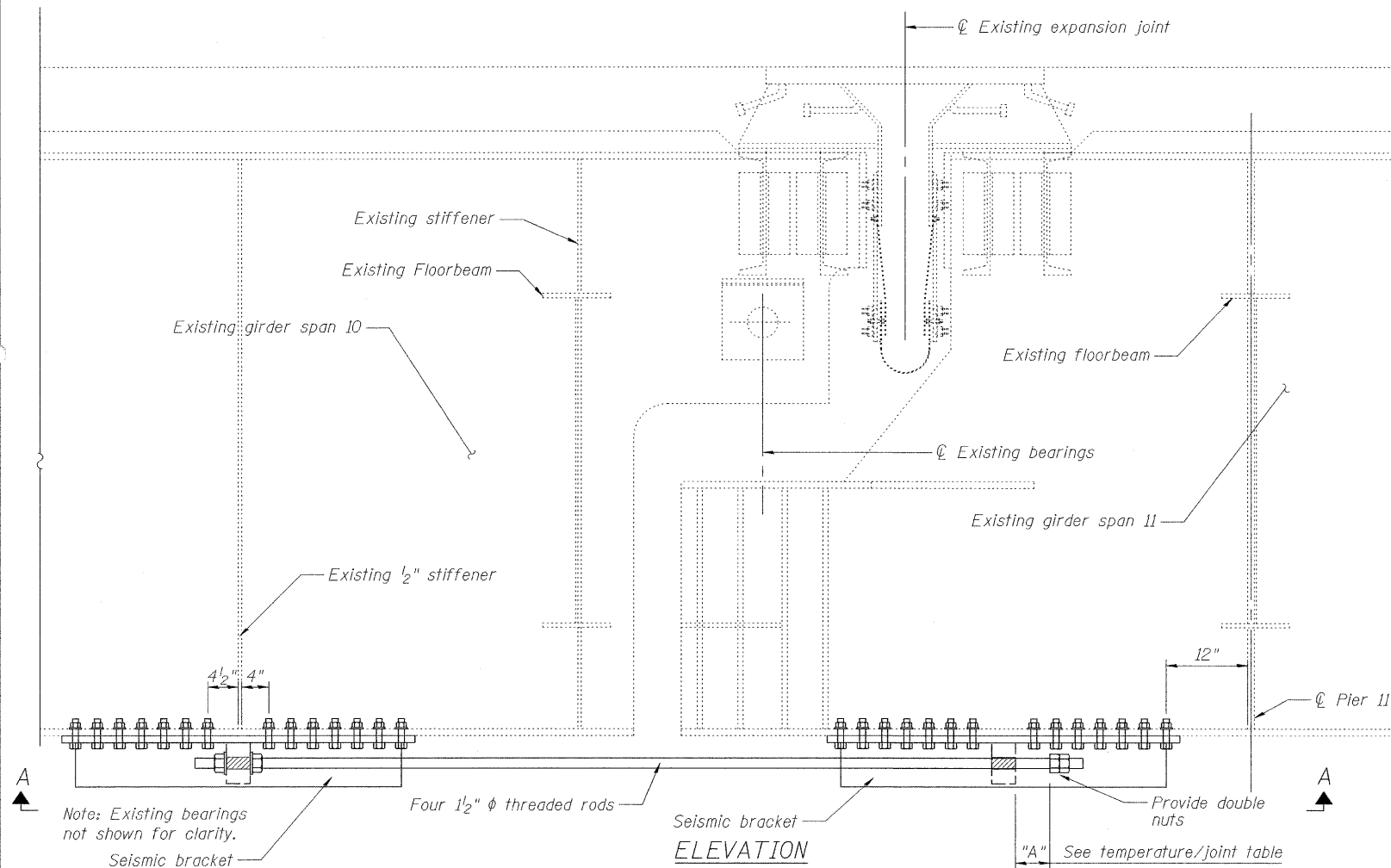
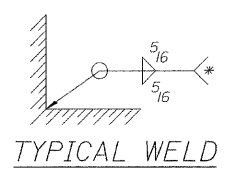


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

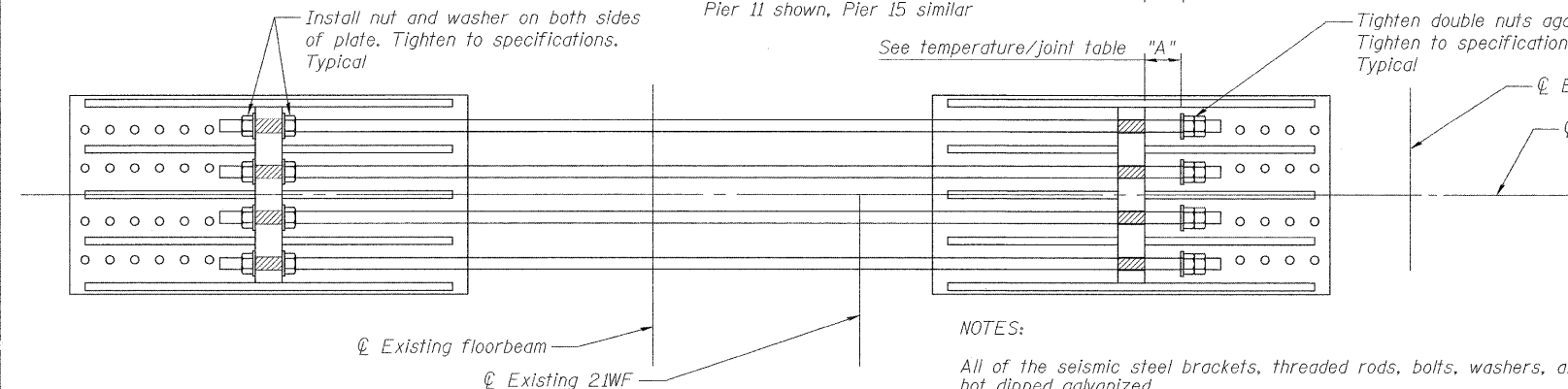
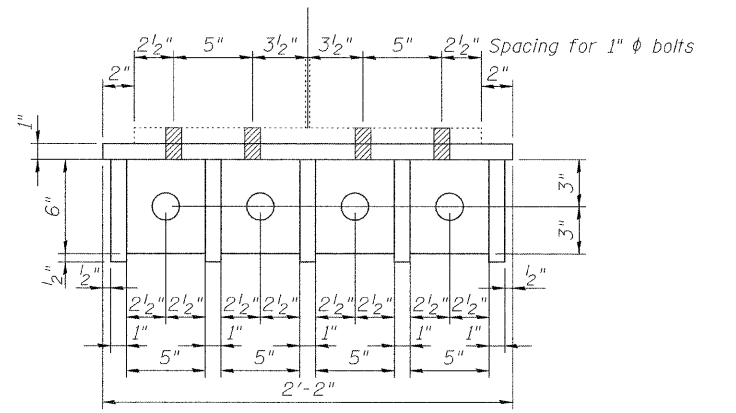
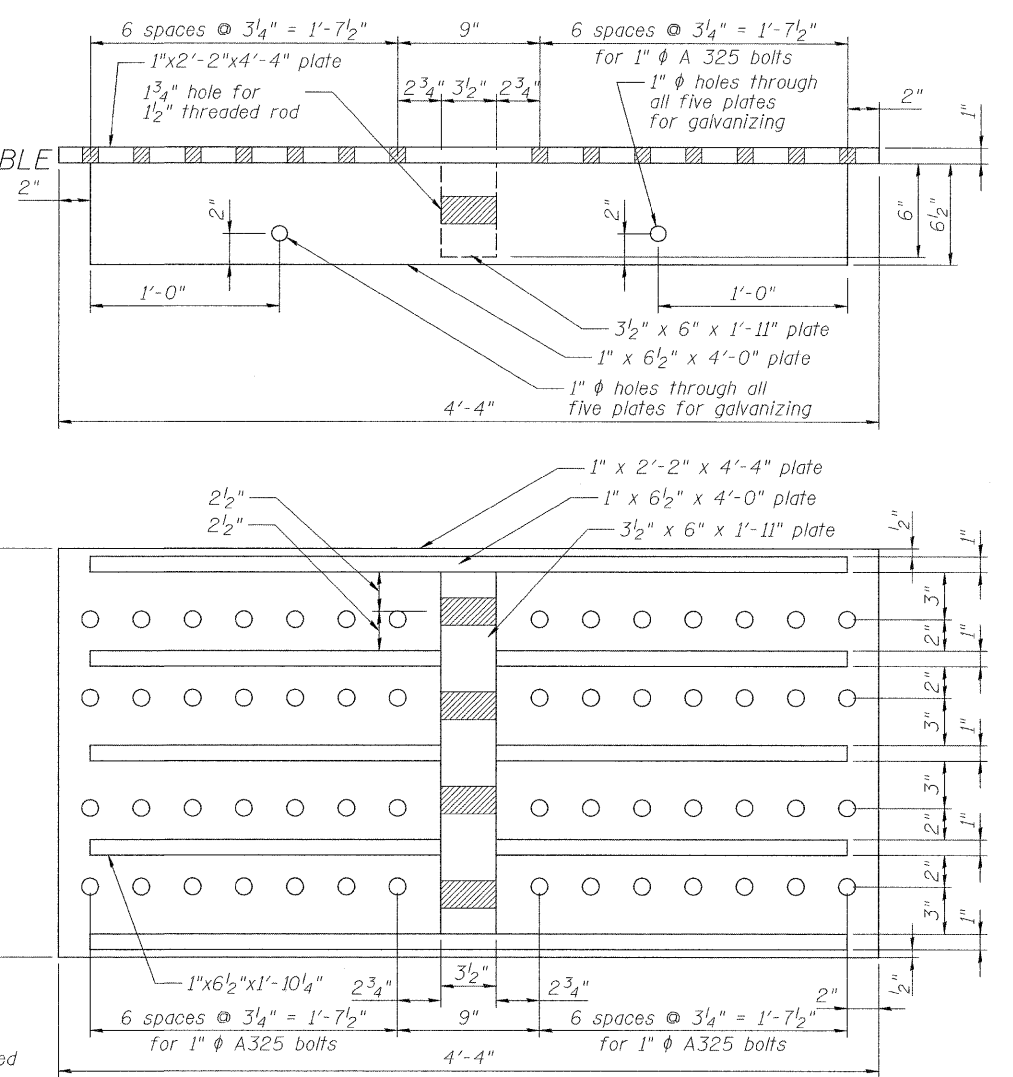


TEMPERATURE / JOINT TABLE

Temp (F) Joint	A	
	Pier 11	Pier 15
20°	3 1/8"	3 1/8"
35°	4"	4"
50°	4 3/4"	4 3/4"
65°	5 1/2"	5 1/2"
80°	6 3/8"	6 3/8"
95°	7 1/8"	7 1/8"
110°	7 7/8"	7 7/8"



* A partial joint penetration weld is acceptable in lieu of the above weld criteria, in areas where there is limited access to weld.



NOTES:
All of the seismic steel brackets, threaded rods, bolts, washers, and nuts utilized in the seismic retrofit shall be hot dipped galvanized.

Four 1.50" diameter high strength ASTM A320 L7 hot dipped galvanized threaded rods shall be installed at each of the main girders. Each rod shall be installed with hot dipped galvanized washers and nuts. Each threaded rod shall be one continuous piece with couplers not allowed. The nuts utilized on the threaded rods shall be ASTM A194 Grade 4 heavy hex nuts. The washers utilized on the threaded rods shall be ASTM F436 circular Type 1 hardened steel washers. A seismic restraint system shall be installed at each main girder.

ASTM A325 bolts with diameters of 1 inch shall be utilized to attach the seismic brackets to the existing main girders. The nuts utilized with the A325 bolts shall be ASTM A194 Grade 4 heavy hex nuts. The washers utilized with the bolts shall be ASTM F436 circular Type 1 hardened steel washers.

The seismic brackets shall be hot dipped galvanized according to ASTM A123, with a minimum coating grade of 50.

The high strength threaded rods, bolts, washers, and nuts shall be hot dipped galvanized according to ASTM A153 and ASTM Z329.

Brackets and connections are 125% stronger than the restrainer rod.

Approximate length of 1/2" φ threaded rod is ±11'-6".

Contractor to field verify dimensions prior to fabrication.

SEISMIC BRACKET DETAILS

SEISMIC RESTRAINER NEAR PIERS 11 & 15

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	18,680

SECTION A-A

Existing steel not shown for clarity

DESIGNED NJM
CHECKED RM
DRAWN JVK
CHECKED NJM

SHEET NO. 29 36 SHEETS	F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 42
	CONTRACT NO. 76A92			FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT	

L:\647178-Chain of Rocks\04-Design\CADD\Sheet Files\06090305-76A92-6.dgn