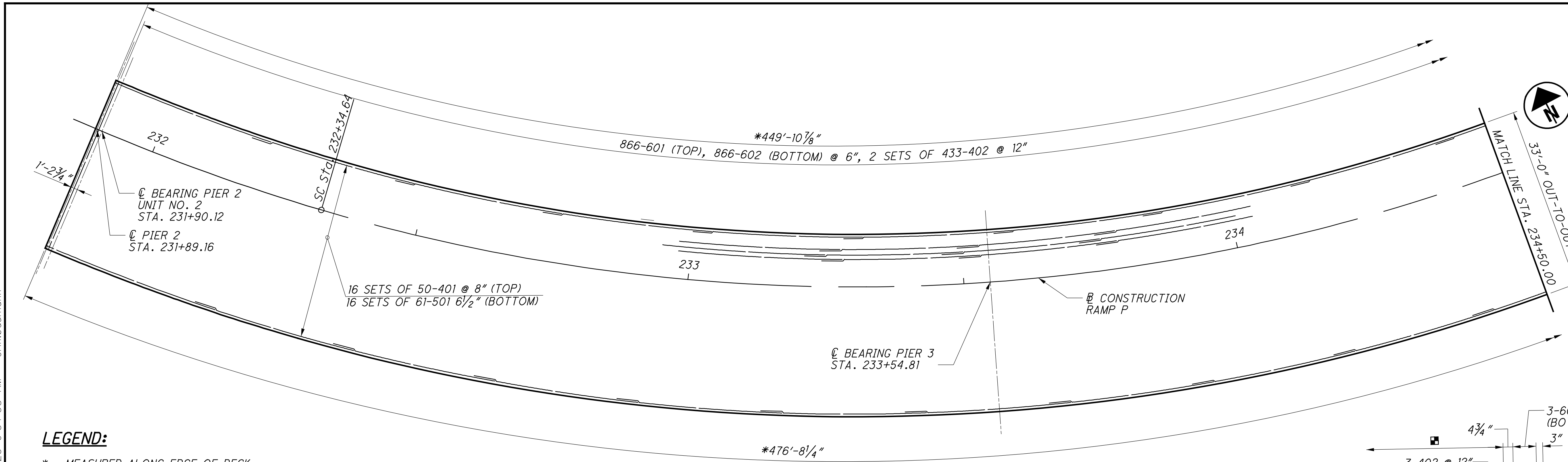
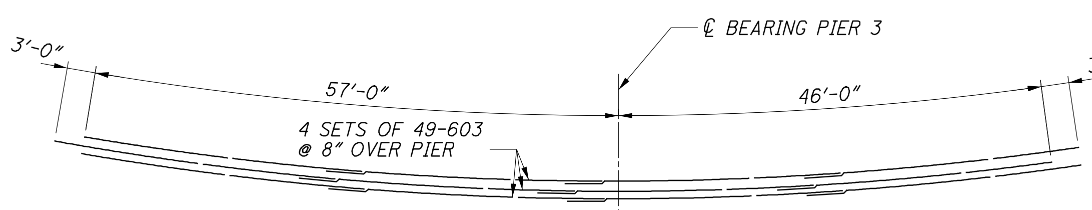


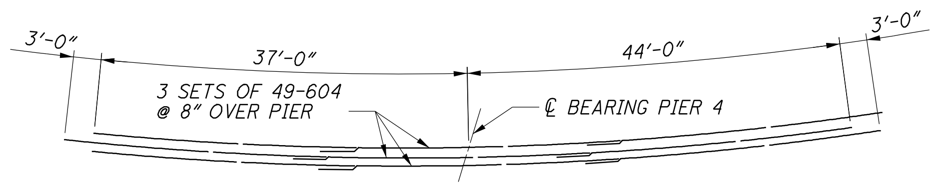
LEGEND:

* - MEASURED ALONG EDGE OF DECK
▣ - 1 SER. OF 30-S605 (TOP), 1 SER. OF 30-S606 (BOTTOM) @ 6"

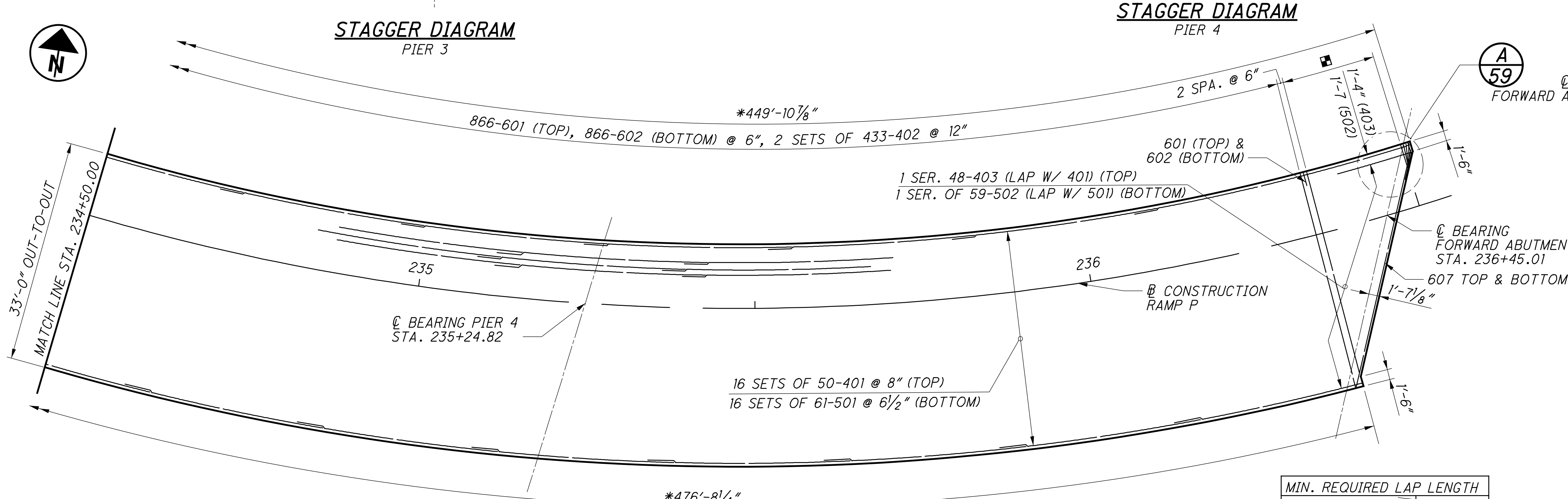
PART SLAB PLAN - UNIT 2
(PARAPET AND REFERENCE CHORD NOT SHOWN)



STAGGER DIAGRAM
PIER 3

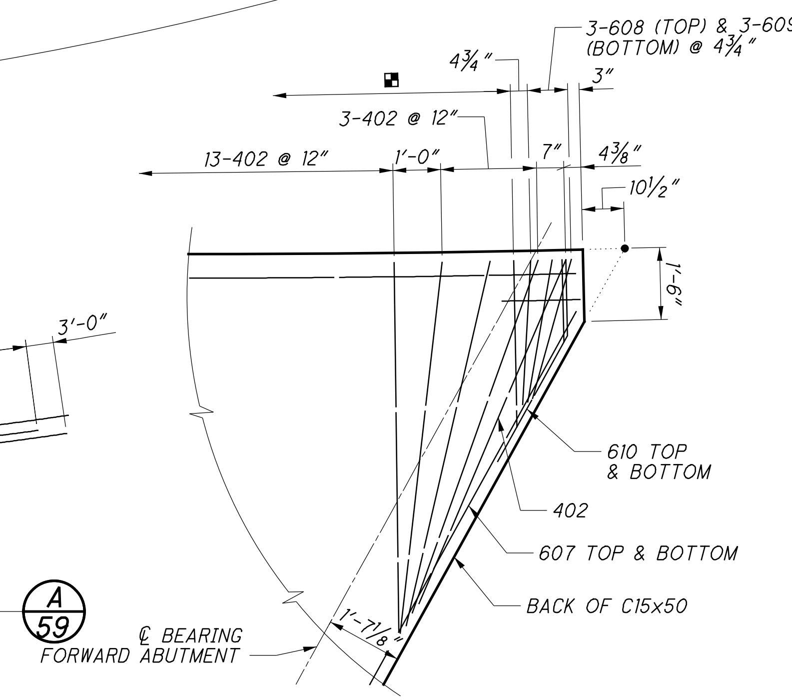


STAGGER DIAGRAM
PIER 4



MIN. REQUIRED LAP LENGTH	
#4 LONGITUDINAL	1'-11"
#5 LONGITUDINAL	3'-0"
#6 LONGITUDINAL	3'-7"

PART SLAB PLAN - UNIT 2
(PARAPET AND REFERENCE CHORD NOT SHOWN)



(A/59) DETAIL OF DECK CORNER

NOTES:

1. FOR TRANSVERSE SECTION, SEE SHEET 53/79 .
2. FOR EXPANSION JOINT DETAIL, SEE SHEET 63/79.
3. FOR PARAPET DETAILS, SEE SHEET 57/79 THRU 57/79 .
4. FOR SCREED, TOP OF HAUNCH AND FINAL DECK ELEVATIONS, SEE SHEET 66/79.
5. FOR REINFORCING STEEL LIST, SEE SHEETS 74/79 THRU 75/79.
6. REBAR CLEARANCE MEASURED TO THE FACE OF CONCRETE SHALL BE 3" UNLESS OTHERWISE NOTED.
7. FIELD BEND LONGITUDINAL BARS TO FIT CURVATURE OF ROADWAY AND TRANSVERSE BARS TO FIT CROWN. EPOXY COATED BARS DAMAGED BY FIELD BENDING SHALL BE REPAIRED IN ACCORDANCE WITH CMS 509.
8. THE PREFIX "2S" SHALL BE ADDED TO ALL BAR MARKS IN UNIT 2 SUPERSTRUCTURE.
9. FOR REFERENCE CHORD LAYOUT, SEE SHEET 6/79 .

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

SLAB PLAN-UNIT 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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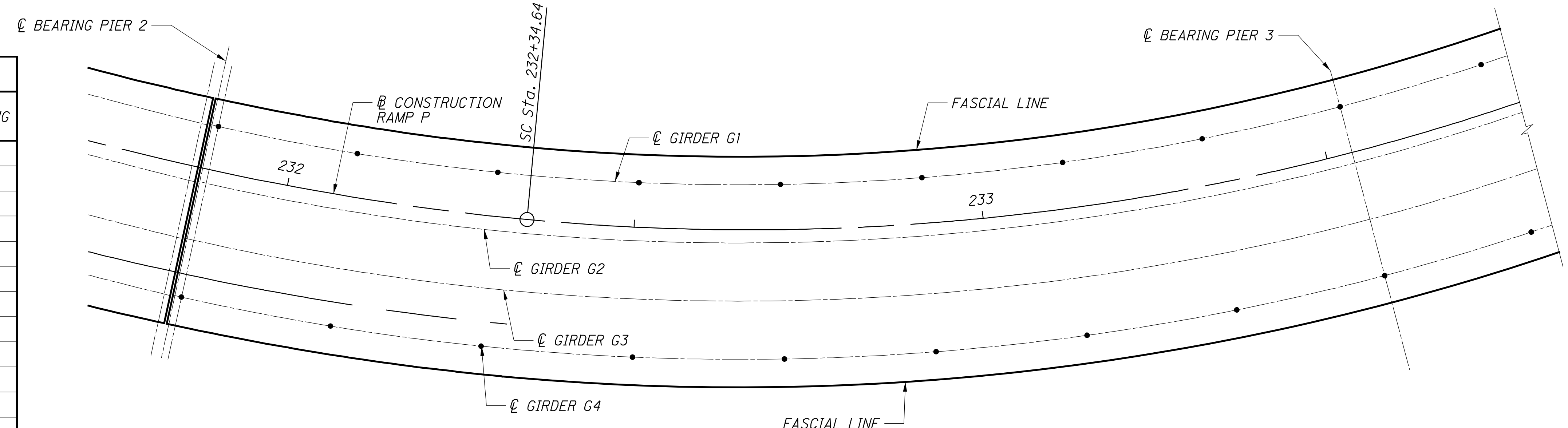
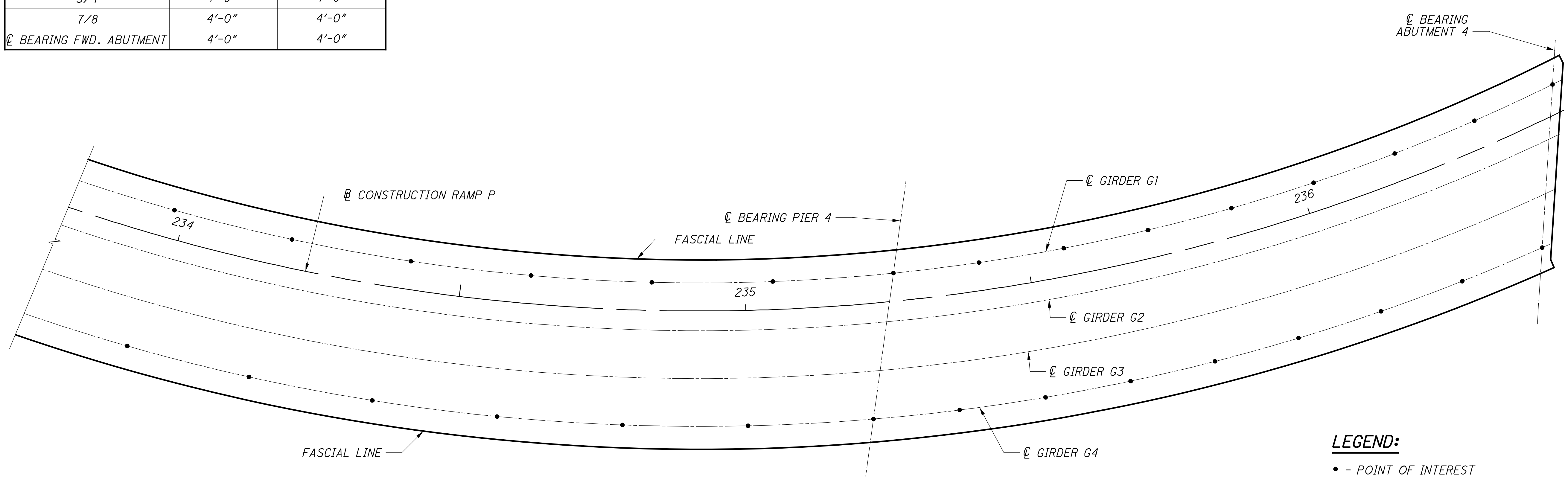
UNIT 2 DECK OVERHANG		
LOCATION	LEFT OVERHANG	RIGHT OVERHANG
℄ BEARING PIER 2, UNIT 2	3'-9¾"	4'-2⅛"
1/8	3'-10¾"	4'-0⅜"
1/4	3'-11¾"	3'-11⅞"
3/8	4'-0"	4'-0"
1/2	4'-0"	4'-0"
5/8	4'-0"	4'-0"
3/4	4'-0"	4'-0"
7/8	4'-0"	4'-0"
℄ BEARING PIER 3	4'-0"	4'-0"
1/8	4'-0"	4'-0"
1/4	4'-0"	4'-0"
3/8	4'-0"	4'-0"
1/2	4'-0"	4'-0"
5/8	4'-0"	4'-0"
3/4	4'-0"	4'-0"
7/8	4'-0"	4'-0"
℄ BEARING PIER 4	4'-0"	4'-0"
1/8	4'-0"	4'-0"
1/4	4'-0"	4'-0"
3/8	4'-0"	4'-0"
1/2	4'-0"	4'-0"
5/8	4'-0"	4'-0"
3/4	4'-0"	4'-0"
7/8	4'-0"	4'-0"
℄ BEARING FWD. ABUTMENT	4'-0"	4'-0"



FASCIA OFFSET PLAN



FASCIA OFFSET PLAN

LEGEND:

• - POINT OF INTEREST

NOTES:

1. FOR ADDITIONAL NOTES, SEE SHEET 54/79 .

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

REVIEWED	DATE
TES	8/22/2019
STRUCTURE FILE NUMBER	
3109798	

DESIGNED	DRAWN
CRG	CRG
CHECKED	REVISED
KDC	

DECK OVERHANG TABLE - UNIT 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

60/79

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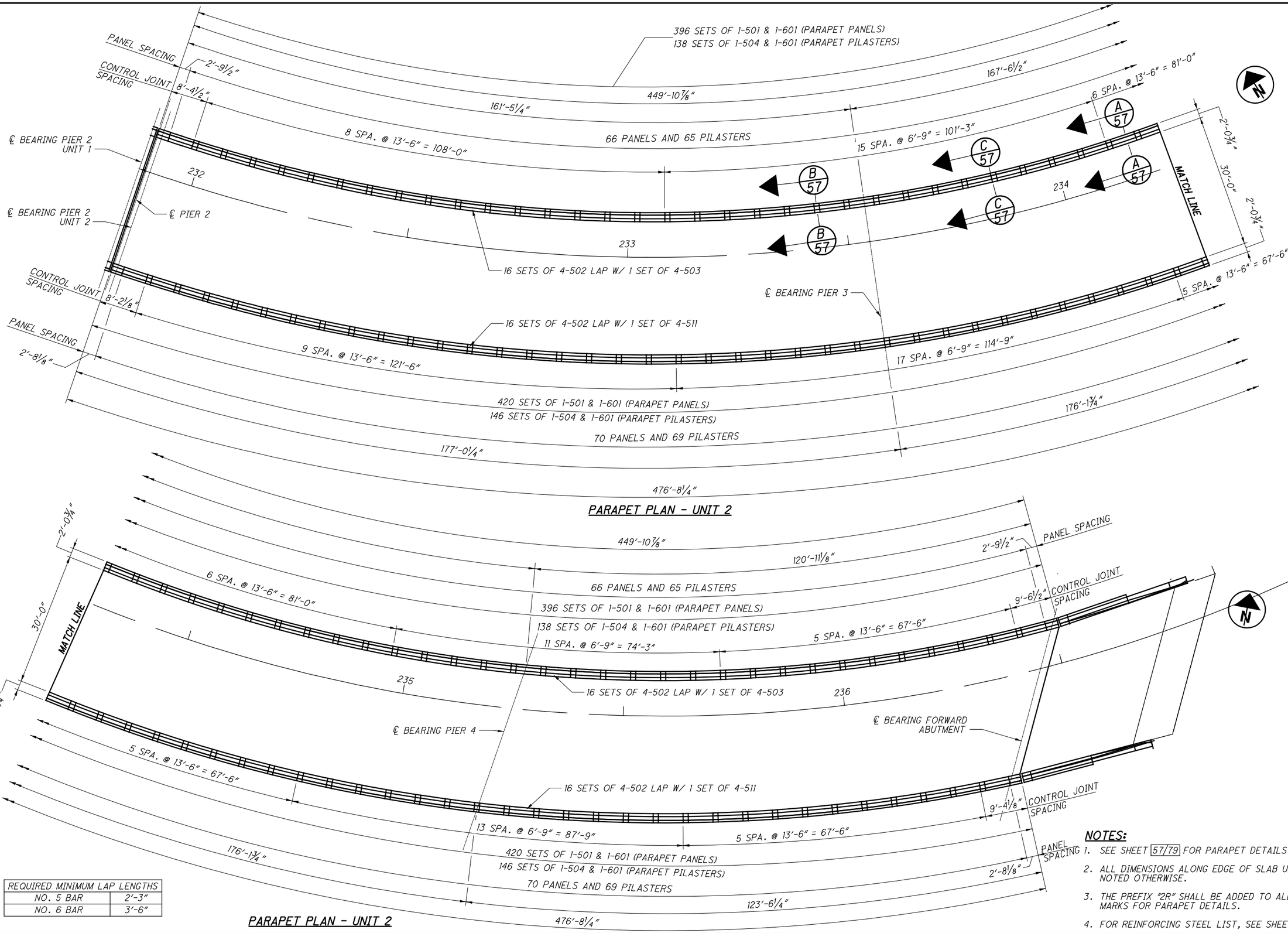

REQUIRED MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-3"
NO. 6 BAR	3'-6"

NOTES:

1. SEE SHEET 57/79 FOR PARAPET DETAILS.
2. ALL DIMENSIONS ALONG EDGE OF SLAB UNLESS NOTED OTHERWISE.
3. THE PREFIX "2R" SHALL BE ADDED TO ALL BAR MARKS FOR PARAPET DETAILS.
4. FOR REINFORCING STEEL LIST, SEE SHEET 78/79.

DESIGN AGENCY
PRIME AE
540 WEST POINT DR., SUITE E
WESTON, OR 97886

DESIGNED	DRAWN	REVIEWED	DATE
CRG	ADS	TES	8/22/2019
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KDC		3109798	

PARAPET AND MEDIAN BARRIER PLAN - UNIT 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

61 / 79

61
79

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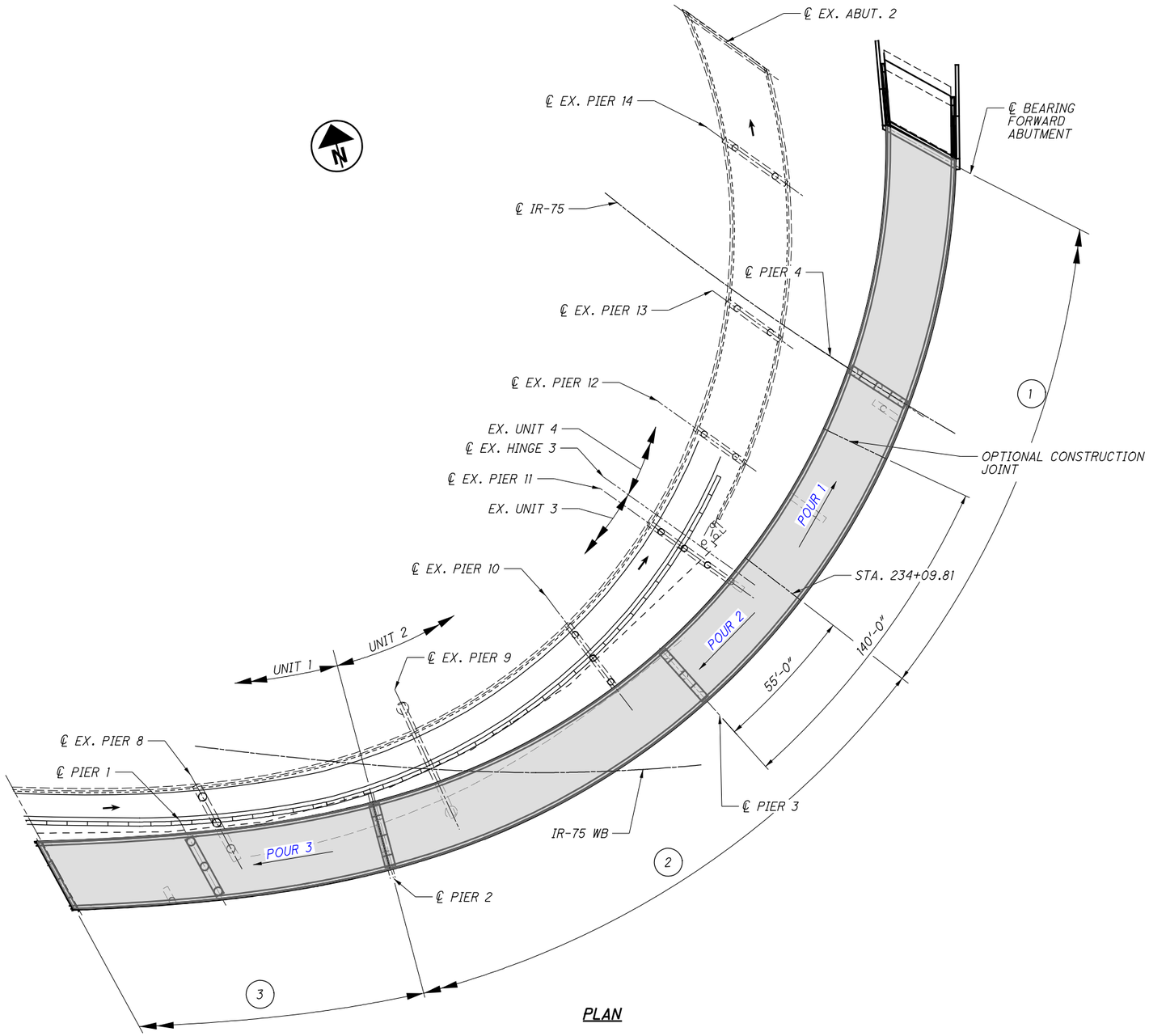

PLAN

DECK POURING SEQUENCE:

1. POUR RAMP P UNIT 2 FROM STA. 234+09.81 (APPROX. FS4) TO FORWARD ABUTMENT.
2. POUR RAMP P UNIT 2 FROM STA. 234+09.81 (APPROX. FS4) TO PIER 2.
3. POUR RAMP P UNIT 1 FROM PIER 2 TO PIER 7.

NOTES:

1. CONSTRUCTION DETAILS ARE FOR RAMP P (HAM-74-1908S) ONLY. FOR CORRESPONDING CONSTRUCTION DETAILS FOR I-74 EB (HAM-74-1908R), SEE BU-10.
2. FOR GENERAL NOTES AND MOT REFERENCE, SEE SHEETS 7/79 AND 8/79.
3. FOR SLAB PLANS, SEE SHEETS 54/79 & 59/79.

LEGEND:

- INDICATES LIMITS OF DECK CONSTRUCTION (S1-P2-S2)

SX-PX-SX - STAGE X, PHASE X, STEP X (MOT PHASING)

DESIGN AGENCY
PRIME AE
540 WHITE POND DR. SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	CRG	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

DECK POURING SEQUENCE
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

62 / 79

62
79

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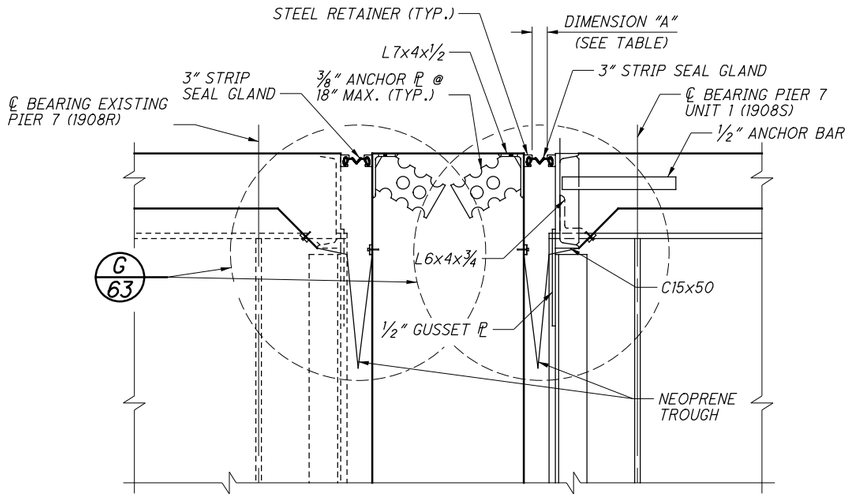
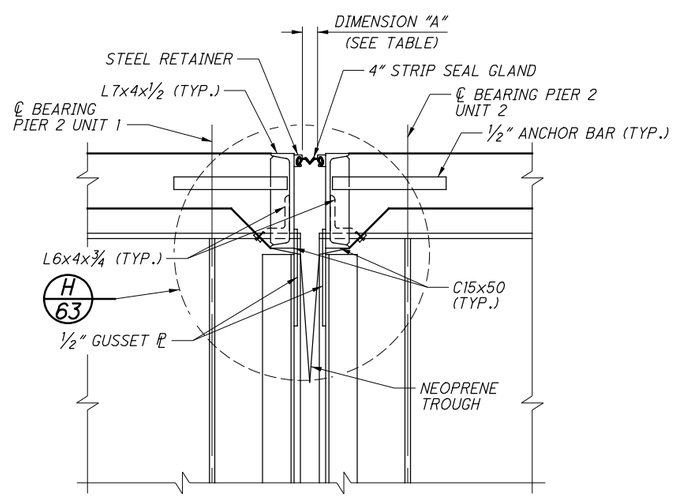
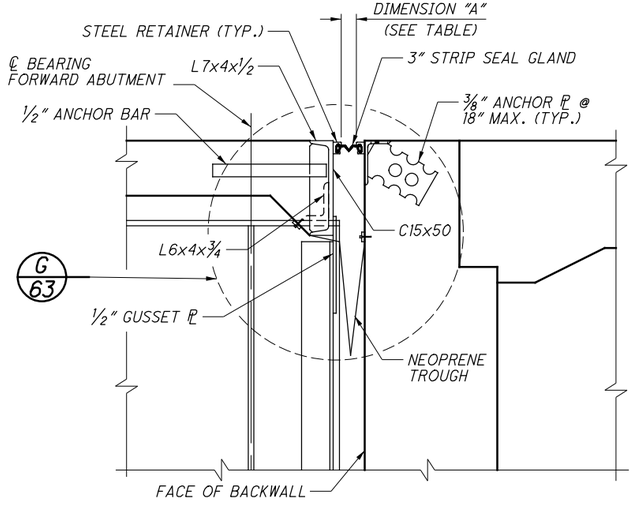


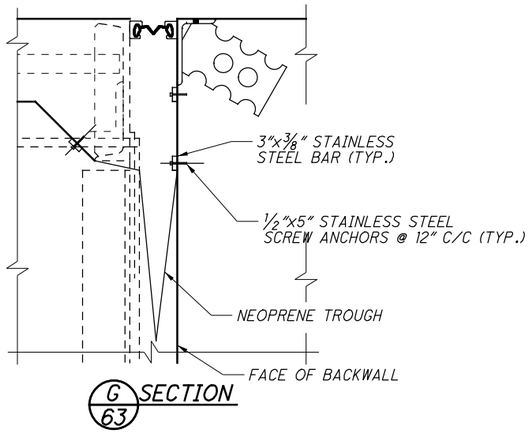
D 63 SECTION THRU EXISTING PIER 7 EXPANSION JOINTS



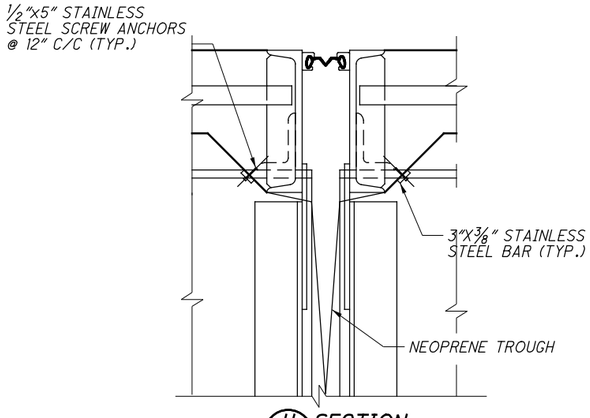
E 63 SECTION THRU PIER 2 EXPANSION JOINT



F 63 SECTION THRU FORWARD ABUTMENT EXPANSION JOINT



G 63 SECTION



H 63 SECTION

EX. PIER 7 (1908R)	
4" STRIP SEAL JOINT WIDTH	
AMBIENT TEMPERATURE	DIMENSION "A"
30° F	2⅞"
40° F	2⅝"
50° F	2⅞16"
60° F	2¼"
70° F	2"
80° F	1¹³⁄16"
90° F	1⅝"

PIER 7 UNIT 1	
3" STRIP SEAL JOINT WIDTH	
AMBIENT TEMPERATURE	DIMENSION "A"
30° F	1¹⁵⁄16"
40° F	1⅞"
50° F	1¹³⁄16"
60° F	1¾"
70° F	1¹¹⁄16"
80° F	1⅝"
90° F	1⁹⁄16"

PIER 2	
4" STRIP SEAL JOINT WIDTH	
AMBIENT TEMPERATURE	DIMENSION "A"
30° F	3⅛"
40° F	2⅞"
50° F	2⅝"
60° F	2⅝16"
70° F	2¹⁄16"
80° F	1¹³⁄16"
90° F	1⁹⁄16"

FORWARD ABUTMENT	
3" STRIP SEAL JOINT WIDTH	
AMBIENT TEMPERATURE	DIMENSION "A"
30° F	2⁷⁄16"
40° F	2¼"
50° F	2⅛"
60° F	1¹⁵⁄16"
70° F	1¹³⁄16"
80° F	1⅝"
90° F	1½"

NOTES:

1. FOR ADDITIONAL EXPANSION JOINT DETAILS, SEE STANDARD DRAWING EXJ-4-87.
2. THE TROUGH MATERIAL SHALL BE 3⁄32" THICK, HEAVY DUTY ELASTOMERIC SHEET OF NYLON FABRIC ENCASED IN A NEOPRENE POLYMER. THE MATERIAL SHALL BE "FAIRPRENE" WFP-N2N4 AS MANUFACTURED BY ALPHA ENGINEERING COMPOSITES LLC OR APPROVED EQUAL. THE MATERIAL SHALL CONFORM TO ASTM D751 AND THE FOLLOWING:

THICKNESS:	0.093 INCH ± 0.01 INCH
MIN. BREAKING STRENGTH:	650 LBS x 650 LBS
LOW TEMPERATURE:	ASTM D2136

3. THE SUPPORT ANGLES SHALL BE ASTM A709, GRADE 50 AND SHALL BE GALVANIZED IN ACCORDANCE WITH CMS 711.02.
4. THE STAINLESS STEEL BARS SHALL BE ASTM A480, TYPE 304.

DESIGN AGENCY
PRIME
540 WEST POINT DRIVE, SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
CRG	CRG	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

EXPANSION JOINT DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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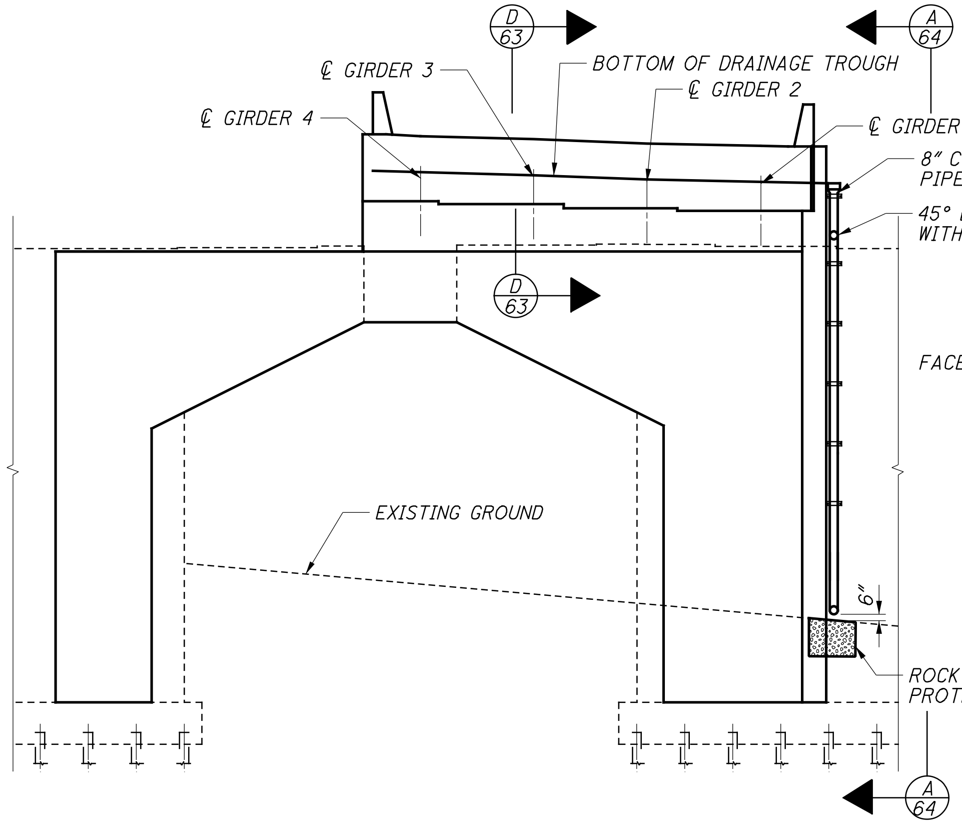
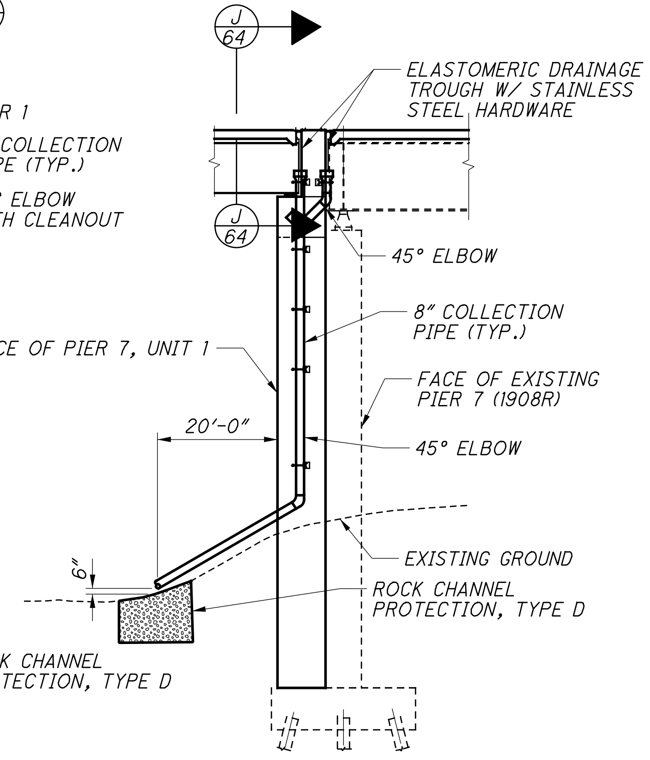
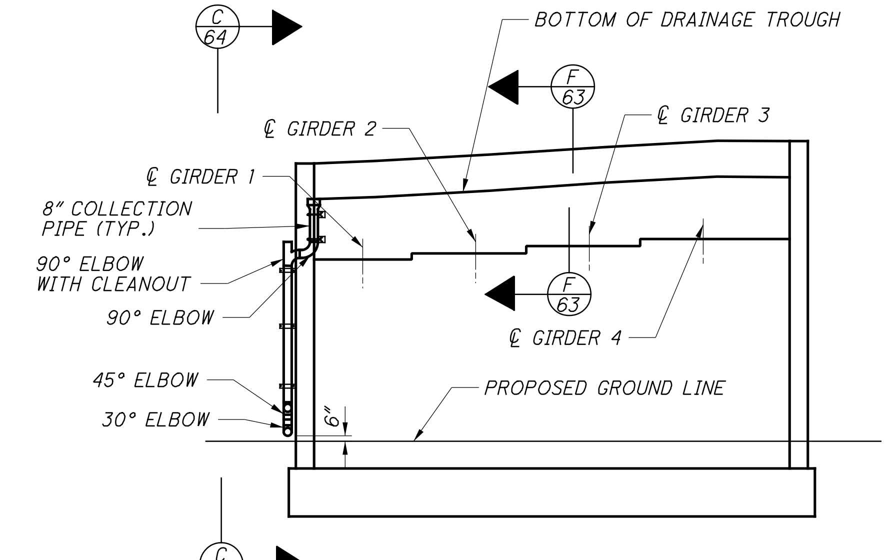


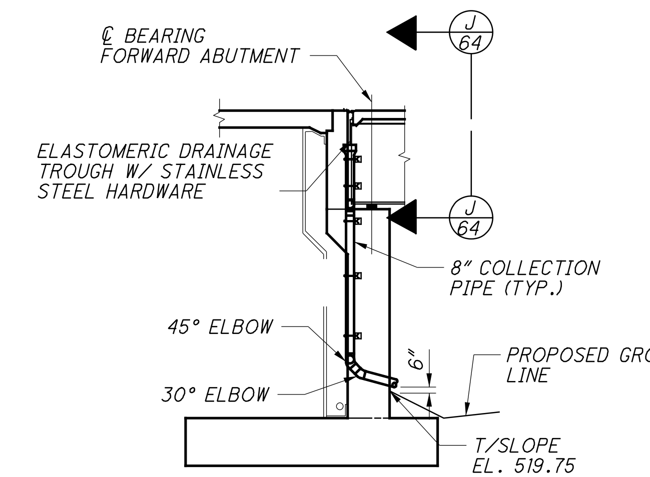
PIER 7 PLAN



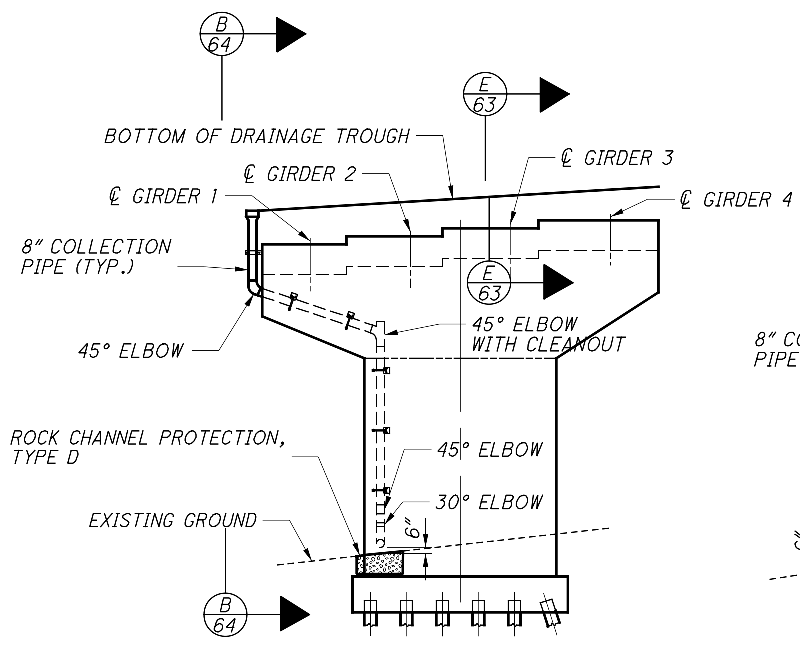
A 64 PIER 7 DRAINAGE DETAIL



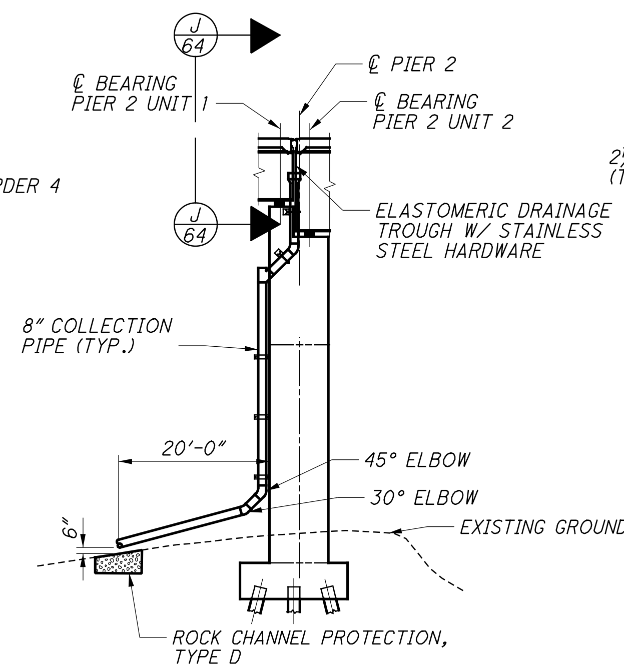
FORWARD ABUTMENT PLAN



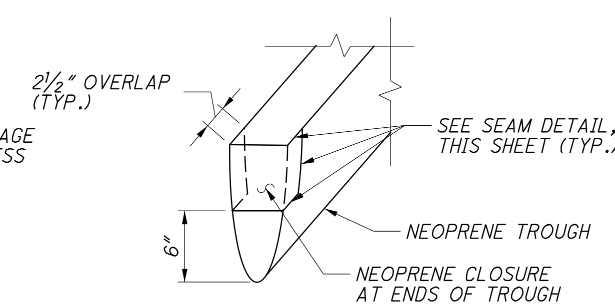
C 64 FORWARD ABUTMENT DRAINAGE DETAIL



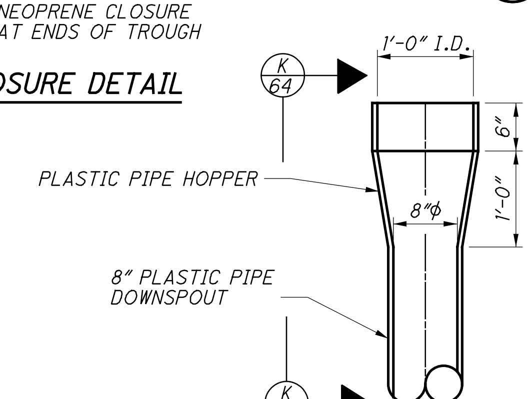
PIER 2 PLAN



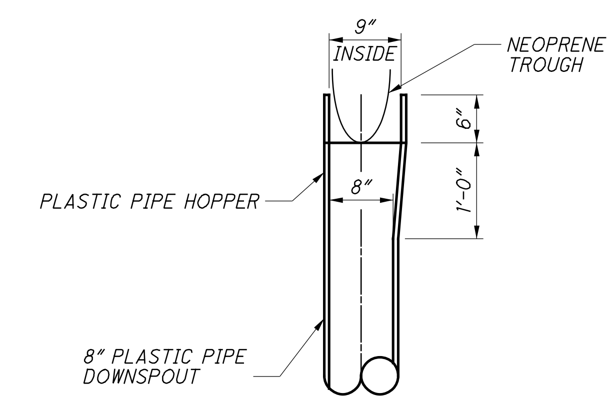
B 64 PIER 2 DRAINAGE DETAIL



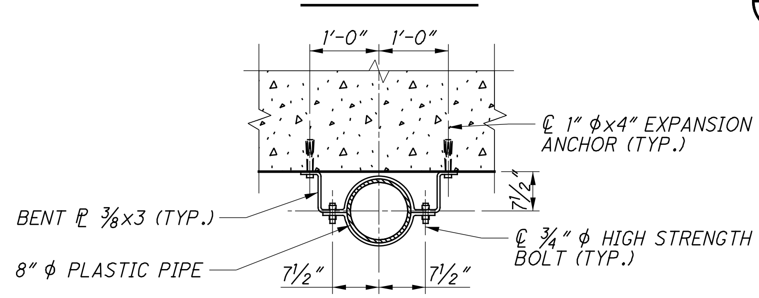
END OF TROUGH CLOSURE DETAIL



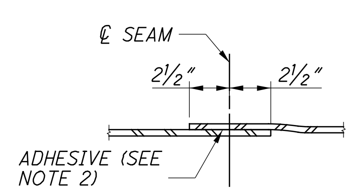
J 64 SECTION



K 64 SECTION



DOWNSPOUT SUPPORT BRACKET



SEAM DETAIL

NOTES:

1. FOR EXPANSION JOINT DETAILS, SEE SHEET 63/79 .
2. AT THE ENDS OF THE NEOPRENE DRAINAGE TROUGHS, OVERLAP THE ENDS OF THE NEOPRENE AND SEAL WITH 3M SCOTCH-WELD HP 1357 NEOPRENE CONTACT ADHESIVE OR APPROVED EQUAL.
3. ALL BRACKETS SHALL BE ASTM A709, GRADE 50 AND SHALL BE GALVANIZED PER CMS 711.02.
4. ALL MATERIALS FOR THE DOWNSPOUTS AND ELBOWS SHALL BE PLASTIC PIPE IN ACCORDANCE WITH CMS 707.45.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	KDC	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

DRAINAGE DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

64/79

64/79

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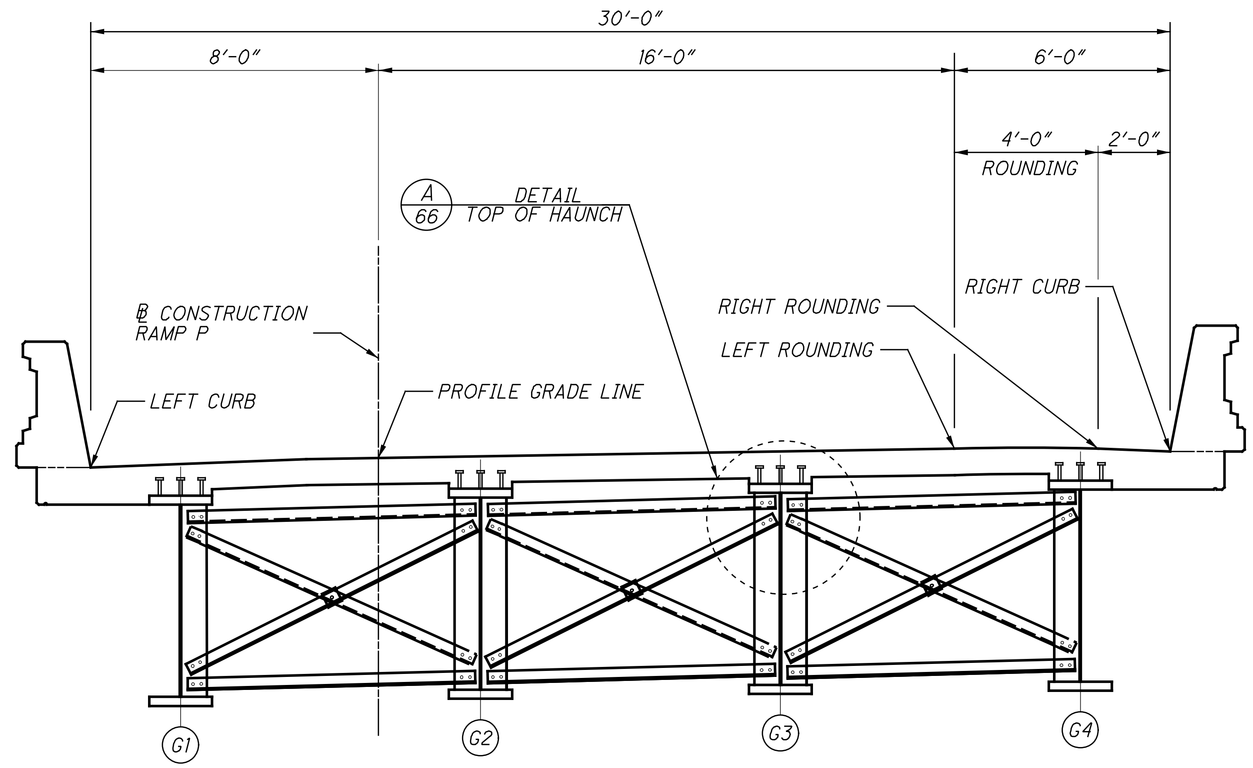
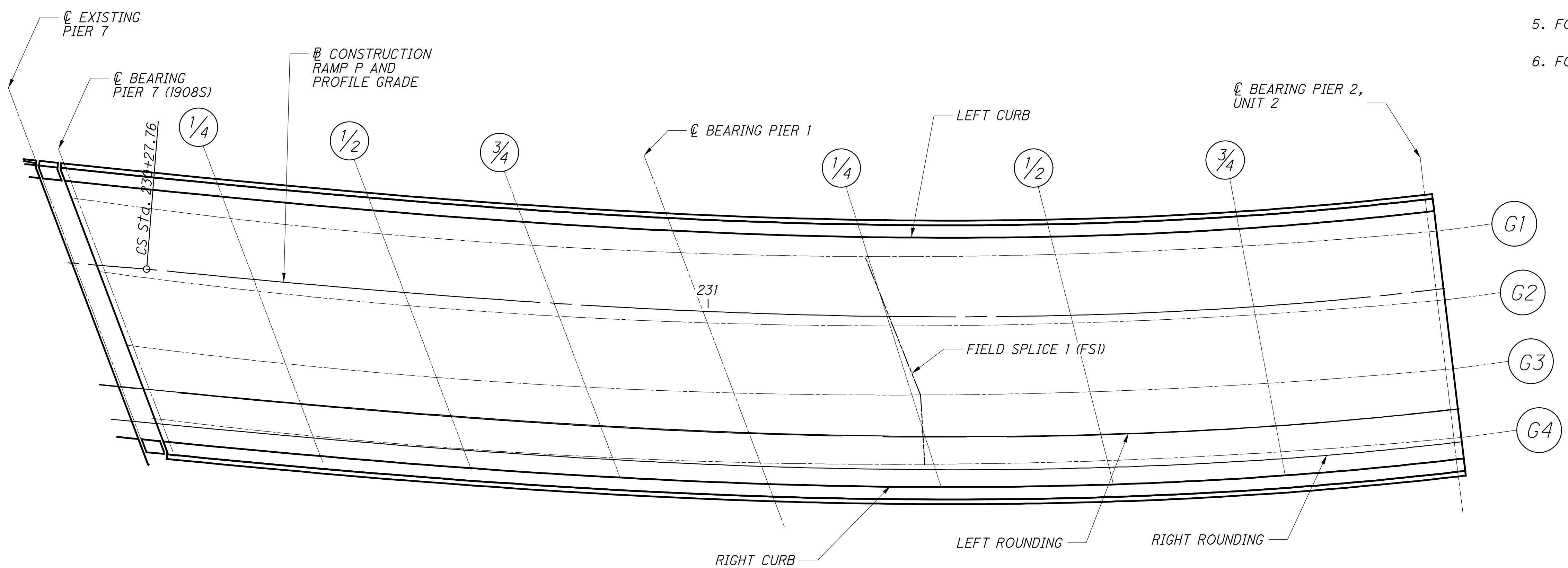


TRANSVERSE SECTION - UNIT 1

NOTES:

1. FOR SCREED ELEVATIONS, SEE SHEET 66/79.
2. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEET 66/79.
3. FOR FINAL DECK ELEVATIONS, SEE SHEET 66/79.
4. FOR DECK PLAN, SEE SHEET 54/79.
5. FOR TRANSVERSE SECTION, SEE SHEET 53/79.
6. FOR FRAMING PLAN, SEE SHEET 37/79.



ELEVATION LOCATION PLAN - UNIT 1

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

ELEVATION LOCATION PLAN - UNIT 1
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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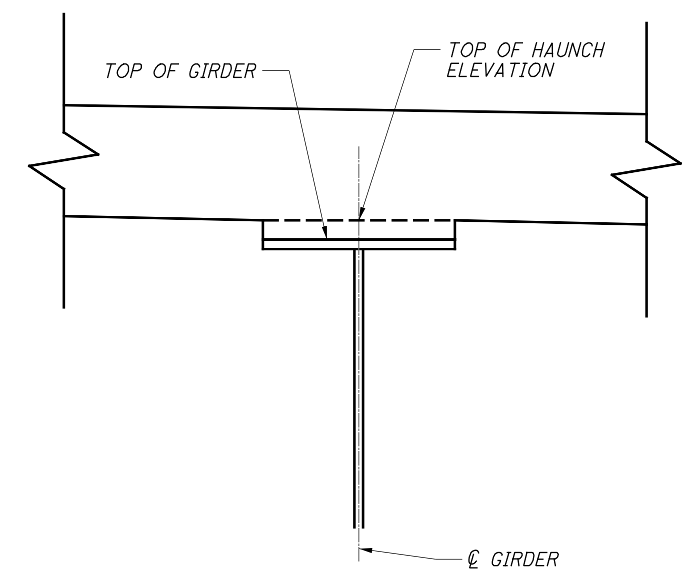
SCREED ELEVATIONS - UNIT 1

		℄ BRG. PIER 7 (1908S)	1/4 POINT	1/2 POINT	3/4 POINT	℄ BRG. PIER 1	1/4 POINT	FS1 POINT	1/2 POINT	3/4 POINT	℄ BRG. PIER 2, UNIT 2
LEFT CURB	STATION	230+22.32	230+40.55	230+58.80	230+77.09	230+95.41	231+18.38	231+18.88	231+41.39	231+64.47	231+87.59
	ELEV.	539.28	539.53	539.79	540.08	540.42	540.96	540.97	541.56	542.16	542.75
PROFILE GRADE	STATION	230+26.34	230+44.47	230+62.61	230+80.75	230+98.88	231+21.07	231+22.34	231+43.25	231+65.43	231+87.62
	ELEV.	539.41	539.70	540.00	540.32	540.71	541.28	541.31	541.91	542.53	543.14
LEFT ROUNDING	STATION	230+34.30	230+52.21	230+70.07	230+87.86	231+05.59	231+26.23	231+26.25	231+46.79	231+67.27	231+87.67
	ELEV.	540.05	540.39	540.74	541.11	541.53	542.12	542.12	542.76	543.38	543.99
RIGHT ROUNDING	STATION	230+36.26	230+54.11	230+71.89	230+89.59	231+07.22	231+27.48	231+26.25	231+47.64	231+67.71	231+87.68
	ELEV.	540.08	540.43	540.79	541.17	541.61	542.20	543.38	542.83	543.46	544.07
RIGHT CURB	STATION	230+37.23	230+55.06	230+72.70	230+90.45	231+08.03	231+28.10	231+26.25	231+48.06	231+67.92	231+87.68
	ELEV.	540.02	540.38	540.75	541.14	541.57	542.17	542.11	542.80	543.43	544.04

TOP OF HAUNCH ELEVATIONS - UNIT 1

		℄ BRG. PIER 7 (1908S)	1/4 POINT	1/2 POINT	3/4 POINT	℄ BRG. PIER 1	1/4 POINT	FS1 **	1/2 POINT	3/4 POINT	℄ BRG. PIER 2, UNIT 2
EX. GIRDER 1	STATION	230+23.32	230+41.59	230+59.88	230+78.20	230+96.55	231+19.25	231+18.88	231+41.99	231+64.78	231+87.60
	ELEV.	538.60	538.87	539.15	539.45	539.80	540.34	540.34	540.95	541.55	542.16
EX. GIRDER 2	STATION	230+27.57	230+45.72	230+63.87	230+82.00	231+00.12	231+22.01	231+22.34	231+43.90	231+65.77	231+87.62
	ELEV.	538.80	539.11	539.43	539.76	540.14	540.71	540.72	541.33	541.95	542.58
EX. GIRDER 3	STATION	230+31.78	230+49.80	230+67.78	230+85.71	231+03.61	231+24.70	231+25.71	231+45.74	231+66.73	231+87.65
	ELEV.	539.13	539.47	539.81	540.17	540.57	541.15	541.18	541.77	542.40	543.02
EX. GIRDER 4	STATION	230+35.95	230+53.83	230+71.63	230+89.36	231+07.01	231+27.31	231+26.25	231+47.53	231+67.65	231+87.68
	ELEV.	539.38	539.73	540.09	540.47	540.90	541.50	541.46	542.13	542.76	543.37



A/66 DETAIL - TOP OF HAUNCH

FINAL DECK SURFACE ELEVATIONS - UNIT 1

		℄ BRG. EX. PIER 7	1/4 POINT	1/2 POINT	3/4 POINT	℄ BRG. PIER 1	1/4 POINT	FS1 **	1/2 POINT	3/4 POINT	℄ BRG. PIER 2, UNIT 1
LEFT CURB	STATION	230+22.32	230+40.55	230+58.80	230+77.09	230+95.41	231+18.38	231+18.88	231+41.39	231+64.47	231+87.59
	ELEV.	539.28	539.51	539.77	540.08	540.42	540.91	540.92	541.46	542.07	542.75
GIRDER 1	STATION	230+23.32	230+41.59	230+59.88	230+78.20	230+96.55	231+19.25	231+18.88	231+41.99	231+64.78	231+87.60
	ELEV.	539.31	539.56	539.84	540.16	540.51	541.00	540.99	541.55	542.17	542.87
PROFILE GRADE	STATION	230+26.34	230+44.47	230+62.61	230+80.75	230+98.88	231+21.07	231+22.34	231+43.25	231+65.43	231+87.62
	ELEV.	539.41	539.68	539.98	540.32	540.71	541.23	541.26	541.81	542.45	543.14
GIRDER 2	STATION	230+27.57	230+45.72	230+63.87	230+82.00	231+00.12	231+22.01	231+22.34	231+43.90	231+65.77	231+87.62
	ELEV.	539.51	539.79	540.12	540.47	540.85	541.37	541.38	541.94	542.58	543.29
GIRDER 3	STATION	230+31.78	230+49.80	230+67.78	230+85.71	231+03.61	231+24.70	231+25.71	231+45.74	231+66.73	231+87.65
	ELEV.	539.84	540.16	540.50	540.87	541.28	541.81	541.83	542.39	543.03	543.73
LEFT ROUNDING	STATION	230+34.30	230+52.21	230+70.07	230+87.86	231+05.59	231+26.23	231+26.25	231+46.79	231+67.27	231+87.67
	ELEV.	540.05	540.37	540.72	541.11	541.53	542.08	542.08	542.67	543.31	543.99
GIRDER 4	STATION	230+35.95	230+53.83	230+71.63	230+89.36	231+07.01	231+27.31	231+26.25	231+47.53	231+67.65	231+87.68
	ELEV.	540.09	540.41	540.77	541.17	541.61	542.16	542.13	542.75	543.39	544.07
RIGHT ROUNDING	STATION	230+36.26	230+54.11	230+71.89	230+89.59	231+07.22	231+27.48	231+26.25	231+47.64	231+67.71	231+87.68
	ELEV.	540.08	540.40	540.77	541.17	541.61	542.15	542.12	542.75	543.38	544.07
RIGHT CURB	STATION	230+37.23	230+55.06	230+72.70	230+90.45	231+08.03	231+28.10	231+26.25	231+48.06	231+67.92	231+87.68
	ELEV.	540.02	540.36	540.72	541.13	541.57	542.07	542.12	542.72	543.35	544.04

LEGEND:

** - FIELD SPLICE 1 LOCATED BEFORE 1/4 POINT FOR: GIRDER 1, GIRDER 4, RIGHT ROUNDING & RIGHT CURB

NOTES:

1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETCIAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETCIAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR ELEVATION DIAGRAM DEPICTING DECK SURFACE LOACTIONS IN TRANSVERSE SECTION AND PLAN VIEW, SEE SHEET 65/79.
5. FOR DECK POURING SEQUENCE, SEE SHEET 62/79.
6. FOR ADDITIONAL NOTES, SEE SHEET 65/79.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

REVIEWED TES DATE 8/22/2019
STRUCTURE FILE NUMBER 3109798
DESIGNED KDC DRAWN ADS REVISED
CHECKED CRG

ELEVATION TABLES - UNIT 1
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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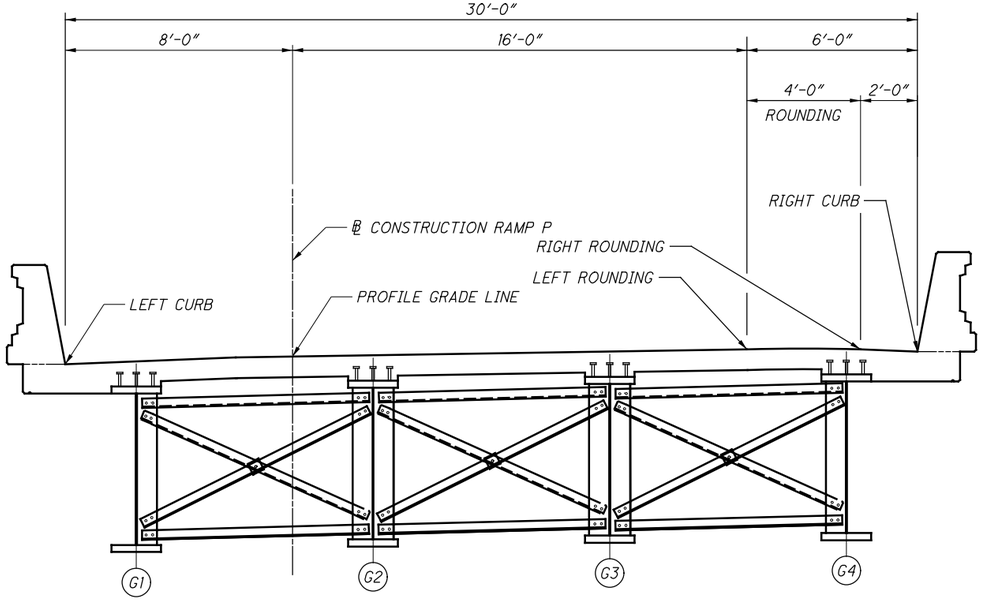
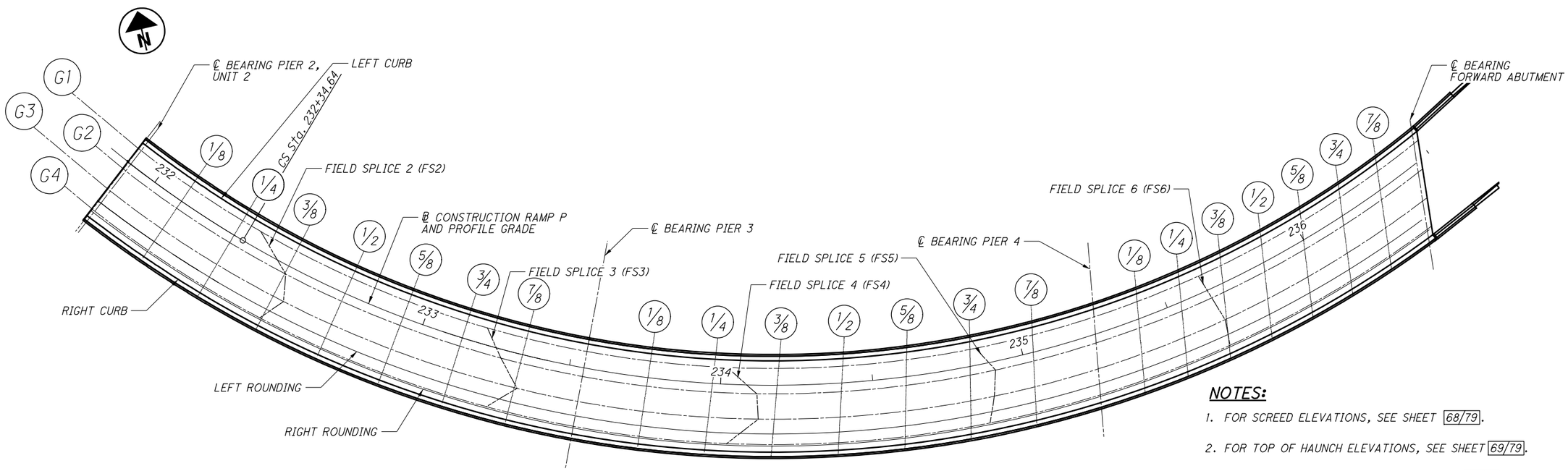


TRANSVERSE SECTION - UNIT 2



PLAN - UNIT 2

NOTES:

1. FOR SCREED ELEVATIONS, SEE SHEET 68/79.
2. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEET 69/79.
3. FOR FINAL DECK ELEVATIONS, SEE SHEET 70/79.
4. FOR DECK PLAN, SEE SHEET 59/79.
5. FOR TRANSVERSE SECTIONS, SEE SHEET 58/79.
6. FOR FRAMING PLAN, SEE SHEET 42/79.

DESIGN AGENCY
PRIME AE
540 WEST POINT PIKE, SUITE E
WAYNE, PA 19087

DESIGNED	DRAWN	REVIEWED	DATE
KDC	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

ELEVATION LOCATION PLAN - UNIT 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

67 / 79

67
79

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SCREED ELEVATIONS - UNIT 2

		℄ BRG. PIER 3	1/8 POINT	1/4 POINT	FS4	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS5	7/8 POINT	℄ BRG. PIER 4	1/8 POINT	1/4 POINT	FS6	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	℄ BRG. FA
LEFT CURB	STATION	233+54.81	233+76.30	233+97.80	234+01.94	234+19.29	234+40.79	234+62.28	234+83.77	234+85.28	235+05.27	235+26.76	235+42.12	235+57.48	235+63.53	235+72.83	235+88.19	236+03.55	236+18.91	236+34.26	236+49.62
	ELEV.	547.38	547.62	547.79	547.81	547.87	547.82	547.64	547.34	547.32	546.93	546.43	546.04	545.63	545.46	545.21	544.78	544.34	543.89	543.42	542.93
PROFILE GRADE	STATION	233+54.81	233+76.06	233+97.31	234+11.94	234+18.56	234+39.82	234+61.07	234+82.32	234+90.24	235+03.57	235+24.82	235+39.84	235+57.87	235+64.26	235+69.89	235+84.92	235+99.94	236+14.96	236+29.99	236+45.01
	ELEV.	547.86	548.08	548.24	548.30	548.31	548.27	548.11	547.82	547.69	547.43	546.96	546.59	546.19	545.94	545.79	545.37	544.94	544.49	544.02	543.55
LEFT ROUNDING	STATION	233+54.81	233+75.61	233+96.41	234+02.78	234+17.21	234+38.01	234+58.81	234+79.61	234+85.09	235+00.41	235+21.21	235+35.63	235+50.04	235+63.61	235+64.45	235+78.86	235+93.27	236+07.68	236+22.09	236+36.50
	ELEV.	548.82	548.99	549.12	549.15	549.19	549.17	549.04	548.78	548.71	548.43	548.00	547.68	547.32	546.97	546.94	546.55	546.13	545.69	545.23	544.75
RIGHT ROUNDING	STATION	233+54.81	233+75.50	233+96.20	234+38.01	234+16.89	234+37.58	234+58.28	234+78.97	235+21.21	234+99.67	235+20.36	235+34.63	235+48.90	235+78.86	235+63.17	235+77.44	235+91.70	236+05.97	236+20.24	236+34.51
	ELEV.	548.92	549.09	549.22	549.25	549.29	549.27	549.14	548.89	548.81	548.54	548.12	547.81	547.45	547.07	547.08	546.69	546.27	545.84	545.38	544.91
RIGHT CURB	STATION	233+54.81	233+75.45	233+96.09	234+02.78	234+16.73	234+37.38	234+58.02	234+78.66	234+85.09	234+99.30	235+19.94	235+34.14	235+48.34	235+63.61	235+62.54	235+76.74	235+90.93	236+05.13	236+19.33	236+33.53
	ELEV.	548.90	549.07	549.20	549.23	549.27	549.25	549.12	548.88	548.79	548.53	548.11	547.80	547.45	547.05	547.08	546.69	546.28	545.84	545.39	544.92

LEGEND:

** - FIELD SPLICE 2 LOCATED AFTER 3/8 POINT FOR: PROFILE GRADE

NOTES:

1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETCIAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. FOR DECK PLAN, SEE SHEET 59/79.
3. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEET 69/79.
4. FOR FINAL DECK SURFACE ELEVATIONS, SEE SHEET 70/79.
5. FOR ELEVATION DIAGRAM DEPICTING DECK SURFACE LOACTIONS IN TRANSVERSE SECTION AND PLAN VIEW, SEE SHEET 67/79.
6. FOR DECK POURING SEQUENCE, SEE SHEET 62/79.

DESIGN AGENCY
PRIME AE
540 WHITE POND DR. SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

SCREED ELEVATIONS - UNIT 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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TOP OF HAUNCH ELEVATIONS - UNIT 2

		℄ BRG. PIER 2, UNIT 2	1/8 POINT	1/4 POINT	FS2	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	℄ BRG. PIER 3	1/8 POINT	1/4 POINT	FS4	3/8 POINT	1/2 POINT	5/8 POINT
GIRDER 1	STATION	231+90.13	232+10.68	232+31.26	232+38.31	232+51.85	232+72.45	232+93.04	233+13.62	233+20.63	233+34.22	233+54.81	233+76.23	233+97.64	234+00.92	234+19.06	234+40.48	234+61.89
	ELEV.	542.24	543.02	543.79	544.05	544.55	545.23	545.77	546.21	546.33	546.55	546.82	547.06	547.23	547.25	547.31	547.26	547.09
GIRDER 4	STATION	231+90.07	232+10.80	232+31.40	232+51.39	232+52.00	232+72.56	232+93.11	233+13.70	233+27.09	233+34.26	233+54.81	233+75.52	233+96.23	234+85.09	234+16.93	234+37.64	234+58.35
	ELEV.	543.47	544.43	545.36	546.15	546.18	546.85	547.36	547.73	547.92	548.01	548.22	548.39	548.52	548.10	548.58	548.56	548.43

TOP OF HAUNCH ELEVATION - UNIT 2

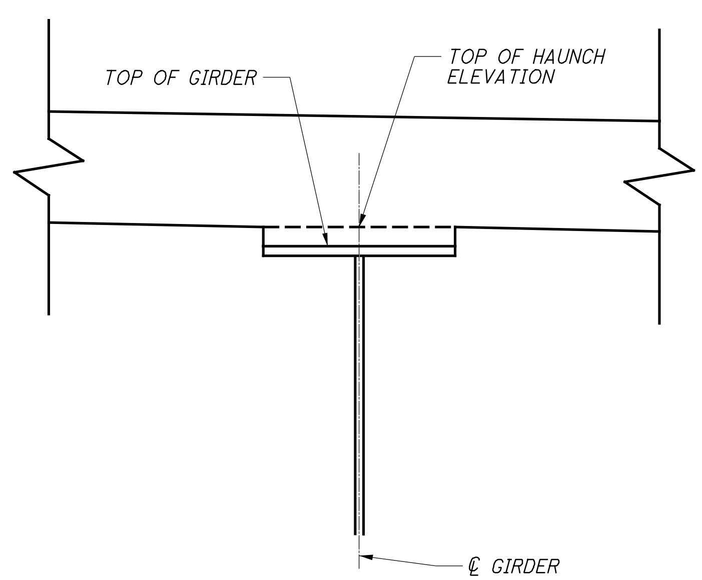
		3/4 POINT	FS5	7/8 POINT	℄ BRG. PIER 4	1/8 POINT	1/4 POINT	FS6	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	℄ BRG. FA
GIRDER 1	STATION	234+83.31	234+85.28	235+04.73	235+26.15	235+41.40	235+56.65	235+63.53	235+71.90	235+87.15	236+02.40	236+17.65	236+32.90	236+48.16
	ELEV.	546.79	546.76	546.38	545.89	545.50	545.09	544.90	544.68	544.25	543.82	543.36	542.90	542.42
GIRDER 4	STATION	234+79.06	234+85.09	234+99.76	235+20.47	235+34.76	235+49.04	235+53.33	235+63.33	235+77.61	235+91.90	236+06.18	236+20.47	236+34.75
	ELEV.	548.18	548.10	547.84	547.41	547.09	546.74	546.63	546.36	545.96	545.55	545.11	544.66	544.20

TOP OF HAUNCH ELEVATIONS - UNIT 2

		℄ BRG. PIER 2, UNIT 2	1/8 POINT	1/4 POINT	3/8 POINT	FS2	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	℄ BRG. PIER 3	1/8 POINT	1/4 POINT	FS4	3/8 POINT	1/2 POINT	5/8 POINT
GIRDER 2	STATION	231+90.10	232+10.72	232+31.31	232+51.89	232+52.21	232+72.48	232+93.07	233+13.64	233+27.59	233+34.23	233+54.81	233+75.98	233+97.15	234+11.94	234+18.31	234+39.48	234+60.65
	ELEV.	542.66	543.51	544.34	545.15	545.16	545.80	546.33	546.75	546.97	547.07	547.32	547.54	547.70	547.76	547.77	547.73	547.57
GIRDER 3	STATION	231+90.09	232+10.76	232+31.35	232+51.94	232+55.67	232+72.52	232+93.09	233+13.66	233+34.11	233+34.24	233+54.81	233+75.74	233+96.67	234+11.58	234+17.61	234+38.54	234+59.47
	ELEV.	543.11	544.02	544.90	545.70	545.84	546.38	546.90	547.29	547.59	547.59	547.82	548.02	548.16	548.22	548.23	548.20	548.06

TOP OF HAUNCH ELEVATION - UNIT 2

		3/4 POINT	FS5	7/8 POINT	℄ BRG. PIER 4	1/8 POINT	1/4 POINT	FS6	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	℄ BRG. FA
GIRDER 2	STATION	234+81.82	234+90.24	235+02.99	235+24.16	235+39.07	235+53.98	235+64.62	235+68.89	235+83.80	235+98.71	236+13.62	236+28.53	236+43.44
	ELEV.	547.29	547.15	546.91	546.44	546.07	545.68	545.39	545.27	544.86	544.43	543.99	543.52	543.05
GIRDER 3	STATION	234+80.40	234+88.08	235+01.34	235+22.27	235+36.86	235+51.45	235+65.56	235+66.03	235+80.62	235+95.21	236+09.80	236+24.39	236+38.98
	ELEV.	547.79	547.67	547.43	546.98	546.64	546.26	545.88	545.87	545.47	545.05	544.60	544.15	543.68



TOP OF HAUNCH DETAIL

LEGEND:

** - FIELD SPLICE 2 LOCATED AFTER 3/8 POINT FOR: PROFILE GRADE

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETCIAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. FOR DECK PLAN, SEE SHEET 59/79.
3. FOR SCREED ELEVATIONS, SEE SHEET 68/79.
4. FOR FINAL DECK SURFACE ELEVATIONS, SEE SHEET 70/79.
5. FOR ELEVATION DIAGRAM DEPICTING DECK SURFACE LOACTIONS IN TRANSVERSE SECTION AND PLAN VIEW, SEE SHEET 67/79.
6. FOR DECK POURING SEQUENCE, SEE SHEET 67/79.

DESIGN AGENCY PRIME 540 WHITE POND DR., SUITE E AKRON, OH 44320

DESIGNED KDC | CHECKED CRG | DRAWN ADS | REVISED | REVIEWED TES | DATE 8/22/2019 | STRUCTURE FILE NUMBER 3109798

TOP OF HAUNCH ELEVATIONS - UNIT 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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FINAL DECK SURFACE ELEVATIONS - UNIT 2																		
		℄ BRG. PIER 2, UNIT 2	1/8 POINT	1/4 POINT	FS2 **	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	FS3	7/8 POINT	1/1 POINT	1/8 POINT	1/4 POINT	FS4	3/8 POINT	1/2 POINT	5/8 POINT
LEFT CURB	STATION	231+90.14	232+10.66	232+31.24	232+38.31	232+51.83	232+72.42	232+93.02	233+13.62	233+20.63	233+34.21	233+54.81	233+76.30	233+97.80	234+00.92	234+19.29	234+40.79	234+62.28
	ELEV.	542.83	543.50	544.19	544.43	544.91	545.59	546.17	546.67	546.81	547.07	547.38	547.61	547.74	547.75	547.77	547.70	547.53
GIRDER 1	STATION	231+90.13	232+10.68	232+31.26	232+38.31	232+51.85	232+72.45	232+93.04	233+13.62	233+20.63	233+34.22	233+54.81	233+76.23	233+97.64	234+00.92	234+19.06	234+40.48	234+61.89
	ELEV.	542.95	543.63	544.34	544.58	545.06	545.74	546.32	546.82	546.96	547.22	547.53	547.76	547.89	547.90	547.92	547.85	547.69
PROFILE GRADE	STATION	231+90.12	232+10.69	232+31.28	232+52.21	232+51.87	232+72.46	232+93.05	233+13.64	233+27.59	233+34.22	233+54.81	233+76.30	233+97.80	234+11.94	234+19.29	234+40.79	234+62.28
	ELEV.	543.23	543.93	544.66	545.40	545.39	546.07	546.65	547.15	547.43	547.55	547.86	548.09	548.22	548.25	548.25	548.18	548.01
GIRDER 2	STATION	231+90.10	232+10.72	232+31.31	232+52.21	232+51.89	232+72.48	232+93.07	233+13.64	233+27.59	233+34.23	233+54.81	233+75.98	233+97.15	234+11.94	234+18.31	234+39.48	234+60.65
	ELEV.	543.37	544.09	544.83	545.57	545.56	546.24	546.82	547.32	547.60	547.72	548.03	548.26	548.39	548.42	548.42	548.36	548.20
GIRDER 3	STATION	231+90.09	232+10.76	232+31.35	232+55.67	232+51.94	232+72.52	232+93.09	233+13.66	233+34.11	233+34.24	233+54.81	233+75.74	233+96.67	234+11.58	234+17.61	234+38.54	234+59.47
	ELEV.	543.82	544.57	545.33	546.19	546.06	546.74	547.32	547.82	548.22	548.22	548.53	548.76	548.89	548.92	548.92	548.86	548.71
LEFT ROUNDING	STATION	231+90.06	232+10.80	232+31.43	232+51.39	232+51.97	232+72.54	232+93.10	233+13.67	233+27.09	233+34.24	233+54.81	233+75.61	233+96.41	234+02.78	234+17.21	234+38.01	234+58.81
	ELEV.	544.09	544.85	545.62	546.34	546.36	547.03	547.61	548.11	548.38	548.51	548.82	549.05	549.18	549.20	549.21	549.16	549.01
GIRDER 4	STATION	231+90.07	232+10.80	232+31.40	232+51.39	232+52.00	232+72.56	232+93.11	233+13.70	233+27.09	233+34.26	233+54.81	233+75.52	233+96.23	234+02.78	234+16.93	234+37.64	234+58.35
	ELEV.	544.18	544.94	545.72	546.44	546.46	547.13	547.72	548.21	548.48	548.61	548.93	549.15	549.28	549.29	549.31	549.26	549.11
RIGHT ROUNDING	STATION	231+90.06	232+10.79	232+31.39	232+51.39	232+51.99	232+72.55	232+93.10	233+13.67	233+27.09	233+34.24	233+54.81	233+75.61	233+96.41	234+02.78	234+17.21	234+38.01	234+58.81
	ELEV.	544.17	544.93	545.72	546.44	546.46	547.13	547.71	548.21	548.48	548.61	548.92	549.15	549.28	549.30	549.31	549.26	549.11
RIGHT CURB	STATION	231+90.06	232+10.80	232+31.40	232+51.39	232+52.00	232+72.56	232+93.12	233+13.67	233+27.09	233+34.24	233+54.81	233+75.45	233+96.09	234+02.78	234+16.73	234+37.38	234+58.02
	ELEV.	544.14	544.91	545.70	546.42	546.44	547.11	547.70	548.19	548.46	548.59	548.90	549.12	549.25	549.28	549.29	549.24	549.09

FINAL DECK SURFACE ELEVATIONS - UNIT 2														
		3/4 POINT	FS5	7/8 POINT	1/1 POINT	1/8 POINT	1/4 POINT	FS6	3/8 POINT	1/2 POINT	5/8 POINT	3/4 POINT	7/8 POINT	℄ BRG. FA
LEFT CURB	STATION	234+83.77	234+85.28	235+05.27	235+26.76	235+42.14	235+57.53	235+63.53	235+72.91	235+88.29	236+03.67	236+19.06	236+34.44	236+49.82
	ELEV.	547.27	547.24	546.90	546.43	546.04	545.60	545.43	545.15	544.71	544.26	543.82	543.37	542.93
GIRDER 1	STATION	234+83.31	234+85.28	235+04.73	235+26.15	235+41.40	235+56.65	235+63.53	235+71.90	235+87.15	236+02.40	236+17.65	236+32.90	236+48.16
	ELEV.	547.42	547.39	547.06	546.60	546.21	545.78	545.58	545.33	544.89	544.45	544.01	543.57	543.12
PROFILE GRADE	STATION	234+83.77	234+90.24	235+05.27	235+26.76	235+42.12	235+57.49	235+64.62	235+72.85	235+88.22	236+03.58	236+18.94	236+34.31	236+49.67
	ELEV.	547.75	547.65	547.38	546.91	546.52	546.08	545.87	545.64	545.19	544.75	544.30	543.86	543.41
GIRDER 2	STATION	234+81.82	234+90.24	235+02.99	235+24.16	235+39.07	235+53.98	235+64.62	235+68.89	235+83.80	235+98.71	236+13.62	236+28.53	236+43.44
	ELEV.	547.94	547.82	547.59	547.15	546.77	546.35	546.04	545.92	545.49	545.06	544.63	544.19	543.76
GIRDER 3	STATION	234+80.40	234+88.08	235+01.34	235+22.27	235+36.86	235+51.45	235+65.56	235+66.03	235+80.62	235+95.21	236+09.80	236+24.39	236+38.98
	ELEV.	548.46	548.35	548.12	547.69	547.33	546.93	546.52	546.50	546.08	545.66	545.24	544.81	544.39
LEFT ROUNDING	STATION	234+79.61	234+85.09	235+00.41	235+21.21	235+35.63	235+50.04	235+53.33	235+64.45	235+78.86	235+93.27	236+07.68	236+22.09	236+36.50
	ELEV.	548.77	548.69	548.43	548.00	547.65	547.26	547.16	546.84	546.42	546.00	545.59	545.17	544.75
GIRDER 4	STATION	234+79.06	234+85.09	234+99.76	235+20.47	235+34.76	235+49.04	235+53.33	235+63.33	235+77.61	235+91.90	236+06.18	236+20.47	236+34.75
	ELEV.	548.88	548.79	548.55	548.12	547.78	547.39	547.26	546.97	546.56	546.15	545.73	545.32	544.91
RIGHT ROUNDING	STATION	234+79.61	234+85.09	235+00.41	235+21.21	235+35.63	235+50.04	235+53.33	235+64.45	235+78.86	235+93.27	236+07.68	236+22.09	236+36.50
	ELEV.	548.87	548.79	548.53	548.10	547.75	547.36	547.26	546.94	546.52	546.10	545.69	545.27	544.85
RIGHT CURB	STATION	234+78.66	234+85.09	234+99.30	235+19.94	235+34.14	235+48.34	235+53.33	235+62.54	235+76.74	235+90.93	236+05.13	236+19.33	236+33.53
	ELEV.	548.86	548.77	548.53	548.11	547.77	547.39	547.24	546.97	546.56	546.15	545.74	545.33	544.92

LEGEND:

** - FIELD SPLICE 2 LOCATED AFTER ⅜ POINT FOR: PROFILE GRADE, GIRDER 1 & GIRDER 2

NOTES:

1. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
2. FOR DECK PLAN, SEE SHEET 59/79.
3. FOR SCREED ELEVATIONS, SEE SHEET 68/79.
4. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEET 69/79.
5. FOR ELEVATION DIAGRAM DEPICTING DECK SURFACE LOACTIONS IN TRANSVERSE SECTION AND PLAN VIEW, SEE SHEET 67/79.
6. FOR DECK POURING SEQUENCE, SEE SHEET 62/79 .

DESIGN AGENCY
PRIME AE
540 WEST POINTE DR., SUITE E
AURORA, OH 44202

DESIGNED	DRAWN	REVIEWED	DATE
KDC	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

FINAL DECK SURFACE ELEVATIONS - UNIT 2
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

70 / 79

70
79

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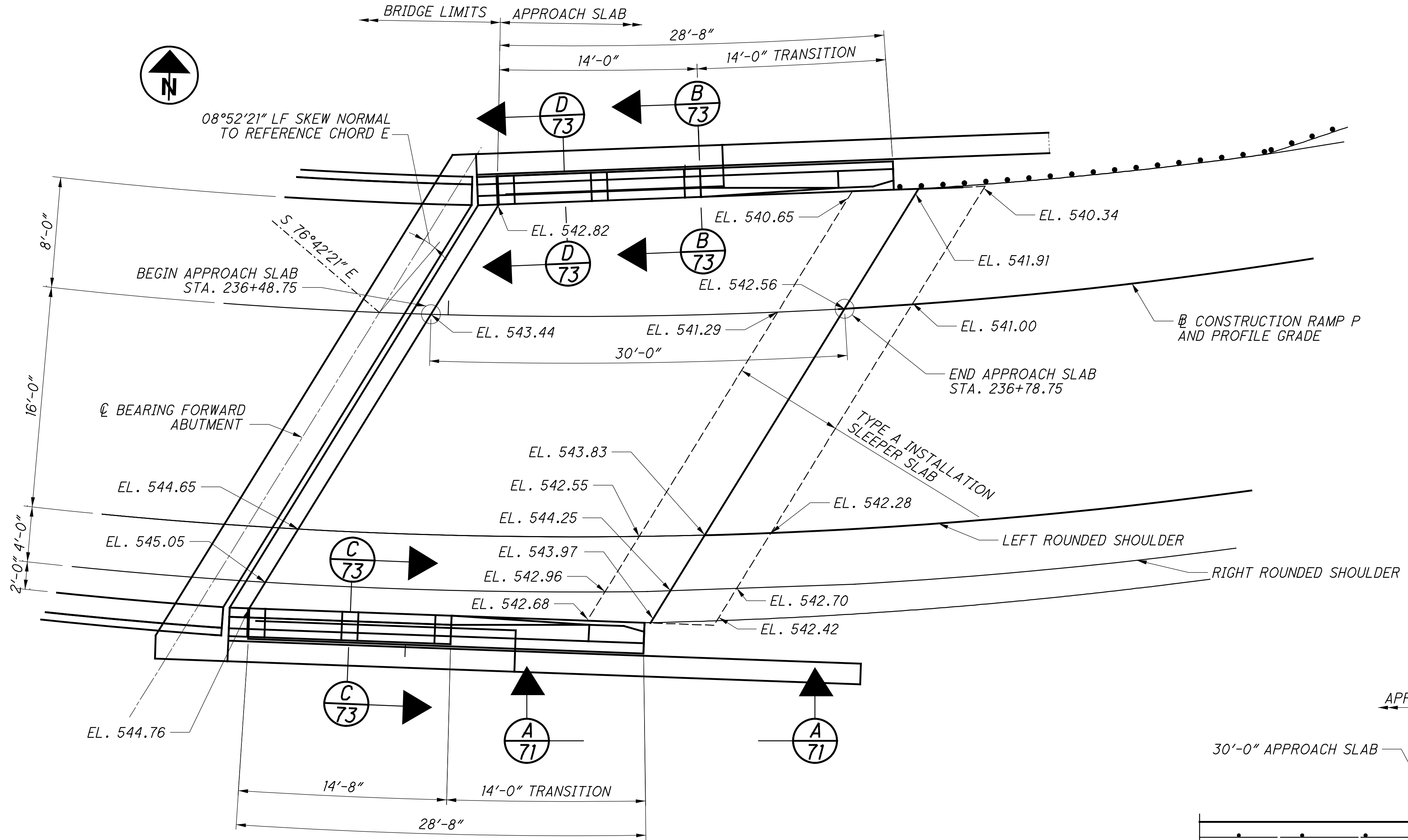
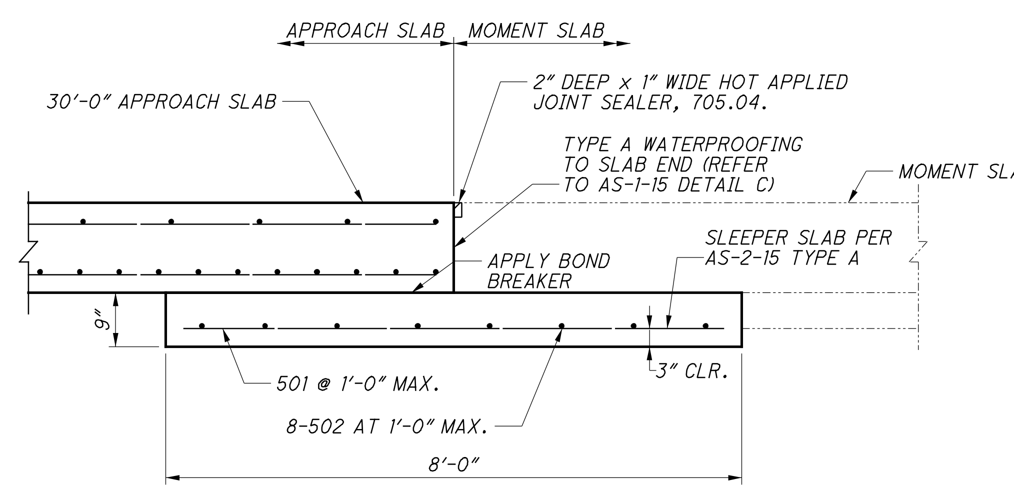
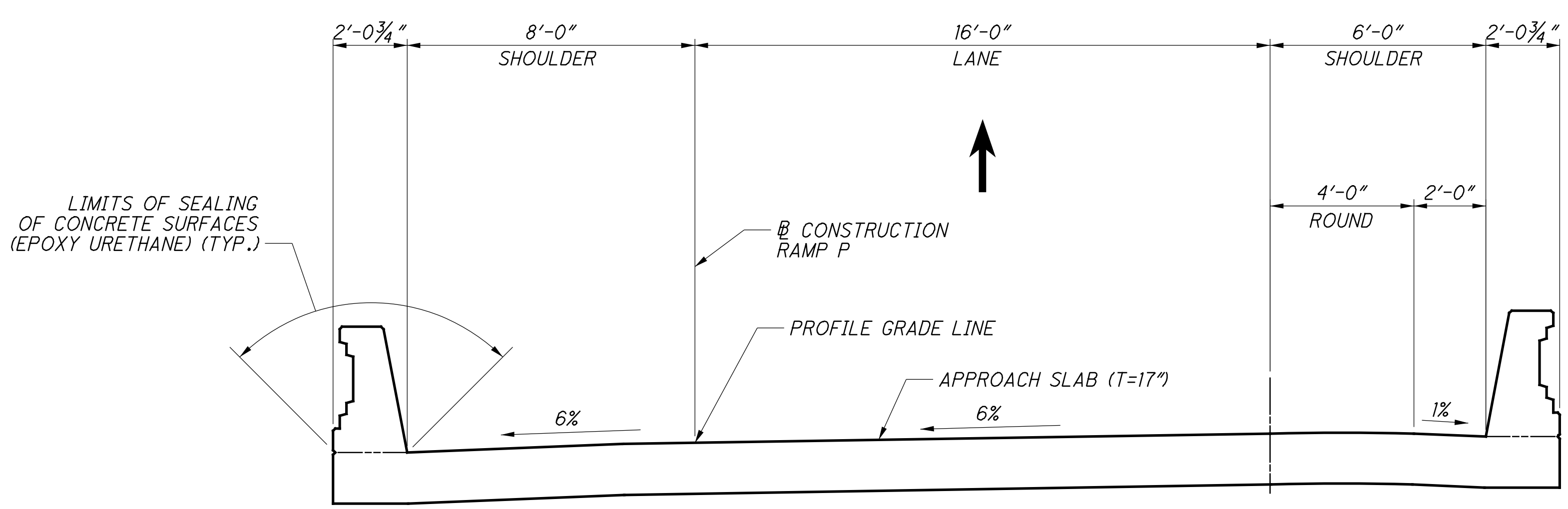


APPROACH SLAB PLAN



A/71 SECTION



APPROACH SLAB SECTION

NOTES:

1. ALL CONCRETE SURFACES OF THE ORNAMENTAL PARAPET SHALL RECEIVE A RUBBED FINISH. SAW CUTTING AND TEXTURED FINISH ARE INCLUDED WITH ITEM 511 - CONCRETE CLASS QC3 WITH QC/QA-COMPRESSIVE STRENGTH 4.5 KSI, BRIDGE DECK (PARAPET), AS PER PLAN, FOR PAYMENT.
2. FOR MORE DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
3. PARAPET DIMENSIONS ALONG OUTSIDE EDGE OF APPROACH SLAB.
4. FOR APPROACH PARAPET DETAILS, SEE SHEETS 72/79 AND 73/79.
5. THE PREFIX "AS" SHALL BE ADDED TO ALL BAR MARKS FOR APPROACH SLAB.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

REVIEWED TES | DATE 8/22/2019
STRUCTURE FILE NUMBER 3109798
DRAWN ADS | REVISED
DESIGNED KDC | CHECKED CRG

APPROACH SLAB PLAN AND DETAILS (1 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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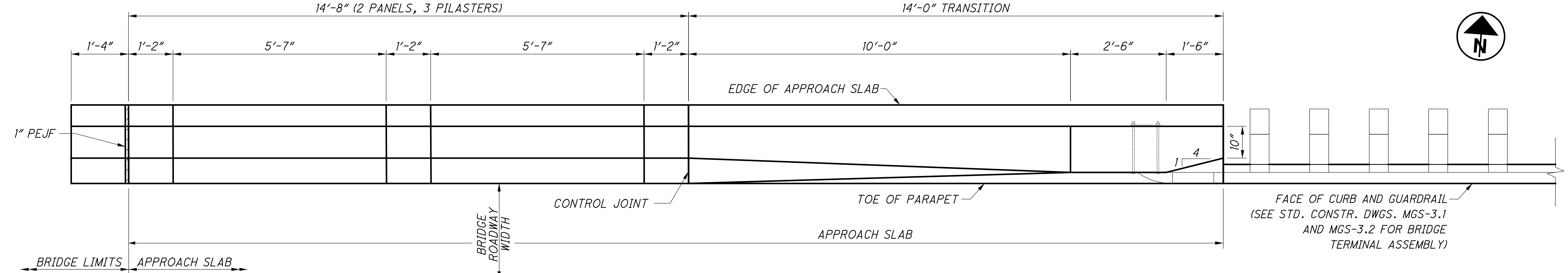
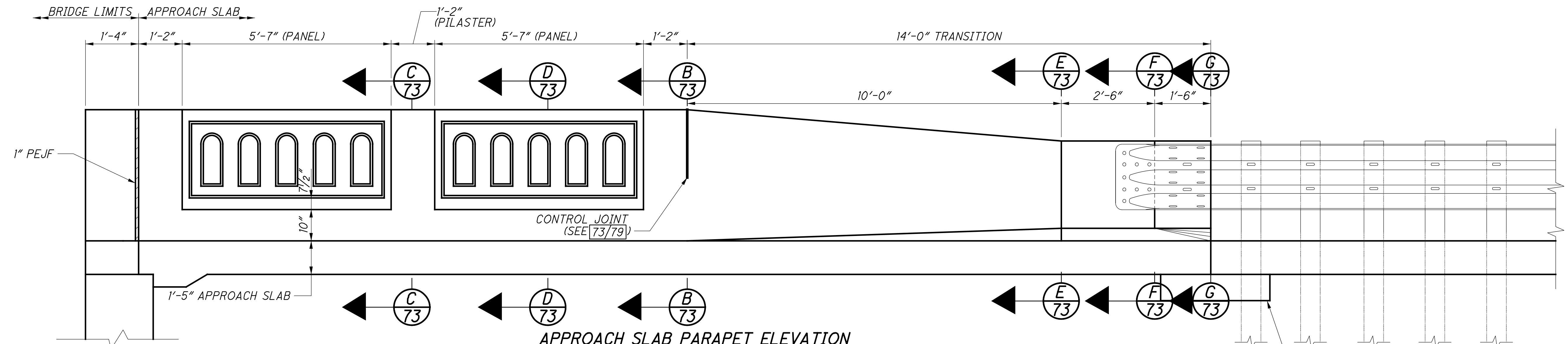
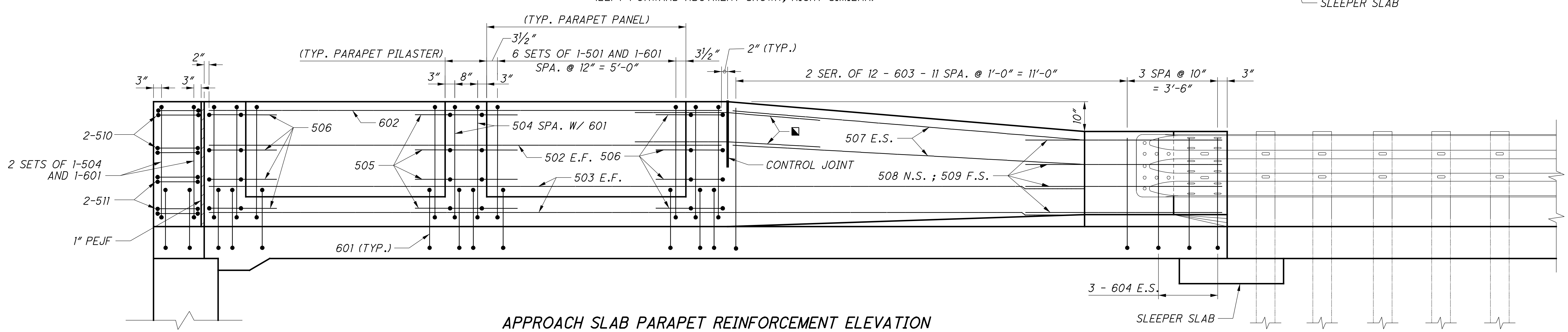


APPROACH SLAB PARAPET PLAN



APPROACH SLAB PARAPET ELEVATION

(LEFT FORWARD ABUTMENT SHOWN, RIGHT SIMILAR)



APPROACH SLAB PARAPET REINFORCEMENT ELEVATION

LEGEND:

◪ - ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT

NOTES:

1. FOR ADDITIONAL DETAILS AND NOTES, SEE SHEET 73/79.
2. FOR PANEL DETAILS, SEE SHEET 57/79.

DESIGN AGENCY
PRIME AE
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
CRG	KDC	ADS		TES	8/22/2019	3109798

APPROACH PARAPET DETAILS (2 OF 3)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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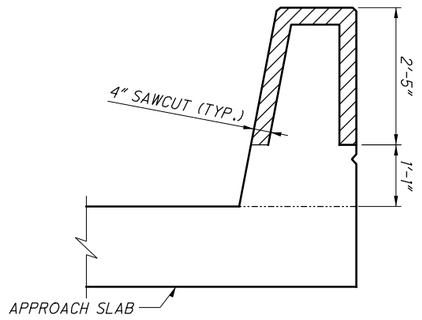
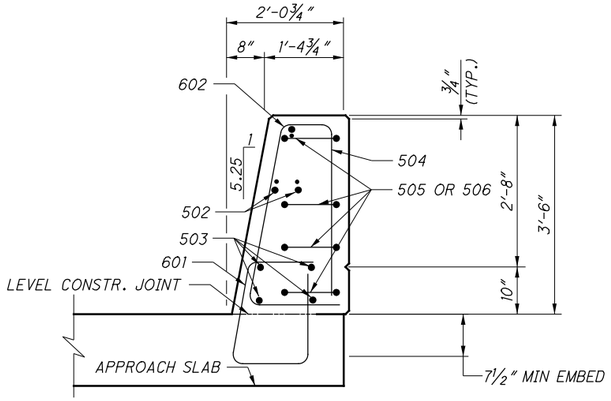
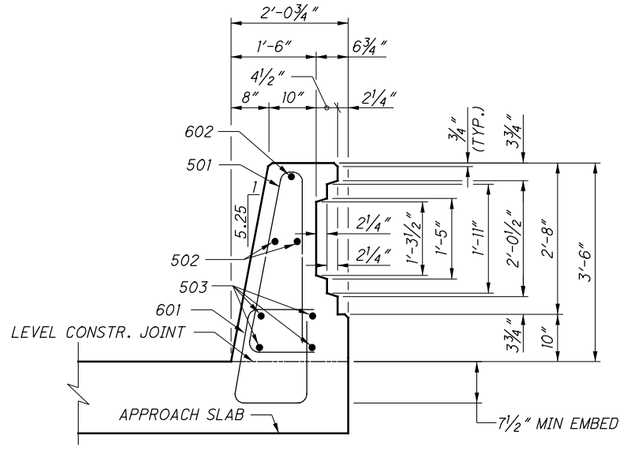


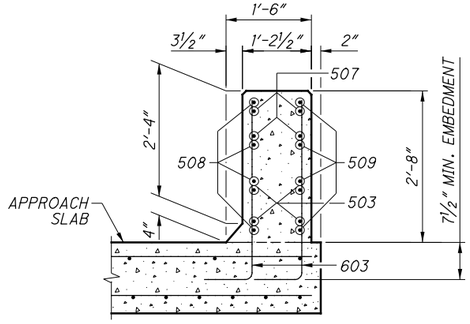
B 71,72 **CONTROL JOINT DETAIL**
(SECTION THROUGH SAWCUT)
(SEE SBR-1-99)



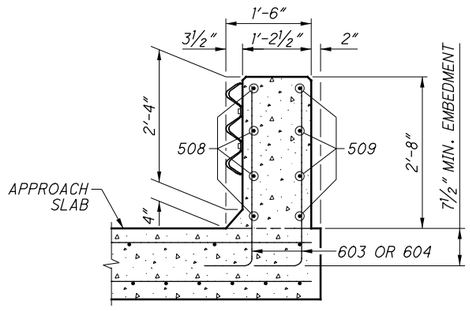
C 71,72 **SECTION THRU PILASTER**



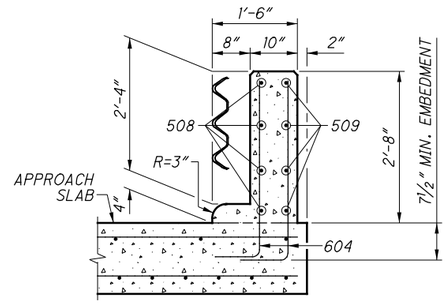
D 71,72 **SECTION THRU PANEL**



E 71,72 **SECTION**



F 71,72 **SECTION**



G 71,72 **SECTION**

NOTES:

1. FOR NOTES, SEE SHEET 71/79.

LEGEND:

◪ - ½" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT

DESIGN AGENCY
PRIME AE
540 WEST POINT PIKE, SUITE E
WAYNE, PA 19087

DESIGNED	DRAWN	REVIEWED	DATE
CRG	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KDC		3109798	

APPROACH PARAPET DETAILS
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

73/79

73
79

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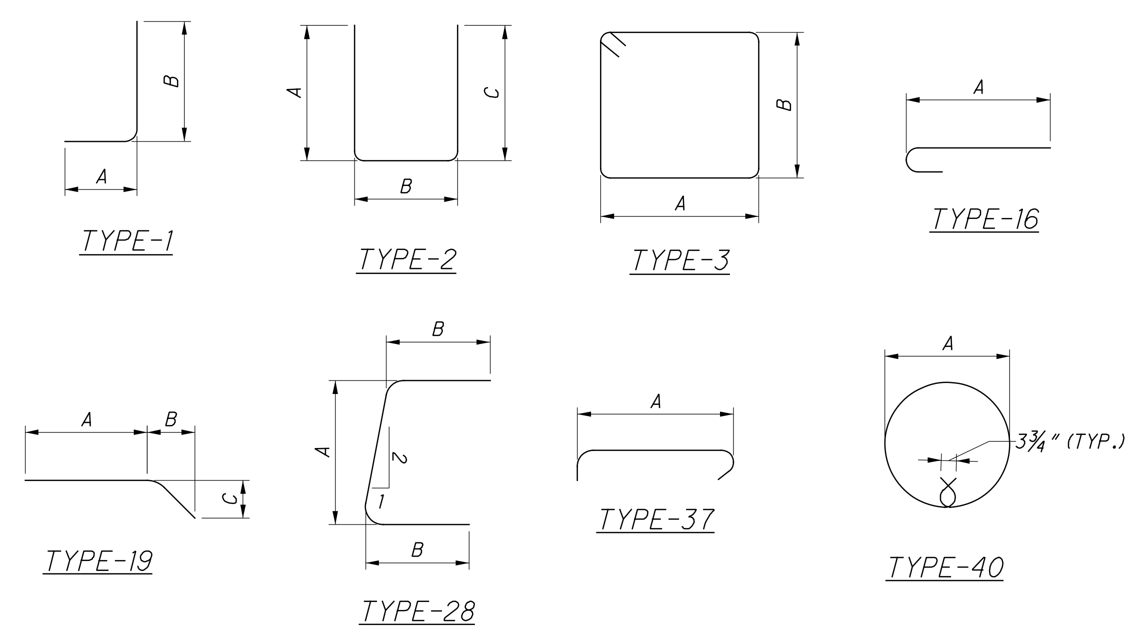
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
EXISTING PIER 7											
7P401	608	4'-8"	1878	37	3'-8"						
7P402	99	3'-6"	231	16	3'-0"						
7P501	48	14'-3"	713	1	5'-5"	3'-8"	5'-5"				
7P502	24	11'-3"	282	STR							
7P503	24	13'-3"	332	STR							
7P504	38	9'-7"	380	2	3'-1"	3'-8"	3'-1"				
7P505	38	9'-7"	380	28	3'-8"	3'-1"					
	1 SR	9'-6"									
7P506	OF	TO	138	STR							2'-0"
	8	23'-6"									
7P507	10	32'-4"	337	STR							
7P508	10	33'-4"	348	STR							
7P509	2	25'-0"	52	STR							
7P510	1	28'-0"	29	STR							
7P511	1	30'-0"	31	STR							
	2 SR	8'-10"									
7P512	OF	TO	286	STR							5 3/4"
	12	14'-0"									
	1 SR	19'-8"				5'-10"					
7P513	OF	TO	139	3	3'-8"	TO					6"
	6	24'-8"				8'-4"					
7P514	8	19'-0"	159	3	3'-8"	5'-6"					
	1 SR	19'-8"				5'-10"					
7P515	OF	TO	113	3	3'-8"	TO					6"
	5	23'-8"				7'-10"					
	2 SR	8'-4"									
7P516	OF	TO	276	STR							6"
	12	13'-9"									
	1 SR	12'-7"									
7P517	OF	TO	163	STR							2'-0"
	8	26'-7"									
	1 SR	14'-7"									
7P518	OF	TO	180	STR							2'-0"
	8	28'-7"									
7P519	46	20'-8"	992	STR							
7P520	37	15'-5"	595	2	6'-0"	3'-8"	6'-0"				
7P521	37	9'-9"	376	2	3'-2"	3'-8"	3'-2"				
7P522	37	18'-0"	695	3	1'-8"	7'-0"					
7P523	1	18'-8"	19	3	1'-10"	7'-2"					
7P524	1	8'-8"	9	2	2'-5"	4'-1"	2'-5"				
7P525	1	15'-10"	17	2	6'-0"	4'-1"	6'-0"				
7P526	23	10'-4"	248	2	3'-6"	3'-7"	3'-6"				
7P527	37	6'-8"	504	2	2'-8"	1'-8"	2'-8"				
7P801	12	15'-1"	483	STR							
7P802	8	27'-5"	586	STR							
7P803	8	26'-10"	573	STR							
7P804	8	25'-0"	534	STR							
7P805	8	35'-5"	757	1	2'-0"	33'-8"					
7P806	10	21'-9"	581	STR							
7P901	58	7'-0"	1380	STR							
7P902	58	28'-5"	5604	STR							
7P903	58	14'-7"	2876	STR							
		SUB-TOTAL	23,276								

BAR BENDING DETAILS



MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 1											
1P501	200	8'-4"	1738	2	3'-1"	2'-5"	3'-1"				
1P502	18	9'-7"	180	2	3'-1"	3'-8"	3'-1"				
1P503	420	11'-11"	5220	40	3'-6"						
1P601	6	31'-4"	282	STR							
1P602	12	9'-5"	170	1	1'-1"	8'-6"					
1P603	53	4'-7"	365	2	1'-1"	3'-8"	1'-1"				
1P701	6	37'-11"	465	2	3'-7"	31'-2"	3'-7"				
1P1001	5	37'-8"	810	2	3'-7"	31'-2"	3'-7"				
1P1002	14	39'-5"	2375	16	38'-0"						
1P1003	14	39'-10"	2400	16	38'-5"						
1P1004	14	40'-2"	2420	16	38'-9"						
		SUB-TOTAL	16,425								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 1 FOOTINGS											
F503	27	11'-11"	336	40	3'-6"						
F601	48	11'-3"	811	2	1'-11 1/4"	7'-8"	2'-0"				
F602	12	7'-8"	138	STR							
F801	48	11'-2"	1431	2	1'-11 1/4"	7'-8"	2'-0"				
F1001	42	9'-5"	1702	1	1'-0"	8'-9"					
		SUB-TOTAL	4,418								

NOTES:

SEE SHEET 79/79 FOR NOTES.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

REVIEWED TES DATE 8/22/2019
STRUCTURE FILE NUMBER 3109798
DRAWN ADS REVISED
DESIGNED KDC CHECKED CRG

REINFORCING STEEL LIST (1 OF 6)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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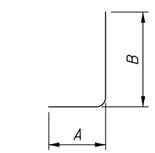
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 2											
2P401	154	5′-7″	574	60	4′-8″	8″				1″	
2P501	7	15′-8″	114	STR							
2P502	14	11′-0″	161	19	7′-9″	3′-0″	1′-4″				
2P503	44	10′-9″	493	2	3′-3″	4′-6″	3′-3″				
2P504	44	15′-8″	719	STR							
2P505	22	16′-6″	379	60	15′-6″	8″				1¼″	
2P505	22	16′-6″	379	60	15′-6″	8″				1¼″	
2P506	18	10′-5″	196	2	3′-1″	4′-6″	3′-1″				
2P507	4	7′-5″	31	2	3′-1″	1′-6″	3′-1″				
	4 SER	10′-8″			3′-3″		3′-3″				
2P601	OF	TO	204	2	TO	4′-6″	TO				4″
	3	12′-0″			3′-11″		3′-11″				
	4 SER	12′-2″			4′-0″		4′-0″				
2P602	OF	TO	892	2	TO	4′-6″	TO				1½″
	11	14′-10″			5′-4″		5′-4″				
2P603	60	15′-4″	1382	2	5′-7″	4′-6″	5′-7″				
	4 SER	13′-4″			4′-7″		4′-7″				
2P604	OF	TO	947	2	TO	4′-6″	TO				1¼″
	11	15′-4″			5′-7″		5′-7″				
	4 SER	12′-2″			4′-0″		4′-0″				
2P605	OF	TO	228	2	TO	4′-6″	TO				3″
	3	13′-2″			4′-6″		4′-6″				
2P606	43	11′-10″	764	2	5′-4″	1′-6″	5′-4″				
2P607	12	30′-8″	553	STR							
2P608	2	28′-9″	86	STR							
2P609	2	24′-6″	74	STR							
2P610	2	20′-2″	61	STR							
2P611	16	10′-11″	262	1	1′-1″	10′-0″					
2P612	8	5′-11″	71	1	1′-1″	5′-0″					
2P801	4	37′-9″	403	2	3′-10″	30′-6″	3′-10″				
2P901	62	25′-4″	5340	STR							
2P1001	8	36′-8″	1262	2	2′-10″	30′-6″	4′-0″				
	SUB-TOTAL		15,196								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 2 FOOTING											
F401	21	5′-7″	78	60	4′-8″	8″				1″	
F503	6	10′-9″	67	2	3′-3″	4′-6″	3′-3″				
F504	6	15′-8″	98	STR							
F505	3	16′-6″	52	60	15′-6″	8″				1¼″	
F603	19	12′-4″	352	2	2′-0″	8′-8″	2′-0″				
F604	10	21′-4″	320	2	2′-0″	17′-8″	2′-0″				
F605	2	8′-8″	26	STR							
F606	2	17′-8″	53	STR							
F701	19	12′-3″	476	2	2′-0″	8′-8″	2′-0″				
F702	10	21′-3″	434	2	2′-0″	17′-8″	2′-0″				
F901	62	10′-6″	2213	1	1′-7″	9′-3″					
	SUB-TOTAL		4,169								

BAR BENDING DETAILS



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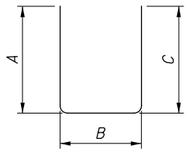

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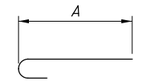

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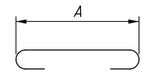

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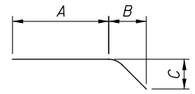

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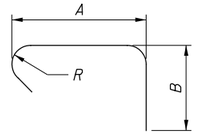

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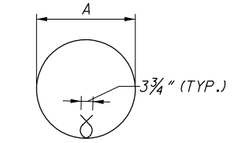

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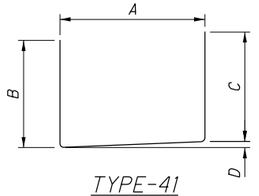

TYPE-41

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 3											
3P501	458	11′-11″	5693	40	3′-6″						
3P502	6	9′-6″	59	2	3′-1″	3′-7″	3′-1″				
3P601	96	10′-9″	1550	2	4′-4″	2′-5″	4′-4″				
3P602	18	12′-0″	324	2	4′-4″	3′-8″	4′-4″				
3P603	12	9′-0″	162	1	1′-0″	8′-2″					
3P604	27	5′-4″	216	2	1′-0″	3′-8″	1′-0″				
3P605	6	30′-7″	276	STR							
3P801	9	33′-7″	807	41	1′-6″	30′-7″	1′-6″	1′-3½″			
3P901	18	42′-5″	2596	16	41′-1 ½″						
3P902	18	43′-1″	2637	16	41′-9 ¾″						
3P903	18	43′-9″	2672	16	42′-5 ½″						
3P1001	9	34′-7″	1340	41	2′-0″	30′-7″	2′-0″	1′-3½″			
	SUB-TOTAL		18,332								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER 3 DRILLED SHAFTS											
3DS501	360	12′-8″	4756	40	3′-6″						
3DS1001	54	29′-6″	6855	STR							
	SUB-TOTAL		11,611								

NOTES:

SEE SHEET 79/79 FOR NOTES.

DESIGN AGENCY
PRIME AE
540 WEST POOL PLACE, SUITE E
NEWARK, OH 43220

DESIGNED	DRAWN	REVIEWED	DATE
KDC	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

REINFORCING STEEL LIST (2 OF 6)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

75
79

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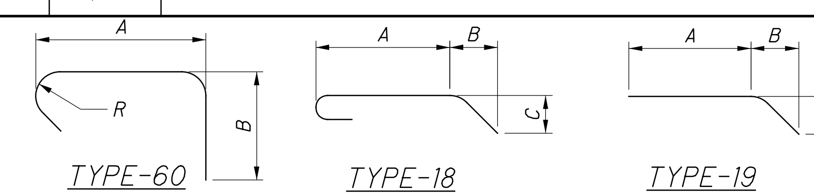
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
					PIER 4						
4P501	160	9'-10"	1641	2	3'-10"	2'-5"	3'-10"				
4P502	18	11'-1"	208	2	3'-10"	3'-8"	3'-10"				
4P503	191	11'-11"	2374	40	3'-6"						
4P504	6	9'-6"	59	2	3'-1"	3'-7"	3'-1"				
4P601	6	31'-7"	285	STR							
4P602	12	9'-3"	167	1	1'-0"	8'-5"					
4P603	27	5'-4"	216	2	1'-0"	3'-8"	1'-0"				
4P901	8	34'-11"	950	41	1'-8"	31'-7"	1'-8"	10¾"			
4P902	18	18'-7"	1137	16	17'-4"						
4P903	18	19'-0"	1163	16	17'-9"						
4P904	18	19'-5"	1188	16	18'-2"						
4P1001	8	35'-7"	1225	41	2'-0"	31'-7"	2'-0"	10¾"			
		SUB-TOTAL	10,613								

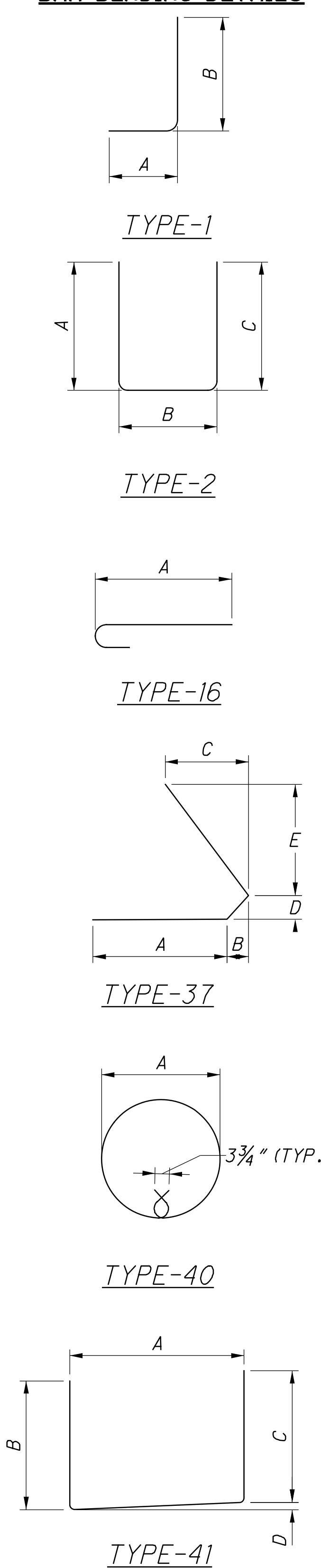
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
					PIER 4 DRILLED SHAFTS						
4DS501	447	12'-8"	5905	40	3'-6"						
4DS1001	54	30'-6"	7087	STR							
		SUB-TOTAL	12,992								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
					FORWARD ABUTMENT						
FA501	69	12'-6"	900	STR							
FA502	8	8'-7"	72	2	1'-8"	4'-9"	2'-5"				
FA503	9	9'-2"	86	2	2'-3"	4'-9"	2'-5"				
FA504	10	9'-9"	102	2	2'-10"	4'-9"	2'-5"				
FA505	8	10'-4"	86	2	3'-5"	4'-9"	2'-5"				
FA506	10	11'-3"	118	19	4'-5"	4'-10"	4'-10"				
	1 SR	16'-4"			9'-0"						
FA507	OF	TO	615	2	TO	1'-4"	6'-3"				¾"
	34	18'-4"			11'-0"						
FA508	2	18'-4"	38	2	11'-0"	1'-4"	6'-3"				
FA509	2	16'-4"	34	2	9'-0"	1'-4"	6'-3"				
FA510	38	7'-10"	310	2	3'-8"	0'-9"	3'-8"				
FA511	90	6'-3"	587	2	2'-8"	1'-2"	2'-8"				
FA512	9	11'-9"	110	19	4'-11"	4'-10"	4'-10"				
FA513	10	12'-5"	130	19	5'-7"	4'-10"	4'-10"				
FA514	9	13'-0"	122	19	6'-2"	4'-10"	4'-10"				
FA515	1	8'-4"	9	2	2'-5"	3'-9"	2'-5"				
FA516	1	8'-11"	9	2	2'-5"	4'-4"	2'-5"				
FA517	1	7'-0"	7	2	2'-5"	2'-5"	2'-5"				
FA518	16	15'-8"	261	STR							
FA519	2	16'-6"	34	STR							
FA520	2	19'-7"	41	STR							
FA521	2	22'-8"	47	STR							
FA522	6	23'-3"	146	STR							
FA523	NOT USED										
FA524	8	17'-6"	146	STR							

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
					FORWARD ABUTMENT (CONT'D)						
	2 SR	2'-9"									
FA525	OF	TO	56	STR							0'-8 ¼"
	6	6'-2"									
FA526	2	9'-6"	20	19	8'-5"	0'-6"	1'-0"				
FA527	9	19'-5"	182	STR							
FA528	2	17'-3"	36	STR							
FA529	2	20'-2"	42	STR							
FA530	2	23'-2"	48	STR							
FA531	6	24'-9"	155	STR							
	2 SR	2'-9"									
FA532	OF	TO	56	STR							0'-8 ¼"
	6	6'-2"									
FA533	2	11'-2"	23	19	8'-6"	1'-2"	2'-6"				
FA534	NOT USED										
FA535	4	17'-10"	74	STR							7¾"
FA536	4	19'-9"	82	STR							
FA537	18	17'-2"	322	STR							
FA601	16	17'-3"	415	STR							
FA602	16	20'-7"	495	STR							
FA603	36	22'-1"	1194	STR							
FA604	74	21'-4"	2371	STR							
FA605	11	17'-7"	291	STR							
FA606	22	27'-2"	898	STR							
FA607	18	19'-8"	532	STR							
FA608	19	25'-3"	721	STR							
FA609	36	19'-3"	1041	STR							
FA610	20	11'-5"	343	2	1'-5"	4'-10"	5'-6"				
FA611	18	9'-1"	246	37	4'-0"	11"	3'-0"	1'-4"	1'-9"		
FA612	9	17'-10"	241	STR							
FA613	10	18'-6"	278	STR							
FA614	12	17'-6"	315	STR							
FA615	13	19'-5"	379	STR							
FA616	7	17'-10"	187	STR							
FA617	7	19'-9"	208	STR							
FA618	40	25'-8"	1542	STR							
FA801	5	14'-4"	191	1	1'-6"	13'-1"					
FA802	10	15'-10"	423	1	1'-6"	14'-6"					
FA803	10	23'-6"	627	STR							
FA804	17	17'-3"	783	STR							
FA805	14	15'-3"	570	STR							
FA806	24	4'-10"	310	18	2'-8"	1'-0"	1'-0"				
		SUB-TOTAL	19,707								



BAR BENDING DETAILS



NOTES:
SEE SHEET 79/79 FOR NOTES.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

REVIEWED TES | DATE 8/22/2019 | STRUCTURE FILE NUMBER 3109798
DRAWN ADS | REVISED
DESIGNED KDC | CHECKED CRG

REINFORCING STEEL LIST (3 OF 6)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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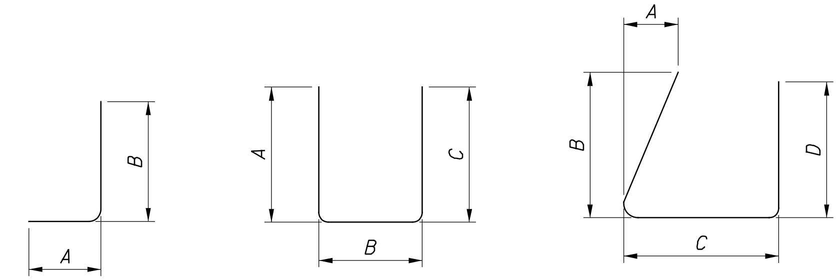
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
FORWARD ABUTMENT FOOTING											
FAF501	17	6′-0″	106	1	1′-0″	5′-2″					
FAF502	64	18′-8″	1246	2	2′-5″	14′-1″	2′-5″				
FAF503	36	17′-8″	663	2	2′-5″	13′-1″	2′-5″				
FAF504	36	16′-2″	607	2	2′-5″	11′-7″	2′-5″				
FAF505	4	14′-2″	59	STR							
FAF506	2	13′-2″	27	STR							
FAF507	2	11′-8″	24	STR							
FAF601	89	7′-11″	1058	1	1′-1″	7′-0″					
FAF602	4	7′-9″	47	1	4′-11″	3′-0″					
FAF603	88	27′-1″	3580	1	3′-0″	24′-3″					
FAF604	4	23′-1″	137	STR							
FAF605	4	23′-6″	141	STR							
FAF606	4	30-5″	183	STR							
FAF607	4	8′-6″	51	9	3′-5¾″	1′-11¾″	2′-0″	4′-0″			
FAF608	2	28′-0″	84	STR							
FAF609	4	15′-1″	91	STR							
	2 SR	7′-10″				2′-2″					
FAF610	OF	TO	246	2	3′-0″	TO	3′-0″				2′-4″
	6	19′-6″				13′-10″					
	1 SR	7′-9″				2′-2″					
FAF701	OF	TO	90	2	3′-0″	TO	3′-0″				2′-2″
	4	14′-2″				8′-7″					
	1 SR	15′-8″				10′-1″					
FAF702	OF	TO	342	2	3′-0″	TO	3′-0″				1′-6″
	8	26′-2″				20′-7″					
FAF703	16	26′-3″	858	2	3′-0″	20′-8″	3′-0″				
	1 SR	26′-3″				20′-8″					
FAF704	OF	TO	788	2	3′-0″	TO	3′-0″				6¾″
	13	33′-0″				27′-5″					
	1 SR	10′-2″				4′-7″					
FAF705	OF	TO	551	2	3′-0″	TO	3′-0″				1′-9″
	13	31′-3″				25′-8″					
FAF706	1	14′-6″	30	2	3′-0″	8′-11″	3′-0″				
	1 SR	7′-9″				2′-2″					
FAF801	OF	TO	117	2	3′-0″	TO	3′-0″				2′-2″
	4	14′-2″				8′-7″					
	1 SR	15′-8″				10′-1″					
FAF802	OF	TO	447	2	3′-0″	TO	3′-0″				1′-6″
	8	26′-2″				20′-8″					
FAF803	16	26′-3″	1121	2	3′-0″	20′-8″	3′-0″				
	1 SR	26′-3″				20′-8″					
FAF804	OF	TO	1027	2	3′-0″	TO	3′-0″				6¾″
	13	33′-0″				27′-5″					
	1 SR	10′-2″				4′-7″					
FAF805	OF	TO	717	2	3′-0″	TO	3′-0″				1′-9″
	13	31′-3″				25′-8″					
FAF806	1	14′-6″	39	2	3′-0″	8′-11″	3′-0″				
FAF901	23	13′-2″	1030	1	1′-8″	11′-9″					
FAF902	69	14′-8″	3441	1	1′-8″	13′-3″					
FAF903	25	14′-2″	1204	1	1′-8″	12′-9″					
FAF1001	48	19′-4″	3993	1	1′-11″	17′-9″					
		SUB-TOTAL	24,105								

BAR BENDING DETAILS



TYPE-1 TYPE-2 TYPE-9

NOTES:

SEE SHEET 79/79 FOR NOTES.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

DESIGNED	DRAWN	REVIEWED	DATE
KDC	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

REINFORCING STEEL LIST (4 OF 6)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

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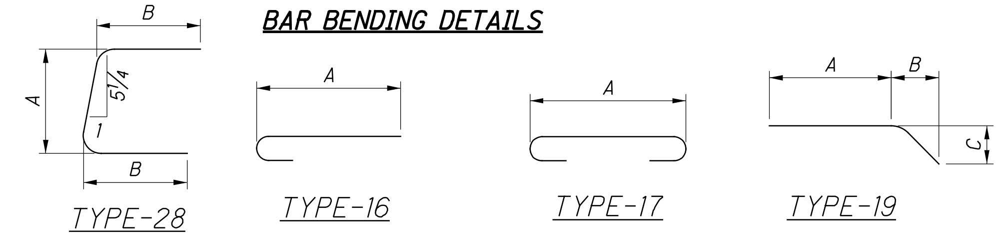
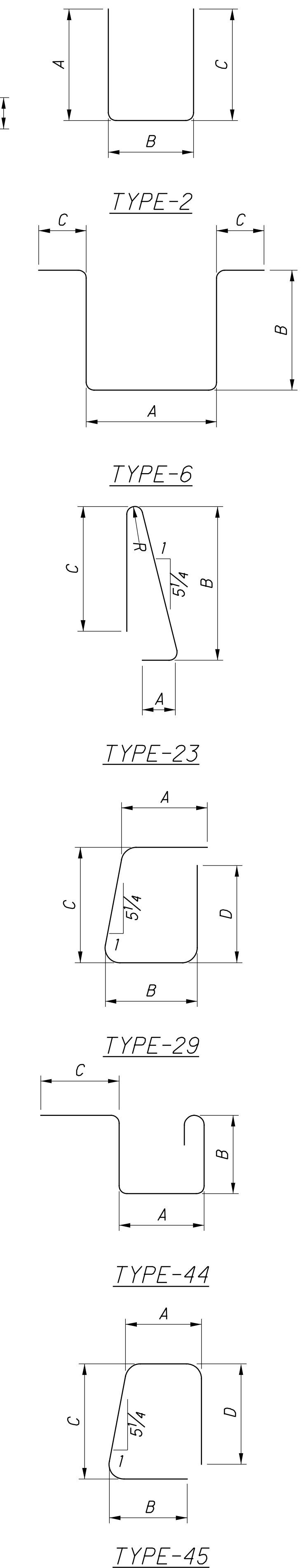
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
DECK SLAB - UNIT 1											
1S401	250	30'-0"	5010	STR							
1S402	156	10'-11"	1138	2	7'-9"	8"	2'-9"				
	1 SR	15'-9"									
1S403	OF	TO	672	STR							2¼"
	50	24'-6"									
1S404	12	3'-0"	24	STR							
1S405	160	12'-0"	1283	2	8'-3"	8"	3'-3"				
1S501	305	30'-0"	9543	STR							
	1 SR	21'-6"									
1S502	OF	TO	1646	STR							1¾"
	61	30'-3"									
1S601	300	33'-11"	15283	17	32'-7"						
1S602	300	32'-7"	14682	STR							
1S603	147	24'-0"	5299	STR							
	1 SR	3'-11"			3'-3"						
1S604	OF	TO	750	16	TO						1'-0¼"
	28	31'-9"			31'-1"						
	1 SR	3'-3"									
1S605	OF	TO	722	STR							1'-0¼"
	28	31'-1"									
1S606	2	36'-4"	109	STR							
1S607	3	3'-8"	17	16	3'-0"						
1S608	3	3'-0"	14	STR							
		SUB-TOTAL	56192								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
DECK SLAB - UNIT 2											
2S401	800	30'-0"	16032	STR							
2S402	883	11'-7"	6832	2	8'-3"	9"	2'-10"				
	1 SR	3'-0"									
2S403	OF	TO	445	STR							5½"
	48	24'-9"									
2S501	976	30'-0"	30539	STR							
	1 SR	3'-0"									
2S502	OF	TO	1354	STR							7¾"
	59	41'-0"									
2S601	867	33'-11"	44167	17	32'-7"						
2S602	867	32'-7"	42431	STR							
2S603	196	29'-3"	8611	STR							
2S604	147	30'-5"	6716	STR							
	1 SR	4'-9"			3'-5"						
2S605	OF	TO	837	17	TO						11½"
	30	32'-5"			31'-1"						
	1 SR	3'-5"									
2S606	OF	TO	777	STR							11½"
	30	31'-1"									
2S607	2	35'-11"	108	STR							
2S608	3	3'-8"	17	16	3'-0"						
2S609	3	3'-0"	14	STR							
2S610	2	5'-1"	15	19	3'-4"	1'-6"	11"				
		SUB-TOTAL	158895								

BAR BENDING DETAILS





MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PARAPET - UNIT 1											
1R501	282	7'-4"	2157	23	11"	3'-3"	3'-0"			2¾"	
1R502	40	30'-0"	1252	STR							
1R503	4	26'-2"	109	STR							
1R504	103	8'-7"	922	45	1'-0"	1'-8"	3'-3"	3'-0"			
1R505	52	4'-5"	240	6	11"	1'-0"	1'-0"				
1R506	8	3'-11"	33	2	1'-2"	1'-10"	1'-2"				
1R507	8	4'-7"	38	2	1'-6"	1'-10"	1'-6"				
1R508	8	5'-1"	42	44	1'-10½"	1'-0"	1'-0"				
1R509	8	4'-0"	33	44	9½"	1'-0"	1'-0"				
1R511	4	17'-3"	72	STR							
1R512	36	6'-5"	241	STR							
1R513	24	13'-2"	330	STR							
1R514	2	14'-4"	30	STR							
1R515	2	8'-9"	18	STR							
1R516	2	6'-6"	13	STR							
1R517	2	7'-8"	16	STR							
1R518	128	4'-2"	551	44	11"	1'-0"	1'-0"				
1R601	385	4'-9"	2747	29	11"	1'-2 ½"	1'-7"	1'-6"			
1R602	18	6'-5"	173	STR							
1R603	12	13'-2"	237	STR							
1R604	1	14'-4"	22	STR							
1R605	1	8'-9"	13	STR							
1R606	1	6'-6"	10	STR							
1R607	1	7'-8"	12	STR							
1R608	4	8'-5"	51	45	1'-0"	1'-8"	3'-3"	3'-0"			
1R701	4	2'-6"	20	28	11"	1'-2 ½"					
1R702	4	3'-0"	25	2	1'-0"	11"	1'-0"				
		SUB-TOTAL	9407								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PARAPET - UNIT 2											
2R501	816	7'-4"	6241	23	11"	3'-3"	3'-0"			2¾"	
2R502	128	30'-0"	4005	STR							
2R503	4	5'-7"	23	STR							
2R504	284	8'-7"	2542	45	1'-0"	1'-8"	3'-3"	3'-0"			
2R505	152	4'-5"	700	6	11"	1'-0"	1'-0"				
2R510	16	4'-7"	76	44	2'-4"	1'-0"	1'-0"				
2R511	4	32'-4"	135	STR							
2R512	112	6'-5"	750	STR							
2R513	76	13'-2"	1044	STR							
2R514	2	8'-0"	17	STR							
2R515	2	9'-2"	19	STR							
2R516	2	7'-10"	16	STR							
2R517	2	9'-0"	19	STR							
2R518	384	4'-2"	1653	44	11"	1'-0"	1'-0"				
2R601	1100	4'-9"	7848	29	11"	1'-2 ½"	1'-7"	1'-6"			
2R602	56	6'-5"	540	STR							
2R603	38	13'-2"	752	STR							
2R604	1	8'-0"	12	STR							
2R605	1	9'-2"	14	STR							
2R606	1	7'-10"	12	STR							
2R607	1	9'-0"	14	STR							
		SUB-TOTAL	26432								

NOTES:

1. SEE SHEET 79/79 FOR NOTES.

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

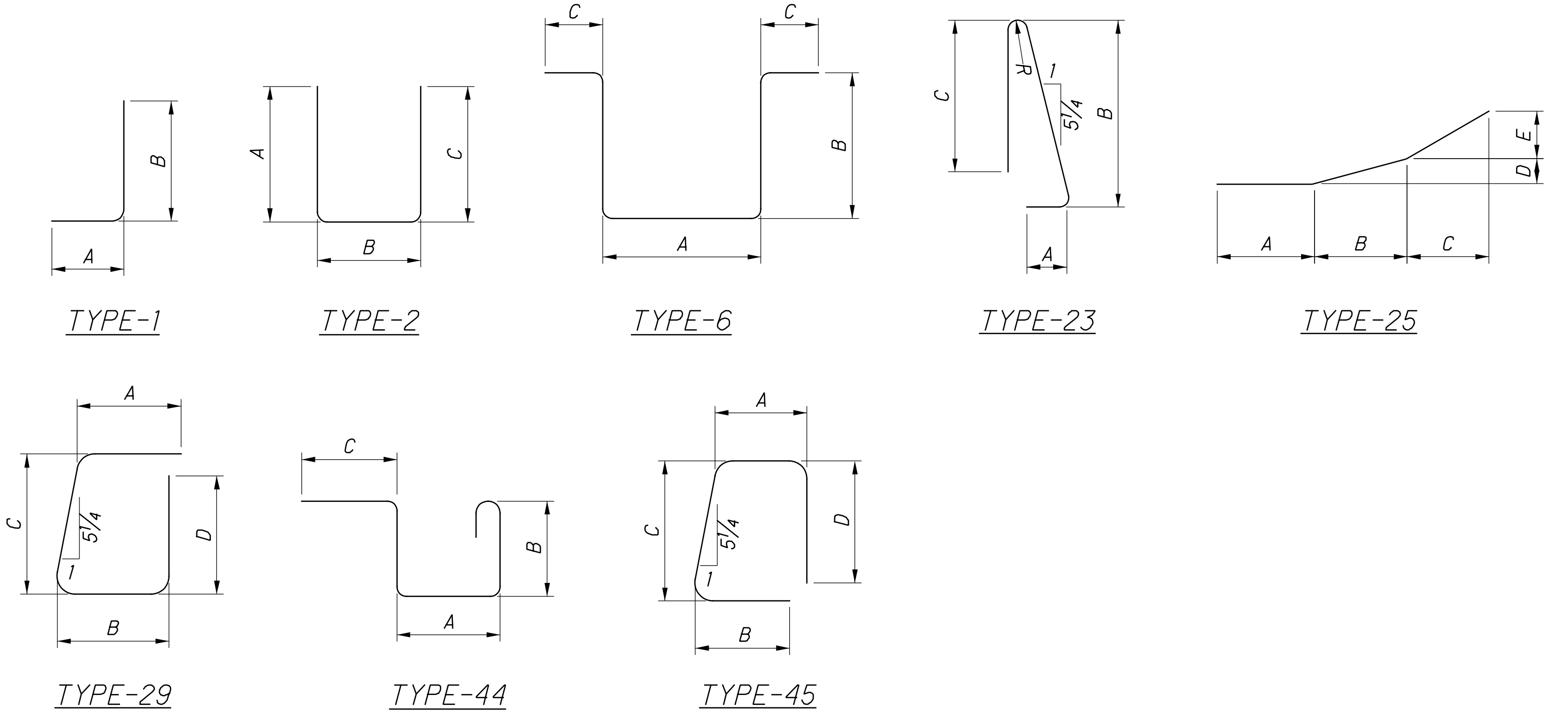
REVIEWED TES | DATE 8/22/2019 | STRUCTURE FILE NUMBER 3109798
DRAWN ADS | REVISED
DESIGNED KDC | CHECKED CRG

REINFORCING STEEL LIST (5 OF 6)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
APPROACH SLAB PARAPET											
ASR501	24	7'-4"	184	23	11"	3'-3"	3'-0"			2¾"	
ASR502	4	14'-4"	60	STR							
ASR503	8	24'-6"	204	STR							
ASR504	16	8'-7"	143	45	1'-0"	1'-8"	3'-3"	3'-0"			
ASR505	8	4'-5"	37	6	11"	1'-0"	1'-0"				
ASR506	16	4'-2"	70	44	11"	1'-0"	1'-0"				
ASR507	8	9'-10"	82	STR							
ASR508	8	5'-9"	48	25	1'-10"	2'-5"	1'-5"	1 ½"	5"		
ASR509	8	5'-8"	47	STR							
ASR510	8	3'-1"	26	2	1'-2"	1'-0"	1'-2"				
ASR511	8	3'-9"	31	2	1'-6"	1'-0"	1'-6"				
ASR601	40	4'-9"	285	29	11"	1'-2½"	1'-7"	1'-6"			
ASR602	2	14'-4"	43	STR							
	4 SR	3'-11"				3'-0 ½"					
ASR603	OF	TO	312	1	1'-0"	TO					1"
	12	4'-10"				3'-11 ½"					
ASR604	12	4'-0"	72	1	1'-0"	3'-1 ½"					
SUB-TOTAL			1644								

BAR BENDING DETAILS



NOTES:

1. ALL REINFORCING BARS SHALL BE EPOXY COATED.
2. ALL DIMENSIONS ARE OUT TO OUT, EXCEPT WHERE NOTED.
3. DIMENSION 'R' IS TO THE INSIDE OF THE BAR.
4. STANDARD BENDS ARE TO BE PROVIDED, EXCEPT WHERE NOTED.
5. ALL DIMENSIONS SHOWN ARE FINISHED DIMENSIONS.
6. SPIRAL REINFORCING BARS:

   THE LENGTH SHOWN IN THE STEEL LIST FOR SPIRAL BARS IS THE LENGTH OF THE SPIRAL ALONG THE AXIS OF THE SPIRAL. ONE AND ONE-HALF CLOSED-COIL TURNS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT.

   SPACERS:

   CONCRETE SPACERS OR OTHER APPROVED NON-CORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVALS (NEAR BOTTOM AND AT INTERVALS NOT EXCEEDING 10 FEET) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUANTITY AND DURABILITY TO THE CONCRETE SPECIFIED. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE A MINIMUM COVER BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN DIMENSION PER GENERAL NOTES.
7. FOR FIELD CUT BARS THE EPOXY COATING SHALL BE REPAIRED AT THE CUT.

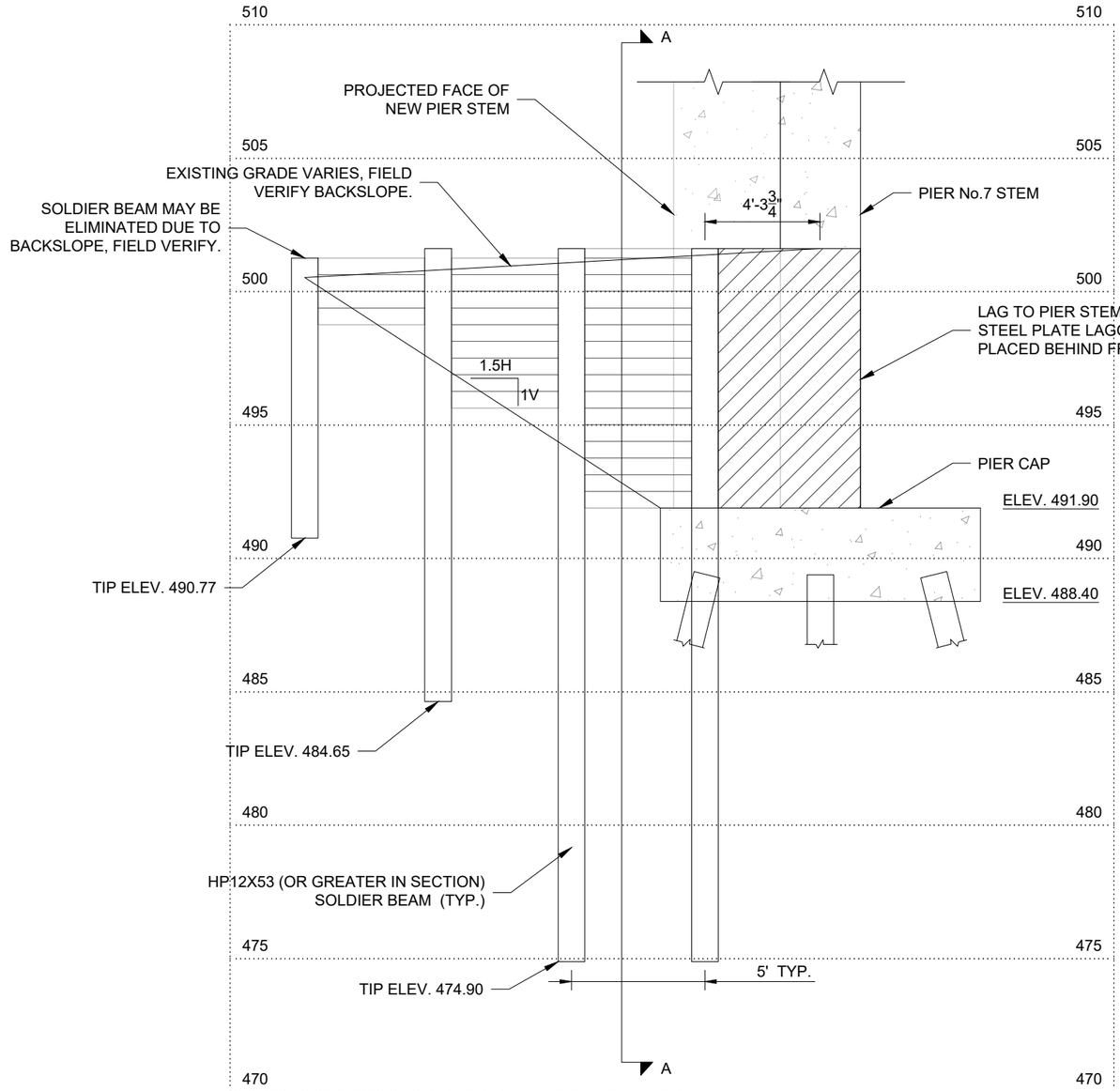
P:\Projects\2018\20H03DB-18232 HAM-75-03.84\104667\structures\HAM074_1908S\sheets\074_1908S_RL005.dgn 7/28/2023 9:37:09 AM erin.baumann

DESIGN AGENCY
PRIME
540 WHITE POND DR., SUITE E
AKRON, OH 44320

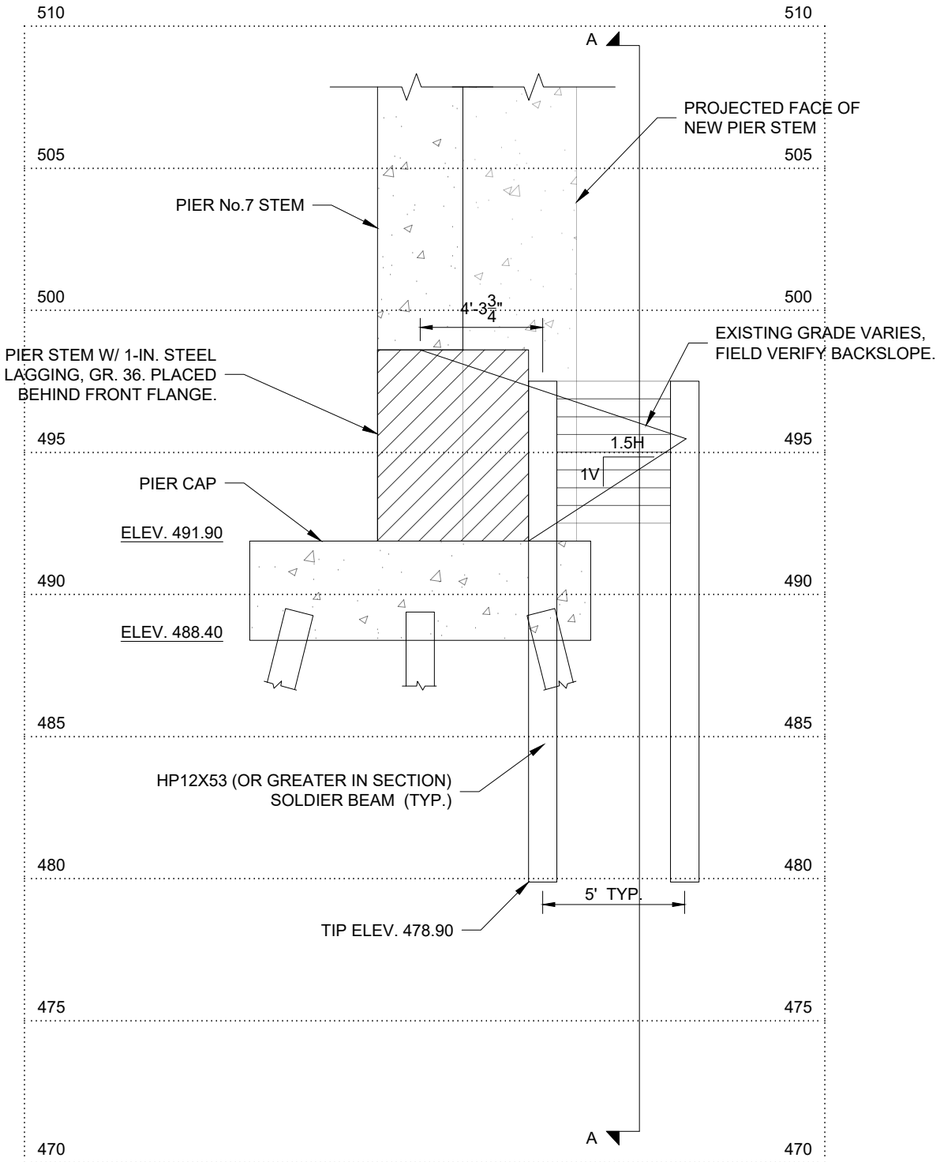
DESIGNED	DRAWN	REVIEWED	DATE
KDC	ADS	TES	8/22/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CRG		3109798	

REINFORCING STEEL LIST (6 OF 6)
BRIDGE NO. HAM-74-1908S
RAMP P OVER IR-74 WESTBOUND, IR-75 AND RAMP E

HAM-75-3.84
PID No. 104667



SOUTH ELEVATION VIEW - SOE FOR PIER No. 7 (LOOKING SOUTH)
SCALE: 3/16" = 1'-0"



NORTH ELEVATION VIEW - SOE FOR PIER No. 7 (LOOKING NORTH)
SCALE: 3/16" = 1'-0"

STATE OF OHIO
SCOTT J. LUDLOW
E59231
REGISTERED PROFESSIONAL ENGINEER

5/24/19
DATE

NOTES

1. All structural steel shall be ASTM A572 or A992, Grade 50, unless noted otherwise.
2. Field verify soldier beam locations in relation to existing utilities.
3. Refer to Construction Plans for locations/orientation of existing foundations at pier.

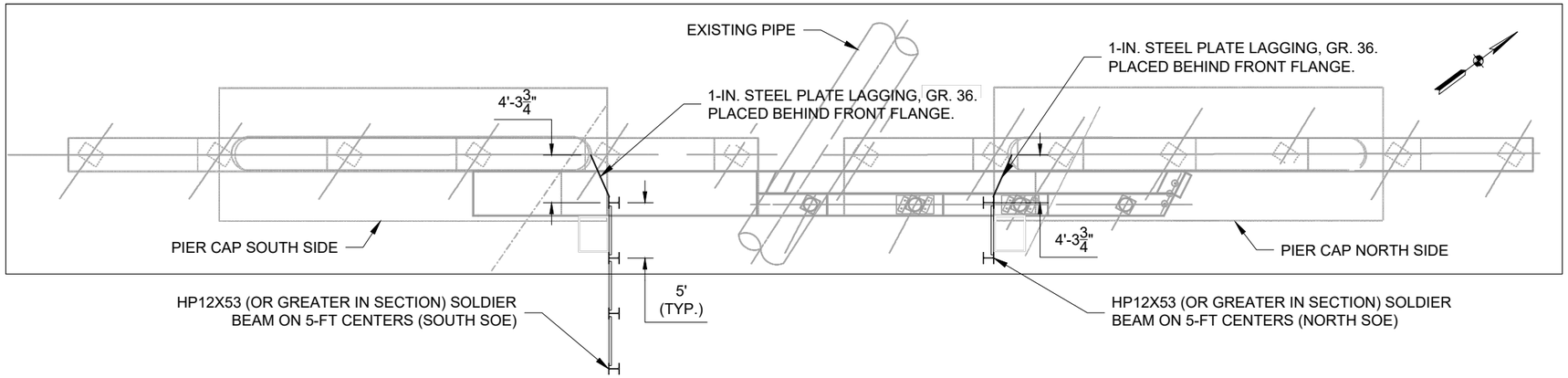
ELEVATION AT PIER No. 7

PROJECT: I-75 BRIDGE STRUCTURES - HAM-75-3.85 - SOE FOR PIER No.7
LOCATION: HAMILTON CO., OH
CLIENT: WALSH CONSTRUCTION CO.
SJL PROJ. NO.:1-19-029
SCALE: AS SHOWN

PROJECT ENG: SJL	
APPROVED BY: SJL	
DRAWN BY: KAL	
DATE AND TIME: 5/24/19	

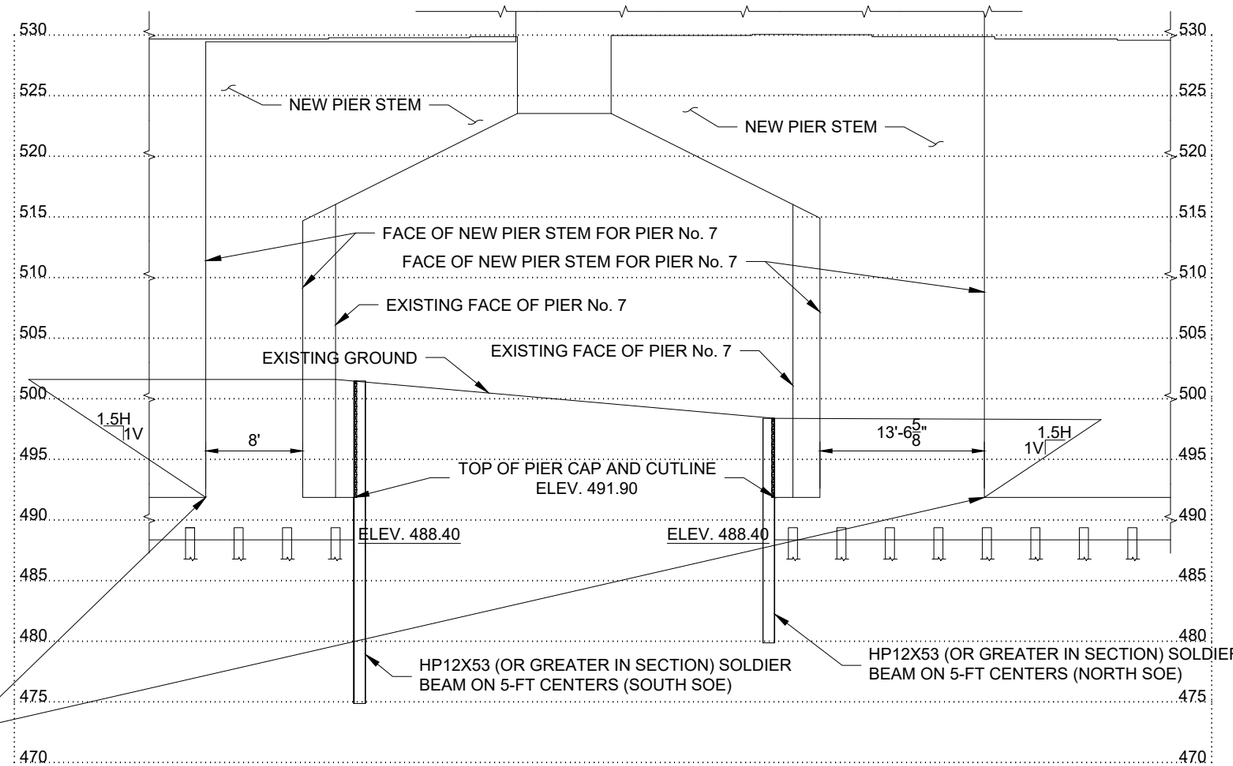
S.J. Ludlow Consulting Engineers, Inc.
450 E. 96th St., Suite 500
Indianapolis, IN 46240
317-371-5539

DRAWING NO.:
1-19-029.B3



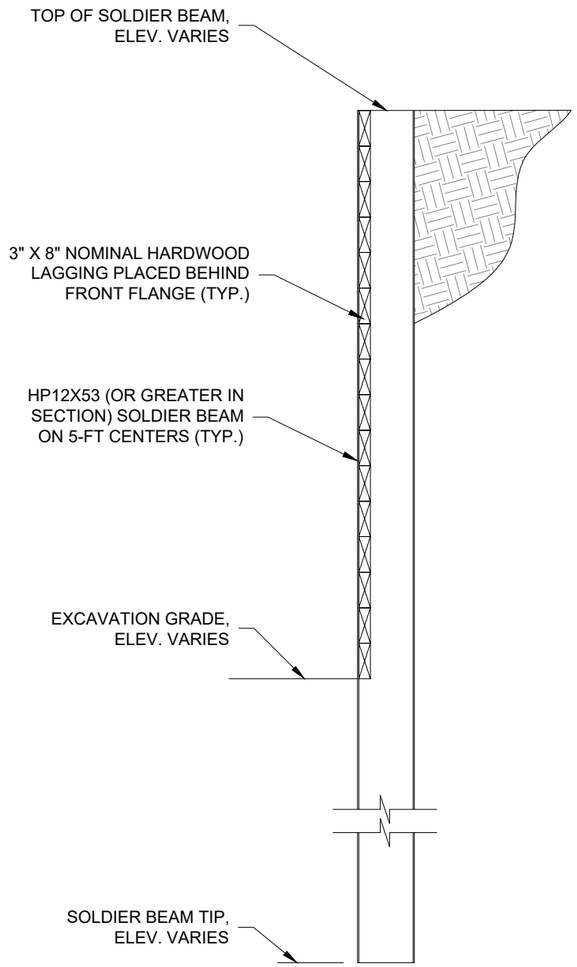
NOTE:
FIELD VERIFY LOCATION OF SOLDIER BEAMS IN RELATION TO EXISTING PIPE.

PLAN VIEW
SCALE: 1:150



ADJUST OFFSET OF BACKSLOPE FROM FACE OF NEW PIER STEM AS REQUIRED AND MAINTAIN BACKSLOPE WITHIN LIMITS OF EXISTING PIER STEM

SECTION A-A - SOUTH AND NORTH SOE AT PIER No. 7 (LOOKING WEST)
SCALE: 1:150



TYPICAL CANTILEVERED SECTION
SCALE: 3/8" = 1'-0"

NOTE:
PILES MAY BE FIELD SPLICED AS REQUIRED FOR LOW HEADROOM INSTALLATION.

STATE OF OHIO
SCOTT
J.
LUDLOW
E59231
REGISTERED
PROFESSIONAL ENGINEER

5/24/19
DATE

NOTES

1. All structural steel shall be ASTM A572 or A992, Grade 50, unless noted otherwise.
2. No construction surcharge shall be applied between pier caps.
3. All welds shall be E70xx electrodes according to AWS D1.1.
4. Refer to Construction Plans for locations/orientation of existing foundations at pier.

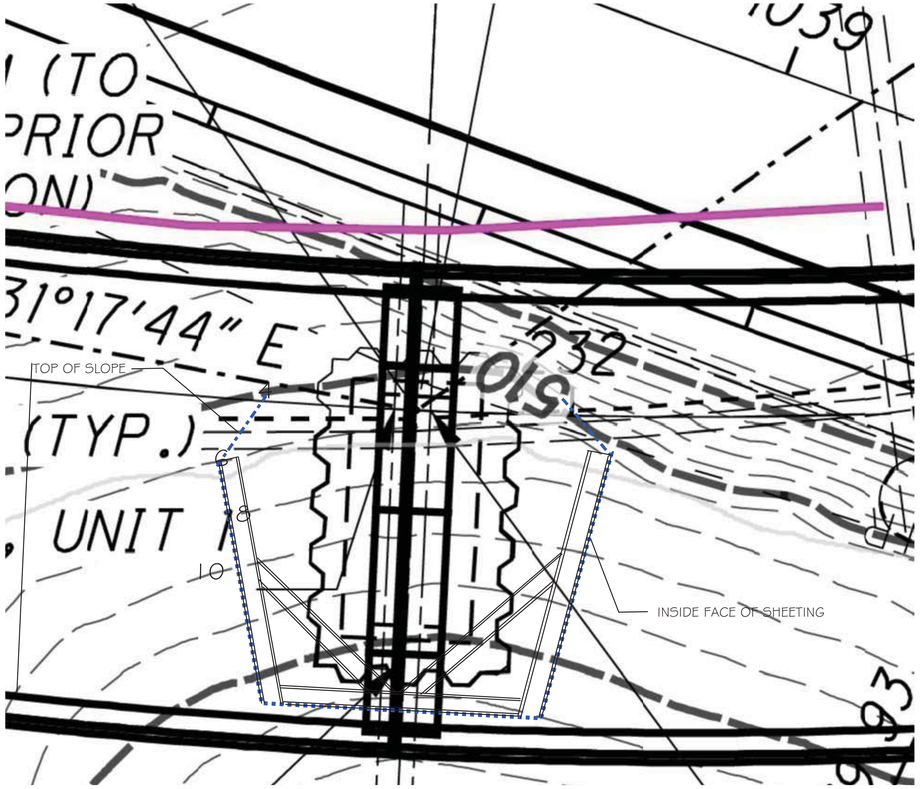
PLAN VIEW AND SECTIONS

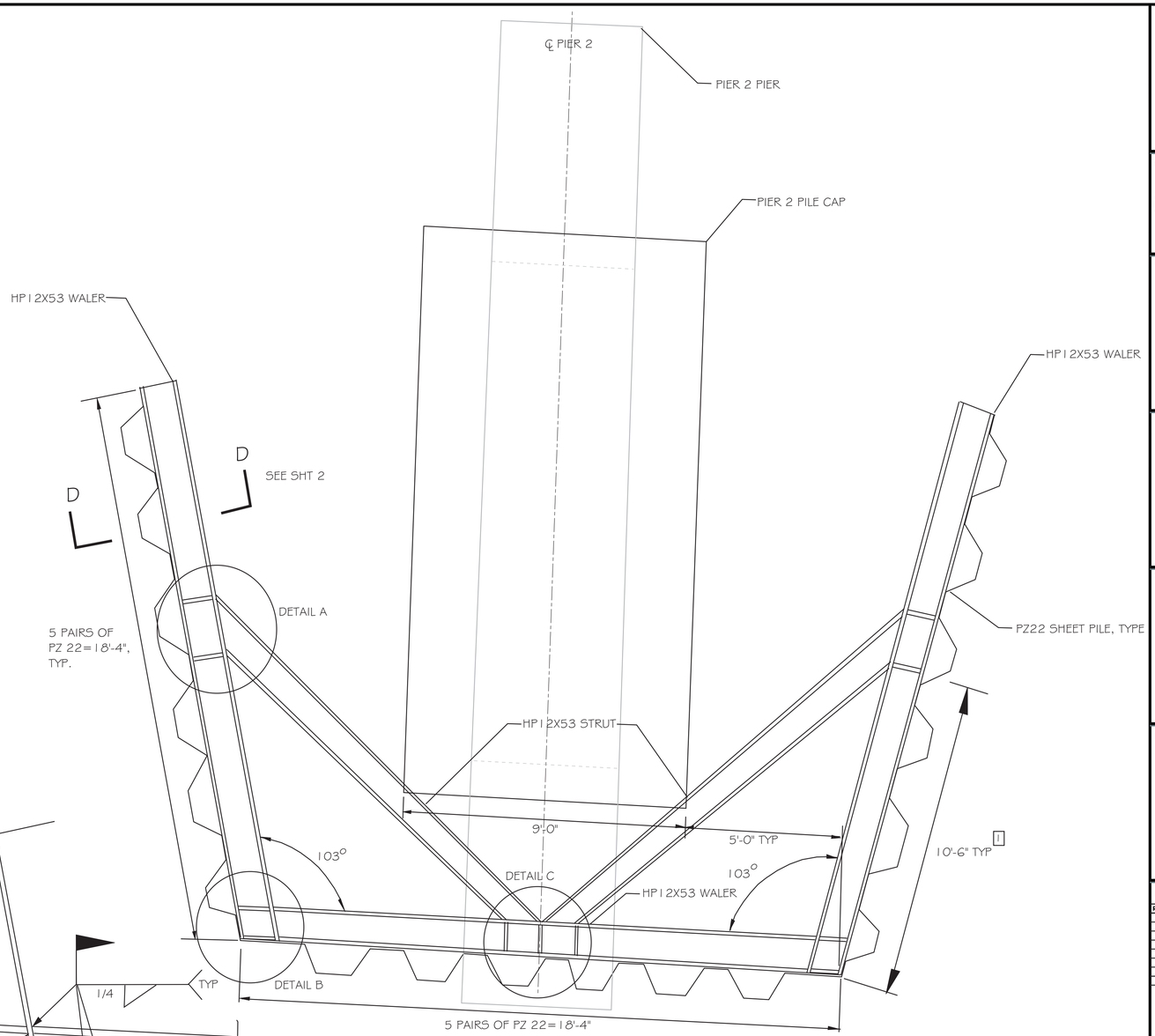
PROJECT: I-75 BRIDGE STRUCTURES - HAM-75-3.85 - SOE FOR PIER No.7
LOCATION: HAMILTON CO., OH
CLIENT: WALSH CONSTRUCTION CO.
SJL PROJ. NO.:1-19-029
SCALE: AS SHOWN

PROJECT ENG: SJL	
APPROVED BY: SJL	
DRAWN BY: KAL	
DATE AND TIME: 5/24/19	

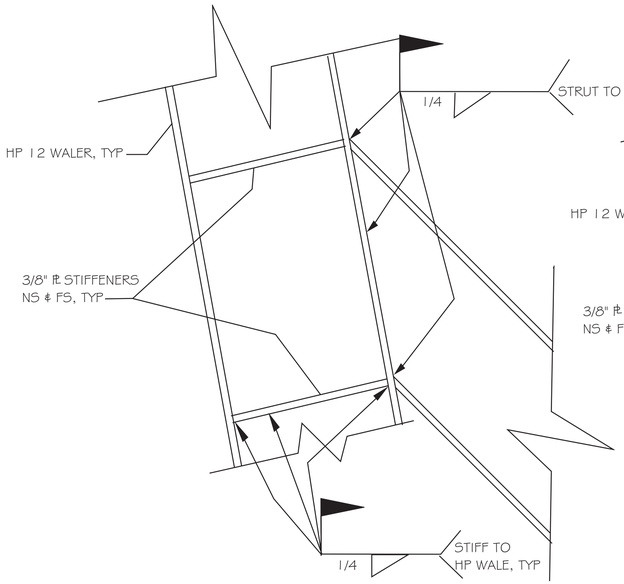
S.J. Ludlow
Consulting Engineers, Inc.
450 E. 96th St., Suite 500
Indianapolis, IN 46240
317-371-5539

DRAWING NO.:
1-19-029.B4

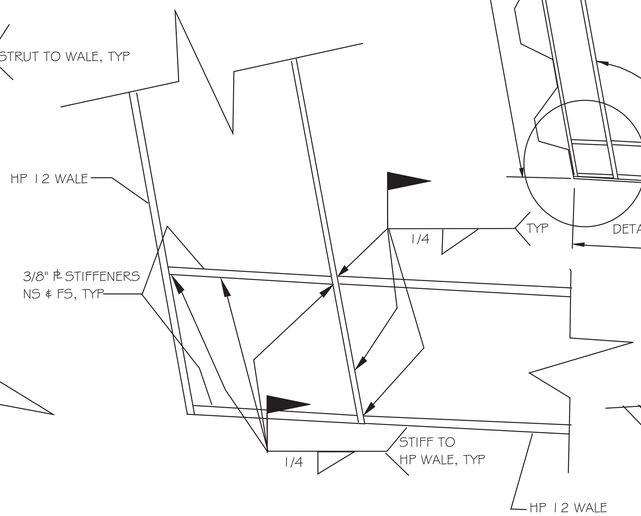




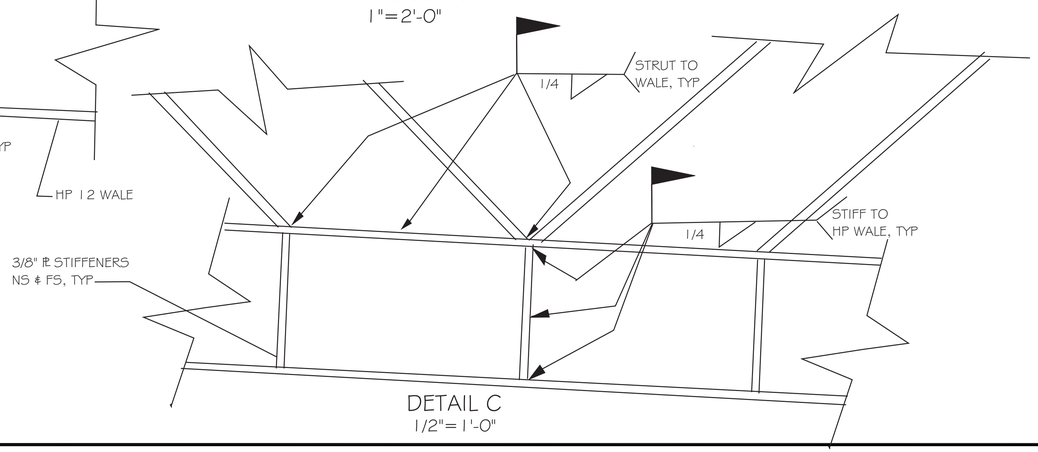
PIER 2 SOE PLAN
1"=2'-0"



DETAIL A
1/2"=1'-0"



DETAIL B
1/2"=1'-0"



DETAIL C
1/2"=1'-0"

SME
www.sme-usa.com

Orientation
NORTH

Scale
0' 1' 2'
GRAPHIC SCALE: 1" = 1'

Project
HAM-75-3.84
BRIDGE NO.
HAM-74-1908 S
RAMP P O/IR-74 WB
& IR-75 AND RAMP E

Project Location
HAMILTON COUNTY
CITY OF CINCINNATI
OHIO

Sheet Name
PIER 2
SOE PLAN
AND DETAILS

Engineer's Seal
STATE OF OHIO
TIMOTHY H. BEDENIS
E-83628
REGISTERED
PROFESSIONAL ENGINEER

Revisions

REV	ISSUED FOR	DATE	BY
1	ADDED DIMENSION	2-13-19	DWB

Date
2-5-2019

SME Project No.
79059.01

Project Manager:
TH BEDENIS

Designer:
DW BIRD

CADD:
DW BIRD

Checked By:
TH BEDENIS

Sheet No.
1 OF 2

DRAWING NOTE: SCALE DEPICTED IS MEANT FOR 24" X 36" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA

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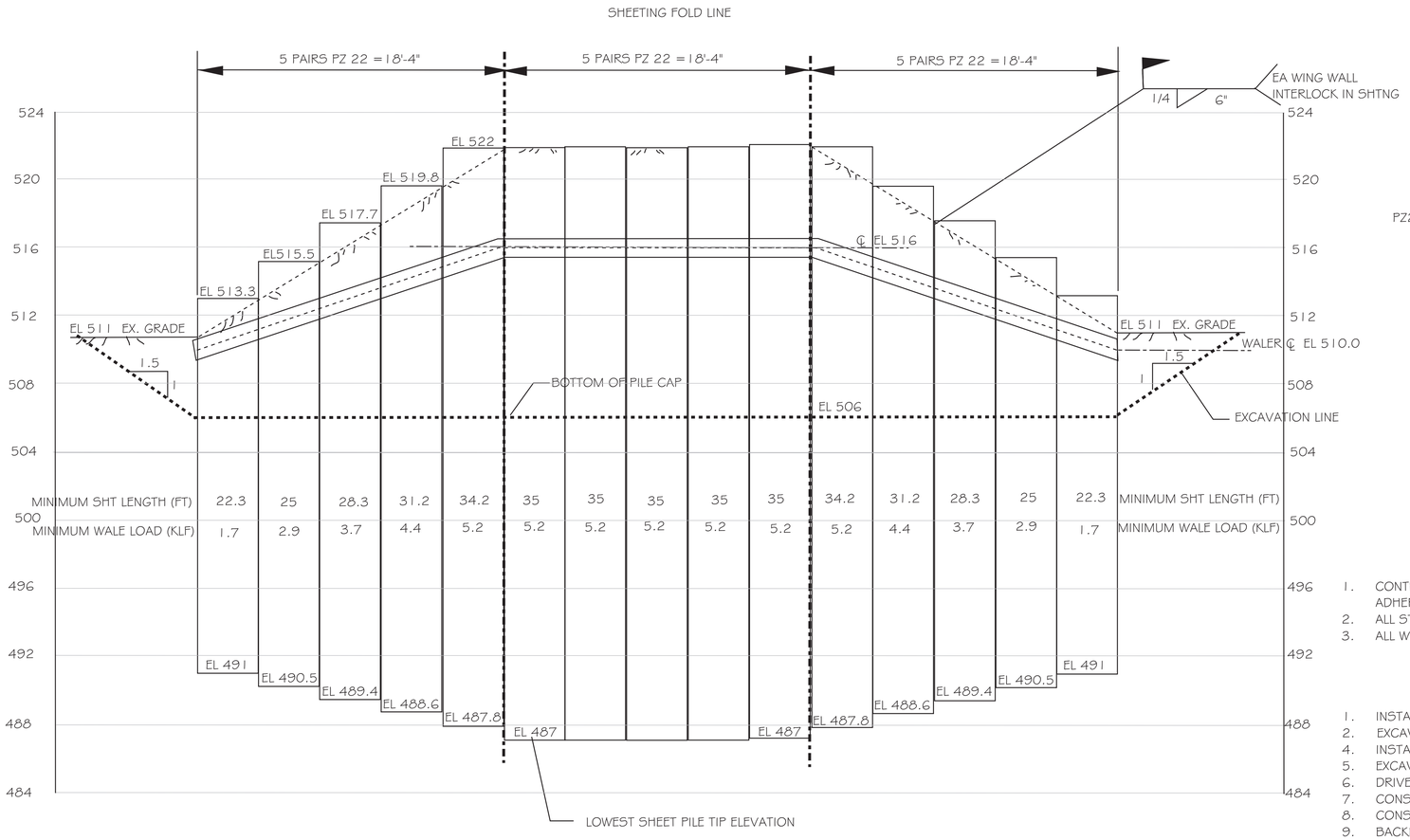
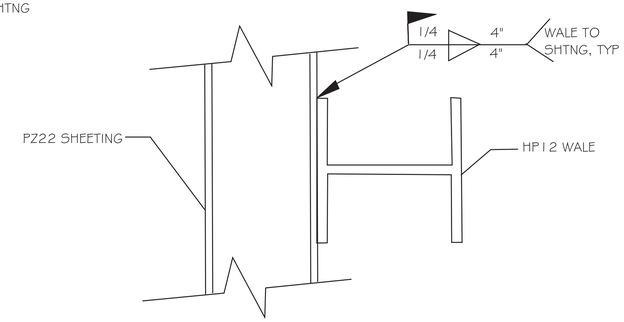


UNFOLDED SOE ELEVATION VIEW

1/4"= 1'-0"



SECTION D-D

NTS

SOE INSTALLATION CONSTRUCTION NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY INCLUDING INSTALLATION OF FALL PROTECTION AND ADHERENCE TO OSHA EXCAVATION SAFETY REQUIREMENTS.
2. ALL STEEL SHALL BE FURNISHED IN GR 50.
3. ALL WELDING SHALL BE WITH E70XX ELECTRODES IN ACCORDANCE WITH AWS D1.1.

SOE SEQUENCE OF ACTIVITIES

1. INSTALL SOE SHEETING.
2. EXCAVATE TO REQUIRED ELEVATION IN OPEN CUT AREA. EXCAVATE SHEETING AREA TO 2 FT BELOW WALE ELEV.
4. INSTALL WALERS AND CORNER BRACE STRUTS.
5. EXCAVATE TO ELEV 506 (BOTTOM OF PILE CAP ELEV).
6. DRIVE PILES TO REQUIRED CAPACITY/TIP ELEVATION.
7. CONSTRUCT PILE CAP.
8. CONSTRUCT PIER STEM.
9. BACKFILL EXCAVATION, REMOVING BRACING WHEN BACKFILL REACHES BRACING ELEVATION.
10. CUT THE INTERLOCK WELDS LOOSE.
11. BACKFILL TO FINAL GRADE AND EXTRACT SHEETING.

SME

www.sme-usa.com

Orientation: NORTH

Scale: 0' 1' 2'

GRAPHIC SCALE: 1" = 1'

Project

HAM-75-3.84
BRIDGE NO.
HAM-74-1908 S
RAMP P O/IR-74 WB
& IR-75 AND RAMP E

Project Location

HAMILTON COUNTY
CITY OF CINCINNATI
OHIO

Sheet Name

PIER 2
SOE ELEVATION
AND NOTES

Engineer's Seal

STATE OF OHIO
TIMOTHY H. BEDENIS
E-33828
REGISTERED
PROFESSIONAL ENGINEER

Revisions

REV	ISSUED FOR	DATE	BY

Date 2-5-2019

SME Project No. 79059.01

Project Manager: TH BEDENIS

Designer: DW BIRD

CADD: DW BIRD

Checked By: TH BEDENIS

Sheet No. 2 OF 2

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COSMEC INC. / DYNAMIC RUBBER

P.O. Box 2159
1501 Rocky Ridge Road
Athens, TX 75751
TEL: 903.677.2871 FAX: 903.675.4776

PRIME AE, Group, Inc	RELEASED FOR FABRICATION
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7	
Review conforms that the shop drawings meet the intent of the contract.	
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND	
1908S - FIXED BEARINGS	
By: Conrad Gagnon	By:
Date: 8/20/2019	Date:

TRANSMITTAL SHEET

TO: WALSH CONSTRUCTION CO. II
ZACHARY WIRRIG ZWIRRIG@WALSHGROUP.COM
CC KATHI MILLS

DATE: 8/19/19
JOB: 183000 BRIDGE HAM-74-1908S
RE: FINAL DRAWING DISTRIBUTION
DRP JOB NO: **15353B1** LOCATION: HAMILTON COUNTY

WE TRANSMIT TO YOU UNDER SEPARATE COVER HERE WITH THE FOLLOWING DRAWINGS:

DWG NO	REV NO	NO EACH	DESCRIPTION	REMARKS
15353B1-GN1	1	1	GENERAL NOTES	
15353B1-D1	2	1	SHOP DRAWINGS	
15353B1-D2	2	1	SHOP DRAWINGS	
15353B1-D3	2	1	SHOP DRAWINGS	
15353B1-D4	2	1	SHOP DRAWINGS	

DWG NO	REV NO	NO EACH	DESCRIPTION	REMARKS

COMMENTS: **THE ATTACHED SHOP DRAWINGS ARE PROVIDED FOR FINAL DISTRIBUTION, NO ACTION REQUIRED ON YOUR PART.**

THE ABOVE PRINTS ARE SUBMITTED TO YOU FOR:

BY:
( ) Approval ( ) Final Approval (XXX) Distribution
( ) Field Use ( ) Fabrication (XXX) E-MAIL
( ) Next Day Air ( ) Second Day Air ( ) Messenger
( ) UPS ( ) First Class Mail ( ) Fax

Thank you

STEPHANIE RITZ

COSMEC INC. / DYNAMIC RUBBER PRODUCTS

WWW.COSMECINC.COM

GENERAL NOTES

GENERAL NOTES:

1. ALL BEARINGS IN ACCORDANCE WITH THE 2016 OHIO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES AND SUPPLEMENTAL SPECIFICATIONS 800 DATED 10/19/18, AND 869 DATED 10/17/14.
2. SHOP TO MARK LOCATION, BEAM/GIRDER NUMBER, BEARING NUMBER, HIGH-SIDE ⊗ AND AHEAD STATION AS SHOWN. MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER BEARING IS INSTALLED.
3. ALL DIMENSIONS ARE IN INCHES.
4. ALL PLATES SHALL BE SMOOTH AND STRAIGHT.
5. SHIP THE SAMPLE BEARING TO AN INDEPENDENT TESTING LABORATORY FOR TESTING PER OH DOT STANDARD SPECIFICATIONS SECTION 711.23.
6. NOTIFY THE OH DOT OFFICE OF STRUCTURAL ENGINEERING AT LEAST TWO WEEKS BEFORE STARTING SHOP FABRICATION.
7. DYNAMIC RUBBER REPRESENTATIVE:
   KATHI MILLS
   903-677-2871
   1501 ROCKY RIDGE RD.
   ATHENS, TX 75751

MATERIAL NOTES:

1. ELASTOMER: 50 DUROMETER GRADE 3 NEOPRENE
2. STEEL LAMINATES: ASTM A709 GRADE 36, A1011 GRADE 36, GRADE 40 OR EQUIVALENT.
3. STEEL PLATES: ASTM A709 GRADE 50 (METALIZED)
4. ALL-THREAD ANCHOR ROD: ASTM F1554 GRADE 55 (HOT-DIPPED GLAVANIZED)
5. HVY. HEX NUT: ASTM A563-DH (HOT-DIPPED GALVANIZED)
6. HD WASHER: ASTM F436 (HOT-DIPPED GALVANIZED)

FINISH NOTES:

1. BLAST EXPOSED STEEL SURFACES OF THE LOAD PLATES TO SSPC-SP5 (WHITE METAL BLAST CLEANING) PRIOR TO METALIZING.
2. THE LOAD PLATES SHALL BE METALIZED (12 MILS MIN. DFT) PER SUPPLEMENTAL SPECIFICATION 869. ⚠1

CONTRACTOR NOTES:

1. WHEN WELDING BEAM FLANGE TO SOLE PLATES, USE TEMPERATURE INDICATING WAX PEN OR OTHER SUITABLE MEANS TO INSURE THAT THE TEMPERATURE OF THE ELASTOMER DOES NOT EXCEED 250°F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.
2. ⚠1 REPAIR DAMAGED OR FIELD WELDED METALIZED COATINGS BY METALIZING AND SEALING IN ACCORDANCE TO SUPPLEMENTAL SPECIFICATION 869. PROTECT AND MASK NON-DAMAGED OR NON-FIELD WELDED METALIZED SURFACES AND ELASTOMERIC PARTS DURING ALL REPAIRS TO PREVENT DAMAGE OR CONTAMINATION.

PRIME AE, Group, Inc

DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7

Review conforms that the shop drawings meet the intent of the contract.

☒ CONFORMS AS-IS ☐ CONFORMS AS NOTED ☐ REVISE AND RESEND

1908S - FIXED BEARINGS

By: Conrad Gagnon

Date: 8/20/2019

RELEASED FOR FABRICATION

WALSH

By:

Date:

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.: HAM-74-1908S
OVER IR-74 WB, IR-75 & RAMP E

HAM-75-3.84
CITY OF CINCINNATI

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. PROJ. NO.: E170 (713)

DYNAMIC RUBBER LAM. ELASTOMERIC BEARING ASSY.'S

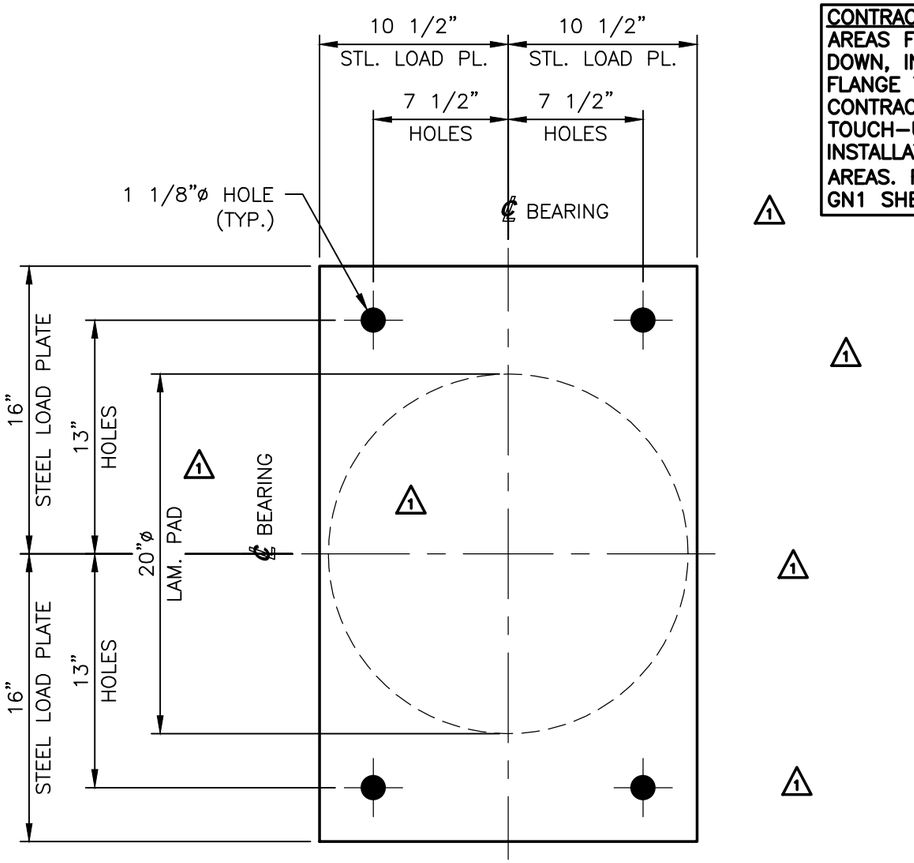
Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠1	REVISED FINISH NOTE #2 AND ADDED CONTRACTOR NOTE #2.	MH	07/19/19	ELS	07/19/19

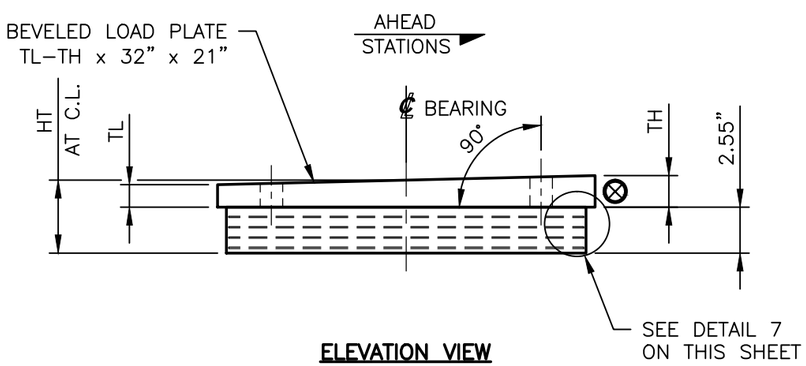
SCALE: NONE | DRAWN BY: MH DATE: 06/11/19 | CHECKED BY: RB DATE: 07/02/19

SHEET GN1 OF 1 | JOB NO.: 15353B1

CUSTOMER: WALSH CONSTRUCTION CO. II | DRAWING NUMBER: 15353B1-GN1 | REV.: 1



PLAN VIEW



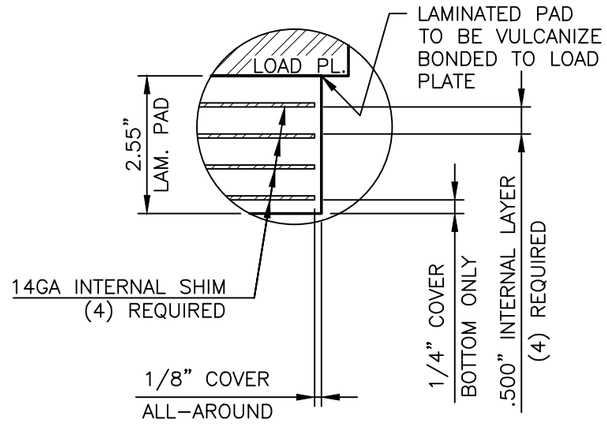
ELEVATION VIEW

FIXED LAMINATED
ELASTOMERIC BEARING ASSEMBLY (REF. NO.: 0034)
(REFER TO BEARING TABLE ON THIS SHEET FOR MARK NO.'s, LOCATIONS, DIMENSIONS & QUANTITIES)

CONTRACTOR NOTE:
AREAS FOR FIELD WELDING SHALL BE GROUND DOWN, IN THE FIELD, FOR WELDING THE GIRDER FLANGE TO THE TOP OF THE LOAD PLATES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD TOUCH–UP OF THE BEARING ASSEMBLIES AFTER INSTALLATION FOR ANY DAMAGE TO THE COATED AREAS. REFER TO CONTRACTOR NOTE #2 ON THE GN1 SHEET.

BEARING TABLE

BEARING MARK	QTY.	LOCATION		TL LOW SIDE (in.)	TH HIGH SIDE (in.)	HT AT C.L. (in.)
		PIER	GIRDER(s)			
FBA1-B1	1	PIER 1	G1	1 1/4	1 3/4	4.05
FBA2-B1	1	PIER 1	G2	1 1/4	1 3/4	4.05
FBA3-B1	1	PIER 1	G3	1 1/4	1 13/16	4.08
FBA4-B1	1	PIER 1	G4	1 3/16	1 13/16	4.05



DETAIL 7
2.55" x 20"ø LAMINATED PAD
50 DUROMETER GRADE 3 NEOPRENE
VULCANIZE BONDED TO LOAD PLATE
(4) REQUIRED

UNFACTORED ELASTOMERIC BEARING LOADS	
DEAD LOAD	220.7 KIPS
LIVE LOAD	113.1 KIPS
TOTAL LOAD (DL+LL)	333.8 KIPS

PRIME AE, Group, Inc
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7
Review conforms that the shop drawings meet the intent of the contract.
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND
1908S - FIXED BEARINGS
By: Conrad Gagnon
Date: 8/20/2019

RELEASED FOR FABRICATION
WALSH
By:
Date:

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
2	ADDED 1 AT THE END OF THE MARK NUMBERS.	MH	08/13/19	ELS	08/19/19
1	REMOVED NO METALIZING AREAS AND ANGLE COLUMN IN TABLE. ADDED CONTRACTOR NOTE.	MH	07/19/19	ELS	07/19/19

SEE NOTES ON SHEET GN1 OF 1

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.: HAM–74–1908S
OVER IR–74 WB, IR–75 & RAMP E

HAM–75–3.84
CITY OF CINCINNATI

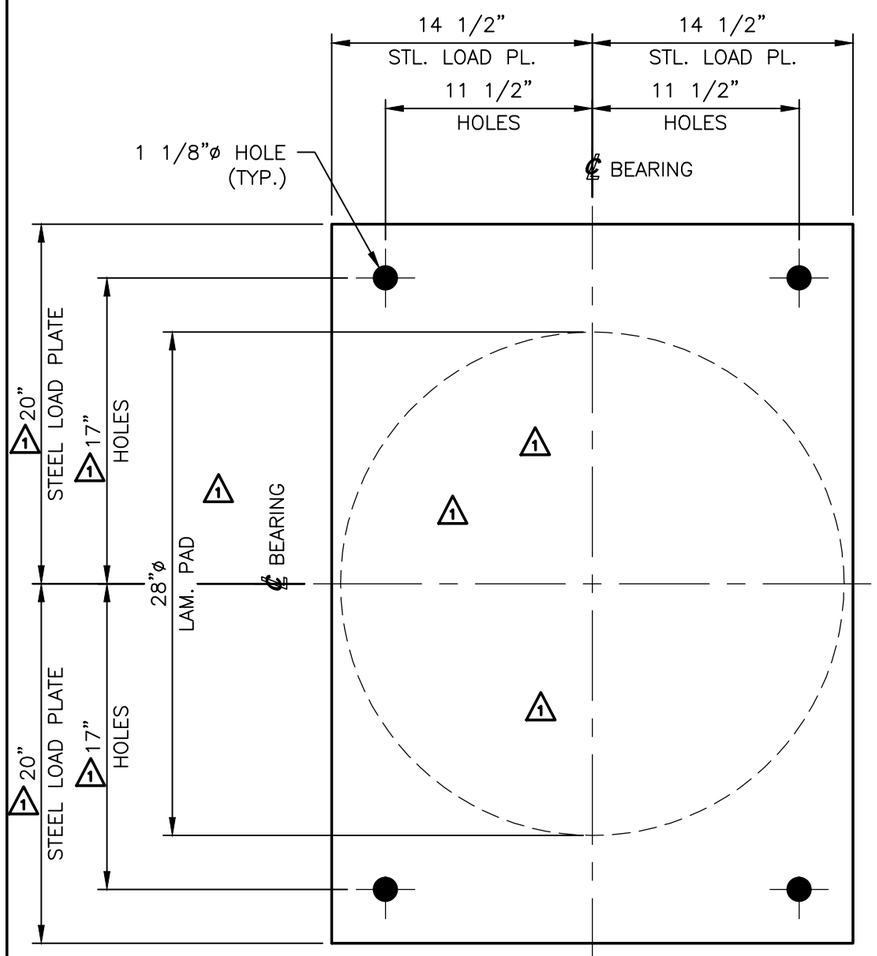
STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. PROJ. NO.: E170 (713)

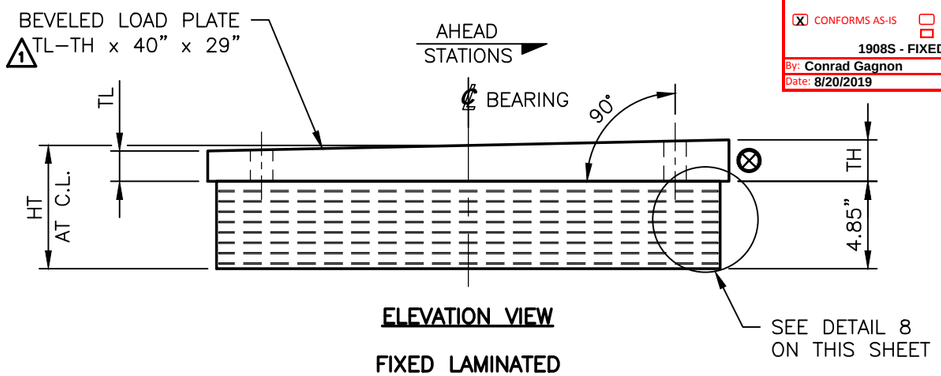
DYNAMIC RUBBER
LAM. ELASTOMERIC BEARING ASSY.'S

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE
DRAWN BY: MH DATE: 06/11/19
CHECKED BY: RB DATE: 07/01/19
SHEET 1 OF 4
JOB NO.: 15353B1
CUSTOMER: WALSH CONSTRUCTION CO. II
DRAWING NUMBER: 15353B1–D1
REV.: 2



PLAN VIEW



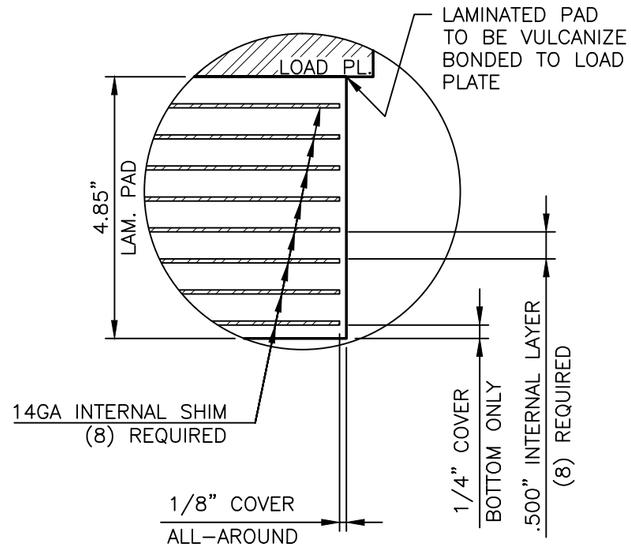
ELEVATION VIEW

FIXED LAMINATED
ELASTOMERIC BEARING ASSEMBLY (REF. NO.: 0034)
(REFER TO BEARING TABLE ON THIS SHEET FOR MARK NO.'s, LOCATIONS, DIMENSIONS & QUANTITIES)

CONTRACTOR NOTE:
AREAS FOR FIELD WELDING SHALL BE GROUND DOWN, IN THE FIELD, FOR WELDING THE GIRDER FLANGE TO THE TOP OF THE LOAD PLATES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD TOUCH–UP OF THE BEARING ASSEMBLIES AFTER INSTALLATION FOR ANY DAMAGE TO THE COATED AREAS. REFER TO CONTRACTOR NOTE #2 ON THE GN1 SHEET.

BEARING TABLE

BEARING MARK	QTY.	LOCATION		TL LOW SIDE (in.)	TH HIGH SIDE (in.)	HT AT C.L. (in.)
		PIER	GIRDER(s)			
FBA5-B1 2	1	PIER 3	1	1 13/16	2 3/16	6.85
FBA6-B1 2	1	PIER 3	2	1 7/8	2 1/8	6.85
FBA7-B1 2	1	PIER 3	3	1 7/8	2 1/16	6.82
FBA8-B1 2	1	PIER 3	4	1 15/16	2 1/16	6.85



DETAIL 8
4.85" x 28"ø LAMINATED PAD
50 DUROMETER GRADE 3 NEOPRENE
VULCANIZE BONDED TO LOAD PLATE
(4) REQUIRED

TEST2–B1 2
4.85" x 28"ø LAMINATED PAD
50 DUROMETER GRADE 3 NEOPRENE
PAD ONLY FOR TESTING
(1) REQUIRED

UNFACTORED ELASTOMERIC BEARING LOADS	
DEAD LOAD	525.2 KIPS
LIVE LOAD	200.4 KIPS
TOTAL LOAD (DL+LL)	725.6 KIPS

PRIME AE, Group, Inc
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7
Review conforms that the shop drawings meet the intent of the contract.
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND
1908S - FIXED BEARINGS
By: Conrad Gagnon Date: 8/20/2019
RELEASED FOR FABRICATION
WALSH
By: Date:

SEE NOTES ON SHEET GN1 OF 1

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BRIDGE NO.: HAM–74–1908S
OVER IR–74 WB, IR–75 & RAMP E
HAM–75–3.84
CITY OF CINCINNATI

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. PROJ. NO.: E170 (713)

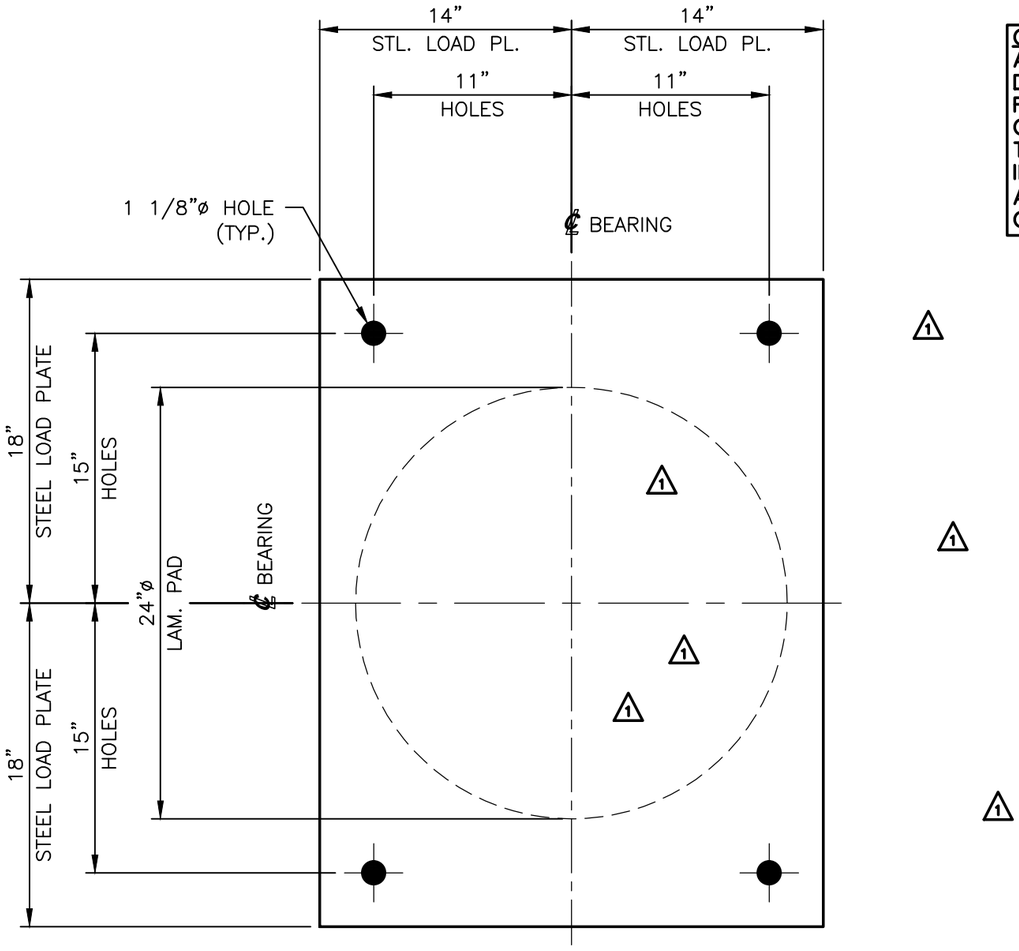
DYNAMIC RUBBER
LAM. ELASTOMERIC BEARING ASSY.'S

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

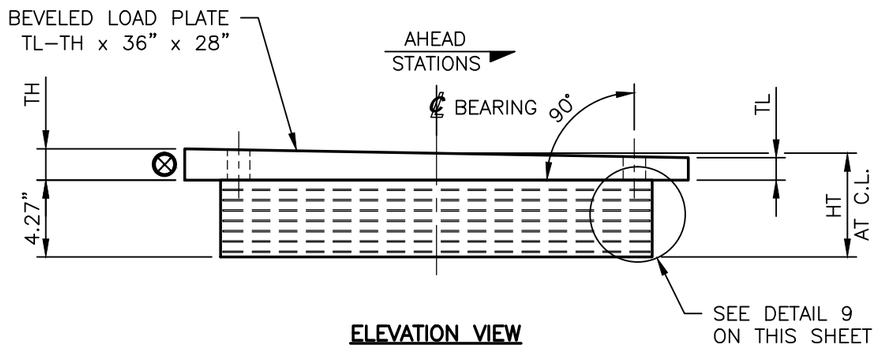
SCALE: NONE
DRAWN BY: MH DATE: 06/11/19
CHECKED BY: RB DATE: 07/01/19
SHEET 2 OF 4
JOB NO.: 15353B1

CUSTOMER: WALSH CONSTRUCTION CO. II
DRAWING NUMBER: 15353B1–D2
REV.: 2

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
2	ADDED 1 AT THE END OF THE MARK NUMBERS.	MH	08/13/19	ELS	08/19/19
1	REMOVED NO METALIZING AREAS AND ANGLE & NM COLUMNS IN TABLE. REVISED LOAD PLATE DIMENSIONS ADDED CONTRACTOR NOTE.	MH	07/19/19	ELS	07/19/19



PLAN VIEW



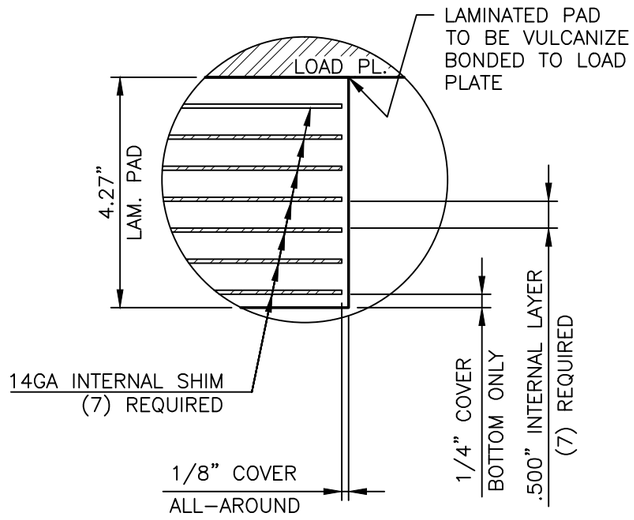
ELEVATION VIEW

FIXED LAMINATED
ELASTOMERIC BEARING ASSEMBLY (REF. NO.: 0034)
(REFER TO BEARING TABLE ON THIS SHEET FOR
MARK NO.'s, LOCATIONS, DIMENSIONS & QUANTITIES)

CONTRACTOR NOTE:
AREAS FOR FIELD WELDING SHALL BE GROUND DOWN, IN THE FIELD, FOR WELDING THE GIRDER FLANGE TO THE TOP OF THE LOAD PLATES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD TOUCH–UP OF THE BEARING ASSEMBLIES AFTER INSTALLATION FOR ANY DAMAGE TO THE COATED AREAS. REFER TO CONTRACTOR NOTE #2 ON THE GN1 SHEET.

BEARING TABLE

BEARING MARK	QTY.	LOCATION		TH HIGH SIDE (in.)	TL LOW SIDE (in.)	HT AT C.L. (in.)
		PIER	GIRDER(s)			
FBA9-B1 2	1	PIER 4	1	1 3/4	1 1/4	5.77
FBA10-B1 2	1	PIER 4	2	1 3/4	1 1/4	5.77
FBA11-B1 2	1	PIER 4	3	1 3/4	1 1/4	5.77
FBA12-B1 2	1	PIER 4	4	1 3/4	1 1/4	5.77



DETAIL 9
4.27" x 24"ø LAMINATED PAD
50 DUROMETER GRADE 3 NEOPRENE
VULCANIZE BONDED TO LOAD PLATE
(4) REQUIRED

UNFACTORED ELASTOMERIC BEARING LOADS	
DEAD LOAD	386.4 KIPS
LIVE LOAD	168.1 KIPS
TOTAL LOAD (DL+LL)	554.5 KIPS

PRIME AE, Group, Inc
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7
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[ ] REVISE AND RESEND
1908S - FIXED BEARINGS
By: Conrad Gagnon
Date: 8/20/2019

RELEASED FOR FABRICATION
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By:
Date:

SEE NOTES ON SHEET GN1 OF 1

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.: HAM–74–1908S
OVER IR–74 WB, IR–75 & RAMP E

HAM–75–3.84
CITY OF CINCINNATI

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

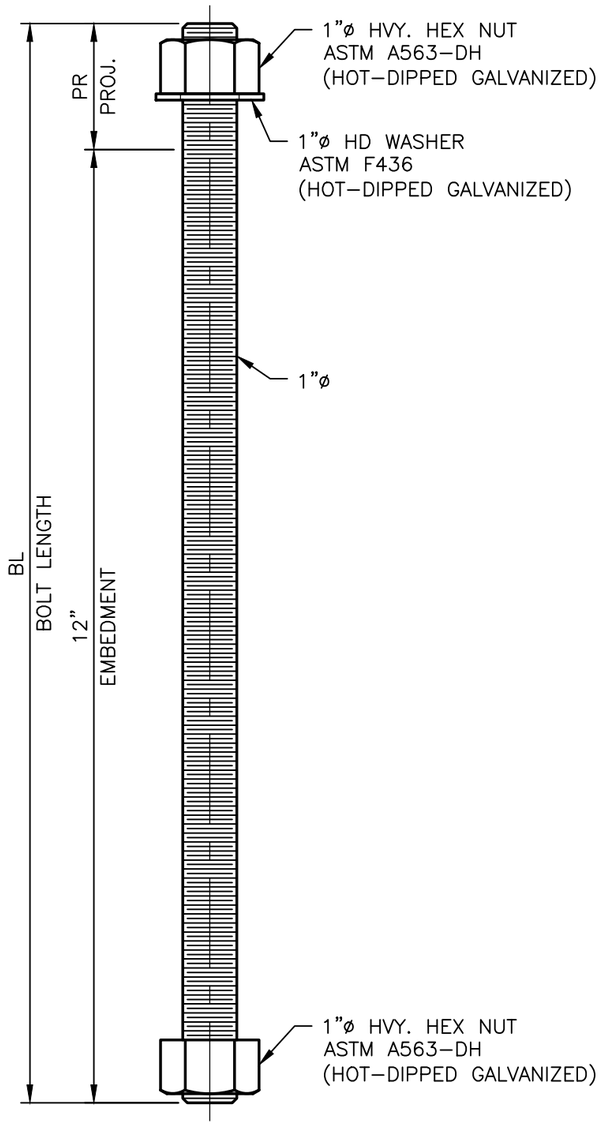
FED. PROJ. NO.: E170 (713)

DYNAMIC RUBBER
LAM. ELASTOMERIC BEARING ASSY.'S

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
2	ADDED 1 AT THE END OF THE MARK NUMBERS.	MH	08/13/19	ELS	08/19/19
1	REMOVED NO METALIZING AREAS AND ANGLE & NM COLUMNS IN TABLE. ADDED CONTRACTOR NOTE.	MH	07/19/19	ELS	07/19/19

SCALE: NONE | DRAWN BY: MH | DATE: 06/11/19 | CHECKED BY: RB | DATE: 07/01/19
SHEET 3 OF 4 | JOB NO.: 15353B1
CUSTOMER: WALSH CONSTRUCTION CO. II | DRAWING NUMBER: 15353B1–D3 | REV.: 2



ALL–THREAD ANCHOR ROD ASSEMBLY

1"ø x BL

ASTM F1554 GRADE 55 (HOT–DIPPED GALV.)

(SEE ANCHOR BOLT TABLE ON THIS SHEET FOR MARK NO.'s, LOCATIONS, DIMENSIONS & QUANTITIES)

ANCHOR BOLT TABLE

BEARING MARK	ANCHOR MARK	QTY.	LOCATION		PR PROJECTION (in.)	BL LENGTH (in.)
			PIER	GIRDER(s)		
FBA1-B1 2	AB2-B1 2 (HIGH SIDE)	2	PIER 1	G1	6 1/2 1	18 1/2 1
FBA2-B1 2		2		G2		
FBA3-B1 2		2		G3		
FBA4-B1 2		2		G4		
FBA1-B1 2	1 AB3-B1 2 (LOW SIDE)	2	PIER 1	G1	6 1	18 1
FBA2-B1 2		2		G2		
FBA3-B1 2		2		G3		
FBA4-B1 2		2		G4		
FBA5-B1 2	1 AB4-B1 2 (HIGH SIDE)	2	PIER 3	G1	9 1	21 1
FBA6-B1 2		2		G2		
FBA7-B1 2		2		G3		
FBA8-B1 2		2		G4		
FBA5-B1 2	1 AB5-B1 2 (LOW SIDE)	2	PIER 3	G1	8 3/4 1	20 3/4 1
FBA6-B1 2		2		G2		
FBA7-B1 2		2		G3		
FBA8-B1 2		2		G4		
FBA9-B1 2	1 AB6-B1 2 (HIGH SIDE)	2	PIER 4	G1	8 1	20 1
FBA10-B1 2		2		G2		
FBA11-B1 2		2		G3		
FBA12-B1 2		2		G4		
FBA9-B1 2	1 AB7-B1 2 (LOW SIDE)	2	PIER 4	G1	7 1/2 1	19 1/2 1
FBA10-B1 2		2		G2		
FBA11-B1 2		2		G3		
FBA12-B1 2		2		G4		

PRIME AE, Group, Inc

DATE REC'D: **8/19/2019** BUILDABLE UNIT NO.: **7**

Review conforms that the shop drawings meet the intent of the contract.

[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND

1908S - FIXED BEARINGS

By: **Conrad Gagnon**

Date: **8/20/2019**

RELEASED FOR FABRICATION

WALSH

By:

Date:

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
2	ADDED 1 AT THE END OF THE MARK NUMBERS.	MH	08/13/19	ELS	08/19/19
1	REVISED DIMENSIONS PER CONTRACTOR.	MH	07/19/19	ELS	07/19/19

SEE NOTES ON SHEET GN1 OF 1

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.: HAM–74–1908S
OVER IR–74 WB, IR–75 & RAMP E

HAM–75–3.84
CITY OF CINCINNATI

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. PROJ. NO.: E170 (713)

DYNAMIC RUBBER
LAM. ELASTOMERIC BEARING ASSY.'S

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE
DRAWN BY: MH DATE: 06/11/19
CHECKED BY: RB DATE: 07/01/19
SHEET 4 OF 4
JOB NO.: 15353B1
CUSTOMER WALSH CONSTRUCTION CO. II
DRAWING NUMBER 15353B1–D4
REV. 2

COSMEC INC. / DYNAMIC RUBBER

P.O. Box 2159
1501 Rocky Ridge Road
Athens, TX 75751
TEL: 903.677.2871 FAX: 903.675.4776

PRIME AE, Group, Inc
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7
Review conforms that the shop drawings meet the intent of the contract.
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED
[ ] REVISE AND RESEND
1908S - DISC BEARINGS
By: Conrad Gagnon
Date: 8/19/2019

RELEASED FOR FABRICATION
WALSH
By:
Date:

TRANSMITTAL SHEET

TO: WALSH CONSTRUCTION CO. II
RACE SHARRETT RSHARRETT@WALSHGROUP.ONMICROSOFT.COM
CC KATHI MILLS

DATE: 8/19/19
JOB: 183000 BRIDGE HAM-74-1908S
RE: SHOP DRAWING RE-SUBMITTAL
DRP JOB NO: **15353C** LOCATION: HAMILTON COUNTY

WE TRANSMIT TO YOU UNDER SEPARATE COVER HERE WITH THE FOLLOWING DRAWINGS:

DWG NO	REV NO	NO EACH	DESCRIPTION	REMARKS
15353C-GN1	1	1	GENERAL NOTES	
15353C-CAP1	1	1	CAPACITY SHEET	
15353C-E1	1	1	ERECTION SHEET	
15353C-D1	1	1	SHOP DRAWING	
15353C-D2	0	1	SHOP DRAWING	
15353C-D3	1	1	SHOP DRAWING	
15353C-D4	1	1	SHOP DRAWING	
15353C-D5	1	1	SHOP DRAWING	
15353C-D6	1	1	SHOP DRAWING	
15353C-D7	1	1	SHOP DRAWING	
15353C-D8	0	1	SHOP DRAWING	
15353C-D9	0	1	SHOP DRAWING	
15353C-D10	1	1	SHOP DRAWING	
15353C-D11	1	1	SHOP DRAWING	
15353C-D12	1	1	SHOP DRAWING	
15353C-D13	1	1	SHOP DRAWING	
15353C-D14	1	1	SHOP DRAWING	
153535C-D15	1	1	SHOP DRAWING	
153535C-D16	0	1	SHOP DRAWING	
	1	13	150K NGE CALCS	
	1	13	250K NGE CALCS	
	1	13	390K NGE CALCS	
	1	20	150K GE CALCS	
	1	20	250K GE CALCS	
	1	20	390K GE CALCS	
	1	1	ANCHOR BOLT CALCS	
	1	1	ANCHOR BOLT LENGTHS	

COMMENTS: **THE ATTACHED SHOP DRAWINGS ARE RE-SUBMITTED FOR APPROVAL. PLEASE FORWARD THIS PACKAGE TO THE ENGINEER FOR REVIEW AND ADVISE THE APPROVAL STATUS AS SOON AS POSSIBLE.**

THE ABOVE PRINTS ARE SUBMITTED TO YOU FOR:

BY:

(XXX) Approval	( ) Final Approval	( ) Distribution
( ) Field Use	( ) Fabrication	(XXX) E-MAIL
( ) Next Day Air	( ) Second Day Air	( ) Messenger
( ) UPS	( ) First Class Mail	( ) Fax

Thank you

STEPHANIE RITZ

COSMEC INC. / DYNAMIC RUBBER PRODUCTS

WWW.COSMECINC.COM

GENERAL SHOP NOTES:

1. BEARING IS TO BE PROTECTED FROM MOISTURE AND DUST DURING SHIPMENT, STORAGE, AND ERECTION.
2. ALL STEEL BEARING COMPONENTS SHALL BE BLAST CLEANED TO SSPC–SP10 (NEAR–WHITE METAL BLAST CLEAN) AND THEN METALLIZED & SEAL COATED PER ODOT SUPPLEMENTAL SPEC. 869.13. AREAS NOTED AS "NO COATING" OR "DO NOT COAT" SHALL NOT BE METALLIZED. INTERNAL UNEXPOSED SURFACES DO NOT NEED METALLIZING EXCEPT AS NOTED ON THESE SHOP DRAWINGS.
3. ALL FREE EDGES OF PLATES TO BE COATED SHALL BE ROUNDED TO A 1/16 INCH RADIUS, OR SHALL HAVE THE EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE.
4. RECESS IN MASONRY PLATE FOR THE BOTTOM BEARING PLATE IS TO BE SHOP SEALED ALL–AROUND WITH A SILICONE CAULK AS SHOWN IN DETAIL "AA", THIS SHEET.
5. ALL MATERIALS & FABRICATION SHALL BE IN ACCORDANCE WITH ODOT SUPPLEMENTAL SPECIFICATION 869.
6. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
7. ALL TESTING SHALL BE IN ACCORDANCE WITH ODOT SUPPLEMENTAL SPECIFICATION 869.
8. COSMEC, INC. REPRESENTATIVES: KATHI MILLS – (903) 677–2871 (kmills@cosmecinc.com)
   JOHN A. RITZ – (903) 677–2871 (jritz@cosmecinc.com)
   (WEBSITE: www.cosmecinc.com)

GENERAL INSTALLATION NOTES:

CONTRACTOR NOTE ⇨
1. BEARING ASSEMBLIES SHALL NOT BE LIFTED BY THEIR TOP OR SOLE PLATES. ANY HANDLING SHALL SUPPORT THE BEARING UNIT FROM THE MASONRY PLATE AND BE LIFTED AND SET FLAT AND LEVEL AT ALL TIMES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFE AND PROPER LIFTING, SETTING, AND INSTALLATION OF THE BEARING ASSEMBLIES AND ANCHOR BOLTS.

CONTRACTOR NOTE ⇨
2. REMOVE CLAMPING BANDS AFTER THE BEARING HAS BEEN POSITIONED AT ITS PERMANENT LOCATION AND PRIOR TO ERECTION OF THE SUPERSTRUCTURE.

CONTRACTOR NOTE ⇨
3. THE CONTRACTOR IS TO ROTATE THE SOLE PLATE AFTER THE BEARING ASSEMBLY HAS BEEN SET ON THE BEARING SEAT SO THAT THE SOLE PLATE IS PARALLEL WITH THE GIRDER BOTTOM FLANGE. CONTRACTOR IS TO MAKE SURE THE AHEAD STATION ARROWS ON THE SOLE PLATES ARE ORIENTED IN THE CORRECT DIRECTION. PROPER SETTING OF THE BEARING ASSEMBLIES IS SOLELY THE CONTRACTOR'S RESPONSIBILITY.

CONTRACTOR NOTE ⇨
4. DISASSEMBLY OF BEARING UNITS SHALL NOT BE DONE WITHOUT WRITTEN AUTHORIZATION FROM COSMEC INC. UNAUTHORIZED DISASSEMBLY COULD RESULT IN FAILURE OF THE BEARING UNIT.

CONTRACTOR NOTE ⇨
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECT BEARING SEAT ELEVATIONS. CONTRACTOR SHALL ADJUST BEARING SEAT ELEVATIONS TO ACCURATELY REFLECT HEIGHTS OF BEARINGS SUPPLIED.

CONTRACTOR NOTE ⇨
6. THE CONTRACTOR IS RESPONSIBLE FOR THE FIELD TOUCH UP OF THE BEARING ASSEMBLIES AFTER INSTALLATION FOR ANY DAMAGE TO THE COATED SURFACES DURING INSTALLATION.

CONTRACTOR NOTE ⇨
7. DO NOT ALLOW WELDING CURRENT TO PASS THRU THE INTERNAL COMPONENTS OF THE BEARINGS. MAKE SURE THAT THE GROUNDING LEADS ARE POSITIONED FOR THE FIELD WELDING TO PREVENT THIS. CURRENT PASSING THRU THE INTERNAL COMPONENTS WILL DAMAGE THE BEARING.

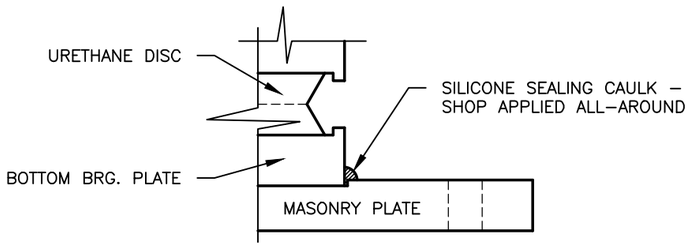
CONTRACTOR NOTE ⇨
8. DO NOT ALLOW THE BEARING SOLE PLATE TO EXCEED 250°F OR DAMAGE TO THE PTFE OR URETHANE DISC MAY RESULT. CHECK THE TEMPERATURE WHEN FIELD WELDING TO INSURE THIS TEMPERATURE IS NOT EXCEEDED.

CONTRACTOR NOTE ⇨
9. CONTRACTOR TO KEEP THE BEARINGS PROTECTED FROM MOISTURE AND DUST DURING STORAGE AND ERECTION.

MATERIALS	SPECIFICATIONS
STRUCTURAL STEEL	ASTM A709 GR.50 (UNO)
STAINLESS STEEL	11 GA. ASTM A240 TYPE 304 w/POLISHED #8 MIRROR FINISH
PRIMARY PTFE	AASHTO 1/4" VIRGIN UNFILLED CONFORMING TO AASHTO 18.8.2 "MATERIALS"
GUIDE PTFE	AASHTO 1/4" VIRGIN UNFILLED CONFORMING TO AASHTO 18.8.2 "MATERIALS"
POLYETHER URETHANE DISC	COMPOUND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO LRFD BRIDGE CONSTRUCTION TABLE 18.3.2.8–1
SHEAR PIN	ASTM A240/A276 UNS S21800 STEEL (OR EQUIVALENT)
ANCHOR BOLTS	ASTM F1554 GRADE 55, GALV.
PREFORMED BEARING PADS	⚠1 1/4" THICK PREFORMED FABRIC PAD PER C&MS 711.21

SEE SHEETS 1 THRU 16 FOR BEARING DETAILS
SEE SHEET E1 FOR ERECTION TABLE
SEE SHEET CAP1 FOR BEARING CAPACITY DETAILS

GENERAL NOTES SHEET



DETAIL "AA"
SEE GENERAL SHOP NOTE #4, THIS SHEET

checked 2019-08-16

Roaring Brook Consultants, Inc.
Engineering A Better Future
15 Sewall Road, South Berwick, Maine 03908
Phone: (877) 722-2643 FAX: (207) 384-5383

PRIME AE, Group, Inc	RELEASED FOR FABRICATION
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7	
Review conforms that the shop drawings meet the intent of the contract.	
☒ CONFORMS AS-IS ☐ CONFORMS AS NOTED ☐ REVISE AND RESEND	WALSH
1908S - DISC BEARINGS	
By: Conrad Gagnon	By:
Date: 8/19/2019	Date:

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED
PROFESSIONAL ENGINEER

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠	INCREASE BRG. PAD THK. PER CONTR. & APPROVER.	JR	8/8/19	ELS	8/12/19

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BRIDGE NO.
HAM–74–1908S
RAMP P
HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE | DRAWN BY: JR DATE: 6/26/19 | CHECKED BY: MCM DATE: 7/5/19

SHEET GN1 OF 1 | JOB NO.: 15353C

CUSTOMER: WALSH CONSTRUCTION | DRAWING NUMBER 15353C–GN1 | REV. 1

CAPACITY TABLE		150 kip GUIDED EXP. BEARING	250 kip GUIDED EXP. BEARING	390 kip GUIDED EXP. BEARING
DESIGN VERTICAL LOAD (MAX.)		150 kips	250 kips	390 kips
DESIGN LATERAL LOAD (MAX.)		⚠1 38 kips	⚠1 63 kips	⚠1 98 kips
DESIGN MOVEMENT	LONGITUDINAL	1.38 in.	3.25 in.	3.75 in.
	TRANSVERSE	0.25 in.	0.25 in.	0.50 in.
DESIGN ROTATION (rads)		0.030 rads	0.030 rads	0.030 rads
DESIGN COEFFICIENT OF FRICTION		3.5% MAX.	3.5% MAX.	3.5% MAX.
COMPRESSIVE STRESS ON PRIMARY PTFE @ DESIGN CAPACITY		3.40 ksi	3.35 ksi	3.45 ksi
COMPRESSIVE STRESS ON URETHANE DISC @ DESIGN CAPACITY		4.90 ksi	⚠1 4.87 ksi	⚠1 4.91 ksi

CAPACITY TABLE		150 kip NON–GUIDED EXP. BEARING	250 kip NON–GUIDED EXP. BEARING	390 kip NON–GUIDED EXP. BEARING
DESIGN VERTICAL LOAD (MAX.)		150 kips	250 kips	390 kips
DESIGN LATERAL LOAD (MAX.)		15 kips	25 kips	40 kips
DESIGN MOVEMENT	LONGITUDINAL	1.50 in.	3.25 in.	3.75 in.
	TRANSVERSE	1.50 in.	1.50 in.	1.50 in.
DESIGN ROTATION (rads)		0.030 rads	0.030 rads	0.030 rads
DESIGN COEFFICIENT OF FRICTION		3.5% MAX.	3.5% MAX.	3.5% MAX.
COMPRESSIVE STRESS ON PRIMARY PTFE @ DESIGN CAPACITY		3.40 ksi	3.35 ksi	3.45 ksi
COMPRESSIVE STRESS ON URETHANE DISC @ DESIGN CAPACITY		4.95 ksi	4.92 ksi	4.96 ksi

SEE SHEET GN1 FOR GENERAL NOTES AND MATERIAL SPECIFICATIONS

CAPACITY TABLES

checked 2019-08-16

PRIME AE, Group, Inc

DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7

Review conforms that the shop drawings meet the intent of the contract.

☒ CONFORMS AS-IS ☐ CONFORMS AS NOTED
☐ REVISE AND RESEND

1908S - DISC BEARINGS

By: Conrad Gagnon
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P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED
PROFESSIONAL ENGINEER

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM–74–1908S
RAMP P

HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠1	REDESIGN FOR HIGHER GE HORIZ. LOADS PER APPROVER.	JR	8/8/19	ELS	8/12/19

SCALE: NONE | DRAWN BY: JR | DATE: 6/26/19 | CHECKED BY: MCM | DATE: 7/5/19

SHEET CAP1 OF 1 | JOB NO.: 15353C

CUSTOMER: WALSH CONSTRUCTION | DRAWING NUMBER 15353C–CAP1 | REV. 1

TABLE "HT1" - Bearing Marks, Locations, Heights and Bearing Seat Elevation Changes

Bearing Description										Height			Bearing Seat Elevation Changes Required		
										Dim. "EH"	Dim. "TH"	Dim. "H"	NOTE: CONTRACTOR AND EOR TO REVIEW AND VERIFY ALL BEARING SEAT ELEVATION CHANGES.		
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (in.)	Total Brg. Height (excl. Brg. Pad) (in.)	Total Brg. Height (in.)	Height as per EOR (Original Design Plans) (in.)	Difference ("TH" - "H") (in.)	Bearing Seat Elevation Change Required (in.)	Bearing Seat Elevation Change Required (ft.)
NGE1C	Exist. Pier 7	Unit 1	G1	1	150	15	0.030	1.500	1.500	7.125	7.375 ⚠1	3.720	3.655	-3.655	-0.305
GE1C	Exist. Pier 7	Unit 1	G2	1	150	38 ⚠1	0.030	1.380	0.250	8.281	8.531 ⚠1	5.834	2.697	-2.697	-0.225
GE2C	Exist. Pier 7	Unit 1	G3	1	150	38 ⚠1	0.030	1.380	0.250	8.281	8.531 ⚠1	5.834	2.697	-2.697	-0.225
NGE2C	Exist. Pier 7	Unit 1	G4	1	150	15	0.030	1.500	1.500	7.125	7.375 ⚠1	3.720	3.655	-3.655	-0.305
NGE3C	Pier 2	Unit 1	G1	1	150	15	0.030	1.500	1.500	7.125	7.375 ⚠1	3.720	3.655	-3.655	-0.305
GE3C	Pier 2	Unit 1	G2	1	150	38 ⚠1	0.030	1.380	0.250	8.281	8.531 ⚠1	5.834	2.697	-2.697	-0.225
GE4C	Pier 2	Unit 1	G3	1	150	38 ⚠1	0.030	1.380	0.250	8.281	8.531 ⚠1	5.834	2.697	-2.697	-0.225
NGE4C	Pier 2	Unit 1	G4	1	150	15	0.030	1.500	1.500	7.125	7.375 ⚠1	3.720	3.655	-3.655	-0.305
NGE5C	Pier 2	Unit 2	G1	1	390	40	0.030	3.750	1.500	7.160	7.410 ⚠1	6.660	0.750	-0.750	-0.063
GE5C	Pier 2	Unit 2	G2	1	390	98 ⚠1	0.030	3.750	0.500	9.250 ⚠1	9.500 ⚠1	8.714	0.786	-0.786	-0.066
GE6C	Pier 2	Unit 2	G3	1	390	98 ⚠1	0.030	3.750	0.500	9.250 ⚠1	9.500 ⚠1	8.714	0.786	-0.786	-0.066
NGE6C	Pier 2	Unit 2	G4	1	390	40	0.030	3.750	1.500	7.160	7.410 ⚠1	6.660	0.750	-0.750	-0.063
NGE7C	Fwd. Abut.	Unit 2	G1	1	250	25	0.030	3.250	1.500	7.105	7.355 ⚠1	6.020	1.335	-1.335	-0.111
GE7C	Fwd. Abut.	Unit 2	G2	1	250	63 ⚠1	0.030	3.250	0.250	8.450 ⚠1	8.700 ⚠1	8.714	-0.014	+0.014	+0.001
GE8C	Fwd. Abut.	Unit 2	G3	1	250	63 ⚠1	0.030	3.250	0.250	8.450 ⚠1	8.700 ⚠1	8.714	-0.014	+0.014	+0.001
NGE8C	Fwd. Abut.	Unit 2	G4	1	250	25	0.030	3.250	1.500	7.105	7.355 ⚠1	6.020	1.335	-1.335	-0.111

⚠1

CONTRACTOR AND EOR NOTE:
PLEASE REVIEW AND VERIFY ALL BEARING HEIGHT DIFFERENCES AND REQUIRED BEARING SEAT ELEVATION CHANGES NOTED IN TABLE "HT1". CONTRACTOR IS SOLELY RESPONSIBLE FOR INSURING THE BEARINGS SEAT ELEVATIONS AND ANCHOR BOLT LAYOUTS ARE CORRECT FOR THE BEARINGS SUPPLIED AT ALL THE LOCATIONS GIVEN.

checked 2019-08-16

Roaring Brook Consultants, Inc.
Engineering A Better Future
15 Sewall Road, South Berwick, Maine 03908
Phone: (877) 722-2643 FAX: (207) 384-5383

PRIME AE, Group, Inc
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7
Review conforms that the shop drawings meet the intent of the contract.
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED
[ ] REVISE AND RESEND
1908S - DISC BEARINGS
By: Conrad Gagnon
Date: 8/19/2019

RELEASED FOR FABRICATION
WALSH
By:
Date:

BEARING MARKS, LOCATIONS & ELEVATION CHANGES REQUIRED

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

⚠1 SEE SHEET 15 FOR ANCHOR BOLT MARKS & LOCATIONS

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED
PROFESSIONAL ENGINEER

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠1	REVISE BRG. SEAT ELEV. DUE TO DESIGN CHANGES & INCREASE IN BRG. PAD THK..	JR	8/8/19	ELS	8/12/19

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM-74-1908S
RAMP P

HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

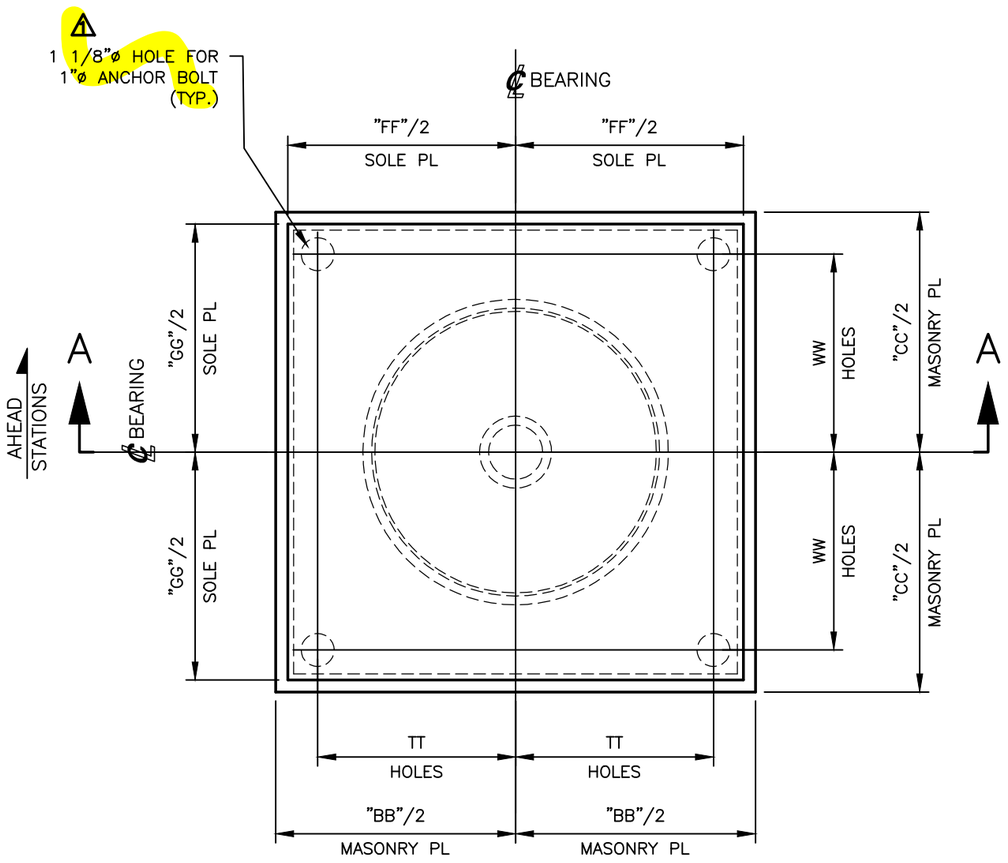
FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

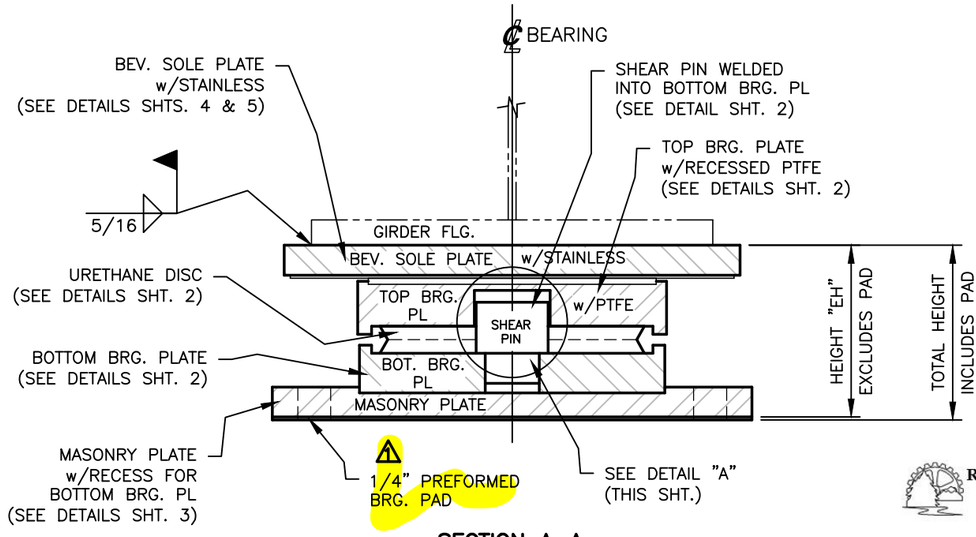
Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE	DRAWN BY: JR	CHECKED BY: MCM
	DATE: 6/27/19	DATE: 7/5/19
SHEET E1 OF 1	JOB NO.: 15353C	
CUSTOMER: WALSH CONSTRUCTION	DRAWING NUMBER: 15353C-E1	REV. 1

PRIME AE, Group, Inc	RELEASED FOR FABRICATION
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7	
Review conforms that the shop drawings meet the intent of the contract.	
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND	
1908S - DISC BEARINGS	
By: Conrad Gagnon	By:
Date: 8/19/2019	Date:



PLAN VIEW



SECTION A–A

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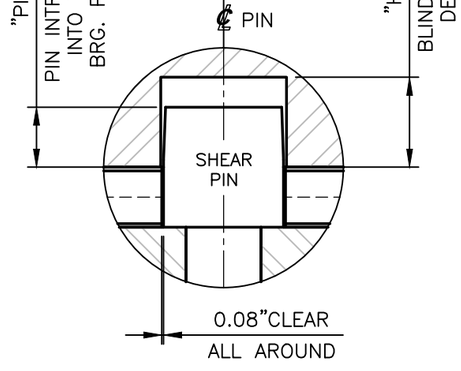
checked 2019-08-16



DETAIL A

SHOWING SHEAR PIN INTRUSION INTO THE TOP BEARING PLATE (SEE TABLE NGE1C, SHT. 6 FOR DIMS.)

(8) NON–GUIDED EXPANSION BEARINGS MKS. NGE1C thru NGE8C

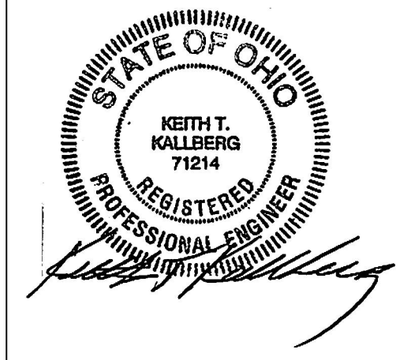
SEE SHEETS 2 thru 6 FOR COMPONENT DETAILS; TABLES WITH MARKS, LOCATIONS, AND DIMENSIONS

⚠ CONTRACTOR NOTE: SOLE PLATE WILL HAVE TO BE ROTATED IN THE FIELD TO ALIGN THE SOLE PLATE WITH THE BOTTOM FLANGE OF THE GIRDER. MASONRY PLATE SHALL BE ALIGNED WITH THE CENTERLINE OF BEARING OF SUBSTRUCTURE. CONTRACTOR SHALL TAKE CARE NOT TO MOVE THE MASONRY PLATE WHILE ALIGNING THE SOLE PLATE.

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHTS. 2 thru 6 FOR DISC BEARING COMPONENT DETAILS & TABLES

P.E. SEAL



STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM–74–1908S
RAMP P

HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE	DRAWN BY: JR	CHECKED BY: MCM
	DATE: 6/12/19	DATE: 7/5/19

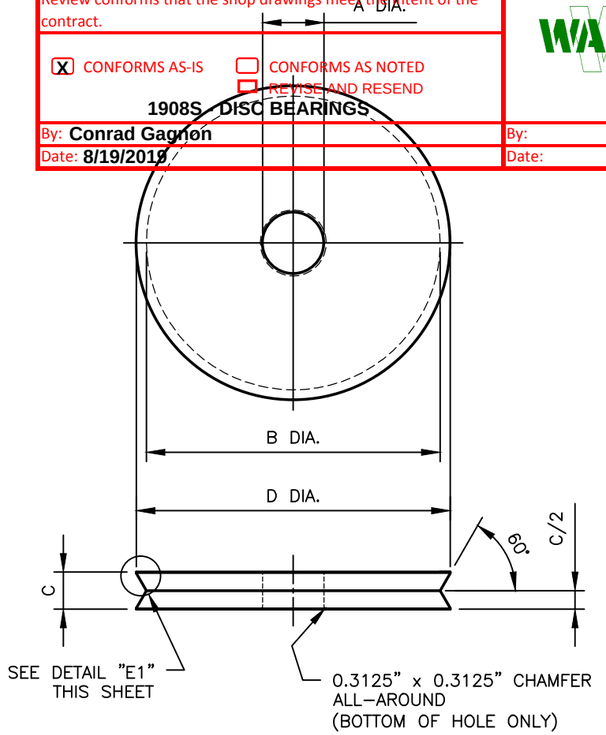
REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠ 1	REVISED PER APPROVER COMMENTS.	JR	8/7/19	ELS	8/12/19

SHEET 1 OF 16 JOB NO.: 15353C

CUSTOMER: WALSH CONSTRUCTION

DRAWING NUMBER 15353C–D1 REV. 1

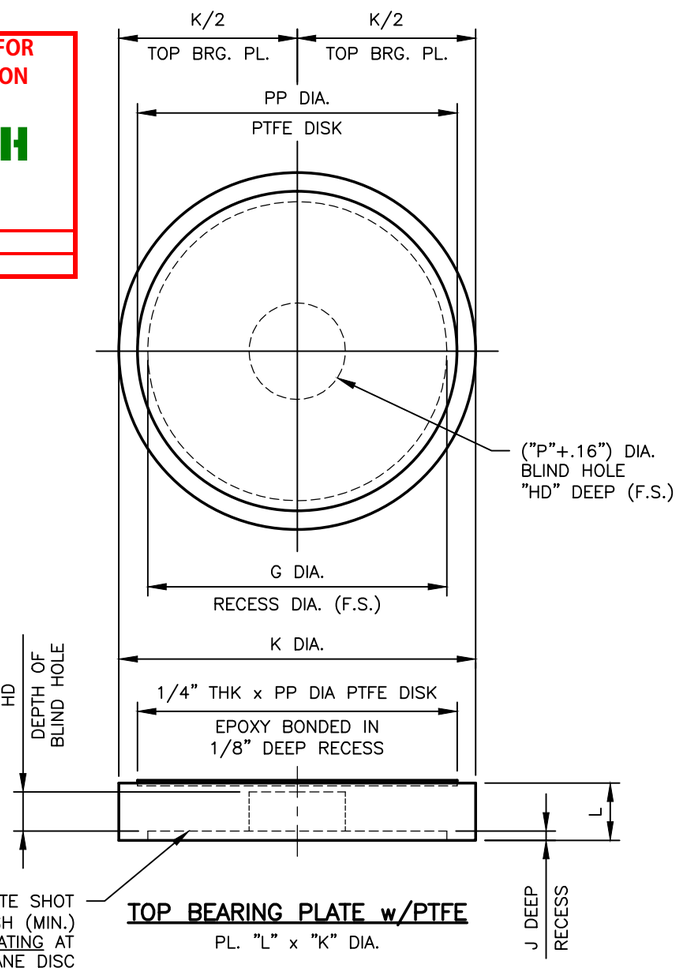
PRIME AE, Group, Inc		RELEASED FOR FABRICATION
DATE REC'D: 8/19/2019	BUILDABLE UNIT NO.: 7	
Review conforms that the shop drawings meet the intent of the contract.		
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND		
1908S - DISC BEARINGS		
By: Conrad Gagnon		By:
Date: 8/19/2019		Date:



POLYETHER URETHANE DISC

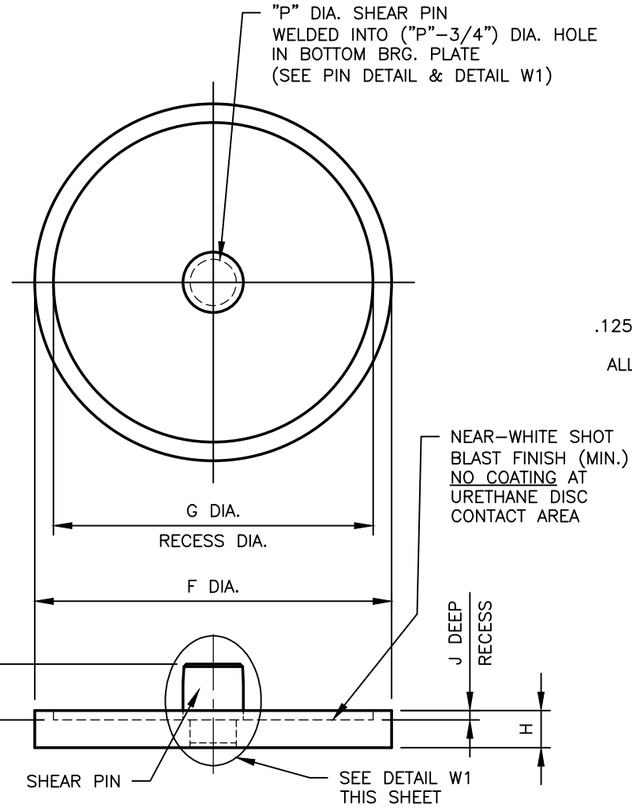
DO NOT COAT

DISC "C" x "D" DIA.
(SEE SHEET GN1 FOR MATERIAL SPECS.)



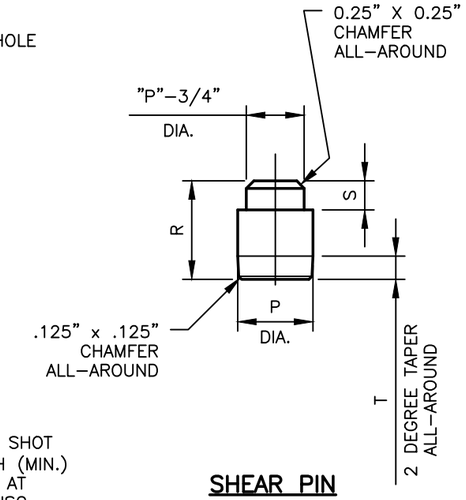
TOP BEARING PLATE w/PTFE

PL. "L" x "K" DIA.



BOTTOM BEARING PLATE w/PIN

PL. "H" x "F" DIA.



SHEAR PIN

RD. "P" DIA. x "R" LONG
(SEE SHEET GN1 FOR MATERIAL SPECS.)
NO PAINT REQUIRED

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHEET 1 FOR NGE DISC BEARING ASSEMBLY DETAILS

SEE TABLE NGE1C ON SHEET 6 FOR DIMENSIONS

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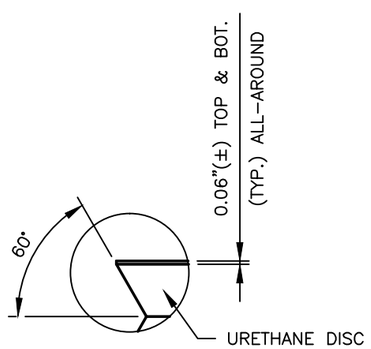
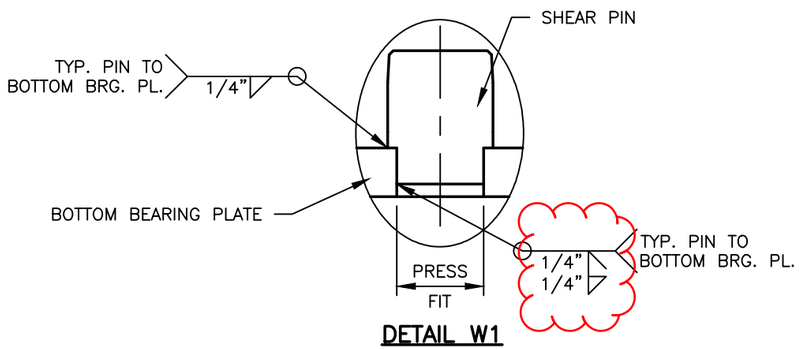
NON-GUIDED EXPANSION BEARING - INTERNAL COMPONENTS

FOR BEARING MARKS NGE1C thru NGE8C
(SEE TABLE NGE1C ON SHEET 6 FOR DIMENSIONS)



DETAIL "E1"



DETAIL W1

SHOWING INSTALLATION & WELDING OF SHEAR PIN TO BOTTOM BRG. PLATE

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED PROFESSIONAL ENGINEER

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM-74-1908S
RAMP P

HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

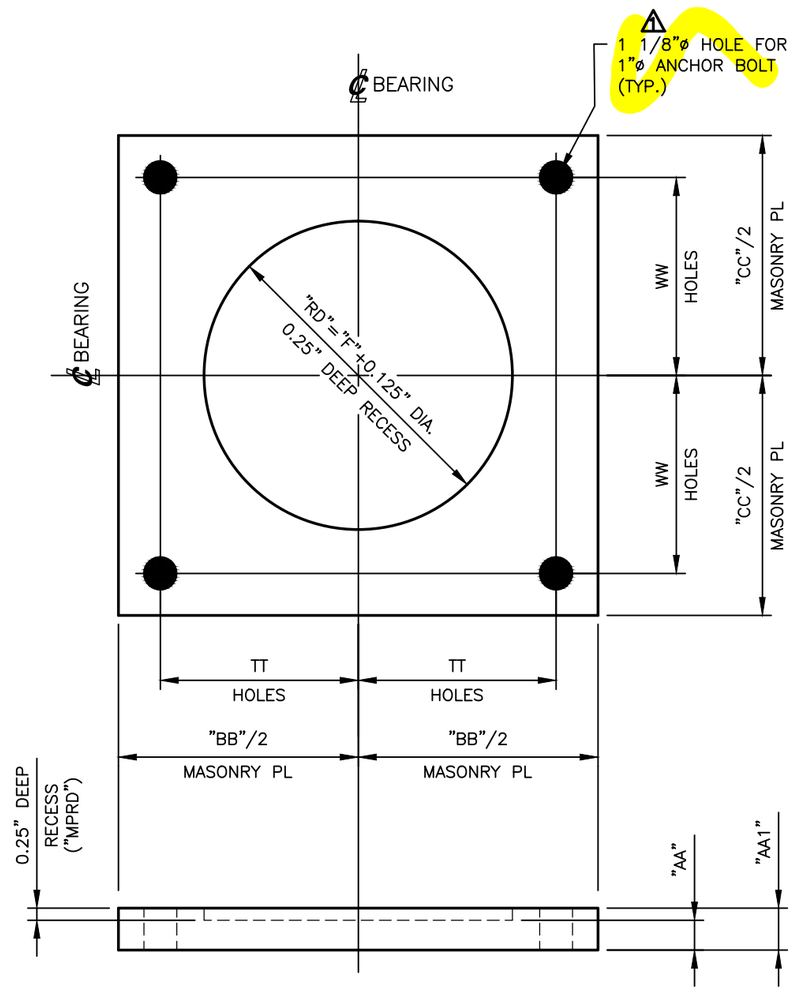
Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE	DRAWN BY: JR	CHECKED BY: MCM
	DATE: 6/13/19	DATE: 7/5/19

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
0	.	.	.	.	.

SHEET 2 OF 16 | JOB NO.: 15353C

CUSTOMER: WALSH CONSTRUCTION | DRAWING NUMBER 15353C-D2 | REV. 0



(8) NON–GUIDED EXP. (NGE) BEARING MASONRY PLATES

PL "AA1" x "BB" x "CC"
SEE TABLE MP1 ON THIS SHEET
FOR MARKS, LOCATIONS, AND DIMENSIONS

TABLE MP1 - Masonry Plates for Non-Guided Exp. Bearings: Marks, Locations & Dimensions

Bearing Description										Masonry Plate							
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (in.)	Dim. "AA" Mas. PL Thk. (in.)	Dim. "AA1" Total Mas. PL Thk. (Incl. Recess) (in.)	Dim. "BB" Mas. PL Width (in.)	Dim. "CC" Mas. PL Length (in.)	Dim. "TT" Mas. PL Anchor Bolt Hole Location (in.)	Dim. "WW" Mas. PL Anchor Bolt Hole Location (in.)	Dim. "MPRD" Mas. PL Recess Depth (in.)	Dim. "RD" Mas. PL Recess Dia. (in.)
NGE1C	Exist. Pier 7	Unit 1	G1	1	150	15	0.030	1.500	1.500	1.000	1.250	18.000	18.000	7.250	7.250	0.250	8.855
NGE2C	Exist. Pier 7	Unit 1	G4	1	150	15	0.030	1.500	1.500	1.000	1.250	18.000	18.000	7.250	7.250	0.250	8.855
NGE3C	Pier 2	Unit 1	G1	1	150	15	0.030	1.500	1.500	1.000	1.250	18.000	18.000	7.250	7.250	0.250	8.855
NGE4C	Pier 2	Unit 1	G4	1	150	15	0.030	1.500	1.500	1.000	1.250	18.000	18.000	7.250	7.250	0.250	8.855
NGE5C	Pier 2	Unit 2	G1	1	390	40	0.030	3.750	1.500	1.000	1.250	20.000	20.000	8.250	8.250	0.250	12.855
NGE6C	Pier 2	Unit 2	G4	1	390	40	0.030	3.750	1.500	1.000	1.250	20.000	20.000	8.250	8.250	0.250	12.855
NGE7C	Fwd. Abut.	Unit 2	G1	1	250	25	0.030	3.250	1.500	1.000	1.250	19.000	19.000	7.750	7.750	0.250	10.755
NGE8C	Fwd. Abut.	Unit 2	G4	1	250	25	0.030	3.250	1.500	1.000	1.250	19.000	19.000	7.750	7.750	0.250	10.755

PRIME AE, Group, Inc

DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7

Review conforms that the shop drawings meet the intent of the contract.

[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED
[ ] REVISE AND RESEND

1908S - DISC BEARINGS

By: Conrad Gagnon Date: 8/19/2019

RELEASED FOR FABRICATION

WALSH

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHEET 1 FOR NGE DISC BEARING ASSEMBLY DETAILS

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P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
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REGISTERED
PROFESSIONAL ENGINEER

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM–74–1908S
RAMP P

HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

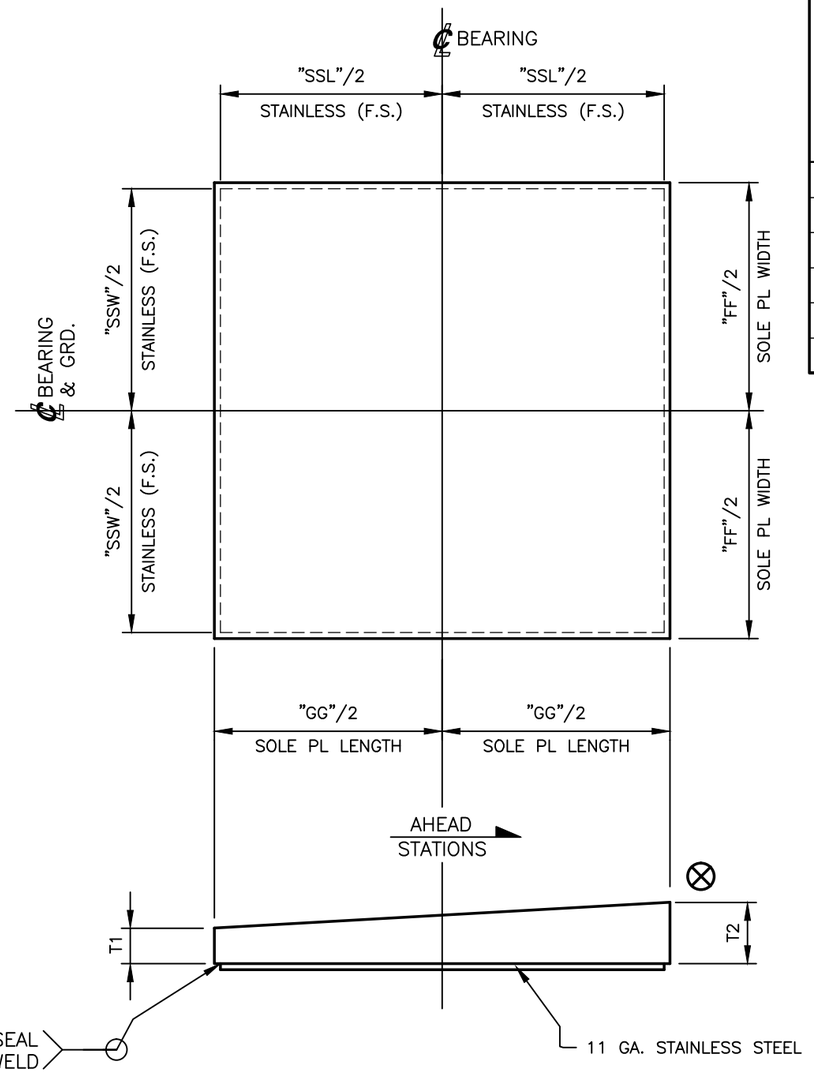
Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE DRAWN BY: JR DATE: 6/17/19 CHECKED BY: MCM DATE: 7/5/19

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
1	REVISED PER APPROVER COMMENTS & REMOVE NOTES.	JR	8/7/19	ELS	8/12/19

SHEET 3 OF 16 JOB NO.: 15353C

CUSTOMER: WALSH CONSTRUCTION DRAWING NUMBER 15353C–D3 REV. 1



(6) NON–GUIDED EXP. (NGE) BEARING BEVELED SOLE PLATES w/STAINLESS STEEL – POSITIVE SLOPE

PL "T2" x "FF" x "GG"
SEE TABLE NGSP1 ON THIS SHEET
FOR MARKS, LOCATIONS, AND DIMENSIONS

CONTRACTOR & APPROVER NOTE: ENOUGH STAINLESS STEEL SLIDING SURFACE IS PROVIDED TO ALLOW MOVEMENT ALONG A SKEWED LINE PLUS AN ADDITIONAL 2 in. OF MOVEMENT BOTH LONGITUDINALLY & TRANSVERSELY.

TABLE NGSP1 - Sole Plates (POS. Slope) for Non-Guided Exp. Bearings: Marks, Locations & Dimensions

Bearing Description										Sole Plate						
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (in.)	Dim. "FF" Sole PL Width (in.)	Dim. "GG" Sole PL Length (in.)	Dim. "SPCLT" Sole PL Center-Line Thk. (in.)	Dim. "SSW" Stainless Steel Width (in.)	Dim. "SSL" Stainless Steel Length (in.)	Dim. "T1" Sole PL Side Thk. (in.)	Dim. "T2" Sole PL Side Thk. (in.)
NGE1C	Exist. Pier 7	Unit 1	G1	1	150	15	0.030	1.500	1.500	16.000	14.000	1.250	15.500	13.500	1.125 ⚠1	1.375 ⚠1
NGE2C	Exist. Pier 7	Unit 1	G4	1	150	15	0.030	1.500	1.500	16.000	14.000	1.250	15.500	13.500	1.125 ⚠1	1.375 ⚠1
NGE3C	Pier 2	Unit 1	G1	1	150	15	0.030	1.500	1.500	16.000	14.000	1.250	15.500	13.500	1.063 ⚠1	1.438 ⚠1
NGE4C	Pier 2	Unit 1	G4	1	150	15	0.030	1.500	1.500	16.000	14.000	1.250	15.500	13.500	1.125 ⚠1	1.375 ⚠1
NGE5C	Pier 2	Unit 2	G1	1	390	40	0.030	3.750	1.500	19.000	19.000	1.250	18.500	18.500	0.875 ⚠1	1.625 ⚠1
NGE6C	Pier 2	Unit 2	G4	1	390	40	0.030	3.750	1.500	29.000 ⚠1	19.000	1.250	28.500	18.500	1.000 ⚠1	1.500 ⚠1

⚠1

⊗ – SHOP TO MARK HIGH SIDE OF BEVELED PLATE AND AHEAD STATION ARROW AS SHOWN.

PRIME AE, Group, Inc
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7
Review conforms that the shop drawings meet the intent of the contract.
☒ CONFORMS AS-IS ☐ CONFORMS AS NOTED
☐ REVISE AND RESEND
1908S - DISC BEARINGS
By: Conrad Gagnon
Date: 8/19/2019

RELEASED FOR FABRICATION
WALSH

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS
SEE SHEET 1 FOR NGE DISC BEARING ASSEMBLY DETAILS

checked 2019-08-16

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P.E. SEAL
STATE OF OHIO
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PROFESSIONAL ENGINEER

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BRIDGE NO.
HAM–74–1908S
RAMP P
HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

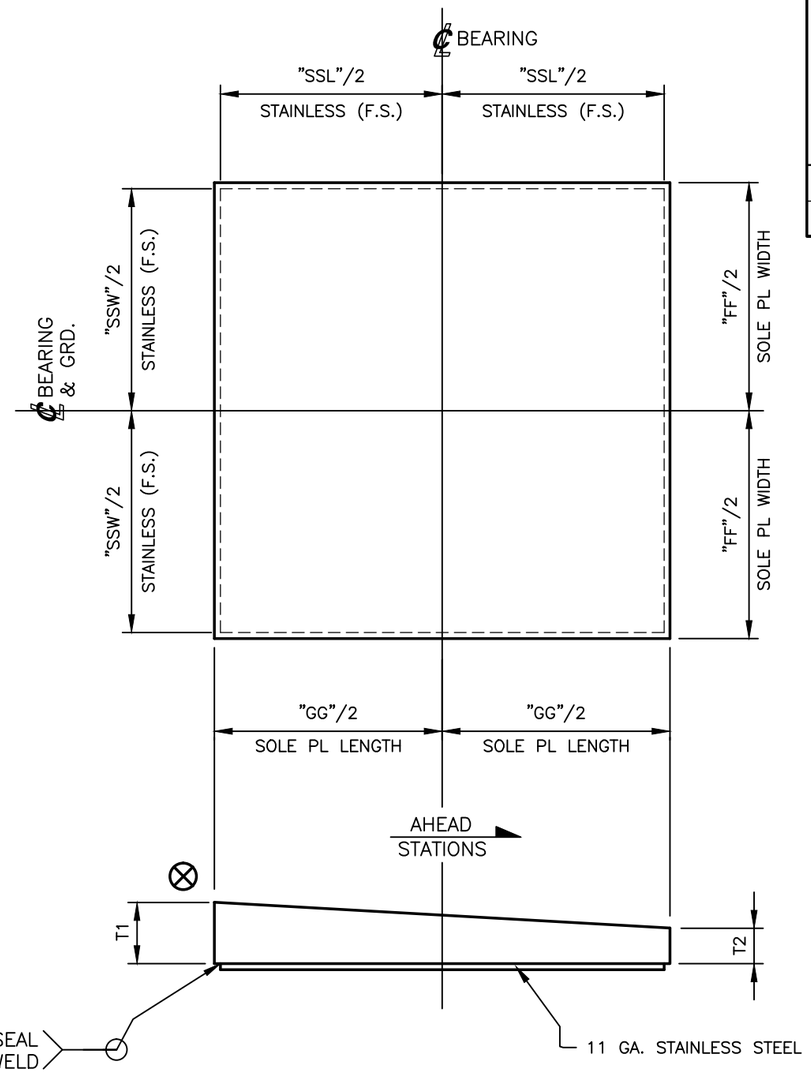
COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE | DRAWN BY: JR DATE: 6/17/19 | CHECKED BY: MCM DATE: 7/5/19

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠1	REVISED PER APPROVER & REMOVE APPR./CONTR. NOTE	JR	8/7/19	ELS	8/12/19

SHEET 4 OF 16 JOB NO.: 15353C
CUSTOMER: WALSH CONSTRUCTION
DRAWING NUMBER 15353C–D4 REV. 1



(2) NON-GUIDED EXP. (NGE) BEARING BEVELED SOLE PLATES w/STAINLESS STEEL – NEGATIVE SLOPE

PL "T1" x "FF" x "GG"
SEE TABLE NGSP2 ON THIS SHEET
FOR MARKS, LOCATIONS, AND DIMENSIONS

CONTRACTOR & APPROVER NOTE: ENOUGH STAINLESS STEEL SLIDING SURFACE IS PROVIDED TO ALLOW MOVEMENT ALONG A SKEWED LINE PLUS AN ADDITIONAL 2 in. OF MOVEMENT BOTH LONGITUDINALLY & TRANSVERSELY.

TABLE NGSP2 - Sole Plates (NEG. Slope) for Non-Guided Exp. Bearings: Marks, Locations & Dimensions

Bearing Description										Sole Plate						
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (in.)	Dim. "FF" Sole PL Width (in.)	Dim. "GG" Sole PL Length (in.)	Dim. "SPCLT" Sole PL Center-Line Thk. (in.)	Dim. "SSW" Stainless Steel Width (in.)	Dim. "SSL" Stainless Steel Length (in.)	Dim. "T1" Sole PL Side Thk. (in.)	Dim. "T2" Sole PL Side Thk. (in.)
NGE7C	Fwd. Abut.	Unit 2	G1	1	250	25	0.030	3.250	1.500	19.000	17.000	1.250	18.500	16.500	1.500 ⚠1	1.000 ⚠1
NGE8C	Fwd. Abut.	Unit 2	G4	1	250	25	0.030	3.250	1.500	19.000	17.000	1.250	18.500	16.500	1.500 ⚠1	1.000 ⚠1

⚠1

⊗ – SHOP TO MARK HIGH SIDE OF BEVELED PLATE AND AHEAD STATION ARROW AS SHOWN.

checked 2019-08-16

Roaring Brook Consultants, Inc.
Engineering A Better Future
15 Sewall Road, South Berwick, Maine 03908
Phone: (877) 722-2643 FAX: (207) 384-5383

PRIME AE, Group, Inc
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7
Review conforms that the shop drawings meet the intent of the contract.
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND
1908S - DISC BEARINGS
By: Conrad Gagnon
Date: 8/19/2019

RELEASED FOR FABRICATION
WALSH

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS
SEE SHEET 1 FOR NGE DISC BEARING ASSEMBLY DETAILS

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED
PROFESSIONAL ENGINEER

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BRIDGE NO.
HAM-74-1908S
RAMP P
HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE
DRAWN BY: JR DATE: 6/19/19
CHECKED BY: MCM DATE: 7/5/19
SHEET 5 OF 16
JOB NO.: 15353C
CUSTOMER: WALSH CONSTRUCTION
DRAWING NUMBER: 15353C-D5
REV. 1

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠1	REVISED PER APPROVER & REMOVE APPR./CONTR. NOTE	JR	8/7/19	ELS	8/12/19

TABLE NGE1C - Internal Components of Non-Guided Exp. Bearings: Brg. Marks, Locations & Dimensions

Bearing Description										Urethane Disc				Top & Bottom Bearing Plates								Shear Pin						Height	
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (in.)	Dim. "A" Disc Hole Dia. (in.)	Dim. "B" Eff. Disc Dia. (in.)	Dim. "C" Disc Thk. (in.)	Dim. "D" Disc O.D. (in.)	Dim. "F" Bot. Brg. PL O.D. (in.)	Dim. "G" Top & Bot. Brg. PL Recess Dia. (in.) (+/- 0.125")	Dim. "H" Total Bot. Brg. PL Thk. (in.)	Dim. "J" Top & Bot. Brg. PL Recess Depth (in.)	Dim. "K" Top Brg. PL Dia. (in.)	Dim. "L" Total Top Brg. PL Thk. (in.)	Dim. "HD" Top Brg. PL Depth of Hole (in.)	Dim. "PP" Top Brg. PL PTFE Dia. (in.)	Dim. "M" Proj. of Pin (in.)	Dim. "P" Shear Pin Dia. (in.)	Dim. "R" Shear Pin Length (in.)	Dim. "S" Pin Intrusion Into Bottom Brg. PL. (in.)	Dim. "T" Pin Taper Length (in.)	Dim. "PI" Pin Intrusion Into Top PL. (in.)	Dim. "EH" Total Brg. Height (excl. Brg. Pad) (in.)	Dim. "TH" Total Brg. Height w/Brg. Pad (in.)
NGE1C	Exist. Pier 7	Unit 1	G1	1	150	15	0.030	1.500	1.500	2.063	6.523	1.000	7.030	8.730	7.730	1.970	0.220	9.000	2.095	1.500	7.500	2.000	2.000	3.250	1.250	0.875	1.000	7.125	7.375
NGE2C	Exist. Pier 7	Unit 1	G4	1	150	15	0.030	1.500	1.500	2.063	6.523	1.000	7.030	8.730	7.730	1.970	0.220	9.000	2.095	1.500	7.500	2.000	2.000	3.250	1.250	0.875	1.000	7.125	7.375
NGE3C	Pier 2	Unit 1	G1	1	150	15	0.030	1.500	1.500	2.063	6.523	1.000	7.030	8.730	7.730	1.970	0.220	9.000	2.095	1.500	7.500	2.000	2.000	3.250	1.250	0.875	1.000	7.125	7.375
NGE4C	Pier 2	Unit 1	G4	1	150	15	0.030	1.500	1.500	2.063	6.523	1.000	7.030	8.730	7.730	1.970	0.220	9.000	2.095	1.500	7.500	2.000	2.000	3.250	1.250	0.875	1.000	7.125	7.375
NGE5C	Pier 2	Unit 2	G1	1	390	40	0.030	3.750	1.500	3.063	10.450	1.125	11.030	12.730	11.730	2.000	0.340	12.875	2.215	1.500	12.000	2.125	3.000	3.375	1.250	0.875	1.000	7.160	7.410
NGE6C	Pier 2	Unit 2	G4	1	390	40	0.030	3.750	1.500	3.063	10.450	1.125	11.030	12.730	11.730	2.000	0.340	12.875	2.215	1.500	12.000	2.125	3.000	3.375	1.250	0.875	1.000	7.160	7.410
NGE7C	Fwd. Abut.	Unit 2	G1	1	250	25	0.030	3.250	1.500	2.563	8.423	1.000	8.930	10.630	9.630	2.000	0.270	11.000	2.145	1.500	9.750	2.000	2.500	3.250	1.250	0.875	1.000	7.105	7.355
NGE8C	Fwd. Abut.	Unit 2	G4	1	250	25	0.030	3.250	1.500	2.563	8.423	1.000	8.930	10.630	9.630	2.000	0.270	11.000	2.145	1.500	9.750	2.000	2.500	3.250	1.250	0.875	1.000	7.105	7.355

⚠1

PRIME AE, Group, Inc

DATE REC'D: **8/19/2019** BUILDABLE UNIT NO.: **7**

Review conforms that the shop drawings meet the intent of the contract.

[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED
[ ] REVISE AND RESEND

1908S - DISC BEARINGS

By: **Conrad Gagnon**
Date: **8/19/2019**

RELEASED FOR FABRICATION

WALSH

By:
Date:

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHEET 1 FOR NGE DISC BEARING ASSEMBLY DETAILS

SEE SHEET 2 FOR NGE DISC BEARING INTERNAL COMPONENT DETAILS

checked 2019-08-16

Roaring Brook Consultants, Inc.
Engineering A Better Future
15 Sawall Road, South Berwick, Maine 03908
Phone: (877) 722-2643 FAX: (207) 384-5383

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED
PROFESSIONAL ENGINEER

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM–74–1908S
RAMP P

HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

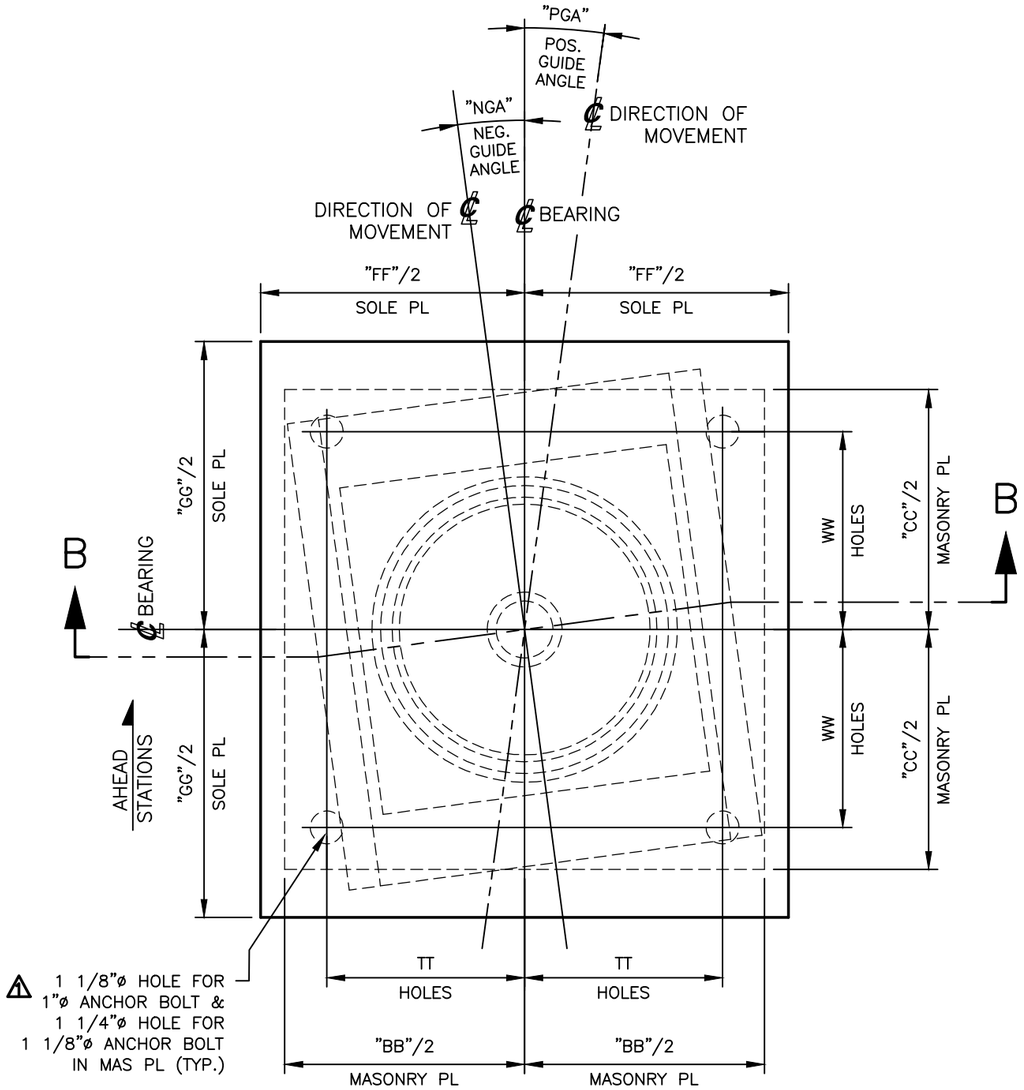
COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE
DRAWN BY: JR DATE: 6/18/19
CHECKED BY: MCM DATE: 7/5/19

⚠1	REVISED OVER–ALL HT. PER CHG. REQUESTED TO BRG PAD	JR	8/7/19	ELS	8/12/19
REV.	DESCRIPTION	BY	DATE	CK'D	DATE

SHEET 6 OF 16 JOB NO.: 15353C
CUSTOMER: WALSH CONSTRUCTION
DRAWING NUMBER 15353C–D6 REV. 1



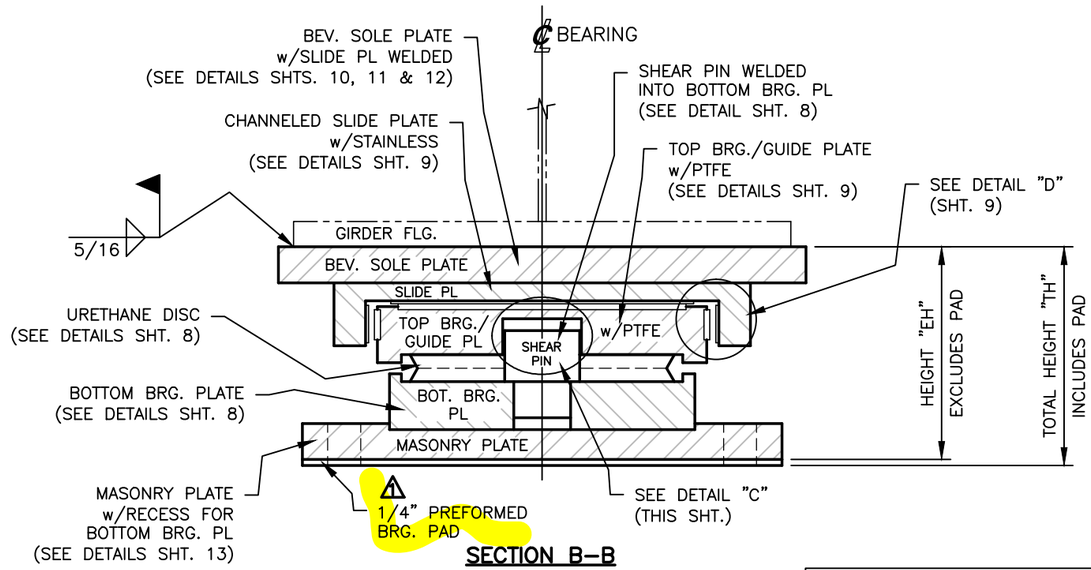
PLAN VIEW

(8) GUIDED EXPANSION BEARINGS
MKS. GE1C thru GE8C

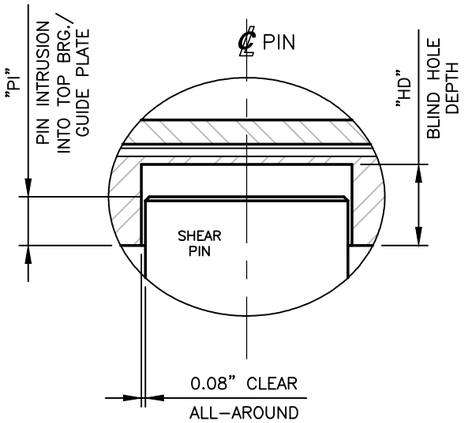
(BEARING WITH NEGATIVE GUIDE ANGLE ["NGA"] SHOWN – POSITIVE GUIDE ANGLE ["PGA"] SIMILAR w/CENTERLINE OF DIRECTION OF MOVEMENT AS REPRESENTED ABOVE)

SEE SHEETS 8 thru 14 FOR COMPONENT DETAILS; TABLES WITH MARKS, LOCATIONS, AND DIMENSIONS

⚠1 CONTRACTOR NOTE: SOLE PLATE MAY HAVE TO BE ROTATED IN THE FIELD TO ALIGN THE SOLE PLATE WITH THE BOTTOM FLANGE OF THE GIRDER. MASONRY PLATE SHALL BE ALIGNED WITH THE CENTERLINE OF BEARING OF SUBSTRUCTURE. CONTRACTOR SHALL TAKE CARE NOT TO MOVE THE MASONRY PLATE WHILE ALIGNING THE SOLE PLATE.



SECTION B–B



DETAIL C

SHOWING SHEAR PIN INTRUSION INTO GUIIDE/TOP BRG. PLATE (SEE TABLES GE1A & GE1B ON SHT. 14)

PRIME AE, Group, Inc		RELEASED FOR FABRICATION
DATE REC'D: 8/19/2019	BUILDABLE UNIT NO.: 7	WALSH
Review conforms that the shop drawings meet the intent of the contract.		
☒ CONFORMS AS-IS ☐ CONFORMS AS NOTED ☐ REVISE AND RESEND		
1908S - DISC BEARINGS		
By: Conrad Gagnon	By:	
Date: 8/19/2019	Date:	

Roaring Brook Consultants, Inc.
Engineering A Better Future
15 Sewall Road, South Berwick, Maine 03908
Phone: (877) 722-2643 FAX: (207) 384-5383

checked 2019-08-16

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHTS. 8 thru 14 FOR DISC BEARING COMPONENT DETAILS & TABLES

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠1	REVISED ANC. BOLT HOLES & BRG. PAD PER APPROVER	JR	8/6/19	ELS	8/12/19

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED
PROFESSIONAL ENGINEER

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM–74–1908S
RAMP P

HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

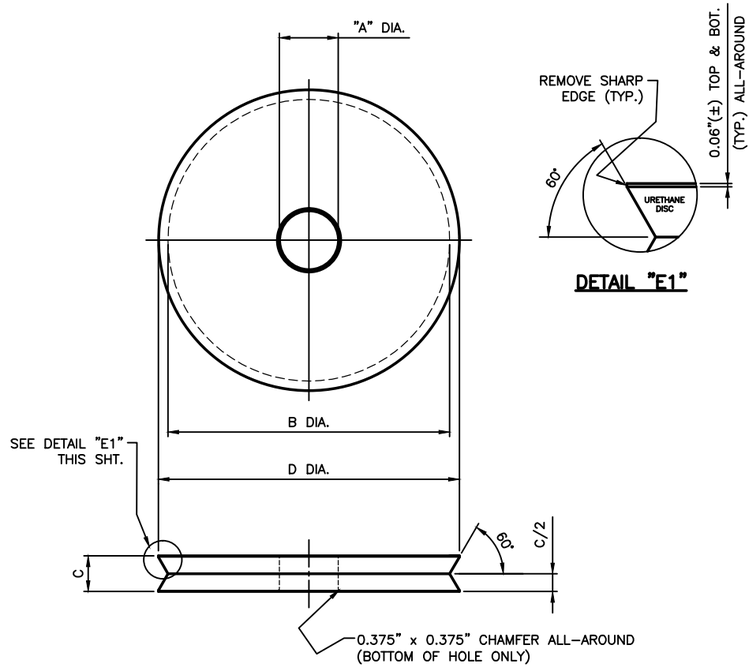
Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE	DRAWN BY: JR	CHECKED BY: MCM
	DATE: 6/19/19	DATE: 7/5/19

SHEET 7 OF 16 JOB NO.: 15353C

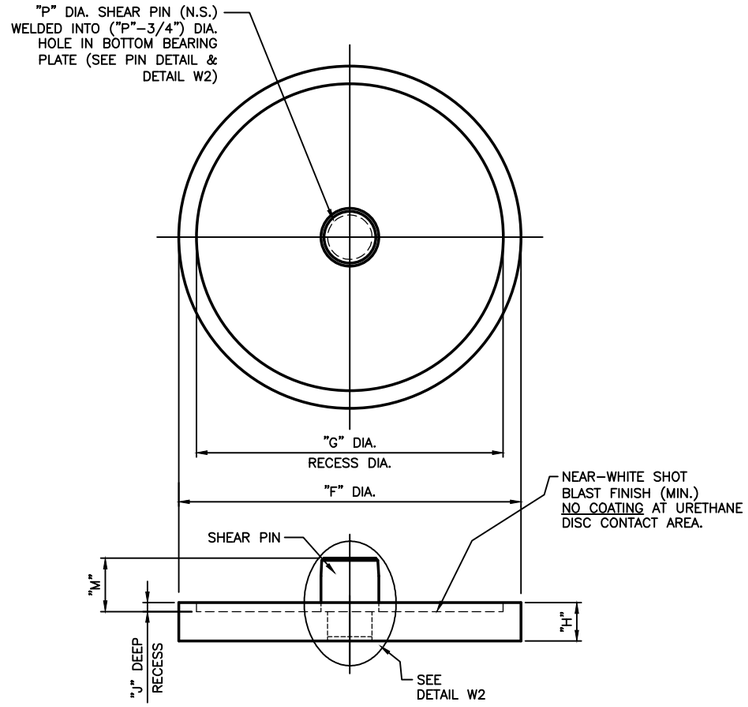
CUSTOMER: WALSH CONSTRUCTION

DRAWING NUMBER: 15353C–D7 REV.: 1

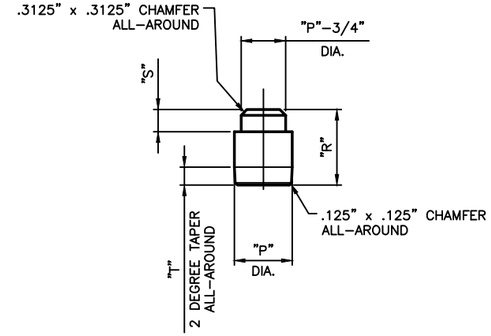


DETAIL "E1"

POLYETHER URETHANE DISC
DO NOT COAT
DISC "C" x "D" DIA.
(SEE SHT. GN1 FOR MATERIAL SPECS.)



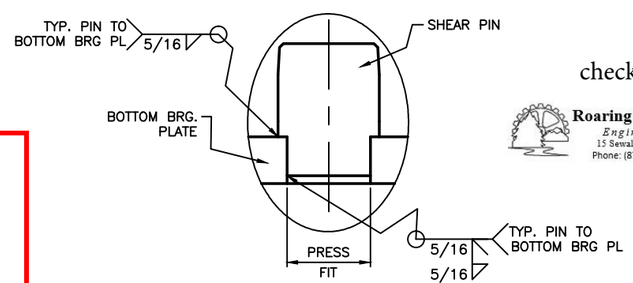
BOTTOM BEARING PLATE w/SHEAR PIN
PL "H" x "F" DIA.
(SEE SHT. GN1 FOR MATERIAL SPECS.)



SHEAR PIN
RD. "P" DIA. x "R"
(SEE SHT. GN1 FOR MATERIAL SPECS.)
NO PAINT REQUIRED

GUIDED EXP. DISC BEARING – INTERNAL COMPONENTS

(SEE TABLES GE1A & GE1B SHEET 14 FOR DIMENSIONS)



DETAIL W2
SHOWING INSTALLATION & WELDING
OF SHEAR PIN TO BOTTOM BRG. PLATE

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHEET 7 FOR GUIDED EXPANSION BEARING ASSEMBLY DETAILS

SEE TABLES ON SHT. 14 FOR DIMENSIONS

checked 2019-08-16

Roaring Brook Consultants, Inc.
Engineering A Better Future
15 Sewall Road, South Berwick, Maine 03908
Phone: (877) 722-2643 FAX: (207) 384-5383

PRIME AE, Group, Inc	RELEASED FOR FABRICATION
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7	
Review conforms that the shop drawings meet the intent of the contract.	
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND	
1908S - DISC BEARINGS	
By: Conrad Gagnon	By:
Date: 8/19/2019	Date:

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
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HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

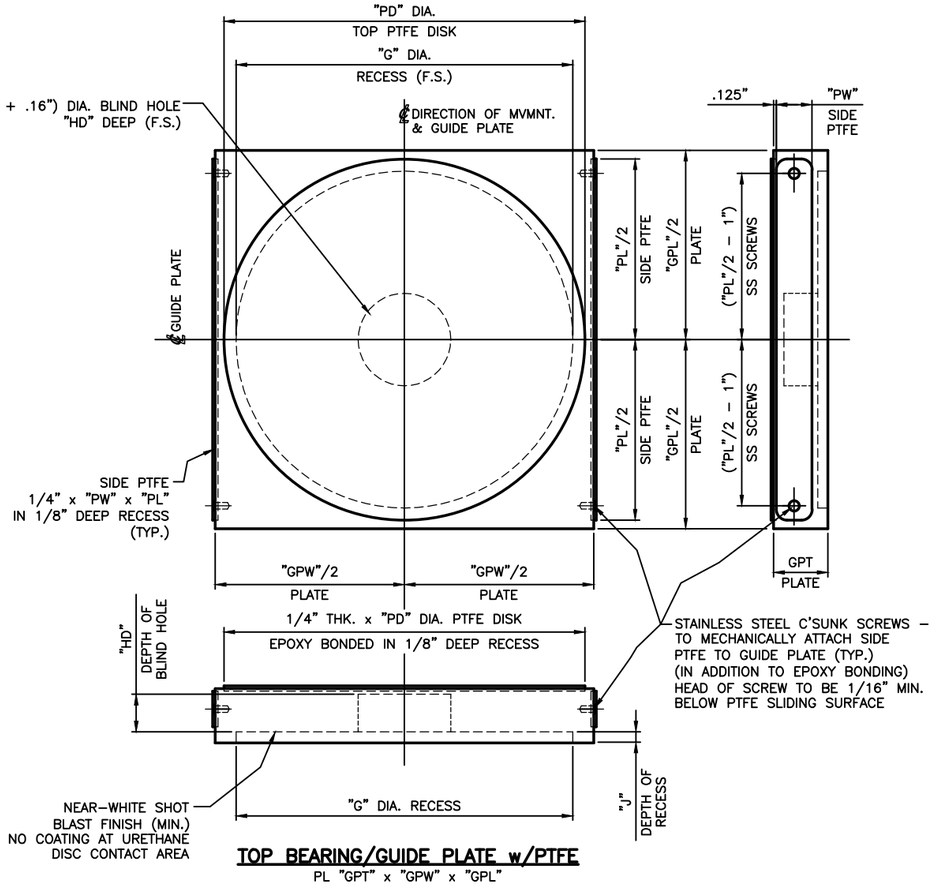
FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

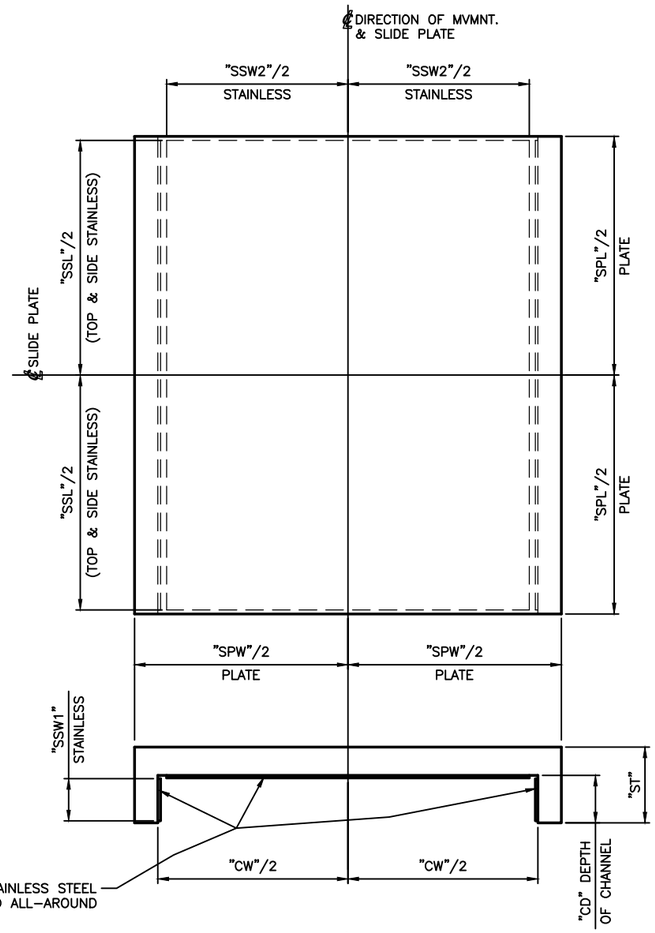
Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
1	.	.	.	.	.

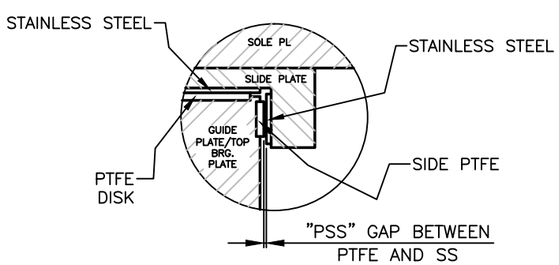
SCALE: NONE | DRAWN BY: JR | DATE: 6/24/19 | CHECKED BY: MCM | DATE: 7/5/19
SHEET 8 OF 16 | JOB NO.: 15353C
CUSTOMER: WALSH CONSTRUCTION | DRAWING NUMBER: 15353C-D8 | REV. 0



TOP BEARING/GUIDE PLATE w/PTFE
PL "GPT" x "GPW" x "GPL"



SLIDE PLATE w/STAINLESS STEEL
PL "ST" x "SPW" x "SPL"



DETAIL D
SHOWING STAINLESS STEEL
& PTFE SLIDING SURFACES
(FROM SHT. 7)

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHT. 7 FOR GUIDED EXPANSION DISC BEARING ASSEMBLY DETAILS

SEE SHT. 14 FOR TABLES

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED
PROFESSIONAL ENGINEER

checked 2019-08-16

GUIDED EXP. DISC BEARINGS – SLIDE & GUIDE COMPONENTS

(SEE TABLES GE1A & GE1B ON SHEET 14 FOR DIMENSIONS)

PRIME AE, Group, Inc	RELEASED FOR FABRICATION
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7	
Review conforms that the shop drawings meet the intent of the contract.	
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND 1908S - DISC BEARINGS	WALSH
By: Conrad Gagnon	By:
Date: 8/19/2019	Date:

Roaring Brook Consultants, Inc.
Engineering A Better Future
15 Sewall Road, South Berwick, Maine 03908
Phone: (877) 722-2643 FAX: (207) 384-5383

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BRIDGE NO.
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HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE	DRAWN BY: JR	CHECKED BY: MCM
	DATE: 6/24/19	DATE: 7/5/19
SHEET 9 OF 16	JOB NO.: 15353C	
CUSTOMER: WALSH CONSTRUCTION	DRAWING NUMBER 15353C–D9	REV. 0

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
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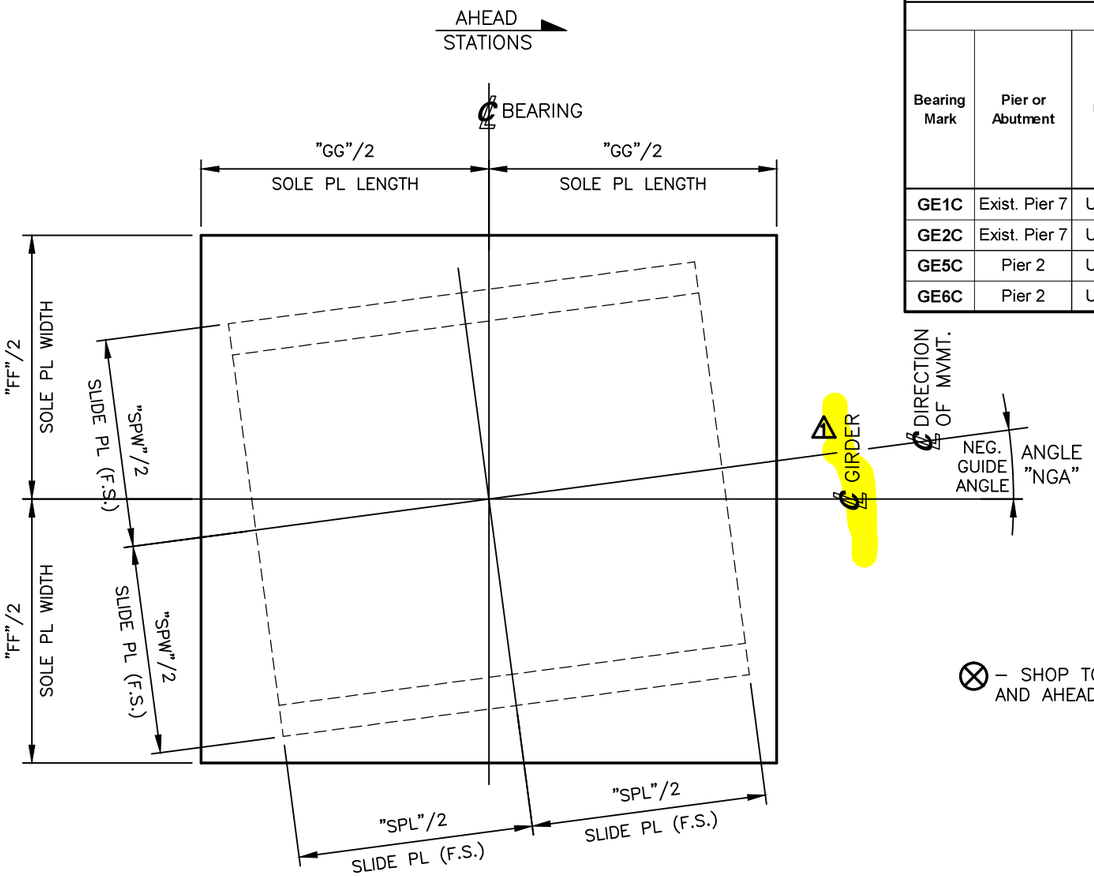
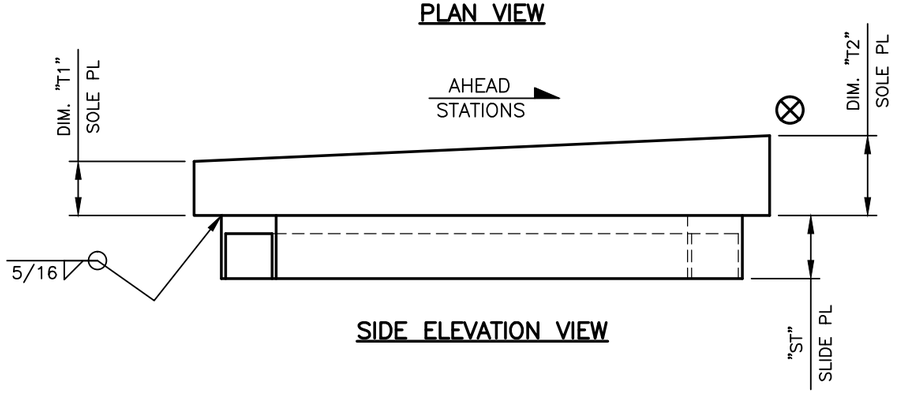


PLAN VIEW



SIDE ELEVATION VIEW

(4) GUIDED EXPANSION BRG. BEVELED SOLE PLATES w/"NEGATIVE" GUIDE ANGLES & SLIDE PLATE WELDED

MKS. GE1C, GE2C, GE5C & GE6C

SEE TABLE GESP1 THIS SHEET FOR MARKS, ANGLES AND DIMENSIONS

TABLE GESP1 - Bev. Sole Plates for Guided Exp. Bearings w/"NEG." Guide Angles; "POS." Slope: Marks, Locations & Dimensions

Bearing Description										Sole Plate w/Slide Plate Weld Attached								
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (Double the Gap "PSS") (in.)	Dim. "FF" / Sole PL Width (in.)	Dim. "GG" / Sole PL Length (in.)	Dim. "SPCLT" / Sole PL Center-Line Thk. (in.)	Dim. "SPW" / Slide Plate Width (in.)	Dim. "SPL" / Slide Plate Length (in.)	Dim. "ST" / Slide Plate Thickness (in.)	Guide Angle "NGA" / Negative Guide Angle (degrees)	Dim. "T1" / Sole PL Side Thk. (in.)	Dim. "T2" / Sole PL Side Thk. (in.)
GE1C	Exist. Pier 7	Unit 1	G2	1	150	38 1	0.030	1.380	0.250	16.000	16.000	1.500	13.305	13.435	2.375	4.77	1.379	1.621
GE2C	Exist. Pier 7	Unit 1	G3	1	150	38 1	0.030	1.380	0.250	16.000	16.000	1.500	13.305	13.435	2.375	4.66	1.250 1	1.750 1
GE5C	Pier 2	Unit 2	G2	1	390	98 1	0.030	3.750	0.500	22.000	24.000	1.500	17.355	19.605	2.625	5.64	1.000 1	2.000 1
GE6C	Pier 2	Unit 2	G3	1	390	98 1	0.030	3.750	0.500	22.000	24.000	1.500	17.355	19.605	2.625	7.41 1	1.000 1	2.000 1

CONTRACTOR NOTE: SOLE PLATE MAY HAVE TO BE ROTATED IN THE FIELD TO ALIGN THE SOLE PLATE WITH THE BOTTOM FLANGE OF THE GIRDER

⊗ – SHOP TO MARK HIGH SIDE OF BEVELED PLATE AND AHEAD STATION ARROW AS SHOWN.

checked 2019-08-16

Roaring Brook Consultants, Inc.
Engineering A Better Future
15 Sewall Road, South Berwick, Maine 03908
Phone: (877) 722-2643 FAX: (207) 384-5383

P.E. SEAL

1

PRIME AE, Group, Inc	RELEASED FOR FABRICATION
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7	
Review conforms that the shop drawings meet the intent of the contract.	
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND	
1908S - DISC BEARINGS	
By: Conrad Gagnon	By:
Date: 8/19/2019	Date:

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHT. 7 FOR GE BEARING ASSEMBLY DETAILS

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
1	REMOVE APPROVER NOTES & REVISE HL BEVELS & GUIDE ANGLES PER APPROVER.	JR	8/6/19	ELS	8/12/19

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM–74–1908S
RAMP P

HAMILTON COUNTY, OH

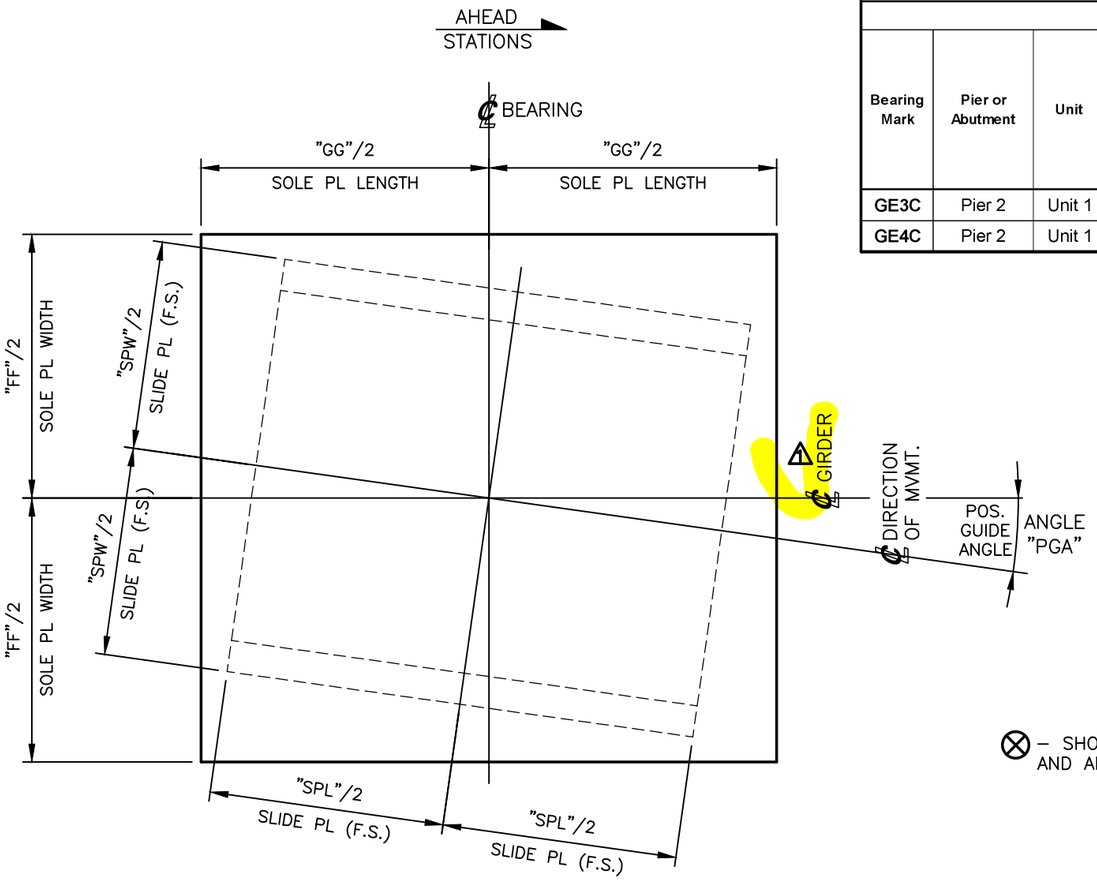
STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

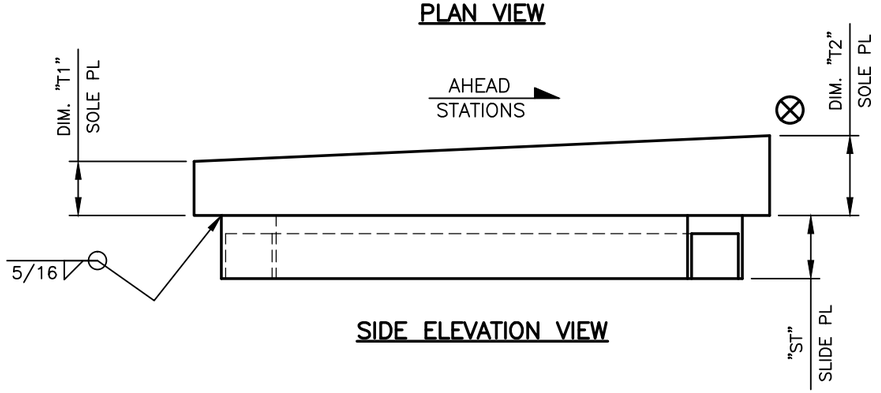
COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE	DRAWN BY: JR	CHECKED BY: MCM
	DATE: 6/25/19	DATE: 7/5/19
SHEET 10 OF 16	JOB NO.: 15353C	
CUSTOMER: WALSH CONSTRUCTION	DRAWING NUMBER: 15353C–D10	REV. 1



PLAN VIEW



SIDE ELEVATION VIEW

(2) GUIDED EXPANSION BRG. BEVELED SOLE PLATES w/"POSITIVE" GUIDE ANGLES & SLIDE PLATE WELDED

MKS. GE3C & GE4C

SEE TABLE GESP2 THIS SHEET FOR MARKS, ANGLES AND DIMENSIONS

TABLE GESP2 - Bev. Sole Plates for Guided Exp. Bearings w/"POS." Guide Angles & "POS." Slope: Marks, Locations & Dimensions

Bearing Description										Sole Plate w/Slide Plate Weld Attached								
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (Double the Gap "PSS") (in.)	Dim. "FF" Sole PL Width (in.)	Dim. "GG" Sole PL Length (in.)	Dim. "SPCLT" Sole PL Center-Line Thk. (in.)	Dim. "SPW" Slide Plate Width (in.)	Dim. "SPL" Slide Plate Length (in.)	Dim. "ST" Slide Plate Thickness (in.)	Guide Angle "PGA" Positive Guide Angle (degrees)	Dim. "T1" Sole PL Side Thk. (in.)	Dim. "T2" Sole PL Side Thk. (in.)
GE3C	Pier 2	Unit 1	G2	1	150	38 ⚠1	0.030	1.380	0.250	16.000	16.000	1.500	13.305	13.435	2.375	1.76	1.3125 ⚠1	1.6875 ⚠1
GE4C	Pier 2	Unit 1	G3	1	150	38 ⚠1	0.030	1.380	0.250	16.000	16.000	1.500	13.305	13.435	2.375	1.71 ⚠1	1.3125 ⚠1	1.6875 ⚠1

CONTRACTOR NOTE: SOLE PLATE MAY HAVE TO BE ROTATED IN THE FIELD TO ALIGN THE SOLE PLATE WITH THE BOTTOM FLANGE OF THE GIRDER

⊗ – SHOP TO MARK HIGH SIDE OF BEVELED PLATE AND AHEAD STATION ARROW AS SHOWN.

checked 2019-08-16

Roaring Brook Consultants, Inc.
Engineering & Better Future
15 Sewall Road, South Berwick, Maine 03908
Phone: (877) 722-2643 FAX: (207) 384-5383

⚠1

PRIME AE, Group, Inc	RELEASED FOR FABRICATION
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7	
Review conforms that the shop drawings meet the intent of the contract. ⚠1	
[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND	
1908S - DISC BEARINGS	
By: Conrad Gagnon	By:
Date: 8/19/2019	Date:

WALSH

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHT. 7 FOR GE BEARING ASSEMBLY DETAILS

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠1	REMOVE APPROVER NOTES & REVISE BEVELS, HL & GUIDE ANGLES PER APPROVER.	JR	8/6/19	ELS	8/12/19

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED
PROFESSIONAL ENGINEER

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM–74–1908S
RAMP P

HAMILTON COUNTY, OH

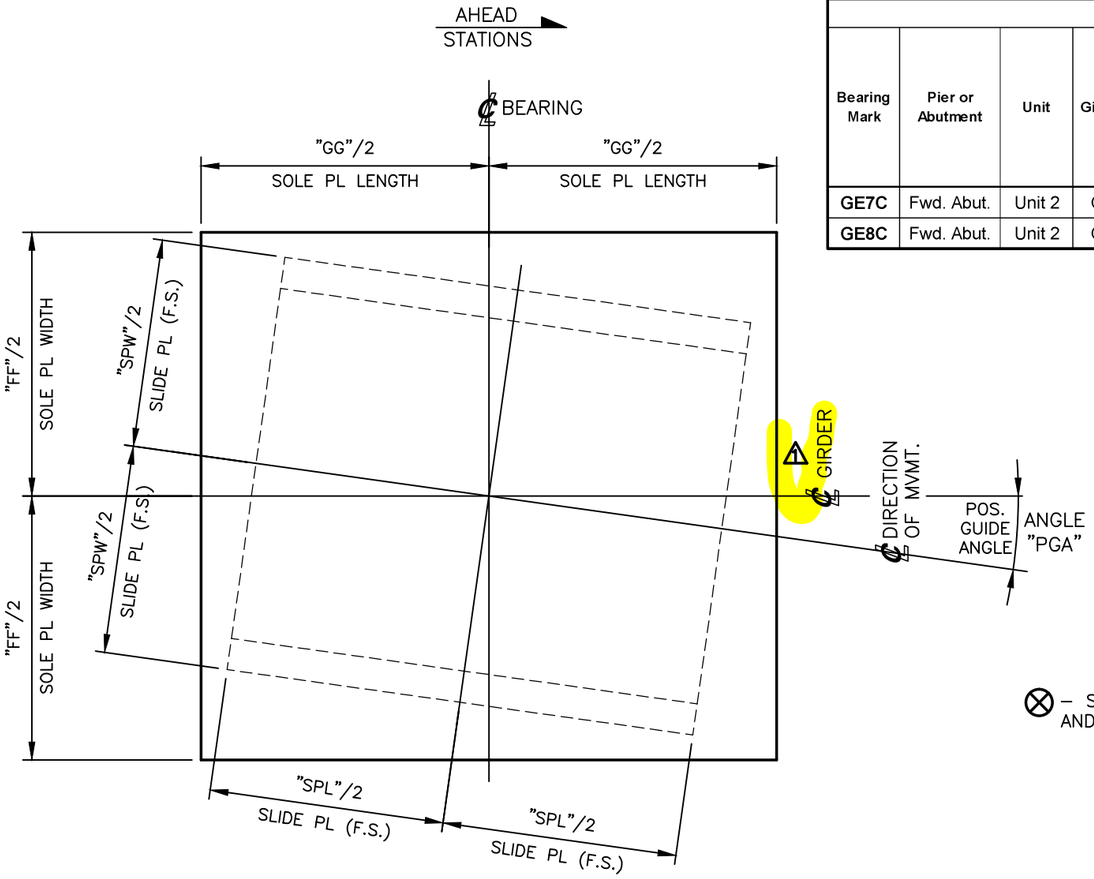
STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

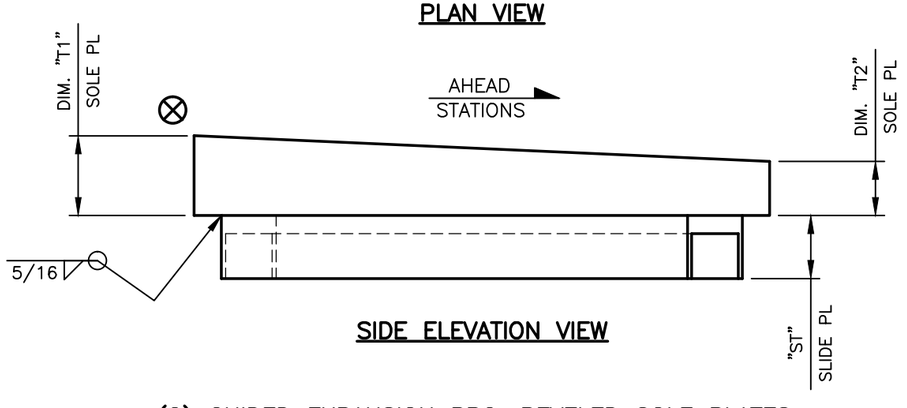
COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE	DRAWN BY: JR	CHECKED BY: MCM
	DATE: 6/25/19	DATE: 7/5/19
SHEET 11 OF 16	JOB NO.: 15353C	
CUSTOMER: WALSH CONSTRUCTION	DRAWING NUMBER 15353C–D11	REV. 1



PLAN VIEW



SIDE ELEVATION VIEW

(2) GUIDED EXPANSION BRG. BEVELED SOLE PLATES w/"POSITIVE" GUIDE ANGLES & SLIDE PLATE WELDED

MKS. GE7C & GE8C

SEE TABLE GESP3 THIS SHEET FOR MARKS, ANGLES AND DIMENSIONS

TABLE GESP3 - Bev. Sole Plates for Guided Exp. Bearings w/"POS." Guide Angles & "NEG." Slope: Marks, Locations & Dimensions

Bearing Description										Sole Plate w/Slide Plate Weld Attached								
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (Double the Gap "PSS") (in.)	Dim. "FF" Sole PL Width (in.)	Dim. "GG" Sole PL Length (in.)	Dim. "SPCLT" Sole PL Center-Line Thk. (in.)	Dim. "SPW" Slide Plate Width (in.)	Dim. "SPL" Slide Plate Length (in.)	Dim. "ST" Slide Plate Thickness (in.)	Guide Angle "PGA" Positive Guide Angle (degrees)	Dim. "T1" Sole PL Side Thk. (in.)	Dim. "T2" Sole PL Side Thk. (in.)
GE7C	Fwd. Abut.	Unit 2	G2	1	250	63 ⚠1	0.030	3.250	0.250	20.000	20.500	1.500	15.205	17.205	2.500	2.78	1.8125 ⚠1	1.1875 ⚠1
GE8C	Fwd. Abut.	Unit 2	G3	1	250	63 ⚠1	0.030	3.250	0.250	20.000	20.500	1.500	15.205	17.205	2.500	6.04	1.8125 ⚠1	1.1875 ⚠1

CONTRACTOR NOTE: SOLE PLATE MAY HAVE TO BE ROTATED IN THE FIELD TO ALIGN THE SOLE PLATE WITH THE BOTTOM FLANGE OF THE GIRDER

⊗ – SHOP TO MARK HIGH SIDE OF BEVELED PLATE AND AHEAD STATION ARROW AS SHOWN.

checked 2019-08-16

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Engineering A Better Future
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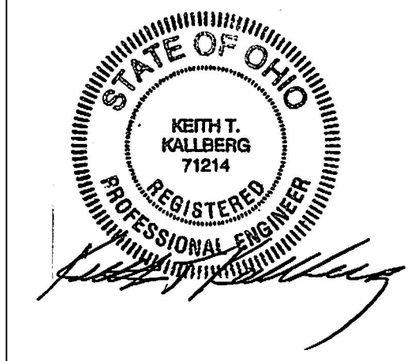
P.E. SEAL



PRIME AE, Group, Inc	RELEASED FOR FABRICATION
DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7	
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[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED [ ] REVISE AND RESEND	
1908S - DISC BEARINGS	
By: Conrad Gagnon	By:
Date: 8/19/2019	Date:

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHT. 7 FOR GE BEARING ASSEMBLY DETAILS

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠1	REMOVE APPROVER NOTES & REVISE BEVELS & HL PER APPROVER.	JR	8/6/19	ELS	8/12/19

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM–74–1908S
RAMP P

HAMILTON COUNTY, OH

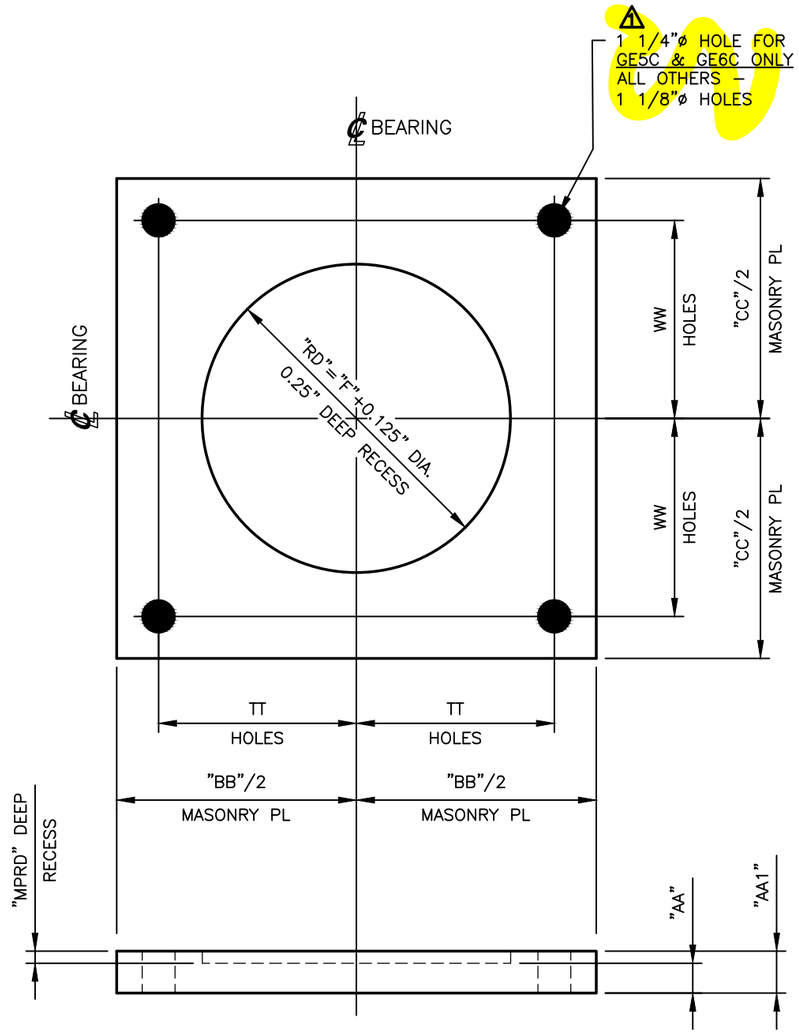
STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE	DRAWN BY: JR	CHECKED BY: MCM
	DATE: 6/25/19	DATE: 7/5/19
SHEET 12 OF 16	JOB NO.: 15353C	
CUSTOMER: WALSH CONSTRUCTION	DRAWING NUMBER 15353C–D12	REV. 1



(8) GUIDED EXP. (GE) BEARING MASONRY PLATES

PL "AA1" x "BB" x "CC"
SEE TABLE MP2 ON THIS SHEET
FOR MARKS, LOCATIONS, AND DIMENSIONS

⚠ TABLE MP2 - Masonry Plates for Guided Expansion Bearings: Marks, Locations & Dimensions

Bearing Description										Masonry Plate							
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (Double the Gap "PSS") (in.)	Dim. "AA" Mas. PL Thk. (in.)	Dim. "AA1" Total Mas. PL Thk. (Incl. Recess) (in.)	Dim. "BB" Mas. PL Width (in.)	Dim. "CC" Mas. PL Length (in.)	Dim. "TT" Mas. PL Anchor Bolt Hole Location (in.)	Dim. "WW" Mas. PL Anchor Bolt Hole Location (in.)	Dim. "MPRD" Mas. PL Recess Depth (in.)	Dim. "RD" Mas. PL Recess Dia. (in.)
GE1C	Exist. Pier 7	Unit 1	G2	1	150	38	0.030	1.380	0.250	1.000	1.250	18.000	18.000	7.250	7.250	0.250	9.055
GE2C	Exist. Pier 7	Unit 1	G3	1	150	38	0.030	1.380	0.250	1.000	1.250	18.000	18.000	7.250	7.250	0.250	9.055
GE3C	Pier 2	Unit 1	G2	1	150	38	0.030	1.380	0.250	1.000	1.250	18.000	18.000	7.250	7.250	0.250	9.055
GE4C	Pier 2	Unit 1	G3	1	150	38	0.030	1.380	0.250	1.000	1.250	18.000	18.000	7.250	7.250	0.250	9.055
GE5C	Pier 2	Unit 2	G2	1	390	98	0.030	3.750	0.500	1.350	1.750	20.000	20.000	8.250	8.250	0.400	12.155
GE6C	Pier 2	Unit 2	G3	1	390	98	0.030	3.750	0.500	1.350	1.750	20.000	20.000	8.250	8.250	0.400	12.155
GE7C	Fwd. Abut.	Unit 2	G2	1	250	63	0.030	3.250	0.250	1.200	1.500	19.000	19.000	7.750	7.750	0.300	10.955
GE8C	Fwd. Abut.	Unit 2	G3	1	250	63	0.030	3.250	0.250	1.200	1.500	19.000	19.000	7.750	7.750	0.300	10.955

⚠

checked 2019-08-16

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PRIME AE, Group, Inc

DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7

Review conforms that the shop drawings meet the intent of the contract.

[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED
[ ] REVISE AND RESEND

1908S - DISC BEARINGS

By: Conrad Gagnon Date: 8/19/2019

By: Date:

RELEASED FOR FABRICATION

WALSH

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

SEE SHEET 7 FOR GE DISC BEARING ASSEMBLY DETAILS

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED
PROFESSIONAL ENGINEER

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠	REVISE TABLE & ANC. BOLT HOLES; REMOVE APPR./CONTR. NOTE ALL PER APPROVER.	JR	8/7/19	ELS	8/12/19

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM-74-1908S
RAMP P

HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE
DRAWN BY: JR DATE: 6/25/19
CHECKED BY: MCM DATE: 7/5/19
SHEET 13 OF 16
JOB NO.: 15353C
CUSTOMER: WALSH CONSTRUCTION
DRAWING NUMBER: 15353C-D13
REV. 1

⚠ TABLE GE1A - Internal Components of Guided Exp. Bearings: Brg. Marks, Locations & Dimensions

Bearing Description										Urethane Disc				Bottom Bearing Plate					Shear Pin						Top Slide Plate							
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (Double the Gap "PSS") (in.)	Dim. "A" Disc Hole Dia. (in.)	Dim. "B" Eff. Disc Dia. (in.)	Dim. "C" Disc Thk. (in.)	Dim. "D" Disc O.D. (in.)	Dim. "E" Bottom Brg. PL Hole Dia. (in.)	Dim. "F" Bottom Brg. PL O.D. (in.)	Dim. "G" Bottom Brg. PL Recess Dia. (in.)	Dim. "H" Total Bot. Brg. PL Thk. (in.)	Dim. "J" Bottom Brg. PL Recess Depth (in.)	Dim. "M" Proj. of Pin (in.)	Dim. "P" Shear Pin Dia. (in.)	Dim. "R" Shear Pin Length (in.)	Dim. "S" Pin Intrusion Into Bottom Brg. PL (in.)	Dim. "T" Pin Taper Length (in.)	Dim. "PI" Pin Intrusion Into Top PL. (in.)	Dim. "SPW" Slide PL Width (in.)	Dim. "SPL" Slide PL Length (in.)	Dim. "ST" Slide PL Thk. (in.)	Dim. "CD" Depth of Channel (in.)	Dim. "CW" Width of Channel (in.)	Dim. "SSL" Stainless Length (All) (in.)	Dim. "SSW1" Side Stainless Width (in.)	Dim. "SSW2" Top Stainless Width (in.)
GE1C	Exist. Pier 7	Unit 1	G2	1	150	38	0.030	1.380	0.250	2.563	6.720	1.000	7.230	1.750	8.930	7.930	1.969	0.219	2.000	2.500	3.250	1.250	0.875	1.000	13.305	13.435	2.375	1.625	10.680	13.060	1.313	8.125
GE2C	Exist. Pier 7	Unit 1	G3	1	150	38	0.030	1.380	0.250	2.563	6.720	1.000	7.230	1.750	8.930	7.930	1.969	0.219	2.000	2.500	3.250	1.250	0.875	1.000	13.305	13.435	2.375	1.625	10.680	13.060	1.313	8.125
GE3C	Pier 2	Unit 1	G2	1	150	38	0.030	1.380	0.250	2.563	6.720	1.000	7.230	1.750	8.930	7.930	1.969	0.219	2.000	2.500	3.250	1.250	0.875	1.000	13.305	13.435	2.375	1.625	10.680	13.060	1.313	8.125
GE4C	Pier 2	Unit 1	G3	1	150	38	0.030	1.380	0.250	2.563	6.720	1.000	7.230	1.750	8.930	7.930	1.969	0.219	2.000	2.500	3.250	1.250	0.875	1.000	13.305	13.435	2.375	1.625	10.680	13.060	1.313	8.125
GE5C	Pier 2	Unit 2	G2	1	390	98	0.030	3.750	0.500	3.663	10.680	1.250	11.330	2.850	13.030	12.030	2.342	0.342	2.375	3.600	3.875	1.500	1.000	1.125	17.655	19.905	3.125	2.375	15.030	19.530	2.063	12.625
GE6C	Pier 2	Unit 2	G3	1	390	98	0.030	3.750	0.500	3.663	10.680	1.250	11.330	2.850	13.030	12.030	2.342	0.342	2.375	3.600	3.875	1.500	1.000	1.125	17.655	19.905	3.125	2.375	15.030	19.530	2.063	12.625
GE7C	Fwd. Abut.	Unit 2	G2	1	250	63	0.030	3.250	0.250	3.063	8.620	1.000	9.130	2.250	10.830	9.830	2.026	0.276	2.000	3.000	3.250	1.250	0.875	1.000	15.205	17.205	2.625	1.875	12.580	16.830	1.563	10.375
GE8C	Fwd. Abut.	Unit 2	G3	1	250	63	0.030	3.250	0.250	3.063	8.620	1.000	9.130	2.250	10.830	9.830	2.026	0.276	2.000	3.000	3.250	1.250	0.875	1.000	15.205	17.205	2.625	1.875	12.580	16.830	1.563	10.375

⚠ TABLE GE1B - Internal Components of Guided Exp. Bearings: Brg. Marks, Locations & Dimensions

Bearing Description										Guide Plate/Top Bearing Plate											Height	
Bearing Mark	Pier or Abutment	Unit	Girder	Qty.	Design Vertical Load (kips)	Design Horizontal Load (kips)	Max. Design Rotation (rads)	TOTAL Design Longit. Mvmnt. (in.)	TOTAL Design Transv. Mvmnt. (Double the Gap "PSS") (in.)	Dim. "PSS" Gap between SS & PTFE on Guides (in.)	Dim. "GPW" Guide PL Width (in.)	Dim. "GPL" Guide PL Length (in.)	Dim. "GPT" Guide PL Thk. (in.)	Dim. "PD" Top PTFE Dia. (in.)	Dim. "PL" Side PTFE Length (in.)	Dim. "PW" Side PTFE Width (in.)	Dim. "HD" Depth of Blind Hole (in.)	Dim. "G" Top Brg. PL Recess Dia. (in.)	Dim. "J" Top Brg. PL Recess Depth (in.)	Dim. "EH" Total Brg. Height (excl. Brg. Pad) (in.)	Dim. "TH" Total Brg. Height (in.)
GE1C	Exist. Pier 7	Unit 1	G2	1	150	38	0.030	1.380	0.250	0.125	9.930	9.930	2.250	7.500	9.680	1.000	1.500	7.930	0.219	8.281	8.531
GE2C	Exist. Pier 7	Unit 1	G3	1	150	38	0.030	1.380	0.250	0.125	9.930	9.930	2.250	7.500	9.680	1.000	1.500	7.930	0.219	8.281	8.531
GE3C	Pier 2	Unit 1	G2	1	150	38	0.030	1.380	0.250	0.125	9.930	9.930	2.250	7.500	9.680	1.000	1.500	7.930	0.219	8.281	8.531
GE4C	Pier 2	Unit 1	G3	1	150	38	0.030	1.380	0.250	0.125	9.930	9.930	2.250	7.500	9.680	1.000	1.500	7.930	0.219	8.281	8.531
GE5C	Pier 2	Unit 2	G2	1	390	98	0.030	3.750	0.500	0.250	14.030	14.030	2.492	12.000	13.780	1.750	1.650	12.030	0.342	9.250	9.500
GE6C	Pier 2	Unit 2	G3	1	390	98	0.030	3.750	0.500	0.250	14.030	14.030	2.492	12.000	13.780	1.750	1.650	12.030	0.342	9.250	9.500
GE7C	Fwd. Abut.	Unit 2	G2	1	250	63	0.030	3.250	0.250	0.125	11.830	11.830	2.276	9.750	11.580	1.250	1.500	9.830	0.276	8.450	8.700
GE8C	Fwd. Abut.	Unit 2	G3	1	250	63	0.030	3.250	0.250	0.125	11.830	11.830	2.276	9.750	11.580	1.250	1.500	9.830	0.276	8.450	8.700

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☐ REVISE AND RESEND

1908S - DISC BEARINGS

By: Conrad Gagnon Date: 8/19/2019

By: Date:

RELEASED FOR FABRICATION

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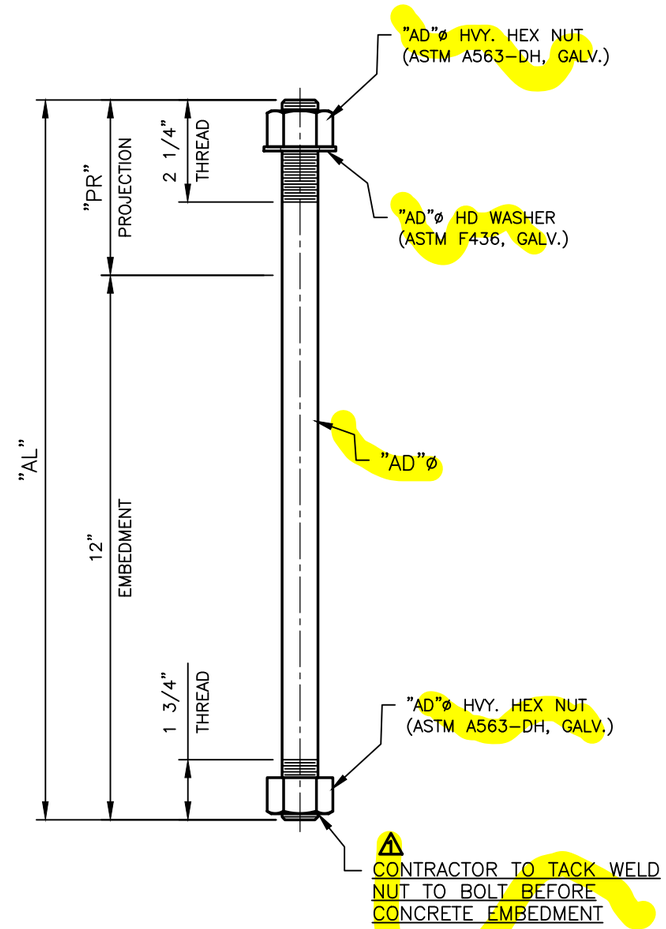
ATHENS, TEXAS 75751

SCALE: NONE | DRAWN BY: JR DATE: 6/26/19 | CHECKED BY: MCM DATE: 7/5/19

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠	REVISED TABLES PER RE-DESIGN AS PER APPROVER.	JR	8/7/19	ELS	8/12/19

SHEET 14 OF 16 | JOB NO.: 15353C

CUSTOMER: WALSH CONSTRUCTION | DRAWING NUMBER 15353C-D14 | REV. 1



⚠ (64) ANCHOR BOLTS, MKS. AB1–C; AB2–C & AB3–C

ANCHOR BOLT "AD" DIA. x "AL" LONG
ASTM F1554 GRADE 55, GALV.
SEE ANCHOR BOLT TABLE (THIS SHT.) FOR MARKS, DIMENSIONS AND LOCATIONS

⚠ ANCHOR BOLT TABLE FOR SIZES AND LOCATIONS

Bearing Mark	Pier or Abutment	Unit	Girder	Bearing Design Vertical Load (kips)	Qty.	Anchor Bolt Mark	Anchor Bolt Dia. "AD" (in.)	* Anchor Bolt Projection Req'd "PR" (in.)	Anchor Bolt TOTAL Length "AL" (in.)
NGE1C	Exist. Pier 7	Unit 1	G1	150	4	AB1-C	1.000	3.000	15.000
GE1C	Exist. Pier 7	Unit 1	G2	150	4	AB1-C	1.000	3.000	15.000
GE2C	Exist. Pier 7	Unit 1	G3	150	4	AB1-C	1.000	3.000	15.000
NGE2C	Exist. Pier 7	Unit 1	G4	150	4	AB1-C	1.000	3.000	15.000
NGE3C	Pier 2	Unit 1	G1	150	4	AB1-C	1.000	3.000	15.000
GE3C	Pier 2	Unit 1	G2	150	4	AB1-C	1.000	3.000	15.000
GE4C	Pier 2	Unit 1	G3	150	4	AB1-C	1.000	3.000	15.000
NGE4C	Pier 2	Unit 1	G4	150	4	AB1-C	1.000	3.000	15.000
NGE5C	Pier 2	Unit 2	G1	390	4	AB1-C	1.000	3.000	15.000
GE5C	Pier 2	Unit 2	G2	390	4	AB2-C	1.125	3.625	15.625
GE6C	Pier 2	Unit 2	G3	390	4	AB2-C	1.125	3.625	15.625
NGE6C	Pier 2	Unit 2	G4	390	4	AB1-C	1.000	3.000	15.000
NGE7C	Fwd. Abut.	Unit 2	G1	250	4	AB1-C	1.000	3.000	15.000
GE7C	Fwd. Abut.	Unit 2	G2	250	4	AB3-C	1.000	3.250	15.250
GE8C	Fwd. Abut.	Unit 2	G3	250	4	AB3-C	1.000	3.250	15.250
NGE8C	Fwd. Abut.	Unit 2	G4	250	4	AB1-C	1.000	3.000	15.000

*** = CONTRACTOR MUST EXERCISE CAUTION TO KEEP THE ANCHOR BOLT PROJECTIONS AS SHOWN. HIGHER PROJECTIONS COULD INTERFERE WITH BEARING COMPONENTS.**

CONTRACTOR NOTE:
THE PROJECTION DIMENSIONS SHOWN FOR THE ANCHOR BOLTS MUST BE MAINTAINED IN THE FIELD WHEN CASTING IN THE BOLTS. THIS IS NEEDED TO INSURE THAT THE ANCHOR BOLT PROJECTIONS WILL NOT INTERFERE WITH ANY UPPER BEARING COMPONENTS.

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REV.	DESCRIPTION	BY	DATE	CK'D	DATE
⚠	GENERAL REVISIONS TO ANC. BOLTS AS PER APPROVER.	JR	8/8/19	ELS	8/12/19

checked 2019-08-16

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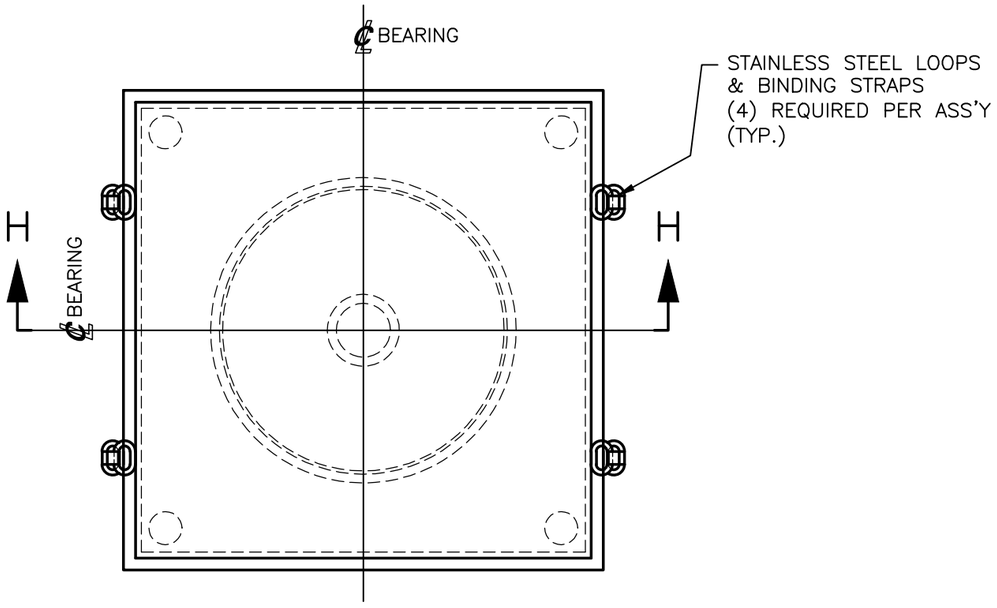
ATHENS, TEXAS 75751

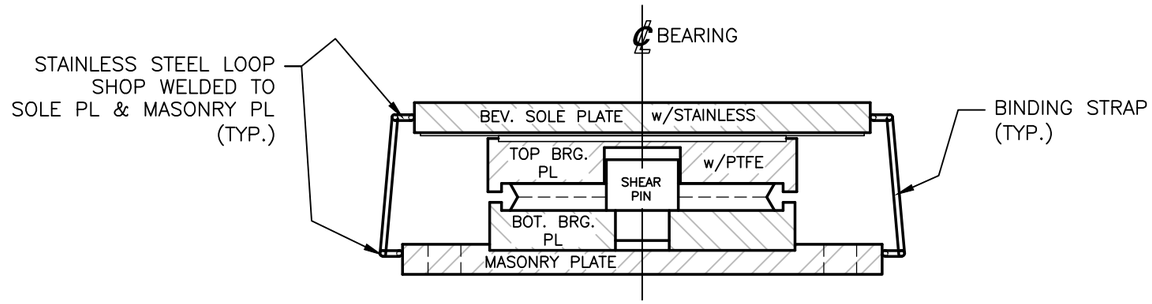
SCALE: NONE	DRAWN BY: JR	CHECKED BY: MCM
	DATE: 6/26/19	DATE: 7/5/19

SHEET 15 OF 16 JOB NO.: 15353C

CUSTOMER: WALSH CONSTRUCTION
DRAWING NUMBER 15353C–D15 REV. 1



PLAN VIEW



SECTION H–H

STAINLESS STEEL LOOPS AND BINDING STRAPS TO AID IN SHIPPING AND HANDLING OF BEARING ASSEMBLIES

NON–GUIDED EXP. BEARING ASSEMBLY SHOWN
GUIDED EXPANSION BEARING ASSEMBLIES SIMILAR
LOOPS TO BE COATED THE SAME AS THE BEARING.

CONTRACTOR NOTE:

STAINLESS STEEL LOOPS TO REMAIN A PERMANENT PART OF THE BEARING ASSEMBLY – BINDING STRAPS TO BE REMOVED BY CONTRACTOR WHEN BEARING IS SET IN PERMANENT POSITION. THE CONTRACTOR IS TO TURN THE TOP OF THE BEARING ASSEMBLY TO BRING THE SOLE PLATE PARALLEL WITH THE GIRDER BOTTOM FLANGE DURING ERECTION.

checked 2019-08-16

Roaring Brook Consultants, Inc.
Engineering A Better Future
15 Sewall Road, South Berwick, Maine 03908
Phone: (877) 722-2643 FAX: (207) 384-5383

PRIME AE, Group, Inc

DATE REC'D: 8/19/2019 BUILDABLE UNIT NO.: 7

Review conforms that the shop drawings meet the intent of the contract.

[X] CONFORMS AS-IS [ ] CONFORMS AS NOTED
[ ] REVISE AND RESEND

1908S - DISC BEARINGS

By: Conrad Gagnon
Date: 8/19/2019

By:
Date:

RELEASED FOR FABRICATION

WALSH

SEE SHEET GN1 FOR NOTES & MATERIAL SPECIFICATIONS

P.E. SEAL

STATE OF OHIO
KEITH T. KALLBERG
71214
REGISTERED
PROFESSIONAL ENGINEER

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
HAM–74–1908S
RAMP P

HAMILTON COUNTY, OH

STATE	COUNTY	PID NO.
OH	HAMILTON	104667

FED. AID PROJ. NO.: E170 (713)

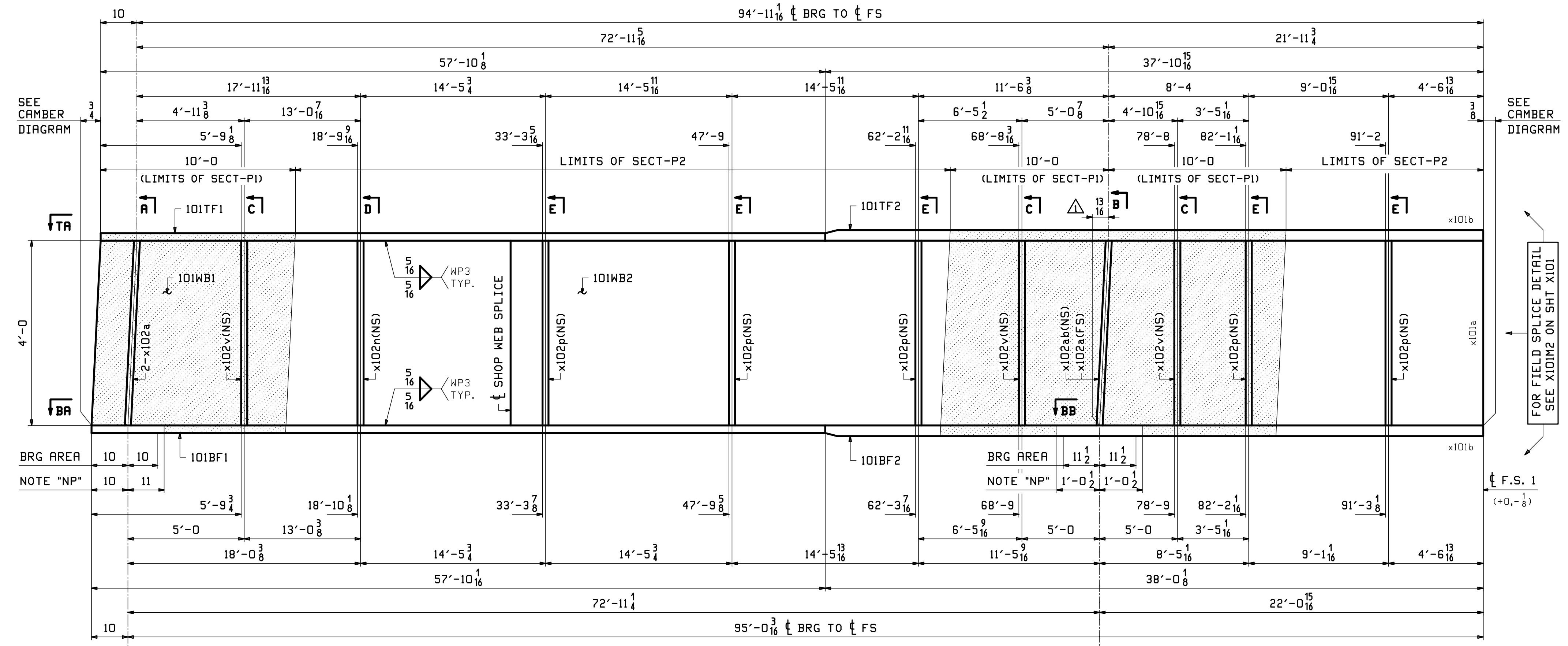
COSMEC INC.:
DISC BEARINGS ASSEMBLIES

Cosmec
1501 ROCKY RIDGE ROAD
P.O. BOX 2159
ATHENS, TEXAS 75751

SCALE: NONE
DRAWN BY: JR DATE: 6/27/19
CHECKED BY: MCM DATE: 7/5/19
SHEET 16 OF 16
JOB NO.: 15353C

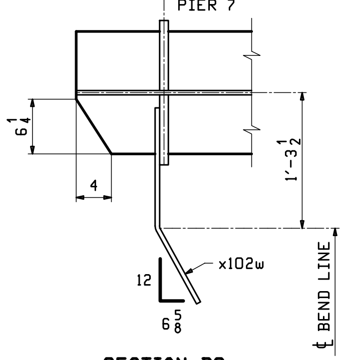
REV.	DESCRIPTION	BY	DATE	CK'D	DATE
0	.	.	.	.	.

CUSTOMER: WALSH CONSTRUCTION
DRAWING NUMBER: 15353C–D16
REV. 0

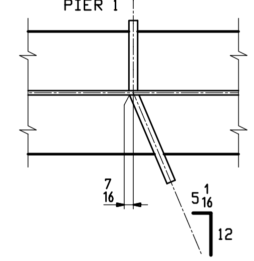


ONE - GIRDER - 101A1 (DEVELOPED)

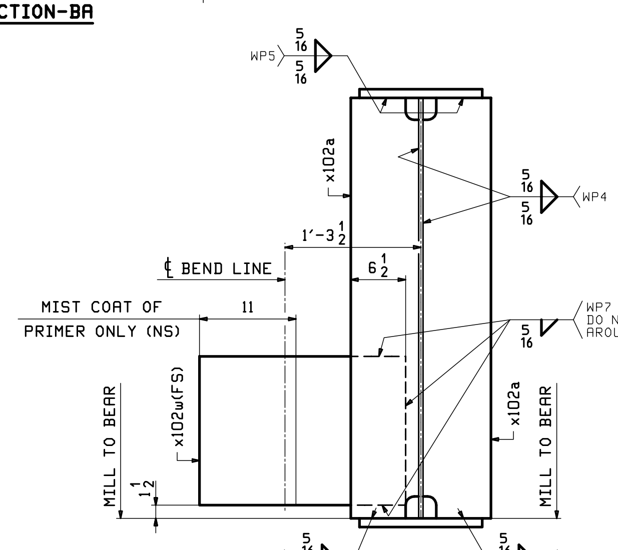
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X101.
4. FOR GIRDER STANDARD DETAILS SEE SHEET X102.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG101.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P101 FOR SECT-P1, SECT-P2 & NOTE "NP".



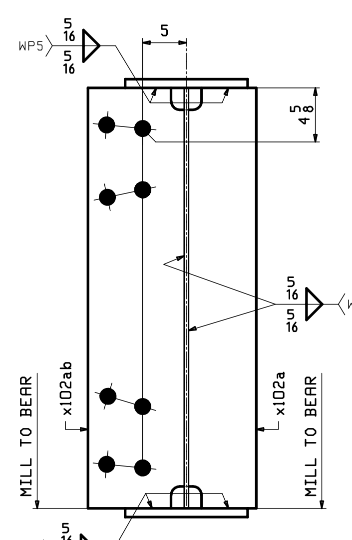
SECTION-BA



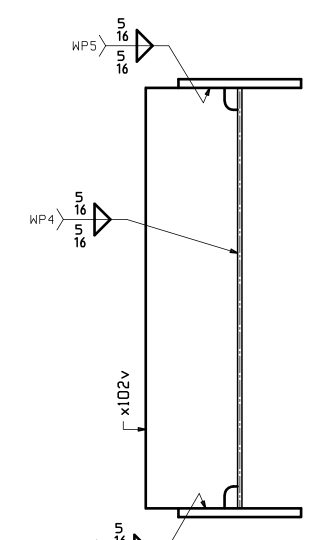
SECTION-BB



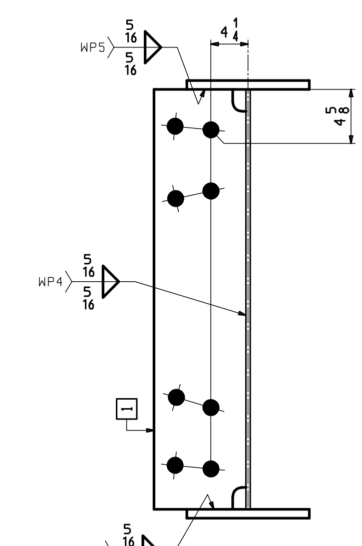
SECTION-A
DEVELOPED



SECTION-B
DEVELOPED



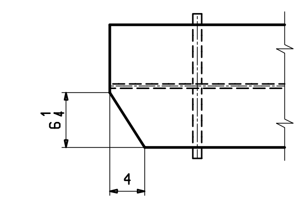
SECTION-C



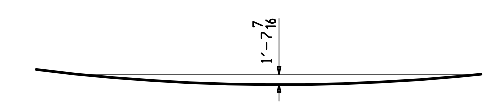
SECTION

SECTION	1
D	x102n
E	x102p

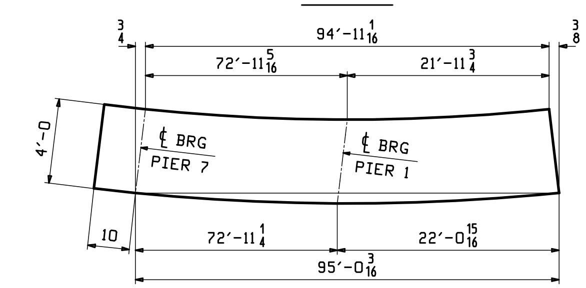
LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	101A1	1		GIRDER					20156
2									
3		1	101WB1	PL 1/2×48	32	0	A709-50WT2	102/8	FP:20
4		1	101WB2	PL 1/2×48	63	10 3/16	A709-50WT2	101/28	FP:20
5		1	101TF1	PL 7/8×14	57	10 1/8	A709-50WT2	101/26	FP:20
6		1	101TF2	PL 1 5/8×14	37	10 15/16	A709-50WT2	101/6	FP:20
7		1	101BF1	PL 7/8×14	57	10 1/16	A709-50WT2	101/26	FP:20
8		1	101BF2	PL 1 7/8×14	38	0 1/8	A709-50WT2	101/2	FP:20
9									
10		3	x102a	PL 1×8	4	0	A709-50WT2	104/2	M1E FP:20
11		1	x102ab	PL 1×11	4	0 1/16	A709-50WT2	104/5	M1E FP:20
12		1	x102n	PL 1/2×10 1/2	4	0	A709-50WT2	104/3	FP:20
13		5	x102p	PL 1/2×10 1/2	4	0	A709-50WT2	104/3	FP:20
14		3	x102v	PL 1/2×10 1/2	4	0	A709-50WT2	104/4	FP:20
15		1	x102w	PL 1/2×17	1	11 1/2	A709-50WT2	104/6	BENT FP:20
16									



VIEW-TA



PLAN VIEW



DEV. ORIENTATION DIAGRAM

NO.	DATE	REMARKS	BY
1	05/13/19	ADDED BRG LEAN DIMENSION	EEO / WJL

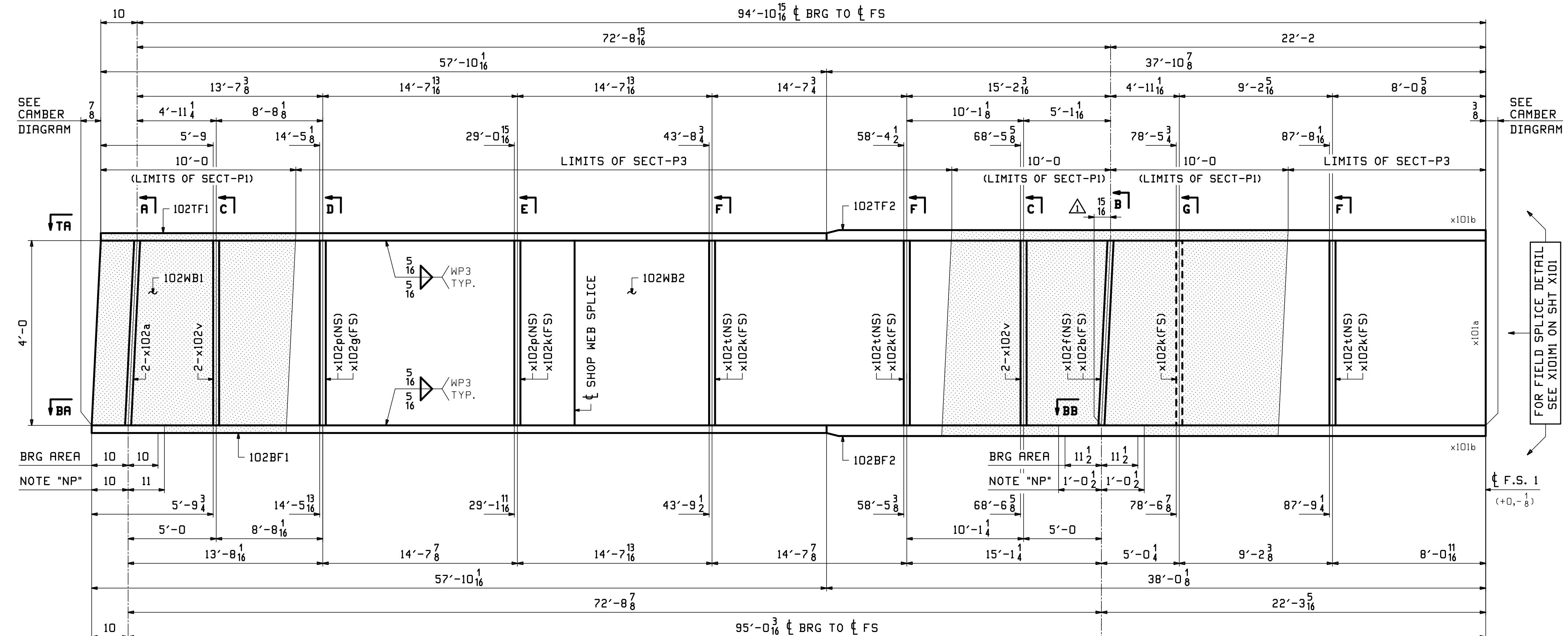
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-1

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: GIRDER ~ 101A1
SURFACE PREP.: SEE P1
OPEN HOLES: 1 9/16"ø OVS FOR 1 1/4"ø HSB (U.N.)
PAINT: SEE P1 & AS NOTED

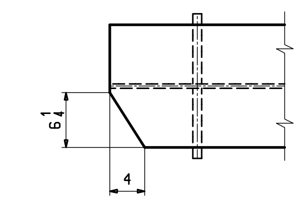
PRELIMINARY	DRAWN	EEO 03/26/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/03/19	101	3	18060A	20



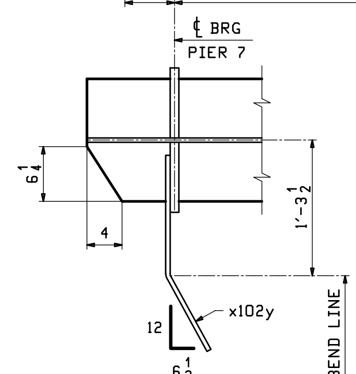
ONE - GIRDER - 102B1 (DEVELOPED)

1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X101.
4. FOR GIRDER STANDARD DETAILS SEE SHEET X102.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG101.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P101 FOR SECT-P1, SECT-P2 & NOTE "NP".

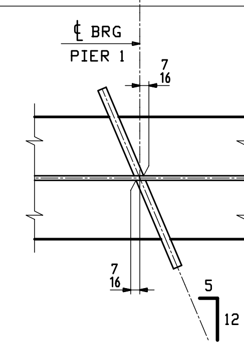
LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	102B1	1		GIRDER					20626
2									
3		1	102WB1	PL 1/2x48	32	0	A709-50WT2	102/8	FP:20
4		1	102WB2	PL 1/2x48	63	10 3/16	A709-50WT2	101/28	FP:20
5		1	102TF1	PL 7/8x14	57	10 1/16	A709-50WT2	101/26	FP:20
6		1	102TF2	PL 1 5/8x14	37	10 7/8	A709-50WT2	101/6	FP:20
7		1	102BF1	PL 7/8x14	57	10 1/16	A709-50WT2	101/26	FP:20
8		1	102BF2	PL 1 7/8x14	38	0 1/8	A709-50WT2	101/2	FP:20
9									
10		2	x102a	PL 1x8	4	0	A709-50WT2	104/2	M1E FP:20
11		1	x102b	PL 1x11	4	0 1/8	A709-50WT2	104/5	M1E FP:20
12		1	x102f	PL 1x11	4	0 1/8	A709-50WT2	104/5	M1E FP:20
13		1	x102g	PL 1/2x10 1/2	4	0	A709-50WT2	104/3	FP:20
14		5	x102k	PL 1/2x10 1/2	4	0	A709-50WT2	104/3	FP:20
15		2	x102p	PL 1/2x10 1/2	4	0	A709-50WT2	104/3	FP:20
16		3	x102t	PL 1/2x10 1/2	4	0	A709-50WT2	104/3	FP:20
17		4	x102v	PL 1/2x10 1/2	4	0	A709-50WT2	104/4	FP:20
18		1	x102y	PL 1/2x17	1	11 1/2	A709-50WT2	104/6	BENT FP:20
19									



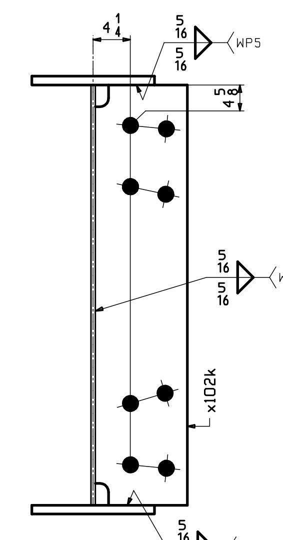
VIEW-TA



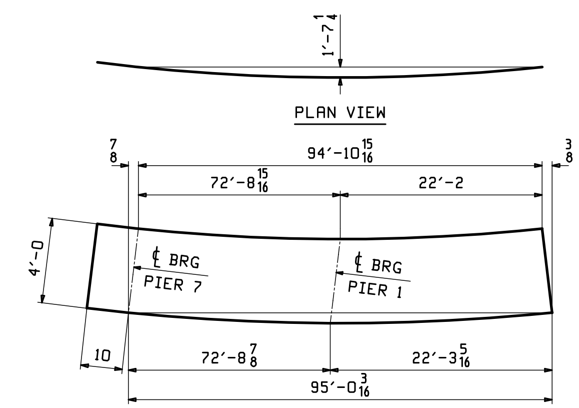
SECTION-BA



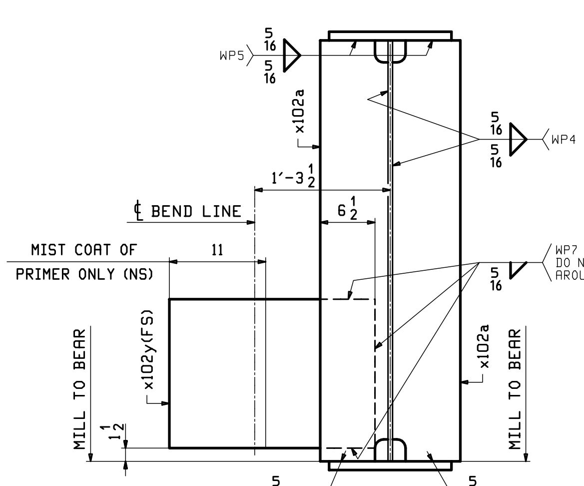
SECTION-BB



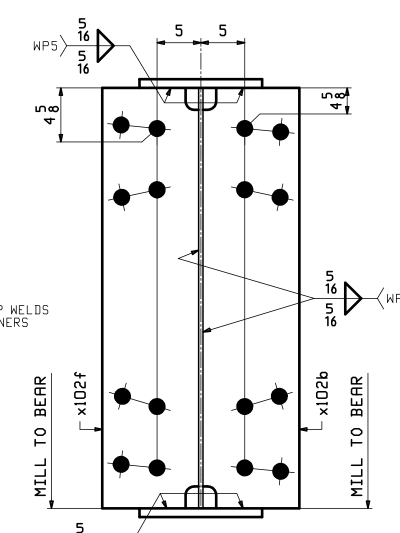
SECTION-G



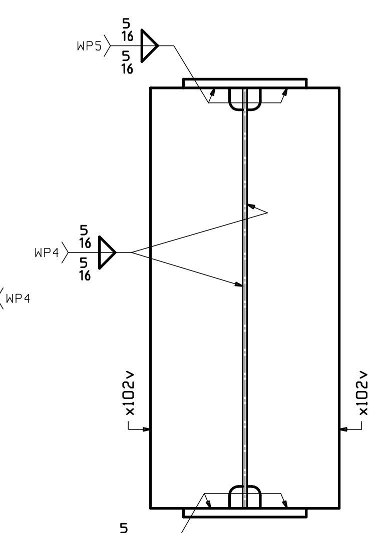
DEV. ORIENTATION DIAGRAM



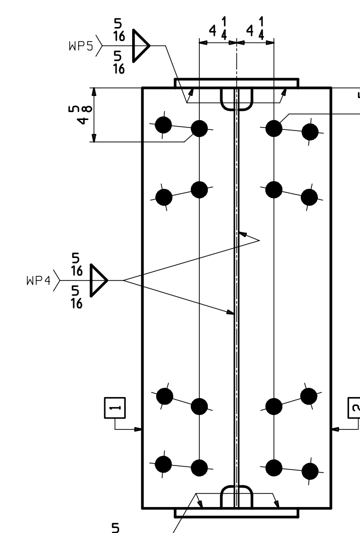
SECTION-A
DEVELOPED



SECTION-B
DEVELOPED



SECTION-C



SECTION

SECTION	1	2
D	x102p	x102g
E	x102p	x102k
F	x102t	x102k

NO.	DATE	REMARKS	BY
1	05/13/19	ADDED BRG LEAN DIMENSION	EEO / WJL

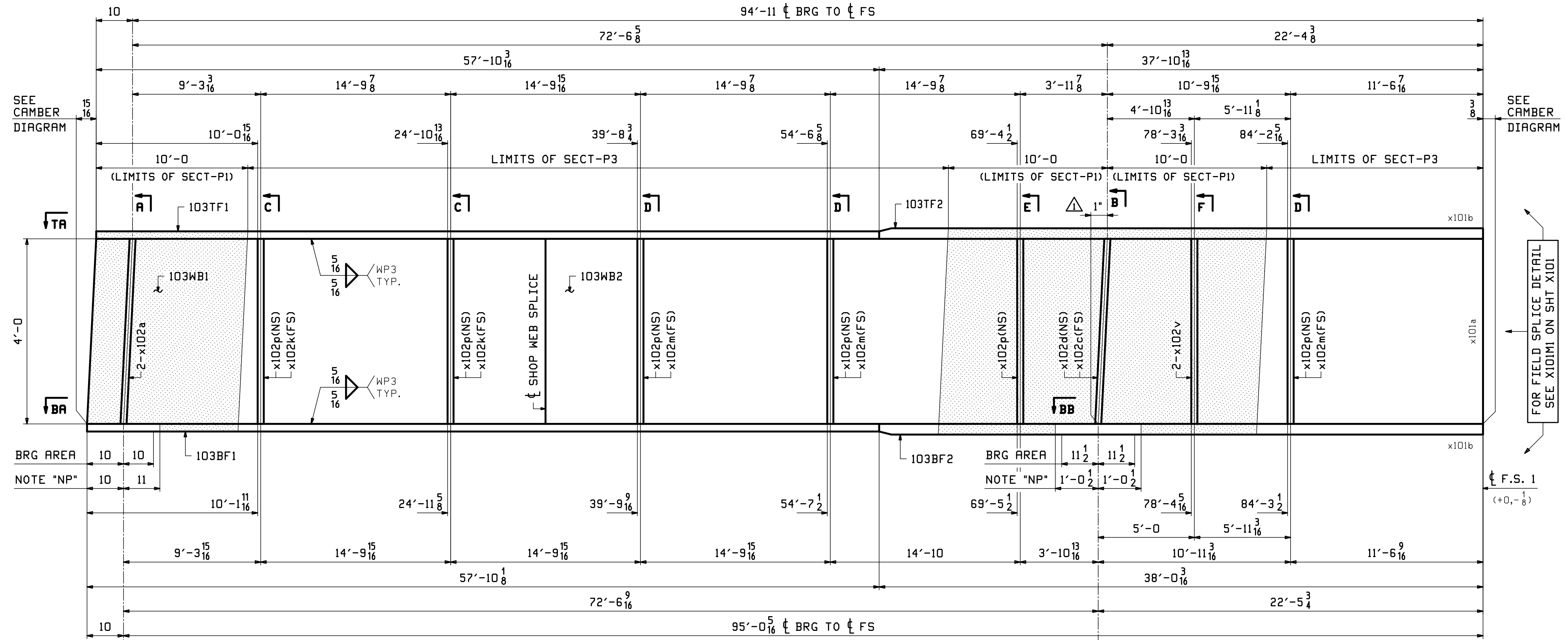
REVISIONS

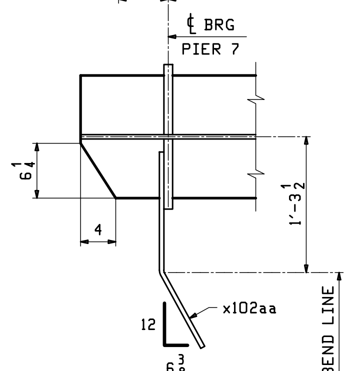
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-1

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: GIRDER ~ 102B1
SURFACE PREP.: SEE P1
OPEN HOLES: 1 9/16"ø OVS FOR 1 1/4"ø HSB (U.N.)
PAINT: SEE P1 & AS NOTED

PRELIMINARY	DRAWN	EEO 04/01/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/03/19	102	3	18060A	20

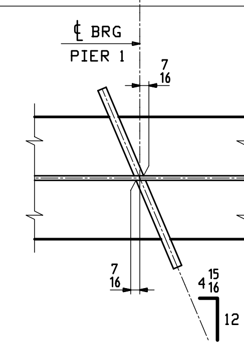




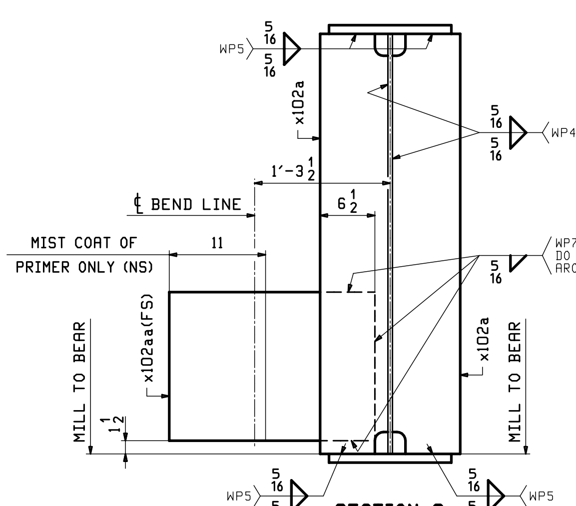
SECTION-BA

ONE - GIRDER - 103C1 (DEVELOPED)

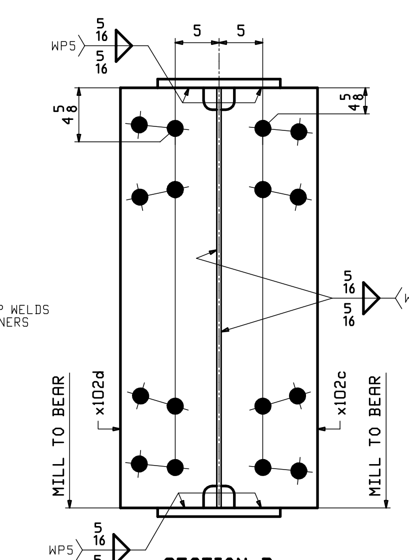
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X101.
4. FOR GIRDER STANDARD DETAILS SEE SHEET X102.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG101.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P101 FOR SECT-P1, SECT-P2 & NOTE "NP".



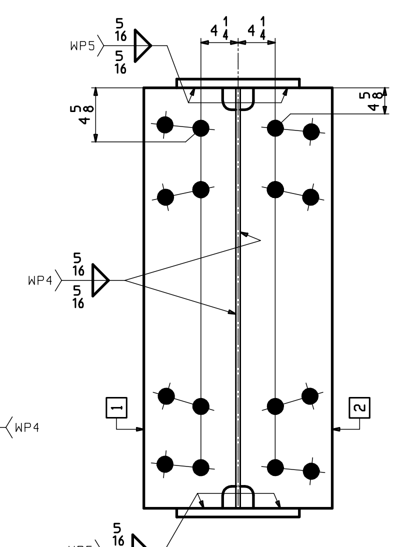
SECTION-BB



SECTION-A
DEVELOPED

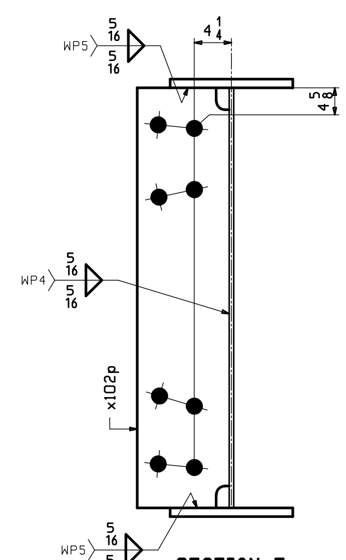


SECTION-B
DEVELOPED

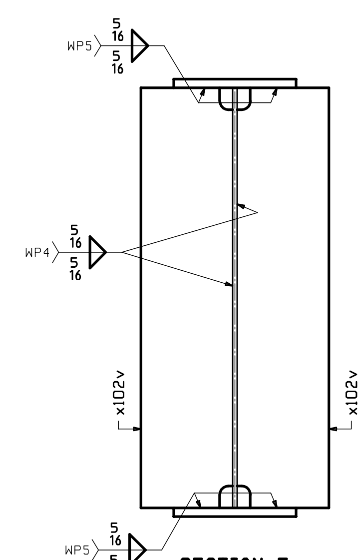


SECTION

SECTION	1	2
C	x102p	x102k
D	x102p	x102m

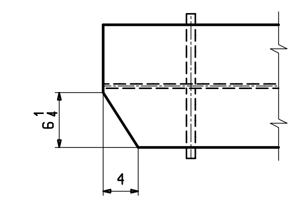


SECTION-E

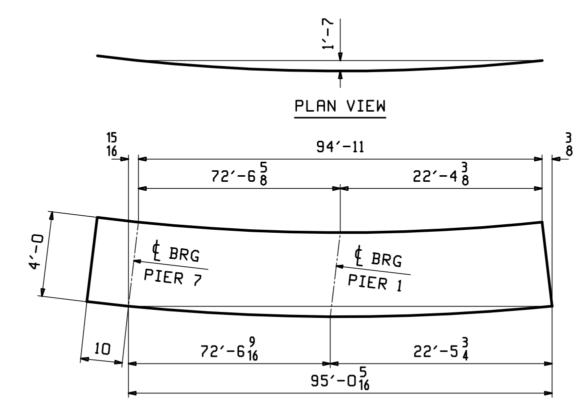


SECTION-F

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	103C1	1		GIRDER					20484
2									
3		1	103WB1	PL 1/2x48	32	0	A709-50WT2	102/10	FP:20
4		1	103WB2	PL 1/2x48	63	10 5/16	A709-50WT2	101/28	FP:20
5		1	103TF1	PL 7/8x14	57	10 3/16	A709-50WT2	101/26	FP:20
6		1	103TF2	PL 1 5/8x14	37	10 13/16	A709-50WT2	101/6	FP:20
7		1	103BF1	PL 7/8x14	57	10 1/8	A709-50WT2	101/26	FP:20
8		1	103BF2	PL 1 7/8x14	38	0 3/16	A709-50WT2	101/2	FP:20
9									
10		2	x102a	PL 1x8	4	0	A709-50WT2	104/2	M1E FP:20
11		1	x102aa	PL 1/2x17	1	11 1/2	A709-50WT2	104/6	BENT FP:20
12		1	x102c	PL 1x11	4	0 1/8	A709-50WT2	104/5	M1E FP:20
13		1	x102d	PL 1x11	4	0 1/8	A709-50WT2	104/5	M1E FP:20
14		2	x102k	PL 1/2x10 1/2	4	0	A709-50WT2	104/3	FP:20
15		3	x102m	PL 1/2x10 1/2	4	0	A709-50WT2	104/3	FP:20
16		6	x102p	PL 1/2x10 1/2	4	0	A709-50WT2	104/3	FP:20
17		2	x102v	PL 1/2x10 1/2	4	0	A709-50WT2	104/4	FP:20
18									



VIEW-TA



DEV. ORIENTATION DIAGRAM

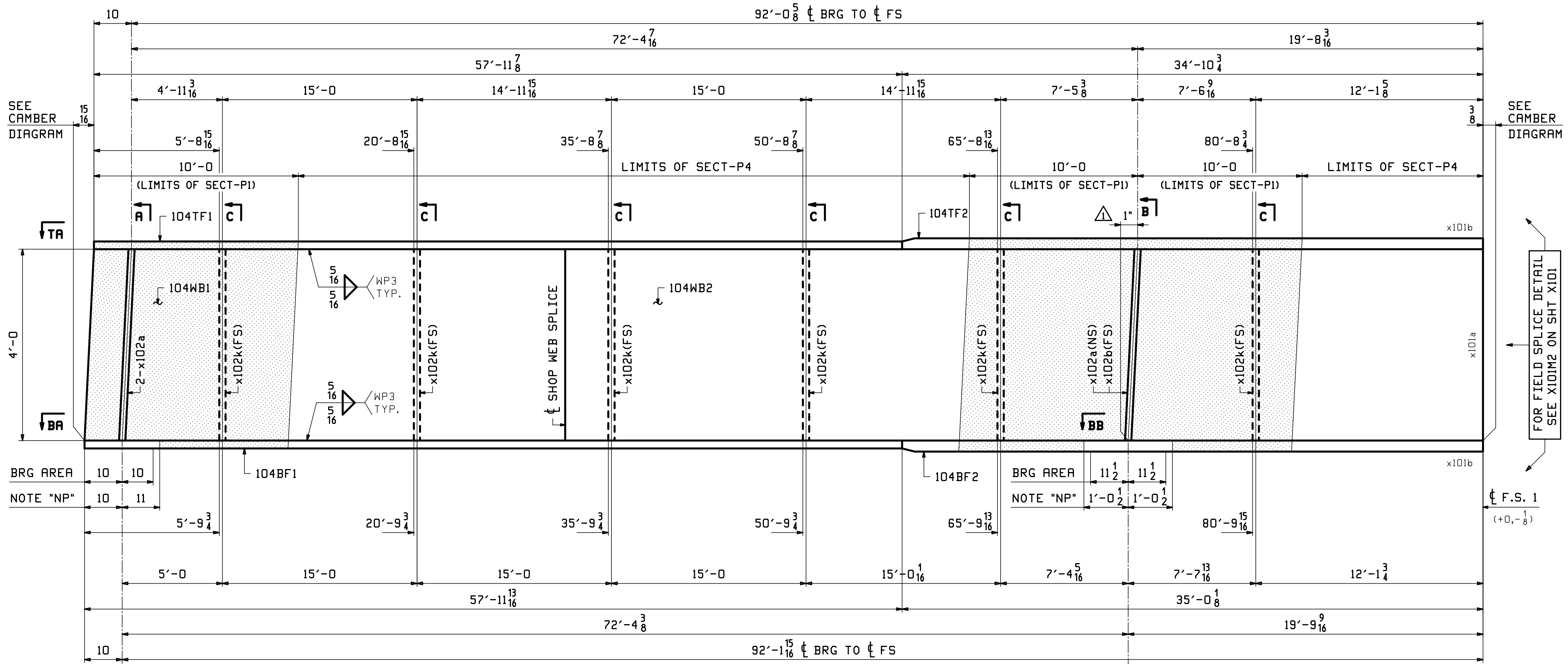
NO.	DATE	REMARKS	BY
1	05/13/19	ADDED BRG LEAN DIMENSION	EEO / WJL

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-1

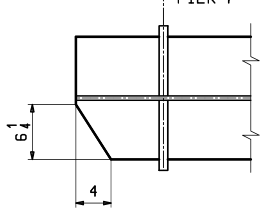
STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 103C1
SURFACE PREP.	SEE P1
OPEN HOLES	1 9/16"ø OVS FOR 1 1/4"ø HSB (U.N.)
PAINT	SEE P1 & AS NOTED

PRELIMINARY / FOR APPROVAL	DRAWN / CHECKED	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
PRELIMINARY	DRAWN EEO 04/02/19	103	3	18060A	20
FOR APPROVAL	CHECKED WJL 04/03/19				

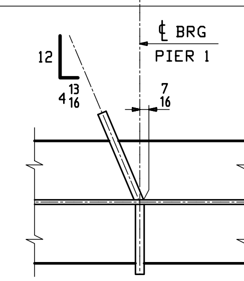


ONE - GIRDER - 104D1 (DEVELOPED)

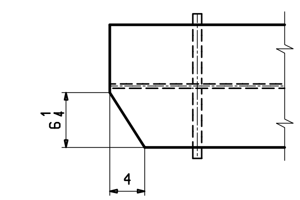
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X101.
4. FOR GIRDER STANDARD DETAILS SEE SHEET X102.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG101.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P101 FOR SECT-P1, SECT-P2 & NOTE "NP".



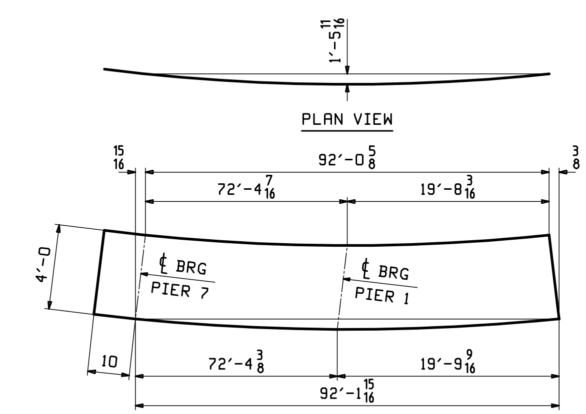
SECTION-BA



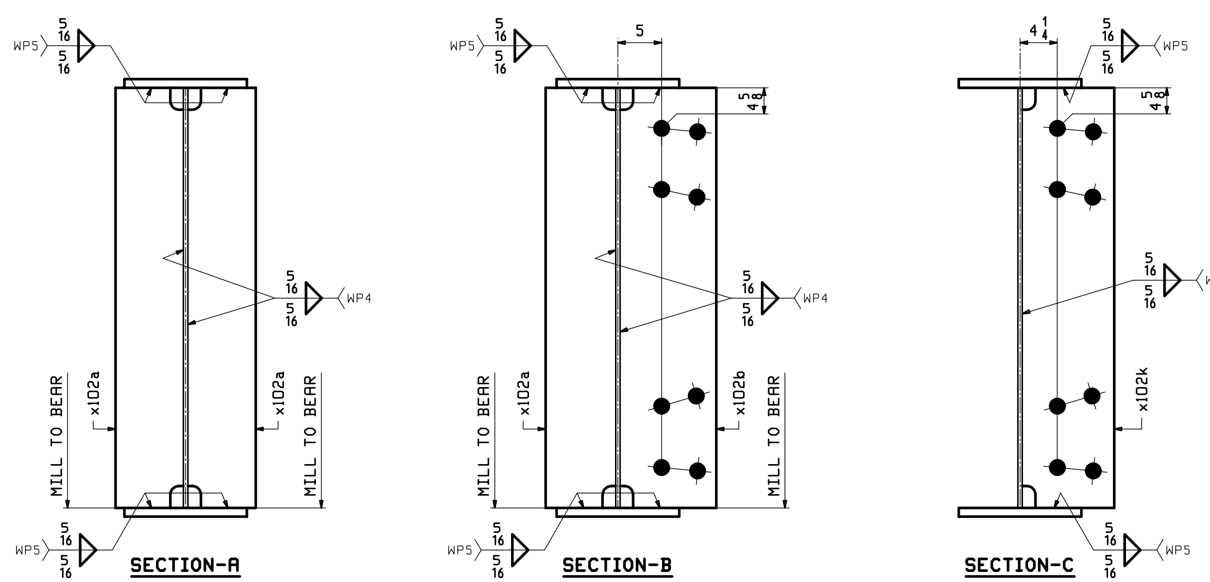
SECTION-BB



VIEW-TA



DEV. ORIENTATION DIAGRAM



SECTION-A

SECTION-B
DEVELOPED

SECTION-C

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	104D1	1		GIRDER					19163
2									
3		1	104WB1	PL 1/2x48	32	0	A709-50WT2	102/8	FP:20
4		1	104WB2	PL 1/2x48	60	11 15/16	A709-50WT2	101/30	FP:20
5		1	104TF1	PL 7/8x14	57	11 7/8	A709-50WT2	101/26	FP:20
6		1	104TF2	PL 1 5/8x14	34	10 3/4	A709-50WT2	101/8	FP:20
7		1	104BF1	PL 7/8x14	57	11 13/16	A709-50WT2	101/26	FP:20
8		1	104BF2	PL 1 7/8x14	35	0 1/8	A709-50WT2	101/4	FP:20
9									
10		3	x102a	PL 1x8	4	0	A709-50WT2	104/2	M1E FP:20
11		1	x102b	PL 1x11	4	0 1/8	A709-50WT2	104/5	M1E FP:20
12		6	x102k	PL 1/2x10 1/2	4	0	A709-50WT2	104/3	FP:20
13									

NO.	DATE	REMARKS	BY
⚠	05/13/19	ADDED BRG LEAN DIMENSION	EEO/WJL

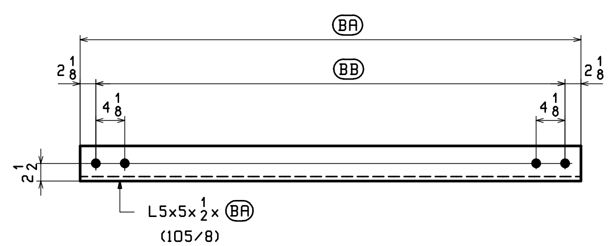
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-1

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: GIRDER ~ 104D1
SURFACE PREP.: SEE P1 — OPEN HOLES: $1\frac{9}{16}$"φ OVS FOR $1\frac{1}{4}$"φ HSB (U.N.)
PAINT: SEE P1 & AS NOTED

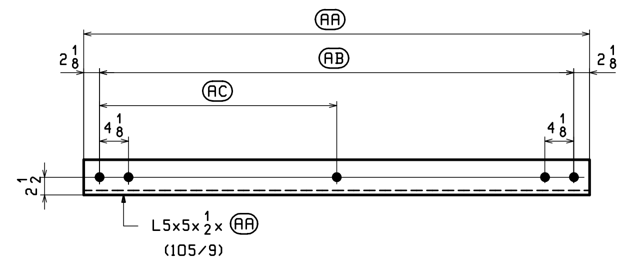
PRELIMINARY	DRAWN	EEO 04/02/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/08/19	104	3	18060A	20



CROSSFRAME TOP & BTM STRUTS ~ MARK "A"

MARK	QTY	BA	BB
109C1A	2	$7'-11\frac{13}{16}$	$7'-7\frac{9}{16}$
109C2A	10	$7'-11\frac{13}{16}$	$7'-7\frac{9}{16}$
109C2AP	2	$7'-11\frac{13}{16}$	$7'-7\frac{9}{16}$
109C3A	△1 8	$7'-11\frac{13}{16}$	$7'-7\frac{9}{16}$
109C3AP	△1 6	$7'-11\frac{13}{16}$	$7'-7\frac{9}{16}$
109C4A	14	$7'-11\frac{7}{8}$	$7'-7\frac{5}{8}$
109C5A	12	$7'-11\frac{7}{8}$	$7'-7\frac{5}{8}$
109C6A	4	$7'-11\frac{15}{16}$	$7'-7\frac{11}{16}$

PRIME COATED (SEE SHT P1)

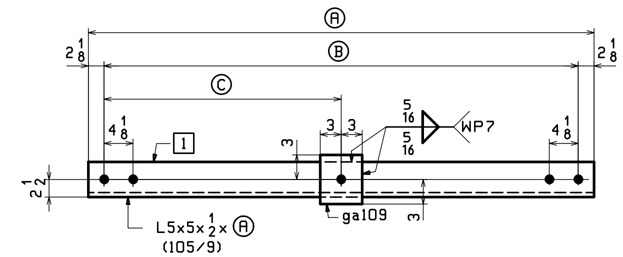


CROSSFRAME DIAGONALS ~ MARK "B"

(LOW END @ LEFT LOOKING UP-STATION)

MARK	QTY	AA	AB	AC
109C1B	1	$8'-2\frac{9}{16}$	$7'-10\frac{5}{16}$	$3'-11\frac{3}{16}$
109C2B	5	$8'-2\frac{7}{16}$	$7'-10\frac{3}{16}$	$3'-11\frac{1}{8}$
109C2BP	1	$8'-2\frac{7}{16}$	$7'-10\frac{3}{16}$	$3'-11\frac{1}{8}$
109C3B	△1 4	$8'-2\frac{5}{16}$	$7'-10\frac{1}{16}$	$3'-11\frac{1}{16}$
109C3BP	△1 3	$8'-2\frac{5}{16}$	$7'-10\frac{1}{16}$	$3'-11\frac{1}{16}$
109C4B	7	$8'-2\frac{3}{16}$	$7'-9\frac{15}{16}$	3'-11
109C5B	6	8'-2	$7'-9\frac{3}{4}$	$3'-10\frac{7}{8}$
109C6B	2	$8'-1\frac{7}{8}$	$7'-9\frac{5}{8}$	$3'-10\frac{13}{16}$

PRIME COATED (SEE SHT P1)

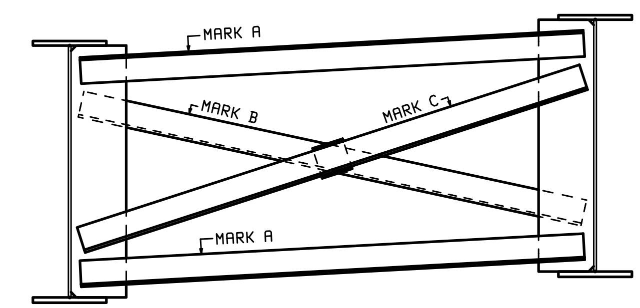


CROSSFRAME DIAGONALS ~ MARK "C"

(LOW END @ LEFT LOOKING UP-STATION)

MARK	QTY	A	B	C	1
109C1C	1	$8'-3\frac{9}{16}$	$7'-11\frac{5}{16}$	$3'-11\frac{11}{16}$	a109
109C2C	5	$8'-3\frac{3}{4}$	$7'-11\frac{1}{2}$	$3'-11\frac{3}{4}$	b109
109C2CP	1	$8'-3\frac{3}{4}$	$7'-11\frac{1}{2}$	$3'-11\frac{3}{4}$	b109
109C3C	△1 4	$8'-3\frac{15}{16}$	$7'-11\frac{11}{16}$	$3'-11\frac{7}{8}$	c109
109C3CP	△1 3	$8'-3\frac{15}{16}$	$7'-11\frac{11}{16}$	$3'-11\frac{7}{8}$	c109
109C4C	7	$8'-4\frac{1}{8}$	$7'-11\frac{7}{8}$	$3'-11\frac{15}{16}$	d109
109C5C	6	$8'-4\frac{5}{16}$	$8'-0\frac{1}{16}$	$4'-0\frac{1}{16}$	f109
109C6C	2	$8'-4\frac{1}{2}$	$8'-0\frac{1}{4}$	$4'-0\frac{1}{8}$	g109

PRIME COATED (SEE SHT P1)



CROSSFRAME MARK LOCATION

(LOOKING UP-STATION)

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL SHALL BE A709-50WT2, UN.
3. T2 DENOTES CHARPY V-NOTCH TESTING REQUIRED.

WORK THIS SHEET WITH SHEET 109B

NO.	DATE	REMARKS	BY
△1	05/15/19	REV'D QTY	DPS/WJL

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-1

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: INT CROSSFRAMES
SURFACE PREP.: SEE SHEET P1
OPEN HOLES: $1\frac{9}{16}$"Ø FOR $1\frac{1}{4}$"Ø HSB
PAINT: SEE SHEET P1

PRELIMINARY	DRAWN	DPS 03/18/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/05/19	109AB	3	18060A	37

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
35	109C1C	1		DIAGONALS					139
36		1	a109	L 5x5x$\frac{1}{2}$	8	$3\frac{9}{16}$	A709-50WT2	105/9	
37		1	ga109	PL $\frac{1}{2}$x6	0	6	A709-50WT2	105/10	
38									
39	109C2C	5		DIAGONALS					139
40		5	b109	L 5x5x$\frac{1}{2}$	8	$3\frac{3}{4}$	A709-50WT2	105/9	
41		5	ga109	PL $\frac{1}{2}$x6	0	6	A709-50WT2	105/10	
42									
43	109C2CP	1		DIAGONALS					PAINTED 139
44		1	b109	L 5x5x$\frac{1}{2}$	8	$3\frac{3}{4}$	A709-50WT2	105/9	
45		1	ga109	PL $\frac{1}{2}$x6	0	6	A709-50WT2	105/10	
46									
47	109C3C	△1 4		DIAGONALS					140
48		△1 4	c109	L 5x5x$\frac{1}{2}$	8	$3\frac{15}{16}$	A709-50WT2	105/9	
49		△1 4	ga109	PL $\frac{1}{2}$x6	0	6	A709-50WT2	105/10	
50									
51	109C3CP	△1 3		DIAGONALS					PAINTED 140
52		△1 3	c109	L 5x5x$\frac{1}{2}$	8	$3\frac{15}{16}$	A709-50WT2	105/9	
53		△1 3	ga109	PL $\frac{1}{2}$x6	0	6	A709-50WT2	105/10	
54									
55	109C4C	7		DIAGONALS					140
56		7	d109	L 5x5x$\frac{1}{2}$	8	$4\frac{1}{8}$	A709-50WT2	105/9	
57		7	ga109	PL $\frac{1}{2}$x6	0	6	A709-50WT2	105/10	
58									
59	109C5C	6		DIAGONALS					140
60		6	f109	L 5x5x$\frac{1}{2}$	8	$4\frac{5}{16}$	A709-50WT2	105/9	
61		6	ga109	PL $\frac{1}{2}$x6	0	6	A709-50WT2	105/10	
62									
63	109C6C	2		DIAGONALS					140
64		2	g109	L 5x5x$\frac{1}{2}$	8	$4\frac{1}{2}$	A709-50WT2	105/9	
65		2	ga109	PL $\frac{1}{2}$x6	0	6	A709-50WT2	105/10	
66									
67									
68									

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	109C1A	2		L 5x5x$\frac{1}{2}$	7	$11\frac{13}{16}$	A709-50WT2	105/8	129
2									
3	109C2A	10		L 5x5x$\frac{1}{2}$	7	$11\frac{13}{16}$	A709-50WT2	105/8	129
4									
5	109C2AP	2		L 5x5x$\frac{1}{2}$	7	$11\frac{13}{16}$	A709-50WT2	105/8	PAINTED 129
6									
7	109C3A	△1 8		L 5x5x$\frac{1}{2}$	7	$11\frac{13}{16}$	A709-50WT2	105/8	129
8									
9	109C3AP	△1 6		L 5x5x$\frac{1}{2}$	7	$11\frac{13}{16}$	A709-50WT2	105/8	PAINTED 129
10									
11	109C4A	14		L 5x5x$\frac{1}{2}$	7	$11\frac{7}{8}$	A709-50WT2	105/8	129
12									
13	109C5A	12		L 5x5x$\frac{1}{2}$	7	$11\frac{7}{8}$	A709-50WT2	105/8	129
14									
15	109C6A	4		L 5x5x$\frac{1}{2}$	7	$11\frac{15}{16}$	A709-50WT2	105/8	129
16									
17									
18	109C1B	1		L 5x5x$\frac{1}{2}$	8	$2\frac{9}{16}$	A709-50WT2	105/9	133
19									
20	109C2B	5		L 5x5x$\frac{1}{2}$	8	$2\frac{7}{16}$	A709-50WT2	105/9	133
21									
22	109C2BP	1		L 5x5x$\frac{1}{2}$	8	$2\frac{7}{16}$	A709-50WT2	105/9	PAINTED 133
23									
24	109C3B	△1 4		L 5x5x$\frac{1}{2}$	8	$2\frac{5}{16}$	A709-50WT2	105/9	132
25									
26	109C3BP	△1 3		L 5x5x$\frac{1}{2}$	8	$2\frac{5}{16}$	A709-50WT2	105/9	PAINTED 132
27									
28	109C4B	7		L 5x5x$\frac{1}{2}$	8	$2\frac{3}{16}$	A709-50WT2	105/9	132
29									
30	109C5B	6		L 5x5x$\frac{1}{2}$	8	2	A709-50WT2	105/9	132
31									
32	109C6B	2		L 5x5x$\frac{1}{2}$	8	$1\frac{7}{8}$	A709-50WT2	105/9	132
33									
34									

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL SHALL BE A709-50WT2, UN.
3. T2 DENOTES CHARPY V-NOTCH TESTING REQUIRED.

WORK THIS SHEET WITH SHEET 109AB

NO.	DATE	REMARKS	BY
△1	05/15/19	REV'D QTY	DPS/WJL

REVISIONS

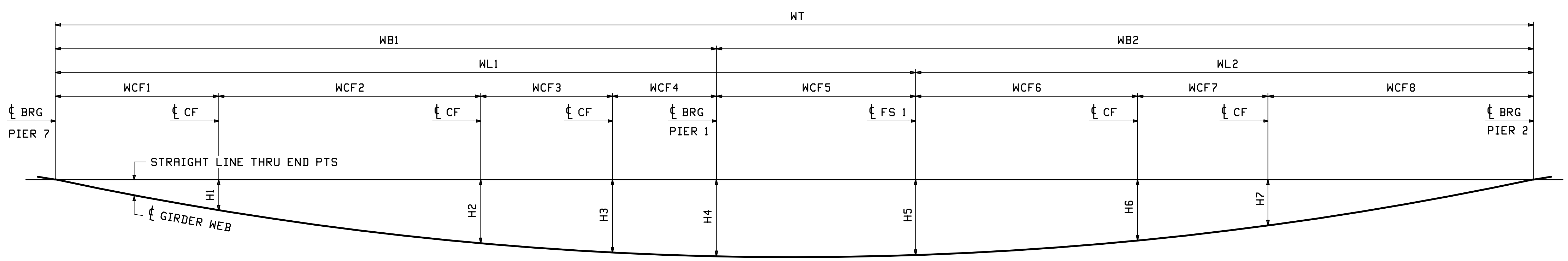
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-1

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

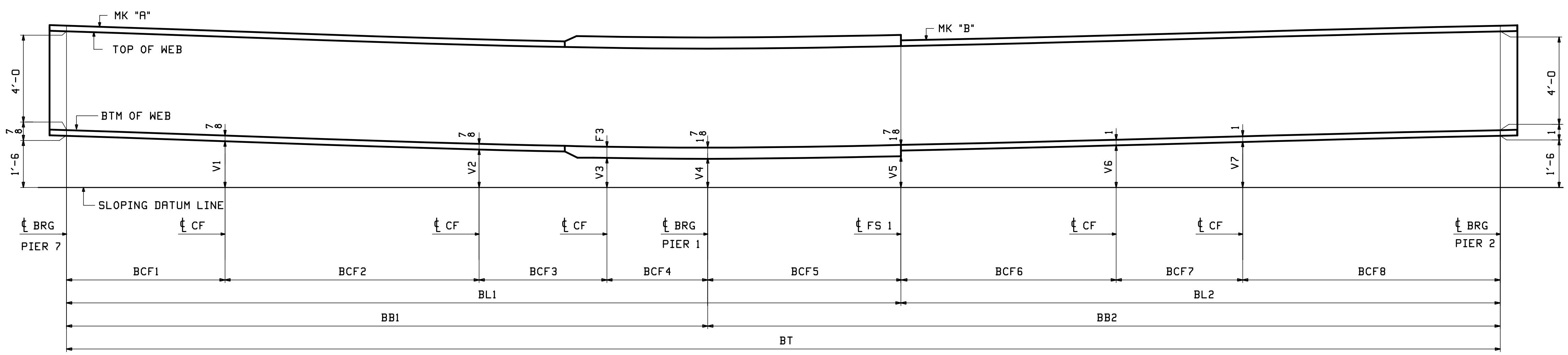
ITEM: INT CROSSFRAMES
SURFACE PREP.: SEE SHEET P1 OPEN HOLES
PAINT: SEE SHEET P1

PRELIMINARY	DRAWN	DPS 03/18/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/05/19	109B	3	18060A	37

WJL Wed, May 15, 2019 02:44:16 PM /users/jobs/3656-1/109B : Rev1



PLAN VIEW GIRDER @ BTM OF WEB



DEVELOPED SECTION A-A

DIMENSIONS GIVEN ALONG ℄ WEB

LINE	A	B	BT	BL1	BL2	V1	V2	V3	V4	V5	V6	V7	BB1	BB2	BCF1	BCF2	BCF3	BCF4	BCF5	BCF6	BCF7	BCF8	F3
1	101A1	105A2	163'-0 7/8	95'-0 3/16	68'-0 11/16	1'-3 3/4	1'-1 7/16	11 5/8	11 7/16	1'-0 1/8	1'-2 7/16	1'-3 5/16	72'-11 1/4	90'-1 5/8	18'-0 3/8	28'-11 1/2	14'-5 13/16	11'-5 9/16	22'-0 15/16	24'-4 3/4	14'-5 3/4	29'-2 3/16	1 7/8
2	102B1	106B2	160'-8 1/8	95'-0 3/16	65'-7 15/16	1'-4 1/16	1'-2	1'-0 1/16	11 3/4	1'-0 7/16	1'-2 9/16	1'-3 7/16	72'-8 7/8	87'-11 1/4	13'-8 1/8	29'-3 5/8	14'-7 7/8	15'-1 1/4	22'-3 5/16	21'-3 1/16	14'-7 7/8	29'-9	1 7/8
3	103C1	107C2	158'-3 9/16	95'-0 5/16	63'-3 1/4	1'-4 1/2	1'-2 7/16	1'-1 9/16	1'-0	1'-0 11/16	1'-2 11/16	1'-3 7/16	72'-6 9/16	85'-9	9'-3 15/16	29'-7 7/8	14'-9 15/16	18'-8 13/16	22'-5 3/4	18'-1 7/16	14'-9 7/8	30'-3 15/16	7/8
4	104D1	108D2	155'-11 1/8	92'-1 15/16	63'-9 3/16	1'-4 3/4	1'-2 11/16	1'-1 3/4	1'-0 3/16	1'-0 7/8	1'-2 15/16	1'-3 3/4	72'-4 3/8	83'-6 3/4	5'-0	30'-0	15'-0	22'-4 3/8	19'-9 9/16	17'-10 7/16	15'-0	30'-10 3/4	7/8

LINE	A	B	WT	WL1	WL2	H1	H2	H3	H4	H5	H6	H7	WB1	WB2	WCF1	WCF2	WCF3	WCF4	WCF5	WCF6	WCF7	WCF8
1	101A1	105A2	162'-8 3/8	94'-9 15/16	67'-10 7/16	1'-10 1/2	3'-11	4'-5 13/16	4'-8 5/8	4'-7 11/16	3'-8 15/16	2'-9 5/8	72'-9	89'-11 3/8	17'-11 1/4	28'-10 9/16	14'-5 11/16	11'-5 1/2	22'-0 15/16	24'-4 9/16	14'-5 3/8	29'-0 1/2
2	102B1	106B2	160'-3 15/16	94'-10 1/8	65'-5 13/16	1'-5 1/8	3'-7 1/16	4'-2 9/16	4'-6 7/16	4'-5 1/8	3'-7 15/16	2'-9 1/8	72'-6 13/16	87'-9 1/8	13'-7 3/16	29'-2 11/16	14'-7 3/4	15'-1 3/16	22'-3 5/16	21'-2 7/8	14'-7 1/2	29'-7 7/16
3	103C1	107C2	157'-11 5/8	94'-10 5/16	63'-1 5/16	11 11/16	3'-3 1/8	3'-11 5/16	4'-4 5/16	4'-2 9/16	3'-7	2'-8 5/8	72'-4 5/8	85'-7	9'-3 3/8	29'-6 3/4	14'-9 3/4	18'-8 3/4	22'-5 11/16	18'-1 5/16	14'-9 5/8	30'-2 3/8
4	104D1	108D2	155'-7 1/2	92'-0 1/8	63'-7 3/8	6 1/4	2'-11 3/16	3'-8 1/16	4'-2 5/16	4'-0 7/8	3'-6	2'-8 1/8	72'-2 9/16	83'-4 15/16	4'-11 11/16	29'-10 13/16	14'-11 3/4	22'-4 5/16	19'-9 9/16	17'-10 5/16	14'-11 11/16	30'-9 3/8

NOTES
FOR GENERAL NOTES SEE DWG GN1
ALL DIMENSIONS GIVEN AT BTM OF BTM FLG
DIMS @ FIELD SPLICES ARE TAKEN TO BTM OF THICKER FLG

NO.	DATE	REMARKS	BY
1	5/13/19	REVISED PER APPROVAL COMMENTS	DPS/WJL

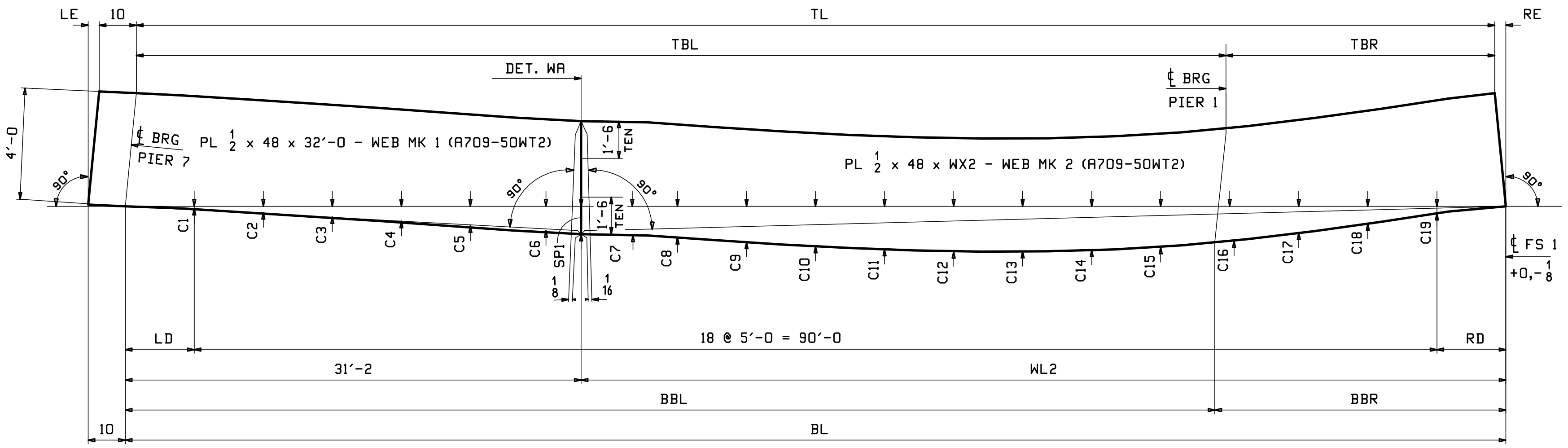
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-1

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

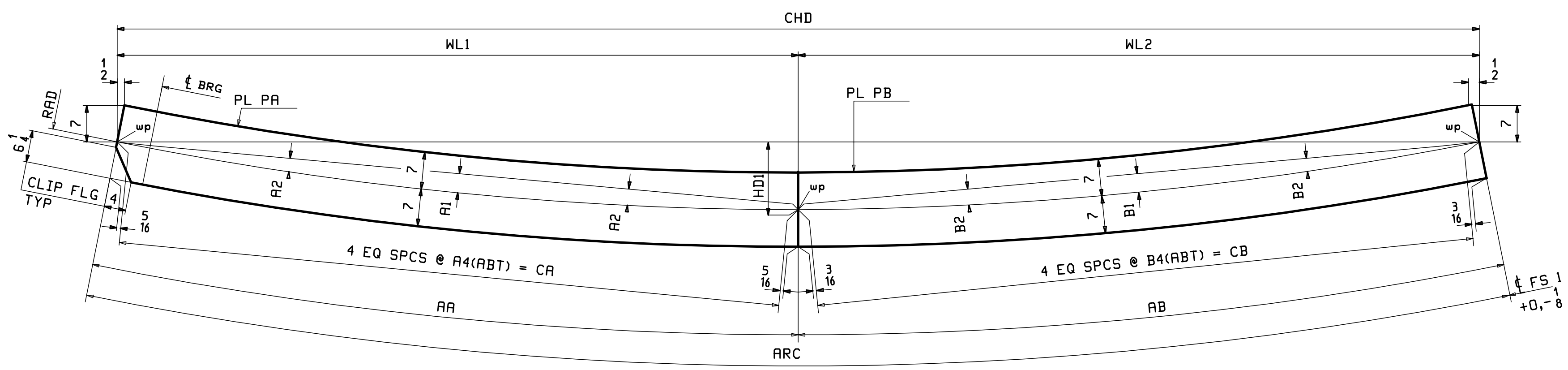
ITEM: SHOP ASSEMBLY
SURFACE PREP. OPEN HOLES
PAINT

PRELIMINARY	DRAWN	DPS 03/20/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/04/19	BD101	3	18060A	

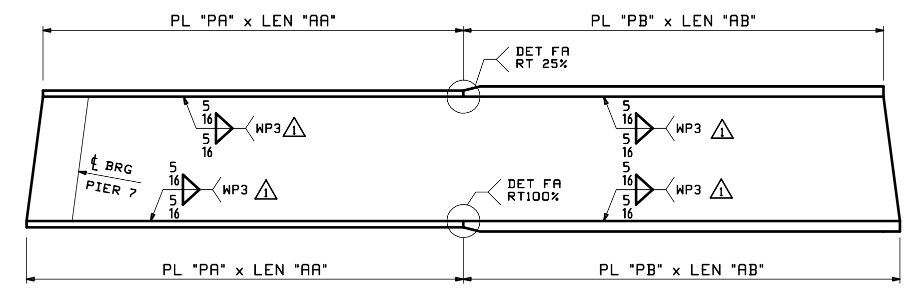


MARK	TL	BL	LE	RE	WL2	WX2	SP1	TBL	TBR	BBL	BBR	LD	RD	C1	C2	C3	C4	C5
101A1	94'-11 1/16	95'-0 3/16	3/4	3/8	63'-10 3/16	63'-10 3/16	1 3/16	72'-11 5/16	21'-11 3/4	72'-11 1/4	22'-0 15/16	2'-6 1/8	2'-6 1/16	1/16	1/4	7/16	5/8	13/16
102B1	94'-10 15/16	95'-0 3/16	7/8	3/8	63'-10 3/16	63'-10 3/16	1 1/8	72'-8 15/16	22'-2	72'-8 7/8	22'-3 5/16	2'-6 1/8	2'-6 1/16	1/8	5/16	1/2	11/16	13/16
103C1	94'-11	95'-0 5/16	15/16	3/8	63'-10 5/16	63'-10 5/16	1 1/16	72'-6 5/8	22'-4 3/8	72'-6 9/16	22'-5 3/4	2'-6 1/8	2'-6 3/16	1/16	1/4	7/16	5/8	3/4
104D1	92'-0 5/8	92'-1 15/16	15/16	3/8	60'-11 15/16	60'-11 15/16	1 1/8	72'-4 7/16	19'-8 3/16	72'-4 3/8	19'-9 9/16	1'-1	1'-0 15/16	1/16	1/4	7/16	5/8	13/16

MARK	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	WEB MK 1	PG/LINE	WEB MK 2	PG/LINE
101A1	1 1/16	1 1/4	1 7/16	1 5/8	1 3/4	1 7/8	1 15/16	1 15/16	1 13/16	1 11/16	1 3/8	1 1/16	11/16	1/4	101WB1	102/8	101WB2	101/28
102B1	1	1 3/16	1 5/16	1 1/2	1 5/8	1 3/4	1 13/16	1 13/16	1 11/16	1 9/16	1 5/16	1	5/8	3/16	102WB1	102/8	102WB2	101/28
103C1	15/16	1 1/16	1 1/4	1 3/8	1 1/2	1 5/8	1 11/16	1 11/16	1 5/8	1 1/2	1 5/16	1	5/8	3/16	103WB1	102/10	103WB2	101/28
104D1	1	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 5/8	1 5/8	1 9/16	1 7/16	1 3/16	7/8	1/2	1/16	104WB1	102/8	104WB2	101/30



SECTION A-A



FLANGE DIAGRAM FOR 101A1 - 104D1

LOCATION	RAD	ARC	CHD	AA	AB	A1	A2	A4	CA	B1	B2	B4	CB	WL1	WL2	HD1	PL PA (A709-50WT2)	PL PB (A709-50WT2)
101A1 TOP FLG	695.25	95'-9 1/16	95'-8 1/8	57'-10 1/8	37'-10 15/16	7 3/16	5 7/16	14'-5 1/2	57'-9 15/16	3 1/8	2 5/16	9'-5 3/4	37'-10 7/8	57'-9 5/8	37'-10 1/2	1'-6 15/16	PL 7/8 x 14-101TF1 (101/26)	PL 1 5/8 x 14-101TF2 (101/6)
101A1 BTM FLG	695.25	95'-10 3/16	95'-9 1/4	57'-10 1/16	38'-0 1/8	7 3/16	5 7/16	14'-5 7/16	57'-9 7/8	3 1/8	2 5/16	9'-6	38'-0 1/16	57'-9 9/16	37'-11 11/16	1'-6 15/16	PL 7/8 x 14-101BF1 (101/26)	PL 1 7/8 x 14-101BF2 (101/2)
102B1 TOP FLG	703.58	95'-8 15/16	95'-8 1/16	57'-10 1/16	37'-10 7/8	7 1/8	5 3/8	14'-5 7/16	57'-9 7/8	3 1/16	2 5/16	9'-5 11/16	37'-10 13/16	57'-9 5/8	37'-10 7/16	1'-6 11/16	PL 7/8 x 14-102TF1 (101/26)	PL 1 5/8 x 14-102TF2 (101/6)
102B1 BTM FLG	703.58	95'-10 3/16	95'-9 5/16	57'-10 1/16	38'-0 1/8	7 1/8	5 3/8	14'-5 7/16	57'-9 7/8	3 1/16	2 5/16	9'-6	38'-0 1/16	57'-9 5/8	37'-11 11/16	1'-6 3/4	PL 7/8 x 14-102BF1 (101/26)	PL 1 7/8 x 14-102BF2 (101/2)
103C1 TOP FLG	711.92	95'-9	95'-8 1/8	57'-10 3/16	37'-10 13/16	7 1/16	5 5/16	14'-5 1/2	57'-10	3	2 1/4	9'-5 11/16	37'-10 3/4	57'-9 3/4	37'-10 3/8	1'-6 7/16	PL 7/8 x 14-103TF1 (101/26)	PL 1 5/8 x 14-103TF2 (101/6)
103C1 BTM FLG	711.92	95'-10 5/16	95'-9 7/16	57'-10 1/8	38'-0 3/16	7 1/16	5 5/16	14'-5 1/2	57'-9 15/16	3 1/16	2 5/16	9'-6 1/16	38'-0 1/8	57'-9 11/16	37'-11 3/4	1'-6 1/2	PL 7/8 x 14-103BF1 (101/26)	PL 1 7/8 x 14-103BF2 (101/2)
104D1 TOP FLG	720.25	92'-10 5/8	92'-9 7/8	57'-11 7/8	34'-10 3/4	7	5 1/4	14'-5 15/16	57'-11 11/16	2 9/16	1 7/8	8'-8 11/16	34'-10 11/16	57'-11 1/2	34'-10 3/8	1'-4 13/16	PL 7/8 x 14-104TF1 (101/26)	PL 1 5/8 x 14-104TF2 (101/8)
104D1 BTM FLG	720.25	92'-11 15/16	92'-11 3/16	57'-11 13/16	35'-0 1/8	7	5 1/4	14'-5 15/16	57'-11 5/8	2 9/16	1 15/16	8'-9	35'-0 1/16	57'-11 7/16	34'-11 3/4	1'-4 7/8	PL 7/8 x 14-104BF1 (101/26)	PL 1 7/8 x 14-104BF2 (101/4)

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1001.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

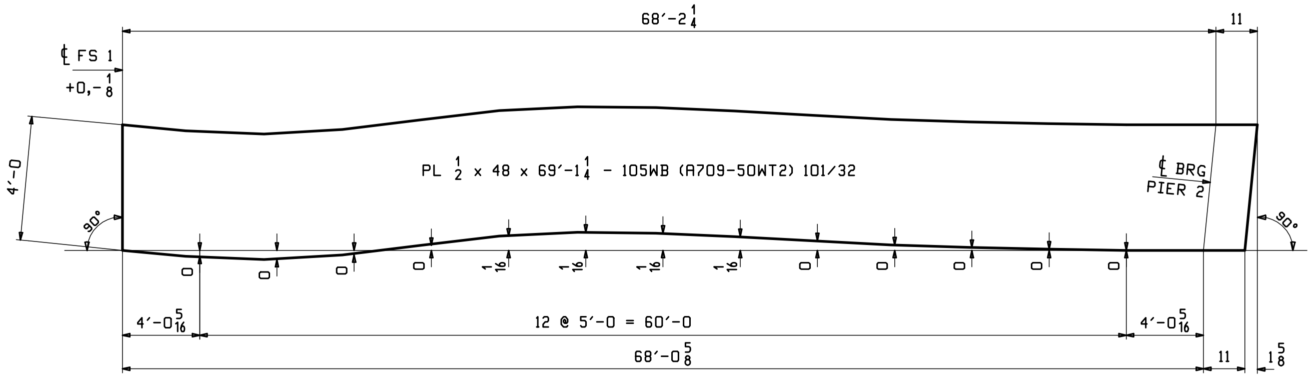
NO.	DATE	REMARKS	BY
1	04/19/19	REV WELD PROCEDURE NUMBER. ADD F.P.NO.	WJL

REVISIONS

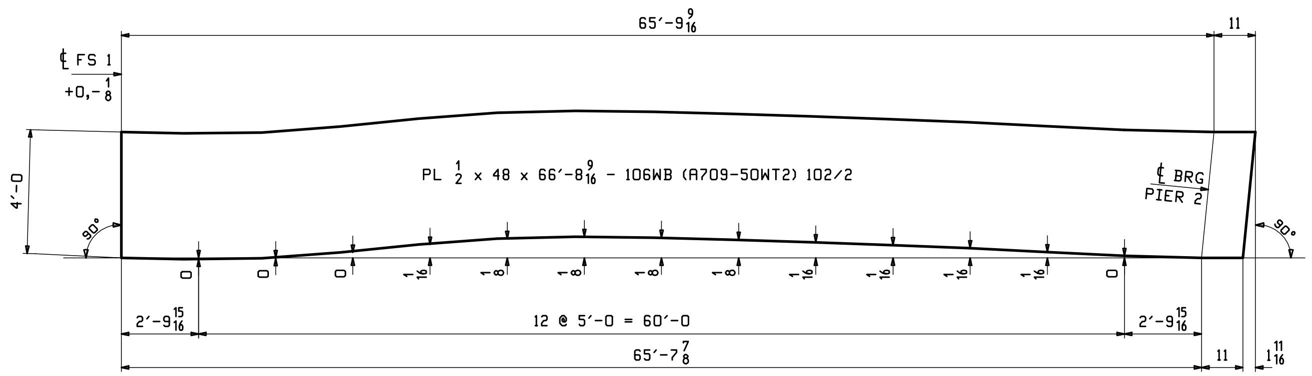
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-1

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP
ITEM: WEB & FLANGE CUTTING
SURFACE PREP. OPEN HOLES
PAINT

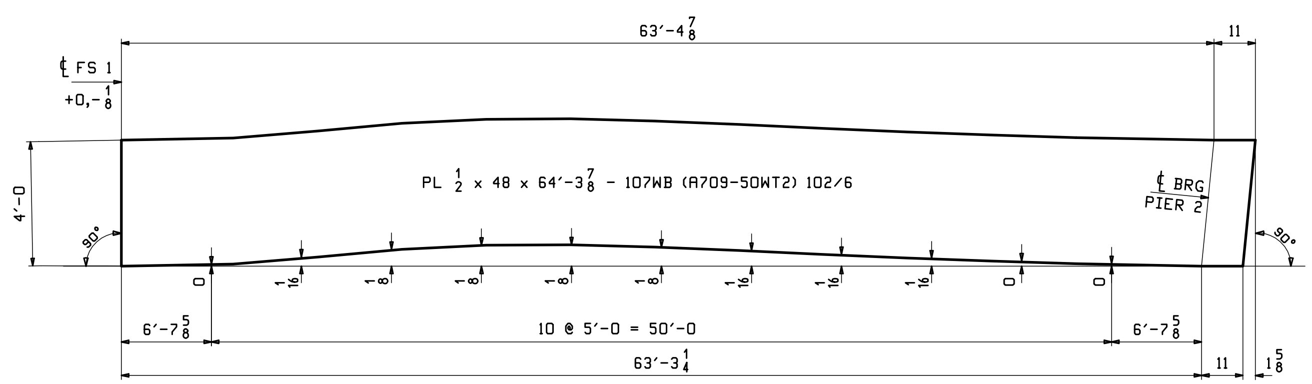
PRELIMINARY	DRAWN	ELG 02/12/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/01/19	BG101	3	18060A	20



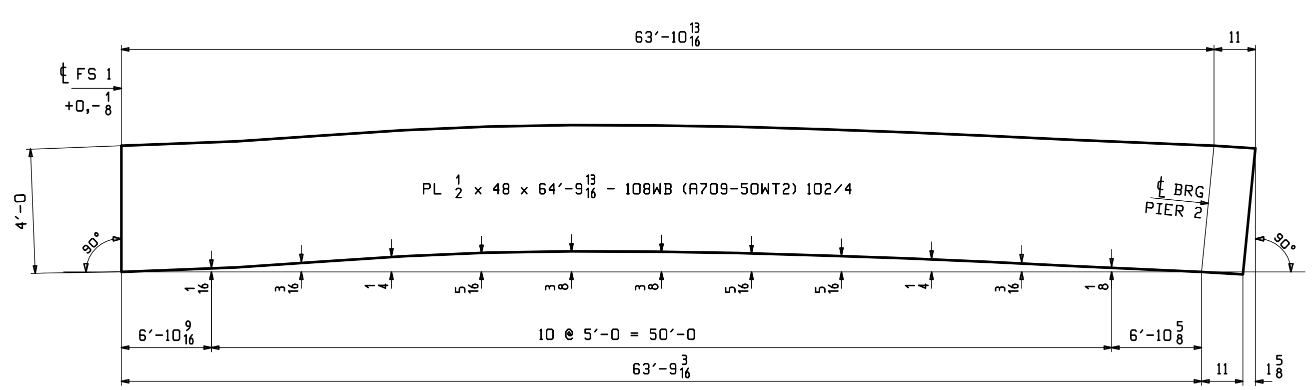
CAMBER DIAGRAM FOR 105A2



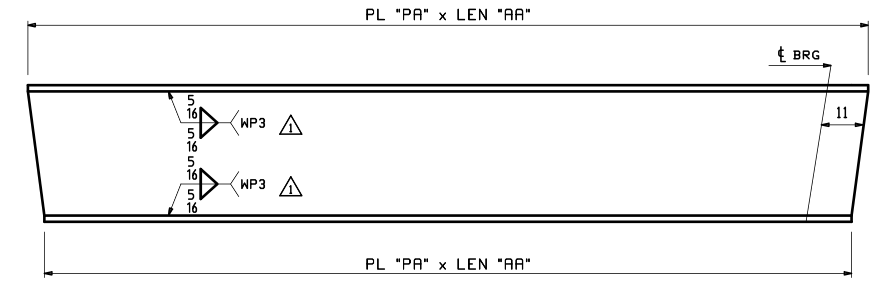
CAMBER DIAGRAM FOR 106B2



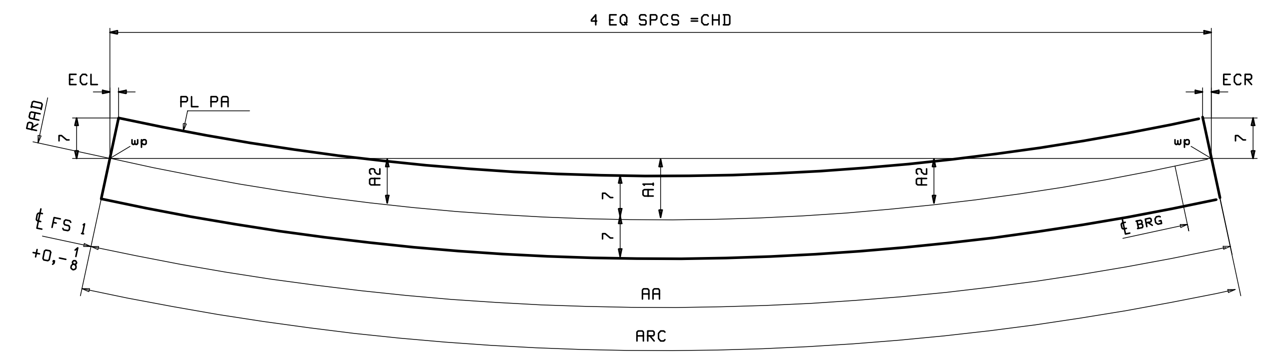
CAMBER DIAGRAM FOR 107C2



CAMBER DIAGRAM FOR 108D2



FLANGE DIAGRAM FOR 105A2 - 108D2



SECTION A-A

LOCATION	RAD	ARC	CHD	AA	A1	A2	ECL	ECR	PL PA (A709-50WT2)
105A2 TOP FLG	695.25	69′-1 1/4	69′-0 15/16	69′-1 1/4	10 5/16	7 3/4	3/8	3/8	PL 7/8 x 14-105TF (101/18)
105A2 BTM FLG	695.25	68′-11 5/8	68′-11 5/16	68′-11 5/8	10 1/4	7 11/16	3/8	3/8	PL 1 x 14-105BF (101/10)
106B2 TOP FLG	703.58	66′-8 9/16	66′-8 1/4	66′-8 9/16	9 1/2	7 1/8	5/16	5/16	PL 7/8 x 14-106TF (101/20)
106B2 BTM FLG	703.58	66′-6 7/8	66′-6 9/16	66′-6 7/8	9 7/16	7 1/16	5/16	5/16	PL 1 x 14-106BF (101/12)
107C2 TOP FLG	711.92	64′-3 7/8	64′-3 5/8	64′-3 7/8	8 11/16	6 1/2	5/16	5/16	PL 7/8 x 14-107TF (101/24)
107C2 BTM FLG	711.92	64′-2 1/4	64′-2	64′-2 1/4	8 11/16	6 1/2	5/16	5/16	PL 1 x 14-107BF (101/16)
108D2 TOP FLG	720.25	64′-9 13/16	64′-9 9/16	64′-9 13/16	8 3/4	6 9/16	5/16	5/16	PL 7/8 x 14-108TF (101/22)
108D2 BTM FLG	720.25	64′-8 3/16	64′-7 15/16	64′-8 3/16	8 11/16	6 1/2	5/16	5/16	PL 1 x 14-108BF (101/14)

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1001.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

NO.	DATE	REMARKS	BY
1	04/19/19	REV WELD PROCEDURE NUMBER. ADD F.P.NO.	WJL

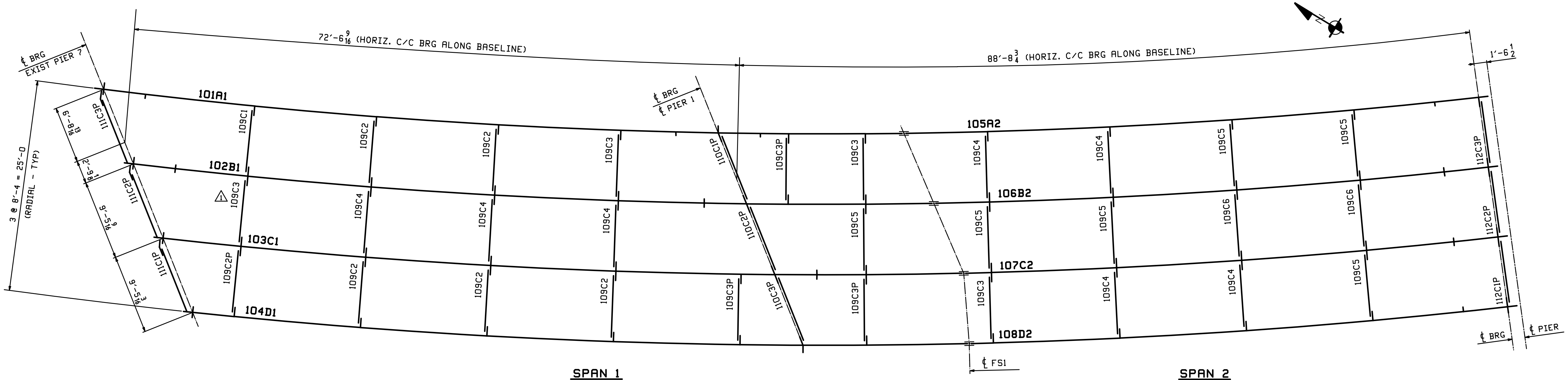
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-1

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP
ITEM: WEB & FLANGE CUTTING
SURFACE PREP. ____ OPEN HOLES ____
PAINT

PRELIMINARY
FOR APPROVAL
DRAWN: ELG 02/12/19
CHECKED: WJL 04/01/19
SHEET NO.: BG102
PLANT: 3
ORDER NO.: 18060A
F.P. NO.: 20

ECO Fri Apr 19, 2019 09:54:50 AM /users/jobs/3656-1/BG102 Rev1



FRAMING PLAN

SAMPLE CROSSFRAME MARK ON FRAMING PLAN → 109C1 P

CORRESPONDING STRUT AND DIAGONAL MARKS:
- STRUT MARK → 109C1AP
- DIAGONAL MARK → 109C1BP
- DIAGONAL MARK → 109C1CP

SHEET NUMBER (VARIES) TYPICAL — P INDICATES PRIME COATED MEMBER — SUFFIX (SEE DETAILS BELOW FOR PLACEMENT) — FRAME NUMBER (VARIES)

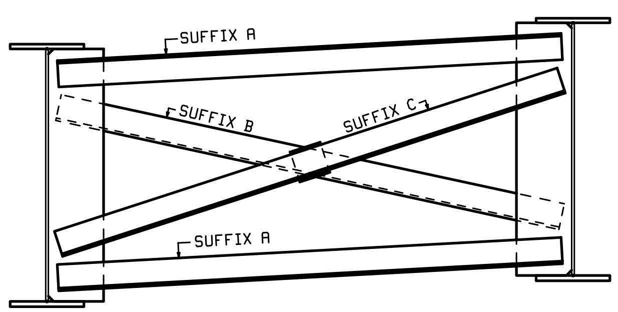
SAMPLE INT. CROSSFRAME MARK

SAMPLE CROSSFRAME MARK ON FRAMING PLAN → 110C1 P

CORRESPONDING STRUT AND DIAGONAL MARKS:
- TOP STRUT MARK → 110C1AP
- BTM STRUT MARK → 110C1DP
- DIAGONAL MARK → 110C1BP
- DIAGONAL MARK → 110C1CP

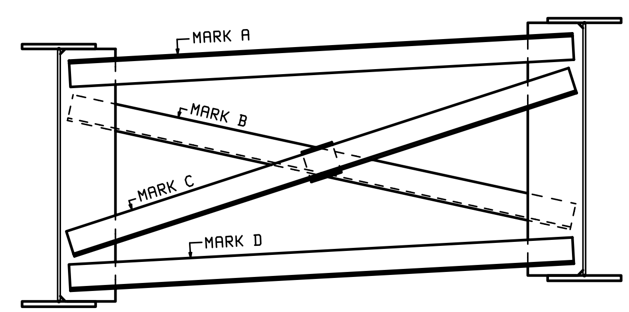
SHEET NUMBER (VARIES) TYPICAL — P INDICATES PRIME COATED MEMBER — SUFFIX (SEE DETAILS BELOW FOR PLACEMENT) — FRAME NUMBER (VARIES)

SAMPLE PIER 1 CROSSFRAME MARK



INT CROSSFRAME MARK LOCATION

(LOOKING UP-STATION)



PIER 1 CROSSFRAME MARK LOCATION

(LOOKING UP-STATION)

NOTES:

1. ALL DIMENSIONS SHOWN ARE IN THE HORIZONTAL PLANE.
2. ALL STEEL SHALL BE ERECTED WITH THE SHIPPING MARK IN THE SAME RELATIVE POSITION AS SHOWN ON THE ERECTION PLANS.
3. IN WEB SPLICE PLATES, BOLT HEADS SHALL BE PLACED ON THE EXPOSED SIDE OF THE FASCIA GIRDERS. IN BOTTOM FLANGE SPLICE, BOLT HEADS SHALL BE PLACED ON THE BOTTOM SURFACE OF THE BOTTOM FLANGE SPLICE PLATES.

NOTICE TO ERECTOR

BACKCHARGES FOR CORRECTIVE WORK OR REPLACED MATERIALS WILL NOT BE ACCEPTED UNLESS EXPRESSLY AUTHORIZED BY VERITAS STEEL BEFORE ANY SUCH COSTS ARE INCURRED.

WORK THIS SHEET WITH SHEET E102

INDEX OF SHEETS			
E101	FRAMING PLAN	BD101 & BD102	BLOCKING DIAGRAMS
E102	FRAMING DETAILS	FB101	FIELD BOLTS
GN101	GENERAL NOTES	SB101	SHIPPING BOLTS
P101	PAINT NOTES	X101	FIELD SPLICE DETAILS
TD101 & TD102	TYPICAL LAYOUTS	X102	GIRDER STANDARDS
WS101	CALCULATION PLAN	101 - 108	GIRDER DETAILS
BG101 & BG102	CAMBER/FLANGE DIAGRAMS	109AB - 110	INT./PIER CROSSFRAMES
R101	RADIOGRAPH SHEET	111 & 112	END CROSSFRAMES

NO.	DATE	REMARKS	BY
△	5/15/19	REVISED CROSSFRAME MARK	DPS/WJL

REVISIONS

Veritas STEEL 2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL — TENSOR 3656-1

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	FRAMING PLAN
SURFACE PREP.	OPEN HOLES
PAINT	

PRELIMINARY	DRAWN	DPS 03/20/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/05/19	E101	3	18060A	

WJL Wed, May 15, 2019 02:43:04 PM /users/jobs/3656-1/E101 Rev1

FIELD BOLT LIST							A325 Type 3 BOLTS							
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS/CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														FIELD SPLICE 1
2	128	1	5 1/2	32	4	3 3/4	1	1 5/8	1 5/8				1	TOP FLANGE SPLICE
3	192	1	2 3/4	48	4	1 1/4	3/8	1/2	3/8				1	WEB SPLICE
4	128	1	5 1/2	32	4	4	1	1 7/8	1 1/8				1	BOTTOM FLANGE SPLICE
5														

WASHER CODES

1: 1 Hard Flat Washer

FIELD BOLT LIST							A490 Type 3 BOLTS							
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS/CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
6														INT CROSSFRAME - CF1
⚠1 7	200	1 1/4	3	8	25	1	1/2	1/2					2	TOP/BTM STRUT-STIFF
⚠1 8	200	1 1/4	3	8	25	1	1/2	1/2					2	DIAG-STIFF
⚠1 9	25	1 1/4	3 1/2	1	25	1 1/2	1/2	1/2	1/2				2	DIAG-FILL PL-DIAG
10														

WASHER CODES

2: 2 Hard Flat Washers

⚠1

FIELD BOLT LIST							A490 Type 3 F1136 ANNEX A1							
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS/CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
11														INT CROSSFRAME - CF1
⚠1 12	32	1 1/4	3	8	4	1	1/2	1/2					2	TOP/BTM STRUT-STIFF
⚠1 13	32	1 1/4	3	8	4	1	1/2	1/2					2	DIAG-STIFF
⚠1 14	4	1 1/4	3 1/2	1	4	1 1/2	1/2	1/2	1/2				2	DIAG-FILL PL-DIAG
15														
16														PIER CROSSFRAME - CF1
17	24	1 1/4	3 1/2	8	3	1 1/2	1/2	1					2	TOP/BTM STRUT-STIFF
18	24	1 1/4	3 1/2	8	3	1 1/2	1/2	1					2	DIAG-STIFF
19	3	1 1/4	4	1	3	2	1/2	1	1/2				2	DIAG-FILL PL-DIAG

WASHER CODES

2: 2 Hard Flat Washers

(CONNECTIONS TO PAINTED GIRDER CONNECTION PLATES ONLY)

ROT'L CAPACITY TEST REQ'D

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1				FIELD BOLTS					5% + 5 ADDED
2									(ACTUAL COUNT)
3		⚠1 72	bpk6	1 1/4 ø HSB	0	3	A490-3	106/5	(64)ASTM F1136 ANNEX A1 ⚠1 FP;B6
4		⚠1 60	bpn6	1 1/4 ø HSB	0	3 1/2	A490-3	106/7	(52)ASTM F1136 ANNEX A1 ⚠1 FP;B6
5		8	bpt6	1 1/4 ø HSB	0	4	A490-3	106/9	(3)ASTM F1136 ANNEX A1 ⚠1 FP;B6
6		⚠1 280	wg6	1 1/4 ø HSW			F436-3	106/28	(238)ASTM F1136 ANNEX A1 ⚠1 FP;B6
7		⚠1 140	ng6	1 1/4 ø HHN			A563 ⚠1 DH3	106/29	(119)ASTM F1136 ANNEX A1 ⚠1 FP;B6
8									
9		⚠1 425	bpk6	1 1/4 ø HSB	0	3	A490-3	107/5	(400) ⚠1 FP;B6
10		⚠1 31	bpn6	1 1/4 ø HSB	0	3 1/2	A490-3	107/7	(25) ⚠1 FP;B6
11		⚠1 912	wg6	1 1/4 ø HSW			F436-3	107/28	(850) ⚠1 FP;B6
12		⚠1 456	ng6	1 1/4 ø HHN			A563 ⚠1 DH3	107/29	(425) ⚠1 FP;B6
13									
14		207	bgg3	1 ø HSB	0	2 3/4	A325-3	108/4	(192) FP;B6
15		274	bkc3	1 ø HSB	0	5 1/2	A325-3	108/7	(256) FP;B6
16		481	wd3	1 ø HSW			F436-3	108/28	(448) FP;B6
17		481	nd3	1 ø HHN			A563 ⚠1 DH3	108/29	(448) FP;B6
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

NOTE:
FOR GENERAL NOTES SEE SHEET GN1.

NO.	DATE	REMARKS	BY
⚠1	05/15/19	REV'D BOLT COATING/QTY	DPS/ WJL

REVISIONS

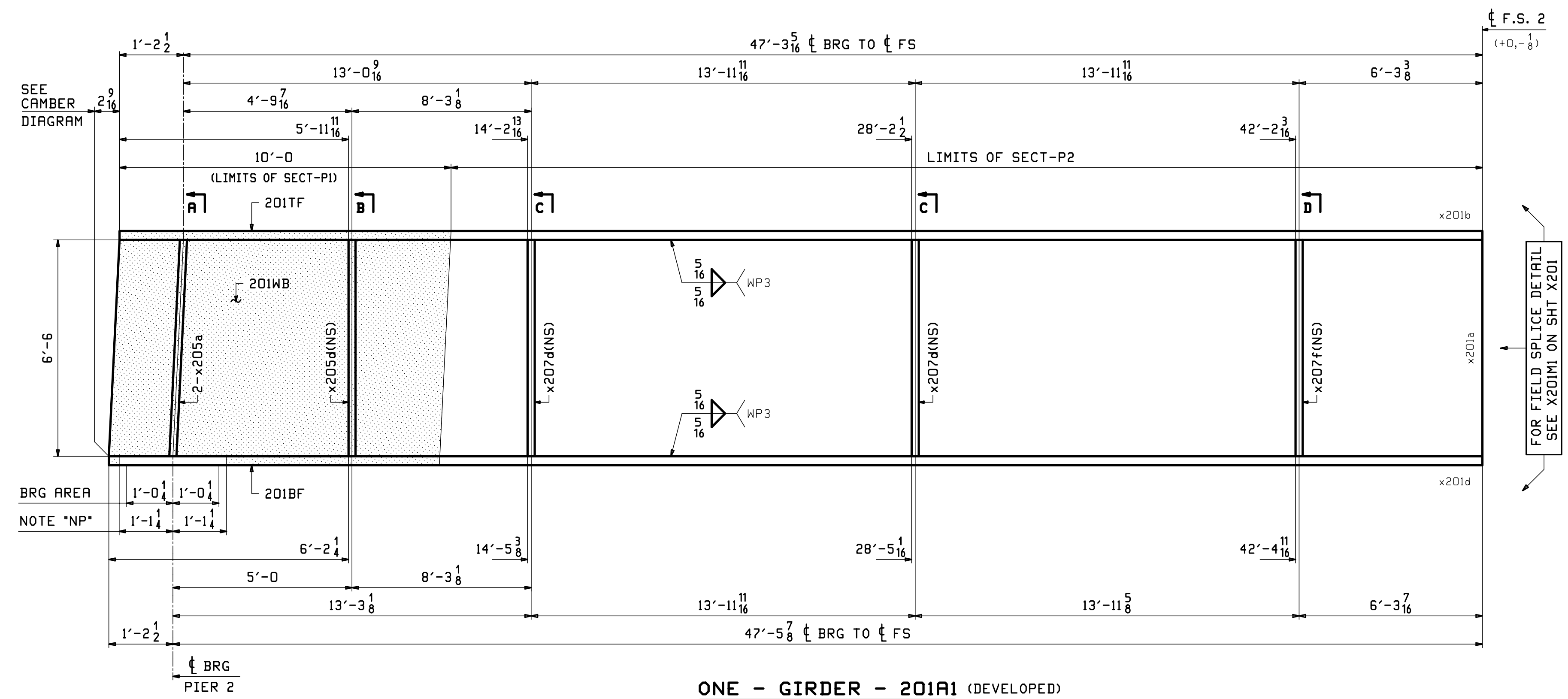
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-1

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 1
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	FIELD BOLTS
SURFACE PREP.	OPEN HOLES
PAINT	

PRELIMINARY	DRAWN DPS 03/20/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.	
FOR APPROVAL	CHECKED WJL 04/05/19	FB101	3	180608	86	

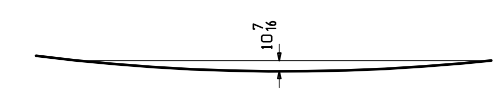
DPS Wed, May 15, 2019 03:08:42 PM c:\users\dps\3656-1\FB101.dwg

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	201A1	1		GIRDER					13513
2									
3		1	201WB	PL $\frac{9}{16}$x78	48	8$\frac{3}{8}$	A709-50WT2	206/2	FP:20
4		1	201TF	PL 1x16	48	5$\frac{13}{16}$	A709-50WT2	204/8	FP:20
5		1	201BF	PL 1x16	48	8$\frac{3}{8}$	A709-50WT2	204/6	FP:20
6									
7		2	x205a	PL 1x8	6	6$\frac{1}{16}$	A709-50WT2	208/2	M1E FP:20
8		1	x205d	PL $\frac{1}{2}$x10$\frac{1}{2}$	6	6	A709-50WT2	208/5	FP:20
9		2	x207d	PL $\frac{1}{2}$x14$\frac{1}{2}$	6	6	A709-50WT2	208/7	FP:20
10		1	x207f	PL $\frac{1}{2}$x14$\frac{1}{2}$	6	6	A709-50WT2	208/7	FP:20
11									

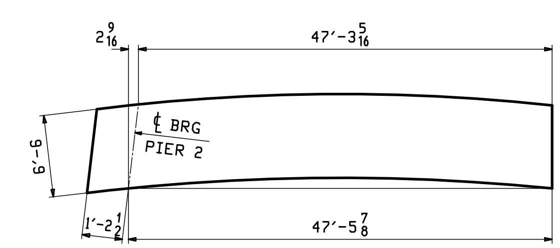


ONE - GIRDER - 201A1 (DEVELOPED)

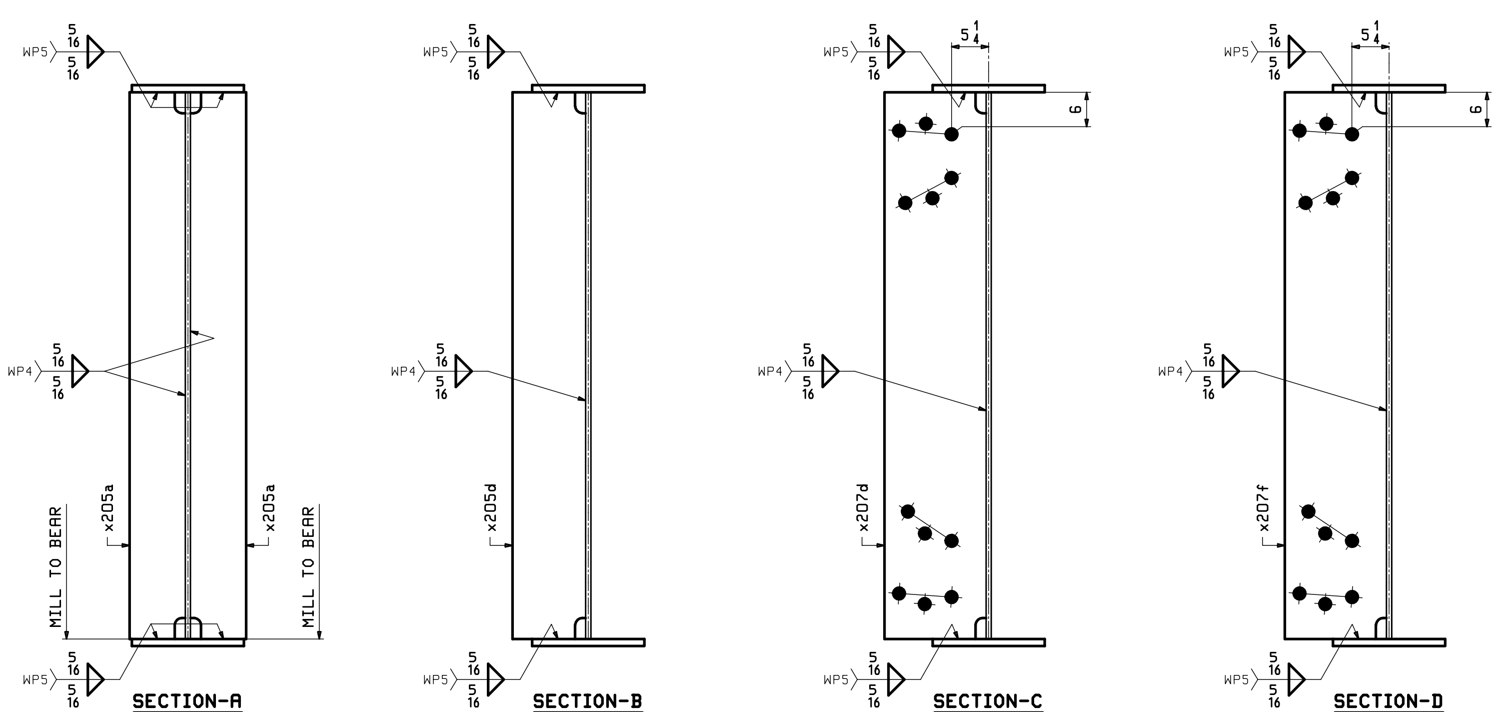
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG201 & BG202.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P2 & NOTE "NP".



PLAN VIEW



DEV. ORIENTATION DIAGRAM



SECTION-A DEVELOPED

SECTION-B

SECTION-C

SECTION-D

NO.	DATE	REMARKS	BY

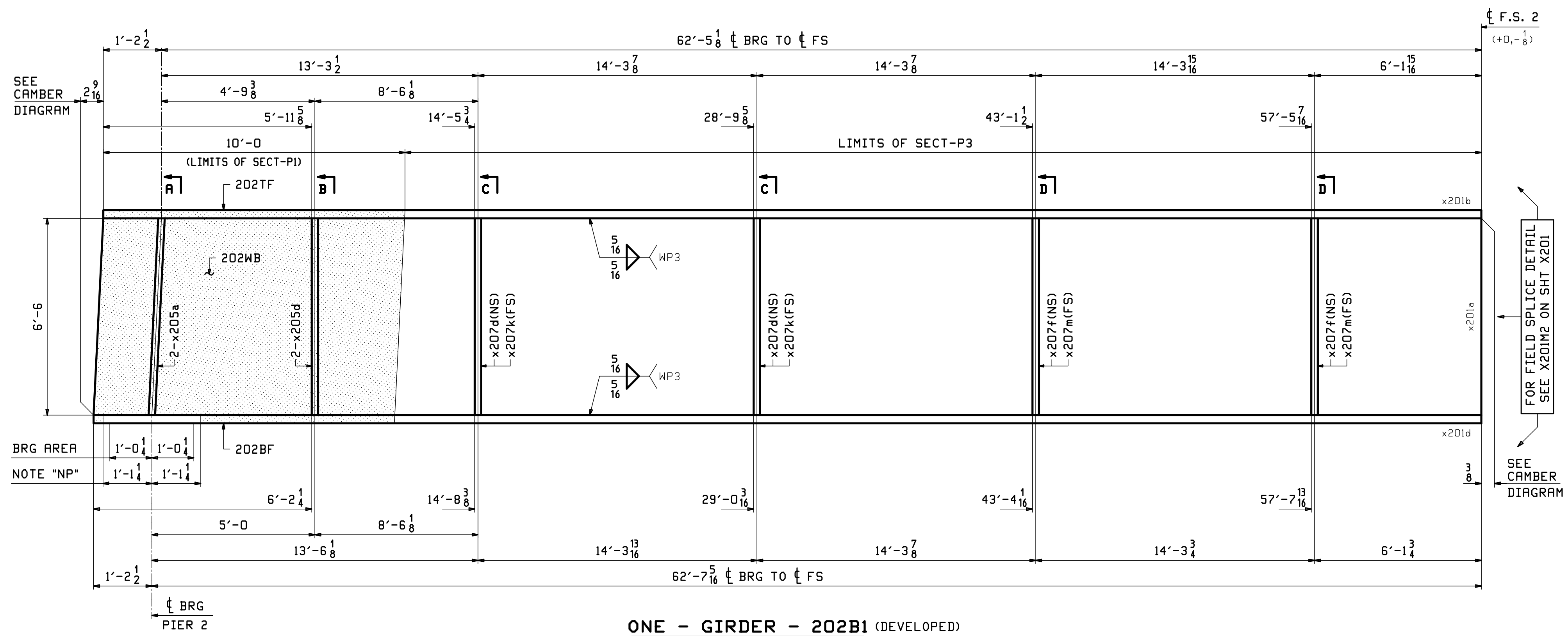
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: GIRDER ~ 201A1
SURFACE PREP.: SEE P1 — OPEN HOLES: $1\frac{9}{16}$"ϕ OVS FOR $1\frac{1}{4}$"ϕ HSB (U.N.)
PAINT: SEE P1 & AS NOTED

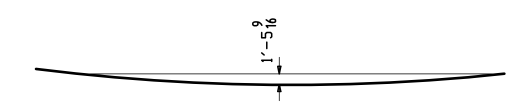
PRELIMINARY — DRAWN EEO 04/09/19 — SHEET NO. 201 — PLANT 3 — ORDER NO. 18060B — F.P. NO. 20
FOR APPROVAL — CHECKED WJL 04/15/19



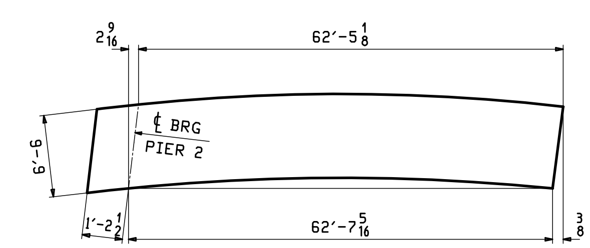
ONE - GIRDER - 202B1 (DEVELOPED)

1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG201 & BG202.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P3 & NOTE "NP".

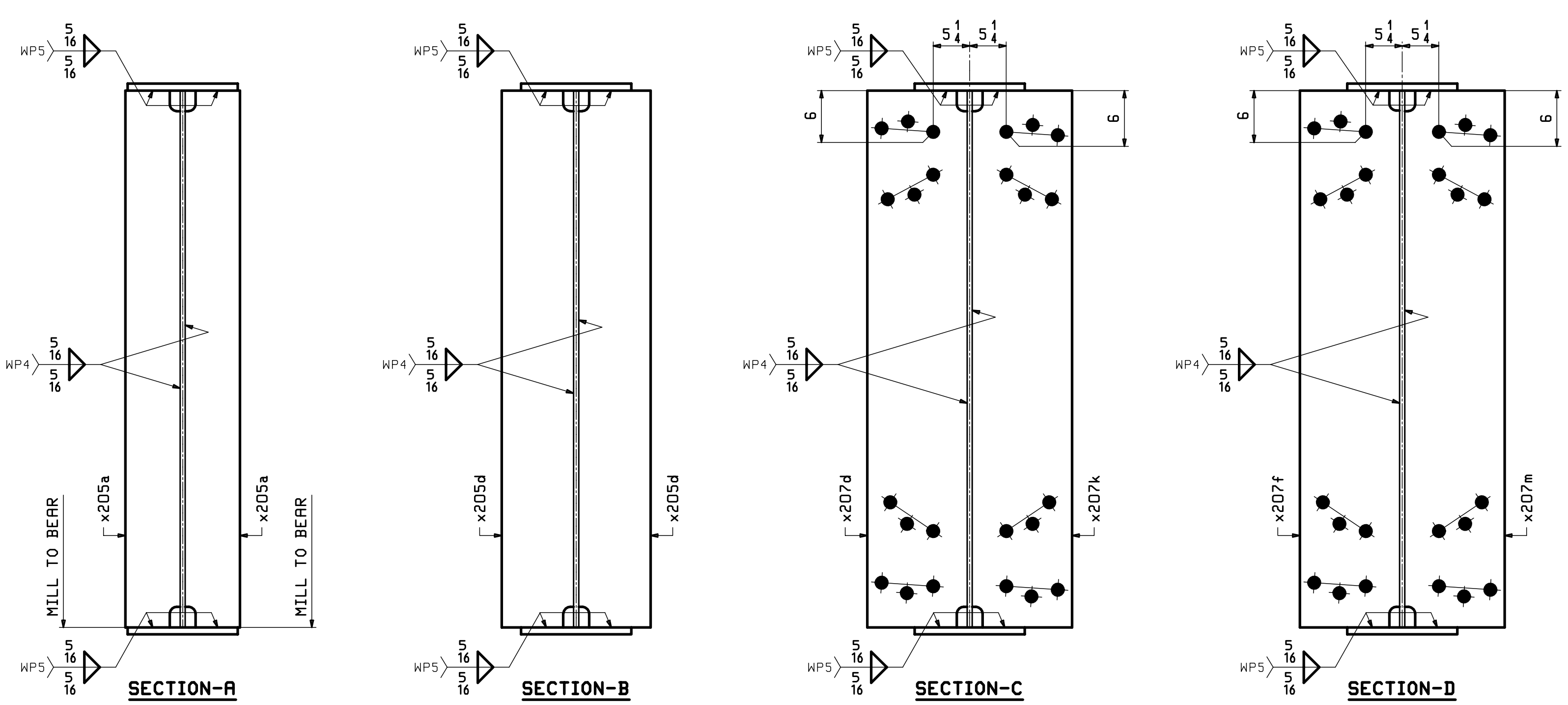
LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	202B1	1		GIRDER					18341
2									
3		1	202WB	PL 9/16x78	63	10 3/16	A709-50WT2	205/30	FP:20
4		1	202TF	PL 1x16	63	7 5/8	A709-50WT2	204/2	FP:20
5		1	202BF	PL 1x16	63	9 13/16	A709-50WT2	204/2	FP:20
6									
7		2	x205a	PL 1x8	6	6 1/16	A709-50WT2	208/2	M1E FP:20
8		2	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
9		2	x207d	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
10		2	x207f	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
11		2	x207k	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
12		2	x207m	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
13									



PLAN VIEW



DEV. ORIENTATION DIAGRAM



NO.	DATE	REMARKS	BY

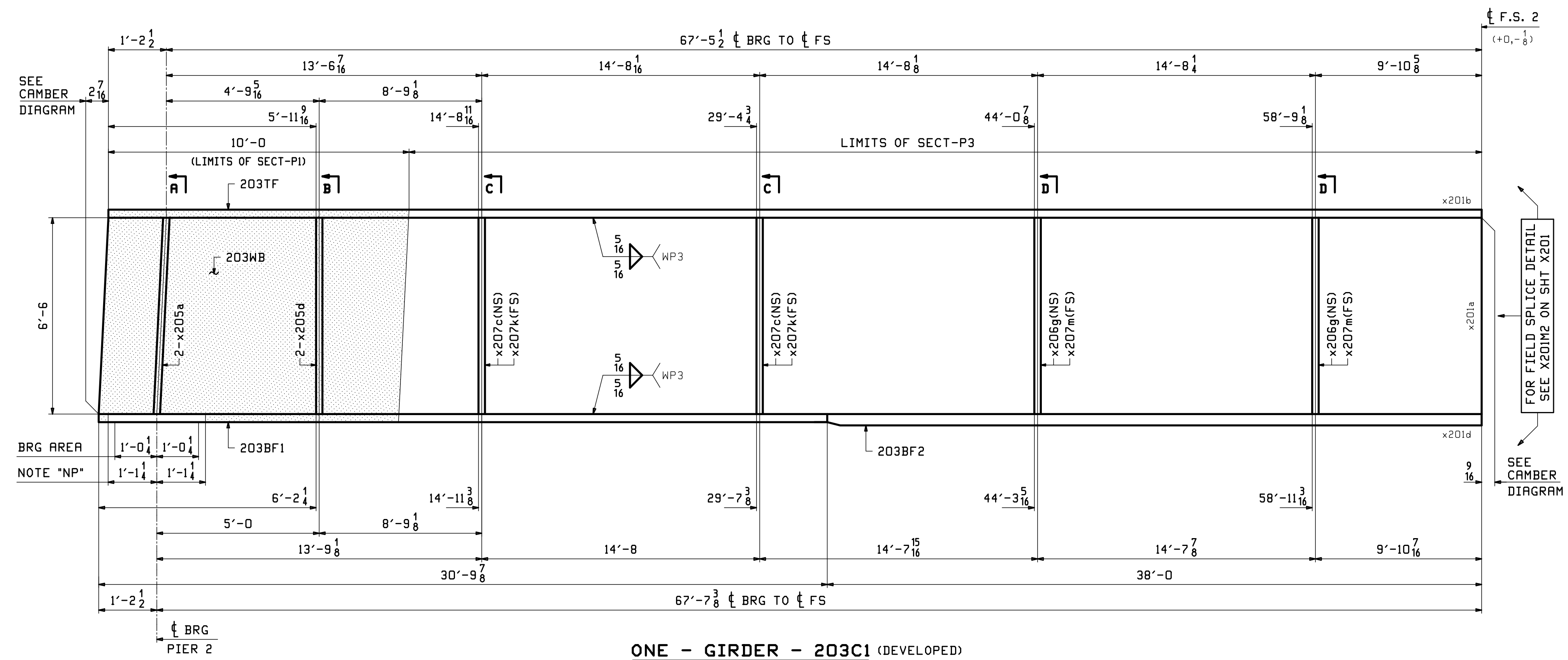
REVISIONS

Veritas STEEL — 2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL — TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 202B1
SURFACE PREP.	SEE P1 — OPEN HOLES 1 9/16"φ OVS FOR 1 1/4"φ HSB (U.N.)
PAINT	SEE P1 & AS NOTED

			SHEET NO.	PLANT	ORDER NO.	F.P. NO.
PRELIMINARY	DRAWN	EEO 04/06/19	202	3	18060B	20
FOR APPROVAL	CHECKED	WJL 04/15/19				

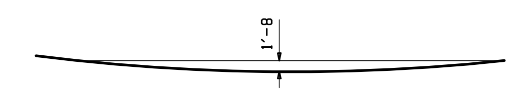
EEO Fri Apr 19, 2019 02:08:54 PM /users/jdesr/3656-2/202 Rev0



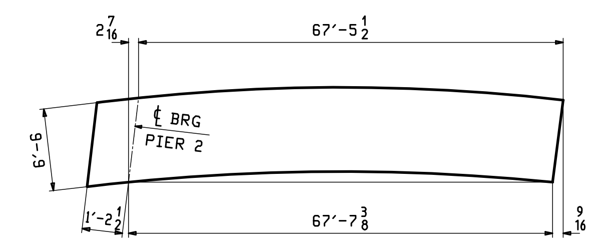
ONE - GIRDER - 203C1 (DEVELOPED)

1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG201 & BG202.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P3 & NOTE "NP".

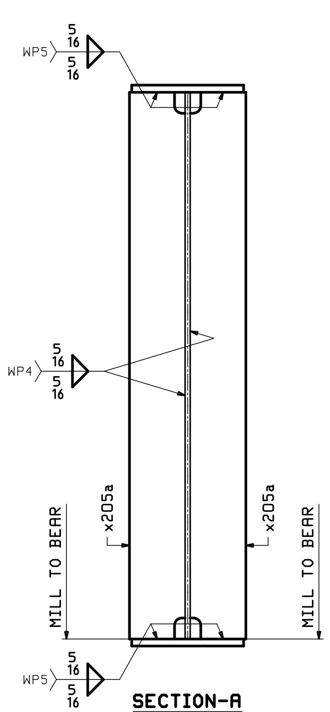
LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	203C1	1		GIRDER					21255
2									
3		1	203WB	PL 9/16x78	68	10 7/16	A709-50WT2	205/14	FP:20
4		1	203TF	PL 1x16	68	8	A709-50WT2	203/32	FP:20
5		1	203BF1	PL 1x16	30	9 7/8	A709-50WT2	204/12	FP:20
6		1	203BF2	PL 1 3/4x16	38	0	A709-50WT2	202/10	FP:20
7									
8		2	x205a	PL 1x8	6	6 1/16	A709-50WT2	208/2	M1E FP:20
9		2	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
10		2	x206g	PL 1/2x17 1/2	6	6	A709-50WT2	208/8	FP:20
11		2	x207c	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
12		2	x207k	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
13		2	x207m	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
14									



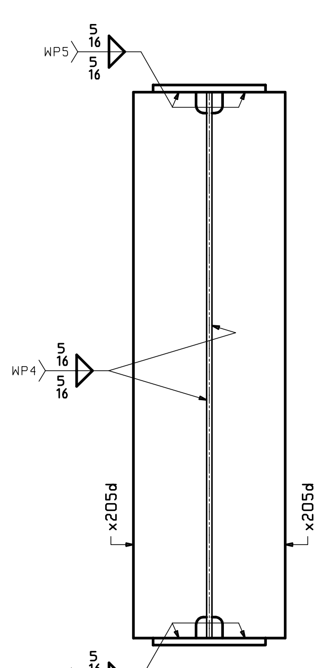
PLAN VIEW



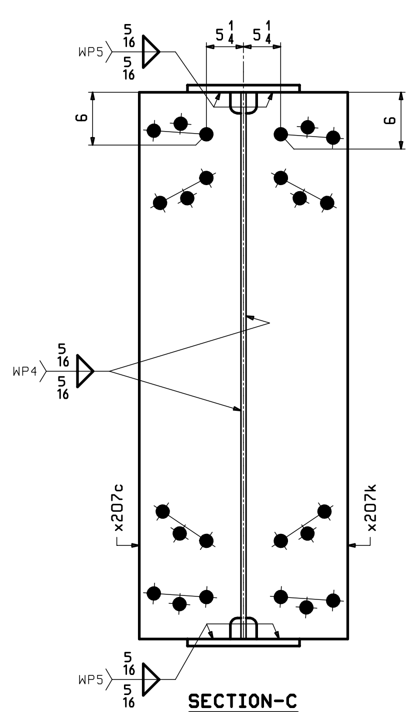
DEV. ORIENTATION DIAGRAM



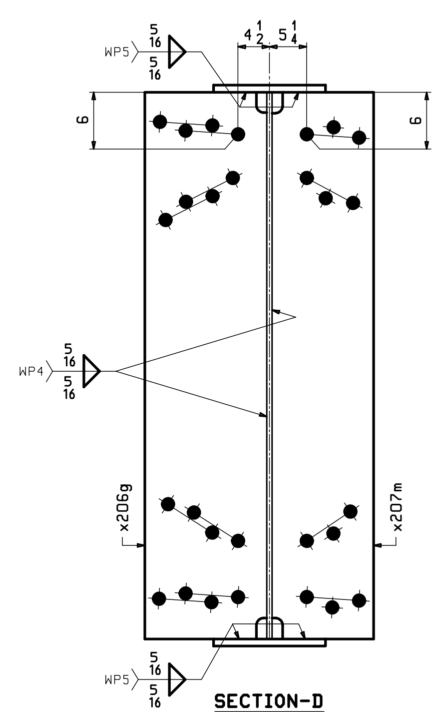
SECTION-A
DEVELOPED



SECTION-B



SECTION-C



SECTION-D

NO.	DATE	REMARKS	BY

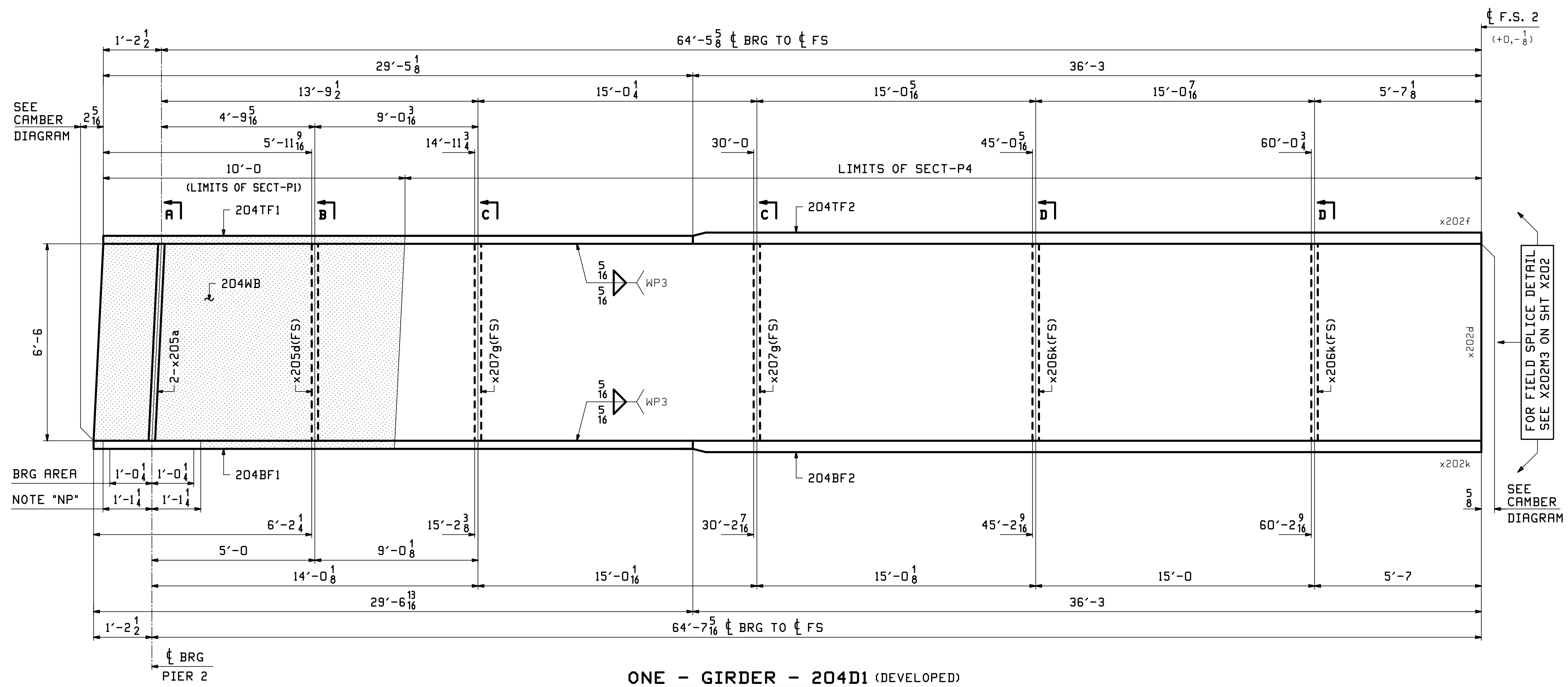
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

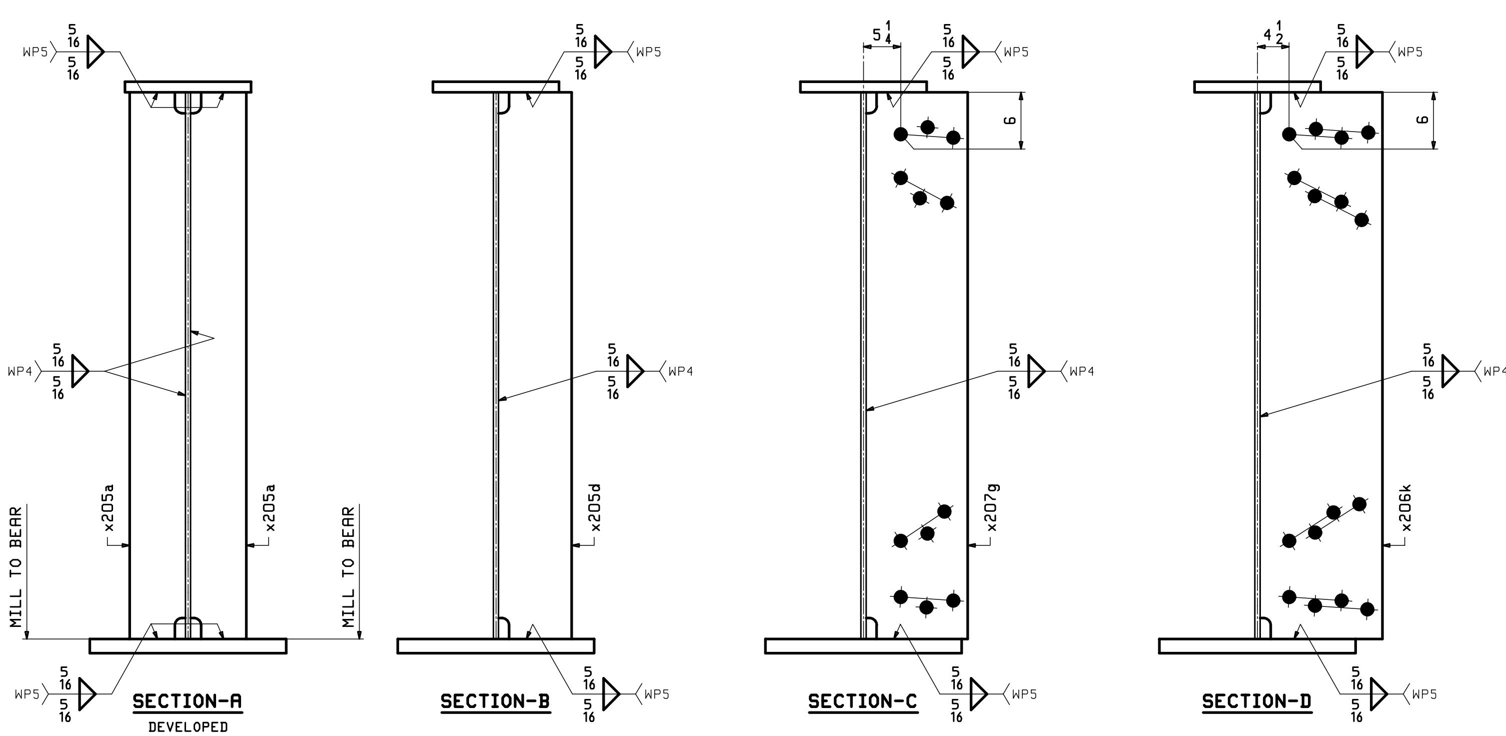
ITEM: GIRDER ~ 203C1
SURFACE PREP.: SEE P1 OPEN HOLES: 1 9/16"ø OVS FOR 1 1/4"ø HSB (U.N.)
PAINT: SEE P1 & AS NOTED

PRELIMINARY	DRAWN	EEO 04/06/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/15/19	203	3	18060B	20

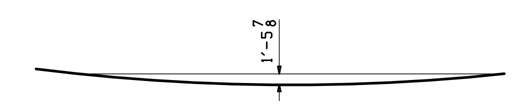


ONE - GIRDER - 204D1 (DEVELOPED)

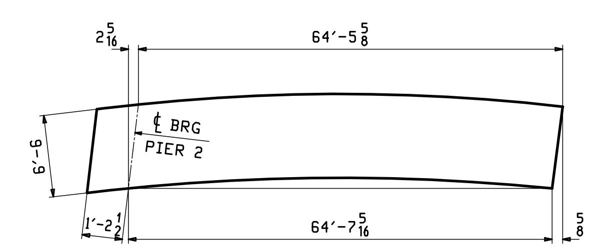
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X202.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG201 & BG202.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P4 & NOTE "NP".



LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	204D1	1		GIRDER					30693
2									
3		1	204WB	PL 9/16x78	65	10 7/16	A709-50WT2	205/16	FP:20
4		1	204TF1	PL 1 1/8x18	29	5 1/8	A709-50WT2	203/4	FP:20
5		1	204TF2	PL 2x18	36	3	A709-50WT2	201/28	FP:20
6		1	204BF1	PL 1 5/8x28	29	6 13/16	A709-50WT2	202/14	FP:20
7		1	204BF2	PL 2 1/2x28	36	3	A709-50WT2	201/6	FP:20
8									
9		2	x205a	PL 1x8	6	6 1/16	A709-50WT2	208/2	M1E FP:20
10		1	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
11		2	x206k	PL 1/2x17 1/2	6	6	A709-50WT2	208/8	FP:20
12		2	x207g	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
13									



PLAN VIEW



DEV. ORIENTATION DIAGRAM

NO.	DATE	REMARKS	BY

REVISIONS

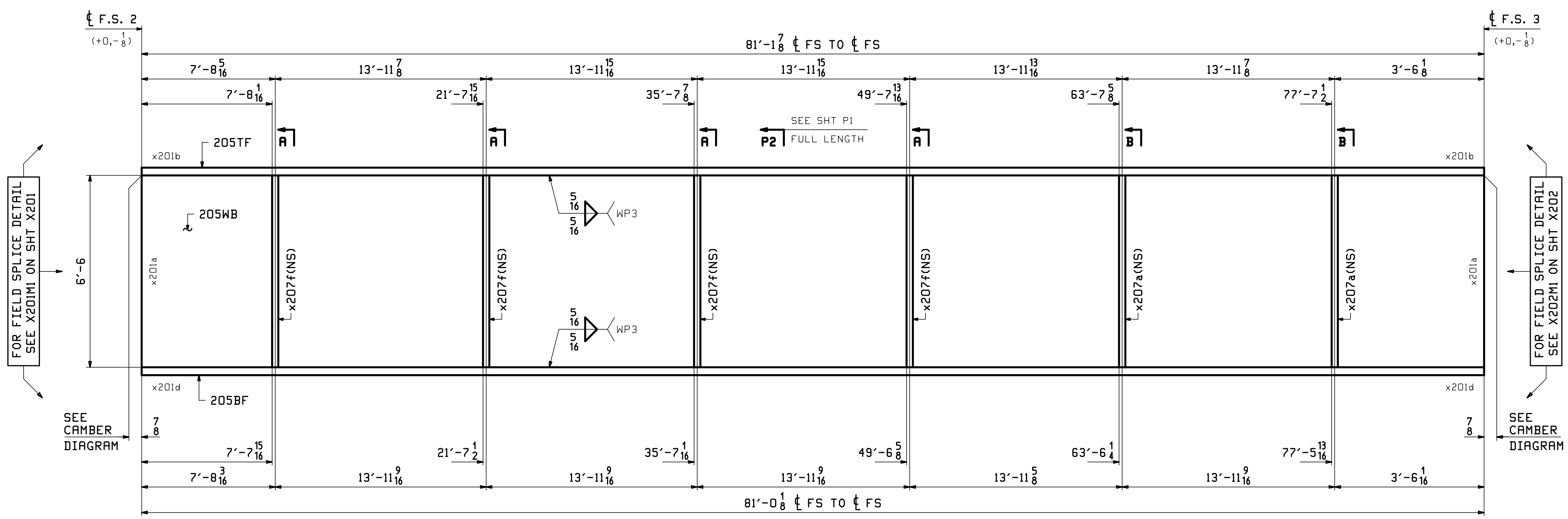
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: GIRDER ~ 204D1
SURFACE PREP.: SEE P1 OPEN HOLES: 1 9/16"Ø OVS FOR 1 1/4"Ø HSB (U.N.)
PAINT: SEE P1 & AS NOTED

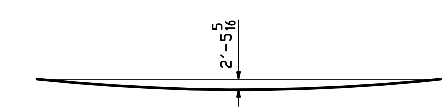
PRELIMINARY	DRAWN	EEO 04/06/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/15/19	204	3	18060B	20

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	205A2	1		GIRDER					21819
2									
3		1	205WB	PL $\frac{9}{16}$x78	81	$1\frac{7}{8}$	A709-50WT2	204/30	FP:20
4		1	205TF	PL 1x16	81	$1\frac{7}{8}$	A709-50WT2	203/18	FP:20
5		1	205BF	PL 1x16	81	$0\frac{1}{8}$	A709-50WT2	203/20	FP:20
6									
7		2	x207a	PL $\frac{1}{2}$x$10\frac{1}{2}$	6	6	A709-50WT2	208/6	FP:20
8		4	x207f	PL $\frac{1}{2}$x$14\frac{1}{2}$	6	6	A709-50WT2	208/7	FP:20
9									

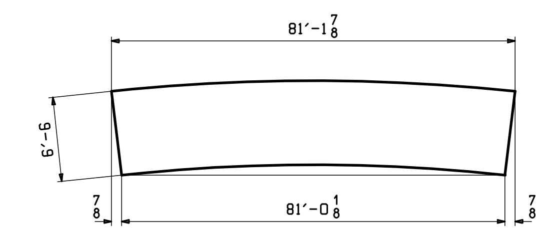


ONE - GIRDER - 205A2 (DEVELOPED)

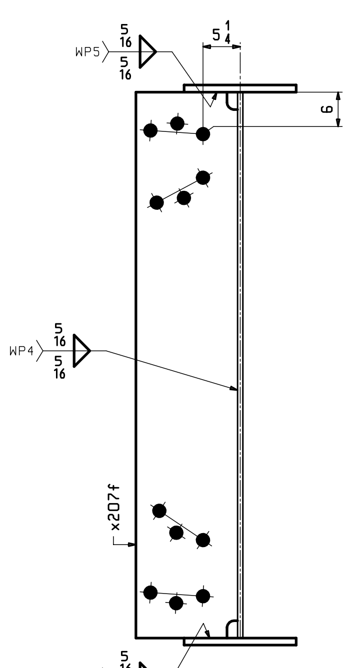
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201 & X202.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG203.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. SEE SHEET P1 FOR SECT-P2.



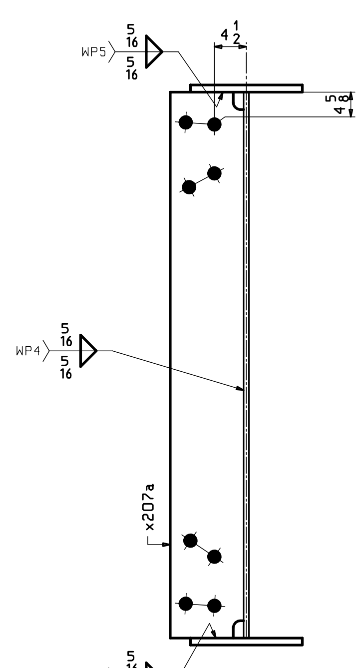
PLAN VIEW



DEV. ORIENTATION DIAGRAM



SECTION-A



SECTION-B

NO.	DATE	REMARKS	BY

REVISIONS

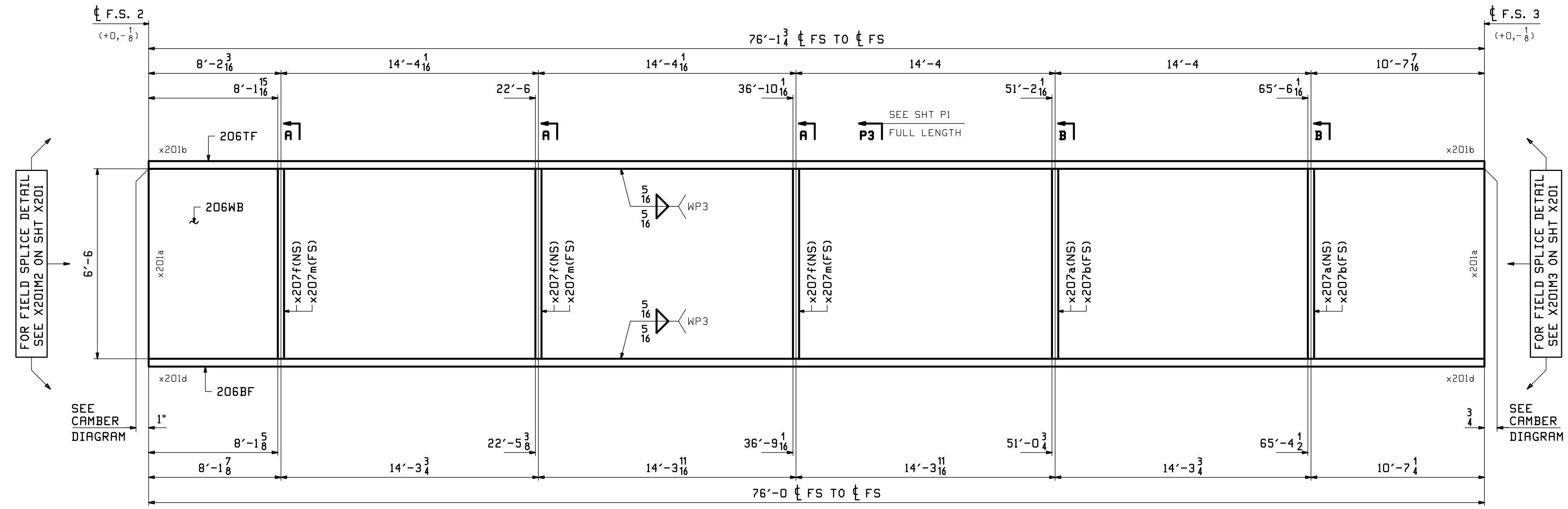
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: GIRDER ~ 205A2
SURFACE PREP.: SEE P1
OPEN HOLES: $1\frac{9}{16}$"Ø OVS FOR $1\frac{1}{4}$"Ø HSB (U.N.)
PAINT: SEE P1 & AS NOTED

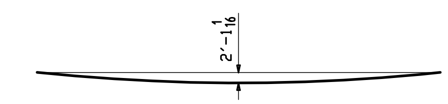
PRELIMINARY	DRAWN	EEO 04/05/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/15/19	205	3	18060B	20

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	206B2	1		GIRDER					21078
2									
3		1	206WB	PL $\frac{9}{16}$x78	76	$1\frac{3}{4}$	A709-50WT2	205/4	FP:20
4		1	206TF	PL 1x16	76	$1\frac{3}{4}$	A709-50WT2	203/30	FP:20
5		1	206BF	PL 1x16	76	0	A709-50WT2	203/30	FP:20
6									
7		2	x207a	PL $\frac{1}{2}$x$10\frac{1}{2}$	6	6	A709-50WT2	208/6	FP:20
8		2	x207b	PL $\frac{1}{2}$x$10\frac{1}{2}$	6	6	A709-50WT2	208/6	FP:20
9		3	x207f	PL $\frac{1}{2}$x$14\frac{1}{2}$	6	6	A709-50WT2	208/7	FP:20
10		3	x207m	PL $\frac{1}{2}$x$14\frac{1}{2}$	6	6	A709-50WT2	208/7	FP:20
11									

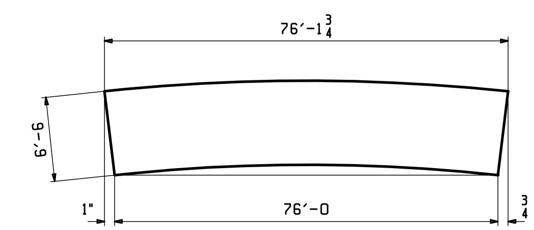


ONE - GIRDER - 206B2 (DEVELOPED)

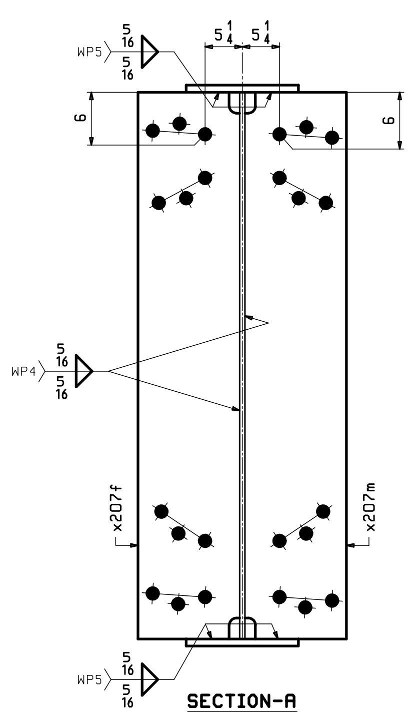
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG203.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. SEE SHEET P1 FOR SECT-P3.



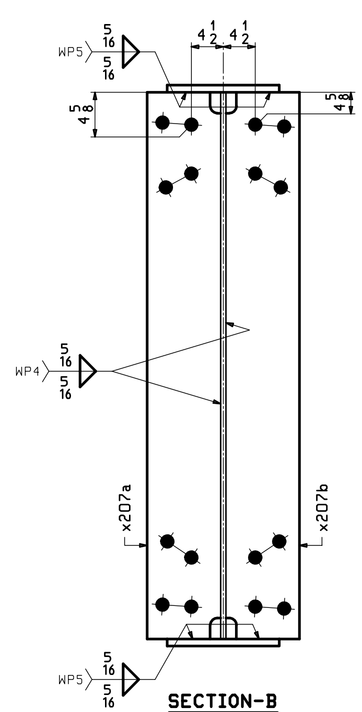
PLAN VIEW



DEV. ORIENTATION DIAGRAM



SECTION-A



SECTION-B

NO.	DATE	REMARKS	BY

REVISIONS

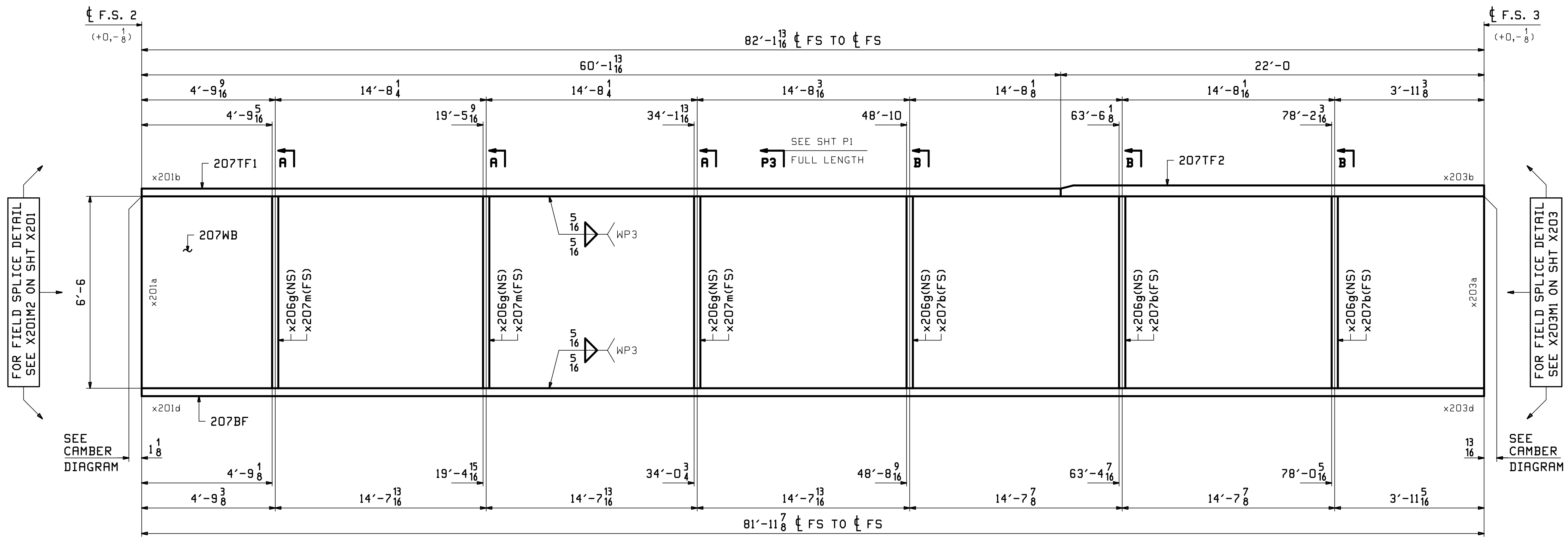
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: GIRDER ~ 206B2
SURFACE PREP.: SEE P1 — OPEN HOLES: $1\frac{5}{16}$"ϕ OVS FOR $1\frac{1}{4}$"ϕ HSB (U.N.)
PAINT: SEE P1 & AS NOTED

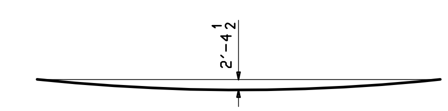
PRELIMINARY	DRAWN EEO 04/06/19	SHEET NO. 206	PLANT 3	ORDER NO. 18060B	F.P. NO. 20
FOR APPROVAL	CHECKED WJL 04/15/19				

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	207C2	1		GIRDER					27438
2									
3		1	207WB	PL $\frac{9}{16}$x78	82	1$\frac{13}{16}$	A709-50WT2	204/26	FP:20
4		1	207TF1	PL 1x16	60	1$\frac{13}{16}$	A709-50WT2	204/4	FP:20
5		1	207TF2	PL 1$\frac{3}{4}$x16	22	0	A709-50WT2	202/12	FP:20
6		1	207BF	PL 1$\frac{3}{4}$x16	81	11$\frac{7}{8}$	A709-50WT2	202/8	FP:20
7									
8		6	x206g	PL $\frac{1}{2}$x17$\frac{1}{2}$	6	6	A709-50WT2	208/8	FP:20
9		3	x207b	PL $\frac{1}{2}$x10$\frac{1}{2}$	6	6	A709-50WT2	208/6	FP:20
10		3	x207m	PL $\frac{1}{2}$x14$\frac{1}{2}$	6	6	A709-50WT2	208/7	FP:20
11									

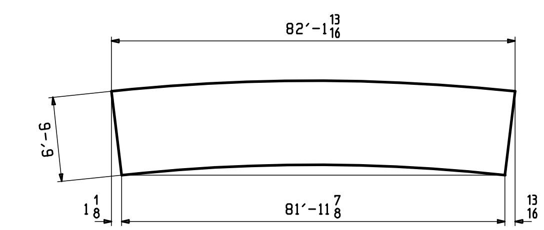


ONE - GIRDER - 207C2 (DEVELOPED)

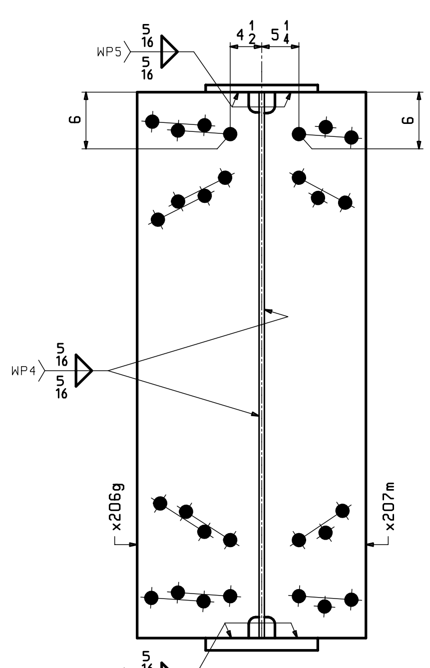
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201 & X203.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG203.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. SEE SHEET P1 FOR SECT-P2.



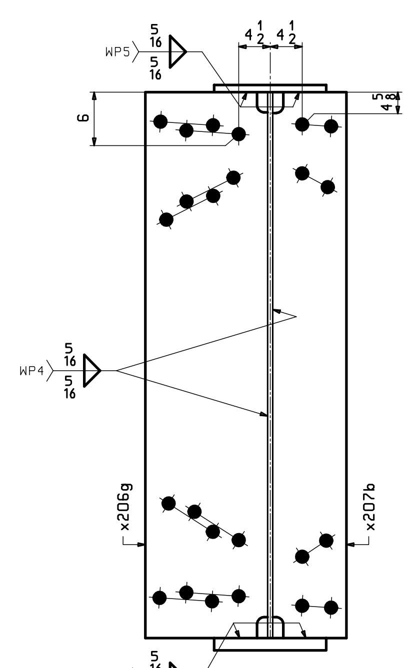
PLAN VIEW



DEV. ORIENTATION DIAGRAM



SECTION-A



SECTION-B

NO.	DATE	REMARKS	BY

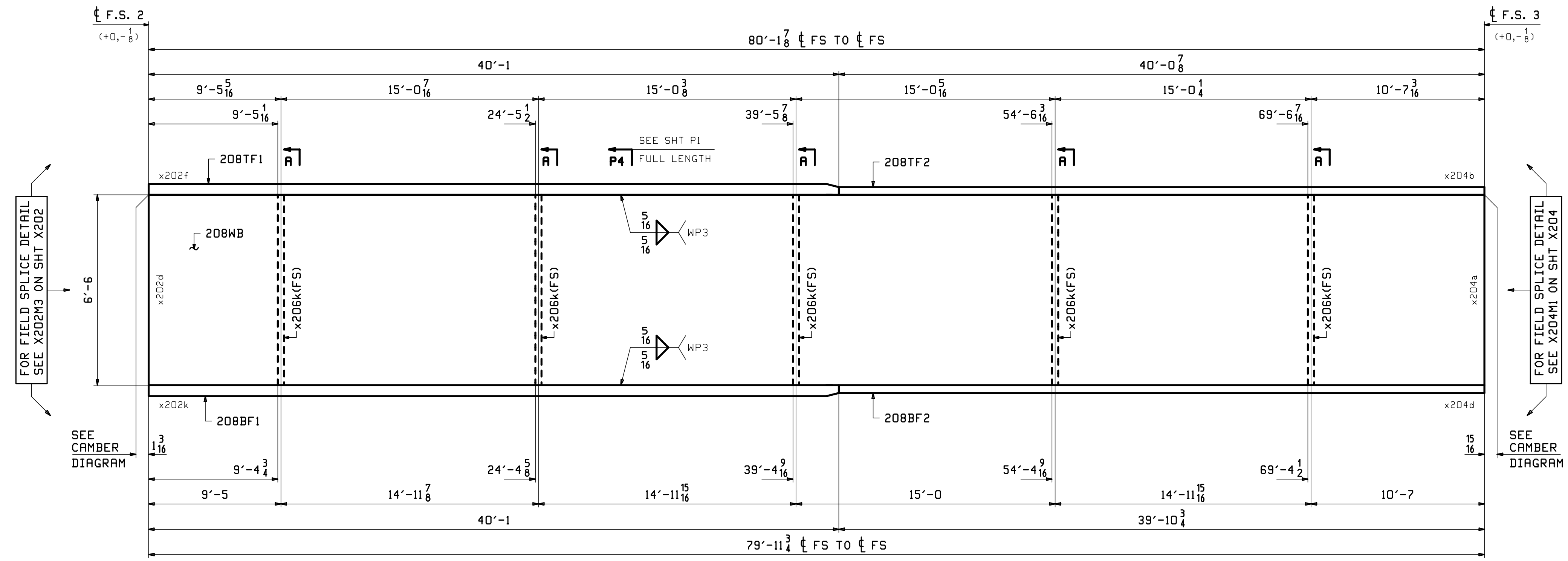
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 207C2
SURFACE PREP.	SEE P1 — OPEN HOLES 1 9/16"φ OVS FOR 1 1/4"φ HSB (U.N.)
PAINT	SEE P1 & AS NOTED

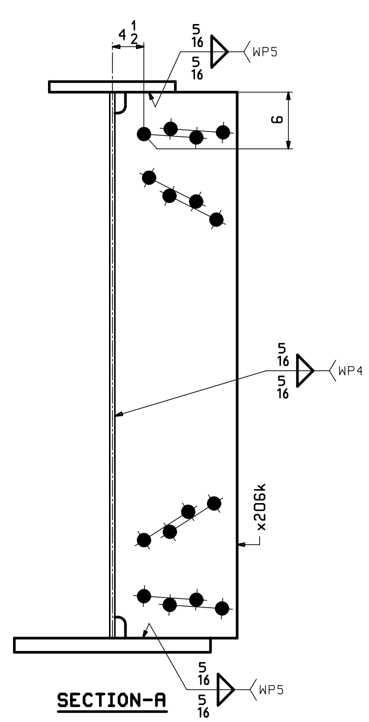
PRELIMINARY	DRAWN	EEO 04/06/19	SHEET NO. 207	PLANT 3	ORDER NO. 18060B	F.P. NO. 20
FOR APPROVAL	CHECKED	WJL 04/15/19				

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	208D2	1		GIRDER					37420
2									
3		1	208WB	PL 9/16x78	80	1 7/8	A709-50WT2	204/28	FP:20
4		1	208TF1	PL 2x18	40	1	A709-50WT2	201/26	FP:20
5		1	208TF2	PL 1 3/8x18	40	0 7/8	A709-50WT2	202/24	FP:20
6		1	208BF1	PL 2 1/2x28	40	1	A709-50WT2	201/4	FP:20
7		1	208BF2	PL 1 3/4x28	39	10 3/4	A709-50WT2	202/6	FP:20
8									
9		5	x206k	PL 1/2x17 1/2	6	6	A709-50WT2	208/8	FP:20
10									

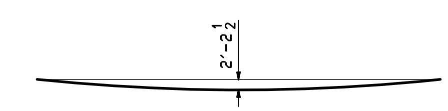


ONE - GIRDER - 208D2 (DEVELOPED)

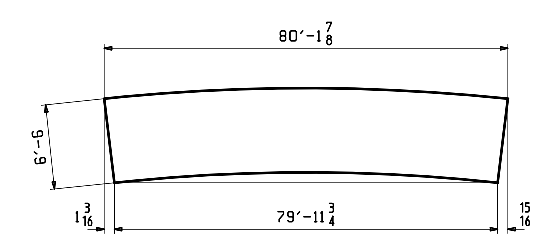
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X203 & X204.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG203.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. SEE SHEET P1 FOR SECT-P3.



SECTION-A



PLAN VIEW



DEV. ORIENTATION DIAGRAM

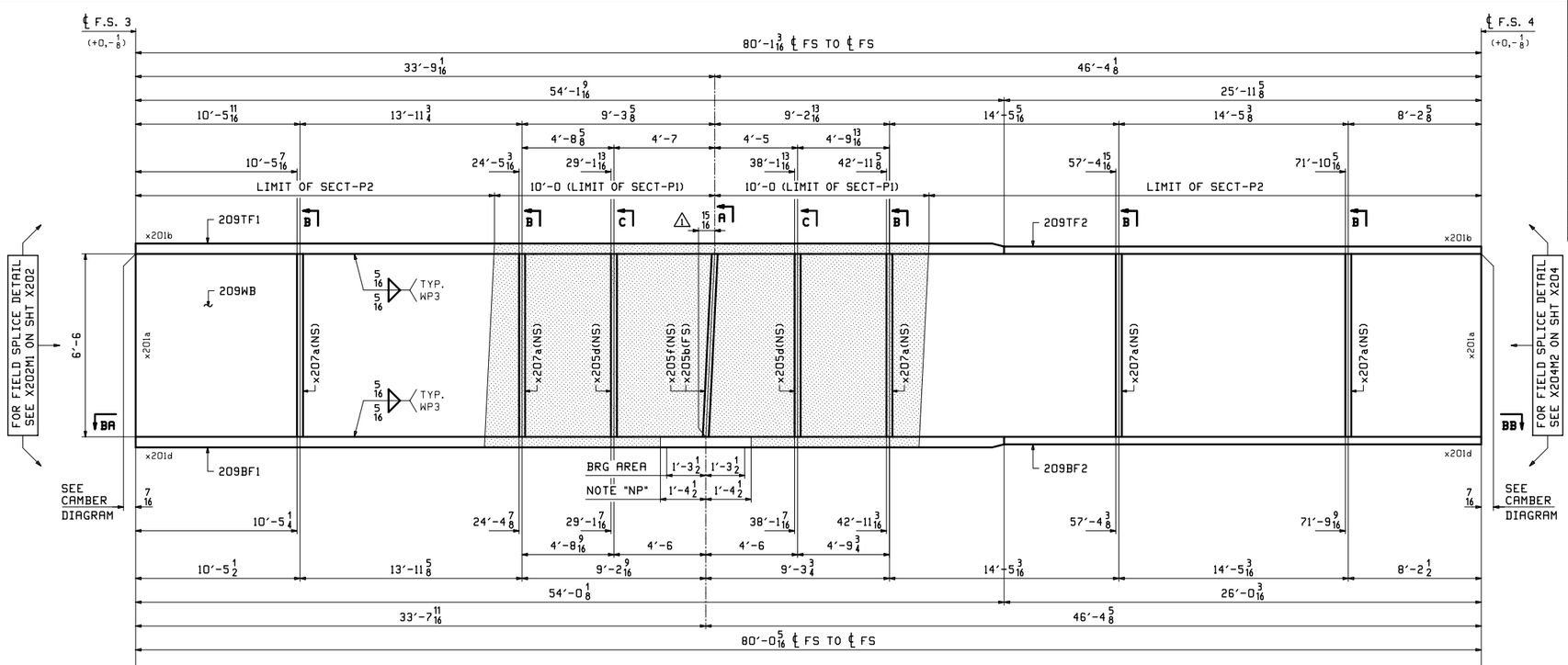
NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

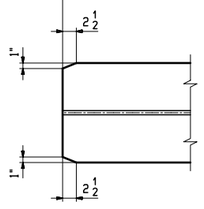
STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 208D2
SURFACE PREP.	SEE P1
OPEN HOLES	1 9/16"Ø OVS FOR 1 1/4"Ø HSB (U.N.)
PAINT	SEE P1 & AS NOTED

PRELIMINARY	DRAWN	EEO 04/06/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/15/19	208	3	18060B	20

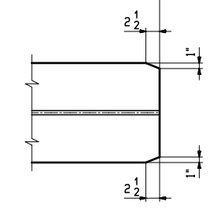


ONE - GIRDER - 209A3 (DEVELOPED)

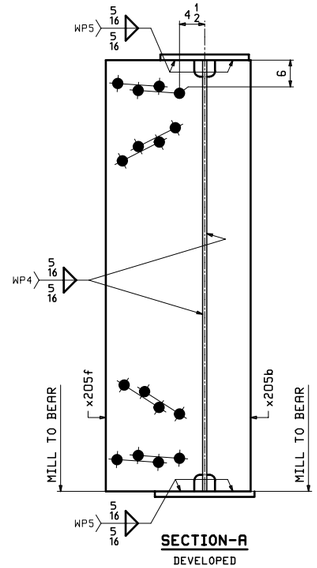
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X202 & X204.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG205 & BG206.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P2 & NOTE "NP".



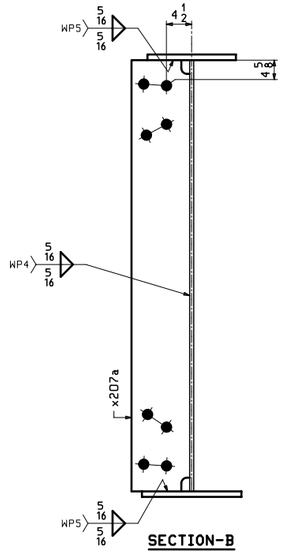
SECTION-BA



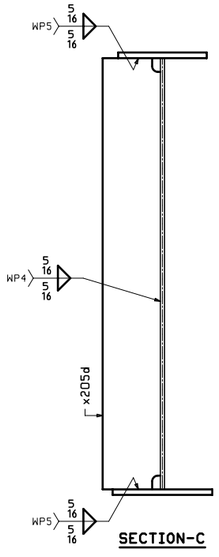
SECTION-BB



SECTION-A
DEVELOPED

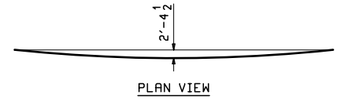


SECTION-B

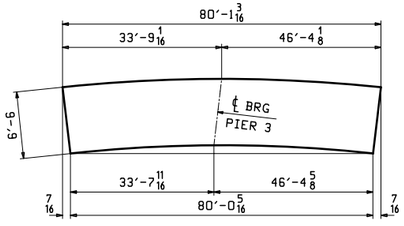


SECTION-C

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS	
1	209A3	1		GIRDER						32194
2										
3		1	209WB	PL 9/16x78	80	1 3/16	A709-50WT2	205-10		FP:20
4		1	209TF1	PL 2 1/4x16	54	9/16	A709-50WT2	201-14		FP:20
5		1	209TF2	PL 1x16	25	11 5/8	A709-50WT2	204-14		FP:20
6		1	209BF1	PL 2 1/2x18	54	0 5/8	A709-50WT2	201-10		FP:20
7		1	209BF2	PL 1 1/8x18	26	0 3/16	A709-50WT2	202-66		FP:20
8										
9		1	x205b	PL 1 5/8x8	6	6	A709-50WT2	208-4	MIC	FP:20
10		2	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208-1		FP:20
11		1	x205f	PL 1 1/8x17 1/2	6	6	A709-50WT2	208-3	MIC	FP:20
12		5	x207a	PL 1/2x10 1/2	6	6	A709-50WT2	208-6		FP:20
13										



PLAN VIEW



DEV. ORIENTATION DIAGRAM

NO.	DATE	REMARKS	BY
1	05/13/19	ADDED BRG LEAN DIMENSION	EEO / WJL

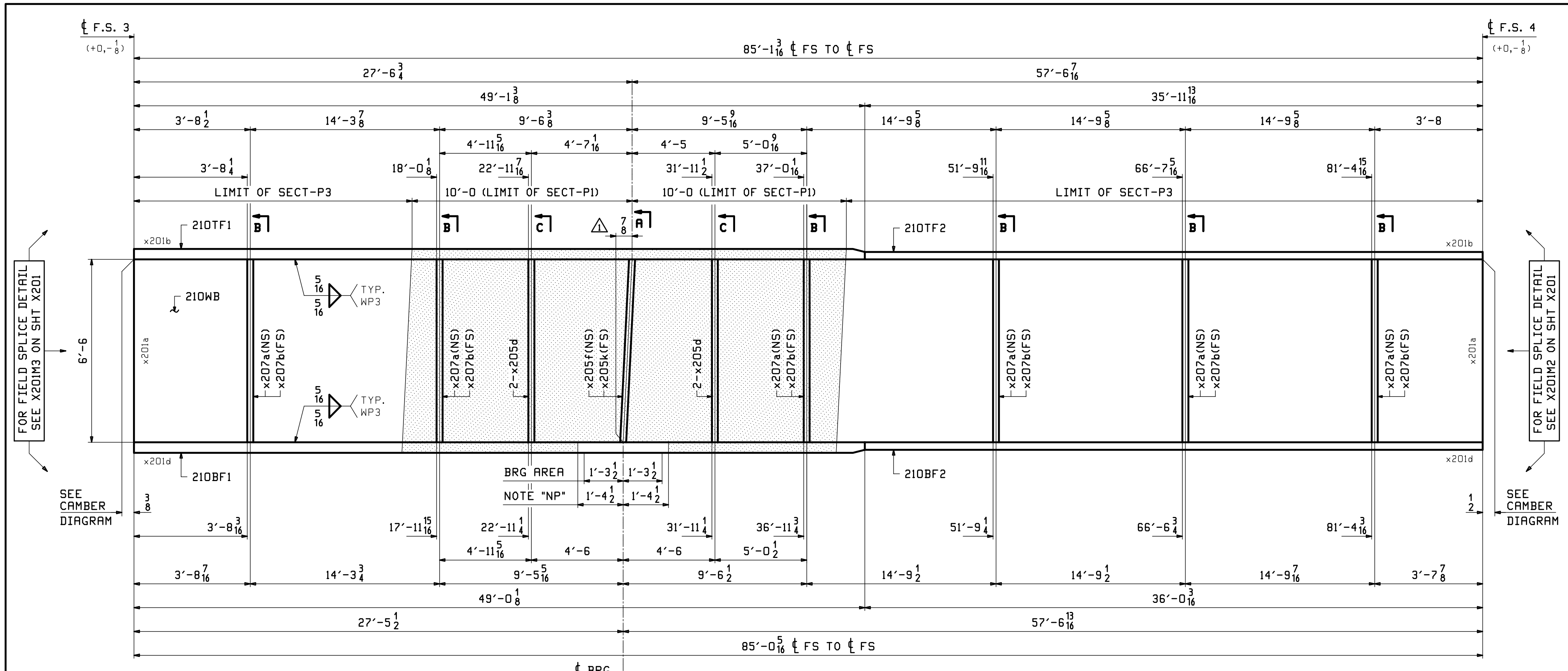
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 209A3
SURFACE PREP.	SEE P1
OPEN HOLES	1 9/16"ø OVS FOR 1 1/4"ø HSB (U.N.)
PAINT	SEE P1 & AS NOTED

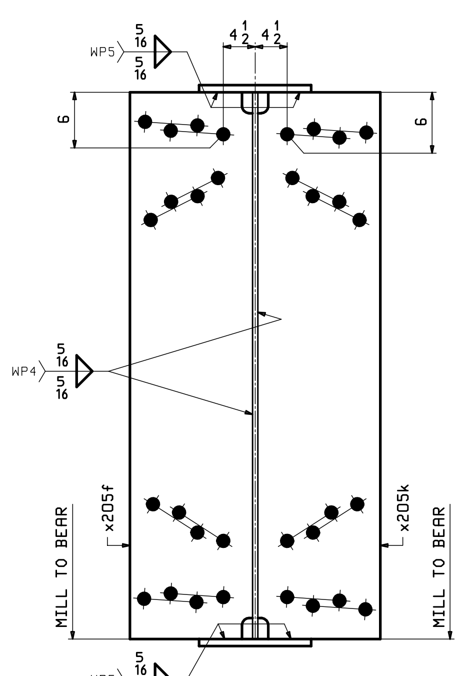
PRELIMINARY	DRAWN EEO 04/05/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.	
FOR APPROVAL	CHECKED WJL 04/15/19	209	3	180608	20	

WJL Wed, May 15, 2019 07:45:43 PM C:\users\jobs\2656-2\209.dwg

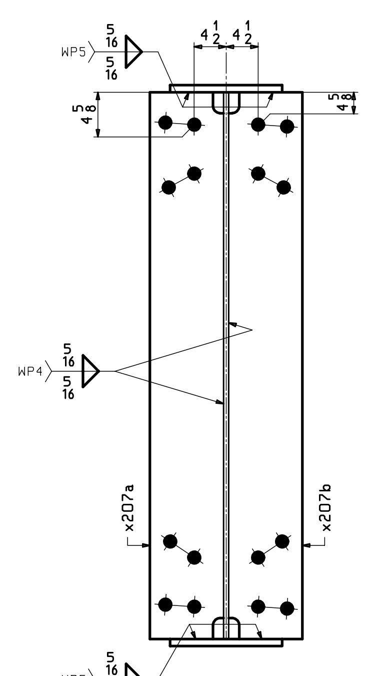


ONE - GIRDER - 210B3 (DEVELOPED)

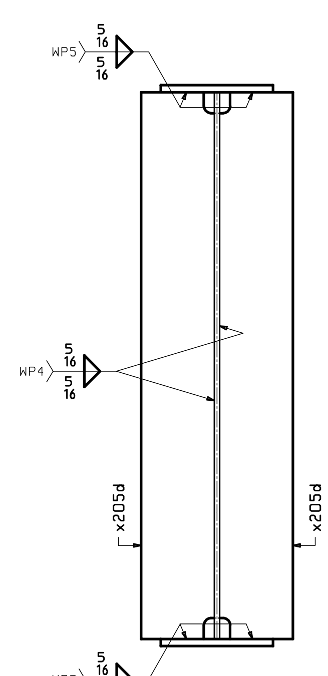
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG205 & BG206.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P3 & NOTE "NP".



SECTION-A
DEVELOPED

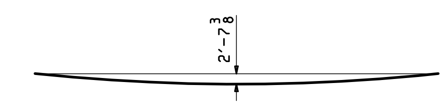


SECTION-B

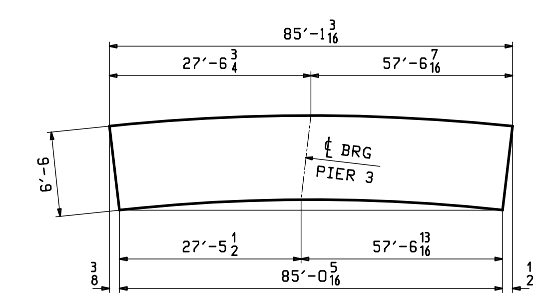


SECTION-C

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	210B3	1		GIRDER					30759
2									
3		1	210WB	PL 9/16x78	85	1 3/16	A709-50WT2	205/6	FP:20
4		1	210TF1	PL 2x16	49	1 3/8	A709-50WT2	201/32	FP:20
5		1	210TF2	PL 1x16	35	11 13/16	A709-50WT2	204/10	FP:20
6		1	210BF1	PL 2 1/8x16	49	0 1/8	A709-50WT2	201/20	FP:20
7		1	210BF2	PL 1x16	36	0 3/16	A709-50WT2	204/10	FP:20
8									
9		4	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
10		1	x205f	PL 1 5/8x17 1/2	6	6	A709-50WT2	208/3	M1E FP:20
11		1	x205k	PL 1 5/8x17 1/2	6	6	A709-50WT2	208/3	M1E FP:20
12		6	x207a	PL 1/2x10 1/2	6	6	A709-50WT2	208/6	FP:20
13		6	x207b	PL 1/2x10 1/2	6	6	A709-50WT2	208/6	FP:20
14									



PLAN VIEW



DEV. ORIENTATION DIAGRAM

NO.	DATE	REMARKS	BY
1	05/13/19	ADDED BRG LEAN DIMENSION	EEO / WJL

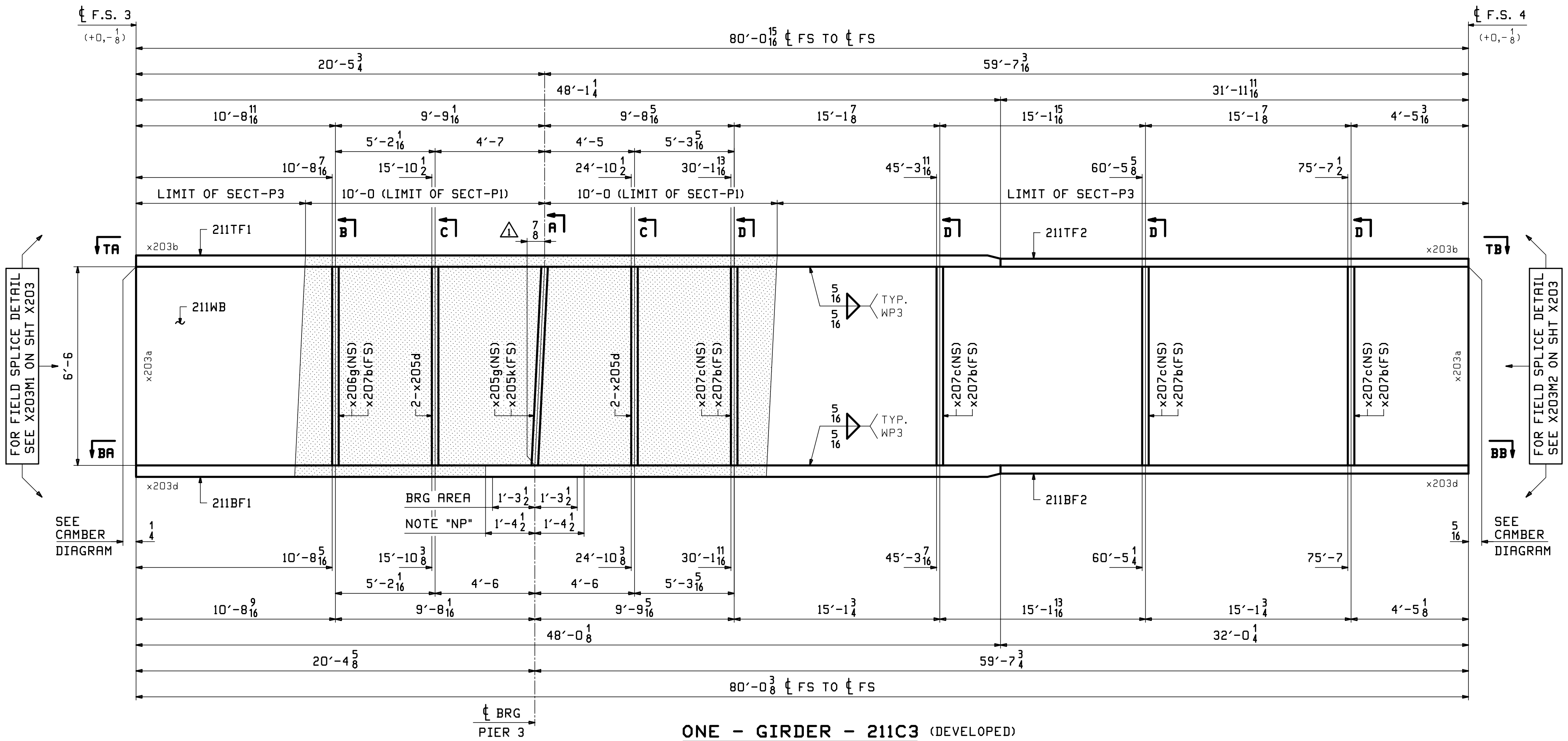
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 210B3
SURFACE PREP.	SEE P1
OPEN HOLES	$1\frac{9}{16}$"Ø OVS FOR $1\frac{1}{4}$"Ø HSB (U.N.)
PAINT	SEE P1 & AS NOTED

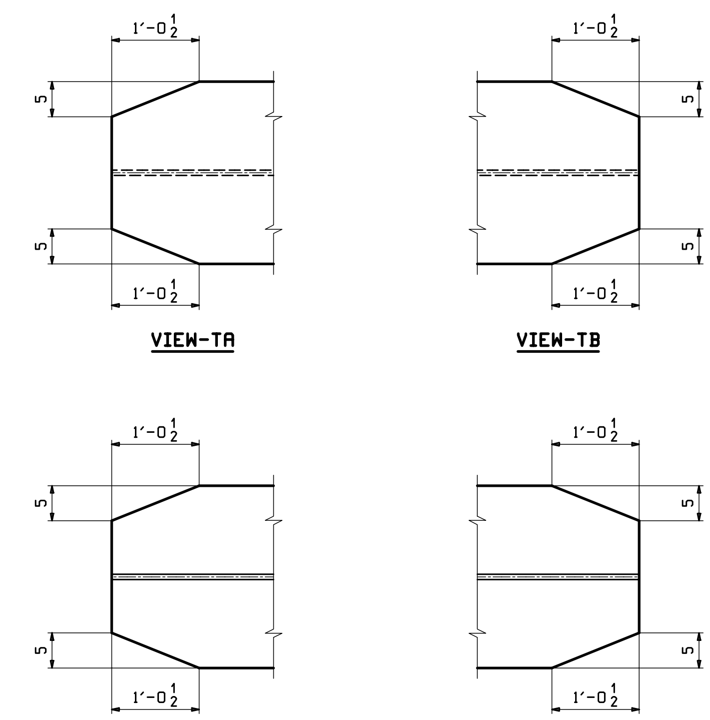
PRELIMINARY / FOR APPROVAL	DRAWN	CHECKED	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
	EEO 04/06/19	WJL 04/15/19	210	3	18060B	20

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	211C3	1		GIRDER					43429
2									
3		1	211WB	PL $\frac{9}{16}$x78	80	0 $\frac{15}{16}$	A709-50WT2	205/22	FP:20
4		1	211TF1	PL 2 $\frac{1}{2}$x26	48	1 $\frac{1}{4}$	A709-50WT2	201/8	FP:20
5		1	211TF2	PL 1 $\frac{1}{4}$x26	31	11 $\frac{11}{16}$	A709-50WT2	202/30	FP:20
6		1	211BF1	PL 2 $\frac{1}{2}$x26	48	0 $\frac{1}{8}$	A709-50WT2	201/8	FP:20
7		1	211BF2	PL 1 $\frac{1}{4}$x26	32	0 $\frac{1}{4}$	A709-50WT2	202/30	FP:20
8									
9		4	x205d	PL $\frac{1}{2}$x10 $\frac{1}{2}$	6	6	A709-50WT2	208/5	FP:20
10		1	x205g	PL 1 $\frac{5}{8}$x17 $\frac{1}{2}$	6	6	A709-50WT2	208/3	M1E FP:20
11		1	x205k	PL 1 $\frac{5}{8}$x17 $\frac{1}{2}$	6	6	A709-50WT2	208/3	M1E FP:20
12		1	x206g	PL $\frac{1}{2}$x17 $\frac{1}{2}$	6	6	A709-50WT2	208/8	FP:20
13		5	x207b	PL $\frac{1}{2}$x10 $\frac{1}{2}$	6	6	A709-50WT2	208/6	FP:20
14		4	x207c	PL $\frac{1}{2}$x14 $\frac{1}{2}$	6	6	A709-50WT2	208/7	FP:20
15									



ONE - GIRDER - 211C3 (DEVELOPED)

1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X203.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG205 & BG206.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P3 & NOTE "NP".

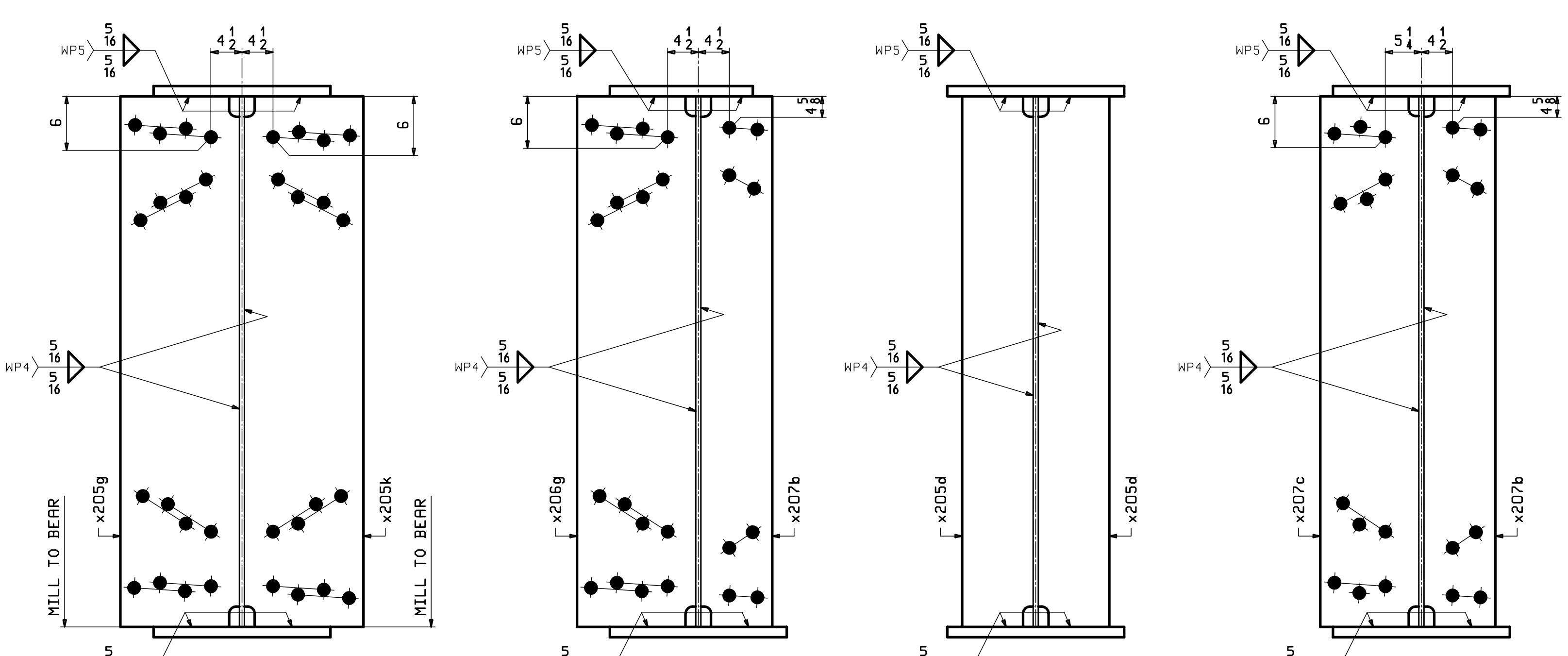


VIEW-TA

VIEW-TB

SECTION-BA

SECTION-BB

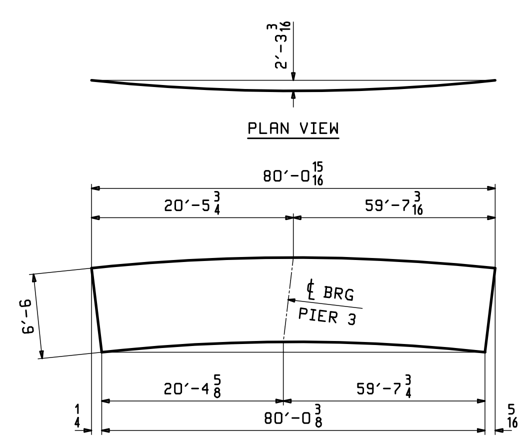


SECTION-A (DEVELOPED)

SECTION-B

SECTION-C

SECTION-D



DEV. ORIENTATION DIAGRAM

NO.	DATE	REMARKS	BY
1	05/13/19	ADDED BRG LEAN DIMENSION	EEO / WJL

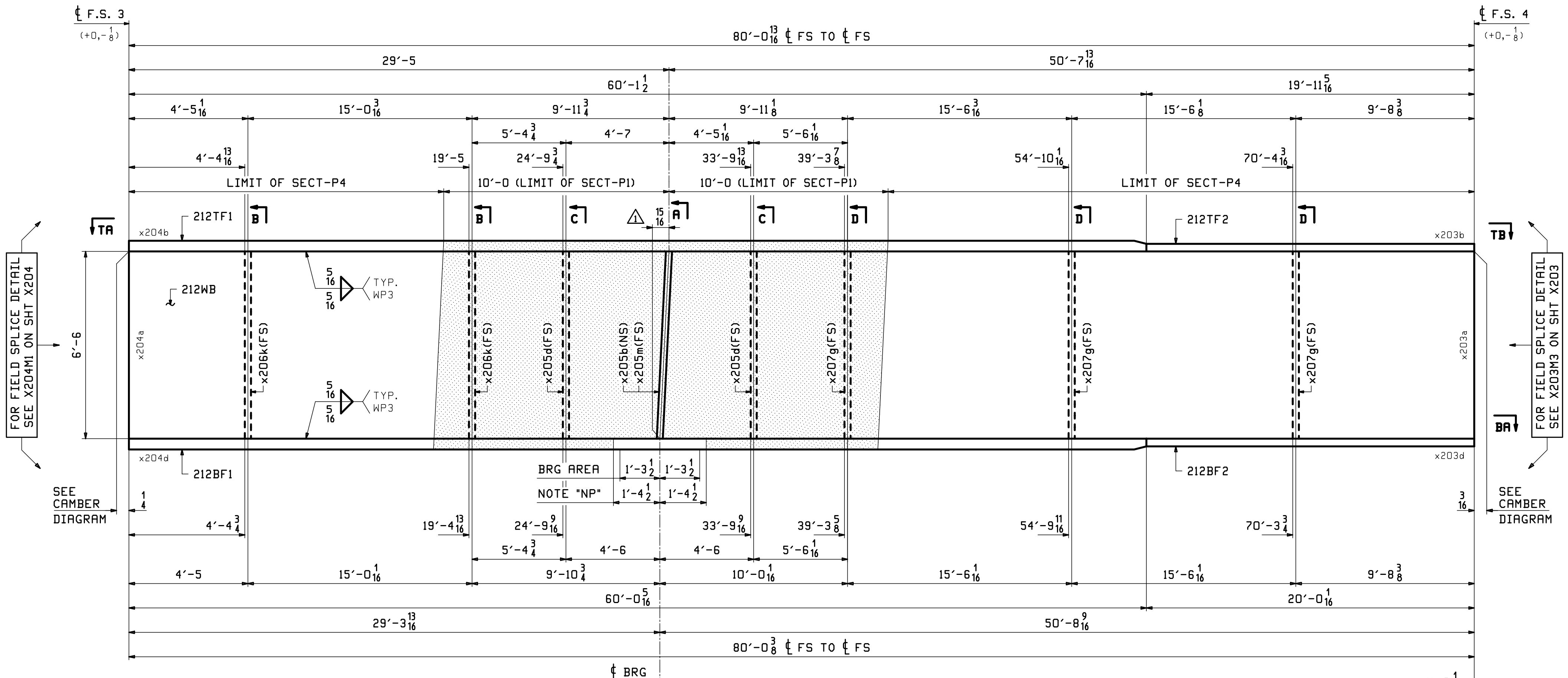
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: GIRDER ~ 211C3
SURFACE PREP.: SEE P1 OPEN HOLES: 1 $\frac{9}{16}$"Ø OVS FOR 1 $\frac{1}{4}$"Ø HSB (U.N.)
PAINT: SEE P1 & AS NOTED

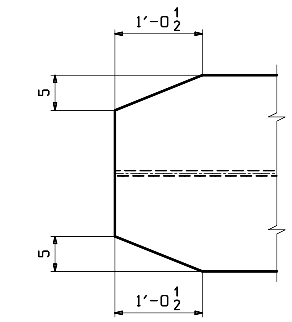
PRELIMINARY	DRAWN EEO 04/06/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/15/19	211	3	18060B	20



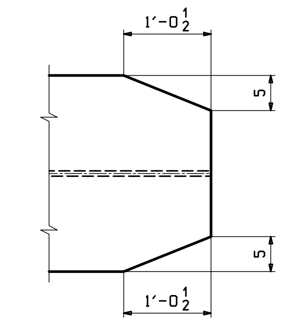
ONE - GIRDER - 212D3 (DEVELOPED)

1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X203 & X204.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG205 & BG206.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P4 & NOTE "NP".

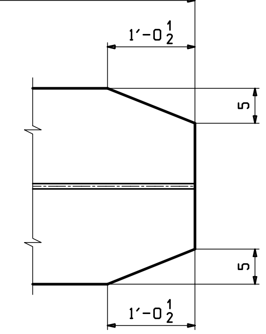
LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	212D3	1		GIRDER					49965
2									
3		1	212WB	PL $\frac{9}{16}$x78	80	0 $\frac{13}{16}$	A709-50WT2	205/22	FP:20
4		1	212TF1	PL 2 $\frac{1}{2}$x28	60	1 $\frac{1}{2}$	A709-50WT2	201/2	FP:20
5		1	212TF2	PL 1 $\frac{7}{8}$x28	19	11 $\frac{5}{16}$	A709-50WT2	202/2	FP:20
6		1	212BF1	PL 2 $\frac{1}{2}$x28	60	0 $\frac{5}{16}$	A709-50WT2	201/2	FP:20
7		1	212BF2	PL 2x28	20	0 $\frac{1}{16}$	A709-50WT2	201/22	FP:20
8									
9		1	x205b	PL 1 $\frac{5}{8}$x8	6	6	A709-50WT2	208/4	M1E FP:20
10		2	x205d	PL $\frac{1}{2}$x10 $\frac{1}{2}$	6	6	A709-50WT2	208/5	FP:20
11		1	x205m	PL 1 $\frac{5}{8}$x17 $\frac{1}{2}$	6	6	A709-50WT2	208/3	M1E FP:20
12		2	x206k	PL $\frac{1}{2}$x17 $\frac{1}{2}$	6	6	A709-50WT2	208/8	FP:20
13		3	x207g	PL $\frac{1}{2}$x14 $\frac{1}{2}$	6	6	A709-50WT2	208/7	FP:20
14									



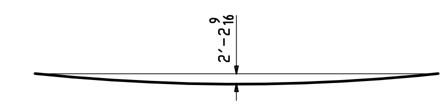
VIEW-TA



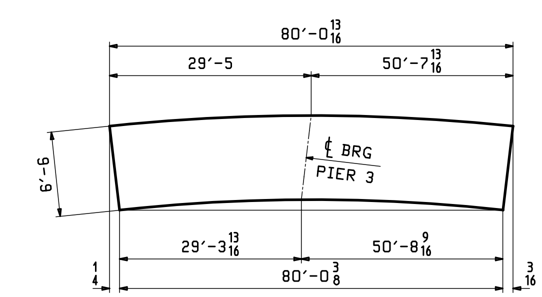
VIEW-TB



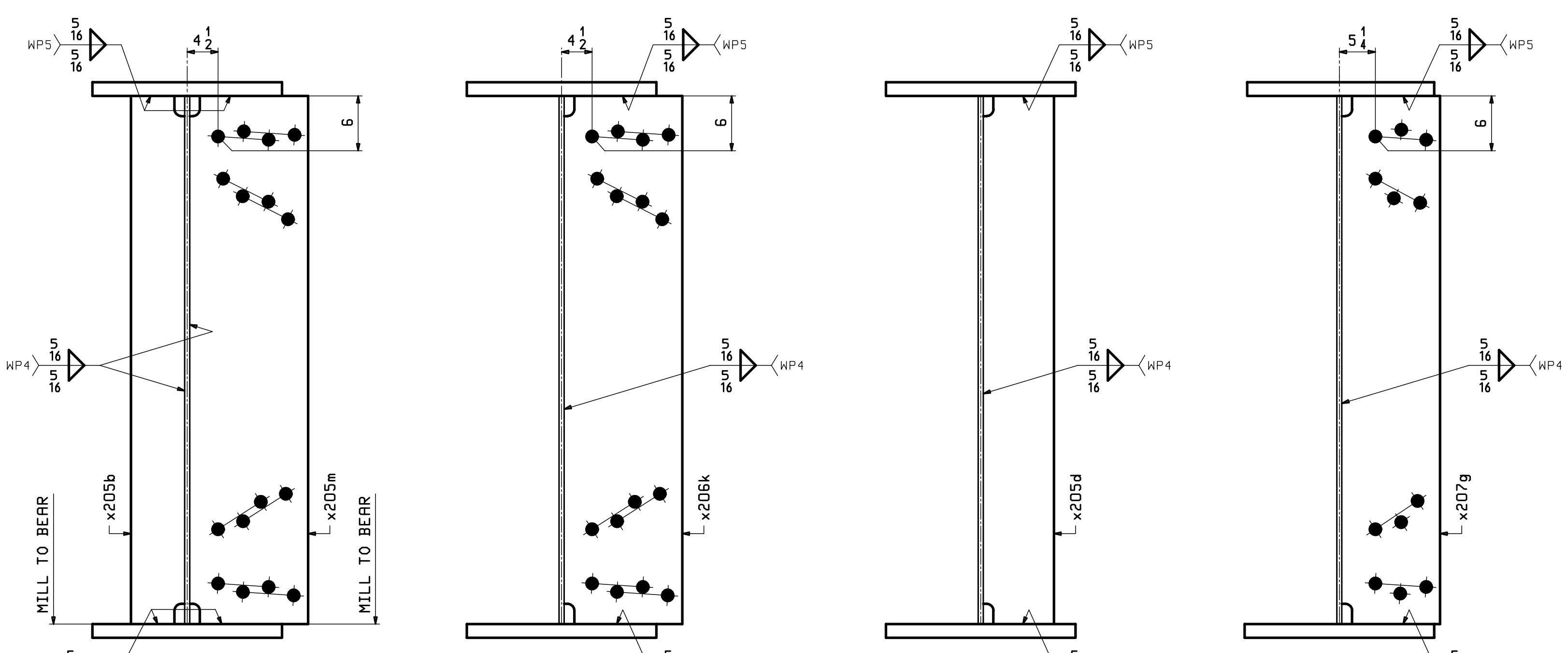
SECTION-BA



PLAN VIEW



DEV. ORIENTATION DIAGRAM



SECTION-A
DEVELOPED

SECTION-B

SECTION-C

SECTION-D

NO.	DATE	REMARKS	BY
⚠	05/13/19	ADDED BRG LEAN DIMENSION	EEO WJL

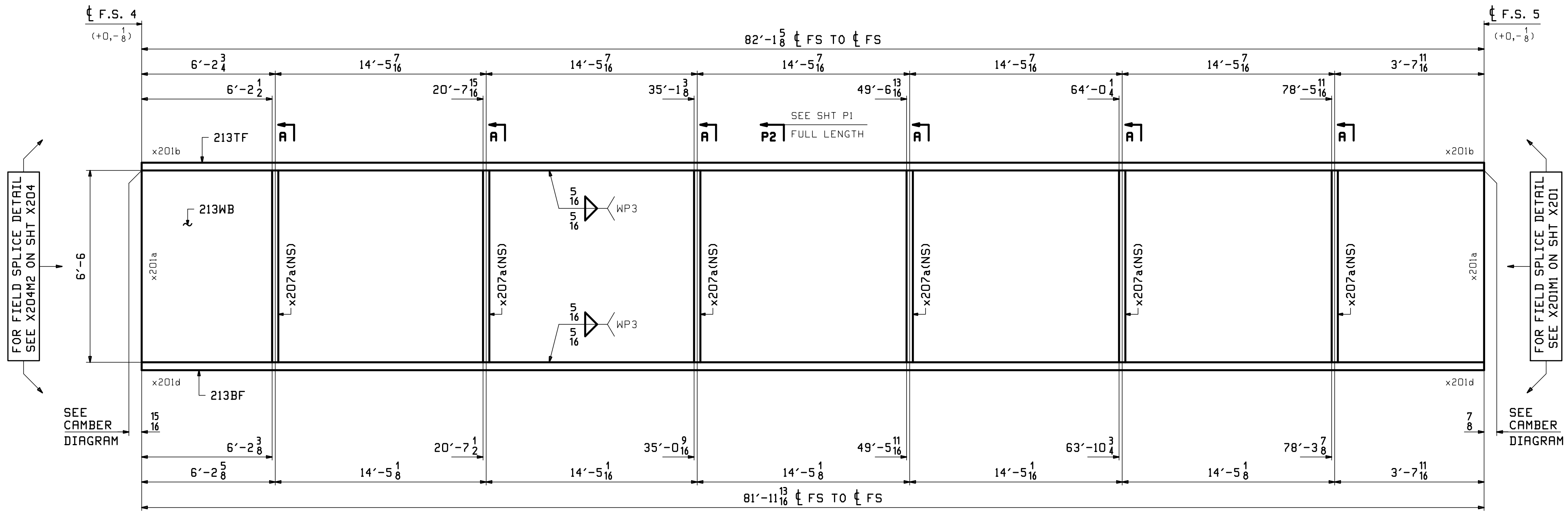
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 212D3
SURFACE PREP.	SEE P1 — OPEN HOLES $1\frac{9}{16}$"ϕ OVS FOR $1\frac{1}{4}$"ϕ HSB (U.N.)
PAINT	SEE P1 & AS NOTED

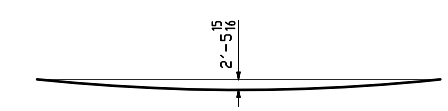
PRELIMINARY / FOR APPROVAL	DRAWN	CHECKED	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
	EEO 04/06/19	WJL 04/15/19	212	3	18060B	20

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	213A4	1		GIRDER					21895
2									
3		1	213WB	PL $\frac{9}{16}$x78	82	1 $\frac{5}{8}$	A709-50WT2	204/26	FP:20
4		1	213TF	PL 1x16	82	1 $\frac{5}{8}$	A709-50WT2	203/16	FP:20
5		1	213BF	PL 1x16	81	11 $\frac{13}{16}$	A709-50WT2	203/16	FP:20
6									
7		6	x207a	PL $\frac{1}{2}$x10 $\frac{1}{2}$	6	6	A709-50WT2	208/6	FP:20
8									

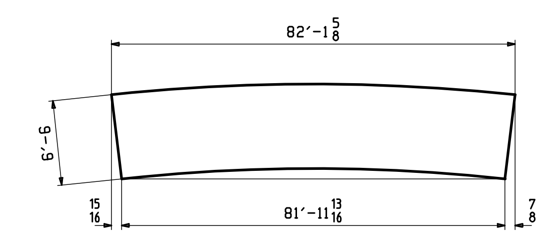


ONE - GIRDER - 213A4 (DEVELOPED)

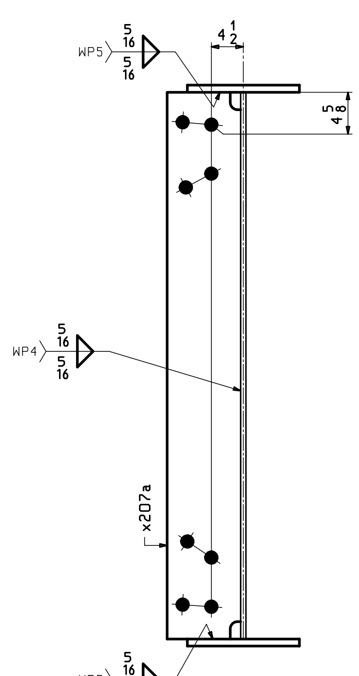
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201 & X204.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG206 & BG207.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. SEE SHEET P1 FOR SECT-P2.



PLAN VIEW



DEV. ORIENTATION DIAGRAM



SECTION-A

NO.	DATE	REMARKS	BY

REVISIONS

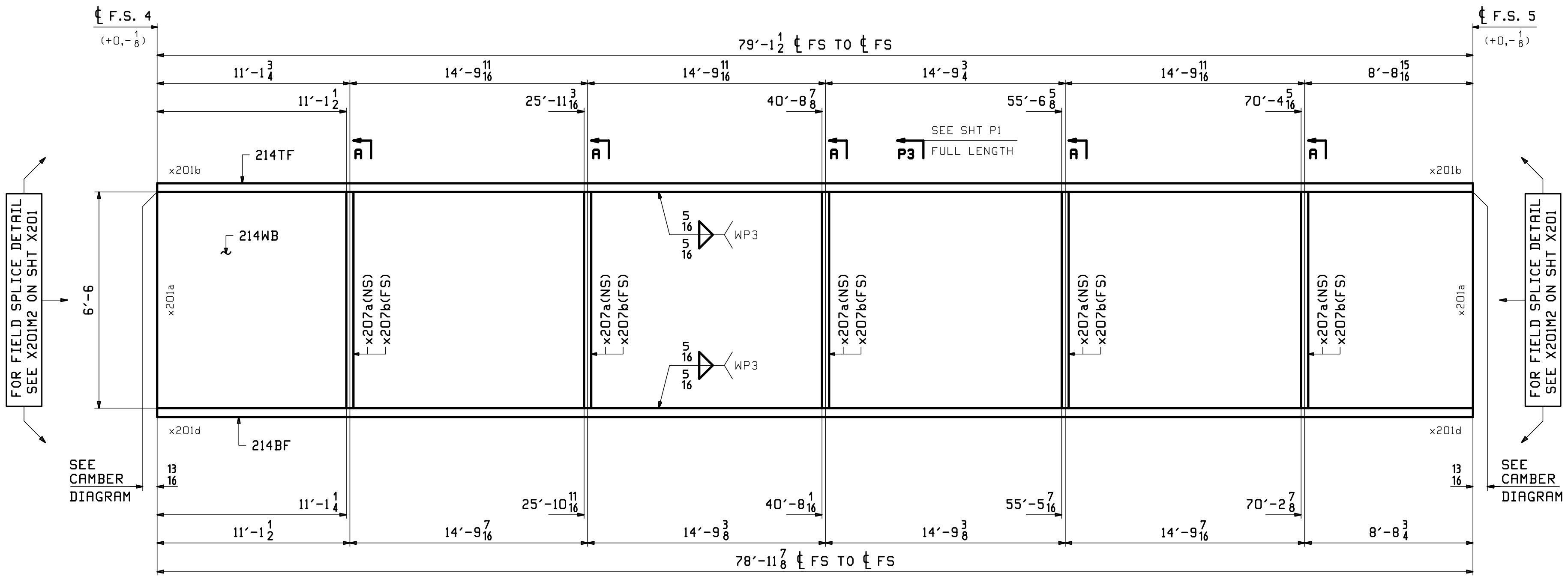
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: GIRDER ~ 213A4
SURFACE PREP.: SEE P1 OPEN HOLES: 1 9/16"ϕ OVS FOR 1 1/4"ϕ HSB (U.N.)
PAINT: SEE P1 & AS NOTED

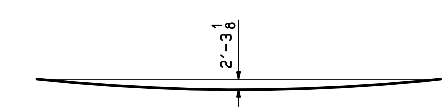
PRELIMINARY / FOR APPROVAL	DRAWN	CHECKED	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
	EEO 04/05/19	WJL 04/15/19	213	3	18060B	20

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	214B4	1		GIRDER					21583
2									
3		1	214WB	PL $\frac{9}{16}$x78	79	1$\frac{1}{2}$	A709-50WT2	204/32	FP:20
4		1	214TF	PL 1x16	79	1$\frac{1}{2}$	A709-50WT2	203/24	FP:20
5		1	214BF	PL 1x16	78	11$\frac{7}{8}$	A709-50WT2	203/24	FP:20
6									
7		5	x207a	PL $\frac{1}{2}$x10$\frac{1}{2}$	6	6	A709-50WT2	208/6	FP:20
8		5	x207b	PL $\frac{1}{2}$x10$\frac{1}{2}$	6	6	A709-50WT2	208/6	FP:20
9									

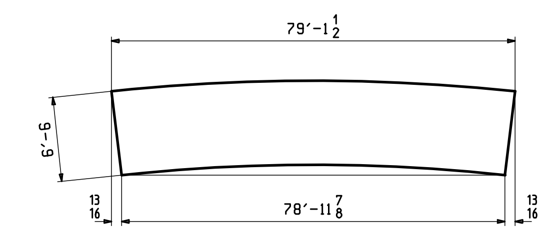


ONE - GIRDER - 214B4 (DEVELOPED)

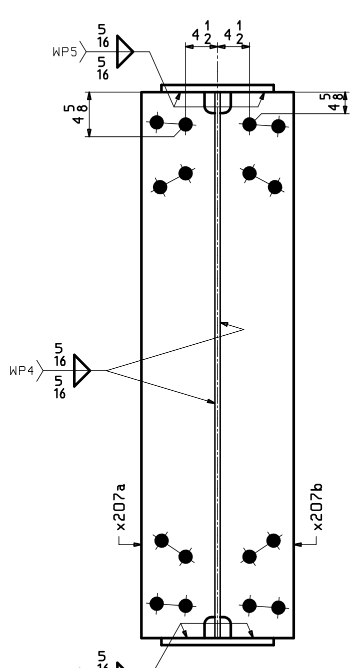
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG206 & BG207.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. SEE SHEET P1 FOR SECT-P3.



PLAN VIEW



DEV. ORIENTATION DIAGRAM



SECTION-A

NO.	DATE	REMARKS	BY

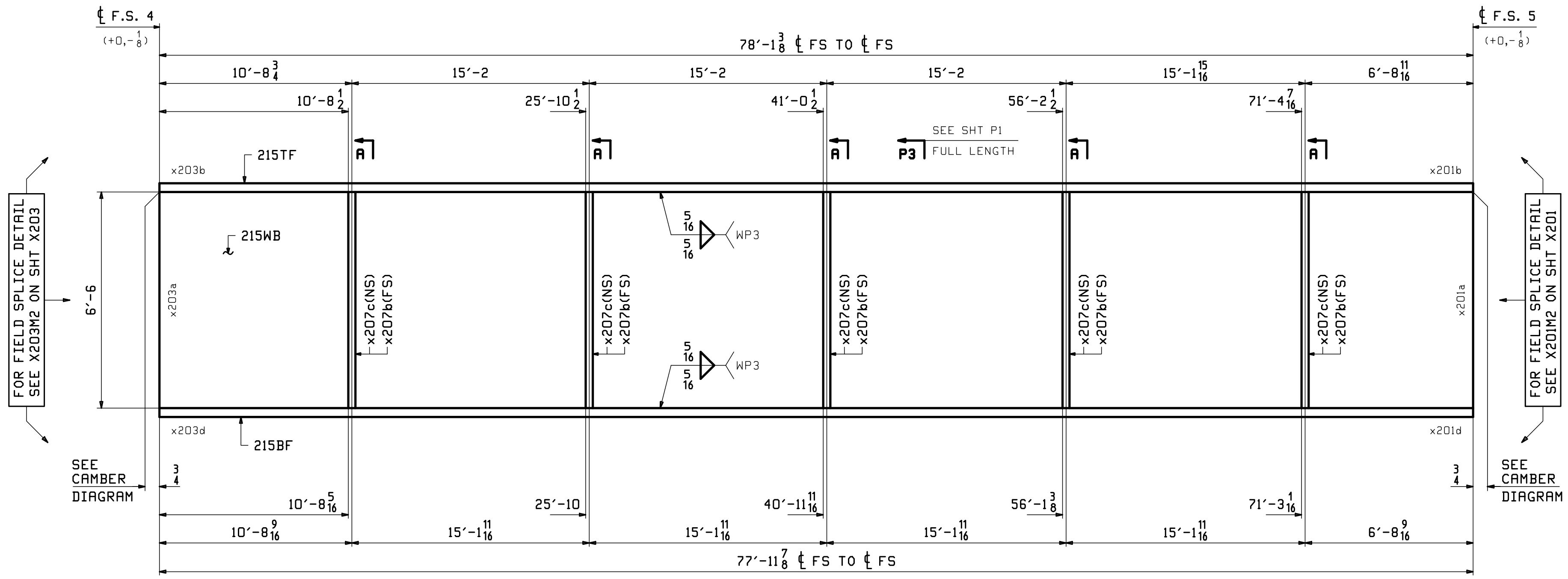
REVISIONS

Veritas STEEL — 2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL — TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 214B4
SURFACE PREP.	SEE P1
OPEN HOLES	1$\frac{9}{16}$"ø OVS FOR 1$\frac{1}{4}$"ø HSB (U.N.)
PAINT	SEE P1 & AS NOTED

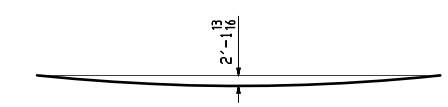
PRELIMINARY	DRAWN EEO 04/07/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/15/19	214	3	18060B	20

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	215C4	1		GIRDER					21544
2									
3		1	215WB	PL $\frac{9}{16}$x78	78	1$\frac{3}{8}$	A709-50WT2	205/2	FP:20
4		1	215TF	PL 1x16	78	1$\frac{3}{8}$	A709-50WT2	203/26	FP:20
5		1	215BF	PL 1x16	77	11$\frac{7}{8}$	A709-50WT2	203/26	FP:20
6									
7		5	x207b	PL $\frac{1}{2}$x10$\frac{1}{2}$	6	6	A709-50WT2	208/6	FP:20
8		5	x207c	PL $\frac{1}{2}$x14$\frac{1}{2}$	6	6	A709-50WT2	208/7	FP:20
9									

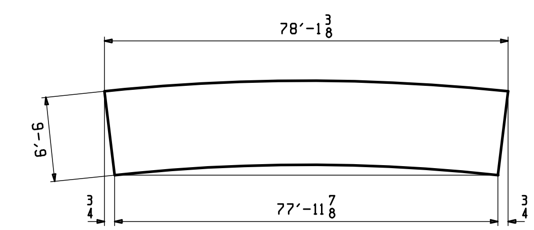


ONE - GIRDER - 215C4 (DEVELOPED)

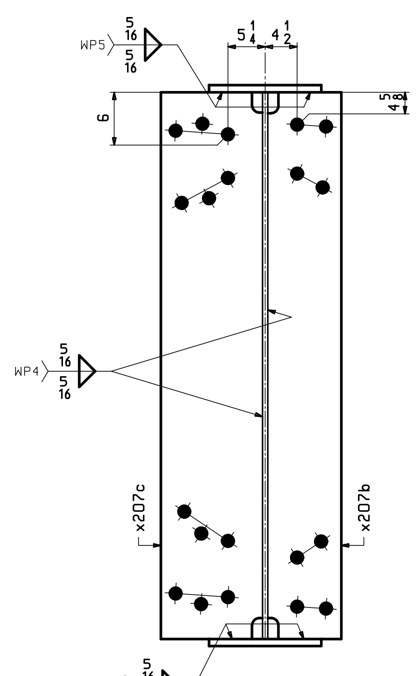
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201 & X203.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG206 & BG207.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. SEE SHEET P1 FOR SECT-P3.



PLAN VIEW



DEV. ORIENTATION DIAGRAM



SECTION-A

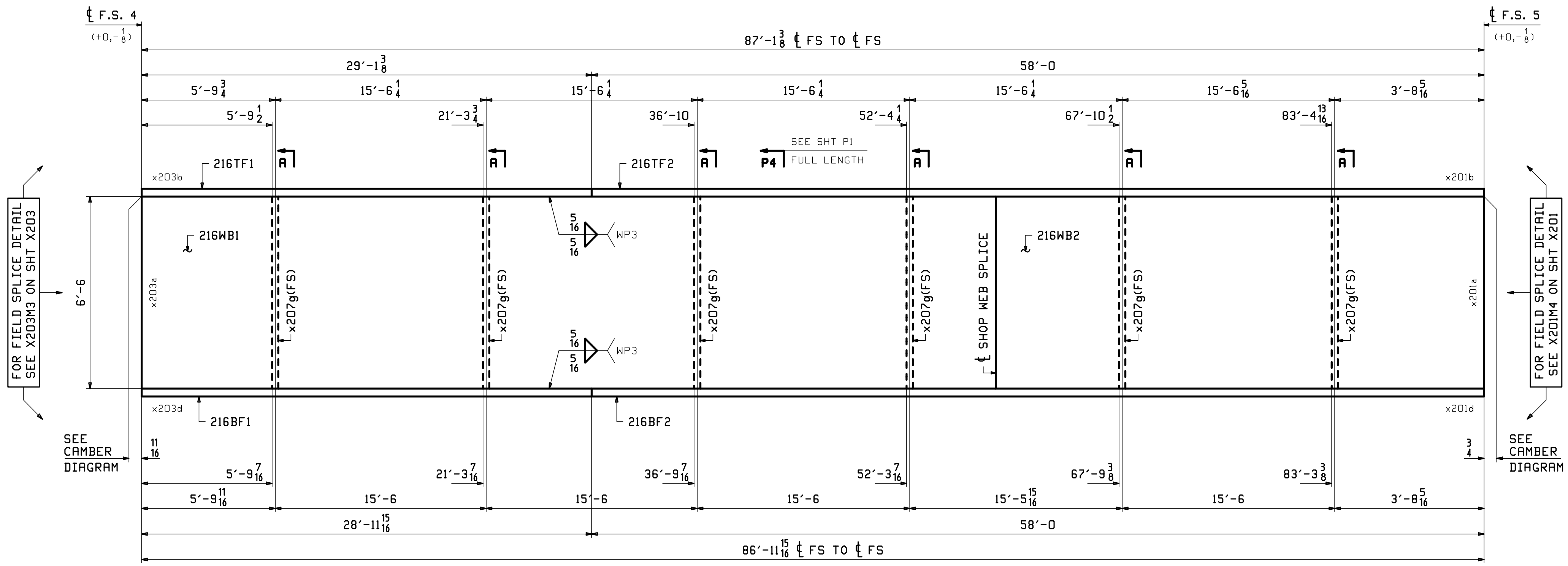
NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

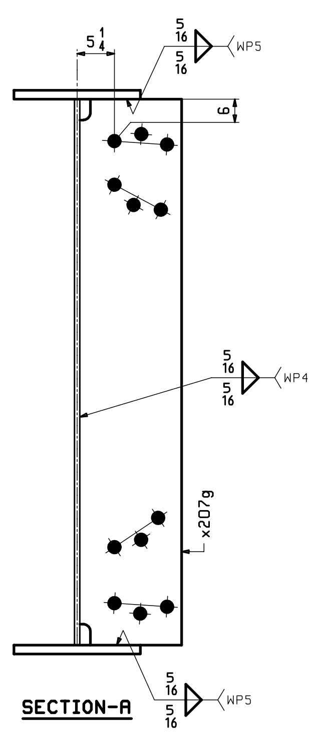
STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 215C4
SURFACE PREP.	SEE P1
OPEN HOLES	1$\frac{9}{16}$"ø OVS FOR 1$\frac{1}{4}$"ø HSB (U.N.)
PAINT	SEE P1 & AS NOTED

PRELIMINARY	DRAWN EEO 04/07/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/15/19	215	3	18060B	20

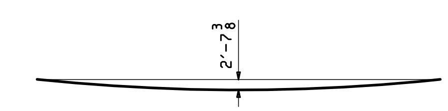


ONE - GIRDER - 216D4 (DEVELOPED)

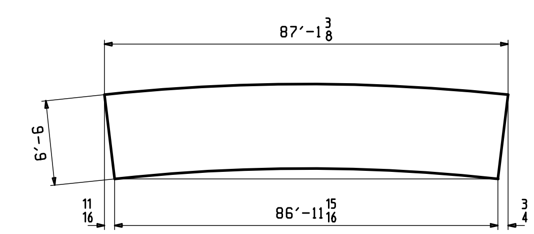
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201 & X203.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG206 & BG207.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. SEE SHEET P1 FOR SECT-P4.



SECTION-A



PLAN VIEW



DEV. ORIENTATION DIAGRAM

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	216D4	1		GIRDER					28630
2									
3		1	216WB1	PL 9/16x78	58	0 11/16	A709-50WT2	205/32	FP:20
4		1	216WB2	PL 9/16x78	29	0 11/16	A709-50WT2	206/4	FP:20
5		1	216TF1	PL 1 1/4x18	29	1 3/8	A709-50WT2	203/2	FP:20
6		1	216TF2	PL 1 1/4x18	58	0	A709-50WT2	202/32	FP:20
7		1	216BF1	PL 1 1/2x18	28	11 15/16	A709-50WT2	202/20	FP:20
8		1	216BF2	PL 1 1/2x18	58	0	A709-50WT2	202/18	FP:20
9									
10		6	x207g	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
11									

NO.	DATE	REMARKS	BY

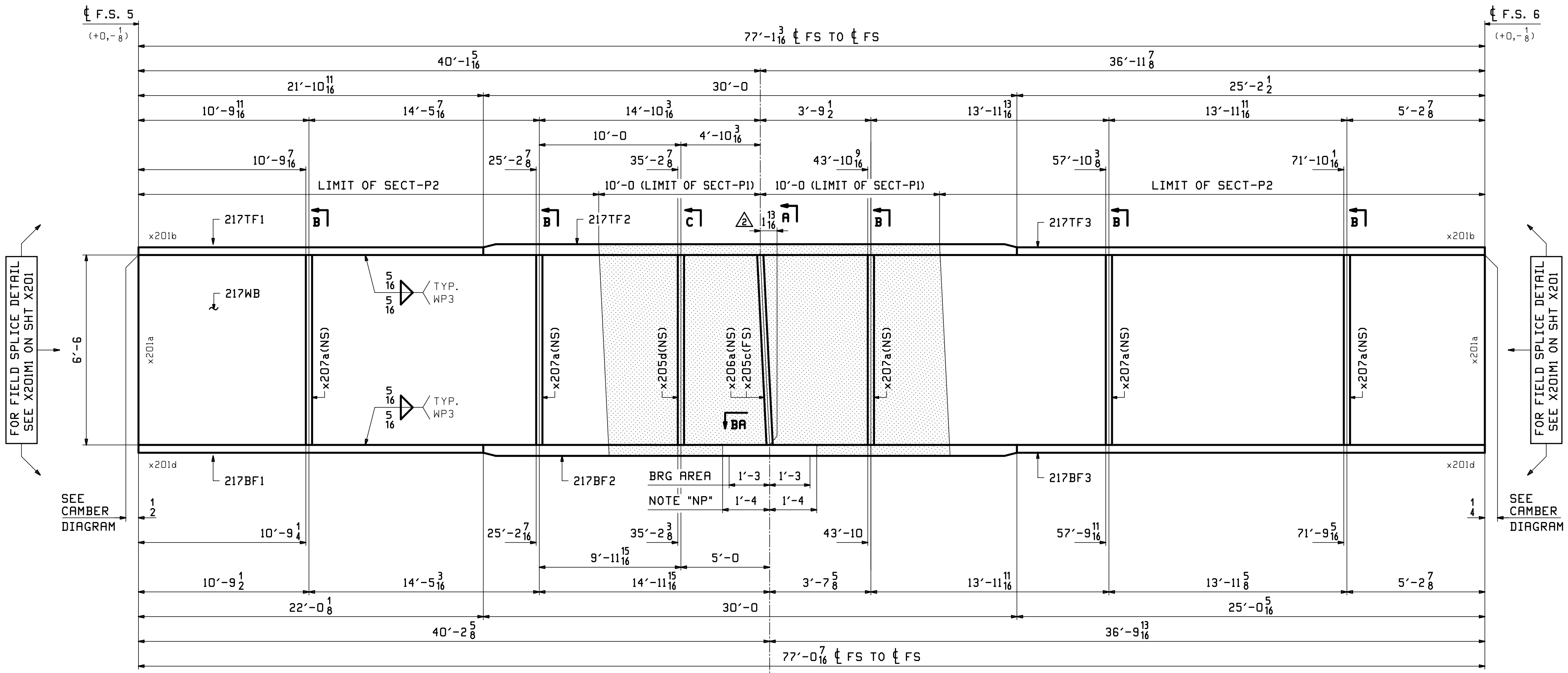
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

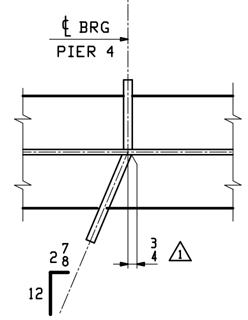
ITEM: GIRDER ~ 216D4
SURFACE PREP.: SEE P1 — OPEN HOLES: 1 9/16"Ø OVS FOR 1 1/4"Ø HSB (U.N.)
PAINT: SEE P1 & AS NOTED

PRELIMINARY	DRAWN	EEO 04/07/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/15/19	216	3	18060B	20

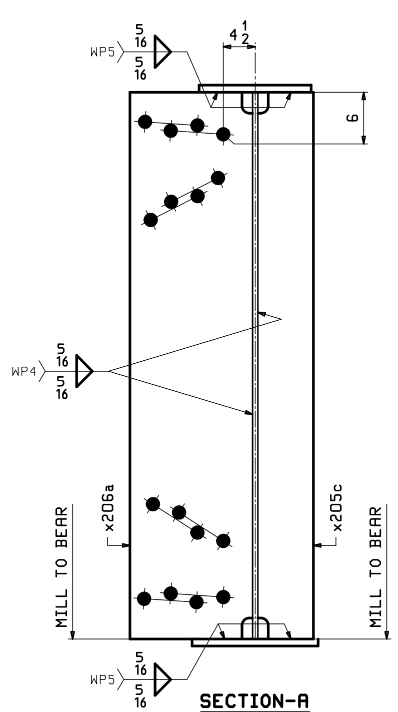


ONE - GIRDER - 217A5 (DEVELOPED)

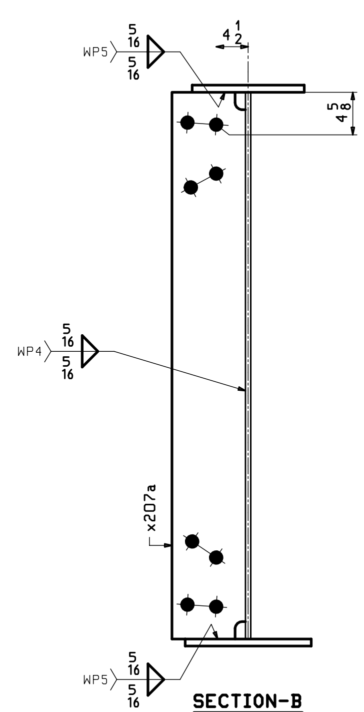
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG208.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P2 & NOTE "NP".



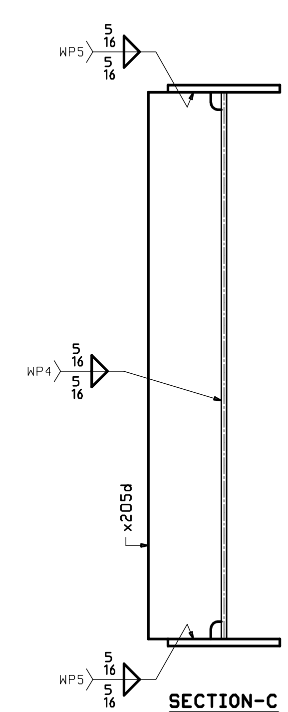
SECTION-BA



SECTION-A
DEVELOPED

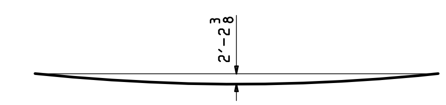


SECTION-B

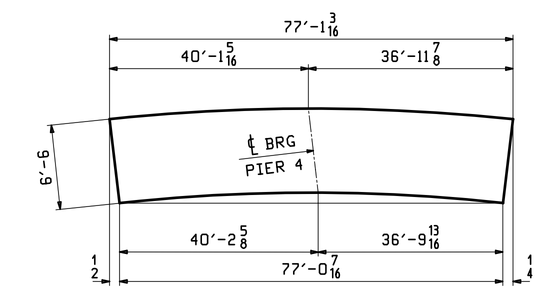


SECTION-C

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	217A5	1		GIRDER					23763
2									
3		1	217WB	PL 9/16x78	77	1 3/16	A709-50WT2	205/12	FP:20
4		1	217TF1	PL 1x16	21	10 11/16	A709-50WT2	204/22	FP:20
5		1	217TF2	PL 1 1/2x16	30	0	A709-50WT2	202/22	FP:20
6		1	217TF3	PL 1x16	25	2 1/2	A709-50WT2	204/16	FP:20
7		1	217BF1	PL 1x16	22	0 1/8	A709-50WT2	204/20	FP:20
8		1	217BF2	PL 1 7/8x16	30	0	A709-50WT2	202/4	FP:20
9		1	217BF3	PL 1x16	25	0 5/16	A709-50WT2	204/16	FP:20
10									
△1 11		1	x205c	PL 1 5/8x8	6	6	A709-50WT2	208/14	M1E FP:20
12		1	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
13		1	x206a	PL 1 5/8x17 1/2	6	6 1/8	A709-50WT2	208/13	M1E FP:20
14		5	x207a	PL 1/2x10 1/2	6	6	A709-50WT2	208/6	FP:20
15									



PLAN VIEW



DEV. ORIENTATION DIAGRAM

NO.	DATE	REMARKS	BY
△2	05/13/19	ADDED BRG LEAN DIMENSION	EEO/WJL
△1	04/24/19	REV'D BRG STIFF THICKNESS @ PIER 4	EEO/WJL

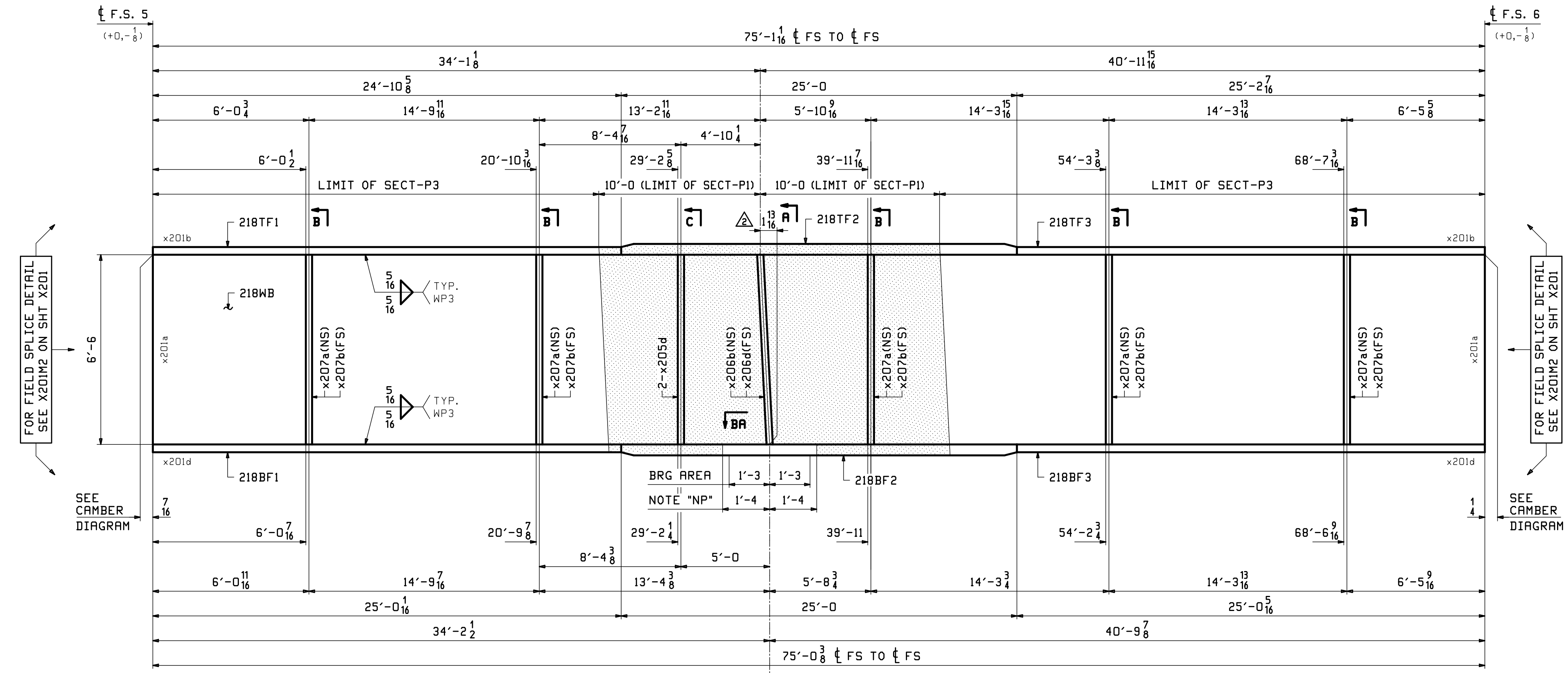
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

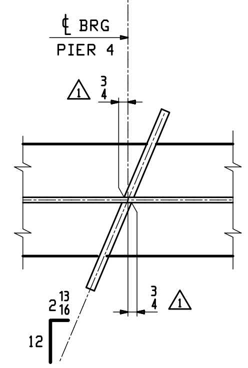
ITEM: GIRDER ~ 217A5
SURFACE PREP.: SEE P1 OPEN HOLES: 1 9/16"Ø OVS FOR 1 1/4"Ø HSB (U.N.)
PAINT: SEE P1 & AS NOTED

PRELIMINARY	DRAWN EEO 04/05/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/15/19	217	3	18060B	20

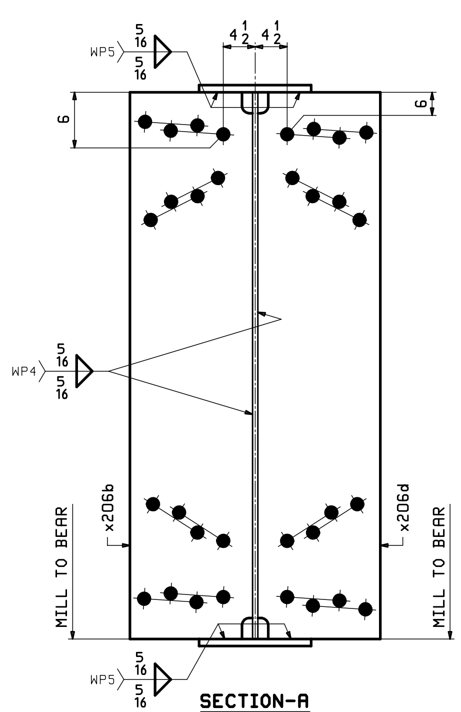


ONE - GIRDER - 218B5 (DEVELOPED)

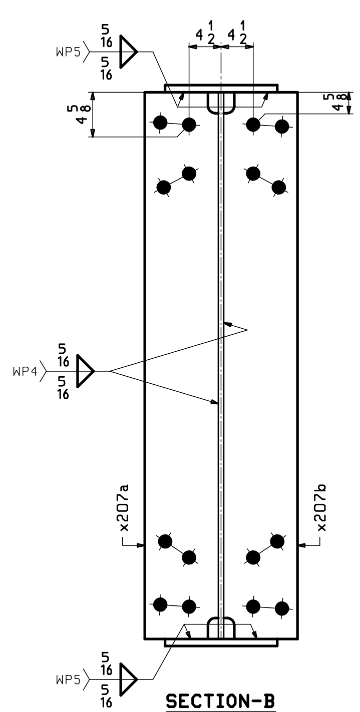
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG208 & BG209.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P3 & NOTE "NP".



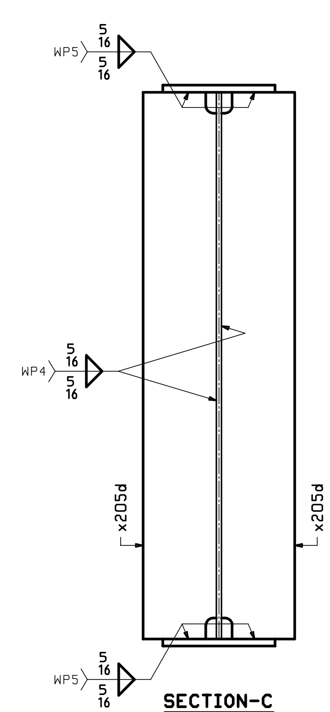
SECTION-BA



SECTION-A
DEVELOPED

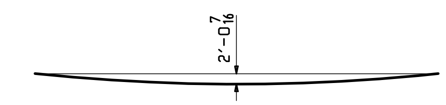


SECTION-B

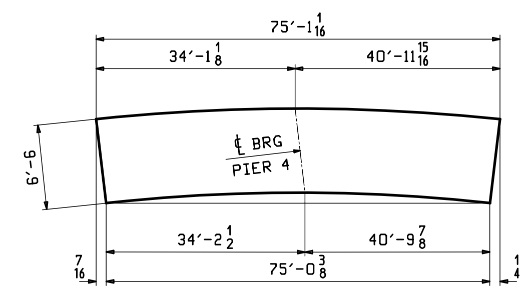


SECTION-C

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	218B5	1		GIRDER					23058
2									
3		1	218WB	PL 9/16x78	75	1 1/16	A709-50WT2	205/28	FP:20
4		1	218TF1	PL 1x16	24	10 5/8	A709-50WT2	204/18	FP:20
5		1	218TF2	PL 1 1/8x16	25	0	A709-50WT2	203/6	FP:20
6		1	218TF3	PL 1x16	25	2 7/16	A709-50WT2	204/16	FP:20
7		1	218BF1	PL 1x16	25	0 1/16	A709-50WT2	204/16	FP:20
8		1	218BF2	PL 1 5/8x16	25	0	A709-50WT2	202/16	FP:20
9		1	218BF3	PL 1x16	25	0 5/16	A709-50WT2	204/16	FP:20
10									
11		2	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
12 (rev. 1)		1	x206b	PL 1 5/8x17 1/2	6	6 1/8	A709-50WT2	208/13	M1E FP:20
13 (rev. 1)		1	x206d	PL 1 5/8x17 1/2	6	6 1/8	A709-50WT2	208/13	M1E FP:20
14		5	x207a	PL 1/2x10 1/2	6	6	A709-50WT2	208/6	FP:20
15		5	x207b	PL 1/2x10 1/2	6	6	A709-50WT2	208/6	FP:20
16									



PLAN VIEW



DEV. ORIENTATION DIAGRAM

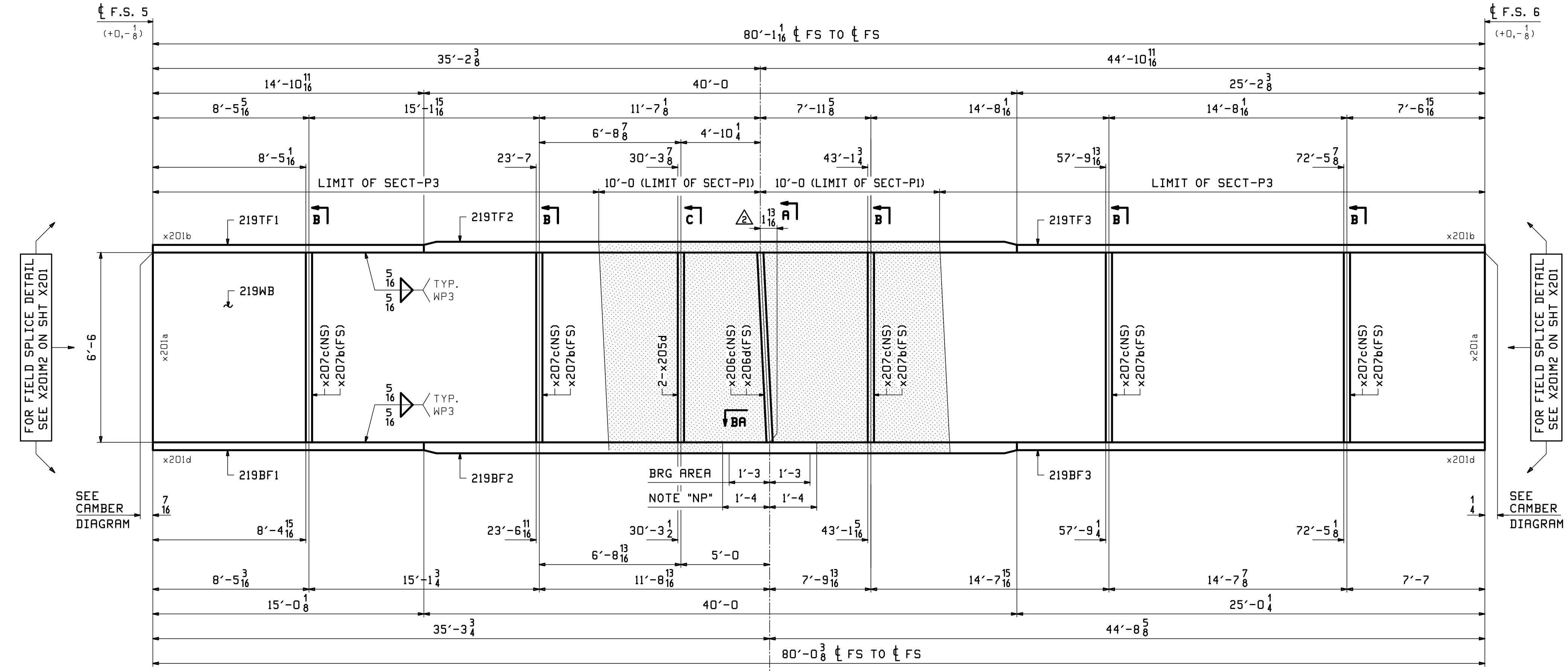
NO.	DATE	REMARKS	BY
2	05/13/19	ADDED BRG LEAN DIMENSION	EEO WJL
1	04/24/19	REV'D BRG STIFF THICKNESS @ PIER 4	EEO WJL

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

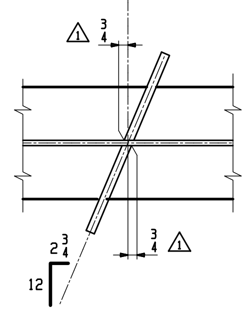
STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP
ITEM: GIRDER ~ 218B5
SURFACE PREP.: SEE P1 — OPEN HOLES: 1 9/16"φ OVS FOR 1 1/4"φ HSB (U.N.)
PAINT: SEE P1 & AS NOTED

PRELIMINARY / FOR APPROVAL	DRAWN	CHECKED	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
	EEO 04/07/19	WJL 04/15/19	218	3	18060B	20

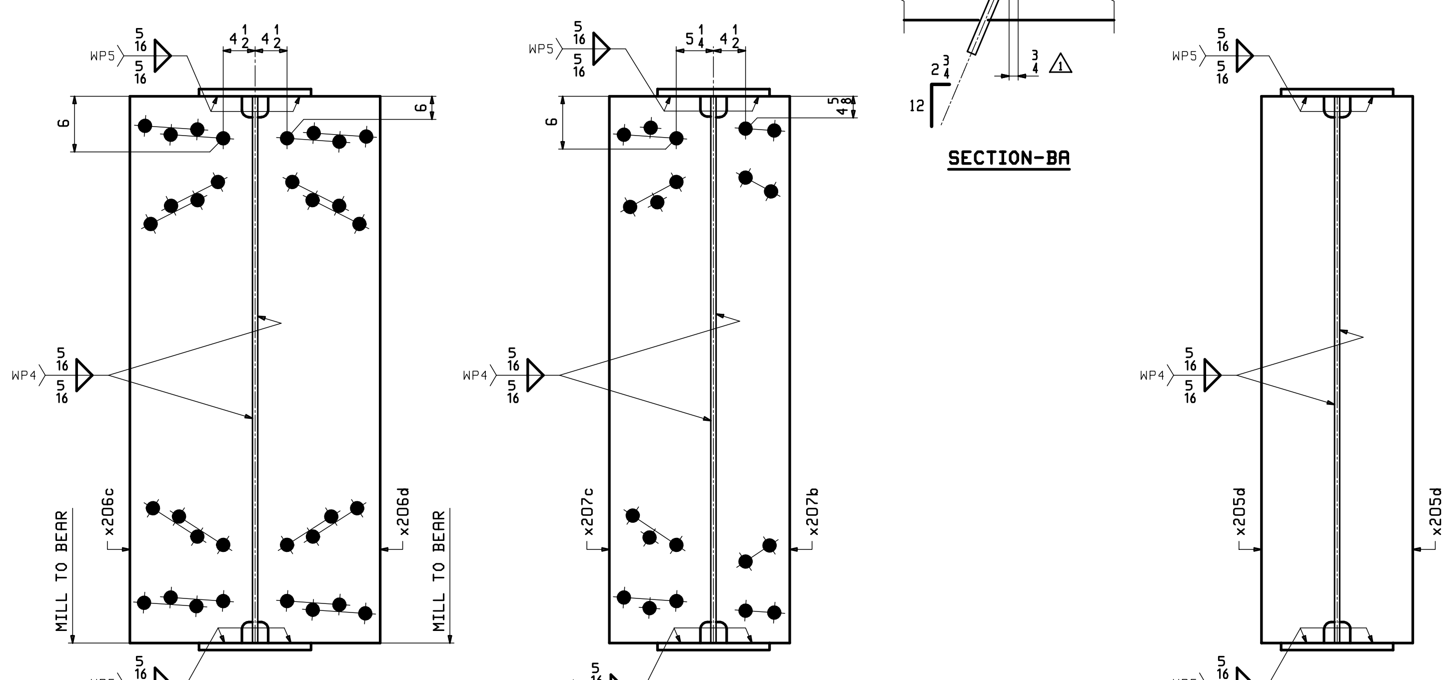


ONE - GIRDER - 219C5 (DEVELOPED)

1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG208.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P3 & NOTE "NP".



SECTION-BA

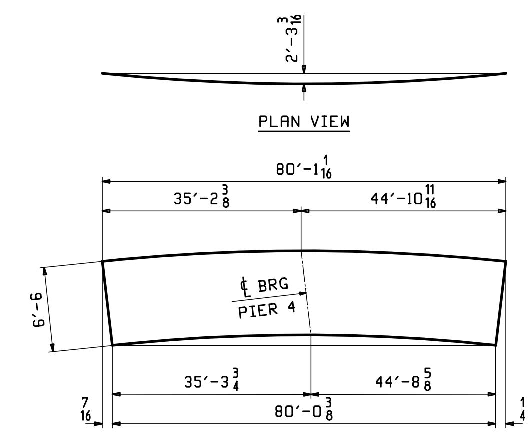


SECTION-A
DEVELOPED

SECTION-B

SECTION-C

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	219C5	1		GIRDER					29538
2									
3		1	219WB	PL 9/16x78	80	1 1/16	A709-50WT2	205/10	FP:20
4		1	219TF1	PL 1x16	14	10 11/16	A709-50WT2	204/24	FP:20
5		1	219TF2	PL 2 1/4x16	40	0	A709-50WT2	201/16	FP:20
6		1	219TF3	PL 1x16	25	2 3/8	A709-50WT2	204/16	FP:20
7		1	219BF1	PL 1x16	15	0 1/8	A709-50WT2	204/24	FP:20
8		1	219BF2	PL 2 1/2x16	40	0	A709-50WT2	201/12	FP:20
9		1	219BF3	PL 1x16	25	0 1/4	A709-50WT2	204/16	FP:20
10									
11		2	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
12 (rev. 1)		1	x206c	PL 1 5/8x17 1/2	6	6 1/8	A709-50WT2	208/13	M1E FP:20
13 (rev. 1)		1	x206d	PL 1 5/8x17 1/2	6	6 1/8	A709-50WT2	208/13	M1E FP:20
14		5	x207b	PL 1/2x10 1/2	6	6	A709-50WT2	208/6	FP:20
15		5	x207c	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
16									



DEV. ORIENTATION DIAGRAM

NO.	DATE	REMARKS	BY
2	05/13/19	ADDED BRG LEAN DIMENSION	EEO WJL
1	04/24/19	REV'D BRG STIFF THICKNESS @ PIER 4	EEO WJL

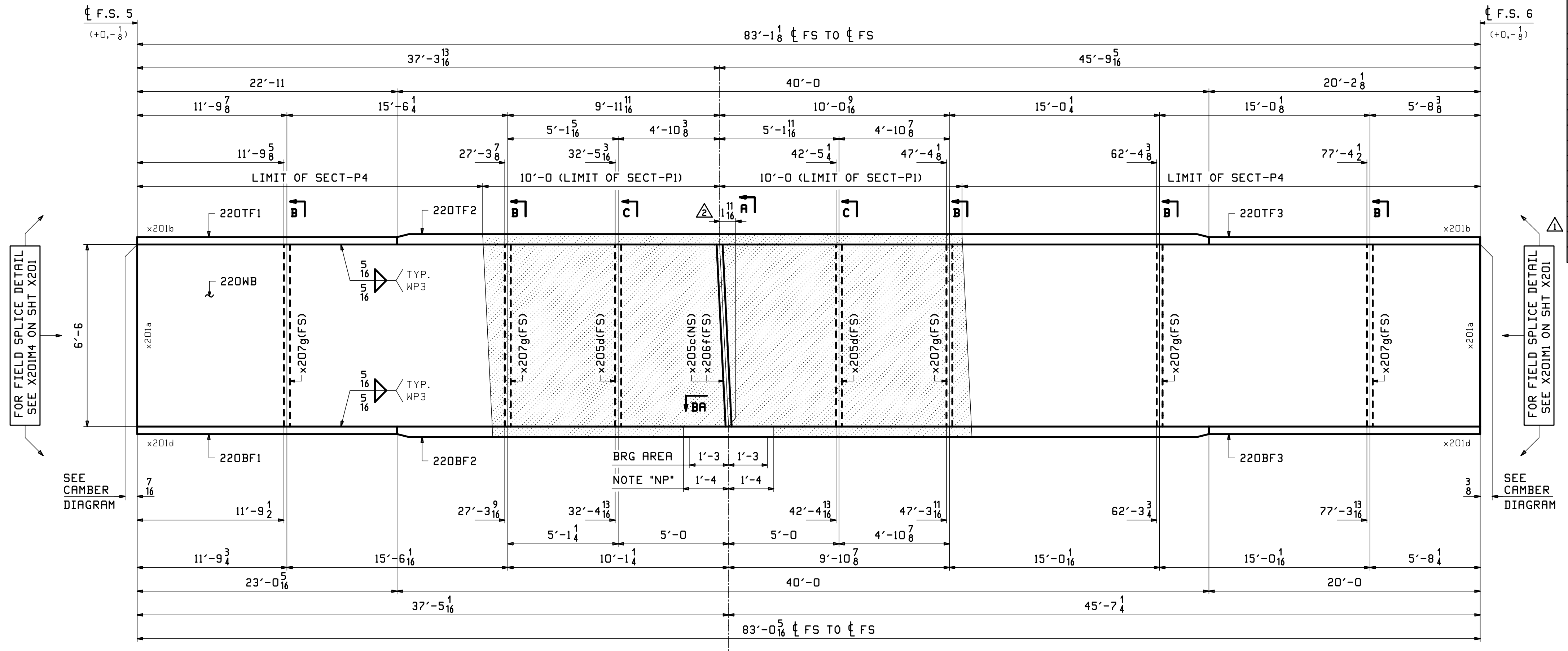
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL

TENSOR 3656-2

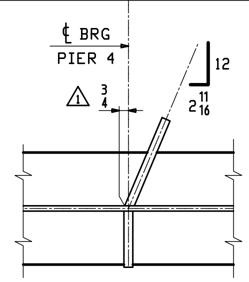
STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 219C5
SURFACE PREP.	SEE P1 — OPEN HOLES: 1 9/16"φ OVS FOR 1 1/4"φ HSB (U.N.)
PAINT	SEE P1 & AS NOTED

PRELIMINARY / FOR APPROVAL	DRAWN	CHECKED	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
	EEO 04/07/19	WJL 04/15/19	219	3	18060B	20

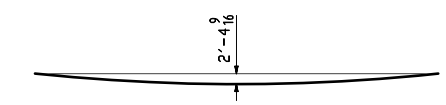


ONE - GIRDER - 220D5 (DEVELOPED)

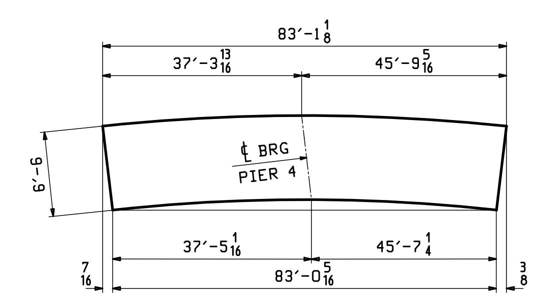
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG208 & BG209.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P4 & NOTE "NP".



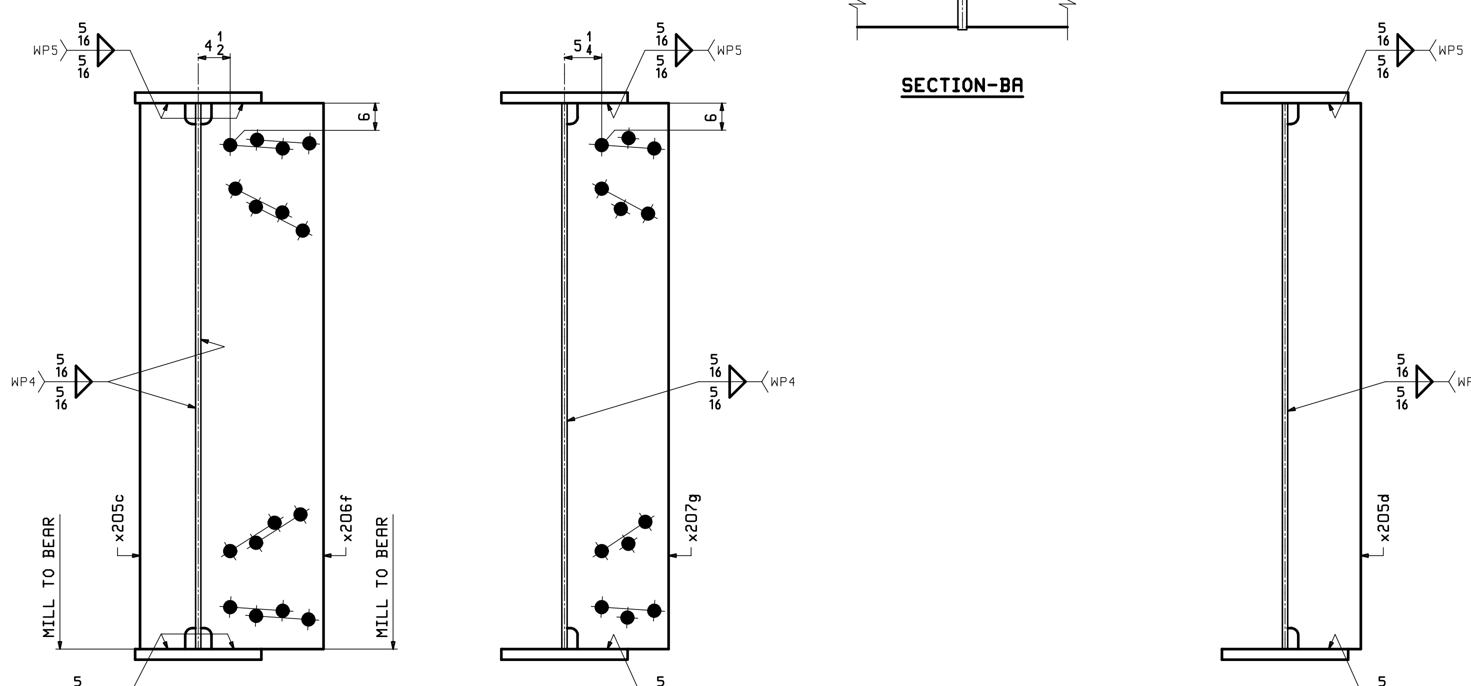
SECTION-BA



PLAN VIEW



DEV. ORIENTATION DIAGRAM



SECTION-A DEVELOPED

SECTION-B

SECTION-C

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	220D5	1		GIRDER					31492
2									
3		1	220WB	PL 9/16x78	83	1 1/8	A709-50WT2	205/8	FP:20
4		1	220TF1	PL 1x18	22	11	A709-50WT2	203/10	FP:20
5		1	220TF2	PL 2x18	40	0	A709-50WT2	201/26	FP:20
6		1	220TF3	PL 1x18	20	2 1/8	A709-50WT2	203/12	FP:20
7		1	220BF1	PL 1 3/8x18	23	0 5/16	A709-50WT2	202/28	FP:20
8		1	220BF2	PL 2 1/8x18	40	0	A709-50WT2	201/18	FP:20
9		1	220BF3	PL 2x18	20	0	A709-50WT2	201/30	FP:20
10									
11		1	x205c	PL 1 5/8x8	6	6	A709-50WT2	208/14	M1E FP:20
12		2	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
13		1	x206f	PL 1 5/8x17 1/2	6	6 1/8	A709-50WT2	208/13	M1E FP:20
14		5	x207g	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
15									

NO.	DATE	REMARKS	BY
2	05/13/19	ADDED BRG LEAN DIMENSION	EEO WJL
1	04/24/19	REV'D BRG STIFF THICKNESS @ PIER 4	EEO WJL

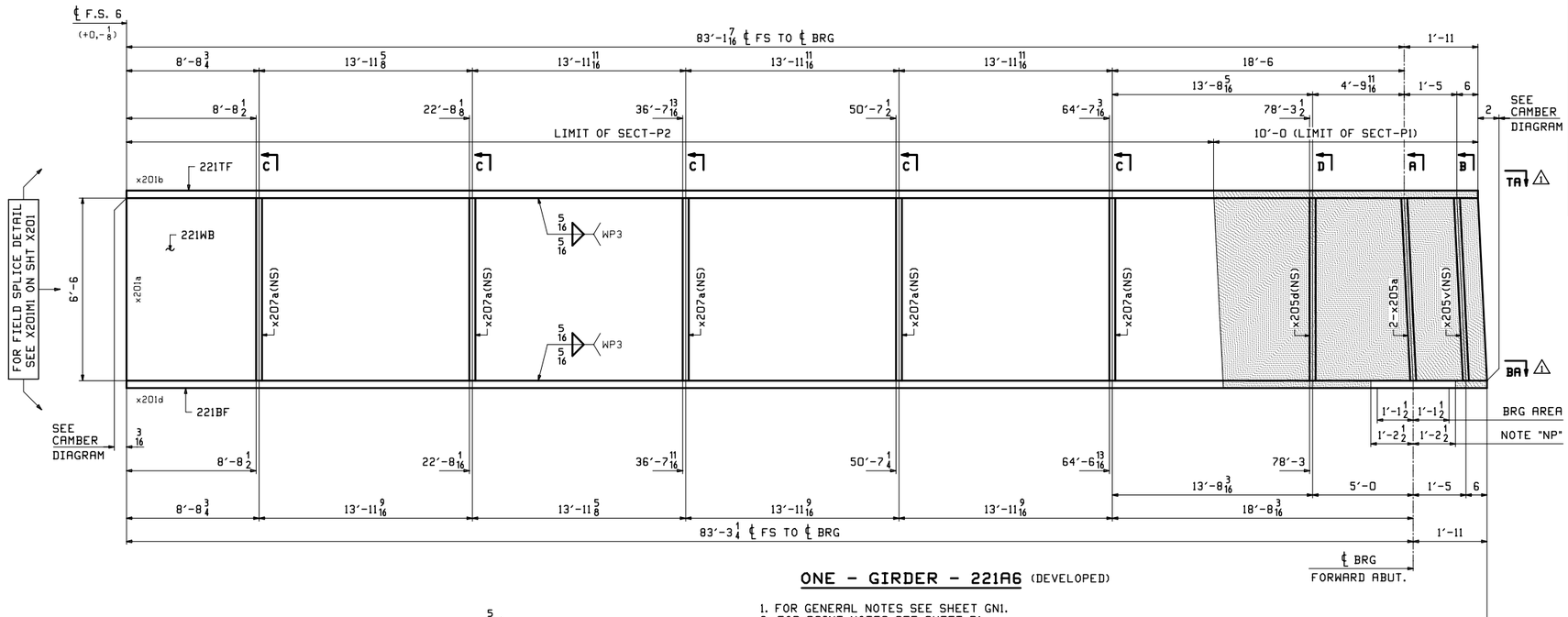
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: GIRDER ~ 220D5
SURFACE PREP.: SEE P1 — OPEN HOLES: 1 9/16"φ OVS FOR 1 1/4"φ HSB (U.N.)
PAINT: SEE P1 & AS NOTED

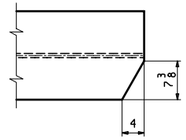
PRELIMINARY / FOR APPROVAL	DRAWN EEO 04/07/19	CHECKED WJL 04/15/19	SHEET NO. 220	PLANT 3	ORDER NO. 18060B	F.P. NO. 20



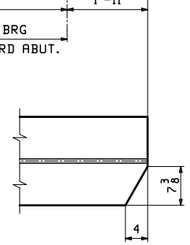
ONE - GIRDER - 221A6 (DEVELOPED)

1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG209.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P2 & NOTE "NP".

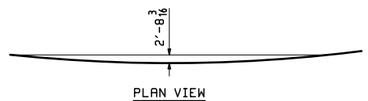
LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	221A6	1		GIRDER					23176
2									
3		1	221WB	PL 9/16x78	85	2 7/16	A709-50WT2	205/18	FP:20
4		1	221TF	PL 1x16	85	0 1/16	A709-50WT2	203/14	FP:20
5		1	221BF	PL 1x16	85	2 1/4	A709-50WT2	203/14	FP:20
6									
7		2	x205a	PL 1x8	6	6 1/16	A709-50WT2	208/2	MIE FP:20
8		1	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
9		1	x205n	PL 1/2x18	1	6 1/4	A709-50WT2	208/10	BENT FP:20
10		1	x205v	PL 1/2x8	6	6 1/16	A709-50WT2	208/16	FP:20
11		5	x207a	PL 1/2x10 1/2	6	6	A709-50WT2	208/6	FP:20
12									



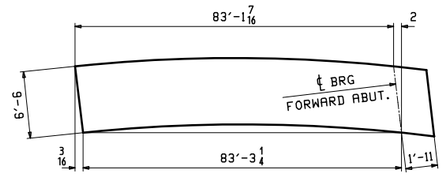
⚠ VIEW-TA



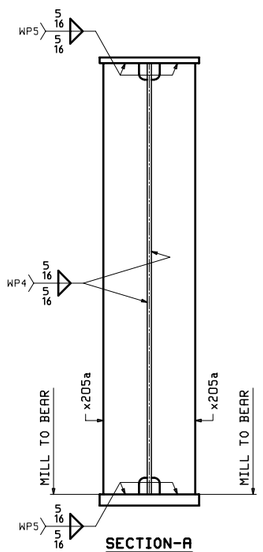
⚠ SECTION-BA



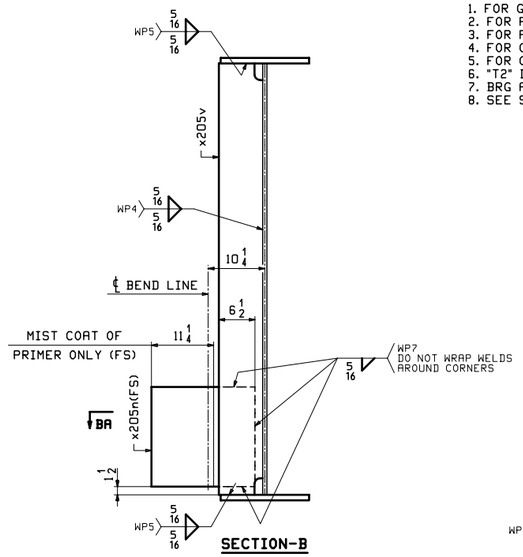
PLAN VIEW



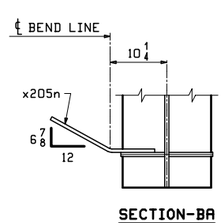
DEV. ORIENTATION DIAGRAM



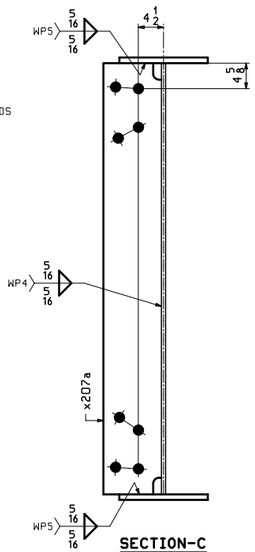
SECTION-A
DEVELOPED



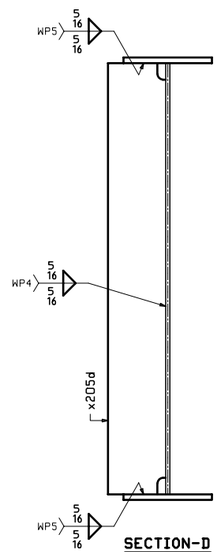
SECTION-B
DEVELOPED



SECTION-BA



SECTION-C



SECTION-D

NO.	DATE	REMARKS	BY
⚠1	05/13/19	ADDED FLANGE CLIPS	EEO / WJL

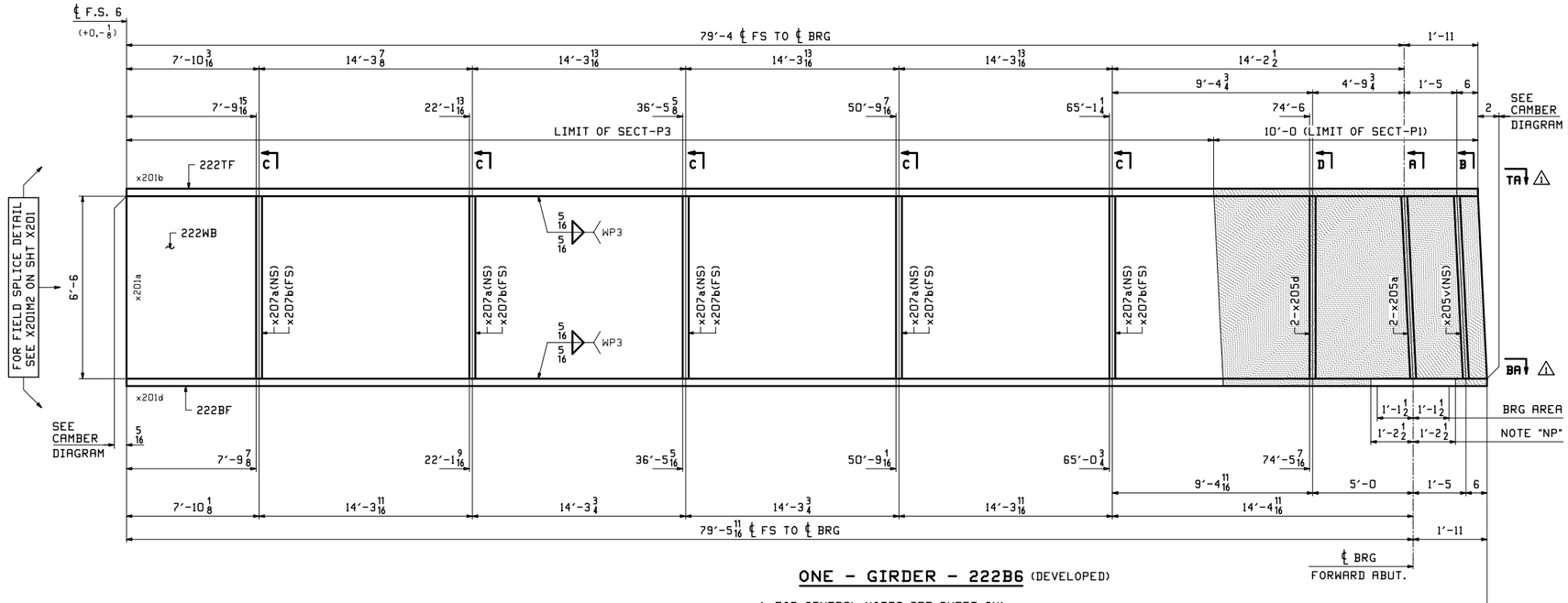
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 221A6
SURFACE PREP.	SEE P1
OPEN HOLES	1 9/16"ø OVS FOR 1 1/4"ø HSB (U.N.)
PAINT	SEE P1 & AS NOTED

PRELIMINARY	DRAWN EEO 04/05/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/15/19	221	3	18060B	20

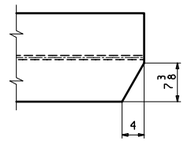
WJL Wed, May 15, 2019 07:44:09 PM C:\users\jobs\2656-2\221.dgn



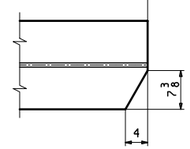
ONE - GIRDER - 222B6 (DEVELOPED)

1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG209.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P3 & NOTE "NP".

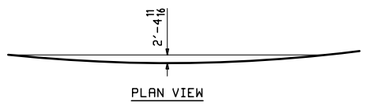
LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	222B6	1		GIRDER					22894
2									
3		1	222WB	PL 9/16x78	81	5	A709-50WT2	205/20	FP:20
4		1	222TF	PL 1x16	81	3	A709-50WT2	203/22	FP:20
5		1	222BF	PL 1x16	81	4 11/16	A709-50WT2	203/22	FP:20
6									
7		2	x205a	PL 1x8	6	6 1/16	A709-50WT2	208/2	MIE FP:20
8		2	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
9		1	x205p	PL 1/2x18	1	6 3/4	A709-50WT2	208/10	BENT FP:20
10		1	x205v	PL 1/2x8	6	6 1/16	A709-50WT2	208/16	FP:20
11		5	x207a	PL 1/2x10 1/2	6	6	A709-50WT2	208/6	FP:20
12		5	x207b	PL 1/2x10 1/2	6	6	A709-50WT2	208/6	FP:20
13									



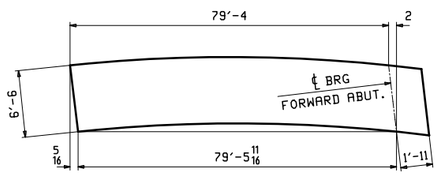
⚠ VIEW-TA



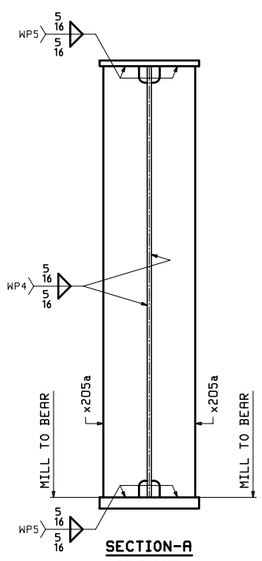
⚠ SECTION-BA



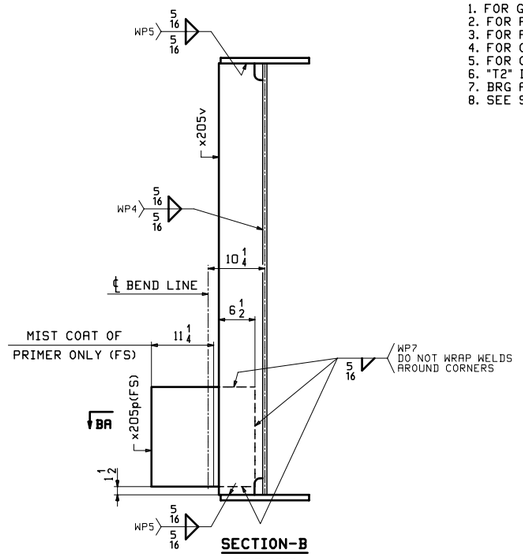
PLAN VIEW



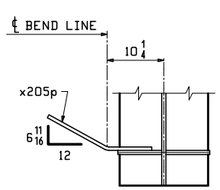
DEV. ORIENTATION DIAGRAM



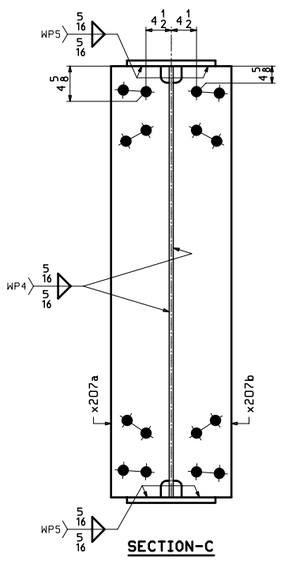
SECTION-A
DEVELOPED



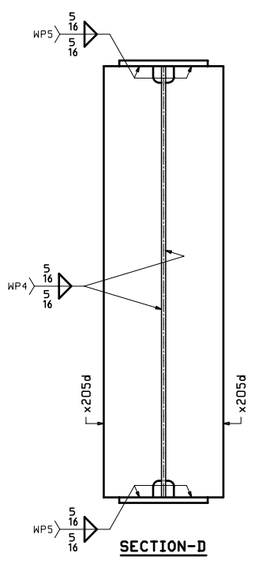
SECTION-B
DEVELOPED



SECTION-BA



SECTION-C



SECTION-D

NO.	DATE	REMARKS	BY
⚠1	05/13/19	ADDED FLANGE CLIPS	EEO WJL

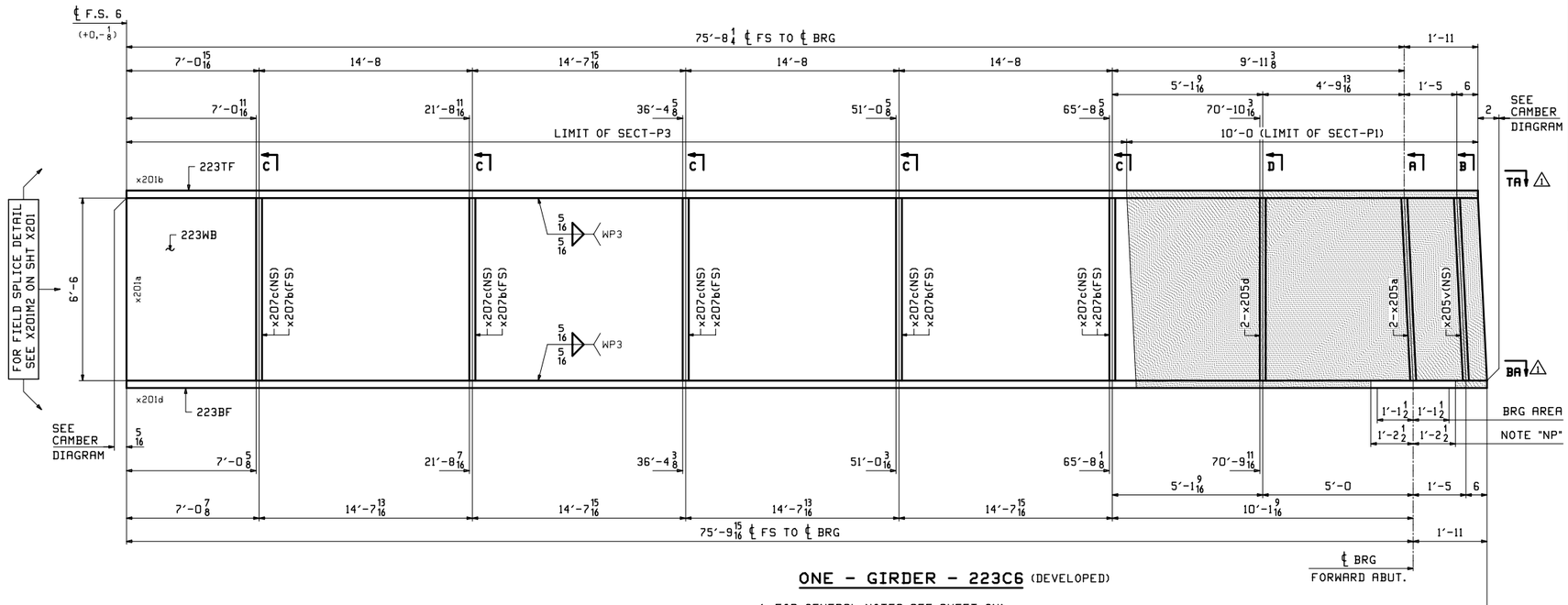
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 222B6
SURFACE PREP.	SEE P1
OPEN HOLES	1 9/16"ø OVS FOR 1 1/4"ø HSB (U.N.)
PAINT	SEE P1 & AS NOTED

PRELIMINARY	DRAWN EEO 04/08/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/15/19	222	3	18060B	20

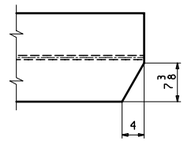
WJL Wed, May 15, 2019 07:44:11 AM C:\users\jobs\2656-2\222.dgn



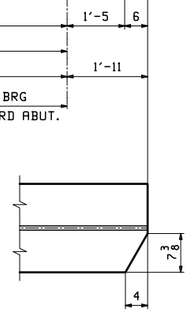
ONE - GIRDER - 223C6 (DEVELOPED)

1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG209.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P3 & NOTE "NP".

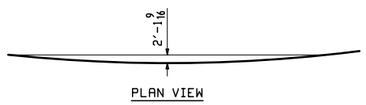
LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	223C6	1		GIRDER					22174
2									
3		1	223WB	PL 5/16x78	77	9 1/4	A709-50WT2	205/24	FP:20
4		1	223TF	PL 1x16	77	7 1/4	A709-50WT2	203/28	FP:20
5		1	223BF	PL 1x16	77	8 15/16	A709-50WT2	203/28	FP:20
6									
7		2	x205a	PL 1x8	6	6 1/16	A709-50WT2	208/2	MIE FP:20
8		2	x205d	PL 1/2x10 1/2	6	6	A709-50WT2	208/5	FP:20
9		1	x205t	PL 1/2x18	1	6 1/4	A709-50WT2	208/10	BENT FP:20
10		1	x205v	PL 1/2x8	6	6 1/16	A709-50WT2	208/16	FP:20
11		5	x207b	PL 1/2x10 1/2	6	6	A709-50WT2	208/6	FP:20
12		5	x207c	PL 1/2x14 1/2	6	6	A709-50WT2	208/2	FP:20
13									



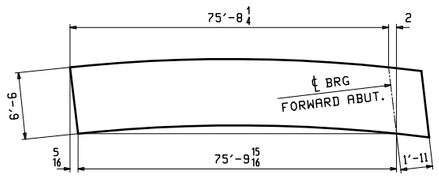
⚠ VIEW-TA



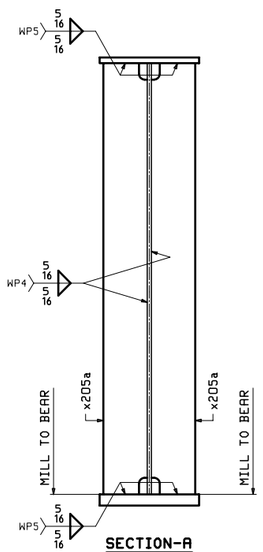
⚠ SECTION-BA

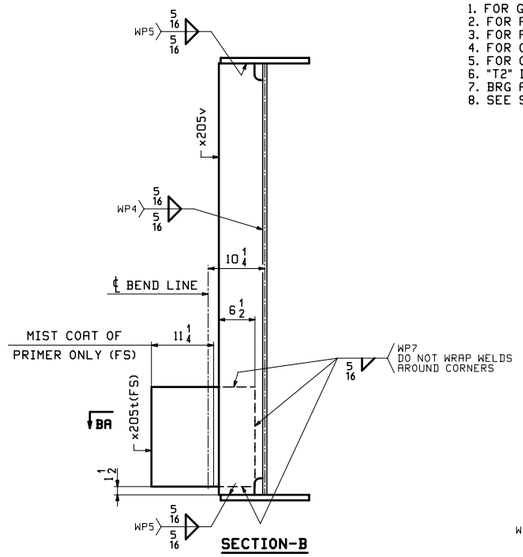


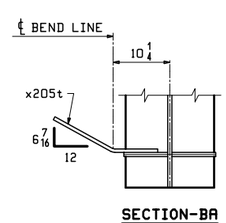
PLAN VIEW

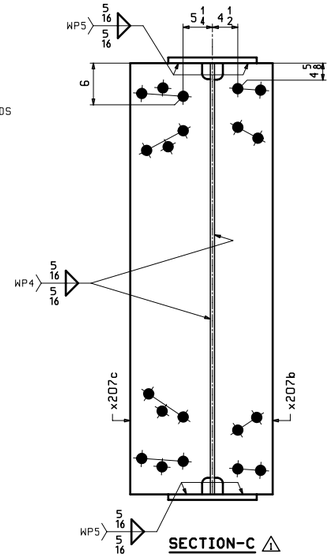


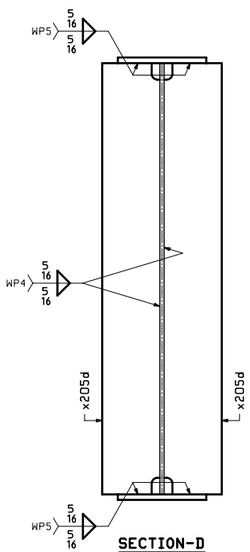
DEV. ORIENTATION DIAGRAM











NO.	DATE	REMARKS	BY
⚠1	05/13/19	ADDED FLANGE CLIPS & MISC	EEO WJL

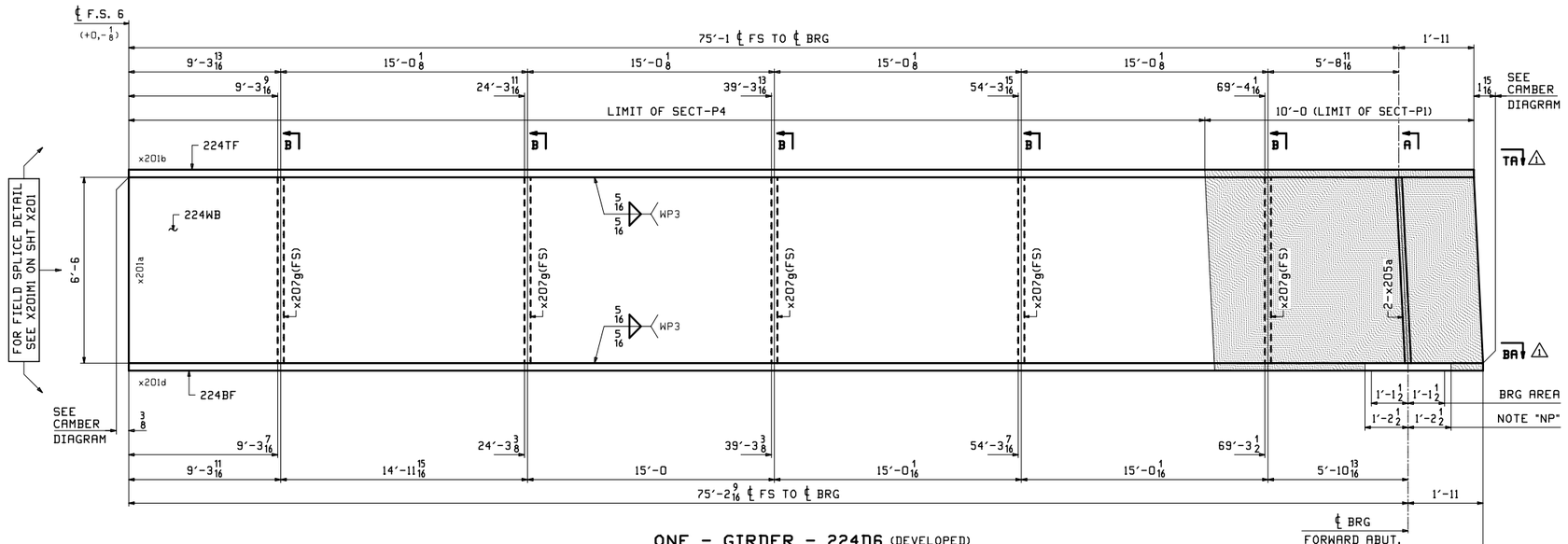
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 223C6
SURFACE PREP.	SEE P1
OPEN HOLES	1 9/16"ø OVS FOR 1 1/4"ø HSB (U.N.)
PAINT	SEE P1 & AS NOTED

PRELIMINARY	DRAWN EEO 04/08/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/15/19	223	3	18060B	20

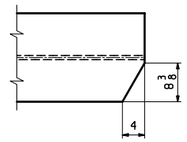
WJL Wed, May 15, 2019 07:44:13 PM c:\users\jobs\2656-2\223.dgn



ONE - GIRDER - 224D6 (DEVELOPED)

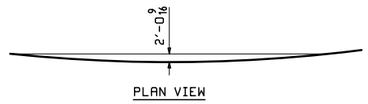
1. FOR GENERAL NOTES SEE SHEET GN1.
2. FOR PAINT NOTES SEE SHEET P1.
3. FOR FIELD SPLICE DETAIL SEE SHEET X201.
4. FOR GIRDER STANDARD DETAILS SEE SHEETS X205-X207.
5. FOR CAMBER & FLANGE DIAGRAMS SEE SHEET BG209.
6. "T2" DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.
7. BRG AREA - DENOTES FLANGE TO BE FLAT & TRUE.
8. SEE SHEET P1 FOR SECT-P1, SECT-P4 & NOTE "NP".

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	224D6	1		GIRDER					26841
2									
3		1	224WB	PL 9/16x78	77	15 1/16	A709-50WT2	205/26	FP:20
4		1	224TF	PL 1x18	77	0	A709-50WT2	203/5	FP:20
5		1	224BF	PL 2x18	77	9 1/16	A709-50WT2	201/24	FP:20
6									
7		2	x205a	PL 1x8	6	6 1/16	A709-50WT2	208/2	MIE FP:20
8		5	x207g	PL 1/2x14 1/2	6	6	A709-50WT2	208/7	FP:20
9									

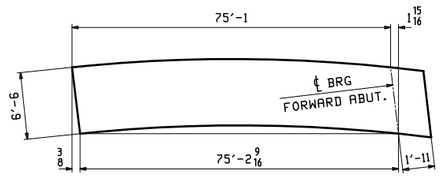


⚠ VIEW-TA

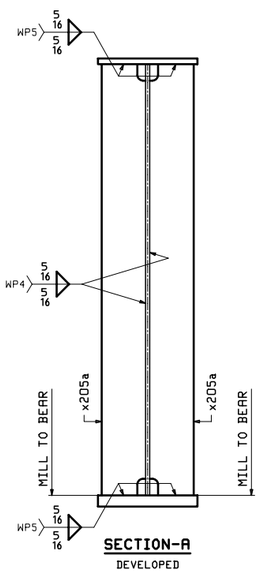
⚠ SECTION-BA



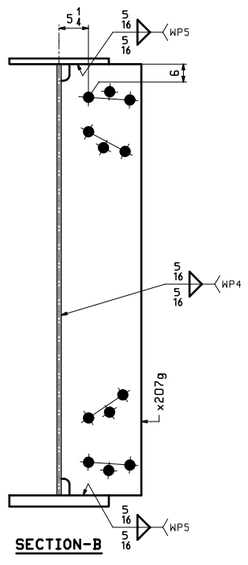
PLAN VIEW



DEV. ORIENTATION DIAGRAM



SECTION-A
DEVELOPED



SECTION-B

⚠	05/13/19	ADDED FLANGE CLIPS	EEO / WJL
NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER ~ 224D6
SURFACE PREP.	SEE P1 — OPEN HOLES 1 9/16"ϕ OVS FOR 1 1/4"ϕ HSB (U.N.)
PAINT	SEE P1 & AS NOTED

PRELIMINARY / FOR APPROVAL	DRAWN EEO 04/08/19	CHECKED WJL 04/15/19	SHEET NO. 224	PLANT 3	ORDER NO. 18060B	F.P. NO. 20

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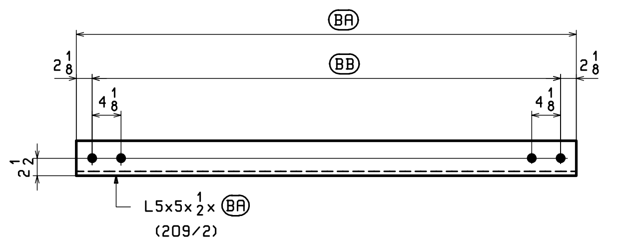
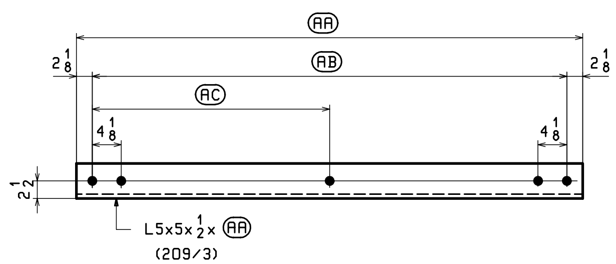


CROSSFRAME TOP & BTM STRUTS ~ MARK "A"

MARK	QTY	BA	BB
225C1A	30	$7'-11\frac{7}{16}$	$7'-7\frac{3}{16}$
225C2A	18 ⚠1	$7'-11\frac{1}{2}$	$7'-7\frac{1}{4}$
225C2AP	8 ⚠1	$7'-11\frac{1}{2}$	$7'-7\frac{1}{4}$
225C3A	24	$7'-11\frac{1}{2}$	$7'-7\frac{1}{4}$
225C3AP	4	$7'-11\frac{1}{2}$	$7'-7\frac{1}{4}$
225C4A	8	$7'-11\frac{1}{2}$	$7'-7\frac{1}{4}$

PRIME COATED (SEE SHT P1)

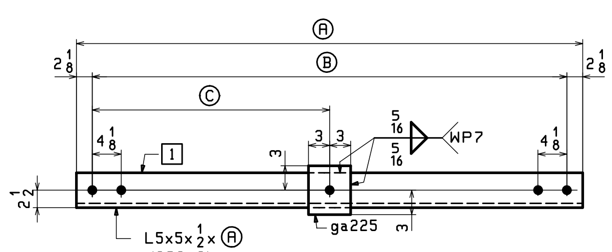


CROSSFRAME DIAGONALS ~ MARK "B"

(LOW END @ LEFT LOOKING UP-STATION)

MARK	QTY	AA	AB	AC
225C1B	15	$8'-11\frac{3}{4}$	$8'-7\frac{1}{2}$	$4'-3\frac{3}{4}$
225C2B	9 ⚠1	$8'-11\frac{9}{16}$	$8'-7\frac{5}{16}$	$4'-3\frac{11}{16}$
225C2BP	4 ⚠1	$8'-11\frac{9}{16}$	$8'-7\frac{5}{16}$	$4'-3\frac{11}{16}$
225C3B	12	$8'-11\frac{7}{16}$	$8'-7\frac{3}{16}$	$4'-3\frac{5}{8}$
225C3BP	2	$8'-11\frac{7}{16}$	$8'-7\frac{3}{16}$	$4'-3\frac{5}{8}$
225C4B	4	$8'-11\frac{1}{4}$	$8'-7$	$4'-3\frac{1}{2}$

PRIME COATED (SEE SHT P1)



CROSSFRAME DIAGONALS ~ MARK "C"

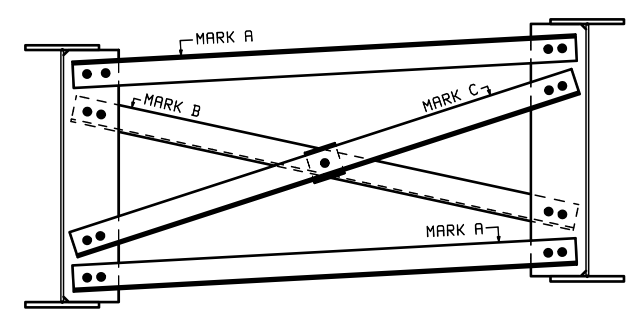
(LOW END @ LEFT LOOKING UP-STATION)

MARK	QTY	A	B	C	1
225C1C	15	$9'-5\frac{7}{16}$	$9'-1\frac{3}{16}$	$4'-6\frac{5}{8}$	a225
225C2C	9 ⚠1	$9'-5\frac{5}{8}$	$9'-1\frac{3}{8}$	$4'-6\frac{11}{16}$	b225
225C2CP	4 ⚠1	$9'-5\frac{5}{8}$	$9'-1\frac{3}{8}$	$4'-6\frac{11}{16}$	b225
225C3C	12	$9'-5\frac{3}{4}$	$9'-1\frac{1}{2}$	$4'-6\frac{3}{4}$	c225
225C3CP	2	$9'-5\frac{3}{4}$	$9'-1\frac{1}{2}$	$4'-6\frac{3}{4}$	c225
225C4C	4	$9'-6$	$9'-1\frac{3}{4}$	$4'-6\frac{7}{8}$	d225

PRIME COATED (SEE SHT P1)

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
41	225C1C	15		DIAGONALS					158
42		15	a225	L 5x5x$\frac{1}{2}$	9	$5\frac{7}{16}$	A709-50WT2	209/3	
43		15	ga225	PL $\frac{1}{2}$x6	0	6	A709-50WT2	209/14	
44									
45	225C2C	⚠1 9		DIAGONALS					158
46		⚠1 9	b225	L 5x5x$\frac{1}{2}$	9	$5\frac{5}{8}$	A709-50WT2	209/3	
47		⚠1 9	ga225	PL $\frac{1}{2}$x6	0	6	A709-50WT2	209/14	
48									
49	225C2CP	⚠1 4		DIAGONALS					PAINTED 158
50		⚠1 4	b225	L 5x5x$\frac{1}{2}$	9	$5\frac{5}{8}$	A709-50WT2	209/3	
51		⚠1 4	ga225	PL $\frac{1}{2}$x6	0	6	A709-50WT2	209/14	
52									
53	225C3C	12		DIAGONALS					158
54		12	c225	L 5x5x$\frac{1}{2}$	9	$5\frac{3}{4}$	A709-50WT2	209/3	
55		12	ga225	PL $\frac{1}{2}$x6	0	6	A709-50WT2	209/14	
56									
57	225C3CP	2		DIAGONALS					PAINTED 158
58		2	c225	L 5x5x$\frac{1}{2}$	9	$5\frac{3}{4}$	A709-50WT2	209/3	
59		2	ga225	PL $\frac{1}{2}$x6	0	6	A709-50WT2	209/14	
60									
61	225C4C	4		DIAGONALS					159
62		4	d225	L 5x5x$\frac{1}{2}$	9	6	A709-50WT2	209/3	
63		4	ga225	PL $\frac{1}{2}$x6	0	6	A709-50WT2	209/14	
64									
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	225C1A	30		L 5x5x$\frac{1}{2}$	7	$11\frac{7}{16}$	A709-50WT2	209/2	129
2									
3	225C2A	⚠1 18		L 5x5x$\frac{1}{2}$	7	$11\frac{1}{2}$	A709-50WT2	209/2	129
4									
5	225C2AP	⚠1 8		L 5x5x$\frac{1}{2}$	7	$11\frac{1}{2}$	A709-50WT2	209/2	PAINTED 129
6									
7	225C3A	24		L 5x5x$\frac{1}{2}$	7	$11\frac{1}{2}$	A709-50WT2	209/2	129
8									
9	225C3AP	4		L 5x5x$\frac{1}{2}$	7	$11\frac{1}{2}$	A709-50WT2	209/2	PAINTED 129
10									
11	225C4A	8		L 5x5x$\frac{1}{2}$	7	$11\frac{1}{2}$	A709-50WT2	209/2	129
12									
13									
14	225C1B	15		L 5x5x$\frac{1}{2}$	8	$11\frac{3}{4}$	A709-50WT2	209/3	145
15									
16	225C2B	⚠1 9		L 5x5x$\frac{1}{2}$	8	$11\frac{9}{16}$	A709-50WT2	209/3	145
17									
18	225C2BP	⚠1 4		L 5x5x$\frac{1}{2}$	8	$11\frac{9}{16}$	A709-50WT2	209/3	PAINTED 145
19									
20	225C3B	12		L 5x5x$\frac{1}{2}$	8	$11\frac{7}{16}$	A709-50WT2	209/3	145
21									
22	225C3BP	2		L 5x5x$\frac{1}{2}$	8	$11\frac{7}{16}$	A709-50WT2	209/3	PAINTED 145
23									
24	225C4B	4		L 5x5x$\frac{1}{2}$	8	$11\frac{1}{4}$	A709-50WT2	209/3	144
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									



CROSSFRAME MARK LOCATION

(LOOKING UP-STATION)

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL SHALL BE A709-50WT2, UN.
3. T2 DENOTES CHARPY V-NOTCH TESTING REQUIRED.

NO.	DATE	REMARKS	BY
⚠1	5/13/19	REVISED CROSSFRAME QTY	DPS/

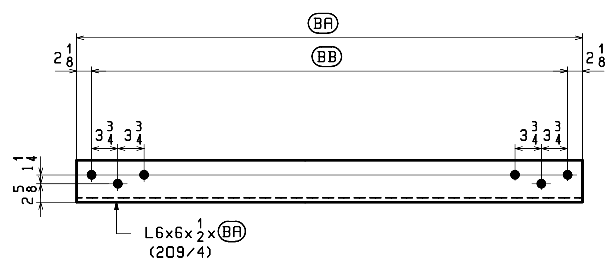
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	CROSSFRAMES
SURFACE PREP.	SEE SHEET P1 — OPEN HOLES $1\frac{5}{16}$"Ø FOR $1\frac{1}{4}$"Ø HSB
PAINT	SEE SHEET P1

PRELIMINARY / FOR APPROVAL	DRAWN	CHECKED	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
	DPS 03/22/19	WJL 04/17/19	225	3	18060B	37

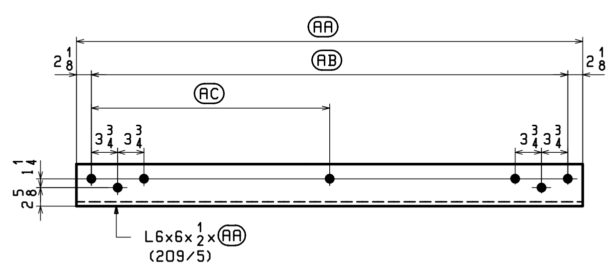
WJL Wed, May 15, 2019 07:44:18 AM /users/jobs/3656-2/225 : Rev1



CROSSFRAME TOP & BTM STRUTS ~ MARK "A"

MARK	QTY	(BA)	(BB)
226C1A	14	7′-9$\frac{7}{8}$	7′-5$\frac{5}{8}$
226C2A	10	7′-9$\frac{7}{8}$	7′-5$\frac{5}{8}$
226C2AP	4	7′-9$\frac{7}{8}$	7′-5$\frac{5}{8}$
226C3A	10	7′-9$\frac{15}{16}$	7′-5$\frac{11}{16}$
226C3AP	2	7′-9$\frac{15}{16}$	7′-5$\frac{5}{8}$
226C4A	2	7′-9$\frac{15}{16}$	7′-5$\frac{11}{16}$
226C5A	4	7′-9$\frac{15}{16}$	7′-5$\frac{11}{16}$
226C6A	4	7′-10	7′-5$\frac{3}{4}$
226C7A	16	7′-10$\frac{1}{16}$	7′-5$\frac{13}{16}$
226C8A	4	7′-10$\frac{1}{16}$	7′-5$\frac{13}{16}$

PRIME COATED (SEE SHT P1)

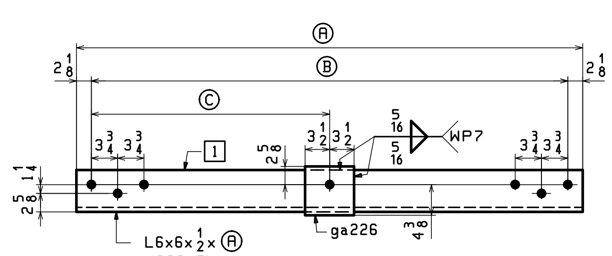


CROSSFRAME DIAGONALS ~ MARK "B"

(LOW END @ LEFT LOOKING UP-STATION)

MARK	QTY	(AA)	(AB)	(AC)
226C1B	7	8′-9$\frac{11}{16}$	8′-5$\frac{7}{16}$	4′-2$\frac{3}{4}$
226C2B	5	8′-9$\frac{1}{2}$	8′-5$\frac{1}{4}$	4′-2$\frac{5}{8}$
226C2BP	2	8′-9$\frac{1}{2}$	8′-5$\frac{1}{4}$	4′-2$\frac{5}{8}$
226C3B	5	8′-9$\frac{3}{8}$	8′-5$\frac{1}{8}$	4′-2$\frac{9}{16}$
226C3BP	1	8′-9$\frac{3}{8}$	8′-5$\frac{1}{8}$	4′-2$\frac{9}{16}$
226C4B	1	8′-9$\frac{1}{4}$	8′-5	4′-2$\frac{1}{2}$
226C5B	2	8′-8$\frac{15}{16}$	8′-4$\frac{11}{16}$	4′-2$\frac{3}{8}$
226C6B	2	8′-8$\frac{11}{16}$	8′-4$\frac{7}{16}$	4′-2$\frac{1}{4}$
226C7B	8	8′-8$\frac{7}{16}$	8′-4$\frac{3}{16}$	4′-2$\frac{1}{8}$
226C8B	2	8′-8$\frac{5}{16}$	8′-4$\frac{1}{16}$	4′-2$\frac{1}{16}$

PRIME COATED (SEE SHT P1)



CROSSFRAME DIAGONALS ~ MARK "C"

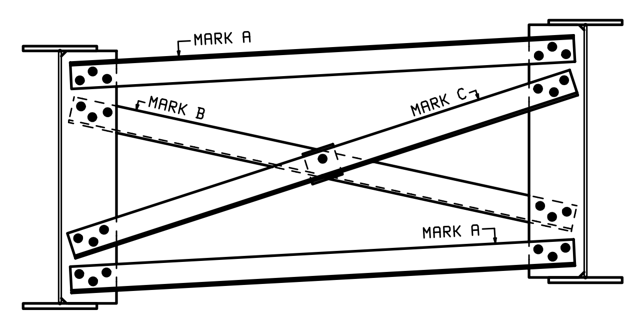
(LOW END @ LEFT LOOKING UP-STATION)

MARK	QTY	(A)	(B)	(C)	[1]
226C1C	7	9′-1$\frac{13}{16}$	8′-9$\frac{9}{16}$	4′-4$\frac{13}{16}$	a226
226C2C	5	9′-1$\frac{15}{16}$	8′-9$\frac{11}{16}$	4′-4$\frac{7}{8}$	b226
226C2CP	2	9′-1$\frac{15}{16}$	8′-9$\frac{11}{16}$	4′-4$\frac{7}{8}$	b226
226C3C	5	9′-2$\frac{1}{8}$	8′-9$\frac{7}{8}$	4′-4$\frac{15}{16}$	c226
226C3CP	1	9′-2$\frac{1}{8}$	8′-9$\frac{7}{8}$	4′-4$\frac{15}{16}$	c226
226C4C	1	9′-2$\frac{1}{4}$	8′-10	4′-5	d226
226C5C	2	9′-2$\frac{5}{8}$	8′-10$\frac{3}{8}$	4′-5$\frac{3}{16}$	f226
226C6C	2	9′-2$\frac{15}{16}$	8′-10$\frac{11}{16}$	4′-5$\frac{5}{16}$	g226
226C7C	8	9′-3$\frac{1}{4}$	8′-11	4′-5$\frac{1}{2}$	k226
226C8C	2	9′-3$\frac{7}{16}$	8′-11$\frac{3}{16}$	4′-5$\frac{5}{8}$	m226

PRIME COATED (SEE SHT P1)

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
53	226C1C	7		DIAGONALS					186
54		7	a226	L 6x6x$\frac{1}{2}$	9	1$\frac{13}{16}$	A709-50WT2	209/5	
55		7	ga226	PL $\frac{1}{2}$x7	0	7	A709-50WT2	209/15	
56									
57	226C2C	5		DIAGONALS					186
58		5	b226	L 6x6x$\frac{1}{2}$	9	1$\frac{15}{16}$	A709-50WT2	209/5	
59		5	ga226	PL $\frac{1}{2}$x7	0	7	A709-50WT2	209/15	
60									
61	226C2CP	2		DIAGONALS					PAINTED 186
62		2	b226	L 6x6x$\frac{1}{2}$	9	1$\frac{15}{16}$	A709-50WT2	209/5	
63		2	ga226	PL $\frac{1}{2}$x7	0	7	A709-50WT2	209/15	
64									
65	226C3C	5		DIAGONALS					187
66		5	c226	L 6x6x$\frac{1}{2}$	9	2$\frac{1}{8}$	A709-50WT2	209/5	
67		5	ga226	PL $\frac{1}{2}$x7	0	7	A709-50WT2	209/15	
68									
69	226C3CP	1		DIAGONALS					PAINTED 187
70		1	c226	L 6x6x$\frac{1}{2}$	9	2$\frac{1}{8}$	A709-50WT2	209/5	
71		1	ga226	PL $\frac{1}{2}$x7	0	7	A709-50WT2	209/15	
72									
73	226C4C	1		DIAGONALS					187
74		1	d226	L 6x6x$\frac{1}{2}$	9	2$\frac{1}{4}$	A709-50WT2	209/5	
75		1	ga226	PL $\frac{1}{2}$x7	0	7	A709-50WT2	209/15	
76									
77	226C5C	2		DIAGONALS					187
78		2	f226	L 6x6x$\frac{1}{2}$	9	2$\frac{5}{8}$	A709-50WT2	209/5	
79		2	ga226	PL $\frac{1}{2}$x7	0	7	A709-50WT2	209/15	
80									
81	226C6C	2		DIAGONALS					188
82		2	g226	L 6x6x$\frac{1}{2}$	9	2$\frac{15}{16}$	A709-50WT2	209/5	
83		2	ga226	PL $\frac{1}{2}$x7	0	7	A709-50WT2	209/15	
84									
85	226C7C	8		DIAGONALS					188
86		8	k226	L 6x6x$\frac{1}{2}$	9	3$\frac{1}{4}$	A709-50WT2	209/5	
87		8	ga226	PL $\frac{1}{2}$x7	0	7	A709-50WT2	209/15	
88									
89	226C8C	2		DIAGONALS					189
90		2	m226	L 6x6x$\frac{1}{2}$	9	3$\frac{7}{16}$	A709-50WT2	209/5	
91		2	ga226	PL $\frac{1}{2}$x7	0	7	A709-50WT2	209/15	
92									
93									
94									
95									
96									
97									
98									
99									
100									
101									
102									
103									
104									

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	226C1A	14		L 6x6x$\frac{1}{2}$	7	9$\frac{7}{8}$	A709-50WT2	209/4	153
2									
3	226C2A	10		L 6x6x$\frac{1}{2}$	7	9$\frac{7}{8}$	A709-50WT2	209/4	153
4									
5	226C2AP	4		L 6x6x$\frac{1}{2}$	7	9$\frac{7}{8}$	A709-50WT2	209/4	PAINTED 153
6									
7	226C3A	10		L 6x6x$\frac{1}{2}$	7	9$\frac{15}{16}$	A709-50WT2	209/4	153
8									
9	226C3AP	2		L 6x6x$\frac{1}{2}$	7	9$\frac{15}{16}$	A709-50WT2	209/4	PAINTED 153
10									
11	226C4A	2		L 6x6x$\frac{1}{2}$	7	9$\frac{15}{16}$	A709-50WT2	209/4	153
12									
13	226C5A	4		L 6x6x$\frac{1}{2}$	7	9$\frac{15}{16}$	A709-50WT2	209/4	153
14									
15	226C6A	4		L 6x6x$\frac{1}{2}$	7	10	A709-50WT2	209/4	153
16									
17	226C7A	16		L 6x6x$\frac{1}{2}$	7	10$\frac{1}{16}$	A709-50WT2	209/4	153
18									
19	226C8A	4		L 6x6x$\frac{1}{2}$	7	10$\frac{1}{16}$	A709-50WT2	209/4	153
20									
21									
22	226C1B	7		L 6x6x$\frac{1}{2}$	8	9$\frac{11}{16}$	A709-50WT2	209/5	172
23									
24	226C2B	5		L 6x6x$\frac{1}{2}$	8	9$\frac{1}{2}$	A709-50WT2	209/5	172
25									
26	226C2BP	2		L 6x6x$\frac{1}{2}$	8	9$\frac{1}{2}$	A709-50WT2	209/5	PAINTED 172
27									
28	226C3B	5		L 6x6x$\frac{1}{2}$	8	9$\frac{3}{8}$	A709-50WT2	209/5	172
29									
30	226C3BP	1		L 6x6x$\frac{1}{2}$	8	9$\frac{3}{8}$	A709-50WT2	209/5	PAINTED 172
31									
32	226C4B	1		L 6x6x$\frac{1}{2}$	8	9$\frac{1}{4}$	A709-50WT2	209/5	172
33									
34	226C5B	2		L 6x6x$\frac{1}{2}$	8	8$\frac{15}{16}$	A709-50WT2	209/5	171
35									
36	226C6B	2		L 6x6x$\frac{1}{2}$	8	8$\frac{11}{16}$	A709-50WT2	209/5	171
37									
38	226C7B	8		L 6x6x$\frac{1}{2}$	8	8$\frac{7}{16}$	A709-50WT2	209/5	170
39									
40	226C8B	2		L 6x6x$\frac{1}{2}$	8	8$\frac{5}{16}$	A709-50WT2	209/5	170
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									



CROSSFRAME MARK LOCATION

(LOOKING UP-STATION)

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL SHALL BE A709-50WT2, UN.
3. T2 DENOTES CHARPY V-NOTCH TESTING REQUIRED.

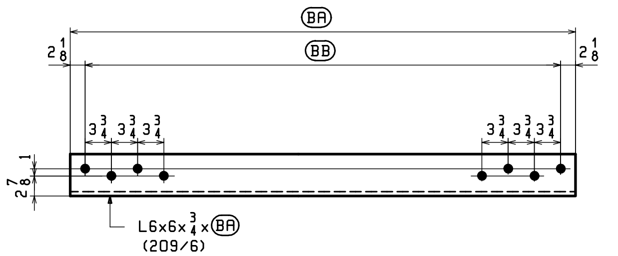
NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL — 2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL — TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	CROSSFRAMES
SURFACE PREP.	SEE SHEET P1 — OPEN HOLES 1$\frac{9}{16}$"Ø FOR 1$\frac{1}{4}$"Ø HSB
PAINT	SEE SHEET P1

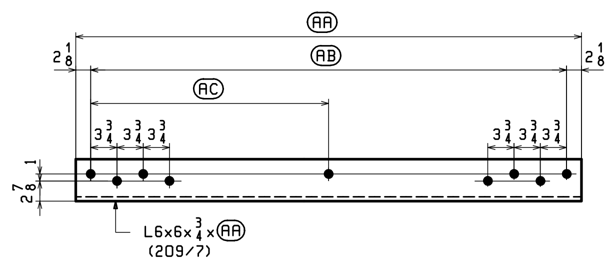
PRELIMINARY	DRAWN DPS 03/22/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/17/19	226	3	18060B	37



CROSSFRAME TOP & BTM STRUTS ~ MARK "A"

MARK	QTY	BA	BB
227C1A	2	7'-11 3/8	7'-7 1/8
227C1AP	2	7'-11 3/8	7'-7 1/8
227C2A	6	7'-11 7/16	7'-7 3/16
227C3A	6	7'-11 7/16	7'-7 3/16
227C4A	2	7'-11 7/16	7'-7 3/16

PRIME COATED (SEE SHT P1)

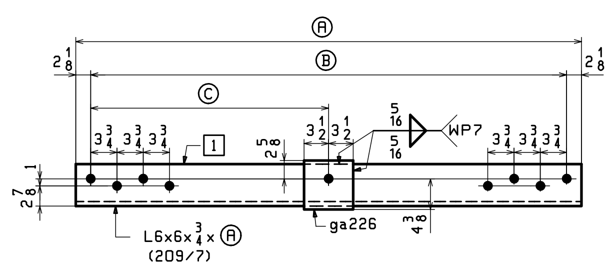


CROSSFRAME DIAGONALS ~ MARK "B"

(LOW END @ LEFT LOOKING UP-STATION)

MARK	QTY	AA	AB	AC
227C1B	1	8'-10	8'-5 3/4	4'-2 3/8
227C1BP	1	8'-10	8'-5 3/4	4'-2 3/8
227C2B	3	8'-9 13/16	8'-5 9/16	4'-2 5/16
227C3B	3	8'-9 11/16	8'-5 7/16	4'-2 1/4
227C4B	1	8'-9 5/8	8'-5 3/8	4'-2 1/4

PRIME COATED (SEE SHT P1)

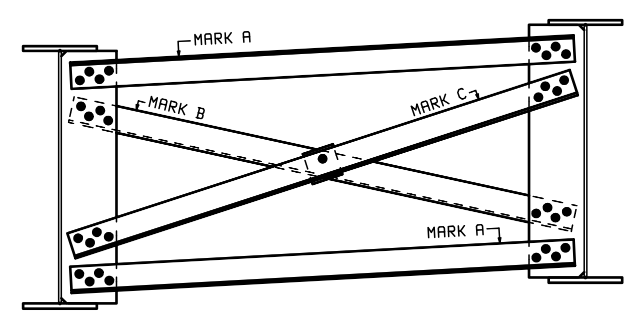


CROSSFRAME DIAGONALS ~ MARK "C"

(LOW END @ LEFT LOOKING UP-STATION)

MARK	QTY	A	B	C	1
227C1C	1	9'-2 13/16	8'-10 9/16	4'-4 7/8	a227
227C1CP	1	9'-2 13/16	8'-10 9/16	4'-4 7/8	a227
227C2C	3	9'-3	8'-10 3/4	4'-4 15/16	b227
227C3C	3	9'-3 3/16	8'-10 15/16	4'-5 1/16	c227
227C4C	1	9'-3 1/4	8'-11	4'-5 1/16	d227

PRIME COATED (SEE SHT P1)



CROSSFRAME MARK LOCATION

(LOOKING UP-STATION)

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL SHALL BE A709-50WT2, UN.
3. T2 DENOTES CHARPY V-NOTCH TESTING REQUIRED.

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	227C1A	2		L 6x6x3/4	7	11 3/8	A709-50WT2	209/6	228
2									
3	227C1AP	2		L 6x6x3/4	7	11 3/8	A709-50WT2	209/6	PAINTED 228
4									
5	227C2A	6		L 6x6x3/4	7	11 7/16	A709-50WT2	209/6	228
6									
7	227C3A	6		L 6x6x3/4	7	11 7/16	A709-50WT2	209/6	228
8									
9	227C4A	2		L 6x6x3/4	7	11 7/16	A709-50WT2	209/6	228
10									
11									
12	227C1B	1		L 6x6x3/4	8	10	A709-50WT2	209/7	254
13									
14	227C1BP	1		L 6x6x3/4	8	10	A709-50WT2	209/7	PAINTED 254
15									
16	227C2B	3		L 6x6x3/4	8	9 13/16	A709-50WT2	209/7	253
17									
18	227C3B	3		L 6x6x3/4	8	9 11/16	A709-50WT2	209/7	253
19									
20	227C4B	1		L 6x6x3/4	8	9 5/8	A709-50WT2	209/7	253
21									
22									
23	227C1C	1		DIAGONALS					272
24		1	a227	L 6x6x3/4	9	2 13/16	A709-50WT2	209/7	
25		1	ga226	PL 1/2x7	0	7	A709-50WT2	209/15	
26									
27	227C1CP	1		DIAGONALS					PAINTED 272
28		1	a227	L 6x6x3/4	9	2 13/16	A709-50WT2	209/7	
29		1	ga226	PL 1/2x7	0	7	A709-50WT2	209/15	
30									
31	227C2C	3		DIAGONALS					273
32		3	b227	L 6x6x3/4	9	3	A709-50WT2	209/7	
33		3	ga226	PL 1/2x7	0	7	A709-50WT2	209/15	
34									
35	227C3C	3		DIAGONALS					273
36		3	c227	L 6x6x3/4	9	3 3/16	A709-50WT2	209/7	
37		3	ga226	PL 1/2x7	0	7	A709-50WT2	209/15	
38									
39	227C4C	1		DIAGONALS					273
40		1	d227	L 6x6x3/4	9	3 1/4	A709-50WT2	209/7	
41		1	ga226	PL 1/2x7	0	7	A709-50WT2	209/15	
42									
43									
44									
45									
46									
47									
48									
49									
50									

NO.	DATE	REMARKS	BY

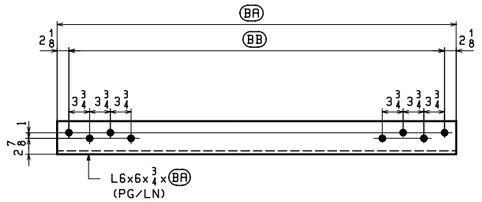
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	CROSSFRAMES
SURFACE PREP.	SEE SHEET P1 — OPEN HOLES 1 1/16"Ø FOR 1"Ø HSB
PAINT	SEE SHEET P1

PRELIMINARY	DRAWN DPS 03/22/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/17/19	227	3	18060B	37

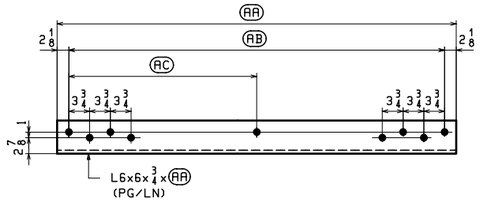
ECO Mon, Apr 22, 2019 07:01:49 AM /users/jobs/3656-2/227 - Rev0



CROSSFRAME TOP & BTM STRUTS ~ MARK "A"

MARK	QTY	BA	BB	PG/LN
228C1AP	2	7'-11 3/8	7'-7 1/8	209/6
228C2AP	4	7'-11 1/2	7'-7 1/4	209/6
228C3AP	2	8'-1 15/16	7'-9 11/16	209/8
228C4AP	2	8'-2 1/8	7'-9 7/8	209/8
228C5AP	2	8'-2 5/16	7'-10 1/16	209/8

PRIME COATED (SEE SHT P1)

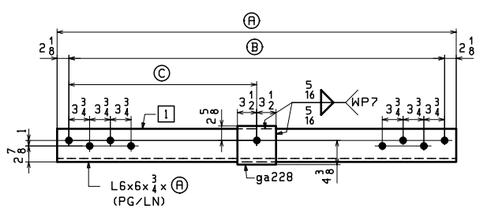


CROSSFRAME DIAGONALS ~ MARK "B"

(LOW END @ LEFT LOOKING UP-STATION)

MARK	QTY	AA	AB	AC	PG/LN
228C1BP	1	8'-10 1/8	8'-5 7/8	4'-2 1/2	209/7
228C2BP	2	8'-9 7/16	8'-5 3/16	4'-2 1/8	209/7
228C3BP	1	9'-0 1/8	8'-7 7/8	4'-3 1/2	209/9
228C4BP	1	8'-11 9/16	8'-7 5/16	4'-3 3/16	209/9
228C5BP	1	8'-11 3/4	8'-7 1/2	4'-3 5/16	209/9

PRIME COATED (SEE SHT P1)

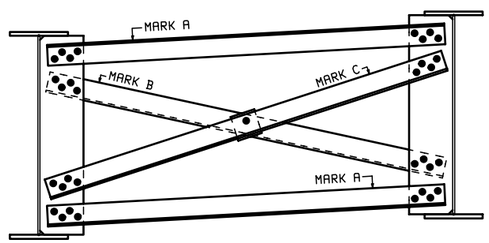


CROSSFRAME DIAGONALS ~ MARK "C"

(LOW END @ LEFT LOOKING UP-STATION)

MARK	QTY	A	B	C	1	PG/LN
228C1CP	1	9'-2 11/16	8'-10 7/16	4'-4 13/16	a228	209/7
228C2CP	2	9'-3 7/16	8'-11 3/16	4'-5 3/16	b228	209/7
228C3CP	1	9'-5 1/16	9'-0 13/16	4'-6	c228	209/9
228C4CP	1	9'-5 15/16	9'-1 11/16	4'-6 7/16	d228	209/9
228C5CP	1	9'-6 1/8	9'-1 7/8	4'-6 1/2	f228	209/9

PRIME COATED (SEE SHT P1)



CROSSFRAME MARK LOCATION

(LOOKING UP-STATION)

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL SHALL BE A709-50WT2, UN.
3. T2 DENOTES CHARPY V-NOTCH TESTING REQUIRED.

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	228C1AP	2		L 6x6x3/4	7	11 3/8	A709-50WT2	209/6	PRINTED 228
2									
3	228C2AP	4		L 6x6x3/4	7	11 1/2	A709-50WT2	209/6	PRINTED 228
4									
5	228C3AP	2		L 6x6x3/4	8	1 15/16	A709-50WT2	209/8	PRINTED 234
6									
7	228C4AP	2		L 6x6x3/4	8	2 1/8	A709-50WT2	209/8	PRINTED 235
8									
9	228C5AP	2		L 6x6x3/4	8	2 5/16	A709-50WT2	209/8	PRINTED 235
10									
11									
12	228C1BP	1		L 6x6x3/4	8	10 1/8	A709-50WT2	209/7	PRINTED 254
13									
14	228C2BP	2		L 6x6x3/4	8	9 7/16	A709-50WT2	209/7	PRINTED 252
15									
16	228C3BP	1		L 6x6x3/4	9	0 1/8	A709-50WT2	209/9	PRINTED 259
17									
18	228C4BP	1		L 6x6x3/4	8	11 9/16	A709-50WT2	209/9	PRINTED 257
19									
20	228C5BP	1		L 6x6x3/4	8	11 3/4	A709-50WT2	209/9	PRINTED 258
21									
22									
23	228C1CP	1		DIAGONALS					PRINTED 287
24		1	a228	L 6x6x3/4	9	2 11/16	A709-50WT2	209/7	
25		1	ga228	PL 1 5/8x7	0	7	A709-50WT2	209/16	
26									
27	228C2CP	2		DIAGONALS					PRINTED 289
28		2	b228	L 6x6x3/4	9	3 7/16	A709-50WT2	209/7	
29		2	ga228	PL 1 5/8x7	0	7	A709-50WT2	209/16	
30									
31	228C3CP	1		DIAGONALS					PRINTED 293
32		1	c228	L 6x6x3/4	9	5 1/16	A709-50WT2	209/9	
33		1	ga228	PL 1 5/8x7	0	7	A709-50WT2	209/16	
34									
35	228C4CP	1		DIAGONALS					PRINTED 295
36		1	d228	L 6x6x3/4	9	5 15/16	A709-50WT2	209/9	
37		1	ga228	PL 1 5/8x7	0	7	A709-50WT2	209/16	
38									
39	228C5CP	1		DIAGONALS					PRINTED 296
40		1	f228	L 6x6x3/4	9	6 1/8	A709-50WT2	209/9	
41		1	ga228	PL 1 5/8x7	0	7	A709-50WT2	209/16	
42									
43									
44									
45									
46									
47									
48									
49									
50									

NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3856-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	PIER CROSSFRAMES
SURFACE PREP.	SEE SHEET P1 — OPEN HOLES 1 9/16"Ø FOR 1 1/4"Ø HSB
PAINT	SEE SHEET P1

PRELIMINARY	DRAWN DPS 03/22/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.	
FOR APPROVAL	CHECKED WJL 04/17/19	228	3	18060B	37	

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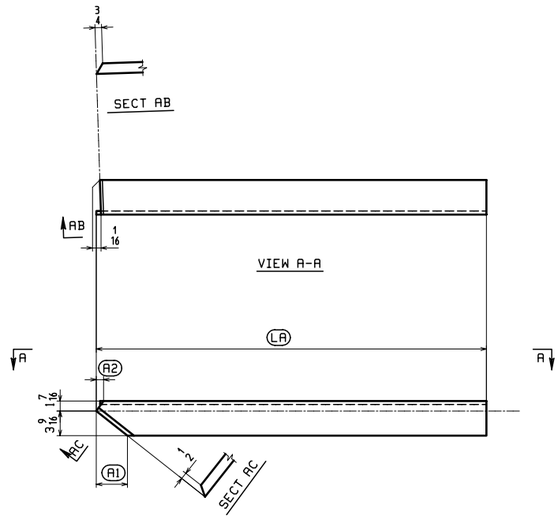
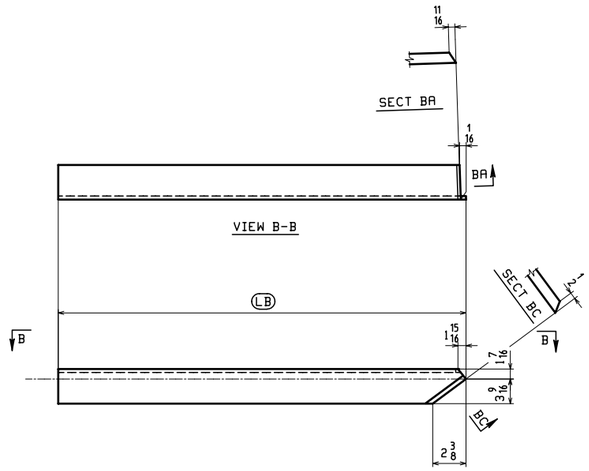


CROSSFRAME DIAGONALS ~ MARK "A"

MARK "A"	QTY	LA	A1	A2	PG/LN
229C1AP	1	6′-7 13/16	2 3/4	2	209/11
229C2AP	1	6′-8 5/16	2 13/16	2 1/16	209/11
229C3AP	1	6′-7 3/8	2 13/16	2 1/16	209/11



CROSSFRAME DIAGONALS ~ MARK "B"

MARK "B"	QTY	LB	PG/LN
229C1BP	1	6′-4 1/2	209/11
229C2BP	1	6′-3 15/16	209/11
229C3BP	1	6′-3 5/16	209/11

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	229C1AP	1		L 5x5x 1/2	6	7 13/16	A709-50WT2	209/11	PAINTED 108
2									
3	229C2AP	1		L 5x5x 1/2	6	8 5/16	A709-50WT2	209/11	PAINTED 108
4									
5	229C3AP	1		L 5x5x 1/2	6	7 3/8	A709-50WT2	209/11	PAINTED 107
6									
7	229C1BP	1		L 5x5x 1/2	6	4 1/2	A709-50WT2	209/11	PAINTED 103
8									
9	229C2BP	1		L 5x5x 1/2	6	3 15/16	A709-50WT2	209/11	PAINTED 102
10									
11	229C3BP	1		L 5x5x 1/2	6	3 5/16	A709-50WT2	209/11	PAINTED 101
12									
13	229C1CP	1		L 5x5x 1/2	8	3 9/16	A709-50WT2	209/10	PAINTED 134
14									
15	229C2CP	1		L 5x5x 1/2	8	3 5/8	A709-50WT2	209/10	PAINTED 134
16									
17	229C3CP	1		L 5x5x 1/2	8	3 9/16	A709-50WT2	209/10	PAINTED 134
18									
19									
20									
21									
22									
23									
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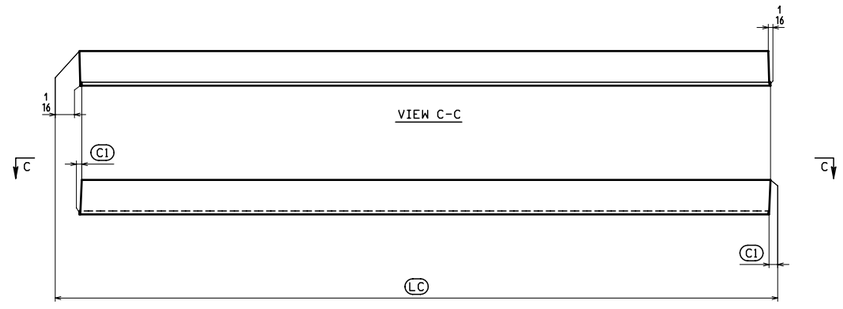
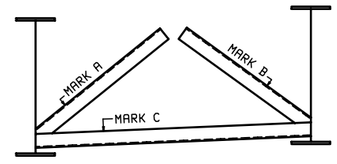
33									
34									
35									



CROSSFRAME STRUTS ~ MARK "C"

MARK "C"	QTY	LC	C1	PG/LN
229C1CP	1	8′-3 9/16	3/16	209/10
229C2CP	1	8′-3 5/8	1/4	209/10
229C3CP	1	8′-3 9/16	1/4	209/10



CROSSFRAME MARK LOCATION

(LOOKING UP-STATION)

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL SHALL BE A709-50WT2.
3. T2 DENOTES CHARPY V-NOTCH TESTING REQUIRED.
4. ALL MATERIAL PRIME COATED (SEE SHT P1)

NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	END CROSSFRAMES
SURFACE PREP.	SEE SHEET P1 — OPEN HOLES
PAINT	SEE SHEET P1

PRELIMINARY	DRAWN DPS 03/25/19	SHEET NO. 229	PLANT 3	ORDER NO. 18060B	F.P. NO. 37
FOR APPROVAL	CHECKED WJL 04/18/19				

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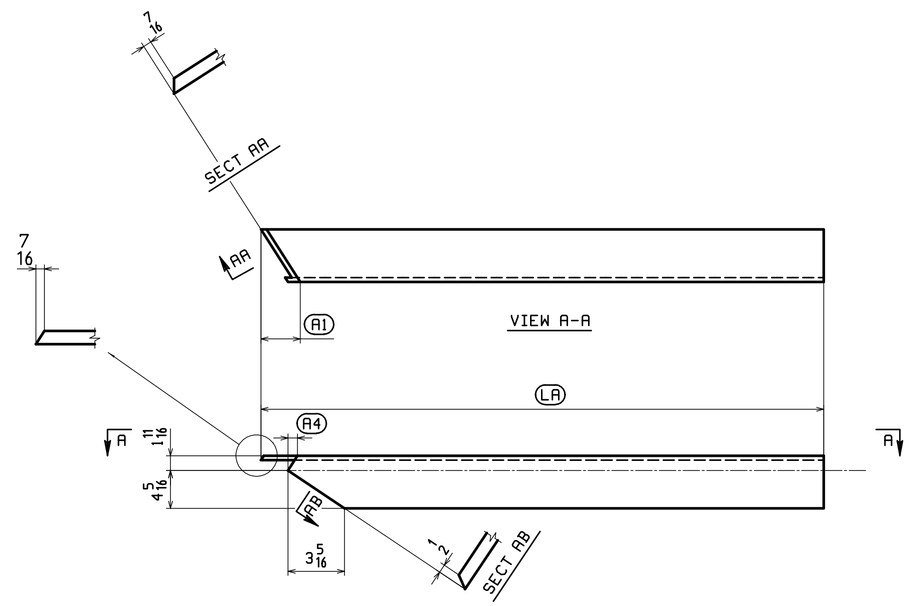
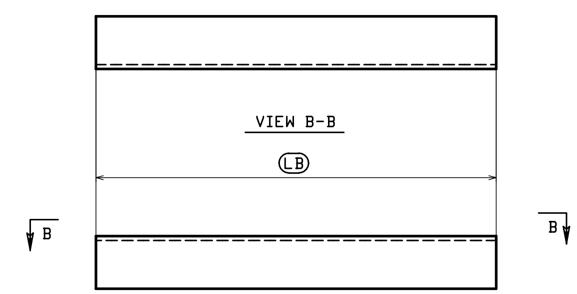


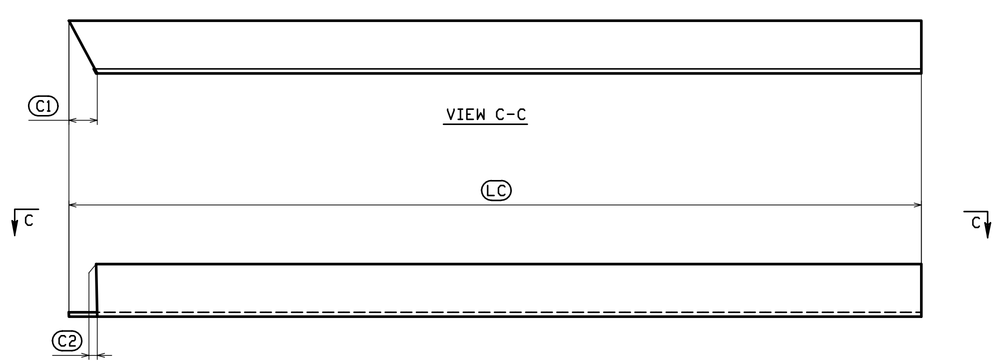
CROSSFRAME DIAGONALS ~ MARK "A"

MARK "A"	QTY	LA	A1	A3	A4	PG/LN
230C1AP	1	6'-10 1/8	5 5/16	3 5/16	1 15/16	209/13
230C2AP	1	6'-9 15/16	5 7/16	3 5/16	1 7/8	209/13
230C3AP	1	6'-10 1/4	5 1/4	3 5/16	1 7/8	209/13



CROSSFRAME DIAGONALS ~ MARK "B"

MARK "B"	QTY	LB	PG/LN
230C1BP	1	5'-11 3/8	209/13
230C2BP	1	6'-0 3/16	209/13
230C3BP	1	6'-0 5/16	209/13



CROSSFRAME STRUTS ~ MARK "C"

MARK "C"	QTY	LC	C1	C2	PG/LN
230C1CP	1	8'-5 13/16	3 1/8	3/8	209/12
230C2CP	1	8'-6 9/16	3 3/16	7/16	209/12
230C3CP	1	8'-7 5/8	3 5/16	7/16	209/12

MATERIAL

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1	230C1AP	1		L 6x6x1/2	6	10 1/8	A709-50WT2	209/13	PAINTED 134
2									
3	230C2AP	1		L 6x6x1/2	6	9 15/16	A709-50WT2	209/13	PAINTED 134
4									
5	230C3AP	1		L 6x6x1/2	6	10 1/4	A709-50WT2	209/13	PAINTED 134
6									
7	230C1BP	1		L 6x6x1/2	5	11 3/8	A709-50WT2	209/13	PAINTED 116
8									
9	230C2BP	1		L 6x6x1/2	6	0 3/16	A709-50WT2	209/13	PAINTED 118
10									
11	230C3BP	1		L 6x6x1/2	6	0 5/16	A709-50WT2	209/13	PAINTED 118
12									
13	230C1CP	1		L 6x6x1/2	8	5 13/16	A709-50WT2	209/12	PAINTED 166
14									
15	230C2CP	1		L 6x6x1/2	8	6 9/16	A709-50WT2	209/12	PAINTED 167
16									
17	230C3CP	1		L 6x6x1/2	8	7 5/8	A709-50WT2	209/12	PAINTED 169
18									
19									
20									
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22									
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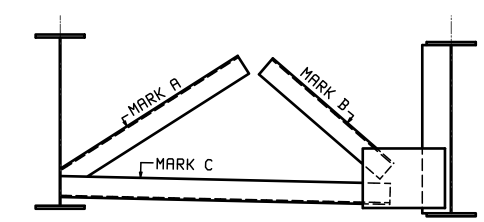


CROSSFRAME MARK LOCATION

(LOOKING DOWNSTATION)

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL SHALL BE A709-50WT2.
3. T2 DENOTES CHARPY V-NOTCH TESTING REQUIRED.
4. ALL MATERIAL PRIME COATED (SEE SHT P1)

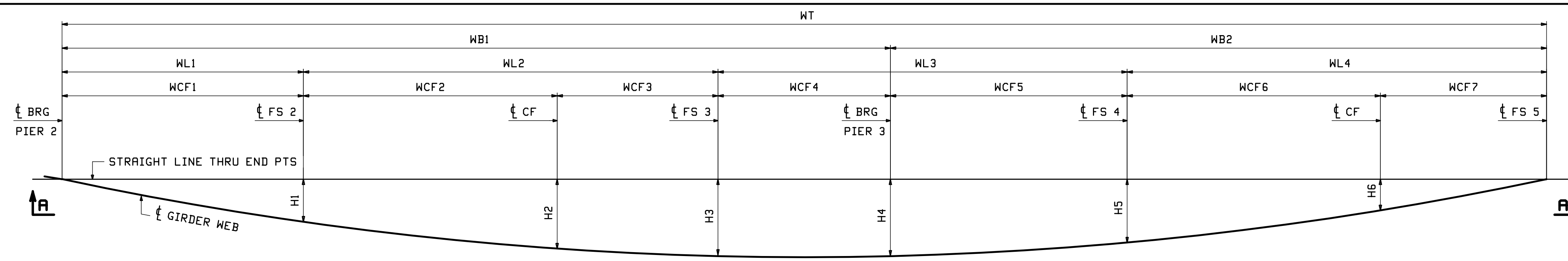
NO.	DATE	REMARKS	BY

REVISIONS

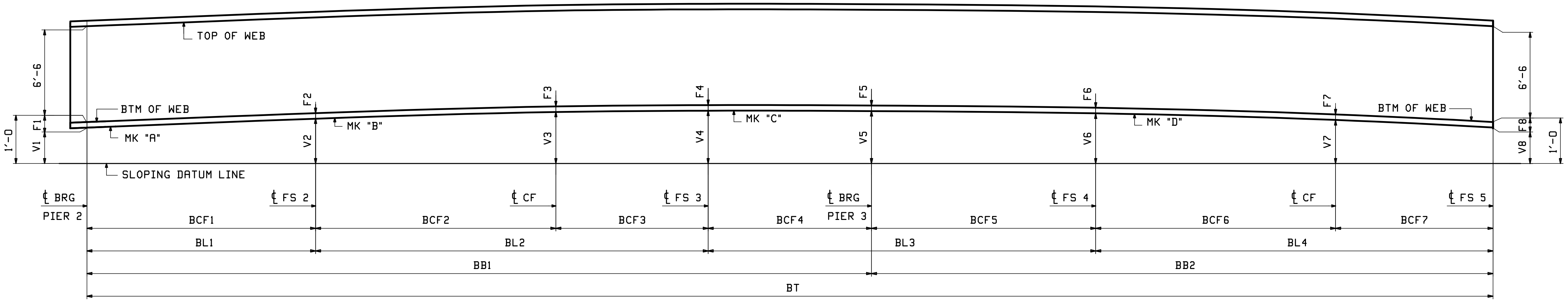
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	END CROSSFRAMES
SURFACE PREP.	SEE SHEET P1 — OPEN HOLES
PAINT	SEE SHEET P1

PRELIMINARY	DRAWN	DPS 03/25/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/18/19	230	3	18060B	37



PLAN VIEW GIRDER @ TOP OF WEB



DEVELOPED SECTION A-A
DIMENSIONS GIVEN ALONG ℄ WEB

LINE	MK A	MK B	MK C	MK D	BT	BL1	BL2	BL3	BL4	V1	V2	V3	V4	V5	V6	V7	V8
1	201A1	205A2	209A3	213A4	290'-5 5/8	47'-5 11/16	81'-0 1/16	80'-0 5/16	81'-11 9/16	11	2'-0 5/8	2'-10 5/8	2'-10 7/8	2'-10 1/8	2'-7 11/16	1'-10 1/8	11
2	202B1	206B2	210B3	214B4	302'-6 15/16	62'-7 1/16	75'-11 15/16	85'-0 5/16	78'-11 5/8	11	2'-7 1/4	3'-1 1/4	3'-1 3/8	3'-0 3/16	2'-8	1'-11 11/16	11
3	203C1	207C2	211C3	215C4	307'-6 15/16	67'-7 1/16	81'-11 7/8	80'-0 5/16	77'-11 11/16	11	2'-8 3/4	3'-2	3'-1 3/16	2'-11 13/16	2'-6 13/16	1'-10 11/16	11
4	204D1	208D2	212D3	216D4	311'-6 13/16	64'-7	79'-11 11/16	80'-0 3/8	86'-11 3/4	10 3/8	2'-8 5/8	3'-2 9/16	3'-2 1/16	2'-11 1/2	2'-6 1/4	1'-9	10 1/2

LINE	BB1	BB2	BCF1	BCF2	BCF3	BCF4	BCF5	BCF6	BCF7	F1	F2	F3	F4	F5	F6	F7	F8
1	162'-1 7/16	128'-4 3/16	47'-5 11/16	49'-6 7/8	31'-5 3/16	33'-7 11/16	46'-4 5/8	49'-5 7/8	32'-5 11/16	1	1	1	2 1/2	2 1/2	1 3/8	1	1
2	166'-0 1/2	136'-6 7/16	62'-7 1/16	36'-9 1/4	39'-2 11/16	27'-5 1/2	57'-6 13/16	40'-8 3/16	38'-3 7/16	1	1	1	2 1/8	2 1/8	1	1	1
3	169'-11 9/16	137'-7 3/8	67'-7 1/16	34'-1	47'-10 7/8	20'-4 5/8	59'-7 11/16	40'-11 7/8	36'-11 13/16	1	1 3/4	1 3/4	2 1/2	2 1/2	1 1/4	1	1
4	173'-10 9/16	137'-8 1/4	64'-7	39'-4 3/4	40'-6 15/16	29'-3 7/8	50'-8 1/2	52'-3 5/8	34'-8 1/8	1 5/8	2 1/2	2 1/2	2 1/2	2 1/2	2	1 1/2	1 1/2

LINE	MK A	MK B	MK C	MK D	WT	WL1	WL2	WL3	WL4	H1	H2	H3
1	201A1	205A2	209A3	213A4	281'-6 1/2	44'-4 9/16	79'-7 3/4	79'-7 3/4	77'-10 7/16	16'-8 15/16	27'-4 3/4	30'-5 1/8
2	202B1	206B2	210B3	214B4	292'-11 5/8	58'-9 1/8	75'-0 1/4	84'-5 15/16	74'-8 5/16	21'-3 9/16	28'-8 7/8	32'-4 15/16
3	203C1	207C2	211C3	215C4	297'-11 1/2	63'-7 9/16	81'-1 11/16	79'-5 5/16	73'-8 15/16	22'-5 11/16	29'-1 1/4	32'-11 1/16
4	204D1	208D2	212D3	216D4	302'-0 1/4	60'-9 5/16	79'-0 3/16	79'-7 5/16	82'-7 7/16	21'-7 1/8	29'-3 15/16	32'-10 3/8

LINE	H4	H5	H6	WB1	WB2	WCF1	WCF2	WCF3	WCF4	WCF5	WCF6	WCF7
1	30'-5 1/16	24'-11 1/16	12'-1 11/16	157'-7 13/16	123'-10 11/16	44'-4 9/16	48'-4 3/8	31'-3 3/8	33'-7 1/2	46'-0 1/4	47'-9 3/16	30'-1 1/4
2	32'-4	25'-1 3/16	14'-3 11/16	161'-2 13/16	131'-8 13/16	58'-9 1/8	35'-11 7/8	39'-0 3/8	27'-5 7/16	57'-0 1/2	39'-2 1/2	35'-5 13/16
3	32'-6 15/16	24'-10 3/16	13'-9 13/16	165'-1 3/4	132'-9 3/4	63'-7 9/16	33'-5 1/16	47'-8 5/8	20'-4 1/2	59'-0 13/16	39'-5 7/16	34'-3 1/2
4	32'-7 1/16	26'-6 3/16	12'-11 7/16	169'-1 3/16	132'-11 1/16	60'-9 5/16	38'-7 5/16	40'-4 7/8	29'-3 11/16	50'-3 5/8	50'-5 5/8	32'-1 13/16

NOTES
FOR GENERAL NOTES SEE DWG GN1
ALL DIMENSIONS GIVEN AT BTM OF BTM FLG
DIMS @ FIELD SPLICES ARE TAKEN TO BTM OF THICKER FLG

NO.	DATE	REMARKS	BY
1	5/13/19	REVISED DIMS TO BTM OF BTM FLG	DPS/

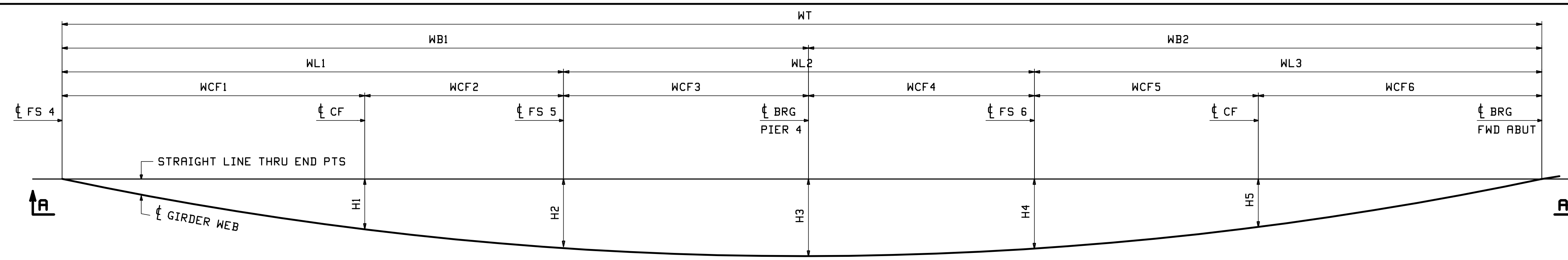
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

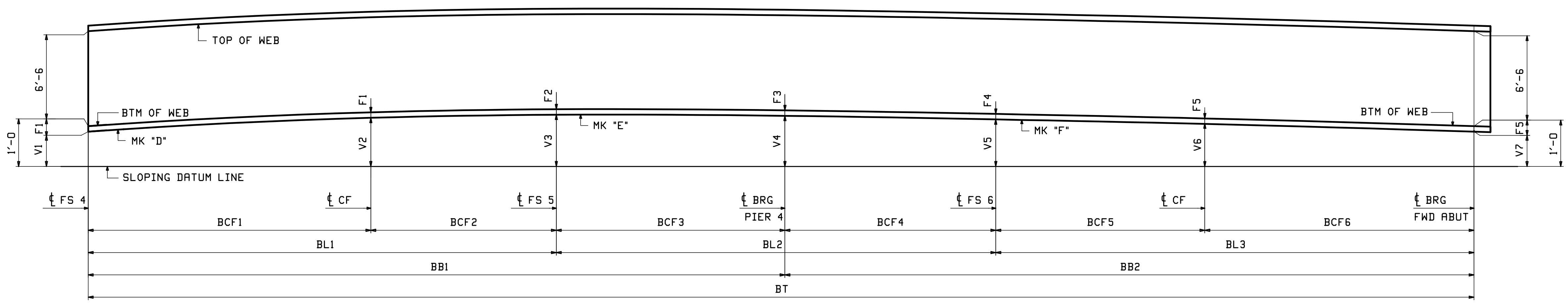
STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: SHOP ASSEMBLY
SURFACE PREP. OPEN HOLES
PAINT

PRELIMINARY	DRAWN DPS 03/26/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/12/19	BD201	3	18060B	



PLAN VIEW GIRDER @ TOP OF WEB



DEVELOPED SECTION A-A
DIMENSIONS GIVEN ALONG ℄ WEB

LINE	D	E	F	BT	BL1	BL2	BL3	V1	V2	V3	V4	V5	V6	V7	BB1	BB2	BCF1	BCF2	BCF3	BCF4	BCF5	BCF6	F1	F2	F3	F4	F5
1	213A4	217A5	221A6	242'-3 3/8	81'-11 11/16	77'-0 7/16	83'-3 1/4	11	1'-9 15/16	2'-0 1/2	1'-10 15/16	1'-9 1/8	1'-5 9/16	11	122'-2 3/8	120'-1	49'-5 7/8	32'-5 13/16	40'-2 11/16	36'-9 3/4	36'-7 15/16	46'-7 5/16	1	1	1 7/8	1	1
2	214B4	218B5	222B6	233'-5 15/16	78'-11 13/16	75'-0 3/8	79'-5 3/4	11	1'-7 1/2	1'-10 11/16	1'-9 7/8	1'-8 3/16	1'-4 15/16	11	113'-2 5/16	120'-3 5/8	40'-8 1/4	38'-3 9/16	34'-2 1/2	40'-9 7/8	36'-5 5/8	43'-0 1/8	1	1	1 5/8	1	1
3	215C4	219C5	223C6	233'-10 1/8	77'-11 13/16	80'-0 3/8	75'-9 15/16	11	1'-7 3/16	1'-10 7/16	1'-9 1/16	1'-8 1/4	1'-4 3/4	11	113'-3 9/16	120'-6 9/16	40'-11 7/8	36'-11 15/16	35'-3 3/4	44'-8 5/8	36'-4 5/8	39'-5 5/16	1	1	2 1/2	1	1
4	216D4	220D5	224D6	245'-2 11/16	86'-11 7/8	83'-0 5/16	75'-2 1/2	10 1/2	1'-8 13/16	1'-11 9/16	1'-11	1'-8 5/8	1'-4	10	124'-4 15/16	120'-9 3/4	52'-3 5/8	34'-8 1/4	37'-5 1/16	45'-7 1/4	39'-3 11/16	35'-10 13/16	1 1/2	1 1/2	2 1/8	2	2

LINE	D	E	F	WT	WL1	WL2	WL3	H1	H2	H3	H4	H5	WB1	WB2	WCF1	WCF2	WCF3	WCF4	WCF5	WCF6
1	213A4	217A5	221A6	237'-1 1/16	79'-5 5/8	76'-10 3/8	80'-9 1/16	13'-11 5/8	19'-3 7/16	21'-6 11/16	19'-5 1/8	13'-4 1/8	119'-7 3/16	117'-5 7/8	47'-5 1/8	32'-0 1/2	40'-1 9/16	36'-8 13/16	36'-1 9/16	44'-7 1/2
2	214B4	218B5	222B6	229'-0 3/4	76'-10 1/8	74'-10 5/8	77'-4	11'-2 5/8	17'-6	19'-6 9/16	17'-6 5/8	11'-8 9/16	110'-11 3/4	118'-1	39'-1	37'-9 1/8	34'-1 5/8	40'-9	35'-11 3/4	41'-4 1/4
3	215C4	219C5	223C6	229'-7 3/16	75'-11 5/16	79'-10 5/16	73'-9 9/16	11'-0 1/2	17'-0 5/16	19'-1 13/16	16'-9 3/8	10'-8 1/2	111'-2 1/16	118'-5 1/8	39'-5 3/8	36'-5 15/16	35'-2 3/4	44'-7 9/16	35'-10 1/4	37'-11 5/16
4	216D4	220D5	224D6	240'-6 11/16	84'-8 1/2	82'-10 1/16	73'-0 1/8	13'-9 5/16	18'-10	20'-7	17'-5 3/4	10'-2 7/8	122'-0 7/8	118'-5 13/16	50'-4 7/8	34'-3 5/8	37'-4 3/8	45'-5 11/16	38'-7 5/16	34'-4 13/16

NOTES
FOR GENERAL NOTES SEE DWG GN1
ALL DIMENSIONS GIVEN AT BTM OF BTM FLG
DIMS @ FIELD SPLICES ARE TAKEN TO BTM OF THICKER FLG

NO.	DATE	REMARKS	BY
1	5/13/19	REVISED DIMS TO BTM OF BTM FLG	DPS/

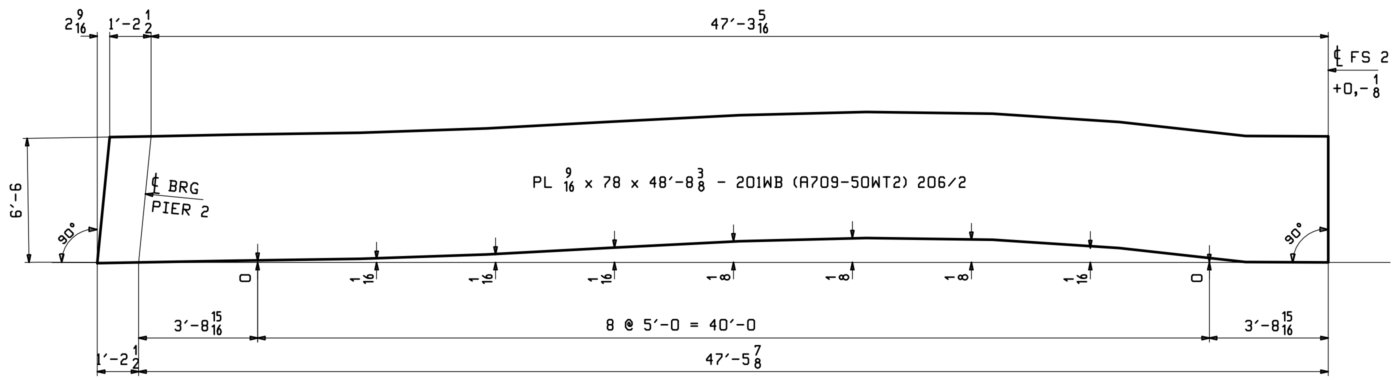
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

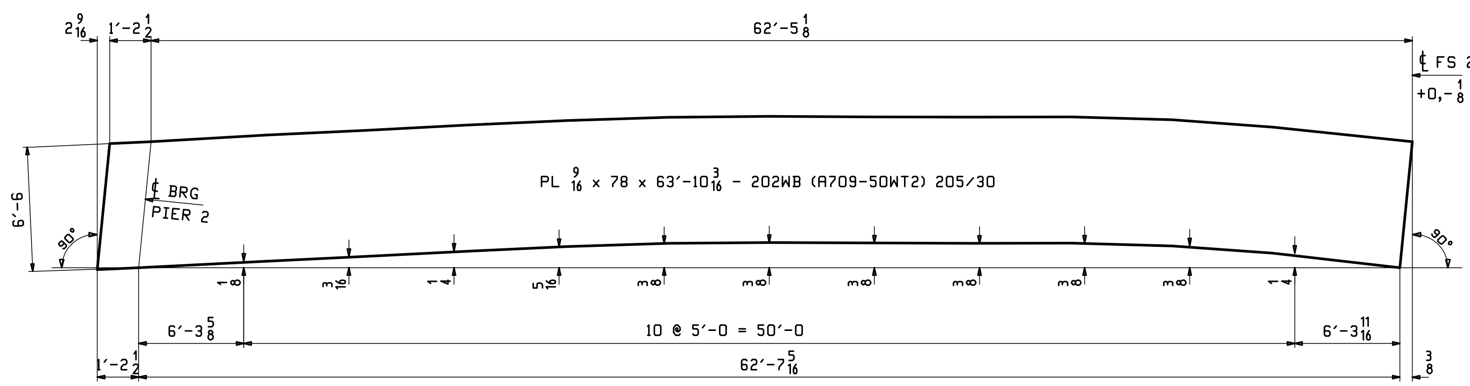
STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: SHOP ASSEMBLY
SURFACE PREP.: OPEN HOLES:
PAINT:

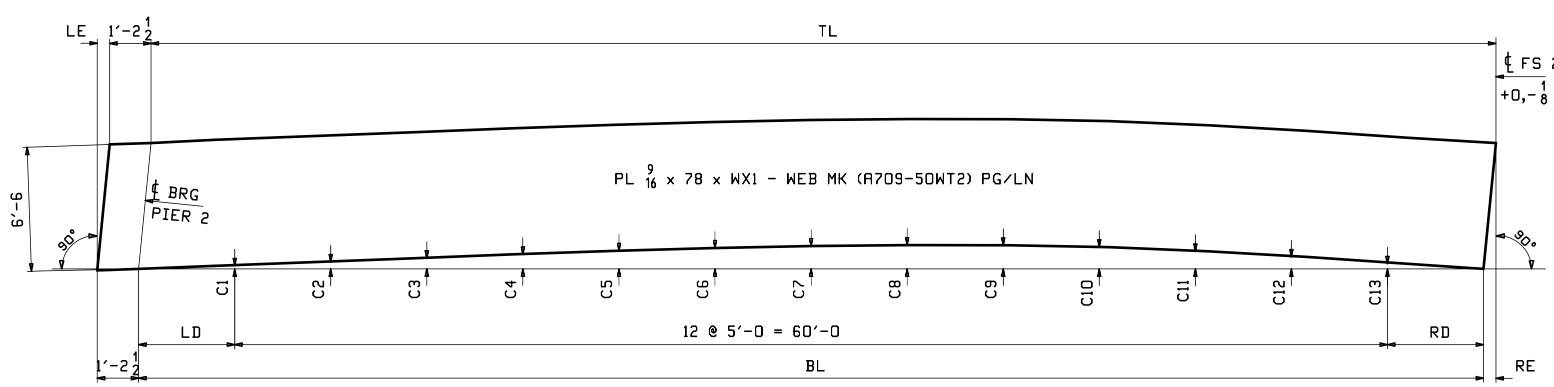
PRELIMINARY	DRAWN	DPS 03/26/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/12/19	BD202	3	18060B	



CAMBER DIAGRAM FOR 201A1



CAMBER DIAGRAM FOR 202B1



CAMBER DIAGRAM FOR 203C1,204D1

MARK	TL	BL	LE	RE	WX1	LD	RD	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	WEB MK	PG/LINE
203C1	67'-5 1/2	67'-7 3/8	2 7/16	9/16	68'-10 7/16	3'-9 11/16	3'-9 11/16	3/16	3/8	9/16	3/4	15/16	1 1/16	1 3/16	1 1/4	1 3/16	1 1/8	7/8	5/8	1/4	203WB	205/14
204D1	64'-5 5/8	64'-7 5/16	2 5/16	5/8	65'-10 7/16	2'-3 11/16	2'-3 5/8	1/8	3/8	5/8	13/16	1	1 1/8	1 3/16	1 1/4	1 1/4	1 3/16	15/16	9/16	3/16	204WB	205/16

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

NO.	DATE	REMARKS	BY

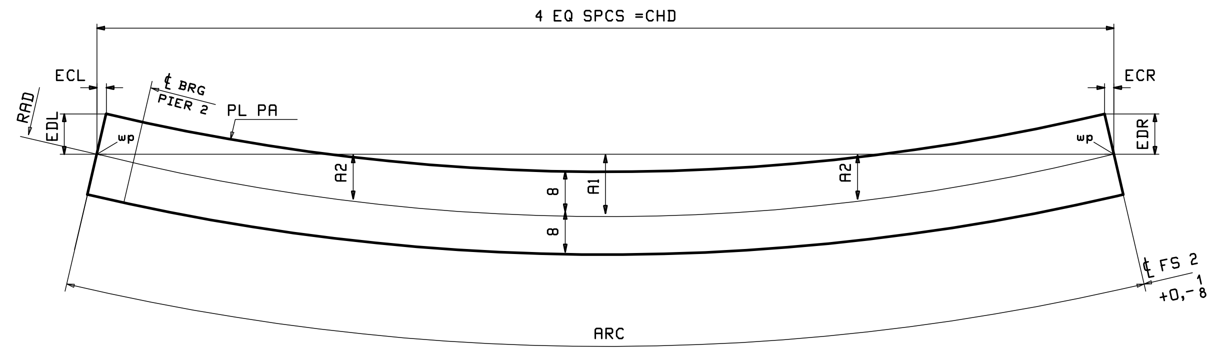
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: WEB & FLANGE CUTTING
SURFACE PREP.: OPEN HOLES:
PAINT:

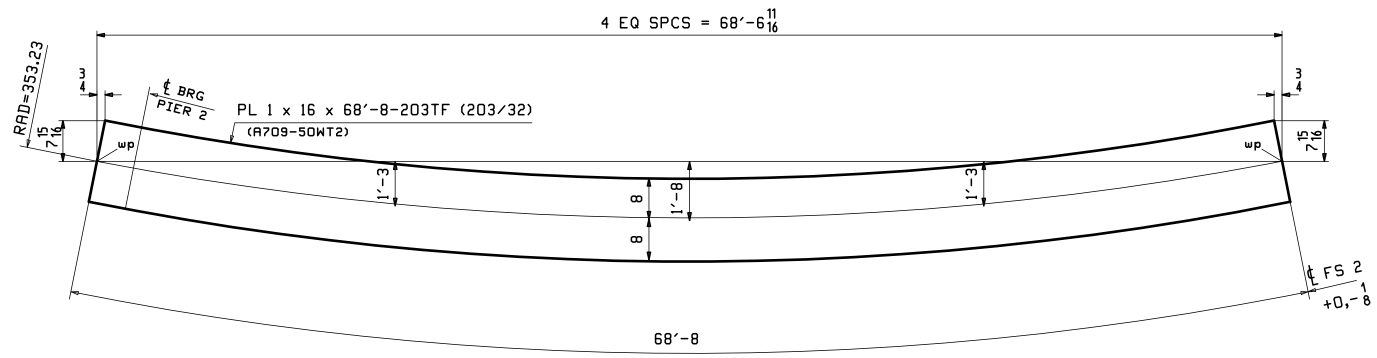
PRELIMINARY	DRAWN	ELG 02/22/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/10/19	BG201	3	18060B	20



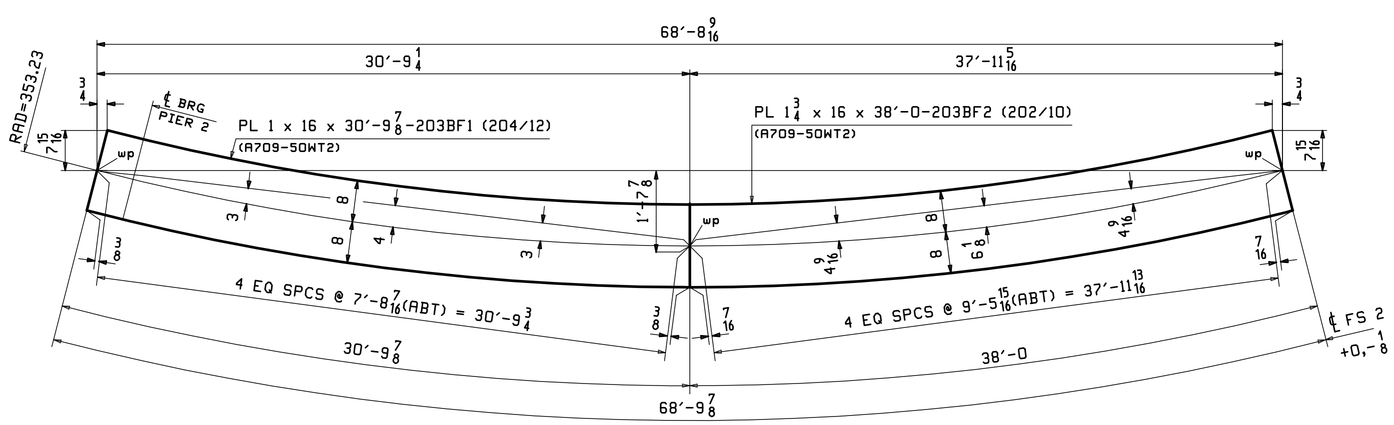
VIEW T-T

SECTION B-B

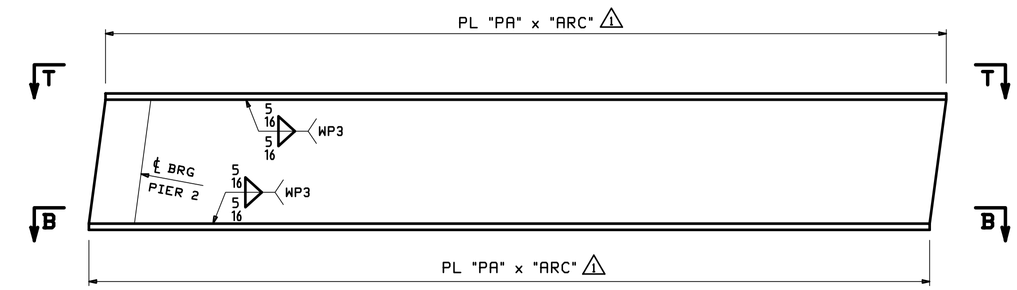
LOCATION	RAD	ARC	CHD	A1	A2	ECL	ECR	EDL	EDR	PL PA (A709-50WT2)
201A1 TOP FLG	336.56	48'-5 13/16	48'-5 5/16	10 7/16	7 13/16	9/16	9/16	8	8	PL 1 x 16-201TF (204/8)
201A1 BTM FLG	336.56	48'-8 3/8	48'-7 7/8	10 9/16	7 15/16	9/16	9/16	8	8	PL 1 x 16-201BF (204/6)
202B1 TOP FLG	344.89	63'-7 5/8	63'-6 9/16	1'-5 9/16	1'-1 3/16	3/4	3/4	7 15/16	7 15/16	PL 1 x 16-202TF (204/2)
202B1 BTM FLG	344.89	63'-9 13/16	63'-8 3/4	1'-5 11/16	1'-1 1/4	3/4	3/4	7 15/16	7 15/16	PL 1 x 16-202BF (204/2)



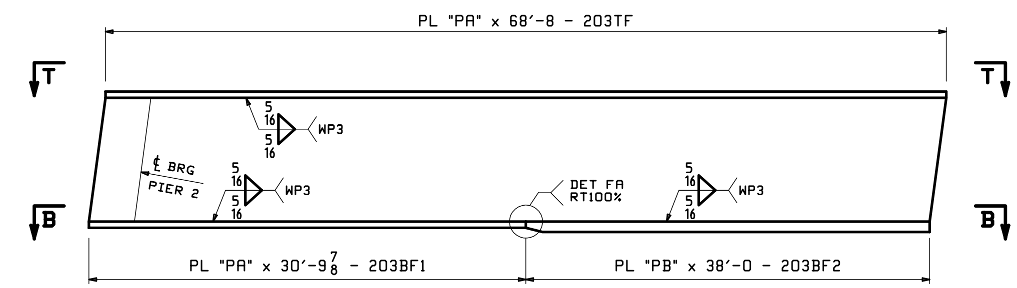
VIEW T-T FOR 203C1 TOP FLG



SECTION B-B FOR 203C1 BTM FLG



FLANGE DIAGRAM FOR 201A1 & 202B1



FLANGE DIAGRAM FOR 203C1

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2
3. FOR WELD DETAIL "FA", SEE GN1.

NO.	DATE	REMARKS	BY
1	05/06/19	APPROVAL COMMENTS	ELG / WJL

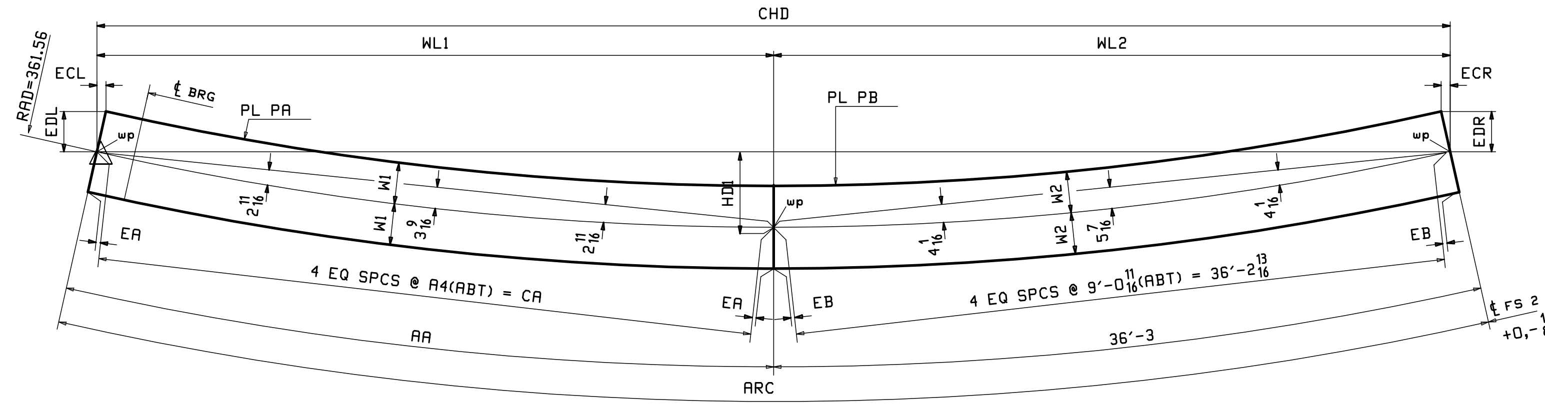
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	WEB & FLANGE CUTTING
SURFACE PREP.	OPEN HOLES
PAINT	

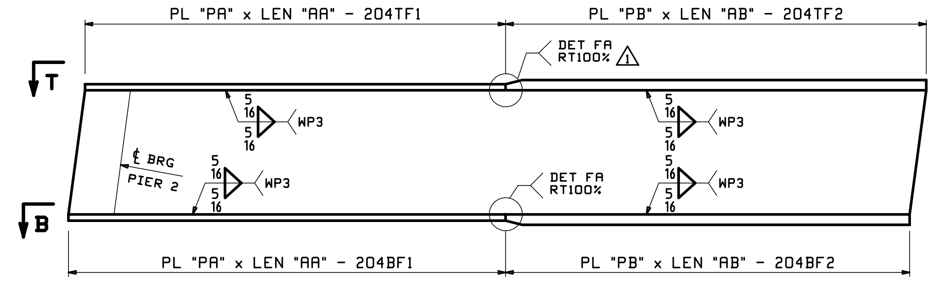
PRELIMINARY	DRAWN	ELG 02/22/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/10/19	BG202	3	18060B	20

WJL Wed, May 15, 2019 07:44:26 AM /users/jobs/3656-2/BG202 - Rev1

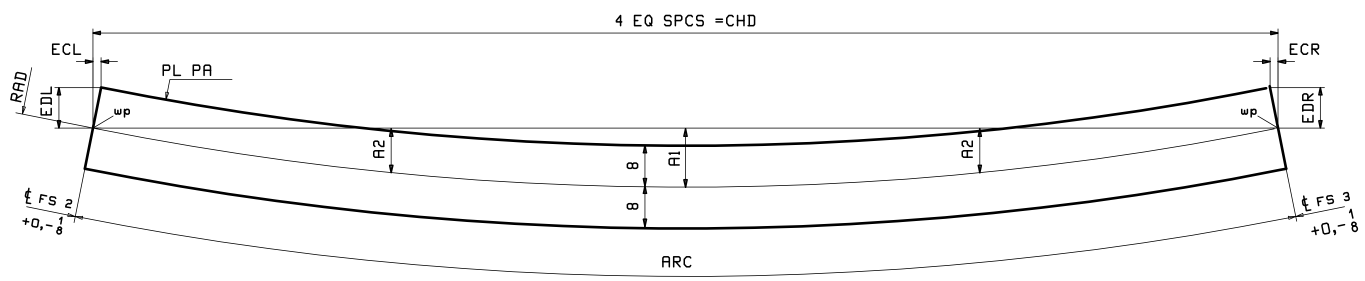


VIEW T-T
SECTION B-B

LOCATION	ARC	CHD	AA	EA	A4	CA	EB	ECL	ECR	EDL	EDR	WL1	WL2	HD1	W1	W2	PL PA (A709-50WT2)	PL PB (A709-50WT2)
204D1 TOP FLG	65′-8 1/8	65′-7 1/16	29′-5 1/8	3/8	7′-4 1/4	29′-5	7/16	13/16	13/16	8 15/16	8 15/16	29′-4 5/8	36′-2 7/16	1′-5 5/8	9	9	PL 1 1/8 x 18-204TF1 (203/4)	PL 2 x 18-204TF2 (201/28)
204D1 BTM FLG	65′-9 13/16	65′-8 3/4	29′-6 13/16	9/16	7′-4 11/16	29′-6 11/16	11/16	1 1/4	1 1/4	1′-1 15/16	1′-1 15/16	29′-6 1/4	36′-2 1/2	1′-5 3/4	1′-2	1′-2	PL 1 5/8 x 28-204BF1 (202/14)	PL 2 1/2 x 28-204BF2 (201/6)

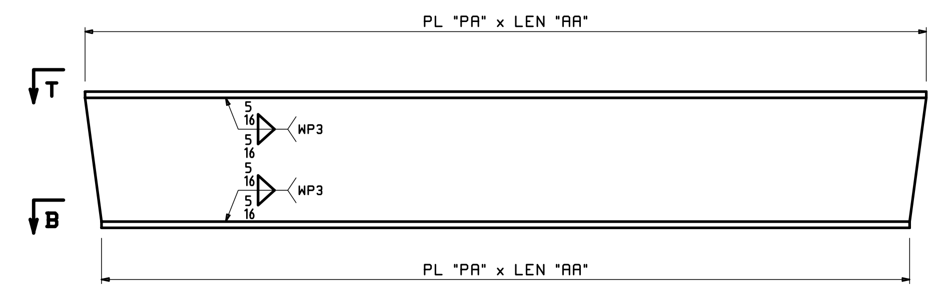


FLANGE DIAGRAM FOR 204D1



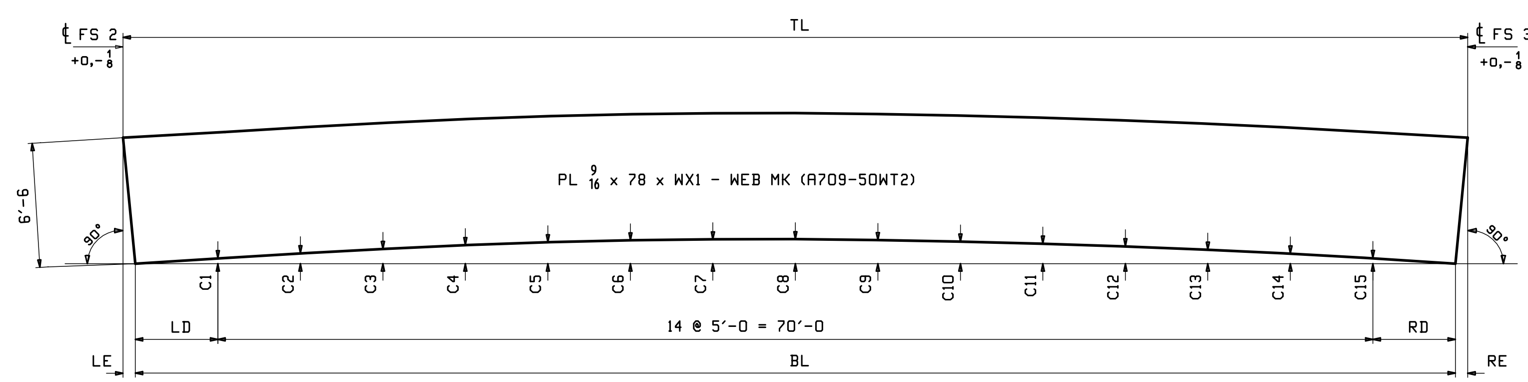
VIEW T-T
SECTION B-B

LOCATION	RAD	ARC	CHD	AA	A1	A2	ECL	ECR	EDL	EDR	PL PA (A709-50WT2)
205A2 TOP FLG	336.56	81′-1 7/8	80′-11 1/2	81′-1 7/8	2′-5 5/16	1′-10	15/16	15/16	7 15/16	7 15/16	PL 1 x 16-205TF (203/18)
205A2 BTM FLG	336.56	81′-0 1/8	80′-9 13/16	81′-0 1/8	2′-5 3/16	1′-9 15/16	15/16	15/16	7 15/16	7 15/16	PL 1 x 16-205BF (203/20)
206B2 TOP FLG	344.89	76′-1 3/4	75′-11 7/8	76′-1 3/4	2′-1 3/16	1′-6 7/8	7/8	7/8	7 15/16	7 15/16	PL 1 x 16-206TF (203/30)
206B2 BTM FLG	344.89	76′-0	75′-10 3/16	76′-0	2′-1 1/16	1′-6 13/16	7/8	7/8	7 15/16	7 15/16	PL 1 x 16-206BF (203/30)



FLANGE DIAGRAM FOR 205A2 &206B2

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2
3. FOR WELD DETAIL "FA", SEE GN1.



CAMBER DIAGRAM FOR 205A2,206B2,207C2,208D2

MARK	TL	BL	LE	RE	WX1	LD	RD	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	WEB MK	PG/LINE
205A2	81′-1 7/8	81′-0 1/8	7/8	7/8	81′-1 7/8	5′-6 1/16	5′-6 1/16	11/16	1 1/4	1 13/16	2 1/4	2 5/8	2 13/16	2 15/16	2 15/16	2 7/8	2 11/16	2 7/16	2 1/8	1 3/4	1 1/4	11/16	205WB	204/30
206B2	76′-1 3/4	76′-0	1	3/4	76′-1 3/4	3′-0	3′-0	3/8	1	1 1/2	1 13/16	2 1/16	2 5/16	2 7/16	2 1/2	2 7/16	2 1/4	2	1 11/16	1 5/16	7/8	5/16	206WB	205/4
207C2	82′-1 13/16	81′-11 7/8	1 1/8	13/16	82′-1 13/16	5′-11 15/16	5′-11 15/16	15/16	1 9/16	2 1/8	2 1/2	2 13/16	3	3 1/16	3	2 15/16	2 11/16	2 7/16	2 1/16	1 11/16	1 3/16	11/16	207WB	204/26
208D2	80′-1 7/8	79′-11 3/4	1 3/16	15/16	80′-1 7/8	4′-11 7/8	4′-11 7/8	13/16	1 9/16	2 3/16	2 5/8	3	3 3/16	3 1/4	3 3/16	3 1/16	2 7/8	2 5/8	2 1/4	1 13/16	1 1/4	11/16	208WB	204/28

NO.	DATE	REMARKS	BY
1	05/06/19	ARROVAL COMMENTS	ELG / WJL

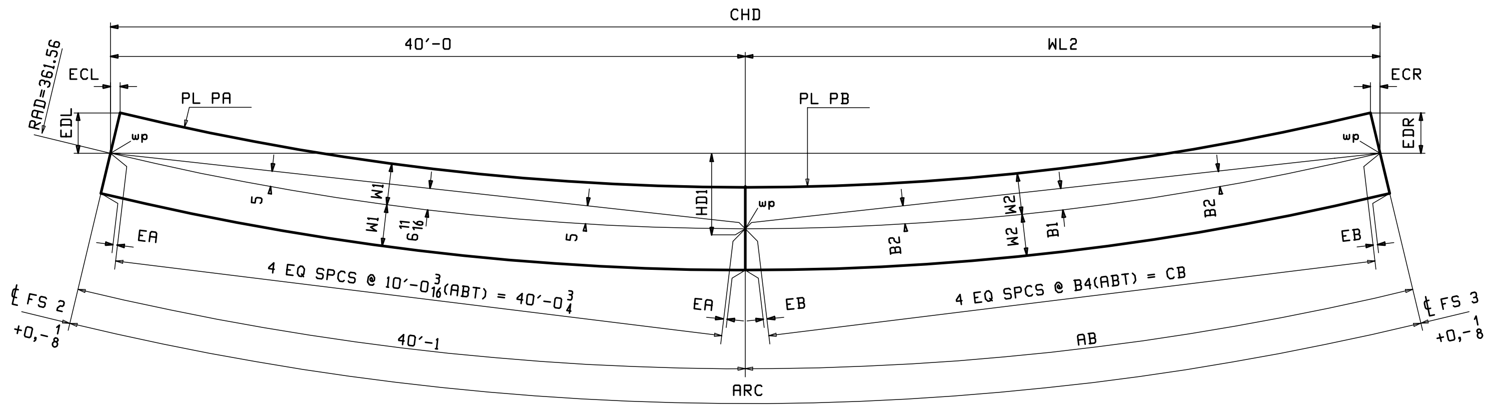
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

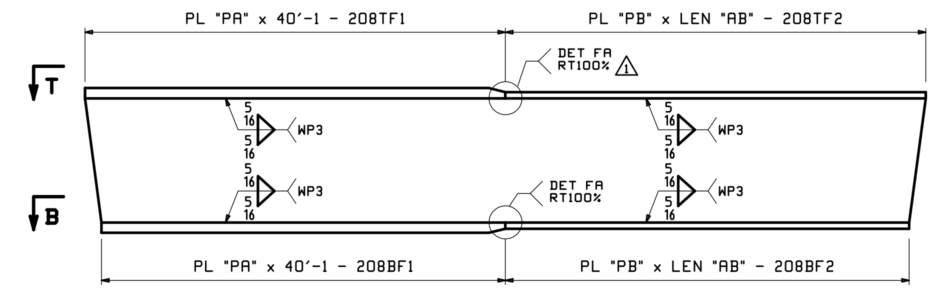
STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: WEB & FLANGE CUTTING
SURFACE PREP. ____ OPEN HOLES ____
PAINT ____

PRELIMINARY	DRAWN	ELG 02/22/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/10/19	BG203	3	18060B	20

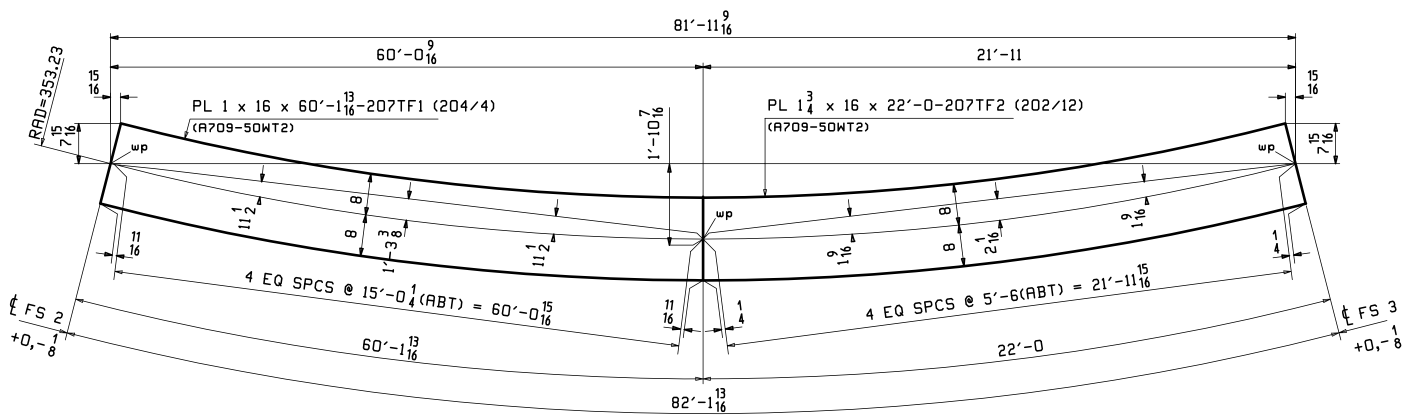


VIEW T-T
SECTION B-B

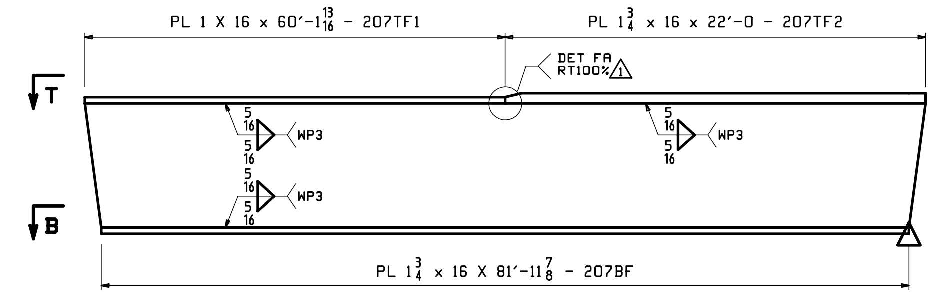


FLANGE DIAGRAM FOR 208D2

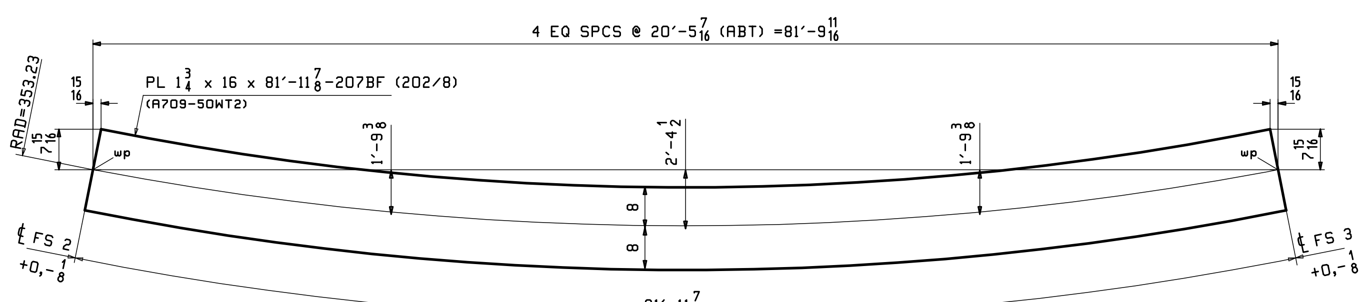
LOCATION	ARC	CHD	AB	EA	EB	B1	B2	B4	CB	ECL	ECR	EDL	EDR	WL2	HD1	W1	W2	PL PA (A709-50WT2)	PL PB (A709-50WT2)
208D2 TOP FLG	80'-1 7/8	79'-11 15/16	40'-0 7/8	1/2	1/2	6 11/16	5	10'-0 3/16	40'-0 5/8	1	1	8 15/16	8 15/16	39'-11 15/16	2'-2 5/8	9	9	PL 2 x 18-208TF1 (201/26)	PL 1 3/8 x 18-208TF2 (202/24)
208D2 BTM FLG	79'-11 3/4	79'-9 13/16	39'-10 3/4	3/4	3/4	6 5/8	4 15/16	9'-11 5/8	39'-10 1/2	1 9/16	1 9/16	1'-1 15/16	1'-1 15/16	39'-9 13/16	2'-2 1/2	1'-2	1'-2	PL 2 1/2 x 28-208BF1 (201/4)	PL 1 3/4 x 28-208BF2 (202/6)



VIEW T-T FOR 207C2 TOP FLG



FLANGE DIAGRAM FOR 207C2



SECTION B-B FOR 207C2 BTM FLG

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2
3. FOR WELD DETAIL "FA", SEE GN1.

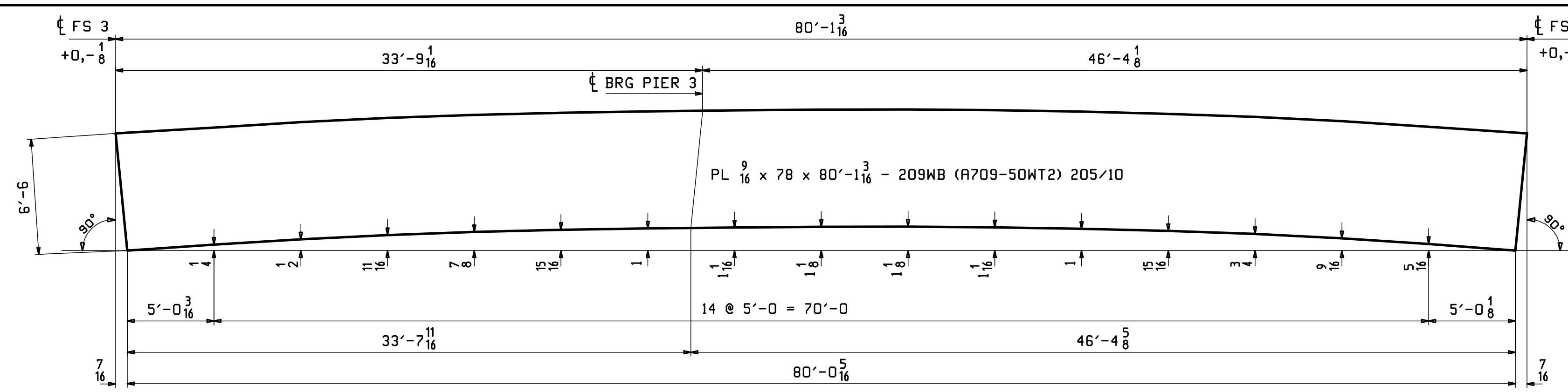
NO.	DATE	REMARKS	BY
1	05/06/19	ARROVAL COMMENTS	ELG / WJL

REVISIONS

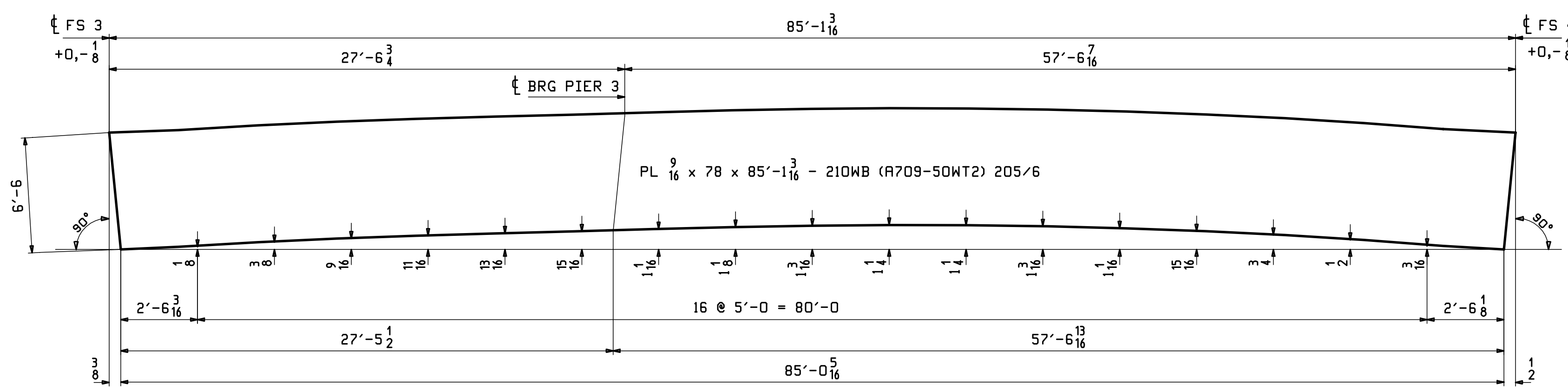
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	WEB & FLANGE CUTTING
SURFACE PREP.	OPEN HOLES
PAINT	

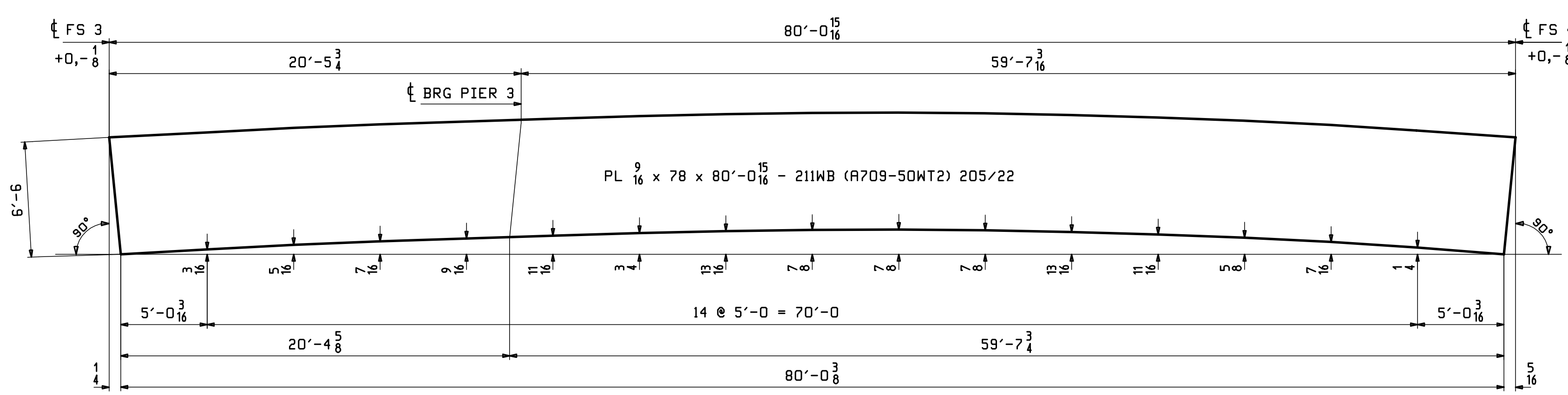
PRELIMINARY / FOR APPROVAL	DRAWN	CHECKED	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
	ELG 02/22/19	WJL 04/10/19	BG204	3	18060B	20



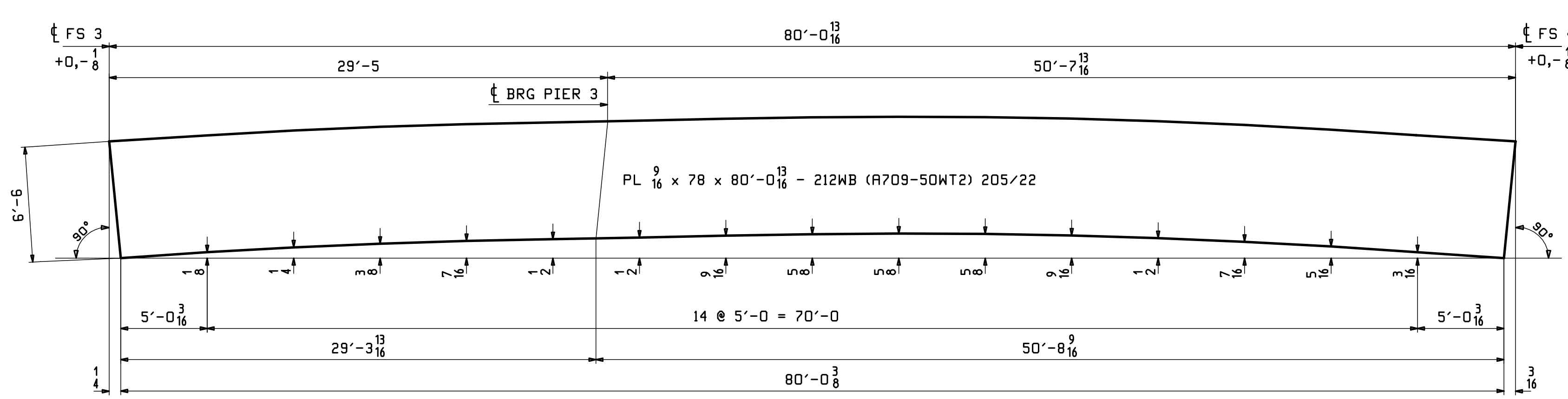
CAMBER DIAGRAM FOR 209A3



CAMBER DIAGRAM FOR 210B3



CAMBER DIAGRAM FOR 211C3



CAMBER DIAGRAM FOR 212D3

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GNI.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

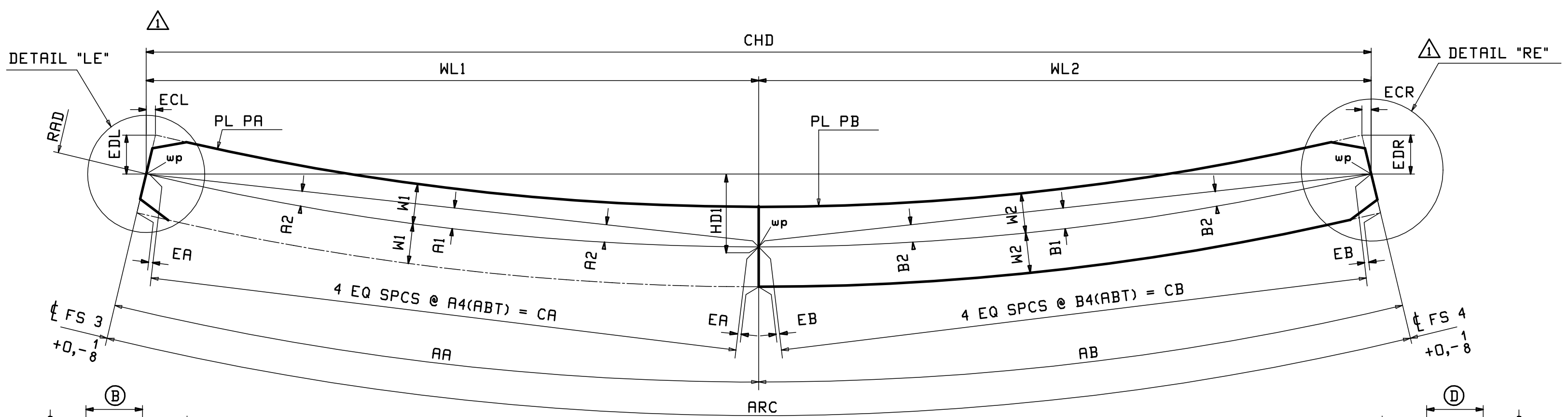
NO.	DATE	REMARKS	BY

REVISIONS

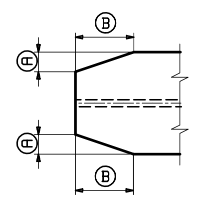
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	WEB CUTTING DIAGRAMS
SURFACE PREP.	OPEN HOLES
PAINT	

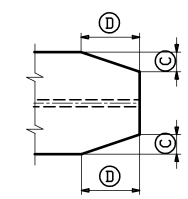
PRELIMINARY	DRAWN	ELG 02/22/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/10/19	BG205	3	18060B	20



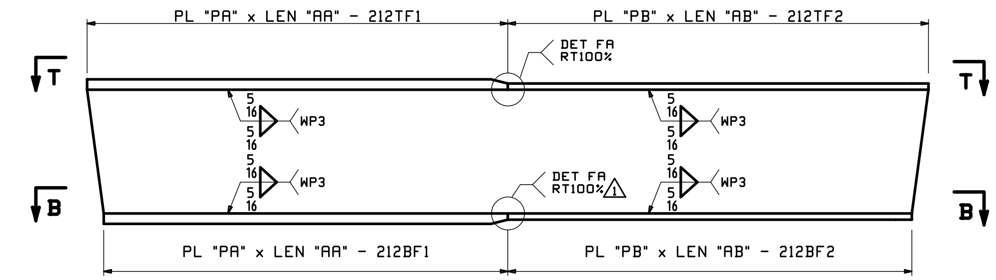
VIEW T-T
SECTION B-B



DETAIL "LE"



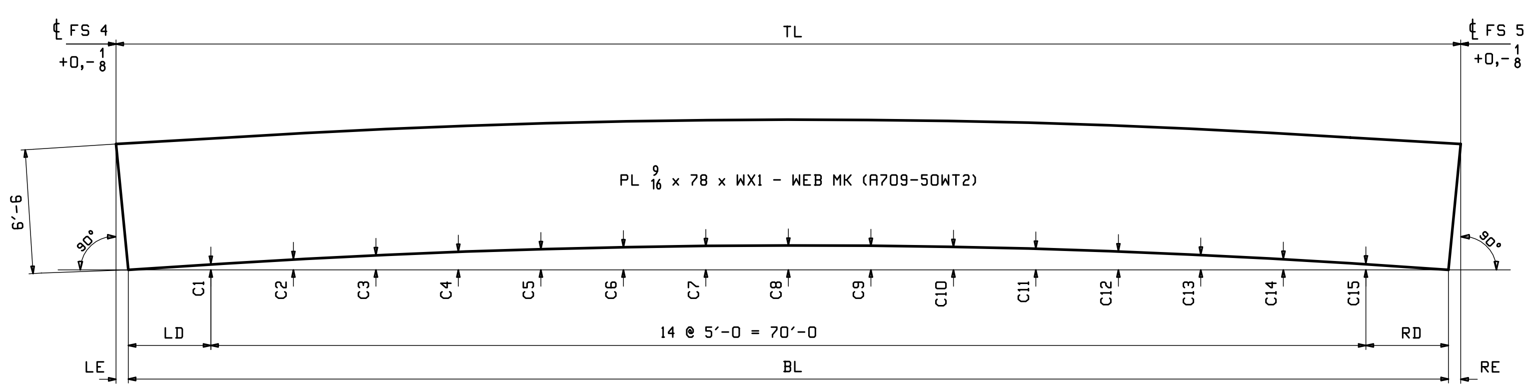
DETAIL "RE"



FLANGE DIAGRAM FOR 209A3,210B3,211C3,212D3

LOCATION	RAD	ARC	CHD	AA	AB	EA	A1	A2	A4	CA	EB	B1	B2	B4	CB	ECL	ECR	EDL	EDR	WL1	WL2	HD1	W1	W2	(A)	(B)	(C)	(D)	PL PA (A709-50WT2)	PL PB (A709-50WT2)
209A3 TOP FLG	336.56	80′-1 3/16	79′-10 15/16	54′-1 9/16	25′-11 5/8	5/8	1′-1 1/16	9 13/16	13′-6 3/16	54′-0 7/8	5/16	3	2 1/4	6′-5 7/8	25′-11 9/16	15/16	15/16	7 15/16	7 15/16	54′-0 3/8	25′-10 9/16	2′-1	8	8	0	0	0	0	PL 2 1/4 x 16-209TF1 (201/14)	PL 1 x 16-209TF2 (204/14)
209A3 BTM FLG	336.56	80′-0 5/16	79′-10 1/16	54′-0 1/8	26′-0 3/16	3/4	1′-1	9 3/4	13′-5 7/8	53′-11 7/16	3/8	3	2 1/4	6′-6	26′-0 1/8	1 1/16	1 1/16	8 15/16	8 15/16	53′-10 15/16	25′-11 1/8	2′-1	9	9	1	2 1/2	1	2 1/2	PL 2 1/2 x 18-209BF1 (201/10)	PL 1 3/8 x 18-209BF2 (202/26)
210B3 TOP FLG	344.89	85′-1 3/16	84′-10 5/8	49′-1 3/8	35′-11 13/16	9/16	10 1/2	7 7/8	12′-3 1/4	49′-0 7/8	7/16	5 5/8	4 1/4	8′-11 7/8	35′-11 5/8	1	1	7 15/16	7 15/16	49′-0 1/16	35′-10 9/16	2′-6 11/16	8	8	0	0	0	0	PL 2 x 16-210TF1 (201/32)	PL 1 x 16-210TF2 (204/10)
210B3 BTM FLG	344.89	85′-0 5/16	84′-9 3/4	49′-0 1/8	36′-0 3/16	9/16	10 7/16	7 13/16	12′-2 15/16	48′-11 5/8	7/16	5 5/8	4 1/4	9′-0	36′-0	1	1	7 15/16	7 15/16	48′-10 13/16	35′-10 15/16	2′-6 11/16	8	8	0	0	0	0	PL 2 1/8 x 16-210BF1 (201/20)	PL 1 x 16-210BF2 (204/10)
211C3 TOP FLG	353.23	80′-0 15/16	79′-10 7/8	48′-1 1/4	31′-11 11/16	7/8	9 13/16	7 3/8	12′-0 3/16	48′-0 13/16	9/16	4 5/16	3 1/4	7′-11 7/8	31′-11 9/16	1 1/2	1 1/2	1′-0 15/16	1′-0 15/16	48′-0 3/16	31′-10 11/16	2′-2 1/8	1′-1	1′-1	5	1′-0 1/2	5	1′-0 1/2	PL 2 1/2 x 26-211TF1 (201/8)	PL 1 1/4 x 26-211TF2 (202/30)
211C3 BTM FLG	353.23	80′-0 3/8	79′-10 5/16	48′-0 1/8	32′-0 1/4	7/8	9 13/16	7 5/16	11′-11 15/16	47′-11 11/16	9/16	4 3/8	3 1/4	8′-0	32′-0 1/8	1 1/2	1 1/2	1′-0 15/16	1′-0 15/16	47′-11 1/16	31′-11 1/4	2′-2 1/16	1′-1	1′-1	5	1′-0 1/2	5	1′-0 1/2	PL 2 1/2 x 26-211BF1 (201/8)	PL 1 1/4 x 26-211BF2 (202/30)
212D3 TOP FLG	361.56	80′-0 13/16	79′-10 7/8	60′-1 1/2	19′-11 5/16	1 3/16	1′-3	11 1/4	15′-0 3/16	60′-0 11/16	3/8	1 5/8	1 1/4	4′-11 13/16	19′-11 5/16	1 9/16	1 9/16	1′-1 15/16	1′-1 15/16	60′-0 7/16	19′-10 7/16	1′-7 7/8	1′-2	1′-2	5	1′-0 1/2	5	1′-0 1/2	PL 2 1/2 x 28-212TF1 (201/2)	PL 1 7/8 x 28-212TF2 (202/2)
212D3 BTM FLG	361.56	80′-0 3/8	79′-10 7/16	60′-0 5/16	20′-0 1/16	1 3/16	1′-2 15/16	11 3/16	14′-11 7/8	59′-11 1/2	3/8	1 11/16	1 1/4	5′-0	20′-0 1/16	1 9/16	1 9/16	1′-1 15/16	1′-1 15/16	59′-11 1/4	19′-11 3/16	1′-7 7/8	1′-2	1′-2	0	0	5	1′-0 1/2	PL 2 1/2 x 28-212BF1 (201/2)	PL 2 x 28-212BF2 (201/22)

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2
3. FOR WELD DETAIL "FA", SEE GN1.



CAMBER DIAGRAM FOR 213A4,214B4,215C4

MARK	TL	BL	LE	RE	WX1	LD	RD	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	WEB MK	PG/LINE
213A4	82′-1 5/8	81′-11 13/16	15/16	7/8	82′-1 5/8	5′-11 7/8	5′-11 15/16	13/16	1 3/8	1 7/8	2 5/16	2 5/8	2 7/8	3	3 1/16	3 1/16	2 7/8	2 11/16	2 3/8	1 15/16	1 7/16	13/16	213WB	204/26
214B4	79′-1 1/2	78′-11 7/8	13/16	13/16	79′-1 1/2	4′-5 15/16	4′-5 15/16	1/2	1 1/16	1 9/16	1 15/16	2 1/4	2 7/16	2 9/16	2 5/8	2 9/16	2 7/16	2 1/4	1 15/16	1 9/16	1 1/16	1/2	214WB	204/32
215C4	78′-1 3/8	77′-11 7/8	3/4	3/4	78′-1 3/8	3′-11 15/16	3′-11 15/16	7/16	15/16	1 3/8	1 11/16	2	2 3/16	2 5/16	2 5/16	2 1/4	2 1/8	1 15/16	1 11/16	1 5/16	15/16	7/16	215WB	205/2

NO.	DATE	REMARKS	BY
1	05/06/19	APRROVAL COMMENTS	ELG WJL

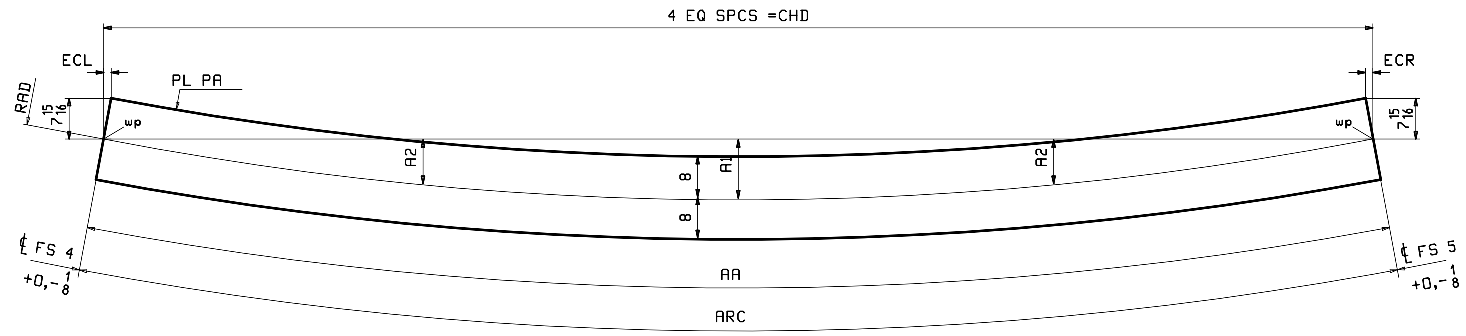
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

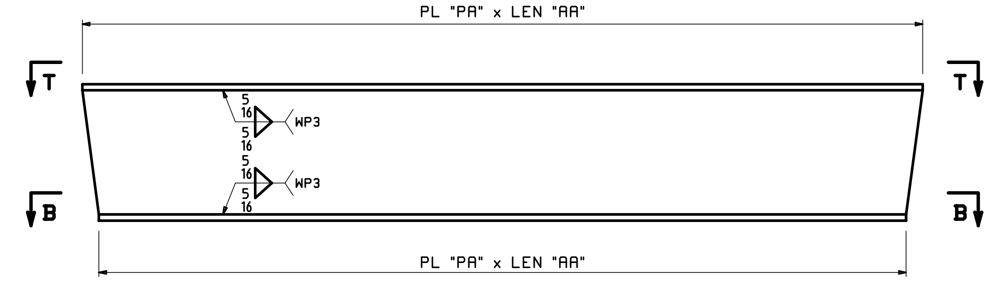
ITEM: WEB & FLANGE CUTTING
SURFACE PREP. ______ OPEN HOLES ______
PAINT ______

PRELIMINARY	DRAWN ELG 02/22/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/10/19	BG206	3	18060B	20

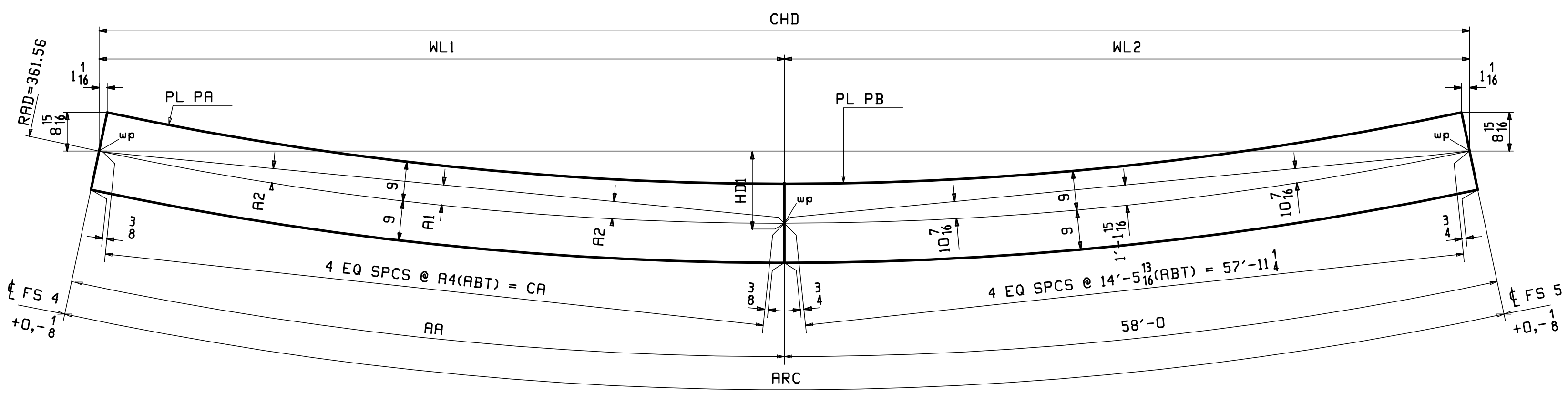


VIEW T-T
SECTION B-B

LOCATION	RAD	ARC	CHD	AA	A1	A2	ECL	ECR	PL PA (A709-50WT2)
213A4 TOP FLG	336.56	82′-1 5/8	81′-11 3/16	82′-1 5/8	2′-6	1′-10 9/16	1	1	PL 1 x 16-213TF (203/16)
213A4 BTM FLG	336.56	81′-11 13/16	81′-9 3/8	81′-11 13/16	2′-5 15/16	1′-10 7/16	1	1	PL 1 x 16-213BF (203/16)
214B4 TOP FLG	344.89	79′-1 1/2	78′-11 7/16	79′-1 1/2	2′-3 3/16	1′-8 7/16	15/16	15/16	PL 1 x 16-214TF (203/24)
214B4 BTM FLG	344.89	78′-11 7/8	78′-9 13/16	78′-11 7/8	2′-3 1/8	1′-8 3/8	15/16	15/16	PL 1 x 16-214BF (203/24)
215C4 TOP FLG	353.23	78′-1 3/8	77′-11 7/16	78′-1 3/8	2′-1 7/8	1′-7 7/16	7/8	7/8	PL 1 x 16-215TF (203/26)
215C4 BTM FLG	353.23	77′-11 7/8	77′-10	77′-11 7/8	2′-1 13/16	1′-7 3/8	7/8	7/8	PL 1 x 16-215BF (203/26)

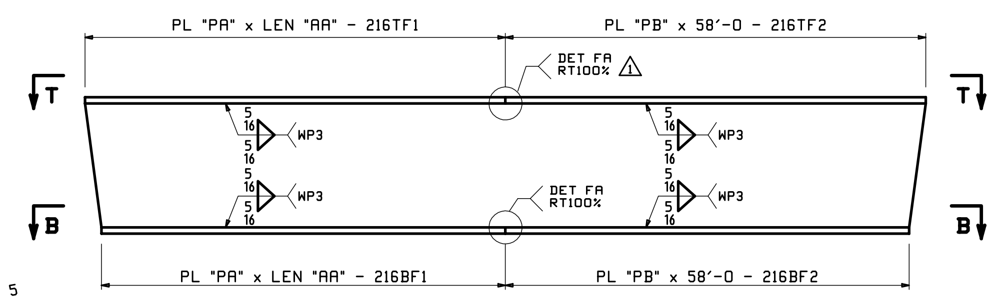


FLANGE DIAGRAM FOR 213A4,214B4,215C4



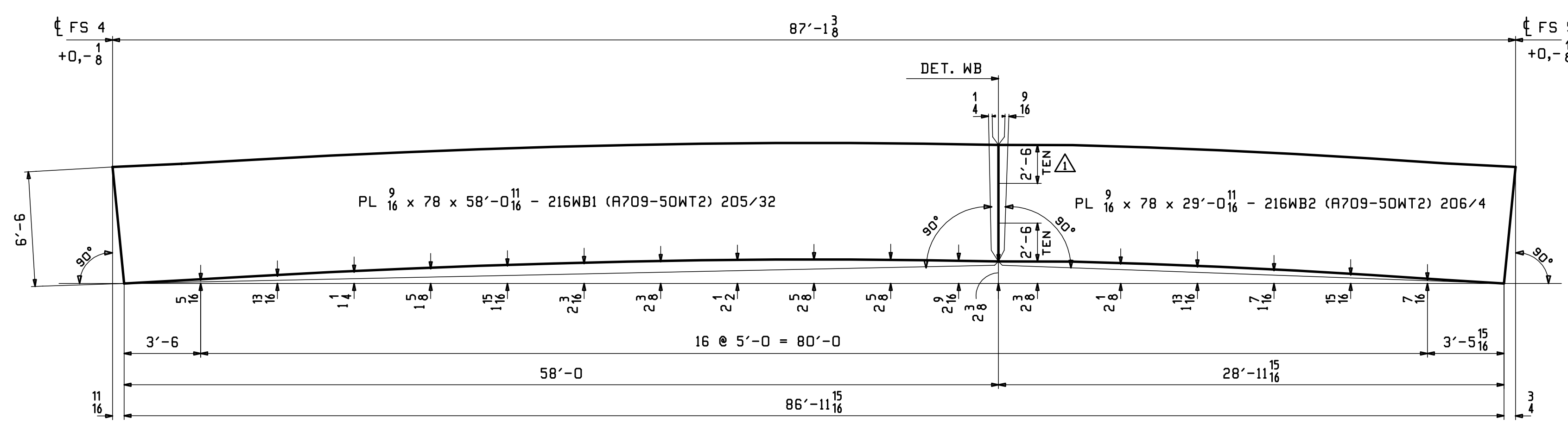
VIEW T-T
SECTION B-B

LOCATION	ARC	CHD	AA	A1	A2	A4	CA	WL1	WL2	HD1	PL PA (A709-50WT2)	PL PB (A709-50WT2)
216D4 TOP FLG	87′-1 3/8	86′-10 7/8	29′-1 3/8	3 1/2	2 5/8	7′-3 5/16	29′-1 5/16	29′-0 3/16	57′-10 11/16	2′-4	PL 1 1/4 x 18-216TF1 (203/2)	PL 1 1/4 x 18-216TF2 (202/32)
216D4 BTM FLG	86′-11 15/16	86′-9 7/16	28′-11 15/16	3 1/2	2 5/8	7′-2 15/16	28′-11 7/8	28′-10 3/4	57′-10 11/16	2′-3 7/8	PL 1 1/2 x 18-216BF1 (202/20)	PL 1 1/2 x 18-216BF2 (202/18)



FLANGE DIAGRAM FOR 216D4

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2
3. FOR WELD DETAILS "FA" & "WA", SEE GN1.



CAMBER DIAGRAM FOR 216D4

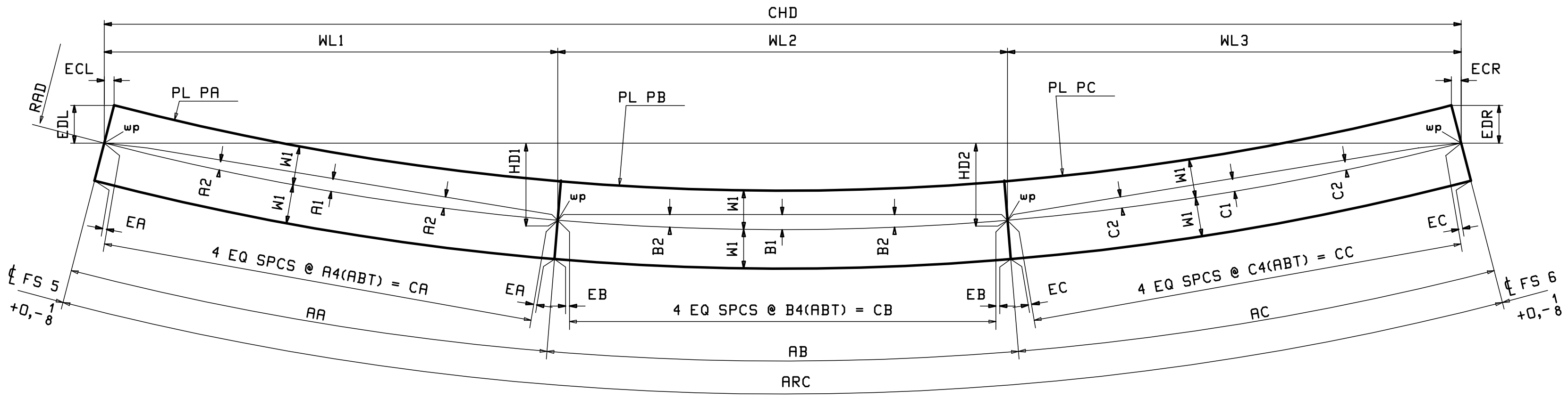
NO.	DATE	REMARKS	BY
1	05/06/19	APPROVAL COMMENTS	ELG / WJL

REVISIONS

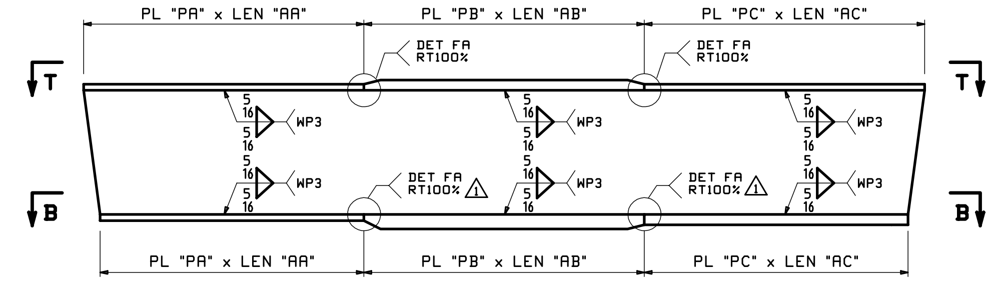
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP
ITEM: WEB & FLANGE CUTTING
SURFACE PREP.: OPEN HOLES:
PAINT:

PRELIMINARY / FOR APPROVAL	DRAWN ELG 02/22/19 / CHECKED WJL 04/10/19	SHEET NO. BG207	PLANT 3	ORDER NO. 18060B	F.P. NO. 20



VIEW T-T
SECTION B-B



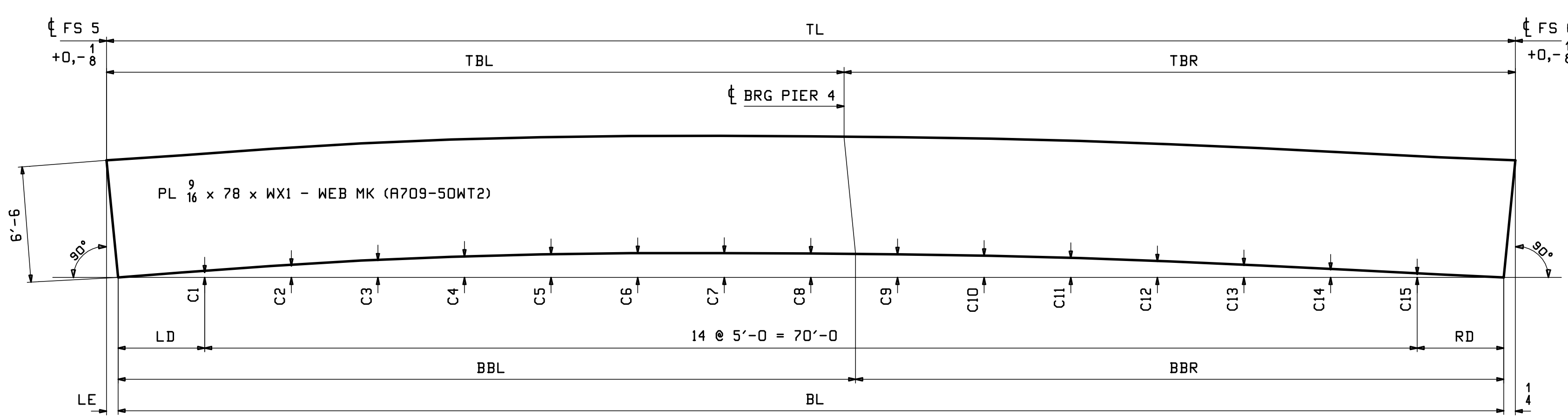
FLANGE DIAGRAM FOR 217A5, 218B5, 219C5, & 220D5

LOCATION	RAD	ARC	CHD	AA	AB	AC	EA	A1	A2	A4	CA	EB	B1	B2	B4	CB	EC	C1	C2	C4	CC	ECL	ECR	EDL	EDR	WL1	WL2	WL3	HD1	HD2	W1
217A5 TOP FLG	336.56	77'-1 3/16	76'-11 3/16	21'-10 11/16	30'-0	25'-2 1/2	1/4	2 1/8	1 5/8	5'-5 11/16	21'-10 5/8	3/8	4	3	7'-6	29'-11 7/8	5/16	2 13/16	2 1/8	6'-3 5/8	25'-2 7/16	15/16	15/16	7 15/16	7 15/16	21'-9 3/4	29'-11 7/8	25'-1 9/16	1'-9 1/2	1'-11 1/4	8
217A5 BTM FLG	336.56	77'-0 7/16	76'-10 7/16	22'-0 1/8	30'-0	25'-0 5/16	1/4	2 3/16	1 5/8	5'-6	22'-0 1/16	3/8	4	3	7'-6	29'-11 7/8	5/16	2 13/16	2 1/16	6'-3 1/16	25'-0 1/4	15/16	15/16	7 15/16	7 15/16	21'-11 3/16	29'-11 7/8	24'-11 3/8	1'-9 9/16	1'-11 3/16	8
218B5 TOP FLG	344.89	75'-1 1/16	74'-11 5/16	24'-10 5/8	25'-0	25'-2 7/16	5/16	2 11/16	2	6'-2 5/8	24'-10 9/16	5/16	2 11/16	2 1/16	6'-3	24'-11 15/16	5/16	2 3/4	2 1/16	6'-3 5/8	25'-2 3/8	7/8	7/8	7 15/16	7 15/16	24'-9 3/4	24'-11 15/16	25'-1 5/8	1'-9 11/16	1'-9 13/16	8
218B5 BTM FLG	344.89	75'-0 3/8	74'-10 5/8	25'-0 1/16	25'-0	25'-0 5/16	5/16	2 11/16	2 1/16	6'-3	25'-0	5/16	2 11/16	2 1/16	6'-3	24'-11 15/16	5/16	2 3/4	2 1/16	6'-3 1/16	25'-0 1/4	7/8	7/8	7 15/16	7 15/16	24'-11 3/16	24'-11 15/16	24'-11 1/2	1'-9 3/4	1'-9 3/4	8
219C5 TOP FLG	353.23	80'-1 1/16	79'-11	14'-10 11/16	40'-0	25'-2 3/8	3/16	15/16	11/16	3'-8 11/16	14'-10 11/16	7/16	6 13/16	5 1/16	9'-11 15/16	39'-11 3/4	5/16	2 11/16	2	6'-3 9/16	25'-2 5/16	7/8	7/8	7 15/16	7 15/16	14'-9 15/16	39'-11 11/16	25'-1 3/8	1'-4 7/16	1'-11 7/16	8
219C5 BTM FLG	353.23	80'-0 3/8	79'-10 5/16	15'-0 1/8	40'-0	25'-0 1/4	3/16	15/16	11/16	3'-9	15'-0 1/8	7/16	6 13/16	5 1/16	9'-11 15/16	39'-11 3/4	5/16	2 11/16	2	6'-3 1/16	25'-0 3/16	7/8	7/8	7 15/16	7 15/16	14'-11 5/16	39'-11 11/16	24'-11 5/16	1'-4 9/16	1'-11 5/16	8
220D5 TOP FLG	361.56	83'-1 1/8	82'-10 15/16	22'-11	40'-0	20'-2 1/8	5/16	2 3/16	1 5/8	5'-8 3/4	22'-10 15/16	1/2	6 5/8	5	9'-11 15/16	39'-11 3/4	1/4	1 11/16	1 1/4	5'-0 1/2	20'-2 1/16	1 1/16	1 1/16	8 15/16	8 15/16	22'-10	39'-11 3/4	20'-1 3/16	1'-10 7/8	1'-9	9
220D5 BTM FLG	361.56	83'-0 5/16	82'-10 1/8	23'-0 5/16	40'-0	20'-0	5/16	2 3/16	1 5/8	5'-9 1/16	23'-0 1/4	1/2	6 5/8	5	9'-11 15/16	39'-11 3/4	1/4	1 11/16	1 1/4	5'-0	20'-0	1	1	8 15/16	8 15/16	22'-11 5/16	39'-11 3/4	19'-11 1/16	1'-10 7/8	1'-8 7/8	9

LOCATION	PL PA (A709-50WT2)	PL PB (A709-50WT2)	PL PC (A709-50WT2)
217A5 TOP FLG	PL 1 x 16-217TF1 (204/22)	PL 1 1/2 x 16-217TF2 (202/22)	PL 1 x 16-217TF3 (204/16)
217A5 BTM FLG	PL 1 x 16-217BF1 (204/20)	PL 1 7/8 x 16-217BF2 (202/4)	PL 1 x 16-217BF3 (204/16)
218B5 TOP FLG	PL 1 x 16-218TF1 (204/18)	PL 1 1/8 x 16-218TF2 (203/6)	PL 1 x 16-218TF3 (204/16)
218B5 BTM FLG	PL 1 x 16-218BF1 (204/16)	PL 1 5/8 x 16-218BF2 (202/16)	PL 1 x 16-218BF3 (204/16)

LOCATION	PL PA (A709-50WT2)	PL PB (A709-50WT2)	PL PC (A709-50WT2)
219C5 TOP FLG	PL 1 x 16-219TF1 (204/24)	PL 2 1/4 x 16-219TF2 (201/16)	PL 1 x 16-219TF3 (204/16)
219C5 BTM FLG	PL 1 x 16-219BF1 (204/24)	PL 2 1/2 x 16-219BF2 (201/12)	PL 1 x 16-219BF3 (204/16)
220D5 TOP FLG	PL 1 x 18-220TF1 (203/10)	PL 2 x 18-220TF2 (201/26)	PL 1 x 18-220TF3 (203/12)
220D5 BTM FLG	PL 1 3/8 x 18-220BF1 (202/28)	PL 2 1/8 x 18-220BF2 (201/18)	PL 2 x 18-220BF3 (201/30)

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2
3. FOR WELD DETAIL "FA", SEE GN1.



CAMBER DIAGRAM FOR 217A5 & 219C5 ⚠1

MARK	TL	BL	LE	WX1	TBL	TBR	BBL	BBR	LD	RD	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	WEB MK	PG/LINE
217A5	77'-1 3/16	77'-0 7/16	1/2	77'-1 3/16	40'-1 5/16	36'-11 7/8	40'-2 5/8	36'-9 13/16	3'-6 1/4	3'-6 3/16	1/4	9/16	3/4	15/16	1 1/16	1 1/8	1 1/8	1 1/8	1 1/16	1	7/8	3/4	9/16	3/8	1/8	217WB	205/12
219C5	80'-1 1/16	80'-0 3/8	7/16	80'-1 1/16	35'-2 3/8	44'-10 11/16	35'-3 3/4	44'-8 5/8	5'-0 3/16	5'-0 3/16	5/16	9/16	3/4	7/8	1	1 1/16	1 1/8	1 1/8	1 1/8	1 1/16	1	7/8	11/16	7/16	1/4	219WB	205/10

NO.	DATE	REMARKS	BY
⚠1	05/06/19	ARROVAL COMMENTS	ELG / WJL

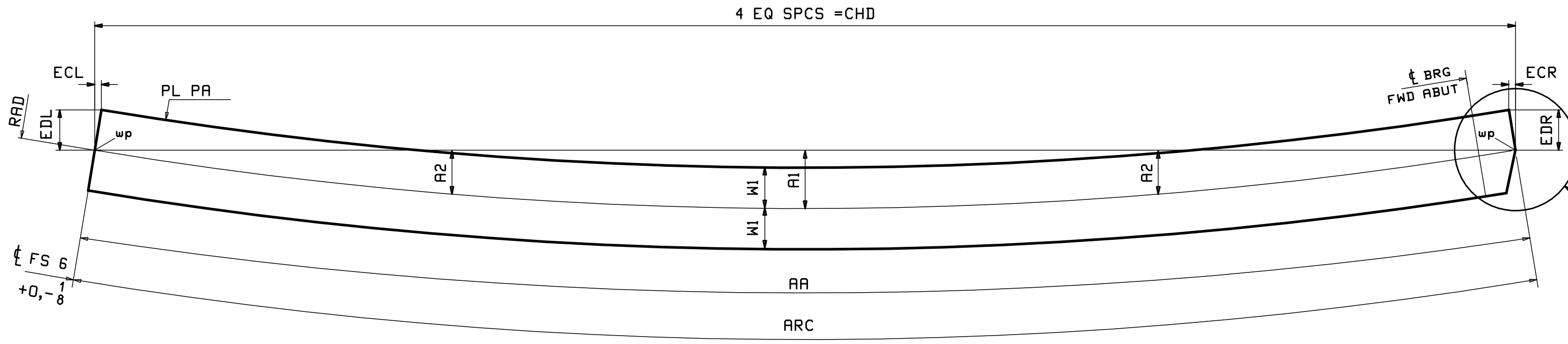
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: WEB & FLANGE CUTTING
SURFACE PREP. OPEN HOLES
PAINT

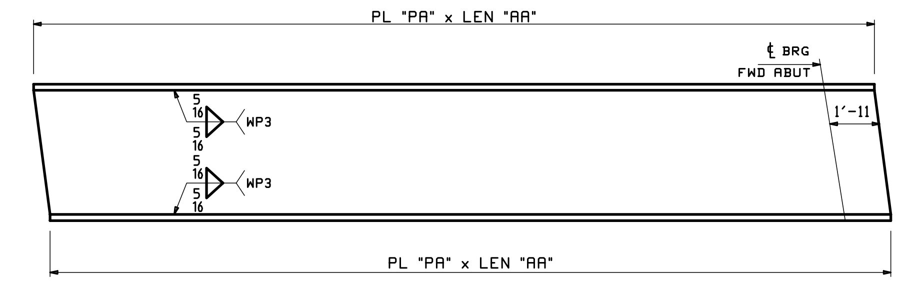
PRELIMINARY	DRAWN ELG 02/22/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/10/19	BG208	3	18060B	20



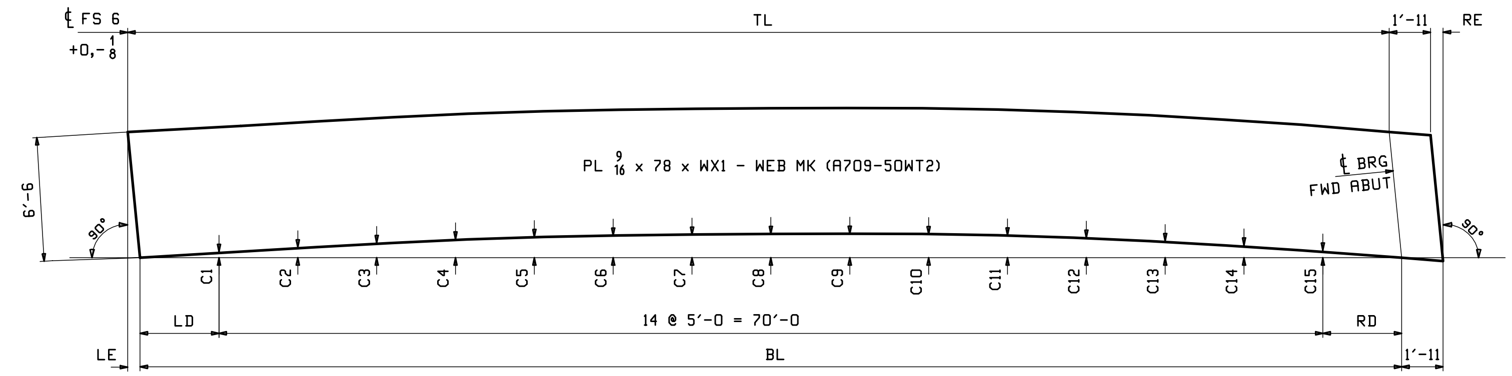
VIEW T-T

SECTION B-B

LOCATION	RAD	ARC	CHD	AA	A1	A2	ECL	ECR	EDL	EDR	W1	PL PA (A709-50WT2)
221A6 TOP FLG	336.56	85′-0 7/16	84′-9 3/4	85′-0 7/16	2′-8 3/16	2′-0 1/8	1	1	7 15/16	7 15/16	8	PL 1 x 16-221TF (203/14)
221A6 BTM FLG	336.56	85′-2 1/4	84′-11 1/2	85′-2 1/4	2′-8 1/4	2′-0 1/4	1	1	7 15/16	7 15/16	8	PL 1 x 16-221BF (203/14)
222B6 TOP FLG	344.89	81′-3	81′-0 3/4	81′-3	2′-4 5/8	1′-9 1/2	15/16	15/16	7 15/16	7 15/16	8	PL 1 x 16-222TF (203/22)
222B6 BTM FLG	344.89	81′-4 11/16	81′-2 7/16	81′-4 11/16	2′-4 3/4	1′-9 9/16	15/16	15/16	7 15/16	7 15/16	8	PL 1 x 16-222BF (203/22)
223C6 TOP FLG	353.23	77′-7 1/4	77′-5 3/8	77′-7 1/4	2′-1 1/2	1′-7 1/8	7/8	7/8	7 15/16	7 15/16	8	PL 1 x 16-223TF (203/28)
223C6 BTM FLG	353.23	77′-8 15/16	77′-7 1/16	77′-8 15/16	2′-1 5/8	1′-7 1/4	7/8	7/8	7 15/16	7 15/16	8	PL 1 x 16-223BF (203/28)
224D6 TOP FLG	361.56	77′-0	76′-10 1/4	77′-0	2′-0 9/16	1′-6 7/16	15/16	15/16	8 15/16	8 15/16	9	PL 1 x 18-224TF (203/8)
224D6 BTM FLG	361.56	77′-1 9/16	76′-11 13/16	77′-1 9/16	2′-0 5/8	1′-6 1/2	15/16	15/16	8 15/16	8 15/16	9	PL 2 x 18-224BF (201/24)

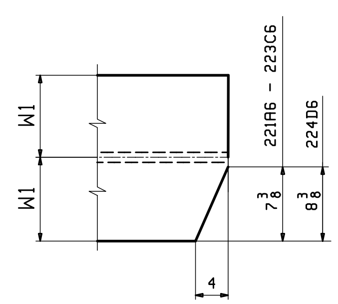


FLANGE DIAGRAM FOR 221A6, 222B6, 223C6, & 224D6



CAMBER DIAGRAM FOR 221A6, 222B6, 223C6, & 224D6

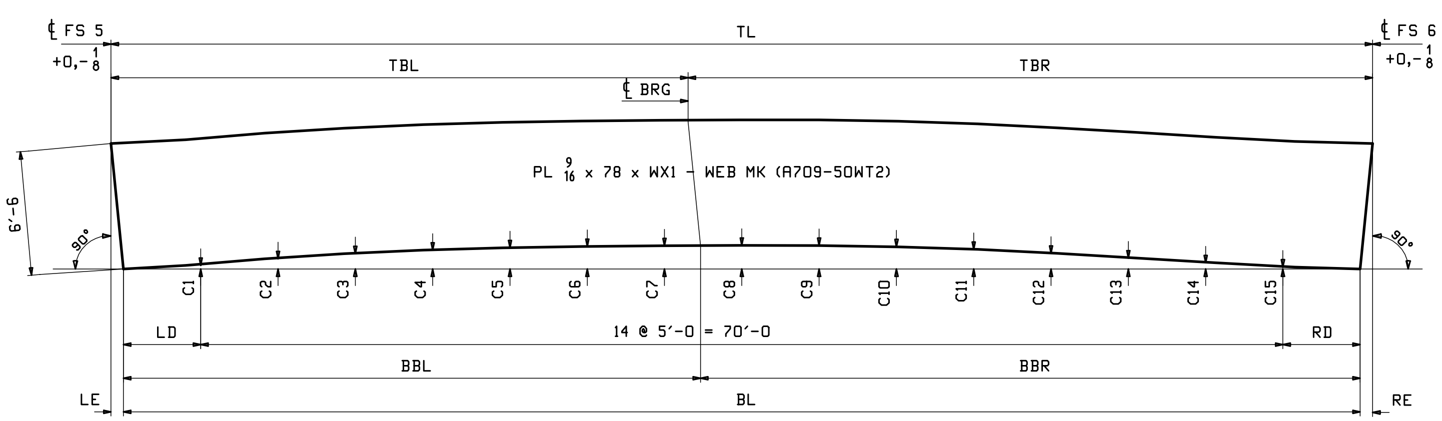
MARK	TL	BL	LE	RE	WX1	LD	RD	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	WEB MK	PG/LINE
221A6	83′-1 7/16	83′-3 1/4	3/16	2	85′-2 7/16	6′-7 5/8	6′-7 5/8	3/16	5/16	1/2	9/16	11/16	11/16	3/4	3/4	3/4	3/4	11/16	5/8	9/16	3/8	1/4	221WB	205/18
222B6	79′-4	79′-5 11/16	5/16	2	81′-5	4′-8 7/8	4′-8 13/16	3/16	3/8	9/16	5/8	3/4	3/4	13/16	13/16	13/16	3/4	11/16	9/16	7/16	5/16	3/16	222WB	205/20
223C6	75′-8 1/4	75′-9 15/16	5/16	2	77′-9 1/4	2′-11	2′-10 15/16	1/8	3/8	1/2	11/16	3/4	13/16	13/16	13/16	13/16	3/4	11/16	9/16	3/8	1/4	1/16	223WB	205/24
224D6	75′-1	75′-2 9/16	3/8	1 15/16	77′-1 15/16	2′-7 5/16	2′-7 1/4	1/8	3/8	9/16	11/16	13/16	7/8	7/8	7/8	13/16	3/4	11/16	9/16	7/16	1/4	1/8	224WB	205/26



DETAIL "A"

NOTES:

1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2



CAMBER DIAGRAM FOR 218B5 & 220D5

MARK	TL	BL	LE	RE	WX1	TBL	TBR	BBL	BBR	LD	RD	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	WEB MK	PG/LINE
218B5	75′-1 1/16	75′-0 3/8	7/16	1/4	75′-1 1/16	34′-1 1/8	40′-11 15/16	34′-2 1/2	40′-9 7/8	2′-6 3/16	2′-6 3/16	1/8	7/16	5/8	3/4	13/16	7/8	15/16	15/16	15/16	7/8	3/4	5/8	7/16	1/4	1/16	218WB	205/28
220D5	83′-1 1/8	83′-0 5/16	7/16	3/8	83′-1 1/8	37′-3 13/16	45′-9 5/16	37′-5 1/16	45′-7 1/4	6′-6 3/16	6′-6 1/8	3/8	5/8	13/16	1	1 1/16	1 1/8	1 3/16	1 3/16	1 3/16	1 3/16	1 1/16	15/16	3/4	9/16	5/16	220WB	205/8

NO.	DATE	REMARKS	BY

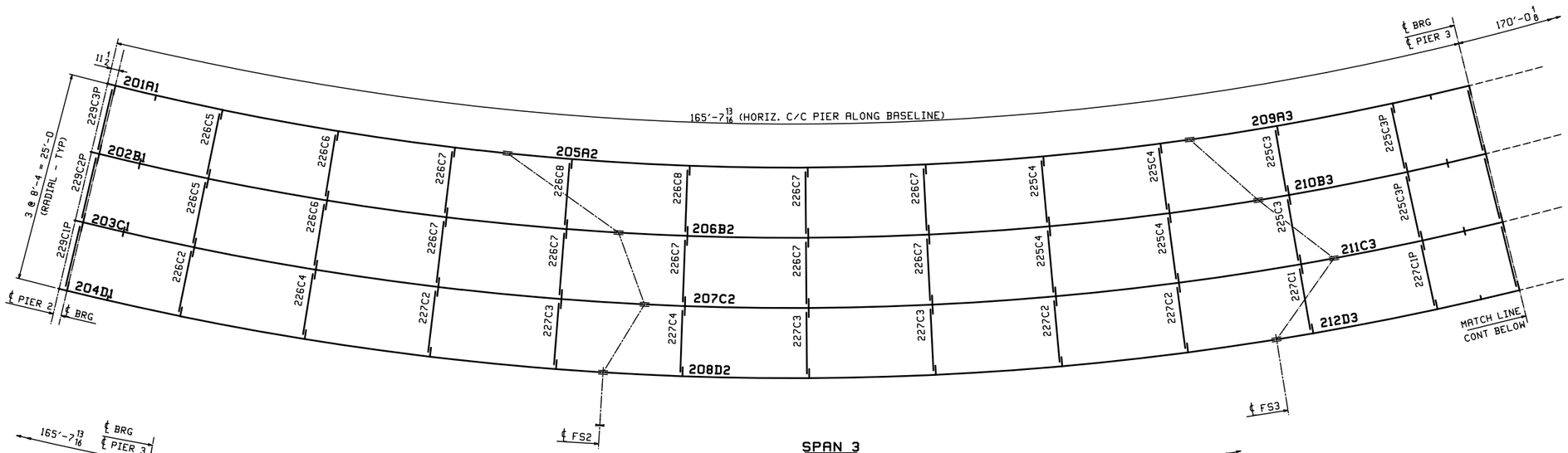
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

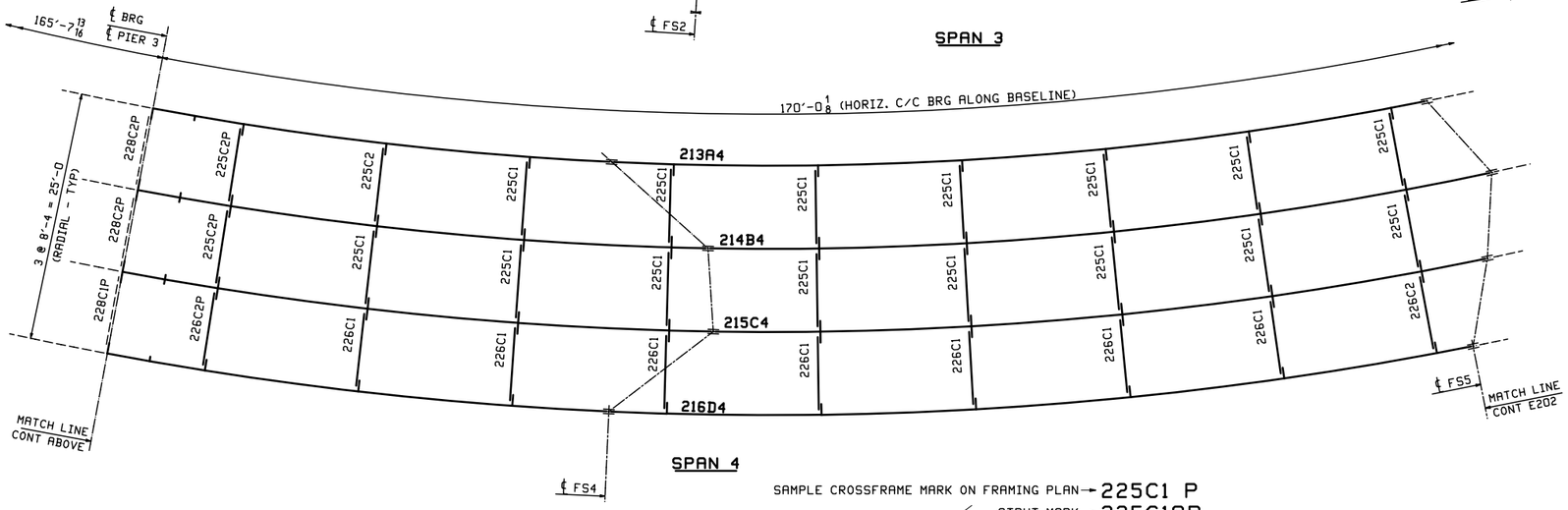
STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: WEB & FLANGE CUTTING
SURFACE PREP. ______ OPEN HOLES ______
PAINT ______

PRELIMINARY	DRAWN ELG 02/22/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/10/19	BG209	3	18060B	20



SPAN 3



SPAN 4

FRAMING PLAN

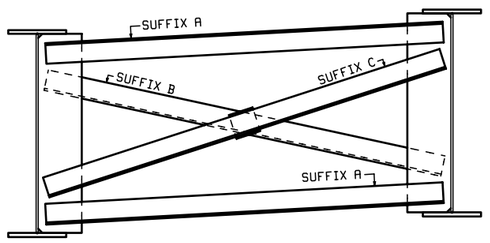
SAMPLE CROSSFRAME MARK ON FRAMING PLAN → 225C1 P

CORRESPONDING STRUT AND DIAGONAL MARKS

- STRUT MARK → 225C1AP
- DIAGONAL MARK → 225C1BP
- DIAGONAL MARK → 225C1CP

- SHEET NUMBER (VARIES) TYPICAL
- FRAME NUMBER (VARIES)
- SUFFIX (SEE DETAILS BELOW FOR PLACEMENT)
- P INDICATES PRIME COATED MEMBER

SAMPLE INT. & PIER CROSSFRAME MARK



INT CROSSFRAME MARK LOCATION

(LOOKING UP-STATION)

NOTES:

1. ALL DIMENSIONS SHOWN ARE IN THE HORIZONTAL PLANE.
2. ALL STEEL SHALL BE ERECTED WITH THE SHIPPING MARK IN THE SAME RELATIVE POSITION AS SHOWN ON THE ERECTION PLANS.
3. IN WEB SPLICE PLATES, BOLT HEADS SHALL BE PLACED ON THE EXPOSED SIDE OF THE FASCIA GIRDERS. IN BOTTOM FLANGE SPLICE, BOLT HEADS SHALL BE PLACED ON THE BOTTOM SURFACE OF THE BOTTOM FLANGE SPLICE PLATES.

NOTICE TO ERECTOR

BACKCHARGES FOR CORRECTIVE WORK OR REPLACED MATERIALS WILL NOT BE ACCEPTED UNLESS EXPRESSLY AUTHORIZED BY VERITAS STEEL BEFORE ANY SUCH COSTS ARE INCURRED.

WORK THIS SHEET WITH SHEET E202

INDEX OF SHEETS

NO.	DATE	REMARKS	BY

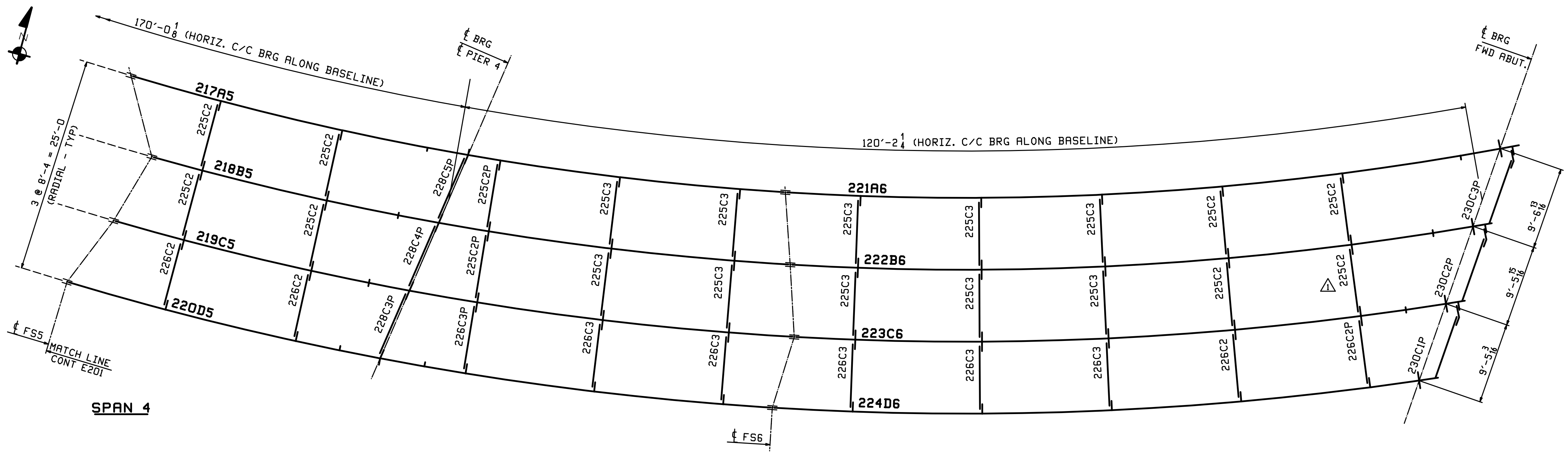
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

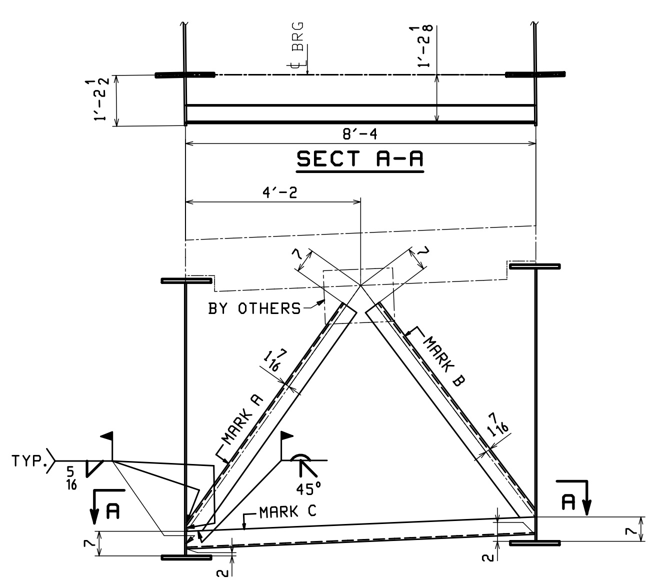
STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	FRAMING PLAN
SURFACE PREP.	OPEN HOLES
PAINT	

PRELIMINARY	DRAWN DPS 03/25/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.	
FOR APPROVAL	CHECKED WJL 04/18/19	E201	3	18060B		

BJH Mon, Apr 22, 2019 04:48 PM C:\work\jobs\2656-2\E201.dgn



FRAMING PLAN

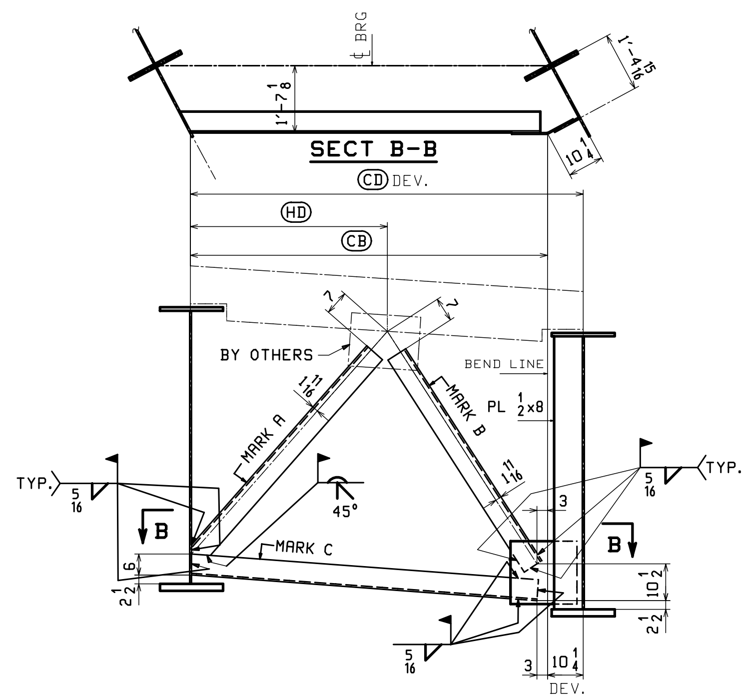


END CROSSFRAME LAYOUT @ PIER 2

(LOOKING UP-STATION)

TERMINATE ALL WELDS 1/4 ± 1/8" FROM PLATE EDGES

MARK	MARK "A"	MARK "B"	MARK "C"
229C1P	229C1AP	229C1BP	229C1CP
229C2P	229C2AP	229C2BP	229C2CP
229C3P	229C3AP	229C3BP	229C3CP



END CROSSFRAME LAYOUT @ FORWARD ABUTMENT

(LOOKING BACKSTATION)
(DEVELOPED)

TERMINATE ALL WELDS 1/4 ± 1/8" FROM PLATE EDGES

MARK	MARK "A"	MARK "B"	MARK "C"	CD	CB	HD
230C1P	230C1AP	230C1BP	230C1CP	9'-4	8'-5 3/4	4'-8 5/8
230C2P	230C2AP	230C2BP	230C2CP	9'-4 11/16	8'-6 7/16	4'-9
230C3P	230C3AP	230C3BP	230C3CP	9'-5 3/16	8'-6 15/16	4'-9 7/16

WORK THIS SHEET WITH SHEET E201

NO.	DATE	REMARKS	BY
1	5/13/19	REVISED CROSSFRAME MARK	DPS/

REVISIONS

Veritas STEEL 2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL

TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: FRAMING PLAN
SURFACE PREP.: OPEN HOLES:
PAINT:

PRELIMINARY / FOR APPROVAL — DRAWN DPS 03/25/19 — CHECKED — SHEET NO. E202 — PLANT 3 — ORDER NO. 18060B — F.P. NO.

LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED			WASH CODE	PIECES CONNECTED AND REMARKS	
FIELD BOLT LIST				A325 Type 3 BOLTS								
1											FIELD SPLICE 5,6 @ G1-3,	
2											2 @ G1-2, 4 @ G2	
3	432	1 1/4	4 1/2	48	9	2 1/2	11/16	1	13/16	1	Top Flg Splice	
4	702	1 1/4	3 1/4	78	9	1 5/16	3/8	9/16	3/8	1	Web Splice	
5	432	1 1/4	5 1/2	48	9	3 7/16	1 5/16	1	1 1/8	1	Btm Flg Splice	
6												
7											FIELD SPLICE 3 @ G2	
8	48	1 1/4	5 1/2	48	1	3 1/2	11/16	2	13/16	1	Top Flg Splice	
9	78	1 1/4	3 1/4	78	1	1 5/16	3/8	9/16	3/8	1	Web Splice	
10	48	1 1/4	6 1/2	48	1	4 9/16	1 5/16	2 1/8	1 1/8	1	Btm Flg Splice	
11												
12											FIELD SPLICE 5 @ G4	
13	48	1 1/4	4 3/4	48	1	2 3/4	11/16	1 1/4	13/16	1	Top Flg Splice	
14	78	1 1/4	3 1/4	78	1	1 5/16	3/8	9/16	3/8	1	Web Splice	
15	48	1 1/4	6	48	1	3 15/16	1 5/16	1 1/2	1 1/8	1	Btm Flg Splice	
16												
17											FIELD SPLICE 3 @ G1	
18	48	1 1/4	5 1/2	48	1	3 3/4	11/16	2 1/4	13/16	1	Top Flg Splice	
19	78	1 1/4	3 1/4	78	1	1 5/16	3/8	9/16	3/8	1	Web Splice	
20	48	1 1/4	7	48	1	4 15/16	1 5/16	2 1/2	1 1/8	1	Btm Flg Splice	
21												
22											FIELD SPLICE 4 @ G1	
23	48	1 1/4	4 1/2	48	1	2 1/2	11/16	1	13/16	1	Top Flg Splice	
24	78	1 1/4	3 1/4	78	1	1 5/16	3/8	9/16	3/8	1	Web Splice	
25	48	1 1/4	6	48	1	3 13/16	1 5/16	1 3/8	1 1/8	1	Btm Flg Splice	
26												
27											FIELD SPLICE 2 @ G4	
28	96	1 1/4	6 1/2	96	1	4 1/2	1 1/8	2	1 3/8	1	Top Flg Splice	
29	78	1 1/4	3 1/2	78	1	1 11/16	9/16	9/16	9/16	1	Web Splice	
30	96	1 1/4	7 1/2	96	1	5 1/2	1 5/8	2 1/2	1 3/8	1	Btm Flg Splice	
31												
32											FIELD SPLICE 3 @ G3	
33	96	1 1/4	7	96	1	5 1/4	1 3/8	2 1/2	1 3/8	1	Top Flg Splice	
34	78	1 1/4	3 3/4	78	1	1 13/16	5/8	9/16	5/8	1	Web Splice	
35	96	1 1/4	7 1/2	96	1	5 1/2	1 5/8	2 1/2	1 3/8	1	Btm Flg Splice	△2
36												
37											FIELD SPLICE 4 @ G3	
38	96	1 1/4	6	96	1	4	1 3/8	1 1/4	1 3/8	1	Top Flg Splice	
39	78	1 1/4	3 3/4	78	1	1 13/16	5/8	9/16	5/8	1	Web Splice	
40	96	1 1/4	6	96	1	4 1/4	1 5/8	1 1/4	1 3/8	1	Btm Flg Splice	△2
41												
42											FIELD SPLICE 4 @ G4	
43	96	1 1/4	6 1/2	96	1	4 5/8	1 3/8	1 7/8	1 3/8	1	Top Flg Splice	
44	78	1 1/4	3 3/4	78	1	1 13/16	5/8	9/16	5/8	1	Web Splice	
45	96	1 1/4	7	96	1	5	1 5/8	2	1 3/8	1	Btm Flg Splice	△2
46												
47											FIELD SPLICE 3 @ G4	
48	96	1 1/4	7	96	1	5	1 1/8	2 1/2	1 3/8	1	Top Flg Splice	
49	78	1 1/4	3 3/4	78	1	1 15/16	11/16	9/16	11/16	1	Web Splice	
50	96	1 1/4	7 1/2	96	1	5 1/2	1 5/8	2 1/2	1 3/8	1	Btm Flg Splice	
51												
52											FIELD SPLICE 2 @ G3	
53	48	1 1/4	4 1/2	48	1	2 1/2	11/16	1	13/16	1	Top Flg Splice	
54	78	1 1/4	3 1/4	78	1	1 5/16	3/8	9/16	3/8	1	Web Splice	
55	48	1 1/4	6	48	1	4 3/16	1 5/16	1 3/4	1 1/8	1	Btm Flg Splice	
56												
57											FIELD SPLICE 6 @ G4	
58	48	1 1/4	4 1/2	48	1	2 1/2	11/16	1	13/16	1	Top Flg Splice	
59	78	1 1/4	3 1/4	78	1	1 5/16	3/8	9/16	3/8	1	Web Splice	
60	48	1 1/4	6 1/2	48	1	4 7/16	1 5/16	2	1 1/8	1	Btm Flg Splice	

WASHER CODES

1: 1 Hard Flat Washer

LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED			WASH CODE	PIECES CONNECTED AND REMARKS
FIELD BOLT LIST				A490 Type 3 BOLTS							
61											INT CROSSFRAME - CF2
62	312	1 1/4	3	8	39	1	1/2	1/2		2	TOP/BTM STRUT-STIFF
63	312	1 1/4	3	8	39	1	1/2	1/2		2	DIAG-STIFF
64	39	1 1/4	3 1/2	1	39	1 1/2	1/2	1/2	1/2	2	DIAG-FILL PL-DIAG
65											
66											INT CROSSFRAME - CF3
67	372	1 1/4	3	12	31	1	1/2	1/2		2	TOP/BTM STRUT-STIFF
68	372	1 1/4	3	12	31	1	1/2	1/2		2	DIAG-STIFF
69	31	1 1/4	3 1/2	1	31	1 1/2	1/2	1/2	1/2	2	DIAG-FILL PL-DIAG
70											
71											INT CROSSFRAME - CF4
72	128	1 1/4	3	16	8	1	1/2	1/2		2	TOP/BTM STRUT-STIFF
73	128	1 1/4	3	16	8	1	1/2	1/2		2	DIAG-STIFF
74	8	1 1/4	3 1/2	1	8	1 1/2	1/2	1/2	1/2	2	DIAG-FILL PL-DIAG
75											

WASHER CODES

2: 2 Hard Flat Washers

△1 △2

Rev	LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED			WASH CODE	PIECES CONNECTED AND REMARKS
	FIELD BOLT LIST				A490 Type 3 F1136 ANNEX A1							
	76											INT CROSSFRAME - CF2
	77	56	1 1/4	3	8	7	1	1/2	1/2		2	TOP/BTM STRUT-STIFF
	78	56	1 1/4	3	8	7	1	1/2	1/2		2	DIAG-STIFF
	79	7	1 1/4	3 1/2	1	7	1 1/2	1/2	1/2	1/2	2	DIAG-FILL PL-DIAG
	80											
	81											INT CROSSFRAME - CF3
	82	48	1 1/4	3	12	4	1	1/2	1/2		2	TOP/BTM STRUT-STIFF
	83	48	1 1/4	3	12	4	1	1/2	1/2		2	DIAG-STIFF
	84	4	1 1/4	3 1/2	1	4	1 1/2	1/2	1/2	1/2	2	DIAG-FILL PL-DIAG
	85											
	86											INT CROSSFRAME - CF4
	87	16	1 1/4	3	16	1	1	1/2	1/2		2	TOP/BTM STRUT-STIFF
	88	16	1 1/4	3	16	1	1	1/2	1/2		2	DIAG-STIFF
	89	1	1 1/4	3 1/2	1	1	1 1/2	1/2	1/2	1/2	2	DIAG-FILL PL-DIAG
	90											
	91											PIER 3 CROSSFRAME - CF4
	92	48	1 1/4	4 1/4	16	3	2 1/8	1/2	1 5/8		2	TOP/BTM STRUT-STIFF
	93	48	1 1/4	4 1/4	16	3	2 1/8	1/2	1 5/8		2	DIAG-STIFF
	94	3	1 1/4	4 3/4	1	3	2 5/8	1/2	1 5/8	1/2	2	DIAG-FILL PL-DIAG
	95											
	96											PIER 4 CROSSFRAME - CF4
△1	97	48	1 1/4	4 1/4	16	3	2 1/8	1/2	1 5/8		2	TOP/BTM STRUT-STIFF
△1	98	48	1 1/4	4 1/4	16	3	2 1/8	1/2	1 5/8		2	DIAG-STIFF
△1	99	3	1 1/4	4 3/4	1	3	2 5/8	1/2	1 5/8	1/2	2	DIAG-FILL PL-DIAG

WASHER CODES

2: 2 Hard Flat Washers

(CONNECTIONS TO PAINTED GIRDER CONNECTION PLATES ONLY)

ROT'L CAPACITY TEST REQ'D

Rev	LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
	1				FIELD BOLTS					5% + 5 ADDED
	2									(ACTUAL COUNT)
	3		257	bpk6	1 1/4 ø HSB	0	3	A490-3	210/5	(240) ASTM F1136 ANNEX A1 FP:86
	4		18	bpn6	1 1/4 ø HSB	0	3 1/2	A490-3	210/7	012) ASTM F1136 ANNEX A1 FP:86
△1	5		207	bpv6	1 1/4 ø HSB	0	4 1/4	A490-3	210/10	(192) ASTM F1136 ANNEX A1 FP:86
△1	6		11	bpy6	1 1/4 ø HSB	0	4 3/4	A490-3	210/12	(6) ASTM F1136 ANNEX A1 FP:86
△1	7		986	wg6	1 1/4 ø HSW			F436-3	210/28	(900) ASTM F1136 ANNEX A1 FP:86
△1	8		493	ng6	1 1/4 ø HHN			A563 DH3	210/29	(450) ASTM F1136 ANNEX A1 FP:86
	9									
	10		1710	bpk6	1 1/4 ø HSB	0	3	A490-3	211/5	(1624) FP:86
	11		88	bpn6	1 1/4 ø HSB	0	3 1/2	A490-3	211/7	(78) FP:86
	12		3584	wg6	1 1/4 ø HSW			F436-3	211/28	(3404) FP:86
	13		1792	ng6	1 1/4 ø HHN			A563 DH3	211/29	(1702) FP:86
	14									
	15		1234	bpm6	1 1/4 ø HSB	0	3 1/4	A325-3	212/6	(1170) FP:86
	16		87	bpn6	1 1/4 ø HSB	0	3 1/2	A325-3	212/7	(78) FP:86
	17		333	bpp6	1 1/4 ø HSB	0	3 3/4	A325-3	212/8	(312) FP:86
	18		610	bpw6	1 1/4 ø HSB	0	4 1/2	A325-3	212/11	(576) FP:86
	19		55	bpy6	1 1/4 ø HSB	0	4 3/4	A325-3	212/12	(48) FP:86
	20		559	btc6	1 1/4 ø HSB	0	5 1/2	A325-3	212/15	(528) FP:86
△2	21		358	btf6	1 1/4 ø HSB	0	6	A325-3	212/17	(336) FP:86
	22		307	btg6	1 1/4 ø HSB	0	6 1/2	A325-3	212/18	(288) FP:86
△2	23		358	btk6	1 1/4 ø HSB	0	7	A325-3	212/19	(336) FP:86
△2	24		307	btm6	1 1/4 ø HSB	0	7 1/2	A325-3	212/20	(288) FP:86
△2	25		4163	wg6	1 1/4 ø HSW			A325-3	212/28	(3960) FP:86
△2	26		4163	ng6	1 1/4 ø HHN			A563 DH3	212/29	(3960) FP:86
	27									
	28									
	29									
	30									
	31									
	32									
	33									
	34									
	35									
	36									
	37									
	38									
	39									
	40									

NOTE:

FOR GENERAL NOTES SEE SHEET GN1.

NO.	DATE	REMARKS	BY
△2	05/14/19	REV'D PER APPROVAL COMMENTS	EEO / WJL
△1	04/24/19	REV'D BRG STIFF THICKNESS @ PIER 4	EEO / WJL

REVISIONS

Veritas STEEL

2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL

TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2

LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98

PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S

ENGINEER: PRIME AE GROUP

CONTRACTOR: WALSH GROUP

ITEM: FIELD BOLTS

SURFACE PREP. ______ OPEN HOLES ______

PAINT ______

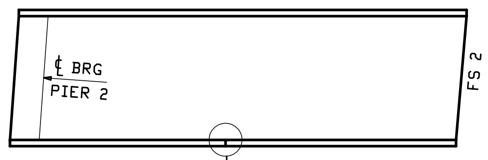
PRELIMINARY	DRAWN	DPS 04/09/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/18/19	FB201	3	18060B	86

WJL Wed, May 15, 2019 08:24:23 AM /users/jobs/3656-2/FB201 : Rev2

GIRDER	TEST	FILM NO.
204D1	COMP	

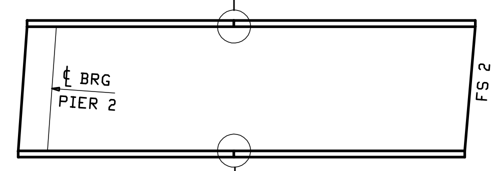
GIRDER	TEST	FILM NO.
207C2	TEN	

GIRDER	TEST	FILM NO.
208D2	COMP	



GIRDER	TEST	FILM NO.
203C1	TEN	

DIAGRAM FOR 203C1



GIRDER	TEST	FILM NO.
204D1	TEN	

DIAGRAM FOR 204D1

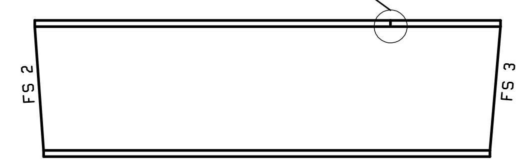
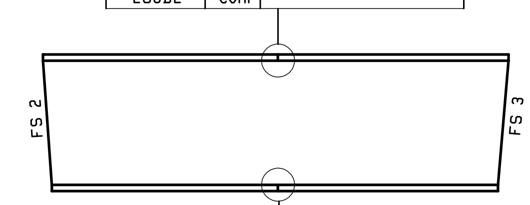


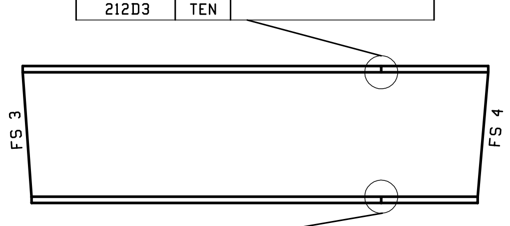
DIAGRAM FOR 207C2



GIRDER	TEST	FILM NO.
208D2	TEN	

DIAGRAM FOR 208D2

GIRDER	TEST	FILM NO.
209A3	TEN	
210B3	TEN	
211C3	TEN	
212D3	TEN	

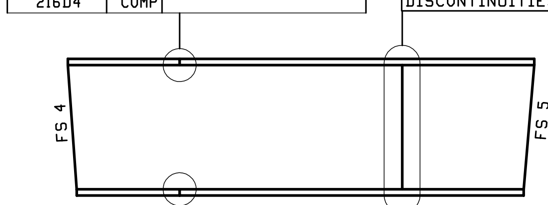


GIRDER	TEST	FILM NO.
209A3	COMP	
210B3	COMP	
211C3	COMP	
212D3	COMP	

DIAGRAM FOR 209A3, 210B3, 211C3, 212D3

GIRDER	TEST	FILM NO.
216D4	COMP	

"RT" TOP AND BOTTOM 1/3 OF WEB DEPTH AND REMAINDER IF UNACCEPTABLE DISCONTINUITIES ARE FOUND.



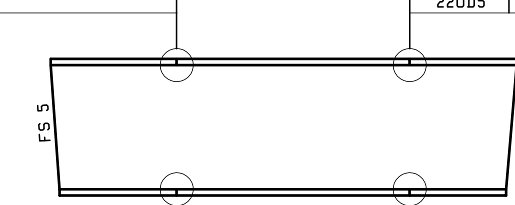
GIRDER	TEST	FILM NO.
216D4	TEN	

GIRDER	TEST	FILM NO.
216D4	TOP	
	BTM	

DIAGRAM FOR 216D4

GIRDER	TEST	FILM NO.
217A5	TEN	
218B5	TEN	
219C5	TEN	
220D5	TEN	

GIRDER	TEST	FILM NO.
217A5	TEN	
218B5	TEN	
219C5	TEN	
220D5	TEN	



GIRDER	TEST	FILM NO.
217A5	COMP	
218B5	COMP	
219C5	COMP	
220D5	COMP	

GIRDER	TEST	FILM NO.
217A5	COMP	
218B5	COMP	
219C5	COMP	
220D5	COMP	

DIAGRAM FOR 217A5, 218B5, 219C5, 220D5

GENERAL NOTES:

RADIOGRAPHY SHALL BE DONE IN ACCORDANCE WITH THE SPECIAL PROVISIONS, STANDARD SPECIFICATIONS AND CURRENT A.W.S. D1.5

NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	RADIOGRAPH SHEET
SURFACE PREP.	OPEN HOLES
PAINT	

			SHEET NO.	PLANT	ORDER NO.	F.P. NO.
PRELIMINARY	DRAWN	DPS 04/02/19	R201	3	18060B	
FOR APPROVAL	CHECKED	WJL 04/18/19				

5.43750

FIELD BOLT LIST							A325 Type 3 BOLTS							
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														FIELD SPLICE 5,6 @ G1-3,
2														2 @ G1-2, 4 @ G2
3	54	7/8	4	6	9	2 1/2	11/16	1	13/16				2	Top Flg Splice
4	36	7/8	2 3/4	4	9	1 5/16	3/8	9/16	3/8				2	Web Splice
5	54	7/8	5	6	9	3 7/16	1 5/16	1	1 1/8				2	Btm Flg Splice
6														
7														FIELD SPLICE 3 @ G2
8	6	7/8	5	6	1	3 3/4	11/16	2	13/16				2	Top Flg Splice
9	4	7/8	2 3/4	4	1	1 5/16	3/8	9/16	3/8				2	Web Splice
10	6	7/8	6	6	1	4 9/16	1 5/16	2 1/8	1 1/8				2	Btm Flg Splice
11														
12														FIELD SPLICE 5 @ G4
13	6	7/8	4 1/4	6	1	2 3/4	11/16	1 1/4	13/16				2	Top Flg Splice
14	4	7/8	2 3/4	4	1	1 5/16	3/8	9/16	3/8				2	Web Splice
15	6	7/8	5 1/2	6	1	3 15/16	1 5/16	1 1/2	1 1/8				2	Btm Flg Splice
16														
17														FIELD SPLICE 3 @ G1
18	6	7/8	5 1/2	6	1	3 3/4	11/16	2 1/4	13/16				2	Top Flg Splice
19	4	7/8	2 3/4	4	1	1 5/16	3/8	9/16	3/8				2	Web Splice
20	6	7/8	6 1/2	6	1	4 15/16	1 5/16	2 1/2	1 1/8				2	Btm Flg Splice
21														
22														FIELD SPLICE 4 @ G1
23	6	7/8	4	6	1	2 1/2	11/16	1	13/16				2	Top Flg Splice
24	4	7/8	2 3/4	4	1	1 5/16	3/8	9/16	3/8				2	Web Splice
25	6	7/8	5 1/2	6	1	3 13/16	1 5/16	1 3/8	1 1/8				2	Btm Flg Splice
26														
27														FIELD SPLICE 2 @ G4
28	6	7/8	6	6	1	4 1/2	1 1/8	2	1 3/8				2	Top Flg Splice
29	4	7/8	3 1/4	4	1	1 11/16	9/16	9/16	9/16				2	Web Splice
30	6	7/8	7	6	1	5 1/2	1 5/8	2 1/2	1 3/8				2	Btm Flg Splice
31														
32														FIELD SPLICE 3 @ G3
33	6	7/8	7	6	1	5 1/4	1 3/8	2 1/2	1 3/8				2	Top Flg Splice
34	4	7/8	3 1/4	4	1	1 13/16	5/8	9/16	5/8				2	Web Splice
35	6	7/8	7	6	1	5 1/2	1 5/8	2 1/2	1 3/8				2	Btm Flg Splice
36														
37														FIELD SPLICE 4 @ G3
38	6	7/8	5 1/2	6	1	4	1 3/8	1 1/4	1 3/8				2	Top Flg Splice
39	4	7/8	3 1/4	4	1	1 13/16	5/8	9/16	5/8				2	Web Splice
40	6	7/8	6	6	1	4 1/4	1 5/8	1 1/4	1 3/8				2	Btm Flg Splice
41														
42														FIELD SPLICE 4 @ G4
43	6	7/8	6 1/2	6	1	4 5/8	1 3/8	1 7/8	1 3/8				2	Top Flg Splice
44	4	7/8	3 1/4	4	1	1 13/16	5/8	9/16	5/8				2	Web Splice
45	6	7/8	6 1/2	6	1	5	1 5/8	2	1 3/8				2	Btm Flg Splice
46														
47														FIELD SPLICE 3 @ G4
48	6	7/8	6 1/2	6	1	5	1 1/8	2 1/2	1 3/8				2	Top Flg Splice
49	4	7/8	3 1/2	4	1	1 15/16	11/16	9/16	11/16				2	Web Splice
50	6	7/8	7	6	1	5 1/2	1 5/8	2 1/2	1 3/8				2	Btm Flg Splice
51														
52														FIELD SPLICE 2 @ G3
53	6	7/8	4	6	1	2 1/2	11/16	1	13/16				2	Top Flg Splice
54	4	7/8	2 3/4	4	1	1 5/16	3/8	9/16	3/8				2	Web Splice
55	6	7/8	6	6	1	4 3/16	1 5/16	1 3/4	1 1/8				2	Btm Flg Splice
56														
57														FIELD SPLICE 6 @ G4
58	6	7/8	4	6	1	2 1/2	11/16	1	13/16				2	Top Flg Splice
59	4	7/8	2 3/4	4	1	1 5/16	3/8	9/16	3/8				2	Web Splice
60	6	7/8	6	6	1	4 7/16	1 5/16	2	1 1/8				2	Btm Flg Splice

WASHER CODES

2: 2 Hard Flat Washers

MATERIAL

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1				SHIPPING BOLTS					EXACT COUNT
2		60	bdg7	7/8 ø MB	0	2 3/4	A307	213/4	ZINC-PLATED
3		16	bdm7	7/8 ø MB	0	3 1/4	A307	213/6	ZINC-PLATED
4		4	bdn7	7/8 ø MB	0	3 1/2	A307	213/7	ZINC-PLATED
5		72	bdt7	7/8 ø MB	0	4	A307	213/9	ZINC-PLATED
6		6	bdv7	7/8 ø MB	0	4 1/4	A307	213/10	ZINC-PLATED
7		60	bfa7	7/8 ø MB	0	5	A307	213/13	ZINC-PLATED
8		24	bfc7	7/8 ø MB	0	5 1/2	A307	213/15	ZINC-PLATED
9		30	bff7	7/8 ø MB	0	6	A307	213/17	ZINC-PLATED
10		24	bfg7	7/8 ø MB	0	6 1/2	A307	213/18	ZINC-PLATED
11		24	bfk7	7/8 ø MB	0	7	A307	213/19	ZINC-PLATED
12		320	nc7	7/8 ø HEX NUT			A563 GR-DH	213/28	ZINC-PLATED
13		640	wc7	STD. WASH FOR 7/8ø BOLT			F436	213/29	ZINC-PLATED
14									
15									
16									
17									
18									
19									
20									

NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL

2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL

TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2

LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98

PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S

ENGINEER: PRIME AE GROUP

CONTRACTOR: WALSH GROUP

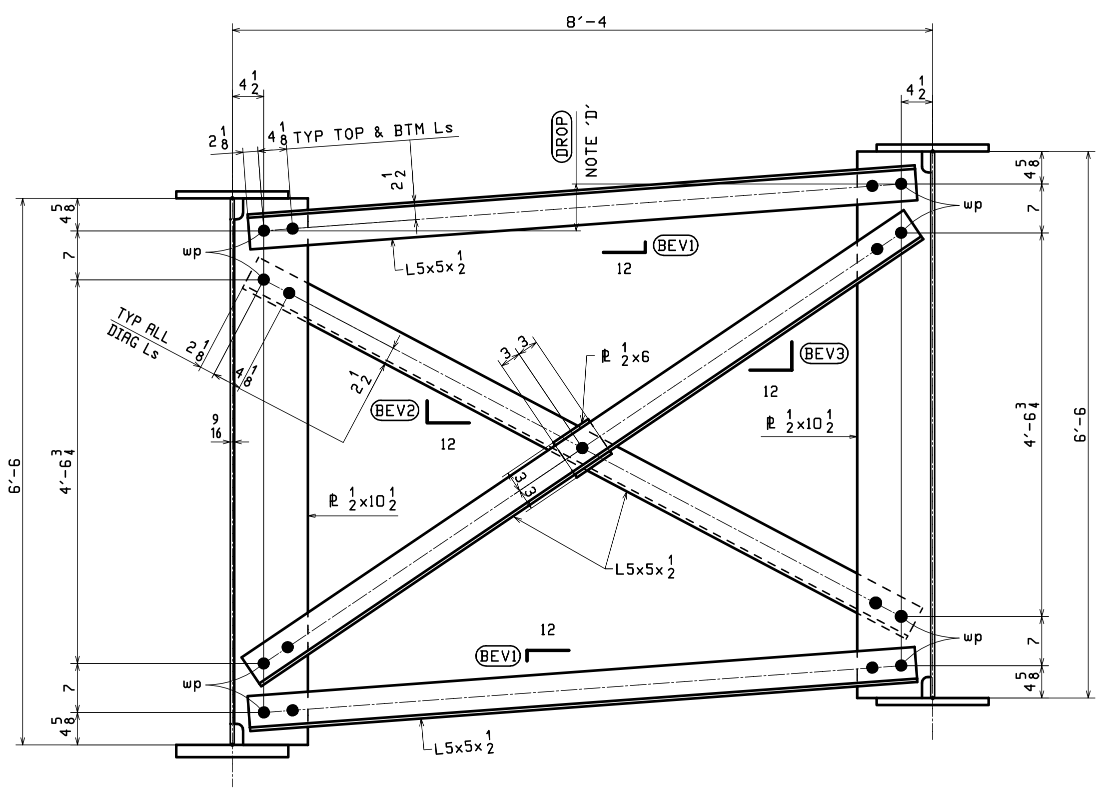
ITEM: SHIPPING BOLTS

SURFACE PREP. ____ OPEN HOLES ____

PAINT ____

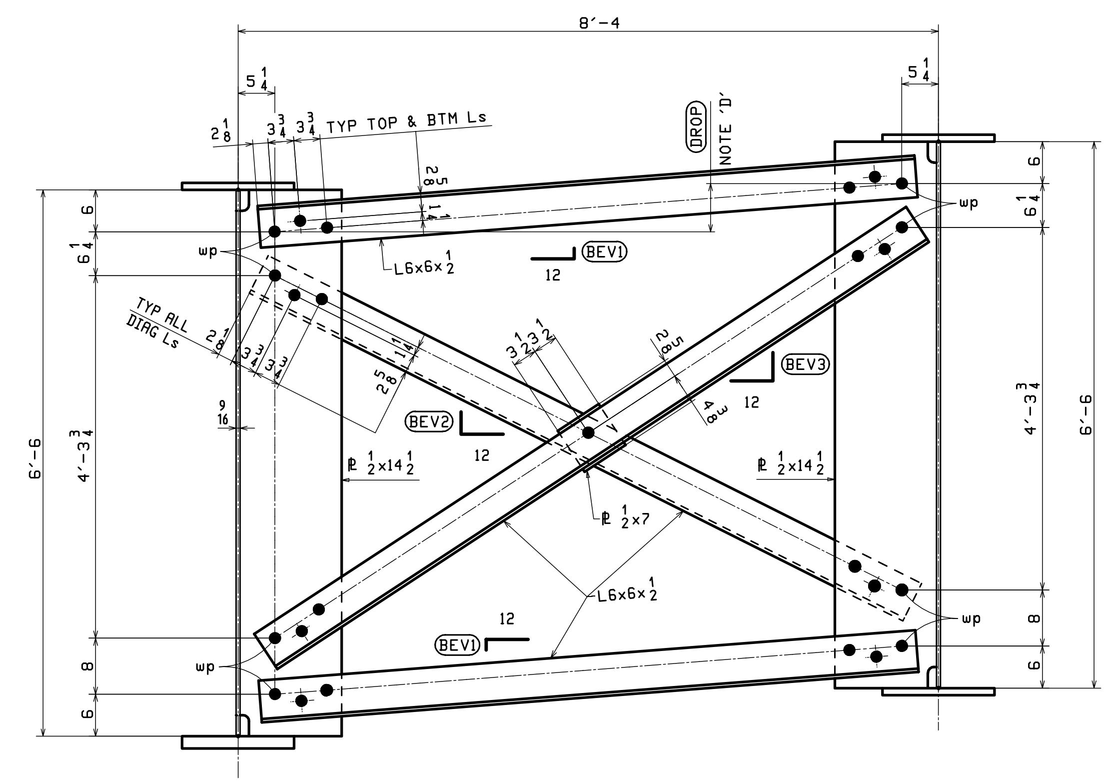
PRELIMINARY	DRAWN	DPS 04/19/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/18/19	SB201	3	18060B	

EEO Mon, Apr 22, 2019 10:31:33 AM /users/jobs/3656-2/SB201 : Rev0



INT CROSSFRAME CF2

(LOOKING UP-STATION)



INT CROSSFRAME CF3

(LOOKING UP-STATION)

TYPE	DROP	BEV1	BEV2	BEV3
INT CF2	5 5/8	3/4	6 1/2	7 15/16
	5 15/16	13/16	6 7/16	8
	6 1/4	13/16	6 3/8	8 1/16
	6 9/16	7/8	6 3/8	8 1/16

TYPE	DROP	BEV1	BEV2	BEV3
INT CF3	4 1/8	9/16	6 3/8	7 1/2
	4 7/16	5/8	6 5/16	7 9/16
	4 3/4	5/8	6 5/16	7 9/16
	5	11/16	6 1/4	7 5/8
	5 3/4	3/4	6 3/16	7 11/16
	6 1/4	13/16	6 1/8	7 3/4
	6 13/16	15/16	6	7 7/8
	7 1/8	15/16	6	7 7/8

NOTE D:

- DROP VARIES IN MAGNITUDE - SEE "WS" SHEETS.

NOTES:

- CROSSFRAMES & CONN. PLATES SHALL BE ASTM A709-50W.
- STRUT & CONN. PLATE MATERIAL SHALL MEET CHARPY V-NOTCH TESTING REQUIREMENTS.
- FIELD BOLTS SHALL BE 1¼"Ø ASTM A490.
- HOLES SHALL BE 1 9/16"Ø (OVS).

** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

NO.	DATE	REMARKS	BY

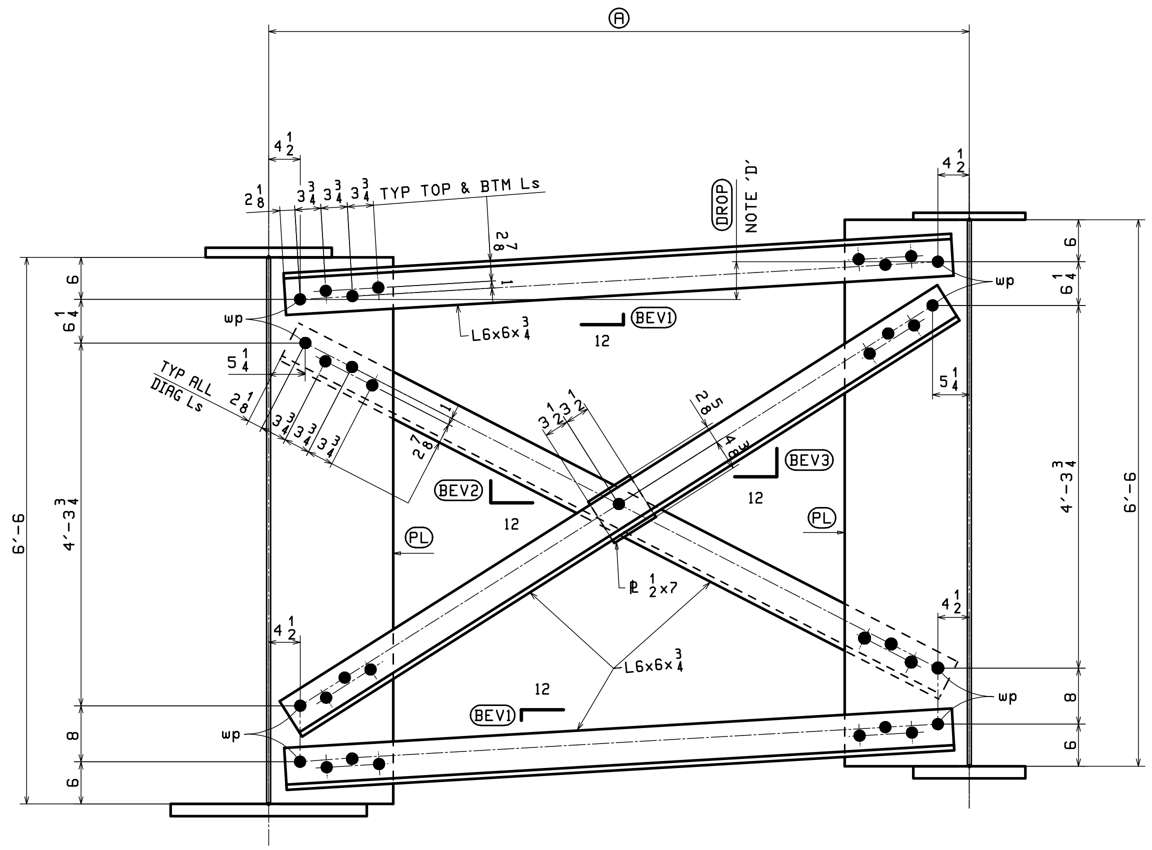
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: LAYOUTS
SURFACE PREP.: OPEN HOLES:
PAINT:

PRELIMINARY	DRAWN	DPS 03/08/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/08/19	TD201	3	18060B	



INT & PIER CROSSFRAME CF4

(LOOKING UP-STATION)

TYPE	(PL)	(DROP)	(A)	(BEV1)	(BEV2)	(BEV3)
INT CF4	℄ $\frac{1}{2}$x17$\frac{1}{2}$	4$\frac{13}{16}$	8'-4	$\frac{5}{8}$	6$\frac{1}{4}$	7$\frac{1}{2}$
		5$\frac{3}{16}$	8'-4	$\frac{11}{16}$	6$\frac{3}{16}$	7$\frac{9}{16}$
		5$\frac{1}{2}$	8'-4	$\frac{3}{4}$	6$\frac{1}{8}$	7$\frac{5}{8}$
		5$\frac{11}{16}$	8'-4	$\frac{3}{4}$	6$\frac{1}{8}$	7$\frac{5}{8}$
PIER 3 CF4	℄ 1$\frac{5}{8}$x17$\frac{1}{2}$	4$\frac{9}{16}$	8'-4	$\frac{5}{8}$	6$\frac{1}{4}$	7$\frac{1}{2}$
		6	8'-4	$\frac{13}{16}$	6$\frac{1}{16}$	7$\frac{11}{16}$
PIER 4 CF4	℄ 1$\frac{5}{8}$x17$\frac{1}{2}$ △1	5$\frac{1}{16}$	8'-6$\frac{1}{2}$	$\frac{5}{8}$	6$\frac{1}{16}$	7$\frac{3}{8}$
		6$\frac{9}{16}$	8'-6$\frac{5}{8}$	$\frac{13}{16}$	5$\frac{13}{16}$	7$\frac{9}{16}$
		6$\frac{9}{16}$	8'-6$\frac{13}{16}$	$\frac{13}{16}$	5$\frac{13}{16}$	7$\frac{1}{2}$

NOTE D:

- DROP VARIES IN MAGNITUDE - SEE "WS" SHEETS.

NOTES:

- CROSSFRAMES & CONN. PLATES SHALL BE ASTM A709-50W.
- STRUT & CONN. PLATE MATERIAL SHALL MEET CHARPY V-NOTCH TESTING REQUIREMENTS.
- FIELD BOLTS SHALL BE 1$\frac{1}{4}$"ø ASTM A490.
- HOLES SHALL BE 1$\frac{9}{16}$"ø (OVS).

** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

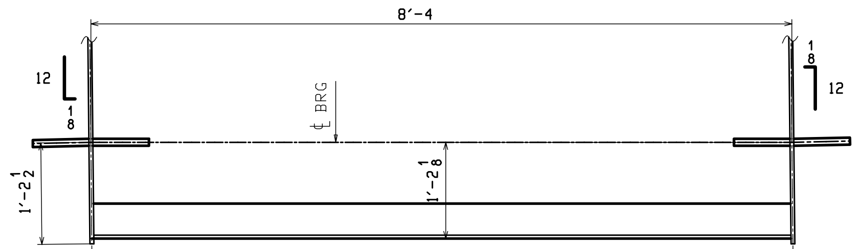
NO.	DATE	REMARKS	BY
△1	04/24/19	REV'D BRG STIFF THICKNESS @ PIER 4	EEO / WJL

REVISIONS

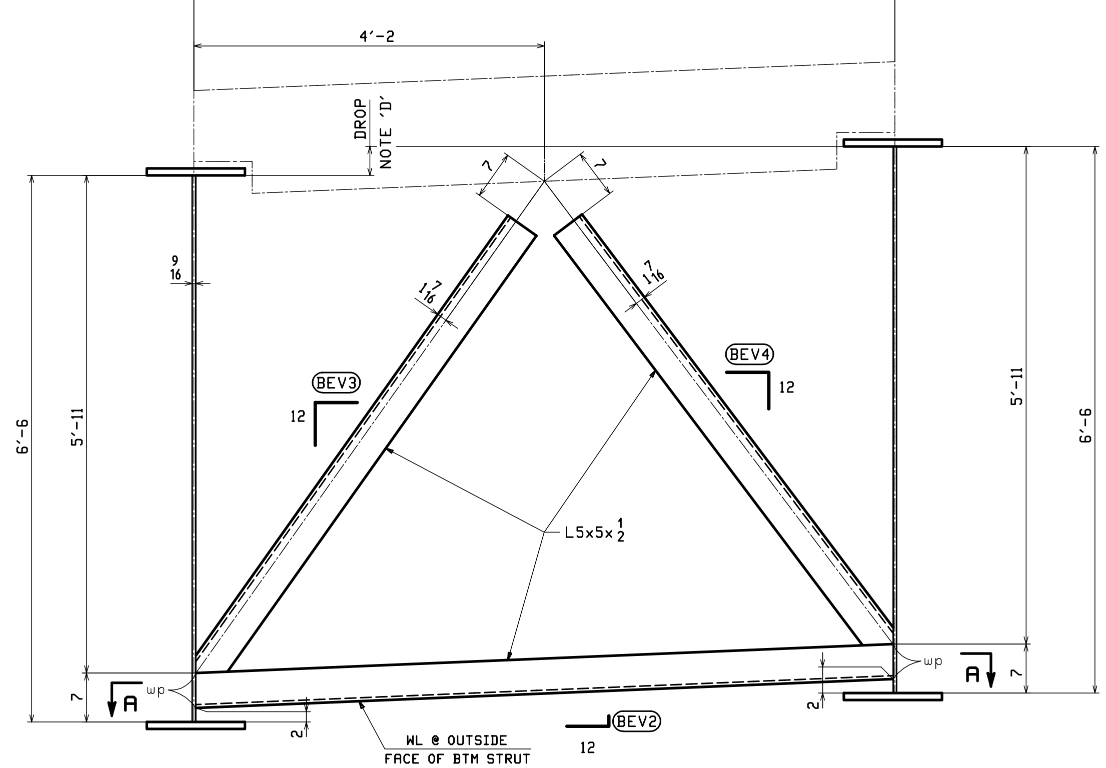
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	LAYOUTS
SURFACE PREP.	OPEN HOLES
PAINT	

PRELIMINARY / FOR APPROVAL	DRAWN DPS 03/13/19	CHECKED WJL 04/09/19	SHEET NO. TD202	PLANT 3	ORDER NO. 18060B	F.P. NO.



SECT A-A



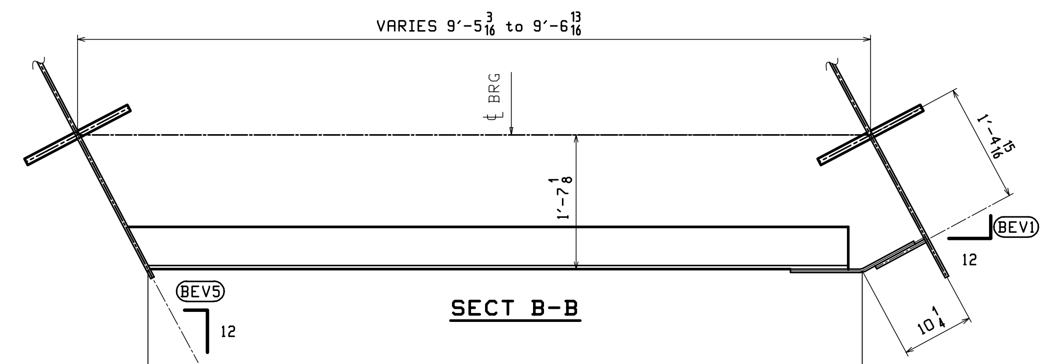
END CROSSFRAME LAYOUT @ PIER 2

(LOOKING UP-STATION)

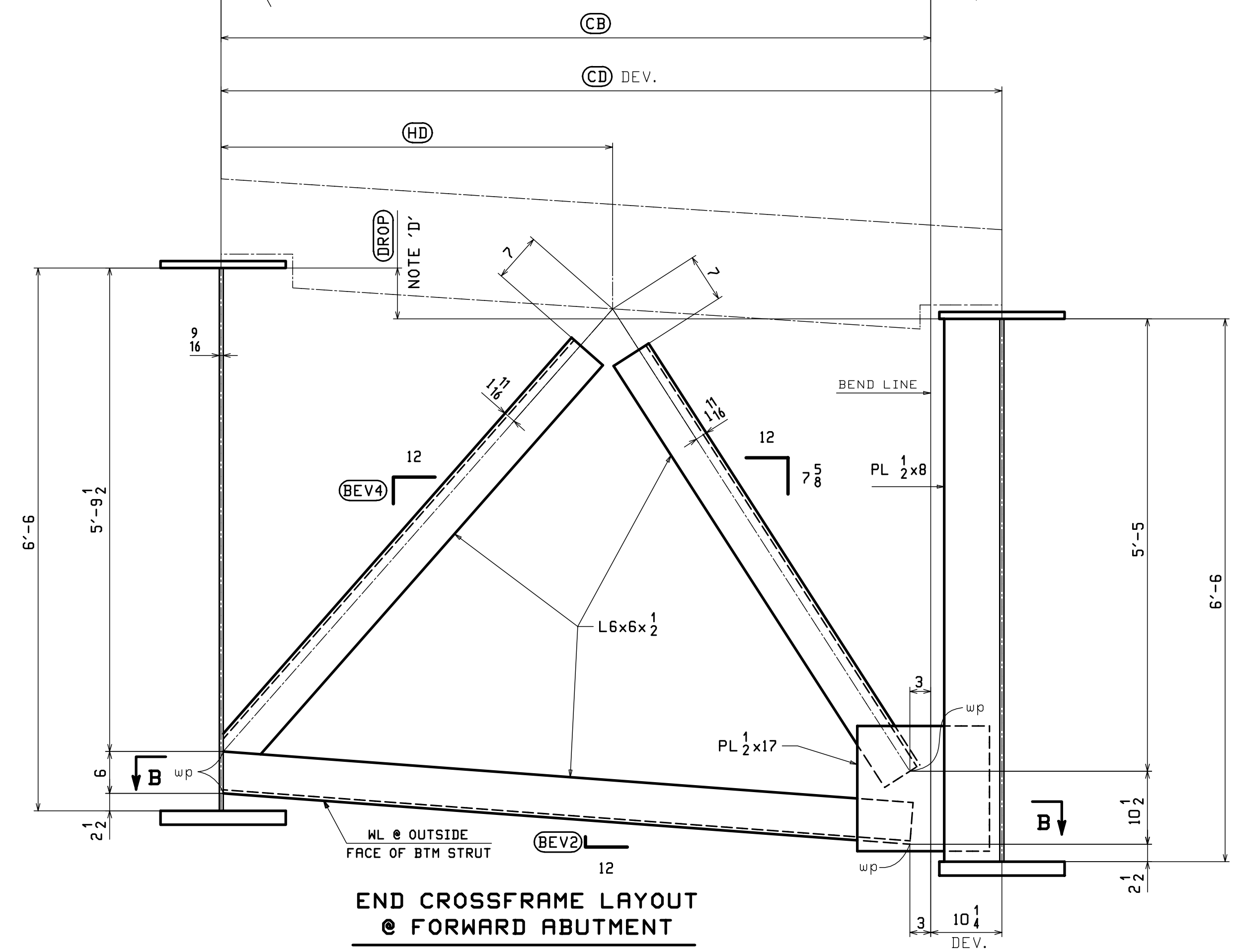
BETWEEN GIRDS	DROP	BEV2	BEV3	BEV4
1-2	$5\frac{1}{16}$	$\frac{5}{8}$	$8\frac{5}{16}$	$8\frac{15}{16}$
2-3	$5\frac{3}{8}$	$\frac{5}{8}$	$8\frac{5}{16}$	9
3-4	$4\frac{1}{8}$	$\frac{1}{2}$	$8\frac{3}{8}$	$8\frac{7}{8}$

NOTE D:

- DROP VARIES IN MAGNITUDE - SEE "WS" SHEETS.



SECT B-B



END CROSSFRAME LAYOUT @ FORWARD ABUTMENT

(LOOKING BACKSTATION)
(DEVELOPED)

BETWEEN GIRDS	DROP	CD	CB	HD	BEV1	BEV2	BEV4	BEV5
1-2	$7\frac{5}{8}$	$9'-5\frac{3}{16}$	$8'-6\frac{15}{16}$	$4'-9\frac{7}{16}$	$6\frac{7}{8}$	$\frac{15}{16}$	$10\frac{13}{16}$	$6\frac{11}{16}$
2-3	$7\frac{9}{16}$	$9'-4\frac{11}{16}$	$8'-6\frac{7}{16}$	4'-9	$6\frac{11}{16}$	$\frac{15}{16}$	$10\frac{11}{16}$	$6\frac{7}{16}$
3-4	6	9'-4	$8'-5\frac{3}{4}$	$4'-8\frac{5}{8}$	$6\frac{7}{16}$	$\frac{3}{4}$	$10\frac{1}{2}$	$6\frac{1}{4}$

NOTES:

- CROSSFRAMES & CONN. PLATES SHALL BE ASTM A709-50W.
- STRUT & CONN. PLATE MATERIAL SHALL MEET CHARPY V-NOTCH TESTING REQUIREMENTS.

** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

NO.	DATE	REMARKS	BY

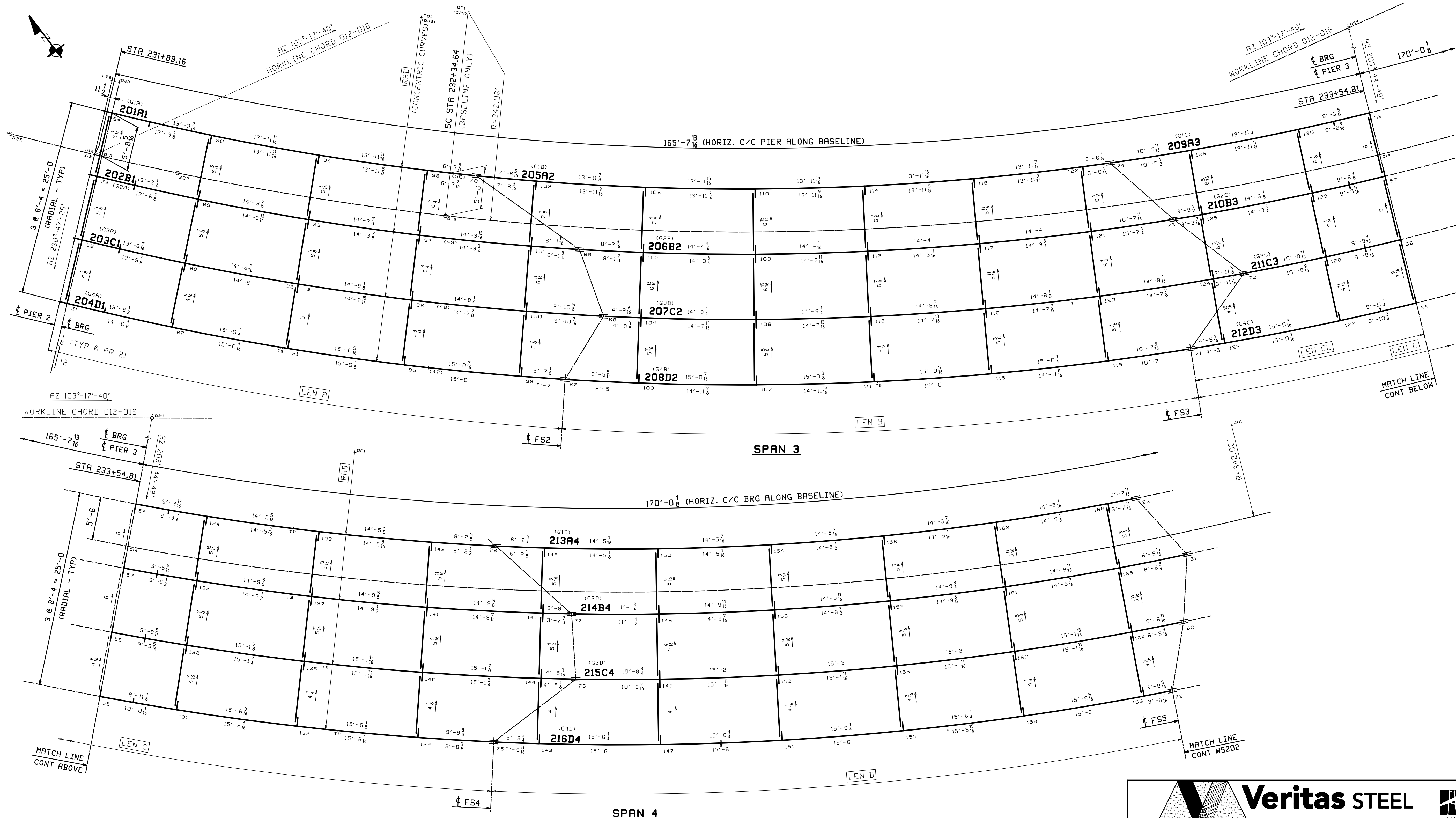
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: LAYOUTS
SURFACE PREP.: OPEN HOLES:
PAINT:

PRELIMINARY / FOR APPROVAL	DRAWN DPS 03/13/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
	CHECKED WJL 04/10/19	TD203	3	18060B	



		SLOPING LENGTHS					GRADE		RADII
Line		LEN A	LEN B	LEN CL	LEN C	LEN D	PIER 2	PIER 3	RAD
1	T	47'-3 5/16	81'-1 7/8	33'-9 1/16	80'-1 3/16	82'-1 5/8	0.0327	0.0131	336'-6 3/4
	B	47'-5 7/8	81'-0 1/8	33'-7 11/16	80'-0 5/16	81'-11 13/16			
2	T	62'-5 1/8	76'-1 3/4	27'-6 3/4	85'-1 3/16	79'-1 1/2	0.0339	0.0128	344'-10 3/4
	B	62'-7 5/16	76'-0	27'-5 1/2	85'-0 5/16	78'-11 7/8			
3	T	67'-5 1/2	82'-1 13/16	20'-5 3/4	80'-0 15/16	78'-1 3/8	0.0343	0.0125	353'-2 3/4
	B	67'-7 3/8	81'-11 7/8	20'-4 5/8	80'-0 3/8	77'-11 7/8			
4	T	64'-5 5/8	80'-1 7/8	29'-5	80'-0 13/16	87'-1 3/8	0.0340	0.0122	361'-6 3/4
	B	64'-7 5/16	79'-11 3/4	29'-3 13/16	80'-0 3/8	86'-11 15/16			

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

NOTES

1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG TOP & BOTT OF WEB WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS AND BRG. STIFF'S ARE VERTICAL AFTER DL ROTATION.
5. CF STIFF, INT STIFF & FIELD SPLICES ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS =TOP PT NUMBERS + 300.
7. FOR LAYOUTS SEE "TD" SHEETS.
8. COMBINE INT. CROSSFRAMES FOR DIFF IN DROPS OF +/- 1/8.
9. CROSSFRAME DROPS ARE CALCULATED IN THE STEEL DEAD LOAD POSITION.

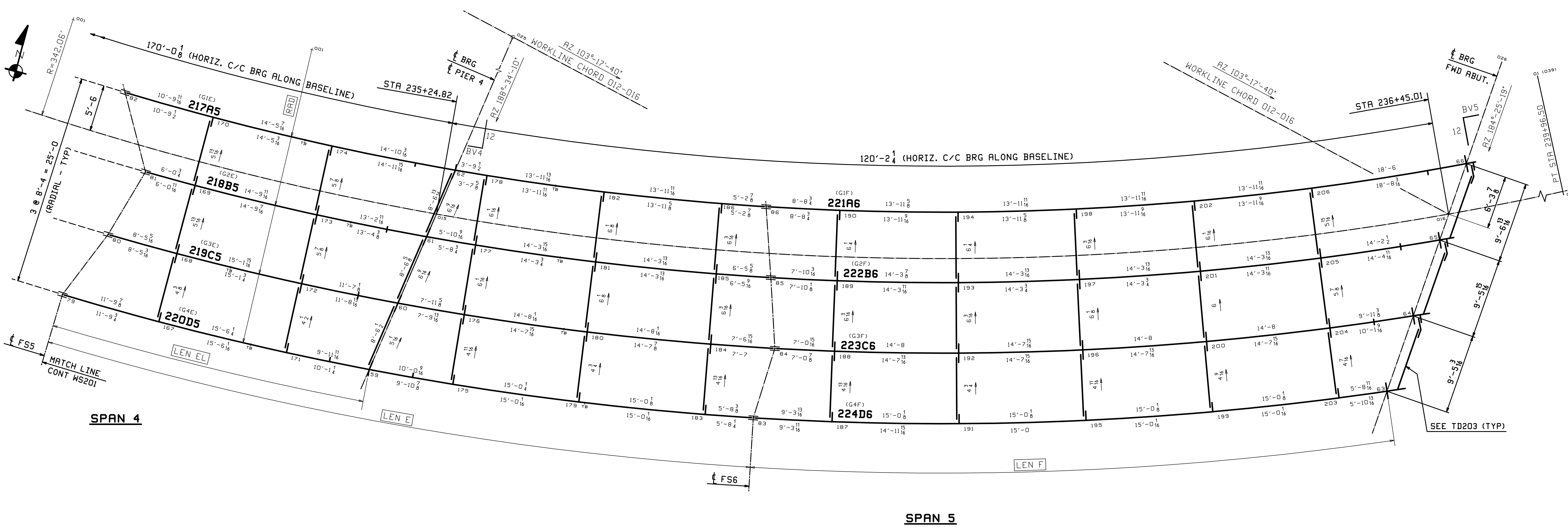
CALCULATION PLAN

NO.	DATE	REMARKS	BY
REVISIONS			

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP
ITEM: CALCULATION PLAN
SURFACE PREP.: OPEN HOLES:
PAINT:

PRELIMINARY	DRAWN	WL	03/13/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	RLA	03/19/19	WS201	3	18060B	



CALCULATION PLAN

Line		SLOPING LENGTHS			GRADE		RADII	BEVELS @ PIERS	
		LEN EL	LEN E	LEN F	PIER 4	F ABUT	RAD	BV4	BV5
1	T	40′-1$\frac{5}{16}$	77′-1$\frac{3}{16}$	83′-1$\frac{7}{16}$	-.0242	-.0294	336′-6$\frac{3}{4}$	2$\frac{7}{8}$	6$\frac{7}{8}$
	B	40′-2$\frac{5}{8}$	77′-0$\frac{7}{16}$	83′-3$\frac{1}{4}$					
2	T	34′-1$\frac{1}{8}$	75′-1$\frac{1}{16}$	79′-4	-.0232	-.0287	344′-10$\frac{3}{4}$	2$\frac{13}{16}$	6$\frac{11}{16}$
	B	34′-2$\frac{1}{2}$	75′-0$\frac{3}{8}$	79′-5$\frac{11}{16}$					
3	T	35′-2$\frac{3}{8}$	80′-1$\frac{1}{16}$	75′-8$\frac{1}{4}$	-.0223	-.0281	353′-2$\frac{3}{4}$	2$\frac{3}{4}$	6$\frac{7}{16}$
	B	35′-3$\frac{3}{4}$	80′-0$\frac{3}{8}$	75′-9$\frac{15}{16}$					
4	T	37′-3$\frac{13}{16}$	83′-1$\frac{1}{8}$	75′-1	-.0214	-.0274	361′-6$\frac{3}{4}$	2$\frac{11}{16}$	6$\frac{1}{4}$
	B	37′-5$\frac{1}{16}$	83′-0$\frac{5}{16}$	75′-2$\frac{9}{16}$					

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG TOP & BOTT OF WEB WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS AND BRG. STIFF'S ARE VERTICAL AFTER DL ROTATION.
5. CF STIFF, INT STIFF & FIELD SPLICES ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS =TOP PT NUMBERS + 300.
7. FOR LAYOUTS SEE "TD" SHEETS.
8. COMBINE INT. CROSSFRAMES FOR DIFF IN DROPS OF +/- 1/8.
9. CROSSFRAME DROPS ARE CALCULATED IN THE STEEL DEAD LOAD POSITION.

DPS Fri, Apr 19, 2019 04:49:08 PM /users/jobs/3656-2/WS202 : Rev0

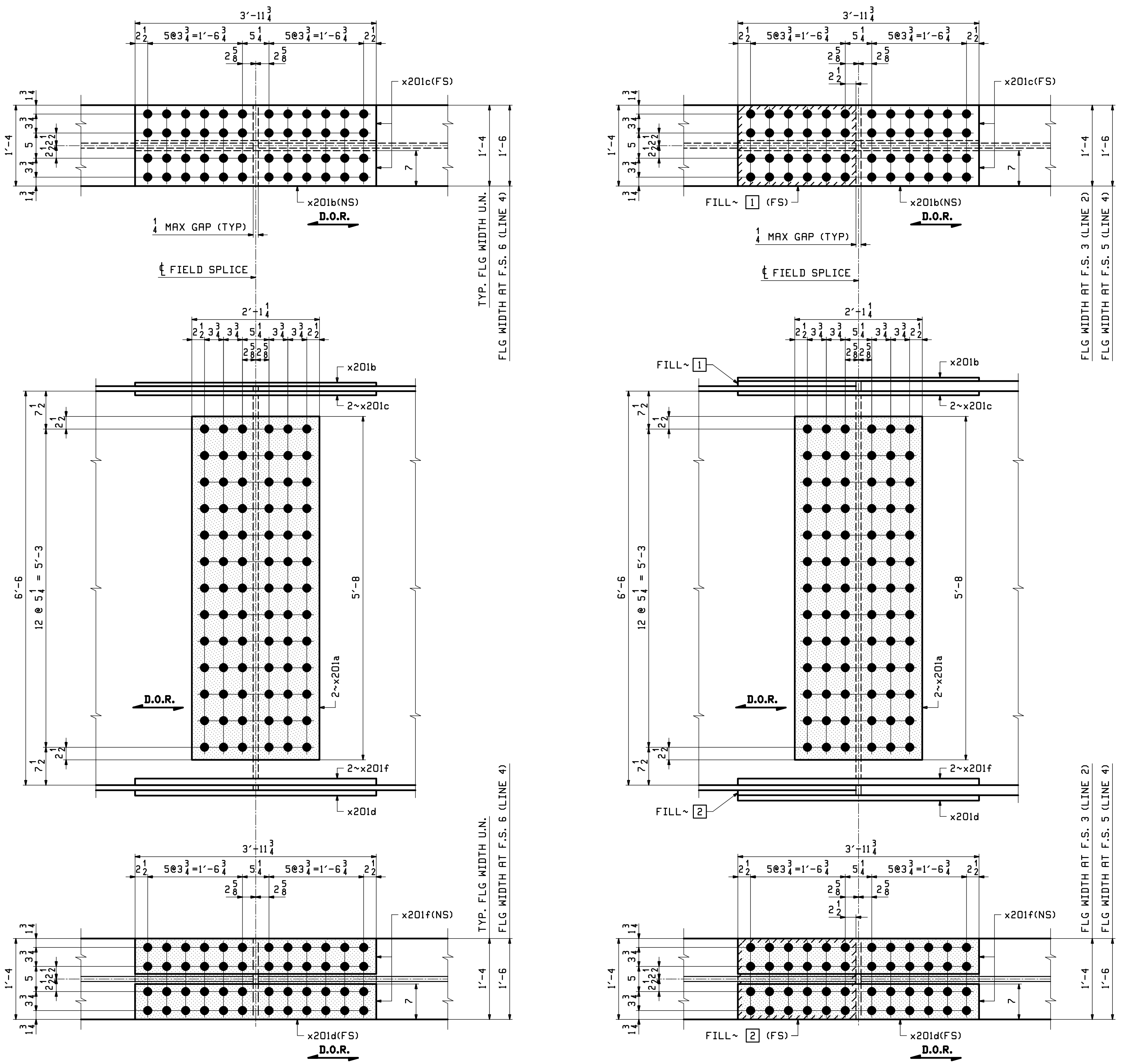
NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP
ITEM: CALCULATION PLAN
SURFACE PREP.: OPEN HOLES:
PAINT:

PRELIMINARY	DRAWN	WL	03/13/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	RLA	03/19/19	WS202	3	18060B	



4 ~ FIELD SPLICE DETAIL ~ X201M1 (PAINT AS NOTED)

F.S. 2, 5 & 6 (LINE 1)
F.S. 6 (LINE 4)

7 ~ FIELD SPLICE DETAIL ~ X201M2 (NO PAINT)

F.S. 2, 5 & 6 (LINES 2 & 3)
F.S. 4 (LINE 2)

ONE ~ FIELD SPLICE DETAIL ~ X201M3 (NO PAINT)

F.S. 3 (LINE 2)

ONE ~ FIELD SPLICE DETAIL ~ X201M4 (ROTATE 180°) (PAINT AS NOTED)

F.S. 5 (LINE 4)

MARK	1	2
X201M3	x201g	x201k
X201M4	x201m	x201n

MATERIAL

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1									
2	X201M1	4		FIELD SPLICE DETAIL					1161
3		8	x201a	PL 3/8x68	2	1 1/4	A709-50WT2	207/2	FP:31
4		4	x201b	PL 11/16x16	3	11 3/4	A709-50WT2	207/4	FP:31
5		8	x201c	PL 13/16x7	3	11 3/4	A709-50WT2	207/6	FP:31
6		4	x201d	PL 1 1/8x16	3	11 3/4	A709-50WT2	207/3	FP:31
7		8	x201f	PL 1 5/16x7	3	11 3/4	A709-50WT2	207/5	FP:31
8									
9	X201M2	7		FIELD SPLICE DETAIL					1161
10		14	x201a	PL 3/8x68	2	1 1/4	A709-50WT2	207/2	FP:31
11		7	x201b	PL 11/16x16	3	11 3/4	A709-50WT2	207/4	FP:31
12		14	x201c	PL 13/16x7	3	11 3/4	A709-50WT2	207/6	FP:31
13		7	x201d	PL 1 1/8x16	3	11 3/4	A709-50WT2	207/3	FP:31
14		14	x201f	PL 1 5/16x7	3	11 3/4	A709-50WT2	207/5	FP:31
15									
16	X201M3	1		FIELD SPLICE DETAIL					1390
17		2	x201a	PL 3/8x68	2	1 1/4	A709-50WT2	207/2	FP:31
18		1	x201b	PL 11/16x16	3	11 3/4	A709-50WT2	207/4	FP:31
19		2	x201c	PL 13/16x7	3	11 3/4	A709-50WT2	207/6	FP:31
20		1	x201d	PL 1 1/8x16	3	11 3/4	A709-50WT2	207/3	FP:31
21		2	x201f	PL 1 5/16x7	3	11 3/4	A709-50WT2	207/5	FP:31
22		1	x201g	PL 1x16	1	11 3/4	A709-50W	207/21	FILL FP:31
23		1	x201k	PL 1 1/8x16	1	11 3/4	A709-50W	207/23	FILL FP:31
24									
25	X201M4	1		FIELD SPLICE DETAIL					1202
26		2	x201a	PL 3/8x68	2	1 1/4	A709-50WT2	207/2	FP:31
27		1	x201b	PL 11/16x16	3	11 3/4	A709-50WT2	207/4	FP:31
28		2	x201c	PL 13/16x7	3	11 3/4	A709-50WT2	207/6	FP:31
29		1	x201d	PL 1 1/8x16	3	11 3/4	A709-50WT2	207/3	FP:31
30		2	x201f	PL 1 5/16x7	3	11 3/4	A709-50WT2	207/5	FP:31
31		1	x201m	PL 1/4x16	1	11 3/4	A709-50W	207/31	FILL FP:31
32		1	x201n	PL 10GA x 16	1	11 3/4	A606-4	207/32	FILL FP:31
33									

(shaded) - DENOTES PRIME COAT PER SHEET P1 ON ALL SURFACES OF SPLICE PLATES, GIRDER WEB, AND GIRDER FLANGE.

FOR SHOP USE ONLY

NOTES:

1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL FIELD SPLICE HOLES ARE DA.
3. D.O.R. - DENOTES DIRECTION OF MILL ROLLING.
4. T2 - DENOTES CHARPY V-NOTCH TESTING REQUIRED.

NO.	DATE	REMARKS	BY

REVISIONS

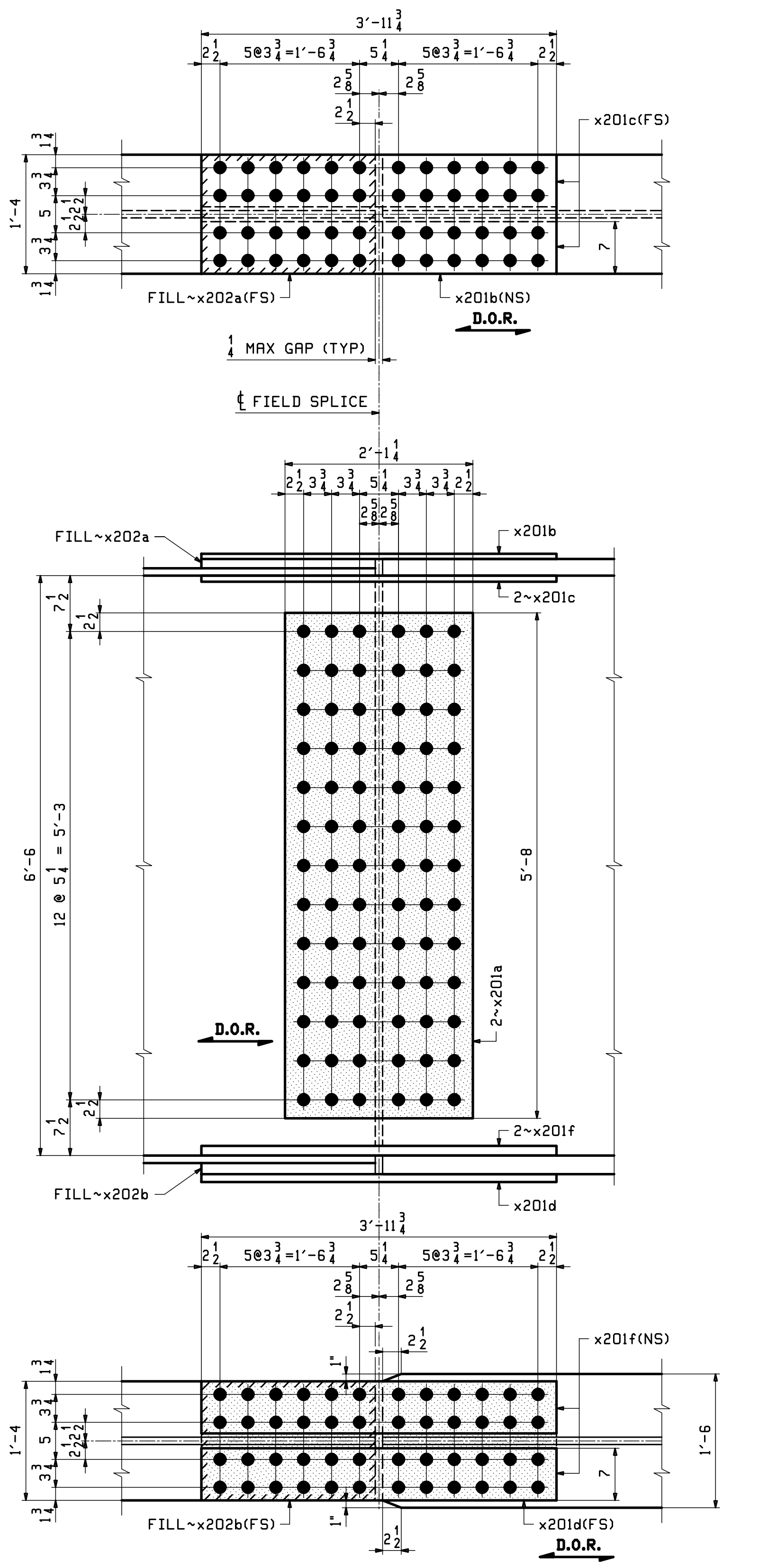
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

ITEM: FIELD SPLICE DETAIL
SURFACE PREP.: SEE P1 OPEN HOLES: 1 3/8"Ø FOR 1 1/4"Ø HSB
PAINT: SEE P1 & AS NOTED

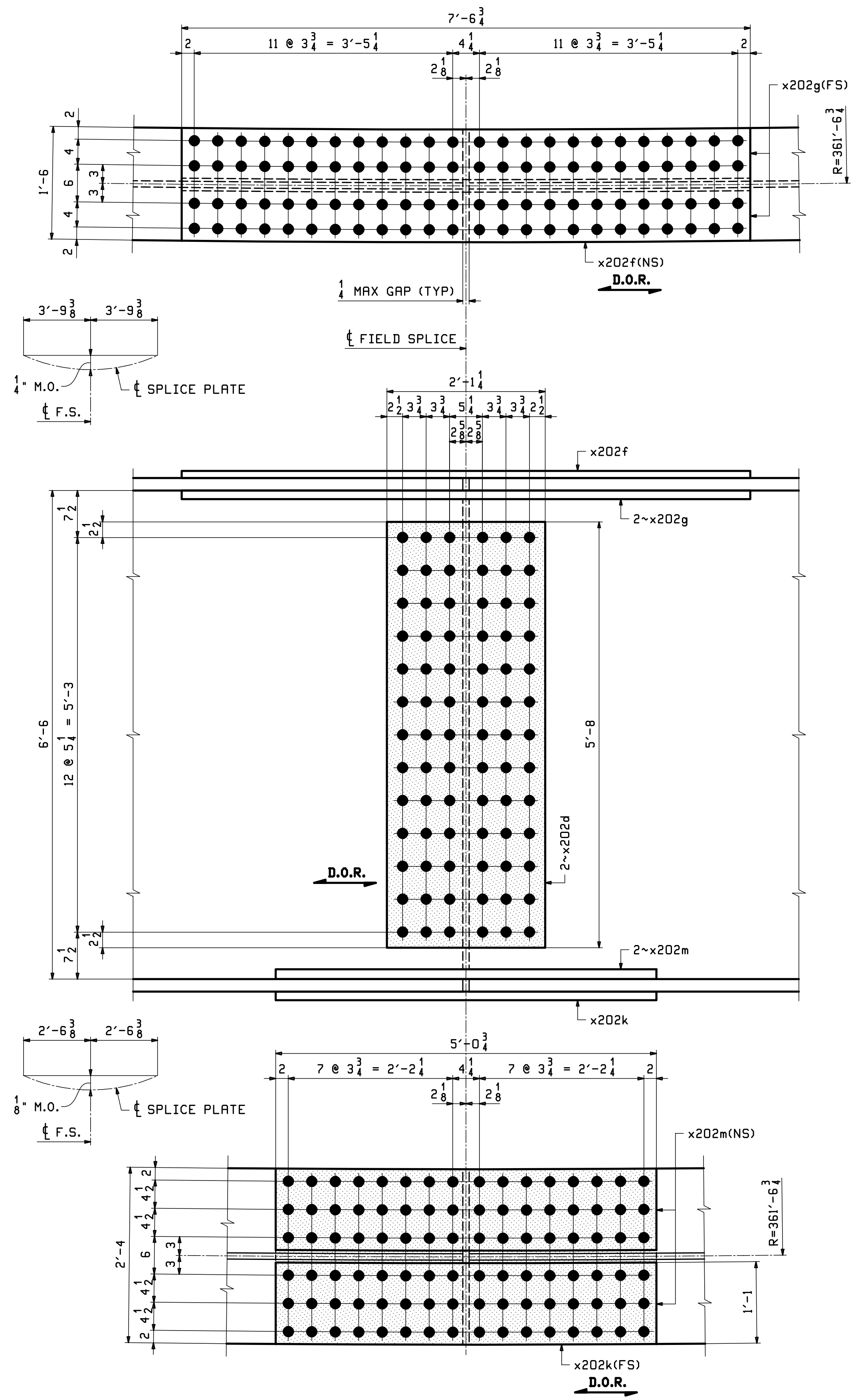
PRELIMINARY	DRAWN	EEO 04/03/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/11/19	X201	3	18060B	31

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1									
2	X202M1	1		FIELD SPLICE DETAIL					1457
3		2	x201a	PL $\frac{3}{8}$x68	2	$1\frac{1}{4}$	A709-50WT2	207/2	FP:31
4		1	x201b	PL $\frac{11}{16}$x16	3	$11\frac{3}{4}$	A709-50WT2	207/4	FP:31
5		2	x201c	PL $\frac{13}{16}$x7	3	$11\frac{3}{4}$	A709-50WT2	207/6	FP:31
6		1	x201d	PL $1\frac{1}{8}$x16	3	$11\frac{3}{4}$	A709-50WT2	207/3	FP:31
7		2	x201f	PL $1\frac{5}{16}$x7	3	$11\frac{3}{4}$	A709-50WT2	207/5	FP:31
8		1	x202a	PL $1\frac{1}{4}$x16	1	$11\frac{3}{4}$	A709-50W	207/20	FILL FP:31
9		1	x202b	PL $1\frac{1}{2}$x16	1	$11\frac{3}{4}$	A709-50W	207/22	FILL FP:31
10									
11	X202M3	1		FIELD SPLICE DETAIL					3061
12		2	x202d	PL $\frac{9}{16}$x68	2	$1\frac{1}{4}$	A709-50WT2	207/7	FP:31
13		1	x202f	PL $1\frac{1}{8}$x$18\frac{1}{4}$	7	$6\frac{3}{4}$	A709-50WT2	207/9	FP:31
14		2	x202g	PL $1\frac{3}{8}$x$8\frac{1}{4}$	7	$6\frac{3}{4}$	A709-50WT2	207/11	FP:31
15		1	x202k	PL $1\frac{3}{8}$x$28\frac{1}{8}$	5	$0\frac{3}{4}$	A709-50WT2	207/8	FP:31
16		2	x202m	PL $1\frac{5}{8}$x$13\frac{1}{8}$	5	$0\frac{3}{4}$	A709-50WT2	207/10	FP:31
17									



ONE ~ FIELD SPLICE DETAIL ~ X202M1 (PAINT AS NOTED)

F.S. 3 (LINE 1)



ONE ~ FIELD SPLICE DETAIL ~ X202M3 (PAINT AS NOTED)

F.S. 2 (LINE 4)

- DENOTES PRIME COAT PER SHEET P1 ON ALL SURFACES OF SPLICE PLATES, GIRDER WEB, AND GIRDER FLANGE.

FOR SHOP USE ONLY

NOTES:

1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL FIELD SPLICE HOLES ARE DA.
3. D.O.R. - DENOTES DIRECTION OF MILL ROLLING.
4. T2 - DENOTES CHARPY V-NOTCH TESTING REQUIRED.

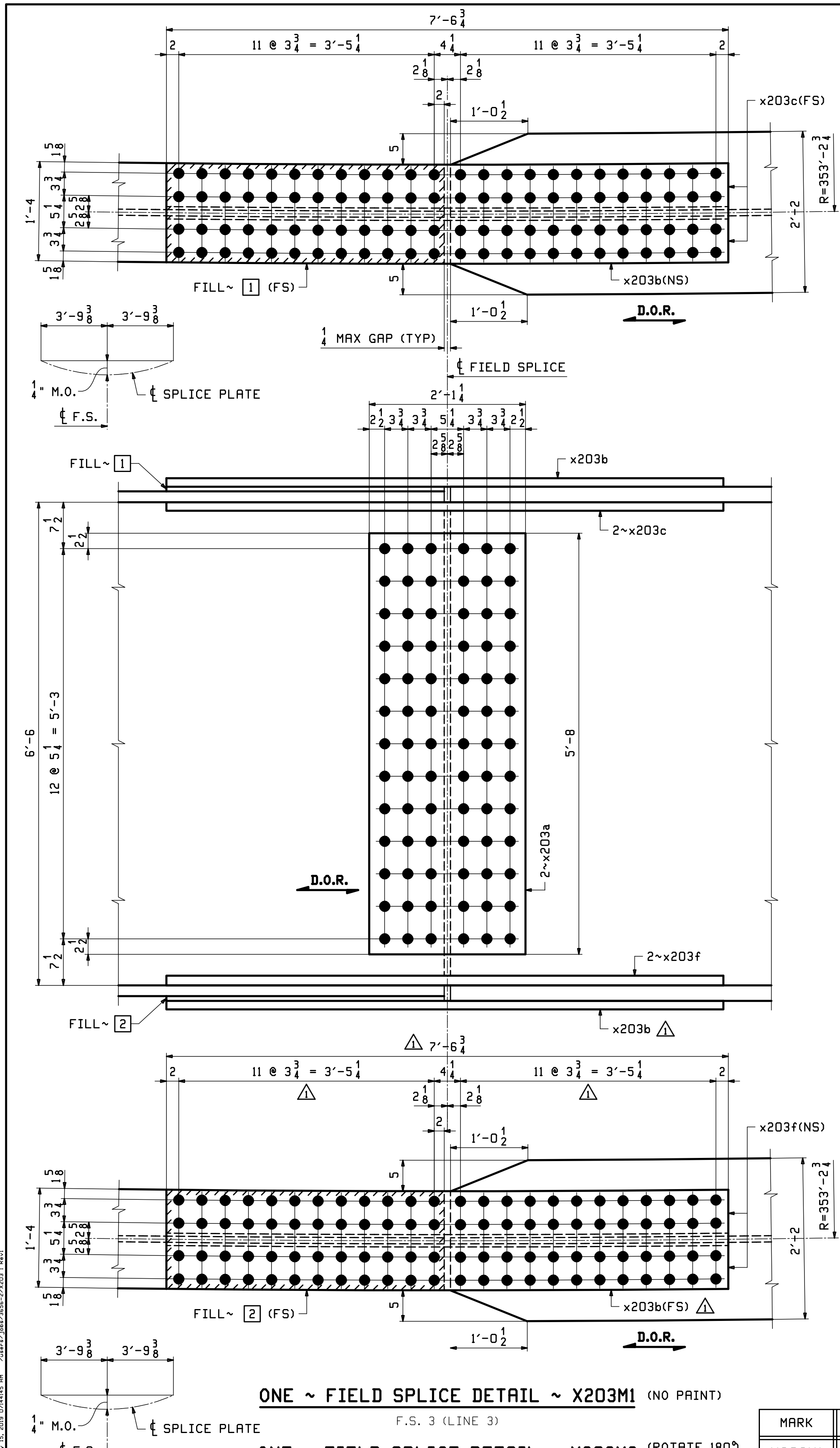
NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	FIELD SPLICE DETAIL
SURFACE PREP.	SEE P1 — OPEN HOLES $1\frac{3}{8}$"Ø FOR $1\frac{1}{4}$Ø HSB
PAINT	SEE P1 & AS NOTED

PRELIMINARY / FOR APPROVAL	DRAWN / CHECKED	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
PRELIMINARY	DRAWN EEO 04/03/19	X202	3	18060B	31
FOR APPROVAL	CHECKED WJL 04/11/19				



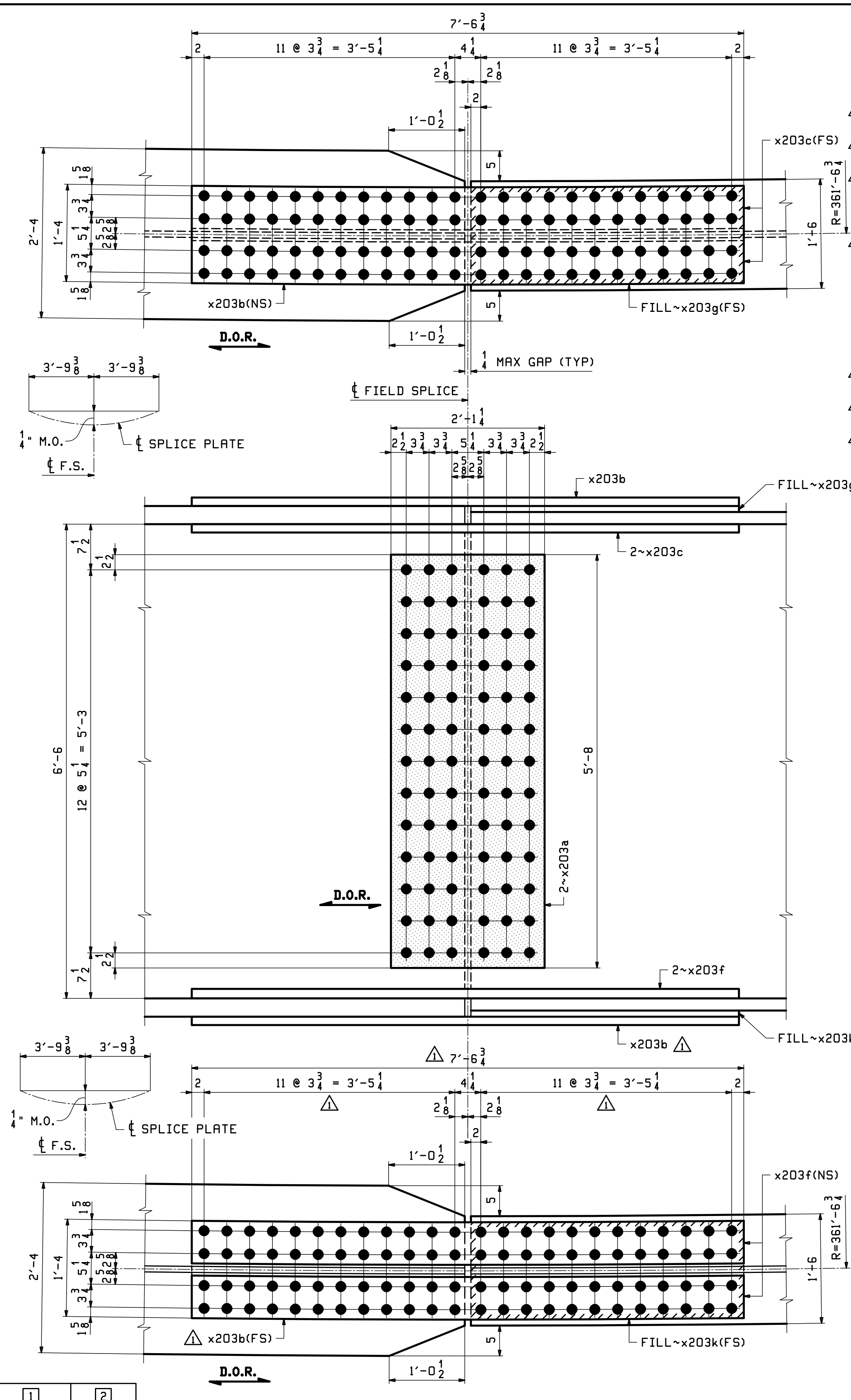
ONE ~ FIELD SPLICE DETAIL ~ X203M1 (NO PAINT)

F.S. 3 (LINE 3)

ONE ~ FIELD SPLICE DETAIL ~ X203M2 (ROTATE 180°) (NO PAINT)

F.S. 4 (LINE 3)

MARK	1	2
X203M1	x203m	x203n
X203M2	x203p	x203t



ONE ~ FIELD SPLICE DETAIL ~ X203M3 (PAINT AS NOTED)

F.S. 4 (LINE 4)

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1									
2	X203M1	1		FIELD SPLICE DETAIL					3165
3		2	x203a	PL 5/8x68	2	1 1/4	A709-50WT2	207/12	FP:31
4		2	x203b	PL 1 3/8x16 1/4	7	6 3/4	A709-50WT2	207/14	FP:31
5		2	x203c	PL 1 3/8x7 1/4	7	6 3/4	A709-50WT2	207/16	FP:31
6		2	x203f	PL 1 5/8x7	7	6 3/4	A709-50WT2	207/15	FP:31
7		1	x203m	PL 3/4x16	3	9 1/4	A709-50W	207/25	FILL FP:31
8		1	x203n	PL 3/4x16	3	9 1/4	A709-50W	207/25	FILL FP:31
9									
10	X203M2	1		FIELD SPLICE DETAIL					2960
11		2	x203a	PL 5/8x68	2	1 1/4	A709-50WT2	207/12	FP:31
12		2	x203b	PL 1 3/8x16 1/4	7	6 3/4	A709-50WT2	207/14	FP:31
13		2	x203c	PL 1 3/8x7 1/4	7	6 3/4	A709-50WT2	207/16	FP:31
14		2	x203f	PL 1 5/8x7	7	6 3/4	A709-50WT2	207/15	FP:31
15		1	x203p	PL 1/4x16	3	9 1/4	A709-50W	207/26	FILL FP:31
16		1	x203t	PL 1/4x16	3	9 1/4	A709-50W	207/26	FILL FP:31
17									
18	X203M3	1		FIELD SPLICE DETAIL					3088
19		2	x203a	PL 5/8x68	2	1 1/4	A709-50WT2	207/12	FP:31
20		2	x203b	PL 1 3/8x16 1/4	7	6 3/4	A709-50WT2	207/14	FP:31
21		2	x203c	PL 1 3/8x7 1/4	7	6 3/4	A709-50WT2	207/16	FP:31
22		2	x203f	PL 1 5/8x7	7	6 3/4	A709-50WT2	207/15	FP:31
23		1	x203g	PL 5/8x16	3	9 1/4	A709-50W	207/29	FILL FP:31
24		1	x203k	PL 1/2x16	3	9 1/4	A709-50W	207/30	FILL FP:31
25									

(Revision 1 marks at lines 4, 6, 8, 12, 20, 22, 24.)

– DENOTES PRIME COAT PER SHEET P1 ON ALL SURFACES OF SPLICE PLATES, GIRDER WEB, AND GIRDER FLANGE.

FOR SHOP USE ONLY

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL FIELD SPLICE HOLES ARE DA.
3. D.O.R. – DENOTES DIRECTION OF MILL ROLLING.
4. T2 – DENOTES CHARPY V-NOTCH TESTING REQUIRED.

NO.	DATE	REMARKS	BY
1	05/13/19	REV'D BOTTOM FLG SPLICE PLATES	EEO / WJL

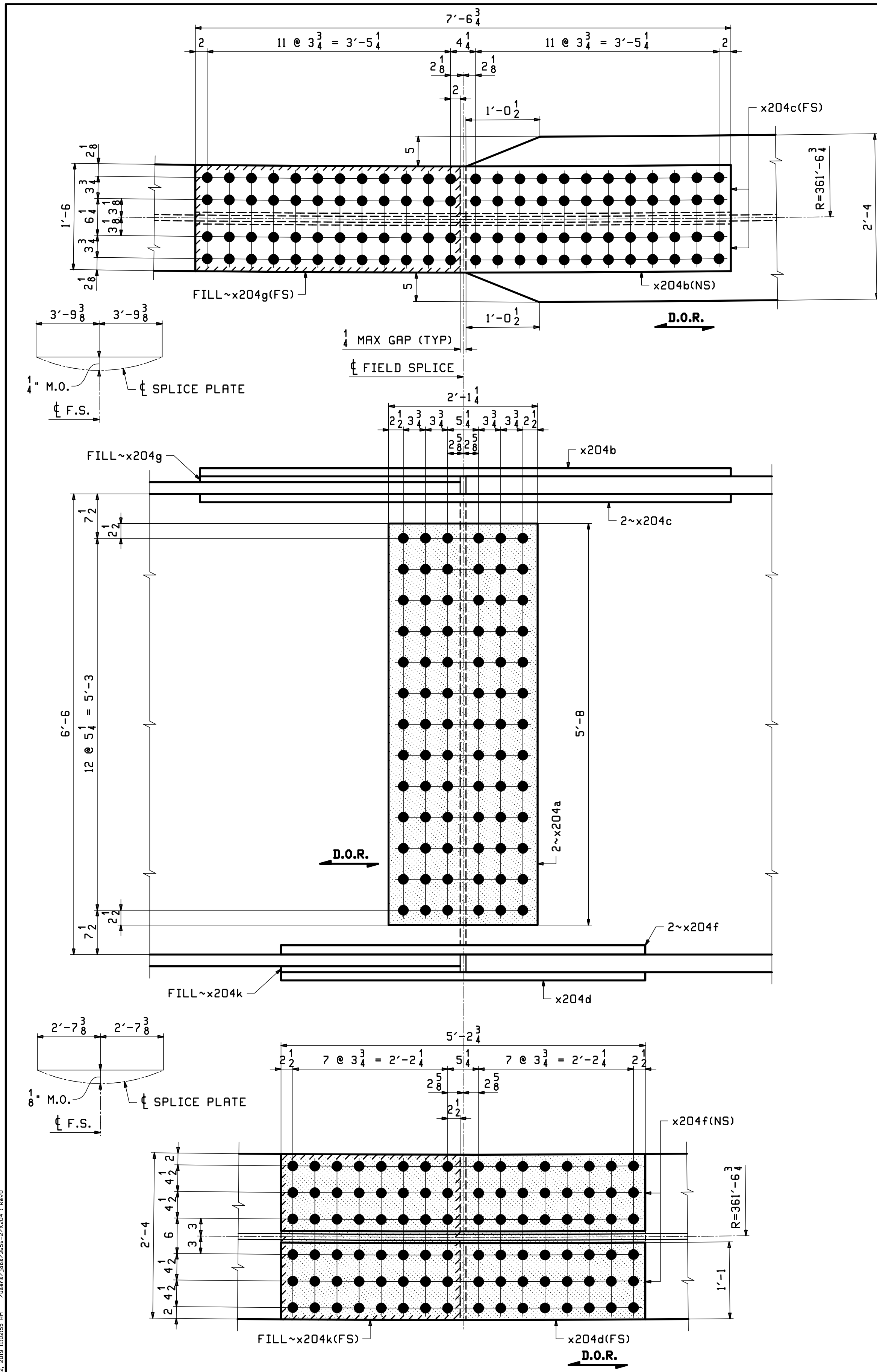
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE: RAMP P OVER IR-74 WB, IR-75 & RAMP E – UNIT 2
LOCATION: CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.: HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER: PRIME AE GROUP
CONTRACTOR: WALSH GROUP

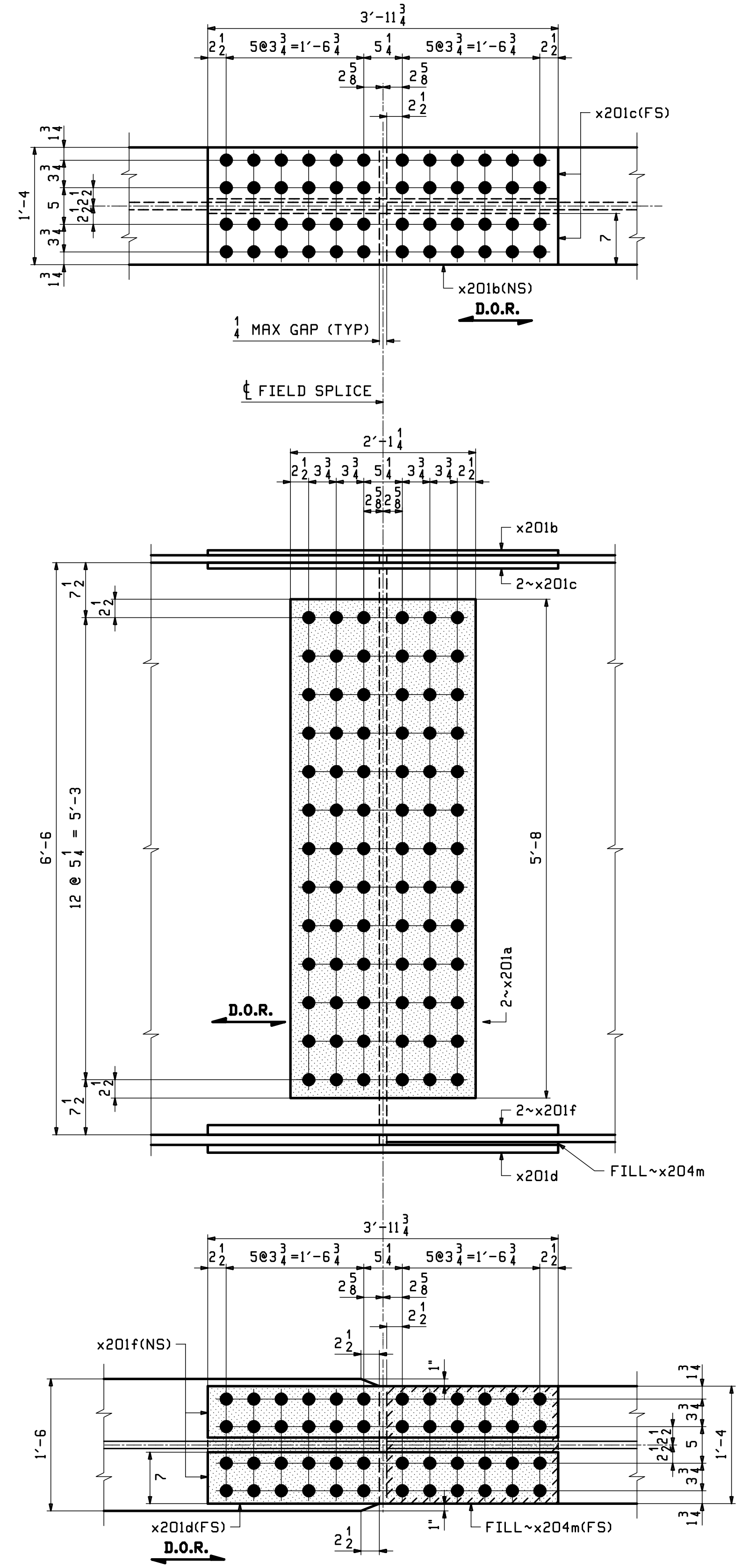
ITEM: FIELD SPLICE DETAIL
SURFACE PREP.: SEE P1 OPEN HOLES: 1 3/8"Ø FOR 1 1/4Ø HSB
PAINT: SEE P1 & AS NOTED

PRELIMINARY	DRAWN	EEO 04/04/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/11/19	X203	3	18060B	31



ONE ~ FIELD SPLICE DETAIL ~ X204M1 (PAINT AS NOTED)

F.S. 3 (LINE 4)



ONE ~ FIELD SPLICE DETAIL ~ X204M2 (PAINT AS NOTED)

F.S. 4 (LINE 1)

LINE	SHIP MARK	NO. OF PCS.	ASS'Y MARK	MATERIAL: SHAPE	LENGTH FT.	LENGTH IN.	MATERIAL SPEC.	ITEM NO.	REMARKS
1									
2	X204M1	1		FIELD SPLICE DETAIL					3675
3		2	x204a	PL 11/16x68	2	1 1/4	A709-50WT2	207/17	FP:31
4		1	x204b	PL 1 1/8x18 1/4	7	6 3/4	A709-50WT2	207/9	FP:31
5		2	x204c	PL 1 3/8x8 1/4	7	6 3/4	A709-50WT2	207/11	FP:31
6		1	x204d	PL 1 3/8x28 1/8	5	2 3/4	A709-50WT2	207/18	FP:31
7		2	x204f	PL 1 5/8x13 1/8	5	2 3/4	A709-50WT2	207/19	FP:31
8		1	x204g	PL 1 1/8x18	3	9 1/4	A709-50W	207/27	FP:31
9		1	x204k	PL 3/4x28	2	7 1/4	A709-50W	207/28	FP:31
10									
11	X204M2	1		FIELD SPLICE DETAIL					1201
12		2	x201a	PL 3/8x68	2	1 1/4	A709-50WT2	207/2	FP:31
13		1	x201b	PL 11/16x16	3	11 3/4	A709-50WT2	207/4	FP:31
14		2	x201c	PL 13/16x7	3	11 3/4	A709-50WT2	207/6	FP:31
15		1	x201d	PL 1 1/8x16	3	11 3/4	A709-50WT2	207/3	FP:31
16		2	x201f	PL 1 5/16x7	3	11 3/4	A709-50WT2	207/5	FP:31
17		1	x204m	PL 3/8x16	1	11 3/4	A709-50W	207/24	FILL FP:31
18									

- DENOTES PRIME COAT PER SHEET P1 ON ALL SURFACES OF SPLICE PLATES, GIRDER WEB, AND GIRDER FLANGE.

FOR SHOP USE ONLY

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL FIELD SPLICE HOLES ARE DA.
3. D.O.R. - DENOTES DIRECTION OF MILL ROLLING.
4. T2 - DENOTES CHARPY V-NOTCH TESTING REQUIRED.

NO.	DATE	REMARKS	BY

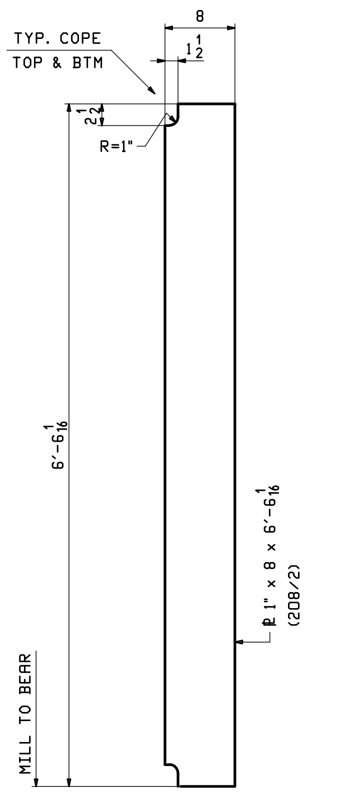
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	FIELD SPLICE DETAIL
SURFACE PREP.	SEE P1 — OPEN HOLES 1 3/8"ø FOR 1 1/4ø HSB
PAINT	SEE P1 & AS NOTED

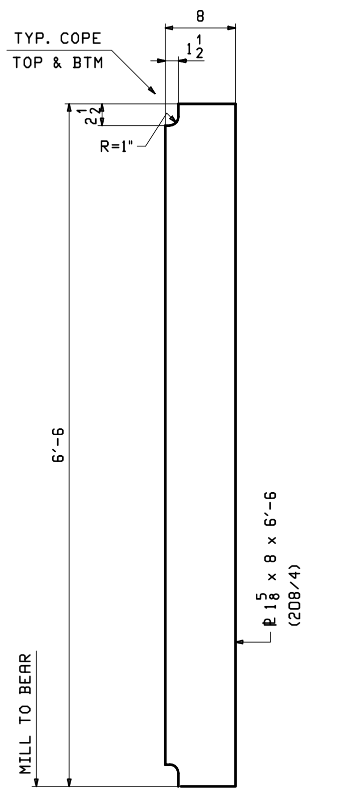
PRELIMINARY	DRAWN	EEO 04/05/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/11/19	X204	3	18060B	31

EEO Mon. Apr 22, 2019 11:02:55 AM /users/jdes/3656-2/X204 - Rev0



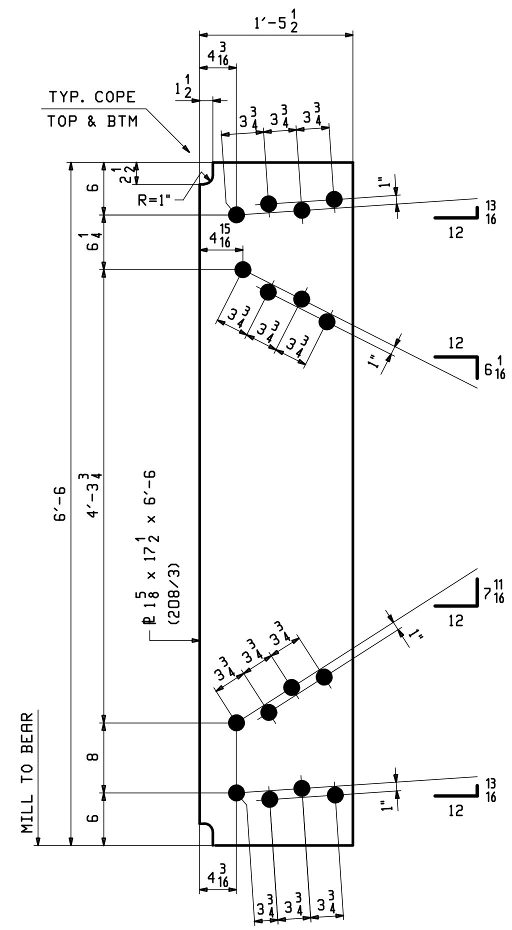
16 ~ BRG STIFFENERS ~ x205a

PIER 2 & FORWARD ABUT. (NS & FS)



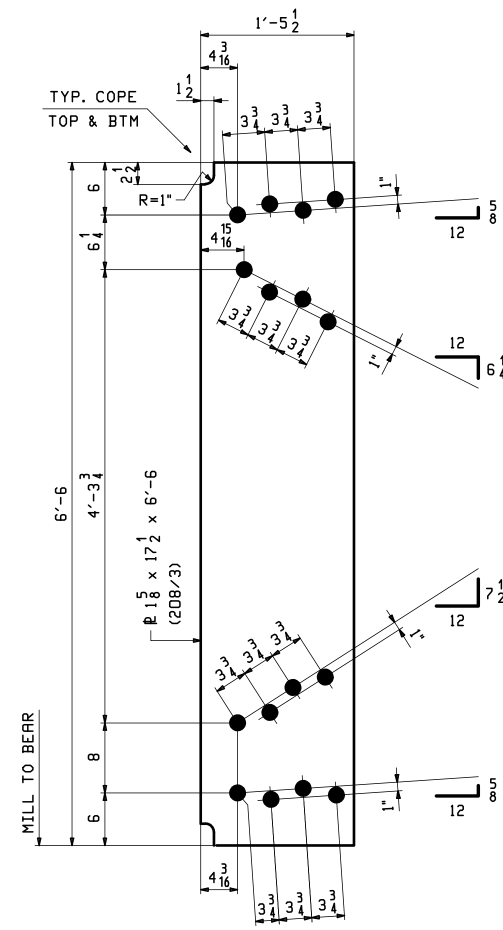
2 ~ BRG STIFFENERS ~ x205b

PIER 3 (FASCIA)



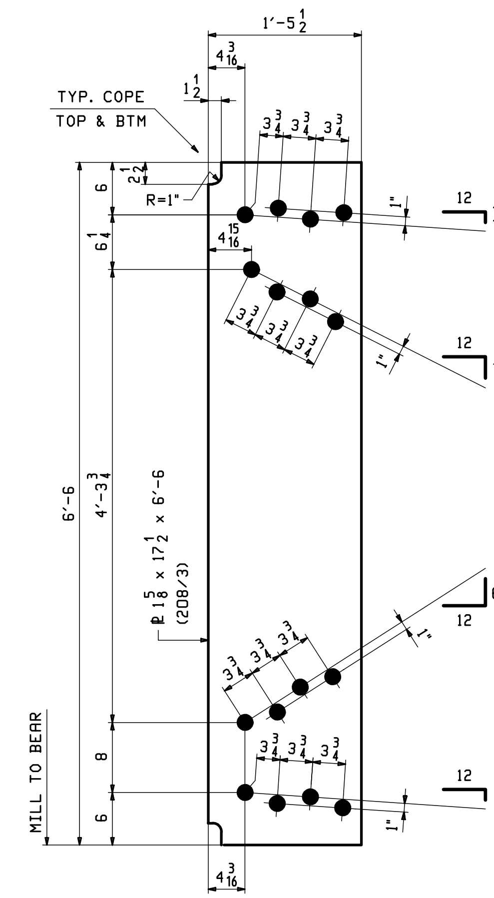
2 ~ BRG STIFFENERS ~ x205f

PIER 3 (6" DROP, LOW SIDE)



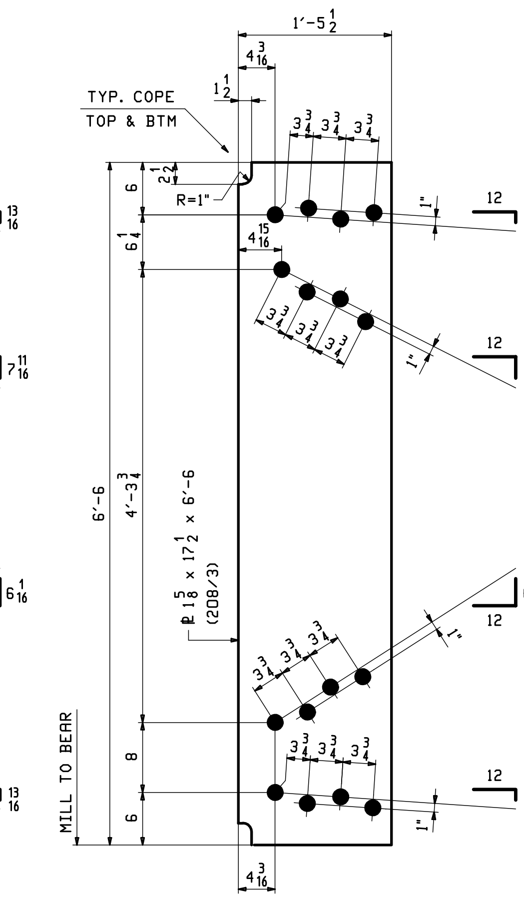
ONE ~ BRG STIFFENERS ~ x205g

PIER 3 (4 9/16" DROP, LOW SIDE)



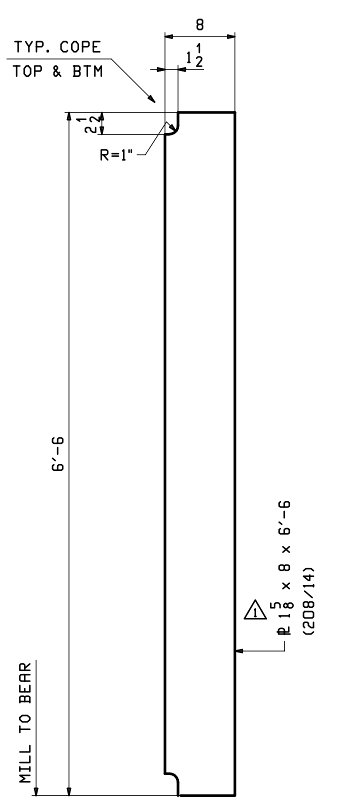
2 ~ BRG STIFFENERS ~ x205k

PIER 3 (6" DROP, HIGH SIDE)



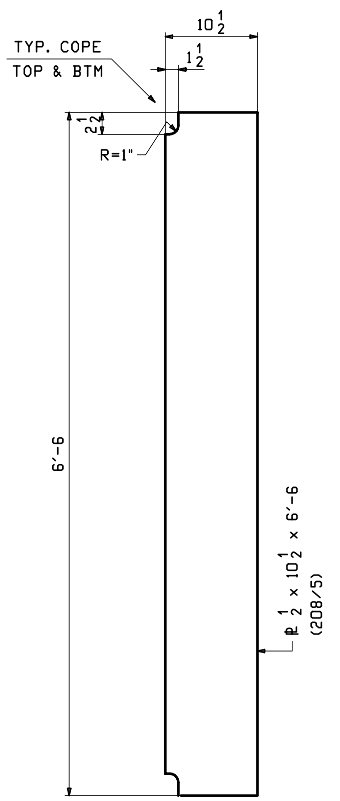
ONE ~ BRG STIFFENERS ~ x205m

PIER 3 (4 9/16" DROP, HIGH SIDE)



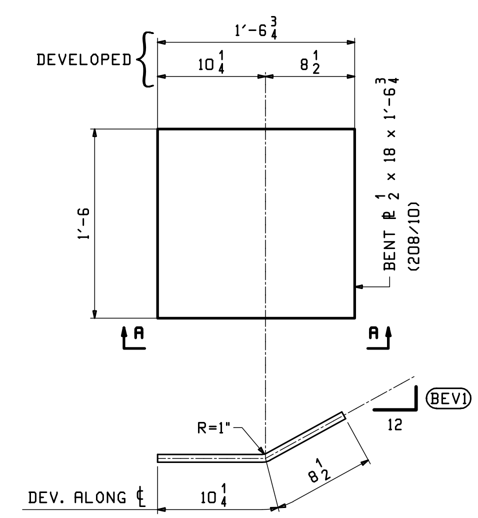
2 ~ BRG STIFFENERS ~ x205c

PIER 4 (FASCIA)



30 ~ STIFFENER ~ x205d

TYP. TRANSVERSE STIFFENER

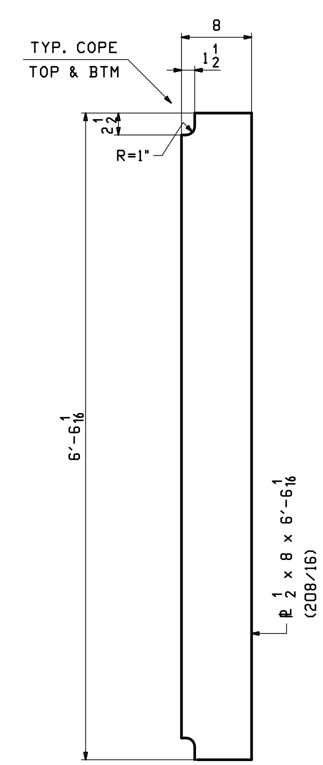


VIEW A-A

GUSSET PLATE ~ MARK

FORWARD ABUT. BTM GUSSET

MARK	QTY	BEVI
x205n	ONE	6 7/8
x205p	ONE	6 11/16
x205t	ONE	6 7/16



3 ~ STIFFENER ~ x205v

FORWARD ABUT. CF CONN. PLATE

NOTES:

1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL TO BE A709-50WT2.
3. T2 - DENOTES CHARPY V-NOTCH TESTING REQ'D.

NO.	DATE	REMARKS	BY
1	04/24/19	REV'D BRG STIFF THICKNESS @ PIER 4	EEO / WJL

REVISIONS

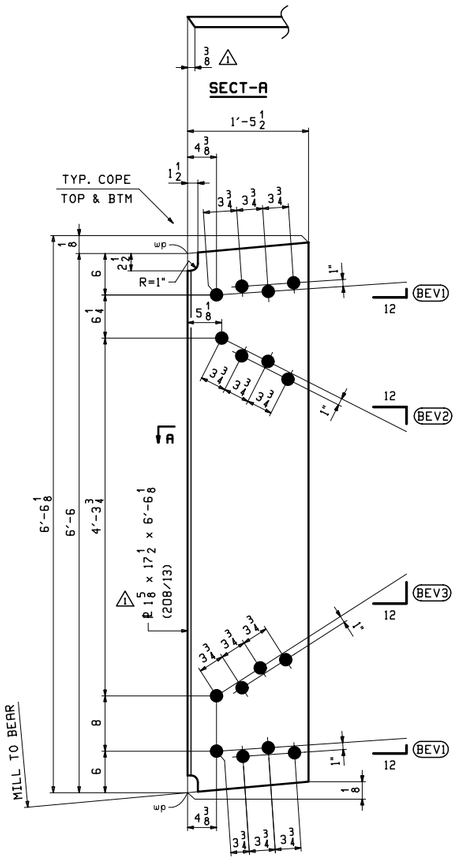
Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP

GIRDER STANDARDS

ITEM	
SURFACE PREP.	SEE P1 — OPEN HOLES 1 9/16"ø OVS FOR 1 1/4"ø HSB
PAINT	SEE P1

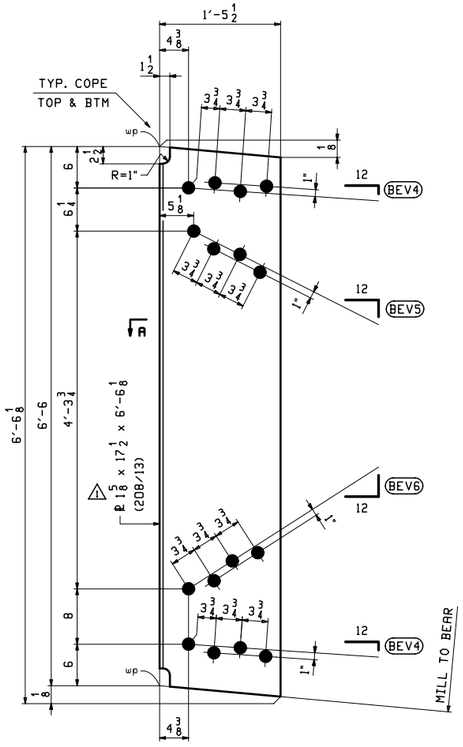
			SHEET NO.	PLANT	ORDER NO.	F.P. NO.
PRELIMINARY	DRAWN	EEO 04/08/19	X205	3	18060B	20
FOR APPROVAL	CHECKED	WJL 04/12/19				



BRG STIFFENERS ~ MARK

PIER 4 CONN. PLATES (LOW SIDE)

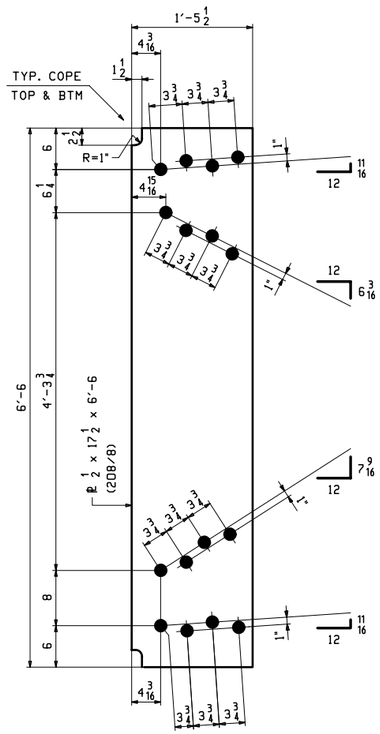
	MARK	QTY	BEV1	BEV2	BEV3
62	x206a	ONE	13/16	5 13/16	7 1/2
61	x206b	ONE	13/16	5 13/16	7 9/16
60	x206c	ONE	5/8	6 1/16	7 3/8



BRG STIFFENERS ~ MARK

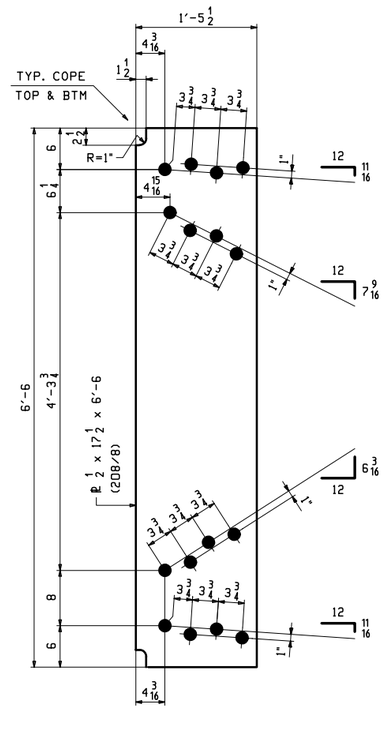
PIER 4 CONN. PLATES (HIGH SIDE)

	MARK	QTY	BEV4	BEV5	BEV6
61,60	x206d	2	13/16	7 9/16	5 13/16
59	x206f	ONE	5/8	7 3/8	6 1/16



9 ~ CONN. PLATES ~ x206g

INT. CF TYPE 4 (LOW SIDE)



9 ~ CONN. PLATES ~ x206k

INT. CF TYPE 4 (HIGH SIDE)

NOTES:
1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL TO BE A709-50WT2.
3. T2 - DENOTES CHARPY V-NOTCH TESTING REQ'D.

NO.	DATE	REMARKS	BY
1	04/24/19	REV'D BRG STIFF THICKNESS @ PIER 4	EEO / WJL

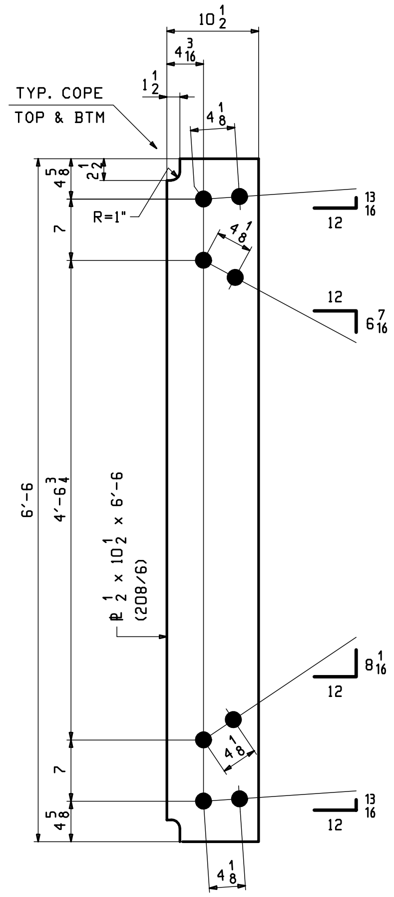
REVISIONS

Veritas STEEL
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL
TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER STANDARDS
SURFACE PREP.	SEE P1
OPEN HOLES	1 9/16"Ø OVS FOR 1 1/4"Ø HSB
PAINT	SEE P1

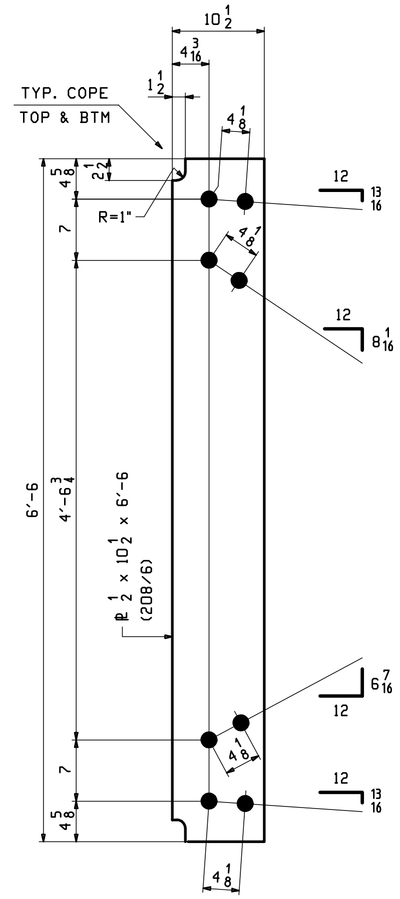
PRELIMINARY	DRAWN EEO 04/08/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED WJL 04/12/19	X206	3	18060B	20

EEO Thu, Apr 25, 2019 03:30:16 PM C:\users\jake\3656-2\X206 - Rev1



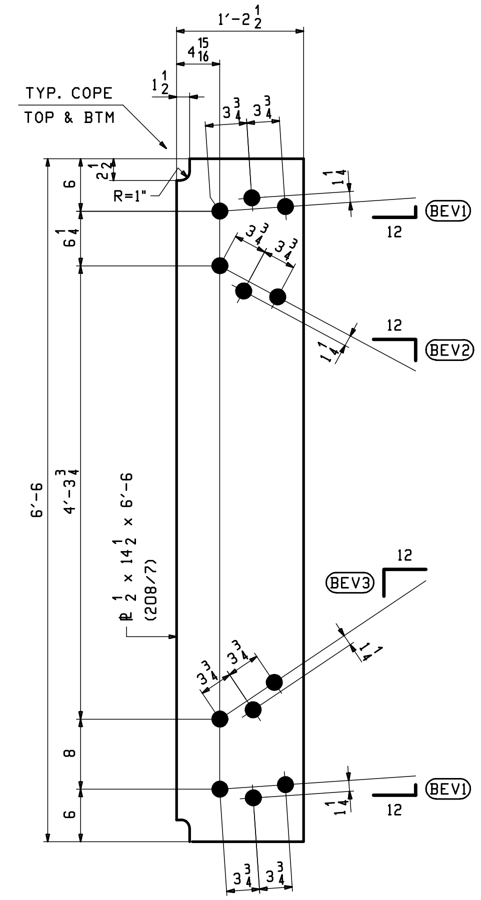
46 ~ CONN. PLATES ~ x207a

INT. CF TYPE 2 (LOW SIDE)



46 ~ CONN. PLATES ~ x207b

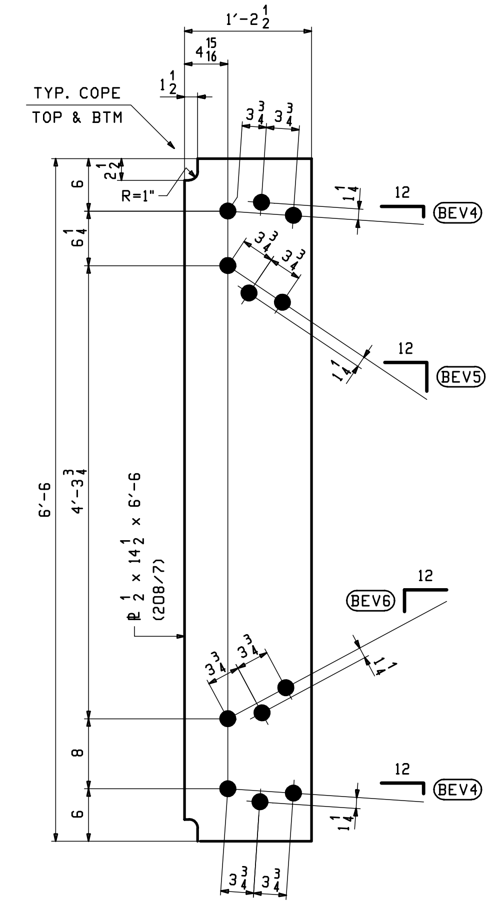
INT. CF TYPE 2 (HIGH SIDE)



CONN. PLATES ~ MARK

INT. CF TYPE 3 (LOW SIDE)

	MARK	QTY	BEV1	BEV2	BEV3
4-5 DROPS	x207c	21	5/8	6 5/16	7 9/16
5 5/8-6 3/8 DROPS	x207d	4	13/16	6 1/8	7 3/4
6 11/16-7 1/8 DROPS	x207f	10	15/16	6	7 7/8



CONN. PLATES ~ MARK

INT. CF TYPE 3 (HIGH SIDE)

	MARK	QTY	BEV4	BEV5	BEV6
4-5 DROPS	x207g	21	5/8	7 9/16	6 5/16
5 5/8-6 3/8 DROPS	x207k	4	13/16	7 3/4	6 1/8
6 11/16-7 1/8 DROPS	x207m	10	15/16	7 7/8	6

NOTES:

1. FOR GENERAL NOTES SEE SHEET GN1.
2. ALL MATERIAL TO BE A709-50WT2.
3. T2 - DENOTES CHARPY V-NOTCH TESTING REQ'D.

NO.	DATE	REMARKS	BY

REVISIONS

Veritas STEEL

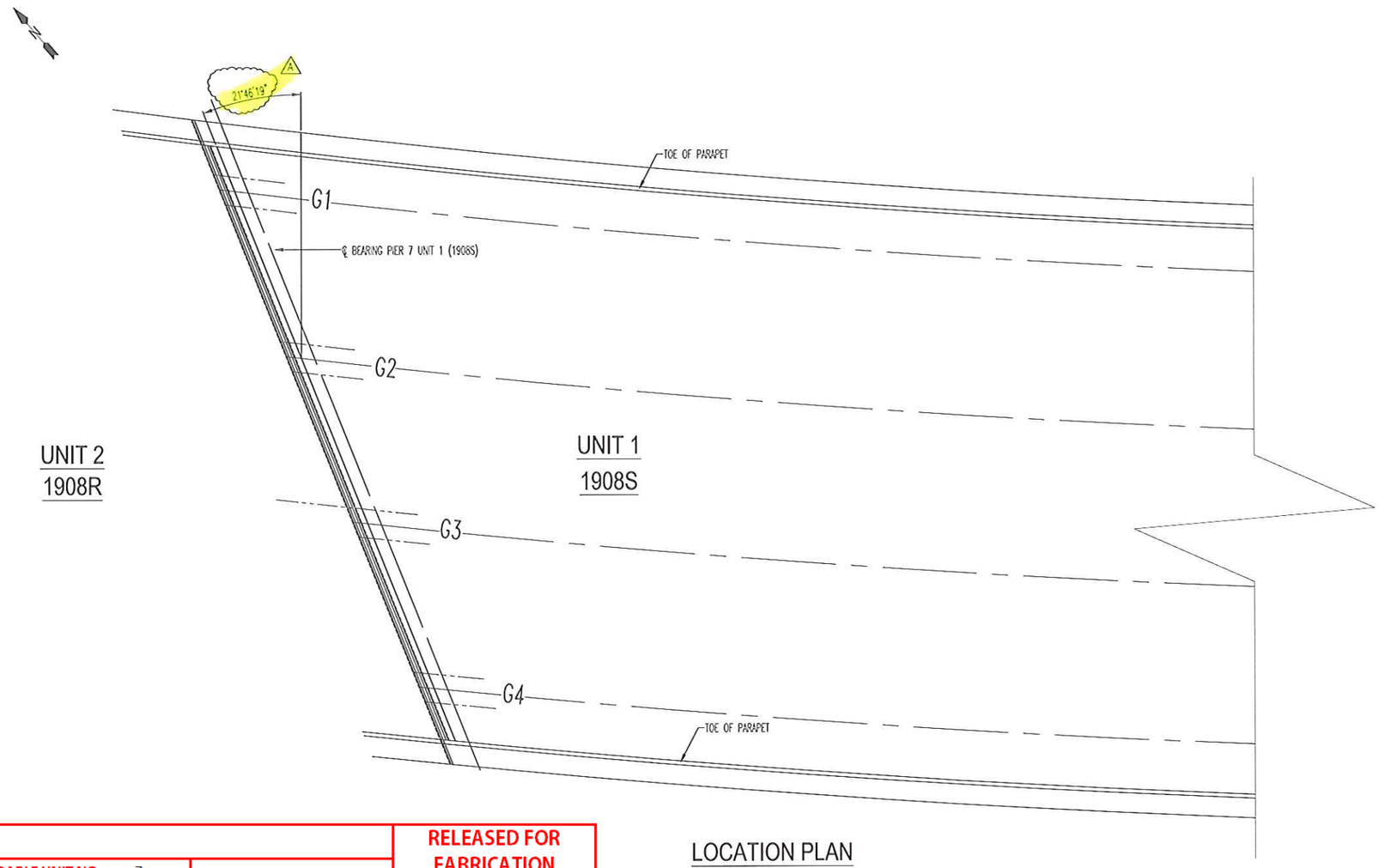
2-EAU CLAIRE, WI 3-WAUSAU, WI 4-PALATKA, FL

TENSOR 3656-2

STRUCTURE	RAMP P OVER IR-74 WB, IR-75 & RAMP E - UNIT 2
LOCATION	CINCINNATI, OH (HAMILTON COUNTY) STA. 230+22.98
PROJECT NO.	HAM-75-3.84, PID NO. 104667, BRIDGE NO. HAM-74-1908S
ENGINEER	PRIME AE GROUP
CONTRACTOR	WALSH GROUP
ITEM	GIRDER STANDARDS
SURFACE PREP.	SEE P1 — OPEN HOLES 1 9/16"Ø OVS FOR 1 1/4"Ø HSB
PAINT	SEE P1

PRELIMINARY	DRAWN	EEO 04/08/19	SHEET NO.	PLANT	ORDER NO.	F.P. NO.
FOR APPROVAL	CHECKED	WJL 04/12/19	X207	3	18060B	20

EEO Mon, Apr 22, 2019 11:05:18 AM /users/jobs/3656-2/X207 Rev0



LOCATION PLAN

PRIME AE, Group, Inc			RELEASED FOR FABRICATION
DATE REC'D: 5/1/2020 BUILDABLE UNIT NO.: 7		STATE OF OHIO * PROFESSIONAL ENGINEER * Kelly D. Chrisman E-68020 REGISTERED	WALSH
Review conforms that the shop drawings meet the intent of the contract.			
[X] CONFORMS AS-IS	[ ] CONFORMS AS NOTED	By: Kelly Chrisman	By:
[ ] INCOMPLETE	[ ] DOES NOT CONFORM	Date: 5/1/2020	Date:

NOTES:

SEE SHEET 2 FOR EXPANSION JOINT DETAILS
SEE SHEET 3 FOR GENERAL NOTES & BILL OF MATERIAL

AISC CERTIFIED FABRICATOR

BRIDGE - INTERMEDIATE (MAJOR)
FRACTURE CRITICAL ENDORSEMENT
SOPHISTICATED PAINT ENDORSEMENT

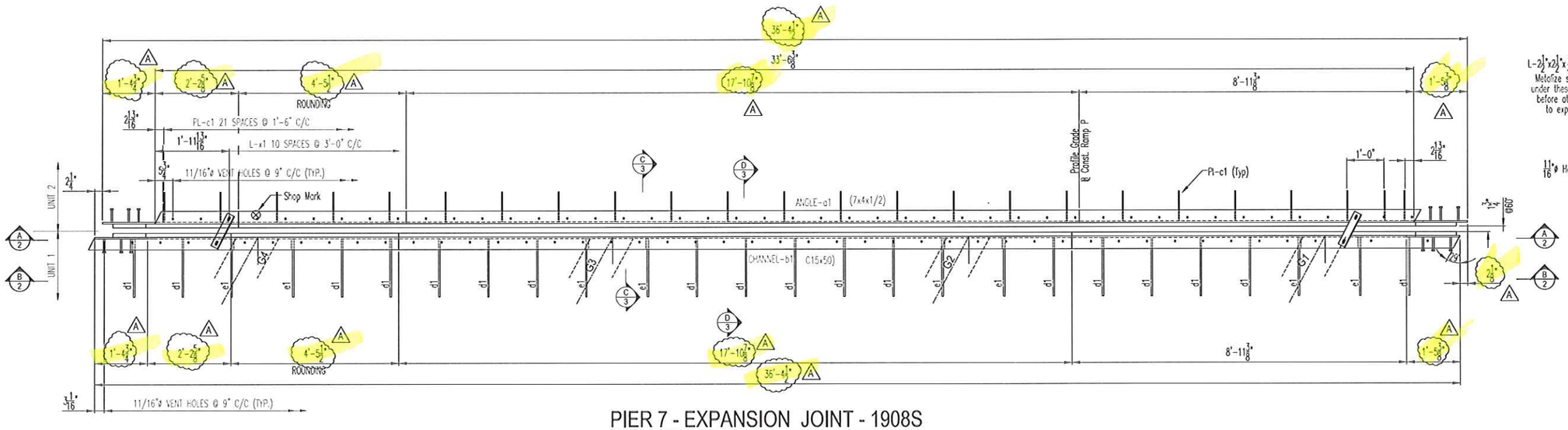
REV. No.	REVISION
A	Per Contractors Review 4/30/20
SHOP INSPECTED BY:	

APPROVAL

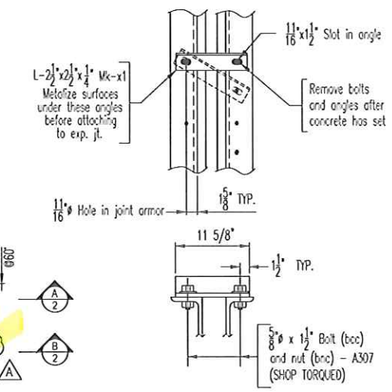
OHIO STRUCTURES INC.
4030 BOARDMAN- CANFIELD RD. SUITE 200D
CANFIELD, OHIO 44406
(330) 533-0084 FAX: (330) 533-0191

OHIO DEPARTMENT OF TRANSPORTATION
BRIDGE: HAM-74-1908S
RAMP P OVER IR-74 WB, IR-75 AND RAMP E

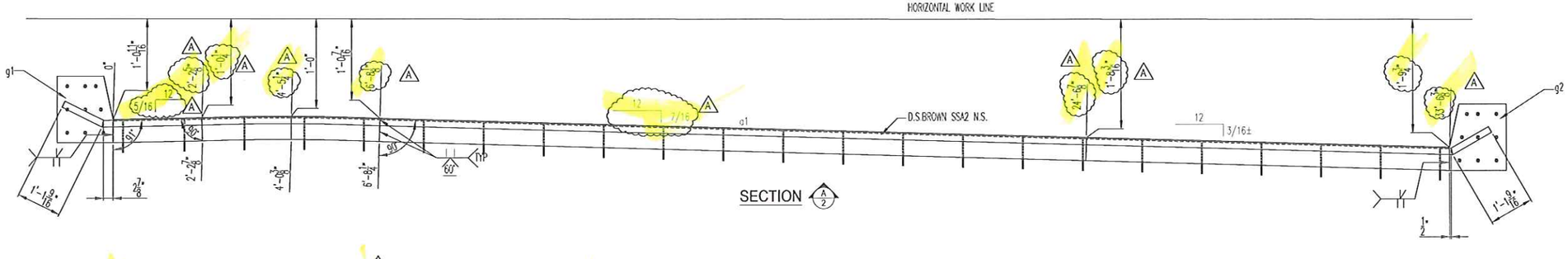
SCALE: N.T.S.	WALSH CONSTRUCTION	DRAWN: LF
DATE: 4/20		CHECK: MI
LOCATION PLAN 1908S PIER 7 UNIT 1		
REF NO.: 0034		ITEM NO.: 516
ODOT PROJ. NO.: 183000	HAMILTON COUNTY	DWG. NO.: E1
OSI PROJ. NO.: 00-18	PID NO.: 104667 SFN: 3109798	1 OF 3



PIER 7 - EXPANSION JOINT - 1908S

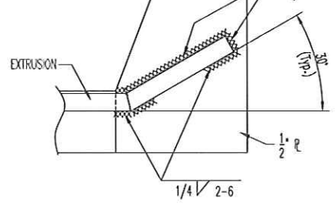


SHIPPING ANGLE DETAIL



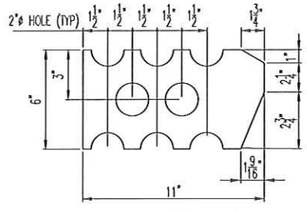
SECTION A/2

SECTION B/2

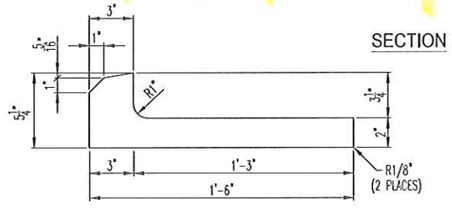


PARAPET PL DETAIL

PAY LENGTH: 36.4 FT.



DETAIL PL-c1
MATERIAL: 3/8" PL.
QUANTITY:24



DETAIL d1
MATERIAL: 1/2" PL.
QUANTITY:18

NOTES:
SEE SHEET 1 FOR EXPANSION JOINT LOCATION PLAN
SEE SHEET 3 FOR SECTION VIEWS, DETAILS
SEE SHEET 3 FOR DETAILS, GENERAL NOTES & BILL OF MATERIAL

AISC CERTIFIED FABRICATOR
BRIDGE - INTERMEDIATE (MAJOR)
FRACTURE CRITICAL ENDORSEMENT
SOPHISTICATED PAINT ENDORSEMENT

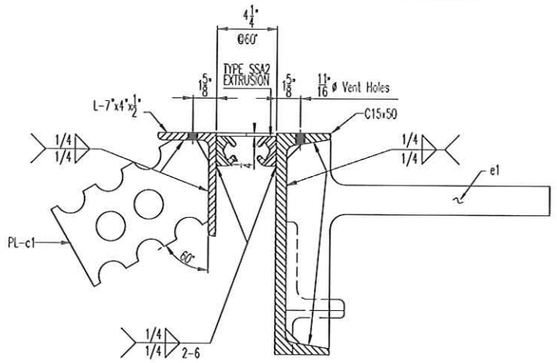
REV. No.	REVISION
A	Per Contractors Review 4/30/20
SHOP INSPECTED BY:	

APPROVAL

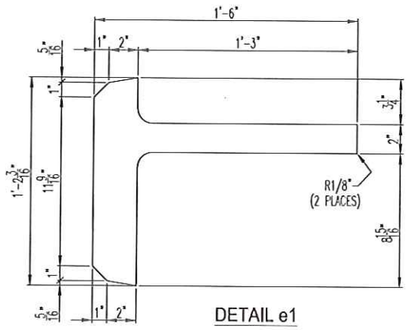
OHIO STRUCTURES INC.
4030 BOARDMAN- CANFIELD RD. SUITE 200D
CANFIELD, OHIO 44406
(330) 533-0084 FAX: (330) 533-0191

OHIO DEPARTMENT OF TRANSPORTATION
BRIDGE: HAM-74-1908S
RAMP P OVER I-74 WB, IR-75 AND RAMP E

SCALE: N.T.S.	WALSH CONSTRUCTION	DRAWN: LF
DATE: 4/20		CHECK: MI
PIER 7 UNIT 1 EXPANSION JOINT 1908S		
REF NO.: 0034		ITEM NO.: 516
ODOT PROJ. NO.: 183000	HAMILTON COUNTY	DWG. NO.: D1
OSI PROJ. NO.: 00-18	PID NO.: 104667 SFN: 3109798	2 OF 3

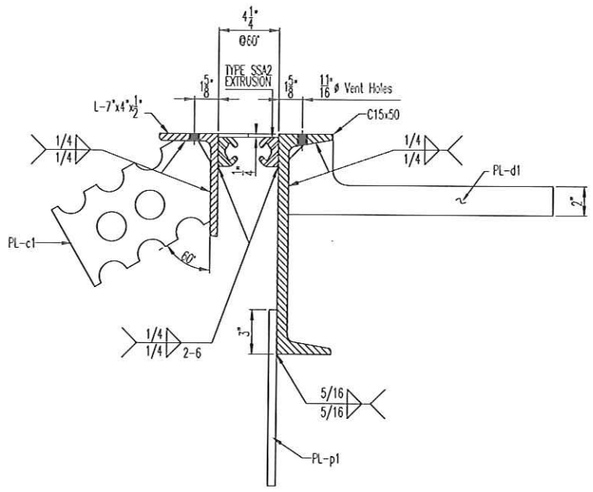


SECTION C/2

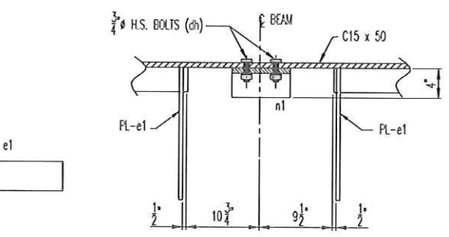


DETAIL e1

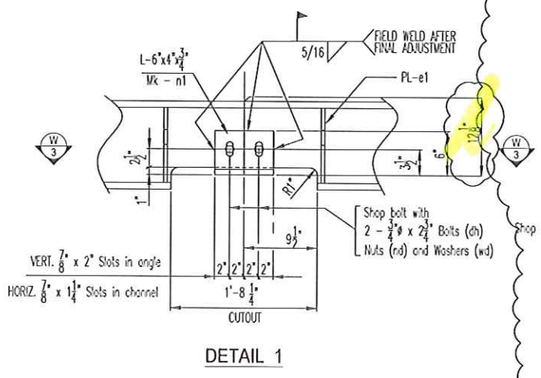
MATERIAL: 1/2" PL.
QUANTITY:8



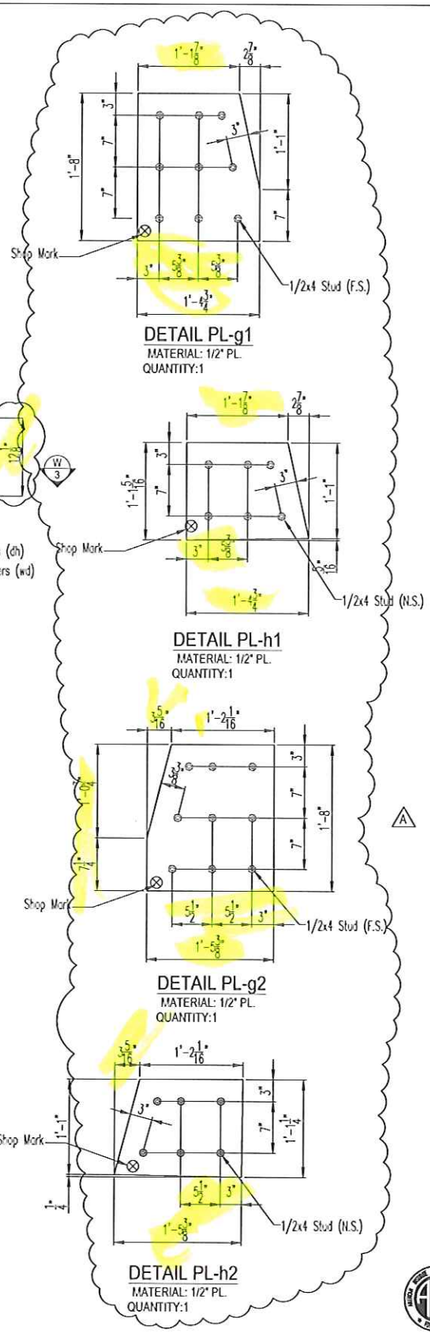
SECTION D/2



SECTION W/3



DETAIL 1



ODOT DOT PROJECT : 183000	PID NO.: 104667	OSI PROJ. #: 00-18	REF #0034	ITEM #: 516

1908S PIER 7 UNIT 1 EXPANSION JOINT

MATERIALS ONLY:

LINE	PO#	QTY	MARK	SECTION	LENGTH (FEET)	LENGTH (INCHES)	STL SPEC	PC WT (IN LBS)	NET WT (IN LBS)	HEAT #	REMARKS
1		1	a1	ANGLE 7x4x1/2	33	8 3/4	A709-50	603.75	603.75		
2		11	---	ANGLE 2-1/2x2-1/2x1/4	0	11 5/8	A709-36	3.97	43.69		SHIPPING
3		1	b1	C15x50	36	6 3/4	A709-50	1,828.13	1,828.13		
4		4	n1	ANGLE 6x4x3/4	0	8	A709-50	15.73	62.93		
5		24	c1	PLATE 3/8 x 6	0	11	A709-36	5.02	120.48		
6		8	e1	PLATE 1/2 x 14 3/16	1	6	A709-36	10.02	80.16		
7		18	d1	PLATE 1/2 x 5 1/4	1	6	A709-36	7.68	138.28		
8		6	p1	PLATE 1/2 20	1	0	A709-50	34.03	204.18		
9		1	g1	PLATE 1/2 20	1	4 3/4	A709-36	47.28	47.28		
10		1	g2	PLATE 1/2 20	1	4 3/4	A709-36	48.64	48.64		
11		1	h1	PLATE 1/2 13 5/16	1	5 3/8	A709-36	30.35	30.35		
12		1	h2	PLATE 1/2 x 13 1/4	1	5 3/8	A709-36	31.67	31.67		
								SUB TOTAL	3,239.54		

HARDWARE ONLY:

LINE		QTY	MARK	DESCRIPTION	STL SPEC	WT PER (IN LBS)	NET WT (IN LBS)	HEAT #	REMARKS
13		30	---	1/2" x 4" STUD	A108	0.29	8.70		
14		8	dh	3/4x2-3/4 HEX HEAD BOLT	A325 Galv	0.48	3.85		
15		8	nd	3/4 HEAVY HEX NUT	A563 Galv	0.20	1.60		
16		8	wd	3/4 FLAT WASHER	F436 Galv	0.04	0.33		
17		22	bdc	5/8x1-1/2 HEX HEAD BOLT	A307	0.22	4.77		
18		22	bnc	5/8 HEAVY HEX NUT	A307	0.12	2.64		
						SUB TOTAL	21.89		

MISC:

LINE		QTY	MARK	DESCRIPTION	WT PER (IN LBS)	NET WT (IN LBS)	HEAT #	REMARKS
19		3.15	---	SSA2 EXTRUSION (D.S. BROWN) x 23'-0" A709-36	121.90	383.99		
20	*	1	---	3" A2R STRIP SEAL x 37'-0" (D.S. BROWN)	0.00	0.00		
21	*	1	---	GALLON OF GLUE	0.00	0.00		
					SUB TOTAL	383.99		
					TOTAL WT	3,645.41		

* INDICATES AN ITEM THAT WILL BE SHIPPED LOOSE

GENERAL NOTES:

* ALL MATERIAL SHALL BE ASTM A709 GR50/36.
* MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH ODOT-CMS-2019.
* WELDING SHALL BE IN ACCORDANCE WITH AWS/AASHTO D1.5-15 AND ODOT 1011.
* ALL MATERIAL TO BE METALIZED IN CONFORMANCE WITH O.D.O.T. STANDARD DRAWING EXJ-4-87 DATED 7/19/02.
* ALL INFORMATION & DIMENSIONS ARE TO BE APPROVED BY THE CONTRACTOR PRIOR TO COMMENCING FABRICATION.
* GENERAL TOLERANCE ±1/8" UNLESS NOTED.

AISC CERTIFIED FABRICATOR

BRIDGE - INTERMEDIATE (MAJOR)
FRACTURE CRITICAL ENDORSEMENT
SOPHISTICATED PAINT ENDORSEMENT

APPROVAL

NOTES:
SEE SHEET 1 FOR EXPANSION JOINT LOCATION PLAN
SEE SHEET 2 FOR EXPANSION JOINT DETAILS

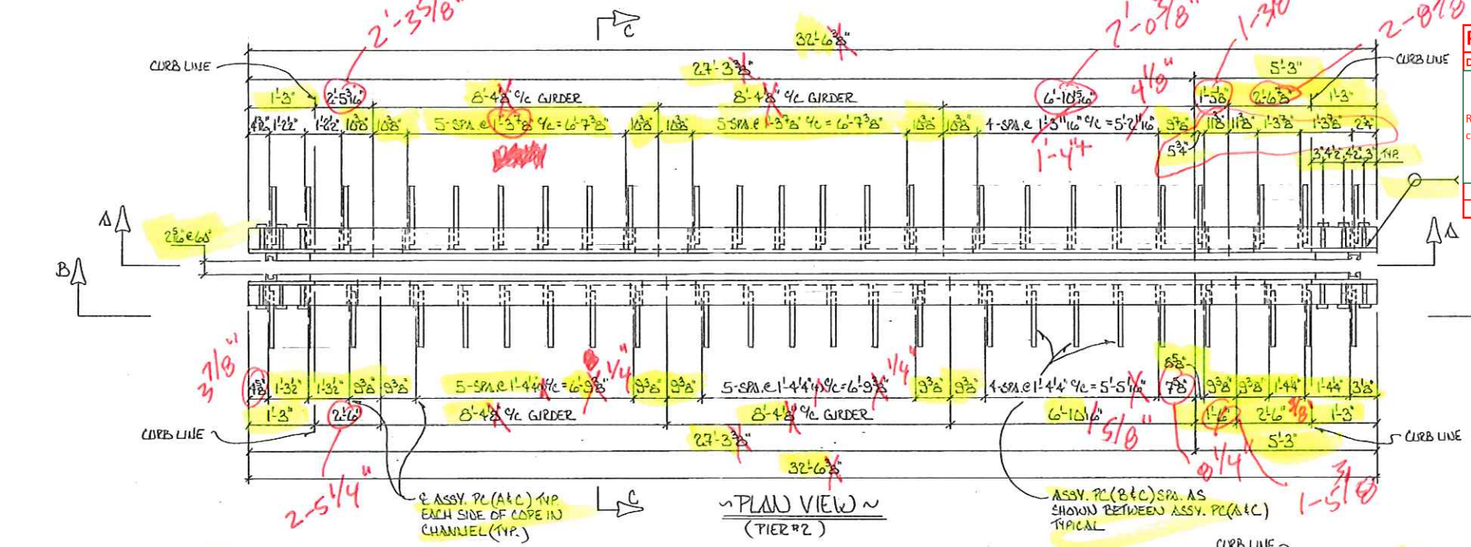
REV. No.	REVISION
A	Per Contractors Review 4/30/20

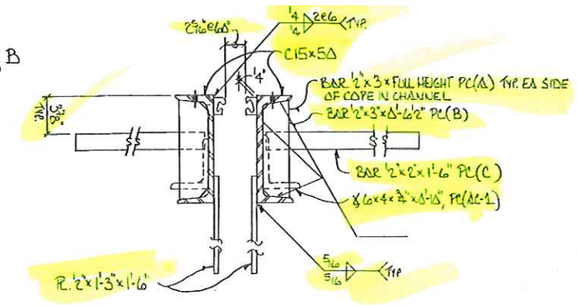
SHOP INSPECTED BY:

OHIO STRUCTURES INC.
4030 BOARDMAN- CANFIELD RD. SUITE 200D
CANFIELD, OHIO 44406
(330) 533-0084 FAX: (330) 533-0191

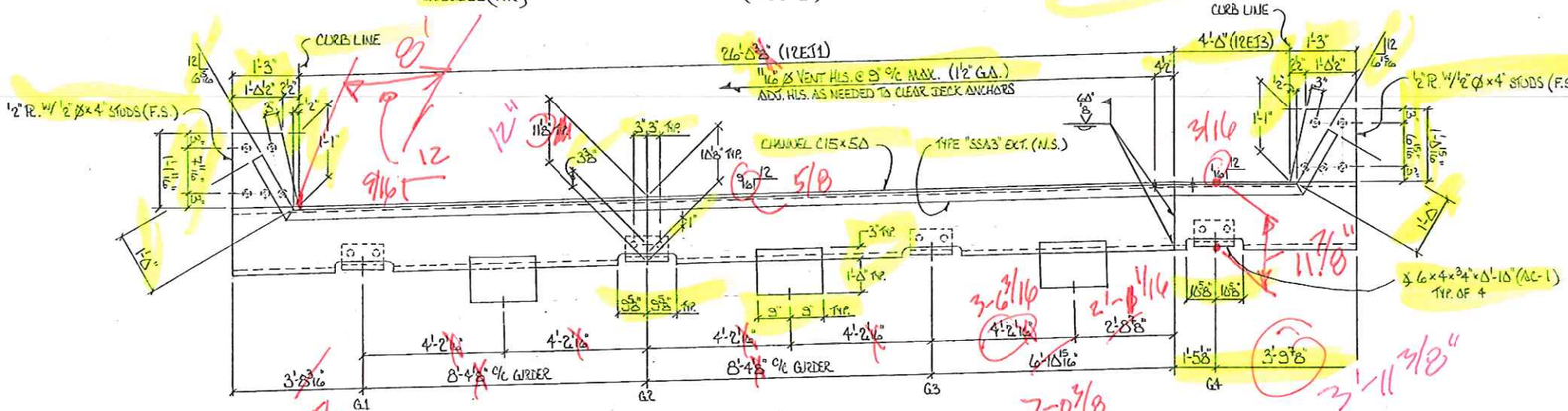
OHIO DEPARTMENT OF TRANSPORTATION
BRIDGE: HAM-74-1908S
RAMP P OVER I-74 WB, IR-75 AND RAMP E

SCALE: N.T.S.	WALSH CONSTRUCTION	DRAWN: LF
DATE: 4/20		CHECK: MI
DETAILS, GENERAL NOTES, MATERISL LIST		
REF. NO.:0034		ITEM NO.: 516
ODOT PROJ. NO.: 183000	HAMILTON COUNTY	DWG. NO.: D2
OSI PROJ. NO.: 00-18	PID NO.: 104667 SFN: 3109798	3 OF 3

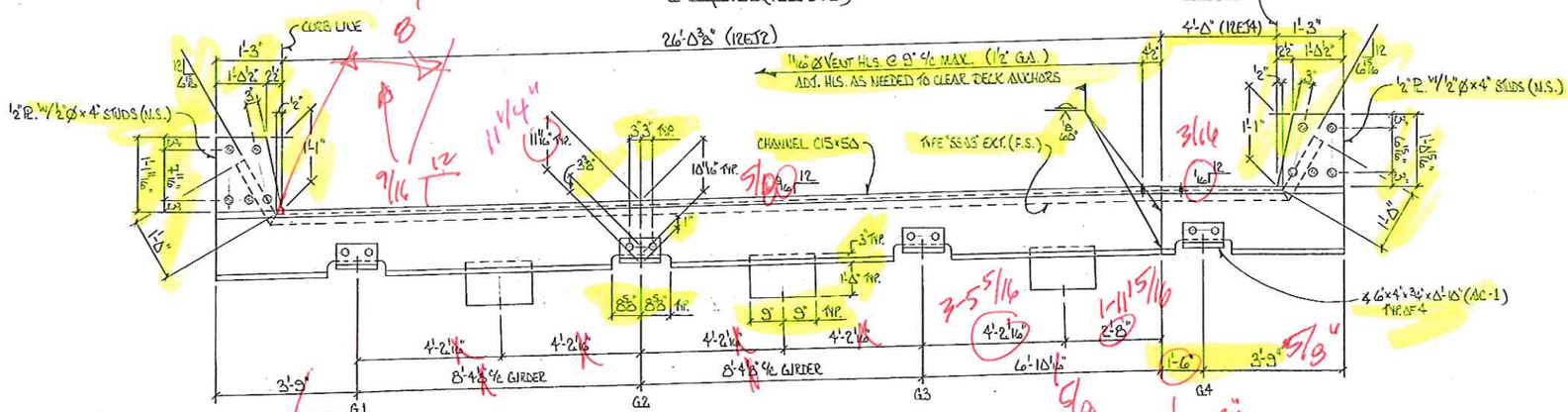




VIEW "C-C"



VIEW "A-A"
1-REQD. EA. (12E11 & 3)



VIEW "B-B"
1-REQD. EA. (12E12 & 4)

Note:
There is another grade break @ 8' from left toe/Parapet slope is 9/16 which is only 1/16 Δ from slope in middle.

PRIME AE, Group, Inc
DATE REC'D: 3/26/2020 BUILDABLE UNIT NO.: 11
Review conforms that the shop drawings meet the intent of the contract.
Kelly D. Chrisman E-68020 REGISTERED PROFESSIONAL ENGINEER STATE OF OHIO
☐ CONFORMS AS-IS ☒ CONFORMS AS NOTED By: Kelly Chrisman By:
☐ INCOMPLETE ☐ DOES NOT CONFORM Date: 3/10/2020 Date:

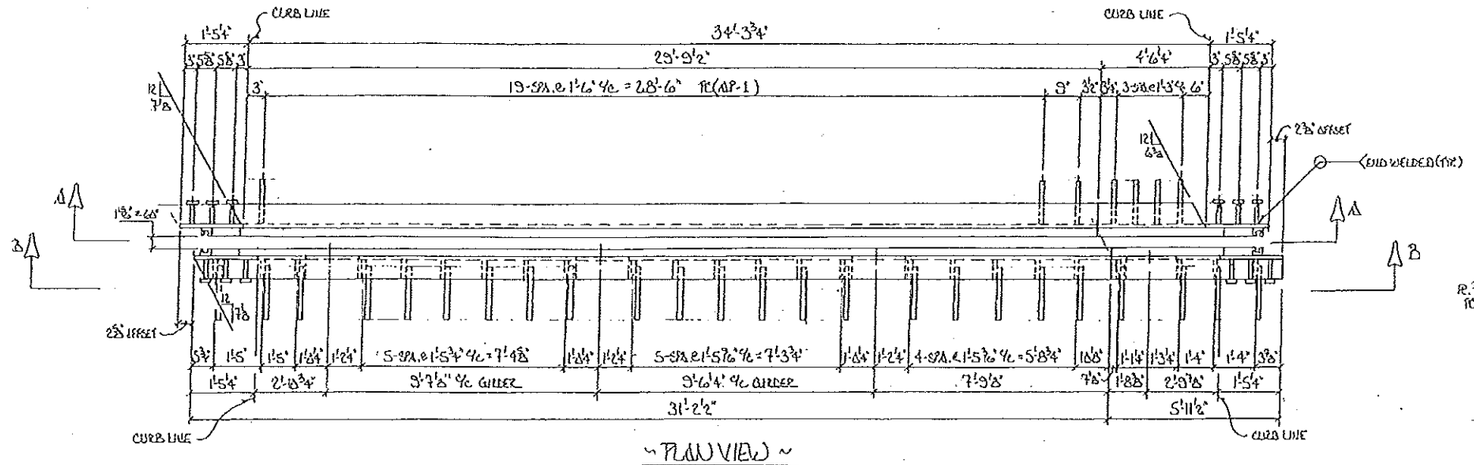
RELEASED FOR FABRICATION
WALSH

O.D.O.T. PROJ. 3000-18
COUNTY: HAMILTON
BRIDGE No. HAM-74-19085
REF. No.

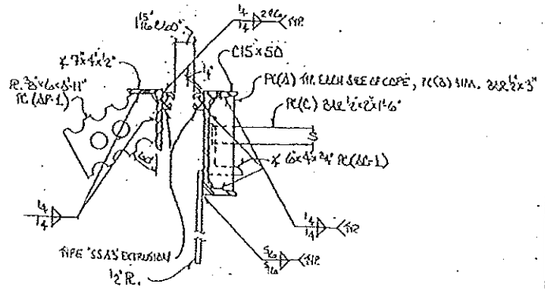
MARBRI
799 North Court Street, Suite 9
Medina, Ohio 44256-3160
Office: (330) 721-0131
Fax: (330) 721-0161
E-mail: contact@marbri.net

NO	USE	DATE
1	APP	12-5-19
1	REV	3-23-20

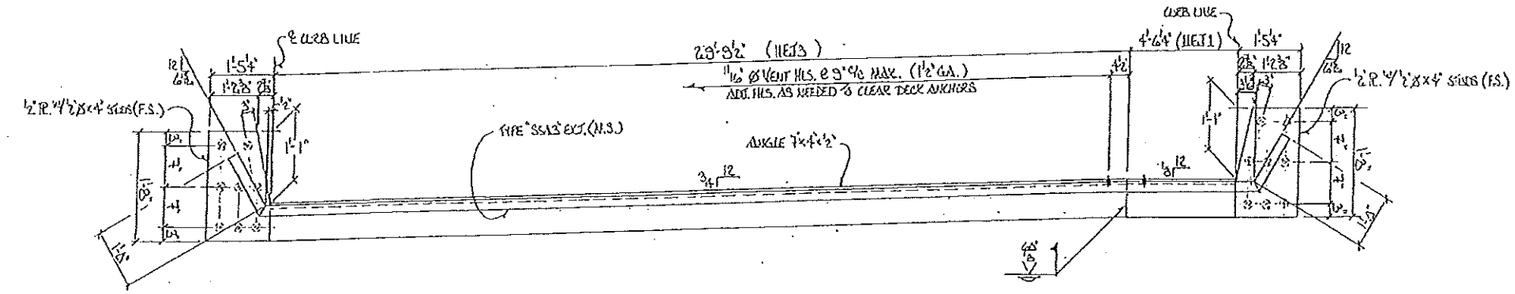
FABRICATOR
PROJECT O.D.O.T. PROJ. 3000-18
CONTRACTOR WALSH CONSTRUCTION
LOCATION HAMILTON COUNTY
DESCRIPTION EXP. JT. DETAILS @ PIER #2
DETAILED ADS. DATE 12-1-19
CHECKED RMS. DATE 12-4-19
FINISH METALLIZED
JOB NUMBER 3000
DRAWING NO. 12

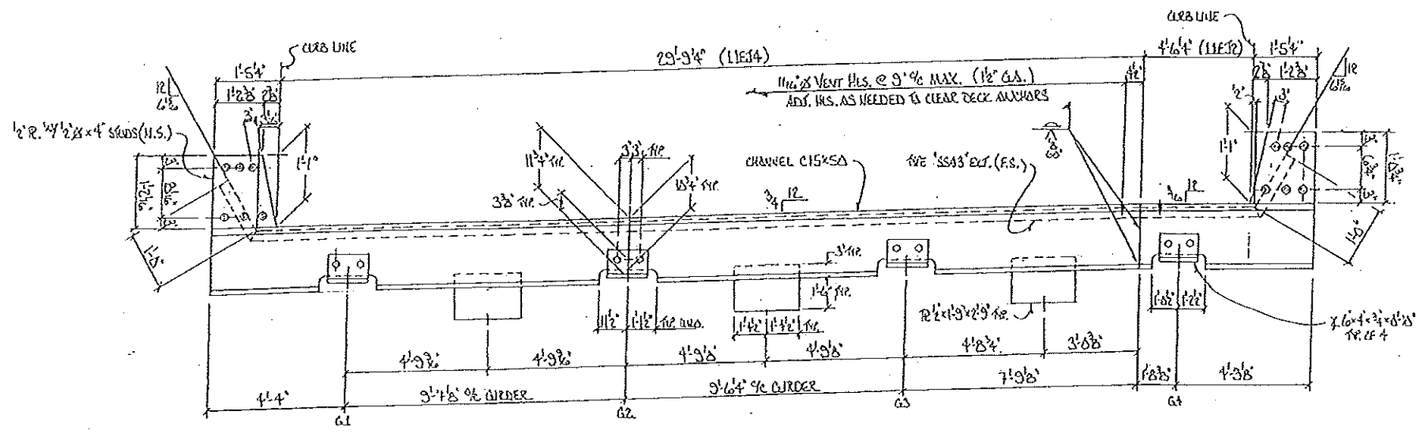


~ PLAN VIEW ~
(FOUR. ADJT.)



SECTION 'C-C'





O.D.O.T. PROJ. 3000-18
COUNTY: HAMILTON
BRIDGE No. HAM-74-1908S
REF. No.

100 Highland Drive, Suite B
Medina, Ohio 44256-3160
Office: (330) 721-0131
Fax: (330) 721-0181
E-mail: contact@mazbd.net

NO.	VIS	DATE	REMARKS
1	MP	11-13-19	
1	MP	11-25-19	PROJECT O.D.O.T. PROJECT 3000-18
1	MP	11-27-19	CONTRACTOR WALSH CONSTRUCTION
1	PAD	1-6-20	LOCATION HAMILTON COUNTY
			DESCRIPTION EXP. JT. DETAILS / PAD. ADJT. BOBS

DETAILED A.D.S. DATE 10-20-19
CHECKED R.M.S. DATE 11-3-19
FINISH METALIZED

JOB NUMBER 3000

DRAWING NO. 11