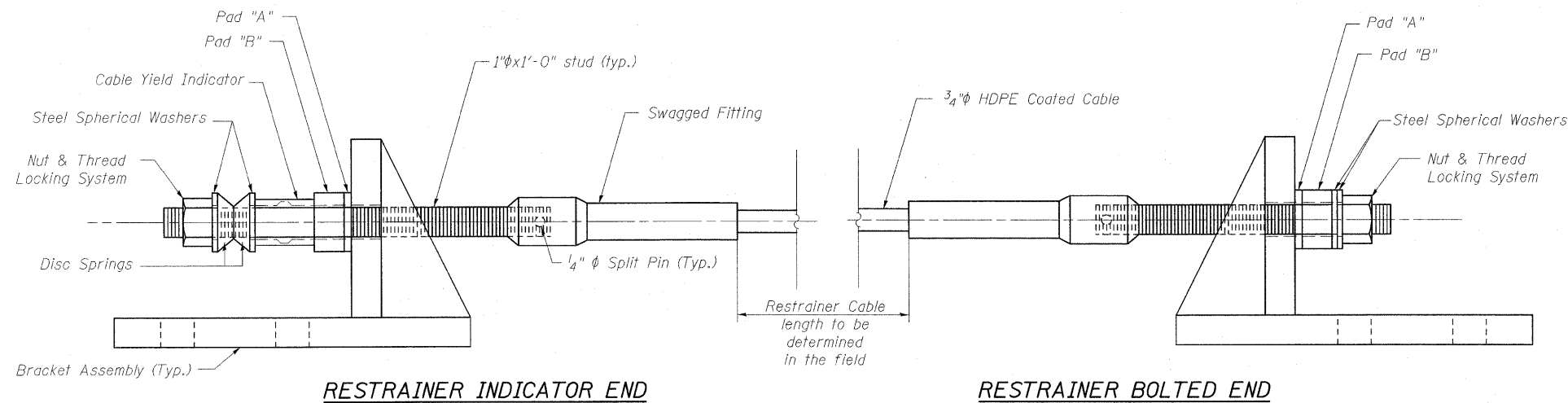


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CABLE RESTRAINER UNIT INSTALLATION PROCEDURE

1. Align cable assembly angles with bumper assembly. For Bumper placement see Sheet 12 and 13 of 27.
2. Install Cable Yield Indicator, Spherical Washers, Disc Springs, Washers and Nut on the indicator end of Seismic Restrainers.
3. Place Spherical Washers and Nut on bolted end of restrainers. Place Thread Locking System on bolted end stud prior to installing nut and washers, and prior to setting the cable.
4. Tighten nut on the cable at the indicator end of restrainer. The cable should be approximately straight with no sag.
5. Place Thread Locking System on indicator end stud after tightening the cable but before backing off the nut. Back off the nut at restrainer indicator end a distance equal to maximum additional amount that the joint is expected to open, relative to existing ambient conditions. See Expansion Table on Sheet 13 of 27.
6. If the cable needs to be secured from turning while tightening, use double nut locking technique on the stud to protect the threads.
7. For Thread Locking System, see Special Provision for Seismic Restrainers.

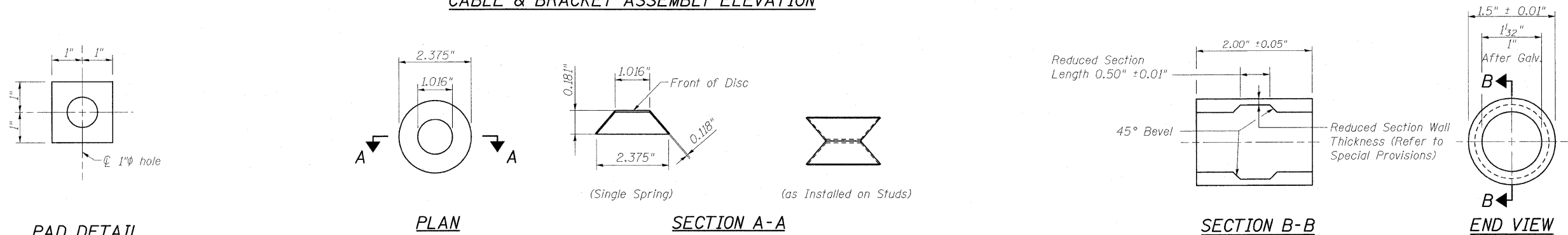
Cost of Bracket Assemblies is included with Furnishing and Erecting Structural Steel.



RESTRAINER INDICATOR END

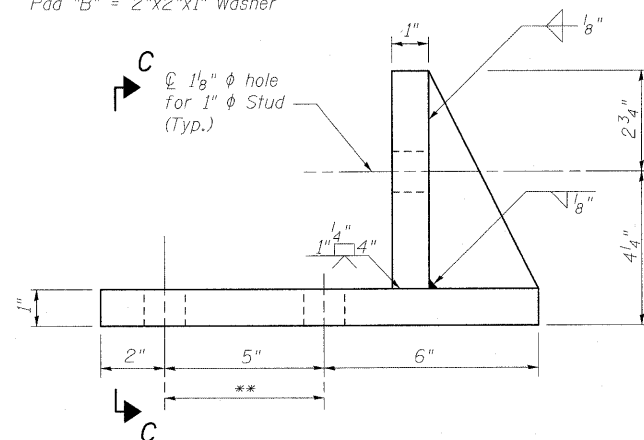
RESTRAINER BOLTED END

CABLE & BRACKET ASSEMBLY ELEVATION



PAD DETAIL

Pad "A" = 2"x2"x1/4" Plain Elastomeric Bearing Pad (50 Durometer)
Pad "B" = 2"x2"x1" Washer

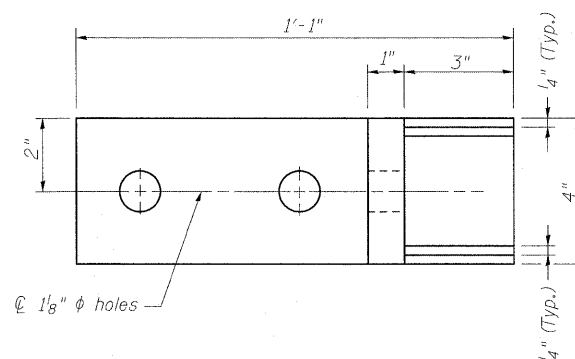


ELEVATION

** \varnothing 1/8" hole for 1" x 4 1/2" long A325 bolts with 1-1/16" washer

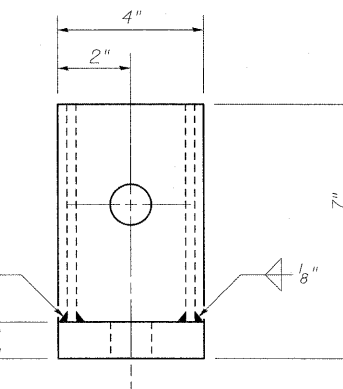
PLAN

DISC SPRING



PLAN

BRACKET ASSEMBLY



SECTION C-C

DESIGNED	B.B.
CHECKED	C.J.F.
DRAWN	W.J.S.
CHECKED	C.J.F. & B.B.

**SEISMIC RESTRAINER & BRACKET DETAILS
STRUCTURE NO. 025-0001**



**BERNARDIN
LOCHMUELLER &
ASSOCIATES, INC.**

3 Oak Drive
Mazzyville, IL 62062-5685
Local: (618) 288-4685
Fax: 618-288-4686

SHEET NO. 11 27 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	57	(25-3HBII-2)	EFFINGHAM	1416	1365
SN 025-0001			CONTRACT NO. 74296		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					