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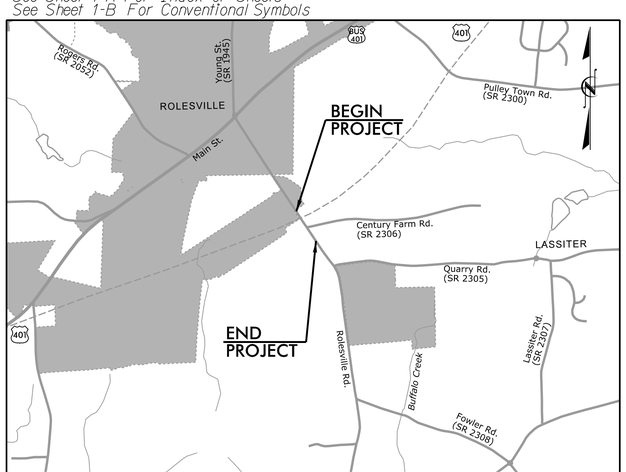
09/08/99

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols




VICINITY MAP (NTS)

TOWN OF ROLESVILLE
WAKE COUNTY

# TOWN OF ROLESVILLE

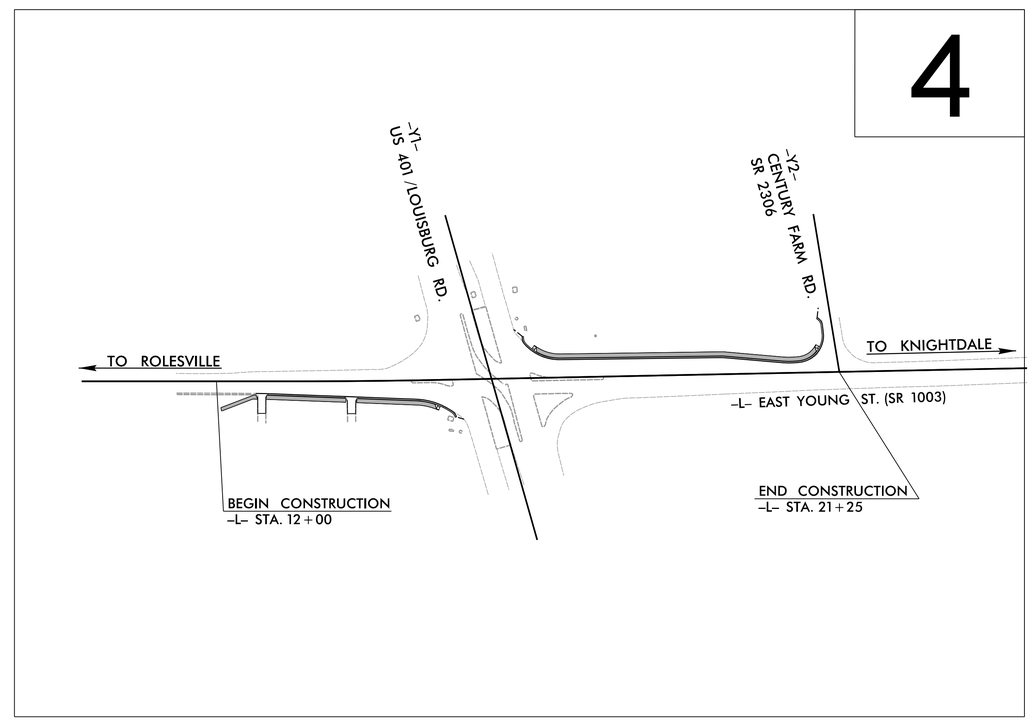
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | E. YOUNG ST. PH. II | 1 | |

| STATE PROJ. NO. | F. A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| | | |

***LOCATION: EAST YOUNG STREET (PHASE A)***

***TYPE OF WORK: GRADING, DRAINAGE & SIDEWALK***

NAD 83/2011




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

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

***GRAPHIC SCALES***

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

***PROJECT LENGTH***

LENGTH OF PROJECT = 0.175 MI.

AMT
NCBELS LICENSE # F-1049

*Prepared for the North Carolina Department of Transportation in the Office of:*
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
6131 FALLS OF NEUSE ROAD, SUITE 106, RALEIGH, NC 27609
(919) 855-9000 FAX (919) 855-5847
EMAIL: AMT1@AMTENGINEERING.COM

*2018 STANDARD SPECIFICATIONS*

***RIGHT OF WAY DATE:***
APRIL 1, 2019

***LETTING DATE:***
JUNE 28, 2019

NICK RAMIREZ, PE
*PROJECT ENGINEER*

JAMES CROUSE, PE
*PROJECT DESIGN ENGINEER*

RAYMOND J. HAYES, PE
*NCDOT CONTACT*

JG FERGUSON
*TOWN OF ROLESVILLE CONTACT*

***HYDRAULICS ENGINEER***

NORTH CAROLINA PROFESSIONAL SEAL 040744 ENGINEER JAMES A. CROUSE

DocuSigned by: James A. Crouse
A4ED22B3665...

*SIGNATURE:* *P.E.*

***ROADWAY DESIGN ENGINEER***

NORTH CAROLINA PROFESSIONAL SEAL 40655 ENGINEER NICK RAMIREZ

DocuSigned by: Nick Ramirez
C09268611DD5...

5/23/2019

*SIGNATURE:* *P.E.*

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

***TOWN OF ROLESVILLE***

5/23/2019
X:\Raleigh\16-0940.00I- Rolesville E Young St Side\05-CAD\16-0940.00I\Roadway\Proj\Phase_A\16-0940.00I_Rdy_tsh.dgn
jbeauchaine

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH II | 1A |

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 40655 ENGINEER NICK RAMIREZ

DocuSigned by: Nick Ramirez
C0926811DD94438

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INDEX OF SHEETS

| SHEET NUMBER | SHEET |
|---|---|
| 1 | TITLE SHEET |
| 1A | INDEX OF SHEETS. GENERAL NOTES. AND STANDARD DRAWINGS |
| 1B | CONVENTIONAL SYMBOLS |
| 2A-1 | PAVEMENT SCHEDULE AND TYPICAL SECTIONS |
| 2C-1 | SPECIAL DETAILS |
| 3B-1 | ROADWAY SUMMARIES |
| 3D-1 | DRAINAGE SUMMARIES |
| 4 | PLAN AND PROFILE SHEET |
| TMP-1 | TRAFFIC MANAGEMENT PLANS |
| PMP-1 THRU PMP-3 | PAVEMENT MARKING PLANS |
| EC-1 THRU EC-8 | EROSION CONTROL PLANS |
| UO-1 | UTILITIES BY OTHERS PLANS |
| X-1 THRU X-4 | CROSS-SECTIONS |

GENERAL NOTES:
2018 SPECIFICATIONS

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.

SIDE ROADS:

THE CONTRACTOR WILL 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.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE READII NOTED ON PLANS.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE:

CITY OF RALEIGH
DUKE ENERGY PROGRESS
AT&T
SPECTRUM
PSNC

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

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.

NOTES:
UTILITIES (I.E. POWER POLES, LIGHT POLES, TELEPHONE AND CABLE PEDESTALS, ETC.) LOCATED WITHIN NEW SIDEWALK LIMITS TO BE RELOCATED BY RESPECTIVE UTILITY COMPANIES PRIOR TO SIDEWALK INSTALLATION UNLESS SHOWN OTHERWISE. COORDINATE WITH LOCAL UTILITY COMPANIES TO VERIFY UTILITY REALIGNMENT/RELOCATION WORK IS COMPLETE PRIOR TO START OF CONSTRUCTION.

ALL INDIVIDUAL TREES TO REMAIN UNLESS NOTED OTHERWISE ON PLAN OR AS DIRECTED BY ENGINEER AND APPROVED BY OWNER. SHRUBS IN PERMANENT EASEMENT TO BE REMOVED. SHRUBS IN TEMPORARY EASEMENT TO BE REMOVED ONLY AS NECESSARY FOR CONSTRUCTION. SHRUBS IN R/W TO BE REMOVED AS NEEDED AND COORDINATED WITH ENGINEER/OWNER.

TEMPORARILY REMOVE MINOR ITEMS AS REQUIRED FOR CONSTRUCTION. MINOR ITEMS SHALL INCLUDE, BUT ARE NOT LIMITED TO: EXISTING SIGNS, MAIL BOXES, AND STORM SEWER PIPES. REINSTALL ITEMS TO THEIR ORIGINAL CONDITION AT A LOCATION AS CLOSE TO ORIGINAL LOCATION AS PRACTICABLE.

APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN ON DRAWINGS. NOTIFY UTILITY LOCATING SERVICE TO MARK LOCATION OF EXISTING UTILITIES AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION ACTIVITY. CONTRACTOR RESPONSIBLE FOR VERIFYING EXACT LOCATION OF THESE EXISTING UTILITIES. THE COST TO REPAIR THESE FACILITIES, IF DAMAGED, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR SHALL TAKE PRECAUTIONS NOT TO DISTURB EXISTING PROPERTY CORNER MARKERS. ALL DISTURBED PROPERTY CORNER MARKERS SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR AT CONTRACTOR'S EXPENSE.

SIDEWALK TRANSITIONS SHALL NOT EXCEED 12:1 SLOPE PER ADA.

STAGING AREA SHALL BE DELINEATED WITH TREE PROTECTION FENCING AROUND EXISTING TREES.

SIDEWALK TO JOIN FLUSH W/ EXISTING OR PROPOSED CONCRETE DRIVES.

MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION. DRIVEWAY IMPACTS ARE ANTICIPATED WITH THIS PROJECT AND ACCESS DURING CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER.

TRANSITION AROUND WATER METERS, AS NECESSARY TO AVOID PLACING METER IN SIDEWALK.

METER TRANSITION LENGTH SHALL BE APPROXIMATELY 10'.

ADJUST WATER VALVES AS NECESSARY TO COORDINATE WITH SIDEWALK OR GRADE CHANGES.

GAS VALVES THAT REQUIRE ADJUSTMENT TO COORDINATE WITH SIDEWALK OR GRADE CHANGES MUST BE COORDINATED WITH GAS COMPANY DURING CONSTRUCTION.

LAND DISTURBANCE FOR PROJECT GREATER THAN 1 (ONE) ACRE. EROSION CONTROL PLAN APPROVAL IS REQUIRED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE EROSION CONTROL REQUIREMENTS, DEVICES, MAINTENANCE, ETC. AS INDICATED ON THE PLANS.

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 |
| 225.02 | Guide for Grading Subgrade - Secondary and Local |
| DIVISION 3 - PIPE CULVERTS | |
| 300.01 | Method of Pipe Installation |
| 310.10 | Driveway Pipe Construction |
| DIVISION 6 - ASPHALT BASES AND PAVEMENTS | |
| 654.01 | Pavement Repairs |
| DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS | |
| 700.05 | Tying Proposed Pavement to Existing |
| DIVISION 8 - INCIDENTALS | |
| 840.02 | Concrete Catch Basin - 12" thru 54" Pipe |
| 840.04 | Concrete Open Throat Catch Basin - 12" thru 48" Pipe |
| 840.14 | Concrete Drop Inlet - 12" thru 30" Pipe |
| 840.31 | Concrete Junction Box - 12" thru 66" Pipe |
| 840.54 | Manhole Frame and Cover |
| 846.01 | Concrete Curb, Gutter and Curb & Gutter |
| 848.01 | Concrete Sidewalk |
| 848.02 | Driveway Turnout |
| 848.04 | Street Turnout |
| 848.05 | Curb Ramp - Proposed Curb & Gutter |
| 848.06 | Curb Ramp - Existing Curb & Gutter |
| 852.01 | Concrete Islands |
| 1101.01 | Work Zone Warning Signs |
| 1101.02 | Temporary Lane Closures |
| 1110.01 | Stationary Work Zone Signs |
| 1110.02 | Portable Work Zone Signs |
| 1130.01 | Drums |
| 1150.01 | Flagging Devices |
| 1205.00 | Pavement Markings |
| 1205.07 | Pavement Markings - Pedestrian Crosswalks |

EROSION CONTROL SEQUENCE OF CONSTRUCTION

1. INSTALL PERIMETER SEDIMENT CONTROLS ALONG EAST YOUNG STREET TO ACCOMMODATE SCOPE OF WORK AS SHOWN ON SHEET EC-04 THROUGH EC-05.
2. INSTALL STORM DRAINAGE SYSTEM AS SHOWN ON SHEET EC-06 THROUGH EC-07.
3. SAWCUT AND REMOVE EXISTING ASPHALT AS SHOWN ON PLAN.
4. INSTALL PROPOSED CURB AND GUTTER AND PAVEMENT FOR WIDENED ROADWAY AND FOR DRIVEWAY ENTRANCES.
5. ADJUST UTILITIES AS SHOWN ON PLAN.
6. INSTALL CONCRETE SIDEWALK AND ADDITIONAL GRADING AS NECESSARY, ADDING ADDITIONAL EROSION CONTROL MEASURES AS SHOWN.
7. PERMANENTLY STABILIZE ALL DISTURBED AREAS.
8. ONCE DISTURBED AREAS ARE STABILIZED AND UPON APPROVAL FROM INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND CLEAR THE AREA. STABILIZE ALL AREAS DISTURBED BY EROSION CONTROL MEASURE REMOVAL.

8/17/99
5/23/2019
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bpaulsgrove

12/2/2016

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | 1B |

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

*Note: Not to Scale*

**S.U.E. = Subsurface Utility Engineering*

## *BOUNDARIES AND PROPERTY:*

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Computed Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil — S
- Potential Contamination Area: Soil — S
- Known Contamination Area: Water — W
- Potential Contamination Area: Water — W
- Contaminated Site: Known or Potential

## *BUILDINGS AND OTHER CULTURE:*

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

## *HYDROLOGY:*

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

## *RAILROADS:*

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

## *RIGHT OF WAY & PROJECT CONTROL:*

- Secondary Horiz and Vert Control Point
- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Exist Permanent Easment Pin and Cap
- New Permanent Easement Pin and Cap
- Vertical Benchmark
- Existing Right of Way Marker
- Existing Right of Way Line
- New Right of Way Line — RW
- New Right of Way Line with Pin and Cap — RW
- New Right of Way Line with Concrete or Granite R/W Marker — RW
- New Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- New Control of Access — CA
- Existing Easement Line — E
- New Temporary Construction Easement — E
- New Temporary Drainage Easement — TDE
- New Permanent Drainage Easement — PDE
- New Permanent Drainage / Utility Easement — DUE
- New Permanent Utility Easement — PUE
- New Temporary Utility Easement — TUE
- New Aerial Utility Easement — AUE

## *ROADS AND RELATED FEATURES:*

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

## *VEGETATION:*

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

## *EXISTING STRUCTURES:*

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

## *UTILITIES:*

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- 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.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

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

WATER:

- Water Manhole — W
- 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*) — W
- Above Ground Water Line — A/G Water

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | 2A-1 |
| ROADWAY DESIGN ENGINEER | PAVEMENT DESIGN ENGINEER |

NORTH CAROLINA PROFESSIONAL SEAL 040655 ENGINEER NICK RAMIREZ 9/23/2019

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

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A. MORTON THOMAS AND ASSOCIATES, INC.
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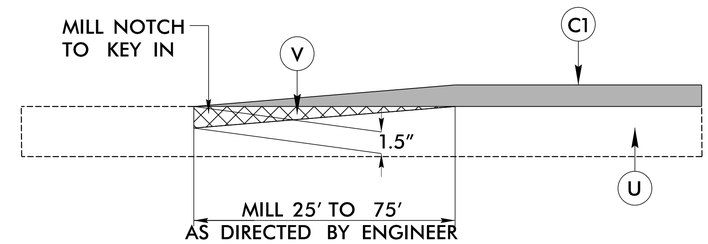
EMAIL: AMT@AMTENGINEERING.COM
NCBELS LICENSE # F-1049

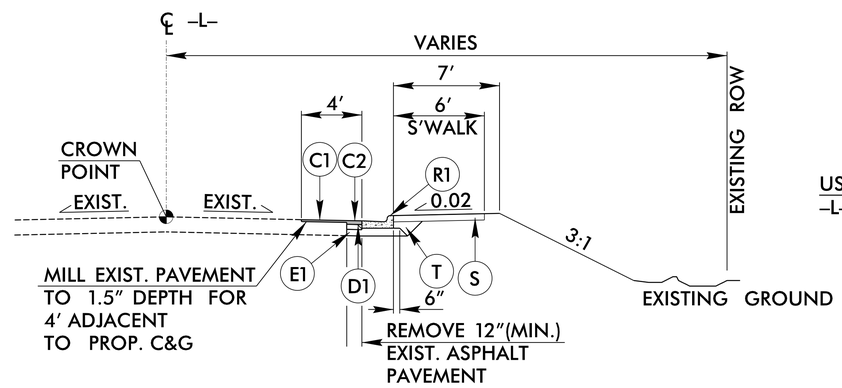
# PAVEMENT SCHEDULE

(PRELIMINARY PAVEMENT DESIGN)

| | |
|---|---|
| C1 | PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. |
| C2 | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. |
| D1 | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E1 | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD. |
| R1 | 2'-6" CONCRETE CURB AND GUTTER |
| S | 4" CONCRETE SIDEWALK |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |
| U | MILLING |

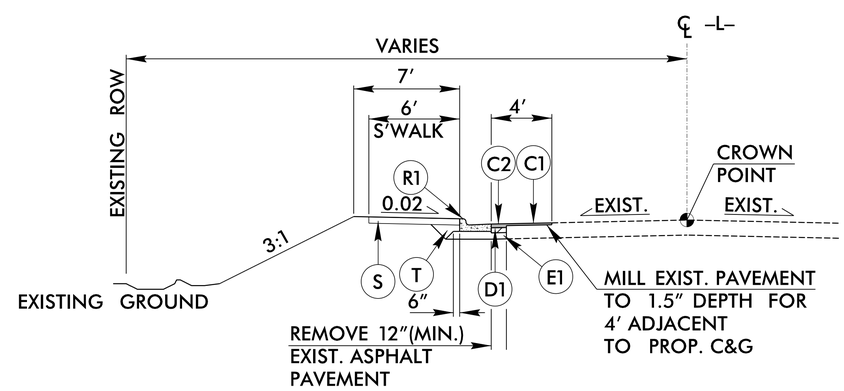



## KEY–IN DETAIL




USE TYPICAL SECTION NO. 1
–L– STA. 12+58.00 TO 15+55.52

## TYPICAL SECTION NO. 1




USE TYPICAL SECTION NO. 2
–L– STA. 16+55.51 TO 21+25.00

## TYPICAL SECTION NO. 2

6/2/99
5/23/2019
X:\Projects\16-0940.001 - Rolesville E Young St Sidewalk\05-CAD\16-0940.001\Roadway\Proj\Phase_A\16-0940.001_Rdy_typ.dgn
jbaughme

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | 2C-1 |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CONSULTING ENGINEERS
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(919) 855-0800 FAX (919) 855-5687
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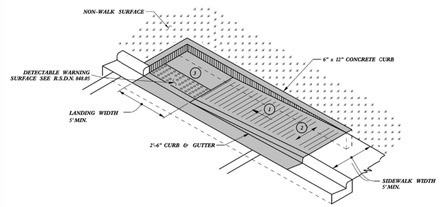
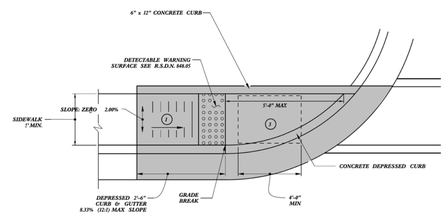
NCBELS LICENSE # F-1049


PAY LIMITS FOR CURB RAMP




TYPE 1A



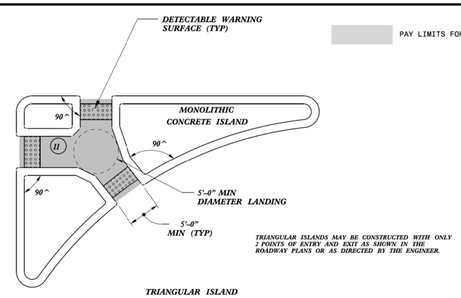

TYPE 1

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.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 1 OF 3 FOR ALL RAMP NOTES

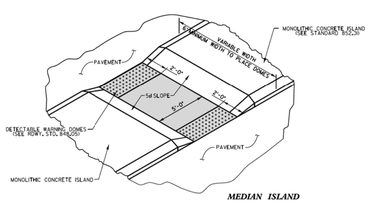
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-733-2826 FAX 919-250-4119
CURB RAMPS
Directional Ramps
ORIGINAL BY: J.S. HOMERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
TITLE BLOCK: MPW STANDARD DWG. DIMENSIONS IN FEET

PAY LIMITS FOR 1 CURB RAMP

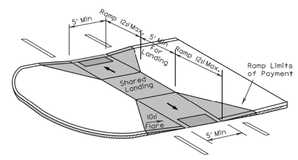



TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

TRIANGULAR ISLAND WITH CUT THROUGH

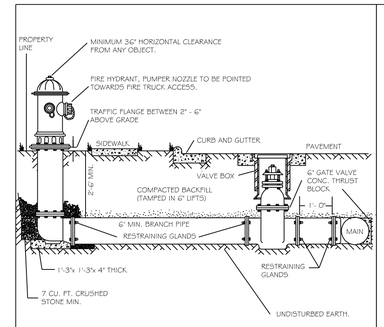



MEDIAN ISLAND WITH CUT THROUGH




MEDIAN ISLAND CURB RAMPS

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-733-2826 FAX 919-250-4119
CURB RAMPS
Median or Turn Lane Islands
ORIGINAL BY: J.S. HOMERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
TITLE BLOCK: MPW STANDARD DWG. DIMENSIONS IN FEET

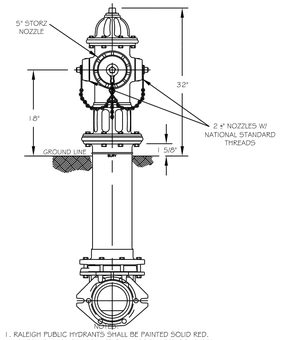



NOTES:
1. FIRE HYDRANT SHALL BE A5 MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, MM, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR US PIPE
2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96
3. 6" GATE VALVE SHALL BE AWWA C500-96 OPEN LEFT
4. STEEL RODS AND BOLTS SHALL BE 4" HOT DIPPED GALVANIZED
5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION
RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
FIRE HYDRANTS TO BE LOCATED IN ROW OR 2 FOOT EASEMENT ADJACENT TO ROW

ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD FIRE HYDRANT INSTALLATION DETAIL

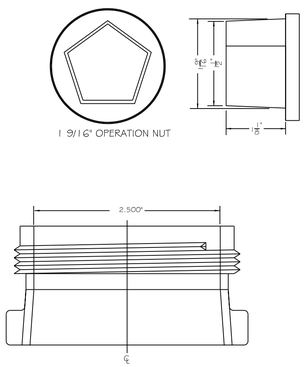
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
|---|---|---|---|---|
| W-4 | ARB | 4-6-04 | FAP | 2/17/09 |
| | DHL | 2/14/08 | | |




1. RALEIGH PUBLIC HYDRANTS SHALL BE PAINTED SOLID RED.
2. KNIGHTDALE, PUBLIC HYDRANTS SHALL BE PAINTED SOLID RED.
3. ZEBULON PUBLIC HYDRANTS SHALL BE PAINTED RED W/ SILVER BONNETS AND OPERATING NUTS.
4. WENDELL PUBLIC HYDRANTS SHALL BE PAINTED SAFETY YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS, AND OPERATING NUTS
4. WAKE FOREST AND GARNER PUBLIC AND PRIVATE HYDRANTS TO BE PAINTED SAFETY YELLOW W/SILVER CAPS AND OPERATING NUTS.
5. ROLESVILLE PUBLIC HYDRANTS SHALL BE PAINTED SOLID RED.
6. OPERATING NUTS NUTS ON HYDRANTS CONNECTED TO PUBLIC MAINS 12" OR LARGER SHALL BE PAINTED BLACK. OPERATING NUTS ON HYDRANTS ANY OTHER SIZE SHALL BE PAINTED SILVER.

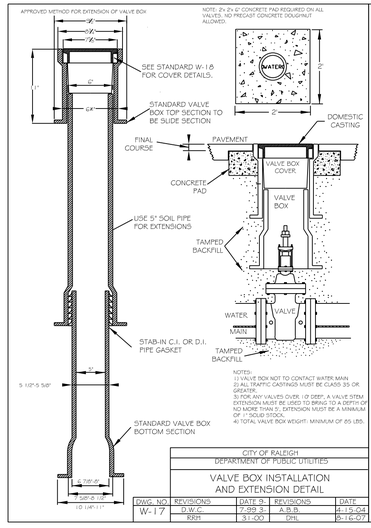
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
RALEIGH, GARNER, KNIGHTDALE, ROLESVILLE, WAKE FOREST, WENDELL & ZEBULON
STANDARD FIRE HYDRANT WITH 5" STORZ PUMPER NOZZLE

| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
|---|---|---|---|---|
| W-5 | | 3-1-07 | ARB | 7-21-05 |
| | RRM | 3-3-00 | DHL | 2-18-08 |




CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
HYDRANT OPERATING NUT AND 2 1/2" OUTLET THREADS

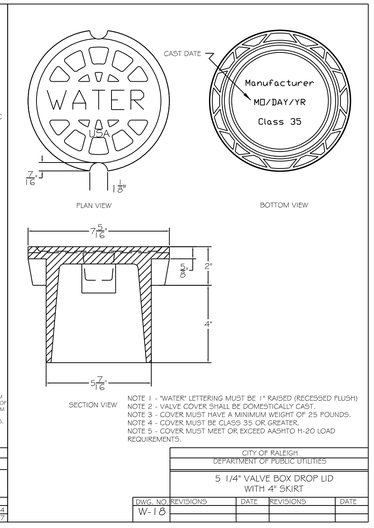
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
|---|---|---|---|---|
| W-6 | RRM | 3-3-1 | DHL | 2-18-08 |
| | A.B.B. | 4-03-04 | J.P.S. | 11-1-10 |




NOTES:
1) VALVE BOX NOT TO CONTACT WATER MAIN
2) ALL TRAFFIC CASTINGS MUST BE CLASS 35 OR GREATER.
3) WHEN ANY VALVES OVER 10' DEEP, A VALVE STEM EXTENSION MUST BE USED TO BRING TO A DEPTH OF NO MORE THAN 5'. EXTENSION MUST BE A MINIMUM OF 1" SOLID STOCK.
4) TOTAL VALVE BOX WEIGHT: MINIMUM OF 65 LBS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
VALVE BOX INSTALLATION AND EXTENSION DETAIL

| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
|---|---|---|---|---|
| W-17 | D.W.C. | 7-99 3- | A.B.B. | 4-15-04 |
| | RRM | 3-1-00 | DHL | 8-16-07 |




NOTE 1 - "WATER" LETTERING MUST BE 1" RAISED (RECESSED FLUSH)
NOTE 2 - VALVE COVER SHALL BE DOMESTICALLY CAST.
NOTE 3 - COVER MUST HAVE A MINIMUM WEIGHT OF 25 POUNDS.
NOTE 4 - COVER MUST BE CLASS 35 OR GREATER.
NOTE 5 - COVER MUST MEET OR EXCEED AASHTO H-20 LOAD REQUIREMENTS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
5 1/4" VALVE BOX DROP LID WITH 4" SKIRT

| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
|---|---|---|---|---|
| W-18 | | | | |


8/17/99
5/23/2019
X:\Raleigh\16-0940.001 - Rolesville E Young St. Side\05-CAD\16-0940.001\Roadway\Proj\Phase A\16-0940.001_Rdy_psh02C_1.dgn
lbeaulieu

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | 3B-1 |

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
6131 FALLS OF NEUSE ROAD, SUITE 100, RALEIGH, NC 27609
(919) 855-0000 FAX (919) 855-5687
EMAIL: AMT1@AMTENGINEERING.COM
NCBELS LICENSE # F-1049

# SUMMARY OF EARTHWORK

## IN CUBIC YARDS

| LOCATION | UNCLASSIFIED EXCAVATION | UNDERCUT | EMBT +20% | BORROW | WASTE |
|---|---|---|---|---|---|
| –L– STA 12+50.00 TO –L– STA 31+00.00 | 135 | | 527 | 392 | |
| | | | | | |
| PROJECT TOTAL | 135 | | 658 | 460 | |
| SAY | 140 | | 670 | 475 | |

8/17/99
5/23/2019
X:\Raleigh\16-0940.001 - Roleswile E Young St Sidw\05-CAD\16-0940.001\Roadway\Proj\Phase_A\16-0940.001_Rdy.psh03B_1.dgn
jbeaucham

8/17/99



AMT
A. Morton Thomas and Associates, Inc.
CONSULTING ENGINEERS
6131 FALLS OF NEUSE ROAD, SUITE 106, RALEIGH, NC 27609
(919) 855-0888 FAX (919) 855-5687
EMAIL: AMT@AMTENGINEERING.COM
NCBELS LICENSE # F-1049

COMPUTED BY: JAC DATE: 5/1/2019

CHECKED BY: SM DATE:

RD248621

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

# *LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)*

**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.) (NARROW SLOT)
- J.B. JUNCTION BOX
- M.H. MANHOLE
- T.B.D.I. TRAFFIC BEARING DROP INLET
- T.B.J.B.

| STATION / THICKNESS OR GAUGE | OFFSET | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | ** " R.C. PIPE (CLASS V) | ***" RC PIPE CULVERTS, CONTRACTOR DESIGN | ***" RC PIPE CULVERTS, CONTRACTOR DESIGN | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES *TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') PER EACH (0' THRU 5.0') | A 5.0' THRU 10.0' | B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH GRATE STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. FRAME WITH TWO GRATES STD. 840.29 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | J.B. CONVERT FROM G.D.I. | G.D.I. FRAME WITH GRATE STD. 840.29 | G.D.I. ADJUST | ROD & LUG CONNECTOR | BERM DRAINAGE OUTLET STD. 850.10 | M.H. FRAME WITH COVER STD. 840.54 | SIDE DRAIN PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | CONC. HEADWALL | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L 13+74 | 24 RT | 0409 | | 418.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0409 | 0401 | | 414.01 | 413.96 | | | | | | | | | | | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 13+74 | 34 RT | 0401 | | 417.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | | | | | | 1 | | | | | | |
| L 15+19 | 34 RT | 0407 | | 414.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0407 | 0408 | | 410.00 | 409.12 | | | | | | | | | | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 15+15 | 53 RT | 0408 | | 413.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| L 15+46 | 47 RT | 0412 | | 413.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 15+47 | 58 RT | 0411 | | 412.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | 1 | | | | | 1 | | | | | | |
| L 17+38 | 60 RT | 0410 | | 409.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | | | | | | 1 | | | | | | |
| | | 0410 | 0413 | | 405.30 | 405.25 | | | | | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 32 | |
| L 17+47 | 48 LT | 0402 | | 409.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | |
| | | 0402 | 0403 | | 406.40 | 404.38 | | | | | 96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 18+44 | 44 LT | 0403 | | 408.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | | | | 1 | | | | | | | | | | | | | | FALSE SUMP |
| | | 0403 | 0404 | | 404.35 | 404.29 | | | | | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 16+97 | 30 LT | 0416 | | 412.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0416 | 0417 | | 407.70 | 406.99 | | | | | | | | | | | 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 18+14 | 28 LT | 0417 | | 409.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0417 | 0418 | | 406.74 | 404.17 | | | | | | | | | | | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 18+67 | 27 LT | 0418 | | 409.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| L 19+51 | 27 LT | 0405 | | 408.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0405 | 0418 | | 405.78 | 403.31 | | | | | | | | | | | 84 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0421 | 0423 | | 406.53 | 404.81 | | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FALSE SUMP |
| | | 0422 | 0423 | | 405.73 | 404.06 | | | | | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FALSE SUMP |
| L 20+90 | 28 LT | 0424 | | 408.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0424 | 0423 | | 404.89 | 404.81 | | | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 20+82 | 42 LT | 0423 | | 408.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | | | | | | 1 | | | | | | |
| SHEET TOTALS | | | | | | | | | 36 | | 144 | 20 | | | | | 288 | | | | | | | | | | | | | | 15 | | | 8 | 2 | 3 | 3 | | | | | | 2 | | | | 2 | | 4 | 1 | | | | | 4 | | | | | 32 | |

5/23/2019
X:\Raleigh\16-0940.001 - Rolesville E Young St Side\05-CAD\16-0940.001\Roadway\Proj\Phase_A\16-0940.001_Rdy_psh03D_1.dgn
beauchaine

DocuSign Envelope ID: F2C49D38-EEA2-4541-814D-E3934753C3E5

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | 4 |
| R/W SHEET NO. | |

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 40655 ENGINEER
5/23/2019
C0926811DD94438...

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 040744 ENGINEER
5/23/2019
A4ED02B36EDB4C2...

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

A. MORTON THOMAS AND ASSOCIATES, INC.
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6131 FALLS OF NEUSE ROAD, SUITE 106, RALEIGH, NC 27609
(919) 855-0000 FAX (919) 855-5687
EMAIL: AMT1@AMTENGINEERING.COM
NCBELS LICENSE # F-1049

PAVEMENT REMOVAL

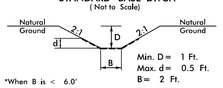
NAD 83/2011

-L-
PI Sta 14+17.24
Δ = 1° 09' 02.0" (LT)
D = 0° 34' 22.7"
L = 200.81'
T = 100.41'
R = 10,000.00'
SE = EXIST

-Y1- POT Sta. 10+00.00

-Y2- POT Sta. 10+00.00

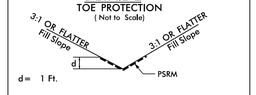
**DETAIL 1**
STANDARD BASE DITCH
( Not to Scale)




Min. D = 1 Ft.
Max. d = 0.5 Ft.
B = 2 Ft.
*When B is < 6.0'
Type of Liner = PSRM

FROM L STA. 20+60 TO STA. 20+80 LT

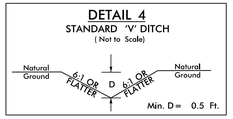
**DETAIL 2**
TOE PROTECTION
( Not to Scale)




d = 1 Ft.
Type of Liner = PSRM

FROM L STA. 14+20 TO STA. 15+50 RT
FROM L STA. 18+75 TO STA. 20+20 LT

**DETAIL 4**
STANDARD 'V' DITCH
( Not to Scale)




Min. D = 0.5 Ft.

FROM L STA. 17+50 TO STA. 18+35 LT

NCDOT
PID 1768383699
805 E YOUNG ST
26.35 ACRES
DB 14835, PG 1205

SCARBORO FAMILY LIMITED PARTNERSHIP
PID 1768596016
3201 CENTURY FARM RD
144.85 ACRES
DB 7436, PG 445

LOUISBURG ROAD (ROUTE 401) VARIABLE WIDTH RIGHT OF WAY

OLD CENTURY FARM ROAD (ROUTE 2306 - CLOSED) 60' WIDE RIGHT OF WAY

CENTURY FARM ROAD 60' WIDE RIGHT OF WAY

-L- PC Sta. 13+16.83

-L- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-L- POT STA.12+00.00

8:1 ASPHALT TAPER

-L- +73.04
48.36' LT

-Y2- +14.96
19.47' RT

-L- +53.01
33.27' LT

R=15'

R=70'

R=130'

+11.00

+39.54

LINE WITH PSRM

402 403 404 405 409 410 412 413 416 417 418 421 422 423 424 401 407 408 411

2GI
24"
20"
8 TN CLB RIPRAP
21 SY GEOTEXTILE
15" RCP-IV
2'-6" C&G
CB
FS
JB
JB w/MH
JB w/MH w/ME
JB w/Slab Lid
Cont. 2GI To JB w/MH
5 TN CLB RIPRAP
14 SY GEOTEXTILE

10+00
S 31° 41' 34.0" E
15+00
-L-
S 32° 50' 36.0" E
20+00

EAST YOUNG STREET
(ROUTE 1003)
VARIABLE WIDTH RIGHT OF WAY

CEDAR LAKES HOMEOWNERS ASSN INC
PID 1768283479
OPEN SPACE
DB 12756, PG 1369

-L- +07.75
44.08' RT

-L- +54.18
26.27' RT

-L- +61.36
26.38' RT

-L- +73.47
26.66' RT

BEGIN 5' SIDEWALK
-L- STA.12+06.72
MATCH EXIST.SIDEWALK

FERGUSON, MICHAEL P
PID 1768284275
626 TOLEDO CT
DB 16982, PG 144

HARTSFIELD, JAMES & TORI
PID 1768284173
622 TOLEDO CT
DB 12192, PG 2167
REF

PULLEY, JAMES E & PHYLLIS
PID 1768274942
880 E YOUNG ST
DB 4642, PG 542

PROP. 6' SIDEWALK

R=100'
+96.54

8:1 ASPHALT TAPER

-Y1- +57.16
65.42' RT

-L- +29.33
45.00' RT

-L- PT Sta. 15+17.64

MITCHELL F RABIL FAMILY IRREVOCABLE TRUST
PID 1768166987
890 E YOUNG ST
28.09 ACRES
DB 5695, PG 745

-L- +91.04
41.18' LT

END CONSTRUCTION
-L- POT STA.21+25.00

-Y2- POT Sta. 15+00.00=
-L- POT Sta.21+25.21

CONTRACTOR TO CONSTRUCT PROP.IMPROVEMENTS WITH CAUTION AROUND EXIST.COLUMNS/MAILBOX ON EITHER SIDE OF DRIVEWAY.IF REQUIRED EXIST.COLUMNS ARE TO BE RELOCATED IN SIMILAR FASHION OUTSIDE AREA OF CONSTRUCTION.

-Y1- POT Sta. 20+00.00

NOTE:
CONTRACTOR TO RELOCATE ANY EXIST. SIGNS IN CONFLICT WITH PROP. IMPROVEMENTS.

8/17/99

5/23/2019
X:\Raleigh\16-09410.001 - Raleigh E Young St Sidewalk\05-CAD\16-09410.001\Roadway\Proj\Phase A\16-09410.001_Rdy_psh04.dgn
jbeauchamp

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | E. YOUNG ST. PH. II | EC-1 | |

| STATE PROJ. NO. | F. A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| | | |
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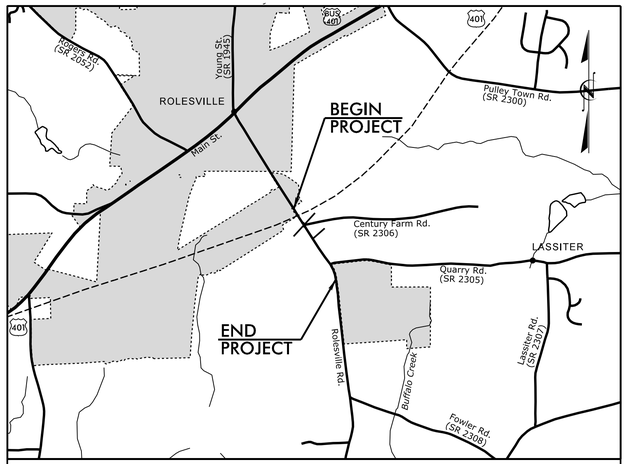
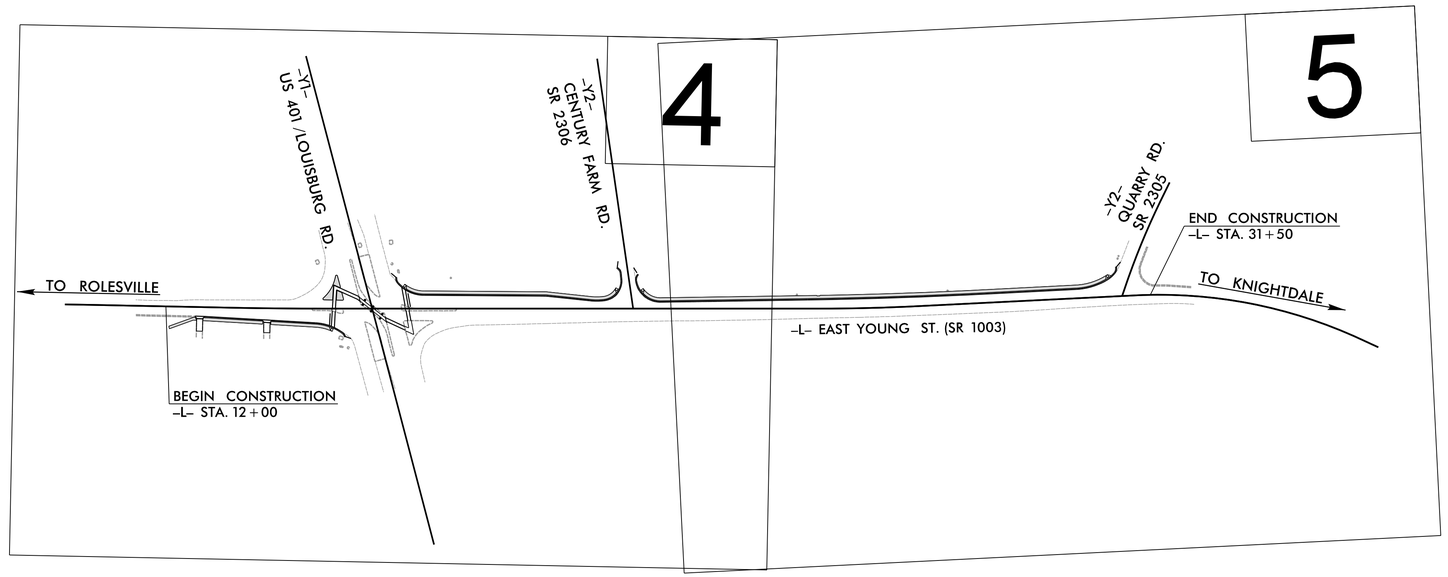
| | | |
| | | |
| | | |

# STATE OF NORTH CAROLINA
# TOWN OF ROLESVILLE
# PLAN FOR PROPOSED EROSION CONTROL




VICINITY MAP (NTS)




NAD 83/2011

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TOWN OF ROLESVILLE

GRAPHIC SCALE

0 50 100
PLANS

0 50 100
PROFILE (HORIZONTAL)

0 10 20
PROFILE (VERTICAL)

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

Prepared in the Office of:

AMT
NCBELS LICENSE # F-1049

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
6131 FALLS OF NEUSE ROAD, SUITE 106, RALEIGH, NC 27609
(919) 855-9989 FAX (919) 855-5687
EMAIL: AMT1@AMTENGINEERING.COM

Designed by:

*James A. Crouse, PE* — NAME
*3267* — LEVEL III CERTIFICATION NO.

Reviewed in the Office of:

***ROADSIDE ENVIRONMENTAL UNIT***
*1 South Wilmington St.*
*Raleigh, NC 27611*

***2018 STANDARD SPECIFICATIONS***

Reviewed by:

***TBD***

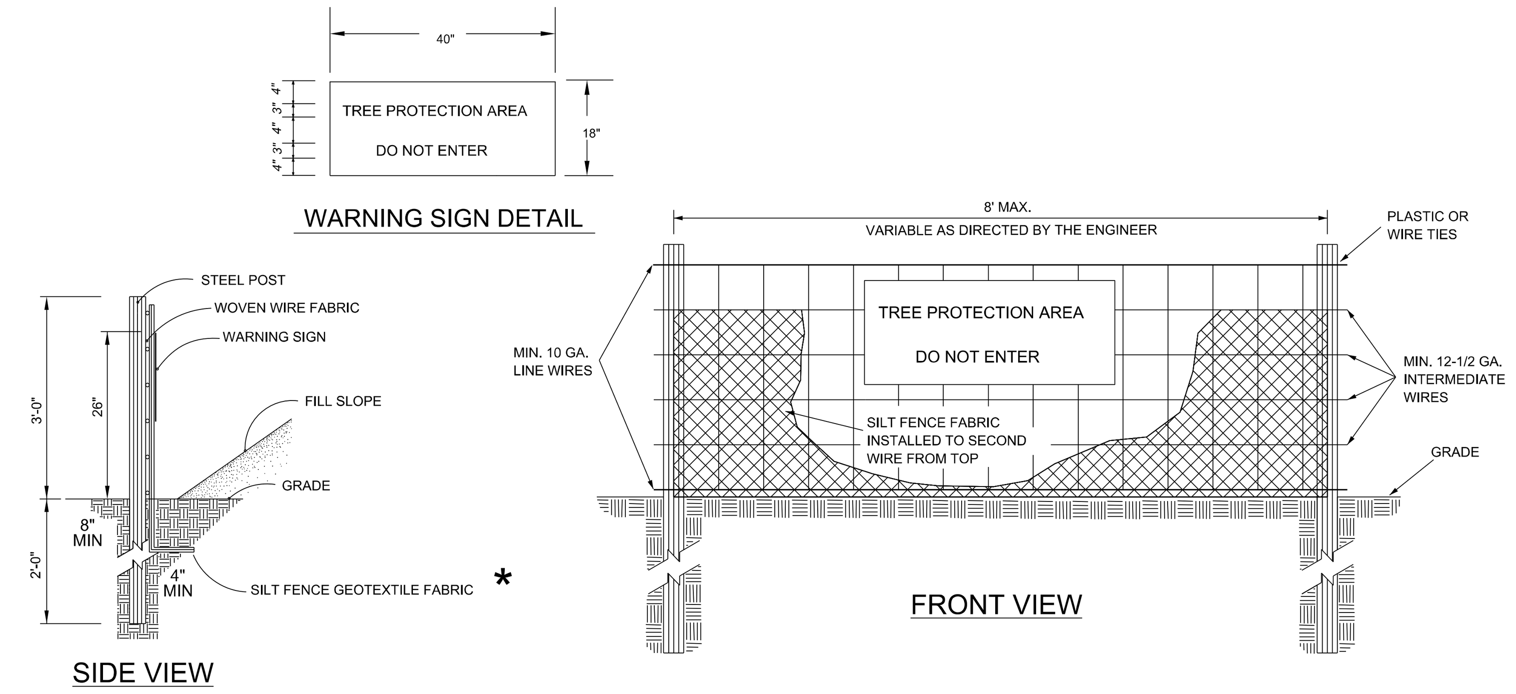
Roadway Standard Drawings

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 | | |

e E Young 5/23/2018
st Sidewalk CADV16-0940.00\Hydraulics\EROSION CONTROL\16-0940_EC_TSH.dgn

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | EC-2 |

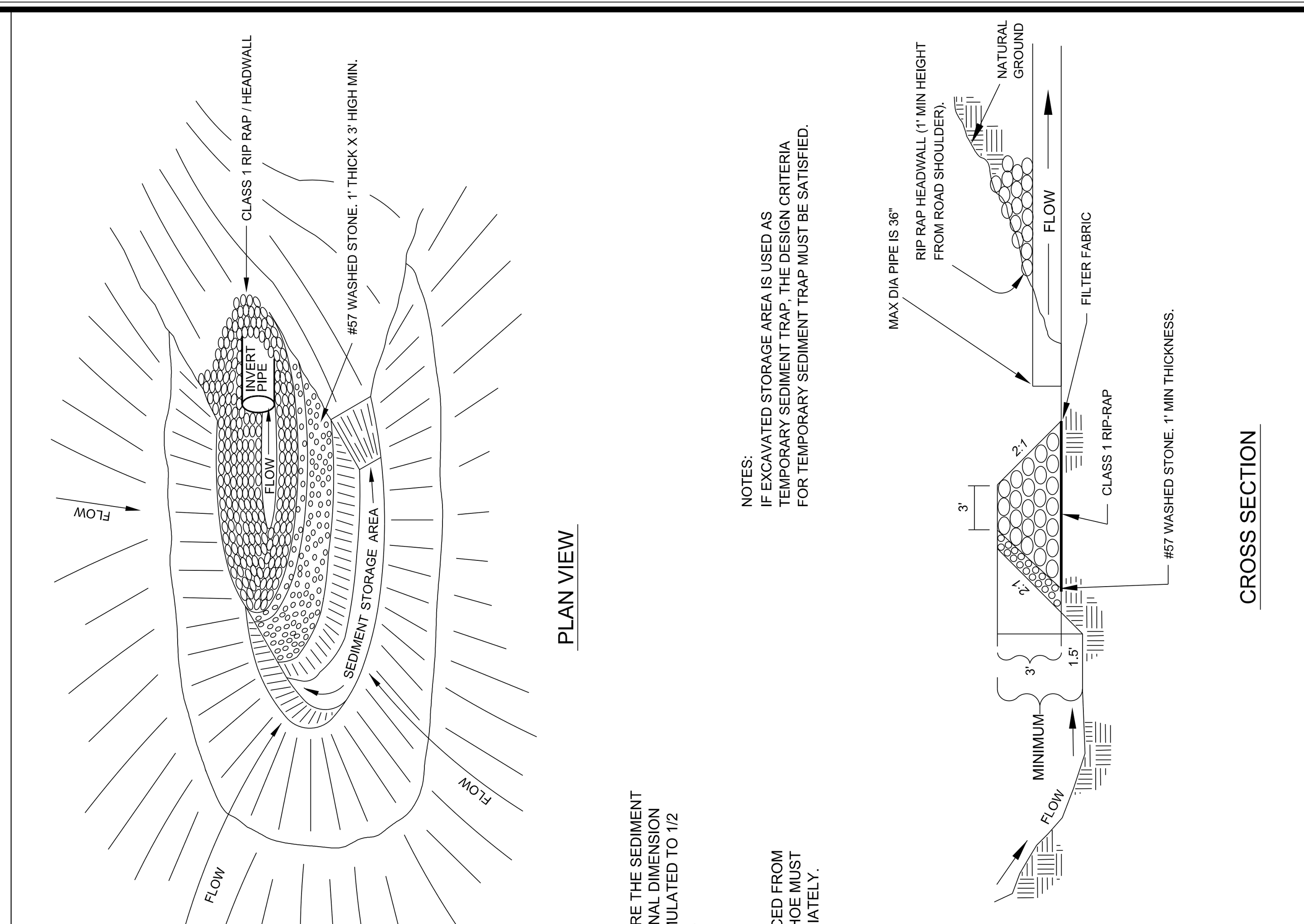



MAINTENANCE: CLEAN OUT AT 50% CAPACITY
LIFE OF FENCING: 6-9 MONTHS

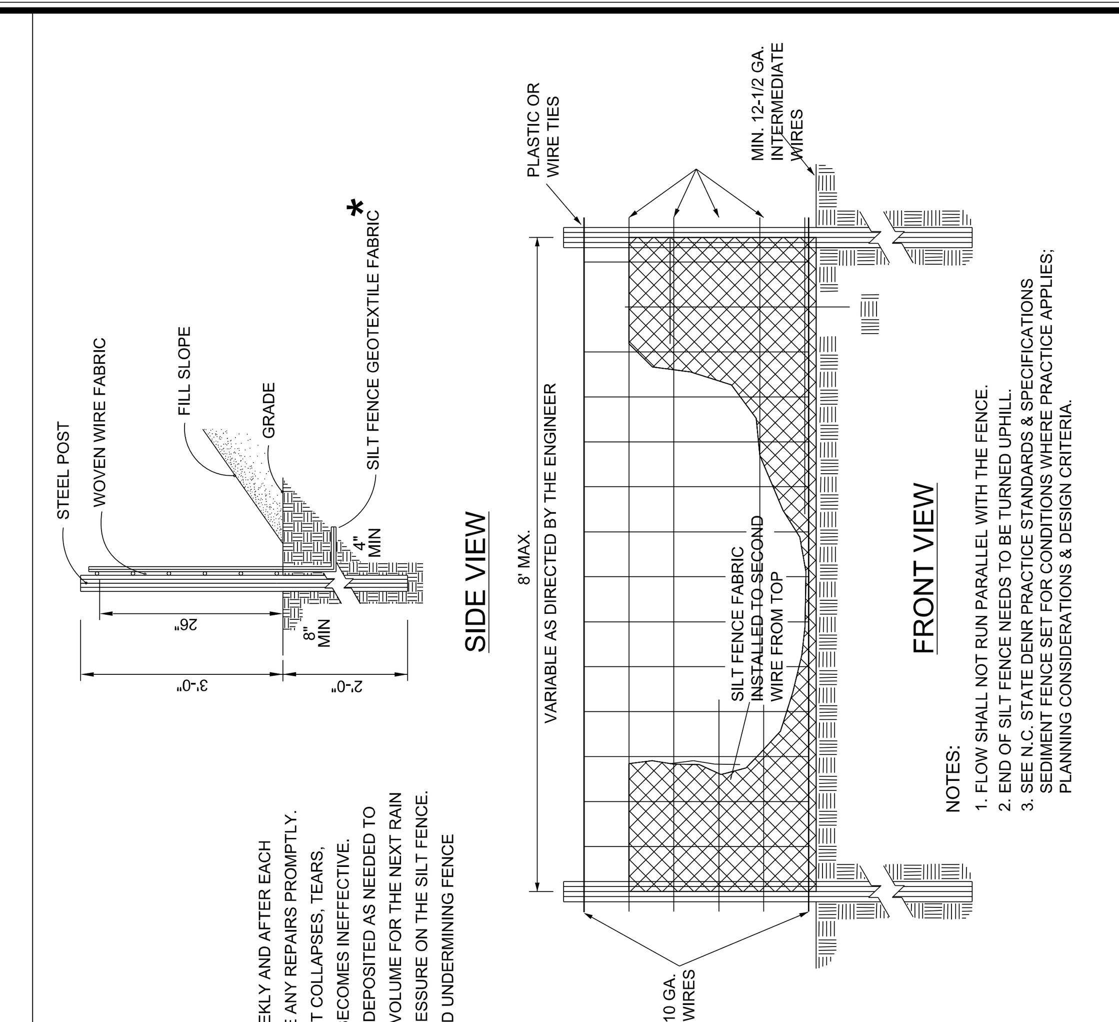
NOTES:

1. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
2. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER.
4. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA.
5. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
6. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.
7. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF RALEIGH INSPECTIONS DEPARTMENT BASED ON ACTUAL FIELD CONDITIONS.
8. FLOW SHALL NOT RUN PARALLEL WITH THE FENCE.
9. END OF SILT FENCE NEEDS TO BE TURNED UPHILL.
10. SEE N.C. STATE DENR PRACTICE STANDARDS & SPECIFICATIONS SEDIMENT FENCE SET FOR CONDITIONS WHERE PRACTICE APPLIES; PLANNING CONSIDERATIONS & DESIGN CRITERIA. (HOWEVER FLOW SHALL NOT RUN PARALELL WITH THE TOE OF THE FENCE).

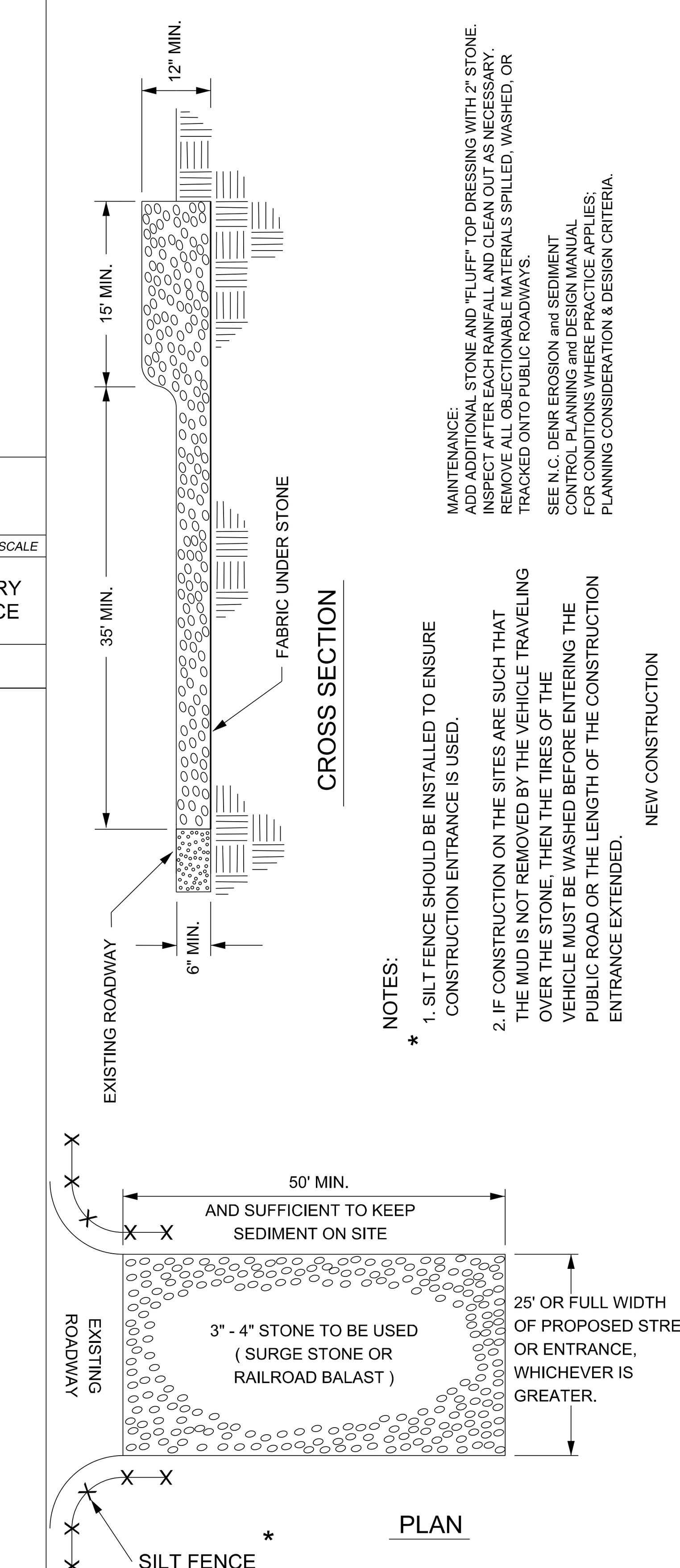
CITY OF RALEIGH
PUBLIC WORKS DEPARTMENT
REVISIONS | DATE: 9/1/13 | NOT TO SCALE
STANDARD TEMPORARY (SEDIMENT/SILT) / TREE PROTECTION FENCE
**SW-20.02**



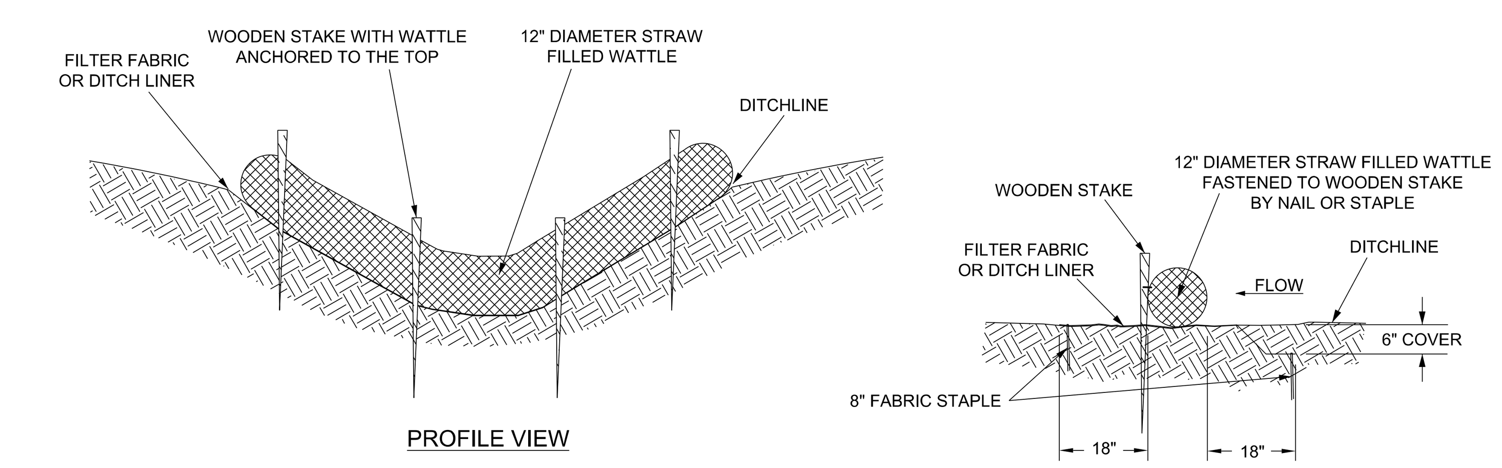

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS | DATE: 8/1/18 | NOT TO SCALE
ROCK PIPE INLET PROTECTION
**SW-20.06**




CITY OF RALEIGH
PUBLIC WORKS DEPARTMENT
REVISIONS | DATE: 9/1/13 | NOT TO SCALE
STANDARD TEMPORARY (SEDIMENT/SILT) FENCE
**SW-20.01**

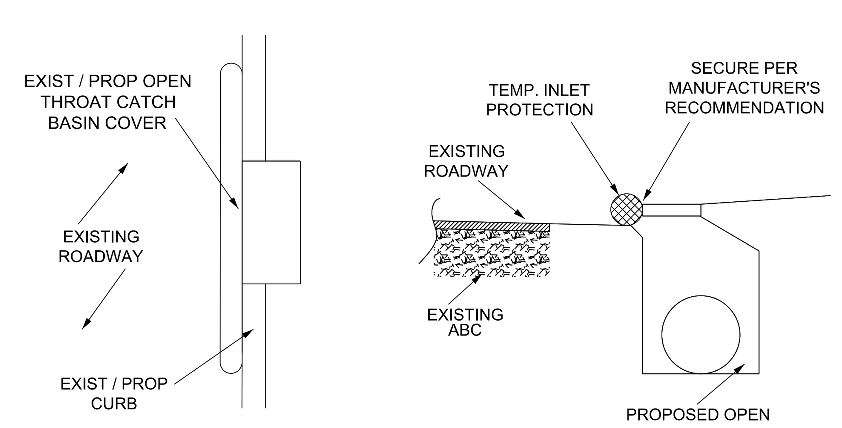



CITY OF RALEIGH
PUBLIC WORKS DEPARTMENT
REVISIONS | DATE: 9/1/13 | NOT TO SCALE
CONSTRUCTION ENTRANCE
**SW-20.09**

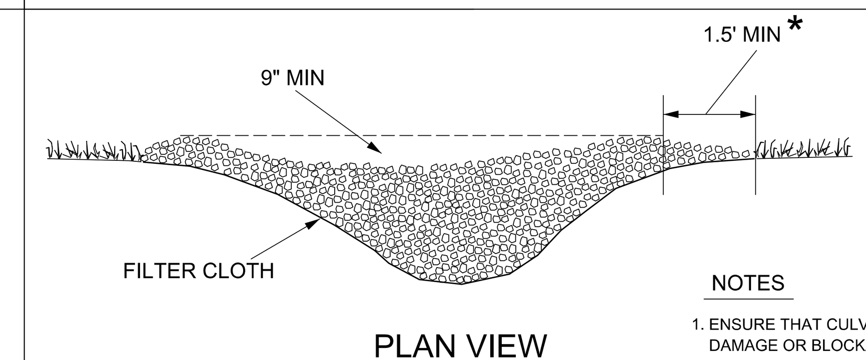



NOTES:

1. WATTLES SHALL BE FILLED WITH STRAW OR OTHER APPROVED MATERIAL.
2. SPACING FOR WATTLES SHALL BE DETERMINED BY THE SITE ENGINEER.
3. WATTLES MAY BE USED FOR PROTECTION OF CATCH BASINS AND DROP INLETS WITH APPROVAL BY THE STORMWATER PROGRAM MANAGER OR DESIGNEE.



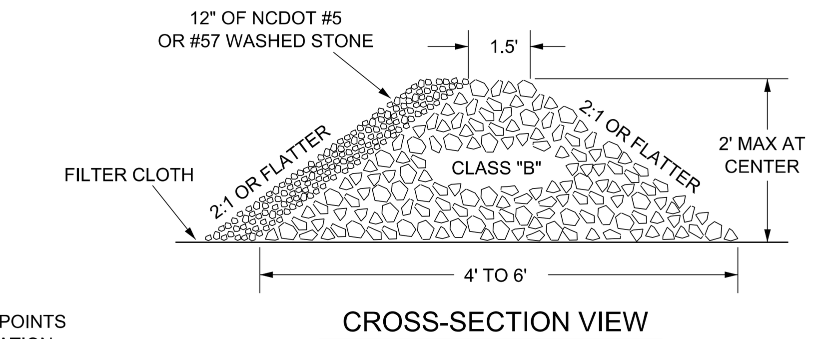

CITY OF RALEIGH
PUBLIC WORKS DEPARTMENT
REVISIONS | DATE: 9/1/13 | NOT TO SCALE
10-20-2016
WATTLE / INLET PROTECTION DETAIL
**SW-20.23**

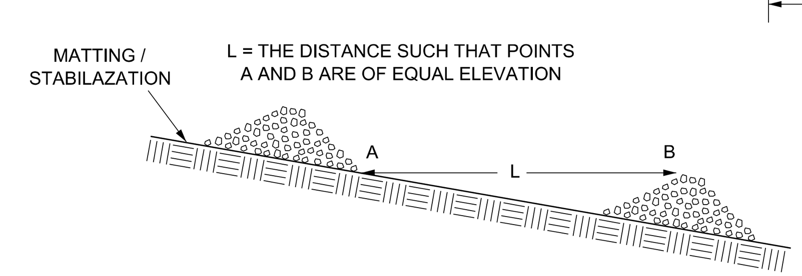



MAINTENANCE:
INSPECT DAM WEEKLY AND AFTER EACH RAINFALL EVENT OF ½" OR GREATER.
REMOVE SEDIMENT ACCUMULATION FROM BEHIND CHECK DAMS TO PREVENT DAMAGE TO CHANNEL VEGETATION.
FLOW SHOULD BE MAINTAINED THROUGH THE DAM.
ADD STONES TO DAM AS NECESSARY.

NOTES

1. ENSURE THAT CULVERT ENTRANCES BELOW THE CHECK DAMS, ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.
2. THE DRAINAGE AREA IS LIMITED TO ONE HALF ACRE.
3. * KEY THE STONE INTO THE DITCH BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 1.5 FEET TO AVOID WASHOUT FROM OVERFLOW AROUND THE DAM.



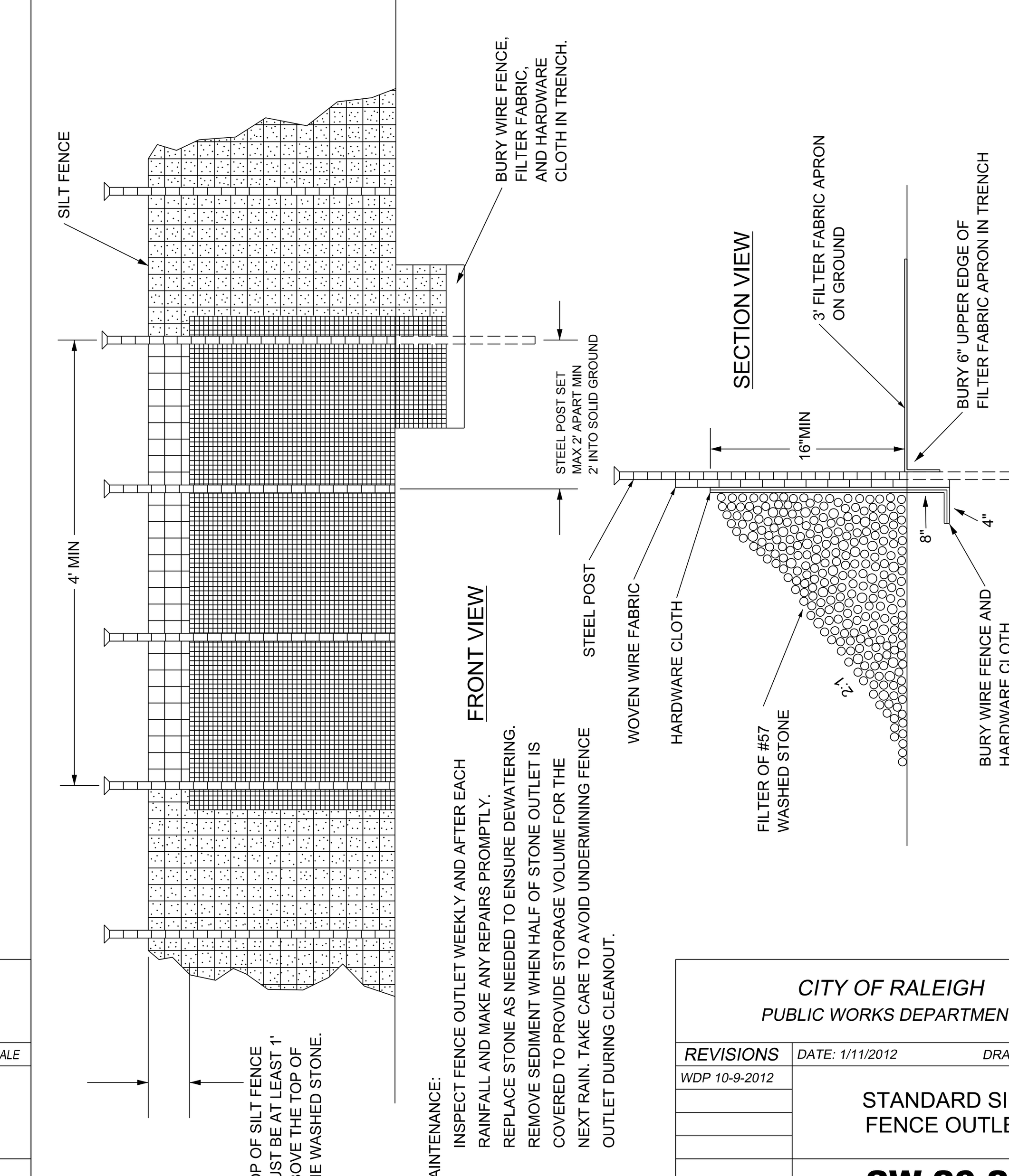




PURPOSE: TO REDUCE EROSION IN A CHANNEL BY REDUCING THE VELOCITY OF FLOW.

DO NOT USE CHECK DAM IN INTERMITTENT OR PERENNIAL STREAMS.

SEE N.C. DENR EROSION and SEDIMENT CONTROL PLANNING and DESIGN MANUAL FOR CONDITIONS WHERE PRACTICE APPLIES; PLANNING CONSIDERATION & DESIGN CRITERIA.

CITY OF RALEIGH
PUBLIC WORKS DEPARTMENT
REVISIONS | DATE: 9/1/13 | NOT TO SCALE
CHECK DAM
**SW-20.08**

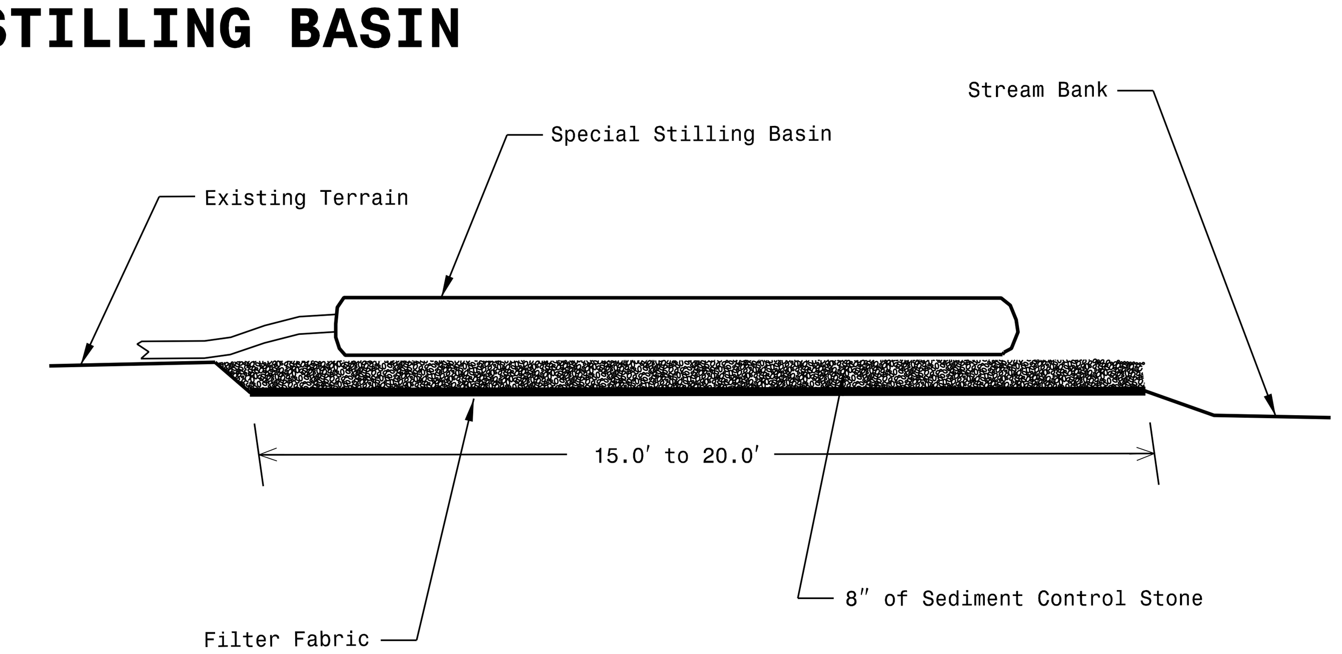



CITY OF RALEIGH
PUBLIC WORKS DEPARTMENT
REVISIONS | DATE: 1/11/2012 | DRAWN BY: WDP
WDP 10-9-2012
STANDARD SILT FENCE OUTLET
**SW-20.24**

## SPECIAL STILLING BASIN

MAINTENANCE:

1. CHECK STRAPS WEEKLY TO ENSURE HOSE IS SECURED AND TO PREVENT PUMPED WATER FROM ESCAPING WITHOUT FILTERING.
2. PLACE BAG ON AGGREGATE OR HAY BALE BED TO MAXIMIZE WATER FLOW THROUGH SURFACE AREA OF BAG.
3. WHEN BAG IS FULL OF SEDIMENT AND NO LONGER ALLOWS WATER TO PASS, REMOVE FULL BAG AND REPLACE WITH NEW BAG. FULL BAG TO BE DISPOSED OF PROPERLY.




Note: Provide Stabilized Outlet to Streambank
Not To Scale

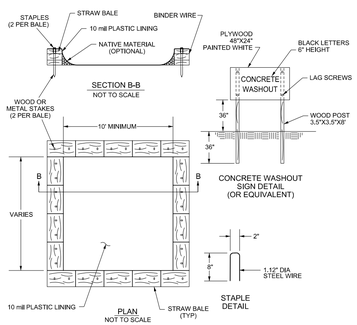
**Legend**

- Temporary Silt Fence
- Standard Silt Fence Outlet
- Check Dam
- Rock Inlet Sediment Trap
- Rock Pipe Inlet Protection
- Concrete Washout Structure
- Gravel Construction Entrance
- Erosion Control Matting
- Wattle

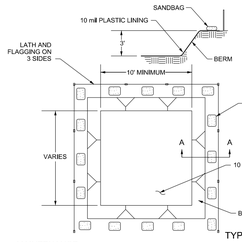
## SOIL STABILIZATION TIMEFRAMES

| 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. |

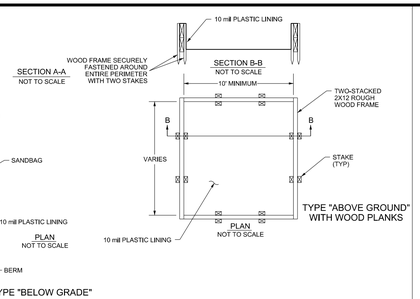
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | EC-3 |




TYPE "ABOVE GRADE" WITH STRAW BALES




TYPE "BELOW GRADE"




TYPE "ABOVE GROUND" WITH WOOD PLANKS

MAINTENANCE:

1. MAINTAIN ADEQUATE CAPACITY PLUS 12" MINIMUM FREEBOARD.
2. REMOVE AND DISPOSE OF HARDENED CONCRETE AFTER REACHING 75% CAPACITY.
3. INSPECT STRUCTURE WEEKLY AND REPAIR DAMAGE TO MAINTAIN EFFECTIVENESS.

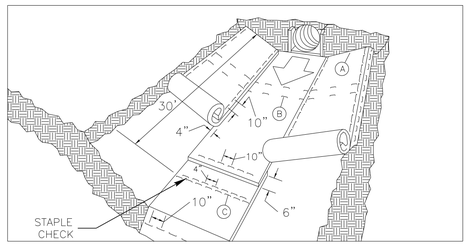
NOTES

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.

*CITY OF RALEIGH*
*PUBLIC WORKS DEPARTMENT*

| REVISIONS | DATE: 10/22/2012 | DRAWN BY: WDP |
|---|---|---|
| | CONCRETE WASHOUT | |
| | **SW-20.25** | |

# MATTING INSTALLATION DETAIL




**MATTING IN DITCHES**

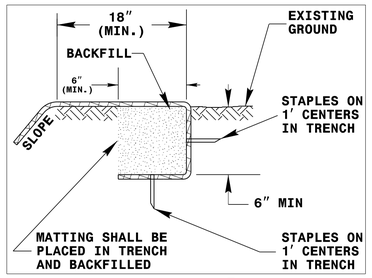
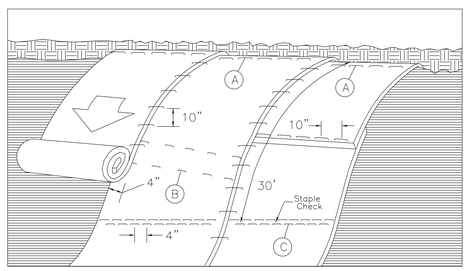



DIAGRAM (A)




**MATTING ON SLOPES**

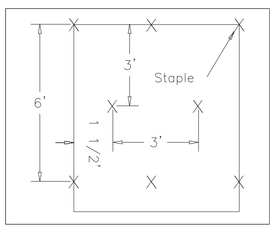



DIAGRAM (B)

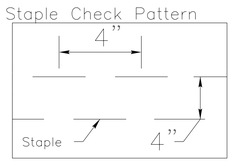



DIAGRAM (C)

NOT TO SCALE

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

MAINTENANCE:

1. INSPECT MATTING WEEKLY AND AFTER EACH RAINFALL EVENT OF ½" OR GREATER AND MAKE ANY REPAIRS PROMPTLY.
2. MAINTAIN GOOD CONTRACT WITH GROUND SO NO EROSION OCCURS UNDER MATTING.
3. ANY AREAS OF MATTING THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH GROUND SHALL BE REPAIRED AND STAPLED.
4. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, FIX PROBLEM AND PROTECT ERODED AREA.
5. MONITOR AND REPAIR MATTING AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

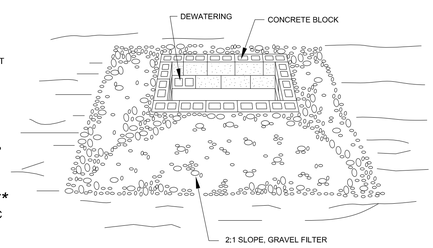
CONSTRUCTION SPECIFICATIONS

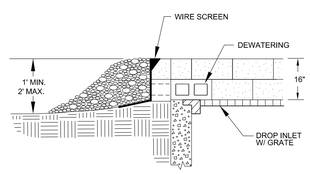
1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE IN THE BOTTOM ROW TO ALLOW POOL DRAINAGE. PLACE THE BOTTOM ROW OF BLOCKS AGAINST THE EDGE OF THE STORM DRAIN FOR LATERAL SUPPORT AND TO AVOID WASHOUTS WHEN OVERFLOW OCCURS.

2. CAREFULLY FIT HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS OVER ALL BLOCK OPENINGS TO HOLD GRAVEL IN PLACE.

3. USE CLEAN GRAVEL, PLACED 2 INCHES BELOW THE TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER AND SMOOTH IT TO AN EVEN GRADE. DOT #57 WASHED STONE IS RECOMMENDED.

** NOT TO BE USED FOR SEDIMENT STORAGE ** OR ON ROADWAYS OPEN TO PUBLIC TRAFFIC




MAINTENANCE: INSPECT INLET PROTECTION WEEKLY AND AFTER EACH RAINFALL EVENT OF ½" OR GREATER. REMOVE SEDIMENT AFTER EACH RAIN EVENT. GRAVEL SHOULD BE REPLACED AND REPAIRS MADE AS NEEDED.

*CITY OF RALEIGH*
*PUBLIC WORKS DEPARTMENT*

| REVISIONS | DATE: 9/1/13 | NOT TO SCALE |
|---|---|---|
| | BLOCK AND GRAVEL DROP INLET PROTECTION | |
| | **SW-20.14** | |

SEQUENCE OF CONSTRUCTION

1. CALL NCDEQ LQS AT THE RALEIGH REGIONAL OFFICE AT 919–791–4200 TO SCHEDULE A PRE–CONSTRUCTION MEETING AT LEAST 48 HOURS PRIOR TO PROJECT ACTIVATION.

2. INSTALL PERIMETER SEDIMENT CONTROLS ALONG EAST YOUNG STREET TO ACCOMMODATE SCOPE OF WORK AS SHOWN ON SHEET EC–04 THROUGH EC–05.

PHASE ONE

3. INSTALL STORM DRAINAGE SYSTEM FROM STRUCTURE 502 THROUGH STRUCTURE 425. IN A THREE–DAY DRY PERIOD, EXTEND THE PIPE FROM STRUCTURE 425 TO END OF PIPE 406, GRADE THE AREA AROUND 406 TO PROVIDE POSITIVE DRAINAGE INTO THE PIPE, AND STABILIZE THE AREA.

4. IN A THREE–DAY DRY PERIOD, INSTALL STRUCTURE 423 AND STRUCTURE 424 AND PIPES TO 421 AND 422, GRADE THE AREA AROUND 421 AND 422 TO PROVIDE POSITIVE DRAINAGE INTO THE PIPES, AND STABILIZE THE AREA.

5. INSTALL STORM DRAINAGE SYSTEM FROM STRUCTURE 502 TO STRUCTURE 504.

6. SAWCUT AND REMOVE EXISTING ASPHALT AS SHOWN ON THE PLAN BETWEEN STA. 20+25 and STA. 31+00.

7. INSTALL PROPOSED CURB AND GUTTER AND PAVEMENT FOR WIDENED ROADWAY.

8. INSTALL CONCRETE SIDEWALK AND ADDITIONAL GRADING AS NECESSARY, ADDING ADDITIONAL EROSION CONTROL MEASURES AS SHOWN.

9. PERMANENTLY STABILIZE ALL DISTURBED AREAS PAYING PARTICULAR ATTENTION TO THE FILL SLOPE ADJACENT TO THE WETLANDS.

PHASE TWO

10. IN A THREE–DAY DRY PERIOD, INSTALL STORM DRAINAGE SYSTEM FROM END OF PIPE 404 THROUGH STRUCTURE 402, GRADE THE AREA TO PROVIDE POSITIVE DRAINAGE TO STRUCTURES 402 AND 403, AND STABILIZE THE AREA.

11. INSTALL STORM DRAINAGE SYSTEM FROM STRUCTURE 416 THROUGH STRUCTURE 405.

12. SAWCUT AND REMOVE EXISTING ASPHALT AS SHOWN ON THE PLANS BETWEEN STA. 16+50 AND STA. 20+25.

13. INSTALL PROPOSED CURB AND GUTTER AND PAVEMENT FOR WIDENED ROADWAY.

14. INSTALL CONCRETE SIDEWALK AND ADDITIONAL GRADING AS NECESSARY, ADDING ADDITIONAL EROSION CONTROL MEASURES AS SHOWN.

15. PERMANENTLY STABILZE ALL DISTURBED AREAS, PAYING PARTICULAR ATTENTION TO THE SLOPE ADJACENT TO THE WETLANDS.

16. IN A THREE–DAY DRY PERIOD, INSTALL STORM DRAINAGE SYSTEM FROM END OF PIPE 413 THROUGH STRUCTURE 410, GRADE THE AREA TO PROVIDE POSITIVE DRAINAGE TO THE STRUCTURE, AND STABILIZE THE AREA.

17. INSTALL STORM DRAINAGE SYSTEM FROM STRUCTURE 401 TO 409, FROM STRUCTURE 408 TO 407, AND FROM 411 TO 412.

18. SAWCUT AND REMOVE EXISTING ASPHALT AS SHOWN ON THE PLAN BETWEEN STA. 12+00 AND STA. 15+50.

19. INSTALL PROPOSED CURB AND GUTTER AND PAVEMENT FOR WIDENED ROADWAY.

20. INSTALL CONCRETE SIDEWALK AND ADDITIONAL GRADING AS NECESSARY, ADDING ADDITIONAL EROSION CONTROL MEASURES AS SHOWN.

21. PERMANENTLY STABILIZE ALL DISTURBED AREAS.

22. ONCE DISTURBED AREAS ARE STABILIZED AND UPON APPROVAL FROM INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND CLEAR THE AREA. STABILIZE ALL AREAS DISTURBED BY EROSION CONTROL MEASURE REMOVAL.

GENERAL EROSION CONTROL NOTES

1. AN APPROVED COPY OF THE EROSION AND SEDIMENT CONTROL PLAN WITH PLACARD AND APPROVAL LETTER AND A MINIMUM OF 30–DAYS OF SELF–INSPECTION REPORTS ARE TO BE KEPT ON–SITE UNTIL PROJECT CLOSE–OUT BY NCDEQ LQS OFFICE.

2. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED AT ANY AREA USED FOR CONTRACTOR EQUIPMENT STAGING, MATERIALS LAYDOWN, AND SPOIL OR WASTE AREAS.

3. ALL SEDIMENT CONTAINMENT DEVICES MUST BE MAINTAINED UNTIL ALL UPGRADE DRAINAGE AREAS HAVE BEEN STABILIZED WITH THE ESTABLISHMENT OF PERMANENT VEGETATION.

4. ANY DEWATERING OF SEDIMENT CONTAINMENT DEVICES FOR MAINTENANCE, REMOVAL, OR CONVERSION PURPOSES IS TO BE DONE THROUGH A SILT BAG. TURBID WATER FROM EXCAVATIONS CANNOT BE PUMPED DIRECTLY TO THE STORM DRAIN SYSTEM BUT MUST BE FILTERED THROUGH A SILT BAG.

5.THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING NEW GRASS DURING THIS PROJECT UNTIL THE NOTICE OF TERMINATION IS FILLED

6.ANY ACCIDENTAL RELEASE OF SEDIMENT FROM THE SITE SHALL BE CLEANED BY THE CONTRACTOR.

7. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO KEEP CLEAN ALL STREETS DURING CONSTRUCTION. SEDIMENT TRACKED ONTO THE ROAD MUST BE CLEANED USING A DRY METHOD (E.G. NO WATER TRUCKS OR HOSES).

8. CONTRACTOR SHALL CONDUCT REGULAR INSPECTIONS OF THE EROSION AND SEDIMENT CONTROLS. THESE INSPECTIONS USING THE NCDENR INSPECTION FORM, MUST EITHER OCCUR AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A RAIN EVENT ONE–HALF (0.5) INCH OR GREATER AND ON EVERY SEVEN (7) CALENDAR DAYS. INSPECTION RECORDS AND RAIN GAUGE ARE TO BE KEPT ON SITE. DOWNSTREAM RECEIVING WATERS AND DISCHARGE POINTS MUST BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT DISCHARGE AT LEAST ONCE DURING THE CONSTRUCTION PROJECT. EACH INSPECTION REPORT WILL BE SUBMITTED TO THE OWNER FOR AN AUTHORIZED SIGNATURE IN ACCORDANCE WITH THE DWQ NPDES STORM WATER GENERAL PERMIT. INSPECTORS REPORTS SHALL BE INCLUDED WITH MONTHLY MEETING MINUTES AND/OR WITH MONTHLY PAY APPLICATION.

9. BASED ON THE OUTCOME OF THE INSPECTIONS, IMPLEMENT AND NEEDED REPAIRS OR MODIFICATIONS TO THE CONTROL(S) IMMEDIATELY FOLLOWING THE INSPECTION. THE INSPECTOR MUST APPROVE MODIFICATIONS SPECIFIC TO THE CONSTRUCTION PROJECTS PRIOR TO IMPLEMENTATION BY THE CONTRACTOR AND/OR SUBCONTRACTORS.

10. THE CONTRACTOR MUST INSPECT THE PROJECT AND DOCUMENT THE INSPECTION AFTER INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL MEASURES, CLEARING AND GRUBBING OF EXISTING GROUND COVER, COMPLETION OF ANY PHASE OF GRADING OF SLOPES OR FILLS, INSTALLATION OF STORM DRAINAGE FACILITIES, COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION.

11. CONTACT NC DEQ LQS AT (919) 791–4200 TO SCHEDULE AND HOLD A PRE–CONSTRUCTION MEETING A MINIMUM OF 48 HOURS BEFORE INSTALLATION OF ESC MEASURES AND AGAIN ONCE ESC MEASURES ARE IN PLACE.

12. EROSION AND SEDIMENTATION CONTROL DEVICES MUST BE INSTALLED PRIOR TO THE START OF CLEARING, DEMOLITION, GRADING AND/OR CONSTRUCTION.

13. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE APPROVED ESC PLAN AND THAT THE SUPERINTENDENT IN–CHARGE OR CONTRACTOR SHALL BE ON SITE ON ALL DAYS WHEN CONSTRUCTION OR GRADING ACTIVITY TAKES PLACE.

14. AREAS THAT WILL BE UNWORKED FOR MORE THAN 7 OR 14 DAYS MUST BE STABILIZED USING MULCH, PLASTIC SHEETING, OR AN EROSION CONTROL BLANKET. AREAS THAT WILL BE UNWORKED FOR MORE THAN 14 DAYS MUST BE SEEDED, TACKED AND MULCHED. ALL GROUND COVER MUST BE APPLIED PER CONDITIONS OF THE NPDES PERMIT OR IN CRITICAL AREAS, AT THE END OF THE DAY.

15. CONTRACTOR SHALL PROVIDE SEDIMENT STORAGE AT EACH STRUCTURE IN ACCORDANCE WITH TABLE SHOWN ON SHEET EC–8.

16. ROLLED EROSION CONTROL PRODUCTS (NETS, BLANKETS OR MATS) MUST BE FREE OF PLASTIC OR SYNTHETIC MATERIALS, EVEN IF LABELED 'BIODEGRADABLE' OR 'PHOTODEGRADABLE' THESE PRODUCTS MUST BE MADE WITH NATURAL FIBERS SUCH AS JUTE (NOT POLY JUTE) STRAW, SISAL OR COIR.

17. GARBAGE IS TO BE DISPOSED OF PROPERLY. SPILLS GENERATED FROM EQUIPMENT ARE TO BE CLEANED UP IMMEDIATELY.

18. TRENCH EXCAVATION MATERIAL TO BE PLACED ON HIGH SIDE OF TRENCH. ANY EXCESS EXCAVATED MATERIAL TO BE HAULED IMMEDIATELY OFF SITE AND DISPOSED OF AT APPROVED LOCATIONS. NO MATERIAL WILL BE STOCKPILED ON–SITE.

19. THE CONTRACTOR SHALL ONLY EXCAVATE THAT AMOUNT OF UTILITY AS CAN BE REMOVED AND REPLACED IN A SINGLE WORKING DAY AND SHALL BACKFILL OR COVER WITH STEEL PLATE ALL EXCAVATION AT THE END OF EACH WORKING DAY. NO OPEN UNCOVERED EXCAVATION WILL BE ALLOWED AFTER WORKING HOURS.

20. LOCATION OF CONCRETE WASHOUT TO BE SUBMITTED BY CONTRACTOR 14 DAYS PRIOR TO START OF CONSTRUCTION FOR APPROVAL BY ENGINEER AND INSPECTOR.

21. EQUIPMENT AND TIRE WASHING IS PROHIBITED ON THE CONSTRUCTION SITE.

22. ANY EQUIPMENT OR MATERIALS BEING BROUGHT TO THE CONSTRUCTION SITE MUST BE KEPT WITHIN THE PROJECT LIMITS.

23. ALL MILLINGS SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF AT A NCDENR APPROVED LOCATION.

**WASTE AND BORROW SOURCES:**

Payment for temporary erosion control measures, except those made necessary by the Contractor's own negligence or for his own convenience, will be paid for at the appropriate contract unit price for the devices or measures utilized in borrow sources and waste areas.

No additional payment will be made for erosion control devices or permanent seeding and mulching in any commercial borrow or waste pit. All erosion and sediment control practices that may be required on a commercial borrow or waste site will be done at the Contractor's expense.

All offsite Staging Areas, Borrow and Waste sites shall be in accordance with "Borrow and Waste Site Reclamation Procedures for Contracted Projects" located at:

http://www.ncdot.gov/doh/operations/dp_chief_eng/roadside/fieldops/downloads/Files/ContractedReclamationProcedures.pdf

All forms and documents referenced in the "Borrow and Waste Site Reclamation Procedures for Contracted Projects" shall be included with the reclamation plans for offsite staging areas, and borrow and waste sites.

**CONCRETE WASHOUT STRUCTURE:**
(12-01-15)

**Description**

Concrete washout structures are enclosures above or below grade to contain concrete waste water and associated concrete mix from washing out ready-mix trucks, drums, pumps, or other equipment. Concrete washouts must collect and retain all the concrete washout water and solids, so that this material does not migrate to surface waters or into the ground water. These enclosures are not intended for concrete waste not associated with wash out operations.

The concrete washout structure may include constructed devices above or below ground and or commercially available devices designed specifically to capture concrete waste water.

**Materials**

| Item | Section |
|---|---|
| Temporary Silt Fence | 1605 |

*Safety Fence* shall meet the specifications as provided elsewhere in this contract.

Geomembrane basin liner shall meet the following minimum physical properties for low permeability; it shall consist of a polypropylene or polyethylene 10 mil think geomembrane. If the minimum setback dimensions can be achieved the liner is not required. (5 feet above groundwater, 50 feet from top of bank of perennial stream, other surface water body, or wetland.)

**Construction Methods**

Build an enclosed earthen berm or excavate to form an enclosure in accordance with the details and as directed.

Install temporary silt fence around the perimeter of the enclosure in accordance with the details and as directed if structure is not located in an area where existing erosion and sedimentation control devices are capable to containing any loss of sediment.

Post a sign with the words "Concrete Washout" in close proximity of the concrete washout area, so it is clearly visible to site personnel.

The construction details for the above grade and below grade concrete washout structures can be found on the following web page link:

http://www.ncdot.gov/doh/operations/dp_chief_eng/roadside/soil_water/details/

Alternate details for accommodating concrete washout may be submitted for review and approval.

The alternate details shall include the method used to retain and dispose of the concrete waste water within the project limits and in accordance with the minimum setback requirements. (5 feet above groundwater, 50 feet from top of bank of perennial stream, other surface water body, or wetland.)

**Maintenance and Removal**

Maintain the concrete washout structure(s) to provide adequate holding capacity plus a minimum freeboard of 12 inches. Remove and dispose of hardened concrete and return the structure to a functional condition after reaching 75% capacity.

Inspect concrete washout structures for damage and maintain for effectiveness.

Remove the concrete washout structures and sign upon project completion. Grade the earth material to match the existing contours and permanently seed and mulch area.

**Measurement and Payment**

*Concrete Washout Structure* will be paid for per each enclosure installed in accordance with the details. If alternate details are approved then those details will also be paid for per each approved and installed device.

*Temporary Silt Fence* will be measured and paid for in accordance with Article 1605-5 of the *Standard Specifications*.

No measurement will be made for other items or for over excavation or stockpiling.

Payment will be made under:

| Pay Item | Pay Unit |
|---|---|
| Concrete Washout Structure | Each |

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | EC-04/CONST.4 |

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NCBELS LICENSE # F-1049


PAVEMENT REMOVAL

-L-
PI Sta 14+17.24
Δ = 1° 09' 02.0" (LT)
D = 0° 34' 22.7"
L = 200.81'
T = 100.41'
R = 10,000.00'
SE = EXIST

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

**DETAIL 1**
STANDARD BASE DITCH
( Not to Scale)




Type of Liner = PSRM
FROM L STA. 20+60 TO STA. 20+80 LT

**DETAIL 2**
TOE PROTECTION
( Not to Scale)




Type of Liner = PSRM
FROM L STA. 14+20 TO STA. 15+50 RT
FROM L STA. 18+75 TO STA. 20+20 LT

**DETAIL 3**
TOE PROTECTION
( Not to Scale)

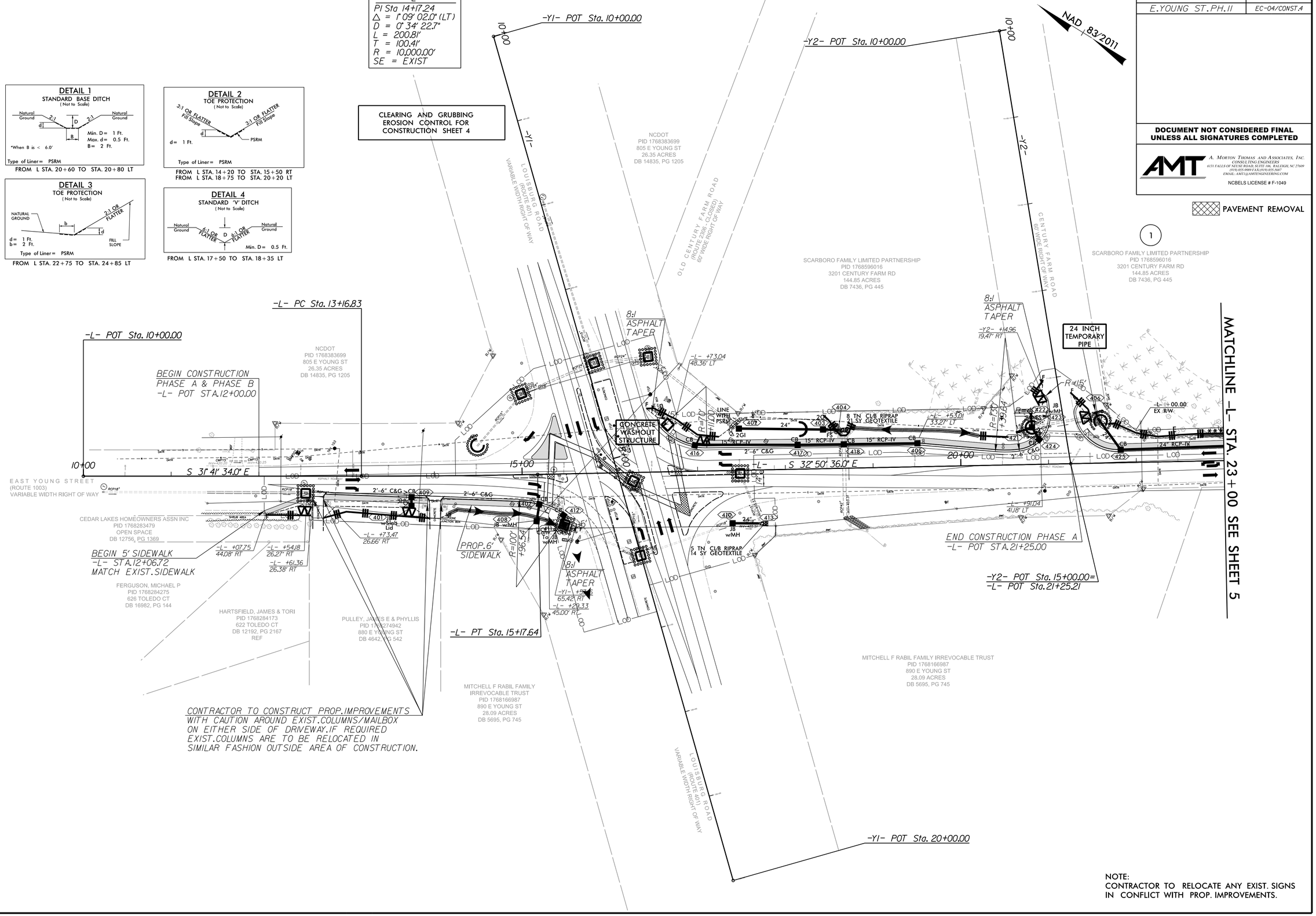



Type of Liner = PSRM
FROM L STA. 22+75 TO STA. 24+85 LT

**DETAIL 4**
STANDARD 'V' DITCH
( Not to Scale)




FROM L STA. 17+50 TO STA. 18+35 LT




CONTRACTOR TO CONSTRUCT PROP.IMPROVEMENTS WITH CAUTION AROUND EXIST.COLUMNS/MAILBOX ON EITHER SIDE OF DRIVEWAY.IF REQUIRED EXIST.COLUMNS ARE TO BE RELOCATED IN SIMILAR FASHION OUTSIDE AREA OF CONSTRUCTION.

NOTE:
CONTRACTOR TO RELOCATE ANY EXIST. SIGNS IN CONFLICT WITH PROP. IMPROVEMENTS.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5/23/2019
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| -L- | | -Y3- |
|---|---|---|
| PI Sta 25+92.39 | PI Sta 33+53.38 | PI Sta 11+24.02 |
| Δ = 2° 50' 28.4" (LT) | Δ = 27° 32' 06.9" (RT) | Δ = 7° 14' 43.7" (LT) |
| D = 1° 25' 56.8" | D = 6° 02' 02.1" | D = 3° 57' 08.0" |
| L = 198.35' | L = 456.34' | L = 183.33' |
| T = 99.20' | T = 232.77' | T = 91.80' |
| R = 4,000.00' | R = 950.00' | R = 1,450.00' |
| SE = EXIST | SE = EXIST | SE = EXIST |

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

NAD 83/2011

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | EC-05/CONST.5 |

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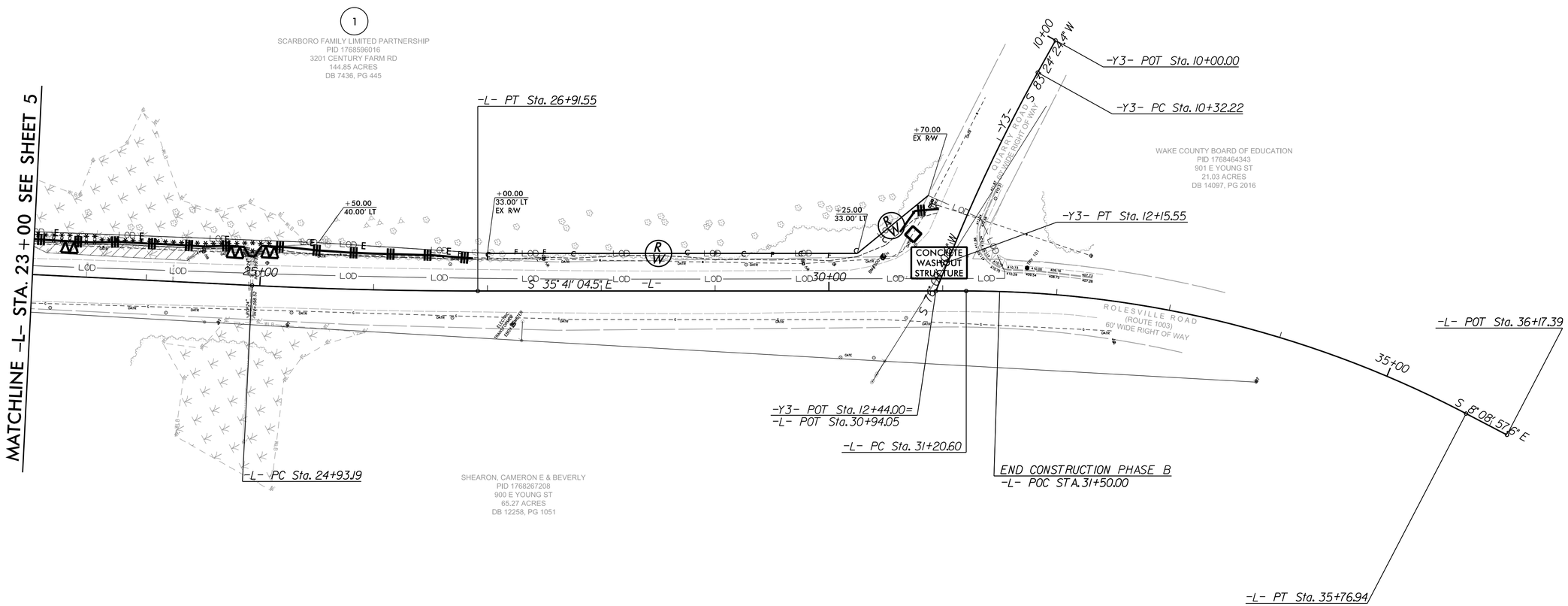
NCBELS LICENSE # F-1049

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | EC-06/CONST.4 |

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PAVEMENT REMOVAL

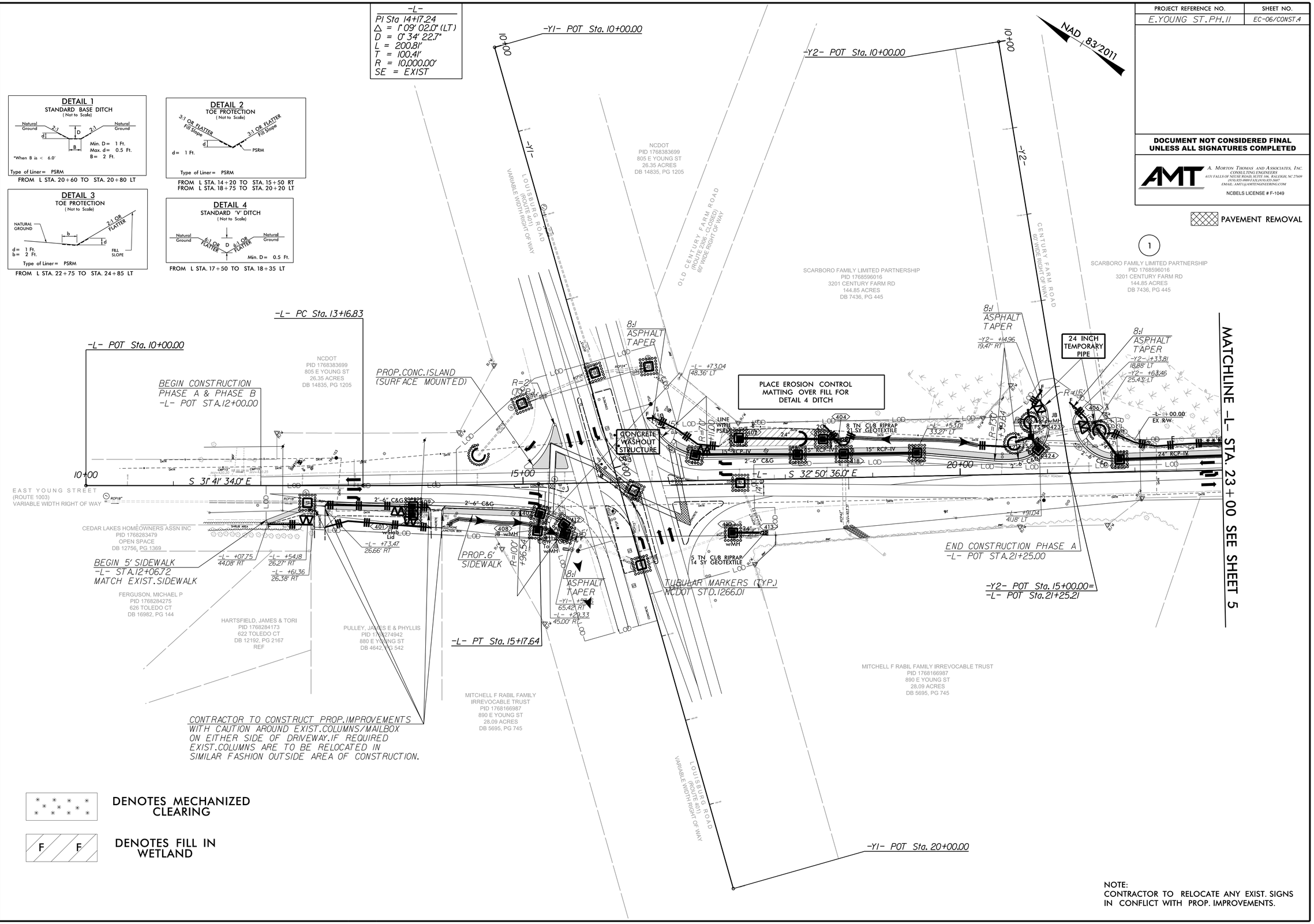
-L-
PI Sta 14+17.24
Δ = 1° 09' 02.0" (LT)
D = 0° 34' 22.7"
L = 200.81'
T = 100.41'
R = 10,000.00'
SE = EXIST

**DETAIL 1**
STANDARD BASE DITCH
( Not to Scale)
Natural Ground, 2:1, D, 2:1, Natural Ground; d; B
Min. D = 1 Ft.
Max. d = 0.5 Ft.
B = 2 Ft.
*When B is < 6.0'
Type of Liner = PSRM
FROM L STA. 20+60 TO STA. 20+80 LT

**DETAIL 2**
TOE PROTECTION
( Not to Scale)
3:1 OR FLATTER Fill Slope; 3:1 OR FLATTER Fill Slope; d; PSRM
d = 1 Ft.
Type of Liner = PSRM
FROM L STA. 14+20 TO STA. 15+50 RT
FROM L STA. 18+75 TO STA. 20+20 LT

**DETAIL 3**
TOE PROTECTION
( Not to Scale)
NATURAL GROUND; 3:1 OR FLATTER; b; d; FILL SLOPE
d = 1 Ft.
b = 2 Ft.
Type of Liner = PSRM
FROM L STA. 22+75 TO STA. 24+85 LT

**DETAIL 4**
STANDARD "V" DITCH
( Not to Scale)
Natural Ground; 6:1 OR FLATTER; D; 6:1 OR FLATTER; Natural Ground
Min. D = 0.5 Ft.
FROM L STA. 17+50 TO STA. 18+35 LT




DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

NOTE:
CONTRACTOR TO RELOCATE ANY EXIST. SIGNS IN CONFLICT WITH PROP. IMPROVEMENTS.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| PROJECT REFERENCE NO. | SHEET NO. |
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| E.YOUNG ST.PH.II | EC-07/CONST.5 |

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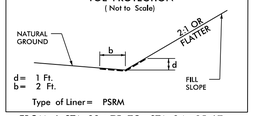
NCBELS LICENSE # F-1049


NAD 83/2011

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

**DETAIL 3**
TOE PROTECTION
( Not to Scale)




FROM L STA. 22+75 TO STA. 24+85 LT

| -L- | | -Y3- |
|---|---|---|
| PI Sta 25+92.39 | PI Sta 33+53.38 | PI Sta 11+24.02 |
| △ = 2° 50' 28.4" (LT) | △ = 27° 32' 06.9" (RT) | △ = 7° 14' 43.7" (LT) |
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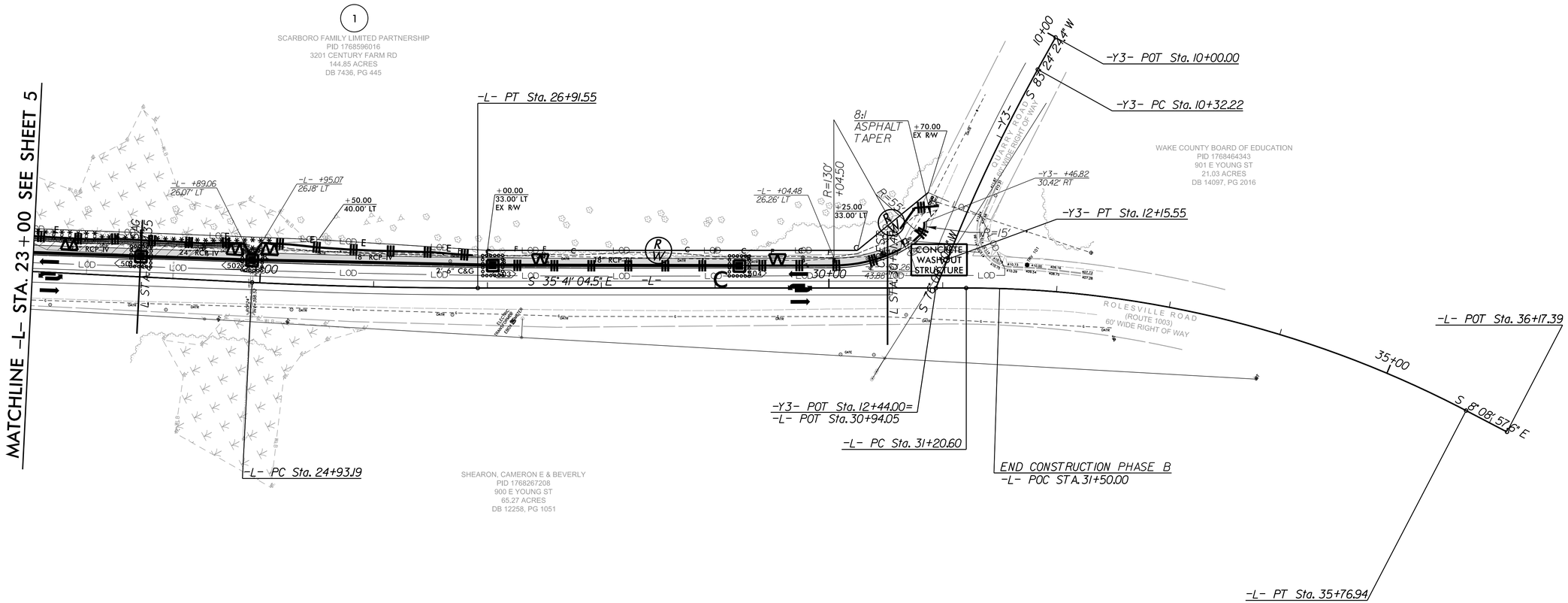


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|---|---|
| E.YOUNG ST.PH.II | EC-8 |

**STABILIZATION REQUIREMENTS:**
(3-11-2014)

Stabilization for this project shall comply with the time frame guidelines as specified 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. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

**SEEDING AND MULCHING:** **(East)**

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

| March 1 - August 31 | | September 1 - February 28 | |
|---|---|---|---|
| 50# | Tall Fescue | 50# | Tall Fescue |
| 10# | Centipede | 10# | Centipede |
| 25# | Bermudagrass (hulled) | 35# | Bermudagrass (unhulled) |
| 500# | Fertilizer | 500# | Fertilizer |
| 4000# | Limestone | 4000# | Limestone |

Waste and Borrow Locations

| March 1 – August 31 | | September 1 - February 28 | |
|---|---|---|---|
| 75# | Tall Fescue | 75# | Tall Fescue |
| 25# | Bermudagrass (hulled) | 35# | Bermudagrass (unhulled) |
| 500# | Fertilizer | 500# | Fertilizer |
| 4000# | Limestone | 4000# | Limestone |

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

| | | | |
|---|---|---|---|
| 06 Dust | Escalade | Justice | Serengeti |
| 2nd Millennium | Essential | Kalahari | Shelby |
| 3rd Millennium | Evergreen 2 | Kitty Hawk 2000 | Sheridan |
| Apache III | Falcon IV | Legitimate | Signia |
| Avenger | Falcon NG | Lexington | Silver Hawk |
| Barlexas | Falcon V | LSD | Sliverstar |
| Barlexas II | Faith | Magellan | Shenandoah Elite |
| Bar Fa | Fat Cat | Matador | Sidewinder |
| Barrera | Festnova | Millennium SRP | Skyline |
| Barrington | Fidelity | Monet | Solara |
| Barrobusto | Finelawn Elite | Mustang 4 | Southern Choice II |
| Barvado | Finelawn Xpress | Ninja 2 | Speedway |
| Biltmore | Finesse II | Ol' Glory | Spyder LS |
| Bingo | Firebird | Olympic Gold | Sunset Gold |
| Bizem | Firecracker LS | Padre | Taccoa |
| Blackwatch | Firenza | Patagonia | Tanzania |
| Blade Runner II | Five Point | Pedigree | Trio |
| Bonsai | Focus | Picasso | Tahoe II |
| Braveheart | Forte | Piedmont | Talladega |
| Bravo | Garrison | Plantation | Tarheel |
| Bullseye | Gazelle II | Proseeds 5301 | Terrano |
| Cannavaro | Gold Medallion | Prospect | Titan ltd |
| Catalyst | Grande 3 | Pure Gold | Titanium LS |
| Cayenne | Greenbrooks | Quest | Tracer |
| Cessane Rz | Greenkeeper | Raptor II | Traverse SRP |
| Chipper | Gremlin | Rebel Exeda | Tulsa Time |
| Cochise IV | Greystone | Rebel Sentry | Turbo |
| Constitution | Guardian 21 | Rebel IV | Turbo RZ |
| Corgi | Guardian 41 | Regiment II | Tuxedo RZ |
| Corona | Hemi | Regenerate | Ultimate |
| Coyote | Honky Tonk | Rendition | Venture |
| Darlington | Hot Rod | Rhambler 2 SRP | Umbrella |
| Davinci | Hunter | Rembrandt | Van Gogh |
| Desire | Inferno | Reunion | Watchdog |
| Dominion | Innovator | Riverside | Wolfpack II |
| Dynamic | Integrity | RNP | Xtremegreen |
| Dynasty | Jaguar 3 | Rocket | |
| Endeavor | Jamboree | Scorpion | |

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

**TEMPORARY SEEDING:**

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet or Browntop Millet shall be used in summer months and Rye Grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

**FERTILIZER TOPDRESSING:**

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

**SUPPLEMENTAL SEEDING:**

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, with the exception that no centipede seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

**MOWING:**

The minimum mowing height on this project shall be 4 inches.

**LAWN TYPE APPEARANCE:**

All areas adjacent to lawns must be hand finished as directed to give a lawn type appearance. Remove all trash, debris, and stones ¾" and larger in diameter or other obstructions that could interfere with providing a smooth lawn type appearance. These areas shall be reseeded to match their original vegetative conditions, unless directed otherwise by the Field Operations Engineer.

**MINIMIZE REMOVAL OF VEGETATION:**

The Contractor shall minimize removal of vegetation within project limits to the maximum extent practicable. Vegetation along stream banks and adjacent to other jurisdictional resources outside the construction limits shall only be removed upon approval of Engineer. No additional payment will be made for this minimization work.

REQUIRED SEDIMENT STORAGE

| Structure # | Structure Type | Drainage Area (sft) | Drainage Area (ac) | NOAA Intensity (in/hr) | Disturbed Area (sft) | Max Impervious (sft) | Trees Area (sft) | Grass Area (sft) | C Value | 10 yr Q (cfs) | Sediment Storage Min (cft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 409 | Catch Basin | 3680 | 0.08 | 5.75 | 813 | 3680 | 0 | 0 | 0.90 | 0.44 | 67 |
| 401 | Junction | 1770 | 0.04 | 5.75 | 1770 | 0 | 0 | 1770 | 0.20 | 0.05 | 146 |
| 407 | Catch Basin | 5126 | 0.12 | 5.75 | 1600 | 5126 | 0 | 0 | 0.90 | 0.61 | 132 |
| 408 | Junction | 1400 | 0.03 | 5.75 | 1400 | 0 | 0 | 1400 | 0.20 | 0.04 | 116 |
| 411 | Junction | 455 | 0.01 | 5.75 | 455 | 0 | 0 | 455 | 0.20 | 0.01 | 38 |
| 412 | Catch Basin | 5036 | 0.12 | 5.75 | 175 | 5036 | 0 | 0 | 0.90 | 0.60 | 14 |
| 416 | Catch Basin | 2909 | 0.07 | 5.75 | 368 | 2909 | 0 | 0 | 0.90 | 0.35 | 30 |
| 402 | Inlet | 11329 | 0.26 | 4.85 | 3556 | 3164 | 0 | 8165 | 0.40 | 0.50 | 294 |
| 417 | Catch Basin | 4361 | 0.10 | 5.75 | 1170 | 4361 | 0 | 0 | 0.90 | 0.52 | 97 |
| 403 | Inlet | 41983 | 0.96 | 4.85 | 3000 | 0 | 0 | 41983 | 0.20 | 0.93 | 248 |
| 418 | Catch Basin | 1816 | 0.04 | 5.75 | 486 | 1816 | 0 | 0 | 0.90 | 0.22 | 40 |
| 405 | Catch Basin | 5862 | 0.13 | 5.75 | 1990 | 5862 | 0 | 0 | 0.90 | 0.70 | 164 |
| 421 | Pipe | 48064 | 1.10 | 4.85 | 2186 | 0 | 8294 | 39770 | 0.18 | 0.98 | 181 |
| 422 | Pipe | 1980 | 0.05 | 5.75 | 1980 | 0 | 0 | 1980 | 0.20 | 0.05 | 164 |
| 424 | Catch Basin | 1750 | 0.04 | 5.75 | 600 | 1750 | 0 | 0 | 0.90 | 0.21 | 50 |
| 406 | Pipe | 1184 | 0.03 | 5.75 | 1184 | 0 | 0 | 1184 | 0.20 | 0.03 | 98 |
| 425 | Catch Basin | 3564 | 0.08 | 5.75 | 750 | 3564 | 0 | 0 | 0.90 | 0.42 | 62 |
| 501 | Catch Basin | 8211 | 0.19 | 5.75 | 2754 | 8211 | 0 | 0 | 0.90 | 0.98 | 228 |
| 502 | Catch Basin | 5756 | 0.13 | 5.75 | 1900 | 5756 | 0 | 0 | 0.90 | 0.68 | 157 |
| 503 | Catch Basin | 6181 | 0.14 | 5.75 | 1944 | 6181 | 0 | 0 | 0.90 | 0.73 | 161 |
| 504 | Catch Basin | 7087 | 0.16 | 5.75 | 2416 | 7087 | 0 | 0 | 0.90 | 0.84 | 200 |

| MIXTURE | | | SEEDING SCHEDULE | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Agricultural Limestone | Min. 2 tons/acre (3 tons/acre in clay soils or per soils test) | FOR SHOULDERS, SIDE DITCHES, SLOPES (MAX 3:1) | | | FOR SHOULDERS, SIDE DITCHES, SLOPES (3:1 TO 2:1) | | |
| | Fertilizer | 1,000 lbs/acre – 10-10-10 | Date | Type | Planting Rate | Date | Type | Planting Rate |
| | Superphosphate | 500 lbs/acre – 20% analysis | Aug 15–Nov 1 | Tall Fescue | 300 lbs/acre | Mar 1–Jun 1 | Sericea Lespedeza (scarified) and use the following combinations: | 50 lbs/acre (Sericea Lespedeza); |
| | Mulch | 2 tons/acre – small grain straw | Nov 1–Mar 1 | Tall Fescue & Abruzzi Rye | 300 lbs/acre | Mar 1–Apr 15 | Add Tall Fescue | 120 lbs/acre |
| | Anchor | Asphalt emulsion at 300 gals/acre | Mar 1–Apr 15 | Tall Fescue | 300 lbs/acre | Mar 1–Jun 30 | Or add Weeping Love grass | 10 lbs/acre |
| | | | Apr 15–Jun 30 | Hulled Common Bermudagrass | 25 lbs/acre | Mar 1–Jun 30 | Or add Hulled Common Bermudagrass | 25 lbs/acre |
| | | | Jul 1–Aug 15 | Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids*** | 125 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Millet); 30 lbs/acre (Sorghum-Sudan Hybrids) | Jun 1–Sept 1 | Tall Fescue AND Browntop Mullet or Sorghum-Sudan Hybrids*** | 120 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Mullet); 30 lbs/acre (Sorghum-Sudan Hybrids) |
| | | | | | | Sept 1–Mar 1 | Sericea Lespedeza (unhulled – unscarified) AND Tall Fescue | 70 lbs/acre (Sericea Lespedeza); 120 lbs/acre (Tall Fescue) |
| | | | | | | Nov 1–Mar 1 | AND Abruzzi Rye | 25 lbs/acre |

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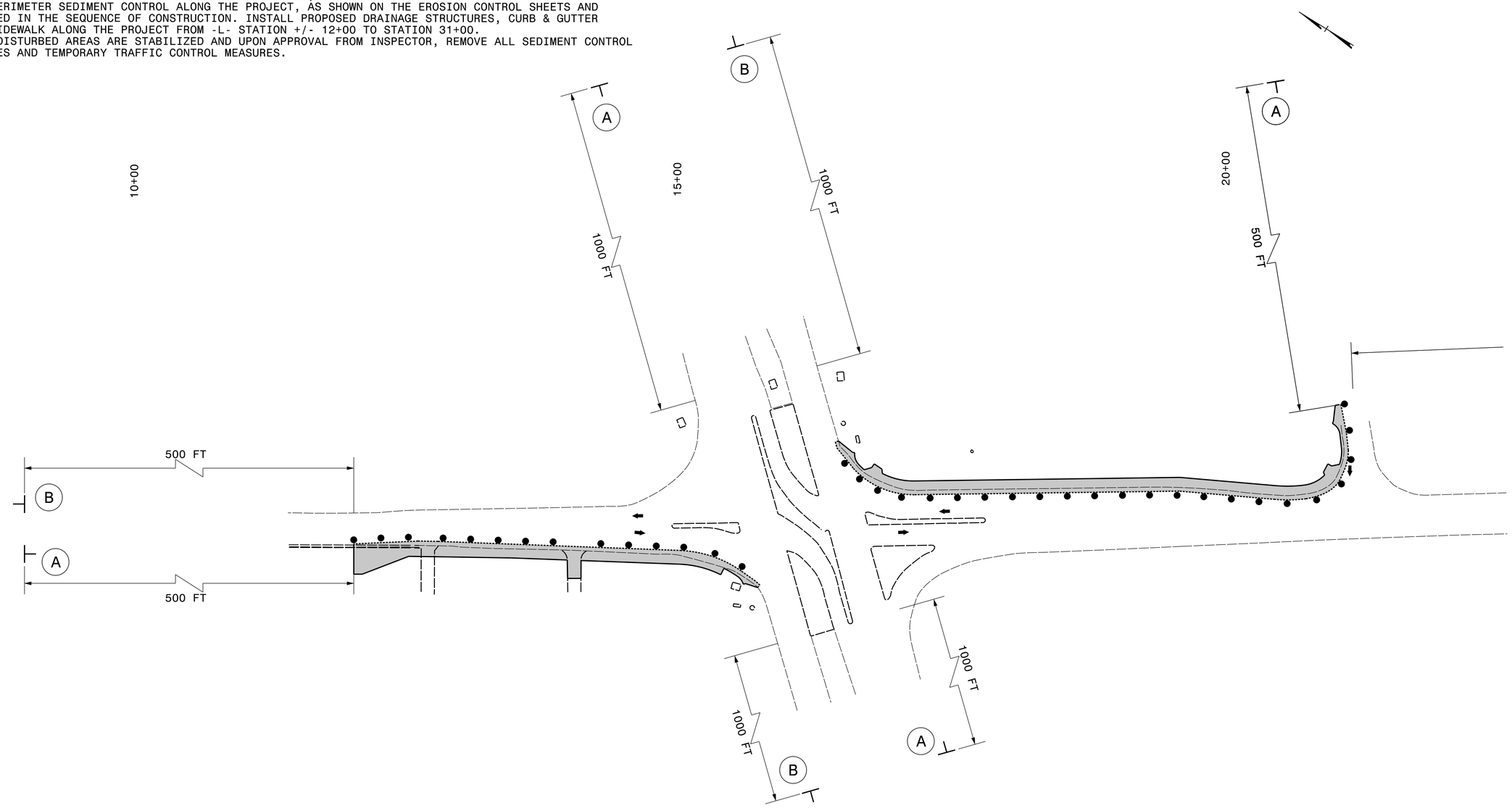
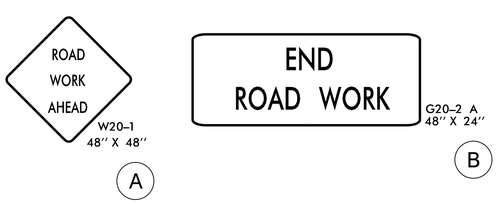
| PROJ. REFERENCE NO. | SHEET NO. |
|---|---|
| E. YOUNG ST. PH. II | TMP-01 |

PHASE 1
WORK IN A CONTINUOUS MANNER TO COMPLETE THE FOLLOWING WORK OF PHASE 1.
IN ACCORDANCE WITH NCDOT STANDARD DRAWINGS 1101.02, INSTALL TEMPORARY TRAFFIC CONTROL MEASURES AND PERIMETER SEDIMENT CONTROL ALONG THE PROJECT, AS SHOWN ON THE EROSION CONTROL SHEETS AND DEFINED IN THE SEQUENCE OF CONSTRUCTION. INSTALL PROPOSED DRAINAGE STRUCTURES, CURB & GUTTER AND SIDEWALK ALONG THE PROJECT FROM -L- STATION +/- 12+00 TO STATION 31+00.
ONCE DISTURBED AREAS ARE STABILIZED AND UPON APPROVAL FROM INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL MEASURES.




PHASE 1




## LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- DRUM
- STATIONARY SIGN

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(919) 855-9880 FAX (919) 855-5687
EMAIL: AMT@AMTENGINEERING.COM
NCBELS LICENSE # F-1049

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 40665 ENGINEER MICK RAMIREZ

5/23/2019

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| E. YOUNG ST. PH. II | PMP-1 |

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NORTH CAROLINA PROFESSIONAL SEAL 040655 ENGINEER NICK RAMIREZ

DocuSigned by: Nick Ramirez 5/23/2019

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# STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

# PAVEMENT MARKING PLAN
## WAKE COUNTY

## INDEX


| SHEET NO. | DESCRIPTION |
|---|---|
| PMP-1 | PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET |
| PMP-2 | CROSSWALK PAVEMENT MARKING GUIDANCE DETAIL |
| PMP-3 THRU 4 | PAVEMENT MARKING DETAIL |


## PAVEMENT MARKING SCHEDULE

| SYMBOL | DESCRIPTION |
|---|---|
| | FINAL PAVEMENT MARKINGS |
| | THERMOPLASTIC (24″, 120 MILS) |
| T2 | WHITE STOPBAR |
| | THERMOPLASTIC (4″, 120 MILS) |
| T8 | WHITE 2′ - 6′/SP MINI-SKIP |
| TC | WHITE 10′ SKIP |
| TD | WHITE 3′ - 9′/SP MINI-SKIP |
| TE | WHITE SOLID LANE LINE |
| TH | YELLOW SINGLE CENTER |
| TI | YELLOW DOUBLE CENTER |
| | THERMOPLASTIC (4″, 90 MILS) |
| TA | WHITE EDGE LINE |
| | THERMOPLASTIC (8″, 120 MILS) |
| TP | YELLOW DIAGONAL |
| TQ | WHITE CROSSWALK LINE |
| | THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS) |
| UA | LEFT TURN ARROW |
| UB | RIGHT TURN ARROW |
| UC | STRAIGHT ARROW |
| UE | COMBO STRAIGHT/ RIGHT |
| UJ | HELMETED BICYCLE SYMBOL |
| UK | STRAIGHT ARROW, BIKE LANE |

## GENERAL NOTES

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

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

| ROAD NAME | MARKING | MARKER |
|---|---|---|
| EAST YOUNG STREET | THERMOPLASTIC | N/A |

B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

D) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

E) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

F) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECKS PRIOR TO PLACING (insert marking material) PAVEMENT MARKING MATERIAL.

G) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

H) ALL BICYCLE LANE SYMBOLS SHALL BE HEATED-IN-PLACE THERMOPLASTIC. SYMBOLS SHALL BE PAID FOR USING THE HEATED-IN-PLACE PAY ITEM.

I) SEE ROADWAY PLANS FOR ALTERNATE CURB RAMP DESIGNS WHEN INDICATED ON PAVEMENT MARKING DETAIL SHEETS.

## ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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 |
|---|---|
| 1205.01 | PAVEMENT MARKINGS - LINE TYPES AND OFFSETS |
| 1205.02 | PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS |
| 1205.04 | PAVEMENT MARKINGS - INTERSECTIONS |
| 1205.05 | PAVEMENT MARKINGS - TURN LANES |
| 1205.06 | PAVEMENT MARKINGS - LANE DROPS |
| 1205.08 | PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES |
| 1205.09 | PAVEMENT MARKINGS - PAINTED ISLANDS |
| 1250.01 | RAISED PAVEMENT MARKERS - INSTALLATION SPACING |
| 1251.01 | RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY |
| 1253.01 | RAISED PAVEMENT MARKERS - SNOWPLOWABLE |


PLAN PREPARED BY: A. MORTON THOMAS & ASSOCIATES

Nick Ramirez, P.E. PROJECT ENGINEER

James Crouse, P.E. DESIGN ENGINEER

AMT

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(919) 855-9999 FAX (919) 855-5007
EMAIL: AMT@AMTENGINEERING.COM

NCBELS LICENSE # F-1049


TOWN OF ROLESVILLE

5/23/2019
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Pseudo Name

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| TIP NO. | SHEET NO. |
|---|---|
| E. YOUNG ST. PH. II | PMP-2 |

APPROVED:

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 40655 ENGINEER NICK RAMIREZ

DocuSigned by: Nick Ramirez C0926811DC0418...

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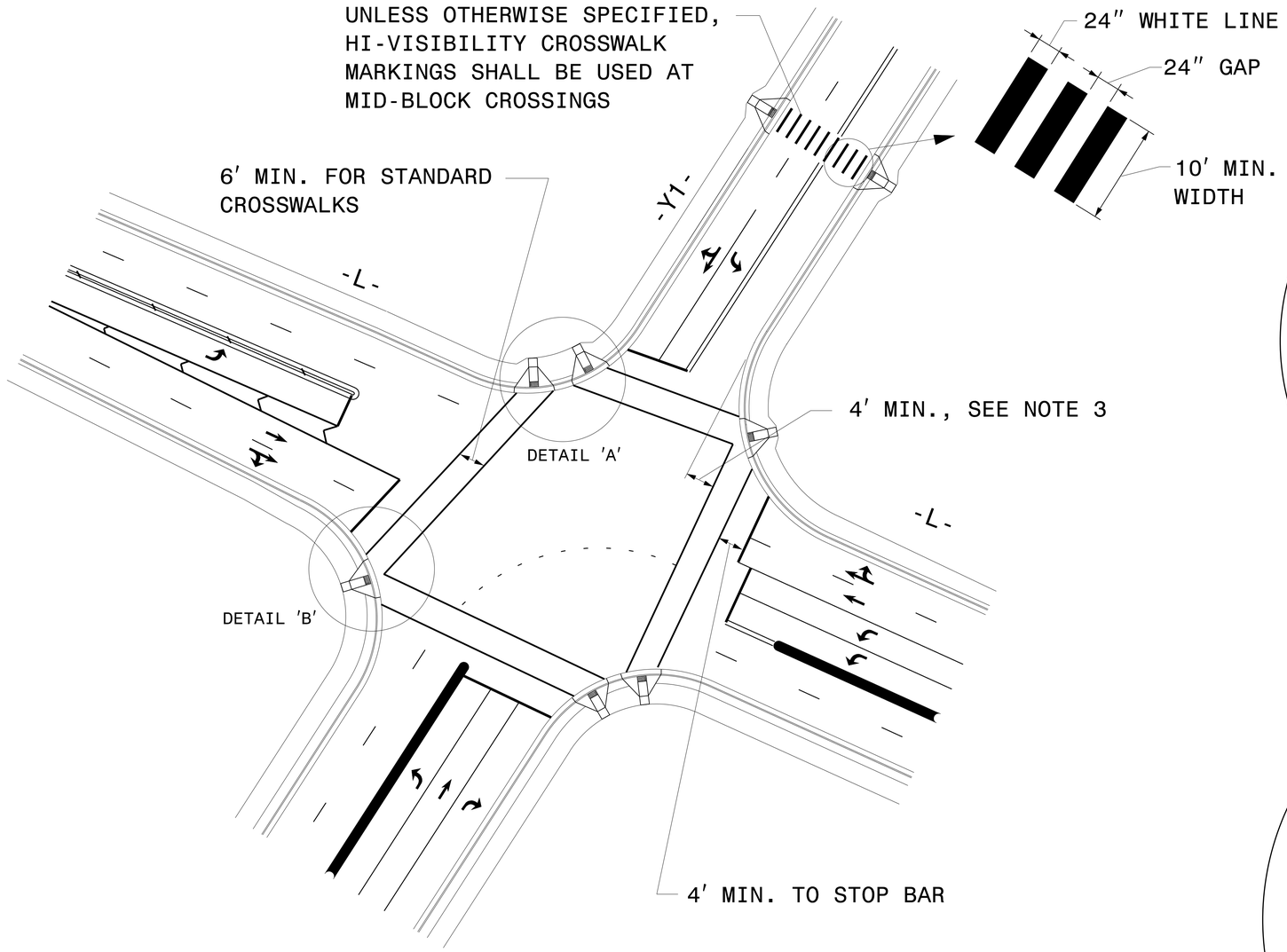
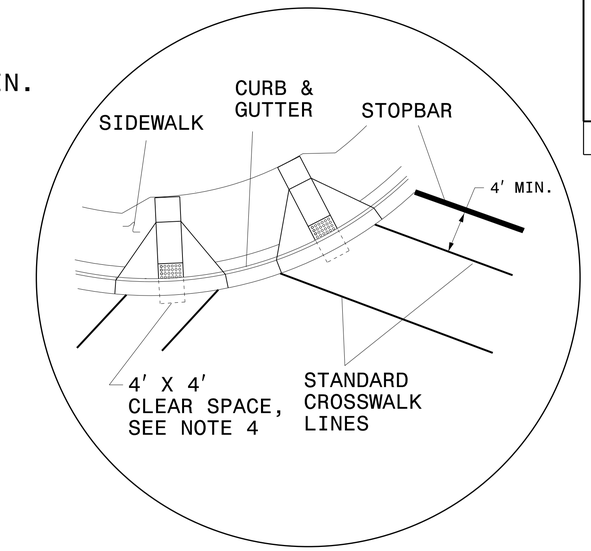
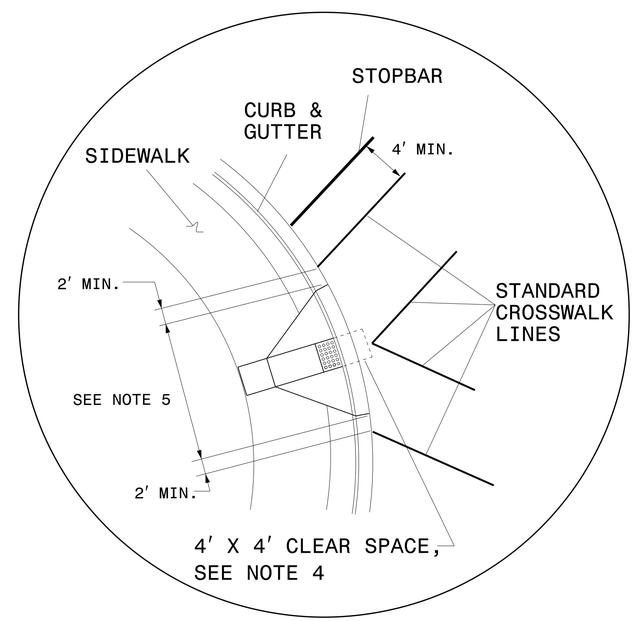



GUIDANCE DETAIL FOR CROSSWALK MARKINGS




DETAIL 'A'- DUAL CURB RAMPS




DETAIL 'B'- SINGLE DIAGONAL CURB RAMP

NOTES:

1. USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS NOT STATIONED ON THE DETAIL SHEETS OR WHEN FIELD ADJUSTMENTS REQUIRED MOVING STATIONED MARKINGS AS DIRECTED BY THE ENGINEER. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.
2. THE CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. ONLY INSTALL CROSSWALK MARKINGS WHERE SHOWN ON THE DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI-VISIBILITY, SHALL BE INSTALL AS SPECIFIED ON THE DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER.
3. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.
4. BEYOND THE BOTTOM GRADE BRAKE, A CLEAR SPACE OF 4' X 4' MINIMUM SHALL BE PROVIDED WITHIN THE MARKINGS.
5. SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2 FEET LONG MINIMUM LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.
6. CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS.

**CROSSWALK PAVEMENT MARKING GUIDANCE DETAIL**

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| TIP NO. | SHEET NO. |
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| E. YOUNG ST. PH. II | PMP-3 |

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NORTH CAROLINA PROFESSIONAL SEAL 40655 ENGINEER NICK RAMIREZ

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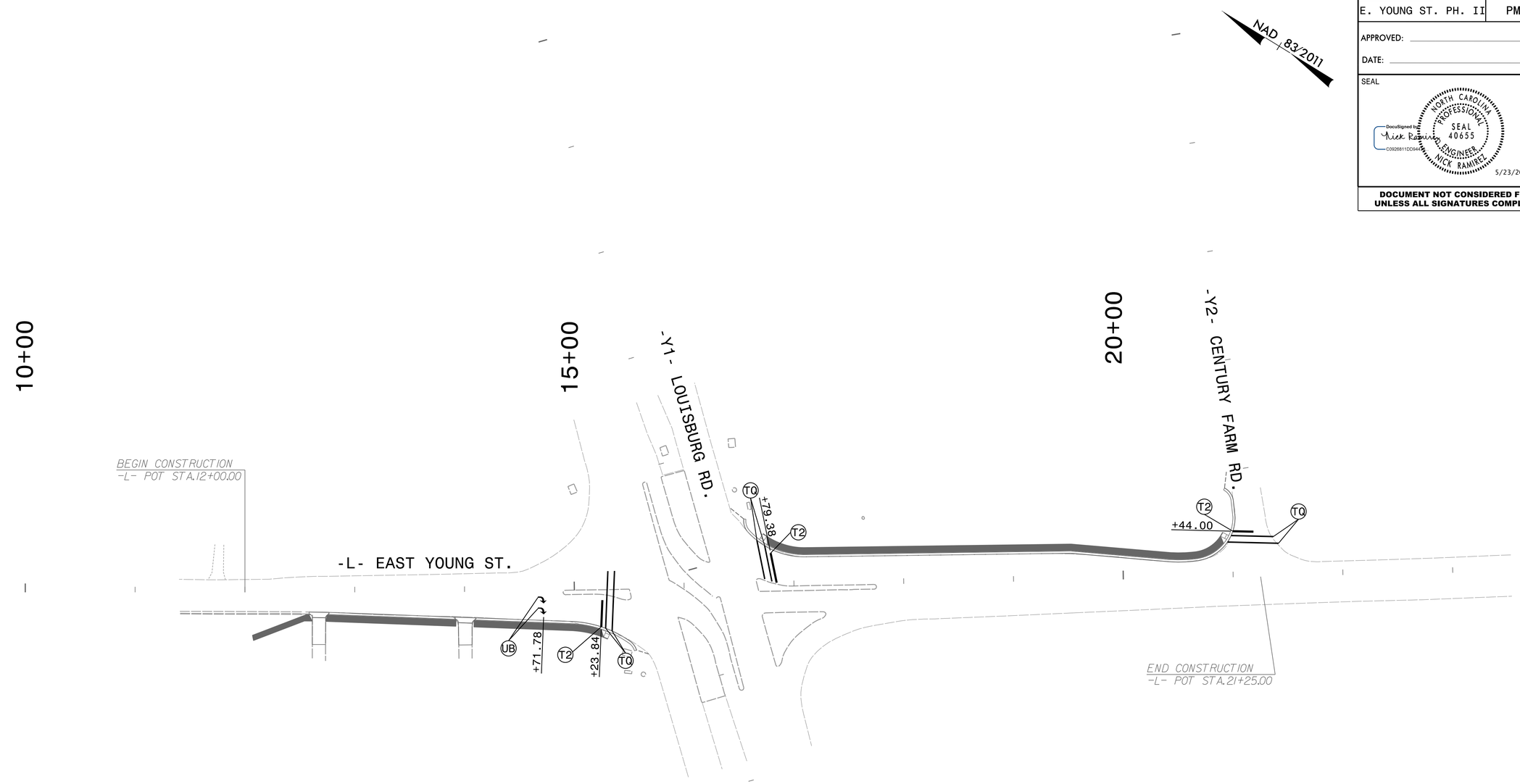


NOTE:
CONTRACTOR TO MAINTAIN EXIST. PAVEMENT MARKINGS, EXCEPT WHERE THEY CONFLICT WITH PROPOSED MARKINGS AS SHOWN ABOVE. CONFLICTING EXIST. PAVEMENT MARKINGS TO BE REMOVED BY METHOD LEAST DAMAGING TO PAVEMENT.

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# PAVEMENT MARKING DETAIL

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| E.YOUNG ST.PH.II | U0-1 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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EMAIL: AMT1@AMTENGINEERING.COM
NCBELS LICENSE # F-1049


NAD 83/2011

-L-
PI Sta 14+17.24
Δ = 1° 09' 02.0" (LT)
D = 0° 34' 22.7"
L = 200.81'
T = 100.41'
R = 10,000.00'
SE = EXIST

-Y1- POT Sta. 10+00.00

-Y2- POT Sta. 10+00.00

-L- PC Sta. 13+16.83

-L- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-L- POT STA.12+00.00

-L- S 31° 41' 34.0" E

-L- S 32° 50' 36.0" E

EAST YOUNG STREET
(ROUTE 1003)
VARIABLE WIDTH RIGHT OF WAY

LOUISBURG ROAD
(ROUTE 401)
VARIABLE WIDTH RIGHT OF WAY

OLD CENTURY FARM ROAD
(ROUTE 2306 - CLOSED)
60' WIDE RIGHT OF WAY

CENTURY FARM ROAD
60' WIDE RIGHT OF WAY

NCDOT
PID 1768383699
805 E YOUNG ST
26.35 ACRES
DB 14835, PG 1205

SCARBORO FAMILY LIMITED PARTNERSHIP
PID 1768596016
3201 CENTURY FARM RD
144.85 ACRES
DB 7436, PG 445

CEDAR LAKES HOMEOWNERS ASSN INC
PID 1768282
OPEN SPACE
DB 12756, PG 1369

FERGUSON, MICHAEL P
PID 1768284275
626 TOLEDO CT
DB 16982, PG 144

HARTSFIELD, JAMES & TORI
PID 1768284173
622 TOLEDO CT
DB 12192, PG 2167
REF

PULLEY, JAMES E & PHYLLIS
PID 1768274942
880 E YOUNG ST
DB 4642, PG 542

MITCHELL F RABIL FAMILY
IRREVOCABLE TRUST
PID 1768166987
890 E YOUNG ST
28.09 ACRES
DB 5695, PG 745

MITCHELL F RABIL FAMILY IRREVOCABLE TRUST
PID 1768166987
890 E YOUNG ST
28.09 ACRES
DB 5695, PG 745

-L- PT Sta. 15+17.64

-Y2- POT Sta. 15+00.00=
-L- POT Sta. 21+25.21

-Y1- POT Sta. 20+00.00

END CONSTRUCTION
-L- POT STA.21+25.00

EXIST. GAS LINE

EXIST. WATER LINE

EXIST. WATER VALVE

EXIST. HYDRANT

EXIST. TRAFFIC SIGNAL BOX TO BE ADJUSTED

POLE TO BE RETAINED

10+00

15+00

20+00

8/17/99

5/23/2019
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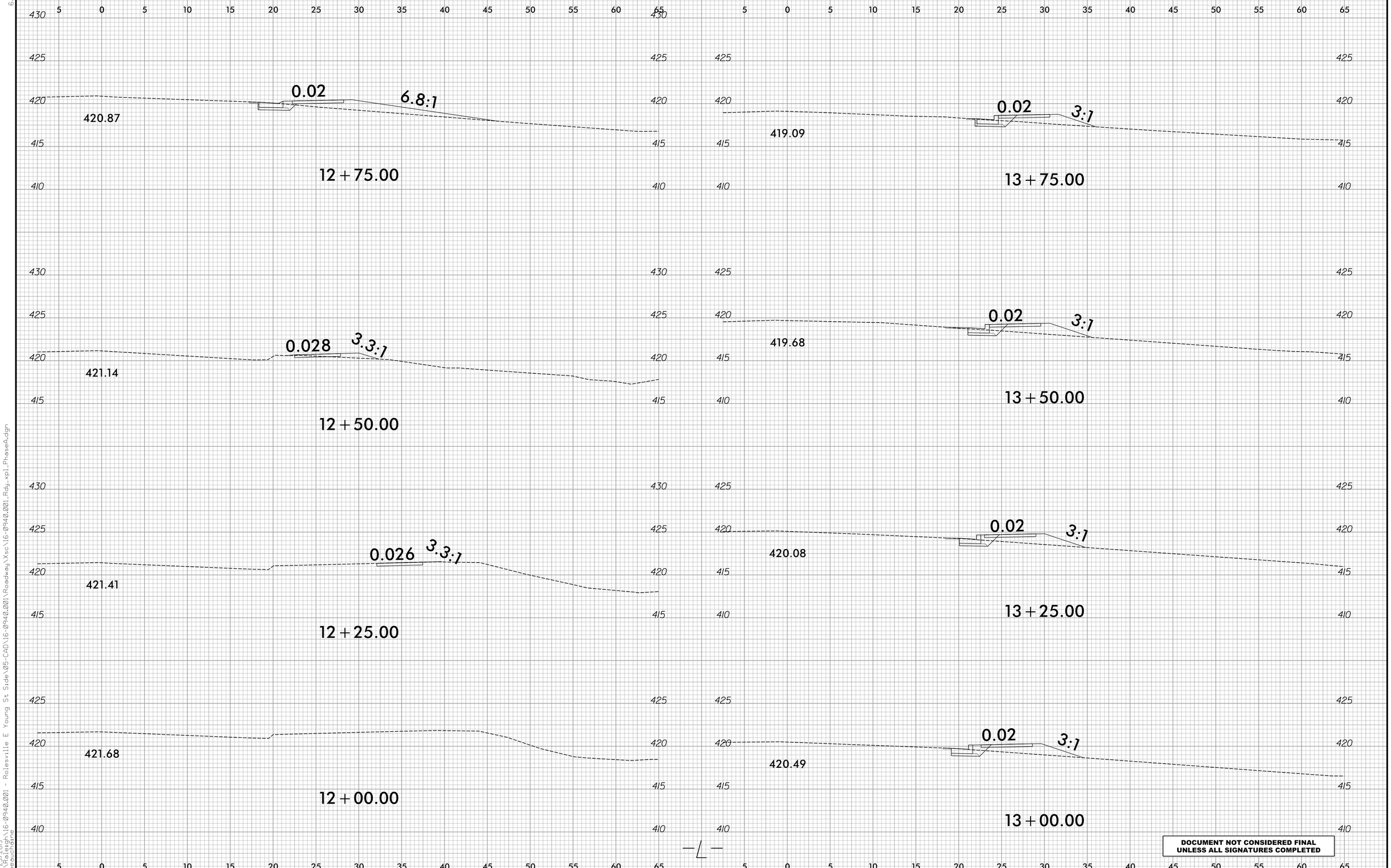


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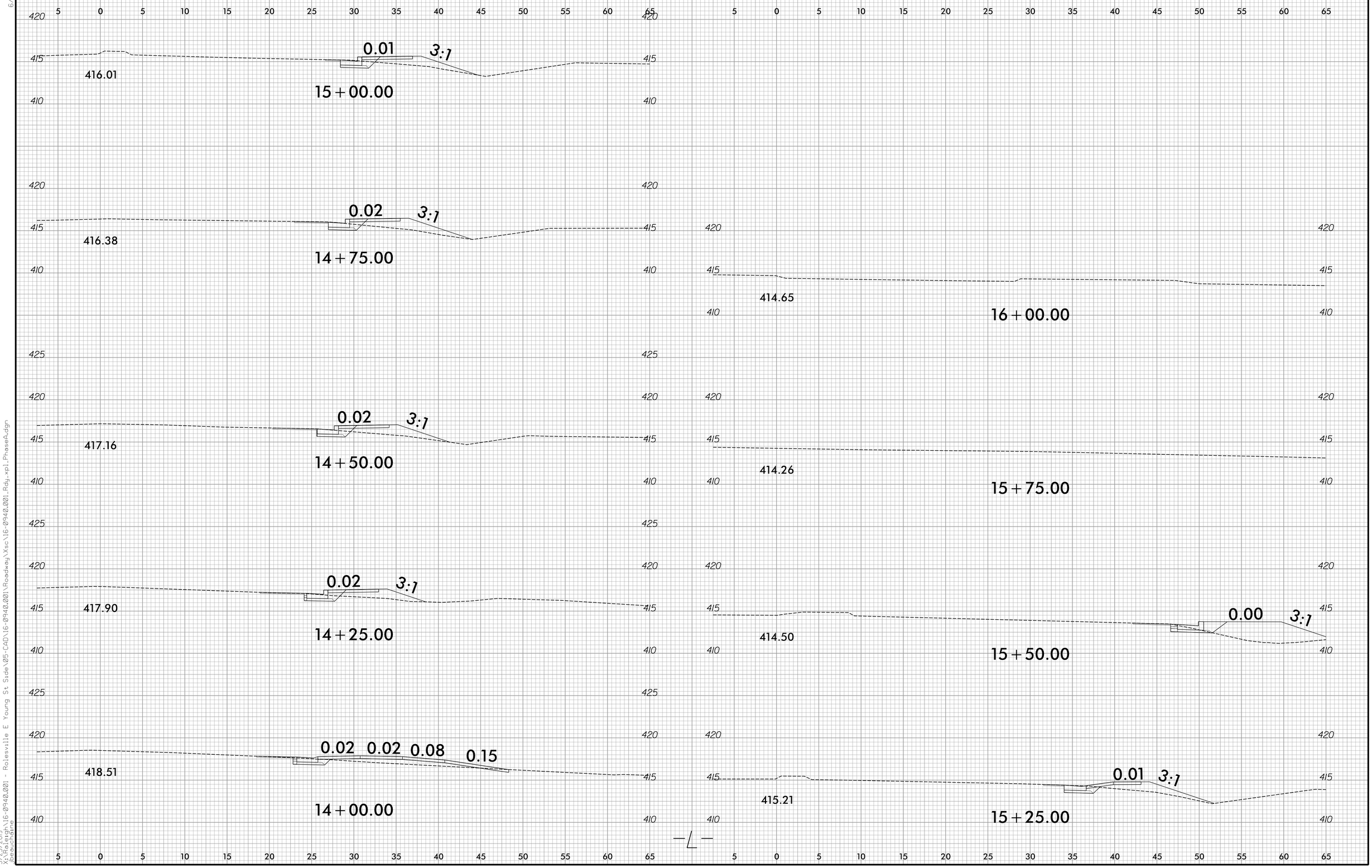


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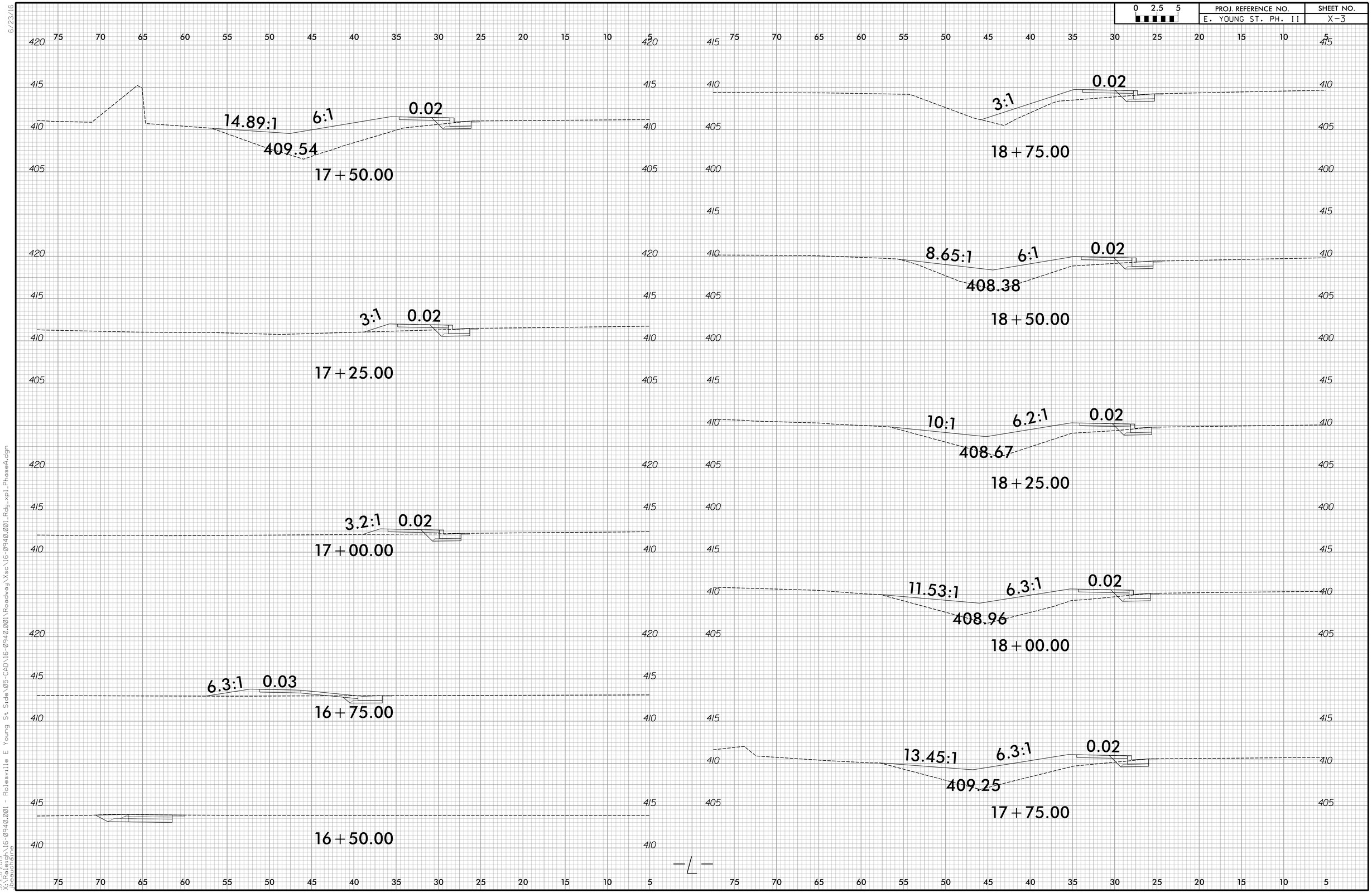


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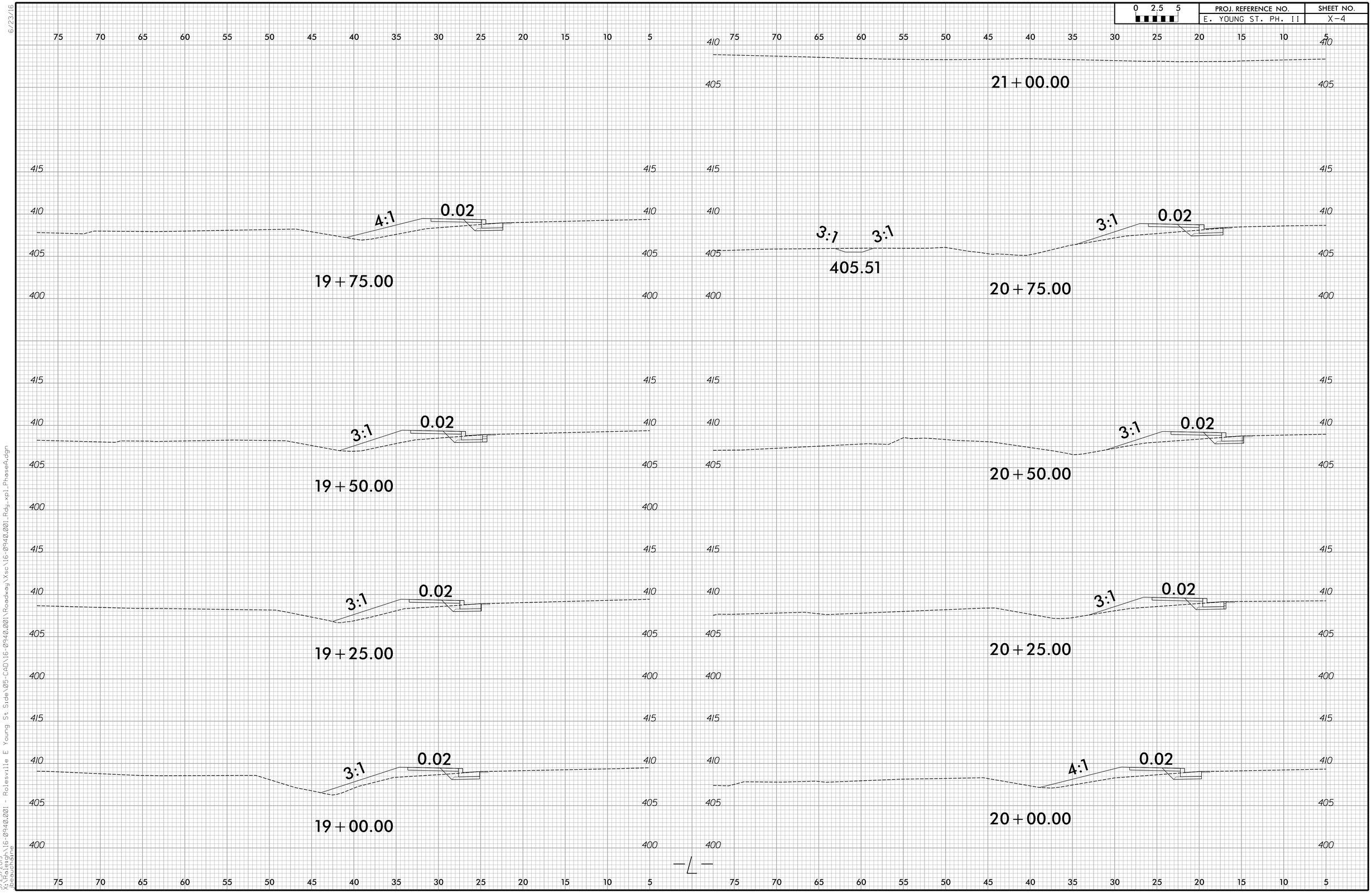


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