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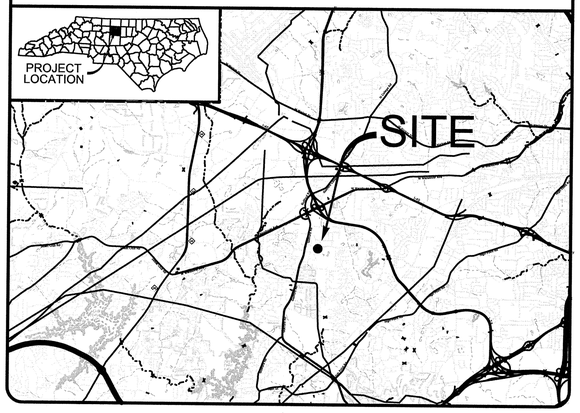
TIP PROJECT: R-4436GG

CONTRACT: 34625.2.FD51

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

VICINITY MAP



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

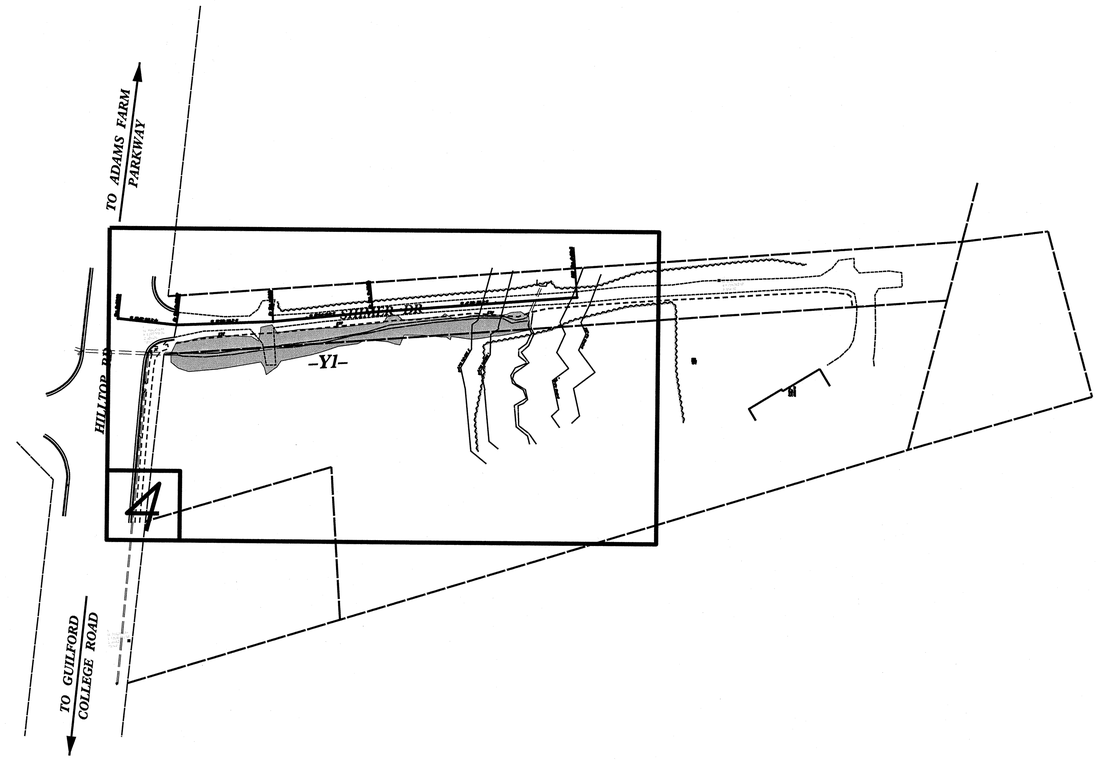
LOCATION: SHIMER DRIVE, JAMESTOWN NC

TYPE OF WORK: GRADING, STORM DRAINAGE, EROSION CONTROL AND SEEDING & MULCHING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-4436GG	1	9

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34625.2.FD51	STP-1424(12)	

NAD 83/
NSRS 2007



GRAPHIC SCALES

SCALE VARIES
SEE PLANS

NCDOT CONTACTS:

BRIAN S. LIPSCOMB, PE
PROJECT MANAGER-
HIGHWAY STORMWATER
MANAGEMENT PROGRAM

Prepared In the Office of:
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2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:
JUNE 19, 2014

HUNTER FREEMAN, PE
PROJECT ENGINEER

ERIC REARDON, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 029911 ENGINEER ERIC N. REARDON
4-4-14

SIGNATURE: Eric N. Reardon *P.E.*

REVISIONS SCHEDULE

NO.	DESCRIPTION	DATE
1	30% DESIGN SUBMITTAL	5-18-12
2	90% DESIGN SUBMITTAL	1-24-14
3	100% FINAL DESIGN SUBMITTAL	4-4-14

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REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-4436GG	1-A

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 029911 ENGINEER ERIC N. REARDON

Eric Reardon

4-4-14

INDEX OF SHEETS

SHEET NO.	SHEET DESCRIPTION
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL PLAN SHEET SYMBOLS
2	TYPICAL SECTIONS
2-A	DRAINAGE STRUCTURES DETAILS
2-B	SURVEY CONTROL MAP
3	SUMMARY OF EARTHWORK QUANTITIES, SUMMARY OF DRAINAGE QUANTITIES
4	PLAN & PROFILE
EC-1	EROSION CONTROL PLAN

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 17, 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
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 8 - INCIDENTALS	
838.80	Precast Endwall - 12" through 72" - Pipe 90^ Skew
840.00	Concrete Base Pad for Drainage Structures
840.22	Frames and Wide Slot Sag Grates
840.37	Steel Frame and Grate
840.52	Precast Manhole - 4', 5' and 6' Diameter
840.53	Precast Manhole with Masonry Base - 12" thru 42"
840.54	Manhole Frame and Gutter
840.66	Drainage Structure Steps
DIVISION 16 - INCIDENTALS	
1607.01	Gravel Construction Entrance
1632.03	Rock Inlet Sediment Trap Type 'C'
1633.01	Temporary Rock Silt Check Type `A'
1633.02	Temporary Rock Silt Check Type 'B'

GENERAL NOTES

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: JANUARY 2012

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 MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

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

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

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PROJECT REFERENCE NO.	SHEET NO.
R-4436GG	1-B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- 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

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:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- 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 — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (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
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

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

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DETAILS

PROJECT REFERENCE NO.	SHEET NO.
R-4436GG	2

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 029911 ENGINEER ERIC N. REARDON
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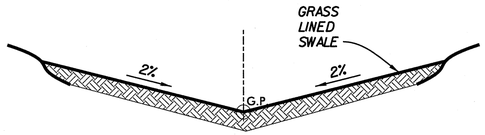
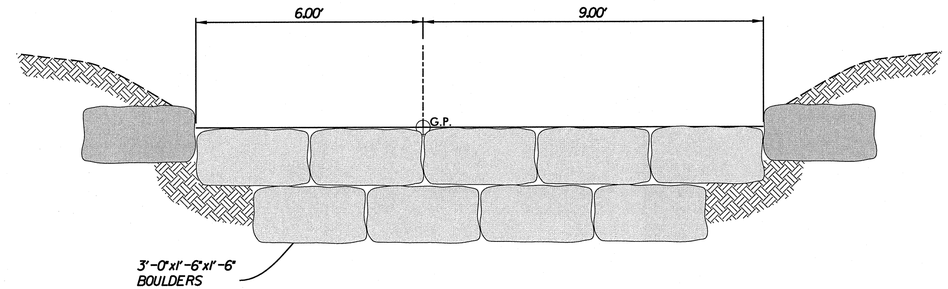
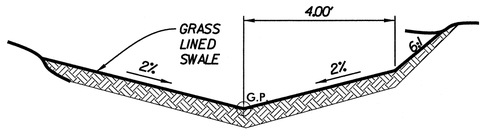


TYPICAL SECTION
SCALE: NTS
STA 9+93.50 TO STA 12+40.00



TYPICAL SECTION
SCALE: NTS
STA 13+10.00 TO STA 13+12.00

NOTES:
1. MINIMUM BOULDER SIZE IS 3'-0"x1'-6"x1'-6".
2. GRADE POINT SHALL BE FLUSH WITH FINISH GRADE OF GRASS SWALE.
3. TOP OF BOULDERS SHALL BE LEVEL BOTH PARALLEL AND PERPENDICULAR TO FLOW DIRECTION.
4. BOULDERS SHALL BE INSTALLED FLUSH TO EACH OTHER. IF GAPS ARE PRESENT DUE TO IRREGULAR ENDS THEY SHALL BE FILLED WITH #57 STONE.



TYPICAL SECTION
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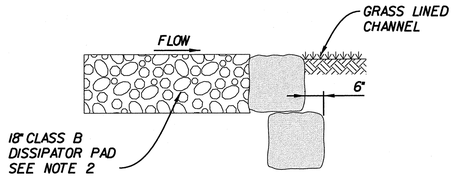
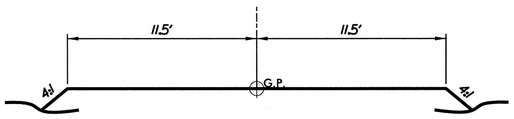
STA 12+40.00 TO STA 12+85.00



DISSIPATOR PAD SECTION
SCALE: NTS



TYPICAL SECTION
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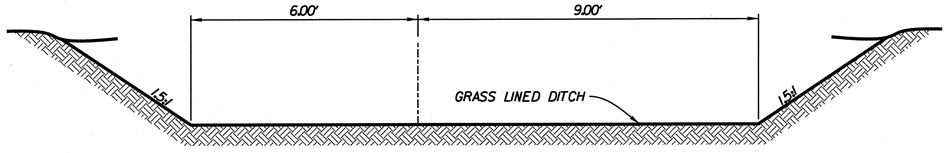
STA 12+85.00 TO STA 12+90.00



TYPICAL SECTION
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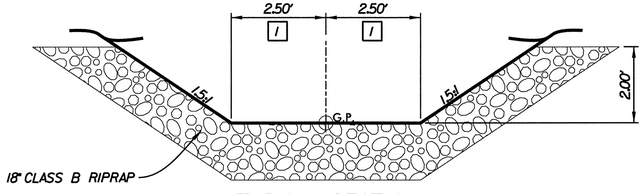
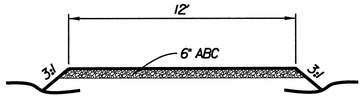
STA 13+12.00 TO STA 13+53.65



TYPICAL SECTION
SCALE: NTS
STA 12+90.00
1 TRANSITION TO STA 13+10.00



DRIVEWAY TYPICAL SECTION
SCALE: NTS

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PROJECT REFERENCE NO.	SHEET NO.
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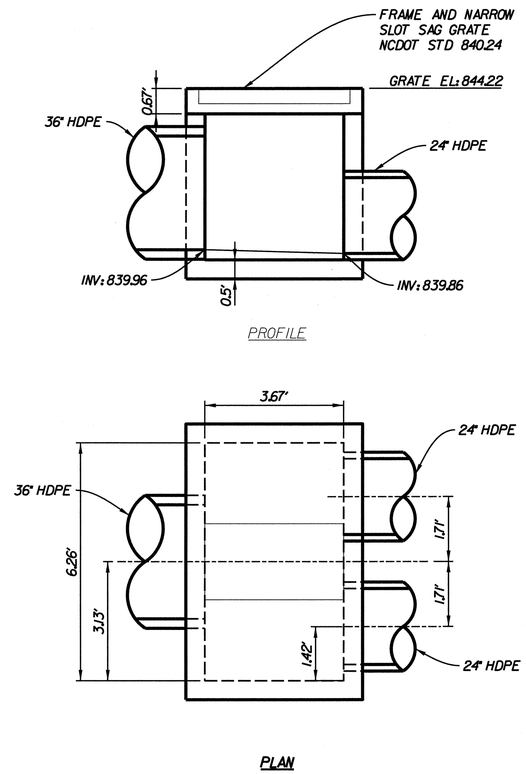
HYDRAULICS ENGINEER

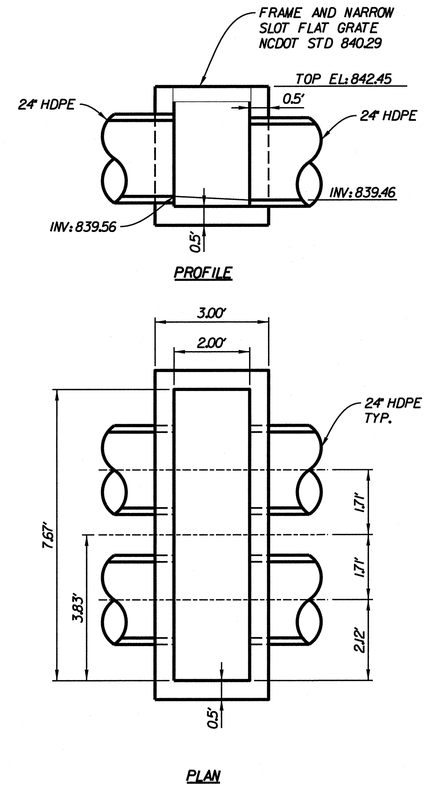
NORTH CAROLINA PROFESSIONAL SEAL 029911 ENGINEER ERIC N. REARDON

4-4-14

DETAILS



DRAINAGE STRUCTURE 3
SCALE: NTS



DRAINAGE STRUCTURE 4
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SURVEY CONTROL MAP

PROJECT REFERENCE NO.	SHEET NO.
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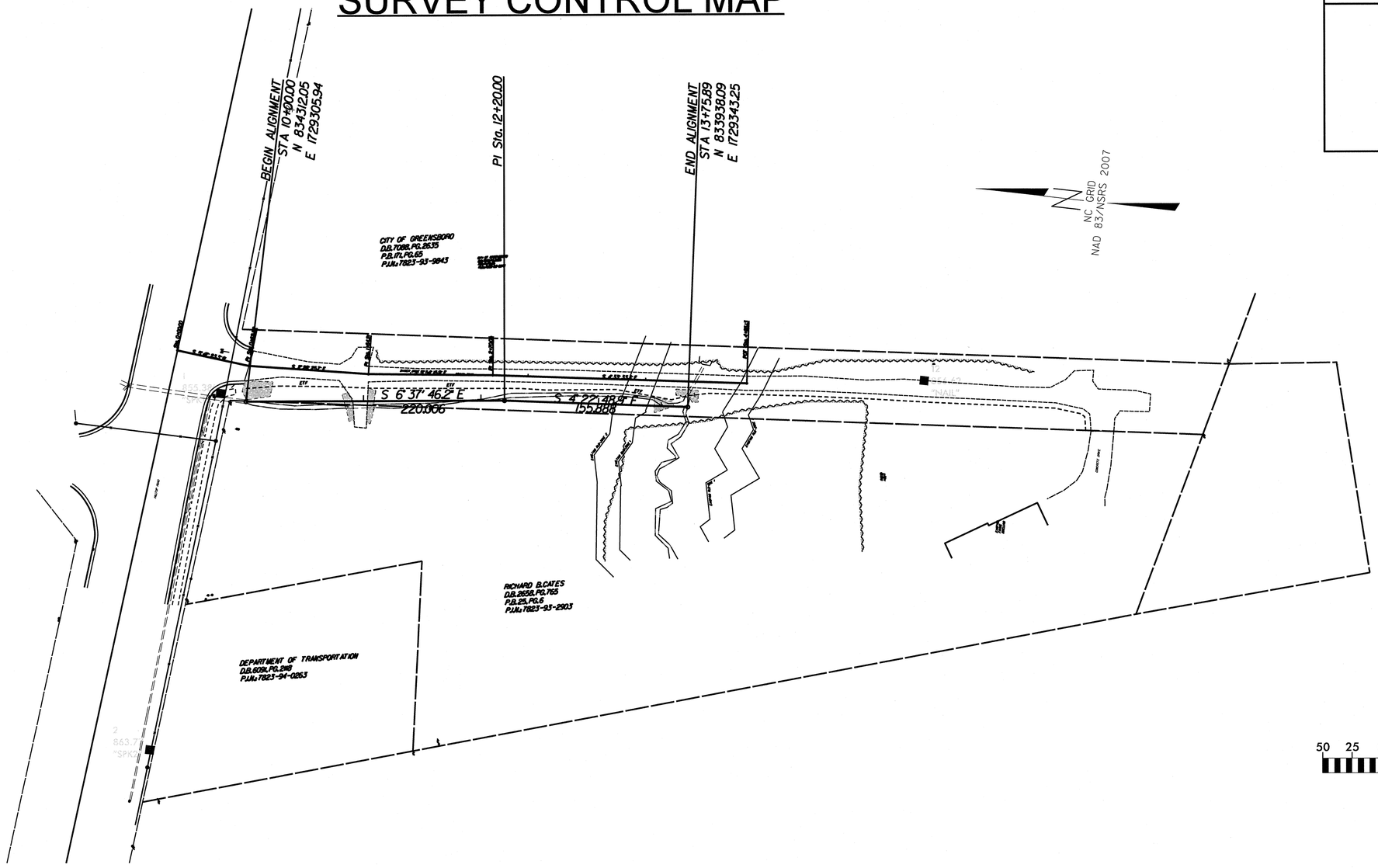

SURVEY CONTROL POINTS TABLE

POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	SPK1	834334.42	1729310.34	855.38
2	SPK2	834360.07	1729003.05	863.77
12	NAIL	833740.64	1729387.88	856.62
1003	NCGS-160W 200	834356.81	1734549.58	857.16
1004	NCGS-215E 200	834283.57	1731715.77	855.81

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "215E 200"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 834283.57(ft) EASTING: 1731715.77(ft)
ELEVATION: 855.81(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99993080
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "215E 200" TO STATION "160W 200" IS N 88°31'11" E 2834.75(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

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Eric N. Reardon
4-4-14

8/17/99

REVISIONS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV. (CY)	EMBANK. +15% (CY)	BORROW (CY)	WASTE (CY)	ABC (TON)	CLASS B RIPRAP (TON)	BOULDERS (TON)
STORM SEWER COVER		99	414	315		-	-	-
OUTLET PAD							24	4
DRIVEWAYS		-	-	-		24	-	-
GRAND TOTALS:		99	414	315		24	24	4
SAY:		99	414	315		24	24	4

SUMMARY OF DRAINAGE QUANTITIES

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT, RT, OR CL)'	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL
10+00	C	1		851.81	847.25		
		1	2		847.25	844.80	
10+87	C	2		849.21	844.70		
		2	3		844.70	839.96	
12+20	C	3		844.20	839.86		
		3	4		839.86	839.56	
12+82	C	4		842.18	839.46		
		4	5		839.46	839.42	
12+90	C	5		842.50	839.42		
TOTALS							

SIZE / THICKNESS OR GAUGE

STATION	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109
10+00																
10+87																
12+20																
12+82																
12+90																
TOTALS																

STATION	CLASS III R.C. PIPE OR ALUMINIZED C.S. PIPE, TYPE IR OR HDPE PIPE, TYPE S OR D 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.
10+00													
						87							
10+87													
						133							
12+20													
				124									
12+82													
				16									
12+90													2.0
TOTALS				140		220							2.0

STATION	QUANITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. 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	JUNCTION BOX STD. 840.31 OR 840.32	M.H. FRAME & COVER STD. 840.54	GRATED DROP INLET TYPE 'B' STD. 840.18 OR 840.27	FRAME AND NARROW SLOT SAG GRATE STD. 840.24	FRAME AND NARROW SLOT FLAT GRATE STD. 840.29	PRECAST DROP INLET DRAINAGE STRUCTURE #3	PRECAST DROP INLET DRAINAGE STRUCTURE #4	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD. 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN. FT.	REMARKS
10+00	1									1	1										J.B.
10+87	1											1	1								G.D.I.
12+20	1												1		1						G.D.I.
12+82	1													2		1					G.D.I.
12+90																					DOUBLE END WALL
TOTALS	4									1	1	1	2	2	1	1					TOTALS

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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PLAN & PROFILE SHEET

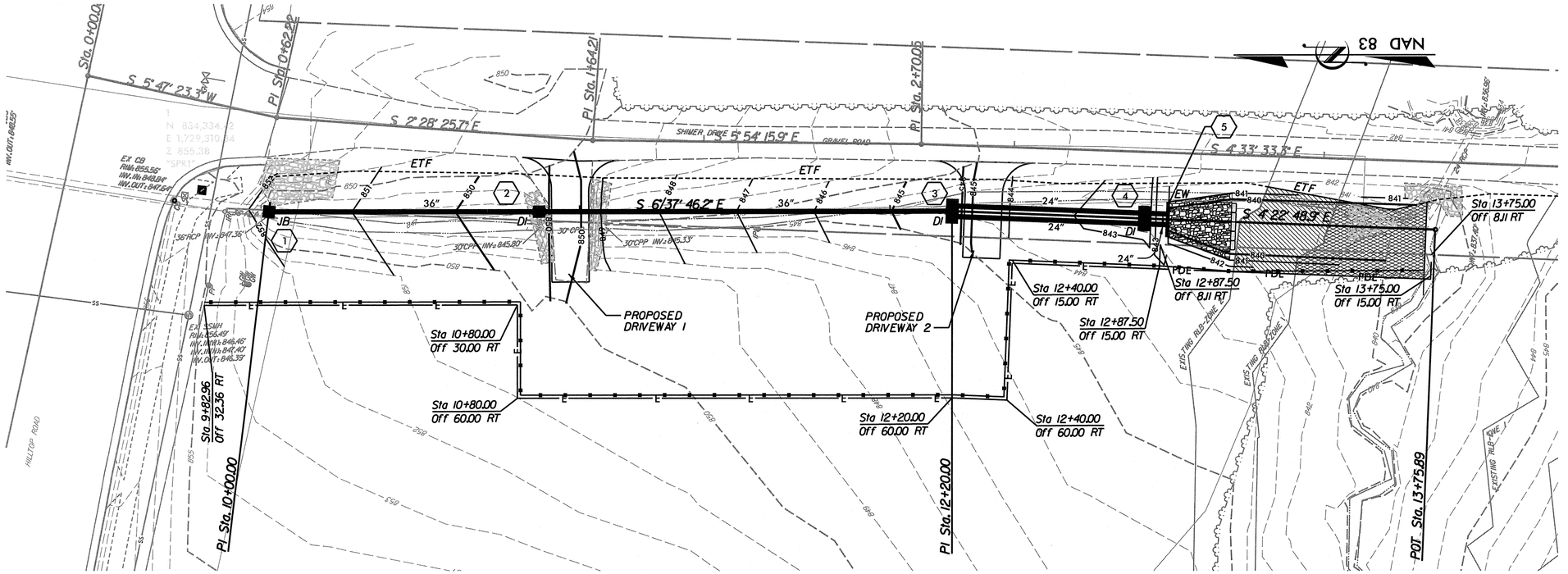
PROJECT REFERENCE NO.	SHEET NO.
R-4436GG	4

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 029911 ENGINEER ERIC N. REARDON

4-4-14

NOTE:
1. SEE DETAIL SHEETS FOR DRIVEWAY TYPICAL SECTION.



ALLOWABLE ZONE 1 IMPACTS 798 SF

ALLOWABLE ZONE 2 IMPACT 642 SF

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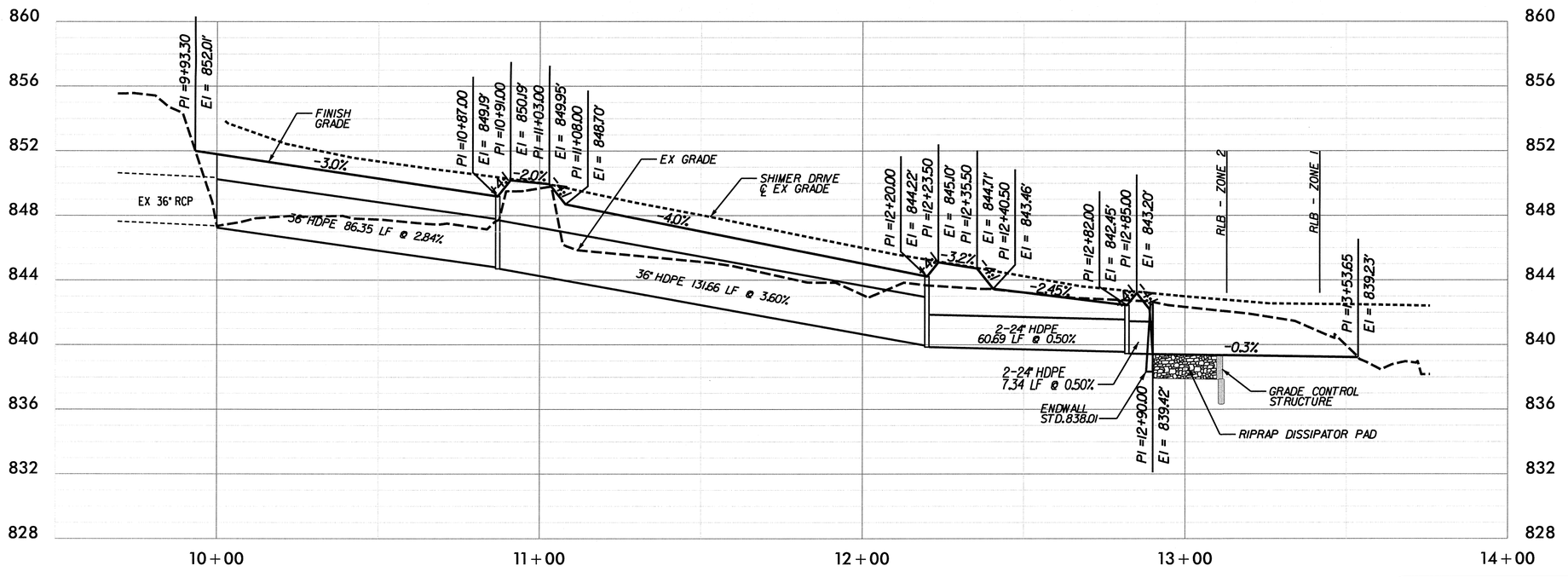
PLANS



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PROFILE (HORIZONTAL)

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PROFILE (VERTICAL)

WITHERS & RAVENEL
ENGINEERS I PLANNERS I SURVEYORS
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REVISIONS 8/17/99

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EROSION CONTROL PLAN

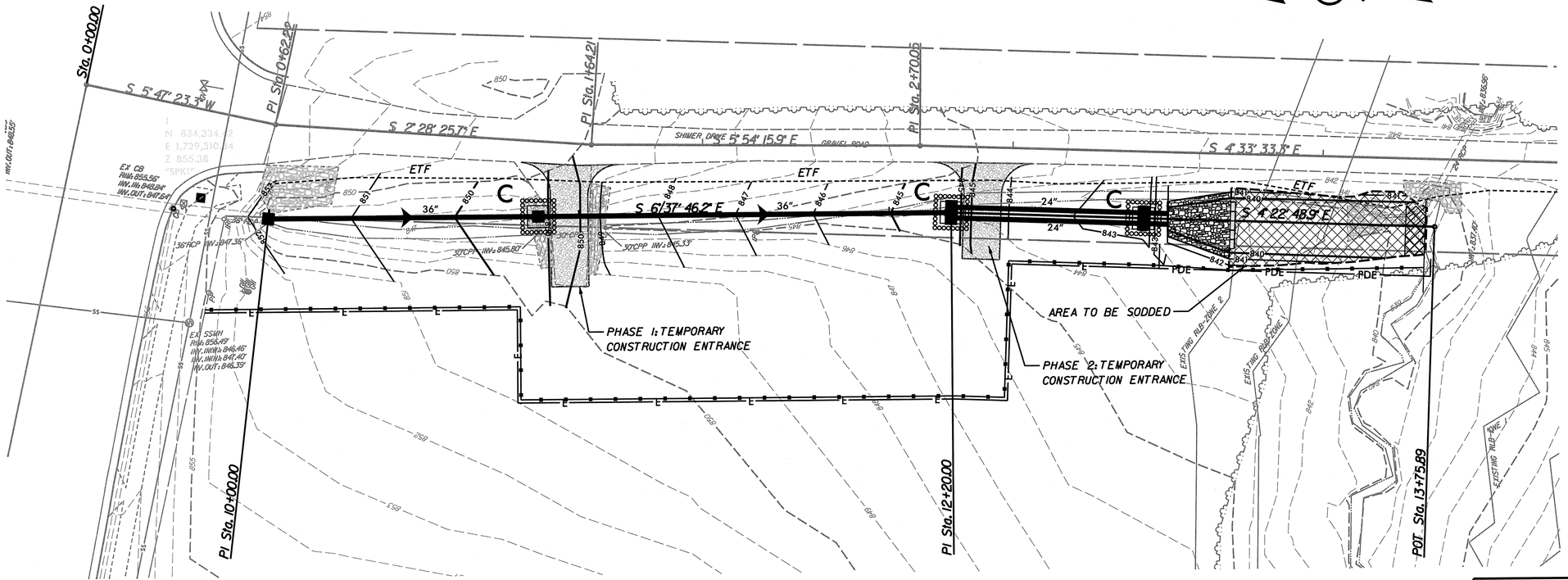
PROJECT REFERENCE NO.	SHEET NO.
R-4436GG	EC-1

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL 029911 ENGINEER ERIC N. REARDON

4-4-14

NAD 83



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PLANS

Std.#	Description	Symbol
1632.03	Rock Inlet Sediment trap Type 'C' (3 EA)	
1633.01	Temporary Rock Silt Check Type 'A' (1 EA)	
1633.02	Temporary Rock Silt Check Type 'B' (2 EA)	
PSP	Temporary Tree Protection Fence (465 LF)	

DISTURBED AREA
9,000 SF

SODDED AREA
1,366 SF

SODDED AREA

Note:
The area within the limits bounded by the designated "NRB-Zone 1" and "NRB-Zone 2" shall be considered as Environmentally Sensitive Area.

EROSION CONTROL NARRATIVE:

THIS PROJECT IS LOCATED ON THE WEST SIDE OF SHIMER DRIVE IN GUILFORD COUNTY, APPROXIMATELY 0.25 MILE EAST OF THE GUILFORD COLLEGE ROAD AND HILLTOP ROAD INTERSECTION.

CONSTRUCTION CONSISTS OF A STORMWATER MANAGEMENT RETROFIT PROJECT TO PROVIDE STORMWATER MANAGEMENT/RUNOFF CONTROL MEASURES AS WELL AS PERMANENT EROSION CONTROL MEASURES OF EXISTING STORMWATER SYSTEM OUTFALL ADJACENT TO SHIMER DRIVE.

SEDIMENT RUNOFF IS TO BE CONTROLLED BY GRAVEL INLET PROTECTION, AND TEMPORARY ROCK SILT CHECK DAM AS SHOWN ON THE PLANS. DRAINAGE FROM THIS SITE CONTRIBUTES TO THE BULL RUN TRIBUTARY.

THIS SITE HAS NO FEMA MAPPED FLOODPLAINS AS REFERENCED BY FIRM MAP NO. 3710782300J DATED 6-18-07.

WETLAND AREAS SHALL NOT BE CLEARED, DRAINED, FILLED, OR OTHERWISE IMPACTED EXCEPT AS PERMITTED BY NCDENR AND U.S. ARMY CORPS OF ENGINEERS.

CONSTRUCTION SEQUENCE NOTES:

PROJECT REQUIRES A PRE-CONSTRUCTION CONFERENCE PRIOR TO GRADING PERMIT BEING ISSUED.

1. INSTALL ALL TREE PROTECTION FENCE AS SHOWN ON PLAN. OBTAIN APPROVAL OF INSTALLATION.
2. OBTAIN GRADING PERMIT.
3. CLEAR ONLY AS NEEDED TO INSTALL PERIMETER EROSION CONTROL DEVICES.
4. INSTALL EROSION CONTROL MEASURES. OBTAIN CERTIFICATE OF COMPLIANCE FROM EROSION CONTROL INSPECTOR.
5. CLEAR & GRUB AREAS WITHIN CONSTRUCTION LIMITS AND BEGIN GRADING ACTIVITIES.
6. CONSTRUCT STORM DRAINAGE SYSTEM, BEGINNING AT THE STREAM AND WORKING UPSTREAM. GRADE THE OULET CHANNEL INSTALL GRADE CONTROL STRUCTURE, DISSIPATOR PAD AND ENDWALL.
7. INSTALL STORM DRAINAGE, BEGINNING AT ENDWALL AND WORKING UPSTREAM. MAINTAIN INLET PROTECTION DEVICES AS DRAINAGE STRUCTURES ARE INSTALLED AND AREAS ARE BROUGHT UP TO FINISHED GRADE.
8. CONSTRUCT PHASE 2 CONSTRUCTION ENTRANCE PRIOR TO DISTURBING THE PHASE 1 CONSTRUCTION ENTRANCE.
9. COMPLETE CONSTRUCTION BY PLACING SOD IN CHANNEL ACCORDING TO SPECIFICATIONS, CONVERT TEMPORARY CONSTRUCTION ENTRANCES TO DRIVEWAYS,
10. STABILIZING ALL DISTURBED AREAS BY SEEDING AND MULCHING. FOLLOW SEEDING/MULCHING GUIDELINES TO PRODUCE A VEGETATIVE COVER.
11. UPON SUBSTANTIAL COMPLETION OF WORK, REQUEST FINAL APPROVAL FROM EROSION CONTROL INSPECTOR. UPON APPROVAL, REMOVE ALL TEMPORARY EROSION CONTROL DEVICES.

MAINTENANCE PLAN:

1. ALL EROSION AND SEDIMENTATION CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 6-INCHES DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
3. INLET PROTECTION DEVICES SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT. DAMAGED SILT FENCE SHALL BE REPLACED AND GRAVEL SHALL BE CLEANED OR REPLACED WHEN INLET NO LONGER DRAINS PROPERLY.

EROSION CONTROL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS, LATEST REVISION.
2. TREE PROTECTION FENCING SHALL BE INSTALLED AND INSPECTED PRIOR TO ISSUANCE OF A GRADING PERMIT.
3. CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES DURING THE LIFE OF THE PROJECT UNLESS OTHERWISE INDICATED ON THE PLANS OR DIRECTED BY THE NCDOT INSPECTOR.
4. CONTRACTOR SHALL CONSTRUCT DIVERSION DITCHES AS NECESSARY TO ENSURE THAT ALL SEDIMENT IS DIRECTED INTO EROSION CONTROL MEASURES.
5. CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 15 DAYS OF ANY PHASE OF GRADING.
6. ALL STREETS ADJACENT TO THIS PROJECT MUST REMAIN CLEAN AT ALL TIMES OR A WASH STATION MAY BE REQUIRED.
7. TOPSOIL STOCKPILING SHALL OCCUR AT A SITE APPROVED BY THE NCDOT OR WASTED OFFSITE.

GENERAL NOTES:

1. EXISTING TOPOGRAPHY TAKEN FROM FIELD SURVEY BY WITHERS & RAVENEL, INC.
2. THE TEMPORARY ROCK SILT CHECK DAM SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION IS SCHEDULED.
3. PERMANENT GROUND COVER WILL BE ESTABLISHED WITH IN 14 DAYS.

SOD:

1. ALL SOD TO BE TALL FESCUE.
2. ALL SOD TO BE ROLLS, NOT SQUARES, AND INSTALLED USING STAPLES PER SECTION 1664-3, SODDING.
3. SOD SHALL BE APPROVED BY CONSTRUCTION INSPECTOR PRIOR TO PLACEMENT

SODBED PREPARATION:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA OUTSIDE OF THE BIO-FILTRATION TRENCH TO 6 INCHES DEPTH.
3. REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS LEAVING SURFACES REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW*).
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SODBED IS PREPARED 4 TO 6 INCHES DEEP.
6. SOD THE FRESHLY PREPARED SODBED.
7. INSPECT ALL SODDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 70% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
8. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

* APPLY: AGRICULTURAL LIMESTONE – 2 TONS/ACRE (34 TONS/ACRE ON CLAY SOILS)
FERTILIZER – 1,000 LBS./ACRE – 10-10-10
SUPERPHOSPHATE – 500 LBS./ACRE – 20%
MULCH – 2 TONS/ACRE – SMALL GRAIN STRAW
ANCHOR – ASPHALT EMULSION @ 300 GAL. ACRE

SEEDING SCHEDULE SHOULDERS, SIDE DITCHES, SLOPES (MAX. 3:1)

DATE	TYPE	PLANTING RATE
AUG 15 - NOV 1	TALL FESCUE	300 LBS/ACRE
NOV 1 - MAR 1	TALL FESCUE & ABRUZZI RYE	300 LBS/ACRE
MAR 1 - APR 15	TALL FESCUE	300 LBS/ACRE
APR 15 - JUNE 30	HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JUNE 30 - AUG 15	TALL FESCUE AND *** BROWNTOP MILLET *** OR SORGHUM-SUDAN HYBRIDS	35 LBS/ACRE

SLOPES (3:1 TO 2:1)

DATE	TYPE	PLANTING RATE
MAR 1 - JUNE 1	SERICEA LESPEDEZA (SCARIFIED) AND	50 LBS/ACRE
MAR 1 - APR 15	ADD TALL FESCUE AND	120 LBS / ACRE
MAR 1 - JUNE 30	ADD WEEPING LOVEGRASS OR	10 LBS / ACRE
MAR 1 - JUNE 30	ADD HULLED COMMON BERMUDAGRASS	25 LBS / ACRE
JUNE 1 - SEP 1	*** TALL FESCUE AND *** BROWNTOP MILLET *** OR SORGHUM-SUDAN HYBRIDS	120 LBS / ACRE 35 LBS / ACRE 30 LBS / ACRE
SEP 1 - MAR 1	SERICEA LESPEDEZA (UNHULLED-UNSCARIFIED) AND TALL FESCUE	70 LBS / ACRE 120 LBS / ACRE
NOV 1 - MAR 1	ADD ABRUZZI RYE	25 LBS / ACRE

CONSULT EROSION CONTROL ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

*** TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12 INCHES IN HEIGHT BEFORE MOWING, OTHERWISE FESCUE MAY BE SHADED OUT.

WITHERS & RAVENEL
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REVISIONS 8/17/99

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