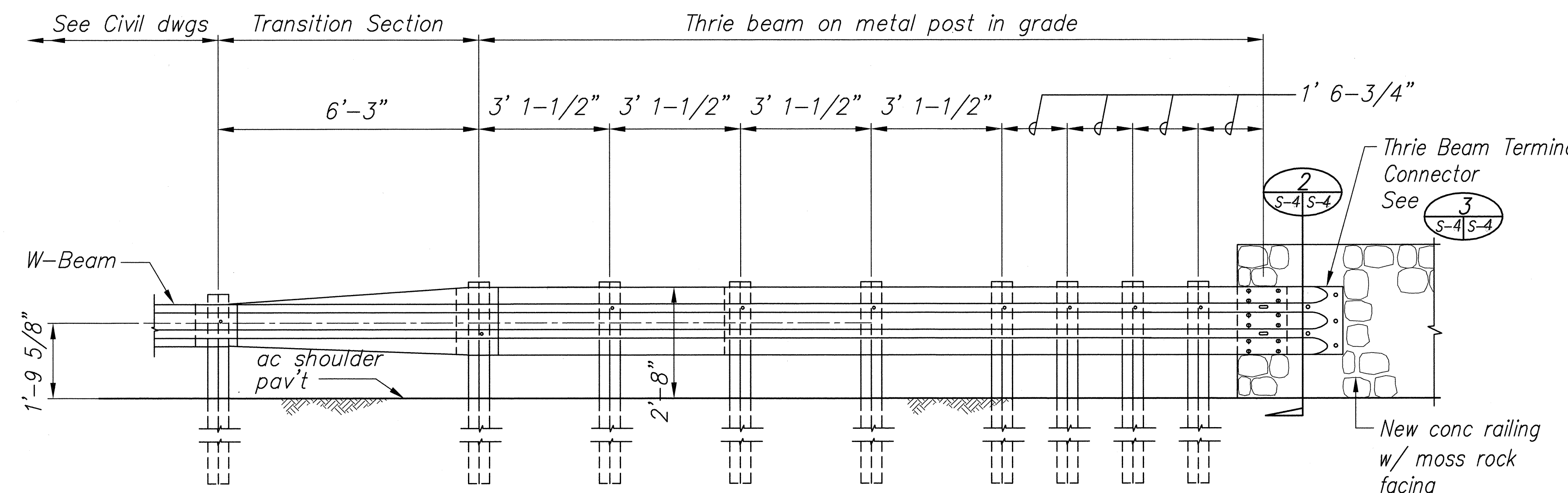
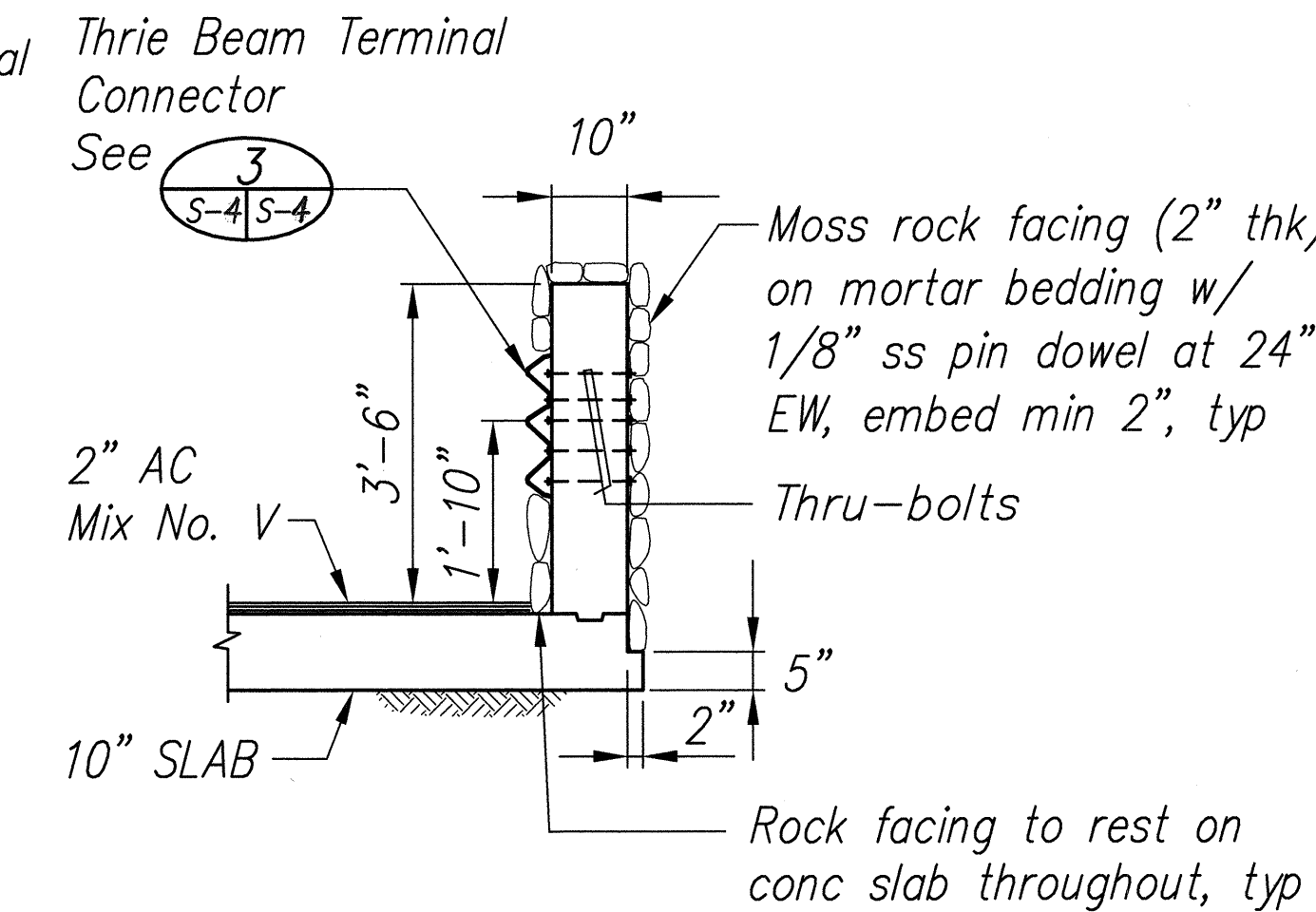


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	560A-03-99	2002	15	86



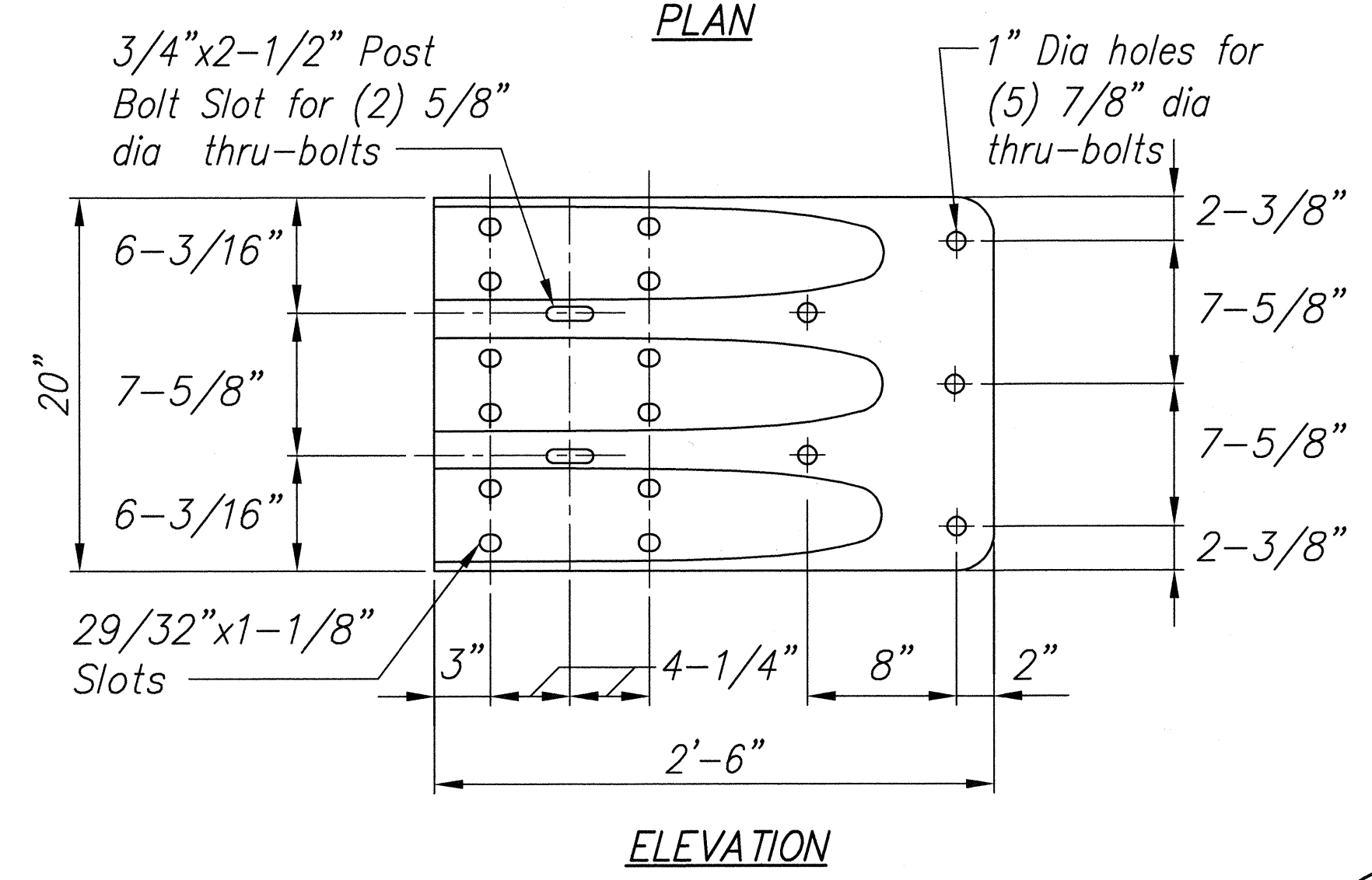
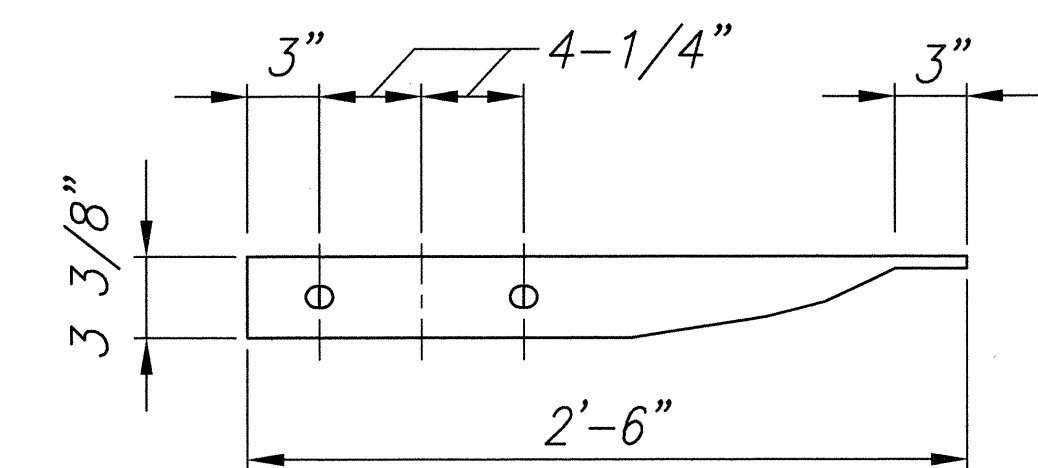
1 ELEVATION OF CONCRETE WALL AND TRANSITION
S-4 S-4 Scale: 1/2"=1'-0"



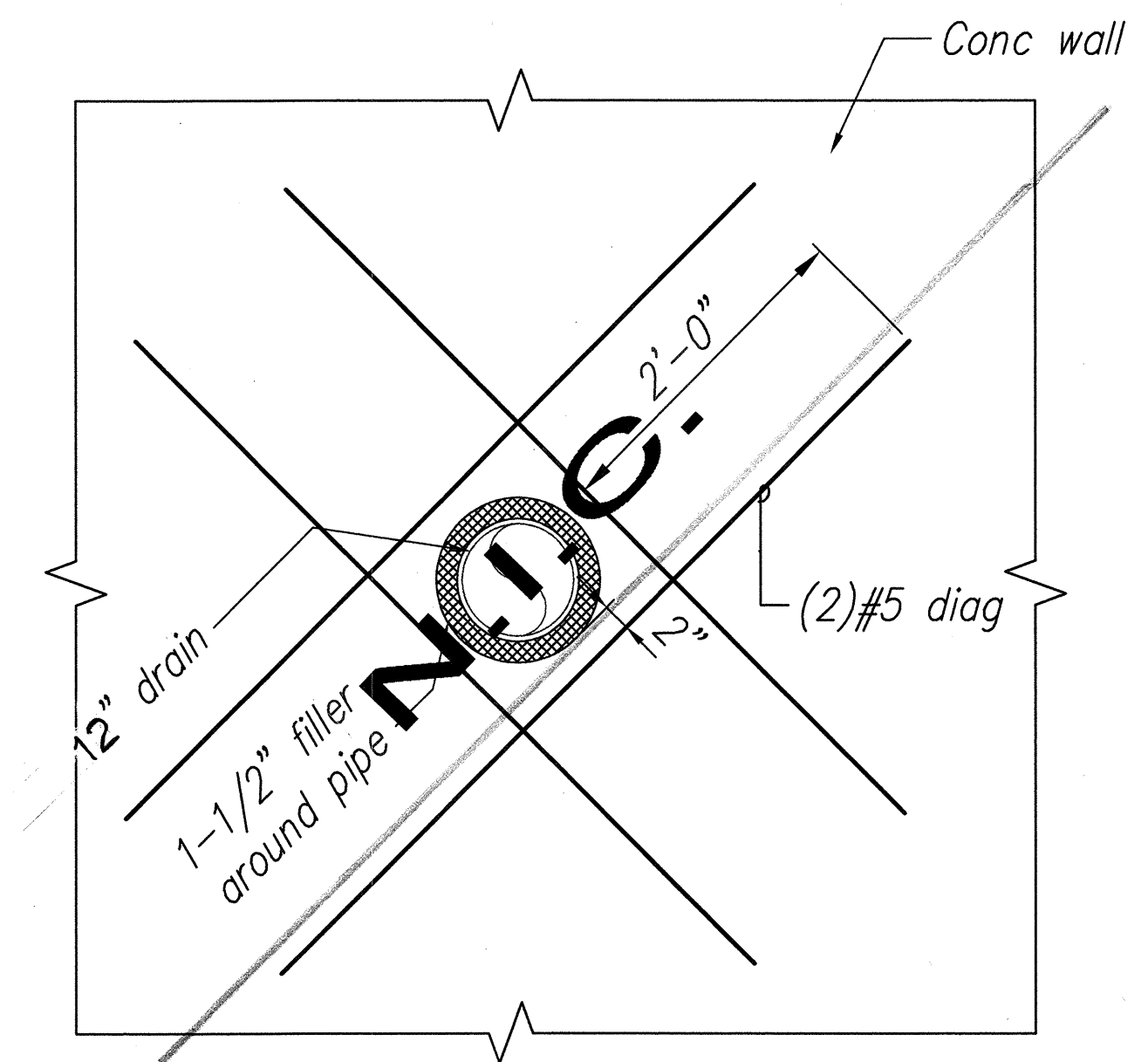
2 SECTION AT CONNECTOR
S-4 S-4 Scale: 1/2"=1'-0"

STRUCTURAL NOTES:

- Concrete strength at 28 days.
Cast-in-place concrete 4,500 psi
Precast concrete beam 4,500 psi
Precast concrete box culvert 5,000 psi
- Reinforcing steel shall be ASTM A615 Grade 60.
- Reinforcing steel for beams, slabs and deadman shall be lap spliced at midspan for top bars and at support for bottom bars.
- Minimum splice length shall be 43 bar diameter unless otherwise noted.
- Structural steel shape and plate shall conform to ASTM A36 or A992 and hot dip galvanized after fabrication. Anchor bolts and straps shall be stainless steel ASTM A240 Type 316L. Galvanized steel surfaces exposed to weather shall be prepared and coated with DFT 4 mils of polyurethane per manufacturer's recommendations.
- Foundation data:
A. Drilled shaft axial capacity:
Extreme event limit state = 140 tons
Strength limit state = 90 tons
B. Bearing value at service limit state = 1,500 psf
C. Bearing value of strength limit state = 2,700 psf
D. Bearing value at extreme event limit state = 4,600 psf
E. At rest pressure = 60 pcf (above water level)
F. At rest pressure = 92 pcf (below water level)
- Contractor shall observe the maximum load capacity posted at each existing bridge, when transporting and delivering materials and equipment. If required temporarily reinforce the bridge at no cost to the State.
- Rock facing shall be fastened to wall with 1/8" headed stainless steel pin at 24" o.c., with minimum embedment of 2". Pins shall be incidental to rock facing work. See Section 656 of Special Provisions.



3 THRIE BEAM TERMINAL CONNECTOR
S-4 S-4 Scale: 1-1/2"=1'-0"



4 WALL PIPE OPENING DETAIL
S-4 S-4 NTS



Norman K. Nagamine
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MISC. DETAILS AND NOTES
KUHIO HIGHWAY
SHOULDER IMPROVEMENTS
Haena to Princeville
Project No. 560A-03-99
Scale: Noted Date: February, 2002
SHEET No. S-4 OF 4 SHEETS

S-4