



CITY OF HARRISONBURG, VIRGINIA

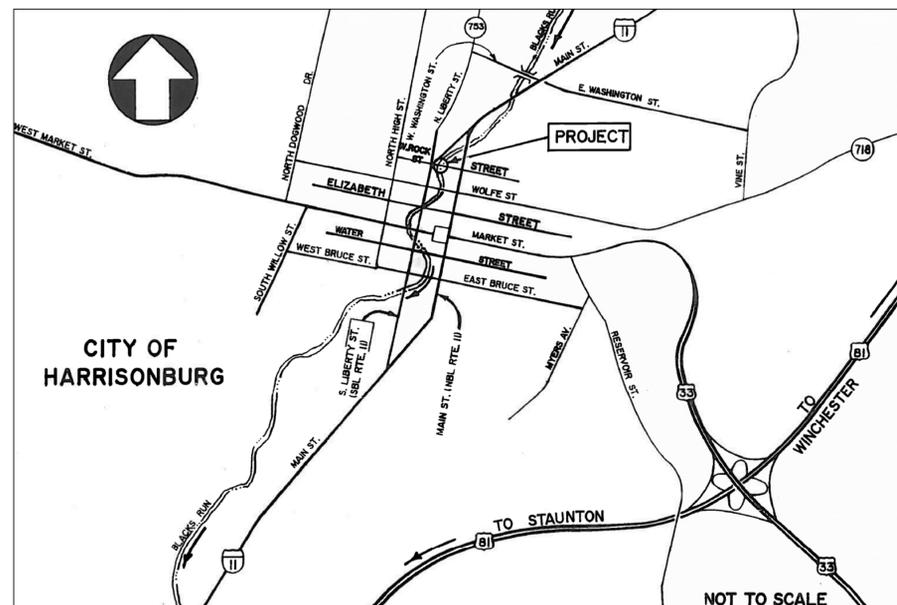
DEPARTMENT OF PUBLIC WORKS

PROPOSED SUPERSTRUCTURE REPLACEMENT OF W. ROCK STREET BRIDGE OVER BLACKS RUN

CITY OFFICIALS

MAYOR
CITY MANAGER
ASST. CITY MANAGER
CITY ENGINEER
DIR. OF PUBLIC WORKS
DIR. OF PUBLIC UTILITY

TED BYRD
KURT HODGEN
ANNE LEWIS
DANIEL J. RUBLEE
JAMES D. BAKER
A. MICHAEL COLLINS



LOCATION MAP
NOT TO SCALE

GENERAL CONSTRUCTION NOTE :

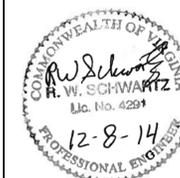
THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATIONS, VDOT ROAD AND BRIDGE SPECIFICATIONS DATED JAN., 2007 AND VDOT ROAD AND BRIDGE STANDARDS, 2008.

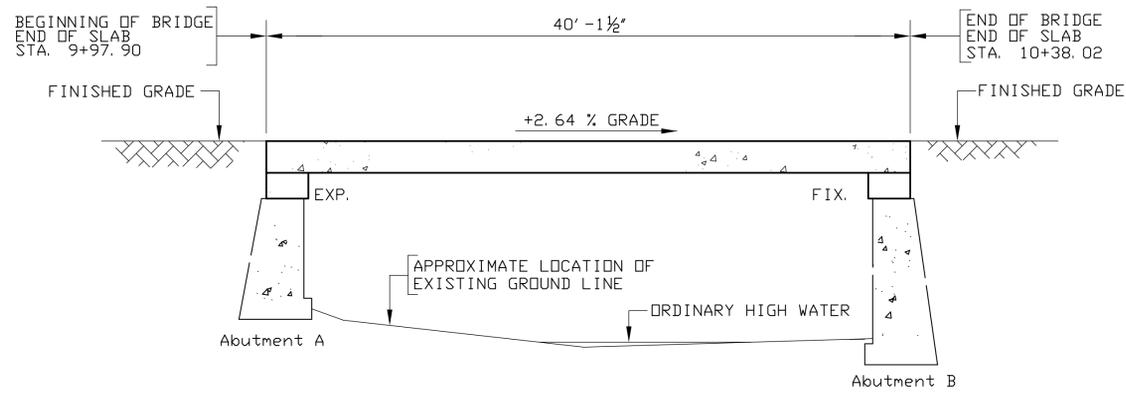
LEGEND:

— — — — —	EXISTING OBJECT LINES
— — — — —	PROPOSED OBJECT LINES
— — — — —	EXISTING REINF. STEEL
— — — — —	PROPOSED REINF. STEEL
— — — — —	CUTTING PLANE LINE
— — — — —	CENTER LINE
— — — — —	HIDDEN LINES

CADD REFERENCE NO. BRIDGE.dwg

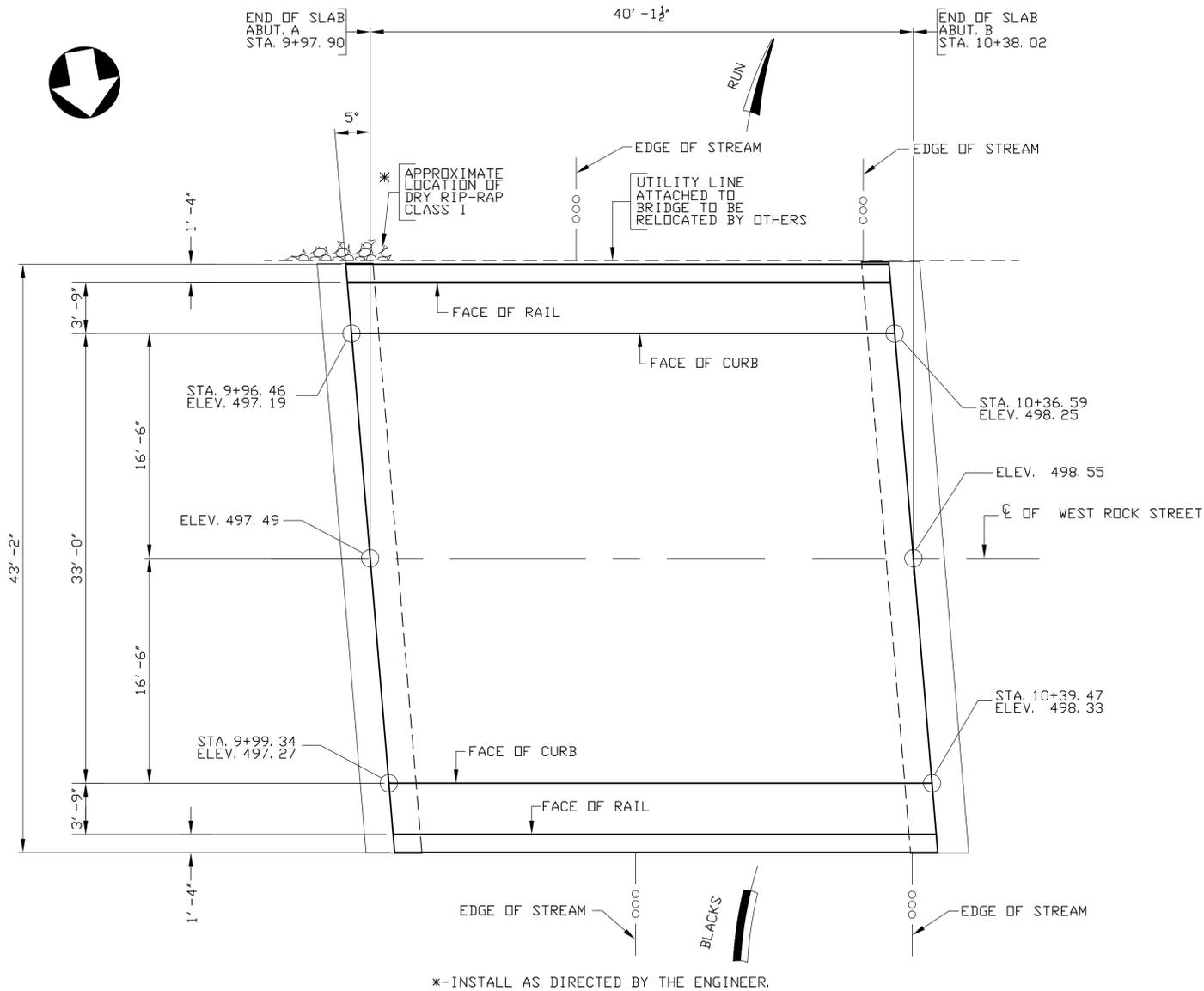
PLANS REVISED	SCHWARTZ & ASSOCIATES, INC.	
SHEET NO. DATE:	CONSULTING ENGINEERS	
	7331 TIMBERLAKE ROAD	
	LYNCHBURG, VA.	
	W. ROCK STREET OVER BLACKS RUN CITY OF HARRISONBURG, VA. COVER SHEET	
	DESIGNED BY: APS	DRAWN BY: OTH
	SCALE: AS SHOWN	PROJECT NO.:
	DATE: DECEMBER 1, 2014	SHEET 1 OF 16
	COMM. NO. 13021	





DEVELOPED ELEVATION ALONG C WEST ROCK STREET
NOT TO SCALE

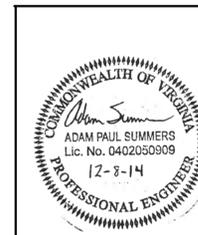
INDEX OF SHEETS	
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3	GENERAL NOTES AND ESTIMATED QUANTITIES
4	ABUTMENTS AND DETAILS
5	TRANSVERSE SECTION
6	SUPERSTRUCTURE
7	ALUMINUM RAILING
8	ALUMINUM RAILING MISCELLANEOUS DETAILS
9	REINFORCING STEEL SCHEDULE & REPOINT MORTAR JOINT DETAILS
10	GENERAL NOTES (ROADWAY)
11	TYPICAL SECTION
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13	SUMMARY
14	ROAD PLAN
15	HANDRAIL STANDARD
16	TRAFFIC CONTROL & NOTES



*-INSTALL AS DIRECTED BY THE ENGINEER.

PLAN
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CADD REFERENCE NO. 13021PE



SCHWARTZ & ASSOCIATES, INC.
CONSULTING ENGINEERS
7331 TIMBERLAKE ROAD
LYNCHBURG, VA.

W. ROCK ST. OVER BLACKS RUN
CITY OF HARRISONBURG, VA
PLAN, ELEVATION & INDEX OF SHEETS

DESIGNED BY: APS	DRAWN BY: DTH	CHECKED BY: RWS
SCALE: NOT TO SCALE	PROJECT NO.:	
DATE: DECEMBER 1, 2014	SHEET: 2 OF 16	

COMM. NO. 13021

GENERAL NOTE:

I. MISCELLANEOUS

- A. WIDTH: 33'-0" FACE-TO-FACE OF CURBS.
- B. SPAN LAYOUT: 1 - 40'-1 1/2" FT. REINFORCED CONCRETE SLAB SPAN.
- C. CAPACITY: HS-20 LOADING

II. SPECIFICATIONS:

- CONSTRUCTION - VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, 2007.
- DESIGN - AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996; 1997 AND 1998 INTERIM SPECIFICATIONS, AND VDOT MODIFICATIONS.
- STANDARDS: VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS, 2008 AND THE CITY OF HARRISONBURG WATER AND SEWER UTILITIES CONSTRUCTION STANDARDS, AND THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

III. GENERAL

- A. THESE PLANS ARE INCOMPLETE UNLESS ACCOMPANIED BY THE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDED IN THE PROJECT MANUAL.
- B. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION WORK AREA PROTECTION MANUAL, JUNE 2011 AND LATEST REVISIONS.

C. 1. BLASTING - GENERAL

ALL CONCRETE AREAS BLASTED SHALL BE BLASTED FOR A TIME SUFFICIENT TO EXPOSE SOUND CONCRETE AND COARSE AGGREGATE UNLESS OTHERWISE NOTED. THEY SHALL BE BLASTED USING AN ABRASIVE MATERIAL OR A MIXTURE OF WATER (8,000 PSI MIN.) AND ABRASIVE.

ALL EXISTING REINFORCING STEEL AREAS BLASTED SHALL BE BLASTED UNTIL ALL CONCRETE, RUST, SCALE, CORRODED STEEL MATERIAL AND FOREIGN MATERIAL ARE REMOVED TO CLEAN WHITE METAL.

2. BLASTING - FOR DAMP PROOFING, CONCRETE SUBSTRUCTURE SURFACE REPAIR AND BONDING EPOXY:

ALL CONCRETE SURFACES SHALL BE BLASTED PRIOR TO APPLICATION OF DAMP PROOFING, CONCRETE SUBSTRUCTURE SURFACE REPAIR AND BONDING EPOXY, TO A MEDIUM FINISH, THAT IS ONE SUFFICIENT TO GENERALLY EXPOSE COARSE AGGREGATE WITH SLIGHT REVEAL - MAXIMUM REVEAL 1/4 INCH.

- D. THE CONTRACTOR SHALL PROVIDE THE ENGINEER SAFE ACCESS TO ALL AREAS OF WORK THROUGHOUT THE COURSE OF CONSTRUCTION AND FOR FINAL INSPECTION AFTER ALL WORK IS COMPLETE.
- E. THE CONTRACTOR SHALL VERIFY, IN FIELD, ALL DIMENSIONS, SKEW AND ELEVATIONS BEFORE BEGINNING CONSTRUCTION AND BEFORE SUBMITTING SHOP DRAWINGS.
- F. ALL COSTS RELATED TO REMOVAL OF EXISTING SUPERSTRUCTURE AND PORTIONS OF EXISTING SUBSTRUCTURE, AS SHOWN ON THESE CONTRACT DRAWINGS SHALL BE INCLUDED IN PRICE BID FOR "REMOVE PORTION OF EXISTING STRUCTURE."
- G. STRUCTURE NUMBER OF EXISTING BRIDGE IS 8006. DRAWINGS ARE NOT AVAILABLE.
- H. THE EXISTING STRUCTURE IS DESIGNATED A TYPE B STRUCTURE IN ACCORDANCE WITH SEC. 411.
- I. CONTRACTOR SHALL TAKE EXTREME CAUTION IN HIS OPERATIONS SO THAT NO DAMAGE IS DONE TO UTILITIES IN THE VICINITY OF THE BRIDGE.

IV. TRAFFIC CONTROL:

- A. THIS BRIDGE SHALL BE CLOSED TO TRAFFIC DURING ENTIRE COURSE OF CONSTRUCTION.
- B. ALL CONCRETE IN SUPERSTRUCTURE SHALL HAVE 4,500 PSI MINIMUM STRENGTH BEFORE PLACING TRAFFIC OVER IT.

V. CONCRETE:

- A. CONCRETE IN SUPERSTRUCTURE SHALL BE CLASS A4.5 CONCRETE IN SIDEWALK, CURBS, & TERMINAL WALL SHALL BE CLASS A4.5 WITH NO. 7 AGGREGATE. CONCRETE IN SUBSTRUCTURE SHALL BE CLASS A3.
- B. ALL CAST-IN-PLACE CONCRETE SHALL BE BONDED TO HARDENED CONCRETE WITH ARMATEC 110 BONDING EPOXY. THE SURFACE TO WHICH THE BONDING EPOXY IS APPLIED SHALL FIRST BE GIVEN A MEDIUM BLASTED FINISH. SEE SPECIAL PROVISIONS FOR "ARMATEC 110 BONDING EPOXY."

- C. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN REMOVING EXISTING CONCRETE SO THAT NONE OF THE PORTION OF THE EXISTING ABUTMENTS OR RETAINING WALLS TO REMAIN IN PLACE IS DAMAGED. ALL EXISTING CONCRETE THAT IS REMOVED IN AREAS ADJACENT TO STRUCTURES TO REMAIN SHALL BE REMOVED WITH PNEUMATIC HAMMER (MAXIMUM WEIGHT 30 LBS.) EXCEPT 15 LBS. MAXIMUM WEIGHT HAMMER FOR DOING FINAL TRIM WORK. ANY DAMAGE SHALL BE CORRECTED BY CONTRACTOR, AT HIS EXPENSE, AND TO THE SATISFACTION OF THE ENGINEER.
- D. DECK DRAINS SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ROAD & BRIDGE SPECIFICATIONS, SECTION 233. ALL COSTS RELATED TO THIS SHALL BE INCLUDED IN PRICE BID FOR CONCRETE, CLASS A4.5.
- E. UNIT PRICE BID FOR CONCRETE, CLASS A3, SHALL INCLUDE ALL COSTS RELATED TO WEEP HOLES, SPONGE RUBBER JOINT MATERIAL AND WATERSTOPS.
- F. LOW PERMEABILITY CONCRETE SHALL BE USED IN THIS PROJECT.
- G. BRIDGE SIDEWALKS AND PARAPETS SHALL BE CAST AND ALLOWED TO OBTAIN FULL DESIGN STRENGTH BEFORE REMOVING FALSE WORK.
- H. ALL COST FOR 4" DIA. CORE DRILLED WEEPHOLES SHALL BE INCLUDED IN CONCRETE CLASS A3.

VII. REINFORCING STEEL:

- A. ALL REINFORCING STEEL SHALL BE DEFORMED AND SHALL CONFORM TO ASTM A615 GRADE 60 EXCEPT FOR REINFORCING STEELS NOTED AS CRR (CORROSION RESISTANT REINFORCEMENT) WHICH SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS NOTED IN THE SPECIAL PROVISIONS. 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.
- B. CORROSION RESISTANT REINFORCING (CRR) STEELS SHALL CONFORM TO ONE OR MORE OF THE THREE TYPES (LOW CARBON/CHROMIUM, STAINLESS CLAD AND SOLID STAINLESS) LISTED IN THE SPECIAL PROVISION. THE MINIMUM YIELD STRENGTH SHALL BE: 100 KSI FOR LOW CARBON/CHROMIUM STEEL AND 60 KSI FOR STAINLESS CLAD STEEL OR SOLID STAINLESS STEEL. THE TYPE(S) OF CRR STEEL(S) REQUIRED ON THIS PROJECT IS/ARE NOTED ON PLAN SHEETS AND IN THE REINFORCING STEEL SCHEDULE.
- C. ALL COSTS RELATED TO ADHESIVE ANCHORS & DOWELS D1 AND DAMP PROOFING SHALL BE INCLUDED IN UNIT PRICE BID FOR CONCRETE, CLASS A3.

VIII. EPOXIES:

- A. ALL EPOXIES SHALL BE PROTECTED DURING CURE PERIOD SO THAT THEIR TEMPERATURE DOES NOT FALL BELOW 50 DEGREES F. FOR A MINIMUM PERIOD OF 24 HOURS AFTER APPLICATION.

IX. UTILITIES (PRESENT & FUTURE):

- A. THE LOCATION OF EXISTING UTILITIES, INCLUDING UNDERGROUND AND LOCATION WERE KNOWN AT THE TIME OF PREPARATION OF THE DRAWINGS. HOWEVER, NOTHING IN THESE CONTRACT DOCUMENTS SHALL BE CONSTRUED AS A GUARANTEE THAT SUCH UTILITIES ARE IN THE LOCATION INDICATED OR THAT THEY ACTUALLY EXIST, OR THAT OTHER UTILITIES ARE NOT WITHIN THE AREA OF OPERATIONS. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO DETERMINE THE EXISTENCE AND LOCATIONS OF SUCH UTILITIES. THE CONTRACTOR SHALL PAY FOR ANY DAMAGE TO AND FOR MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.

- B. ALL COSTS ASSOCIATED WITH IX, PARAGRAPH A, SHALL BE INCLUDED IN UNIT PRICE BID FOR "CONCRETE, CLASS A3."

X. B.M. DESCRIPTION

- B.M. # 1: CHISELED "O" ON TOP OF DROP INLET (PAINTED RED) WEST OF ABUTMENT B 45' FROM END OF BRIDGE, UPSTREAM SIDE ELEV. = 500.00 (ASSUMED).
- B.M. # 2: CHISELED "O" ON TOP OF DROP INLET (PAINTED RED) EAST OF ABUTMENT A 74' FROM END OF BRIDGE, DOWNSTREAM SIDE ELEV. = 495.37.

ESTIMATED QUANTITIES

	CONCRETE CLASS A4.5	CONCRETE CLASS A3	CORROSION RESISTANT REINFORCING STEEL CLASS I	STRUCTURE EXCAVATION	⊕ BRIDGE DECK GROOVING	⊕ ALUMINUM RAILING	POORUS BACKFILL	CONCRETE SUBSTRUCTURE SURFACE REPAIR	REPOINT MORTAR JOINTS, TYPE A	DRY RIP-RAP CLASS I
	CU. YDS.	CU. YDS.	LBS.	CU. YDS.	SQ. YDS.	LIN. FT.	CU. YDS.	SQ. YDS.	LF.	TON
SUPERSTRUCTURE	121.7	-	25,970	-	147	81	-	-	-	-
ABUTMENT A	-	4.8	520	16.5	-	-	8.0	5	-	3
ABUTMENT B	-	4.7	490	18.5	-	-	9.0	3	250	-
TOTALS	121.7	9.5	26,980	35.0	147	81	17.0	8	250	3

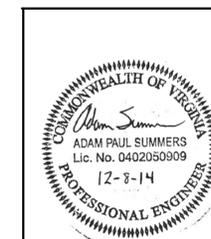
⊕ - DENOTES ITEMS TO BE PAID FOR ON BASIS OF PLAN QUANTITIES IN ACCORDANCE WITH CURRENT ROAD AND BRIDGE SPECIFICATIONS.

MOBILIZATION - LUMP SUM

REMOVE PORTION OF EXISTING STRUCTURE (STRUCTURE #8006) - LUMP SUM

COST OF DECK DRAIN ASSEMBLIES SHALL BE INCLUDED IN UNIT PRICE BID FOR CONCRETE CLASS A4.5.

CADD REFERENCE NO. 13021GN

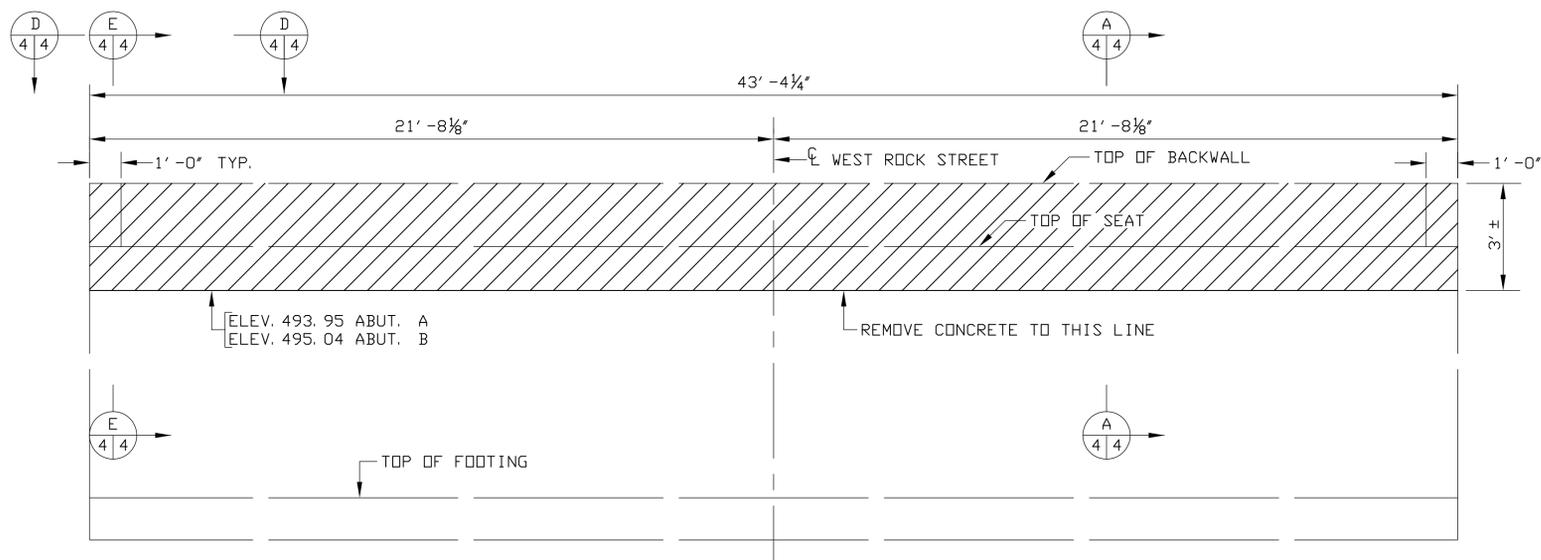


SCHWARTZ & ASSOCIATES, INC.
CONSULTING ENGINEERS
7331 TIMBERLAKE ROAD
LYNCHBURG, VA.

**WEST ROCK STREET OVER BLACKS RUN
CITY OF HARRISONBURG, VA.
GENERAL NOTES & ESTIMATED QUANTITIES**

DESIGNED BY: APS	DRAWN BY: OTH	CHECKED BY: RWS
SCALE: AS SHOWN	PROJECT NO.:	
DATE: DECEMBER 1, 2014	SHEET 3 OF 16	

COMM. NO. 13021



EXISTING ABUTMENT ELEVATION
NOT TO SCALE

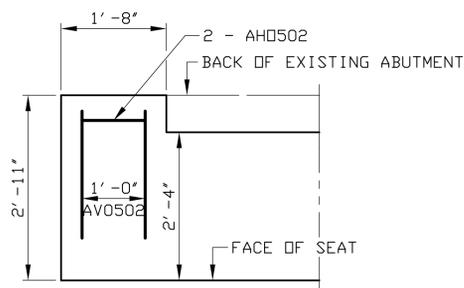
NOTES:

ALL REINFORCING STEEL SHALL HAVE A MINIMUM CLEAR COVER OF 3", UNLESS OTHERWISE NOTED.

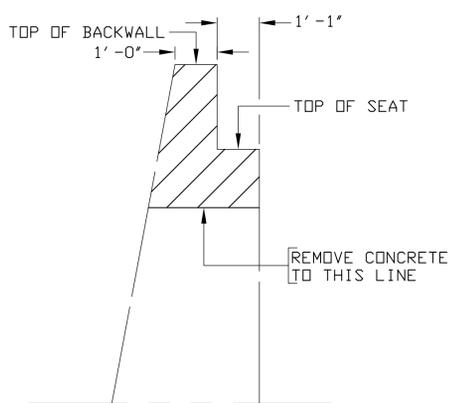
SEE BEARING DETAILS (SHEET 6) FOR LOCATION OF RIBBED CENTER-BULB 6" WATERSTOP (ACROSS FULL LENGTH OF SEAT).

** - ADHESIVE ANCHORS SHALL BE DRILLED AND GROUTED A MAXIMUM OF 12" INTO EXISTING CONCRETE.

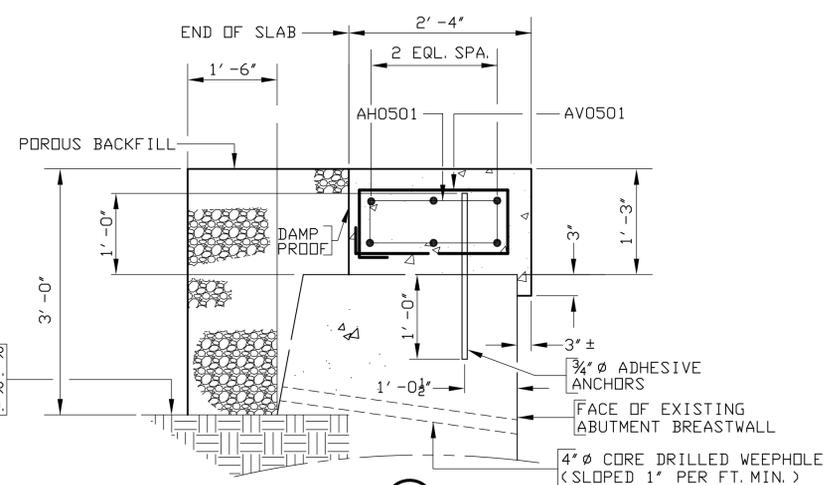
▨ - DENOTES REMOVE PORTION OF EXISTING STRUCTURE.



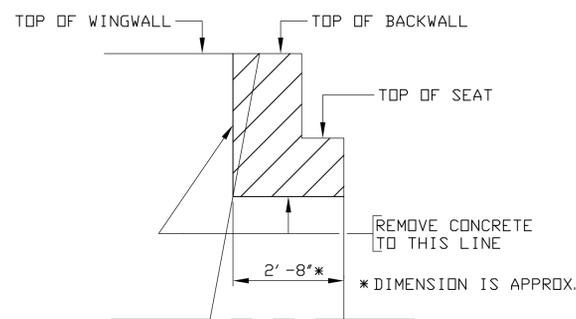
SECTION D
(ABUTMENT A ONLY)
NOT TO SCALE



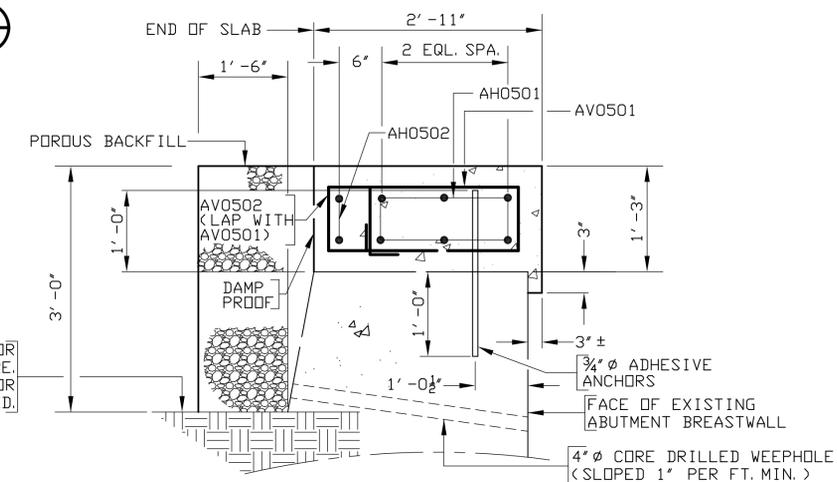
SECTION A
NOT TO SCALE



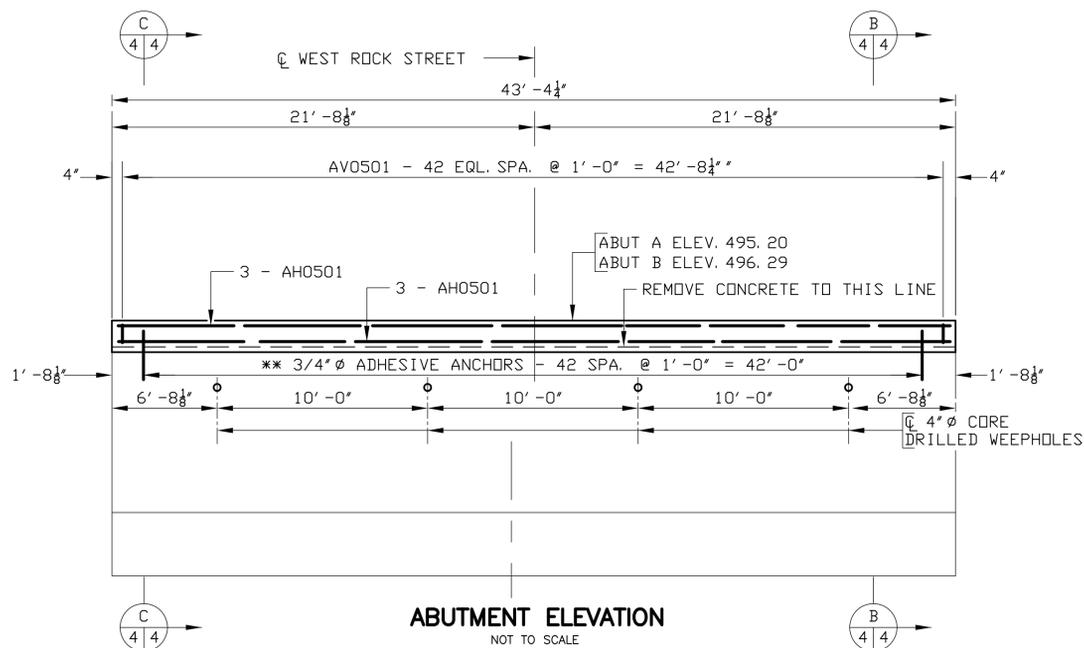
SECTION B
NOT TO SCALE



SECTION E
(ABUTMENT A ONLY)
NOT TO SCALE



SECTION C
(ABUTMENT A ONLY)
NOT TO SCALE



ABUTMENT ELEVATION
NOT TO SCALE

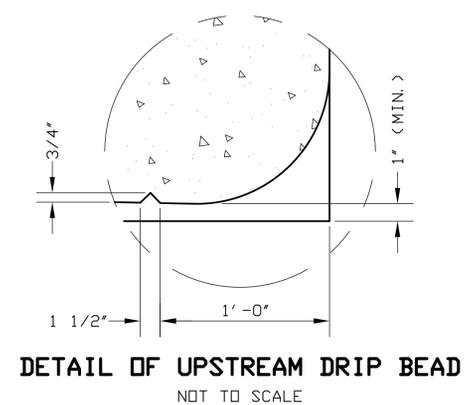
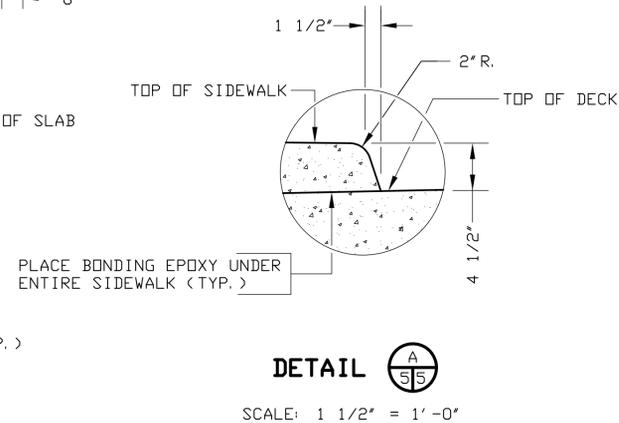
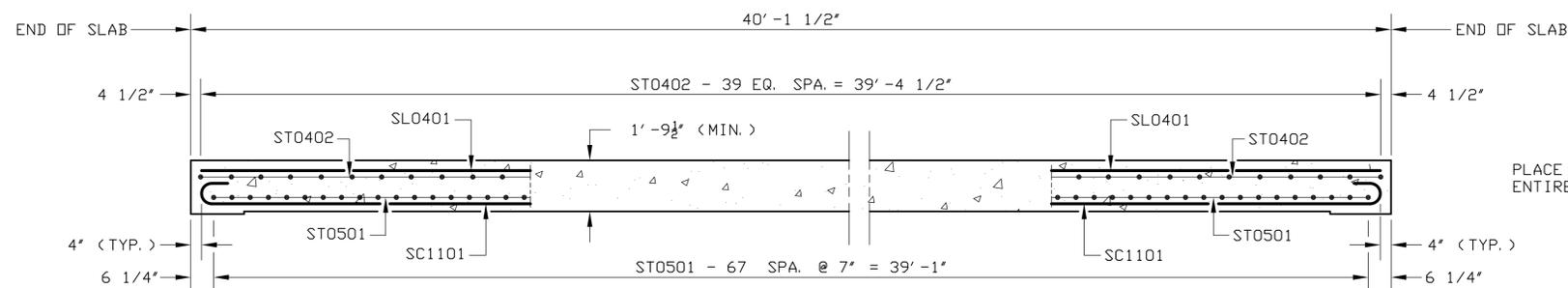
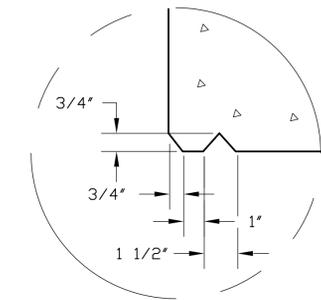
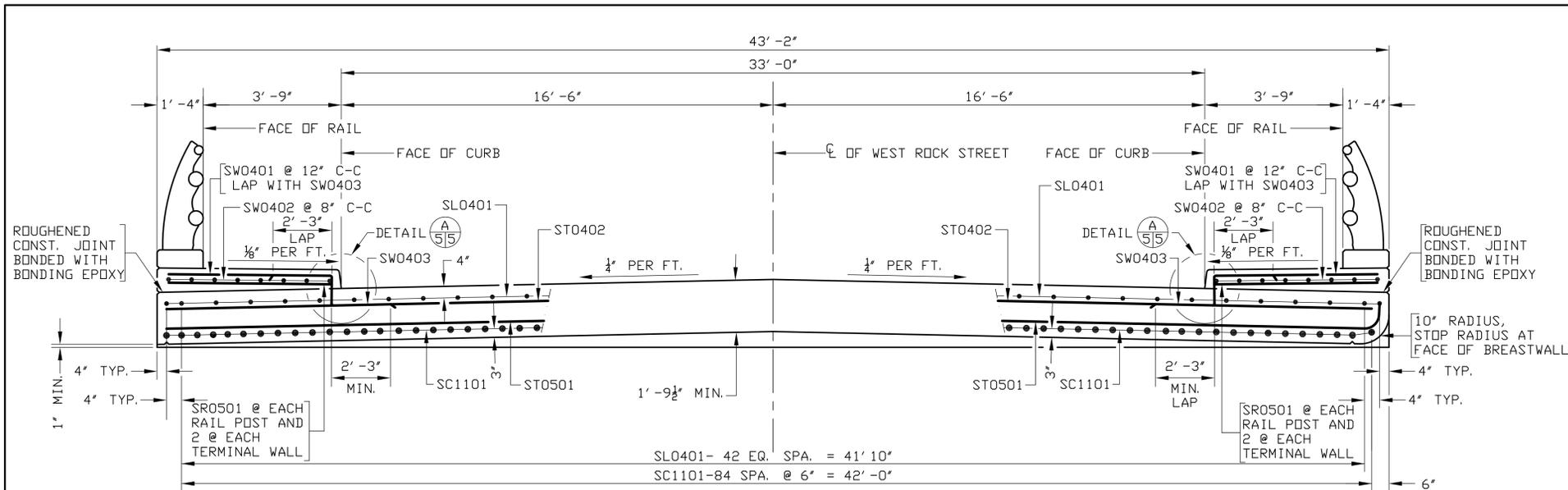
EXCAVATE TO THIS LINE PRIOR TO REMOVAL OF SUPERSTRUCTURE. BACKFILL AFTER FALSEWORK FOR NEW DECK SLAB IS REMOVED.



SCHWARTZ & ASSOCIATES, INC.
CONSULTING ENGINEERS
7331 TIMBERLAKE ROAD
LYNCHBURG, VA.
W. ROCK ST. OVER BLACKS RUN
CITY OF HARRISONBURG, VA
ABUTMENTS AND DETAILS

DESIGNED BY: APS | DRAWN BY: DTH | CHECKED BY: RWS
SCALE: NOT TO SCALE | PROJECT NO.:
DATE: DECEMBER 1, 2014 | SHEET: 4 OF 16

CADD REFERENCE NO. 13021BRIDGE

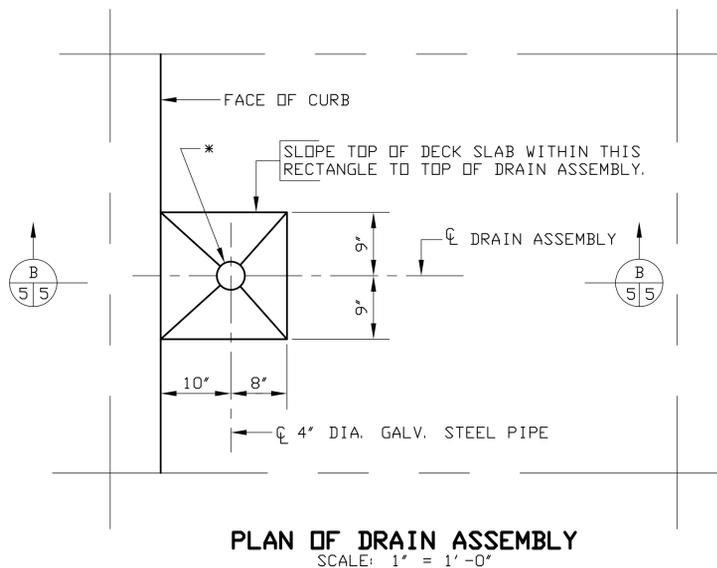
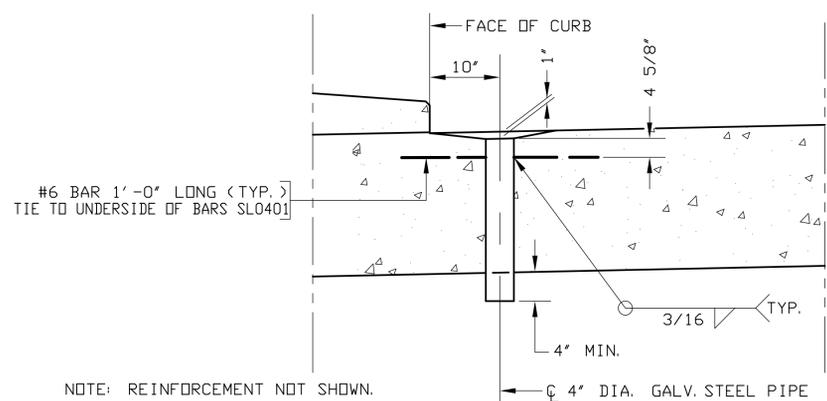


ABUTMENT A

PART LONGITUDINAL SECTION

ABUTMENT B

NOTE: BARS ST0501 AND ST0402 MAY BE SHIFTED A MINIMAL AMOUNT AS NECESSARY TO CLEAR DRAIN ASSEMBLIES.

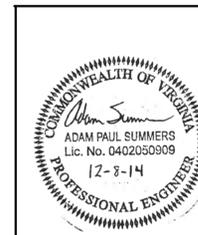


NOTES: SEE SHEET 6 FOR LOCATION OF DRAIN ASSEMBLIES.

* - 4" DIA. GALVANIZED STEEL PIPE SHALL BE IN ACCORDANCE WITH SECTION 233.02 (b) OF 2007 VDOT ROAD AND BRIDGE SPECIFICATIONS. RECESS TOP OF PIPE 1" BELOW TOP OF DECK AND SHAPE DECK TO PIPE AS DIRECTED BY THE ENGINEER.

DECK DRAINS ARE DETAILED FOR THE DOWNSTREAM SIDE OF THE STRUCTURE. DECK DRAINS SHALL ALSO BE PLACED ON THE UPSTREAM SIDE OF THE STRUCTURE ADJACENT TO THE SIDEWALK CURB.

CADD REFERENCE NO.: 13021 BRIDGE.DWG

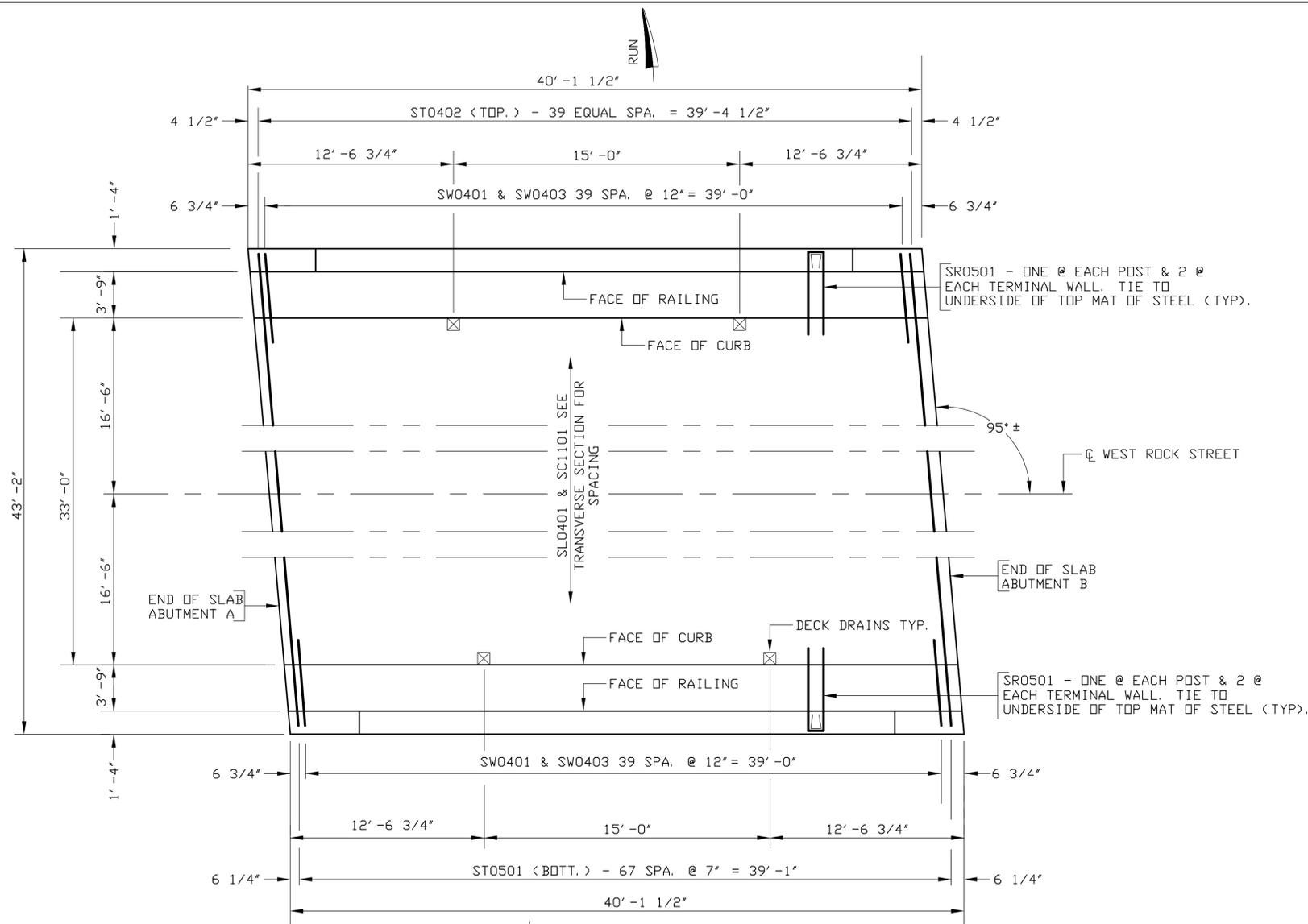


SCHWARTZ & ASSOCIATES, INC.
CONSULTING ENGINEERS
7331 TIMBERLAKE ROAD
LYNCHBURG, VA.

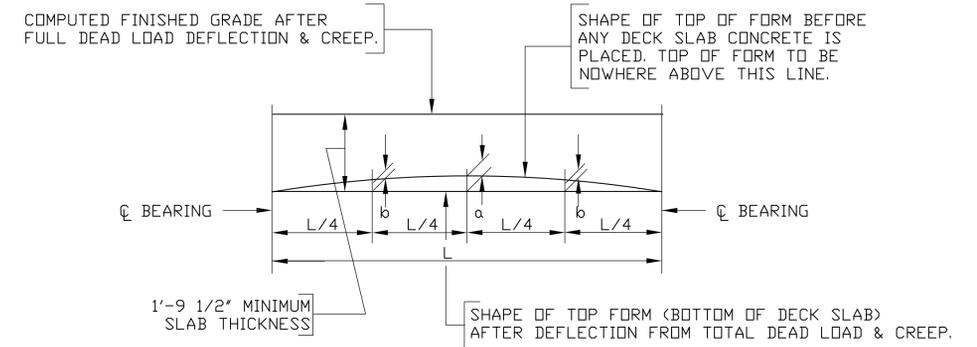
WEST ROCK STREET OVER BLACKS RUN
CITY OF HARRISONBURG, VA
TRANSVERSE SECTION

DESIGNED BY: APS | DRAWN BY: DTH | CHECKED BY: RWS
SCALE: AS NOTED | PROJECT NO.:
DATE: DECEMBER 1, 2014 | SHEET: 5 OF 16

COMM. NO. 13021



DECK PLAN
NOT TO SCALE

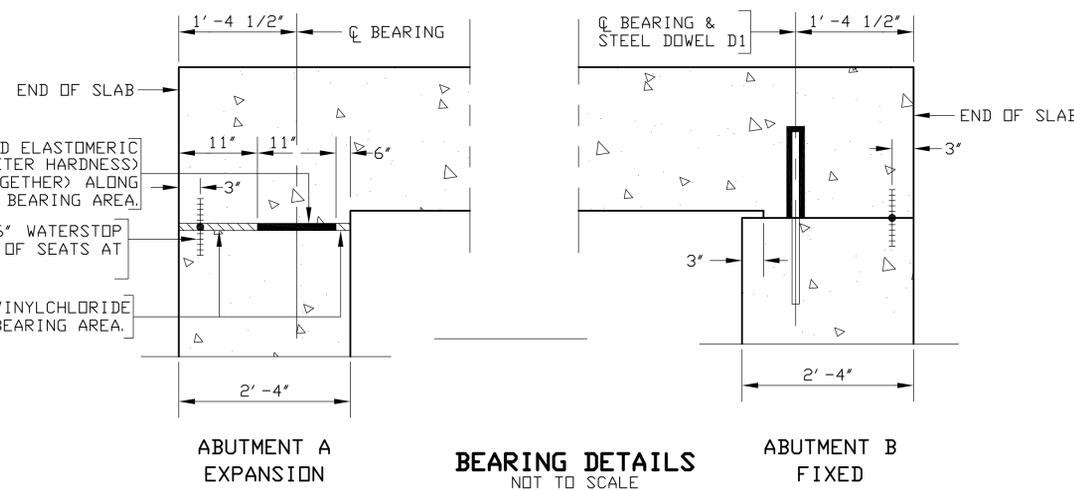


	DEAD LOAD DEFLECTION AT a	DEAD LOAD DEFLECTION AT b
Δ	1 3/4"	1 1/4"

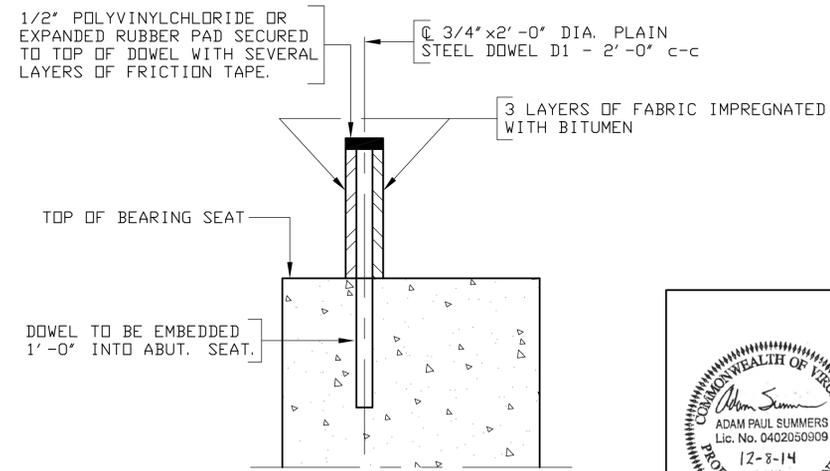
Δ - FULL DEAD LOAD DEFLECTION & CREEP.

DEAD LOAD DEFLECTION DIAGRAM

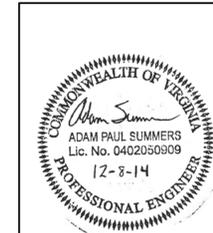
TWO - 1/8" GRAPHITED ELASTOMERIC BEARING PADS (70 DUROMETER HARDNESS) (GRAPHITED SURFACES TOGETHER) ALONG ENTIRE LENGTH OF BEARING AREA.
RIBBED CENTER-BULB 6" WATERSTOP (ACROSS FULL LENGTH OF SEATS AT EACH ABUTMENT)
1/4" EXPANDED RUBBER OR POLYVINYLCHLORIDE JOINT FILLER OVER REMAINING BEARING AREA.



BEARING DETAILS
NOT TO SCALE



STEEL DOWEL D1
SCALE: 1 1/2" = 1'-0"



SCHWARTZ & ASSOCIATES, INC.
CONSULTING ENGINEERS
7331 TIMBERLAKE ROAD
LYNCHBURG, VA.

WEST ROCK STREET OVER BLACKS RUN
CITY OF HARRISONBURG, VA
SUPERSTRUCTURE

DESIGNED BY: APS	DRAWN BY: OTH	CHECKED BY: RWS
SCALE: AS NOTED	PROJECT NO.	
DATE: DECEMBER 1, 2014	SHEET 6 OF 16	

CADD NO. 13021 BRIDGE

MODIFIED 7-06

6-18-90

BMR-14

FHWA REGION	STATE	FEDERAL AID		STATE PROJECT		SHEET NO.
		ROUTE	PROJECT	ROUTE	PROJECT	
3	VA.					7

NOTES:

Posts shall be seated on neoprene bearing pads 1/16" minimum thickness, having a nominal durometer hardness of 60. Pads shall conform to post base dimensions.

Aluminum shims may be used for adjusting post alignment, maximum thickness of shim build-up not to exceed 1/8". Where more tilting of the post is required, the concrete area shall be ground down.

Posts shall be cast aluminum.

Rail members shall be aluminum extruded tube conforming to ASTM B221, alloy 6061-T6 or 6351-T5 only.

For miscellaneous details, see sheet 8.

All levels for concrete on this sheet shall be 3/4".

Anchor bolts may be set normal to profile grade.

Bid item for railing shall include rails, rail post, bearing pads, anchor assemblies, sleeves, concrete, reinf. steel and other associated metal parts as shown on sheets 7 and 8.

All reinforcing bars shall be corrosion resistant reinforcing steel (low carbon / chromium), class I.

All concrete shall be Class A4.5.

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

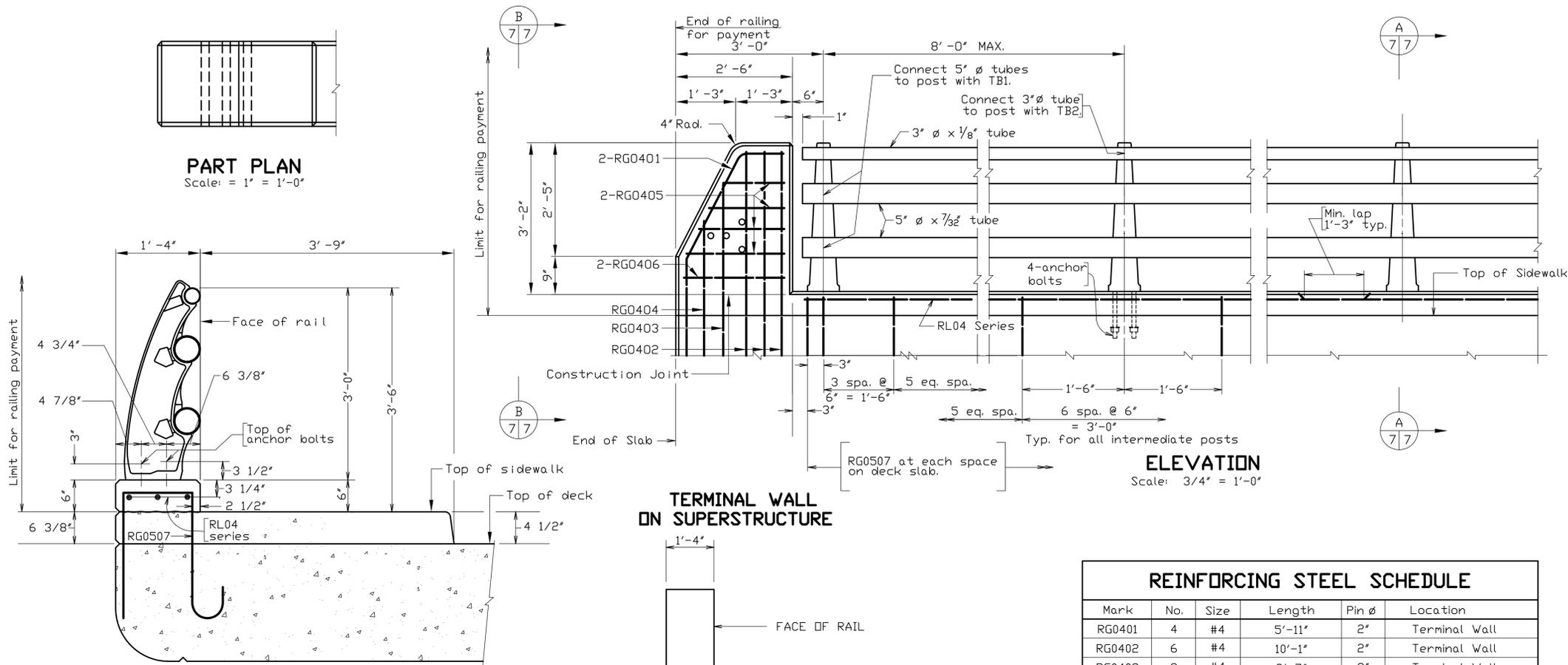
Post spacing / detailing:

Post spacing is measured along C of anchor bolts.

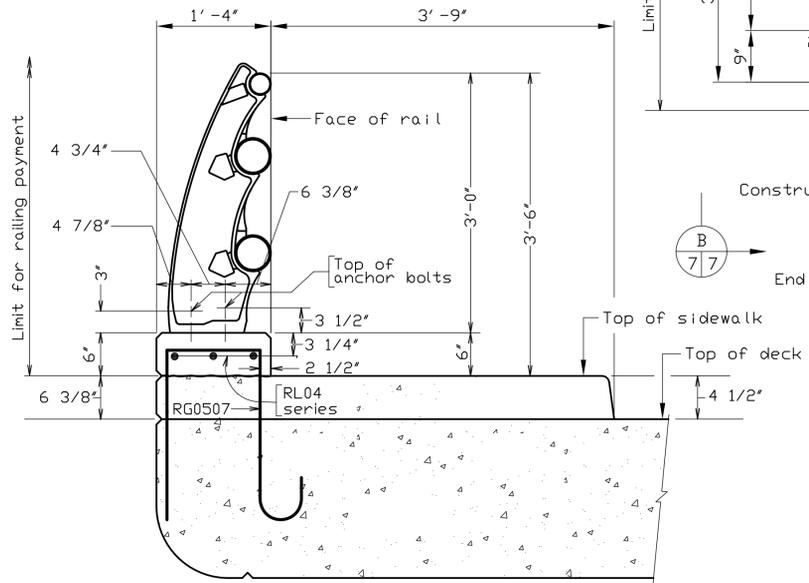
Intermediate posts shall be equally spaced with maximum spacing not to exceed 8'-0".

Terminal walls are detailed to take guardrail attachment GR-FDA-1. Holes for guardrail attachment shall be formed with PVC sleeves of 1 1/2" nominal dia. pipe & left in place.

No rail splices permitted.



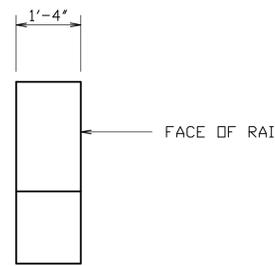
ELEVATION
Scale: 3/4" = 1'-0"



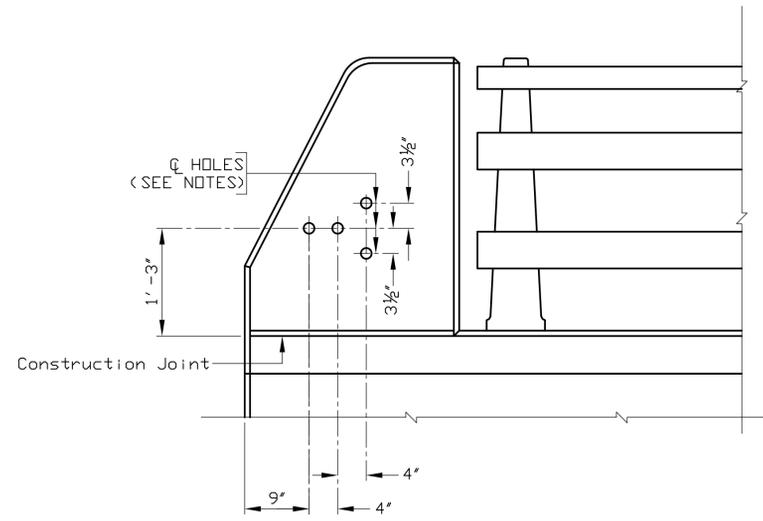
SECTION A-A
UPSTREAM
Scale: 1" = 1'-0"

See sheet 5 for placement of sidewalk reinforcement
RADIUS SHOWN IS FOR UPSTREAM SIDE ONLY

TERMINAL WALL ON SUPERSTRUCTURE

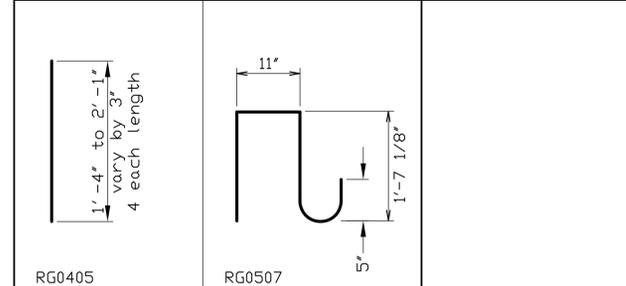
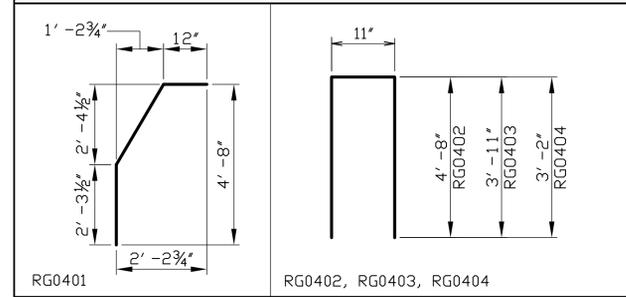


VIEW B-B
NOT TO SCALE



PART ELEVATION
Scale: 1" = 1'-0"

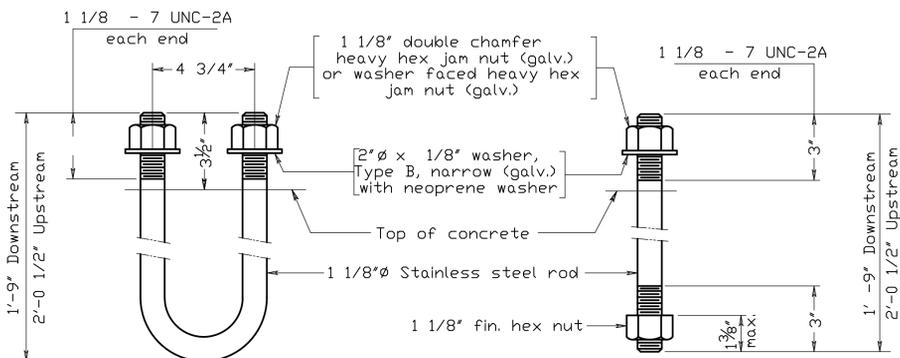
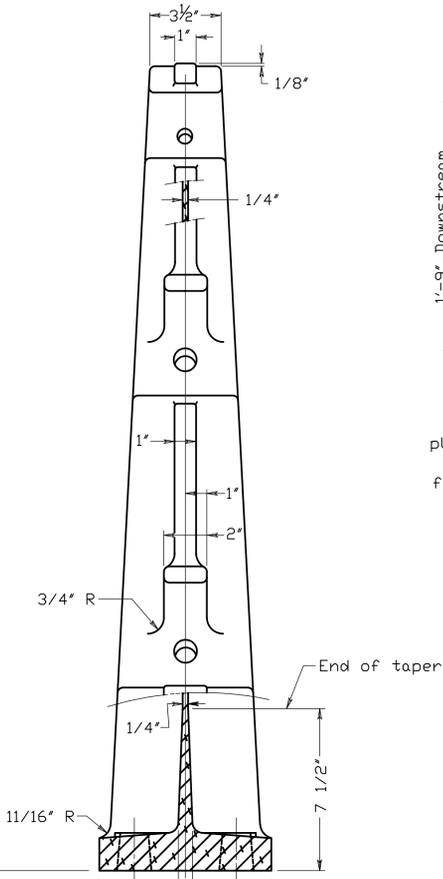
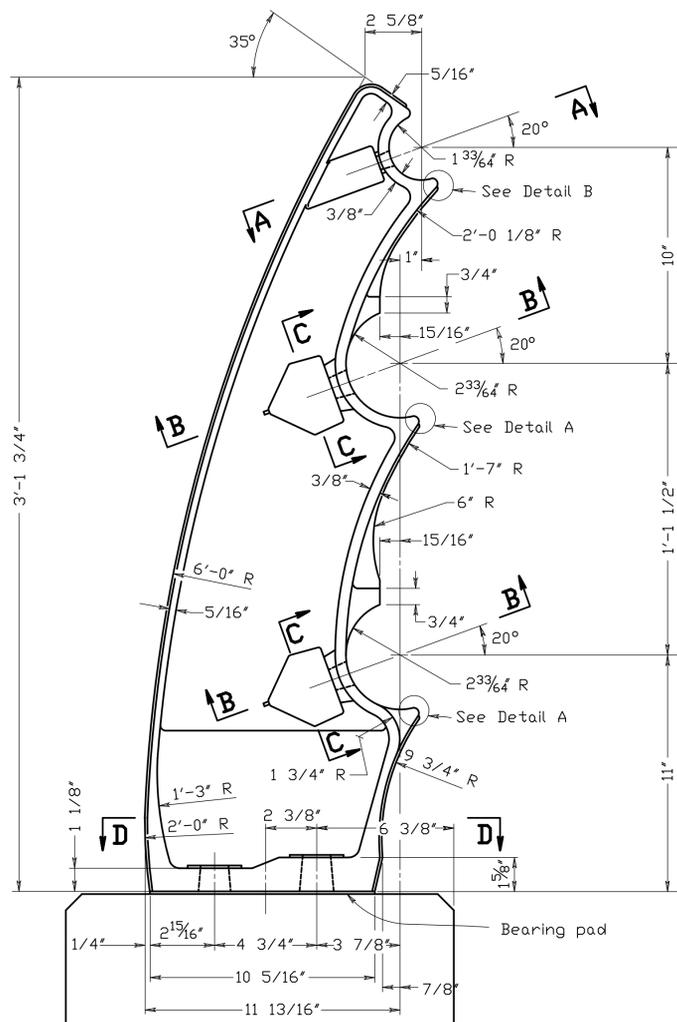
REINFORCING STEEL SCHEDULE					
Mark	No.	Size	Length	Pin ϕ	Location
RG0401	4	#4	5'-11"	2"	Terminal Wall
RG0402	6	#4	10'-1"	2"	Terminal Wall
RG0403	2	#4	8'-7"	2"	Terminal Wall
RG0404	2	#4	7'-1"	2"	Terminal Wall
RG0405	16	#4	1'-4" to 2'-1"	-	Terminal Wall
RG0406	4	#4	2'-3"	-	Terminal Wall
RG0507		#5	4'-8 1/2"	3 3/4"	Curb
RL04		#4		-	Curb



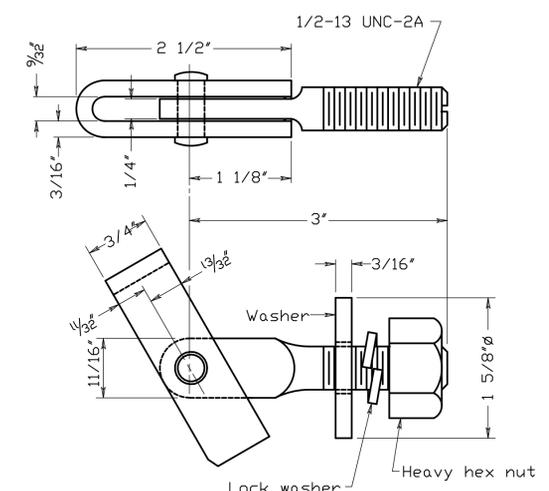
WEST ROCK STREET OVER BLACKS RUN

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION STRUCTURE AND BRIDGE DIVISION					
ALUMINUM RAILING					
No.	Description	Date	Designed: APC	Date	Plan No.
	Revisions		Drawn: JTH Checked: R.M.S.	DEC. 1, 2014	7 of 16

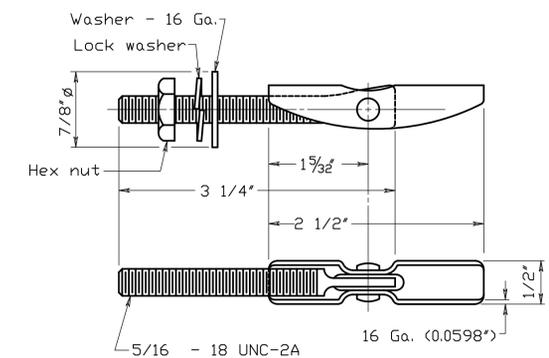
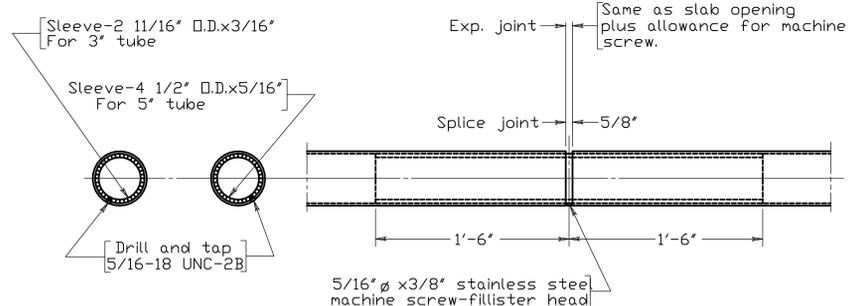
FHWA REGION	STATE	FEDERAL AID ROUTE	PROJECT	STATE ROUTE	PROJECT	SHEET NO.
3	VA.					8



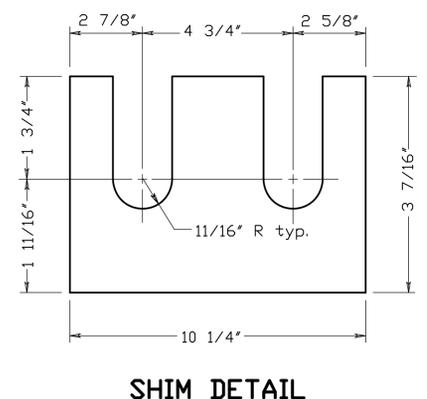
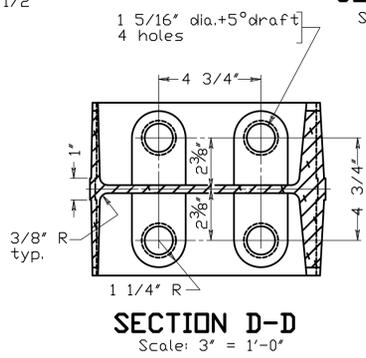
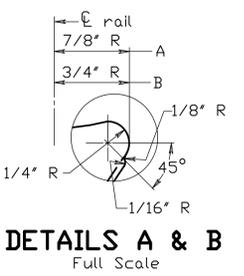
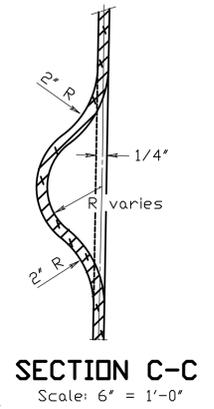
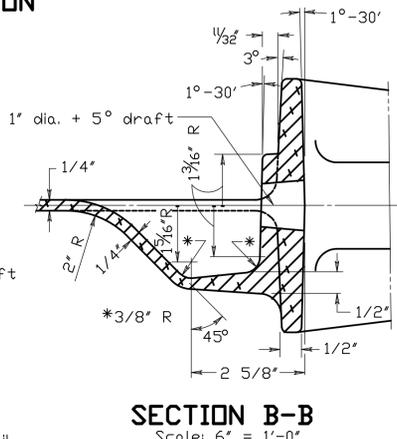
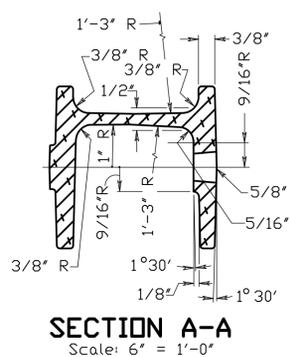
ANCHOR BOLTS
Bolts (Rods): Conform to Section 226.02(c)4 of VDOT Specs. Threads on rods may be rolled or cut.
Nuts: ASTM A307 (galv.) or stainless steel, A276, Type 304.
Neoprene washer: 1/16" minimum thickness, nominal durometer of 70.



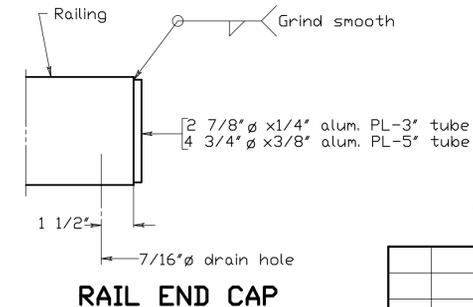
Material for toggle bolt assembly TB1 shall be carbon or stainless steel having a minimum elongation of 12%. Any non-stainless component to be either galvanized to ASTM A153 or cadmium plated to ASTM A165, Type N.S.
Required minimum tensile load to equal 9000 lbs. when in an open position and tested through a 1" hole.



Material for toggle bolt assembly TB2 shall be steel as follows: Toggle bolt, nut, and washer ASTM A108, Grade 1020 and Toggle A425. All parts to be cadmium plated to ASTM A165.
Required minimum tensile load to equal 1000 lbs. when in an open position and tested through a 5/8" hole.



Shims to be made from 1/16" or 1/8" material.
Shims shall not project outside of post base.



WEST ROCK STREET OVER BLACKS RUN

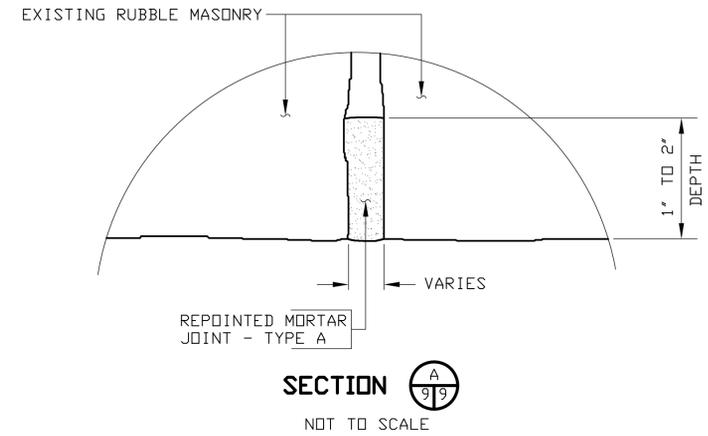
COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION STRUCTURE AND BRIDGE DIVISION					
ALUMINUM RAILING MISCELLANEOUS DETAILS					
No.	Description	Date	Designed: APS...	Date	Plan No.
	Revisions		Drawn: BTH	DEC. 1, 2014	Sheet No.
			Checked: R.W.S.		8 OF 16

MODIFIED 6-06

7-1-93

CADD
BMR-18

REINFORCING STEEL SCHEDULE				
MARK	NO.	LENGTH	PIN DIA.	LOCATION
ABUTMENT A				
AH0501	6	42'-8"	-	SEAT
AH0502	4	1'-0"	-	SEAT CORNER
AV0501	43	5'-0 1/4"	2 1/2"	SEAT
AV0502	4	4'-10 1/2"	2 1/2"	SEAT CORNER
ABUTMENT B				
AH0501	6	42'-8"	-	SEAT
AV0501	43	5'-0 1/4"	2 1/2"	SEAT
SUPERSTRUCTURE				
SC1101	86	42'-7"	11"	SLAB (BOTTOM LONGITUDINAL)
SL0401	45	39'-6"	-	SLAB (TOP LONGITUDINAL)
SR0501	20	9'-5"	3 3/4"	SLAB AT POSTS & TERMINAL WALLS
ST0501	68	43'-5"	12"	SLAB (BOTTOM TRANSVERSE)
ST0402	40	42'-6"	-	SLAB (TOP TRANSVERSE)
SW0401	80	4'-5"	-	SIDEWALK
SW0402	16	39'-6"	-	SIDEWALK
SW0403	80	4'-9 1/2"	3"	SIDEWALK

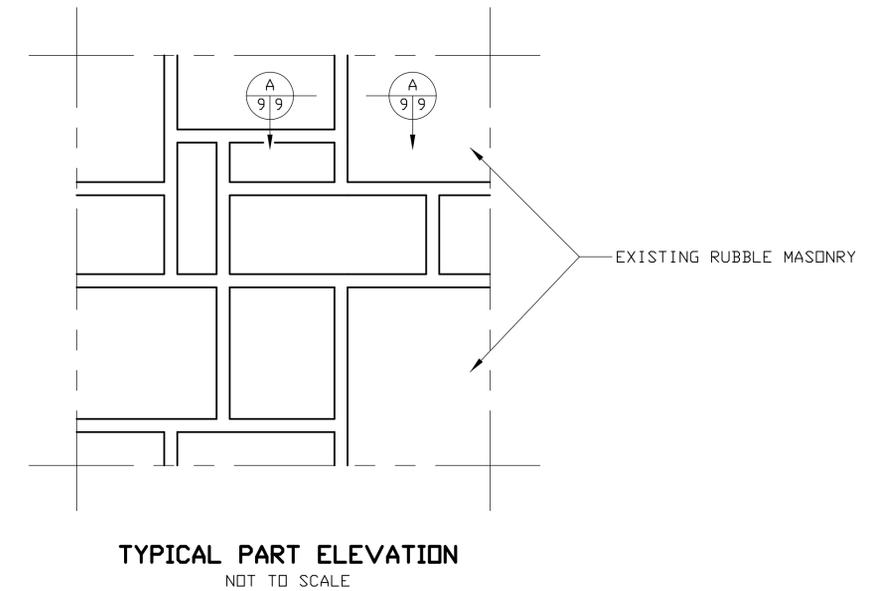
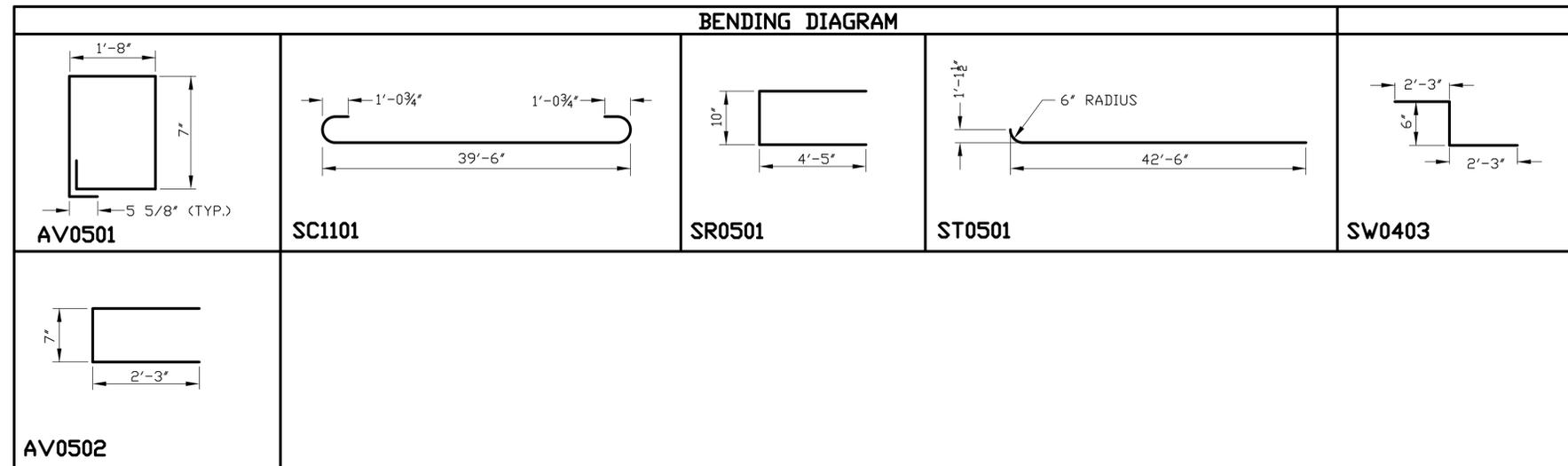


NOTE: ALL MORTAR JOINT OPENINGS SHALL BE PREPARED BY REMOVING LOOSE OR SOFT MORTAR & CLEANED WITH COMPRESSED AIR TO REMOVE ANY LOOSE DIRT AND DEBRIS PRIOR TO REPOINTING JOINTS WITH MORTAR.

TYPICAL DETAIL REPOINT MORTAR JOINT - TYPE A

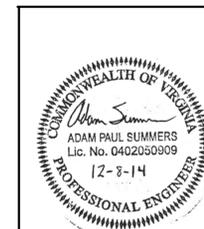
NOTES:

- DIMENSIONS IN BENDING DIAGRAM ARE OUT-TO-OUT OF BARS. ALL REINFORCING STEEL SHALL BE CORROSION RESISTANT REINFORCING STEEL (LOW CARBON/CHROMIUM) CLASS I.
- ALL COSTS RELATED TO DOWELS D1 SHALL BE INCLUDED IN UNIT PRICE BID FOR CONCRETE CLASS A3.



TYPICAL PART ELEVATION
NOT TO SCALE

CADD REFERENCE NO. 20004RS



SCHWARTZ & ASSOCIATES, INC.
CONSULTING ENGINEERS
7331 TIMBERLAKE ROAD
LYNCHBURG, VA.

**WEST ROCK STREET OVER BLACKS RUN
CITY OF HARRISONBURG, VA
REINFORCING STEEL SCHEDULE &
REPOINTING MORTAR JOINT DETAILS**

DESIGNED BY: APS	DRAWN BY: OTH	CHECKED BY: RWS
SCALE: AS NOTED	PROJECT NO.:	
DATE: DECEMBER 1, 2014	SHEET 9 OF 16	

COMM. NO. 13021

GENERAL NOTES

GRADING:

THE GRADE LINE DENOTES TOP OF FINISHED PAVEMENT UNLESS SHOWN OTHERWISE ON TYPICAL SECTIONS OR PLANS.

ALL COSTS FOR GRADING, SHAPING, SEEDING, FERTILIZING, LIMING, OVERSEEDING, FURNISHING & PLACING TOPSOIL AND MULCHING, IN DISTURBED AREAS OF THE PROJECT SHALL BE PAID FOR UNDER PRICE BID "SEEDING," LUMP SUM. THIS BID ITEM SHALL ALSO INCLUDE ALL COSTS FOR REPLACING DAMAGED SHRUBS, FLOWERS, ETC. ANY SHRUBS OR FLOWERS DAMAGED SHALL BE REPLACED WITH THE ORIGINAL SIZE AND TYPE THAT WAS DAMAGED.

ALL AREA'S DISTURBED ON THIS PROJECT, NOT COVERED BY OTHER NOTES, SHALL BE RESTORED TO ITS ORIGINAL OR BETTER CONDITION AS DIRECTED BY THE ENGINEER. ALL COST FOR THIS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "SEEDING", LUMP SUM.

ALL COSTS FOR FURNISHING MATERIALS AND BACKFILLING BEHIND NEW CURB & GUTTERS, ENTRANCES AND SIDEWALKS SHALL BE INCLUDED IN THE APPROPRIATE BID ITEMS.

THE COST OF CUTTING, REMOVAL AND DISPOSAL OF EXISTING ITEMS SUCH AS THOSE LISTED BELOW SHALL BE INCLUDED IN THE PRICE BID FOR "DEMOLITION OF PAVEMENT":

ASPHALT PAVEMENT, CONCRETE CURB AND GUTTER, ENTRANCES, SIDEWALKS AND HAND RAILS.

ALL COSTS FOR EXCAVATION AND DISPOSAL OF MATERIAL FOR PLACEMENT OF NEW CURB AND GUTTER, ASPHALT PAVEMENT, NEW ENTRANCES, NEW SIDEWALKS & ALL BASE MATERIAL UNDER THESE ITEMS SHALL BE INCLUDED IN UNIT PRICE BID FOR "DEMOLITION OF PAVEMENT".

WHEN CG-6 IS TO BE CONSTRUCTED ON A RADIUS (SUCH AS AT AN INTERSECTION), THE ENGINEER MAY APPROVE DECREASING THE CROSS SLOPE OF THE GUTTER TO FACILITATE PROPER DRAINAGE.

DRAINAGE:

UNIT PRICE BID FOR DRY RIPRAP, CLASS I SHALL INCLUDE ALL COSTS, COMPLETE-IN-PLACE.

PAVEMENT:

THE MATERIALS LISTED BELOW ARE TO BE PAID ON A TONNAGE BASIS ON THIS PROJECT. THE THEORETICAL TONNAGE SHOWN ON THESE PLANS IS BASED ON THE WEIGHT SHOWN THEREON. THE WEIGHT WILL VARY IN ACCORDANCE WITH THE SPECIFIC GRAVITY OF THE AGGREGATES AND THE ASPHALTIC CONTENT OF THE MIX ACTUALLY USED TO SECURE THE DESIGN DEPTH. THE WEIGHT OF THE ASPHALT CONCRETE IS BASED ON 95% OF THEORETICAL MAXIMUM DENSITY.

ASPHALT CONCRETE, TYPE SM-12.5A @ 110 LBS. PER SQ. YD. PER INCH OF DEPTH.

ASPHALT CONCRETE BASE COURSE, TYPE BM-25.0A @ 113 LBS. PER SQ. YD. PER INCH OF DEPTH.

AGGREGATE MATERIAL NO. 21-A @ 150 LBS. PER CU. FT. (PLUS 6% MOISTURE CORRECTION).

ALL COSTS FOR LIQUID ASPHALT CEMENT SHALL BE INCLUDED IN UNIT PRICE BID FOR "ASPHALT CONCRETE."

THE FLEXIBLE PAVEMENT PLANING LOCATIONS HAVE BEEN APPROXIMATED AS SHOWN ON THE TYPICAL SECTIONS AND SUMMARIES. THE FINAL LOCATIONS AND DEPTHS ARE TO BE AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION. THE CONTRACTOR WILL BE PAID PER SQUARE YARD (0"-2" DEPTH).

ALL ITEMS REMOVED UNDER DEMOLITION OF PAVEMENT SHALL BE SAW CUT BETWEEN PROPOSED AND EXISTING ITEMS TO REMAIN. ASPHALT SHALL BE SAW CUT FULL DEPTH PRIOR TO BEING REMOVED, AS SHOWN IN TYPICAL SECTIONS AND ROAD PLAN SHEETS. ALL COSTS FOR SAW CUTTING SHALL BE INCLUDED IN UNIT PRICE BID FOR "DEMOLITION OF PAVEMENT".

INCIDENTALS:

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION WORK AREA PROTECTION MANUAL, AUGUST 2011.

ALL COSTS RELATED TO REMOVAL & RESETTING EXISTING SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER BID ITEMS

ALL TEMPORARY EROSION & SILTATION CONTROL SHALL BE IN ACCORDANCE WITH VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK & THESE DRAWINGS & PROJECT MANUAL.

CONTRACTOR SHALL PLAN AND STAGE HIS WORK SO ACCESS SHALL BE MAINTAINED TO RESIDENCES AND BUSINESSES @ ALL TIMES THROUGHOUT THIS PROJECT. ALL COSTS FOR THIS SHALL BE INCLUDED IN LUMP SUM PRICE BID FOR "MAINTENANCE OF TRAFFIC".

ALL CONCRETE AREAS BLASTED SHALL BE BLASTED FOR A TIME SUFFICIENT TO EXPOSE SOUND CONCRETE AND COARSE AGGREGATE, UNLESS OTHERWISE NOTED. THEY SHALL BE BLASTED USING AN ABRASIVE MATERIAL OR A MIXTURE OF WATER (8,000 PSI MIN.) AND ABRASIVE.

CONCRETE ENTRANCE, ST'D. CG-9A SHALL INCLUDE ALL COSTS FOR GUTTER IN LIMITS OF ENTRANCE.

UTILITIES:

THE CONTRACTOR SHALL TAKE EXTREME CAUTION IN HIS OPERATIONS SO THAT NO DAMAGE IS DONE TO UTILITIES IN VICINITY OF THE PROJECT LIMITS. IF ANY UTILITIES ARE DAMAGED BY THE CONTRACTOR, THEY SHALL BE REPAIRED, AT HIS EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

GENERAL:

ALL UTILITIES & STORM CULVERTS SHALL BE FULLY FUNCTIONAL THROUGHOUT PROJECT. ALL COSTS FOR THIS SHALL BE INCLUDED IN THE APPROPRIATE BID ITEMS.

VEHICULAR & PEDESTRIAN ACCESS TO BUSINESSES SHALL BE MAINTAINED @ ALL TIMES DURING THIS PROJECT.

THE CONTRACTOR SHALL USE (ORANGE) CONSTRUCTION FENCING TO CLOSE OFF SIDEWALKS AND DECK REPLACEMENT AREAS FROM PEDESTRIAN TRAFFIC, AS DIRECTED BY THE ENGINEER. ALL COST SHALL BE INCLUDED IN "MAINTENANCE OF TRAFFIC".

BENCH MARK:

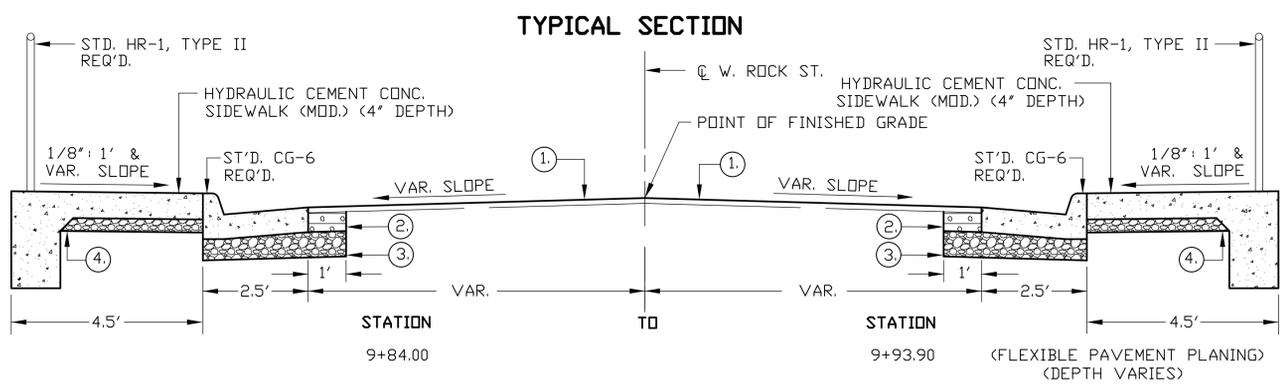
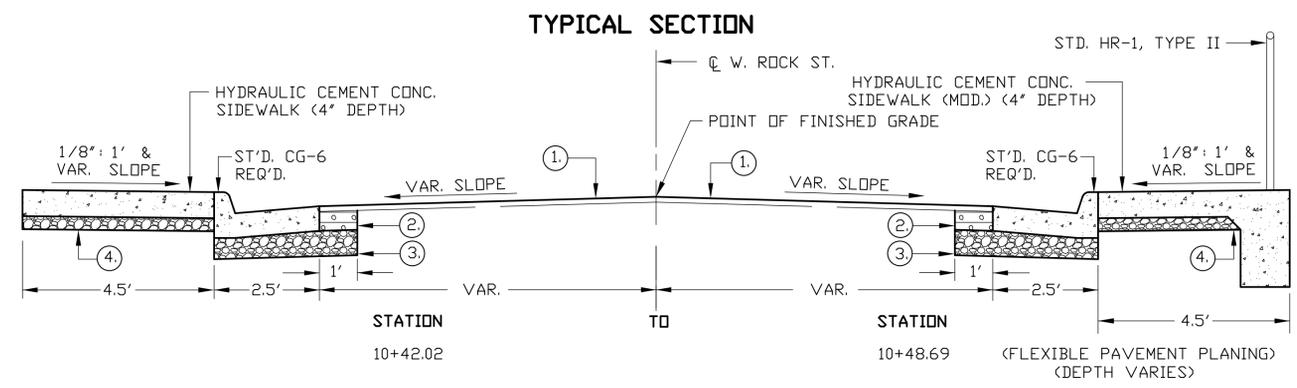
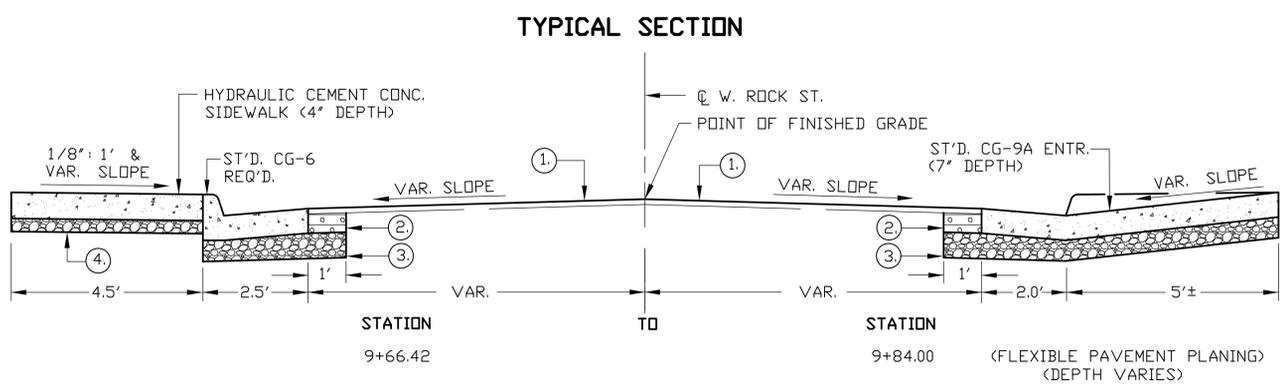
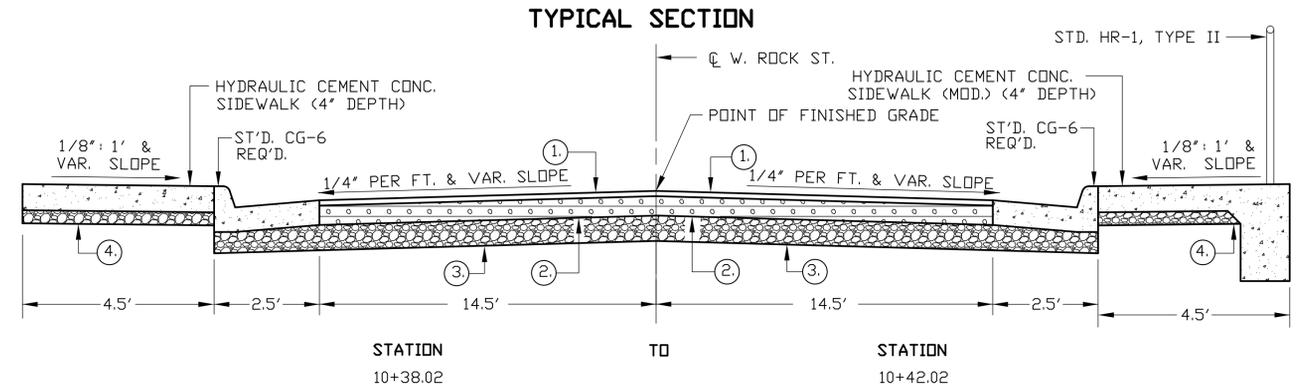
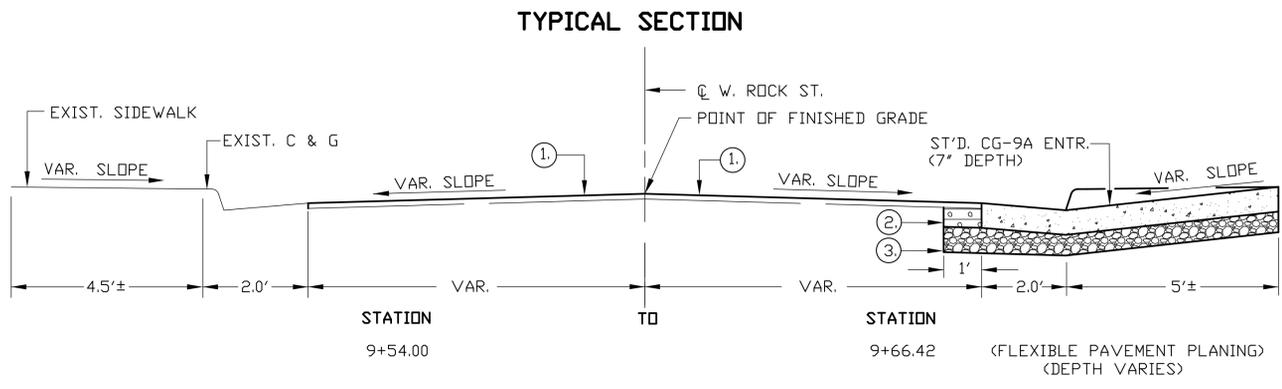
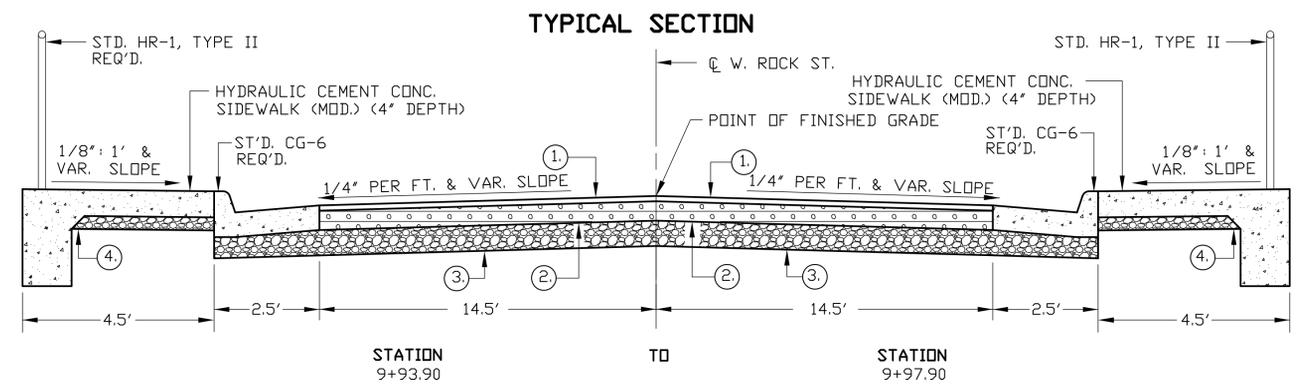
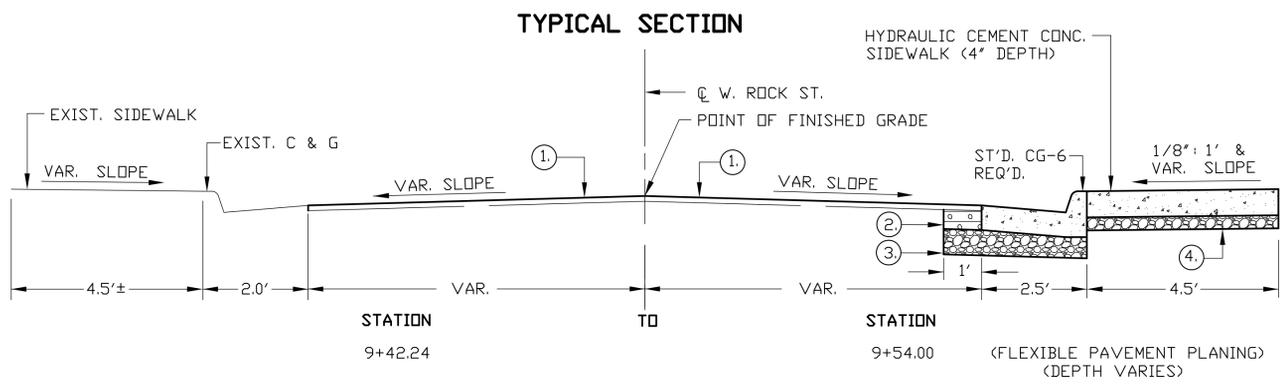
BM #1-CHISLED SQAURE ON TOP OF DROP INLET (PAINTED RED) WEST OF ABUT. B
45' FROM END OF BRIDGE, US SIDE
ELEV. = 500.00 (ASSUMED)

BM #2-CHISLED SQAURE ON TOP OF DROP INLET (PAINTED RED) EAST OF ABUT. A
74' FROM END OF BRIDGE, DS SIDE
ELEV. = 495.37

THE LOCATIONS OF EXISTING UTILITIES, INCLUDING UNDERGROUND UTILITIES, IS INDICATED ON THE DRAWINGS INSOFAR AS THEIR EXISTENCE AND LOCATION WERE KNOWN AT THE TIME OF PREPARATION OF THE DRAWINGS. HOWEVER, NOTHING IN THESE CONTRACT DOCUMENTS SHALL BE CONSTRUED AS A GUARANTEE THAT SUCH UTILITIES ARE IN THE LOCATION INDICATED OR THAT THEY ACTUALLY EXIST, OR THAT OTHER UTILITIES ARE NOT WITHIN THE AREA OF OPERATIONS. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO DETERMINE THE EXISTENCE AND LOCATIONS OF SUCH UTILITIES. THE CONTRACTOR SHALL PAY FOR ANY DAMAGE TO AND FOR MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.

CADD REFERENCE NO.: 1302IRP

	SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA.		
	W. ROCK STREET OVER BLACKS RUN CITY OF HARRISONBURG, VA GENERAL NOTES (ROADWAY)		
DESIGNED BY: RES	DRAWN BY: RES	CHECKED BY: RWS	
SCALE: NOT TO SCALE	PROJECT NO.:		
COMM. NO. 13021	DATE: DECEMBER 1, 2014	SHEET: 10 OF 16	



- LEGEND**
- ① ASPHALT CONCRETE, TYPE SM-12.5A (THICKNESS VARIES 1 1/2" TO 2") (NON-POLISHING AGGREGATE)
 - ② ASPHALT CONCRETE BASE COURSE, TYPE BM-25.0A (5 1/2" DEPTH)
 - ③ COMPACTED AGGREGATE BASE MATERIAL, TYPE I, SIZE NO. 21-A (6" DEPTH)
 - ④ COMPACTED AGGREGATE BASE MATERIAL, TYPE I, SIZE NO. 21-A (4" DEPTH)

CADD REFERENCE NO.: 13021RP

NOTE: SEE PLAN SHEET 14 FOR ST'D. CG-6 LOCATIONS & CONCRETE SIDEWALK LOCATIONS.

CONTRACTOR SHALL PLACE 3/4" PREMOLED ASPHALT FILLER BETWEEN END OF BRIDGE AND APPROACH SIDEWALK, CURB & GUTTER.

SCHWARTZ & ASSOCIATES, INC.
CONSULTING ENGINEERS
7331 TIMBERLAKE ROAD
LYNCHBURG, VA.

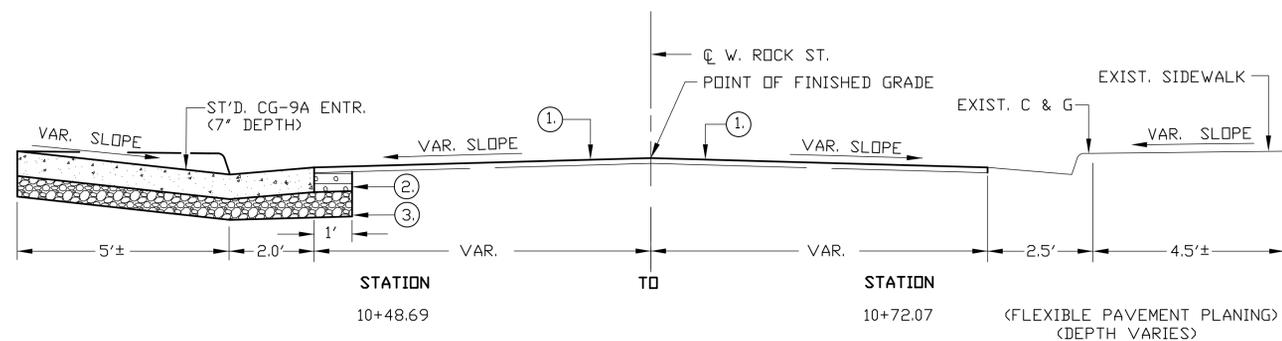
W. ROCK STREET OVER BLACKS RUN
CITY OF HARRISONBURG, VA
TYPICAL SECTION

DESIGNED BY: RES	DRAWN BY: RES	CHECKED BY: RWS
SCALE: NOT TO SCALE	PROJECT NO.:	
DATE: DECEMBER 1, 2014	SHEET: 11 OF 16	

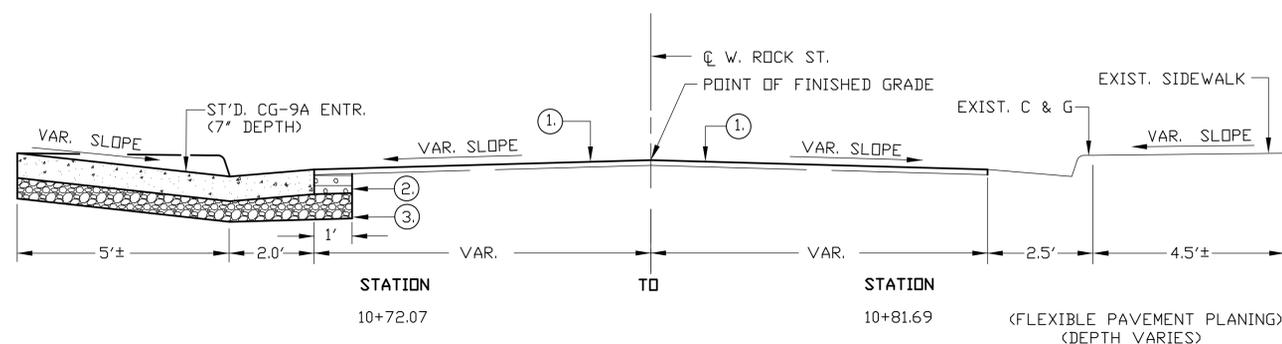
COMM. NO. 13021

12-8-14

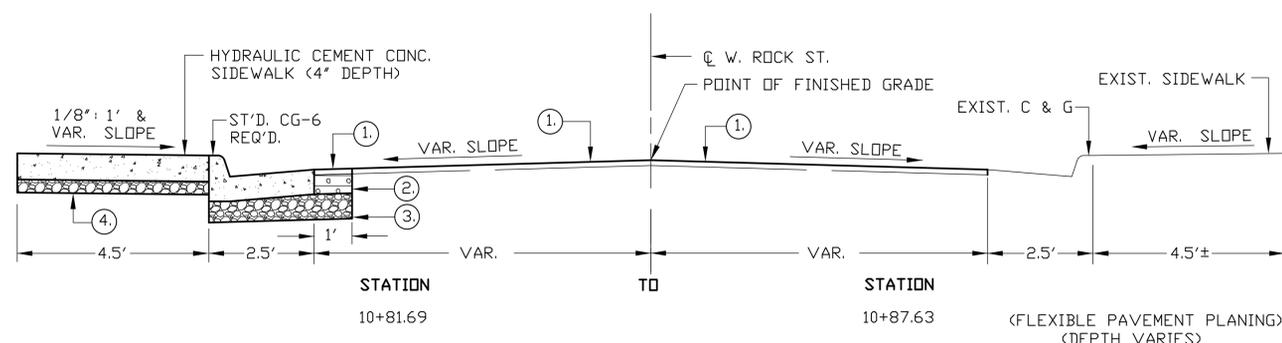
TYPICAL SECTION



TYPICAL SECTION



TYPICAL SECTION



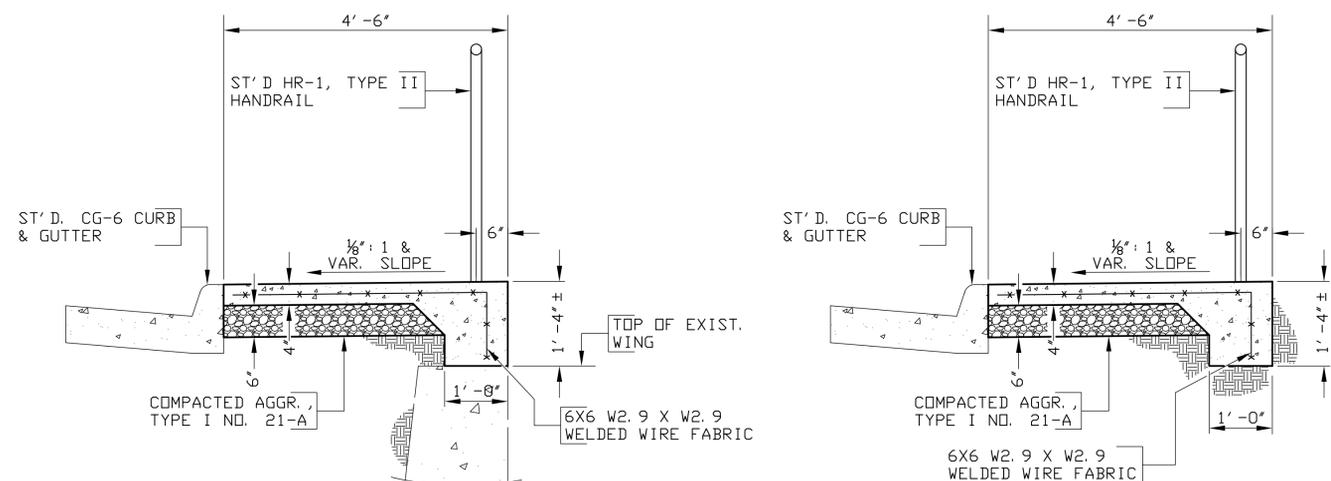
LEGEND

- ① ASPHALT CONCRETE, TYPE SM-12.5A (THICKNESS VARIES 1 1/2" TO 2") (NON-POLISHING AGGREGATE)
- ② ASPHALT CONCRETE BASE COURSE, TYPE BM-25.0A (5 1/2" DEPTH)
- ③ COMPACTED AGGREGATE BASE MATERIAL, TYPE I, SIZE NO. 21-A (6" DEPTH)
- ④ COMPACTED AGGREGATE BASE MATERIAL, TYPE I, SIZE NO. 21-A (4" DEPTH)

NOTE: SEE PLAN SHEET 14 FOR ST'D. CG-6 LOCATIONS & CONCRETE SIDEWALK LOCATIONS.

CONTRACTOR SHALL PLACE 3/4" PREMOLED ASPHALT FILLER BETWEEN END OF BRIDGE AND APPROACH SIDEWALK, CURB & GUTTER.

NOTE: CONTRACTOR SHALL PLACE 3/4" PREMOLED ASPHALT FILLER BETWEEN END OF BRIDGE AND APPROACH SIDEWALK, CURB & GUTTER.



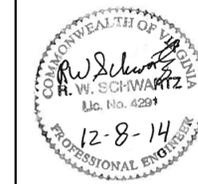
ABUTMENT A - UPSTREAM & DOWNSTREAM SIDE

ABUTMENT B - UPSTREAM SIDE

DETAILS OF HYDRAULIC CEMENT CONCRETE SIDEWALK (MOD.)

NOT TO SCALE

CADD REFERENCE NO.: 13021RP



SCHWARTZ & ASSOCIATES, INC.
CONSULTING ENGINEERS
7331 TIMBERLAKE ROAD
LYNCHBURG, VA.

W. ROCK STREET OVER BLACKS RUN
CITY OF HARRISONBURG, VA
TYPICAL SECTION (CONT.) & DETAILS

DESIGNED BY: RES	DRAWN BY: RES	CHECKED BY: RWS
SCALE: NOT TO SCALE	PROJECT NO.:	
DATE: DECEMBER 1, 2014	SHEET: 12 OF 16	

COMM. NO. 13021

PAVEMENT SUMMARY					
	▲ ASPHALT CONCRETE TYPE SM-12.5A	ASPHALT CONC. BASE COURSE TYPE BM-25.0A	AGGR. BASE MATERIAL TYPE I # 21-A (6% MOIST. CORRECTION)	CRUSHER RUN AGGR. NO. 25 OR NO. 26	FLEXIBLE PAVEMENT PLANING (0' TO 2' DEPTH)
	TONS	TONS	TONS	TONS	S.Y.
TOTALS	39	13	56	20	300

▲ - TYPE SM-12.5A (NON-POLISHING AGGREGATE)

DRAINAGE SUMMARY		
	TEMPORARY SILT FENCE (ST'D. EC-5)	SILTATION CONTROL EXCAVATION
	L.F.	C.Y.
TOTALS	100	20

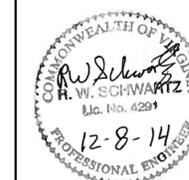
INCIDENTAL SUMMARY									
	CONSTRUCTION SURVEYING	MAINTENANCE OF TRAFFIC	SEEDING	⊕ HANDRAIL HR-1, TYPE II	⊕ DEMOLITION OF PAVEMENT	COMBINATION CURB & GUTTER ST'D. CG-6	CONCRETE ENTRANCE ST'D. CG-9A (7' DEPTH)	HYDRAULIC CEMENT CONCRETE SIDEWALK (4' DEPTH)	HYDRAULIC CEMENT CONCRETE SIDEWALK, MODIFIED (4' DEPTH)
	LUMP SUM	LUMP SUM	LUMP SUM	L.F.	S.Y.	L.F.	S.Y.	S.Y.	S.Y.
TOTALS	LUMP SUM	LUMP SUM	LUMP SUM	28	160	62	61	25	22

⊕ - DENOTES ITEMS TO BE PAID FOR ON A PLAN QUANTITY BASIS, ACCORDING TO THE CURRENT ROAD & BRIDGE SPECIFICATIONS.

NOTE: WHERE DEMOLITION OF PAVEMENT IS SHOWN, THERE WILL BE NO ADDITIONAL COMPENSATION FOR TRENCH OUT.

DISPOSAL OF SURPLUS MATERIAL IS A NON-PAY ITEM.
ANY DENUING NECESSARY IS A NON-PAY ITEM.

CADD REFERENCE NO.: 13021RP



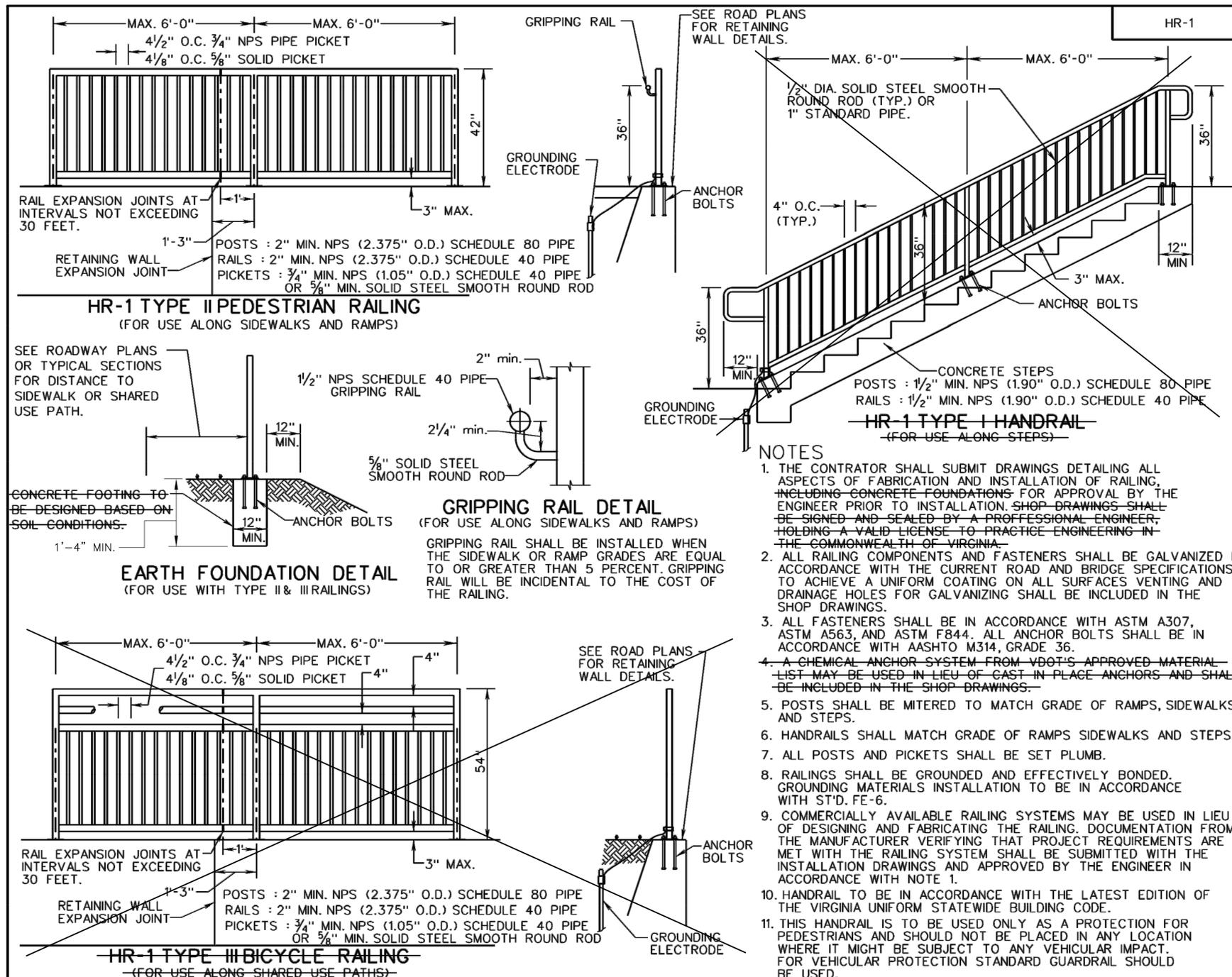
SCHWARTZ & ASSOCIATES, INC.
CONSULTING ENGINEERS
7331 TIMBERLAKE ROAD
LYNCHBURG, VA.

W. ROCK STREET OVER BLACKS RUN
CITY OF HARRISONBURG, VA
SUMMARY

DESIGNED BY: RES	DRAWN BY: RES	CHECKED BY: RWS
SCALE: AS NOTED	PROJECT NO.:	
DATE: DECEMBER 1, 2014	SHEET: 13 OF 16	

COMM. NO. 13021

NOTES: ALL ANCHOR BOLTS SHALL BE 3/4" DIA. WITH 8" MIN. EMBEDMENT INTO CONCRETE.
 ALL ANCHOR BOLTS SHALL BE CAST IN PLACE.
 FOR HANDRAIL LOCATIONS, SEE SHEETS 11, 12 & 14.



- NOTES**
1. THE CONTRATOR SHALL SUBMIT DRAWINGS DETAILING ALL ASPECTS OF FABRICATION AND INSTALLATION OF RAILING, INCLUDING CONCRETE FOUNDATIONS FOR APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION. SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER, HOLDING A VALID LICENSE TO PRACTICE ENGINEERING IN THE COMMONWEALTH OF VIRGINIA.
 2. ALL RAILING COMPONENTS AND FASTENERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE CURRENT ROAD AND BRIDGE SPECIFICATIONS. TO ACHIEVE A UNIFORM COATING ON ALL SURFACES VENTING AND DRAINAGE HOLES FOR GALVANIZING SHALL BE INCLUDED IN THE SHOP DRAWINGS.
 3. ALL FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A307, ASTM A563, AND ASTM F844. ALL ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH AASHTO M314, GRADE 36.
 4. A CHEMICAL ANCHOR SYSTEM FROM VDOT'S APPROVED MATERIAL LIST MAY BE USED IN LIEU OF CAST IN PLACE ANCHORS AND SHALL BE INCLUDED IN THE SHOP DRAWINGS.
 5. POSTS SHALL BE MITERED TO MATCH GRADE OF RAMPS, SIDEWALKS, AND STEPS.
 6. HANDRAILS SHALL MATCH GRADE OF RAMPS SIDEWALKS AND STEPS.
 7. ALL POSTS AND PICKETS SHALL BE SET PLUMB.
 8. RAILINGS SHALL BE GROUNDED AND EFFECTIVELY BONDED. GROUNDING MATERIALS INSTALLATION TO BE IN ACCORDANCE WITH STD. FE-6.
 9. COMMERCIALY AVAILABLE RAILING SYSTEMS MAY BE USED IN LIEU OF DESIGNING AND FABRICATING THE RAILING. DOCUMENTATION FROM THE MANUFACTURER VERIFYING THAT PROJECT REQUIREMENTS ARE MET WITH THE RAILING SYSTEM SHALL BE SUBMITTED WITH THE INSTALLATION DRAWINGS AND APPROVED BY THE ENGINEER IN ACCORDANCE WITH NOTE 1.
 10. HANDRAIL TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
 11. THIS HANDRAIL IS TO BE USED ONLY AS A PROTECTION FOR PEDESTRIANS AND SHOULD NOT BE PLACED IN ANY LOCATION WHERE IT MIGHT BE SUBJECT TO ANY VEHICULAR IMPACT. FOR VEHICULAR PROTECTION STANDARD GUARDRAIL SHOULD BE USED.

MOD. 12-19-2013

SPECIFICATION REFERENCE	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.		VDOT ROAD AND BRIDGE STANDARDS
	105	STANDARD HANDRAIL METHOD OF LOCATING AND ERECTING VIRGINIA DEPARTMENT OF TRANSPORTATION	
238			7/11
504			SHEET 1 OF 1 601.05

	SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA.	
	W. ROCK STREET OVER BLACKS RUN CITY OF HARRISONBURG, VA HANDRAIL STANDARD	
DESIGNED BY: RES	DRAWN BY: RES	CHECKED BY: RWS
SCALE: AS NOTED	PROJECT NO.:	
COMM. NO. 13021	DATE: DECEMBER 1, 2014	SHEET: 15 OF 16

CADD REFERENCE NO.: 13021RP

