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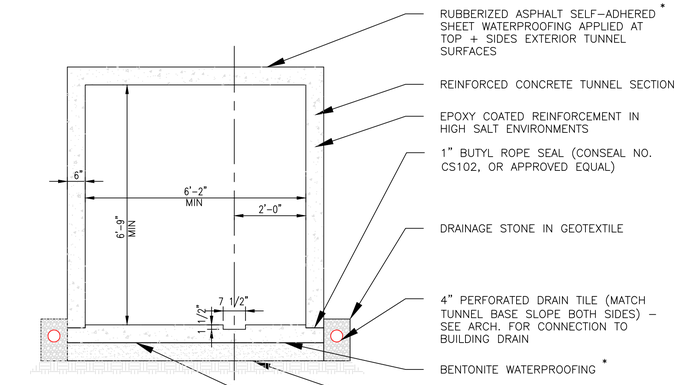
* WATERPROOFING SYSTEM CAN BE MODIFIED WITH OWNER'S APPROVAL. INTENT IS TO HAVE A LONG TERM WARRANTED SYSTEM.

NOTE: TUNNEL DESIGN AT A MINIMUM SHALL MEET AASHTO H-20 (HS-20) LOADING



RUBBERIZED ASPHALT SELF-ADHERED * SHEET WATERPROOFING APPLIED AT TOP + SIDES EXTERIOR TUNNEL SURFACES

REINFORCED CONCRETE TUNNEL SECTION

EPOXY COATED REINFORCEMENT IN HIGH SALT ENVIRONMENTS

1" BUTYL ROPE SEAL (CONSEAL NO. CS102, OR APPROVED EQUAL)

DRAINAGE STONE IN GEOTEXTILE

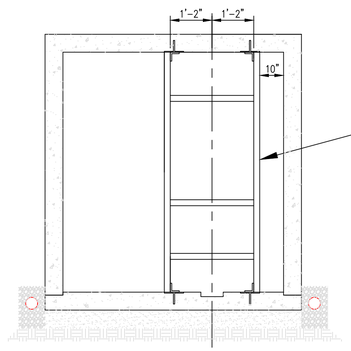
4" PERFORATED DRAIN TILE (MATCH TUNNEL BASE SLOPE BOTH SIDES) - SEE ARCH. FOR CONNECTION TO BUILDING DRAIN

BENTONITE WATERPROOFING *

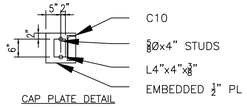
MIN. 6" GRANULAR FILL COMPACTED TO 95% MAX DENSITY

6" TUNNEL BASE W/REGULAR REINFORCEMENT

1 TUNNEL SECTION
SCALE: 1/2"=1'-0"



C10x25 (GALV., TYP U.O.N.)



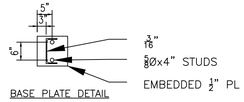
C10

5/8Ø x 4" STUDS

L4"x4"x3/8"

EMBEDDED 1/2" PL

CAP PLATE DETAIL



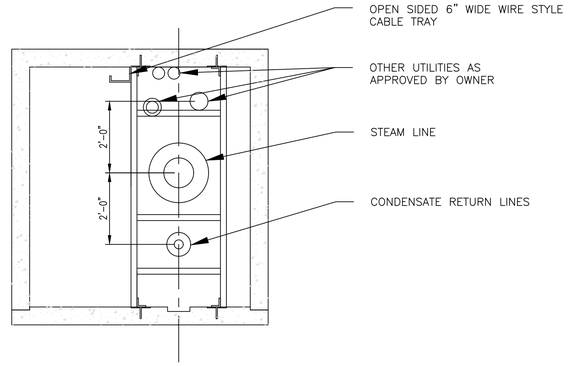
3/16"

5/8Ø x 4" STUDS

EMBEDDED 1/2" PL

BASE PLATE DETAIL

2 TUNNEL PIPE RACK
SCALE: 1/2"=1'-0"



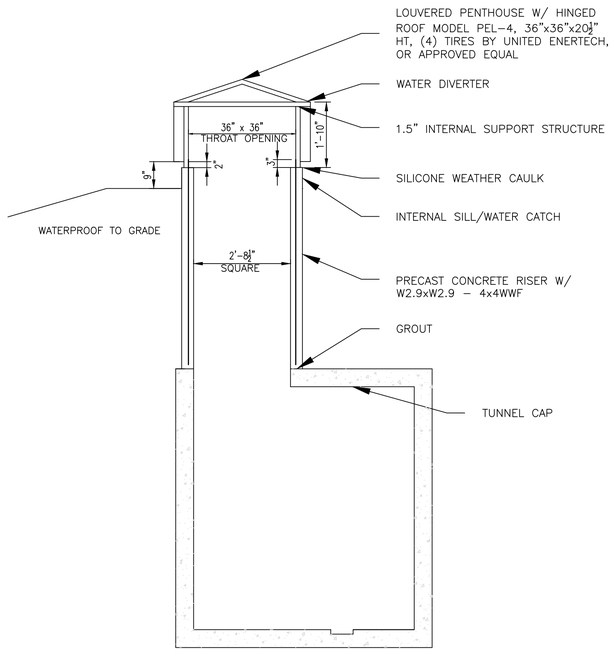
OPEN SIDED 6" WIDE WIRE STYLE CABLE TRAY

OTHER UTILITIES AS APPROVED BY OWNER

STEAM LINE

CONDENSATE RETURN LINES

3 TYP PIPE LOCATION
SCALE: 1/2"=1'-0"



LOUVERED PENTHOUSE W/ HINGED ROOF MODEL PEL-4, 36"x36"x20 1/2" HT, (4) TIRES BY UNITED ENERTECH, OR APPROVED EQUAL

WATER DIVERTER

1.5" INTERNAL SUPPORT STRUCTURE

SILICONE WEATHER CAULK

INTERNAL SILL/WATER CATCH

PRECAST CONCRETE RISER W/ W2.9xW2.9 - 4x4WWF

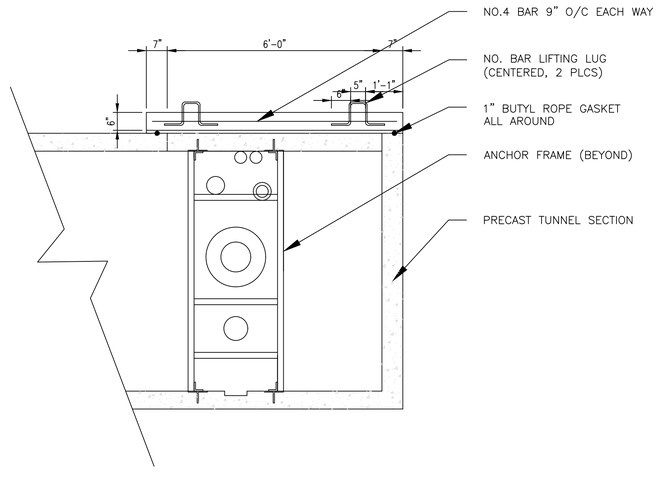
GROUT

TUNNEL CAP

4 ACCESS/VENT DETAILS
SCALE: 1/2"=1'-0"

NOTE: WHEN USED AS ACCESS CONSULT WITH OWNER

NOTE: WATERPROOF EXTERIOR OF PIPE CHUTE PER DETAIL 1-TUNNEL SECTION



NO.4 BAR 9" O/C EACH WAY

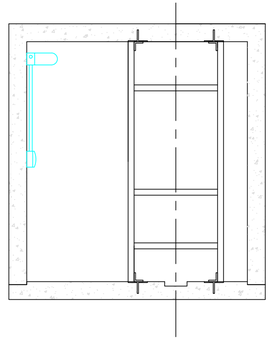
NO. BAR LIFTING LUG (CENTERED, 2 PLCS)

1" BUTYL ROPE GASKET ALL AROUND

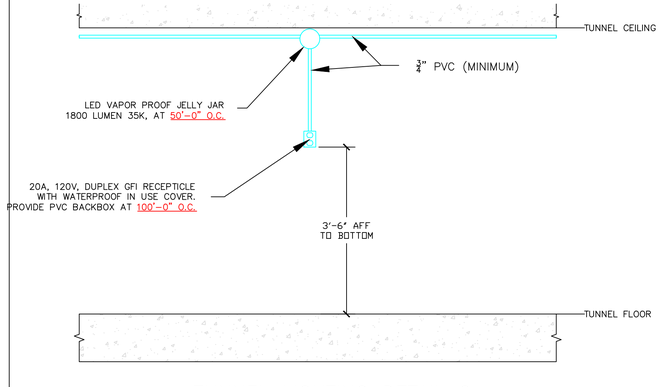
ANCHOR FRAME (BEYOND)

PRECAST TUNNEL SECTION

5 PIPE CHUTE DETAIL
SCALE: 1/2"=1'-0"



TUNNEL LIGHTING DETAIL 1
SCALE: NTS



TUNNEL LIGHTING DETAIL 2
SCALE: NTS

& PLANNING OFFICE
FACILITIES MANAGEMENT
206 COMBINED SERVICES BUILDING
MOUNT PLEASANT, MI 48859
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FAX: (989)774-6187

CENTRAL MICHIGAN UNIVERSITY

TUNNEL DETAILS

STRUCTURAL

50% SCHEMATIC DESIGN REVIEW ISSUE DATE: 50SD2D_ISSUE_DATE	☐
90% SCHEMATIC DESIGN REVIEW ISSUE DATE: 90SD2D_ISSUE_DATE	☐
50% DESIGN DEVELOPMENT REVIEW ISSUE DATE: 50DD2D_ISSUE_DATE	☐
90% DESIGN DEVELOPMENT REVIEW ISSUE DATE: 90DD2D_ISSUE_DATE	☐
50% CONSTRUCTION DOC. REVIEW ISSUE DATE: 50DOC2_ISSUE_DATE	☐
90% CONSTRUCTION DOC. REVIEW ISSUE DATE: 90DOC2_ISSUE_DATE	☐
BID AND CONSTRUCTION SET ISSUE DATE: BID_ISSUE_DATE	☐
FINAL RECORD - AS BUILT SET ISSUE DATE: RECORD_ISSUE_DATE	☐
FOR REFERENCE ONLY ISSUE DATE: 4/XX/19	■
STATE PLAN REVIEW ISSUE DATE: STATEREVIEW_ISSUE_DATE	☐

△	DATE	DESCRIPTION

DRAWN BY: D.M
CHECKED BY: D.M
APPROVED BY: D.M

SHEET NO.
S-001

A/E PROJECT NO.

CMU PROJECT NO.

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