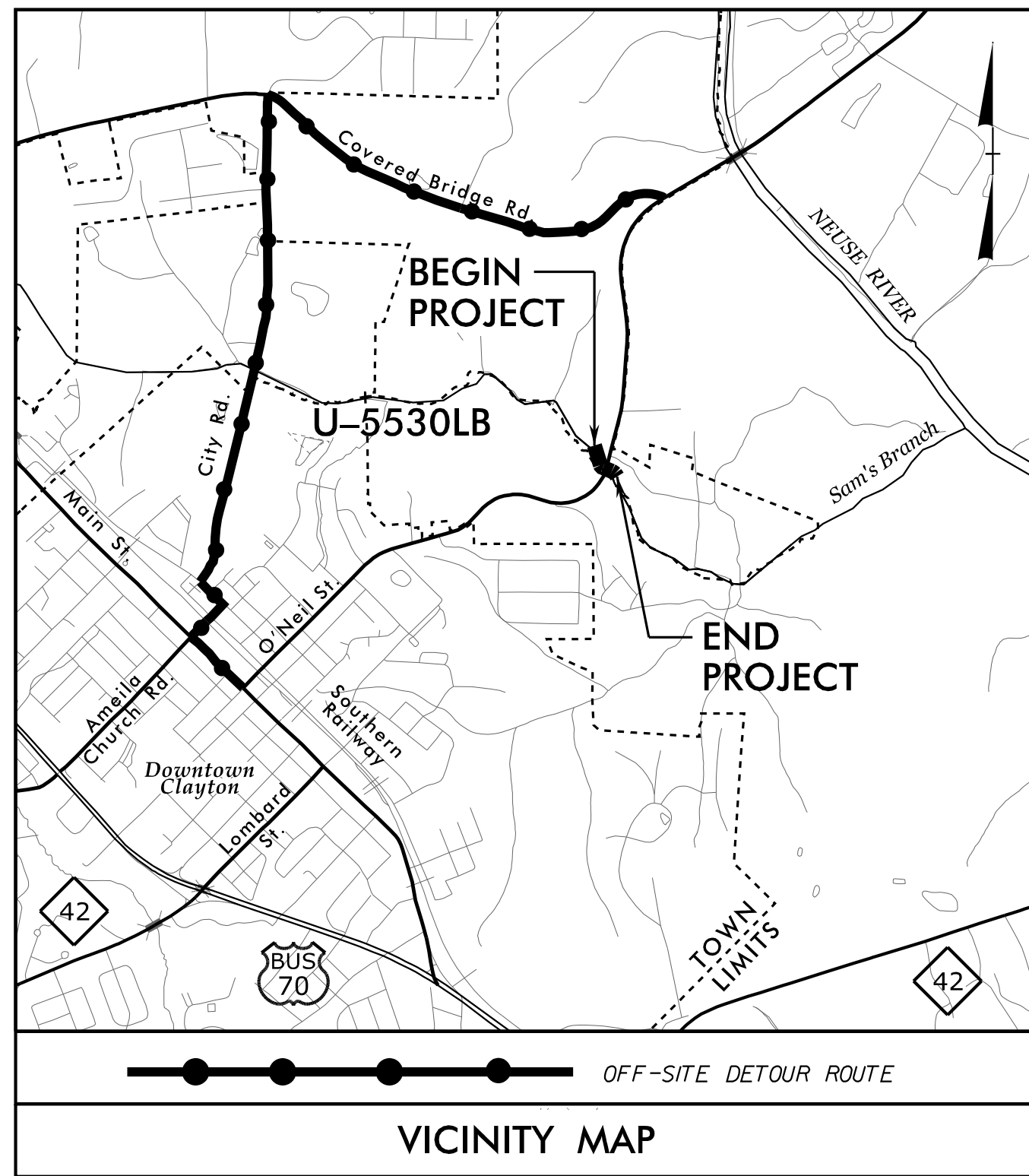


TIP PROJECT: U-5530LA



OWNER:

TOWN OF CLAYTON
653 NC 42
CLAYTON, NC 27520
RICH CAPPOLA, P.E.
919.359.1288
rcappola@townofclaytonnc.org

ENGINEER:

KIMLEY-HORN AND ASSOCIATES, INC.
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601
JEFFREY W. MOORE, P.E.
919.677.2000
jeff.moore@kimley-horn.com

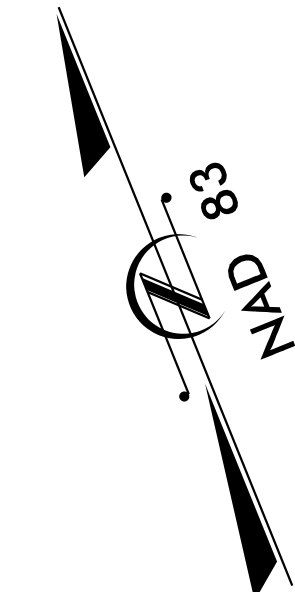
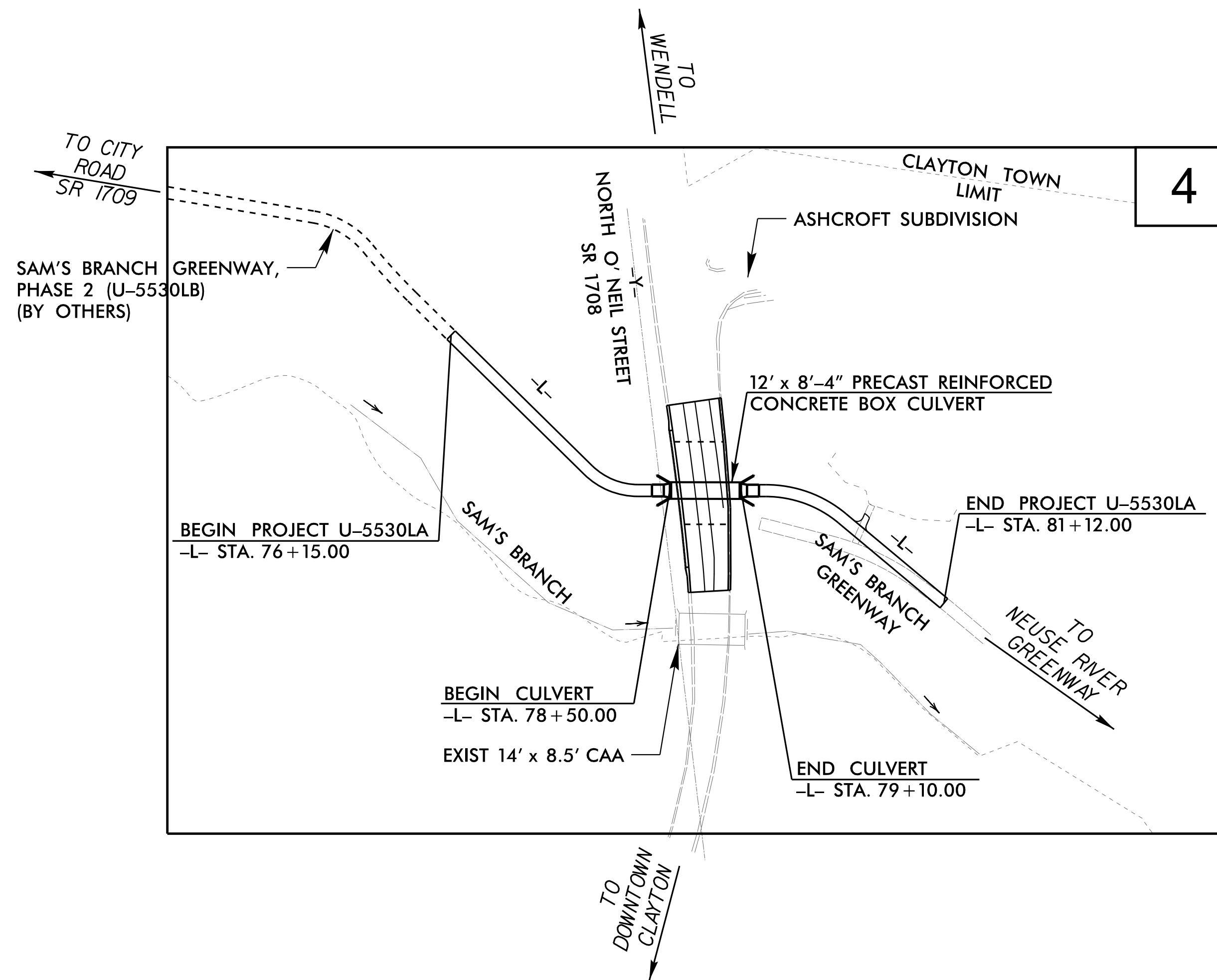
SURVEYOR:

McKIM & CREED, INC.
1730 VARSITY DRIVE, SUITE 500
RALEIGH, NC 27606
919.233.5261
TIM VAN GELDER, PLS
tvangelder@mkimcreed.com

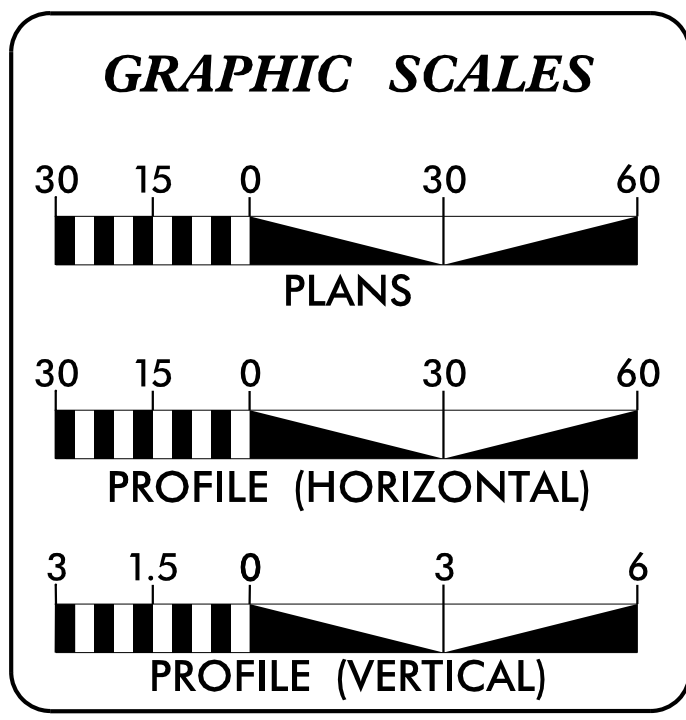
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
JOHNSTON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5530LA	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44111.1.F5	STPDA-0406(7)	P.E.	
44111.3.5	STPDA-0406(7)	CONSTRUCTION	

LOCATION: SAM'S BRANCH GREENWAY/NORTH O'NEIL CROSSING
TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNING, AND STRUCTURES



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA (-Y-)

AADT 2011 =	6,200 VPD
V =	50 MPH

PROJECT LENGTH (-L-)

LENGTH GREENWAY TIP PROJECT U-5530LA	=	0.083 MILES
LENGTH CULVERT TIP PROJECT U-5530LA	=	0.011 MILES
TOTAL LENGTH TIP PROJECT U-5530LA	=	0.094 MILES

PLANS PREPARED FOR THE TOWN OF CLAYTON BY:

Kimley»Horn

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NA

LETTING DATE: _____

JEFFREY W. MOORE, P.E.
PROJECT ENGINEER

HYDRAULICS ENGINEER

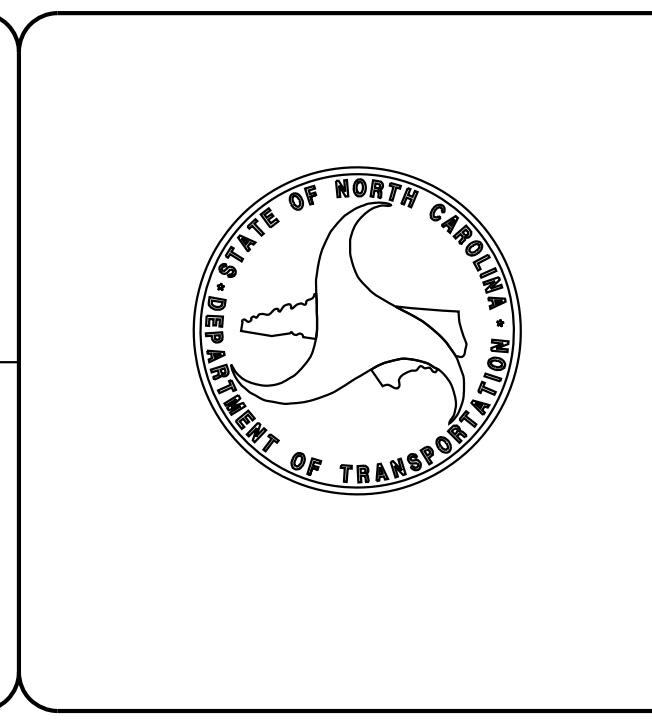
1/15/2018

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

1/15/2018

SIGNATURE: _____ P.E.



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INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
1-A	INDEX OF SHEETS, LIST OF ROADWAY STANDARD DRAWINGS, AND GENERAL NOTES
1-B	CONVENTIONAL SYMBOLS
1-C	EXISTING CONDITIONS SHEET
2A-1 THRU 2A-3	TYPICAL SECTIONS AND CONSTRUCTION DETAILS
3D-1	DRAINAGE SUMMARY SHEET
4	MULTI-USE PATH AND ROADWAY PLAN
5	MULTI-USE PATH AND ROADWAY PROFILES
TMP-1 THRU TMP-2A	TRANSPORTATION MANAGEMENT PLANS
SD-1	SPECIAL SIGN DESIGN
EC-1 THRU EC-2	EROSION CONTROL PLANS
UO-1	UTILITIES BY OTHERS
UC-1 TO UC-3C	WATER LINE RELOCATION PLANS
C-1 TO C-4	STRUCTURE PLANS
SN	STRUCTURE STANDARD NOTES
X-1 TO X-9	CROSS SECTIONS

LIST OF ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	DESCRIPTION
200.02	METHOD OF CLEARING - METHOD II
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.04	METHOD OF OBTAINING SUPERELEVATION - TWO LANE PAVEMENT
300.01	METHOD OF PIPE INSTALLATION - METHOD 'A'
560.01	METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE - METHOD I
840.00	CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
840.04	CONCRETE OPEN THROAT CATCH BASIN
840.29	FRAMES AND NARROW SLOT FLATE GRATES
840.35	TRAFFIC BEARING GRATED DROP INLET
840.66	DRAINAGE STRUCTURE STEPS
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
846.02	DROP INLET INSTALLATION IN EXPRESSWAY GUTTER
848.01	CONCRETE SIDEWALK
862.01	GUARDRAIL PLACEMENT
862.02	GUARDRAIL INSTALLATION
862.03	STRUCTURE ANCHOR UNITS
866.01	CHAIN LINK FENCE - 4', 5' AND 6' HIGH FENCE
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS
876.04	DRAINAGE DITCHES WITH CLASS 'B' RIP RAP
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
1605.01	TEMPORARY SILT FENCE
1606.01	SPECIAL SEDIMENT CONTROL FENCE
1607.01	GRAVEL CONSTRUCTION ENTRANCE
1630.06	SPECIAL STILLING BASIN
1631.01	MATTING INSTALLATION
1635.01	ROCK PIPE INLET SEDIMENT TRAP TYPE "A"

SITE NOTES

ALL DIMENSIONS ARE IN RADII, EDGE OF PAVEMENT, TO CENTERLINE, CENTER TO CENTER ON STRIPES, UNLESS OTHERWISE NOTED.

PROVIDE CONSTRUCTION JOINTS IN CONCRETE WALKWAYS EVERY 10' MAXIMUM WHEN WALKS ARE 10' WIDE. MATCH WIDTH UNDER 10'.

CONCRETE PADS AND WALKWAYS; UNLESS OTHERWISE NOTED, ARE 3000 PSI, OF 4" THICKNESS.

ALL SIGNS AND PAVEMENT MARKINGS ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) AND NCDOT STANDARDS.

CONTRACTOR TO GRADE FILL SLOPES AROUND SEWER MANHOLES TO AVOID PONDING.

ALL RC PIPES SHALL BE CLASS III OR CLASS IV AS SHOWN ON PLANS.

UTILITY NOTES

CONTRACTOR SHALL NOTIFY "NORTH CAROLINA ONE CALL" (TELEPHONE 1-800-632-4949) AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR TO CONTACT LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NORTH CAROLINA ONE CALL."

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES IN COORDINATION WITH THE APPROPRIATE UTILITY, AGENCY, OR COMPANY.

ALL UTILITIES THAT ARE LOCATED WITHIN LIMITS OF DISTURBANCE SHALL BE SET SO THAT TOPS/RIMS ARE FLUSH WITH FINISHED GRADE UNLESS OTHERWISE NOTED ON PLANS.

EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE, ARE BASED ON A FIELD SURVEY PERFORMED BY MCKIM & CREED INC AND AVAILABLE RECORD DRAWINGS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.

CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE TOWN FOR ANY ADDITIONAL INFORMATION ON EXISTING WATER AND SEWER UTILITIES.

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXACT LOCATION, ORIENTATION, AND ELEVATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION OR ORDERING MATERIALS.

CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.

GENERAL NOTES

2018 SPECIFICATIONS

STATEMENT OF CONSTRUCTION

THE PROJECT GENERALLY CONSISTS OF THE CONSTRUCTION OF A 10' WIDE MULTI-USE PATH AND PEDESTRIAN CULVERT UNDER NORTH O'NEIL STREET CONSTRUCTED WITH AN OFFSITE DETOUR. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS, DATED 2018.

GRADE LINE:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:

THE MULTI-USE PATH IS TO BE SUPERELEVATED AS SHOWN ON PLAN SHEETS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

CURVES ON THE L LINE SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

EARTH SHOULDER CONSTRUCTION ON THE HIGH SIDE OF THE SUPERELEVATION SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING."

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE:
TOWN OF CLAYTON
DUKE ENERGY PROGRESS
CENTURY LINK
PIEDMONT NATURAL GAS
PUBLIC SERVICE COMPANY OF NORTH CAROLINA

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

SAFETY:

PEDESTRIAN AND BICYCLE SAFETY MUST BE MAINTAINED AT ALL TIMES BY ADEQUATE PROJECT LIMITS, FENCING, AND SIGNAGE.

EROSION CONTROL:

THE FINAL SIZE AND LOCATION OF ALL EROSION CONTROL DEVICES MAY BE ADJUSTED BY THE ENGINEER IN THE FIELD. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO PLACING EROSION CONTROL MEASURES.

TRAFFIC CONTROL:

TRAFFIC CONTROL GENERAL NOTES, DETAILS, AND A LIST OF STANDARDS ARE INCLUDED IN THIS PLAN SET. ALL TRAFFIC CONTROL DEVICES AND OPERATIONS SHALL CONFORM TO NCDOT 2018 STANDARD DRAWINGS FOR TRAFFIC CONTROL.

EXISTING SURVEYS:

SURVEYS HAVE BEEN PROVIDED BY MCKIM & CREED, INC.

TREE PRESERVATION:

CONTRACTOR TO STAKE THE PATH ALIGNMENT AND PAVEMENT EDGES PRIOR TO TREE CLEARING TO PROVIDE TOWN REPRESENTATIVES AN OPPORTUNITY TO REVIEW TREES TO BE CLEARED. CONTRACTOR AND CLEARING CONTRACTOR TO WALK THE STAKED ALIGNMENT WITH TOWN REPRESENTATIVES PRIOR TO TREE CLEARING.

DEMOLITION NOTES

THE CONTRACTOR SHALL NOTIFY THE TOWN OF CLAYTON INSPECTOR PRIOR TO STARTING WORK. CONTACT INFORMATION WILL BE PROVIDED AT THE PRE-CONSTRUCTION CONFERENCE.

THE CONTRACTOR SHALL NOT MAKE ANY LANE CLOSURES OR CHANGES TO THE EXISTING TRAVEL PATTERNS ON ANY PUBLIC STREET WITHOUT PRIOR APPROVAL FROM THE TOWN OF CLAYTON AND/OR NCDOT.

THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL REQUIREMENTS REGARDING REMOVAL AND DISPOSAL OF MATERIALS AND DEBRIS.

ALL DEMOLITION WORK WILL BE COORDINATED BY CONTRACTOR.

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

CLEANOUTS LOCATED IN AREAS OF DEMOLITION OR SUBSEQUENT CONSTRUCTION THAT ARE TO REMAIN, SHALL BE PROTECTED FROM DAMAGE AND RAISED TO FLUSH WITH NEW GRADE. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF LEGALLY OFFSITE UNLESS OTHERWISE NOTED ON THIS PLAN.

ALL TREES AND VEGETATION NOTED TO BE REMOVED SHALL BE GROUND INTO MULCH, AND STOCKPILED FOR FUTURE USE.

TREE PROTECTION MEASURES SHALL BE PROVIDED DURING CONSTRUCTION PER APPLICABLE PERMITS AND THE BID DOCUMENTS.

ALL PAVEMENT MARKINGS USED FOR PROJECT SHALL BE NCDOT STANDARD THERMOPLASTIC PAVEMENT MARKINGS.

ALL WORK MUST BE COMPLETED WITHIN EASEMENTS AND CONSTRUCTION LIMITS SHOWN.

REMOVE EXISTING CONCRETE (WHERE REQUIRED) TO FIRST COLD JOINT OR SAW CUT TO OBTAIN A CLEAN EDGE FOR NEW CONSTRUCTION. SAW CUT EXISTING ASPHALT DRIVE AT LIMITS OF NEW CURBING TO OBTAIN A CLEAN EDGE.

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

CLEAN SOILS SHALL BE UTILIZED FOR BACKFILL COMPACTION OF THESE SOILS PERFORMED IN ACCORDANCE WITH SPECIFICATIONS AND DRAWINGS.

ALL GRAVEL TO BE REMOVED (SURFACE OR SUBSURFACE) SHALL BE STOCKPILED AND REUSED ON SITE WHERE POSSIBLE IF IT CONFORMS TO SPECIFICATIONS AND DRAWINGS.

ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE REMOVED COMPLETELY, INCLUDING ALL SUBGRADE MATERIALS DIRECTLY ASSOCIATED WITH ITEMS TO BE REMOVED.

SHEET NOTES

ALL DEMOLITION, AND ANY SUBSEQUENT CONSTRUCTION, SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS SET FORTH AND APPROVED BY THE TOWN OF CLAYTON. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS. ALL TREE PROTECTION FENCING SHALL REMAIN IN PLACE DURING CONSTRUCTION.

TRAFFIC CONTROLS FOR ANY WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE PERFORMED IN COMPLIANCE WITH STANDARDS OF THE NCDOT STD. DRAWINGS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.

CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS TO RECORD THE ACTUAL LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE ENGINEER AT REGULAR INTERVALS THROUGHOUT THE PROJECT FOR RECORD KEEPING.

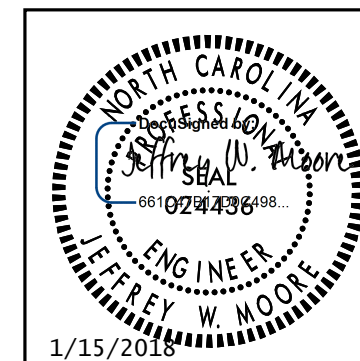
THE CONTRACTOR SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS. IF DEPARTURES FROM THE DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED TO THE OWNER FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER.

THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE ACTUAL AND EXACT LOCATION, SIZE AND MATERIAL COMPOSITION OF ANY EXISTING WATER OR SEWER SERVICE PROPOSED FOR CONNECTION OR USE ON THIS PROJECT.

ALL SIGNS SHALL BE MOUNTED WITH SIGN EDGE AND TO BE LOCATED A MINIMUM OF 3 FEET FROM EDGE OF TRAIL.

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1/15/2018



1/15/2018

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	✕
Property Monument	□ ECM
Parcel/Sequence Number	⑫③
Existing Fence Line	---x---x---x---
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---WLB---
Proposed Wetland Boundary	WLB
Existing Endangered Animal Boundary	---EAB---
Existing Endangered Plant Boundary	---EPB---
Existing Historic Property Boundary	---HPB---
Known Contamination Area: Soil	☠
Potential Contamination Area: Soil	☠?
Known Contamination Area: Water	☠
Potential Contamination Area: Water	☠?
Contaminated Site: Known or Potential	☠☠?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	†
Building	□
School	□
Church	□
Dam	▬

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	---JS---
Buffer Zone 1	BZ 1
Buffer Zone 2	BZ 2
Flow Arrow	←
Disappearing Stream	-----
Spring	○
Wetland	WLB
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽
Top of Bank	TB

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite RW Marker	▲
Proposed Control of Access Line with Concrete C/A Marker	○
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	E
Proposed Temporary Construction Easement	E
Proposed Temporary Drainage Easement	TDE
Proposed Permanent Drainage Easement	PDE
Proposed Permanent Drainage / Utility Easement	DUE
Proposed Permanent Utility Easement	PUE
Proposed Temporary Utility Easement	TUE
Proposed Aerial Utility Easement	AUE

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	C
Proposed Slope Stakes Fill	F
Proposed Curb Ramp	CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----
Existing Transportation Facility	ETF

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	-----
Vineyard	Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	S

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	-----
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	-----
U/G Power Line LOS C (S.U.E.*)	-----
U/G Power Line LOS D (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	-----
U/G Telephone Cable LOS B (S.U.E.*)	-----
U/G Telephone Cable LOS C (S.U.E.*)	-----
U/G Telephone Cable LOS D (S.U.E.*)	-----
U/G Telephone Conduit LOS B (S.U.E.*)	-----
U/G Telephone Conduit LOS C (S.U.E.*)	-----
U/G Telephone Conduit LOS D (S.U.E.*)	-----
U/G Fiber Optics Cable LOS B (S.U.E.*)	-----
U/G Fiber Optics Cable LOS C (S.U.E.*)	-----
U/G Fiber Optics Cable LOS D (S.U.E.*)	-----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	A/G Water

TV:

TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	-----
U/G TV Cable LOS B (S.U.E.*)	-----
U/G TV Cable LOS C (S.U.E.*)	-----
U/G TV Cable LOS D (S.U.E.*)	-----
U/G Fiber Optic Cable LOS B (S.U.E.*)	-----
U/G Fiber Optic Cable LOS C (S.U.E.*)	-----
U/G Fiber Optic Cable LOS D (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	◇
U/G Gas Line LOS B (S.U.E.*)	-----
U/G Gas Line LOS C (S.U.E.*)	-----
U/G Gas Line LOS D (S.U.E.*)	-----
Above Ground Gas Line	A/G Gas

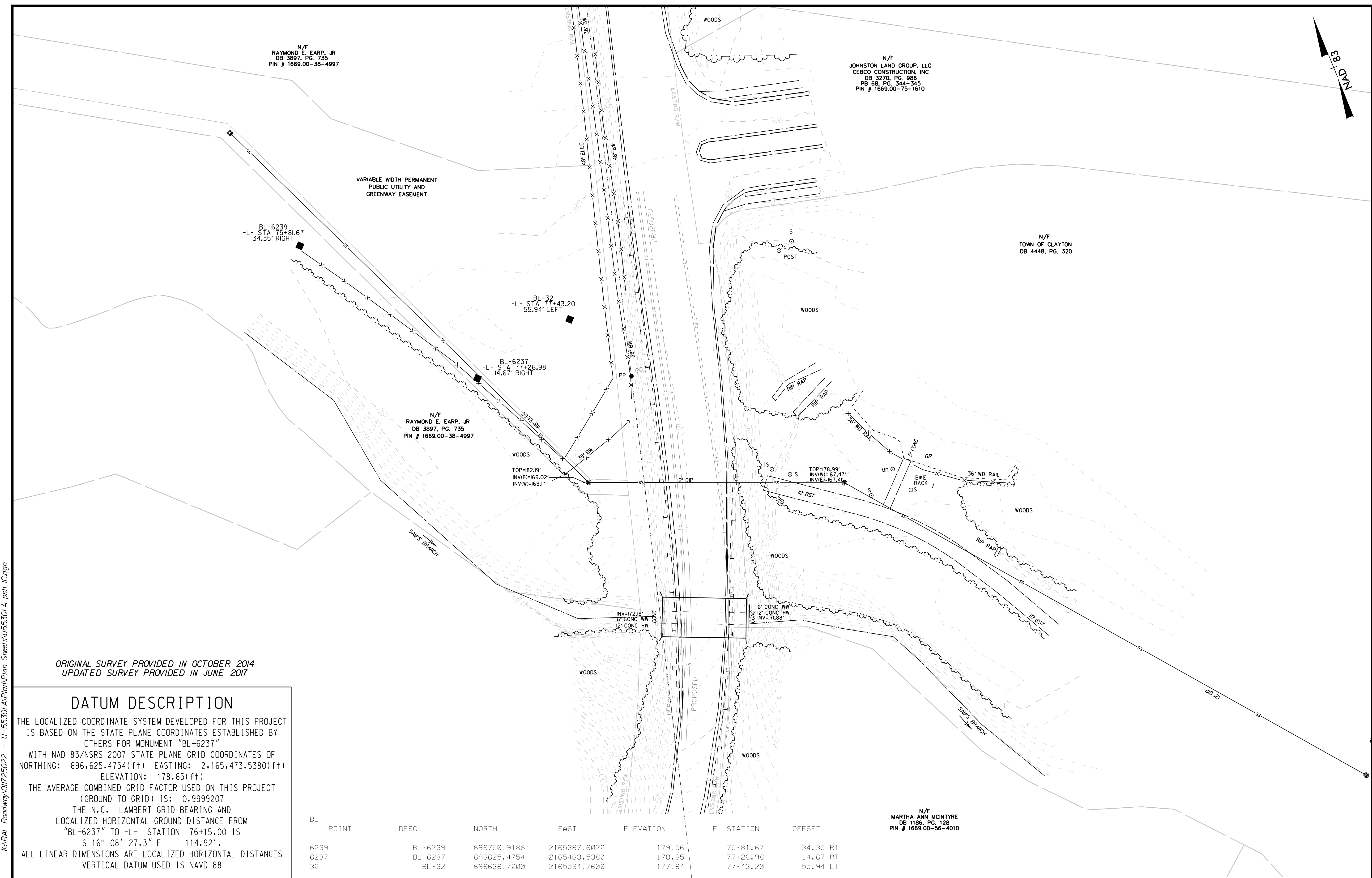
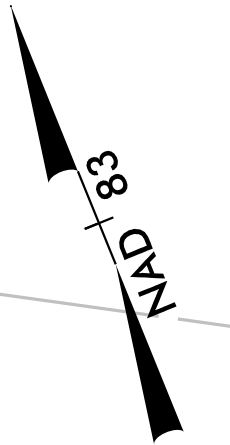
SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	SS
Above Ground Sanitary Sewer	A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	-----
SS Forced Main Line LOS C (S.U.E.*)	-----
SS Forced Main Line LOS D (S.U.E.*)	-----

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line LOS B (S.U.E.*)	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	UST
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	-----
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

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ORIGINAL SURVEY PROVIDED IN OCTOBER 2014
 UPDATED SURVEY PROVIDED IN JUNE 2017

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "BL-6237" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 696,625.4754(ft) EASTING: 2,165,473.5380(ft) ELEVATION: 178.65(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999207

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-6237" TO -L- STATION 76+15.00 IS S 16° 08' 27.3" E 114.92'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

BL POINT	DESC.	NORTH	EAST	ELEVATION	EL STATION	OFFSET
6239	BL-6239	696750.9186	2165387.6022	179.56	75+81.67	34.35 RT
6237	BL-6237	696625.4754	2165463.5380	178.65	77+26.98	14.67 RT
32	BL-32	696638.7200	2165534.7600	177.84	77+43.20	55.94 LT

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1/15/2018

REV. No.	REVISION	DATE	DRAWN BY	CHECKED BY

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PREPARED IN THE OFFICE OF:

Kimley»Horn

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 PHONE: (919) 877-2000

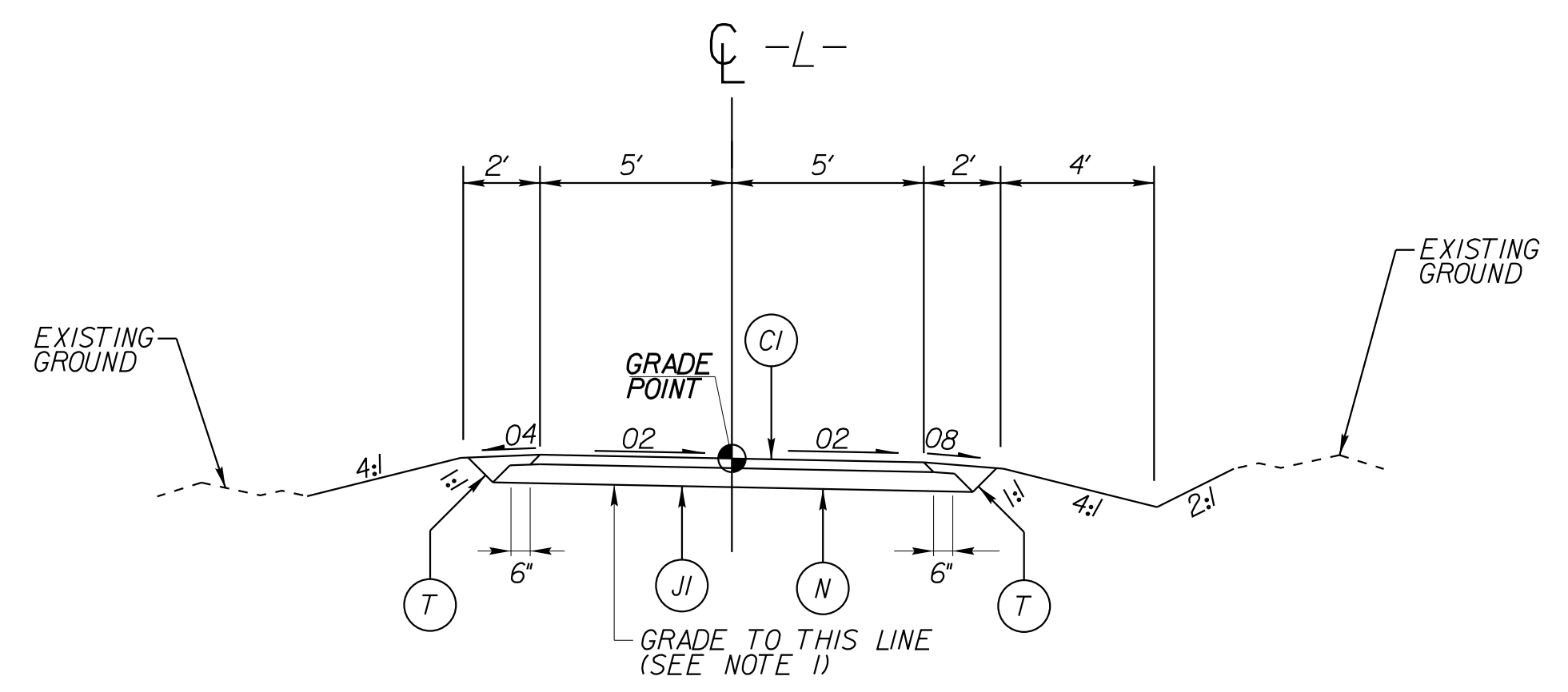
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EXISTING SURVEY SHEET

FOR INFORMATION ONLY

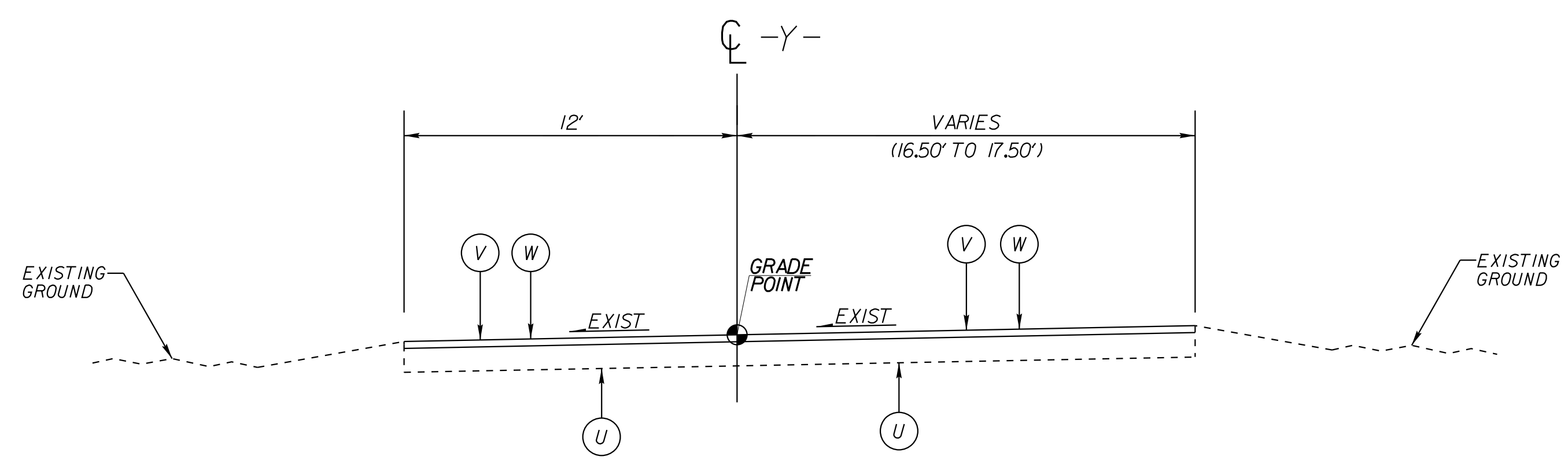
PROJECT: **U-5530LA
 SAM'S BRANCH GREENWAY
 GRADE SEPARATED CROSSING**

JOB NUMBER: U-5530LA SHEET NUMBER: I-C



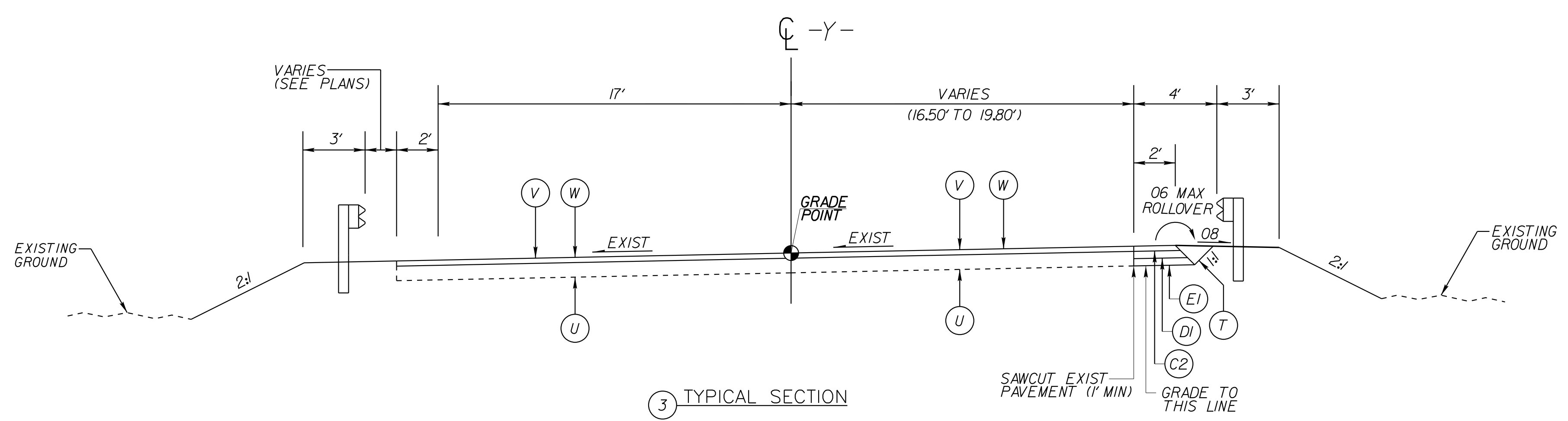
① TYPICAL SECTION

-L- STA 76+15.00 TO STA 78+35.00 (BEGIN CONCRETE APPROACH SLAB)
 -L- STA 79+25.00 (END CONCRETE APPROACH SLAB) TO STA 81+12.00



② TYPICAL SECTION

-Y- STA 12+34.00 TO STA 12+44.00



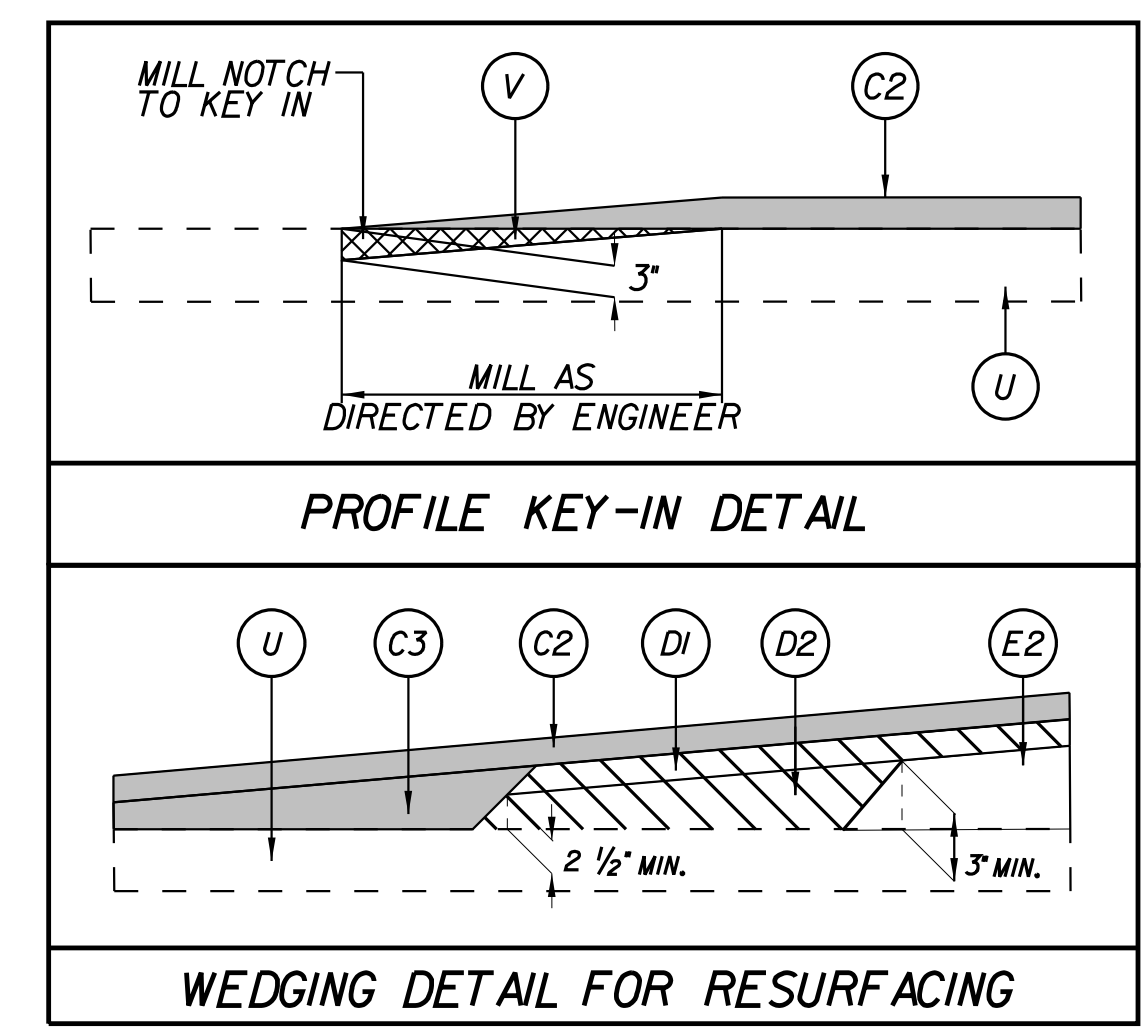
③ TYPICAL SECTION

-Y- STA 12+44.00 TO STA 12+55.90
 -Y- STA 13+57.16 TO STA 13+94.00 (RT)
 -Y- STA 13+72.75 TO STA 13+94.00 (LT)

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LAYERS
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH
E1	PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH
J1	PROPOSED 6" AGGREGATE BASE COURSE
N	GEOTEXTILE FOR SOIL STABILIZATION
R1	SHOULDER BERM GUTTER
S	PROP. 4" CONCRETE SIDEWALK
T	PROPOSED COMPACTED EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING EXISTING PAVEMENT (SEE DETAIL BELOW)
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL BELOW)

NOTES:
 1. PERFORM SHALLOW UNDERCUT UP TO 12 INCHES AS NECESSARY TO REMOVE UNSUITABLE MATERIAL. IF NECESSARY, INSTALL GEOTEXTILE FOR SOIL STABILIZATION. PLACE CLASS IV SUBGRADE STABILIZATION BY END DUMPING ON GEOTEXTILES.
 2. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



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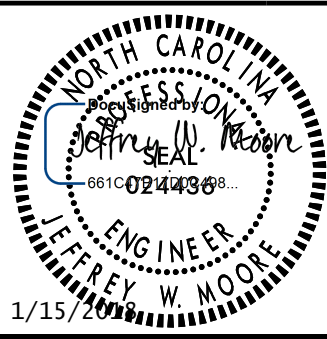
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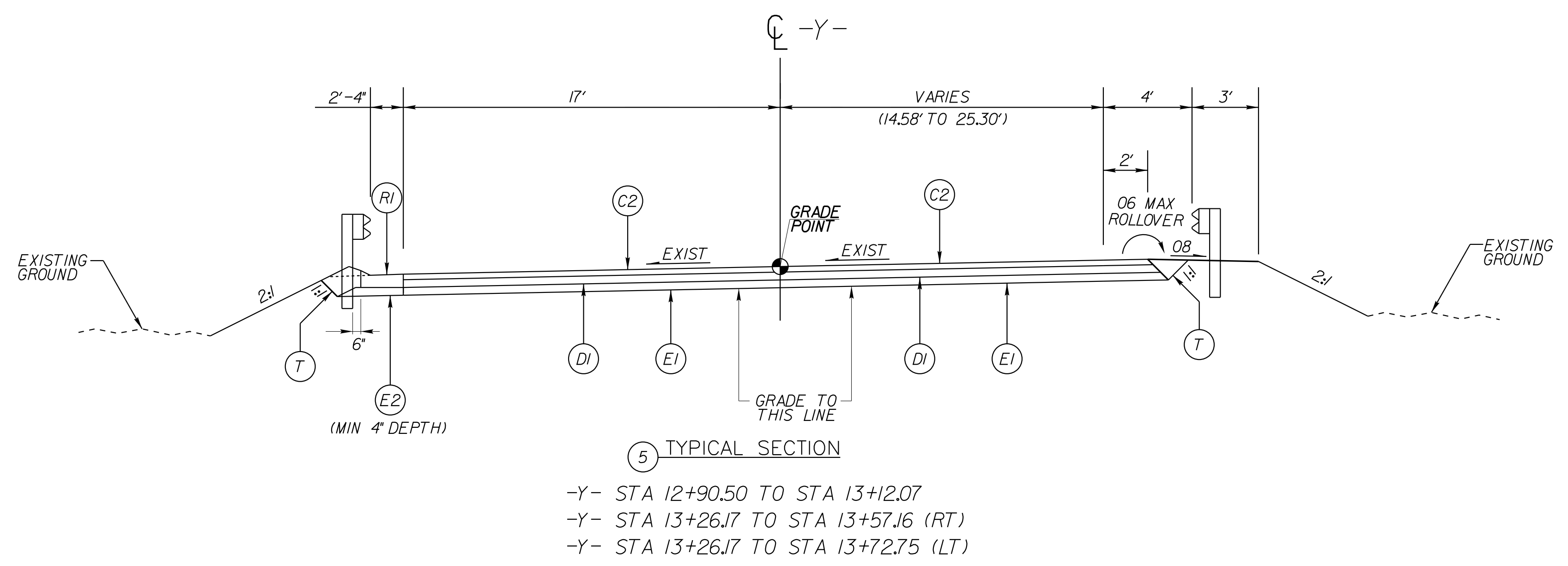
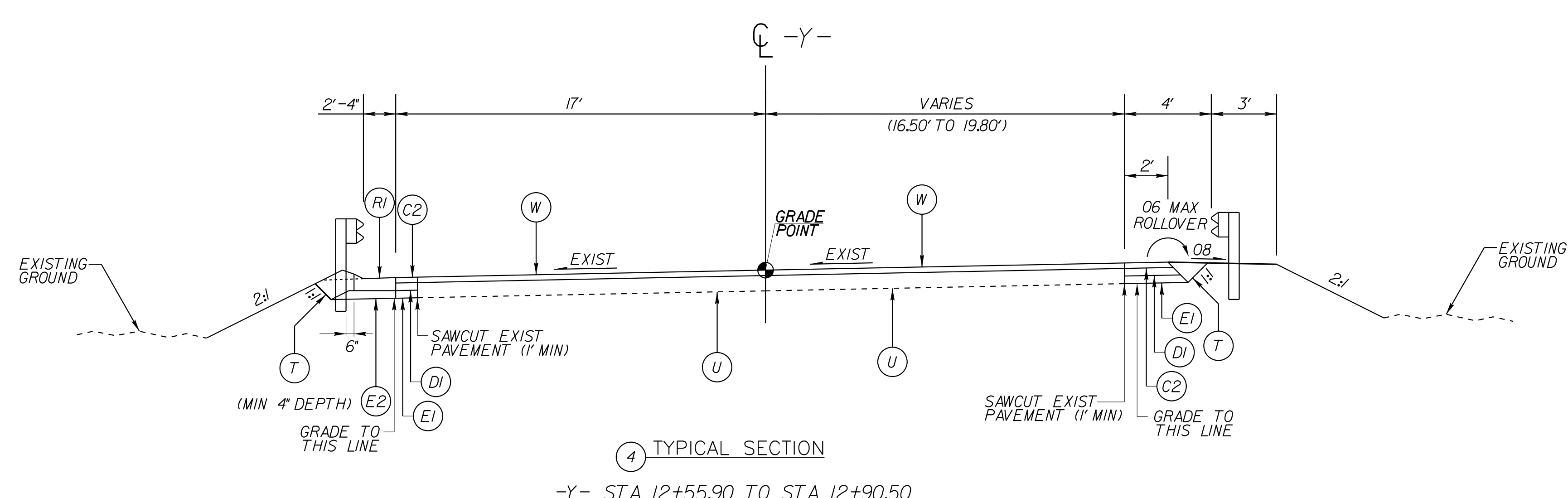
CONSTRUCTION DETAILS



NOT TO SCALE

PROJECT: U-5530LA
 SAM'S BRANCH GREENWAY
 GRADE SEPARATED CROSSING

JOB NUMBER: U-5530LA SHEET NUMBER: 2A-1



REDUCED PAVEMENT SCHEDULE

C1	2" S9.5B
C2	3" S9.5C
C3	VAR. DEPTH S9.5C
D1	4" 119.0C
D2	VAR. DEPTH 119.0C
E1	3" B25.0C
E2	VAR. DEPTH B25.0C
J1	PROPOSED 6" AGGREGATE BASE COURSE
N	GEOTEXTILE FOR SOIL STABILIZATION
RI	SHOULDER BERM GUTTER
S	4" CONCRETE SIDEWALK
T	PROPOSED COMPACTED EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

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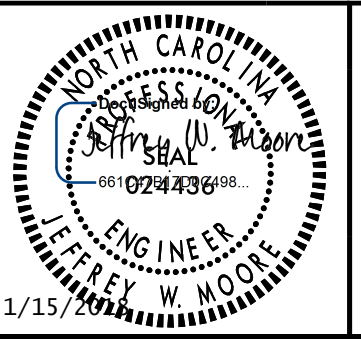
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CONSTRUCTION
DETAILS

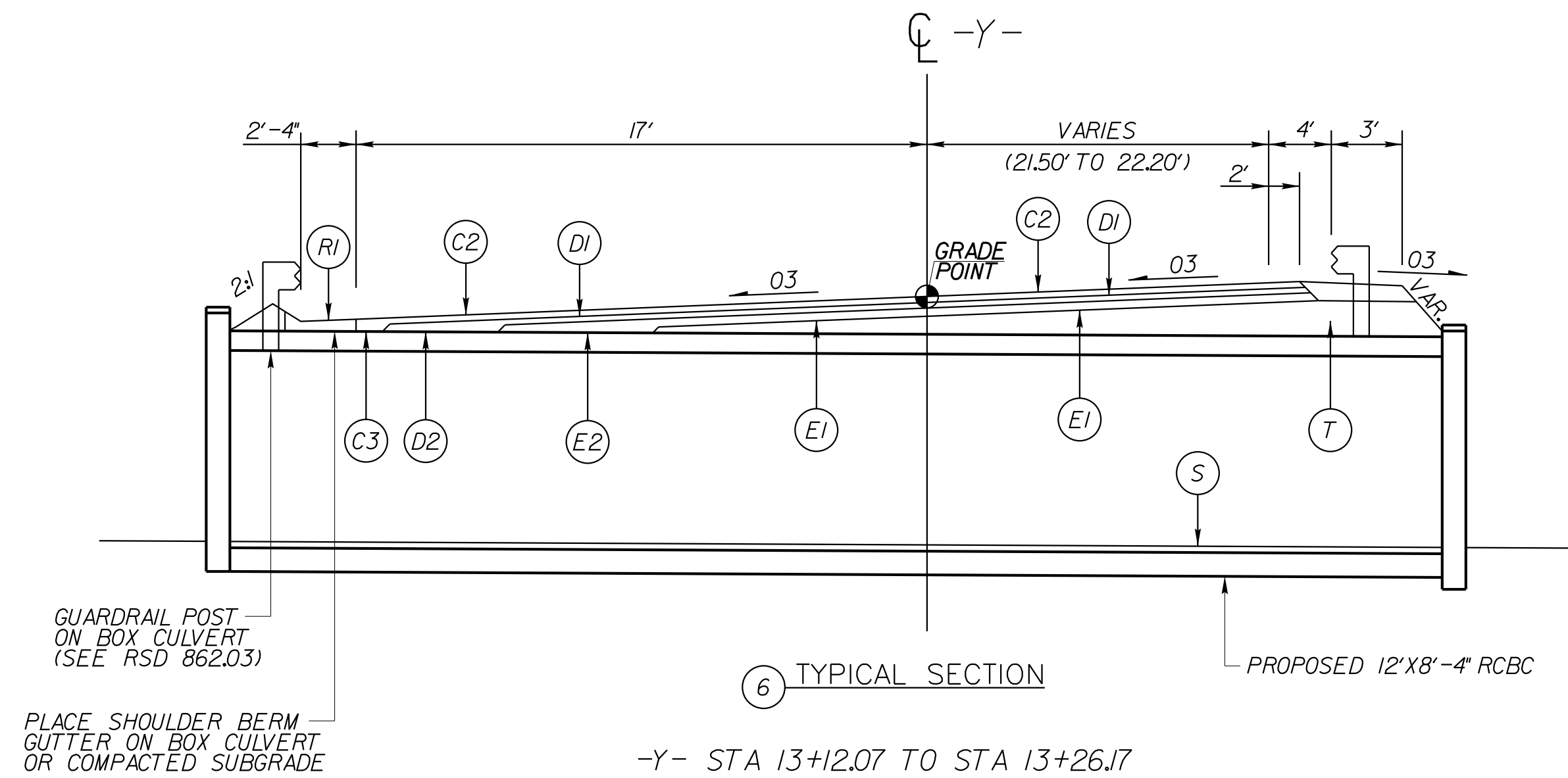


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SAM'S BRANCH GREENWAY
GRADE SEPARATED CROSSING

JOB NUMBER: U-5530LA SHEET NUMBER: 2A-2

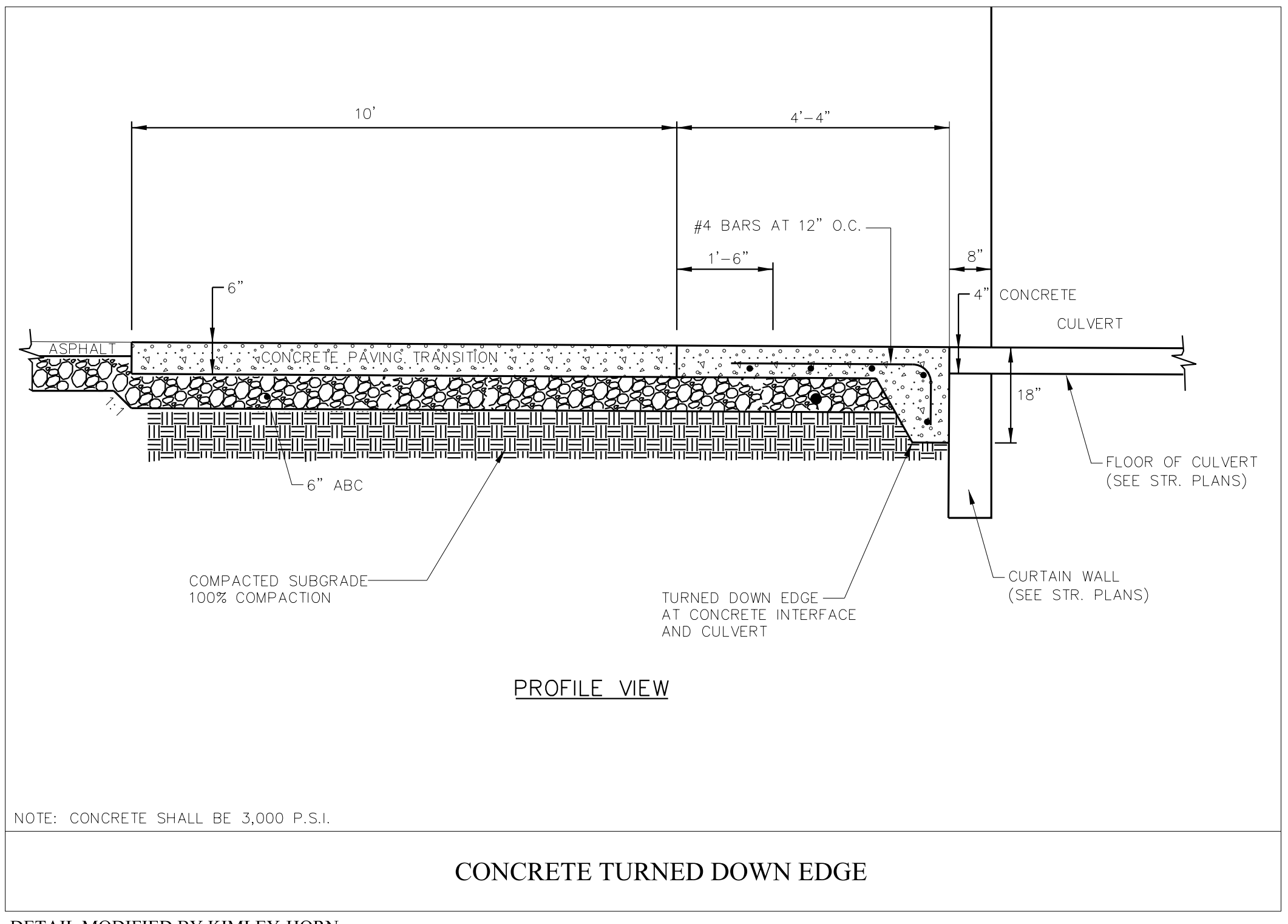
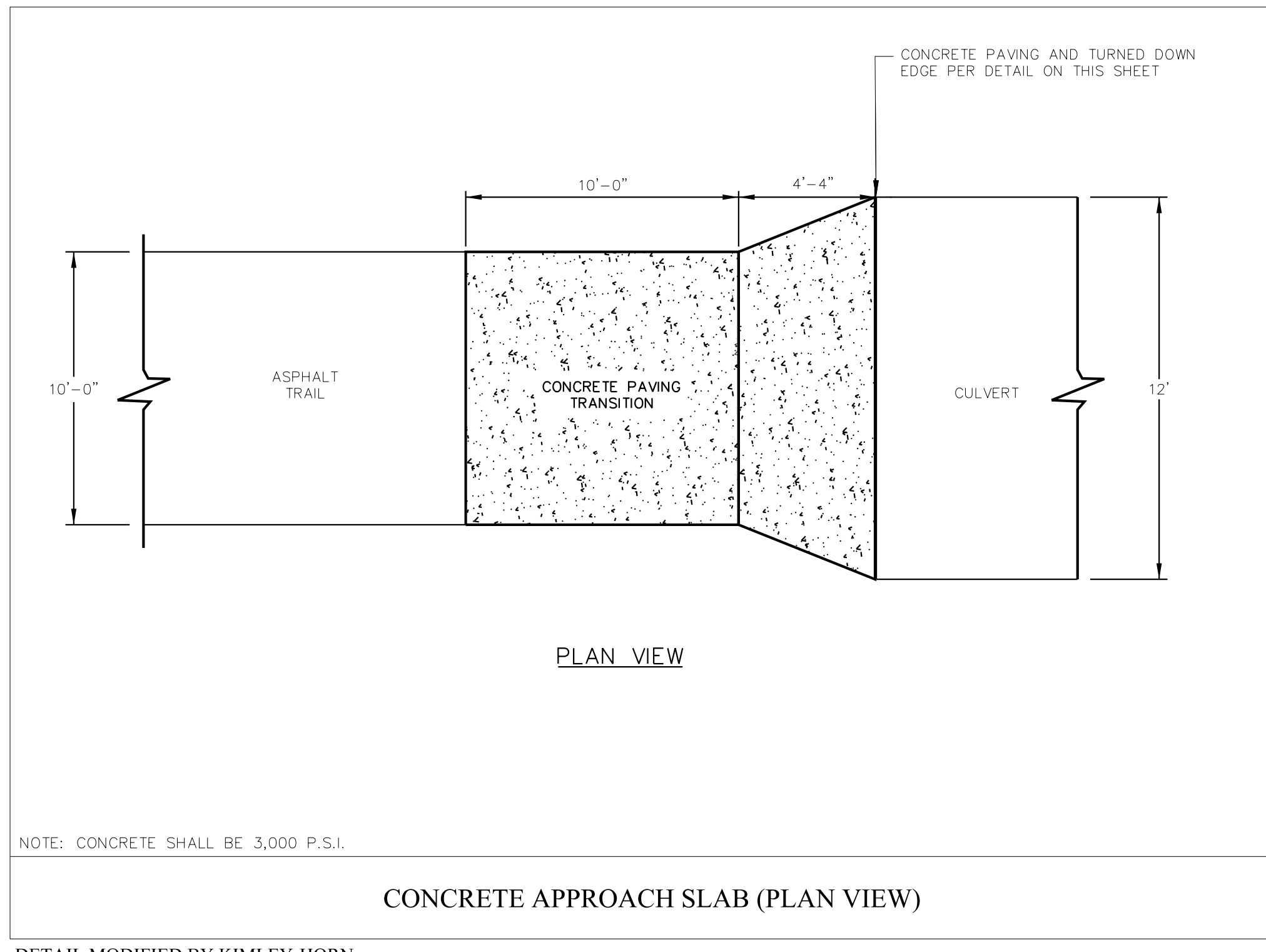
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REDUCED PAVEMENT SCHEDULE

C1	2" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" 119.0B
D2	VAR. DEPTH 119.0B
E1	3" B25.0B
E2	VAR. DEPTH B25.0B
J1	PROPOSED 6" AGGREGATE BASE COURSE
N	GEOTEXTILE FOR SOIL STABILIZATION
RI	SHOULDER BERM GUTTER
S	4" CONCRETE SIDEWALK
T	PROPOSED COMPACTED EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



DETAIL MODIFIED BY KIMLEY-HORN

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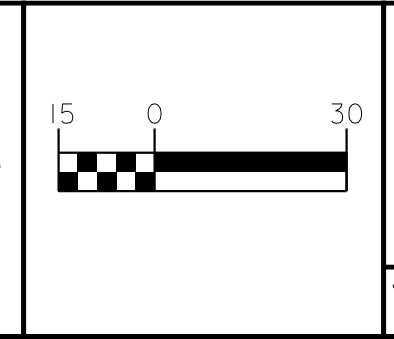
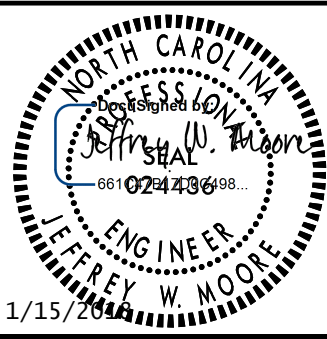
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MULTI-USE PATH AND DRAINAGE PLANS

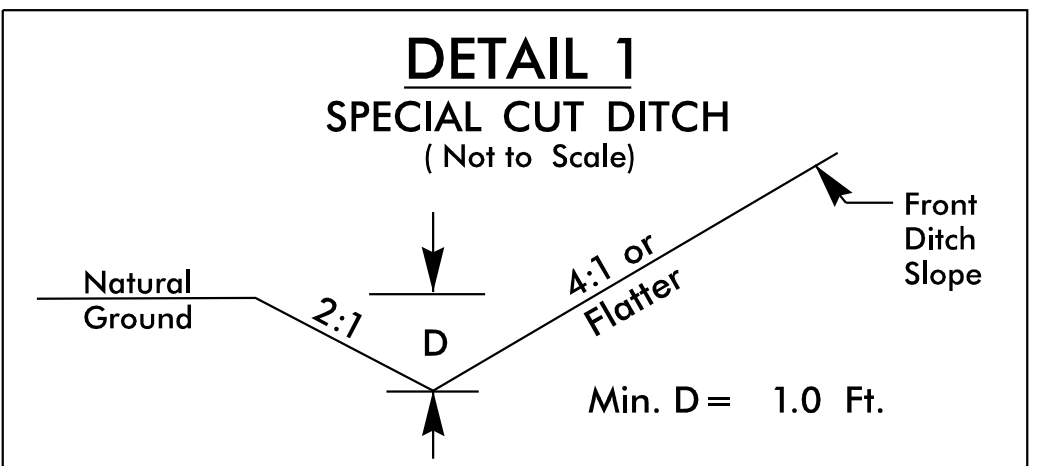
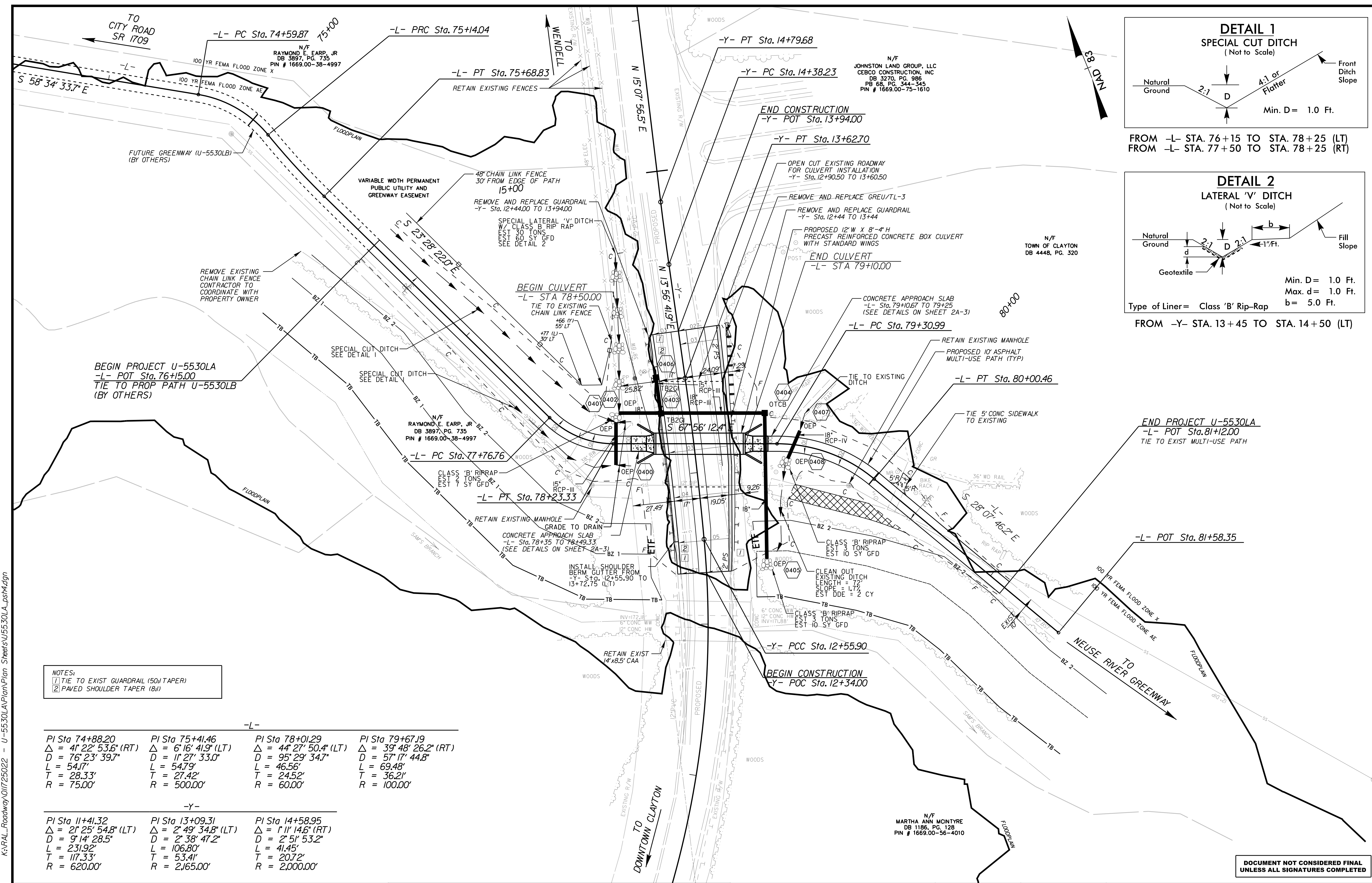


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SAM'S BRANCH GREENWAY
GRADE SEPARATED CROSSING**

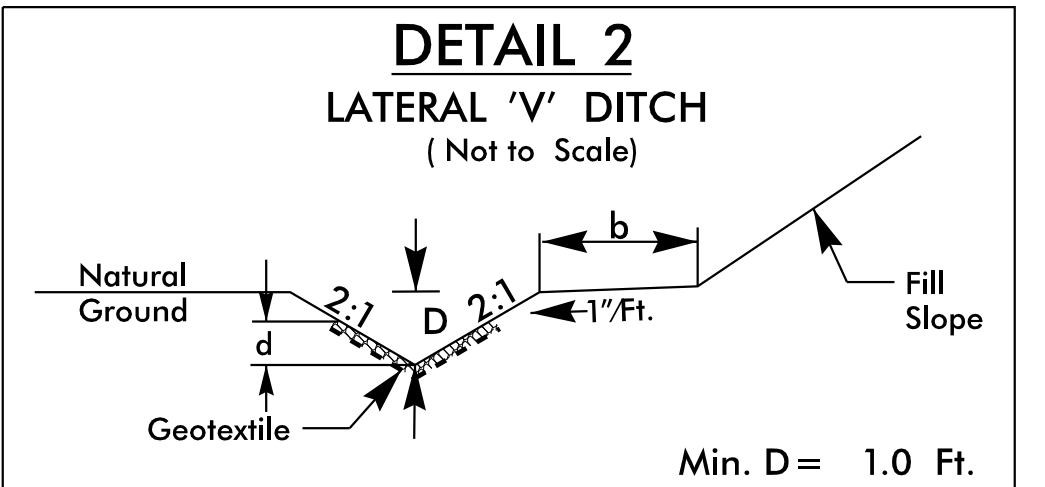
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FROM -L- STA. 76+15 TO STA. 78+25 (LT)
FROM -L- STA. 77+50 TO STA. 78+25 (RT)



Type of Liner = Class 'B' Rip-Rap
FROM -Y- STA. 13+45 TO STA. 14+50 (LT)

NOTES:
1) TIE TO EXIST GUARDRAIL (50% TAPER)
2) PAVED SHOULDER TAPER (8%)

-L-			
PI Sta 74+88.20	PI Sta 75+41.46	PI Sta 78+01.29	PI Sta 79+67.19
$\Delta = 41' 22" 53.6"$ (RT)	$\Delta = 6' 16" 41.9"$ (LT)	$\Delta = 44' 27" 50.4"$ (LT)	$\Delta = 39' 48" 26.2"$ (RT)
D = 76' 23' 39.7"	D = 11' 27' 33.0"	D = 95' 29' 34.7"	D = 57' 17' 44.8"
L = 54.17'	L = 54.79'	L = 46.56'	L = 69.48'
T = 28.33'	T = 27.42'	T = 24.52'	T = 36.21'
R = 75.00'	R = 500.00'	R = 60.00'	R = 100.00'

-Y-		
PI Sta 11+41.32	PI Sta 13+09.31	PI Sta 14+58.95
$\Delta = 21' 25" 54.8"$ (LT)	$\Delta = 2' 49" 34.8"$ (LT)	$\Delta = 1' 11" 14.6"$ (RT)
D = 9' 14' 28.5"	D = 2' 38' 47.2"	D = 2' 51' 53.2"
L = 231.92'	L = 106.80'	L = 41.45'
T = 117.33'	T = 53.41'	T = 20.72'
R = 620.00'	R = 2,165.00'	R = 2,000.00'

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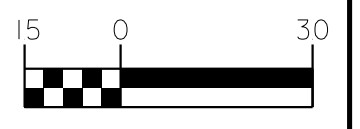
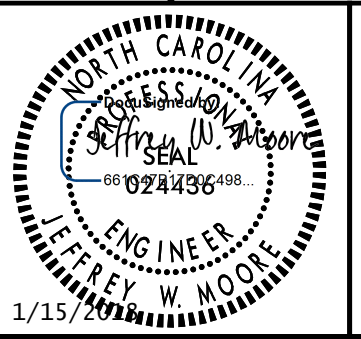
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MULTI-USE PATH AND DRAINAGE PLANS

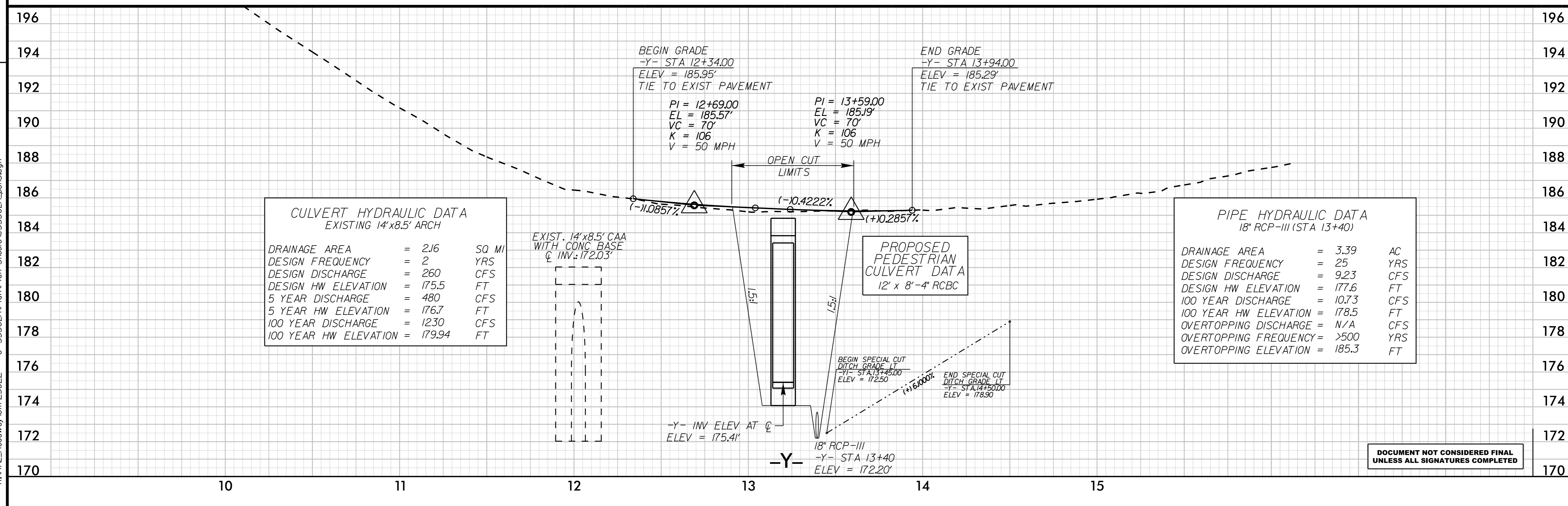
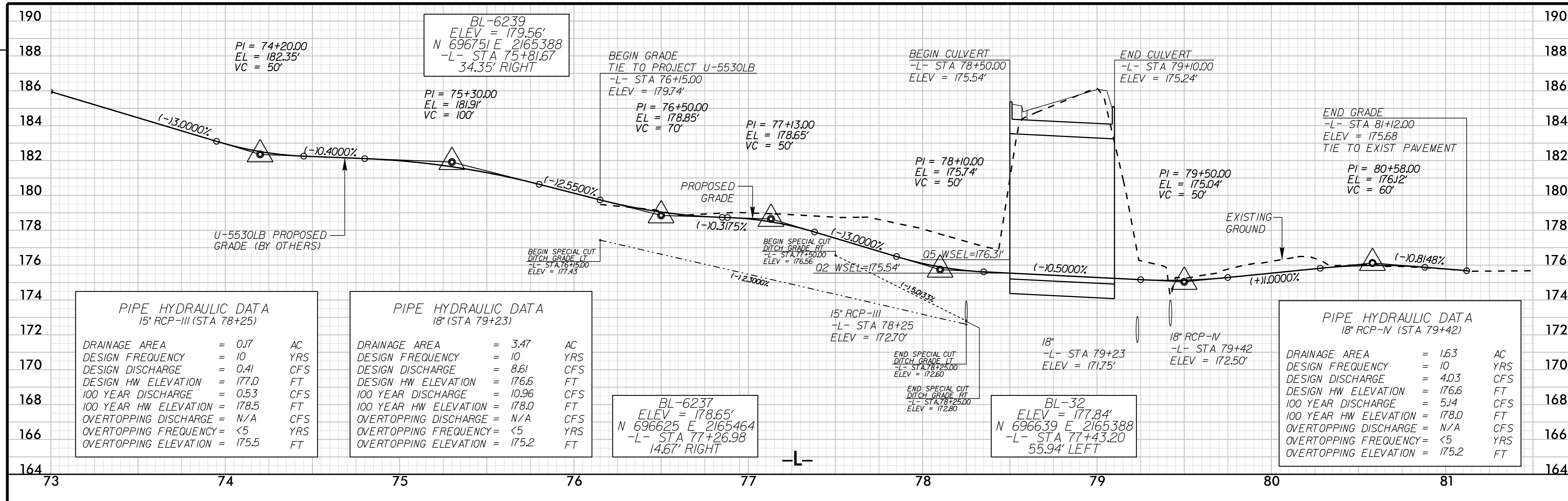


PROJECT: U-5530LA
SAM'S BRANCH GREENWAY
GRADE SEPARATED CROSSING

JOB NUMBER: U-5530LA SHEET NUMBER: 4

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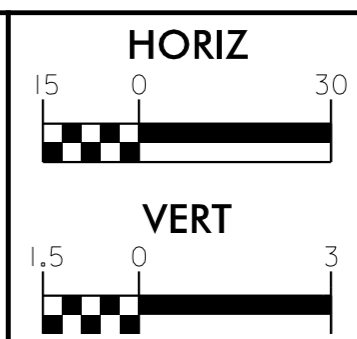
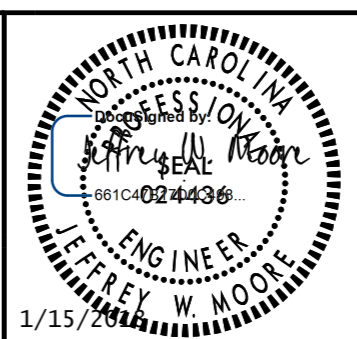
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MULTI-USE PATH AND
ROADWAY PROFILES



PROJECT: U-5530LA
SAM'S BRANCH GREENWAY
GRADE SEPARATED CROSSING

JOB NUMBER: U-5530LA SHEET NUMBER: 5


ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE WARNING SIGNS
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

LEGEND

GENERAL

 NORTH ARROW

TRAFFIC CONTROL DEVICES

 BARRICADE (TYPE III)

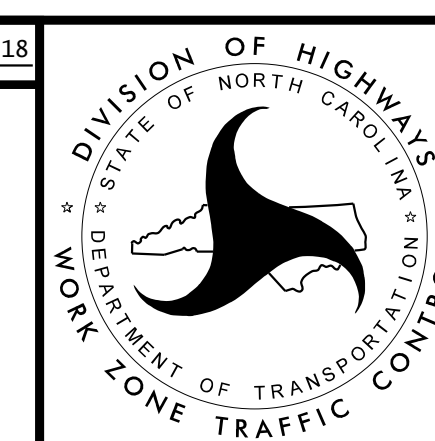
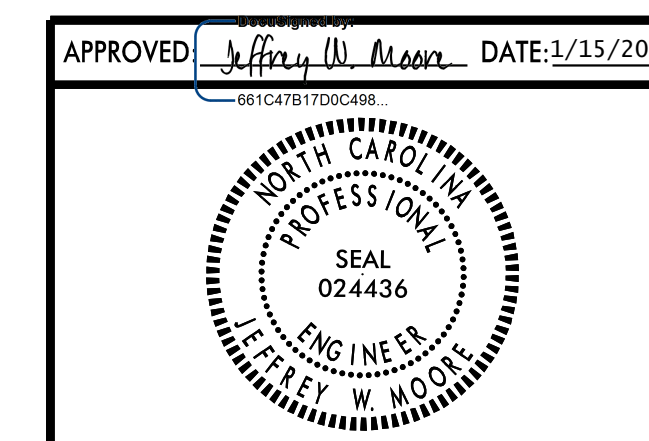
TEMPORARY SIGNING

 STATIONARY SIGN

PAVEMENT MARKERS

 YELLOW/YELLOW

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ROADWAY STANDARD
DRAWINGS & LEGEND

MANAGEMENT STRATEGIES

REMOVAL OF THE EXISTING ROADWAY AND INSTALLATION OF THE PEDESTRIAN CULVERT WILL BE COMPLETED DURING A TEMPORARY ROAD CLOSURE OF NORTH O'NEIL STREET WHILE USING AN OFF SITE DETOUR ROUTE ALONG COVERED BRIDGE ROAD, CITY ROAD, STALLINGS STREET, ROBERTSON STREET, AND MAIN STREET. LOCAL TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION.

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER, COUNTY EMS, AND COUNTY SCHOOL OFFICIALS 1 MONTH PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- B) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

- D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

- E) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- F) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

- G) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- H) REMOVE/REPLACE THE CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- I) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
- J) MARKERS ARE TO BE PLACED ACCORDING TO THE ROADWAY STANDARD DRAWINGS.

LOCAL NOTES

PROVIDE ADVANCE NOTIFICATION OF ROAD CLOSURE WITH 2 CHANGEABLE MESSAGE SIGNS A MINIMUM OF 14 DAYS PRIOR TO CLOSURE.

PHASING NOTES

USING ROADWAY STANDARD DRAWING NUMBER 1101.03, SHEET 1 OF 9, SHEET TMP-2, SHEET SD-1 AND SHEET PM-1, PERFORM THE FOLLOWING:

- STEP 1: INSTALL ALL ROAD CLOSURE AND DETOUR SIGNING, INCLUDING BARRICADES. CLOSE SR 1708 (NORTH O'NEIL STREET) AND PLACE TRAFFIC ONTO OFF-SITE DETOUR.

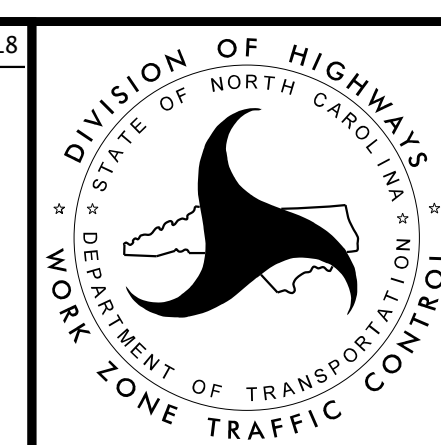
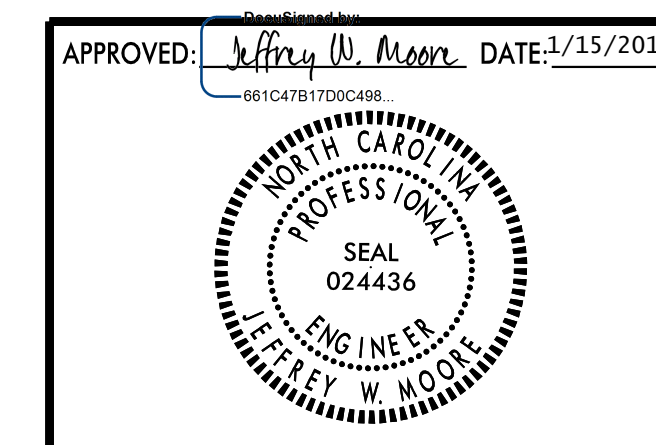
INTERMEDIATE CONTRACT TIME NO.1:
THE SR 1708 (NORTH O'NEIL STREET) CLOSURE SHALL BE IN PLACE FOR A MAXIMUM OF 45 CONSECUTIVE CALENDAR DAYS. LIQUIDATED DAMAGES ARE \$1000 (ONE THOUSAND DOLLARS) PER CALENDAR DAY.

- STEP 2: WITHIN THE ROAD CLOSURE, REMOVE EXISTING ROADWAY AND CONSTRUCT THE PROPOSED PEDESTRIAN CULVERT AND APPROACHES AS SHOWN IN THE CONSTRUCTION PLANS.

- STEP 3: WITHIN THE ROAD CLOSURE, INSTALL ALL FINAL PAVEMENT MARKINGS.

- STEP 4: RE-OPEN SR 1708 (NORTH O'NEIL STREET) TO THE FINAL TRAFFIC PATTERN AND REMOVE ALL TRAFFIC CONTROL SIGNING AND DEVICES.

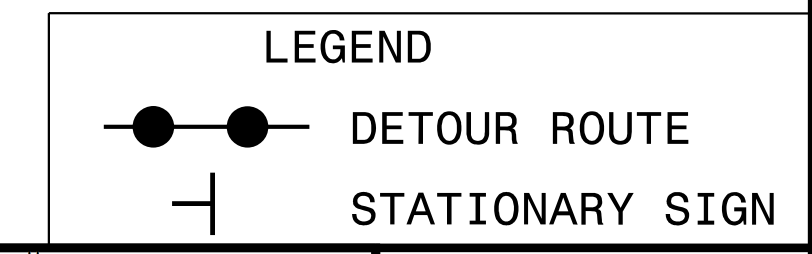
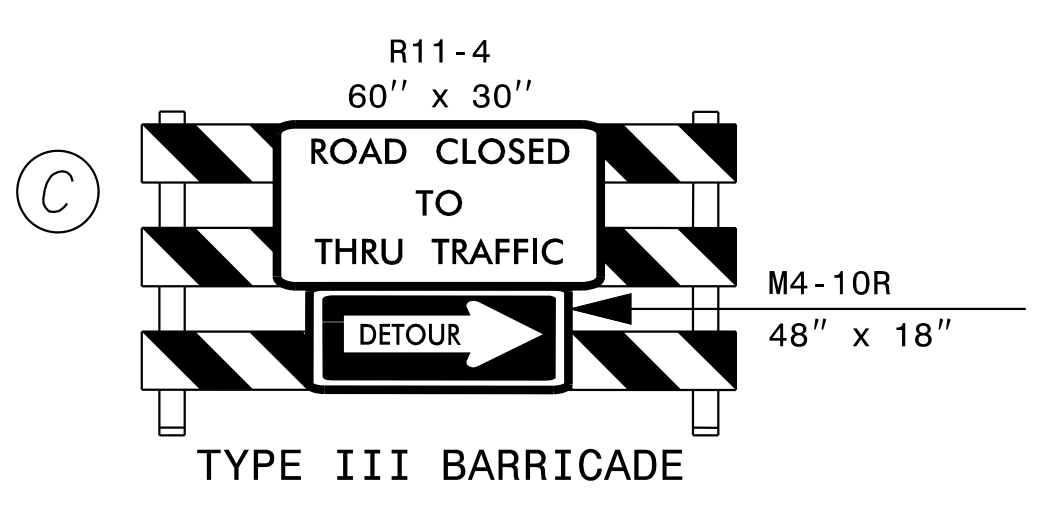
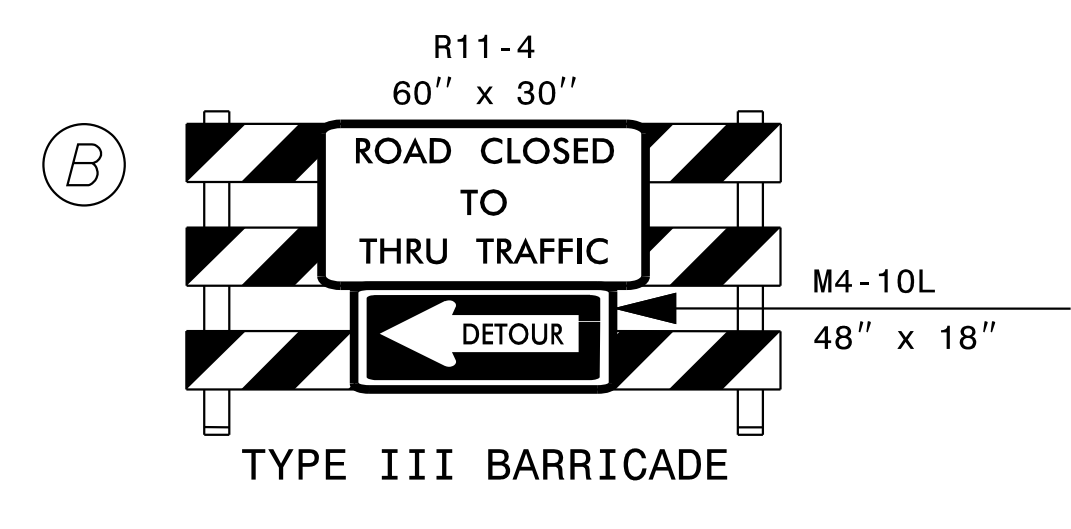
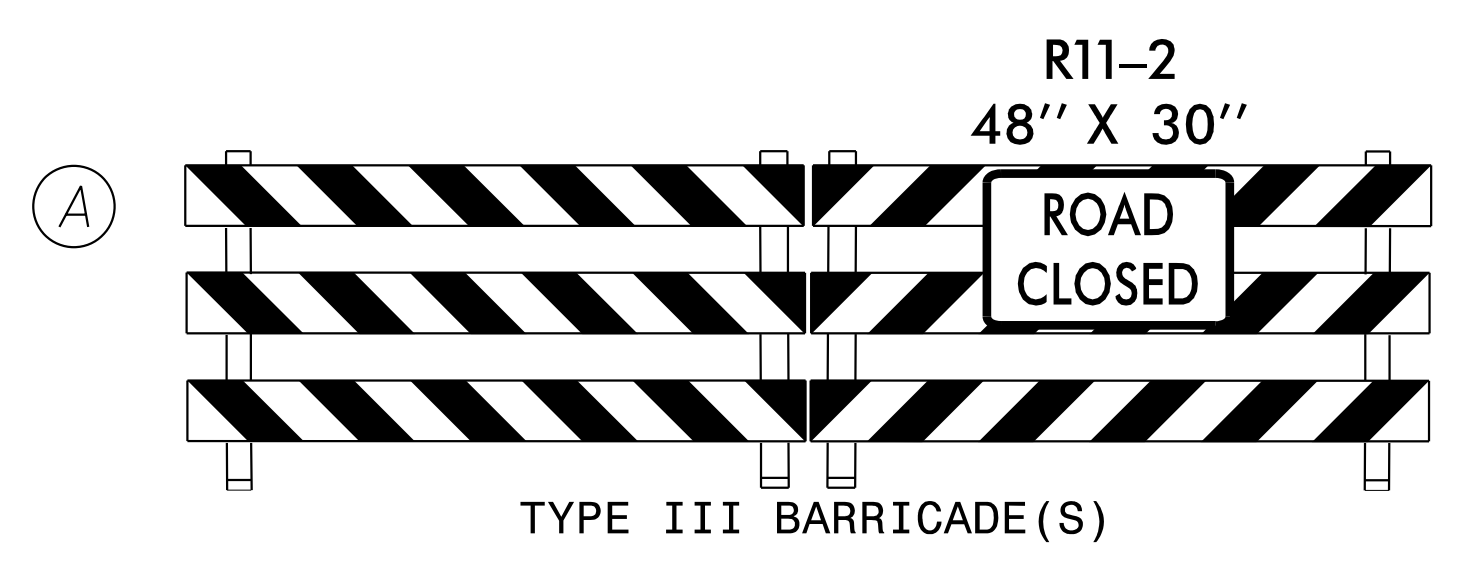
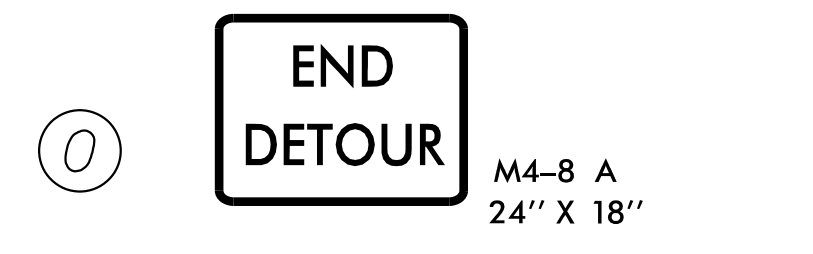
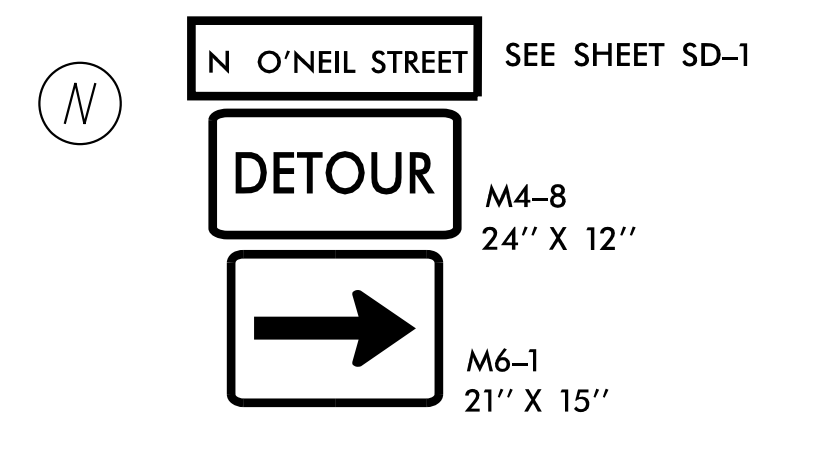
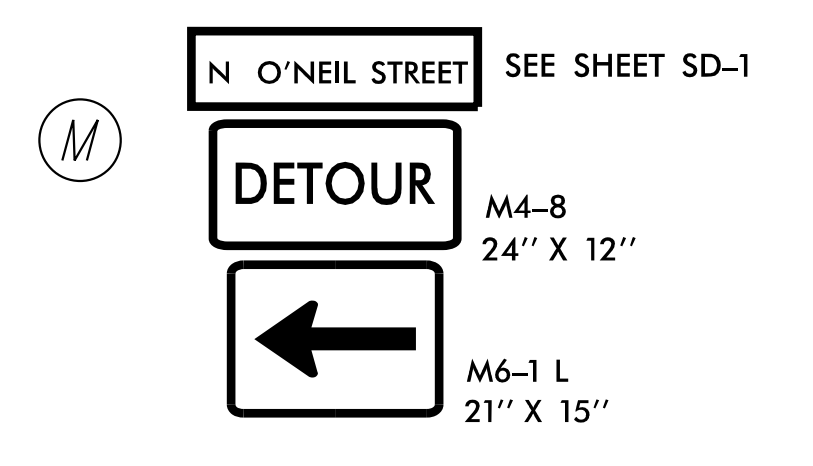
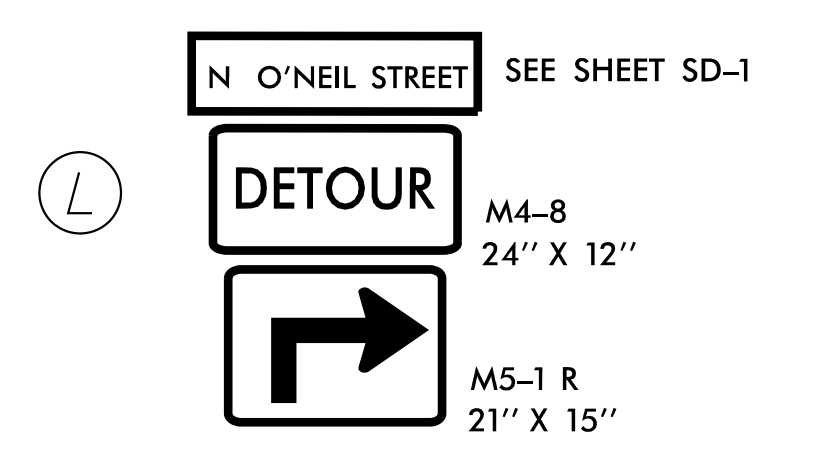
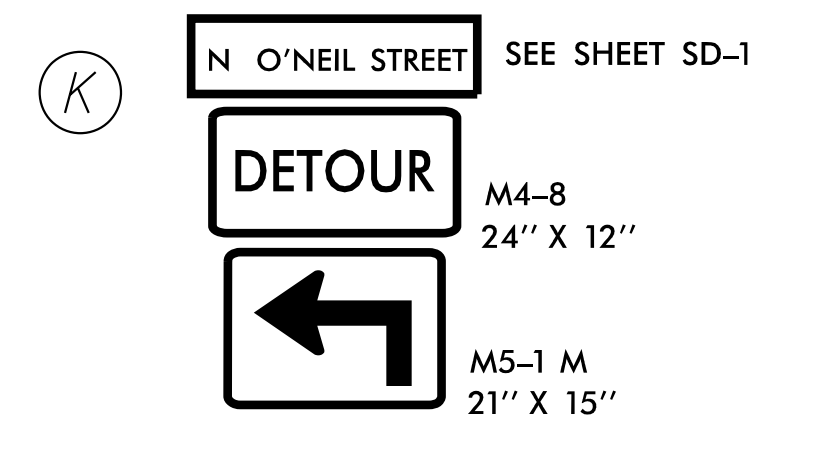
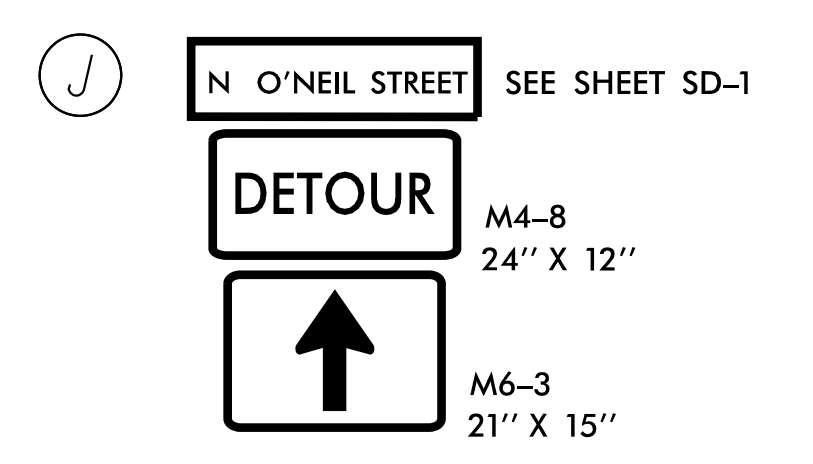
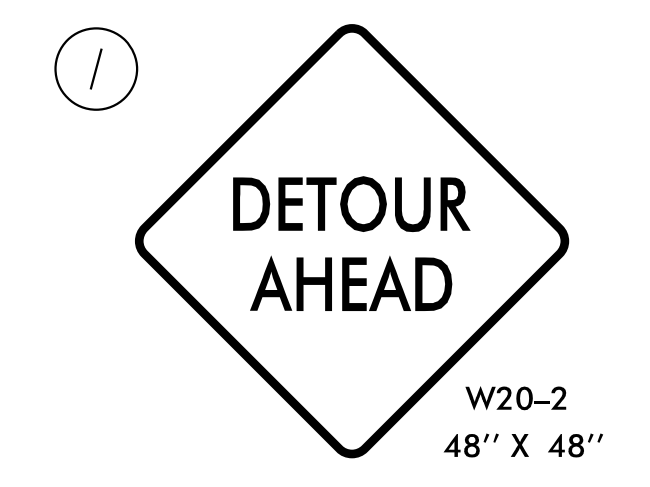
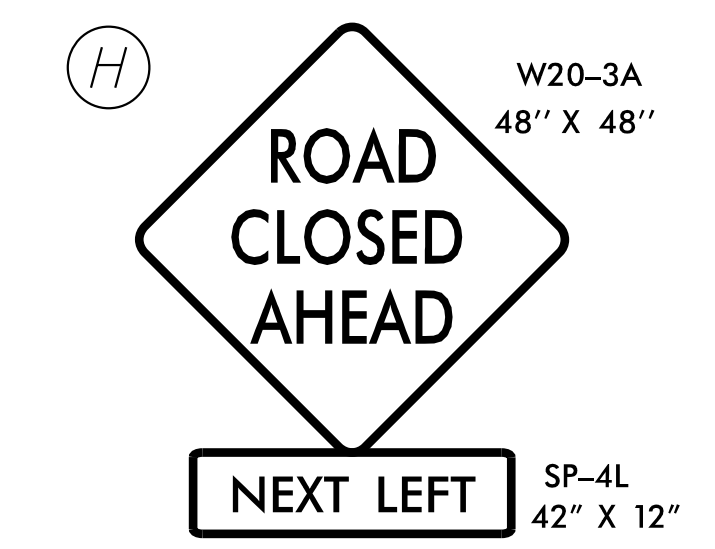
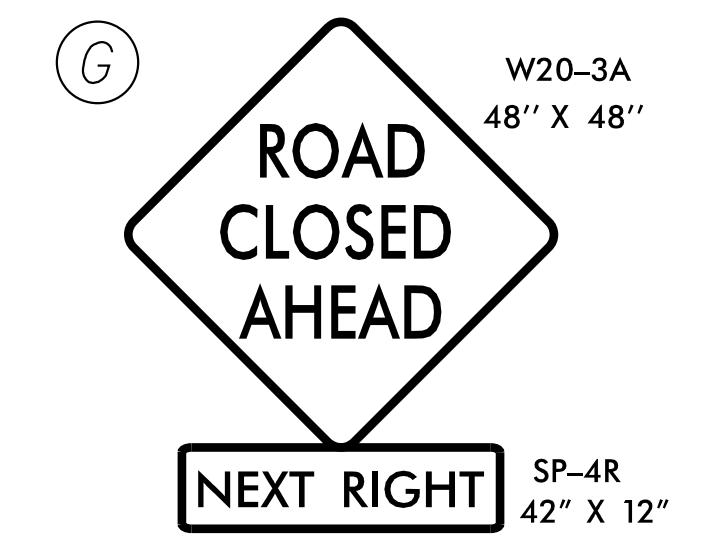
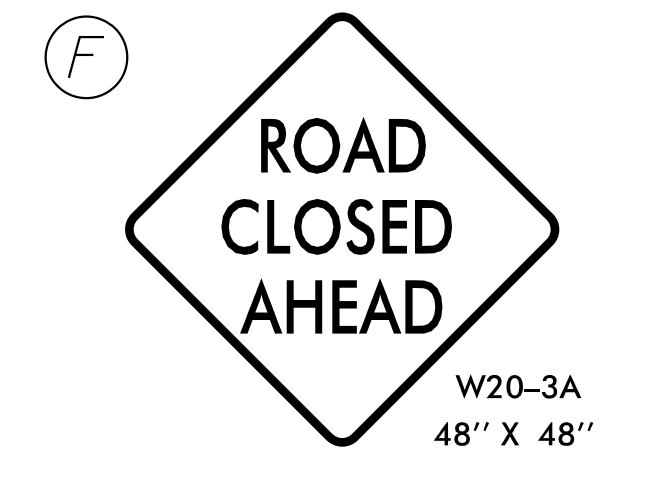
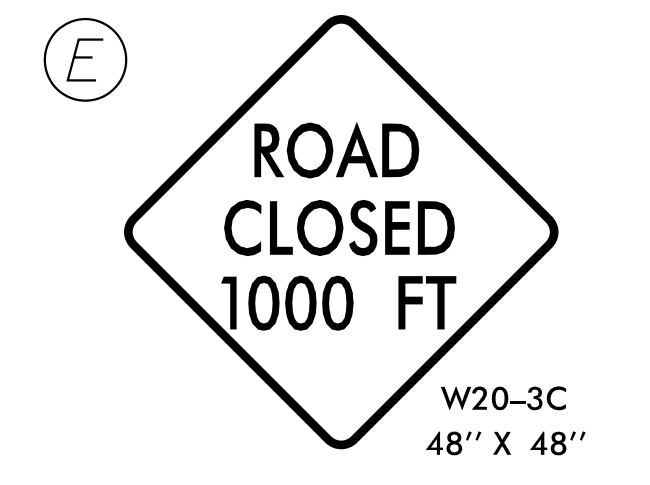
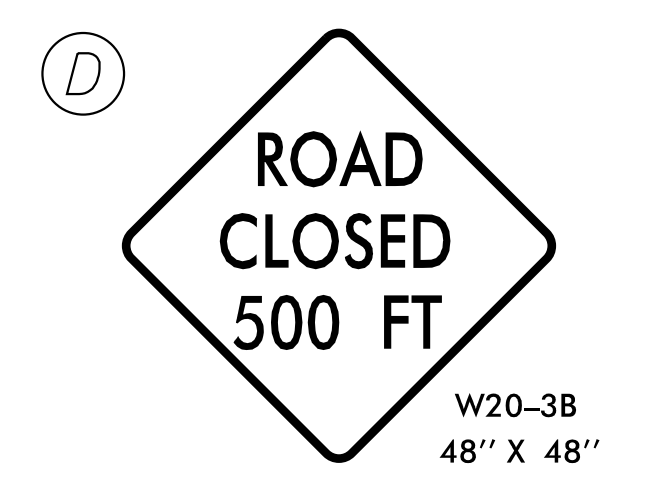
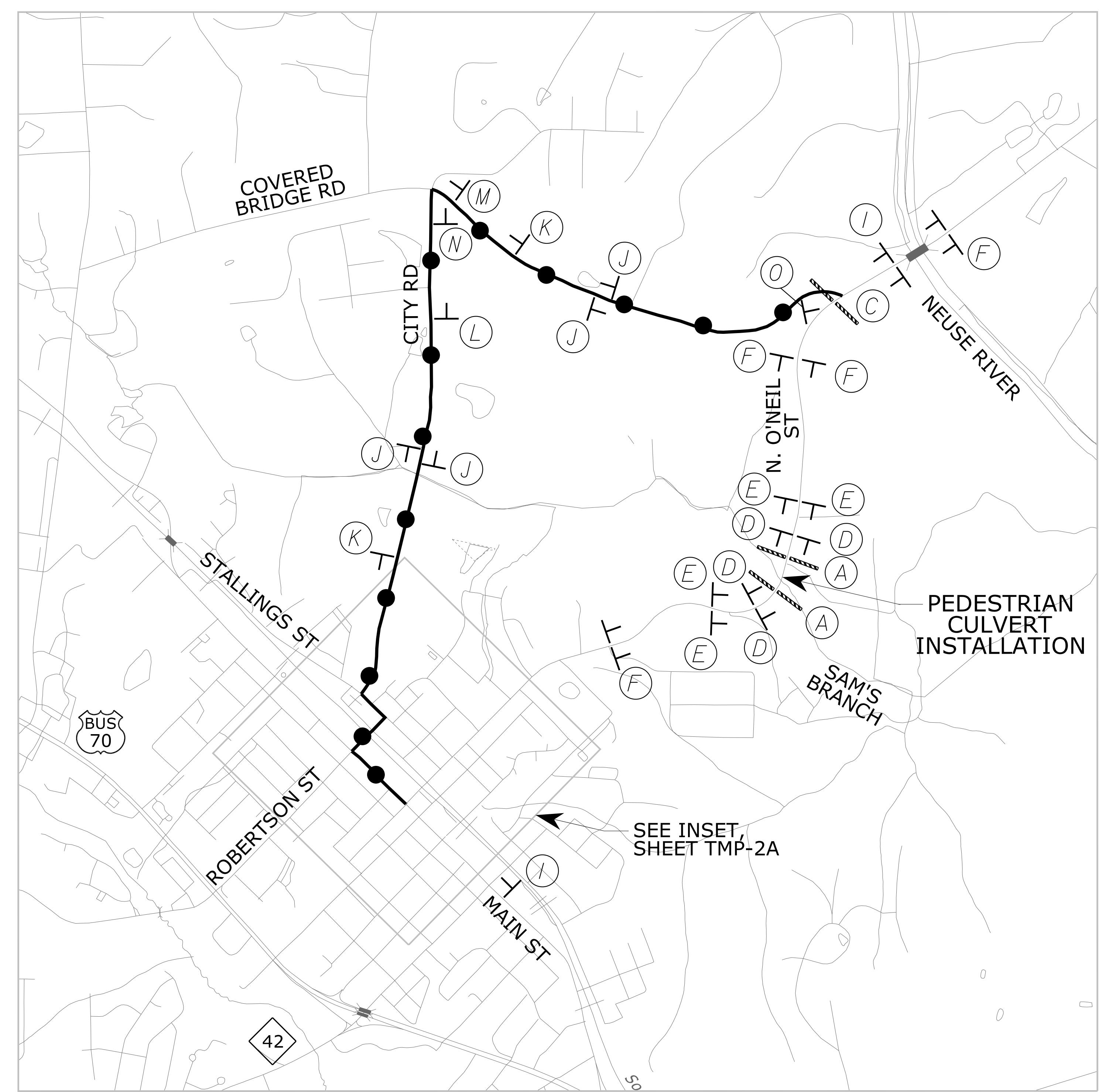
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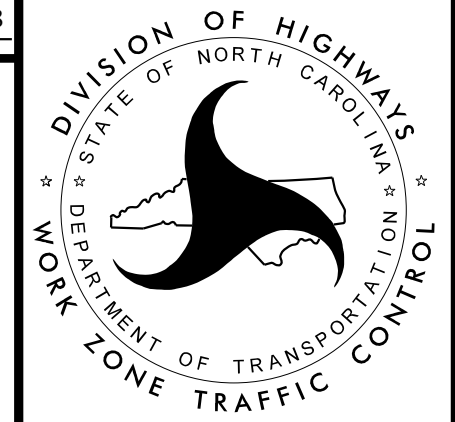
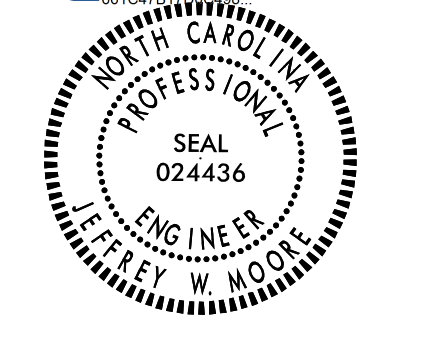
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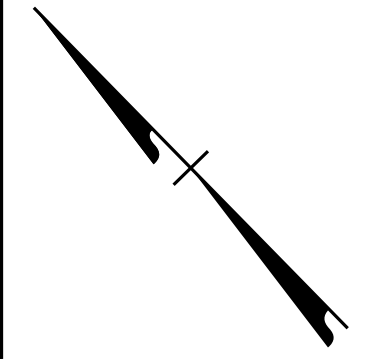
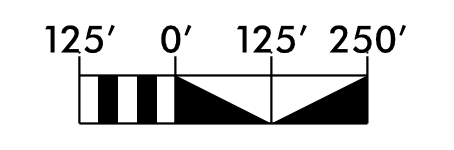
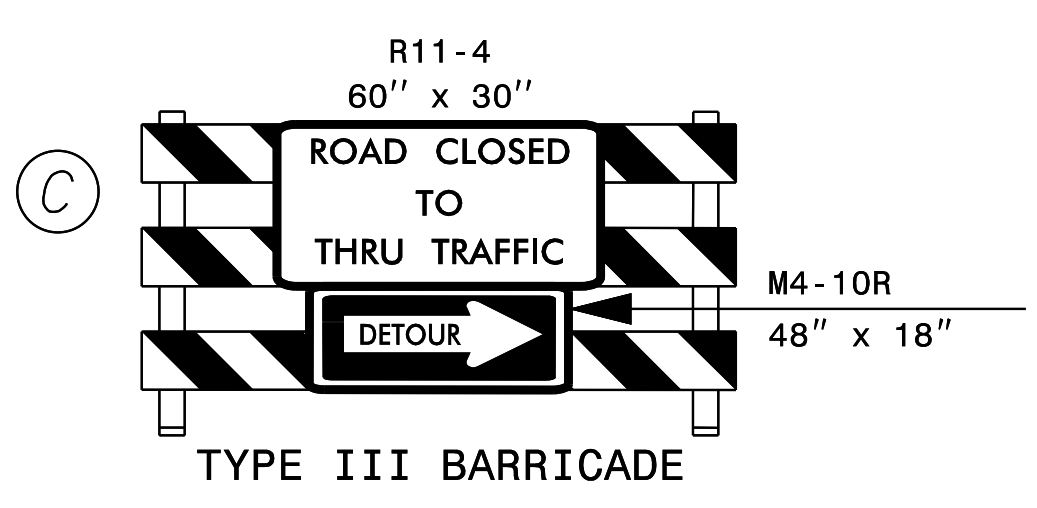
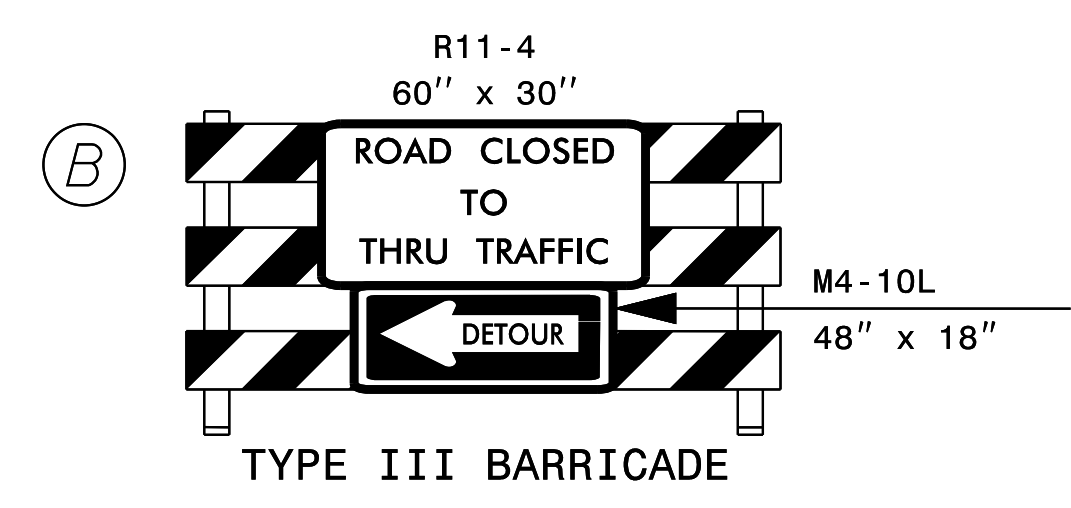
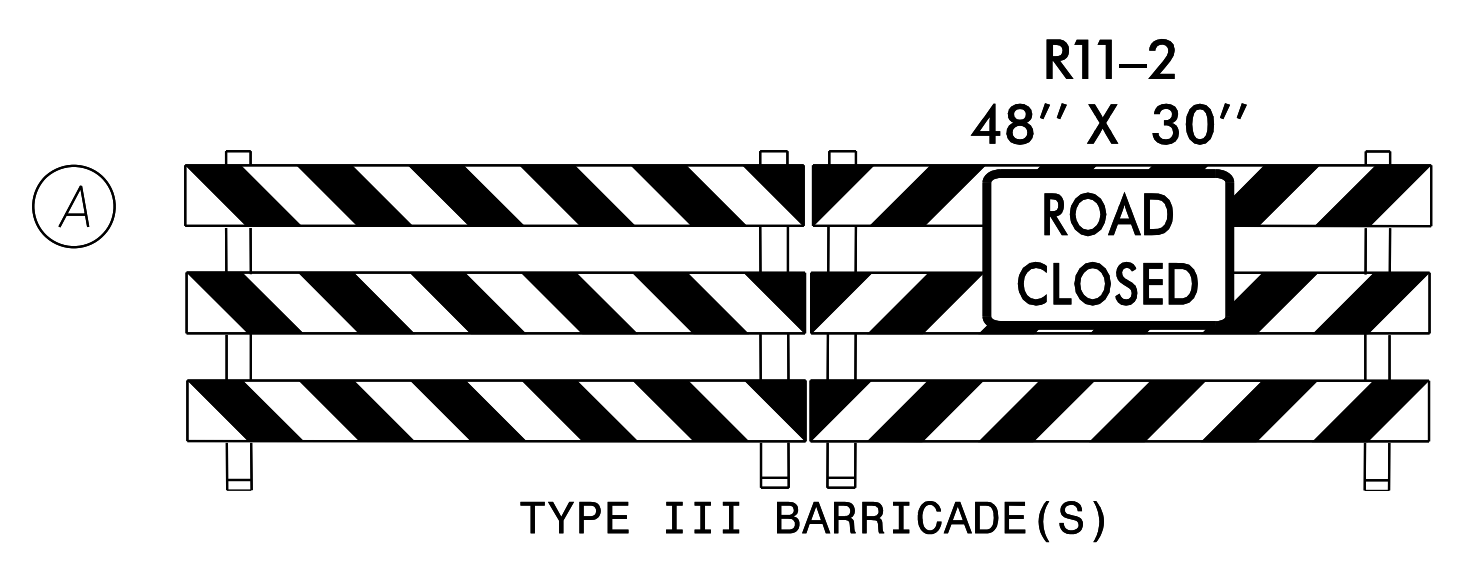
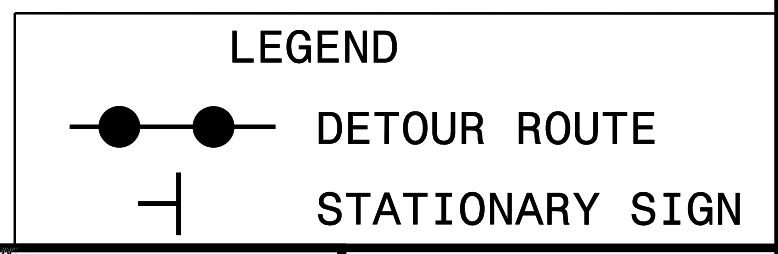
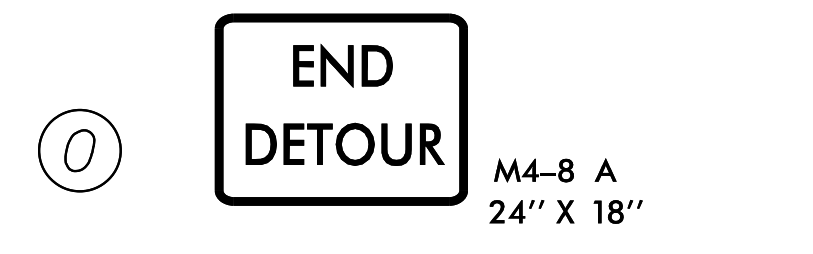
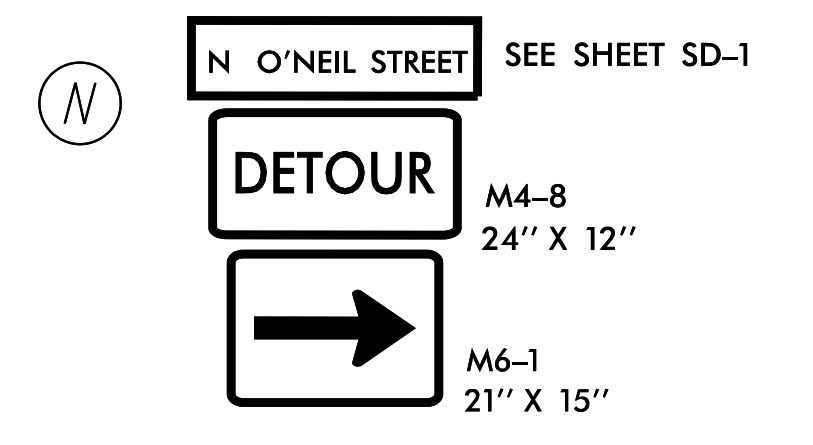
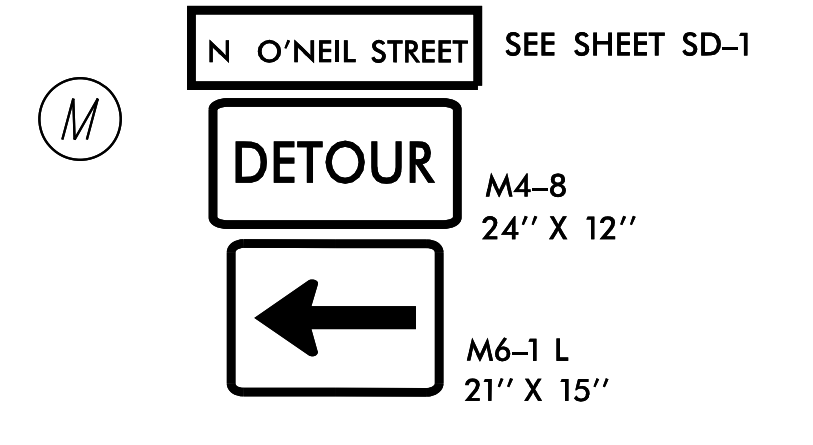
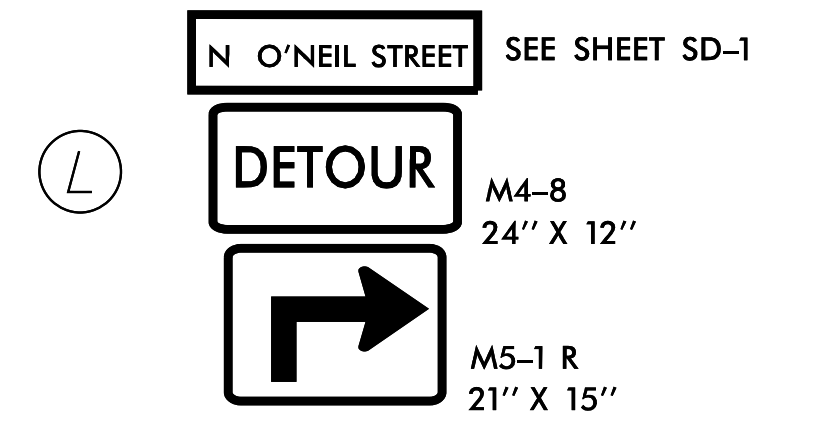
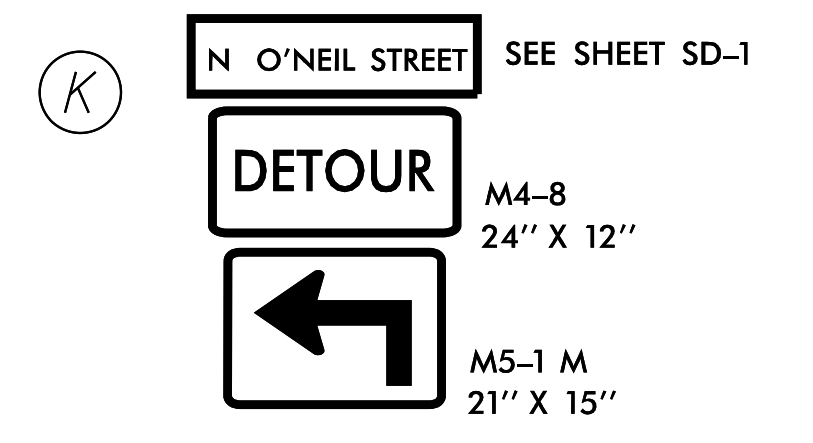
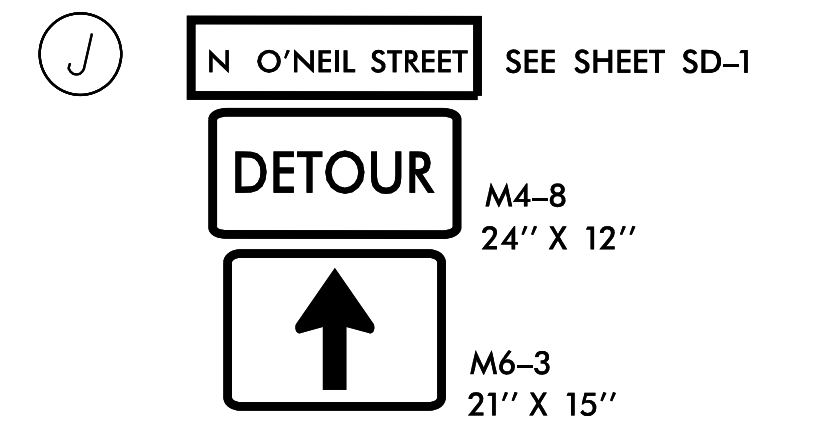
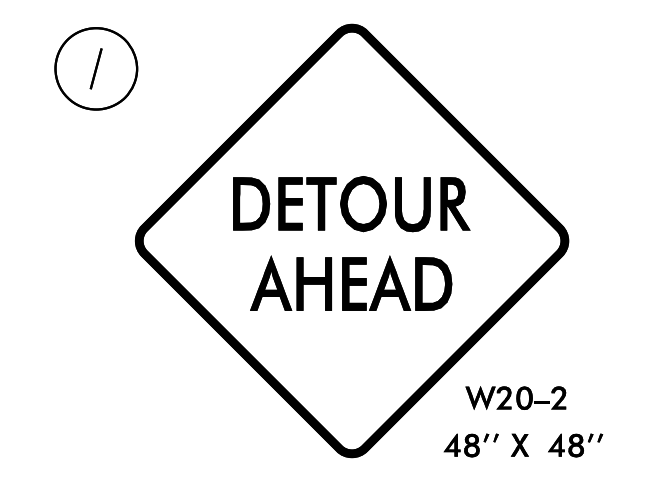
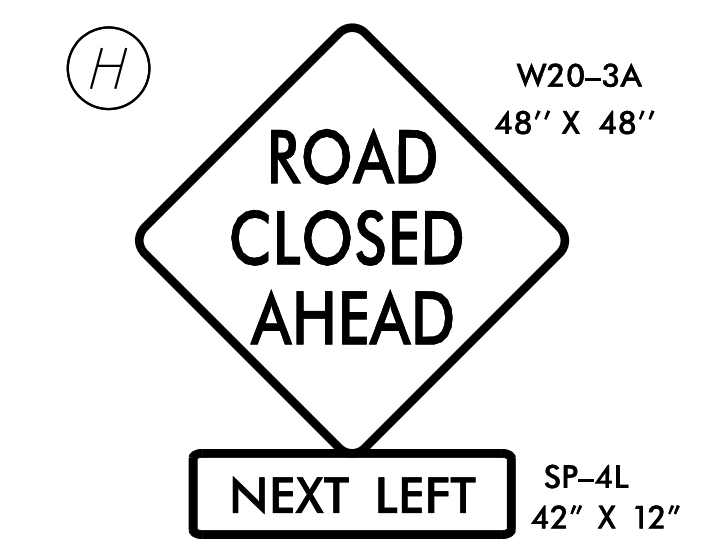
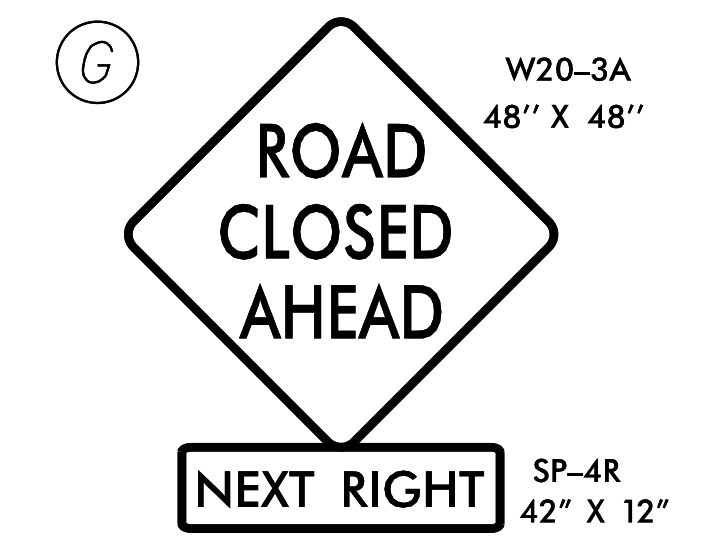
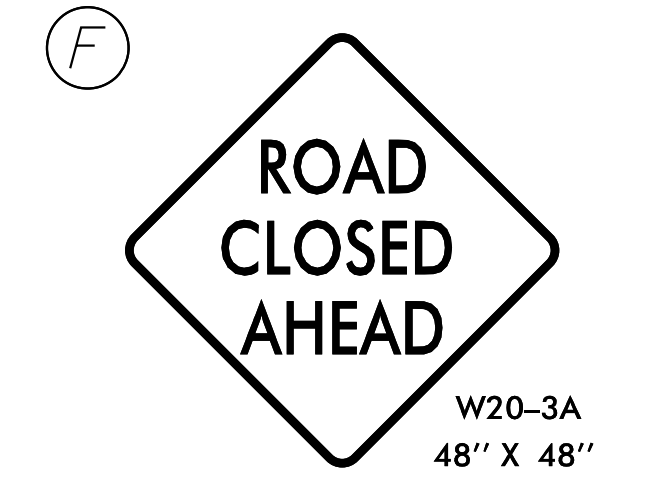
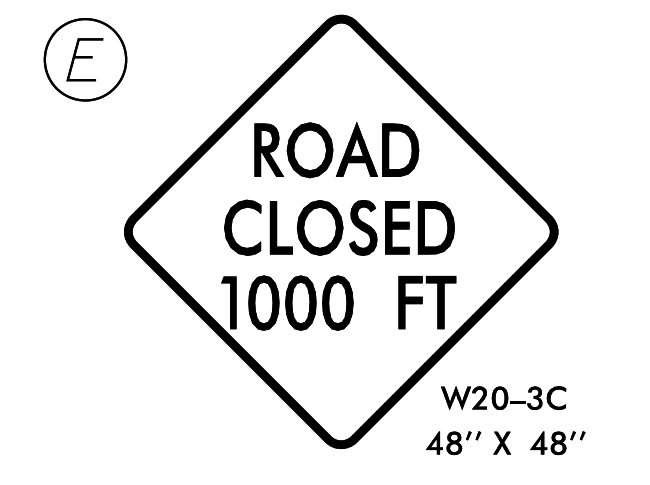
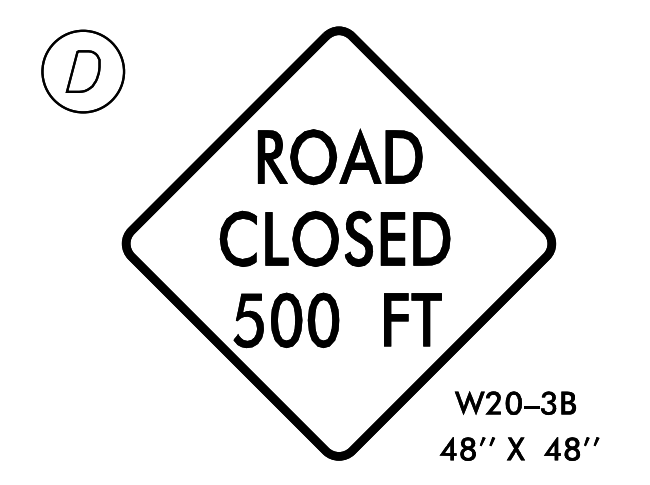
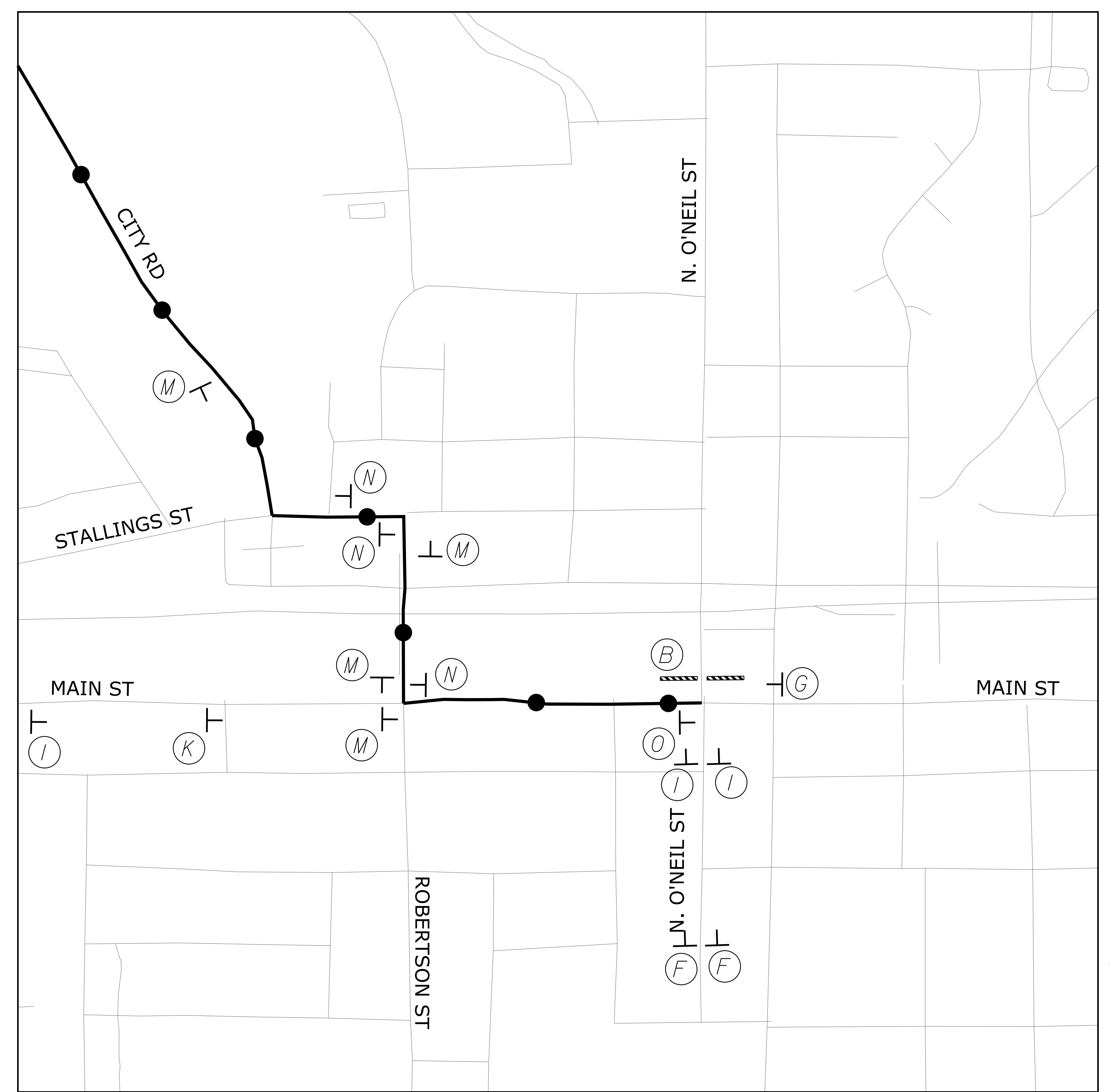
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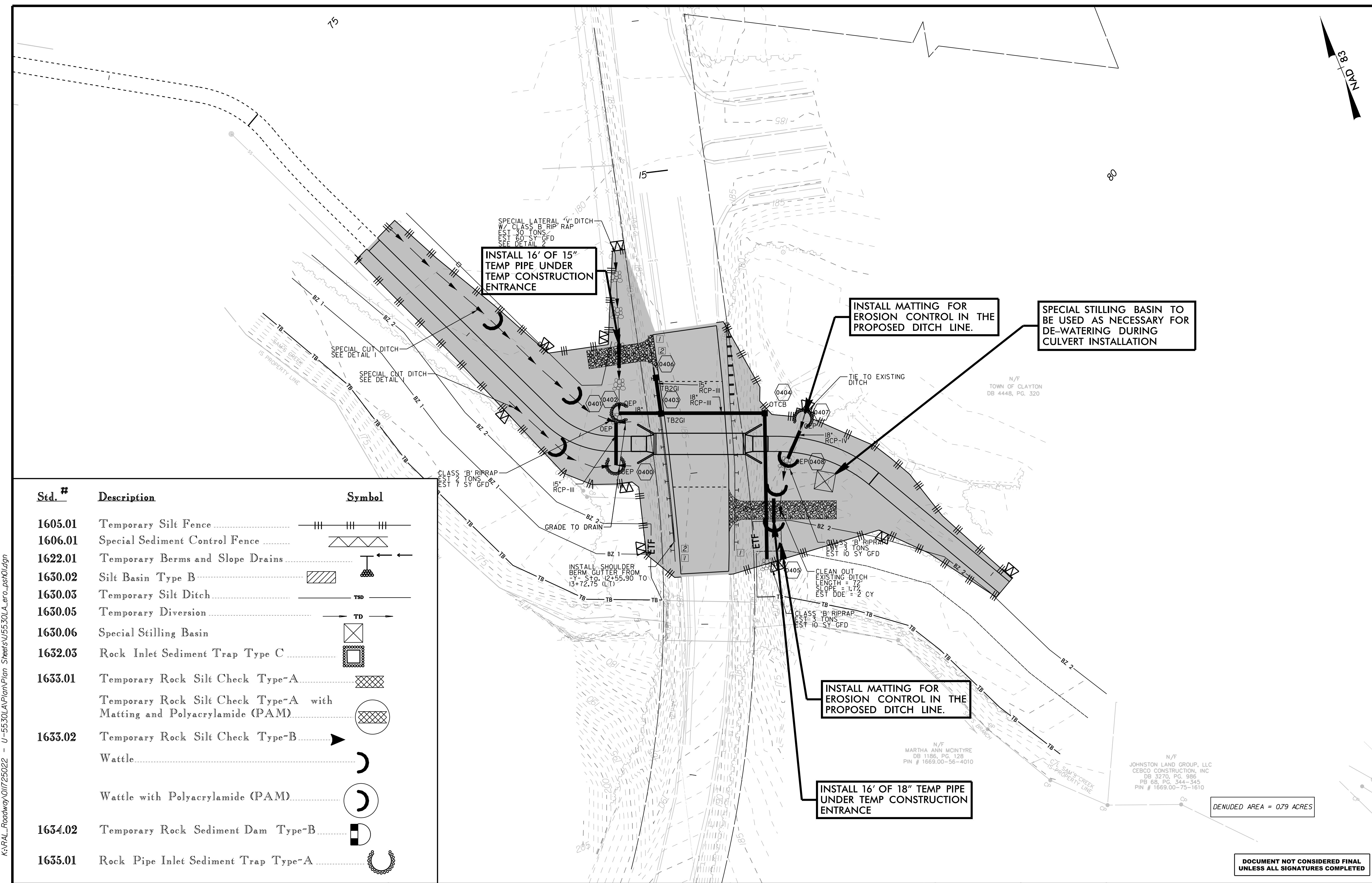
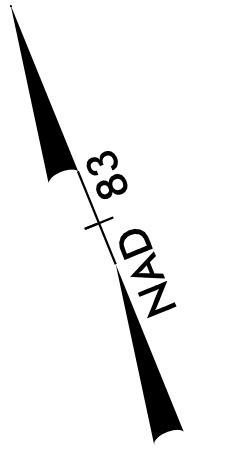
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APPROVED: *Jeffrey W. Neer* DATE: 1/15/2018
 PROFESSIONAL ENGINEER
 SEAL 024436
 JEFFREY W. NEER

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA
 WORK ZONE TRAFFIC CONTROL

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Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
1630.06	Special Stilling Basin	
1632.03	Rock Inlet Sediment Trap Type C	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle	
	Wattle with Polyacrylamide (PAM)	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	

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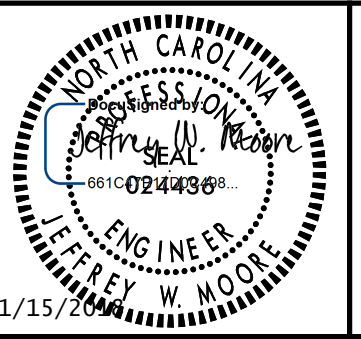
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EROSION CONTROL PLANS



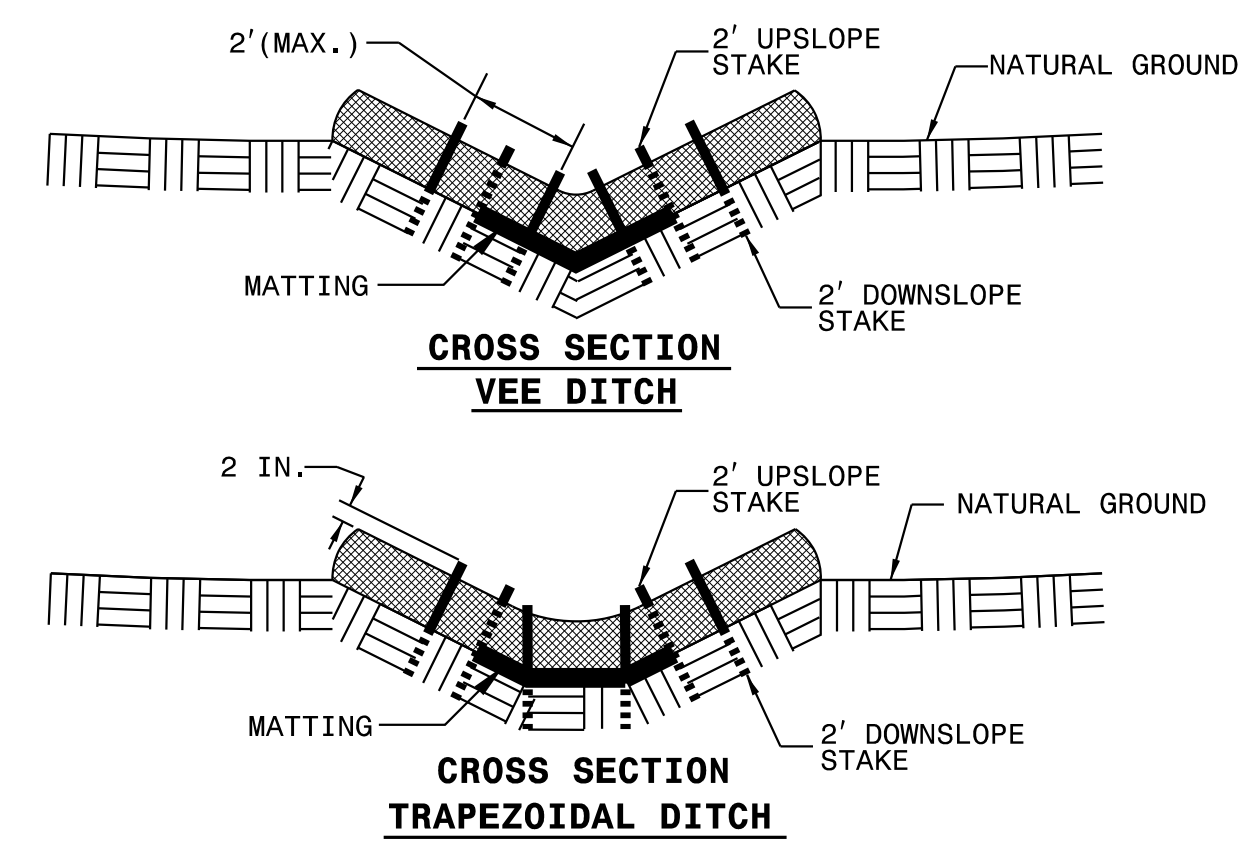
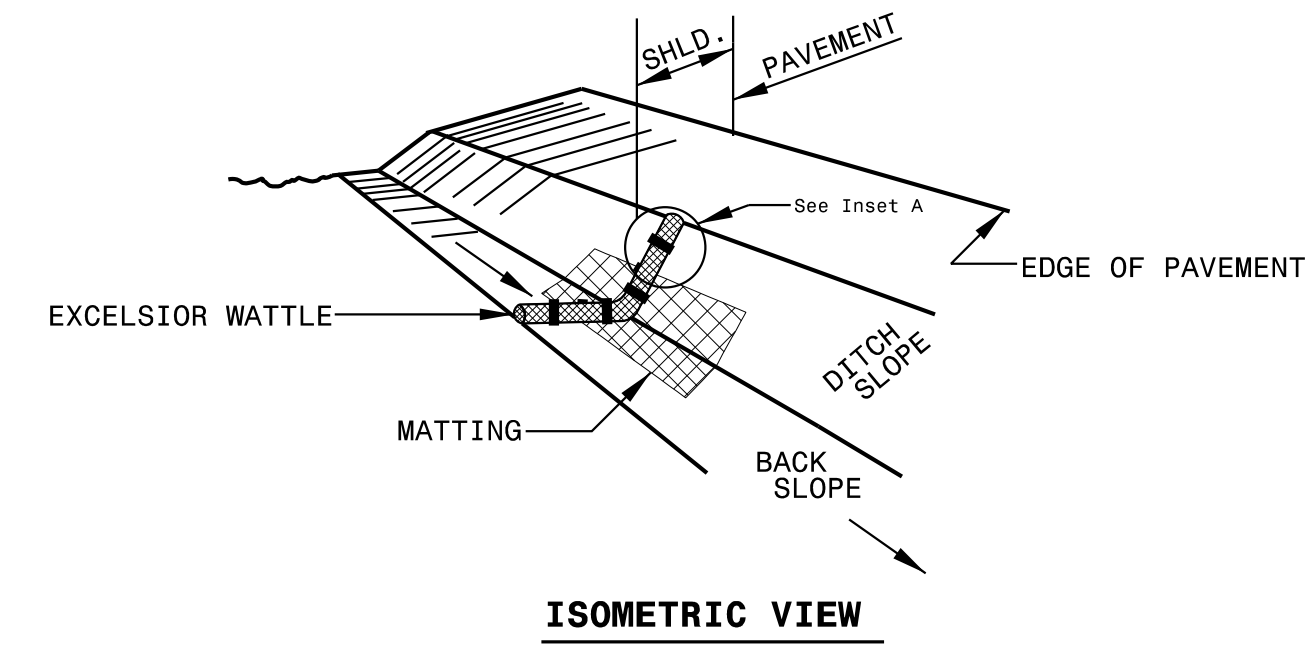
PROJECT: **U-5530LA
SAM'S BRANCH GREENWAY
GRADE SEPARATED CROSSING**

JOB NUMBER: U-5530LA SHEET NUMBER: EC-1

DENUED AREA = 0.79 ACRES

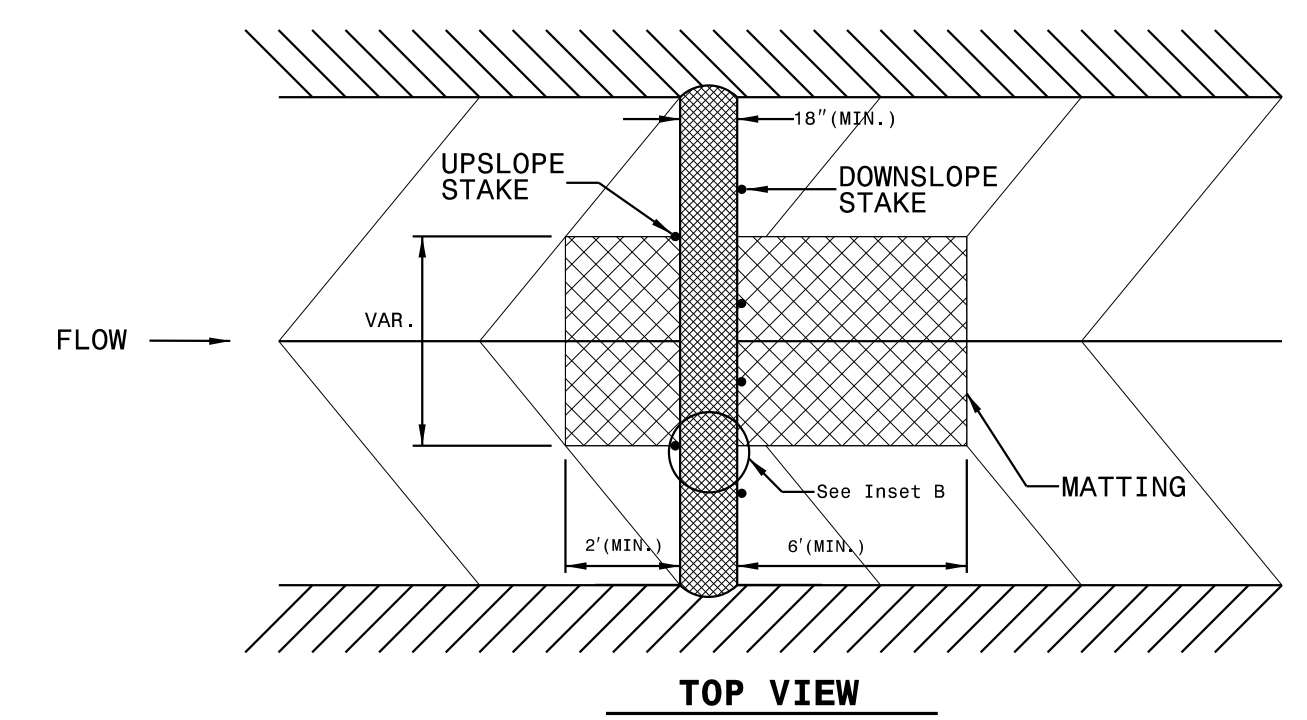
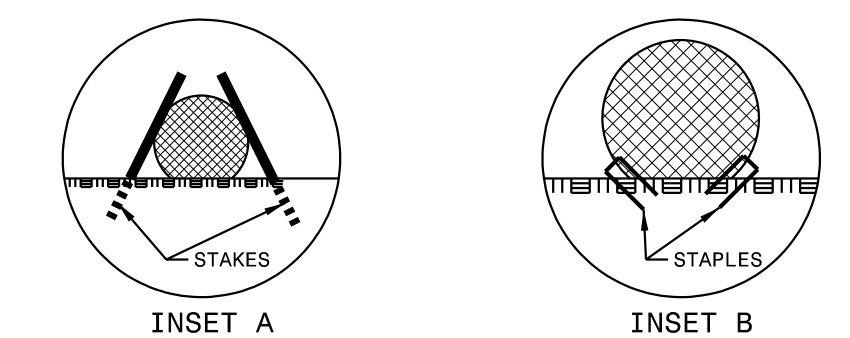
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WATTLE DETAIL



NOTES:

- USE MINIMUM 18 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 18" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



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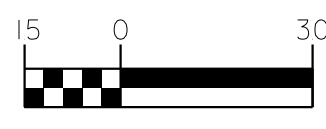
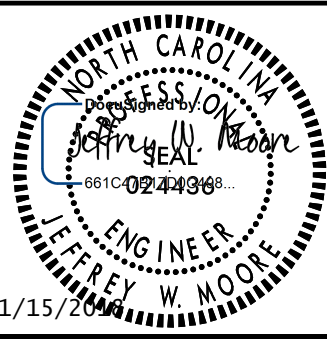
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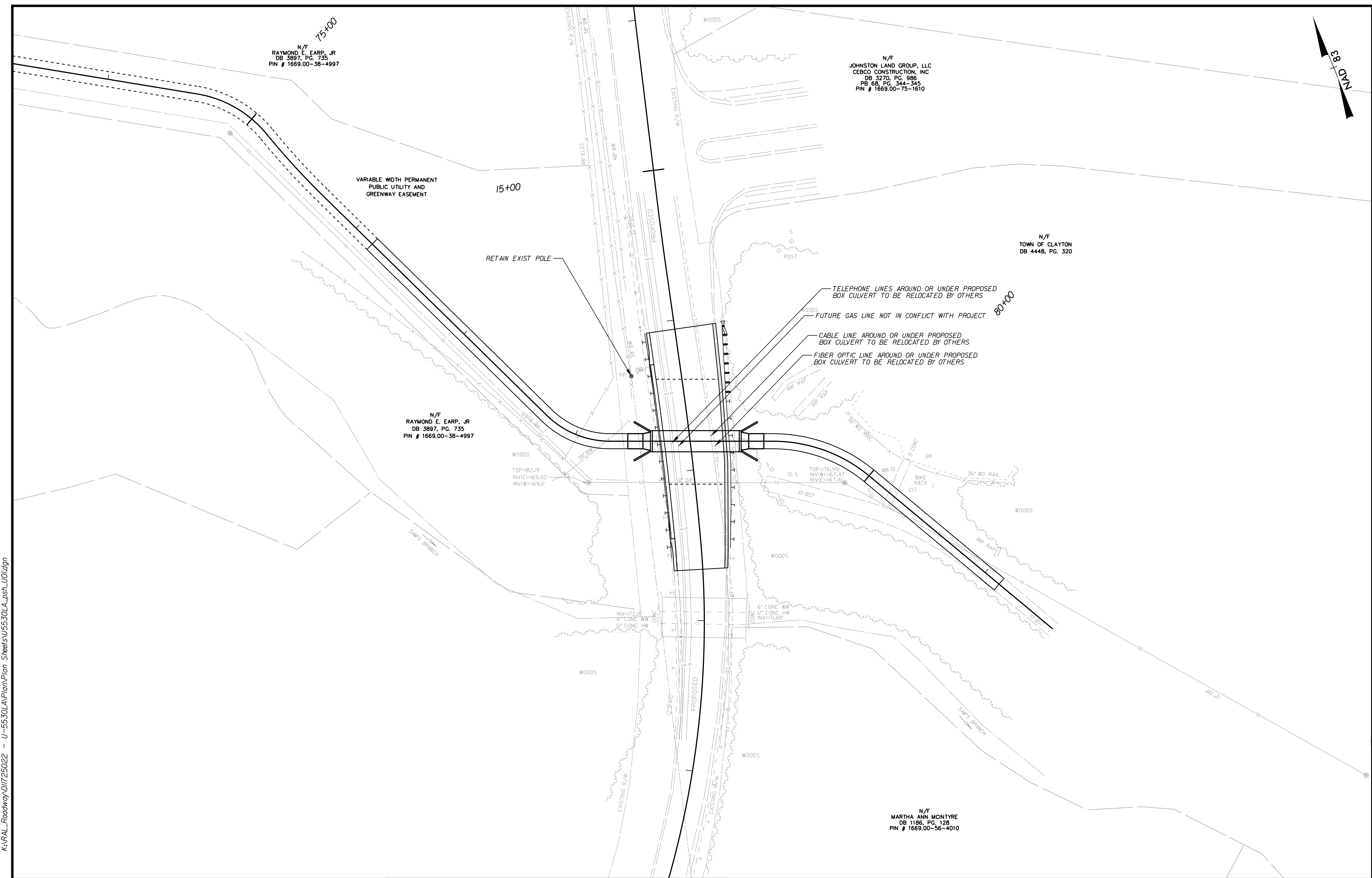
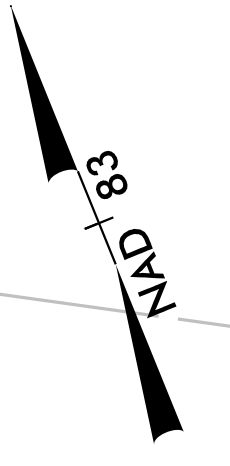
EROSION CONTROL
PLANS



PROJECT:

**U-5530LA
SAM'S BRANCH GREENWAY
GRADE SEPARATED CROSSING**

JOB NUMBER:	U-5530LA	SHEET NUMBER:	EC-2
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N/F
RAYMOND E. EARP, JR
DB 3897, PG. 735
PIN # 1669.00-38-4997

N/F
JOHNSTON LAND GROUP, LLC
CEBCO CONSTRUCTION, INC
DB 3270, PG. 986
PB 68, PG. 344-345
PIN # 1669.00-75-1610

N/F
TOWN OF CLAYTON
DB 4448, PG. 320

N/F
RAYMOND E. EARP, JR
DB 3897, PG. 735
PIN # 1669.00-38-4997

N/F
MARTHA ANN MCINTYRE
DB 1186, PG. 128
PIN # 1669.00-56-4010

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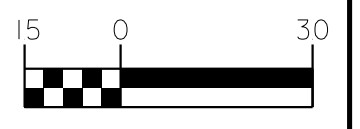
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UTILITIES BY OTHERS

FOR INFORMATION ONLY



PROJECT: **U-5530LA
SAM'S BRANCH GREENWAY
GRADE SEPARATED CROSSING**

JOB NUMBER: U-5530LA SHEET NUMBER: UO-1

U-5530LA WATER LINE RELOCATION

TOWN OF CLAYTON WATER AND SEWER DEPARTMENT

GENERAL WATER AND SANITARY SEWER NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE TOWN OF CLAYTON AND THE STATE OF NORTH CAROLINA.
2. IN THE EVENT THAT A UTILITY ITEM IS NOT COVERED BY THESE PLANS, THEN THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE TOWN OF CLAYTON'S MANUAL OF SPECIFICATIONS, STANDARDS AND DESIGNS COVERING SUCH ITEMS SHALL APPLY.
3. THE PROJECT UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE UTILITIES, ALL PUBLIC PIPE, STRUCTURES, AND FITTINGS SHALL BE INSPECTED BY THE TOWN INSPECTOR PRIOR TO BEING COVERED. THE INSPECTOR MUST ALSO BE PRESENT DURING TAPPING, DISINFECTION, AND PRESSURE TESTING OF ALL MAINS. THE CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
4. TYPICAL DEPTH OF COVER FOR ALL WATER LINES SHALL BE 3.5' UNLESS OTHERWISE SHOWN OR SPECIFIED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE TOWN OF CLAYTON FOR ANY ADDITIONAL INFORMATION ON EXISTING WATER AND SEWER UTILITIES.
6. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXACT LOCATION, ORIENTATION, AND ELEVATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION OR ORDERING MATERIALS.
7. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.
8. UNLESS OTHERWISE SHOWN OR SPECIFIED, ALL WATER PIPELINE TRENCH BEDDING SHALL BE IN ACCORDANCE WITH DETAIL 511.02.
9. UNLESS OTHERWISE INDICATED, ALL GRADE ELEVATIONS SHOWN ARE ALONG THE PIPELINE ALIGNMENT ON PROFILES.
10. THE CONTRACTOR SHALL PLACE SAND OR SCREENINGS ON ALL ASPHALT SURFACES THAT ARE AFFECTED BY THE INSTALLATION OF THE PIPELINES.
11. THE CONTRACTOR SHALL REINSTALL ALL SIGNS AS REQUIRED BY THE NCDOT ALONG STATE ROADWAYS AND TOWN STREETS AS REQUIRED BY THE TOWN OF CLAYTON.
12. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SHEETING REQUIRED FOR THE INSTALLATION OF THE PIPELINES. ALL EXCAVATIONS SHALL BE KEPT WITHIN THE DESIGNATED EASEMENTS OR RIGHT-OF-WAY WIDTHS. EXCAVATION WITHIN PAVED AREAS SHALL BE KEPT TO A MINIMUM. SHEETING SHALL BE INSTALLED AS NEEDED TO PROTECT EXISTING UTILITIES.
13. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH PLANS AND BE PERFORMED BY A LICENSED NC UTILITY CONTRACTOR.
14. WATERLINE ALIGNMENT SHOWN IS BASED ON STANDARD FITTINGS AVAILABLE FOR DUCTILE IRON PIPE. JOINT DEFLECTIONS SHALL NOT EXCEED 75 PERCENT OF MANUFACTURER'S RECOMMENDED DEFLECTION. "SHORT JOINTS" OF PIPE MAY BE USED FOR INCREASED DEFLECTION.
15. CONTRACTOR SHALL PROVIDE A MEANS TO KEEP ALL NEW PIPING COMPLETELY ISOLATED FROM EXISTING PIPING UNTIL ALL NEW PIPING HAS BEEN TESTED, DISINFECTED, AND ACCEPTED FOR SERVICE.
16. ALL UTILITIES SHALL BE CONSTRUCTED ACCORDING TO MINIMUM SEPARATION REQUIREMENTS.
17. CONTRACTOR SHALL USE ALL NECESSARY FITTINGS TO CONNECT TO EXISTING WATERLINES.
18. CONTRACTOR SHALL COORDINATE WATER AND SEWER INSTALLATIONS WITH EXISTING AND PROPOSED TELEPHONE, CABLE TV, GAS, FIBER OPTIC, POWER CABLE ROUTES, ETC. ALL COSTS ASSOCIATED WITH LOCATING AND REPAIRING DAMAGED BURIED CABLES ALONG THE PROJECT ROUTE SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.
19. TESTING PROCEDURES AND REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE TOWN OF CLAYTON'S MANUAL OF SPECIFICATIONS, STANDARDS AND DESIGNS.
20. CONTRACTOR SHALL ABANDON UTILITIES AS REQUIRED IN THE NCDOT STANDARD SPECIFICATIONS. WHERE GROUT IS UTILIZED THE CONTRACTOR SHALL DETERMINE APPROXIMATE AMOUNT REQUIRED FOR ABANDONMENT AND TRACK VERSUS VOLUME PUMPED TO AVOID POTENTIAL DAMAGE CAUSED BY GROUT LEAKAGE THROUGH UNKNOWN SERVICES OR OTHER CONNECTIONS TO PIPE.

21. CONTRACTOR SHALL KEEP EXISTING WATERLINES ACTIVE AND IN SERVICE UNTIL CONNECTIONS ARE READY TO BE MADE. ALLOWABLE SHUT DOWN OF EXISTING WATERLINE SHALL BE LIMITED TO EIGHT HOURS. CONSTRUCTION PHASING SHALL BE COORDINATED TO ALLOW FOR THE NEW WATERLINE TO BE INSTALLED AND TESTED PRIOR TO CONNECTIONS TO EXISTING WATERLINES BEING MADE.
22. ALL WATER VALVES SHALL BE DIRECT BURY MJ GATE VALVES. VALVES WITHIN RESTRAINED JOINT SECTIONS SHALL UTILIZE MEGA-LUGS FOR RESTRAINT.
23. WHERE A THEORETICAL 1/4 SLOPE FALLS WITHIN ANY TRAVEL LANE, THE CONTRACTOR SHALL PROVIDE ACTIVE TRENCH SHORING DURING CONSTRUCTION.
24. ALL WATER PIPE SHALL BE PER TOWN OF CLAYTON STANDARDS.
25. WHERE CLEARANCES BETWEEN PROPOSED PIPES IS LESS THAN 12", REFER TO DETAIL 022211B FOR SUPPORT DETAIL.
26. THE UNIT COST FOR RECONNECTING, RELOCATING, AND/OR ADJUSTING EXISTING WATER AND SEWER SERVICES/METERS SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND OTHER SERVICES REQUIRED FOR A FINAL AND FULLY OPERATIONAL INSTALLATION. ASPHALT PLACEMENT WILL BE PAID PER NCDOT SECTION 610 PAY ITEMS. ALL OTHER RESTORATION, INCLUDING CURB, SIDEWALK, CONCRETE, DRIVEWAYS, BRICK, TRAFFIC ISLANDS, ETC. SHALL BE CONSIDERED INCIDENTAL TO EACH INSTALLATION.
27. ALL GATE VALVES SHALL BE DIRECT BURY GATE VALVES WITH A VALVE BOX. VALVES SHALL BE RESTRAINED TO PROPOSED WATERLINE USING A "MEGA-LUG" OR APPROVED EQUAL RESTRAINT.

STANDARD UTILITY NOTES:

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE TOWN OF CLAYTON'S MANUAL OF SPECIFICATIONS, STANDARDS AND DESIGNS
2. UTILITY SEPARATION REQUIREMENTS:
 - A. A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
 - B. WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE TOWN. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
 - C. WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASUREMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
 - D. 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
 - E. MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER DETAIL 022211B).
 - F. ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE TOWN OF CLAYTON WATER AND SEWER DEPARTMENT PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 72 HOUR ADVANCE NOTICE TO THE TOWN OF CLAYTON WATER AND SEWER DEPARTMENT. ALLOWABLE SHUT DOWN TIME OF EXISTING WATER LINES SHALL BE LIMITED TO EIGHT HOURS.
5. 3.5' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS.
6. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDMO, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
7. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION.

CONSTRUCTION SEQUENCE:

1. CONTRACTOR TO OBTAIN APPROPRIATE CONSTRUCTION PERMITS
2. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES
3. CLEAR, GRUB, AND ROUGH GRADE SITE
4. EXCAVATE AND INSTALL UTILITIES
 - A. ALL EXCAVATION SHALL BE BACKFILLED AND STABILIZED AT THE END OF EACH DAY UNLESS APPROVED BY THE ENGINEER.
5. FINISH FINAL GRADING AND SURFACE RESTORATION
6. REMOVE SEDIMENTATION AND EROSION CONTROL MEASURES. (S&EC MEASURES SHALL REMAIN UNTIL ENTIRE SITE IS APPROXIMATELY REESTABLISHED)

K:\PAL_Roadway\01725022 - U-5530LA\Plan\Water\Sewer\PlanSheets\U5530LA_111_100.dgn

11/15/2017

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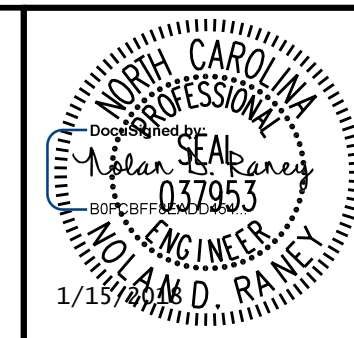
PREPARED IN THE OFFICE OF:



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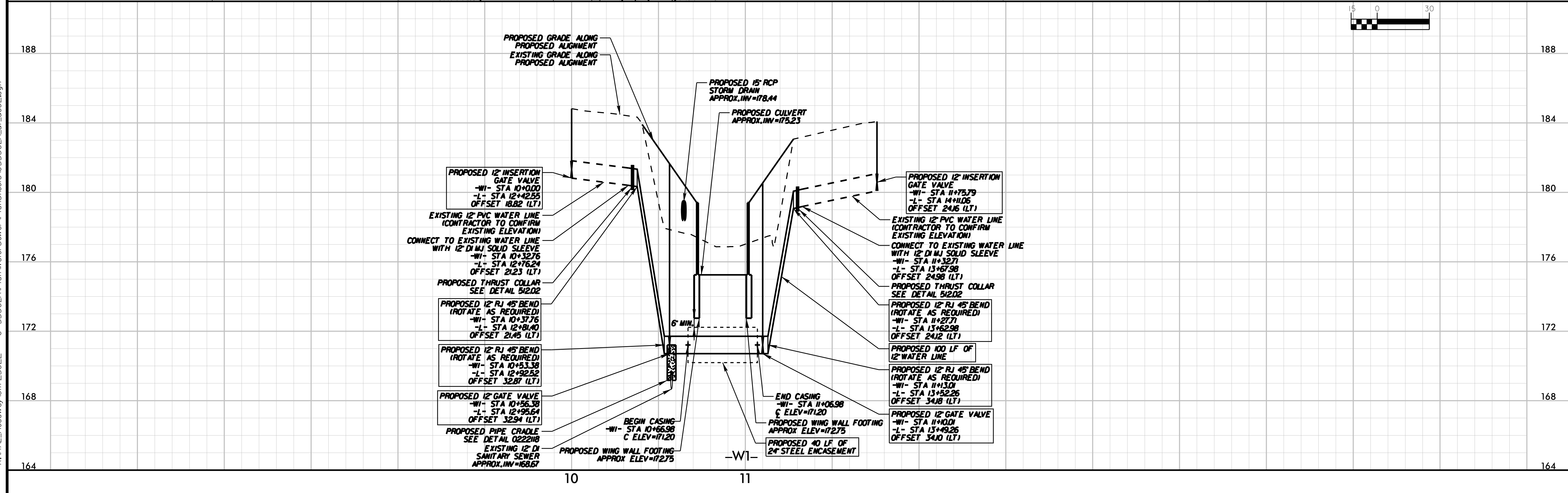
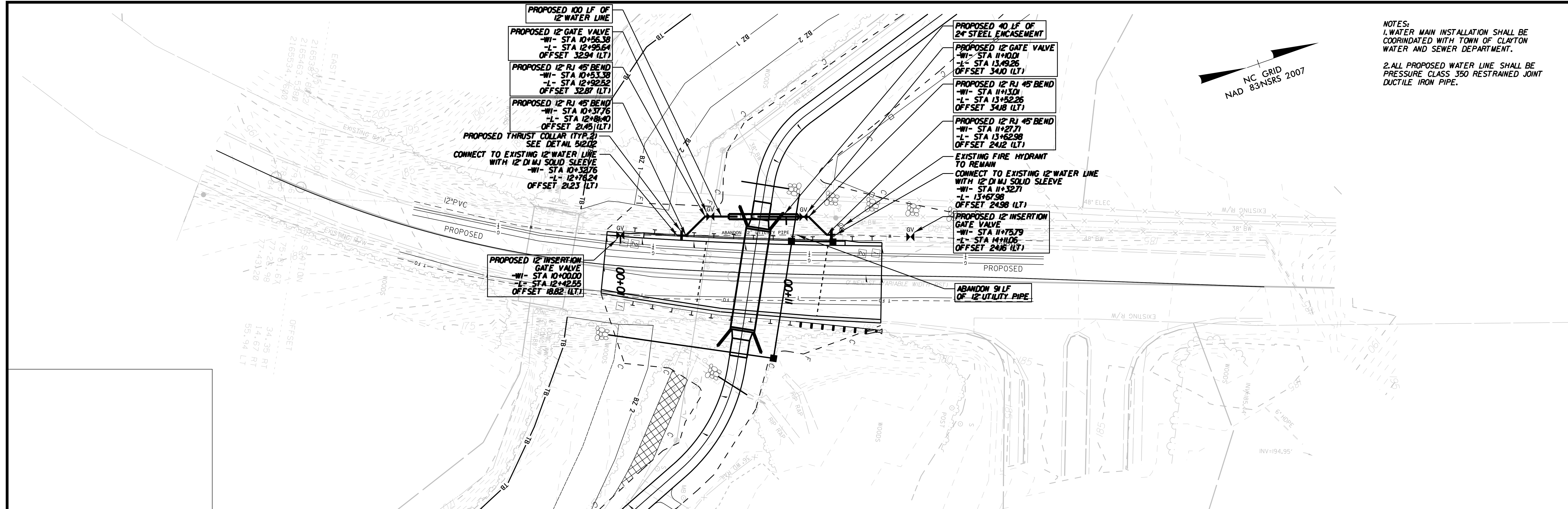
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**WATER LINE RELOCATION
GENERAL NOTES**



NOT TO SCALE

PROJECT:	
U-5530LA SAM'S BRANCH GREENWAY GRADE SEPARATED CROSSING	
JOB NUMBER:	SHEET NUMBER:
U-5530LA	UC-1



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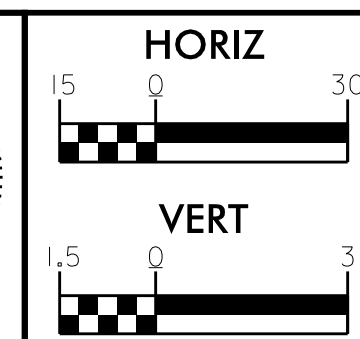
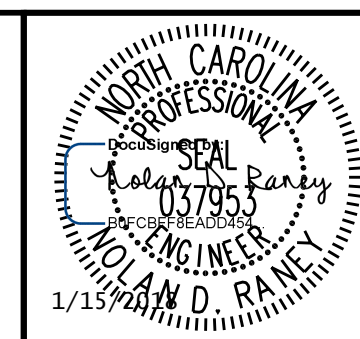
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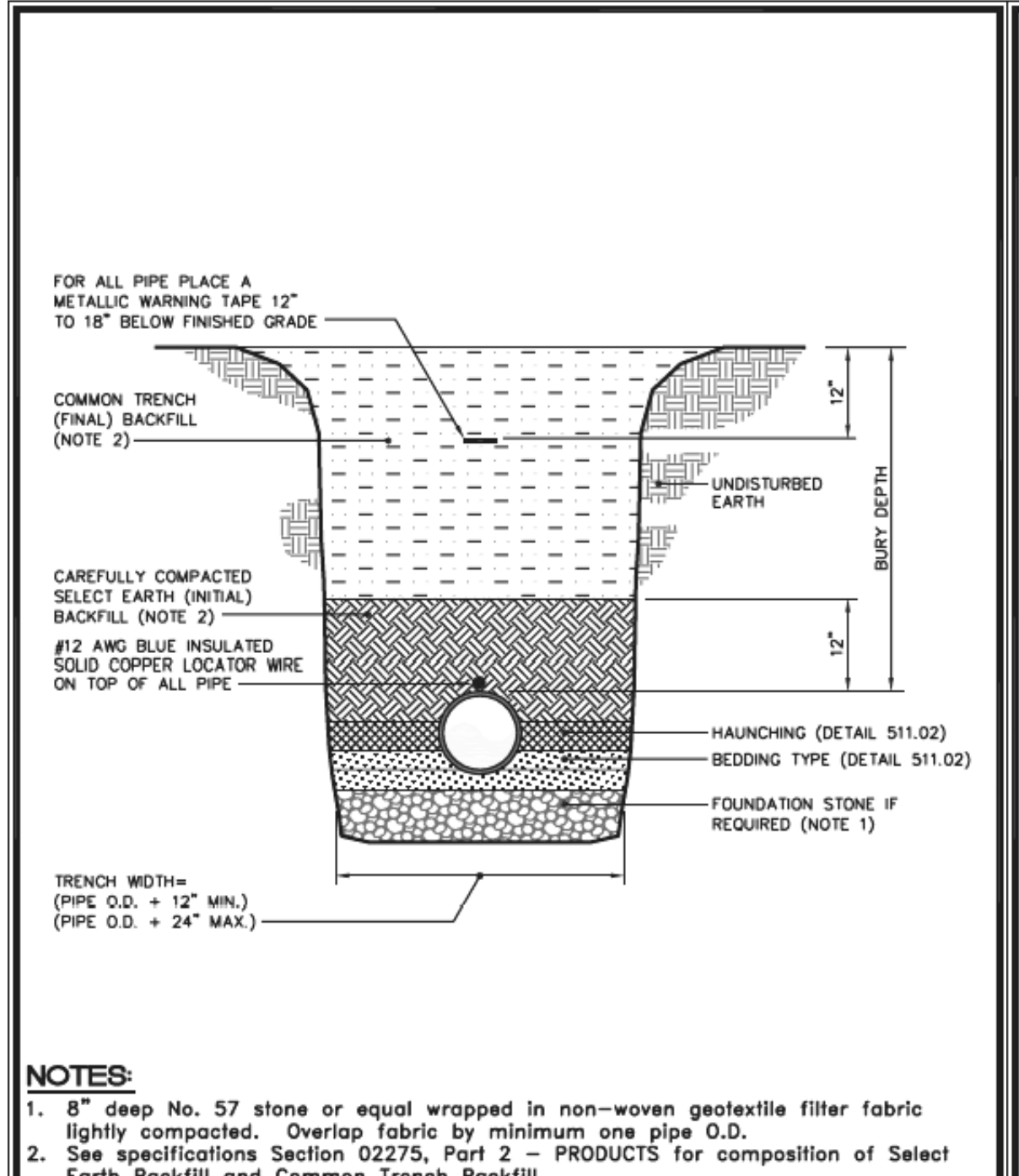
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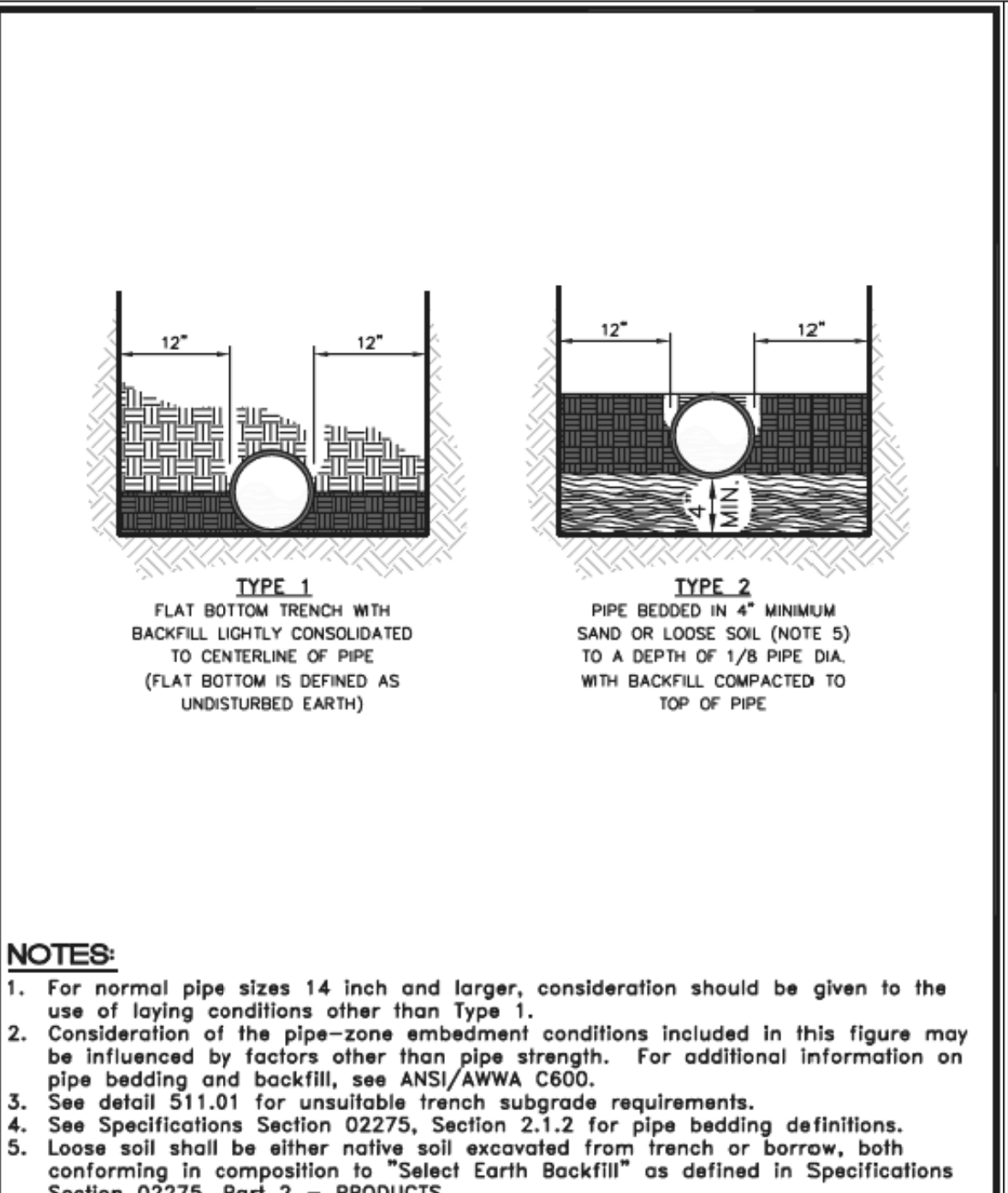
WATER LINE RELOCATION PLAN & PROFILE



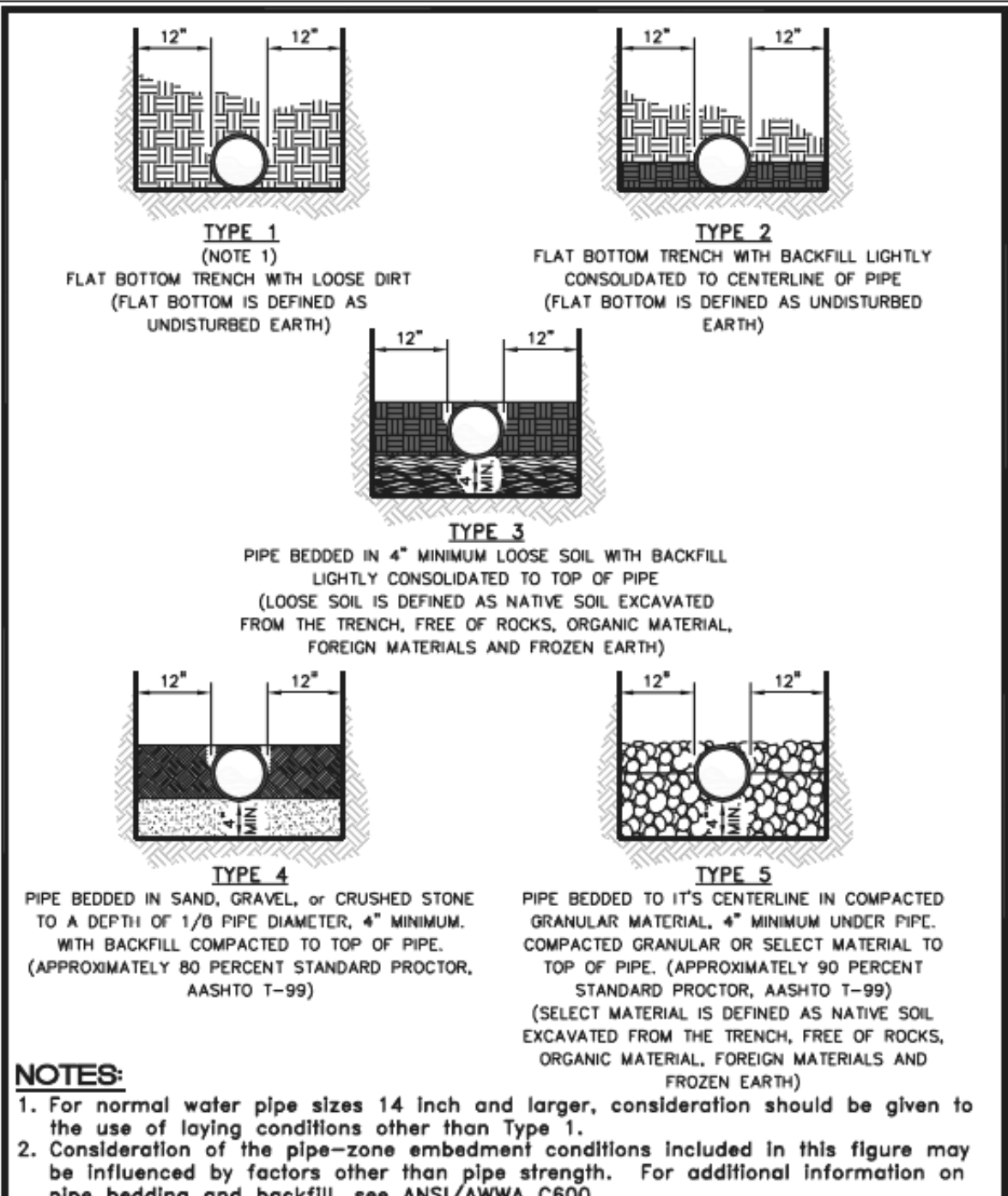
PROJECT:	U-5530LA SAM'S BRANCH GREENWAY GRADE SEPARATED CROSSING	
JOB NUMBER:	U-5530LA	SHEET NUMBER: UC-2



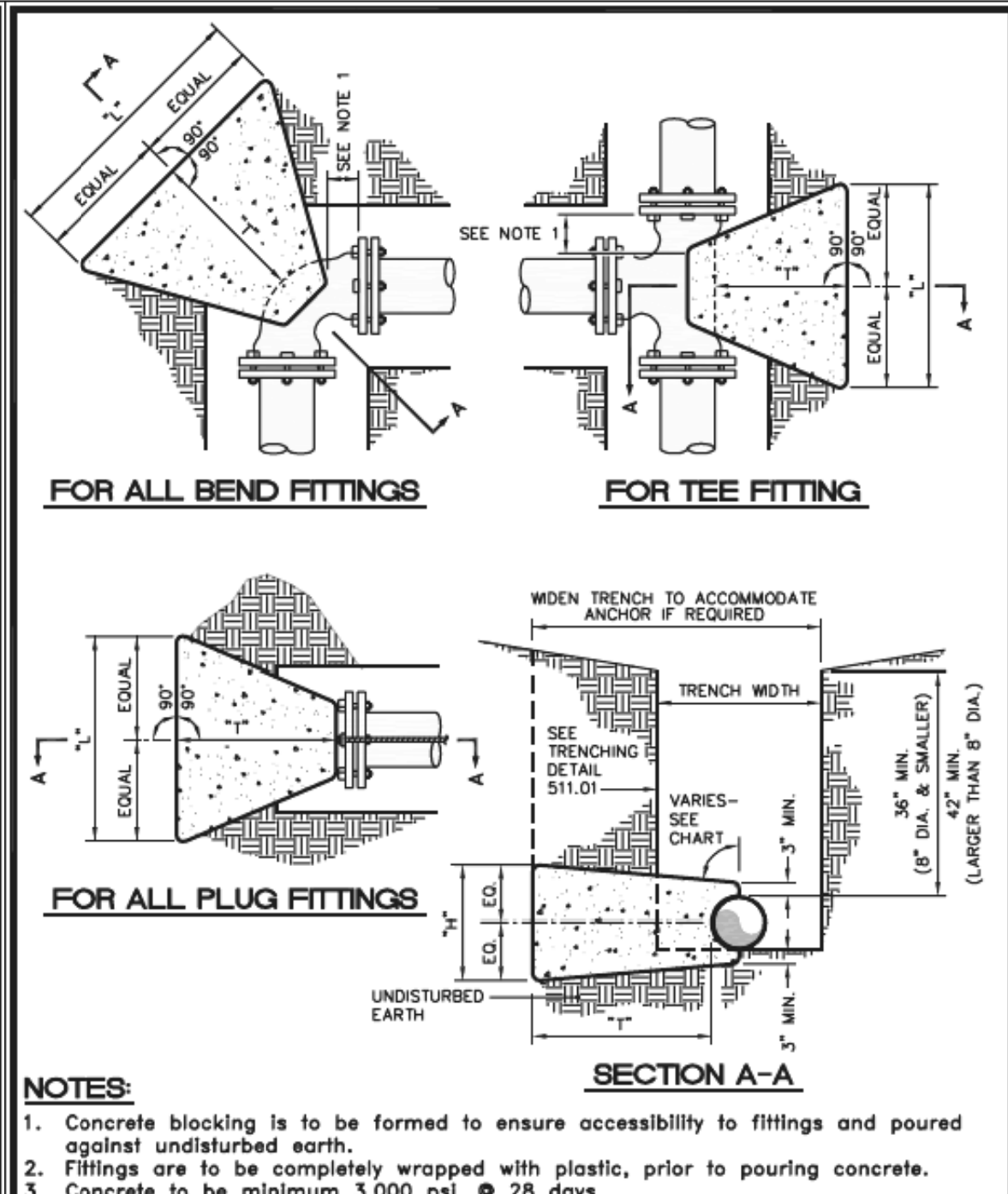
TOWN of CLAYTON
 WATER MAIN PIPE LAYING CONDITIONS
 SCALE: Not To Scale
 DETAIL: 1
 SHEET: 1 of 3



TOWN of CLAYTON
 WATER MAIN EMBEDMENT DETAILS
 SCALE: Not To Scale
 DETAIL: 2
 SHEET: 1 of 3



TOWN of CLAYTON
 PIPE EMBEDMENT DETAILS
 SCALE: Not To Scale
 DETAIL: 3
 SHEET: 1 of 3



TOWN of CLAYTON
 HORIZONTAL BLOCKING DETAIL FOR BENDS, TEE, & PLUG
 SCALE: Not To Scale
 DETAIL: 4
 SHEET: 1 of 3

TABLE 10.7 - DESCRIPTION OF MATERIAL CLASSIFICATION (As Defined in ASTM 2321)

Class	Type	Soil Symbol Group	Description ASTM D 2487	Percentage Passing Sieve Sizes	Atterberg Limits	Coefficients		
				1/5 (40 mm)	No. 4 (4.75 mm)	No. 200 (0.075 mm)		
				LL	PL	Uniformity Coefficient		
IA	Manufactured Aggregates, open graded, clean	None	Angular, crushed stone or rock, crushed gravel, broken coral, crushed slag, cinders or shales; large void content, contain little or no fines	100	<10%	<5	Non Plastic	
IB	Manufactured, Processed Aggregates, dense graded, clean	None	Angular, crushed stone (or other Dose 14 material) and stone and mixtures with gradations selected to minimize migration of adjacent soils; contain little or no fines	100	<5%	<5	Non Plastic	
II	Coarse-Grained Soils, clean	GW	Well-graded gravels and gravel-sand mixtures; little or no fines	>50% of Coarse Fraction	<5	Non Plastic		>4 1 to 3
		GP	Poorly-graded gravels and gravel-sand mixtures; little or no fines	>50% of Coarse Fraction	<5	Non Plastic		<4 <1 or >3
		SP	Poorly-graded sands and gravelly sands; little or no fines	>50% of Coarse Fraction	<5	Non Plastic		<4 <1 or >3
III	Coarse-Grained Soils with Fines	GM	Sands and gravels which are borderline between clean and with fines	>50% of Coarse Fraction	>12% to <50%	Non Plastic		Same as for GW, GP, SP and SW
		GC	Clayey gravels, gravel-sand-clay mixtures	>50% of Coarse Fraction	>12% to <50%	<4 or >4 Line		
		SM	Silty sands, sand-silt mixtures	>50% of Coarse Fraction	>12% to <50%	<4 or >4 Line		
IV	Fine-Grained Soils (Inorganic)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, silts with slight plasticity	100	100	>50	<50	<4 or >4 Line
		CL	Inorganic clays of low to medium plasticity, gray clay, sandy clay, silty clay, lean clay	100	100	>50	>50	>4 or >4 Line
		MH	Inorganic silts, micaceous or distensionless fine sandy or silty soils, elastic silts	100	100	>50	>50	<4 or >4 Line
V	Organic Soils	OH	Inorganic clays of high plasticity, fat clays	100	100	>50	>50	>4 or >4 Line
		OL	Organic silts and organic silty clays of low plasticity	100	100	>50	<50	<4 or >4 Line
		OH	Organic clays of medium to high plasticity, organic silts	100	100	>50	>50	>4 or >4 Line
	Highly Organic	PT	Peat and other high organic soils					

TABLE 10.8 RECOMMENDATIONS FOR INSTALLATION AND USE OF SOILS AND AGGREGATES FOR FOUNDATION, EMBEDMENT AND BACKFILL

Soil Class (see Table 10.7A)	CLASS IA	CLASS IB	CLASS II	CLASS III	CLASS IV	
General Recommendations and Restrictions	Do not use where conditions may cause migration of fines from adjacent soil and loss of pipe support. Suitable for use as a drainage blanket and underdrain in rock cuts where adjacent material is suitably graded.	Where hydraulic gradient exists check gradation to minimize migration. "Clean" groups suitable for use as drainage blanket and underdrain.	Do not use where water conditions in trench may cause instability.	Obtain geotechnical evaluation of proposed material. May not be suitable under high earth fills. Surface applied wheel loads and under heavy vibratory compactors and tampers. Do not use where water conditions in trench may cause instability.		
Foundation	Suitable as foundation and for replacing over-excavated and unstable trench bottom as restricted above. Install and compact in 6-in. maximum layers.	Suitable as foundation and for replacing over-excavated and unstable trench bottom. Install and compact in 6-in. maximum layers.	Suitable as foundation and for replacing over-excavated and unstable trench bottom as restricted above. Do not use in thickness greater than 12 in. total. Install and compact in 6-in. maximum layers.	Suitable as foundation and for replacing over-excavated and unstable trench bottom as restricted above. Do not use in thickness greater than 12 in. total. Install and compact in 6-in. maximum layers.	Suitable as foundation and for replacing over-excavated and unstable trench bottom as restricted above. Do not use in thickness greater than 12 in. total. Install and compact in 6-in. maximum layers.	
Bedding	Suitable as restricted above. Install in 6-in. maximum layers. Level final grade by hand. Minimum depth 4 in. (6 in. in rock cuts).	Suitable as restricted above. Install and compact in 6-in. maximum layers. Level final grade by hand. Minimum depth 4 in. (6 in. in rock cuts).	Suitable as restricted above. Install and compact in 6-in. maximum layers. Level final grade by hand. Minimum depth 4 in. (6 in. in rock cuts).	Suitable as restricted above. Install and compact in 6-in. maximum layers. Level final grade by hand. Minimum depth 4 in. (6 in. in rock cuts).	Suitable as restricted above. Install and compact in 6-in. maximum layers. Level final grade by hand. Minimum depth 4 in. (6 in. in rock cuts).	
Haunching	Suitable as restricted above. Install in 6-in. maximum layers. Work in ground pipe by hand to provide uniform support.	Suitable as restricted above. Install and compact in 6-in. maximum layers. Work in ground pipe by hand to provide uniform support.	Suitable as restricted above. Install and compact in 6-in. maximum layers. Work in ground pipe by hand to provide uniform support.	Suitable as restricted above. Install and compact in 6-in. maximum layers. Work in ground pipe by hand to provide uniform support.	Suitable as restricted above. Install and compact in 6-in. maximum layers. Work in ground pipe by hand to provide uniform support.	
Initial Backfill	Suitable as restricted above. Install to a minimum of 6 in. above pipe crown.	Suitable as restricted above. Install and compact to a minimum of 6 in. above pipe crown.	Suitable as restricted above. Install and compact to a minimum of 6 in. above pipe crown.	Suitable as restricted above. Install and compact to a minimum of 6 in. above pipe crown.	Suitable as restricted above. Install and compact to a minimum of 6 in. above pipe crown.	
Final Backfill	Compact as required by the engineer.	Compact as required by the engineer.	Compact as required by the engineer.	Compact as required by the engineer.	Compact as required by the engineer.	

TABLE 10.9 TEST PRESSURE - 150 P.S.I.

PIPE SIZE	TYPE FITTING	DIMENSIONS (FL)	VOLUME CONCRETE CU. YD.
4 INCHES	TEE / PLUG	11 1/4"	1.00
		22 1/2"	1.00
		90°	1.00
6 INCHES	TEE / PLUG	11 1/4"	1.50
		22 1/2"	1.50
		90°	1.50
8 INCHES	TEE / PLUG	11 1/4"	2.00
		22 1/2"	2.00
		90°	2.00
12 INCHES	TEE / PLUG	11 1/4"	3.00
		22 1/2"	3.00
		90°	3.00
16 INCHES	TEE / PLUG	11 1/4"	4.50
		22 1/2"	4.50
		90°	4.50

TABLE 10.10 TEST PRESSURE - 200 P.S.I.

PIPE SIZE	TYPE FITTING	DIMENSIONS (FL)	VOLUME CONCRETE CU. YD.
4 INCHES	TEE / PLUG	11 1/4"	1.00
		22 1/2"	1.00
		90°	1.00
6 INCHES	TEE / PLUG	11 1/4"	1.50
		22 1/2"	1.50
		90°	1.50
8 INCHES	TEE / PLUG	11 1/4"	2.00
		22 1/2"	2.00
		90°	2.00
12 INCHES	TEE / PLUG	11 1/4"	3.00
		22 1/2"	3.00
		90°	3.00
16 INCHES	TEE / PLUG	11 1/4"	4.50
		22 1/2"	4.50
		90°	4.50

CHART NOTES:
 1. If blocking excavation is in lightly compacted fill areas, or in areas where boulders or stumps have been removed, blocking size must be re-sized for the specific location/circumstance by a NC licensed Professional Engineer.
 2. Blocking sizes shown in these tables assume the following:
 A. Blocking is constructed in residual soils as shown in detail.
 B. Soil bearing pressure = 2000 psf
 C. Velocity of flow = 1.5 fps.
 3. This detail not applicable to reducing bends.
 4. Neither the weight of the concrete blocking nor friction between concrete blocking and soil was added into blocking sizes computation. Therefore, blocking size is conservative.

TOWN of CLAYTON
 HORIZONTAL BLOCKING DETAIL FOR BENDS, TEE, & PLUG
 SCALE: Not To Scale
 DETAIL: 4
 SHEET: 1 of 3

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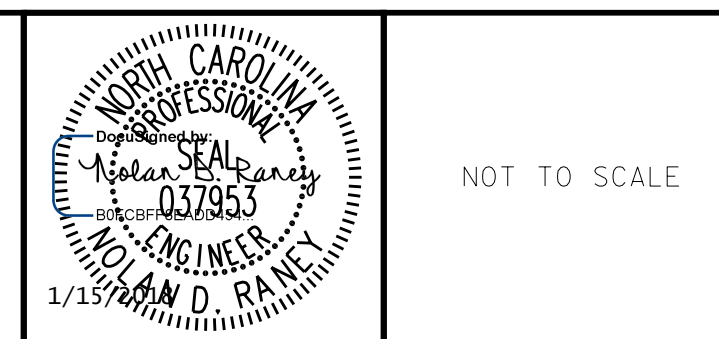
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WATER LINE RELOCATION
 MISCELLANEOUS DETAILS



PROJECT:
 U-5530LA
 SAM'S BRANCH GREENWAY
 GRADE SEPARATED CROSSING

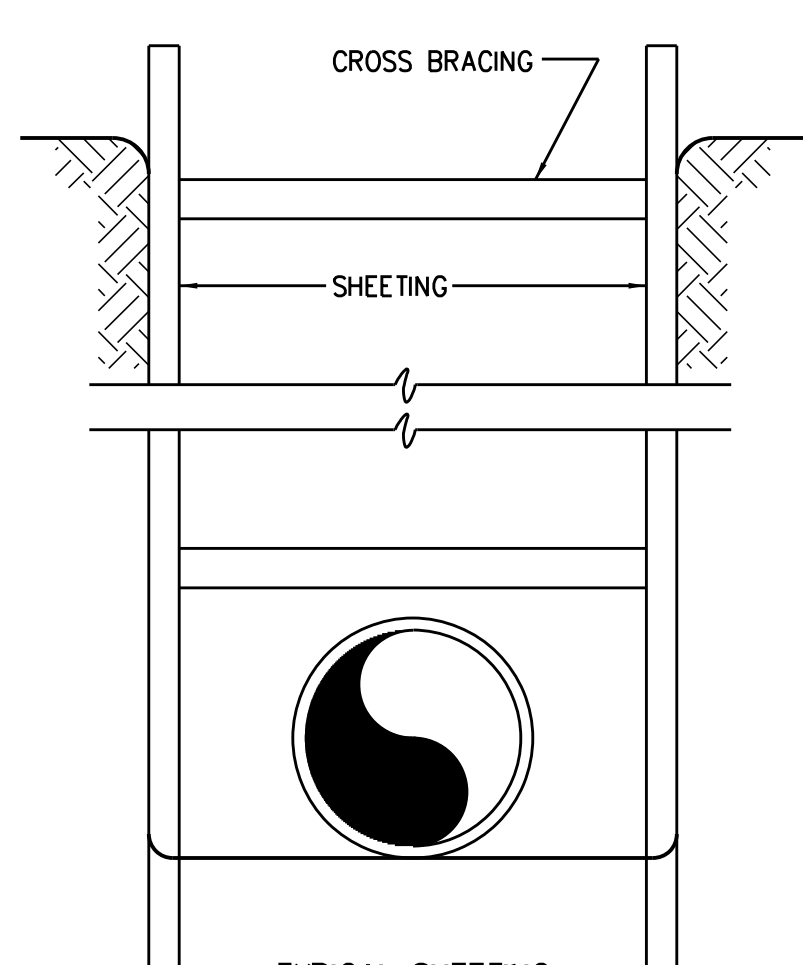
NOT TO SCALE

JOB NUMBER: U-5530LA SHEET NUMBER: UC-3A

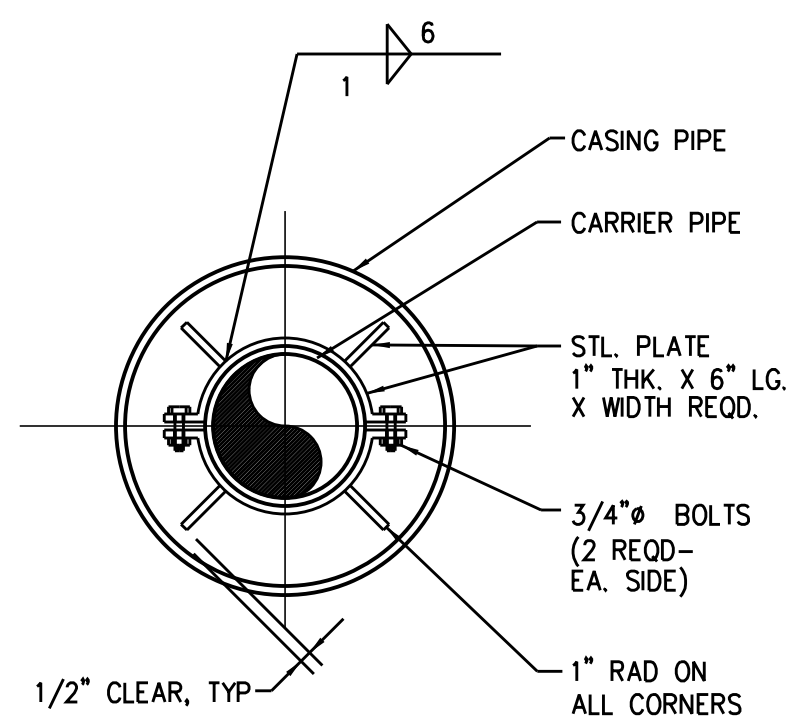
TRENCH EXCAVATION LIMITS		
INTERNAL DIAMETER OF PIPE	WIDTH OF TRENCH	
	MAX	W=MIN
4'-6"	3'-9"	2'-0"
8'-10"	3'-9"	2'-2"
12"	3'-9"	O.D.+2'
14'-16"	4'-2"	O.D.+2'
18"	4'-4"	O.D.+2'
20',21"	4'-8"	O.D.+2'
24"	4'-11"	O.D.+2'
27"	5'-9"	O.D.+2'
30"	6'-7"	O.D.+2'
36"	7'-4"	O.D.+2'
42"	8'-2"	O.D.+2'
48"	8'-9"	O.D.+2'
54"	9'-4"	O.D.+2'
60"	9'-10"	O.D.+2'
72"	11'-0"	O.D.+2'
78"	11'-8"	O.D.+2'
84"	12'-0"	O.D.+2'
90"	12'-6"	O.D.+2'
96"	13'-0"	O.D.+2'
108"	14'-0"	O.D.+2'
DEPTH OF CUT	S MAXIMUM PAVEMENT REPLACEMENT WIDTH	
0-6'	S=W+4'	
>6-8'	S=W+8'	
>8-10'	S=W+12'	
>10-12'	S=W+16'	
>12-14'	S=W+20'	
>14-16'	S=W+24'	
>16-18'	S=W+28'	
>18'	S=W+32'	

W = TRENCH WIDTH AT BOTTOM OF PIPE. TRENCH SIDE SLOPES SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.

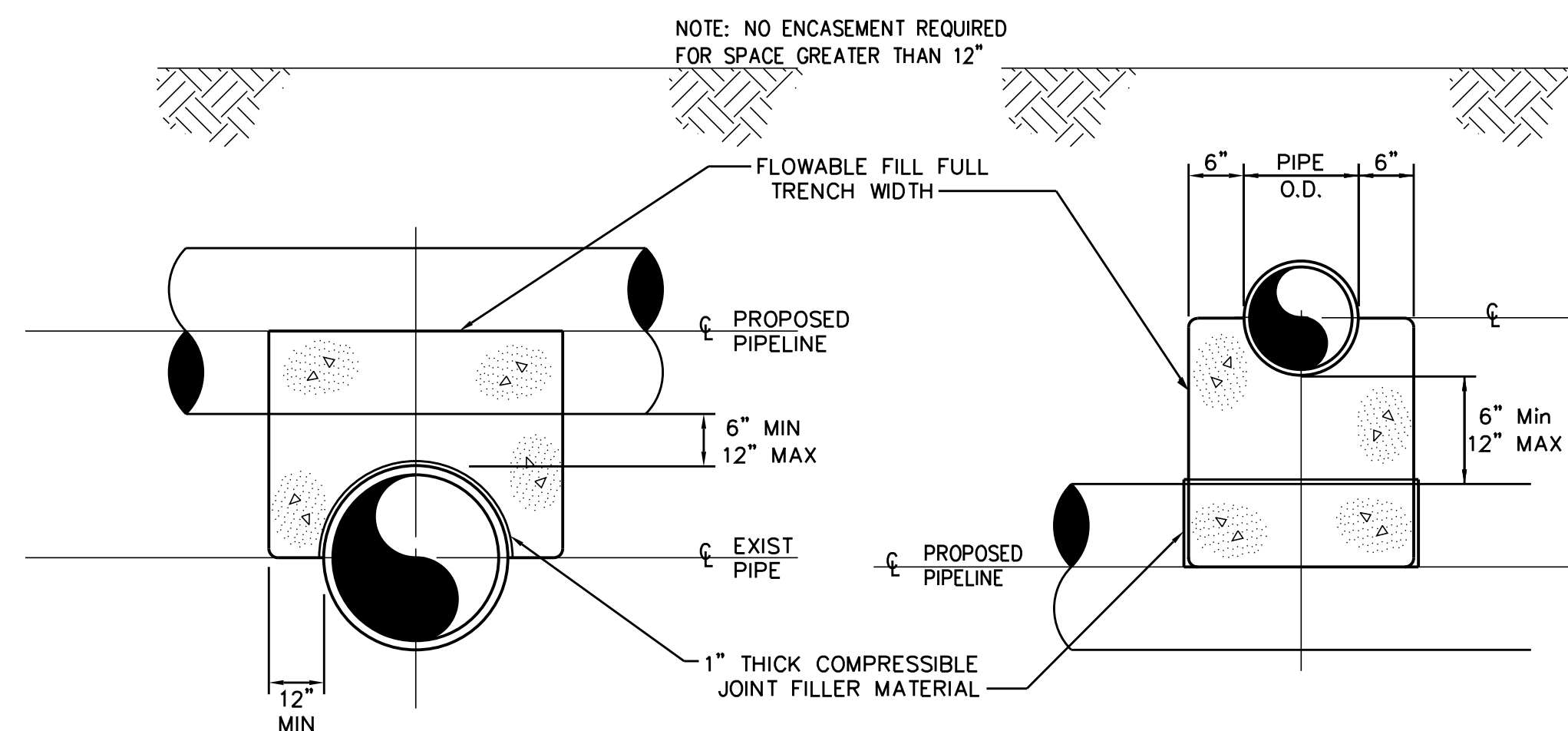
0222110



TYPICAL SHEETING
0222121



PIPE ALIGNMENT GUIDE
0232204



0222118

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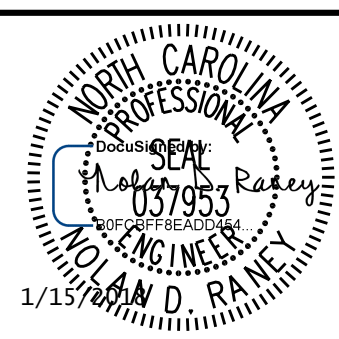
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WATER LINE RELOCATION
MISCELLANEOUS DETAILS

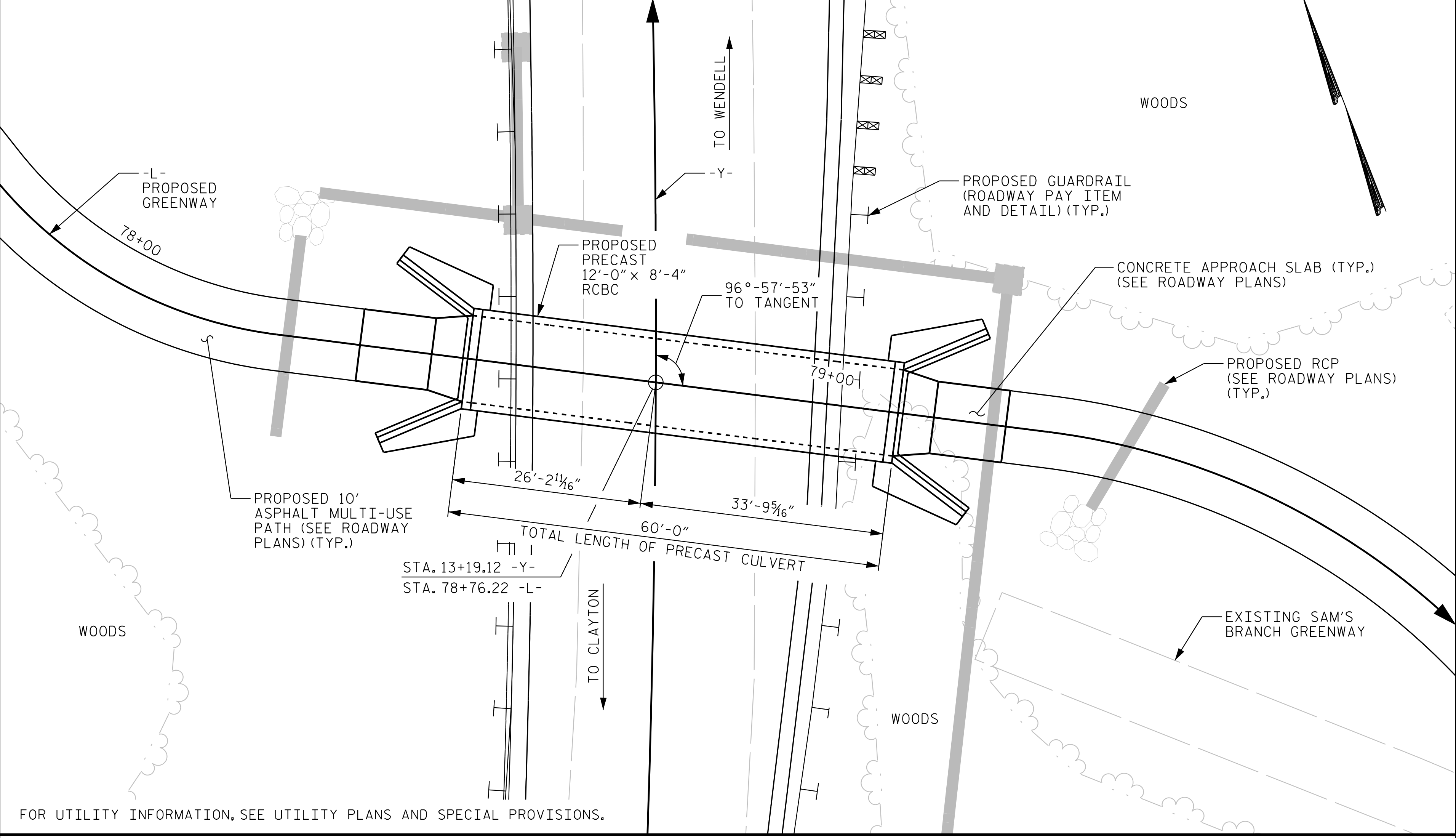


NOT TO SCALE

PROJECT:	U-5530LA SAM'S BRANCH GREENWAY GRADE SEPARATED CROSSING	
JOB NUMBER:	U-5530LA	SHEET NUMBER: UC-3C

BENCHMARK: BL-6237 -L- STA. 77+26.98, OFFSET 14.67' RT., EL. 178.65'

F.A. PROJECT NO. STPDA-0406 (7)



LOCATION SKETCH

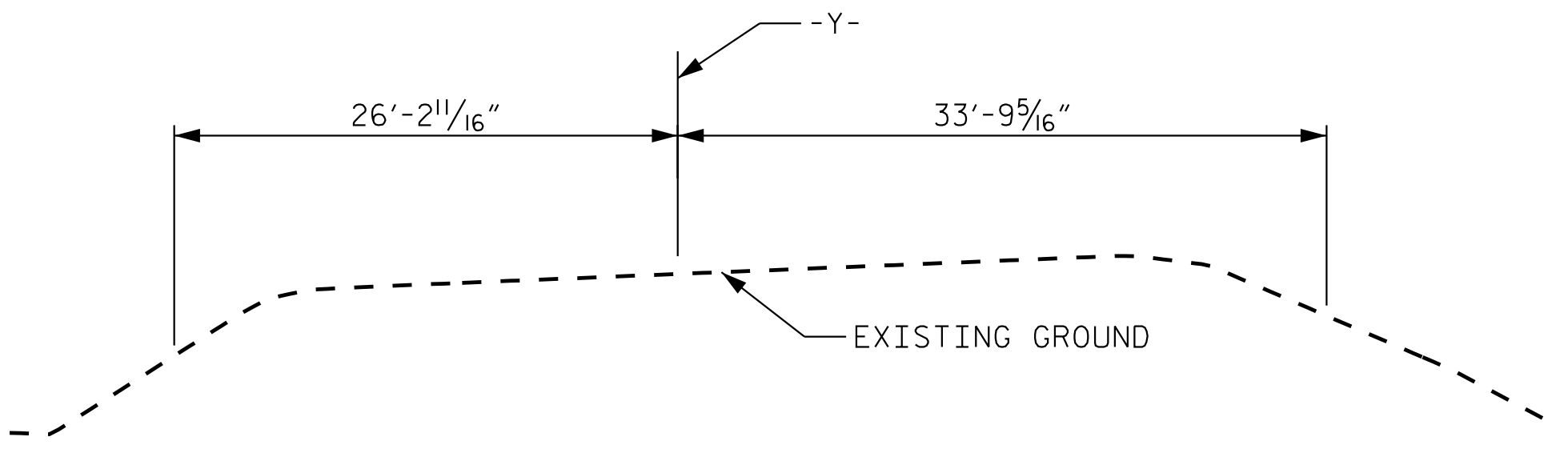
NOTES

- ASSUMED LIVE LOAD = HL 93.
- FOR OTHER STANDARD DATA AND NOTES SEE SHEET SN.
- DESIGN FILL ----- 2'-0" (MAX.), 4" (MIN.)
- 3"Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- THE ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.
- DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.
- THE CONCRETE FOR THE PRECAST UNITS SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 5000 P.S.I.. THE CONCRETE FOR THE HEADWALLS, WINGS AND END CURTAIN WALLS SHALL BE CLASS "A" CONCRETE AS PER THE STANDARD SPECIFICATIONS.
- CAST-IN-PLACE CONCRETE SHALL BE POURED IN THE FOLLOWING ORDER:
 1. WING FOOTINGS, AND CURTAIN WALL.
 2. HEADWALLS, WING WALLS.
- ALL PRECAST UNITS SHALL BE PLACED PRIOR TO POURING THE WINGS, END CURTAIN WALLS AND HEADWALLS. THE EXTERIOR PRECAST UNITS SHALL BE UNDETERMINED TO PROVIDE FOR THE WING FOOTINGS TO BE POURED TO THE DEPTH AND DIMENSIONS AS SHOWN ON THIS PLAN SHEET.
- FOUNDATION CONDITIONING MATERIAL SHALL HAVE A THICKNESS OF AT LEAST 1'-0" BELOW THE BOTTOM OF THE PRECAST UNITS. THE MATERIAL SHALL BE FORMED AND SCREED TO THE PROPER ELEVATION AT LEAST 1'-0" BEYOND THE SIDES OF THE PRECAST UNITS.
- THE PRECAST UNITS SHALL BE CAREFULLY POSITIONED ON THE PREPARED FOUNDATION CONDITIONING MATERIAL. FEMALE END UPGRADE WITH THE MALE END FULLY INSERTED AND EACH JOINT CHECKED FOR ALIGNMENT PRIOR TO JACKING THE UNIT INTO PLACE. SATISFACTORY FITTING AND PROPER GRADE SHALL BE MAINTAINED AS THE WORK PROCEEDS.
- WHEN ANY PRECAST UNIT IS DAMAGED DURING HANDING, THE ENGINEER AT HIS DISCRETION SHALL REJECT THE UNIT AS BEING UNFIT FOR INSTALLATION AND THE CONTRACTOR SHALL REMOVE SUCH REJECTED UNIT FROM THE PROJECT. MINOR DAMAGE TO THE UNIT MAY BE REPAIRED BY THE CONTRACTOR WHEN PERMITTED BY THE ENGINEER.
- CARE SHALL BE TAKEN DURING BACKFILL AND COMPACTION OPERATION TO MAINTAIN ALIGNMENT AND PREVENT DAMAGE TO THE JOINTS. UNITS WHICH BECOME MISALIGNED, SHOW EXCESSIVE SETTLEMENT, OR HAVE OTHERWISE BEEN DAMAGED BY THE CONTRACTOR'S OPERATION SHALL AT THE DISCRETION OF THE ENGINEER BE REMOVED AND REPLACED BY THE CONTRACTOR AT NO COST TO THE TOWN.
- CONCRETE CHAMFERS ON EXTERIOR LONGITUDINAL EDGES OF THE PRECAST UNITS MAY BE AS PER THE FABRICATORS RECOMMENDATION, HOWEVER ALL WORKMANSHIP SHALL PROVIDE CONCRETE COVER OVER THE WELDED WIRE FABRIC AS SPECIFIED ON THE PLANS AND THE CONCRETE CHAMFERS CHOSEN SHALL IN NO WAY FUNCTIONALLY LESSEN THE DESIGN SHOWN ON THE PLANS.
- FOR PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS; FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 IN SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 IN SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE OF THE SAMPLE PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

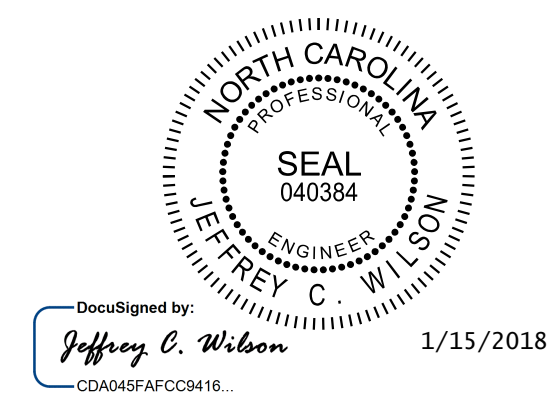
TOTAL BILL OF MATERIAL	
PRECAST REINFORCED CONCRETE BOX CULVERT @ STA. 13+19.12 -Y-.... LUMP SUM	
CULVERT EXCAVATION LUMP SUM	
FOUNDATION CONDITIONING MATERIAL BOX CULVERT TONS	105.0

ROADWAY DATA	
GRADE POINT EL. @ STA. 13+19.12 -Y-	= 185.36'
GREENWAY EL. @ STA. 78+76.22 -L-	= 175.41'
ROADWAY SLOPES	= 2:1

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.



PROFILE ALONG CULVERT



Kimley»Horn
 421 Fayetteville Street, Suite 600
 Raleigh, NC 27601-1772
 Phone (919) 677-2000
 NC LICENSE # F-0102

PROJECT NO. U-5530LA
JOHNSTON COUNTY
 STATION: 13+19.12 -Y-
78+76.22 -L-
 SHEET 1 OF 4

TOWN OF CLAYTON
 STANDARD PRECAST REINFORCED CONCRETE BOX CULVERT
 SINGLE 12'-0" X 8'-4" 95° SKEW

REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

TOTAL SHEETS 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

K:\RD1_Structures\Culvert\N.C.01172602 - U-5530LA_Clayton Ped Turn\Cad\Drawings\Struc.01172602.C-1.dwg

1/10/2018 DRAWN BY: J. I. KIMBLE DATE: 1/18
 CHECKED BY: A. L. PHILLIPS DATE: 1/18
 DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 1/18

FOUNDATION NOTES:

SEE GEOTECHNICAL REPORT BY S&ME, INC. DATED JUNE 30, 2015.

SEE NOTES ON SHEET C-1 FOR FOUNDATION CONDITIONING MATERIAL REQUIREMENTS.

FOR BOX CULVERTS, SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.

RECOMMEND INCLUDING 20 CUBIC YARDS OF UNDERCUT OF SOFT FOUNDATION SOILS AS A CONTINGENCY ITEM TO BE USED AT THE DISCRETION OF THE ENGINEER.

RECOMMEND 30 TONS OF FOUNDATION CONDITIONING MATERIAL TO BE USED AS BACKFILL FOR UNDERCUT.

MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL - 3,000 LB/SF.

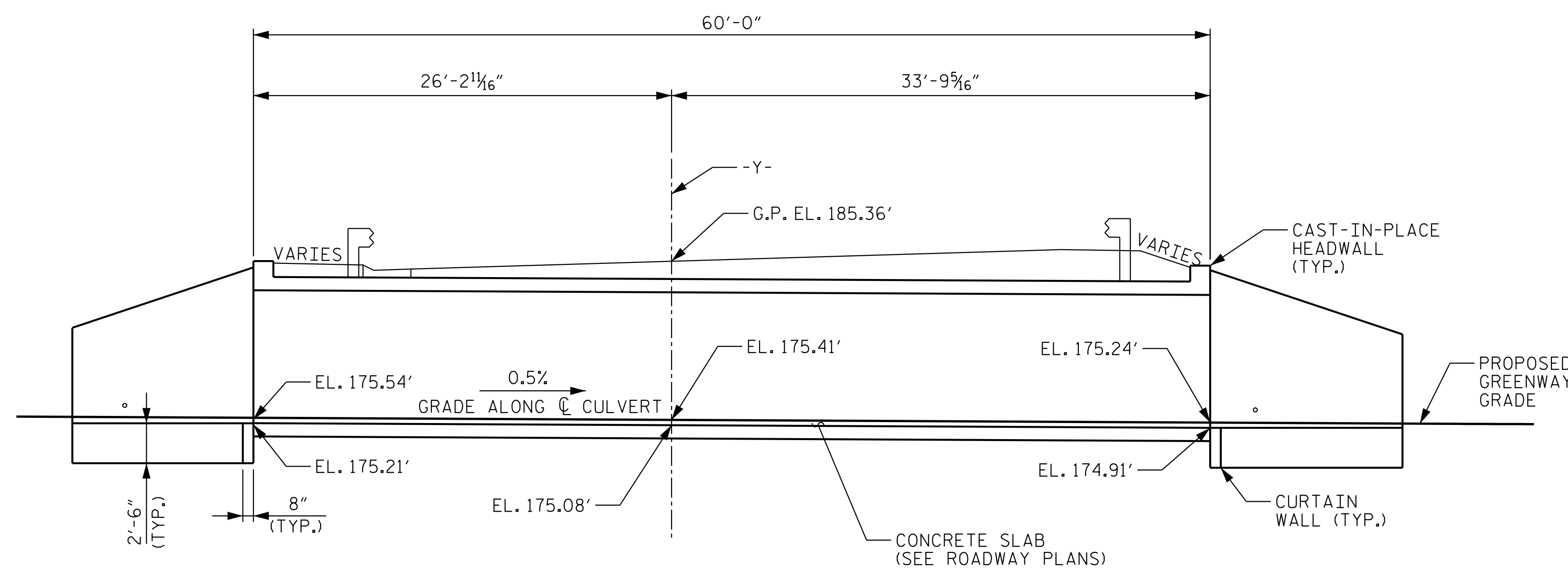
BACK FILL AGGREGATE PARAMETERS:

AGGREGATE TYPE *	UNIT WEIGH	FRICTION ANGLE	COHESION
CLASS VI	110 PCF	38°	0 PSF
CLASS II (TYPE 1)	135 PCF	32°	0 PSF

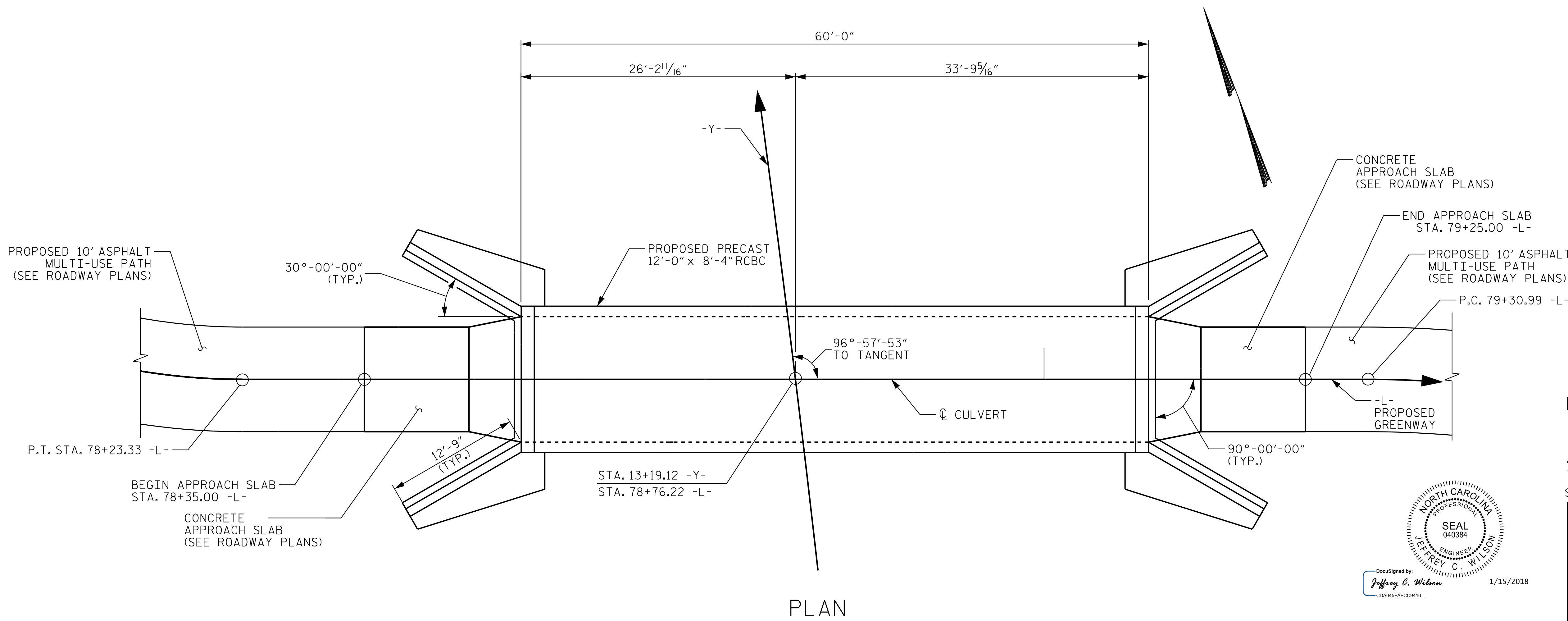
* SEE NCDOT ARTICLE 1016-3 FOR MATERIAL REQUIREMENTS.

IN-SITU MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGH	FRICTION ANGLE	COHESION
RETAINED BACKFILL	120 PCF	20°	300 PSF
FOUNDATION	115 PCF	30°	0 PSF

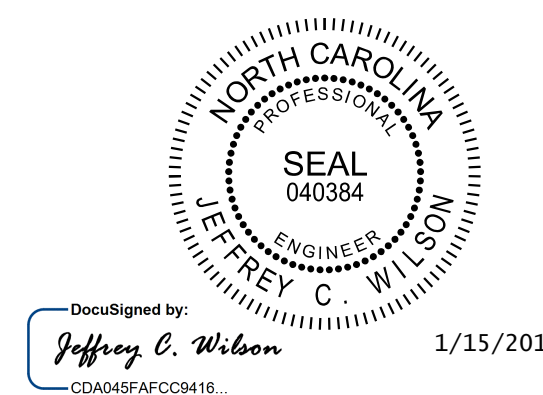


CULVERT SECTION ALONG CULVERT & -L-



PLAN

PROJECT NO. U-5530LA
JOHNSTON COUNTY
 STATION: 13+19.12 -Y-
78+76.22 -L-
 SHEET 2 OF 4



Kimley»Horn

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 Raleigh, NC 27601-1772
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TOWN OF CLAYTON
 STANDARD PRECAST
 REINFORCED CONCRETE
 BOX CULVERT
 SINGLE 12'-0" X 8'-4"
 95° SKEW

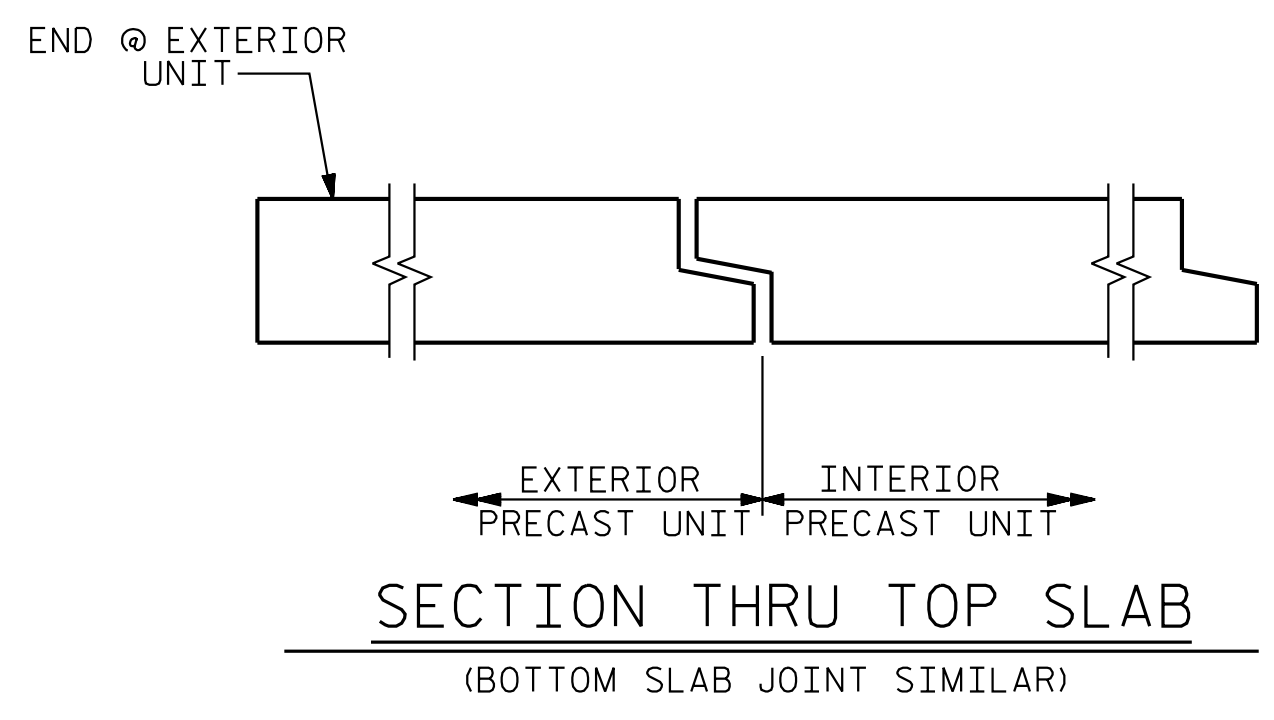
REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

TOTAL SHEETS: 4

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DRAWN BY: J. I. KIMBLE DATE: 1/18
 CHECKED BY: A. L. PHILLIPS DATE: 1/18
 DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 1/18



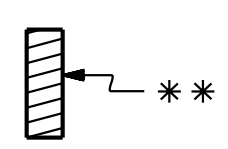
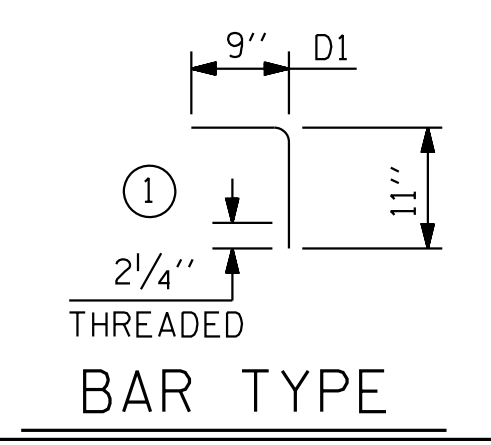
NOTES

FOR CONCRETE QUANTITIES FOR HEADWALLS, CURTAIN WALLS, AND WINGS, SEE SHEET 4 OF 4.

TOP SLAB OF PRECAST BOX CULVERT SHALL BE A MAXIMUM OF 10".

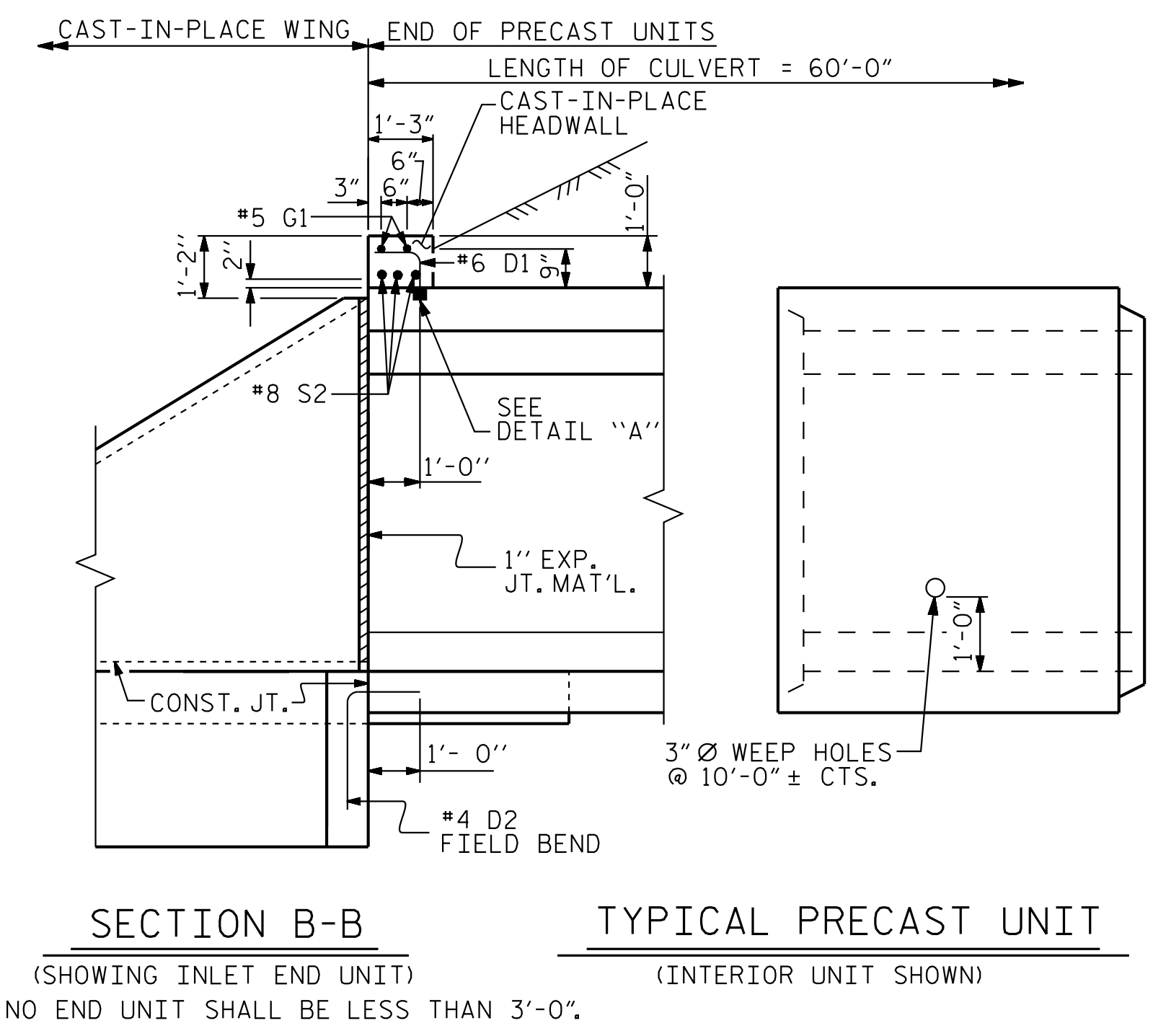
BAR SCHEDULE

BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	28	6	1	1'-8"	70
D2	28	4	STR	3'-4"	62
G1	5	5	STR	13'-8"	71
S2	6	8	STR	13'-8"	219
TOTAL				LBS.	422

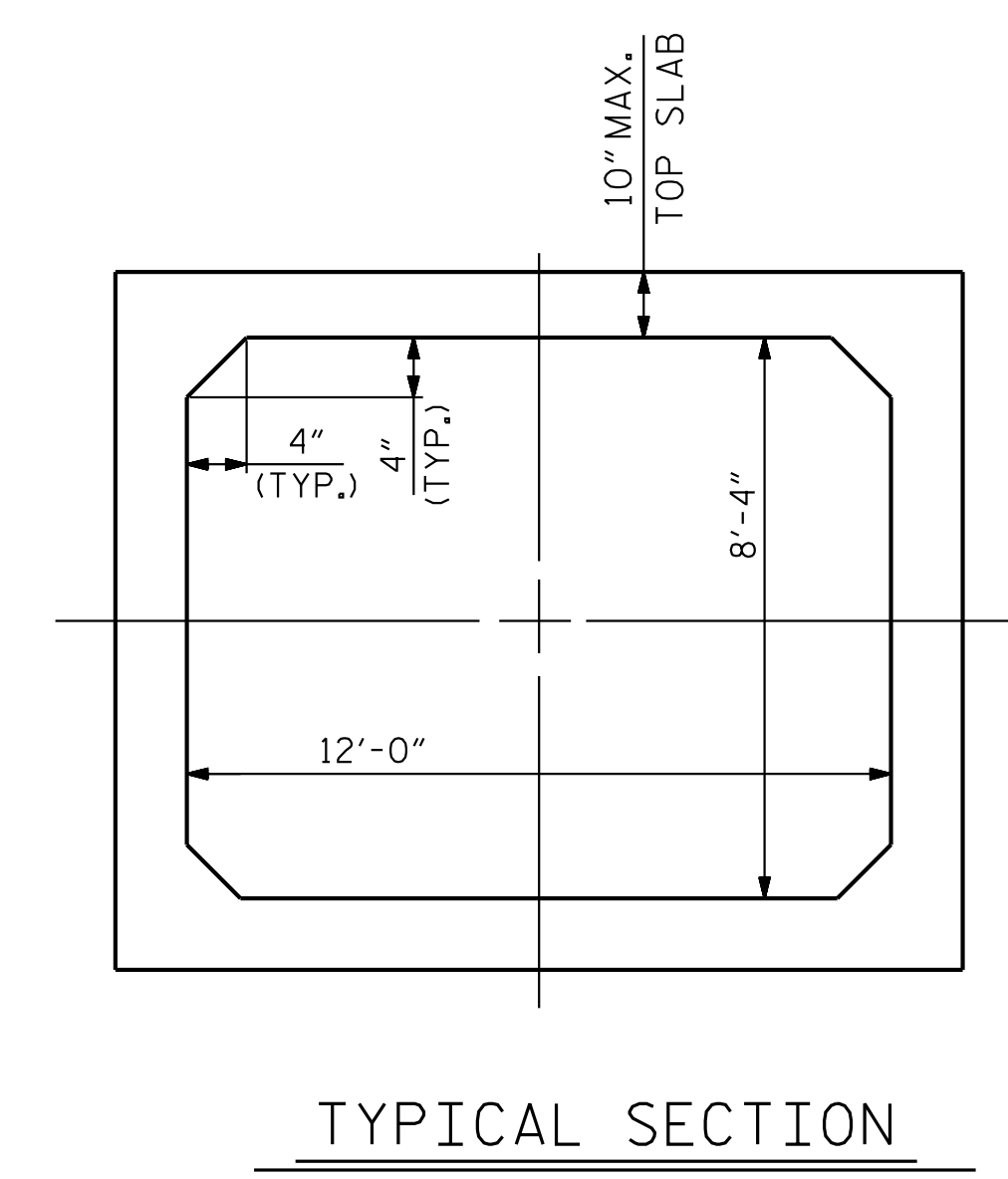
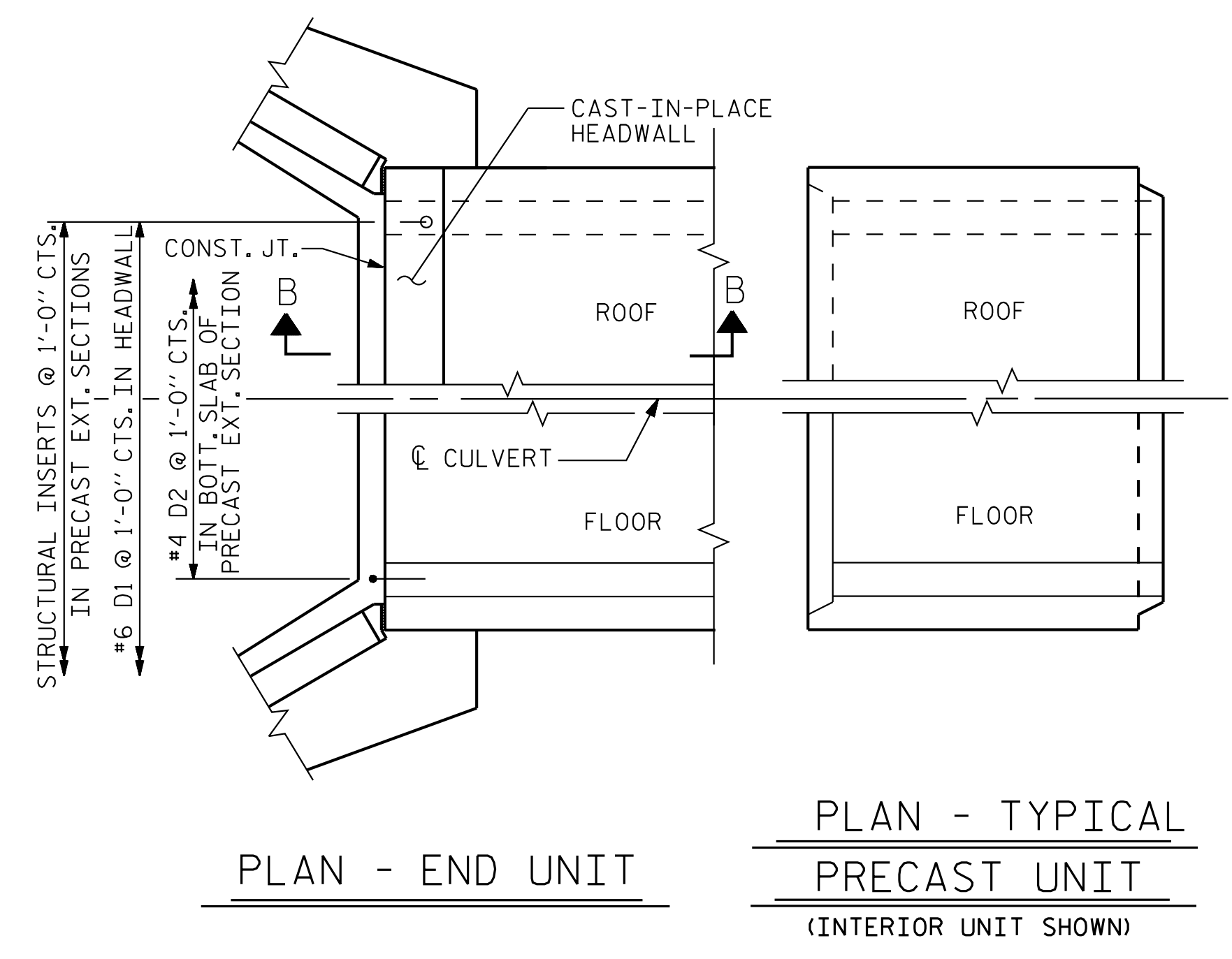


DETAIL A

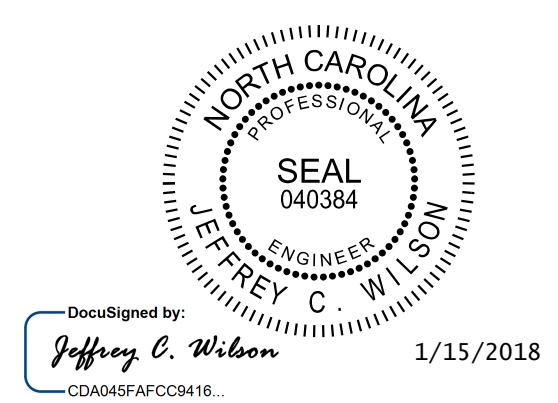
** STRUCTURAL CONNECTION INSERTS
2 STRUT OR EQUAL;
LENGTH = 4 1/2"; INSERT WIDTH = 2";
DIA. = 3/4". NO. REQUIRED = 28



ELEVATION



PROJECT NO. U-5530LA
JOHNSTON COUNTY
STATION: 13+19.12 -Y-
78+76.22 -L-
SHEET 3 OF 4



TOWN OF CLAYTON
STANDARD PRECAST
REINFORCED CONCRETE
BOX CULVERT
SINGLE 12'-0" X 8'-4"
95° SKEW

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Raleigh, NC 27601-1772
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1			3			TOTAL SHEETS
2			4			4

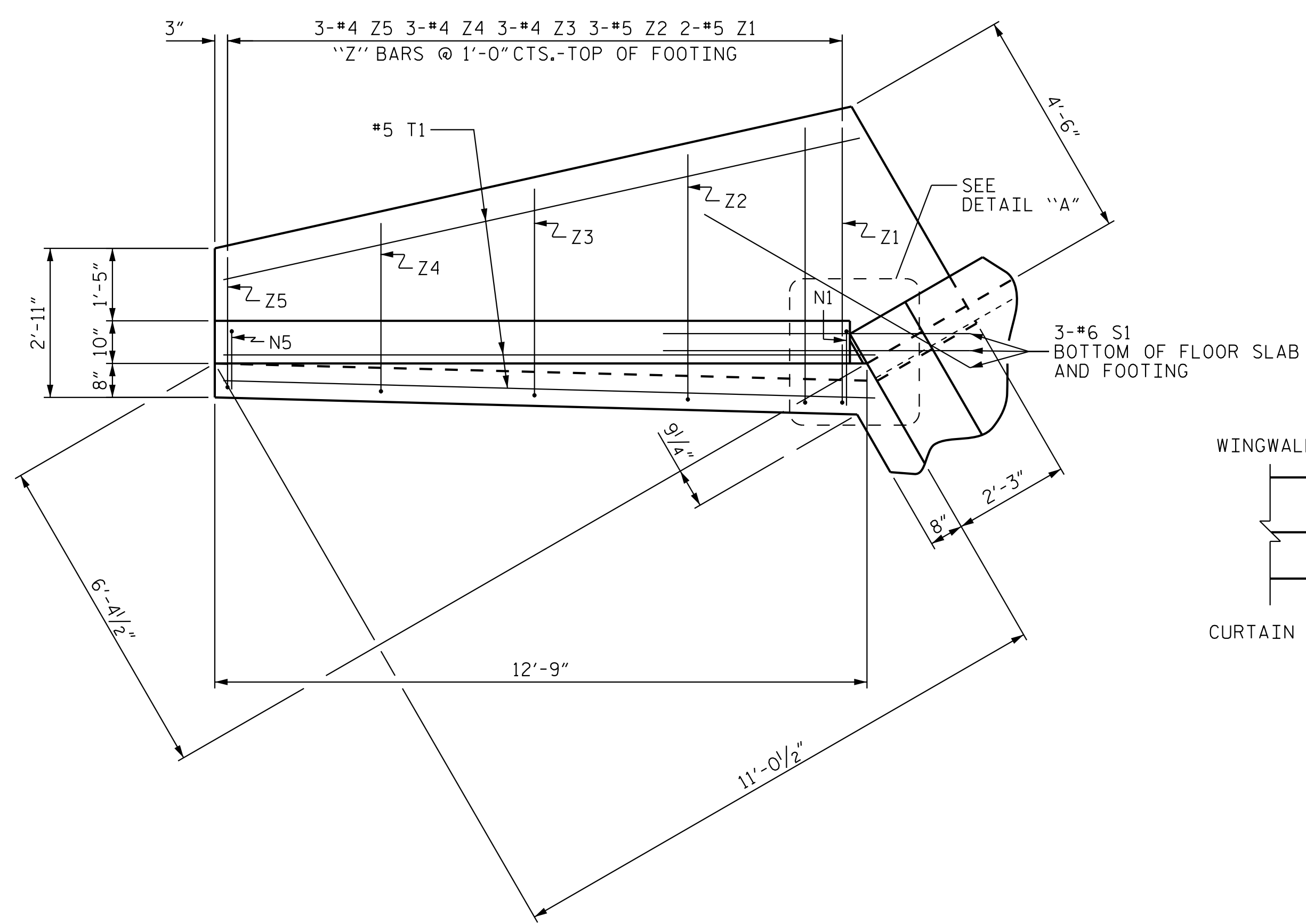
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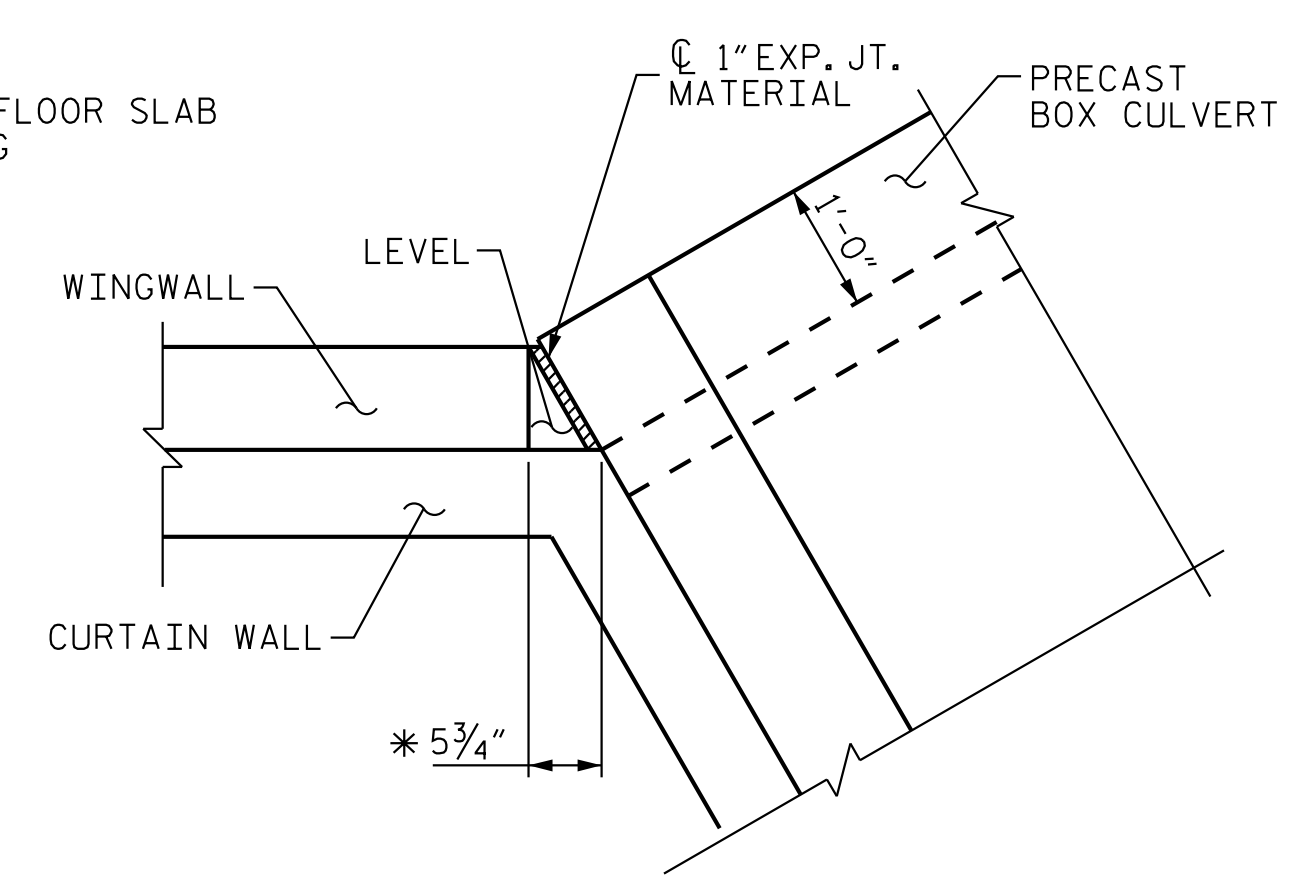
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ASSEMBLED BY : JIK	DATE : 1/18
CHECKED BY : JCW	DATE : 1/18
DRAWN BY: FCJ 8/22/89	REV. 5-14-99 RWW/LES
CHECKED BY: CRK 8/22/89	REV. 2-15-02 RWW/JTE
	REV. 7-14-08 MAA/GM

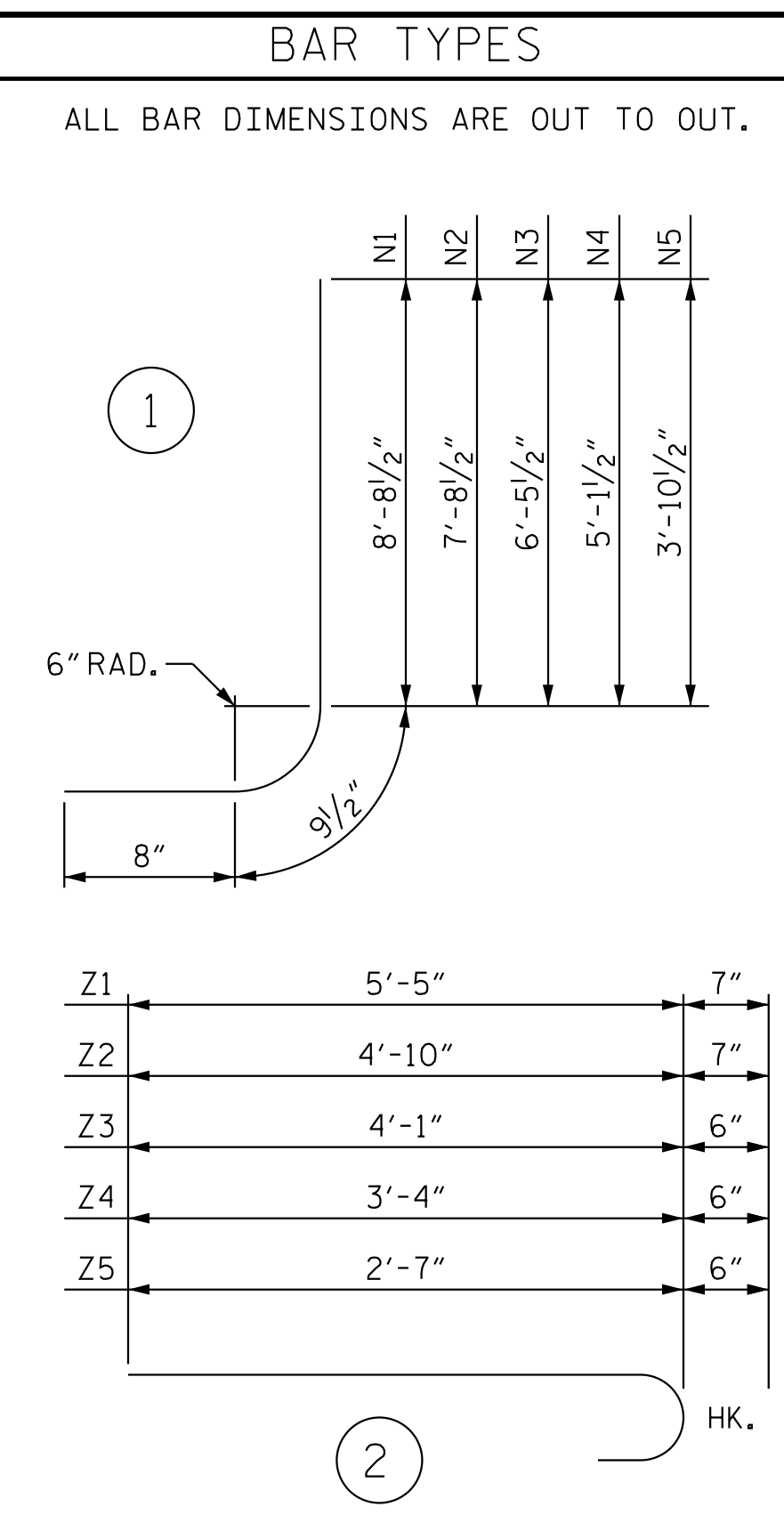


PLAN



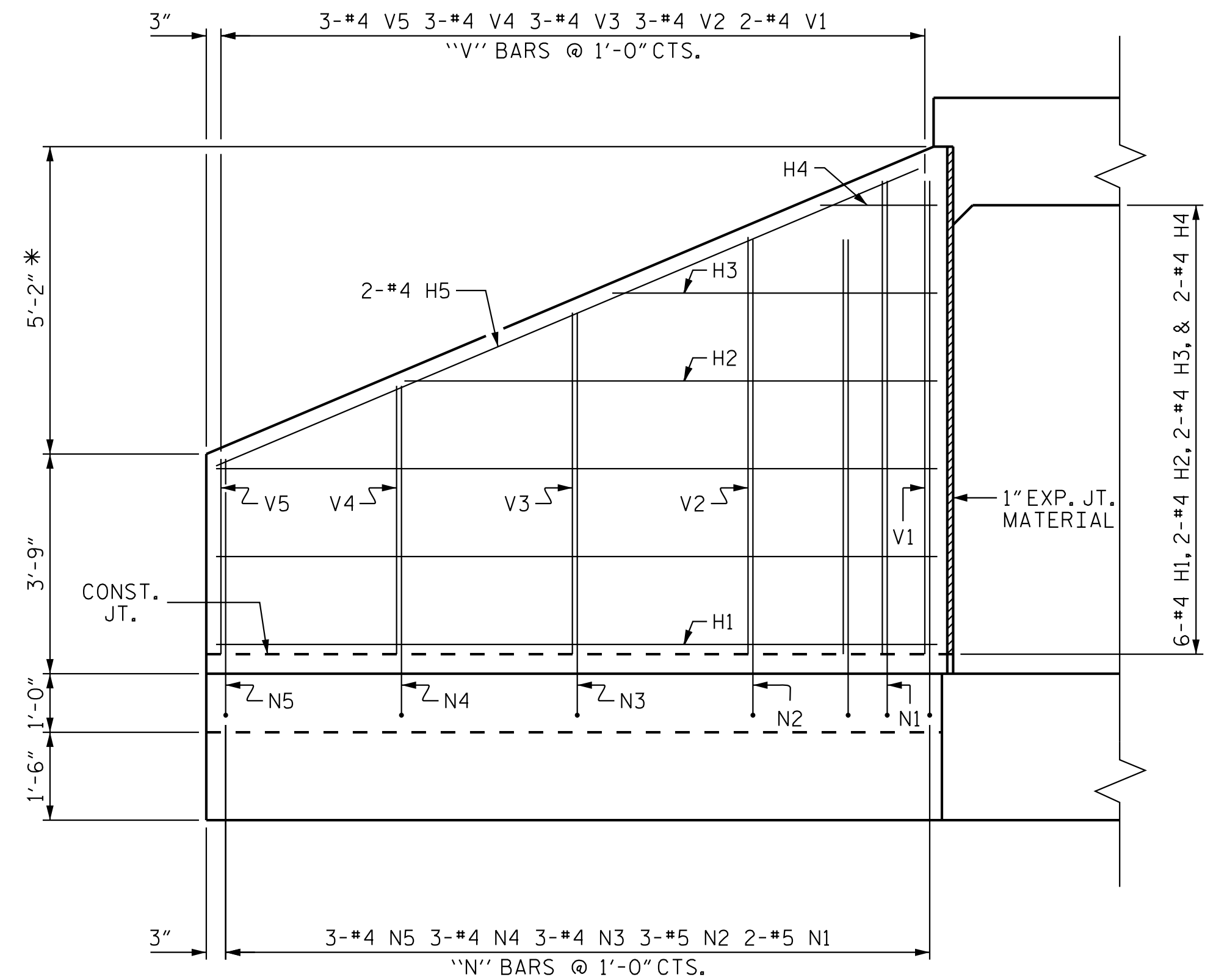
DETAIL "A"

* BASED ON 1'-0" CULVERT WALL THICKNESS

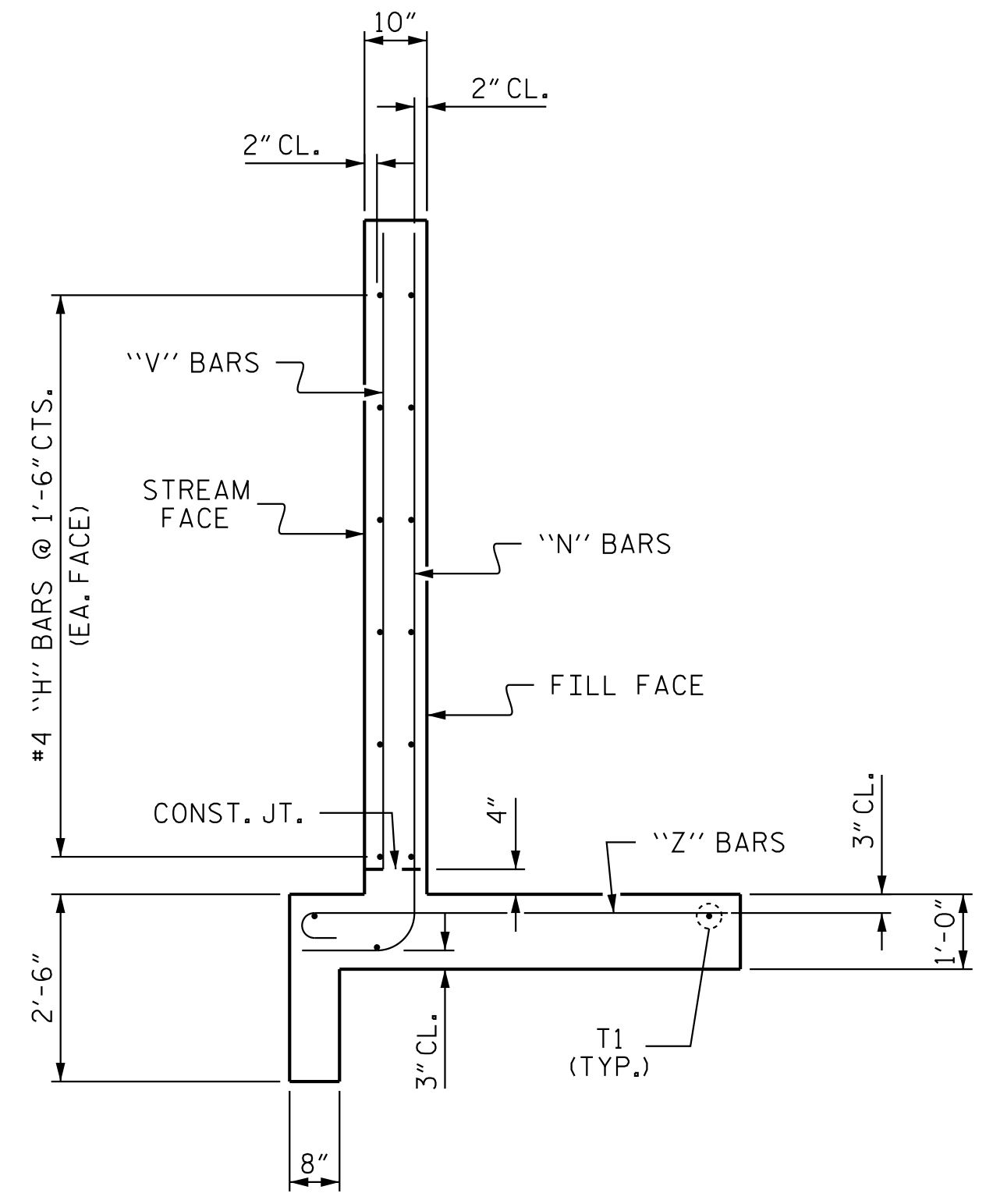


BILL OF MATERIAL					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	24	#4	STR	11'-10"	190
H2	8	#4	STR	8'-8"	46
H3	8	#4	STR	5'-1"	27
H4	8	#4	STR	1'-3"	7
H5	8	#4	STR	12'-9"	68
N1	8	#5	1	10'-2"	85
N2	12	#5	1	9'-2"	115
N3	12	#4	1	7'-11"	63
N4	12	#4	1	6'-7"	53
N5	12	#4	1	5'-4"	43
S1	12	#6	STR	6'-0"	108
T1	12	#5	STR	12'-9"	160
V1	8	#4	STR	8'-1"	43
V2	12	#4	STR	7'-1"	57
V3	12	#4	STR	5'-10"	47
V4	12	#4	STR	4'-7"	37
V5	12	#4	STR	3'-4"	27
Z1	8	#5	2	6'-0"	50
Z2	12	#5	2	5'-5"	68
Z3	12	#4	2	4'-7"	37
Z4	12	#4	2	3'-10"	31
Z5	12	#4	2	3'-1"	25
REINFORCING STEEL FOR 4 WINGS				1,387	LBS
CLASS A CONCRETE					
4 WINGS				21.4	CY
2 HEADWALLS				1.3	CY
2 END CURTAIN WALLS				1.8	CY
TOTAL				24.5	CY

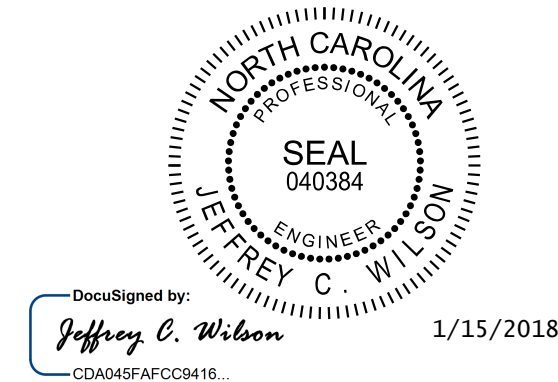
* BASED ON 10" TOP SLAB



ELEVATION



TYPICAL WING SECTION



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PROJECT NO. U-5530LA
JOHNSTON COUNTY
 STATION: 13+19.12 -Y-
78+76.22 -L-
 SHEET 4 OF 4

TOWN OF CLAYTON
 WINGS FOR
 PRECAST
 CONCRETE BOX CULVERT
 H = 8'-0" SLOPE = 2:1
 90° SKEW

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
2			4			4

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DRAWN BY: J. I. KIMBLE DATE: 1/18
 CHECKED BY: A. L. PHILLIPS DATE: 1/18
 DESIGN ENGINEER OF RECORD: J. C. WILSON DATE: 1/18

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	- - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	- - - - -	SEE PLANS
IMPACT ALLOWANCE	- - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	- -	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	- -	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	- -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	- - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	- - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	- - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	- - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	- - - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	- - - - -	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, AND ABUTMENT BACKWALLS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1 1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16" INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

PROJECT NO. U-5530LA
JOHNSTON COUNTY
 STATION: 13+19.12 -Y-
78+76.22 -L-

TOWN OF CLAYTON
 STANDARD
 STANDARD NOTES



DocuSigned by:
 Jeffrey C. Wilson
 1/15/2018
 CDA045FAFC09418...

Kimley»Horn

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 Phone (919) 677-2000

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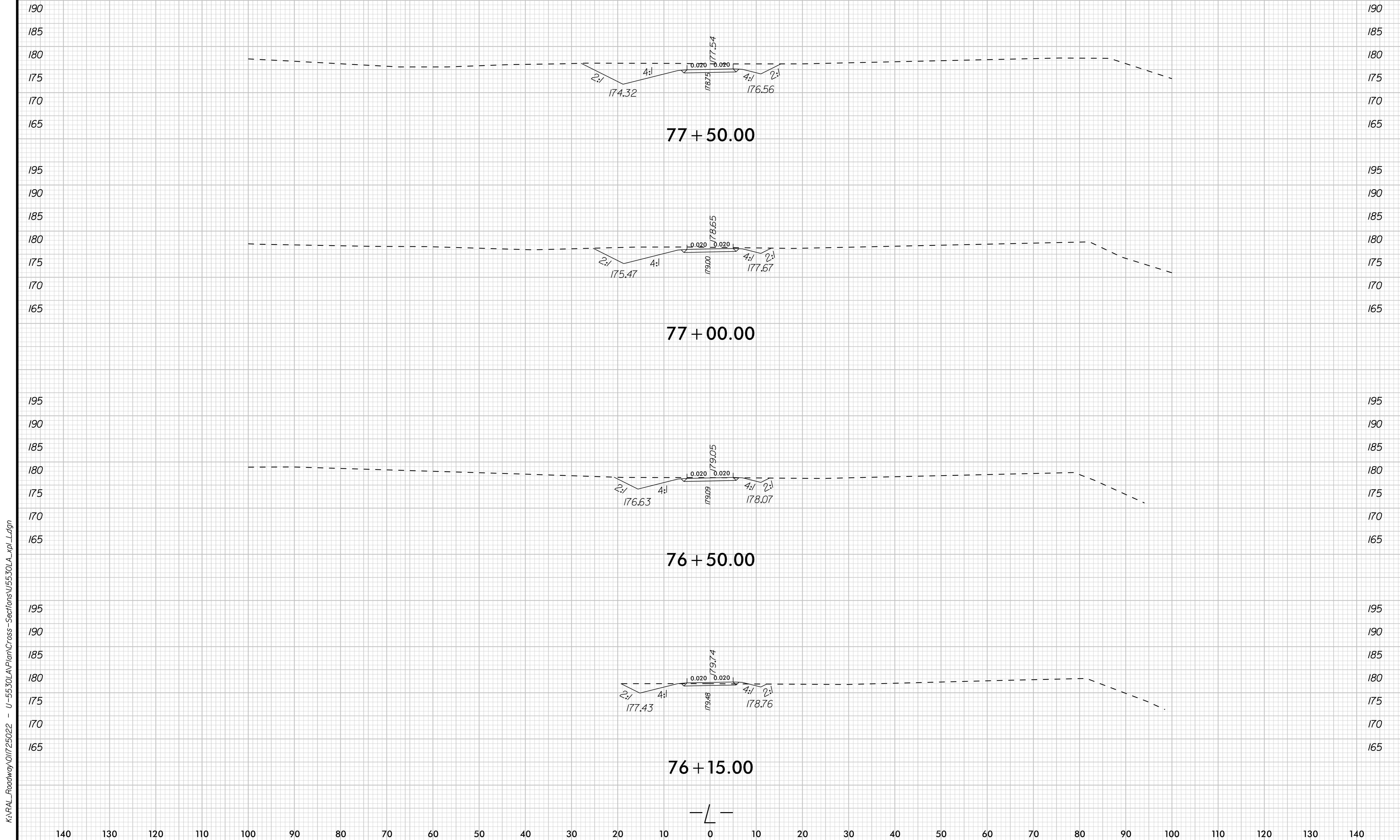
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NO.	BY:	DATE:	NO.	DATE:	SN
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2			4		



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1/10/2018

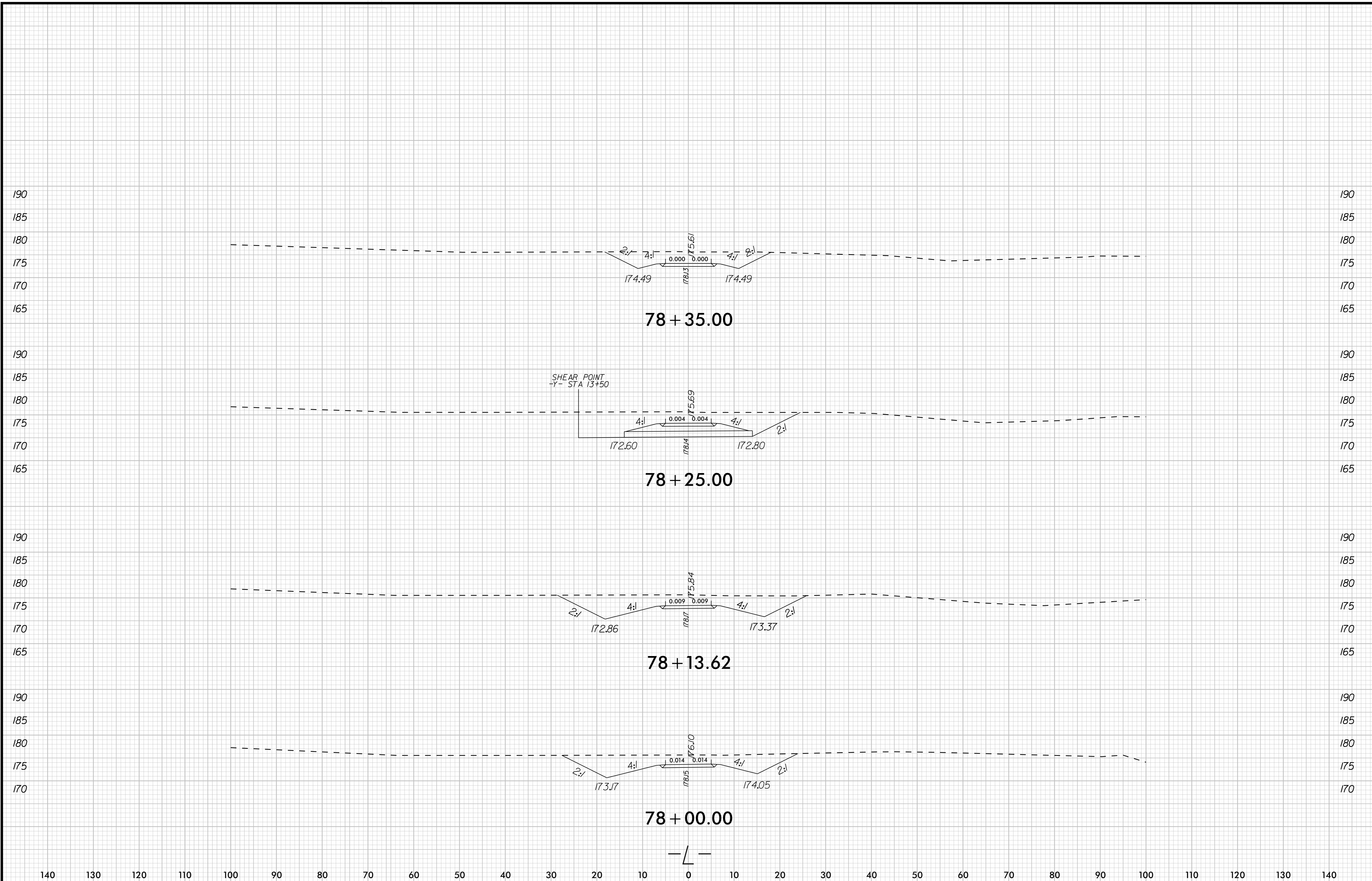
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CHECKED BY : JCW	DATE : 1/18
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REV. 8-16-99 RWW (W) LES	REV. 10-1-11 MAA (W) GM
REV. 5-7-03 RWW (W) JTE	REV. 12-17 MAA (W) THC

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140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140	PREPARED IN THE OFFICE OF:  <small>NC LICENSE #F-0102 421 FAYETTEVILLE ST., SUITE 600 RALEIGH, NORTH CAROLINA 27601 PHONE: (919) 677-2000</small> © 2017	MULTI-USE PATH CROSS SECTIONS		PROJECT: U-5530LA SAM'S BRANCH GREENWAY GRADE SEPARATED CROSSING
11/13/2017 REV. No.: REVISION: DATE: DRAWN BY: CHECKED BY:	This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc. Copyright Kimley-Horn and Associates, Inc., 2017.		JOB NUMBER: U-5530LA	SHEET NUMBER: X-1

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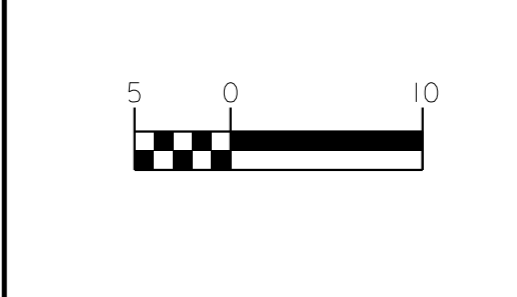
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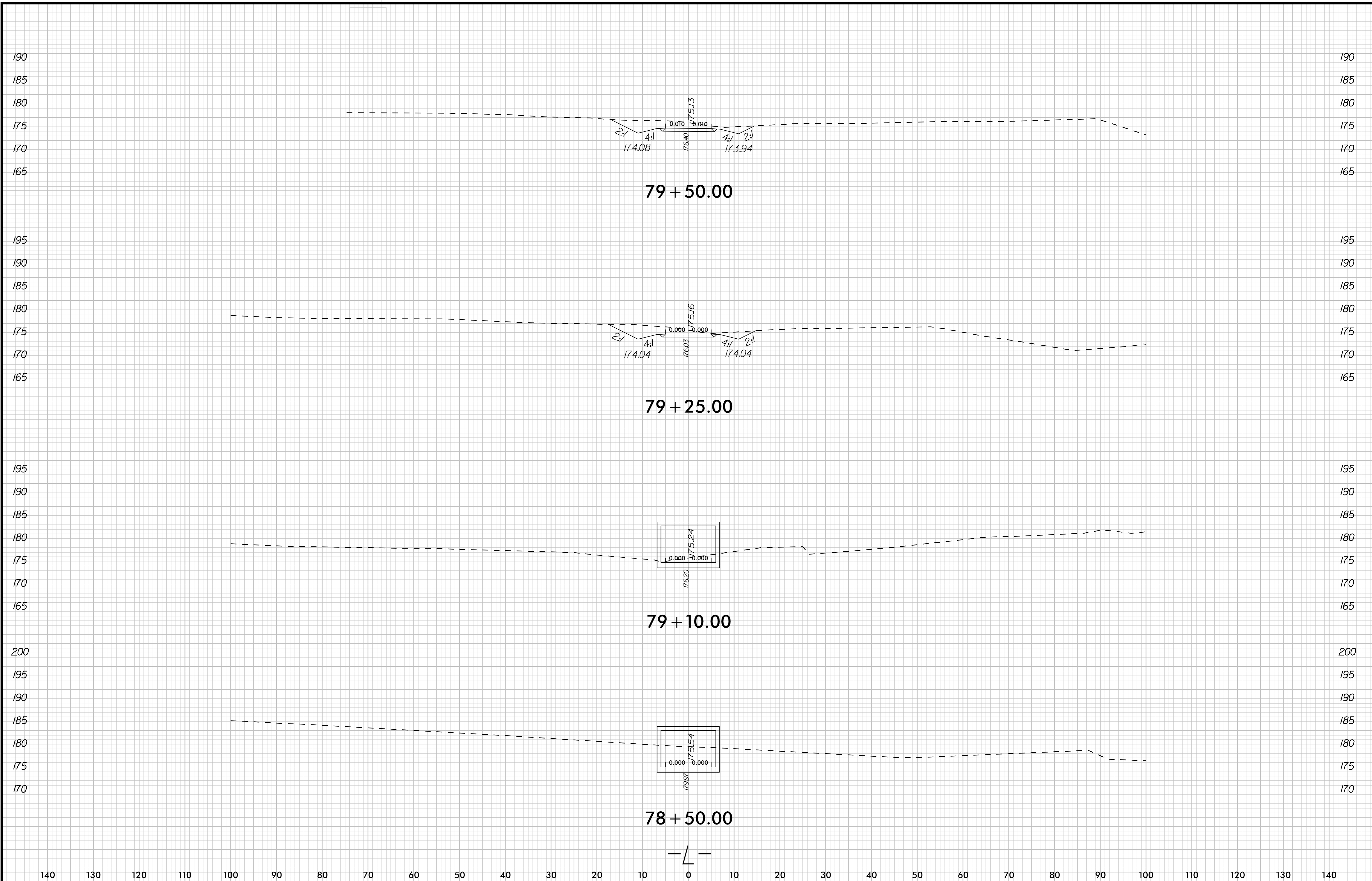
MULTI-USE PATH
CROSS SECTIONS



PROJECT: **U-5530LA
SAM'S BRANCH GREENWAY
GRADE SEPARATED CROSSING**

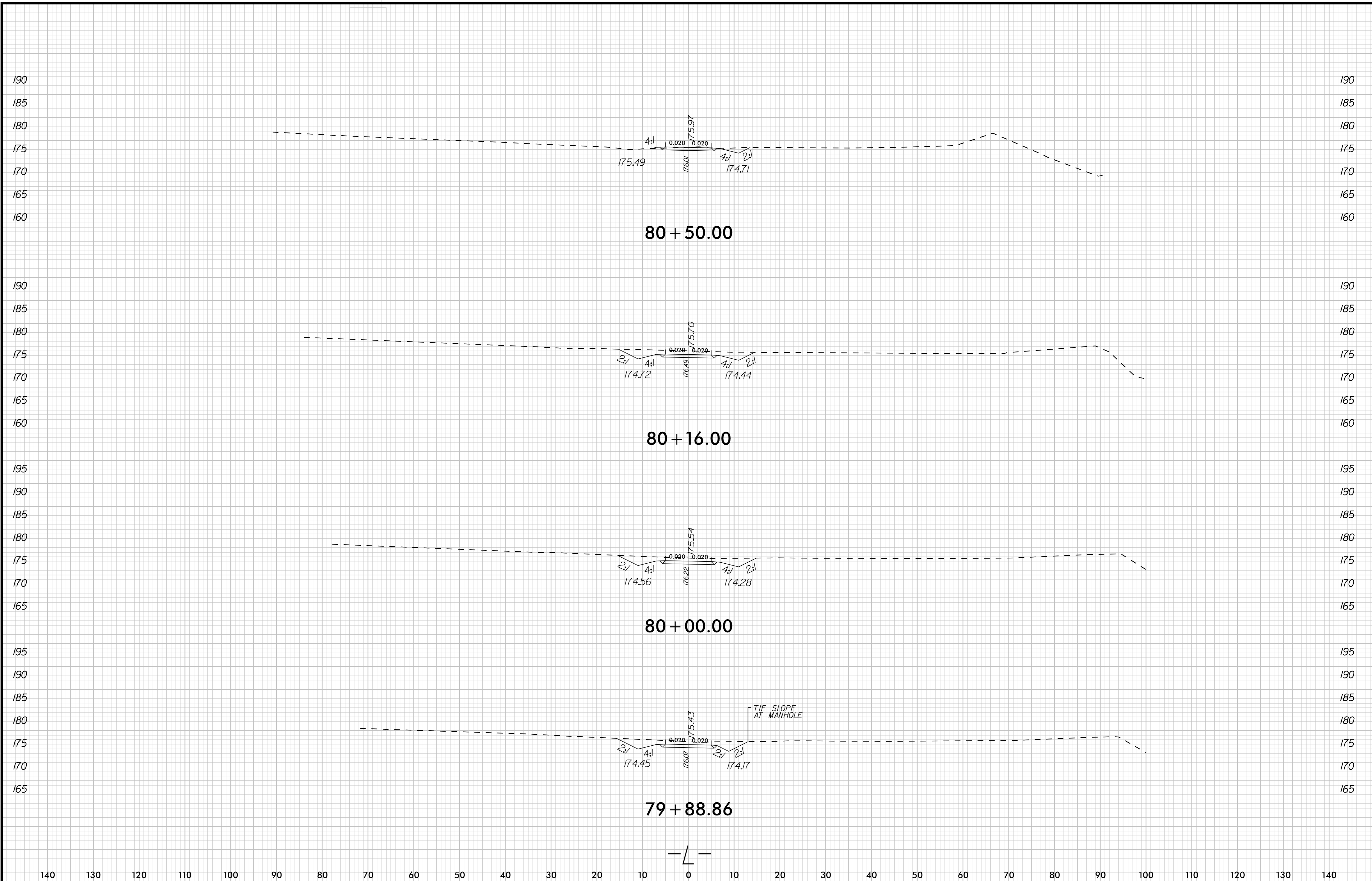
JOB NUMBER: U-5530LA SHEET NUMBER: X-2

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11/13/2017



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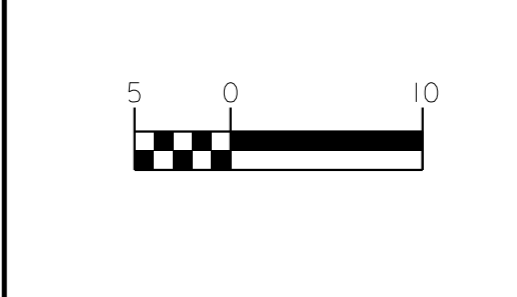
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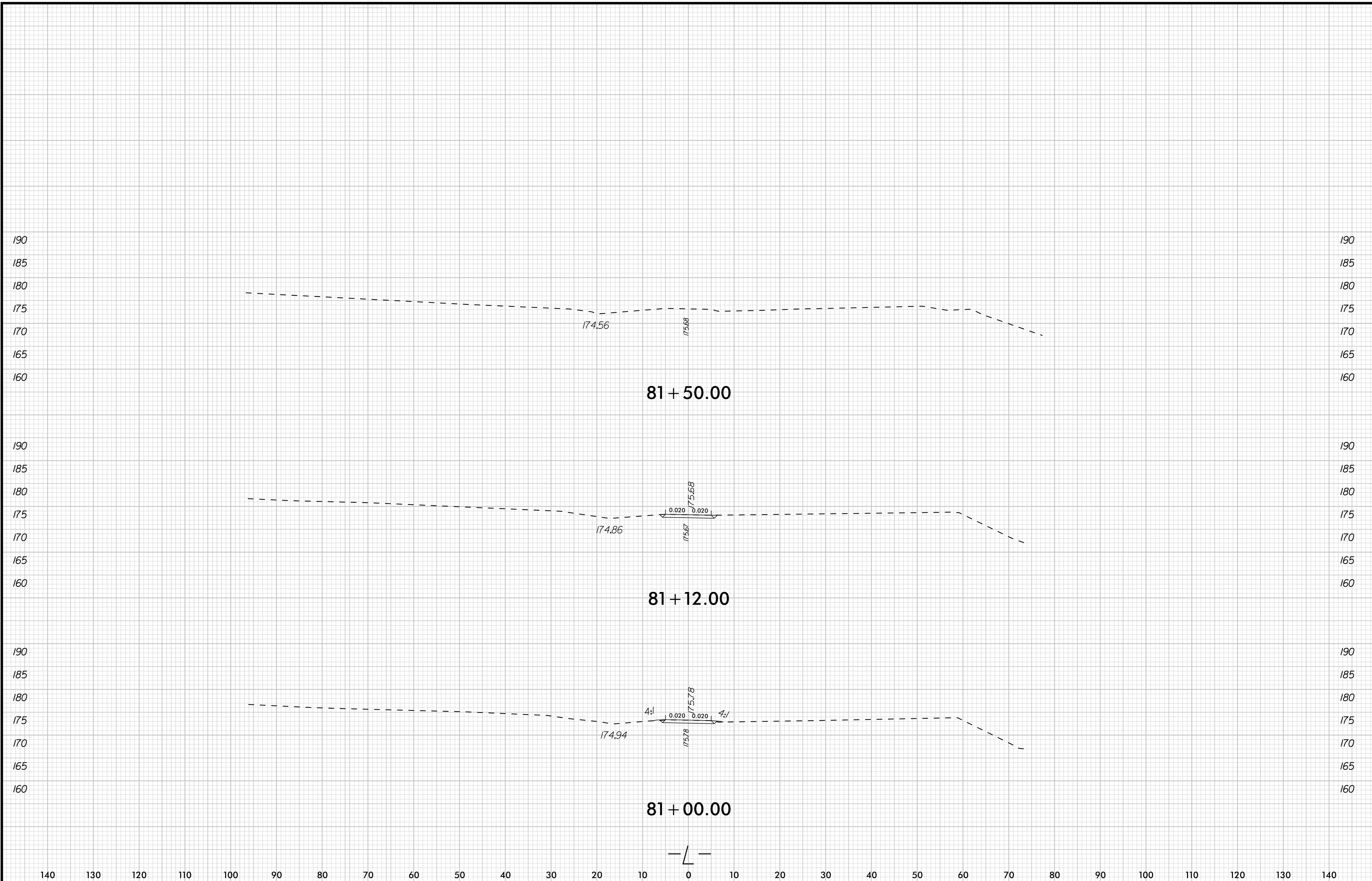
**MULTI-USE PATH
CROSS SECTIONS**



PROJECT: **U-5530LA
SAM'S BRANCH GREENWAY
GRADE SEPARATED CROSSING**

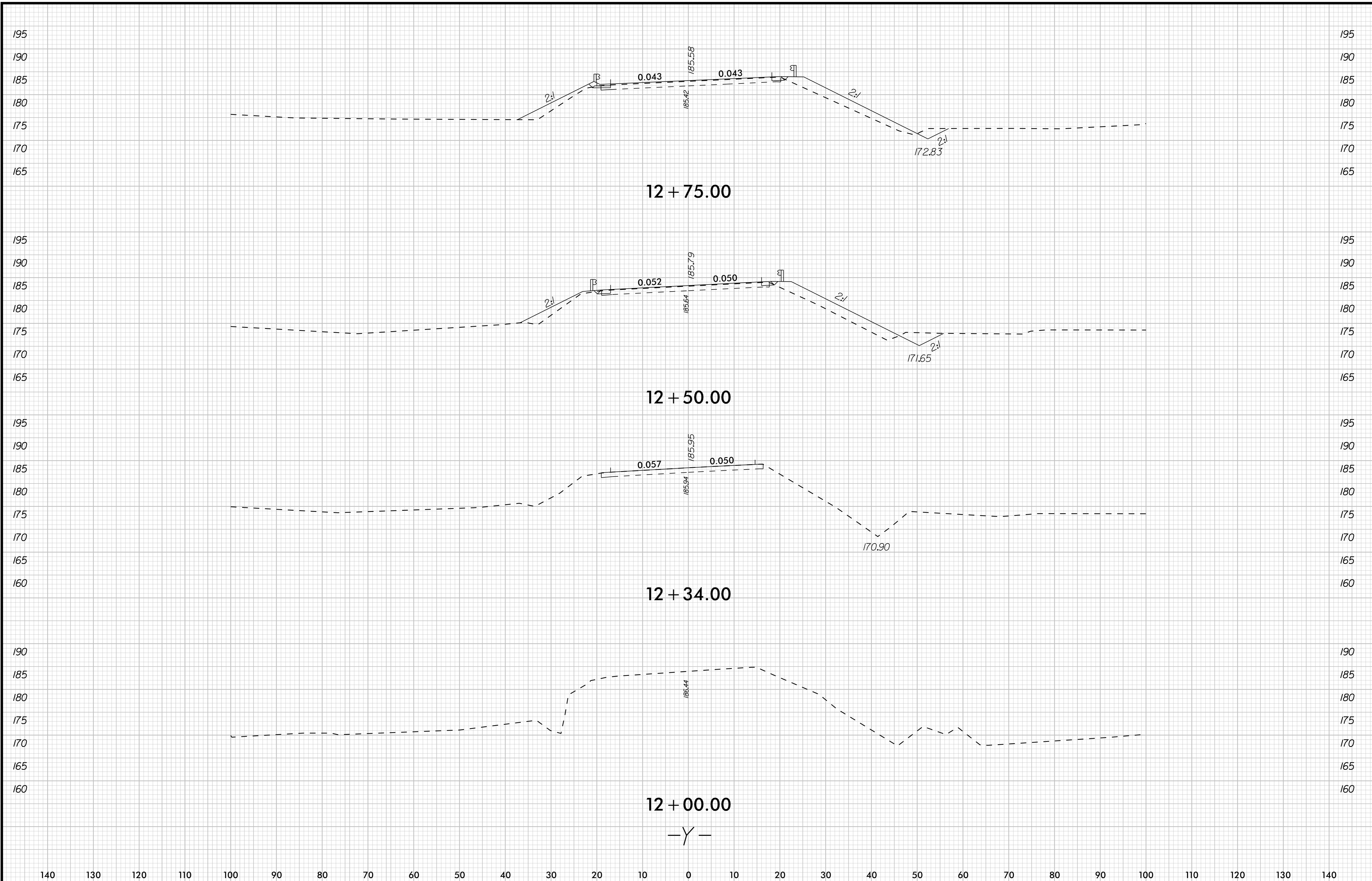
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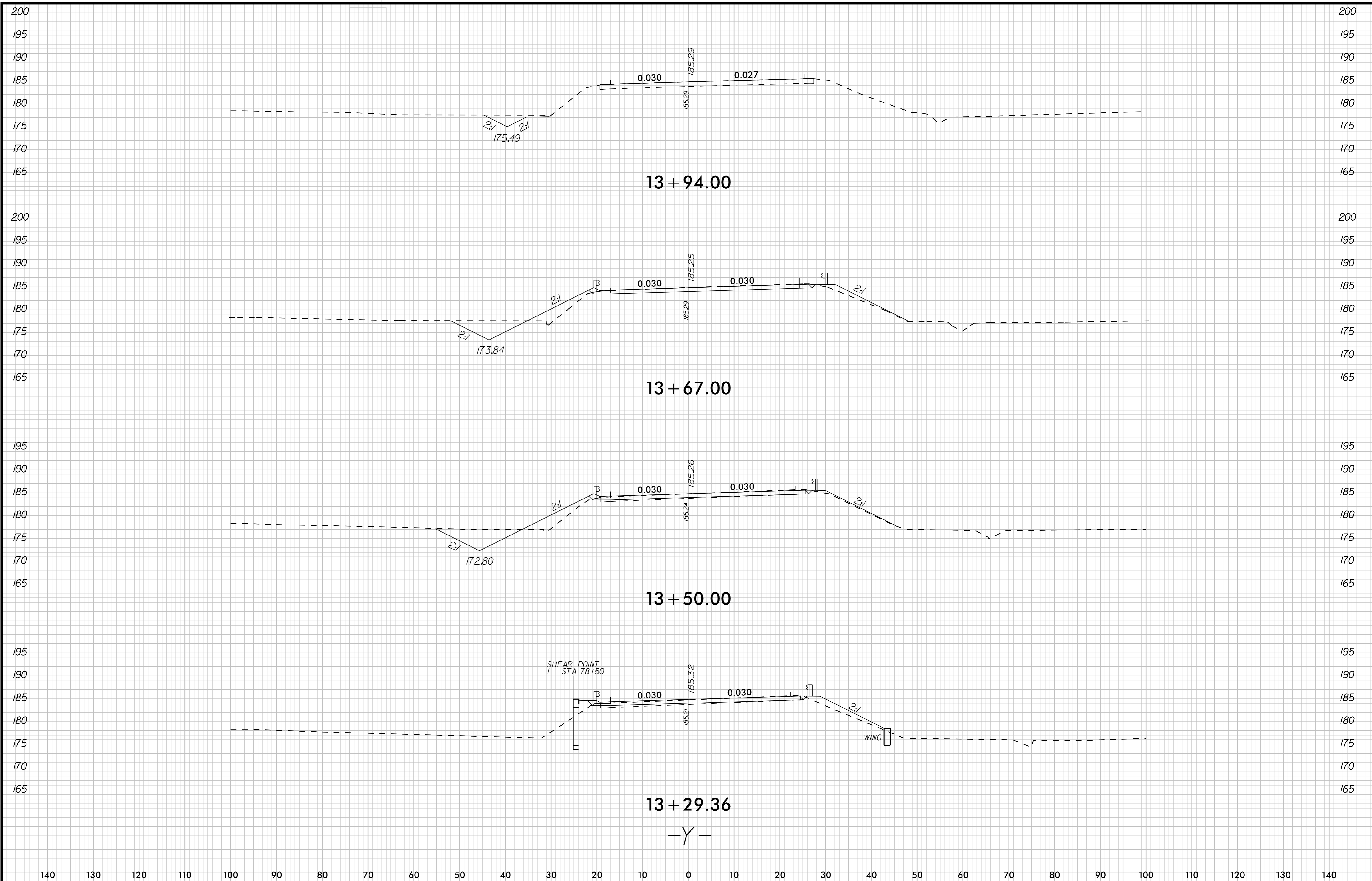
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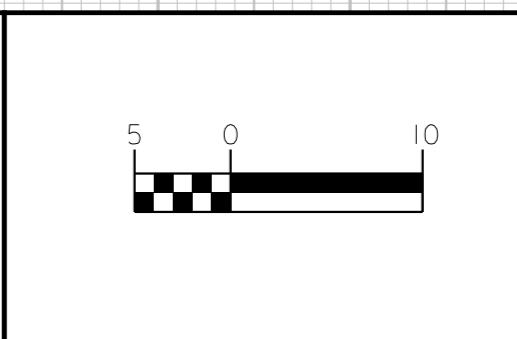
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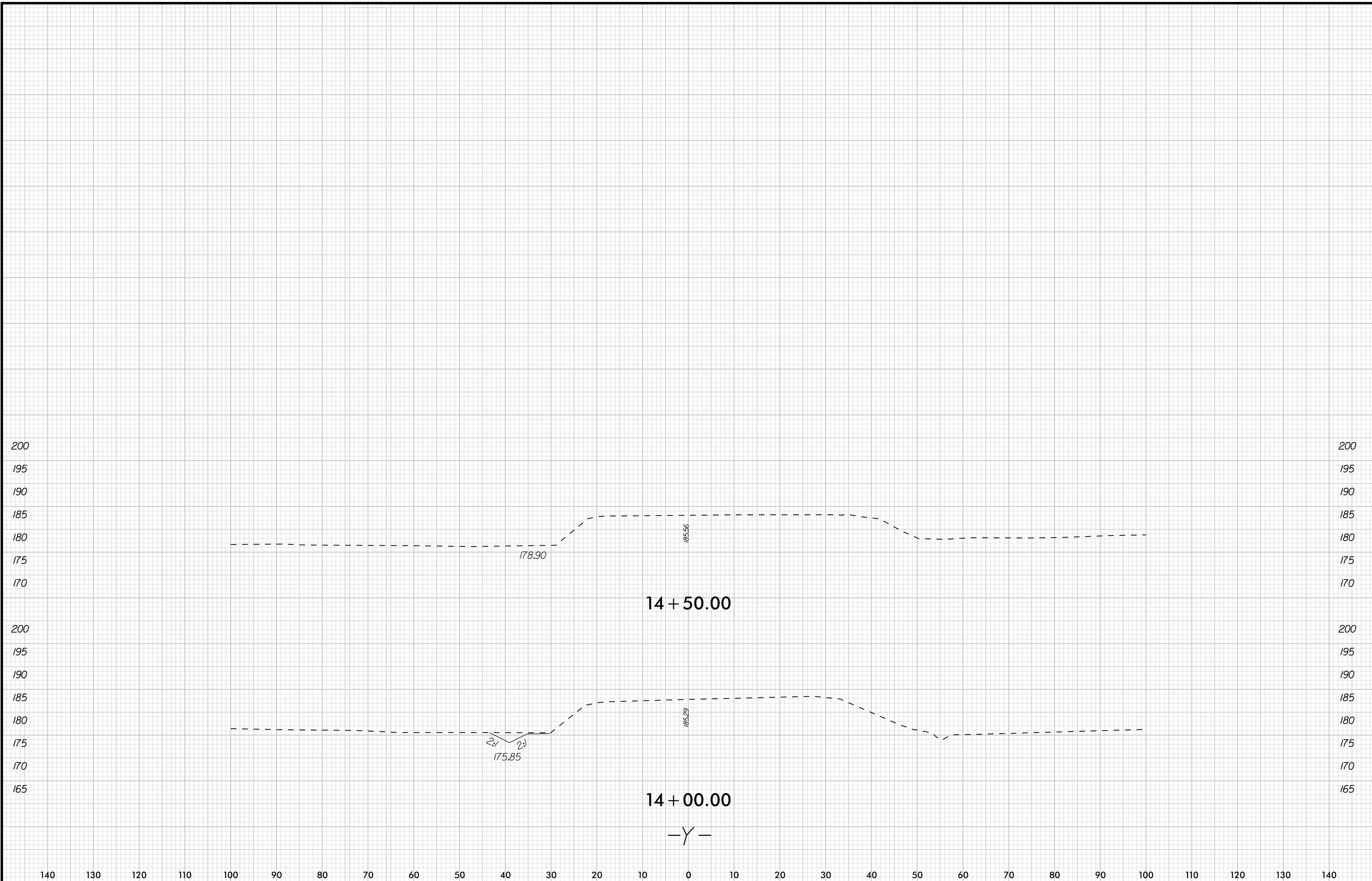


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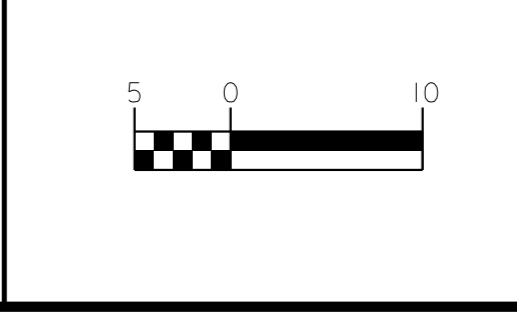
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