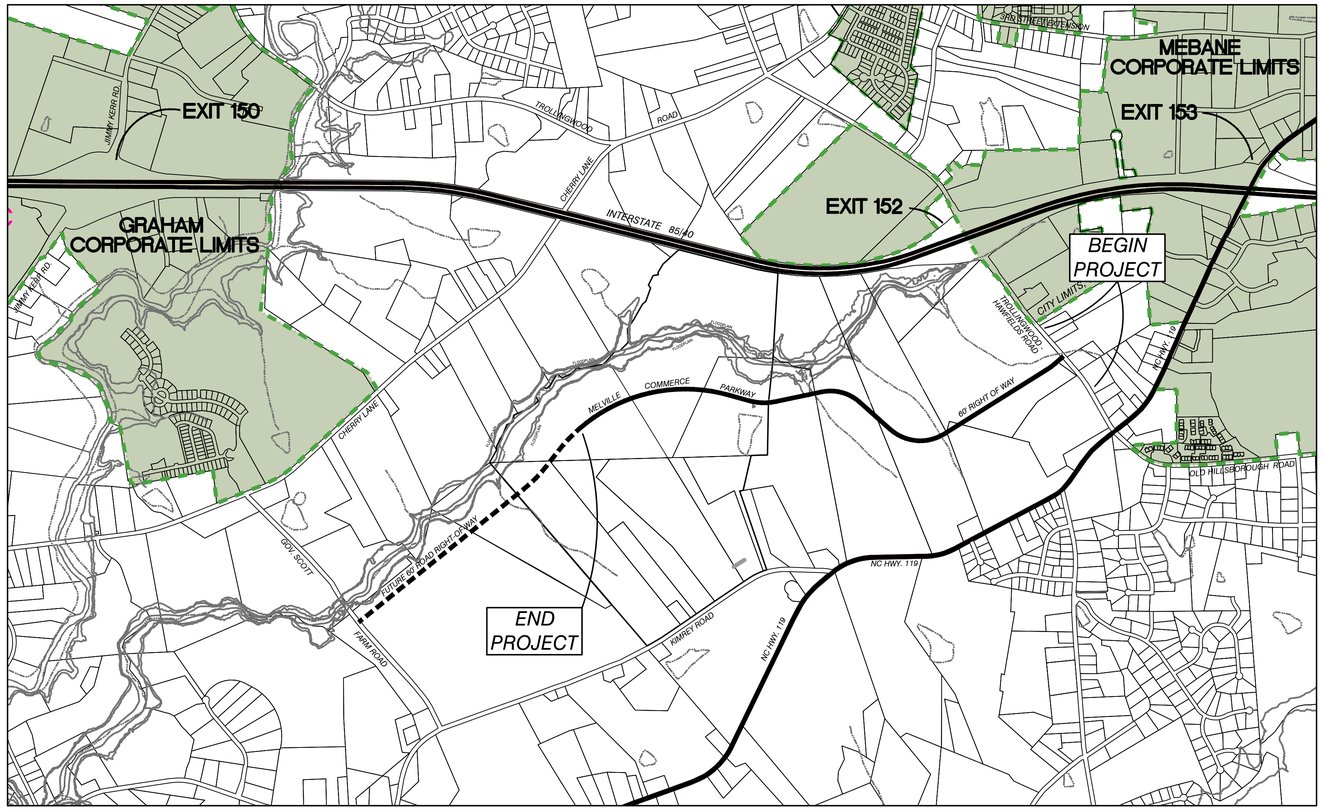
SR 2657 - MELVILLE COMMERCE PARKWAY IMPROVEMENTS FOR NCDOT

PHASE II WIDENING, GRADING, FINE GRADING, SHOULDER CONSTRUCTION, PAVING, TRAFFIC SIGNAL, AND EROSION CONTROL

LEGEND

- IRON STAKE
- POWER POLE
- EXISTING OVERHEAD ELECTRICAL LINES
- GUARD RAIL
- EXISTING CHAIN LINK FENCE
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- HEADWALL/ENDWALL
- TREE LINE/CLEARING LIMITS
- RIP-RAP/GRAVEL
- ROAD RIGHT OF WAY
- PERMANENT DRAINAGE EASEMENTS
- TEMPORARY CONSTRUCTION EASEMENTS
- EXISTING CONTOURS MINOR
- EXISTING CONTOURS MAJOR
- PROPOSED CONTOURS MINOR
- PROPOSED CONTOURS MAJOR
- EXISTING STREAMS
- EXISTING WETLAND BOUNDRY



VICINITY MAP
1"=1000'

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SHEET EC-18 - THROUGH EC-20 (U5538B - WIDENING)

WBS: 44113.3.D2
TIP: U5538B

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FIRM'S ENGINEERING LICENSE NO. F-0203

NORTH CAROLINA PROFESSIONAL SEAL 039206 ENGINEER S. KYLE SMITH

DocuSigned by: S. Kyle Smith
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5/21/2015

JOB NO. 15016

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07-30-12

GRADING:

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

SUPERELEVATION:

ALL CURVES ON THIS PROJECT 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:

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

SIDE ROADS:

THE CONTRACTOR SHALL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

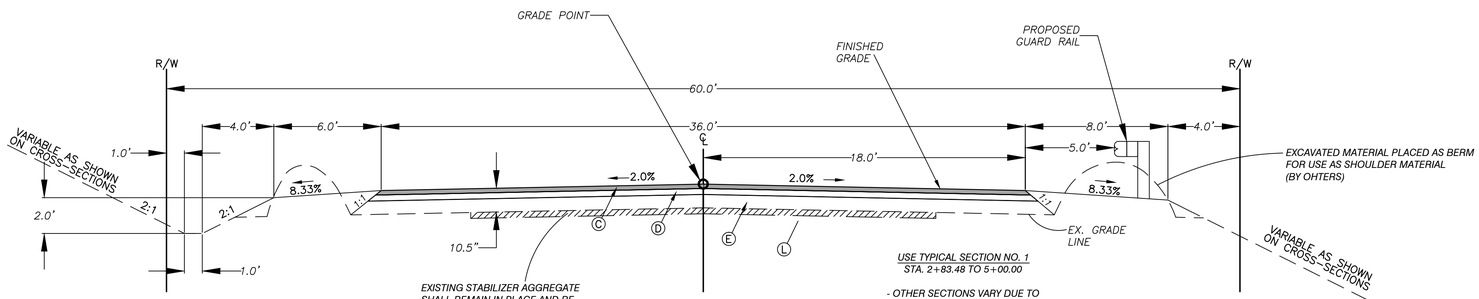
BERM DITCHES:

BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

SUBSURFACE PLANS:

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

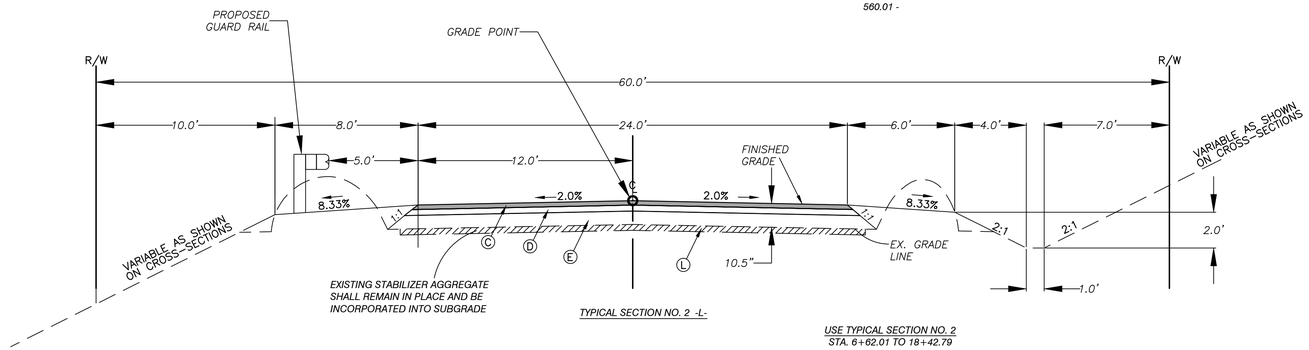
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.



TYPICAL SECTION NO. 1 -L-

USE TYPICAL SECTION NO. 1
STA. 2+83.48 TO 5+00.00

- OTHER SECTIONS VARY DUE TO WIDTH AND SUPERELEVATION, REFER TO CROSS-SECTIONS FOR OTHER SECTIONS. SUPERELVATED SECTIONS SHALL COMPLY WITH NCDOT STANDARD 560.01 -



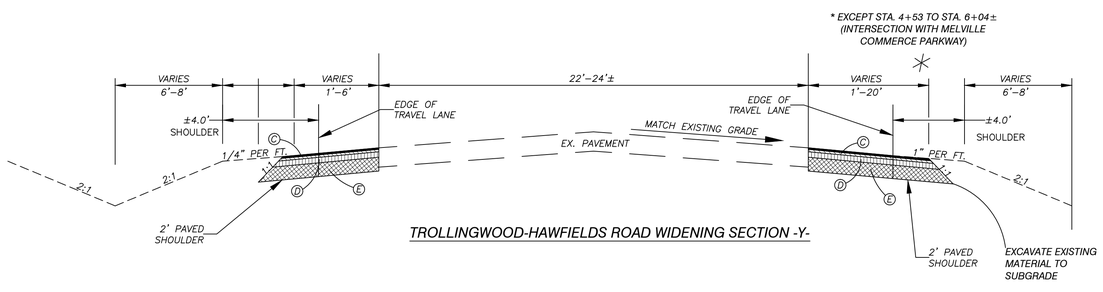
TYPICAL SECTION NO. 2 -L-

USE TYPICAL SECTION NO. 2
STA. 6+62.01 TO 18+42.79
STA. 29+46.95 TO 32+34.12
STA. 40+87.90 TO 45+51.19
STA. 51+30.70

- OTHER SECTIONS VARY DUE TO WIDTH AND SUPERELEVATION. SUPERELVATED SECTIONS SHALL COMPLY WITH NCDOT STANDARD 560.01 -

NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, SHOULDER BORROW, AND FINE GRADING WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".

PAVEMENT SCHEDULE	
C	1.5" Asphalt Surface Course Type S9.5 C (Rate 168 lbs/sy)
D	4" Asphalt Intermediate Course Type I-19.0C (Rate 456 lbs/sy)
E	5" Asphalt Base Course Type B-25.0C (Rate 570 lbs/sy)
L	Existing 4" thick X 26' wide Stabilizer Aggregate (By Others)



TROLLINGWOOD-HAWFIELDS ROAD WIDENING SECTION -Y-

GRAPHIC SCALE 1" = 4'
4 0 4 8

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Firm's Engineering License No. F-0203

ALAMANCE INTERSTATE CORRIDOR DEVELOPMENT ZONE

MELVILLE TOWNSHIP – MEBANE, NORTH CAROLINA

WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A

MELVILLE COMMERCE PARKWAY IMPROVEMENTS

MEBANE, NORTH CAROLINA

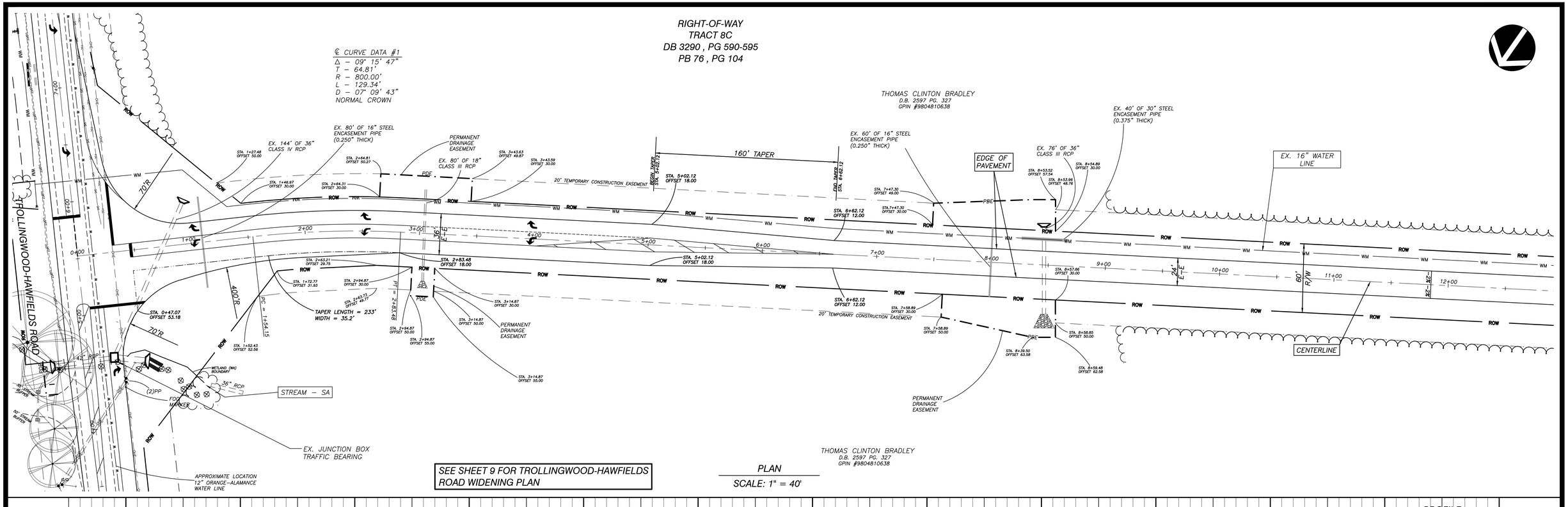
DATE: REV. 7/28/15
COMP FILE: 15016 TYP SECTION.dwg
DRAWN BY: WDF
CHECKED BY: SKS

TYPICAL STREET SECTIONS

JOB NO. 15016

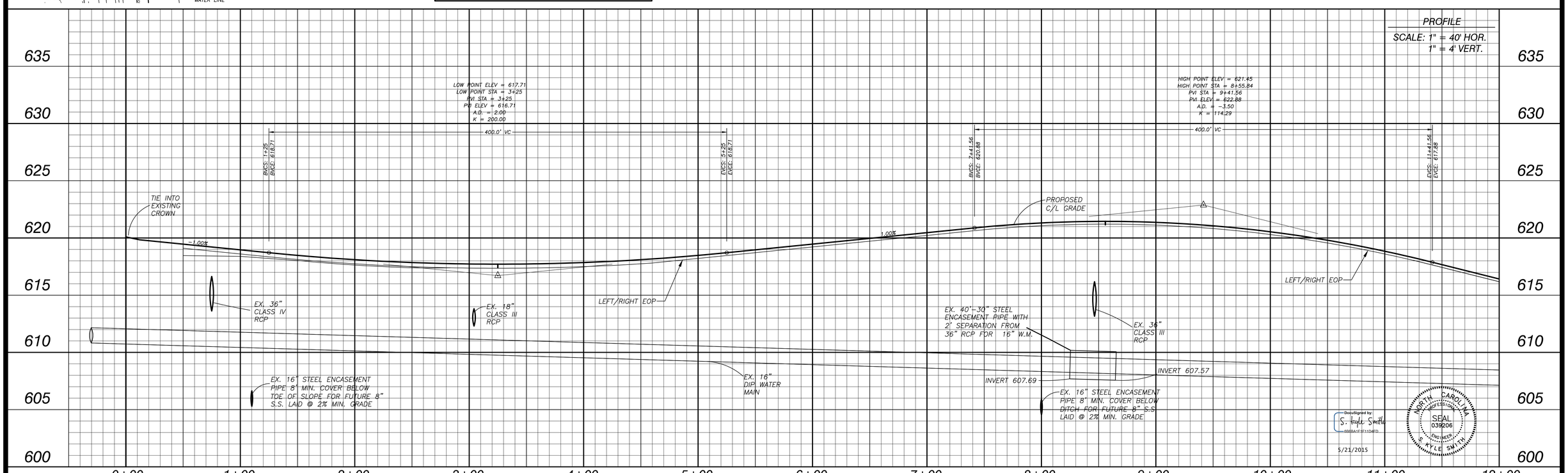
SHEET NO. 2 OF: 16

RIGHT-OF-WAY
TRACT 8C
DB 3290 , PG 590-595
PB 76 , PG 104



SEE SHEET 9 FOR TROLLINGWOOD-HAWFIELDS ROAD WIDENING PLAN

PLAN
SCALE: 1" = 40'



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MELVILLE TOWNSHIP – MEBANE, NORTH CAROLINA

WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A
MELVILLE COMMERCE PARKWAY IMPROVEMENTS
MEBANE, NORTH CAROLINA

DATE: REV. 5/19/15
COMP FILE: 15016 Plan Profile.dwg
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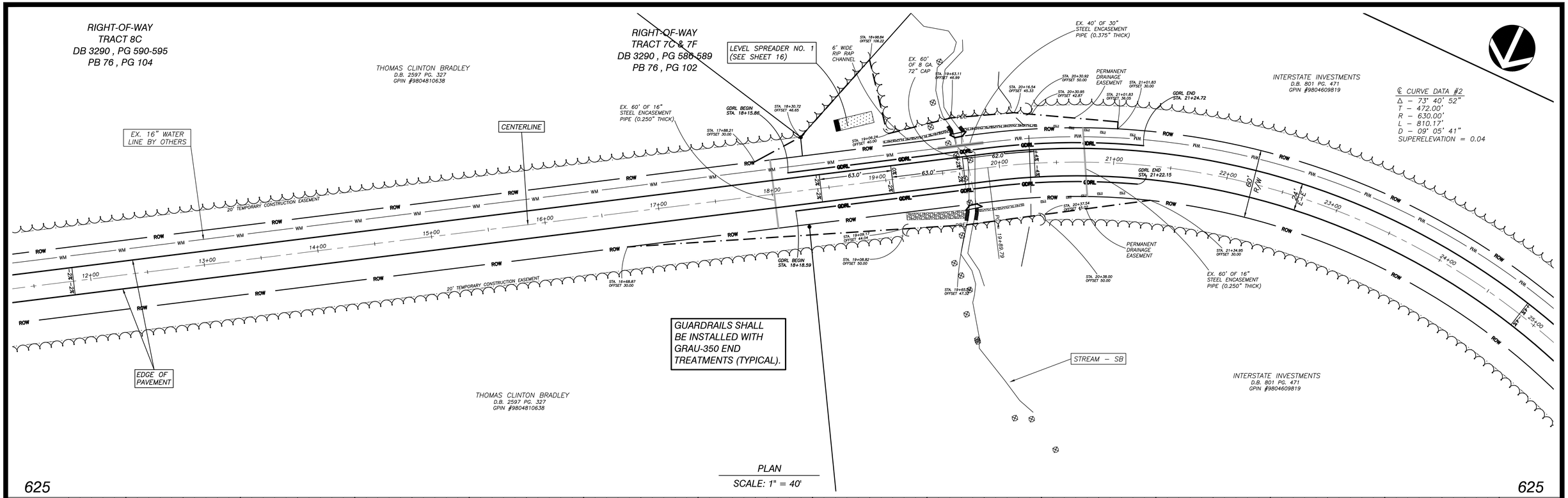
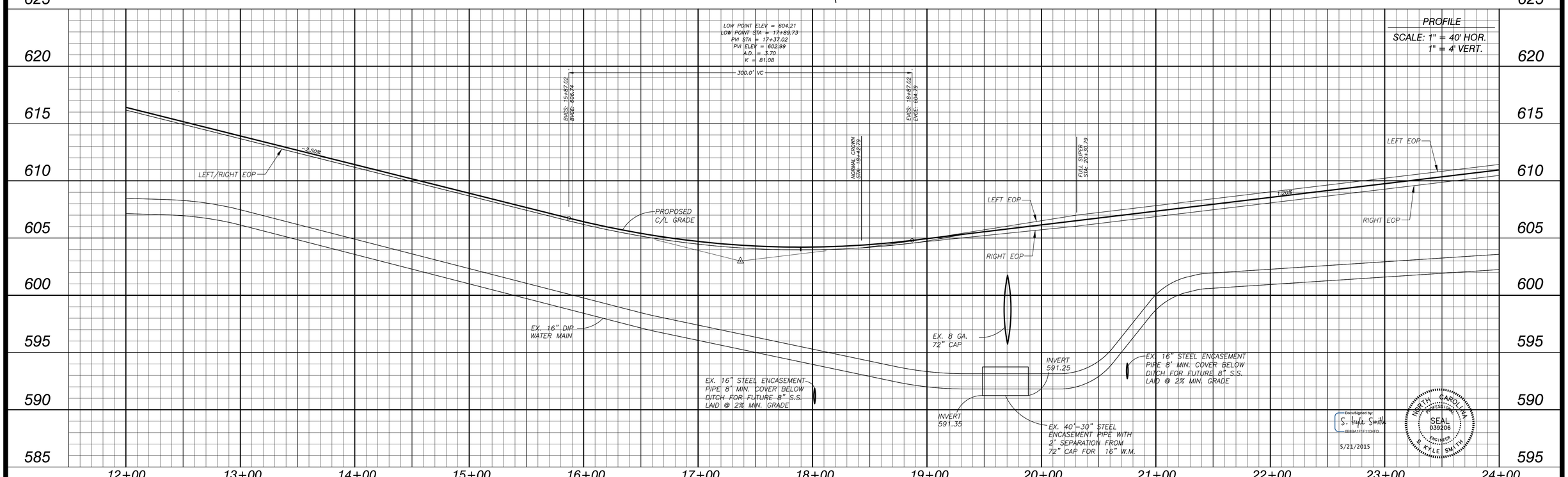
PLAN & PROFILE
STA. 0+00 TO STA. 12+00

JOB NO. 15016
SHEET NO. 3
OF: 16





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MELVILLE TOWNSHIP – MEBANE, NORTH CAROLINA

WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A

MELVILLE COMMERCE PARKWAY IMPROVEMENTS

MEBANE, NORTH CAROLINA

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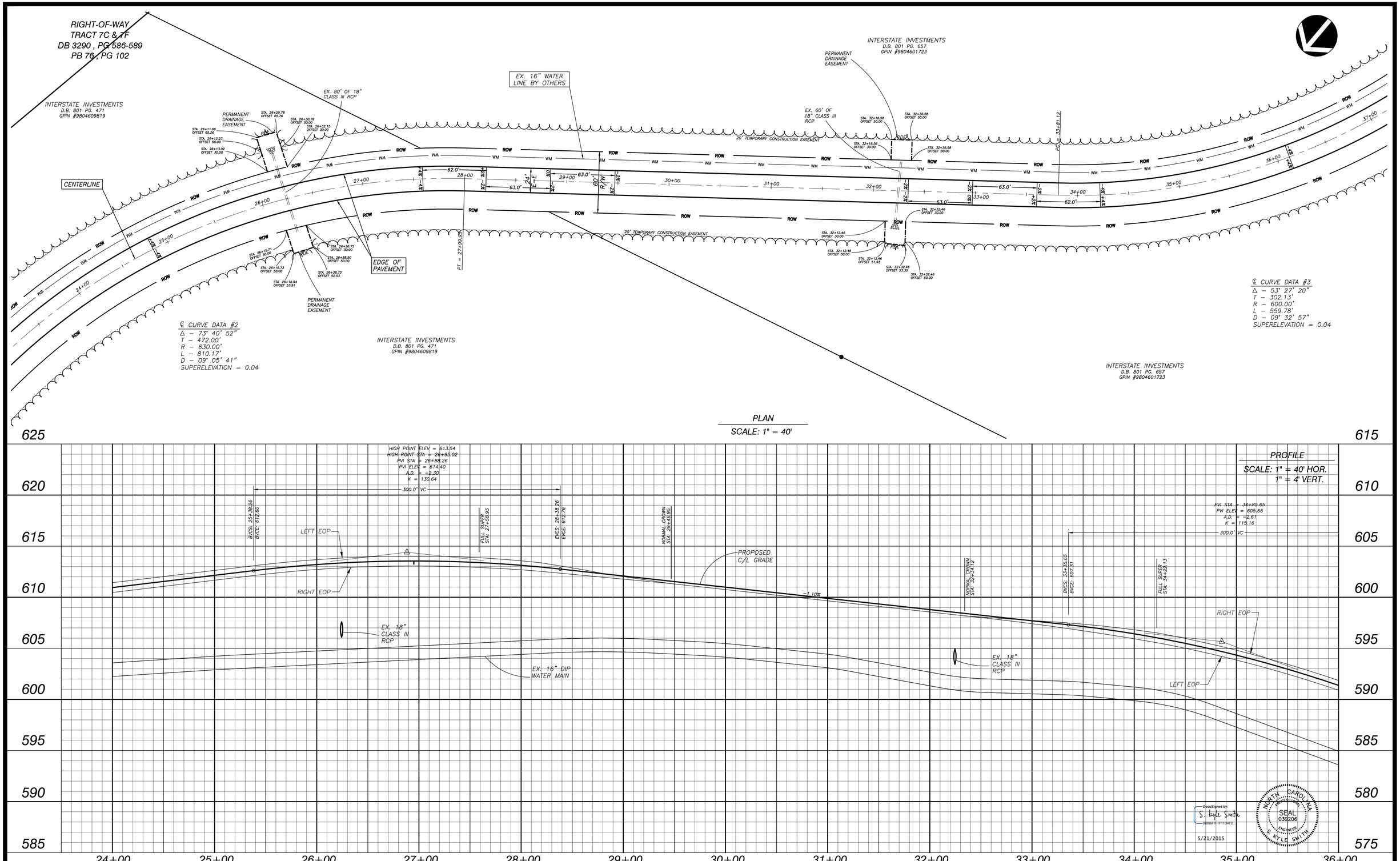
PLAN & PROFILE
STA. 12+00 TO STA. 24+00

JOB NO. 15016

SHEET NO. 4 OF: 16



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MELVILLE COMMERCE PARKWAY IMPROVEMENTS

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PLAN & PROFILE
STA. 24+00 TO STA. 36+00

JOB NO. 15016
SHEET NO. 5
OF: 16

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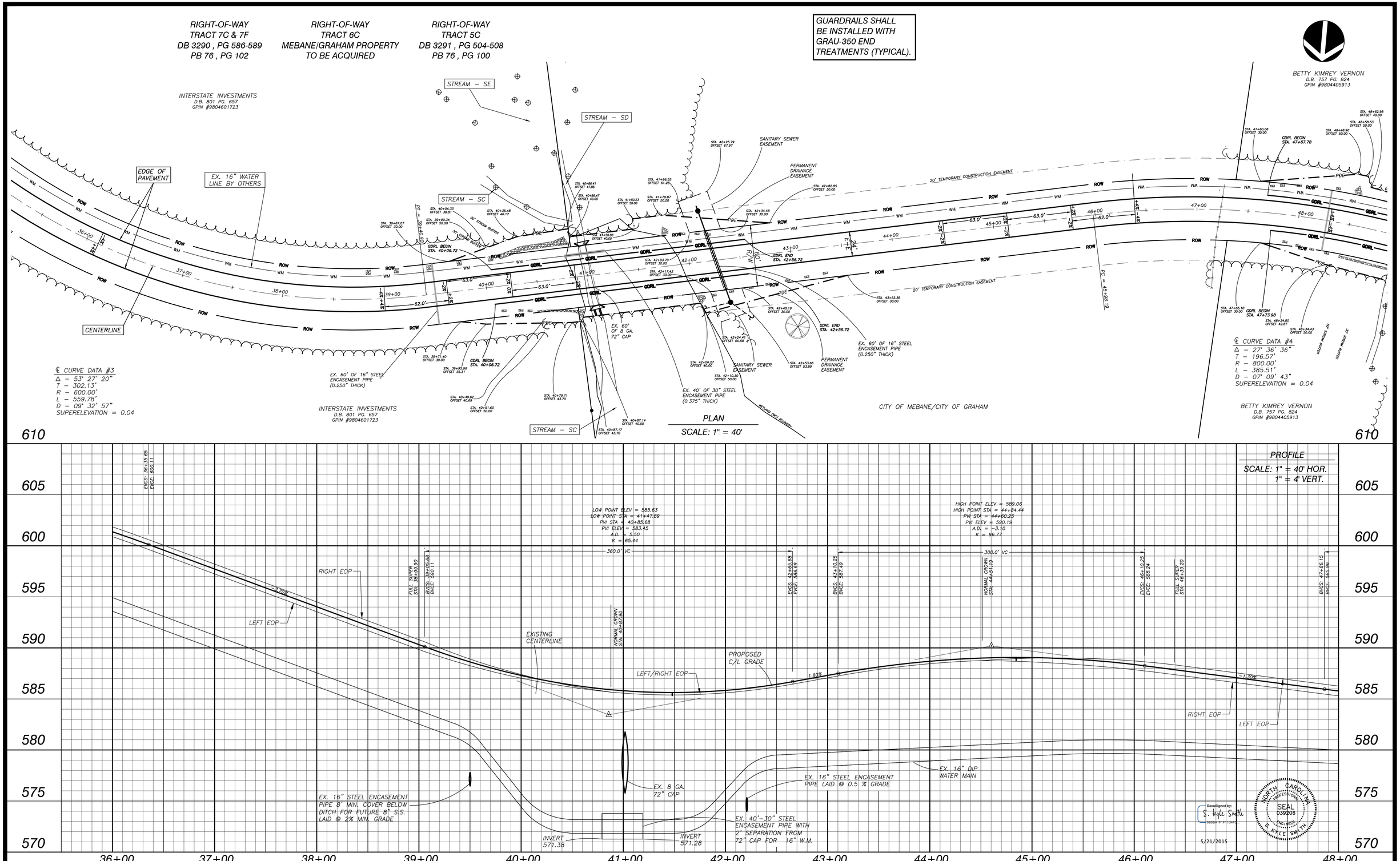

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COMP FILE: 15016 Plan Profile.dwg
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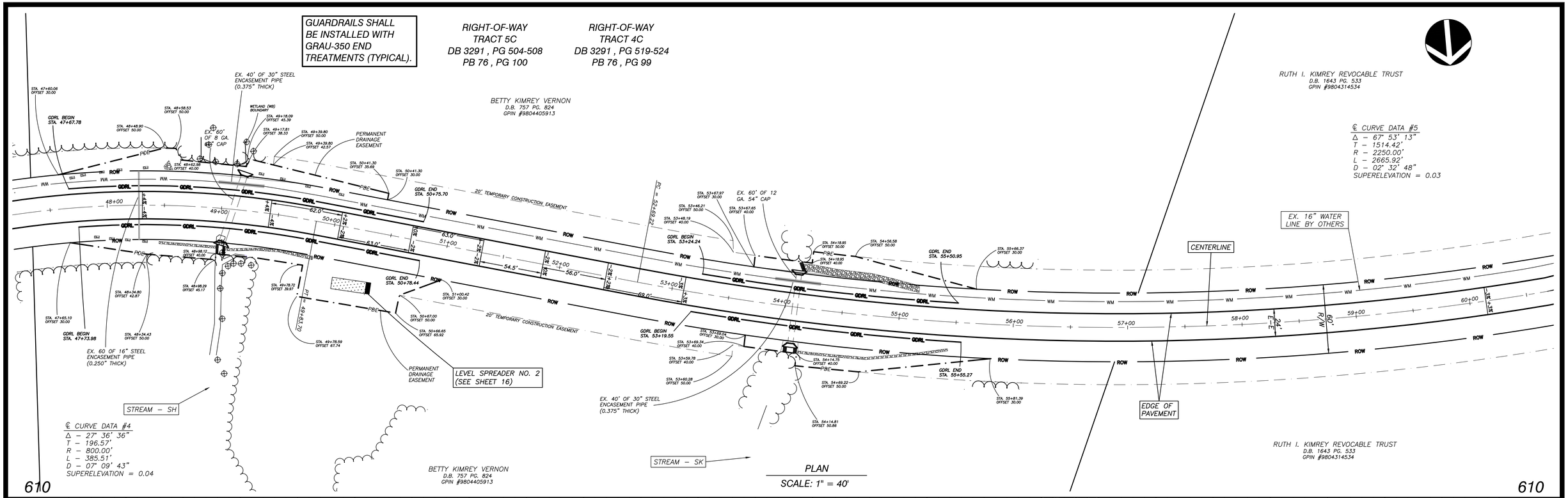
PLAN & PROFILE
STA. 36+00 TO STA. 48+00

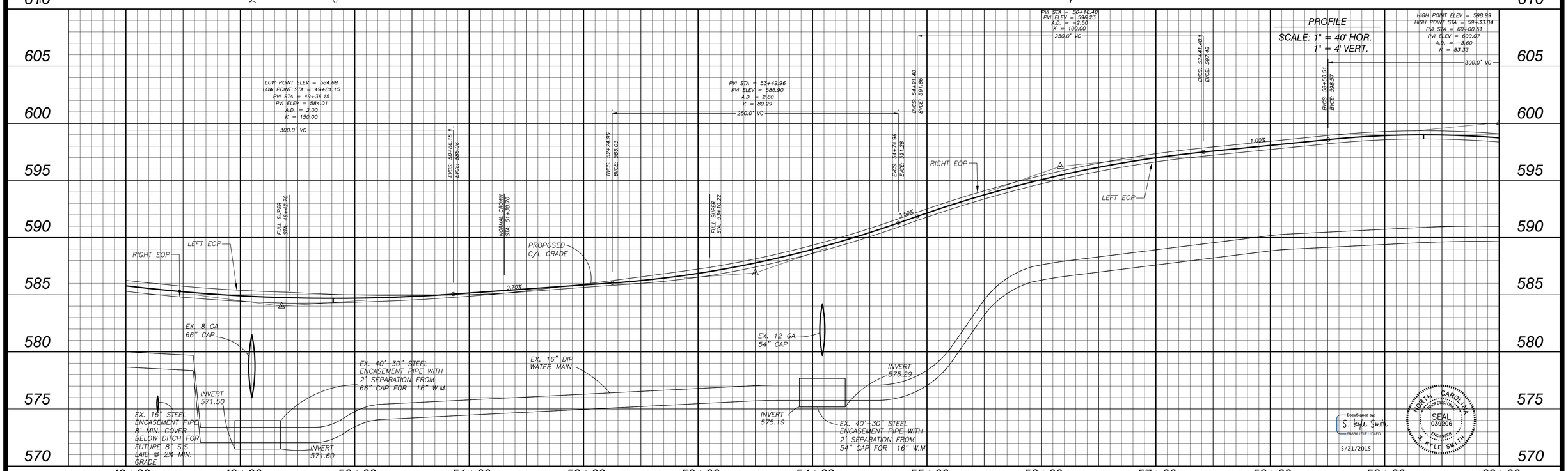
JOB NO. 15016
SHEET NO. 6
OF: 16

GUARDRAILS SHALL BE INSTALLED WITH GRAU-350 END TREATMENTS (TYPICAL).

RIGHT-OF-WAY
TRACT 5C
DB 3291 , PG 504-508
PB 76 , PG 100

RIGHT-OF-WAY
TRACT 4C
DB 3291 , PG 519-524
PB 76 , PG 99





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ALAMANCE INTERSTATE CORRIDOR DEVELOPMENT ZONE

MELVILLE TOWNSHIP – MEBANE, NORTH CAROLINA

WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A

MELVILLE COMMERCE PARKWAY IMPROVEMENTS

MEBANE, NORTH CAROLINA

DATE: REV. 5/19/15
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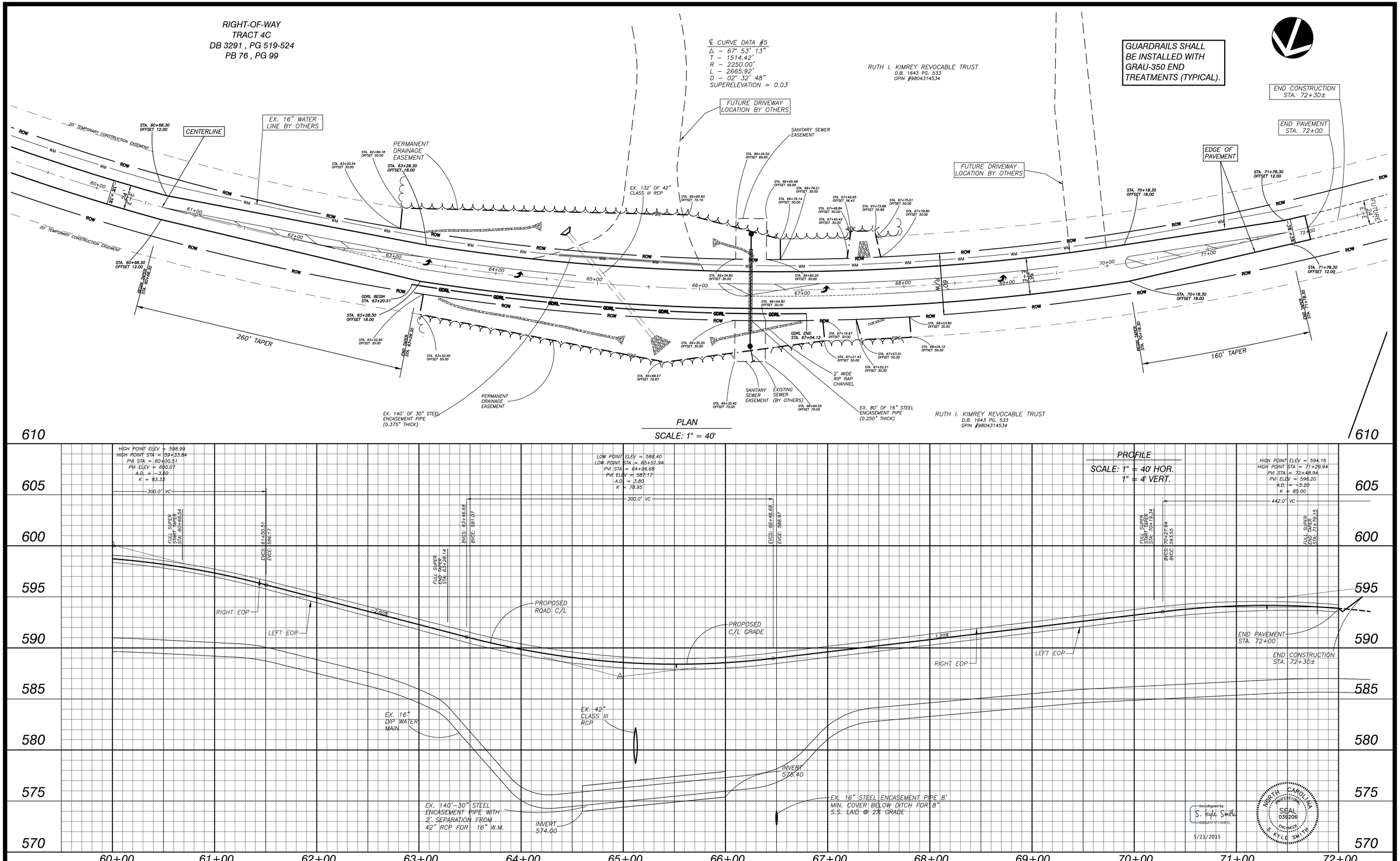
PLAN & PROFILE
STA. 48+00 TO STA. 60+00

JOB NO. 15016
SHEET NO. 7
OF: 16



PLAN

SCALE: 1" = 40'

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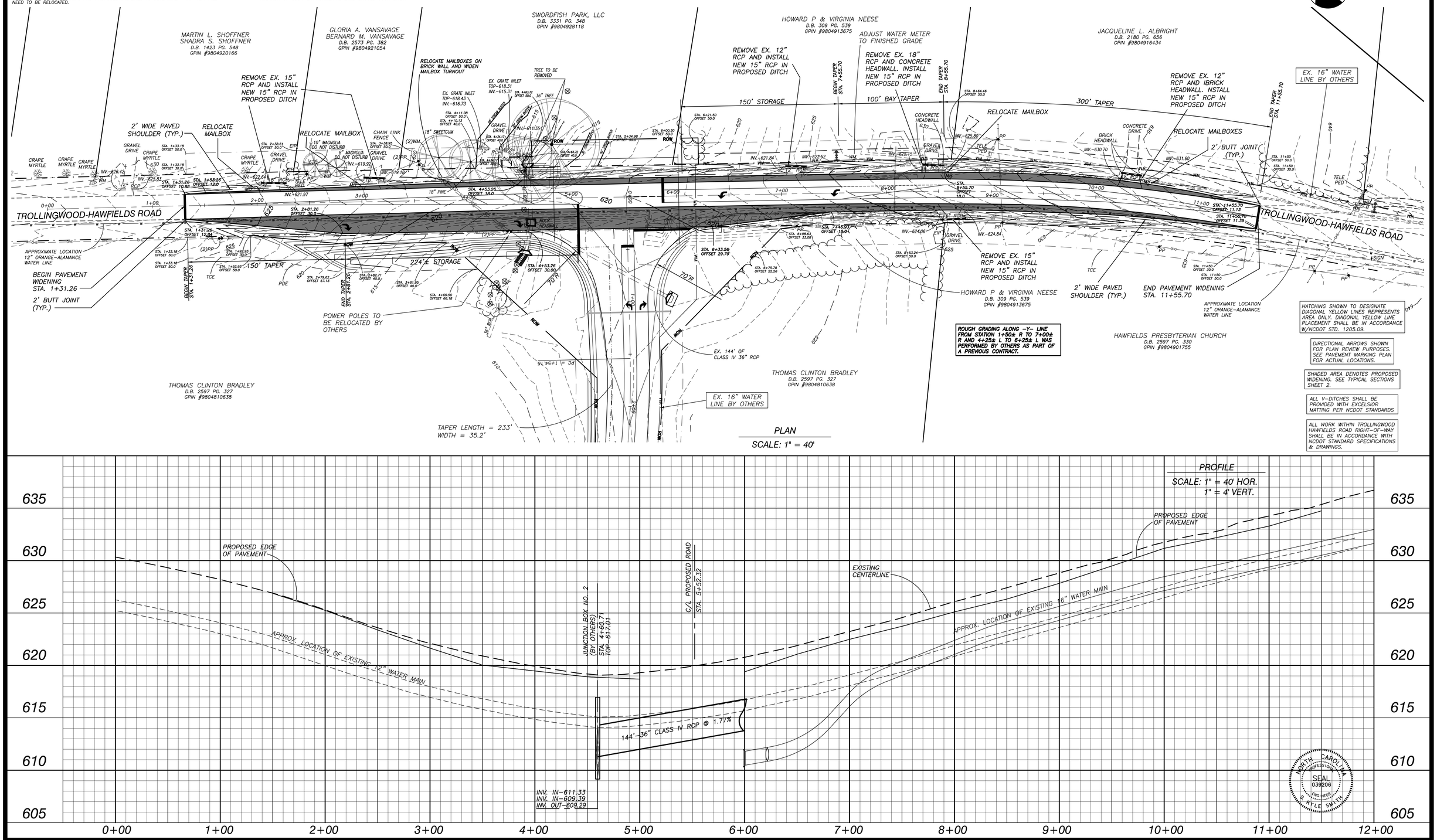
NORTH CAROLINA PROFESSIONAL SEAL 039206 ENGINEER S. KYLE SMITH

alley, williams, carmen & king, inc. ENGINEERS, ARCHITECTS & SURVEYORS 740 chapel hill road p.o. box 1179 burlington, n.c. 27215 336/226-5534 Firm's Engineering License No. F-0203	ALAMANCE INTERSTATE CORRIDOR DEVELOPMENT ZONE MELVILLE TOWNSHIP – MEBANE, NORTH CAROLINA	WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A MELVILLE COMMERCE PARKWAY IMPROVEMENTS MEBANE, NORTH CAROLINA	DATE: REV. 5/19/15 COMP FILE: 15016 Plan Profile.dwg DRAWN BY: WDF CHECKED BY: SKS	PLAN & PROFILE STA. 60+00 TO STA. 72+00	JOB NO. 15016 SHEET NO. 8 OF: 16

THIS PLAN DOES NOT PURPORT TO SHOW ALL EXISTING UTILITIES, LINES, APPURTENANCES, ETC., AND THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, PIPES, VALVES, ETC. AS SHOWN ARE IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER/ARCHITECT. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES, LINES, PIPES, ETC. BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, PIPES AND VALVES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/ARCHITECT OF ANY CONFLICTS WITH EXISTING AND PROPOSED FACILITIES TO DETERMINE IF AN ITEM WILL NEED TO BE RELOCATED.

THE ENGINEER/ARCHITECT HAS MADE NO EXAMINATION TO DETERMINE WHETHER ANY HAZARDOUS OR TOXIC MATERIALS ARE PRESENT OR CONTAINED IN, UNDER, OR ON THE SUBJECT PROPERTY OR ITS WATERS, OR IF ANY HAZARDOUS OR TOXIC MATERIALS HAVE CONTAMINATED THIS OR OTHER PROPERTIES OR ITS WATERS IN ANY WAY WHATSOEVER. NO SUB-SURFACE EXAMINATION OF ANY TYPE HAS BEEN MADE BY THE ENGINEER/ARCHITECT, AND ACCORDINGLY, NO OPINION IS EXPRESSED OR INFERRED ON ALL SUCH MATTERS. FURTHER, NO OPINION IS RENDERED AS TO ANY VIOLATION OF ANY ENVIRONMENTAL LAWS OR REGULATIONS, EITHER FEDERAL, STATE, OR LOCAL RELATED TO THE INFORMATION SHOWN ON THIS PLAN AND THE ENGINEER/ARCHITECT IS IN NO WAY LIABLE FOR ANY VIOLATION OF SUCH ENVIRONMENTAL LAWS SHOULD SUCH EXIST.



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ALAMANCE INTERSTATE CORRIDOR DEVELOPMENT ZONE

MELVILLE TOWNSHIP – MEBANE, NORTH CAROLINA

WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A

MELVILLE COMMERCE PARKWAY IMPROVEMENTS

MEBANE, NORTH CAROLINA

DATE: REV. 7/28/15
COMP FILE: 15016 Plan Profile.dwg
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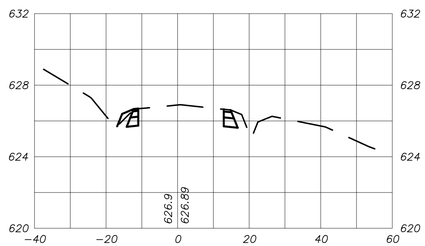
PLAN & PROFILE
TROLLINGWOOD-HAWFIELDS ROAD WIDENING

JOB NO. 15016
SHEET NO. 9
OF: 16

1+50



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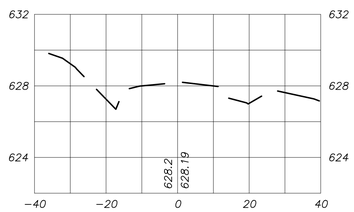

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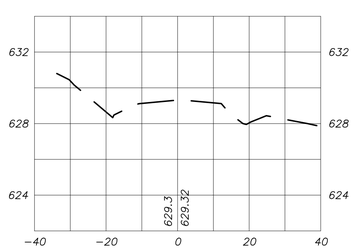

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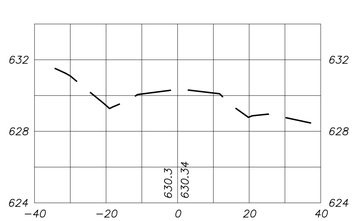

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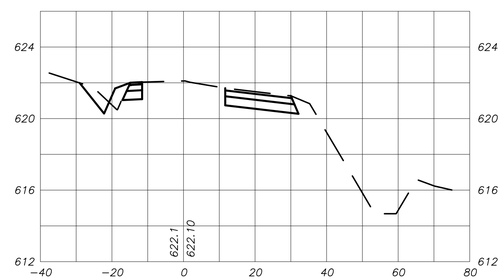
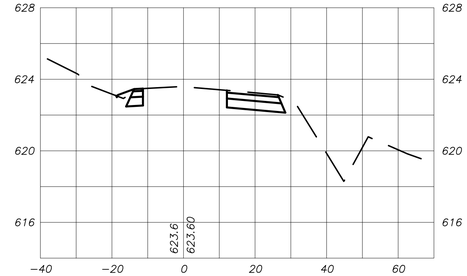


2+50



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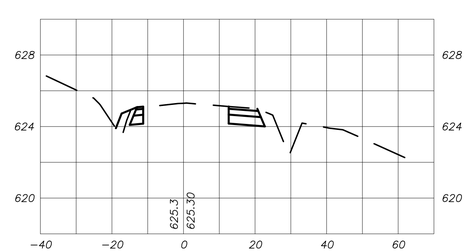

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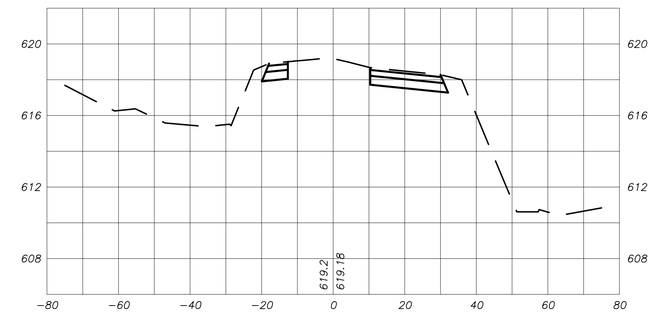

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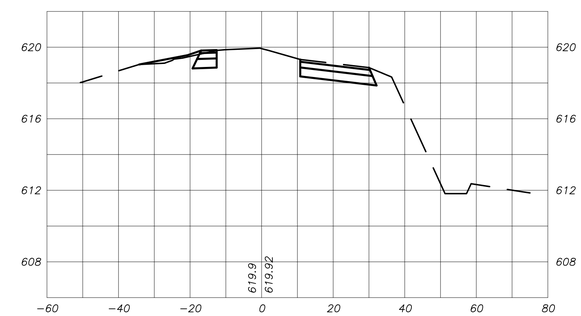
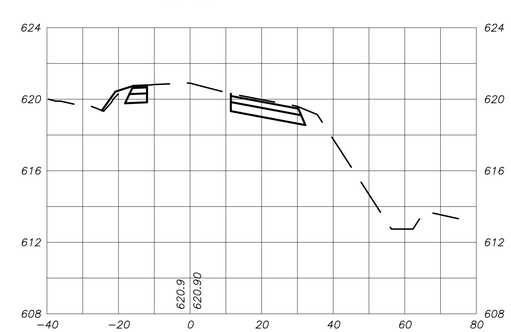


3+50



PROFILE

SCALE: 1" = 20' HOR.
1" = 4' VERT.

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5/21/2015

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burlington, n.c. 27215 336/226-5534
Firm's Engineering License No. F-0203

ALAMANCE INTERSTATE CORRIDOR DEVELOPMENT ZONE

MELVILLE TOWNSHIP – MEBANE, NORTH CAROLINA

WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A

MELVILLE COMMERCE PARKWAY IMPROVEMENTS

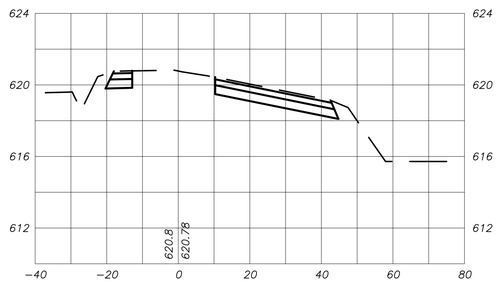
MEBANE, NORTH CAROLINA

DATE: REV. 5/19/15
COMP FILE: 15016 Cross Sections.dwg
DRAWN BY: WDF
CHECKED BY: SKS

CROSS SECTIONS (WIDENING)

JOB NO. 15016
SHEET NO. 10
OF: 16

6+00



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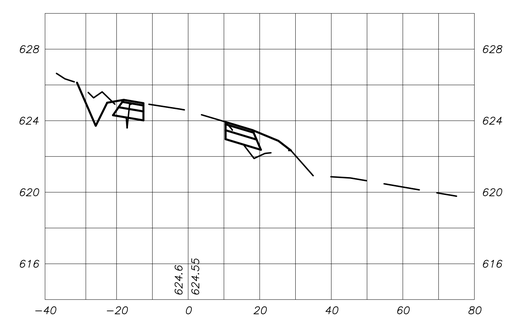

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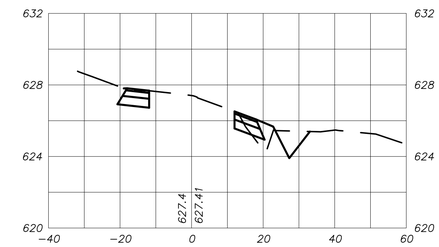

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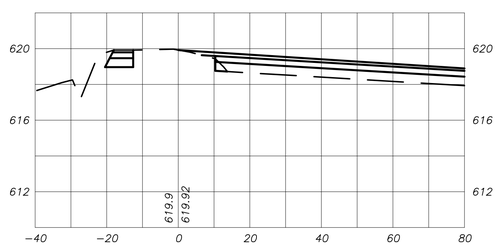

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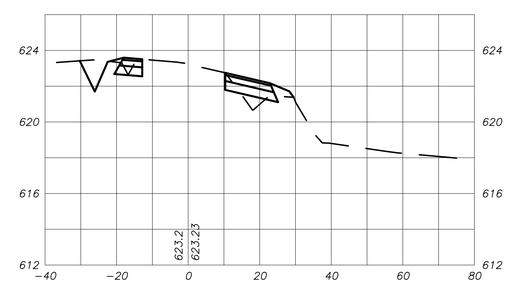

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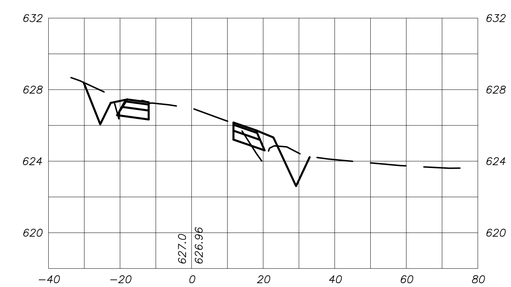

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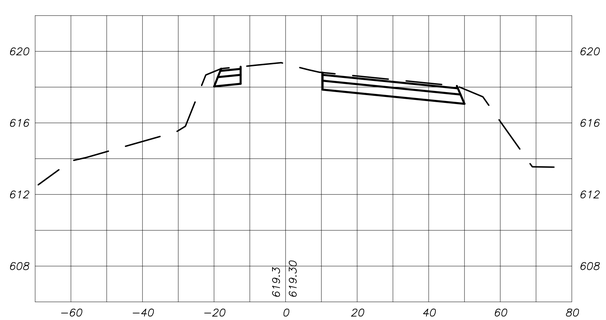

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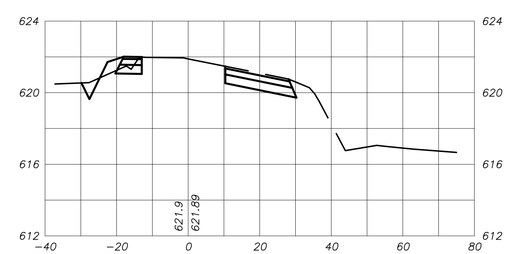

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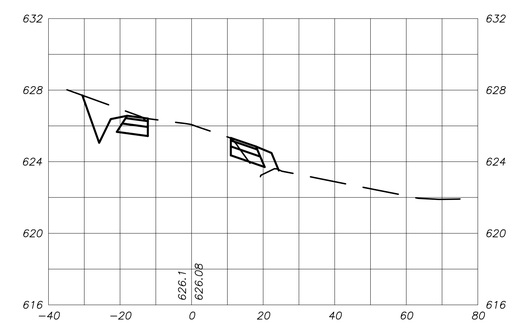

PROFILE

SCALE: 1" = 20' HOR.
1" = 4' VERT.

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5/21/2015

NORTH CAROLINA PROFESSIONAL SEAL 039206 ENGINEER S. KYLE SMITH

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WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A

MELVILLE COMMERCE PARKWAY IMPROVEMENTS

MEBANE, NORTH CAROLINA

DATE: REV. 5/19/15
COMP FILE: 15016 Cross Sections.dwg
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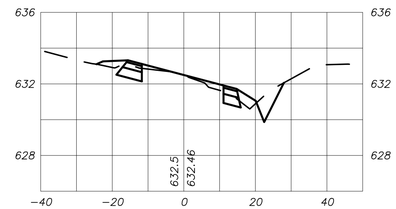
CROSS SECTIONS (WIDENING)

JOB NO. 15016

SHEET NO. 11 OF: 16

10+25



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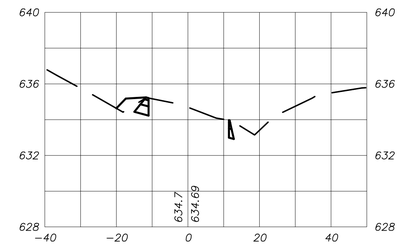

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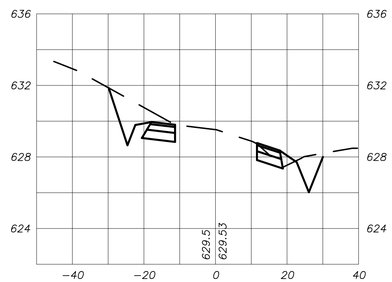

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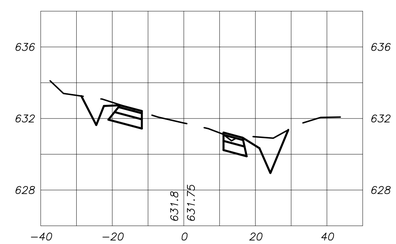

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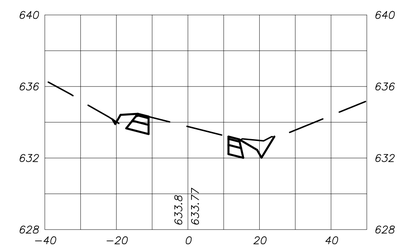

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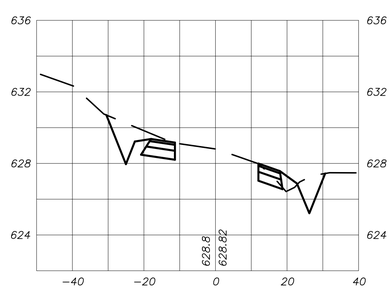

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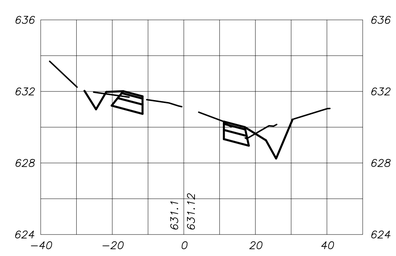

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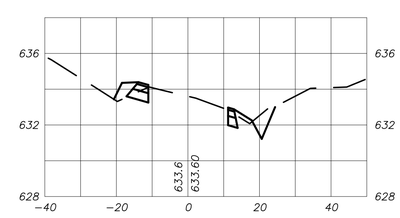

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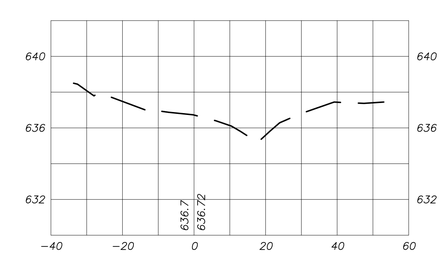

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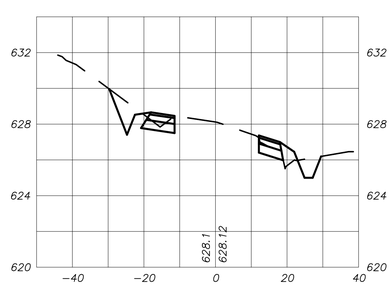

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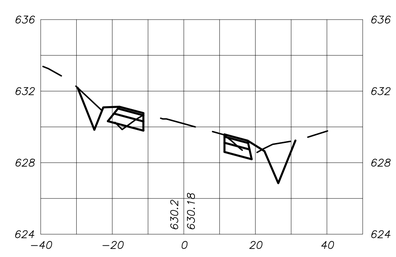

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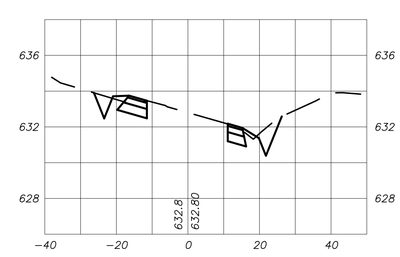

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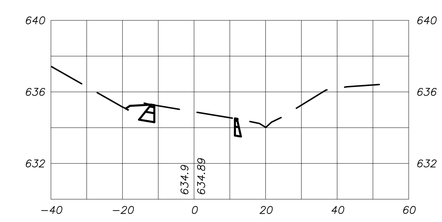

PROFILE

SCALE: 1" = 20' HOR.
1" = 4' VERT.

DocuSigned by: S. Kyle Smith
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NORTH CAROLINA PROFESSIONAL SEAL 039206 ENGINEER S. KYLE SMITH

5/21/2015

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MELVILLE TOWNSHIP – MEBANE, NORTH CAROLINA

WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A

MELVILLE COMMERCE PARKWAY IMPROVEMENTS

MEBANE, NORTH CAROLINA

DATE: REV. 5/19/15
COMP FILE: 15016 Cross Sections.dwg
DRAWN BY: WDF
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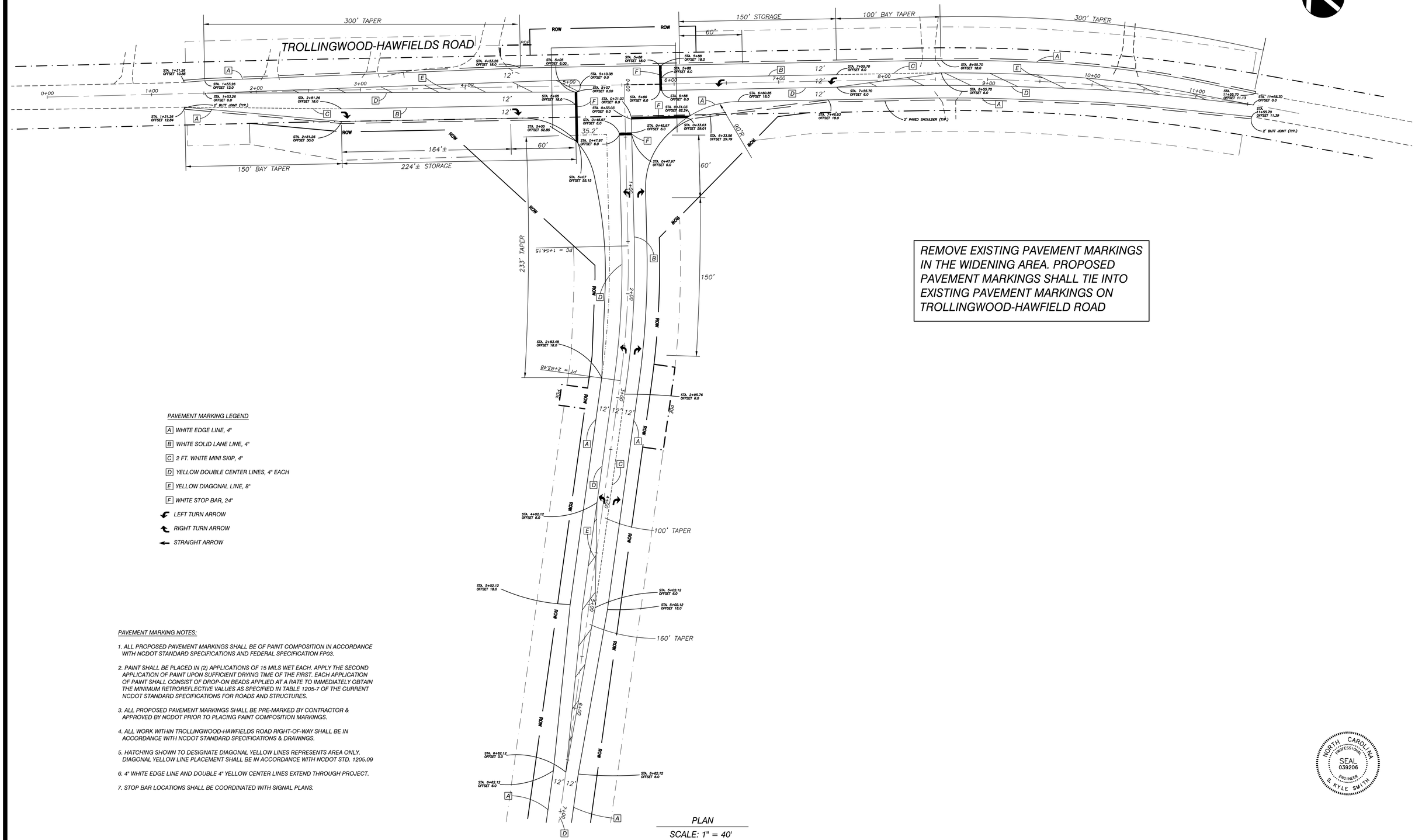
CROSS SECTIONS (WIDENING)

JOB NO. 15016



REMOVE EXISTING PAVEMENT MARKINGS IN THE WIDENING AREA. PROPOSED PAVEMENT MARKINGS SHALL TIE INTO EXISTING PAVEMENT MARKINGS ON TROLLINGWOOD-HAWFIELD ROAD

PAVEMENT MARKING LEGEND

- A WHITE EDGE LINE, 4"
- B WHITE SOLID LANE LINE, 4"
- C 2 FT. WHITE MINI SKIP, 4"
- D YELLOW DOUBLE CENTER LINES, 4" EACH
- E YELLOW DIAGONAL LINE, 8"
- F WHITE STOP BAR, 24"
- LEFT TURN ARROW
- RIGHT TURN ARROW
- STRAIGHT ARROW

PAVEMENT MARKING NOTES:

1. ALL PROPOSED PAVEMENT MARKINGS SHALL BE OF PAINT COMPOSITION IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS AND FEDERAL SPECIFICATION FP03.
2. PAINT SHALL BE PLACED IN (2) APPLICATIONS OF 15 MILS WET EACH. APPLY THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST. EACH APPLICATION OF PAINT SHALL CONSIST OF DROP-ON BEADS APPLIED AT A RATE TO IMMEDIATELY OBTAIN THE MINIMUM RETROREFLECTIVE VALUES AS SPECIFIED IN TABLE 1205-7 OF THE CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
3. ALL PROPOSED PAVEMENT MARKINGS SHALL BE PRE-MARKED BY CONTRACTOR & APPROVED BY NCDOT PRIOR TO PLACING PAINT COMPOSITION MARKINGS.
4. ALL WORK WITHIN TROLLINGWOOD-HAWFIELDS ROAD RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS & DRAWINGS.
5. HATCHING SHOWN TO DESIGNATE DIAGONAL YELLOW LINES REPRESENTS AREA ONLY. DIAGONAL YELLOW LINE PLACEMENT SHALL BE IN ACCORDANCE WITH NCDOT STD. 1205.09
6. 4" WHITE EDGE LINE AND DOUBLE 4" YELLOW CENTER LINES EXTEND THROUGH PROJECT.
7. STOP BAR LOCATIONS SHALL BE COORDINATED WITH SIGNAL PLANS.

NORTH CAROLINA PROFESSIONAL SEAL 039206 ENGINEER S. KYLE SMITH

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WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A

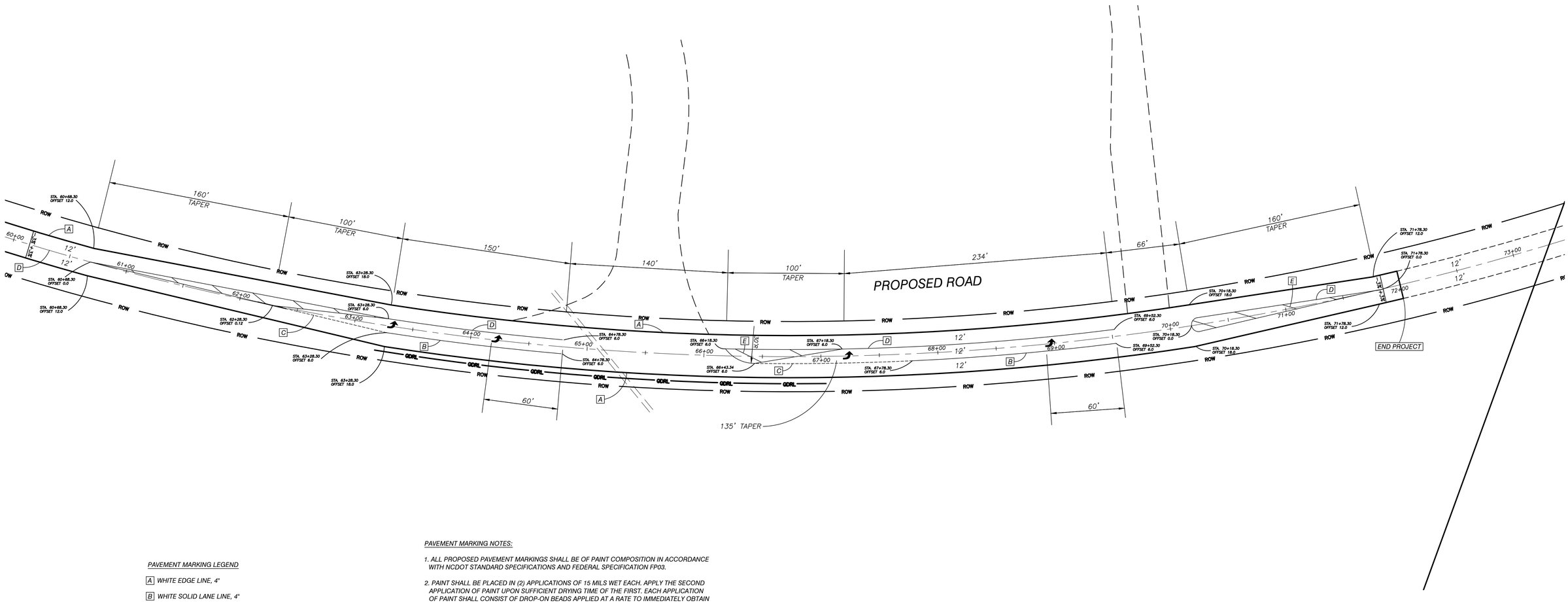
MELVILLE COMMERCE PARKWAY IMPROVEMENTS

MEBANE, NORTH CAROLINA

DATE: REV. 7/28/15
COMP FILE: 15016 Plan Profile.dwg
DRAWN BY: WDF
CHECKED BY: SKS

TROLLINGWOOD-HAWFIELDS ROAD PAVEMENT MARKING PLAN

JOB NO. 15016



PAVEMENT MARKING LEGEND

- A WHITE EDGE LINE, 4"
- B WHITE SOLID LANE LINE, 4"
- C 2 FT. WHITE MINI SKIP, 4"
- D YELLOW DOUBLE CENTER LINES, 4" EACH
- E YELLOW DIAGONAL LINE, 8"
- LEFT TURN ARROW
- RIGHT TURN ARROW

PAVEMENT MARKING NOTES:

1. ALL PROPOSED PAVEMENT MARKINGS SHALL BE OF PAINT COMPOSITION IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS AND FEDERAL SPECIFICATION FP03.
2. PAINT SHALL BE PLACED IN (2) APPLICATIONS OF 15 MILS WET EACH. APPLY THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST. EACH APPLICATION OF PAINT SHALL CONSIST OF DROP-ON BEADS APPLIED AT A RATE TO IMMEDIATELY OBTAIN THE MINIMUM RETROREFLECTIVE VALUES AS SPECIFIED IN TABLE 1205-7 OF THE CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
3. ALL PROPOSED PAVEMENT MARKINGS SHALL BE PRE-MARKED BY CONTRACTOR & APPROVED BY NCDOT PRIOR TO PLACING PAINT COMPOSITION MARKINGS.
5. HATCHING SHOWN TO DESIGNATE DIAGONAL YELLOW LINES REPRESENTS AREA ONLY. DIAGONAL YELLOW LINE PLACEMENT SHALL BE IN ACCORDANCE WITH NCDOT STD. 1205.09
6. 4" WHITE EDGE LINE AND DOUBLE 4" YELLOW CENTER LINES EXTEND THROUGH PROJECT.

DocuSigned by: S. Kyle Smith 688BA1F1F11D4FD...

5/21/2015

NORTH CAROLINA PROFESSIONAL SEAL 039206 ENGINEER S. KYLE SMITH

PLAN

SCALE: 1" = 40'

alley, williams, carmen & king, inc.
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MEBANE, NORTH CAROLINA

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PROPOSED ROAD PAVEMENT MARKING PLAN

JOB NO. 15016

SHEET NO. 14 OF: 16

TROLLINGWOOD HAWFIELDS ROAD WIDENING ESTIMATED EARTH WORK QUANITITES			
CLEARING & GRUBBING	1.25	AC	
ESTIMATED CUT	770	CY	
ESTIMATED FILL	185	CY	

NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, SHOULDER BORROW, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".

ESTIMATED ASPHALT QUANTITIES	
ASPHALT SURFACE COURSE TYPE S9.5C	2020 TN
ASPHALT INTERMEDIATE COURSE TYPE I-19.0C	5550 TN
ASPHALT BASE COURSE TYPE B-25.0C	7150 TN

PAVEMENT MARKING SUMMARY	
WHITE EDGE LINE, 4"	16,284 LF
WHITE SOLID LANE LINE, 4"	983 LF
2 FT. WHITE MINI SKIP, 4"	176 LF
YELLOW DOUBLE CENTER LINES, 4" EACH	18,740 LF
YELLOW DIAGONAL LINE, 8"	529 LF
WHITE STOP BAR, 24"	141 LF
SYMBOLS	14 EA
REMOVAL OF EXISTING MARKINGS	4054 LF

2012 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, 2012 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
225.02 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 8 - INCIDENTALS
862.01 Guardrail Placement
862.02 Guardrail Installation

DIVISION 11 - WORK ZONE TRAFFIC CONTROL
1101.02 Sheet 3 Temporary Lane Closures
1101.03 Sheet 8 Temporary Road Closures
1101.05 Work Zone Vehicle Accesses
1101.06 Warning Signs for Blasting Zones
1101.11 Sheet 1 Traffic Control Design Tables
1101.11 Sheet 2 Traffic Control Design Tables
1101.11 Sheet 4 Traffic Control Design Tables
1110.01 Sheet 1 Stationary Work Zone Signs
1110.02 Portable Work Zone Signs
1115.01 Flashing Arrow Boards
1130.01 Drums
1150.01 Flagging Devices
1170.01 Positive Protection
1180.01 Skinny-Drum

DIVISION 12 - PAVEMENT MARKINGS, MARKERS AND DELINEATION
1205.01 Pavement Markings
1205.02 Sheet 1 Pavement Markings
1205.04 Pavement Markings
1205.08 Sheet 1 Pavement Markings
1205.09 Pavement Markings
1250.01 Sheet 1 Raised Pavement Markings
1261.01 Guardrail and Barrier Delineators
1261.02 Guardrail and Barrier Delineators
1262.01 Guardrail End Delineation
1264.01 Object Markers
1264.02 Object Markers

GUARDRAIL SUMMARY

Survey Line	BEG. STA.	END STA.	LOCATION	LENGTH REQUIRED	"N" DISTANCE FROM E.O.L.	TOTAL SHOULDER WIDTH	ANCHOR	NUMBER OF ANCHORS	ANCHOR DEDUCTION	TOTAL LENGTH OF GUARDRAIL
L	18+19	21+22	RIGHT	300	5	8	GRAU-350	2	100	200
L	18+16	21+25	LEFT	312.5	5	8	GRAU-350	2	100	212.5
L	40+07	42+57	RIGHT	250	5	8	GRAU-350	2	100	150
L	40+07	42+57	LEFT	250	5	8	GRAU-350	2	100	150
L	47+74	50+78	RIGHT	300	5	8	GRAU-350	2	100	200
L	47+68	50+76	LEFT	312.5	5	8	GRAU-350	2	100	212.5
L	53+20	55+55	RIGHT	237.5	5	8	GRAU-350	2	100	137.5
L	53+24	55+51	LEFT	225	5	8	GRAU-350	2	100	125
L	63+21	67+04	RIGHT	387.5	5	8	GRAU-350	2	100	287.5

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MEBANE, NORTH CAROLINA

DATE: REV. 7/28/15
COMP FILE: 15016DETAILS.DWG
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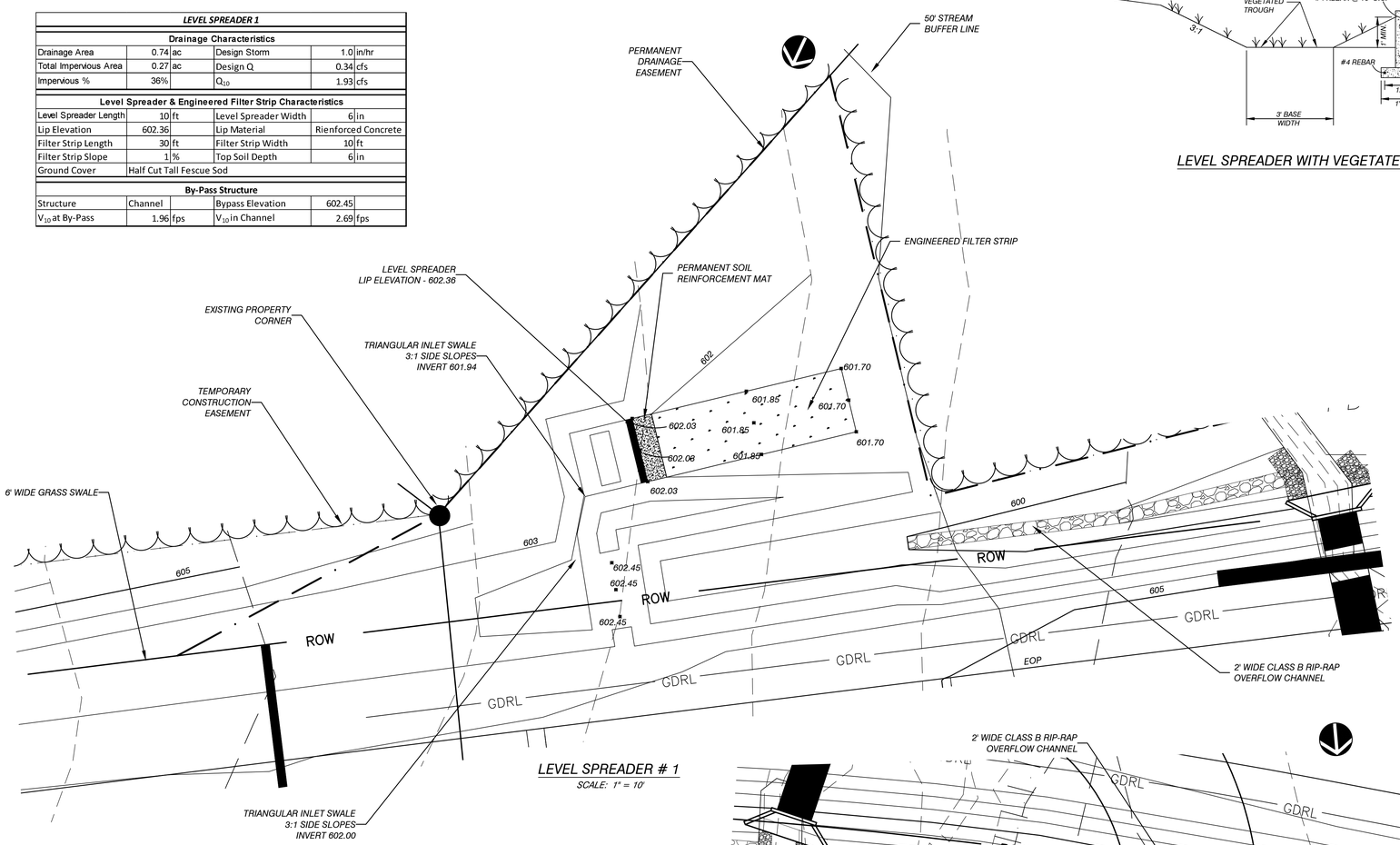
CONSTRUCTION DETAILS & QUANTITY SUMMARIES

JOB NO. 15016

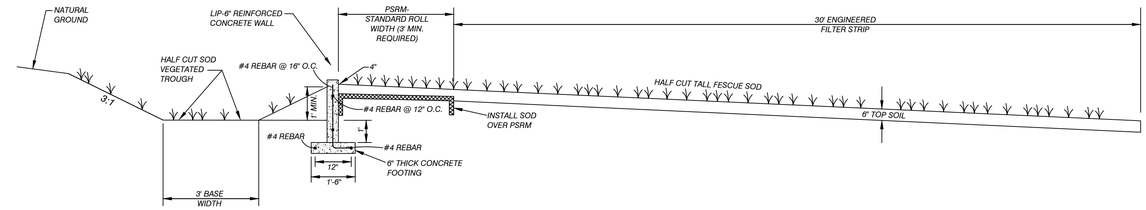
START-UP FERTILIZER APPLICATION TO THE ENGINEERED FILTER STRIP TOPSOIL:

- *75 POUNDS OF GROUND LIMESTONE PER 1,000 SQUARE FEET.*
- *40 POUNDS OF 5-10-10 STARTER FERTILIZER PER 1,000 SQUARE FEET.*

LEVEL SPREADER 1					
Drainage Characteristics					
Drainage Area	0.74	ac	Design Storm	1.0	in/hr
Total Impervious Area	0.27	ac	Design Q	0.34	cfs
Impervious %	36%		Q_{10}	1.93	cfs
Level Spreader & Engineered Filter Strip Characteristics					
Level Spreader Length	10	ft	Level Spreader Width	6	in
Lip Elevation	602.36		Lip Material	Rienforced Concrete	
Filter Strip Length	30	ft	Filter Strip Width	10	ft
Filter Strip Slope	1	%	Top Soil Depth	6	in
Ground Cover	Half Cut Tall Fescue Sod				
By-Pass Structure					
Structure	Channel		Bypass Elevation	602.45	
V_{10} at By-Pass	1.96	fps	V_{10} in Channel	2.69	fps



LEVEL SPREADER # 1
SCALE: 1" = 10'



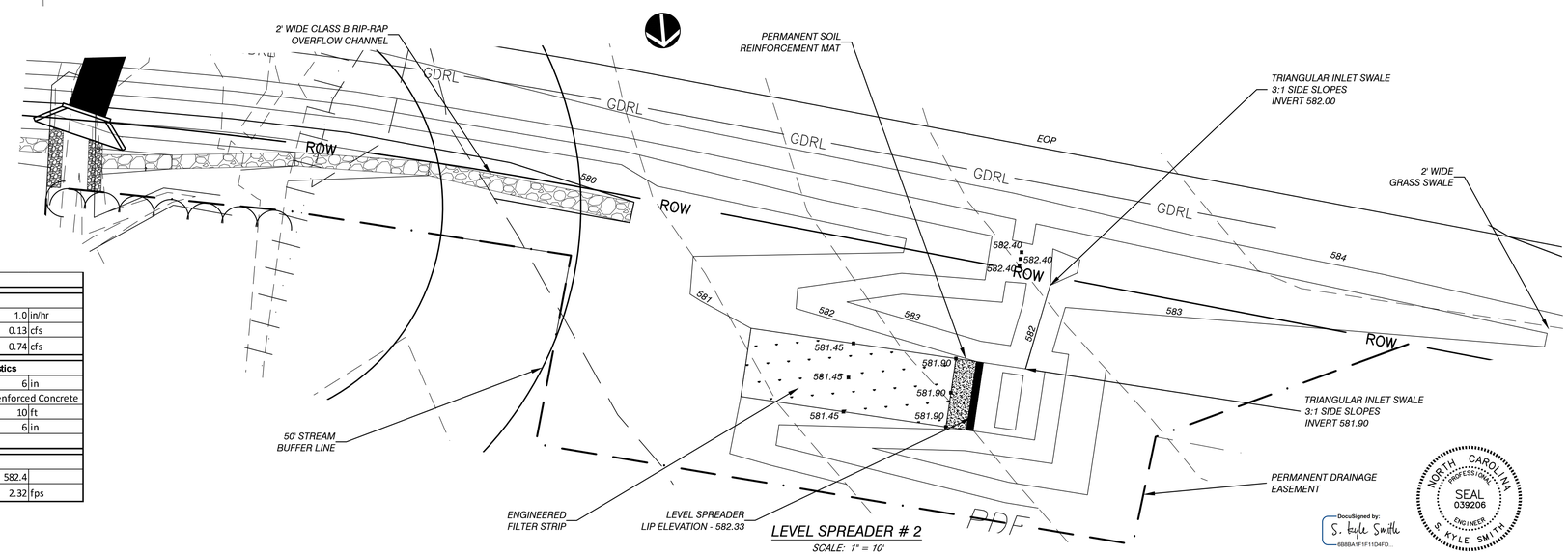
LEVEL SPREADER WITH VEGETATED TROUGH & ENGINEERED FILTER STRIP
N.T.S.

LEVEL SPREADER WITH ENGINEERED FILTER STRIP CONSTRUCTION SEQUENCE:

1. *NOTIFY ENGINEER PRIOR TO CONSTRUCTION.*
2. *GRADE SITE TO DESIGNED SLOPES INCLUDING TOP SOIL INSTALLATION IN THE ENGINEERED FILTER STRIP. ALL SLOPES SHALL BE 3:1 OR FLATTER. CARE SHOULD BE TAKEN TO AVOID DRIVING HEAVY EQUIPMENT THROUGH THE ENGINEERED FILTER STRIP TO PREVENT COMPACTION.*
3. *EXCAVATE THE VEGETATED TROUGH AND LEVEL SPREADER.*
4. *IF LEVEL SPREADER IS CONSTRUCTED ON FILL, COMPACT THE SOIL TO 95% OF STANDARD PROCTOR .*
5. *FORM UP AND POUR CONCRETE FOR LEVEL SPREADER ENSURING THE LIP OF THE LEVEL SPREADER IS LEVEL.*
6. *BACKFILL THE LEVEL SPREADER TO PROPOSED GRADES.*
7. *INSTALL PERMANENT SOIL REINFORCEMENT MATTING AND SOD.*

NOTE:
ALL UPSTREAM AREAS SHALL BE STABILIZED PRIOR TO INSTALLATION OF LEVEL SPREADERS. HOLD AN ENGINEERING/PRECONSTRUCTION REVIEW PRIOR TO CONSTRUCTION OF LEVEL SPREADERS.

LEVEL SPREADER 2					
Drainage Characteristics					
Drainage Area	0.23	ac	Design Storm	1.0	in/hr
Total Impervious Area	0.12	ac	Design Q	0.13	cfs
Impervious %	52%		Q_{10}	0.74	cfs
Level Spreader & Engineered Filter Strip Characteristics					
Level Spreader Length	10	ft	Level Spreader Width	6	in
Lip Elevation	582.33		Lip Material	Rienforced Concrete	
Filter Strip Length	30	ft	Filter Strip Width	10	ft
Filter Strip Slope	3	%	Top Soil Depth	6	in
Ground Cover	Half Cut Tall Fescue Sod				
By-Pass Structure					
Structure	Channel		Bypass Elevation	582.4	
V_{10} at By-Pass	2.07	fps	V_{10} in Channel	2.32	fps



LEVEL SPREADER # 2
SCALE: 1" = 10'

DocuSigned by: S. Kyle Smith
5/21/2015

NORTH CAROLINA PROFESSIONAL SEAL 039206 ENGINEER S. KYLE SMITH

alley, williams, carmen & king, inc.
ENGINEERS, ARCHITECTS & SURVEYORS
740 chapel hill road p.o. box 1179
burlington, n.c. 27215 336/226-5534
Firm's Engineering License No. F-0203

ALAMANCE INTERSTATE CORRIDOR DEVELOPMENT ZONE

MELVILLE TOWNSHIP – MEBANE, NORTH CAROLINA

WBS: 44113.3.D2 TIP: U5538B BOOK NO. 412A

MELVILLE COMMERCE PARKWAY IMPROVEMENTS

MEBANE, NORTH CAROLINA

DATE: REV. 5/19/15
COMP FILE: 15016 Level Spreader Details.dwg
DRAWN BY: SKS
CHECKED BY: SKS

LEVEL SPREADER DETAILS

JOB NO. 15016
SHEET NO. 16 OF: 16

PROJECT REFERENCE NO.	SHEET NO.
U-5538B	Sig. 1

PHASING DIAGRAM

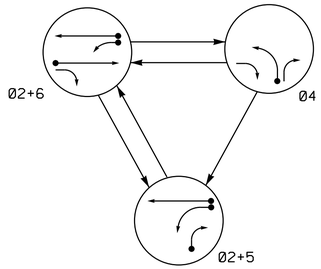
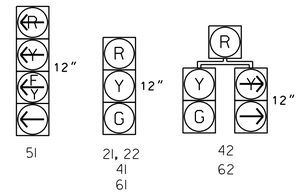


TABLE OF OPERATION

SIGNAL FACE	PHASE 02+5	PHASE 02+6	PHASE 04	FLASH
21, 22	G	G	R	Y
41	R	R	G	R
42	R/←	R	G	R
51	←	F/Y	R	Y
61	R	G	R	Y
62	R	G	R/←	Y

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A	6X6	300	5	Y	2	Y	Y	-	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	3	-	Y
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	25	-	Y
					2	Y	Y	Y	-	3	-	Y
5B	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	Y
5C	6X6	0	4	Y	5	Y	Y	-	-	15	-	Y
6A	6X6	300	5	Y	6	Y	Y	-	-	-	-	Y

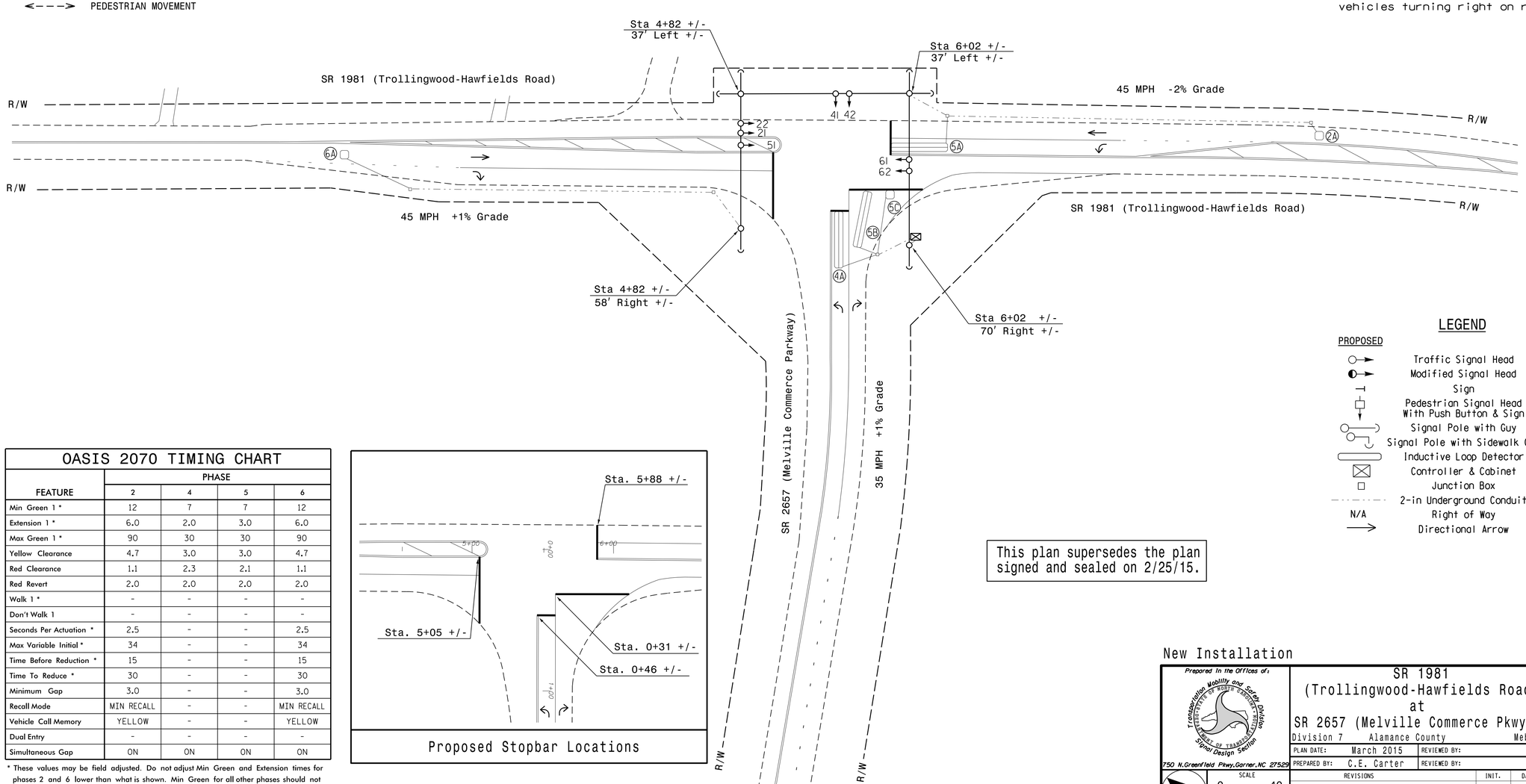
3 Phase
Fully Actuated
(Isolated)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.

PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT



LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	

OASIS 2070 TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 5	PHASE 6
Min Green 1 *	12	7	7	12
Extension 1 *	6.0	2.0	3.0	6.0
Max Green 1 *	90	30	30	90
Yellow Clearance	4.7	3.0	3.0	4.7
Red Clearance	1.1	2.3	2.1	1.1
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	2.5	-	-	2.5
Max Variable Initial *	34	-	-	34
Time Before Reduction *	15	-	-	15
Time To Reduce *	30	-	-	30
Minimum Gap	3.0	-	-	3.0
Recall Mode	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Proposed Stopbar Locations

This plan supersedes the plan signed and sealed on 2/25/15.

New Installation

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 0 40 1"=40'

SR 1981 (Trollingwood-Hawfields Road) at SR 2657 (Melville Commerce Pkwy.)

Division 7 Alamance County Mebane

PLAN DATE:	March 2015	REVIEWED BY:	
PREPARED BY:	C.E. Carter	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZEMBA

DocuSigned by: 3/30/2015
SIGNATURE DATE

SIG. INVENTORY NO. 07-1287

3/30/2015 11:58
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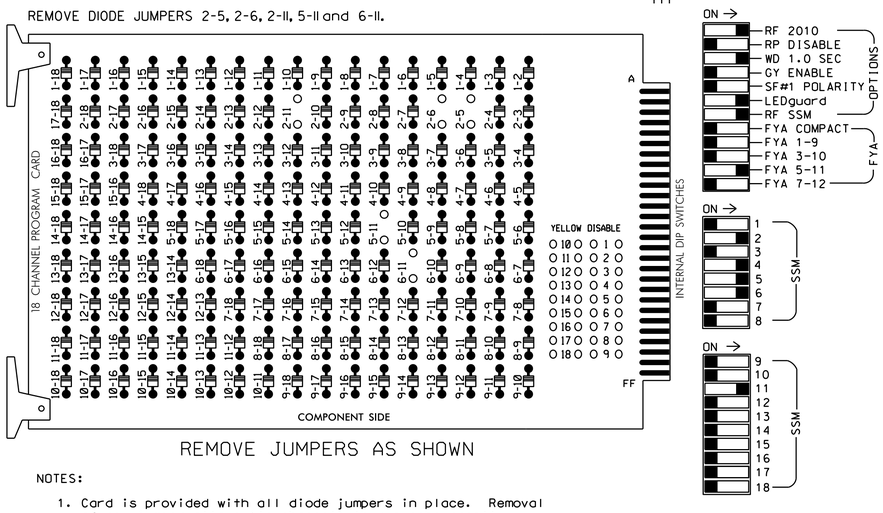
rzemba

PROJECT REFERENCE NO.	SHEET NO.
U-5538B	Sig. 2

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Enable Simultaneous Gap-Out for all phases.
3. Program phases 2 and 6 for Variable Initial and Gap Reduction.
4. Program phases 2 and 6 for Start Up In Green.
5. Program phases 2 and 6 for Yellow Flash.

EQUIPMENT INFORMATION

CONTROLLER.....2070
CABINET.....332 /W/ AUX
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S2,S5,S7,S8,AUX S4
PHASES USED.....2,4,5,6
OVERLAP "A".....NOT USED
OVERLAP "B".....NOT USED
OVERLAP "C".....5+6
OVERLAP "D".....NOT USED

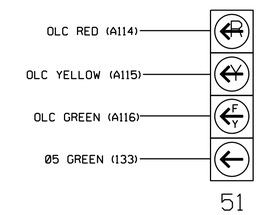
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5		S6	S7		S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4		14	5		6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4		4 PED	5		6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42	62	NU	42	51★	61,62	NU	NU	NU	NU	NU	NU	NU	51★	NU	NU
RED		128			101			✳		134										
YELLOW		129			102					135										
GREEN		130			103					136										
RED ARROW																		A114		
YELLOW ARROW						102		132										A115		
FLASHING YELLOW ARROW																		A116		
GREEN ARROW						103		133	133											

NU = Not Used
✳ Denotes install load resistor. See load resistor installation detail this sheet.
★ See pictorial of head wiring in detail below.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal head as shown)



NOTE

1. The sequence display for this signal requires special logic programming. See sheet 2 of 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	SLOT EMPTY	Ø2 2A	SLOT EMPTY	WIRED INPUT ⊗	SLOT EMPTY	Ø4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
	L		NOT USED				NOT USED								ST DC ISOLATOR
FILE "J"	U	Ø5 5A	Ø5 5B	Ø6 6A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED	Ø5 5C	NOT USED											

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
2A	TB2-5,6	12U	39	1	2	2	Y	Y			
4A	TB4-9,10	16U	41	3	4	4	Y	Y			3
5A[1]	TB3-1,2	J1U	55	17	5	5	Y	Y			25
	-	14U	47	9	22	2	Y	Y	Y		3
5B	TB3-5,6	J2U	40	2	6	5	Y	Y			15
5C	TB3-7,8	J2L	44	6	16	5	Y	Y			15
6A	TB3-9,10	J3U	64	26	36	6	Y	Y			

[1]Add jumper from J1-W to 14-W, on rear of input file.

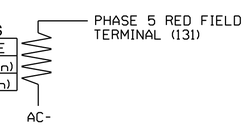
INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown below)

ACCEPTABLE VALUES

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



NOTE: The purpose of this resistor is to load the channel red monitor input in order for the Signal Sequence Monitor to use the full signal sequence monitoring capability on channels that do not use the red display in the field.

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL SEALED ON 03/03/15

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1287
DESIGNED: March 2015
SEALED: 3/30/2015
REVISED: N/A

Electrical Detail - Sheet 1 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Transportation Mobility and Safety Division
Traffic Engineering Branch
Signal Management Section
750 N.Greenfield Pkwy, Garner, NC 27529

SR 1981
(Trollingwood-Hawfields Road)
at
SR 2657 (Melville Commerce Parkway)

Division 7 Alamance County Mebane

PLAN DATE: March 2015	REVIEWED BY: T. Joyce
PREPARED BY: C. Strickland	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022013 ENGINEER GEORGE C. BROWN

DocuSigned by: George C. Brown 3/31/2015
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DATE

SIG. INVENTORY NO. 07-1287

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cstrickland

PROJECT REFERENCE NO.	SHEET NO.
U-5538B	Sig. 3

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2 AND 3.

2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```
LOGICAL I/O COMMAND #1  (+/-COMMAND#)
IF  ACTIVE PHASE       #5  IS ON
AND RED CLEAR ON PHASE #5  IS ON

              SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #42 ON
SET OUTPUT  ASSIGNMENT #43 OFF
```

NOTE: LOGIC FOR PHASE 5 RED CLEAR WHEN TRANSITIONING FROM PHASE 5 TO PHASE 6 (HEAD 51).

PRESS '+'

```
LOGICAL I/O COMMAND #2  (+/-COMMAND#)
IF  ACTIVE PHASE       #5  IS ON

              SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #44 OFF
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 5 (HEAD 51).

PRESS '+'

```
LOGICAL I/O COMMAND #3  (+/-COMMAND#)
IF  YELLOW ON PHASE    #5  IS ON

              SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #43 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 5 (HEAD 51).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 42 = Overlap C Red
OUTPUT 43 = Overlap C Yellow
OUTPUT 44 = Overlap C Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

PRESS '+' TWICE

```
PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:          ¦123456789101112131415 16
VEH OVL PARENTS:¦    XX
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL SEALED ON 03/03/15

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-1287
DESIGNED: March 2015
SEALED: 3/30/2015
REVISED: N/A

Electrical Detail - Sheet 2 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1981
(Trollingwood-Hawfields Road)
at
SR 2657 (Melville Commerce Parkway)

Division 7 | Alamance County | Mebane

PLAN DATE: March 2015	REVIEWED BY: T. Joyce		
PREPARED BY: C. Strickland	REVIEWED BY:		
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022013 ENGINEER GEORGE C. BROWN

DocuSigned by:
George C. Brown 3/31/2015
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DATE

SIG. INVENTORY NO. 07-1287

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cestrickland

PROJECT: U-5538

FOR INFORMATION ONLY

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

ALAMANCE COUNTY

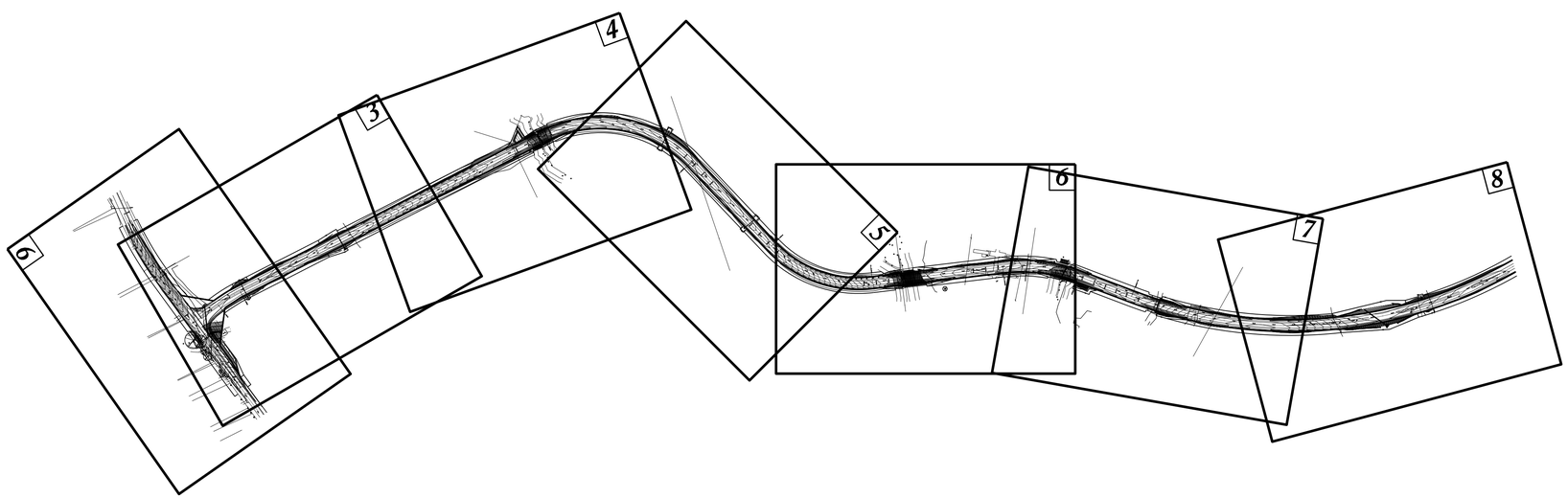
ALAMANCE INTERSTATE CORRIDOR DEVELOPMENT ZONE
NEW ROADWAY IMPROVEMENTS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5538	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
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 / Coir Fiber Wattle	SW / CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	



THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Refer To E. C. Special Provisions for Special Considerations.

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

ROADSIDE ENVIRONMENTAL UNIT

1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

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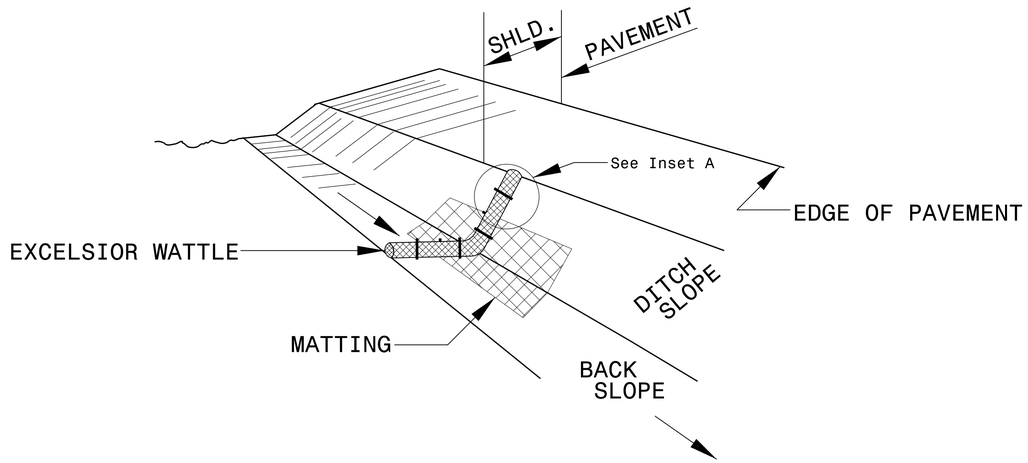
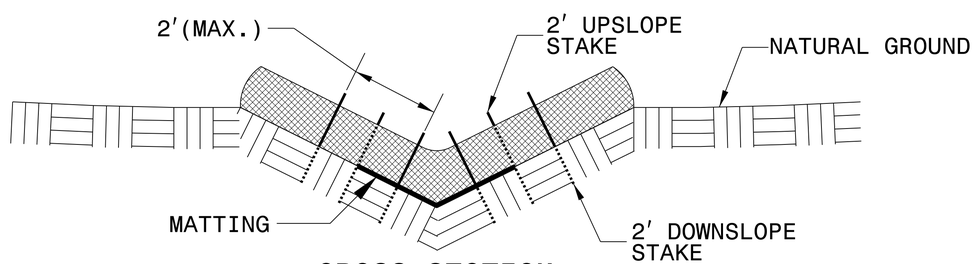
PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-2

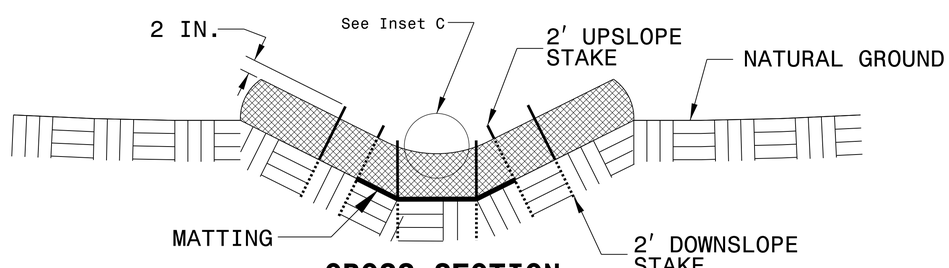
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 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.

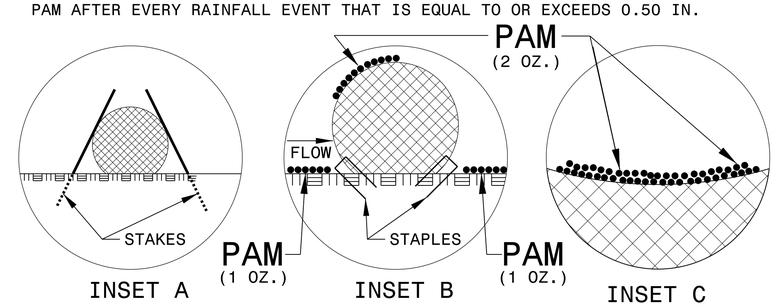
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

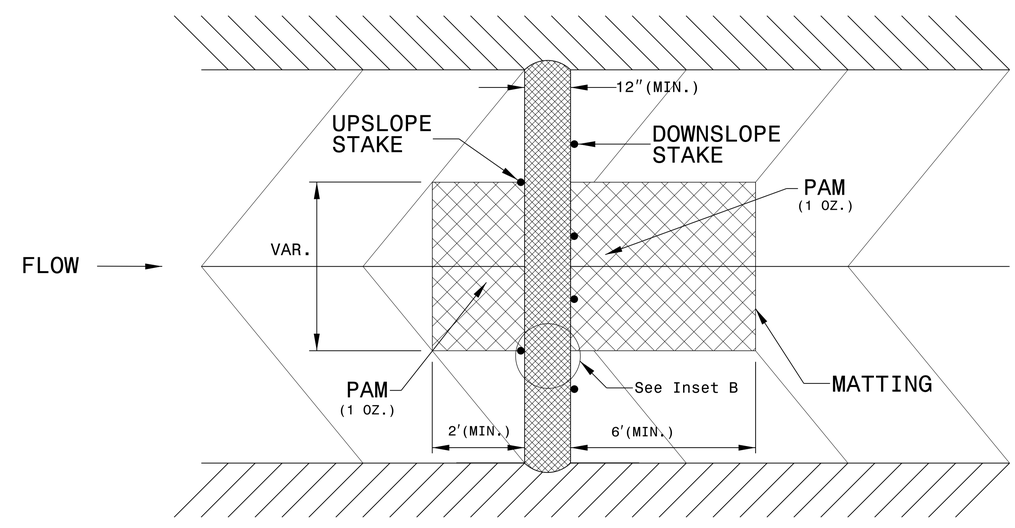
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

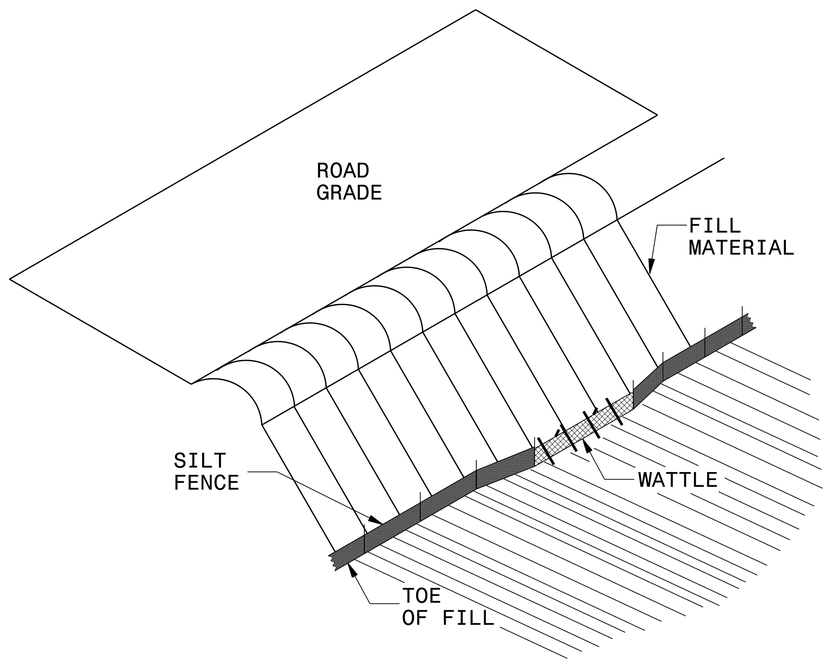




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-2A

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

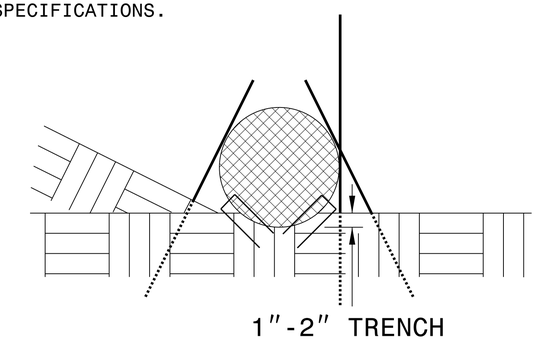
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

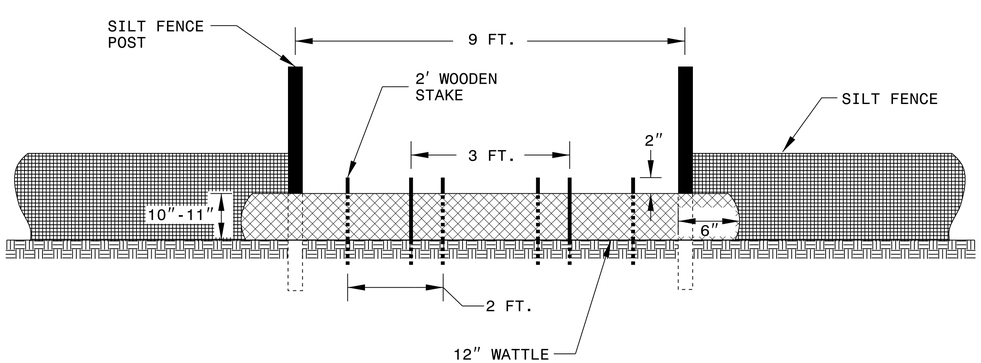
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

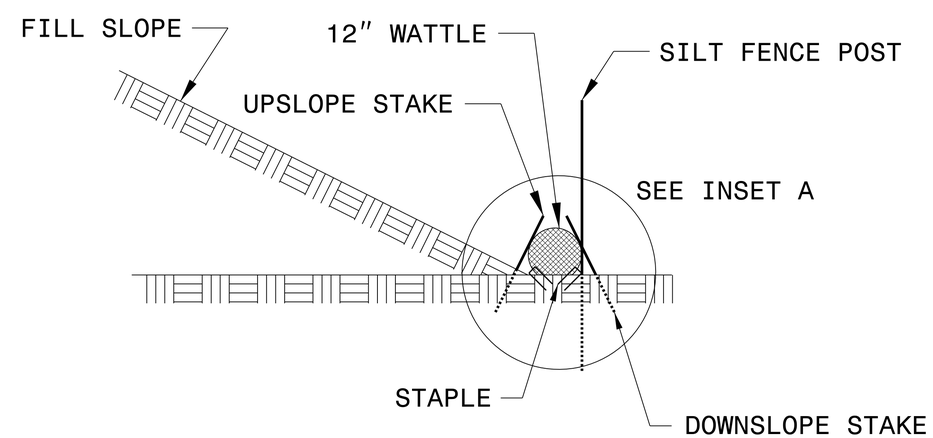
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





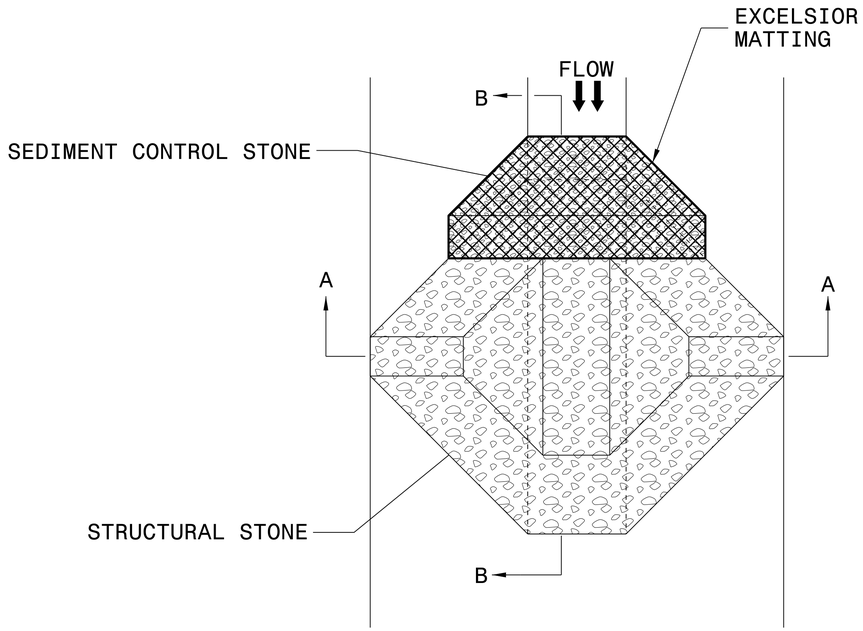
VIEW FROM SLOPE



SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-2B

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



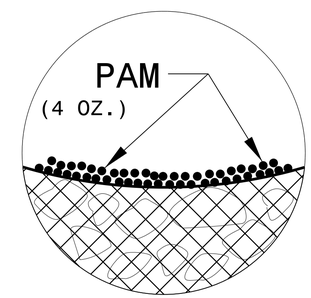
PLAN

NOTES

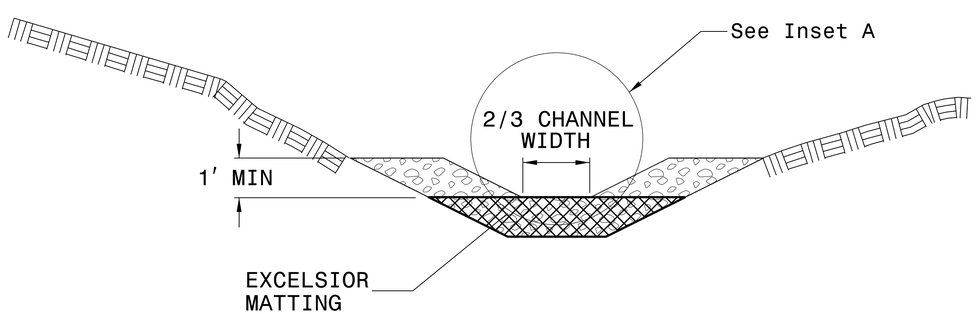
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

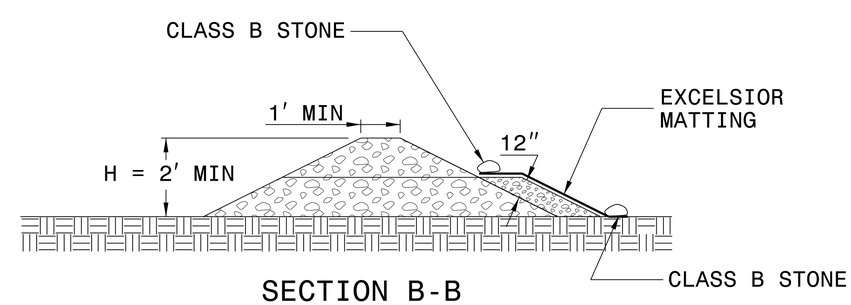
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-3

FOR INFORMATION ONLY

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
3	-L-	3+00	8+25	LT	705
3	-L-	3+25	8+50	RT	660
3-4	-L-	9+75	18+50	LT	1,340
3-4	-L-	9+75	19+15	RT	1,440
4	-L-	20+35	24+50	LT	540
4	-L-	20+20	24+50	RT	535
5	-L-	29+00	30+25	RT	115
5-6	-L-	34+00	38+25	LT	685
6	-L-	41+85	48+50	LT	845
6	-L-	42+10	48+50	RT	930
7	-L-	49+30	53+50	LT	540
7	-L-	50+50	53+25	RT	350
7-8	-L-	55+25	63+15	LT	1,185
7-8	-L-	55+65	63+40	RT	1,120
8	-L-	66+70	72+00	LT	855
8	-L-	67+10	67+50	RT	65
8	-L-	67+95	72+00	RT	525
9	SR 1981	5+25	6+25	LT	105
9	SR 1981	2+75	4+50	RT	300
				SUBTOTAL	12,840
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					7,500
				TOTAL	20,340
				SAY	20,500

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
3	-L-	2+25	3+00	LT	180
5-6	-L-	35+00	40+50	RT	730
6	-L-	38+25	40+20	LT	370
9	SR 1981	1+50	2+75	RT	175
				SUBTOTAL	1,455
		ADDITIONAL PSRM TO BE INSTALLED			0
				TOTAL	1,455
				SAY	1,500

PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-3A

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-4/CONST.3

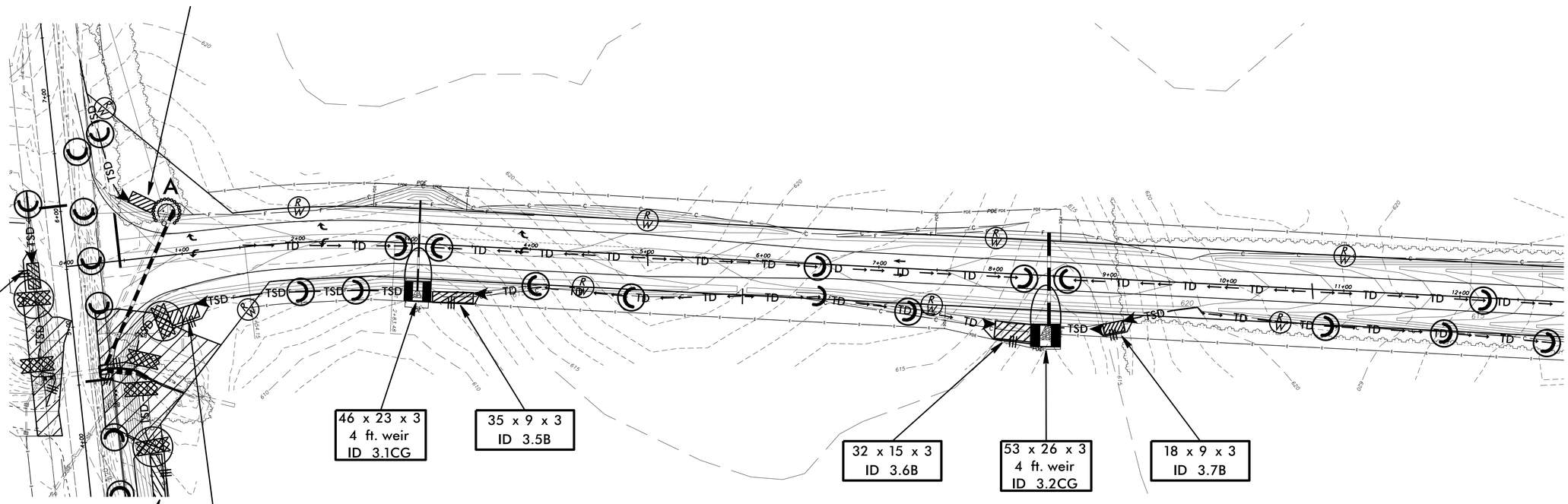
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 3

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

FOR INFORMATION ONLY



22 x 10 x 3
ID 9.1B

54 x 10 x 3
ID 9.2B

25 x 12 x 3
ID 9.3B

46 x 23 x 3
4 ft. weir
ID 3.1CG

35 x 9 x 3
ID 3.5B

32 x 15 x 3
ID 3.6B

53 x 26 x 3
4 ft. weir
ID 3.2CG

18 x 9 x 3
ID 3.7B

PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-5/CONST.4

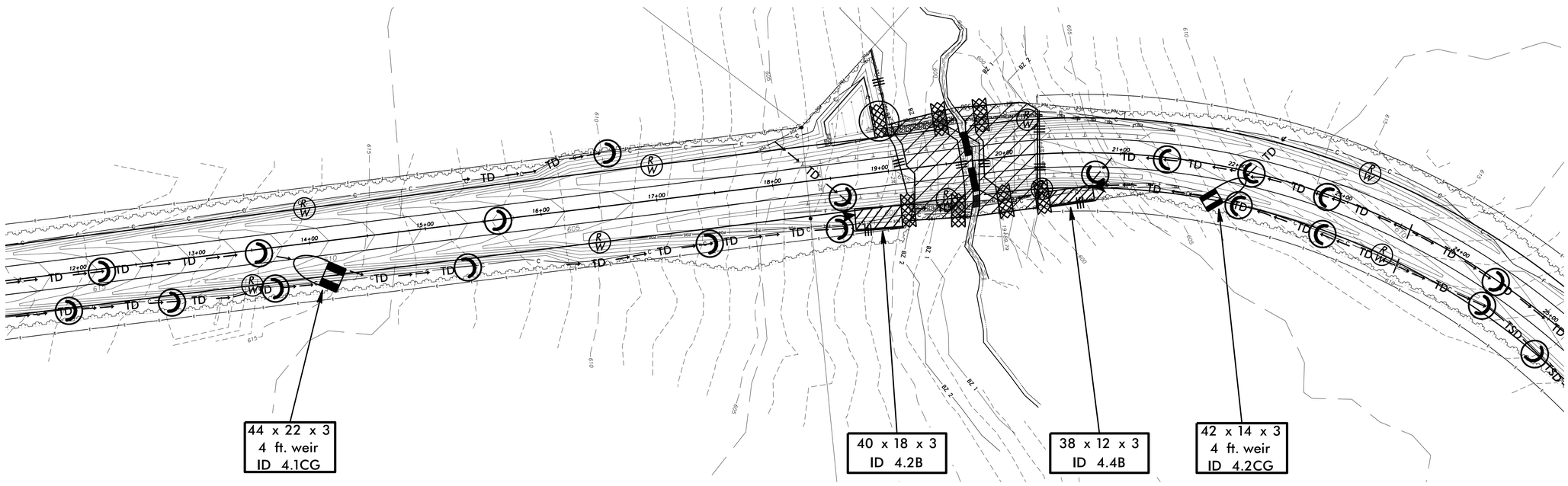
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

FOR INFORMATION ONLY

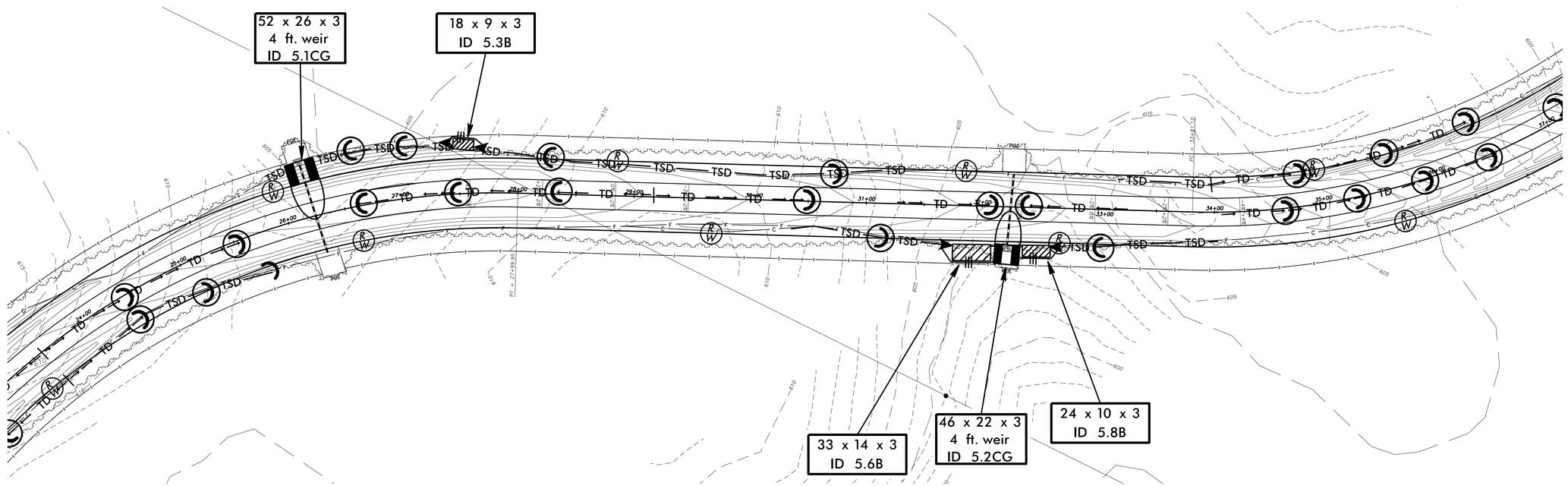


PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-6/CONST.5

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

FOR INFORMATION ONLY



PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-7/CONST.6

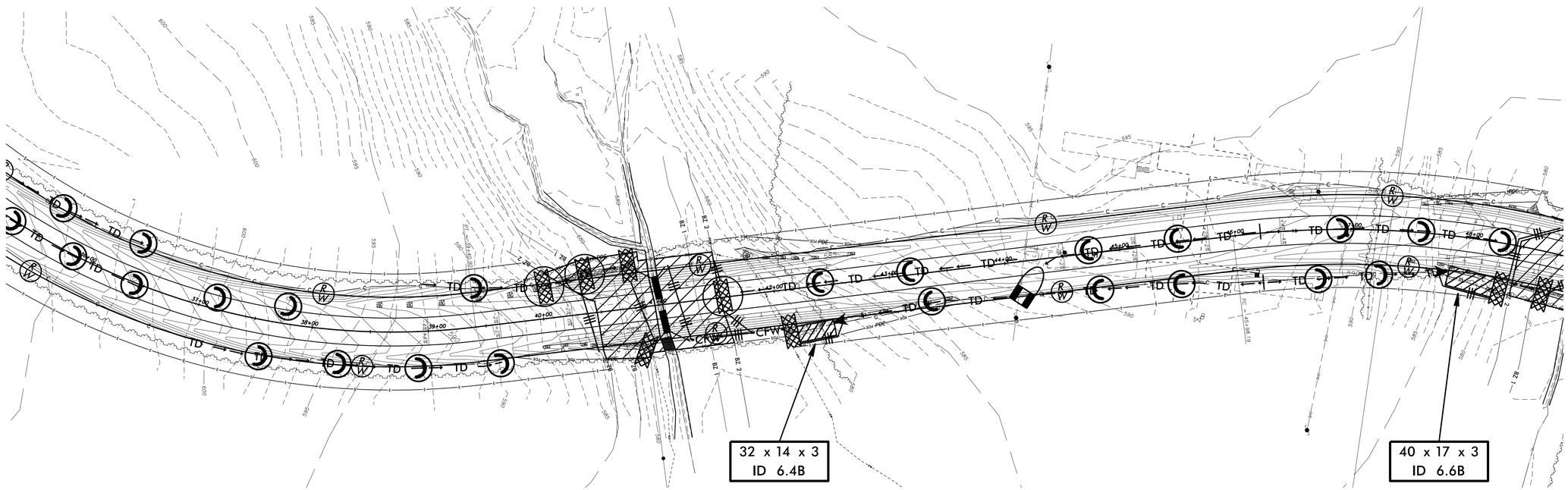
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

FOR INFORMATION ONLY



PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-8/CONST.7

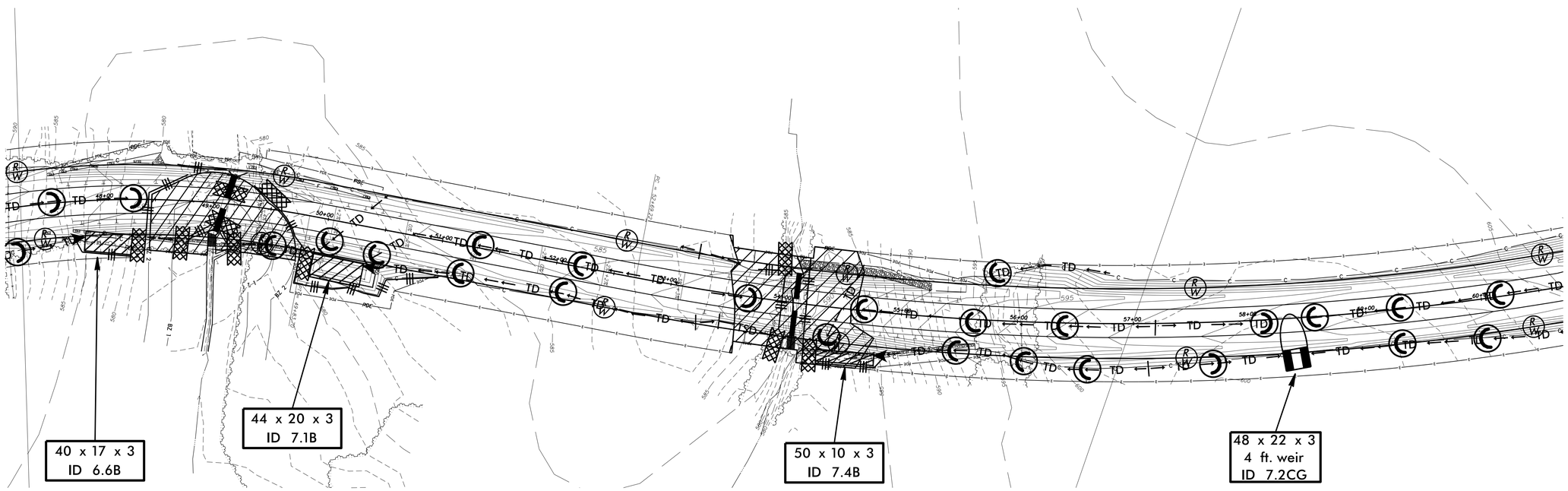
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

FOR INFORMATION ONLY

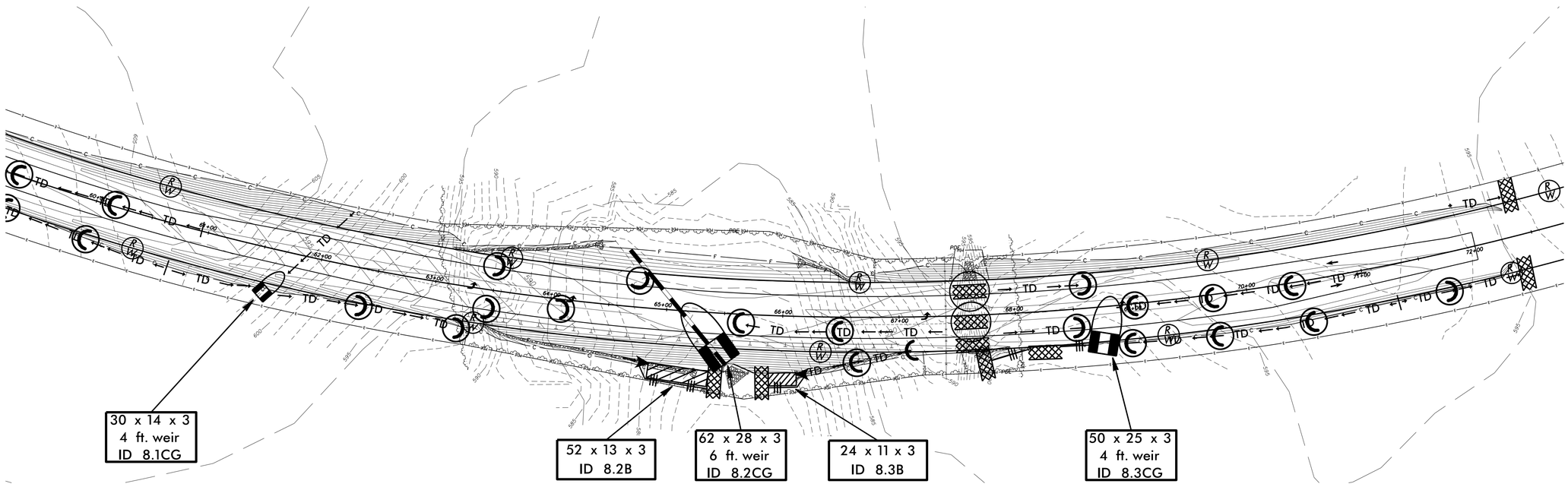


PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-9/CONST.8

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

FOR INFORMATION ONLY



PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-10/CONST.9

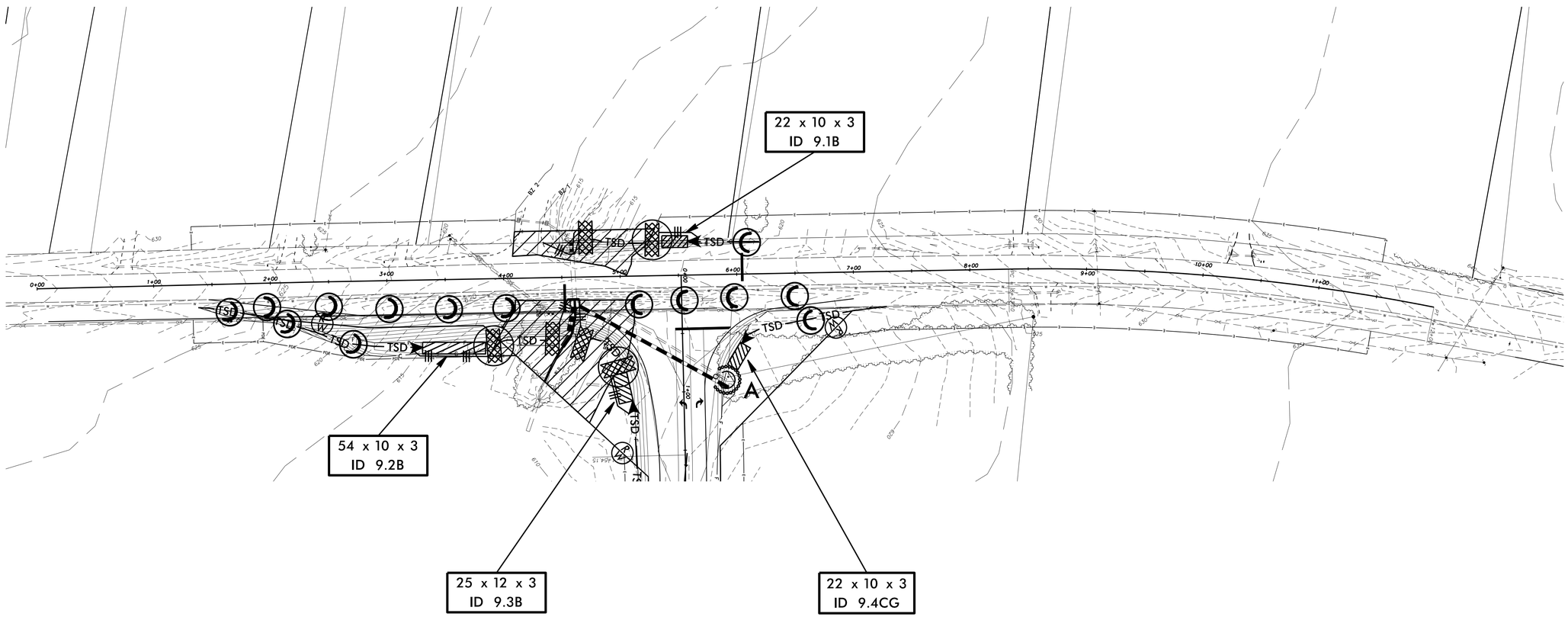
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 9

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

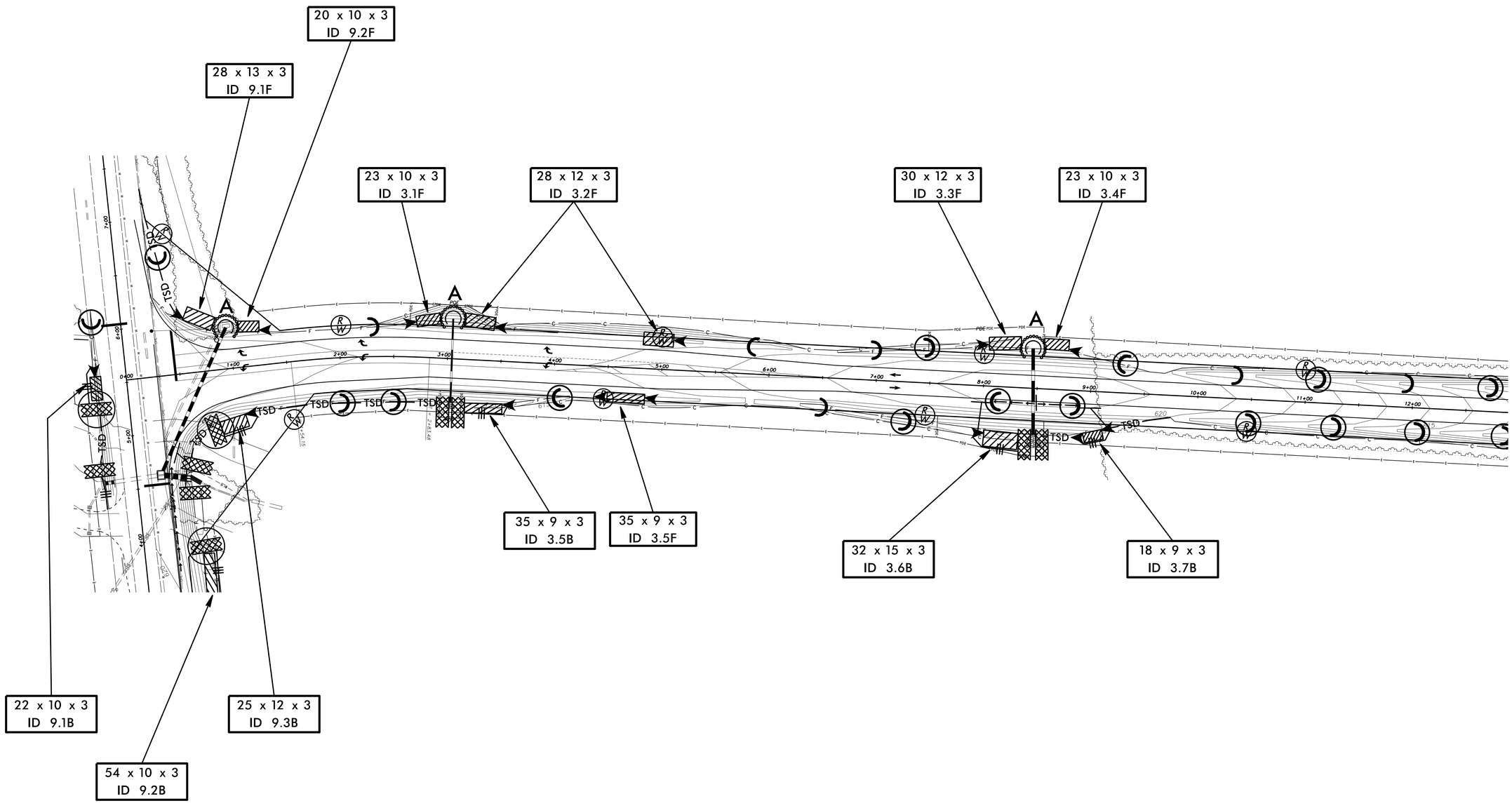
ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

FOR INFORMATION ONLY



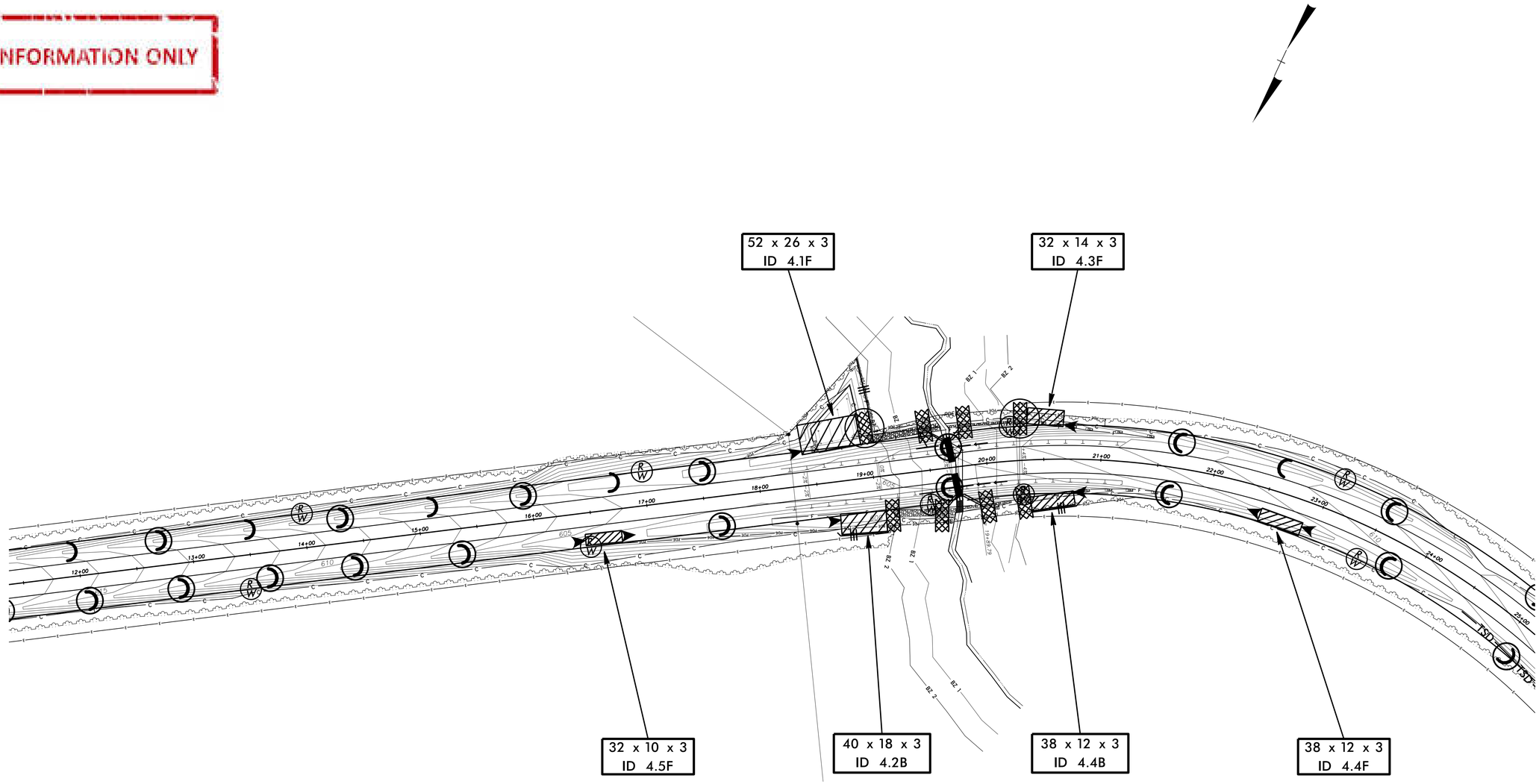
PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-11/CONST.3

FOR INFORMATION ONLY



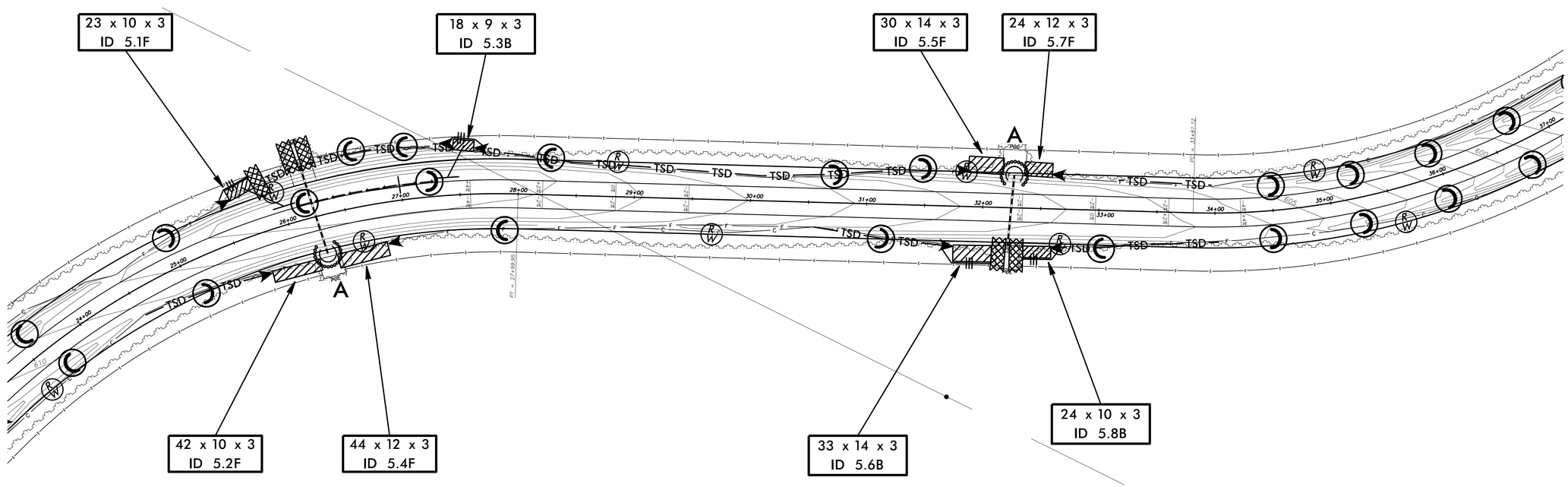
PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-12/CONST.4

FOR INFORMATION ONLY



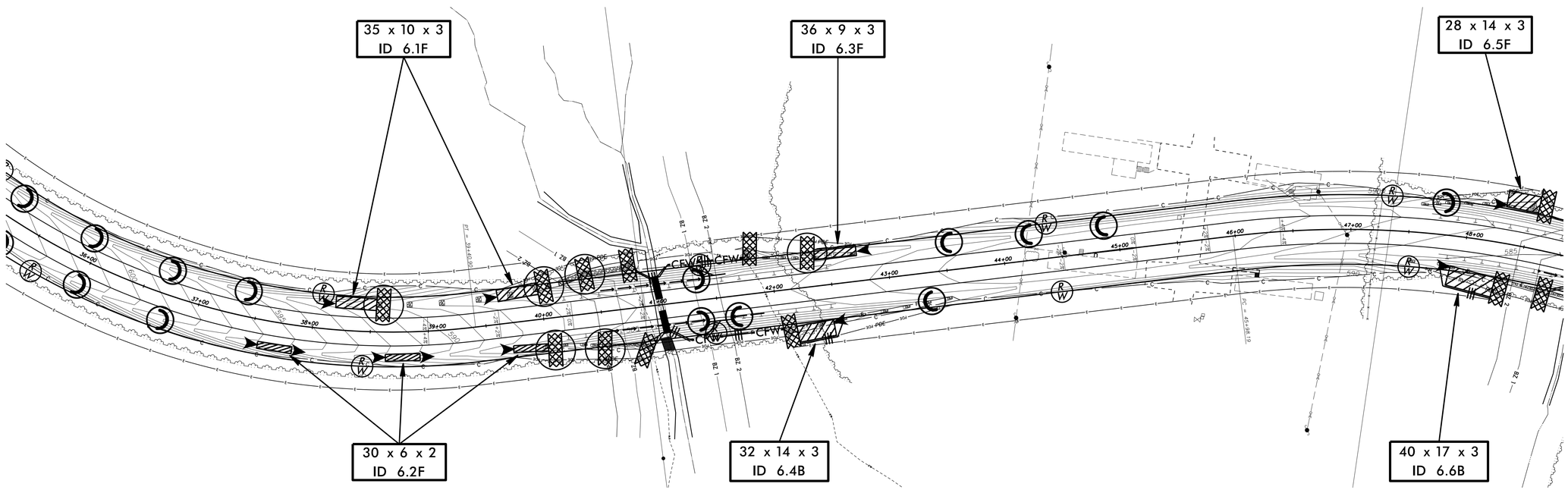
PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-13/CONST.5

FOR INFORMATION ONLY



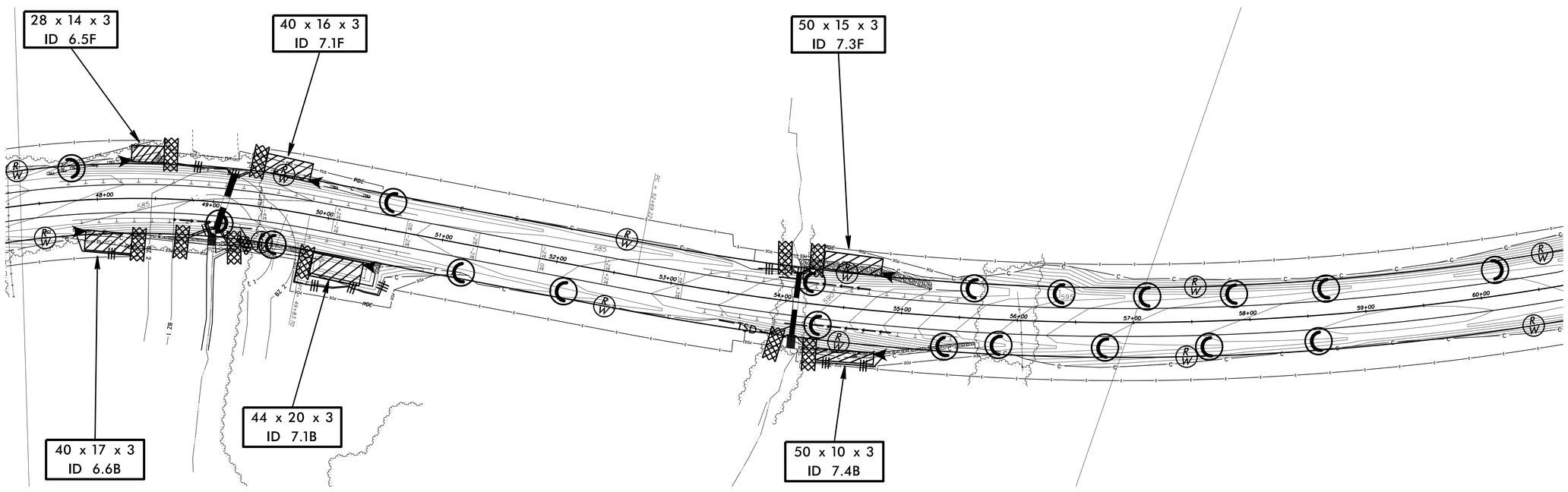
PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-14/CONST.6

FOR INFORMATION ONLY



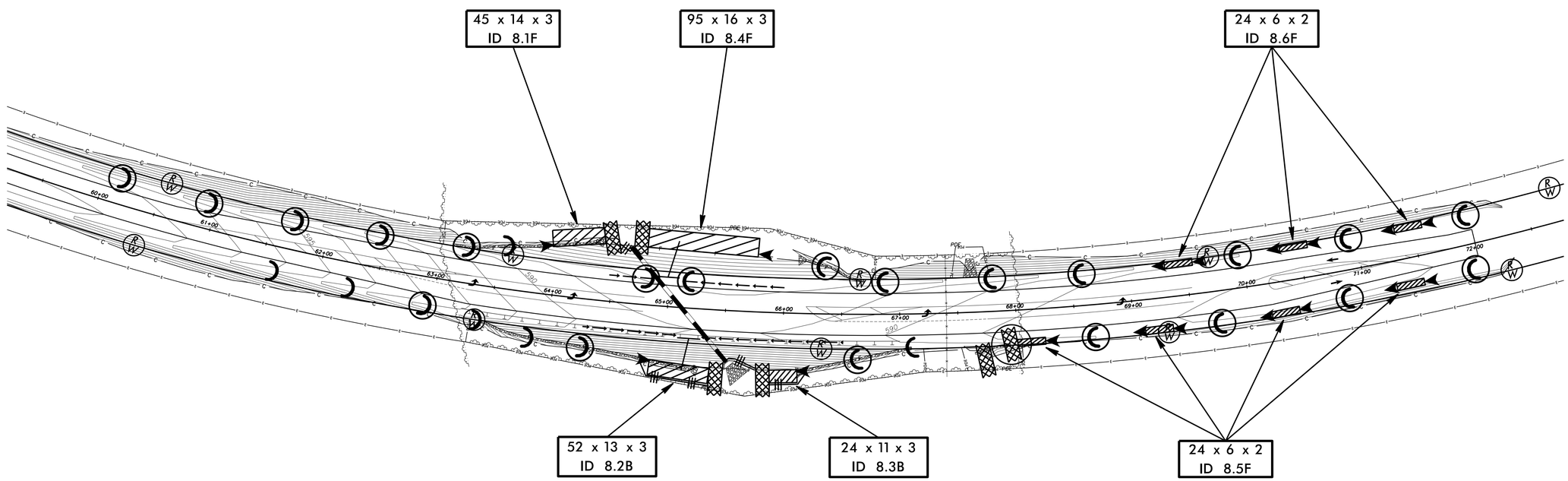
PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-15/CONST.7

FOR INFORMATION ONLY



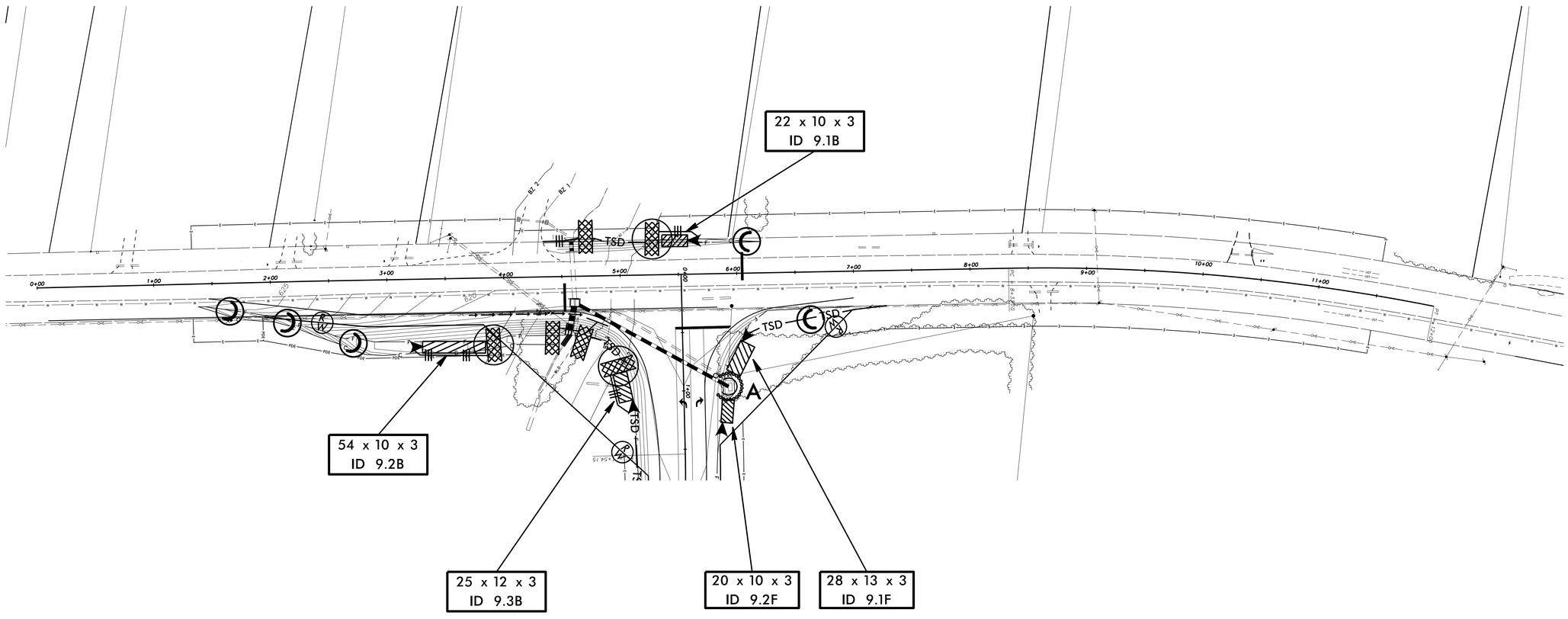
PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-16/CONST.8

FOR INFORMATION ONLY



PROJECT REFERENCE NO.	SHEET NO.
U-5538	EC-17/CONST.9

FOR INFORMATION ONLY



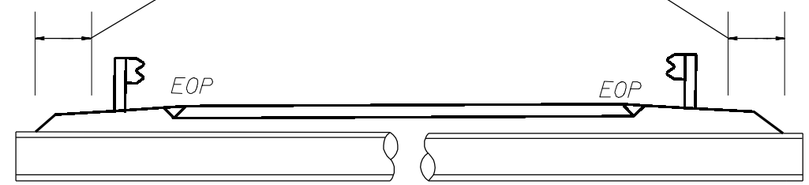
PROJECT REFERENCE NO.	SHEET NO.
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL DETAIL

NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

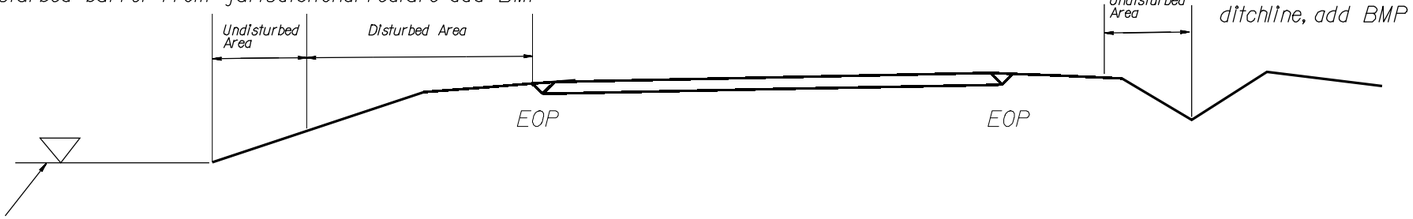
< 5' - 10' Undisturbed buffer add BMP



Pipe/Culvert

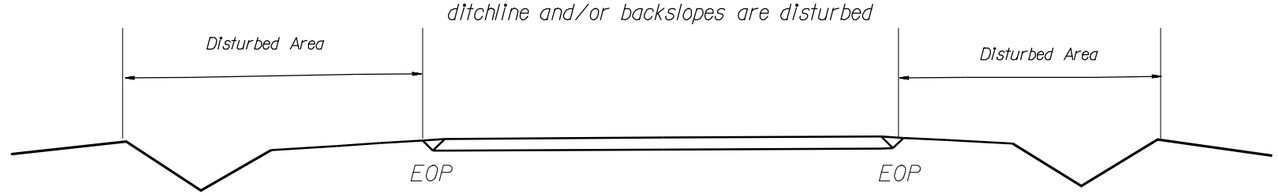
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP

< 5' - 10' Undisturbed buffer from ditchline, add BMP

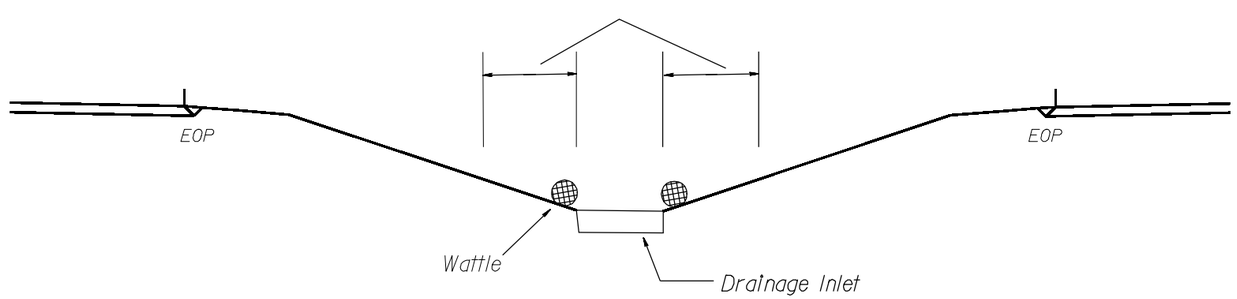


Jurisdictional Feature

Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed



< 5' - 10' Undisturbed buffer from inlet, add wattle



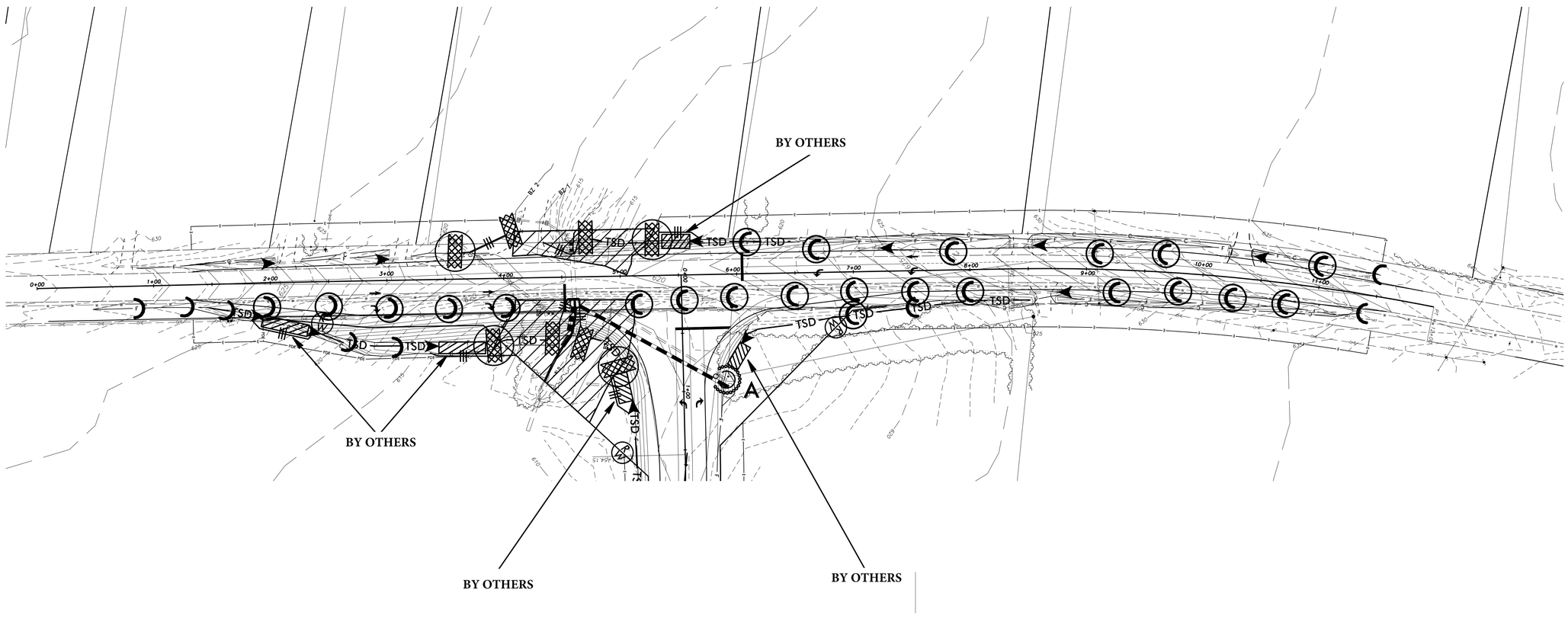
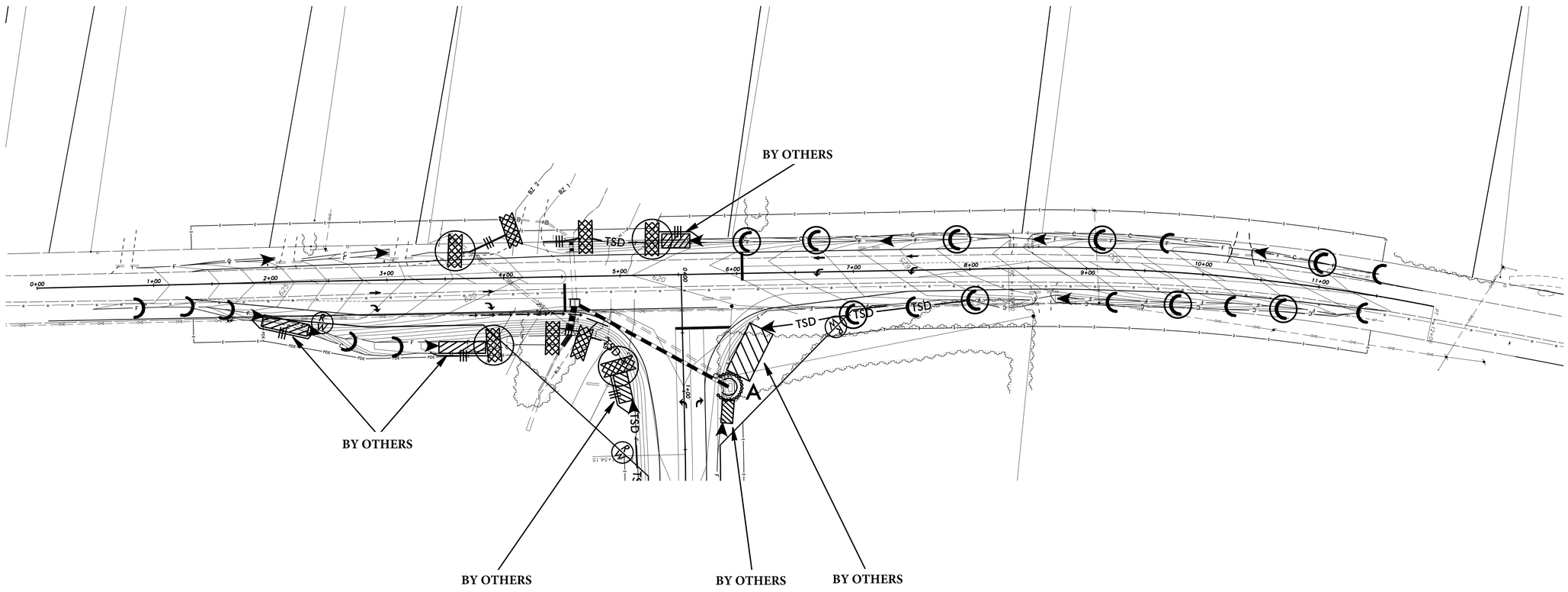
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-5538 B	EC-19

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
U-5538B

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS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U-5538B	EC-20