

J:\20190025\DOT\NIF BEL-7-IL52-IL87-12.79 (PID 10324)\BEL\10324\Roadway\Sheets\10324\_GG001.dgn 2/18/2021 12:46:53 PM bmillar

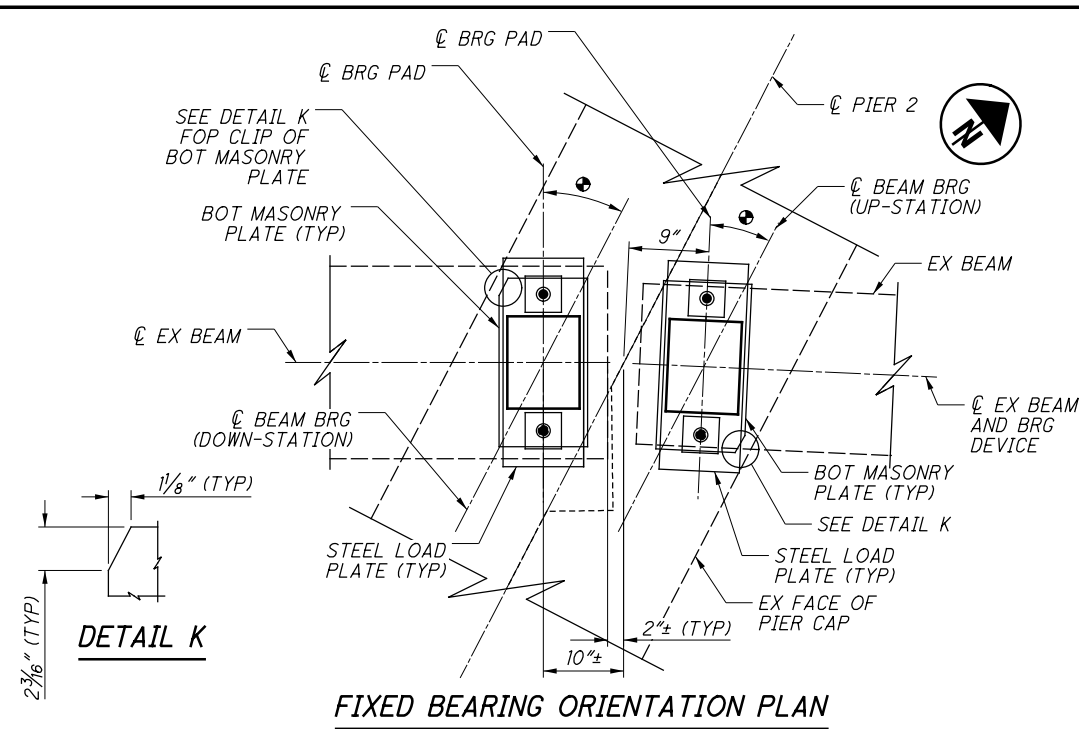
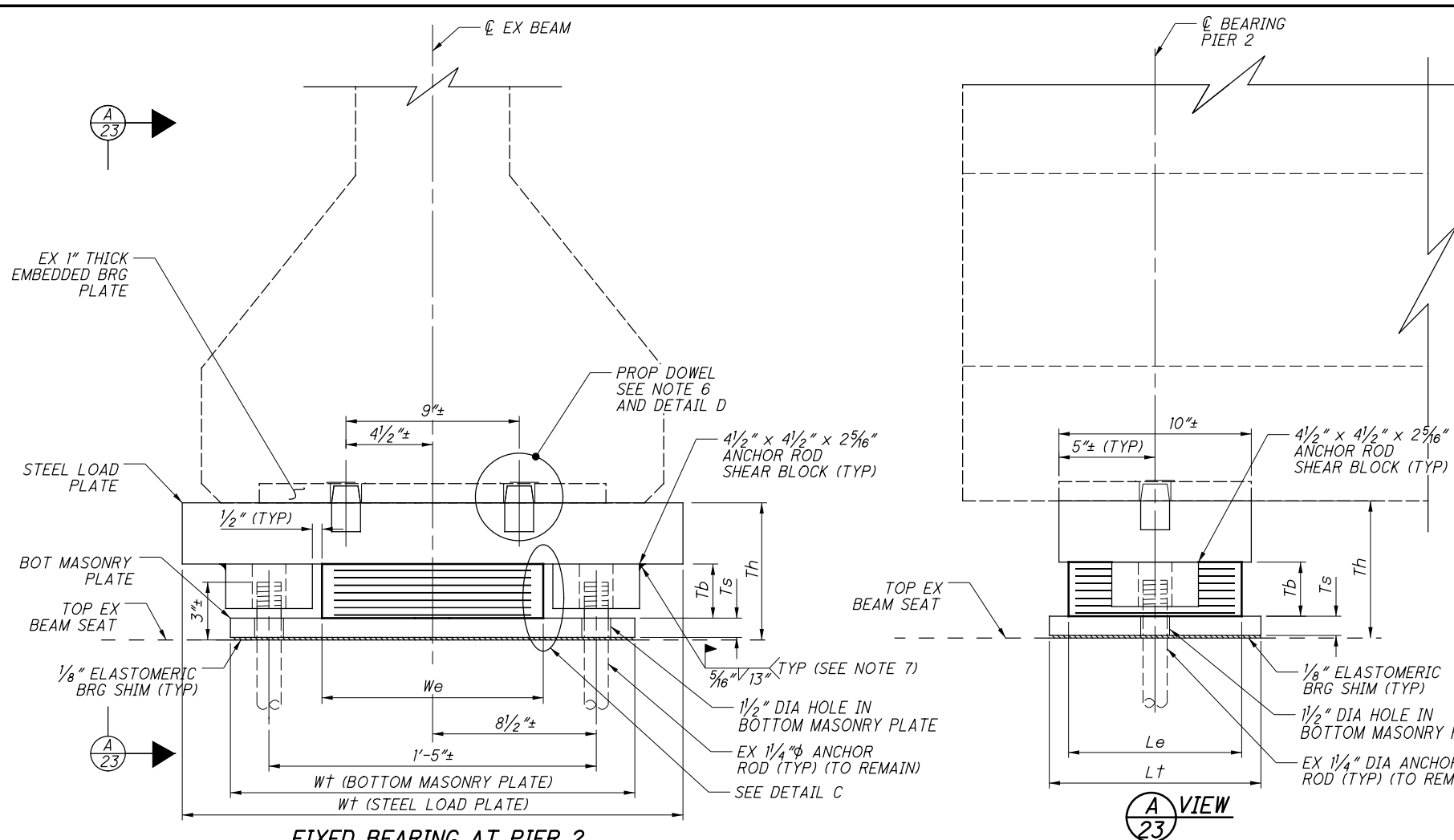
SHEET NUM.												PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	BMM	CHECKED	MJR
9	72	73	75	76	89	93						01/NHS/BR	EXT	TOTAL								
<b>ROADWAY</b>																						
LS												LS	201	11000	LS		CLEARING AND GRUBBING					
	446											446	202	23000	446	SY	PAVEMENT REMOVED					
	1,685											1,685	202	30700	1,685	FT	CONCRETE BARRIER REMOVED					
	1,528											1,528	202	38000	1,528	FT	GUARDRAIL REMOVED					
	64											64	202	75000	64	FT	FENCE REMOVED					
					29							29	203	10000	29	CY	EXCAVATION					
					144							144	203	20000	144	CY	EMBANKMENT					
			1,342									1,342	204	10000	1,342	SY	SUBGRADE COMPACTION					
			2									2	204	45000	2	HOUR	PROOF ROLLING					
		1,212.5										1,212.5	606	15050	1,212.5	FT	GUARDRAIL, TYPE MGS					
		100										100	606	15250	100	FT	GUARDRAIL, TYPE MGS QUARTER POST SPACING					
		2										2	606	26150	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)					
		6										6	606	35002	6	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1					
		3										3	606	35102	3	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2					
		64										64	607	23000	64	FT	FENCE, TYPE CLT					
		64										64	607	70000	64	FT	FENCELINE SEEDING AND MULCHING					
		1,381										1,381	622	10100	1,381	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1					
		7										7	622	10200	7	EACH	BARRIER TRANSITION				91	
		9										9	622	25006	9	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1					
		1										1	622	25007	1	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN				92	
		1										1	622	25020	1	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED				92	
<b>EROSION CONTROL</b>																						
				4								4	601	21050	4	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT					
	2											2	659	00100	2	EACH	SOIL ANALYSIS TEST					
	867											867	659	00300	867	CY	TOPSOIL					
	7,807											7,807	659	10000	7,807	SY	SEEDING AND MULCHING					
	390											390	659	14000	390	SY	REPAIR SEEDING AND MULCHING					
	1.05											1.05	659	20000	1.05	TON	COMMERCIAL FERTILIZER					
	1.61											1.61	659	31000	1.61	ACRE	LIME					
	42											42	659	35000	42	MGAL	WATER					
												22,766	832	30000	22,766	EACH	EROSION CONTROL					
<b>DRAINAGE</b>																						
				0.3								0.3	602	20000	0.3	CY	CONCRETE MASONRY					
				72								72	605	11110	72	FT	6" SHALLOW PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC					
				126								126	605	14020	126	FT	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC					
				235								235	611	00510	235	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS					
				13								13	611	06100	13	FT	15" CONDUIT, TYPE C					
				127								127	611	06700	127	FT	15" CONDUIT, TYPE F					
				1								1	611	98180	1	EACH	CATCH BASIN, NO. 3A					
				2								2	611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET					
				1								1	611	99900	1	EACH	DRAINAGE STRUCTURE, MISC.: INLET, NO. 4 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN				9	
<b>PAVEMENT</b>																						
			157									157	302	46000	157	CY	ASPHALT CONCRETE BASE, PG64-22					
			261									261	304	20000	261	CY	AGGREGATE BASE					
			2,439									2,439	407	10000	2,439	GAL	TACK COAT					
			1,214									1,214	442	20001	1,214	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448), AS PER PLAN (PG70-22M)				9	
			185									185	442	20200	185	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)					
		249										249	609	24510	249	FT	CURB, TYPE 4-C					
					3.22							3.22	618	40600	3.22	MILE	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)					

**GENERAL SUMMARY**

**BEL-7-11.48**

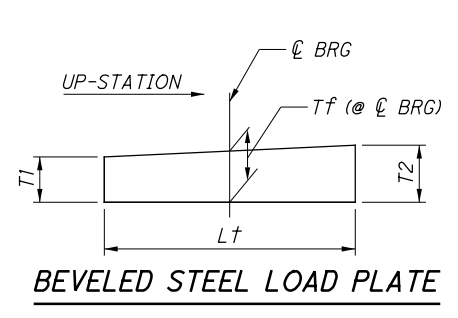
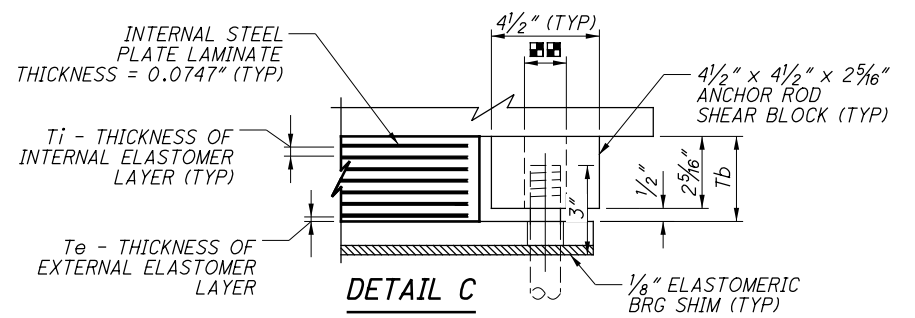


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**NOTES**

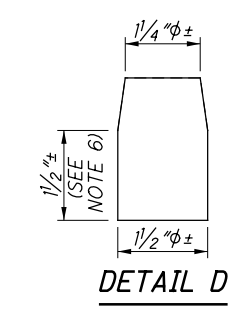
- ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION 1, SECTION 14.6.5 (METHOD B) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION AND THE 2020 ODOT BRIDGE DESIGN MANUAL (BDM).
- LOAD PLATES AND MASONRY PLATES: ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE (REAR ABUTMENT, PIER, OR FORWARD ABUTMENT), AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED. THE STEEL FOR THE STEEL LOAD PLATES, MASONRY PLATES AND SHEAR BLOCKS SHALL BE ASTM A709 GRADE 50.
- THE STEEL LOAD PLATES AND STEEL MASONRY PLATE (IF APPLICABLE) SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
- THE PROPOSED STEEL LOAD PLATE, SHEAR BLOCKS AND MASONRY PLATES SHALL HAVE A THREE-COAT PAINTED SYSTEM PER ITEM 514. SHALL BE INCLUDED WITH THE RESPECTIVE BEARING ITEM FOR PAYMENT.
- THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE). MASONRY PLATES, STEEL LOAD PLATES, SHEAR BLOCKS, PAINTING AND ELASTOMER BEARING SHIMS SHALL BE INCLUDED WITH THE BEARINGS FOR PAYMENT.
- PRESS FIT NEW DOWEL INTO STEEL LOAD PLATE. THE DOWEL SHALL BE ASTM A36 GRADE 36 STEEL.
- TOTAL  $5\frac{1}{16}$ " WELD LENGTH FOR THE ANCHOR ROD SHEAR BLOCK TO THE STEEL LOAD PLATE SHALL BE A MINIMUM OF 13". THE SIDE OF THE SHEAR BLOCK ADJACENT TO THE ELASTOMERIC BEARING SHALL NOT BE WELDED.



SKEW, $\theta$		
PIER 2 - LEFT BRIDGE		
BEAM	UP-STATION	DOWN-STATION
1 - 12	24° 50' 55" RF	27° 25' 32" RF

SKEW, $\theta$		
PIER 2 - RIGHT BRIDGE		
BEAM	UP-STATION	DOWN-STATION
1 - 12	25° 55' 37" RF	28° 01' 19" RF



ELASTOMERIC BEARING DATA														STEEL LOAD PLATES	TOTAL HEIGHT	
LOCATION	BEAM(S)	TYPE	NUMBER REQ'D	UNFACTORED DL (KIPS)	UNFACTORED LL (KIPS) WITHOUT IMPACT	UNFACTORED FUTURE WEARING SURFACE (KIPS)	MAXIMUM DESIGN LOAD (KIPS)	$L_e$ (IN)	$W_{e1}$ (IN)	$t_i$ (IN)	$t_e$ (IN)	NUMBER OF $t_i$ 's	NUMBER OF STEEL LAMINATES	$T_b$ (IN)	TOTAL THICKNESS AT $\angle$ BRG (IN)	TOTAL THICKNESS AT $\angle$ BRG $T_h$ (IN)
PIER 2 - DOWN-STATION (SPAN 2)	1 - 12	FIXED	12	80.53	70.42	14.93	165.88	9	11.5	0.3125	0.1250	7	7	2.84	4.00	6.84
PIER 2 - UP-STATION (SPAN 3)	1 - 12	FIXED	12	53.94	63.91	12.73	130.58	9	11.5	0.3125	0.1250	7	7	2.84	4.00	6.84

LOCATION	BEAMS	STEEL LOAD PLATE DATA										TOTAL THICKNESS AT $\angle$ BRG (IN)
		BOTTOM MASONRY PLATE			STEEL LOAD PLATE					TOTAL THICKNESS AT $\angle$ BRG (IN)		
		$L_t$ (IN)	$W_t$ (IN)	$T_s$ (IN)	BEVEL (YES/NO)	$L_t$ (IN)	$W_t$ (IN)	$T_f$ (IN)	$T_1$ (IN)		$T_2$ (IN)	
PIER 2 - DOWNSTATION (SPAN 2)	1 - 12	11.00	21.00	1.00	NO	10.00	26.00	3.00	-	-	4.00	
PIER 2 - UPSTATION (SPAN 3)	1 - 12	11.00	21.00	1.00	YES	10.00	26.00	3.00	2.88	3.12	4.00	

- LEGEND**
- $\theta$  - SKEW BETWEEN  $\angle$  PIER BEARINGS AND  $\angle$  BEARING PAD
  - $\square$  -  $1\frac{1}{4}$ " DIA HOLE THROUGH SHEAR BLOCK