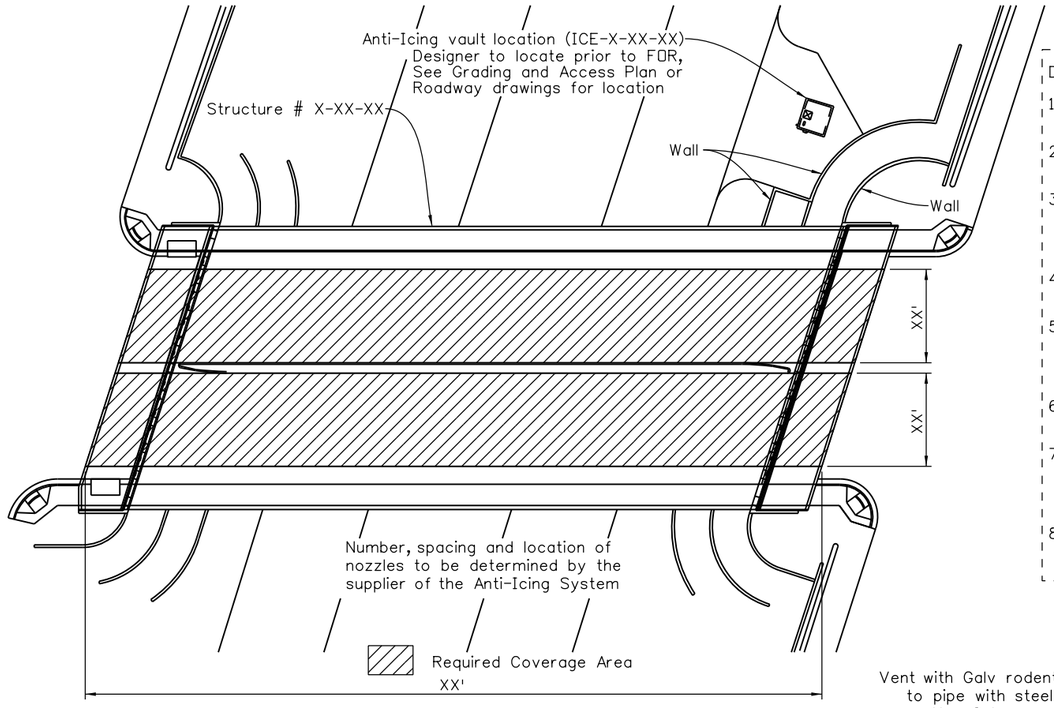


OVERALL SYSTEM LAYOUT AND REQUIREMENTS

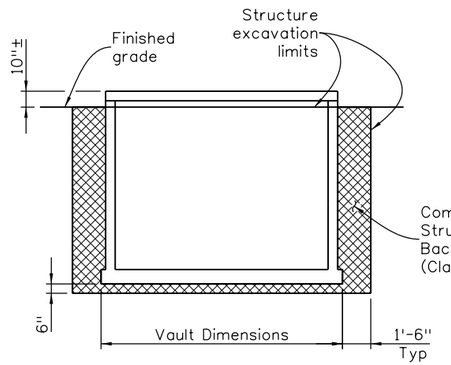
DESIGNER/DETAILER:

1. Check with Maintenance for preferred locations of vault.
2. Provide minimum 20'x20' "level" area around the anti-icing vault for refilling activities.
3. For bad drainage areas provide French drain system around vault and drain piping to low area. Quantities will need to be calculated and supplied in Roadway Quantities.
4. Have Geotech do a preliminary drilling if bedrock may be a concern.
5. Tanks that fit through 3' roof opening have a 220 gallon capacity. Max capacity for current layout is 1320 gallons (6 tanks). Revise Project Special Provision and Drawings for capacity required.
6. Provide plan of required coverage area similar to one shown.
7. Select the appropriate Reference File for Vault Layout desired. All are currently attached at the proper location - DO NOT MOVE ITEMS IN THE LINEWORK MODEL.
8. Venting Requirements for the vault must be determined by a qualified HVAC Engineer registered in the State of Colorado.

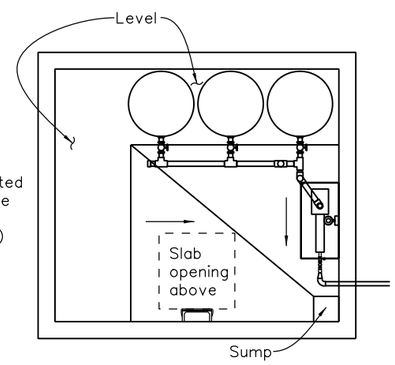
INDEX OF DRAWINGS

NOTES:

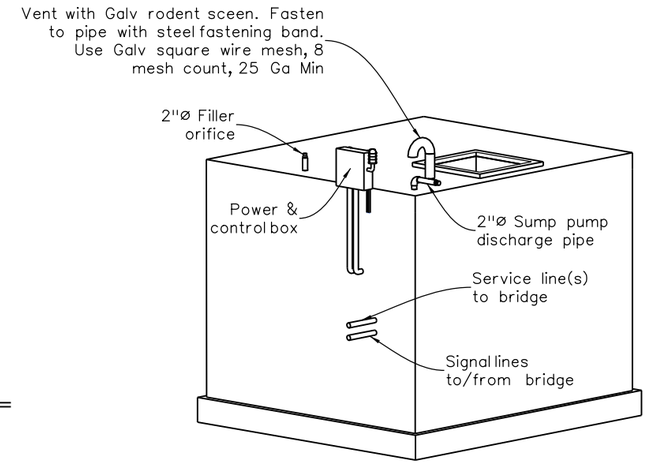
1. See Roadway and Bridge plans for elevations and geometry.
2. Exact placement of conduit, valve control boxes and nozzles on the bridge and approach slabs shall be coordinated with the Anti-Icing system supplier prior to construction.
3. Pavement sensors shall be installed per Manufacturer's recommendations.
4. All concrete shall be Class D.
5. Grade 60 reinforcing steel is required.
6. Steps shall be in accordance with AASHTO M199.
7. All construction joints shall be thoroughly cleaned before fresh concrete is poured.
8. Do not backfill until top slab has reached design strength, f'c.
9. The Contractor is responsible for the stability of the structure during construction.
10. Equipment layout in the vault shall be approved by the Engineer prior to construction.
11. Damp-proofing/waterproofing shall be applied to the exterior of vault below grade.
12. Approximate distance to telephone and power tie-ins is ___Ft. The Contractor shall determine locations of all utility tie-ins and verify distances. The cost for utility lines and tie-ins shall not be paid for separately but shall be included in the cost of the work.
13. Contractor shall verify dimensional compatibility of vault with Manufacturer and Anti-Icing equipment selected. Dimensions shown are minimums.



EXCAVATION AND BACKFILL



VAULT LAYOUT PLAN



ISOMETRIC VIEW

See Vault Layout for orientation

DESIGN DATA

AASHTO, Sixth Edition LRFD

Design Method: Load and Resistance Factor Design

Live Load:
Traffic surcharge on exterior walls = 2'-0"
Load on manhole = 85 Lb/SF
Load on top slab = 85 Lb/SF
Ko = 0.44

Reinforced concrete:
Class D Concrete: f'c = 4,500 psi
Reinforcing Steel: fy = 60,000 psi

These approximate structure quantities are for information only and are required for each Anti-Icing Vault:

206 Structure Excavation - 85 CY
206 Structure Backfill (Class 1) - 35 CY
518 Waterstop - 45 LF
601 Concrete Class D - 17.5 CY
601 Reinforcing Steel - 2200 Lb

SUMMARY OF QUANTITIES

ITEM NO	DESCRIPTION	UNIT	X-XX-X	TOTAL
614	Anti-Icing System	EA	1	1

Revision Dates (Preliminary Stage Only)						
5/01	4/02	9/02	2/06	3/07	10/13	3/23

INITIALS	DESIGN	DATE	DETAIL	DATE	QUANTITY	DATE
By						
Checked By						

All seals for this set of drawings are applied to the cover page(s)

Print Date: $DATE$
File Name: Sheet_B-614-1.dgn
Horiz. Scale: Not to Scale Vert. Scale: As Noted
Unit Information Unit Leader Initials

Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation
2829 West Howard Place, 3rd Floor
Denver, CO 80204
Phone: 303-512-4079
FAX: 303-757-9197
Staff Bridge Branch Initials

As Constructed
No Revisions:
Revised:
Void:

ANTI-ICING SYSTEM
OVERALL SYSTEM LAYOUT
AND GENERAL NOTES

Designer: XXXXXXXX
Detailer: XXXXXXXX
Sheet Subset: BRIDGE
Structure Numbers: X-XX-XX / X-XX-XX
Subset Sheets: BXX of XXX

Project No./Code
Project Number
Code
Sheet Number

$PLOT_INFO$