



**ADDENDUM #1
NCDOT TIP: EB-5014
LOVILLS CREEK AND ARARAT RIVER GREENWAY – MOUNT AIRY, NC**

ISSUED DECEMBER 11, 2014

This addendum provides:

- Minutes and sign-in sheet of the Pre Bid meeting held on December 6, 2014 is attached.
- Testing of materials will be performed by the City of Mount Airy's CEI contractor.
- A forthcoming stream restoration project will be taking place on the lower portions of the Ararat River and Lovills Creek during greenway construction. The stream restoration project is anticipated to be complete by early summer 2015. Portions of the project may conflict with greenway construction. Plans for the stream restoration are incomplete at this time. Any issues between this project and the stream restoration project will be addressed after the award of the contract for this project.
- General clarification: All concrete used on Sheet 2B shall be Class B Concrete.
- General Clarification: MSE walls may not be used on this project. Walls must be of an NCDOT Approved Standard Unit as listed on the Geotechnical Unit website.
- General Clarification: No direct payment will be made for boardwalk/bridge approach rail. Refer to notes on sheet S10.
- Note #22 on Sheet 1B has been removed.
- Typical section limits on sheet 2 have been clarified.
- Plan sheets S1, S3, S4, S5, S6, and SB-1 have been modified to reflect final NCDOT review comments.
- Page 68 of the contract documents contains an incorrect value for contract Calendar Days. The attached, revised page 68 contains the correct value of 270 Calendar Days.
- Remove page 109 "TWELVE MONTH GUARANTEE, SP1 G145" from the contract documents. Page 125 "TWELVE MONTH GUARANTEE – LGA Projects, SP1 G146" shall remain.
- Take note that page 115 of the contract documents has been erroneously placed between page 107 and 108. Page 115 shall be placed between page 114 and 116.
- Remove page 134 "INCIDENTAL STONE BASE" from the contract documents.
- An access gate detail has been added to Sheet 2E. Sheets 4 and 13 have been revised to show the locations of these access gates. A bid item has been added to the Bid Form, "ACCESS GATE", Item #100. Item #26 has been modified to "RELOCATE EXISTING ACCESS GATE". Page 165 of the contract documents has been deleted and replaced with a new special provision detailing the installation of new access gates and salvaging the old access gates at Worth Street.



- Page 213 of the contract documents "CONSTRUCITON OF SUBSTRUCTURE" has been modified.
- The quantity of Bid Items #4 and #5, "HINGED BOLLARD" and "PERMANENT WOOD BOLLARD" have been revised.
- The quantity of Item # 36 "RIP RAP, CLASS B" has been modified to 371 tons.
- The quantity of Item #37 "GEOTEXTILE FOR DRAINAGE" has been modified to 275 square yards.
- Item #73 has been changed to "3'-6" DIA DRILLED PIERS IN SOIL"
- Item #74 has been changed to "3'-6" DIA DRILLED PIERS NOT IN SOIL"
- The quantity of Item #97 "CIP GRAVITY RETAINING WALLS" has been modified.
- Item #101 "CSL TESTING" has been added.
- The attached, revised Bid Form, labeled with "ADDENDUM #1" at the bottom, must be used in the bid.



PREBID MEETING MINUTES

NCDOT TIP: EB-5014

LOVILLS CREEK AND ARARAT RIVER GREENWAY – MOUNT AIRY, NC

Location: Mt. Airy Public Works Department, December 5, 2014 @ 10:00 A.M.

Bid Documents:

1. DBE Goal: **8%**
2. Plans and Specifications are available for download or purchase through Accent Imaging in Raleigh. All plan holders need to be on Accent's plan holders list to get Addendum. Stewart will also send addendum to listed plan rooms in advertisement.

Contract Time:

- 270 Calendar Days
 - Section 5 of Contract (page 68) is incorrect, will be re-issued with Addendum #1
- Liquidated Damages: **\$600/day**

Bids Due: Tuesday, December 16th @ 10:00 A.M. at this same location

- Bonding: Bid, Payment, and Performance bonding is required.
- Follow Instructions to Bidders on Page 1

All questions about the meaning or intent of the Contract documents shall be submitted in writing to Matt Ludwig at mludwig@stewartinc.com. All questions must be received in writing 7 days before bids are due (Tuesday, December 9, 10 A.M.).

Project Overview:

- 2.19 total miles of 10' wide greenway construction, 1.74 miles asphalt, 0.37 miles concrete
- 300 linear feet of 10' wide boardwalk structures
- Two prefabricated steel truss bridges with weathered steel and colored concrete decking
 - Bridge S1: Bowstring Truss, approximately 80' long, over Lovills Creek near US 52
 - Bridge S2: Standard Pratt or Warren Pony Truss, approximately 50' long, near Tharrington Park
- Clearing, Grading, Drainage, Erosion Control, Paving, Etc.

Points of Emphasis

- Bridge Manufacturers must be pre-approved by NCDOT:
 - Contech
 - Big R Bridge
- Debris Deflector Wall
 - Soldier Pile base bid, Cast-in-place alternate
- Retaining Walls
 - Check details, geogrid is not allowed
 - Carter Street traffic control & portable concrete barrier placement
 - Carter Street cannot be closed; single lane closures will be allowed with flagmen during work day



- Significant bench modification under Rockford and Carter Street bridges
- Railroad structure and coordination: Per contract documents, must contact railroad prior to working in ROW. Note insurance requirements.
- Granite used in markers and columns must be locally sourced. Current markers in Mt. Airy Greenway System were made by North Carolina Granite in Mt. Airy.
- Existing Emily B. Taylor Greenway must remain open to Worth Street until contractor is ready for switchover. Contractor encouraged to work with City on this switchover
- Lowest qualified base bidder will be selected; City will determine what, if any, alternates will be chosen
- Survey control data is available if desired
- All permits have been obtained

Questions and Discussion:

- A stream restoration project adjacent to the greenway will be underway January through June 2015. This work will be done inside of the banks of Lovills Creek between the confluence to the park-and-ride lot, and on the Ararat River between the confluence to just north of US 52. See Addendum #1 for more information.
- Environmental permits have been obtained, and there are no time restrictions.
- Stewart and Baker will confirm that BMP and pipe modifications will not impact greenway as designed. Plans will not be modified for bid.
- Stewart and the City of Mount Airy would consider other retaining wall alternatives from the winning contractor.
- All Limits of Disturbance shown in the plans are within obtained easements.
- Stewart and the City of Mount Airy would consider alternatives for the hammerhead bents on Bridge S1 from the winning contractor.
- Shop drawing review will be performed by Stewart first, then Century Center in Raleigh.
- The RFQ for CEI services is currently being advertised.
- Stewart will clarify materials testing responsibilities in Addendum #1.

Pre Bid Attendance

Lovills Creek & Ararat River Greenway
Mount Airy, North Carolina

Friday, December 5, 2014

10:00 AM

NCDOT TIP: EB-5014

Name	Company Represented	email / phone
Matt Ludwig	Stewart, Inc.	mludwig@stewartinc.com 919-866-4734
DAN SPEIGHT	COMA	dspeight@mountairy.org
Todd Walker	Mulkey	Threegunmaster@bmril.com
LINWOOD REYNOLDS	SEPI Engineering	lreynolds@sepiengineering.com
Kevin Harward	JW Hampton Company	KHarward@JWHamptonCompany.com 828-264-7103
Nate Martin	North State Env.	N.Martin@NSENV.com 336-725-2010
Michael Anderson	"	M.anderson@nsenv.com 336-725-2010
KEVIN BURNS	R.E. Burns & Sons Co., Inc	kevin@reburns.com 704-924-8646
MO PACINI	JR LYNCH & SONS	mpacini@jrlynchandsons.com 336-368-4047
CHUCK SALMON	VECELLIO + GREGAN	chuck.salmon@vecelliogregan.com 304-673-6767
Scott Joyce	JC Joyce Trucking & Paving Co.	sjj-jcjoycepaving@gmail.com 276-694-7400
Jack Byers	Michael Baker Eng.	jbyers@mikebakerintl.com 914-259-4817
Jeff Boyles	COMA	jboyles@mountairy.org 336-786-3580
Mike Williams	"	mwilliams@mountairy.org 336-786-3580
Charles Anderson	Resource Institute	CANDERSON@RESOURCE-336-750 INSTITUTE INC. 06 @522

Pre Bid Attendance

Lovills Creek & Ararat River Greenway
Mount Airy, North Carolina

Friday, December 5, 2014

10:00 AM

NCDOT TIP: EB-5014

Name	Company Represented	email / phone
Matt Ludwig	Stewart, Inc.	mludwig@stewartinc.com 919-866-4734
CHRIS ABSHER	RKK	CRABHER @ RKK.COM 336-927-2947
Robert Bullock	Summit	robert.bullock@summitde.net 919-219-3382
JAMES POE	CAROLINA ENVIRONMENTAL CONTRACTING	J.POE @ CAROLINA ENVIRONMENTAL CONTRACTING.COM 336 500 1316
Brock Bowman	Bunn Engineering	Civil@bunnengineering.com Civil2@bunnengineering.com
VAN UTT	CARL ROSE & SONS	CARL ROSE PAVING & DYAKO.COM 336-835-7506
JODY PHILLIPS	SMITH-ROWE, LLC	JODY@SMITHROWE.COM 336-789-8221
KEITH MEREDITH	SOWERS CONSTRUCTION	Km@triadinc.com 336-786-7967
Barry C BRINEGAR	Sowers Construction	bbrinegar@triadinc.com 336-786-7967
MICHAEL ROBENSON	LCT ENGINEERING	mroben@lcteng.com 919 900 1625
LEE WRIGHT	COMA	lwright@montairy.org

GENERAL NOTES

- 1

THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE JANUARY 2012 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
- 2

ALL DEMOLITION SHALL BE APPROVED BY CITY OF MOUNT AIRY.
- 3

ALL DEMOLITION AND SUBSEQUENT CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND APPLICABLE STATE, COUNTY, AND LOCAL CODES. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, PERMITS, EQUIPMENT, ETC. THAT MAY BE REQUIRED.
- 4

WHERE ASPHALT SECTION IS REMOVED, CONTRACTOR SHALL USE A SAW CUT AT THE LIMITS OF DEMOLITION TO OBTAIN A CLEAN EDGE.
- 5

ALL TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE OPERATIONS INCLUDING TREE REMOVAL, IN SUCH A MANNER AS TO CLEARLY AND ADEQUATELY SEPARATE ALL TREES TO BE REMOVED FROM REMAINING VEGETATION.
- 6

CONTACT THE CITY OF MOUNT AIRY PUBLIC WORKS DEPARTMENT TO SET UP A PRE-CONSTRUCTION MEETING PRIOR TO LAND DISTURBANCE. TREE PROTECTION FENCING CAN AND SHOULD BE INSTALLED PRIOR TO PRE-CONSTRUCTION.
- 7

NO GRADING IS TO OCCUR IN THE TREE PROTECTION AREAS OR TREE CRITICAL ROOT ZONES.
- 8

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC. THAT MAY BE REQUIRED.
- 9

THE CONTRACTOR MUST, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES, OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS.
- 10

RELOCATION OF EXISTING UTILITIES TO BE COORDINATED WITH THE LOCAL UTILITY PROVIDER(S).
- 11

EXISTING UTILITIES AND STRUCTURES SHOWN BOTH UNDERGROUND AND ABOVE ARE BASED ON THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.
- 12

CONTRACTOR SHALL LOCATE ALL UTILITIES AND UTILITY ELEVATIONS PRIOR TO CONSTRUCTION. ALL UTILITIES TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR AT HIS EXPENSE.
- 13

CONTRACTOR SHALL RESTORE ALL LAY DOWN AND STAGING AREAS TO ORIGINAL CONDITIONS AND TO THE SATISFACTION OF THE OWNER, PRIOR TO DEMOBILIZATION AT THE CONCLUSION OF THE PROJECT.
- 14

ANY EXCAVATION MUST BE FILLED IN AND TAMPED AT THE CONCLUSION OF EACH WORK PERIOD, AND EQUIPMENT AND SUPPLIES RETURNED TO THE CONSTRUCTION STAGING AREA.
- 15

CONSTRUCTION/SAFETY FENCING REMOVED TO FACILITATE ACCESS BY THE CONTRACTOR FOR CONSTRUCTION MUST BE REPLACED AT THE END OF EACH WORK PERIOD TO DIRECT PEDESTRIAN TRAFFIC AWAY FROM HAZARDOUS AREAS.
- 16

DEMOLITION, AND SUBSEQUENT CONSTRUCTION OF STORM DRAINAGE FACILITIES SHALL BE PERFORMED IN SUCH A MANNER THAT THE OLD PIPE AND STRUCTURES ARE REMOVED AND NEW STRUCTURES AND PIPING ARE IMMEDIATELY PUT INTO SERVICE. CONTRACTOR SHALL ENSURE THAT STORM DRAINAGE DOES NOT REMAIN OUT OF SERVICE FOR LONGER THAN 12 HOURS AT A TIME. PROVISIONS SHALL BE MADE TO MAINTAIN STORM WATER DRAINAGE DURING CONSTRUCTION.
- 17

CONTRACTOR SHALL STAKE CENTERLINE OF TRAIL ACCORDING TO PLANS AND OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE RESOLVED PRIOR TO CONSTRUCTION.
- 18

CONTRACTOR SHALL VERIFY ALL STATIONING FOR APPLICABILITY TO EXISTING CONDITIONS PRIOR TO CONSTRUCTION. DEVIATION FROM ALIGNMENT DUE TO LARGE TREES OR OTHER OBSTACLES ETC SHALL BE APPROVED BY THE CITY OF MOUNT AIRY AND THE ENGINEER OF RECORD.
- 19

CONTRACTOR SHALL MAINTAIN ALL ABOVE AND BELOW GROUND STORM WATER DRAINAGE AND PATTERNS AND PIPING AS THEY CURRENTLY EXIST UNLESS NOTED OTHERWISE. ANY DISTURBANCE OF THE PATTERNS OR STRUCTURES BY THE CONTRACTOR SHALL BE CORRECTED BY THE CONTRACTOR TO CONDITION PRIOR TO DISTURBANCE. CLEAN OUT STORM WATER PIPE ONLY IF NOTED ON PLAN AND ACCORDING TO DETAIL.
- 20

CONTRACTOR ACCESS FOR TRAIL CONSTRUCTION SHALL BE CONFIRMED BY CONTRACTOR WITH OWNER'S REPRESENTATIVE AND PROPERTY OWNER PRIOR TO CONSTRUCTION.
- 21

CONTRACTOR SHALL REVIEW TREE REMOVAL WITH OWNER'S REPRESENTATIVE AND OBTAIN APPROVAL PRIOR TO TREE REMOVAL. CONTRACTOR SHALL REMOVE ALL VEGETATION TO 3' BEYOND ASPHALT EDGE OF TRAIL OR WITH IN REQUIRED DRAINAGE DITCHES. TRIM UP BRANCHES OF TREES TO PROVIDE 10' VERTICAL CLEARANCE.
- 22

ALL CONSTRUCTION SHALL COMPLY WITH CITY OF MOUNT AIRY AND NCDOT STANDARDS. SHOULD A CONFLICT ARISE, THE ENGINEER SHALL DETERMINE WHICH STANDARD SHALL GOVERN.
- 23

CONTRACTOR SHALL PROVIDE SILT FENCING IN ALL AREAS AND EROSION CONTROL MEASURES AS NEEDED OR DIRECTED BY THE EROSION CONTROL INSPECTOR. IF ADDITIONAL MEASURES ARE REQUIRED IN ADDITION TO THE PLANS, COMPENSATION WILL BE PROVIDED PER THE CONTRACT PROVISIONS.
- 24

VEGETATION ON BANKS AND WETLANDS SHOULD BE HAND CUT WITH ROOT MATS UNDISTURBED.
- 25

PERMANENT STREAM CROSSINGS SHALL BE COMPLETED, SEEDED, MULCHED, AND ANCHORED OR LINED WITH ROLLED EROSION CONTROL PRODUCT AND ANCHORED AT THE END OF THE WORK DAY.

NOTES

- 26

THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH PROJECT AS SET FORTH IN THESE PLANS. IF DEPARTURES FROM THE SPECIFICATIONS OR DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED TO THE OWNER IN WRITING FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE WRITTEN PERMISSION OF THE OWNER.
- 27

TREES AND PLANTS WILL NOT BE DAMAGED OR REMOVED IN ORDER TO SERVICE AND MAINTAIN THE UTILITY, SIDEWALK, GREENWAY OR OTHER SIMILAR FEATURE
- 28

SUPERELEVATION TRANSITION IS SHOWN ON THE PLAN VIEW.

COMPACTION NOTES

STRUCTURAL FILL SHOULD BE PLACED IN UNIFORM LIFTS OF 8 INCHES OR LESS (LOOSE MEASURE), AND COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AND WITHIN 3 PERCENT OF THE OPTIMUM MOISTURE AS DEFINED BY THE STANDARD PROCTOR COMPACTION TEST. THE UPPER 12 INCHES OF THE STRUCTURAL FILL PLACED SHOULD BE COMPACTED TO 98 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. TO CONFIRM THAT THE SPECIFIED DEGREE OF COMPACTION IS OBTAINED, FIELD DENSITY TESTING SHOULD BE PERFORMED IN EACH LIFT BY A SOILS TECHNICIAN. SEE PROJECT GEOTECH REPORT FOR MORE DETAILED INFORMATION.

THE PLACEMENT OF ANY FILL MATERIAL MUST BE CONDUCTED UNDER THE OBSERVATION OF A QUALIFIED LICENSED GEOTECHNICAL ENGINEER AND UPON COMPLETION OF THE EARTHWORK ACTIVITIES THE TOWN MUST BE PROVIDED WITH A FINAL GRADING REPORT THAT INCLUDES THE CORRESPONDING COMPACTION TEST RESULTS AND CERTIFIES THE TYPE OF FILL MATERIAL AND ITS PROPER PLACEMENT.

2012 NCDOT ROADWAY ENGLISH STD. DRAWINGS

ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY, 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS.

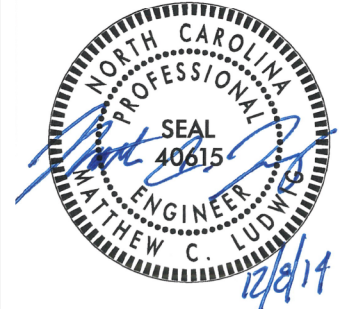
PROPERTY & EASEMENT LINES

THE PROPERTY LINES AND EASEMENTS CONTAINED IN THIS PLAN SET WERE NOT LOCATED BY A PROFESSIONAL LICENSED SURVEYOR. ALL PROPERTY AND EASEMENT LINES SHOWN ARE APPROXIMATE AND HAVE BEEN BASED UPON GEOGRAPHICAL INFORMATION SYSTEMS INFORMATION AND AVAILABLE RECORDS.



LOVILLS CREEK AND
ARARAT RIVER GREENWAY
WORTH STREET TO THARINGTON PARK

GREENWAY ENGINEER



Permit Number No. C-0351
421 Fayetteville St.
Raleigh, NC 27601
T 919-368-9720
www.stewartinc.com

STEWART

DATE: DECEMBER 8, 2014

REVISIONS:

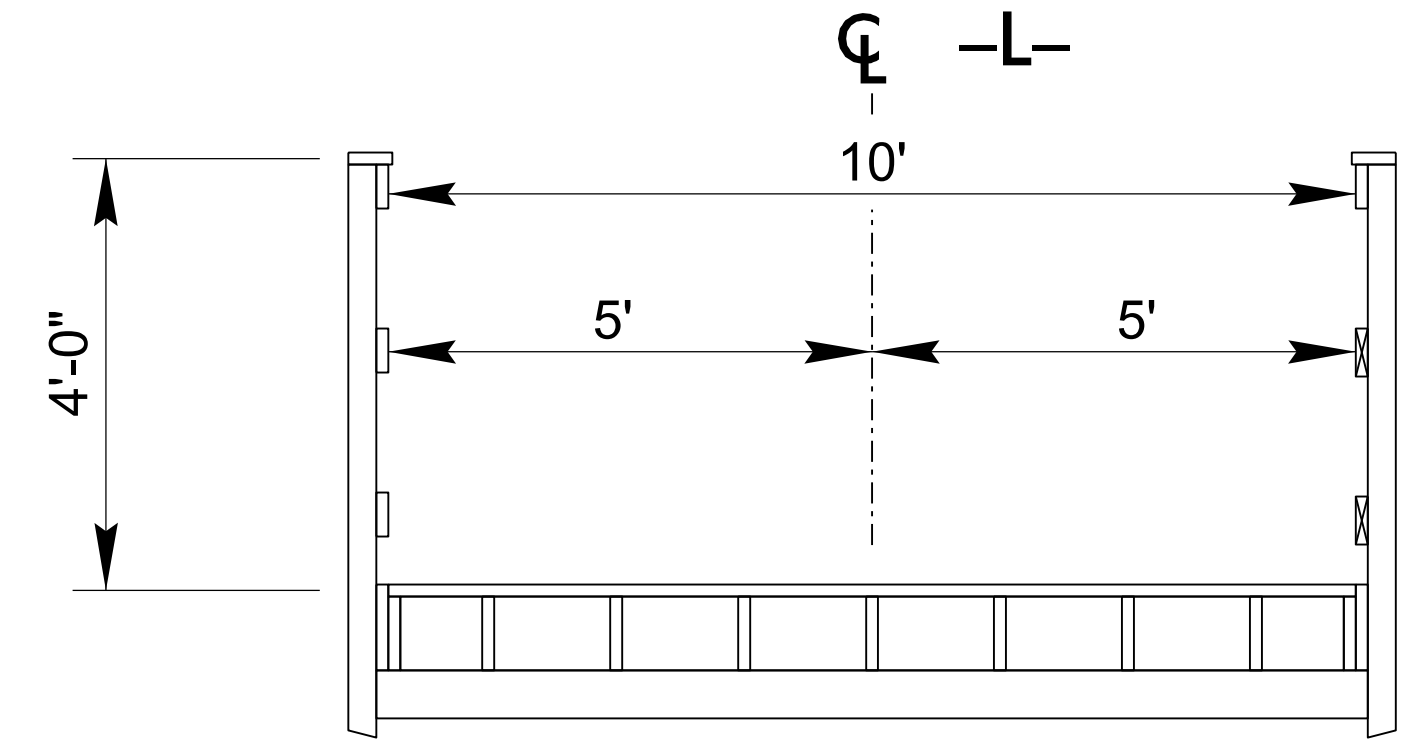
NO.	DATE
1	12/8/14

PROJECT NO.:

H13007.00

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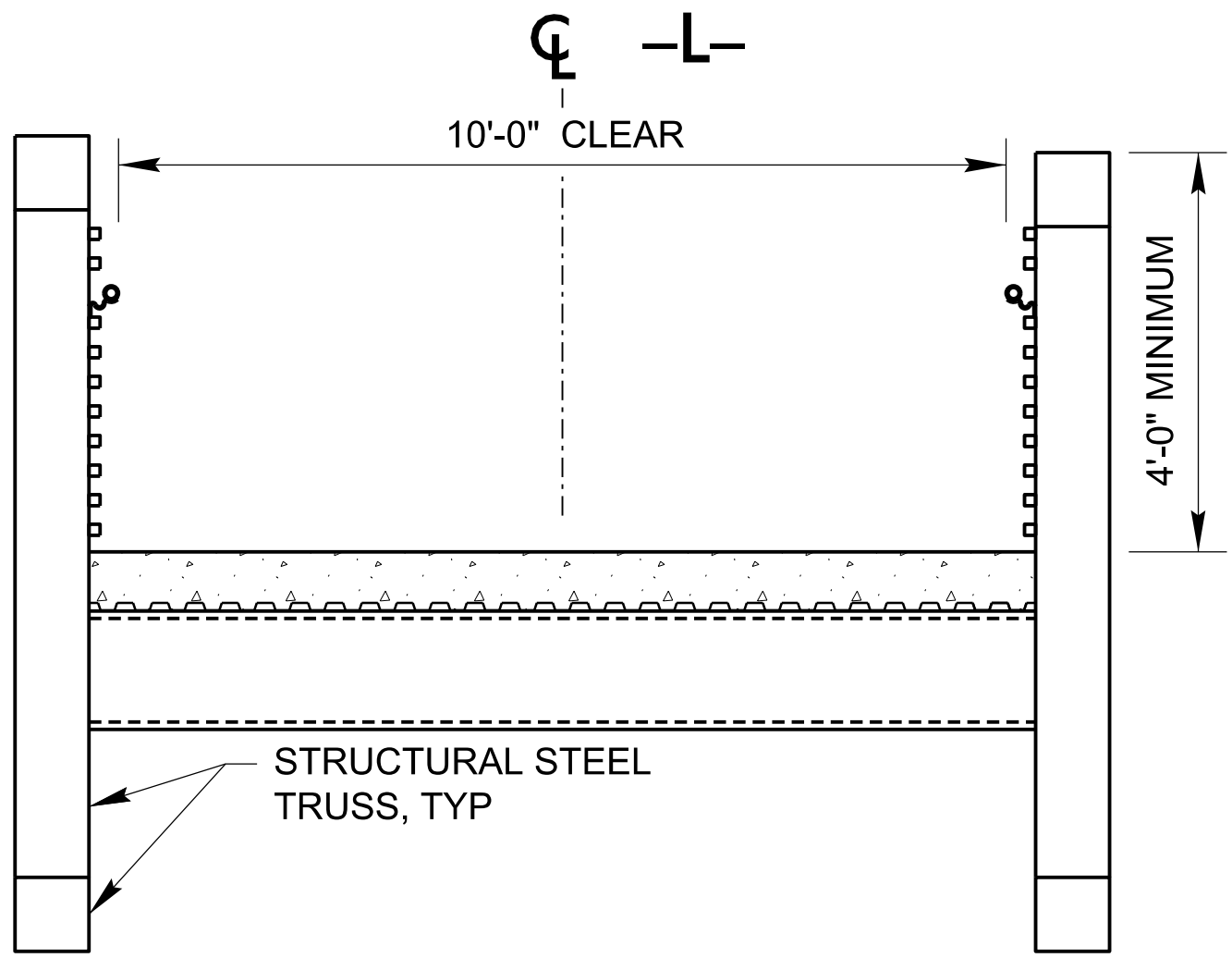
PAVEMENT SCHEDULE	
A1	4.5" PORTLAND CONCRETE CEMENT PAVEMENT
C1	PROPOSED 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
J1	PROPOSED 8" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT
V1	GEOTEXTILE SEPERATOR FABRIC.



BOARDWALK TYPICAL SECTION

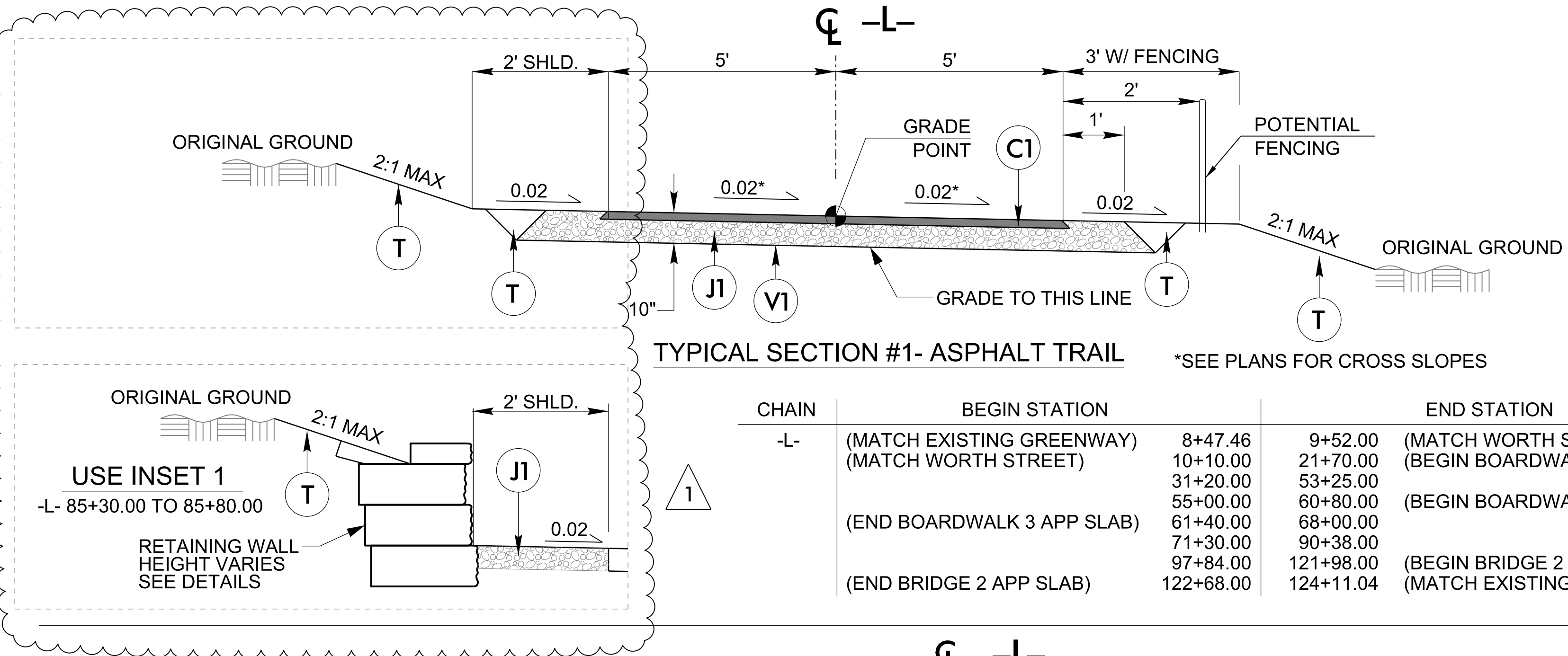
CHAIN	BOARDWALK NO.	BEGIN STATION	END STATION
-L-	1	21+80.00	23+07.00
	2	23+87.00	25+20.00
	3	60+90.00	61+30.00

SEE SB-1 TO SB-5 FOR DETAILS



BRIDGE TYPICAL SECTION

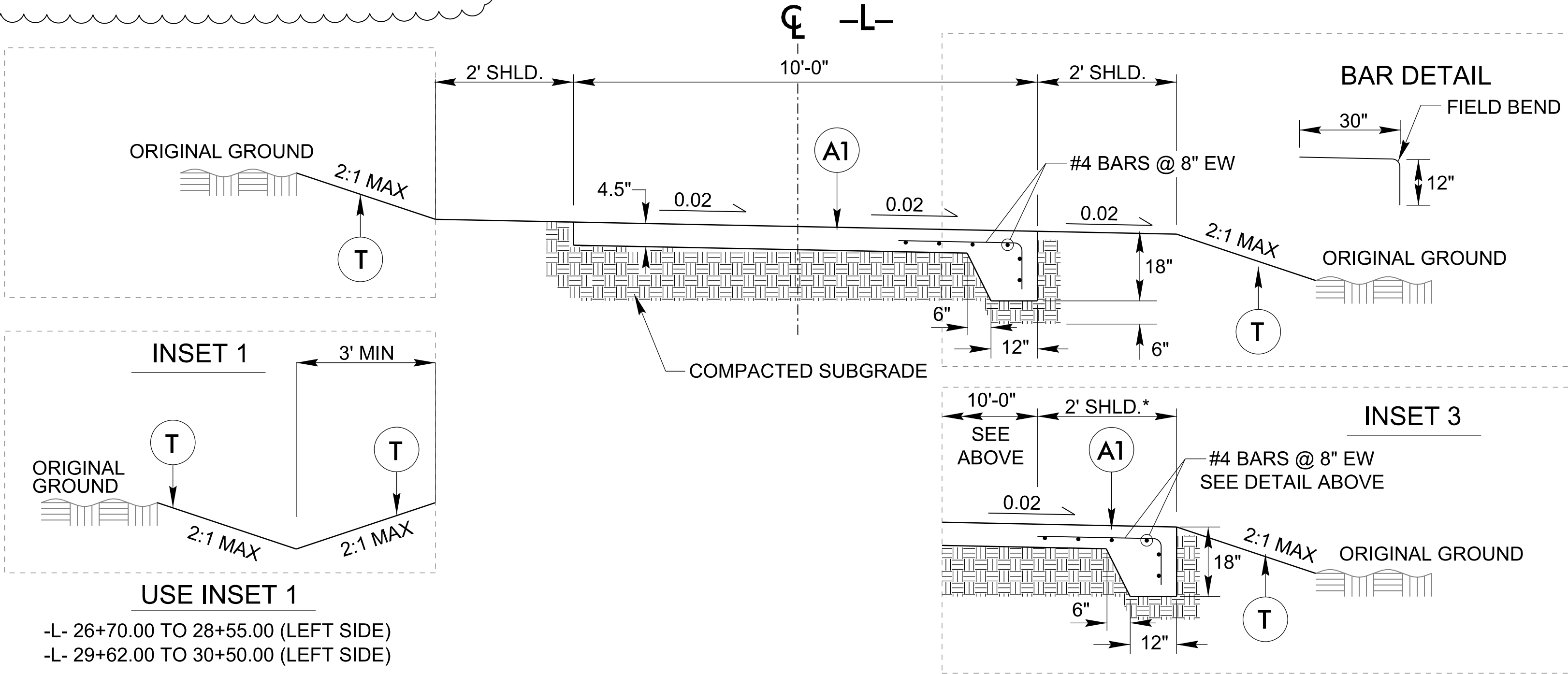
CHAIN	BRIDGE NO.	BEGIN STATION	END STATION
-L-	1	23+07.00	23+87.00
	2	122+08.00	122+58.00



TYPICAL SECTION #1- ASPHALT TRAIL

*SEE PLANS FOR CROSS SLOPES

CHAIN	BEGIN STATION	END STATION
-L-	(MATCH EXISTING GREENWAY)	8+47.46
	(MATCH WORTH STREET)	10+10.00
		31+20.00
		55+00.00
	(END BOARDWALK 3 APP SLAB)	61+40.00
		71+30.00
		97+84.00
	(END BRIDGE 2 APP SLAB)	122+68.00
		9+52.00
		21+70.00
-Y1-		53+25.00
		60+80.00
		68+00.00
		90+38.00
-Y1-		121+98.00
		124+11.04



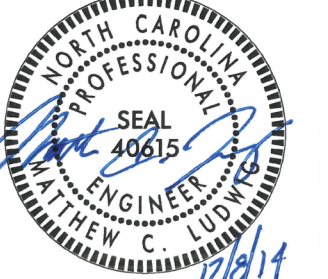
TYPICAL SECTION #2 - CONCRETE TRAIL

CHAIN	BEGIN STATION	END STATION
-L-	(END BOARDWALK 2 APP SLAB)	25+30.00
		29+62.00
		53+25.00
		68+00.00
		90+38.00
		10+00.00
-Y1-		28+75.00
		31+20.00
-Y1-		55+00.00
		70+20.00
-Y1-		97+84.00
		10+95.19



LOVILLS CREEK AND
ARARAT RIVER GREENWAY
WORTH STREET TO THARINGTON PARK

GREENWAY ENGINEER



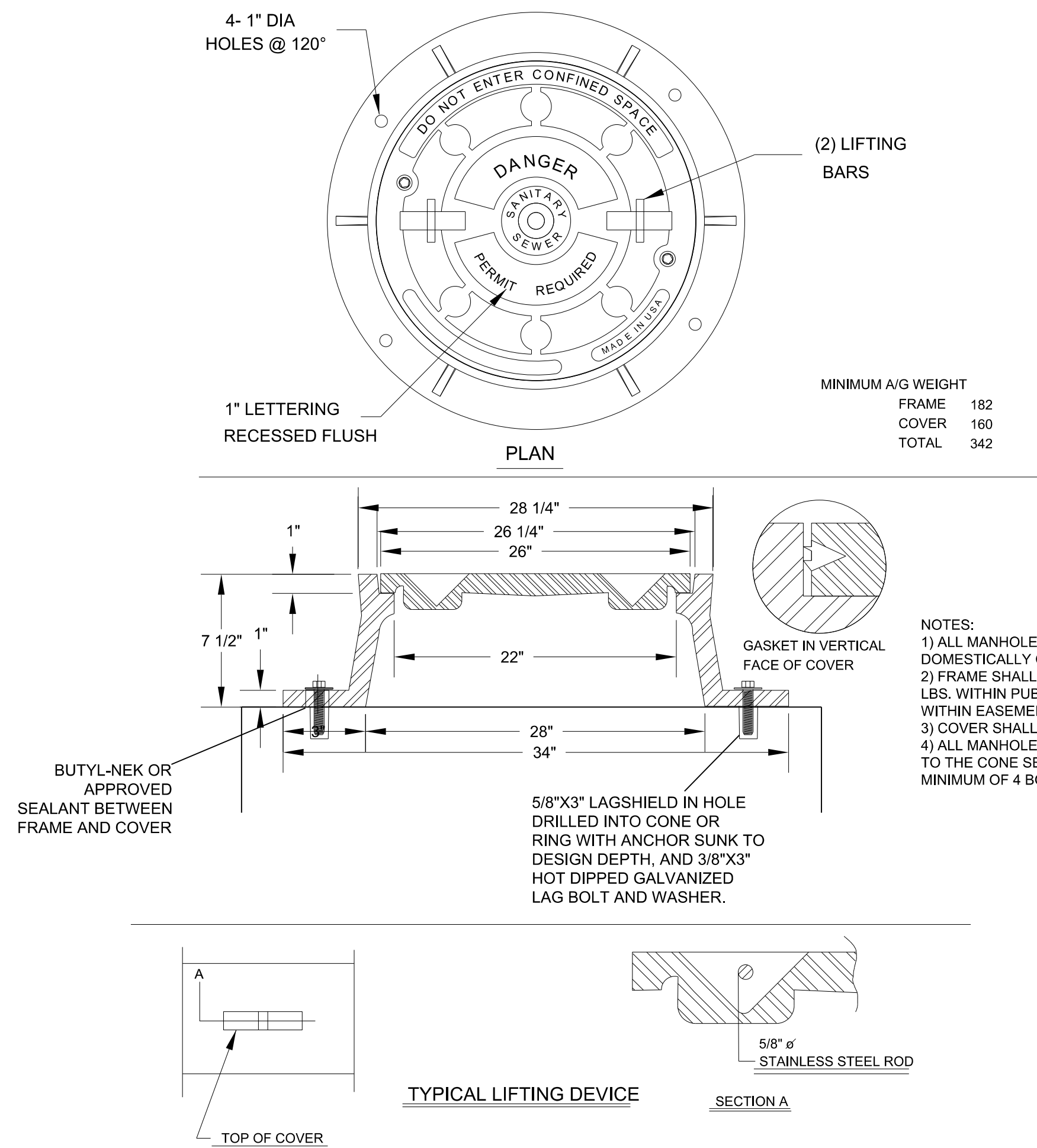
DATE: DECEMBER 8, 2014

REVISIONS:

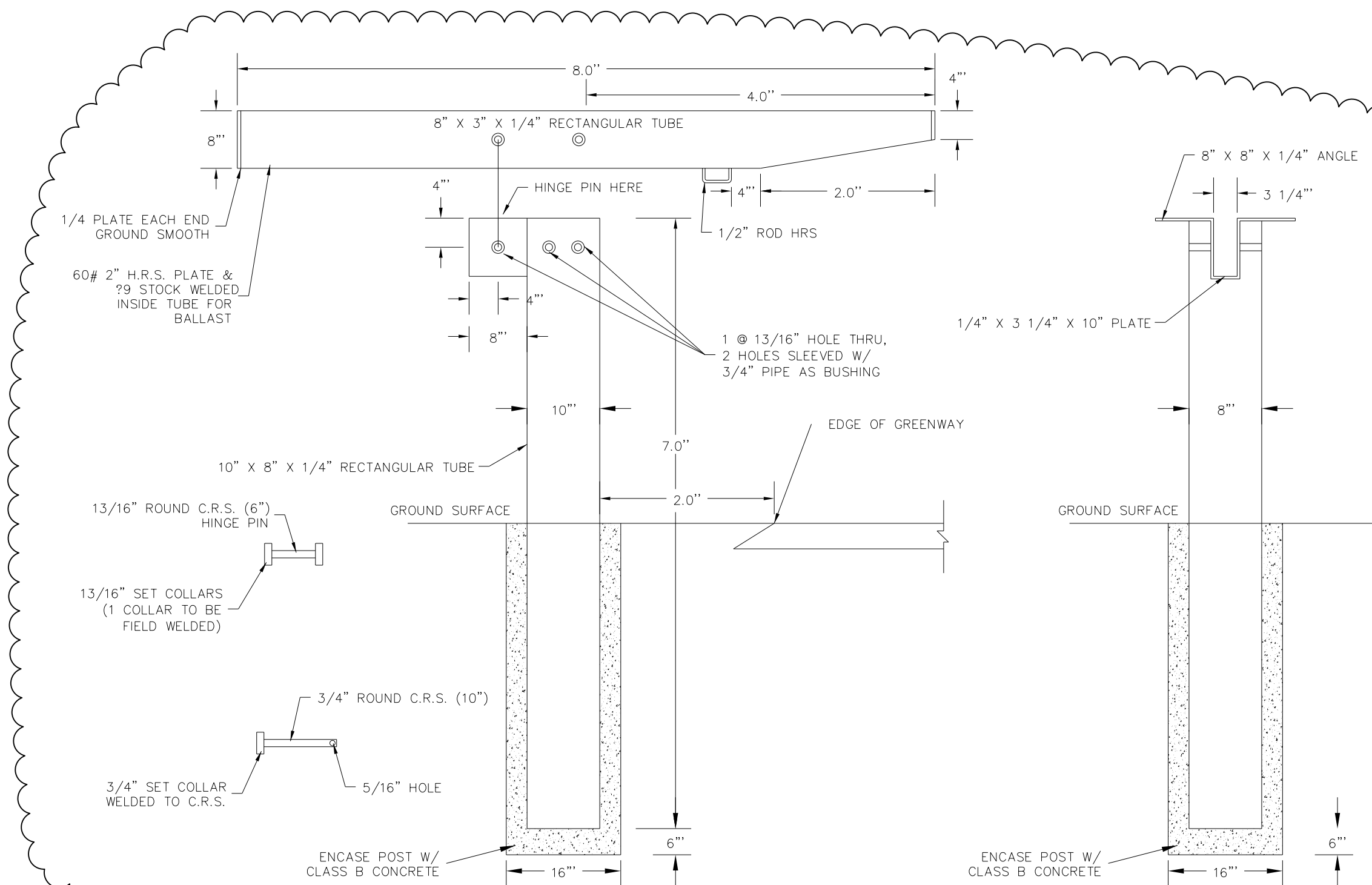
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PROJECT NO.:

H13007.00



1 SEWER MANHOLE ADJUSTMENTS/REPLACEMENT



3 GREENWAY ACCESS GATE



PHOTOGRAPH OF EXISTING MARKERS

NOTES:

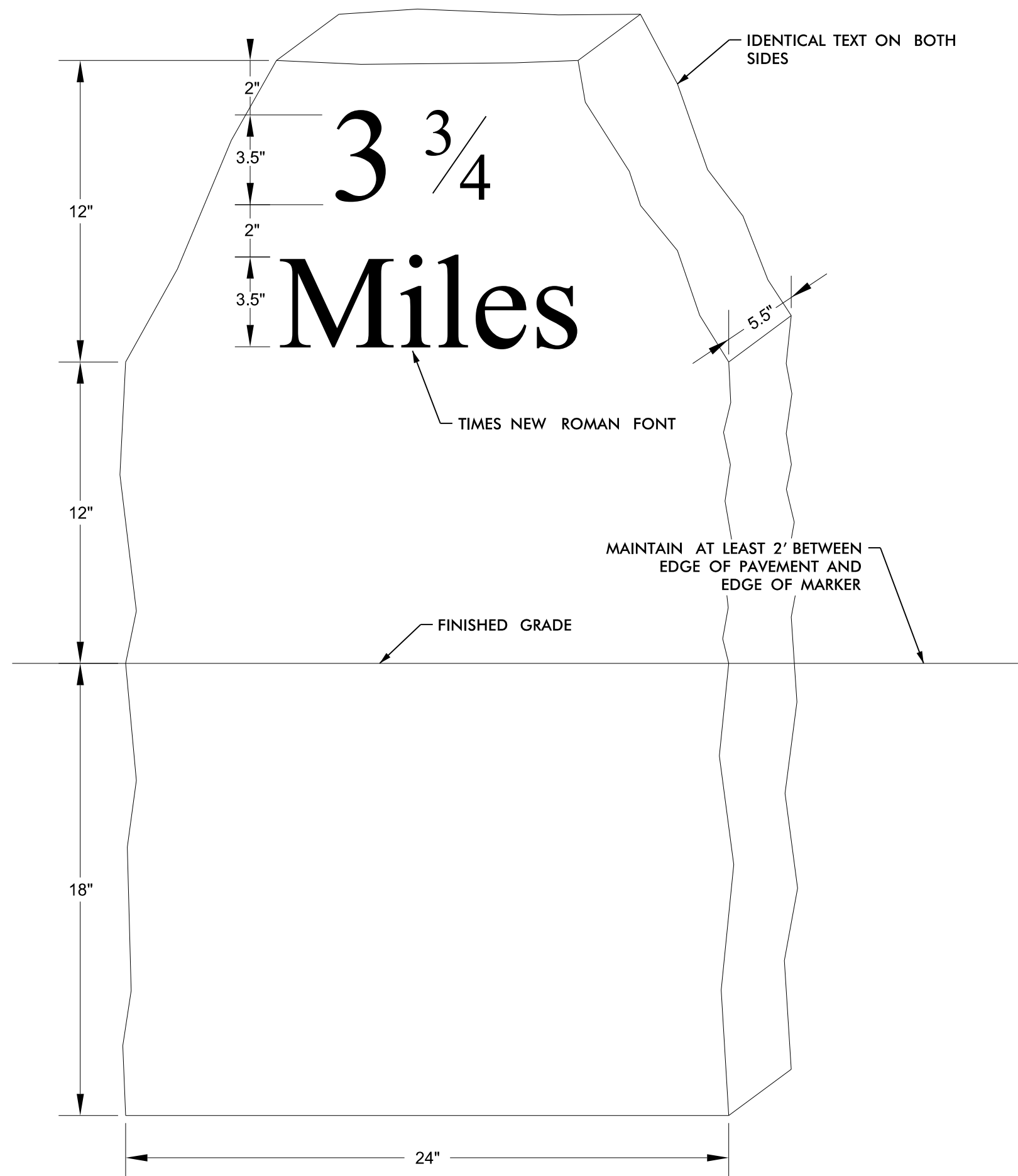
PROPOSED GRANITE MARKERS SHALL MATCH FONT, DIMENSIONS, AND FINISH OF EXISTING MARKERS ON ARARAT RIVER TRAIL BETWEEN THARINGTON PARK AND RIVERSIDE PARK.

IDENTICAL TEXT SHALL BE ON BOTH SIDES OF MARKER.

BURIAL DEPTH SHALL BE 24 INCHES BELOW FINISHED GRADE.

CENTER OF MARKER SHALL BE PLACED 3 FEET LEFT OF EDGE OF PAVEMENT.

SEE SPECIFICATIONS FOR MORE INFORMATION.

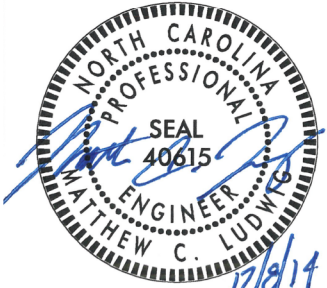


DIMENSIONS OF PROPOSED MARKERS



LOVILLS CREEK AND
ARARAT RIVER GREENWAY
WORTH STREET TO THARINGTON PARK

GREENWAY ENGINEER



STEWART

DATE: DECEMBER 8, 2014

REVISIONS:

NO.	DATE
1	12/8/14

PROJECT NO.:

H13007.00

2E

TORRES DEBORAH G
TORRES VENANCIO
Parcel ID: 502018495738
Deed Book: 00912 Pg: 0224

NOTE:
CONTRACTOR SHALL KEEP EXISTING SECTION
OF GREENWAY OPEN TO WORTH STREET UNTIL
HE IS READY TO PAVE NEW SECTION. ONCE
EXISTING GREENWAY IS CLOSED TO MAKE NEW
CONNECTION, CONTRACTOR MUST REOPEN
SECTION TO WORTH STREET WITHIN 7 DAYS.

RELOCATE TRASH CAN AND
SIGNS PER CITY DIRECTION

REMOVE 156 SY ASPHALT
PAVEMENT AT COMPLETION
OF PROJECT

PROP CLASS 'B' RIP RAP
L=5 FEET, 1 TON W/5 SY FF

INSTALL STOP BAR (28 LF) AND
HIGH VISIBILITY CROSSWALK

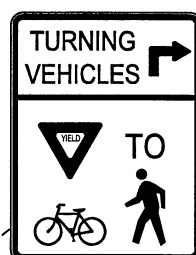
REMOVE ACCESS GATE ON EXISTING
GREENWAY AND INSTALL ON
PROPOSED GREENWAY
-L- STA. 9+25.00

REMOVE 15" & REPLACE W/
32LF 15" RCP, -L- STA. 9+06
INV IN=996.00
INV OUT=995.60

REMOVE EXISTING STOPBAR AND
PAVEMENT MARKING LINES THAT
CONFLICT (APPROX. 145 LF)

MATCH EXISTING PAVEMENT
INSTALL DETECTABLE WARNING STRIPS
-L- 9+52.00 & -L- 10+10.00

INSTALL MODIFIED R10-15 SIGNS (30"x39")
-L- STA. 10+26, 32' RT
-L- STA. 9+49, 11' LT
SEE TRAFFIC SIGNAL PLANS FOR ADDITIONAL
LOCATIONS



MODIFIED R10-15
(30"x39")

PI STA. 8+62.03 Δ = 32' 28" 58.6" (RT) D = 114' 35" 29.6" L = 28.35' T = 14.57' R = 50.00'	PI STA. 9+14.96 Δ = 29' 15" 39.8" (LT) D = 38' 11" 49.9" L = 76.61' T = 39.16' R = 150.00'	PI STA. 10+74.40 Δ = 38' 29" 52.3" (LT) D = 190' 59" 09.4" L = 20.16' T = 10.48' R = 30.00'	PI STA. 10+70.51 Δ = 34' 11" 34.9" (RT) D = 76' 23" 39.7" L = 44.76' T = 23.07' R = 75.00'	PI STA. 12+41.15 Δ = 8' 06" 32.1" (RT) D = 11' 27" 33.0" L = 70.76' T = 35.44' R = 500.00'	PI STA. 13+18.48 Δ = 23' 43" 18.8" (LT) D = 28' 38" 52.4" L = 82.80' T = 42.00' R = 200.00'
PI STA. 14+44.77 Δ = 19' 24" 20.2" (RT) D = 11' 27" 33.0" L = 169.35' T = 85.49' R = 500.00'	PI STA. 15+60.77 Δ = 18' 15" 32.3" (LT) D = 28' 38" 52.4" L = 63.74' T = 32.14' R = 200.00'	PI STA. 16+22.42 Δ = 22' 39" 47.9" (RT) D = 38' 11" 49.9" L = 59.33' T = 30.06' R = 150.00'	PI STA. 16+80.76 Δ = 32' 25" 02.1" (LT) D = 57' 17" 44.8" L = 56.58' T = 29.07' R = 100.00'	PI STA. 17+46.87 Δ = 28' 51" 35.9" (RT) D = 38' 11" 49.9" L = 75.56' T = 38.60' R = 150.00'	PI STA. 18+20.15 Δ = 27' 13" 34.2" (LT) D = 38' 11" 49.9" L = 71.28' T = 36.33' R = 150.00'
PI STA. 18+72.90 Δ = 13' 31" 45.8" (RT) D = 38' 11" 49.9" L = 35.42' T = 17.79' R = 150.00'	PI STA. 19+79.74 Δ = 9' 57" 10.0" (RT) D = 28' 38" 52.4" L = 34.74' T = 17.41' R = 200.00'	PI STA. 20+34.68 Δ = 23' 27" 33.2" (LT) D = 76' 23" 39.7" L = 30.71' T = 15.57' R = 75.00'			

SLATE G EDWARD
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Deed Book: 00538 Pg: 0437
Plat Book: 012 Pg: 0173

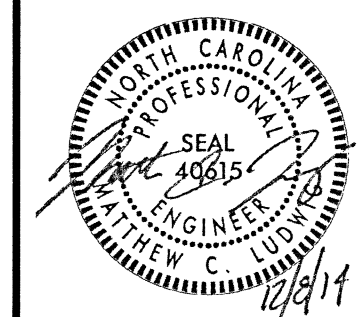
SLATE MOTOR CO INC
C/O G EDWARD SLATE

Parcel ID: 592907592915
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Plat Book: 012 Pg: 0173



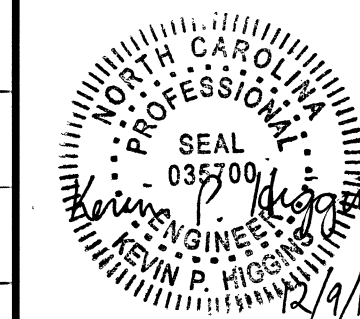
LOVILLS CREEK AND
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WORTH STREET TO THARINGTON PARK

GREENWAY ENGINEER



STEWART

HYDRAULICS ENGINEER



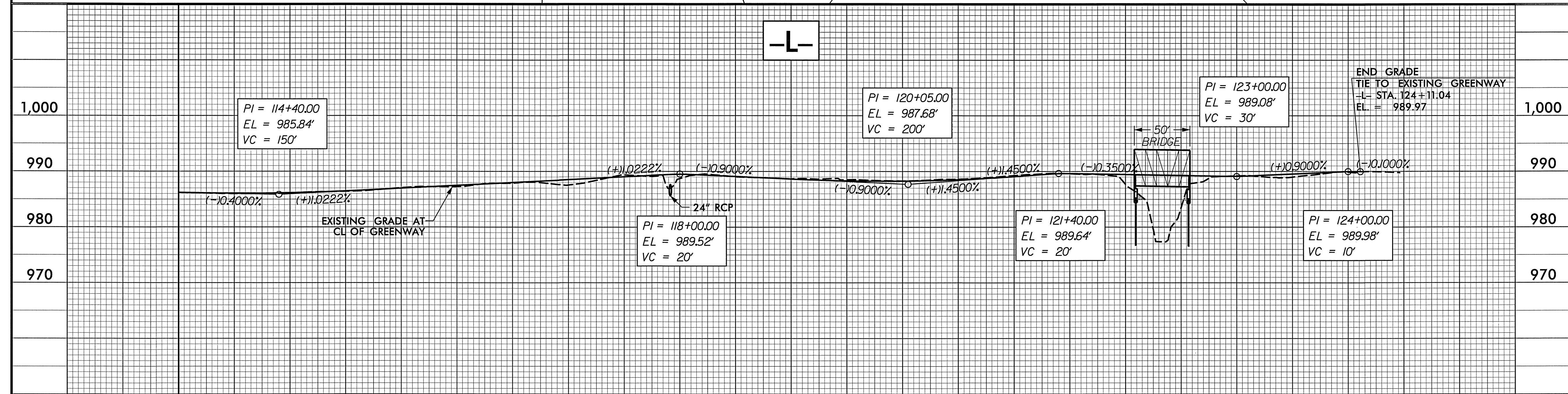
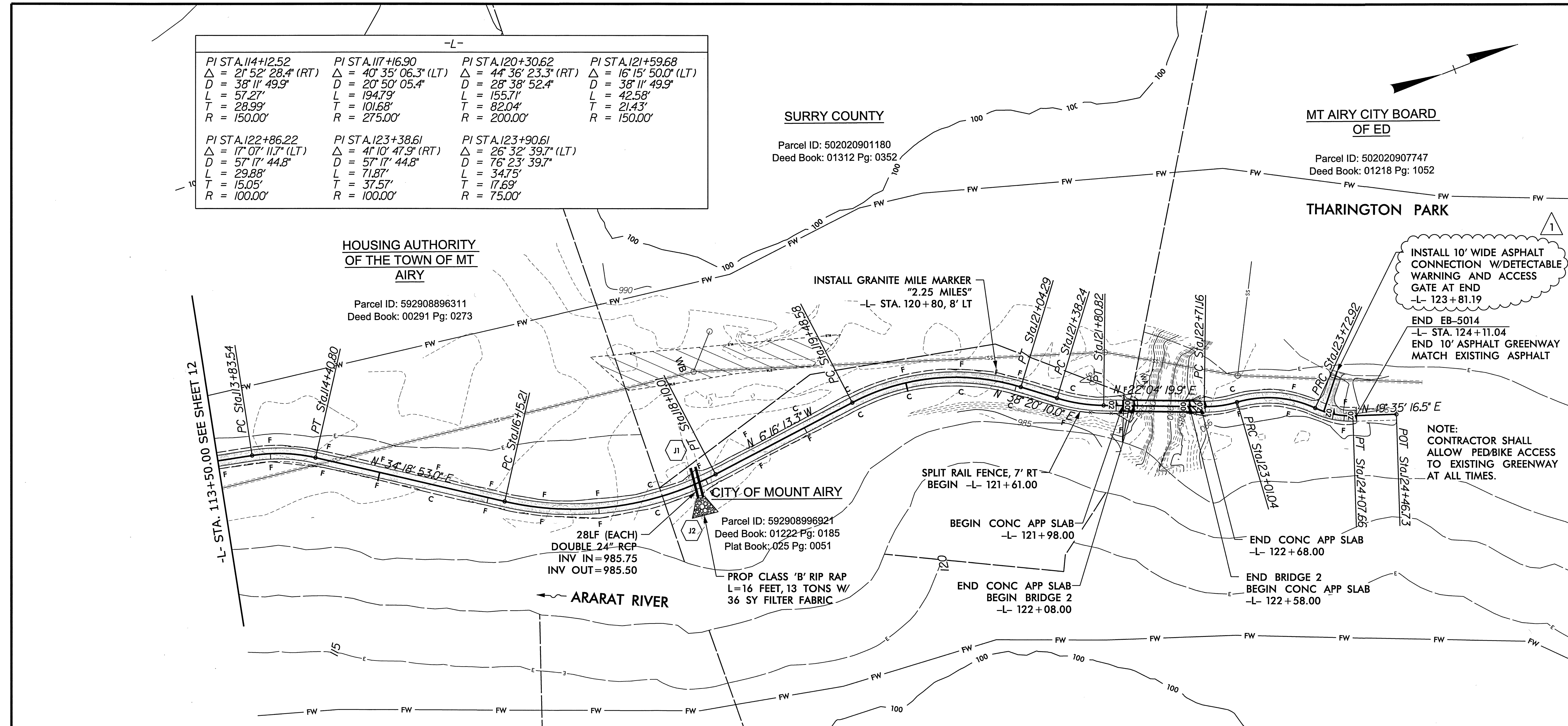
Baker


DATE: DECEMBER 8, 2014

REVISIONS:	
NO.	DATE
1	12/8/14

PROJECT NO.:

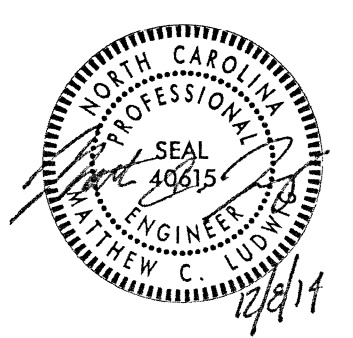
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LOVILLS CREEK AND
ARARAT RIVER GREENWAY
WORTH STREET TO THARINGTON PARK


GREENWAY ENGINEER



12/9/14

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HYDRAULICS ENGINEER



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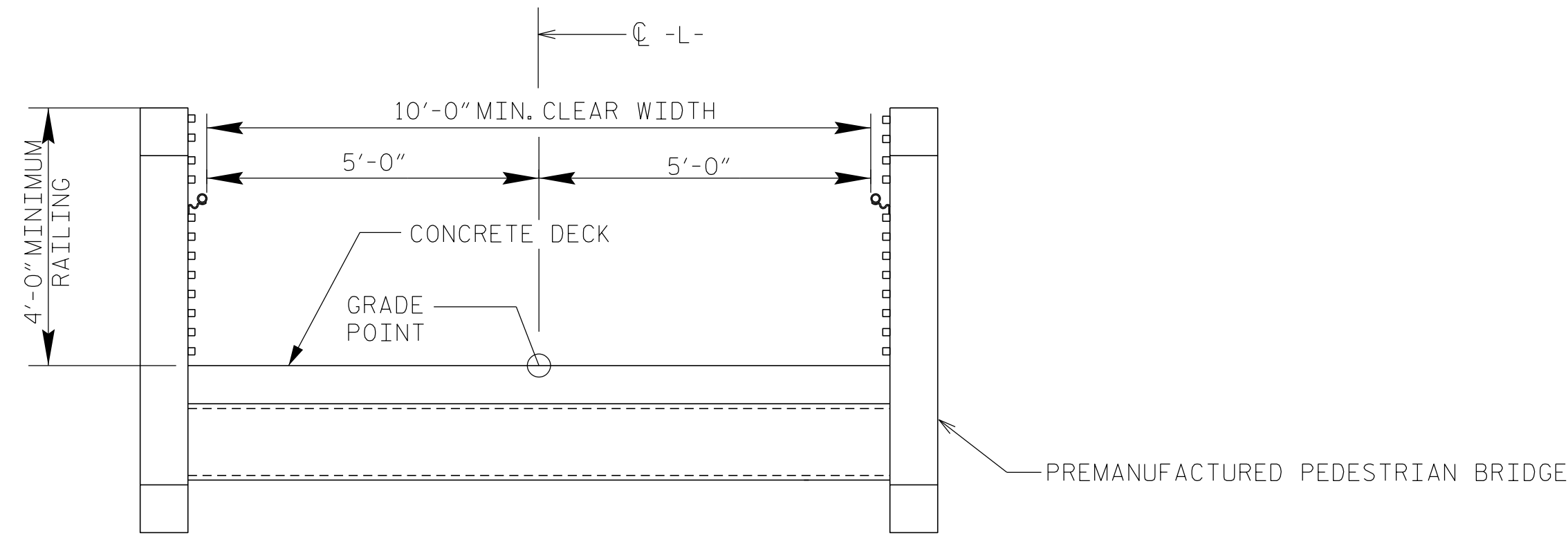
DATE: DECEMBER 8, 2014

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13



TYPICAL SECTION
PREMANUFACTURED PEDESTRIAN BRIDGE

BRIDGE NO.	CHAIN	BEGIN STATION	END STATION
S1	-L-	23+07.00	23+87.00
S2	-L-	122+08.00	122+58.00

NOTES:

1.

ASSUMED LIVE LOAD = 90psf AS PER LRFD GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES, 2nd EDITION.
2.

THESE BRIDGES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES 2ND EDITION. (AASHTO H5 LOADING INCLUDING AMBULANCES AND OTHER VEHICLES/EQUIPMENT UP TO 10,000 LB.)
3.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET S-13.
4.

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE HPS 50W.
5.

CONTRACTOR SHALL LOCATE ALL UTILITIES AND UTILITY ELEVATIONS PRIOR TO CONSTRUCTION. ALL UTILITIES TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR.
6.

FOR SUBMITTALS, SEE SPECIAL PROVISIONS.
7.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
8.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
9.

FOR CURING CONCRETE, SEE SPECIAL PROVISIONS.
10.

FOR PLACING LOAD ON STRUCTURAL MEMBERS, SEE SPECIAL PROVISIONS.
11.

FOR PREMANUFACTURED PEDESTRIAN BRIDGE, SEE SPECIAL PROVISIONS.
12.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS.
13.

CONCRETE DECKS SHALL BE CLASS AA CONCRETE AND BE COLORED. FOR COLORED CONCRETE, SEE SPECIAL PROVISIONS.
14.

BRIDGE S1 SHALL BE A PREMANUFACTURED BOWSTRING TRUSS. BRIDGE S2 SHALL BE A PREMANUFACTURED PRATT OR WARREN PONY TRUSS. FOR PREMANUFACTURED PEDESTRIAN BRIDGES, SEE SPECIAL PROVISIONS.
15.

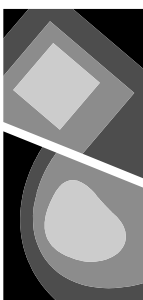
UPON COMPLETION OF THE PREMANUFACTURED PEDESTRIAN BRIDGES, IT IS THE RESPONSIBILITY OF THE THE ENGINEER OF RECORD TO CHECK THE END BENTS FOR ACTUAL BRIDGE LOADINGS.

TYPICAL SECTION AND GENERAL NOTES FOR BRIDGES

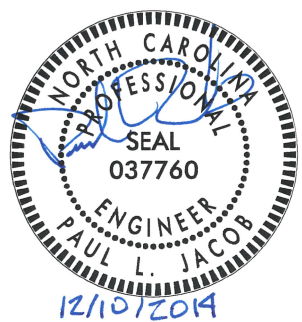


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S1



12/10/2014 REVISED/ADDED NOTES



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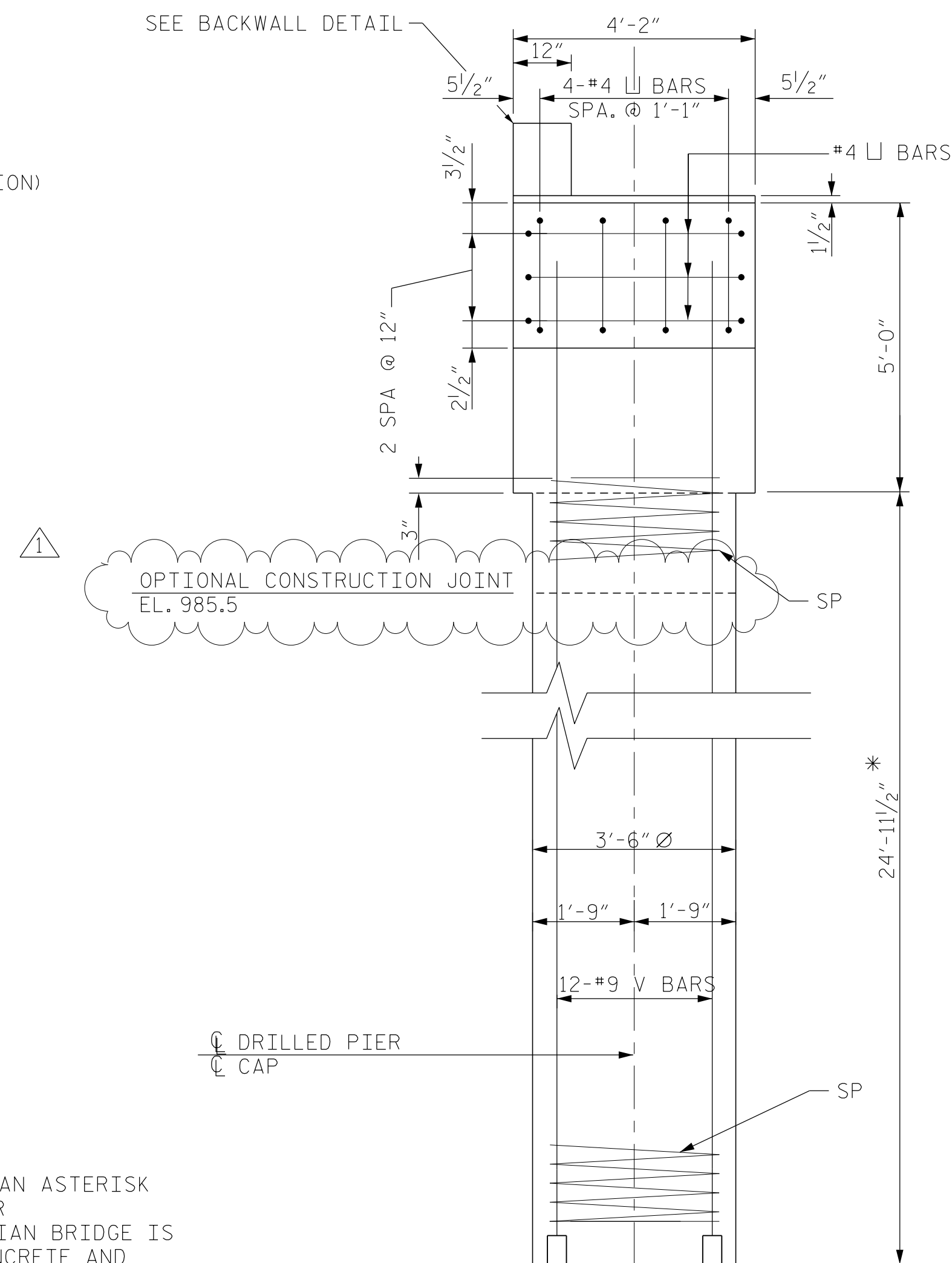
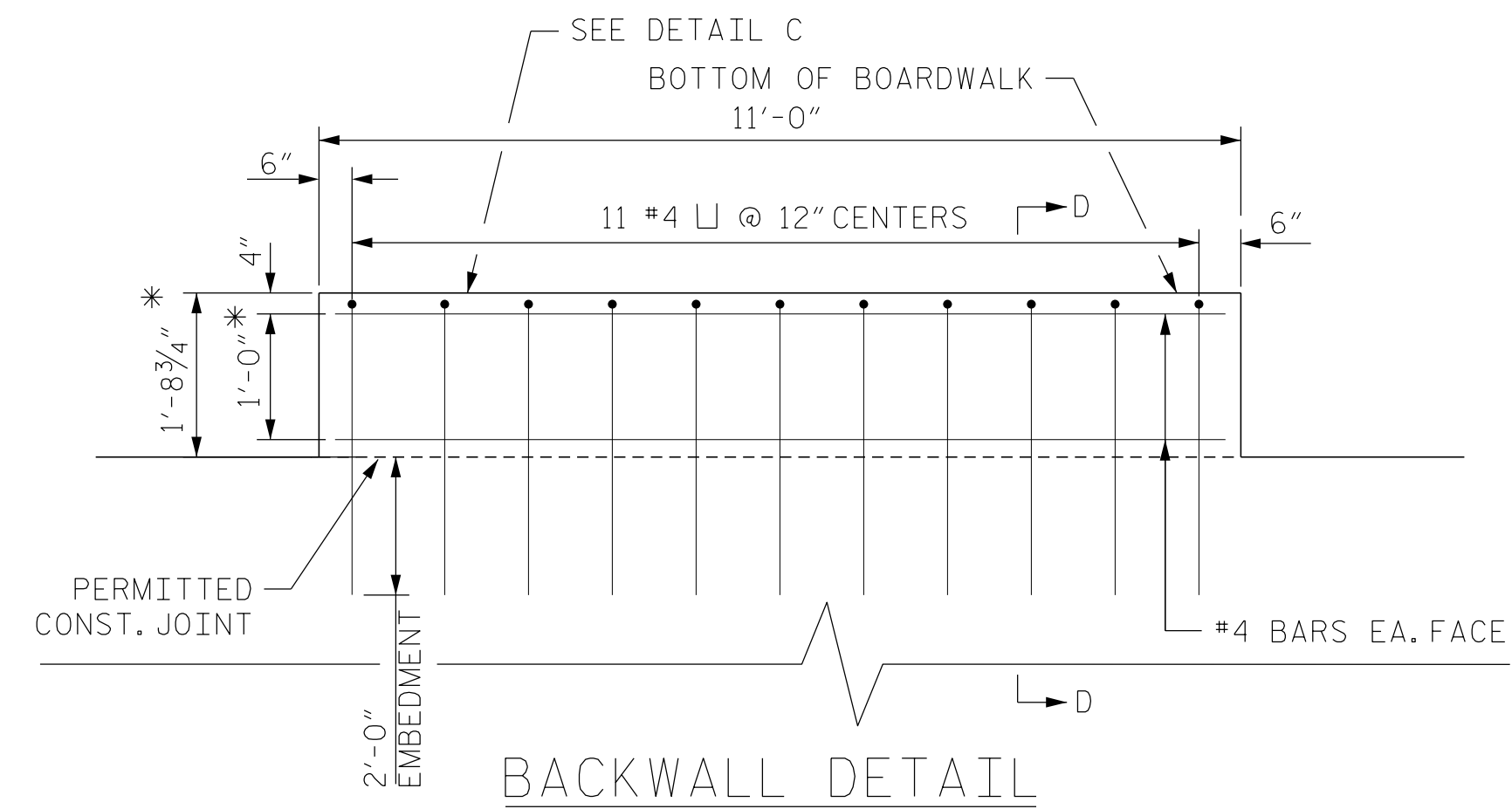
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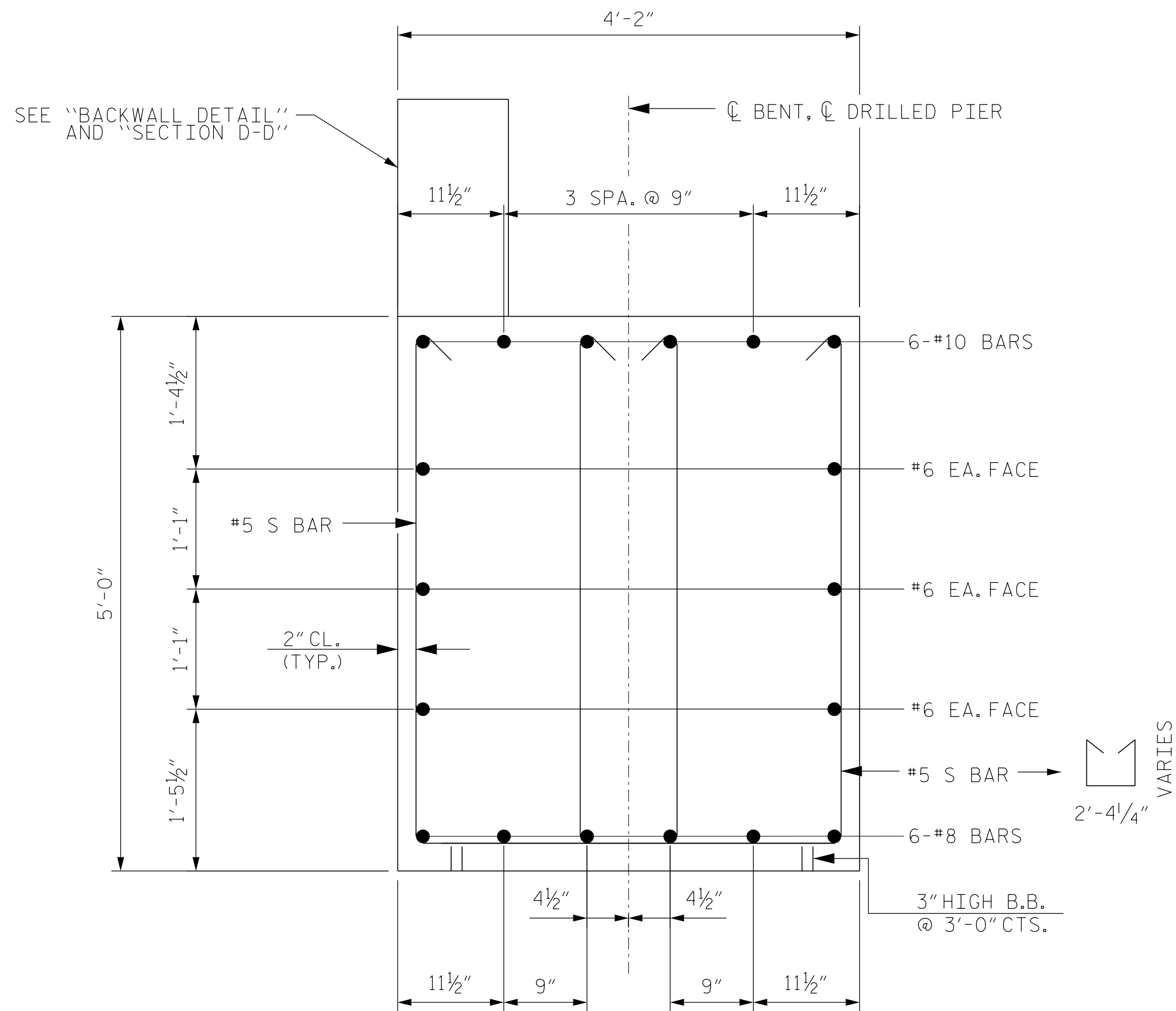
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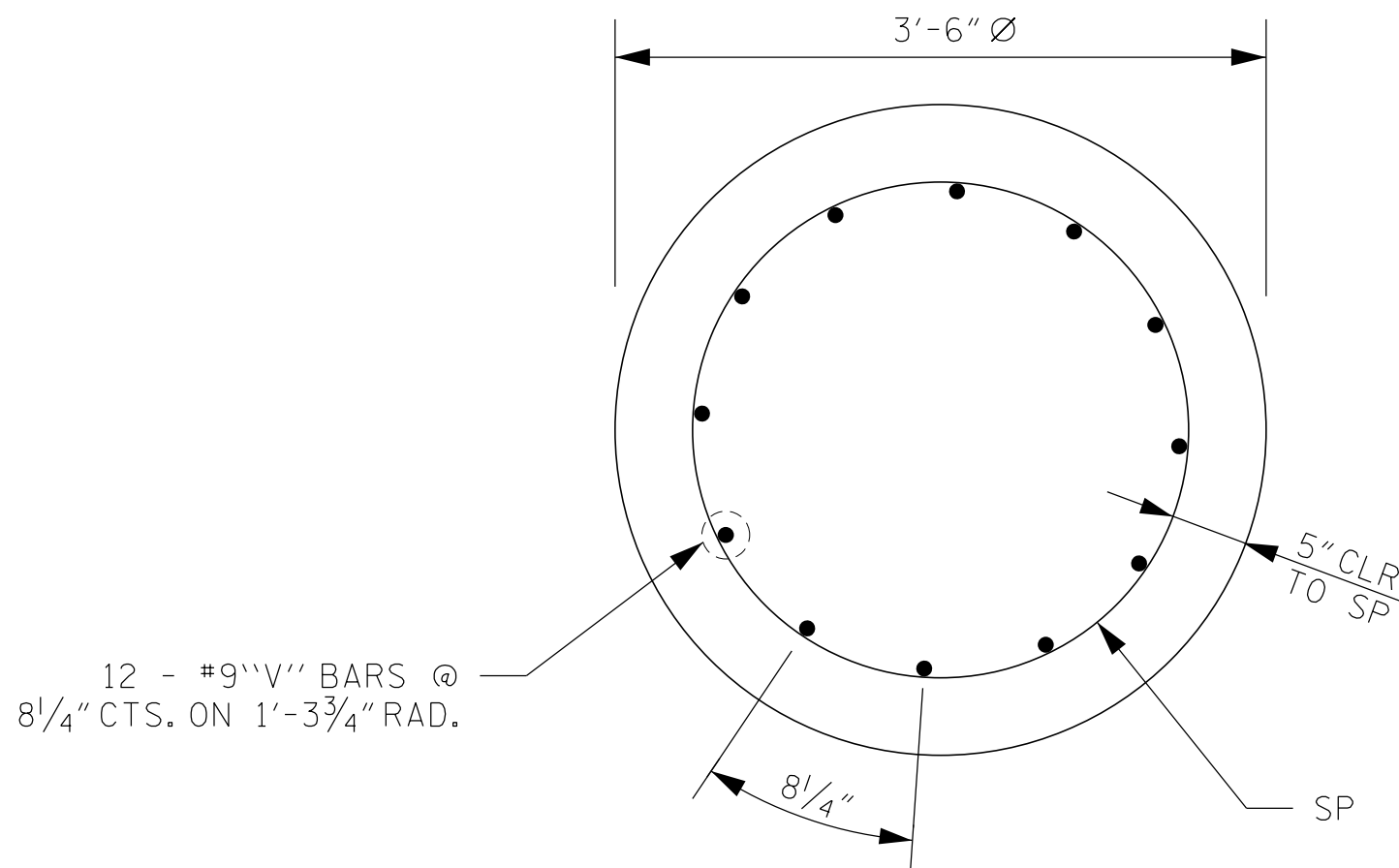


* DIMENSIONS MARKED WITH AN ASTERISK
ARE TO BE VERIFIED AFTER
PREMANUFACTURED PEDESTRIAN BRIDGE IS
DESIGNED. DIMENSIONS, CONCRETE AND
REINFORCING STEEL QUANTITIES ARE
SUBJECT TO CHANGE UNTIL AFTER SHOP
DRAWINGS ARE REVIEWED AND APPROVED. NO
ADDITIONAL PAYMENT WILL BE MADE FOR
ANY ADJUSTMENTS TO QUANTITIES.

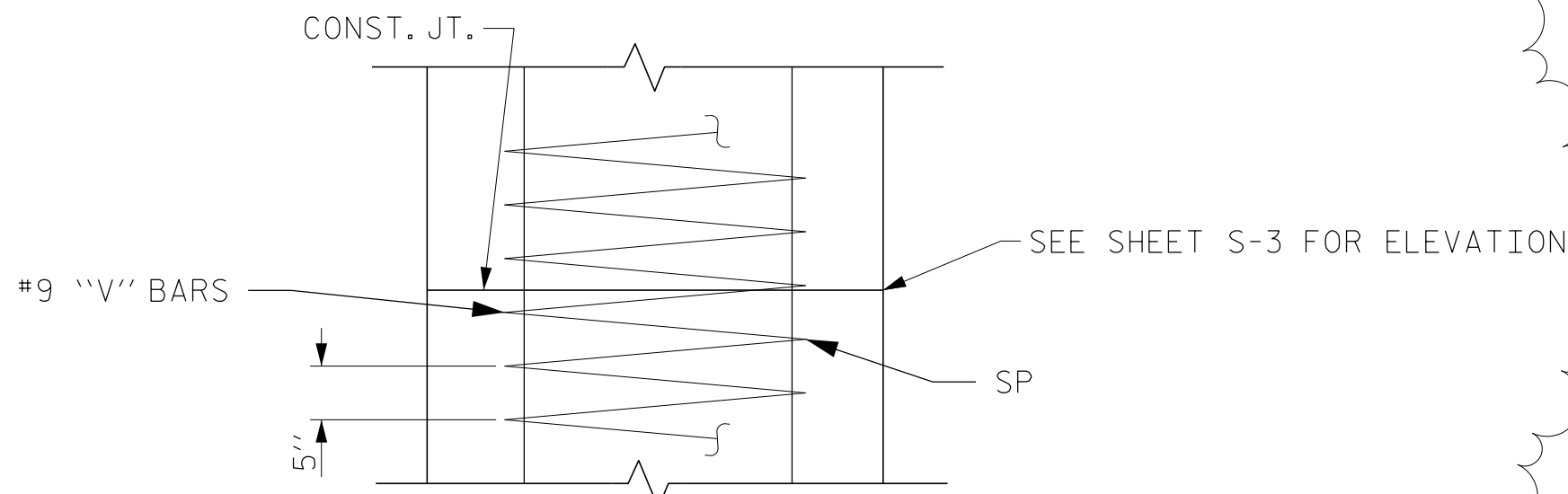
END ELEVATION
NOTE: ONLY END REINFORCEMENT
IN CAP SHOWN FOR CLARITY.



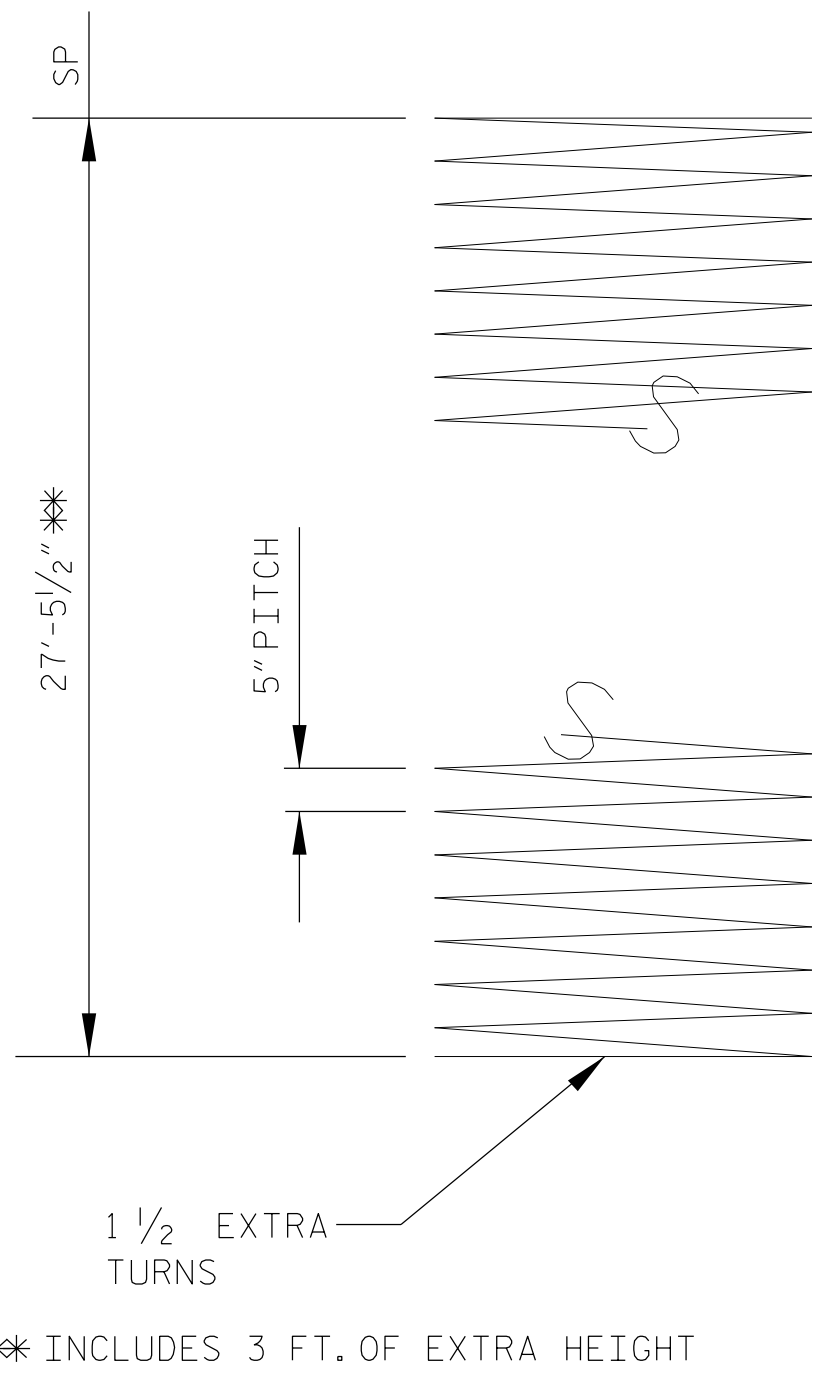
SECTION A-A



SECTION B-B



OPTIONAL CONSTRUCTION JOINT DETAIL



SPIRAL REINFORCEMENT DETAIL

* DIMENSIONS MARKED WITH AN ASTERISK ARE TO BE VERIFIED AFTER PREMANUFACTURED PEDESTRIAN BRIDGE IS DESIGNED. DIMENSIONS, CONCRETE AND REINFORCING STEEL QUANTITIES ARE SUBJECT TO CHANGE UNTIL AFTER SHOP DRAWINGS ARE REVIEWED AND APPROVED. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY ADJUSTMENTS TO QUANTITIES.

NOTES:

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.

STIRRUPS TO BE PLACED VERTICALLY AND INVERTED ALTERNATELY.

THE SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.

DETAILED DRAWINGS FOR FALSEWORK AND FORMS FOR THIS HAMMERHEAD BENT SHALL BE SUBMITTED. SEE SHEET S14.

THE TOP SURFACE OF THE CAP EXCEPT THE BRIDGE SEAT LEVELING PADS SHALL BE SLOPED TRANSVERSELY FROM THE BACKWALL TO EDGE OF CAP AT THE RATE OF 2%.

ANCHOR BOLTS SHALL BE SET BY DRILLING HOLES AND GROUTING AFTER THE CAP HAS BEEN POURED AND CURED. ANCHOR BOLTS SHALL HAVE A MINIMUM EMBEDMENT OF 15" INTO THE CAP. WHEN PLACING MAIN CAP STEEL, ENSURE THAT FUTURE DRILLING FOR ANCHOR BOLTS WILL BE AT LEAST ONE INCH CLEAR FROM EDGE OF REINFORCING BAR.

NO ADDITIONAL PAYMENT IS MADE FOR REINFORCING STEEL OR CONCRETE. THE ENTIRE COST OF THIS WORK TO BE INCLUDED AMONG THE VARIOUS PAY ITEMS.

WHEN PROCURING LONGITUDINAL REINFORCEMENT FOR THE DRILLED PIERS, CONTRACTOR TO ORDER LENGTHS WITH 3 FEET OF EXTRA LENGTH PROVIDED TO ACCOUNT FOR POSSIBLE VARIATIONS IN FOUNDATION CONDITIONS. PROVIDE SPIRAL REINFORCEMENT WITH 3 FEET OF EXTRA LENGTH.

1 DRILLED PIER REINFORCEMENT SHALL EXTEND INTO THE HAMMERHEAD CAP. SPLICING OF THE LONGITUDINAL BARS IN THE DRILLED PIER WILL NOT BE PERMITTED.

NO SEPARATE PAYMENT SHALL BE MADE FOR ANY ADDITIONAL STEEL REQUIRED IN CONSTRUCTION OF DRILLED PIER AS THIS IS CONSIDERED INCIDENTAL.

FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

DRILLED PIER AT END BENT 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 300 KIPS PER PIER.

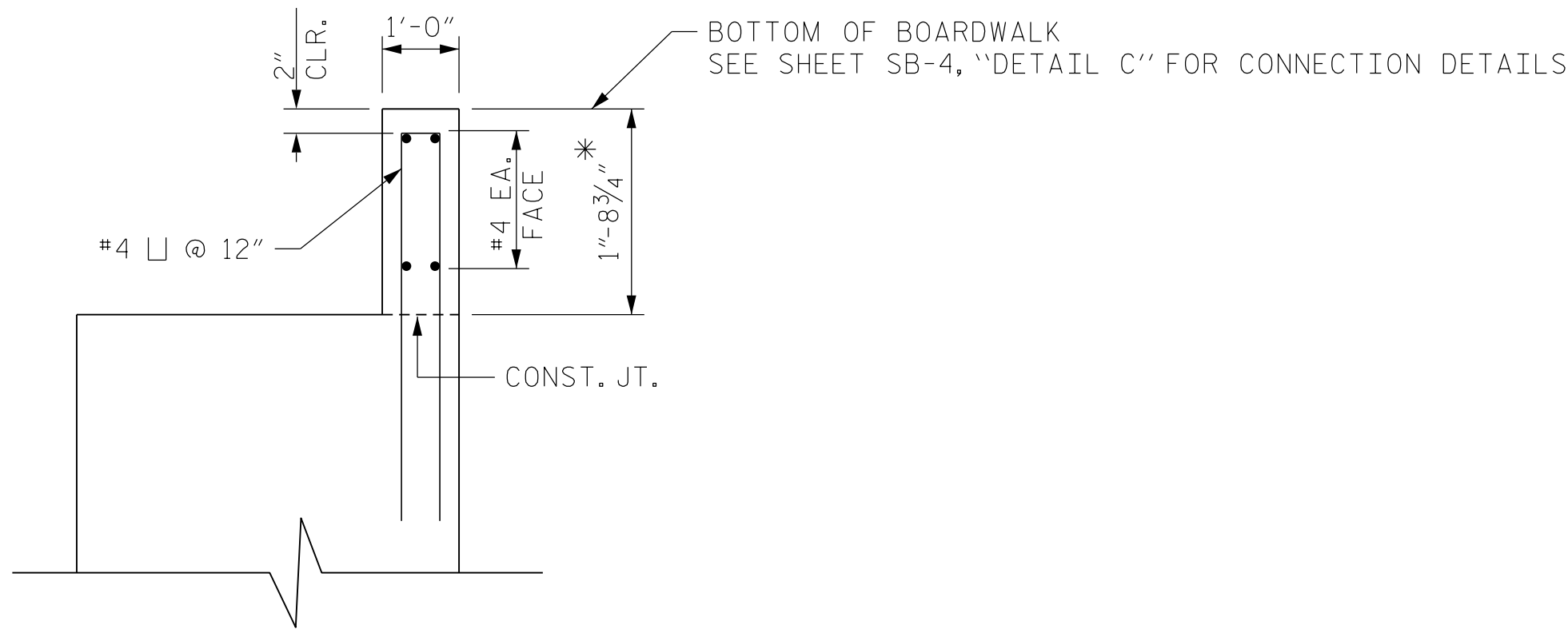
INSTALL DRILLED PIER AT END BENT 1 TO A TIP ELEVATION NO HIGHER THAN 962 FT AND WITH THE REQUIRED TIP RESISTANC EAND PENETRATION OF AT LEAST 2 FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.

THE SCOUR CRITICAL ELEVATION FOR END BENT 1 IS 978.50 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

SID INSPECTIONS MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS. FOR SID INSPECTIONS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

1 THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIER IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 1 FOOT BELOW THE GROUND LINE.



SECTION D-D

LOVILLS CREEK BRIDGE END BENT 1

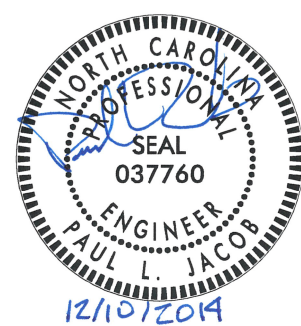


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S4



12/10/2014

ADDED OPTIONAL CONSTRUCTION JOINT

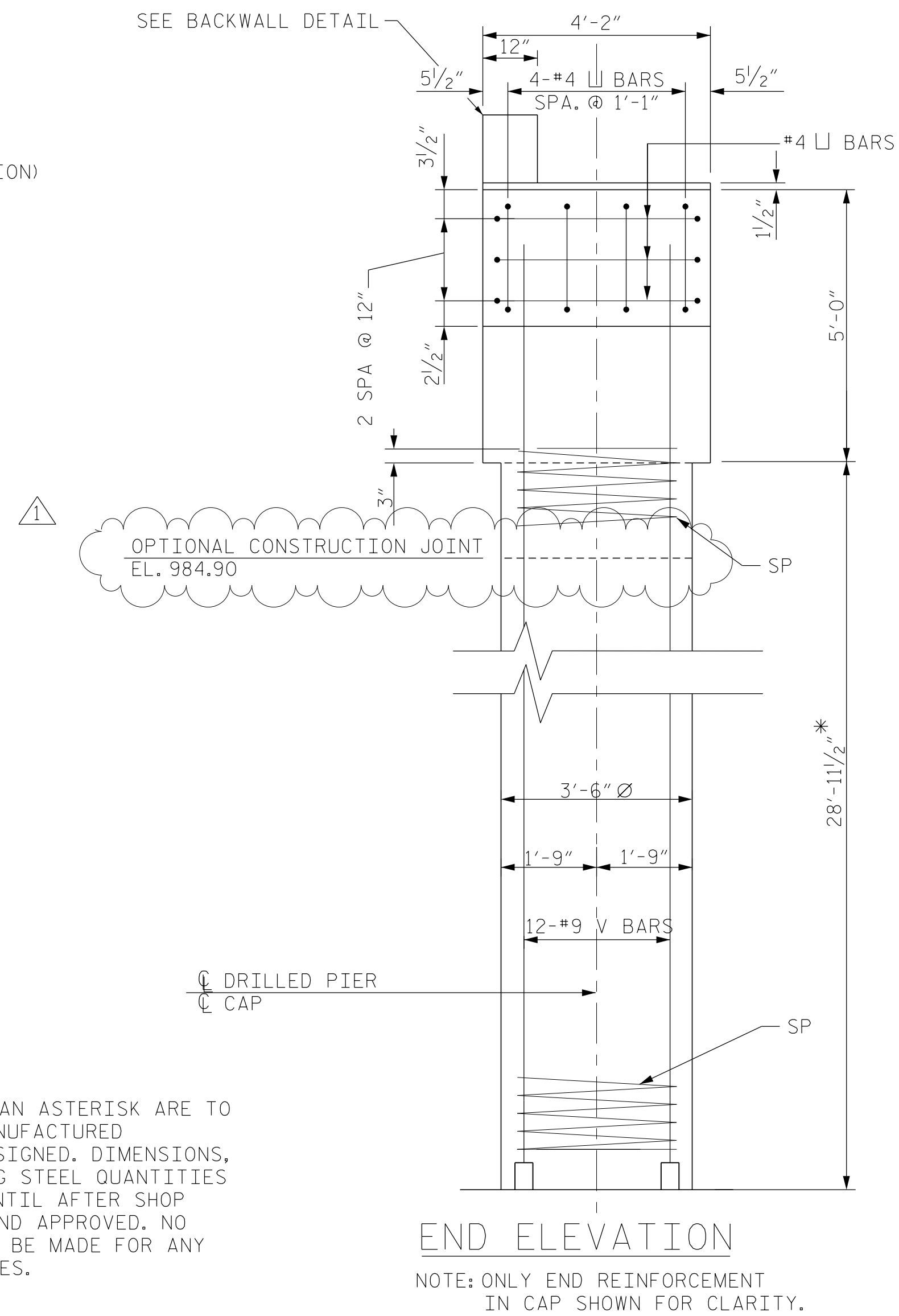
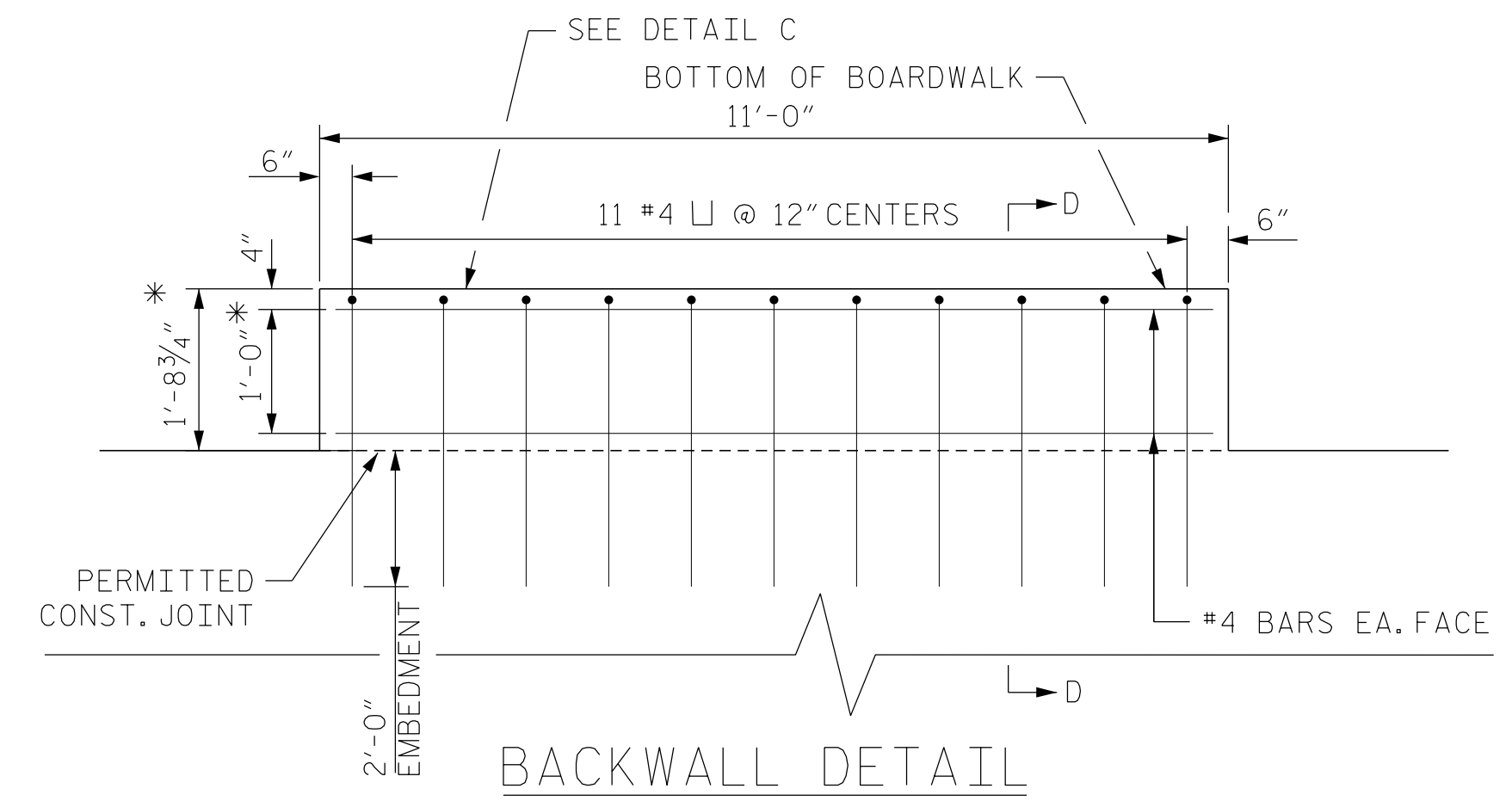


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PROJECT NO.:

CONTENTS

S5

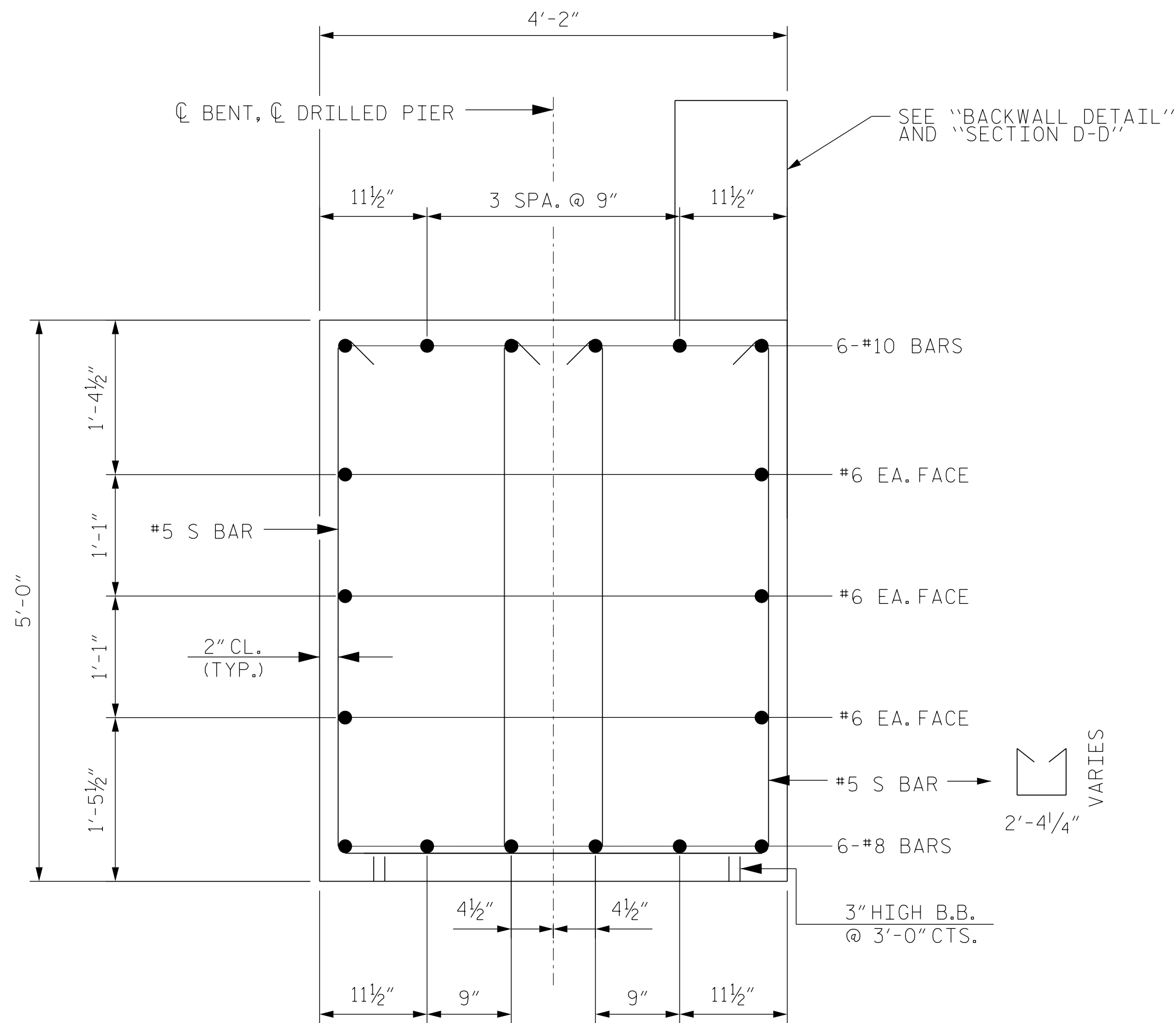


* DIMENSIONS MARKED WITH AN ASTERISK ARE TO BE VERIFIED AFTER PREMANUFACTURED PEDESTRIAN BRIDGE IS DESIGNED. DIMENSIONS, CONCRETE AND REINFORCING STEEL QUANTITIES ARE SUBJECT TO CHANGE UNTIL AFTER SHOP DRAWINGS ARE REVIEWED AND APPROVED. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY ADJUSTMENTS TO QUANTITIES.

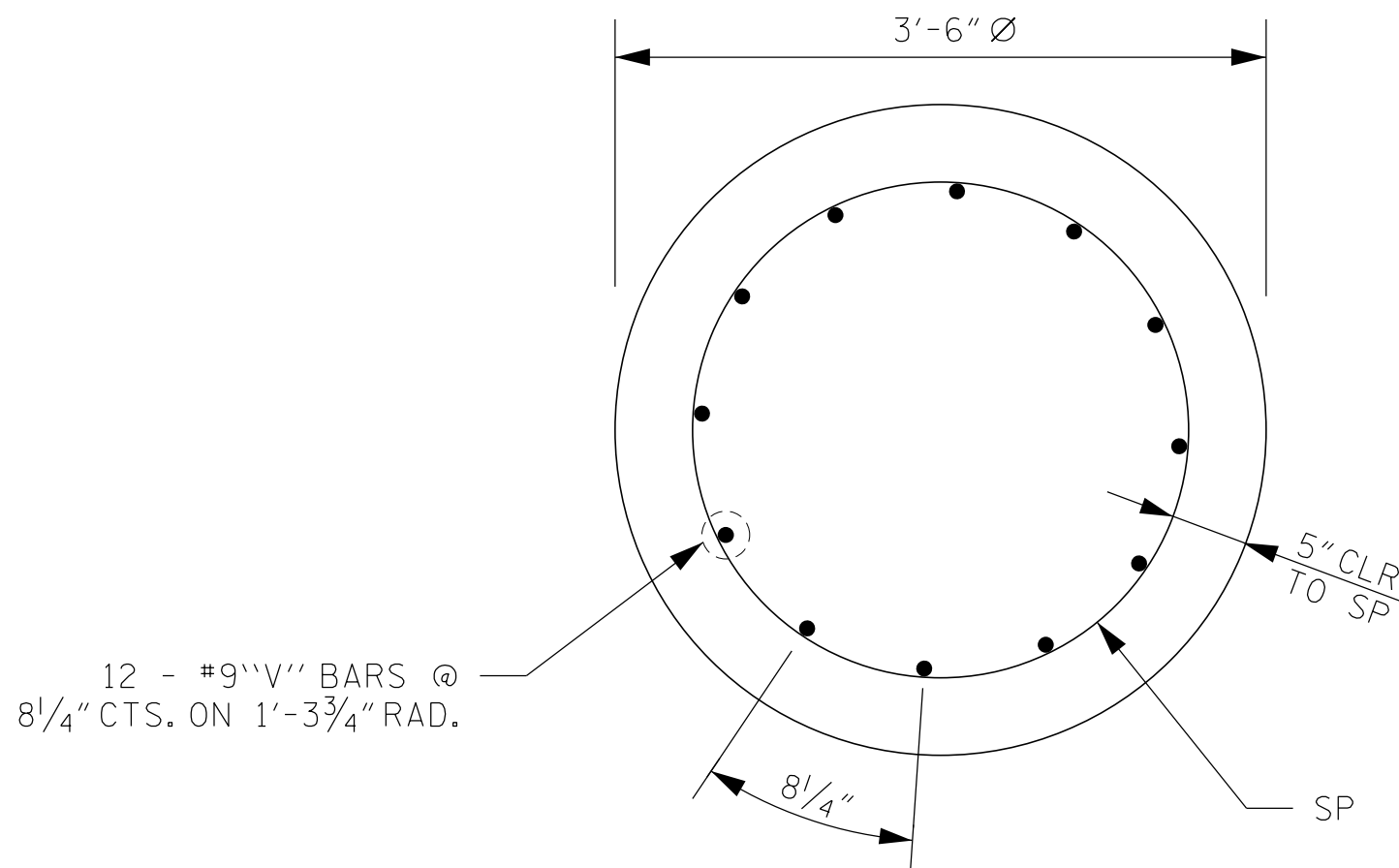
NOTE: ONLY END REINFORCEMENT
IN CAP SHOWN FOR CLARITY.

LOVILLS CREEK BRIDGE END BENT 2

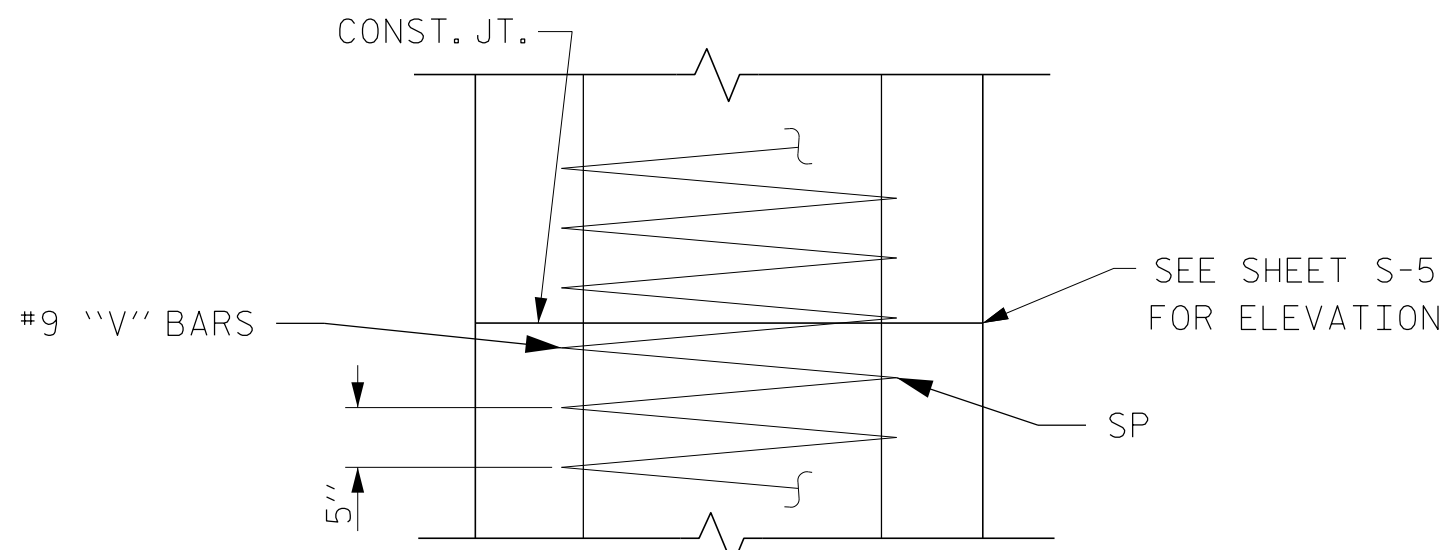
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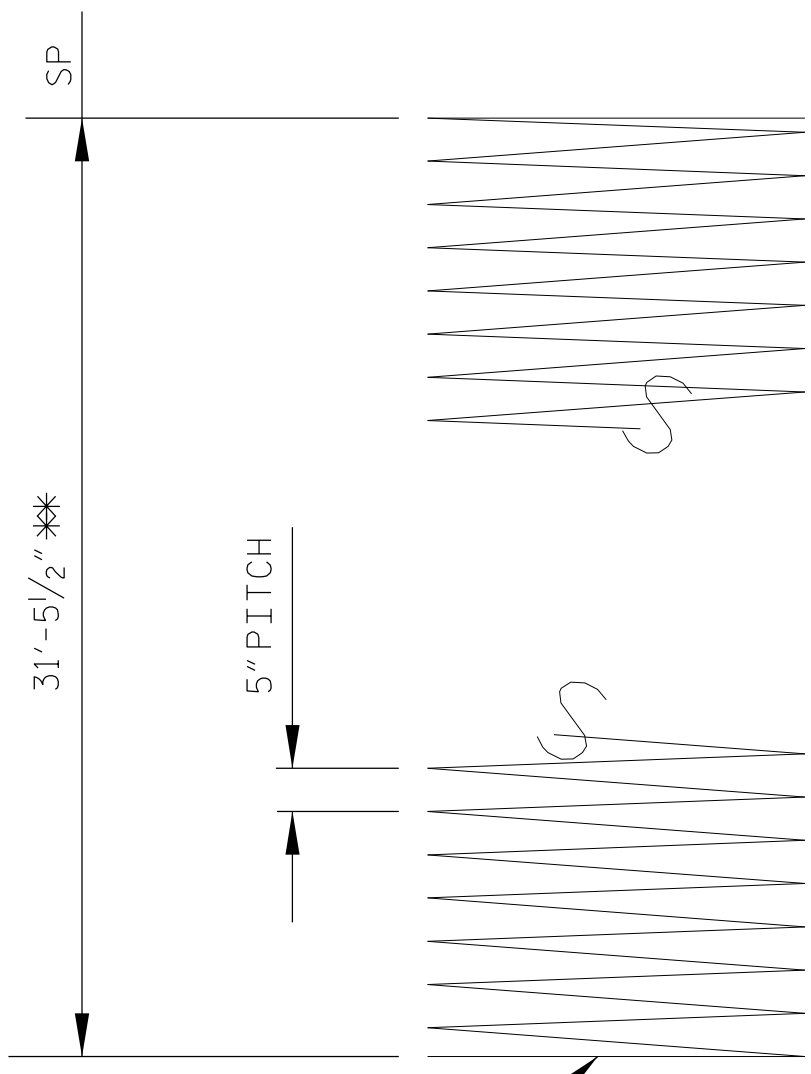
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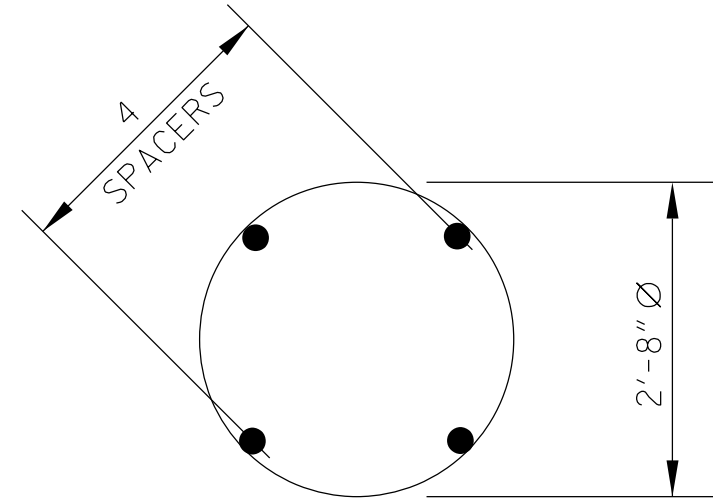
SECTION B-B



OPTIONAL CONSTRUCTION JOINT DETAIL

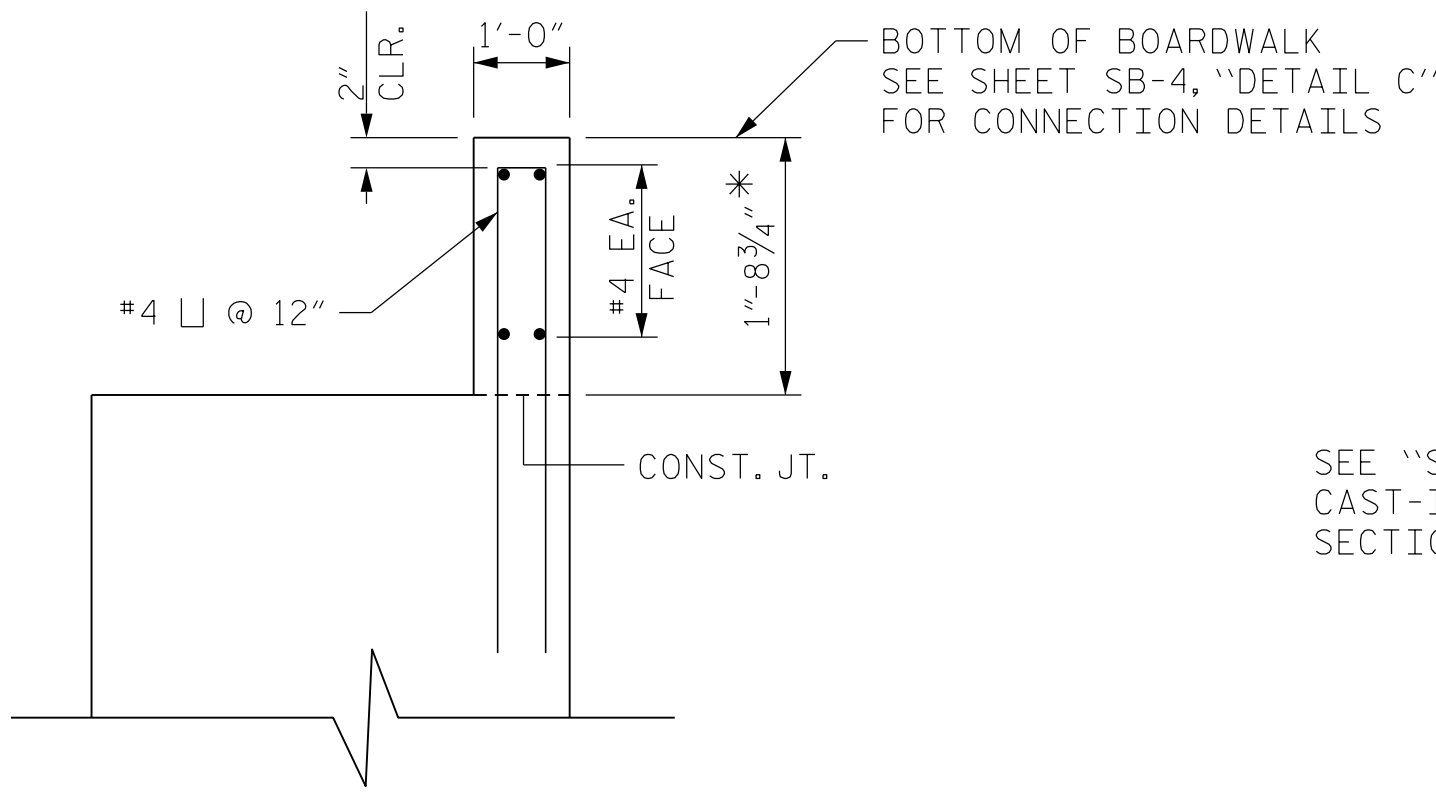


* INCLUDES 3 FT. OF EXTRA HEIGHT



SPIRAL REINFORCEMENT DETAIL

* DIMENSIONS MARKED WITH AN ASTERISK ARE TO BE VERIFIED AFTER PREMANUFACTURED PEDESTRIAN BRIDGE IS DESIGNED. DIMENSIONS, CONCRETE AND REINFORCING STEEL QUANTITIES ARE SUBJECT TO CHANGE UNTIL AFTER SHOP DRAWINGS ARE REVIEWED AND APPROVED. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY ADJUSTMENTS TO QUANTITIES.



SECTION D-D

LOVILLS CREEK BRIDGE END BENT 2

NOTES:

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.

STIRRUPS TO BE PLACED VERTICALLY AND INVERTED ALTERNATELY.

THE SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.

DETAILED DRAWINGS FOR FALSEWORK AND FORMS FOR THIS HAMMERHEAD BENT SHALL BE SUBMITTED. SEE SHEET S14.

THE TOP SURFACE OF THE CAP EXCEPT THE BRIDGE LEVELING PADS SHALL BE SLOPED TRANSVERSELY FROM THE BACKWALL TO EDGE OF CAP AT THE RATE OF 2%.

ANCHOR BOLTS SHALL BE SET BY DRILLING HOLES AND GROUTING AFTER THE CAP HAS BEEN POURED AND CURED. ANCHOR BOLTS SHALL HAVE A MINIMUM EMBEDMENT OF 15" INTO THE CAP. WHEN PLACING MAIN CAP STEEL, ENSURE THAT FUTURE DRILLING FOR ANCHOR BOLTS WILL BE AT LEAST ONE INCH CLEAR FROM EDGE OF REINFORCING BAR.

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DRILLED PIER REINFORCEMENT SHALL EXTEND INTO THE HAMMERHEAD CAP. SPLICING OF THE LONGITUDINAL BARS IN THE DRILLED PIER WILL NOT BE PERMITTED.

NO SEPARATE PAYMENT SHALL BE MADE FOR ANY ADDITIONAL STEEL REQUIRED IN CONSTRUCTION OF DRILLED PIER AS THIS IS CONSIDERED INCIDENTAL.

FOR DRILLED PIERS, SECTION 411 OF THE STANDARD SPECIFICATIONS.

DRILLED PIER AT END BENT 2 IS DESIGNED FOR A FACTORED RESISTANCE OF 300 KIPS PER PIER.

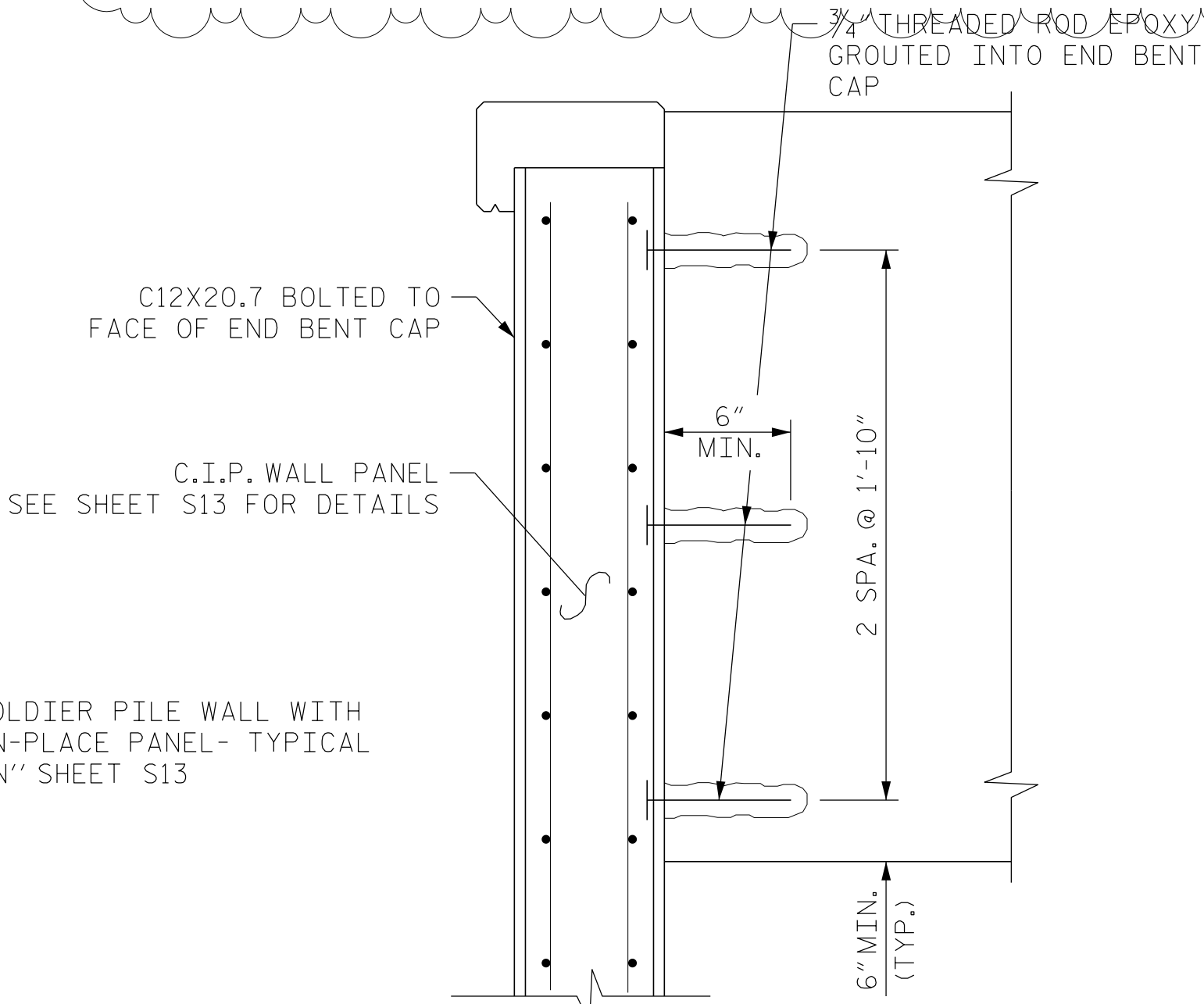
INSTALL DRILLED PIER AT END BENT 2 TO A TIP ELEVATION NO HIGHER THAN 958 FT AND WITH THE REQUIRED TIP RESISTANCE AND PENETRATION OF AT LEAST 5 FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.

THE SCOUR CRITICAL ELEVATION FOR END BENT 2 IS 978.00 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

SID INSPECTIONS MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS. FOR SID INSPECTIONS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIER IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 1 FOOT BELOW THE GROUND LINE.



CHANNEL ATTACHMENT DETAIL

CHANNEL ATTACHMENT IS NOT REQUIRED FOR ALTERNATE C.I.P. DEBRIS DEFLECTOR WALL

12/10/2014 ADDED OPTIONAL CONSTRUCTION JOINT

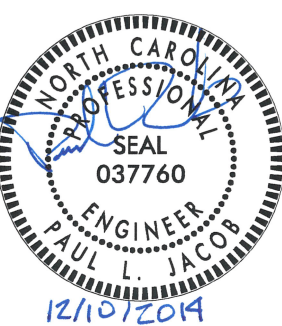


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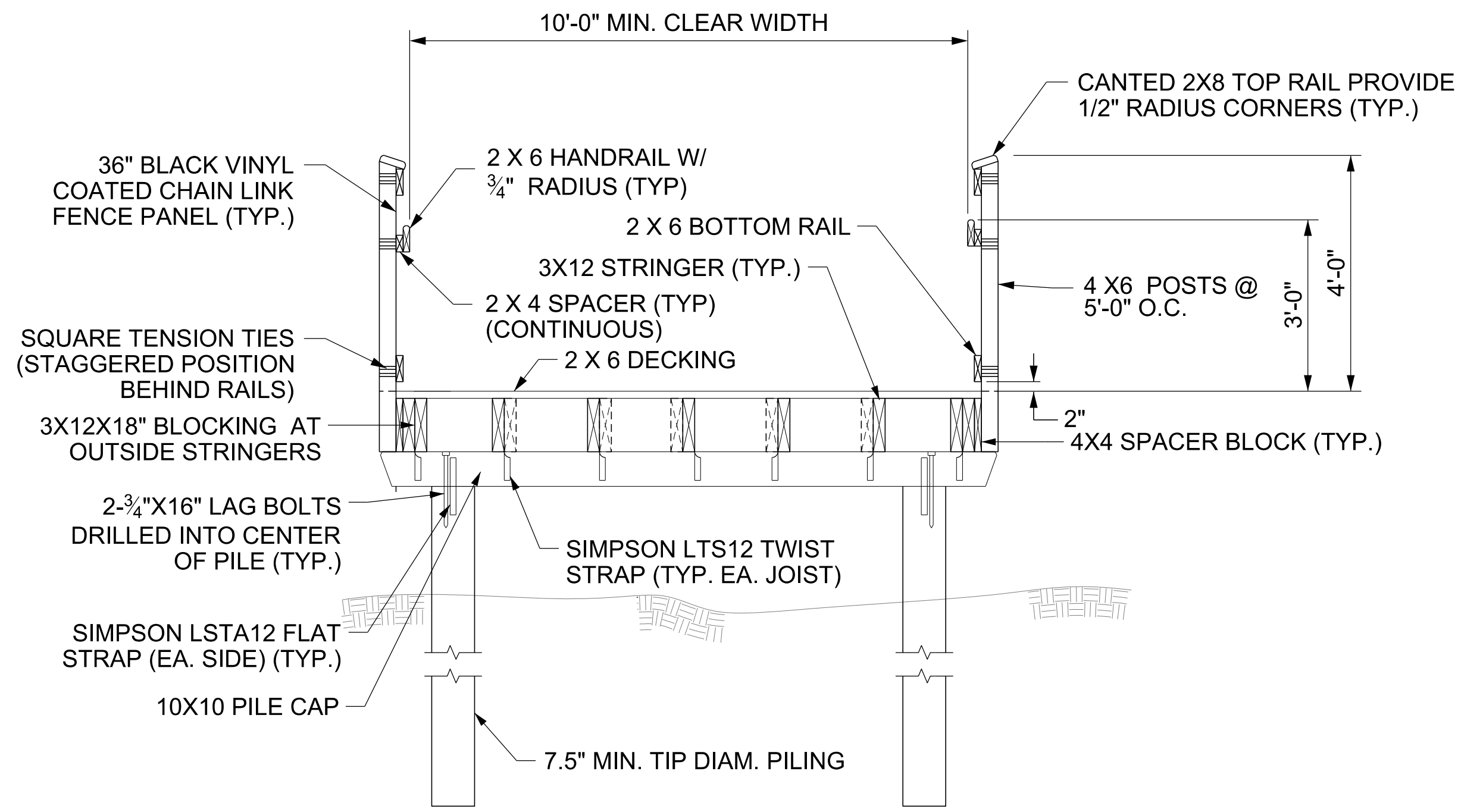
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PROJECT NO.:

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S6



SECTION A-A

NOTE: SEE SHEET SB-2 FOR SECTION CUT LOCATION
TYPICAL 10' SPAN CONSTRUCTION SHOWN

BOARDWALK LOCATIONS								
CHAIN	BEGIN STATION	ELEVATION	CHAIN	END STATION	ELEVATION	LENGTH	20' SPAN	REMARKS
-L-	21+80.00	993.30	-L-	23+07.00	994.75	127.00'	YES	-
-L-	23+87.00	994.75	-L-	25+20.00	988.62	133.00'	NO	-
-L-	60+90.00	983.91	-L-	61+30.00	983.71	40.00'	YES	-

NOTE: THERE IS ONE 20 FOOT BOARDWALK SPAN IN BOARDWALKS THAT INDICATE "YES" IN THE 20' SPAN COLUMN.
BEGN AND END ELEVATIONS SHOWN. FOR INTERMEDIATE ELEVATIONS, SEE PROFILE.

REQUIRED PILE TIP DEPTHS		
	10 FOOT SPAN	20 FOOT SPAN
BOARDWALK 1	11	13
BOARDWALK 2	10	N/A
BOARDWALK 3	12	12

NOTES:

- BOARDWALKS ARE TO BE SUPPORTED ON 7.5" MIN. TIP DIAMETER PILING.
- PILE DRIVING (BLOW COUNT) CRITERIA IS TO BE ESTABLISHED USING A PILE DRIVING ANALYZER (PDA). ONE PDA TEST WILL BE REQUIRED PER 1,000 LINEAL FEET OF BOARDWALK BUT NOT LESS THAN ONE PDA TEST PER BOARDWALK UNLESS ALLOWED BY THE DESIGN ENGINEER. PDA TESTING SHALL BE THE RESPONSIBILITY OF THE PILE CONTRACTOR. FOR PDA TESTING SEE SPECIAL PROVISIONS FOR TIMBER BOARDWALK (SECTION 06100).
- BOARDWALK PILES MAY BE ADVANCED WITH IMPACT OR VIBRATORY PILE DRIVING EQUIPMENT. IF A VIBRATORY HAMMER IS USED, A MINIMUM OF ONE PILE PER TEN PILES MUST BE STRUCK WITH AN IMPACT HAMMER AFTER VIBRATORY INSTALLATION. IMPACT HAMMER BLOW COUNTS MUST MEET THE CRITERIA ESTABLISHED BY THE AFOREMENTIONED PDA TESTING. ALL PILES INSTALLED USING VIBRATORY EQUIPMENT, INCLUDING PDA PILES AND PILES RECEIVING FINAL HAMMER VERIFICATION, SHOULD BE CONTINUOUSLY MONITORED TO RECORD PILE PENETRATION RATES. PENETRATION RATES SHOULD BE COMPARED TO THE NEAREST IMPACT HAMMER VERIFIED PILE FOR CAPACITY SUBSTANTIATION.
- MINIMUM PENETRATION FOR TIMBER PILING SHALL AS SHOWN IN THE REQUIRED PILE TIP DEPTHS TABLE. WHEN MINIMUM PENETRATION CAN NOT BE ACHIEVED WITHOUT CAUSING DAMAGE TO THE PILING, CROSS BRACING AND HELICAL ANCHOR TIE DOWNS SHALL BE UTILIZED TO ACHIEVE THE NECESSARY LATERAL/UPLIFT RESISTANCE. FOR DETAILS OF HELICAL ANCHORS, SEE SHEET SB-7 AND THE PROJECT SPECIFICATIONS.
- PILING SHALL BE INSTALLED TO SUPPORT THE FOLLOWING LOADS:

10 FOOT SPAN ADJACENT TO 10 FOOT SPAN:	
COMPRESSION	5.3 KIPS PER PILE (DEAD + LIVE)
UPLIFT	0.6 KIPS PER PILE
LATERAL	1.0 KIPS PER PILE
10 FOOT SPAN ADJACENT TO 20 FOOT SPAN:	
COMPRESSION	8.1 KIPS PER PILE (DEAD + LIVE)
UPLIFT	0.9 KIPS PER PILE
LATERAL	1.5 KIPS PER PILE
- ALL TIMBER DIMENSIONS ARE BASED ON NOMINAL TIMBER SIZES.
- ALL EXPOSED CORNERS OF 2 X 8 TOP RAILS SHALL BE FINISHED WITH 1/2" MINIMUM RADIUS.
- PRE-DRILLED HOLES MAY BE NECESSARY TO PREVENT SPLITTING OF TIMBERS DURING CONSTRUCTION. 2 X 6 DECKING TO BE ATTACHED TO JOISTS USING 3" X 1/8" GALVANIZED SCREWS. DECKING SHALL BE ATTACHED WITH TWO GALVANIZED OR STAINLESS STEEL SCREWS AT EVERY JOIST.
- ALL BOLTS, NUTS, WASHERS, ETC. SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153. SIMPSON STRONG TIE CONNECTORS (WHERE USED) SHALL BE GALVANIZED.
- TREATED TIMBER AND LUMBER SHALL BE USED AND SHALL BE IN ACCORDANCE WITH 2012 NCDOT STANDARD SPECIFICATIONS, SECTION 1082 AND SHALL BE SOUTHERN PINE, GRADE 1 OR BETTER.
- ALL WORK SHALL BE ACCOMPLISHED AS DIRECTED BY THE ENGINEER. ANY DISCREPANCIES FOUND ON THIS DRAWING SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING.
- BASIS OF PAYMENT FOR THE BOARDWALK WILL BE AT THE CONTRACT UNIT PRICES FOR BOARDWALK - 10 FT SPAN, BOARDWALK - 20 FT SPAN, BOARDWALK POSTS 7.5" MIN. TIP DIAM., AND WILL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, TOOLS, AND INCIDENTALS NECESSARY FOR INSTALLING IN PLACE.
- FOR TIMBER BOARDWALK, SEE SPECIAL PROVISIONS.
- X-BRACE TIMBER PILES IN THE TRANSVERSE DIRECTION IN ALL BAYS WHEN TOP OF BOARDWALK EXCEEDS 6'-0" IN HEIGHT FROM TOP OF DECK TO GROUND SURFACE. X-BRACE IN LONGITUDINAL DIRECTION WILL NOT BE ALLOWED. ATTACH X-BRACING TO POSTS W/ 5/8 " DIA. HEX BOLT AT EACH END. FOR BRACING DETAILS SEE DWG. SB-4.
- 2X6 BOTTOM SUPPORT RAIL TO BE INSTALLED 2" ABOVE DECK SURFACE.
- THE PILE HAMMER USED BY THE CONTRACTOR MUST BE APPROVED BY THE ENGINEER AND BY THE CITY OF MOUNT AIRY PRIOR TO CONSTRUCTION.
- VINYL COATED CHAIN LINK FENCE SHALL BE KNUCKLED AT BOTH ENDS.
- UNQ = UNLESS NOTED OTHERWISE

19. THESE BOARDWALKS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES 2ND EDITION. (AASHTO H5 LOADING INCLUDING AMBULANCES AND OTHER VEHICLES/EQUIPMENT UP TO 10,000 LB.)

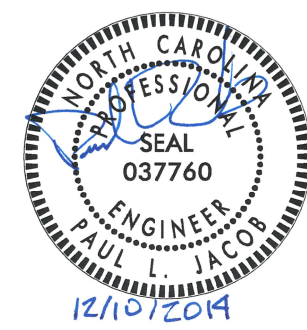


LOVILLS CREEK AND
ARARAT RIVER GREENWAY
WORTH STREET TO THARINGTON PARK

Firm License No. C-1051
421 Fayetteville St.
Suite 400
Raleigh, NC 27601
919.380.9700
www.stewartinc.com



STEWART



DATE: NOVEMBER 14, 2014

REVISIONS:	
NO.	DATE
1	12/10/2014

PROJECT NO.:

H13007.00

NTS

SB-1

TYPICAL BOARDWALK DETAILS



12/10/2014

ADDED NOTE

Payment to the Contractor by the City of the amounts so determined to be due, in accordance with this Contract, shall relieve the City from all claims for work done and materials and equipment furnished under this Contract.

It is further mutually agreed between the parties that no estimate or partial payment made under this Contract shall be conclusive evidence of the performance of this Contract, either wholly or in part, and that no such payment shall be construed to be an acceptance of defective work or improper materials.

From the Date of Availability the Contractor shall in accordance with the Specifications incorporated into this Contract, shall substantially complete the all work of the Contract within Two Hundred and ~~Ten-Seventy~~ (270210) Calendar Days. Failure to substantially complete the work in accordance with the Contract Documents shall result in Liquidated Damages of Six Hundred Dollars for each Calendar day beyond the Completion Date.

6. Notices

All notices, requests for payment, or other communications arising hereunder shall be sent to the following:

CITY OF MOUNT AIRY
Attn: Mitch Williams, P.E.
Telephone: 336-786-3580
440 E. Pine Street
Mount Airy, NC 27030

Contractor

7. Non-discrimination

In consideration of the signing of this Contract, the parties hereto for themselves, their agents, officials, employees and servants agree not to discriminate in any manner on the basis of race, color, creed, national origin, sex, age, handicap, or sexual orientation with reference to the subject matter of this Contract, no matter how remote. This provision is hereby incorporated into this Contract for the benefit of THE CITY OF MOUNT AIRY and its residents, and may be enforced by action for specific performance, injunctive relief, or other remedy as provided by law. This provision shall be binding on the successors and assigns of the parties with reference to the subject matter of this Contract.

8. Assignment

This Contract may not be assigned without the express written consent of the City.

9. Applicable Law

All matters relating to this Contract shall be governed by the laws of the State of North Carolina, without regard to its choice of law provisions, and venue for any action relating to this Contract shall be the Surry County Civil Superior Court or the United States District Court for the Middle District of North Carolina.

TWELVE MONTH GUARANTEE:

(7-15-03)

108

SP1 G145

- (A) The Contractor shall guarantee materials and workmanship against latent and patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve months following the date of final acceptance of the work for maintenance and shall replace such defective materials and workmanship without cost to the Department. The Contractor will not be responsible for damage due to faulty design, normal wear and tear, for negligence on the part of the Department and/or for use in excess of the design.
- (B) Where items of equipment or material carry a manufacturer's guarantee for any period in excess of twelve months, then the manufacturer's guarantee shall apply for that particular piece of equipment or material. The Department's first remedy shall be through the manufacturer, although the Contractor is responsible for invoking the warranted repair work with the manufacturer. The Contractor's responsibility shall be limited to the term of the manufacturer's guarantee. NCDOT would be afforded the same warranty as provided by the Manufacturer.

This guarantee provision shall be invoked only for major components of work in which the Contractor would be wholly responsible under the terms of the contract. Examples would include pavement structures, bridge components, and sign structures. This provision will not be used as a mechanism to force the Contractor to return to the project to make repairs or perform additional work that the Department would normally compensate the Contractor for. In addition, routine maintenance activities (i.e. mowing grass, debris removal, ruts in earth shoulders,) are not parts of this guarantee.

Appropriate provisions of the payment and/or performance bond shall cover this guarantee for the project.

To ensure uniform application statewide the Division Engineer will forward details regarding the circumstances surrounding any proposed guarantee repairs to the Chief Engineer for review and approval prior to the work being performed.

INCIDENTAL STONE BASE:

(7-1-95) (Rev.8-21-12)

45

SP5 R28R

Description

Place incidental stone base on driveways, mailboxes, etc. immediately after paving and do not have the paving operations exceed stone base placement by more than one week without written permission of the Engineer.

Materials and Construction

Provide and place incidental stone base in accordance with Section 545 of the *2012 Standard Specifications*.

Measurement and Payment

Incidental Stone Base will be measured and paid in accordance with Article 545-6 of the *2012 Standard Specifications*.

ACCESS GATE

The contractor shall construct access gates as shown in the plan details. These access gates will be installed as barriers on the greenway at the locations indicated in the plans. Access gates shall be placed on each side of the greenway at the locations shown in the plans.

Construction of the access gates shall be per NCDOT Standard Specification 440. Painting of the new access gates shall be per NCDOT Standard Specification 442. The paint color shall be approved by the City of Mount Airy.

Payment will be made at the contract unit price per each for "Access Gate". Such prices and payment will be considered full compensation for furnishing all materials, tools, labor, and equipment needed to construct and install the access gates.

Payment will be made under:

Pay Item	Pay Unit
Access Gate	Each

RELOCATE EXISTING ACCESS GATE

The contractor shall carefully remove the two access gates near Worth Street once that portion of the greenway is permanently closed. The access gates shall be replaced on the new portion of the greenway at the location shown on the plans.

Repaint the access gates. Painting of the new access gates shall be per NCDOT Standard Specification 442, and shall match the color of the new access gates.

Carefully remove the existing concrete from the access gate. When installing the gates at their new location, the contractor may need to excavate a footing larger than the drawing detail shows in order to obtain the minimum amount of concrete around the structure.

Payment will be made at the contract unit price per each for "Relocate Existing Access Gate". Such prices and payment will be considered full compensation for furnishing all materials, tools, labor, and equipment needed to do the work.

Payment will be made under:

Pay Item	Pay Unit
Relocate Existing Access Gate	Each

CONSTRUCTION OF SUBSTRUCTURE

Furnish and place all reinforcing steel, concrete, and incidentals necessary to construct bridge substructure including all end bents, interior bents, and columns as shown on the construction plans. Exclude all piles and drilled shafts from the pay item.

Complete all work in accordance with the contract plans and the Standard Specifications except payment for these items will be as described below.

Drilled piers shall be constructed according to Section 411 of the Standard Specifications. End bent caps shall be constructed of Class A Concrete according to Section 1000 of the Standard Specifications. Refer to the plans for all other details.

No measurement will be made for these items. The price and payment below will be full compensation for all items required to complete the work described above.

Payment will be made under:

Pay Item	Pay Unit
GENERIC STRUCTURE ITEM (LS)	LS
(___' BRIDGE SUBSTRUCTURE)	

**CITY OF MOUNT AIRY
BID FORM**

TIP No: EB-5014

Date: _____

County: SURRY

Description: LOVILLS CREEK & ARARAT RIVER GREENWAY

BID FOR UNIT PRICE CONTRACT

Bidder agrees to perform all work described in the specifications and shown on the Contract Drawings for the unit prices listed below.

Line #	Item #	Sec #	Description	Quantity	Units	Unit Cost	Total Amount
1	0000100000-N	800	MOBILIZATION	1	LS	\$	\$
2	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$	\$
3	0000900000-N	SP	GENERIC MISCELLANEOUS ITEM (RELOCATE TRASH CAN & SIGN)	1	LS	\$	\$
4	0000915000-N	SP	GENERIC MISCELLANEOUS ITEM (HINGED BOLLARD)	4	EA	\$	\$
5	0000915000-N	SP	GENERIC MISCELLANEOUS ITEM (PERMANENT WOOD BOLLARD)	8	EA	\$	\$
6	0000915000-N	SP	GENERIC MISCELLANEOUS ITEM (TRUNCATED DOME PAVERS, 2' x 8')	4	EA	\$	\$
7	0043000000-N	226	GRADING	1	LS	\$	\$
8	0057000000-E	226	UNDERCUT EXCAVATION	800	CY	\$	\$
9	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	156	SY	\$	\$
10	0194000000-E	SP	SELECT GRANULAR MATERIAL, CLASS III	100	CY	\$	\$
11	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	1300	SY	\$	\$
12	0241000000-E	SP	GENERIC GRADING ITEM (GEOTEXTILE SEPERATOR FABRIC)	13300	SY	\$	\$
13	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	32	LF	\$	\$
14	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	130	LF	\$	\$
15	0378000000-E	310	24" RC PIPE CULVERTS, CLASS III	131	LF	\$	\$
16	0384000000-E	310	30" RC PIPE CULVERTS, CLASS III	112	LF	\$	\$
17	0396000000-E	310	42" RC PIPE CULVERTS, CLASS III	40	LF	\$	\$
18	0986000000-E	SP	GENERIC PIPE ITEM (6" PVC SCUPPER DRAIN)	335	LF	\$	\$

Line #	Item #	Sec #	Description	Quantity	Units	Unit Cost	Total Amount
19	1077000000-E	SP	#57 STONE	50	TON	\$	\$
20	1121000000-E	520	AGGREGATE BASE COURSE	6200	TON	\$	\$
21	1519000000-E	610	ASPHALT CONC SURFACE COURSE,TYPE S9.5B	1150	TON	\$	\$
22	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	70	TON	\$	\$
23	2220000000-E	838	REINFORCED ENDWALLS	2	CY	\$	\$
24	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	3	EA	\$	\$
25	2738000000-E	SP	GENERIC PAVING ITEM (4.5" CONCRETE SIDEWALK W/ FOOTING)	2350	SY	\$	\$
26	2759000000-N	SP	GENERIC PAVING ITEM (RELOCATE EXISTING ACCESS GATE)	2	EA	\$	\$
27	2759000000-N	SP	GENERIC PAVING ITEM (STANDARD BIKE RACK)	3	EA	\$	\$
28	2830000000-N	858	ADJUSTMENT OF MANHOLES	2	EA	\$	\$
29	3030000000-E	862	STEEL BM GUARDRAIL	156	LF	\$	\$
30	3045000000-E	862	STEEL BM GUARDRAIL, SHOPCURVED	50	LF	\$	\$
31	3195000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE AT-1	1	EA	\$	\$
32	3270000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE 350	1	EA	\$	\$
33	3575000000-E	SP	GENERIC FENCING ITEM (WHITE VINYL FENCE)	822	LF	\$	\$
34	3575000000-E	SP	GENERIC FENCING ITEM (SPLIT RAIL FENCE)	1015	LF	\$	\$
35	3628000000-E	876	RIP RAP, CLASS I	11	TON	\$	\$
36	3649000000-E	876	RIP RAP, CLASS B	371	TON	\$	\$
37	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	275	SY	\$	\$
38	4025000000-E	901	CONTRACTOR FURNISHED, TYPE "E" SIGN	49	SF	\$	\$
39	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	128	LF	\$	\$
40	4102000000-N	904	SIGN ERECTION, TYPE E	14	EA	\$	\$
41	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$	\$
42	4590000000-E	1205	GENERIC TRAFFIC CONTROL ITEM (THERMOPLASTIC PAVEMENT MARKING LINES (6", 240 MILS))	15	LF	\$	\$

Line #	Item #	Sec #	Description	Quantity	Units	Unit Cost	Total Amount
43	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	178	LF	\$	\$
44	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	1290	LF	\$	\$
45	4840000000-N	1205	PAINT PAVEMENT MARKING CHARACTER	8	EA	\$	\$
46	4855000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (6")	105	LF	\$	\$
47	4870000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (24")	40	LF	\$	\$
48	5882000000-N	SP	GENERIC UTILITY ITEM (INSTALL NEW SAN SEWER MANHOLE RIM CASTING)	5	EA	\$	\$
49	6000000000-E	1605	TEMPORARY SILT FENCE	11,400	LF	\$	\$
50	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	100	TON	\$	\$
51	6015000000-E	1615	TEMPORARY MULCHING	10	ACR	\$	\$
52	6036000000-E	1631	MATting FOR EROSION CONTROL	400	SY	\$	\$
53	6084000000-E	1660	SEEDING & MULCHING	10	ACR	\$	\$
54	6131000000-E	SP	GENERIC EROSION CONTROL ITEM (TEMPORARY SEEDING)	10	ACR	\$	\$
55	6132000000-N	SP	GENERIC EROSION CONTROL ITEM (GRAVEL CONSTRUCTION ENTRANCE)	5	EA	\$	\$
56	6132000000-N	SP	GENERIC EROSION CONTROL ITEM (TEMPORARY ROCK DAM)	2	EA	\$	\$
57	6132000000-N	SP	GENERIC EROSION CONTROL ITEM (ROCK PIPE INLET PROTECTION)	9	EA	\$	\$
58	6147000000-E	SP	GENERIC EROSION CONTROL ITEM (SPECIAL SEDIMENT CONTROL FENCE)	170	LF	\$	\$
59	6147000000-E	SP	GENERIC EROSION CONTROL ITEM (ORANGE SAFETY FENCE)	650	LF	\$	\$
60	6150000000-E	SP	GENERIC EROSION CONTROL ITEM (STONE FOR EROSION CONTROL, CLASS I)	22	TON	\$	\$
61	7048500000-E	1705	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/ COUNTDOWN)	2	EA	\$	\$
62	7060000000-E	1705	SIGNAL CABLE	400	LF	\$	\$
63	7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	1	EA	\$	\$
64	7300000000-E	1715	UNPAVED TRENCHING (1, 2")	20	LF	\$	\$
65	7300000000-E	1715	UNPAVED TRENCHING (2, 2")	55	LF	\$	\$
66	7324000000-N	1716	JUNCTION BOX (STANDARD SIZE)	3	EA	\$	\$

Line #	Item #	Sec #	Description	Quantity	Units	Unit Cost	Total Amount
67	7420000000-E	1722	2" RISER WITH WEATHERHEAD	2	EA	\$	\$
68	7444000000-E	1725	INDUCTIVE LOOP SAWCUT	395	LF	\$	\$
69	7456000000-E	1726	LEAD-IN CABLE (14-2)	750	LF	\$	\$
70	7642200000-N	1743	TYPE II PEDESTAL WITH FOUNDATION	2	EA	\$	\$
71	7686000000-N	1752	CONDUIT ENTRANCE INTO EXISTING FOUNDATION	3	EA	\$	\$
72	7780000000-N	1751	DETECTOR CARD (TYPE 2070L)	1	EA	\$	\$
73	8105540000-E	411	3'-6" DIA DRILLED PIERS IN SOIL	40	LF	\$	\$
74	8105640000-E	411	3'-6" DIA DRILLED PIERS NOT IN SOIL	24	LF	\$	\$
75	8112730000-N	450	PDA TESTING	3	EA	\$	\$
76	8364000000-E	450	HP12X53 STEEL PILES	180	LF	\$	\$
77	8391000000-N	450	STEEL PILE POINTS	6	EA	\$	\$
78	8802014000-E	SP	SOLDIER PILE RETAINING WALLS	192	SF	\$	\$
79	8802030000-E	SP	SEGMENTAL GRAVITY RETAINING WALLS	620	SF	\$	\$
80	8847000000-E	SP	GENERIC RETAINING WALL ITEM (RETAINING WALL 2 AT STA. 70+20)	630	SF	\$	\$
81	8847000000-E	SP	GENERIC RETAINING WALL ITEM (RETAINING WALL 4 AT STA. 91+25)	320	SF	\$	\$
82	8860000000-N	SP	GENERIC STRUCTURE ITEM (LS) (PREFABRICATED BRIDGE, 80')	1	LS	\$	\$
83	8860000000-N	SP	GENERIC STRUCTURE ITEM (LS) (80' BRIDGE SUBSTRUCTURE)	1	LS	\$	\$
84	8860000000-N	SP	GENERIC STRUCTURE ITEM (LS) (80' BRIDGE CONCRETE DECK)	1	LS	\$	\$
85	8860000000-N	SP	GENERIC STRUCTURE ITEM (LS) (80' BRIDGE ERECTION)	1	LS	\$	\$
86	8860000000-N	SP	GENERIC STRUCTURE ITEM (LS) (PREFABRICATED BRIDGE, 50')	1	LS	\$	\$
87	8860000000-N	SP	GENERIC STRUCTURE ITEM (LS) (50' BRIDGE SUBSTRUCTURE)	1	LS	\$	\$
88	8860000000-N	SP	GENERIC STRUCTURE ITEM (LS) (50' BRIDGE CONCRETE DECK)	1	LS	\$	\$
89	8860000000-N	SP	GENERIC STRUCTURE ITEM (LS) (50' BRIDGE ERECTION)	1	LS	\$	\$
90	8860000000-N	SP	GENERIC STRUCTURE ITEM (LS) (RAILROAD CANOPY)	1	LS	\$	\$
91	8867000000-E	SP	GENERIC STRUCTURE ITEM (LF) (BOARDWALK 10 FOOT SPANS)	260	LF	\$	\$

Line #	Item #	Sec #	Description	Quantity	Units	Unit Cost	Total Amount
92	8867000000-E	SP	GENERIC STRUCTURE ITEM (LF) (BOARDWALK 20 FOOT SPANS)	40	LF	\$	\$
93	8867000000-E	SP	GENERIC STRUCTURE ITEM (LF) (BOARDWALK POSTS 7.5" MIN. TIP DIAMETER)	1542	LF	\$	\$
94	8897000000-N	SP	GENERIC STRUCTURE ITEM (EA) (CONCRETE APPROACH)	6	EA	\$	\$
95	8897000000-N	SP	GENERIC STRUCTURE ITEM (DECORATIVE BRIDGE COLUMN)	4	EA	\$	\$
96	8897000000-N	SP	GENERIC STRUCTURE ITEM (EA)(HELICAL ANCHOR)	10	EA	\$	\$
100	0000915000-N	SP	GENERIC MISCELLANEOUS ITEM (ACCESS GATE)	4	EA	\$	\$
101	8115000000-N	411	CSL TESTING	1	EA	\$	\$

TOTAL BASE BID: \$ _____

ALTERNATE BID ITEM #1: PILE & PANEL WALL SUBSTITUTE							
78	8802014000-E	SP	SOLDIER PILE RETAINING WALLS	-192	SF	\$	\$
97	8802040000-E	SP	CIP GRAVITY RETAINING WALLS	148	SF	\$	\$
						SUBTOTAL, ALTERNATE #1 BID:	\$

TOTAL BASE BID PLUS ALTERNATE #1: \$ _____

ADDITIVE ALTERNATE BID ITEM #1: PROVIDE CENTERLINE PAVEMENT MARKINGS FOR ENTIRE GREENWAY							
98	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	2750	LF	\$	\$

TOTAL ADDITIVE ALTERNATE #1 BID ONLY: \$ _____

ADDITIVE ALTERNATE BID ITEM #2: PROVIDE GRANITE MILE MARKERS							
99	0000915000-N	SP	GENERIC MISCELLANEOUS ITEM (GRANITE MILE MARKERS)	9	EA	\$	\$

TOTAL ADDITIVE ALTERNATE #2 BID ONLY: \$ _____

Contractor _____
(Print)

Note: Proposal signature required on Page _____