

PROJECT REFERENCE NO. SHEET NO. U-5534S /Α

PAVEMENT DESIGN

ENGINEER

ROADWAY DESIGN ENGINEER

Benjamin K Crawford

DOCUMENT NOT CONSIDERED FINAL **UNLESS ALL SIGNATURES COMPLETED**



Glenwood Avenue Tel:919.789.9977 Fax:919.789.9591 License: C-2197

TITLE SHEET INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS

PAVEMENT SCHEDULE AND TYPICAL SECTIONS

CONVENTIONAL SYMBOLS 1 B

INDEX OF SHEETS

ROADWAY DETAILS 2B-1 2C-1 SPECIAL DETAILS 2D-1 DRAINAGE DETAILS

SHEET NUMBER

1 A

2A-1

3B-1 SUMMARY OF DRAINAGE QUANTITIES (FOR PIPES 48" AND UNDER)

4 THRU 5 PLAN AND PROFILE SHEETS EC-1 THRU EC-6 EROSION CONTROL PLANS CROSS-SECTION SUMMARY SHEET X-2 THRU X-10 CROSS-SECTIONS

GENERAL NOTES:

2018 SPECIFICATIONS EFFECTIVE: 01-16-2018 REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED, GRADE LINES MAY BE ADJUSTED 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.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06. EFF. 01-16-2018 REV.

2018 ROADWAY ENGLISH 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. TITLE DIVISION 2 - EARTHWORK 200.02 Method of Clearing - Method II 225.05 Guide for Grading Subgrade - Secondary and Local

DIVISION 3 - PIPE CULVERTS 300.01 Method of Pipe Installation

310.10 Driveway Pipe Construction DIVISION 5 - SUBGRADE, BASES AND SHOULDERS

560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I DIVISION 6 - ASPHALT BASES AND PAVEMENTS

654.01 Pavement Repairs

DIVISION 8 - INCIDENTALS 840.00 Concrete Base Pad for Drainage Structures 840.01 Brick Catch Basin - 12" thru 54" Pipe 840.02 Concrete Catch Basin - 12" thru 54" Pipe

840.03 Frame, Grates and Hood - for Use on Standard Catch Basin

840.16 Drop Inlet Frame and Grates - For Use with Std. Dwg.s 840.14 and 840.15

840.54 Manhole Frame and Cover 840.72 Pipe Collar

846.01 Concrete Curb, Gutter and Curb & Gutter 848.01 Concrete Sidewalk

848.05 Curb Ramp - Proposed Curb & Gutter

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STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET 1
U-5534S	IB

BOUNDARIES AND PROPERT	Y :	DAIL DOADS. Note: Not to S
State Line		RAILRUADS:
County Line		Standard Gauge ————————————————————————————————————
Township Line		RR Signal Milepost ————————————————————————————————————
City Line		Switch ————————————————————————————————————
Reservation Line		RR Abandoned
Property Line		RR Dismantled
Existing Iron Pin		
Computed Property Corner		RIGHT OF WAY & PROJECT CO
Property Monument		Secondary Horiz and Vert Control Point ——
Parcel/Sequence Number		Primary Horiz Control Point
Existing Fence Line		Primary Horiz and Vert Control Point
		Exist Permanent Easment Pin and Cap
Proposed Woven Wire Fence		New Permanent Easement Pin and Cap —
Proposed Chain Link Fence		Vertical Benchmark
Proposed Barbed Wire Fence		Existing Right of Way Marker
Existing Wetland Boundary		Existing Right of Way Line —————
Proposed Wetland Boundary		
Existing Endangered Animal Boundary	EAB	New Right of Way Line
Existing Endangered Plant Boundary	ЕРВ ———	New Right of Way Line with Pin and Cap—
Existing Historic Property Boundary		New Right of Way Line with
Known Contamination Area: Soil		Concrete or Granite R/W Marker New Control of Access Line with
Potential Contamination Area: Soil		Concrete C/A Marker
Known Contamination Area: Water		Existing Control of Access
Potential Contamination Area: Water		New Control of Access
Contaminated Site: Known or Potential —		Existing Easement Line ————————————————————————————————————
BUILDINGS AND OTHER CUI	LTURE:	New Temporary Construction Easement –
Gas Pump Vent or U/G Tank Cap		New Temporary Drainage Easement —
Sign —	<u> </u>	New Permanent Drainage Easement —
Well —		
Small Mine	——	New Permanent Utility Easement
Foundation —		New Permanent Utility Easement
Area Outline		New Temporary Utility Easement ———
Cemetery		New Aerial Utility Easement —————
Building —		DOADS AND DELATED EEATII
School —		ROADS AND RELATED FEATUR
Church —		Existing Edge of Pavement
Dam —		Existing Curb
		Proposed Slope Stakes Cut
HYDROLOGY: Stream or Body of Water		Proposed Slope Stakes Fill
Stream or Body of Water ————————————————————————————————————		Proposed Curb Ramp ————————————————————————————————————
Hydro, Pool or Reservoir		Existing Metal Guardrail
Jurisdictional Stream		Proposed Guardrail ————————————————————————————————————
Buffer Zone 1		Existing Cable Guiderail
Buffer Zone 2		Proposed Cable Guiderail
Flow Arrow		Equality Symbol
Disappearing Stream ————————————————————————————————————		Pavement Removal ————————————————————————————————————
Spring —		VEGETATION:
Wetland		Single Tree
Proposed Lateral, Tail, Head Ditch ———	<−−− FLOW	Single Shrub
False Sump —	$\overline{}$	

Standard Gauge	CSX TRANSPORTATION	Hedge
RR Signal Milepost	MILE POST 35	Woods Line Orchard
Switch ————————————————————————————————————	SWITCH	
RR Abandoned —————		Vineyard —
RR Dismantled		EXISTING STRUCTURES:
		MAJOR:
RIGHT OF WAY & PROJECT CO	NIROL:	Bridge, Tunnel or Box Culvert
Secondary Horiz and Vert Control Point ——		Bridge Wing Wall, Head Wall and End Wa
Primary Horiz Control Point		MINOR:
Primary Horiz and Vert Control Point	•	Head and End Wall
Exist Permanent Easment Pin and Cap	$\langle \cdot \rangle$	Pipe Culvert
New Permanent Easement Pin and Cap —	(a)	Footbridge ————————————————————————————————————
Vertical Benchmark		Drainage Box: Catch Basin, DI or JB
Existing Right of Way Marker		Paved Ditch Gutter
Existing Right of Way Line		Storm Sewer Manhole
New Right of Way Line	$\frac{R}{W}$	Storm Sewer
New Right of Way Line with Pin and Cap—		UTILITIES:
New Right of Way Line with Concrete or Granite R/W Marker	- R	POWER:
New Control of Access Line with Concrete C/A Marker		Existing Power Pole Proposed Power Pole
Existing Control of Access	(Ē)	Existing Joint Use Pole
New Control of Access —————		Proposed Joint Use Pole
Existing Easement Line ————————————————————————————————————		Power Manhole
zasanig Lassinism Line		Power Line Tower ————————————————————————————————————
New Temporary Construction Easement –	E	Power Transformer
	—— TDE ——	U/G Power Cable Hand Hole
New Permanent Drainage Easement ——	. 22	H-Frame Pole
New Permanent Drainage / Utility Easement	—— DUE——	U/G Power Line LOS B (S.U.E.*)
New Permanent Utility Easement ———	PUE	U/G Power Line LOS C (S.U.E.*)
New Temporary Utility Easement ———		U/G Power Line LOS D (S.U.E.*)
New Aerial Utility Easement —————	——— AUE———	TELEPHONE:
ROADS AND RELATED FEATURE	ES:	Existing Telephone Pole
Existing Edge of Pavement		Proposed Telephone Pole
Existing Curb		Telephone Manhole
Proposed Slope Stakes Cut		Telephone Pedestal
Proposed Slope Stakes Fill ——————————————————————————————————	<u>F</u>	Telephone Cell Tower
Proposed Curb Ramp	CR	U/G Telephone Cable Hand Hole
Existing Metal Guardrail		
Proposed Guardrail ————————————————————————————————————	<u> </u>	U/G Telephone Cable LOS C (S.U.E.*)
Existing Cable Guiderail		U/G Telephone Cable LOS C (3.U.E.*)
Proposed Cable Guiderail		<u> </u>
Equality Symbol	lacktriangle	U/G Telephone Conduit LOS B (S.U.E.*) —
Pavement Removal		U/G Telephone Conduit LOS C (S.U.E.*)
VEGETATION:		U/G Telephone Conduit LOS D (S.U.E.*)
Single Tree		U/G Fiber Optics Cable LOS B (S.U.E.*) —
Single Shrub	€3	U/G Fiber Optics Cable LOS C (S.U.E.*)— U/G Fiber Optics Cable LOS D (S.U.E.*)—

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	
Pipe Culvert	
Footbridge ————————————————————————————————————	>
Drainage Box: Catch Basin, DI or JB	СВ
Paved Ditch Gutter	
Storm Sewer Manhole	S
Storm Sewer	s
UTILITIES:	
POWER:	
Existing Power Pole ————————————————————————————————————	•
Proposed Power Pole —	6
Existing Joint Use Pole	
Proposed Joint Use Pole	-6-
Power Manhole	P
Power Line Tower	
Power Transformer	
U/G Power Cable Hand Hole	
H-Frame Pole	•—•
U/G Power Line LOS B (S.U.E.*)	P
U/G Power Line LOS C (S.U.E.*)	
U/G Power Line LOS D (S.U.E.*)	P ————
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.*)	T FO

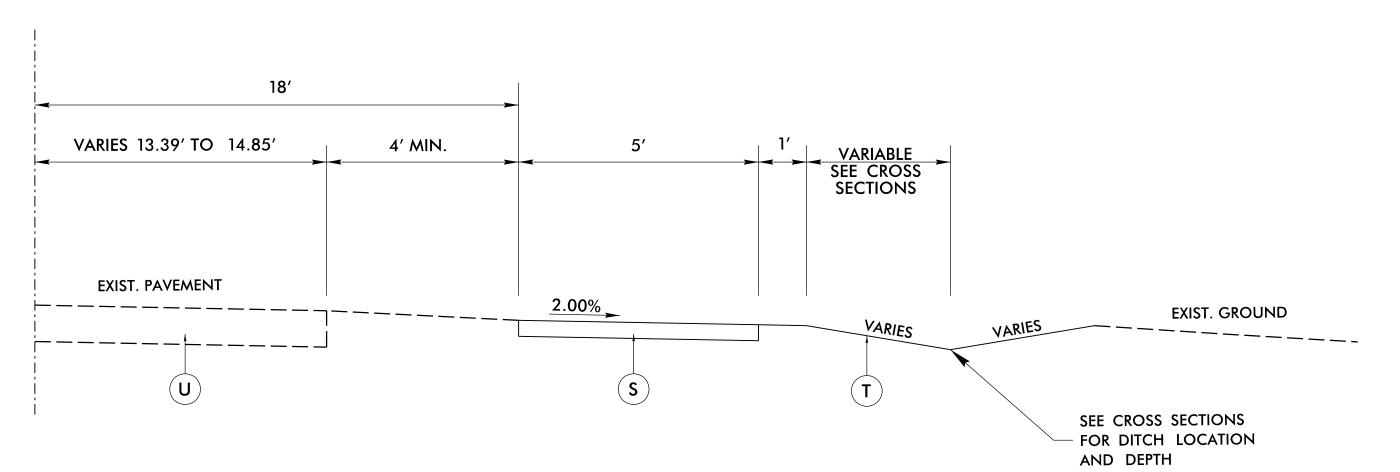
SHEET SYMBOLS

WATER:	
Water Manhole	
Water Meter —	
Water Valve	
Water Hydrant	€
U/G Water Line LOS B (S.U.E*)	w
U/G Water Line LOS C (S.U.E*)	w
U/G Water Line LOS D (S.U.E*)	
Above Ground Water Line	A/G Water
TV:	
TV Pedestal	
TV Tower —	\bigotimes
U/G TV Cable Hand Hole	Η _Η
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 ———————————————————————————————————	\Diamond
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.*)	
U/G Gas Line LOS D (S.U.E.*)	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER:	A/G Gas
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line	A/G Gas
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole	G
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout	A/G Gas A/G Sanitary Sewer
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground Sanitary Sewer SS Forced Main Line LOS B (S.U.E.*)	A/G Gas A/G Gas A/G Sanitary Sewer A/G Sanitary Sewer
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground Sanitary Sewer	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground Sanitary Sewer SS Forced Main Line LOS B (S.U.E.*) SS Forced Main Line LOS C (S.U.E.*)	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground Sanitary Sewer SS Forced Main Line LOS B (S.U.E.*) SS Forced Main Line LOS C (S.U.E.*)	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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:	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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 Traffic Signal Box	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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 Traffic Signal Box Utility Unknown U/G Line LOS B (S.U.E.*)	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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.	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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. A/G Tank; Water, Gas, Oil	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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. A/G Tank; Water, Gas, Oil Geoenvironmental Boring	
U/G Gas Line LOS D (S.U.E.*) Above Ground Gas Line SANITARY SEWER: Sanitary Sewer Manhole Sanitary Sewer Cleanout U/G Sanitary Sewer Line Above Ground 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 Traffic Signal Box Utility Unknown U/G Line LOS B (S.U.E.*) U/G Tank; Water, Gas, Oil Underground Storage Tank, Approx. Loc. A/G Tank; Water, Gas, Oil Geoenvironmental Boring U/G Test Hole LOS A (S.U.E.*)	A/G Gas ⊕ A/G Sanitary Sewer

-L-CORAL DRIVE

TYPICAL SECTION .NO 1

-L- STA. 11 + 75.00 TO -L- STA. 20 + 67.11



1 Glenwood Avenue Raleigh, NC 27603 Tel:919.789.9977 Fax:919.789.9591 License: C-2197

PAVEMENT SCHEDULE

4" CONCRETE SIDEWALK.

EARTH MATERIAL

EXISTING PAVEMENT

1'-6" CONCRETE CURB AND GUTTER.

PROJECT REFERENCE NO. SHEET NO U-5534S 2A-1ROADWAY DESIGN & HYDRAULICS ENGINEER

10/9/2019

SEAL 32606 Q

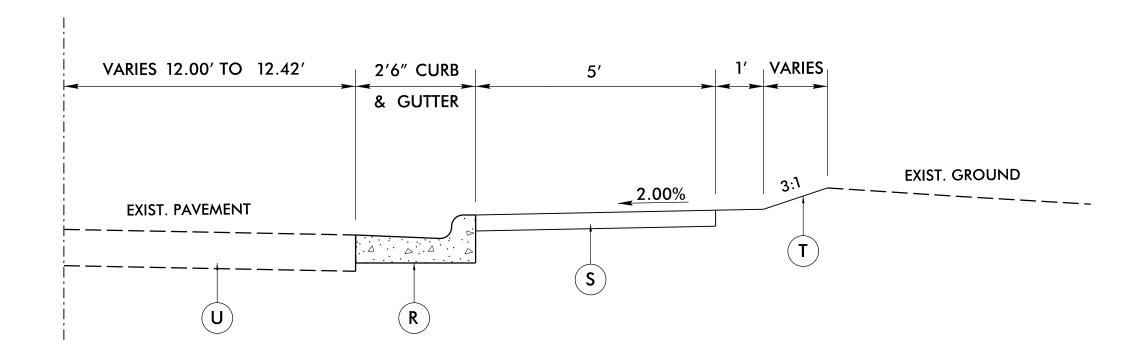
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-L-CORAL DRIVE

TYPICAL SECTION .NO 2

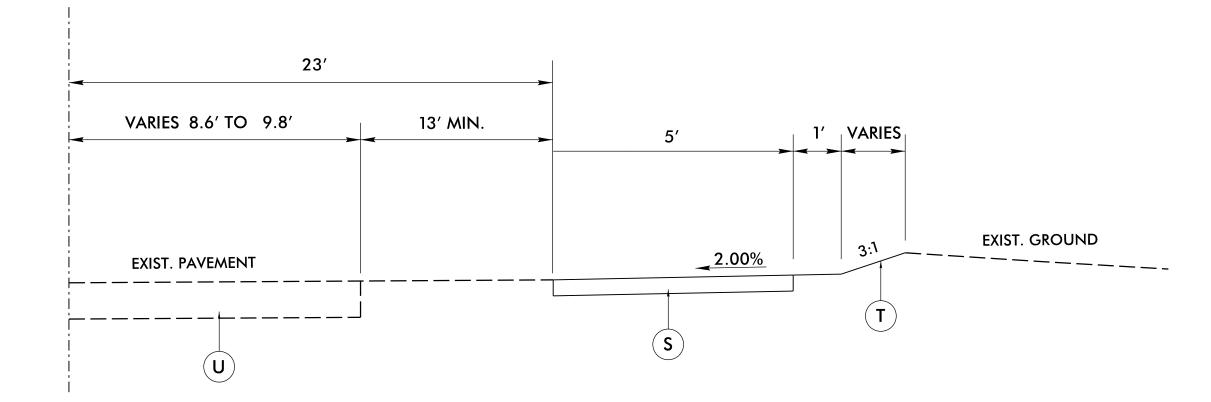
-L- STA. 20+67.11 TO -L- STA. 21+33.91



-Y-CORAL DRIVE

TYPICAL SECTION .

-Y- STA. 11+25.85 TO -Y- STA. 11+59.85



ROADWAY DETAILS



1 Glenwood Avenue Raleigh, NC 27603 Tel:919.789.9977 Fax:919.789.9591 License: C-2197 U-5534S 2B-1

ROADWAY DESIGN & HYDRAULICS ENGINEER

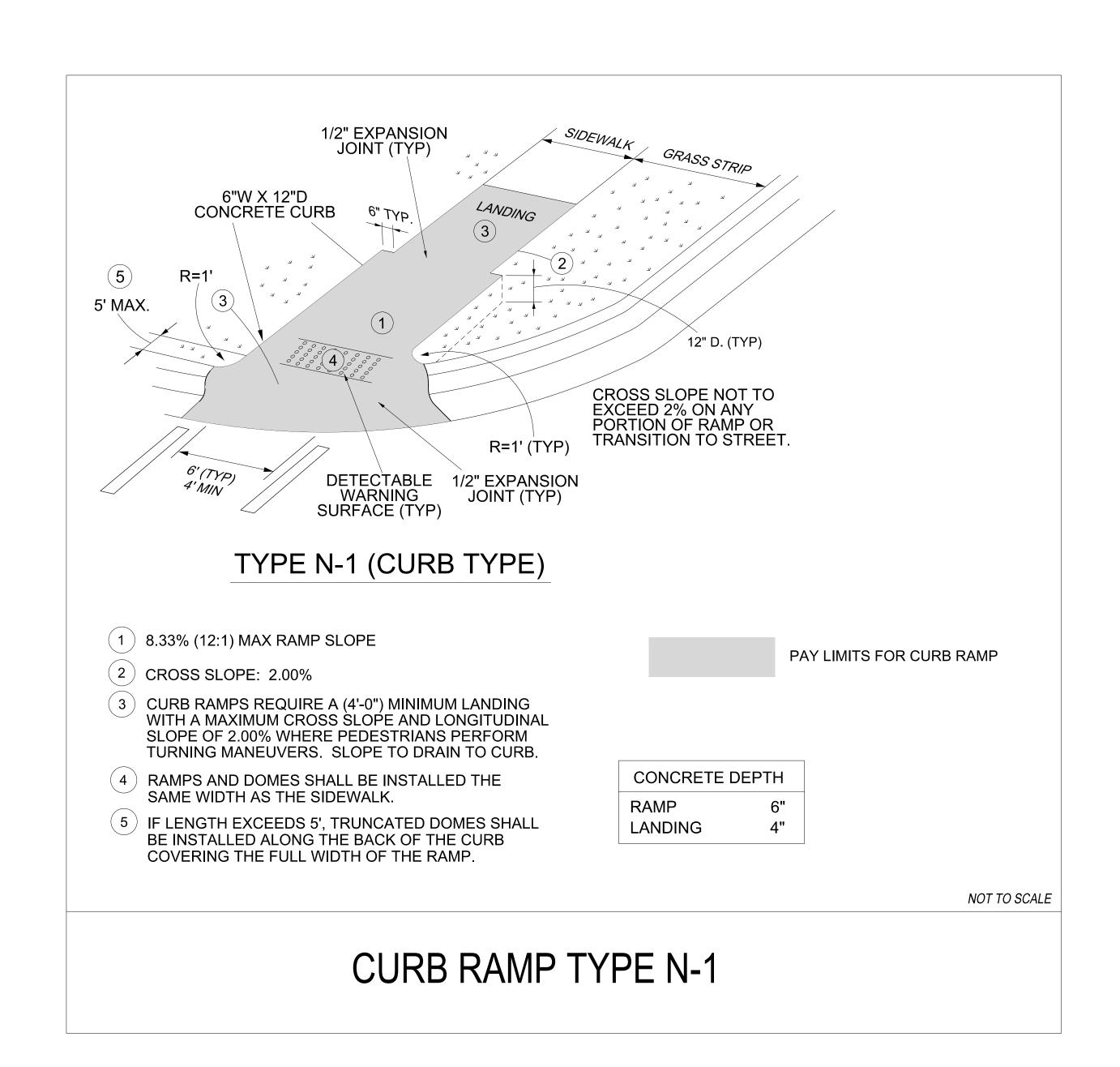
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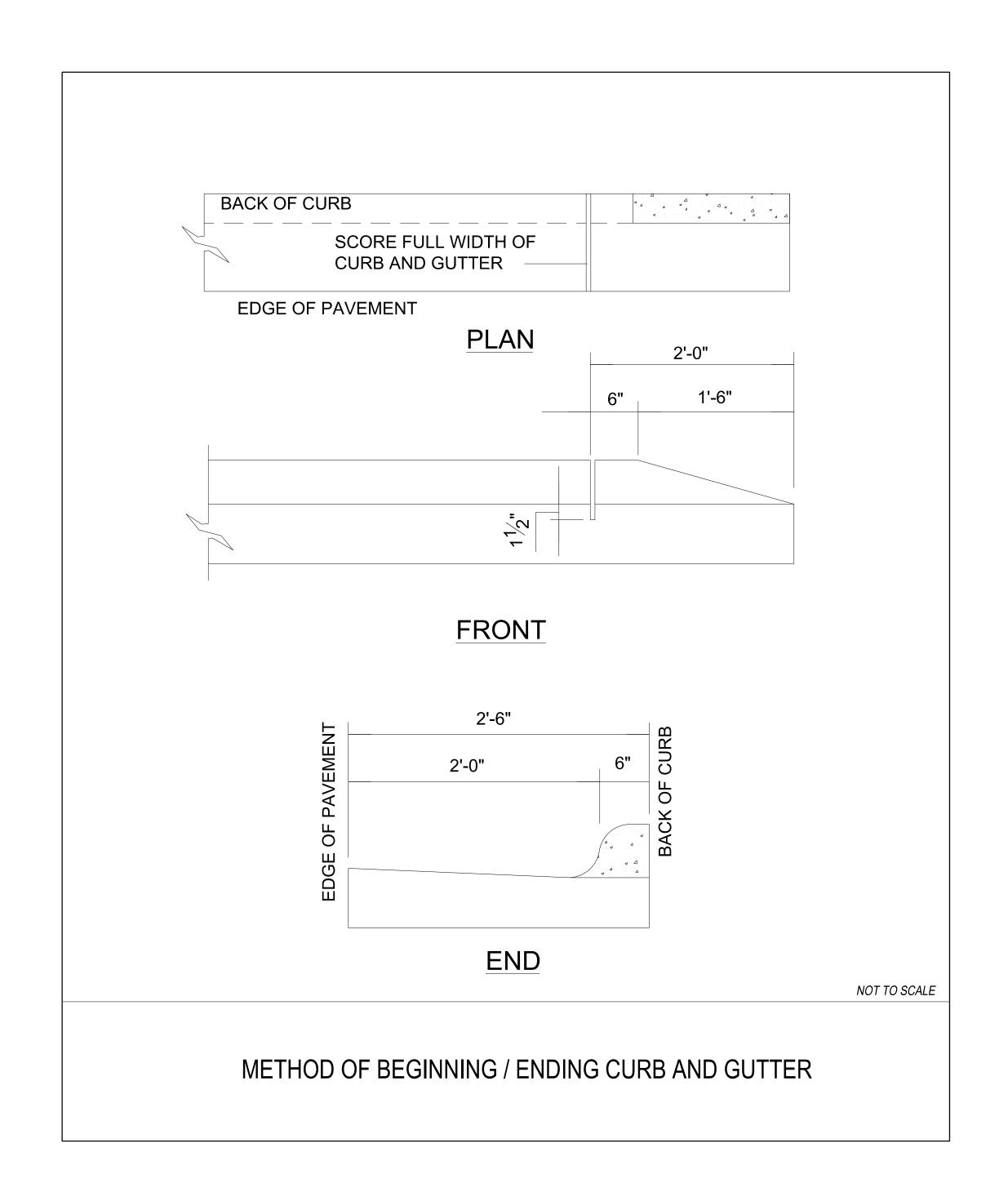
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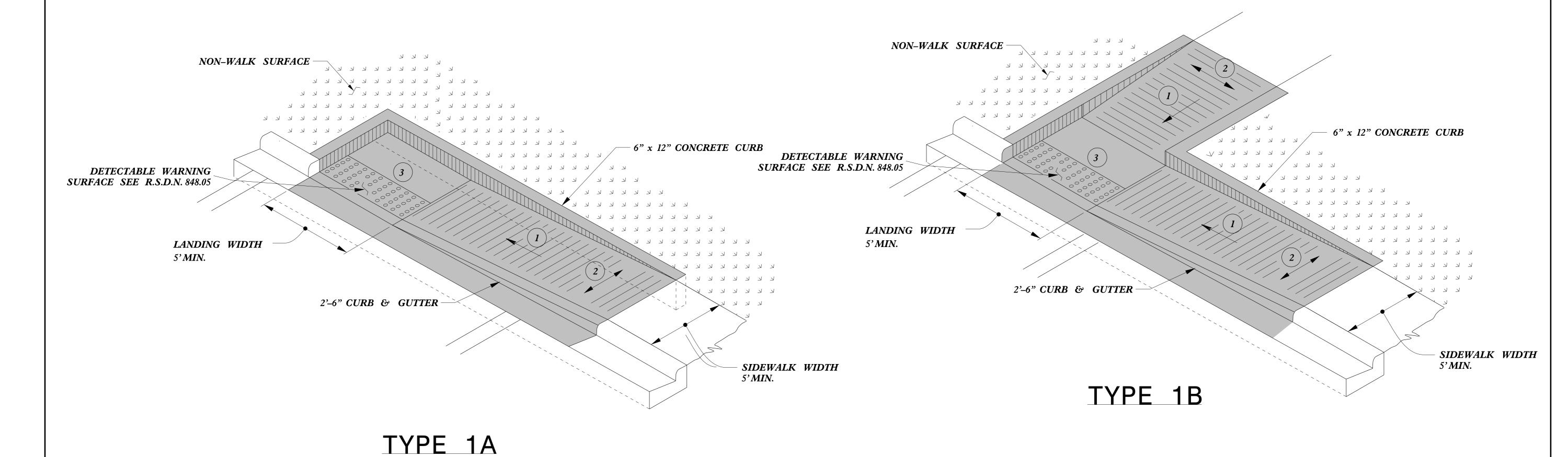
Buyamin K Crawford

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(, Zr. 2) Yroj\U-5534S_RDY_2B-1.dgn SFR:WP.na



6" x 12" CONCRETE CURB DETECTABLE WARNING SURFACE SEE R.S.D.N. 848.05 5'-0" MAX **SLOPE: ZERO** +2.00% 0000 0000 **SIDEWALK** 3 0000 5'MIN. 0000 0000 0000 CONCRETE DEPRESSED CURB **GRADE** DEPRESSED 2'-6" **BREAK** CURB & GUTTER 8.33% (12:1) MAX SLOPE MIN

PAY LIMITS FOR 1 CURB RAMP

- (1) 8.33% (12:1) MAX RAMP SLOPE
- (2) CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

TYPE 1

CONTRACT STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

SEAL 022966

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Directional Ramps

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11

MODIFIED BY: DATE: DATE: FILE SPEC.:stds/2012CurbRamp/CurbRampDetails.dgm

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

()

30"

2

PROJECT REFERENCE NO. *U-5534S* ROADWAY DESIGN & HYDRAULICS ENGINEER

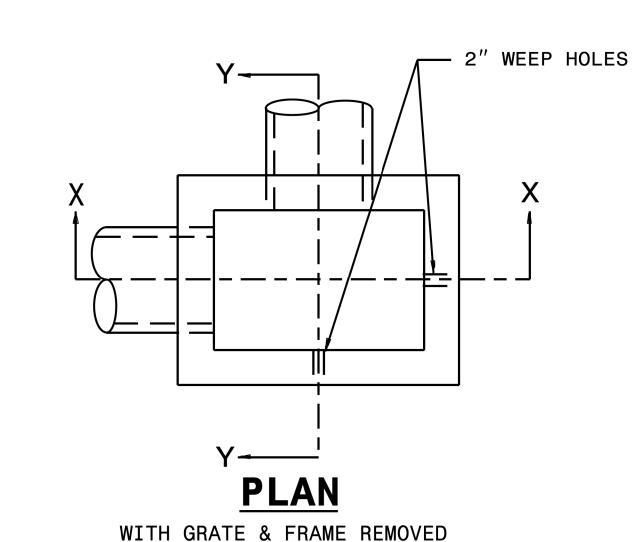
10/9/2019

Benjamin R Crawford

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GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

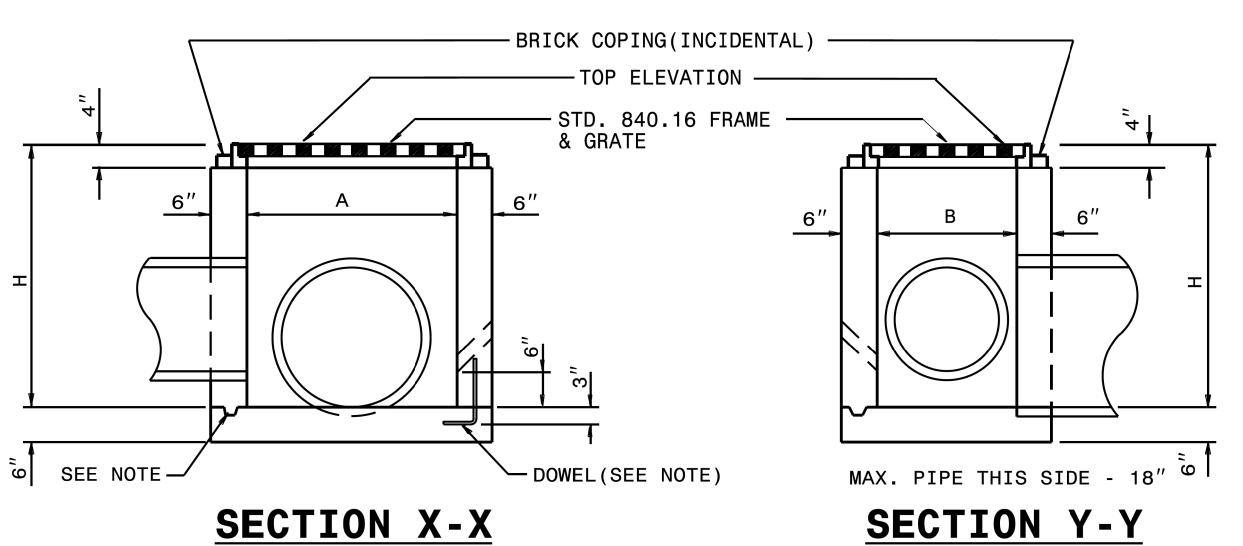
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.

INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.

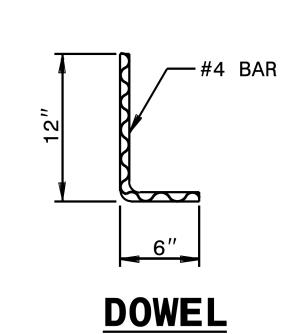
CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.



SECTION Y-Y

DIME	DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)												
DIME	NSIONS	OF BOX	& PIPE	C	CUBIC YARD	DEDUCTIONS FOR							
PIPE	SPAN	WIDTH	MIN. HEIGHT	С	ONC. IN B	OX	ONE PIPE						
D	Α	В	Н	BOTTOM SLAB	WALL PER FT. HT.	TOTAL CONCRETE FOR MINIMUM HEIGHT, H	C.M.	R.C.					
12"	3'-0"	2'-0"	1'- 6"	0.222	0.222	0. 500	0.015	0.026					
15"	1	1	2'-3"		/	0.648	0.023	0.036					
18"			2'-6"			0.703	0.033	0.049					
24"			3'-0"		•	0.814	0.059	0.085					
30"	3'-0"	2'-0"	3'-6"	0.222	0.222	0.925	0.092	0.127					



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.SHEET NO.U-5534S3B-I

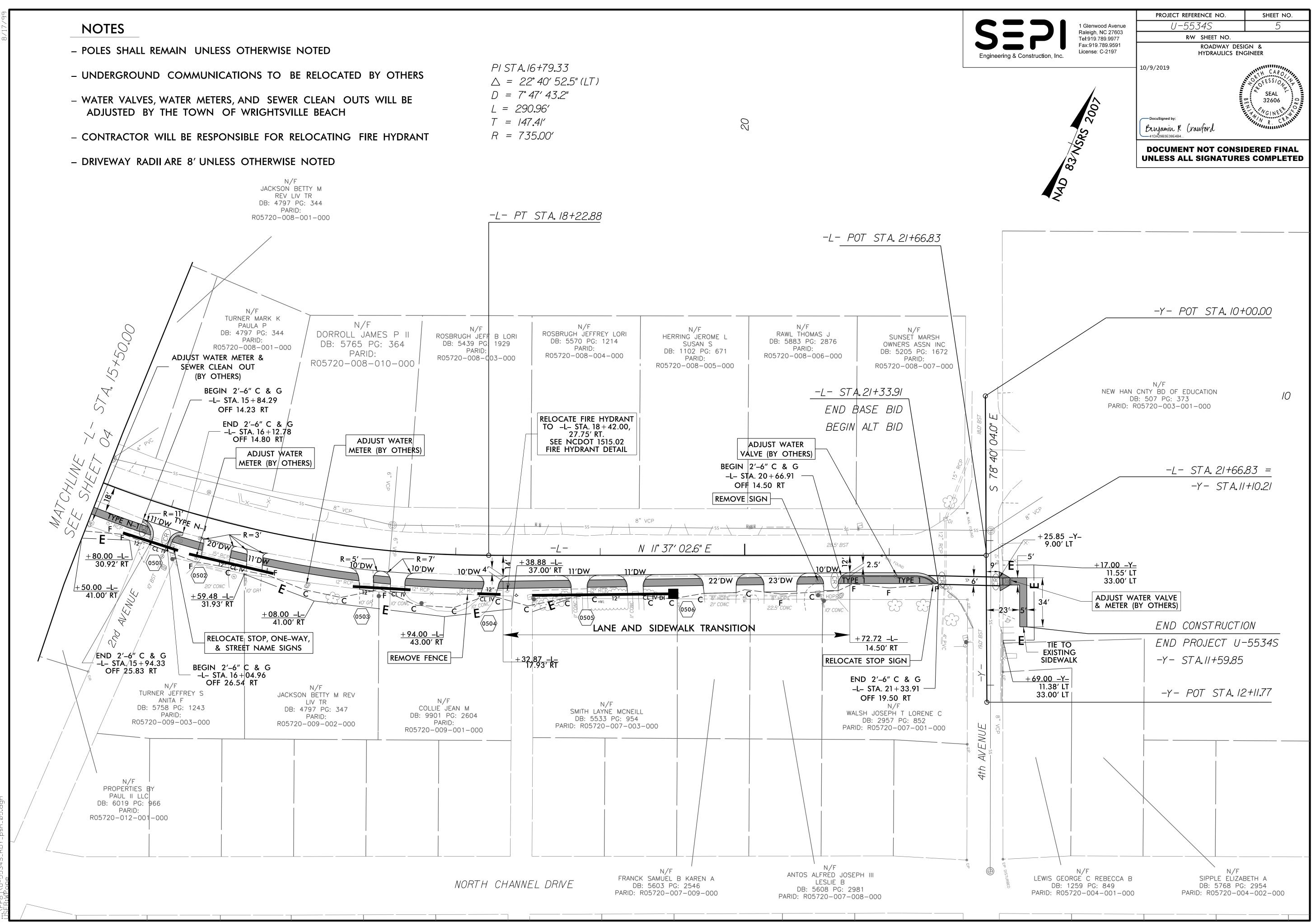
NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout.

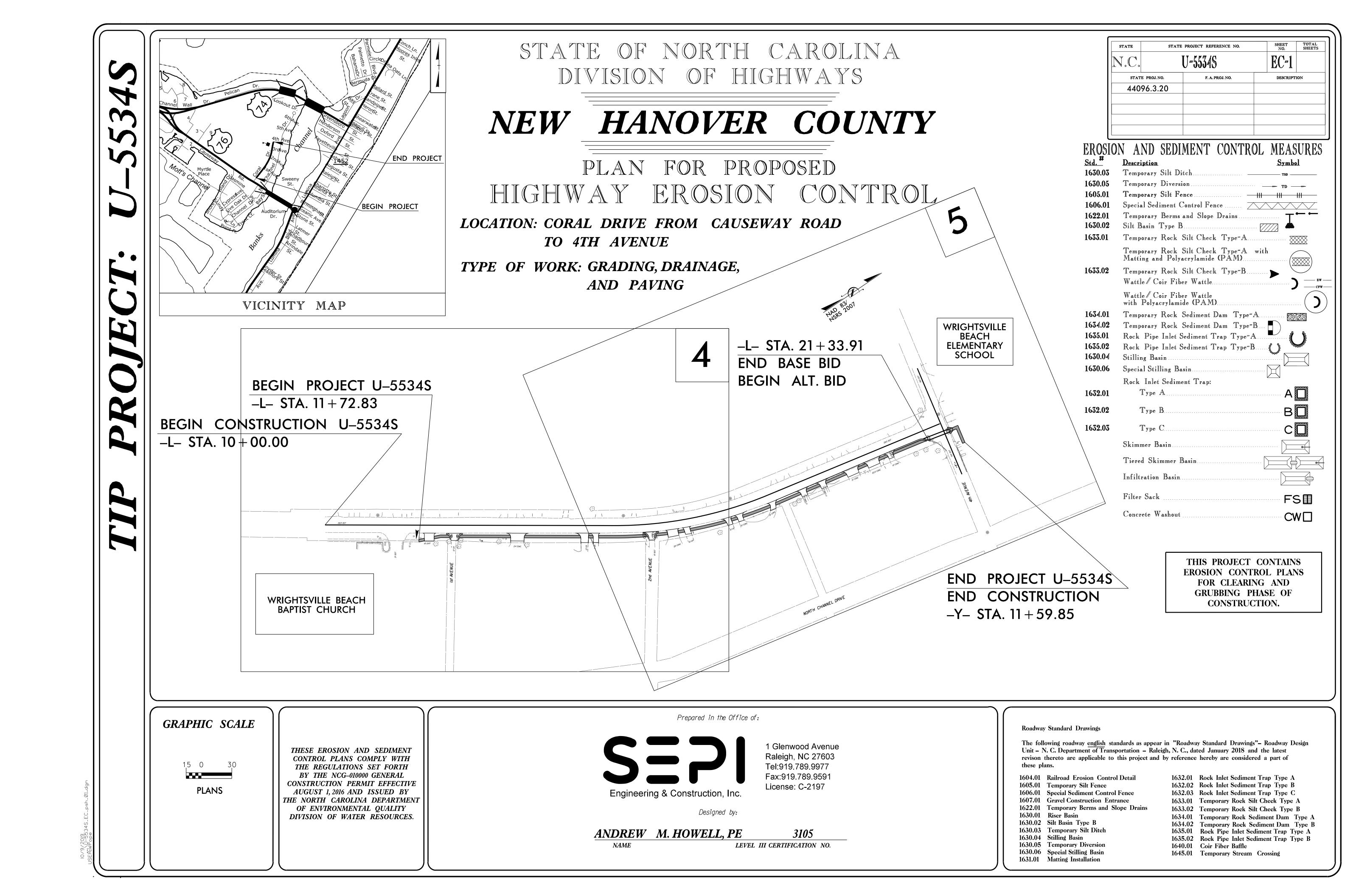
See "Standard Specifications For Roads and Structures, Section 300–5".

SUB-REGIONAL & REGIONAL

	See "Standard Specifications For Roads and Structures, Section 300-5". **SUB-REGIONAL & REGIONAL** **LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)** **LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)** **The property of the property of t																																																																																																
STATION	ON (LT,RT, OR CL) STRUCTURE NO.	EVATION	ELEVATION	ELEVATION	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)		DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)				DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)				DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)			DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)				C.S. PIPE		R.C. PIPE (CLASS III)		R.C. PIPE (CLASS IV)			CONTRACTOR DESIGN PIPE CONTRACTOR DESIGN PIPE		OR STD. 838.80 (UNLESS NOTED OTHERWISE)	SO SO STATE OF THE SO		CONCRETE TRANSITIONAL		TD. 840.16	ATE STD. 840.22 O GRATES STD. 840.22	H GRATE STD. 840.24 H TWO GRATES STD. 840.24	40.32 40. & SIZE	" C.Y. STD 840.72	LUG, C.Y. STD. 840.71		ABBREVIATIONS C.B. CATCH BASIN N.D.I. NARROW DROP INLET D.I. DROP INLET G.D.I. GRATED DROP INLET G.D.I. (N.S.) GRATED DROP INLET (NARROW SLOT) J.B. JUNCTION BOX
SIZE THICKNESS OR GAUGE	FROM	TOP EL	INVERT	INVERT	HOTS 12" 1	15" 18" 2	24" 30" 3	L C Z	DO NOT USE CAAP	064 64 65 65 65 65 65 65 65 65 65 65 65 65 65			24" 30" 36" 42	48"	12" 15" 18	3" 24" 30	36" 42"	C. PIPE (CLASS		15" SIDE DRAIN PIPE 18" SIDE DRAIN PIPE	CU. YDS.	PER EACH (0' THRU 5.0	10.0′ AND ABOVE Θ C.B. STD. 840.01 OR		OF GRATE	CATCH BASIN	D.I. FRAME & GRATE S'	G.D.I. FRAME WITH GR	5.D.I.	J.B. STD. 840.31 OR 8	CONC. COLLARS CL. "E	CONC. & BRICK PIPE F	PIPE REMOVAL LIN.FT.	M.H. MANHOLE T.B.D.I. TRAFFIC BEARING DROP INLET T.B.J.B. TRAFFIC BEARING JUNCTION BOX REMARKS																																																															
11 + 75.70 12 + 24.74	RT 401 RT 402		3.26 3.11	+											28 60																		28	REMOVE 28 LF OF 12" RCP REMOVE 105 LF OF 15" RCP & DI																																																															
12 + 93.74 13 + 21.15	RT 402A RT 402B 402B 40	4.92		2.76											84							1					1						74	DRIVEWAY PIPE D.I. 402B BETWEEN PIPE 402A AND PIPE 403 REMOVE 74 LF OF 15" RCP																																																															
14 + 66.59 14 + 70.05	RT 406		2.59	2.57											16	ļ															0.5		16	COLLAR AND EXTEND 18" RCP REMOVE 16 LF OF 18" RCP																																																															
14 + 92.56 15 + 74.29	RT 405 RT 501		2.63 2.75	2.81											16																		16 41	REMOVE 16 LF OF 15" RCP REMOVE 41 LF OF 15" RCP																																																															
16 + 20.50 17 + 31.98 18 + 15.32	RT 502 RT 503 RT 504		2.82 2.99 3.11	3.04											40 16																			REMOVE 52 LF OF 15" RCP REMOVE 39 LF OF 12" RCP REMOVE 17 LF OF 12" RCP																																																															
18 + 52.93 19 + 50.58	RT 505 50	4.90	3.17												96							1					1							DROP INLET LESS THAN 2' DEEP																																																															
																																 																																																																	
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PROJECT REFERENCE NO. SHEET NO. *U-5534S* 1 Glenwood Avenue NOTES Raleigh, NC 27603 R/W SHEET NO. Tel:919.789.9977 Fax:919.789.9591 ROADWAY DESIGN & PI ST A. 16+79.33 License: C-2197 HYDRAULICS ENGINEER - POLES SHALL REMAIN UNLESS OTHERWISE NOTED Engineering & Construction, Inc. $\triangle = 22^{\circ}40'52.5''(LT)$ 10/9/2019 $D = 7^{\circ} 47' 43.2''$ - UNDERGROUND COMMUNICATIONS TO BE RELOCATED BY OTHERS L = 290.96' SEAL 32606 15 - WATER VALVES, WATER METERS, AND SEWER CLEAN OUTS WILL BE T = 147.41'ADJUSTED BY THE TOWN OF WRIGHTSVILLE BEACH R = 735.00'Benjamin R Crawford - CONTRACTOR WILL BE RESPONSIBLE FOR RELOCATING FIRE HYDRANT **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** - DRIVEWAY RADII ARE 8' UNLESS OTHERWISE NOTED -L- PC STA. 15+31.92 N/F JACKSON BETTY M REV LIV TR DB: 4797 PG: 344 HAND CLEAR ALONG STREAM PARID: R05720-008-001-000 TO 140' FEET FROM END OF PIPE GERBE RONALD W WHEAT RENE LYNN DB: 5712 PG: 1029 NO GRUBBING OR EXCAVATION DB: 5374 PG: 220 LEE GARY LAWRENCE PARID: OF ROOTS OR SUBSTRATE DB: 5929 PG: 2677 R05719-001-005-000 R05719-001-003-000 R05719-001-004-000 \bigcirc GOODWIN MARY E WATTERS THOMAS S SMITH TIMOTHY C 105 CORAL T RE DB: 5579 PG: 1674 KIMBERLY D CHERYL A CONDOMINIUM HOA PARID: DB: 1443 PG: 1787 DB: 6027 PG: 2889 DB: 2635 PG: 516 R05719-001-006-000 \geq PARID: PARID: PARID: R05719-001-007-000 R05719-001-008-000 R05719-001-009-000 \bigcirc \triangleright RELOCATE SCHOOL AREA SIGN BEGIN 2'-6" C & G -50.00 _L_ STA. 12 + 23.47 — \bigcirc END 2'-6" C & G OFF 14.83 RT -L- STA. 12 + 53.34 BEGIN PROJECT OFF 14.70 RT -L- STA. // +72.83 9 TIE TO EXISTING SIDEWALK $\stackrel{\circ}{\checkmark}$ \mathcal{C} 8" VCP \sim R=8' R=10' — - remove di 5' concrete sidewalk — N 34° 17′ 55.1" E 18'DW © 14'DW TYPE N-1 \bigcirc C 0402A 0402B 24' CONC MAT (SEE (0401) +01.42 -L-34.00' RT +90.00 -L-40.00' RT +24.00 -L +25.95 -L-30.00' RT 41.00' RT LIGHT POLE TO +24.00 -L-40.00 RT BE REMOVED BY ADJUST WATER <u>+ 60.21 -L-</u>/ END 2'-6" C & G OTHERS +50.00 -⊾ 41.00′ RT METER (BY OTHERS) 40.00' RT. -L- STA. 12 + 31.46 REMOVE PERSONAL SIGN + 75.00 -L-40.00' RT OFF 24.96 RT 181 +50.00 -L-41.00' RT BEGIN 2'-6" C & G CATLETT SAM CHRISTINE ADJUST WATER L- STA. 12 + 45.47 DB: 5902 PG: 1539 METER (BY OTHERS) OFF 25.04 RT SNIDER LARRY V SUSAN W R05720-012-002-000 DB: 2921 PG: 321 PEEBLES YALE S WRIGHTSVILLE BEACH DB: 5683 PG: 469 R05720-012-002-001 WRIGHTSVILLE BEACH BAPTIST DB: 1902 PG: 200 DB: 1960 PG: 712 R05720-012-002-002 PARID: R06307-004-001-000 R05720-013-001-000 RELOCATE FIRE HYDRANT TO _L_ STA. 12 + 48.00, N/F 27.75′ RT. PROPERTIES BY PAUL II LLC SEE NCDOT 1515.02 BEGIN CONSTRUCTION U-5534S DB: 6019 PG: 966 FIRE HYDRANT DETAIL PARID: R05720-012-001-000 -L- POT STA.10+00.00





DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.

U-5534S

1 Glenwood Avenue Raleigh, NC 27603 Tel:919.789.9591 License: C-2197

Engineering & Construction, Inc.

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10'OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50'IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	I4 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

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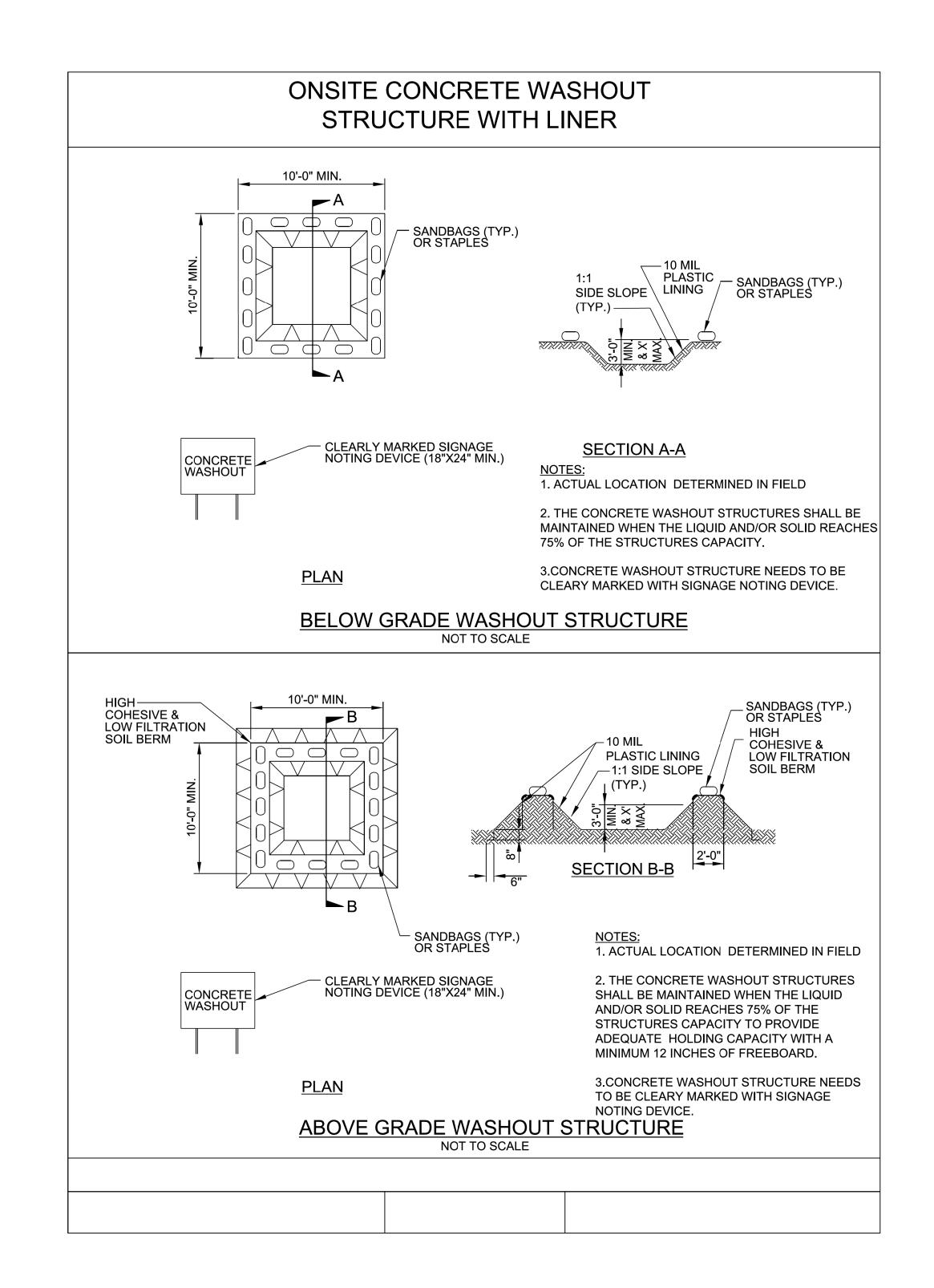
EROSION CONTROL DETAILS

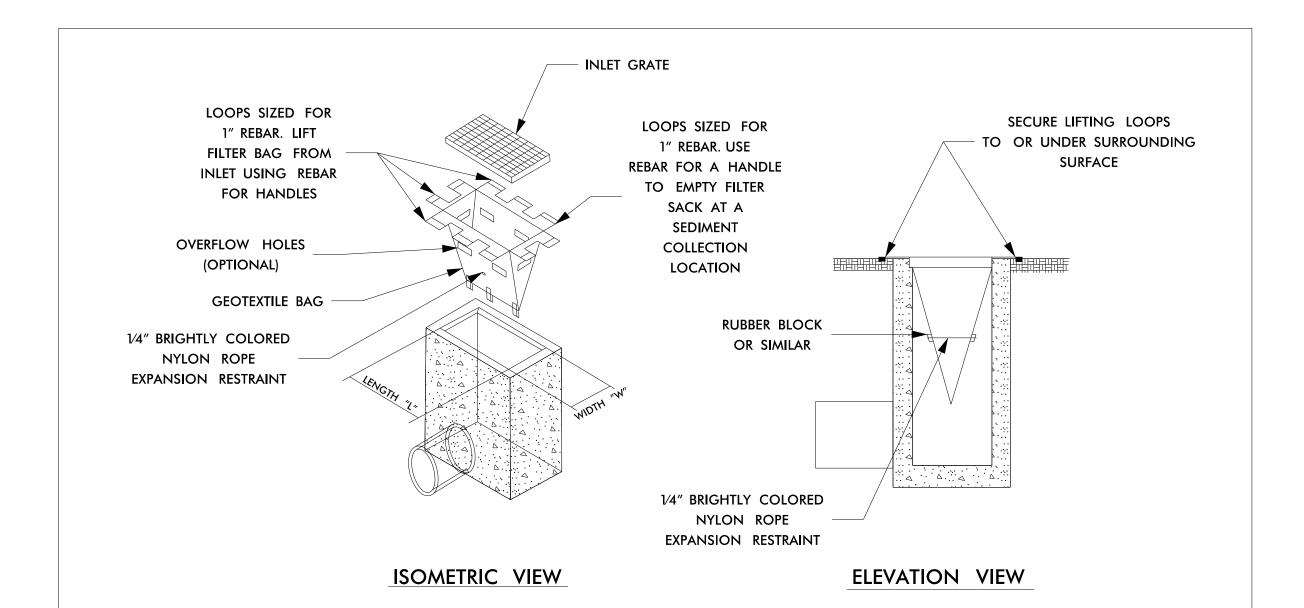
Construction, Inc.

| Construction | Constructio

SHEET NO.

PROJECT REFERENCE NO.





EMPTY FILTER SACK WHEN BRIGHTLY COLORED EXPANSION RESTRAINT IS NO LONGER VISIBLE WHEN LOOKING DOWN FROM THE TOP.

GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.

INSPECT PER REGULATORY REQUIREMENTS.

THE WIDTH "W" OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE DRAINAGE STRUCTURE.

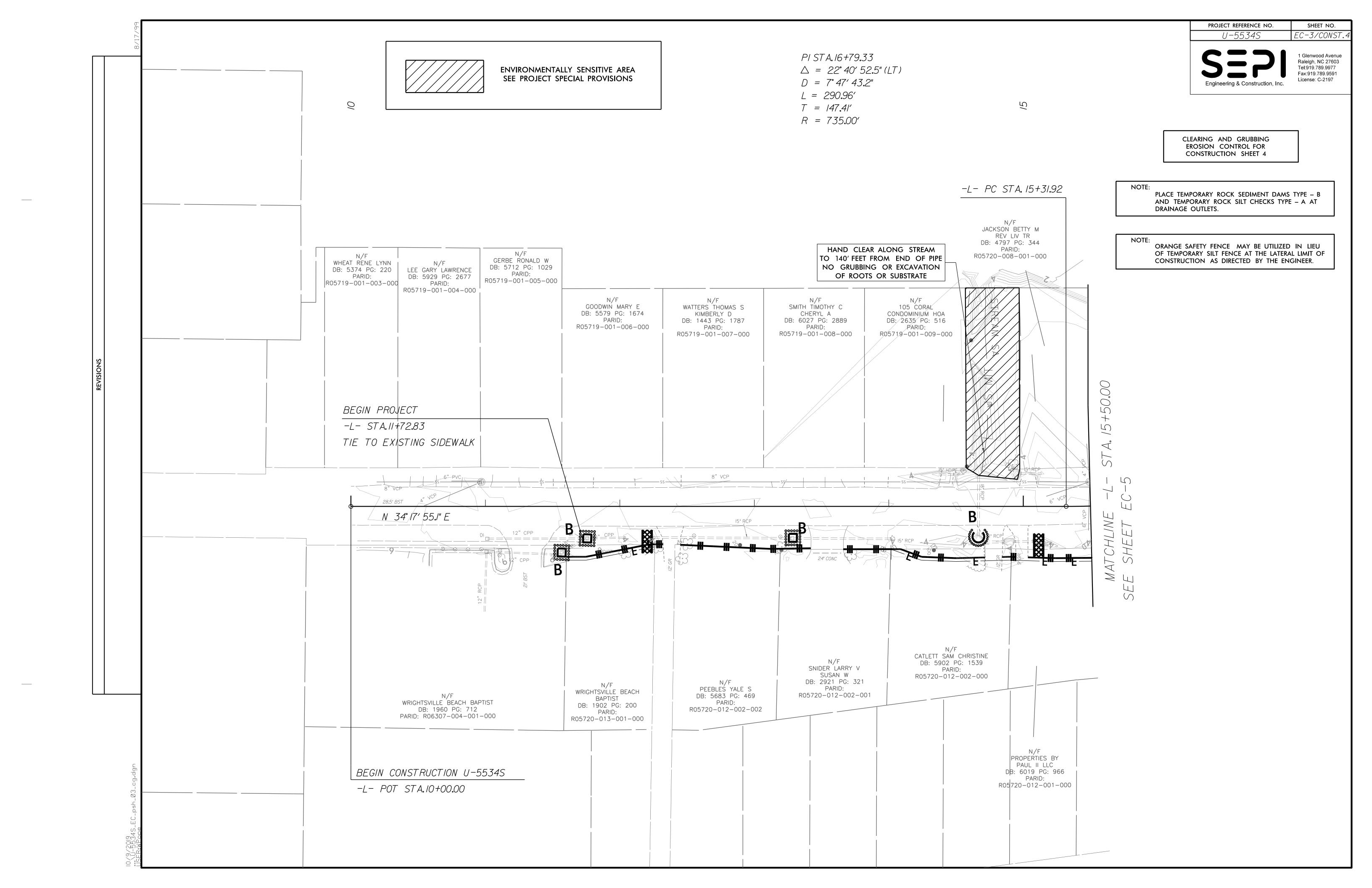
THE DEPTH "D" OF THE FILTER SACK SHALL APPROXIMATLEY MATCH THE INSIDE DEPTH OF THE DRAINAGE STRUCTURE AS MEASURED FROM TOP OF BOX TO TOP OF PIPE.

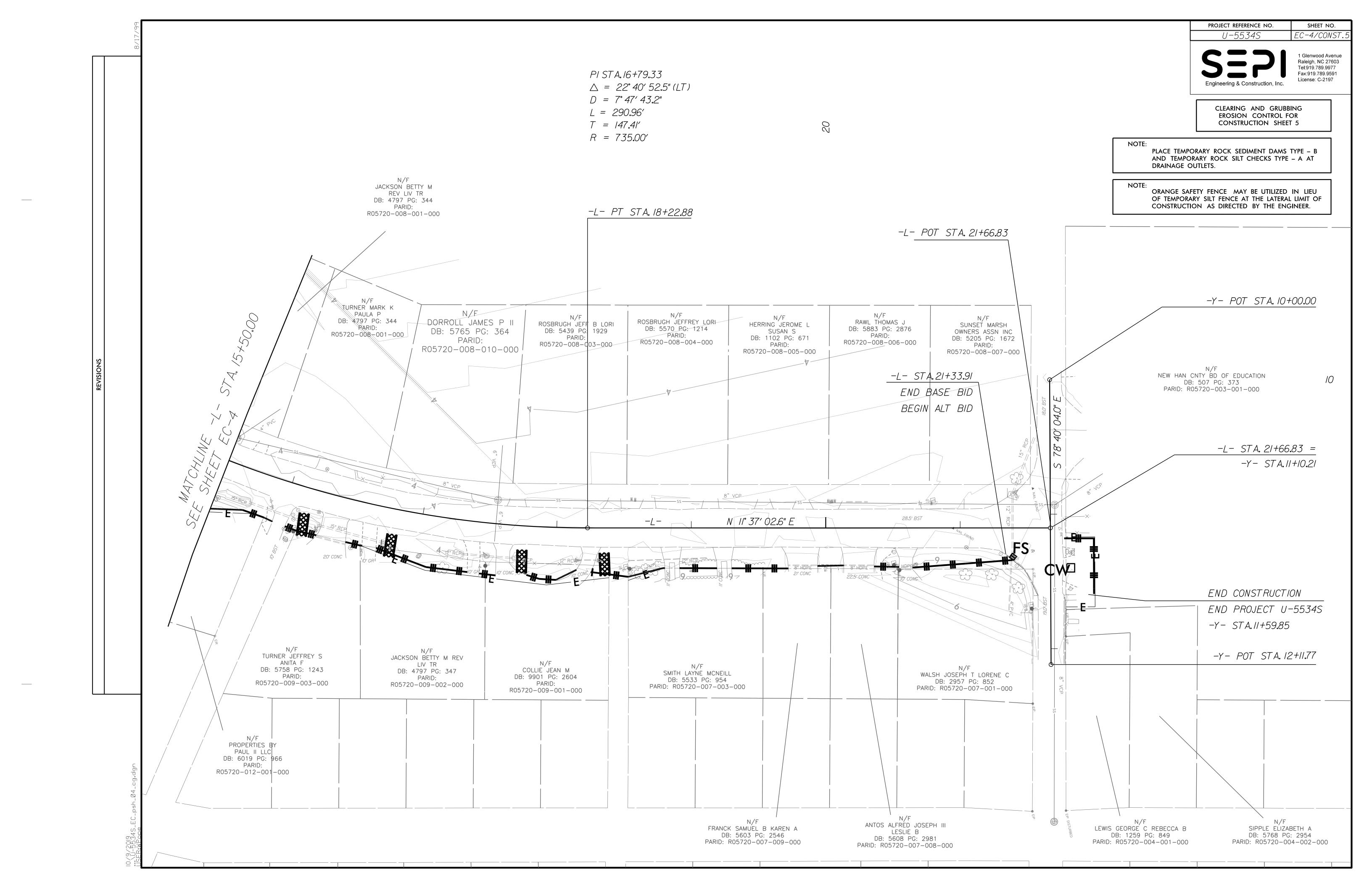
THE LENGTH "L" OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE DRAINAGE STRUCTURE.

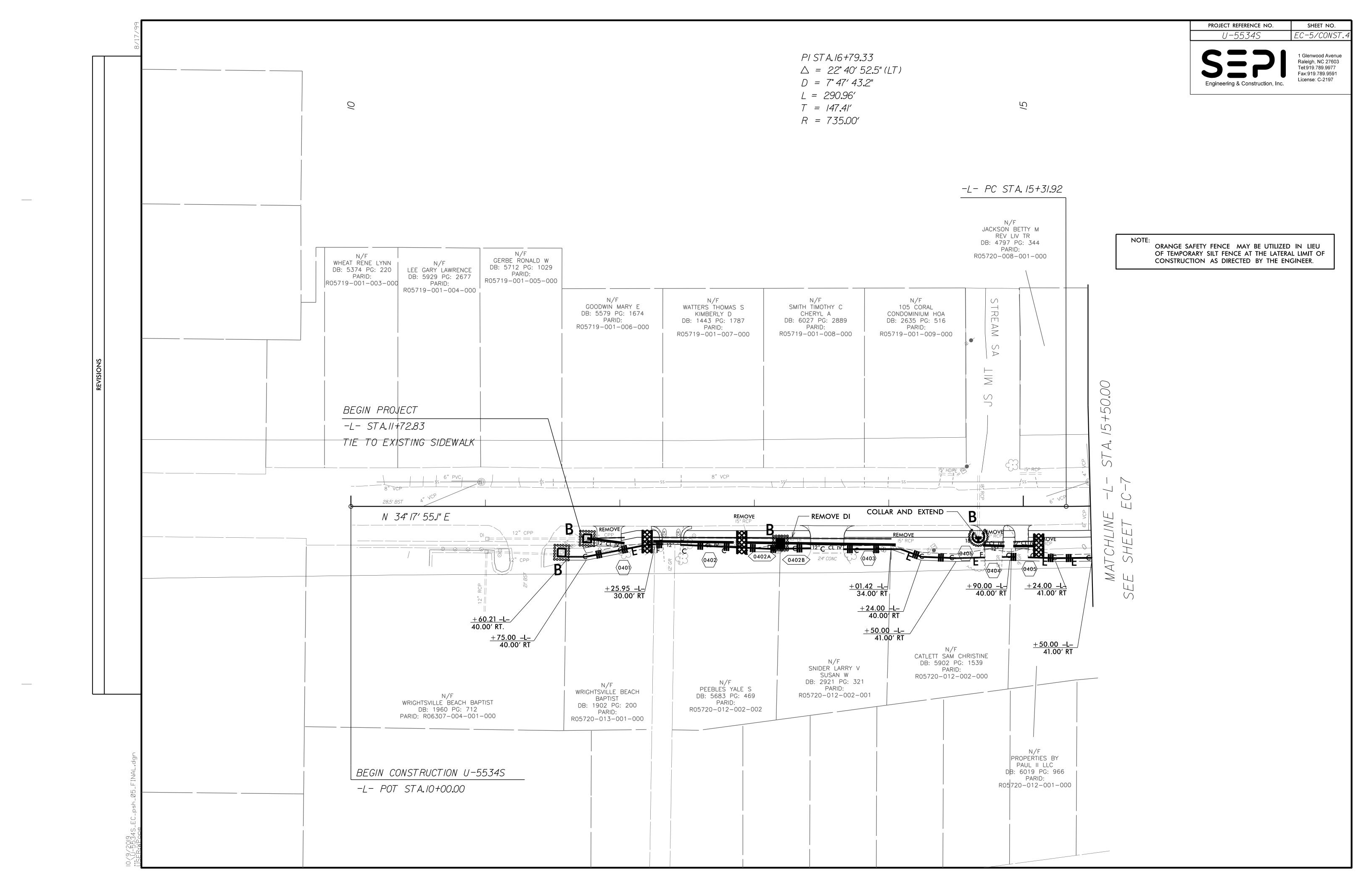
LOW TO MODERATE FLOW	GEOTEXTILE FABR	IC SPECIFICATION TABL
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC-1
MODERATE TO HIGH FLOW	GEOTEXTILE FABR	RIC SPECIFICATION TAB
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC-1

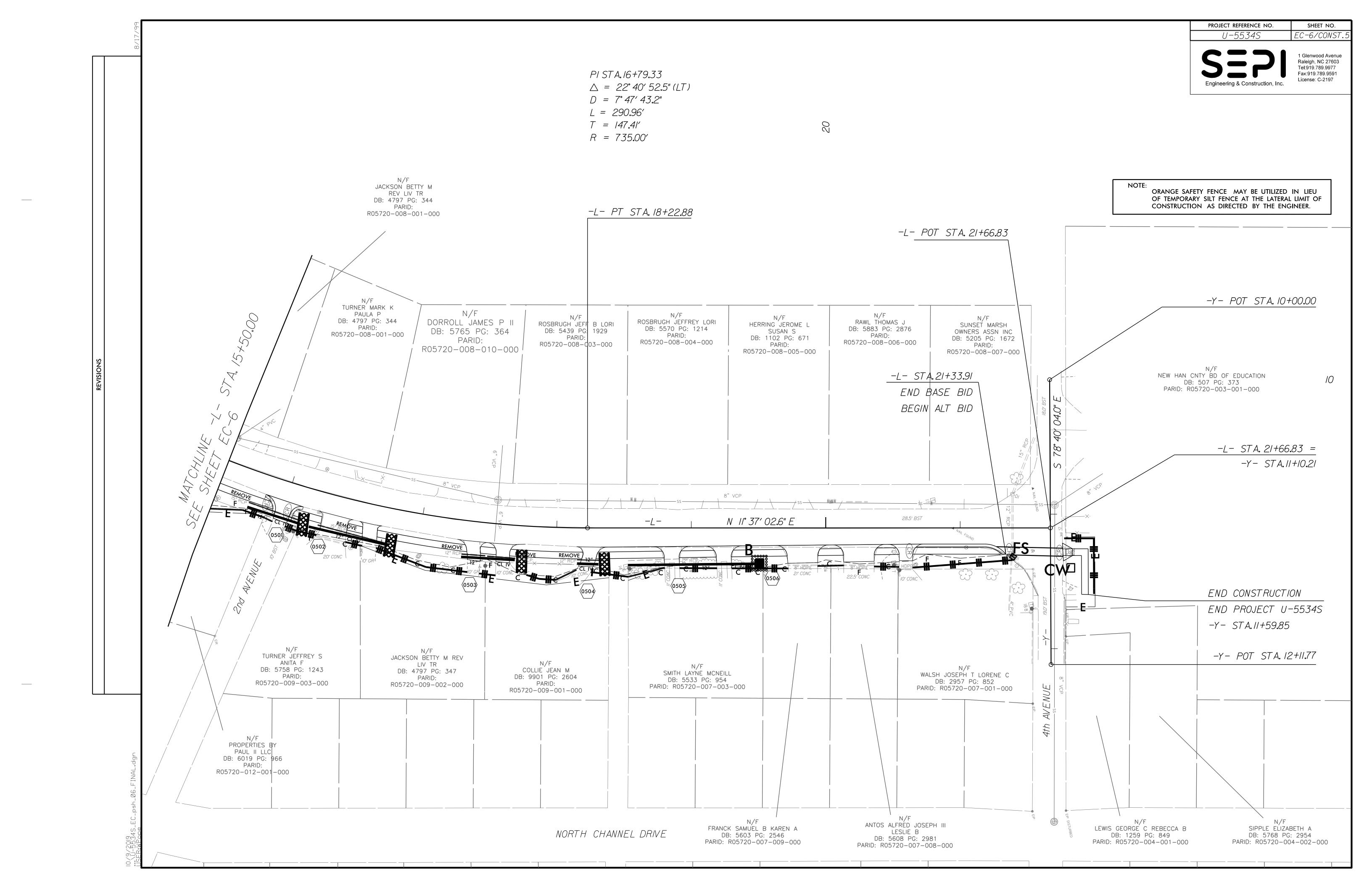
FILTER SACK INLET PROTECTION

...\U-5534S_EC_psh_Ø2A.dgn USER:WPope









PROJECT REFERENCE NO.	SHEET NO.
U-5534S	X-/

CROSS SECTION INDEX

X-/ CROSS SECT/ON /NDEX

X-2 THRU X-10 -L-

