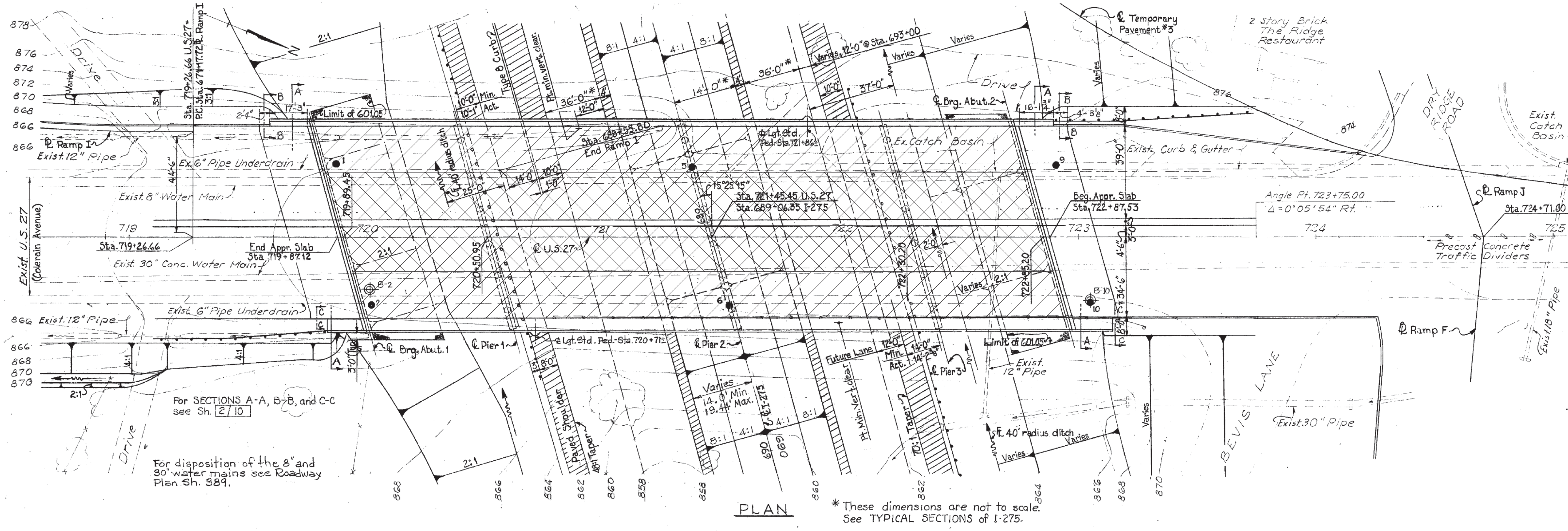
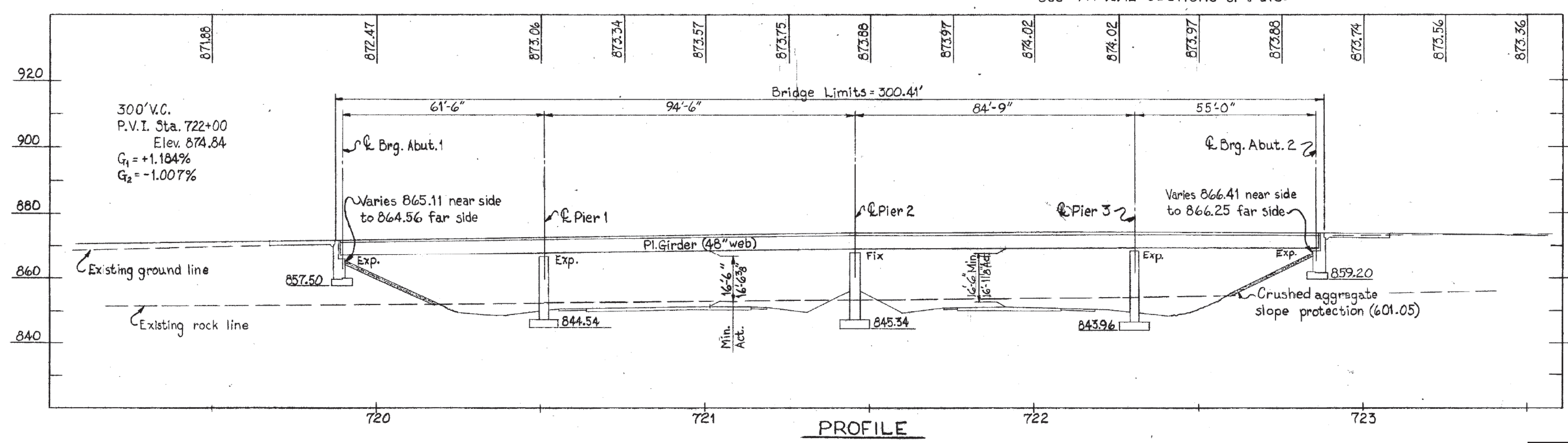




LEGEND

REMOVE EXISTING CONCRETE OVERLAY, PERFORM HYDRODEMOLITION AND PLACE SUPERPLASTICIZED DENSE CONCRETE OVERLAY (SDC)

REMOVE EXISTING CONCRETE OVERLAY, SCARIFY EXISTING DECK AND PLACE POLYESTER POLYMER CONCRETE OVERLAY (PPC)

NOTE

SEE SHEET 19 OF 58 FOR STRUCTURE QUANTITIES.

PROPOSED WORK

1. REPLACE ALL ABUTMENT BEARINGS WITH ELASTOMERIC BEARINGS ON HP PEDESTALS.
2. REMOVE EXISTING 2" CONCRETE OVERLAY.
3. REMOVE 1/2" OF THE ORIGINAL DECK USING HYDRODEMOLITION FOR THE PORTION TO RECEIVE SDC OVERLAY AND REPLACE WITH 2 1/2" OF SDC OVERLAY.
4. REMOVE 1/4" OF THE ORIGINAL DECK USING SCARIFICATION FOR THE PORTION TO RECEIVE PPC OVERLAY AND REPLACE WITH 2 1/4" OF PPC OVERLAY.

EXISTING STRUCTURE

TYPE: CONTINUOUS PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 61'-6"±, 94'-6"±, 84'-9"±, 55'-0"± C/C BRGS.

ROADWAY: 39'-0"± T/T CURB (BOTH DIRECTIONS) WITH 3'-0"± MEDIAN CURB, 2'-0"± SAFETY CURB AND 5'-0"± SIDEWALK

LOADING: HS20-44

SKEW: 15°25'15"± R.F.

WEARING SURFACE: 2"± LATEX MODIFIED CONCRETE OVERLAY

APPROACH SLABS: 20'-0"± LONG (AS-1-72)

STRUCTURAL FILE NUMBER: 3101738

DATE BUILT: 1977

DISPOSITION: TO BE REHABILITATED

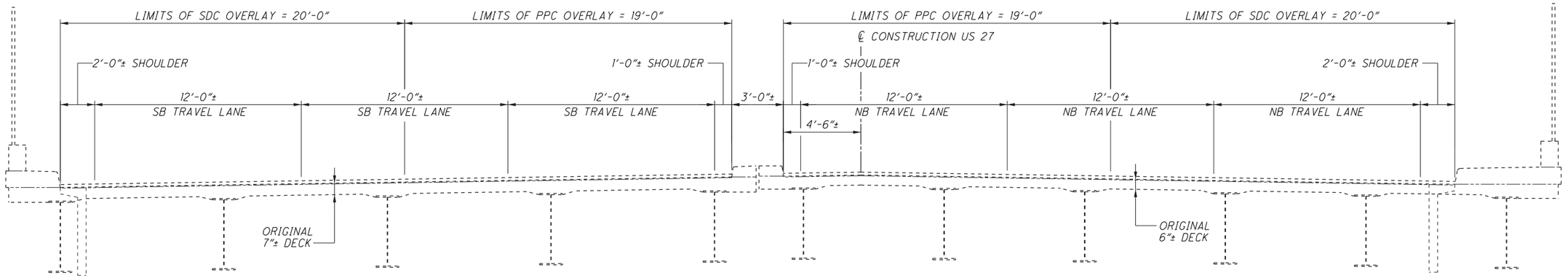
DESIGN AGENCY: CARPENTER MARTY transportation

DESIGNED	DRAWN	REVIEWED	DATE
STK	STK	WHM	11-15-17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AMR		3101738	

HAMILTON COUNTY
STA. 719+87.12
STA. 722+87.53

SITE PLAN
BRIDGE NO. HAM-27-1408
U.S. 27 OVER I.R. 275

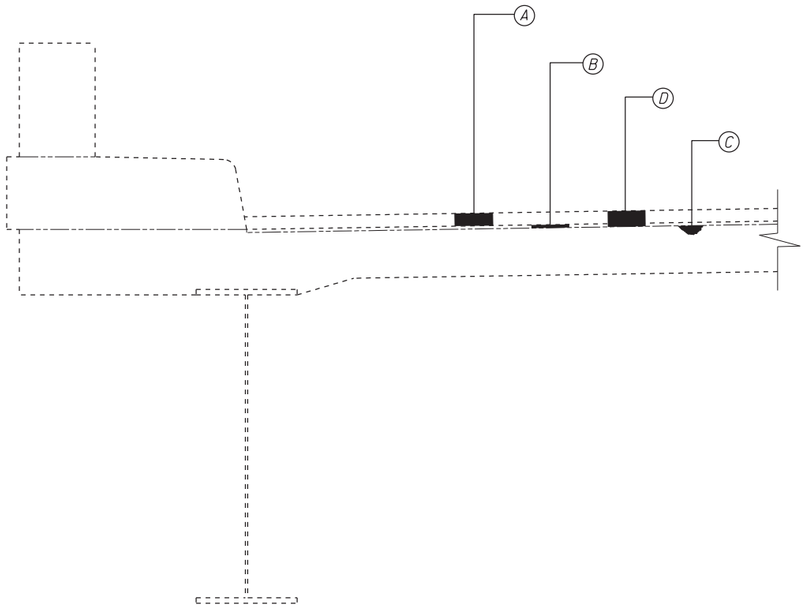
D08-BM-FY2019
PID No. 87127



TRANSVERSE SECTION

NOTES

1. APPLY 2'-0" WIDE HMWM RESIN CENTERED ON LONGITUDINAL PHASE CONSTRUCTION JOINTS. PAYMENT FOR ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND APPLY THE HMWM RESIN SHALL BE MADE AT THE UNIT PRICE BID PER SQUARE YARD OF EITHER ITEM 530, SPECIAL - STRUCTURES, POLYESTER POLYMER CONCRETE OVERLAY (2¼" THICK) OR ITEM 848, SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2½" THICK).
2. PAYMENT FOR ¼" SCARIFICATION FOR THE AREA TO RECEIVE PPC OVERLAY TO BE INCLUDED FOR PAYMENT WITH ITEM 530, SPECIAL - STRUCTURES, POLYESTER POLYMER CONCRETE OVERLAY (2¼" THICK).
3. CONSTRUCTION JOINTS SHALL NOT BE PLACED IN THE WHEEL PATH.



OVERLAY DETAIL

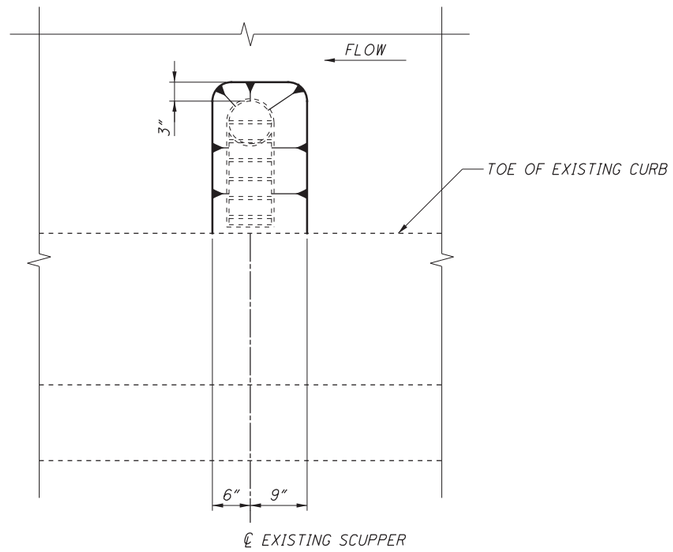
PROPOSED WORK

Ⓐ - REMOVE EXISTING 2"± LATEX MODIFIED CONCRETE OVERLAY.

Ⓑ - HYDRODEMOLIZE ½" OF THE ORIGINAL DECK THAT WILL RECEIVE SDC OVERLAY AND SCARIFY ¼" OF THE ORIGINAL DECK THAT WILL RECEIVE PPC OVERLAY.

Ⓒ - HAND CHIPPING AND REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY

Ⓓ - PLACE 2½" SUPERPLASTICIZED DENSE CONCRETE OVERLAY OR 2¼" POLYESTER POLYMER CONCRETE OVERLAY



SCUPPER OVERLAY DETAIL

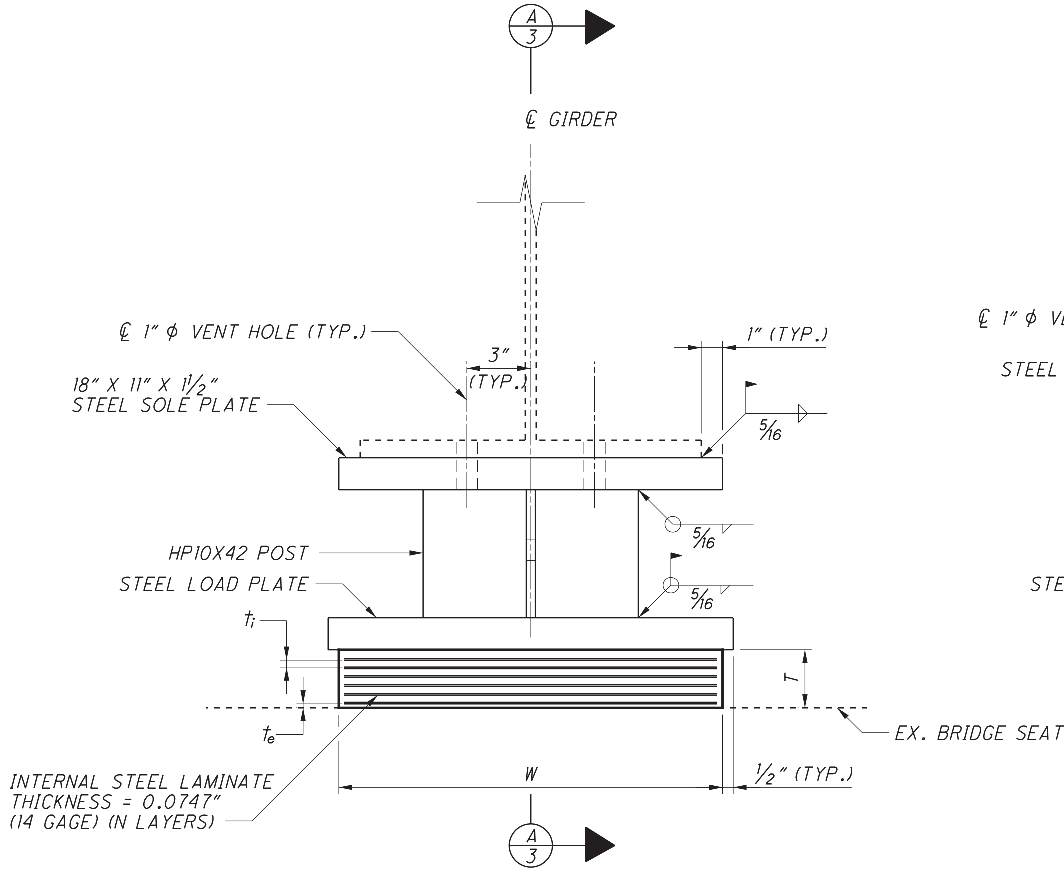
P:\ODT\08\0711_D08 Bridge Maintenance\87127_D08-BM-FY2018\Design\Structures\HAM027_1408C\Sheets\027_1408C_ST001.dgn Sheet 3/2/2018 11:25:29 AM CMT006

DESIGN AGENCY
CARPENTER MARTY transportation
6812 SINGLETREE DR. COLUMBUS, OH 43229
ARCHITECTS · ENGINEERS

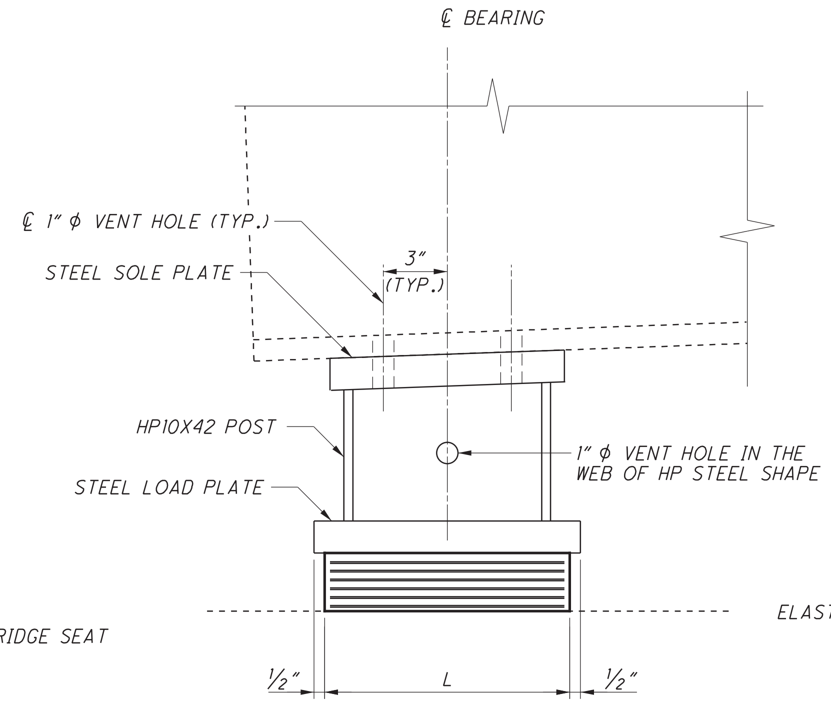
DESIGNED STK
DRAWN STK
REVIEWED WHM
DATE 11-15-17
CHECKED AMR
REVISED
STRUCTURE FILE NUMBER 3101738

SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-27-1408
U.S. 27 OVER I.R. 275

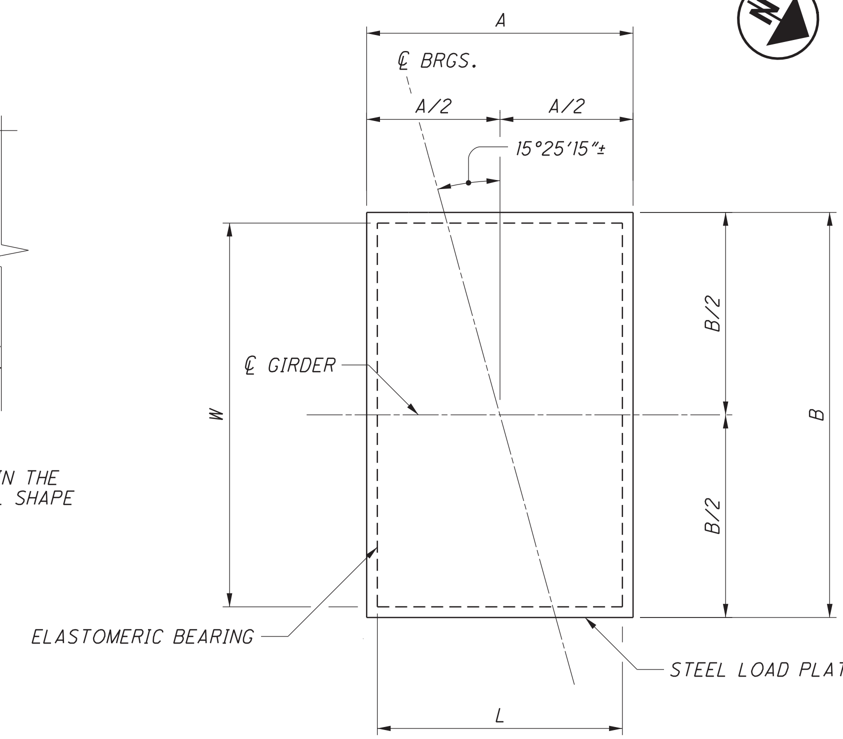
D08-BM-FY2019
PID No. 87127



LAMINATED ELASTOMERIC EXPANSION BEARING REAR AND FORWARD ABUTMENT



A/3 SECTION



ELASTOMERIC BEARING PAD AND STEEL LOAD PLATE PLAN

NOTES

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

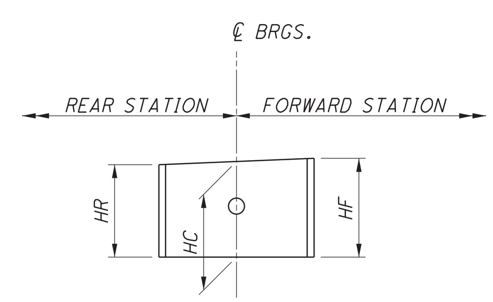
2. STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. ALL STEEL SHALL BE ASTM A709 GRADE 50 AND BE COATED WITH A SHOP APPLIED, INORGANIC ZINC PRIME COAT ACCORDING TO C&MS 514. REPAIR COATING DAMAGED BY WELDING ACCORDING TO C&MS 514.22. FIELD PAINTING OF INTERMEDIATE AND FINISH COATS IS REQUIRED. PAINTING AND REPAIRS SHALL BE MADE AT THE UNIT PRICE BID PER EACH OF ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE).

3. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE FINAL HP SECTION HEIGHT BY SUBTRACTING THE EXISTING BEAM SEAT ELEVATION AND PROPOSED BEARING HEIGHT FROM THE EXISTING BOTTOM OF BEAM ELEVATION AT EACH BEARING LOCATION. THIS HP SECTION HEIGHT IS A CONTRACTOR CALCULATED DIMENSION AND ANY SHIMS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER.

   FINAL HP SECTION HEIGHT = (CONTRACTOR'S BOTTOM OF STEEL ELEVATION)-(EXISTING BEAM SEAT ELEVATION)-(BEARING HEIGHT)

4. BASIS OF PAYMENT: PAYMENT FOR ALL MATERIALS, LABOR, DRILLING OF HOLES IN BEAM FLANGES AND PLATES, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE ELASTOMERIC BEARINGS FOR THE BEAMS SHALL BE MADE AT THE UNIT PRICE BID PER EACH OF ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE). ALL COST ASSOCIATED WITH THE HP SECTIONS AND SOLE PLATES ARE CONSIDERED INCIDENTAL TO ITEM 516.

5. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE BEARING LOCATIONS ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UPSTATION. ALL MARKS SHALL BE PERMANENT AND VISIBLE AFTER BEARING IS INSTALLED.



BEVELED HP10X42 DETAIL

ELASTOMERIC BEARINGS

LOCATION	BEARING DIMENSIONS						STEEL LOAD PLATE			REACTIONS*		MAXIMUM TOTAL LOAD
	L	W	t_i	t_e	T	N	A	B	THICKNESS	DL	LL	
ABUTMENTS	11½"	18"	0.4375"	0.25"	3.3232"	6	12½"	19"	1½"	90.0 k	57.45 k	147.45 k

* REACTIONS ARE UNFACTORED

LEGEND

t_i - THICKNESS OF INTERNAL LAYERS

t_e - THICKNESS OF EXTERNAL LAYER

T - TOTAL THICKNESS OF ELASTOMERIC BEARING

N - NUMBER OF STEEL LAMINATES AND INTERNAL LAYERS
INTERNAL STEEL LAMINATE THICKNESS = 0.0747 (14 GAGE)

HP10X42 HEIGHT (H)

REAR ABUTMENT			FORWARD ABUTMENT		
GIRDER	LOCATION	H (IN.)	GIRDER	LOCATION	H (IN.)
1	HR	4 9/16±	1	HC	5 3/8±
	HC	4 5/8±			
	HF	4 11/16±			
2	HR	5±	2	HC	5 1/8±
	HC	5 1/16±			
	HF	5 1/8±			
3	HR	5 1/16±	3	HC	5 3/8±
	HC	5 1/8±			
	HF	5 3/16±			
4	HR	5 1/16±	4	HC	5 1/16±
	HC	5 1/8±			
	HF	5 3/16±			
5	HR	4 3/4±	5	HC	5 1/4±
	HC	4 13/16±			
	HF	4 7/8±			
6	HR	5 1/4±	6	HC	5 1/4±
	HC	5 5/16±			
	HF	5 3/8±			
7	HR	5 3/16±	7	HC	5 3/8±
	HC	5 1/4±			
	HF	5 5/16±			
8	HR	5 3/16±	8	HC	5 5/16±
	HC	5 1/4±			
	HF	5 5/16±			
9	HR	4 15/16±	9	HC	5 3/16±
	HC	5±			
	HF	5 1/16±			
10	HR	4 11/16±	10	HC	5 3/16±
	HC	4 3/4±			
	HF	4 13/16±			
11	HR	5 1/16±	11	HC	4 15/16±
	HC	5 1/8±			
	HF	5 3/16±			

DESIGN AGENCY
CARPENTER MARTY transportation
6612 SINGLETREE DR. COLUMBUS, OH 43229
REVIEWED WHM DATE 11-15-17
STRUCTURE FILE NUMBER 3101738
DRAWN AMR REVISED
DESIGNED AMR CHECKED STK

BEARING DETAILS
BRIDGE NO. HAM-27-1408
U.S. 27 OVER I.R. 275