09/08/99

TIP PROJECT: B-2515

CONTRACT: C202024

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

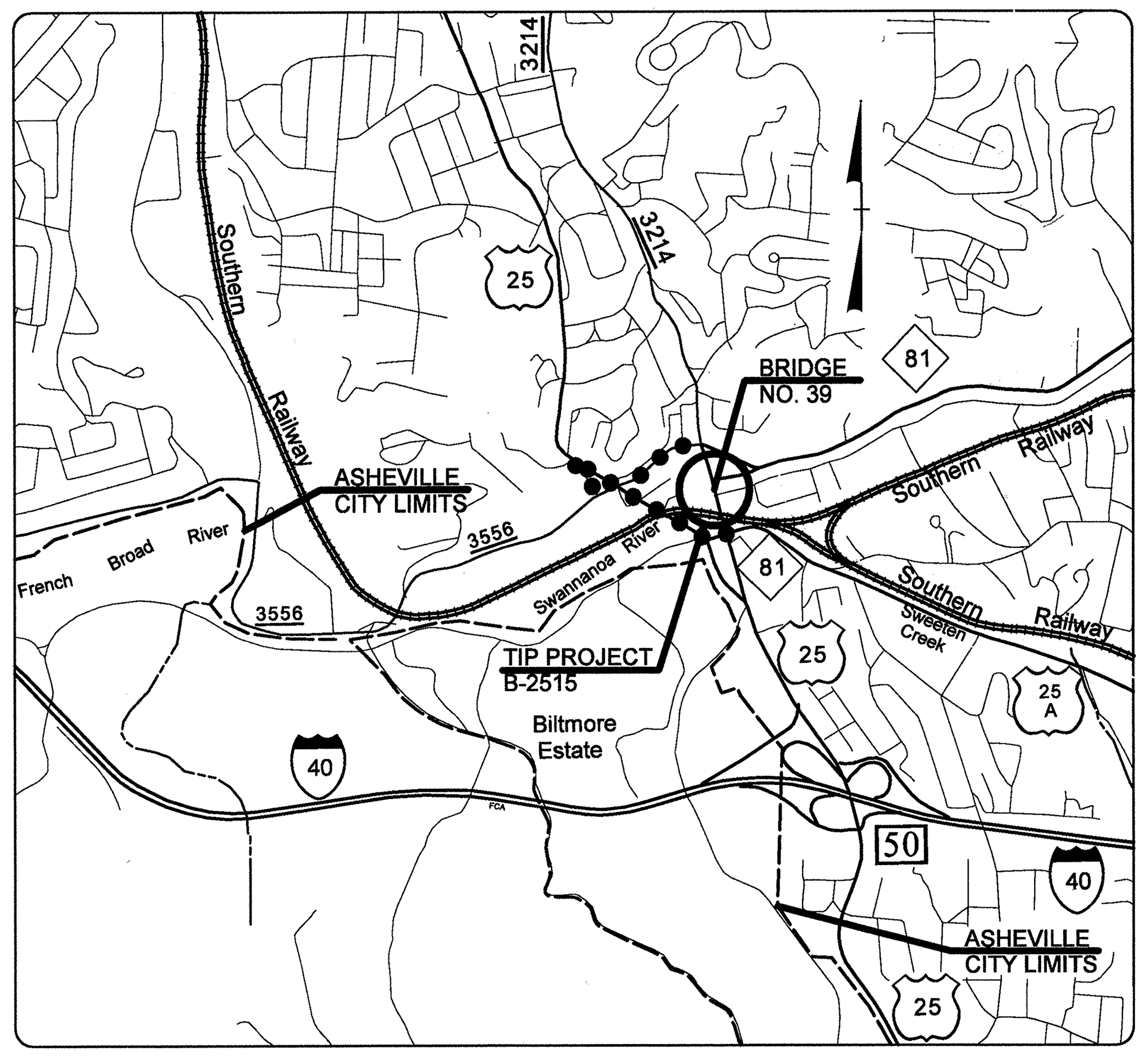
BUNCOMBE COUNTY

LOCATION: BRIDGE NO. 39 OVER SWANNANOA RIVER ON NC 81 (BILTMORE AVENUE)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE, AND SIGNALS

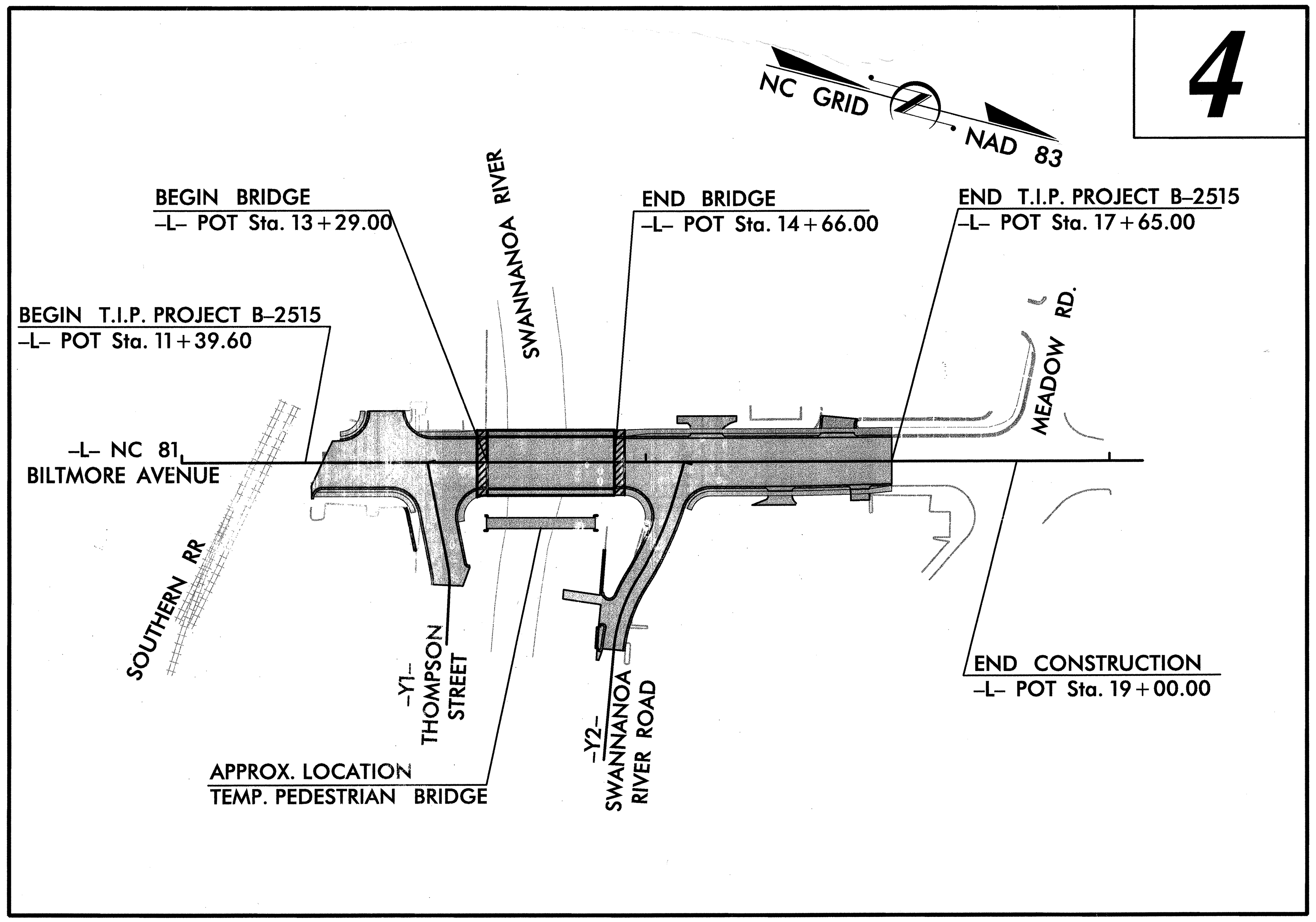
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2515	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
32643.1.1	BRSTP-0081(1)	P.E.
32643.2.2	BRSTP-0081(32)	R/W, UTIL
32643.3.2	BRSTP-0081(1)	CONST.



VICINITY MAP OF B-2515

OFFSITE DETOUR ●●●●●●●



NCDOT CONTACT:
B. DOUG TAYLOR, P.E

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 2009 = 34,890
ADT 2029 = 52,640
DHV = 10 %
D = 60 %
T = 6 % *
V = 40 MPH
* TTST 2% DUAL 4%
FUNC. CLASS. = URBAN MINOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY T.I.P. PROJECT B-2515	=	0.092 MILES
LENGTH STRUCTURES T.I.P. PROJECT B-2515	=	0.026 MILES
TOTAL LENGTH OF T.I.P. PROJECT B-2515	=	0.118 MILES

PREPARED IN THE OFFICE OF:
EarthTech
A Tyco International Ltd. Company
701 Corporate Center Drive, Suite 475
Raleigh, NC 27607
(919) 854-6200 - (919) 854-6259(FAX)

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 20, 2007

LETTING DATE:
JUNE 16, 2009

NEIL J. DEAN, P.E.
EARTH TECH PROJECT MANAGER

HYDRAULICS ENGINEER
03/18/09
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SEAL 026453
NEIL J. DEAN
3/18/2009
SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA
P.E.
STATE HIGHWAY DESIGN ENGINEER

neil.dean
3/20/2009
10:06:12 AM
r:\roadway\proj\b2515_rdy_tsh.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-2515	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026453 ENGINEER NEIL J. DEAN

03/31/2009

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF ROADWAY STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C	SURVEY CONTROL SHEET
2 THRU 2-A	TYPICAL SECTIONS, PAVEMENTS SCHEDULE
2-B	INTERSECTION DETAILS
2-C	DETAIL SHOWING LOCATION OF 8½" X 12" CURB, CURB AND GUTTER, DRIVEWAYS, AND SIDEWALKS
2-D	ANCHORAGE FOR FRAMES
2-E	DETAIL OF EXTRA DEEP DRAINAGE STRUCTURE
2-F	DETAIL OF TEMPORARY 1" STEEL COVER OVER DRAINAGE STRUCTURES
2-G	BICYCLE SAFE STEEL GRATE AND FRAME
2-H	BRIDGE APPROACH FILLS SUB REGIONAL TIER
3	SUMMARY OF QUANTITIES
3-A THRU 3-B	LIST OF PIPE, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)
3-C	SUMMARY OF EARTHWORK AND SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL
4	PLAN SHEET
5	PROFILE SHEET
TCP-1 THRU TCP-11	TRAFFIC CONTROL PLANS
PM-1	PAVEMENT MARKING PLANS
SD-1	SPECIAL SIGN DESIGN
EC-1 THRU EC-4	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
SIG-1 THRU SIG-24	SIGNAL PLANS
UC-1 THRU UC-2	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-3	UTILITIES BY OTHERS PLANS
X-1	CROSS SECTION SUMMARY SHEET
X-2 THRU X-10	CROSS SECTIONS
S-1 THRU S-28	STRUCTURE PLANS
SU-1 THRU SU-11	STRUCTURE UTILITIES PLANS

GENERAL NOTES:

2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-18-06

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

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

STREET TURNOUT:

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

TEMPORARY SHORING:

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

SUBSURFACE PLANS:

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

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE CITY OF ASHEVILLE
AT&T (BELL SOUTH), PROGRESS ENERGY, CHARTER COMMUNICATIONS, AND
PSNC ENERGY
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 CONTRACT.

WHEELCHAIR RAMPS:

WHEELCHAIR RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. THE CONSTRUCTION OF ALL WHEELCHAIR RAMPS SHALL BE IN ACCORDANCE WITH DETAILS IN PLANS.

EFF. 07-18-06
REV. 01-02-07

2006 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 July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
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	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
816.04	Markers for Drainage Structure and Concrete Pad
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
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.35	Traffic Bearing Grated Drop Inlet - for Sast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.05	Wheelchair Ramp - Curb Cut

3/3/2009
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neildean

3/15/06

PROJECT REFERENCE NO.	SHEET NO.
B-2515	1-B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- Proposed Wheel Chair Ramp Curb Cut — WCC
- Curb Cut for Future Wheel Chair Ramp — CCFR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

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

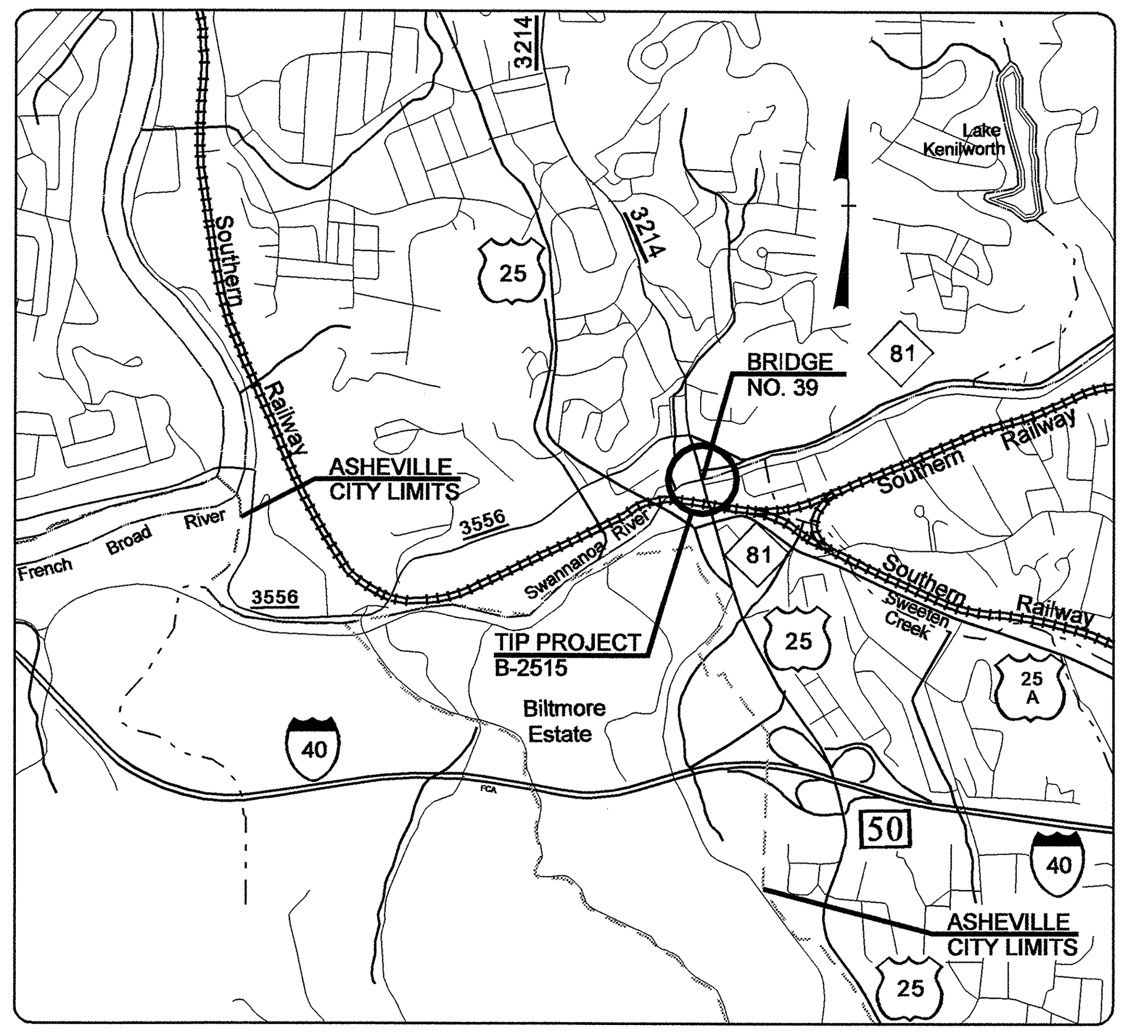
MISCELLANEOUS:

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

SURVEY CONTROL SHEET B-2515

BL

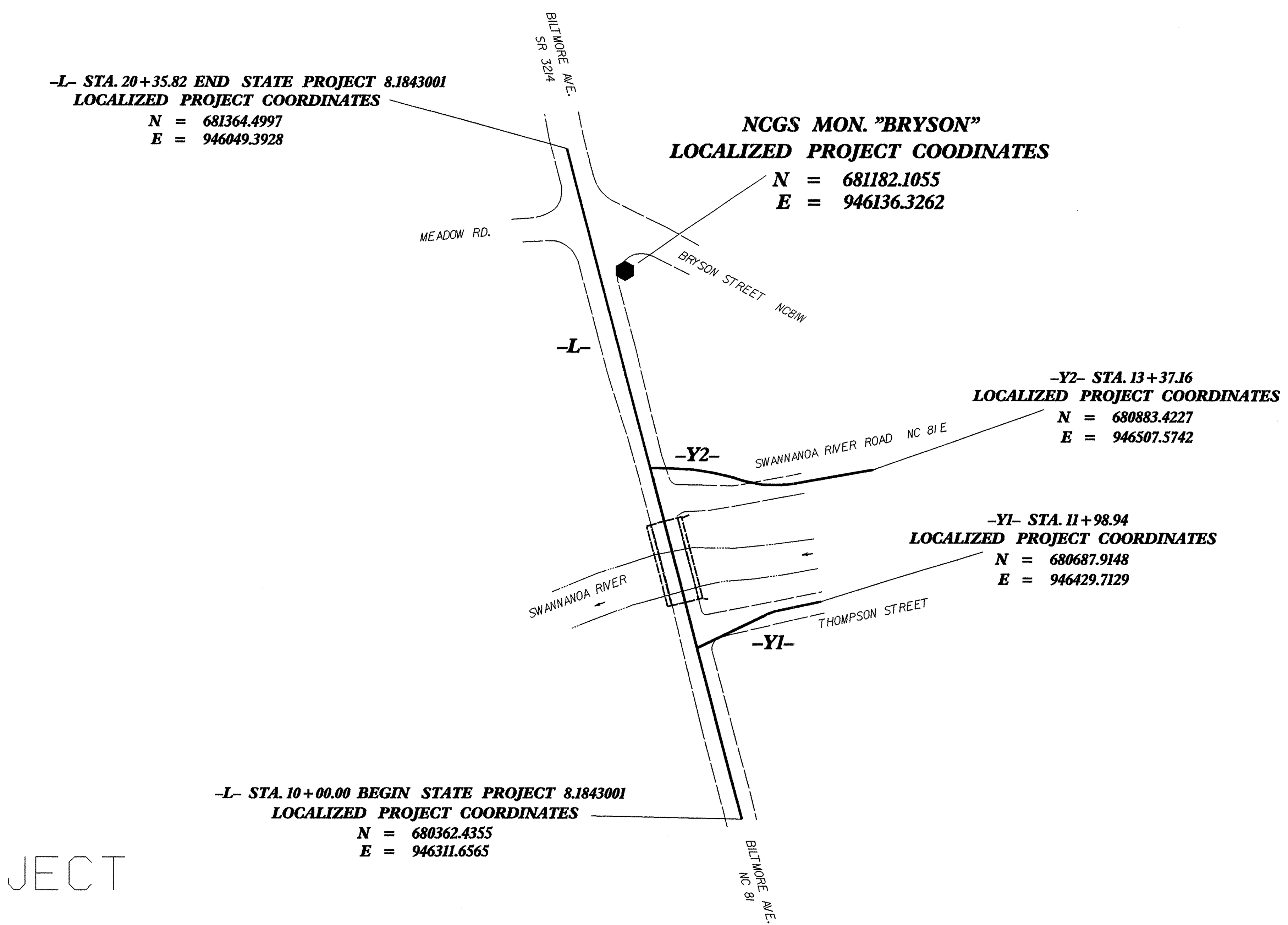
POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	B-2515-3	680456.6263	946382.0846	1993.46	10+73.29	91.98 RT
4	B-2515-4	680811.4484	946262.4926	1992.17	14+46.83	66.13 RT
BRYSON1	NCGS MON BRYSON	681182.1055	946136.3262	1994.97	18+37.35	37.92 RT



VICINITY MAP OF B-2515

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "BRYSON" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 681182.1055(ft) EASTING: 946136.3262(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9997498 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BRYSON" TO -L- STATION 10+00.00 IS S 12°04'26" E 838.21' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29



NOTE: NO SUPPLEMENTAL BENCHMARKS WERE SET FOR THIS PROJECT

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:*
   HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B2515_LS_CONTROL_060322.TXT

   GLOBAL POSITIONING WAS NOT USED ON THIS PROJECT. EXISTING NCGS MONUMENTS WERE USED.

   SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. 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.*

NCGS MON. "CECIL"
LOCALIZED PROJECT COODINATES
N = 678770.1648
E = 946704.0416

NOTE: DRAWING NOT TO SCALE

6/2/99

24-MAR-2009 10:28
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-2515	2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 022453 ENGINEER NEIL J. DEAN
3/18/2009

PAVEMENT DESIGN ENGINEER

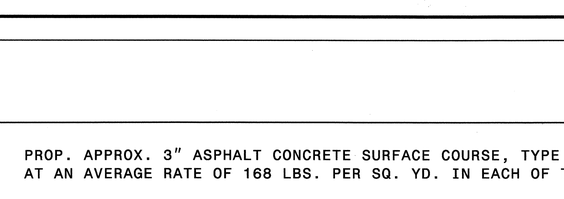
NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON
3/23/09

PAVEMENT SCHEDULE

C1	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	R1	2'-6" CONCRETE CURB AND GUTTER.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.	R2	8" x 12" CONCRETE CURB
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S	4" CONCRETE SIDEWALK.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	T	EARTH MATERIAL
E1	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	U	EXISTING PAVEMENT
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL W1, THIS SHEET)

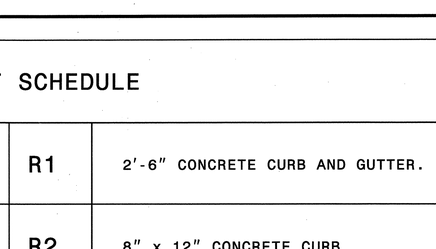
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

Detail W

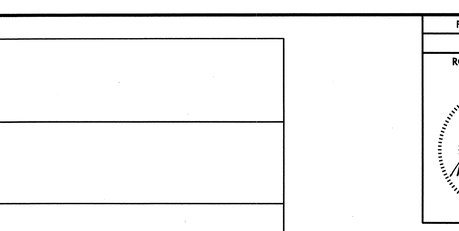


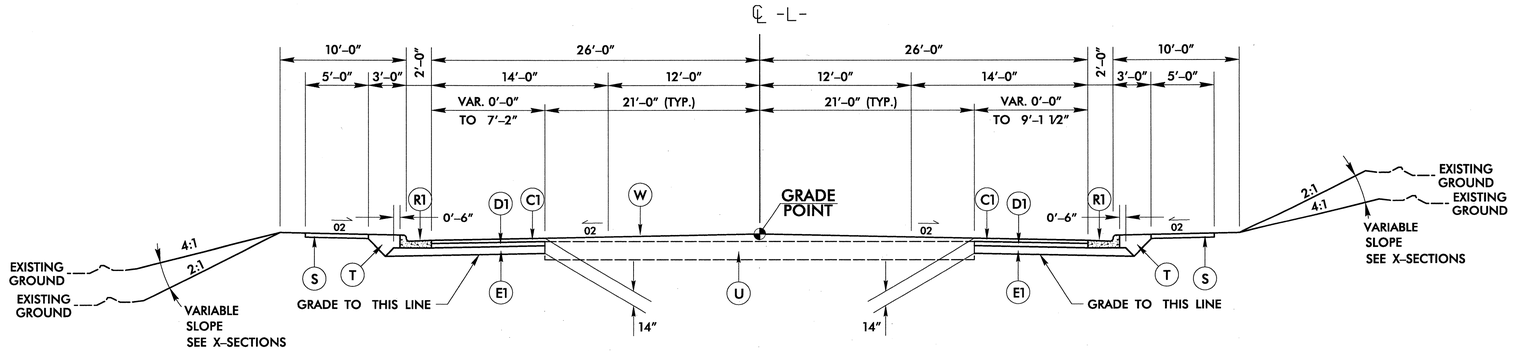
Detail Showing Method of Wedging for –L– Resurfacing

PROFILE DETAIL SHOWING TIE-INS ON ALL ROADS



DETAIL SHOWING PLACEMENT OF 8"X12" CURB (N.T.S.)





TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

–L– STA. 11+39.60 TO –L– STA. 12+85.00

–L– STA. 15+25.00 TO –L– STA. 17+65.00

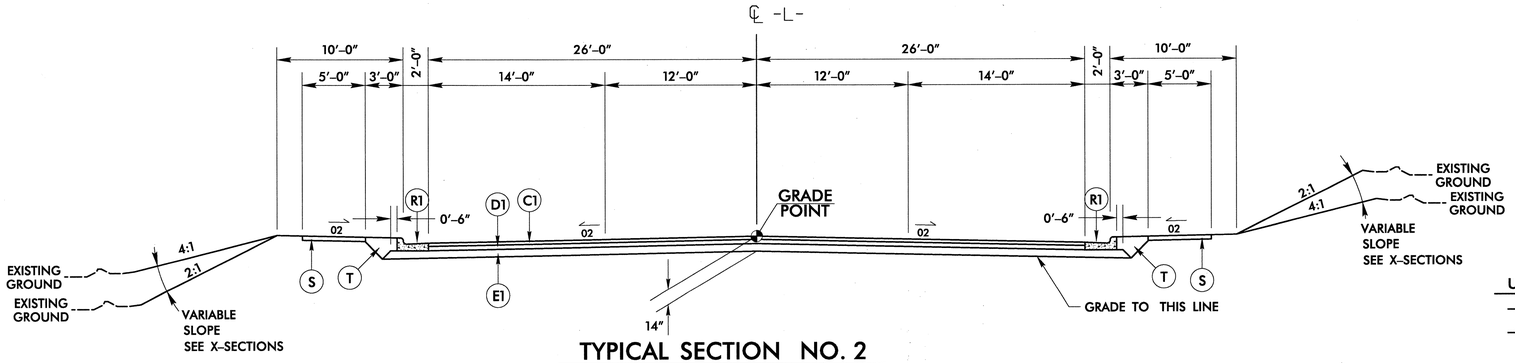
PROJECT REFERENCE NO.	SHEET NO.
B-2515	2-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 036453 ENGINEER NEIL J. DEAN 3/16/09

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 22868 ENGINEER CLARK S. MORRISON 3/23/09

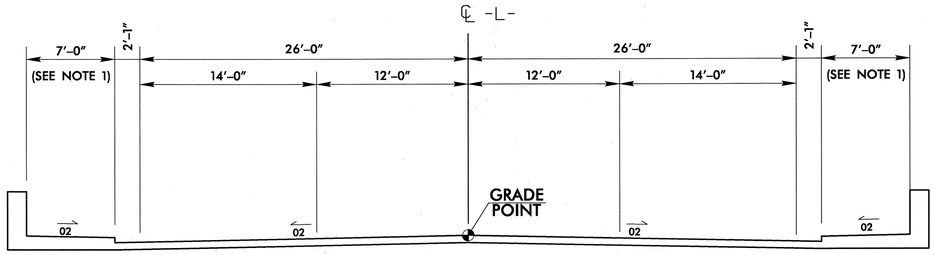


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-L- STA. 12+85.00 TO -L- STA. 13+29.00 (BEGIN BRIDGE)

-L- STA. 14+66.00 (END BRIDGE) TO -L- STA. 15+25.00

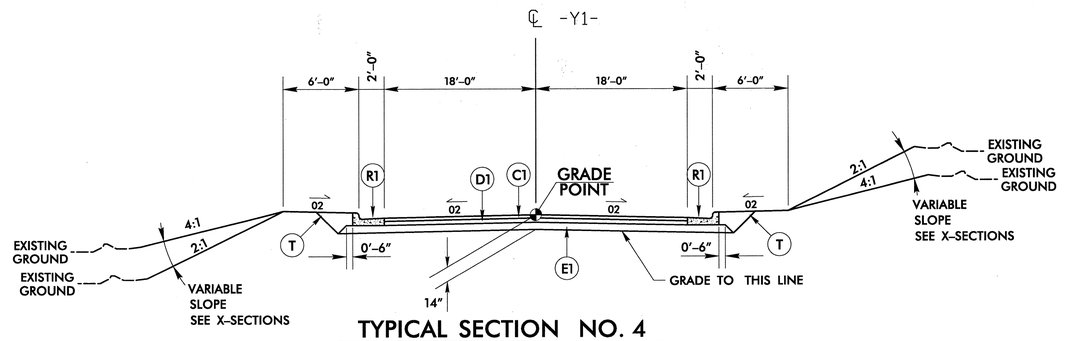


TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-L- STA. 13+29.00 (BEGIN BRIDGE) TO -L- STA. 14+66.00 (END BRIDGE)

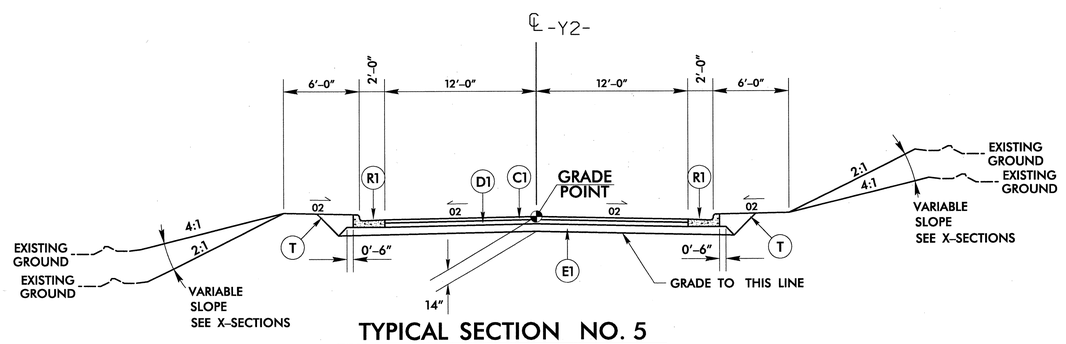
NOTE 1: 7'-0" SIDEWALKS INCLUDED AS REQUESTED BY CITY OF ASHEVILLE



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4

-Y1- STA. 10+26.50 TO -Y1- STA. 11+34.46



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

-Y2- STA. 10+27.50 TO -Y1- STA. 12+17.82

PAVEMENT SCHEDULE	
C1	3" S9.5C
C2	VAR S9.5C
D1	4" I19.0C
D2	VAR. I19.0C
E1	7" B25.0C
E2	VAR. B25.0C
R1	2'-6" C&G
S	SIDEWALK
T	EARTH
U	EXIST. PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
B-2515	2-B
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026457 ENGINEER NEIL J. DEAN

3/18/2009

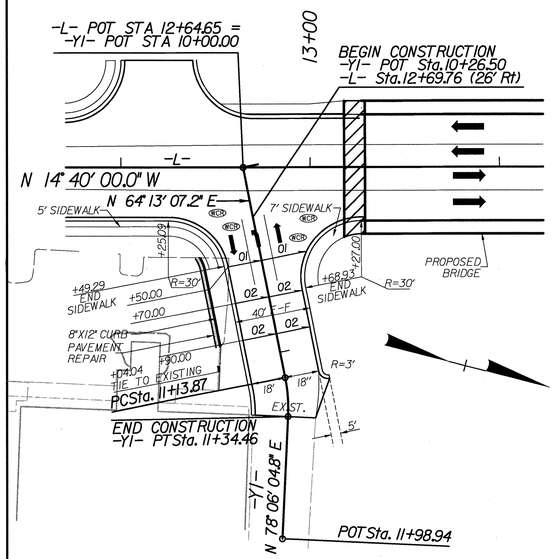
GRAPHIC SCALE

40 20 0 40 80

PLANS

INTERSECTION DETAILS

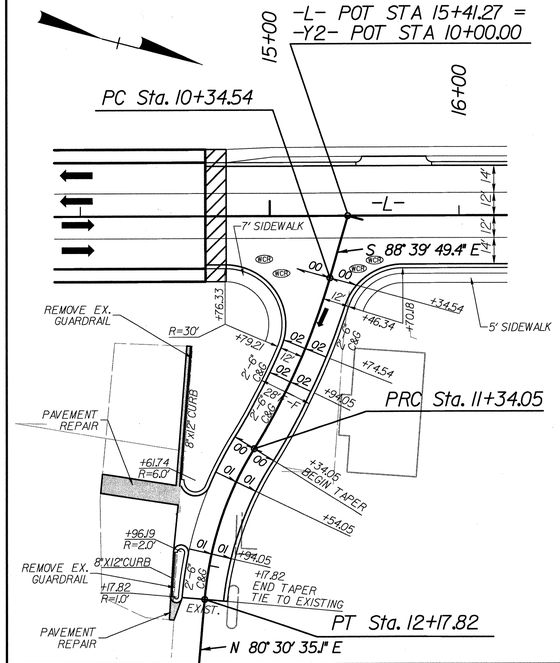
INTERSECTION DETAILS OF -L- (BILTMORE AVENUE) AND -Y1- (THOMPSON STREET)



-Y1-

PI Sta 11+24.22
△ = 13° 52' 57.7" (RT)
D = 67° 24' 24.5"
L = 20.60'
T = 10.35'
R = 85.00'
Se = RC
R.O. = See Plans

INTERSECTION DETAILS OF -L- (BILTMORE AVENUE) AND -Y2- (SWANNANOA RIVER ROAD)



-Y2-

PI Sta 10+84.62	PI Sta 11+76.71
△ = 15° 50' 15.4" (RT)	△ = 26° 39' 50.9" (LT)
D = 15° 54' 55.8"	D = 31° 49' 51.6"
L = 99.51'	L = 83.77'
T = 50.07'	T = 42.66'
R = 360.00'	R = 180.00'
Se = RC	Se = RC
R.O. = See Plans	R.O. = See Plans

REVISIONS

8/17/99

DETAIL SHOWING LOCATION OF 8"X12" CURB, CURB AND GUTTER, DRIVEWAYS, AND SIDEWALK

PROJECT REFERENCE NO.	SHEET NO.
B-2515	2-C
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026453 ENGINEER NEIL J. DEAN
3/18/2009

GRAPHIC SCALE
40 20 0 40 80
PLANS

NC GRID NAD 83

REVISIONS 8/17/99

10

15

POT Sta. 10+00.00

POT Sta. 20+35.82

-L- POT STA 12+64.65 = -Y1- POT STA 10+00.00

-L- POT STA 15+41.27 = -Y2- POT STA 10+00.00

END CONSTRUCTION -L- POT STA.19+00.00

+00.25 END C&G END SIDEWALK

+49.80 BEG. SIDEWALK

+40.22 BEG.C&G

+70.70 BEG.TAPER BEG.C&G BEG.SIDEWALK

+72.54 END TAPER

+29.00 END C&G END SIDEWALK

+33.81 (62.33' LT) END 8"X12" CURB

APPROX. LIMITS OF NEW PAVEMENT

+97.12 (62.33' LT) BEG.8"X12" CURB

+66.00 BEG.C&G BEG. SIDEWALK

+88.72 END C&G TIE TO EXISTING

DISSIPATE CURB IN THIS AREA

DISSIPATE CURB IN THIS AREA

+87.32 BEG.C&G

+28.72 END C&G TIE TO EXISTING

+65.00 END C&G END SIDEWALK TIE TO EXISTING

+26.84 BEG.C&G

N 14° 40' 00.0" W

BEGIN PROJECT B-2515 -L- POT 11+39.60

-Y1- PCSta. 11+13.87

-Y1- PTSta. 11+34.46

-Y1-POTSta. 11+98.94

-Y2- PRC Sta. 11+34.05

-Y2- PC Sta. 10+34.54

-Y2- PT Sta. 12+17.82

-Y2- POT Sta. 13+37.16

+41.83 BEG.C&G BEG.SIDEWALK

+42.31 -Y1- BEG.8"X12" CURB

APPROX.LIMITS OF PAVEMENT REPAIR

+49.29 -Y1- END SIDEWALK

+90.00 -Y1- END 8"X12" CURB TIE TO EXISTING

+34.46 -Y1- END C&G

+16.23 -Y1- BEG.C&G

APPROX.LIMITS OF PAVEMENT REPAIR

+66.00 BEG.C&G BEG.7' SIDEWALK

+29.00 -L- END C&G END 7' SIDEWALK

+99.92 -Y2- BEG.8"X12" CURB

+63.81 -Y2- END 8"X12" CURB END 2'-6" C&G

+68.93 -Y1- BEG.7' SIDEWALK

+79.21 -Y2- END 7' SIDEWALK

+61.31 R=6.0'

+96.19 R=2.0'

8"X12" CURB

+17.82 R=1.0'

+17.82 -Y2- END 2'-6" C&G

+46.34 -Y2- BEGIN SIDEWALK

+41.68 END 8"X12" CURB TIE TO EXISTING

+41.55 BEG.8"X12" CURB

+65.00 END C&G END SIDEWALK TIE TO EXISTING

SWANNANOA RIVER

NOTE: RADII ON 8"X12" CURB IS 3' UNLESS OTHERWISE NOTED

SEE PLANS FOR LOCATIONS OF TAPERS

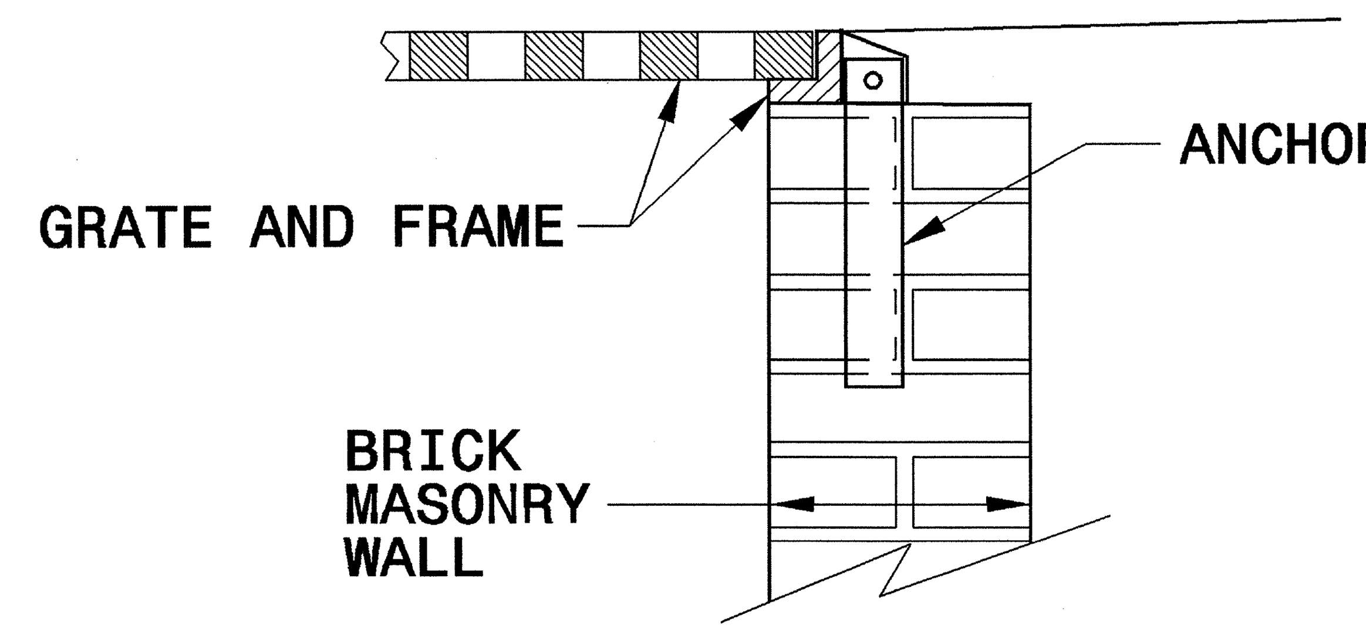
DENOTES NEW PAVEMNET AREA WITH 3" S9.5C OVER 4" I19.0C, UNLESS OTHERWISE DIRECTED BY THE ENGINEER

neil.dean
3/19/2009
12:07:12 PM
r:\roadway\proj\B2515_rdy_psh_2c.dgn

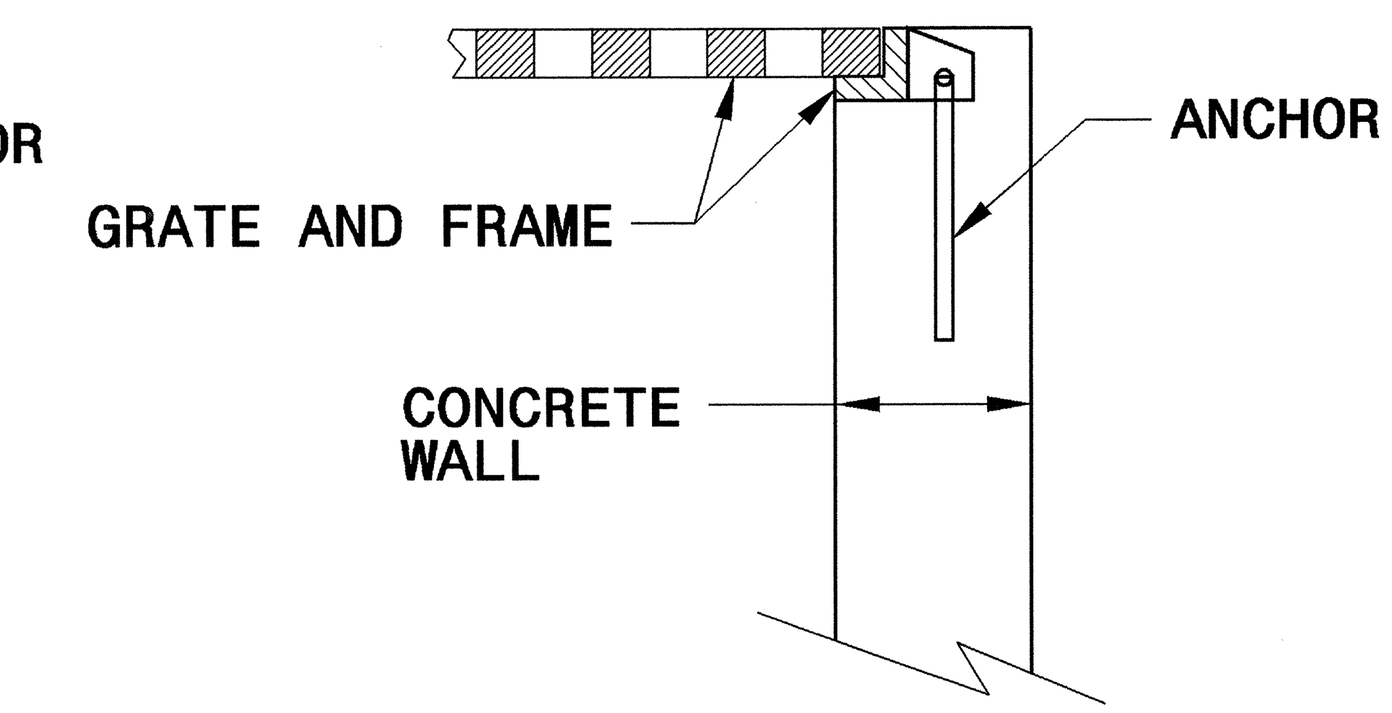
PROJECT REFERENCE NO.	SHEET NO.
B-2515	2-D

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

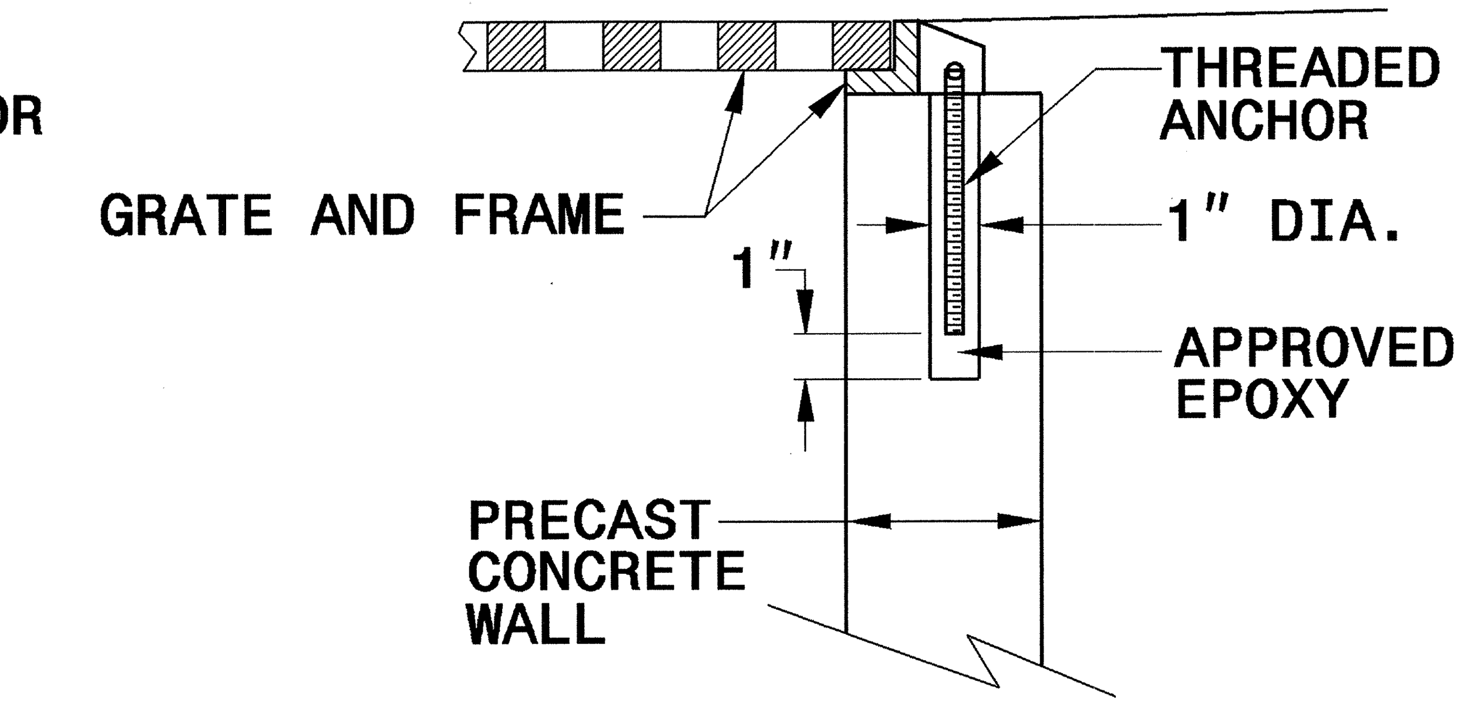
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE



BRICK MASONRY CONSTRUCTION



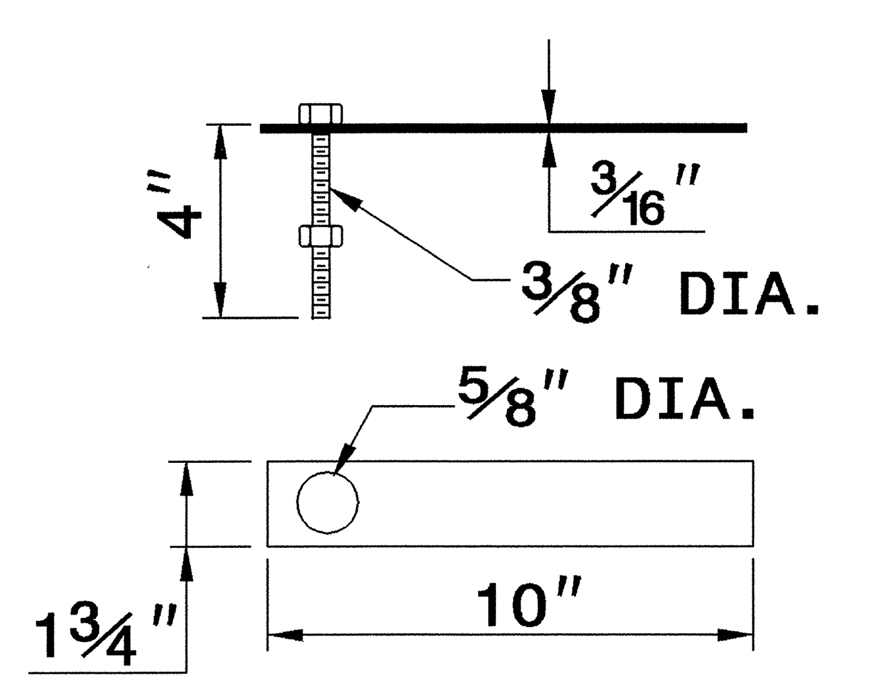
CONCRETE CONSTRUCTION



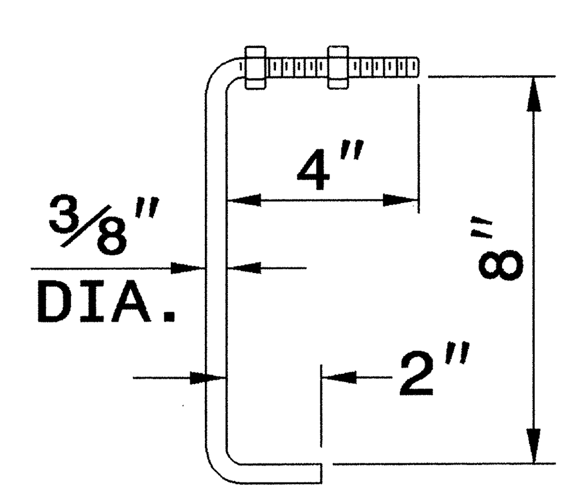
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

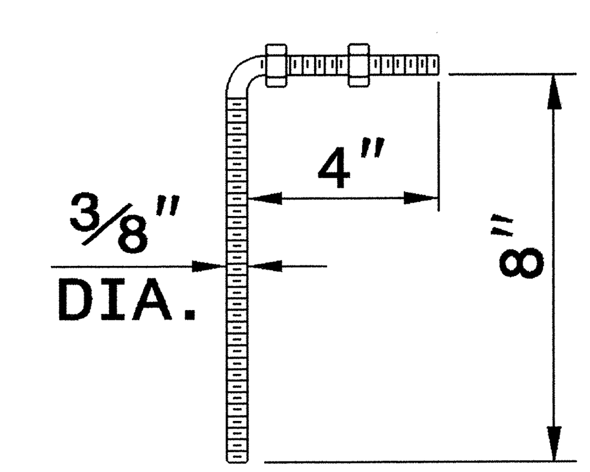
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



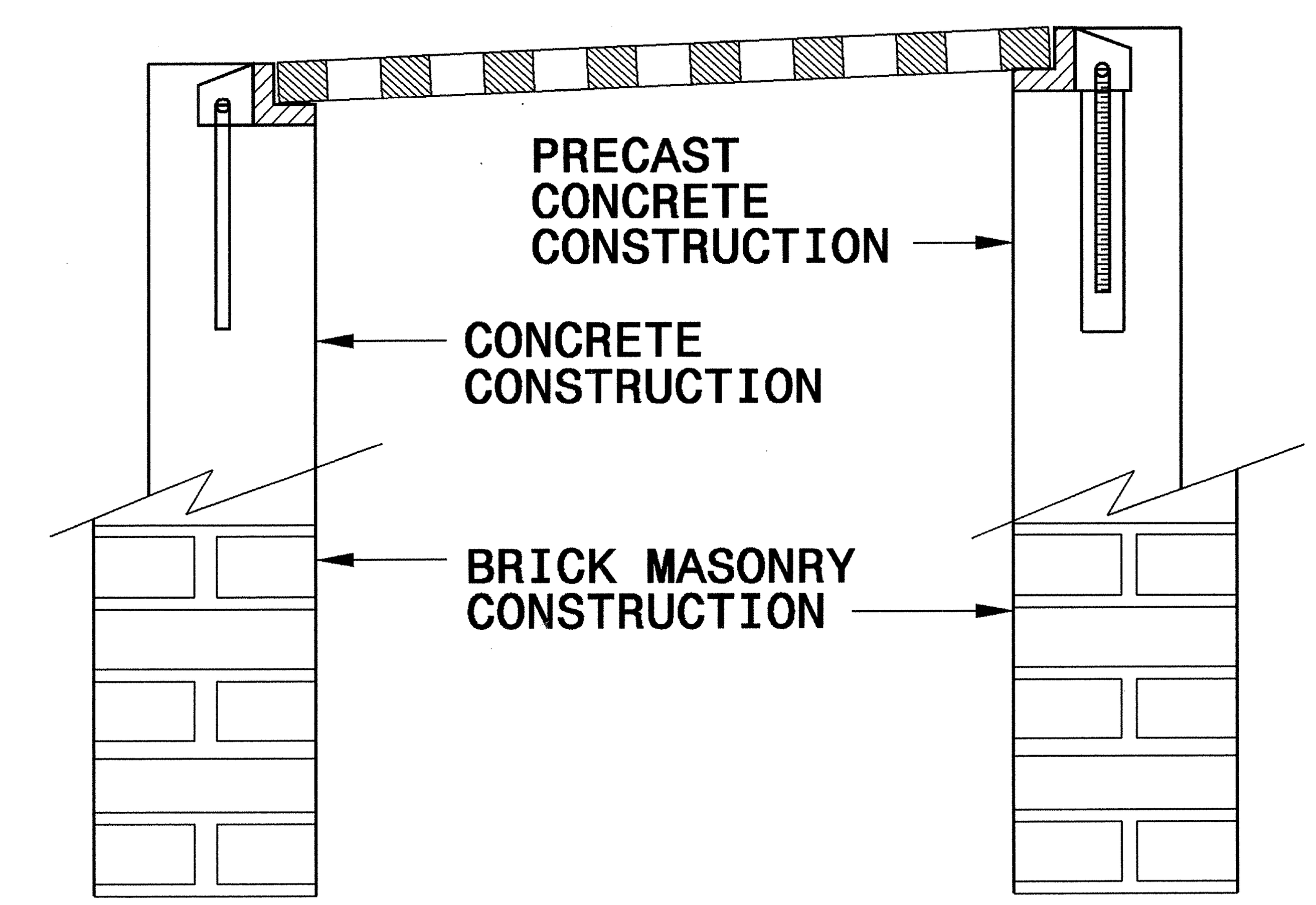
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR



FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

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

ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

SHEET 1 OF 1
840D25

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022966 JOEL S. HOWERTON 3/31/09

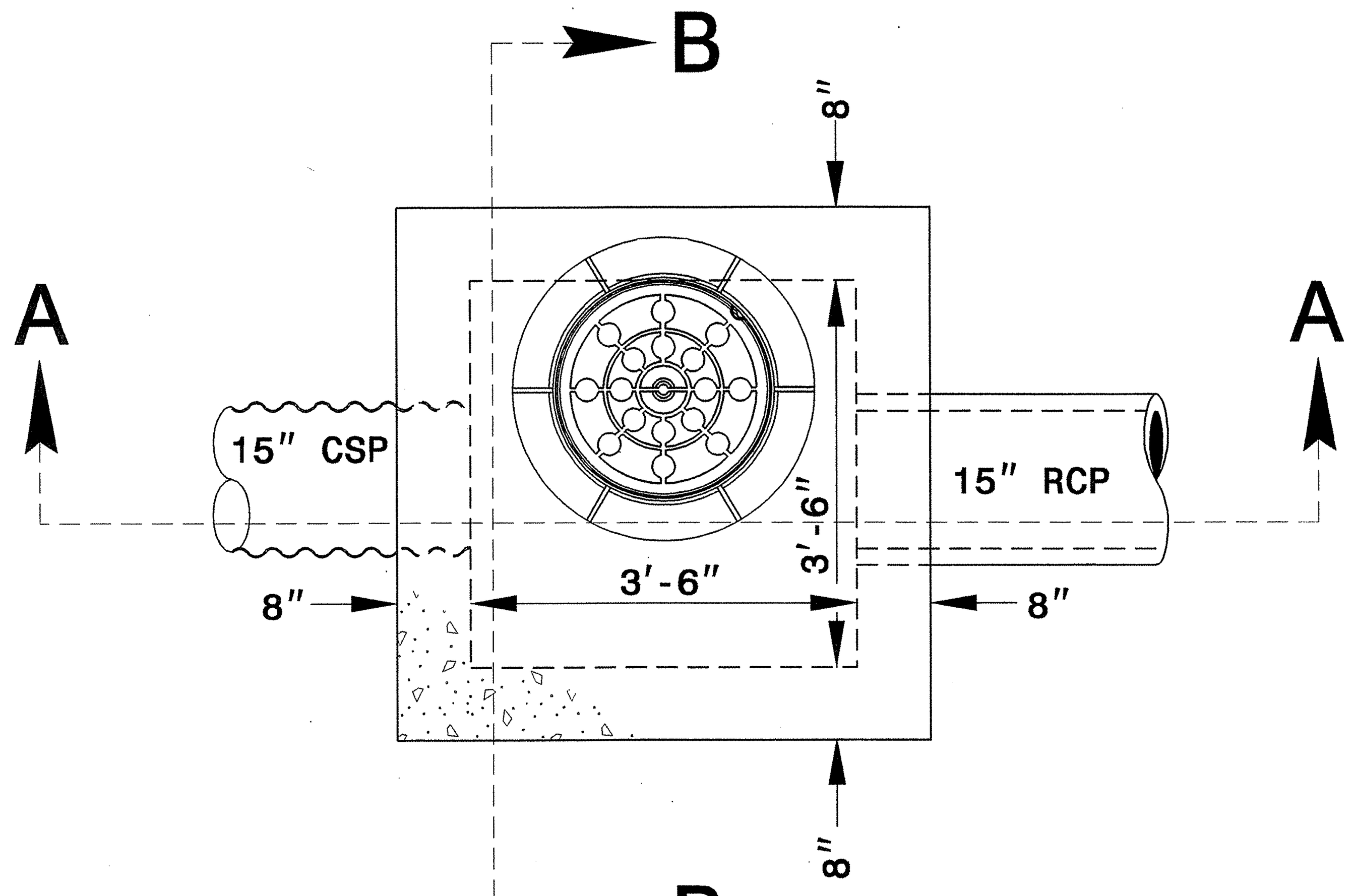
PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

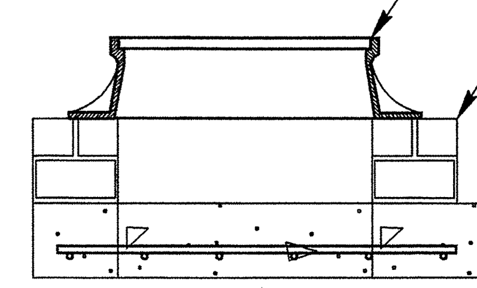
ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E.E. WARD DATE: 9/25/06
CHECKED BY: DATE:
FILE SPEC.:

27-SEP-2006 08:59
S:\Contracts\Contracts\Special Details\ericward\stds\06'Stds to Special Details\84025 Anchorage for Frames\0840d25.dgn
ericward AT PS222293

PROJECT REFERENCE NO.	SHEET NO.
B-2515	2-E



PLAN VIEW



SEE STANDARD 840.54
FOR MANHOLE COVER & FRAME
OPTIONAL

BRICK MAY BE USED
TO ADJUST FRAME &
COVER TO SURFACE
ELEVATION MAX. 1'

BRICK RISER

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

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

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

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

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

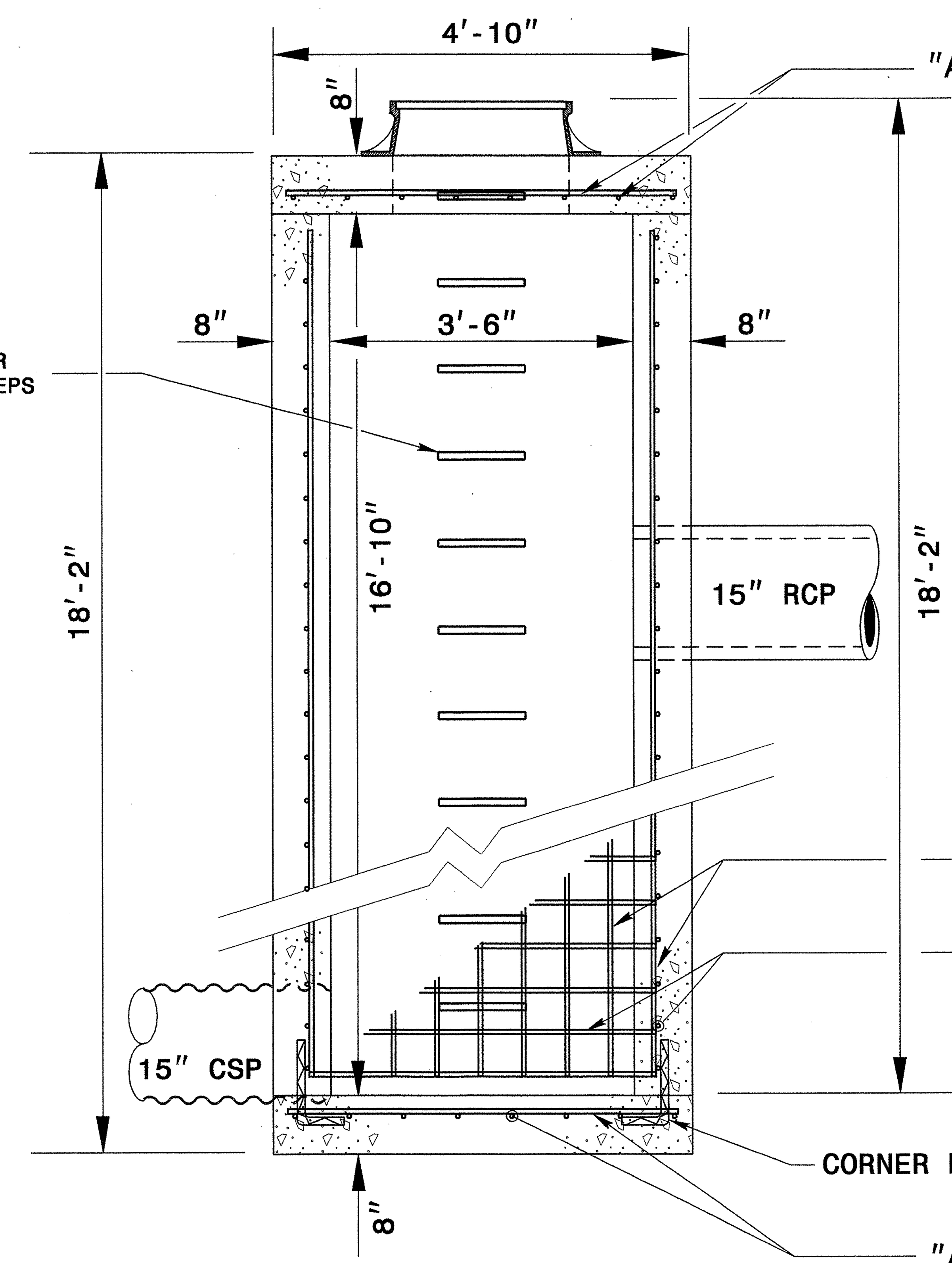
NO DEDUCTIONS HAVE BEEN MADE FOR PIPES.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

BILL OF MATERIAL FOR CATCH BASIN				
REINF. STEEL			1 PIPE	
BAR	SIZE	LENGTH	NO.	WEIGHT
A	#5	4'-6"	32	150
B	#4	16'-6"	32	353
C	#4	4'-0"	136	363
REINF. STEEL LBS.				866
CLASS "B" CONCRETE			CU. YDS.	7.3

* RISER HAS 0.321 CUBIC YARDS OF BRICK MASONRY PER FOOT HEIGHT



SEE STANDARD 840.6 FOR
DRAINAGE STRUCTURE STEPS

"A" BARS @ 8" C.C.EACH WAY

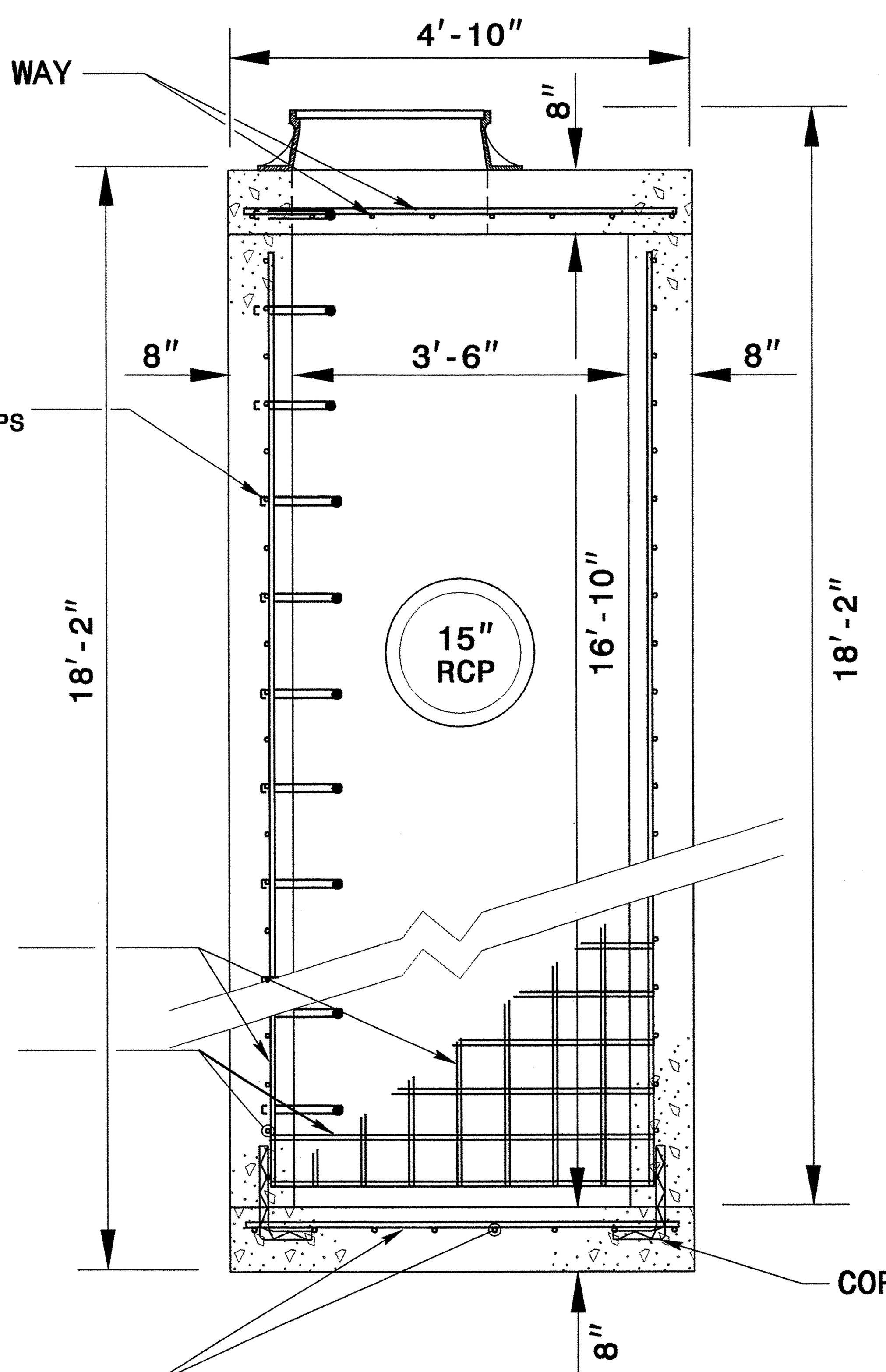
"B" BARS @ 6" C.C.

"C" BARS @ 6" C.C.

CORNER BARS "L"

"A" BARS @ 8" C.C.EACH WAY

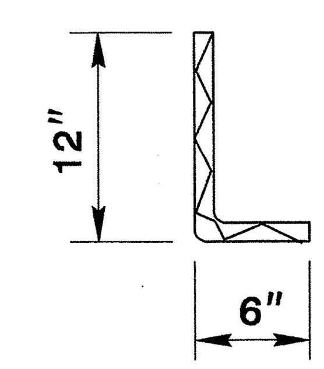
SECTION A-A



SEE STANDARD 840.6 FOR
DRAINAGE STRUCTURE STEPS

CORNER BARS "L"

SECTION B-B



DOWEL

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HOWERTON 3/31/09

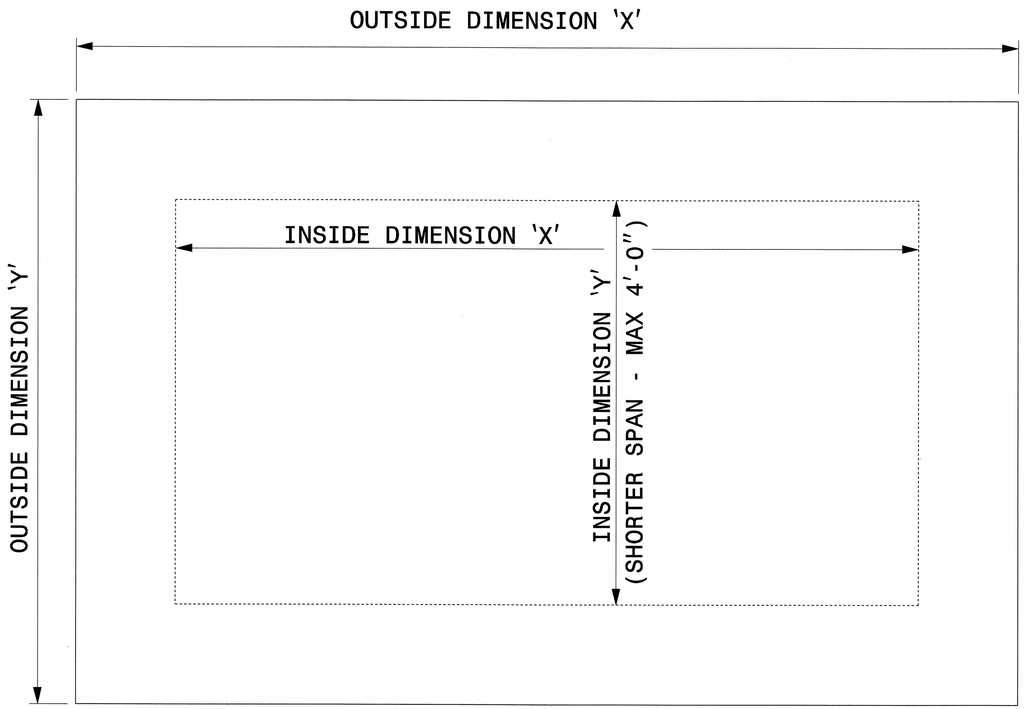
$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$
$$$$$USERNAME$$$$

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

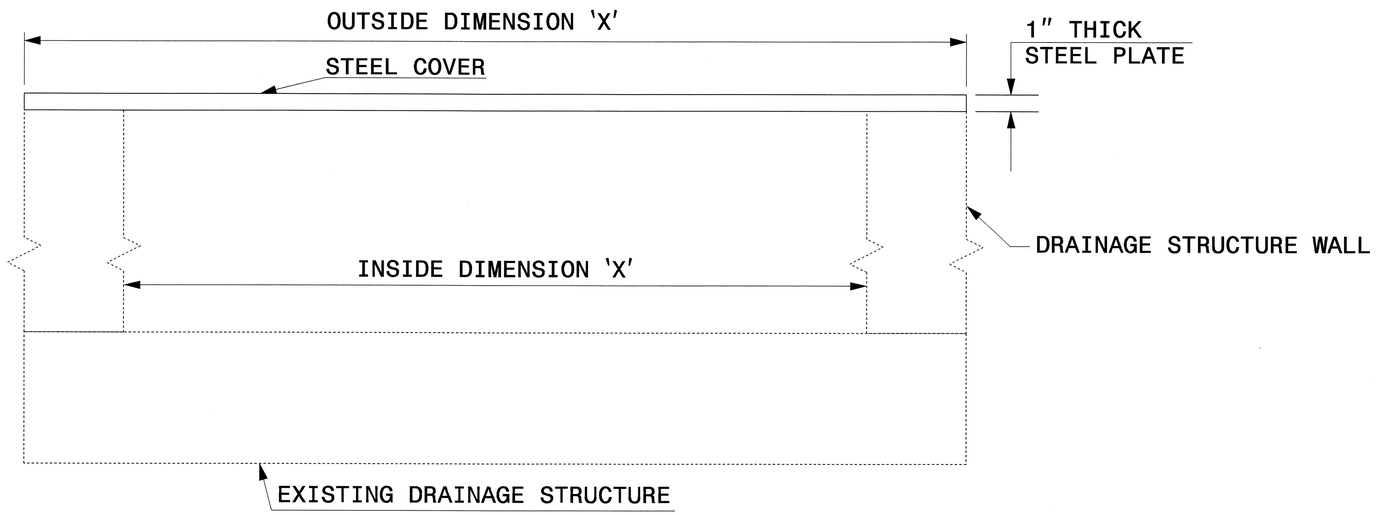
EXTRA DEPTH JUNCTION BOX W/ MANHOLE

ORIGINAL BY: K. KEMPF DATE: 1-8-08
MODIFIED BY: DATE:
CHECKED BY: [signature] DATE: 1/11/08
FILE SPEC.: kkempf\english\jb-mh18'deep.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-2515	Z-F



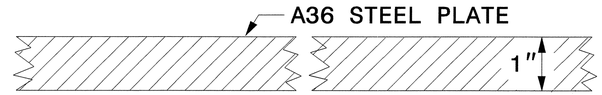
PLAN VIEWS



ELEVATION VIEWS

GENERAL NOTES:

-USE GRADE A36 STEEL
-STEEL COVERS ARE FOR TEMPORARY USE DURING PHASE CONSTRUCTION.
-FILL SHALL BE PLACED DIRECTLY OVER THE STEEL PLATES.
-SEE ROADWAY PLANS AND PROVISIONS FOR LOCATIONS
-QUANTITES TO BE PAID FOR AT THE UNIT PRICE BID PER EACH.



SECTION VIEW OF STEEL TOP PLATE

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HOWARD
3/31/09

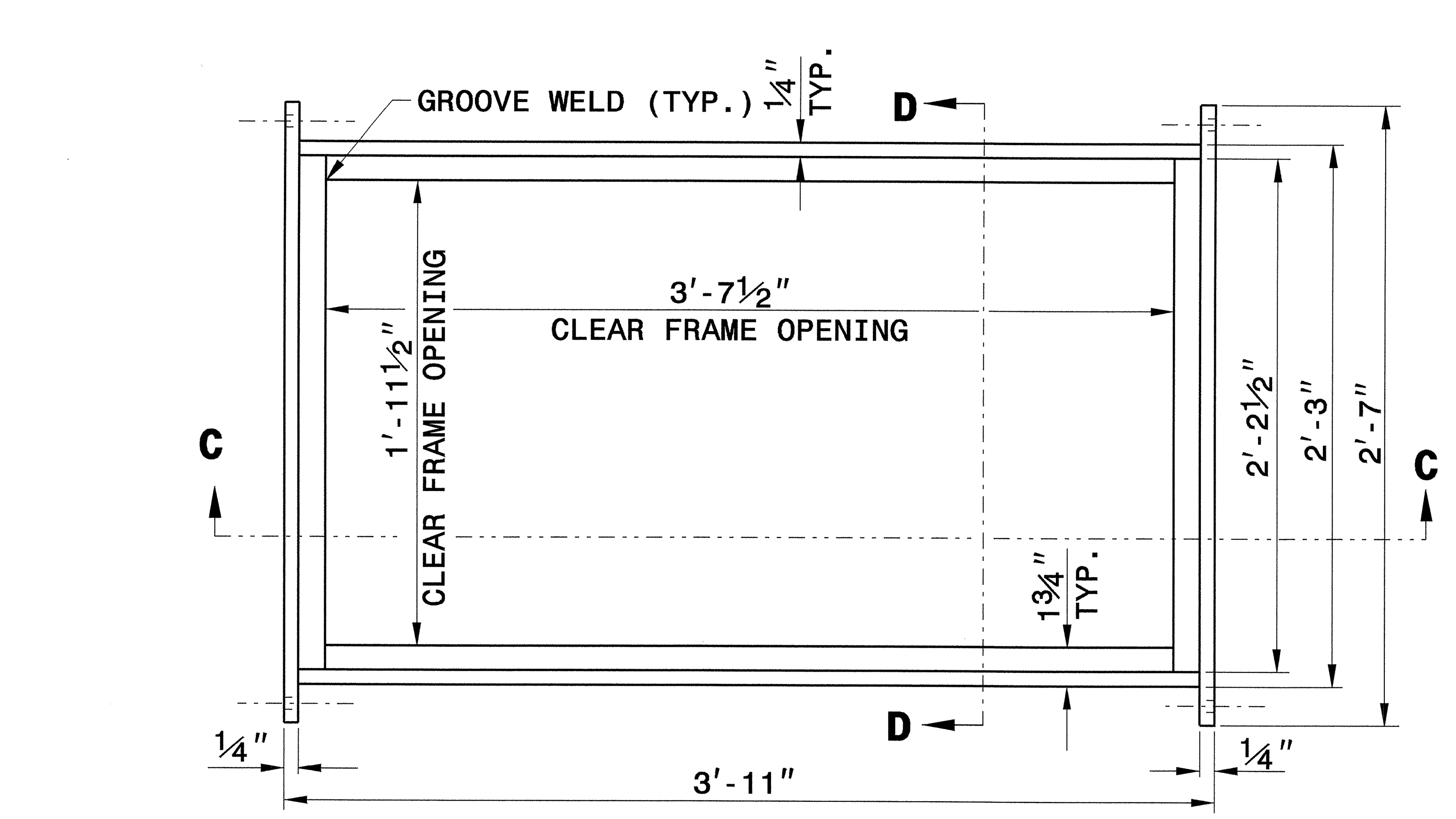
PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

DETAIL OF TEMPORARY 1" STEEL COVER OVER DRAINAGE STRUCTURE

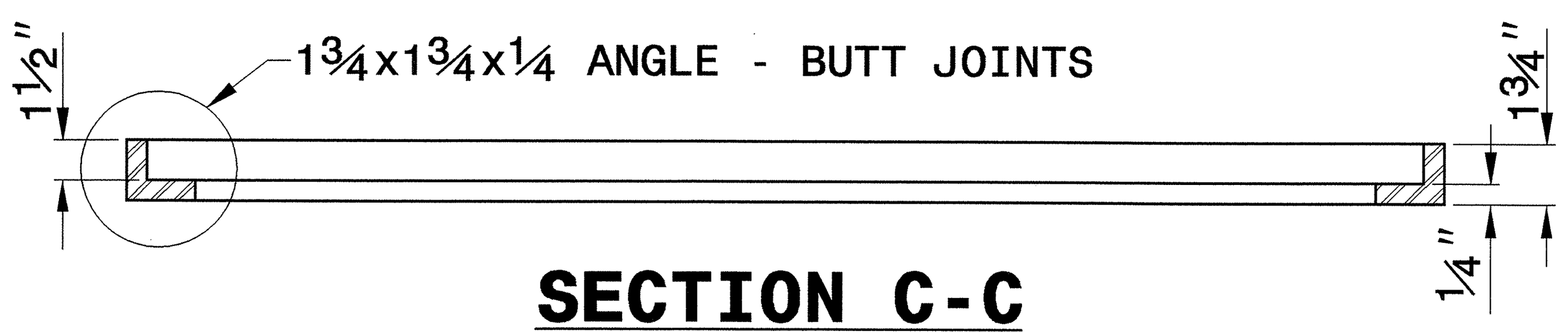
ORIGINAL BY: E.E. WARD DATE: 2-2-98
MODIFIED BY: DATE:
CHECKED BY: DATE: 2/18/09
FILE SPEC.: c:\c:/usr/details/metric/stand/stlcvr2.dgn

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

PROJECT REFERENCE NO.	SHEET NO.
B-2515	2-G

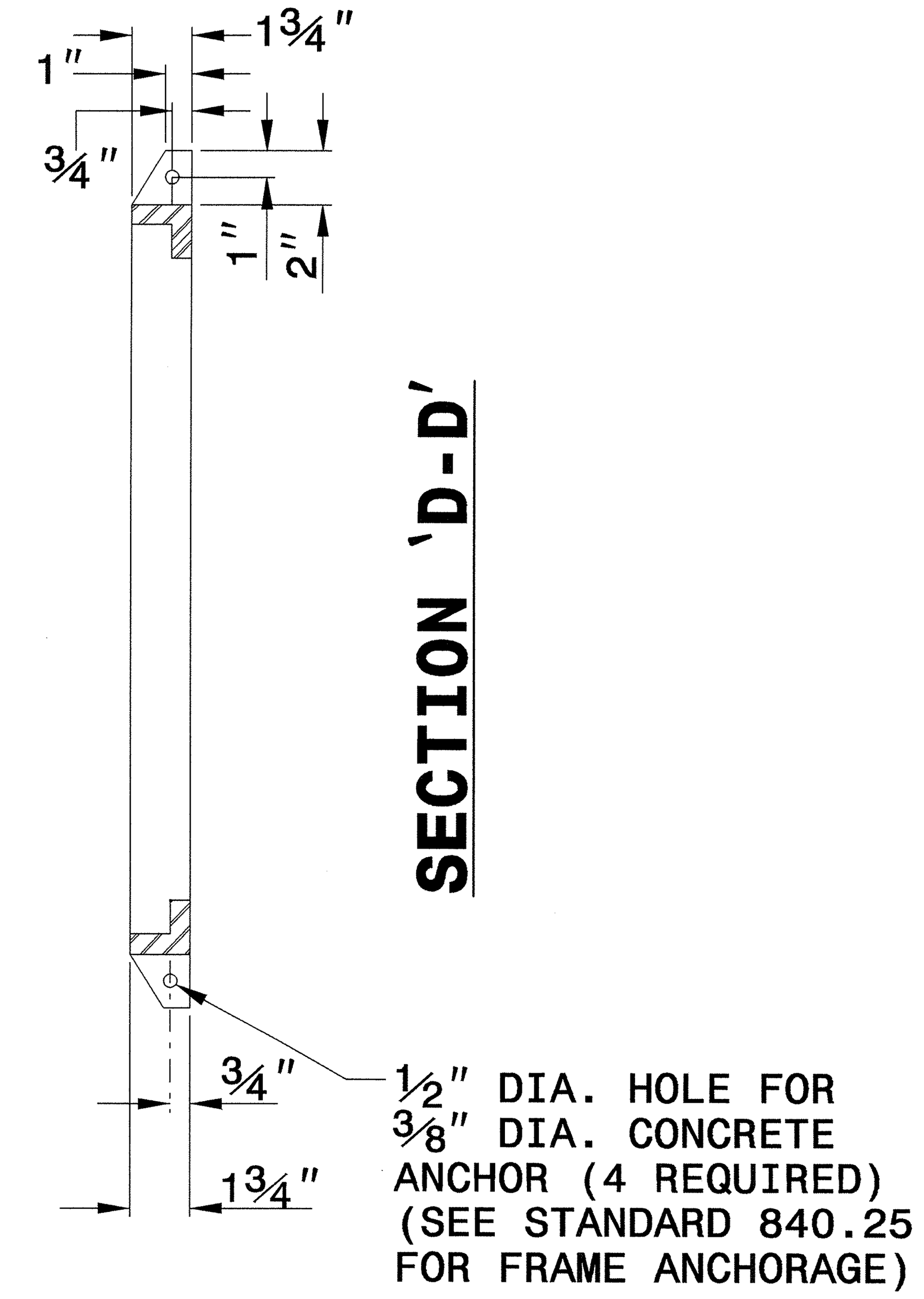


PLAN VIEW



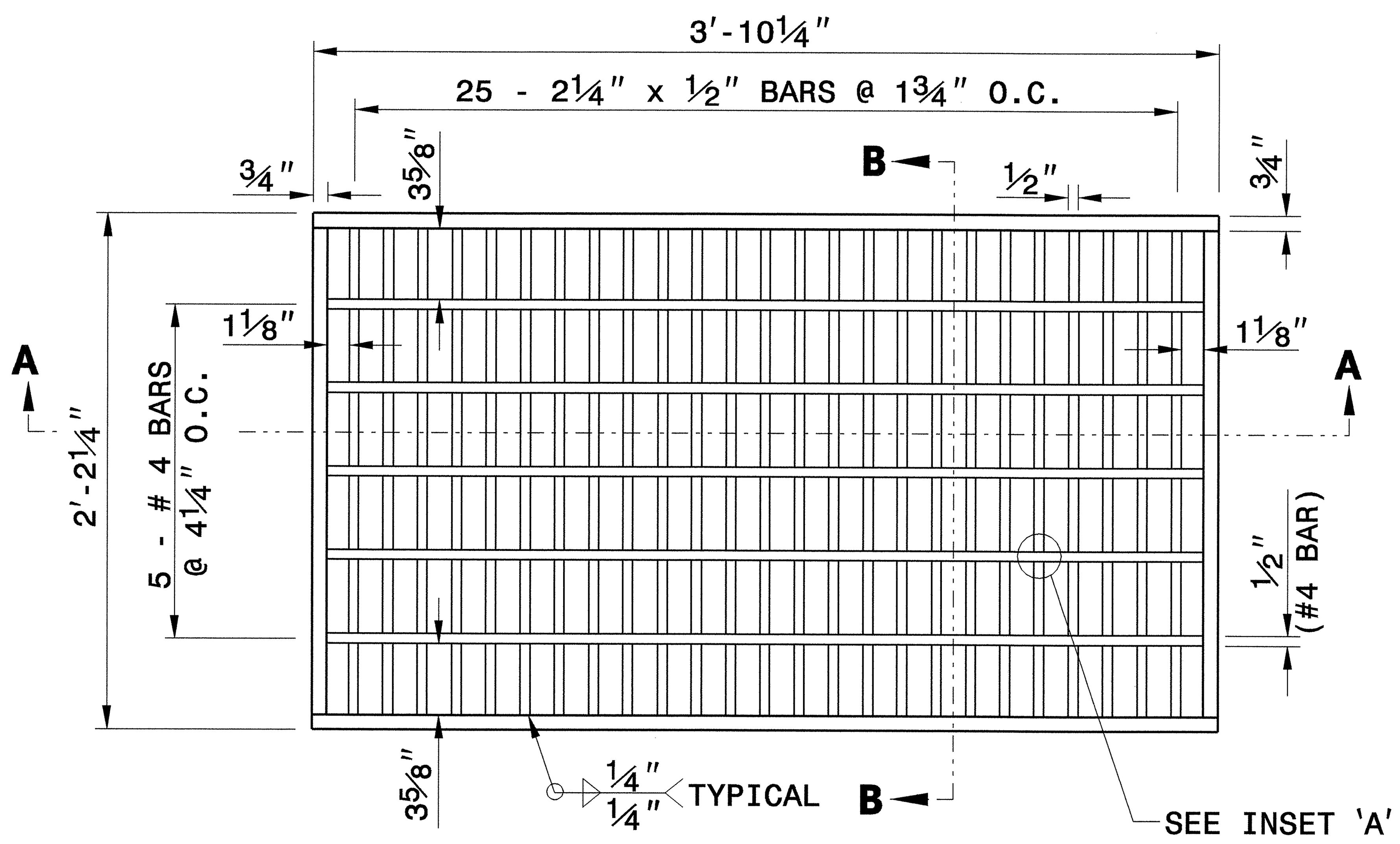
SECTION C-C FRAME

SECTION 'D-D'

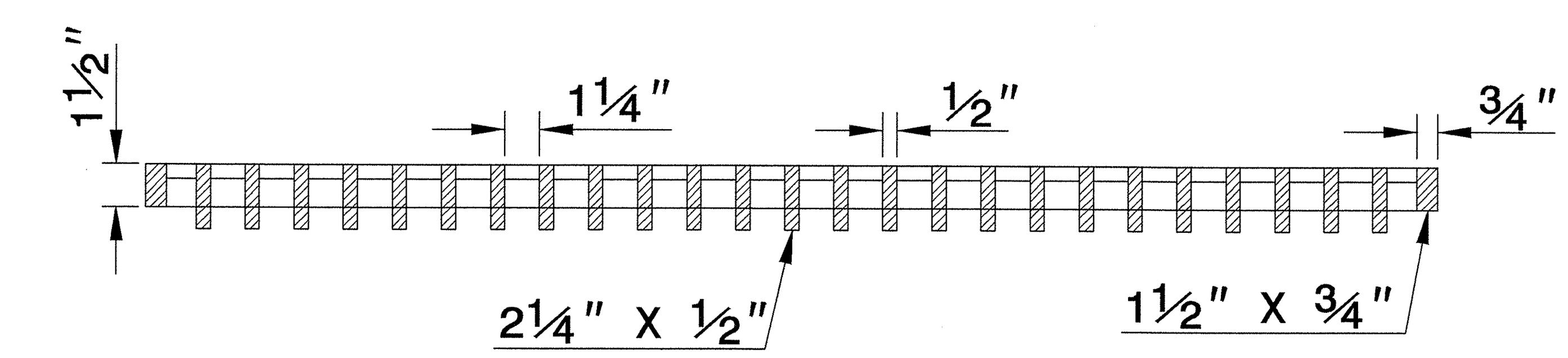


NOTES:

1. HOT DIP GALVANIZE FRAME AND GRATE IN ACCORDANCE WITH ASTM DESIGNATION A-123 AND AASHTO M-111.
2. GRATE SHOULD MEET HS-20 LOADING.
3. PROVIDE STEEL CONFORMING TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A-36.
4. WELD IN ACCORDANCE WITH THE ANSI/AASHTO/AWS D1.5 WELDING CODE. SEAL WELD ALL CONNECTIONS ALONG TOP AND BOTTOM HORIZONTAL SEAMS OF CONNECTIONS IN ADDITION TO ANY REQUIRED STRUCTURAL WELDS.
5. SEE DETAIL DRAWING 840D25 FOR FRAME ANCHORAGE.

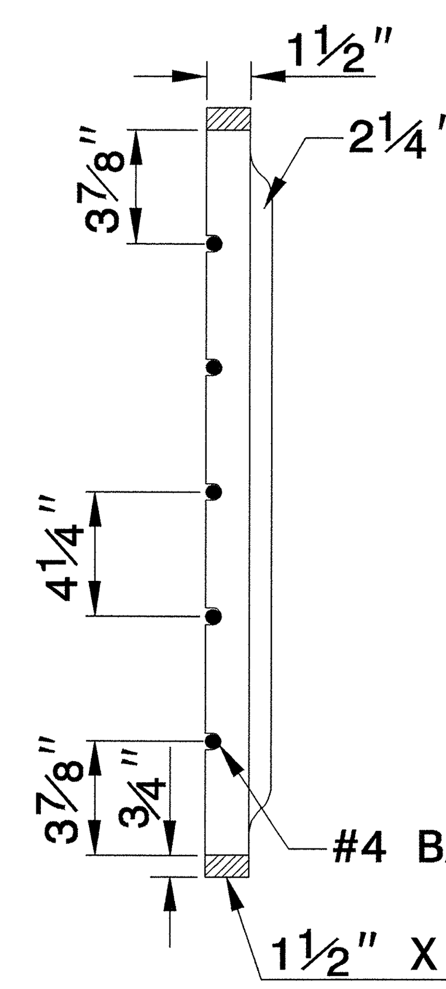


PLAN VIEW

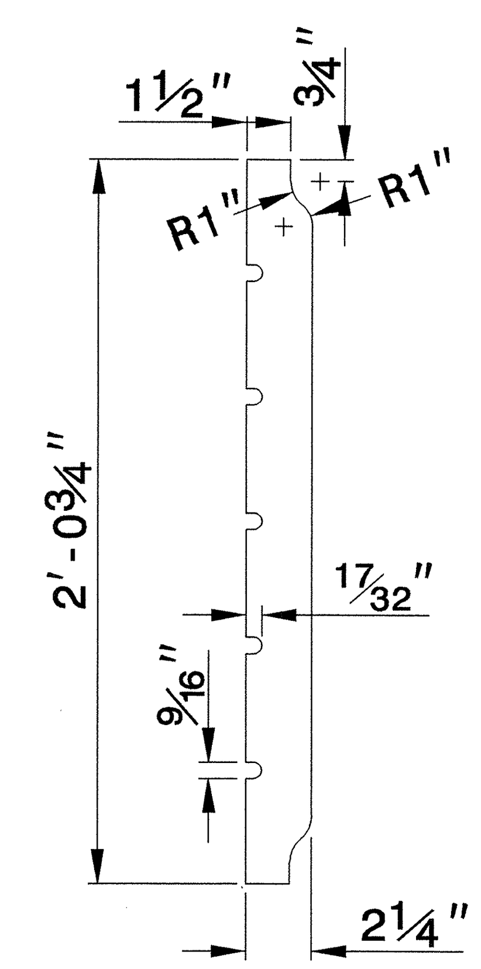


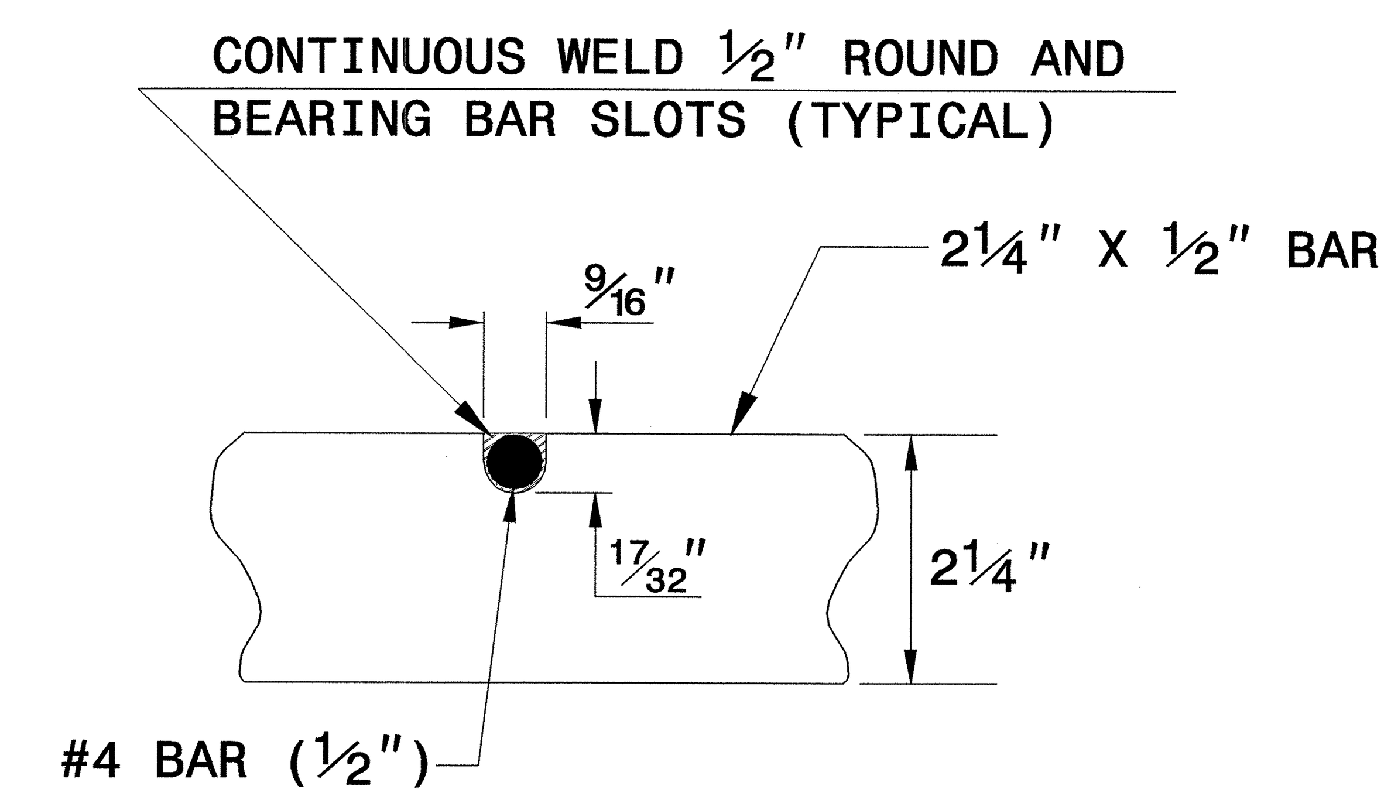
SECTION A-A GRATE

SECTION B-B



DETAIL OF BEARING BAR

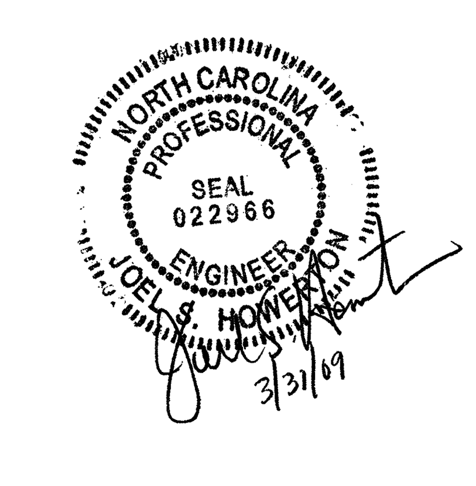




INSET 'A'

(17/32" X 9/16" NOTCH IN 2 1/4" X 1/2" BAR)

REVISED 10-10-02
FOR HS-20 LOADING



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

BICYCLE SAFE STEEL GRATE AND FRAME

ORIGINAL BY: E.E. WARD DATE: 11-12-98
MODIFIED BY: E.E. WARD DATE: 10-10-02
CHECKED BY: Joel S. Hart DATE: 3/16/09
FILE SPEC.: /usr/stand/details/bicyclesafe.dgn

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

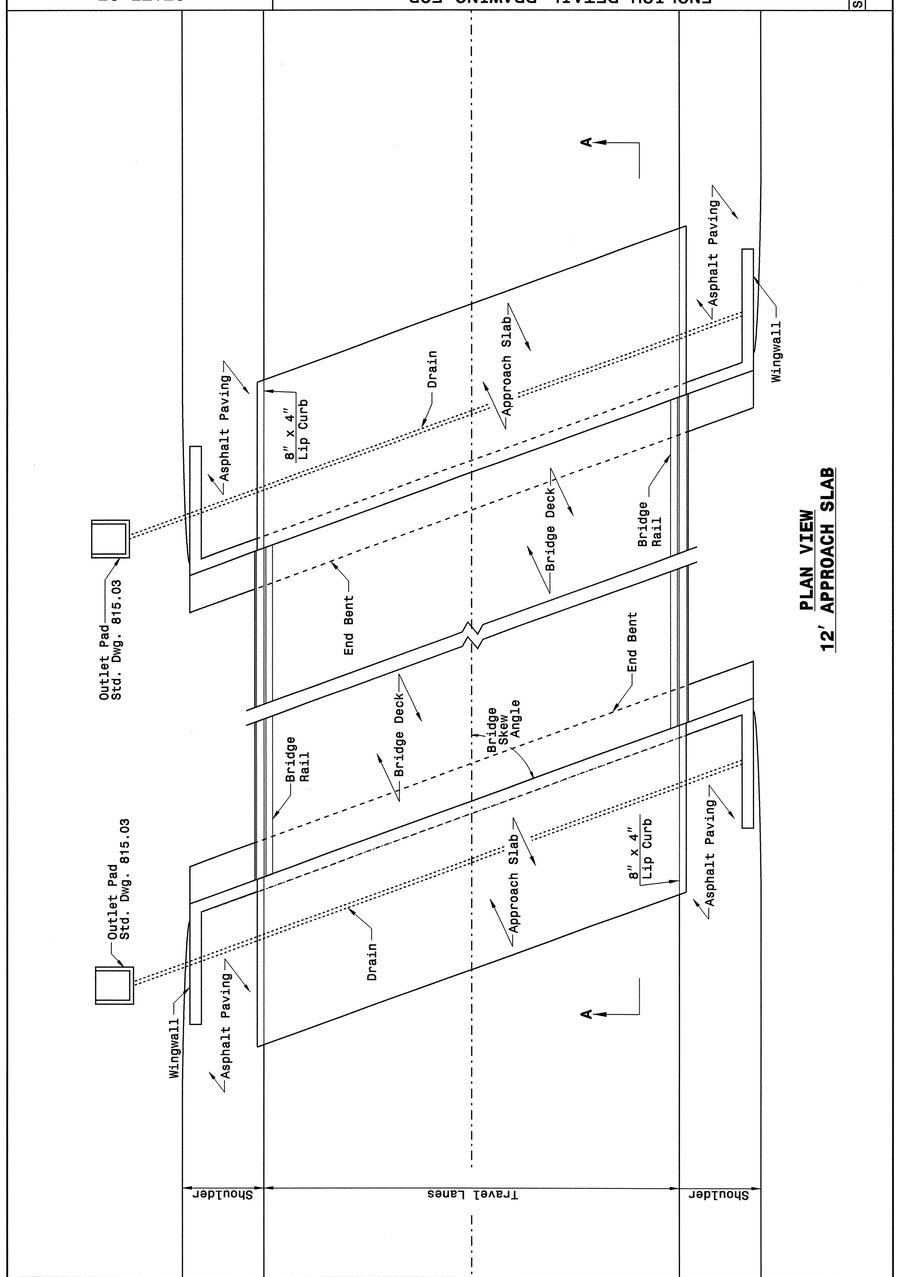
PROJECT REFERENCE NO.	SHEET NO.
B-2515	2-H

ENGLISH DETAIL DRAWING FOR

BRIDGE APPROACH FILLS

SUB REGIONAL TIER

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



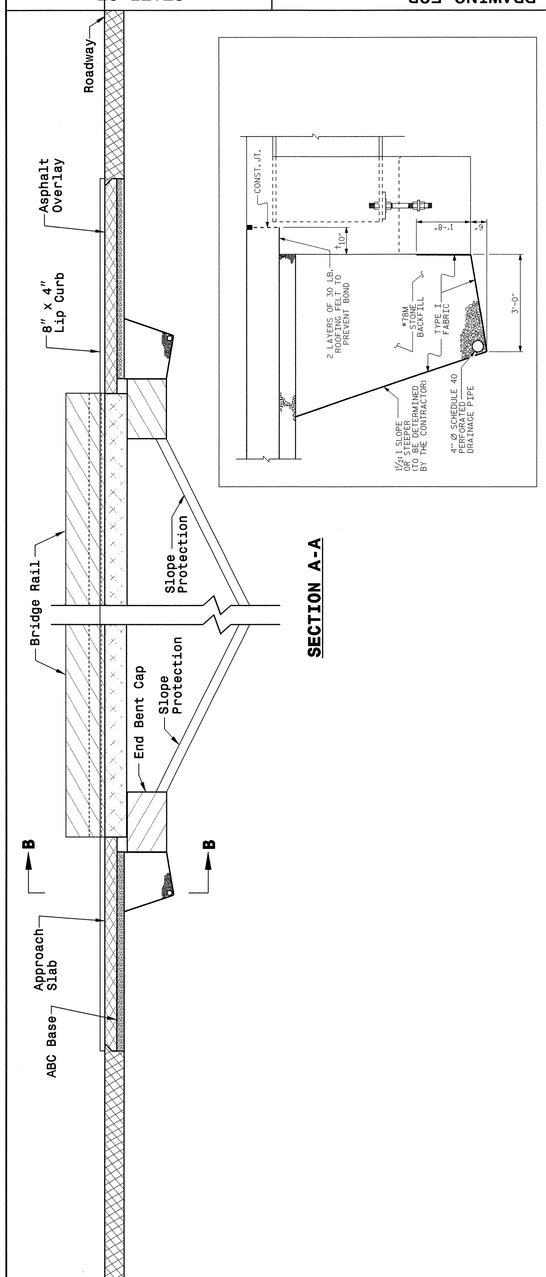
PLAN VIEW
12' APPROACH SLAB

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

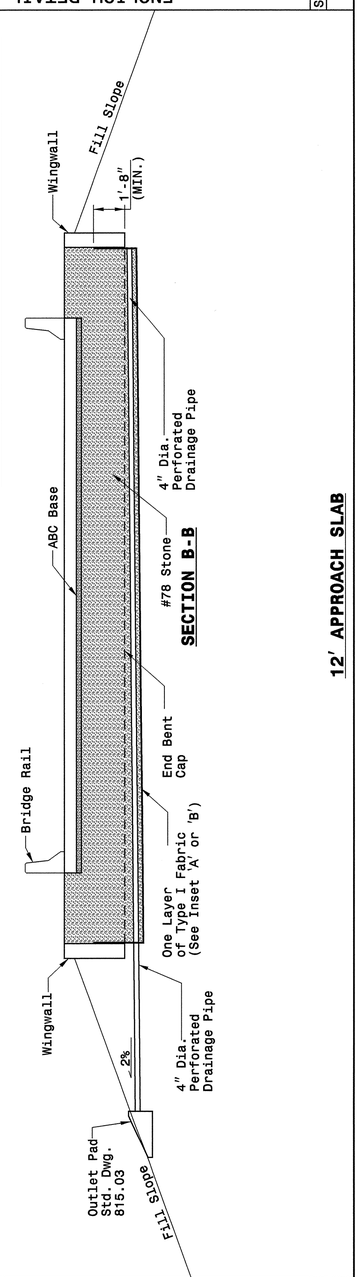
ENGLISH DETAIL DRAWING FOR

BRIDGE APPROACH FILLS

SUB REGIONAL TIER



SECTION A-A



SECTION B-B
12' APPROACH SLAB

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

ENGLISH DETAIL DRAWING FOR

BRIDGE APPROACH FILLS

SUB REGIONAL TIER

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

BRIDGE APPROACH FILLS

SUB REGIONAL TIER

ORIGINAL BY: K. A. Kempf DATE: 6-10-08
MODIFIED BY: DATE:
CHECKED BY: DATE: 5/6/09
FILE SPEC.: kkempf\english\bridge approach fills.dgn

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

PROJECT REFERENCE NO.	SHEET NO.
B-2515	3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202024

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ******* (13+90.00-L-)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0057000000-E	226	50	CY	UNDERCUT EXCAVATION
0080000000-E	SP	50	TON	CLASS IV SUBGRADE STABILIZA-TION
0134000000-E	240	10	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	50	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	500	SY	FABRIC FOR SOIL STABILIZATION
0366000000-E	310	376	LF	15" RC PIPE CULVERTS, CLASS III
0372000000-E	310	256	LF	18" RC PIPE CULVERTS, CLASS III
0378000000-E	310	40	LF	24" RC PIPE CULVERTS, CLASS III
0384000000-E	310	132	LF	30" RC PIPE CULVERTS, CLASS III
0582000000-E	310	20	LF	15" CS PIPE CULVERTS, 0.064" THICK
0600000000-E	310	92	LF	30" CS PIPE CULVERTS, 0.079" THICK
0995000000-E	340	440	LF	PIPE REMOVAL
1220000000-E	545	25	TON	INCIDENTAL STONE BASE
1330000000-E	607	250	SY	INCIDENTAL MILLING
1491000000-E	610	1,150	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C
1503000000-E	610	710	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C
1523000000-E	610	360	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5C
1560000000-E	620	85	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1565000000-E	620	25	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 70-22
1693000000-E	654	20	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2000000000-N	806	23	EA	RIGHT OF WAY MARKERS
2022000000-E	815	5.6	CY	SUBDRAIN EXCAVATION
2033000000-E	815	4.2	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	25	LF	6" PERFORATED SUBDRAIN PIPE
2055000000-E	815	1	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
2066000000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
2190000000-N	828	6	EA	TEMPORARY STEEL PLATE COVERS FOR MASONRY DRAINAGE STRUCTURE
2264000000-E	840	0.5	CY	PIPE PLUGS
2275000000-E	SP	45	CY	FLOWABLE FILL
2286000000-N	840	25	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	60	LF	MASONRY DRAINAGE STRUCTURES
2364000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.16
2366000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.24
2374000000-N	840	2	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)
2374000000-N	840	3	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
2374000000-N	840	7	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)
2396000000-N	840	7	EA	FRAME WITH COVER, STD 840.54
2473000000-N	SP	4	EA	GENERIC DRAINAGE ITEM BICYCLE SAFE STEEL GRATE & FRAME
2535000000-E	846	190	LF	**"X **" CONCRETE CURB (8" X 12")
2549000000-E	846	1,260	LF	2'-6" CONCRETE CURB & GUTTER
2591000000-E	848	570	SY	4" CONCRETE SIDEWALK
2605000000-N	848	10	EA	CONCRETE WHEELCHAIR RAMPS
2612000000-E	848	90	SY	6" CONCRETE DRIVEWAY
3360000000-E	863	120	LF	REMOVE EXISTING GUARDRAIL
3656000000-E	876	600	SY	FILTER FABRIC FOR DRAINAGE
4072000000-E	903	287	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4102000000-N	904	14	EA	SIGN ERECTION, TYPE E
4108000000-N	904	3	EA	SIGN ERECTION, TYPE F
4116100000-N	904	1	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (D)
4116100000-N	904	8	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (E)
4155000000-N	907	9	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4192000000-N	907	4	EA	DISPOSAL OF SUPPORT, U-CHANNEL
4238000000-N	907	1	EA	DISPOSAL OF SIGN, D, E OR F
4400000000-E	1110	773	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	669	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	150	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4420000000-N	1120	5	EA	CHANGEABLE MESSAGE SIGN
4430000000-N	1130	172	EA	DRUMS
4435000000-N	1135	50	EA	CONES
4445000000-E	1145	264	LF	BARRICADES (TYPE III)
4450000000-N	1150	400	HR	FLAGGER
4516000000-N	1180	50	EA	SKINNY DRUM
4605000000-N	SP	200	HR	GENERIC TRAFFIC CONTROL ITEM POLICE
4800000000-N	1205	12	EA	COLD APPLIED PLASTIC PAVEMENT MARKING CHARACTER, TYPE ** (IV)
4805000000-N	1205	6	EA	COLD APPLIED PLASTIC PAVEMENT MARKING SYMBOL, TYPE ** (IV)
4810000000-E	1205	500	LF	PAINT PAVEMENT MARKING LINES (4")
4820000000-E	1205	255	LF	PAINT PAVEMENT MARKING LINES (8")
4835000000-E	1205	60	LF	PAINT PAVEMENT MARKING LINES (24")
4845000000-N	1205	4	EA	PAINT PAVEMENT MARKING SYMBOL
4847000000-E	1205	1,682	LF	POLYUREA PAVEMENT MARKING LINES (4", **********) (STANDARD GLASS BEADS)
4847110000-E	1205	237	LF	POLYUREA PAVEMENT MARKING LINES (8", **********) (STANDARD GLASS BEADS)
4847130000-E	1205	86	LF	POLYUREA PAVEMENT MARKING LINES (16", **********) (STANDARD GLASS BEADS)
4847140000-E	1205	75	LF	POLYUREA PAVEMENT MARKING LINES (24", **********) (STANDARD GLASS BEADS)
4847200000-N	1205	4	EA	POLYUREA PAVEMENT MARKING CHARACTER (**********) (STANDARD GLASS BEADS)
4847220000-N	1205	17	EA	POLYUREA PAVEMENT MARKING SYMBOL (**********) (STANDARD GLASS BEADS)
4875000000-N	1205	18	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS
5255000000-N	1413	Lump Sum		PORTABLE LIGHTING
5813000000-E	1530	250	LF	ABANDON 24" UTILITY PIPE
5816000000-N	1530	1	EA	ABANDON UTILITY MANHOLE
5828000000-N	1530	2	EA	REMOVE UTILITY MANHOLE
6000000000-E	1605	1,850	LF	TEMPORARY SILT FENCE
6006000000-E	1610	400	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	50	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	260	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	2	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEED-ING
6029000000-E	SP	580	LF	SAFETY FENCE
6030000000-E	1630	140	CY	SILT EXCAVATION
6036000000-E	1631	1,200	SY	MATTING FOR EROSION CONTROL
6042000000-E	1632	650	LF	1/4" HARDWARE CLOTH
6071030000-E	SP	70	LF	COIR FIBER BAFFLES
6084000000-E	1660	2.6	ACR	SEEDING & MULCHING
6087000000-E	1660	1.5	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	0.75	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	5	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	27	EA	RESPONSE FOR EROSION CONTROL
7060000000-E	1705	242	LF	SIGNAL CABLE
7120000000-E	1705	1	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
7144000000-E	1705	1	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
7252000000-E	1710	500	LF	MESSENGER CABLE (1/4")
7279000000-E	1715	200	LF	TRACER WIRE
7301000000-E	1715	200	LF	DIRECTIONAL DRILL (**********) (1, 2")
7348000000-N	1716	1	EA	JUNCTION BOX (OVER-SIZED, HEA-VY DUTY)
7372000000-N	1721	1	EA	GUY ASSEMBLY
7516000000-E	1730	500	LF	COMMUNICATIONS CABLE (**FIBER) (96)
7540000000-N	1731	1	EA	SPLICE ENCLOSURE
7575142000-N	SP	2	EA	900MHZ WIRELESS RADIO SYSTEM
7575160000-E	1734	700	LF	REMOVE EXISTING COMMUNICATIONS CABLE

COMPUTED BY: NJD DATE: 12/4/2007

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PROJECT NO.	SHEET NO.
B-2515	3-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

STATION	LOCATION (LT, RT, OR CL)'	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109
11+66	RT	1		1993.42	1990.42																		
11+77	LT	2		1993.45	1989.80																		
		1	2		1990.42	1990.00			52														
11+77	LT	3		1993.00	1990.50																		
		3	2		1990.50	1990.00			16														
12+90	LT	4		1993.52	1988.90																		
		2	4		1989.80	1989.10			112														
13+32	LT	5		1994.50	1976.37																		
		4	5		1988.90	1988.20			44														
		5	OUT		1976.35	1976.25											20						
10+88 -Y1-	RT	6		1993.06	1985.73																		
10+96 -Y1-	LT	7		1992.35	1984.90																		
15+07	RT	8		1992.65	1983.42																		
15+08	LT	9		1992.46	1984.10																		
		9	8		1985.10	1983.42				48													
15+89	LT	10		1991.92	1985.10																		
		10	9		1985.10	1984.10				80													
16+22	LT	11		1991.74	1985.35																		
		11	10		1985.35	1985.10				32													
16+48	LT	12		1991.67	1985.50																		
		12	11		1985.50	1985.35				24													
17+15	LT	13		1992.00	1985.90																		
		13	12		1985.90	1985.50			64														
17+15	LT	14		1992.57	1986.00																		
		14	13		1986.00	1985.90			16														
16+67																							
SHEET TOTALS									304	184							20						

SIZE / THICKNESS OR GAUGE

STATION	FROM	TO	CLASS III R.C. PIPE OR ALUMINIZED C.S. PIPE, TYPE IR OR HDPE PIPE, TYPE S OR D 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.
11+66	1														
11+77	2														
	1	2													
11+77	3														
	3	2													
12+90	4														
	2	4													
13+32	5														
	4	5													
	5	OUT													
10+88 -Y1-	6														
10+96 -Y1-	7														
15+07	8														
15+08	9														
	9	8													
15+89	10														
	10	9													
16+22	11														
	11	10													
16+48	12														
	12	11													
17+15	13														
	13	12													
17+15	14														
	14	13													
16+67															
SHEET TOTALS															

STATION	FROM	TO	QUANITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G
11+66	1		1			1	1		
11+77	2		1			1			1
	1	2							
11+77	3		1						
	3	2							
12+90	4		1			1		1	
	2	4							
13+32	5		1	5.0	8.1				
	4	5							
	5	OUT							
10+88 -Y1-	6		1	2.3					
10+96 -Y1-	7		1	2.5		1			1
15+07	8		1	3.4					
15+08	9		1	2.6		1			1
	9	8							
15+89	10		1	1.8		1			1
	10	9							
16+22	11		1	1.4		1			1
	11	10							
16+48	12		1	1.2		1	1		
	12	11							
17+15	13		1	1.1					
	13	12							
17+15	14		1	1.7					
	14	13							
16+67									
SHEET TOTALS			14	22.8	8.1	8	2	1	5

STATION	FROM	TO	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	J.B. STD. 840.31 OR 840.32	T.B.D.I. STD. 840.35	MANHOLE STD. 840.51	M.H. STD. 840.51 OR 840.53	M.H. FRAME AND COVER STD. 840.54	T.B.J.B. STD. 840.34	CONVERT TBDI TO TBJB WITH MH COVER	CONVERT DI TO CB	ADJUSTMENT OF CATCH BASIN	EXTRA DEPTH JUNCTION BOX - SEE DETAIL SHEET 2-E	BICYCLE SAFE STEEL GRATE AND FRAME - SEE DETAIL 2-G	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
11+66	1																										
11+77	2																										Remove Curb Opening Inlet
	1	2																									
11+77	3		1	1																							
	3	2																									
12+90	4																										
	2	4																								96	
13+32	5															1					1						Extra Depth, See Detail Sheet 2-E
	4	5																								60	
	5	OUT																									
10+88 -Y1-	6															1	1										Tie bottom of proposed structure to ex. pipes
10+96 -Y1-	7																										Tie bottom of proposed structure to ex. pipes
15+07	8															1	1									92	Set pipe at bottom of existing structure. Remove existing outlet system.
15+08	9																										
	9	8																									
15+89	10																										
	10	9																									
16+22	11																								0.045	2	Plug and fill ex. Crosspipe
	11	10																									
16+48	12																								0.065		Plug and fill ex. Crosspipe
	12	11																									
17+15	13												1									1				20	Remove 20'. RCP
	13	12																									
17+15	14															1	1									52	Replace existing JB
	14	13																									
16+67																									0.195		Plug and Fill 3 pipes
SHEET TOTALS			1	1									1			4	3				1	1			0.305	322	

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

CONTINUED ON NEXT SHEET

Prepared in the Office of: EarthTech
701 Corporate Center Drive, Suite 475
Raleigh, NC 27607
(919) 854-6200 - (919) 854-6259(FAX)

C00050305

COMPUTED BY: NJD	DATE: 12/4/2007
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PROJECT NO.	SHEET NO.
B-2515	3-B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

STATION	LOCATION (LT, RT, OR CL)'	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"
16+05	RT	15		1992.00	1983.90										
		15	8		1983.90	1983.62									
16+23	RT	16		1991.72	1985.00										
		16	15		1985.00	1984.70					16				
16+48	RT	17		1991.75	1985.30										
		17	16		1985.30	1985.00					24				
16+48	RT	18		1991.25	1987.00										
		18	17		1987.00	1986.05			16						
16+83	RT	19		1991.77	1985.60										
		19	17		1985.60	1985.3				32					
17+26	RT	20		1992.38	1985.80										
		20	19		1985.80	1985.60				40					
17+26	RT	21		1992.00	1986.25										
		21	20		1986.25	1986.05			12						
-Y2- 11+00	RT	22		1991.80	1982.54										
		8	22		1983.42	1982.74						68			
-Y2- 11+65	LT	23		1991.80	1981.70										
		22	23		1982.54	1981.9						64			
-Y2- 11+65	LT	24		1991.17	1988.42										
		24	23		1988.42	1988.25			16						
-Y2- 11+94	LT	25		1991.53	1988.53										
		25	23		1988.53	1988.25			28						
		23	OUT		1981.70	1980.00									
12+23	RT	26													
12+40	RT	27													
12+99	RT	28													
SHEET TOTALS									72	72	40	132			
GRAND TOTALS									376	256	40	132			

SIZE / THICKNESS OR GAUGE

STATION	FROM	TO	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	CLASS III R.C. PIPE OR ALUMINIZED C.S. PIPE, TYPE IR OR HDPE PIPE, TYPE S OR D 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.
16+05	15																						
	15	8																					
16+23	16																						
	16	15																					
16+48	17																						
	17	16																					
16+48	18																						
	18	17																					
16+83	19																						
	19	17																					
17+26	20																						
	20	19																					
17+26	21																						
	21	20																					
-Y2- 11+00	22																						
	8	22																					
-Y2- 11+65	23																						
	22	23																					
-Y2- 11+65	24																						
	24	23																					
-Y2- 11+94	25																						
	25	23																					
	23	OUT					92																
12+23	26																						
12+40	27																						
12+99	28																						
SHEET TOTALS							92																
GRAND TOTALS				20			92																

STATION	FROM	TO	QUANITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	J.B. STD. 840.31 OR 840.32	T.B.D.I. STD. 840.35	MANHOLE STD. 840.51	M.H. STD. 840.51 OR 840.53	M.H. FRAME AND COVER STD. 840.54	T.B.J.B. STD. 840.34	CONVERT TBDI TO TBJB WITH MH COVER	CONVERT DI TO CB	ADJUSTMENT OF CATCH BASIN	EXTRA DEPTH JUNCTION BOX - SEE DETAIL SHEET 2-E	BICYCLE SAFE STEEL GRATE AND FRAME - SEE DETAIL 2-G	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
16+05	15		1	5	3.1																		1	1										Verify bottom el.; tie to ex. Pipe @ 1983.90+/-
	15	8																																Existing Pipe
16+23	16		1	1.72		1		1																										
	16	15																															24	Remove 24' of existing pipe
16+48	17		1	1.45																1									1					
	17	16																															20	
16+48	18		1																	1									1				10	
	18	17																																
16+83	19		1	1.1		1			1																							0.065		Plug and fill ex. Crosspipe
	19	17																																Remove pipe in trench for new pipe
17+26	20		1	1.58																			1	1										
	20	19																																Remove pipe in trench for new pipe
17+26	21		1	0.75																1									1					
	21	20																																
-Y2- 11+00	22		1	4.3		1		1																										Adjust top elevation of existing str.
	8	22																																Tie inlet to bottom of Structure 8
-Y2- 11+65	23		1	5	0.1																		1	1										
	22	23																																
-Y2- 11+65	24		1										1				1																	
	24	23																																
-Y2- 11+94	25		1			1			1																									
	25	23																																
	23	OUT																																Remove Existing Pipe and Inlets in trench
12+23	26																															0.029		Remove Inlets, Plug and Fill Pipe
12+40	27																															0.045		Remove Inlets, Plug and Fill Pipe
12+99	28																																60	
SHEET TOTALS			11	20.9	3.2	4		2	2				1				1			3			3	3					3			0.139	114	
GRAND TOTALS			25	43.7	11.3	12	2	3	7	1	1		1				1			4			7	6				1	4			0.444	436	
				SAY 60																											SAY	0.5	440	

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

Prepared in the Office of: EarthTech
701 Corporate Center Drive, Suite 475
Raleigh, NC 27607
(919) 854-6200 - (919) 854-6259(FAX)

USER: neil.dean
DGN: R:\Roadway\Proj\B2515_rdy_psh_03.dgn
PRF: $$PRF$$
DATE: 3/19/2009
TIME: 2:44:08 PM

COMPUTED BY: BRP	DATE: 10/30/2007
CHECKED BY: NJD	DATE: 12/03/2007

PROJECT NO.	SHEET NO.
B-2515	3-C

C00050305

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
11+62.56 -L- (Lt)	13+29 -L- (Lt)(Beg. Br.)	81	23		58
14+53-L-(Lt)(End Br.)	17+65 (Lt)	98	316	218	
SUBTOTAL		**179**	**339**	**218**	**58**
11+39.60-L- (Rt)	13+29 -L- (Rt)(Beg. Br.)	86	22		64
10+26.50 -Y1-	11+34.46 -Y1-	109	21		88
14+53-L-(Rt)(End Br.)	17+65 (Rt)	73	346	273	
10+27.50 -Y2-	12+17.85 -Y2-	245	98		147
SUBTOTAL		**513**	**487**	**273**	**299**
PROJECT SUBTOTAL		**692**	**826**	**491**	**357**
Loss due to clearing and grubbing		0		0	
Waste in lieu of Borrow				-357	-357
PROJECT TOTAL		**692**	**826**	**134**	**0**
EST 5%-REPLACE TOP SOIL ON BORROW PIT				7	
GRAND TOTAL		**692**		**141**	
SAY		**700**		**145**	

ESTIMATED UNDERCUT 50 CY
FABRIC FOR SOIL STABILIZATION 500 SY
CLASS IV SUBGRADE STABILIZATION 50 TONS
SELECT GRANULAR MATERIAL 50 CY
ESTIMATED DDE 10 CY

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, fine grading, clearing and grubbing, shoulder borrow, and removal of existing pavement will be paid for at the lump sum price for "Grading".

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

LINE	Station	Station	LOC LT/RT/CL	YD^2
-L-	12+60	13+35	CL	348
-L-	14+60	15+08	CL	225
-L-	13+03	13+35	LT	29
-L-	14+66	14+97	LT	51
-L-	16+57	17+21	RT	95
-Y1-	10+37	10+90	RT	20
-Y2-	10+92	11+64	RT	215
-Y2-	11+71	12+17.82	CL	20
TEMP BRIDGE APPROACHES				18
			TOTAL:	1021
			SAY:	1030

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USER: neil.dean
DGN: R:\Roadway\Proj\B2515_rdy_psh_03.dgn
PRF: $$PRF$$
DATE: 3/19/2009
TIME: 2:43:20 PM

PROJECT REFERENCE NO.	SHEET NO.
B-2515	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 028453 NEIL J. DEAN 05/12/09

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031554 WM. RHETT BUTLER, II 05/12/09

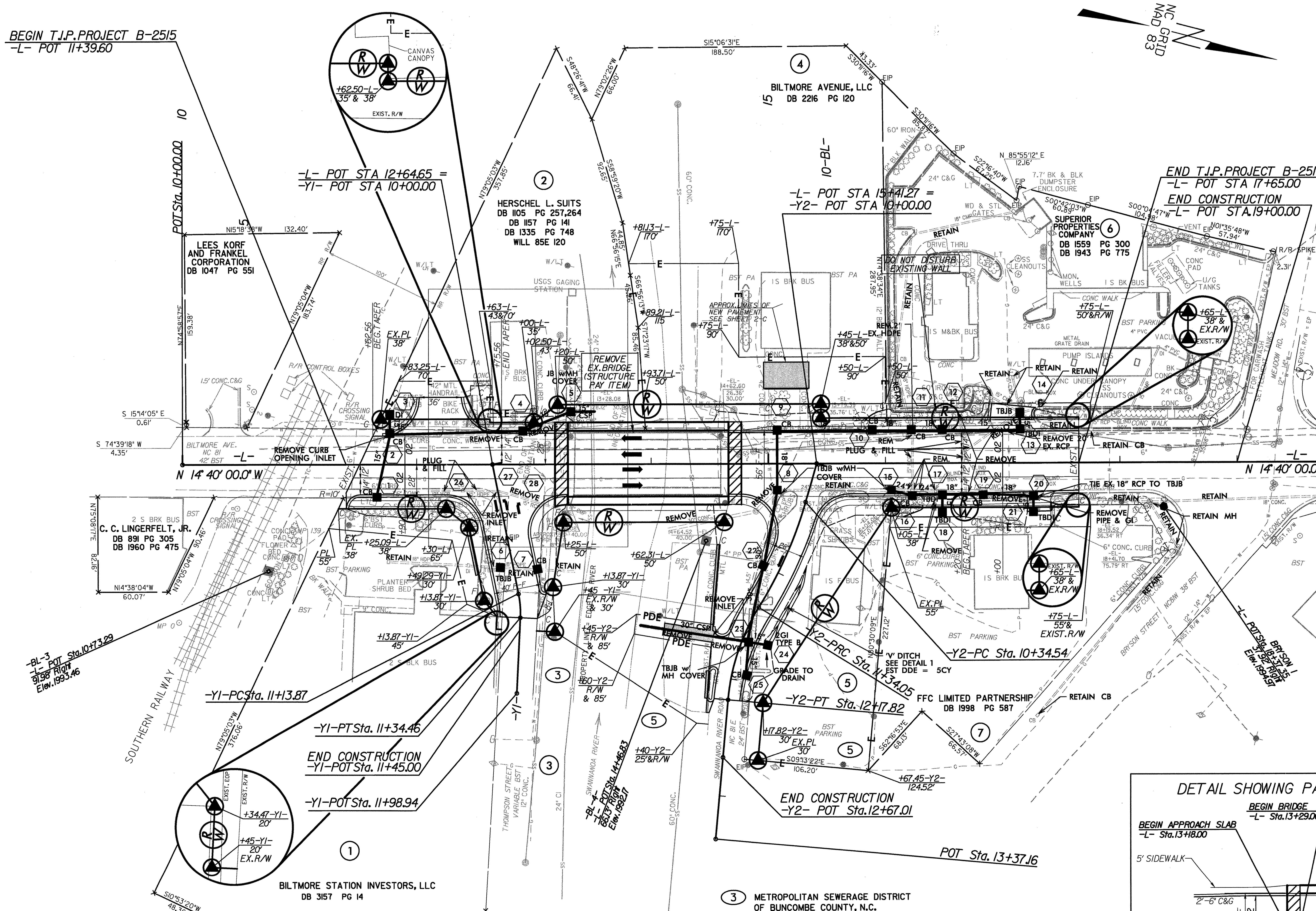
GRAPHIC SCALE

50 25 0 50 100

PLANS

REVISIONS

8/17/99



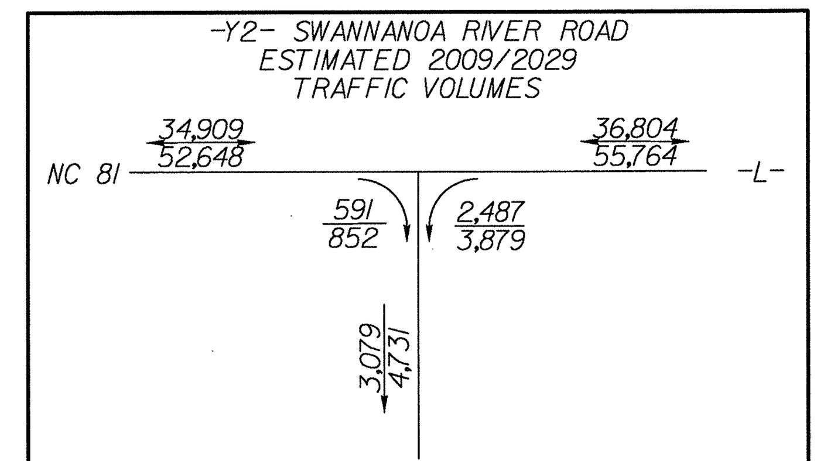
(3) METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY, N.C. DB 982 PG 1

(5) LOJON PROPERTY, LLC DB 2210 PG 190

SEE SHEET 2-B FOR -Y1- AND -Y2- INTERSECTION DETAILS AND GEOMETRY
SEE SHEET 2-C FOR CURB, SIDEWALK, AND DRIVEWAY DETAILS
SEE SHEET 5 FOR -L- PROFILE
SEE SHEET 5 FOR -Y1- PROFILE
SEE SHEET 5 FOR -Y2- PROFILE

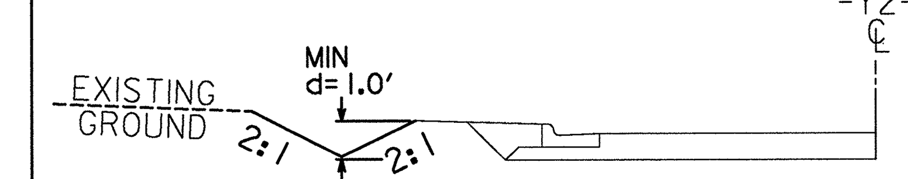
SEE SHEET S-1 TO S- FOR STRUCTURE PLANS

-Y2- SWANNANOA RIVER ROAD
ESTIMATED 2009/2029
TRAFFIC VOLUMES

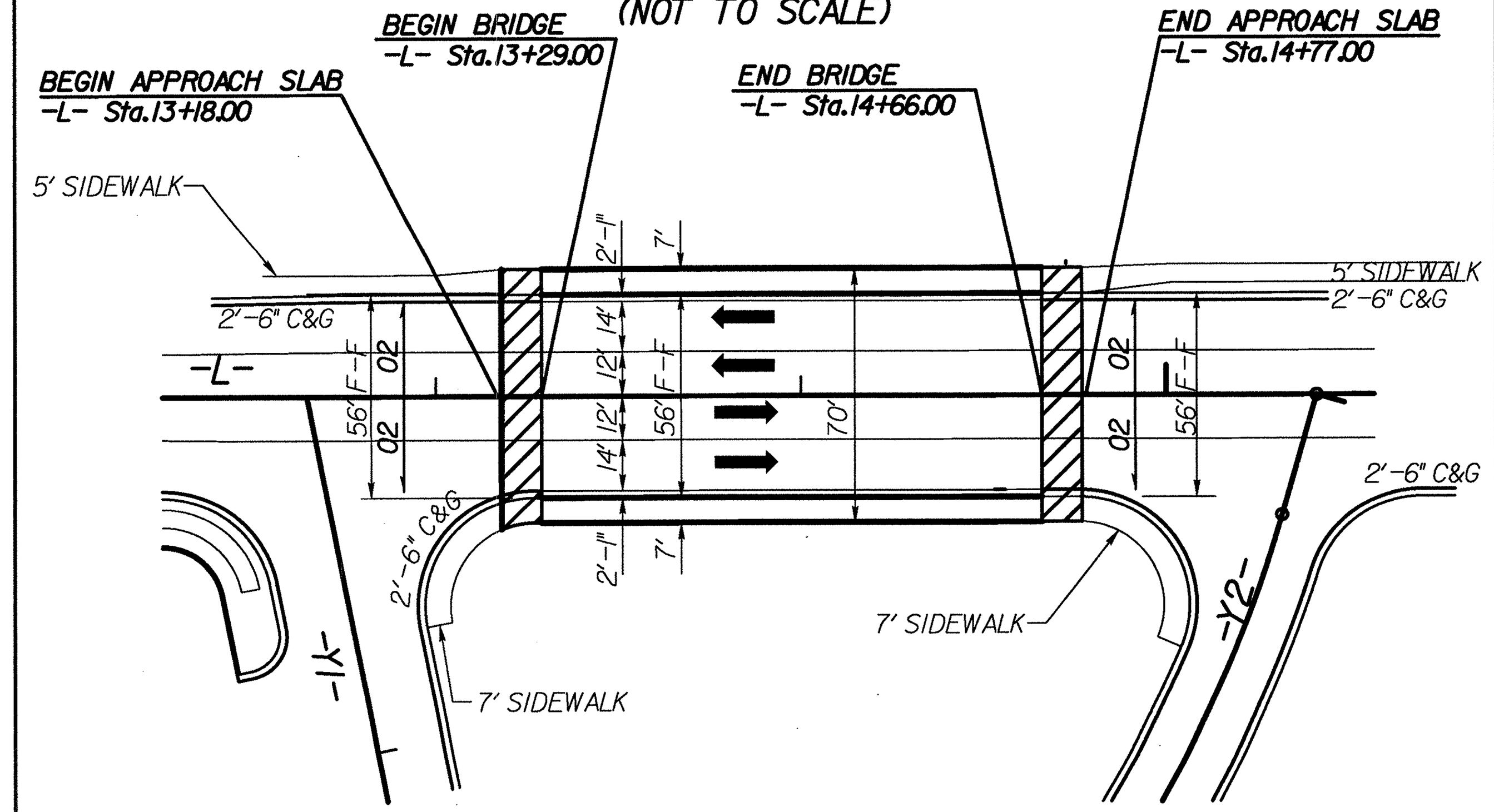


DETAIL 1

PROPOSED 'V' DITCH
-Y2- STA 11+00 to 11+65 LT
NTS



DETAIL SHOWING PAVEMENT- BRIDGE RELATIONSHIP
(NOT TO SCALE)



neil.dean
5/11/2009
2:44:08 PM
r:\roadway\proj\B2515_rdy_psh_04.dgn

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-2515	5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026489 ENGINEER NEIL J. DEAN

3/16/2009

HYDRAULICS ENGINEER

NORTH CAROLINA SEAL 031594 ENGINEER WILLIAM RHETT BUTLER, II

3/9/09

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 17100	CFS
DESIGN FREQUENCY	= 100	YRS
DESIGN HW ELEVATION	= 1997.4	FT
BASE DISCHARGE	= 17100	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1997.4	FT
OVERTOPPING DISCHARGE	= 7320	CFS
OVERTOPPING FREQUENCY	= 10+	YRS
OVERTOPPING ELEVATION	= 1992.3	FT
		FT
DATE OF SURVEY	= 01/04/2006	
W.S.ELEVATION AT DATE OF SURVEY	= 1978.9	FT

-L-

BENCHMARK "BRYSONI"
NCGS MONUMENT
-L- Sta.18+37.35 37.92' RT
ELEV.1994.97

BEGIN GRADE -L- STA 11+51.17
EL = 1994.06'

PI = 12+10.00
EL = 1,994.05'
VC = 100'
K = 313

PI = 13+15.00
EL = 1,994.37'
VC = 110'
K = 115

-L- STA 12+69.59 = -Y1- STA 10+00.00
EL = 1994.23

BEGIN BRIDGE
-L- STA.13+29.00

END BRIDGE
-L- STA.14+66.00

(-)0.0190% (+)0.3000% (-)0.6589%

-L- STA 15+41.27 = -Y2- STA 10+00.00
EL = 1992.88

END GRADE -L- STA 17+65.00
EL = 1993.34'

PI = 16+70.00
EL = 1,992.03'
VC = 140'
K = 69

(-)0.6589% (+)1.3801%

FOR -L- PLAN VIEW, SEE SHEET 4
SEE SHEET 2 FOR MILLING DETAIL, WHEN TYING TO EXISTING
SEE SHEETS S-1 TO S-28 FOR STRUCTURE PLANS

-Y1-

(-)1.9623%

BEGIN GRADE
-Y1- STA.10+26.50
-L- STA.12+69.76
EL = 1,993.71

1,994.23

PI = 10+70.00
EL = 1,992.91'
VC = 50'
K = 32

(-)1.8391%

END GRADE
-Y1- STA.11+34.46
EL = 1,992.71

(-)0.3103%

FOR -Y1- PLAN VIEW, SEE SHEET 4
SEE SHEET 2 FOR MILLING DETAIL, WHEN TYING TO EXISTING

-Y2-

(-)1.7375%

BEIGN GRADE
-Y2- STA.10+27.05
-L- STA.15+33.81
EL = 1,992.41'

1,992.88

(-)0.4036%

(-) 1.1077%

STA 11+00 LT
ELEV 1991.89

STA 11+65 LT
ELEV 1991.17

END GRADE
-Y2- STA.12+17.82
EL = 1,991.64

FOR -Y2- PLAN VIEW, SEE SHEET 4
SEE SHEET 2 FOR MILLING DETAIL, WHEN TYING TO EXISTING