

1.0 GENERAL

- 1.1 THE CONTRACTOR MUST VERIFY ALL DIMENSIONS PRIOR TO FABRICATION TO ENSURE ACCURACY OF THE EXPANSION JOINT.
- 1.2 ALL WORK SHALL COMPLY WITH THE STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (ADOPTED 1-1-07) AND REVISED BY SUPPLEMENT SPECIFICATIONS DATED 1-1-10.
- 1.3 THE EXPANSION JOINTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 520 "BRIDGE EXPANSION JOINTS" OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS "MODULAR EXPANSION JOINT".
- 1.4 DESIGN IS PER SECTION 14 OF 2010 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- 1.5 WATSON BOWMAN ACME'S WABO X-CEL EXPANSION JOINT SYSTEM MEETS THE REQUIREMENTS FOR "SWIVEL" MODULAR EXPANSION JOINTS PER SECTION "MODULAR EXPANSION JOINT" OF THE SPECIAL PROVISIONS
- 1.6 IN CASE OF DISCREPANCY, THE FOLLOWING HIERARCHY OF CONTRACT DOCUMENTS SHALL BE FOLLOWED PER SECTION 105.05 "COORDINATION OF THE CONTRACT DOCUMENTS" OF THE STANDARD SPECIFICATIONS:

SPECIAL PROVISIONS
PLANS
RECURRING SPECIAL PROVISIONS
SUPPLEMENTAL SPECIFICATIONS
AND STANDARD SPECIFICATIONS

DETAIL PLANS HOLD OVER HIGHWAY STANDARDS

CALCULATED DIMENSIONS HOLD OVER SCALED DIMENSIONS

THE HIGHWAY STANDARDS INDICATED BY THE REVISION NUMBER LISTED IN THE INDEX OF HIGHWAY STANDARDS ON THE PLANS SHALL HOLD OVER HIGHWAY STANDARDS LISTED ANYWHERE ELSE

STANDARD SPECIFICATION CRITERIA

SPECIAL PROVISION CRITERIA

WATSON BOWMAN ACME IS AISC CERTIFIED ACCORDING TO CATEGORY SBr (SIMPLE STEEL BRIDGES).

A QUALIFIED TECHNICAL SERVICE REPRESENTATIVE SHALL BE PRESENT TO SUPERVISE INSTALLATION.

3.2.1 CONTACT MIKE FERRO AT (716) 817-5479 FOR FIELD SERVICE PRICING AND SCHEDULING.

3.2.2 TWO (2) WEEKS PRIOR NOTICE OF REQUIREMENTS FOR FIELD SERVICE PERSONNEL IS RECOMMENDED.

MATERIALS

ALL STRUCTURAL AND PERMANENT MATERIALS SHALL BE OF DOMESTIC ORIGIN, AND MATERIAL CERTIFICATION STATING ALL SUCH MATERIALS ARE "MELTED AND MANUFACTURED" IN THE UNITED STATES OF AMERICA SHALL BE SUBMITTED.

ALL STEEL EXTRUSIONS AND PLATES USED FOR THE EXPANSION JOINTS SHALL BE IN ACCORDANCE WITH ASTM A 709 (AASHTO M270, GRADE 50). ALL STEEL PLATES USED FOR THE BARRIER CURB ASSEMBLIES WILL BE IN ACCORDANCE WITH ASTM A 709 (AASHTO M270, GRADE 50).

THE STRIP SEAL GLAND SHALL BE POLYCHLOROPRENE (NEOPRENE) SHALL BE IN ACCORDANCE WITH ASTM D 5973 AND ASTM D 2000 PER STANDARD SPECIFICATION; AS NOTED BELOW:

REQUIRED PHYSICAL PROPERTIES	ASTM PROCEDURE	PHYSICAL REQUIREMENTS
TENSILE STRENGTH	D-412	1500 psi (10,300 kPa) MIN.
ULTIMATE ELONGATION	D-412	200 % MIN.
DUROMETER - SHORE A	D-2240	50 MIN.
OZONE RESISTANCE PROCEDURE "B" -D 518 100 PPHM OZONE FOR 70 HOURS @ 100°F (38°C) SAMPLE UNDER 20% STRAIN	D-1149	NO CRACKS
LOW TEMPERATURE BRITTLENESS (METHOD "A") NON-BRITTLE AFTER 3 MIN. @ 34°F (1°C)	D-2137	PASS
COMPRESSION SET, 70 h at 212°F (100°C) (TEST EXCEEDS THE PROJECT REQUIREMENTS OF A 22 HOUR TEST AT 212°F UNDER ASTM D 395 METHOD B)	D 395 METHOD B	35% MAX.

IRONING DURING VULCANIZATION
(METHOD "B")

BOLTS, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-325, A-563 AND F-436 RESPECTIVELY. ALL HARDWARE SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM B 695 (AASHTO M298), CLASS 50 OR HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A 153 (AASHTO M232), UNLESS NOTED OTHERWISE

AND LUBRICANT. PRIMA-LUB IS A ONE-COMPONENT BLEND OF URETHANE AND AROMATIC SOLVENTS FOR USE IN LUBRICATING PREFORMED BRIDGE SEALS FOR INSERTION AND ADHESION TO METAL AND CONCRETE SURFACES. PRIMA-LUB SHALL BE IN ACCORDANCE WITH ASTM D-4070 AND WITH THE FOLLOWING REQUIREMENTS:

REQUIRED PHYSICAL PROPERTIES

RESIN TYPE:	MOISTURE CURE POLYURETHANE
HYDROCARBON SOLVENT:	AROMATIC NAPHTHA
WEIGHT SOLIDS:	72 - 73%
VOLUME SOLIDS:	66 - 68%
WEIGHT/GALLON:	8.4 - 8.6 lbs/gal
PRACTICAL COVERAGE:	400 - 500 ft./GALLON - SMALL SEALS (STRIP SEALS) 100 - 200 ft./GALLON - LARGE SEALS (COMPRESSION SEALS)
FLASHPOINT:	106°F (40.5°C)
SHELF LIFE:	ONE YEAR FROM DATE OF MANUFACTURE
MEETS OR EXCEEDS ASTM D-4070	
FILM STRENGTH ASTM D-412	2000 psi (MIN.)
% ELONGATION (BEFORE BREAK)	350 (MIN.)
WORKABLE TEMPERATURE RANGE	5 - 120°F (-15 - 49°C)

- 4.6 ALL STUDS SHALL CONFORM TO ASTM A 108 (AASHTO M169) GRADES 1015, 1018 OR 1020.
- 4.7 THE STAINLESS STEEL IS USED ON THE SLIDING SURFACES OF THE SUPPORT BARS THAT CONTACT THE TEFLON SURFACE OF THE BEARING AND COMPRESSION SPRING. THE STAINLESS STEEL SHALL BE ASTM A 240, TYPE 304, NO. 4 FINISH OR NO 8 FINISH AS NOTED HERE IN.
- 4.8 THE UPPER AND LOWER YOKE BEARINGS ARE COMPOSED OF URETHANE, EPOXY AND 3/64" THICK TEFLON SHEET ON WHICH THE SUPPORT BAR SLIDES. THE PHYSICAL PROPERTIES OF THE URETHANE ARE:

REQUIRED PHYSICAL PROPERTIES	ASTM PROCEDURE	PHYSICAL REQUIREMENTS
SHORE DUROMETER	D-2240	90A
ELONGATION AT BREAK (%)	D-412	425
TENSILE STRENGTH (psi)	D-412	6500
199% MODULES (psi)	D-412	1200
300% MODULES (psi)	D-412	2400
TEAR STRENGTH (pli)	D-470	110
REBOUND RESILIENCE (%)	D-2632	40

4.9 BEARING IS COMPOSED OF URETHANE, AASHTO 62D.

4.10 DU BEARINGS AND WASHERS ARE CONTAINED WITHIN THE EQUIDISTANCE MECHANISM. THE DU BEARINGS SHALL HAVE THE FOLLOWING PHYSICAL PROPERTIES:

CONSTRUCTION BACKING INNERSTRUCTURE BEARING SURFACE	STEEL POROUS COPPER-TIN PTFE / LEAD
LUBRICATION	NOT REQUIRED
LOAD CAPACITY COMPRESSIVE STRENGTH STATIC LOAD CAPACITY DYNAMIC LOAD CAPACITY	44,000 psi 36,000 psi 20,000 psi
SPEED	1,000 pfm, DRY
PV LIMIT CONTINUOUS INTERMITTENT	50,000 psi-fpm 100,000 psi-fpm
TEMPERATURE RANGE	-328 TO +563°F
COEFFICIENT OF FRICTION STATIC (FIRST MOVEMENT MAY BE GREATER FOR A LONG DWELL PERIOD UNDER LOAD) DYNAMIC	0.02 - 0.20 0.02 - 0.20

5.0 INSPECTION REQUIREMENTS

- 5.1 IN LIEU OF AISC CERTIFICATION UNDER CATEGORY MBr (MAJOR STEEL BRIDGES) IN HOUSE INSPECTION BY AN INDEPENDENT (THIRD PARTY) IS REQUIRED. WELDING SHALL BE OBSERVED BY A CERTIFIED WELDING INSPECTOR (CWI) IN ADDITION TO WATSON BOWMAN ACME'S OWN WELDING INSPECTION. THIRD PARTY NON DESTRUCTIVE EXAMINATION (NDE) SHALL BE PERFORMED BY INSPECTOR(S) CERTIFIED AS LEVEL II IN APPLICABLE METHODS, AND ALL COMPLETE PENETRATION BEAM-TO-BAR WELDS AND BUTT JOINTS IN BEAMS SHALL BE UT INSPECTED AND 10% OF FILLETS AND PARTIAL PENETRATION WELDS SHALL BE MT INSPECTED PER SPECIAL PROVISIONS "MODULAR EXPANSION JOINT".

- 5.2.1 DURING FABRICATION OF THE EXPANSION JOINT, WATSON BOWMAN ACME SHALL PROVIDE FULL TIME QUALITY CONTROL INSPECTION TO INSURE THAT THE MATERIALS AND WORKMANSHIP MEET OR EXCEED THE MINIMUM REQUIREMENTS OF THE CONTRACT.

- 5.2.2 QUALITY CONTROL INSPECTION SHALL BE THE RESPONSIBILITY OF A QUALITY CONTROL GROUP, WHICH SHALL BE INDEPENDENT OF THE FABRICATION GROUP.

6.0 FABRICATION

- 6.1 FABRICATION SHALL BE IN ACCORDANCE WITH WATSON BOWMAN ACME'S QUALITY CONTROL MANUAL AND MANUFACTURING TOLERANCES.
- 6.2 THE EXPANSION JOINT OPENING SHALL BE PRESET BY WATSON BOWMAN ACME TO THE JOINT OPENING NOTED AT 50°F (SEE JOINT INFORMATION CHART, SHEET 5). FINAL ADJUSTMENTS SHALL BE MADE IN THE FIELD BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER IN CHARGE, PRIOR TO FINAL CONCRETE PLACEMENT.
- 6.3 ALL NEOPRENE/STEEL CONTACT SURFACES SHALL BE BLAST CLEANED TO PERMIT A HIGH STRENGTH BOND OF THE LUBRICANT/ADHESIVE BETWEEN THE NEOPRENE SEAL AND MATING METAL SURFACES. THE NEOPRENE SEALS SHALL BE SHOP INSTALLED BY WATSON BOWMAN ACME USING INSTALLATION TOOLS AND BONDED IN PLACE WITH PRIMA-LUB ADHESIVE. THE ADHESIVE SHALL BE APPLIED TO ALL NEOPRENE/STEEL CONTACT SURFACES. THE NEOPRENE SEAL SHALL BE SUPPLIED IN ONE CONTINUOUS PIECE.
- 6.4 EXPANSION JOINT ASSEMBLIES SHALL BE WELDED IN ACCORDANCE WITH ANSI/AASHTO/AWS BRIDGE WELDING CODE D1.5.
- 6.5 STUDS MAY BE BENT TO AN ANGLE OF 30° TO AVOID INTERFERENCE WITH DECK REINFORCEMENT, OR TO PROVIDE PROPER CONCRETE COVER.
- 6.6 DISTORTED MEMBERS SHALL BE STRAIGHTENED BY MECHANICAL MEANS OR, IF APPROVED BY THE ENGINEER, BY CAREFULLY PLANNED PROCEDURE AND SUPERVISED APPLICATION OF A LIMITED AMOUNT OF LOCALIZED HEAT.
- 6.7 ALL BOLTS FOR EQUIDISTANCE SYSTEM SHALL BE SNUG TIGHT UNLESS OTHERWISE NOTED HEREIN. BOLT INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 14 OF THE QUALITY CONTROL MANUAL. WATSON BOWMAN ACME'S TYPICAL BOLT INSTALLATION METHOD IS SNUG TIGHT. SNUG TIGHT IS DEFINED AS: "THE CONDITION THAT EXISTS WHEN ALL PLIES ARE IN CONTACT". IT CAN BE ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A PERSON USING AN ORDINARY SPUD WRENCH.
- 6.8 ALL WELDING OF THE EXPANSION JOINT AND COVER PLATE ASSEMBLIES SHALL BE EXECUTED USING THE GMAW OR FCAW PROCESSES.

7.0 COATINGS

- 7.1 THE EXPANSION JOINT ASSEMBLY SHALL BE PAINTED IN ACCORDANCE WITH SECTION 506 "CLEANING AND PAINTING METAL STRUCTURES" AND SECTION 1008 "STRUCTURAL STEEL COATINGS" OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS "CLEANING AND PAINTING NEW METAL STRUCTURES."
- 7.2 AREAS TO BE PAINTED SHALL BE BLAST CLEANED ACCORDING TO THE REQUIREMENTS OF SSPC SURFACE PREPARATION SPECIFICATION SP 10 FOR NEAR WHITE BLAST CLEANING.
- 7.2.1 SURFACES SHALL HAVE AN ANCHOR PROFILE OF 1 TO 2.5 mils (25 TO 65 um).
- 7.2.2 THE BLAST CLEANED SURFACES TO BE PAINTED SHALL BE GIVEN A PRIME COAT WITHIN 24 HOURS AFTER CLEANING.
- 7.3 ALL SURFACES OF THE EXPANSION JOINT ASSEMBLY SHALL BE SHOP PAINTED WITH ONE SHOP COAT OF INORGANIC ZINC RICH PRIMER, EXCEPT AREAS IN DIRECT CONTACT WITH THE SEALS AND STAINLESS STEEL SURFACES.
- 7.3.1 THE INORGANIC ZINC-RICH PRIMER SHALL BE A SOLVENT-BASED, MULTIPLE COMPONENT, SELF CURING ALKYL SILICATE ZINC-RICH PAINT WHICH CURES WITHOUT USE OF A SEPARATE CURING SOLUTION AND IS FOR USE ONLY ON BLAST-CLEANED STEEL. THE PRIMER SHALL BE APPLIED BY SPRAY WITH ONLY LIMITED APPLICATION BY BRUSH.
- THE INORGANIC ZINC-RICH PRIMER SHALL BE ACCORDING TO AASHTO M300 TYPE I. THE VOLATILE ORGANIC COMPOUNDS (VOC) SHALL NOT EXCEED 2.8 lb/gal (340 g/L) FOR SHOP PAINTING AS APPLIED WHEN TESTING ACCORDING TO ASTM D 3960.

- 7.4 PARAPET COVER PLATES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123 (AASHTO M111) AND ASTM A 385.

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SE139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

DRAWING ACTION

APPROVED

MARK SYSTEM

REVISIONS PER AECOM COMMENTS

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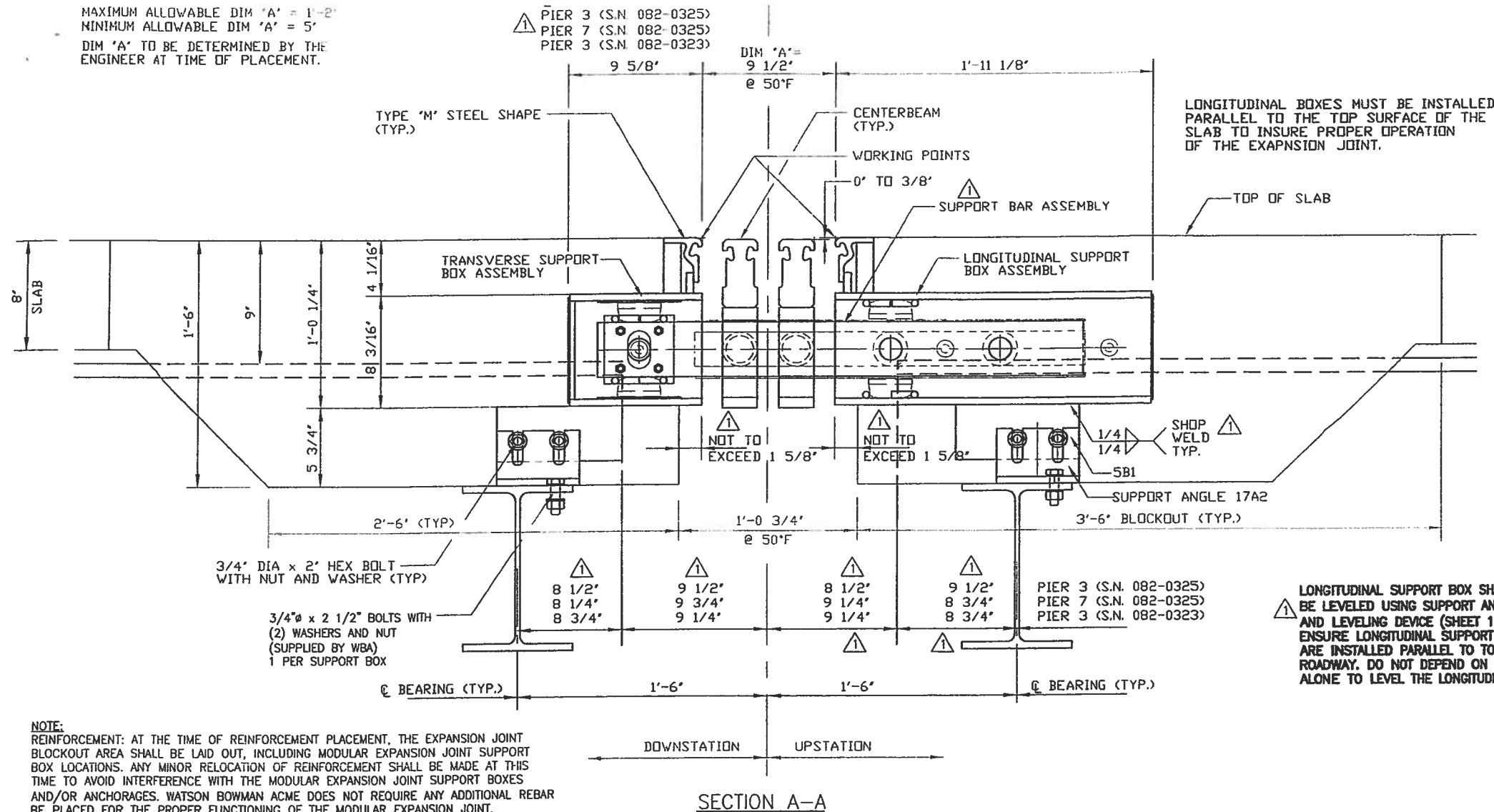
WBA

PROJECT: I-70W OVER I-55, CSX & MDS RAILROADS
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS

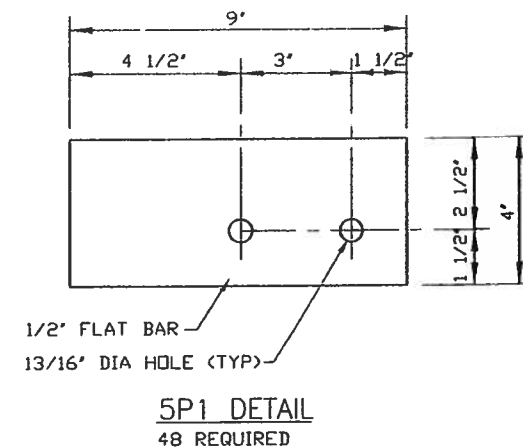
DESIGNED BY	JFW	DATE	3-2-12
CHECKED BY	SRN	DATE	3-12-12
SCALE	NTS	WBA JOB NO.	139041
SHEET NO.	1 OF 21	DRAWING NO.	8-29287

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MAXIMUM ALLOWABLE DIM 'A' = 1'-2"
MINIMUM ALLOWABLE DIM 'A' = 5'
DIM 'A' TO BE DETERMINED BY THE
ENGINEER AT TIME OF PLACEMENT.



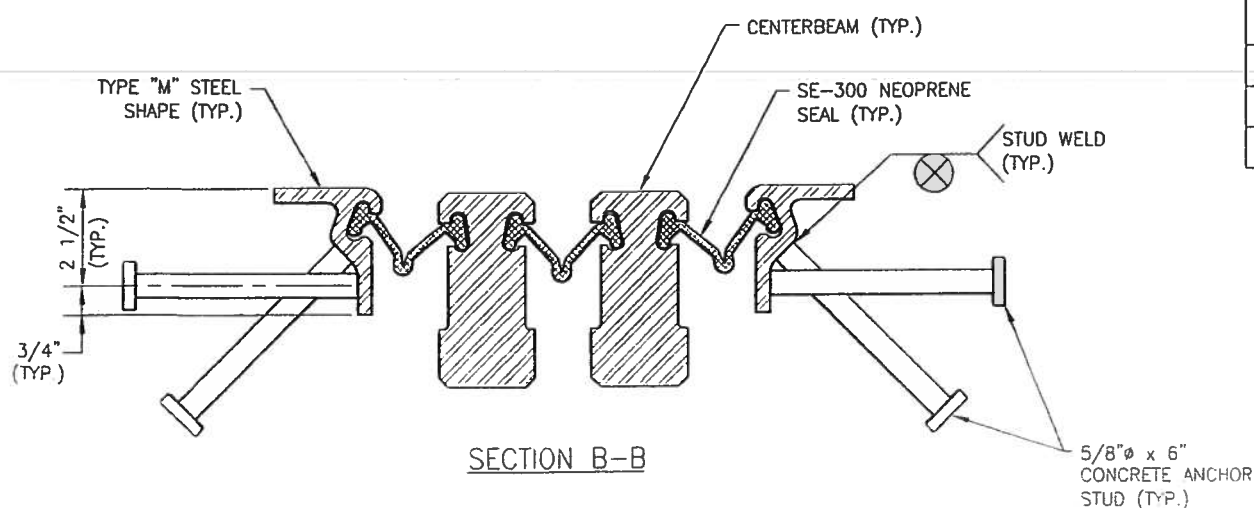
NOTE:
REINFORCEMENT: AT THE TIME OF REINFORCEMENT PLACEMENT, THE EXPANSION JOINT BLOCKOUT AREA SHALL BE LAID OUT, INCLUDING MODULAR EXPANSION JOINT SUPPORT BOX LOCATIONS. ANY MINOR RELOCATION OF REINFORCEMENT SHALL BE MADE AT THIS TIME TO AVOID INTERFERENCE WITH THE MODULAR EXPANSION JOINT SUPPORT BOXES AND/OR ANCHORAGES. WATSON BOWMAN ACME DOES NOT REQUIRE ANY ADDITIONAL REBAR BE PLACED FOR THE PROPER FUNCTIONING OF THE MODULAR EXPANSION JOINT.



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Materials Only

MAY 6 2012

D. Carl Rupp
Engineer of Bridge & Traffic Structures



JOINT INFORMATION CHART			"A" DIMENSIONS (F)								
W.B.A. PRODUCT NO.	LOCATION	QTY.	-10	5	20	35	50	65	80	95	110
SEI139041AC	PIER 3 (SN 082-0325)	1	1'-0 1/16"	11 7/16"	10 3/4"	10 1/8"	9 1/2"	8 7/8"	8 1/4"	7 9/16"	6 15/16"
SEI139041AD	PIER 7 (SN 082-0325)	1	1'-0 1/8"	11 1/2"	10 13/16"	10 3/16"	9 1/2"	8 13/16"	8 3/16"	7 1/2"	6 7/8"
SEI139041AE	PIER 3 (SN 082-0323)	1	1'-0 1/8"	11 1/2"	10 13/16"	10 3/16"	9 1/2"	8 13/16"	8 3/16"	7 1/2"	6 7/8"

THE CHANGE PER 15' IS MEASURED
PERPENDICULAR TO THE JOINT FOR
BOTH NORMAL AND SKEWED JOINTS.

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STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SEI139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

DRAWING ACTION:

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REVISIONS PER AECOM COMMENTS	DATE
1	4-17-2012
2	4-17-2012

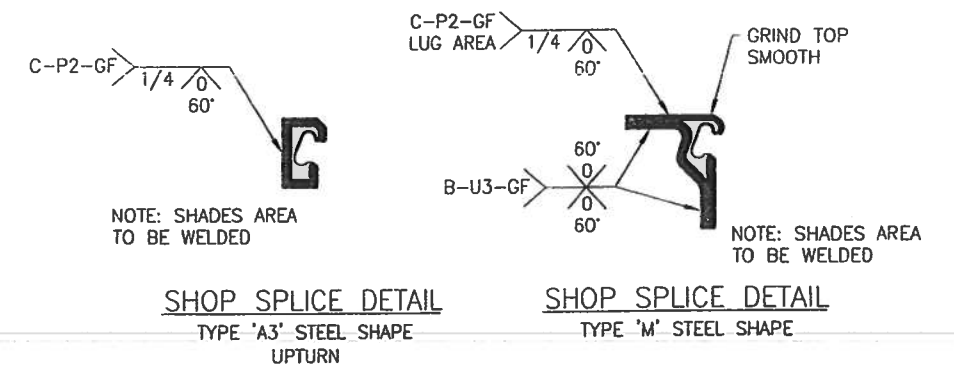
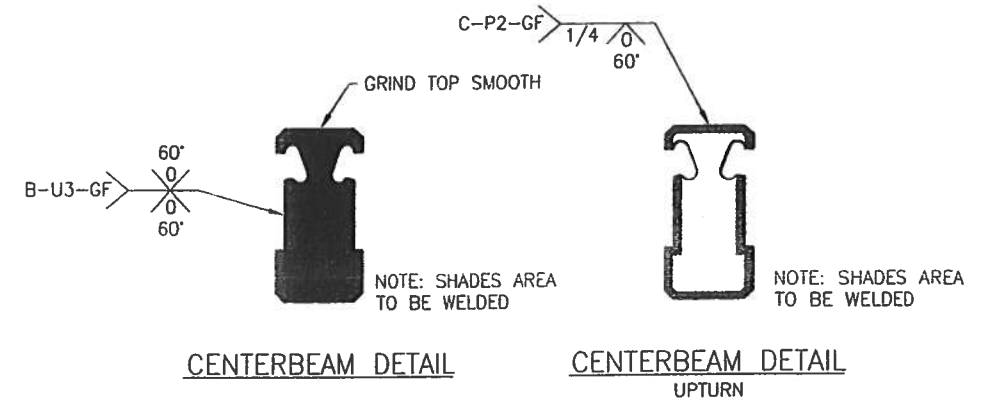
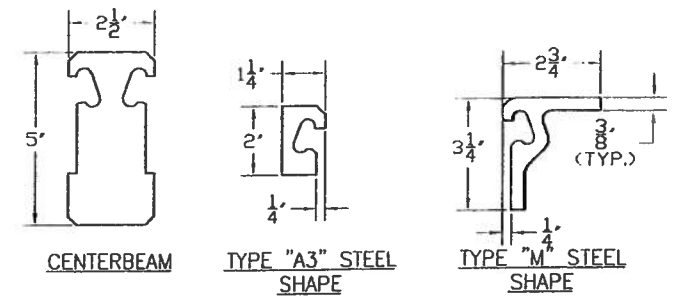
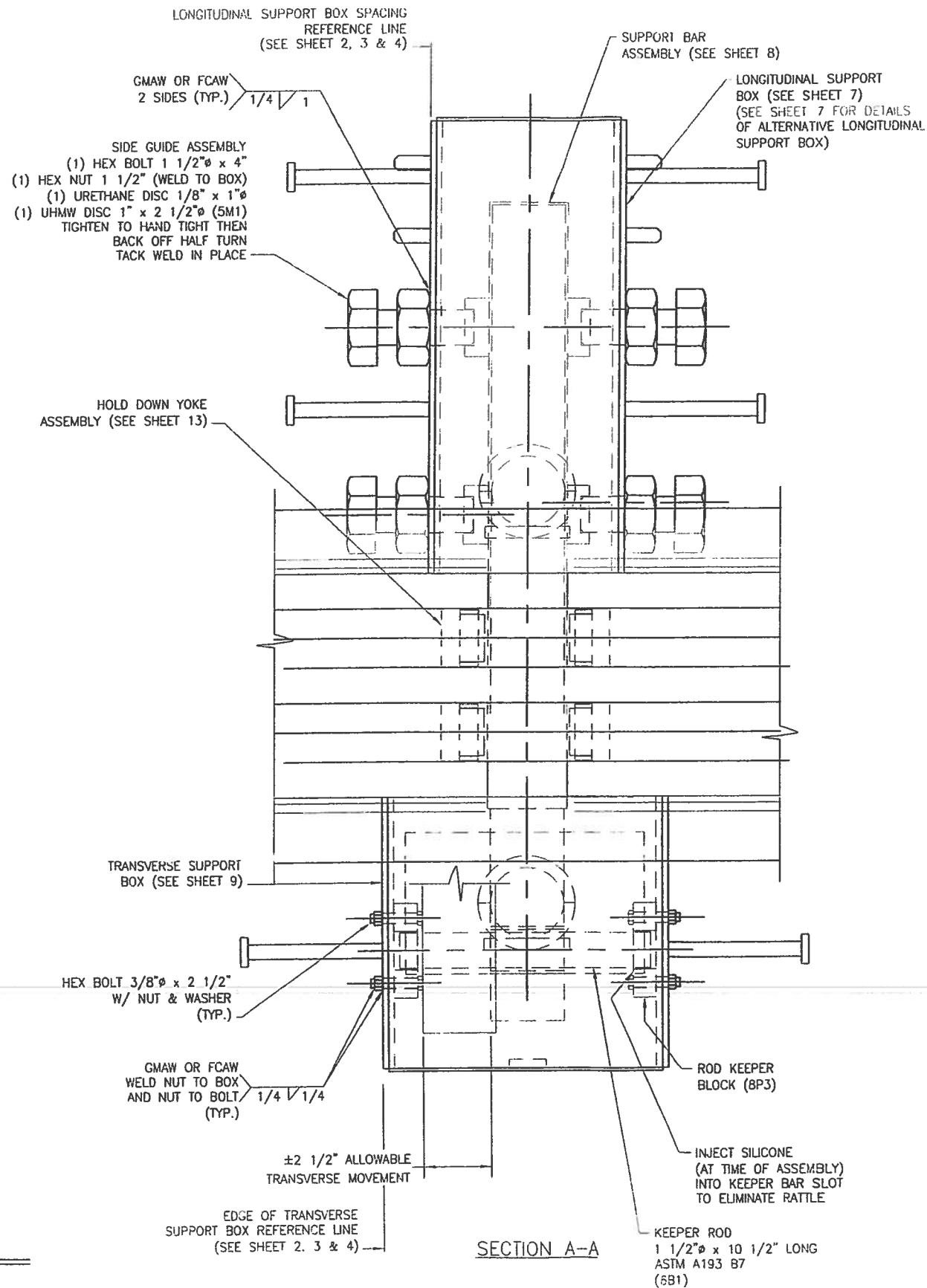
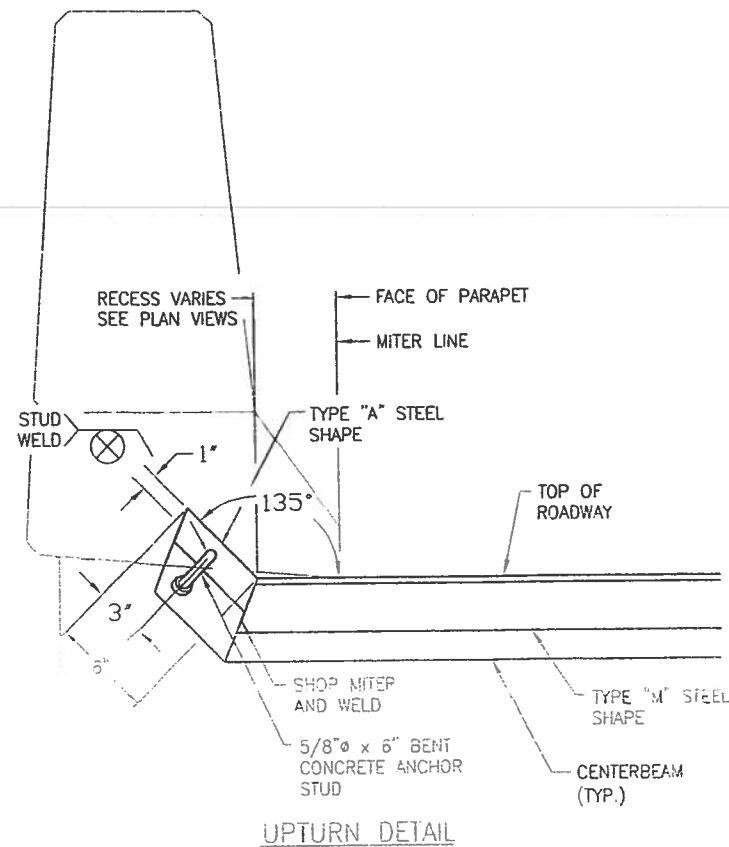
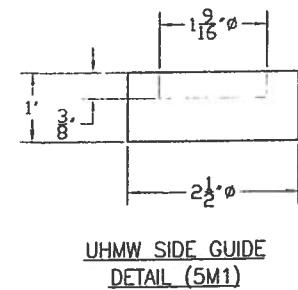
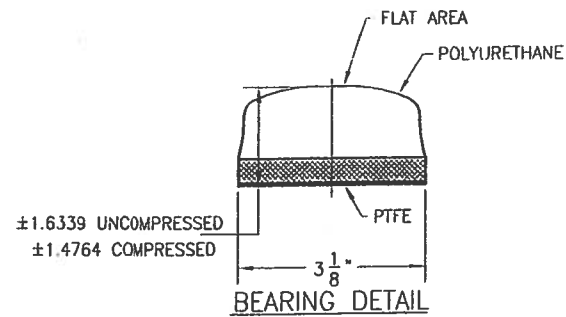
Watson
Bowman
Acme

B-RASP

PROJECT: I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR JOINT EXPANSION JOINT DETAILS

DESIGNED BY JFW	DATE 3-2-12
CHECKED BY SRN	DATE 3-12-12
SCALE NTS	WBA JOB NO. 139041
SHEET NO. 5 OF 21	DRAWING NO. B-29287

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A. C. L. Lopez
Assistant of Bridge & Traffic Engineer

STATE: ILLINOIS
COUNTY: ST. CLAIR
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SECTION: 82-1-B-1
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STRUCTURE NO.: 082-0323 & 082-0325
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JOINT TYPE: SEISMIC MODULAR

DRAWING ACTION

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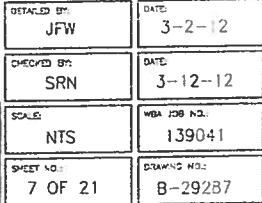
Watson Bowman Acme

WATSON-BOWMAN ACME CORPORATION
85 PARKVIEW DRIVE, AMHERST, N.Y. 14226 TEL: (716) 891-7255 FAX: (716) 891-7233

PROJECT: I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS

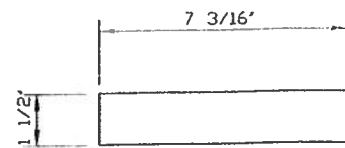
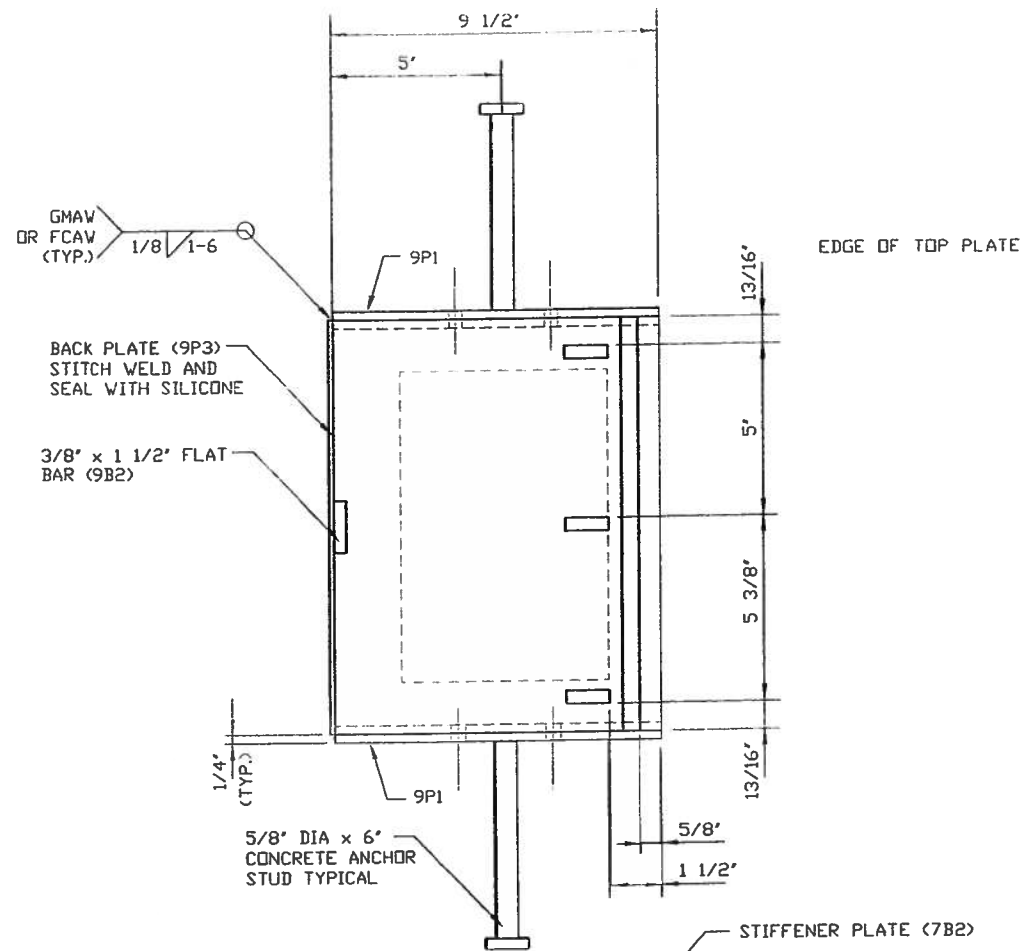
D-BASF
The Chemical Company

DESIGNED BY: JFW	DATE: 3-2-12
CHECKED BY: SRN	DATE: 3-12-12
SCALE: NTS	WBA JOB NO.: 139041
SHEET NO.: 6 OF 21	DRAWING NO.: B-29287

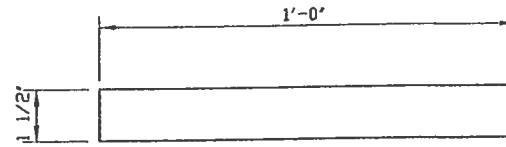


SEI139041AC04		QTY: 1 REQ'D.	STRUCTURED BILL OF MATERIALS			DWG NO: B-29287
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.
0	SEI139041AC04	1.00	EA	X-CELL 900 LONGITUDINAL BOX ASSEMBLY (X)	PAINTED	
1	3570	97.5	LB	PLATE 1/2" (7P1, 7P2)	ASTM A-588	
1	SEI139041AC04A	2.00	EA	STIFFENER PLATE (7B2)		
2	5980	0.30	FT	FLAT BAR 1/2" x 1 1/2"	ASTM A-588	
1	5980	0.65	FT	FLAT BAR 1/2" x 1 1/2" CONNECTION PLATE	ASTM A-588	
1	4620	4.00	EA	CONCRETE ANC STUD 5/8" x 6" AW	ASTM A-108	
1	4299	3.00	EA	CURVED KEEPER BAR A28044	ASTM A-588	

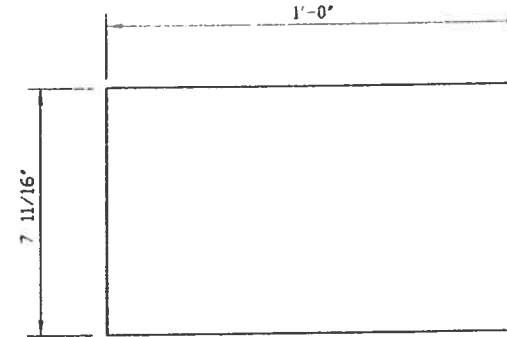
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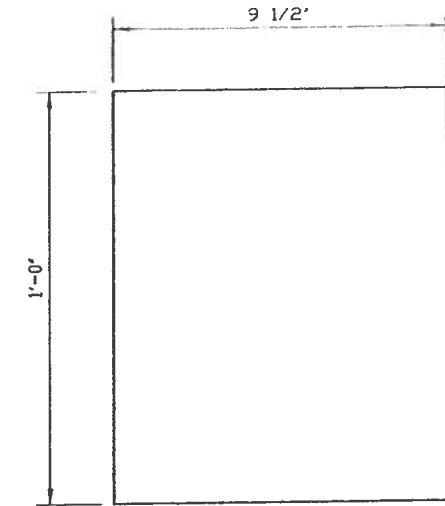
9B2 DETAIL
STIFFENER PLATE
(1) REQUIRED
3/8" x 1 1/2" FLAT BAR



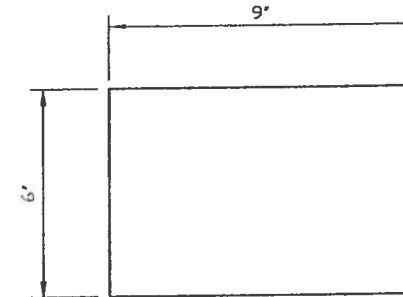
9B1 DETAIL
CONNECTION BAR
(1) REQUIRED
1/2" x 1 1/2" FLAT BAR



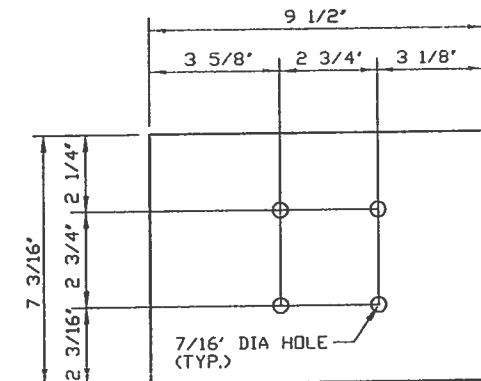
9P3 DETAIL
BACK PLATE
(1) REQUIRED
12 GA PLATE



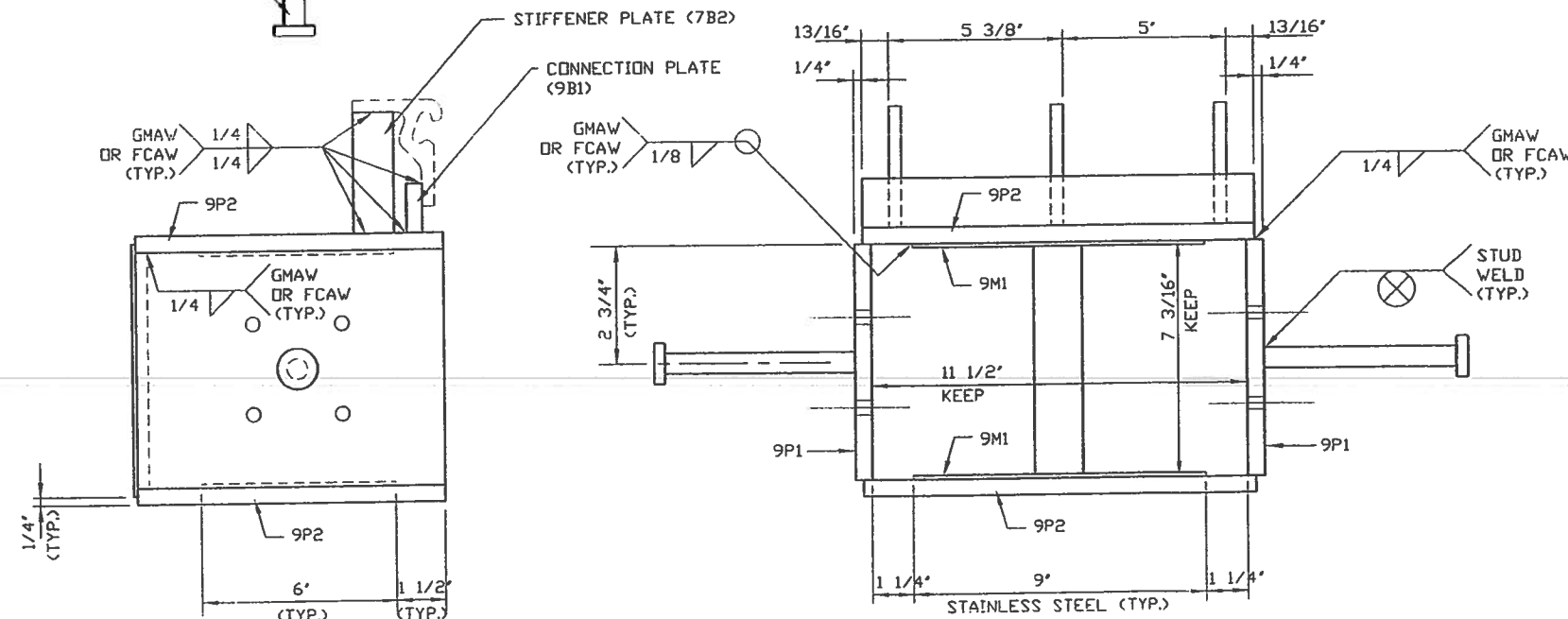
9P2 DETAIL
TOP AND BOTTOM PLATE
(2) REQUIRED
1/2" PLATE



7M1 DETAIL
SLIDING PLATE
(2) REQUIRED
12 GA SS PLATE



9P1 DETAIL
SIDE PLATE
(2) REQUIRED
1/2" PLATE



APPROVED
For Main Dimensions and
Materials Only

MAY 11 2012

A. Carl Papp
Engineering, Design & Construction

STRUCTURED BILL OF MATERIALS						DWG. NO: B-29287	
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.	
0	SEI139041AC06	1.00	EA	X-CELL 900 TRANSVERSE BOX ASSEMBLY CX	PAINTED		
1	3570	51.70	LB	PLATE 1/2" (9P1, 9P2)	ASTM A-588		
1	SEI139041AC04A	3.00	EA	STIFFENER PLATE (7B2)			
2	5980	0.30	FT	FLAT BAR 1/2" x 1 1/2"	ASTM A-588		
1	5980	1.00	FT	FLAT BAR 1/2" x 1 1/2" CONNECTION PLATE	ASTM A-588		
1	5980	0.60	FT	FLAT BAR 1/2" x 1 1/2" STIFFENER PLATE	ASTM A-588		
1	SEI139041AC05A	2.00	EA	SLIDING PLATE (9M1) CX			
2	5980	2.00	LB	STAINLESS STEEL 12 GA TYPE 304 # 8 FIN (9P1)	ASTM A-240 TYPE 304 #8 FINISH		
1	4620	2.00	EA	CONCRETE ANC STUD 5/8" x 6" AW	ASTM A-108		



DRAWING ACTION:

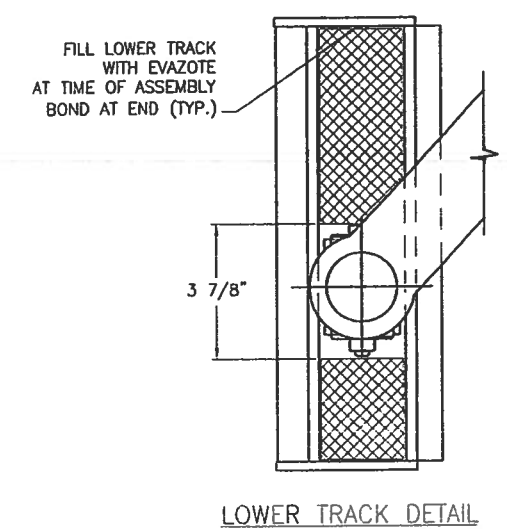
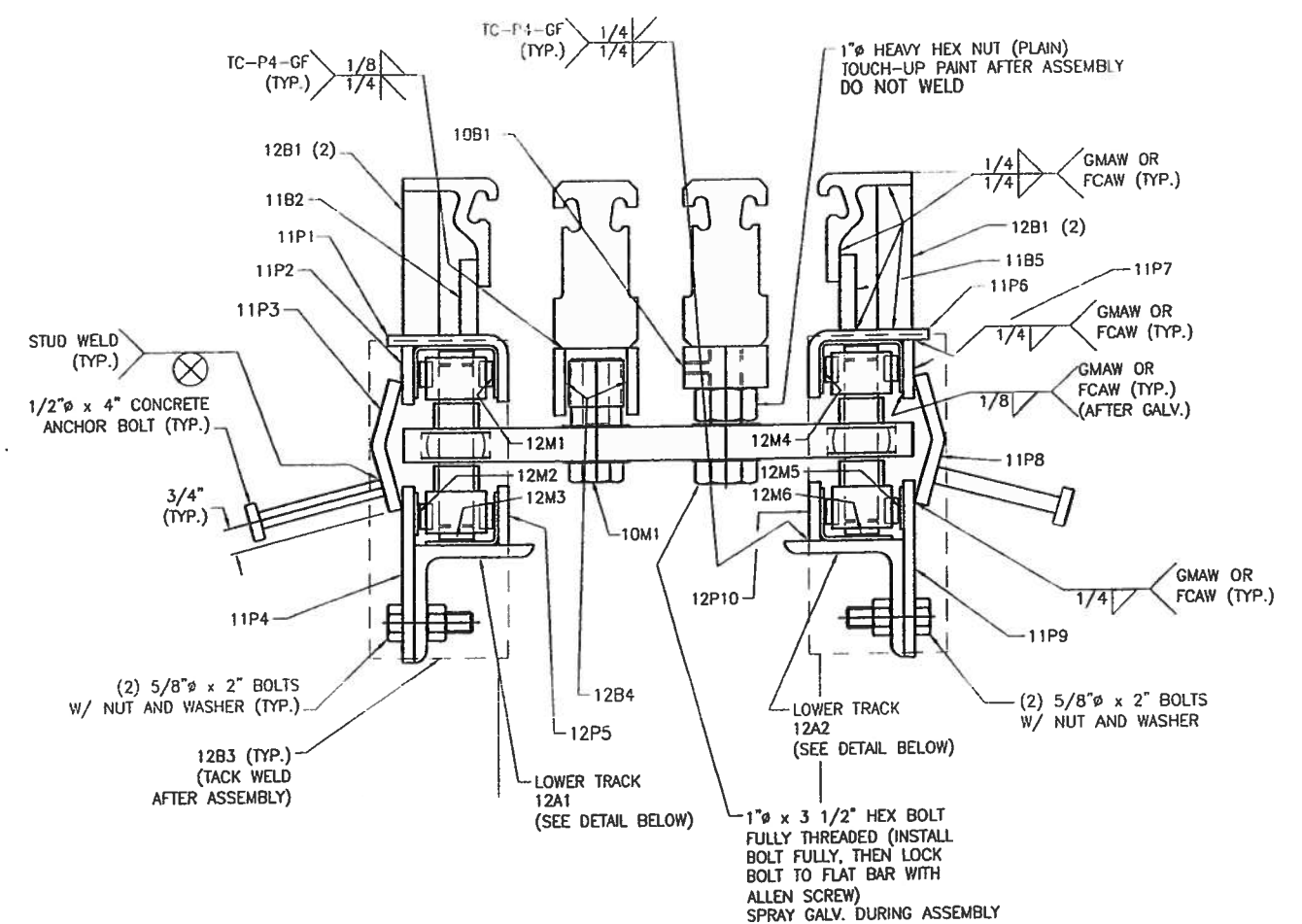
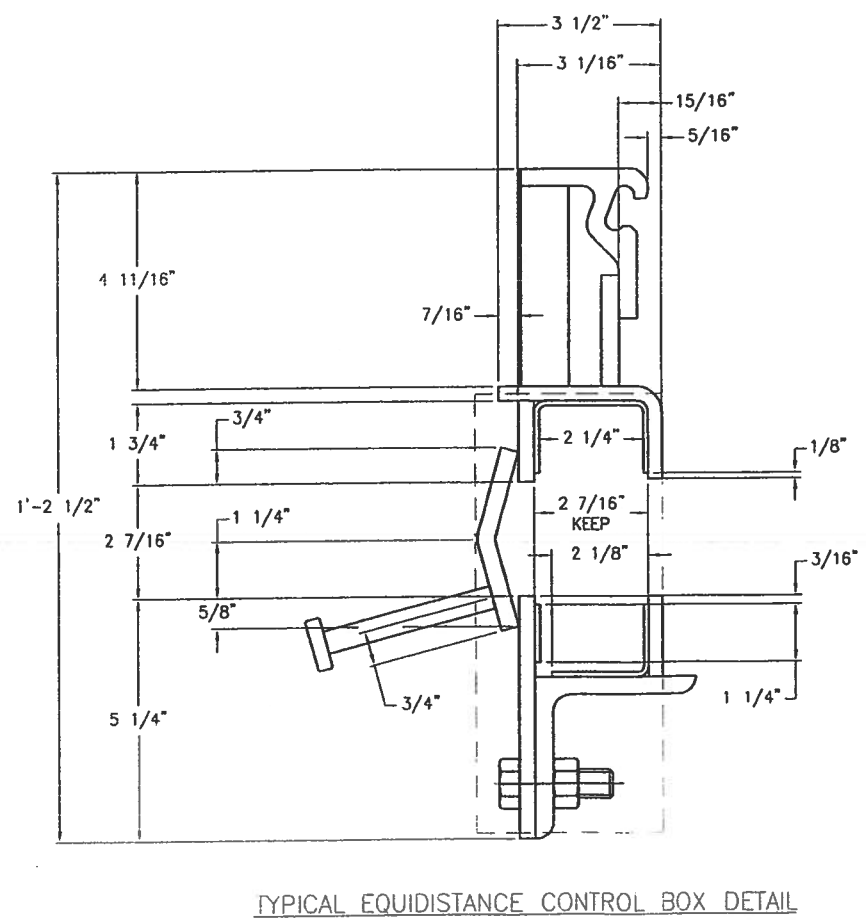
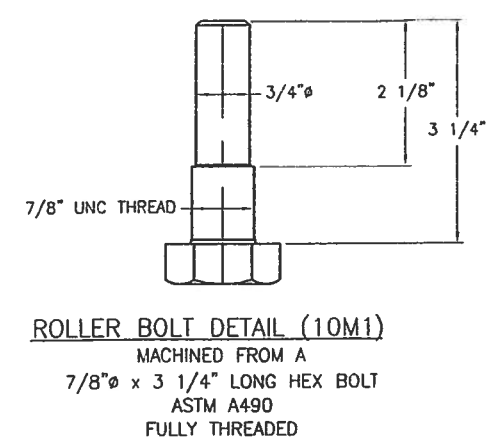
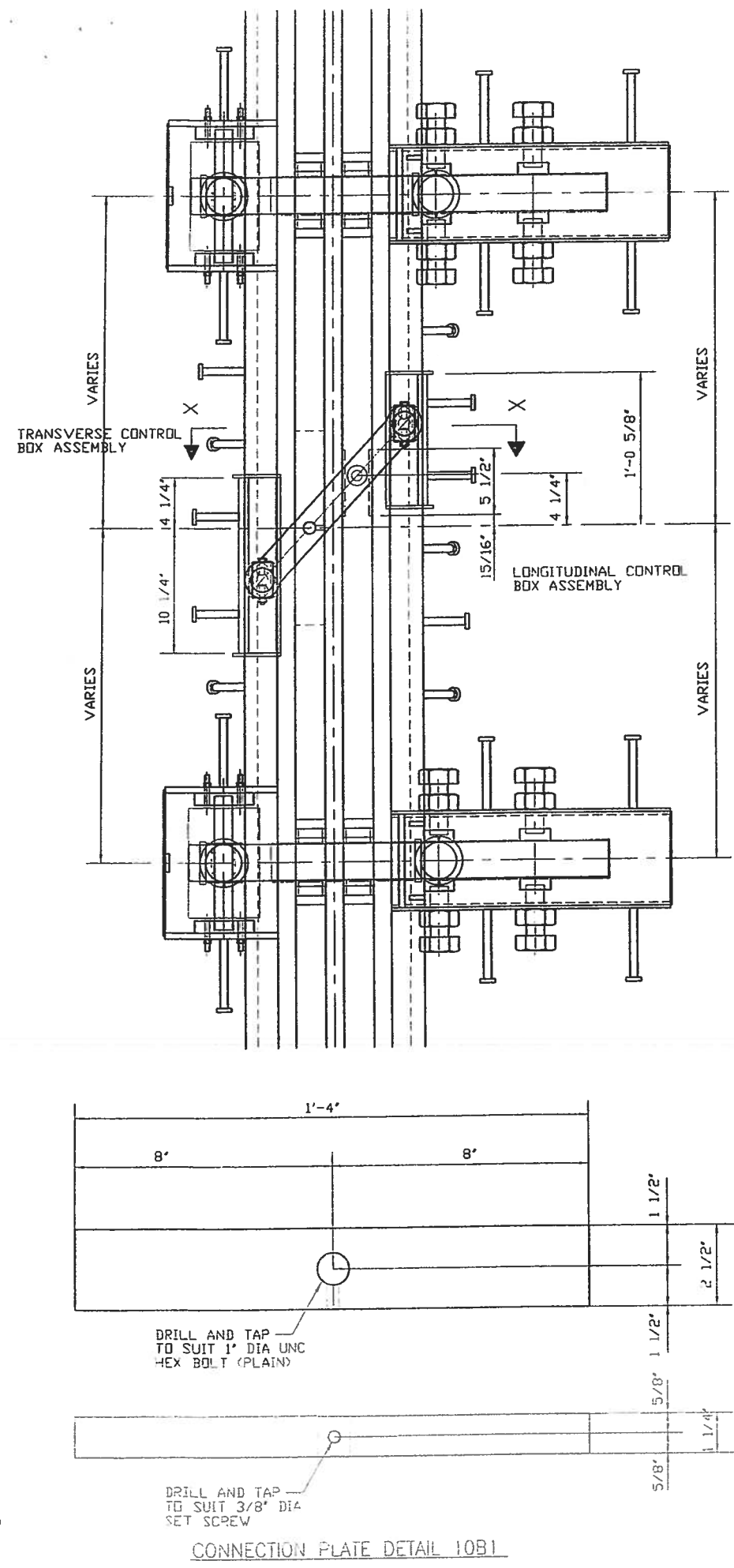
APPROVED

3					
2					
1					
NO					
DESCRIPTION	DATE	DATE	DATE	DATE	DATE
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Watson Bowman Acme WATSON BOWMAN ACME CORPORATION 25 PINEVIEW DRIVE AMHERST, N.Y. 14228 TEL: (716) 591-7555 FAX: (716) 591-3275	STATED BY: JFW CHECKED BY: SRN SCALE: NTS SHEET NO: 9 OF 21	DATE: 3-2-12 DATE: 3-12-12 WBA JOB NO: 139041 DRAWING NO: B-29287
PROJECT: I-70W OVER I-55, CSX & KCS RAILROADS WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS		

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SEI139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

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Materials Only

MAY 01 2012

D. Carl Ringer
Engineer, Bridge & T. Structures

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SE1139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

MARK SYSTEM

DRAWING ACTION:

APPROVED

WATSON BAUMANN ACME CORPORATION
25 PINEVIEW DRIVE, AMHERST, N.Y. 14228 TEL. (716) 621-7858 FAX (716) 621-3232

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Watson Baumann Acme
The Bridge Authority

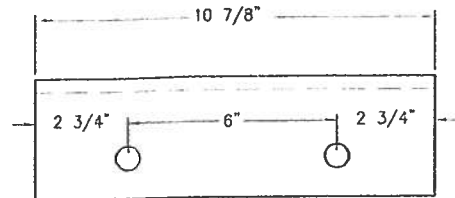
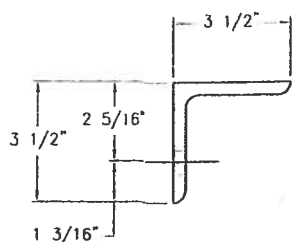
BASF
The Chemical Company

PROJECT: I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS

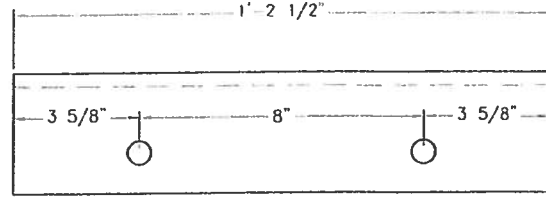
DESIGNED BY: JFW	DATE: 3-2-12
CHECKED BY: SRN	DATE: 3-12-12
SCALE: NTS	WBA JOB NO.: 139041
SHEET NO.: 10 OF 21	DRAWING NO.: B-29287

 WATSON BOWMAN ACME CORPORATION 95 PINEVIEW DRIVE ARMONK, N.Y. 14228 TEL. (716) 691-7556 FAX (716) 631-9239	 E-ASAP ENGINEERING COMPANY	DESIGNED BY: JFW	DATE: 3-2-12
		CHECKED BY: SRN	DATE: 3-12-12
PROJECT: I-70W OVER I-55, CSX & ACS RAILROADS WABO SEISMIC MODULAR 900 EXPANSION JUNCTION DETAILS		SCALE: NTS	WBA JOB NO.: 139041
		SHEET NO.: 11 OF 21	DRAWING NO.: 8-29287

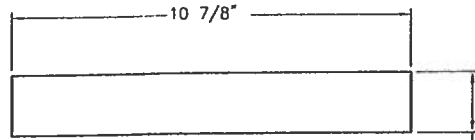
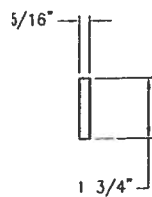
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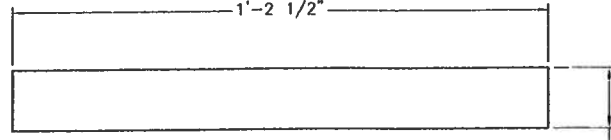
12P1 DETAIL
3 1/2" x 3 1/2" x 3/8" ANGLE



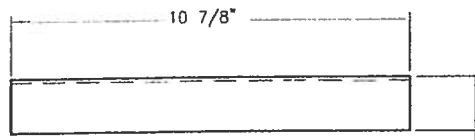
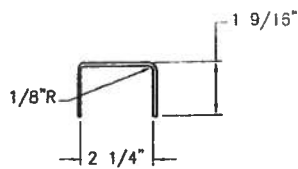
12P2 DETAIL
3 1/2" x 3 1/2" x 3/8" ANGLE



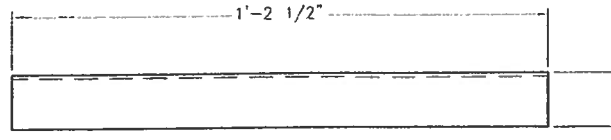
12P5 DETAIL
5/16" PLATE



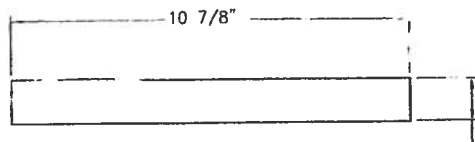
12P10 DETAIL
5/16" PLATE



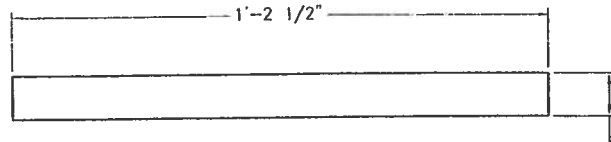
12M1 DETAIL
12 GAUGE STAINLESS STEEL # 8 FINISH
5 1/4" DEVELOPED LENGTH



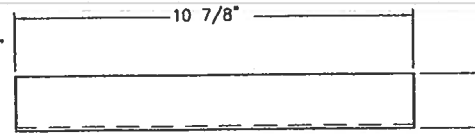
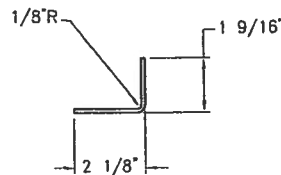
12M4 DETAIL
12 GAUGE STAINLESS STEEL # 8 FINISH
5 1/4" DEVELOPED LENGTH



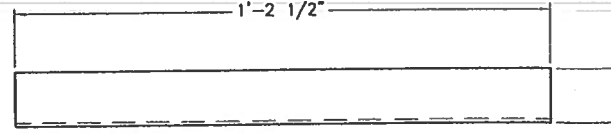
12M2 DETAIL
12 GAUGE STAINLESS STEEL # 8 FINISH



12M5 DETAIL
12 GAUGE STAINLESS STEEL # 8 FINISH



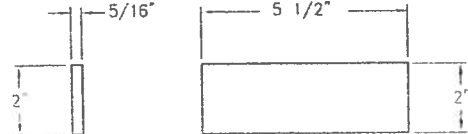
12M3 DETAIL
12 GAUGE STAINLESS STEEL # 8 FINISH
3 1/2" DEVELOPED LENGTH



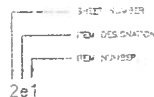
12M6 DETAIL
12 GAUGE STAINLESS STEEL # 8 FINISH
3 1/2" DEVELOPED LENGTH



12B1 DETAIL
1/4" x 1" FLAT BAR



12B4 DETAIL
5/16" x 2" FLAT BAR



MARK SYSTEM

SEI139041AC08				QTY: 1 REQ'D	STRUCTURED BILL OF MATERIALS		DWG NO.: B-29287	
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.		
1	SEI139041AC08	1.00	EA	TRANSVERSE CONTROL BOX ASSEMBLY X-CELL 900 (X)	PAINTED			
1	SEI139041AC08A	2.00	EA	STIFFENER PLATE (12B1) (W				
2	5820	0.36	FT	FLAT BAR 1/4" x 1"	A-36			
1	SEI139041AC08B	1.00	EA	STIFFENER PLATE (11B5) (W				
2	6004	1.21	FT	FLAT BAR 1/2" x 2 1/4"	A-36			
1	SEI139041AC08C	1.00	EA	TRACK ANGLE (11P6) (X				
2	3516	6.43	LB	PLATE 5/16"	A-36			
1	SEI139041AC08D	1.00	EA	TRACK SIDE PLATE (11P7) (X				
2	3516	2.25	LB	PLATE 5/16"	A-36			
1	SEI139041AC08E	8.00	EA	TRACK CONNECTION PLATE (11P8) (X				
2	3540	6.17	LB	PLATE 3/8"	A-36			
2	4500	2.00	EA	CONC ANC STUDS 1/2" DIA x 4" AW	A-108			
1	SEI139041AC08F	1.00	EA	LOWER TRACK SIDE BAR (11P9) (W				
2	3516	6.75	LB	PLATE 5/16"	A-36			
1	SEI139041AC08G	1.00	EA	UPPER TRACK STAINLESS STEEL (12M4) (X				
2	8576	2.78	LB	STAINLESS STEEL 12 GA #8 FINISH	A-240 TYPE 304 #8 FINISH			
1	SEI139041AC08H	1.00	EA	LOWER TRACK SIDE STAINLESS STEEL (12M5) (X				
2	8576	0.67	LB	STAINLESS STEEL 12 GA #8 FINISH	A-240 TYPE 304 #8 FINISH			

SEI139041AC09				QTY: 1 REQ'D.	STRUCTURED BILL OF MATERIALS		DWG. NO.: B-29287	
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.		
1	SEI139041AC09	1.00	EA	LONGITUDINAL CONTROL BOX ASSEMBLY X-CELL 900(X)	PAINTED			
1	SEI139041AC08A	2.00	EA	STIFFENER PLATE (12B1) (W				
2	5820	0.36	FT	FLAT BAR 1/4" x 1"	A-36			
1	SEI139041AC09B	1.00	EA	STIFFENER PLATE (11B2) (W				
2	6004	0.91	FT	FLAT BAR 1/2" x 2 1/4"	A-36			
1	SEI139041AC09C	1.00	EA	TRACK ANGLE (11P1) (X				
2	3516	4.82	LB	PLATE 5/16"	A-36			
1	SEI139041AC09D	1.00	EA	TRACK SIDE PLATE (11P2) (X				
2	3516	1.70	LB	PLATE 5/16"	A-36			
1	SEI139041AC09E	8.00	EA	TRACK CONNECTION PLATE (11P3) (X				
2	3540	4.63	LB	PLATE 3/8"	A-36			
2	4500	2.00	EA	CONC ANC STUDS 1/2" DIA x 4" AW	A-108			
1	SEI139041AC09F	1.00	EA	LOWER TRACK SIDE BAR (11P4) (W				
2	3516	5.06	LB	PLATE 5/16"	A-36			
1	SEI139041AC09G	1.00	EA	UPPER TRACK STAINLESS STEEL (12M4) (X				
2	8576	2.09	LB	STAINLESS STEEL 12 GA #8 FINISH	A-240 TYPE 304 #8 FINISH			
1	SEI139041AC09H	1.00	EA	LOWER TRACK SIDE STAINLESS STEEL (12M5) (X				
2	8576	0.50	LB	STAINLESS STEEL 12 GA #8 FINISH	A-240 TYPE 304 #8 FINISH			

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Materials Only

MAY 01 2012

A. Carl Ruyter
Engineer of Bridge & Traffic Structures

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SEI139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

DRAWING ACTION:

APPROVED

NO.	DESCRIPTION	DATE
1	DESIGNED	
2	CHECKED	
3	APPROVED	

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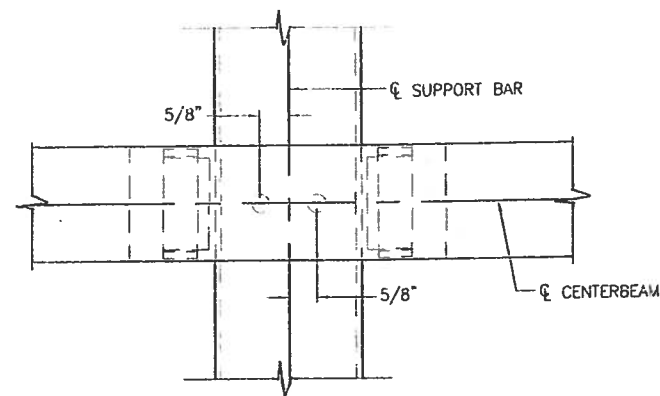
Watson Bowman Acme

WATSON BOWMAN ACME CORPORATION
25 PARKVIEW DRIVE, AMHERST, N.Y. 14228 TEL: (716) 691-7500 FAX: (716) 691-9233

Q-BASF

DESIGNED BY	JFW	DATE	3-2-12
CHECKED BY	SRN	DATE	3-12-12
SCALE	NTS	WBA JOB NO.	139041
SHEET NO.	12 OF 21	DRAWING NO.	B-29287

PROJECT: I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS

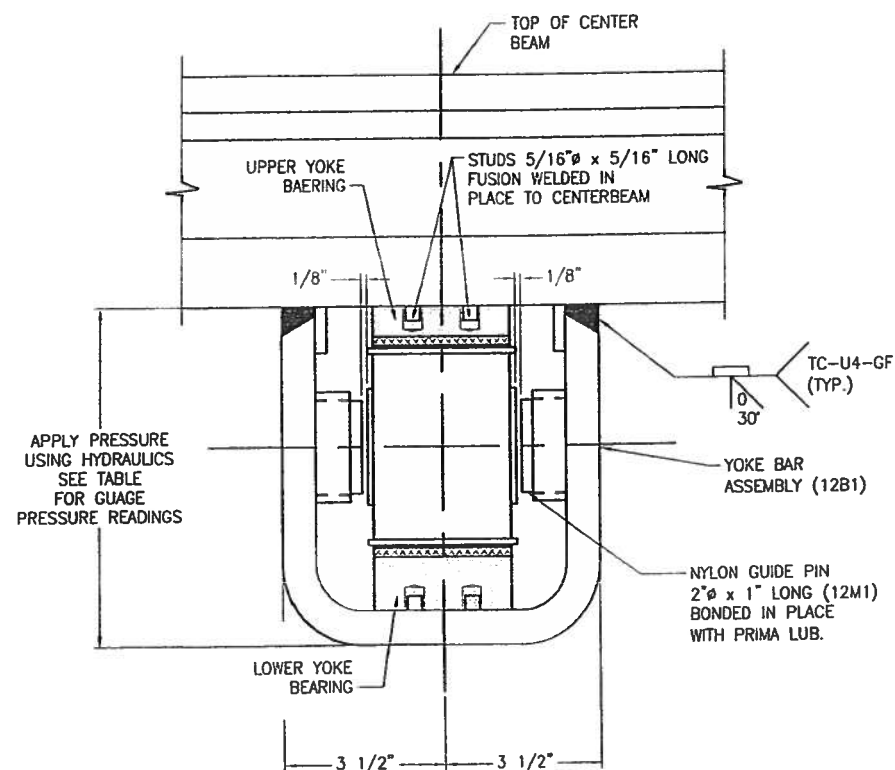
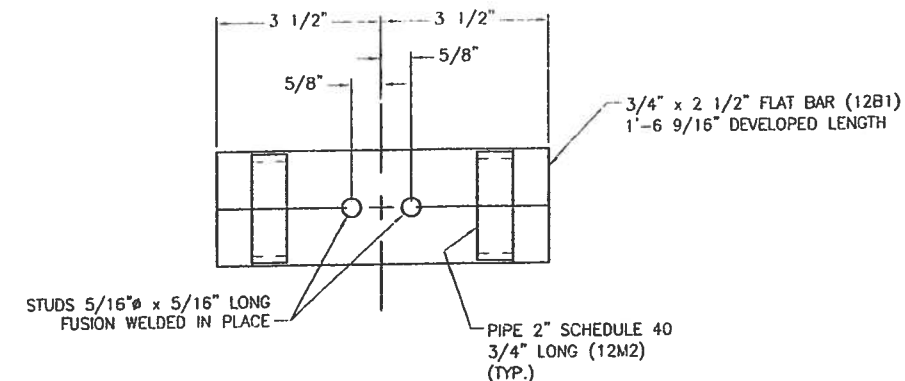


THE FOLLOWING ARE THE GAGE READINGS THAT MUST BE HELD BY FABRICATION STAFF WHEN ASSEMBLING THE YOKES

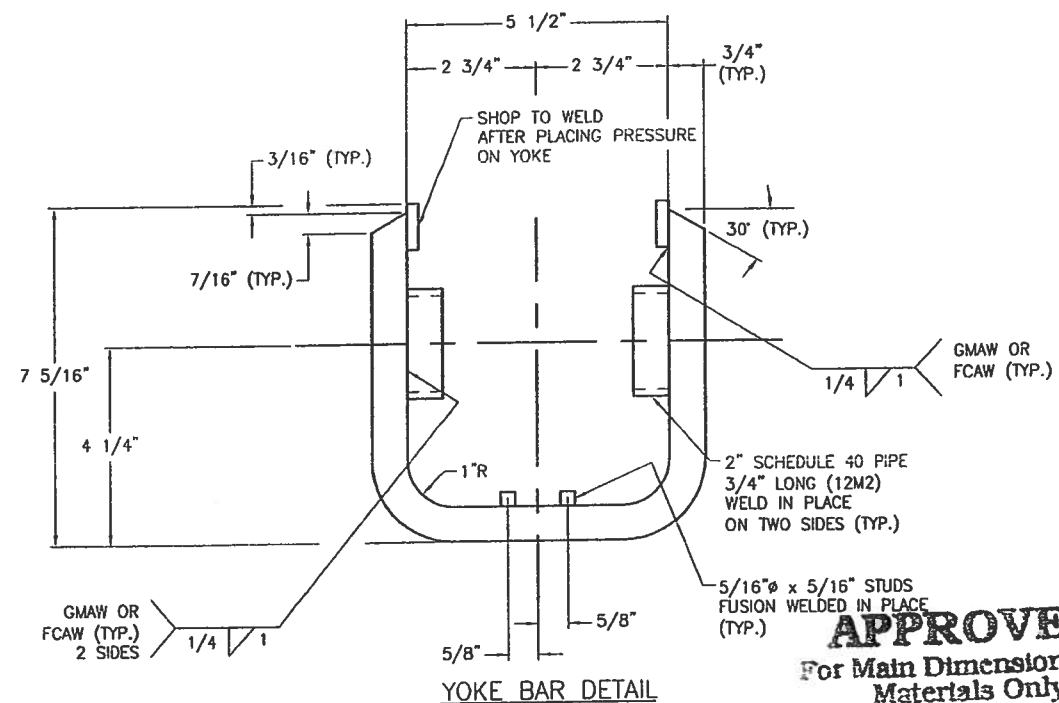
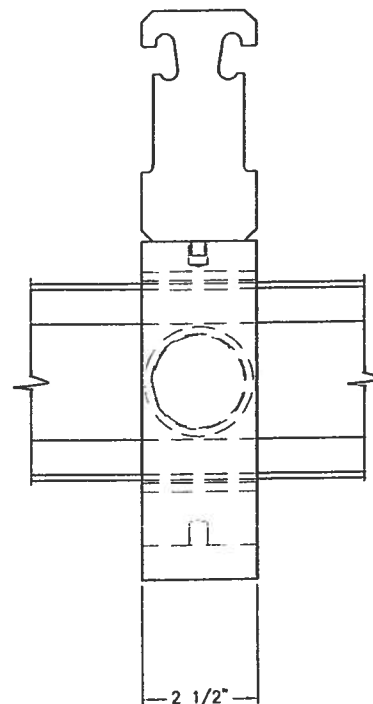
CYLINDER MODEL NUMBER	MINIMUM GAGE PRESSURE (psi)	DESIRED GAGE PRESSURE (psi)	MAXIMUM GAGE PRESSURE (psi)
RC106	650	1000	1330
RC256	300	450	580

IF OTHER CYLINDER MODEL NUMBERS ARE USED OTHER THAN THOSE ABOVE, PLEASE SEE THE WBA ENGINEERING DEPARTMENT TO OBTAIN THE CORRECT JACKING PRESSURE RANGE FOR THE SPECIFIC MODEL NUMBER

YOKE JACK GAGE TABLE



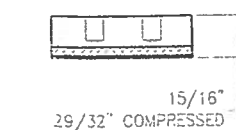
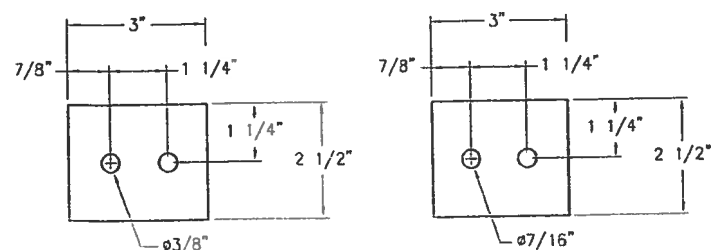
YOKE HOLD DOWN ASSEMBLY DETAILS



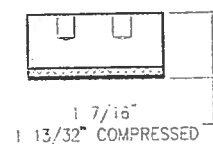
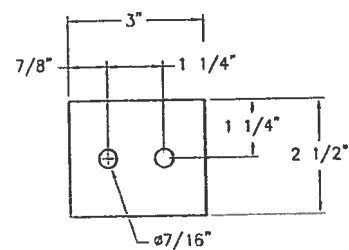
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For Main Dimensions and Materials Only

MAY 04 2012

D. C. L. Perry
Engineer of Bridge & Traffic Structures



UPPER YOE BEARING
DETAIL



LOWER YOE BEARING
DETAIL

MARK SYSTEM
2e1

STRUCTURED BILL OF MATERIALS						DWG# B-29287
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REVISION
0	SEI139041AC11	1	EA	HOLD DOWN YOKE ASSEMBLY (W	PAINTED	
					APPROX. FINISHED WEIGHT = 20 lb	
1	6078	16	FT	FLAT BAR 3/4 x 2-1/2 A36	(12B1) ASTMA 36	
1	7245	2	EA	YOKE ASSY PIPE GUIDE 2"A28060W	(12M2)	
1	5584	2	EA	UHMW DISC 2" DIA X 1" LG		
1	6932	2	EA	NO THREAD STUD 5/16" DIA x 5/16" KO (A)		

DRAWING ACTION:

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Watson Bowman Acme

WATSON BOWMAN ACME CORPORATION
95 PINEVIEW DRIVE ALBANY, N.Y. 12208 TEL: (518) 631-7285 FAX: (518) 631-3229

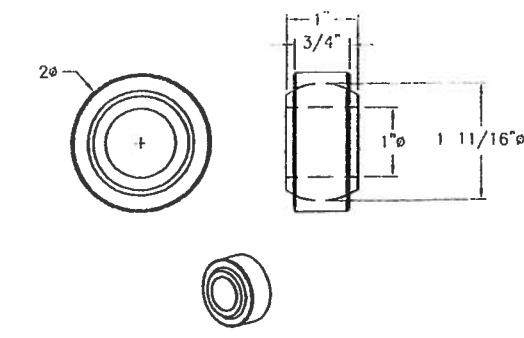
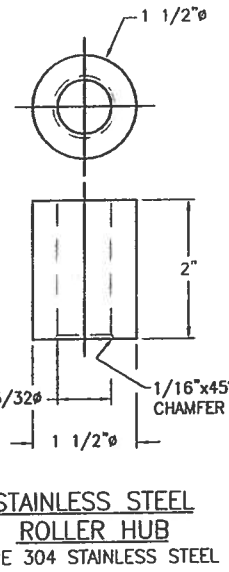
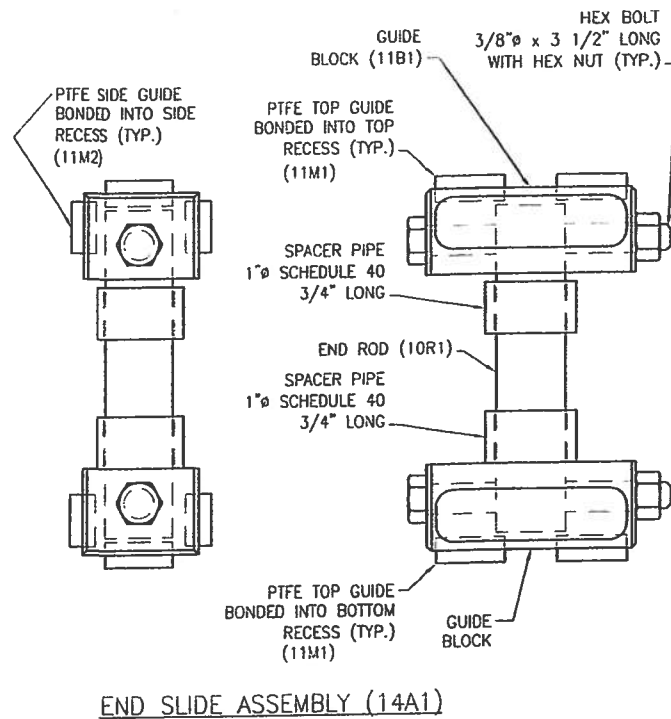
PROJECT:
I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS

D-BASF

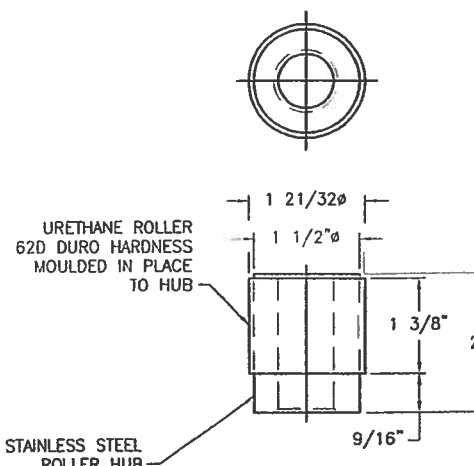
DESIGNED BY: JFW	DATE: 3-2-12
CHECKED BY: SRN	DATE: 3-12-12
SCALE: NTS	WBA JOB NO.: 139041
SHEET NO.: 13 OF 21	DRAWING NO.: B-29287

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SEI139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

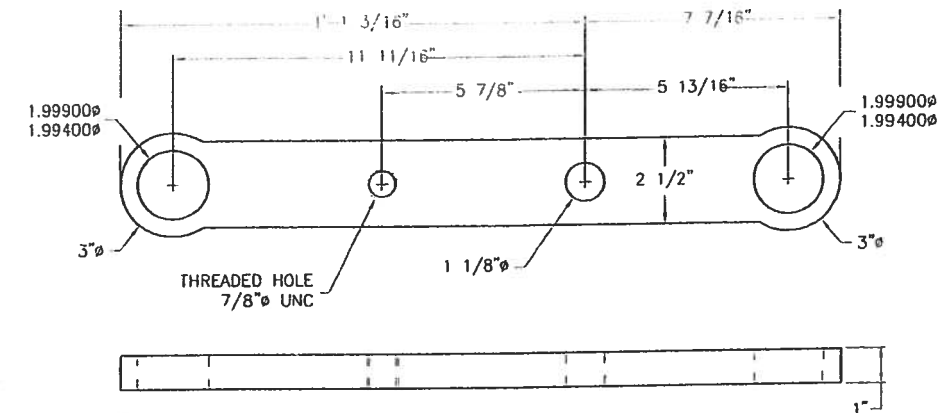
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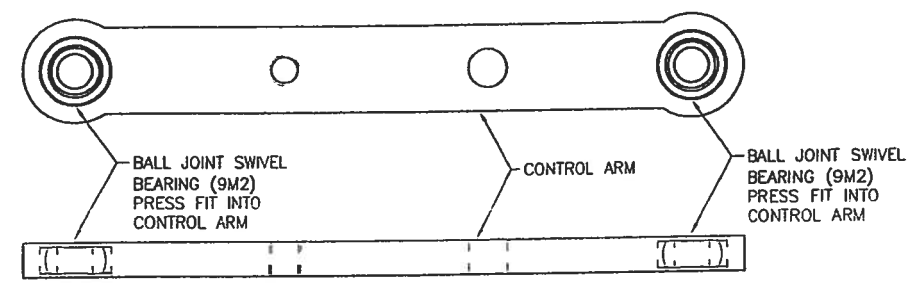
BALL JOINT SWIVEL BEARING (14M2)
McMASTER-CARR ITEM# 63195K51



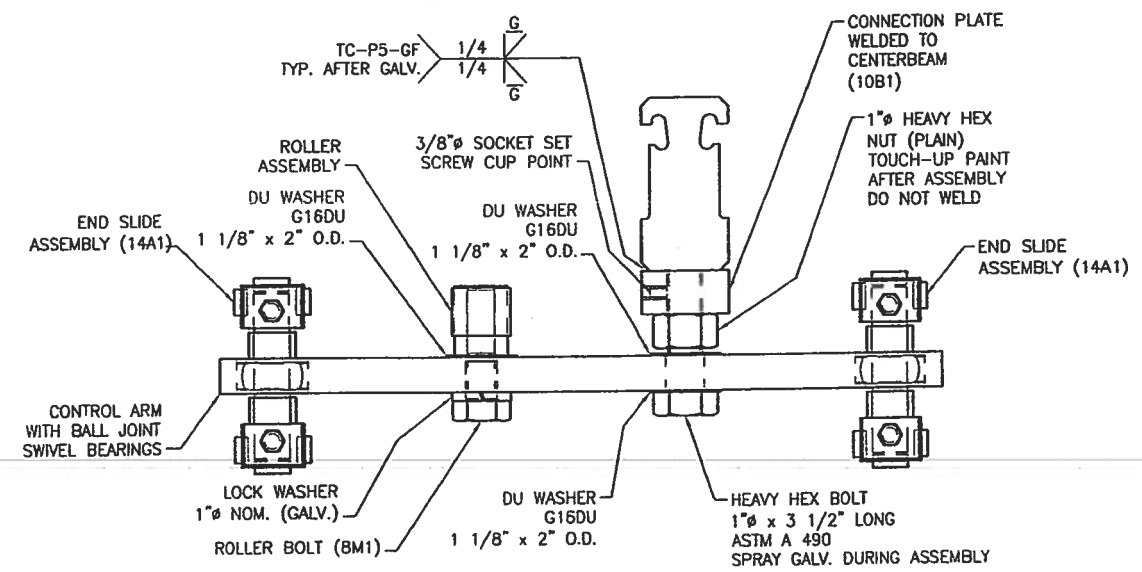
ROLLER ASSEMBLY (14M2)
NTS1349041CC - 60 REQ'D



CONTROL ARM DETAIL (14P1)
ASTM A 36 PLATE 1\"/>



CONTROL ARM ASSEMBLY



EQUIDISTANT CONTROL ARM ASSEMBLY AND CONNECTION DETAILS

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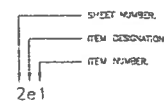
MAY 01 2012

Handwritten signature

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SEI139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

SEI139041AC07A QTY: 1 REQ'D. STRUCTURED BILL OF MATERIALS DWG. NO: B-29287						
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.
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1	4340	1.00	EA	GUIDE BLOCK END ROD (11R1)	ANSI 1566 STEEL	
1	SEI139041AC07B	2.0	EA	GUIDE BLOCK ASSEMBLY		
2	4329	1.00	EA	GUIDE BLOCK SIEMIC (11B1)		
2	4308	2.00	EA	GUIDE BLOCK PTFE TOP GUIDE 1" DIA	PTFE	
2	4330	2.00	EA	GUIDE BLOCK PTFE 2 3/4" x 3/4"	PTFE	
1	4275	2.00	EA	PIPE SPACER FRO END BLOCK	SCHEDULE 40	
1	5192	2.00	EA	BOLT 3/8" DIA x 3 1/2" GRADE 5 D (A)	SAE GRADE 5	
1	7965	2.00	EA	NUT 3/8" DIA GALV A563 (A)	ASTM A563	

SEI139041AC07		QTY: 1 REQ'D.	STRUCTURED BILL OF MATERIALS			DWG. NO: B-29287	
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.	
0	SEI139041AC07	1.00	EA	X-CELL 900 CONTROL ARM ASSEMBLY (X)	UNCOATED EXCEPT AS NOTED BELOW		
1	SEI139041AC07C	1.00	EA	CONTROL ARM (14P1) (X)			
2	3630	0.30	LB	PLATE 1"	ASTM A-36, PAINTED		
1	SEI139041AC07A	2.00	EA	END SLIDE ASSEMBLY (U)			
1	5193	1.00	EA	ROLLER BOLT 7/8" DIA x 3 1/4" (A) (10A1)	ASTM A-490		
1	19801	1.00	EA	ROLLER HUB ASSEMBLY STAINLESS STEEL	TYPE 304 STAINLESS STEEL		
1	7821	1.00	EA	LOCKWASHER 1" DIA (A) HOT DIPPED GALVANIZED			
1	19804	1.00	EA	DU WASHER D16 1 1/8" ID X 2" OD			
1	19807	2.00	EA	BALL JOINT SWIVEL BEARINGS (14M2)			



MARK SYSTEM

DRAWING ACTION:

APPROVED

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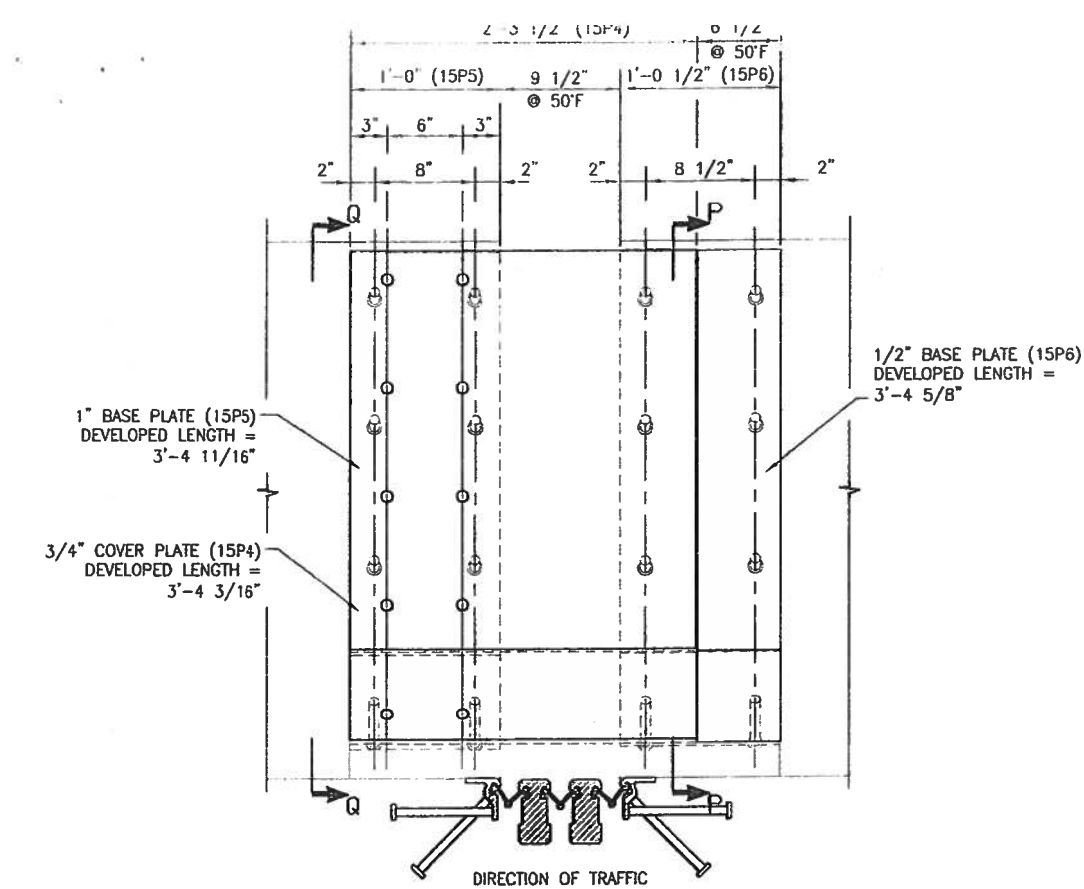
Watson Bowman Acme

WATSON BOWMAN ACME CORPORATION
25 PINEVIEW DRIVE AMHERST, N.Y. 14226 TEL: (716) 237-7555 FAX: (716) 851-9239

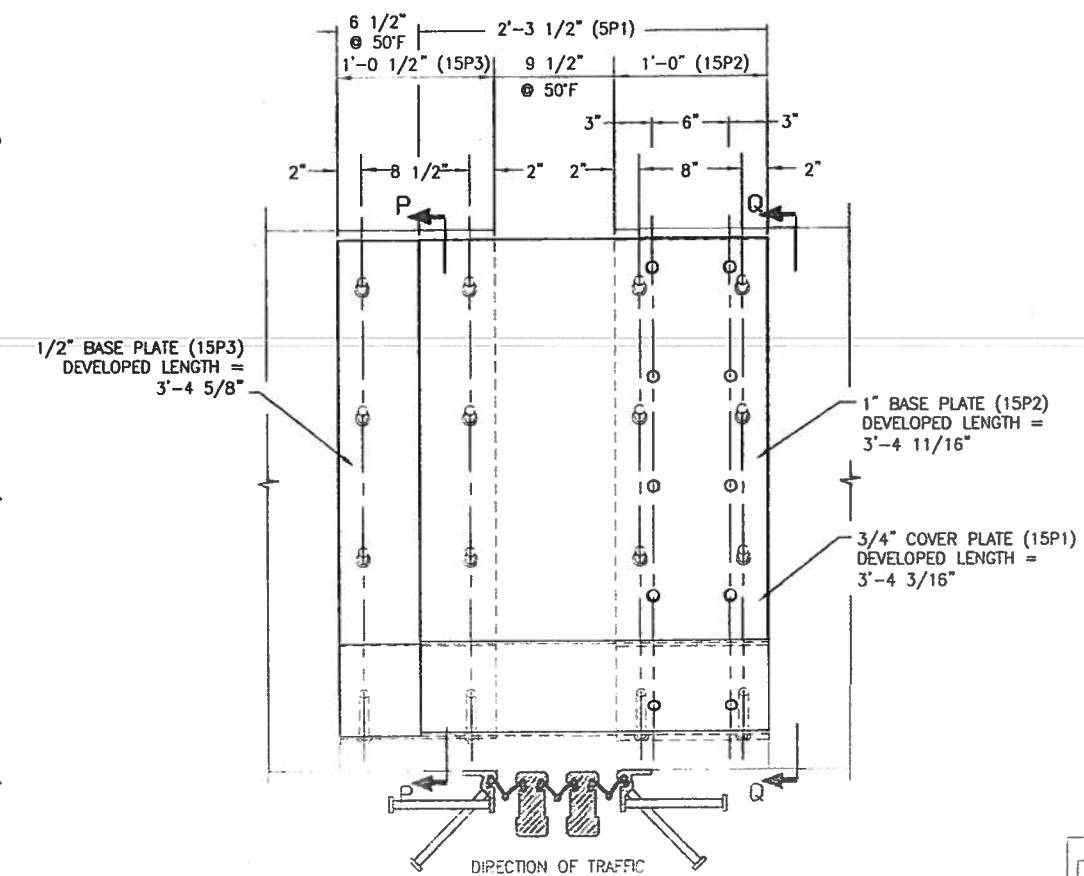
PROJECT: I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS

DESIGNED BY: JFW	DATE: 3-2-12
CHECKED BY: SRN	DATE: 3-12-12
SCALE: NTS	WBA JOB NO.: 139041
SHEET NO.: 14 OF 21	DRAWING NO.: B-29287

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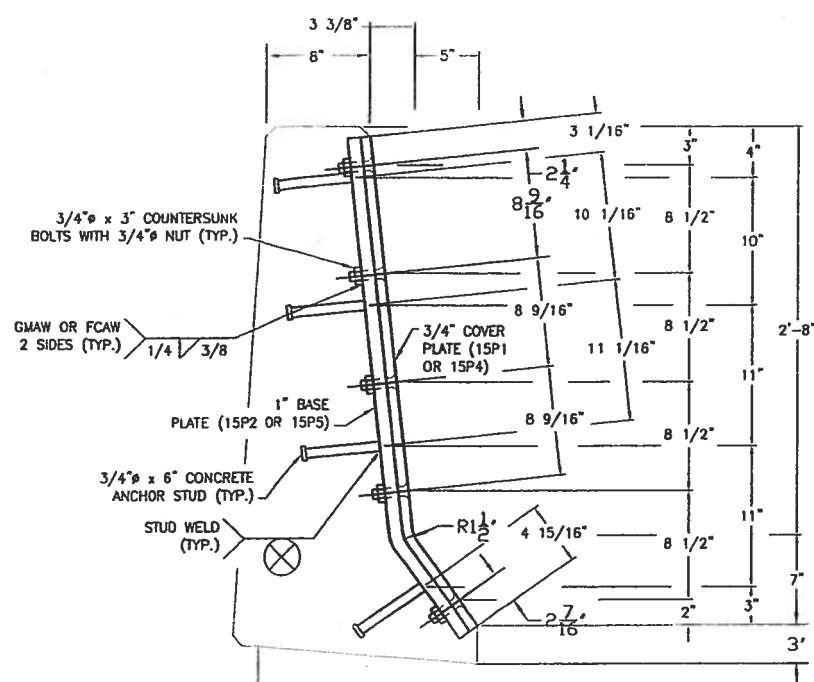
ELEVATION VIEW
SL139041AC - (3) REQUIRED
PIER 3, PIER 7 (S.N. 082-0325) & PIER 3 (S.N. 082-323)
SOUTH PARAPET



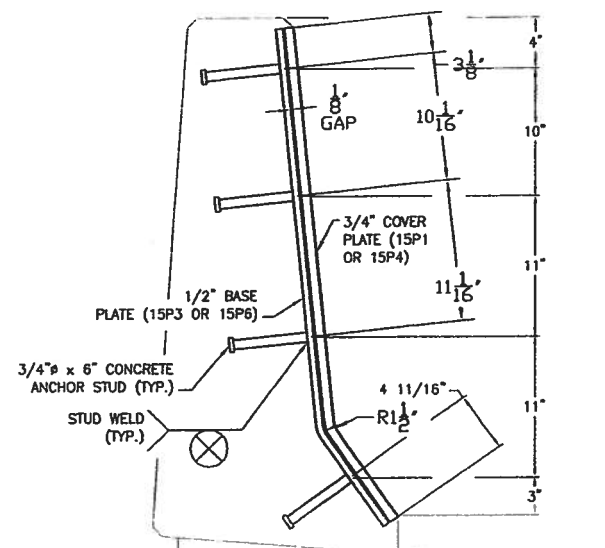
ELEVATION VIEW
SL139041AD - (3) REQUIRED
PIER 3, PIER 7 (S.N. 082-0325) & PIER 3 (S.N. 082-323)
NORTH PARAPET

MARK SYSTEM

SHEET NUMBER
ITEM DESCRIPTION
ITEM NUMBER
2e1



SECTION Q-Q



SECTION P-P

SL139041AC		QTY: 3 REQ'D.		STRUCTURED BILL OF MATERIALS		DWG. NO.: B-29287	
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.	
0	SL139041AC	1.00	EA	COVER PLATE PIER 3, PIER 7, PIER 3 SOUTH PARAPET (X)	GALVANIZED		
1	4270	16.0	EA	CONC ANC ST 3/4" DIA x 6 1/16" AW	A-108		
1	3570	72.0	LB	PLATE 1/2"	A-588		
1	3610	235.0	LB	PLATE 3/4"	A-588		
1	3640	139.0	LB	PLATE 1"	A-588		
1	3640	10.0	LB	HEX NUT 3/4" DIA (A) GALVANIZED	A-563		

SL139041AD		QTY: 3 REQ'D.		STRUCTURED BILL OF MATERIALS		DWG. NO.: B-29287	
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.	
0	SL139041AD	1.00	EA	COVER PLATE PIER 3, PIER 7, PIER 3 NORTH PARAPET (X)	GALVANIZED		
1	4270	16.0	EA	CONC ANC ST 3/4" DIA x 6 1/16" AW	A-108		
1	3570	72.0	LB	PLATE 1/2"	A-588		
1	3610	235.0	LB	PLATE 3/4"	A-588		
1	3640	139.0	LB	PLATE 1"	A-588		
1	3640	10.0	LB	HEX NUT 3/4" DIA (A) GALVANIZED	A-563		

APPROVED
For Main Dimensions and
Materials Only

MAY 04 2012

R. Carl Perry
Engineer of Bridge & Traffic Structures

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SE139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

DRAWING ACTION:

APPROVED



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**Watson
Bowman
Acme**

WATSON BOWMAN ACME CORPORATION
25 PREVIEW DRIVE, AMHERST, N.Y. 14228 TEL: (716) 591-2556 FAX: (716) 591-9233

BASF
The Chemical Company

PROJECT:
I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS

DESIGNED BY: JFW	DATE: 3-2-12
CHECKED BY: SRN	DATE: 3-12-12
SCALE: NTS	WBA JOB NO.: 139041
SHEET NO.: 15 OF 21	DRAWING NO.: B-29287

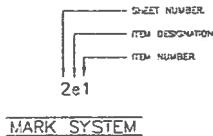
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LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.
0	SEI139041AC	1.00	EA	WABO X-CELL 900 E.J.; PIER 3; 35.84 LF (X)	JOINT IS PAINTED	
				STRUCTURE # 082-0325	SHIPPING LENGTH = 35.0 LF +/-	
				BIN ITEMS		
1	7010	10.00	EA	THREADED STUD 5/8" DIA x 1 1/2" AW NP	A-108 FOR SHIPPING ANGLE	
1	7549	10.00	EA	WASHER 5/8" DIA ZINC PLATED AM	F-436 FOR SHIPPING ANGLE	
1	7960	10.00	EA	NUT 5/8" DIA ZINC PLATED AM	A-307 FOR SHIPPING ANGLE	
1	8084	10.00	EA	NUT 3/4" DIA RICHMOND 2/45 LAG	LEVELING DEVICE/PRESTRESS DEVICE	
1	SEI139041SC	3.00	EA	SEAL FOR SHOP INSTALLATION (U)		
2	090	37.00	LF	SE-300 NEOPRENE SEAL IL C-1735-2	NEOPRENE	
1	SEI139041AC01	1.00	EA	EXTRUSION ASSEMBLY (X)		
2	18802	9.00	EA	BRONZE BEARING 3" LONG	A-36, METALIZED	
2	4620	52.0	EA	CONC ANC STUD 5/8" DIA x 6" AW	A-108 BETWEEN SUPPORT BOXES	
2	4631	4.00	EA	CONC ANC STUD 5/8" DIA x 6" AW (BENT)	A-108 CURB UPTURNS	
2	SEI139041AC23	18.00	EA	KEEPER PLATE (8P2) (X)		
3	3545	0.32	LB	PLATE 12 GA. GALVANIZED		
2	SEI139041AC02	1.00	EA	PROFILES (W)		
4	1954	71.00	FT	SS M FM 2 3/4" x 3 1/4" C-11869	A-588	
3	1887	73.00	FT	MOD CB FM SS E 2 1/2" x 5" C-12183	A-588	
3	1917	2.20	FT	SS A FM 1 1/4" x 2" C-11810	A-588	
2	SEI139041AC04	9.00	EA	LONGITUDINAL MOVEMENT SUPPORT BOX X-CELL 900(X)	A-588	
2	SEI139041AC05	9.00	EA	SUPPORT BAR ASSEMBLY X-CELL 900 (X)	A-588 PAINTED	
2	SEI139041AC06	9.00	EA	TRANSVERSE MOVEMENT SUPPORT BOX X-CELL 900(X)	A-588	
2	SEI139041AC11	18.00	EA	HOLD DOWN YOKE ASSEMBLY (X)	A-588 PAINTED	
2	SEI139041AC07	18.00	EA	KEEPER ROD 1 1/2" DIA. (6B1) (X)		
3	9703	0.93	LF	ROUND BAR 1 1/2" DIA HR 4140QT	A-193 B7	
2	SEI139041AC08	8.00	EA	LONGITUDINAL CONTROL BOX ASSEMBLY (X)	A-588	
2	SEI139041AC09	8.00	EA	TRANSVERSE CONTROL BOX ASSEMBLY (X)	A-588	
2	SEI139041AC10	8.00	EA	CONTROL ARM ASSEMBLY (X)	A-588 PAINTED	
2	SEI139041AC12	1.00	PK	PARTS FOR ASSEMBLY (U)		
3	4269	36.00	EA	MOD BEARING ROUND A23290X	BEARING, URETHANE	
3	4288	18.00	EA	MOD YOKE BEARING (UPPER)	BEARING, URETHANE	
3	4287	18.00	EA	MOD YOKE BEARING (LOWER)	BEARING, URETHANE	
3	5189	8.00	EA	BOLT 1" DIA x 3 1/2" A490 VL (A)	A-490 FOR CONTROL ARM	
3	7967	8.00	EA	NUT 1" DIA HEAVY HEX (A)	A-563 FOR CONTROL ARM	
3	18804	16.00	EA	W16TU WASHER 1 1/8" ID x 2" OD	FOR CONTROL ARM	
3	5838	8.00	EA	SCREW 3/8" DIA x 1/2" K ALLEN CUP PT	FOR CONTROL ARM	
3	18806	36.00	EA	UHMW SIDE GUIDE A28050	FOR LONGITUDINAL SUPPORT BOX	
3	5188	36.00	EA	BOLT 1 1/2" DIA x 4" A-325 DL (A)	A-325 FOR LONGITUDINAL SUPPORT BOX	
3	7966	36.00	EA	NUT 1 1/2" DIA GALVANIZED L (A)	A-563 FOR LONGITUDINAL SUPPORT BOX	
3	5187	72.00	EA	BOLT 3/8" DIA x 2 1/2" GALVANIZED GR 5	FOR TRANSVERSE SUPPORT BOX	
3	7965	72.00	EA	NUT 3/8" DIA GALVANIZED (A)	A-563 FOR TRANSVERSE SUPPORT BOX	
3	7967	72.00	EA	WASHER 3/8" DIA GALVANIZED (A) GRADE 8	A-563 FOR TRANSVERSE SUPPORT BOX	
3	5583	36.00	EA	URETHANE DISC 1" DIA x 1/8" THK 85A		
3	4298	8.00	EA	CONTROL ARM CONNERCTION PLATE		
3	2826	3.00	EA	NP1 ONE PART POLYURETHANE SEALANT		
3	SEI139041AC13	1.00	PK	PAINTED PARTS FOR ASSEMBLY (U)		
4	4309	18.00	EA	KEEPER BAR STRAIGHT (7B4)	A-588 PAINTED	
4	4236	18.00	EA	ROD KEEPER BLOCK (3P3)	A-588 PAINTED	
2	SEI139041AC14	9.00	EA	LONGITUDINAL SUPPORT BOX BACK PLATE (7P3)		
3	3545	2.13	LB	PLATE 12 GA. GALVANIZED		
2	SEI139041AC15	9.00	EA	TRANSVERSE SUPPORT BOX BACK PLATE (9P3)		
3	3545	3.27	LB	PLATE 12 GA. GALVANIZED		

LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.
2	SEI139041AC16	32.00	EA	LONG AND TRANS CONTROL BOX END PLATE (X)		
3	3445	1.20	LB	PLATE 12 GA. GALVANIZED		
2	SEI139041AC17	8.00	EA	LONGITUDINAL CONTROL BOX BASE PLATE (X)	PAINTED	
3	3563	1.25	LB	PLATE 5/16" A-588	A-588	
2	SEI139041AC18	8.00	EA	TRNASVERSE CONTROL BOX BASE PLATE (X)	PAINTED	
3	3563	1.25	LB	PLATE 5/16" A-588	A-588	
2	SEI139041AC19	8.00	EA	LONGITUDINAL CONTROL BOX BASE COVER PLATE (X)		
3	3545	1.25	LB	PLATE 12 GA. GALVANIZED		
2	SEI139041AC20	8.00	EA	TRNASVERSE CONTROL BOX BASE PLATE (X)		
3	3545	1.25	LB	PLATE 12 GA. GALVANIZED		
2	SEI139041AC21	10.00	EA	SHIPPING ANGLE (6A1) (W)	TEMPORARY DEVICE	
3	3880	1.50	FT	ANGLE 3" x 3" x 3/8"	A-36	
2	SEI139041AC22	4.00	EA	LIFTING ANGLE (6A2) (W)	TEMPORARY DEVICE	
3	4070	1.25	FT	ANGLE 6" x 4" x 1/2"	A-36	

SEI139041PS		QTY: 1 REQ'D.	STRUCTURED BILL OF MATERIALS			DWG. NO.: B-29287	
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.	
0	SEI139041PS	1.00	EA	PARTS FOR SHIPPING (V	FOR ALL JOINTS AND SLIDER PLATES		
1	4293	12.00	EA	MOD LEVELING ROD (1'-0")			
1	8084	12.00	EA	NUT 3/4" LAG			
1	7602	12.00	EA	WASHER 3/4" ZINC PLATED AM	F-436 LEVELING DEVICE		
1	NTS139041D	96.00	EA	HEX BOLT 3/4" DIA x 2" GALVANIZED (A)	A-325		
1	NTS139041C	48.00	EA	HEX BOLT 3/4" DIA x 2 1/2" GALVANIZED (A)	A-325		
1	7591	144.00	EA	WASHER 3/4" DIA GALVANIZED (A)	F-436		
1	8113	144.00	EA	HEX NUT 3/4" DIA GALVANIZED (A)	A-563		
1	NTS139041A	60.00	EA	SCREW 3/4" DIA x3" FLAT CSK HEAD GALV. (A)	A-325		

SEI139041Z		QTY: 48 REQ'D.		STRUCTURED BILL OF MATERIALS		DWG. NO.: B-29287	
LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.	
0	SEI139041Z	1.00	EA	SUPPORT ANGLE (17A2) (W)	FOR ALL JOINTS AND SLIDER PLATES		
1	4293	0.51	LF	ANGLE 4" x 4" x 1/2"	A-588 PAINTED		



DRAWING ACTION:			
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Watson Bowman Acme WATSON BOWMAN ACME CORPORATION 95 PINEVIEW DRIVE AMHERST, N.Y. 14226 TEL: (716) 691-7566 FAX: (716) 691-9232	Detailed By: JFW Checked By: SRN Scale: NTS Sheet No.: 16 OF 21	Date: 3-2-12 Date: 3-12-12 WBA Job No.: 139041 Drawing No.: B-29287	
PROJECT: I-70W OVER I-55, CSX & KCS RAILROADS			
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS			

APPROVED
For Main Dimensions and
Materials Only

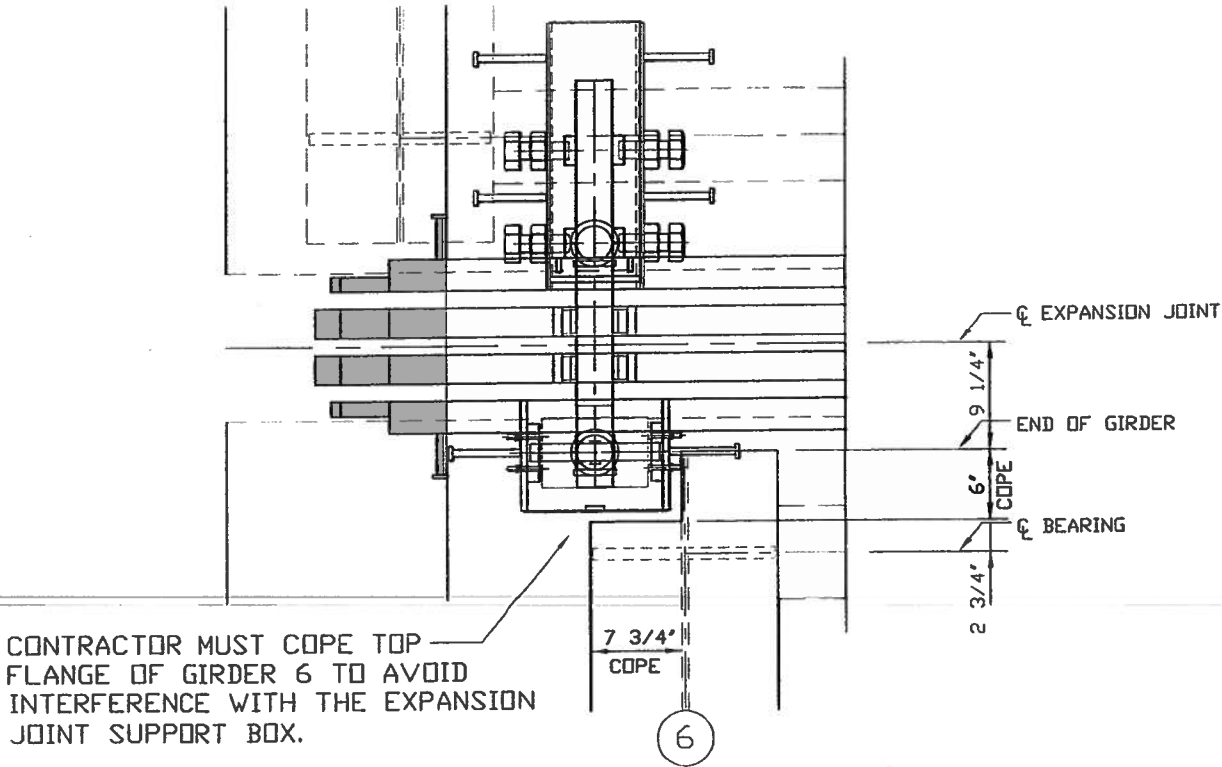
MAY 9 4 2012

A. Carl Ringer
Engineer of Bridges & Traffic Structures

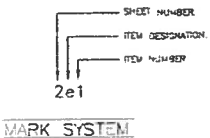
STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SEI139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.
0	SEI139041AE	1.00	EA	WABO X-CELL 900 E.J.; PIER 3; 41.86 LF (X)	JOINT IS PAINTED	
				STRUCTURE NO. 082-0323	SHIPPING LENGTH = 41.0 LF +/-	
				BIN ITEMS		
1	7010	12.00	EA	THREADED STUD 5/8" DIA x 1 1/2" AW NP	A-108 FOR SHIPPING ANGLE	
1	7549	12.00	EA	WASHER 5/8" DIA ZINC PLATED AM	F-436 FOR SHIPPING ANGLE	
1	7960	12.00	EA	NUT 5/8" DIA ZINC PLATED AM	A-307 FOR SHIPPING ANGLE	
1	8084	12.00	EA	NUT 3/4" DIA RICHMOND 2/45 LAG	LEVELING DEVICE/PRESTRESS DEVICE	
1	SEI139041SD	3.00	EA	SEAL FOR SHOP INSTALLATION (U)		
2	090	43.00	LF	SE-300 NEOPRENE SEAL IL C-1735-2	NEOPRENE	
1	SEI139041AE01	1.00	EA	EXTRUSION ASSEMBLY (X)		
2	18802	11.00	EA	BRONZE BEARING 3" LONG (8M1)	A-36, METALIZED	
2	4620	63.00	EA	CONC ANC STUD 5/8" DIA x 6" AW	A-108 BETWEEN SUPPORT BOXES	
2	4631	4.00	EA	CONC ANC STUD 5/8" DIA x 6" AW (BENT)	A-108 CURB UPTURNS	
2	SEI139041AC23	22.00	EA	KEEPER PLATE (8P2) (X)		
3	3545	0.32	LB	PLATE 12 GA. GALVANIZED		
2	SEI139041AE02	1.00	EA	PROFILES (W)		
4	1954	84.00	FT	SS M FM 2 3/4" x 3 1/4" C-11869	A-588	
3	1887	85.00	FT	MOD CB FM SS E 2 1/2" x 5" C-12183	A-588	
3	1917	2.20	FT	SS A FM 1 1/4" x 2" C-11810	A-588	
2	SEI139041AC04	11.00	EA	LONGITUDINAL MOVEMENT SUPPORT BOX X-CELL 900(X)	A-588	
2	SEI139041AC05	11.00	EA	SUPPORT BAR ASSEMBLY X-CELL 900 (X)	A-588 PAINTED	
2	SEI139041AC06	11.00	EA	TRANSVERSE MOVEMENT SUPPORT BOX X-CELL 900(X)	A-588	
2	SEI139041AC11	22.00	EA	HOLD DOWN YOKE ASSEMBLY (X)	A-588 PAINTED	
2	SEI139041AC07	11.00	EA	KEEPER ROD 1 1/2" DIA. (6B1) (X)		
3	9703	0.93	LF	ROUND BAR 1 1/2" DIA HR 4140QT	A-193 B7	
2	SEI139041AC08	6.00	EA	LONGITUDINAL CONTROL BOX ASSEMBLY (X)	A-588	
2	SEI139041AC09	6.00	EA	TRANSVERSE CONTROL BOX ASSEMBLY (X)	A-588	
2	SEI139041AC10	6.00	EA	CONTROL ARM ASSEMBLY (X)	A-588 PAINTED	
2	SEI139041AE12	1.00	PK	PARTS FOR ASSEMBLY (U)		
3	4269	44.00	EA	MOD BEARING ROUND A23290X	BEARING, URETHANE	
3	4288	22.00	EA	MOD YOKE BEARING (UPPER)	BEARING, URETHANE	
3	4287	22.00	EA	MOD YOKE BEARING (LOWER)	BEARING, URETHANE	
3	5189	6.00	EA	BOLT 1" DIA x 3 1/2" A490 VL (A)	A-490 FOR CONTROL ARM	
3	7967	6.00	EA	NUT 1" DIA HEAVY HEX (A)	A-563 FOR CONTROL ARM	
3	18804	12.00	EA	W16TU WASHER 1 1/8" ID x 2" OD	FOR CONTROL ARM	
3	5838	6.00	EA	SCREW 3/8" DIA x 1/2" K ALLEN CUP PT	FOR CONTROL ARM	
3	18806	44.00	EA	UHYMW SIDE GUIDE A28050	FOR LONGITUDINAL SUPPORT BOX	
3	5188	44.00	EA	BOLT 1 1/2" DIA x 4" A-325 DL (A)	A-325 FOR LONGITUDINAL SUPPORT BOX	
3	7966	44.00	EA	NUT 1 1/2" DIA GALVANIZED L (A)	A-563 FOR LONGITUDINAL SUPPORT BOX	
3	5187	88.00	EA	BOLT 3/8" DIA x 2 1/2" GALVANIZED GR 5	FOR TRANSVERSE SUPPORT BOX	
3	7965	88.00	EA	NUT 3/8" DIA GALVANIZED (A)	A-563 FOR TRANSVERSE SUPPORT BOX	
3	7967	88.00	EA	WASHER 3/8" DIA GALVANIZED (A) GRADE 8	A-563 FOR TRANSVERSE SUPPORT BOX	
3	5583	44.00	EA	URETHANE DISC 1" DIA x 1/8" THK 85A		
3	4298	6.00	EA	CONTROL ARM CONNECTION PLATE (10B1)		
3	2826	3.00	EA	NP1 ONE PART POLYURETHANE SEALANT		
3	SEI139041AE13	1.00	PK	PAINTED PARTS FOR ASSEMBLY (U)		
4	4309	22.00	EA	KEEPER BAR STRAIGHT (7B4)	A-588 PAINTED	
4	4296	22.00	EA	ROD KEEPER BLOCK (8P3)	A-588 PAINTED	
2	SEI139041AC14	11.00	EA	LONGITUDINAL SUPPORT BOX BACK PLATE (7P3)		
3	3545	2.13	LB	PLATE 12 GA. GALVANIZED		
2	SEI139041AC15	11.00	EA	TRANSVERSE SUPPORT BOX BACK PLATE (9P3)		
3	3545	3.27	LB	PLATE 12 GA. GALVANIZED		

LV	PART NO.	QTY	UM	DESCRIPTION	MATERIAL	REV.
2	SEI139041AC16	24.00	EA	LONG AND TRANS CONTROL BOX END PLATE (X)		
3	3445	1.20	LB	PLATE 12 GA. GALVANIZED		
2	SEI139041AC17	6.00	EA	LONGITUDINAL CONTROL BOX BASE PLATE (X)	PAINTED	
3	3563	1.25	LB	PLATE 5/16" A-588	A-588	
2	SEI139041AC18	6.00	EA	TRNASVERSE CONTROL BOX BASE PLATE (X)	PAINTED	
3	3563	1.25	LB	PLATE 5/16" A-588	A-588	
2	SEI139041AC19	6.00	EA	LONGITUDINAL CONTROL BOX BASE COVER PLATE (X)		
3	3545	1.25	LB	PLATE 12 GA. GALVANIZED		
2	SEI139041AC20	6.00	EA	TRNASVERSE CONTROL BOX BASE PLATE (X)		
3	3545	1.25	LB	PLATE 12 GA. GALVANIZED		
2	SEI139041AC21	12.00	EA	SHIPPING ANGLE (6A1) (W)	TEMPORARY DEVICE	
3	3880	1.5	FT	ANGLE 3" x 3" x 3/8"	A-36	
2	SEI139041AC22	4.00	EA	LIFTING ANGLE (6A2) (W)	TEMPORARY DEVICE	
3	4070	1.25	FT	ANGLE 6" x 4" x 1/2"	A-36	



GIRDER 6 COPE DETAIL
PIER 3 STRUCTURE NO. 082-0323



APPROVED
For Main Dimensions and
Materials Only
MAY 01 2012
R. Carl Papp
Engineer of Bridges & Traffic Structures

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SEI139041AE, AD & AE
JOINT TYPE: SEISMIC MODULAR

DRAWING ACTION:

APPROVED

ADDED GIRDER 6 COPE DETAIL PER AECOM COMMENTS

JFW 4-17-2012

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Watson Bowman Acme

WATSON BOWMAN ACME CORPORATION
65 PINEVIEW DRIVE AUBURN, N.Y. 14225 TEL (716) 691-0256 FAX (716) 691-0279

BASF

The Chemical Company

PROJECT: I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS

DESIGNED BY: JFW

CHECKED BY: SRN

SCALE: NTS

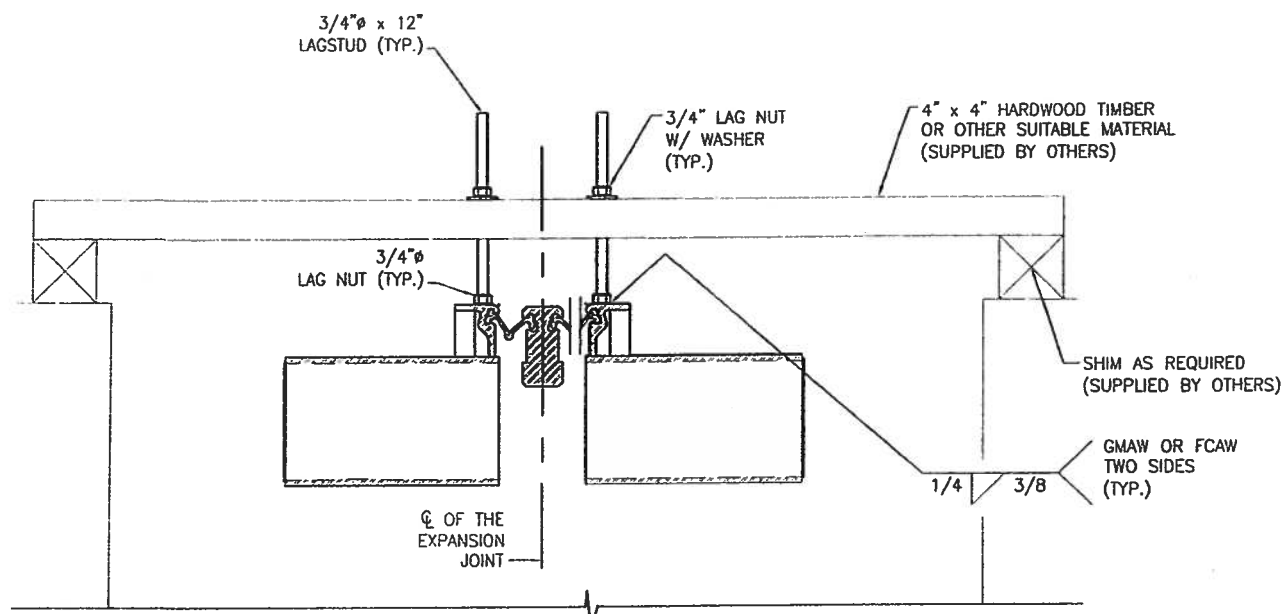
SHEET NO.: 18 OF 21

DATE: 3-2-12

DATE: 3-12-12

WBA JOB NO.: 139041

DRAWING NO.: B-29287

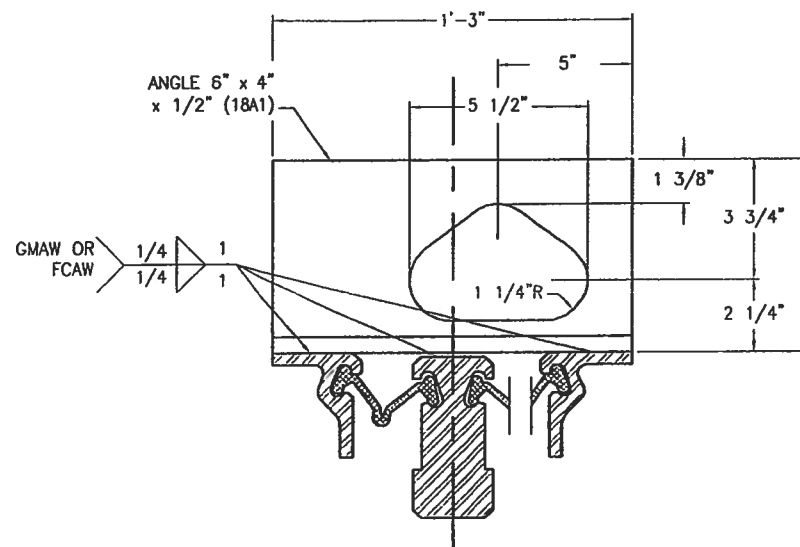


LEVELING ASSEMBLY
(THIS IS A TEMPORARY DEVICE)

NOTE:

1. LEVELING NUTS SHALL BE LOCATED AT EVERY OTHER SUPPORT BOX.
2. LEVELING NUTS SHALL BE SHOP INSTALLED PARALLEL TO THE EXPANSION JOINT SUPPORT BARS.
3. CONTRACTOR SHALL REMOVE LEVELING NUTS WHEN THE JOINT IS SET AND GRIND WELDS SMOOTH.
4. CONTRACTOR SHALL MATCH DRILL THE TIMBER WITH THE 3/4" LAG NUTS PRIOR TO SETTING THE EXPANSION DAM IN ITS FINAL POSITION.
5. CONTRACTOR SHALL TOUCH UP DAMAGED PAINT.

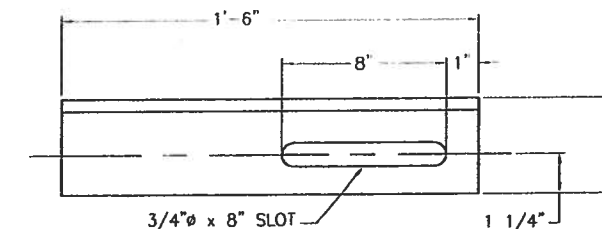
NOTES:
THESE ARE STANDARD WATSON BOWMAN ACME CORP. DETAILS. THE LIFTING ANGLES AND SHIPPING ANGLES SHALL BE SHOP WELDED PRIOR TO SHIPPING.



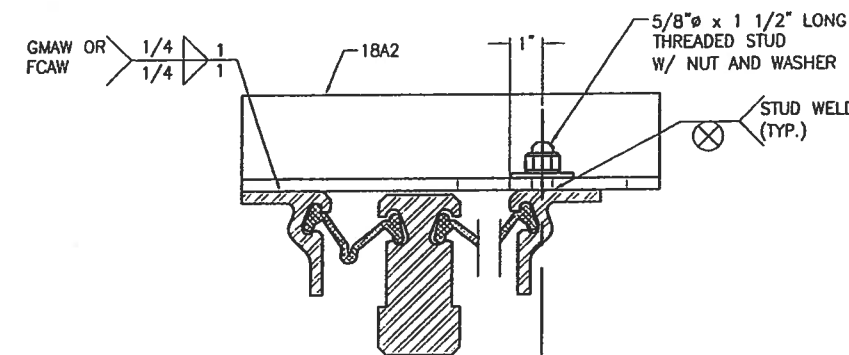
LIFTING DEVICE ASSEMBLY
(THIS IS A TEMPORARY DEVICE)

NOTE:

1. LIFTING ANGLES SHALL BE PLACED BY THE FABRICATOR TO ACHIEVE A LEVEL LIFT FOR PLACEMENT (2 PER JOINT SECTION).
2. THE CONTRACTOR SHALL REMOVE AFTER THE JOINT IS SET IN THE BLOCKOUT, PRIOR TO PRESETTING OF THE JOINT.
3. THE CONTRACTOR SHALL REMOVE BY GRINDING WELDS SMOOTH.
4. CONTRACTOR SHALL TOUCH UP ANY DAMAGED PAINT.



DETAIL ANGLE (18A2)
3" x 3" x 3/8" ANGLE



SHIPPING CLAMP ASSEMBLY
(THIS IS A TEMPORARY DEVICE)

NOTES:

1. SHIPPING CLAMPS SHALL BE SPACED DIRECTLY BETWEEN SUPPORT BOXES AND BETWEEN THE END OF THE JOINT AND LAST BOXES. SHIPPING CLAMPS SHALL BE ORIENTED PARALLEL TO SUPPORT BARS.
2. THE CONTRACTOR IS TO REMOVE THE SHIPPING CLAMPS AND STUDS, WHEN THE JOINT IS SET. WELDS ARE TO BE GROUND SMOOTH AND DAMAGED PAINT IS TO BE TOUCHED UP.
3. EACH SHIPPING CLAMP ASSEMBLY SHALL INCLUDE:
1 - ANGLE (18A2) - 3" x 3" x 3/8"
1 - 5/8" x 1 1/2" LONG THREADED STUD
1 - 5/8" WASHER
1 - 5/8" NUT

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For Main Dimensions and
Materials Only

MAY 01 2012

D. Carl Perry
Engineer of Bridge & Traffic Structures

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SE1139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

MARK SYSTEM
2e1

DRAWING ACTION:

APPROVED

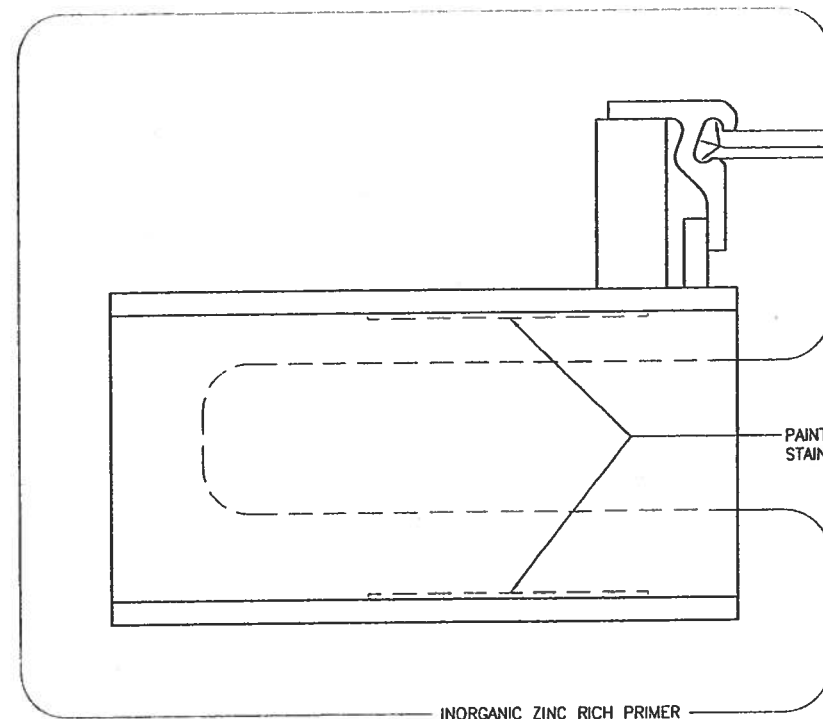
ADDED NOTE PER AECOM'S COMMENT
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Watson Bowman Acme
The Bridge & Traffic Structures Company

Q-BASF
The Bridge & Traffic Structures Company

PROJECT: I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS

DESIGNED BY: JFW	DATE: 3-2-12
CHECKED BY: SRN	DATE: 3-12-12
SCALE: NTS	WBA JOB NO.: 139041
SHEET NO.: 19 OF 21	DRAWING NO.: B-29287

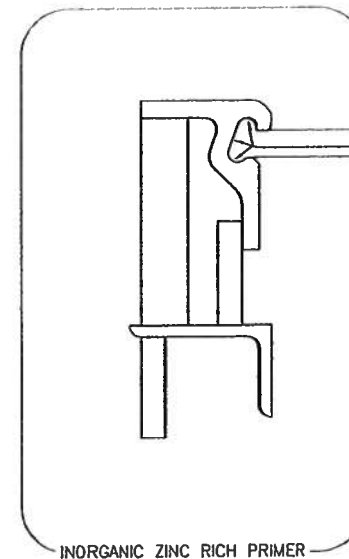


STRIP SEAL CAVITY SHALL BE PROTECTED FROM INORGANIC ZINC RICH PRIMER (TYP.). PAINTER SHALL COAT THE SEAL CAVITY WITH KRYLON INDUSTRIAL ACRYLIC CRYSTAL CLEAR LACQUER SPRAY.

PAINTER TO PROTECT STAINLESS STEEL FROM PAINT

INORGANIC ZINC RICH PRIMER

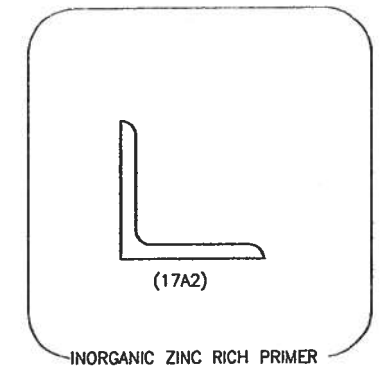
EDGE BEAM AT TRANSVERSE SUPPORT BOX
PAINT DETAIL



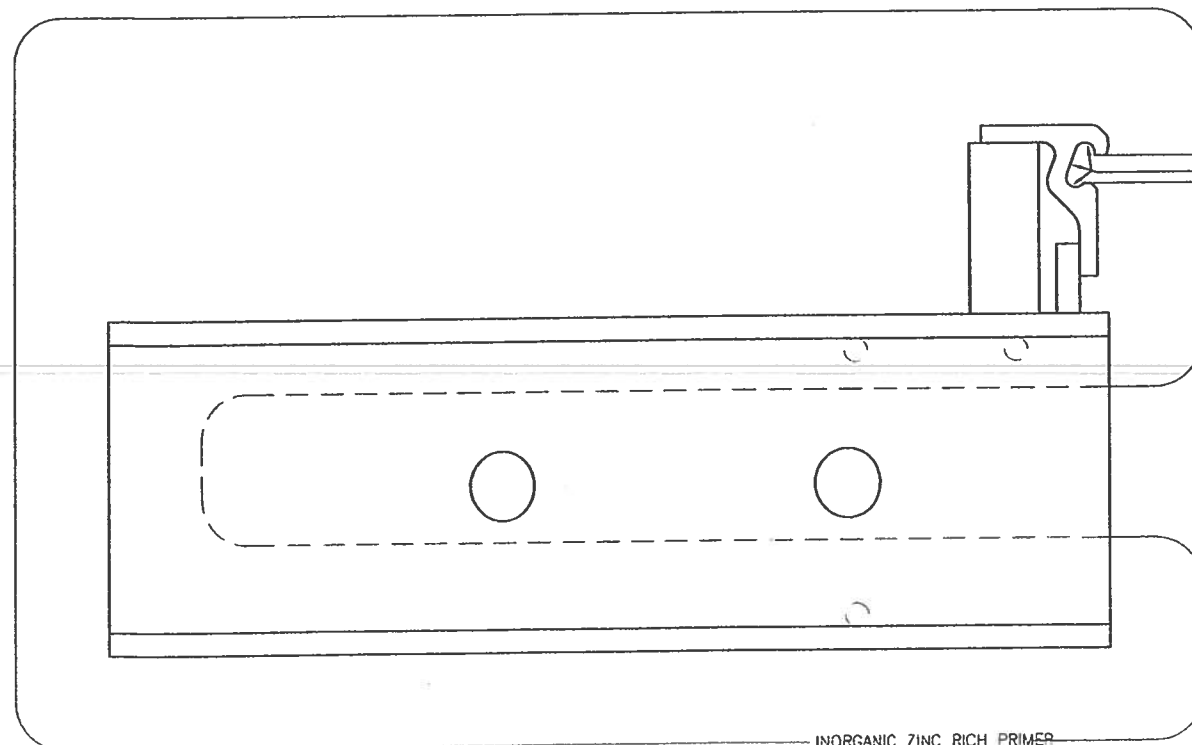
STRIP SEAL CAVITY SHALL BE PROTECTED FROM INORGANIC ZINC RICH PRIMER (TYP.). PAINTER SHALL COAT THE SEAL CAVITY WITH KRYLON INDUSTRIAL ACRYLIC CRYSTAL CLEAR LACQUER SPRAY.

INORGANIC ZINC RICH PRIMER

EDGE BEAM AT CONTROL BOX ASSEMBLY
PAINT DETAIL



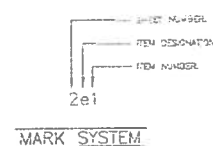
CONTROL BOX ASSEMBLY SUPPORT ANGLE
PAINT DETAIL



STRIP SEAL CAVITY SHALL BE PROTECTED FROM INORGANIC ZINC RICH PRIMER (TYP.). PAINTER SHALL COAT THE SEAL CAVITY WITH KRYLON INDUSTRIAL ACRYLIC CRYSTAL CLEAR LACQUER SPRAY.

INORGANIC ZINC RICH PRIMER

EDGE BEAM AT LONGITUDINAL SUPPORT BOX
PAINT DETAIL



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MAY 04 2012

S. Carl Perry
Engineer of Bridge & Traffic Structures

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SEI139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

DRAWING ACTION:

APPROVED

NO.	DESCRIPTION	NAME	DATE
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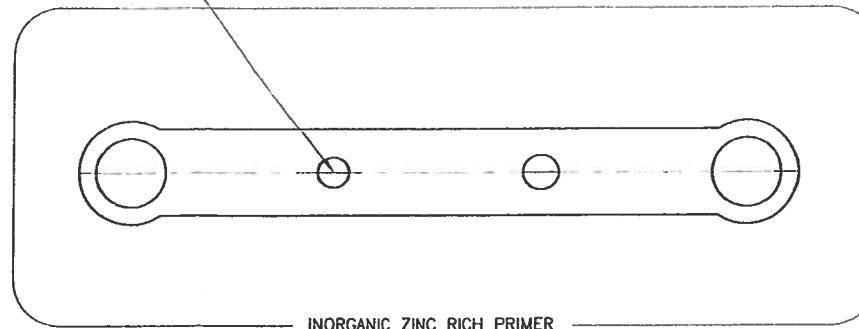
Watson Bowman Acme
The Chemical Company

25 PINEVIEW DRIVE, ALBANY, N.Y. 12228 TEL: (518) 691-7500 FAX: (518) 691-9233

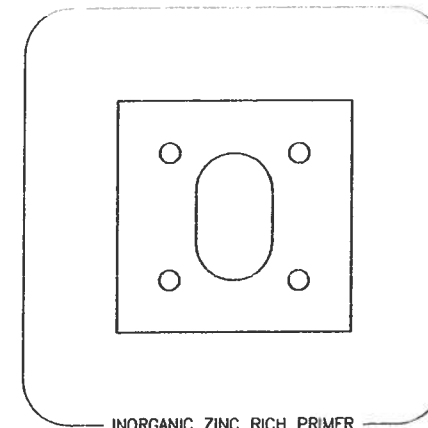
PROJECT: I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR 900 EXPANSION JOINT DETAILS

DESIGNED BY: JFW	DATE: 3-2-12
CHECKED BY: SRN	DATE: 3-12-12
SCALE: NTS	WBA JOB NO.: 139041
SHEET NO.: 20 OF 21	DRAWING NO.: 8-29287

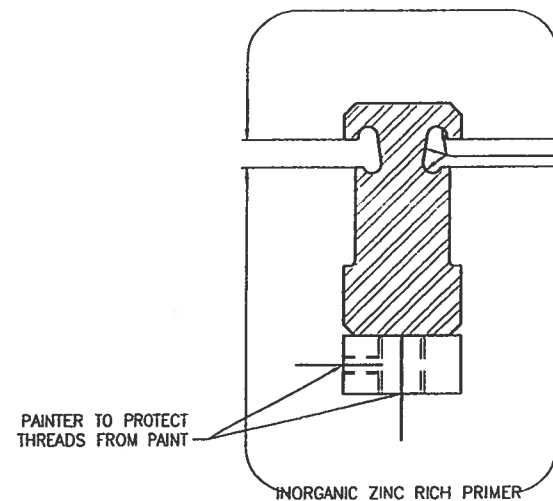
PAINTER TO PROTECT
THREADS FROM PAINT



INORGANIC ZINC RICH PRIMER
CONTROL ARM PAINT DETAIL

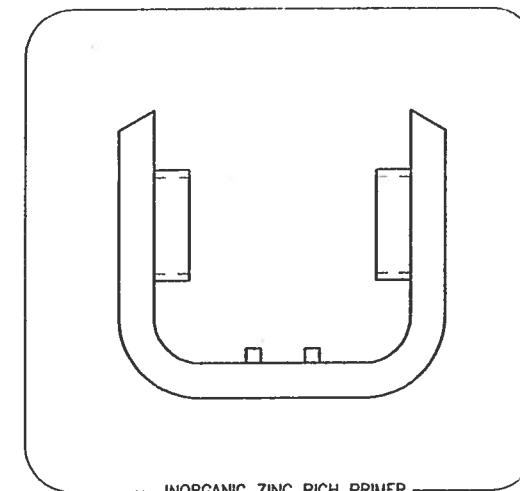


INORGANIC ZINC RICH PRIMER
ROD KEEPER BLOCK PAINT DETAIL



INORGANIC ZINC RICH PRIMER
CENTERBEAM AT CONNECTION PLATE
PAINT DETAIL

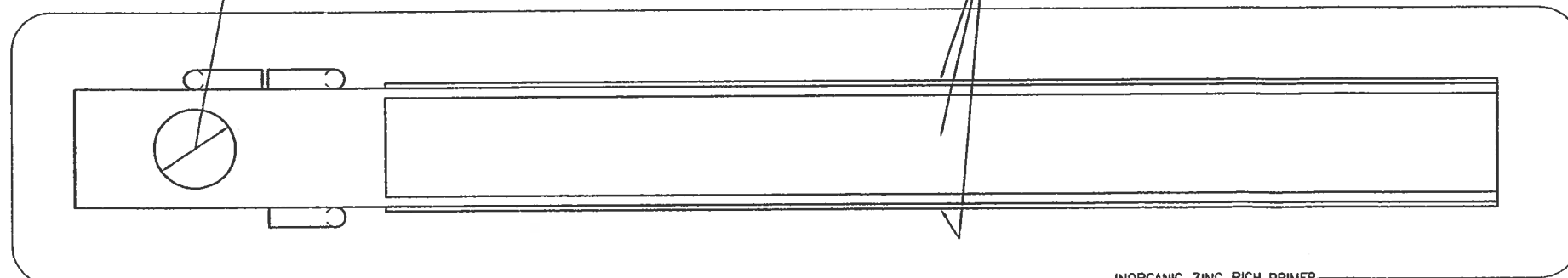
STRIP SEAL CAVITY SHALL BE PROTECTED
FROM INORGANIC ZINC RICH PRIMER (TYP.).
PAINTER SHALL COAT THE SEAL CAVITY
WITH KRYLON INDUSTRIAL ACRYLIC CRYSTAL
CLEAR LACQUER SPRAY (TYP.).



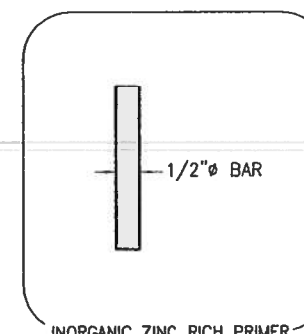
INORGANIC ZINC RICH PRIMER
YOKE ASSEMBLY PAINT DETAIL

PAINTER TO PROTECT HOLE
FROM PAINT

PAINTER SHALL PROTECT
STAINLESS STEEL FROM PAINT



INORGANIC ZINC RICH PRIMER
SUPPORT BAR PAINT DETAIL



1/2" Ø BAR
INORGANIC ZINC RICH PRIMER
KEEPER BAR PAINT DETAIL

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For Main Dimensions and
Materials Only

MAY 04 2012

A. Carl Perry
Engineer of Bridge & Traffic Structures

STATE: ILLINOIS
COUNTY: ST. CLAIR
CONTRACT NO.: 76C75
SECTION: 82-1-B-1
STATE JOB NO.: C-98-025-10
STRUCTURE NO.: 082-0323 & 082-0325
WBA PRODUCT NO.: SEI139041AC, AD & AE
JOINT TYPE: SEISMIC MODULAR

SHEET NUMBER
ITEM DESIGNATION
ITEM NUMBER
2e1
MARK SYSTEM

DRAWING ACTION:

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**Watson
Bowman
Acme**

WATSON BOWMAN ACME CORPORATION
85 PINEVIEW DRIVE, AMHERST, N.Y. 14226 TEL: (716) 691-7566 FAX: (716) 691-9239

BASF
The Chemical Company

PROJECT:
I-70W OVER I-55, CSX & KCS RAILROADS
WABO SEISMIC MODULAR 300 EXPANSION JOINT DETAILS

DETAILED BY: JFW	DATE: 3-2-12
CHECKED BY: SRN	DATE: 3-12-12
SCALE: NTS	WBA JOB NO.: 139041
SHEET NO.: 21 OF 21	DRAWING NO.: B-29287