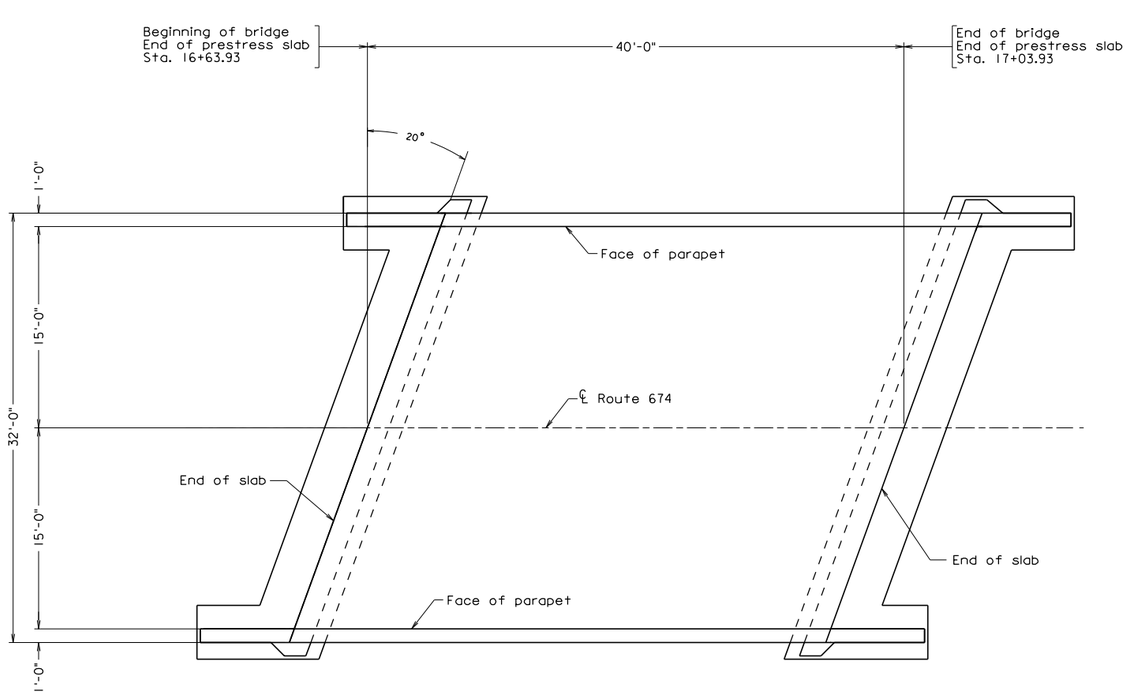
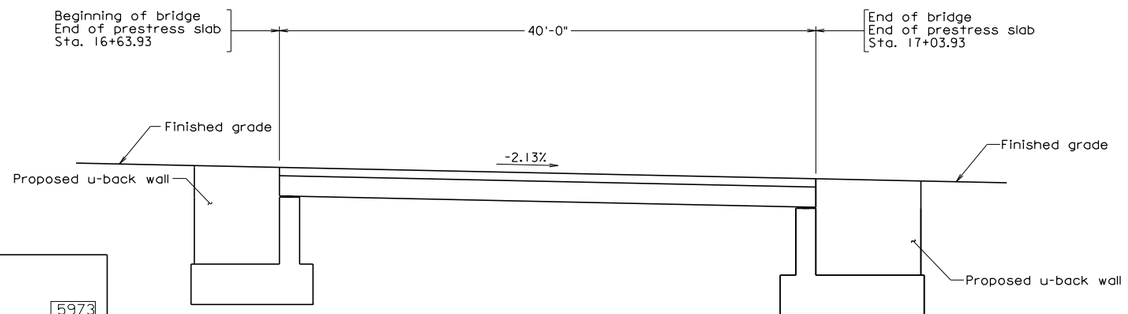


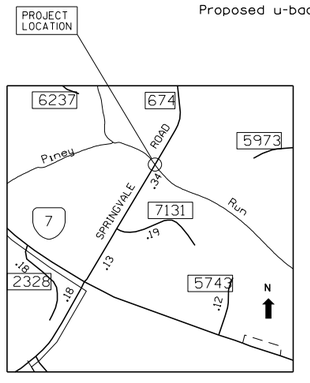
ABUTMENT A ABUTMENT B

PLAN



ABUTMENT A ABUTMENT B

ELEVATION



LOCATION MAP

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date
REVISIONS		
For Table of Revisions, see Sheet 2.		

PLANS BY:	NOVA District S & B
COORDINATED	Dipali Patel
SUPERVISED:	Edmund Okerchiri
DESIGNED:	Ik Hyeon Kim
DRAWN:	Daniel Lee
CHECKED:	Saleh Said

VDOT S&B DIVISION
FAIRFAX, VA
STRUCTURAL ENGINEER

Scale: 3/16" = 1'-0"

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STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	674	———	674	0674-029-6134	1
NBIS Number: 000000000006830			UPC No. 106819		
Federal Oversight Code: NFO			FHWA Construction and Scour Code: ———		

DESIGN EXCEPTION(S):

Reduced right side of the should width from 8'-0" to 4'-0"

GENERAL NOTES:

The original approved sheet, including original signatures, is filed in the VDOT Central Office. Any misuse of electronic files is illegal. Violators will be prosecuted to the full extent of the applicable laws.

Width: 30'-0" face-to-face of rails.

Span Layout: 1 - 40'-0" prestressed slab span.

Capacity: HL-93 loading.

Drainage area: xx.x sq. mi.

Specifications:

Construction: Virginia Department of Transportation Road and Bridge Specifications, 2016.

Design: AASHTO LRFD Bridge Design Specifications, 8th Edition, 2017; and VDOT Modifications.

Standards: Virginia Department of Transportation Road and Bridge Standards, 2016; including all current revisions.

These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

Design loading includes 20 psf allowance for construction tolerances and construction methods.

Prestressed concrete in the prestressed members shall be Class A5 having a minimum compressive cylinder strength at 28 days equal to 6000 psi and a minimum compressive cylinder strength at time of release of strands equal to 4000 psi.

Concrete in railings shall be Class A4. Concrete in abutments shall be Class A3.

All reinforcing steel shall be deformed and shall conform to ASTM A615 Grade 60 except for reinforcing steel noted as CRR (corrosion resistant reinforcement) which shall conform to Section 223 of the Specifications. All reinforcing bar dimensions on the detailed drawings are to centers of bars except where otherwise noted and are subject to fabrication and construction tolerances.

Corrosion resistant reinforcing (CRR) steels shall conform to one or more of the three Classes listed in Section 223 of the Specifications. The Class(es) of CRR steel(s) required on this project is/are noted on plan sheets and in the reinforcing steel schedule. CRR Steel, Class II or Class III, may be substituted for Class I. CRR Steel, Class III, may be substituted for Class II.

Prestressing strands shall be uncoated, seven-wire, low-relaxation steel strands conforming to ASTM A416 Grade 270.

The Bridge Date Plate shall be installed in accordance with VDOT's Road and Bridge Standards and obtained from the District Structure and Bridge Office.

B.M:

VDOT

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF TRANSPORTATION
PROPOSED BRIDGE ON
RTE. 674 OVER PINEY RUN
FAIRFAX COUNTY - 0.3 MI N.E. OF RTE 007
0674-029-6134

Recommended for Approval: _____ _____
District Structure and Bridge Engineer Date

Approved: _____ _____
District Maintenance Manager Date

XXX-XX

Date: June 05, 2020

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	674	———	674	0674-029-6134	2

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FAIRFAX, VA
STRUCTURAL ENGINEER

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Rev. No.	Sheets Revised	Date

TABLE OF REVISIONS

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COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

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Checked:			

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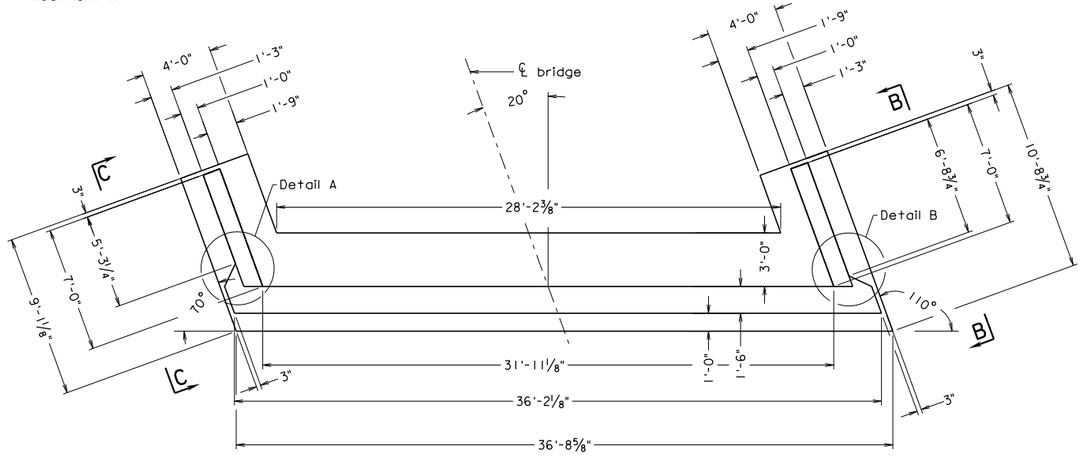
Abutment A



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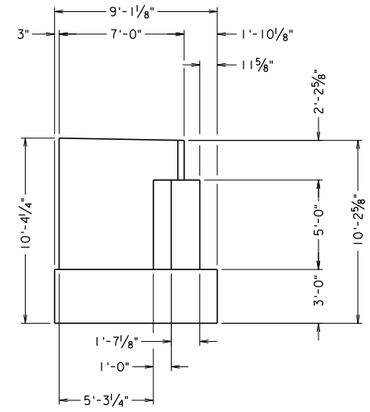

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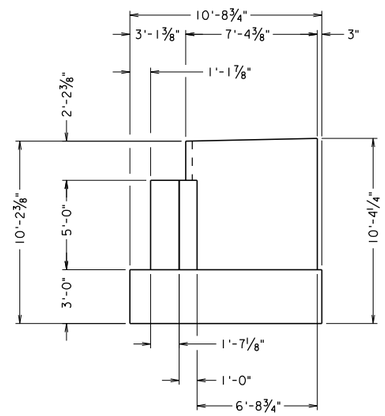

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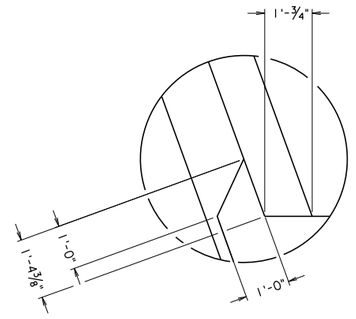

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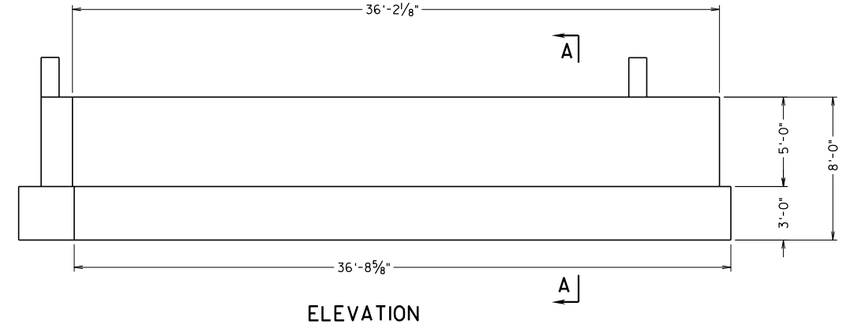

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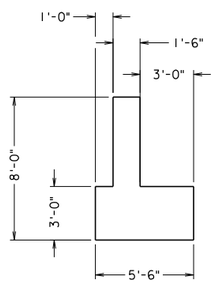

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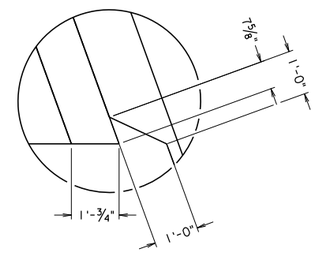

DETAIL B

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

VDOT S&B DIVISION
FAIRFAX, VA
STRUCTURAL ENGINEER

No.	Description	Date
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COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

ABUTMENT A

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VDOT S&B DIVISION
FAIRFAX, VA
STRUCTURAL ENGINEER

PRELIMINARY PLANS

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COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

ABUTMENT A DETAIL

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STATE	FEDERAL AID		STATE		SHEET NO.
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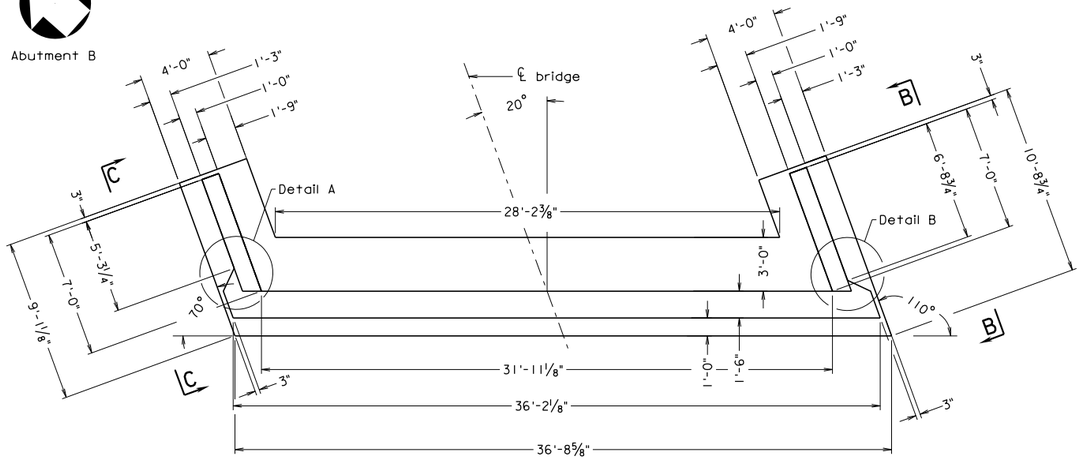
Abutment B



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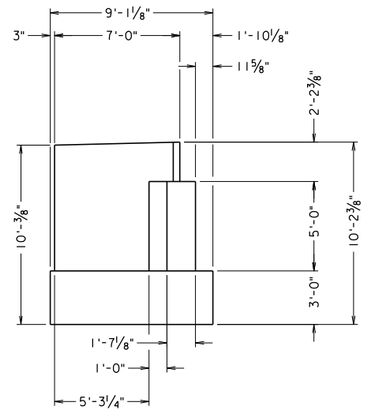

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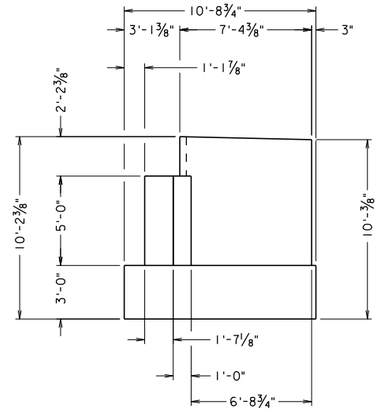

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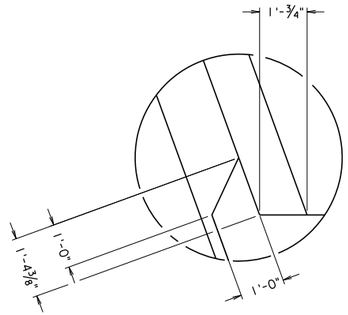

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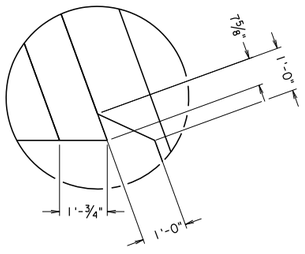

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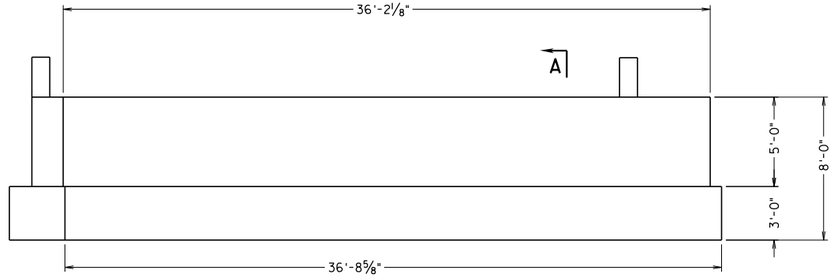

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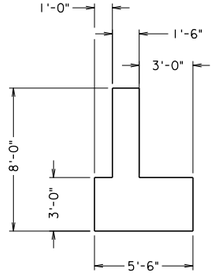

SECTION A-A

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VDOT S&B DIVISION
FAIRFAX, VA
STRUCTURAL ENGINEER

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date
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COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

ABUTMENT B

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VDOT S&B DIVISION
FAIRFAX, VA
STRUCTURAL ENGINEER

PRELIMINARY PLANS

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COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

ABUTMENT B DETAIL

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STATE	FEDERAL AID		STATE		SHEET NO.
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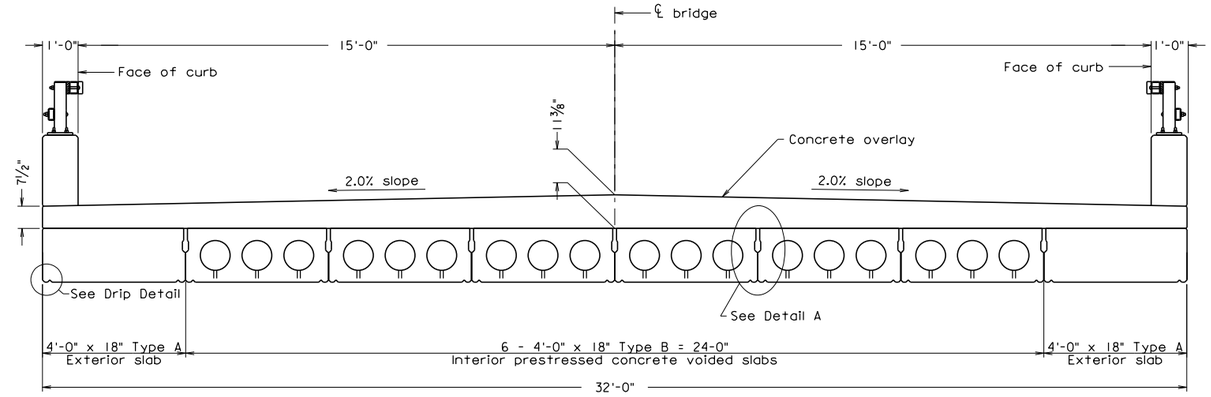


TRANSVERSE SECTION

NOTES:

The bridge and roadway widths shown are nominal. Actual widths may vary due to fabrication and construction (gaps between slabs) tolerances.

Concrete for the overlay shall be Low Shrinkage Class A4 Modified having a minimum 28 day compressive strength of 4000 psi. Payment for the concrete overlay shall be made at the unit price for Concrete Class A4.

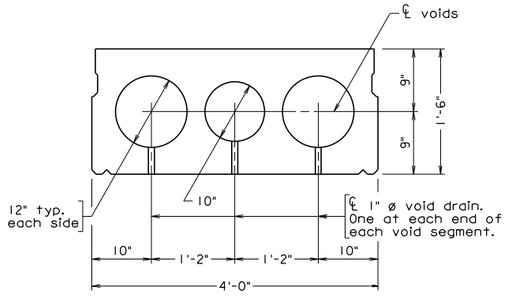
All reinforcing bars in concrete overlay shall be Corrosion Resistant Reinforcing steel, Class __.

Top surfaces of all slabs shall be a clean concrete surface, free of laitance, with surface intentionally roughened to an amplitude of 1/4".

Very High Performance Concrete shall be furnished, placed and paid for in accordance with the current VDOT Special Provision for Shear Keys and Blockouts Between Adjacent Members.

Casting of parapets shall not be done until all grouting of keys are completed and the VHPC has reached a minimum strength of 4000 psi.

For waterproofing details, see sheet __.



TYPICAL INTERIOR SECTION
TYPE B
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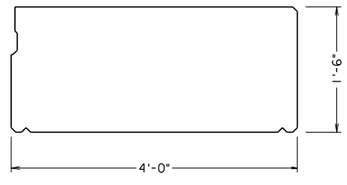

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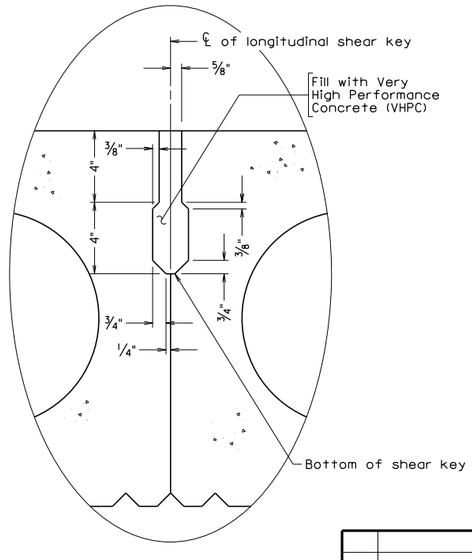
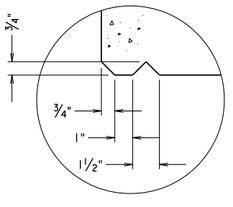


DETAIL A
Overlay and joint fabric not shown



DRIP DETAIL
Typ. each side
of each member

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VDOT S&B DIVISION
FAIRFAX, VA
STRUCTURAL ENGINEER

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Scale: 1/2" = 1'-0" unless otherwise noted

No.	Description	Date
Revisions		

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

TRANSVERSE AND TYPICAL SECTIONS; CONCRETE OVERLAY

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STATE	FEDERAL AID		STATE		SHEET NO.
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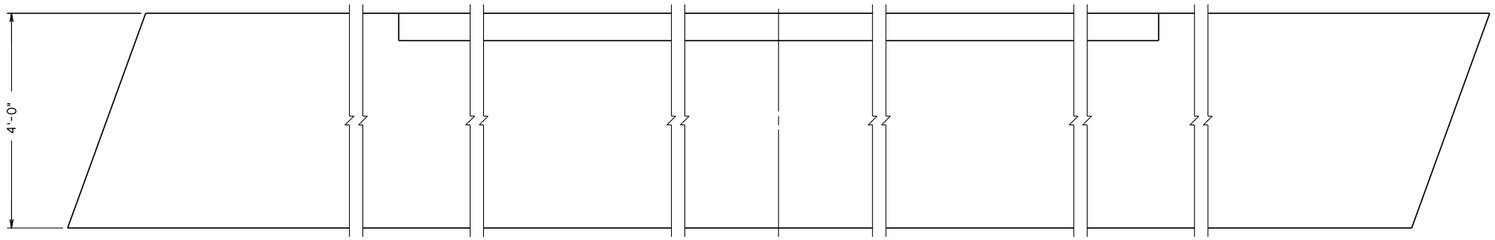
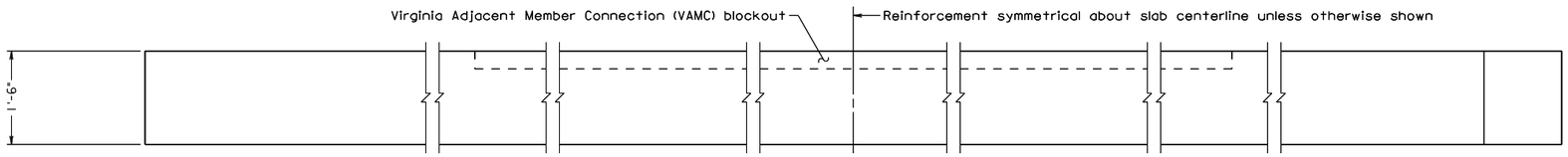
VA.	674		674	0674-029-6134	8



PLAN



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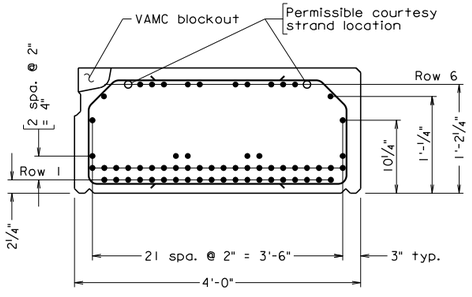
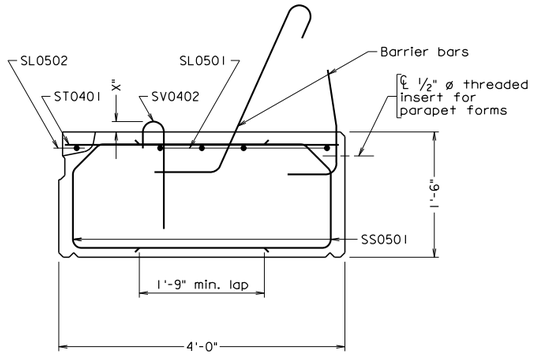


STRAND PATTERN
Scale: 1" = 1'-0"



REINFORCING DETAILS
Scale: 1" = 1'-0"

Notes:

All reinforcing bars shall be Corrosion Resistant Reinforcing Steel, Class __.

In lieu of splicing two reinforcing bars to form each stirrup, the stirrup may be made from one single bar.

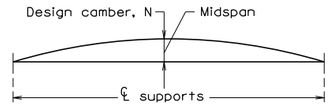
The Contractor may submit an alternate prestressing strand pattern to the Engineer for approval.

The Contractor has the option of stressing two courtesy strands each to 8,000 lbs at the locations indicated.

Slab corners damaged during construction shall be restored to their shape as shown on the plans by an approved epoxy mortar.

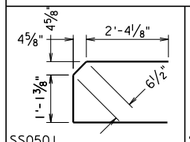
Contractor shall determine location and spacing of ½" ø threaded inserts for parapet forms.

Design and detailing of these plans are based on the design camber(s) at erection (see Prestressing Steel Data Table) and the maximum tolerance for camber differential from design camber at erection indicated in the Specifications. Design camber at erection is computed using Precast/Prestressed Concrete Institute (PCI) multipliers.



CAMBER DIAMOND

REINFORCING STEEL SCHEDULE



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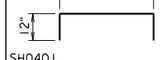

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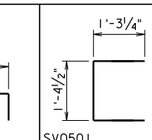

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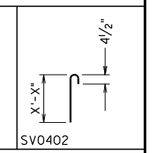

SV0402

Slab Size	Mark	No.	Size	Pin ø	Length	Location
4'-0" x 21" Exterior slab Type A	SH0401		#4	3"	5'-4"	End horizontal
	SL0501		#5	——		Top longitudinal
	SL0502		#5	——		Top longitudinal
	SS0501		#5	2½"	6'-7"	Stirrup
	ST0401		#4	——	3'-10"	Top transverse
	SV0501		#5	3¾"	3'-8"	End vertical
	SV0402		#4	3"		Composite vertical

Dimensions in bending diagram are out-to-out of bars.

Number of bars shown in table are per slab per slab type.

PRESTRESSING STEEL DATA TABLE

Strand Type	Slab Size	No. of strands per row						Distance from bottom of slab						Total number of strands per slab	Pre-stressing force per strand lbs.	Design Camber, N	
		Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 1 in.	Row 2 in.	Row 3 in.	Row 4 in.	Row 5 in.	Row 6 in.			At Release in.	At Erection in.
0.6" ø Low Relaxation Strands	4'-0" x 21" Type A																

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

DEAD LOAD DEFLECTION DIAGRAM

Scale: ¾" = 1'-0" unless otherwise noted

No.	Description	Date
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COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

EXTERIOR SLAB TYPE A VAMC BLOCKOUTS

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06-05-2020

PSV-3

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

STATE	FEDERAL AID		STATE		SHEET NO.
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VA.	674		674	0674-029-6134	9

Notes:

All reinforcing bars shall be Corrosion Resistant Reinforcing Steel, Class __.

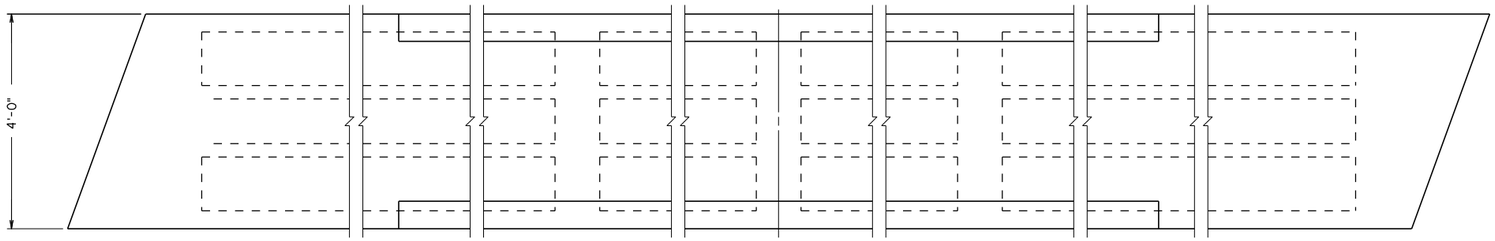
In lieu of splicing two reinforcing bars to form each stirrup, the stirrup may be made from one single bar.

The Contractor may submit an alternate prestressing strand pattern to the Engineer for approval.

The Contractor has the option of stressing two courtesy strands each to 8,000 lbs at the locations indicated.

Slab corners damaged during construction shall be restored to their shape as shown on the plans by an approved epoxy mortar.

Design and detailing of these plans are based on the design camber(s) at erection (see Prestressing Steel Data Table) and the maximum tolerance for camber differential from design camber at erection indicated in the Specifications. Design camber at erection is computed using Precast/Prestressed Concrete Institute (PCI) multipliers.



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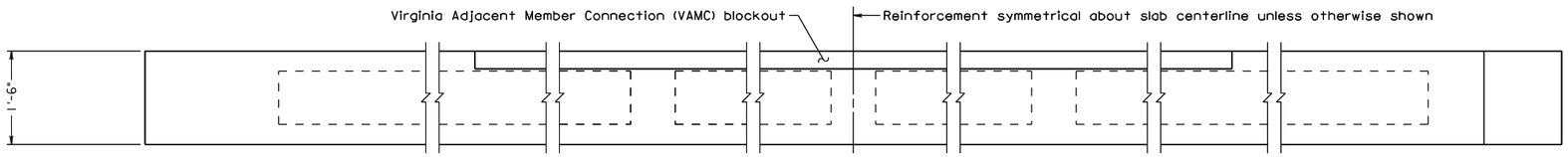
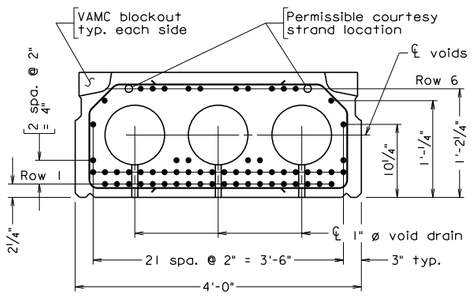
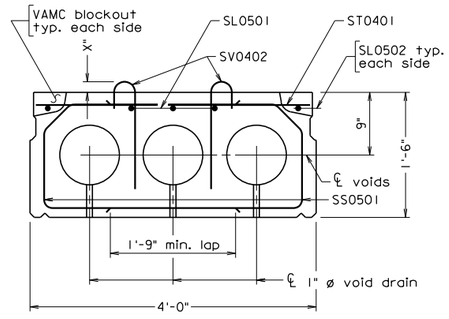


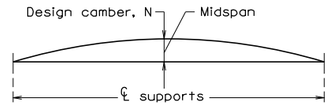
ELEVATION



STRAND PATTERN
Scale: 1" = 1'-0"

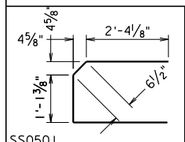


REINFORCING DETAILS
Scale: 1" = 1'-0"

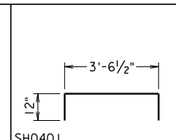


CAMBER DIAGRAM

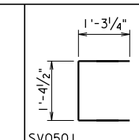
REINFORCING STEEL SCHEDULE



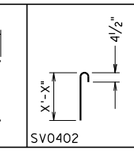
SS0501



SH0401



SV0501



SV0402

Slab Size	Mark	No.	Size	Pin ø	Length	Location
4'-0" x 21" Interior slab Type B	SH0401		#4	3"	5'-4"	End horizontal
	SL0501		#5	——		Top longitudinal
	SL0502		#5	——		Top longitudinal
	SS0501		#5	2½"	6'-7"	Stirrup
	ST0401		#4	——	3'-10"	Top transverse
	SV0501		#5	3¾"	3'-8"	End vertical
	SV0402		#4	3"		Composite vertical

Dimensions in bending diagram are out-to-out of bars.

Number of bars shown in table are per slab per slab type.

PRESTRESSING STEEL DATA TABLE

Strand Type	Slab Size	No. of strands per row						Distance from bottom of slab						Total number of strands per slab	Pre-stressing force per strand lbs.	Design Camber, N	
		Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 1 in.	Row 2 in.	Row 3 in.	Row 4 in.	Row 5 in.	Row 6 in.			At Release in.	At Erection in.
0.6" ø Low Relaxation Strands	4'-0" x 21" Type B																

DEAD LOAD DEFLECTION DIAGRAM

Scale: ¾" = 1'-0" unless otherwise noted

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

INTERIOR SLAB TYPE B VAMC BLOCKOUTS

Designed: S&B DIV	Date	Plan No.	Sheet No.
Drawn: S&B DIV	June. 2020	PSV-4	9 of 16
Checked: S&B DIV			

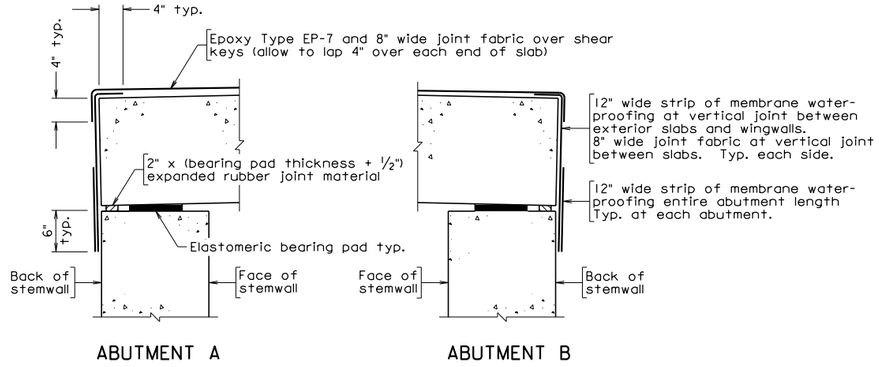
b106819_009.dgn

06-05-2020

PSV-4

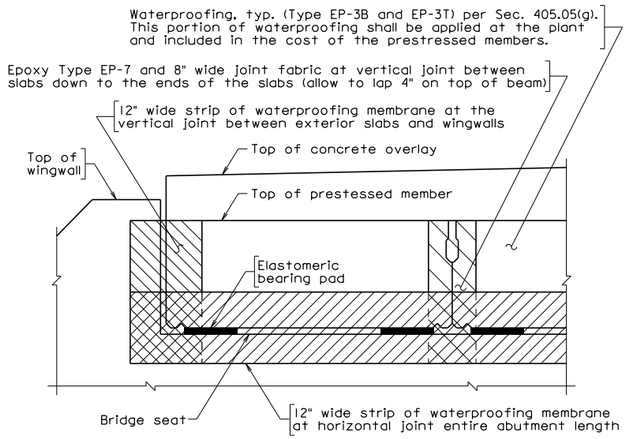
VDOT S&B DIVISION
FAIRFAX, VA
STRUCTURAL ENGINEER

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	674		674	0674-029-6134	10



ABUTMENT A ABUTMENT B

WATERPROOFING MEMBRANE DETAIL



END OF SLAB VIEW AT ABUTMENTS

Notes:

Details shown for 4'-0" x 18" prestressed concrete voided slab. Details similar for other widths and depths.

The Contractor shall adjust bearing pads or bridge seats as directed by the Engineer where prestressed members are not in full bearing with the pads or where the pads are not in full bearing with the seats. Cost of any adjustment shall be included in other bid items.

Procedure for sealing shear keys and pier joint utilizing Epoxy EP-7 and joint fabric:

Surface preparation shall be in accordance with Section 416 and application guidelines. Epoxy EP-7 and sand shall be in accordance with Section 431 of the Specifications. All Epoxy Type EP-7 shall be field applied (i.e., not applied at the plant).

1. Prepare deck surface.

2. Apply a coat of epoxy to the slab ends at the shear keys and then set the joint fabric into the wet epoxy. Allow enough joint fabric to provide for a 4" min. lap on top of slabs. Apply additional epoxy over the joint fabric to thoroughly wet the joint fabric. Remove any air pockets under the joint fabric using a short nap paint roller.

3. Apply the first coat of epoxy to slab surface over the grouted shear keys and set the joint fabric (continuous over pier joints) into the wet epoxy. Allow enough joint fabric to provide for a 4" min. lap down the slab ends. Apply additional epoxy over the joint fabric to thoroughly wet the joint fabric and provide sufficient free epoxy to engage the sand. Remove any air pockets under the joint fabric using a short nap paint roller. Apply sand and allow epoxy and sand to cure and then remove loose sand.

4. Apply the first coat of epoxy over pier joint and set the joint fabric into the wet epoxy. Apply additional epoxy over the joint fabric to thoroughly wet the joint fabric and provide sufficient free epoxy to engage the sand. Remove any air pockets under the joint fabric using a short nap paint roller. Apply sand and allow epoxy and sand to cure and then remove loose sand.

5. Apply a second coat of epoxy and sand over shear keys and pier joint. Remove loose sand after epoxy has cured.

6. Any epoxy spills outside the limits of the shear key treatment shall be covered with sand while the epoxy is still wet.

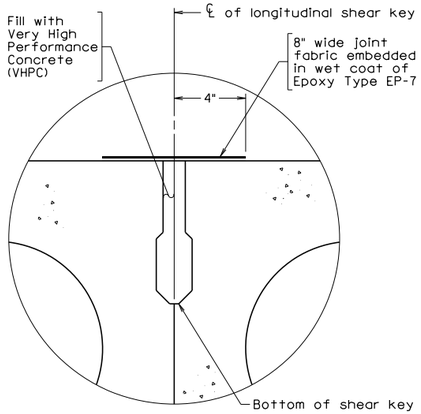
The cost of Epoxy Type EP-7, sand and joint fabric shall be included in the cost of the prestressed members.

Joint fabric from the VDOT Special Products Evaluation List under Joint Fabrics shall be used.

Notes for End of Slab Membrane Waterproofing:

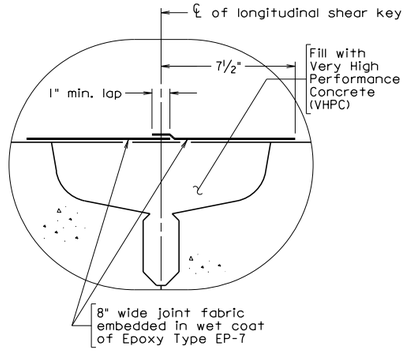
The membrane shall be applied to the end of slabs at abutments at the vertical joint between exterior slabs and wingwalls and the horizontal joint as shown in END OF SLAB VIEW AT ABUTMENTS.

The membrane shall consist of a Type III preformed membrane system in accordance with Section 429 of the Specifications. The cost of the membrane shall be included in the cost of the prestressed members.



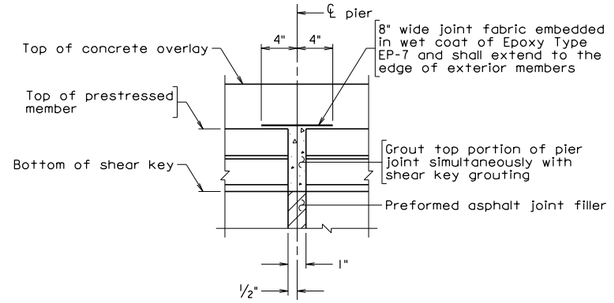
SHEAR KEY DETAIL

Overlay not shown
Scale: 3" = 1'-0"



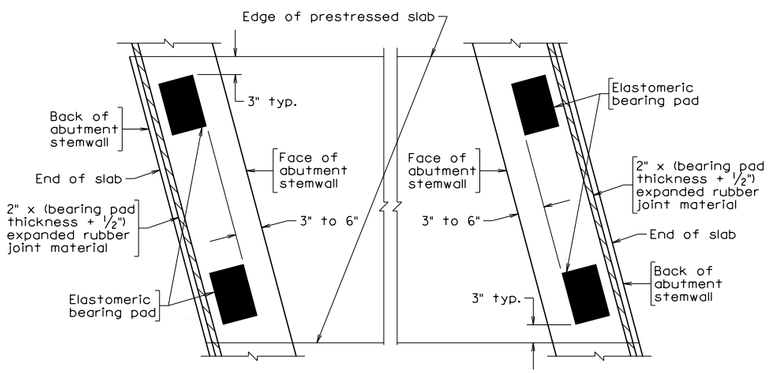
VIRGINIA ADJACENT MEMBER CONNECTION (VAMC) DETAIL

Overlay not shown
Scale: 3" = 1'-0"



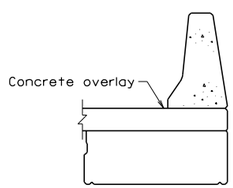
SECTION THRU PIER JOINTS

Typical all pier joints
Normal to joint
Not to Scale



PART PLAN AT ABUTMENT A PART PLAN AT ABUTMENT B

END BEARING DETAILS



SECTION THRU PARAPET

Scale: ½" = 1'-0"

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

b106819_010.dgn

06-05-2020

Sealed and Signed by:
Junyi Meng
Lic. No. 033572
On the date of
August 8, 2018

A copy of the original sealed and signed standard drawing is on file in the Central Office.

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

PSV-6B

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

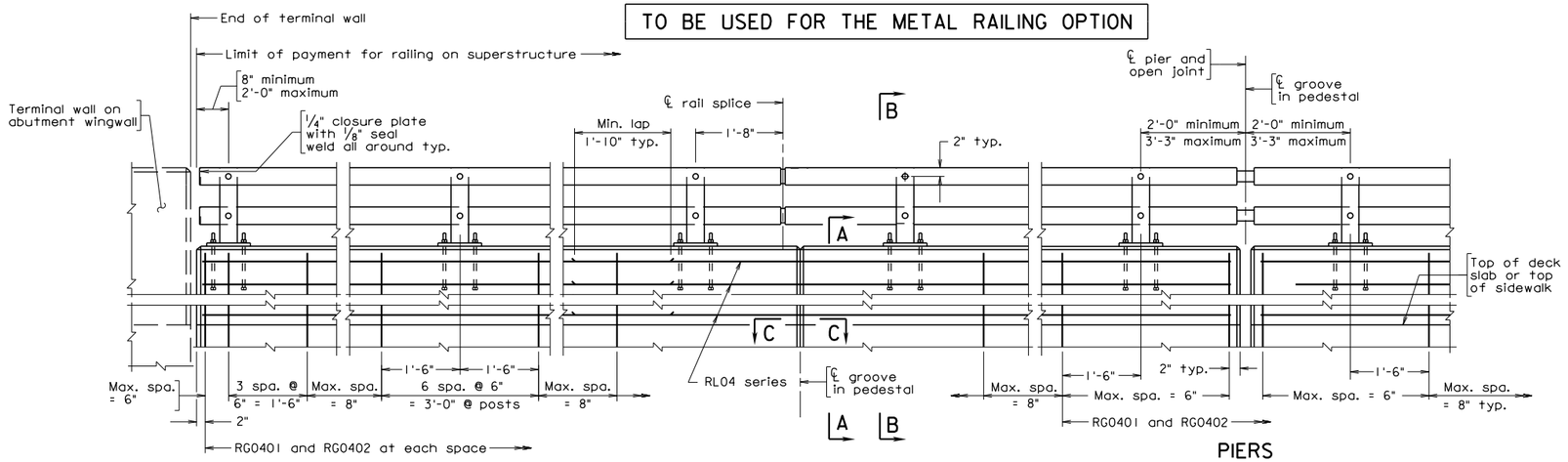
END BEARING AND WATERPROOFING DETAILS FOR CONCRETE OVERLAY

Designed: S&B. DIV	Date	Plan No.	Sheet No.
Drawn: ....S&B. DIV	June 2020	PSV-6B	10 of 16
Checked: S&B. DIV			

Scale: 1" = 1'-0" unless otherwise shown

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	674		674	0674-029-6134	11

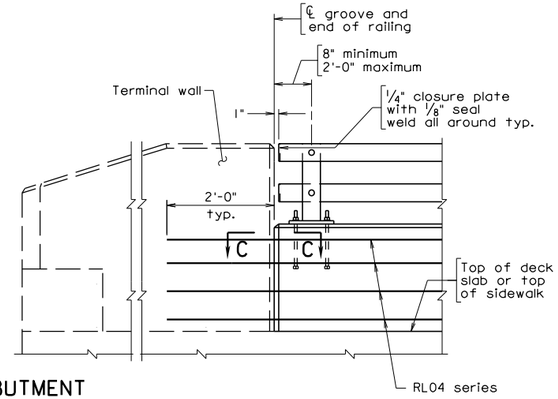
TO BE USED FOR THE METAL RAILING OPTION



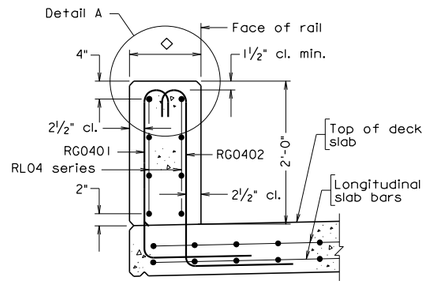
ABUTMENTS
Terminal Wall on Wingwall

ELEVATION

PIERS
With joint in deck slab

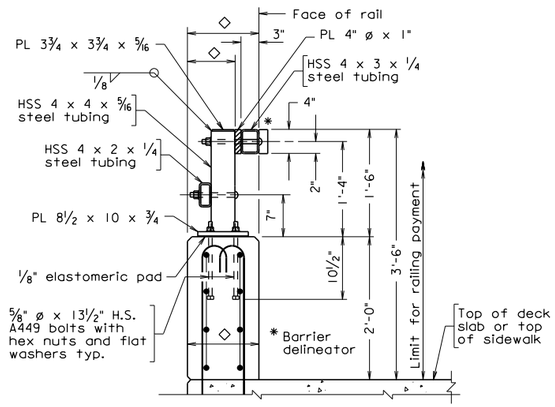


ABUTMENT
PART ELEVATION
Terminal Wall on Superstructure



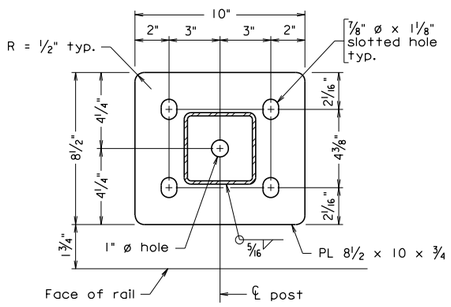
SECTION A-A
Scale: 1" = 1'-0"

Transevese rebars in deck slab not shown for clarity

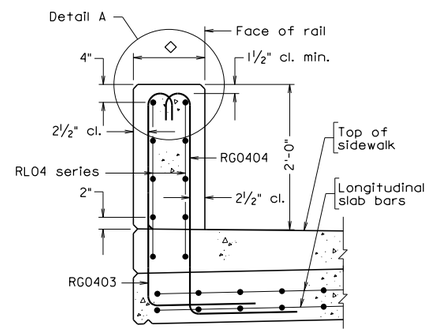


SECTION B-B
Scale: 1" = 1'-0"

Bolts through base plate shall be contained inside rebar cage

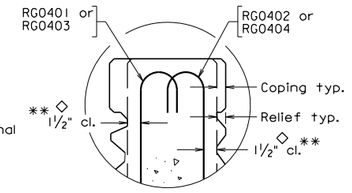


BASE PLATE DETAIL
Not to scale

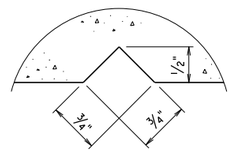


SECTION A-A
(With sidewalk)
Not to scale

Reinforcement in sidewalk and transevese rebars in deck slab not shown for clarity



DETAIL A
Shown with architectural treatment on both sides



SECTION C-C
Full scale

Groove detail for both sides of rail

◇ For dimensions and architectural treatment details, see sheet XX. For minimum cover, see Detail A.

Notes:

Plan dimensions shown are measured in the respective horizontal and vertical planes.

The Contractor shall determine all dimensions and details necessary for installation.

All concrete shall be Low Shrinkage Class A4 Modified.

All bevels for concrete shall be 3/4".

All reinforcing steel shall be Corrosion Resistant Reinforcing Steel, Class __.

For details and reinforcing steel schedule of terminal wall, see sheet ___.

Posts and rail members shall be ASTM A500 Grade B steel. Plates shall be ASTM A36 steel. Steel pipe sleeves shall be ASTM A53.

Bolts for attaching rails to post are 3/4" diameter round head (with slot in head), ASTM A449. All other bolts shall be ASTM F3125 Grade A325 unless otherwise indicated in the details. Nuts shall be ASTM A563 Grade DH or ASTM A194 Grade 2H. Washers shall be ASTM F436.

For bolts attaching rails to posts, bolt extensions beyond nut shall be limited to the smaller of one and a half finishing turns or 1/4". If the extension is longer, excess shall be cut off and the edges of the bolt end ground so that no sharp edges remain. Cold galvanizing shall be applied to damaged galvanized areas.

All bolts shall be snug tightened.

All steel shall be hot dip galvanized.

Posts shall be equally spaced within a span. Maximum spacing is 6'-8".

Posts shall be seated on neoprene pads 1/8" minimum thickness, having a nominal durometer hardness of 60. Pads shall conform to post base dimensions.

Posts shall be vertical in transverse direction and normal to longitudinal profile grade. Cut bottom of posts to meet these configurations.

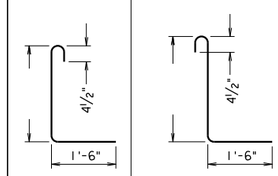
Rails to be continuous over a minimum of 3 posts before splicing.

Bid price for architectural treatment includes concrete in relief and coping.

For additional notes, see sheet__.

** The cover tolerance referenced in the VDOT Road and Bridge Specifications as -0" to +1/2" is shifted to -1/4" to +1/4" for placement of the RG04 series bars.

REINFORCING STEEL SCHEDULE



RG0401, RG0403 RG0402, RG0404

Mark	Size	No.	Length	Pin ø	Location
RG0401	#4			3"	Parapet
RG0402	#4			3"	Parapet
RG0403	#4			3"	Parapet
RG0404	#4			3"	Parapet
RL04	#4			——	Parapet

Dimensions in bending diagram are out-to-out of bars.

cpsr-1-at.dgn

10-31-2019

CPSR-1-AT

Sealed and Signed by:
Junyi Meng
Lic. No. 033572
On the date of
October 31, 2019

A copy of the original sealed and signed standard drawing is on file in the Central Office.

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Scale: 3/4" = 1'-0" unless otherwise noted.

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

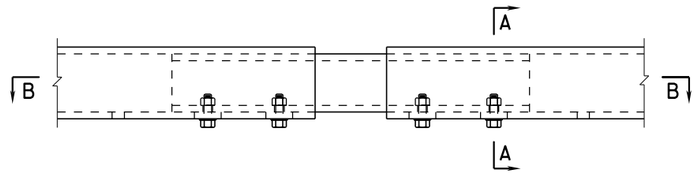
STRUCTURE AND BRIDGE DIVISION

42"-CPSR RAILING WITH ARCHITECTURAL TREATMENT (CPSR-1-AT)

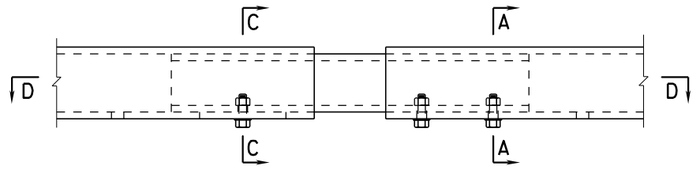
Designed: S&B DIV	Date	Plan No.	Sheet No.
Drawn: S&B DIV	June 2020	CPSR1-AT	11 of 16
Checked: S&B DIV			

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—		674	0674-029-6134	12

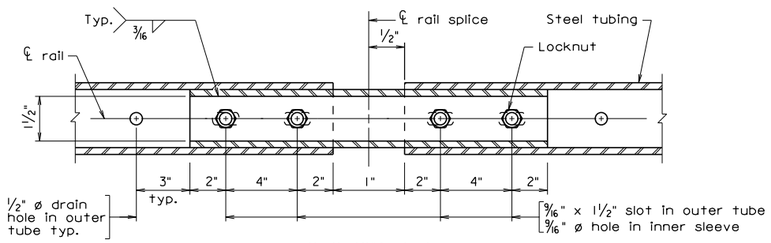
TO BE USED FOR THE METAL RAILING OPTION



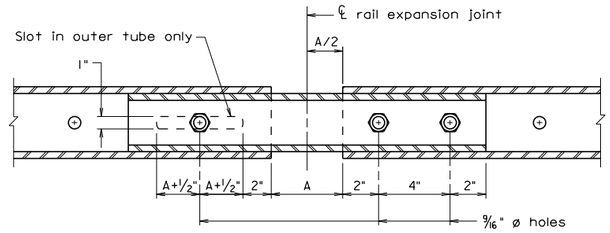
ELEVATION VIEW



ELEVATION VIEW

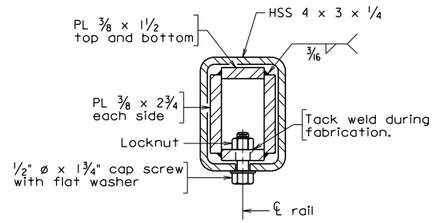


SECTION B-B



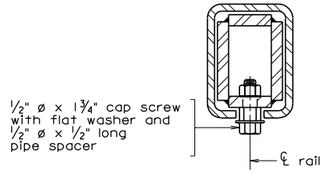
SECTION D-D

For details and dimensions not shown, see Section B-B.



SECTION A-A
SECTION AT RAIL SPLICE

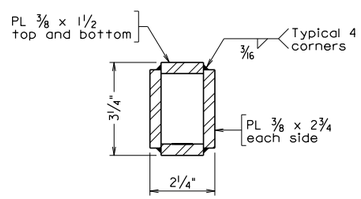
RAIL SPLICE DETAILS



SECTION C-C

Details not shown similar to Section A-A.

RAIL EXPANSION JOINT DETAILS



FINISHED DIMENSIONS OF INNER SLEEVE RAIL

Notes (cont'd):

Drain holes shall be 1/2" diameter and shall be provided in all rails approximately half-way between posts except at open joints near pier(s). Drain holes shall be provided at each end of rail.

Barrier delineator size, color, and spacing shall be in accordance with the Specifications.

Maximum spacing of grooves in pedestal shall be limited to 3 x post spacing, shall be centered between posts and shall be no closer than 10'-0" to ends of pedestal. Where deck slab is continuous over a pier, a groove in pedestal shall be provided at the pier.

Alternate details for inner sleeve rail fabrication and bolted connection to outer tube may be submitted, but only used if approved by the Structure and Bridge Division Engineering Services Program Area. No thru-bolt connections will be approved.

Bid item for railing shall include rails, rail posts, bearing pads, bolts, anchor assemblies, sleeves, barrier delineators, grounding materials and other associated metal parts as shown on the plans. Also included is concrete noted in the plans and reinforcing steel indicated in the reinforcing steel schedule.

cpsr-3.dgn

05-03-2018

CPSR-3

Sealed and Signed by:
Junyi Meng
Lic. No. 033572
On the date of
May 03, 2018

A copy of the original sealed and signed standard drawing is on file in the Central Office.

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Not to scale

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

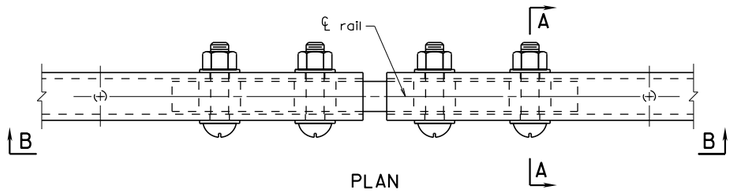
STRUCTURE AND BRIDGE DIVISION

CPSR RAIL CONNECTIONS AND NOTES (CPSR-3)

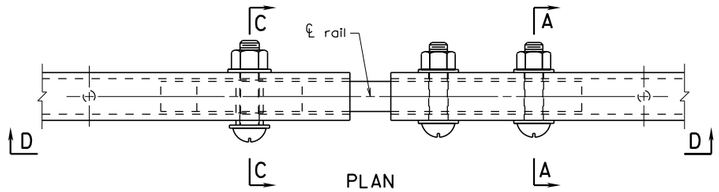
Designed: S&B DIV	Date	Plan No.	Sheet No.
Drawn: S&B DIV	June 2020	CPSR-3	12 of 16
Checked: S&B DIV			

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	674		674	0674-029-6134	13

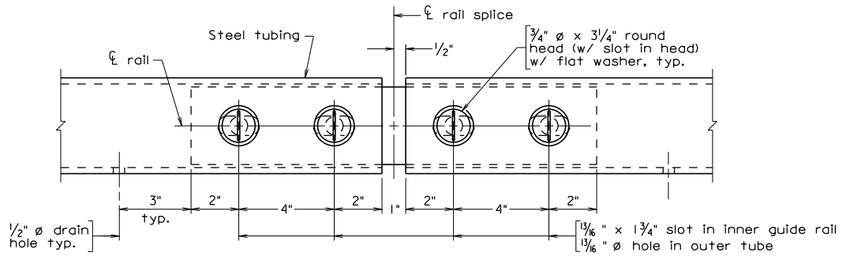
TO BE USED FOR THE METAL RAILING OPTION



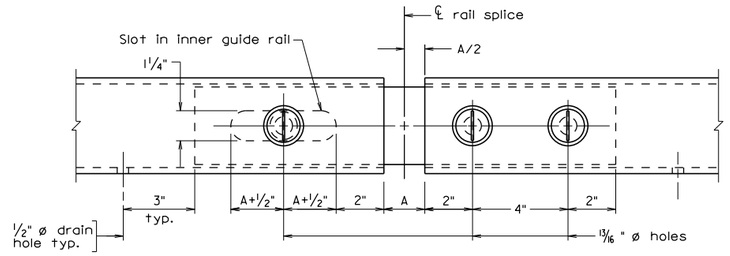
PLAN



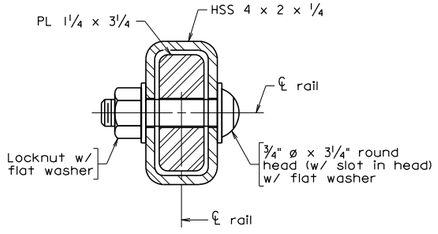
PLAN



VIEW B-B

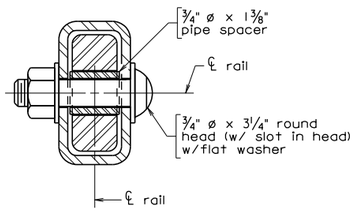


VIEW D-D



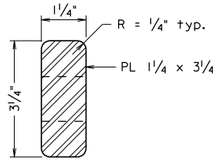
SECTION A-A
SECTION AT RAIL SPLICE

RAIL SPLICE DETAILS



SECTION C-C
Details not shown similar to Section A-A.

RAIL EXPANSION JOINT DETAILS



FINISHED DIMENSIONS OF INNER GUIDE RAIL

05-03-2018 cpsr-4.dgn

CPSR-4

Sealed and Signed by:
Junyi Meng
Lic. No. 033572
On the date of
May 03, 2018

A copy of the original sealed and signed standard drawing is on file in the Central Office.

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Not to scale

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

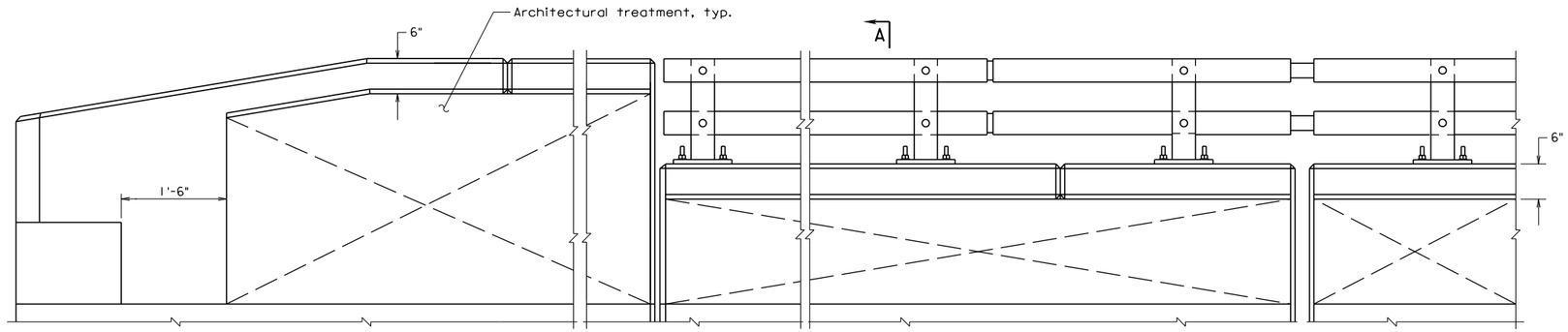
STRUCTURE AND BRIDGE DIVISION

CPSR RAIL CONNECTIONS (CPSR-4)

Designed: S&B DIV	Date	Plan No.	Sheet No.
Drawn: S&B DIV	June 2020	CPSR-4	13 of 16
Checked: S&B DIV			

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	674		674	0674-029-6134	14

TO BE USED AS A GUIDANCE FOR THE METAL RAILING OPTION AND THE SOLID PARAPET OPTION



ELEVATION

Notes:

Form liner shall be arranged to produce a continuous chiseled limestone pattern without obvious repetition of the pattern.

Form liner pattern shall be inspected and approved by the Department.

Details shown for a 8'-0" long form liner. Contractor shall submit shop drawings with pattern layout for approval by the Department.

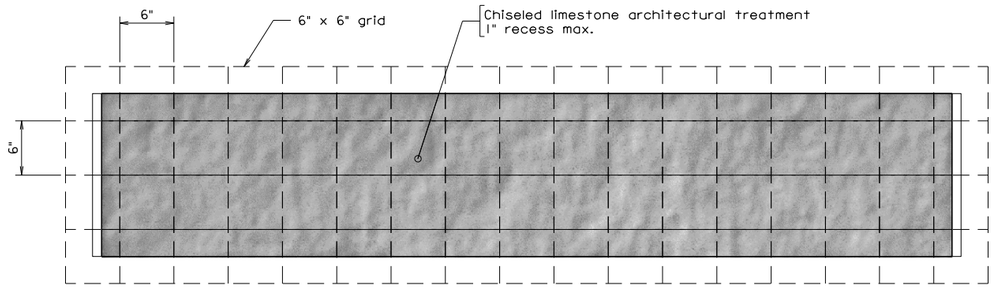
Architectural treatment shall be applied on XX of the barrier.

Width of terminal wall shall be equal to the width of the concrete pedestal of the railing in Section A-A.

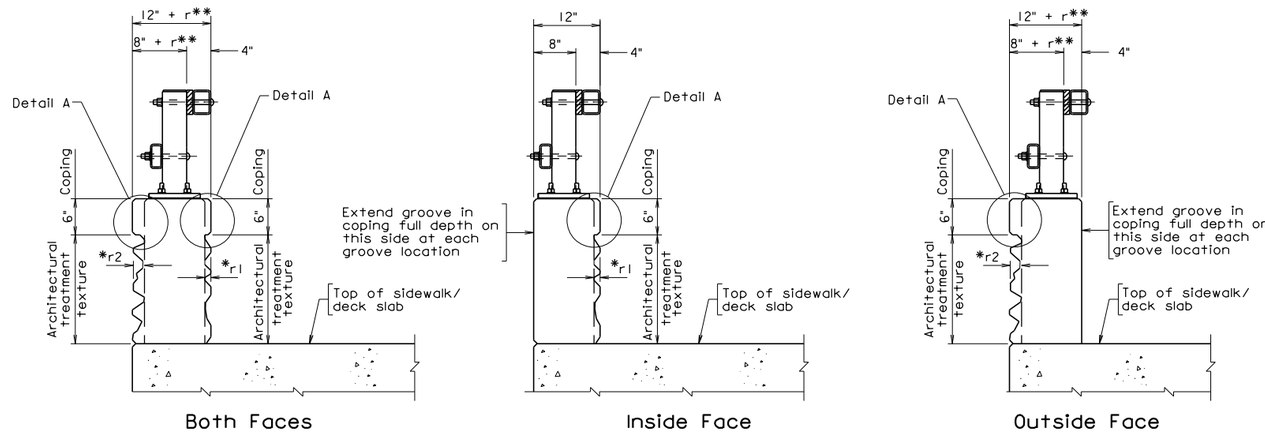
Contractor may form a construction joint at a groove location or edge of an architectural treatment form where the form edge is located at least 1'-8" from the nearest post centerline.

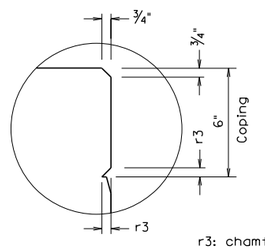
For all other dimensions and details not shown, see sheet xxx.

	Relief (in.)
r1	1"
r2	1"
r3	¾"



CHISELED LIMESTONE TEXTURE DETAIL
Parapet - Outside Face
(Inside Face similar)





DETAIL A

r3: chamfer size, ¾" min.

SECTION A-A

* r1 : relief on inside face is limited to 1"
r2 : relief on outside face is limited to 2"

** r = 0" for r2 ≤ 1"
r = 1" for 1" < r2 ≤ 2"

10-31-2019

CPSR-AT-1

cpsr-at-1.dgn

Sealed and Signed by:
Junyi Meng
Lic. No. 033572
On the date of
October 31, 2019

A copy of the original sealed and signed standard drawing is on file in the Central Office.

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Not to scale

No.	Description	Date
	Revisions	

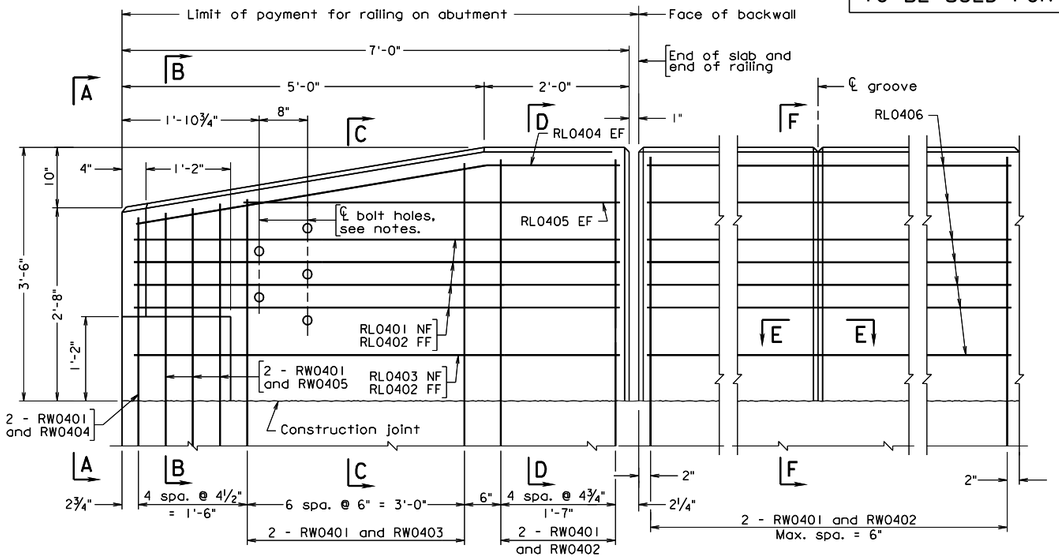
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

ARCHITECTURAL TREATMENT FOR CPSR RAILING

Designed: S&B DIV	Date	Plan No.	Sheet No.
Drawn: S&B DIV	June 2020	CPSR-AT-1	14 of 16
Checked: S&B DIV			

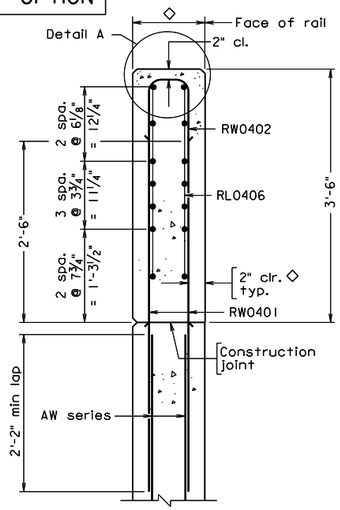
TO BE USED FOR THE SOLID PARAPET OPTION



TERMINAL WALL ON U-BACK

ELEVATION

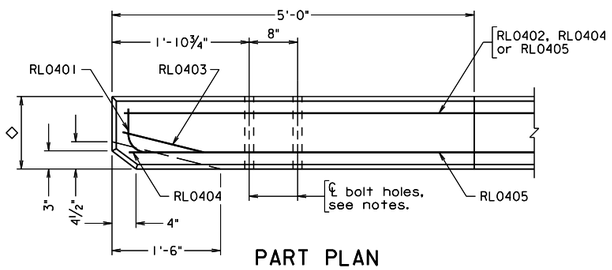
WALL ON SUPERSTRUCTURE



SECTION F-F

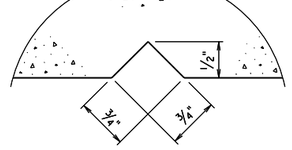
AW series bars may / may not be aligned or positioned with RW bars as shown

◇For dimensions and architectural treatment details, see sheet XX. For minimum cover, see Detail A.



PART PLAN

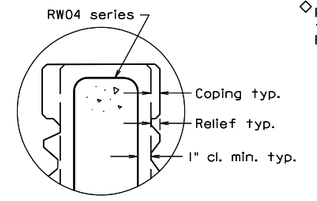
RW04 series bars not shown for clarity



SECTION E-E

Full scale

Groove detail for both sides of rail



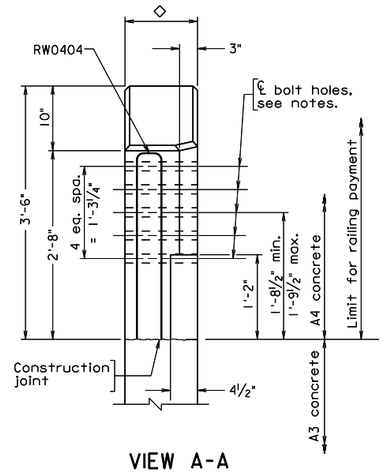
DETAIL A

Not to scale

Shown with architectural treatment on both sides

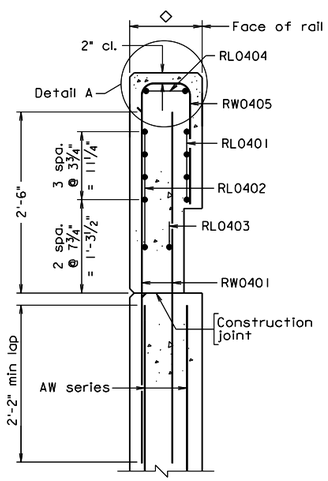
PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION



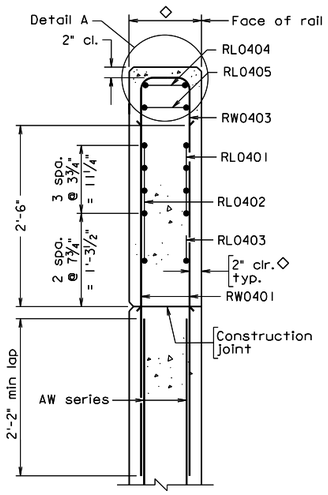
VIEW A-A

Shown RW0404 only for clarity



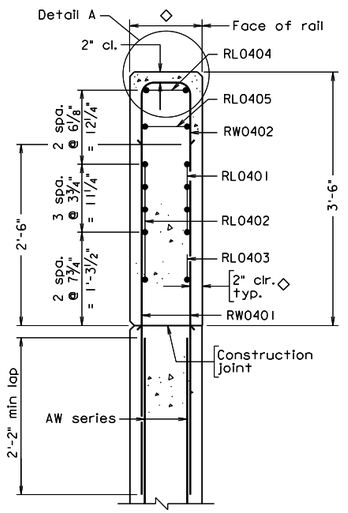
SECTION B-B

AW series bars may / may not be aligned or positioned with RW bars as shown



SECTION C-C

AW series bars may / may not be aligned or positioned with RW bars as shown



SECTION D-D

AW series bars may / may not be aligned or positioned with RW bars as shown

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	674		674	0674-029-6134	15

Notes:

Plan dimensions shown are measured in the respective horizontal and vertical planes.

The Contractor shall determine all dimensions and details necessary for installation.

All concrete shall be Low Shrinkage Class A4 Modified.

All bevels for concrete shall be ¾".

All reinforcing steel shall be Corrosion Resistant Reinforcing Steel, Class ___.

For details and reinforcing steel schedule of railing, see sheet ___.

Each terminal wall shall be cast as one piece.

Terminal walls are detailed to take guardrail attachment for MGS.

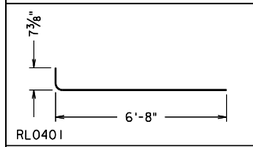
For details of wingwall below construction joint, see abutment details.

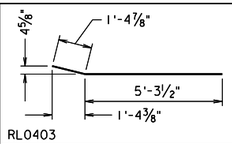
Holes, where shown, shall be formed with sleeves of 1¼" diameter nominal pipe.

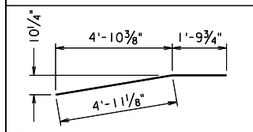
Spacing of grooves for U-back wings shall be approximately 8'-0".

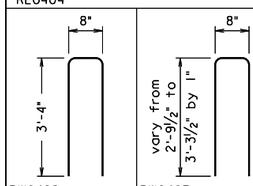
Bid price for architectural treatment includes concrete in relief and coping.

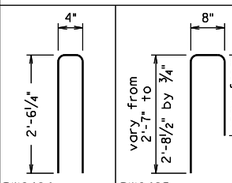
REINFORCING STEEL SCHEDULE











Mark	Size	No.	Length	Pin ø	Location
RL0401	#4		7'-2"	6"	Terminal wall
RL0402	#4		6'-8"	—	Terminal wall
RL0403	#4		6'-8½"	3"	Terminal wall
RL0404	#4		6'-9"	3"	Terminal wall
RL0405	#4		5'-2"	—	Terminal wall
RL0406	#4			—	Terminal wall and U-back wing
RW0401	#4		4'-11"	—	Terminal wall and U-back wing
RW0402	#4		7'-1½"	3"	Terminal wall and U-back wing
RW0403	#4		from 6'-0½" to 7'-0½"	3"	Terminal wall
RW0404	#4		5'-2"	3"	Terminal wall
RW0405	#4		from 4'-3½" to 4'-6½"	3"	Terminal wall

Dimensions in bending diagram are out-to-out of bars.

10-31-2019

CPSRT-I-AT

cpsrt-i-at.dgn

Sealed and Signed by:
Junyi Meng
Lic. No. 033572
On the date of
October 31, 2019

A copy of the original sealed and signed standard drawing is on file in the Central Office.

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

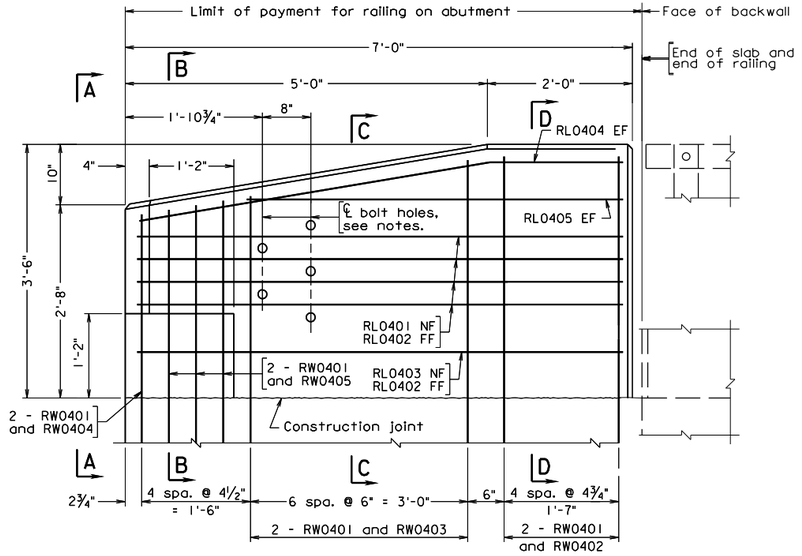
42" CPSR TERMINAL WALL WITH ARCHITECTURAL TREATMENT (CPSRT-I-AT) -I

Designed: S&B DIV	Date	Plan No.	Sheet No.
Drawn: S&B DIV	June 2020	CPSRT I -AT	15 of 16
Checked: S&B DIV			

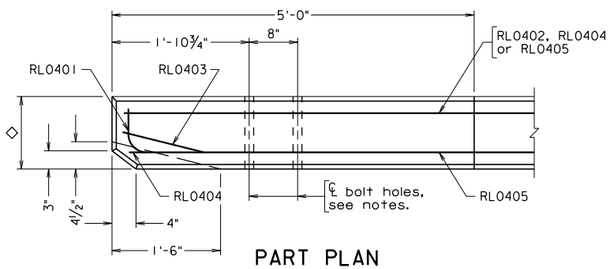
Scale: 1" = 1'-0" unless otherwise noted.

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	674		674	0674-029-6134	16

TO BE USED FOR THE METAL RAILING OPTION

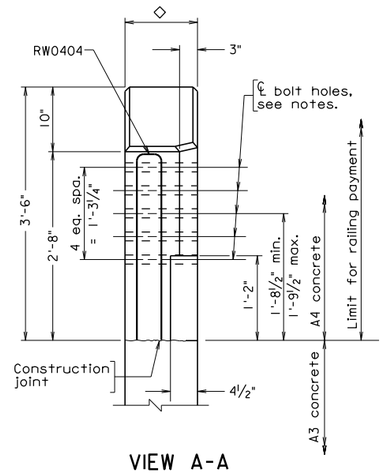


TERMINAL WALL ON U-BACK
ELEVATION



PART PLAN

RW04 series bars not shown for clarity



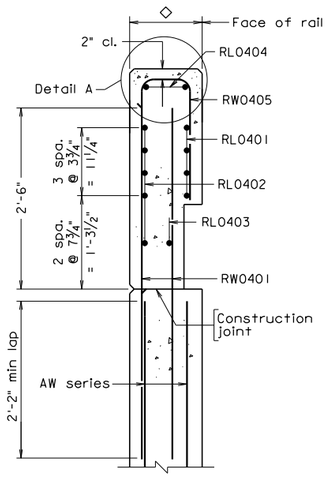
VIEW A-A

Shown RW0404 only for clarity

DETAIL A

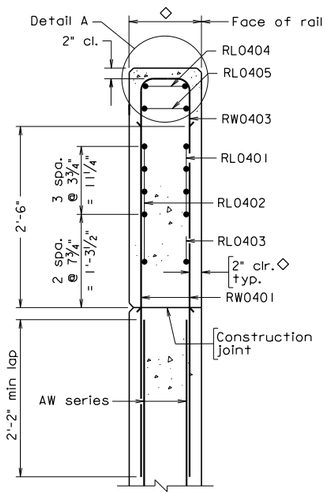
Not to scale

Shown with architectural treatment on both sides



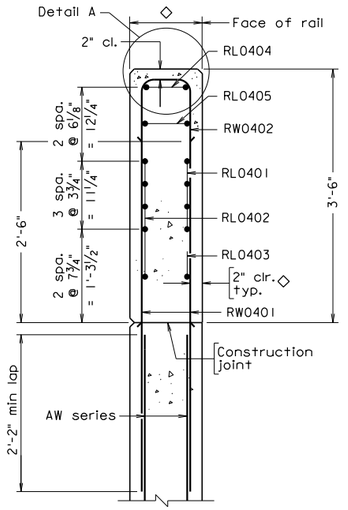
SECTION B-B

AW series bars may / may not be aligned or positioned with RW bars as shown



SECTION C-C

AW series bars may / may not be aligned or positioned with RW bars as shown



SECTION D-D

AW series bars may / may not be aligned or positioned with RW bars as shown

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Notes:

Plan dimensions shown are measured in the respective horizontal and vertical planes.

The Contractor shall determine all dimensions and details necessary for installation.

All concrete shall be Low Shrinkage Class A4 Modified.

All bevels for concrete shall be ¾".

All reinforcing steel shall be Corrosion Resistant Reinforcing Steel, Class ___.

For details and reinforcing steel schedule of railing, see sheet ___.

Each terminal wall shall be cast as one piece.

Terminal walls are detailed to take guardrail attachment for MGS.

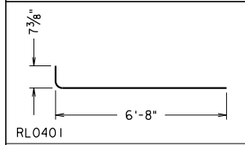
For details of wingwall below construction joint, see abutment details.

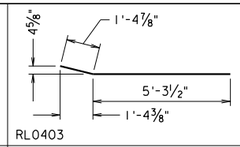
Holes, where shown, shall be formed with sleeves of 1¼" diameter nominal pipe.

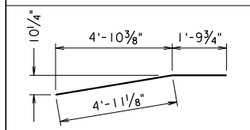
Spacing of grooves for U-back wings shall be approximately 8'-0".

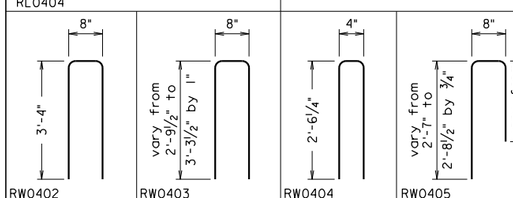
Bid price for architectural treatment includes concrete in relief and coping.

REINFORCING STEEL SCHEDULE









Mark	Size	No.	Length	Pin ø	Location
RL0401	#4		7'-2"	6"	Terminal wall
RL0402	#4		6'-8"	——	Terminal wall
RL0403	#4		6'-8½"	3"	Terminal wall
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RL0405	#4		5'-2"	——	Terminal wall
RL0406	#4			——	Terminal wall and U-back wing
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RW0402	#4		7'-1½"	3"	Terminal wall and U-back wing
RW0403	#4		from 6'-0½" to 7'-0½"	3"	Terminal wall
RW0404	#4		5'-2"	3"	Terminal wall
RW0405	#4		from 4'-3½" to 4'-6½"	3"	Terminal wall

Dimensions in bending diagram are out-to-out of bars.

10-31-2019

cpsrt-1-at.dgn

CPSRT-1-AT

Sealed and Signed by:
Junyi Meng
Lic. No. 033572
On the date of
October 31, 2019

A copy of the original sealed and signed standard drawing is on file in the Central Office.

VDOT S&B DIVISION
RICHMOND, VA
STRUCTURAL ENGINEER

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

42" CPSR TERMINAL WALL WITH ARCHITECTURAL TREATMENT (CPSRT-1-AT) -2

Designed: S&B..DIV	Date	Plan No.	Sheet No.
Drawn: ....S&B..DIV	June 2020	CPSRT1 -AT	16 of 16
Checked: S&B..DIV			

Scale: 1" = 1'-0" unless otherwise noted.