

Chapter 11 - Structural Repairs

SECTION 11

NOISE WALL REPAIRS (SR-NW)

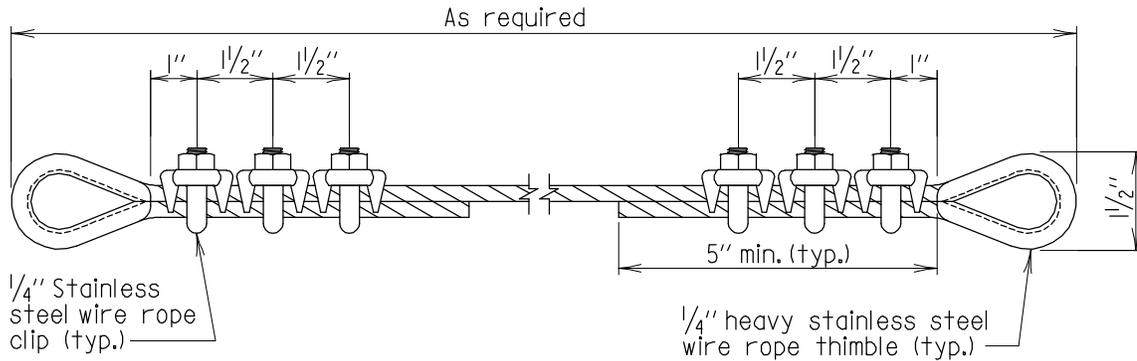
GENERAL NOTES

- Wire Rope: Wire rope shall meet the requirements of Federal Specification RR-W-410D, Latest Edition, Type 304 Stainless Steel 7 x 19 IWRC aircraft cable, Extra improved plow steel. The cable shall be 1/4" diameter having a minimum breaking load of 6400 lbs and a working and a working load limit of 1400 lbs.
- Clips: Wire rope clips shall be stainless steel and meet Federal Specifications FF-C-450D, Type I, Class I. A minimum of 3 clips shall be installed at each loop fitting. Nuts for clips shall be tightened to a torque of 15 ft-lbs.
- Thimbles: Wire rope thimbles shall be 1/4" heavy stainless steel and meet Federal Specification FF-T-276b, Type III.
- Turnbuckle: Turnbuckles shall be 1/2" diameter with a 6" take up and jaw end fittings at both ends that meet Federal Specification FF-T-791B, Type I, Form I, Class 7. Turnbuckles shall be forged stainless steel, quenched and tempered. Turnbuckles shall have a minimum breaking load of 11,000 lbs and a working load limit of 2,200 lbs.
- Steel Pipe: Stainless steel pipes shall be nominal 3/4" diameter standard weight pipe meeting A 53, Grade B furnished to the dimensions shown on the Plans. The outside edges of the pipe shall be deburred to prevent damage to the wire rope.
- Epoxy Adhesive: Refer to SHA Specification 921.04.

APPROVAL
<i>Sam C. Washburn</i> DIRECTOR OFFICE OF STRUCTURES
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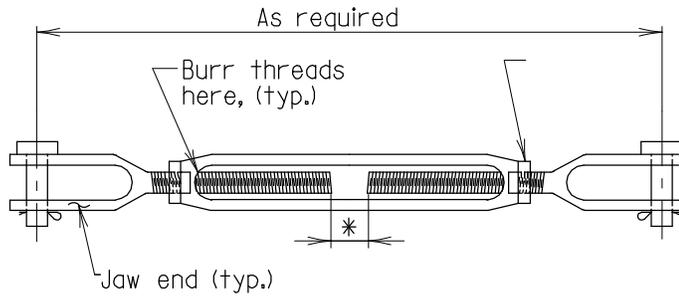
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
NOISE WALL PANEL RESTRAINT DETAIL GENERAL NOTES
DETAIL NO. SR-NW-101
SHEET <u>1</u> OF <u>2</u>

STRUCTURAL REPAIRS



DETAIL OF 1/4" STAINLESS STEEL WIRE ROPE

Scale: None



* Allow a 1/2" minimum gap after wire rope is taken up to snug tightness.

DETAIL OF 1/2" DIAMETER STAINLESS STEEL TURNBUCKLE

Scale: None

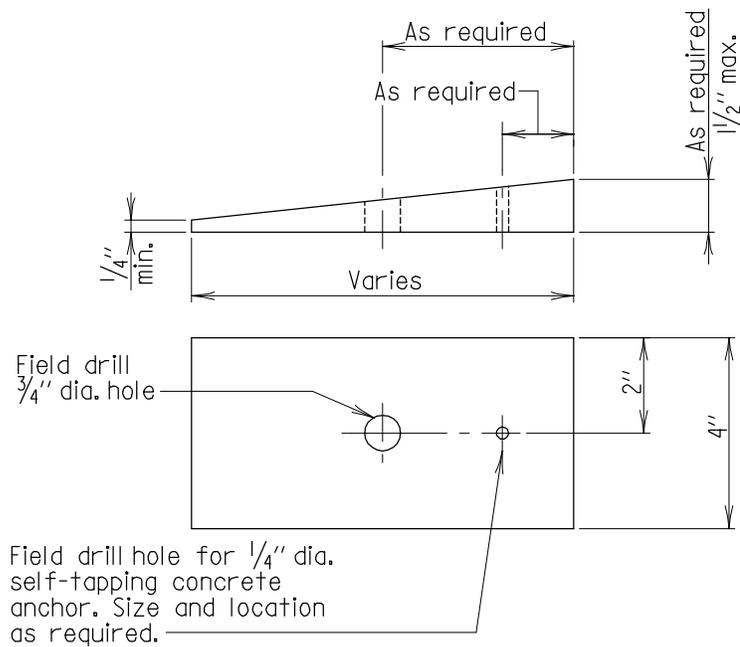
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STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
NOISE WALL PANEL RESTRAINT DETAIL HARDWARE
DETAIL NO. SR-NW-101
SHEET 2 OF 2

STRUCTURAL REPAIRS

CONSTRUCTION SEQUENCE

1. Core a 1/4" dia. hole through the existing panel at locations as shown on panel elevation view of appropriate standard sheet.
2. Coat the outside face of the stainless steel pipe and the inside of the 1/4" dia. hole with epoxy adhesive as specified in the General Notes. Allow epoxy to set before threading or tensioning the wire rope.
3. Loop wire rope through stainless steel pipe and fasten turnbuckle as shown on Section A-A of appropriate standard sheet. The turnbuckle shall be taken up to snug tightness and tightened down with the jam nut. Burr turnbuckle threads after tightening is complete.
4. Coat those areas of the neoprene wedges in contact with concrete with lubricant adhesive conforming to 911.04.03 before inserting.



NEOPRENE WEDGE DETAIL

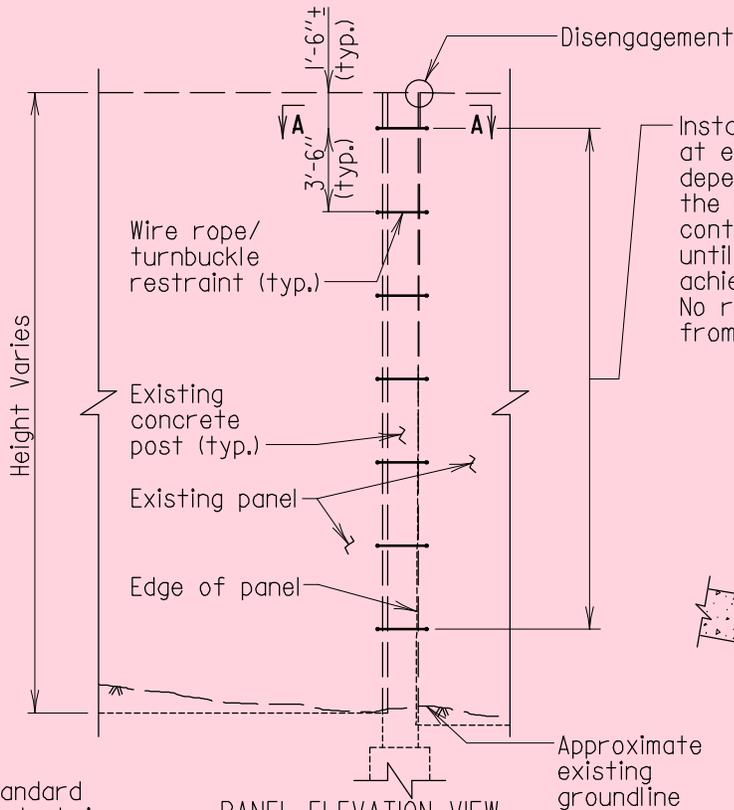
Scale: 1/4" = 1"

Note:
For neoprene specifications refer to M220-67. Color to match existing noise wall.

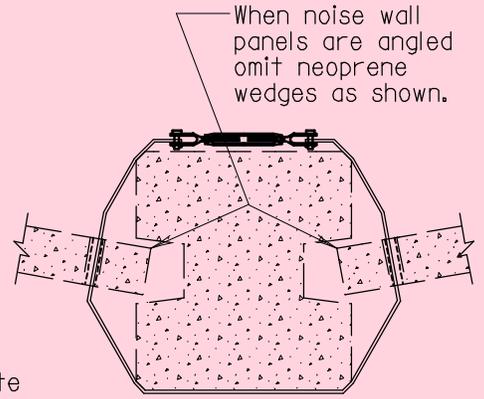
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STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
NOISE WALL PANEL RESTRAINT DETAIL WEDGE
DETAIL NO. SR-NW-102 SHEET <u> </u> OF <u> </u>

STRUCTURAL REPAIRS



Install cable restraints, starting at either the top or bottom, depending on the location of the disengagement, and continuing downward/upward until the edge of the panel has achieved 1" of engagement. No restraints are required from that point.



ALTERNATE SECTION A-A

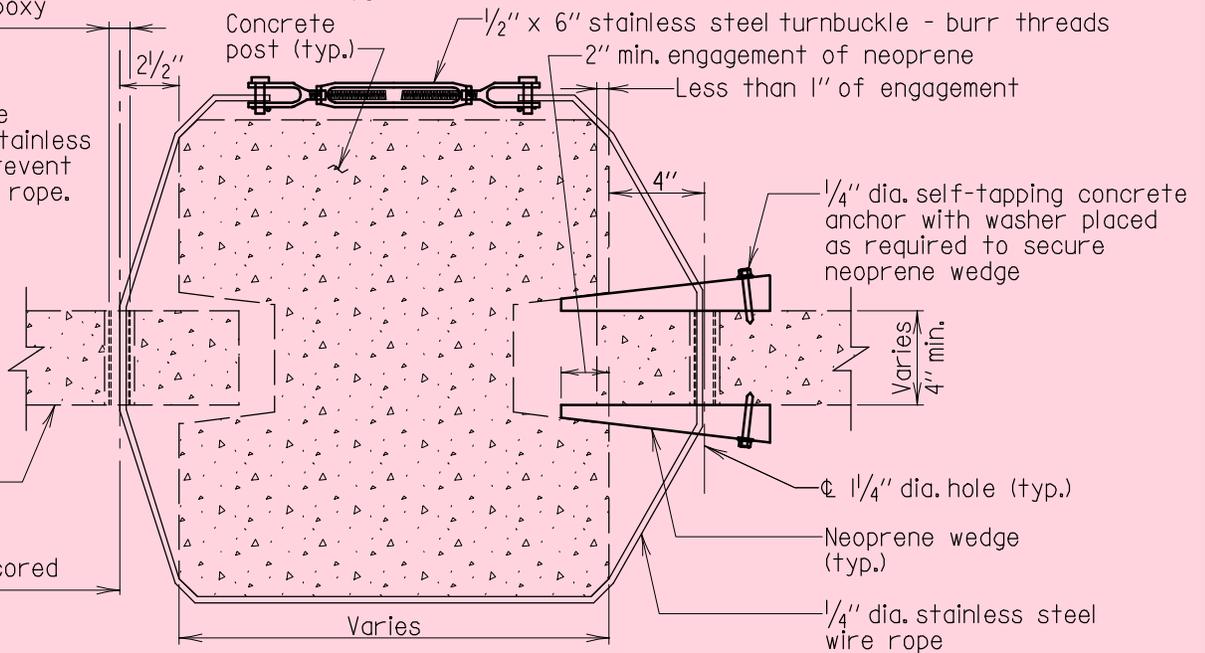
Scale: 3/4" = 1'-0"

Nominal 3/4" dia. standard weight stainless steel pipe (typ.) in a 1 1/4" hole; held in place with epoxy adhesive.

Note: Debur the inside edges of the stainless steel pipe to prevent damage to wire rope.

PANEL ELEVATION VIEW

Scale: 1/8" = 1'-0"



SECTION A-A

Scale: 1/2" = 1'-0"

Note: On multi-sectional panels install a minimum of two panel restraints per section. Restraints shall be spaced a minimum of 1'-6" from the horizontal panel joint.

Noise Wall ID No:

Post No(s):

Direction for Counting Posts:

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OFFICE OF STRUCTURES

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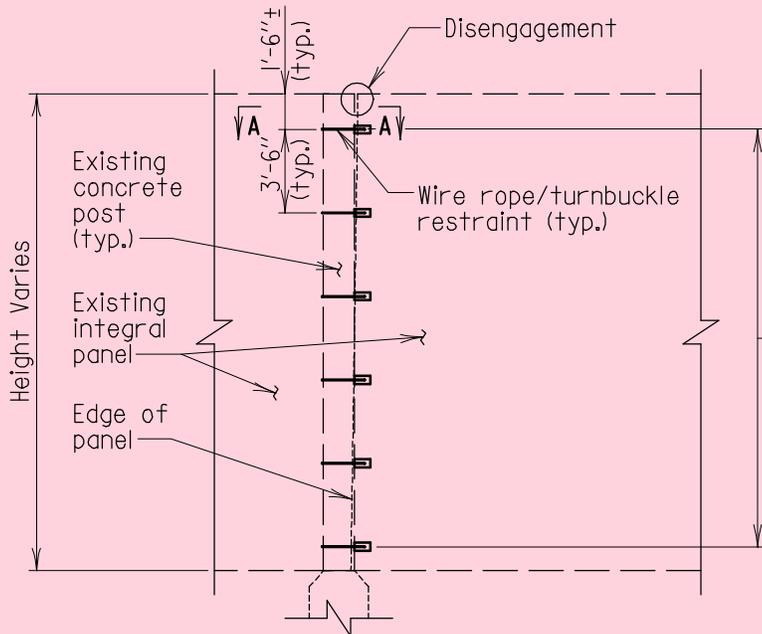
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
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NOISE WALL PANEL RESTRAINT DETAILS
STAND ALONE CONCRETE POSTS

DETAIL NO. SR-NW-103

SHEET OF



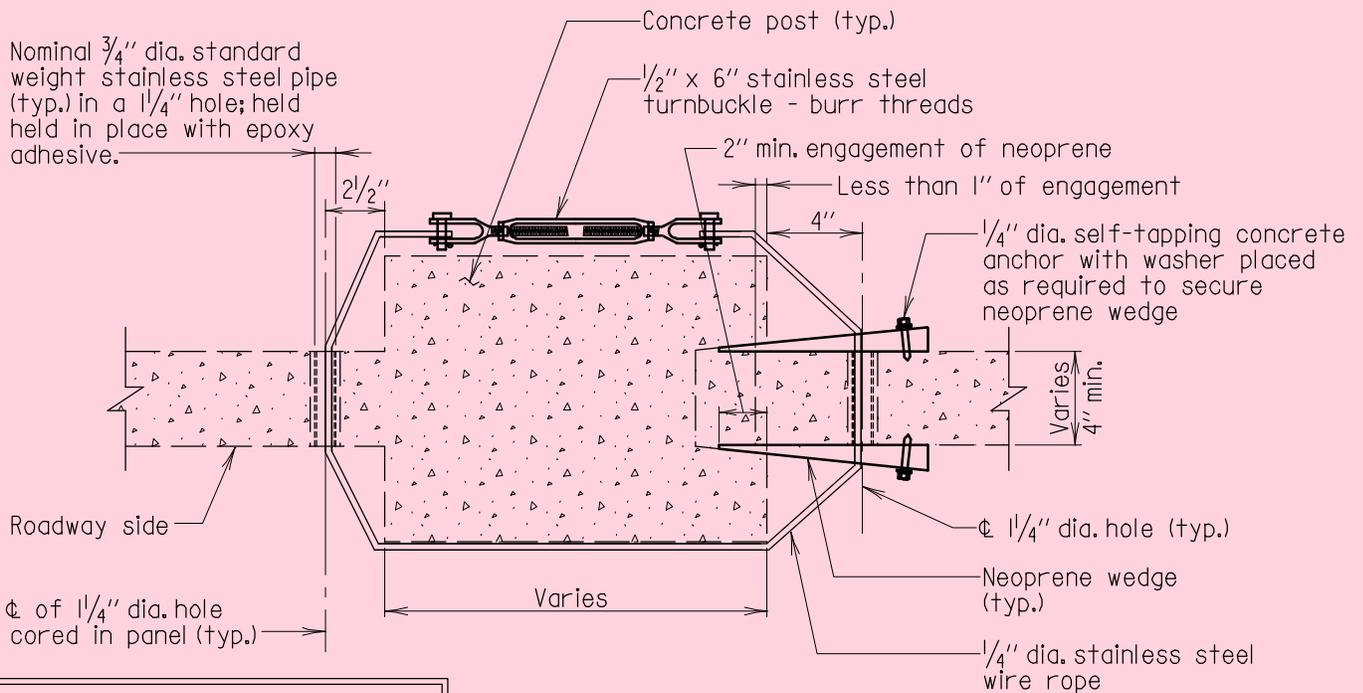
Install cable restraints, starting at either the top or bottom, depending on the location of the disengagement, and continuing downward/upward until the edge of the panel has achieved 1" of engagement. No restraints are required from that point.

PANEL ELEVATION VIEW

Scale: 1/8" = 1'-0"

Note:
Debur the inside edges of the stainless steel pipe to prevent damage to wire rope.

Nominal 3/4" dia. standard weight stainless steel pipe (typ.) in a 1 1/4" hole; held in place with epoxy adhesive.



SECTION A-A

Scale: 1/2" = 1'-0"

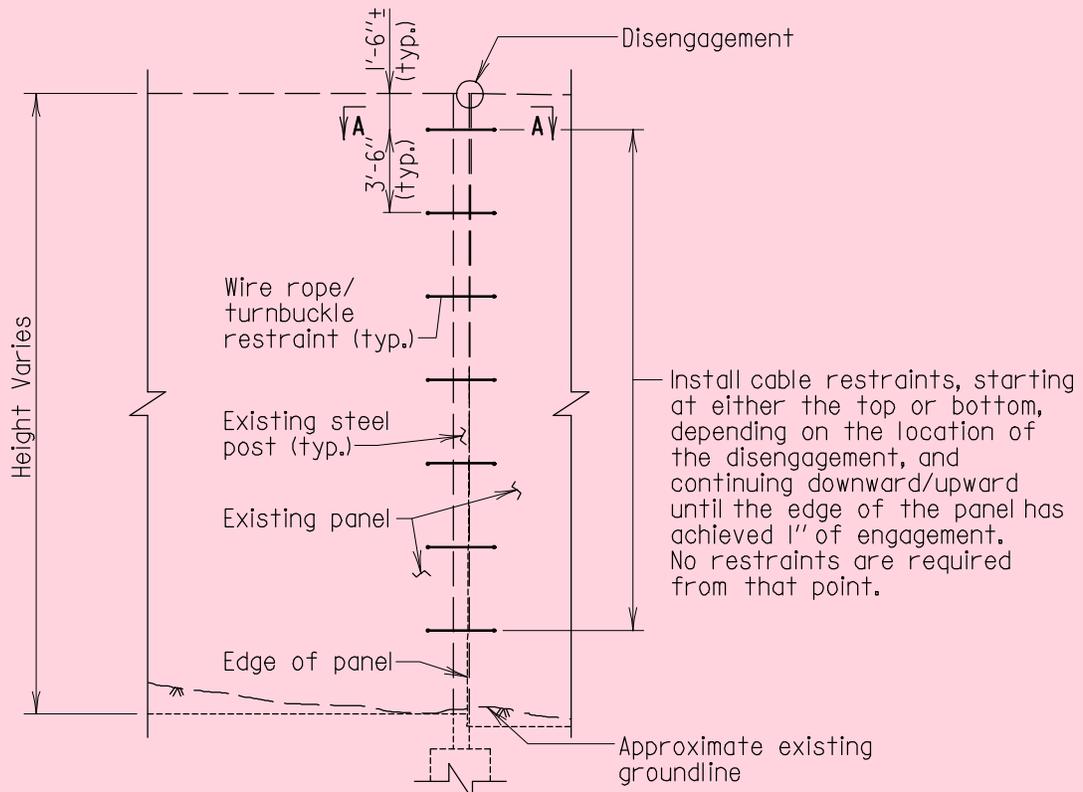
Note:
On multi-sectional panels install a minimum of two panel restraints per section. Restraints shall be spaced a minimum of 1'-6" from the horizontal panel joint.

Noise Wall ID No:
Post No(s):
Direction for Counting Posts:

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STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
NOISE WALL PANEL RESTRAINT DETAILS CONCRETE NOISE WALL WITH INTEGRAL POSTS	
DETAIL NO. SR-NW-104	SHEET <u> </u> OF <u> </u>

STRUCTURAL REPAIRS

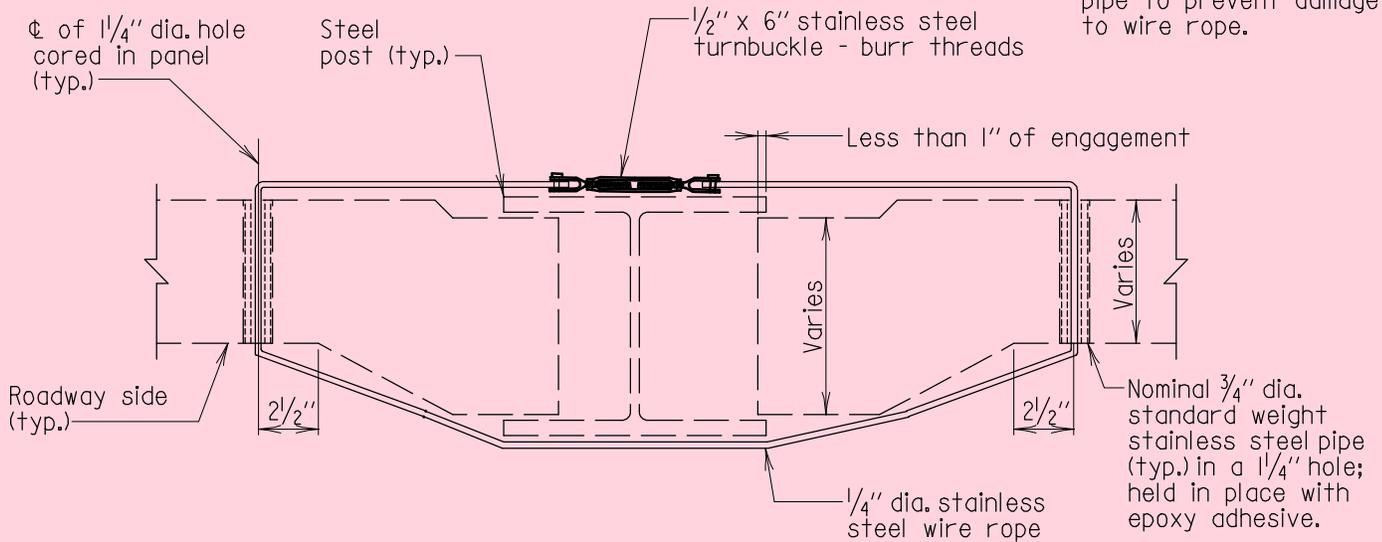


PANEL ELEVATION VIEW

Scale: 1/8" = 1'-0"

Install cable restraints, starting at either the top or bottom, depending on the location of the disengagement, and continuing downward/upward until the edge of the panel has achieved 1" of engagement. No restraints are required from that point.

Note:
Debur the inside edges of the stainless steel pipe to prevent damage to wire rope.



SECTION A-A

Scale: 1/2" = 1'-0"

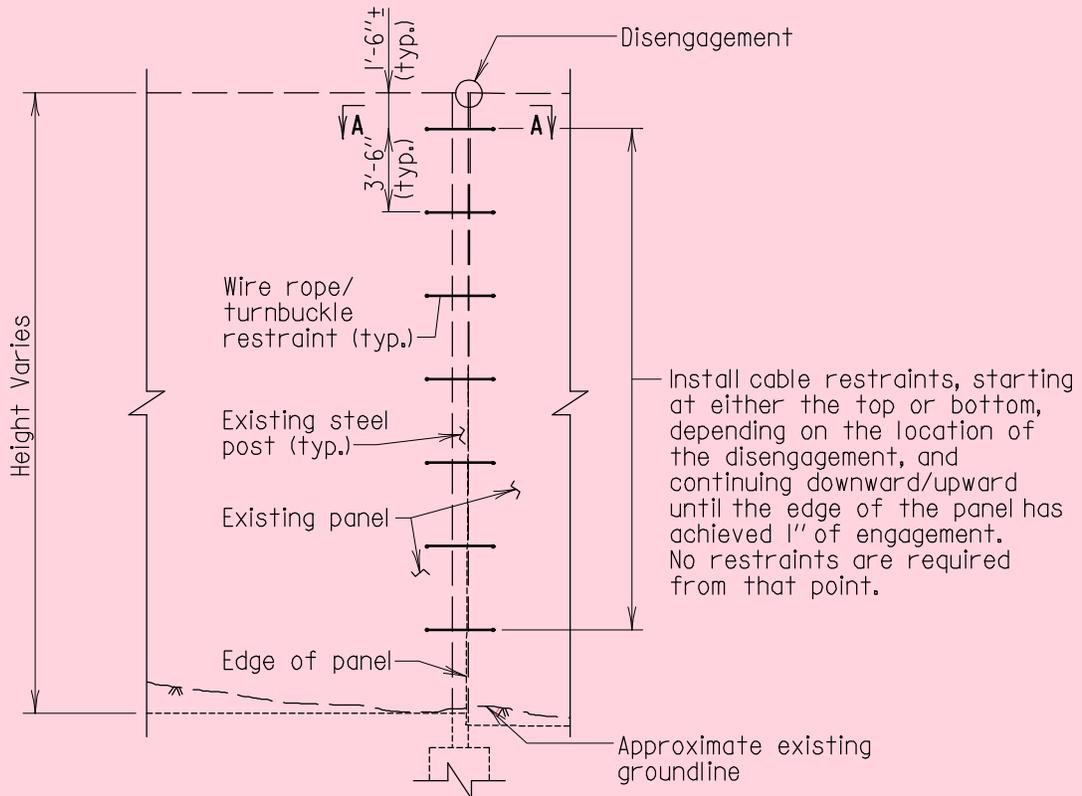
Note:
On multi-sectional panels install a minimum of two panel restraints per section. Restraints shall be spaced a minimum of 1'-6" from the horizontal panel joint.

Noise Wall ID No:
Post No(s):
Direction for Counting Posts:

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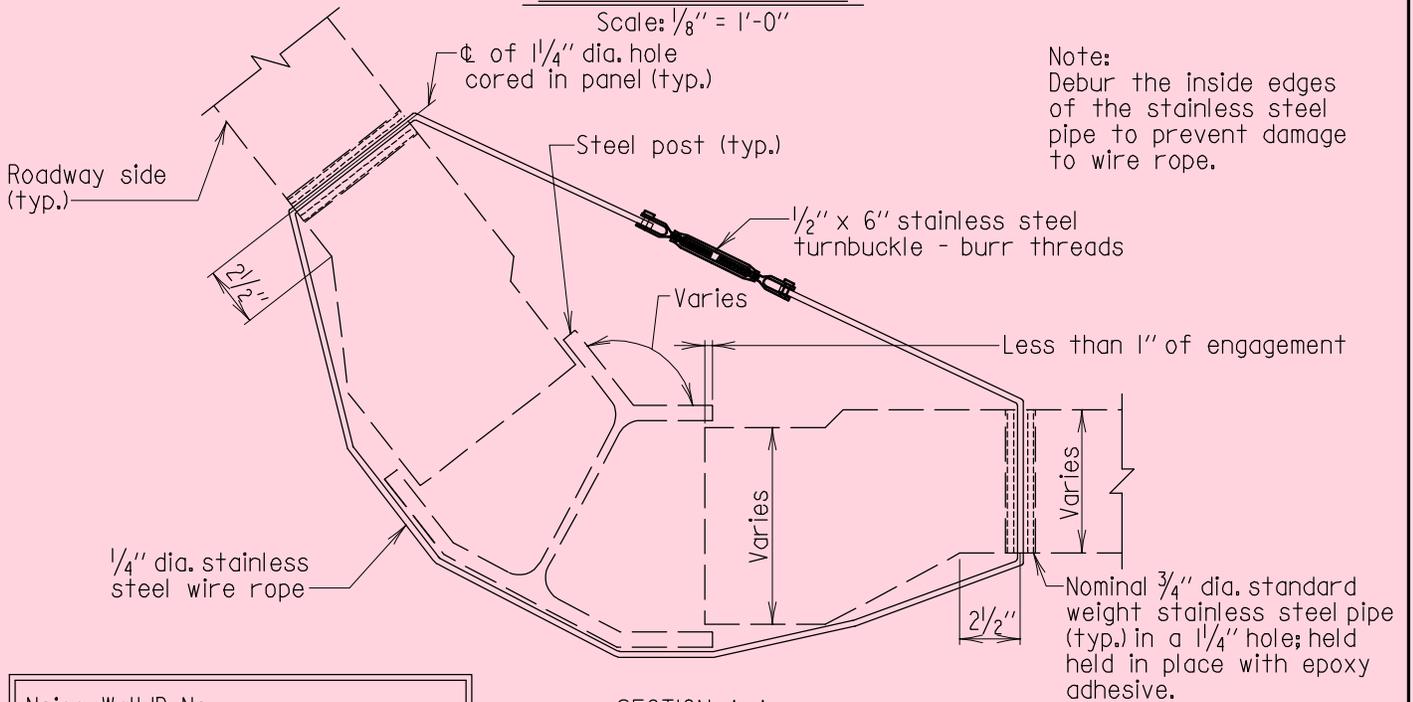
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
NOISE WALL PANEL RESTRAINT DETAILS STEEL POSTS	
DETAIL NO. SR-NW-105	SHEET <u> </u> OF <u> </u>

STRUCTURAL REPAIRS



PANEL ELEVATION VIEW

Scale: $1/8'' = 1'-0''$



SECTION A-A

Scale: $1/2'' = 1'-0''$

Noise Wall ID No:
Post No(s):
Direction for Counting Posts:

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NOISE WALL PANEL RESTRAINT DETAILS
SKEWED PANEL CONNECTION - SPECIAL STEEL POSTS

DETAIL NO. SR-NW-106 SHEET OF

STRUCTURAL REPAIRS