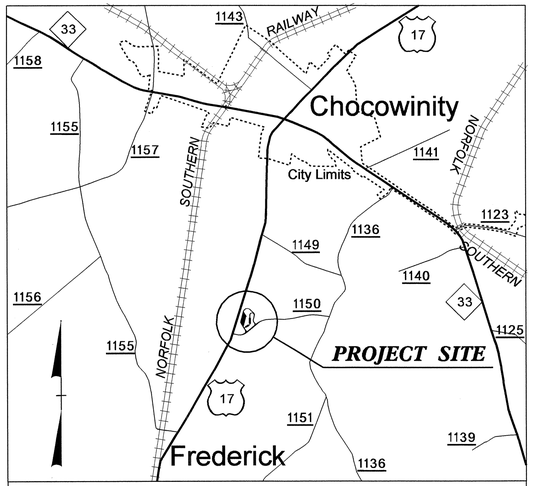
TIP PROJECT: K-3800

CONTRACT: C203304

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

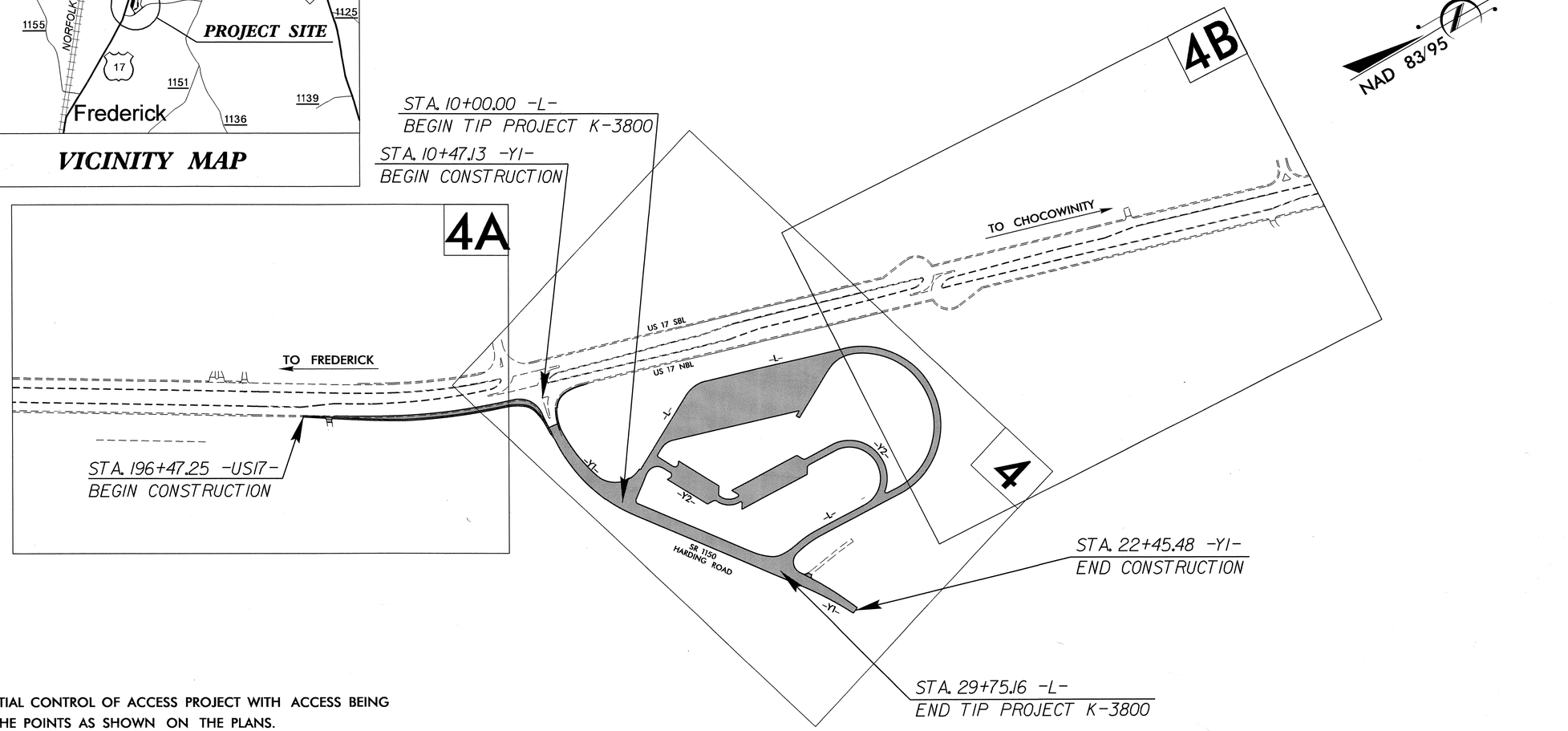
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	K-3800	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38748.1.1	NHS-0017(32)	PE
38748.2.1	NHS-0017(32)	ROW, UTIL
38748.3.FS1	NHS-0017(32)	CONST

BEAUFORT COUNTY

LOCATION: US 17 BEAUFORT COUNTY REST AREA

TYPE OF WORK: REST AREA, GRADING, DRAINAGE, AND PAVING



THIS IS A PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO THE POINTS AS SHOWN ON THE PLANS.

GRAPHIC SCALES

50 25 0 50 100 — PLANS

50 25 0 50 100 — PROFILE (HORIZONTAL)

10 5 0 10 20 — PROFILE (VERTICAL)

DESIGN DATA

ADT 2014 = 935
ADT 2034 = 1,425
K = N/A %
D = N/A %
T = 12 %
V = 20 MPH

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT K-3800 = 0.374 MILES
TOTAL LENGTH TIP PROJECT K-3800 = 0.374 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 20, 2009

LETTING DATE: JANUARY 21, 2014

G. E. BREW, PE
PROJECT ENGINEER

THAD F. DUNCAN, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33246 ENGINEER LINDA M. JOHNS

11-1-13 P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN

Thad F. Duncan 11-1-13 P.E.
SIGNATURE:

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION

09/08/99

18-OCT-2013 11:20
R:\Roadway\Proj\K3800_rdy_tsh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER HAD F. DUNCAN

11-19-13

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-D	SURVEY CONTROL SHEETS
2 THRU 2-B	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND CROSS SECTION LAYOUT SHEET
2-C	SCHEMATIC HAZARDOUS SPILL BASIN DETAIL
2-D	CATCH BASIN SPLITTER BOX DETAIL
2-E	DETAIL OF OUTLET CONTROL STRUCTURES A AND B
2-F	HYDRO DITCH DETAILS
2-G	BIORETENTION/HAZARDOUS SPILL BASIN DETAIL
2-H	WALL LEVEL SPREADER DETAIL
~~3~~	~~SUMMARY OF QUANTITIES~~
3-A THRU 3-C	SUMMARY OF DRAINAGE QUANTITIES
3-D	EARTHWORK SUMMARY, SUBSURFACE DRAINAGE SUMMARY, ASPHALT PAVEMENT REMOVAL, AND ASPHALT PAVEMENT BREAKING SUMMARIES
3-E	PARCEL INDEX SHEET
4 THRU 4-B	PLAN SHEETS
5 AND 6	PROFILE SHEETS
TMP-1 THRU TMP-6	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
E-1 THRU E-4	ELECTRICAL PLANS
EC-1 THRU EC-9	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-7	SIGNING PLANS
UC-1 THRU UC-14	UTILITIES PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
LT-001 THRU E-400	REST AREA PLANS (SEE SHEETS LT-001 AND A001 FOR INDEX)
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-19	CROSS-SECTIONS

GENERAL NOTES:

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

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 III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04
SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

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

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY PROGRESS (POWER), BEAUFORT COUNTY-WATER, AND TOWN OF CHOCOWINITY-SANITARY SEWER.

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

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS.
CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

EFF. 01-17-2012
REV. 10-30-2012

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.02	Concrete Endwall and Sluice Gate - 15" thru 36" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.21	Reinforced Concrete Endwall - for Single 54" Pipe 90 Skew
838.27	Reinforced Concrete Endwall - for Single 60" Pipe 90 Skew
838.45	Notes for Reinforced Concrete Endwall - Std. Dwg 838.21 thru 838.40
838.51	Reinforced Brick Endwall - for Single 54" Pipe 90 Skew
838.57	Reinforced Brick Endwall - for Single 60" Pipe 90 Skew
838.75	Notes for Reinforced Brick Endwall - Std. Dwg 838.51 thru 838.70
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.45	Precast Drainage Structure
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout - Drop Curb Type
848.05	Curb Ramp - Proposed Curb & Gutter
850.01	Concrete Paved Ditches
852.01	Concrete Islands
866.01	Chain Link Fence - 4', 5' and 6' High Fence
866.02	Woven Wire Fence - with Wood Post
876.02	Guide for Rip Rap at Pipe Outlets

8/17/99

19-NOV-2013 08:28
R:\Roadway\Proj\k3800_rdy_tsh.dgn
$$$$USERNAME$$$$

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
K-3800	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
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

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 R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- 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 Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- 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 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
- 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:

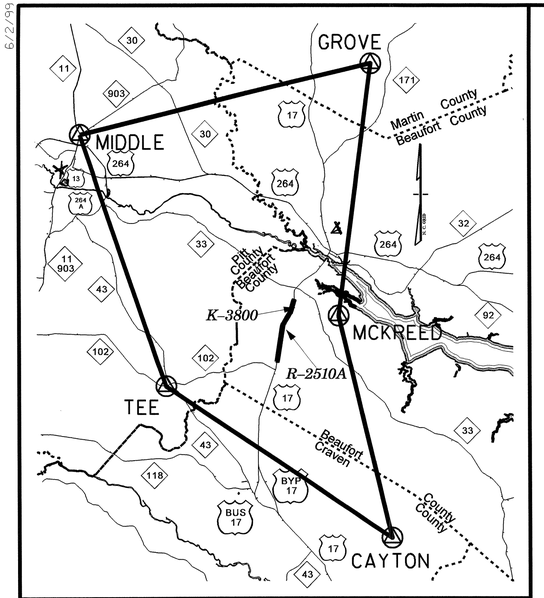
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

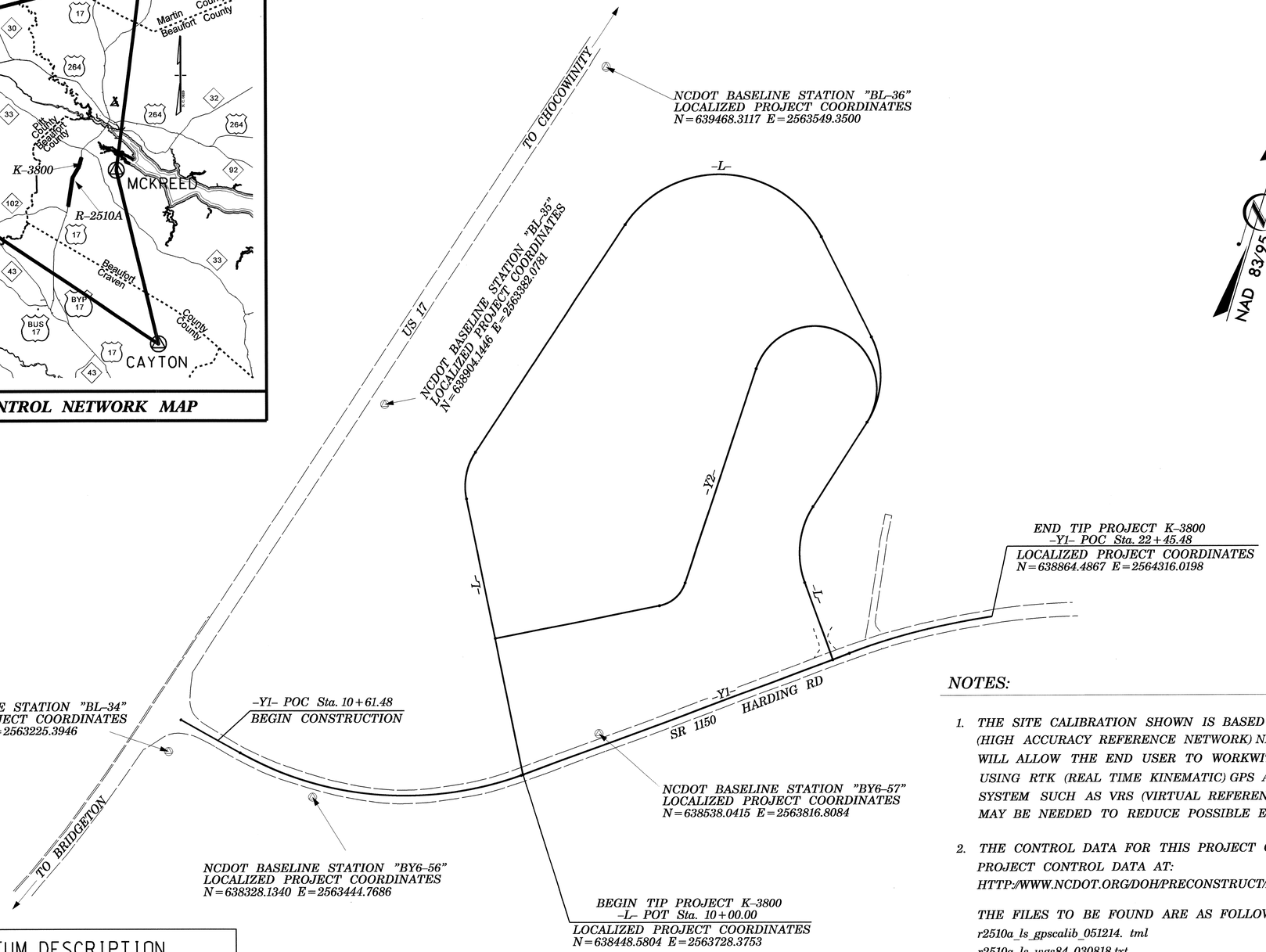
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According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

PROJECT REFERENCE NO.	SHEET NO.
K-3800	1-C
Location and Surveys	

SURVEY CONTROL SHEET K-3800



GPS CONTROL NETWORK MAP



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2510AW-2"
WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 665164.1880(ft) EASTING: 2569499.8347(ft)
ELEVATION: 3.37(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99989282
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R2510AW-2" TO -L- STATION 10+00.00 IS
S 12°11'25.6" W 27331.91(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

NOTES:

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORKWITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.

2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTP:/WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

THE FILES TO BE FOUND ARE AS FOLLOWS:
r2510a_ls_gpscalib_051214. tml
r2510a_ls_wgs84_030818.txt
r2510a_ls_local_030818.txt
k3800_ls_control_090520.txt

THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

△ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

6/2/99
18-OCT-2013 11:20
C:\PROJECTS\K-3800_ls_lc_090520.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	1-D
Location and Surveys	

SURVEY CONTROL SHEET K-3800

GPS CALIBRATION REPORT

PROJECT : 34440.1.1 AND 38748.1.1

TIP NUMBER	R-2510A AND K-3800		
USER NAME	BREIGNER	DATE & TIME	8:08:01 AM 8/14/2003
COORDINATE SYSTEM	US STATE PLANE 1983	ZONE	NORTH CAROLINA 3200
HORIZONTAL DATUM	NAD 1983/95 (CONUS)		
VERTICAL DATUM	NAVD88	GEOID MODEL	GEOID99 (CONUS)
COORDINATE UNITS	US SURVEY FEET		
DISTANCE UNITS	US SURVEY FEET		
HEIGHT UNITS	US SURVEY FEET		

THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION USES A LOCALIZED COORDINATE SYSTEM WHICH IS VERY SIMILAR TO NORTH CAROLINA ZONE 3200 FROM WHICH IT IS DERIVED.
PLEASE TAKE CARE IN UTILIZING THESE COORDINATES TO ELIMINATE CONFUSION OF THE TWO SYSTEMS.
THIS FILE IS TO AID IN THE USE OF REAL TIME KINEMATIC (RTK) GPS DURING CONSTRUCTION LAYOUT.

DATUM TRANSFORMATION PARAMETERS

DATUM TRANSFORMATION COMPUTATION NOT REQUESTED

UPDATED DEFAULT PROJECTION (TRANSVERSE MERCATOR) DEFINITION

UPDATED DEFAULT PROJECTION NOT REQUESTED

HORIZONTAL ADJUSTMENT PARAMETERS

NORTHING COORDINATE OF ROTATION CENTER	638753.152SFT
EASTING COORDINATE OF ROTATION CENTER	2560248.737SFT
ROTATION ABOUT THE CENTER POINT	0°00'00"
TRANSLATION NORTH	-2.835SFT
TRANSLATION EAST	-0.989SFT
SCALE FACTOR	1.00010736

VERTICAL ADJUSTMENT PARAMETERS

NORTHING COORDINATE OF ORIGIN POINT	702368.588SFT
EASTING COORDINATE OF ORIGIN POINT	2486939.757SFT
VERTICAL SEPARATION AT ORIGIN	0.126SFT
SLOPE NORTH	-0.114PPM
SLOPE EAST	-1.080PPM

GEOID MODEL DEFINITION

GEOID99 (CONUS)

RESIDUAL DIFFERENCES BETWEEN GPS (WGS84) AND LOCAL COORDINATES

SUMMARY

	MAXIMUM ERROR	ROOT MEAN SQUARE ERROR	POINT	
HORIZONTAL	0.010SFT	0.002	MCKREED - WGS84	
VERTICAL	0.053SFT	0.008	R2510A-6 - WGS84	3D ERROR
THREE-DIMENSIONAL	0.054SFT	0.008	R2510A-6 - WGS84	

POINT RESIDUALS

WGS84 COORDINATES	CALCULATED POINT FOR DISPLAY ONLY	LOCAL COORDINATES
POINT MIDDLE - WGS84	NORTHING 702368.588SFT	POINT MIDDLE - LOCAL
LATITUDE 35°40'07.69972"N	EASTING 2486939.757SFT	NORTHING 702368.584SFT
LONGITUDE 77°21'37.60140"W	ELEVATION 42.102SFT	EASTING 2486939.754SFT
HEIGHT -75.377SFT	HORZ ERROR 0.004SFT	ELEVATION 42.064SFT
	VERT ERROR 0.038SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.038SFT	QUALITY SURVEY QUALITY
POINT GROVE - WGS84	NORTHING 727662.515SFT	POINT GROVE - LOCAL
LATITUDE 35°43'58.69914"N	EASTING 2592422.700SFT	NORTHING 727662.517SFT
LONGITUDE 77°00'13.30912"W	ELEVATION 36.663SFT	EASTING 2592422.706SFT
HEIGHT -82.526SFT	HORZ ERROR 0.006SFT	ELEVATION 36.674SFT
	VERT ERROR 0.011SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.013SFT	QUALITY SURVEY QUALITY
POINT TEE - WGS84	NORTHING 611044.350SFT	POINT TEE - LOCAL
LATITUDE 35°24'59.40821"N	EASTING 2518048.598SFT	NORTHING 611044.343SFT
LONGITUDE 77°15'40.02676"W	ELEVATION 40.213SFT	EASTING 2518048.603SFT
HEIGHT -79.583SFT	HORZ ERROR 0.009SFT	ELEVATION 40.237SFT
	VERT ERROR 0.024SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.026SFT	QUALITY SURVEY QUALITY
POINT CAYTON - WGS84	NORTHING 556029.427SFT	POINT CAYTON - LOCAL
LATITUDE 35°15'40.10785"N	EASTING 2599879.407SFT	NORTHING 556029.426SFT
LONGITUDE 76°59'25.02715"W	ELEVATION 30.321SFT	EASTING 2599879.399SFT
HEIGHT -91.171SFT	HORZ ERROR 0.008SFT	ELEVATION 30.286SFT
	VERT ERROR 0.035SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.036SFT	QUALITY SURVEY QUALITY
POINT R2510AW-2 - WGS8	NORTHING 665164.189SFT	POINT R2510AW-2 - LOCA
LATITUDE 35°33'45.20023"N	EASTING 2569499.835SFT	NORTHING 665164.189SFT
LONGITUDE 77°05'05.91014"W	ELEVATION 3.368SFT	EASTING 2569499.835SFT
HEIGHT -116.598SFT	HORZ ERROR 0.001SFT	ELEVATION 3.367SFT
	VERT ERROR 0.001SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.002SFT	QUALITY SURVEY QUALITY
POINT R2510A-7 - WGS84	NORTHING 644318.613SFT	POINT R2510A-7 - LOCAL
LATITUDE 35°30'20.00930"N	EASTING 2564590.467SFT	NORTHING 644318.617SFT
LONGITUDE 77°06'10.14123"W	ELEVATION 38.893SFT	EASTING 2564590.464SFT
HEIGHT -81.299SFT	HORZ ERROR 0.005SFT	ELEVATION 38.872SFT
	VERT ERROR 0.021SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.021SFT	QUALITY SURVEY QUALITY
POINT PITTMAN - WGS84	NORTHING 642922.518SFT	POINT PITTMAN - LOCAL
LATITUDE 35°30'06.21209"N	EASTING 2564549.980SFT	NORTHING 642922.518SFT
LONGITUDE 77°06'10.95348"W	ELEVATION 41.233SFT	EASTING 2564549.981SFT
HEIGHT -78.973SFT	HORZ ERROR 0.001SFT	ELEVATION 41.211SFT
	VERT ERROR 0.022SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.022SFT	QUALITY SURVEY QUALITY
POINT MCKREED - WGS84	NORTHING 636792.404SFT	POINT MCKREED - LOCAL
LATITUDE 35°29'02.51477"N	EASTING 2580630.185SFT	NORTHING 636792.412SFT
LONGITUDE 77°02'57.96732"W	ELEVATION 33.448SFT	EASTING 2580630.179SFT
HEIGHT -87.034SFT	HORZ ERROR 0.010SFT	ELEVATION 33.416SFT
	VERT ERROR 0.032SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.033SFT	QUALITY SURVEY QUALITY
POINT R2510A-6 - WGS84	NORTHING 636165.281SFT	POINT R2510A-6 - LOCAL
LATITUDE 35°28'59.88014"N	EASTING 2561976.585SFT	NORTHING 636165.279SFT
LONGITUDE 77°06'43.62562"W	ELEVATION 46.309SFT	EASTING 2561976.587SFT
HEIGHT -73.924SFT	HORZ ERROR 0.002SFT	ELEVATION 46.362SFT
	VERT ERROR 0.053SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.054SFT	QUALITY SURVEY QUALITY
POINT R2510A-5 - WGS84	NORTHING 635130.457SFT	POINT R2510A-5 - LOCAL
LATITUDE 35°28'49.76373"N	EASTING 2561358.410SFT	NORTHING 635130.455SFT
LONGITUDE 77°06'51.33671"W	ELEVATION 48.173SFT	EASTING 2561358.415SFT
HEIGHT -72.060SFT	HORZ ERROR 0.005SFT	ELEVATION 48.209SFT
	VERT ERROR 0.036SFT	UTILIZED HORZ AND VERT
POINT R2510AW-1 - WGS8	NORTHING 629921.299SFT	POINT R2510AW-1 - LOCA
LATITUDE 35°27'56.77524"N	EASTING 2569177.394SFT	NORTHING 629921.302SFT
LONGITUDE 77°05'18.02592"W	ELEVATION 34.557SFT	EASTING 2569177.393SFT
HEIGHT -85.840SFT	HORZ ERROR 0.003SFT	ELEVATION 34.558SFT
	VERT ERROR 0.001SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.003SFT	QUALITY SURVEY QUALITY
POINT R2510A-4 - WGS84	NORTHING 626739.970SFT	POINT R2510A-4 - LOCAL
LATITUDE 35°27'27.20684"N	EASTING 2559167.172SFT	NORTHING 626739.970SFT
LONGITUDE 77°07'19.74574"W	ELEVATION 55.614SFT	EASTING 2559167.174SFT
HEIGHT -64.662SFT	HORZ ERROR 0.002SFT	ELEVATION 55.640SFT
	VERT ERROR 0.026SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.026SFT	QUALITY SURVEY QUALITY
POINT R2510A-3 - WGS84	NORTHING 625463.139SFT	POINT R2510A-3 - LOCAL
LATITUDE 35°27'14.60892"N	EASTING 2559018.406SFT	NORTHING 625463.136SFT
LONGITUDE 77°07'21.83552"W	ELEVATION 57.079SFT	EASTING 2559018.408SFT
HEIGHT -63.205SFT	HORZ ERROR 0.003SFT	ELEVATION 57.067SFT
	VERT ERROR 0.012SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.012SFT	QUALITY SURVEY QUALITY
POINT R2510A-2 - WGS84	NORTHING 621502.775SFT	POINT R2510A-2 - LOCAL
LATITUDE 35°26'35.57312"N	EASTING 2558345.743SFT	NORTHING 621502.775SFT
LONGITUDE 77°07'30.88874"W	ELEVATION 57.846SFT	EASTING 2558345.742SFT
HEIGHT -62.461SFT	HORZ ERROR 0.001SFT	ELEVATION 57.832SFT
	VERT ERROR 0.014SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.014SFT	QUALITY SURVEY QUALITY
POINT R2510A-1 - WGS84	NORTHING 620029.220SFT	POINT R2510A-1 - LOCAL
LATITUDE 35°26'21.04579"N	EASTING 2558111.579SFT	NORTHING 620029.221SFT
LONGITUDE 77°07'34.03443"W	ELEVATION 60.371SFT	EASTING 2558111.577SFT
HEIGHT -59.944SFT	HORZ ERROR 0.002SFT	ELEVATION 60.394SFT
	VERT ERROR 0.023SFT	UTILIZED HORZ AND VERT
	3D ERROR 0.023SFT	QUALITY SURVEY QUALITY

BASELINE CONTROL

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
34	BL-34	638330.9183	2563225.3946	43.58	11+34.93	498.63 LT
35	BL-35	638904.1446	2563382.0781	41.35	14+72.44	148.63 LT
36	BL-36	639468.3117	2563549.3500	37.81	19+58.84	196.61 LT

BY6

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
55	BL-34	638330.9183	2563225.3946	43.58	10+06.73	49.17 RT
56	BY6-56	638328.1340	2563444.7686	43.12	12+17.98	19.96 RT
57	BY6-57	638538.0415	2563816.8084	41.63	16+48.83	18.09 LT

NOTES:

THE GPS AND BASELINE CONTROL FROM R-2510A WAS USED FOR THIS PROJECT.
THERE WERE NO SUPPLEMENTAL BENCHMARKS SET FOR THIS PROJECT.

18-OCT-2003 11:20
r:\roadway\proj\k3800_rdy\k3800_1s_1d_090520.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN 11-5-13

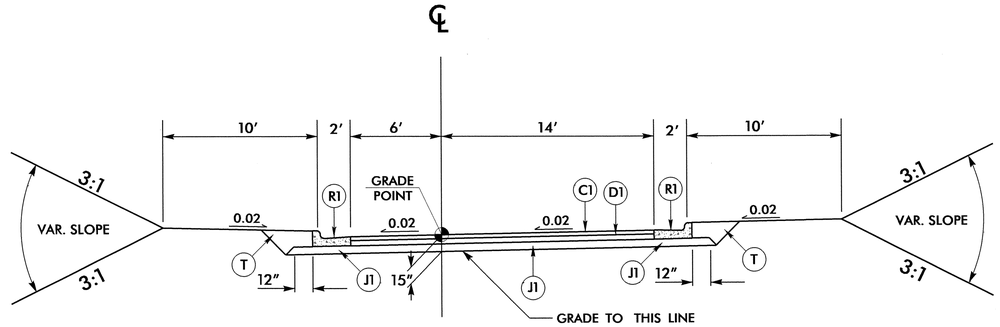
NORTH CAROLINA PROFESSIONAL SEAL 039849 ENGINEER ANTONIA TIMPERMAN NOVEMBER 4th 2013

PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

C1	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.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
J1	PROP. 8" AGGREGATE BASE COURSE.
P	PRIME COAT AT THE RATE OF 0.35 GAL. PER SQ. YARD.
R1	2'-6" CONCRETE CURB AND GUTTER.
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL.

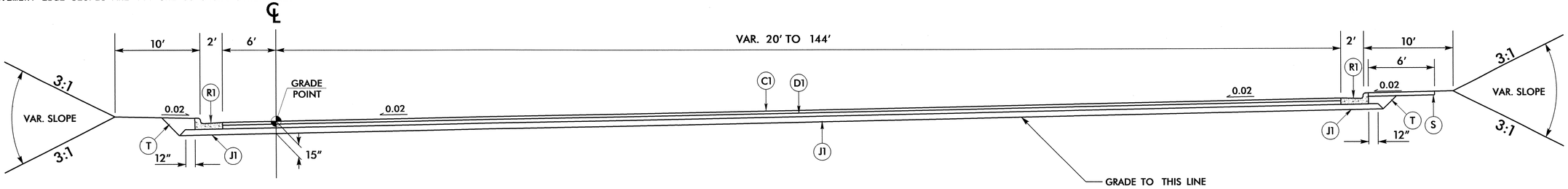
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

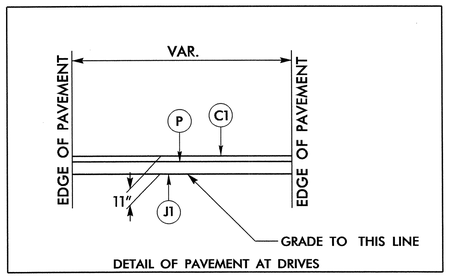
-L- STA. 10+18.02 TO -L- STA. 11+14.38 TRANSITION FROM EXIST.
-L- STA. 11+14.38 TO -L- STA. 12+03.04
-L- STA. 18+99.81 TO -L- STA. 28+88.02
-L- STA. 28+88.02 TO -L- STA. 29+56.53 TRANSITION TO EXIST.



TYPICAL SECTION NO. 2

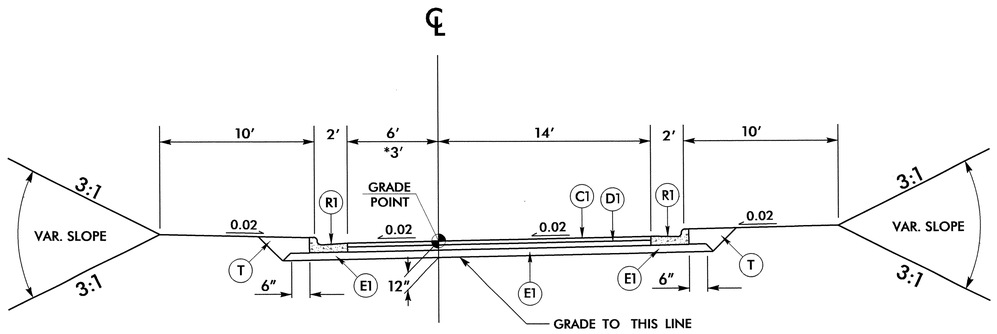
USE TYPICAL SECTION NO. 2

-L- STA. 12+03.04 TO -L- STA. 18+99.81



DETAIL OF PAVEMENT AT DRIVES

-Y2- 15+84 LT
-L- 20+46 LT



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-Y2- STA. 10+14.00 TO -Y2- STA. 10+73.49
*-Y2- STA. 12+43.68 TO -Y2- STA. 12+96.06
-Y2- STA. 15+36.77 TO -Y2- STA. 19+06.72

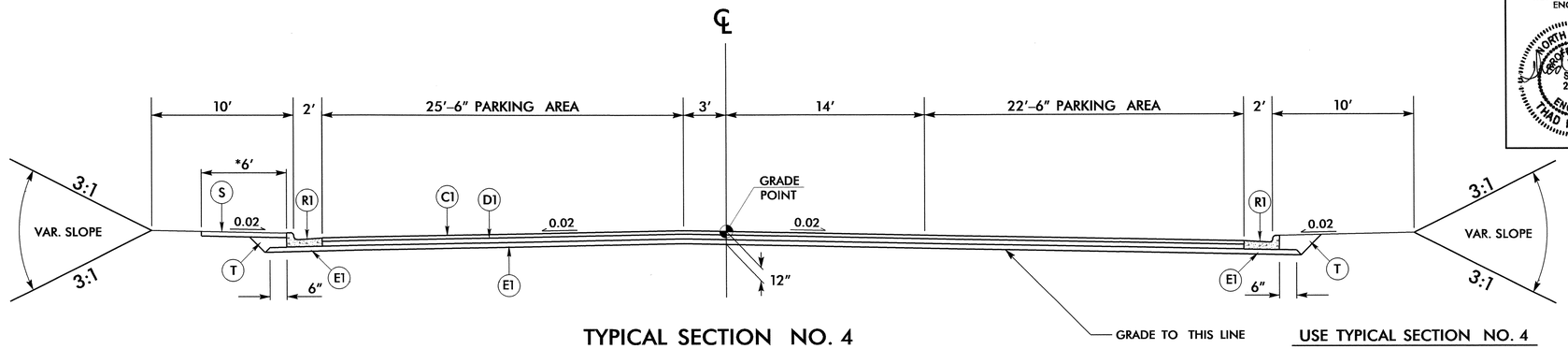
6/2/99
04-NOV-2013 14:34
r:\roadway\proj\k_3800_rdy_typ.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER MAD F. DUNCAN 11-5-13

NORTH CAROLINA PROFESSIONAL SEAL 049819 ENGINEER STONEY L. REYNARD November 4th, 2013

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	3" S9.5B
C2	3" S9.5C
D1	4" I19.0B
D2	3" I19.0C
E1	5" B25.0B
E2	5.5" B25.0C
J1	8" ABC
R1	2'-6" C & G
S	SIDEWALK
T	EARTH MATERIAL



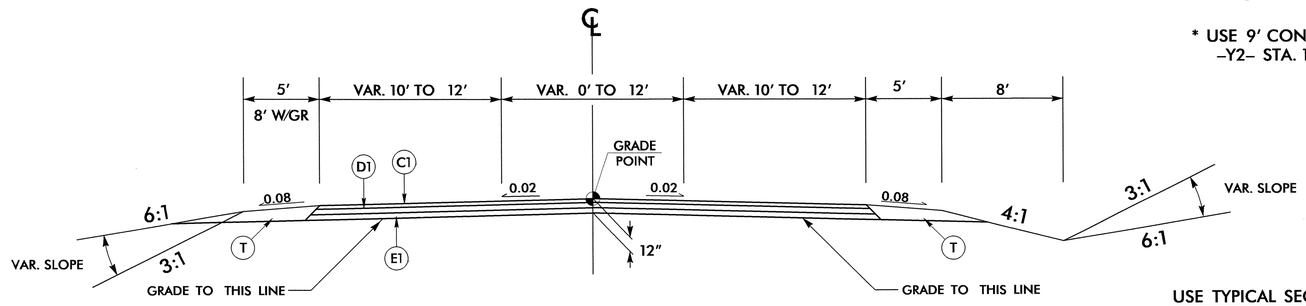
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4

-Y2- STA. 10+73.49 TO -Y2- STA. 12+43.68

-Y2- STA. 12+96.06 TO -Y2- STA. 15+36.77

* USE 9' CONCRETE SIDEWALK FOR HANDICAP ACCESS
-Y2- STA. 12+77.15 TO -Y2- STA. 13+59.18

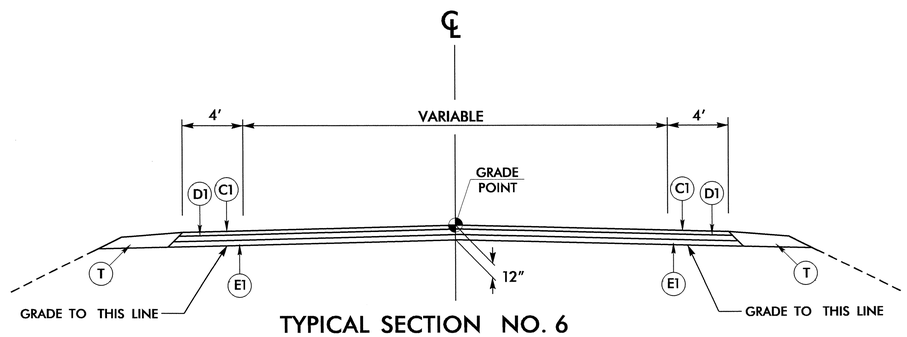


TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

-Y1- STA. 11+51.53 TO -Y1- STA. 14+22.73 TAPER FROM EXIST.
-Y1- STA. 14+22.73 TO -Y1- STA. 20+45.48
-Y1- STA. 20+45.48 TO -Y1- STA. 22+45.48 TAPER TO EXIST.

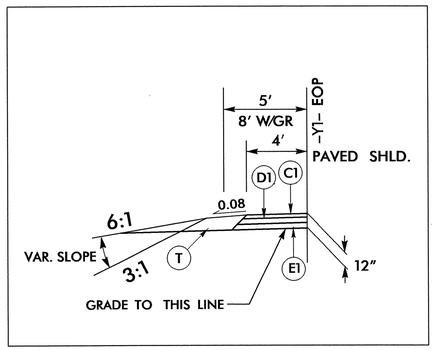
* SEE INSET NO. 1



TYPICAL SECTION NO. 6

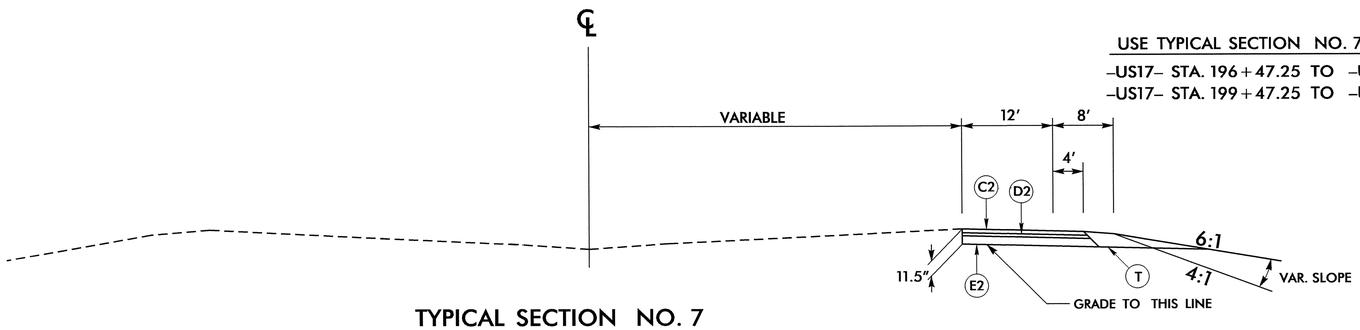
USE TYPICAL SECTION NO. 6

-Y1- STA. 10+47.13 TO -Y1- STA. 11+51.53



INSET NO. 1

USE WITH TYPICAL SECTION NO. 5
-Y1- STA. 11+51.53 TO -Y1- STA. 14+22.73 RT. AND LT.



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7

-US17- STA. 196+47.25 TO -US17- STA. 199+47.25 TAPER FROM EXIST.
-US17- STA. 199+47.25 TO -US17- STA. 202+47.25

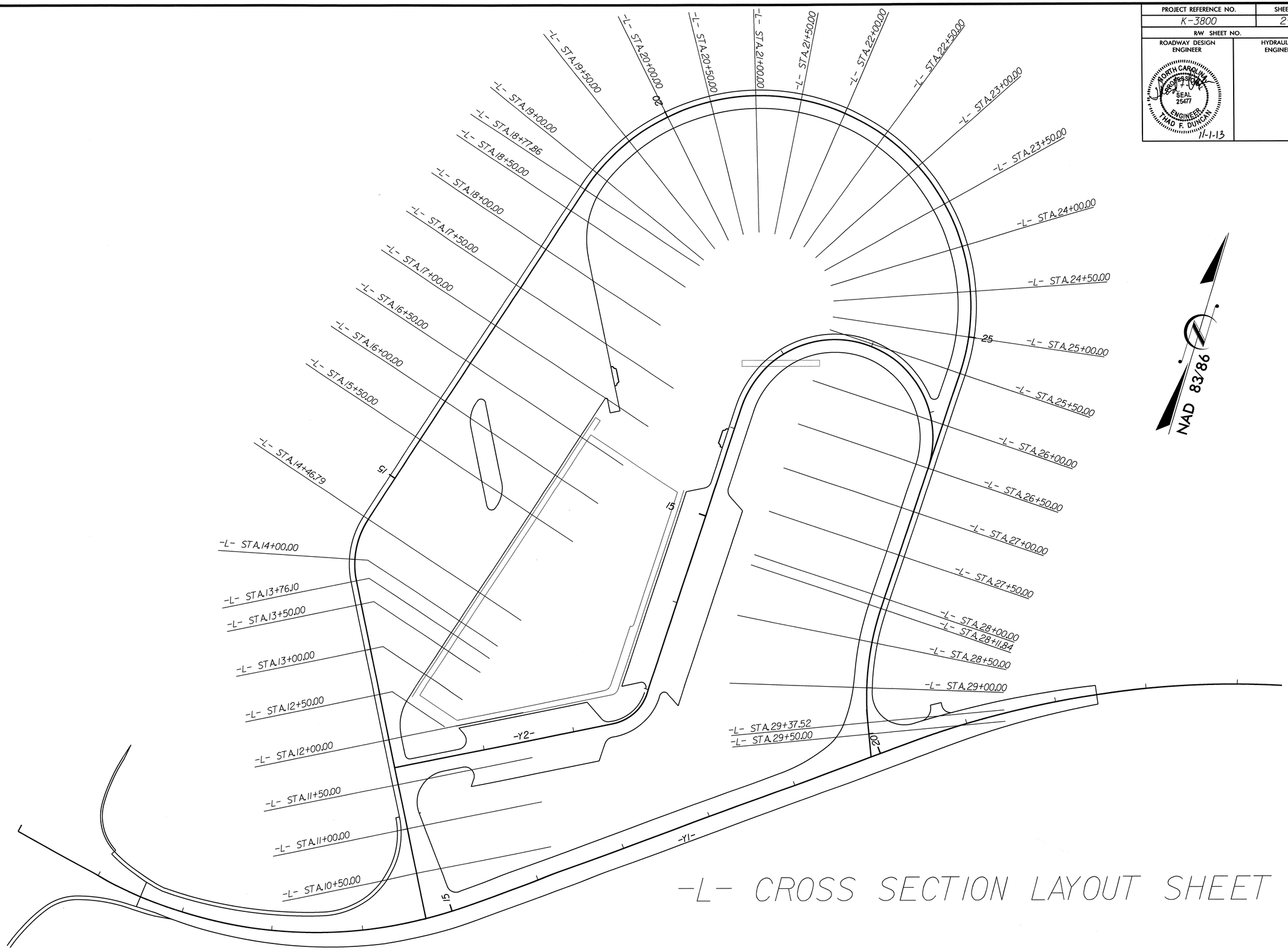
6/12/99

04-NOV-2013 14:34
K:\DOT\2013\PDP\K-3800_rdy_typ.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	2-B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN

11-1-13



-L- CROSS SECTION LAYOUT SHEET

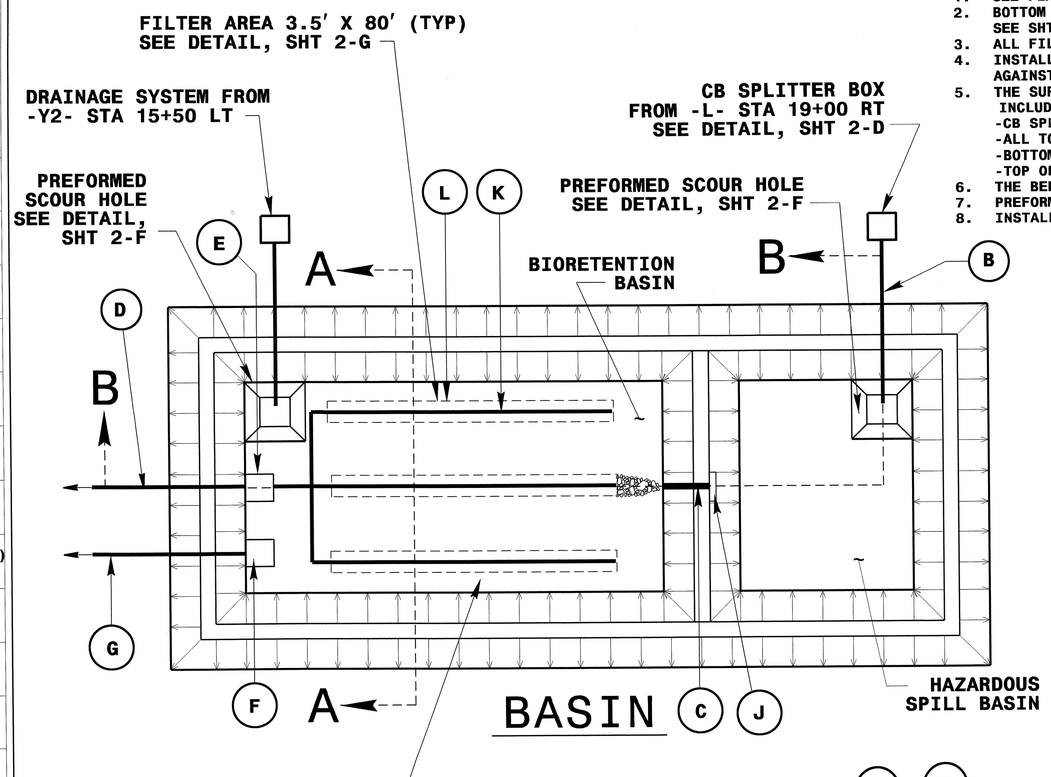
8/17/99

18-OCT-2013 11:20
r:\roadway\proj\k3800_rdy_dtl_2b.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	2-C

MATERIALS

A	GEOTEXTILE FOR SUBSURFACE DRAINS, TYPE 1
B	24" RCP INLET PIPE
C	18" RCP EQUALIZER PIPE
D	12" RCP OUTFALL PIPE TO LEVEL SPREADER (SHT 2-H)
E	OUTLET CONTROL STRUCTURE A W/ SLUICE GATE (SHT 2-E)
F	OUTLET CONTROL BYPASS STRUCTURE B W/ SLUICE GATE (SHT 2-E)
G	24" RCP BYPASS OUTLET PIPE TO GRASS SWALE (SHT 2-F,DETAIL H)
H	TOP SOIL AND ½ CUT BERMUDA SOD
I	CLASS B RIP RAP
J	END WALL W/18" SLUICE GATE (STD 838.02) OPEN IN NORMAL OPERATION
K	4" UNDERDRAIN PERFORATED PIPE 3 @ 80', 20' SPACING WRAPPED IN FILTER FABRIC
L	CLEAN WASHED #57 STONE ENVELOPE (SHT 2-G, DETAIL A)
M	30mil IMPERVIOUS MEMBRANE LINER (SHT 2-G DETAIL A)
N	CLEAN SAND (SHT 2-G DETAIL A)



BASIN

NOTES:
1. SEE PLAN SHEET #4 FOR SHAPE AND SIZE OF BASIN.
2. BOTTOM OF BIORETENTION BASIN SURFACE AREA AT EL 37.6 = 6,858 SF. SEE SHT 4 FOR HSB GRADING PLAN
3. ALL FILL MATERIAL SHALL BE COMPACTED AND TESTED IN ACCORDANCE WITH NCDOT STD SPEC 235.
4. INSTALL SOD ON BERM AND BASIN BOTTOM AND ANY EXPOSED SURFACE THAT NEEDS TO BE PROTECTED AGAINST IMMEDIATE POTENTIAL STORM EVENT.
5. THE SURVEYOR SHALL CREATE A DTM FILE SUITABLE TO VERIFY BASIN CAPACITY TO THE ENGINEER, INCLUDING VERIFICATION OF INVERTS AND ELEVATIONS AT THE FOLLOWING POINTS:
   -CB SPLITTER BOX WEIR ELEVATION.
   -ALL TOP OF DRAINAGE STRUCTURE AND PIPE INVERT ELEVATIONS.
   -BOTTOM OF BASIN AREA, LOCATION AND ELEVATIONS.
   -TOP OF BERM WIDTH, LOCATION AND ELEVATIONS.
6. THE BERM SHALL BE CONSTRUCTED WITH SUITABLE FILL MATERIAL PER THE ENGINEER.
7. PREFORMED SCOUR HOLE AND SPLITTER BOX REQUIRES REGULAR MAINTENANCE TO REMAIN EFFECTIVE.
8. INSTALL UNDERDRAIN CLEANOUTS, WYES, AND ELBOWS PER LOCATIONS ON SHT 4

CONSTRUCTION SEQUENCE:

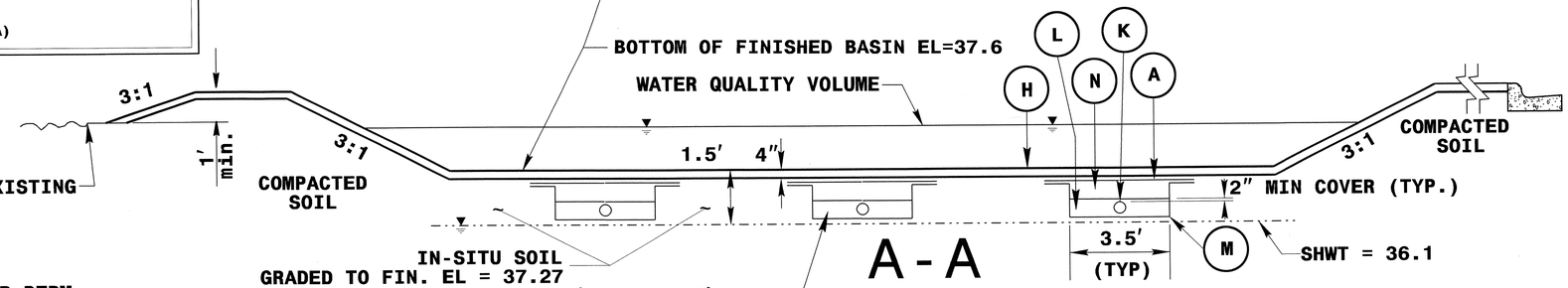
1. RELOCATE UTILITY LINES.
2. PUT IN ALL EROSION CONTROL MEASURES (AS NEEDED THROUGH CONSTRUCTION STAGES).
3. CONSTRUCT AND INSTALL BOXES, CREATE OPENINGS IN BOXES AND INSTALL PIPES.
4. EXCAVATE FOR THE BASIN AND PREPARE THE BASIN FLOOR AT THE GIVEN ELEVATION TO ALLOW FOR 4" SOIL AND BERMUDA SOD.
5. EXCAVATE AND CONSTRUCT PREFORMED SCOUR HOLE.
6. CONSTRUCT BERM AROUND BASIN.
7. INSTALL PREFORMED SCOUR HOLE RIP RAP.
8. LAY SOD.
9. ADD GRATES ON ALL BOXES.
10. TEMPORARILY BYPASS USAGE OF BASINS DURING CONSTRUCTION UNTIL VEGETATION IS ESTABLISHED AND CONSTRUCTION IS COMPLETE. (CAN BE OBTAINED BY BLOCKING PIPE IN SPLITTER BOX)

HAZARDOUS SPILL & BIORETENTION BASIN

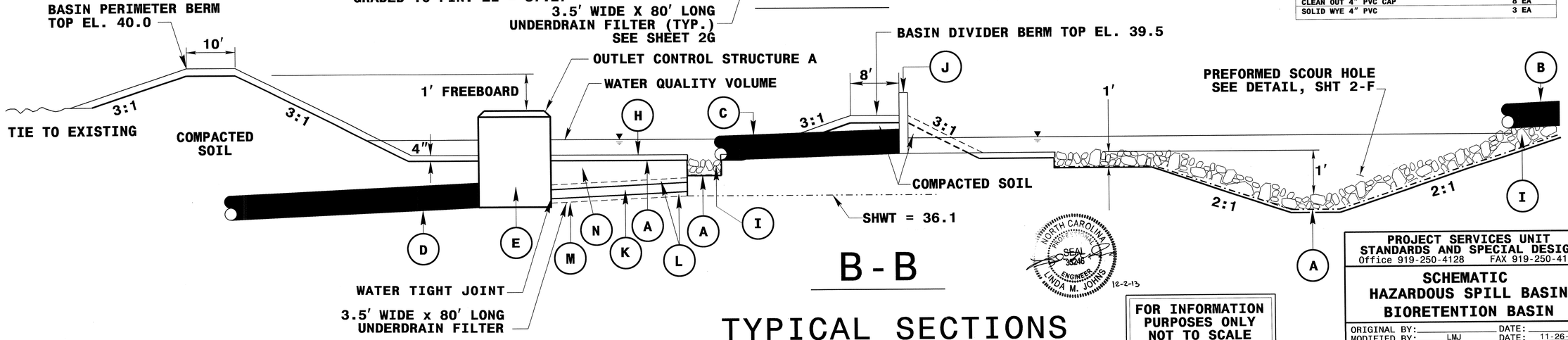
-BIORETENTION BASIN FINISHED BOTTOM EL = 37.6
-BASIN TOP OF BERM EL = 40.00
-BASIN DIVIDER TOP OF BERM EL = 39.50
-SPLITTER BOX WEIR EL = 40.93
-DESIGN STORM = RUNOFF GENERATED BY FIRST 1.5" RAINFALL
-DESIGN VOLUME = 13,191 CF
-VOLUME PROVIDED = 13,242 CF
-UNDERDRAIN FILTER SURFACE AREA NOT TO EXCEED 840 SF

SUMMARY OF QUANTITIES

UNCLASSIFIED EXCAVATION	880 CY
UNCLASSIFIED STRUCTURE EXCAVATION	210 CY
EMBANKMENT FILL MATERIAL	220 CY
FILL MATERIAL (SUITABLE SOIL)	27 CY
TOPSOIL	370 CY
BERMUDA SOD	4500 SY
PSRM	58 SY
RIP RAP CLASS B	17 TONS
GEOTEXTILE (TYPE 1, 2 OR 4)	44 SY
GEOTEXTILE FOR SUBSURFACE DRAINS (TYPE 1)	200 SY
12" RCP CL III	88 LF
18" RCP CL V	20 LF
24" RCP CL III	48 LF
OUTLET CTRL STRUCTURE (DETAIL 2-E)	2 EA
RETICULINE FRAME & GRATE	2 EA
6" SLUICE GATE (OUTLET CTRL ST A & B)	2 EA
12" SLUICE GATE (OUTLET CTRL ST A)	1 EA
24" SLUICE GATE (OUTLET CTRL ST B)	1 EA
ENDWALL W/18" SLUICE GATE (STD 838.02)	1 EA
LEVEL SPREADER (DETAIL 2-H)	1 EA
4" SOLID PVC PIPE	65 LF
4" PERFORATED PVC WRAPPED IN FILTER FABRIC	240 LF
30 MM IMPERVIOUS MEMBRANE LINER	110 SY
CLEAN SAND	6 CY
CLEAN WASHED #57 STONE	6 CY
45 DEGREE BENDS, 4" PVC	17 EA
CLEAN OUT 4" PVC CAP	8 EA
SOLID WYE 4" PVC	3 EA



A - A



B - B

TYPICAL SECTIONS

NORTH CAROLINA PROFESSIONAL SEAL 30246 ENGINEER LINDA M. JOHNS 12-2-13

FOR INFORMATION PURPOSES ONLY NOT TO SCALE

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

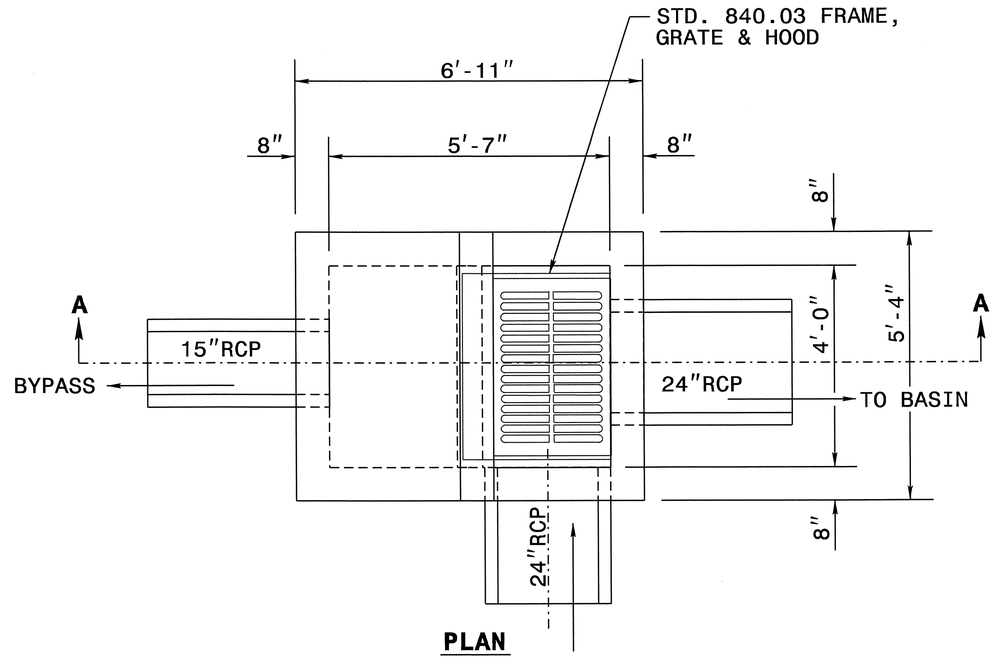
SCHEMATIC
HAZARDOUS SPILL BASIN
BIORETENTION BASIN

ORIGINAL BY: DATE:
MODIFIED BY: LMJ DATE: 11-26-13
CHECKED BY: DATE:
FILE SPEC.:

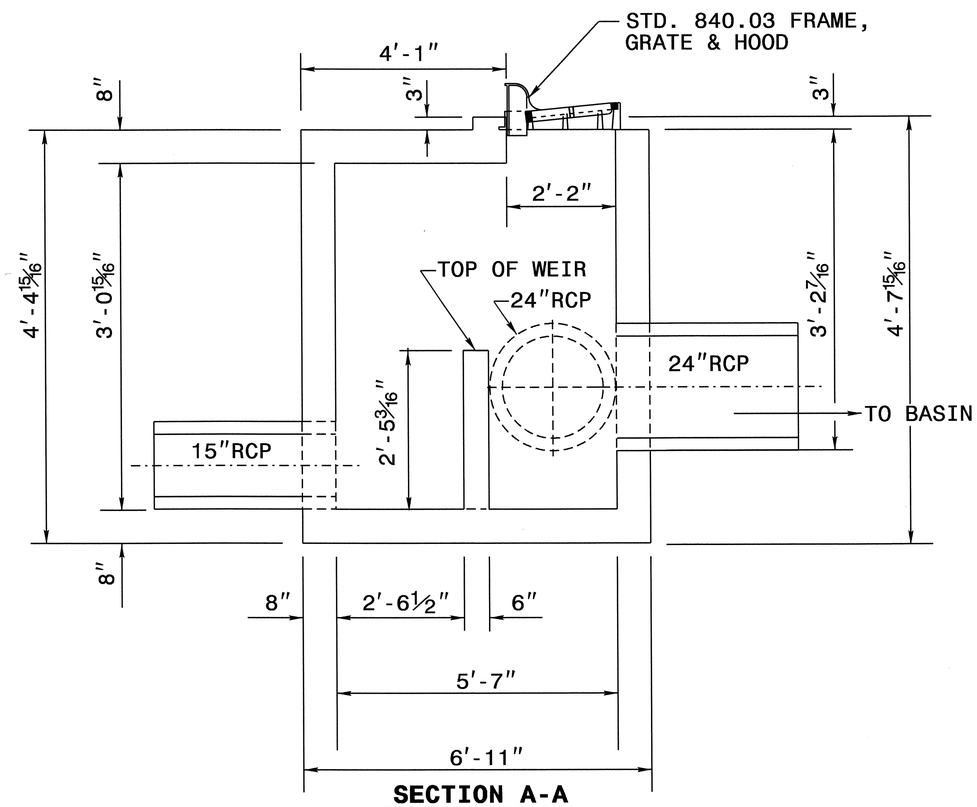
5/28/99

$DATES
$USERNAME$
$FILEL$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	2-D



PLAN



SECTION A-A

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOELIS HOLLADAY
11/4/13

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

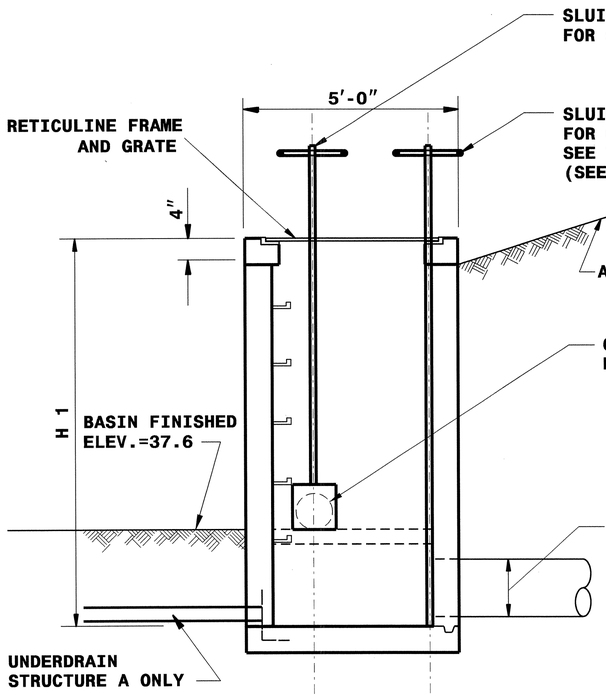
CATCH BASIN SPLITTER BOX

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

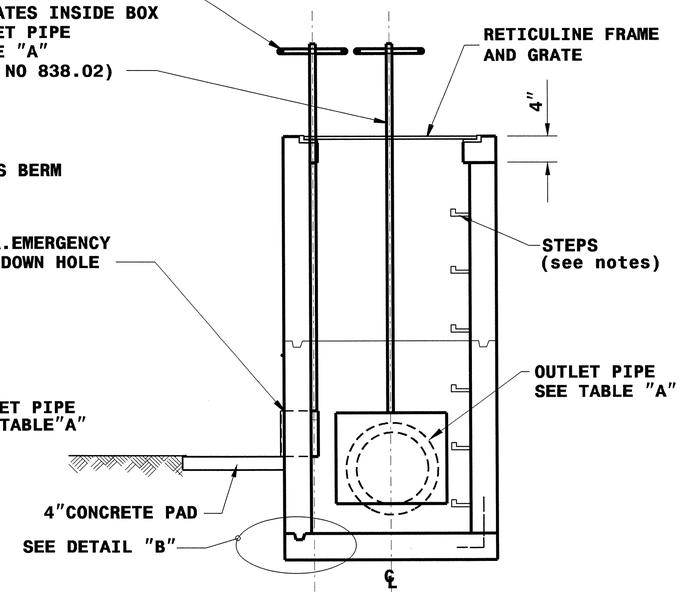
5/14/99

18-OCT-2013 11:20
R:\Traffic\Standards\3800_CB_splitterbox_2D.dgn
$$$$USERNAME$$$$

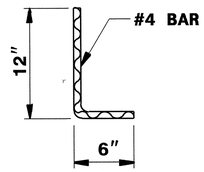
PROJECT REFERENCE NO.	SHEET NO.
K-3800	2-E



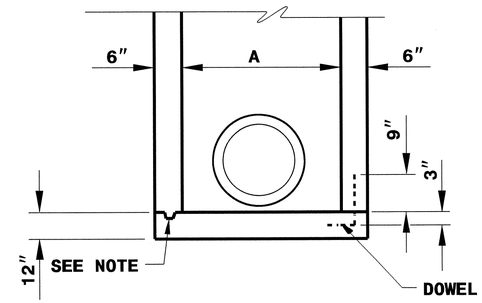
STRUCTURE SIDE 1



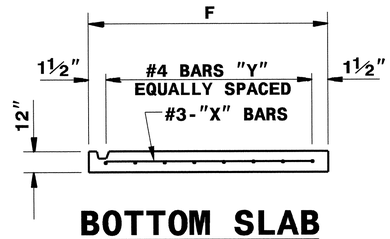
STRUCTURE SIDE 2



DOWEL



DETAIL 'B'



BOTTOM SLAB

TABLE "A"

MINIMUM DIMENSIONS FOR OUTLET CONTROL STRUCTURE

CONTROL STRUCT.	BASIN	PIPE D	OUTLET PIPE INVERT	BOX HEIGHT H1	TOP OF GRATE ELEV.	UNDER DRAIN INVERT	UNDERDRAIN PIPE D	POOL BASIN ELEV. @ ORFICE PAD	OUTLET PIPE SLUICE GATE
A	-Y2- STA 16+58.5,88' LT	12"	36.25	2.92	39.0	36.25	4"	37.6	12"
B	-Y2- STA 16+71,126.7' LT	24"	34.25	4.50	38.50	N/A	N/A	37.6	24"

CONTROL STRUCT.	PIPE D	"A"	BARS-X		BARS-Y		"F"	TOTAL CONCRETE QUANTITIES
			QTY.	LENGTH	QTY.	LENGTH		
A	12"	4'-0"	6	4'-9"	6	4'-9"	5'-0"	2.0 CU.YDS.
B	24"	4'-0"	6	4'-9"	6	4'-9"	5'-0"	2.5 CU.YDS.

GENERAL NOTES:

* CHANGES IN ELEVATIONS MUST BE APPROVED BY THE ENGINEER.
* CLASS 'B' CONCRETE TO BE USED THROUGHOUT. PRECAST CONCRETE STRUCTURES TO BE SUBMITTED FOR APPROVAL. USE STD 840.45.
* OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2 INCH KEYWAY, OR #4 BAR DOWELS AT 12 INCH CENTERS, AS DIRECTED BY THE ENGINEER.
* FORMS ARE TO BE USED FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
* IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD 840.00.
* ALL DRAWDOWN STRUCTURES OVER 3 FEET IN DEPTH TO BE PROVIDED WITH STEPS 12 INCH ON CENTERS. STEPS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD 840.66.
* FOR 8'-0" IN HEIGHT OR LESS USE 6 INCH WALLS AND BOTTOM SLAB. OVER 8'-0" IN HEIGHT USE 12" WALLS TO 6'-0" FROM TOP OF WALL AND USE 6 INCH THICK WALLS FOR THE REMAINING 6'-0". ADJUST QUANTITIES ACCORDINGLY
* RETICULINE FRAME AND GRATE TO BE APPROVED BY THE ENGINEER.

NORTH CAROLINA PROFESSIONAL SEAL 33246 ENGINEER LINDA M. JOHNS 11-4-13

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

DETAIL OF OUTLET CONTROL STRUCTURES A AND B

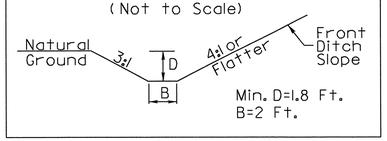
ORIGINAL BY: _____ DATE: _____
MODIFIED BY: LMJ DATE: 7-20-09
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

18-OCT-2013 11:20
R:\Utilities\Hydraulics\K3800_HSB_Bioret_Schematic_Outlet_Control_St_2C_2E.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	2-F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

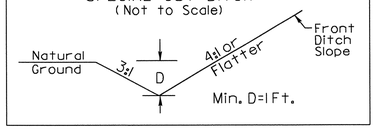
NORTH CAROLINA PROFESSIONAL SEAL 33246 ENGINEER LINDA M. JOHNS 11-1-13

DETAIL A
SPECIAL CUT GRASS SWALE
(Not to Scale)



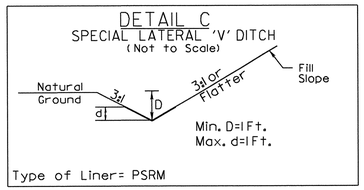
-Y1- STA. 11+00 LT. TO -L- STA. 10+75 LT.
-Y1- STA. 15+33 LT. TO STA. 18+91 LT.

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



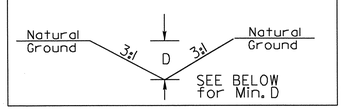
-L- STA. 10+75 TO STA. 11+50 LT.
-L- STA. 10+75 TO STA. 11+22.5 RT.
-Y1- STA. 22+08 TO STA. 22+54 RT. 3:1, 3:1 Side slopes

DETAIL C
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



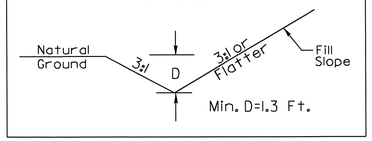
-L- STA. 19+13 TO STA. 19+36.74 LT.

DETAIL D
STANDARD 'V' DITCH
(Not to Scale)



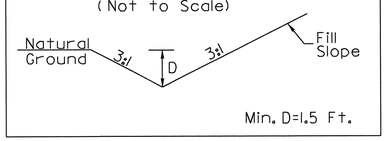
-Y1- STA. 18+37, 49' TO STA. 18+54, 38' RT.,
D=1.5', L=20', s=5.15%, DDE=40 CY
-Y1- STA. 18+97.6, 35' TO STA. 18+97.4, 55' LT.,
D=1.8', L=20', s=0.75%, DDE=11 CY

DETAIL E
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



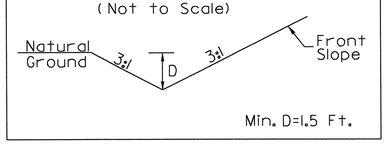
-L- STA. 19+36.74 TO STA. 21+00 LT.

DETAIL F
SPECIAL LATERAL GRASS SWALE
(Not to Scale)



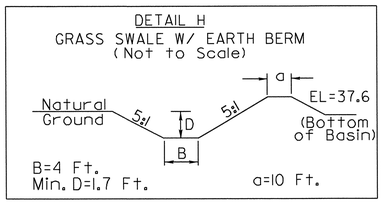
-L- STA. 21+00 TO STA. 21+60 LT.
-Y1- STA. 11+00 TO STA. 18+42 RT.
-Y1- STA. 18+63 TO STA. 19+50 RT.

DETAIL G
SPECIAL CUT GRASS SWALE
(Not to Scale)



-Y1- STA. 19+50 TO STA. 22+08 RT.

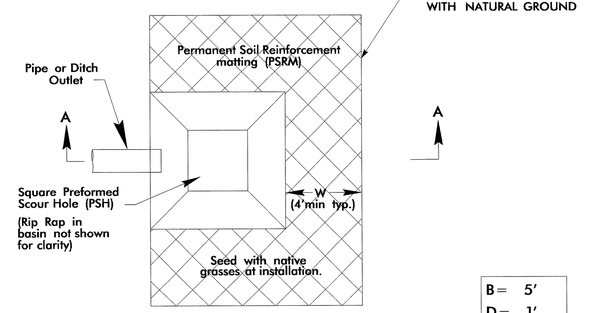
DETAIL H
GRASS SWALE W/ EARTH BERM
(Not to Scale)



FROM -Y2- STA. 16+96.4, 99.9' LT.
TO -L- STA. 20+01.4, 116.7' RT.
TO -L- STA. 20+66.0, 106.6' RT.
L=110', S=0.3%, DDE=690 CUYDS

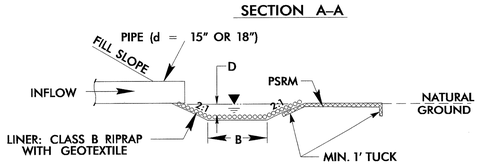
PREFORMED SCOUR HOLE
*NOT TO SCALE

PLAN VIEW



B= 5'
D= 1'
W= 4'

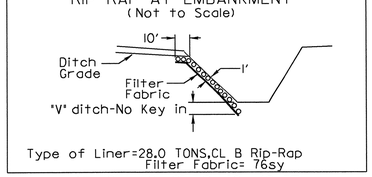
SECTION A-A



3/08

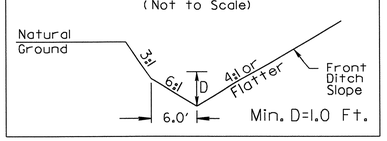
-L- STA. 19+00 RT., -L- STA. 22+50 LT., -L- STA. 23+84.84 LT.,
-Y2- STA. 16+27.7 LT.

DETAIL I
RIP RAP AT EMBANKMENT
(Not to Scale)



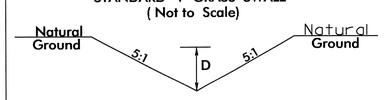
-Y1- STA. 18+31 TO 18+48 RT.
-Y1- STA. 18+48 TO STA. 18+73 RT.

DETAIL J
SPECIAL CUT GRASS SWALE w/HINGE
(Not to Scale)



US 17 STA. 202+00 TO STA. 203+00 RT.

DETAIL K
STANDARD V GRASS SWALE
(Not to Scale)



*NOTES:
1. LONGITUDINAL SLOPE = 0.3%
2. MODIFICATIONS MAY BE NEEDED, AS APPROVED BY ENGINEER.

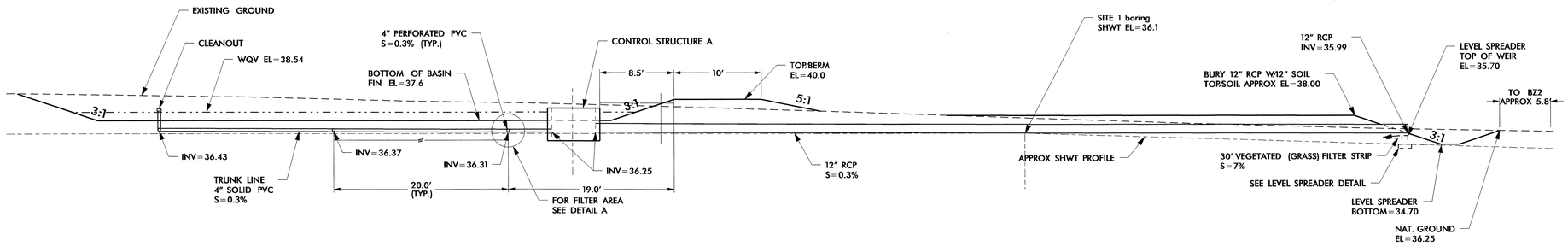
-L- STA 20+80 RT, L=35', DDE=7 CY
-L- STA 26+77 RT, L=50', DDE=9 CY
-Y2- STA 18+20.56 LT, L=50', DDE=9 CY

8/17/99
01-NOV-2013 07:37
R:\Roadway\Proj\K-3800_rdy_dtl_2f.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	2-G
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

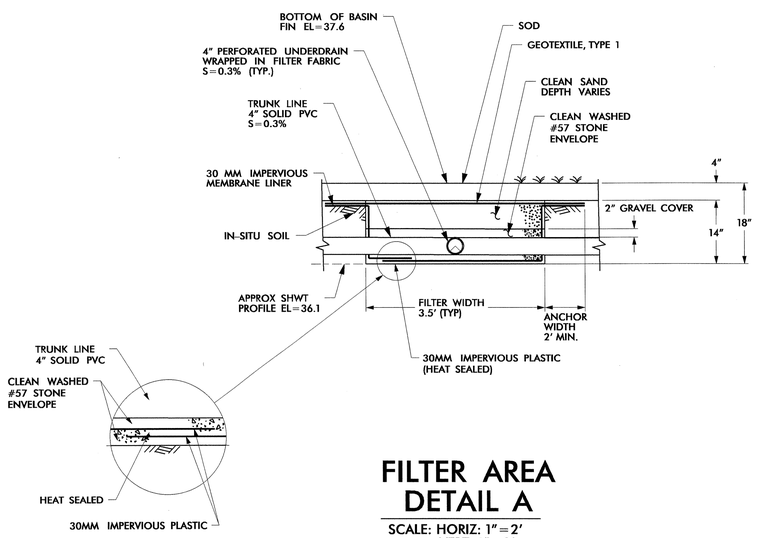
NORTH CAROLINA PROFESSIONAL SEAL 33246 ENGINEER LINDA M. JOHNS 12-2-13

BIORETENTION/HAZARDOUS SPILL BASIN



CROSS SECTION AT CONTROL STRUCTURE A

SCALE: HORIZ: 1"=10'
VERT: 1"=10'

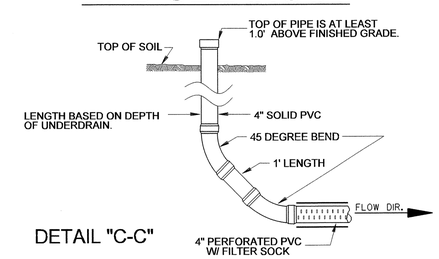


FILTER AREA DETAIL A

SCALE: HORIZ: 1"=2'
VERT: 1"=2'

NOTES:
1. 4" PERFORATED PIPE MINIMUM INLET AREA = 4.0sq in/ft
2. EDGE OF PLASTIC LINING SHOULD BE ANCHORED IN TO THE GROUND A MINIMUM OF 2.0'
3. IF A JOINT IN THE PLASTIC LINING IS REQUIRED, IT SHOULD BE HEAT SEALED TO PREVENT LEAKAGE.

END CLEANOUT

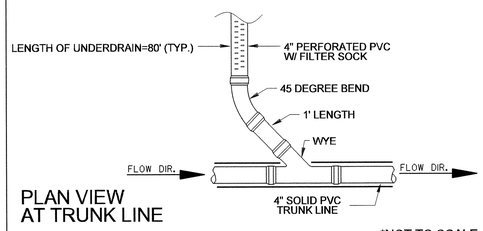


DETAIL "C-C"

NOTE: ONLY UNDERDRAIN PIPE SHOULD BE PERFORATED

*NOT TO SCALE

UNDERDRAIN TRANSITION INTO TRUNK LINE



PLAN VIEW AT TRUNK LINE

NOTE: ONLY UNDERDRAIN PIPE SHOULD BE PERFORATED

*NOT TO SCALE

SAND SPECIFICATIONS

WASHED ASTM C33 OR AASHTO M-6 FINE AGGREGATE CONCRETE SAND. IN ADDITION TO THESE SPECIFICATIONS, SAND MUST MEET ALL THE FOLLOWING CONDITIONS:

1. SAND MUST BE SILICA BASED. NO LIMESTONE BASED PRODUCTS MAY BE USED. IF THE MATERIAL IS WHITE OR GRAY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE.
2. SAND MUST BE CLEAN. NATURAL UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES SHALL BE REJECTED.
3. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE UNDER ANY CIRCUMSTANCES.

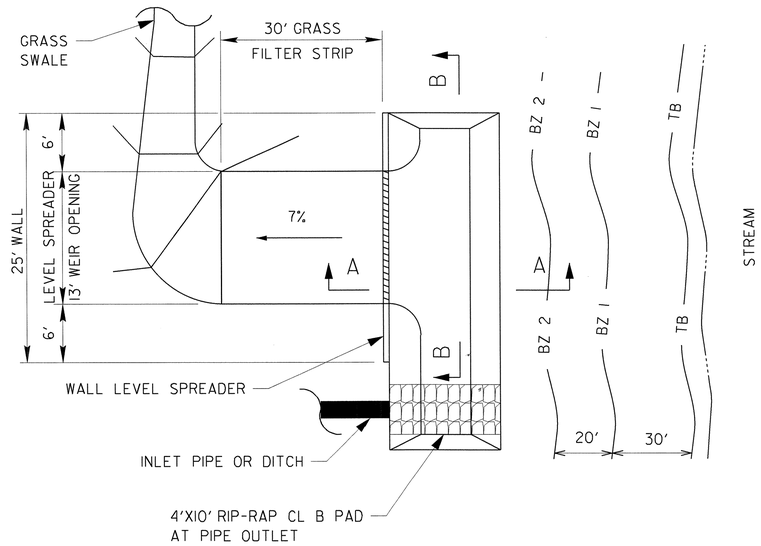
8/17/99
02-DEC-2013 09:22
R:\Drainage\K-3800_bioretention_HS_Basin cross section_detail_2G.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	2-H
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

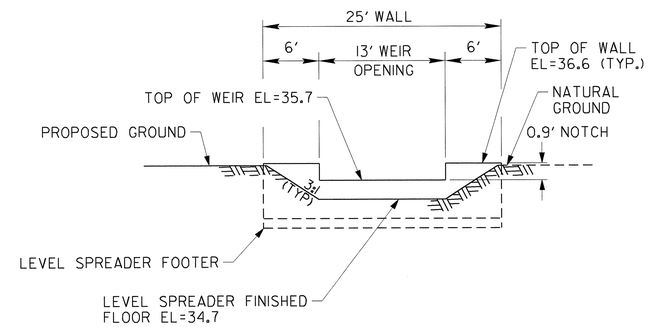
NORTH CAROLINA PROFESSIONAL SEAL 33246 ENGINEER LINDA M. JOHNS
11-19-13

WALL LEVEL SPREADER DETAIL

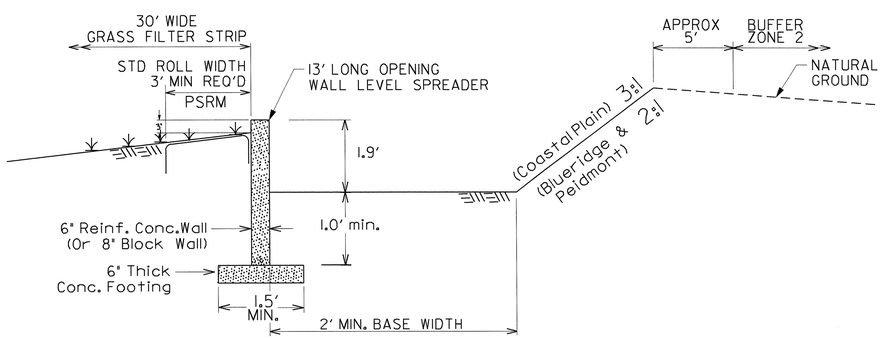
(NOT TO SCALE)
FROM -Y2- STA. 17+11 TO STA. 17+15 LT.



PLAN

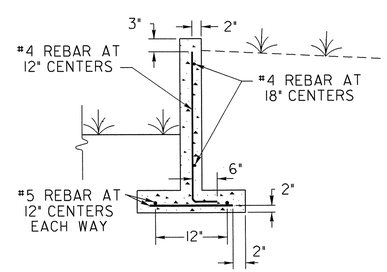


FACE OF WALL SECTION-BB



DDE=220 CY

SECTION-AA



SECTION-AA REINFORCEMENT

NOTES:

1. THE REINFORCING SHALL BE #4 BARS AT 12" CENTERS ALONG THE LENGTH OF THE WALL STEM AND #4 BARS AT 18" CENTERS FOR THE HEIGHT OF THE WALL.
2. THE BENT REBAR AT THE ENDS OF THE #4 BARS AT 18" CENTERS SHALL BE PLACED IN AN ALTERNATING PATTERN.
3. AT THE CORNERS OF THE CONNECTING WALL STEMS, THE #4 AT 12" CENTER REBARS ALONG THE LENGTH OF THE WALL SHALL BE BENT AND EXTENDED INTO THE WALLS BY 1'-4" TYPICAL.
4. FOR THE FOOTING ITSELF THE REINFORCING SHALL BE #5 BARS AT 12" CENTERS EACH WAY.
5. SEE NCDOT STANDARD 850.01 FOR USE IN CONSTRUCTING CONCRETE TROUGH.

8/17/99
19-NOV-2013 08:28
R:\Drainage\K3800_wall level spreader detail_2H.dgn
$$$$USERNAME$$$$

COMPUTED BY: DWK DATE: 12/10/2009

CHECKED BY: LMJ DATE: 10/7/2013

RD266428

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
K-3800	3-A

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

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. TRAFFIC BEARING JUNCTION BOX

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL')	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
-Y1- 10+80	RT	0438				40.31			8'								X		
-Y1- 15+00	RT																		
-Y1- 15+83	LT																		
-Y1- 19+50	RT																		
-Y1- 20+02	LT																		
-Y1- 20+73	LT																		
-Y1- 20+87	RT	0447							28'								X		
-Y1- 22+08	RT	0442			38.54	38.52													
-L- 10+75	CL	0439			38.94	38.67	x												
-L- 11+19	LT	0445		43.86	41.61														
-L- 11+19	LT	0445	0446		41.61	41.56			16'								X		
-L- 13+76	LT	0410		44.21		41.96													
-L-14+47	LT	0411		43.99		41.74													
-L-13+76	LT	0410	0411		41.96	41.74	x												
-L- 15+07	LT	0412		43.81		41.56													
-L- 14+47	LT	0411	0412		41.74	41.56	x												
-L- 15+67	LT	0413		43.63		41.38													
-L- 15+07	LT	0412	0413		41.56	41.38	x												
-L- 16+27	LT	0414		43.45		40.98													
-L- 15+67	LT	0413	0414		41.38	40.98	x												
-L- 16+87	LT	0415		43.27		40.34													
-L- 16+27	LT	0414	0415		40.98	40.34	x												
-L- 17+47	LT	0416		43.09		40.01													
-L- 16+87	LT	0415	0416		40.34	40.01	x												
-L- 18+60	LT	0417		42.76		39.68													
-L- 17+47	LT	0416	0417		40.01	39.68	x												
-L- 19+00	LT	0418		42.64		38.69													
-L- 18+60	LT	0417	0418		39.68	39.04	x												
-L- 19+00	RT	0418	0419		39.04	38.80	x												
-L- 19+00	LT	0418	0420		38.69	36.06			32'								X		
-L- 20+47	LT	0451							28'								X		
-L- 21+00	RT	0421		41.88		36.88													
-L- 21+00	RT	0421	0422		36.88	33.70			44'								X		
-L- 22+50	RT	0423		41.43		36.43													
-L- 22+50	CL	0423	0424		36.43	35.58													
-L- 23+85	RT	0425		41.27		38.27													
-L- 23+85	CL	0425	0426		38.27	37.52													
-Y2- 17+45	RT	0427		40.79		37.79													
-Y2- 18+20	RT	0430		40.45		37.45													
-Y2- 17+45	RT	0427	0430																
-Y2- 18+20	CL	0430	0431		37.45	36.40													
-L- 26+77	RT	0432		41.90		38.90													
-L- 26+77	RT	0432	0433		38.90	37.05			28'								X		
-L- 15+03	RT	0401		43.80		41.55													
-L- 13+17	RT	0402		44.80		41.23													
-L- 15+03	RT	0401	0402		41.55	41.23			52'								X		
-L- 13+17	RT	0452		44.80		42.55													
-L- 13+17	RT	0452	0402		42.55	41.23			24'								X		
-Y2- 11+50	LT	0403		43.80		40.72													
-L- 13+17	RT	0402	0403		41.23	40.72			84'								X		
-Y2- 13+07	LT	0453		44.30		40.41													
-Y2-13+07	LT	0453	0404		40.41	40.15			44'								X		
-Y2- 13+07	LT	0404		42.80		40.15													
-Y2- 11+97	LT	0403	0404	43.80	40.72	40.15			92'								X		
-Y2- 14+06	LT	0405		44.30		39.84													
-Y2- 14+06	LT	0405	0406		39.84	39.63			42'								X		
-Y2- 13+07	LT	0404	0406		40.15	39.63			88'								X		
SHEET TOTALS									610'										

STATION	CLASS III PIPE 12"	15"	18"	24"	30"	36"	42"	48"	CLASS V R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	18" CAAP	** " Contractor Design Pipe	** " Contractor Design Pipe
-Y1- 10+80																			
-Y1- 15+00																			
-Y1- 15+83																			
-Y1- 19+50																			
-Y1- 20+02																			
-Y1- 20+73																			
-Y1- 20+87																			
-Y1- 22+08																	4'		
-L- 10+75													92'						
-L- 11+19																			
-L- 11+19																			
-L- 13+76																			
-L-14+47																			
-L-13+76										72'									
-L- 15+07																			
-L- 14+47										60'									
-L- 15+67																			
-L- 15+07										60'									
-L- 16+27																			
-L- 15+67										60'									
-L- 16+87																			
-L- 16+27										60'									
-L- 17+47																			
-L- 16+87											60'								
-L- 18+60																			
-L- 17+47												112'							
-L- 19+00																			
-L- 18+60												40'							
-L- 19+00												48'							
-L- 19+00																			
-L- 20+47																			
-L- 21+00																			
-L- 21+00																			
-L- 22+50																			
-L- 22+50		56'																	
-L- 23+85																			
-L- 23+85										48'									
-Y2- 17+45																			
-Y2- 18+20																			
-Y2- 17+45										64'									
-Y2- 18+20										48'									
-L- 26+77																			
-L- 26+77																			
-L- 15+03																			
-L- 13+17																			
-L- 15+03																			
-L- 13+17																			
-L- 13+17																			
-Y2- 11+50																			
-L- 13+17																			
-Y2- 13+07																			
-Y2-13+07																			
-Y2- 13+07																			
-Y2- 11+97																			
-Y2- 14+06																			
-Y2- 14+06																			
-Y2- 13+07																			
SHEET TOTALS		56'								472'	60'	200'	92'				4'		

STATION	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES 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	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	PREFORM SCOUR HOLE	C.B.SPLITTER BOX	OUTLET CONTROL STRUCTURE	RETICULINE FRAME AND GRATE	SLUICE GATE 12"	SLUICE GATE 6" OPENING	SLUICE GATE 24"	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
-Y1- 10+80																						0.40			
-Y1- 15+00																								28	REMOVE 24" RCP
-Y1- 15+83																								40	REMOVE RCP
-Y1- 19+50																								25	REMOVE 15" RCP
-Y1- 20+02																								21	REMOVE 15" RCP
-Y1- 20+73																								34	REMOVE RCP
-Y1- 20+87																								33	REMOVE RCP
-Y1- 22+08																						0.45			
-L- 10+75																									
-L- 11+19			1			1		1																	MINIMUM DEPTH
-L- 11+19																									
-L- 13+76			1			1			1																MINIMUM DEPTH
-L-14+47			1			1			1																MINIMUM DEPTH
-L-13+76																									
-L- 15+07			1			1			1																MINIMUM DEPTH
-L- 14+47																									
-L- 15+67			1			1			1																MINIMUM DEPTH
-L- 15+07																									
-L- 16+27			1			1			1																MINIMUM DEPTH
-L- 15+67																									
-L- 16+87			1			1			1																MINIMUM DEPTH
-L- 16+27																									
-L- 17+47			1			1			1																MINIMUM DEPTH
-L- 16+87																									
-L- 18+60			1			1			1																MINIMUM DEPTH
-L- 17+47																									
-L- 19+00			1			1			1						1										SEE DETAIL SHEET 2-D
-L- 18+60																									
-L- 19+00														*											
-L- 19+00																									
-L- 20+47																									
-L- 21+00			1			1		1																	
-L- 21+00																									
-L- 22+50			1			1		1																	
-L- 22+50														1											* USE CL III
-L- 23+85			1			1	1																		
-L- 23+85														1											
-Y2- 17+45			1			1		1																	
-Y2- 18+20			1			1	1																		
-Y2- 17+45																									
-Y2- 18+20																									
-L- 26+77			1			1			1																
-L- 26+77																									
-L- 15+03			1									1	1												
-L- 13+17			1									1	1												
-L- 15+03																									
-L- 13+17			1									1	1												
-L- 13+17																									
-Y2- 11+50			1									1	1												
-L- 13+17																									
-Y2- 13+07			1									1	1												
-Y2-13+07																									
-Y2- 13+07			1									1	1												
-Y2- 11+97																									
-Y2- 14+06			1									1	1												
-Y2- 14+06																									
-Y2- 13+07																									
SHEET TOTALS			23			16	2	4	10			7	7	2	1							0.85		181	

* Incidental to Hazardous Spill Basin Pay Item. See Special Provision.

COMPUTED BY: DWK DATE: 12/10/2009

CHECKED BY: GSB DATE: 12/15/2009

PROJECT NO.	SHEET NO.
K-3800	3-B

RD266428

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

STATION (SIZE / THICKNESS OR GAUGE)	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	REMARKS
-Y2- 13+95	LT	0406		42.80		39.63		
-Y2- 14+95	LT	0407		42.50		39.04		
-Y2- 13+95	LT	0406	0407		39.63	39.04	x	
-Y2- 14+95	LT	0407	0409		39.04	38.89	x	
-Y2- 15+50	LT	0409		41.80		38.89		MINIMUM DEPTH
-Y2- 15+13	RT	0408		41.52		39.27		MINIMUM DEPTH
-Y2- 15+13	CL	0408	0409		39.27	38.89	x	
-Y2- 16+26	LT	0409	0434		38.89	38.68	x	
-Y2- 15+50	LT	0434		42.50		38.68		
-Y2- 15+90	LT	0434	0435		38.68	38.20	x	
-Y2- 16+71	LT	0448		38.50		34.25		SEE DETAIL SHEET 2-E
-Y2- 16+71	LT	0448	0449		34.25	32.63		
-Y2-16+59	LT	0436		39.00		36.25		SEE DETAIL SHEET 2-E
-Y2-16+59	LT	0436	0437		36.25	35.99	x	
-L- 18+61	RT	0450		41.42	37.67	37.60		
SHEET 2 TOTALS								
SHEET 1 TOTALS								
GRAND TOTALS								

STATION	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
-Y2- 13+95												
-Y2- 14+95												
-Y2- 13+95		100'								X		
-Y2- 14+95		28'								X		
-Y2- 15+50												
-Y2- 15+13												
-Y2- 15+13												
-Y2- 16+26												
-Y2- 15+50												
-Y2- 15+90												
-Y2- 16+71												
-Y2- 16+71												
-Y2-16+59												
-Y2-16+59												
-L- 18+61												
SHEET 2 TOTALS		128'										
SHEET 1 TOTALS		610'										
GRAND TOTALS		738'										

STATION	CLASS III PIPE 12"	15"	18"	24"	30"	36"	42"	48"	CLASS V R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"
-Y2- 13+95																
-Y2- 14+95																
-Y2- 13+95																
-Y2- 14+95																
-Y2- 15+50																
-Y2- 15+13																
-Y2- 15+13										68'						
-Y2- 16+26			36'													
-Y2- 15+50																
-Y2- 15+90			80'													
-Y2- 16+71																
-Y2- 16+71				48' *												
-Y2-16+59																
-Y2-16+59	88' *															
-L- 18+61											20' *					
SHEET 2 TOTALS			116'							68'						
SHEET 1 TOTALS		56'								472'	60'	200'	92'			
GRAND TOTALS		56'	116'							540'	60'	200'	92'			

STATION	18" CAAP	** " Contractor Design Pipe	** " Contractor Design Pipe	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES 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	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	PREFORM SCOUR HOLE	C.B.SPLITTER BOX	OUTLET CONTROL STRUCTURE	RETICULINE FRAME AND GRATE	SLUICE GATE 12"	SLUICE GATE 6" OPENING	SLUICE GATE 24"	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.
-Y2- 13+95						1									1	1											
-Y2- 14+95						1									1	1											
-Y2- 13+95																											
-Y2- 14+95																											
-Y2- 15+50						1			1	1																	
-Y2- 15+13						1			1	1																	
-Y2- 15+13																											
-Y2- 16+26																											
-Y2- 15+50						1									1	1											
-Y2- 15+90																	*										
-Y2- 16+71						*													*	*		*	*				
-Y2- 16+71																											
-Y2-16+59						*													*	*	*	*					
-Y2-16+59																											
-L- 18+61				*																							
SHEET 2 TOTALS						5			2	2					3	3											
SHEET 1 TOTALS	4'					23			16	2	4	10			7	7	2	1							0.85		181
GRAND TOTALS	4'					28			18	4	4	10			10	10	2	1							0.85		181

	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.	TRAFFIC BEARING JUNCTION BOX

* Incidental to Hazardous Spill Basin Pay Item. See Special Provision.

COMPUTED BY:	GSB	DATE:	8/28/2009
CHECKED BY:	DWK	DATE:	12/10/2009

PROJECT NO.	SHEET NO.
K-3800	3-C

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 54" & OVER)

STATION	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 54" .109	60" .138	66" .168	72" .138	78" .168	84" .138			BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) 54" .168	54" SHOP ELON-GATED .138	54" .168	60" .138	60" .168	66" .138	66" .168	72" .139	72" .168		STRUCTURAL PLATE PIPE 60" 12	60" 10	66" 12	66" 10		72" 12	72" 10					REINFORCED ENDWALLS WITH R.C. - C.Y.	WITH C.S. - C.Y.	MASONRY DRAINAGE STRUCTURES CUBIC YARDS	C.B. STD. 840.01 OR 840.02	FRAMES, GRATES & HOOD STANDARD 840.03 TYPE OF GRATE E	F	G		CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN													REINF. CONC. FLARED END SECTIONS NO. & SIZE	CORR. STEEL FLARED END SECTIONS NO. & Size	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD. 840.72		PIPE REMOVAL LIN. FT.	REMARKS
-Y1- 18+58	RT	0440			34.45	34.37										20'																						5.2																							2.6			CAAP - NOT BIT COATED
-Y1- 18+96	LT	0441			34.08	34.04										8'																																												2.6			CAAP - NOT BIT COATED
-Y2- 17+58	CL	0443			30.25	29.9			112'																													5.6																									
-L- 21+68	CL	0444			28.51	27.9			120'																													5.6																									
SHEET TOTALS									232'							28'																						11.2	5.2																							5.2			

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

RD265428

COMPUTED BY:	GSB	DATE:	7/10/2013
CHECKED BY:	Ajfoster	DATE:	7/11/2013

PROJECT NO.	SHEET NO.
K-3800	3-D

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. + %	BORROW	WASTE
-L-						
10+18.02	29+56.53	605	5,929	32,856	32,384	6,062
SUBTOTAL:		605	5,929	32,856	32,384	6,062
-Y1-						
10+47.13	22+45.48	2,726	1,772	3,844	2,657	3,311
SUBTOTAL:		2,726	1,772	3,844	2,657	3,311
-Y2-						
10+14.00	19+06.72	29	2,687	9,077	9,077	2,716
SUBTOTAL:		29	2,687	9,077	9,077	2,716
-US17--						
196+47.25	202+47.25	347	799	1,430	1,430	1,146
SUBTOTAL:		347	799	1,430	1,430	1,146
TOTAL:		3,707	11,187	47,207	45,548	13,235
MATERIAL FOR SHLD. CONST.				1,170	1,170	
BORROW FOR BUILDING AREA				7,930	7,930	
ADDITIONAL UNDERCUT			2,200			2,200
SELECT GRANULAR MATERIAL IN LIEU OF BORROW				-27,700	-27,700	
ADDITIONAL UNSUITABLE		200				200
TOTAL PROJECT		3,907	13,387	28,607	26,948	15,635
EST. 5% TO REPLACE TOP SOIL ON					1,347	
GRAND TOTAL:		3,907	13,387	28,607	28,295	15,635
SAY:		4,000 CY	14,315 CY		28,400 CY	

DDE = 1846 CU. YD.

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION,

FINE GRADING, CLEARING AND GRUBBING, REMOVAL OF EXISTING PAVEMENT, AND BREAKING OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

IN SQUARE YARDS

LINE	STATION	STATION	LOC LT/RT/CL	AREA SY
REMOVAL OF EXISTING PAVEMENT				
-Y1-	11+95	14+42	CL	551
-Y1-	16+12	22+45	CL	1,420
			TOTAL:	1,971
			SAY:	1975 SY

SUMMARY OF EXISTING ASPHALT PAVEMENT BREAKING

IN SQUARE YARDS

LINE	STATION	STATION	LOC LT/RT/CL	AREA SY
BREAKING OF EXISTING ASPHALT PAVEMENT				
-Y1-	14+42	16+12	CL	383.8
			TOTAL:	383.8
			SAY:	390 SY

SUMMARY OF SUBSURFACE DRAINAGE

LINE	STATION	LOC LT/RT/CL	DRAIN TYPE* UD/BD/SD	LF
CONTINGENCY			SD	100
			TOTAL	100 LF

***UD = UNDERDRAIN**
***BD = BLIND DRAIN**
***SD = SUBSURFACE DRAIN**

PROJ. REFERENCE NO.	SHEET NO.
K-3800	3-E

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4,4A	BEAUFORT COUNTY DB 1638 PG 587 PC H SLIDES 16-8,16-9,
		16-10,17-1,17-2 TRACT "D"
2	4	CHARLES L. HADDOCK, ET UX DB 779 PG 414
3	4	CHARLES L. HADDOCK, ET UX DB 788 PG 471
4	4,4B	BEAUFORT COUNTY DB 1638 PG 587 PC H SLIDES 16-8,16-9,
		16-10,17-1,17-2 TRACT "C"

PARCEL No.	SHEET No.	PROPERTY OWNER NAME

PROJECT REFERENCE NO.	SHEET NO.
K-3800	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN 12-4-13

NORTH CAROLINA PROFESSIONAL SEAL 33246 ENGINEER LINDA M. JOHNS 12-4-13

-L-

PI Sta 14+13.38	PI Sta 28+75.62	PI Sta 36+54.01
Δ = 45° 00' 20.0" (RT)	Δ = 24° 00' 09.0" (LT)	Δ = 165° 14' 35.9" (RT)
D = 63° 39' 43.1"	D = 19° 05' 54.9"	D = 24° 54' 40.4"
L = 70.69'	L = 125.68'	L = 663.33'
T = 37.28'	T = 63.77'	T = 1,776.16'
R = 90.00'	R = 300.00'	R = 230.00'
SE= SEE PLANS	SE= SEE PLANS	SE= 02
RO= SEE PLANS	RO= SEE PLANS	RO= SEE PLANS

-Y1-

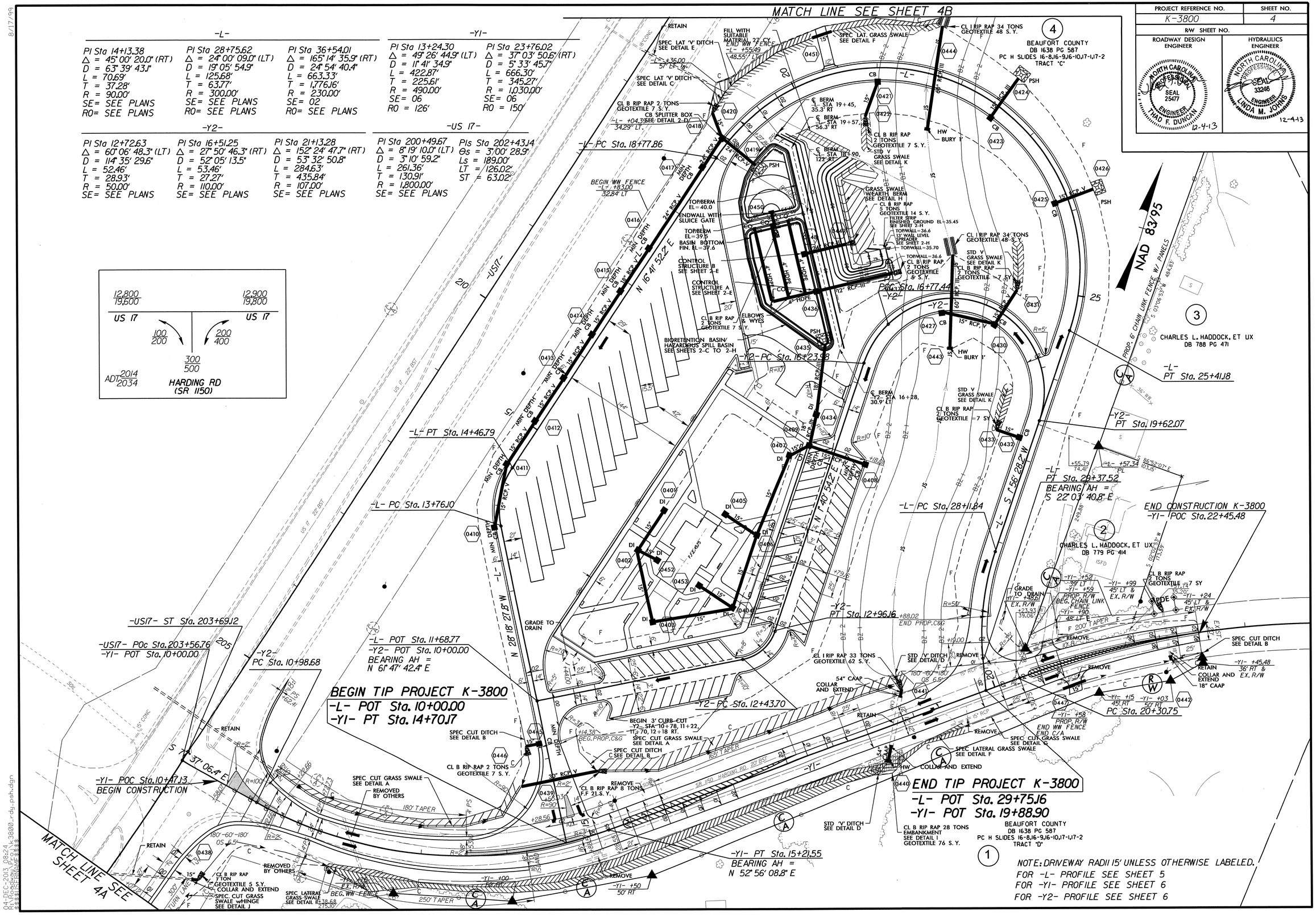
PI Sta 13+24.30	PI Sta 23+76.02
Δ = 49° 26' 44.9" (LT)	Δ = 37° 03' 50.6" (RT)
D = 11° 41' 34.9"	D = 5° 33' 45.7"
L = 422.87'	L = 666.30'
T = 225.61'	T = 345.27'
R = 490.00'	R = 1,030.00'
SE= 06	SE= 06
RO = 126'	RO = 150'

-Y2-

PI Sta 12+72.63	PI Sta 16+51.25	PI Sta 21+13.28
Δ = 60° 06' 48.3" (LT)	Δ = 27° 50' 46.3" (RT)	Δ = 152° 24' 47.7" (RT)
D = 114° 35' 29.6"	D = 52° 05' 13.5"	D = 53° 32' 50.8"
L = 52.46'	L = 53.46'	L = 284.63'
T = 28.93'	T = 27.27'	T = 435.84'
R = 50.00'	R = 110.00'	R = 107.00'
SE= SEE PLANS	SE= SEE PLANS	SE= SEE PLANS

-US 17-

PI Sta 200+49.67	PIs Sta 202+43.14
Δ = 8° 19' 10.0" (LT)	Θs = 3° 00' 28.9"
D = 3° 10' 59.2"	Ls = 189.00'
L = 261.36'	LT = 126.02'
T = 130.91'	ST = 63.02'
R = 1,800.00'	
SE= SEE PLANS	



NOTE: DRIVEWAY RADII 15' UNLESS OTHERWISE LABELED.
FOR -L- PROFILE SEE SHEET 5
FOR -Y1- PROFILE SEE SHEET 6
FOR -Y2- PROFILE SEE SHEET 6

8/17/99

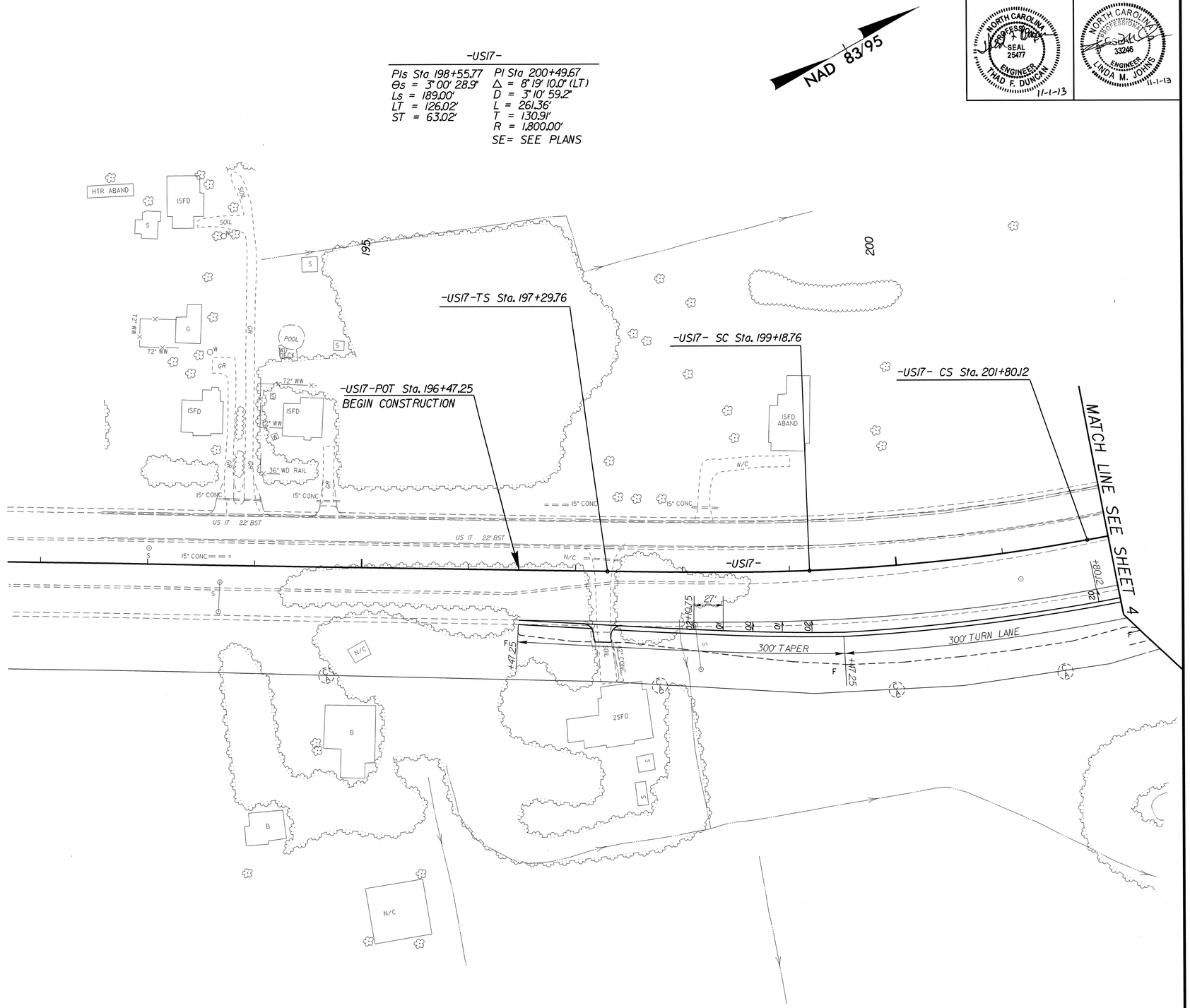
04-DEC-2013 08:24
H:\Projects\K-3800_rdy_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	4A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN 11-1-13	NORTH CAROLINA PROFESSIONAL SEAL 33246 ENGINEER LINDA M. JOHNS 11-1-13

-US17-

PIs Sta 198+55.77
Θs = 3° 00' 28.9"
Ls = 189.00'
LT = 126.02'
ST = 63.02'

PI Sta 200+49.67
Δ = 8° 19' 10.0" (LT)
D = 3° 10' 59.2"
L = 261.36'
T = 130.91'
R = 1,800.00'
SE= SEE PLANS



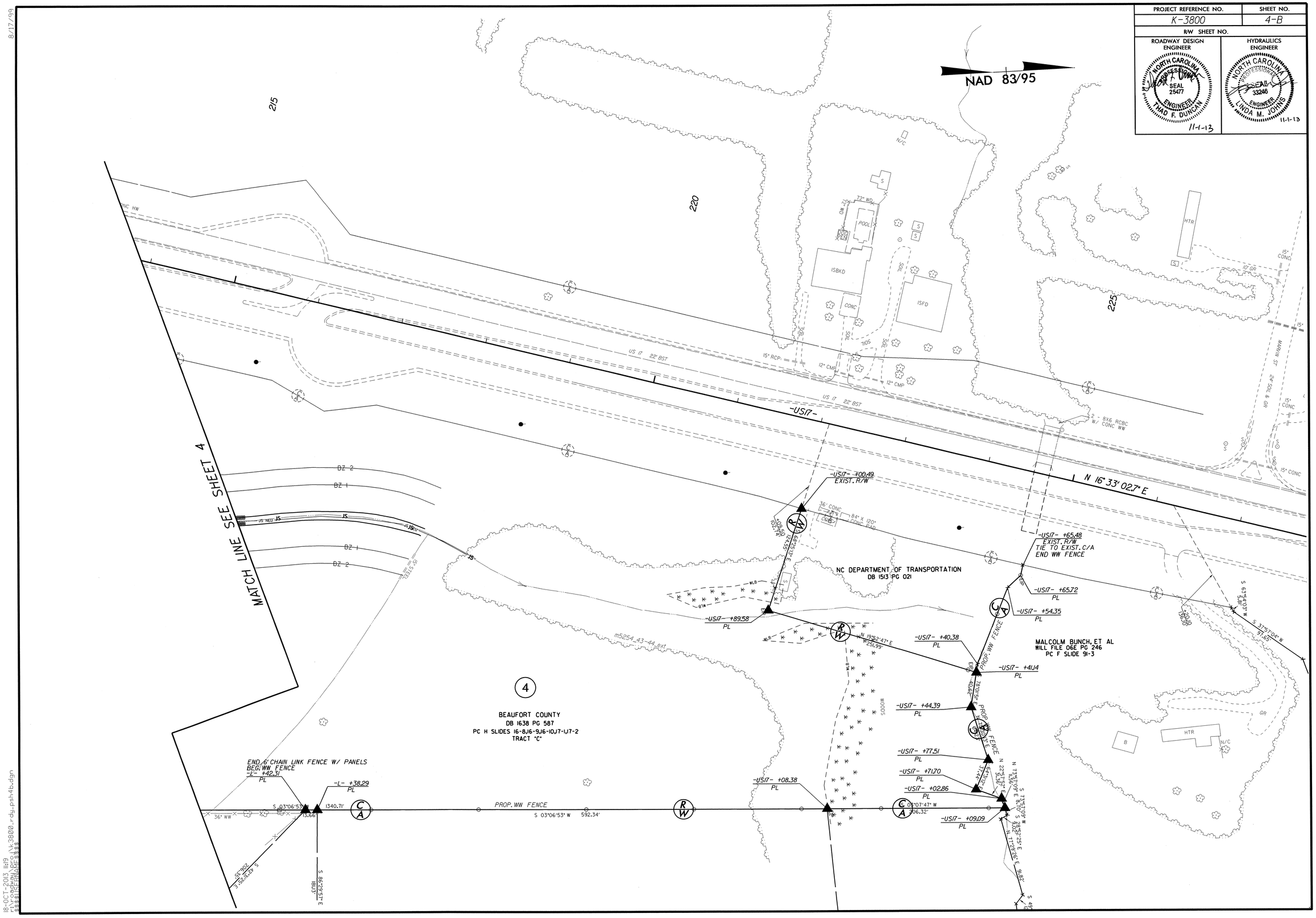
8/17/99

18-OCT-2013 11:19
f:\roadway\dgn\k3800_rdy_psh4a.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	4-B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN 11-1-13

NORTH CAROLINA PROFESSIONAL SEAL 33246 ENGINEER LINDA M. JOHNS 11-1-13



18-OCT-2013 11:19
r:\roadway\proj\k3800_rdy_psh4b.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	5

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN 11-1-13

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 33246 ENGINEER LINDA M. JOHNS 11-1-13

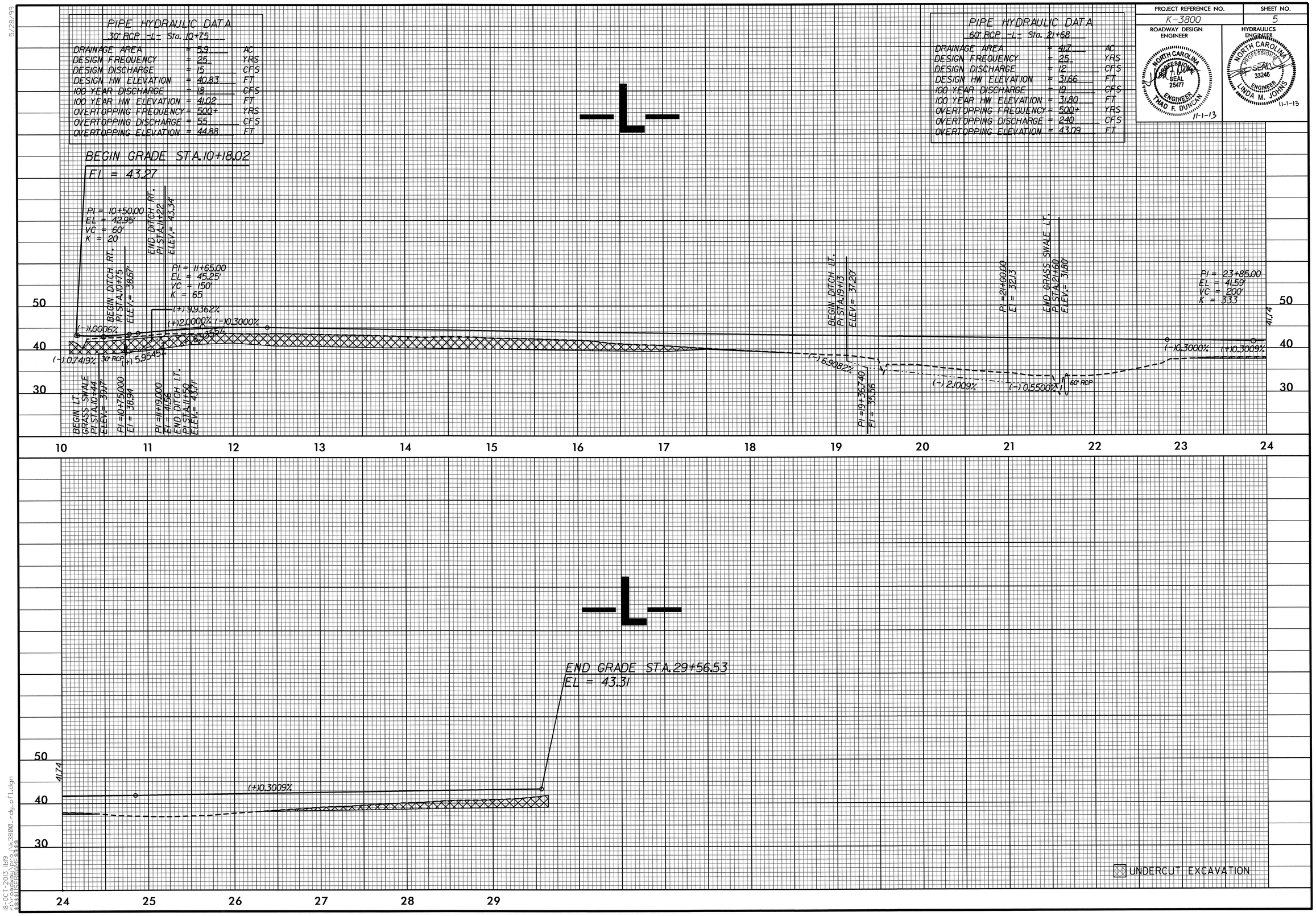
5/28/99

PIPE HYDRAULIC DATA
30" RCP -L- Sta. 10+75

DRAINAGE AREA	= 5.9	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 15	CFS
DESIGN HW ELEVATION	= 40.83	FT
100 YEAR DISCHARGE	= 18	CFS
100 YEAR HW ELEVATION	= 41.02	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 55	CFS
OVERTOPPING ELEVATION	= 44.88	FT

PIPE HYDRAULIC DATA
60" RCP -L- Sta. 21+68

DRAINAGE AREA	= 41.7	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 12	CFS
DESIGN HW ELEVATION	= 31.66	FT
100 YEAR DISCHARGE	= 19	CFS
100 YEAR HW ELEVATION	= 31.80	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 240	CFS
OVERTOPPING ELEVATION	= 43.09	FT



18-OCT-2013 14:19
f:\roadway\proj\k3800_rdu.pfl.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN 11-1-13

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33246 ENGINEER LINDA M. JOHNS 11-1-13

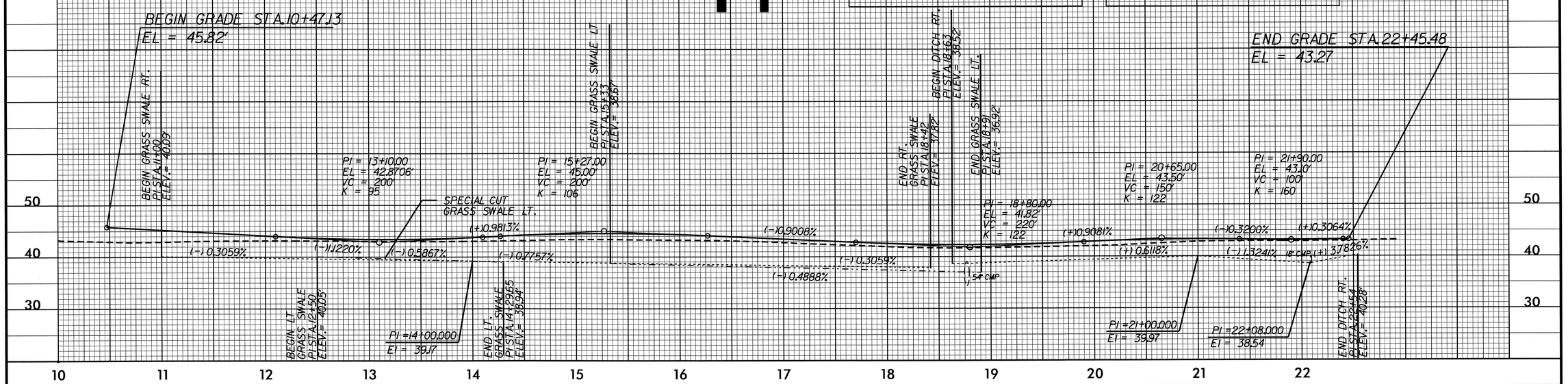
-Y1-

PIPE HYDRAULIC DATA
54" CMP -Y1- Sta. 18+77

DRAINAGE AREA	= 25.9	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 8	CFS
DESIGN HW ELEVATION	= 36.71	FT
100 YEAR DISCHARGE	= 12	CFS
100 YEAR HW ELEVATION	= 36.81	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 150	CFS
OVERTOPPING ELEVATION	= 42.50	FT

PIPE HYDRAULIC DATA
18" CMP -Y1- Sta. 22+09

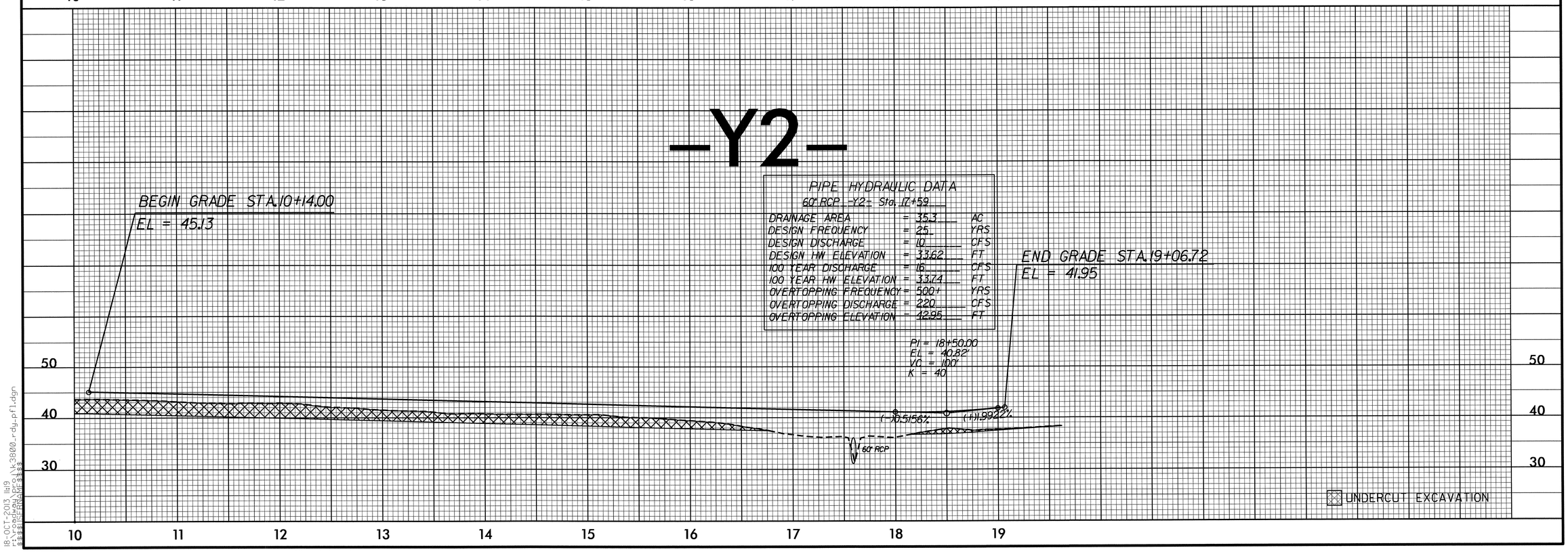
DRAINAGE AREA	= 1.6	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 5	CFS
DESIGN HW ELEVATION	= 40.18	FT
100 YEAR DISCHARGE	= 6	CFS
100 YEAR HW ELEVATION	= 40.55	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 12	CFS
OVERTOPPING ELEVATION	= 43.73	FT



-Y2-

PIPE HYDRAULIC DATA
60" RCP -Y2- Sta. 17+59

DRAINAGE AREA	= 35.3	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 10	CFS
DESIGN HW ELEVATION	= 33.62	FT
100 YEAR DISCHARGE	= 16	CFS
100 YEAR HW ELEVATION	= 33.74	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 220	CFS
OVERTOPPING ELEVATION	= 42.95	FT



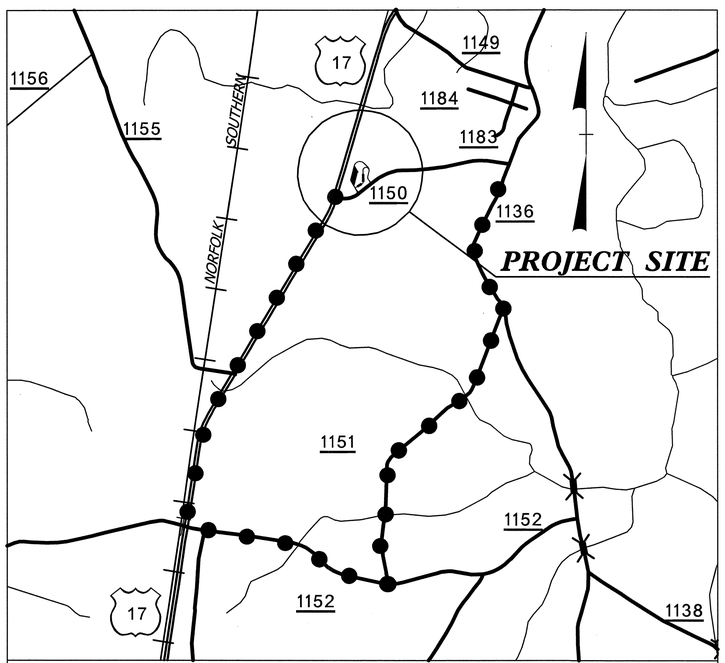
5/28/99

18-OCT-2013 14:19
r:\roadway\proj\k3800_rdy_pfl.dgn
$$$$USERNAME$$$$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

BEAUFORT COUNTY



VICINITY MAP

LOCATION: US 17 REST AREA

TYPE OF WORK: GRADING, PAVING, DRAINAGE, LIGHTING, REST AREA AND FACILITIES

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)
TMP-2	SIGN DESIGN
TMP-3	PHASING
TMP-4	DETAIL
TMP-5	OFF-SITE DETOUR
TMP-6	ROAD CLOSURE

SHEET NO.
TMP-1

K-3800

TIP PROJECT:

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. — *STATE TRAFFIC MANAGEMENT ENGINEER*
J. S. KITE, P.E. — *TRAFFIC CONTROL PROJECT ENGINEER*
D. W. BISSETTE, P.E. — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
_____ — *TRAFFIC CONTROL DESIGN ENGINEER*

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

Prepared In the Office of:
SEPI ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
Fax:919-789-9591
License: C-2197

APPROVED: S. B. Mitchell
DATE: 9-3-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
K-3800	TMP-1A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGING DEVICES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY - DRUM
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
1205.08	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

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL
- USER DEFINED (IF NEEDED)
- USER DEFINED (IF NEEDED)

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
	TEMPORARY PAVEMENT MARKINGS
	PAINT(4")
PA	WHITE EDGELINE
PI	YELLOW DOUBLE CENTER
	PAINT(8")
PP	YELLOW DIAGONAL

APPROVED: DATE: 8-3-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
K-3800	TMP-1B

MANAGEMENT STRATEGIES

-TRAFFIC WILL BE MAINTAINED THROUGH LANE CLOSURES AS MUCH AS POSSIBLE

-CLOSURE OF HARDING ROAD (SR 1150) IS PERMITTED FOR UP TO 60 DAYS UNDER ICT #1, WHEREIN TRAFFIC IS DETOURED OFF-SITE

-LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES WILL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION

GENERAL NOTES

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

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

LANE AND SHOULDER CLOSURE REQUIREMENTS

A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

F) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

G) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) (FEET) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

SIGNING

H) INSTALL ADVANCE WORK ZONE WARNING SIGNS NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

I) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

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

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

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

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

TRAFFIC CONTROL DEVICES

L) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUM), 1135 (CONES) AND 180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

M) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES (DRUMS) PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

N) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR 1150 HARDING ROAD	PAINT	NONE

O) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

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

Q) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

R) TRACE THE (EXISTING/PROPOSED) MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO (REMOVAL/INSTALLATION). PLACE (DEVICES) TO DELINEATE ANY (EXISTING/PROPOSED) MONOLITHIC ISLANDS

LOCAL NOTES

1. NOTIFY THE ENGINEER AT LEAST ONE MONTH PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

2. NOTIFY BEAUFORT COUNTY SCHOOLS AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.

2. NOTIFY BEAUFORT COUNTY EMERGENCY SERVICES AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.

APPROVED: DATE: 10-7-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$$$$$$$$$$$$$DLENAME$$$$$$$$$$$$$$$$

PROJ. REFERENCE NO.	SHEET NO.
K-3800	TMP-2

SIGN NUMBER: SP-1
TYPE: STATIONARY
QUANTITY: SEE PLANS

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SIGN WIDTH: 36″
HEIGHT: 24″
TOTAL AREA: 6.0 Sq.Ft.

BORDER TYPE: RECESSED
RECESS: 0.5″
WIDTH: 0.75″
RADII: 1.38″

MAT'L: 0.125″ (3.2 mm) ALUMINUM
0.079″ COMPOSITE

DESIGN BY: R DRAYTON
PROJECT ID: K-3800

CHECKED BY: S MILLER
DIV: 2

DATE: Jul 22, 2013

Spacing Factor is 1 unless specified otherwise

USE NOTES

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be Type VII, VIII, or IX (prismatic) fluorescent orange retroreflective sheeting.

LETTER POSITIONS

Letter locations are panel edge to lower left corner

																										Series/Size Text Length
	H	A	R	D	I	N	G																			C 2000
	4.05	8.25	12.93	17.31	21.87	24.03	28.59																			27.9
	R	O	A	D																						C 2000
	10.62	14.88	19.14	23.82																						16.56

FILENAME: K-3800 TMP-2

NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: S.D. Miller DATE: 9-3-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

SPECIAL SIGN DESIGN

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$

PROJ. REFERENCE NO.	SHEET NO.
K-3800	TMP-3

PHASING

MAINTAIN DRIVEWAY ACCESS THROUGHOUT THE ENTIRE PROJECT.

STEP 1: USING ROADWAY STANDARD DRAWING (RSD) 1101.01 SHEETS 2 AND 3 OF 3, INSTALL ADVANCE WARNING SIGNS ON US-17 AND HARDING ROAD.

STEP 2: USING RSD 1101.02 SHEET 1 OF 15, BEGIN REST AREA CONSTRUCTION INCLUDING -L-, -Y1-, AND -Y2- UP TO BUT NOT INCLUDING THE FINAL SURFACE LAYER. -L- MAY BE CONSTRUCTED UP TO EDGE AND ELEVATION OF SR 1150 (HARDING ROAD).

USING RSD 1101.04 SHEET 1 OF 1 AND RSD 1101.02 SHEET 3 OF 15, BEGIN -US17- CONSTRUCTION.

STEP 3 MUST BE COMPLETED IN 60 CONSECUTIVE DAYS (SEE ICT 1).

STEP 3: A) USING RSD 1101.03 SHEETS 1 AND 2 OF 9, CLOSE HARDING ROAD (SR 1150) AND DETOUR TRAFFIC OFF SITE AS SHOWN ON TMP-5. MAINTAIN ACCESS TO DRIVEWAYS BETWEEN CLOSURE POINTS.

B) COMPLETE -Y1- UP TO BUT NOT INCLUDING THE FINAL SURFACE LAYER.

C) PLACE TEMPORARY PAVEMENT MARKINGS IN THE SAME LOCATION AS THE FINAL MARKINGS ACCORDING TO THE PAVEMENT MARKING PLANS.

D) OPEN HARDING ROAD (SR 1150) TO TRAFFIC, REMOVING DEVICES AS NECESSARY.

STEP 4: USING RSD 1101.04 SHEET 1 OF 1 AND RSD 1101.02 SHEETS 1 AND 3 OF 15 COMPLETE -US17-, -L-, AND -Y2- UP TO BUT NOT INCLUDING THE FINAL SURFACE LAYER.

STEP 4: USING RSD 1101.02 SHEETS 1 AND 3 OF 15 PLACE FINAL SURFACE LAYER AND PLACE FINAL PAVEMENT MARKINGS AS SHOWN ON THE PAVEMENT MARKING PLANS.

STEP 5: REMOVE ALL TRAFFIC CONTROL DEVICES.

APPROVED: DATE: 9-3-13

SEAL

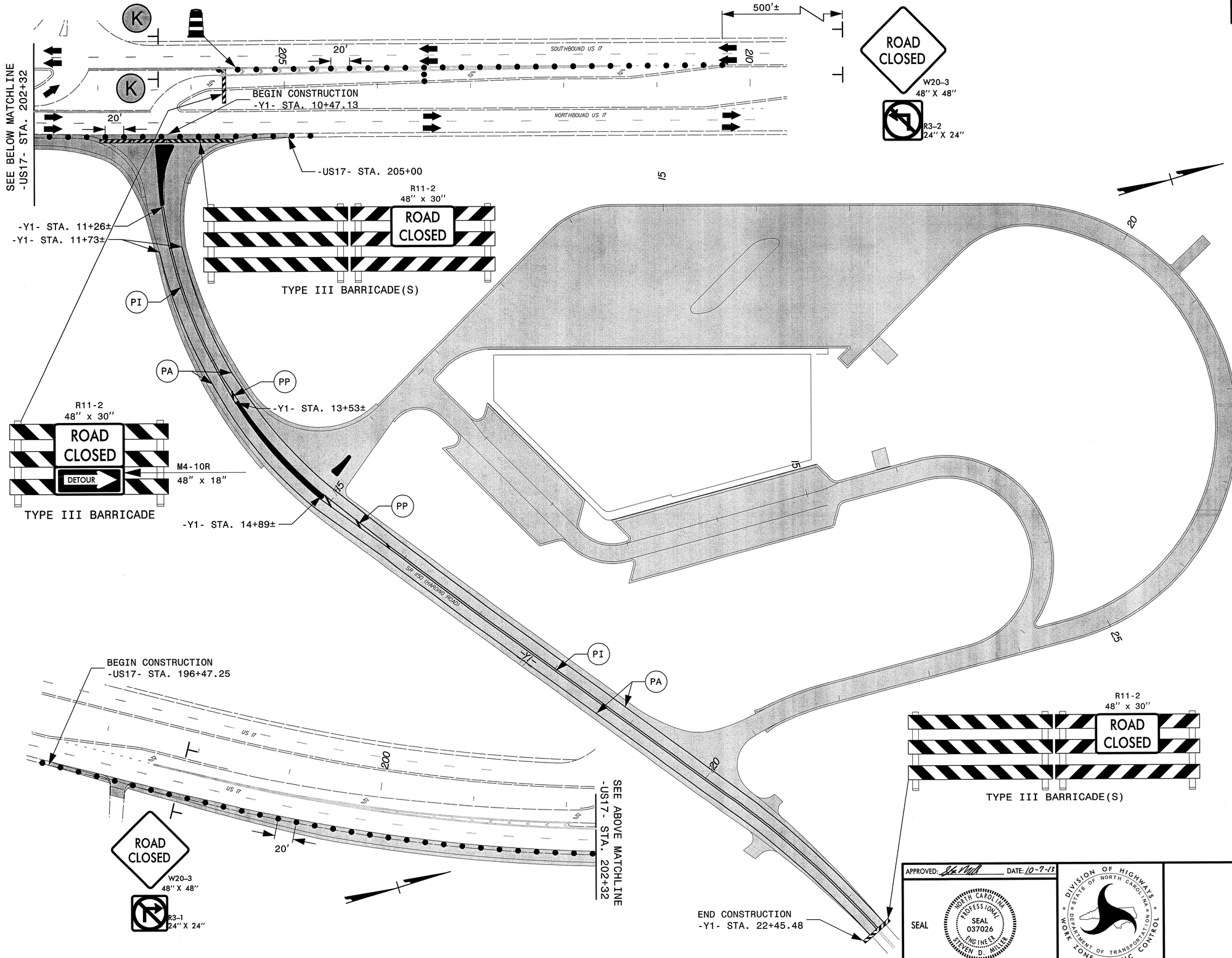
NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

PHASING

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
K-3800	TMP-4



APPROVED: DATE: 10-7-13

SEAL

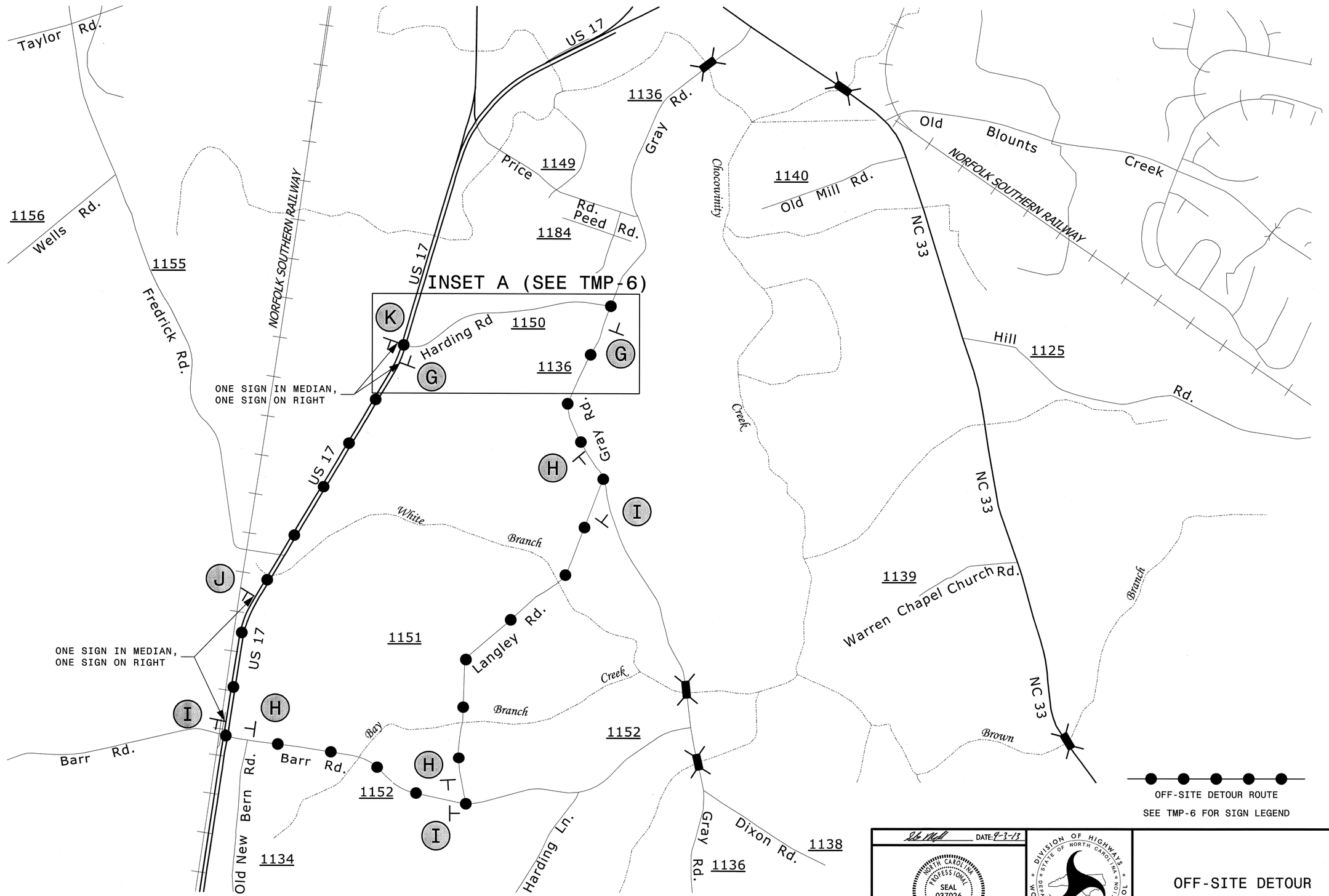
NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

DETAIL

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$$$$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
K-3800	TMP-5



DATE: 9-3-13

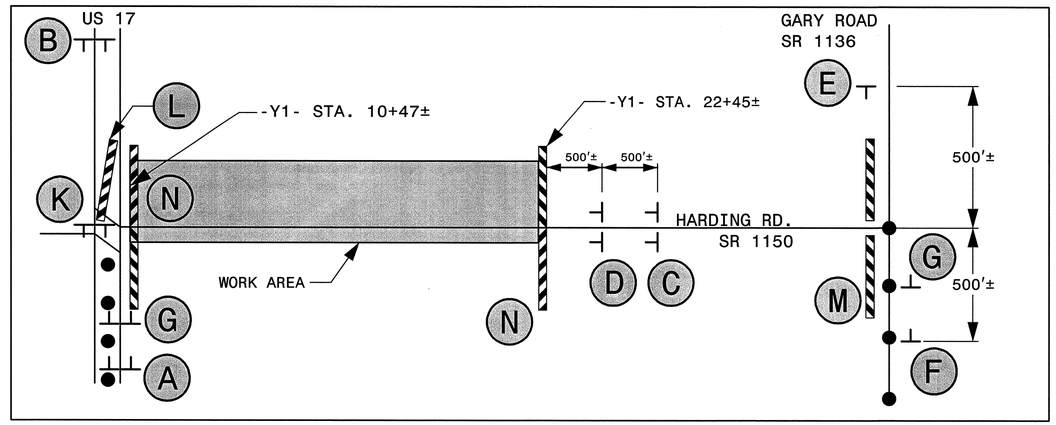
NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

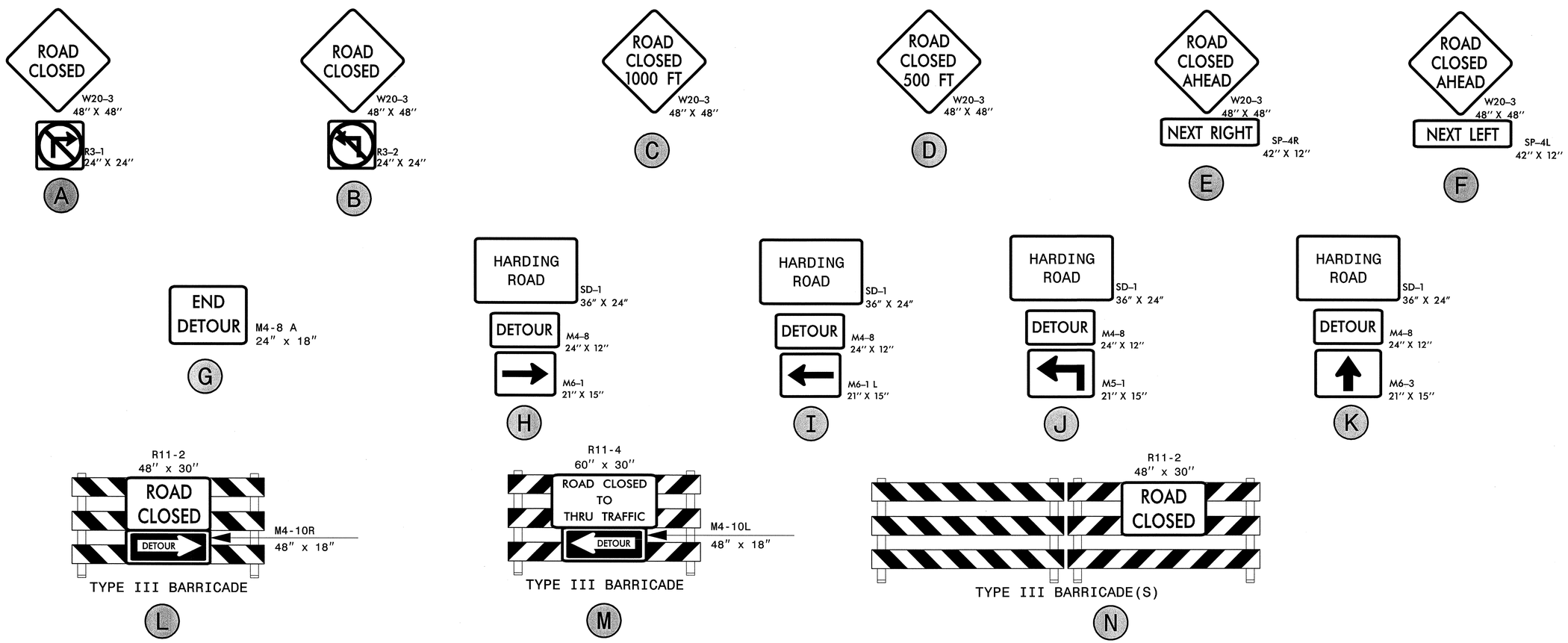
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE CONTROL

OFF-SITE DETOUR

PROJ. REFERENCE NO.	SHEET NO.
K-3800	TMP-6

INSET A





APPROVED: DATE: 9-3-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

ROAD CLOSURE

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

T.I.P.: K-3800

CONTRACT: C203304

TIP NO.	SHEET NO.
K-3800	PMP-1

APPROVED: Ayman Alqudwah

DATE: 9-5-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUDWAH

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
BEAUFORT COUNTY
LOCATION: US 17 REST AREA

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
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING

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) STATE FORCES WILL INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
US 17 , -Y1-	THEMOPLASTIC	RAISED
REST AREA	THEMOPLASTIC	NONE

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

C) 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.

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

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

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2	PAVEMENT MARKING PLAN

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
T2	WHITE STOPBAR (24" 120 MIL)
T8	2 FT.-6 FT./SP WHITE MINISKIP (4",120 MILS)
TA	WHITE EDGELINE (4" 90 MIL)
TB	YELLOW EDGELINE (4" 90 MIL)
TD	3 FT.-9 FT./SP WHITE MINISKIP (4",120 MILS)
TE	WHITE SOLID LANE LINE (4",120 MIL)
TI	YELLOW DOUBLE CENTER (4",120 MIL)
TP	YELLOW DIAGONAL (8",90 MIL)
UA	LEFT TURN ARROW (90 MIL)
UB	RIGHT TURN ARROW (90 MIL)
UC	STRAIGHT ARROW (90 MIL)
UE	COMBO. STRIGHT/RIGHT (90 MIL)

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

A. I. ALQUDWAH, P.E. SIGNING & DELINEATION REGIONAL ENGINEER

BARRY NOWLIN SIGNING & DELINEATION PROJECT DESIGN TECHNICIAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

03-SEP-2013 16:12
R:\Traffic\Signing\CADD\PMP\K-3800_Pavement Marking Seed 4-12-12.dgn
bnowlin AI TE274416

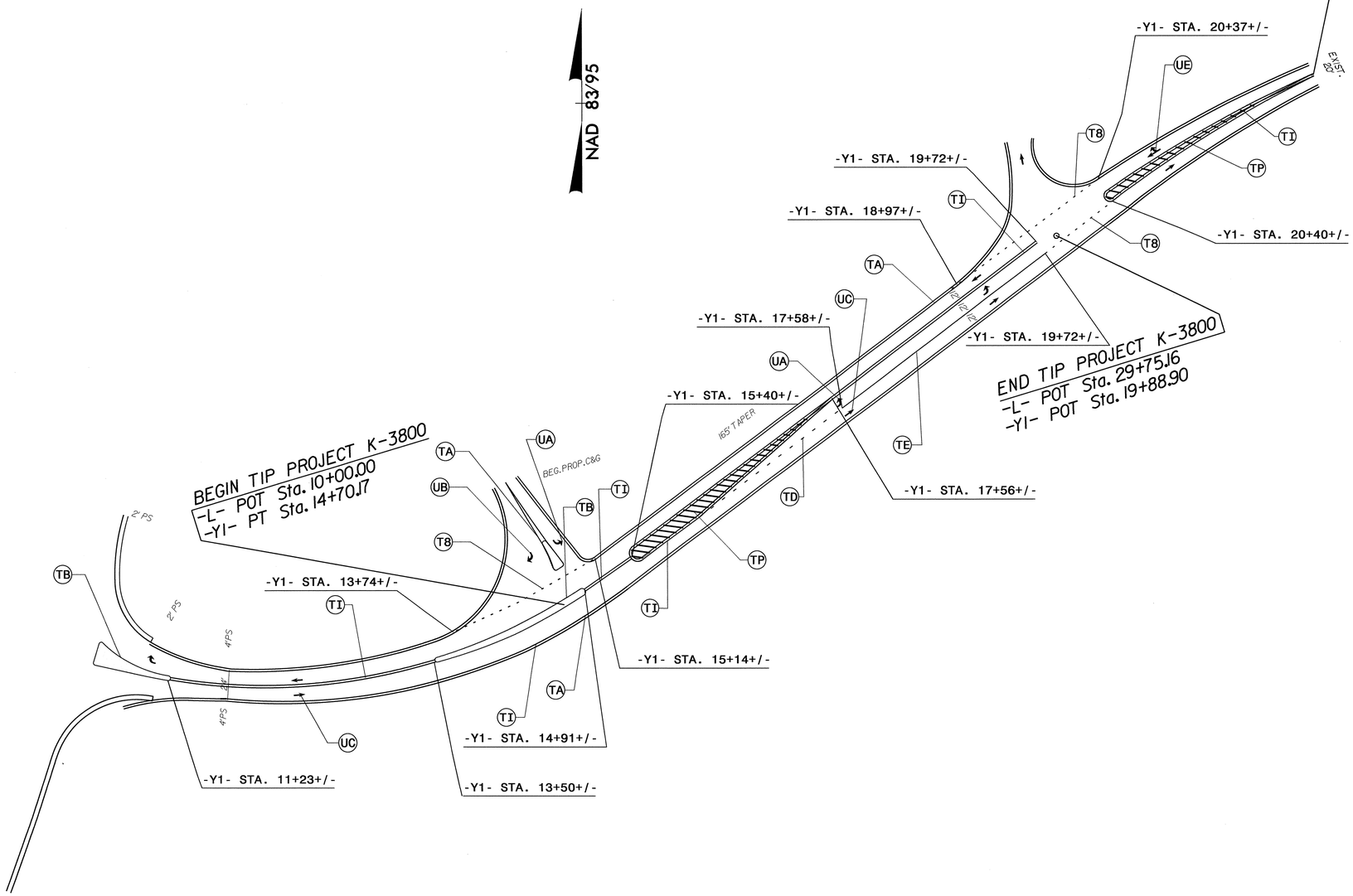
TIP NO.	SHEET NO.
K-3800	PMP-2

APPROVED: Ayman Alqudah

DATE: 9-10-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUDAH



PAVEMENT MARKING DETAIL

09-SEP-2013 10:49
R:\Traffic\Signing\CADD\PMP\K-3800_Sgn_PMP_2.dgn
Bnowlin AT TE27491B

PROJECT REFERENCE NO.	SHEET NO.
K-3800	E1

PLANS AND DETAILS FOR PROPOSED LIGHTING / ELECTRICAL CONSTRUCTION

△ NOTES

1. PLACE LIGHT STANDARDS 12′ FROM EDGE OF TRAVEL LANE, 10′ BEHIND CURB, OR 3′ BEHIND SIDEWALK, WHICHEVER IS MAXIMUM.
2. INSTALL JUNCTION BOXES MIN. 3′ FROM BACK OF CURB OR EDGE OF SIDEWALK.
3. USE SCALED DIMENSIONS FOR STANDARDS NOT LOCATED WITH STATION NUMBERS.
4. AT THESE LOCATIONS PROVIDE 2″ ELECTRICAL DUCT IN ACCORDANCE WITH NEC REQUIREMENTS FOR AN APPROVED RACEWAY. SEE TABLE C THIS SHEET.

ROADWAY STANDARDS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS", ROADWAY DESIGN 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 DRAW	DESCRIPTION
1405.01	STANDARD FOUNDATION
1409.01	ELECTRICAL DUCT
1410.01	FEEDER CIRCUIT
1411.01	ELECTRICAL JUNCTION BOXES

PERFORM ALL WORK IN CONFORMANCE WITH DIVISION 14 OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES DATED JANUARY 2012, AND PROJECT SPECIAL PROVISIONS TITLED "REST AREA LIGHTING."

SCOPE OF WORK

PROVIDE REST AREA LIGHTING BY INSTALLING POST TOP STANDARDS WITH MAX. 70 WATT LED LUMINAIRES, BOLLARD LIGHT WITH MAX. 45 WATT LED LUMINAIRES, ROADWAY DAVIT STYLE LIGHT STANDARDS WITH MAX. 150 WATT LED LUMINAIRES WITH FOUNDATIONS, UNDERGROUND CIRCUITRY IN CONDUIT, JUNCTION BOXES AND CONTROL SYSTEMS.

DESIGN CRITERIA

2005 AASHTO "ROADWAY LIGHTING DESIGN GUIDE"

2011 NATIONAL ELECTRICAL CODE

2009 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 5TH EDITION, AND LATEST INTERIM SPECIFICATIONS VALID AT THE TIME OF LETTING.

2011 AASHTO ROADSIDE DESIGN GUIDE

LEGEND

PROPOSED LIGHT STANDARD
TYPE DAVIT 35′ MH WITH 6′ ARM
100 MPH WIND SPEED
WITH TYPE RDW 150W MAX LED LUMINAIRE
IES DISTRIBUTION: MEDIUM, CUTOFF,
TYPE III

JB1
PROPOSED ELECTRICAL JUNCTION BOX (JB)
--TYPE PC18--
MIN SIZE: 18″L X 11″W X 18″H
--TYPE PG36--
MIN SIZE: 36″L S 24″W X 18″H
SEE TABLE B, THIS SHEET.

A1 2
PROPOSED FEEDER CIRCUIT
CONTROL SYSTEM (A), CIRCUIT (1),
PLAN SYMBOL (2).
SEE TABLE A,THIS SHEET.

△4
REFERENCE TO CORRESPONDING △ NOTE
AS NUMBERED

PROPOSED POST TOP STANDARD 15′ MH,
100 MPH WIND SPEED WITH TYPE PT 70W
(MAX.) LED LUMINAIRE IES DISTRIBUTION:
CUTOFF TYPE V.

3″ ELEC. DUCT, JA OR BD
PROPOSED ELECTRICAL DUCT
SIZE 3″
TYPE JACKED (JA) OR BURIED (BD).
SEE TABLE C, THIS SHEET.

NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER PAUL KI-BUM CHAN
10-18-13

TABLE "A"
CIRCUITRY CONDUCTOR CONDUIT TYPE & SIZE

PLAN SYMBOL	DESCRIPTION		CONTRACT ITEM
8	2#8 Ø 1 #10G 1.5″ P	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR 1.5″ PVC CONDUIT	2 - 8 W/G FEEDER CIRCUIT IN 1.5″ CONDUIT
*8	2#8 Ø 1 #10G	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR	2 - 8 W/G FEEDER CIRCUIT
6	2#6 Ø 1 #8G 1.5″ P	2 AWG SIZE 6 CONDUCTOR (BK & RD) 1 AWG SIZE 8 GROUNDING CONDUCTOR 1.5″ PVC CONDUIT	2 - 6 W/G FEEDER CIRCUIT IN 1.5″ CONDUIT
4	2#4 Ø 1 #6G 1.5″ P	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR 1.5″ PVC CONDUIT	2 - 4 W/G FEEDER CIRCUIT IN 1.5″ CONDUIT
*4	2#4 Ø 1 #6G	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR	2 - 4 W/G FEEDER CIRCUIT

TABLE "B"
JUNCTION BOX SUMMARY

NUMBER	LOCATION	TYPE			SHEET
JB1	-Y1- STA.11+69, RT	PC18			E2
JB2	-Y1- STA.11+69, LT	PC18			E2
JB3	-L- STA.11+90, LT	PC18			E2
JB4	-Y2- STA.10+32, LT	PC18			E2
JB5	-Y2- STA.10+32, RT	PC18			E2
JB6	-L- STA.28+73, RT	PC18			E2
JB7	-L- STA.28+73, LT	PC18			E2
JB8	-L- STA.16+66, RT 164′	PC18			E2
JB9	-L- STA.15+66, RT 159′	PC18			E2
JB10	NEAR POST TOP #41	PC18			E2
JB11	-Y2- STA.13+42, LT 55′	PC18			E2
JB12	-Y2- STA.11+59, RT 59′	PC18			E2
JB13	-L- STA.13+20, RT 156′	PC18			E2
JB14	NEAR BUILDING CLOSE TO CS-A		PG36		E2
TOTALS		13	1		

TABLE "C"
ELECTRICAL DUCT SUMMARY
(ESTIMATED LENGTH IN FEET)

			TYPE BURIED (BD) FEET		
LOCATION	RACEWAY △4	SHEET	SIZE 2″	SIZE 3″	SIZE 4″
-Y1- STA.11+69, RT		E3		37	
-L- STA.11+90, LT		E2		31	
-Y2- STA.10+32, RT	JB4 - JB5	E2	60		
-Y2- STA.10+32, RT		E2			37
-L- STA.28+73, RT		E2		24	
TOTALS			60	92	37

ABBREVIATIONS

BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGC	RIGID GALVANIZED STEEL CONDUIT
JA	JACKED	C	CONDUIT
MH	MOUNTING HEIGHT	CKT	CIRCUIT
Ø	PHASE	N	NEUTRAL
SER LAT	SERVICE LATERAL	G	GROUND
		HM	HIGH MAST

COMPUTED BY: SKS DATE: 10/18/13
CHECKED BY: PKC DATE: 10-18-13

01-NOV-2013 15:41
R:\Lighting\Electrical\Lighting Design\Plan Sheets\k3800_le_psh_E1.dgn
$$$$USERNAME$$$$

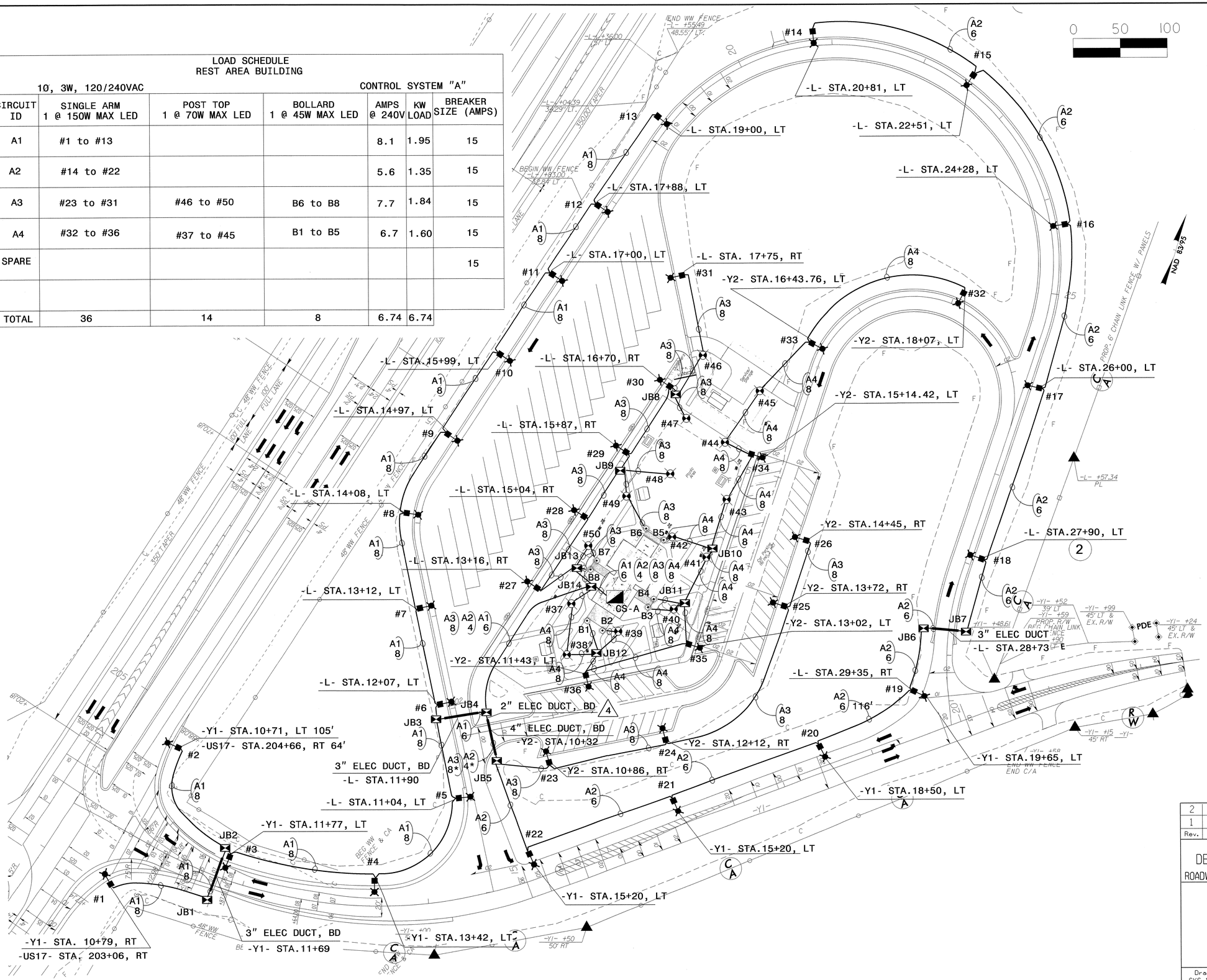
PROJECT REFERENCE NO.	SHEET NO.
K-3800	E2

NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER PAUL KI-BUM CHAN
10-18-13

LOAD SCHEDULE
REST AREA BUILDING

10, 3W, 120/240VAC — CONTROL SYSTEM "A"

CIRCUIT ID	SINGLE ARM 1 @ 150W MAX LED	POST TOP 1 @ 70W MAX LED	BOLLARD 1 @ 45W MAX LED	AMPS @ 240V	KW LOAD	BREAKER SIZE (AMPS)
A1	#1 to #13			8.1	1.95	15
A2	#14 to #22			5.6	1.35	15
A3	#23 to #31	#46 to #50	B6 to B8	7.7	1.84	15
A4	#32 to #36	#37 to #45	B1 to B5	6.7	1.60	15
SPARE						15
TOTAL	36	14	8	6.74	6.74	



SEE SHEET "E1" FOR LEGEND & △ NOTES

Rev.	Date	Description	Approved
2			
1			

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN — LIGHTING/ELECTRICAL SECTION

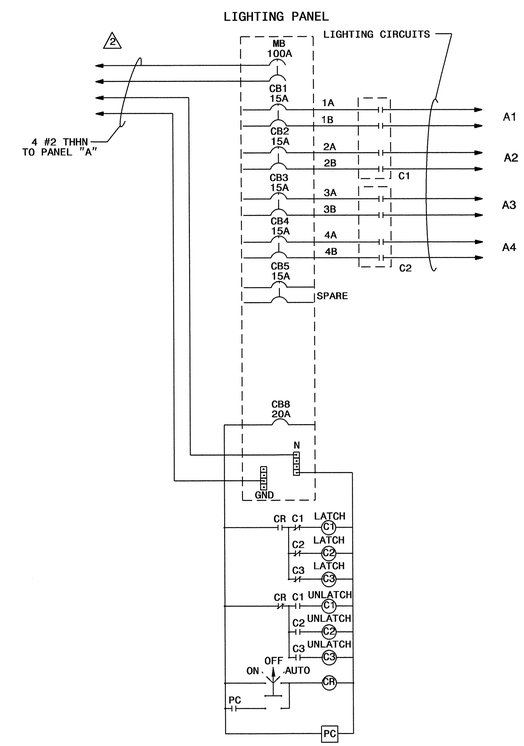
LIGHTING LAYOUT
US 17 REST AREA
BEAUFORT COUNTY

Drawn By:	Approved By:	Dwg No.:
SKS 10/18/13	PKC 10-18-13	

02-03-98
R:\DOT-2015_H45\
R:\Lighting\Electrical Lighting Design\Plan Sheets\k3800_le_psh_E2.dgn
sksks

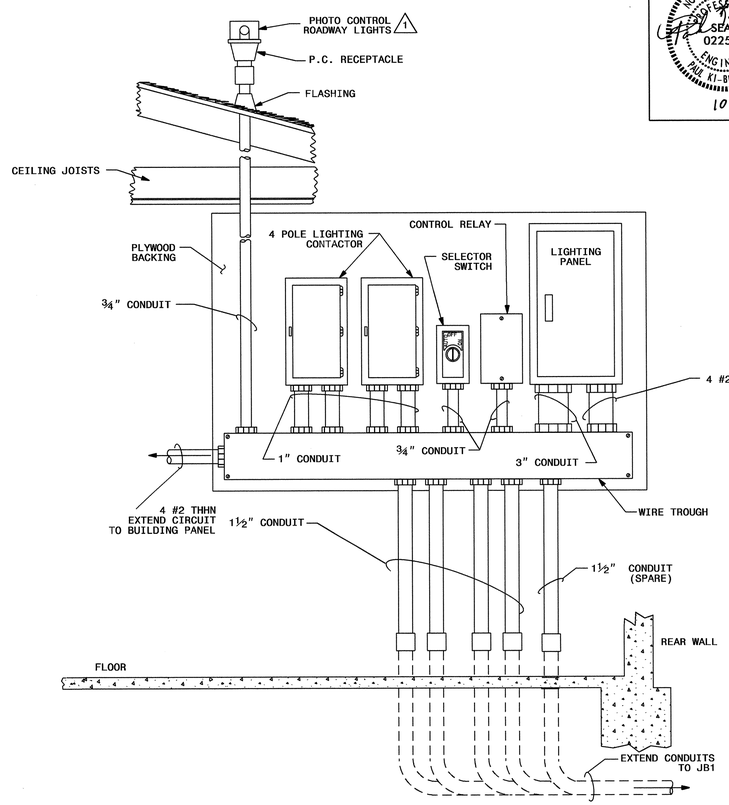
PROJECT REFERENCE NO.	SHEET NO.
K-3800	E3

USE FOR LIGHTING CONSTRUCTION ONLY



LIGHTING CONTROL SCHEMATIC

EQUIPMENT GROUNDING CONDUCTORS NOT SHOWN



LIGHT CONTROL EQUIPMENT TYPE RA 120/240V 100A

TYPICAL EQUIPMENT LAYOUT

REST AREA SCHEMATIC AND EQUIPMENT LAYOUT

△ NOTES

△1 LOCATE PHOTO CELL IN AN UNSHADED AREA ON THE ROOF.

△2 INSTALL ONE 100 AMP, 2 POLE BREAKER FOR LIGHTING PANEL SERVICE ADDED TO PANEL "A" UNDER OTHER CONTRACT PAY ITEM.

△3 EXTEND CIRCUIT TO PANEL "A". CONNECTION TO PANEL "A" BY OTHERS.

Rev.	Date	Description	Approved
2			

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DESIGN SERVICES — LIGHTING/ELECTRICAL SECTION

ROADWAY LUMINAIRES AND CONTROL SYSTEM DETAILS

US 17 REST AREA

BEAUFORT COUNTY

Drawn By:	Checked by:	Approved By:
RGH	PKC	

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR

LIGHT STANDARD LUMINAIRES

SHEET 1 OF 1 — 1406D01

LUMINAIRE CHARACTERISTICS

TYPE	SPEC	COLOR TEMP	MAX. DRIVE CURRENT (MA)	MINIMUM L70 RATING (HRS.)	MINIMUM INITIAL LUMENS	WARRANTY
150W (MAX) LED FIXTURE		4000K-5000K	600	70,000	9,900	5 YEAR

△ NOTES

△1 PROVIDE ACCESS TO FUSEHOLDERS FROM HANDHOLE OR TRANSFORMER BASE.

△2 SEE STANDARD SPECIFICATIONS SECTION 1400-4F FOR WIRING METHODS. USE TAPE OR HEAT SHRINK TO COLOR CONDUCTORS TO MATCH PHASE COLOR (RED/BLACK/BLUE).

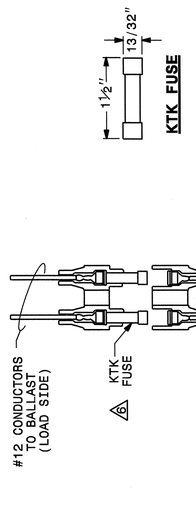
△3 MAKE SPLICES IN ACCORDANCE WITH SECTION 1400-4(F) OF THE STANDARD SPECIFICATIONS.

△4 BREAKAWAY FUSEHOLDERS REQUIRED AT ALL BREAKAWAY LIGHT STANDARDS.

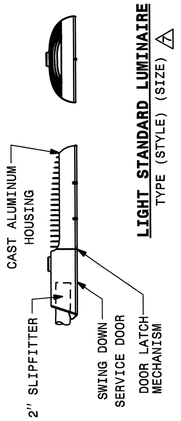
△5 SEE LIGHTING LAYOUT PLANS FOR NUMBER AND SIZE OF FEEDER CIRCUITS REQUIRED AT EACH LIGHT STANDARD.

△6 SEE STANDARD SPECIFICATIONS SECTION 1400-2E FOR FUSEHOLDERS.

△7 INSERT STYLE AND SIZE FROM PAY ITEM DESCRIPTION TO DETERMINE PROPOSED LUMINAIRES.

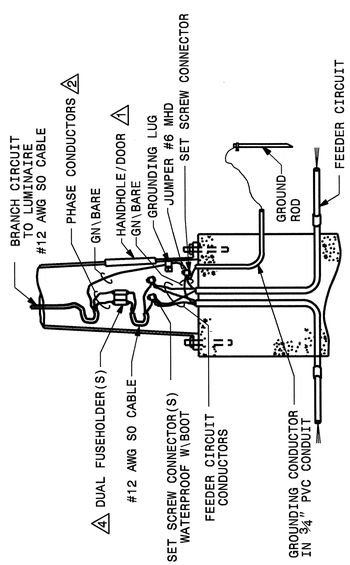


FUSEHOLDER



LIGHT STANDARD LUMINAIRE

TYPE (STYLE) (SIZE) △



WIRING DIAGRAM

@ BASE OF LIGHT STANDARD

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR

LIGHT STANDARD LUMINAIRES

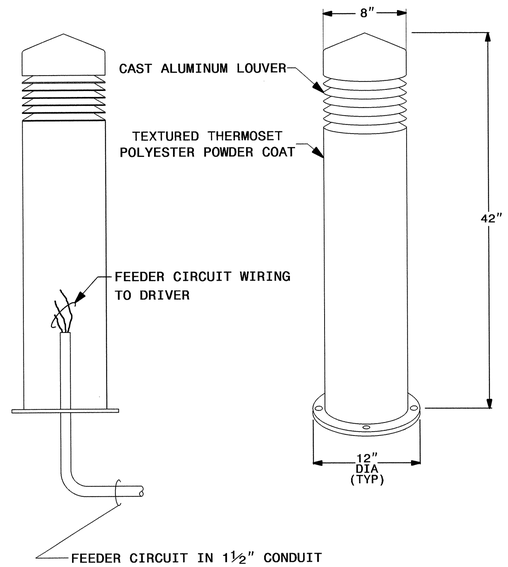
SHEET 1 OF 1 — 1406D01

2/13/98

08-OCT-2013 15:07

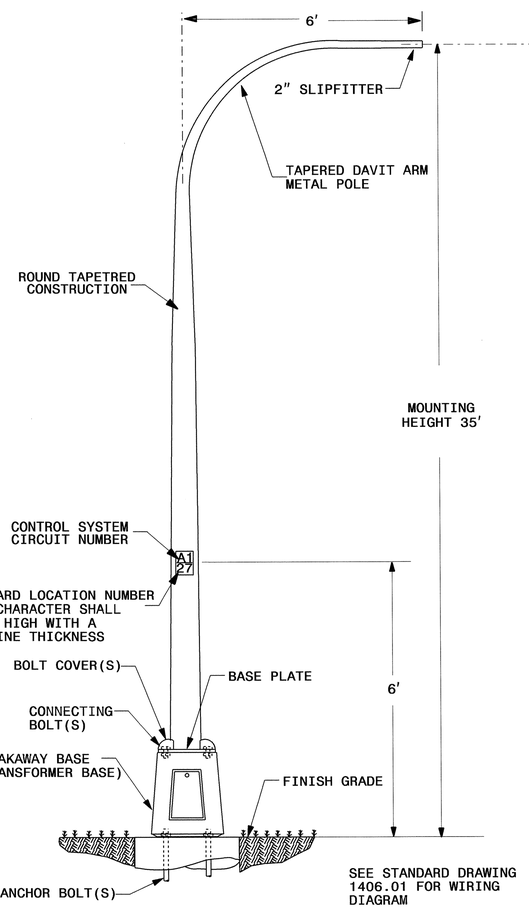
PROJECT REFERENCE NO.	SHEET NO.
K-3800	E4

USE FOR LIGHTING CONSTRUCTION ONLY



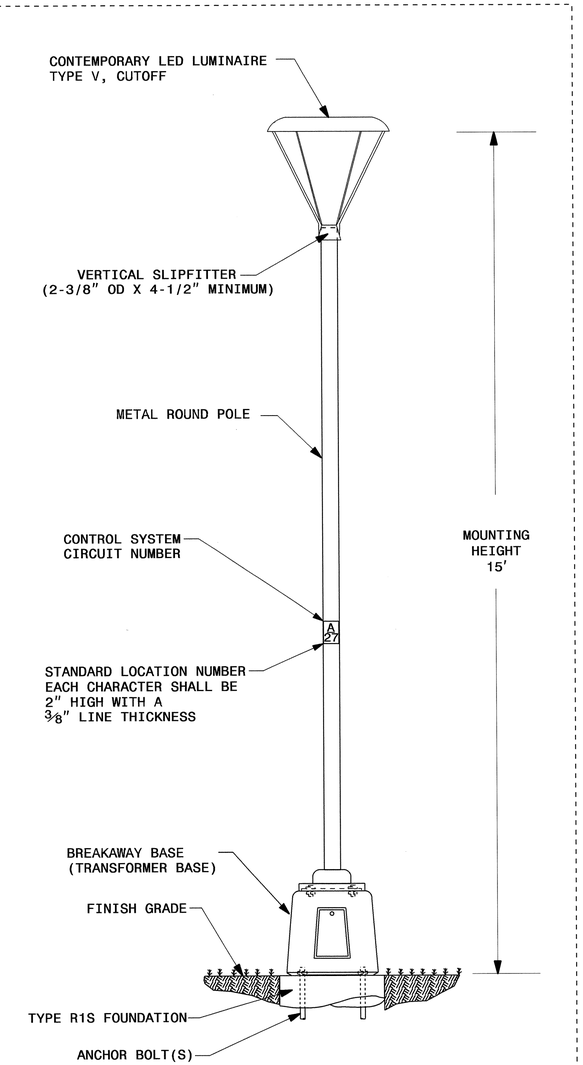
BOLLARD LIGHT STANDARD, H 42"

NOT TO SCALE



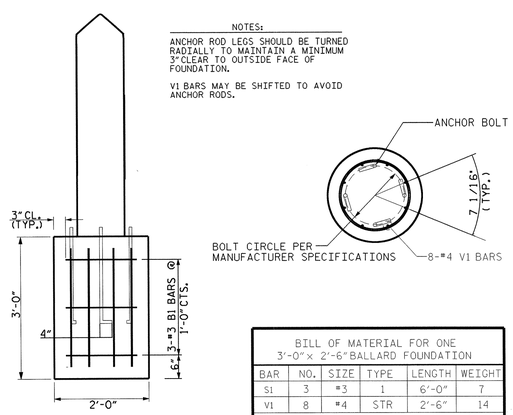
LIGHT STANDARD DAVIT STYLE MH 35' SA 6'

NOT TO SCALE



POST TOP LIGHT STANDARD MH 15'

NOT TO SCALE



NOTES:

ANCHOR ROD LEGS SHOULD BE TURNED RADIALLY TO MAINTAIN A MINIMUM 3" CLEAR TO OUTSIDE FACE OF FOUNDATION.

V1 BARS MAY BE SHIFTED TO AVOID ANCHOR RODS.

NOT TO SCALE

BILL OF MATERIAL FOR ONE 3'-0" x 2'-6" BALLARD FOUNDATION

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	3	#3	1	6'-0"	7
V1	8	#4	STR	2'-6"	14
REINFORCING STEEL =					21 lbs
CLASS A CONCRETE =					0.35 CU. YD.

BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT.

BOLLARD LIGHT FOUNDATION DESIGN (TYPE B1)

TYPICAL DESIGN. MODIFY PER MANUFACTURER'S REQUIREMENTS.

Rev.	Date	Description	Approved
2			
1			

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DESIGN SERVICES — LIGHTING/ELECTRICAL SECTION

LIGHT STANDARDS DETAILS

US 17 REST AREA

BEAUFORT COUNTY

Drawn By:	Approved By:	Dwg No.:
RGH	PKC	

NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER KI-BUN CHUNG 10-18-13

02/03/98

01-NOV-2013 15:34
$$$$USERNAME$$$$
$$$$USERNAME$$$$ Sheets\k3800_le_psh_E4_lgt_std_details.dgn

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

BEAUFORT COUNTY

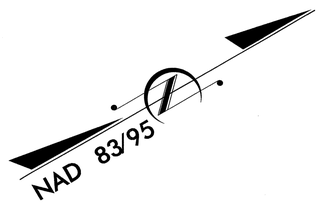
LOCATION: US 17 REST AREA

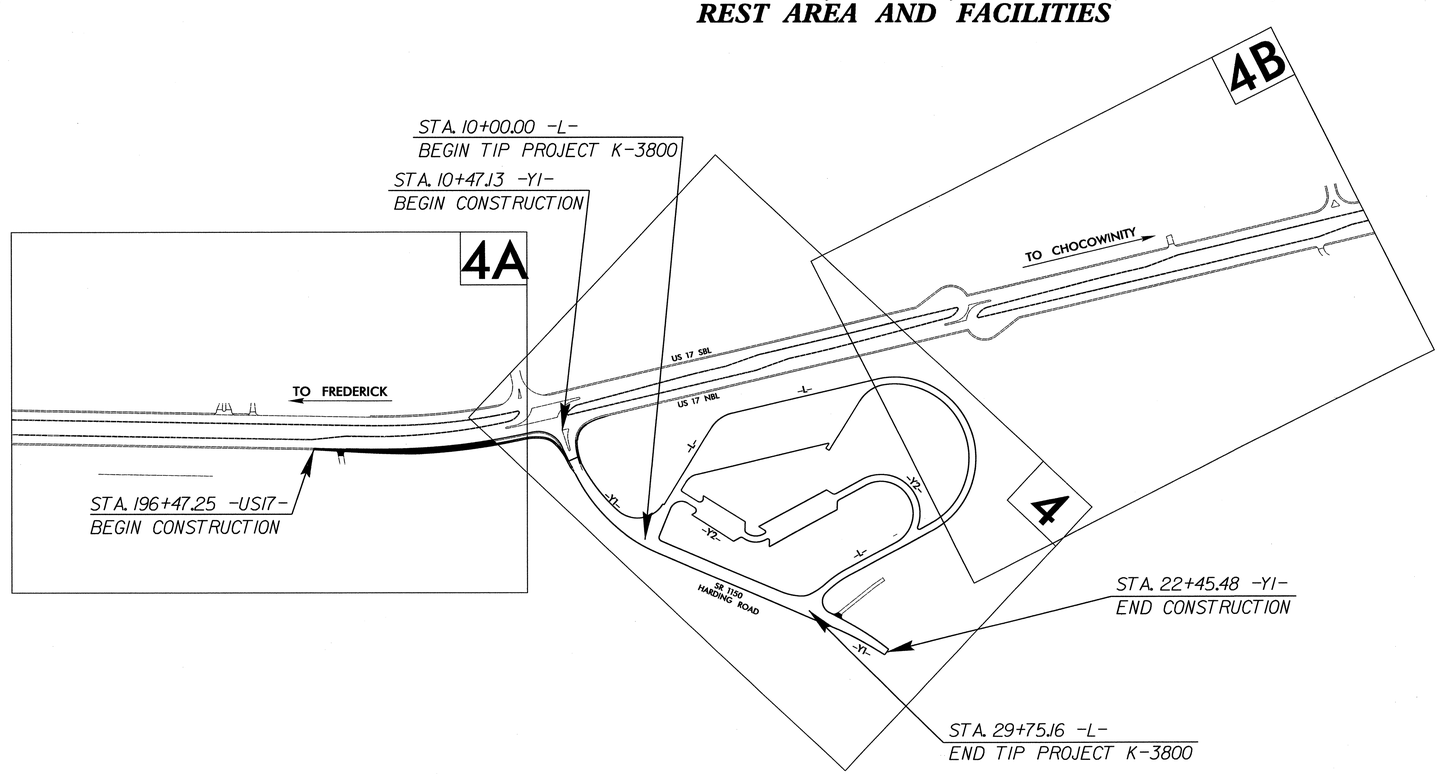
TYPE OF WORK: GRADING, PAVING, DRAINAGE, LIGHTING, REST AREA AND FACILITIES

TIP PROJECT: K-3800

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	K-3800	EC-1	

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





EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	EW / CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

Prepared In the Office of:

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

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

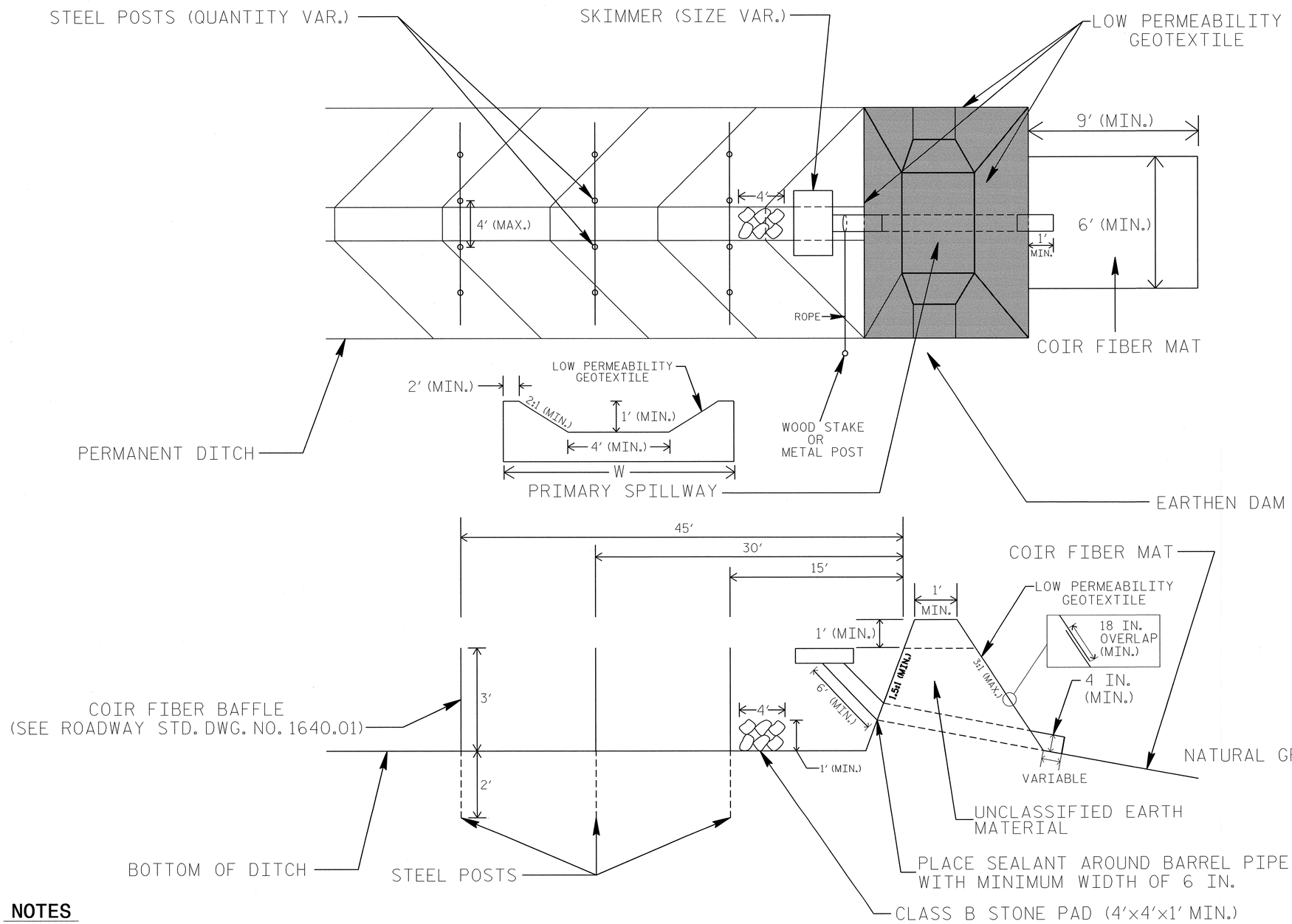
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

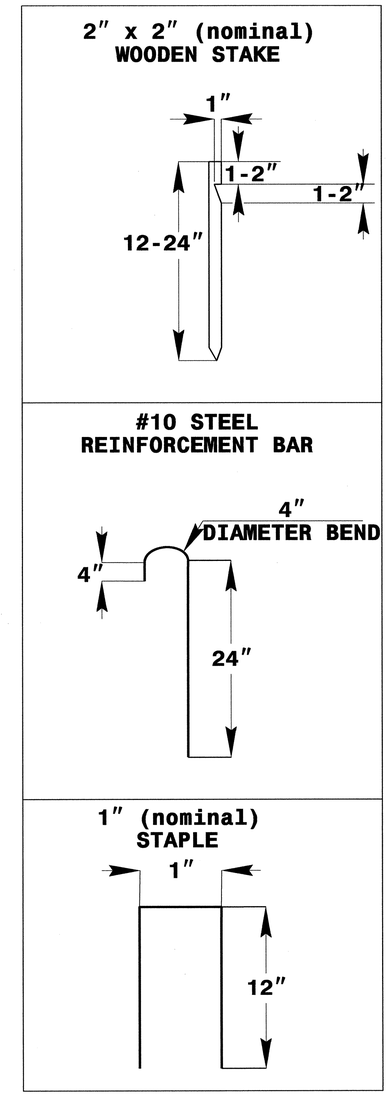
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type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

19-SEP-2013 10:48
R:\Environmental\Stormwater\Design\K3800_EC_tsh.dgn
mcbrayer
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EARTHEN DAM WITH SKIMMER DETAIL (EAST)





COIR FIBER MAT ANCHOR OPTIONS

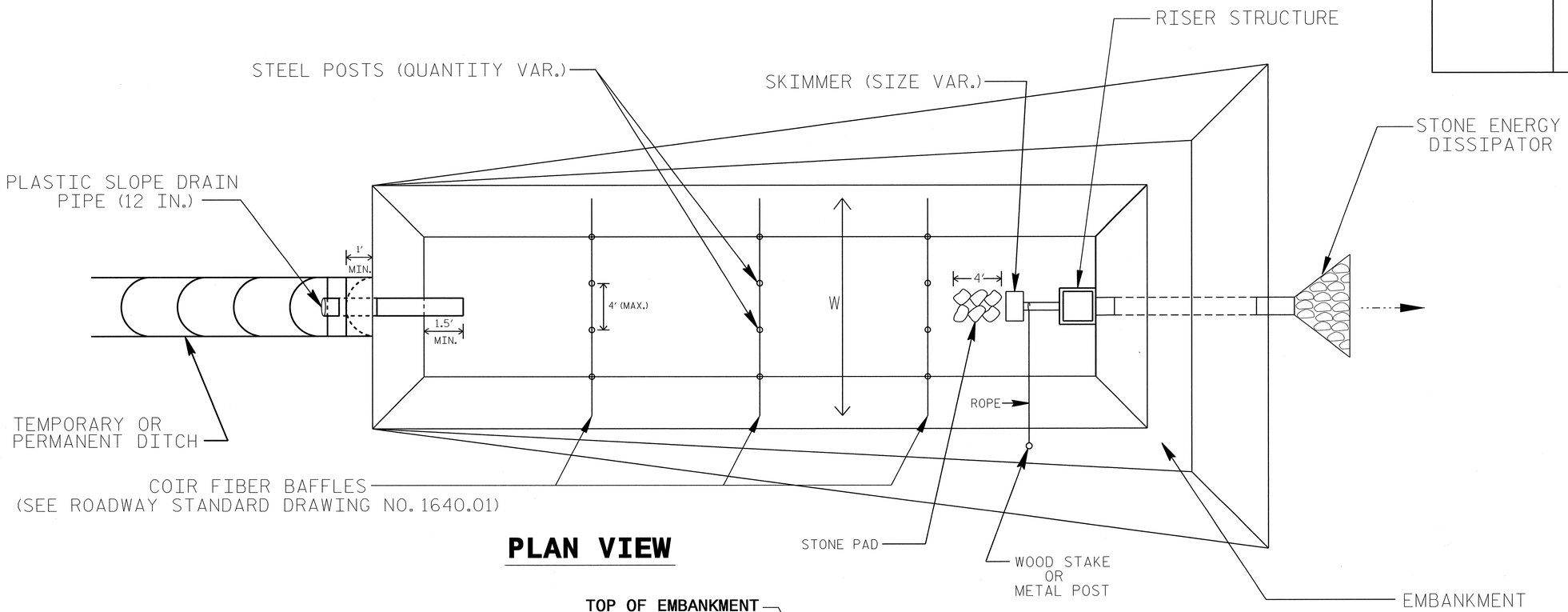
NOTES

1. LIMIT EARTHEN DAM HEIGHT TO 5 FT.
2. DETERMINE PRIMARY SPILLWAY LENGTH (FT.) USING Q/0.4, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
3. LOW PERMEABILITY GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

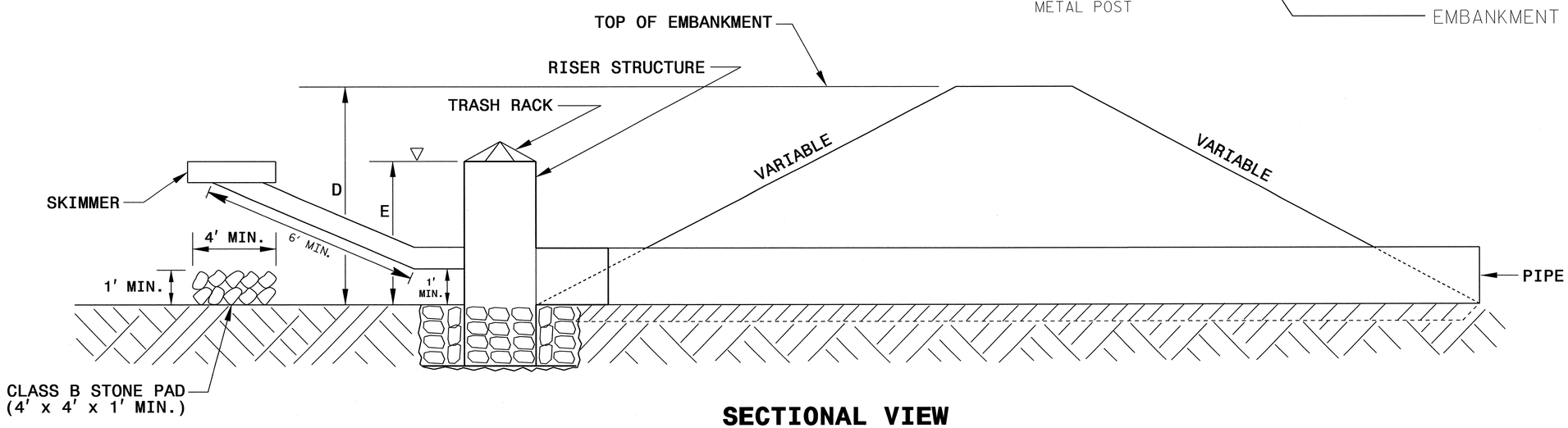
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STORMWATER BASIN WITH SKIMMER



PLAN VIEW



SECTIONAL VIEW

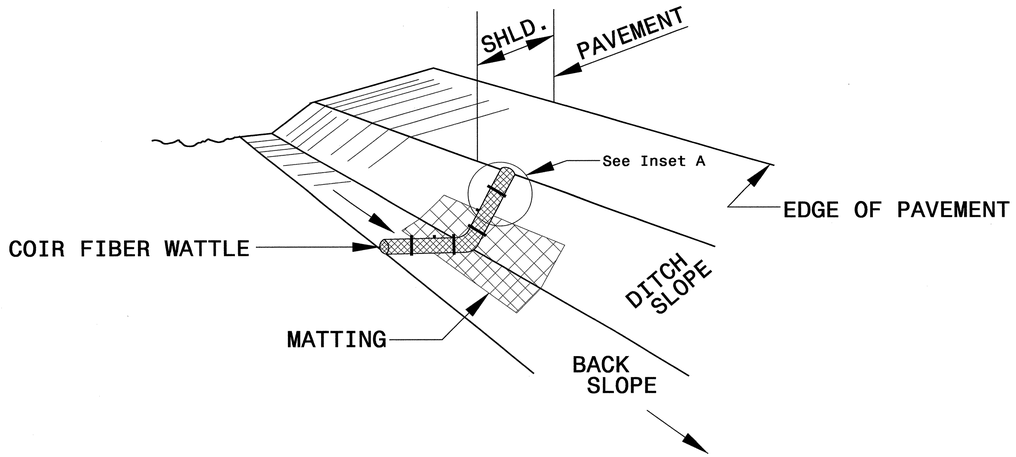
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. INSTALL A MINIMUM OF 3 COIR FIBER BAFFLES IN ACCORDANCE WITH ROADWAY STD. DRAWING 1640.01.
3. INSTALL SKIMMER AND COUPLING TO RISER STRUCTURE OR DIRECTLY INTO EMBANKMENT 1 FT. FROM BOTTOM OF BASIN.
4. THE ARM PIPE SHALL HAVE A MINIMUM LENGTH OF 6 FT. BETWEEN THE SKIMMER AND COUPLING.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE AS DIRECTED.
6. THE DIFFERENCE BETWEEN LENGTHS "D" AND "E" REPRESENT THE FREEBOARD AND SHOULD BE 1 FT. MINIMUM.

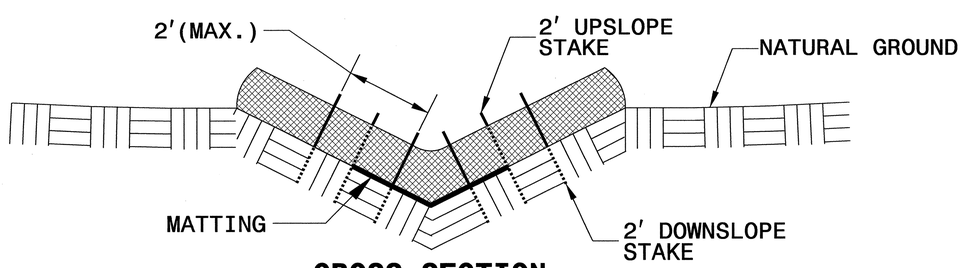
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

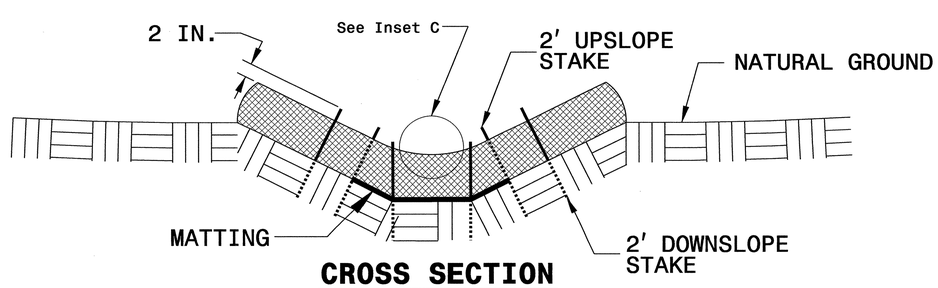
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

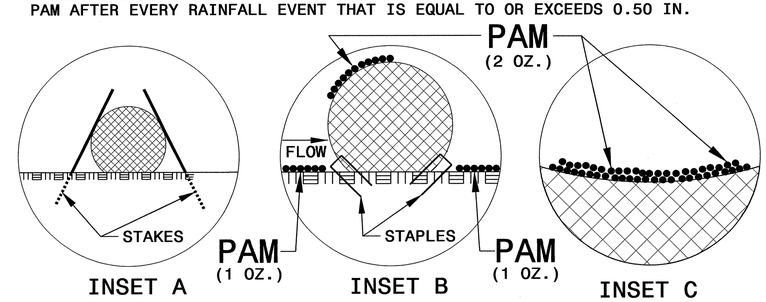
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

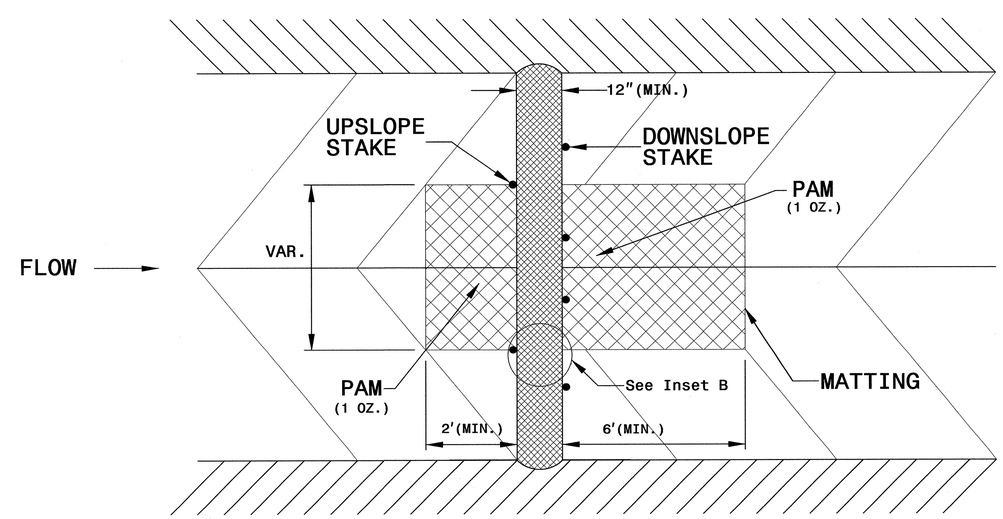
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

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

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

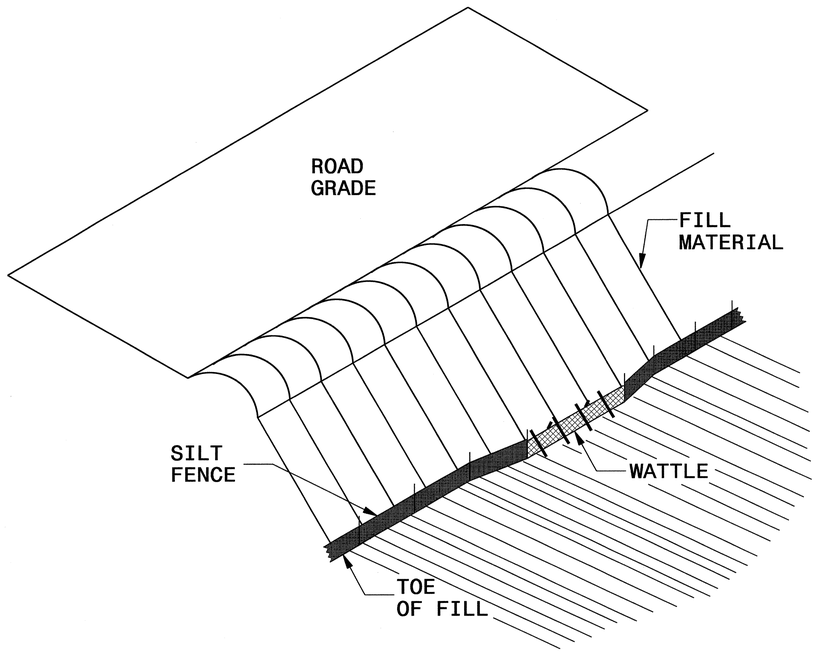




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW

NOTES:

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

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

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

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

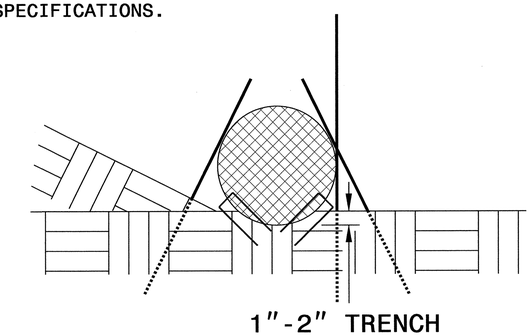
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

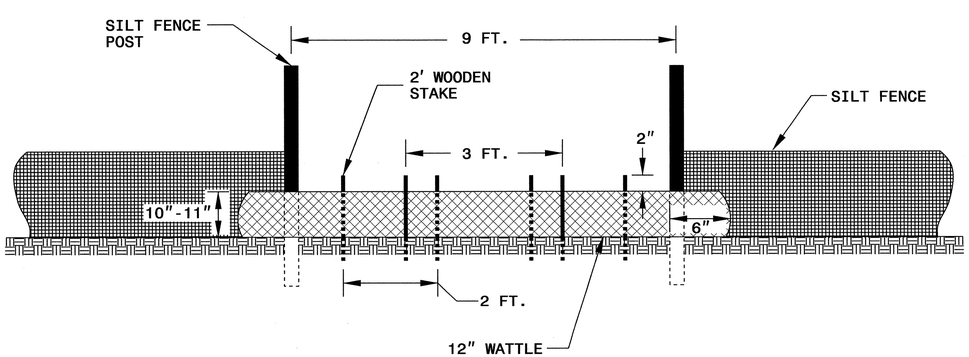
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

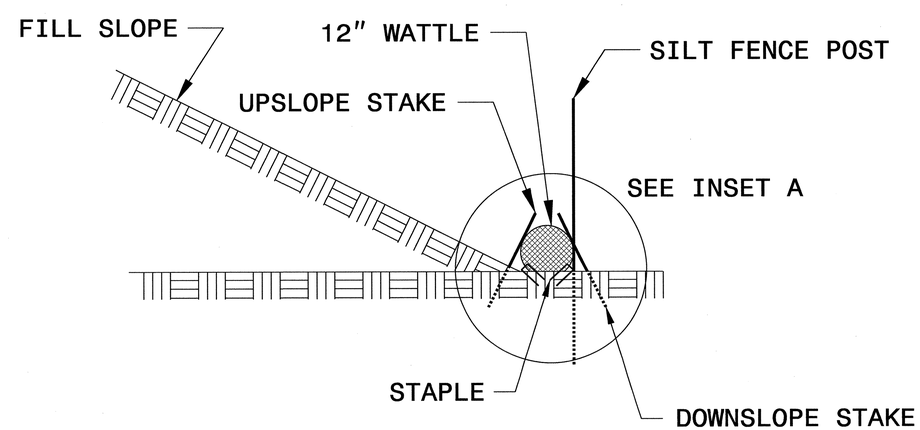
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





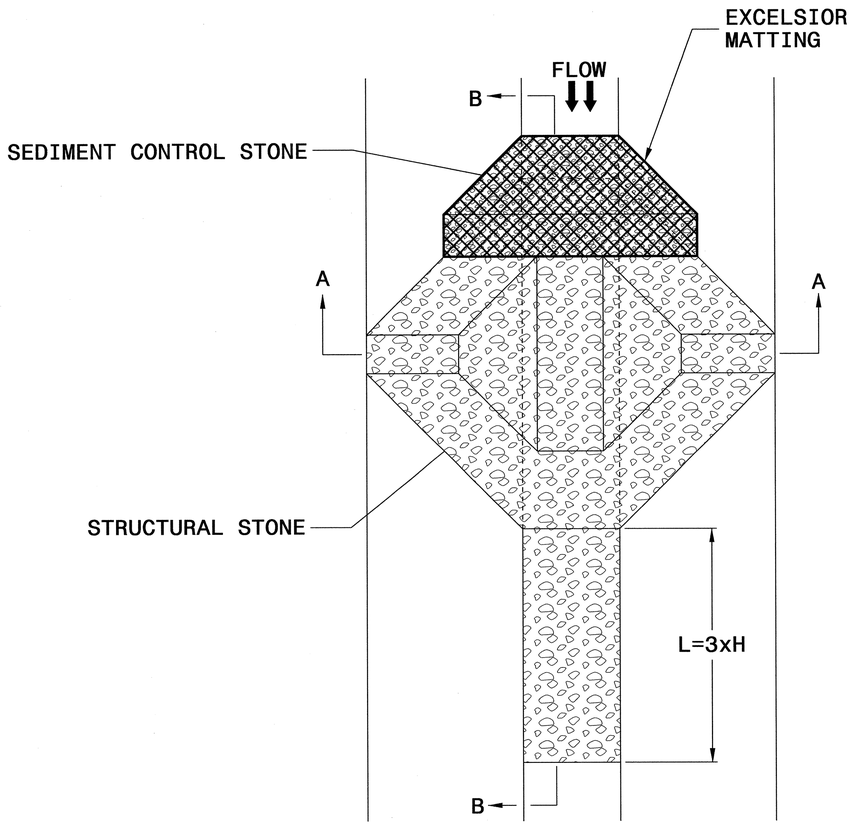
VIEW FROM SLOPE



SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



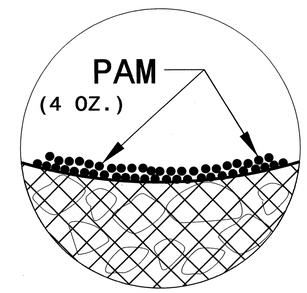
PLAN

NOTES

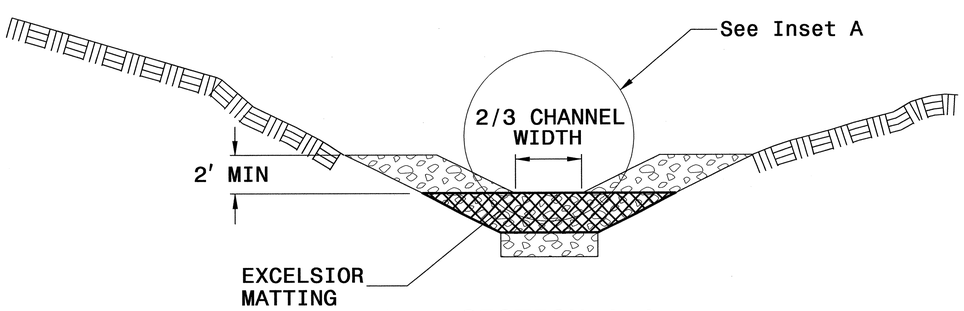
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

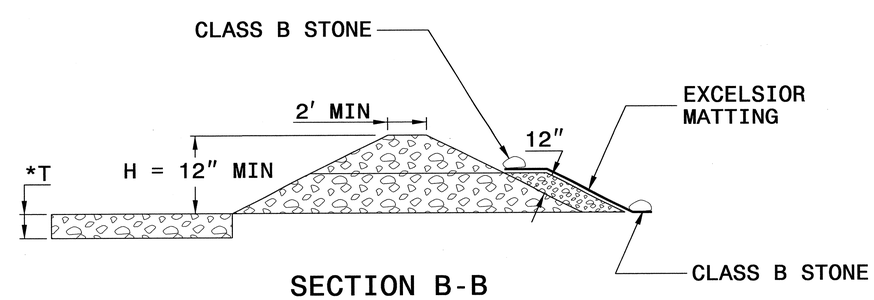
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

*T = 12" MIN., 18" MAX.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	19+50	21+50	LT	140
				SUBTOTAL	140
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					10315
				TOTAL	10455
				SAY	10500

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

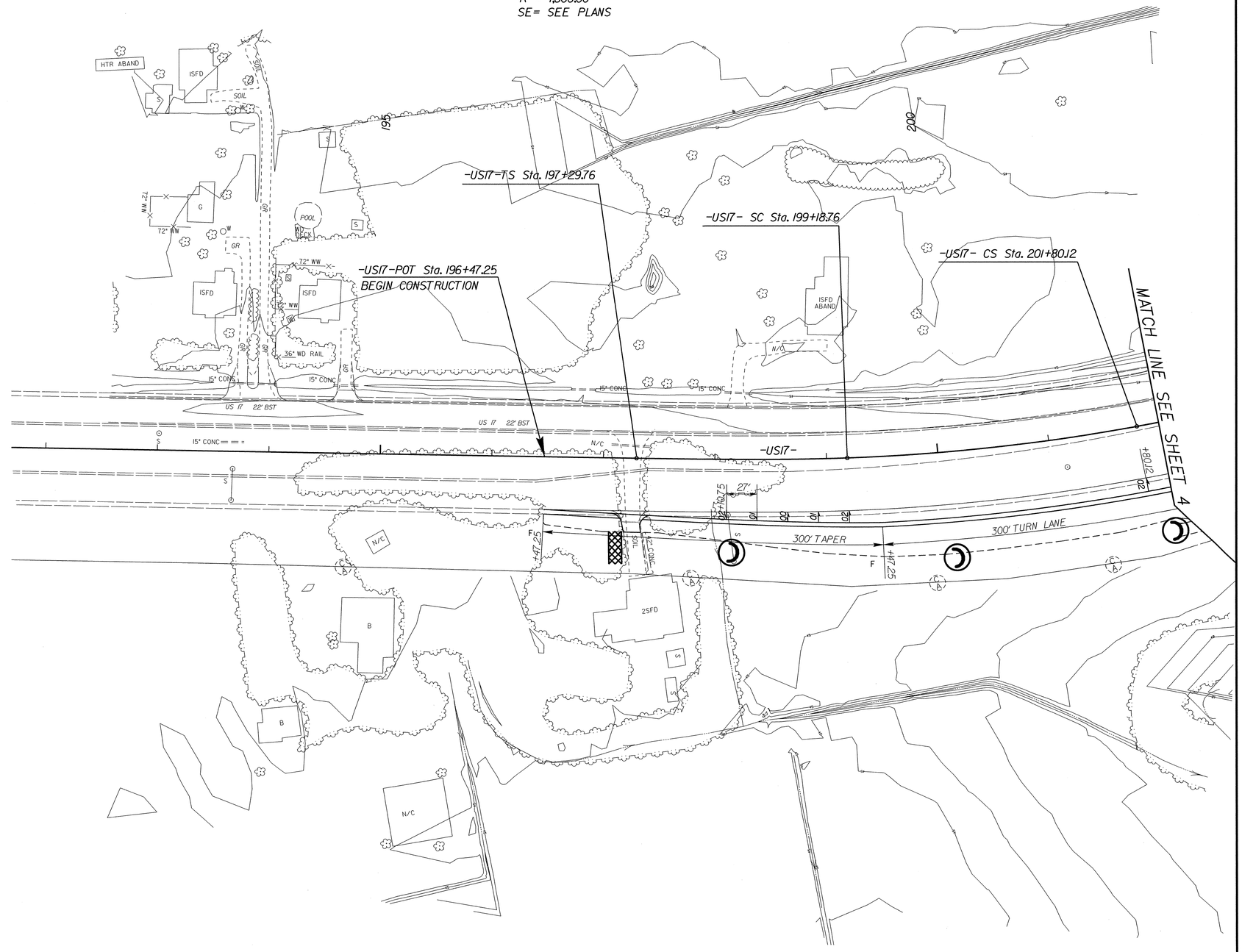
PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-4/CONST.4A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4A

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

-US17-

PIs Sta 198+55.77	PI Sta 200+49.67
Θs = 3° 00' 28.9"	Δ = 8° 19' 10.0" (LT)
Ls = 189.00'	D = 3° 10' 59.2"
LT = 126.02'	L = 261.36'
ST = 63.02'	T = 130.91'
	R = 1,800.00'
	SE = SEE PLANS



8/17/99

15-NOV-2013 10:28
k:\hydro\proj\k3800\Design\k3800_EC_psh4a.dgn
Action: All PERV 258346

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

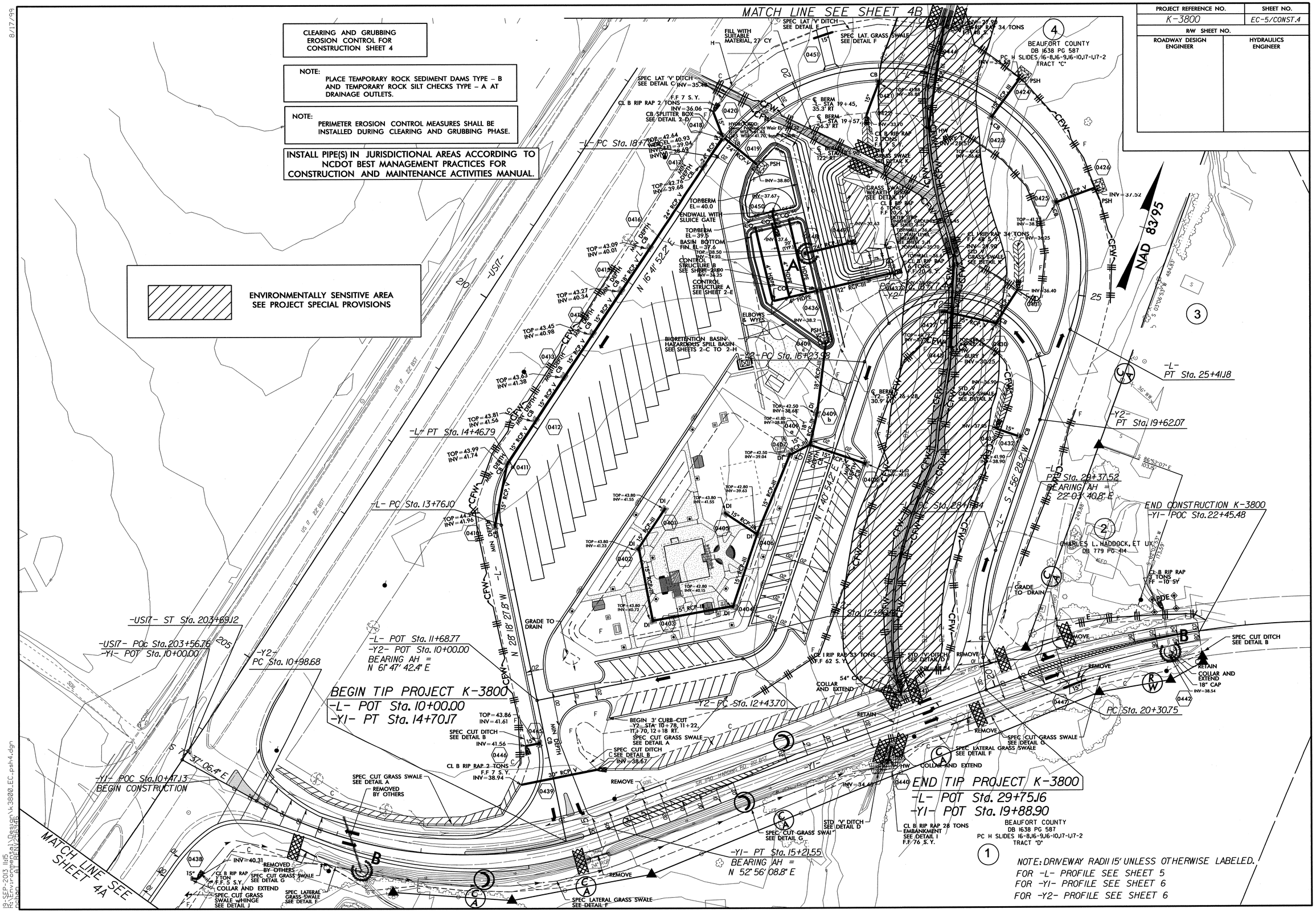
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

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

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

INSTALL PIPE(S) IN JURISDICTIONAL AREAS ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS



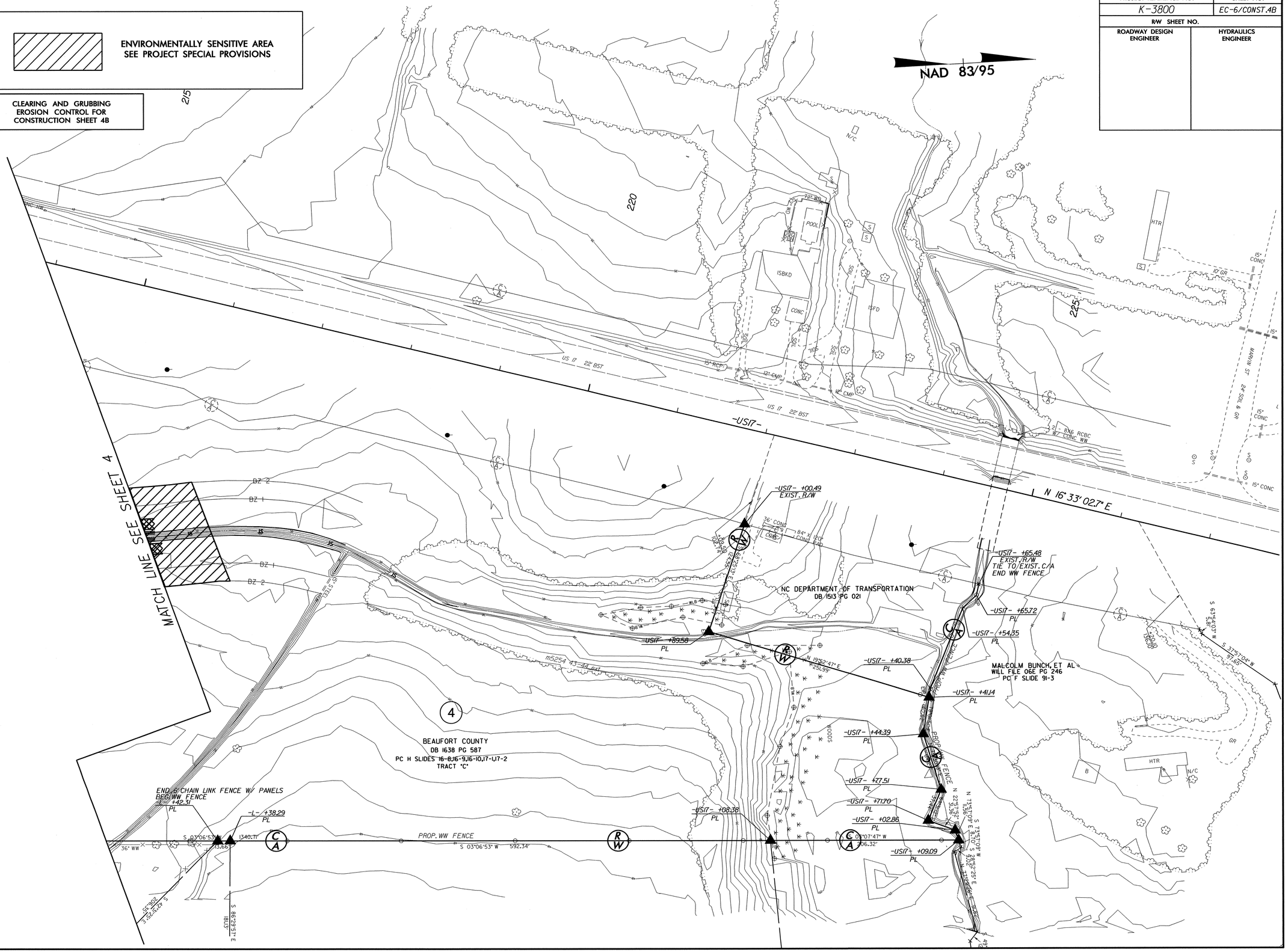
19-SEP-2013 11:15
R:\Environmental\Design\K-3800_EC_psh4.dgn

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-6/CONST.4B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4B

NAD 83/95

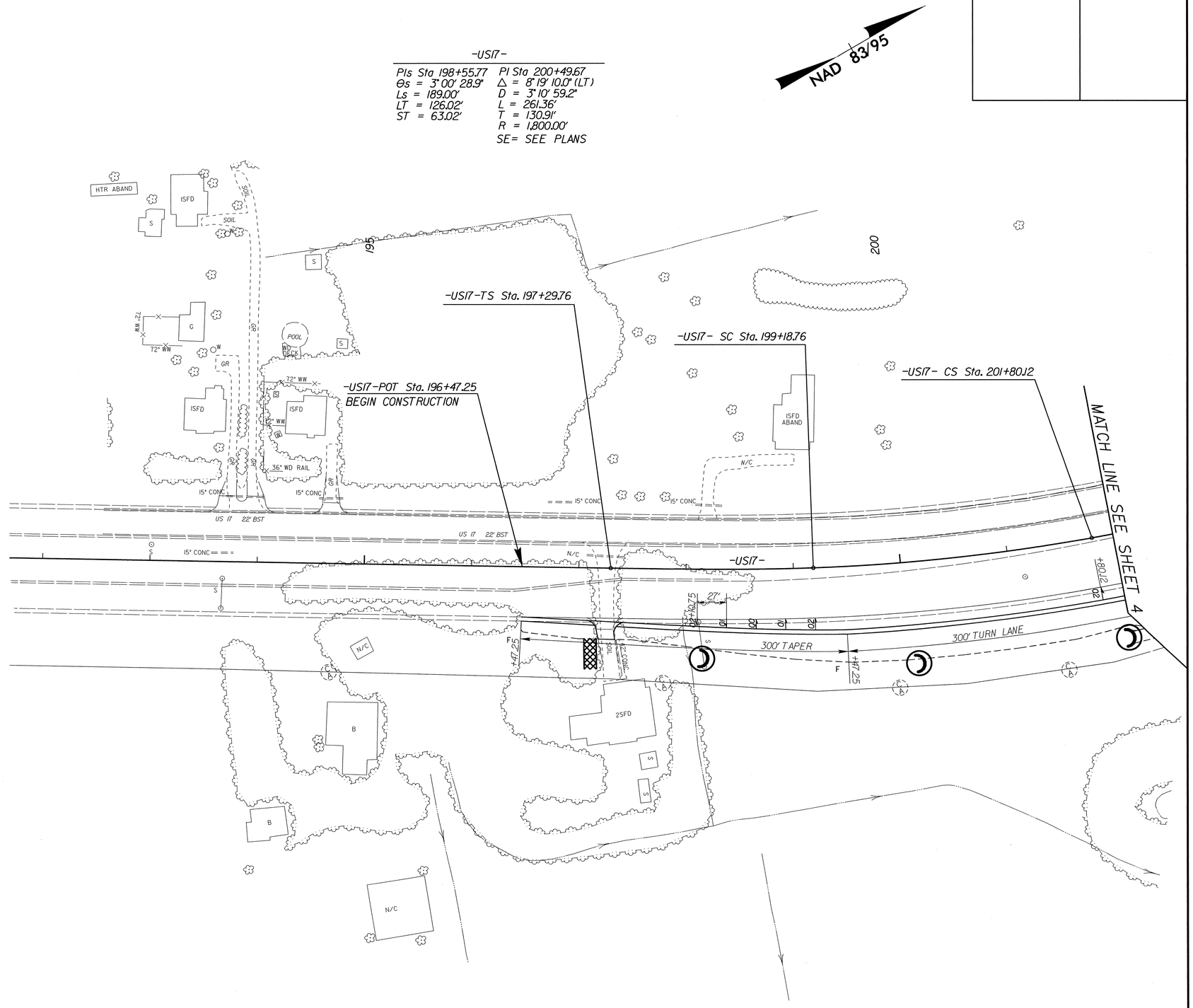


15-NOV-2013 10:29
R:\Env\Permits\Design\K-3800_EC_psh4b.dgn
$$$$USER$$$$ PLEN$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-7/CONST.4A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-US17-

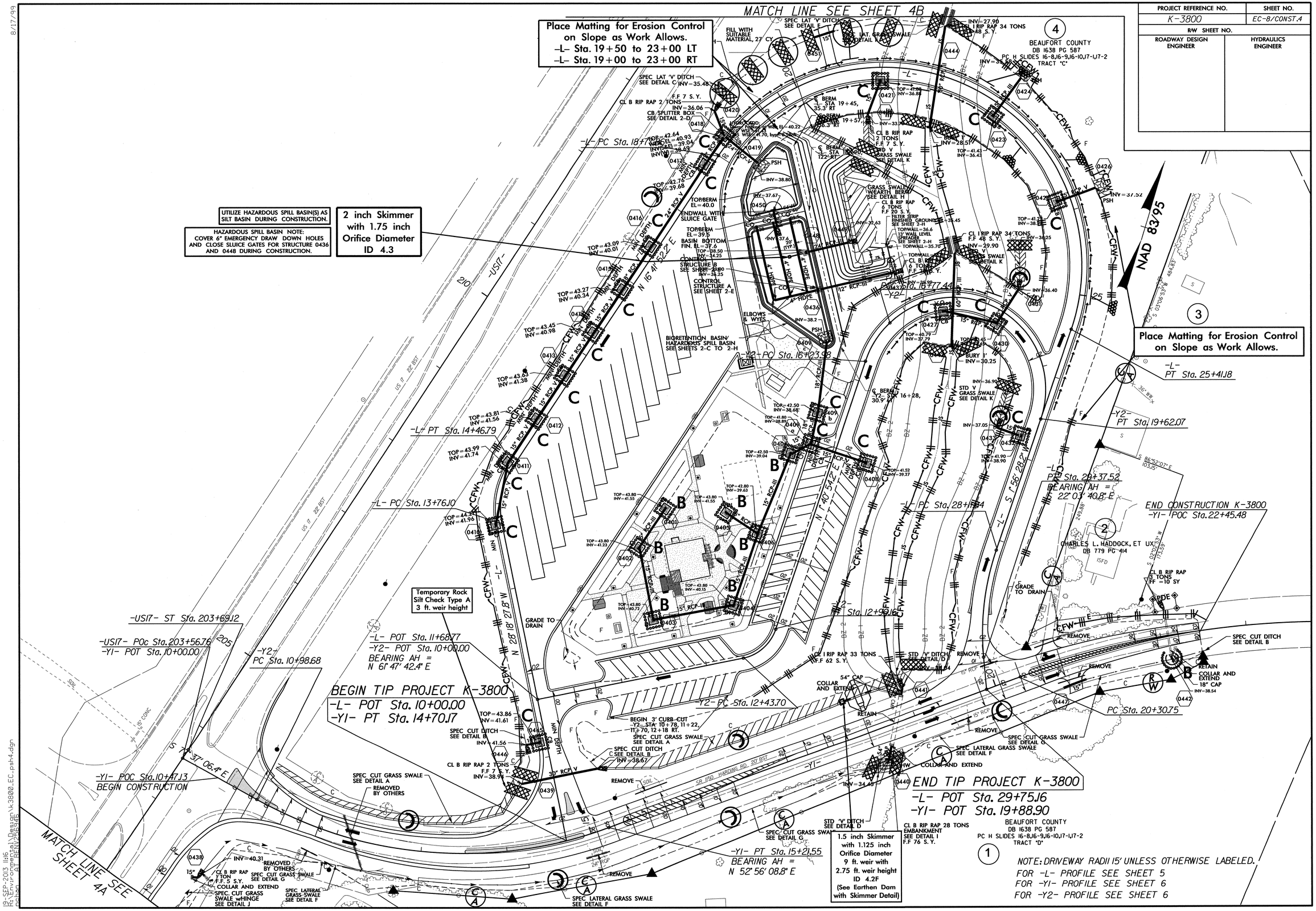
PIs Sta 198+55.77	PI Sta 200+49.67
Θs = 3° 00' 28.9"	Δ = 8° 19' 10.0" (LT)
Ls = 189.00'	D = 3° 10' 59.2"
LT = 126.02'	L = 261.36'
ST = 63.02'	T = 130.91'
	R = 1,800.00'
	SE= SEE PLANS



8/17/99

15-NOV-2013 10:29
R:\Environmental\Design\K-3800_EC_psh4a.dgn
pmsn

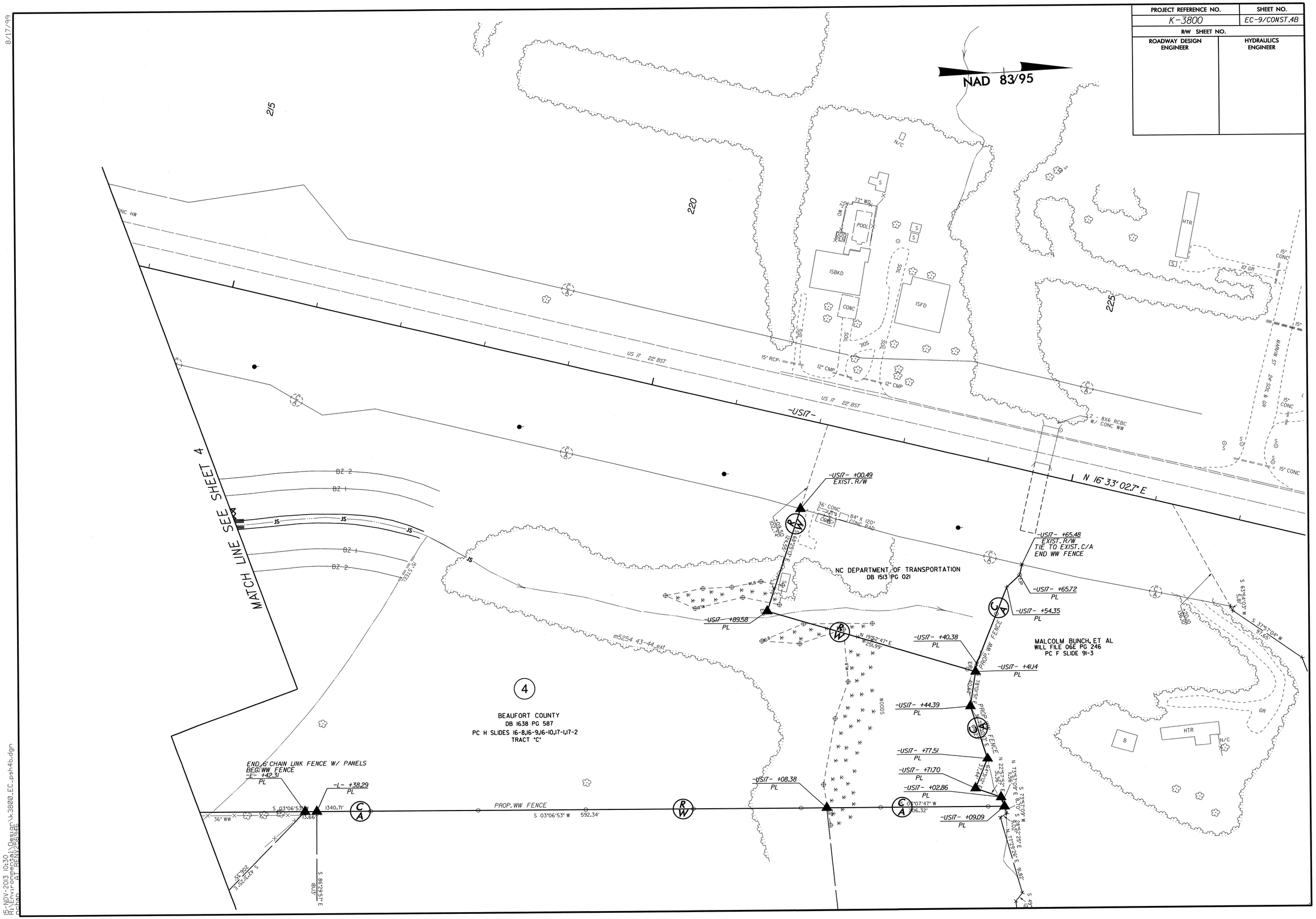
PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-8/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

19-SEP-2013 11:16
R:\Environmental\Design\K3800_EC_psh4.dgn
ocbam AT RENVZ8596

PROJECT REFERENCE NO.	SHEET NO.
K-3800	EC-9/CONST.4B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



15-NOV-2013 10:30
R:\Environmental\Design\K-3800_EC_psh4b.dgn
dgn
ST REVISION 8/16

T.I.P.: K-3800

CONTRACT: C203304

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
K-3800	SIGN-1

APPROVED: Ayman I. Alqudwah

DATE: 9-12-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUDWAH

SIGNING PLAN
BEAUFORT COUNTY

LOCATION: US 17 REST AREA

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
901.10	TYPE 'A' SIGNS
901.20	TYPE 'B' SIGNS
901.50	ARROWS AND SHIELDS
901.70	SIGN STRINGERS AND SUPPORT SPACING
901.80	SIGN MOUNTING DETAILS - FOR TYPE A AND TYPE B SIGNS
903.10	GROUND MOUNTED SIGN SUPPORTS
903.20	WOOD SIGN SUPPORTS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS

GENERAL NOTES

- SIGNS FURNISHED BY STATE
- THE BACKGROUND FOR TYPE E SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.
- DO NOT BEGIN FABRICATION FOR TYPES A & B SIGNS MOUNTED ON OVERHEAD STRUCTURES OR STEEL SUPPORTS UNTIL "S" DIMENSIONS HAVE BEEN FIELD VERIFIED.
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4048000000	902	REINFORCED CONCRETE SIGN FOUNDATION	4	C.Y.
4054000000	902	PLAIN CONCRETE SIGN FOUNDATION	2	C.Y.
4060000000	903	SUPPORTS, BREAKAWAY STEEL BEAM	3556	LB.
4082000000	903	SUPPORTS, WOOD	140	L.F.
4110000000	904	SIGN ERECTION, TYPE A (GROUND MOUNTED)	5	EA.
4110000000	904	SIGN ERECTION, TYPE B (GROUND MOUNTED)	4	EA.
4102000000	904	SIGN ERECTION, TYPE E	8	EA.

E SIGNS

(401) QUANTITY REQ'D -1-

42 X 48
D5-5

TWO 4"X 4" WOOD POSTS PER SIGN

(402) QUANTITY REQ'D -2-

30 X 30
R5-1

ONE 4"X 4" WOOD POST PER SIGN

(403) QUANTITY REQ'D -3-

36 X 36
R1-1

ONE 4"X 4" WOOD POST PER SIGN

(404) QUANTITY REQ'D -2-

54 X 18
R6-1 (R)

TWO 4"X 4" WOOD POSTS PER SIGN

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET, E SIGNS & NOTES
SIGN-2	TYPE 'A' AND TYPE 'B' GROUND MOUNTED SIGNS
SIGN-2A & 2B	SIGN DESIGNS
SIGN-3-7	PROPOSED SIGNS

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

A.I. ALQUDWAH, P.E. SIGNING & DELINEATION REGIONAL ENGINEER

BARRY NOWLIN SIGNING & DELINEATION PROJECT DESIGN TECHNICIAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

12-SEP-2013 08:00
R:\Traffic\Signing\CADD\Signing Layout Plans\K-3800_Engseed 6-11-12.dgn
bnowlin AITE274916

TIP NO.	SHEET NO.
K-3800	SIGN-2

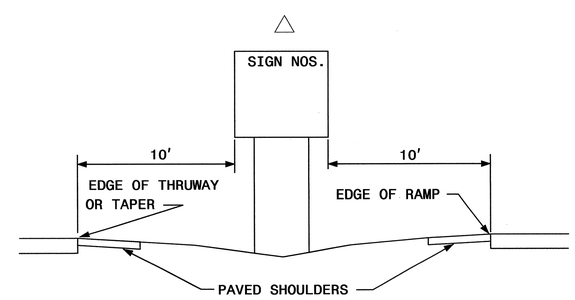
APPROVED: Lynn Blanchard

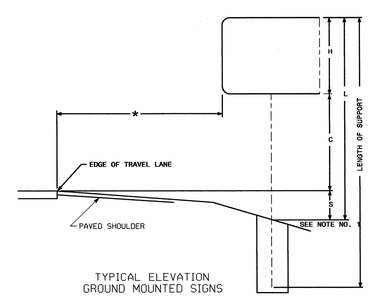
DATE: 9-5-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUDWAH

SIGN NO.	SIGN TYPE	SIGN SIZE (in.) w x h	ROADWAY STATION	NO. OF SUP.	BEAM SECTION	SUPPORT TYPE BA or S	ATTACH METHOD	MOUNTING METHOD	HORIZ CLR. (ft.)	LENGTH (ft) SNS HT H	MTG HT C	EMBED-MENT	LEFT SUPPORT (ft) S	L	TOTAL LENGTH	CENTER SUPPORT (ft) S	L	TOTAL LENGTH	RIGHT SUPPORT (ft) S	L	TOTAL LENGTH	FOOTING DIAMETER (ft.)	FOOTING DEPTH (ft.)	B/A SUPPORT WEIGHTS (lbs.)	SIMPLE SUPPORT WEIGHTS (lbs.)	REINF. FTGS. (c.y.)	PLAIN FTGS. (c.y.)	FIELD VERIFIED SEE NOTE 2 (mm/dd/yy)
101	B	96 X 48	255+00	2	S4x7.7	BA	N/A	N/A	30.00	4.00	7.00	4	1.15	12.15	16.15	0.00	0.00	0.00	1.16	12.16	16.16	1	4.5	289.40	0.00	0.00	0.26	
102	A	120 X 60	187+18	2	W6x9	BA	N/A	N/A	30.00	5.00	7.00	4	0.70	12.70	16.70	0.00	0.00	0.00	0.40	12.40	16.40	1.5	4.5	361.02	0.00	0.59	0.00	
103	A	120 X 60	216+51	2	W6x12	BA	N/A	N/A	30.00	5.00	7.00	4.5	2.88	14.88	19.38	0.00	0.00	0.00	3.10	15.10	19.60	1.5	5	553.12	0.00	0.65	0.00	
104	A	120 X 60	202+17	2	W6x12	BA	N/A	N/A	30.00	5.00	7.00	4.5	4.20	16.20	20.70	0.00	0.00	0.00	5.20	17.20	21.70	1.5	5	594.16	0.00	0.65	0.00	
105	A	120 X 60	205+41	2	W6x12	BA	N/A	N/A	30.00	5.00	7.00	4.5	2.41	14.41	18.91	0.00	0.00	0.00	1.41	13.41	17.91	1.5	5	527.20	0.00	0.65	0.00	
106	B	96 X 48	228+60	2	S4x7.7	BA	N/A	N/A	30.00	4.00	7.00	4	1.20	12.20	16.20	0.00	0.00	0.00	0.87	11.87	15.87	1	4.5	287.55	0.00	0.00	0.26	
107	B	96 X 48	147+46	2	S4x7.7	BA	N/A	N/A	30.00	4.00	7.00	4	1.60	12.60	16.60	0.00	0.00	0.00	1.16	12.16	16.16	1	4.5	292.86	0.00	0.00	0.26	
108	B	96 X 48	228+60	2	S4x7.7	BA	N/A	N/A	30.00	4.00	7.00	4	0.66	11.66	15.66	0.00	0.00	0.00	0.47	11.47	15.47	1	4.5	280.31	0.00	0.00	0.26	
109	A	120 X 60	205+41	2	W6x9	BA	N/A	N/A	30.00	5.00	7.00	4	1.20	13.20	17.20	0.00	0.00	0.00	0.87	12.87	16.87	1.5	4.5	369.75	0.00	0.59	0.00	
																		TOTAL			TOTAL			TOTAL		TOTAL		TOTAL
																		3555.38			0.00			3.14		1.05		
																		USE: 3556			0			4		2		





TYPICAL ELEVATION
GROUND MOUNTED SIGNS

NOTES

1. DIMENSION "S" REPRESENTS AN INCREASE (+), OR A DECREASE (-) IN POLE LENGTH, RELATIVE TO THE ELEVATION OF THE EDGE OF PAVEMENT.

2. FIELD VERIFICATIONS SHALL BE REQUIRED FOR ALL SUPPORTS, SEE (*) ARTICLE 903-3. FABRICATORS SHALL BE AISC CERTIFIED IN CATEGORY 1, SEE (*) ARTICLE 1072-1. (*) = N.C.D.O.T. STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES

3. PLAN LOCATIONS FOR EXISTING UTILITIES ARE BASED ON THE BEST AVAILABLE INFORMATION AND, THEREFORE MAY NOT BE PRECISELY ACCURATE. THEREFORE, IT IS INCUMBENT UPON THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF UTILITIES BEFORE BEGINNING WORK IN A LOCATION.

TYPE "A" AND TYPE "B" GROUND MOUNTED SIGNS

05-SEP-2013 14:08
R:\Traffic\Signing\CADD\Signing Layout Plans\K-3800_Engseed 6-11-12.dgn
browlin AT TE274916

TIP NO.	SHEET NO.
K-3800	SIGN-2A

APPROVED: Ayman Alqudwah

DATE: 9-5-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUDWAH

SIGN NUMBER: 101-107
TYPE: B
QUANTITY: 2
SIGN WIDTH: 8'-0"
HEIGHT: 4'-0"
TOTAL AREA: 32.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1.5"
RADII: 3"
NO. Z BARS: 2
LENGTH: 88.0

BACKG COLOR: Blue
COPY COLOR: White

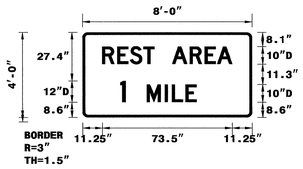
SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: B. Nowlin
PROJECT ID: K-3800
CHECKED BY:
DIV: 02
DATE: Apr 09, 2013

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.



Panel Style: guide_con_general_services.ssi
M.U.T.C.D.: 2009 Edition
Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																														Series/Size Text Length
	R	E	S	T		A	R	E	A																					D 2000
3.9	10.2	8.6	9.1	7.4	12	12	10.2	8.4	10.2	3.9																				88.2
	1																													D 2000
21.2	3	71.8																												3
	M	I	L	E																										D 2000
36.2	12.2	4.8	9.2	7.4	26.1																									33.7

FILENAME: K-3800_Sgn_SGN
NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 102
TYPE: A
QUANTITY: 1
SIGN WIDTH: 10'-0"
HEIGHT: 5'-0"
TOTAL AREA: 50.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 2"
RADII: 8"
NO. Z BARS: 2
LENGTH: 112.0

BACKG COLOR: Blue
COPY COLOR: White

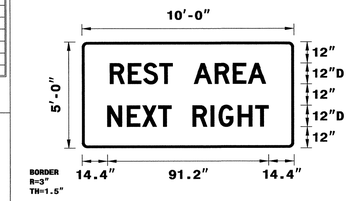
SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: B. Nowlin
PROJECT ID: K-3800
CHECKED BY:
DIV: 02
DATE: Apr 09, 2013

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

																														Series/Size Text Length
R	E	S	T		A	R	E	A																					D 2000
15.9	26.1	34.7	43.9	51.3	63.3	75.3	85.5	93.9																						88.2
N	E	X	T		R	I	G	H	T																					D 2000
16.8	27.9	36.5	45.6	53.1	65.1	75.3	79.8	90.6	100.6																					91.2

FILENAME: K-3800_Sgn_SGN
NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 103
TYPE: A
QUANTITY: 1
SIGN WIDTH: 10'-0"
HEIGHT: 5'-0"
TOTAL AREA: 50.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 2"
RADII: 3"
NO. Z BARS: 2
LENGTH: 112.0

BACKG COLOR: Blue
COPY COLOR: White

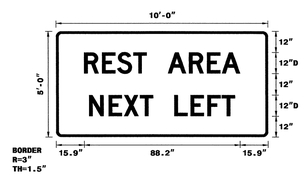
SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: B. Nowlin
PROJECT ID: K-3800
CHECKED BY:
DIV: 02
DATE: Apr 09, 2013

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																														Series/Size Text Length
	R	E	S	T		A	R	E	A																					D 2000
15.9	10.2	8.6	9.1	7.4	12	12	10.2	8.4	10.2	15.9																				88.2
	N	E	X	T		L	E	F	T																					D 2000
18.7	11	8.6	9.1	7.4	12	9.2	9.5	8.2	7.4	18.7																				82.6

FILENAME: K-3800_Sgn_SGN
NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 104
TYPE: A
QUANTITY: 1
SIGN WIDTH: 10'-0"
HEIGHT: 5'-0"
TOTAL AREA: 50.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 2"
RADII: 8"
NO. Z BARS: 2
LENGTH: 112.0

BACKG COLOR: Blue
COPY COLOR: White

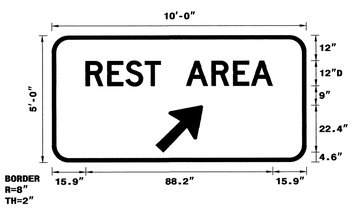
SYMBOL	X	Y	WID	HT
ARRWED	48.8	4.6	18.3	28.8

MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: B. Nowlin
PROJECT ID: K-3800
CHECKED BY:
DIV: 02
DATE: Apr 09, 2013

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

																														Series/Size Text Length
R	E	S	T		A	R	E	A																					D 2000
15.9	26.1	34.7	43.9	51.3	63.3	75.3	85.5	93.9																						88.2

FILENAME: K-3800_Sgn_SGN
NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN DESIGNS

05-SEP-2013 11:28
R:\Traffic\Signing\CADD\Sign Designs\K-3800_Sgn_SGN.dgn
bnowlin AT-TE27496

TIP NO.	SHEET NO.
K-3800	SIGN-2B

APPROVED: Ayman Alqudrah

DATE: 9-5-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUDRAH

SIGN NUMBER:105,109
TYPE: A
QUANTITY: 2
SIGN WIDTH: 10'-0"
HEIGHT: 5'-0"
TOTAL AREA: 50.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 2"
RADII: 8"
NO. Z BARS: 2
LENGTH: 112.0

BACKG COLOR: Blue
COPY COLOR: White

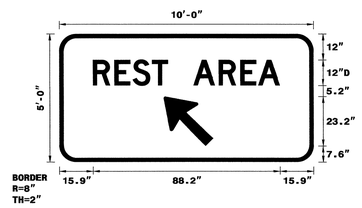
SYMBOL	X	Y	WID	HT
ARWED	49.3	7.5	18.3	30

MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: B. Nowlin
PROJECT ID: K-3800
CHECKED BY:
DIV: 02
DATE: Apr 09, 2013

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

	R	E	S	T		A	R	E	A	Series/Size Text Length
	15.9	26.1	34.7	43.9	51.3	63.3	75.3	85.5	93.9	D 2000 88.2

FILENAME: K-3800_Sgn_SGN

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER:106-108
TYPE: B
QUANTITY: 2
SIGN WIDTH: 8'-0"
HEIGHT: 4'-5"
TOTAL AREA: 32.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 2"
RADII: 8"
NO. Z BARS: 2
LENGTH: 112.0

BACKG COLOR: Blue
COPY COLOR: White

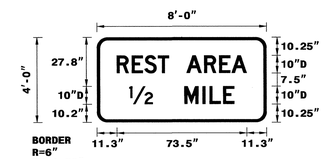
SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: B. Nowlin
PROJECT ID: K-3800
CHECKED BY:
DIV: 02
DATE: Apr 09, 2013

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

	R	E	S	T		A	R	E	A	Series/Size Text Length
	15.9	26.1	34.8	43.9	51.3	63.3	75.3	85.5	93.9	D 2000 88.2
	1/2	M	I	L	E					D 2000
	27.7	58.6	70.8	75.6	84.9					64.6

FILENAME: K-3800_Sgn_SGN

NORTH CAROLINA D.O.T. SIGN DETAIL

05-SEP-2013 11:28
R:\Traffic\Sign\CADD\Sign Designs\K-3800_Sgn_SGN.dgn
bnowlin AT-TE274916

SIGN DESIGNS

TIP NO.	SHEET NO.
K-3800	SIGN-3

APPROVED: Aman Alquduah

DATE: 9-11-13

SEAL

PROPOSED SIGNS

09-SEP-2013 10:52
R:\Traffic Signing\CADD\Signing Layout Plans\K-3800_Sgn_SGN-3.dgn
bnowlin AI TE274916

TIP NO.	SHEET NO.
K-3800	SIGN-4

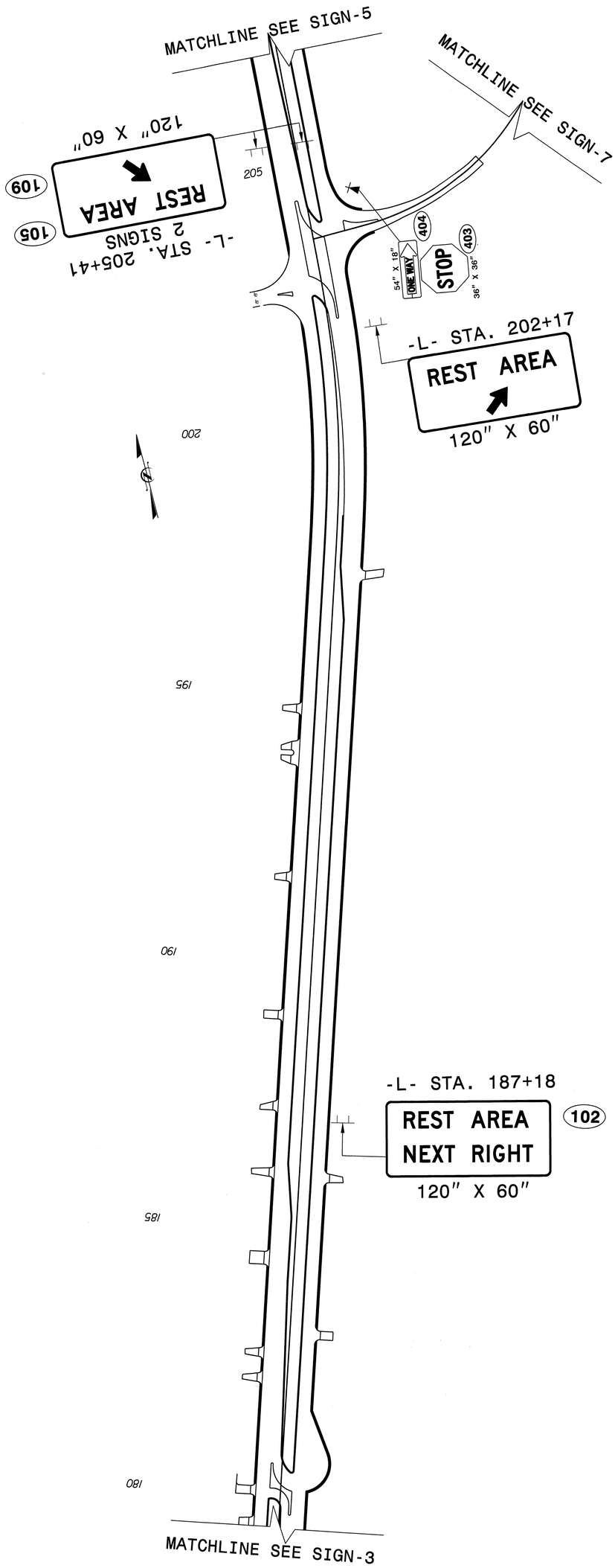
APPROVED: _____

DATE: 9-11-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALTAWAHNI

PROPOSED SIGNS



09-SEP-2013 11:05
R:\Traffic\Signing\CADD\Signing Layout Plans\K-3800_Sgn_SGN_4.dgn
browlin at TE274916

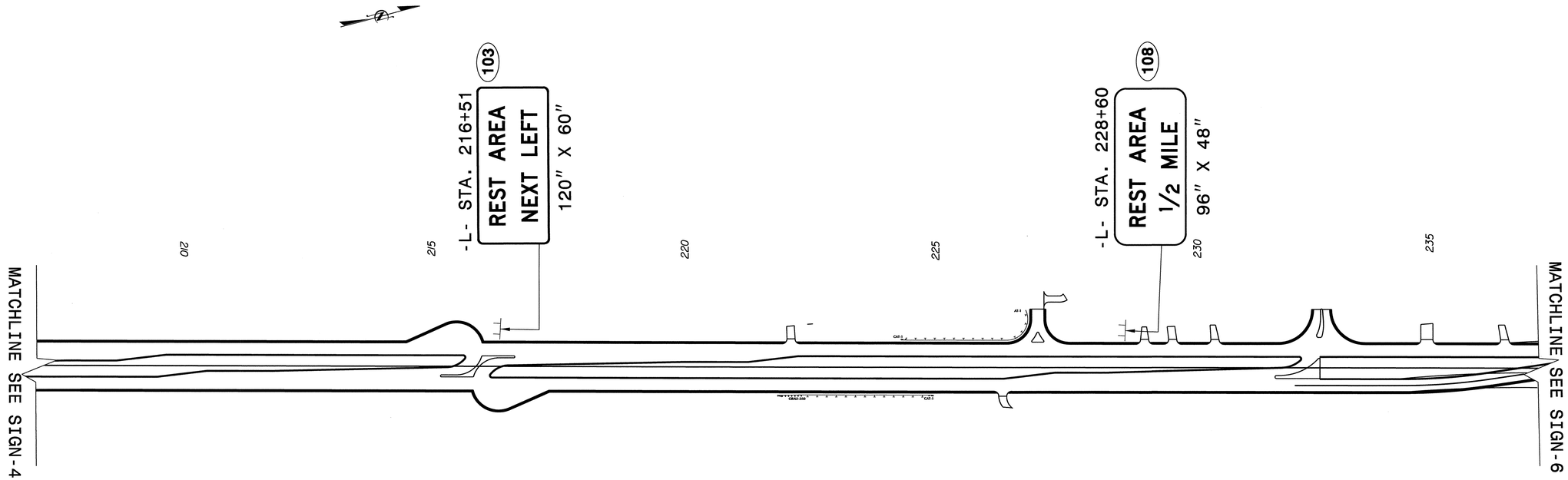
TIP NO.	SHEET NO.
k-3800	SIGN-5

APPROVED: Ayman Alqudwah

DATE: 9-11-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUDWAH



PROPOSED SIGNS

09-SEP-2013 14:0
R:\Traffic\Signing\CADD\Signing Layout Plans\K-3800_Sgn_SGN_5.dgn
bnowlin AI TE27416

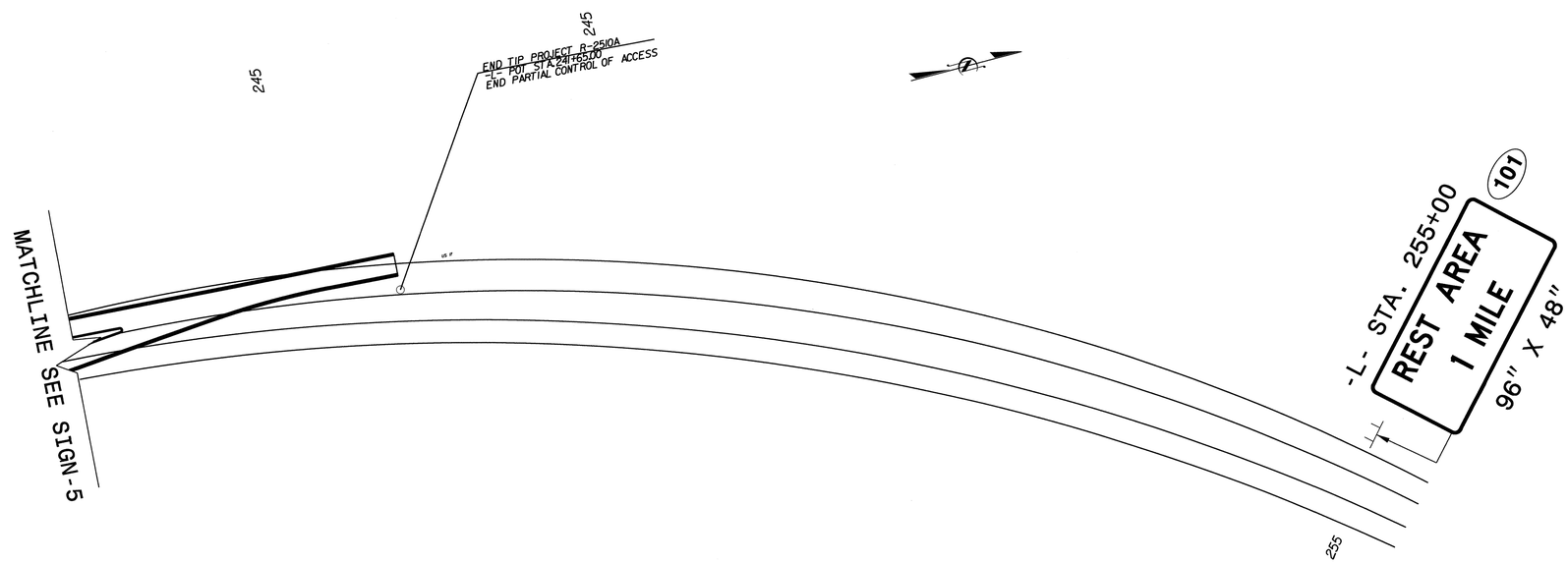
TIP NO.	SHEET NO.
k-3800	SIGN-6

APPROVED: Lynn D. Goodwin

DATE: 9-11-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AIMAN T. ALQUDWAH



PROPOSED SIGNS

09-SEP-2013 11:29
R:\Traffic\Signing\CADD\Signing Layout Plans\K-3800_Sgn_SGN_6.dgn
bmowlin AT TE274916

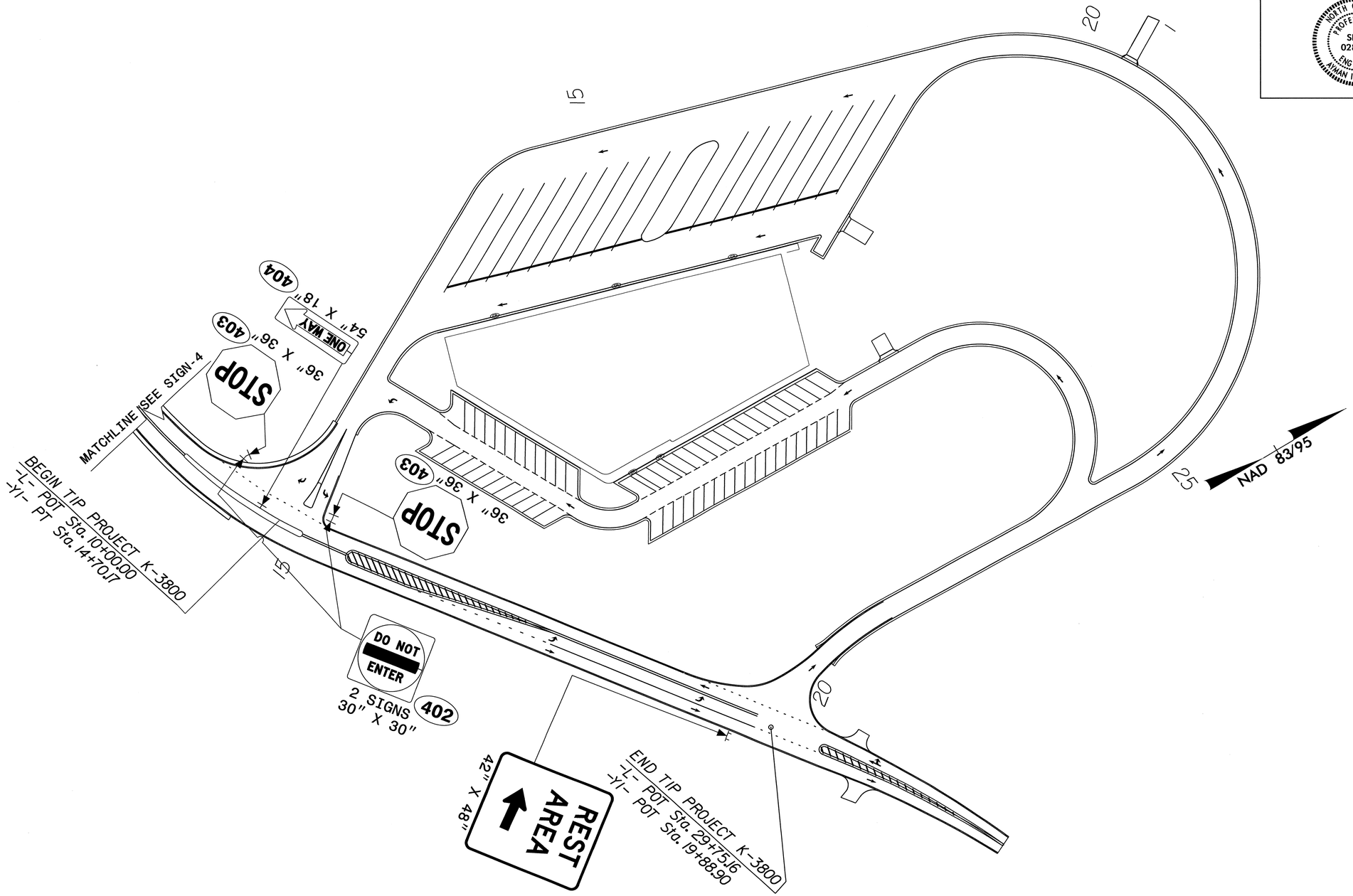
TIP NO.	SHEET NO.
K-3800	SIGN-7

APPROVED: [illegible]

DATE: 9-11-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUDWAH



PROPOSED SIGNS

03-SEP-2013 13:40
R:\Traffic\Signing\CADD\Signing Layout Plans\K-3800_Sgn_SGN_7.dgn
brouhin at TE27416

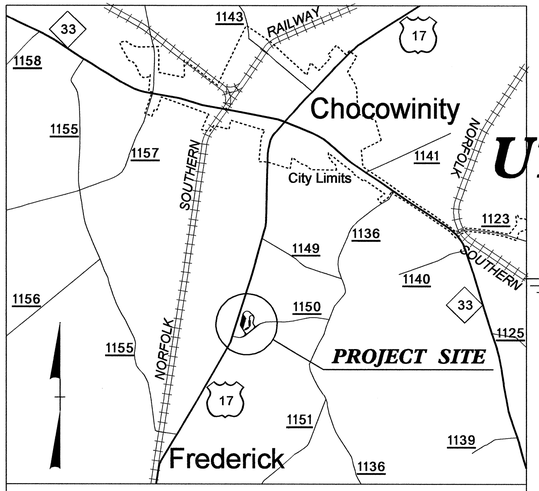
T.I.P. NO.	SHEET NO.
K-3800	UC-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

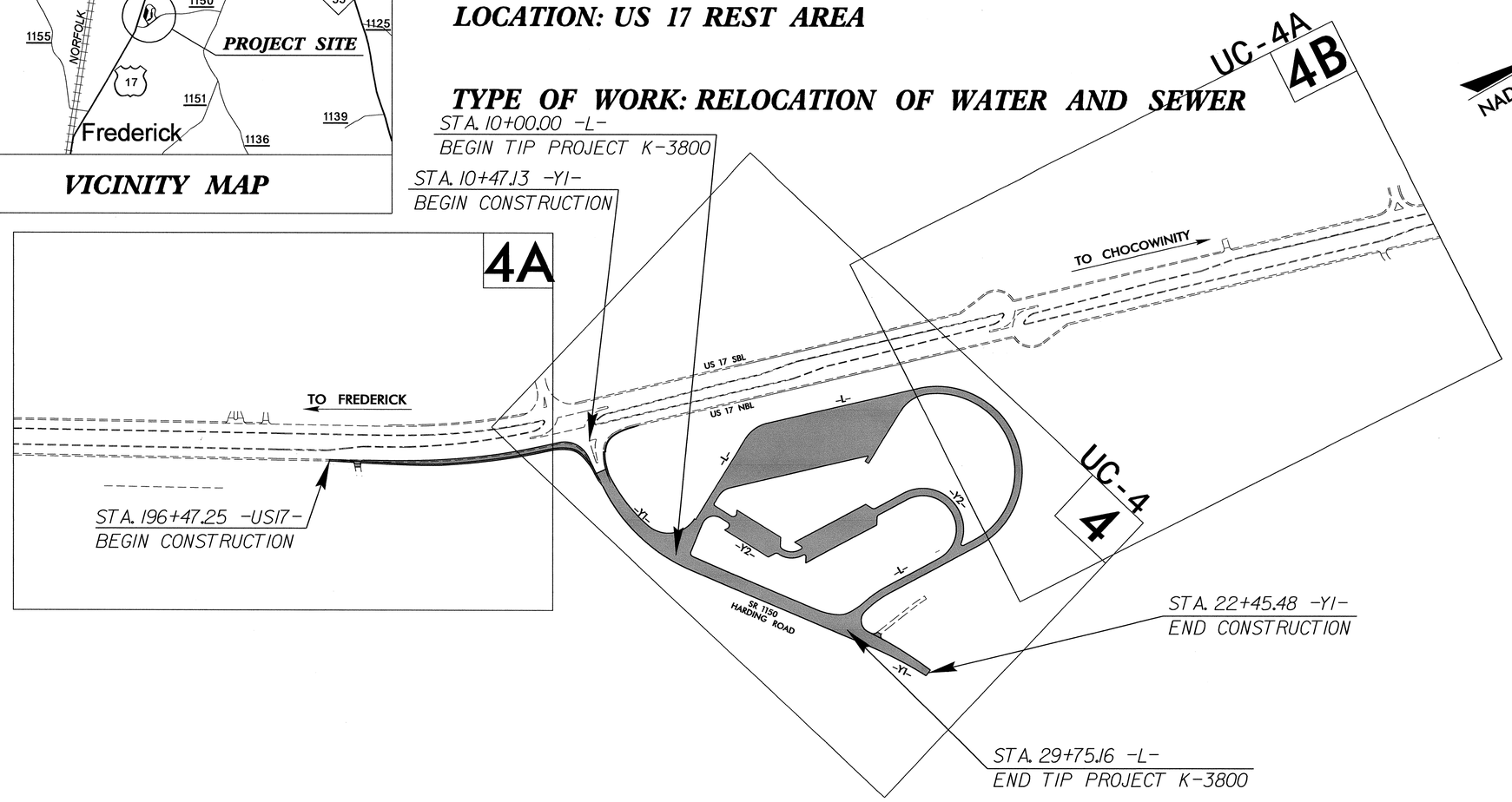
UTILITY CONSTRUCTION PLANS
BEAUFORT COUNTY

LOCATION: US 17 REST AREA

TYPE OF WORK: RELOCATION OF WATER AND SEWER



VICINITY MAP



TIP PROJECT: K-3800

09/08/99

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILTIY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3C	DETAILS
UC-4 THRU UC-4A	PLAN SHEETS
UC-5 THUR UC-14	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(1) WATER - BEAUFORT COUNTY
(2) SANITARY SEWER - TOWN OF CHOCOWINITY

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23041 10/21/13 COREY D. BOUSQUET

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. — UTILITIES SECTION ENGINEER
Corey Bousquet, P.E. — UTILITIES SQUAD LEADER PROJECT ENGINEER
Mariko Hafeez — UTILITIES PROJECT DESIGNER

09-OCT-2013 07:58
R:\Utilities\Engineering\UC\Proj\K3800_Ut_Title_UC1.psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PBPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RBPZ
- Relocate DCV Backflow Preventer — RBFP

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINES
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole
- Power Manhole
- Telephone Manhole
- Sanitary Sewer Manhole
- Hand Hole for Cable
- Power Transformer
- Telephone Pedestal
- CATV Pedestal
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.
- *Underground Power Line — P
- *Underground Telephone Cable — T
- *Underground Telephone Conduit — TC
- *Underground Fiber Optics Telephone Cable — T FO
- *Underground TV Cable — TV
- *Underground Fiber Optics TV Cable — TV FO
- *Underground Gas Pipeline — G
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line — W
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Forced Main Line — FSS
- Underground Unknown Utility Line — ?UTL
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown) — W
- Designated Utility Line (Type as Shown)

REV: 2/1/2012

5/14/99
07-OCT-2013 13:55
$$$$USERNAME$$$$
$$$$Proj$$$$\K3800_Ut_Title_UC1_psh.dgn

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-3
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL ENGINEER 23041 10/24/13 COREY D. BOUGUET

UTILITY CONSTRUCTION

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.

2. THE EXISTING UTILITIES BELONG TO BEAUFORT COUNTY AND TOWN OF CHOCOWINITY .

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

LIST OF STANDARD DRAWINGS

1515.01 WATER METER

1515.02 FIRE HYDRANT

1525.06 PRECAST CONCRETE SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BOTTOM

5/14/99

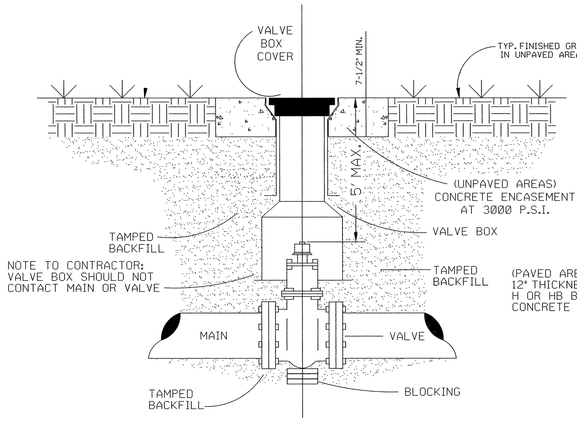
24-OCT-2013 12:30
Engineering\UC\Proj\k3800_ut_notes_UC3.psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-3A
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

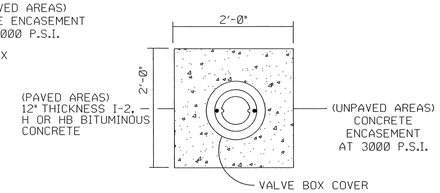
NORTH CAROLINA PROFESSIONAL SEAL 23041 10/8/12 ENGINEER COREY D. BOUSQUET

UTILITY CONSTRUCTION

VALVE BOX AND TRENCH DETAILS



SECTION



PLAN

NOTE:

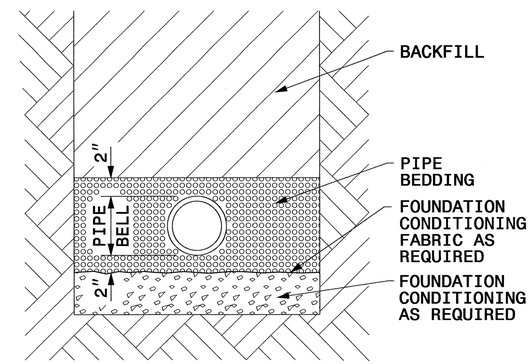
1. D.I.P. MAY BE USED FOR VALVE BOX EXTENSIONS.
2. VALVE OPERATING NUT MUST BE EXTENDED SO THAT THE DEPTH IS NO GREATER THAN 5' FROM THE SURFACE USING A MANUFACTURER APPROVED EXTENSION KIT.
3. PRECAST CONCRETE ENCASEMENT IS ALLOWED OUTSIDE OF PAVED AREAS.

REVISIONS		
DATE	DESCRIPTION	
11/86	NOTE ADDITION	S.S.S.
11/88	NOTE ADDITION	M.H.D.

STANDARD VALVE BOX INSTALLATION

STD. No. 6.08

TRENCH DETAIL



PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

5/14/99
08-OCT-2013 17:23
$$$$USERNAME$$$$
$$$$DGNFILE$$$$ Proj\U-5508_Ut_dtl_UC3A_psh.dgn

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-3B
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

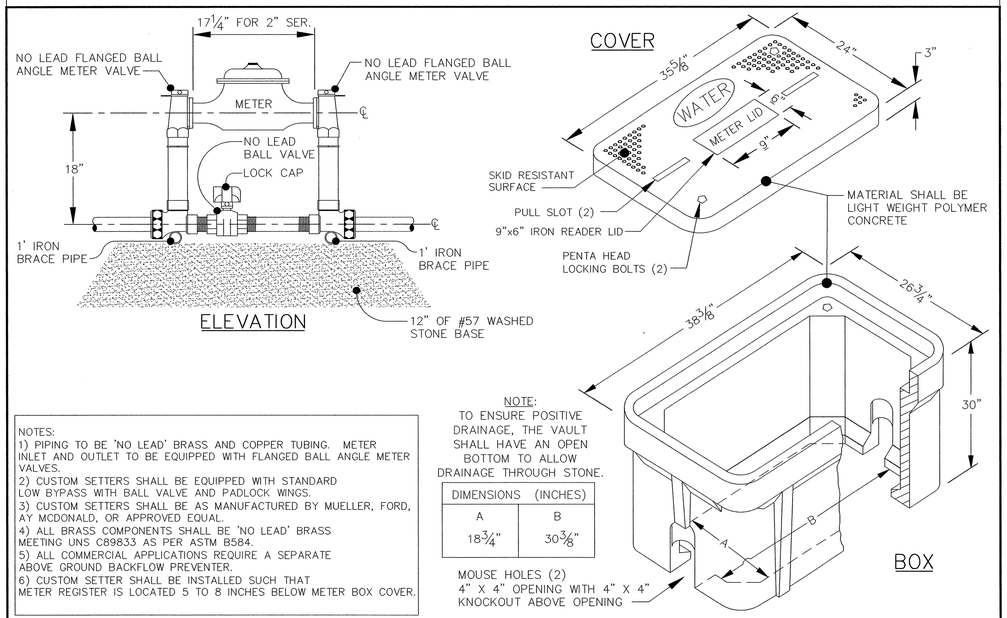
NORTH CAROLINA PROFESSIONAL SEAL 23041 10/9/13 ENGINEER COREY D. BOUSQUET

UTILITY CONSTRUCTION

Displacement 2" Meters:

A. Meters in shall be positive displacement type conforming to AWWAC-700.
B. All 2" meters shall be furnished with spuds and brass end connections.
C. 2" Meters may be furnished with either nutating or oscillating type of piston or disc.
D. Main casings and bottom plate shall be of a copper alloy containing not less then 75% copper.
E. Measuring chambers for 2" meters shall be of a copper alloy containing not less than 85% copper.
F. All meters are to have strainers.
G. Registers shall be permanently hermetically sealed and shall have standard trial gear combinations.
H. Provide remote meter reading platform capatible with Beaufort County's meter reading system.

Following models will be acceptable:
Rockwell
Neptune
Hersey
Badger



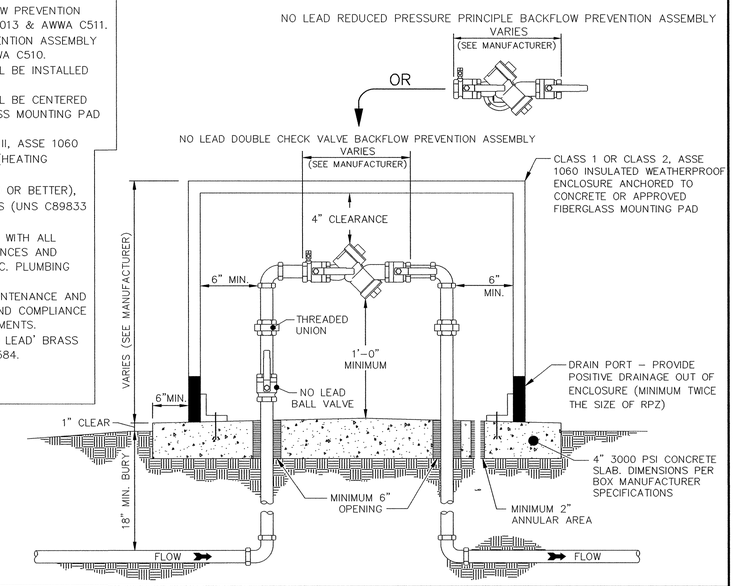
NOTES:
1) PIPING TO BE 'NO LEAD' BRASS AND COPPER TUBING. METER INLET AND OUTLET TO BE EQUIPPED WITH FLANGED BALL ANGLE METER VALVES.
2) CUSTOM SETTERS SHALL BE EQUIPPED WITH STANDARD LOW BYPASS WITH BALL VALVE AND PADLOCK WINGS.
3) CUSTOM SETTERS SHALL BE AS MANUFACTURED BY MUELLER, FORD, AY MCDONALD, OR APPROVED EQUAL.
4) ALL BRASS COMPONENTS SHALL BE 'NO LEAD' BRASS MEETING UNS C89833 AS PER ASTM B584.
5) ALL COMMERCIAL APPLICATIONS REQUIRE A SEPARATE ABOVE GROUND BACKFLOW PREVENTER.
6) CUSTOM SETTER SHALL BE INSTALLED SUCH THAT METER REGISTER IS LOCATED 5 TO 8 INCHES BELOW METER BOX COVER.

NOTE:
TO ENSURE POSITIVE DRAINAGE, THE VAULT SHALL HAVE AN OPEN BOTTOM TO ALLOW DRAINAGE THROUGH STONE.

DIMENSIONS (INCHES)	
A	B
18¾"	30⅜"

2" METER & VAULT

NOTES:
1) REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1013 & AWWA C511.
2) DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1015 & AWWA C510.
3) BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED WITHIN 5-FT OF THE METER BOX.
4) BACKFLOW PREVENTION ASSEMBLY SHALL BE CENTERED ON CONCRETE OR APPROVED FIBERGLASS MOUNTING PAD AND CENTERED WITHIN ENCLOSURE.
5) MINIMUM INSULATED CLASS I OR CLASS II, ASSE 1060 WEATHERPROOF ENCLOSURE REQUIRED (HEATING OPTIONAL).
6) PIPE MATERIAL SHALL BE PVC (SCH. 80 OR BETTER), COPPER (TYPE K), OR 'NO LEAD' BRASS (UNS C89833 PER ASTM B584).
7) INSTALLATION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE BEAUFORT COUNTY ORDINANCES AND SPECIFICATIONS IN ADDITION TO THE N.C. PLUMBING CODE.
8) NCDOT SHALL BE RESPONSIBLE FOR MAINTENANCE AND OPERATION OF BACKFLOW ASSEMBLY AND COMPLIANCE WITH REPORTING AND TESTING REQUIREMENTS.
9) ALL BRASS COMPONENTS SHALL BE 'NO LEAD' BRASS MEETING UNS C89833 AS PER ASTM B584.



2" COMMERCIAL OUTDOOR BACKFLOW ASSEMBLY

5/14/99

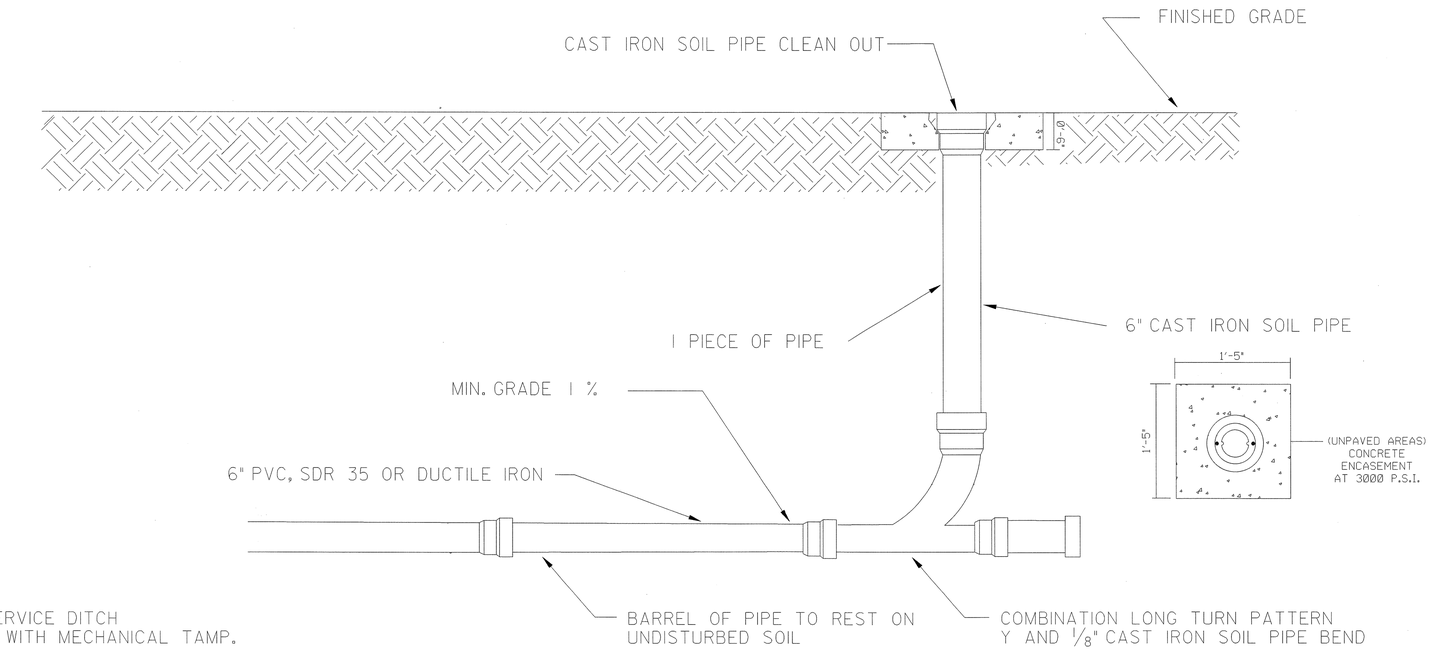
08-OCT-2013 11:24
$$$$USERNAME$$$$
Utilities\Proj\U-5508_Ut_dtl_UC3A_psh.dgn

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-3C
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 23041 10/8/13 ENGINEER CHRISTOPHER D. BOUSQUET

UTILITY CONSTRUCTION

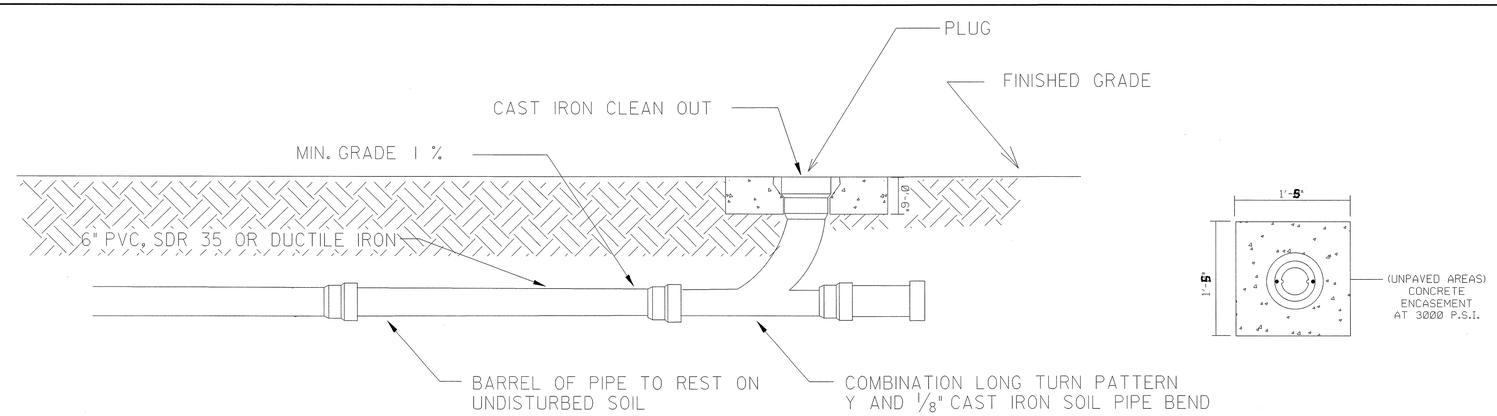
SANITARY SEWER CLEAN OUT DETAILS



NOTES:

THE FULL LENGTH OF THE SERVICE DITCH BE COMPACTED IN 6" LAYERS WITH MECHANICAL TAMP.

TYPICAL SANITARY SEWER LATERAL CONNECTION



NOTES:

THE FULL LENGTH OF THE SERVICE DITCH BE COMPACTED IN 6" LAYERS WITH MECHANICAL TAMP.

TYPICAL SANITARY SEWER LATERAL CONNECTION

5/14/99
09-OCT-2013 11:32
$$$$USERNAME$$$$
ities\Engineering\UC\Proj\K3800_ut_dtl_UC3B_3C_psh.dgn

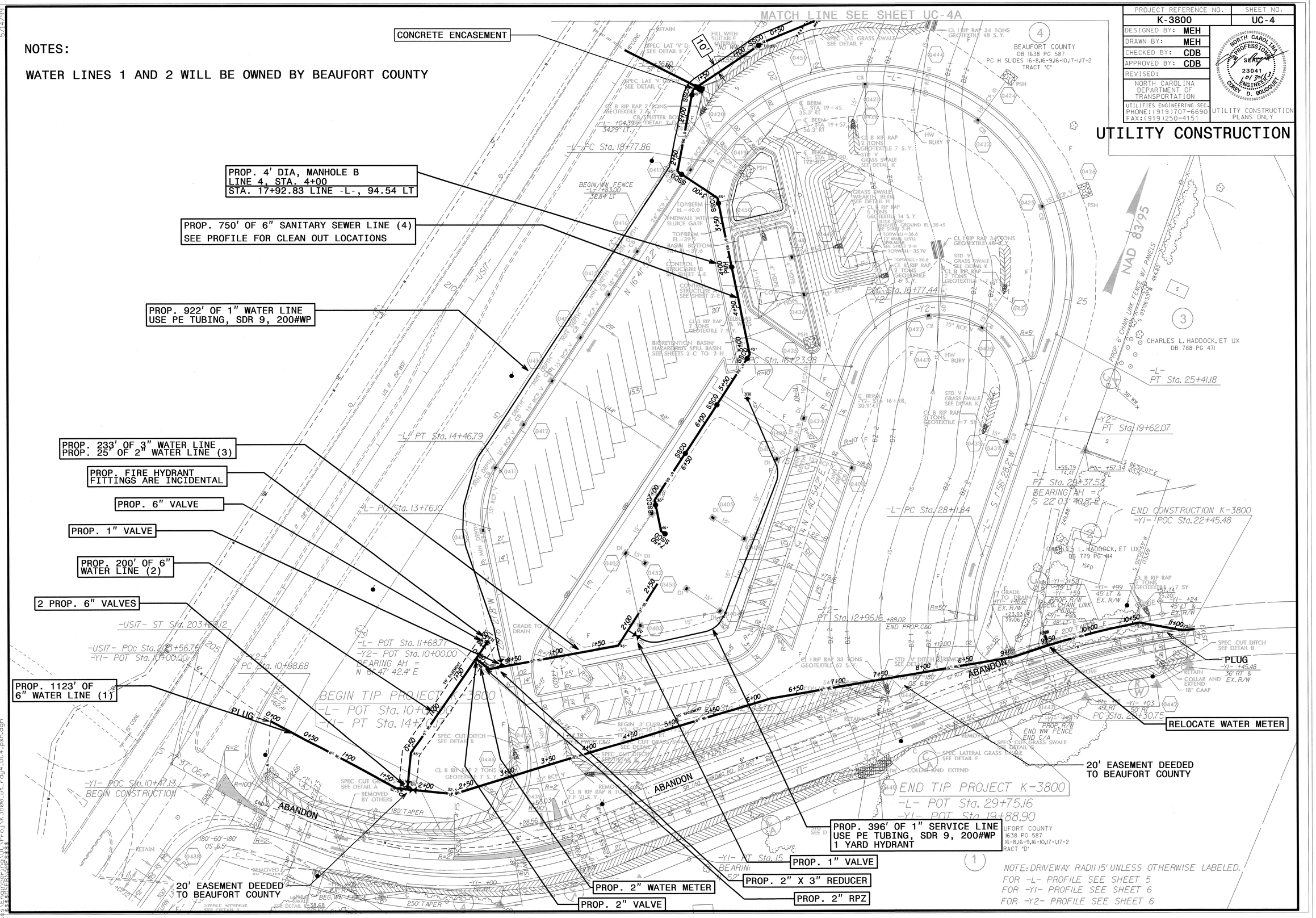
PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-4
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 23041 10/30/17 ENGINEER COREY D. BOUSQUET

UTILITY CONSTRUCTION

NOTES:

WATER LINES 1 AND 2 WILL BE OWNED BY BEAUFORT COUNTY



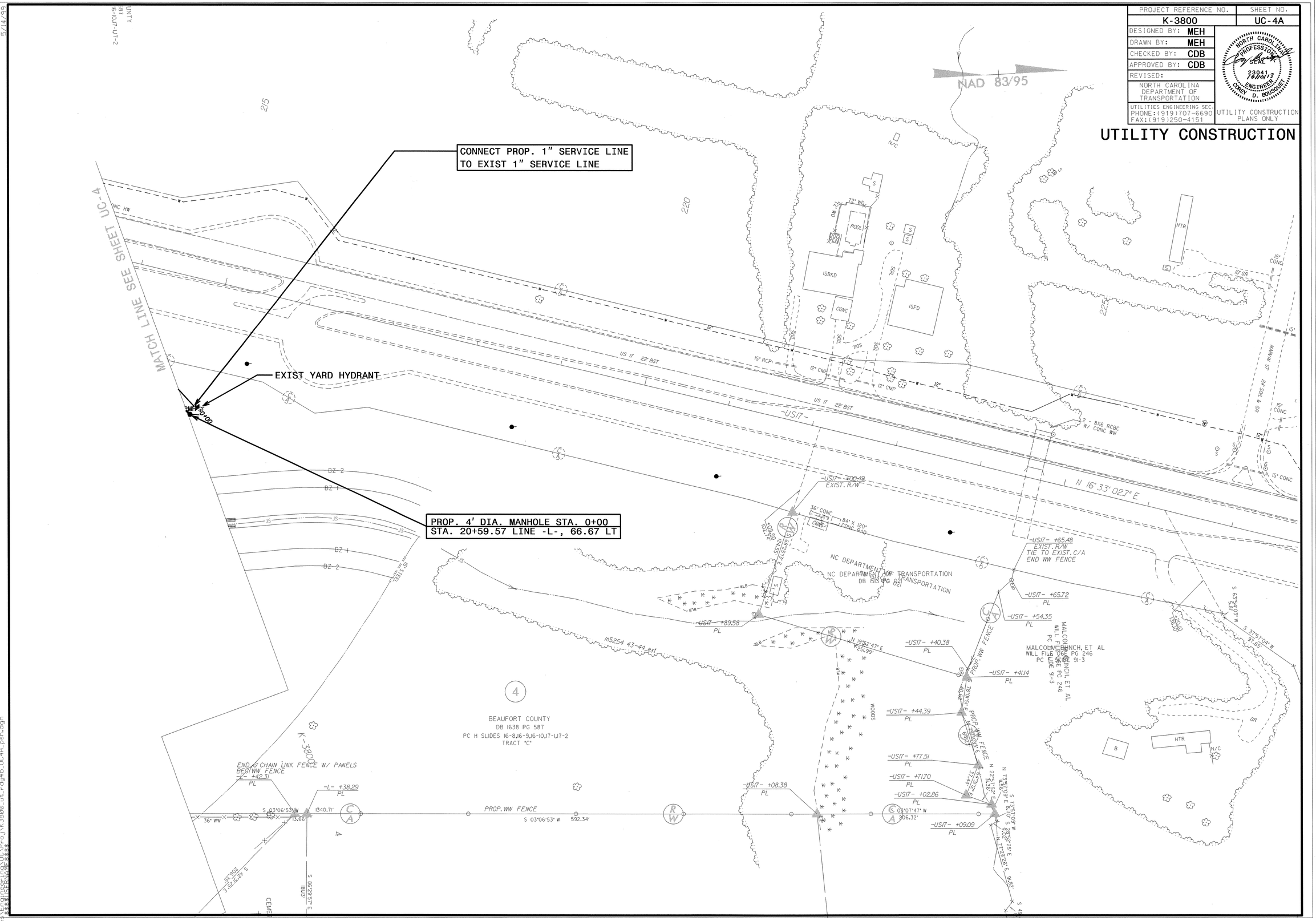
5/14/99

29-OCT-2013 16:41
Engineering\UC\Proj\K3800_ut_rdy4_UC4_psh.dgn

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-4A
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 23041 10/01/13 ENGINEER COREY D. BOUSQUET

UTILITY CONSTRUCTION



5/14/99
UNTY
187
16-10,17-1,17-2
10-OCT-2013 15:29
Engineering\UCP\proj\K3800_ut_rdy4b_UC4A_psh.dgn

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-5

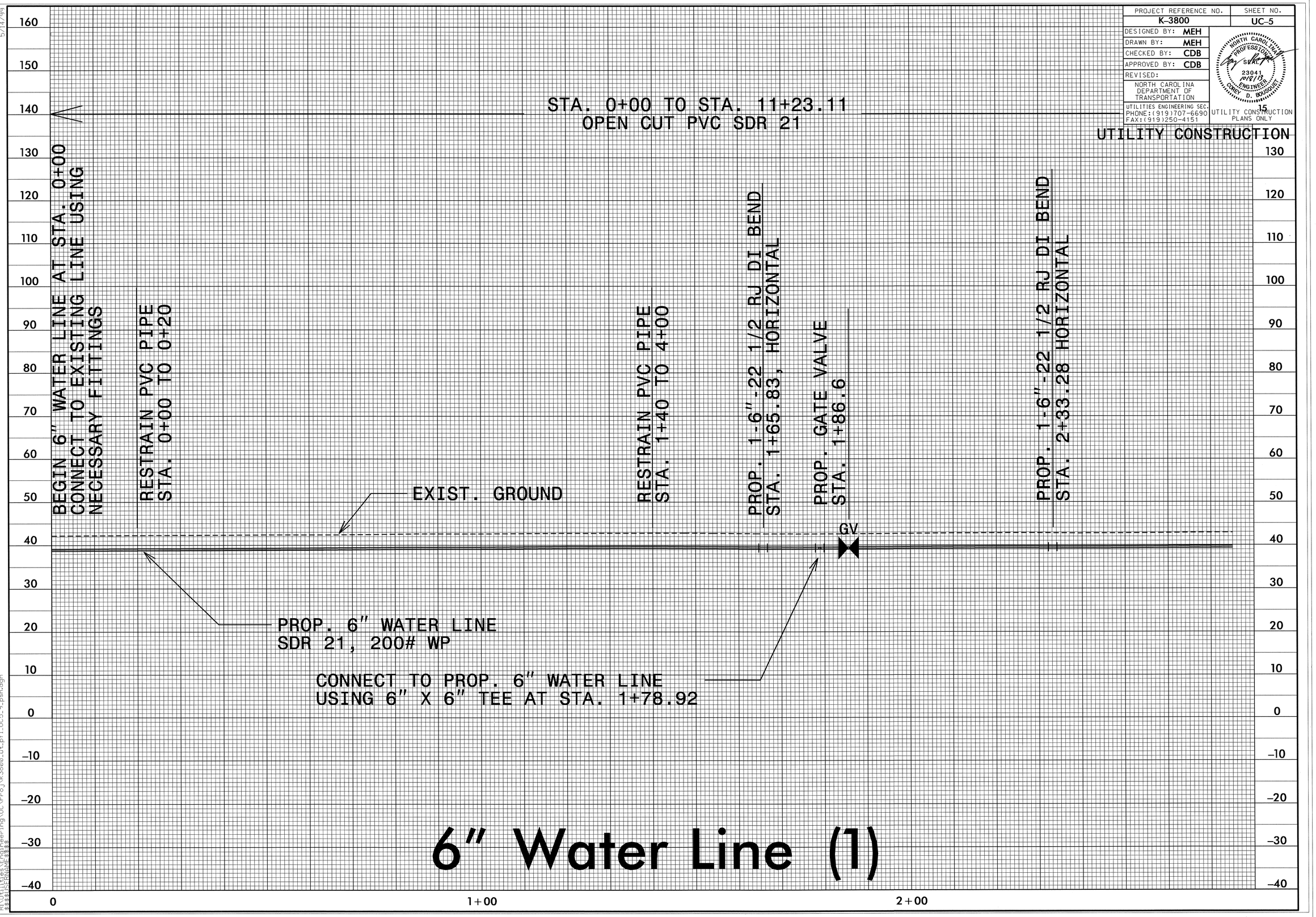
DESIGNED BY: MEH
DRAWN BY: MEH
CHECKED BY: CDB
APPROVED BY: CDB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 23041 ENGINEER CHRISTOPHER D. BOUSQUET 10/8/13

UTILITY CONSTRUCTION PLANS ONLY



5/14/99

09-OCT-2013 12:25
R:\Utilities\Engineering\UCVProj\K3800_ut_pfl_UC5_9_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-6

DESIGNED BY: MEH
DRAWN BY: MEH
CHECKED BY: CDB
APPROVED BY: CDB
REVISED:

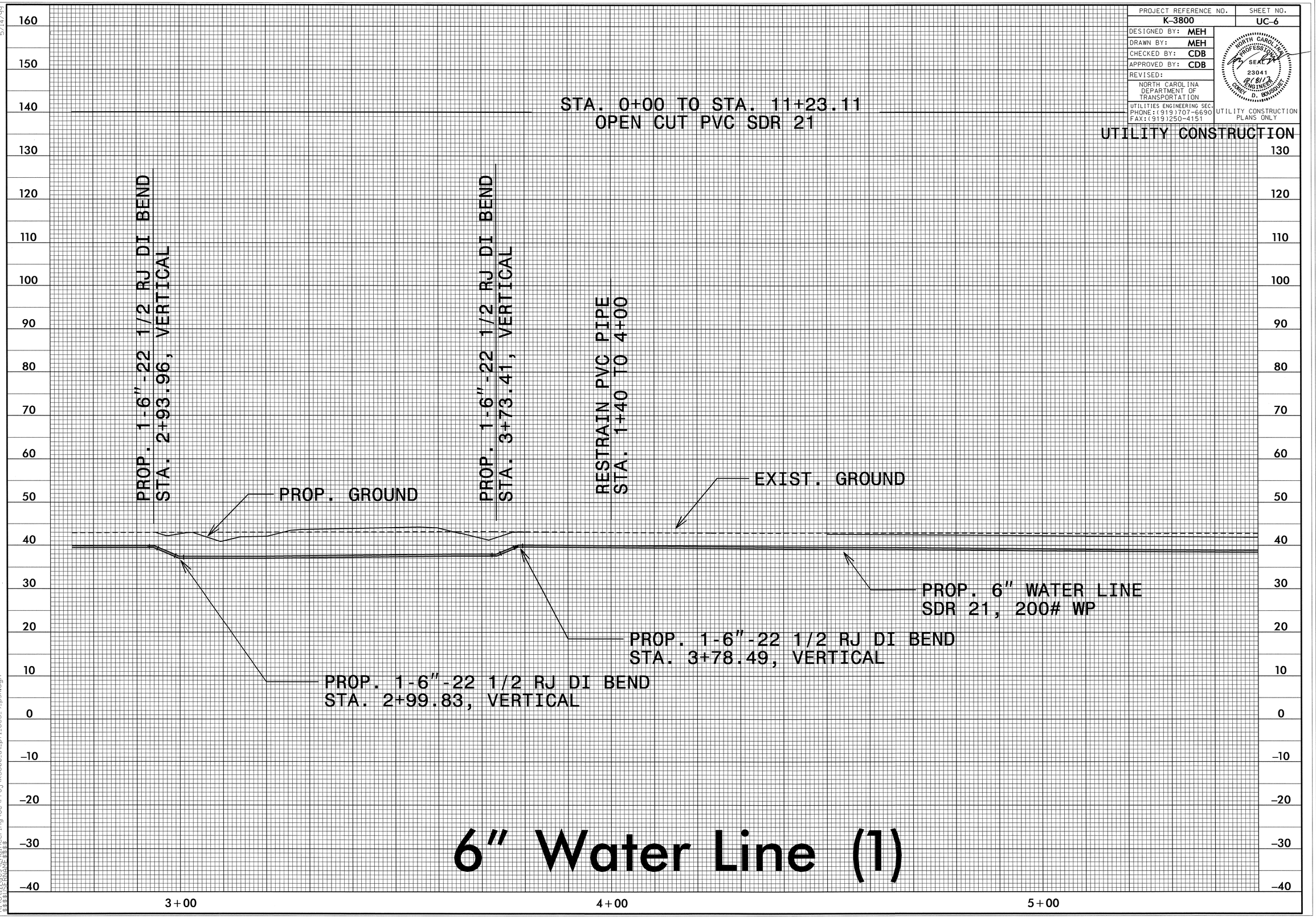
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER 23041 CONRAD D. BOUSQUET

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



6" Water Line (1)

5/14/99

09-OCT-2013 12:26
R:\Utilities\Engineering\UC\Proj\k3800_ut_pfl_UC5_9_psh.dgn
$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-7

DESIGNED BY: MEH
DRAWN BY: MEH
CHECKED BY: CDB
APPROVED BY: CDB
REVISED:

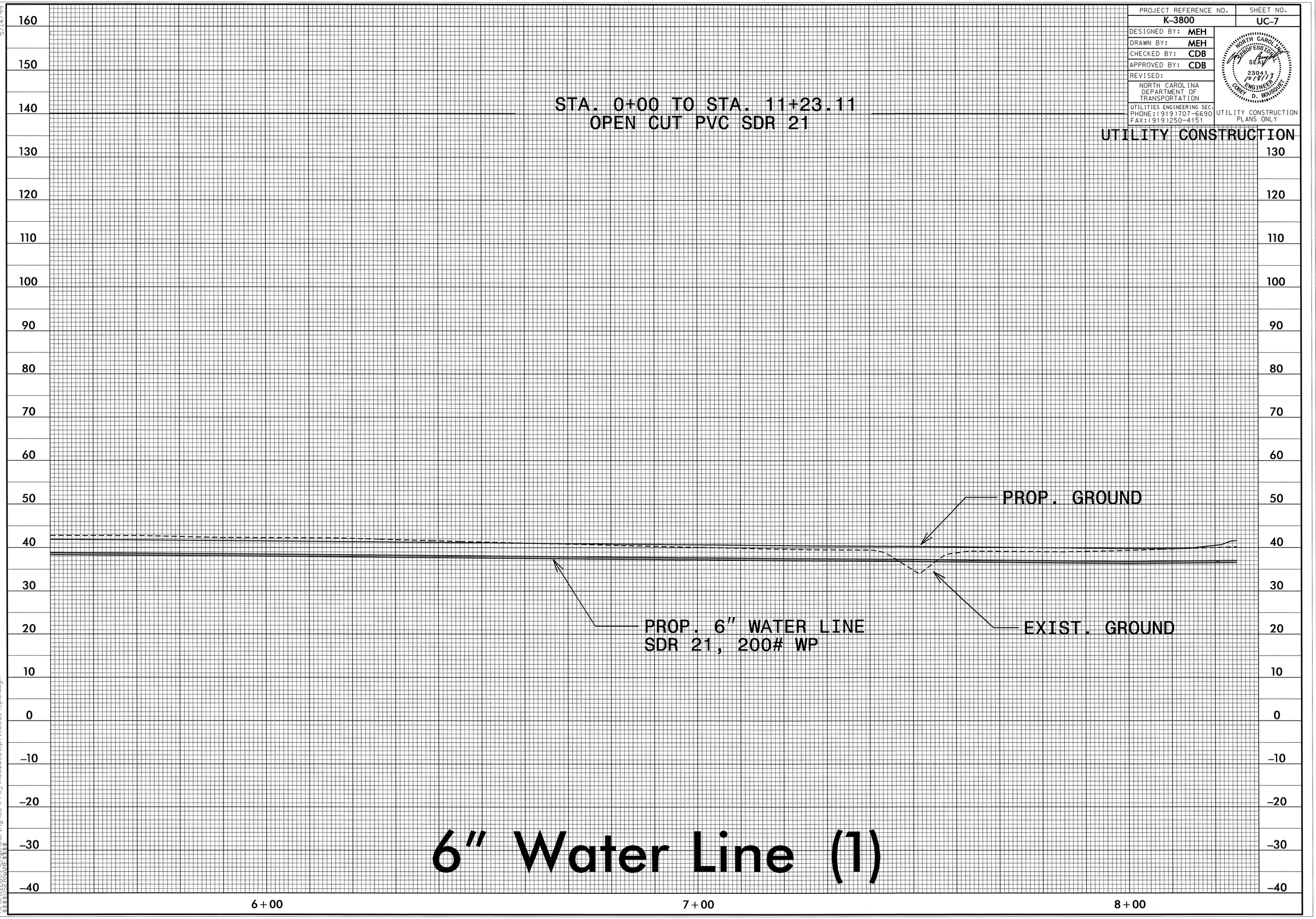
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 23041 10/8/13 ENGINEER CORY D. BOUSQUET

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



6" Water Line (1)

09-OCT-2013 12:26
R:\Utilities\Engineering\UCVProj\K3800_ut_pfl_UC5_9_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-8

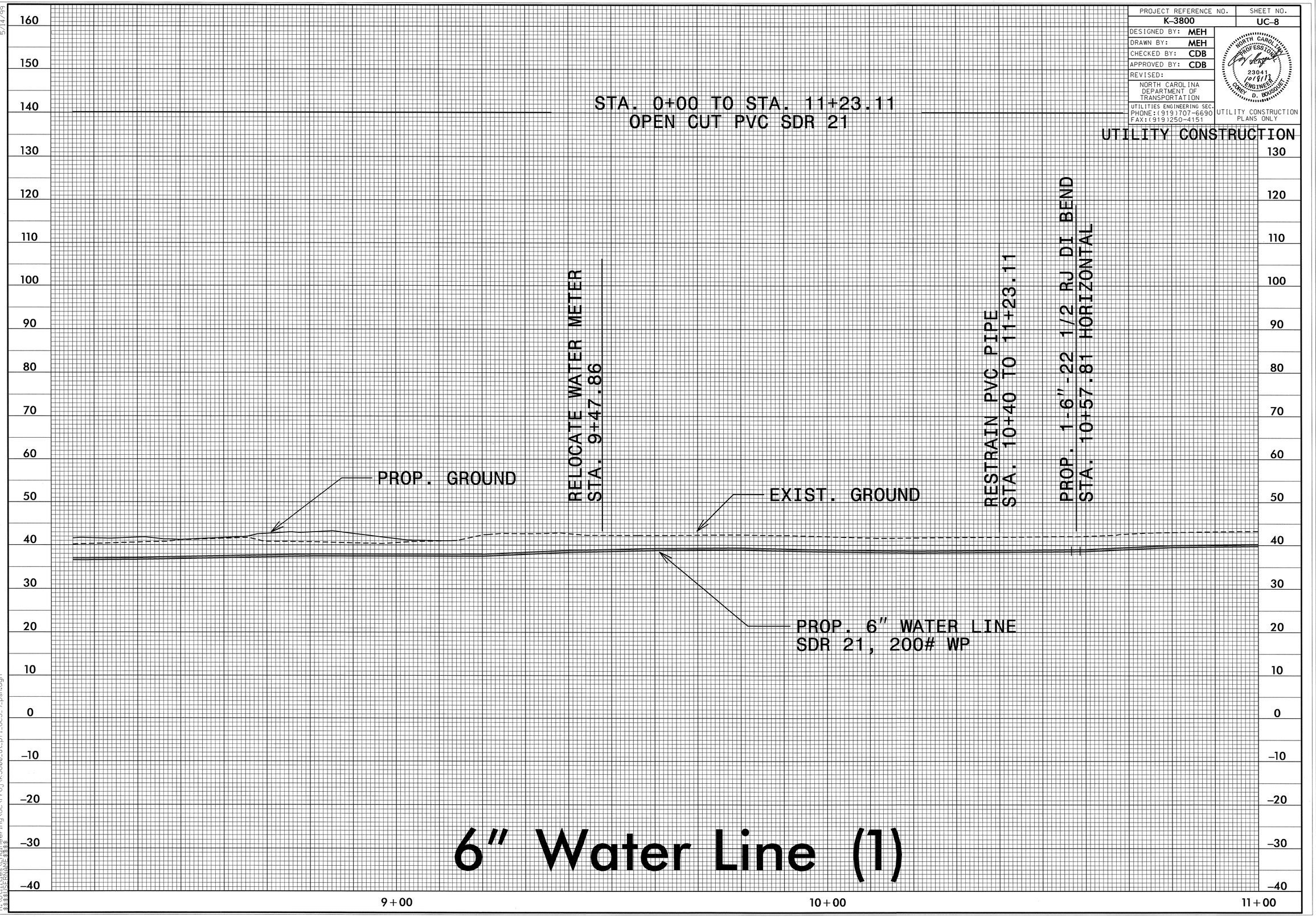
DESIGNED BY: MEH
DRAWN BY: MEH
CHECKED BY: CDB
APPROVED BY: CDB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23041 10/9/13 COREY D. BOUSQUET

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



6" Water Line (1)

5/14/99

09-OCT-2013 12:26
R:\Utilities\Engineering\UC\Proj\K3800_ut_pfl_UC5_9_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-9

DESIGNED BY: MEH
DRAWN BY: MEH
CHECKED BY: CDB
APPROVED BY: CDB
REVISED:

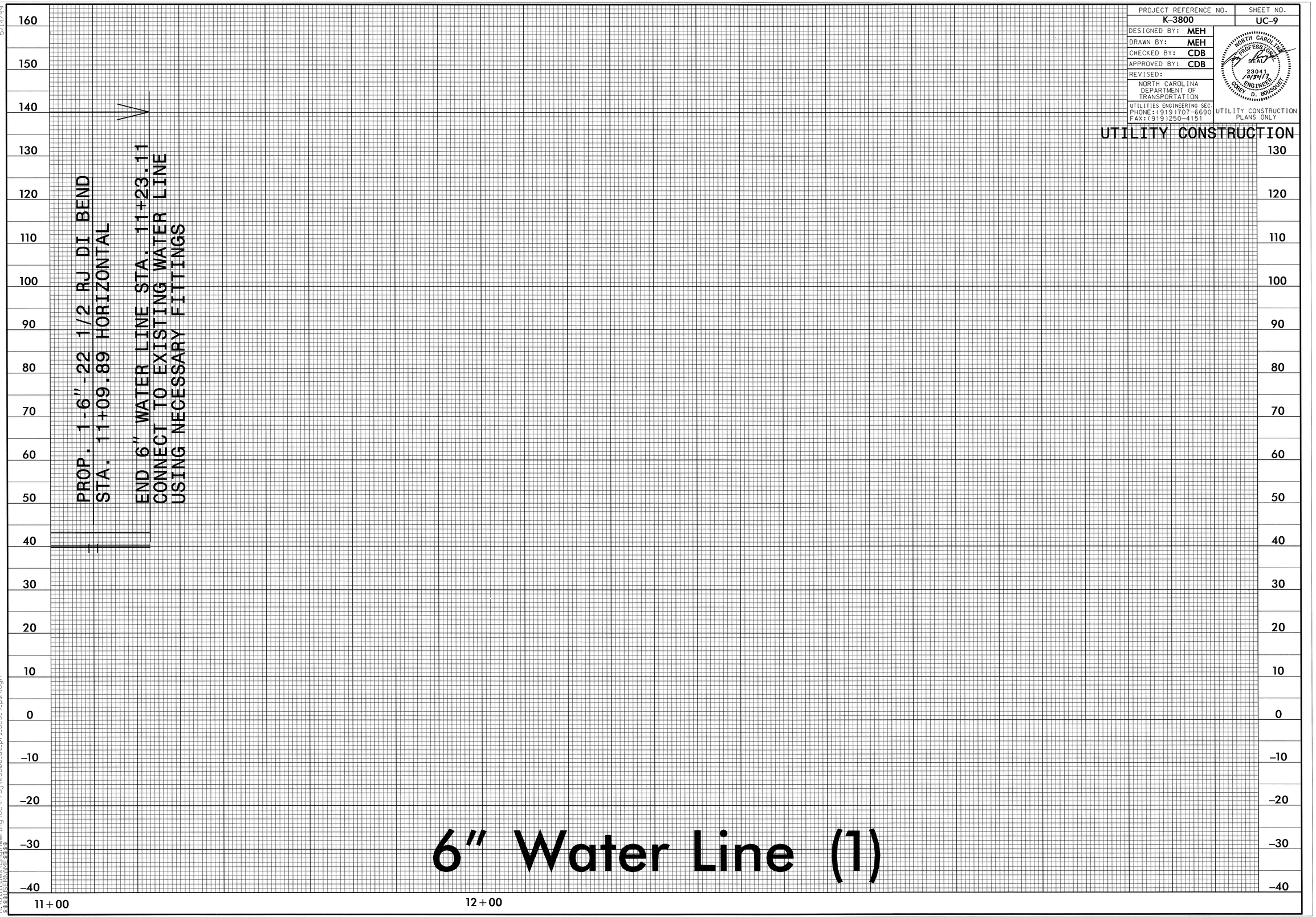
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 23041 10/29/13 ENGINEER COREY D. BOUSQUET

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



5/14/99

23-OCT-2013 16:42
R:\Utilities\Engineering\UC\Proj\k3800_ut_pfl_UC5_9_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-10
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	

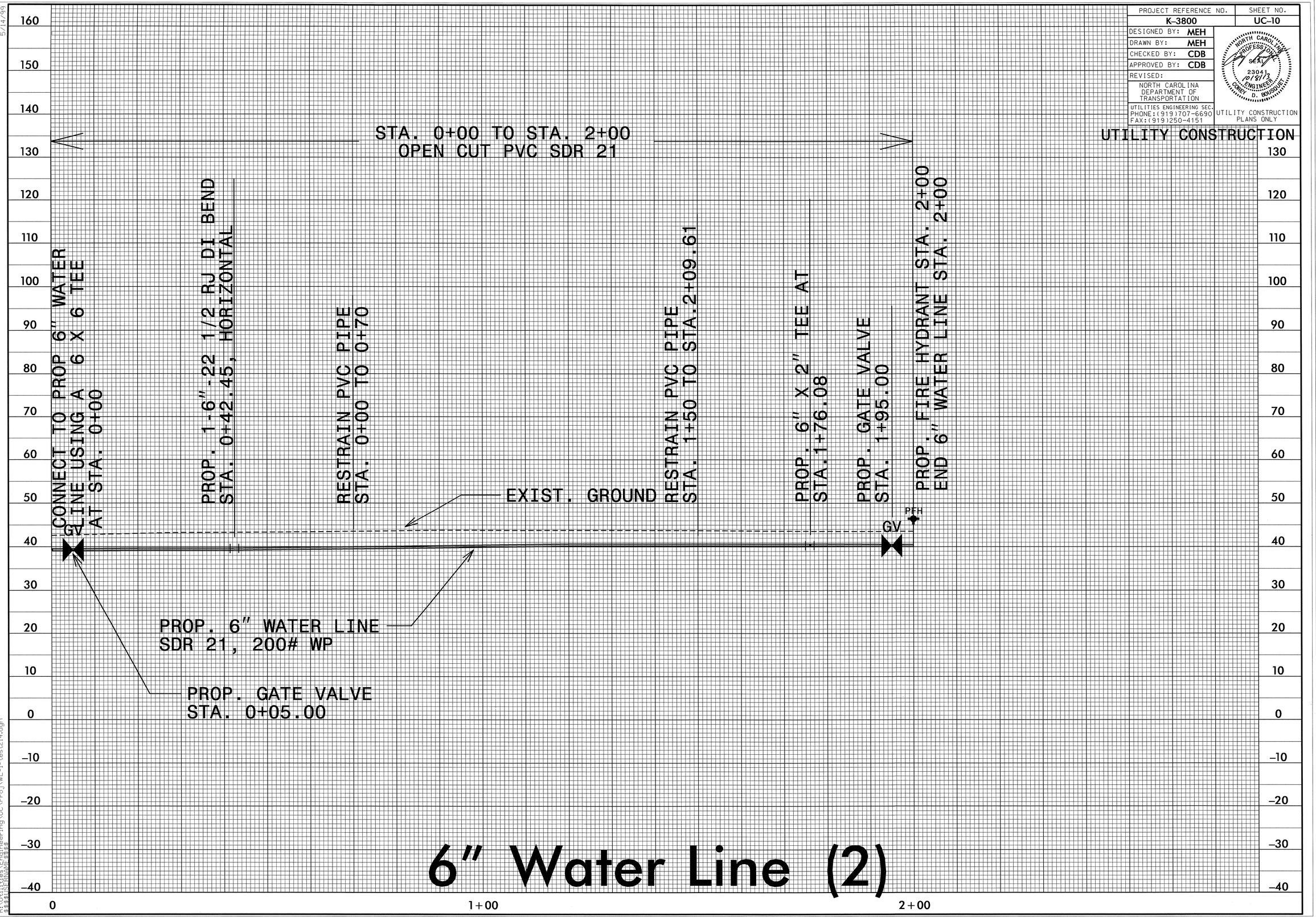
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 2304 10/3/13 ENGINEER CHRISTOPHER D. BOUSQUET

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



6" Water Line (2)

5/14/99

08-OCT-2013 20:08
R:\Utilities\Engineering\UC\Proj\WL-1-test214.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-11

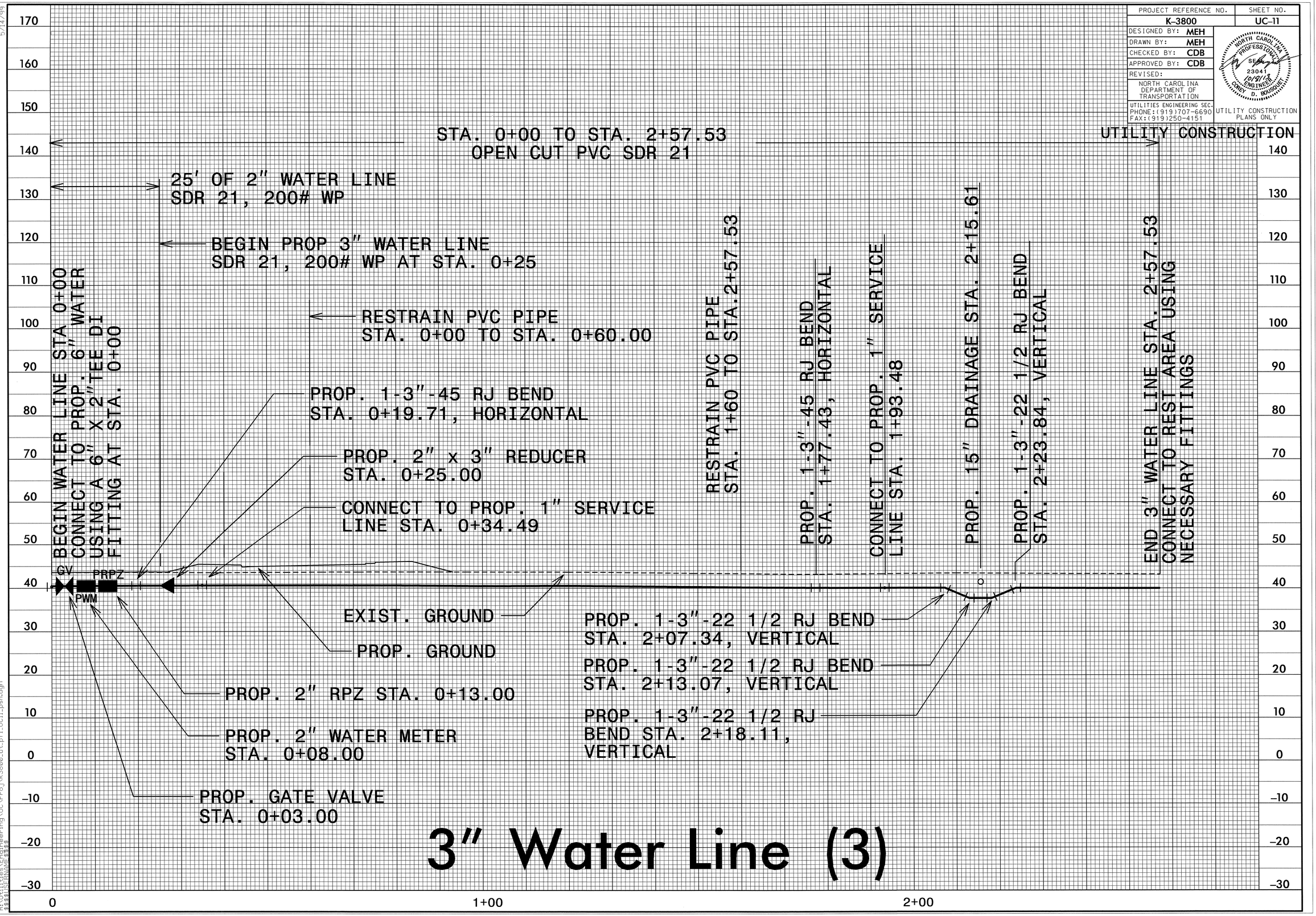
DESIGNED BY: MEH
DRAWN BY: MEH
CHECKED BY: CDB
APPROVED BY: CDB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER 23041 10/9/13 COREY D. BUSQUET

UTILITY CONSTRUCTION PLANS ONLY



3" Water Line (3)

5/14/99

09-OCT-2013 14:33
R:\Utilities\Engineering\UCProjs\k3800_ut_pfl_UC11_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-12

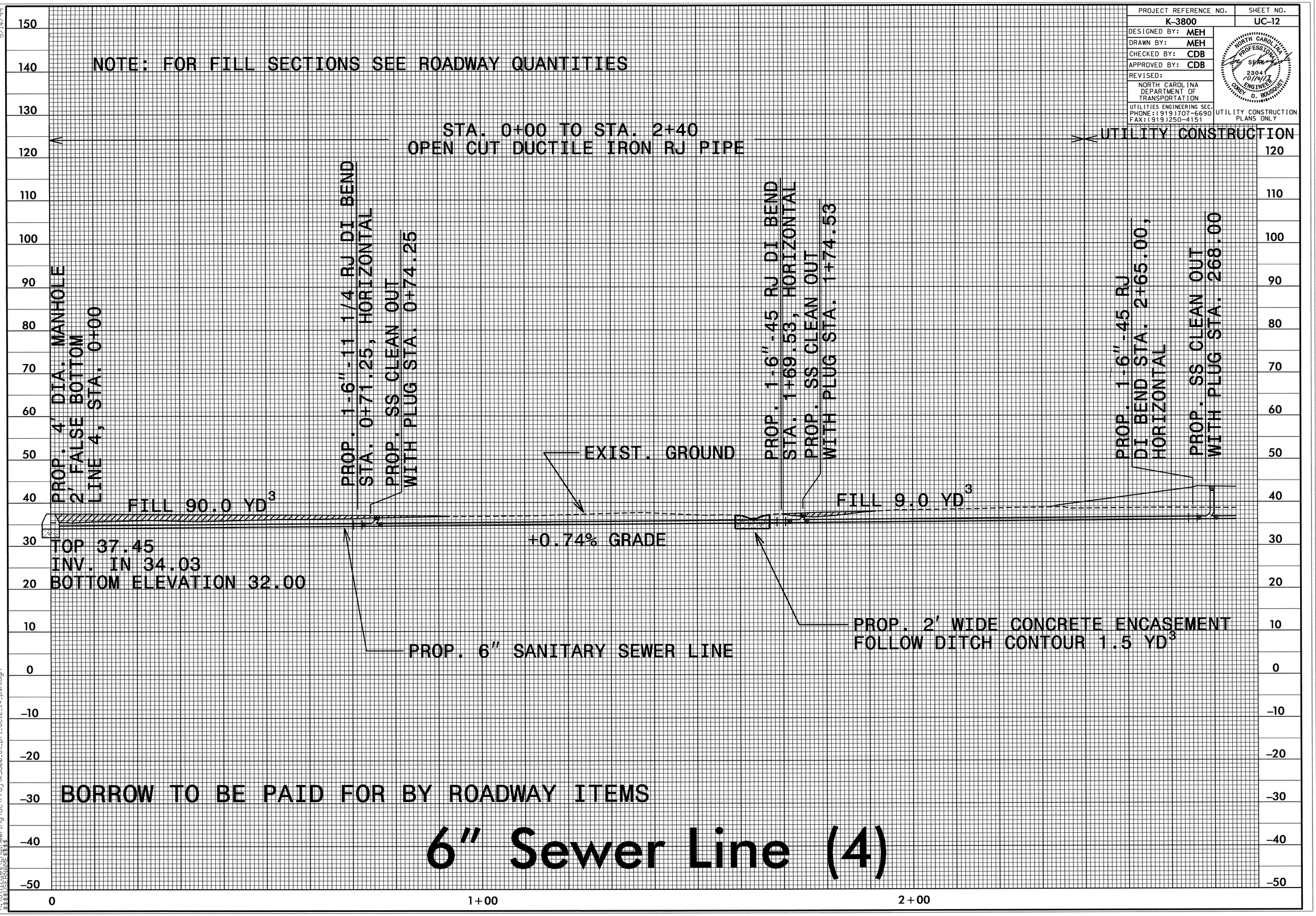
DESIGNED BY: MEH
DRAWN BY: MEH
CHECKED BY: CDB
APPROVED BY: CDB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 23041 ENGINEER CHRIS D. BOUSQUET 10/16/13



5/14/99

10-Oct-2013 16:20
R:\Utilities\Engineering\UC\Proj\K3800_ut_pfl_UC12_14_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-13

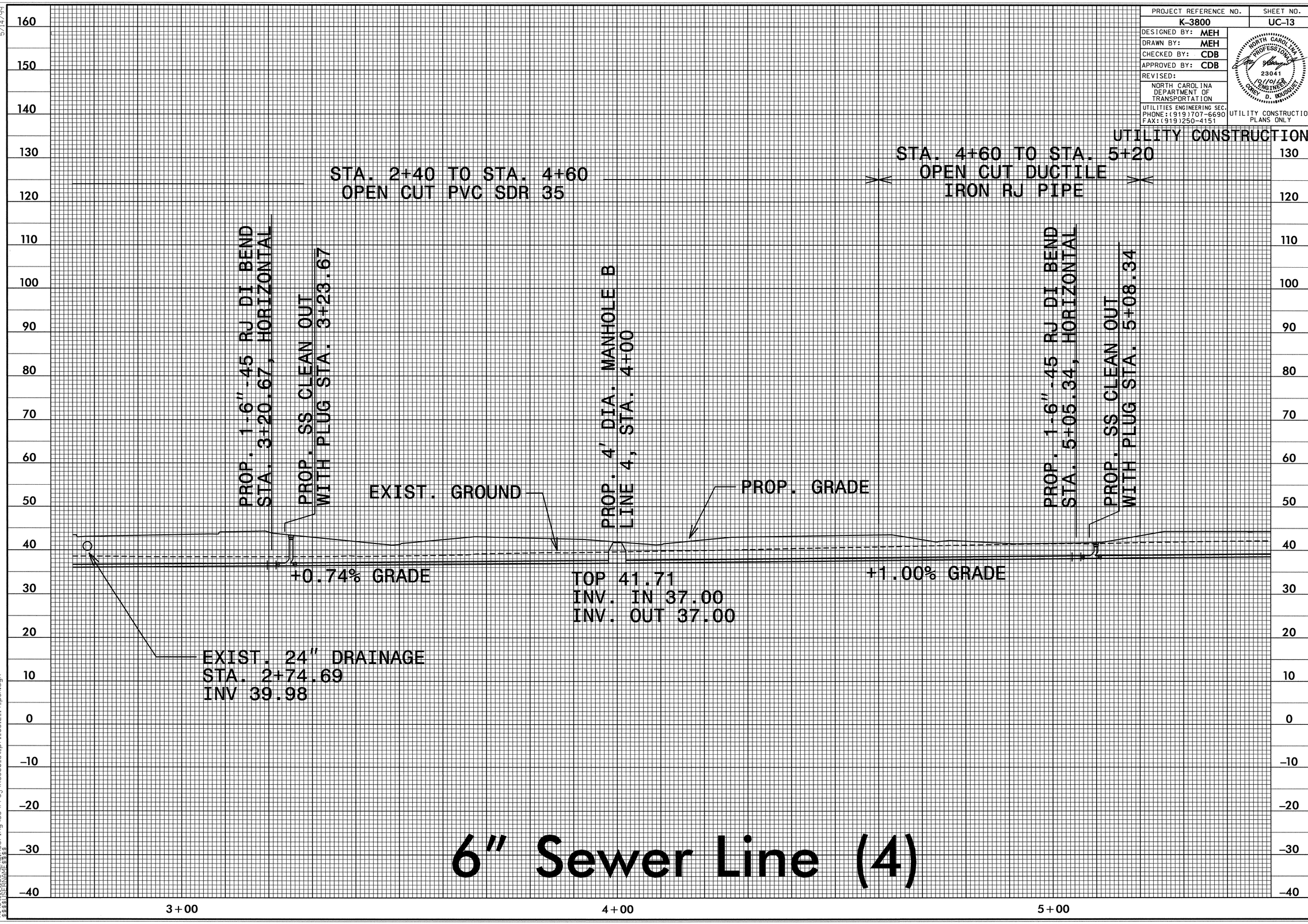
DESIGNED BY: MEH
DRAWN BY: MEH
CHECKED BY: CDB
APPROVED BY: CDB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23041 10/10/99 CORDY D. BOUSQUET

UTILITY CONSTRUCTION PLANS ONLY



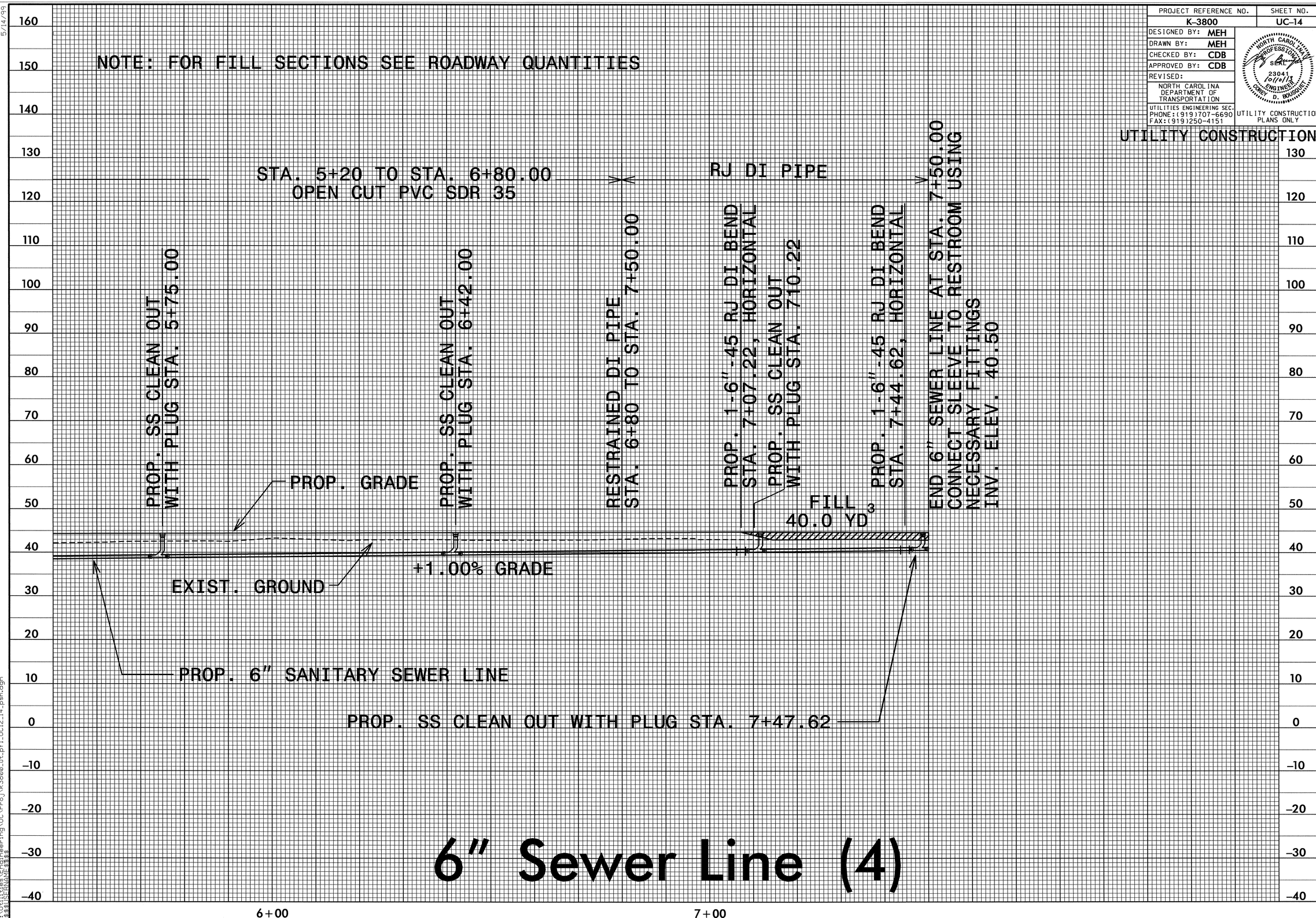
5/14/99

10-OCT-2013 16:32
r:\ncdot\ncdot_Engineering\UC\Proj\k3800_ut_pfl_UC12_14_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-14
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 23041 10/10/13 ENGINEER CORY D. BOUSQUET

UTILITY CONSTRUCTION



5/14/99
10-OCT-2013 16:27
S:\Unit Agreements\Engineering\UC\Proj\k3800_ut_pf1_UC12.14_psh.dgn
$$$$USERNAME$$$$

09/08/99

TIP PROJECT: K-3800

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

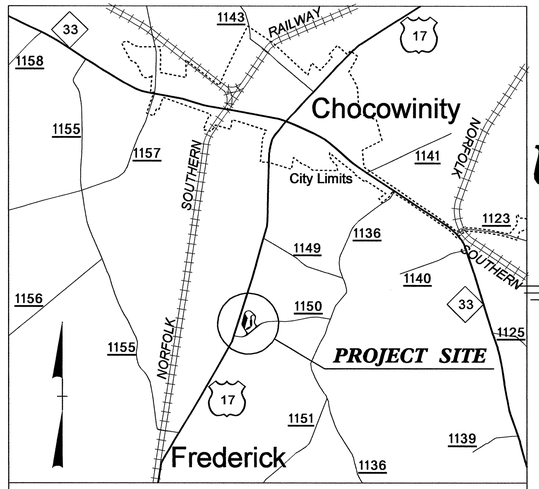
T.I.P. NO.	SHEET NO.
K-3800	UO-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

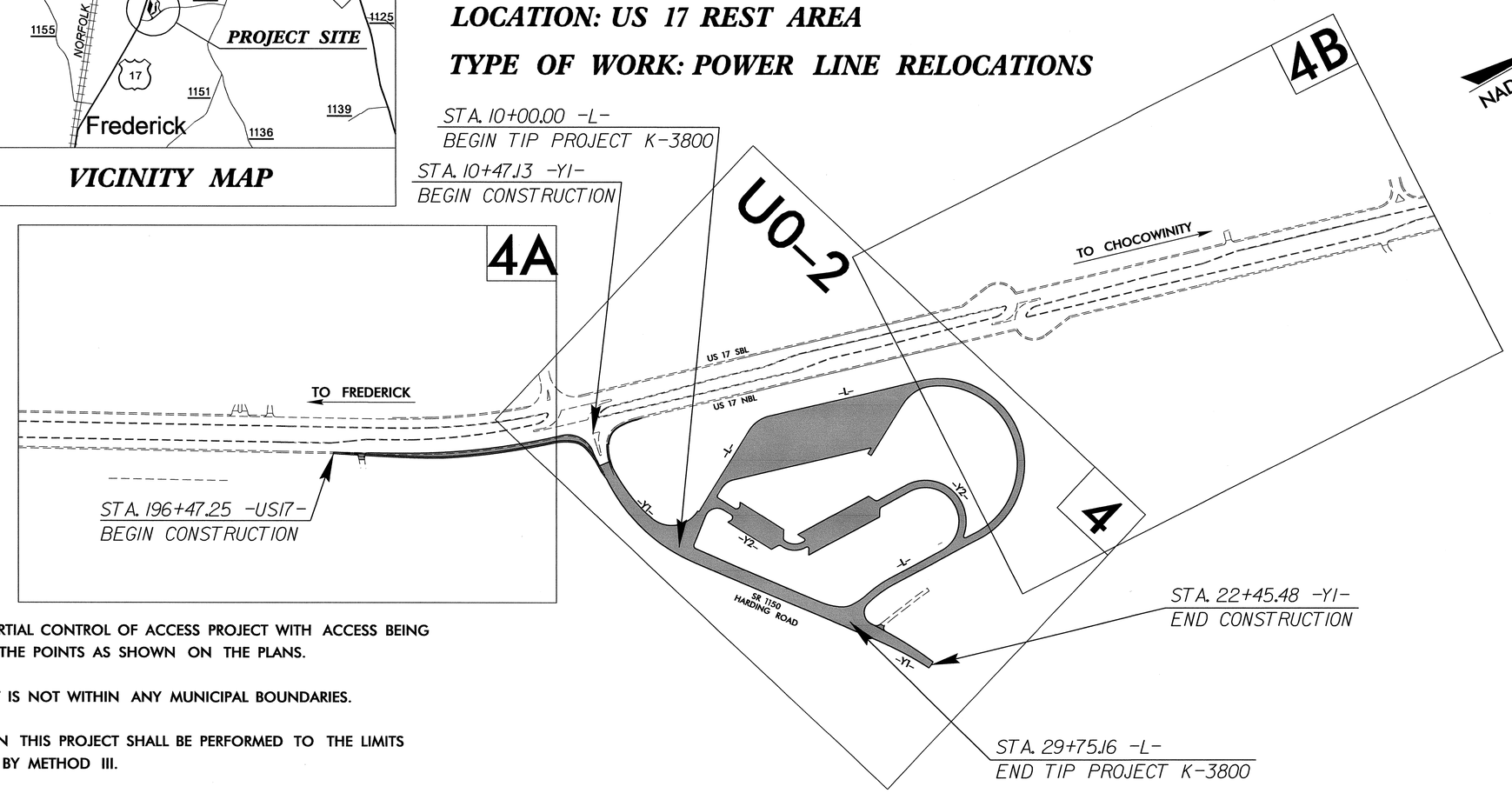
UTILITIES BY OTHERS PLANS
BEAUFORT COUNTY

LOCATION: US 17 REST AREA

TYPE OF WORK: POWER LINE RELOCATIONS



VICINITY MAP



THIS IS A PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO THE POINTS AS SHOWN ON THE PLANS.

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITY BY OTHERS PLAN SHEET

UTILITY OWNERS ON PROJECT

(A) DUKE ENERGY PROGRESS

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING
1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. — UTILITIES SECTION ENGINEER
Corey Bousquet, P.E. — UTILITIES SQUAD LEADER PROJECT ENGINEER
Mariko Hafeez — UTILITIES PROJECT DESIGNER

09-OCT-2013 07:06
R:\Utilities\Engineering\UBO\Proj\k3800_rdy_tsh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-3800	U0-2

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

-L-

PI Sta 14+13.38	PI Sta 28+75.62	PI Sta 36+54.01
△ = 45° 00' 20.0" (RT)	△ = 24° 00' 09.0" (LT)	△ = 165° 14' 35.9" (RT)
D = 63° 39' 43.1"	D = 19° 05' 54.9"	D = 24° 54' 40.4"
L = 70.69'	L = 125.68'	L = 663.33'
T = 37.28'	T = 63.77'	T = 1,776.16'
R = 90.00'	R = 300.00'	R = 230.00'
SE= SEE PLANS	SE= SEE PLANS	SE= 02
RO= SEE PLANS	RO= SEE PLANS	RO= SEE PLANS

-Y1-

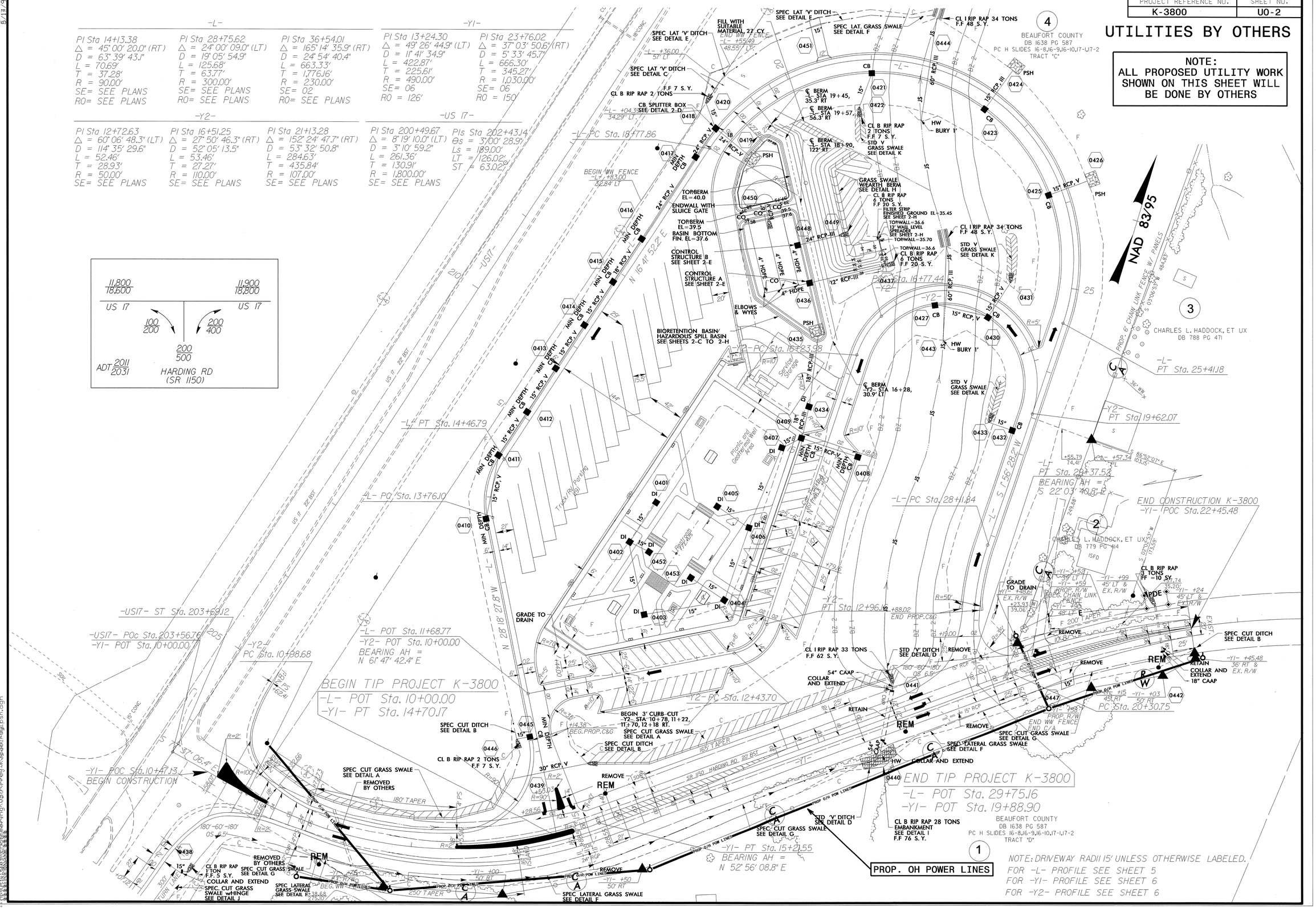
PI Sta 13+24.30	PI Sta 23+76.02
△ = 49° 26' 44.9" (LT)	△ = 37° 03' 50.6" (RT)
D = 11° 41' 34.9"	D = 5° 33' 45.7"
L = 422.87'	L = 666.30'
T = 225.61'	T = 345.27'
R = 490.00'	R = 1,030.00'
SE= 06	SE= 06
RO = 126'	RO = 150'

-Y2-

PI Sta 12+72.63	PI Sta 16+51.25	PI Sta 21+13.28
△ = 60° 06' 48.3" (LT)	△ = 27° 50' 46.3" (RT)	△ = 152° 24' 47.7" (RT)
D = 114° 35' 29.6"	D = 52° 05' 13.5"	D = 53° 32' 50.8"
L = 52.46'	L = 53.46'	L = 284.63'
T = 28.93'	T = 27.27'	T = 435.84'
R = 50.00'	R = 110.00'	R = 107.00'
SE= SEE PLANS	SE= SEE PLANS	SE= SEE PLANS

-US 17-

PI Sta 200+49.67	PIs Sta 202+43.14
△ = 8° 19' 10.0" (LT)	Θs = 3° 00' 28.9"
D = 3° 10' 59.2"	Ls = 189.00'
L = 261.36'	LT = 126.02'
T = 130.91'	ST = 63.02'
R = 1,800.00'	
SE= SEE PLANS	



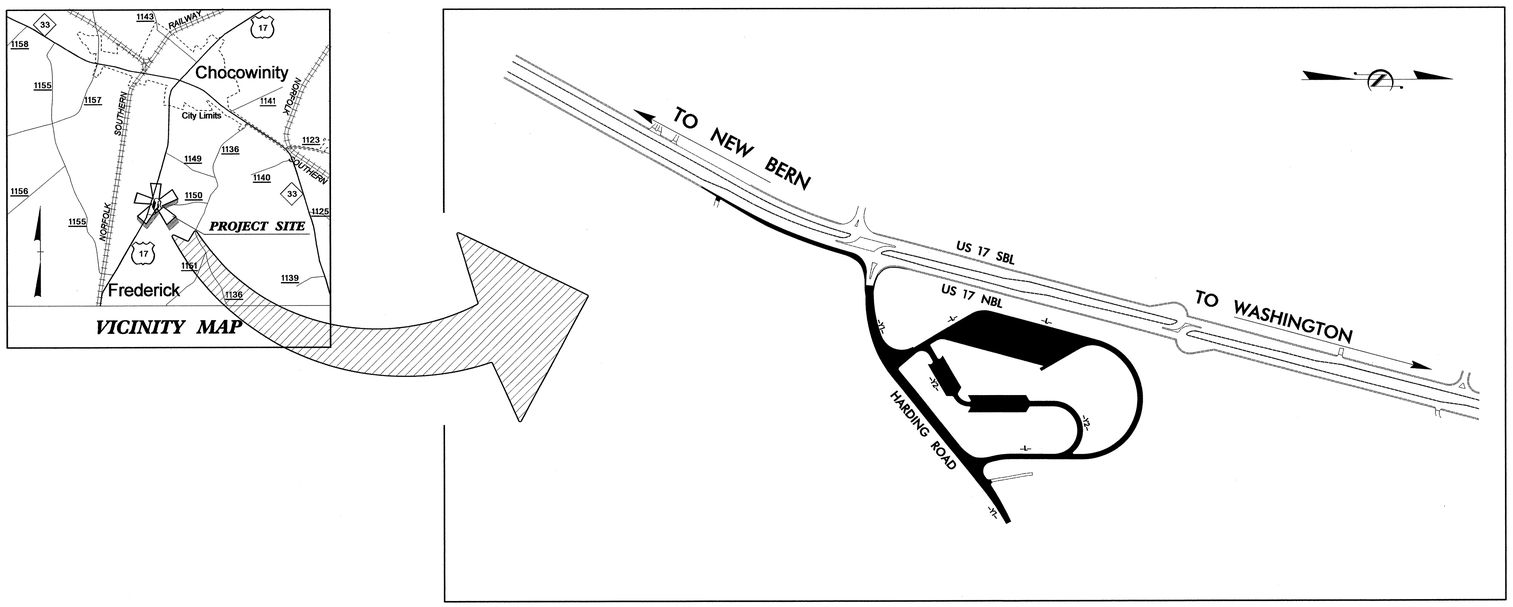
STATE	T.I.P. #	SHEET #
NC	K-3800	1 of 18

WBS #	F.A. Project #	Description
38748.1.1		P.E.
		R/W
38748.3.1	-	CONST.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BEAUFORT COUNTY

LOCATION: US 17, NORTH OF NEW BERN, NC & SOUTH OF WASHINGTON, NC.
TYPE OF WORK: CONSTRUCTION OF NEW REST AREA BUILDING AND SITE WORK



VICINITY MAP

INDEX OF L SHEETS

LT-001 TITLE SHEET
L-001 OVERALL SITE PLAN
L-002 BUILDING AREA SITE PLAN
LL-001 LAYOUT PLAN
LG-001 GRADING PLAN
LP-001 LANDSCAPE PLAN
LP-002 LANDSCAPE PLAN
LP-003 LANDSCAPE QUANTITIES
LI-001 IRRIGATION PLAN
LB-001 STREAMBANK BUFFER REFORESTATION PLAN

DETAIL SHEETS

LD-001 PLANTING DETAILS
LD-002 COMPOSIT DECKING WALKWAY DETAILS
LD-003 RAINWATER COLLECTION DETAILS
LD-004 PICNIC TABLE WITH SHELTER
LD-005 PICNIC TABLE ON CONCRETE PAD
LD-006 BICYCLE PARKING BOLLARD
LD-006 DEPRESSED CURB HANDICAP RAMP
LD-006 FLAGPOLE / WASTE CONTAINER
LD-006 DUMPSTER SCREEN DETAILS
LD-007 STREAMBANK REFORESTATION DETAILS
LD-008 STREAMBANK REFORESTATION DETAILS

Contract #: C- 203304 RA Beaufort County / US-17 Rest Area Construction

PROJECT MANAGEMENT
REST AREA SECTION
ROADSIDE ENVIRONMENTAL UNIT
1557 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1557
OFFICE (919) 707-2920 FAX (919) 715-2554

SITE / LANDSCAPE DESIGN
LANDSCAPE DESIGN & DEVELOPMENT
ROADSIDE ENVIRONMENTAL UNIT
1557 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1557
OFFICE (919) 707-2920 FAX (919) 715-2554
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 606 DANIEL L. WILSON

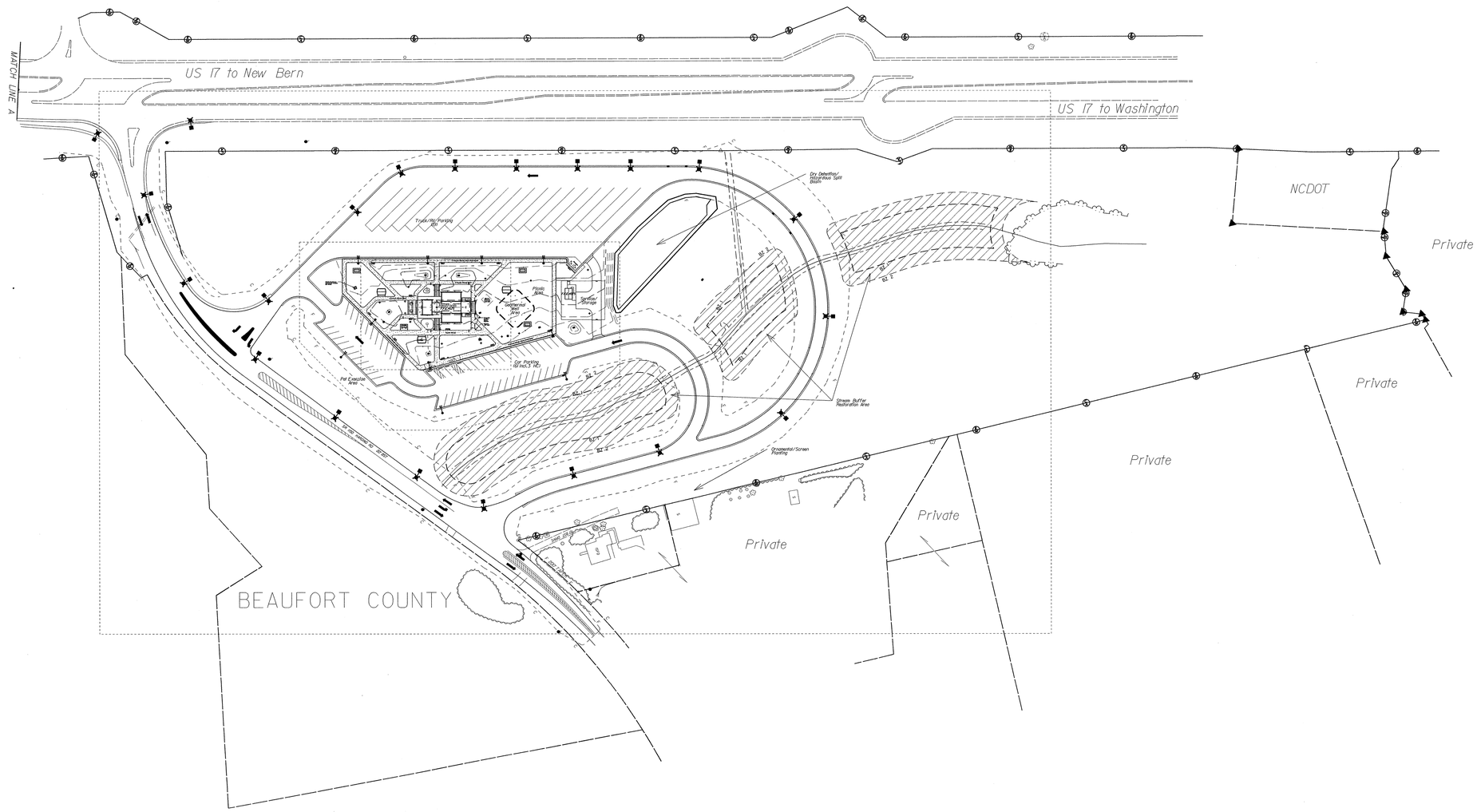
ARCHITECTURAL / ENGINEERING
ARCHITECT: CLEARSCAPES, PA
311-200 MARTIN STREET
RALEIGH, NC 27601 919.821.2775
MECHANICAL/ELECTRICAL/PLUMBING.: BURKE DESIGN GROUP
305-109 DURHAM DRIVE
RALEIGH, NC 27603 919.618.0717

North Carolina Department of Transportation
Division of Highways
1 South Wilmington Street Raleigh, North Carolina

US-17
BEAUFORT COUNTY
NEW REST AREA

Plan :

Plans Drawn By:	WILSON
Scale	n/a
Date	10 / 8 / 13
Letting Date	Feb 4, 2014
2012 Standard Specifications	
Sheet Description	TITLE SHEET
Sheet #	LT - 001



NAD 83/95

25 0 25 50 100

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY

PROJECT #: 38748.3.1

REU ENGINEER:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 606 DANIEL L. WILSON

SHEET DESCRIPTION: OVERALL SITE PLAN

PREL DESIGN DATE:

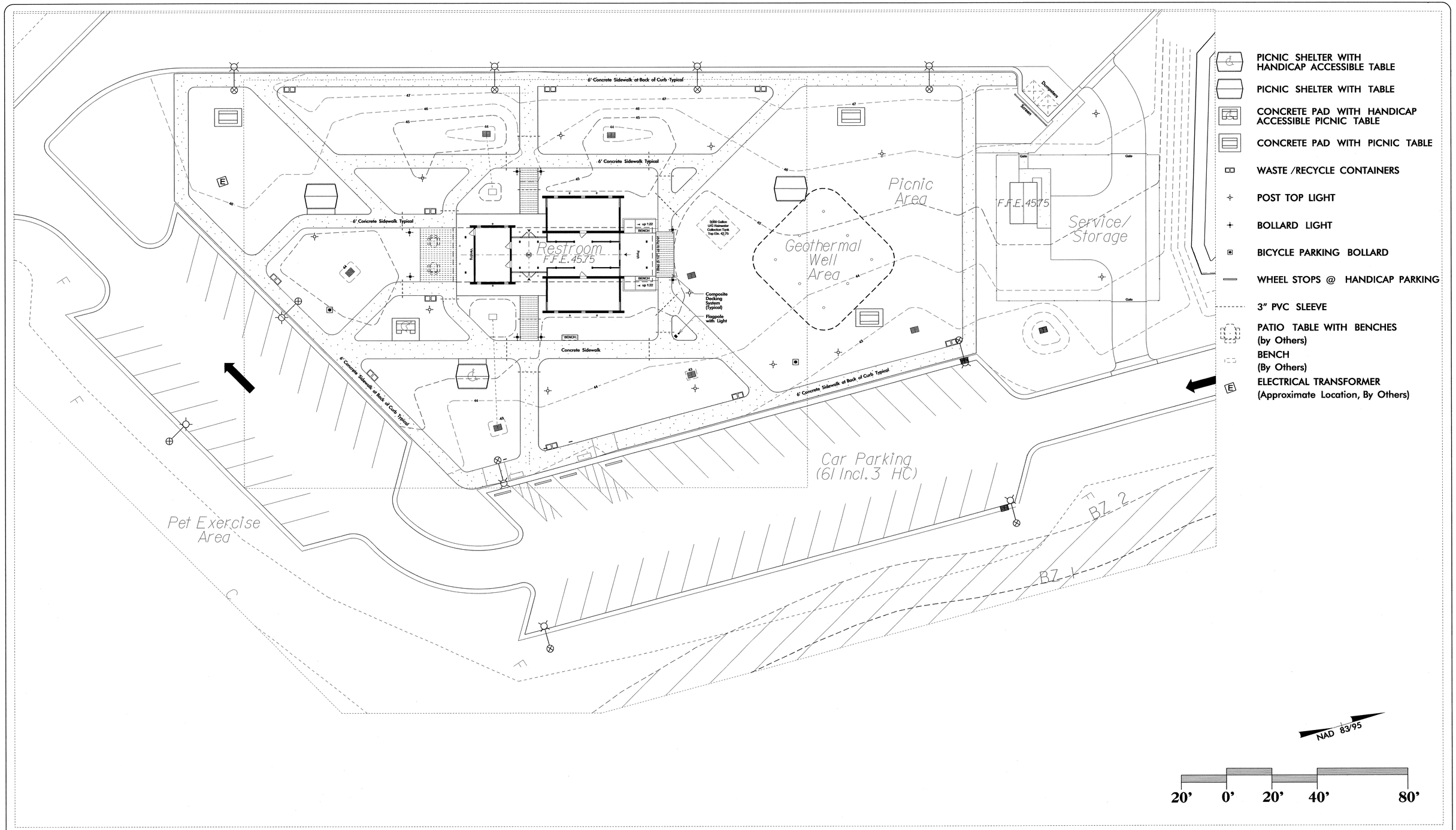
CHECKED BY & DATE:

FINAL DESIGN DATE: 10-08-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO: L-001

TOTAL SHEET NO: 18 (L)



- PICNIC SHELTER WITH HANDICAP ACCESSIBLE TABLE
- PICNIC SHELTER WITH TABLE
- CONCRETE PAD WITH HANDICAP ACCESSIBLE PICNIC TABLE
- CONCRETE PAD WITH PICNIC TABLE
- WASTE /RECYCLE CONTAINERS
- POST TOP LIGHT
- BOLLARD LIGHT
- BICYCLE PARKING BOLLARD
- WHEEL STOPS @ HANDICAP PARKING
- 3" PVC SLEEVE
- PATIO TABLE WITH BENCHES (by Others)
- BENCH (By Others)
- ELECTRICAL TRANSFORMER (Approximate Location, By Others)

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY

PROJECT #: 38748.3.1

REU ENGINEER:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT NO. 606 DANIEL L. WILSON

SHEET DESCRIPTION: BUILDING AREA SITE PLAN

PREL DESIGN DATE:

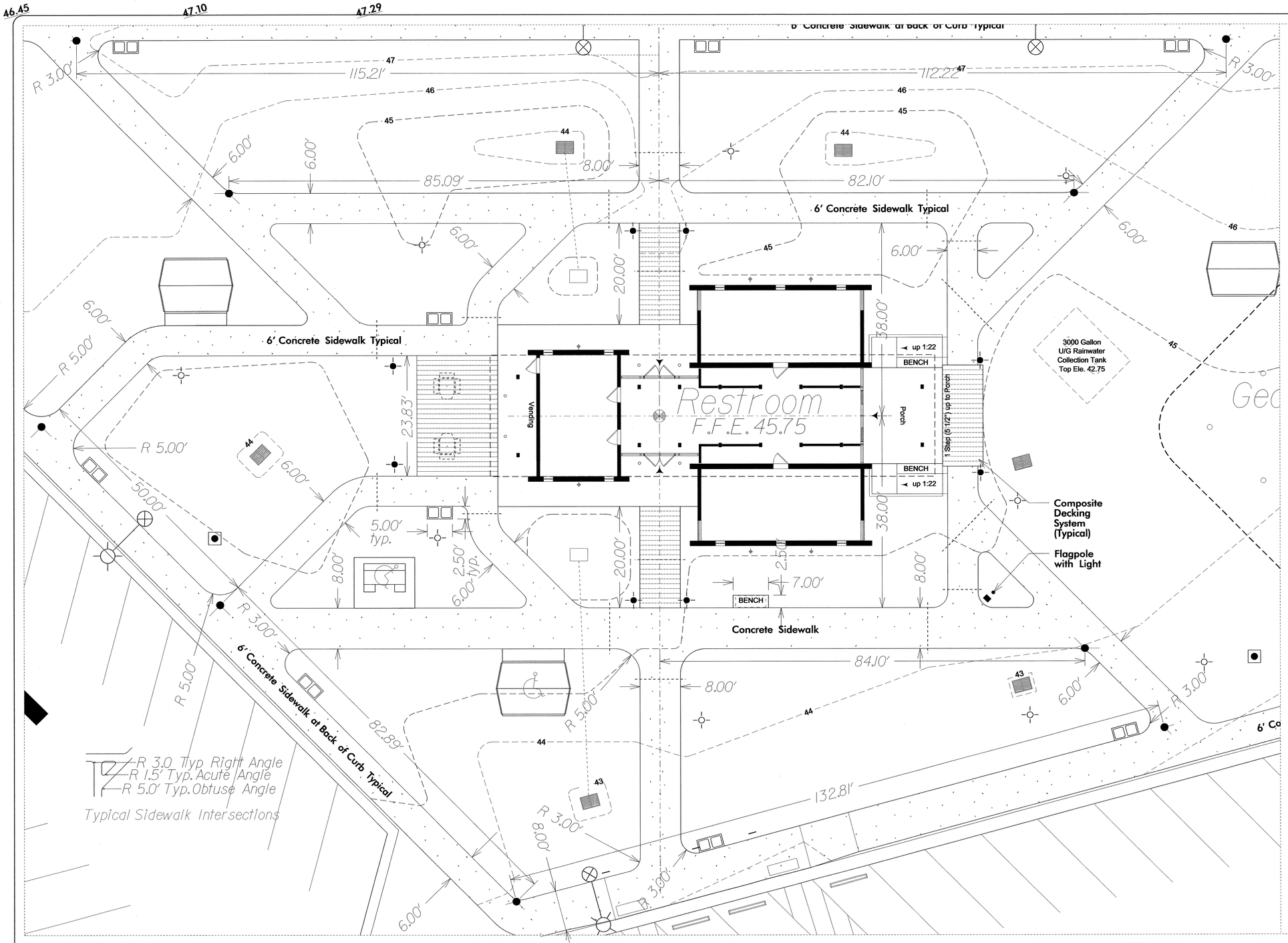
CHECKED BY & DATE:

FINAL DESIGN DATE: 10-08-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO: L-002

TOTAL SHEET NO: 18 (L)



PICNIC SHELTER WITH HANDICAP ACCESSIBLE TABLE

PICNIC SHELTER WITH TABLE

CONCRETE PAD WITH HANDICAP ACCESSIBLE PICNIC TABLE

CONCRETE PAD WITH PICNIC TABLE

WASTE /RECYCLE CONTAINERS on CONCRETE PAD

POST TOP LIGHT

BOLLARD LIGHT

BICYCLE PARKING BOLLARD

WHEEL STOPS @ HANDICAP PARKING

PATIO TABLE WITH BENCHES (by Others)

BENCH (By Others)

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY

PROJECT #: 38748.3.1

REU ENGINEER :

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 608 DANIEL L. WILSON

SHEET DESCRIPTION: LAYOUT

PREL DESIGN DATE:

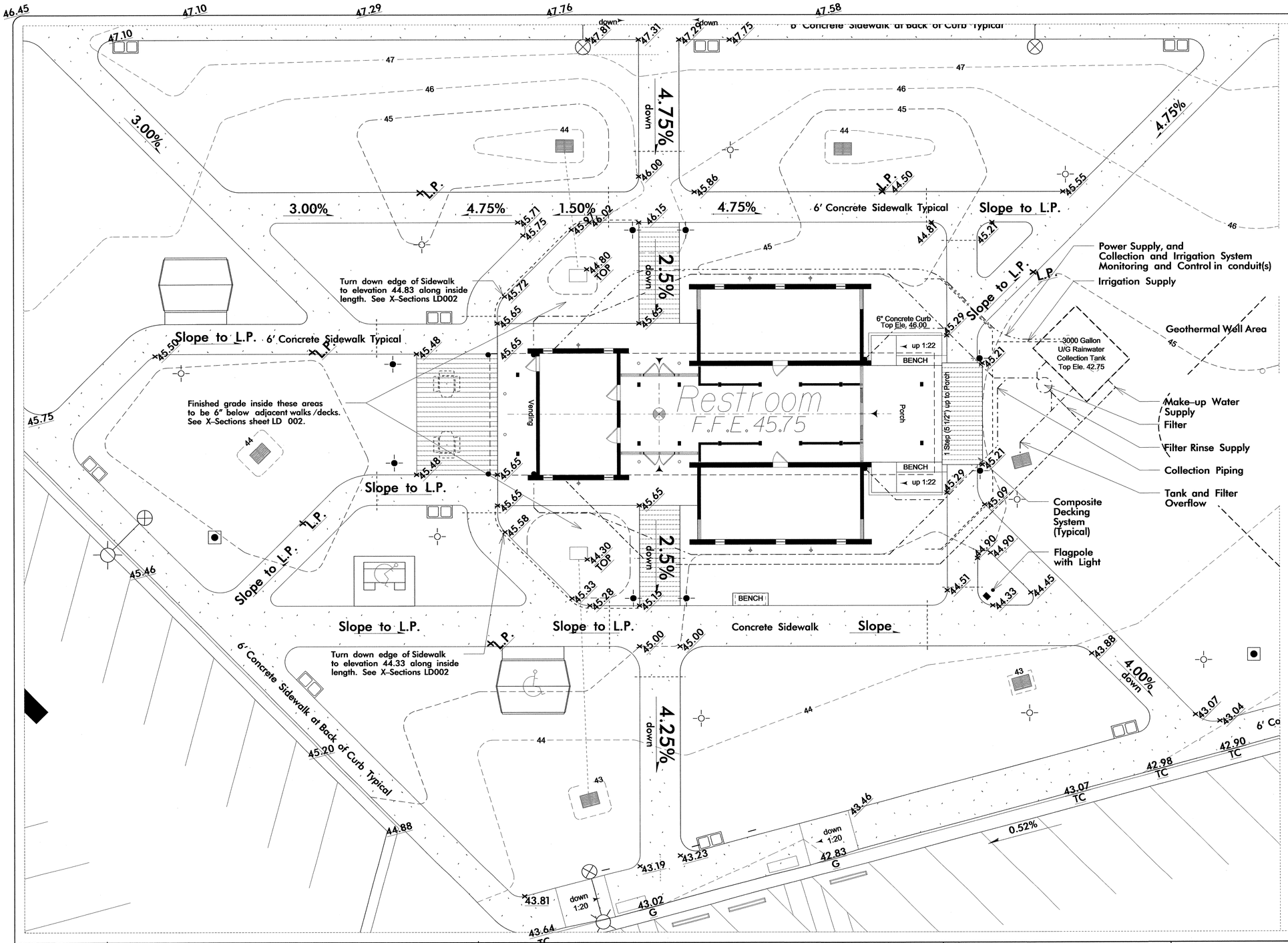
CHECKED BY & DATE :

FINAL DESIGN DATE : 10-08-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO : LL-001

TOTAL SHEET NO : 18 (L)



PICNIC SHELTER WITH HANDICAP ACCESSIBLE TABLE

PICNIC SHELTER WITH TABLE

CONCRETE PAD WITH HANDICAP ACCESSIBLE PICNIC TABLE

CONCRETE PAD WITH PICNIC TABLE

WASTE /RECYCLE CONTAINERS

POST TOP LIGHT

BOLLARD LIGHT

BICYCLE PARKING BOLLARD

WHEEL STOPS @ HANDICAP PARKING

3" PVC SLEEVE

PATIO TABLE WITH BENCHES (by Others)

BENCH (By Others)

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY

PROJECT #: 38748.3.1

REU ENGINEER:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT NO. 008 DANIEL L. WILSON

SHEET DESCRIPTION: GRADING AND DRAINAGE

PREL DESIGN DATE:

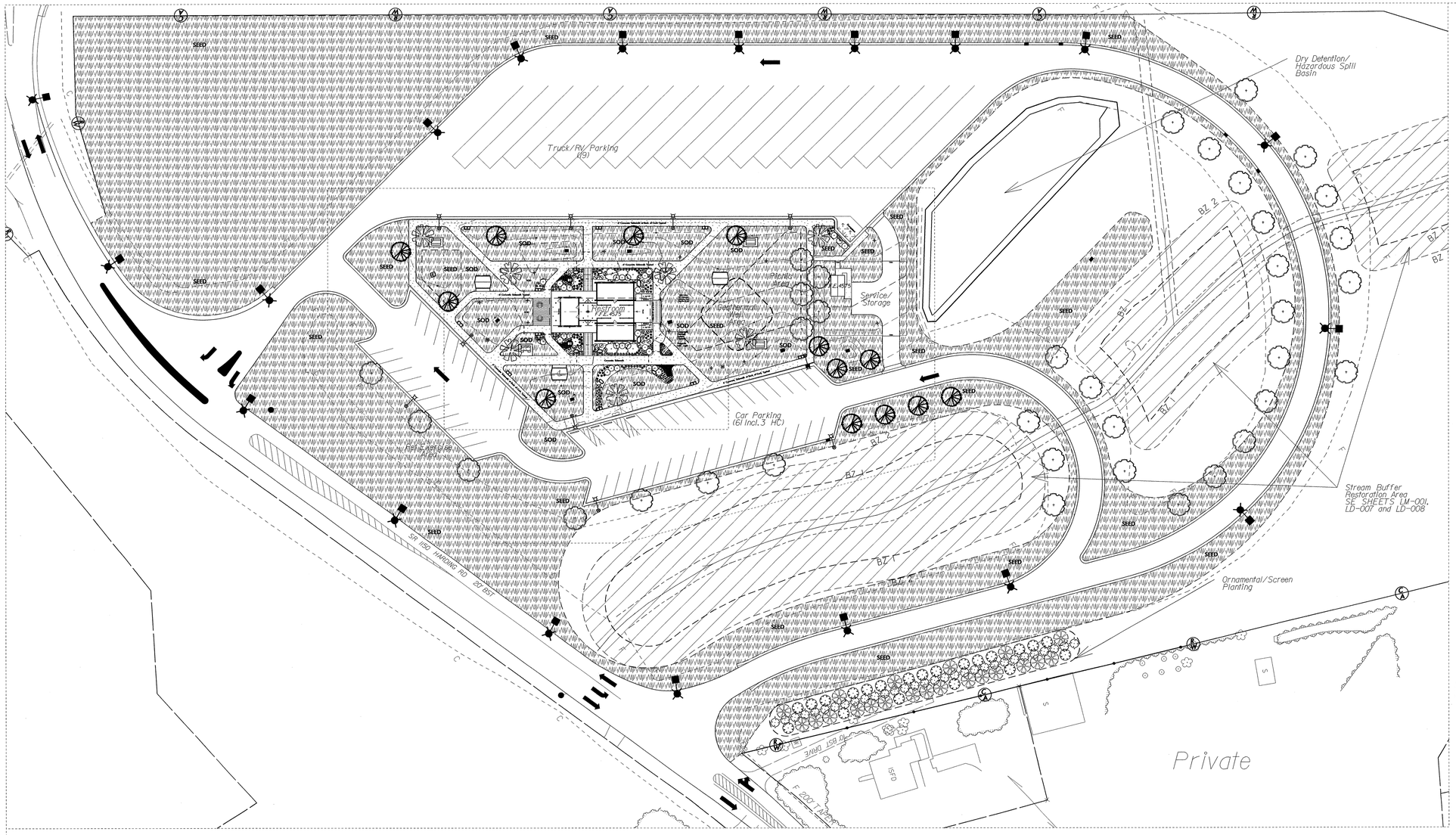
CHECKED BY & DATE:

FINAL DESIGN DATE: 10-08-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO: LG-001

TOTAL SHEET NO: 18 (L)



DAYLILY 87

KALEIDOSCOPE ABELIA 18

GOLDMOUND SPIRAEA 11

LIRIOPE 85

LITTLE BLUESTEM 43

KNOCKOUT ROSE 4

CARISSA HOLLY 29

CRAPE MYRTLE 6

BALD CYPRESS 29

LIVE OAK 13

HONEY LOCUST 7

MAGNOLIA 21

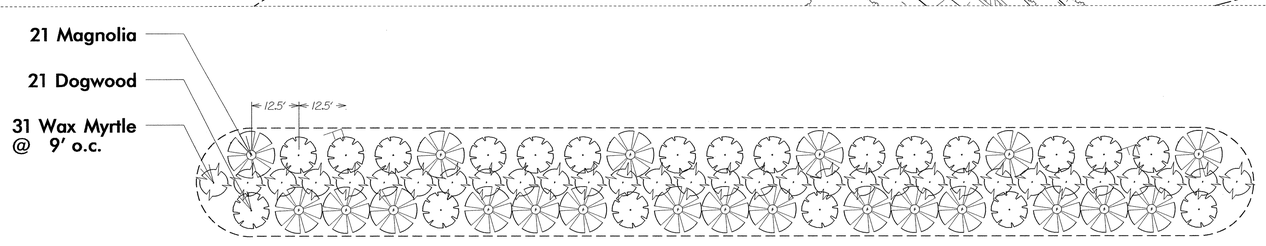
WAX MYRTLE 31

DOGWOOD 21

BOULDER 8

RIVER ROCK 4.0 T (178 SF)

CENTIPEDE SOD
OR SEEDING 211,000 SF



NAD 83/95

10 0 10 20

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY

PROJECT #: 38748.3.1

REU ENGINEER:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 608 DANIEL L. WILSON

SHEET DESCRIPTION: LANDSCAPE PLAN

PREL DESIGN DATE:

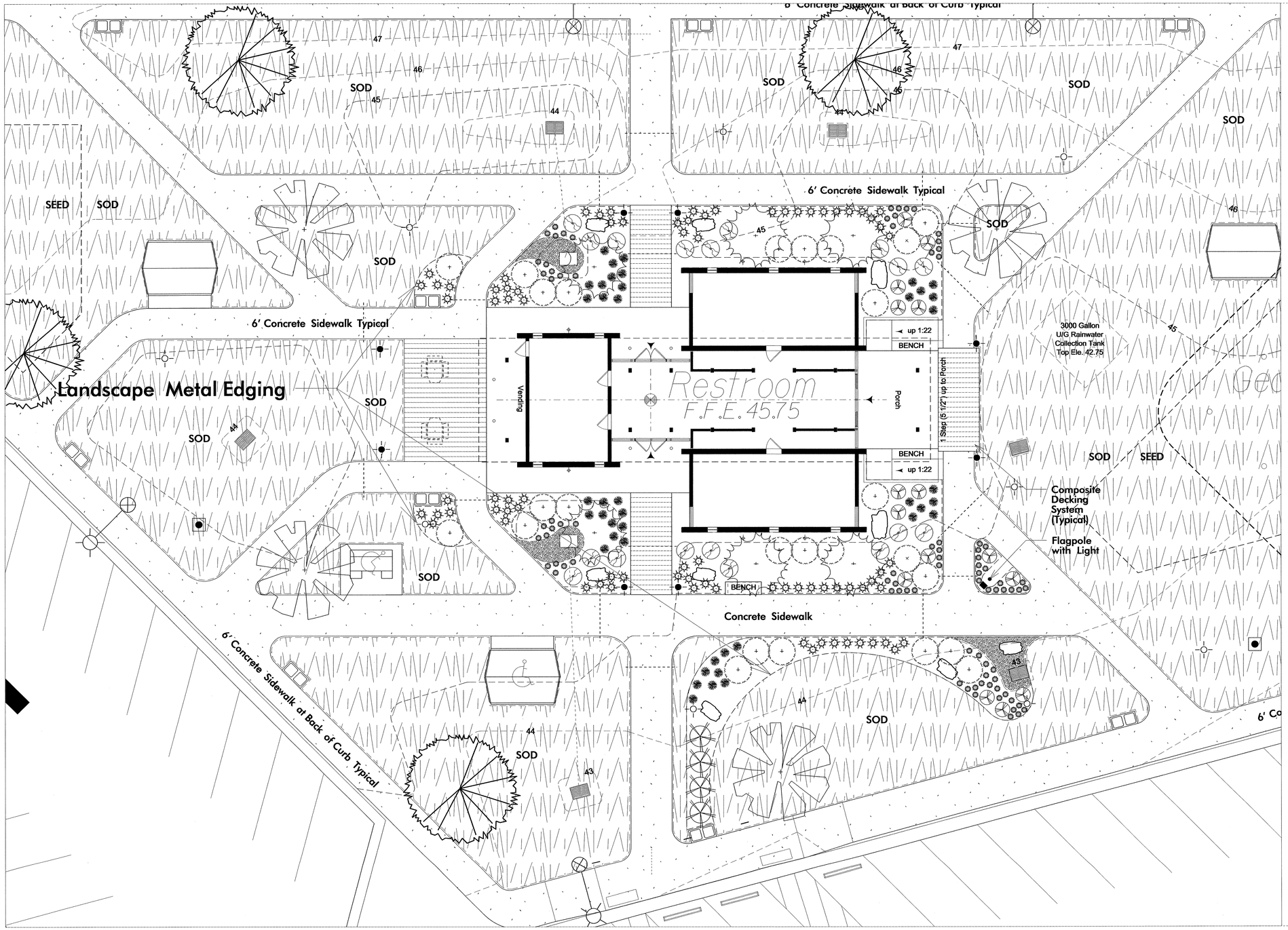
CHECKED BY & DATE:

FINAL DESIGN DATE: 10-08-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO: LP-001

TOTAL SHEET NO: 18 (L)



DAYLILY 87

KALEIDOSCOPE ABELIA 18

GOLDMOUND SPIRAEA 11

LIRIOPE 85

LITTLE BLUESTEM 43

KNOCKOUT ROSE 4

CARISSA HOLLY 29

CRAPE MYRTLE 6

BALD CYPRESS 29

LIVE OAK 13

HONEY LOCUST 7

MAGNOLIA 21

WAX MYRTLE 31

DOGWOOD 21

BOULDER 8

RIVER ROCK 4.0 T (178 SF)

CENTIPEDE SOD
OR SEEDING 211,000 SF

NAD 83/95

10 0 10 20

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY

PROJECT #: 38748.3.1

REU ENGINEER:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 608 DANIEL L. WILSON

SHEET DESCRIPTION: LANDSCAPE PLAN

PREL DESIGN DATE:

CHECKED BY & DATE:

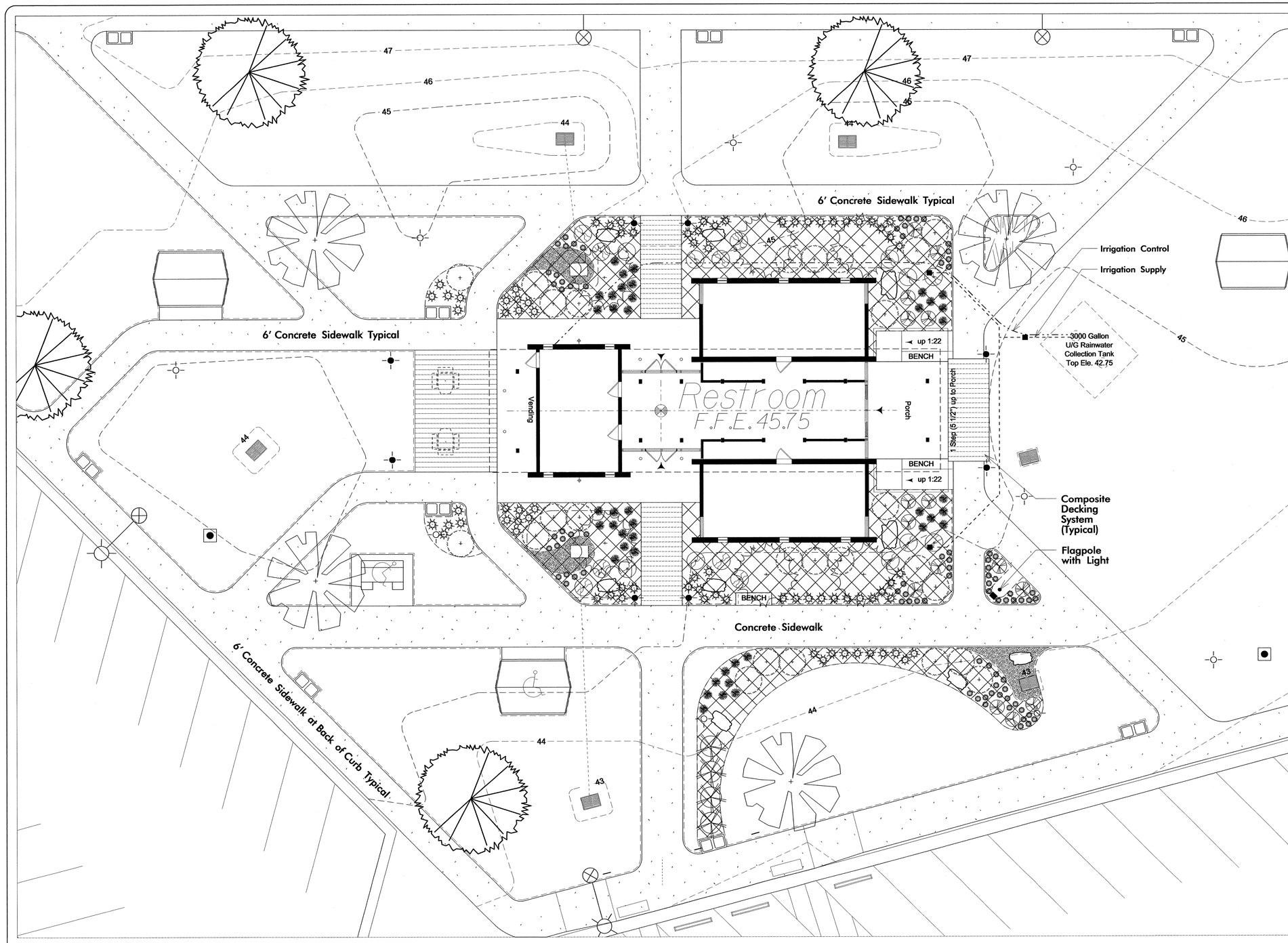
FINAL DESIGN DATE: 10-08-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO: LP-002

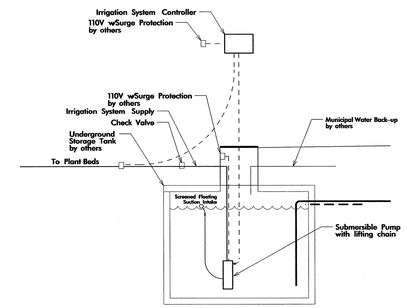
TOTAL SHEET NO: 18 (L)

170	CY	MULCH FOR PLANTING
9	MG	WATER FOR PLANTING
1545	SY	POSTEMERGENT HERBICIDAL TREATMENT FOR PLANT BEDS
1545	SY	PREEMERGENT HERBICIDAL TREATMENT FOR PLANT BEDS
18	EA	GENERIC PLANTING ITEM, ABELIA x KALEIDOSCOPE; KALEIDOSCOPE ABELIA, 12-15", #3 CONTAINER
21	EA	GENERIC PLANTING ITEM, CORNUS FLORIDA; FLOWERING DOGWOOD, 7-8', 1 1/2" CAL., B&B
7	EA	GENERIC PLANTING ITEM, GLEDITSIA TRIACANTHOS INERMIS; THORNLESS HONEYLOCUST, 12-14', 3" CALIPER, B&B
87	EA	GENERIC PLANTING ITEM, HEMEROCALLIS 'BUTTERED POPCORN'; BUTTERED POPCORN DAYLILY, #1 CONTAINER
29	EA	GENERIC PLANTING ITEM, ILEX CORNUTA 'CARISSA': CARISSA HOLLY, 18-24", #3 CONTAINER
6	EA	GENERIC PLANTING ITEM, LAGERSTROEMIA 'ARAPAHO'; ARAPAHO CRAPE MYRTLE, 6-7', B&B
85	EA	GENERIC PLANTING ITEM, LIRIOPE MUSCARII 'BIG BLUE'; BIG BLUE LIRIOPE, #1 CONTAINER
21	EA	GENERIC PLANTING ITEM, MAGNOLIA GRANDIFLORA 'LITTLE GEM'; LITTLE GEM MAGNOLIA, 8-10', B&B
31	EA	GENERIC PLANTING ITEM, MYRICA CERIFICA; WAX MYRTLE, 4', #15 CONTAINER
13	EA	GENERIC PLANTING ITEM, QUERCUS VIRGINIANA; LIVE OAK, 8-10', 2 1/2" CALIPER, #30 CONTAINER
4	EA	GENERIC PLANTING ITEM, ROSA 'RADTKO'; RED DOUBLE KNOCKOUT ROSE, 18-24", #3 CONTAINER
43	EA	GENERIC PLANTING ITEM, SCHIZACHYRIUM SCOPARIUM; LITTLE BLUESTEM, #1 CONTAINER
11	EA	GENERIC PLANTING ITEM, SPIRAEA JAPONICA 'GOLDMOUND'; GOLDMOUND SPIRAEA, 12-15", #3 CONTAINER
29	EA	GENERIC PLANTING ITEM, TAXODIUM DISTICHUM; BALDCYPRESS, 6-8', 2" CALIPER, #15 CONTAINER
4.3	ACR	GENERIC PLANTING ITEM, CENTIPEDE TURF SEEDING, 1 LB/1000 SF
2600	SY	GENERIC PLANTING ITEM, SODDING
1	LS	GENERIC PLANTING ITEM, STREAMBANK BUFFER REFORESTATION PLANTING
4	TON	GENERIC PLANTING ITEM, RIVER STONE
184	LF	GENERIC PLANTING ITEM, LANDSCAPE METAL EDGING



Areas to be Drip Irrigated with collected Rainwater

Irrigation Plan Pay Item shall include all necessary plans, fixtures, lines, controllers, valves, boxes, pumps, relays, and associated parts, materials, and labor to complete the design and installation of an Automatic Drip Irrigation System for the areas designated on the Plan.
The water source shall be the underground Rainwater Storage Tank.



IRRIGATION SYSTEM SCHEMATIC PLAN
NOTE THAT SOME WORK MAY BE BELOW SLAB OR WALKWAYS AND MUST BE COORDINATED WITHIN WORK SCHEDULE
IRRIGATION SYSTEM DESIGN AND INSTALLATION SHALL BE COORDINATED WITH RAINWATER COLLECTION SYSTEM WORK FOR ACCESS AND LOCATION OF EQUIPMENT

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY

PROJECT #: 38748.3.1

REU ENGINEER:

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 608 DANIEL L. WILSON

SHEET DESCRIPTION: IRRIGATION PLAN

PREL DESIGN DATE:

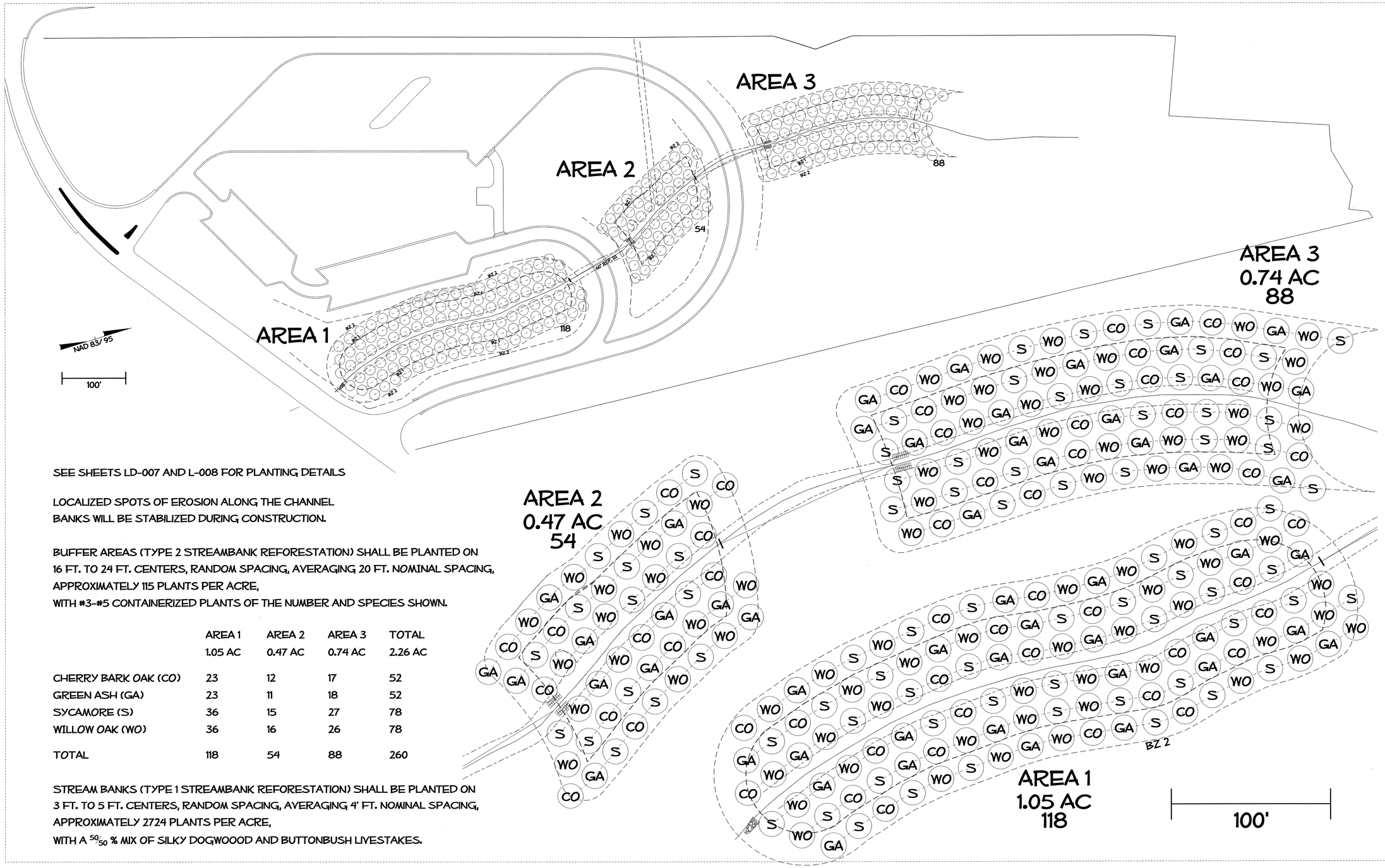
CHECKED BY & DATE:

FINAL DESIGN DATE: 10-08-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO: LI-001

TOTAL SHEET NO: 18 (L)



SEE SHEETS LD-007 AND L-008 FOR PLANTING DETAILS

LOCALIZED SPOTS OF EROSION ALONG THE CHANNEL BANKS WILL BE STABILIZED DURING CONSTRUCTION.

BUFFER AREAS (TYPE 2 STREAMBANK REFORESTATION) SHALL BE PLANTED ON 16 FT. TO 24 FT. CENTERS, RANDOM SPACING, AVERAGING 20 FT. NOMINAL SPACING, APPROXIMATELY 115 PLANTS PER ACRE, WITH #3-#5 CONTAINERIZED PLANTS OF THE NUMBER AND SPECIES SHOWN.

	AREA 1	AREA 2	AREA 3	TOTAL
	1.05 AC	0.47 AC	0.74 AC	2.26 AC
CHERRY BARK OAK (CO)	23	12	17	52
GREEN ASH (GA)	23	11	18	52
SYCAMORE (S)	36	15	27	78
WILLOW OAK (WO)	36	16	26	78
TOTAL	118	54	88	260

STREAM BANKS (TYPE 1 STREAMBANK REFORESTATION) SHALL BE PLANTED ON 3 FT. TO 5 FT. CENTERS, RANDOM SPACING, AVERAGING 4' FT. NOMINAL SPACING, APPROXIMATELY 2724 PLANTS PER ACRE, WITH A 50/50 % MIX OF SILKY DOGWOOOD AND BUTTONBUSH LIVESTAKES.

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY

PROJECT #: 38748.3.1

REU ENGINEER :

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 608 DANIEL L. WILSON

SHEET DESCRIPTION: STREAMBANK BUFFER REFORESTATION PLAN

PREL DESIGN DATE:

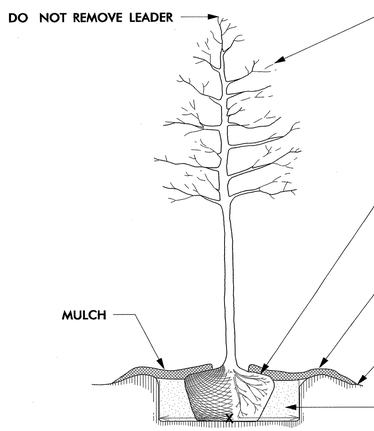
CHECKED BY & DATE :

FINAL DESIGN DATE : 10-08-2013

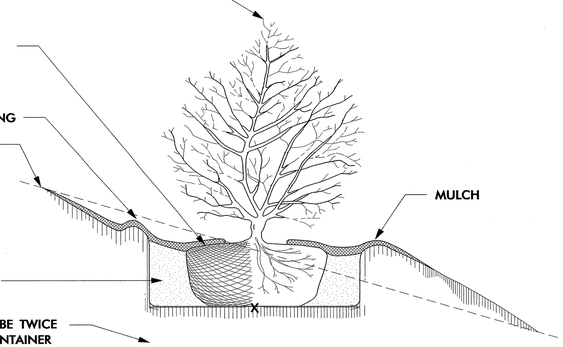
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO : LB-001

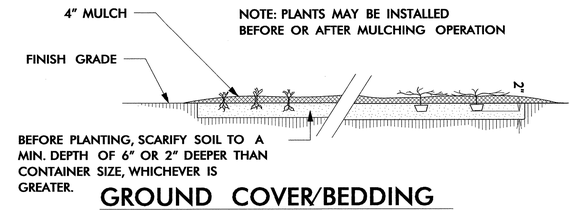
TOTAL SHEET NO : 18 (L)



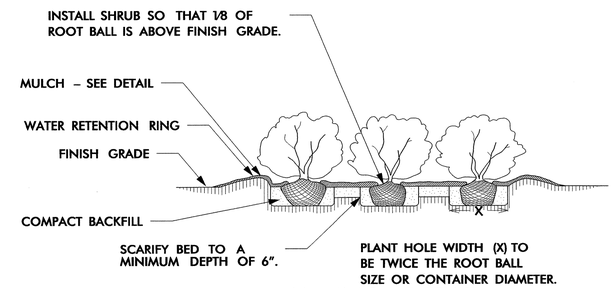
TREE OR SHRUB PLANTING DETAIL
(LEVEL GROUND)



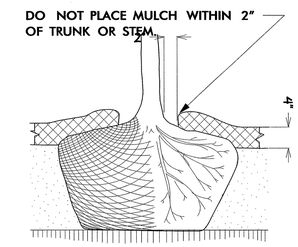
TREE OR SHRUB PLANTING DETAIL
(SLOPING GROUND)



GROUND COVER/BEDDING PLANT DETAIL



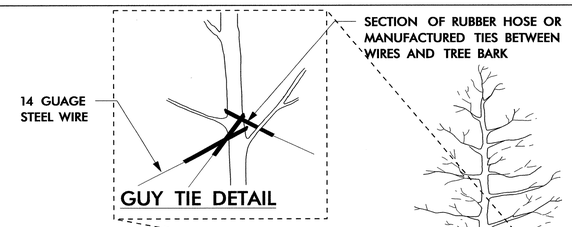
SHRUB BED PLANTING DETAIL



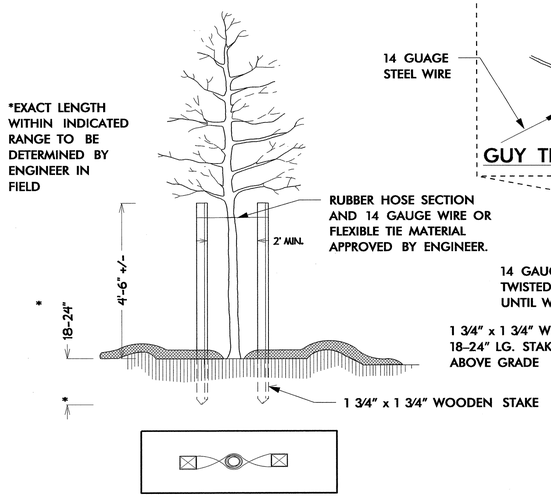
MULCH DETAIL

NOTES:

- SCHEDULE FOR PLANT HOLE SIZE: PLANT HOLE WIDTH (X) TO BE TWICE THE ROOT BALL SIZE OR CONTAINER DIAMETER.
- SEE STANDARD SPECIFICATIONS FOR PLANT BED FUMIGATION AND HERBICIDAL TREATMENT.
- APPLY FERTILIZER AT PLANTING TIME IN THE FORM OF A SLOW RELEASE PELLET OR TABLET. APPLY AT RATE RECOMMENDED BY MANUFACTURER. BOTH RATE AND FORMULATION MUST BE APPROVED BY FIELD ENGINEER PRIOR TO APPLICATION.
- REMOVE WIRE BASKET AND FOLD BURLAP BACK FROM TOP OF ROOT BALL BEFORE BACKFILLING IS COMPLETE.
- ALL PRUNING TO FOLLOW STANDARD ARBORICULTURAL PRACTICES AS SPECIFIED BY INTERNATIONAL SOCIETY OF ARBORICULTURE.
- DO NOT ATTEMPT TO STRAIGHTEN A TREE THAT HAS BEEN PLANTED AT AN ANGLE WITH THE USE OF STAKING OR GUYING. DIG TREE AND REPLANT TO UPRIGHT POSITION.

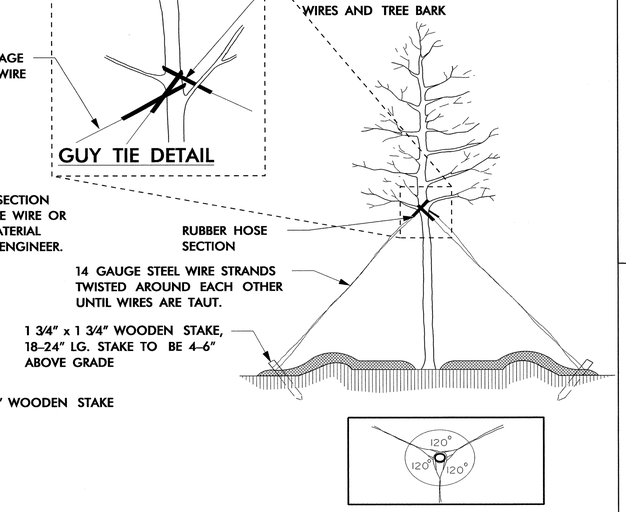


GUY TIE DETAIL



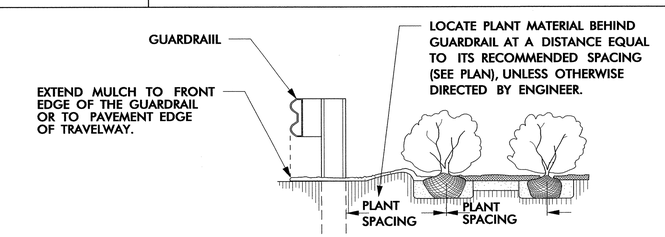
PLAN VIEW

STAKING DETAIL
(TREES 6'–10')
USE AS DIRECTED BY FIELD ENGINEER

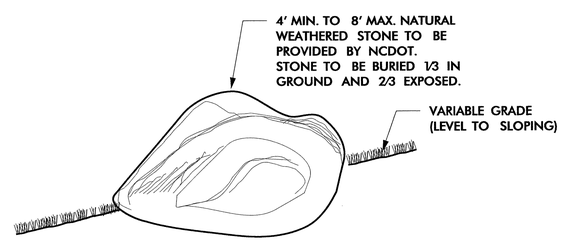


PLAN VIEW

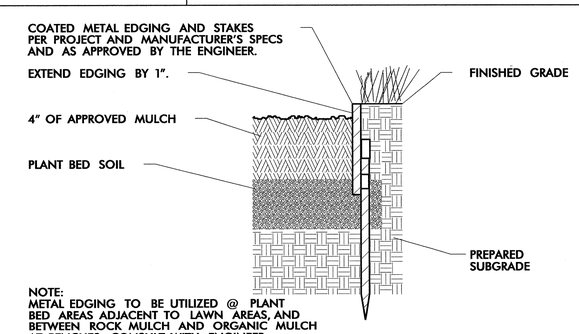
GUYING DETAIL
(TREES 10' OR LARGER)
USE AS DIRECTED BY FIELD ENGINEER



GUARDRAIL MULCHING DETAIL
USE AS DIRECTED BY FIELD ENGINEER



BOULDER PLACEMENT DETAIL TYPICAL
SCALE: NTS



NOTE:
METAL EDGING TO BE UTILIZED @ PLANT BED AREAS ADJACENT TO LAWN AREAS, AND BETWEEN ROCK MULCH AND ORGANIC MULCH AT BENCHES. CONSULT WITH ENGINEER AND DESIGNER TO GET PROPER PLACEMENT IN THE FIELD.

LANDSCAPE METAL EDGING

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY
PROJECT #: 38748.3.1

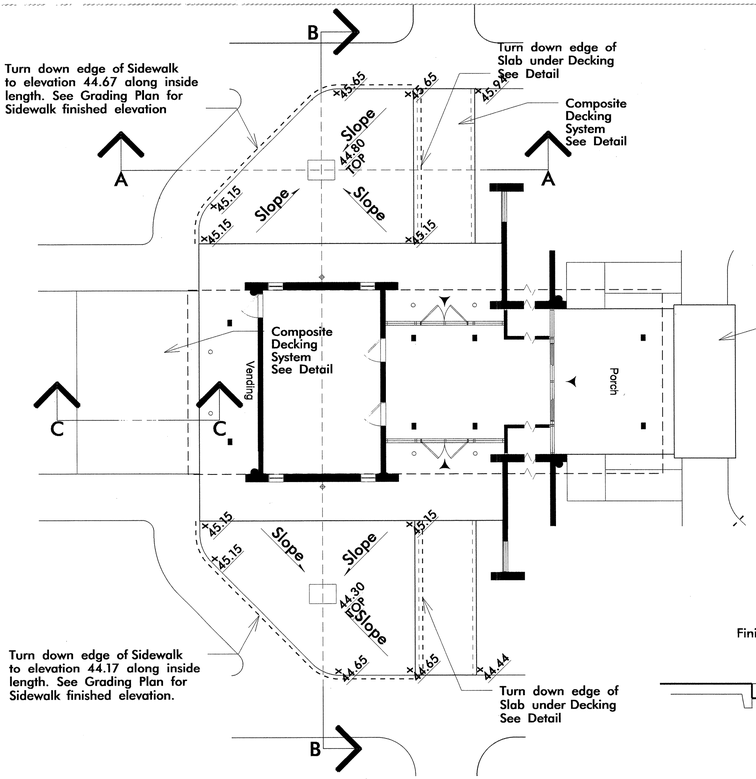
REV ENGINEER:
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 608 DANIEL L. WILSON

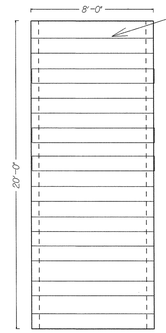
SHEET DESCRIPTION: LANDSCAPE PLANTING DETAILS

PREL DESIGN DATE:
CHECKED BY & DATE:
FINAL DESIGN DATE: 10-08-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO: LD-001
TOTAL SHEET NO: 18 (L)

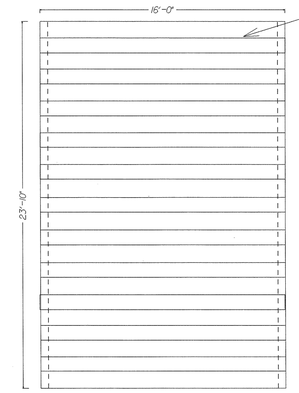




1.25 " (min.) x 5.5" composite decking evenly spaced and secured to concrete slab. Decking attached with hidden fastener system (as provided by the same manufacturer). Decking boards to be full length and full width with minimum spacing of $\frac{3}{16}$".

1"=1'-0"
Plan Scale

Plan

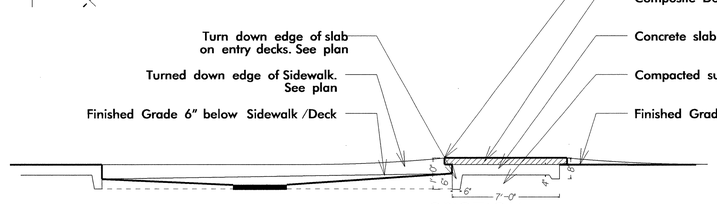


1.25 " (min.) x 5.5" x 8' and
1.25 " (min.) x 5.5" x 16' composite decking as manufactured by TimberTech–Docksider Grey (color) with solid profile or approved equal by Fiberon, Moisture Shield, etc. All materials and constuction methods shall be submitted for approval.

Any grading adjustments should be coordinated (and approved) by the Engineer.

1"=1'-0"
Plan Scale

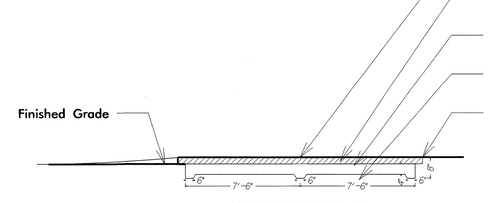
Plan



1"=1'-0"
X-Section Scale

SECTION a - a

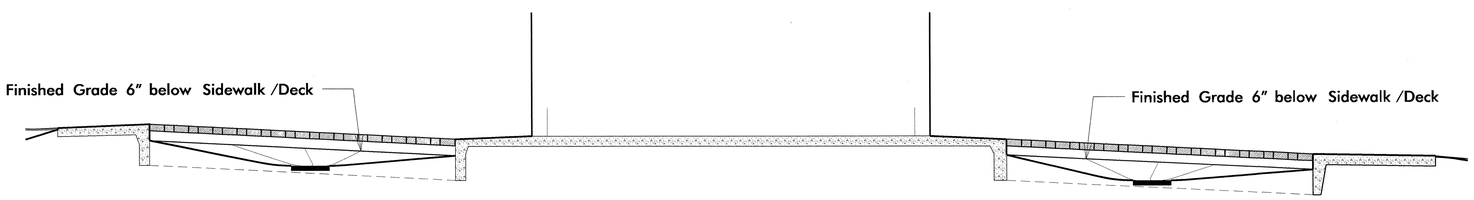
Composite Decking
Entry Decks (2) and Porch Landing



1"=1'-0"
X-Section Scale

SECTION C-C

Composite Decking
Vending Area



1"=1'-0"
X-Section Scale

SECTION B - B

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
http://www.ncdot.org/doh/operations/dp_chief_eng/roadside/

US-17 REST AREA
Beaufort County
project #: 38748.3.1

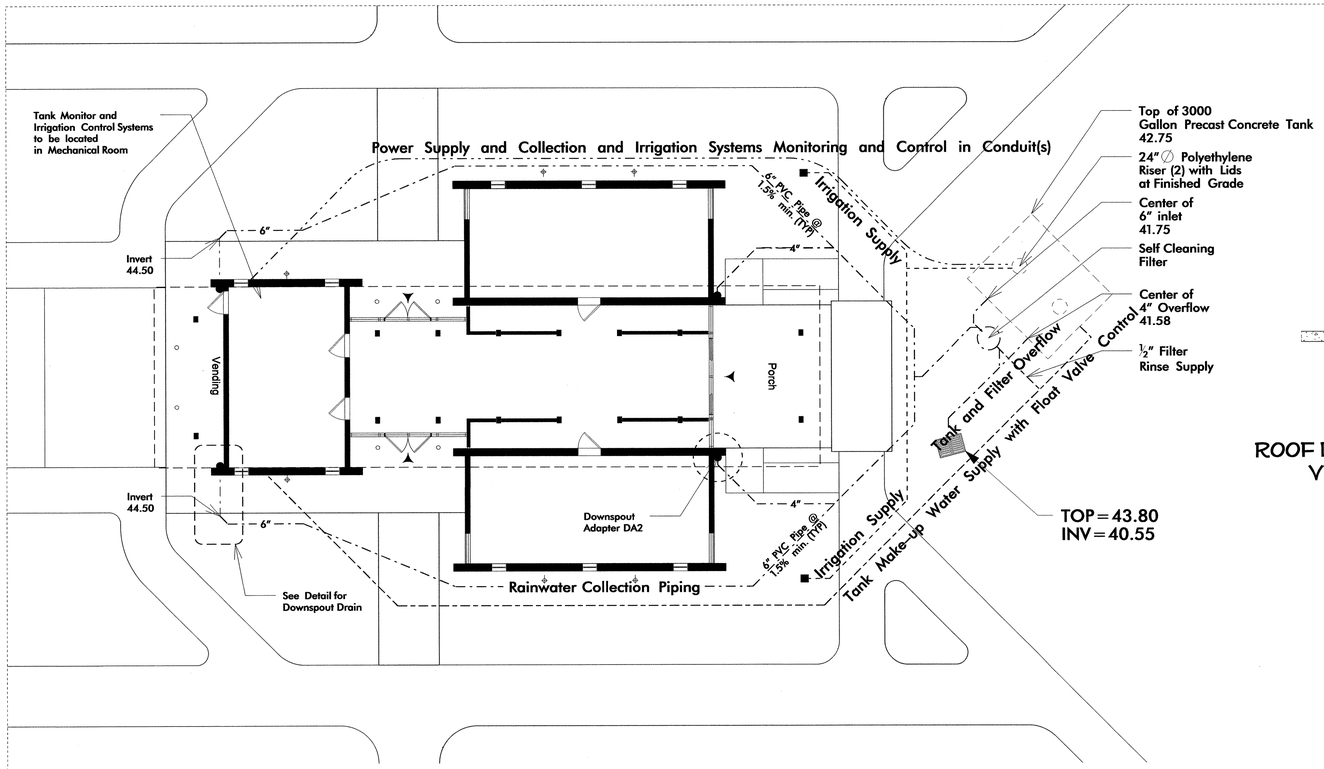
reu engineer :

sheet description:
Composite Decking
Details

prel design date:
checked by & date :
final design date : REV 1-15-14

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

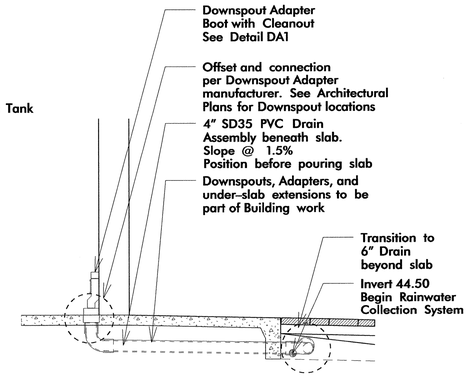
sheet no : LD–002
total sheet no : 18 (L)



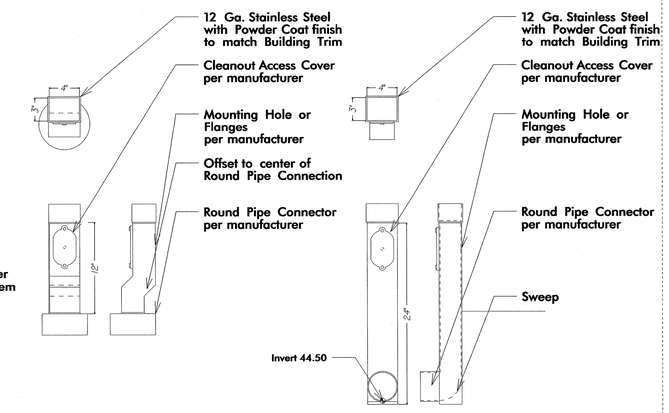
RAINWATER COLLECTION SYSTEM SCHEMATIC PLAN
NOTE THAT SOME WORK MAY BE BELOW SLAB OR WALKWAYS
AND MUST BE COORDINATED WITHIN WORK SCHEDULE

RAINWATER COLLECTION SYSTEM SHALL INCLUDE ALL NECESSARY COLLECTION AND OVERFLOW PIPING, TANK AND RISERS, FILTERS, CONTROL AND MONITORING EQUIPMENT, MAKE-UP AND FILTER WATER SUPPLY, AND ALL INCIDENTAL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THE INSTALLATION.

SCHEMATIC PLANS ARE INTENDED TO SHOW BASIC REQUIREMENTS OF RAINWATER COLLECTION SYSTEM. CONTRACTOR TO SUPPLY SHOP DRAWINGS AND SPECIFICATIONS FOR ALL COMPONENTS FOR APPROVAL PRIOR TO INSTALLATION.



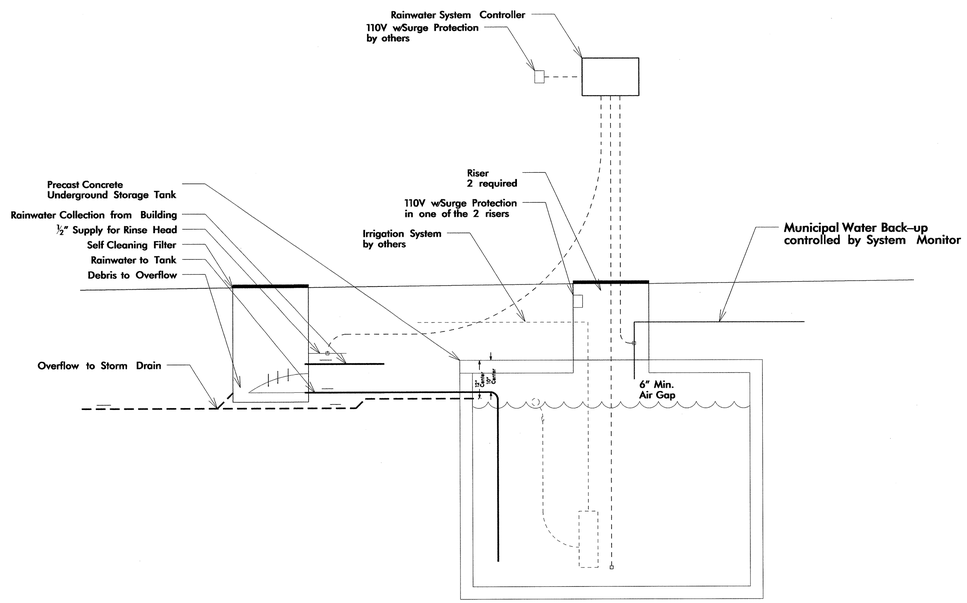
ROOF DRAIN AND DOWNSPOUT ADAPTER AT
VENDING AREA END OF BUILDING



DA1 OFFSET SHOE
2 REQURED

DA2 BOOT
2 REQURED

STAINLESS STEEL DOWNSPOUT ADAPTERS
AS MANUFACTURED BY PIEDMONT PIPE, DENVER, NC
OR SIMILAR PRODUCTS BY OTHERS.
SUBMIT FOR APPROVAL



RAINWATER COLLECTION SYSTEM SCHEMATIC PLAN
NOTE THAT SOME WORK MAY BE BELOW SLAB OR WALKWAYS
AND MUST BE COORDINATED WITHIN WORK SCHEDULE

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY

PROJECT #: 38748.3.1

REU ENGINEER :

NORTH CAROLINA LICENSED LANDSCAPE ARCHITECT No. 608 DANIEL L. WILSON

SHEET DESCRIPTION: RAINWATER COLLECTION DETAILS

PREL DESIGN DATE:

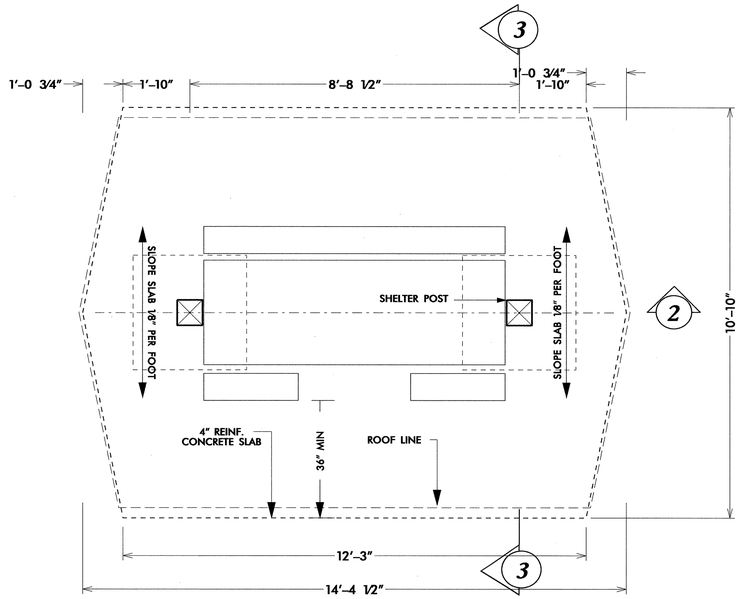
CHECKED BY & DATE : .

FINAL DESIGN DATE : 10-08-2013

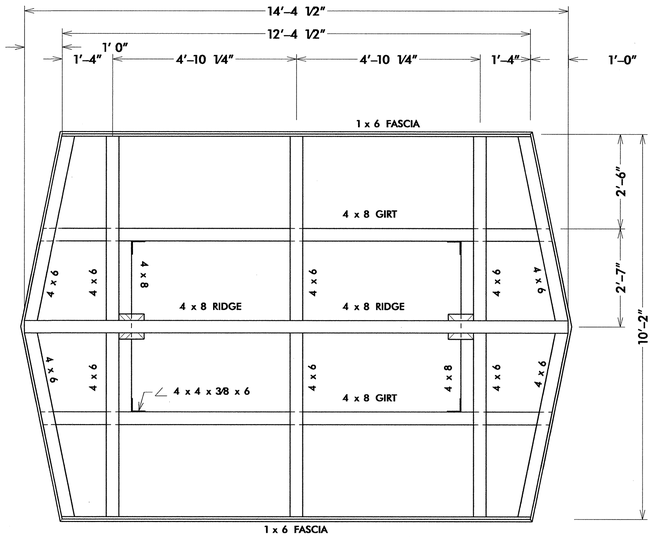
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO : LD-003

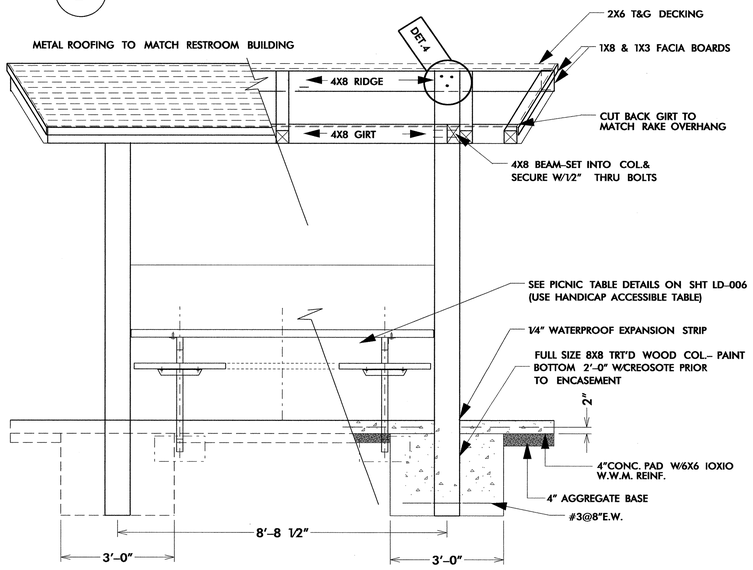
TOTAL SHEET NO : 18 (L)



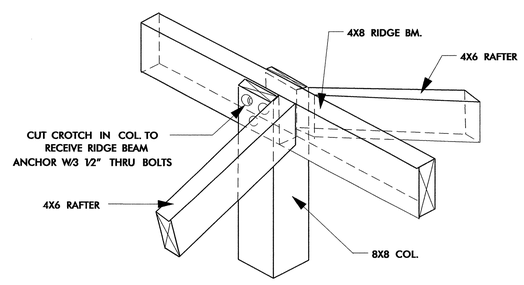
1 CONC PAD & ROOF PLAN



5 FRAMING PLAN

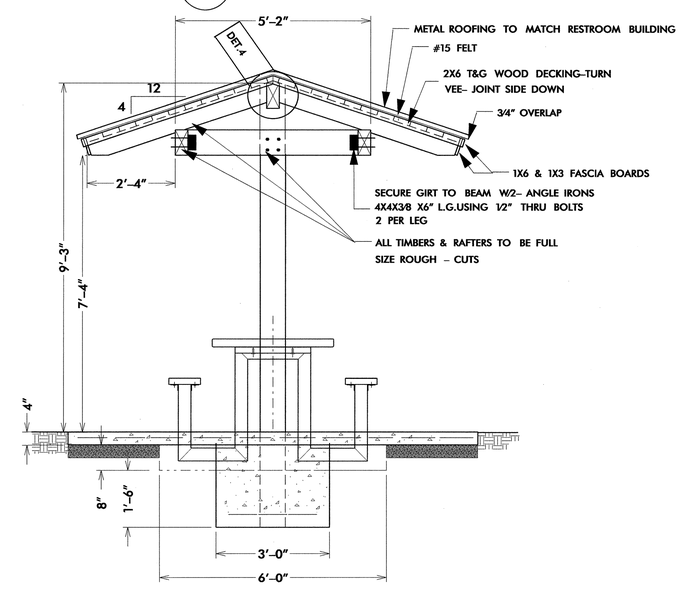


2 SECTION



4 JOINT DETAIL

NTS



3 SECTION

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY

PROJECT #: 38748.3.1

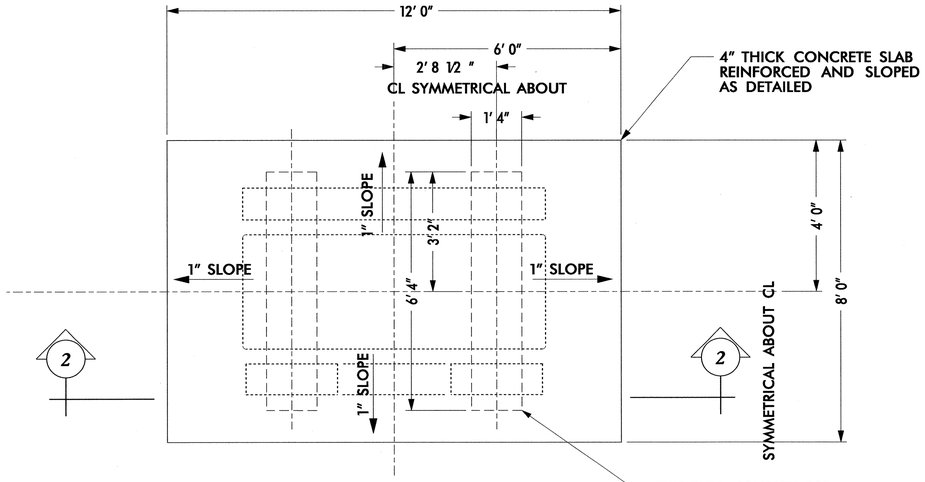
REU ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 028878 ENGINEER KENNETH D. PAGE

SHEET DESCRIPTION: DETAILS
PICNIC TABLE W/ SHELTER

PREL DESIGN DATE:
CHECKED BY & DATE: .
FINAL DESIGN DATE: 10-08-2013

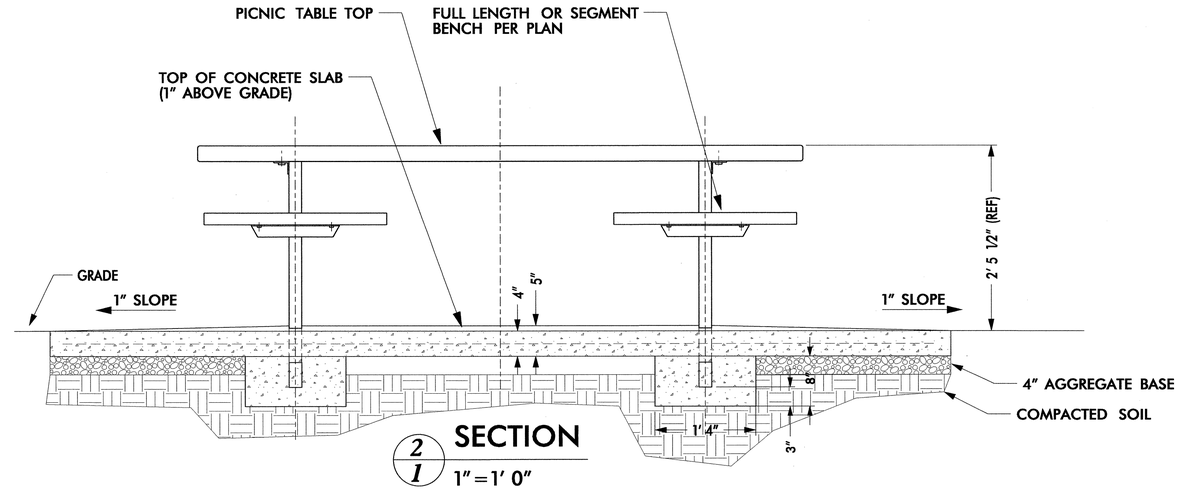
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO: LD-004
TOTAL SHEET NO: 18 (L)



1 CONCRETE PAD PLAN

1/2" = 1' 0"



2/1 SECTION

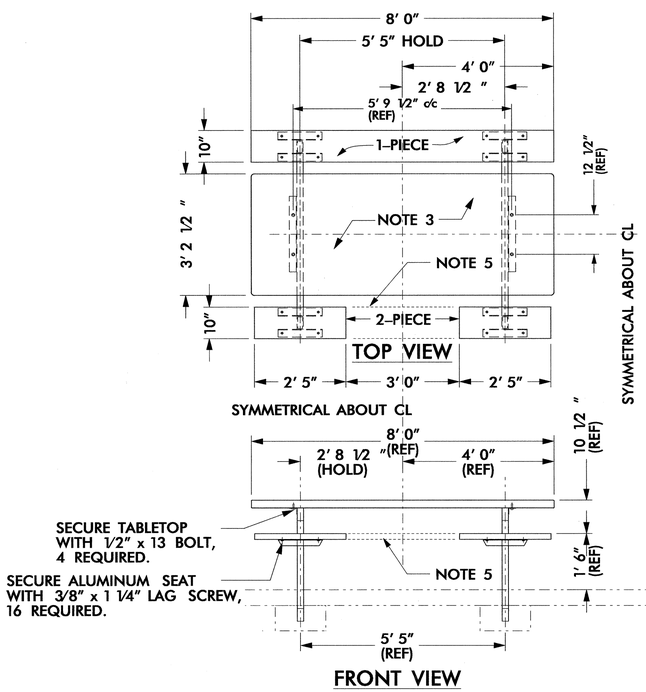
1" = 1' 0"

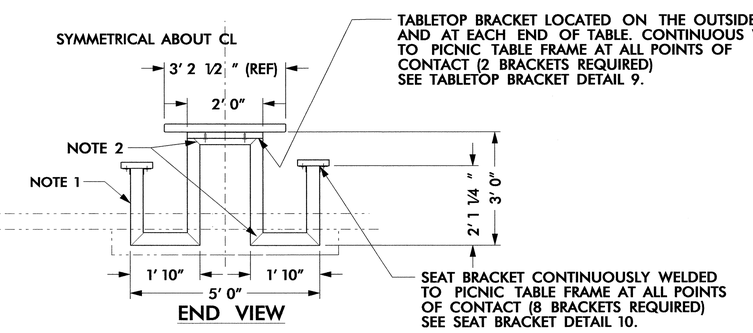
NOTE:
1) TUBULAR PICNIC TABLE FRAME SHALL BE 2" x 4" x 1/4" RECTANGULAR STEEL TUBING.

2) MITER ALL CORNERS, CONTINUOUS WELD ALL CONNECTIONS AND GRIND SMOOTH. (TYP ALL TUBULAR FRAMING AND STEEL ANGLES).

3) PICNIC TABLETOP SHALL BE PRECAST TERRAZO. SPECIFICATION SHALL BE THE SAME AS (OR EQUAL TO) SAMPLE #061217-1, AS SUPPLIED BY PRECAST TERRAZZO ENTERPRIZES, INC., 1107 N. NEW HOPE ROAD, RALEIGH, NC, 27610. TELE: 800.849.8849/919.231-6200, EXT 105

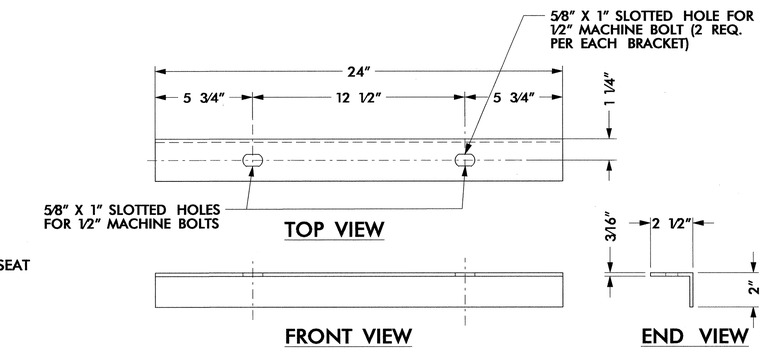
5) NON-HANDICAP TABLE REQUIRES ONE (1) PIECE SEAT ON BOTH SIDES OF TABLE.
HANDICAP TABLE REQUIRES TWO (2) PIECE SEAT ON ONE SIDE OF TABLE. ORIENT 2-PIECE SEAT ADJACENT TO ACCESS SHOWN ON SITE PLAN.





8 PICNIC TABLE

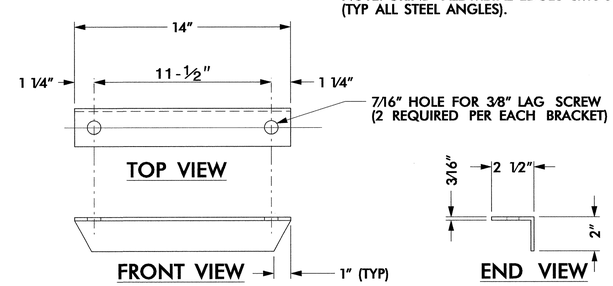
1/2" = 1' 0"



9 TABLETOP BRACKET - 2 REQ.

NO SCALE

NOTE: GRIND ALL METAL EDGES SMOOTH (TYP ALL STEEL ANGLES).



10 SEAT BRACKET - 8 REQ.

NO SCALE

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY
PROJECT #: 38748.3.1

REU ENGINEER:

SHEET DESCRIPTION: DETAILS
PICNIC TABLE ON PAD

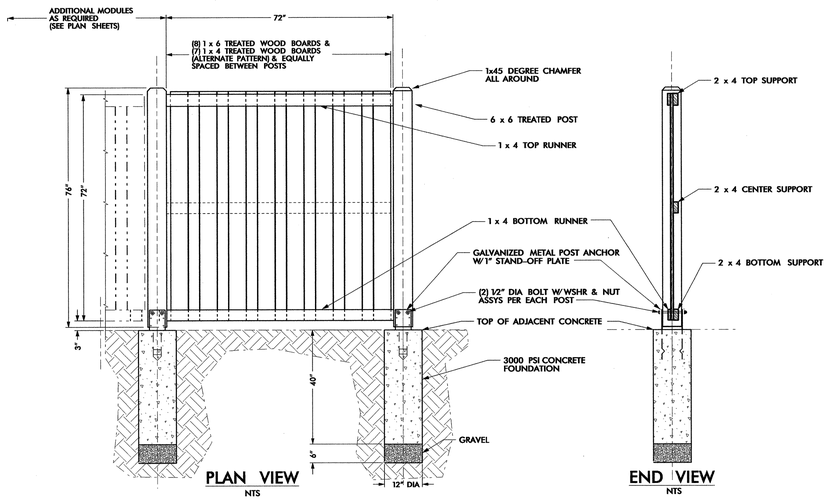
PREL DESIGN DATE:
CHECKED BY & DATE:
FINAL DESIGN DATE: 10-08-2013

SHEET NO: LD-005
TOTAL SHEET NO: 18 (L)

NOTE:

1) WOOD MEMBERS TO BE SECURED WITH HIDDEN GALVANIZED METAL FASTENERS PER APPROVAL OF ENGINER PRIOR TO CONSTRUCTION OR INSTALLATION OF SCREEN FENCE.

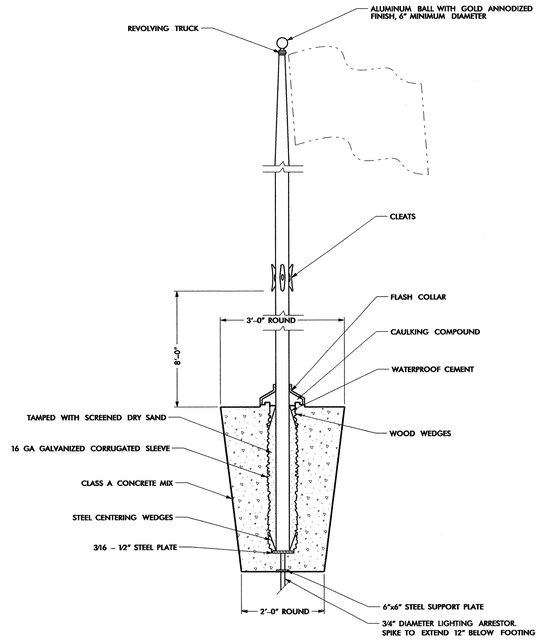
2) SCREEN FENCE TO BE FINISHED IN SAME COLOR AS BUILDING TRIM.



PLAN VIEW
NTS

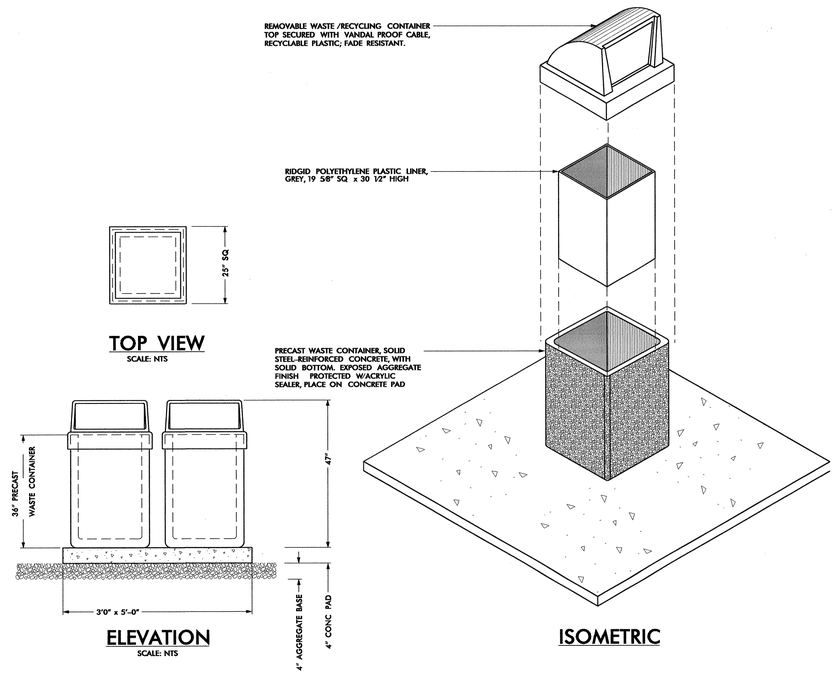
END VIEW
NTS

6' WOOD DUMPSTER SCREEN FENCE



ELEVATION
SCALE: NTS

FLAGPOLE

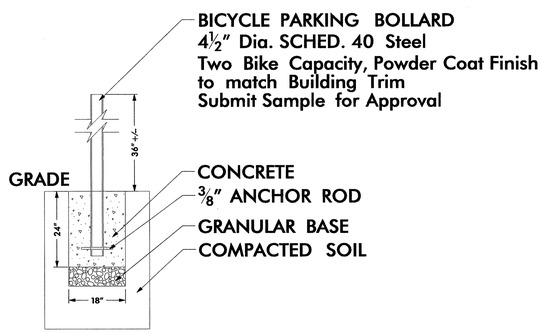


TOP VIEW
SCALE: NTS

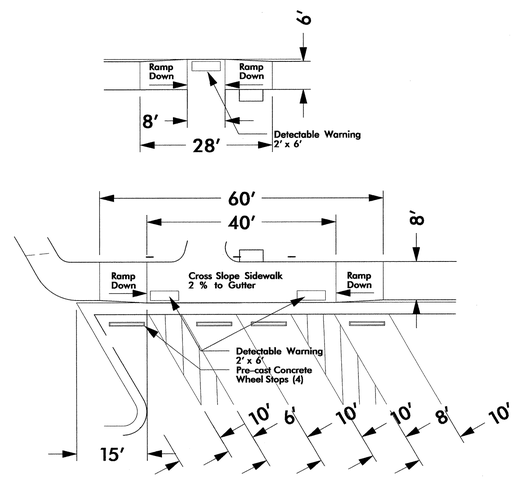
ELEVATION
SCALE: NTS

ISOMETRIC

WASTE /RECYCLING CONTAINER



IN-GROUND MOUNTED BICYCLE PARKING BOLLARD



DEPRESSED SIDEWALK HANDICAP ACCESS

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY
PROJECT #: 38748.3.1

REU ENGINEER :
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 608 CARMEL L. WILSON

SHEET DESCRIPTION: DETAILS

PREL DESIGN DATE:
CHECKED BY & DATE :
FINAL DESIGN DATE : 10-08-2013

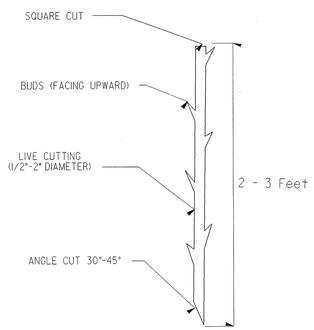
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

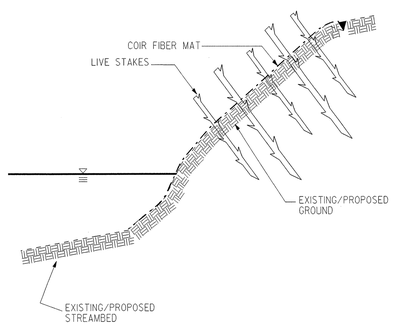
SHEET NO : LD-006
TOTAL SHEET NO : 18 (L)

PLANTING DETAILS

LIVE STAKES PLANTING DETAIL

LIVE STAKE

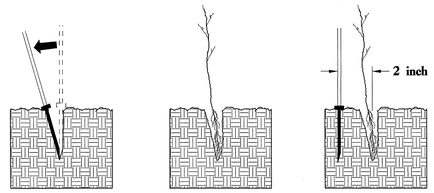




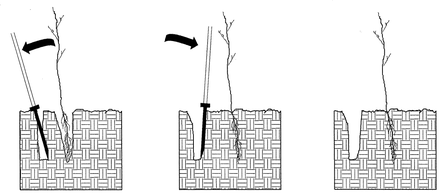
BANK STABILIZATION WITH LIVE STAKES

NOTE:
LIVE STAKES SHALL BE SPACED APPROXIMATELY 4 FEET ON CENTER
LIVE STAKES SHALL BE DRIVEN UNTIL APPROXIMATELY ¾ OF LIVE STAKE IS WITHIN GROUND

BAREROOT PLANTING DETAIL
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



1. Insert planting bar as shown and pull handle toward planter.
2. Remove planting bar and place seedling at correct depth.
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

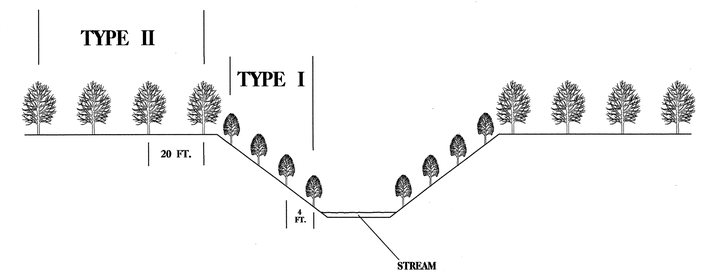
PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.

ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

- ☐ TYPE 1 STREAMBANK REFORESTATION SHALL BE PLANTED 3 FT. TO 5 FT. ON CENTER, RANDOM SPACING, AVERAGING 4 FT. ON CENTER, APPROXIMATELY 2724 PLANTS PER ACRE.
- ☐ TYPE 2 STREAMBANK REFORESTATION SHALL BE PLANTED 16 FT. TO 24 FT. ON CENTER, RANDOM SPACING, AVERAGING 20 FT. ON CENTER, APPROXIMATELY 115 PLANTS PER ACRE.
- ☐ NOTE: TYPE I & II STREAMBANK REFORESTATION SHALL BE PAID FOR AS "STREAMBANK BUFFER REFORESTATION PLANTING" LUMP SUM.

STREAMBANK REFORESTATION TYPICAL



STREAMBANK REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

TYPE 1			
50%	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	2 ft – 3 ft LIVE STAKES
50%	CORNUS AMOMUM	SILKY DOGWOOD	2 ft – 3 ft LIVE STAKES
TYPE 2			
20%	QUERCUS PAGODA	CHERRYBARK OAK	*3 – *5 CONTAINER
20%	FRAXINUS PENNSYLVANICA	GREEN ASH	*3 – *5 CONTAINER
30%	PLATANUS OCCIDENTALIS	SYCAMORE	*3 – *5 CONTAINER
30%	QUERCUS PHELLOS	WILLOW OAK	*3 – *5 CONTAINER

☐ SEE PLAN SHEET RF-1 FOR AREAS TO BE PLANTED

STREAMBANK REFORESTATION DETAIL SHEET 1 OF 2

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
http://www.ncdot.org/doh/operations/dp_chief_eng/roadside/

US-17 REST AREA
Beaufort County
project #: 38748.3.1

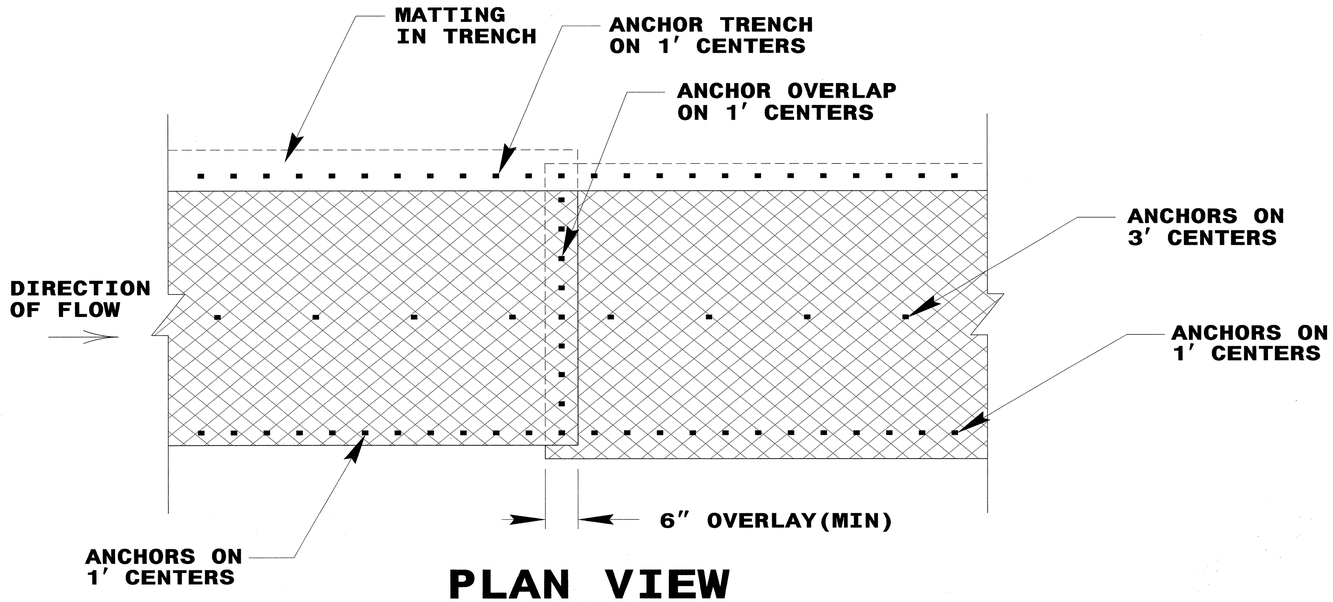
reu engineer :

sheet description: STREAMBANK BUFFER REFORESTATION DETAILS

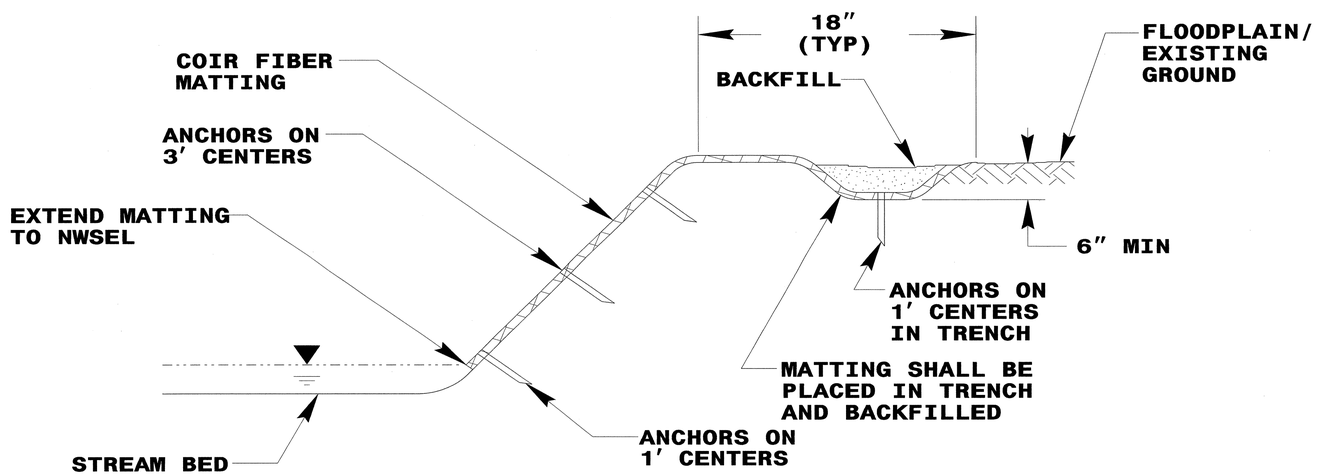
prel design date:
checked by & date : .
final design date : 10-08-2103

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

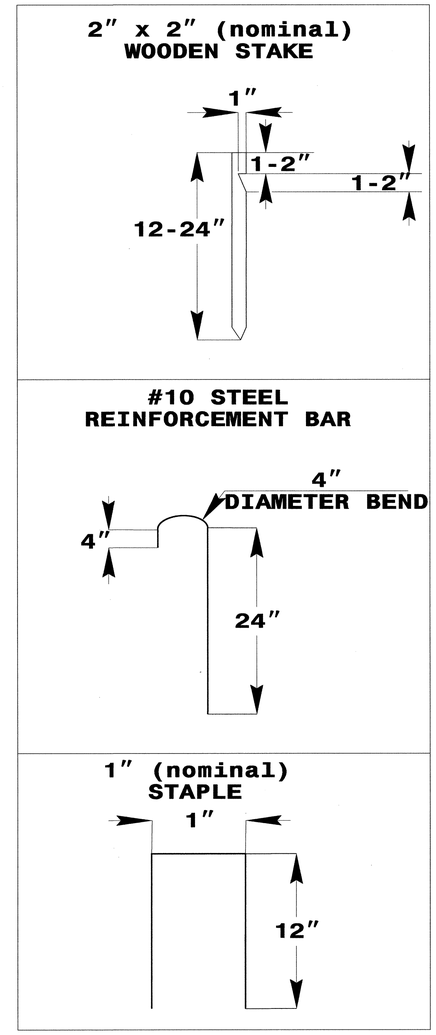
sheet no : LD–007
total sheet no : 18 (L)



PLAN VIEW



TYPICAL CROSS SECTION



ANCHOR OPTIONS

COIR FIBER MATTING DETAIL

NOT TO SCALE

STREAMBANK REFORESTATION DETAIL SHEET 2 OF 2

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY
PROJECT #: 38748.3.1

REU ENGINEER:
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 606 DANIEL L. WILSON

SHEET DESCRIPTION: STREAMBANK BUFFER REFORESTATION DETAILS

PREL DESIGN DATE:
CHECKED BY & DATE:
FINAL DESIGN DATE: 10-08-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO: LD-008
TOTAL SHEET NO: 18 (L)

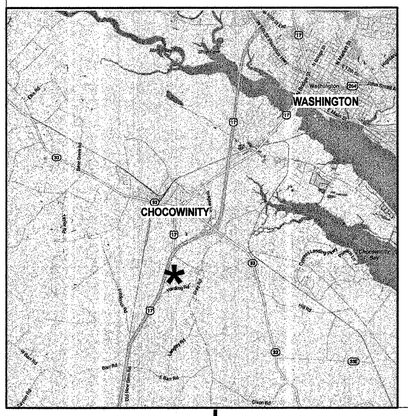
US-17 REST AREA

Beaufort County, NC

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

AREA MAP



DRAWING INDEX

GENERAL SHEETS

A000 COVER SHEET
A001 GENERAL NOTES
A002 BUILDING CODE SUMMARY
A003 LIFE SAFETY PLAN

UTILITY / CIVIL / LANDSCAPE SHEETS

UC-1 BUILDING AREA SITE PLAN
UC-2 COMPOSITE DECKING DETAILS
UC-3 PICNIC SHELTER DETAILS
UC-4 SITE UTILITY PLAN

ARCHITECTURAL SHEETS

A100 ARCHITECTURAL SITE PLAN

A200 FLOOR PLAN
A201 REFLECTED CEILING PLAN
A202 ROOF PLAN
A203 FINISH PLAN
A210 ENLARGED PLANS
A211 ENLARGED PLANS

A300 BUILDING ELEVATIONS
A310 MASONRY ELEVATIONS

A400 BUILDING SECTIONS
A401 BUILDING SECTIONS

A500 WALL SECTIONS
A501 WALL SECTIONS
A502 WALL SECTIONS

A700 SCHEDULES & DETAILS
A701 SCHEDULE & DETAILS
A710 SIGNAGE SCHEDULE

A800 STORAGE BUILDING

STRUCTURAL SHEETS

S100 GENERAL NOTES
S101 FOUNDATION PLAN
S102 ROOF FRAMING PLAN
S103 CONTROL JOINT PLAN
S201 BUILDING SECTIONS
S301 FOUNDATION & FRAMING DETAILS
S401 FRAMING DETAILS

PLUMBING SHEETS

P100 PLUMBING SCHEDULES & NOTES
P200 PLUMBING PLAN - WASTE / VENT
P300 PLUMBING PLAN - WATER
P400 PLUMBING RISERS

MECHANICAL SHEETS

M100 HVAC SCHEDULES
M200 HVAC PLAN
M300 HVAC PLAN
M400 HVAC DETAILS

ELECTRICAL SHEETS

E100 ELECTRICAL NOTES
E200 ELECTRICAL PLAN - LIGHTING
E300 ELECTRICAL PLAN - POWER
E400 SCHEDULES & RISER

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE & ENGINEERING CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHLUSTER REGISTERED ARCHITECT 3116 NORTH CAROLINA RALEIGH, N.C.

11-7-13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

COVER SHEET

SHEET NO.

A000

ABBREVIATIONS

&	AND
<	ANGLE
°	ANGLE IN DEGREES
@	AT
X,x	BY
Ø	DIAMETER
(E)	EXISTING
(N)	NEW
%	PERCENT
#	POUNDS OR NUMBER
ABV	ABOVE
ACC	ACCESSIBLE
ACT	ACOUSTICAL CEILING TILE
AD	ACCESS DOOR, AREA DRAIN
ADA	AMERICANS WITH DISABILITIES ACT
ADD'L	ADDITIONAL
ADJ	ADJACENT
ADMIN	ADMINISTRATION
AF	ACCESS FLOOR
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AL	ALUMINUMA
ANOD	ANODIZED
APPROX	APPROXIMATE(LY)
ATR	ABOVE TOP OF RAIL
AUX	AUXILIARY
A/V	AUDIO VISUAL
BD	BOARD
BIT	BITUMEN
BLDG	BUILDING
BLST	BALAST
BLW	BELOW
BM	BEAM
BO	BOTTOM OF
BOF	BOTTOM OF FOOTING
BOL	BOLLARD
BOT	BOTTOM
BRKT	BRACKET
BTWN	BETWEEN
BUR	BUILT UP ROOF
CB	CATCH BASIN
CEM.	CEMENT(ITIOUS)
CI	CAST IRON
C.I.P.	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLK	CAULK(ING)
CLNG	CEILING
CLO	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPOSITE
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CPT	CARPET
CSJ	CONSTRUCTION JOINT
CTR	CENTER
DBL	DOUBLE
DEG	DEGREE
DEMO	DEMOLITION
DET	DETAIL(S)
D.G.	DECOMPOSED GRANITE
D/I	DIRECT/INDIRECT
DIA	DIAMETER
DIM	DIMENSION
DIST	DISTANCE
DIV	DIVISION
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DSP	DRY STANDPIPE
DTL	DETAIL
DWG	DRAWING
DWR	DRAWER
E	EAST
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATION OR ELEVATOR
EO	EDGE OF
EQ	EQUAL/ EQUAL TO
EQP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EXIT SIGN
EWC	ELECTRIC WATER COOLER
EXT	EXTERIOR
F	FIRE ALARM
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FFL	FINISH FLOOR LEVEL
FH	FIRE HYDRANT
FLR	FLOOR
FLUOR	FLUORESCENT
FIN	FINISH
F.O.	FACE OF
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOIC	FURNISHED BY OWNER/INSTALLED BY CONTRACTOR
FOM	FACE OF MASORNY
FOS	FACE OF STUD
FRP	FIBERGLASS REINFORCED PLASTIC
FRPT	FIRE RETARDENT/PRESSURE TREATED
FS	FASTENER
FSR	FLAME SPREAD RATING
FT	FOOT, FEET
FTG	FOOTING
FURN	FURNITURE
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLAZ	GLAZING
GOVT	GOVERNMENT
GR	GRANITE
GRD	GRADE
GSM	GALVANIZED SHEET METAL
GT	GROUT
GUT	GUTTER
GWB	GYPSUM BOARD
GYP BD	GYPSUM BOARD
H	HEIGHT
HB	HOSE BIBB
HC	HANDICAPPED, HOLLOW CORE
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HO	HOLD OPEN
HORIZ	HORIZONTAL
HR	HOUR
HSS	HOLLOW STRUCTURAL SECTION
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
ID	INSIDE DIAMETER
IFO	INSIDE FACE OF
INCAND	INCANDESCENT
INCL	INCLUDE(D), INCLUSIVE
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
IRR	IRRIGATION
JB	JJUNCTION BOX
JST	JOIST
JT	JOINT
LAM	LAMINTATE(D)
LAV	LAVATORY
LB	POUND
LD	LINEAR DIFFUSER
LDR	LEADER
LED	LIGHT EMITTING DIODE
LH	LEFT HAND
LIN	LINEAR
LO	LINE OF
LOC	LOCATION
MAINT	MAINTAIN, MAINTENANCE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MDF	MEDIUM DENSITY FIBERBOARD
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTL	METAL
N	NORTH
NA	NOT APPLICABLE
NF	NO FINISH
NFC	NO FINISH CEILING
N.I.C	NOT IN CONTRACT
NO.	NUMBER
NOM	NOMINAL
NPRN	NEOPRENE
NTS	NOT TO SCALE
o/	OVER
OAE	OR APPROVED EQUAL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFICE
OFO	OUTSIDE FACE OF
OH	OPPOSITE HAND
OPP	OPPOSITE
OVFL	OVERFLOOW
OVHD	OVERHEAD
OZ	OUNCE
PASS	PASSENGER
P/C	PRECAST
PERF	PERFORATED
PERP	PERPENDICULAR
PKG	PARKING
P/L	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLY	PLYWOOD
POL	POLISH(ED)
POT	PATH OF TRAVEL
PR	PAIR
PREFIN	PREFINISHED
PRELIM	PRELIMINARY
PRESS	PRESSURE
PROJ	PROJECT
PROP	PROPERTY
PROT	PROTECTION
PT	PRESSURE TREATED
PTD	PAINTED
PVC	POLYVINYL CHLORIDE
RAD	RADIUS
RCP	REFLECTED CEILING PLAN
RE	REFER TO
REINF	REINFORCE(D)
REQD	REQUIRED
RH	RIGHT HAND
RM	ROOM
R.O.	ROUGH OPENING
S	SOUTH
SB	SPLASH BLOCK
S.C.	SOLID CORE
S.C.D.	SEE CIVIL DRAWINGS
SCHED	SCHEDULE
SECT	SECTION
S.E.D.	SEE ELECTRICAL DRAWINGS
SIM	SIMILAR
SL	SLOPE
S.L.A.D.	SEE LANDSCAPE DRAWINGS
S.M.	SURFACE MOUNTED
S.M.D.	SEE MECHANCIAL DRAWINGS
SPECS	SPECIFICATIONS
S.S.	STAINLESS STEEL
STL	STEEL
STRUCT	STRUCTURE
THK	THICK
THRU	THROUGH
T.O.	TOP OF
T.O.F.	TOP OF FOOTING
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VER	VERIFY
VIF	VERIFY IN FIELD
w/	WITH
WC	WATER CLOSET
WD	WOOD

GENERAL NOTES

REGULATORY REQUIREMENTS

0-0. ALL WORK SHALL CONFORM TO:
- NORTH CAROLINA STATE BUILDING CODE, 2012 EDITION AND CURRENT AMENDMENTS
- RULES AND REGULATIONS OF PUBLIC UTILITIES
- ICC 117.1 - 2009 AND 2010 ADA STANDARDS

0-1. THE CODE COMPLIANCE SUMMARIES ARE GUIDES TO THE CONSTRUCTION CRITERIA DEVELOPED FOR THIS PROJECT. THEY ARE NOT INTENDED TO BE A COMPLETE LIST OF CODE REQUIREMENTS.
0-2. MAINTAIN INTEGRITY OF FIRE RESISTANCE RATING OF ALL RATED SHAFT ENCLOSURES AND RATED PARTITIONS BEHIND RECESSED WALL ACCESSORIES, INCLUDING FIRE EXTINGUISHER CABINETS, TOILET ACCESSORIES, ELECTRICAL JUNCTION BOXES, AND OTHER ITEMS WHERE THEY OCCUR.
0-3. PENETRATIONS OF PIPES, CONDUITS, SWITCHES, OUTLETS, AND OTHER ITEMS AT RATED ASSEMBLIES SHALL BE FIRE-STOPPED.

GENERAL REQUIREMENTS

1-0. REFER TO THE PROJECT MANUAL FOR COMPLETE GENERAL REQUIREMENTS AND CONDITIONS OF THE CONTRACT. THE PROJECT MANUAL SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES IN THE EVENT OF A CONFLICT.
1-1. THE GENERAL CONTRACTOR MUST COORDINATE ARCHITECTURAL DRAWINGS WITH STRUCTURAL AND PM&E DRAWINGS AND ALL OWNER'S VENDORS INCLUDING, BUT NOT LIMITED TO, TELEPHONE, AUDIO/VISUAL AND SECURITY SYSTEMS. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPENCIES PRIOR TO COMMENCEMENT OF WORK.
1-2. THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR REVIEWING AND COORDINATING THEIR WORK WITH ALL OF THE DRAWINGS PRIOR TO INSTALLATION. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS, PROJECT MANUAL, NOTES, AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR AND SHALL BE RESOLVED WITH THE ARCHITECT BEFORE PROCEEDING WITH THE WORK OR RELATED WORK.

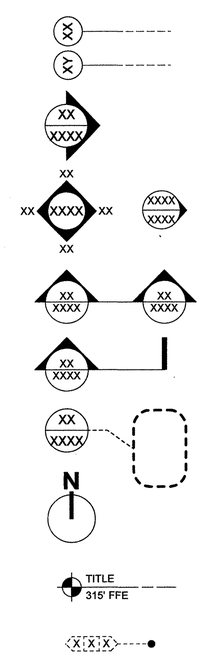
DIMENSIONING REQUIREMENTS

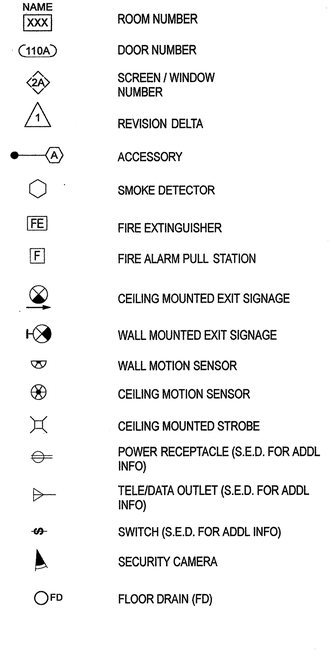
2-0. DIMENSIONS ARE NOTED OR CAN BE DETERMINED FROM OTHER INFORMATION INCLUDED IN THE DRAWINGS. VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES OR OMISSIONS. DO NOT PROCEED WITH AFFECTED WORK OR RELATED WORK UNTIL THE VARIATIONS OR OMISSIONS HAVE BEEN RESOLVED BY THE ARCHITECT. DO NOT SCALE DRAWINGS. DRAWING SHEETS LESS THAN *22"x 34"* MAY HAVE BEEN REDUCED FROM THE ORIGINALS. *11"X17"*SETS ARE HALF-SIZED WHEN NOTED.
2-1. ALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS OTHERWISE NOTED.
2-2. WALLS SHOWN TO ALIGN ARE TO HAVE FINISH FACES ALIGN UNLESS OTHERWISE NOTED.
2-3. IF PROVIDED, REFER TO ENLARGED PLANS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND DIMENSIONS.
2-4. LOCATIONS OF ALL DEVICES AND FIXTURES DIMENSIONED, NOTED OR OTHERWISE DESCRIBED, ARE EXACT. ALL NEW FRAMING MUST ACCOMMODATE THESE LOCATIONS.
2-5. ANY DIMENSIONS OF OR TYING IN TO EXISTING BUILDING COMPONENTS ARE TO BE FIELD-VERIFIED PRIOR TO COMMENCEMENT OF WORK. VERIFY ANY DISCREPANCIES W/ ARCHITECT PRIOR TO COMMENCEMENT OF WORK.

OTHER REQUIREMENTS

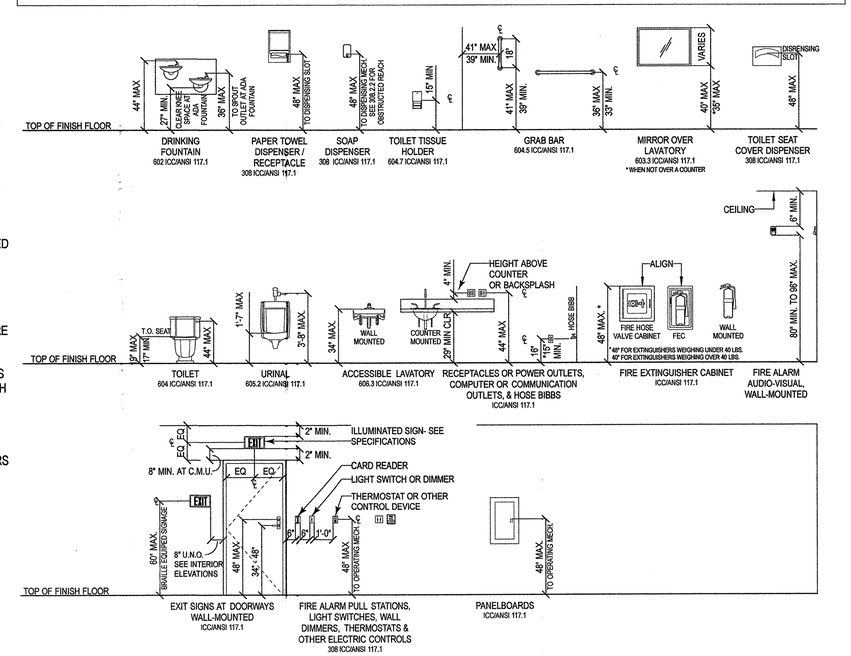
3-1. TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED AT ALL APPROPRIATE LOCATIONS WHETHER OR NOT SPECIFICALLY REFERENCED AT EACH LOCATION.
3-2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED DEMOLITION, TEMPORARY SUPPORT OF, AND/OR DAMAGE TO NEW OR EXISTING STRUCTURE DURING CONSTRUCTION.
3-3. THE GENERAL CONTRACTOR IS TO COORDINATE, PROVIDE, AND INSTALL CONCEALED BLOCKING FOR ALL WALL-MOUNTED ITEMS INCLUDING, BUT NOT LIMITED TO, HAND RAILS, EQUIPMENT, OWNER- AND/OR VENDOR-PROVIDED ITEMS, ETC.
3-4. NO EXPOSED CONDUIT, WIRING, OR PIPING IS PERMITTED WITHOUT ARCHITECT APPROVAL UNLESS SPECIFICALLY NOTED OTHERWISE. DUE TO THE OPEN CEILING CONDITIONS OF THIS PROJECT, THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING SYSTEMS COORDINATION BETWEEN THE TRADES. COORDINATION DRAWINGS SHALL BE PROVIDED FOR THE ARCHITECT'S REVIEW. ALL CONFLICTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO INSTALLATION.
3-5. ALL FRAMING, SOUND ATTENUATION, AND GYP BOARD FOR NON-RATED SOUND-ATTENUATED WALLS SHALL CONTINUE TO THE UNDERSIDE OF DECK UNLESS SPECIFICALLY NOTED OTHERWISE. GYP BOARD SHALL BE SEALED TO DECK AT EACH FACE WITH JOINT COMPOUND, SEALANT, AND/OR EXPANDING FOAM (ACCEPTABLE ONLY IN CONCEALED CONDITIONS). ANY REQUIRED PIPE, DUCT, OR WIRING PENETRATIONS SHALL BE SEALED AS DESCRIBED ABOVE.
3-6. IN AREAS OF HARD CEILING, BUILDING SYSTEMS SHALL BE CONFIGURED TO MINIMIZE REQUIRED ABOVE-CEILING ACCESS. THE LOCATION OF ALL ACCESS DOORS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY ABOVE-CEILING EQUIPMENT, DAMPERS, VALVES, JUNCTION BOXES, ETC. ACCESS DOORS SHALL BE PROVIDED AND INSTALLED FOR ANY WORK THAT REQUIRES ABOVE-CEILING ACCESS. ADDITIONALLY, ANY ACCESS DOORS OR PANELS REQUIRED IN WALLS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY EQUIPMENT REQUIRING ACCESS.

SYMBOLS





MOUNTING HEIGHTS



CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
artarc@clearscapes.com

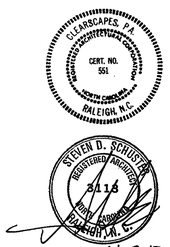
CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS



11.7.13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION	
1	11/4/13	SCO Comments - 10/23/2013

PROJECT DATA

DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

GENERAL NOTES
Abbreviations, Symbols, & Mounting Heights

SHEET NO.

A001

2012 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: US-17 REST AREA
Address: US HWY 17, BEAUFORT COUNTY, NC Zip Code ______
Proposed Use: NCDOT SAFETY REST AREA
Owner/Authorized Agent: ROB WAGNER Phone # (919) 821 - 2775 E-Mail rob@clearscapes.com
Owned By: NCDOT ☐ City/County ☐ Private ☒ State
Code Enforcement Jurisdiction: ☐ City ______ ☐ County ______ ☒ State

LEAD DESIGN PROFESSIONAL: Steven D. Schuster, AIA

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	Clearscapes, PA	Steven Schuster	3113	(919) 821-2775	sschuster@clearscapes.com
Civil	N/A (site design by others)			( )	
Electrical	Burke Design Group, PA	Benjamin Burke	22038	(919) 771-1916	benburke@nc.rr.com
Fire Alarm	Burke Design Group, PA	Benjamin Burke	22038	(919) 771-1916	benburke@nc.rr.com
Plumbing	Burke Design Group, PA	Benjamin Burke	22038	(919) 771-1916	benburke@nc.rr.com
Mechanical	Burke Design Group, PA	Benjamin Burke	22038	(919) 771-1916	benburke@nc.rr.com
Sprinkler-Standpipe	N/A			( )	
Structural	Lysaght & Associates	Chuck Lysaght	7929	(919) 833-0495	chuck@lysaghtassociates.com
Retaining Walls >5' High	N/A			( )	
Other				( )	

2012 EDITION OF NC CODE FOR: ☒ New Construction ☐ Addition ☐ Upfit
EXISTING: ☐ Reconstruction ☐ Alteration ☐ Repair ☐ Renovation
CONSTRUCTED: (date) ______ ORIGINAL USE(S) (Ch. 3): ______
RENOVATED: (date) ______ CURRENT USE(S) (Ch. 3): ______
PROPOSED USE(S) (Ch. 3): Assembly (A-3) - highway rest area

BASIC BUILDING DATA
Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A
(check all that apply) ☐ I-B ☐ II-B ☐ III-B ☒ V-B
Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes (Primary) Flood Hazard Area: ☒ No ☐ Yes
Building Height: (feet) 16'-0"
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6th Floor			
5th Floor			
4th Floor			
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor		2,251 sf	
Basement			
TOTAL		2,251 sf	

This separation is not exempt as a Non-Separated Use (see exceptions).
☐ Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.
☐ Separated Use (508.4) - See below for area calculations
For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

______ + ______ + ... = ______ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503[5] AREA	(C) AREA FOR FRONTAGE INCREASE[1]	(D) AREA FOR SPRINKLER INCREASE[2]	(E) ALLOWABLE AREA OR UNLIMITED[3]	(F) MAXIMUM BUILDING AREA[4]
1	TYPE A (A-3)	2,251 SF	6,000 SF	0 SF	0 SF	6000 SF	6000 SF

1 Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = ______ (F)
b. Total Building Perimeter = ______ (P)
c. Ratio (F/P) = ______ (F/P)
d. W = Minimum width of public way = ______ (W)
e. Percent of frontage increase $I_f = 100\,[F/P - 0.25] \times W/30$ = ______ (%)
2 The sprinkler increase per Section 506.3 is as follows:
a. Multi-story building I_s = 200 percent
b. Single story building I_s = 300 percent
3 Unlimited area applicable under conditions of Section 507.
4 Maximum Building Area = total number of stories in the building x E (506.4).
5 The maximum area of open parking garages must comply with Table 406.3.5. The maximum area of air traffic control towers must comply with Table 412.1.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type V-B		Type V-B	TABLE 601
Building Height in Feet	40'-0"	Feet = H + 20' = ______	16'-0"	TABLE 503
Building Height in Stories	1	Stories + 1 = ______	1	TABLE 503

☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
☐ Existing structures within 30' of the proposed building
☐ Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)
☐ Occupant loads for each area
☐ Exit access travel distances (1016)
☐ Common path of travel distances (1014.3 & 1028.8)
☐ Dead end lengths (1018.4)
☐ Clear exit widths for each exit door
☐ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)
☐ Actual occupant load for each exit door
☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
☐ Location of doors with panic hardware (1008.1.10)
☐ Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
☐ Location of doors with electromagnetic egress locks (1008.1.9.8)
☐ Location of doors equipped with hold-open devices
☐ Location of emergency escape windows (1029)
☐ The square footage of each fire area (902)
☐ The square footage of each smoke compartment (407.4)
☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
N/A							

SEE SITE PLAN BY NCDOT

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
CAR		61	2	0	1	3
TRUCK		19	N/A	N/A	N/A	N/A
TOTAL		80	2	0	1	3

STRUCTURAL DESIGN

DESIGN LOADS:

Importance Factors: Wind (I_W) 1.0
Snow (I_S) 1.0
Seismic (I_E) 1.0

Live Loads: Roof 20 psf
Mezzanine n/a psf
Floor 100 psf

Ground Snow Load: ______ psf SLOPED ROOF SNOW LOAD = 12 psf

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Climate Zone: ☒ 3 ☐ 4 ☐ 5

Method of Compliance:
☒ Prescriptive (Energy Code)
☐ Performance (Energy Code)
☐ Prescriptive (ASHRAE 90.1)
☐ Performance (ASHRAE 90.1)

THERMAL ENVELOPE

Roof/ceiling Assembly (each assembly) A: Struct. wood deck / rigid insulation / plywood sheathing / metal roofing
Description of assembly: B: Wood joists / batt insulation / plywood sheathing/ metal roofing
U-Value of total assembly: A: 0.030; B:0.026
R-Value of insulation: A: R-28; B: R-38
Skylights in each assembly: N/A
U-Value of skylight: ______
total square footage of skylights in each assembly: ______

Exterior Walls (each assembly) A: Wood stud / batt insul. / plywd sheathing / rigid insul. / masonry veneer
Description of assembly: B: Wood stud / batt insul. / plywd sheathing / rigid insul. / wood-composite planks
U-Value of total assembly: A: 0.0365; B: 0.0362
R-Value of insulation: A: R-13 (batt)/R-4 (rigid); B: R-13 (batt)/R-4 (rigid);
Openings (windows or doors with glazing)
U-Value of assembly: 0.50
Solar heat gain coefficient: 0.27
projection factor: 0.25 < PF > 0.50
Door R-Values: 2.0

Walls below grade (each assembly)
Description of assembly: N/A
U-Value of total assembly: ______
R-Value of insulation: ______

Floors over unconditioned space (each assembly)
Description of assembly: N/A
U-Value of total assembly: ______
R-Value of insulation: ______

Floors slab on grade
Description of assembly: UNHEATED 4" SLAB ON GRADE
U-Value of total assembly: NO REQUIREMENT
R-Value of insulation: NO REQUIREMENT
Horizontal/vertical requirement: NO REQUIREMENT
slab heated: SLAB NOT HEATED

ALLOWABLE AREA

Occupancy:
Assembly ☐ A-1 ☐ A-2 ☒ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Accessory Occupancies: N/A
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Incidental Uses (Table 508.2.5):
☐ Furnace room where any piece of equipment is over 400,000 Btu per hour input
☐ Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
☐ Refrigerant machine room
☐ Hydrogen cutoff rooms, not classified as Group H
☐ Incinerator rooms
☐ Paint shops, not classified as Group H, located in occupancies other than Group F
☐ Laboratories and vocational shops, not classified as Group H. located in a Group E or I-2 occupancy
☐ Laundry rooms over 100 square feet
☐ Group I-3 cells equipped with padded surfaces
☐ Group I-2 waste and linen collection rooms
☐ Waste and linen collection rooms over 100 square feet
☐ Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies
☐ Rooms containing fire pumps
☐ Group I-2 storage rooms over 100 square feet
☐ Group I-2 commercial kitchens
☐ Group I-2 laundries equal to or less than 100 square feet
☐ Group I-2 rooms or spaces that contain fuel-fired heating equipment

Special Uses: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423 ☐ 424 ☐ 425 ☐ 426 ☐ 427
Special Provisions: ☐ 509.2 ☐ 509.3 ☐ 509.4 ☐ 509.5 ☐ 509.6 ☐ 509.7 ☐ 509.8 ☐ 509.9
Mixed Occupancy: ☒ No ☐ Yes Separation: ____ Hr. Exception: ______
☐ Incidental Use Separation (508.2.5)

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ ___ * REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses	> 30'-0"	0 HR	0 HR	N/A	N/A	N/A	N/A
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions							
Exterior walls							
North							
East							
West							
South	> 30'-0"						
Interior walls and partitions							
Floor Construction Including supporting beams and joists							
Roof Construction Including supporting beams and joists		0 HR	0 HR	N/A	N/A	N/A	N/A
Shaft Enclosures - Exit	N/A						
Shaft Enclosures - Other	N/A						
Corridor Separation	N/A						
Occupancy Separation	N/A						
Party/Fire Wall Separation	N/A						
Smoke Barrier Separation	N/A						
Tenant Separation	N/A						
Incidental Use Separation	N/A						

* Indicate section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☐ No ☒ Yes
Exit Signs: ☐ No ☒ Yes
Fire Alarm: ☒ No ☐ Yes
Smoke Detection Systems: ☒ No ☐ Yes ☐ Partial ______
Panic Hardware: ☐ No ☒ Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: A002
☐ Fire and/or smoke rated wall locations (Chapter 7)
☐ Assumed and real property line locations

Wind Load: Basic Wind Speed 110 mph (ASCE-7)
Exposure Category B
Wind Base Shears (for MWFRS) V_x = 29 KIPS V_y = 26 KIPS

SEISMIC DESIGN CATEGORY: ☐ A ☒ B ☐ C ☐ D
Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) ☐ I ☒ II ☐ III ☐ IV
Spectral Response Acceleration S_S ______ %g S_1 0.058 %g
Site Classification (Table 1613.5.2) ☐ A ☐ B ☐ C ☒ D ☐ E ☐ F
Data Source: ☐ Field Test ☒ Presumptive ☐ Historical Data
Basic structural system (check one)
☒ Bearing Wall ☐ Dual w/Special Moment Frame
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum

** BEARING WALL SYSTEM, LIGHT FRAMED WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE

Seismic base shear: V_X = 4 KIPS V_Y = 4 KIPS
Analysis Procedure: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic
Architectural, Mechanical, Components anchored? ☐ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☒

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) ______ psf
Presumptive Bearing capacity 2000 psf
Pile size, type, and capacity N/A

SPECIAL INSPECTIONS REQUIRED: ☐ Yes ☒ No

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS MALE	WATERCLOSETS FEMALE	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXISTING								
	NEW	4	8	4	4	4	0	1	1
	REQUIRED	1	1	0	1	1	0	1	1

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)

STATE CONSTRUCTION OFFICE - (STATE OWNED PROPERTY)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

SEE MECHANICAL DRAWINGS SHEET M100

Thermal Zone
winter dry bulb: ______
summer dry bulb: ______

Interior design conditions
winter dry bulb: ______
summer dry bulb: ______
relative humidity: ______

Building heating load: ______
Building cooling load: ______
Mechanical Spacing ...
Unitary
description ...
heating ...
cooling efficiency: ______
size category of unit: ______
Boiler
Size category. If oversized, state reason.: ______
Chiller
Size category. If oversized, state reason.: ______

List equipment efficiencies: ______

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

SEE ELECTRICAL DRAWINGS SHEET E100

Method of Compliance:
Energy Code: ☐ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage ... allowed (whole building or space by space)
total exterior ... allowed

Additional Prescriptive ...
☐ 506.2.1 ... Efficient Mechanical Equipment
☐ 506.2.2 ... Reduced Lighting Power Density
☐ 506.2.3 Energy Recovery Ventilation Systems
☐ 506.2.4 Higher Efficiency Service Water Heating
☐ 506.2.5 On-Site Supply of Renewable Energy
☐ 506.2.6 Automatic Daylighting Control Systems

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11.7.13

Bid Drawings 2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

BUILDING CODE SUMMARY

SHEET NO.

A002

BUILDING DATA

FLOOR SPACE INSIDE OF EXTERIOR WALLS = 2,175 sf

TOTAL BUILDING OCCUPANCY = 61
THIS REQUIRES TWO (2) MEANS OF EGRESS AND THE DISTANCE BETWEEN EACH EXIST MUSH EXCEED 1/2 THE DIMENSION OF THE DIAGONAL LENTH OF THE BUILDING.
THREE (3) EXITS ARE PROVIDED
DISTANCE BETWEEN EXITS IS GREATER THAN 1/2 THE DIAGONAL LENGTH OF BUILDING.

LOBBY/ENTRY/HALL OCCUPANCY IS OF 49 OR MORE THEREFORE REQUIRES TWO EXITS AND THE DISTANCE BETWEEN EXITS IS GREATER THAN 1/2 THE DIAGONAL LENGTH OF SPACE.
THREE (3) EXITS ARE PROVIDED
DISTANCE BETWEEN EXITS IS GREATER THAN 1/2 THE DIAGONAL LENGTH OF SPACE.

DEAD END LIMIT = 20'-0" MAXIMUM
MAX DEAD END DISTANCE = NO DEAD ENDS

EXIT ACCESS TRAVEL DISTANCE LIMIT = 200'-0"
MAX. EXIT ACCESS TRAVEL DISTANCE = 62'-4"

COMMON PATH OF EGRESS TRAVEL LIMIT = 75'-0"
MAX. COMMON PATH OF EGRESS TRAVEL = 34'-2"

LIFE SAFETY NOTES

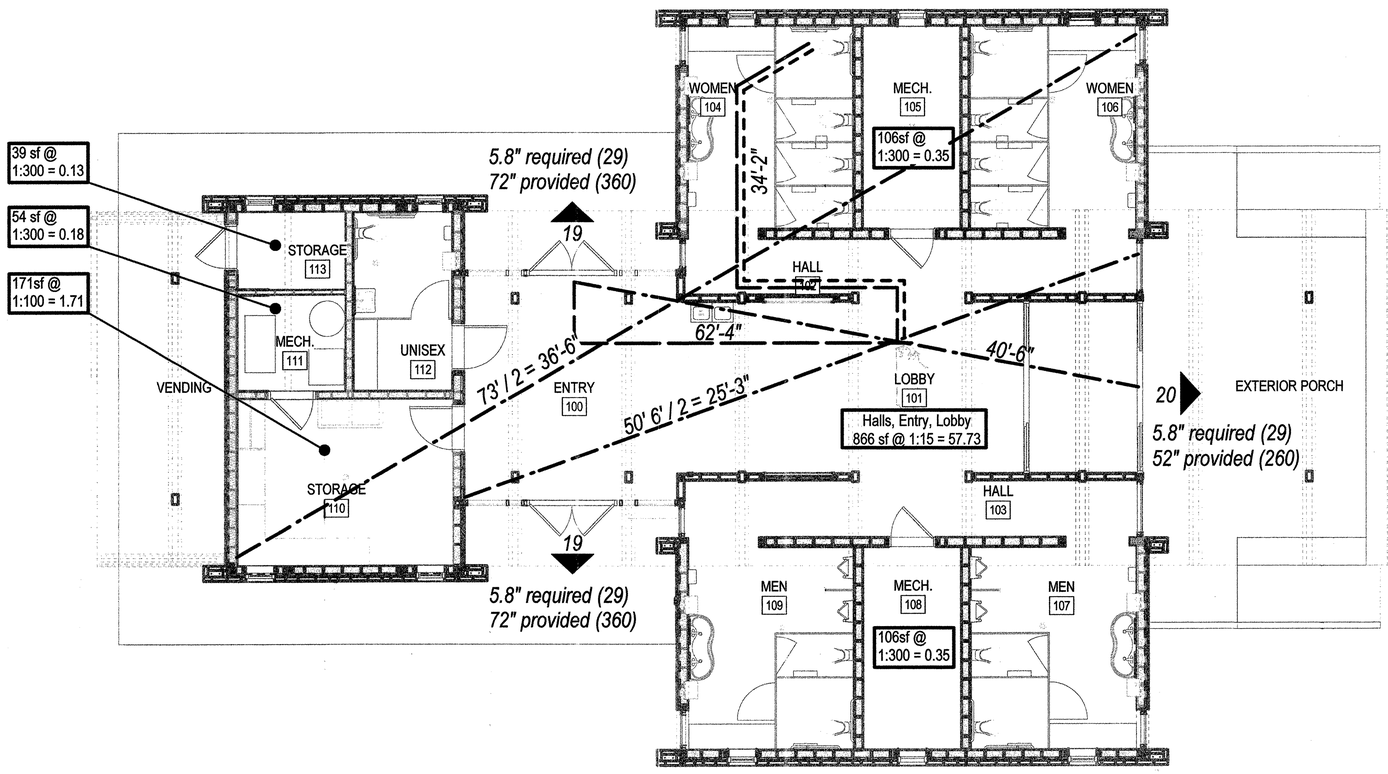
1. SEE LIFE SAFETY PLAN FOR TRAVEL DISTANCE CALCULATIONS.

LEGEND

X'-X"	DISTANCE OF EXIT ACCESS TRAVEL PATH
X'-X"	COMMON PATH OF EGRESS TRAVEL
X'-X" < X'-X"	EXIT ACCESS ARRANGEMENT
XX	OCCUPANT LOAD EXITING SPACE

BUILDING DATA

BUILDING AREA	2,251 sf
ALLOWABLE AREA	*6,000 sf*
BUILDING HEIGHT	16'-0"
ALLOWABLE AREA	*40'-0"*
CONSTRUCTION TYPE	V-B
OCCUPANCY TYPE	A-3
TOTAL OCCUPANT LOAD	61



A1 / A003 **LIFE SAFETY PLAN**
Scale: 3/16" = 1'-0"

0 5 10 15 FT

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE CORPORATION CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11-7-13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

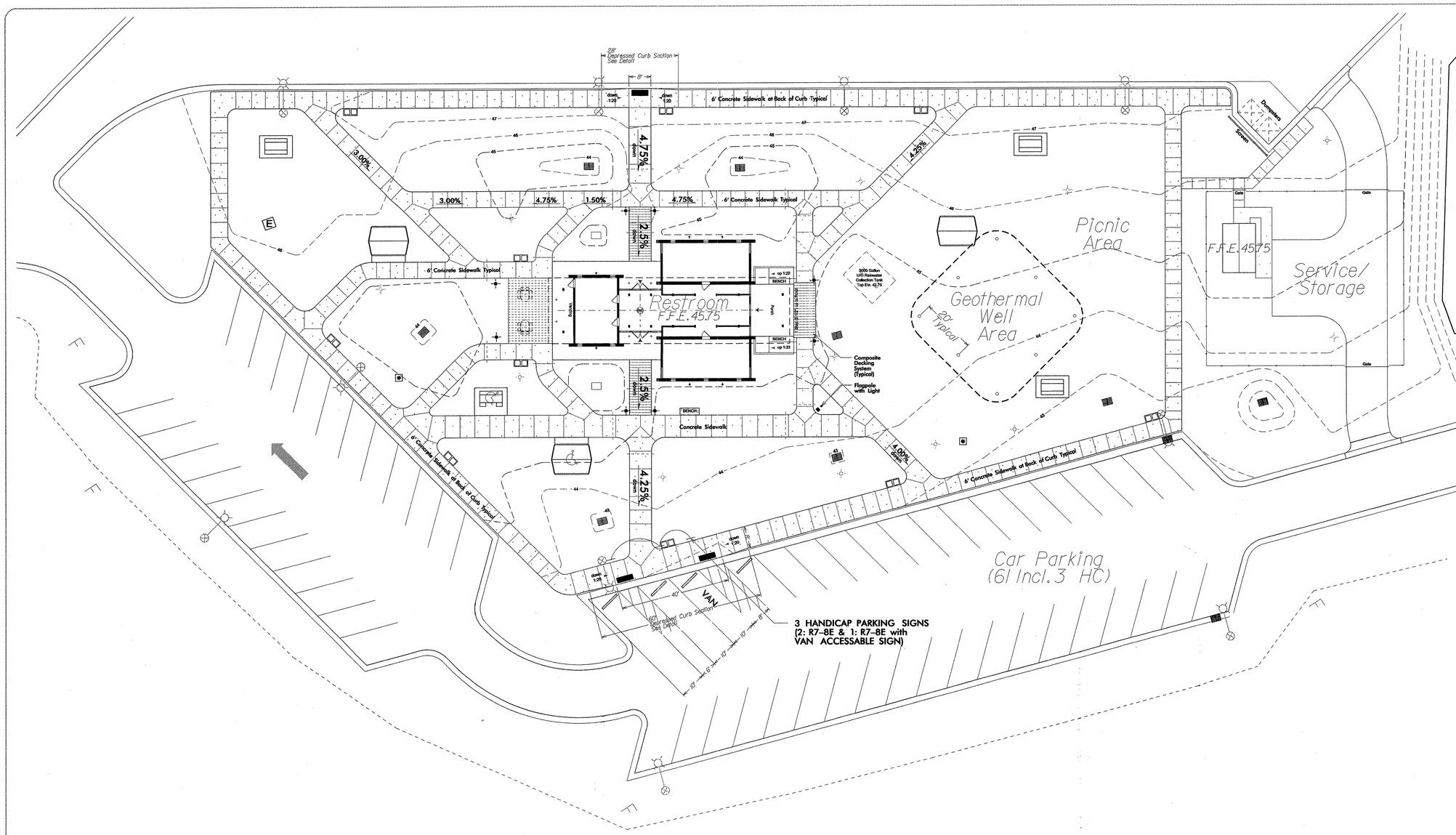
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

LIFE SAFETY

SHEET NO.

A003



PICNIC SHELTER WITH HANDICAP ACCESSIBLE TABLE

PICNIC SHELTER WITH TABLE

CONCRETE PAD WITH HANDICAP ACCESSIBLE PICNIC TABLE

CONCRETE PAD WITH PICNIC TABLE

WASTE /RECYCLE CONTAINERS

POST TOP LIGHT

BOLLARD LIGHT

BICYCLE PARKING BOLLARD

WHEEL STOPS @ HANDICAP PARKING

3" PVC SLEEVE

PATIO TABLE WITH BENCHES (by Others)

BENCH (By Others)

ELECTRICAL TRANSFORMER (Approximate Location, By Others)

DETECTABLE WARNING (2' x 6')

NAD 83/95

20' 0' 20' 40' 80'

NCDOT - ROADSIDE ENVIRONMENTAL UNIT

LANDSCAPE DESIGN & DEVELOPMENT

1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557

PH: 919-707-2920 FAX: 919-715-2554

HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA

BEAUFORT COUNTY

PROJECT #: 38748.3.1

STATE CONSTRUCTION: ID#13-10090-01A

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 606 DANIEL L. WILSON

SHEET DESCRIPTION: BUILDING AREA SITE PLAN

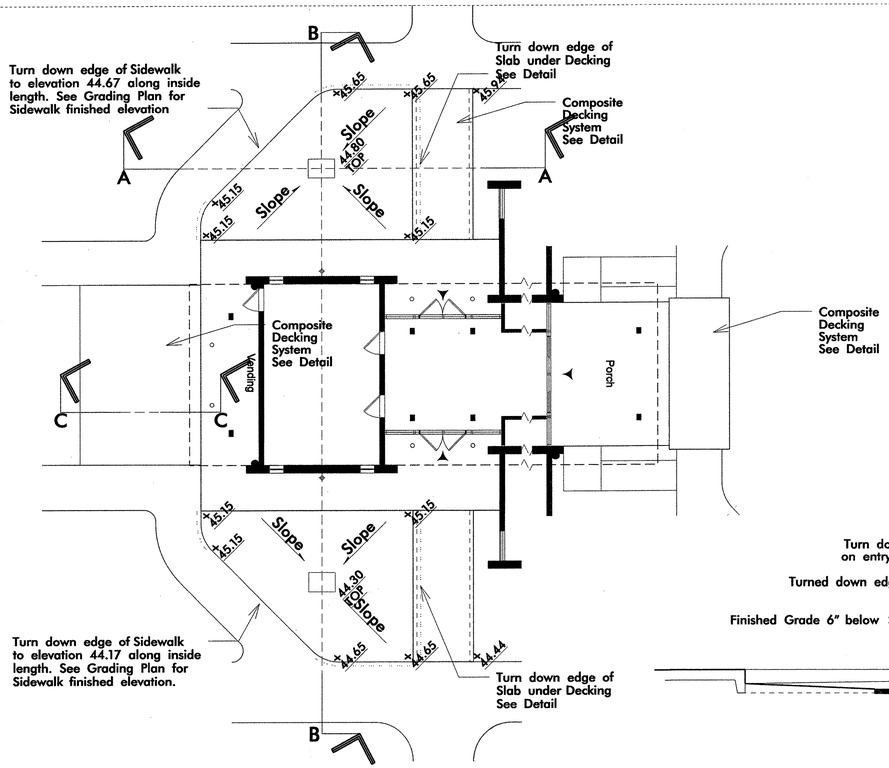
PREL DESIGN DATE: 8-30-2013

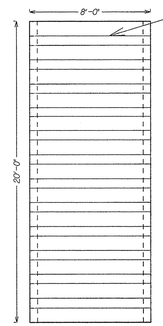
CHECKED BY & DATE:

FINAL DESIGN DATE: 10-08-2013

SHEET NO: UC-1

TOTAL SHEET NO: 3

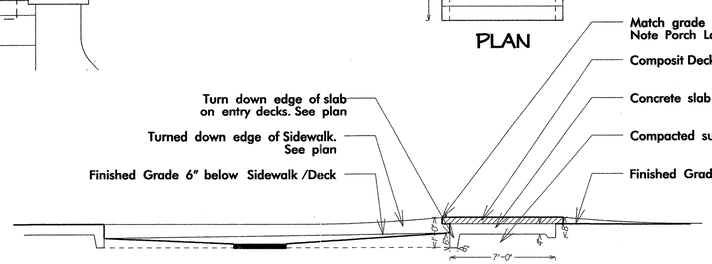




Alternating 3x12 and 3x8 (nominal) composit decking evenly spaced and secured to concrete slab with compatible construction adhesive. All deck boards shall be full length and full width with a maximum spacing 3/16".

Plan Scale

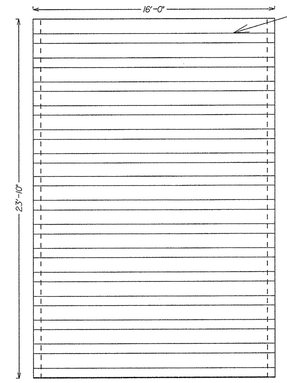
PLAN



X-Section Scale

SECTION A - A

COMPOSIT DECKING
ENTRY DECKS (2) AND PORCH LANDING

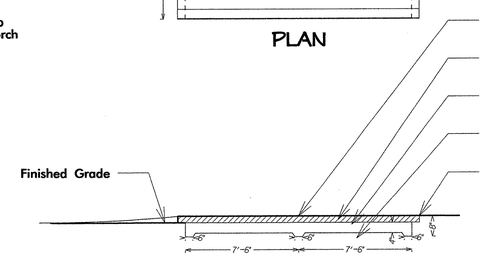


Alternating 3x12 and 3x8 (nominal) composit decking evenly spaced and secured to concrete slab with compatible construction adhesive. All deck boards shall be full length and full width with a maximum spacing 3/16".

3x12 and 3x8 (nominal) composit decking as manufactured by:
TimberTech
Fiberon
Moisture Sheild
and others. Submit for Approval

Plan Scale

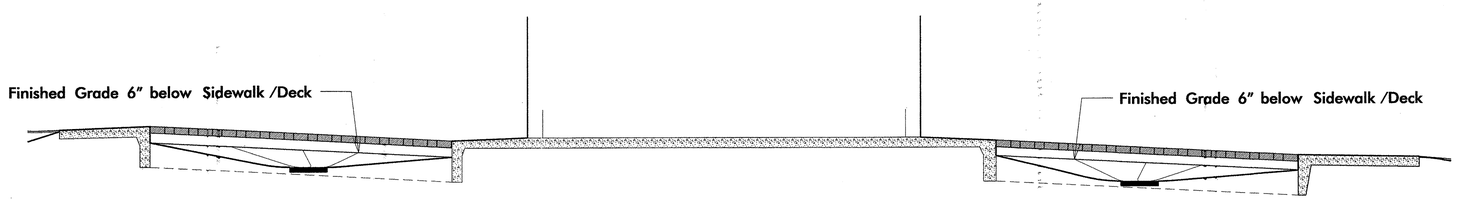
PLAN



X-Section Scale

SECTION C-C

COMPOSIT DECKING
VENDING AREA



X-Section Scale

SECTION B - B

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

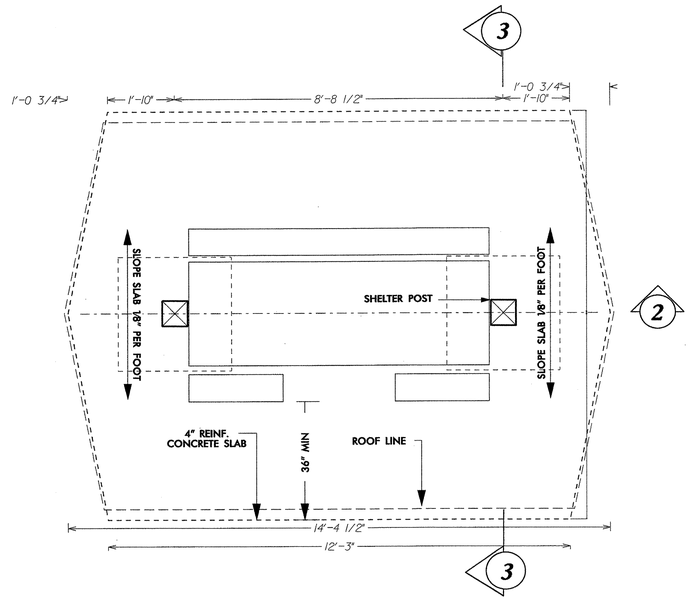
US-17 REST AREA
BEAUFORT COUNTY
PROJECT #: 38748.3.1
STATE CONSTRUCTION: ID#13-10090-01A

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 606 DANIEL L. WILSON

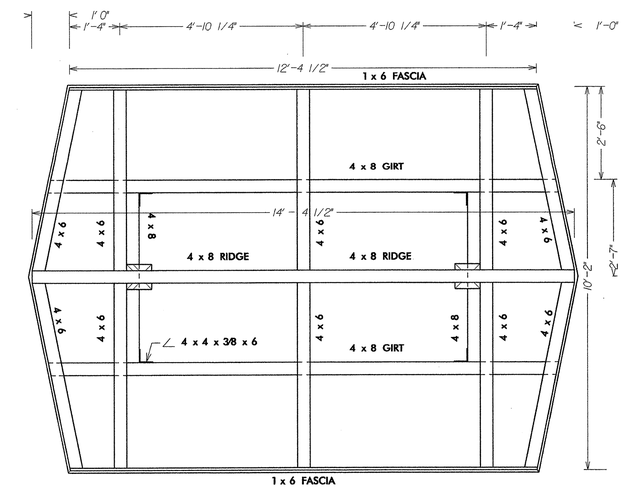
SHEET DESCRIPTION:
COMPOSIT DECKING DETAILS

PREL DESIGN DATE: 8-30-2013
CHECKED BY & DATE: .
FINAL DESIGN DATE: 10-08-2013

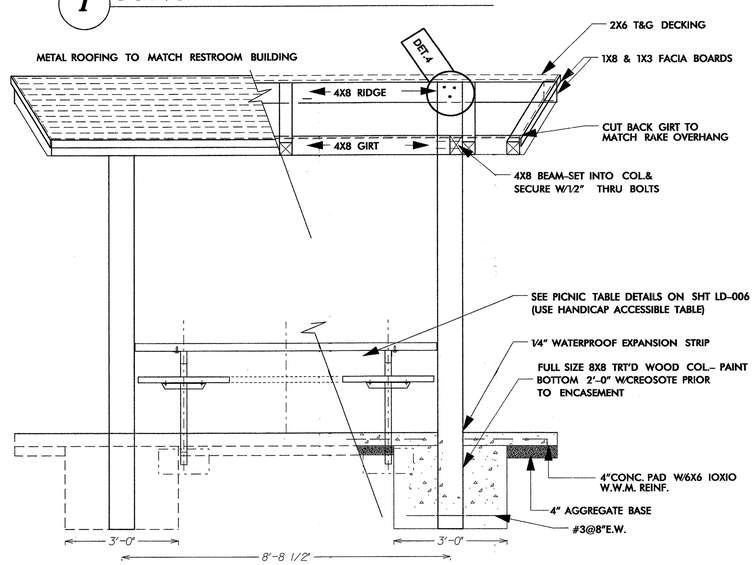
SHEET NO: UC-2
TOTAL SHEET NO: 3



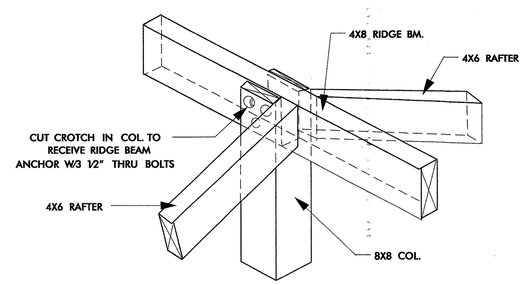
1 CONC PAD & ROOF PLAN



5 FRAMING PLAN

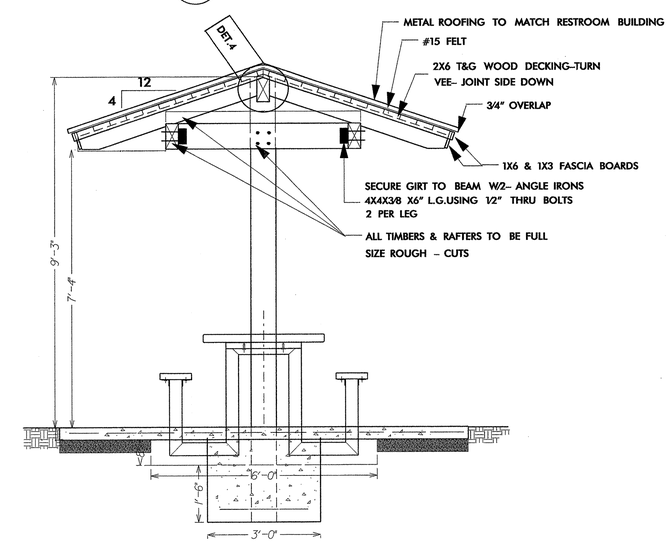


2 SECTION



4 JOINT DETAIL

NTS



3 SECTION

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER, RALEIGH, NC 27699-1557
PH: 919-707-2920 FAX: 919-715-2554
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

US-17 REST AREA
BEAUFORT COUNTY
PROJECT #: 38748.3.1
STATE CONSTRUCTION: ID#13-10090-01A

NORTH CAROLINA PROFESSIONAL SEAL 17320 ENGINEER MICHAEL D. MOUNTCASTLE 11-14-13

NORTH CAROLINA PROFESSIONAL SEAL 028878 ENGINEER KENNETH D. PRACE 11-14-13

SHEET DESCRIPTION:
DETAILS
PICNIC TABLE W/ SHELTER

PREL DESIGN DATE: 8-30-2013
CHECKED BY & DATE: .
FINAL DESIGN DATE: 10-08-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

SHEET NO: UC-3
TOTAL SHEET NO: 3

PROJECT REFERENCE NO.	SHEET NO.
K-3800	UC-4
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 23041 ENGINEER COREY D. BOUSQUET

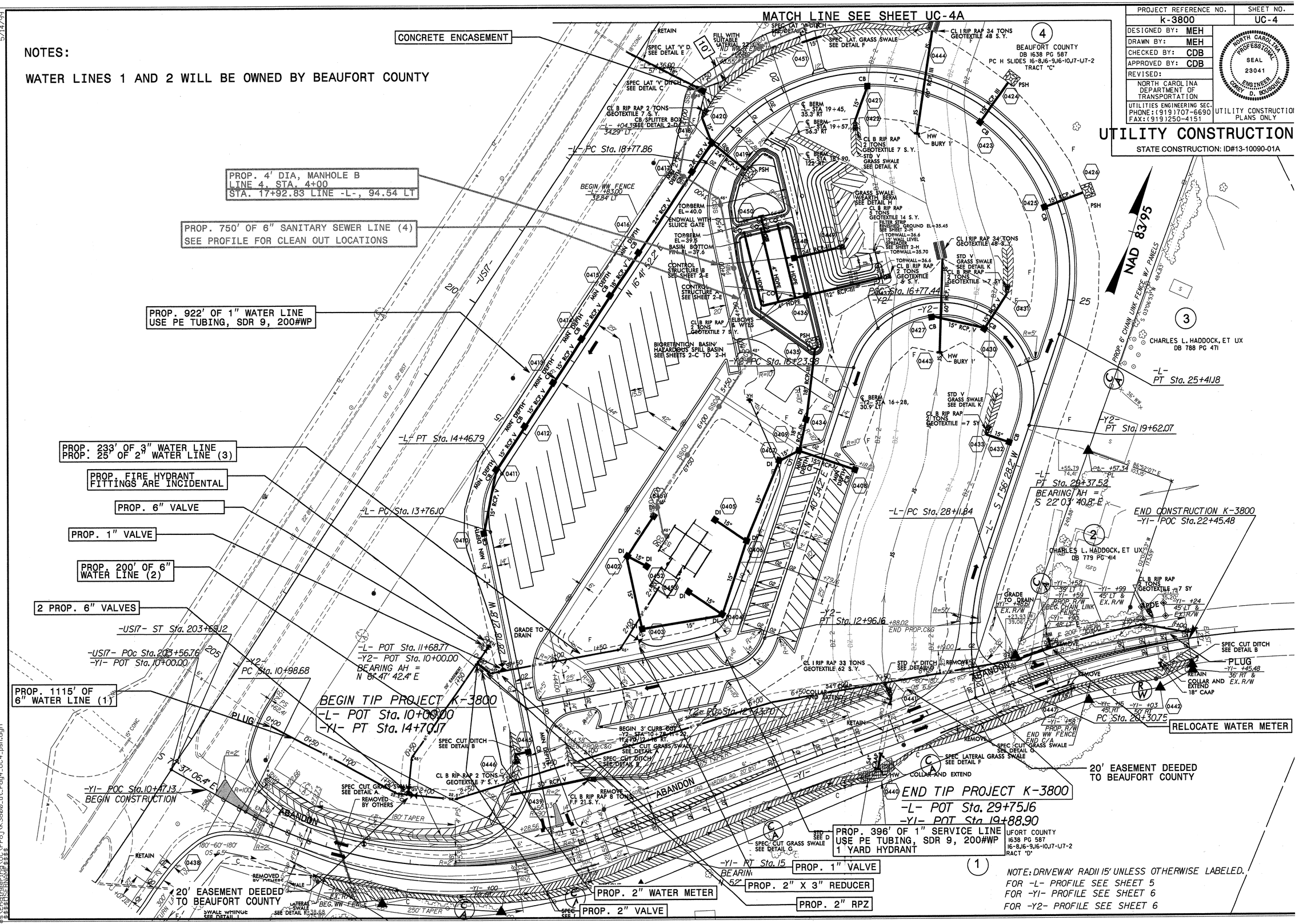
UTILITY CONSTRUCTION

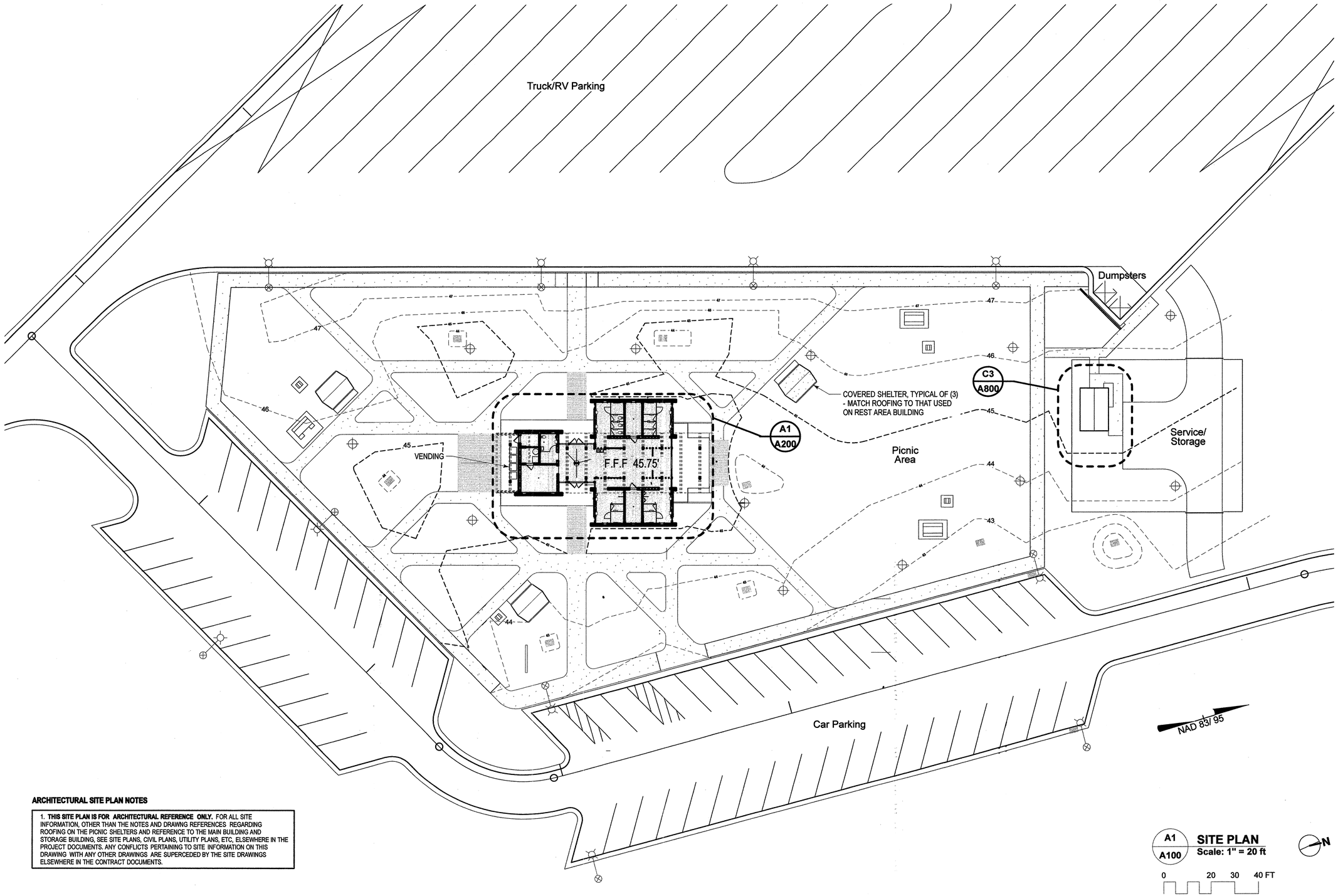
STATE CONSTRUCTION: ID#13-10090-01A

5/14/99

NOTES:

WATER LINES 1 AND 2 WILL BE OWNED BY BEAUFORT COUNTY





ARCHITECTURAL SITE PLAN NOTES

1. **THIS SITE PLAN IS FOR ARCHITECTURAL REFERENCE ONLY.** FOR ALL SITE INFORMATION, OTHER THAN THE NOTES AND DRAWING REFERENCES REGARDING ROOFING ON THE PICNIC SHELTERS AND REFERENCE TO THE MAIN BUILDING AND STORAGE BUILDING, SEE SITE PLANS, CIVIL PLANS, UTILITY PLANS, ETC; ELSEWHERE IN THE PROJECT DOCUMENTS. ANY CONFLICTS PERTAINING TO SITE INFORMATION ON THIS DRAWING WITH ANY OTHER DRAWINGS ARE SUPERCEDED BY THE SITE DRAWINGS ELSEWHERE IN THE CONTRACT DOCUMENTS.

A1 / A100 **SITE PLAN**
Scale: 1" = 20 ft

0 20 30 40 FT

N

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11-7-13

Bid Drawings
2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

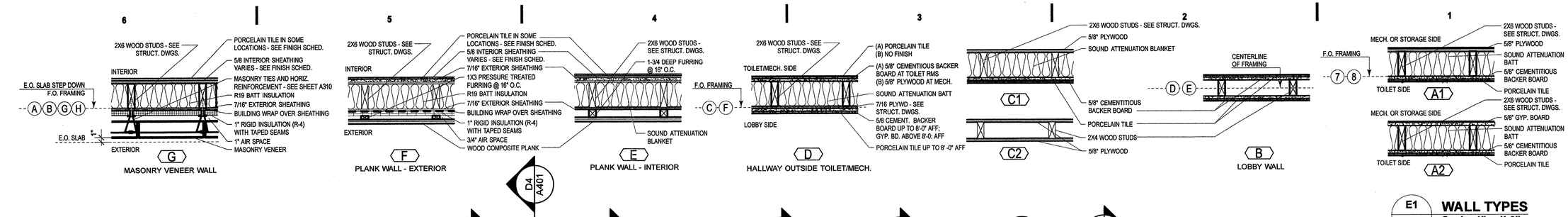
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

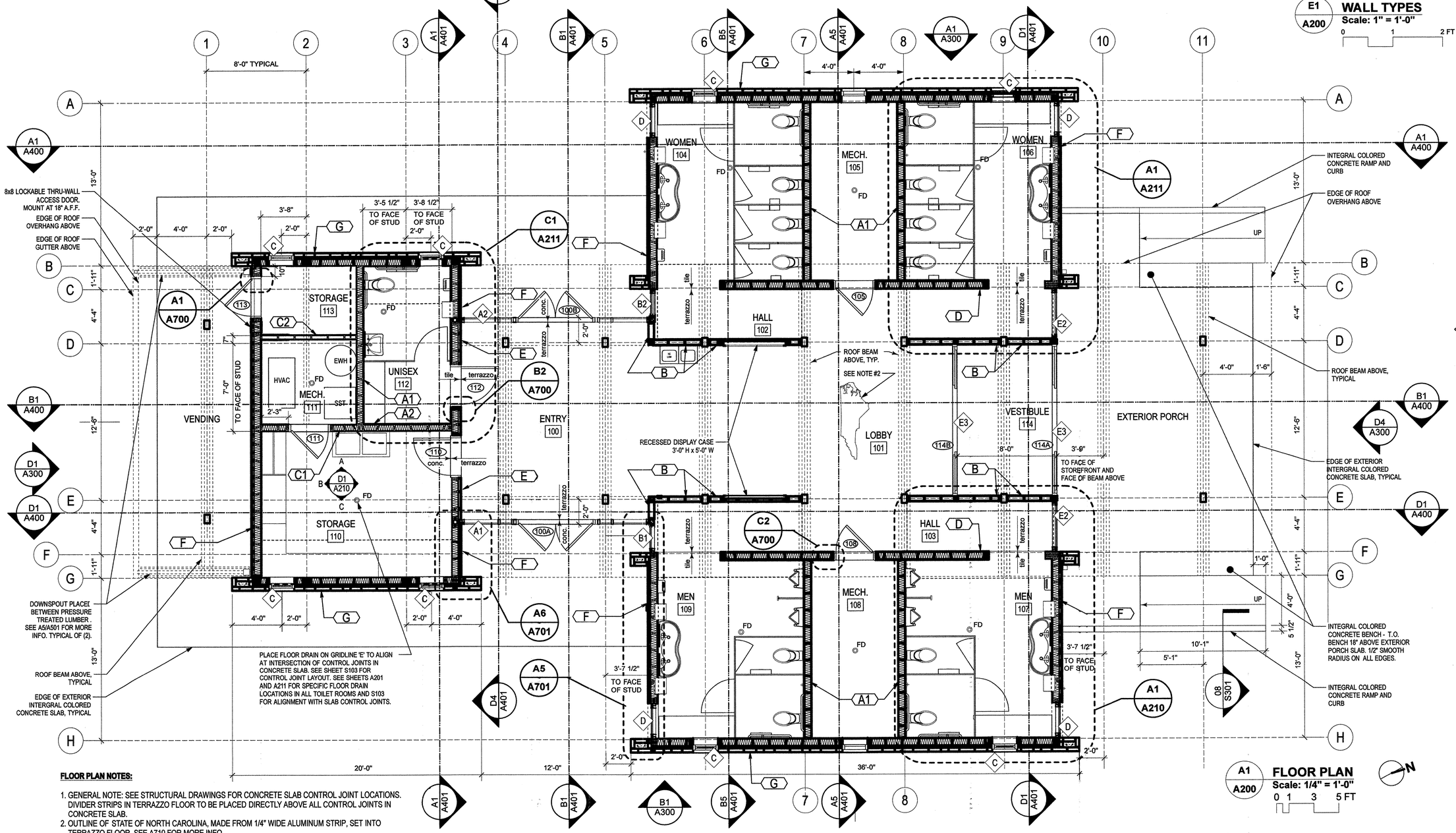
ARCHITECTURAL SITE PLAN

SHEET NO.

A100



E1 A200 **WALL TYPES**
Scale: 1" = 1'-0"



A1 A200 **FLOOR PLAN**
Scale: 1/4" = 1'-0"

FLOOR PLAN NOTES:

1. GENERAL NOTE: SEE STRUCTURAL DRAWINGS FOR CONCRETE SLAB CONTROL JOINT LOCATIONS. DIVIDER STRIPS IN TERRAZZO FLOOR TO BE PLACED DIRECTLY ABOVE ALL CONTROL JOINTS IN CONCRETE SLAB.
2. OUTLINE OF STATE OF NORTH CAROLINA, MADE FROM 1/4" WIDE ALUMINUM STRIP, SET INTO TERRAZZO FLOOR. SEE A710 FOR MORE INFO.

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. CERT. NO. 551 NORTH CAROLINA ARCHITECTURAL ARCHITECTURE RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

1-7-13

Bid Drawings
2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

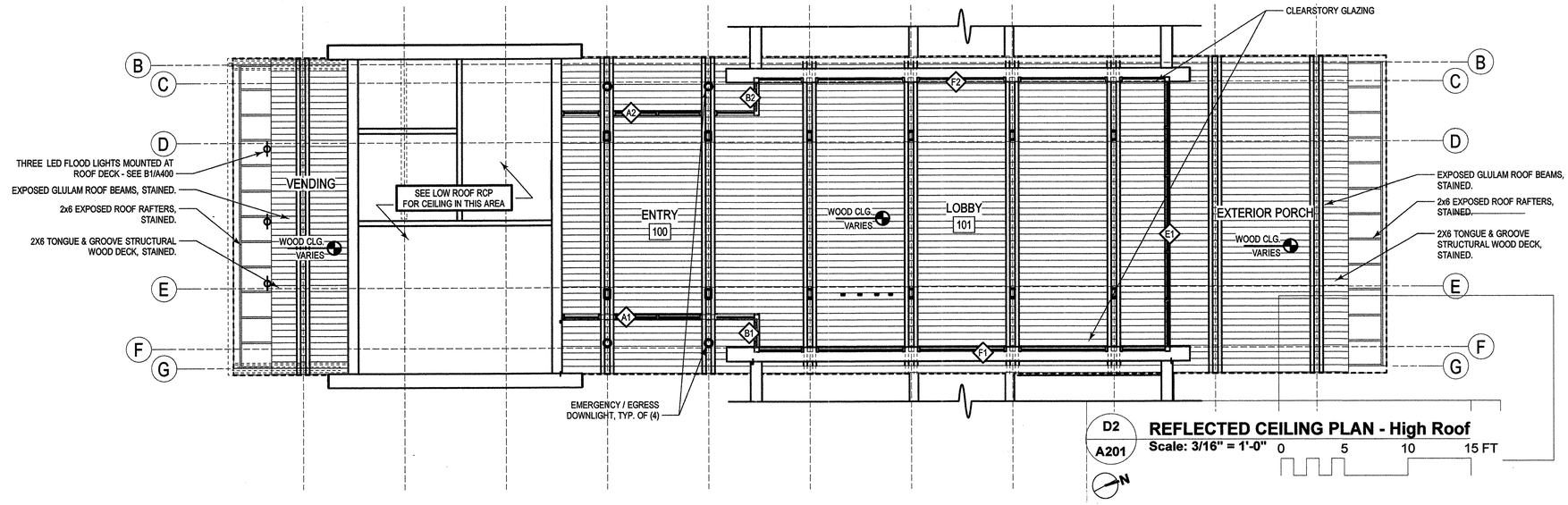
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

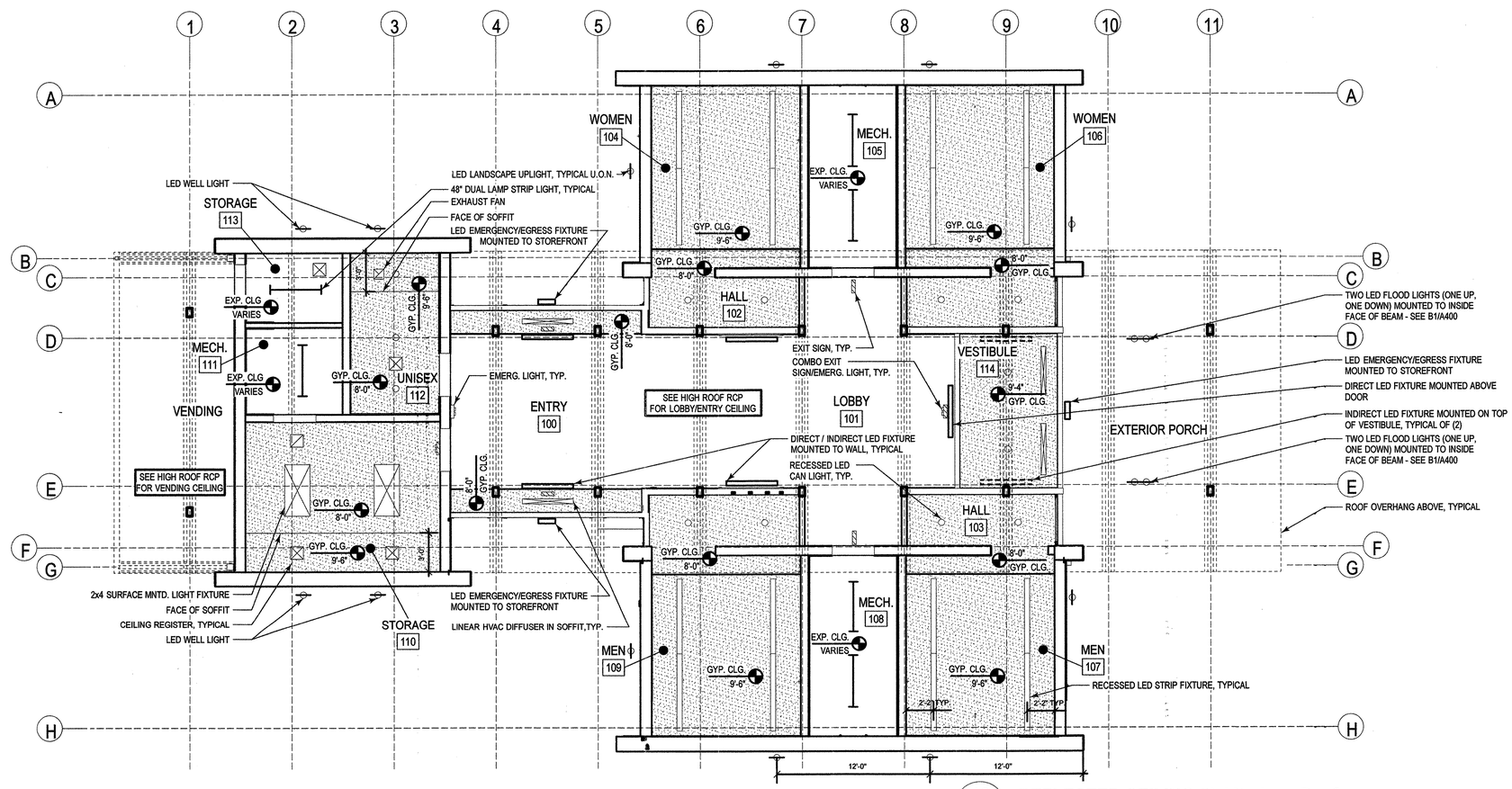
FLOOR PLAN

SHEET NO.

A200



D2 / A201 **REFLECTED CEILING PLAN - High Roof**
Scale: 3/16" = 1'-0" 0 5 10 15 FT



A2 / A201 **REFLECTED CEILING PLAN - Low Roof**
Scale: 3/16" = 1'-0" 0 5 10 15 FT

REFLECTED CEILING PLAN NOTES

1. THE GENERAL CONTRACTOR MUST COORDINATE ARCHITECTURAL DRAWINGS WITH STRUCTURAL AND PM&E DRAWINGS AND ALL OWNER'S VENDORS INCLUDING, BUT NOT LIMITED TO, TELEPHONE, AUDIO/VISUAL, AND SECURITY SYSTEMS. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPENCIES PRIOR TO COMMENCEMENT OF WORK.

2. THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR REVIEWING AND COORDINATING THEIR WORK WITH ALL OF THE DRAWINGS PRIOR TO INSTALLATION. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS, PROJECT MANUAL, NOTES, AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR AND SHALL BE RESOLVED WITH THE ARCHITECT BEFORE PROCEEDING WITH THE WORK OR RELATED WORK.

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE & INTERIOR DESIGN CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHLUSTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11-7-13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

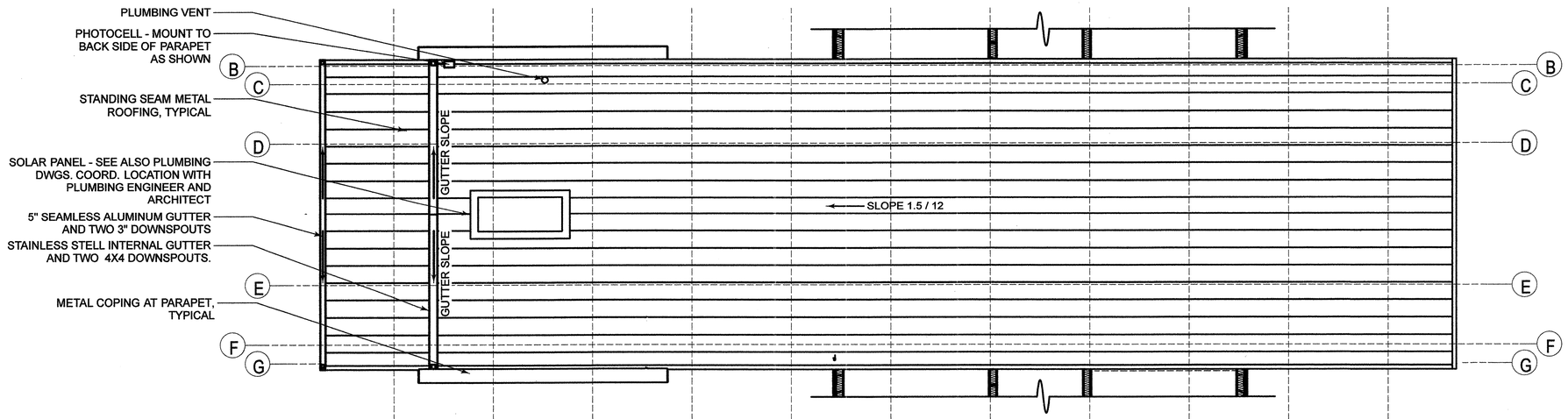
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

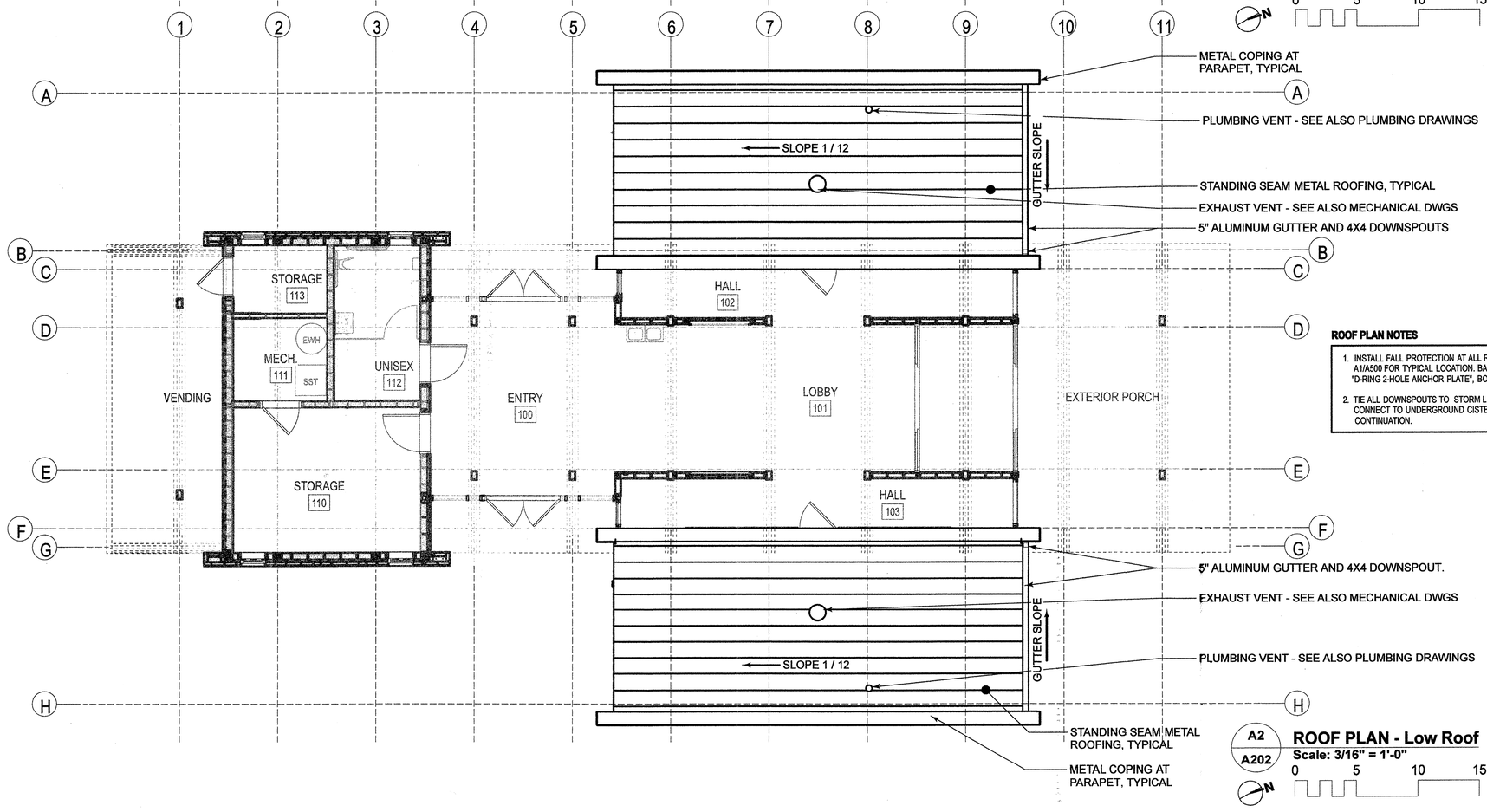
REFLECTED CEILING PLAN

SHEET NO.

A201



D2 / A202 **ROOF PLAN - High Roof**
Scale: 3/16" = 1'-0"
0 5 10 15 FT



A2 / A202 **ROOF PLAN - Low Roof**
Scale: 3/16" = 1'-0"
0 5 10 15 FT

ROOF PLAN NOTES

1. INSTALL FALL PROTECTION AT ALL ROOF BEAMS AT HIGH ROOF. (8) LOCATIONS. SEE A1/A500 FOR TYPICAL LOCATION. BASIS OF DESIGN: MANUF. = GUARDIAN; MODEL = "D-RING 2-HOLE ANCHOR PLATE", BOLTED
2. TIE ALL DOWNSPOUTS TO STORM LINE OF EQUAL OR GREATER CROSS SECTION AND CONNECT TO UNDERGROUND CISTERN PIPING. SEE CIVIL DRAWINGS FOR CONTINUATION.

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURAL PROFESSIONAL CORPORATION CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHLISTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11.7.13

Bid Drawings
2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

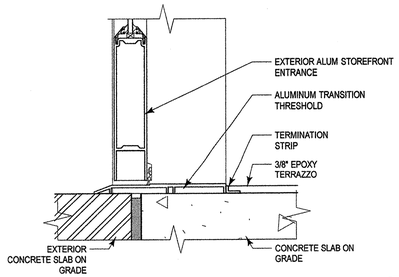
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

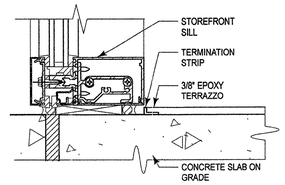
ROOF PLAN

SHEET NO.

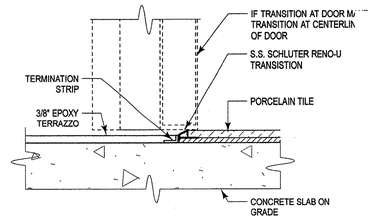
A202



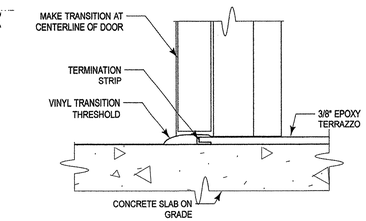
E5 / A202 TERRAZZO AT EXT. DOOR
Scale: 3" = 1'-0"



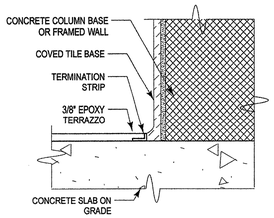
E4 / A203 TERRAZZO AT STOREFRONT SILL
Scale: 3" = 1'-0"



E3 / A203 TERRAZZO AT TILE
Scale: 3" = 1'-0"



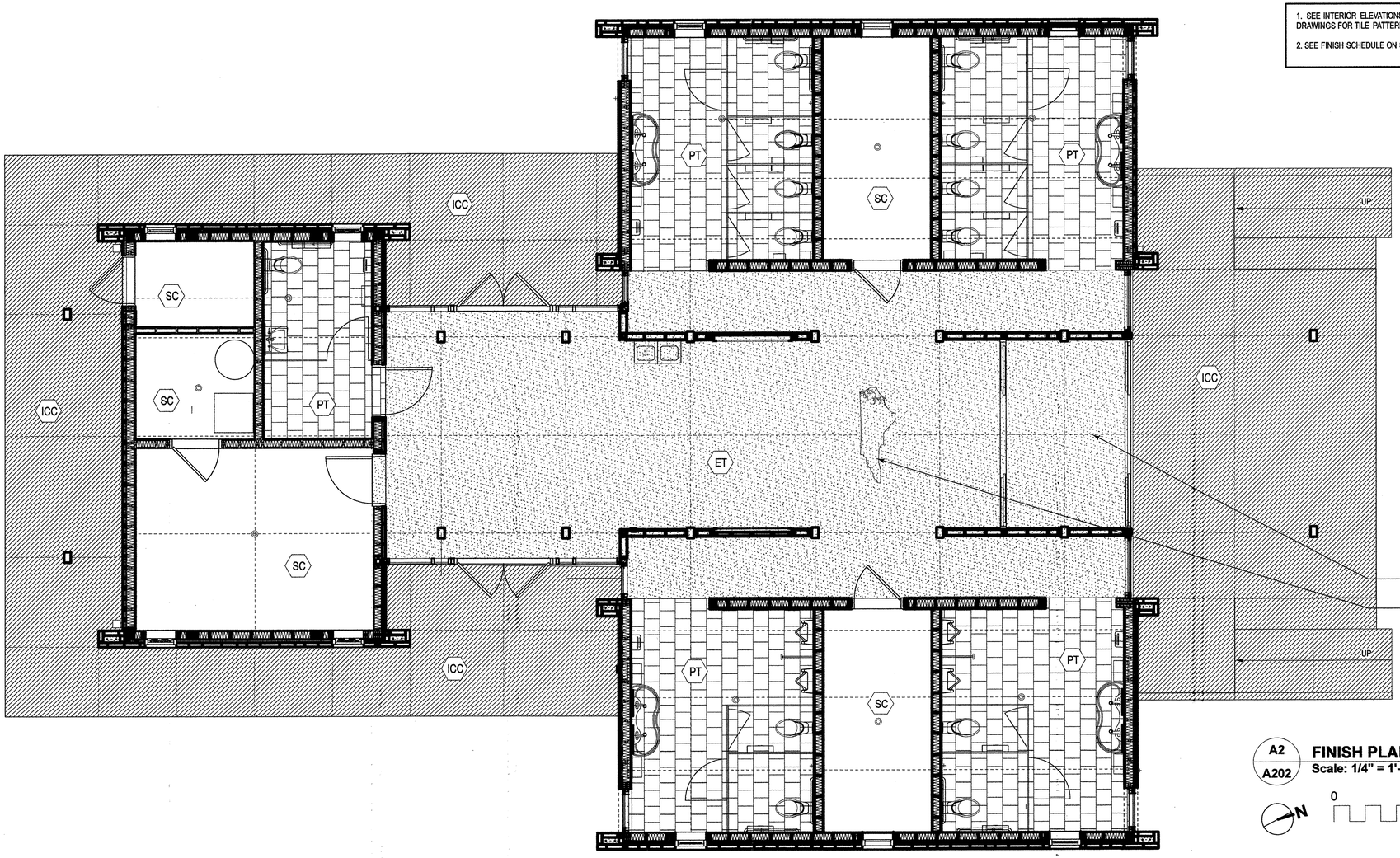
E2 / A203 TERRAZZO AT SEALED CONC.
Scale: 3" = 1'-0"



E1 / A203 TERRAZZO AT TILE BASE
Scale: 3" = 1'-0"

FINISH PLAN NOTES

1. SEE INTERIOR ELEVATIONS, BULDING SECTIONS, AND ENLARGED TOILET ROOM DRAWINGS FOR TILE PATTERN ON WALLS OF LOBBY, TOILET ROOMS AND HALLS..
2. SEE FINISH SCHEDULE ON SHEET A700 FOR FURTHER INFORMATION.



FINISH LEGEND

ET	EPOXY TERRAZZO
ICC	INTEGRAL COLORED CONCRETE
PT	PORCELAIN TILE - 12 X 12
SC	SEALED CONCRETE

A2 / A202 FINISH PLAN
Scale: 1/4" = 1'-0"

N

0 5 10 15 FT

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE CORPORATION CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHLUTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11-7-13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

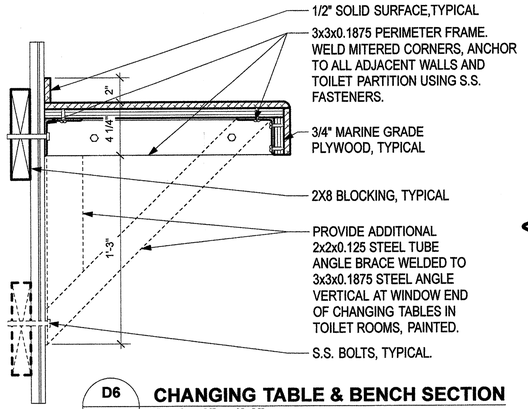
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0060
PRINTING:	Bid Drawings

SHEET DATA

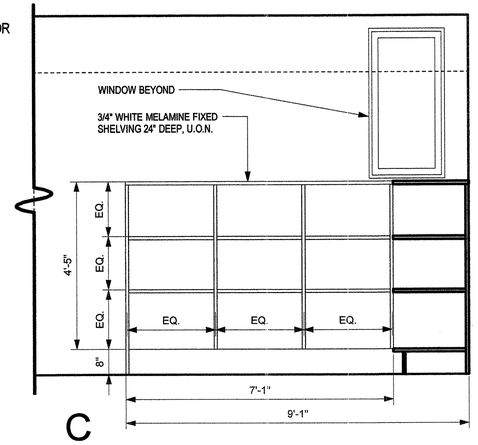
FINISH PLAN

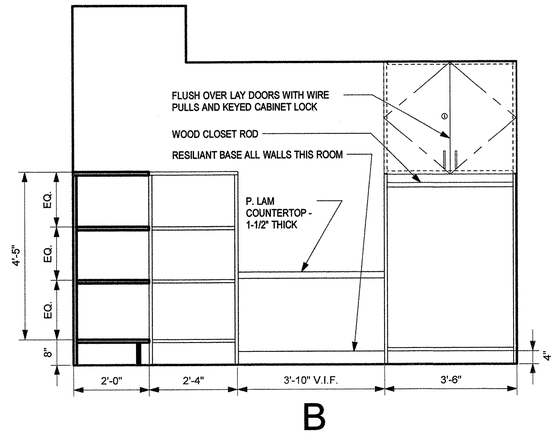
SHEET NO.

A203



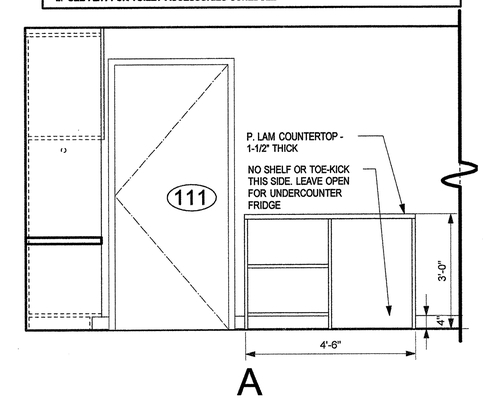
D6 / A210 **CHANGING TABLE & BENCH SECTION**
Scale: 2" = 1'-0"



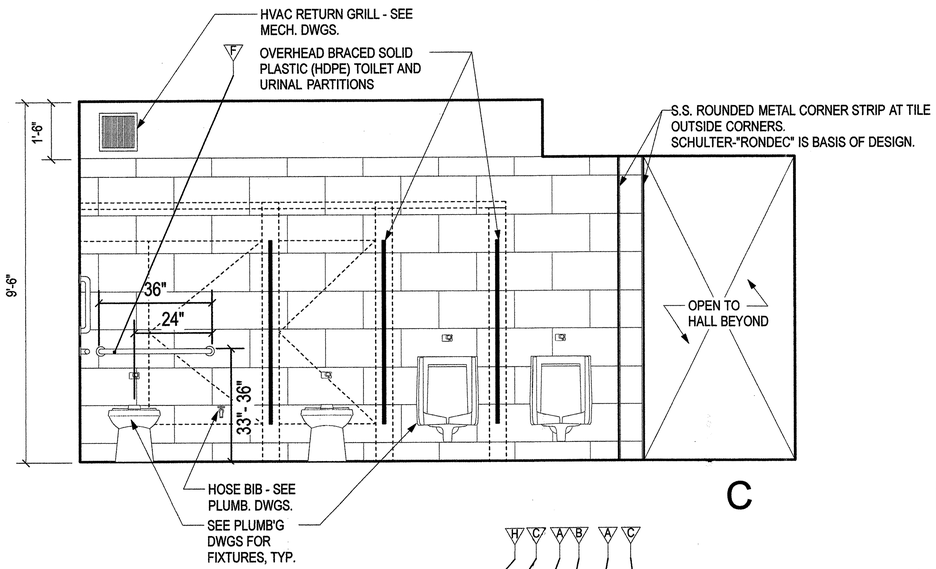


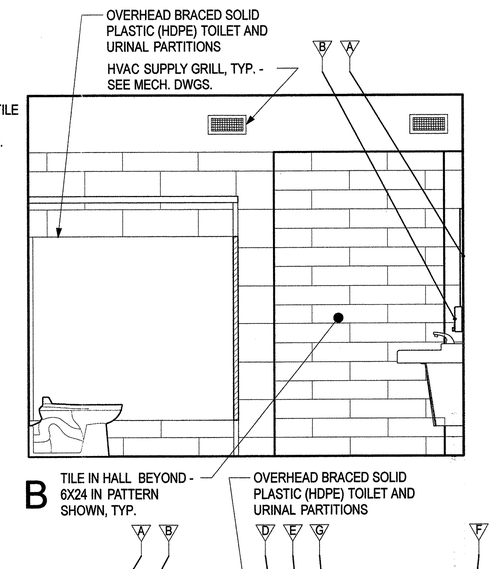
ENLARGED PLAN NOTES

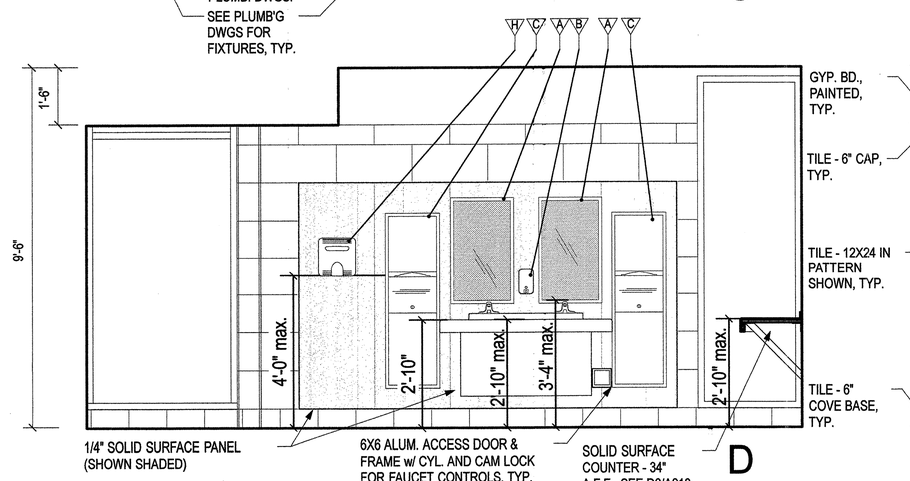
1. SEE ENLARGED PLANS BELOW FOR EXACT FLOOR DRAIN LOCATIONS AND COORDINATE WITH STRUCTURAL DRAWINGS WHICH SHOW SLOPE AND OTHER REQUIREMENTS FOR SLOPED SLABS IN TOILET ROOMS.
2. SEE A211 FOR TOILET ACCESSORIES SCHEDULE

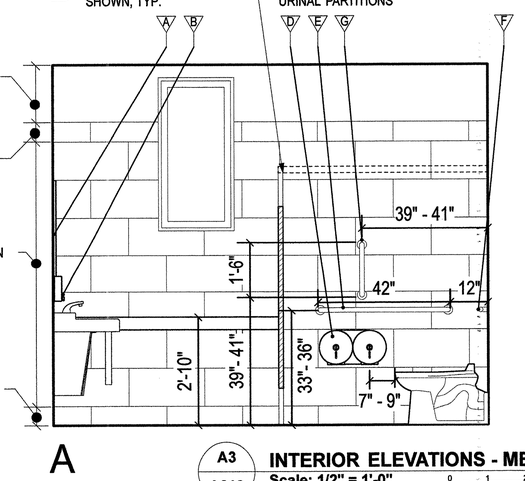


D1 / A210 **INTERIOR ELEVATIONS - MENS**
Scale: 1/2" = 1'-0"

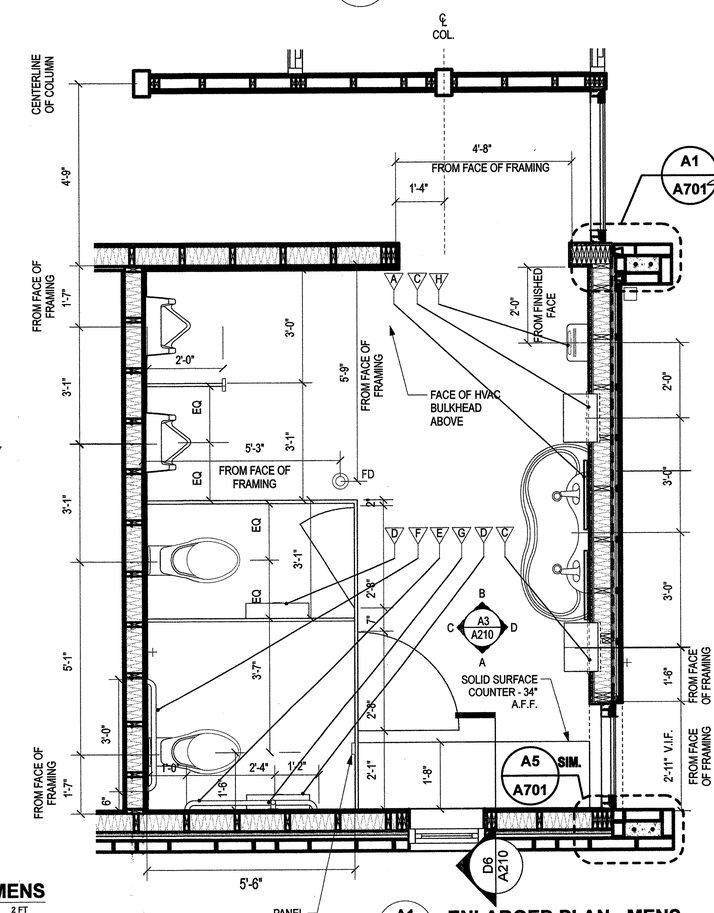








A3 / A210 **INTERIOR ELEVATIONS - MENS**
Scale: 1/2" = 1'-0"



CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE CORPORATION CERT. NO. 551 RALEIGH, N.C.

STEVEN D. SCHULTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

7.7.13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

TOILET ROOMS
PLANS / ELEVATIONS

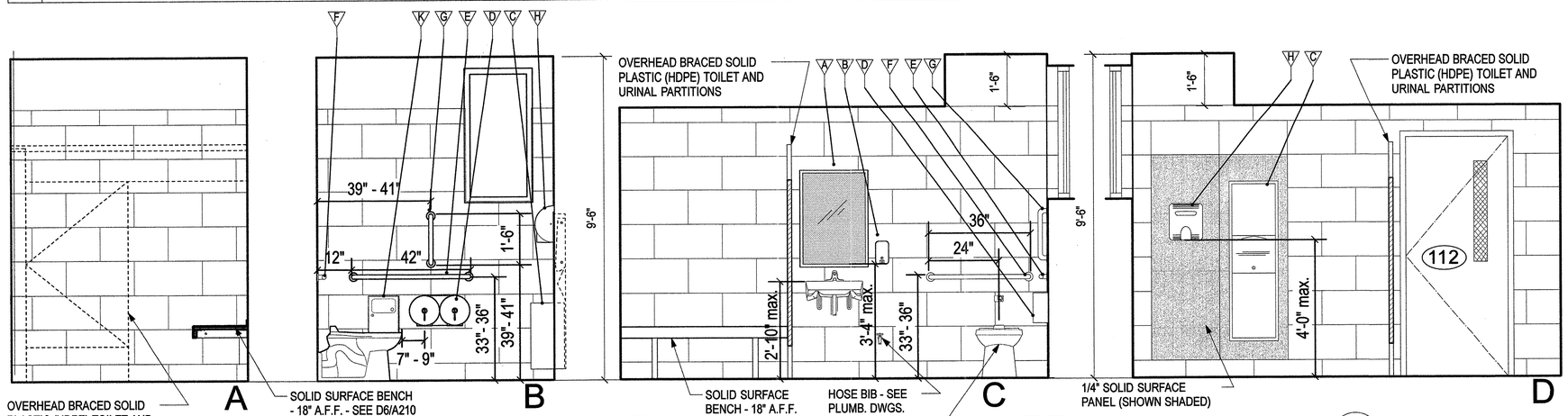
SHEET NO.

A210

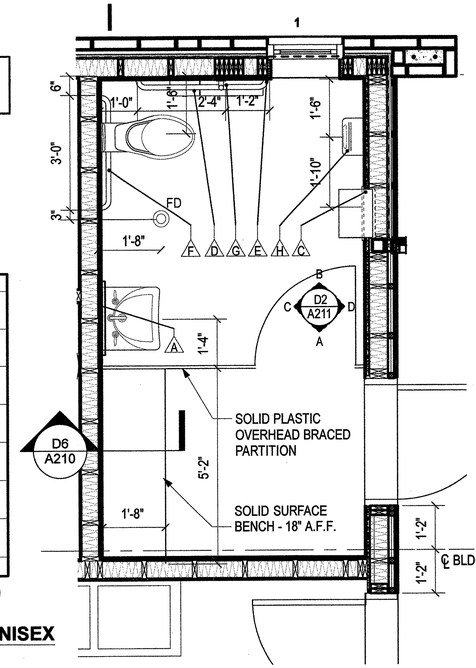
ACCESSORIES / FIXTURES SCHEDULE		BASIS OF DESIGN - MODEL #
A	S.S. FRAMED MIRROR (24" W x 36" H)	BOBRICK B-290 1836
B	SURFACE MOUNTED S.S. SOAP DISPENSER	BOBRICK B-2111
C	RECESSED S.S. COMBO WASTE RECEPTACLE / PAPER TOWEL DISP.	BOBRICK B-3944
D	SURFACE MOUNTED JUMBO-ROLL TOILET PAPER DISP.	A & J WASHROOM UP830
E	S.S. HORIZ. GRAB BAR 42"	BOBRICK B-5806.99 X 42
F	S.S. HORIZ. GRAB BAR 36"	BOBRICK B-5806.99 X 36
G	S.S. VERT. GRAB BAR 18"	BOBRICK B-5806.99 X 18
H	SURFACE MOUNTED S.S. ELECTRIC HAND DRYER	BOBRICK B-708 "AirGuard"
J	SEMI-RECESSED SANITARY NAPKIN DISPOSAL	BOBRICK B-4353
K	PARTITION MOUNTED SANITARY NAPKIN DISPOSAL	BOBRICK B-4354

ENLARGED PLAN NOTES

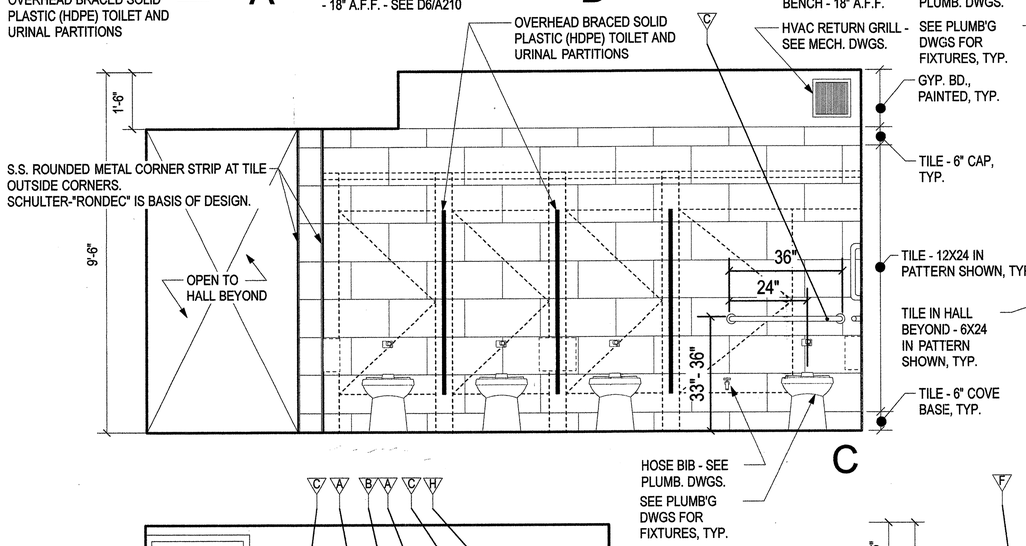
1. SEE ENLARGED PLANS BELOW FOR EXACT FLOOR DRAIN LOCATIONS AND COORDINATE WITH STRUCTURAL DRAWINGS WHICH SHOW SLOPE AND OTHER REQUIREMENTS FOR SLOPED SLABS IN TOILET ROOMS.

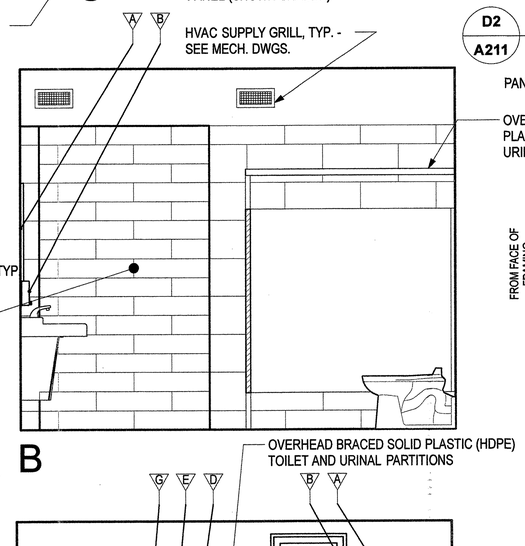


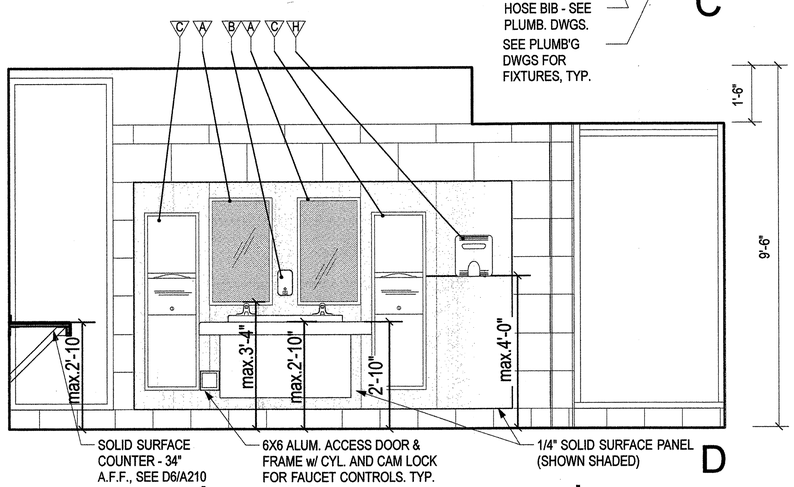
D2 / A211 INTERIOR ELEV - UNISEX
Scale: 1/2" = 1'-0"

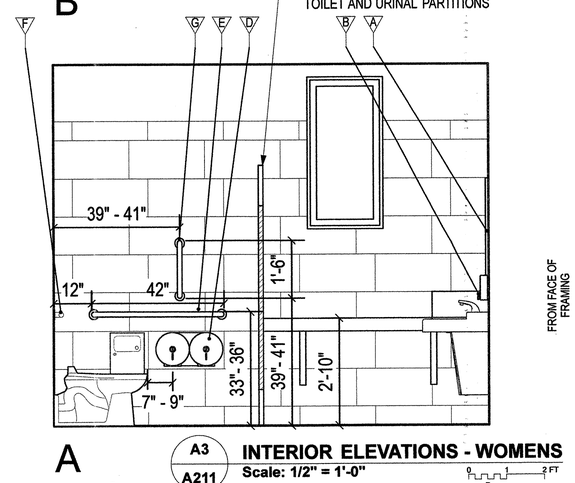


C1 / A211 ENLARGED PLAN - UNISEX
Scale: 1/2" = 1'-0"

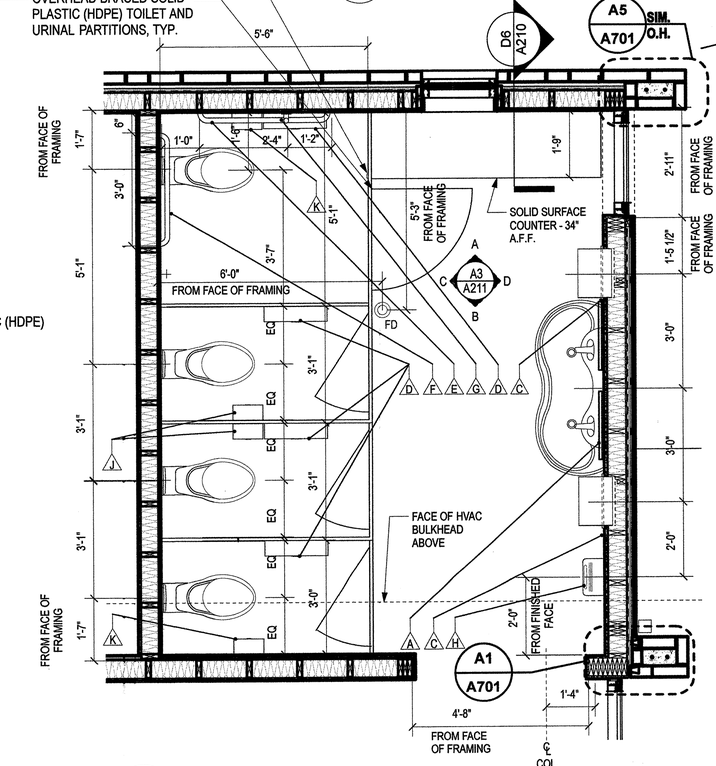








A3 / A211 INTERIOR ELEVATIONS - WOMENS
Scale: 1/2" = 1'-0"



A1 / A211 ENLARGED PLAN - WOMENS
Scale: 1/2" = 1'-0"

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 8118 NORTH CAROLINA JOHNSTON, N.C.
11-7-13

Bid Drawings 2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

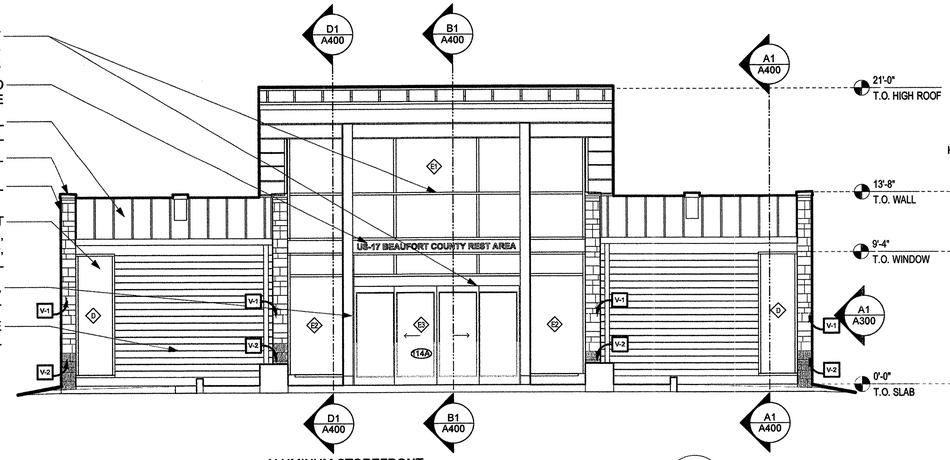
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.wwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

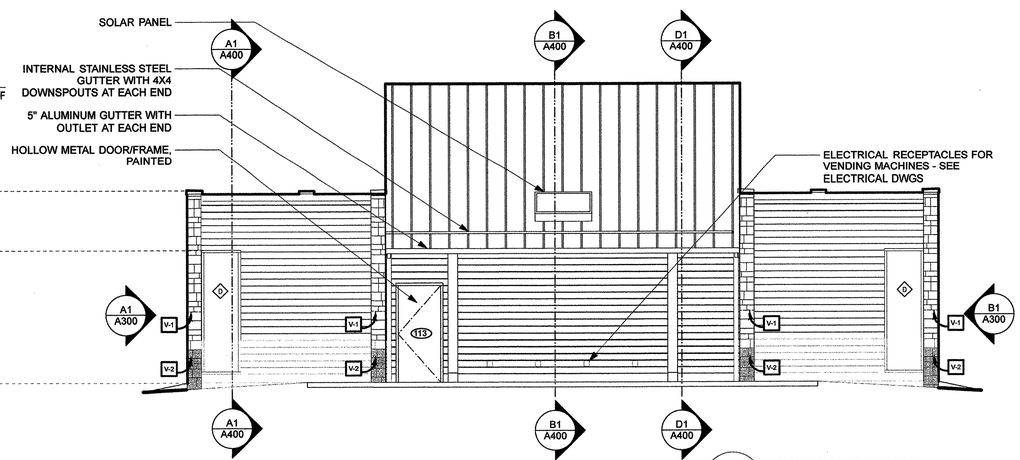
TOILET ROOMS PLANS / ELEVATIONS

SHEET NO.

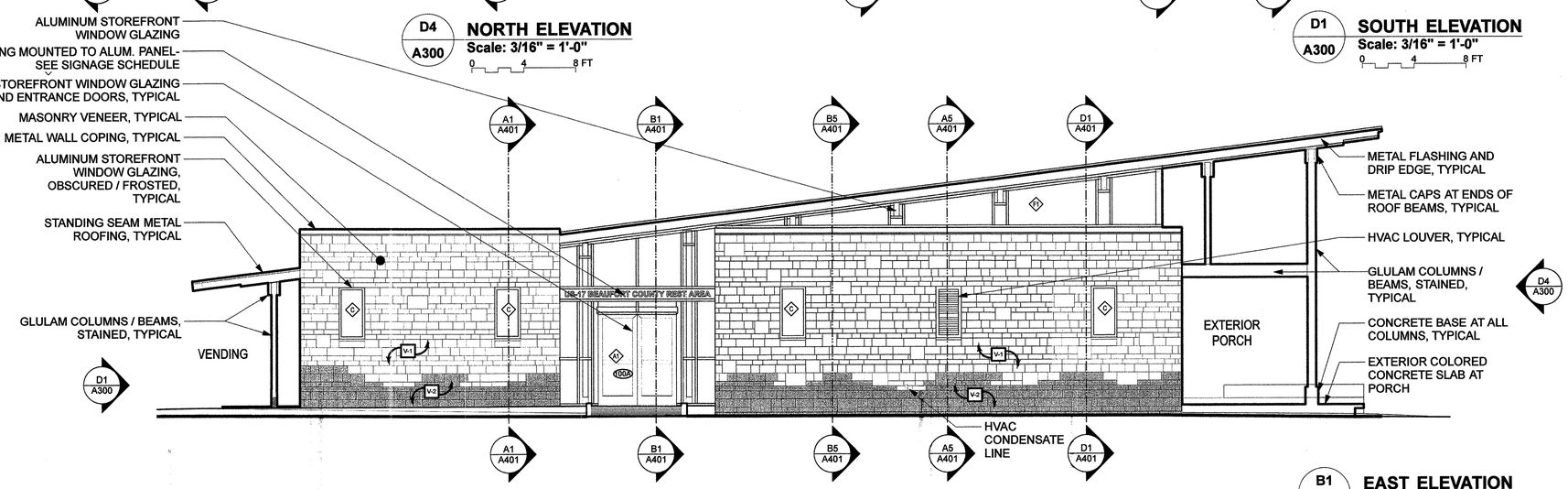
A211



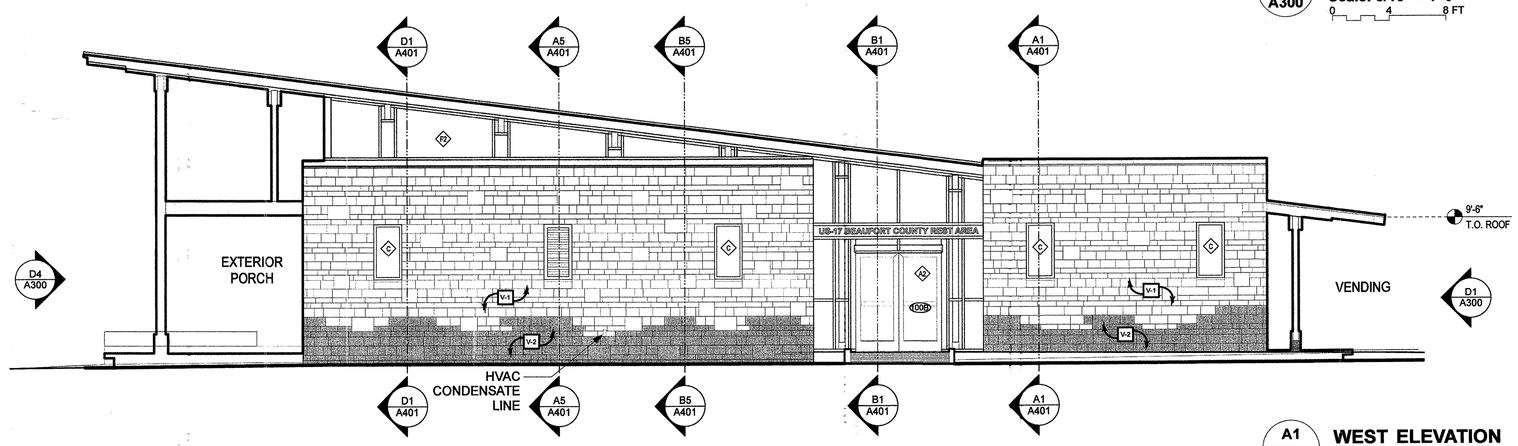
D4 A300 **NORTH ELEVATION**
Scale: 3/16" = 1'-0"
0 4 8 FT



D1 A300 **SOUTH ELEVATION**
Scale: 3/16" = 1'-0"
0 4 8 FT



B1 A300 **EAST ELEVATION**
Scale: 3/16" = 1'-0"
0 4 8 FT



A1 A300 **WEST ELEVATION**
Scale: 3/16" = 1'-0"
0 4 8 FT

ELEVATION NOTES

1. SEE SHEET A310 FOR ADDITIONAL INFORMATION ON MASONRY WALLS

MASONRY LEGEND

V-1	MASONRY VENEER - WATERFORD STONE BY NORTHFIELD (AN OLDCASTLE COMPANY). COLOR = "COPPER STONE"
V-2	MASONRY VENEER - WATERFORD STONE BY NORTHFIELD (AN OLDCASTLE COMPANY). COLOR = "AURORA"

CLEARSCAPES ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE & INTERIOR DESIGN CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11.7.13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

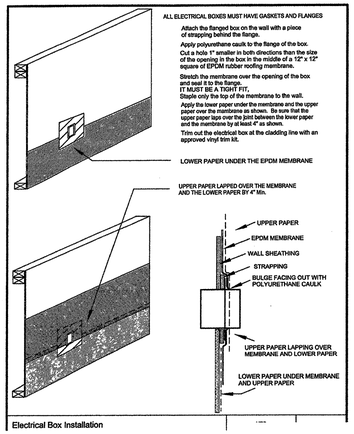
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.wxx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

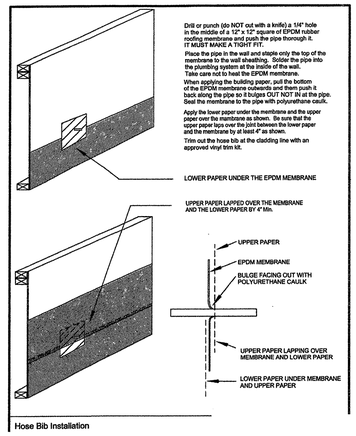
BUILDING ELEVATIONS

SHEET NO.

A300



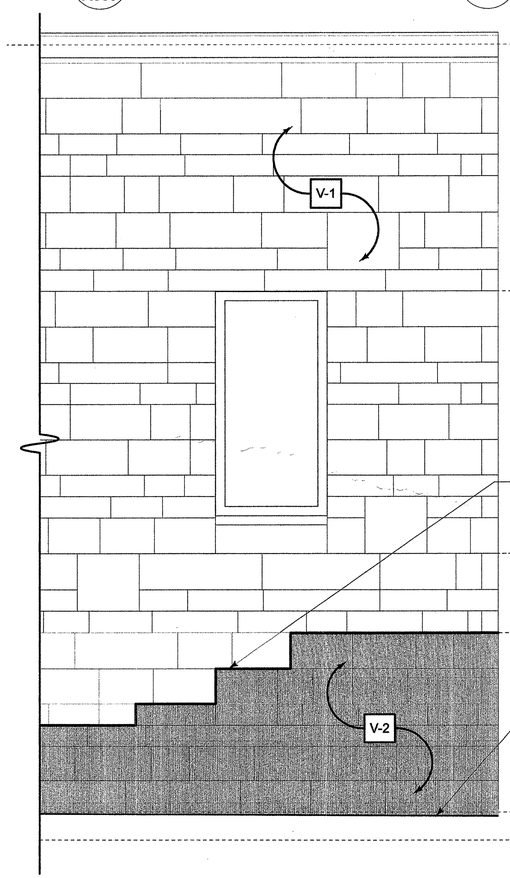
Electrical Box Installation



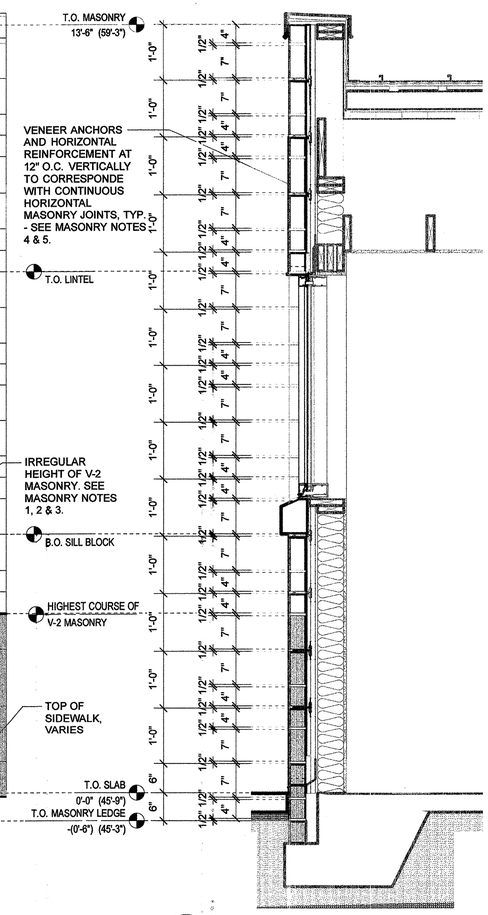
Hose Bib Installation

D6 / A300 WALL PENETRATION DETAIL
Scale: 3/4" = 1'-0"

D5 / A300 WALL PENETRATION DETAIL
Scale: 3/4" = 1'-0"



A1 / A300 WEST ELEVATION
Scale: 3/4" = 1'-0"



A3 / A501 SECTION THRU EXT. WALL
Scale: 3/4" = 1'-0"

MASONRY NOTES

1. MASONRY VENEER TO BE WATERFORD STONE BY NORTHFIELD (AN OLDCASTLE COMPANY) . COLOR (V-1) TO BE "COPPER STONE", COLOR (V-2) TO BE "AURORA".

2. 10% OF WALL TO CONSIST OF 11 -1/2" UNITS AND REMAINING 90% TO BE 4" AND 7" UNITS.

3. GENERAL CONTRACTOR AND MASONRY CONTRACTOR TO ATTEND PRE-INSTALLATION CONFERENCE WITH OWNER AND ARCHITECT TO FINALIZE MASONRY PATTERN PRIOR TO WORK BEING PUT IN PLACE.

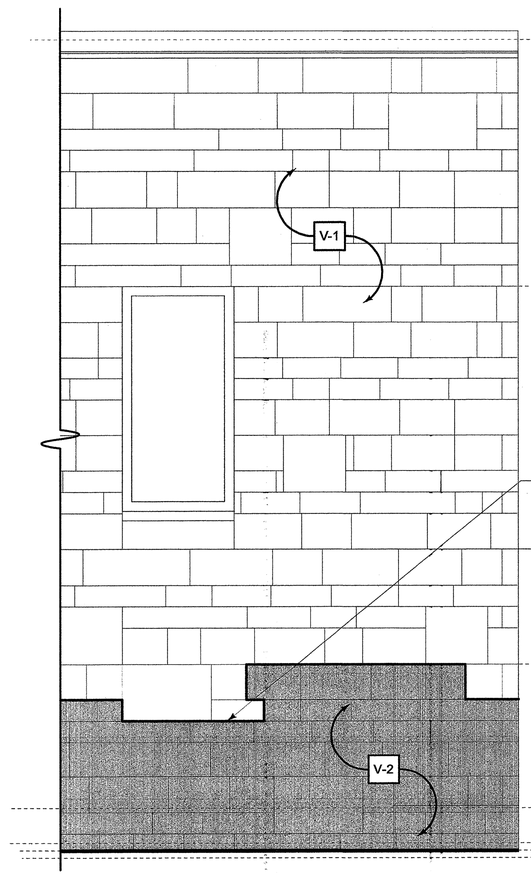
4. VENEER ANCHORS TO BE PLACED AT 12" O.C. VERTICALLY AS SHOWN IN DRAWING BELOW AND AT 16" MIN. O.C. HORIZONTALLY AND ANCHORED TO WOOD STUDS AT ALL LOCATIONS. ATTACHMENT TO PLYWOOD ONLY IS NOT ACCEPTABLE.
BASIS OF DESIGN: MANUF. = WIREBOND, MODEL = TYPE III -X SCREW ON VENEER ANCHOR, MILL GALVANIZED, 12 GAUGE , PRONG LENGTH TO BE 1" TO PENETRATE 1" OF RIGID INSULATION TO MAKE CONTACT WITH FACE OF PLYWOOD SHEATHING BENEATH. TRIANGULAR TIES TO BE USED IN CONJUNCTION WITH ANCHOR AND SIZED APPROPRIATELY FOR WALL THICKNESS.

5. #9 B.W. GAUGE HORIZONTAL REINFORCING TO BE PLACED AT 12" O.C. VERTICALLY AS SHOWN IN DRAWING BELOW AND ATTACHED TO TRIANGULAR TIES USING CLIP SYSTEM WELDED TO TRIANGULAR TIES.
BASIS OF DESIGN : WIRE-BOND® Clip System, MILL GALVANIZED, 9 GA.

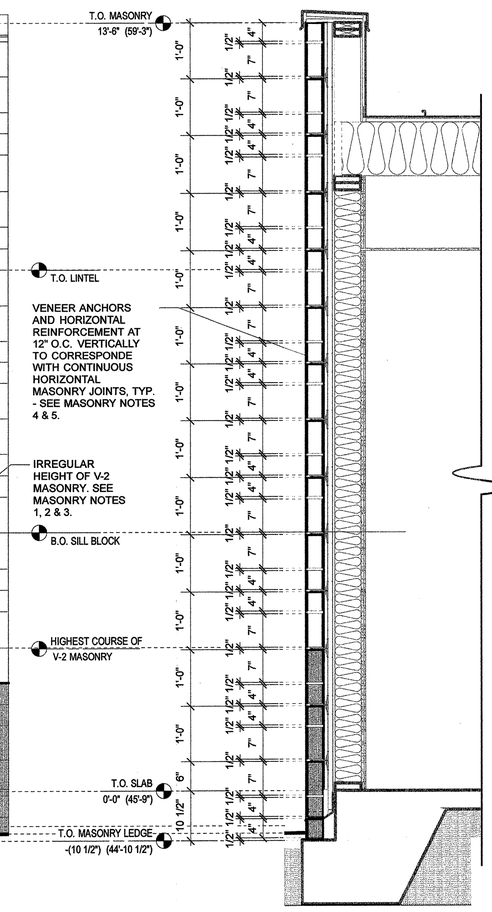
MASONRY LEGEND

V-1 — MASONRY VENEER - WATERFORD STONE BY NORTHFIELD (AN OLDCASTLE COMPANY) . COLOR = "COPPER STONE"

V-2 — MASONRY VENEER - WATERFORD STONE BY NORTHFIELD (AN OLDCASTLE COMPANY) . COLOR = "AURORA"



A1 / A300 WEST ELEVATION
Scale: 3/4" = 1'-0"



A1 / A500 SECTION THRU MECH. RM.
Scale: 3/4" = 1'-0"

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

11-7-13

Bid Drawings
2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

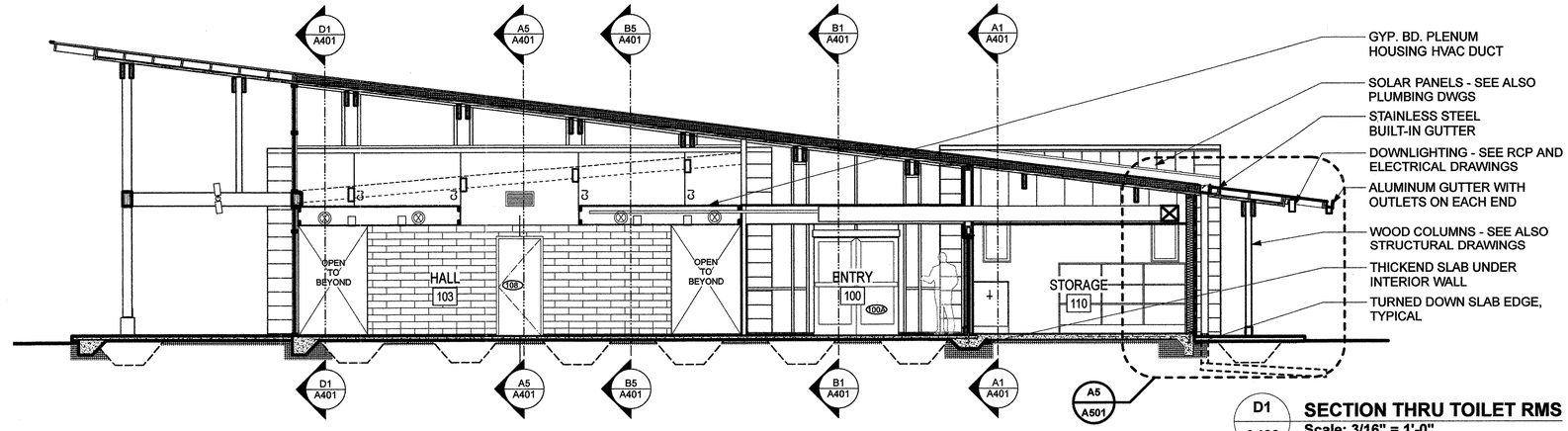
MASONRY LAYOUT

SHEET NO.

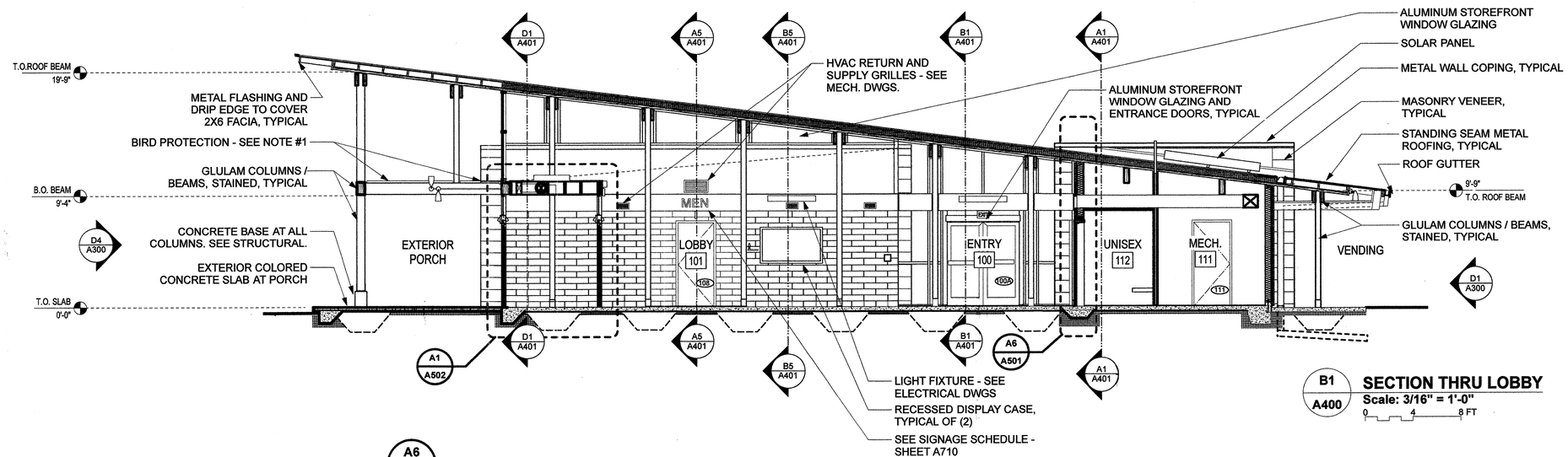
A310

BUILDING SECTION NOTES

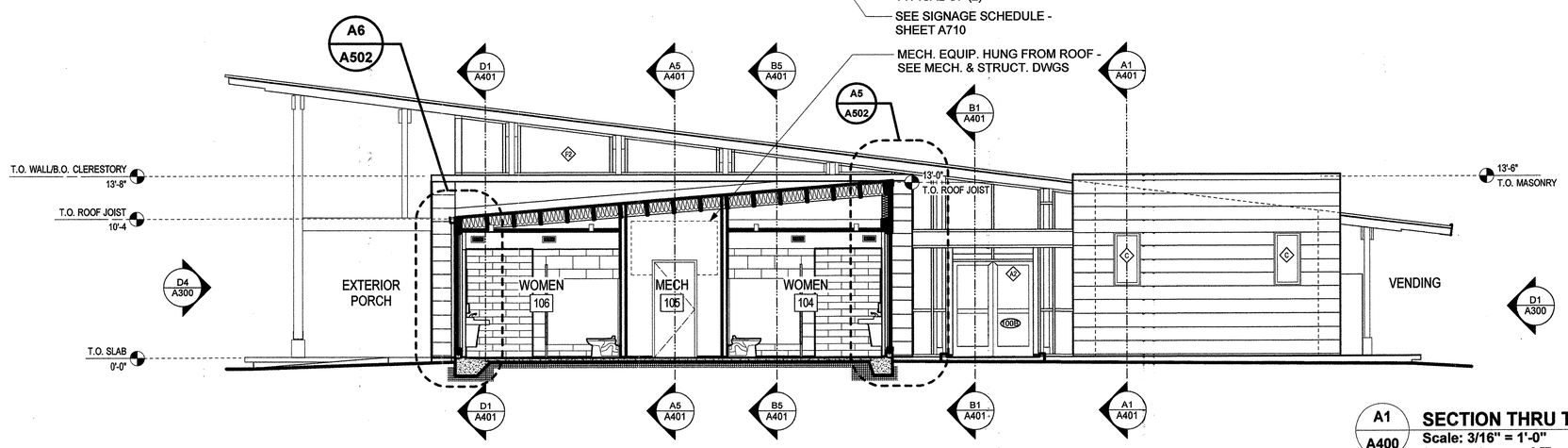
1. PLACE BIRD PROTECTION ALONG ENTIRE LENGTH OF HORIZONTAL BEAM. BASIS OF DESIGN: MANUF. = BIRD BARRIER; MODEL = "BIRD WIRE".



D1 / A400 SECTION THRU TOILET RMS
Scale: 3/16" = 1'-0"
0 4 8 FT



B1 / A400 SECTION THRU LOBBY
Scale: 3/16" = 1'-0"
0 4 8 FT



A1 / A400 SECTION THRU TOILET RMS
Scale: 3/16" = 1'-0"
0 4 8 FT

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEAL

CLEARSCAPES, P.A. ARCHITECTURE + INTERIOR DESIGN CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3116 NORTH CAROLINA RALEIGH, N.C.

11-7-13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

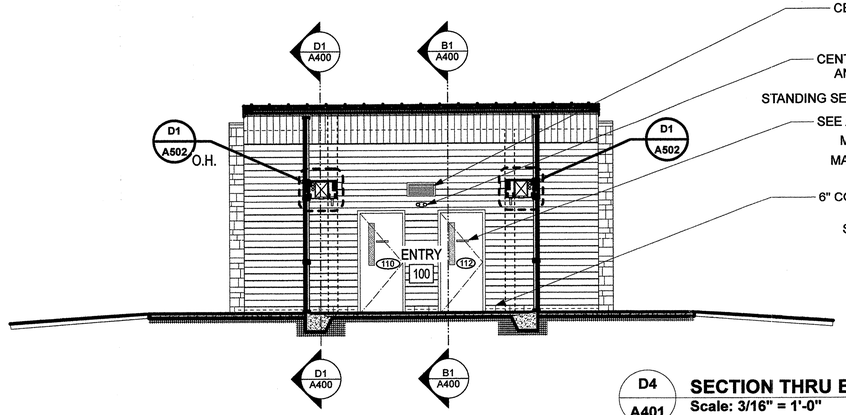
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

BUILDING SECTIONS

SHEET NO.

A400



CENTER HVAC GRILLE AT JOINT BETWEEN PLANKS, AND CENTER BETWEEN DOORS

CENTER EMERG. LIGHT ON PLANK AND CENTER BETWEEN DOORS

STANDING SEAM METAL ROOFING, TYPICAL

SEE A710 FOR SIGNAGE SCHEDULE

METAL WALL COPING, TYPICAL

MASONRY VENEER OVER WOOD STUD & PLYWOOD

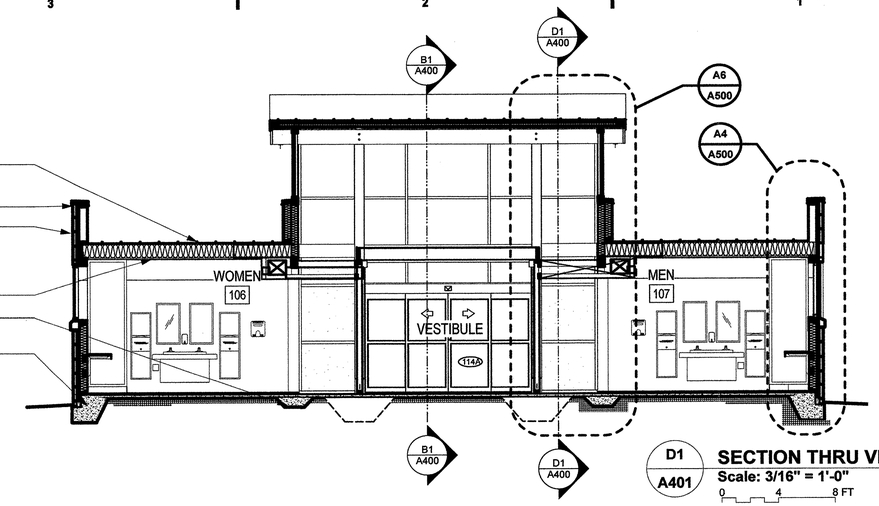
6" COVED TILE BASE ON INTERIOR - SEE FINISH SCHEDULE

SUSPENDED GYP. BD. CEILING

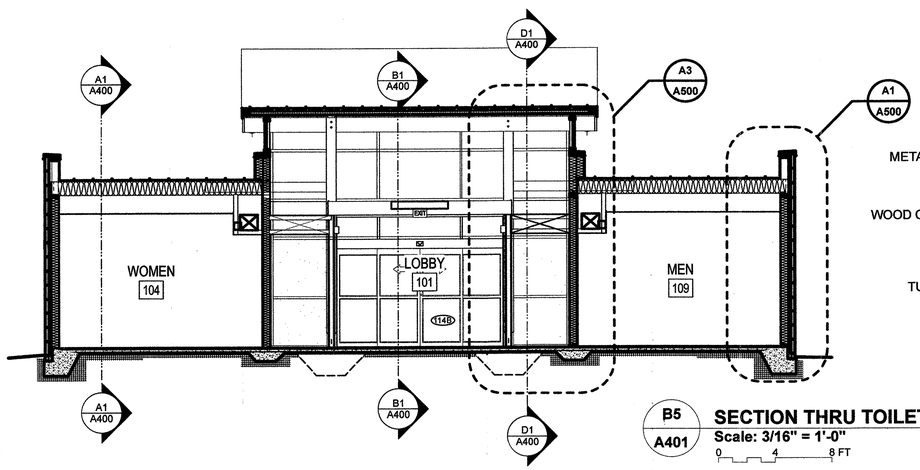
THICKEND SLAB UNDER INTERIOR WALL

TURNED DOWN SLAB EDGE, TYPICAL

D4 / A401 SECTION THRU ENTRY 101
Scale: 3/16" = 1'-0"
0 4 8 FT



D1 / A401 SECTION THRU VESTIBULE
Scale: 3/16" = 1'-0"
0 4 8 FT



B5 / A401 SECTION THRU TOILET RM.
Scale: 3/16" = 1'-0"
0 4 8 FT

METAL COPING AND DRIP EDGE

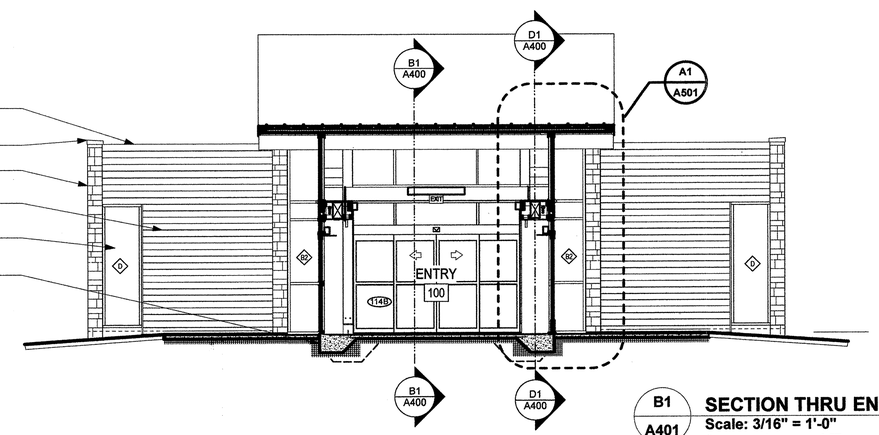
METAL WALL COPING, TYPICAL

MASONRY VENEER WALL

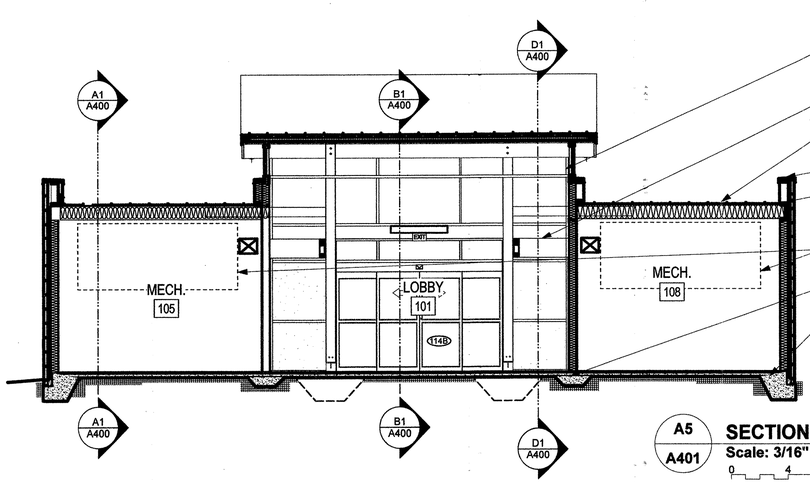
WOOD COMPOSITE PLANK SIDING

STOREFRONT FRAMING & GLAZING, TYP. - SEE A701

TURNED DOWN SLAB EDGE, TYPICAL



B1 / A401 SECTION THRU ENTRY 101
Scale: 3/16" = 1'-0"
0 4 8 FT



ALUMINUM STOREFRONT WINDOW GLAZING

GYP. BD. SOFFIT BEYOND

STANDING SEAM METAL ROOFING, TYPICAL

METAL WALL COPING, TYPICAL

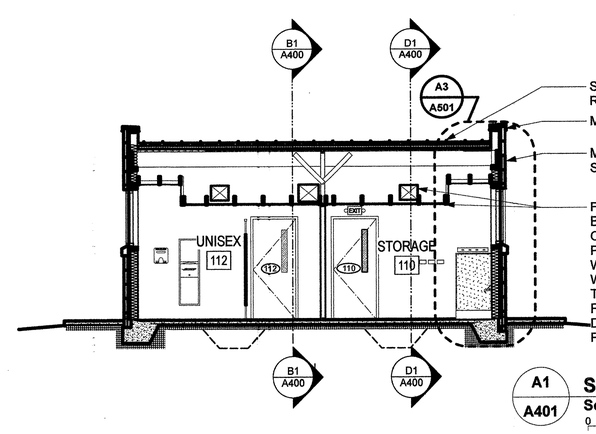
MASONRY VENEER OVER WOOD STUD & PLYWOOD

MECH. EQUIP. HUNG FROM ROOF - SEE MECH. & STRUCT. DWGS

THICKEND SLAB UNDER INTERIOR WALL

TURNED DOWN SLAB EDGE, TYPICAL

A5 / A401 SECTION THRU MECH. RM.
Scale: 3/16" = 1'-0"
0 4 8 FT



STANDING SEAM METAL ROOFING, TYPICAL

METAL WALL COPING, TYPICAL

MASONRY VENEER OVER WOOD STUD & PLYWOOD

FRAMED GYP. BD. CEILING WITH BULKHEAD. REQUIRED LOCATION OF DUCTWORK TAKES PRECEDENCE. CEILING JOISTS WILL NEED TO BE ADJUSTED WHEN DUCTWORK INSTALLED. THIS WILL BE A KEY ITEM PERTAINING TO COORDINATION DRAWINGS REQUIRED BY PROJECT MANUAL.

A1 / A401 SECTION THRU UNISEX
Scale: 3/16" = 1'-0"
0 4 8 FT

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE & INTERIOR DESIGN CERT. NO. 551 RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3118 RALEIGH, N.C.
11-7-13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

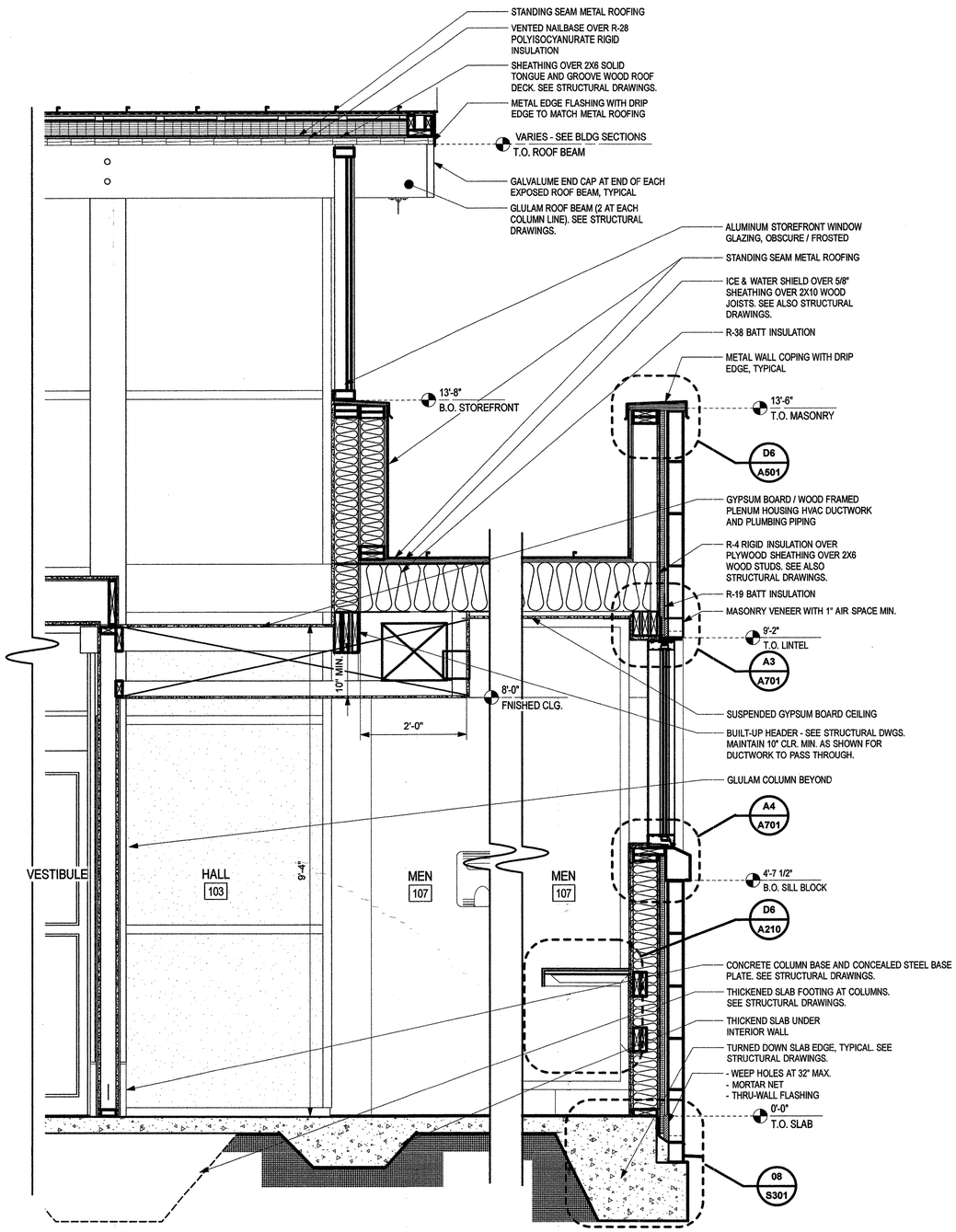
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

BUILDING SECTIONS

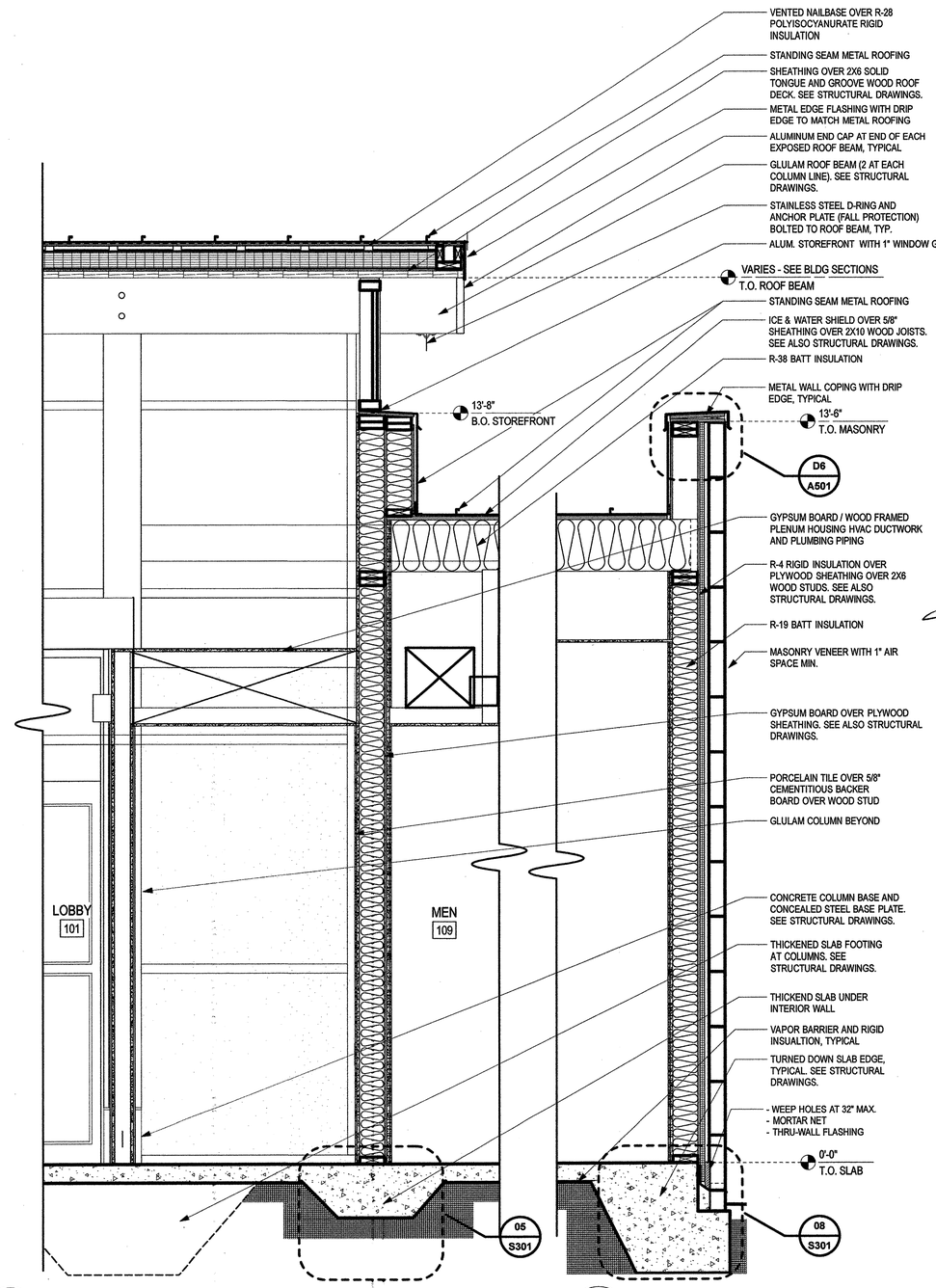
SHEET NO.

A401



A6 / A500 SECTION THRU HALL
Scale: 3/4" = 1'-0" 0 1 2 FT

A4 / A500 SECTION THRU WINDOW
Scale: 3/4" = 1'-0" 0 1 2 FT



A3 / A500 SECTION THRU TOILET RMS
Scale: 3/4" = 1'-0" 0 1 2 FT

A1 / A500 SECTION THRU MECH. RM.
Scale: 3/4" = 1'-0" 0 1 2 FT

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE CORPORATION CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHULTZ REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11-7-13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

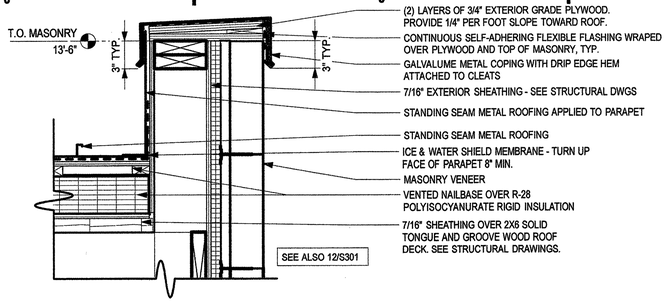
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

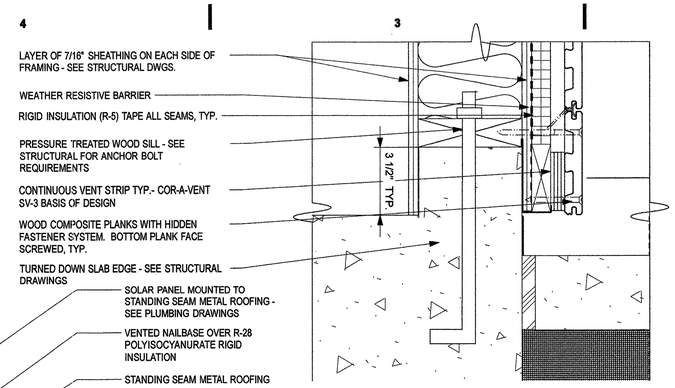
WALL SECTIONS

SHEET NO.

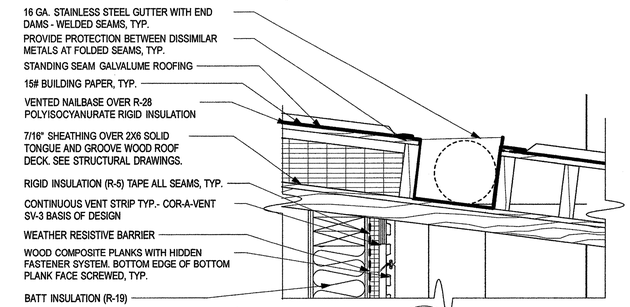
A500



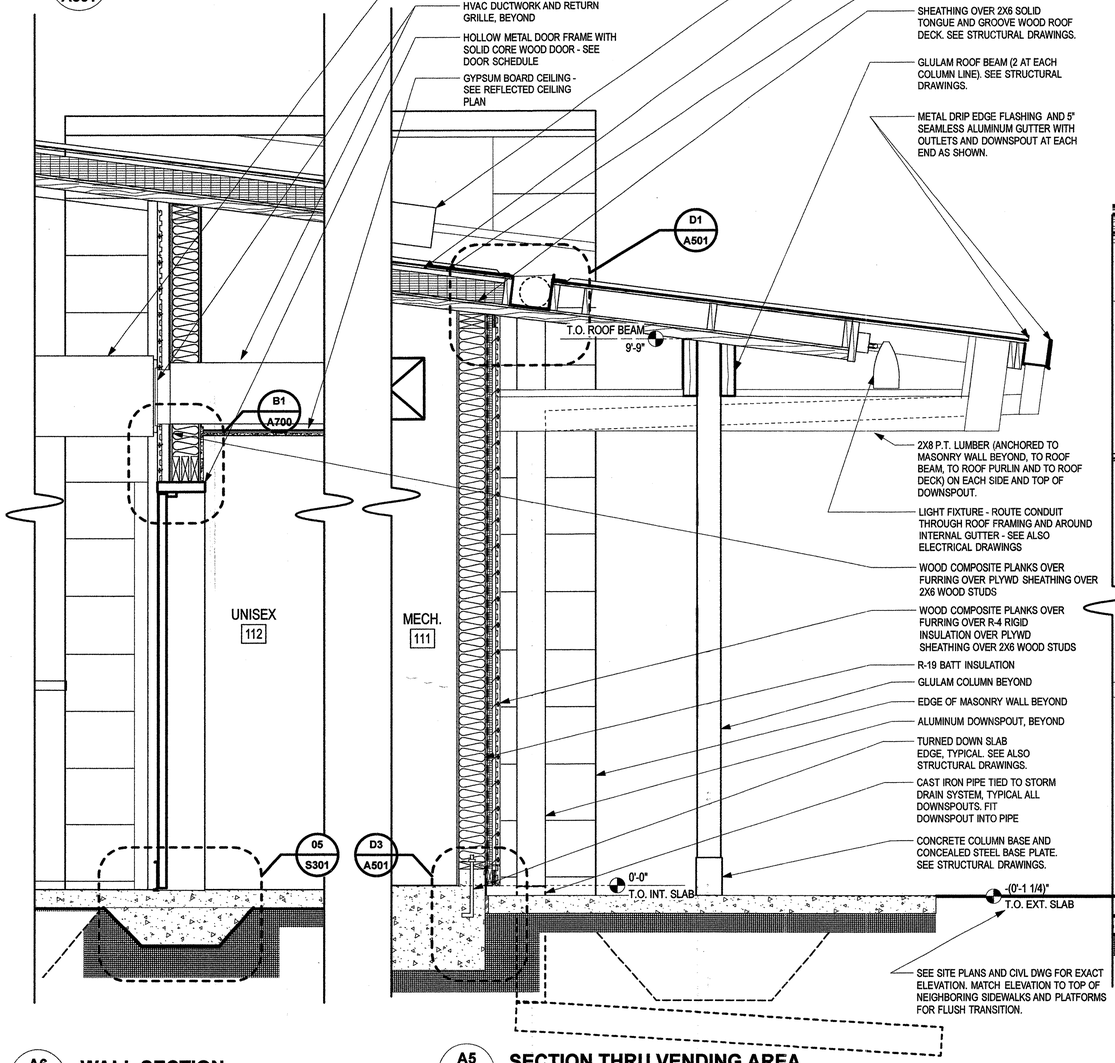
D6 / A501 **SECTION THRU EXT. WALL**
Scale: 1 1/2" = 1'-0"



D3 / A501 **SECTION DETAIL**
Scale: 3" = 1'-0"

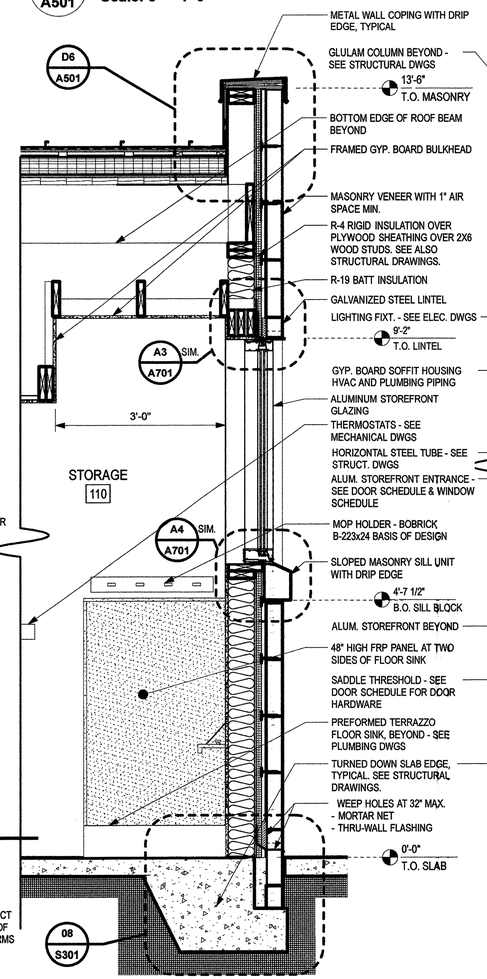


D1 / A501 **SECTION DETAIL**
Scale: 1 1/2" = 1'-0"

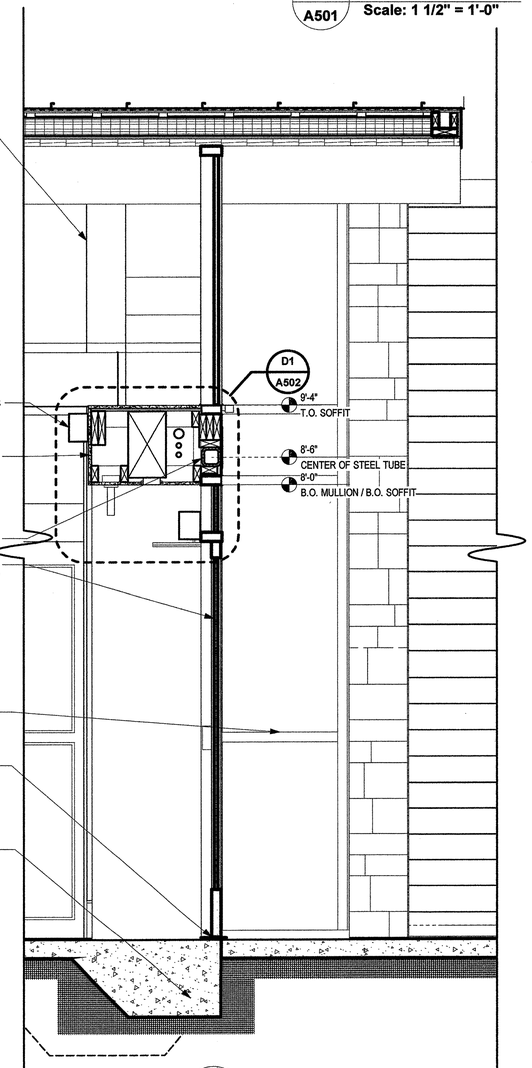


A6 / A501 **WALL SECTION**
Scale: 3/4" = 1'-0"

A5 / A501 **SECTION THRU VENDING AREA**
Scale: 3/4" = 1'-0"



A3 / A501 **SECTION THRU EXT. WALL**
Scale: 3/4" = 1'-0"



A1 / A501 **SECTION THRU DOOR 100A**
Scale: 3/4" = 1'-0"

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE & INTERIOR DESIGN CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3118 NORTH CAROLINA RALEIGH, N.C.

11.7.13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

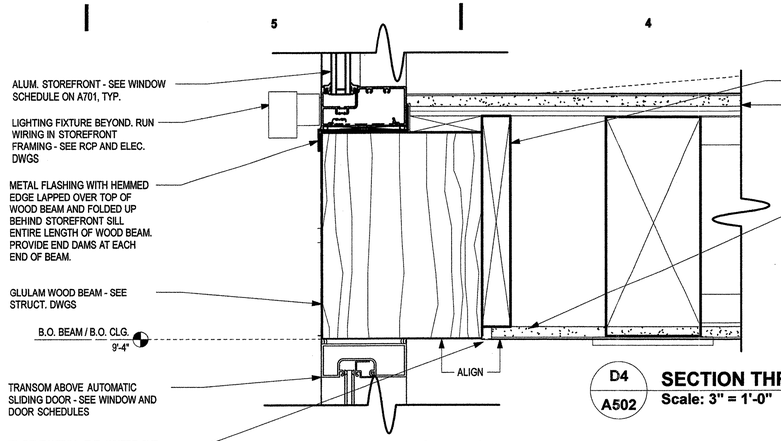
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

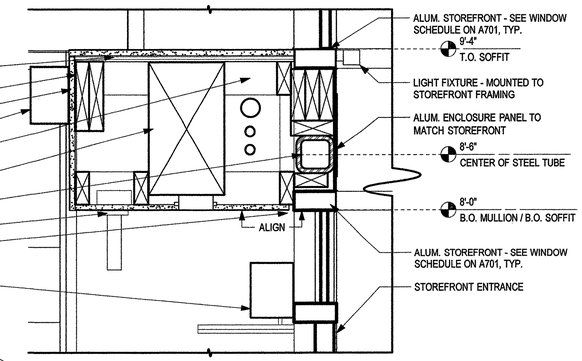
WALL SECTIONS

SHEET NO.

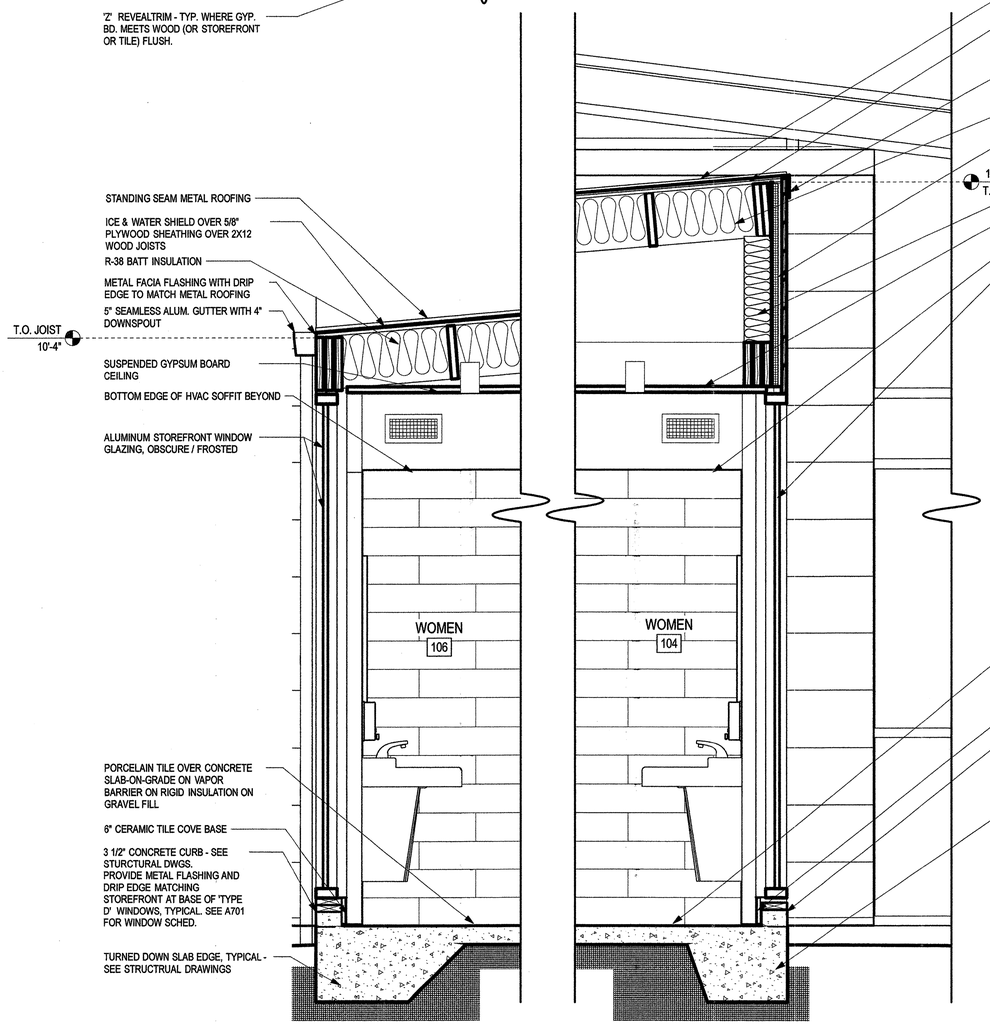
A501



D4 / A502 **SECTION THRU SOFFIT**
Scale: 3" = 1'-0"

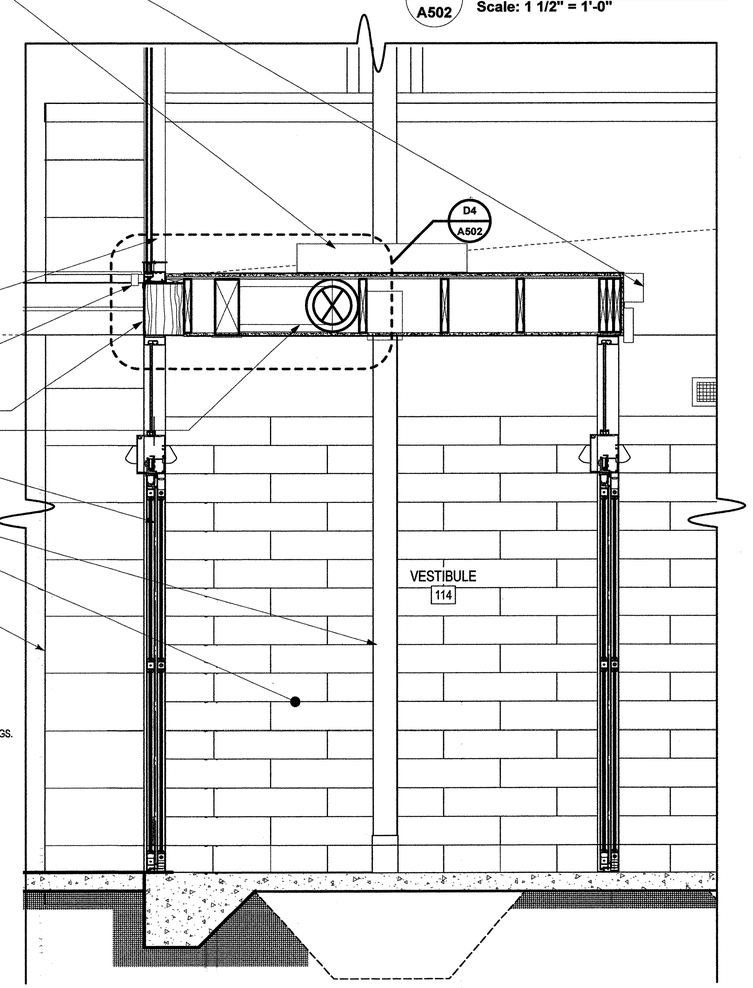


D1 / A502 **SECTION THRU DOOR 100A**
Scale: 1 1/2" = 1'-0"



A6 / A502 **SECTION THRU TOILET RMS**
Scale: 3/4" = 1'-0" 0 1 2 FT

A5 / A502 **SECTION THRU TOILET RMS**
Scale: 3/4" = 1'-0" 0 1 2 FT



A1 / A502 **SECTION THRU VESTIBULE**
Scale: 3/4" = 1'-0" 0 1 2 FT

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

11-7-13

Bid Drawings
2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

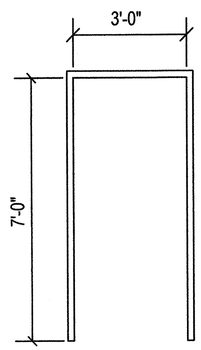
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

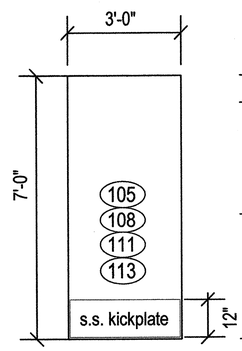
WALL SECTIONS

SHEET NO.

A502



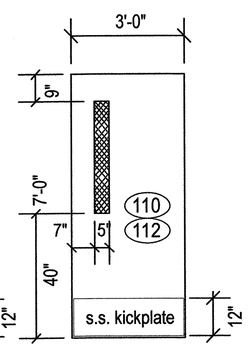
TYPE 1



105 108 (1) SOLID CORE WOOD FLUSH

111 113 (2) HOLLOW METAL FLUSH

TYPE A1, A2



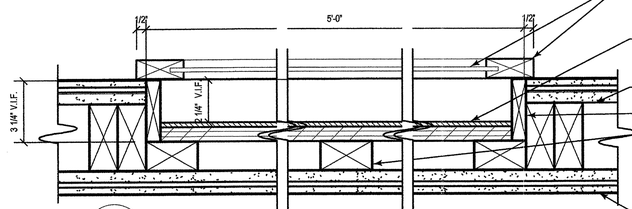
(1) SOLD CORE WOOD 112 w/ ONE-WAY GLASS

(2) SOLID CORE WOOD 110 w/ OBSCURE GLASS

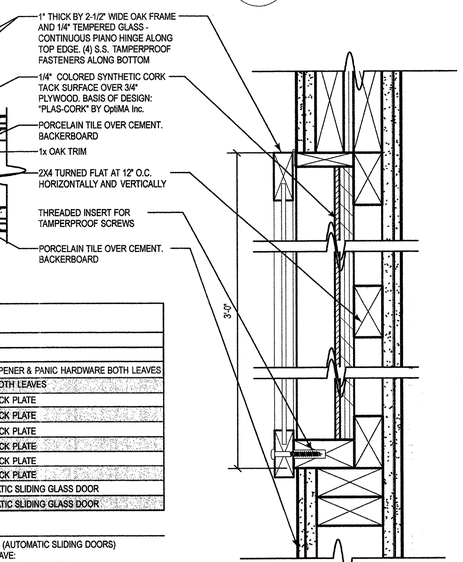
TYPE B1, B2

C6 / A700 **FRAME TYPES**
Scale: 1/2" = 1'-0"

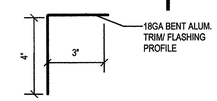
C5 / A700 **DOOR TYPES**
Scale: 1/2" = 1'-0"



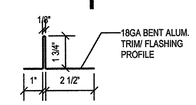
B5 / A700 **PLAN DTL. -Display Case**
Scale: 3" = 1'-0"



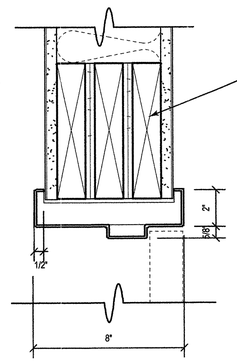
B3 / A700 **SECTION DTL. -Display Case**
Scale: 3" = 1'-0"



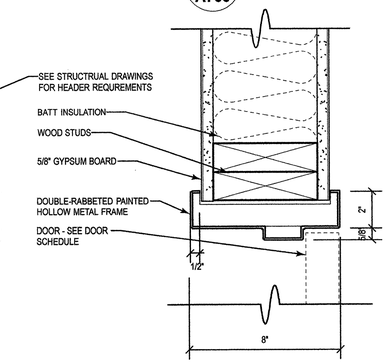
E3 / A700 **FLASHING PROFILE - P2**
Scale: 3" = 1'-0"



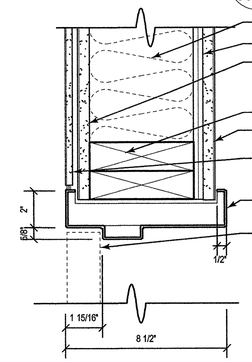
E2 / A700 **FLASHING PROFILE - P1**
Scale: 3" = 1'-0"



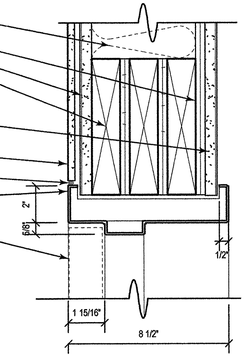
C4 / A700 **H.M. HEAD DETAIL**
Scale: 3" = 1'-0"



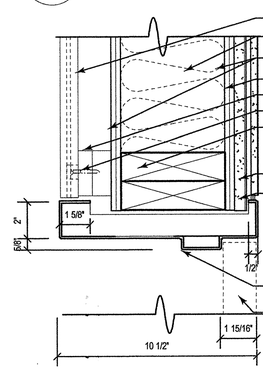
C3 / A700 **H.M. JAMB DETAIL**
Scale: 3" = 1'-0"



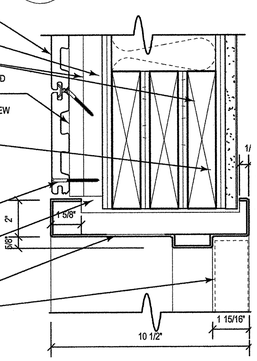
C2 / A700 **H.M. JAMB DETAIL**
Scale: 3" = 1'-0"



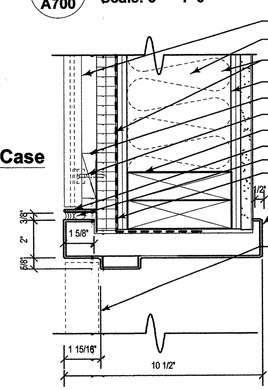
C1 / A700 **H.M. HEAD DETAIL**
Scale: 3" = 1'-0"



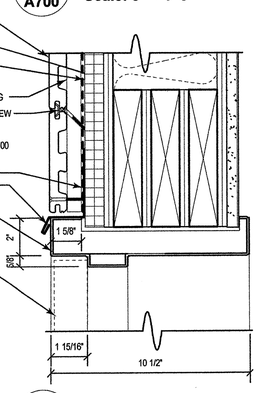
B2 / A700 **H.M. JAMB DETAIL**
Scale: 3" = 1'-0"



B1 / A700 **H.M. HEAD DETAIL**
Scale: 3" = 1'-0"



A2 / A700 **H.M. JAMB DETAIL**
Scale: 3" = 1'-0"



A1 / A700 **H.M. HEAD DETAIL**
Scale: 3" = 1'-0"

DOOR SCHEDULE

#	LOCATION	DOOR SIZE	DOOR MATERIAL	DOOR TYPE	DOOR FINISH	FRAME MATERIAL	FRAME TYPE	FRAME FINISH	HEAD/SILL	JAMB	HARDWARE/LOCKSET	REMARKS
100A	ENTRY	(2) 3'-0" x 7'-0"	TEMPERED GLASS / ALUM.		CLR. ANODIZED	ALUMINUM		CLR. ANODIZED	-	-	2A	POWER ASSISTED OPENER & PANIC HARDWARE BOTH LEAVES
100B	ENTRY	(2) 3'-0" x 7'-0"	TEMPERED GLASS / ALUM.		CLR. ANODIZED	ALUMINUM		CLR. ANODIZED	-	-	2B	PANIC HARDWARE BOTH LEAVES
105	MECHANICAL	3'-0" x 7'-0" x 1 3/4"	SOLID CORE WOOD	A1	PREFINISHED	HOLLOW METAL	1	PAINT	C1/A700	C2/A700	1A	STAINLESS STEEL KICK PLATE
108	MECHANICAL	3'-0" x 7'-0" x 1 3/4"	SOLID CORE WOOD	A1	PREFINISHED	HOLLOW METAL	1	PAINT	C1/A700	C2/A700	1A	STAINLESS STEEL KICK PLATE
110	STORAGE	3'-0" x 7'-0" x 1 3/4"	SOLID CORE WOOD	B2	PREFINISHED	HOLLOW METAL	1	PAINT	B1/A700	B2/A700	1A	STAINLESS STEEL KICK PLATE
111	MECHANICAL	3'-0" x 6'-8" x 1 3/4"	HOLLOW METAL	A2	PAINT	HOLLOW METAL	1	PAINT	C4/A700	C3/A700	1A	STAINLESS STEEL KICK PLATE
112	UNISEX	3'-0" x 7'-0" x 1 3/4"	SOLID CORE WOOD	B1	PREFINISHED	HOLLOW METAL	1	PAINT	B1/A700	B2/A700	1A	STAINLESS STEEL KICK PLATE
113	STORAGE	2'-0" x 6'-8" x 1 3/4"	HOLLOW METAL	A2	PAINT	HOLLOW METAL	1	PAINT	A1/A700	A2/A700	1B	STAINLESS STEEL KICK PLATE
114A	VESTIBULE	12'-0" x 7'-0"	TEMPERED GLASS / ALUM.		CLR. ANODIZED	ALUMINUM		CLR. ANODIZED	-	-	3	BI-PARTING AUTOMATIC SLIDING GLASS DOOR
114B	VESTIBULE	12'-0" x 7'-0"	TEMPERED GLASS / ALUM.		CLR. ANODIZED	ALUMINUM		CLR. ANODIZED	-	-	3	BI-PARTING AUTOMATIC SLIDING GLASS DOOR

DOOR SCHEDULE NOTES

1. PAINT COLORS TO BE DETERMINED BY ARCHITECT.
2. ALL HARDWARE TO BE MORTISE TYPE U.N.O.
3. HARDWARE SUPPLIER TO COORDINATE KEYING w/OWNER AND ARCHITECT
4. ALL H.M. DOOR FRAMES ARE 2" UNLESS OTHERWISE NOTED IN DOOR TYPES
5. SEE ENLARGED PLANS FOR MORE DOOR JAMB DETAIL INFO

HW SET #1A: (STORAGE ROOM LOCKSET) EACH TO HAVE:
3 EA HINGE
1 EA STOREROOM LOCK
1 EA SURFACE CLOSER
1 SET SEALS

HW SET #1B: (EXT. STORAGE ROOM LOCKSET) EACH TO HAVE:
3 EA HINGE
1 EA STOREROOM LOCK
1 EA SURFACE CLOSER
1 SET SEALS
1 EA SADDLE THRESHOLD

HW SET #2A (STOREFRONT GLASS DBL. DOORS) EACH TO HAVE:
2 EA CONTINUOUS HINGE
2 EA EXIT DEVICE
2 EA TUBULAR DOOR PULLS
1 EA SADDLE THRESHOLD
1 SET CONTINUOUS WEATHER SEAL

HW SET #2B (ADA STOREFRONT GLASS DBL. DOORS) EACH TO HAVE:
2 EA CONTINUOUS HINGE
2 EA EXIT DEVICE
2 EA TUBULAR DOOR PULLS
2 EA DOOR OPERATOR (MOUNT TO PUSH SIDE)
1 EA SADDLE THRESHOLD
1 SET CONTINUOUS WEATHER SEAL

HW SET #3 (AUTOMATIC SLIDING DOORS) EACH TO HAVE:
2 EA MORTISE CYLINDE
1 SET WEATHER SEAL

NOTES:
1. BALANCE OF HARDWARE BY DOOR MANUF.
2. PROVIDE SIGANGE TO READ "DOORS TO REMAIN UNLOCKED DURING BUSINESS HOURS".

FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR MATERIAL	FLOOR BASE	WALLS - MATERIAL/FINISH NORTH	SOUTH	EAST	WEST	CEILING MATERIAL	FINISH	HEIGHT	REMARKS
100	ENTRY	EPOXY TERRAZZO	PORCELAIN COVED TILE	N/A	WOOD COMPOSITE PLANKS	STOREFRONT GLAZING WALL	STOREFRONT GLAZING WALL	T & G WOOD ROOF DECK	STAIN	12'-0" to 14'-0"	-
101	LOBBY	EPOXY TERRAZZO	PORCELAIN COVED TILE	STOREFRONT GLAZING WALL/DOORS	N/A	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	T & G WOOD ROOF DECK	STAIN	14-0" to 18'-0"	-
102	HALL	EPOXY TERRAZZO	PORCELAIN COVED TILE	STOREFRONT GLAZING WALL	STRFRNT. GLAZ., PORC. TILE, GYP. BD. / PT.	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	GYP. BD.	PAINT	8'-6"	-
103	HALL	EPOXY TERRAZZO	PORCELAIN COVED TILE	STOREFRONT GLAZING WALL	STRFRNT. GLAZ., PORC. TILE, GYP. BD. / PT.	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	GYP. BD.	PAINT	8'-6"	-
104	WOMEN	PORCELAIN TILE	PORCELAIN COVED TILE	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	GYP. BD.	PAINT	8'-0" / 9'-6"	-
105	MECHANICAL	SEALED CONCRETE	RUBBER	GYP/ PAINT	GYP/ PAINT	GYP/ PAINT	GYP/ PAINT	EXPOSED STRUCTURE	PAINT	VARIES	-
106	WOMEN	PORCELAIN TILE	PORCELAIN COVED TILE	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	GYP. BD.	PAINT	8'-0" / 9'-6"	-
107	MEN	PORCELAIN TILE	PORCELAIN COVED TILE	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	GYP. BD.	PAINT	8'-0" / 9'-6"	-
108	MECHANICAL	SEALED CONCRETE	RUBBER	GYP/ PAINT	GYP/ PAINT	GYP/ PAINT	GYP/ PAINT	EXPOSED STRUCTURE	PAINT-	VARIES	-
109	MEN	PORCELAIN TILE	PORCELAIN COVED TILE	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	GYP. BD.	PAINT	8'-0" / 9'-6"	-
110	STORAGE	SEALED CONCRETE	RUBBER	GYP/ PAINT	GYP/ PAINT	GYP/ PAINT	GYP/ PAINT	GYP. BD.	PAINT	8'-0" / 9'-6"	-
111	MECHANICAL	SEALED CONCRETE	RUBBER	GYP/ PAINT	GYP/ PAINT	GYP/ PAINT	GYP/ PAINT	EXPOSED STRUCTURE	PAINT	VARIES	-
112	UNISEX	PORCELAIN TILE	PORCELAIN COVED TILE	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	GYP. BD.	PAINT	8'-0" / 9'-6"	-
113	STORAGE	SEALED CONCRETE	RUBBER	GYP/ PAINT	GYP/ PAINT	GYP/ PAINT	GYP/ PAINT	EXPOSED STRUCTURE	PAINT	VARIES	-
114	VESTIBULE	EPOXY TERRAZZO	PORCELAIN COVED TILE	STOREFRONT GLAZING WALL/DOORS	STOREFRONT GLAZING WALL/DOORS	PORCELAIN TILE, GYP. BD. / PAINT	PORCELAIN TILE, GYP. BD. / PAINT	GYP. BD.	PAINT	9'-4"	-

FINISH SCHEDULE NOTES

1. THERE WILL BE UP TO FOUR DIFFERNT PAINT COLORS; PT. #1: GYP. BD. CEILINGS, PT. #2: TOILET ROOMS, PT. #3: H.M. DOOR FRAMES, PT. #4: STORAGE ROOMS

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. CERT. NO. 551 RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11-7-13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

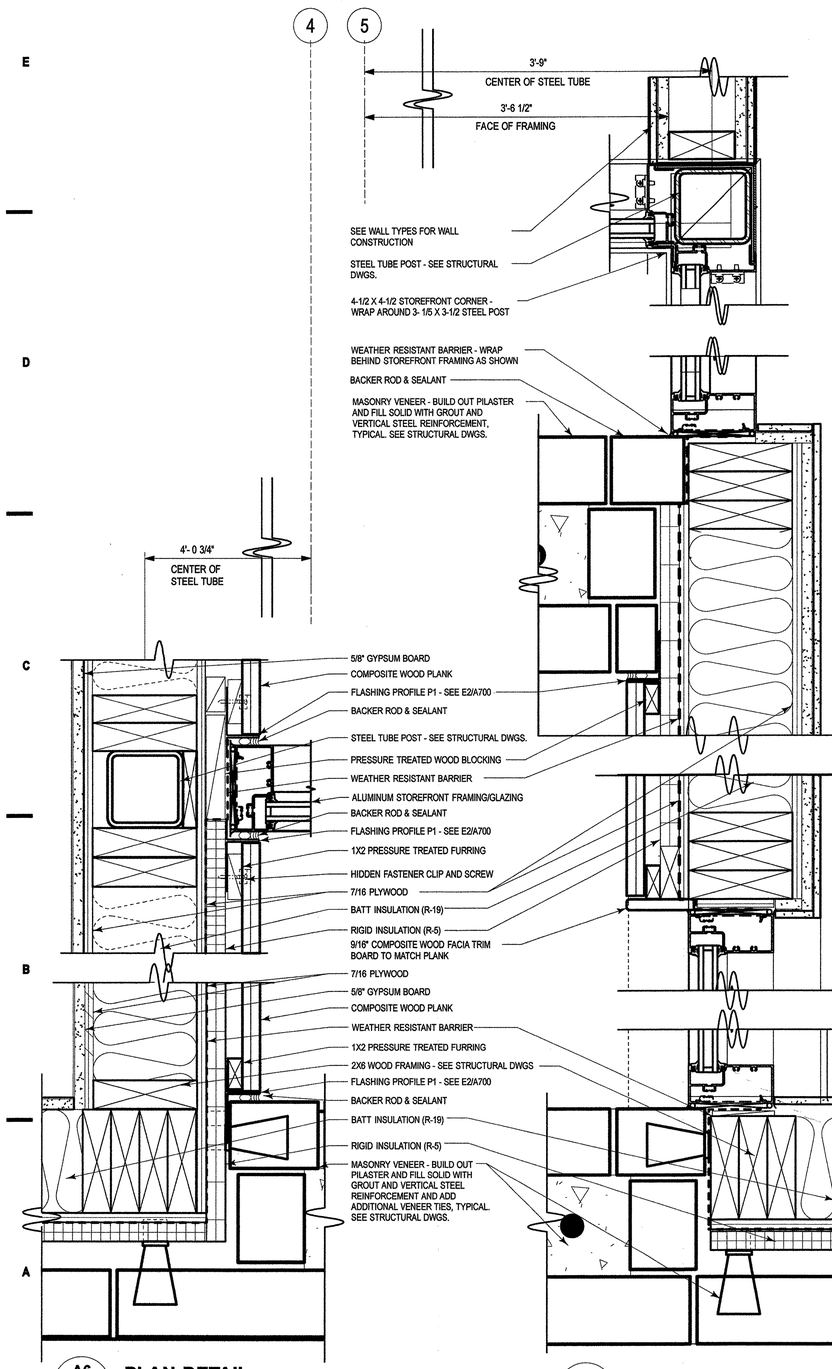
DATE: 2013.11.07
DRAWN: RW
CHECKED: SDS
FILENAME: BD_DWGS.vwx
PROJECT NO: 2013_0080
PRINTING: Bid Drawings

SHEET DATA

DOOR & FINISH SCHEDULE

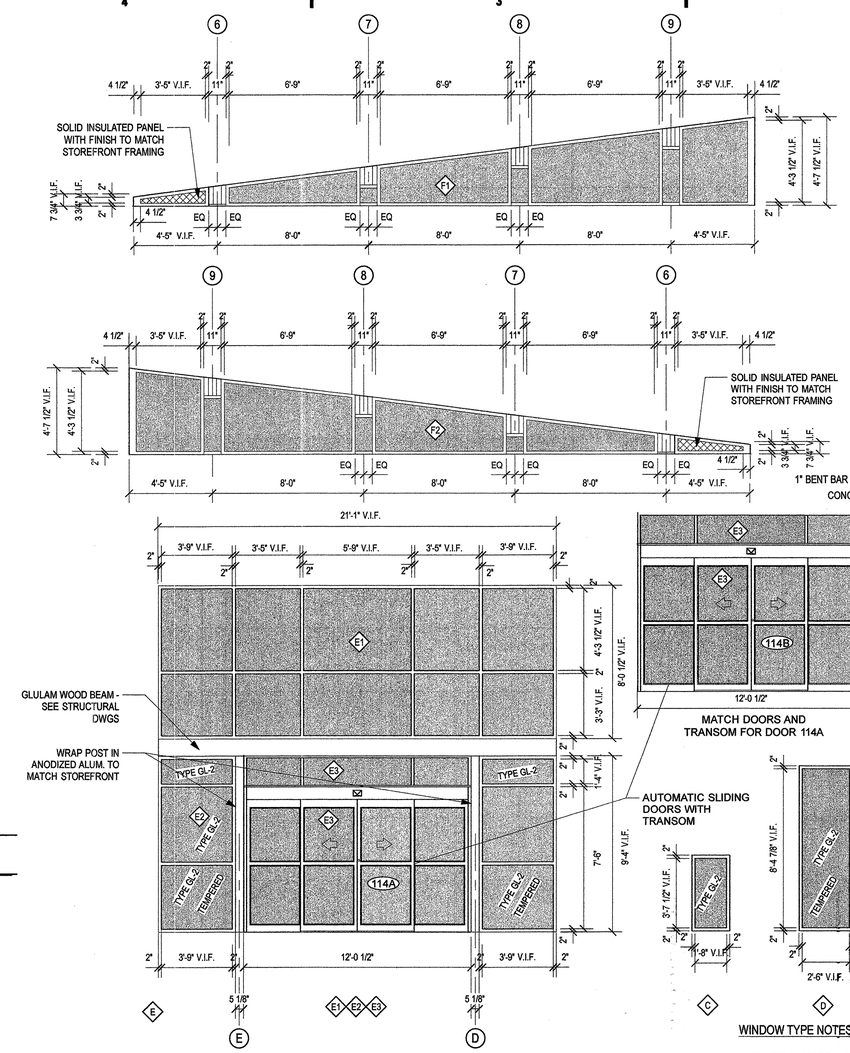
SHEET NO.

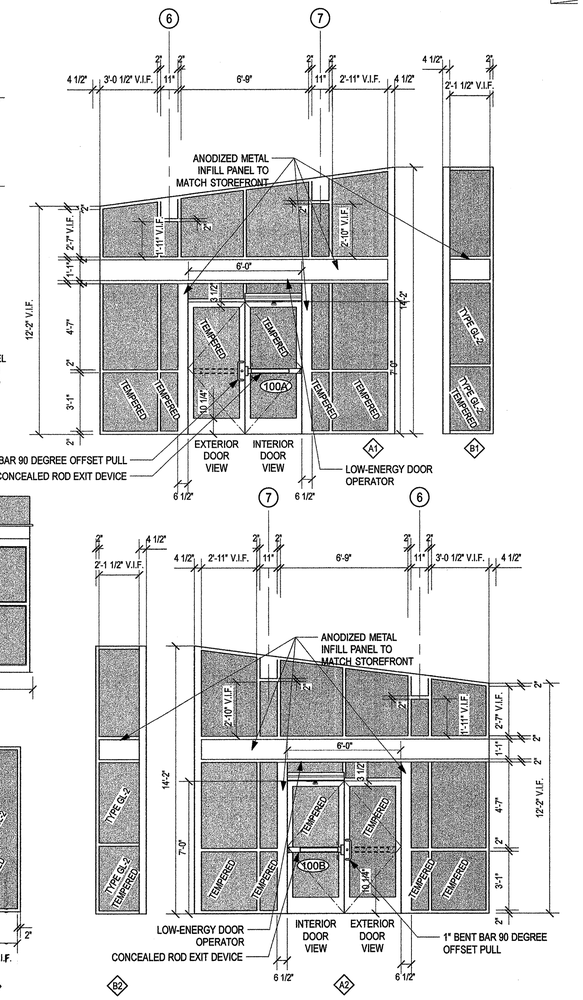
A700



A6/A701 **PLAN DETAIL**
Scale: 3" = 1'-0"

A5/A701 **PLAN DETAIL**
Scale: 3" = 1'-0"

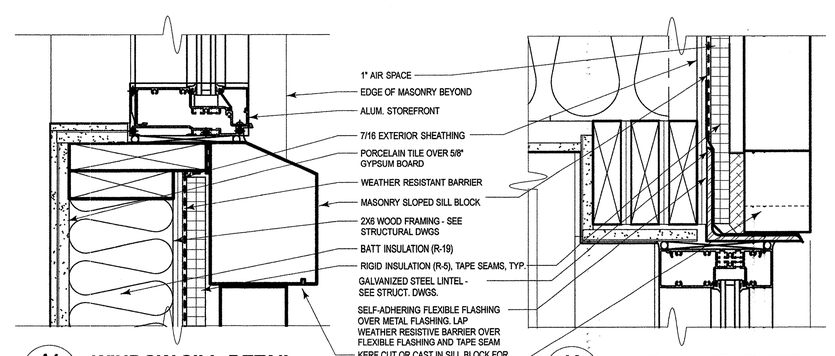




WINDOW TYPE NOTES:

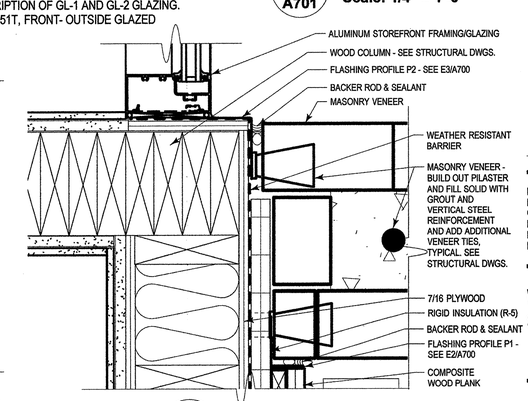
1. GENERAL NOTE: ALL GLAZING IS TYPE GL-1 UNLESS OTHERWISE NOTED. SEE PROJECT MANUAL FOR DESCRIPTION OF GL-1 AND GL-2 GLAZING.
2. BASIS OF DESIGN: KAWNEER 451T, FRONT- OUTSIDE GLAZED

B1/A701 **WINDOW TYPES**
Scale: 1/4" = 1'-0"



A4/A701 **WINDOW SILL DETAIL**
Scale: 3" = 1'-0"

A3/A701 **WINDOW HEAD DETAIL**
Scale: 3" = 1'-0"



A5/A701 **PLAN DETAIL**
Scale: 3" = 1'-0"

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE & INTERIOR DESIGN CERT. NO. 551 RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11.7.13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

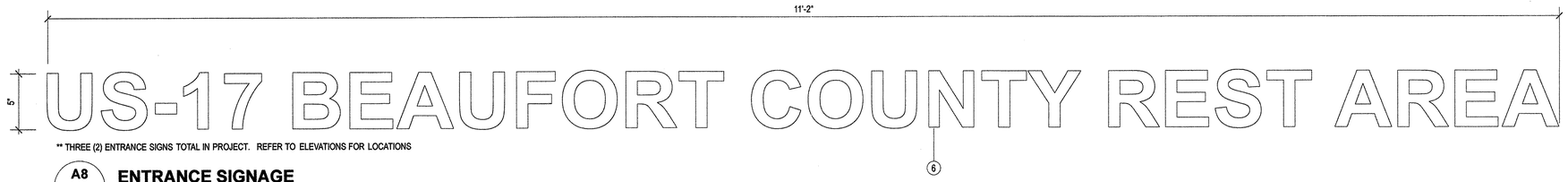
DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

WINDOW SCHEDULE

SHEET NO.

A701



** THREE (2) ENTRANCE SIGNS TOTAL IN PROJECT. REFER TO ELEVATIONS FOR LOCATIONS

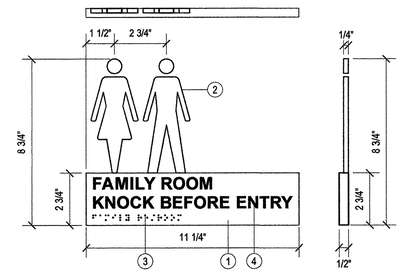
A8 / 7.10 **ENTRANCE SIGNAGE**
Scale: 2" = 1'-0"

** ONE (1) WOMEN ROOM SIGN TOTAL IN PROJECT. REFER TO ELEVATIONS FOR LOCATION.

A7 / 7.10 **WOMENS ROOM SIGNAGE**
Scale: 1 1/2" = 1'-0"

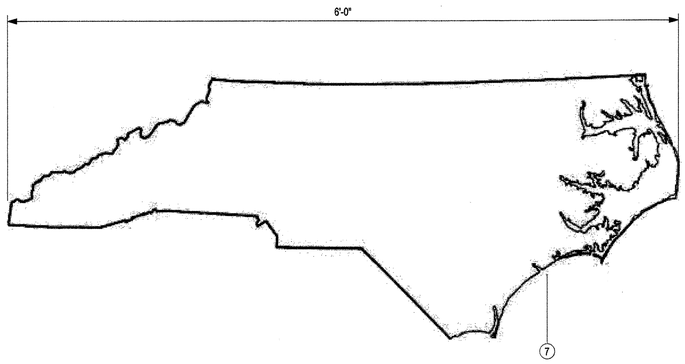
** ONE (1) MEN ROOM SIGN TOTAL IN PROJECT. REFER TO ELEVATIONS FOR LOCATION.

A6 / 7.10 **MEN ROOM SIGNAGE**
Scale: 1 1/2" = 1'-0"



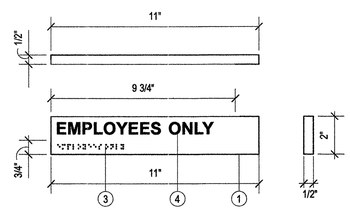
** ONE (1) FAMILY TOILET SIGN TOTAL IN PROJECT. REFER TO ELEVATION FOR LOCATION.

A3 / 7.10 **FAMILY ROOM SIGNAGE**
Scale: 3" = 1'-0"



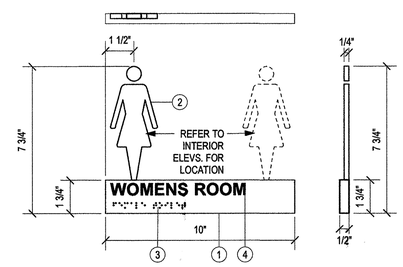
** ONE (1) - REFER TO FLOOR PLAN FOR LOCATION.
ARCHITECT WILL PROVIDE CAD FILE OF OUTLINE.

B7 / 7.10 **TERRZZO FLOOR INLAY**
Scale: 1 1/2" = 1'-0"



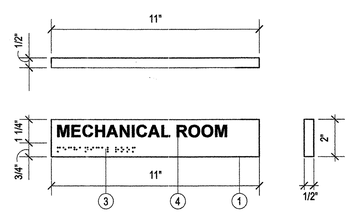
** ONE (1) EMPLOYEE ONLY SIGN TOTAL IN PROJECT. REFER TO ELEVATIONS FOR LOCATION.

A5 / 7.10 **EMPLOYEES ONLY SIGNAGE**
Scale: 3" = 1'-0"



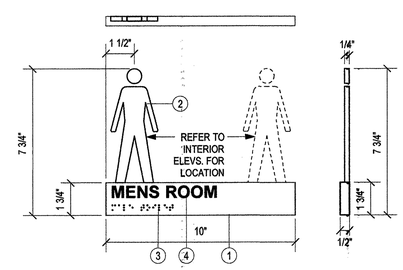
** TWO (2) WOMENS TOILET SIGNS TOTAL IN PROJECT. REFER TO ELEVATIONS FOR LOCATIONS.

A2 / 7.10 **WOMENS ROOM SIGNAGE**
Scale: 3" = 1'-0"



** TWO (2) MECHANICAL ROOM SIGNS TOTAL IN PROJECT. REFER TO ELEVATIONS FOR LOCATIONS.

A4 / 7.10 **MECHANICAL ROOM SIGNAGE**
Scale: 3" = 1'-0"



** TWO (2) MENS TOILET SIGNS TOTAL IN PROJECT. REFER TO ELEVATIONS FOR LOCATIONS.

A1 / 7.10 **MENS ROOM SIGNAGE**
Scale: 3" = 1'-0"

KEY NOTES

1. 1/2" THICK MILLED POLISHED ALUMINUM PLAQUE
2. 1/4" THICK MILLED BRUSHED ALUMINUM PLAQUE
3. RAISED METAL BEAD BRAILLE
4. BLACK SILKSCREENED LETTERING - ARIAL BLACK FONT, 5/8" TEXT HEIGHT
5. 9" HIGH CUT METAL LETTERS.
   - CLEAR ANODIZED ALUMINUM, 1/4" THICK.
   - FONT: ARIAL BOLD
   - BASIS OF DESIGN: GEMINI SIGNS & LETTERS (geminisignletters.com)
   - HARD TEMPLATE TO BE PROVIDED FOR INSTALL.
   - SHOP DRAWING OF TEMPLATE TO BE SUBMITTED TO ARCHITECT PRIOR TO INSTALL
6. 5" HIGH CUT METAL LETTERS.
   - BRONZE ANODIZED ALUMINUM, 1/4" THICK.
   - FONT: ARIAL BOLD
   - BASIS OF DESIGN: GEMINI SIGNS & LETTERS (geminisignletters.com)
   - HARD TEMPLATE TO BE PROVIDED FOR INSTALL.
   - SHOP DRAWING OF TEMPLATE TO BE SUBMITTED TO ARCHITECT PRIOR TO INSTALL
7. 1/4" WIDE ALUMINUM STRIP OUTLINE OF THE STATE OF NORTH CAROLINA INSET INTO TERRAZZO FLOOR
   - ARCHITECT WILL PROVIDE CAD FILE OF OUTLINE.

GENERAL NOTES

1-0. ALL SIGNAGE TO COMPLY WITH THE REQUIREMENTS OF ANSI 117.1, 2003.

2-0. MOUNT SIGNAGE WITH CENTERLINE OF PLAQUE AT 60" AFF. (HEIGHT OF BRAILLE IS NOT TO EXEED 60" AFF)

3-0. SEE INTERIOR ELEVATIONS FOR LOCATIONS

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURAL CORPORATION CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11-7-13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

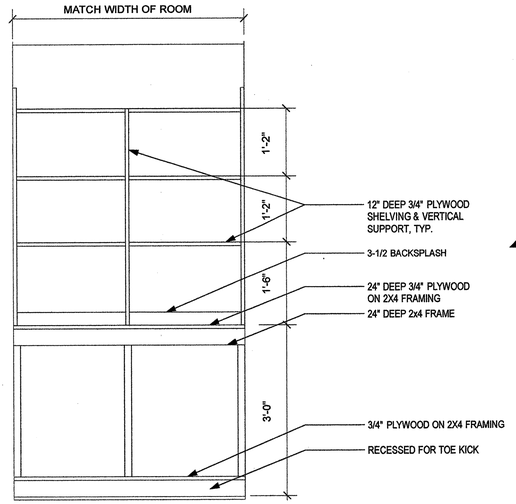
SIGANAGE SCHEDULE

SHEET NO.

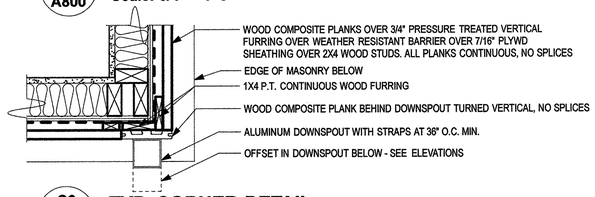
A710

STORAGE BUILDING NOTES:

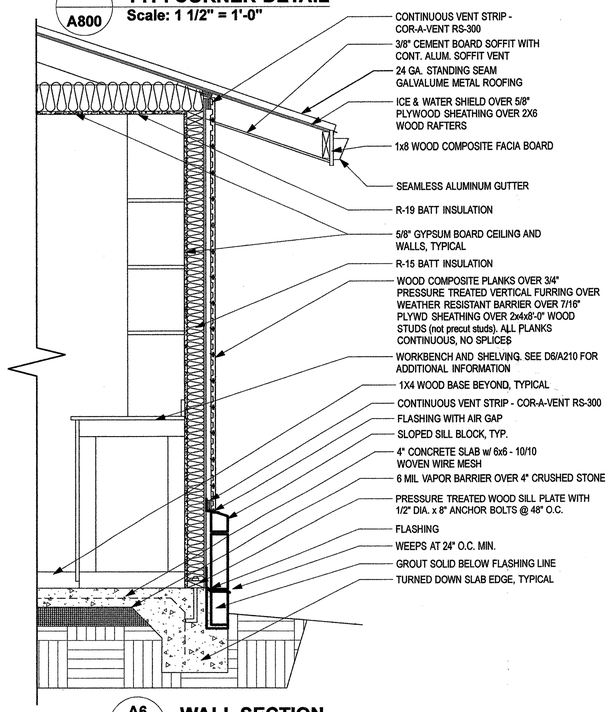
1. GENERAL NOTE: SEE PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS FOR FOR ADDITIONAL INFORMATION.
2 SEE SITE PLANS, CIVIL DRAWINGS, ETC. FOR CONCETE SIDEWALK AND DRIVEWAY THAT ABUTS BOTH DOORWAYS.



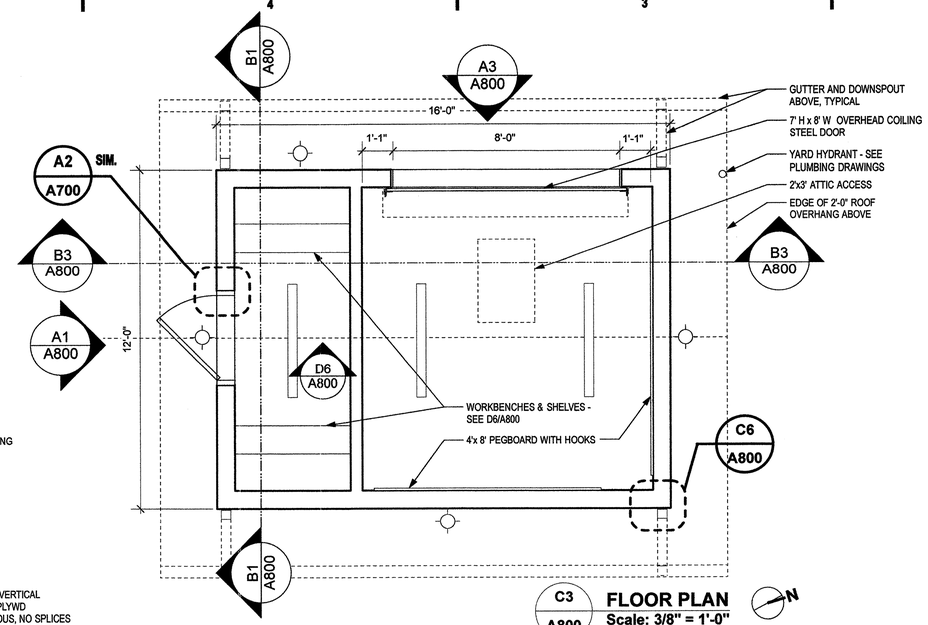
D6 / A800 **CABINETRY ELEVATION**
Scale: 3/4" = 1'-0"



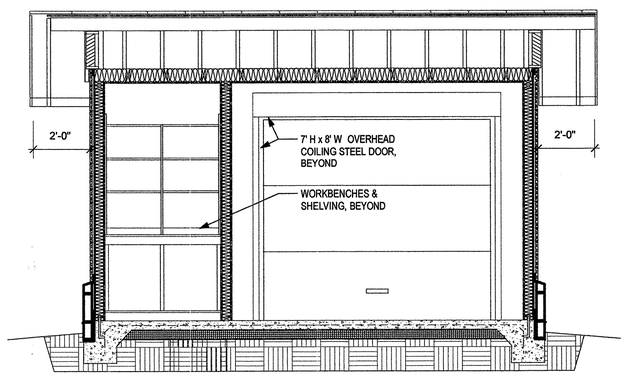
C6 / A800 **TYP. CORNER DETAIL**
Scale: 1 1/2" = 1'-0"



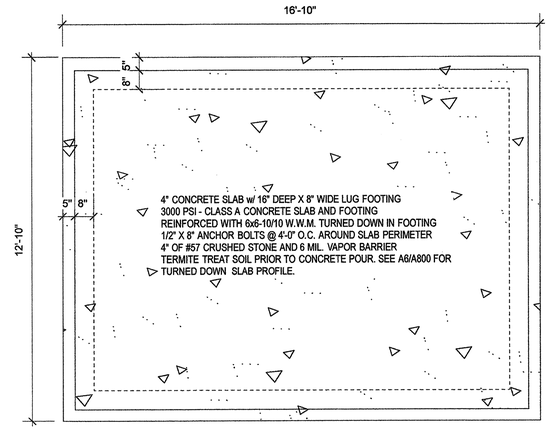
A6 / A800 **WALL SECTION**
Scale: 3/4" = 1'-0"



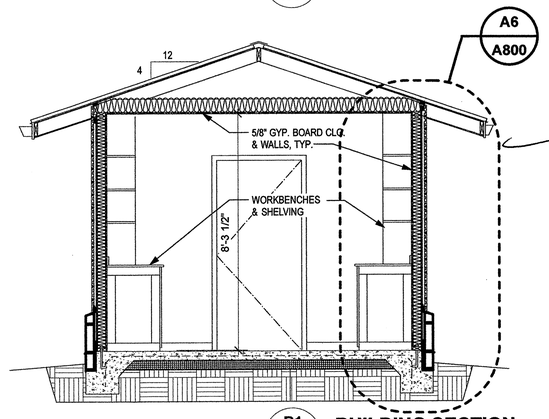
C3 / A800 **FLOOR PLAN**
Scale: 3/8" = 1'-0"



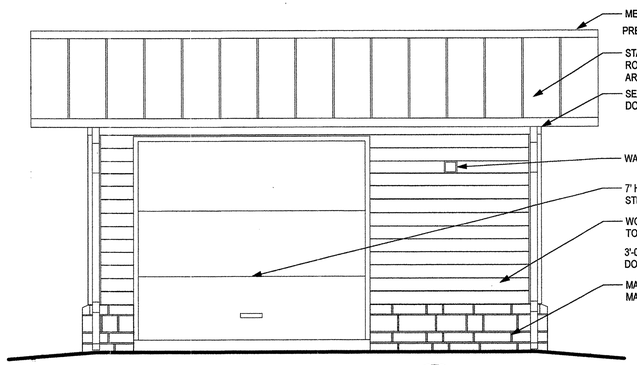
B3 / A800 **BUILDING SECTION**
Scale: 3/8" = 1'-0"



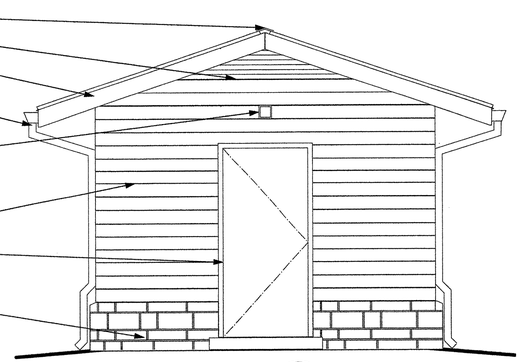
C1 / A800 **FOUNDATION PLAN**
Scale: 3/8" = 1'-0"



B1 / A800 **BUILDING SECTION**
Scale: 3/8" = 1'-0"



A3 / A800 **ELEVATION**
Scale: 3/8" = 1'-0"



A1 / A800 **ELEVATION**
Scale: 3/8" = 1'-0"

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj.Contract #: C203304-RA
TIP Project#: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

CLEARSCAPES, P.A. ARCHITECTURE + ART CERT. NO. 551 NORTH CAROLINA RALEIGH, N.C.

STEVEN D. SCHUSTER REGISTERED ARCHITECT 3113 NORTH CAROLINA RALEIGH, N.C.

11.7.13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	RW
CHECKED:	SDS
FILENAME:	BD_DWGS.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

STORAGE BUILDING

SHEET NO.

A800

GENERAL STRUCTURAL NOTES

GENERAL

THESE DRAWINGS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF LYSAGHT & ASSOCIATES, P.A., FOR USE SOLELY WITH THIS PROJECT AND SHALL NOT BE REPRODUCED FOR OTHER PURPOSES.

THE PROFESSIONAL ENGINEER WHOSE SEAL APPEARS ON THESE DRAWINGS IS THE PROJECT STRUCTURAL ENGINEER-OF-RECORD (SER) WHO BEARS LEGAL RESPONSIBILITY FOR THE PERFORMANCE OF THE STRUCTURAL FRAMING RELATING TO PUBLIC HEALTH, SAFETY AND WELFARE. NO OTHER PARTY, WHETHER OR NOT A PROFESSIONAL ENGINEER, MAY COMPLETE, CORRECT, REVISE, DELETE OR ADD TO THESE CONSTRUCTION DOCUMENTS OR PERFORM INSPECTIONS OF THE WORK WITHOUT THE WRITTEN PERMISSION OF THE SER.

USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH JOB SPECIFICATIONS, AND OTHER DRAWINGS.

SECTIONS AND DETAILS SHOWN SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.

CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD AND TAKE ALL NECESSARY FIELD MEASUREMENTS.

SHOP DRAWINGS

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR EACH STRUCTURAL COMPONENT. THESE SHOP DRAWINGS SHALL HAVE BEEN CHECKED BY, AND STAMPED WITH THE APPROVAL OF, THE CONTRACTOR. DETAILS SHOWN ON THE SHOP DRAWINGS SHALL BE COMPLETE WITH RESPECT TO DIMENSIONS, DESIGN CRITERIA AND SIGNED AND SEALED BY A PROFESSIONAL ENGINEER (WHERE APPLICABLE) REGISTERED IN THE STATE THAT THE PROJECT IS LOCATED.

REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS LIMITED TO COMPLIANCE OF THE COMPLETED STRUCTURE WITH THE DESIGN CONCEPT AND INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, QUANTITIES, PERFORMANCE, SAFETY, COORDINATION WITH OTHER WORKS, AND ALL OTHER REQUIREMENTS OF THE CONTRACT DOCUMENTS. REVIEW DOES NOT AUTHORIZE CHANGES TO THE CONTRACT.

DIMENSIONS

THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC., WITH THE ARCHITECTURAL DRAWINGS. IF ANY DISCREPANCY IS NOTICED, IT SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE ENGINEER.

THE CONTRACTOR SHALL SEEK INSTRUCTION FROM THE ENGINEER FOR ANY DIMENSION NOT GIVEN OR OBTAINABLE FROM THE DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

SCOPE OF STRUCTURAL ENGINEERING SERVICES

THE STRUCTURAL ENGINEER HAS PERFORMED THE STRUCTURAL DESIGN AND REVIEWED THE ARCHITECTURAL PLANS FOR THIS PROJECT. SITE VISITS ARE ALSO INCLUDED (IF THE ARCHITECT, CONTRACTOR OR OWNER CONTACTS THE STRUCTURAL ENGINEER AT THE APPROPRIATE TIME) BUT WILL NOT BE BILLED UNTIL EACH SITE VISIT HAS BEEN COMPLETED. THE ARCHITECT, CONTRACTOR OR OWNER MUST CONTACT THE STRUCTURAL ENGINEER AT THE FOLLOWING STAGES OF CONSTRUCTION FOR A FIELD REVIEW OF THE WORK (OR THE SITE VISITS WILL BE EXCLUDED FROM THE SCOPE OF SERVICES):

1. AFTER PLACEMENT OF FOOTING REBAR, BEFORE CONCRETE POUR.
2. AFTER ERECTION OF THE STRUCTURAL FRAMING.
3. AT ANY STAGE OF CONSTRUCTION WHEN DESIGN OR CONSTRUCTION PROBLEMS ARE ENCOUNTERED.

A "CONSTRUCTION REVIEW REPORT" WILL BE SENT TO THE CONTRACTOR AND THE ARCHITECT FOLLOWING EACH FIELD TRIP.

PORTIONS OF THE STRUCTURAL DESIGN (AS NOTED ON THE DRAWINGS) ARE THE RESPONSIBILITY OF THE MATERIAL SUPPLIERS.

THE STRUCTURAL ENGINEER IS RESPONSIBLE FOR THE DESIGN OF THE PRIMARY STRUCTURAL SYSTEM, EXCEPT FOR THE COMPONENTS NOTED ABOVE. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR ANY SECONDARY STRUCTURAL AND NON-STRUCTURAL SYSTEMS NOT SHOWN ON THE STRUCTURAL PLANS.

THE STRUCTURAL ENGINEER HAS NOT DONE A SUBSURFACE INVESTIGATION (HE IS NOT A SOILS SPECIALIST). THE FOUNDATION DESIGN IS BASED UPON AN ASSUMED ALLOWABLE BEARING PRESSURE AS SHOWN IN THE "FOUNDATION" STRUCTURAL NOTES.

THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK; NOR WILL HE BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

FIELD MEASUREMENTS AND THE VERIFICATION OF FIELD DIMENSIONS ARE NOT PART OF LYSAGHT & ASSOCIATES' RESPONSIBILITY. THE CONTRACTOR MUST CHECK ALL (ASSUMED) EXISTING CONDITIONS SHOWN ON THESE DRAWINGS FOR ACCURACY AND NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCREPANCIES.

ABBREVIATIONS

AB	ANCHOR BOLT
AFF	ABOVE FINISH FLOOR
BOD	BOTTOM OF DECK
C/C	CENTER TO CENTER
EJ	EXPANSION JOINT
EW	EACH WAY
FF	FINISH FLOOR
FFE	FINISH FLOOR ELEVATION
HDG	HOT-DIPPED GALVARIZED
JBE	JOIST BEARING ELEVATION
NTS	NOT TO SCALE
OC	ON CENTER
SER	STRUCTURAL ENGINEER-OF-RECORD
TOF	TOP OF FOOTING
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
W.P.	WORK POINT
WWF	WELDED WIRE FABRIC

CODE

NORTH CAROLINA STATE BUILDING CODE, 2012 EDITION

FOUNDATIONS

ALL FOOTINGS SHALL REST ON SOIL CAPABLE OF SAFELY SUPPORTING 2000 PSF. CONTACT STRUCTURAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED.

FOOTINGS SHALL BE CARRIED TO A LOWER ELEVATION THAN THOSE INDICATED ON THESE DRAWINGS IF NECESSARY TO REACH FIRM UNDISTURBED SOIL.

THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 12" BELOW FINISHED GRADE.

SLAB ON GRADE SHALL BE FOUNDED ON STABLE NATURAL SOIL OR CONTROLLED COMPACTED FILL.

ALL FILL SHALL BE PLACED IN 8" MAXIMUM LOOSE LIFTS AND SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-698 (STANDARD PROCTOR METHOD). THIS REQUIREMENT SHALL BE INCREASED TO 98 PERCENT OF ASTM D-698 IN THE FINAL FOOT BENEATH FLOOR SLABS AND PAVEMENTS.

THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.

WHEN TOP OR SUBSOILS ARE EXPANSIVE, COMPRESSIBLE OR SHIFTING, SUCH SOILS SHALL BE REMOVED TO A DEPTH AND WIDTH SUFFICIENT TO ASSURE STABLE MOISTURE CONTENT IN EACH ACTIVE ZONE AND SHALL NOT BE USED AS FILL.

CONCRETE

CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," AND ACI 301, " SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS." ANY ADMIXTURES MUST BE APPROVED BY THE STRUCTURAL ENGINEER.

CONCRETE SHALL BE NORMAL WEIGHT (145 PCF), TYPICAL.

MINIMUM 28 DAY COMPRESSIVE STRENSTH OF CONCRETE SHALL BE 4000 PSI.

USE WATER REDUCING ADMIXTURES TO REDUCE WATER, INCREASE WORKABILITY AND DECREASE SHRINKAGE CRACKS. USE A MID-RANGE WATER REDUCING ADMIXTURE FOR SLABS AND A HIGH RANGE WATER REDUCING ADMIXTURE FOR POURED CONCRETE WALLS.

SLAB-ON-GRADE CONSTRUCTION

PLACE FLOOR SLAB ON A WELL COMPACTED BASE. THE SUBGRADE SHALL BE GRANULAR, NON-EXPANSIVE SOIL (THAT IS, WITHOUT CLAY), WHICH HAS BEEN COMPACTED TO AT LEAST 95% AND VERIFIED BY ON-SITE TESTING.

CONCRETE STRENSTH SHALL BE 4000 PSI AT 28 DAYS. USE A WATER REDUCING ADMIXTURE TO REDUCE WATER, INCREASE WORKABILITY AND DECREASE SHRINKAGE CRACKS. HIGHER MIX DESIGNS (UP TO 4000 PSI) ARE ACCEPTABLE IF REQUESTED TO HAVE BETTER FINISH AND STRONGER LONG-TERM DURABILITY BY THE ARCHITECT, OWNER, OR GENERAL CONTRACTOR.

USE 6% AIR ENTRAINMENT ON EXTERIOR SLABS. DO NOT USE AIR ENTRAINMENT ON INTERIOR SLABS (3% MAXIMUM AIR ENTRAINMENT).

THE CONTROL JOINT SPACING SHALL BE APPROXIMATELY 12'-0" ON CENTER FOR A 4" THICK SLAB. PLACE CONTROL JOINTS TO AVOID REENTRANT CORNERS. MAKE SAWCUTS TO FORM WEAKEN PLANE CONTROL JOINTS AS SOON AS POSSIBLE, RECOMMENDED BY ACI TO BE BETWEEN 4 - 8 HOURS AFTER POUR.

LIGHTLY DAMPEN THE SUBGRADE BEFORE PLACING CONCRETE TO PREVENT THE SUBGRADE FROM ABSORBING WATER FROM CONCRETE MIX. APPLY WATER AT NEARLY THE SAME RATE IT SOAKS INTO THE SUBGRADE SURFACE.

STEEL TROWEL THE CONCRETE TO A SHINY FINISH WHICH RESULTS IN A HARD, DENSE SURFACE, IN ACCORDANCE WITH ALL ARCHITECTURAL SPECIFICATIONS.

DURING HOT WEATHER, USE A FOG SPRAY TO KEEP THE SURFACE DAMP BEFORE APPLYING CURING COMPOUND.

START CURING AS SOON AS THE FINISHERS ARE DONE. APPLY THE CURING COMPOUND IN TWO COATS AT RIGHT ANGLES TO EACH OTHER AND NOT MORE THAN 300 SQUARE FEET PER GALLON, ABOUT 15 MINUTES APART.

REINFORCING STEEL

ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315.

REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60. CLEAR CONCRETE COVER OVER BARS SHALL BE 3" FOR FOOTINGS.

PROVIDE CORNER BARS AT ALL FOOTING STEPS AND CORNERS. BARS SHALL BE A MINIMUM OF 2'-6" LONG AND SHALL HAVE THE SAME SIZE AND SPACING AS HORIZONTAL REINFORCING.

LAP ALL SPLICES IN CONCRETE AS SPECIFICALLY CALLED FOR, BUT AT LEAST 48 BAR DIAMETERS (24" MINIMUM).

DESIGN DATA

ALLOWABLE STRESS DESIGN		
OCCUPANCY CATEGORY	II	
SLAB ON GRADE LIVE LOAD	100	PSF
ROOF DEAD LOAD	15	PSF
ROOF LIVE LOAD	20	PSF
GROUND SNOW LOAD	10	PSF
FLAT ROOF SNOW LOAD	10	PSF
SNOW EXPOSURE FACTOR	1.0	
SNOW LOAD IMPORTANCE FACTOR	1.0	
THERMAL FACTOR	1.0	
BASIC WIND SPEED (3-SECOND GUST)	110	MPH
WIND IMPORTANCE FACTOR	1.0	
WIND EXPOSURE	C	
INTERNAL PRESSURE COEFFICIENT	0.18	
SEISMIC IMPORTANCE FACTOR	1.00	
MAPPED SPECTRAL RESPONSE COEFFICIENT	Ss	0.138
MAPPED SPECTRAL RESPONSE COEFFICIENT	S1	0.058
SITE CLASS	D	
SPECTRAL RESPONSE COEFFICIENT	Sds	0.147
SPECTRAL RESPONSE COEFFICIENT	Sd1	0.093
SEISMIC DESIGN CATEGORY	B	

BASIC SEISMIC-FORCE-RESISTING SYSTEM:
BUILDING FRAME SYSTEM WITH WOOD STRUCTURAL PANELS

DESIGN BASE SHEAR	4.0	KIPS
SEISMIC RESPONSE COEFFICIENT	Cs	0.02
RESPONSE MODIFICATION FACTOR	R	6.5

ANALYSIS PROCEDURE:
EQUIVALENT LATERAL FORCE

STRUCTURAL GLUED LAMINATED WOOD

MATERIALS, MANUFACTURE AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH AMERICAN NATIONAL STANDARD ANSI/AITC A190.1 "STRUCTURAL GLUED LAMINATED TIMBER".

LAMINATING COMBINATIONS ARE SHOWN ON THE DRAWINGS.

ADHESIVES SHALL MEET THE REQUIREMENTS FOR WET CONDITION OF SERVICE.

USE PRESERVATIVE TREATED GLULAM AT EXTERIOR LOCATIONS.

MEMBERS SHALL BE MARKED WITH QUALITY MARK, AND, IN ADDITION, A CERTIFICATE OF CONFORMANCE SHALL BE PROVIDED TO INDICATE CONFORMANCE WITH ANSI/AITC A190.1.

THE FABRICATOR SHALL FURNISH CONNECTION STEEL AND HARDWARE FOR JOINING GLUED LAMINATED TIMBER MEMBERS TO EACH OTHER AND TO THEIR SUPPORTS EXCLUSIVE OF ANCHORAGE EMBEDDED IN MASONRY OR CONCRETE, SETTING PLATES, AND ITEMS FIELD-WELDED TO STRUCTURAL STEEL. METAL SHAPES TO HAVE ONE COAT OF SHOP APPLIED PAINT CONTAINING A RUST INHIBITOR AT INTERIOR LOCATIONS AND SHALL BE HOT DIP GALVANIZED AT EXTERIOR LOCATIONS.

CAREFULLY UNLOAD AND HANDLE THE LAMINATED MEMBERS AT JOBSITE TO PREVENT SURFACE MARRING AND DAMAGE. IF LAMINATED WOOD IS TO BE STORED BEFORE ERECTION, PLACE IT ON BLOCKS WELL OFF THE GROUND WITH INDIVIDUAL MEMBERS SEPARATED BY STRIPS SO THAT AIR MAY CIRCULATE. COVER THE TOP AND SIDES OF STORAGE PILES WITH MOISTURE-RESISTANT COVERING. (DO NOT USE CLEAR POLYETHYLENE FILMS). WHEN HOISTING MEMBERS INTO PLACE USE PADDED OR NON-MARRING SLINGS, AND PROTECT CORNERS WITH WOOD BLOCKING. ADEQUATELY BRACE MEMBERS AS THEY ARE ERECTED TO HOLD THEM IN A SAFE POSITION UNTIL FULL STABILITY IS PROVIDED.

SOLID WOOD FRAMING, HEADERS AND PLYWOOD

ALL SOLID WOOD FRAMING SHALL COMPLY WITH THE NATIONAL FOREST PRODUCTS ASSOCIATION "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION."

ROOF JOISTS SHALL BE THE GRADE AND SPECIES SHOWN ON THE STRUCTURAL DRAWINGS.

PLYWOOD SHALL CONFORM TO THE AMERICAN PLYWOOD ASSOCIATION "PLYWOOD DESIGN SPECIFICATION". PLYWOOD SHALL BE CDX (UNO).

ALL MEMBERS SHALL BE FRAMED, ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE NORTH CAROLINA STATE BUILDING CODE.

LIGHT GAGE SIMPSON CONNECTIONS

SOME PRESERVATIVE TREATED WOOD HAS A CORROSIVE EFFECT ON LIGHT GAGE CONNECTIONS. USE STAINLESS STEEL SIMPSON CONNECTORS AT TREATED WOOD LOCATIONS UNLESS THE TREATER SPECIFICALLY RECOMMENDS AN ALTERNATE TYPE OF PROTECTION.

SINGLE TONGUE AND GROOVE SOLID WOOD ROOF DECK

THICKNESS:	2" NOMINAL, 1-1/2 ACTUAL
SPECIES:	SOUTHERN PINE
LAYUP:	RANDOM LENGTH CONTINUOUS

ROOF DECKING IS TO BE INSTALLED WITH TONGUES UP ON SLOPED OR PITCHED ROOFS, AND OUTWARD IN THE DIRECTION OF LAYING ON FLAT ROOFS. IT IS TO BE LAID WITH THE PATTERN FACES DOWN AND EXPOSED ON THE UNDERSIDE. EACH PIECE SHOULD BE TOE-NAILED AT EACH SUPPORT WITH ONE 16D NAIL AND FACE NAILED WITH ONE 16D NAIL.

SHEATHING IS ALSO REQUIRED ON TOP OF THE T&G DECK, FOR THE DIAPHRAGM STRENGTH. THE SHEATHING SHALL BE 5/8" THICK APA RATED SHEATHING. SEE PLAN NOTES FOR ATTACHMENT REQUIREMENTS.

WALL DESIGN PRESSURES FOR COMPONENTS AND CLADDING DESIGN

EFFECTIVE WIND AREA (FT^2)	ZONE 4 POSITIVE PRESSURE (PSF)	ZONE 4 NEGATIVE PRESSURE (PSF)	ZONE 5 POSITIVE PRESSURE (PSF)	ZONE 5 NEGATIVE PRESSURE (PSF)
10	28.1	-30.4	28.1	-37.5
20	26.8	-29.2	26.8	-35.1
50	25.2	-27.5	25.2	-31.7
100	23.8	-26.3	23.8	-29.1
500	20.9	-23.3	20.9	-23.4

WALL WIND PRESSURES NOTED ARE FOR 110 MPH WIND SPEED, BASED ON ASCE 7-05, EXPOSURE C, AND ARE MINIMUM REQUIREMENTS.

ROOF WIND COMPONENTS HAVE BEEN DESIGNED ACCORDINGLY, AS NOTED ABOVE, BY STRUCTURAL ENGINEER OF RECORD.

ROOF DESIGN PRESSURES FOR COMPONENTS AND CLADDING DESIGN

EFFECTIVE WIND AREA (FT^2)	ZONE 1 POSITIVE PRESSURE (PSF)	ZONE 1 NEGATIVE PRESSURE (PSF)	ZONE 2 POSITIVE PRESSURE (PSF)	ZONE 2 NEGATIVE PRESSURE (PSF)	ZONE 3 POSITIVE PRESSURE (PSF)	ZONE 3 NEGATIVE PRESSURE (PSF)
10	12.5	-19.9	12.5	-34.7	12.5	-51.3
20	11.4	-19.4	11.4	-31.9	11.4	-47.9
50	10.0	-18.6	10.0	-28.2	10.0	-43.5
100	8.9	-18.1	8.9	-25.2	8.9	-40.2

WALL WIND PRESSURES NOTED ARE FOR 110 MPH WIND SPEED, ROOF SLOPE > 7 TO 27 DEGREES, BASED ON ASCE 7-05, AND ARE MINIMUM REQUIREMENTS.

WOOD STUD WALL FRAMING NOTES

1 EXTERIOR WALLS SHALL BE CONSTRUCTED AS LOAD BEARING. TYPICAL STUD SIZES AT LOAD BEARING WALLS SHALL BE #2 GRADE S-P-F 2 X 6'S AT 16" O.C. FOR UNBRACED HEIGHTS UP TO 12.5'. FOR UNBRACED HEIGHTS GREATER THAN 12.5' USE 2 X 6 TIMBERSTRAND LSL STUDS.

STUD WALL SCHEDULE

MK#	SIZE	SPAC.	TYPE	MAX HEIGHT	NOTES
SW1	2 X 4 OR 6	16"	STUD GRADE S-P-F	N/A	A
SW2	2 X 6	16"	#2 GRADE S-P-F	12.5	B
SW3	2 X 6	12"	TIMBERSTRAND LSL	18.0	C, D

NOTES
A. USE AT INTERIOR NON-LOAD LOAD BEARING STUD WALLS.
B. USE AT EXTERIOR LOAD BEARING STUD WALLS WITH A 12.5' MAX HEIGHT.
C. USE AT EXTERIOR WALLS WITH HEIGHT GREATER THAN 12.5'.
D. USE 1.5E TIMBERSTRAND LSL STUDS BY TRUS JOIST.

2 NON-LOAD BEARING INTERIOR STUDS ARE SHOWN FOR REFERENCE ON THE STRUCTURAL DRAWINGS ONLY, AND SHALL BE CONSTRUCTED WITH STUD GRADE S-P-F 2 X 4'S OR 2 X 6'S AT 16" O.C. (SEE ARCHITECTURAL PLANS FOR REQUIREMENTS AND LOCATION.)

3 USE THREE STUDS (MINIMUM) IN EACH CORNER. PROVIDE PRESERVATIVE TREATED SILL PLATES AT ALL WALLS. SEE 09/S301 FOR TOP PLATE SPLICE REQMT'S.

4 WOOD SILLS SHALL BE ATTACHED TO CONTINUOUS (TURNED DOWN SLAB) FOUNDATION WALLS WITH 5/8" DIAMETER ANCHOR BOLTS SPACED NOT MORE THAN 4'-0" APART AND WHICH ARE EMBEDDED AT LEAST 8" IN CONCRETE. ALTERNATE ATTACHMENT SYSTEMS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

5 ALL EXTERIOR WALLS SHALL BE SHEATHED WITH 7/16" PLYWOOD OR OSB SHEATHING TO RESIST LATERAL LOADS ON THE BUILDING. PLYWOOD SHALL BE NAILED TO STUDS WITH 8d NAILS AT 4" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. ALL EDGES OF PLYWOOD WALL SHEATHING SHALL BE BLOCKED SOLID. SEE DETAIL 08/S401 FOR CLARIFICATION.

PSW1 = PLYWOOD SHEAR WALL WITH PLYWOOD ON EXTERIOR FACE OF STUDS.
PSW2 = PLYWOOD SHEAR WALL WITH PLYWOOD ON BOTH FACES OF STUDS.

6 HOLD DOWN ANCHORS, DENOTED AS "HD" ON THE FOUNDATION DRAWINGS SHALL BE SIMPSON "HDU4-SDS2.5" PRE-DEFLECTED HOLD DOWN ANCHORS. ATTACH TO THE TURNED DOWN SLAB WITH (1) 5/8" DIAMETER SIMPSON "SSTB" ANCHOR BOLT. THIS ANCHOR BOLT MUST BE HOOKED AROUND A CONTINUOUS #4 HORIZONTAL REBAR IN THE TURNED DOWN SLAB. HOLD-DOWN MUST BE ANCHORED TO 3" WIDE (OR DOUBLE 2X) TIMBER FRAMING PER SIMPSON. ADDITIONALLY, ALL SIMPSON PRODUCTS SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS. SEE 01/S301 FOR ISOMETRIC DETAIL BY SIMPSON FOR CLARIFICATION.

7 BUILT-UP STUD COLUMNS MUST BE SECURELY NAILED TOGETHER TO ACT AS A COMPOSITE MEMBER. USE (2) 12d NAILS FOR EACH STUD AT 12" O.C.

8 INTERIOR WALLS SHOWN ARE FOR REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND REQUIREMENTS.

9 SEE DETAIL 07/S401 FOR TYPICAL VENEER TO 2X TIMBER STUD WALL REQUIREMENTS.

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
Structural Engineers
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7630

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2900
Fax: 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 029 ENGINEER CHARLES A. LYSAGHT
11/9/13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	MES
CHECKED:	CAL
FILENAME:	BD_DWGS.dwg
PROJECT NO:	LA-9811
PRINTING:	Bid Drawings

SHEET DATA

GENERAL STRUCTURAL NOTES

SHEET NO.

S001

FOUNDATION PLAN NOTES

1 ALL ELEVATIONS ARE MEASURED FROM A REFERENCE FINISHED FLOOR ELEVATION OF 0'-0".

2 (NOTE REMOVED)

3 SEE DETAIL FOR TYPICAL SLAB ON GRADE CONSTRUCTION. THE SLAB IS DESIGNED FOR 100 PSF UNIFORM LIVE LOAD WITH NO PROVISION FOR HEAVY CONCENTRATED LOADS.

4 (NOT REMOVED)

5 THE SLABS, TURNED DOWN SLABS AND THICKENED SLABS SHALL BE DONE IN ONE POUR FOR THE INTERIOR OF BUILDING. THE EXTERIOR SLABS CAN BE POURED SEPARATELY. PROVIDE SLAB CONTROL JOINTS IN A 12' X 12' (+/-) MAX GRID AS LOCATED ON SHEET S103. SET REBAR AND ANCHOR BOLTS FOR THE (GLULAM COLUMN) PIERS AT THE SAME TIME THE SLAB IS POURED. THE PIERS WILL BE POURED SEPARATELY.

6 ALL GLULAM COLUMNS ARE SUPPORTED BY CONCRETE PIERS. SEE DETAILS FOR PIER AND REINFORCING REQUIREMENTS, TYPICAL.

7 REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS NOT SHOWN ON THIS PLAN.

8 SLOPE EXTERIOR SLABS AWAY FROM BUILDING FOUNDATION WALLS FOR DRAINAGE.

9 SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND PIPING PENETRATIONS THROUGH THE FLOOR SLAB AND FOR PIPES ENTERING THE BUILDING. G.C. SHALL COORDINATED UNDER THICKENED SLAB FOOTINGS AS REQUIRED, AND COMPACT SOIL AROUND PIPES.

10 SEE ARCHITECTURAL PLANS FOR ADDITIONAL REQUIREMENTS.

11 HVAC EQUIPMENT PER M.E.P. DRAWINGS. G.C. SHALL COORDINATE CURBS AND REQUIREMENTS WITH MANUFACTURER SPECIFICATIONS.

12 SEE S001 FOR STUD WALL FRAMING NOTES.

13 SLABS IN BATHROOMS SHALL BE SLOPED AT 1/4" PER FOOT MAXIMUM, PER ARCHITECTURAL SPECIFICATIONS. TOTAL SLAB THICKNESS SHALL NOT BE LESS THAN 4". THE SAME REINFORCING REQUIREMENTS PER 01/S301 ARE REQUIRED.

SHEAR WALL REQUIREMENTS:

PSW1 = PLYWOOD ON EXTERIOR FACE OF STUDS ONLY.

PSW2 = PLYWOOD ON BOTH FACES OF STUDS

COLUMN SCHEDULE

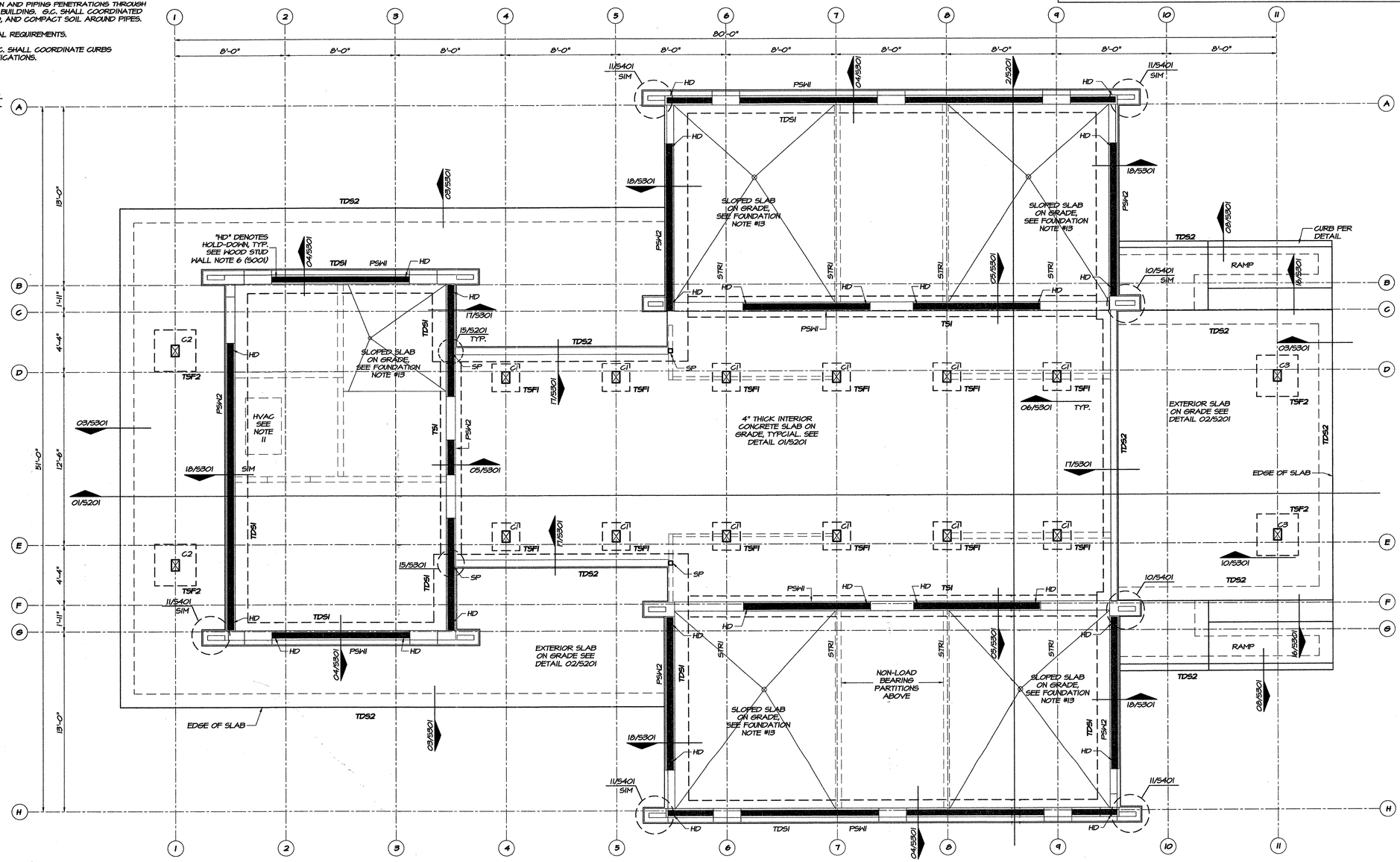
MK#	SIZE	TYPE	NOTES
C1	5 X 8 1/4	GLULAM	1
C2	5 X 8 1/4	GLULAM	1, 2
C3	6 3/4 X 8 1/4	GLULAM	1, 2

NOTES
1 USE LAMINATING COMBINATION #48.
2 USE PRESERVATIVE TREATED WOOD.

FOOTING SCHEDULE

MK#	SIZE	REINFORCING	NOTES
TDS1	20" WIDE X 18" THICK	(3) #4 CONT BOTTOM BARS	1,2
TDS2	12" WIDE X 18" THICK	(3) #4 CONT BOTTOM BARS	1,3
TS1	18" WIDE X 12" THICK	(3) #5 CONT BOTTOM BARS	1,4
TSF1	24" X 24" X 12" THICK	(3) #4'S EACH WAY	1,5
TSF2	36" X 36" X 12" THICK	(4) #4'S EACH WAY	1,6

NOTES
1 REBAR'S ARE LOCATED 3" CLEAR FROM BOTTOM OF FOOTING.
2 THIS TURNED DOWN SLAB IS USED UNDER STUD WALLS AT THE PERIMETER.
3 THIS TURNED DOWN SLAB IS USED AT THE PERIMETER WITH NO STUD WALL ABOVE.
4 THIS THICKENED SLAB IS USED UNDER THE INTERIOR LOAD BEARING WALLS.
5 THIS THICKENED SLAB FOOTING IS USED UNDER C1 AND C2.
6 THIS THICKENED SLAB FOOTING IS USED UNDER C3.



FOUNDATION PLAN

1/4" SCALE

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
Structural Engineers
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7630

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2900
Fax: 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 019 ENGINEER CHARLES A. LYSAGHT

11/14/13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE: 2013.11.07
DRAWN: MES
CHECKED: CAL
FILENAME: BD_DWGS.dwg
PROJECT NO: LA-9811
PRINTING: Bid Drawings

SHEET DATA

FOUNDATION PLAN

SHEET NO.

S101

ROOF BEAM SCHEDULE			
MK#	SIZE	TYPE	NOTES
RJ1	2 X 10 (NOMINAL)	SOLID SAWN	1
RB1	(2) 3 X 12 3/8	GLULAM	2,3
RB2	5 X 15 1/8	GLULAM	2
RB3	6 3/4 x 11	GLULAM	2,4
RB4	8 1/2 x 11	GLULAM	2,4
RB5	6 3/4 x 11	GLULAM	2,4
STR1	5 X 9	GLULAM	5

NOTES
1 USE #2 GRADE S-P-F OR SOUTHERN PINE (AT CONTRACTOR'S OPTION).
2 USE LAMINATING COMBINATION 24F-V3.
3 USE PRESERVATIVE TREATED WOOD IF CANTILEVERED ENDS ARE EXPOSED TO THE ELEMENTS. SEE ARCHITECTURAL PLANS FOR END CAPS.
4 USE PRESERVATIVE TREATED WOOD.
5 USE LAMINATING COMBINATION #48.

ROOF FRAMING NOTES

1 USE 2 X 6 SOLID SAWN, SINGLE TONGUE-AND-GROOVE SOUTHERN PINE ROOF DECK OVER THE GLULAM FRAMING. THE LONG OVERHANGS AT BOTH ENDS OF THE UPPER ROOF ARE ACHIEVED WITH 2 X 6'S AT 16" O.C. ON TOP OF THE 2 X 6 DECK. NAIL THE DECK FROM BELOW INTO THE 2 X 6'S. ABOVE DECKING, USE APA RATED SHEATHING, 5/8" MINIMUM THICKNESS. USE SHORT 1 ½" NAILS AT 6" O.C. ALONG THE PANEL EDGES AND 12" O.C. EACH WAY IN PANEL FIELD.

2 USE APA RATED SHEATHING OVER THE SOLID SAWN ROOF JOISTS: 40/20, 5/8" MINIMUM THICKNESS. USE 8d NAILS AT 6" O.C. ALONG THE PANEL EDGES AND 12" O.C. ALONG INTERMEDIATE SUPPORTS. PANELS MUST BE CONTINUOUS OVER TWO OR MORE TRUSSES WITH THE LONG DIMENSION (STRENGTH AXIS) ACROSS THE TRUSSES.

3 COORDINATE OPENINGS IN THE ROOF FRAMING WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS. OPENINGS LARGER THAN 6" SHALL BE FRAMED ON ALL SIDES WITH 2 X 4 HEADERS.

4 REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS NOT SHOWN ON THIS PLAN.

5. HVAC EQUIPMENT TO BE SUSPENDED FROM ROOF STRUCTURE BY ASSUMED (4) SUPPORT LOCATIONS AT CORNER OF UNIT. G.C. TO COORDINATE WITH FINAL M.E.P. DRAWINGS. DESIGNED WEIGHT OF M.E.P. EQUIPMENT IS 500 LBS. IF WEIGHT OF ENTIRE UNIT IS ABOVE LISTED WEIGHT, GENERAL CONTRACTOR SHALL CONTACT S.E.R. FOR REVIEW AND APPROVAL.

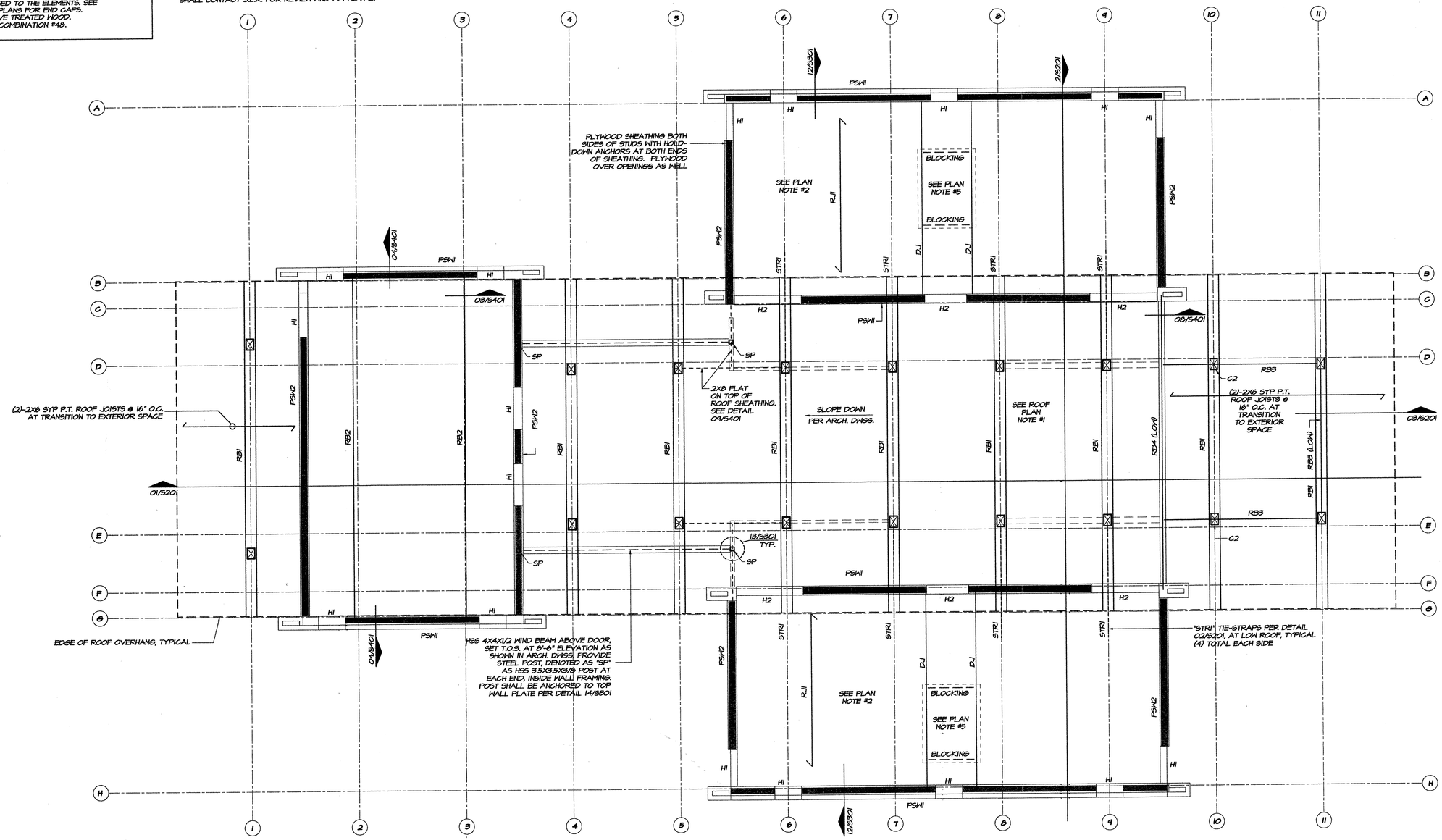
SHEAR WALL REQUIREMENTS:

PSW1 = PLYWOOD ON EXTERIOR FACE OF STUDS ONLY.

PSW2 = PLYWOOD ON BOTH FACES OF STUDS

WOOD HEADER SCHEDULE			
MK#	WOOD SIZE AT 2 X 6 STUDS	MAX SPAN	NOTES
H1	(3) 2 X 8	4'-0"	1 - 3
H2	(3) 2 X 10	6'-0"	1 - 3
H3	(3) 2 X 12	8'-0"	1 - 3

NOTES
1 PROVIDE ONE STUD UNDER AND TWO FULL HEIGHT STUDS BEYOND EACH END OF H1 AND H2. PROVIDE TWO STUDS UNDER AND THREE FULL HEIGHT STUDS BEYOND EACH END OF H3.
2 USE #2 GRADE SOUTHERN PINE FOR SOLID HEADERS.
3 CONTACT STRUCTURAL ENGINEER FOR WIDER OPENINGS.



ROOF FRAMING PLAN
1/4" SCALE

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
Structural Engineers
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7630

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2900
Fax: 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 4709 ENGINEER CHARLES A. LYSAGHT
11/7/13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA
Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	MES
CHECKED:	CAL
FILENAME:	BD_DWGS.dwg
PROJECT NO:	LA-9811
PRINTING:	Bid Drawings

SHEET DATA

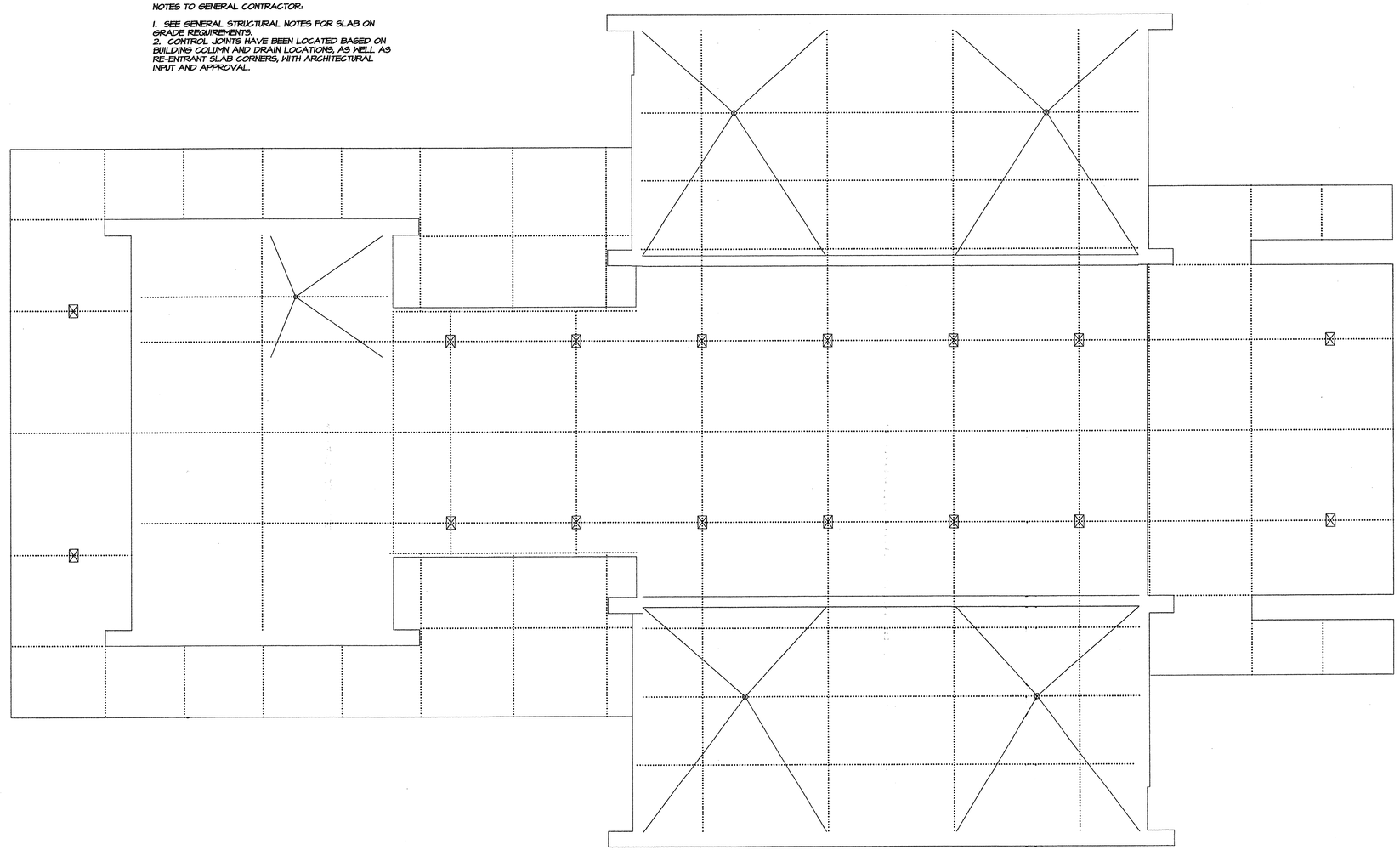
ROOF
FRAMING
PLAN

SHEET NO.

S102

NOTES TO GENERAL CONTRACTOR:

1. SEE GENERAL STRUCTURAL NOTES FOR SLAB ON GRADE REQUIREMENTS.
2. CONTROL JOINTS HAVE BEEN LOCATED BASED ON BUILDING COLUMN AND DRAIN LOCATIONS, AS WELL AS RE-ENTRANT SLAB CORNERS, WITH ARCHITECTURAL INPUT AND APPROVAL.



CONCRETE SLAB CONTROL JOINT LAYOUT

1/4" SCALE

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
Structural Engineers
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7630

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2900
Fax: 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 019 ENGINEER CHARLES A. LYSAGHT

11/4/13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

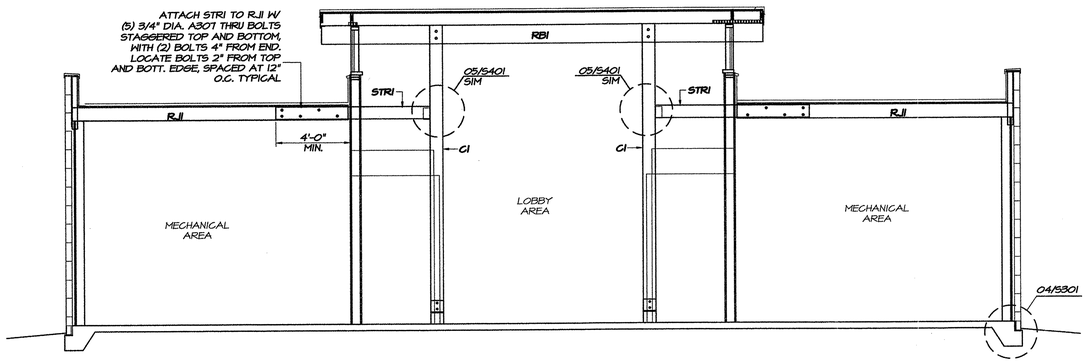
DATE:	2013.11.07
DRAWN:	MES
CHECKED:	CAL
FILENAME:	BD_DWGS.dwg
PROJECT NO:	LA-9811
PRINTING:	Bid Drawings

SHEET DATA

CONTROL
JOINT PLAN

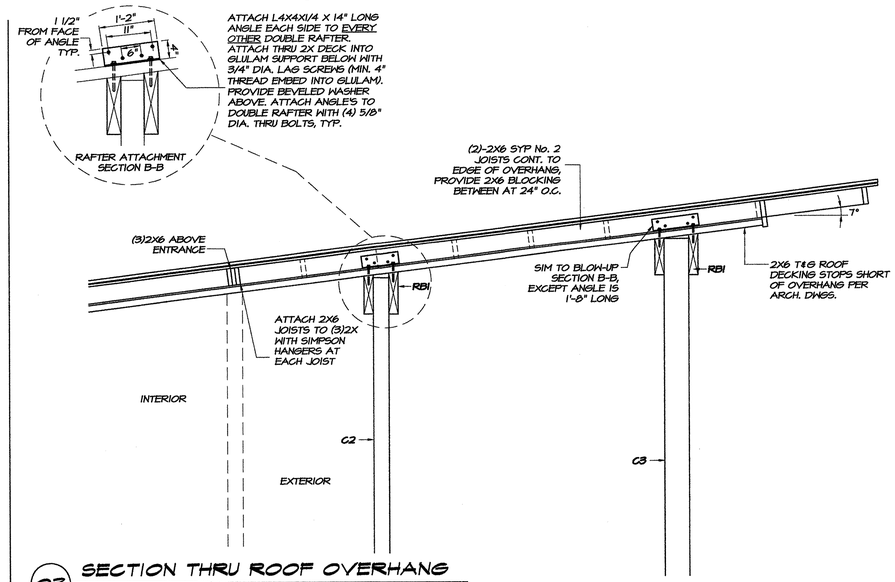
SHEET NO.

S103



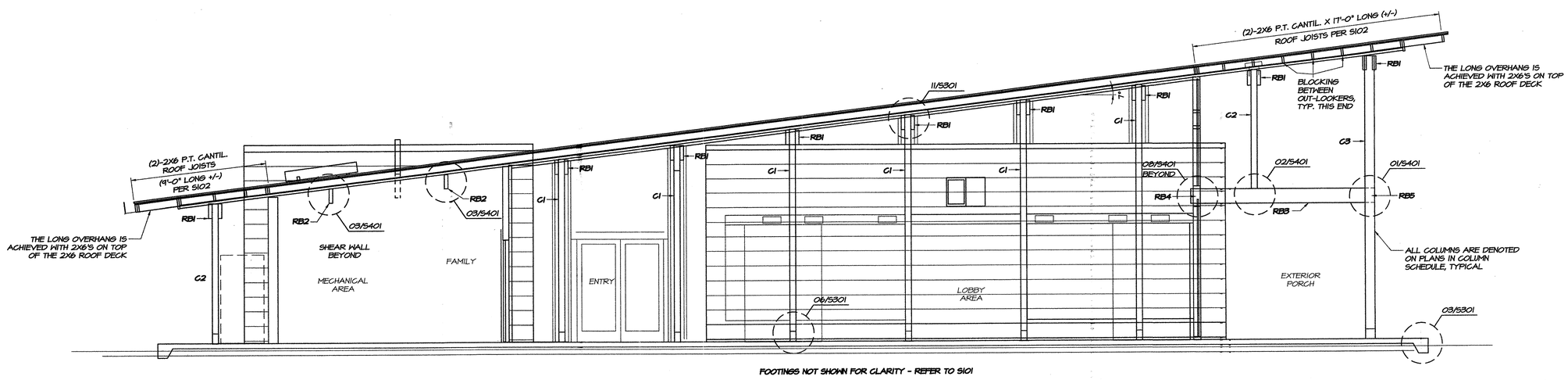
02 SECTION THRU MECHANICAL AND LOBBY

1/4" SCALE



03 SECTION THRU ROOF OVERHANG

1/2" SCALE



FOOTINGS NOT SHOWN FOR CLARITY - REFER TO S101

01 SECTION THRU LOBBY

1/4" SCALE

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
Structural Engineers
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7630

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2900
Fax: 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

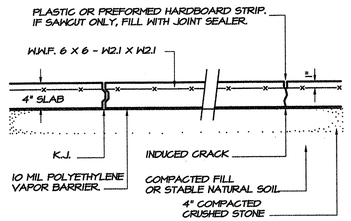
DATE:	2013.11.07
DRAWN:	MES
CHECKED:	CAL
FILENAME:	BD_DWGS.dwg
PROJECT NO:	LA-9811
PRINTING:	Bid Drawings

SHEET DATA

BUILDING SECTIONS

SHEET NO.

S201



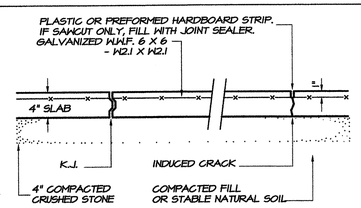
NOTES:

USE A KEYED CONSTRUCTION JOINT (K.J.) BETWEEN POURS.

SLAB IS DESIGNED FOR COMMERCIAL OCCUPANCY WITH A MAXIMUM LIVE LOAD OF 100 PSF AND NO LARGE CONCENTRATED LOADS.

01 TYPICAL INTERIOR SLAB ON GRADE

1" SCALE



NOTES:

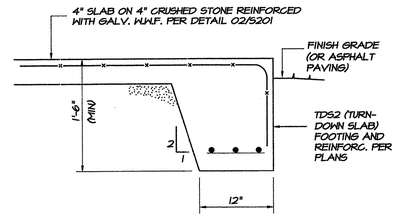
USE A KEYED CONSTRUCTION JOINT (K.J.) BETWEEN POURS.

SLAB IS DESIGNED FOR COMMERCIAL OCCUPANCY WITH A MAXIMUM LIVE LOAD OF 100 PSF AND NO LARGE CONCENTRATED LOADS.

CONCRETE AT EXTERIOR SLAB SHALL BE AIR-ENTRAINED.

02 TYPICAL EXTERIOR SLAB ON GRADE

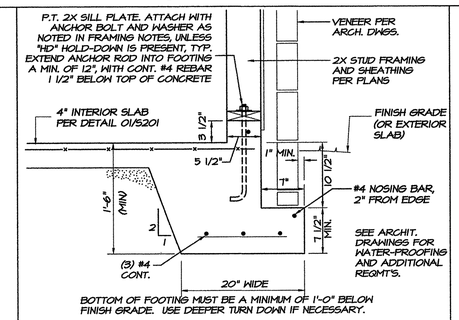
1" SCALE



BOTTOM OF FOOTING MUST BE A MINIMUM OF 1'-0" BELOW FINISH GRADE. USE DEEPER TURN DOWN IF NECESSARY.

03 TURNED DOWN SLAB AT EXTERIOR SLAB

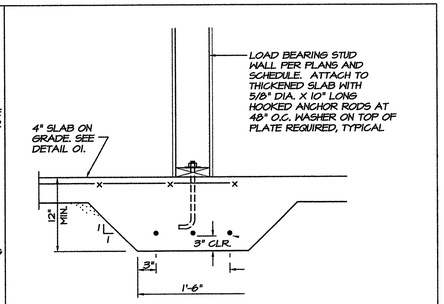
1" SCALE



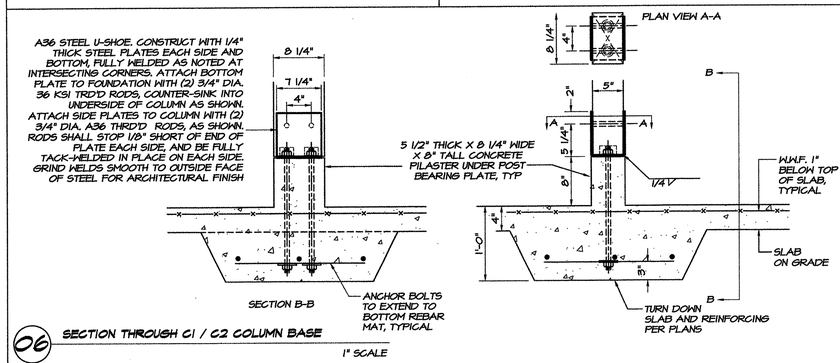
BOTTOM OF FOOTING MUST BE A MINIMUM OF 1'-0" BELOW FINISH GRADE. USE DEEPER TURN DOWN IF NECESSARY.

04 TURNED DOWN SLAB AT BUILDING PERIMETER WITH MASONRY VENEER

1" SCALE

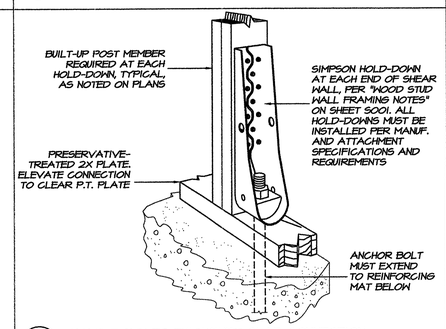


05 THICKENED SLAB AT INTERIOR LOAD-BEARING WALL



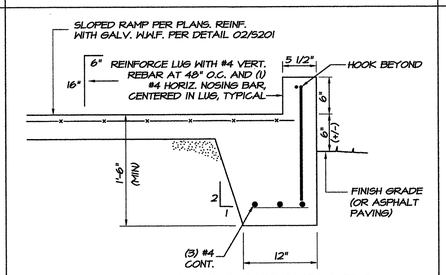
06 SECTION THROUGH C1 / C2 COLUMN BASE

1" SCALE



07 HOLD-DOWN TO THICKENED SLAB CONNECTION

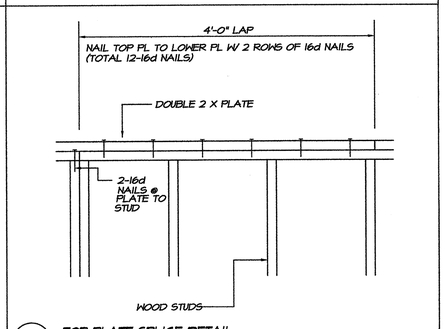
NOT TO SCALE



BOTTOM OF FOOTING MUST BE A MINIMUM OF 1'-0" BELOW FINISH GRADE. USE DEEPER TURN DOWN IF NECESSARY.

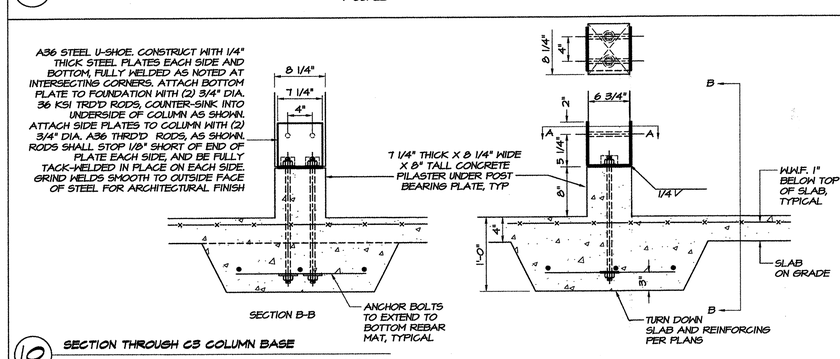
08 SECTION THRU RAMP FOUNDATION WALL

NOT TO SCALE



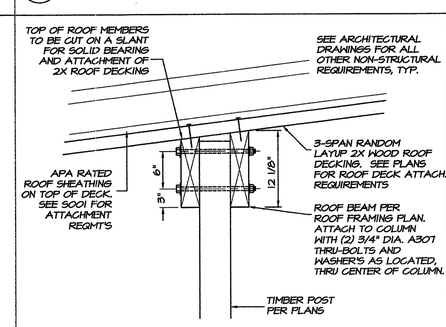
09 TOP PLATE SPLICE DETAIL

NOT TO SCALE



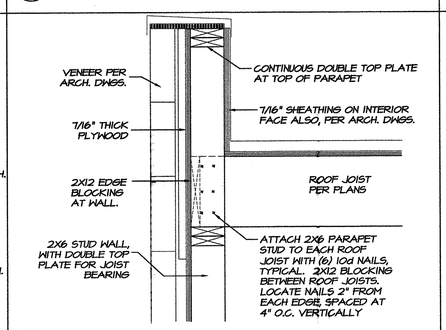
10 SECTION THROUGH C3 COLUMN BASE

1" SCALE



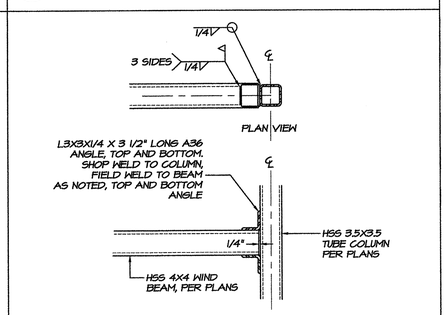
11 ATTACHMENT OF ROOF BEAMS TO COLUMNS

NOT TO SCALE



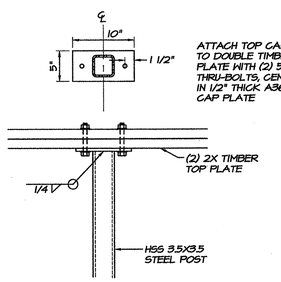
12 SECTION THRU WALL AT ROOF ELEVATION

NOT TO SCALE



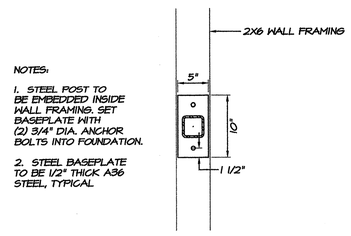
13 STEEL WIND BEAM TO WIND COLUMN ATTACHMENT

NOT TO SCALE



14 STEEL POST TO WALL PLATE ATTACHMENT

1" SCALE



NOTES:

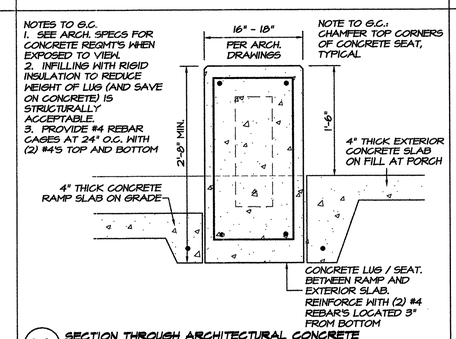
1. STEEL POST TO BE EMBEDDED INSIDE WALL FRAMING. SET BASEPLATE WITH (2) 3/4" DIA. ANCHOR BOLTS INTO FOUNDATION.

2. STEEL BASEPLATE TO BE 1/2" THICK A36 STEEL, TYPICAL.

15 STEEL POST BASEPLATE AT SLAB ON GRADE

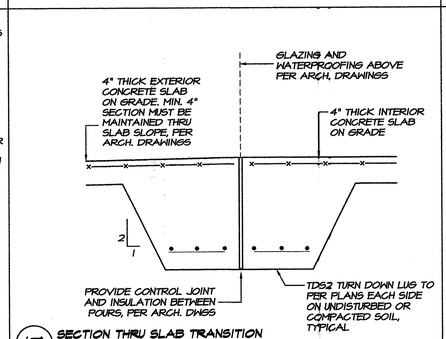
1" SCALE

NOTES TO G.C.
1. SEE ARCH. SPECS FOR CONCRETE REQMT'S WHEN EXPOSED TO VIEW.
2. INFILLING WITH RIGID INSULATION TO REDUCE WEIGHT OF LUG (AND SAVE ON CONCRETE) IS STRUCTURALLY ACCEPTABLE.
3. PROVIDE #4 REBAR CAGES AT 24" O.C. WITH (2) #4'S TOP AND BOTTOM



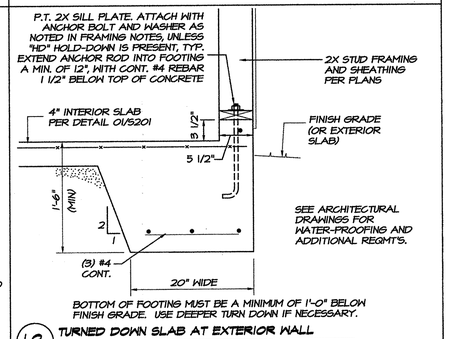
16 SECTION THROUGH ARCHITECTURAL CONCRETE EXTERIOR SEAT

1" SCALE



17 SECTION THRU SLAB TRANSITION

1" SCALE



BOTTOM OF FOOTING MUST BE A MINIMUM OF 1'-0" BELOW FINISH GRADE. USE DEEPER TURN DOWN IF NECESSARY.

18 TURNED DOWN SLAB AT EXTERIOR WALL (NO VENEER - COMP. SIDING)

1" SCALE

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
Structural Engineers
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7630

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2900
Fax: 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 019 ENGINEER CHARLES A. LYSAGHT
11/7/13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	MES
CHECKED:	CAL
FILENAME:	BD_DWGS.dwg
PROJECT NO:	LA-9811
PRINTING:	Bid Drawings

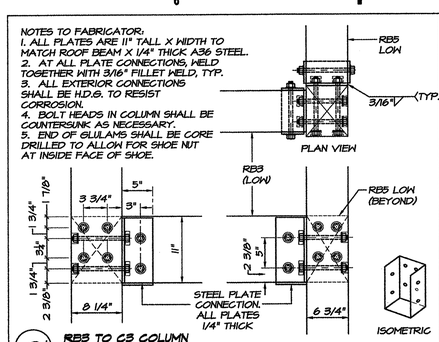
SHEET DATA

STRUCTURAL FOUND. AND FRAMING DETAILS

SHEET NO.

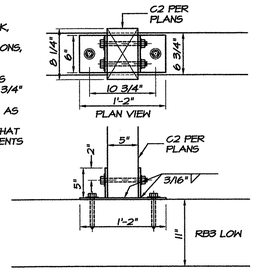
S301

NOTES TO FABRICATOR:
1. ALL PLATES ARE 11" TALL X WIDTH TO MATCH ROOF BEAM X 1/4" THICK A36 STEEL.
2. AT ALL PLATE CONNECTIONS, WELD TOGETHER WITH 3/16" FILLET WELD, TYP.
3. ALL EXTERIOR CONNECTIONS SHALL BE H.D.G. TO RESIST CORROSION.
4. BOLT HEADS IN COLUMN SHALL BE COUNTERSUNK AS NECESSARY.
5. END OF GULAMS SHALL BE CORE DRILLED TO ALLOW FOR SHOE NUT AT INSIDE FACE OF SHOE.

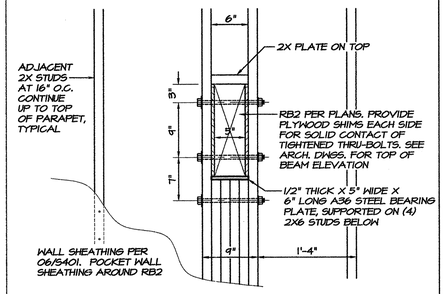


01 RB3 TO C3 COLUMN
1" SCALE

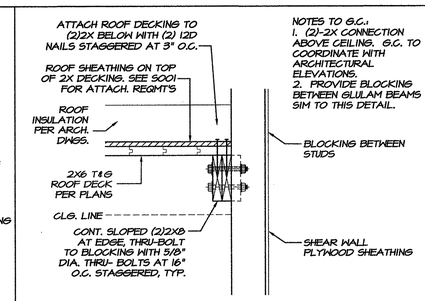
NOTES TO FABRICATOR:
1. ALL PLATES ARE 1/4" THICK, A36 STEEL.
2. AT ALL PLATE CONNECTIONS, WELD TOGETHER WITH 3/16" FILLET WELD, TYP.
3. USE 3/4" DIA. THRU BOLTS THRU VERTICAL PLATE, AND 3/4" DIA. X 6" LONG (MIN.) LAG SCREWS INTO TOP OF BEAM, AS LOCATED.
4. ALL STEEL AND BOLTS THAT ARE EXPOSED TO THE ELEMENTS SHALL BE HOT-DIPPED GALVANIZED, TYPICAL.



02 C1 POST TO CONTINUOUS RB3 (LOW)
1" SCALE

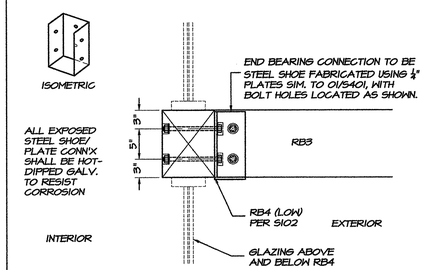


03 RB2 TO WALL CONNECTION
1" SCALE

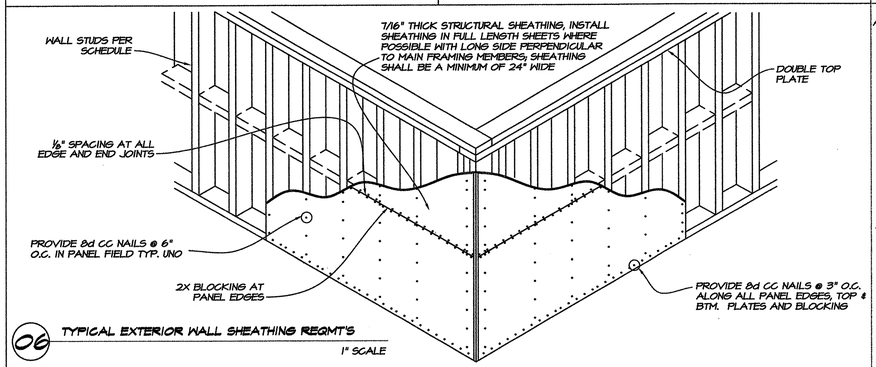


NOTES TO G.C.:
1. (2)-2X CONNECTION ABOVE CEILING. G.C. TO COORDINATE WITH ARCHITECTURAL ELEVATIONS.
2. PROVIDE BLOCKING BETWEEN GULAM BEAMS SIM TO THIS DETAIL.

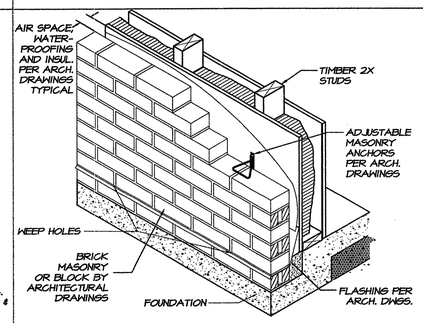
04 SECTION AT PITCHED ROOF TO SHEAR WALL
1" SCALE



05 RB3 TO RB4 CONNECTION
1" SCALE



06 TYPICAL EXTERIOR WALL SHEATHING REQMT'S
1" SCALE



07 TYPICAL VENEER TO 2X TIMBER STUD WALL ATTACHMENT
NOT TO SCALE

VENEER TO STUD-WALL NOTES:

1. THIS DETAIL IS PROVIDED AS A REFERENCE FOR THE GENERAL CONTRACTOR AND MASON. ALL INFORMATION PROVIDED ON THE STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL CONTROL.

2. SEE ARCHITECTURAL DRAWINGS FOR AIR SPACE, INSULATION, WATER-PROOFING, ETC, THIS IS ONLY FOR REFERENCE.

3. IF DISTANCE FROM BACK OF VENEER TO FRAMING IS MORE THAN 4 1/2", SPECIALTY ANCHORS MAY BE REQUIRED.

4. THE ANCHORS, AS SHOWN, SHALL ATTACH THRU THE SHEATHING DIRECTLY INTO THE STUDS. ATTACHING TO THE SHEATHING ALONE IS NOT ACCEPTABLE.

4. THE VENEER SHOWN, AND WATER-PROOFING, IS RECOMMENDED BY THE BRICK INDUSTRY, AND IS FOR REFERENCE ONLY. ARCHITECTURAL DRAWINGS SHALL DENOTE ALL WATER-PROOFING REQUIREMENTS.

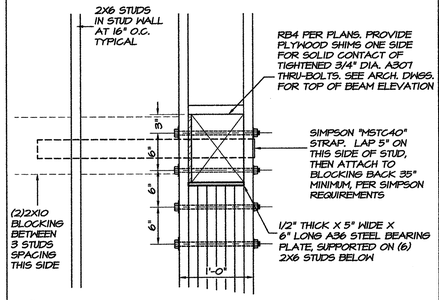
5. CORRUGATED ANCHORS NOT PERMITTED WITH TIMBER STUD BACKING.

6. ANCHORS SHALL BE MINIMUM W1.7 (9 GAGE, MW11) ADJUSTABLE WIRE ANCHORS, HOT-DIPPED GALVANIZED, TWO-PEICE PER ASTM A 153 CLASS B-2.

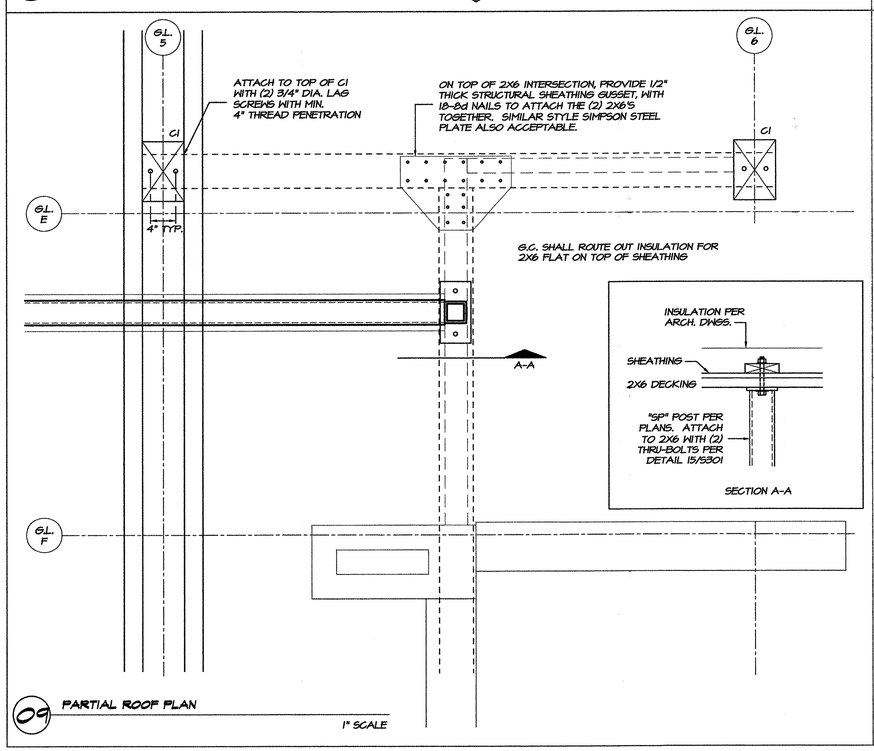
7. MINIMUM (1) ANCHOR PER 2 1/2 FT^2 OF WALL AREA, WITH VERTICAL SPACING NOT MORE THAN 18".

8. SHEATHING SHALL BE EXTERIOR GRADE OSB OR PLYWOOD, 7/16" THICK.

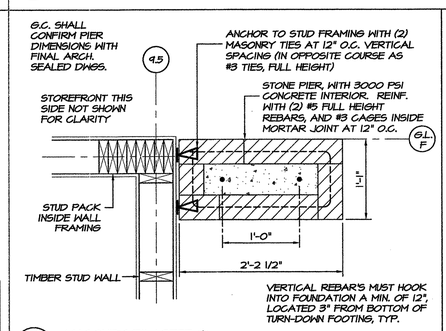
9. SEE ADDITIONAL DETAILS FOR ATTACHMENT REQUIREMENTS TO SLAB.



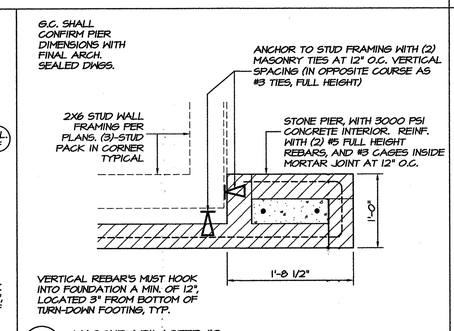
08 RB4 ATTACHMENT TO WALL FRAMING
1" SCALE



09 PARTIAL ROOF PLAN
1" SCALE



10 MASONRY PILASTER #1
1" SCALE



11 MASONRY PILASTER #2
1" SCALE

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601

919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
Structural Engineers
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7630

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2900
Fax: 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 4709 ENGINEER CHARLES A. LYSAGHT
11/7/13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA
Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	MES
CHECKED:	CAL
FILENAME:	BD_DWGS.dwg
PROJECT NO:	LA-9811
PRINTING:	Bid Drawings

SHEET DATA

STRUCTURAL FRAMING DETAILS

SHEET NO.

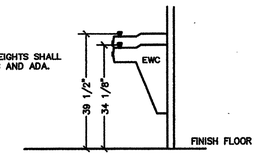
S401

PLUMBING FIXTURE SCHEDULE *

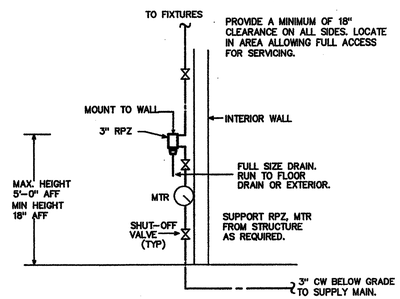
MARK	DESCRIPTION	ALTERNATE MANUFACTURER/MODEL	ALTERNATE MANUFACTURER/MODEL
WC/ WCHC	WATER CLOSET (FLOOR MOUNT BACK SPUD) AMERICAN STANDARD "PRIOLO FLOWISE" #3997.001, ELONGATED BOWL, 1.28 GPF, VITREOUS CHINA, AND 1 1/2" BACK SPUD. WCHC TO BE ADA COMPLIANT. PROVIDE OPEN FRONT SEAT, AND SENSOR W/ MANUAL OVERRIDE FLUSH VALVE, EQUAL TO SLOAN OPTIMA 152-1.28-ES-S (AC POWERED) FLUSH VALVE.	ZURN Z5647-BWL FIXTURE, ZURN #ZEMS6152AV-HET, 1.28 GPF VALVE.	FIXTURE-NO 3RD CHOICE AVAILABLE. HYDROTEK H-BCB-128, 1.28 GPF VALVE.
WC-1	WATER CLOSET (FLOOR MOUNT TOP SPUD) AMERICAN STANDARD "MADERA FLOWISE" #3043.001, ELONGATED BOWL, 1.28 GPF, VITREOUS CHINA, AND 1 1/2" TOP SPUD, ADA COMPLIANT. PROVIDE OPEN FRONT SEAT, AND SENSOR W/ MANUAL OVERRIDE FLUSH VALVE EQUAL TO SLOAN OPTIMA 111-1.28-ES-S (AC POWERED) FLUSH VALVE.	ZURN #Z5665 FIXTURE. ZURN #ZEMS6000AV-HET-IS, 1.28 GPF VALVE	KOHLER HIGHLINE #K-4405 FIXTURE. HYDROTEK HB-128, 1.28 GPF VALVE.
UR	URINAL (BACK SPUD) AMERICAN STANDARD "WASHBROOK FLOWISE" #6515.001, 1.0 GPF, VITREOUS CHINA, 3/4" BACK SPUD, AND SENSOR W/ MANUAL OVERRIDE FLUSH VALVE SLOAN #195-1.0-ES-S W/OVERRIDE BUTTON (AC POWERED). ADA COMPLIANT.	ZURN #Z5780 FIXTURE. ZURN #ZEMS6195AV-OB-WS1 VALVE.	KOHLER DEXTER #K-5016-ER FIXTURE. HYDROTEK HB-D1B-05 VALVE.
L1	LAVATORY (ACCESSIBLE, WALL HUNG) KOHLER GREENWICH #K-2032 WHITE WITH CONCEALED ARM CARRIER AND DRAIN ASSEMBLY. ADA COMPLIANT. FURNISH WITH SLOAN #ETF-880 AC POWERED SENSOR FAUCET WITH 4" TRIM PLATE. PROVIDE ACCESSORIES AS REQUIRED. NO MIXING VALVE REQUIRED. COORDINATE TRIM AND SINK FAUCET DRILLING FOR SINGLE HOLE OR AS REQUIRED PER OWNER.	AMERICAN STANDARD LUCERNE #0355.012 WITH HYDROTEK SENSOR FAUCET #H-1000C.	AMERICAN STANDARD REGALYN #4867.004 AMERICAN STANDARD INNSBROOK #6059.205.
L2	2- STATION LAVATORY (ACCESSIBLE) SLOAN SLOANSTONE TWO STATION LAVATORY # ELS-42600, ADA COMPLIANT. VERIFY COLOR W/ARCH. FURNISH WITH SLOAN OPTIMA ETF-880 AC POWERED FAUCETS. PROVIDE ACCESSORIES AS REQUIRED. NO MIXING VALVE REQUIRED.	BRADLEY #EXD-2N STATION WITH HYDROTEK #H-1000C FAUCETS.	WILLOUGHBY AQUAWAVE #WAW-2322-DMF WITH AMERICAN STANDARD INNSBROOK #6059.205.
MS	MOP SINK ACORN # TRH-303006, 30"X30"X6" TERRAZZO SERVICE BASIN WITH REDUCED HEIGHT AND STAINLESS STEEL GRID STRAINER AND 3" PIPE CONNECTION. VERIFY MODEL SIZE W/ARCH. FAUCET: ACORN MODEL KFC CHROME PLATED SERVICE FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK AND 3/4" HOSE THREAD ON SPOUT. HOSE & HOSE BRACKET: ACORN MODEL KH36 LONG FLEXIBLE 5/8" RUBBER HOSE, CLOTH REINFORCED.	FLORESTONE MOP SINK #92 WITH SPEAKMAN #MR-371 FAUCET, HOSE AND MOP HANGER.	CRANE MOP SINK #TSB-3002 WITH #830-AA FAUCET, #832-AA HOSE, #1453-BB STRAINER, #889-CC MOP HANGER, #E-77-AA BUMPER GUARD, AND STAINLESS STEEL SPLASH GUARD.
CP	CIRCULATING PUMP BELL & GOSSET, SERIES NBF-22 IN-LINE CIRCULATOR PUMP, 1/12 HP, 115 VAC, FLA=0.8 1 Ph., 3/4" CONN., WITH A MAXIMUM OF 22 GPM AND 15' TDH. PUMP TO BE ALL BRONZE CONSTRUCTION, COORDINATE WITH ELEC. CONTRACTOR FOR POWER FEED. PROVIDE DISCONNECT SWITCH.	TACO MODEL #110.	ARMSTRONG MODEL #S-25.
EWC	HIGH/LOW ELECTRIC WATER COOLER OASIS DUAL LEVEL ELECTRIC WATER COOLER. MODEL # PBACSL, ADA COMPLIANT. PIPE TO SINGLE DRAIN AND SUPPLY LINE. VERIFY HIGH/LOW UNIT MOUNTING SIDES AND MODEL.	HALSEY TAYLOR #HAC8BL-Q.	ELKAY MODEL #EZSTL8LC.
TPV	TRAP PRIMER VALVE PPP INC. MODEL# PR-500, 1/2" INLET, 1/2" OUTLET	JOSAM #88300.	WATTS #A200.
US	URINAL SUPPORTS SMITH MODEL# 0637	ZURN #1221.	JOSAM #17550.
TMV	THERMOSTATIC MIXING VALVE LEONARD TM-20-E MIXING VALVE WITH CHECKSTOPS. INSTALL IN ACCESSIBLE LOCATION. SET OUTFLOW TO SPECIFIED TEMPERATURE (90 DEG F.). INSTALL PER MANUFACTURER'S SPECIFICATIONS.	WATTS MMV SERIES.	TACO 5000 SERIES.
HB	HOSE BIBB ZURN Z-1330-C, 3/4" WALL HYDRANT WITH VANDAL RESISTANT VACUUM BREAKER. ENCASED WITH KEY LOCK.	WATTS #HY-330.	JAY R. SMITH #5509QT.
SWH	SOLAR WATER HEATING DRAINBACK SYSTEM W/ELECTRIC BACKUP ALTERNATE ENERGY TECHNOLOGIES DBS SYSTEM WITH 120 GALLON TANK, 4500 WATT, 240 V. 1" INLET AND OUTLET. PROVIDE DRAIN PAN, PRESSURE RELIEF VALVE. PROVIDE EXPANSION TANK (ET) AMTROL MODEL ST-12-C 4.4 GALLON CAPACITY. PROVIDE STORAGE TANK-THERMOMISER TM-SS120-HE WITH DB-10C RESERVOIR, GRUNDFOS UP15-100F PUMP. PROVIDE AE-40 COLLECTOR AND VERIFY SIZE W/MFR AND ARCH. PROVIDE ALL COMPONENTS FOR SYSTEM AS REQUIRED-PIPING, DRAIN, CONTORLLER, COLLECTOR MOUNTING HARDWARE, ETC. COORDINATE/VERIFY MOUNTING HARDWARE W/STRUCTURE, ARCH, MFR.	SOLENE DRAINBACK SYSTEM.	LEVEREDGE GUARDIAN DRAINBACK SYSTEM.
FD	FLOOR DRAIN ZURN ZN-415 WITH DEEP SEAL P-TRAP, 5" X 5" TYPE "S" SQUARE STRAINER AND 3" CONNECTION, VANDAL-PROOF TOP. PROVIDE MODEL WITH TRAP PRIMER CONNECTION ONLY FOR FLOOR DRAINS IN AREAS NOTED ON SHEET P300.	JOSAM #30000-S.	JAY R. SMITH #2005-B.
MTR	WATER METER NEPTUNE, 3" TURBINE METER. INDICATION SHALL BE WITH BOTTOM OF GAUGE TOWARD FLOOR.	PARK ENVIRONMENTAL EQUIP. 3" TURBINE.	HERSEY HORIZON 3" TURBINE.
FPHB	FREEZE-PROOF HOSEBIBB ZURN Z-1320-C, 3/4" NON FREEZE WALL HYDRANT WITH VANDAL RESISTANT VACUUM BREAKER. ENCASED WITH KEY LOCK.	JAY R. SMITH #5509QT.	WATTS HY-725.
RPZ-1	3" REDUCED PRESSURE BACKFLOW PREVENTER WATTS MODEL #009QT-3" REDUCED PRESSURE BACKFLOW PREVENTER, BRONZE CONSTRUCTION.	ZURN #375, 3".	FEBCO #860, 3".
RPZ-2/ RPZ-3	3/4" REDUCED PRESSURE BACKFLOW PREVENTER WATTS MODEL #009M3QT, 3/4" REDUCED PRESSURE BACKFLOW PREVENTER, BRONZE CONSTRUCTION.	ZURN #375, 3/4".	FEBCO #860, 3/4".
YH	YARD HYDRANT ZURN #Z1396, NON-FREEZE, 3/4" INLET/HOSE CONNECTION. INSTALL PER MFR WITH DRAIN PORT LOCATION BELOW GROUND FROST LINE.	WOODFORD #Y34.	JAY R. SMITH #5909.

*OR APPROVED EQUAL

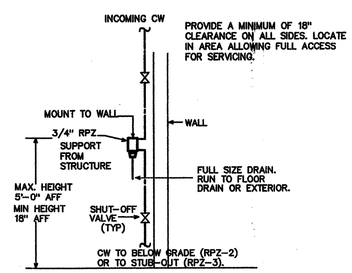
NOTE:
ALL MOUNTING HEIGHTS SHALL MEET THE NCSBC AND ADA.



1 EWC DETAIL
SCALE: NTS



2 RPZ-1 MOUNTING DETAIL
SCALE: NTS



2 RPZ-2/RPZ-3 MOUNTING DETAIL
SCALE: NTS

GENERAL NOTES – PLUMBING

1. PREPLAN ALL WORK PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY PART OF THE WORK DESCRIBED BY THIS DRAWING.
2. IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS WITH EXISTING FIELD CONDITIONS OR THE WORK OF OTHER TRADES.
3. RESOLVE ALL CONFLICTS PRIOR TO INCURRING ANY MATERIAL OR LABOR EXPENSES.
4. COMPLY WITH THE MANUFACTURER'S TECHNICAL INSTRUCTIONS WHEN INSTALLING PLUMBING FIXTURES, MATERIALS, AND DEVICES.
5. LOCATE FIXTURES AND EQUIPMENT GENERALLY AS SHOWN ON THE PLANS; HOWEVER, COORDINATE LOCATIONS WITH ACTUAL FIELD CONDITIONS TO PRESERVE ALL CODE-REQUIRED AND MANUFACTURER – REQUESTED SERVICE CLEARANCES.
6. COORDINATE ROUTING OF ALL PIPING WITH BUILDING STRUCTURE AND WITH THE WORK OF OTHER TRADES. OFFSET VENT PIPING AROUND BEAMS AND JOISTS AS NECESSARY.
7. ALL HANDICAP FIXTURES AND INSTALLATION OF HANDICAP FIXTURES SHALL CONFORM TO ADA REQUIREMENTS.
8. AT EXTERIOR WALL, INSTALL WATER PIPING ON HEATED SIDE OF WALL INSULATION.
9. PROVIDE WATER HAMMER ARRESTORS AT THE END OF EACH COLD AND HOT WATER BRANCH RISER. SIZE ARRESTOR APPROPRIATELY.
10. PROVIDE CONCRETE RING FOR ALL EXTERIOR CLEAN-OUTS.
11. REVIEW SITE PLAN FOR UTILITIES AND ORIENTATION PRIOR TO START OF WORK.
12. G.C. TO PROVIDE ROOF PENETRATIONS.
13. PROVIDE HTHW AT 120 DEGREES (F) AND LTHW AT 90 DEGREES (F).

SYMBOL LEGEND – PLUMBING

SYMBOL	DESCRIPTION
	WASTE PIPING (W)
	VENT PIPING (V)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
HTHW	HIGH TEMPERATURE HOT WATER PIPING (HTHW) 120 DEG. F
LTHW	LOW TEMPERATURE HOT WATER PIPING (LTHW) 90 DEG. F
HWR	HOT WATER RETURN PIPING (HWR)
S	SOLAR COLLECTOR SUPPLY LINE
R	SOLAR COLLECTOR RETURN LINE
COFF	CLEANOUT FINISH FLOOR
WCO/HCO	WALL/HORIZONTAL CLEANOUT
COFG	CLEANOUT FINISH GRADE –PROVIDE FLUSH CONCRETE COLLAR AND BRONZE COVER
	DIELECTRIC UNION
	SHUT-OFF VALVE
	CHECK VALVE
	BALANCING VALVE
	CIRCULATION PUMP (CP)
	WATER METER (MTR)
	VENT THRU ROOF (VTR)
TMV	THERMOSTATIC MIXING VALVE (TMV)
	CONNECTION POINT FROM NEW TO EXISTING PIPING.

LOAD SUMMARY – PLUMBING

WASTE DEMAND (FU)	WATER DEMAND (FU)	WATER DEMAND (GPM)
73.0	163.0	81.9

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652

CLEARSCAPES
ARCHITECTURE COMPANY
311-200 W. Martin Street
Raleigh, NC 27601
919.821.2779
919.821.2884 fax
admin@clearscapes.com

CONSULTANTS
Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27603
Phone 919.833.0495
Fax 919.833.7636
Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE
11/7/13

Bid Drawings
2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	DS
CHECKED:	BEB
FILENAME:	DD_FloorPlans.wwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

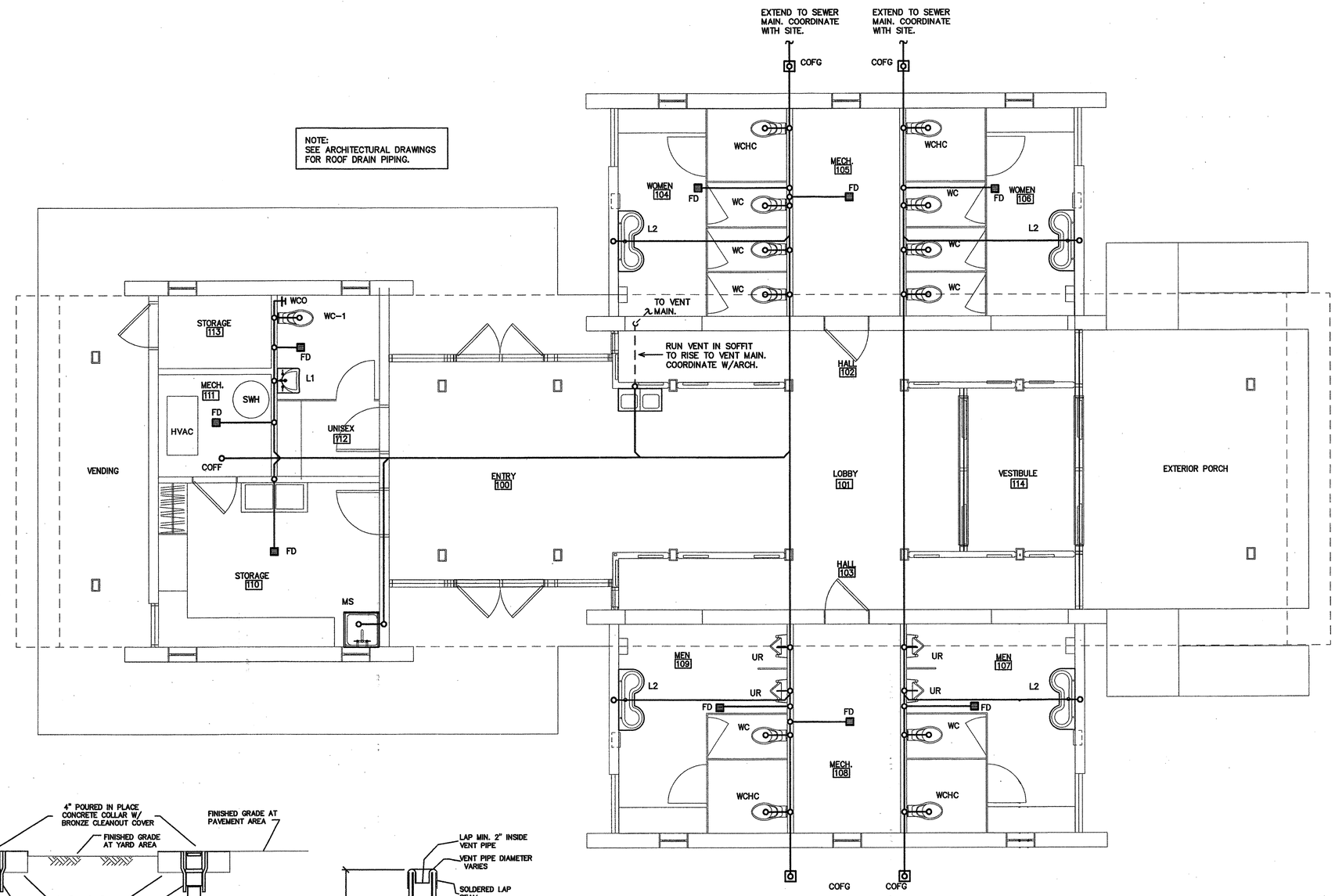
SHEET DATA

PLUMBING SCHEDULE/NOTES

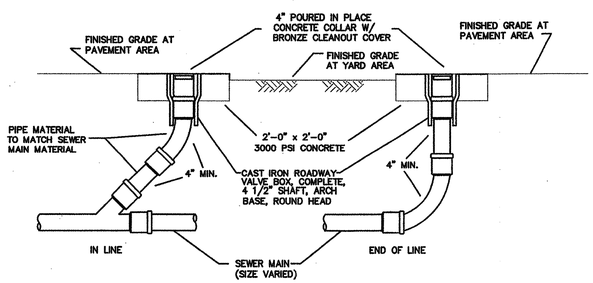
SHEET NO.

P100

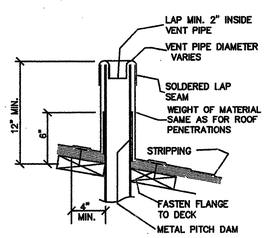
NOTE:
SEE ARCHITECTURAL DRAWINGS
FOR ROOF DRAIN PIPING.



1 DWV PLAN
SCALE: 1/4" = 1'-0"



2 GRAVITY SEWER CLEANOUT
SCALE: NOT TO SCALE



3 VTR DETAIL
SCALE: NOT TO SCALE

CLEARSCAPES
ARCHITECTURE + ART
311-200 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
artists@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7295

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

11/7/13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA
Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	DS
CHECKED:	BEB
FILENAME:	DD_FloorPlans.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

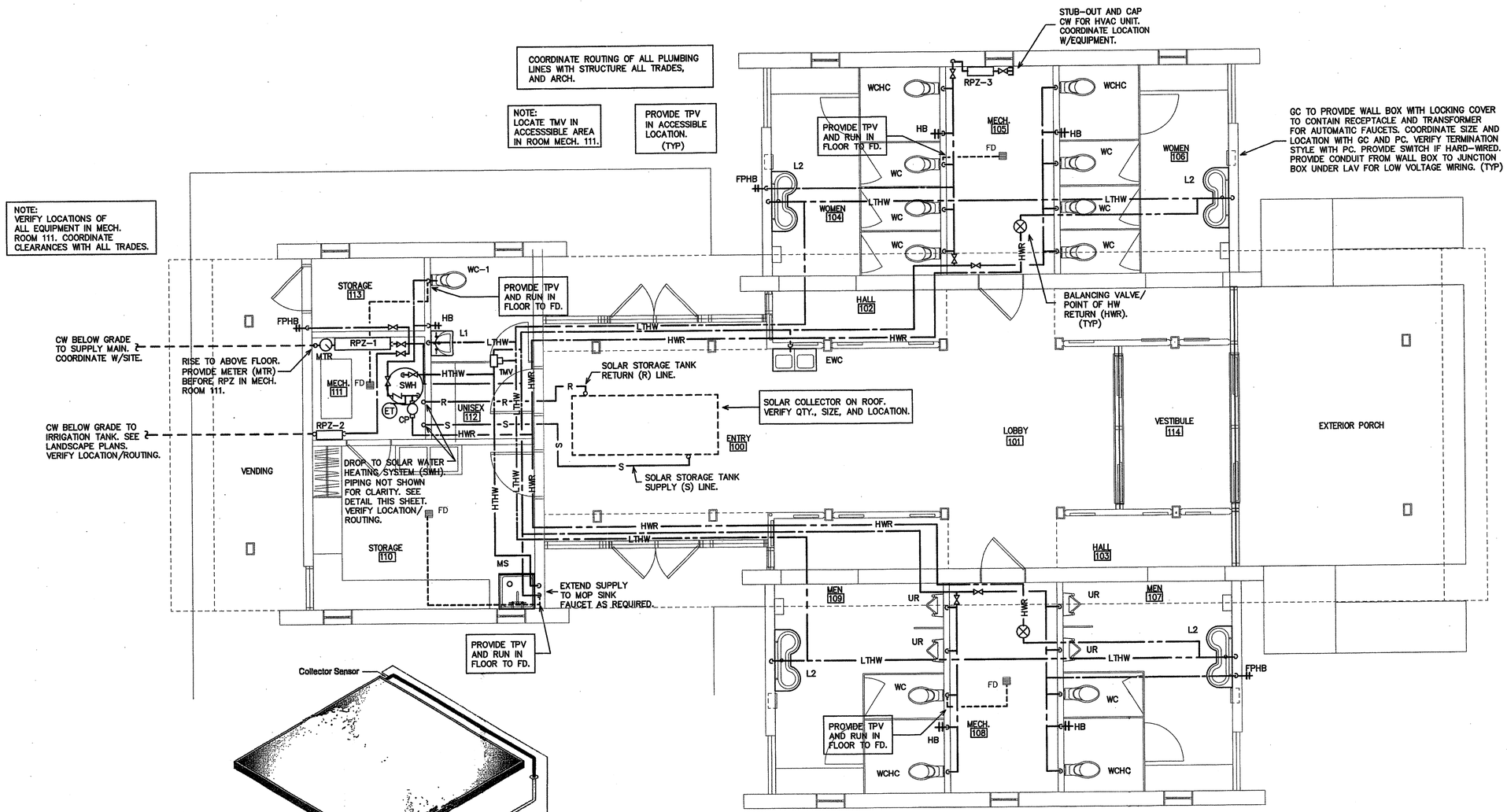
SHEET DATA

DWV
PLAN

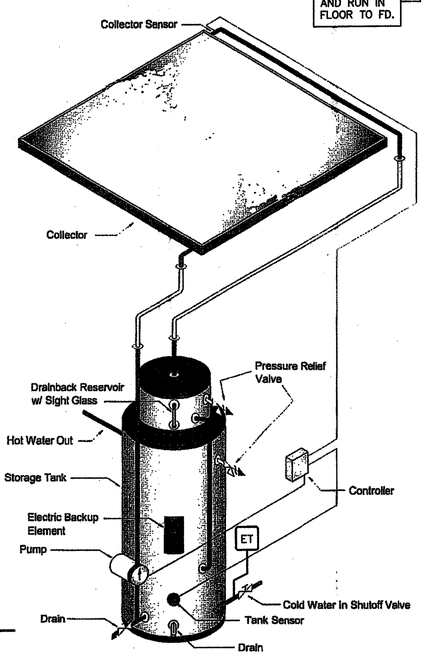
SHEET NO.

P200

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652

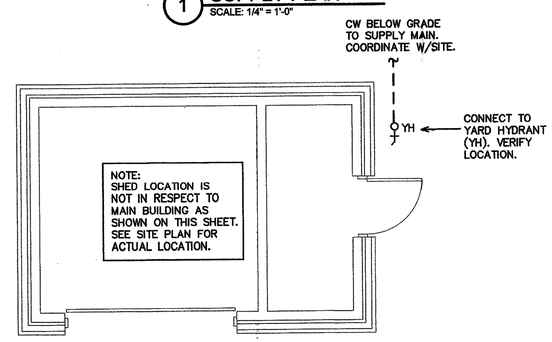


1 SUPPLY PLAN
SCALE: 1/4" = 1'-0"



NOTE: GENERAL DESIGN SHOWN. MAY VARY PER MFR/USE.

3 SOLAR WATER HEATER DETAIL
SCALE: NOT TO SCALE



2 STORAGE SHED SUPPLY PLAN
SCALE: 1/4" = 1'-0"

CLEARSCAPES
ARCHITECTURE & DESIGN
341-200 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
arch@clearscapes.com

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0905
Fax 919.832.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2906
Fax 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE
11/7/13

Bid Drawings 2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	DS
CHECKED:	BEB
FILENAME:	DD_FloorPlans.wwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

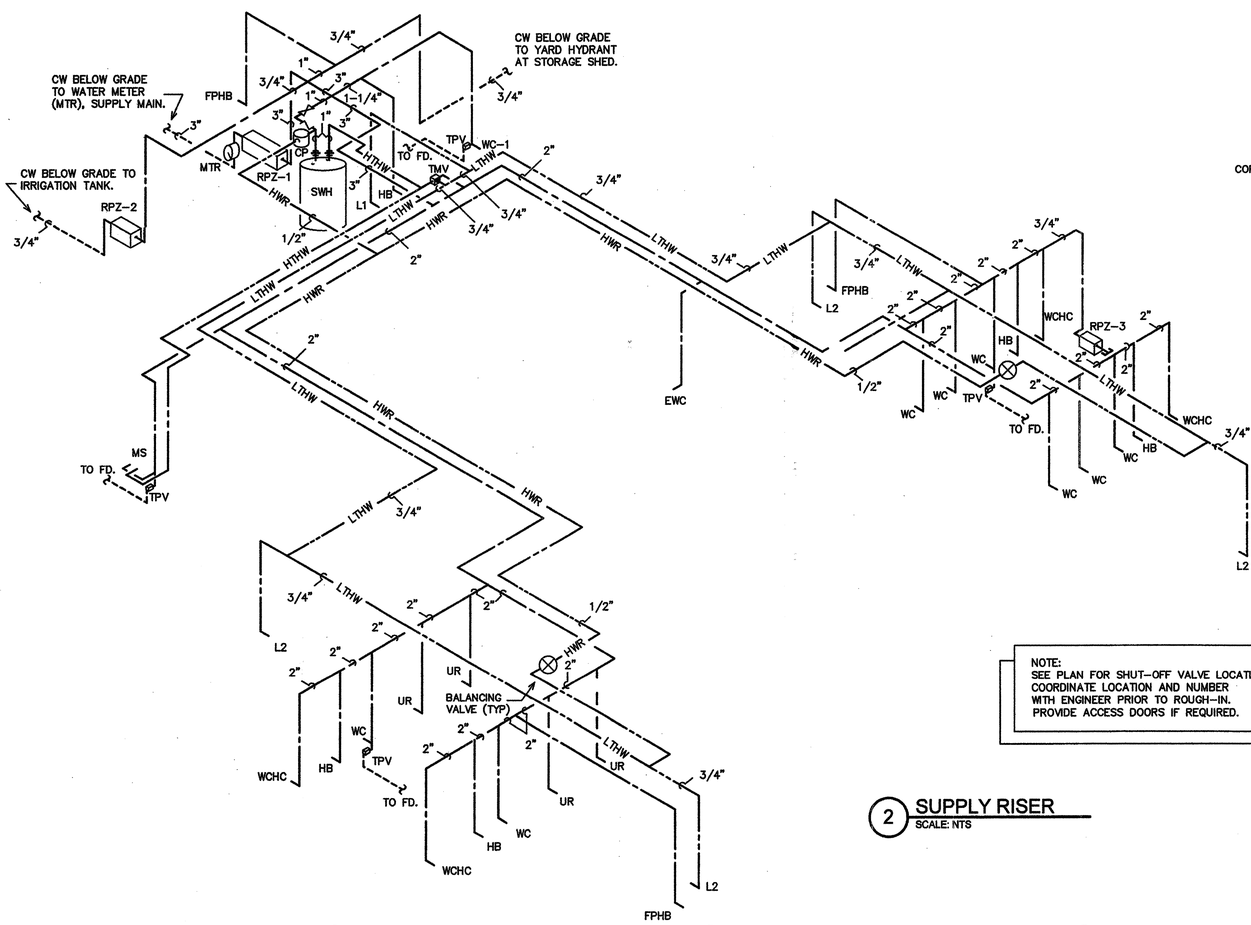
SUPPLY PLAN

SHEET NO.

P300

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652

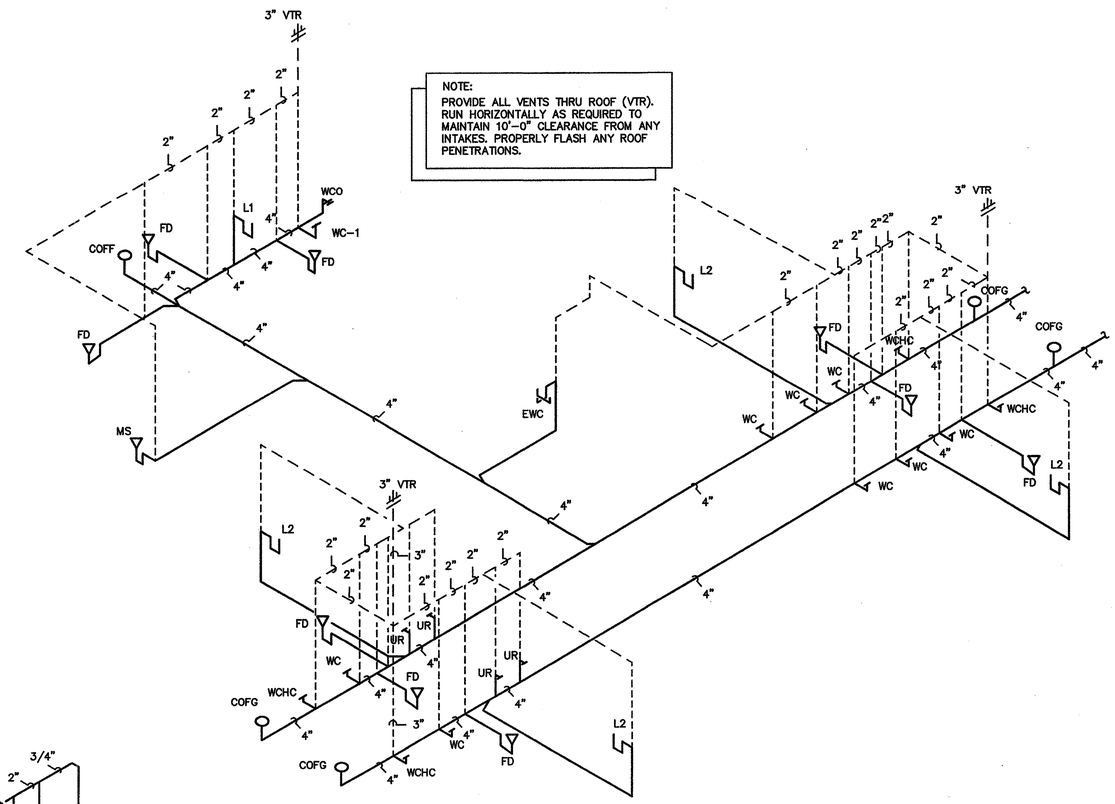
NOTE:
SOLAR WATER HEATING SYSTEM PIPING NOT SHOWN. SEE DETAIL/MFR SPECIFICATIONS.



2 SUPPLY RISER
SCALE: NTS

NOTE:
SEE PLAN FOR SHUT-OFF VALVE LOCATIONS. COORDINATE LOCATION AND NUMBER WITH ENGINEER PRIOR TO ROUGH-IN. PROVIDE ACCESS DOORS IF REQUIRED.

NOTE:
PROVIDE ALL VENTS THRU ROOF (VTR). RUN HORIZONTALLY AS REQUIRED TO MAINTAIN 10'-0" CLEARANCE FROM ANY INTAKES. PROPERLY FLASH ANY ROOF PENETRATIONS.



1 DWV RISER
SCALE: NTS

RISER NOTES:
REPRESENTATIVE SIZES ARE GIVEN FOR EACH TYPE OF FIXTURE. SEE PIPE SIZING SCHEDULE.
MINIMUM 2" DRAIN LINE SIZE UNDER SLAB.
MAINTAIN PIPE SIZES SHOWN UNTIL LARGER SIZE IS REACHED.
PIPE SIZES ARE MINIMUMS FOR INDIVIDUAL FIXTURES U.O.N.

PIPE SIZING SCHEDULE

FIXTURE TYPE	DRAIN	VENT	CW	HW
(WC) FLUSH VALVE WATER CLOSET	3"	1 1/2"	1"	–
(LAV) LAVATORY	1 1/2"	1 1/4"	–	1/2"
(UR) URINAL	2"	1 1/2"	3/4"	–
(FD) FLOOR DRAIN	3"	1 1/2"	–	–
(EWC) ELECTRIC WATER COOLER	1 1/4"	1 1/4"	1/2"	–
(MS) MOP SINK	3"	1 1/2"	1/2"	1/2"
(HB) HOSE BIBB	–	–	1/2"	–
(FPHB) FREEZE PROOF HOSE BIBB	–	–	1/2"	–

CLEARSCAPES
ARCHITECTURE & DESIGN
311-200 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
arfam@clearscapes.com

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax: 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax: 919.553.7258

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE
11/9/13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA
Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE: 2013.11.07
DRAWN: DS
CHECKED: BEB
FILENAME: DD_FloorPlans.vwx
PROJECT NO: 2013_0080
PRINTING: Bid Drawings

SHEET DATA

PLUMBING
RISERS

SHEET NO.

P400

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652

AIR DISTRIBUTION SCHEDULE

MARK	* MANUFACTURER	MODEL NO.	FACE SIZE	NECK SIZE	MATERIAL	SERVICE	NOTES
A	CARNES	SASA-40	–	8" DIA	ALUMINUM	SUPPLY	COLOR BY ARCHITECT SURFACE MOUNT
B	CARNES	RADAH	12" X 6"	14" X 6"	ALUMINUM	SUPPLY	COLOR BY ARCHITECT SURFACE MOUNT
C	CARNES	CHCB	5" X 72"	5" X 48"	ALUMINUM	SUPPLY	GYPSUM BOARD CEILING, COLOR BY ARCHITECT LINEAR DIFFUSER, (3) 3/4" SLOTS
D	CARNES	CHCB	4" X 48"	4" X 48"	ALUMINUM	SUPPLY	GYPSUM BOARD CEILING, COLOR BY ARCHITECT LINEAR DIFFUSER, (2) 3/4" SLOTS
RA	CARNES	RATA	12" X 12"	12" X 12"	ALUMINUM	RETURN	COLOR BY ARCHITECT GYP CEILING MOUNT **
RB	CARNES	RAJAH	24" X 12"	24" X 12"	ALUMINUM	RETURN	COLOR BY ARCHITECT GYP CEILING MOUNT
EA	CARNES	RAJAH	12" X 12"	12" X 12"	ALUMINUM	EXHAUST	COLOR BY ARCHITECT SURFACE MOUNT

COORDINATE BORDER TYPE WITH THE CEILING/WALL TYPE. SEE ARCH SHEETS
PROVIDE DUCT TRANSITIONS AS REQUIRED.

* OR APPROVED EQUAL BY TUTTLE & BAILEY, OR METALAIRE

** PROVIDE LINED PLENUM BOX ON TOP OF GRILLE/DIFFUSERS WITH SIDE INLET FOR ROUND DUCT.

HVAC EQUIPMENT SCHEDULE

WATER SOURCE HEAT PUMP SYSTEM #1	
WSHP #1 WATER SOURCE HEAT PUMP UNIT	* CARRIER MODEL #50PSH036JDC301JO HORIZONTAL WATER SOURCE HEAT PUMP, 3 TON, 1200 CFM, 17.6 EER, 4.1 COP, 9 GPM WATER. 3.9 FAN FLA, 14.7 COMPRESSOR RLA, 208V. SINGLE PH, 22 MCA, 35 MOCP. UNIT SHALL HAVE TOP DISCHARGE WITH RIGHT SIDE RETURN. 34,700 BTUH TOTAL COOLING, 26,200 BTUH SENSIBLE COOLING, 44,800 TOTAL HEATING.
WATER SOURCE HEAT PUMP SYSTEM #2	
WSHP #2 WATER SOURCE HEAT PUMP UNIT	* CARRIER MODEL #50PSH036JDC301JO HORIZONTAL WATER SOURCE HEAT PUMP, 3 TON, 1200 CFM, 17.6 EER, 4.1 COP, 9 GPM WATER. 3.9 FAN FLA, 14.7 COMPRESSOR RLA, 208V. SINGLE PH, 22 MCA, 35 MOCP. UNIT SHALL HAVE TOP DISCHARGE WITH RIGHT SIDE RETURN. 34,700 BTUH TOTAL COOLING, 26,200 BTUH SENSIBLE COOLING, 44,800 TOTAL HEATING.
WATER SOURCE HEAT PUMP SYSTEM #3	
WSHP #3 WATER SOURCE HEAT PUMP UNIT	* CARRIER MODEL #50PSV036JDC301JO VERTICAL WATER SOURCE HEAT PUMP, 3 TON, 1200 CFM, 17.6 EER, 4.1 COP, 9 GPM WATER. 3.9 FAN FLA, 14.7 COMPRESSOR RLA, 208V. SINGLE PH, 22 MCA, 35 MOCP. UNIT SHALL HAVE TOP DISCHARGE WITH RIGHT SIDE RETURN. 34,700 BTUH TOTAL COOLING, 26,200 BTUH SENSIBLE COOLING, 44,800 TOTAL HEATING.

* OR APPROVED EQUAL BY CLIMATE MASTER, FLORIDA HEAT PUMP, OR TRANE.

NOTES:

1. PROVIDE FACTORY HOSE KIT THAT INCLUDES SHUT-OFF BALL VALVES, BALANCING VALVE ETC., FILTER RACK WITH 2" FILTERS.
2. PROVIDE MINIMUM OUTDOOR AIR FLOW SETTINGS AS PER PLAN.
3. FAN BASED ON 1/2" EXT. WATER COLUMN STATIC.
4. OR EQUAL BY CLIMATE MASTER TRANE OR FLORIDA HEAT PUMP.
5. PROVIDE CONTROLS SO THAT ERV AND GEOTHERMAL LOOP CIRCULATING PUMP ARE ENERGIZED WHEN HEAT PUMP IS RUNNING.
6. PROVIDE PROGRAMMABLE, AUTOMATIC CHANGEOVER, DIGITAL THERMOSTAT WITH REMOTE SENSOR.

PUMP SCHEDULE

MARK	SERVICE	FLOW (GPM)	HEAD (FT.)	RPM	MIN. EFF.	ELECTRICAL HP	VOLTAGE	PHASE	TYPE	* B&G MODEL OR APPROVED EQUAL
P-1	GEOTHERMAL LOOP	27	43	1750	38	1.5	208	1	IN-LINE	SERIES 60 1-1/2x7

* OR APPROVED EQUAL BY TACO OR ARMSTRONG.

EXHAUST FAN SCHEDULE

EF-1	
EXHAUST FAN #1	* CARNES MODEL# VCDD015C EXHAUST FAN, 141 CFM @ 1/4" SP, 840 RPM, 1.4 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 8" RIGID DUCT TO EXTERIOR ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.

* OR APPROVED EQUAL BY GREENHECK OR ACME

MECHANICAL SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE:

Prescriptive [X] Energy Cost Budget [ ]

Thermal Zone 3A

Exterior Design Conditions

winter dry bulb 23 F
summer dry bulb 94 F

Interior Design Conditions

winter dry bulb 72 F
summer dry bulb 75 F
relative humidity 50%

Building Heating Load
108,100 BTU/hr
-27,016 BTU/hr (heat wheel reduction)
79,084 BTU/hr

Building Cooling Load
140,000 BTU/hr
-21,384 BTU/hr (heat wheel reduction)
118,616 BTU/hr

Mechanical Spacing Conditioning System

Unitary – The building is served by (2) two 3 ton water source geothermal heat pumps with with (2) two enerygy recovery ventilator and (1) one 3 ton water source geothermal heat pump without an ERV.

Boiler – Not applicable to this project.

Chiller – Not applicable to this project.

Equipment efficiencies

Efficiencies and outputs are listed on equipment schedules – See drawings.

Equipment schedules with motors.

Motors used on this project are included in the efficiency rating of the unit. See drawings for efficiencies.

GENERAL NOTES – MECHANICAL

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AND ALL LOCAL AND OTHER APPLICABLE CODES.
2. ANY PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR (MC).
3. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE MC SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC) AND OTHER TRADES.
4. THE LOCATION OF ALL DUCT, PIPING AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE ANTICIPATED OR ENCOUNTERED INTERFERENCES.
5. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR DIMENSIONS REFER TO THE ARCHITECTURAL PLANS.
6. THE MC SHALL BE RESPONSIBLE FOR ALL ELECTRICAL STARTERS INTERLOCKS, CONTROL WIRING CONDUIT AND POWER WIRING FROM DISCONNECTS TO HIS EQUIPMENT, USING A LICENSED ELECTRICIAN.
7. THE MC SHALL USE FIRE DAMPERS FOR PROTECTION OF THE OPENING IN ACCORDANCE WITH STATE AND LOCAL CODES IN ALL LOCATIONS WHERE PENETRATIONS OF RATED WALLS AND FLOORS OCCUR. SEE ARCHITECTURAL PLANS FOR RATED WALL AND FLOOR LOCATIONS. PROVIDE ACCESS DOORS AT ALL DAMPER LOCATIONS. LOCATE DOORS FOR EASY ACCESS. THERE ARE NO RATED WALLS PENETRATED IN THIS HVAC UPFIT.
8. INSTALL FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCTWORK AHU. ALL MECHANICAL EQUIPMENT SHALL OPERATE FREE OF OBJECTIONAL NOISE AND VIBRATION.
9. INSTALL TURNING VANES IN SUPPLY DUCTS AT ALL ELBOWS AND SPLITTER DAMPERS. PROVIDE BALANCING DAMPERS IN ALL DUCTS WHERE SHOWN OR REQUIRED FOR SYSTEM BALANCING. PROVIDE SPIN IN STARTING COLLARS WITH DAMPERS AT ALL SUPPLY TAKEOFFS.
10. DUCT DIMENSIONS ARE SHOWN INSIDE CLEAR. COORDINATE EXACT SIZE WITH SPACE AVAILABLE DUCT INSULATION SHALL BE 2" FIBERGLASS EXTERIOR DUCT INSULATION WITH FOIL FACING.
11. THERMOSTAT, WIRING AND CONDUIT ARE TO BE FURNISHED BY THE MC. MOUNT THERMOSTAT 48" ABOVE THE FINISHED FLOOR. COORDINATE LOCATION WITH OWNER. PROVIDE AUTO CHANGEOVER THERMOSTAT WITH UNIT OFF POSITION AS MINIMUM. PROVIDE AN EMERGENCY SHUT-OFF SWITCH ABOVE THE THERMOSTAT. PROPERLY LABEL SHUT-OFF SWITCH.
12. THE MC SHALL KEEP THE PREMISES CLEAR OF DEBRIS FROM HIS WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT THE COMPLETION OF HIS WORK. HE SHALL ALSO LEAVE CLEAN ALL EXPOSED EQUIPMENT IN HIS CONTRACT.
13. COORDINATE DIFFUSER AND CEILING EXHAUST GRILLE LOCATIONS WITH LIGHTS AND GRID. COORDINATE MOUNTING FRAME WITH CEILING TYPE.
14. THE M.C. SHALL COORDINATE WITH AND PROVIDE EQUIPMENT SPEC. SHEETS TO THE GENERAL AND ELECTRICAL CONTRACTORS FOR REVIEW PRIOR TO ORDERING EQUIPMENT.
15. PROPERLY SUPPORT FLEXIBLE DUCT, MINIMUM 75% DEFORMATION. PROVIDE SHEET METAL ELBOWS AT ALL 90 DEGREE BENDS.
16. ALL DUCT JOINTS SHALL BE SEALED AIRTIGHT WITH FIBER ENPREGNATED MASTIC OR HARDCAST AND TAPE.
17. SUPPORT AHU, EXHAUST FANS, HEAT WHEEL AND ALL DUCTWORK, ETC. FROM STRUCTURE. PIPE STRAPPING WILL NOT BE ALLOWED.

LEGEND – MECHANICAL

- 12 X 8 — RECTANGULAR GALVANIZED STEEL DUCTWORK
- 12" DIA. — RIGID ROUND GALVANIZED STEEL DUCTWORK
- FLEXIBLE DUCT
- SUPPLY DIFFUSER
- RETURN GRILLE
- T — THERMOSTAT WITH LOCKING, VANDAL PROOF COVER
- TS — REMOTE WALL MOUNTED TEMPERATURE SENSOR
- X / XXX — GRILLE TYPE / MIN. CFM
- D — CONDENSATE DRAIN PIPING
- CWS — CONDENSER WATER SUPPLY PIPING
- CWR — CONDENSER WATER RETURN PIPING

OUTDOOR AIR CALCULATIONS

OUTDOOR VENTILATION AIR PROVIDED PER TABLE 403.3, 2012 NORTH CAROLINA STATE BUILDING CODE: MECHANICAL CODE.

APPLICATION	CFM/FLUSHING FIXTURE
GANG TOILET ROOMS	70 CFM EACH

18 FLUSHING FIXTURES X 70 CFM = 1260 CFM
1200 CFM EXHAUST PROVIDED BY (2) ERVS

APPLICATION	CFM/FLUSHING FIXTURE
FAMILY TOILET ROOM	50 CFM EACH

1 FLUSHING FIXTURE X 70 CFM = 70 CFM
140 CFM EXHAUST PROVIDED BY INDIVIDUAL INTERMITTENT FAN.
MAKE UP AIR BY TRANSFER AIR

APPLICATION	CFM/SQ.FT.
CORRIDORS	0.06 CFM/SQ.FT.

838 SQ. FT. X 0.06 CFM/SQ.FT. = 50 CFM

APPLICATION	CFM/SQ.FT.
STORAGE	0.06 CFM/SQ.FT.

218 SQ. FT. X 0.12 CFM/SQ.FT. = 26 CFM

TOTAL OUTSIDE AIR REQUIRED = 186 CFM
TOTAL OUTSIDE PROVIDED = 1320 CFM

WSHP #1 = 600 CFM PROVIDED
WSHP #2 = 600 CFM PROVIDED
WSHP #3 = 120 CFM PROVIDED

ENERGY RECOVERY UNIT SCHEDULE

EQUIP. NUMBER	MODEL NO.	FANS / MOTORS: FLOW	STATIC PRESSURE (EXTERNAL)	FAN MOTORS FAN MOTORS	FLA (FOR UNIT SINGLE POINT)	VOLTS/ PHASE/ HZ	MCA	FUSE/CB MAX	THERMAL PERFORMANCE: DESIGN CONDITIONS: OUTSIDE AIR TEMP(F) & HUMIDITY (DB) / (WB OR RH) SUMMER	WINTER	ROOM AIR TEMP (F) & HUMIDITY (DB) / (WB OR RH) SUMMER	WINTER	ERV OUTLET CONDITIONS: LEAVING AIR TEMP(F) & HUMIDITY (DB) / (WB) SUMMER	WINTER	ENERGY RECOVERY (THERMAL) CAPACITY: COOLING CAPACITY (MBH / TON) TOTAL	HEATING CAPACITY (MBH) TOTAL	NOTES:
ERV-1	MICROMETL FWVH118H9000HEF	600 CFM	0.50IN H_2O	(2) FOR FANS	14.76 A	208-230V 1 PH 60 HZ	18.45	25	94F / 79F	23F / 19	75F / 50%	72F / 50%	80.3F / 70.6F	57.5F / 45	21.38 / 1.78	27	ALL
ERV-2	MICROMETL FWVH118H9000HEF	600 CFM	0.50IN H_2O	(2) FOR FANS	14.76 A	1 PH 60 HZ	18.45	25	94F / 79F	23F / 19	75F / 50%	72F / 50%	80.3F / 70.6F	57.5F / 45	21.38 / 1.78	27	ALL

NOTES:

1. FLOW & LOADS BASED ON ARI-1060 PERFORMANCE & CERTIFIED CORE.
2. NOT USED.
3. VENTILATION TYPE: STATIC PLATE, HEAT & HUMIDITY TRANSFER.
4. INCLUDE INTEGRAL DISPOSABLE FILTERS (OUTSIDE AND ROOM AIR) WITH MERV8 OR BETTER RATING.
5. INCLUDE SINGLE POINT ELECTRICAL POWER CONNECTION.
6. HOUSING SHALL BE GALVANIZED, .20 GAUGE (OR THICKER) STEEL WITH LAPPED CORNERS.
7. OR EQUALS BY SEMCO, OR THYSAR.
8. SERVICE ACCESS DOORS SHALL BE GASKETED & PROVIDE ACCESS FOR MAINTENANCE OF ALL COMPONENTS.
9. INCLUDE INSULATION ON ALL CASE WALLS & DOORS.
10. INCLUDE THERMALLY PROTECTED MOTORS WITH STARTERS.
11. UL LISTED 1995
12. PROVIDE WITH FUSED DISCONNECT SWITCH.

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652

CLEARSCAPES
ARCHITECTURE & DESIGN
311-209 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
arlan@clearscapes.com

consultants

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.7495
Fax: 919.833.7635

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.503.2930
Fax: 919.503.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE
11/7/13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA
Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

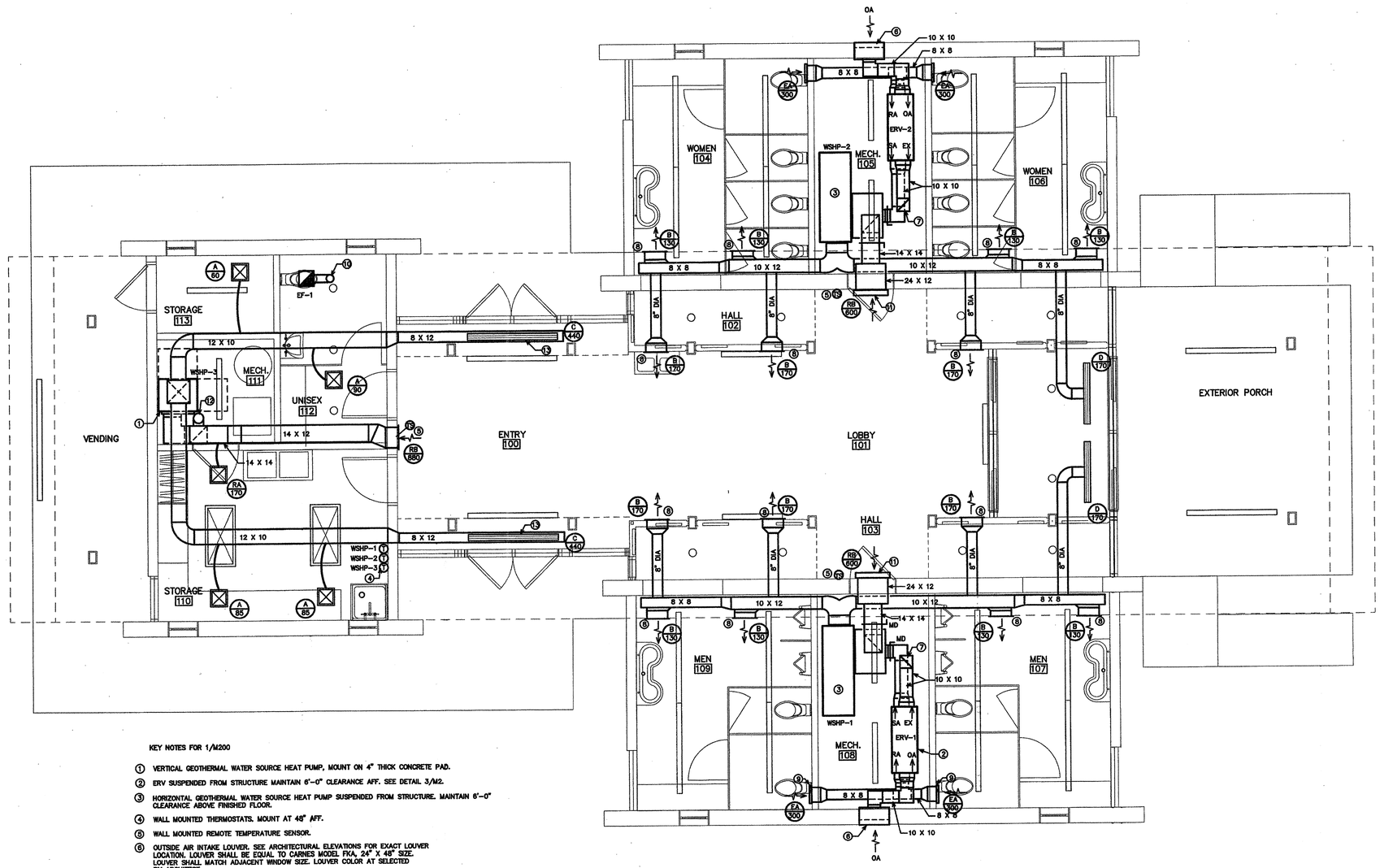
DATE: 2013.11.07
DRAWN: BE
CHECKED: BEB
FILENAME: DD_FloorPlans.vwx
PROJECT NO: 2013_0080
PRINTING: Bid Drawings

SHEET DATA

HVAC SCHEDULES

SHEET NO.

M100



KEY NOTES FOR 1/M200

1. VERTICAL GEOTHERMAL WATER SOURCE HEAT PUMP. MOUNT ON 4" THICK CONCRETE PAD.
2. ERV SUSPENDED FROM STRUCTURE MAINTAIN 6'-0" CLEARANCE AFF. SEE DETAIL 3/M2.
3. HORIZONTAL GEOTHERMAL WATER SOURCE HEAT PUMP SUSPENDED FROM STRUCTURE. MAINTAIN 6'-0" CLEARANCE ABOVE FINISHED FLOOR.
4. WALL MOUNTED THERMOSTATS. MOUNT AT 48" AFF.
5. WALL MOUNTED REMOTE TEMPERATURE SENSOR.
6. OUTSIDE AIR INTAKE LOUVER. SEE ARCHITECTURAL ELEVATIONS FOR EXACT LOUVER LOCATION. LOUVER SHALL BE EQUAL TO CARNES MODEL PKA, 24" X 48" SIZE. LOUVER SHALL MATCH ADJACENT WINDOW SIZE. LOUVER COLOR AT SELECTED BY ARCHITECT.
7. 10" X 10" EXHAUST DUCT UP TO ROOF MOUNTED OUTSIDE AIR HOOD. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE. EXHAUST HOOD SHALL BE EQUAL TO CARNES MODEL GL, 12" X 12" SIZE.
8. HIGH SIDEWALL MOUNTED SUPPLY AIR REGISTER.
9. HIGH SIDEWALL MOUNTED EXHAUST GRILLE.
10. 6" DIA. RIGID EXHAUST DUCT UP TO ROOF MOUNTED EXHAUST CAP. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FORM ANY OUTSIDE AIR INTAKE.
11. HIGH SIDEWALL MOUNTED RETURN AIR GRILLE.
12. 8" DIA. OUTSIDE AIR DUCT UP TO ROOF MOUNTED OUTSIDE AIR INTAKE HOOD. INTAKE SHALL BE 10'-0" MIN. FROM ANY EXHAUST DISCHARGE OR PLUMBING VENT.
13. RUN DUCTWORK IN SOFFIT. INSTALL LINEAR DIFFUSER ON BOTTOM OF SOFFIT.

1 HVAC PLAN
SCALE: 1/4" = 1'-0"

CLEARSCAPES
ARCHITECTURE
311-208 W. Martin Street
Raleigh, NC 27601
919.821.2773
919.821.0804 fax
arlen@clearscapes.com

consultants

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2966
Fax: 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE

11/7/13

Bid Drawings
2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	BE
CHECKED:	BEB
FILENAME:	DD_FloorPlans.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

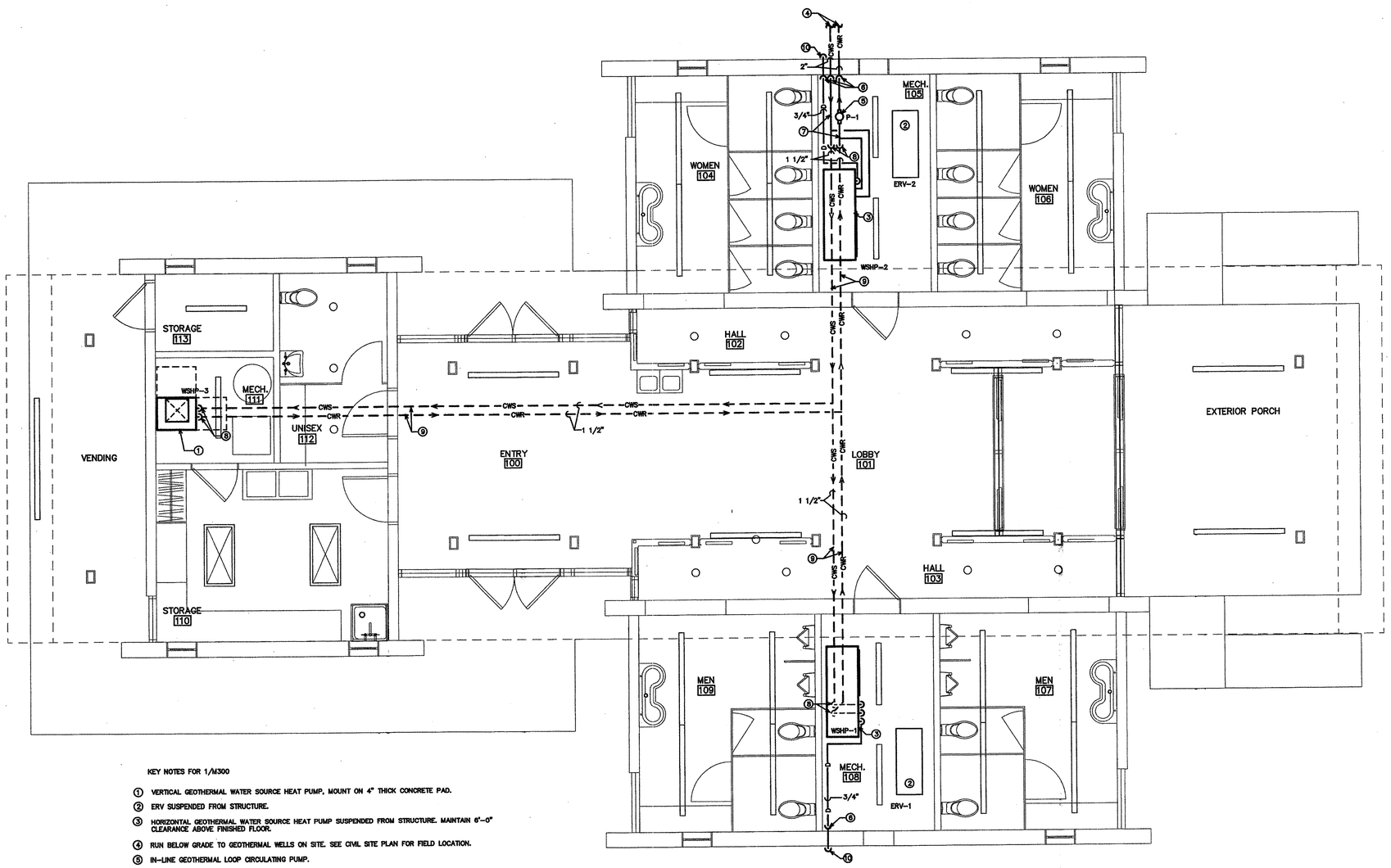
SHEET DATA

HVAC PLAN

SHEET NO.

M200

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652



KEY NOTES FOR 1/M300

1. VERTICAL GEOTHERMAL WATER SOURCE HEAT PUMP, MOUNT ON 4" THICK CONCRETE PAD.
2. ERV SUSPENDED FROM STRUCTURE.
3. HORIZONTAL GEOTHERMAL WATER SOURCE HEAT PUMP SUSPENDED FROM STRUCTURE. MAINTAIN 6'-0" CLEARANCE ABOVE FINISHED FLOOR.
4. RUN BELOW GRADE TO GEOTHERMAL WELLS ON SITE. SEE CIVIL SITE PLAN FOR FIELD LOCATION.
5. IN-LINE GEOTHERMAL LOOP CIRCULATING PUMP.
6. RUN PIPING DOWN TIGHT AGAINST WALL TO BELOW GRADE.
7. RUN PIPING OVERHEAD.
8. DROP PIPING DOWN TO BELOW FLOOR SLAB.
9. RUN PIPING BELOW FLOOR SLAB.
10. STUB-OUT CONDENSATE AT 6" AFF. TERMINATE WITH ELBOW TURNED DOWN.

1 HVAC PIPING PLAN
SCALE: 1/4" = 1'-0"

CLEARSCAPES
311-200 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0864 fax
arlan@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7635

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2800
Fax: 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE
11/7/13

Bid Drawings
2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	BE
CHECKED:	BEB
FILENAME:	DD_FloorPlans.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

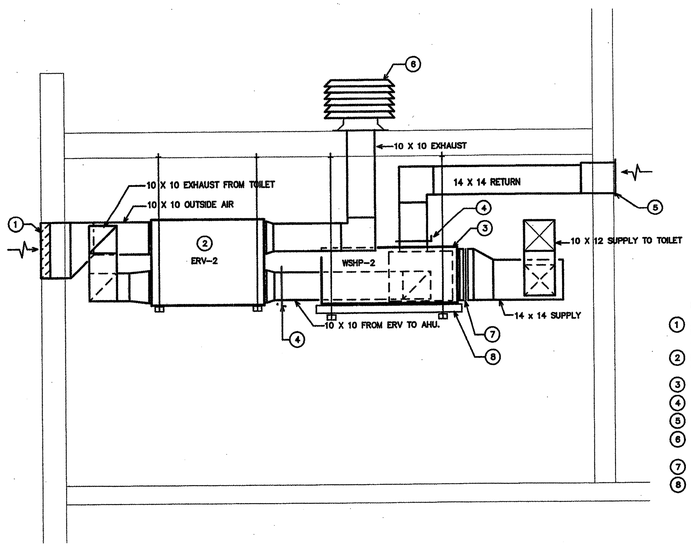
SHEET DATA

HVAC PLAN

SHEET NO.

M300

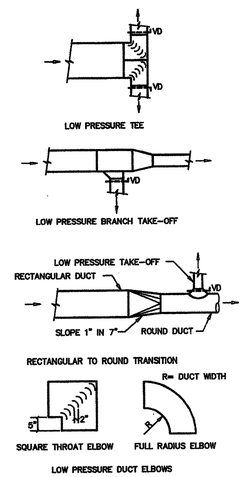
ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652



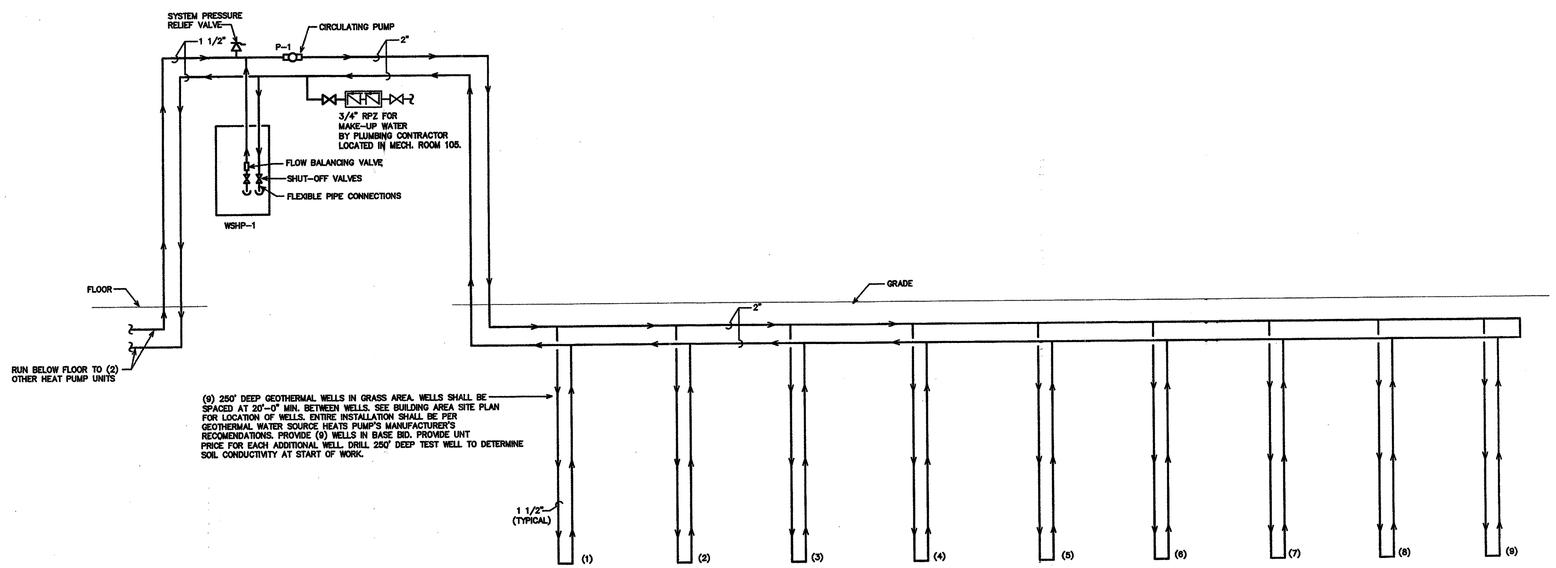
KEY NOTES FOR 3/M400

1. 24" x 48" OUTSIDE AIR INTAKE LOUVER. LOUVER SHALL BE EQUAL TO CARNES MODEL FKAA. COLOR AS SELECTED BY ARCHITECT. LOUVER SHALL BE 10'-0" MIN. FROM ANY EXHAUST DISCHARGE.
2. ENERGY RECOVERY VENTILATOR SUSPENDED FROM STRUCTURE. PROVIDE ALL MANUFACTURER'S REQUIRED CLEARANCES.
3. WATER SOURCE HEAT PUMP SUSPENDED FROM STRUCTURE. PROVIDE ALL MANUFACTURER'S REQUIRED CLEARANCES.
4. MANUAL BALANCING DAMPER WITH LOCKING QUADRANT.
5. 24" X 12" SIDE WALL MOUNTED RETURN AIR GRILLE IN LOBBY.
6. ROOF MOUNTED EXHAUST DISCHARGE HOOD WITH ALUMINUM CONSTRUCTION. DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE.
7. FLEXIBLE CONNECTIONS ON ALL DUCT CONNECTIONS TO EQUIPMENT. (TYPICAL).
8. FULL LENGTH GALVANIZED STEEL DRAIN PAN UNDER WATER SOURCE HEAT PUMP.

3/M400 TYPICAL MECHANICAL ROOM SECTION
SCALE: NOT TO SCALE



2/M400 DUCT CONSTRUCTION DETAILS
SCALE: NOT TO SCALE



1/M400 GEOTHERMAL LOOP SCHEMATIC
SCALE: NOT TO SCALE

CLEARSCAPES
ARCHITECTURE
311-300 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
arlan@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.9695
Fax: 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2800
Fax: 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22036 BENJAMIN E. BURKE

11/7/13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA
Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	BE
CHECKED:	BEB
FILENAME:	DD_FloorPlans.vwx
PROJECT NO:	2013_0060
PRINTING:	Bid Drawings

SHEET DATA

HVAC
DETAILS

SHEET NO.

M400

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1918 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652

DIVISION 16 – ELECTRICAL

PART 1 – GENERAL

1.1 DESCRIPTION OF THE WORK

A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
   1. Lighting and power distribution system.
   2. Provide lighting fixtures selected by owner with lamps to match.
   3. Wiring devices, boxes, cover plates, etc.
   4. Source of power for all items of equipment.
   5. Grounding.
   6. Other requirements and/or systems where shown.

B. All work shall be complete and items, equipment, etc., shall be electrically connected for proper and correct operation.

C. All work under this contract shall be installed in accordance with the latest edition of the following codes and standards insofar as they apply:
   1. The 2011 National Electrical Code.
   2. The National Electrical Safety Code.
   3. Underwriter's Laboratories, Inc., Standards and approved listings or other approved 3rd party listing agency.
   4. Electrical Testing Labotories standards.
   5. 2012 North Carolina State Building Code.
   6. 2012 North Carolina State Energy Code.

D. The Electrical Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work.

E. Local permits are not required. All work must be inspected by the Office of State Construction state electrical inspector and the Engineer of Record. Provide certificate of inspection and approval from the state electrical inspector prior to the final inspection. the electrical contractor is responsible for contacting the state electrical inspector for all required inspections.

F. All work shall be done by skilled mechanics and shall present a neat, trim, workmanlike condition when complete.

1.2 INTENT

A. The intent of these specifications and the accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Electrical Contractor shall take this into consideration and include in his base bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming operations.

B. Locations shown are approximate. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required. Coordinate all locations with architect before any rough-in.

1.4 SHOP DRAWINGS

A. Shop drawings shall be submitted for panels and service equipment, lighting, wiring devices, and cover plates. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified.

PART 2 – PRODUCTS AND MATERIALS

2.1 GENERAL

A. All material shall be new and shall bear the manufacturer's name, trade name, and be third party acceptable to NCDOI listed and labeled where such standard has been established for the particular material. Materials shall be the standard products of manufacturer's regularly engaged in the manufacturer of the required type of equipment and the manufacturer's latest approved design.
   1. Boxes installed in concealed locations shall be set flush with the finished surfaces.
   2. Provide rated boxes in all fire barriers & walls installed per code.

2.2 CONDUCTORS

A. Conductors shall be color coded, sizes #8 and larger may be color taped on the job. Color coding shall comply with 2011 NEC 200.6.

B. Conductors shall be manufactured by Dodge, Southwire or approved equal. Conductors shall meet the latest requirements of NEMA and IPCEA and shall be third party acceptable to NCDOI approved.

C. Metallic sheathed "MC"cable should not be used for this project, without designer authorization. MC cable is allowed for light whips 6'–0" or less and where concealed with–in existing construction to minimize demolition work. If used, MC cable shall be 1/2" with minimum #12 AWG copper wire and green insulated copper ground.

D. Conductors shall be spliced and taped as follows:
   1. Size #10 and #12, use Ideal "Wing Nuts" or T&B "Piggy" connectors. Connectors shall be rated for 150 degrees C for use in recessed lighting fixtures.
   2. Size #8 and larger shall be solderless screw and screw–clamping type, smoothly covered and shaped with rubber gum type with final cover vinyl plastic electrical type. In lieu of rubber gum and vinyl plastic type, factory fabricated approved preformed insulating covers may be used. All connectors shall be UL approved.
   3. No split–bolt type connectors may be used.

E. All branch wire and connections shall be copper and sized per National Electric Code.

F. All conductors shall be continuous without splice between junction, outlet, device boxes, etc. No splicing will be permitted in panelboard cabinets, safety switches, etc.

G. All wiring in mechanical spaces shall be plenum rated.

H. Provide GFI protection within 6'–0" of any sink.

I. All multi–wire branch circuits shall comply with 2011 NEC, 210.4(B).

J. All wiring at medical facilities shall comply with 2011 NEC, 517.1.

2.3 PANELBOARDS, SAFETY SWITCHES

A. Panelboards shall comply with NEMA Standard PB 1 – Latest Edition and as manufactured by Square D or ITE–Siemens. All panel boards must have copper buses.

B. Safety switches shall be heavy duty type, size and rating as required for lead service. Safety switches shall be fused or unfused as shown and/or as required. Safety switches serving motor loads shall be horsepower rated for load served.

2.4 WIRING DEVICES

A. Wiring devices shall be commercial grade by Bryant, Leviton, or approved equal. With matching cover. Color by Architect.

B. Wiring devices installed under a Kitchen Hood shall have stainless steel covers.

C. Wiring devices installed over counters shall comply with ANSI A117.1.

2.7 CONDUIT

A. PVC conduit will be allowed under slab. Provide rigid turn–ups.

B. All exposed conduit shall be rigid where exposed to the elements, located less than 8'–0" above grade or where exposed to hazardous conditions.

PART 3 – EXECUTION

3.1 CIRCUIT GROUNDING

A. All circuits shall contain an insulated, green, copper grounding conductor, sized in accordance with Table 250–122 of the NEC. Grounding conductors shall be connected to equipment grounding bus in panelboard and securely attached and grounded to the device or enclosure at the other end.

3.2 GROUNDING TYPE CONVENIENCE OUTLETS AND SWITCHES

A. Outlets and switches shall be solidly grounded to equipment grounding system with a green colored insulated conductor. Electrical connections shall be continuous from equipment ground bus in panelboard to the hex nut on the convenience outlet or switch.

3.3 MOTORS

A. All motors shall be connected to conduit system with short length (minimum length 24" and maximum length 36") of flexible liquidtight conduit.

3.4 EQUIPMENT LABELING

A. Provide permanent penolic plastic name plates for all panelboards, safety switches, wiring troughs, etc., for identification of equipment controlled, services, etc. Nameplates shall be securely and permanently attached to equipment with stainless steel screws. Nameplates shall include the name of the equipment and where it is fed from.

B. All switch plates, receptacle plates and outlet covers shall be labeled with machine printed vinyl labels identifying the circuit(s) within.

C. All empty conduit runs shall be identified and indicated where they terminate.

D. Provide typewritten directory in each panelboard to clearly identify each circuit, service, etc.

3.5 JUNCTION AND/OR PULL BOXES

A. Boxes shall be installed where necessary to avoid excessive runs and/or too many bends between outlets.

3.6 PULL WIRE

A. Leave pull wire in each empty conduit run.

3.7 GROUNDING

A. All grounding shall be in accordance with Article 250 of the NEC. In addition, the following requirements shall be met:
   1. Grounding conductors shall be installed as to permit the shortest and most direct path from equipment to ground. All connections to grounding conductors shall be accessible.
   2. Equipment ground continuity shall be maintained through flexible metal conduit.
   3. All wiring devices equipped with grounding connection shall be solidly grounded to ground system with grounding conductors.
   4. The frame of all lighting fixtures shall be securely grounded to the equipment ground system with grounding conductors.
   5. All equipment enclosures, and non–current–carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.
   6. All equipment enclosures, and non–current–carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.

3.8 ELECTRICAL WORK IN CONNECTION WITH OTHER WORK

A. The trade(s) furnishing equipment will provide disconnect switches, motor starters, and make final equipment connections. ELECTRICAL CONTRACTOR will make line side connections to disconnect switches or motor starters.

3.9 CLEAN UP

A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

3.10 GUARANTEE

A. Guarantee all materials and labor included in the electrical work for a period of one year from date of final acceptance by the Owner. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the Owner.

ELECTRICAL NOTES

1 ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES HAVING JURISDICTION.

2 ALL BRANCH CIRCUIT CONDUCTORS TO BE COPPER (SERVICE CONDUCTORS MAY BE ALUMINUM WITH SAME AMPACITY AS COPPER CONDUCTORS. RE–SIZE CONDUCTERS AND CONDUIT PER NEC.)

3 ALL CIRCUITS TO BE 2 #12, 1 #12 GND IN 1/2" EMT CONDUIT AS A MINIMUM. PROVIDE WIRING FOR LARGER CIRCUITS AS REQUIRED BY NEC. RIGID CONDUIT IS REQUIRED WHERE EXPOSED BELOW 8'–0" A.F.F.

4 ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FEET SHALL BE PROVIDED WITH A PULL WIRE OR FISH TAPE/CORD.

5 CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE INSTALLING LIGHT SWITCH OUTLETS.

6 ALL BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL BE INCREASED TO THE NEXT LARGER SIZE WHERE THE LENGTH OF THE HOME RUN EXCEEDS 120 FEET ON 120V AND 208V CIRCUITS.

7 THE CORRECT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON DRAWINGS OR NOT.

8 THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANELBOARDS.

9 THE ELECTRICAL CONTRACTOR SHALL VERIFY THE TYPE OF CEILING SYSTEM WITH THE GENERAL CONTRACTOR TO INSURE THAT ALL LIGHTING FIXTURES ARE COMPATIBLE WITH THE CEILING SYSTEM BEING INSTALLED. LIGHTING FIXTURES SHOULD NOT BE ORDERED UNTIL TYPE OF CEILING HAS BEEN VERIFIED.

10 ELECTRICAL REQUIREMENTS INDICATED ON DRAWINGS MAY DIFFER FROM ACTUAL EQUIPMENT FURNISHED. IF FURNISHED EQUIPMENT DIFFERS FROM RATINGS ON DRAWINGS CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER FOR APPROPRIATE ACTION TO BE TAKEN.

11 IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE EXACT BREAKER REQUIREMENTS FOR ALL EQUIPMENT PRIOR TO ORDERING PANEL. ADJUST BREAKER AND WIRE SIZES AS REQUIRED.

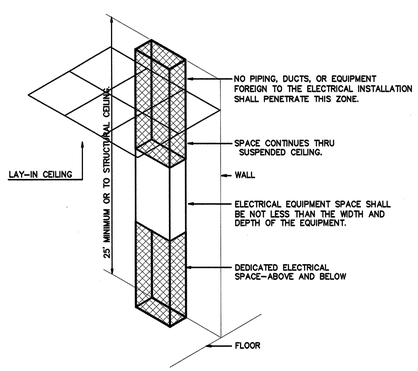
12 PROVIDE BOXES, JACKS, WIRING AND CONDUIT FROM LOCATIONS SHOWN TO MTP LOCATION. VERIFY EXACT REQUIREMENTS WITH OWNER.

13 ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECTS FOR MECHANICAL AND PLUMBING EQUIPMENT. DISCONNECTS SHALL BE PER THE MANUFACTURES RECOMMENDATIONS AND FUSED PER NAME PLATE. PROVIDE NEMA 3R ENCLOSURES ON EXTERIOR. COORDINATE FUSE SIZES.

14 THE EC SHALL MEET WITH THE ARCHITECT AND TENANT PRIOR TO INSTALLING OUTLET BOXES TO VERIFY LOCATIONS AND MOUNTING HEIGHTS OF RECEPTACLES AND TELEPHONE OUTLETS.

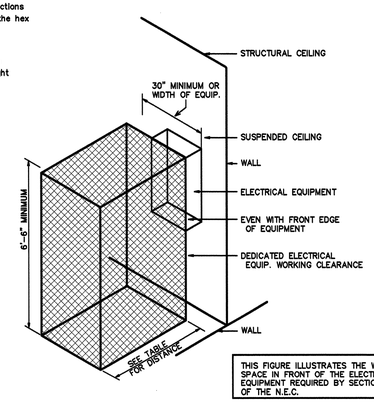
ELECTRICAL LEGEND

A	LINEAR FLUORESCENT LIGHT FIXTURE: LETTER DENOTES TYPE OF LIGHT FIXTURE (REFER TO LIGHTING PLAN AND FIXTURE SCHEDULE).
	CABINET EXHAUST FAN
WP/GFI	DUPLEX RECEPTACLE – 120V; MOUNT 18" TO CENTER AFF UNLESS NOTED OTHERWISE; 'WP' INDICATES WEATHER PROOF, 'GFI' INDICATES GROUND FAULT CURRENT INTERRUPT PROTECTED.
	QUADRAPLEX RECEPTACLE – 120V
S	LIGHT SWITCH
S_M	LIGHT SWITCH WITH INTEGRAL INFRARED MOTION SENSOR FOR AUTOMATIC SHUT–OFF WITH UP TO 2 HOUR ADJUSTABLE DELAY.
S	MOTOR RATED SWITCH
J	JUNCTION BOX
MTP	TELE/DATA OUTLET – PROVIDE JUNCTION BOX AND 3/4" CONDUIT BACK TO ELECTRICAL ROOM & MTP. PROVIDE CAT 5E CABLING BACK TO MTP. MTP SHALL CONSIST OF TELEPHONE DEMARK BOX ON EXTERIOR OF BUILDING. COORDINATE WITH LOCAL TELEPHONE COMPANY. PROVIDE CONDUIT FROM DEMARK TO TELEPHONE RIGHT OF WAY.
TC	TIME CLOCK
	SINGLE–POLE HOMERUN TO PANELBOARD
	TWO–POLE OR 3–POLE HOMERUN TO PANELBOARD
	EMERGENCY LIGHT
EXIT	EXIT LIGHT
EXIT	COMBINATION EXIT/EMERGENCY LIGHT
	BRANCH CIRCUIT WIRING
	SWITCH LEG
	GROUND CONNECTION
PANEL A	DISTRIBUTION PANELBOARD
	DISCONNECTING MEANS AS REQUIRED BY CODE
PC	EXTERIOR PHOTOCELL



ELECTRICAL EQUIPMENT DEDICATED SPACE PER ARTICLE 110.26.F.1 OF N.E.C.

1 DEDICATED SPACE
NOT TO SCALE



THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110.26 OF THE N.E.C.

ELECTRICAL EQUIPMENT WORKING CLEARANCE PER ARTICLE 110.26 OF N.E.C.

WORKING CLEARANCES			
VOLTAGE TO GROUND NOMINAL	MIN. CLEAR DISTANCE IN FEET		
	CONDITION: 1	2	3
0–150	3	3	3
151–600	3	3–1/2	4

WHERE THE CONDITIONS ARE AS FOLLOWS:

1 EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE THAT ARE EFFECTIVELY GUARDED BY INSULATING MATERIALS.

2 EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE. CONCRETE, BRICK OR TILE WALLS SHALL BE CONSIDERED AS GROUNDED.

3 EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE.

2 ELECTRICAL CLEARANCES
NOT TO SCALE

INTERIOR LIGHTING LOAD CALCULATIONS

PROJECT Beaufort Rest Area

AREA (sf)	1145	Restroom
	685	Corridor/Transition
	390	Electrical/Mechanical
	150	Active Storage
	2380	TOTAL

SPECIFIED	W/TRACK (@ 30W/FT)	FEET OF TRACK	WATTS
		0	0

FIXTURE	WATTS PER	# INTERIOR FIXTURES	
B1	105	4	420
B3	47	1	47
B4	39	16	624
C	64	9	576
D	16.3	13	211.9
	TOTAL (w)		1878.9 SPECIFIED

ADDITIONAL (w) 0 EXPLAIN

ALLOWED (w/sf)		
	0.84	Restroom
	0.65	Corridor/Transition
	0.95	Electrical/Mechanical
	0.63	Active Storage
	TOTAL (w)	1879 ALLOWED
		0 REMAINING

Beaufort E1

ELECTRICAL SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE

PRESCRIPTIVE ___X___ PERFORMANCE_____ ENERGY COST BUDGET_____

Provide a standard riser diagram which indicates designated points for check metering
Provide a standard panel schedule description which identifies different enduse loads.

Lighting schedule:

lamp type required in fixture
number of lamps in fixture
ballast type used in fixture
number of ballasts in fixture
total wattage in fixture — See Light Fixture Schedule
total interior wattage specified vs. allowed 1879 VA / 1879 VA

Equipment schedules with motors (not used for mechanical systems) NA

motor horsepower	NA
number of phases	NA
minimum efficiency	NA
motor type	NA
# of poles	NA

DESIGNER STATEMENT

I hereby certify that the design of this building complies with the electrical systems, services systems, and equipment requirements of the 2012 North Carolina State Building Code, Energy Edition.

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652

CLEARSCAPES
ARCHITECTURE
311-200 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
artarc@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE
1/25/13

Bid Drawings 2013/11/07

PROJECT

US-17
REST AREA
Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

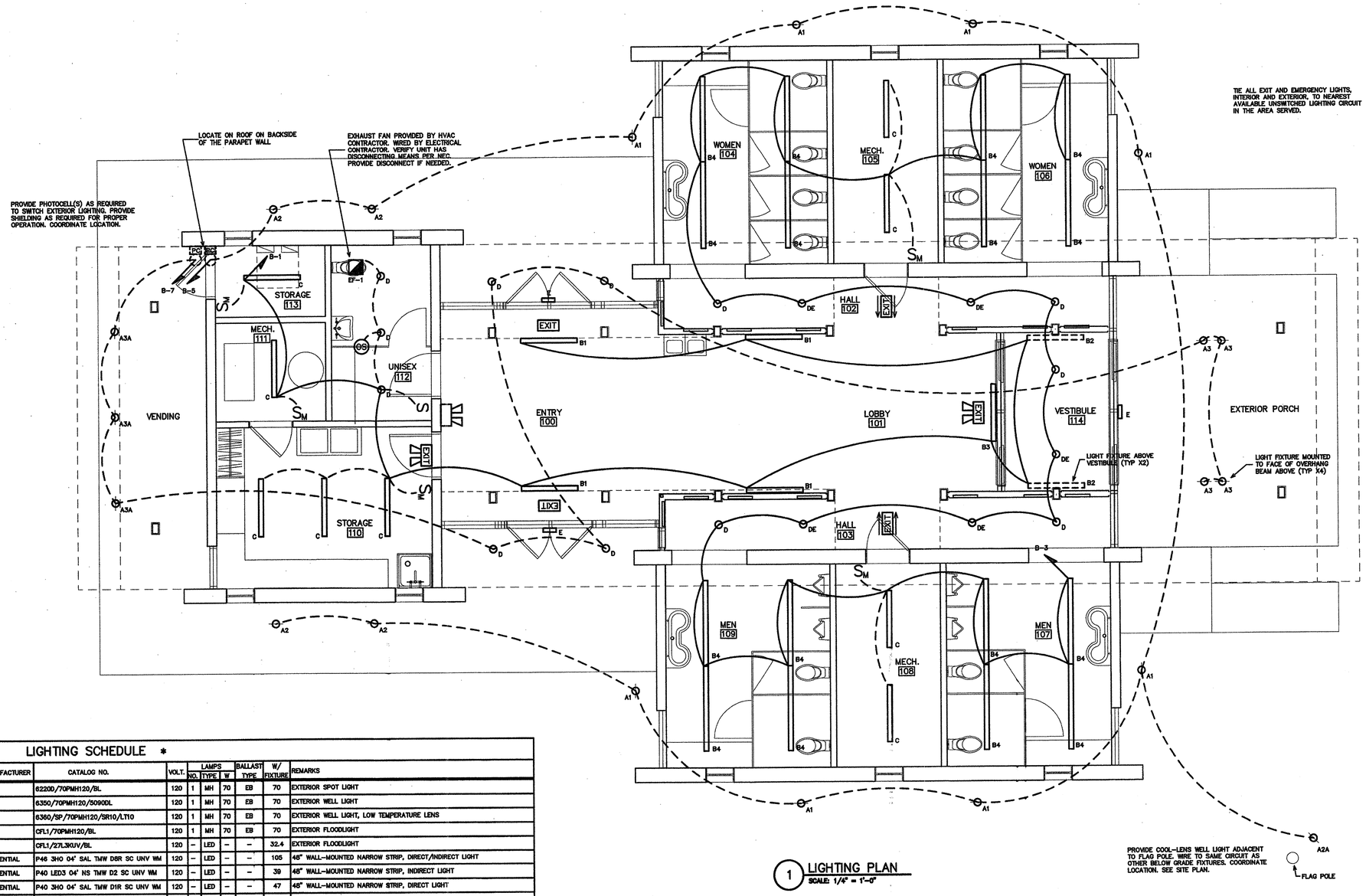
DATE:	2013.11.07
DRAWN:	WT
CHECKED:	BEB
FILENAME:	DD_FloorPlans.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

NOTES, SPECS & DETAILS

SHEET NO.

E100



1 LIGHTING PLAN
SCALE: 1/4" = 1'-0"

Beaufort E2

LIGHTING SCHEDULE *

MARK	MANUFACTURER	CATALOG NO.	VOLT.	LAMPS NO.	LAMPS TYPE	LAMPS W	BALLAST TYPE	W/ FIXTURE	REMARKS
A1	KIM	6220D/70PMH120/BL	120	1	MH	70	EB	70	EXTERIOR SPOT LIGHT
A2	KIM	6350/70PMH120/5090DL	120	1	MH	70	EB	70	EXTERIOR WELL LIGHT
A2A	KIM	6360/SP/70PMH120/SR10/LT10	120	1	MH	70	EB	70	EXTERIOR WELL LIGHT, LOW TEMPERATURE LENS
A3	KIM	CFL1/70PMH120/BL	120	1	MH	70	EB	70	EXTERIOR FLOODLIGHT
A3A	KIM	CFL1/27L3KUV/BL	120	–	LED	–	–	32.4	EXTERIOR FLOODLIGHT
B1	PRUDENTIAL	P46 3HO 04' SAL TMW D8R SC UNV WM	120	–	LED	–	–	105	48" WALL-MOUNTED NARROW STRIP, DIRECT/INDIRECT LIGHT
B2	PRUDENTIAL	P40 LED3 04' NS TMW D2 SC UNV WM	120	–	LED	–	–	39	48" WALL-MOUNTED NARROW STRIP, INDIRECT LIGHT
B3	PRUDENTIAL	P40 3HO 04' SAL TMW D1R SC UNV WM	120	–	LED	–	–	47	48" WALL-MOUNTED NARROW STRIP, DIRECT LIGHT
B4	PRUDENTIAL	P42 LED3 08' WA JW SC UNV X3B	120	–	LED	–	–	39	72" RECESSED NARROW STRIP, DIRECT LIGHT
C	COLUMBIA	CS4-232-EPU	120	2	T8	32	EB	64	48" STANDARD STRIP, WIRE GUARD (CSWG4) **
D	PRESCOLITE	LF6LED-6LFLED540K	120	–	LED	–	–	16.3	6" RECESSED CAN, DOWN LIGHT
DE	PRESCOLITE	LF6LEDEM-6LFLED540KEM	120	–	LED	–	–	16.3	6" RECESSED CAN, DOWN LIGHT, EMERGENCY BATTERY
E	SIGNTEX INC	MUEBB10AW	120	–	LED	–	–	10	EXTERIOR EMERGENCY LIGHT
F	DECO	D400-42C-C-EB-BL	120	1	CF	42	EB	42	EXTERIOR WALL PACK, STORAGE SHED
EXIT	COMPASS	CER	120	–	LED	–	–	–	EXIT LIGHT, EMERGENCY BATTERY
EXIT	COMPASS	CCR	120	–	LED	–	–	–	COMBINATION EMERGENCY/EXIT LIGHT
	COMPASS	CU2	120	2	LED	1	–	2	EMERGENCY LIGHT

* OR APPROVED EQUAL. PROVIDE CUT SHEETS FOR OWNER APPROVAL PRIOR TO ORDERING FIXTURES. FOR FLUORESCENT FIXTURES CONTROLLED BY MOTION SENSOR, PROVIDE "PROGRAMMED RAPID START" BALLASTS. CATALOG NUMBERS ARE FOR REFERENCE ONLY, ACTUAL NUMBERS MAY VARY. "EB" DENOTES ELECTRONIC BALLAST.

** VERIFY FIXTURE HAS INTEGRAL LOCAL DISCONNECTING MEANS PER NEC 410.130 (G) (2011).

CLEARSCAPES
ARCHITECTS
311-208 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
urban@clearscapes.com

CONSULTANTS
Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7636
Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2800
Fax: 919.553.7288

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE
11/7/13

Bid Drawings
2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE: 2013.11.07
DRAWN: WT
CHECKED: BEB
FILENAME: DD_FloorPlans.vwx
PROJECT NO: 2013_0080
PRINTING: Bid Drawings

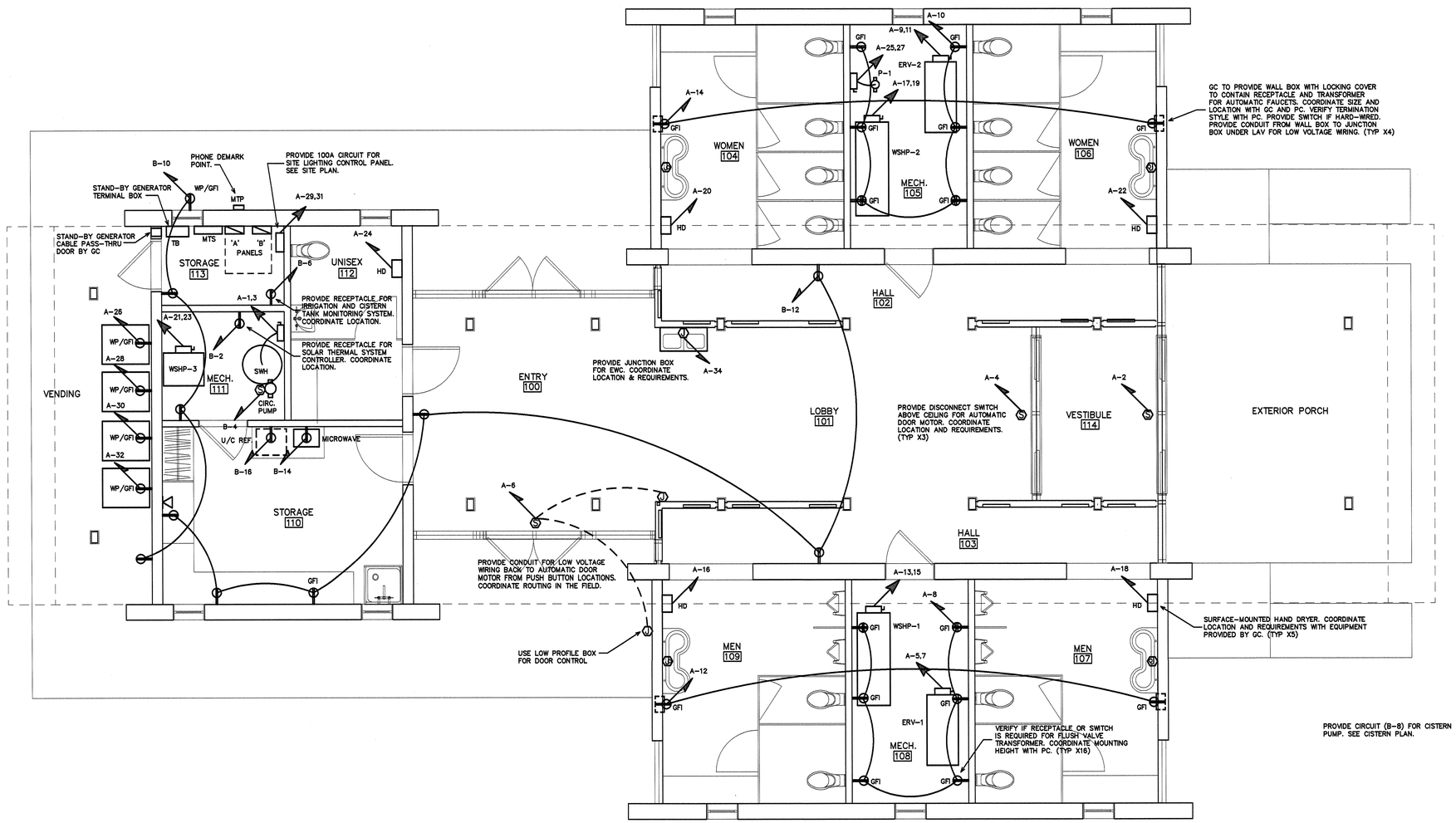
SHEET DATA

LIGHTING PLAN

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652

SHEET NO.

E200



1 POWER PLAN
SCALE: 1/4" = 1'-0"

CLEARSCAPES
ARCHITECTURE
311-200 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
arfarr@clearscapes.com

CONSULTANTS

Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone 919.833.0495
Fax 919.833.7636

Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone 919.553.2900
Fax 919.553.7298

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE
11/25/13

Bid Drawings
2013/11/07

PROJECT

US-17
REST AREA
Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	WT
CHECKED:	BEB
FILENAME:	DD_FloorPlans.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

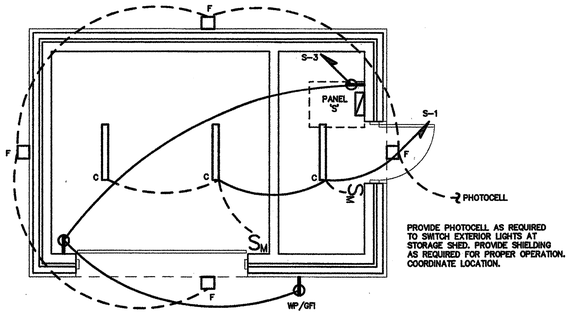
SHEET DATA

POWER PLAN

SHEET NO.

E300

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652



PROVIDE PHOTOCELL AS REQUIRED TO SWITCH EXTERIOR LIGHTS AT STORAGE SHED. PROVIDE SHIELDING AS REQUIRED FOR PROPER OPERATION. COORDINATE LOCATION.

1 STORAGE SHED ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"

OR APPROVED EQUAL BY GE OR SQUARE D

Beaufort E4

NEW PANEL- 'A' — FED FROM: 400A SERVICE

MAKE: CUTLER HAMMER — TYPE: PRL2A — OR APPROVED EQUAL

RATING: 120/240V 1 PHASE 3 WIRE — MOUNTING: SURFACE — MINIMUM AIC: VERIFY

400A MAIN CIRCUIT BREAKER — EQUIPMENT GROUND BUS ☒YES ☐NO — SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	WATTS PER PHASE B	CKT NO	NEUTRAL A B	CKT NO	WATTS PER PHASE A	WATTS PER PHASE B	CKT BRKR	LOAD SERVICE
SWH	30A	2250		1		2	600		20A	AUTOMATIC DOORS
4.5 KW			2250	3		4		600		AUTOMATIC DOORS
ERV-1	25A	1771		5		6	600			AUTOMATIC DOORS
14.76 FLA			1771	7		8		1440		FLUSH VALVE CONTROLS
ERV-2	25A	1771		9		10	1440			FLUSH VALVE CONTROLS
14.76 FLA			1771	11		12		360		AUTOMATIC FAUCETS
WSHP-1	35A	2232		13		14	360			AUTOMATIC FAUCETS
COMP 14.7 RLA, FAN 3.9 FLA			2232	15		16		2300		HAND DRYER
WSHP-2	35A	2232		17		18	2300			HAND DRYER
COMP 14.7 RLA, FAN 3.9 FLA			2232	19		20		2300		HAND DRYER
WSHP-3	35A	2232		21		22	2300			HAND DRYER
COMP 14.7 RLA, FAN 3.9 FLA			2232	23		24		2300		HAND DRYER
P-1	15A	1200		25		26	1000			VENDING MACHINE
1.5 HP			1200	27		28		1000		VENDING MACHINE
SITE LIGHTING CONTROL PANEL	100A	5760		29		30	1000			VENDING MACHINE
--			5760	31		32		1000		VENDING MACHINE
PANEL 'S'	100A	360		33		34	370			EWC 4.0 FLA
--			540	35		36		----		SPACE
PANEL 'B'	100A	4322		37		38	----			SPACE
--			4161	39		40		----		SPACE
SPACE		----		41		42	----			SPACE
NOTES	SUB-TOTALS 'B'	24130	24149							

400A	BUS	9970	11300	SUB-TOTALS 'A'
400A	LUGS	24130	24149	SUB-TOTALS 'B'
400A	FEED	34100	35449	GRAND TOTAL
#500MCM	SIZE	284A	295A	AMPS/PHASE

TOTAL CONNECTED LOAD

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR①	A	B	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ②		125%	2963	2962	5925
TRACK LIGHTING		125%	----	----	----
GENERAL USE RECEPTACLES		≤10KVA@100%	2700	3420	6120
		>10KVA@50%	----	----	----
MOTORS AND EQUIPMENT	LARGEST	125%	2205	2205	4410
	ALL OTHERS	100%	19912	20770	40682
WATER HEATERS		125%	2813	2813	5626
KITCHEN EQUIPMENT ⑤		100%	----	----	----
FIX. ELEC. SPACE HEAT. ④		100%	----	----	----
SHOW WINDOW LIGHTS ⑥		125%	----	----	----
SIGN		125%	----	----	----
MISC (SITE LIGHTING)		125%	7200	7200	14400
PHASE (TOTAL VA)			37393	39370	76763
		TOTAL AMPS	312A	328A	VOLT AMPS / VOLTS = 320A TOTAL AMPS

② 2370 SQ.FT. X 2.0 W/SQ.FT. X 125% = 5925 VA

OR APPROVED EQUAL BY GE OR SQUARE D

Beaufort E4

NEW PANEL- 'B' — FED FROM: PANEL 'A'

MAKE: CUTLER HAMMER — TYPE: PRL1A — OR APPROVED EQUAL

RATING: 120/240V 1 PHASE 3 WIRE — MOUNTING: SURFACE — MINIMUM AIC: VERIFY

M.L.O. MAIN CIRCUIT BREAKER — EQUIPMENT GROUND BUS ☒YES ☐NO — SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	WATTS PER PHASE B	CKT NO	NEUTRAL A B	CKT NO	WATTS PER PHASE A	WATTS PER PHASE B	CKT BRKR	LOAD SERVICE
LTS: 100, 101, 110-113	20A	1082		1		2	500		15A	SOLAR THERMAL PUMPS/CONTROLS
LTS: 102-109, 114			1043	3		4		98	15A	CIRCULATION PUMP 0.8 FLA
LTS: EXTERIOR GROUND		840		5		6	180		20A	IRRIGATION/CISTERN TANK MONITOR
LTS: EXTERIOR OVERHANG			442	7		8		500		CISTERN PUMP
SPARE		----		9		10	720			GENERAL RECEPTACLES
SPARE			----	11		12		1080		GENERAL RECEPTACLES
SPARE		----		13		14	1000			MICROWAVE
SPARE			----	15		16		1000		UNDERCOUNTER REFRIGERATOR
SPACE		----		17		18	----			SPACE
SPACE			----	19		20		----		SPACE
SPACE		----		21		22	----			SPACE
SPACE			----	23		24		----		SPACE
SPACE		----		25		26	----			SPACE
SPACE			----	27		28		----		SPACE
SPACE		----		29		30	----			SPACE
NOTES	SUB-TOTALS 'B'	1922	1485							

100A	BUS	2400	2676	SUB-TOTALS 'A'
100A	LUGS	1922	1485	SUB-TOTALS 'B'
100A	FEED	4322	4161	GRAND TOTAL
#3	SIZE	36A	35A	AMPS/PHASE

TOTAL CONNECTED LOAD

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR①	A	B	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ②		125%	2193	1856	4049
TRACK LIGHTING		125%	----	----	----
GENERAL USE RECEPTACLES		≤10KVA@100%	900	1080	1980
		>10KVA@50%	----	----	----
MOTORS AND EQUIPMENT	LARGEST	125%	210	1250	1460
	ALL OTHERS	100%	1500	598	2098
WATER HEATERS		125%	----	----	----
KITCHEN EQUIPMENT ⑤		100%	----	----	----
FIX. ELEC. SPACE HEAT. ④		100%	----	----	----
SHOW WINDOW LIGHTS ⑥		125%	----	----	----
SIGN		125%	----	----	----
MISC		100%	----	----	----
PHASE (TOTAL VA)			4803	4782	9585
		TOTAL AMPS	40A	40A	VOLT AMPS / VOLTS = 40A TOTAL AMPS

OR APPROVED EQUAL BY GE OR SQUARE D

Beaufort E4

NEW PANEL- 'S' — FED FROM: PANEL 'A'

MAKE: CUTLER HAMMER — TYPE: PRL1A — OR APPROVED EQUAL

RATING: 120/240 1 PHASE 3 WIRE — MOUNTING: SURFACE — MINIMUM AIC: VERIFY

M.L.O. MAIN CIRCUIT BREAKER — EQUIPMENT GROUND BUS ☒YES ☐NO — SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	WATTS PER PHASE B	CKT NO	NEUTRAL A B	CKT NO	WATTS PER PHASE A	WATTS PER PHASE B	CKT BRKR	LOAD SERVICE
LTS: STORAGE SHED	20A	360		1		2	----			SPACE
REC: STORAGE SHED	20A		540	3		4		----		SPACE
SPACE		----		5		6	----			SPACE
SPACE			----	7		8		----		SPACE
SPACE		----		9		10	----			SPACE
SPACE			----	11		12		----		SPACE
NOTES	SUB-TOTALS 'B'	360	540							

100A	BUS	----	----	SUB-TOTALS 'A'
100A	LUGS	360	540	SUB-TOTALS 'B'
100A	FEED	360	540	GRAND TOTAL
VERIFY	SIZE	3A	5A	AMPS/PHASE

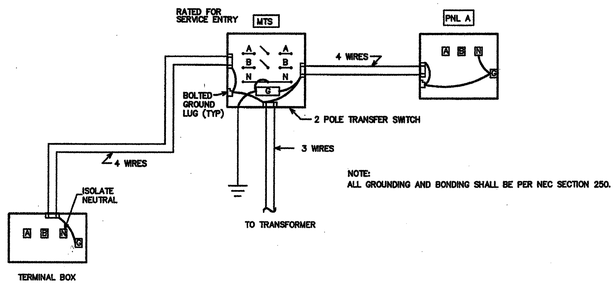
TOTAL CONNECTED LOAD

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR①	A	B	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ②		125%	450	----	450
TRACK LIGHTING		125%	----	----	----
GENERAL USE RECEPTACLES		≤10KVA@100%	----	540	540
		>10KVA@50%	----	----	----
MOTORS AND EQUIPMENT	LARGEST	125%	----	----	----
	ALL OTHERS	100%	----	----	----
WATER HEATERS		125%	----	----	----
KITCHEN EQUIPMENT ⑤		100%	----	----	----
FIX. ELEC. SPACE HEAT. ④		100%	----	----	----
SHOW WINDOW LIGHTS ⑥		125%	----	----	----
SIGN		125%	----	----	----
MISC		100%	----	----	----
PHASE (TOTAL VA)			450	540	990
		TOTAL AMPS	4A	5A	VOLT AMPS / VOLTS = 4A TOTAL AMPS



NOTE:
ALL GROUNDING AND BONDING SHALL BE PER NEC SECTION 250.

2 BONDING DIAGRAM

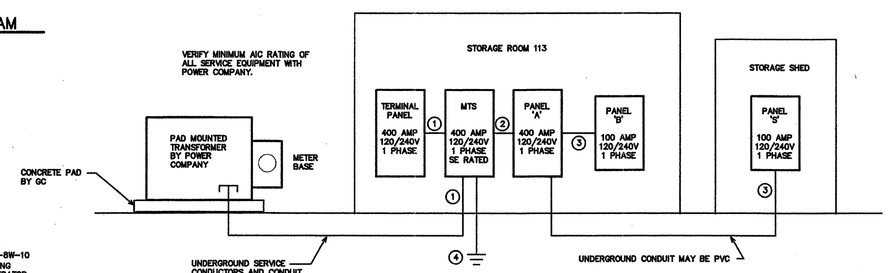
NOT TO SCALE

RISER WIRING SCHEDULE

1. 400A: 3-#600MCM IN 3" PVC CONDUIT
2. 400A: 3-#600MCM, 1-#3 CU GRD IN 3 1/2" CONDUIT
3. 100A: 3-#3, 1-#8 CU GND, IN 1 1/4" CONDUIT
4. #1/0 CU GND TO BUILDING STEEL, FOUNDATION STEEL AND METALLIC WATER MAIN AND #8 CU GND TO 10' X 5/8" DRIVEN GROUND ROD

NOTE:
UNLESS OTHERWISE NOTED ALL OTHER CIRCUITS ARE 20A, 120V. PROVIDE 2-#12, 1-#12 CU GND, IN 1/2" CONDUIT.

SEE EQUIPMENT WIRING SCHEDULE FOR ADDITIONAL WIRE SIZES.



NOTE:
THE TERMINAL BOX SHALL BE EQUAL TO "BERTHOLD ELECTRIC" MODEL W04-01SS-8W-10
THE BOX SHALL BE CAPABLE OF RECEIVING CABLES FROM ROLL-UP STAND-BY GENERATOR, OR EQUAL BY "CUTLER HAMMER" OR "TRYSTAR". PROVIDE ALL ACCESSORIES REQUIRED.

3 RISER DIAGRAM

NOT TO SCALE

EQUIPMENT WIRING SCHEDULE

Beaufort E4

EQUIPMENT	MCA	MOCP	VOLTS	PH	WIRE SIZE
ENERGY RECOVERY VENTILATORS (ERV 1-2)	18.45A	25A	240V	1	2-#10, 1-#10 GND IN 1/2" CONDUIT
SOLAR WATER HEATER (SWH)	----	30A	240V	1	2-#10, 1-#10 GND IN 1/2" CONDUIT
WATER SOURCE HEAT PUMPS (WSHP 1-3)	22.0A	35A	240V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
PUMP (P-1)	----	15A	240V	1	2-#12, 1-#12 GND IN 1/2" CONDUIT
SITE LIGHTING CIRCUIT (X3)	----	30A	240V	1	2-#10, 1-#10 GND IN 1/2" CONDUIT

NOTE:
THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN AND RELEASING GEAR. ADJUST BREAKER, WIRE SIZES, ETC. AS REQUIRED.

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com
Corp. License # C-2652

CLEARSCAPES
ARCHITECTURE
311-209 W. Martin Street
Raleigh, NC 27601
919.821.2775
919.821.0804 fax
info@clearscapes.com
Structural Consultant
Lysaght & Associates
120 St. Mary's Street
Raleigh, NC 27605
Phone: 919.833.0495
Fax: 919.833.7636
Systems Consultant
Burke Design Group, PA
3305-109 Durham Drive
Raleigh, NC 27603
Phone: 919.553.2660
Fax: 919.553.7288

Proj. Contract #: C203304-RA
TIP Project #: K-3800
WBS #: 38748.3.1
F.A. Project #: NHS-17(32)
SCO Project #: 13-10090-01A

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE

11/7/13

Bid Drawings 2013/11/07

PROJECT

US-17 REST AREA

Beaufort County, NC

REVISIONS

NO.	DATE OF REVISION

PROJECT DATA

DATE:	2013.11.07
DRAWN:	WT
CHECKED:	BEB
FILENAME:	DD_FloorPlans.vwx
PROJECT NO:	2013_0080
PRINTING:	Bid Drawings

SHEET DATA

SCHEDULES, SHED & RISER

SHEET NO.

E400

PROJ. REFERENCE NO.	SHEET NO.
K-3800	X-1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NOTE: EMBANKMENT COLUMN INCLUDES BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

Station L	Uncl. Exc. (cu. yd.)	Undercut Exc. (cu. yd.)	Embt (cu. yd.)	Station Y1	Uncl. Exc. (cu. yd.)	Undercut Exc. (cu. yd.)	Embt (cu. yd.)	Station L	Uncl. Exc. (cu. yd.)	Undercut Exc. (cu. yd.)	Embt (cu. yd.)
10+00.00	0	0	0	11+00.00	0	0	0	197+00.00	0	0	0
10+50.00	237	390	390	11+51.53	81	21	119	197+50.00	32	31	31
11+00.00	175	291	291	11+72.73	40	16	27	198+00.00	31	37	38
11+50.00	58	157	197	12+00.00	41	23	30	198+50.00	28	49	54
12+00.00	2	113	211	12+50.00	90	66	83	199+00.00	26	61	76
12+50.00	0	162	290	13+00.00	103	87	112	199+50.00	27	71	98
13+00.00	0	284	470	13+50.00	98	100	136	200+00.00	26	76	111
13+50.00	0	409	682	14+00.00	129	89	154	200+50.00	24	76	114
13+76.10	0	257	440	14+50.00	105	57	145	201+00.00	24	76	114
14+00.00	0	252	449	15+00.00	59	61	130	201+50.00	24	75	114
14+46.79	0	496	954	15+21.55	24	33	64	202+00.00	28	76	106
15+00.00	0	566	1123	15+50.00	96	45	105	202+50.00	30	78	110
15+50.00	0	536	1050	16+00.00	258	85	181	203+00.00	47	93	134
16+00.00	0	522	1053	16+50.00	236	91	164				
16+50.00	0	454	1070	17+00.00	258	96	150				
17+00.00	0	299	1105	17+50.00	260	98	140				
17+50.00	0	109	1086	18+00.00	212	101	146				
18+00.00	0	7	914	18+50.00	135	102	179				
18+50.00	0	2	649	19+00.00	65	103	195				
18+77.86	0	0	276	19+50.00	45	102	168				
19+00.00	0	0	210	20+00.00	53	92	130				
19+50.00	13	0	576	20+30.75	33	55	78				
20+00.00	32	0	735	20+50.00	20	36	55				
20+50.00	36	0	857	21+00.00	60	86	113				
21+00.00	31	0	973	21+50.00	78	67	81				
21+50.00	21	0	1071	22+00.00	91	44	55				
22+00.00	0	0	1093	22+45.48	56	16	17				
22+50.00	0	0	940								
23+00.00	0	2	639								
23+50.00	0	13	437								
24+00.00	0	20	403								
24+50.00	0	11	426								
25+00.00	0	0	488								
25+41.18	0	0	437								
26+00.00	0	0	596								
26+50.00	0	4	444								
27+00.00	0	26	411								
27+50.00	0	46	390								
28+00.00	0	62	360								
28+11.84	0	17	81								
28+50.00	0	61	252								
29+00.00	0	92	250								
29+37.52	0	113	213								
29+75.00	0	155	292								

Station Y2	Uncl. Exc. (cu. yd.)	Undercut Exc. (cu. yd.)	Embt (cu. yd.)
10+50.00	0	0	0
11+00.00	1	250	374
11+50.00	3	355	502
12+00.00	11	363	494
12+43.70	9	211	317
12+96.16	0	104	264
13+50.00	0	203	416
14+00.00	1	283	514
14+50.00	1	283	516
15+00.00	2	296	514
15+50.00	1	196	406
16+00.00	0	80	318
16+23.98	0	17	154
16+50.00	0	8	178
17+00.00	0	16	450
17+50.00	0	0	572
18+00.00	0	0	558
18+50.00	0	22	435

Chain	Beg Sta	End Sta	Sheet No.	Comments / Log File
L	10+00.00	29+75.00	X-1 TO X-8	Lear_undercut.log
Y1	11+00.00	22+45.48	X-9 TO X-13	Y1ear_undercut.log
Y2	10+50.00	18+50.00	X-14 TO X-17	Y2ear_undercut.log
L	197+00.00	203+00.00	X-18 TO X-19	US17ear_undercut.log

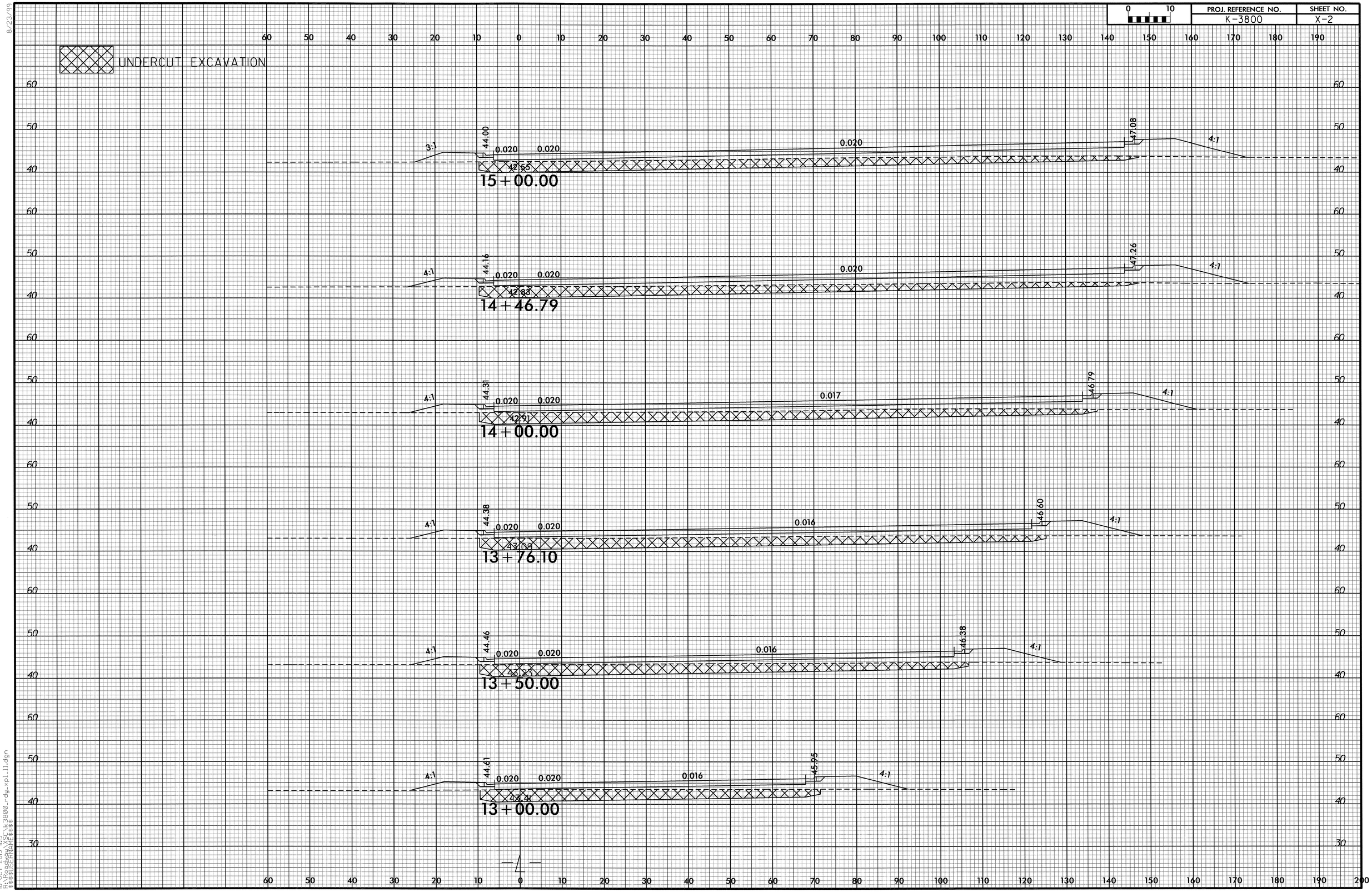
0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-1

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, Removal of Existing Pavement, and Breaking of Existing Pavement will be paid for at the contract lump sum price for "Grading."

8/23/99

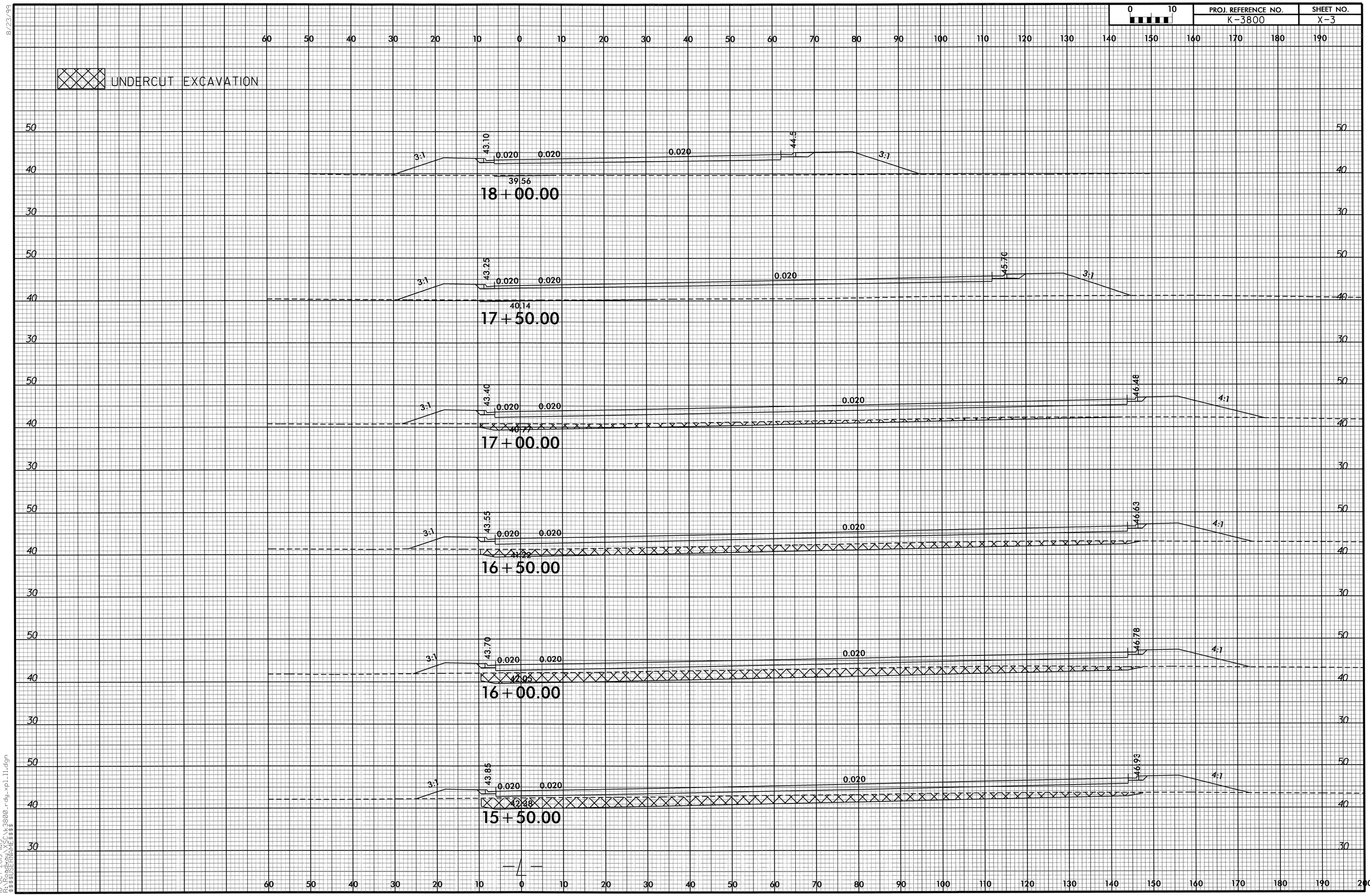
05-NOV-2013 07:58
R:\Roadway\XSC\k3800_rdy_xpl_1.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
K-3800	X-2



8/23/99
18-OCT-2013 11:19
R:\Roadway\SC\k3800_rdy_xpl11.dgn
$$$$USERNAME$$$$

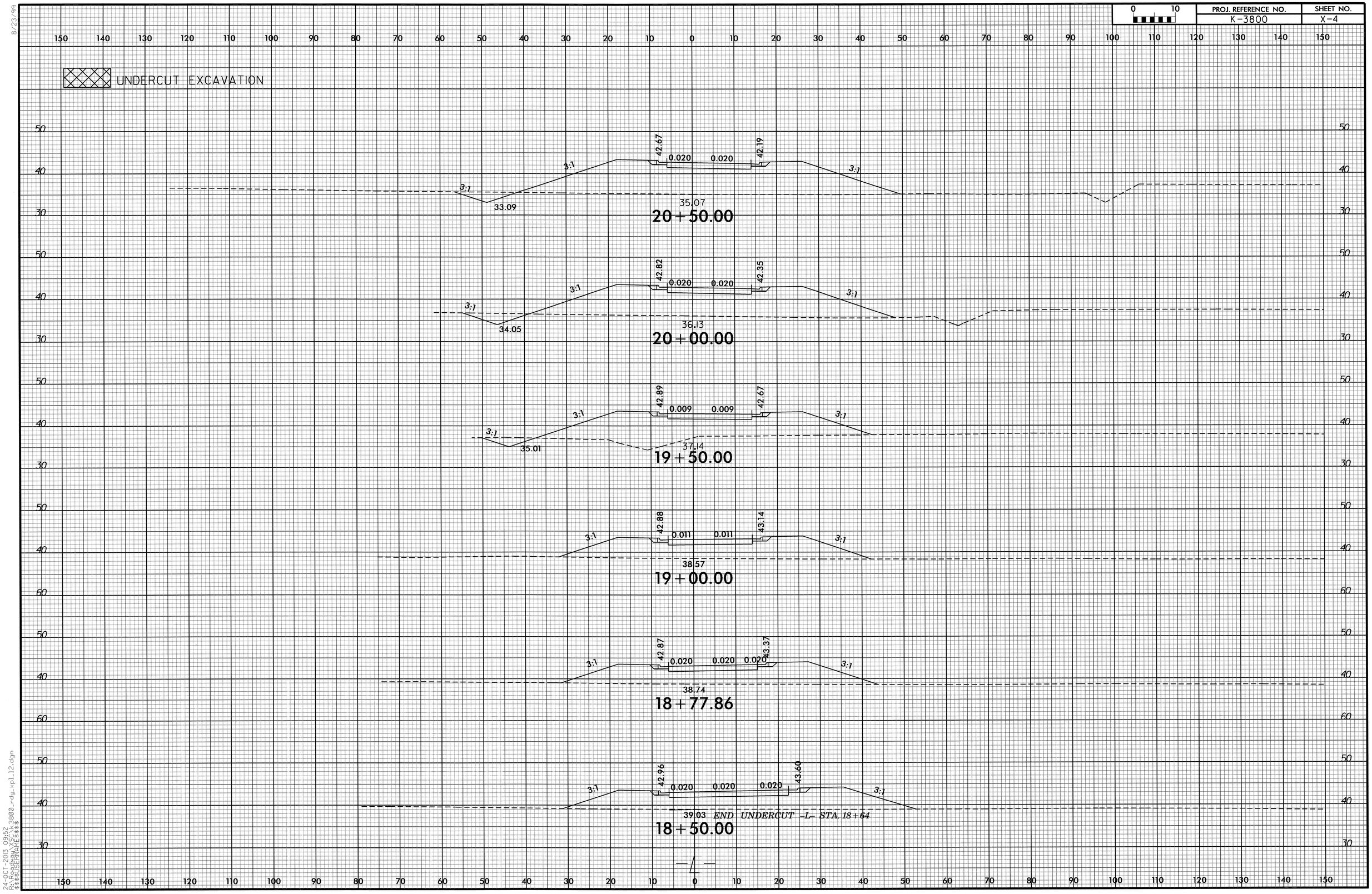
0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-3



8/23/99

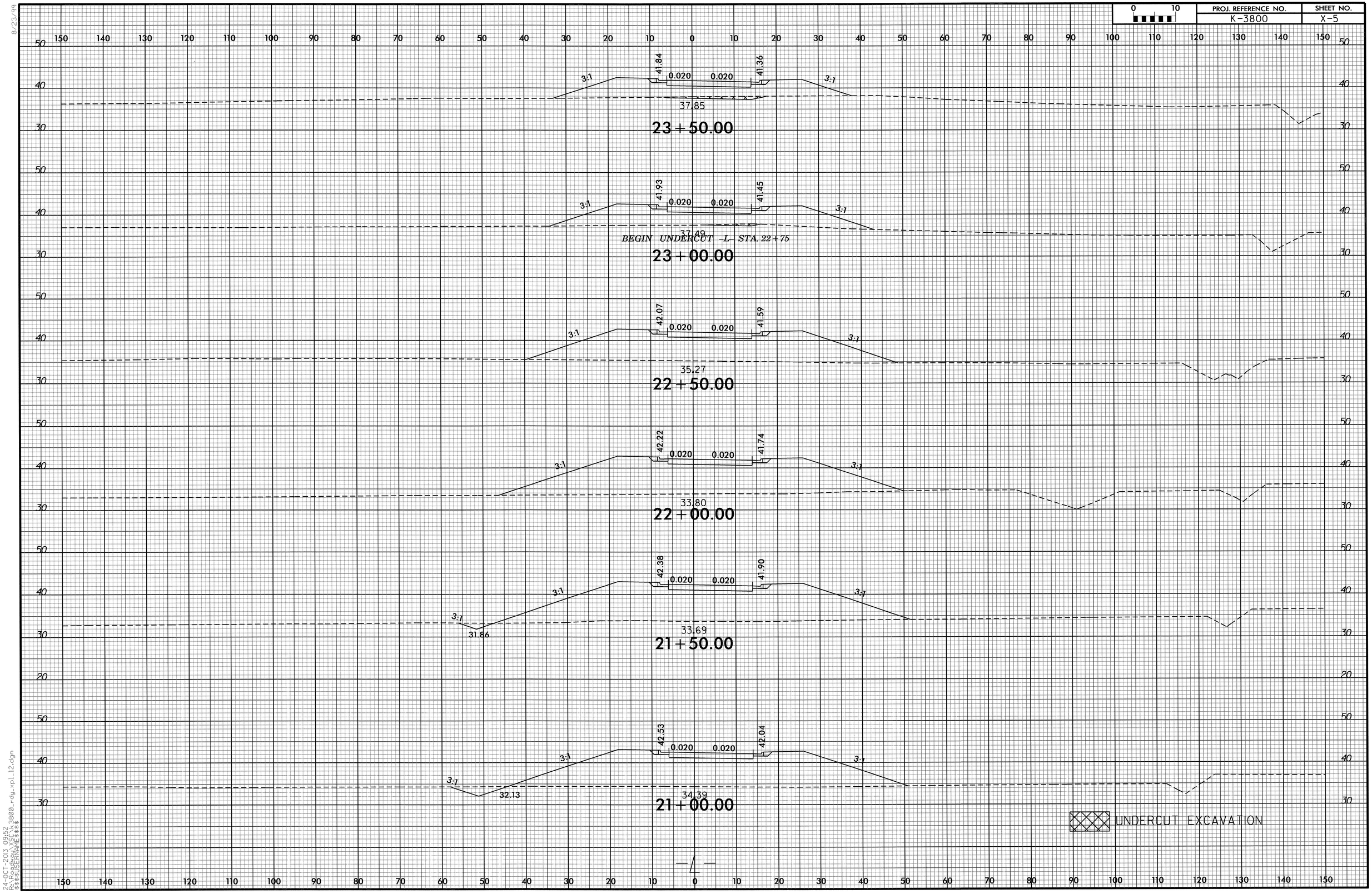
18-OCT-2013 11:19
R:\Roadway\KSC\k3800_rdy_xpl_11.dgn
$$$$USERNAME$$$$

0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-4



8/23/99
24-OCT-2013 09:52
R:\$$JOB$$\K3800_rdy_xpl_12.dgn
$$$$USERNAME$$$$

0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-5

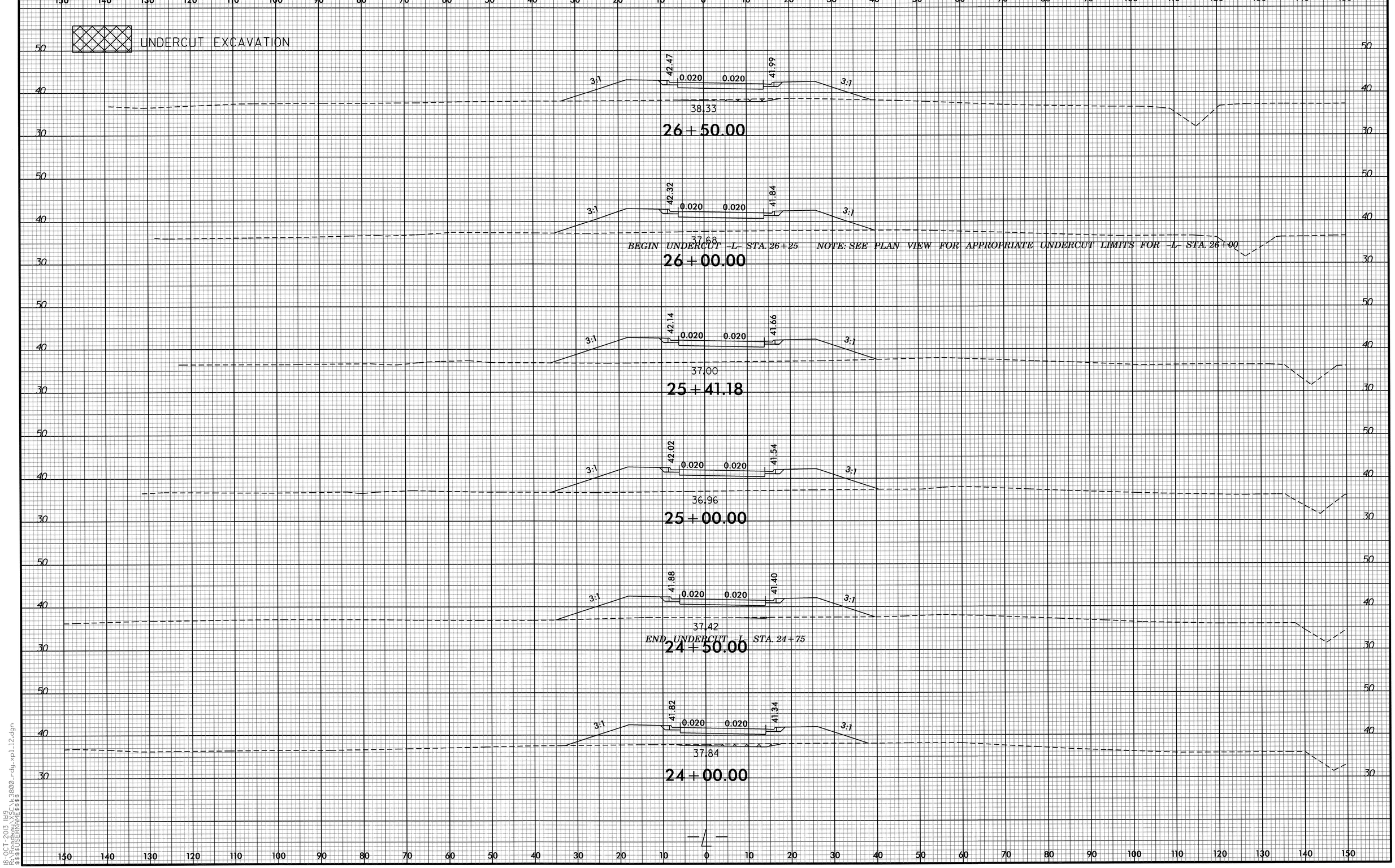


8/23/99

24-OCT-2013 09:52
R:\Roadway\X5C\K3800_rdy_xpl12.dgn
$$$$USERNAME$$$$

0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-6

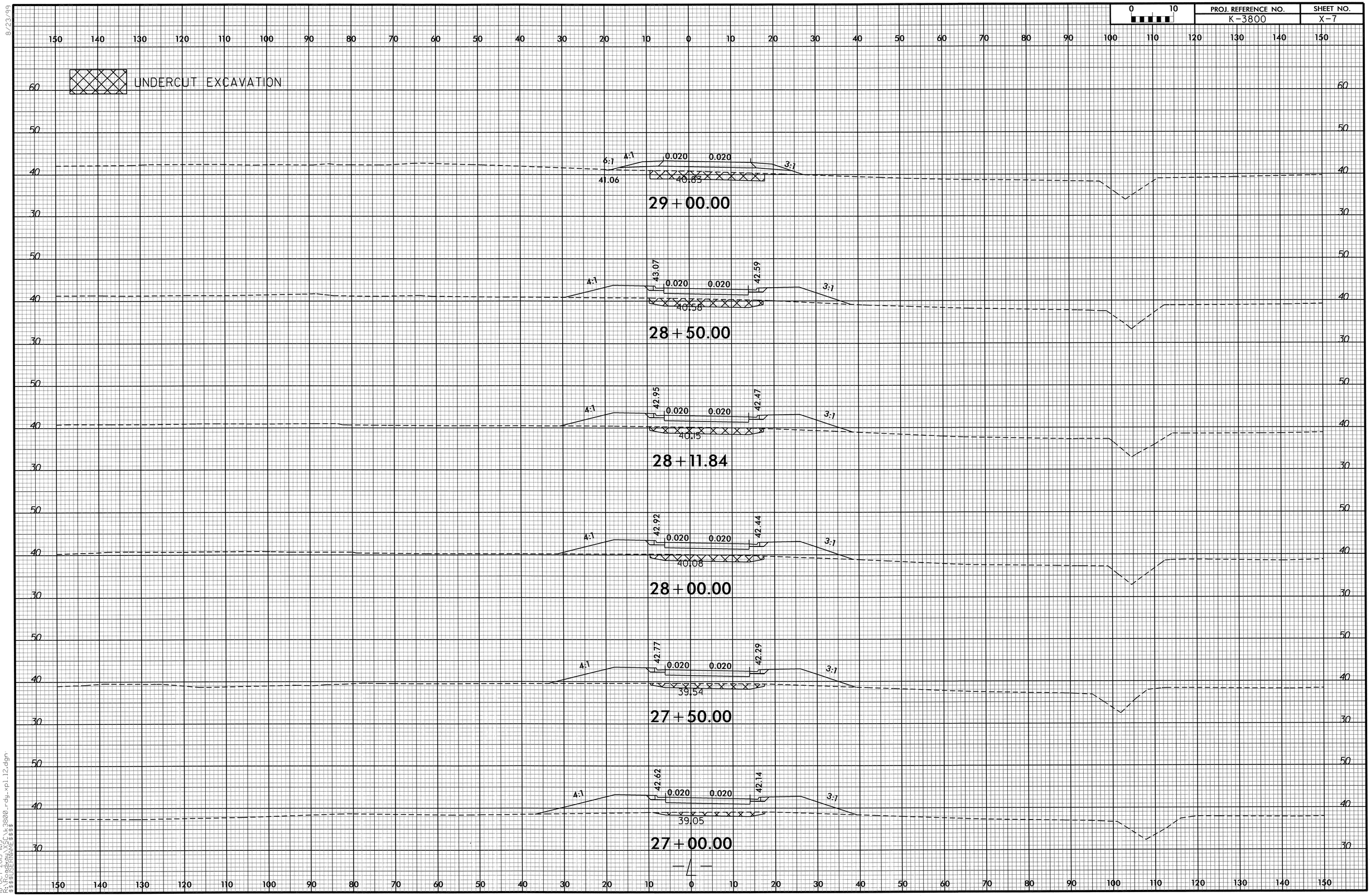
UNDERCUT EXCAVATION



8/23/99

18-OCT-2013 11:19
R:\Roadway\Proj\k3800_rdy_xpl12.dgn
$$$$USERNAME$$$$

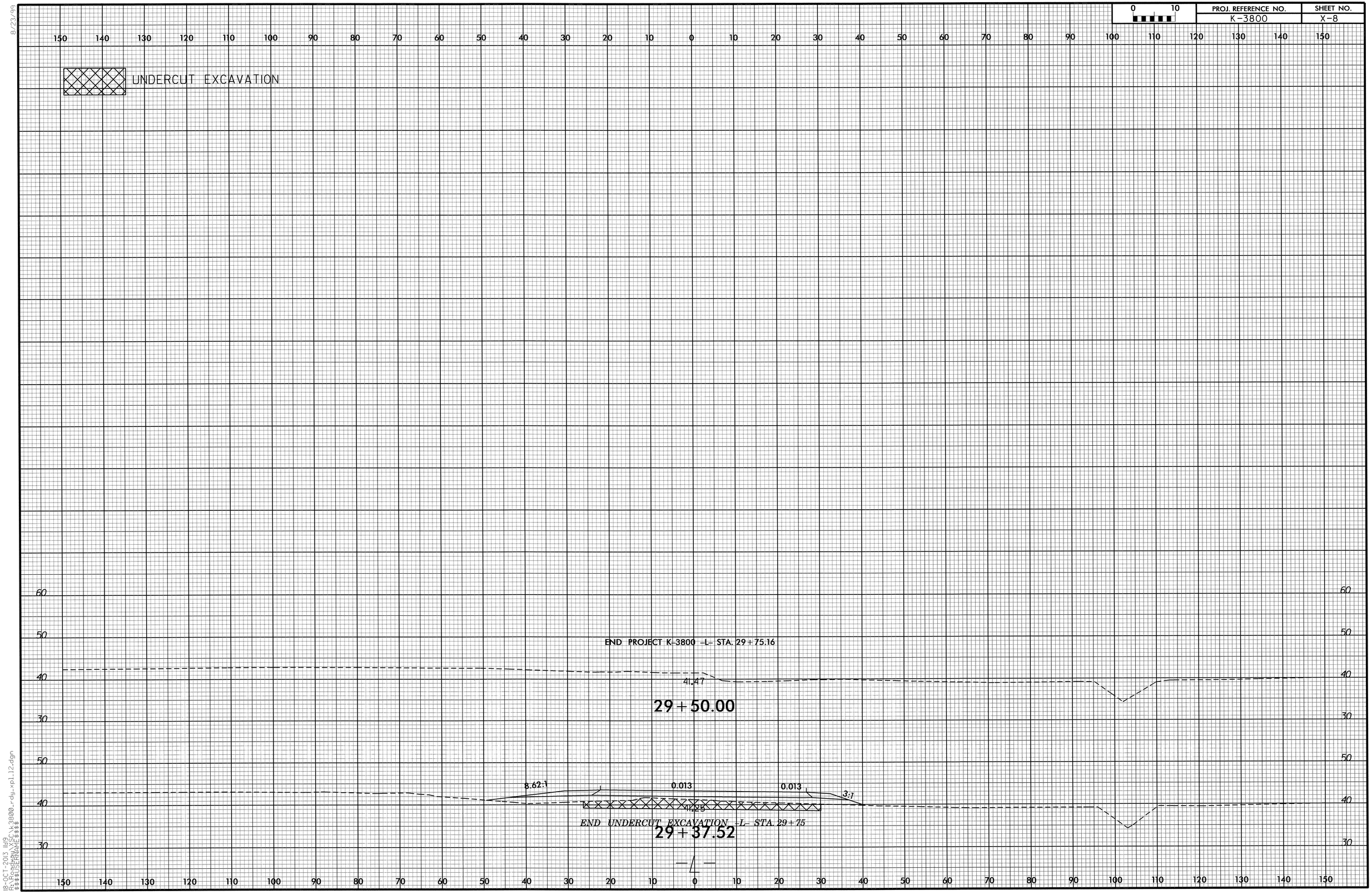
0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-7



8/23/99

18-OCT-2013 14:19
R:\Projects\K\K3800\rdy_xpl12.dgn
$$$$USERNAME$$$$

0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-8



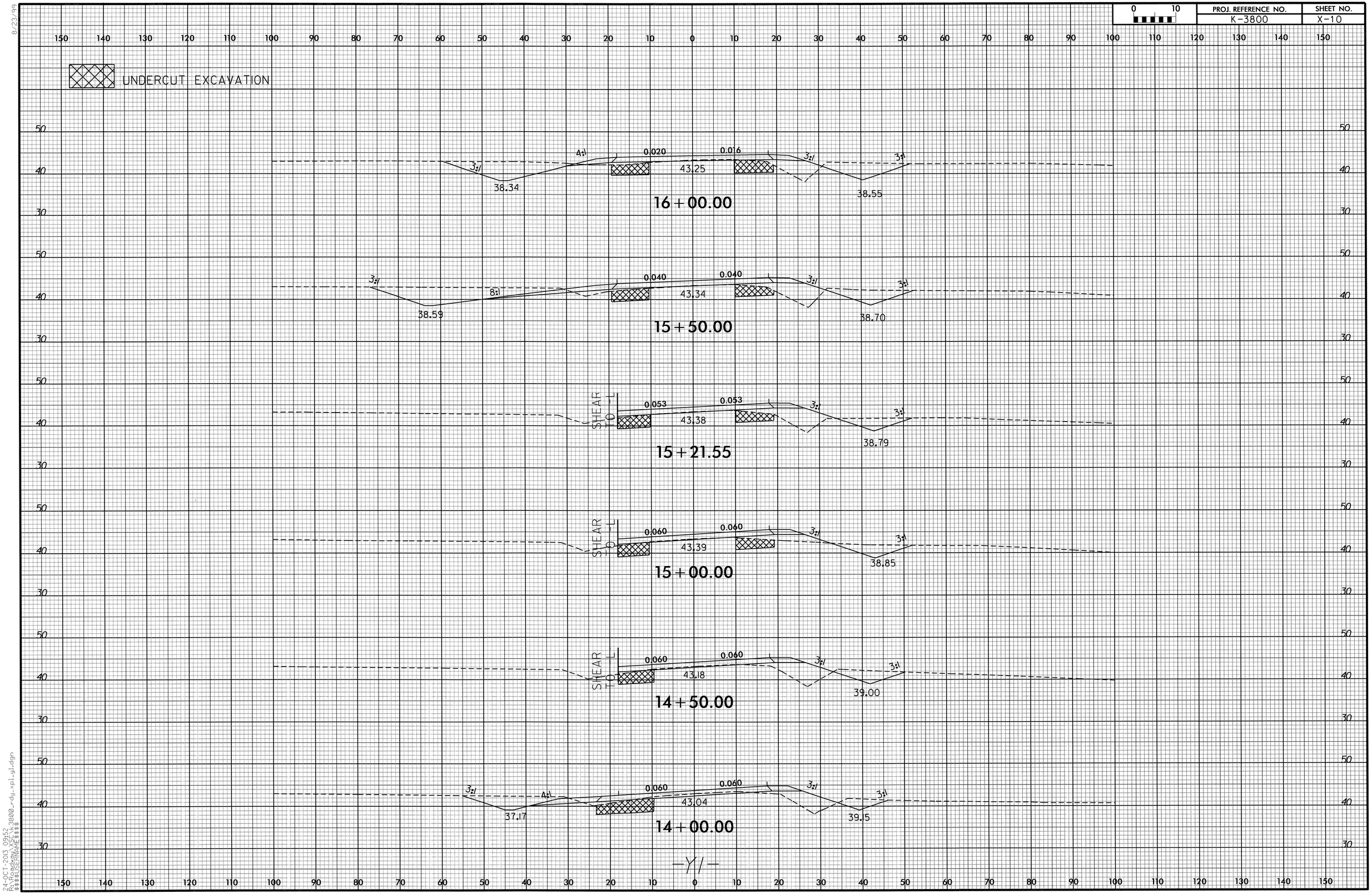
8/23/99

18-OCT-2013 W9
R:\Proj\K3800_rdy_xpl.12.dgn
$$$$USERNAME$$$$

8/23/99

18-OCT-2013 11:19
R:\Roadway\XSC\k3800_rdy_xpl_y1.dgn
$$$$USERNAME$$$$

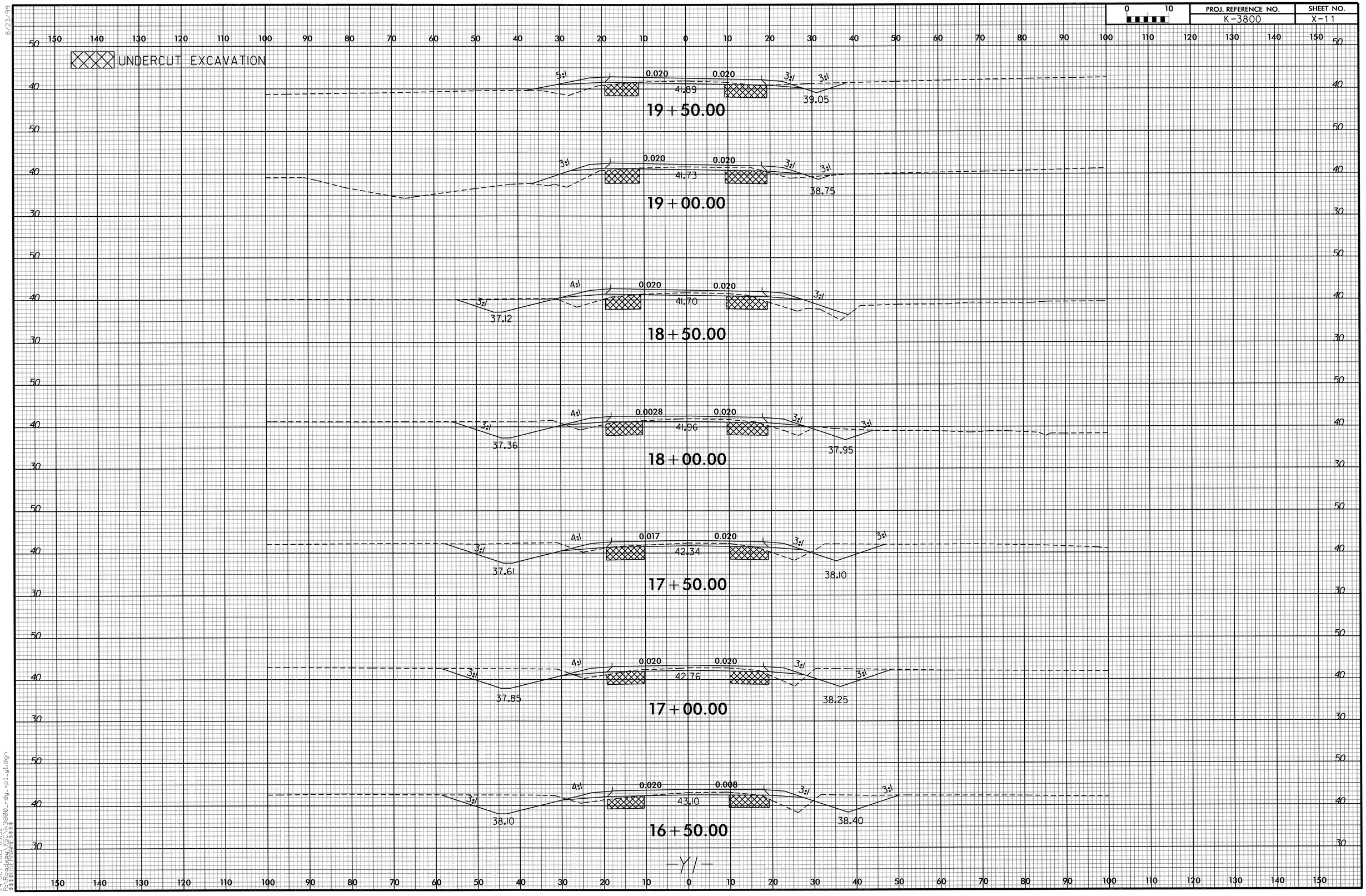
0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-10



8/23/99

24-OCT-2013 09:52
C:\Bentley\Workspace\projects\3800_rdy_xpl_y1.dgn
$$$$USERNAME$$$$

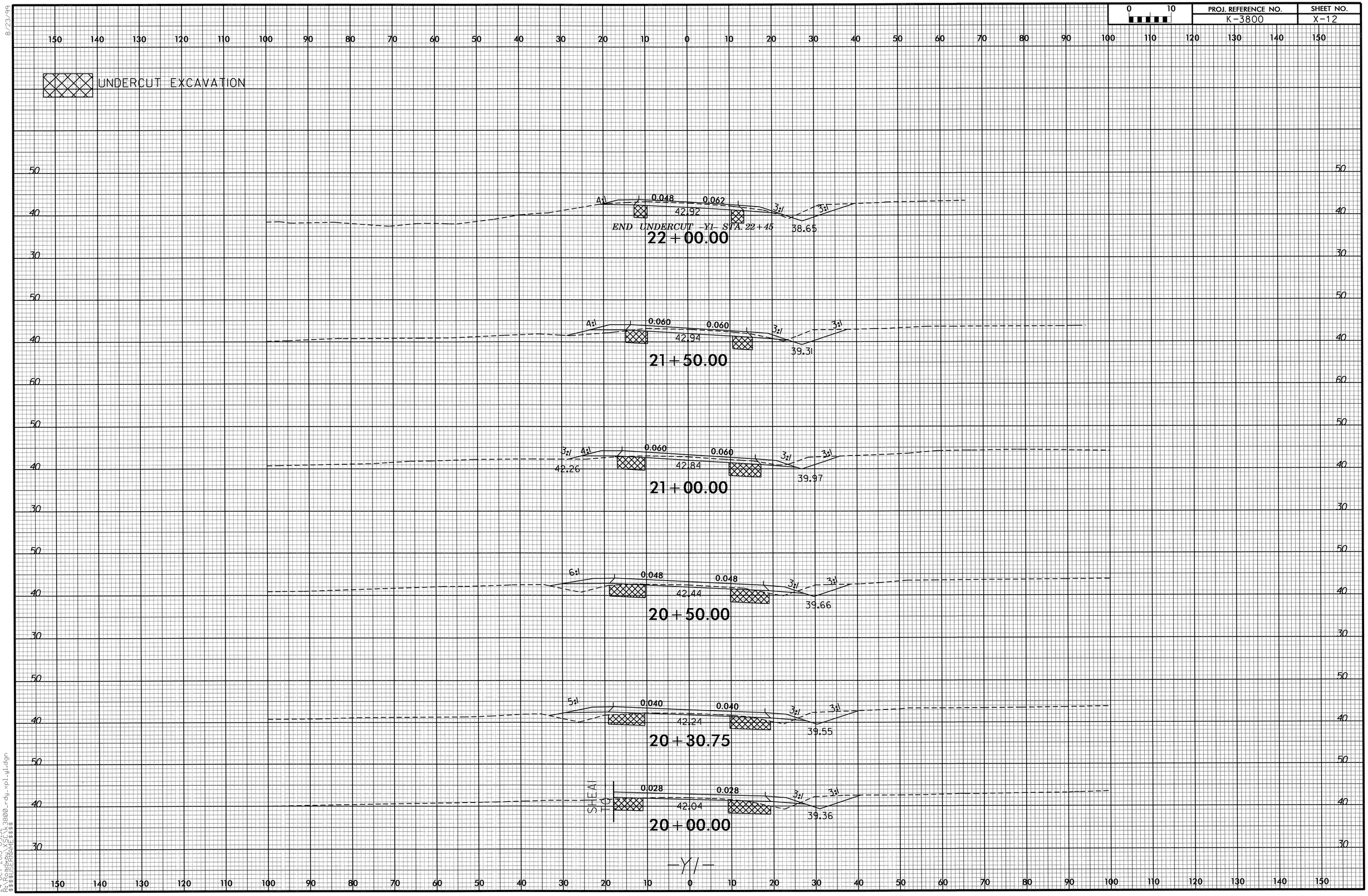
0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-11



8/23/99

24-OCT-2013 09:52
FLNROD\DVSCHAN
$$$$USERNAME$$$$ k3800_rdy_xpl_yl.dgn

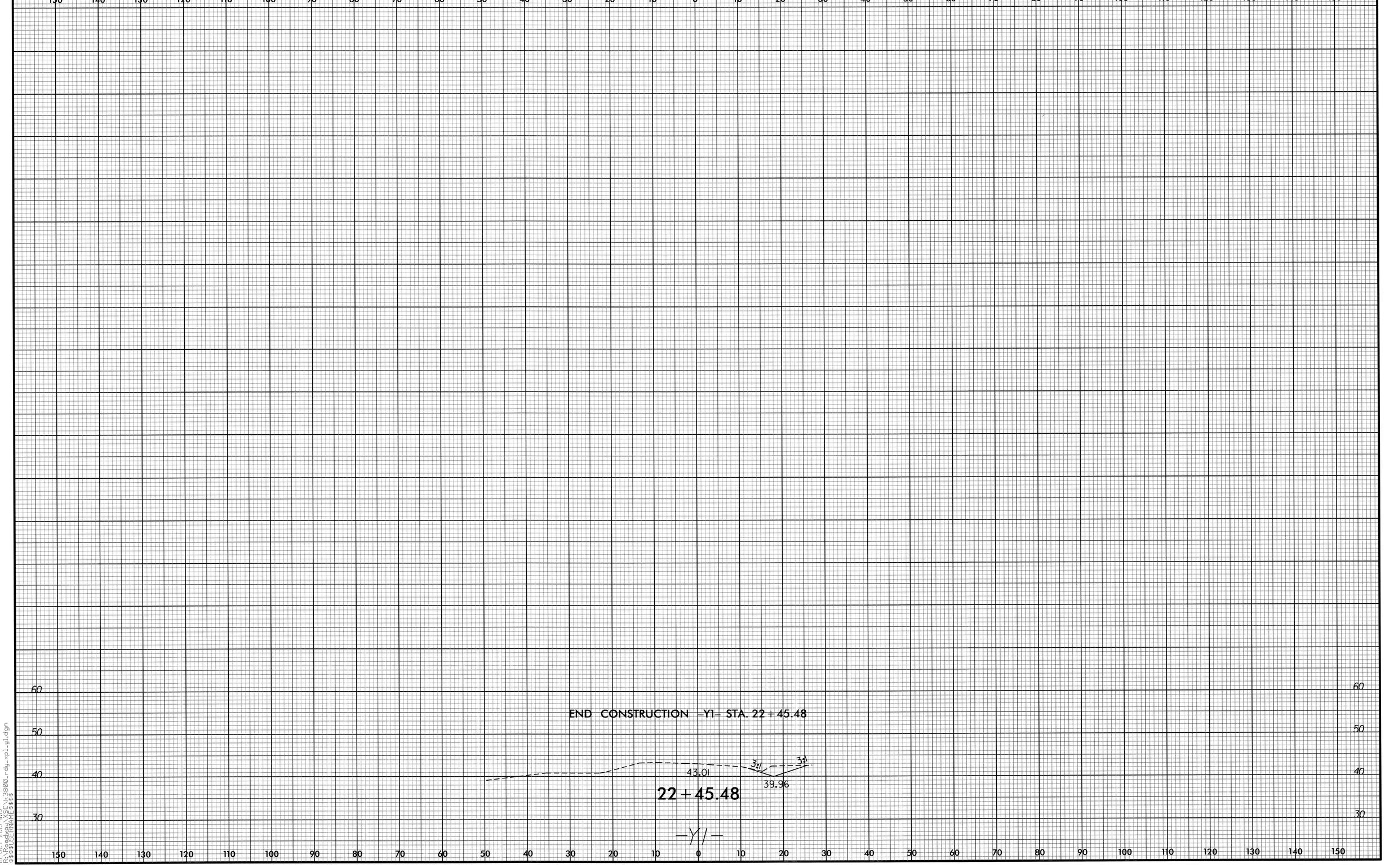
0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-12



8/23/99

24-OCT-2013 09:52
R:\Roadway\SCN\k3800_rdy_xpl_y1.dgn
$$$$USERNAME$$$$

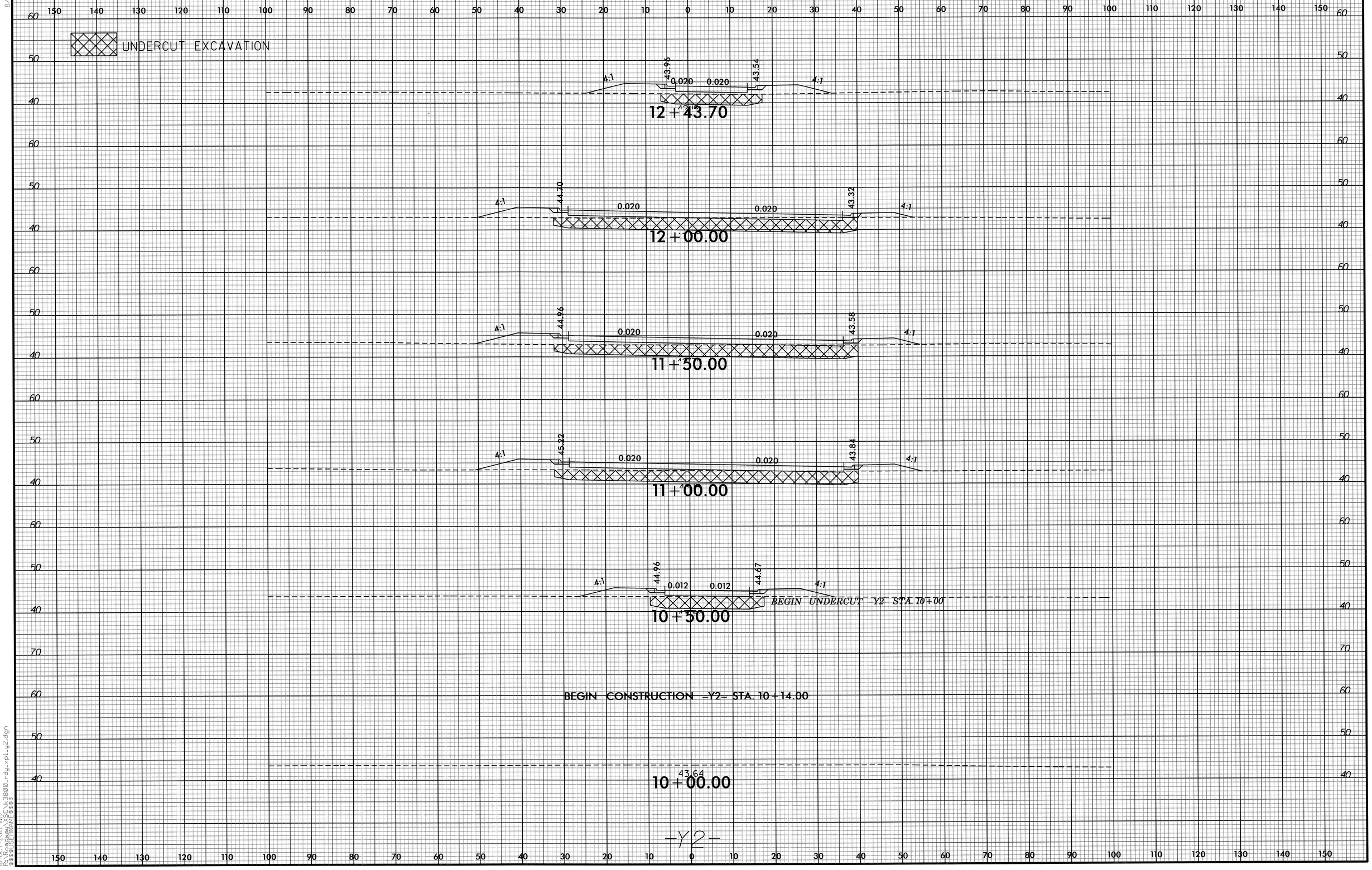
0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-13



8/23/99

18-OCT-2013 14:9
R:\Projects\K3800\Civil\K3800_rdy_xpl_y1.dgn
$$$$USERNAME$$$$

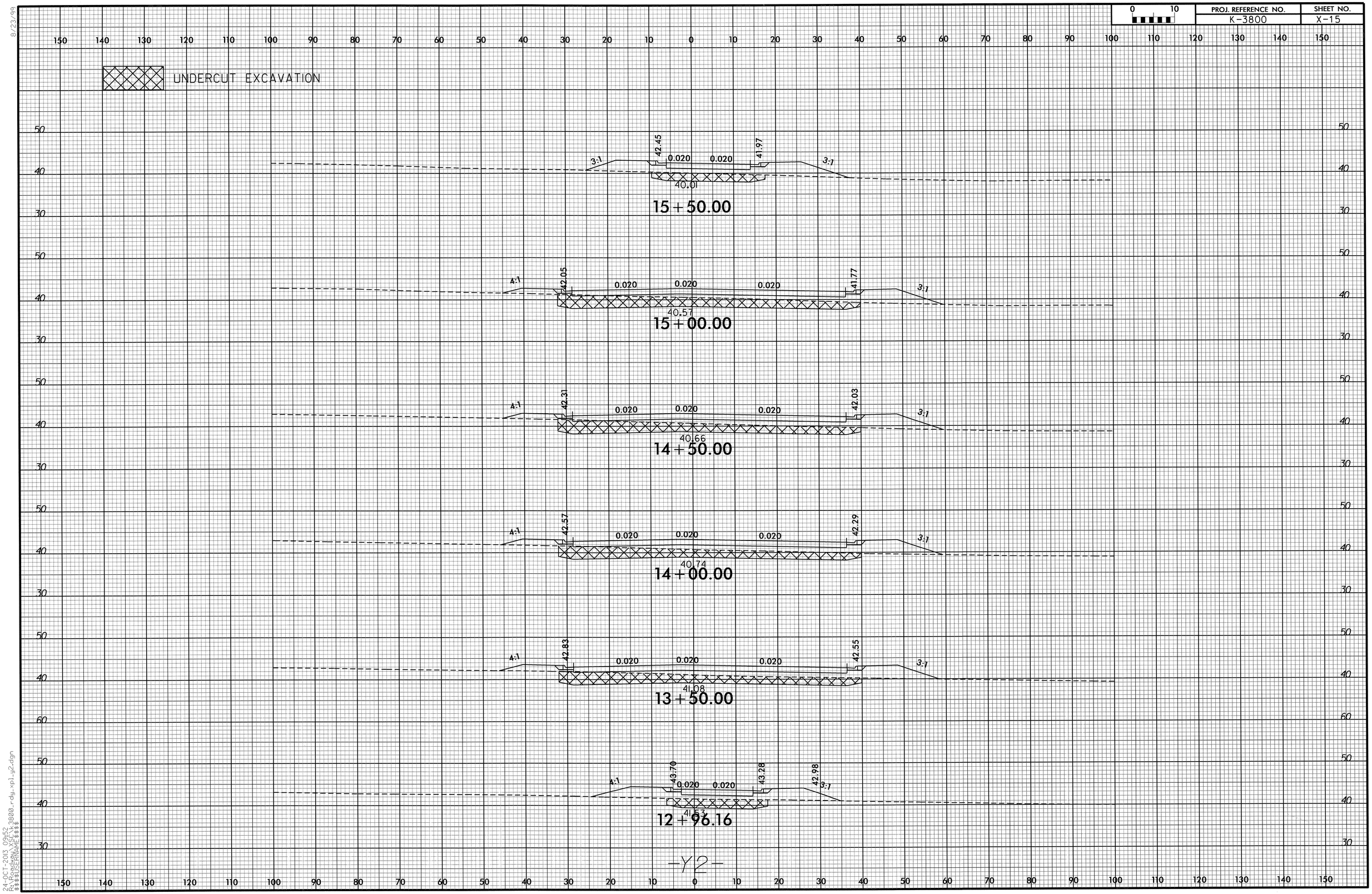
0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-14



8/23/99

18-OCT-2013 11:19
R:\Roadway\SGL\k3800_rdy_xpl_g2.dgn
$$$$USERNAME$$$$

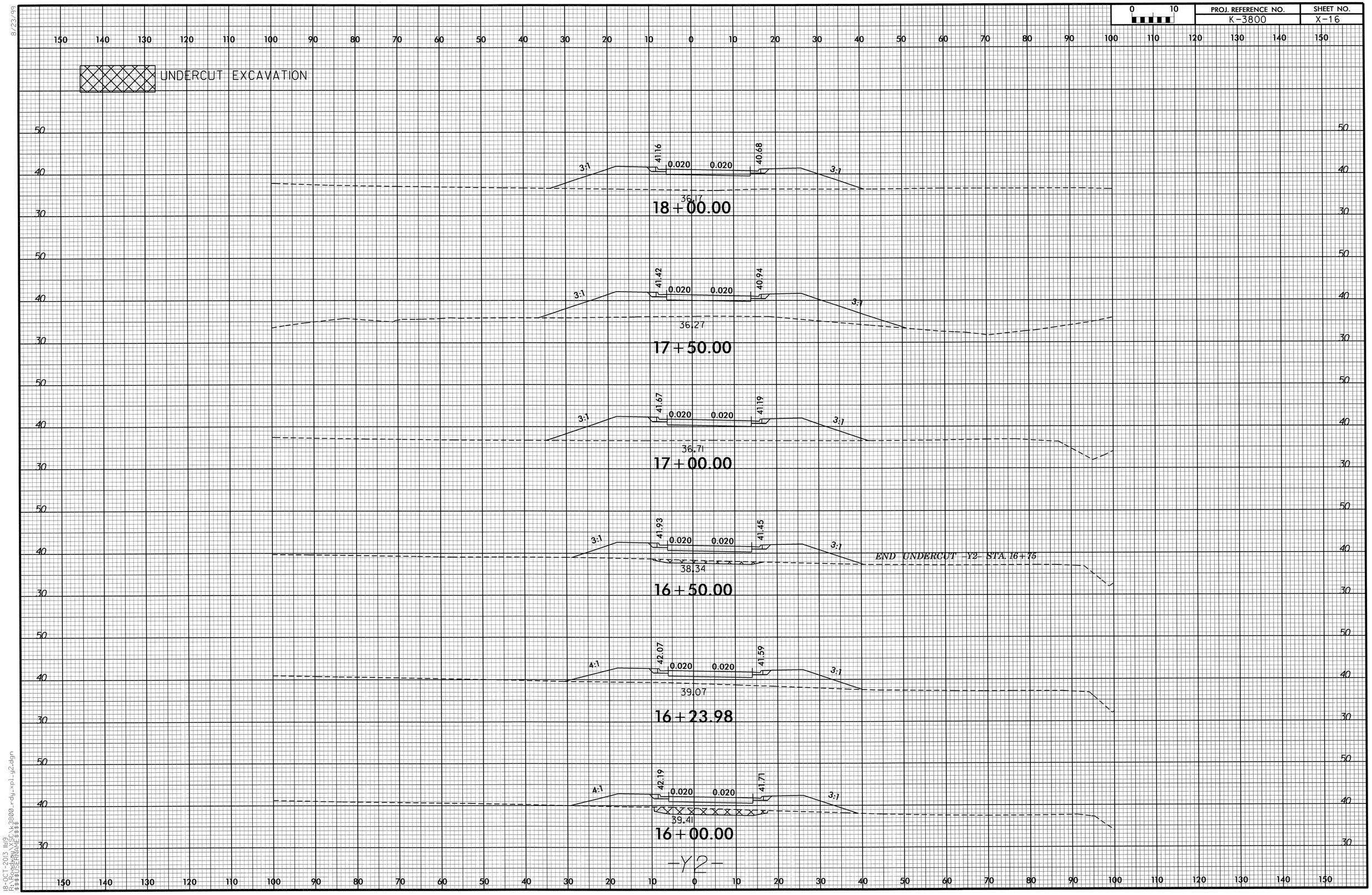
PROJ. REFERENCE NO.	SHEET NO.
K-3800	X-15



8/23/99

24-OCT-2013 09:52
R:\Roadway\X$C\k3800_rdy_xpl_y2.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
K-3800	X-16

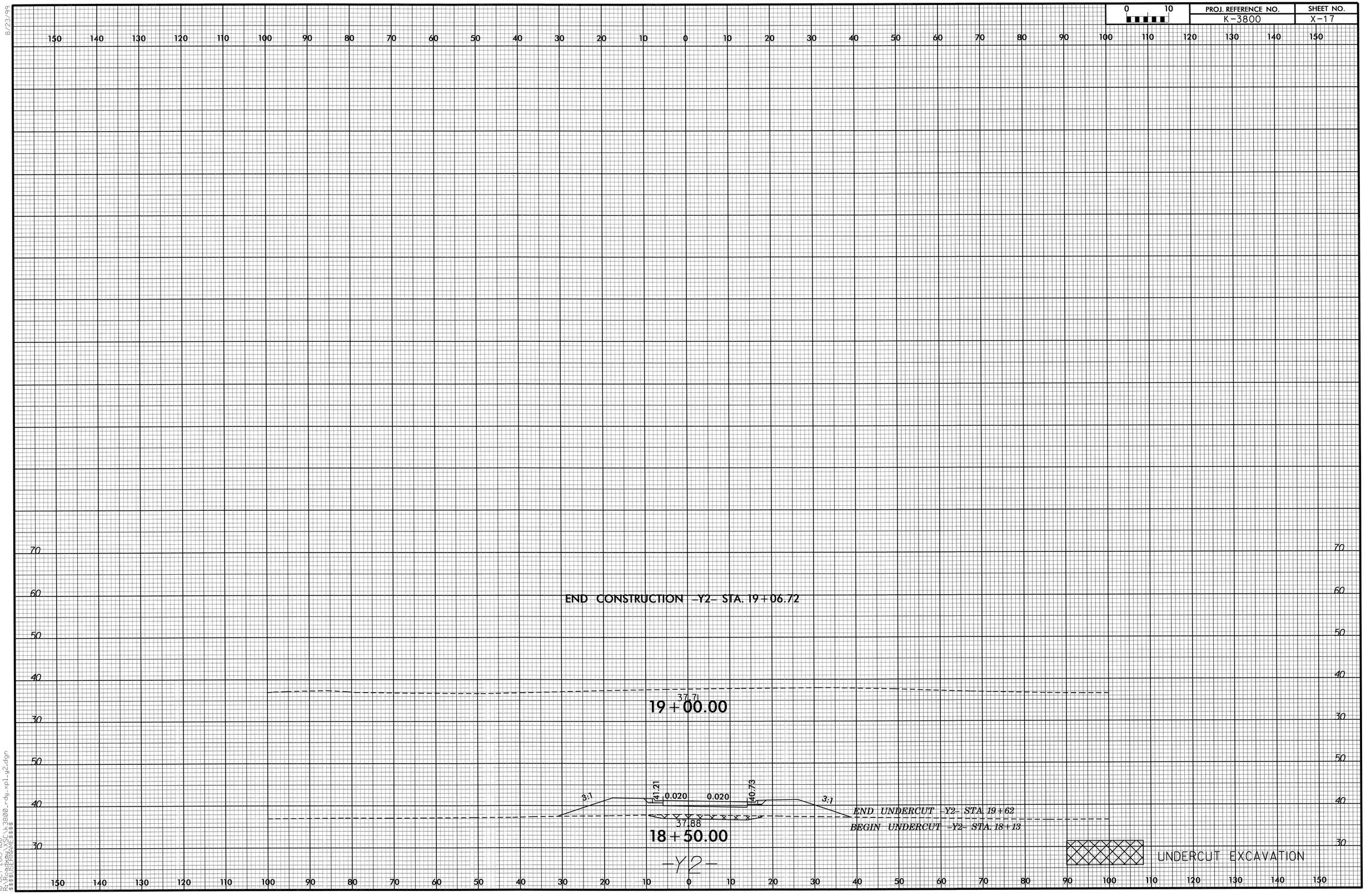


8/23/99

18-OCT-2013 11:19
R:\Roadway\SC\K3800_rdy_xs1_y2.dgn
$$$$USERNAME$$$$

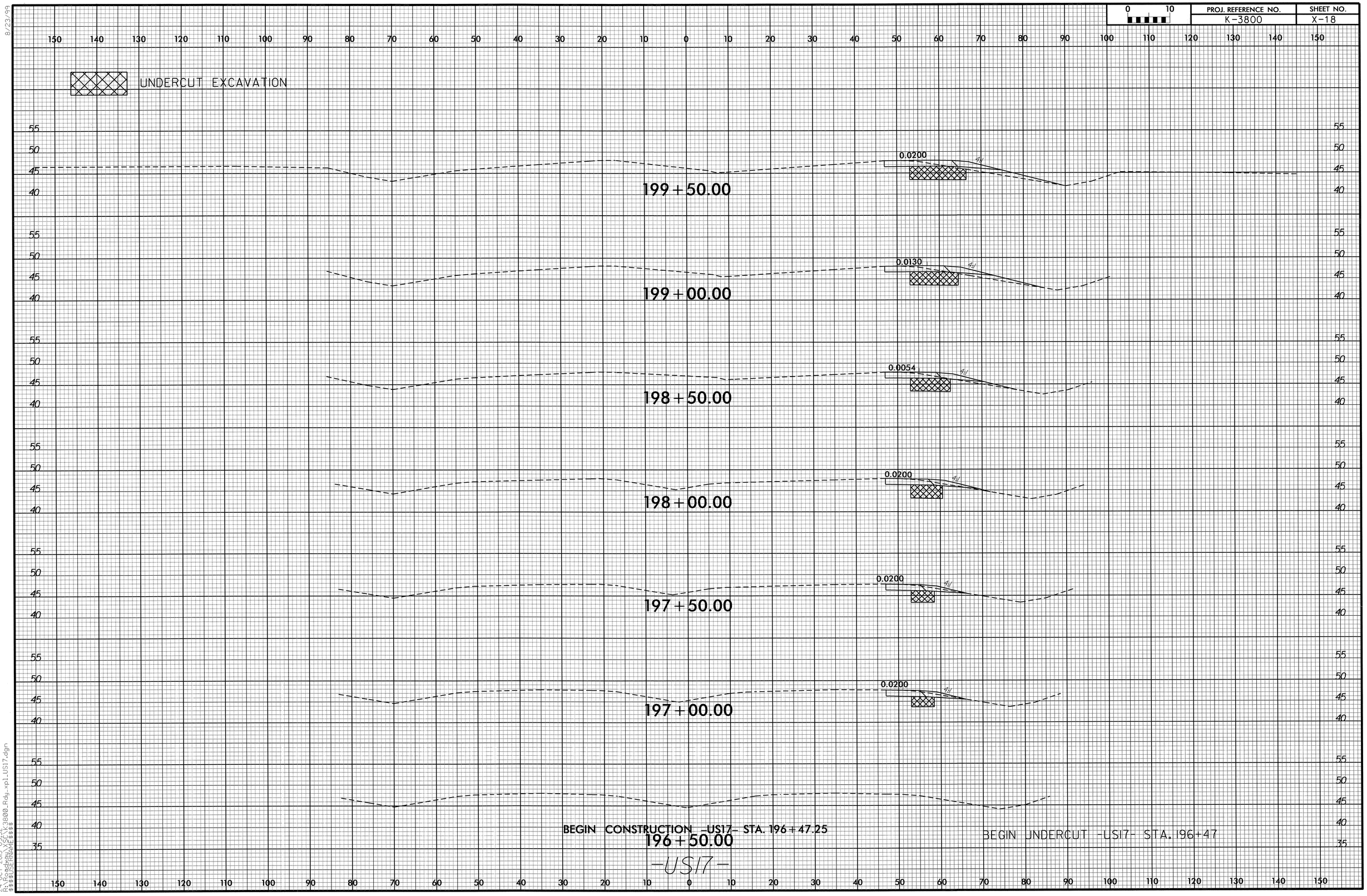
8/23/99

0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-17



18-OCT-2013 11:18
R:\Roadway\XSC\k3800_rdy_xpl_y2.dgn
$$$$USERNAME$$$$

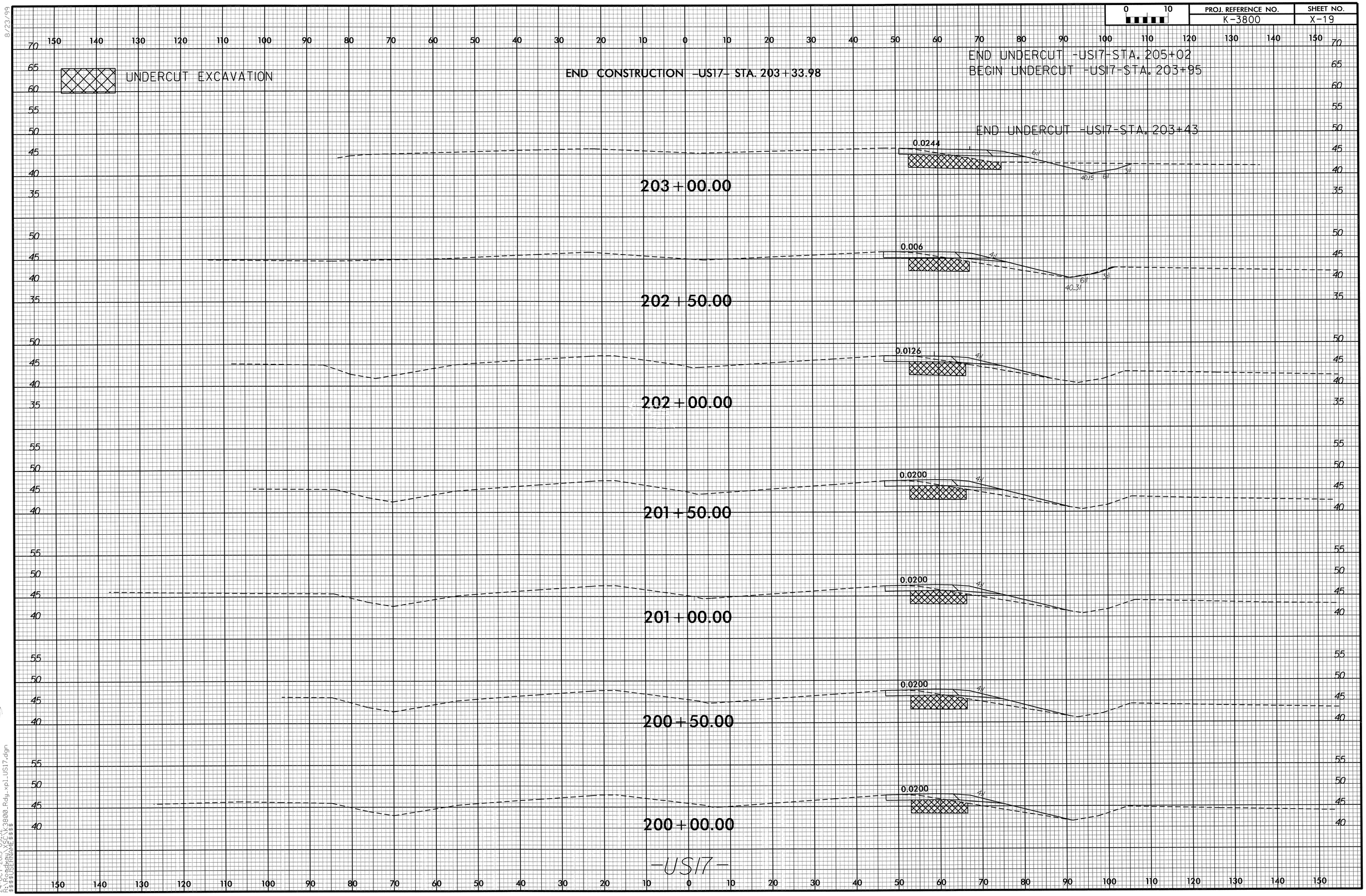
0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-18



8/23/99

24-OCT-2013 09:52
R:\Roadway\XSEC\K3800_Rdy_xp1_US17.dgn
$$$$USERNAME$$$$

0 10	PROJ. REFERENCE NO.	SHEET NO.
	K-3800	X-19



24-OCT-2013 09:52
R:\Roadway\SCN\K3800_Rdy_xpl_US17.dgn
$$$$USERNAME$$$$

8/23/99