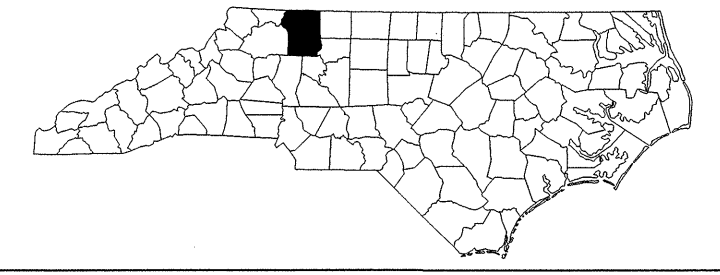


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4820	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38590.1.1	BRZ-1190(2)	P.E.	
38590.2.2	N/A	R/W, UTL.	
38590.3.1	BRZ-1190(2)	CONST.	



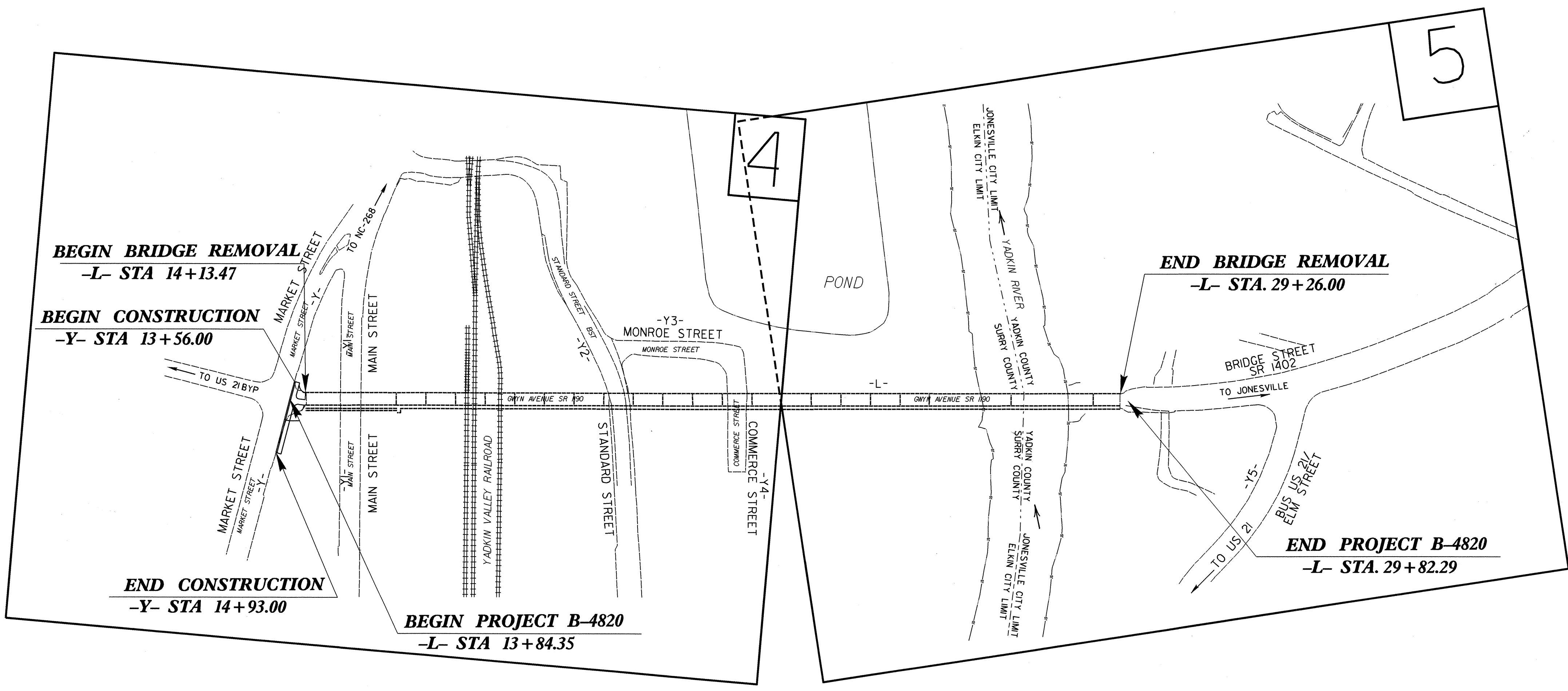
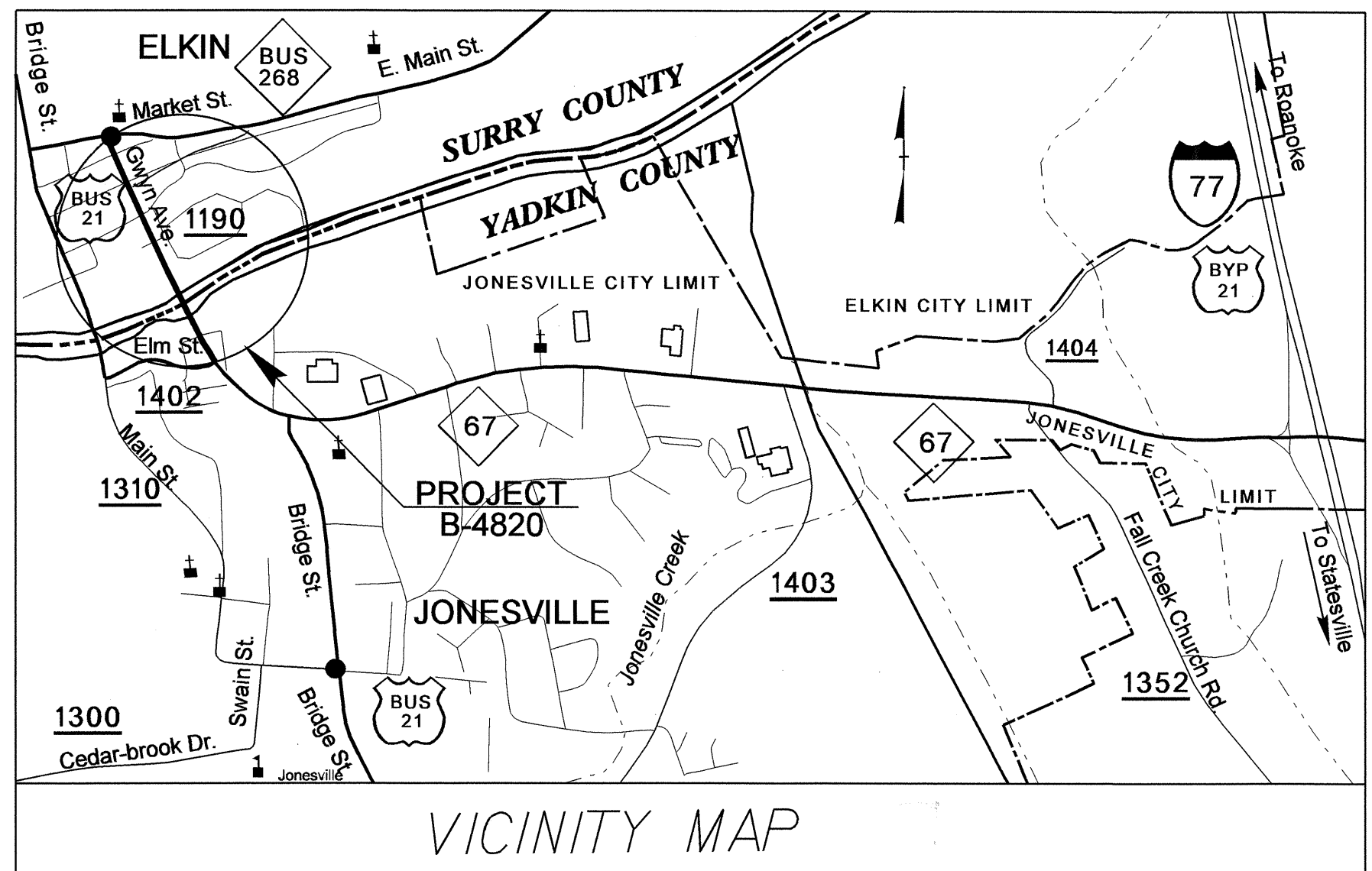
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**YADKIN & SURRY COUNTIES**

**LOCATION: BRIDGE NO. 338 OVER YADKIN RIVER  
ON SR 1190 (GWYN AVENUE)**

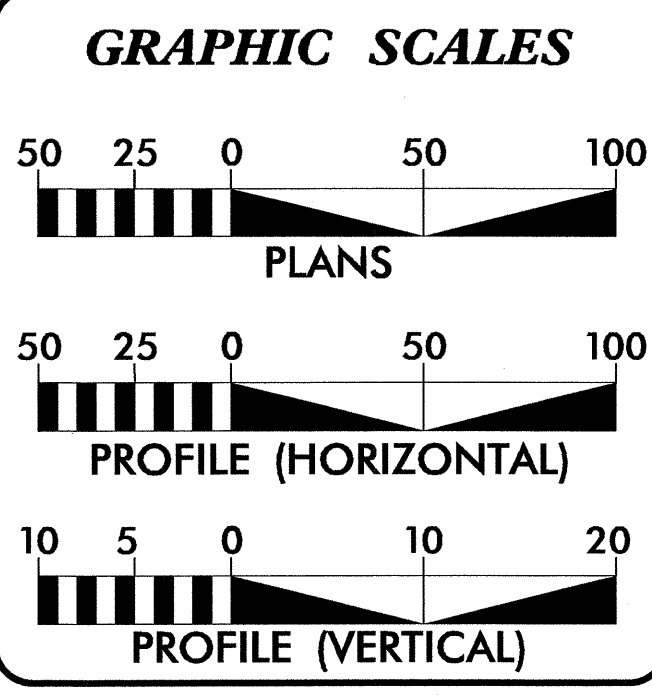
**TYPE OF WORK: GRADING, DRAINAGE, STRUCTURE REMOVAL  
AND RETAINING WALLS**

See Sheet 1-A For Index of Sheets



**TIP PROJECT: B-4820**

**CONTRACT: C202127**



**DESIGN DATA**

ADT 2005 =	11,600
ADT 2030 =	N/A
DHV =	N/A
D =	N/A
T =	N/A
V =	N/A
FUNC. CLASS=URBAN LOCAL	

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4820 =	0.017 MILES
LENGTH STRUCTURE TIP PROJECT B-4820 =	0.286 MILES
TOTAL LENGTH ROADWAY TIP PROJECT B-4820 =	0.303 MILES

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

2006 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
AUGUST 21, 2008

**LETTING DATE:**  
JUNE 15, 2010

**G.E. BREW**  
PROJECT ENGINEER

**E. MORRISON**  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

*[Signature]*

**ROADWAY DESIGN ENGINEER**

*[Signature]*

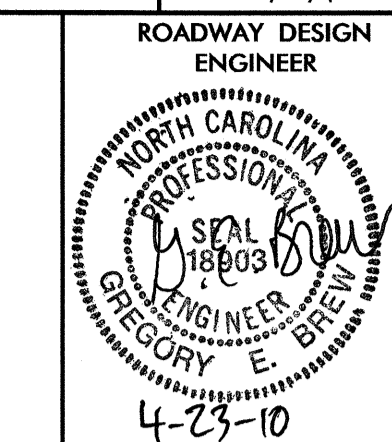
3-31-10

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

*[Signature]*

STATE HIGHWAY DESIGN ENGINEER

25-MAR-2010 08:53 P:\PROJECTS\2010\1000 Birch Ridge\Drawings\1000 Birch Ridge\1000 Birch Ridge\1000 Birch Ridge.dgn



2006 ROADWAY ENGLISH STANDARD DRAWINGS

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

INDEX OF SHEETS

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:

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-A THRU 2-B	METHOD OF PIPE INSTALLATION
2-C THRU 2-D	WHEELCHAIR RAMP DETAILS
2-E	DETAIL FOR TEMPORARY CONTAINMENT OF CONTAMINATED SOIL
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
3-B	PARCEL INDEX SHEET
4 THRU 5	PLAN SHEET
TCP-1 THRU TCP- 6	TRAFFIC CONTROL PLANS
SD-1	SPECIAL SIGN DESIGN
EC-1 THRU EC-4	EROSION CONTROL PLANS
L-1 THRU L-3	LANDSCAPE PLANS
UC-1 THRU UC-2	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-3	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTIONS SUMMARY SHEET
X-1 THRU X-4	CROSS-SECTIONS
S-1 THRU S-19	STRUCTURE PLANS
W-1 THRU W-9	WALL PLANS

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
DIVISION 8 - INCIDENTALS	
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
840.45	Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets

GENERAL NOTES:

2006 SPECIFICATIONS  
EFFECTIVE: 07-18-06  
REVISED: 07-30-08

CLEARING:

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

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.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

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.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE TOWN OF ELKIN, TOWN OF JONESVILLE, EMBARQ, DUKE ENERGY, INTERFACE FABRICS COMPANY, OMEGA RAIL MANAGEMENT COMMUNICATION, YADKIN VALLEY RAILROAD, FRONTIER ENERGY. ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

WHEELCHAIR RAMPS:

WHEELCHAIR RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. THE CONSTRUCTION OF ALL WHEELCHAIR RAMPS SHALL BE IN ACCORDANCE WITH STD. NO. 848.05

8/17/99

23-APR-2010 10:10  
R:\Roadway\Drawings\Roadway\Drawings\B-4820\rdw\_tsh.dgn

Note: Not to Scale

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

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

Table listing symbols for boundaries and property: State Line, County Line, Township Line, City Line, Reservation Line, Property Line, Existing Iron Pin, Property Corner, Property Monument, Parcel/Sequence Number, Existing Fence Line, Proposed Woven Wire Fence, Proposed Chain Link Fence, Proposed Barbed Wire Fence, Existing Wetland Boundary, Proposed Wetland Boundary, Existing Endangered Animal Boundary, Existing Endangered Plant Boundary.

BUILDINGS AND OTHER CULTURE:

Table listing symbols for buildings and other culture: Gas Pump Vent or U/G Tank Cap, Sign, Well, Small Mine, Foundation, Area Outline, Cemetery, Building, School, Church, Dam.

HYDROLOGY:

Table listing symbols for hydrology: Stream or Body of Water, Hydro, Pool or Reservoir, Jurisdictional Stream, Buffer Zone 1, Buffer Zone 2, Flow Arrow, Disappearing Stream, Spring, Wetland, Proposed Lateral, Tail, Head Ditch, False Sump.

RAILROADS:

Table listing symbols for railroads: Standard Gauge, RR Signal Milepost, Switch, RR Abandoned, RR Dismantled.

RIGHT OF WAY:

Table listing symbols for right of way: Baseline Control Point, Existing Right of Way Marker, Existing Right of Way Line, Proposed Right of Way Line, Proposed Right of Way Line with Iron Pin and Cap Marker, Proposed Right of Way Line with Concrete or Granite Marker, Existing Control of Access, Proposed Control of Access, Existing Easement Line, Proposed Temporary Construction Easement, Proposed Temporary Drainage Easement, Proposed Permanent Drainage Easement, Proposed Permanent Utility Easement.

ROADS AND RELATED FEATURES:

Table listing symbols for roads and related features: Existing Edge of Pavement, Existing Curb, Proposed Slope Stakes Cut, Proposed Slope Stakes Fill, Proposed Wheel Chair Ramp, Existing Metal Guardrail, Proposed Guardrail, Existing Cable Guiderail, Proposed Cable Guiderail, Equality Symbol, Pavement Removal.

VEGETATION:

Table listing symbols for vegetation: Single Tree, Single Shrub, Hedge, Woods Line, Orchard, Vineyard.

EXISTING STRUCTURES:

Table listing symbols for existing structures: MAJOR: Bridge, Tunnel or Box Culvert, Bridge Wing Wall, Head Wall and End Wall; MINOR: Head and End Wall, Pipe Culvert, Footbridge, Drainage Box: Catch Basin, DI or JB, Paved Ditch Gutter, Storm Sewer Manhole, Storm Sewer.

UTILITIES:

Table listing symbols for utilities: POWER: Existing Power Pole, Proposed Power Pole, Existing Joint Use Pole, Proposed Joint Use Pole, Power Manhole, Power Line Tower, Power Transformer, U/G Power Cable Hand Hole, H-Frame Pole, Recorded U/G Power Line, Designated U/G Power Line (S.U.E.\*).

TELEPHONE:

Table listing symbols for telephone: Existing Telephone Pole, Proposed Telephone Pole, Telephone Manhole, Telephone Booth, Telephone Pedestal, Telephone Cell Tower, U/G Telephone Cable Hand Hole, Recorded U/G Telephone Cable, Designated U/G Telephone Cable (S.U.E.\*), Recorded U/G Telephone Conduit, Designated U/G Telephone Conduit (S.U.E.\*), Recorded U/G Fiber Optics Cable, Designated U/G Fiber Optics Cable (S.U.E.\*).

WATER:

Table listing symbols for water: Water Manhole, Water Meter, Water Valve, Water Hydrant, Recorded U/G Water Line, Designated U/G Water Line (S.U.E.\*), Above Ground Water Line.

TV:

Table listing symbols for TV: TV Satellite Dish, TV Pedestal, TV Tower, U/G TV Cable Hand Hole, Recorded U/G TV Cable, Designated U/G TV Cable (S.U.E.\*), Recorded U/G Fiber Optic Cable, Designated U/G Fiber Optic Cable (S.U.E.\*).

GAS:

Table listing symbols for gas: Gas Valve, Gas Meter, Recorded U/G Gas Line, Designated U/G Gas Line (S.U.E.\*), Above Ground Gas Line.

SANITARY SEWER:

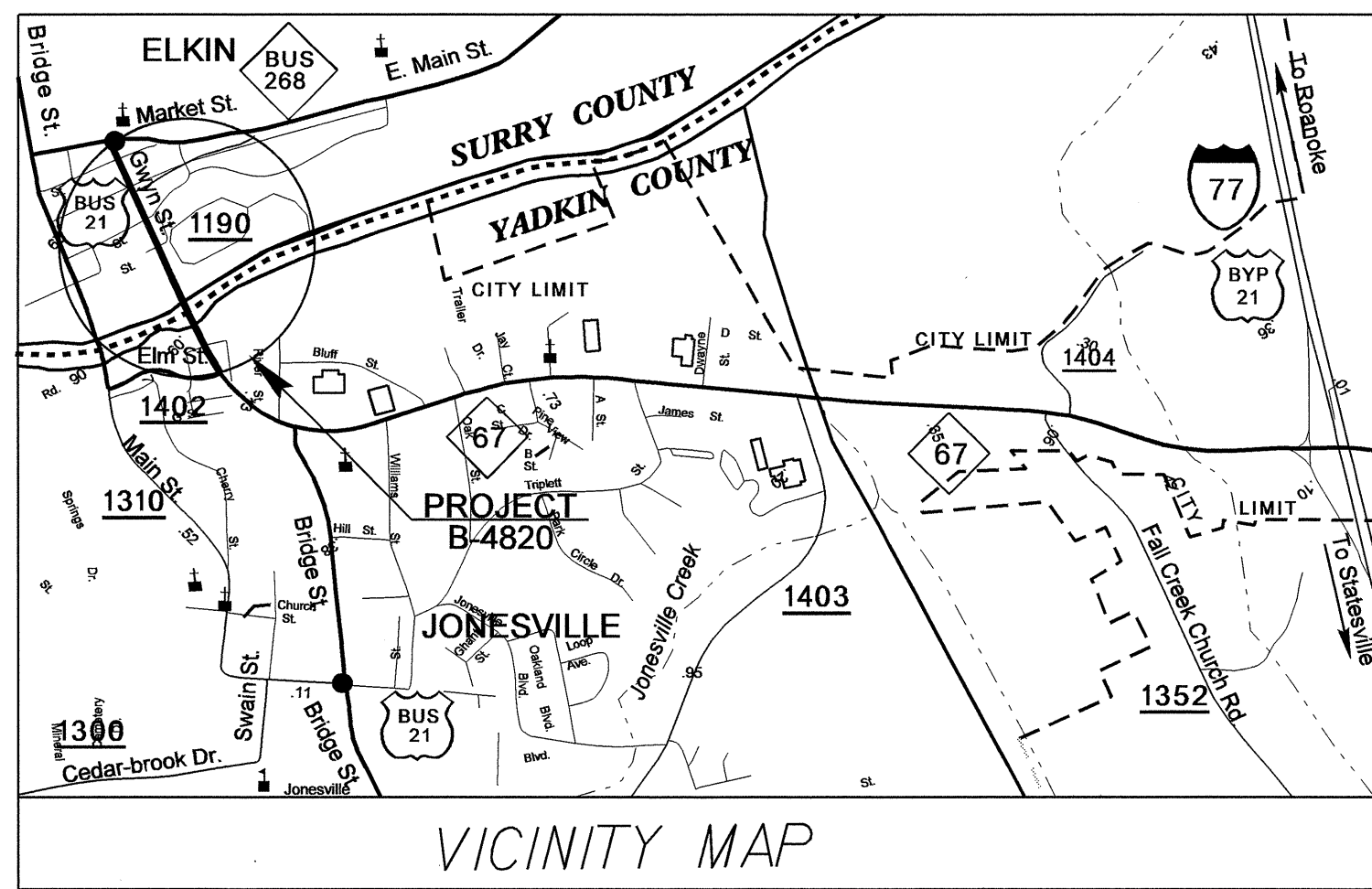
Table listing symbols for sanitary sewer: Sanitary Sewer Manhole, Sanitary Sewer Cleanout, U/G Sanitary Sewer Line, Above Ground Sanitary Sewer, Recorded SS Forced Main Line, Designated SS Forced Main Line (S.U.E.\*).

MISCELLANEOUS:

Table listing symbols for miscellaneous: Utility Pole, Utility Pole with Base, Utility Located Object, Utility Traffic Signal Box, Utility Unknown U/G Line, U/G Tank; Water, Gas, Oil, A/G Tank; Water, Gas, Oil, U/G Test Hole (S.U.E.\*), Abandoned According to Utility Records, End of Information.

# SURVEY CONTROL SHEET B-4820

PROJECT REFERENCE NO.	SHEET NO.
B-4820	1-C
<b>Location and Surveys</b>	



\*PROJECT IS WITHIN MUNICIPAL BOUNDARIES OF ELKIN AND JONESVILLE\*

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
B48202	(GPS B4820-2)	913436.0674	1454788.9673	948.01	11+29.43	47.62 LT
BL3	(BL-3)	913219.2641	1454746.6799	927.32	13+35.28	30.11 RT
BL4	(BL-4)	913201.9997	1455100.3857	902.30	14+89.80	300.00 LT
BL5	(BL-5)	913102.2586	1455308.0559	898.05	16+65.89	448.56 LT
BL6	(BL-6)	912669.5745	1455152.1477	889.42	19+96.68	129.03 LT
BL7	(BL-7)	912522.7600	1454910.3558	887.48	20+31.51	151.70 RT
B48201	(GPS B4820-1)	911747.8956	1455366.5817	909.12	29+25.28	53.08 RT
BL19	(BL-19)	911431.9127	1455554.6045	915.72	32+78.45	50.69 RT
BL20	(BL-20)	911139.2331	1455881.8962	920.63	OUTSIDE PROJECT LIMITS	

BY POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
BY8	(BL-4)	913201.9997	1455100.3857	902.30	10+69.94	2.71 LT
BY9	(BL-3)	913219.2641	1454746.6799	927.32	14+22.65	26.46 RT
BY10	(BY-10)	913123.0964	1454489.0735	932.94	16+92.80	24.79 LT

BY1 POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
BY111	(BL-4)	913201.9997	1455100.3857	902.30	10+68.42	28.41 RT
BY112	(BY1-12)	912975.9749	1454580.9994	905.80	16+28.99	12.08 RT

BY2 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BY213	(BL-5)	913102.2586	1455308.0559	898.05	16+65.89	448.56 LT
BY214	(BY2-14)	912911.0099	1455064.9381	893.93	17+40.71	148.42 LT
BY215	(BY2-15)	912759.4026	1454726.5617	894.05	17+40.33	222.37 RT

BY3 POINT	DESC.	NORTH	EAST	ELEVATION	Y3 STATION	OFFSET
BY316	(BL-6)	912669.5745	1455152.1477	889.42	10+39.47	32.62 LT
BY317	(BY3-17)	912449.8264	1455222.6145	888.75	12+43.76	33.51 LT
BY318	(BY3-18)	912373.2586	1454984.9004	888.31	OUTSIDE PROJECT LIMITS	

BY3 POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
BY316	(BL-6)	912669.5745	1455152.1477	889.42	OUTSIDE PROJECT LIMITS	
BY317	(BY3-17)	912449.8264	1455222.6145	888.75	OUTSIDE PROJECT LIMITS	
BY318	(BY3-18)	912373.2586	1454984.9004	888.31	OUTSIDE PROJECT LIMITS	

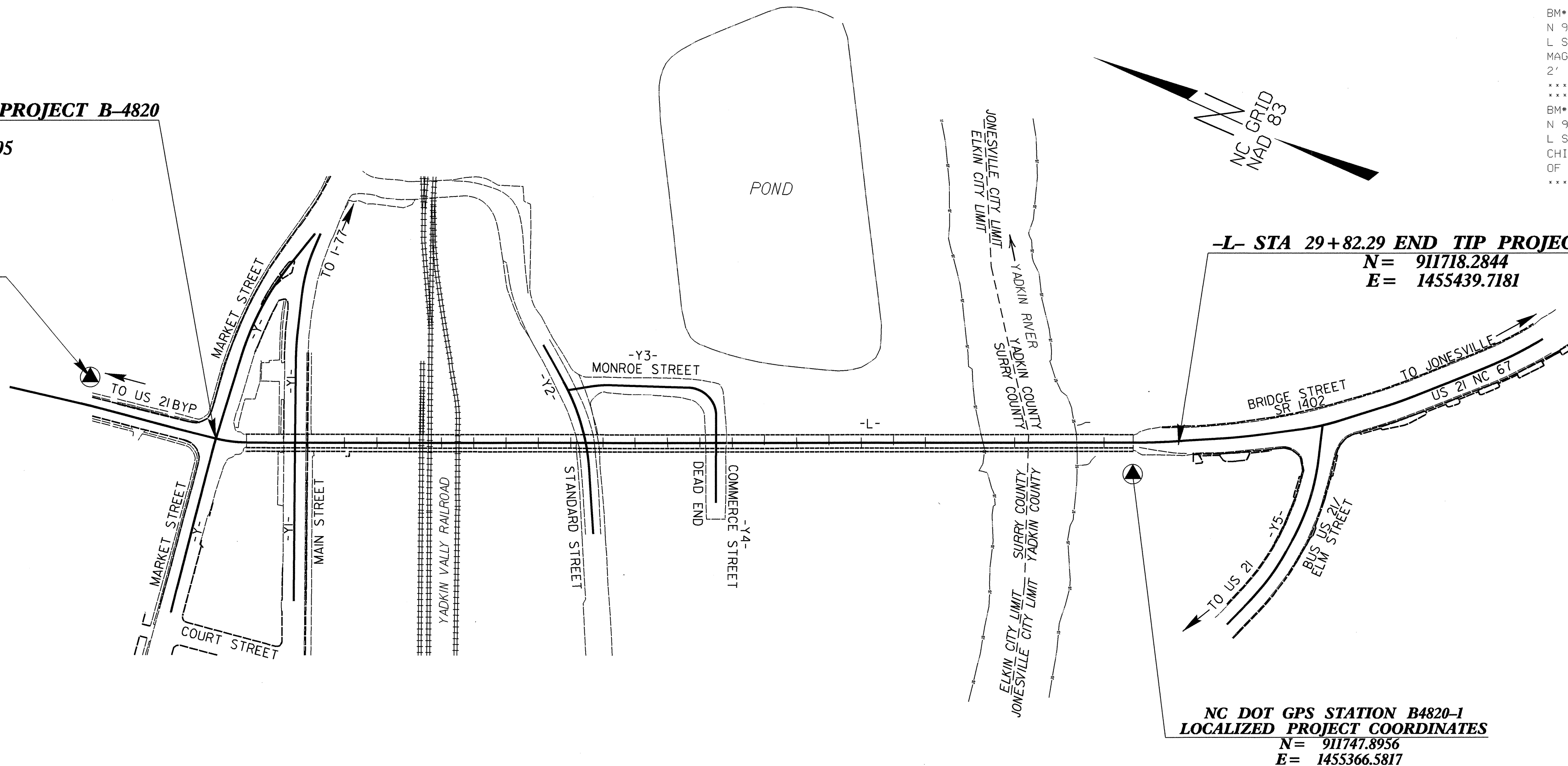
  

BY4 POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
BY421	(BL-19)	911431.9127	1455554.6045	915.72	10+35.82	46.57 LT
BY422	(BY4-22)	911501.2889	1455299.7377	929.14	12+89.32	37.16 RT

**-L- STA 13+62.30 BEGIN TIP PROJECT B-4820**  
**N = 913197.5816**  
**E = 1454780.8305**

**NC DOT GPS STATION B4820-2**  
**LOCALIZED PROJECT COORDINATES**  
**N = 913436.0674**  
**E = 1454788.9673**

**-L- STA 29+82.29 END TIP PROJECT B-4820**  
**N = 911718.2844**  
**E = 1455439.7181**



.....  
 BM\*1 ELEVATION = 914.99'  
 N 913245. E 1454949.  
 L STATION 13+43 174' LEFT  
 MAG NAIL IN TOP OF ROCK WALL  
 2' FROM NW END OF WALL  
 .....  
 BM\*2 ELEVATION = 911.74'  
 N 911651. E 1455383.  
 L STATION 30+15 81' RIGHT  
 CHISELED SQUARE ON SE CORNER  
 OF CONE SIGN BASE  
 .....

**NC DOT GPS STATION B4820-1**  
**LOCALIZED PROJECT COORDINATES**  
**N = 911747.8956**  
**E = 1455366.5817**

**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/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B4820\_LS\_CONTROL\_081024.HTML  
 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.  
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.  
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

**NOTE: DRAWING NOT TO SCALE**

8/17/99

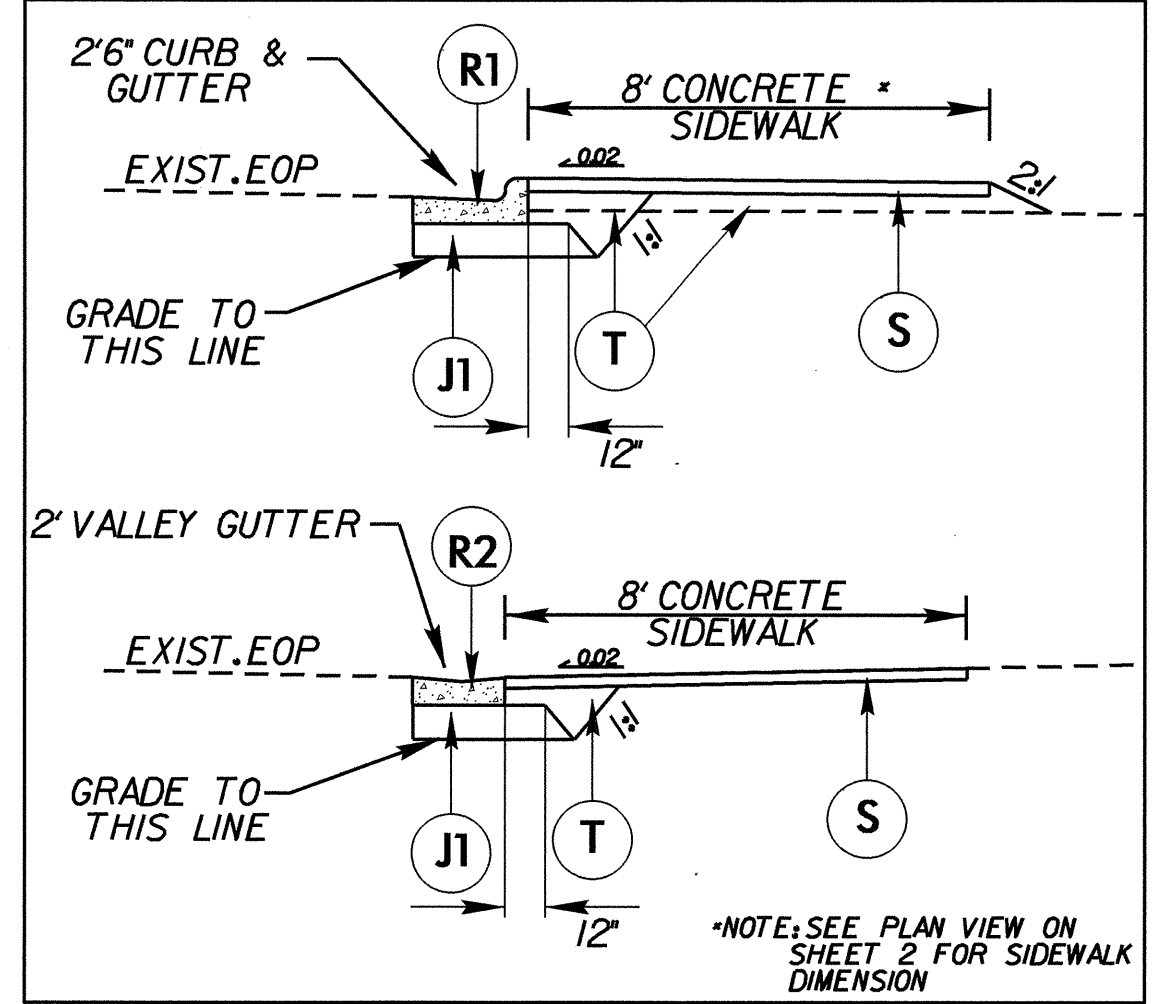
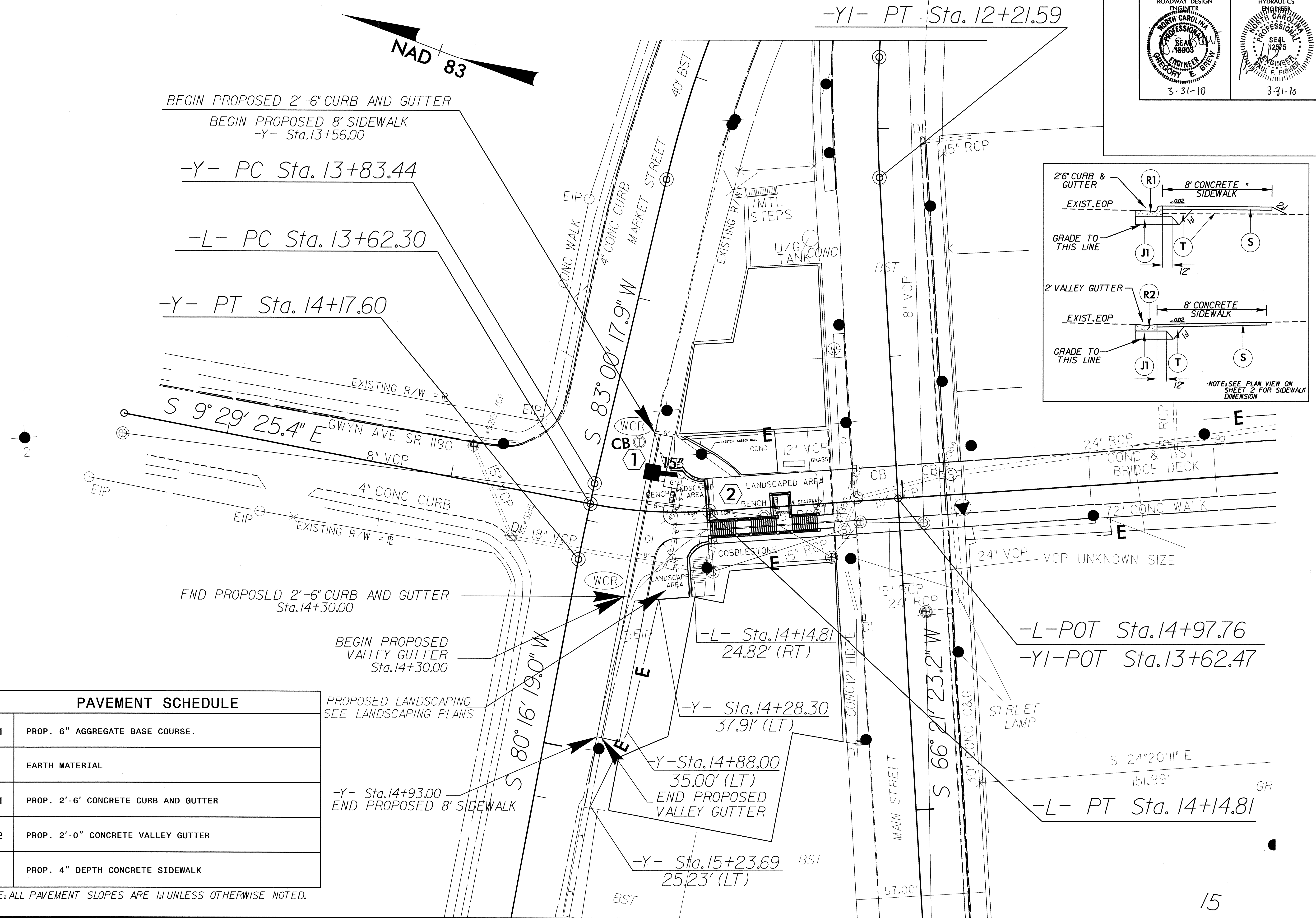
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PROJECT REFERENCE NO. B-4820	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 12575 GREGORY E. BRYEN 3-31-10	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 12575 PAUL F. FISHER 3-31-10

REVISIONS

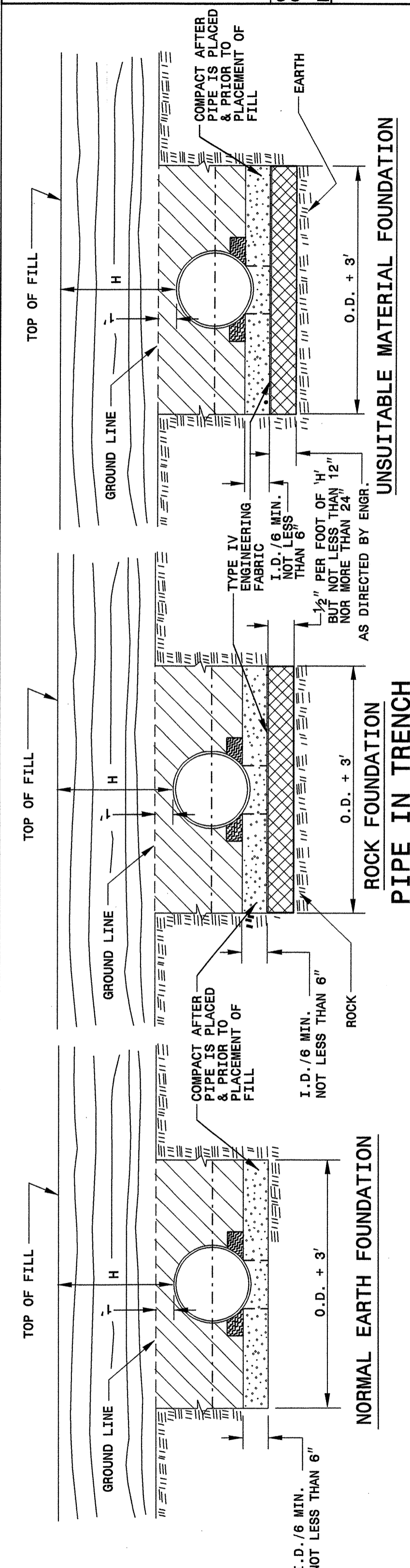
PAVEMENT SCHEDULE	
J1	PROP. 6" AGGREGATE BASE COURSE.
T	EARTH MATERIAL
R1	PROP. 2'-6" CONCRETE CURB AND GUTTER
R2	PROP. 2'-0" CONCRETE VALLEY GUTTER
S	PROP. 4" DEPTH CONCRETE SIDEWALK

NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



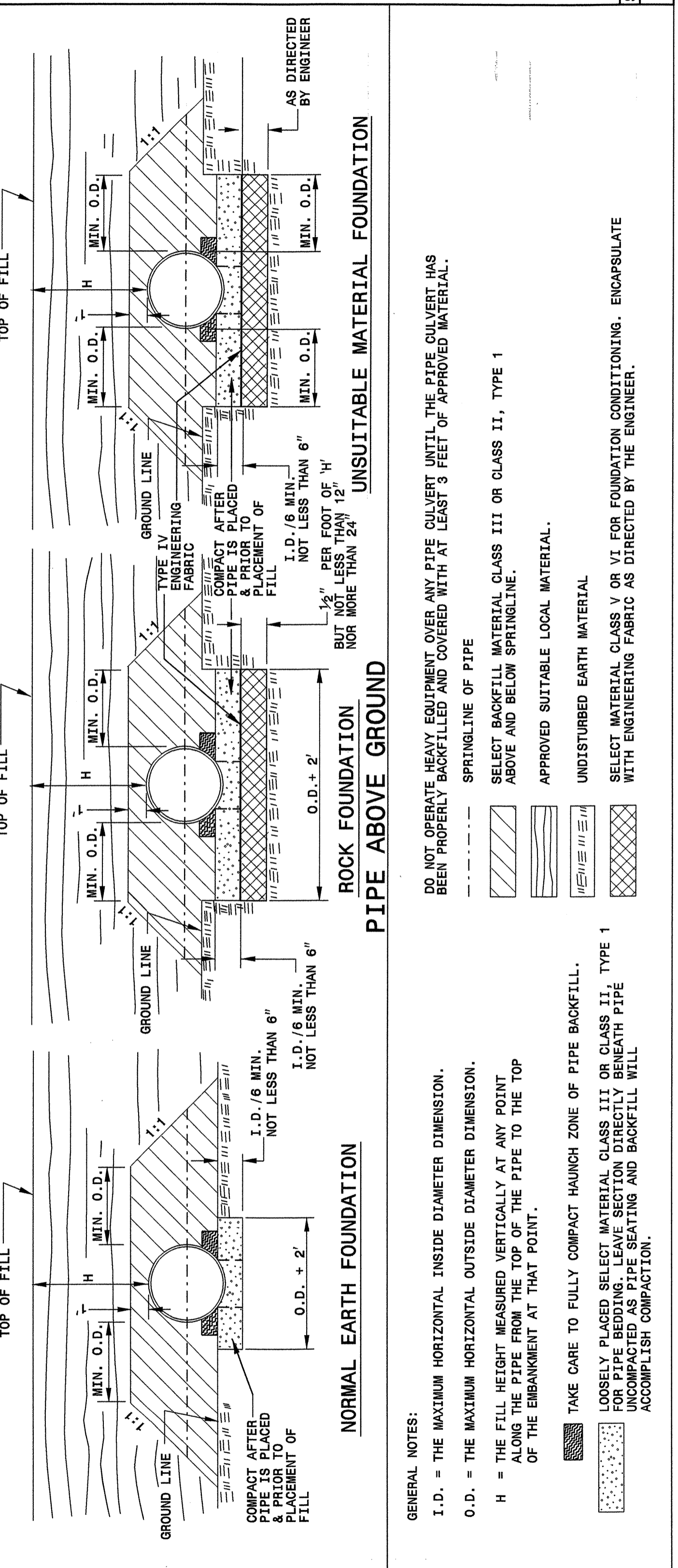
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 jhoverton

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



ENGLISH DETAIL DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
 FLEXIBLE PIPE

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



**GENERAL NOTES:**  
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.  
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.  
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

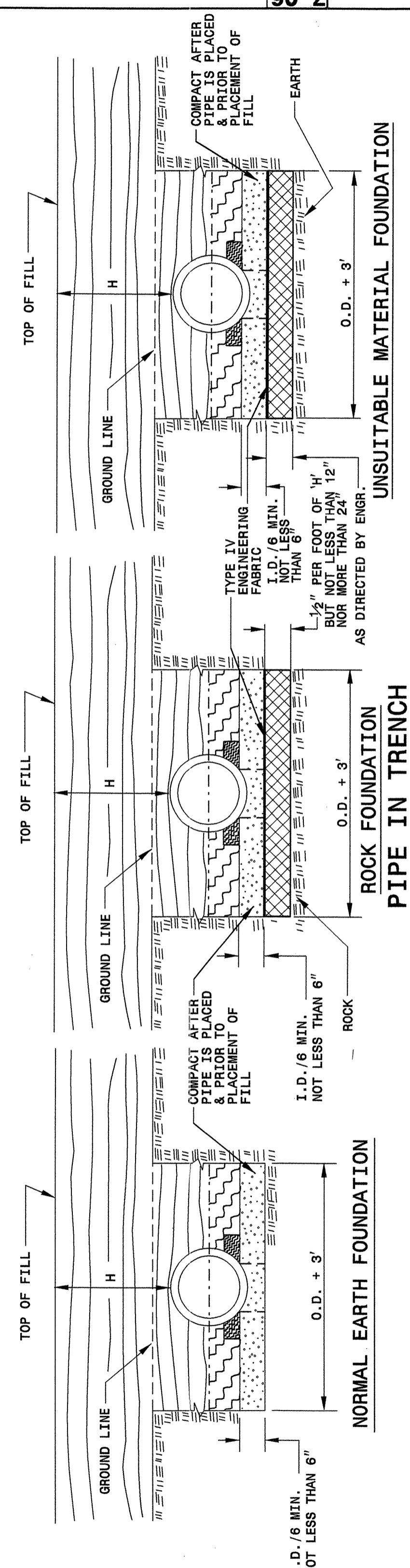
--- SPRINGLINE OF PIPE ABOVE AND BELOW SPRINGLINE.  
 [Pattern] SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1  
 [Pattern] APPROVED SUITABLE LOCAL MATERIAL.  
 [Pattern] UNDISTURBED EARTH MATERIAL  
 [Pattern] SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.  
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

SHEET 1 OF 3  
**300D01**

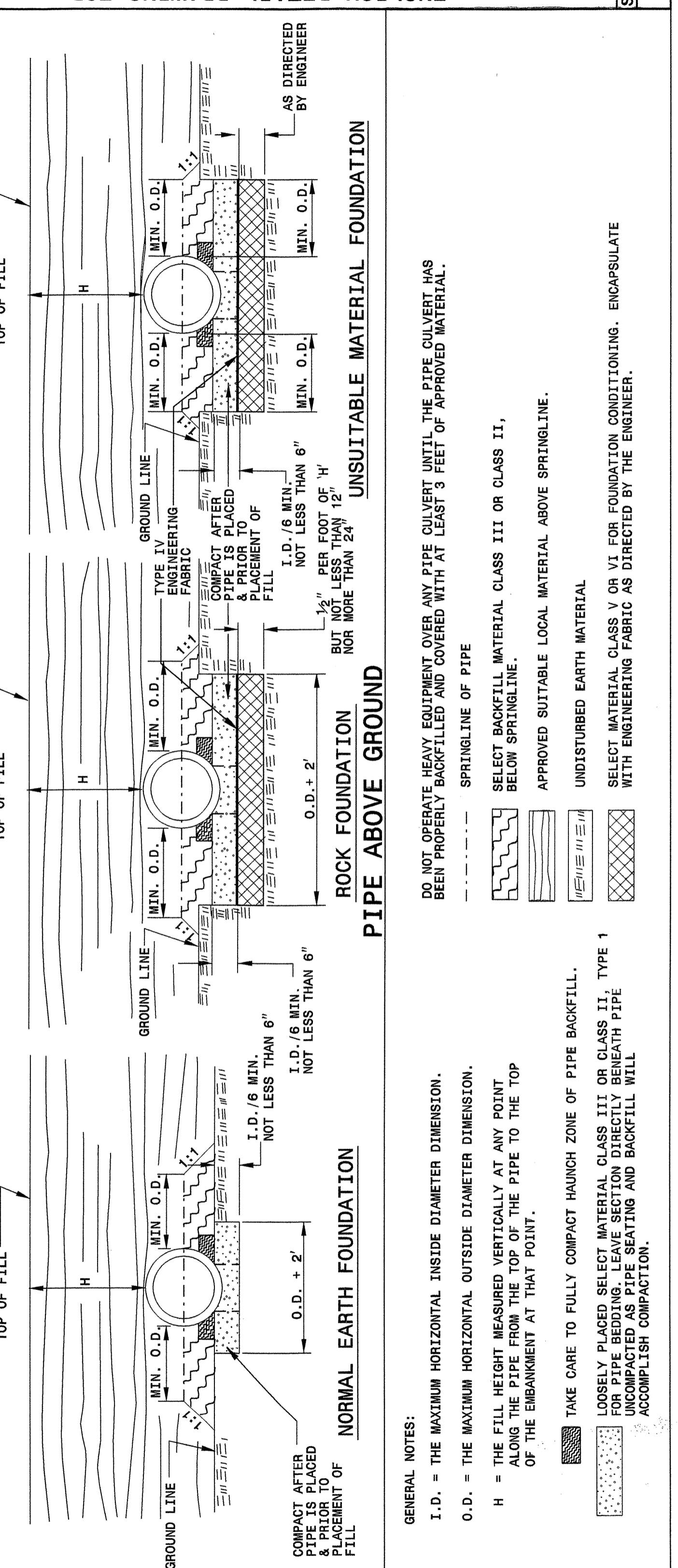
SHEET 1 OF 3  
**300D01**

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



ENGLISH DETAIL DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
 RIGID PIPE

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



**GENERAL NOTES:**  
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 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.  
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

--- SPRINGLINE OF PIPE ABOVE AND BELOW SPRINGLINE.  
 [Pattern] SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1  
 [Pattern] APPROVED SUITABLE LOCAL MATERIAL ABOVE SPRINGLINE.  
 [Pattern] UNDISTURBED EARTH MATERIAL  
 [Pattern] SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.  
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

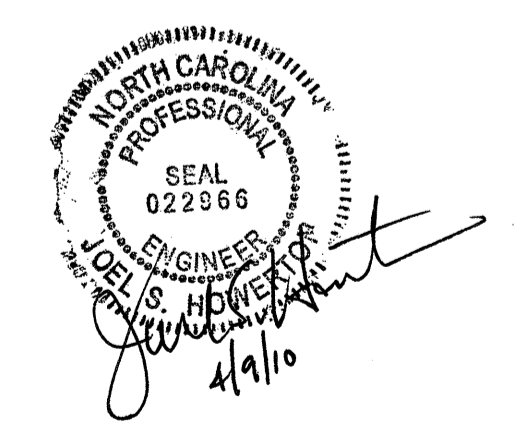
SHEET 2 OF 3  
**300D01**

SHEET 2 OF 3  
**300D01**

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

**SEE PLATE FOR TITLE**

ORIGINAL BY: KKempf DATE: 5-15-09  
 MODIFIED BY: [Signature] DATE: 7/29/09  
 CHECKED BY: [Signature] DATE: 7/29/09  
 FILE SPEC: erward/stds/stdsdetails/30001/0300d01.dgn



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

7-06

ENGLISH DETAIL DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
 FILL HEIGHT TABLES

SHEET 3 OF 3  
**300D01**

**FLEXIBLE PIPE**

Round Corrugated Steel Pipe  
 2 2/3 x 1/2 corrugation \*\*

Diameter (inches)	Minimum cover (inches)	Maximum Height of Cover (feet)			
		(Ga) 16	14	12	10
12	12	204	256	12	8
15	12	162	204		
18	12	135	169	239	
21	12	115	145	204	
24	12	100	126	178	
30	12	79	100	142	
36	12	65	83	117	152
42	12	55	70	100	130
48	12	48	61	87	113
54	12		54	77	100
60	12			69	90
66	12				81
72	12				74
78	12				81
84	12				69

Round Corrugated Aluminum Pipe  
 2 2/3 x 1/2 corrugation \*\*

Diameter (inches)	Minimum cover (inches)	Maximum Height of Cover (feet)			
		(Ga) 16	14	12	10
12	12	123	155	218	281
15	12	98	123	174	224
18	12	81	102	144	187
21	12	69	87	123	160
24	12	60	76	108	139
27	12		67	95	123
30	12		60	85	111
36	12		50	71	92
42	12		46	60	78
48	12			52	68
54	12			46	50
60	12				62
66	12				51
72	12				41

\*\* FOR DIFFERENT CORRUGATIONS AND ARCH PIPES REFER TO ROADWAY DESIGN MANUAL OR MANUFACTURERS SPECIFICATION.

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- CSP - AASHTO M36
- CAAP - AASHTO M196
- HDPE - AASHTO M294
- PVC - ASTM F949 or AASHTO M304

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

**RIGID PIPE**

- RCP - \* (Minimum fill) 1' for Class IV & CLASS V  
 2' for Class III & Class II
- \* (Maximum fill) 10' - Class II pipe  
 20' - Class III pipe  
 30' - Class IV pipe  
 40' - Class V pipe

(For fills > 40' & < 80' use LRFD Direct Design Method)

\* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- RCP - AASHTO M170

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

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

7-06

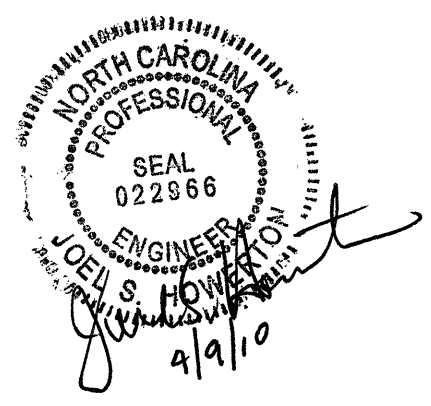
ENGLISH DETAIL DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
 FILL HEIGHT TABLES

SHEET 3 OF 3  
**300D01**

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

**SEE PLATE FOR TITLE**

ORIGINAL BY: KKempf DATE: 5-15-09  
 MODIFIED BY: *[Signature]* DATE: 7/30/09  
 CHECKED BY: *[Signature]* DATE: 7/30/09  
 FILE SPEC: ericward/stds/stdstodetails/30001/0300d01.dgn



**ENGLISH DETAIL DRAWING FOR  
WHEELCHAIR RAMP  
PROPOSED CURB AND GUTTER**

SHEET 1 OF 3  
**848D05**

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

**SECTION B-B**

**SECTION A-A**

**ISOMETRIC VIEW**

**PLAN VIEW**

NOTES:

1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN 70% CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

W	A	W+A+9'	X	B
5'	0.0'	5.8'	5.8'	5.0'
6'	0.0'	6.8'	6.8'	6.0'
7'	0.0'	7.8'	7.3'	6.5'
8'	0.0'	8.8'	7.3'	6.5'
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

B = X - (A+9')

B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (6.33%) SLOPE.

\* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.

\*\* SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.

**DETECTABLE WARNING DOMES**

**DETAIL SHOWING TYPICAL LOCATION OF WHEELCHAIR RAMP, PEDESTRIAN CROSSWALKS AND STOP LINES**

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

ENGLISH DETAIL DRAWING FOR  
**WHEELCHAIR RAMP**  
PROPOSED CURB AND GUTTER

SHEET 2 OF 3  
**848D05**

**ENGLISH DETAIL DRAWING FOR  
WHEELCHAIR RAMP  
PROPOSED CURB AND GUTTER**

SHEET 1 OF 3  
**848D05**

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

**ISOMETRIC VIEW**

**PLAN VIEW**

NOTES:

1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN 70% CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

W	A	W+A+9'	X	B
5'	0.0'	5.8'	5.8'	5.0'
6'	0.0'	6.8'	6.8'	6.0'
7'	0.0'	7.8'	7.3'	6.5'
8'	0.0'	8.8'	7.3'	6.5'
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

B = X - (A+9')

B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (6.33%) SLOPE.

\* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.

\*\* SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.

**DETECTABLE WARNING DOMES**

**DETAIL SHOWING TYPICAL LOCATION OF WHEELCHAIR RAMP, PEDESTRIAN CROSSWALKS AND STOP LINES**

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

ENGLISH DETAIL DRAWING FOR  
**WHEELCHAIR RAMP**  
PROPOSED CURB AND GUTTER

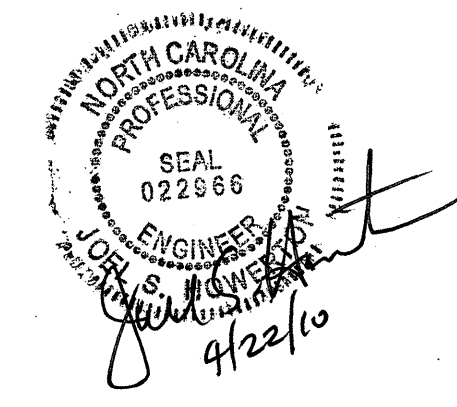
SHEET 2 OF 3  
**848D05**

22-APR-2010 09:59 S:\Contracts\Projects\Special Details\ericward\stds\06\Stds to Special Details\848D05 Prop. Wheelchair Ramp\0848d05.dgn

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

**SEE PLATE FOR TITLE**

ORIGINAL BY: STD.NO.848.05	DATE: 4-22-10
MODIFIED BY: <i>Eric Ward</i>	DATE: 4/22/10
CHECKED BY: <i>Eric Ward</i>	DATE: 4/22/10
FILE SPEC.: S:\Contracts\Projects\Special Details\ericward\stds\848d05.dgn	





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

ENGLISH DETAIL DRAWING FOR  
**WHEELCHAIR RAMP**  
PROPOSED CURB AND GUTTER

SHEET 3 OF 3  
**848D05**

**NOTES:**

- CONSTRUCT THE WALKING SURFACE WITH SLIP RESISTANCE AND A 70% CONTRASTING COLOR TO THE SIDEWALK.
- CROSSWALK WIDTHS AND CONFIGURATION VARY BUT MUST CONFORM TO TRAFFIC DESIGN STANDARDS.
- NORTH CAROLINA GENERAL STATUTE 136-44.14 REQUIRES THAT ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILITIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1, 1973 SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY DISABLED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTER AND SIDEWALKS ARE PROVIDED AND AT OTHER POINTS OF PEDESTRIAN FLOW.  
IN ADDITION, SECTION 228 OF THE 1973 FEDERAL AID HIGHWAY SAFETY ACT REQUIRES PROVISION OF CURB RAMPS ON ANY CURB CONSTRUCTION AFTER JULY 1, 1976 WHETHER A SIDEWALK IS PROPOSED INITIALLY OR IS PLANNED FOR A FUTURE DATE.  
THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990 EXTENDS TO INDIVIDUALS WITH DISABILITIES. COMPREHENSIVE CIVIL RIGHTS PROTECTIONS SIMILAR TO THOSE PROVIDED TO PERSONS ON THE BASIS OF RACE, SEX, NATIONAL ORIGIN AND RELIGION UNDER THE CIVIL RIGHTS ACT OF 1964. THESE CURB RAMPS HAVE BEEN DESIGNED TO COMPLY WITH THE CURRENT ADA STANDARDS.
- PROVIDE WHEELCHAIR RAMPS AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. LOCATE WHEELCHAIR RAMPS AS DIRECTED BY THE ENGINEER WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT. WHERE TWO RAMPS ARE INSTALLED PLACE NOT LESS THAN 2 FEET OF FULL HEIGHT CURB BETWEEN THE RAMPS. PLACE DUAL RAMPS AS NEAR PERPENDICULAR TO THE TRAVEL LANE BEING CROSSED AS POSSIBLE.
- DO NOT EXCEED 0.08 (12:1) SLOPE ON THE WHEELCHAIR RAMP IN RELATIONSHIP TO THE GRADE OF THE STREET.
- CONSTRUCT WHEELCHAIR RAMPS 40" (3'-4") OR GREATER FOR DUAL RAMPS.
- USE CLASS "B" CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NON-SKID TYPE SURFACE.
- PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE WHEELCHAIR RAMP JOINS THE CURB AND AS SHOWN ON STD. DWG. 848.01.
- PLACE THE INSIDE PEDESTRIAN CROSSWALK LINES NO CLOSER IN THE INTERSECTION BY BISECTING THE INTERSECTION RADIUS, WITH ALLOWANCE OF A 4' CLEAR ZONE IN THE VEHICULAR TRAVELWAY WHEN ONE RAMP IS INSTALLED. (SEE NOTE 17)
- COORDINATE THE CURB CUT AND THE PEDESTRIAN CROSSWALK LINES SO THE FLOOR OF THE WHEELCHAIR RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES. PLACE DIAGONAL RAMPS WITH FLARED SIDES SO 24" OF FULL HEIGHT CURB FALLS WITHIN THE CROSSWALK MARKINGS ON EACH SIDE OF THE FLARES.
- CONSTRUCT THE PEDESTRIAN CROSSWALK A MINIMUM OF 6 FEET. A CROSSWALK WIDTH OF 10 FEET OR GREATER IS DESIRABLE.
- USE STOP LINES, NORMALLY PERPENDICULAR TO THE LANE LINES, WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN OR OTHER LEGAL REQUIREMENT. AN UNUSUAL APPROACH SKEW MAY REQUIRE THE PLACEMENT OF THE STOP LINE TO BE PARALLEL TO THE INTERSECTING ROADWAY.
- TERMINATE PARKING A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK.
- PLACE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION AND THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD.

STATE OF  
NORTH CAROLINA  
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**WHEELCHAIR RAMP**  
PROPOSED CURB AND GUTTER

SHEET 3 OF 3  
**848D05**

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

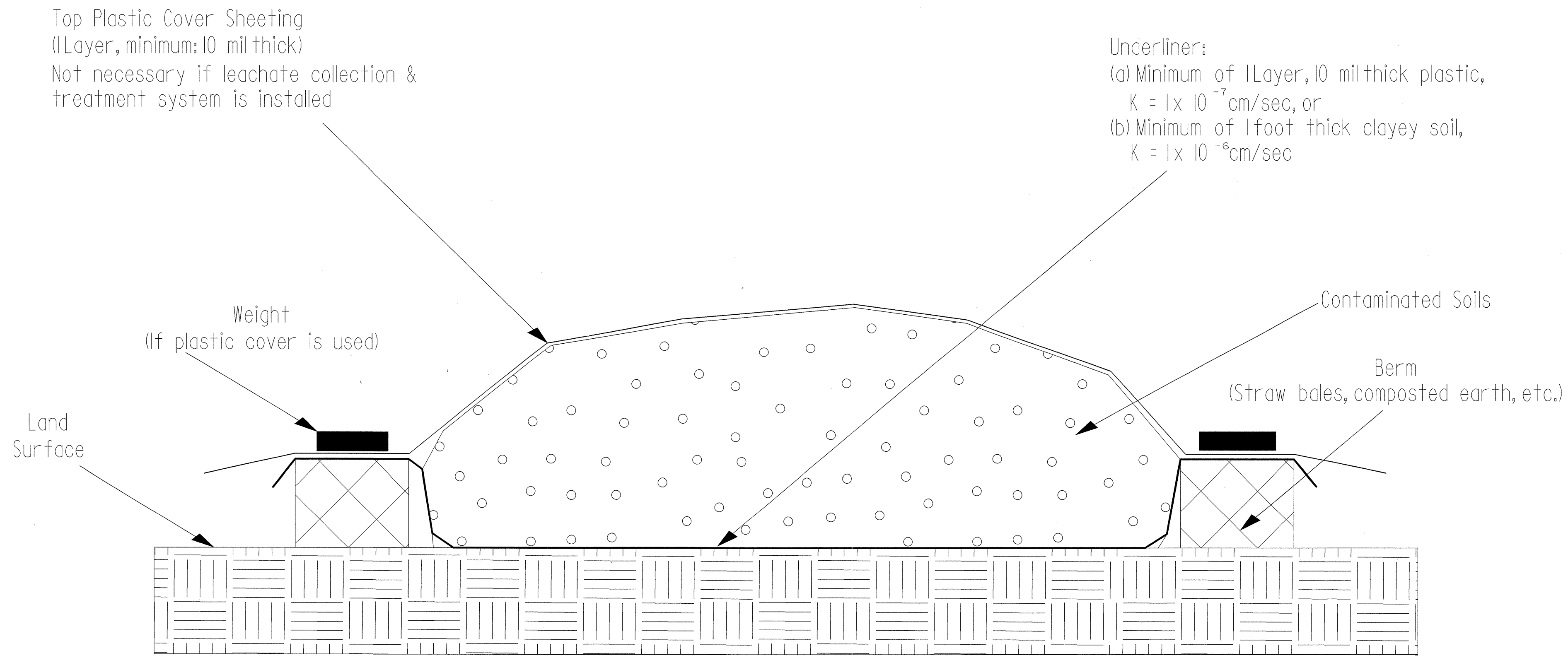
**SEE PLATE FOR TITLE**

ORIGINAL BY: STD.NO.848.05 DATE: 4-22-10  
 MODIFIED BY: *[Signature]* DATE: *[Date]*  
 CHECKED BY: *[Signature]* DATE: 4/22/10  
 FILE SPEC.: SpecialDetails\EricWard\STDs\848d05.dgn

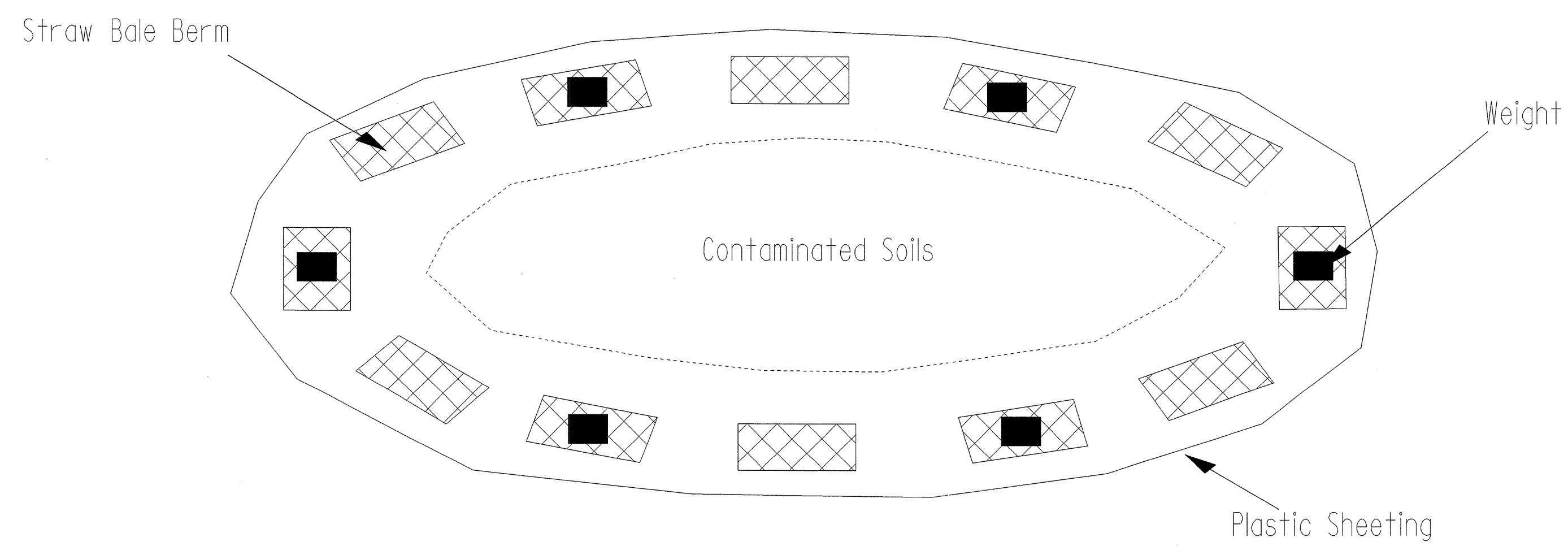


# Detail for Temporary Containment of Contaminated Soil

## Cross-Section View



## Map View



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202127

Table with columns: ItemNumber, Sec #, Quantity, Unit, Description. Contains items 0000100000-N through 4430000000-N.

Table with columns: ItemNumber, Sec #, Quantity, Unit, Description. Contains items 4435000000-N through 6096000000-E.

Table with columns: ItemNumber, Sec #, Quantity, Unit, Description. Contains items 6108000000-E through 6900000000-E.

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COMPUTED BY: MJJ DATE: 11-14-08  
CHECKED BY: DYP DATE: 11-17-08

PROJECT REFERENCE NO. B-4820 SHEET NO. 3-A

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA  
GUARDRAIL SUMMARY

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.  
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.  
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.  
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.  
G = GATING IMPACT ATTENUATOR TYPE 350  
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

Table with columns: SURVEY LINE, BEG. STA., END STA., LOCATION, LENGTH (STRAIGHT, SHOP CURVED, DOUBLE FACED), WARRANT POINT (APPROACH END, TRAILING END), "N" DIST. FROM E.O.L., TOTAL SHOULDER WIDTH, FLARE LENGTH (APPROACH END, TRAILING END), W (APPROACH END, TRAILING END), ANCHORS (TES), IMPACT ATTENUATOR TYPE 350 (PERMITTED NO., G, NG), REMARKS.

ADDITIONAL GUARDRAIL POST = 1 EACH

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

SUMMARY OF EARTHWORK IN CUBIC YARDS

Table with columns: SURVEY LINE, STATION, STATION, LOCATION LT/RT/CL, YD2.

Table with columns: LOCATION, UNCLASSIFIED EXCAVATION, UNDERCUT, EMBT +%, BORROW, WASTE.

SUMMARY OF EXISTING CONCRETE PAVEMENT REMOVAL

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 & Grubbing, and Removal of Existing Pavement will be paid for at the lump sum price for "grading".

Table with columns: SURVEY LINE, STATION, STATION, LOCATION LT/RT/CL, YD2.

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

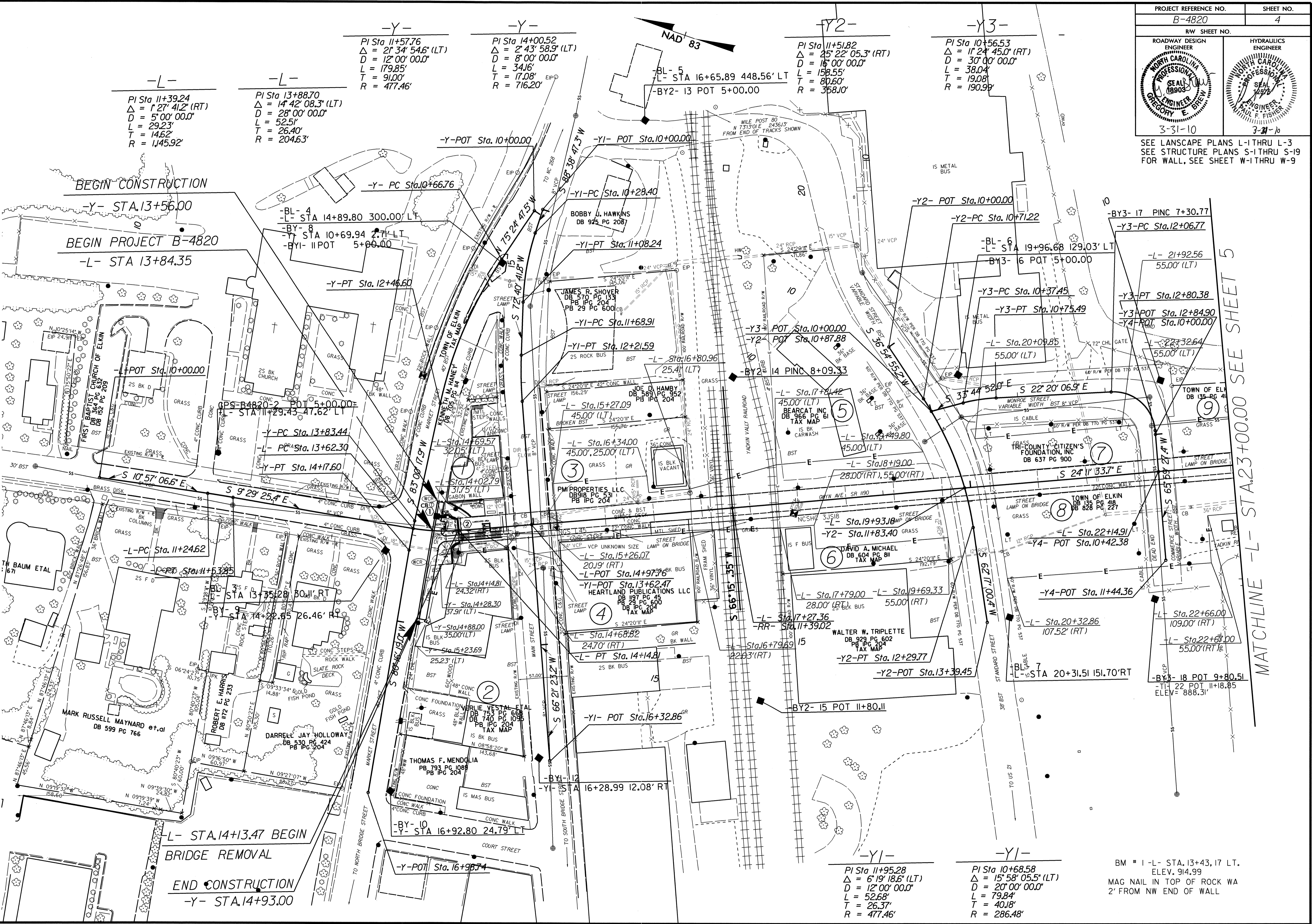
Large table with columns: STATION, LOCATION (LT, RT, OR CU), STRUCTURE NO., TOP ELEVATION, INVERT ELEVATION, SLOPE CRITICAL, CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE), BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE), CLASS III R.C. PIPE OR ALUMINIZED C.S. PIPE, TYPE IR OR HDPE PIPE, TYPE S OR D, ENDWALLS (STD. 838.01, STD. 838.11, OR STD. 838.80), QUANTITIES FOR DRAINAGE STRUCTURES (PER EACH (0' THRU 5.0'), 5.0' THRU 10.0', 10.0' AND ABOVE), TYPE OF GRATE (E, F, G), CONCRETE TRANSITIONAL SECTION (CATCH BASIN, DROP INLET), 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.F.T., ABBREVIATIONS (C.B., N.D.I., D.I., G.D.I., G.D.I. (N.S.), J.B., M.H., T.B.D.I., T.B.J.B.), REMARKS.

6/16/99  
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SEE LANSCAPE PLANS L-1 THRU L-3  
SEE STRUCTURE PLANS S-1 THRU S-19  
FOR WALL, SEE SHEET W-1 THRU W-9

09-MAR-2010 16:42  
 R:\Roadwork\PC\105\Net\theoradius\B4820\_r.dwg p14.dgn  
 8.17.99



$\Delta = 127^\circ 41' 2''$  (RT)  
 $D = 5' 00'' 00.0''$   
 $L = 29.23'$   
 $T = 14.62'$   
 $R = 145.92'$

$\Delta = 14^\circ 42' 08.3''$  (LT)  
 $D = 28' 00'' 00.0''$   
 $L = 52.51'$   
 $T = 26.40'$   
 $R = 204.63'$

$\Delta = 2^\circ 34' 54.6''$  (LT)  
 $D = 12' 00'' 00.0''$   
 $L = 179.85'$   
 $T = 91.00'$   
 $R = 477.46'$

$\Delta = 2^\circ 43' 58.9''$  (LT)  
 $D = 8' 00'' 00.0''$   
 $L = 34.16'$   
 $T = 17.08'$   
 $R = 716.20'$

$\Delta = 25^\circ 22' 05.3''$  (RT)  
 $D = 16' 00'' 00.0''$   
 $L = 158.55'$   
 $T = 80.60'$   
 $R = 358.10'$

$\Delta = 11^\circ 24' 45.0''$  (RT)  
 $D = 30' 00'' 00.0''$   
 $L = 38.04'$   
 $T = 19.08'$   
 $R = 190.99'$

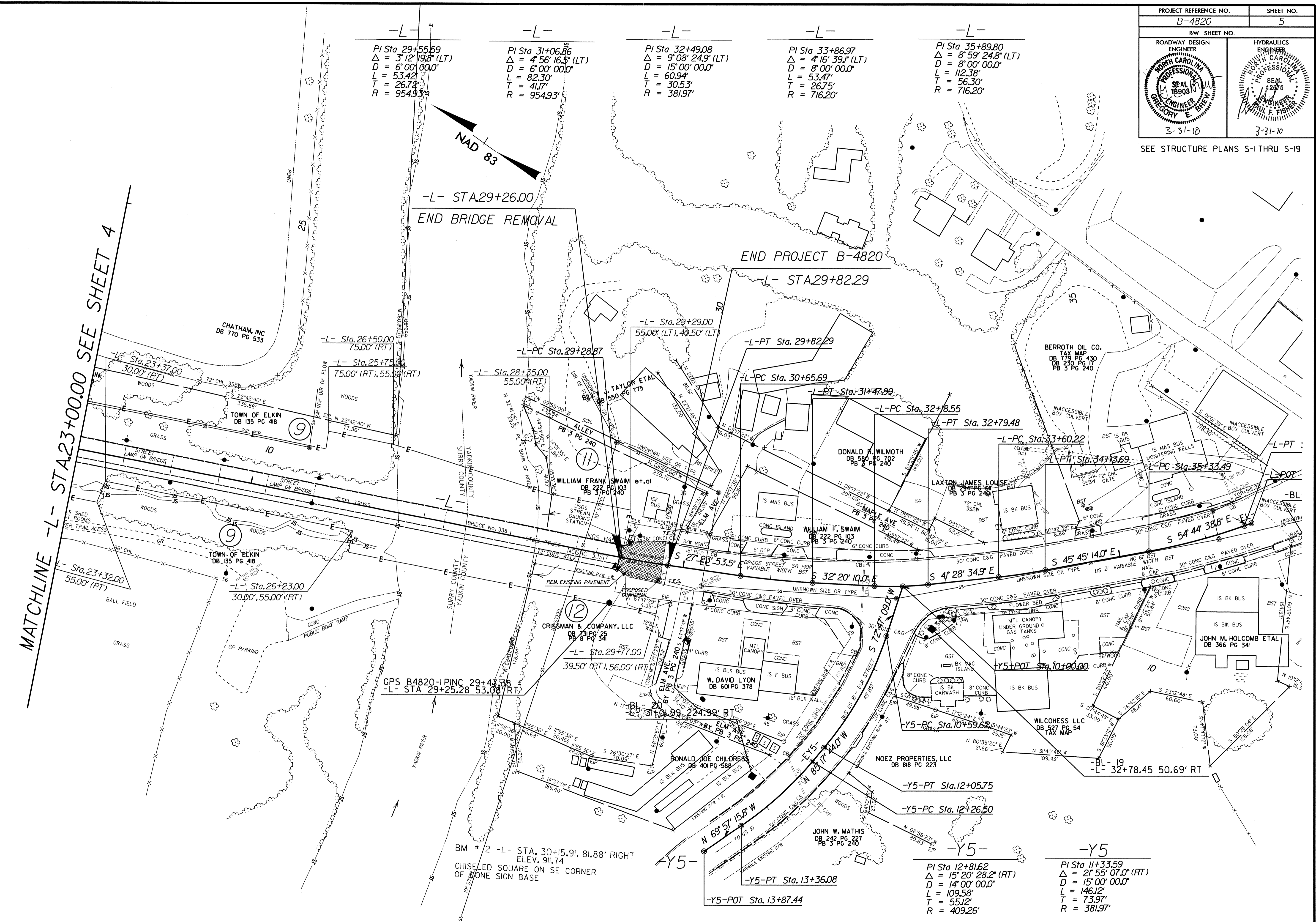
$\Delta = 6^\circ 19' 18.6''$  (LT)  
 $D = 12' 00'' 00.0''$   
 $L = 52.68'$   
 $T = 26.37'$   
 $R = 477.46'$

$\Delta = 15^\circ 58' 05.5''$  (LT)  
 $D = 20' 00'' 00.0''$   
 $L = 79.84'$   
 $T = 40.18'$   
 $R = 286.48'$

BM # 1 - STA. 13+43.17 LT.  
 ELEV. 914.99  
 MAG NAIL IN TOP OF ROCK WA  
 2' FROM NW END OF WALL

MATCHLINE - L - STA. 23+00.00 SEE SHEET 5

SEE STRUCTURE PLANS S-1 THRU S-19



-L-  
PI Sta 29+55.59  
Δ = 3° 12' 19.8" (LT)  
D = 6° 00' 00.0"  
L = 53.42'  
T = 26.72'  
R = 954.93'

-L-  
PI Sta 31+06.86  
Δ = 4° 56' 16.5" (LT)  
D = 6° 00' 00.0"  
L = 82.30'  
T = 41.17'  
R = 954.93'

-L-  
PI Sta 32+49.08  
Δ = 9° 08' 24.9" (LT)  
D = 15° 00' 00.0"  
L = 60.94'  
T = 30.53'  
R = 381.97'

-L-  
PI Sta 33+86.97  
Δ = 4° 16' 39.1" (LT)  
D = 8° 00' 00.0"  
L = 53.47'  
T = 26.75'  
R = 716.20'

-L-  
PI Sta 35+89.80  
Δ = 8° 59' 24.8" (LT)  
D = 8° 00' 00.0"  
L = 112.38'  
T = 56.30'  
R = 716.20'

MATCHLINE -L- STA.23+00.00 SEE SHEET 4

-L- STA.29+26.00  
END BRIDGE REMOVAL

END PROJECT B-4820

-L- STA.29+82.29

-L- Sta.26+50.00  
75.00' (RT)

-L- Sta.25+75.00  
75.00' (RT), 55.00' (RT)

-L-PC Sta.29+28.87

-L- Sta.29+29.00  
55.00' (LT), 40.50' (LT)

-L-PT Sta.29+82.29

-L-PC Sta.30+65.69

-L-PT Sta.31+47.99

-L-PC Sta.32+8.55

-L-PT Sta.32+79.48

-L-PC Sta.33+60.22

-L-PT Sta.34+33.69

-L-PC Sta.35+33.49

-L- Sta.23+32.00  
55.00' (RT)

-L- Sta.26+23.00  
30.00', 55.00' (RT)

GPS B4820-IPINC 29+43.38  
-L- STA 29+25.28 53.08' RT

-L- Sta.29+77.00  
39.50' (RT), 56.00' (RT)

-Y5-POT Sta.10+00.00

-Y5-PC Sta.10+59.62

-Y5-PT Sta.12+05.75

-Y5-PC Sta.12+26.50

-Y5-

-Y5-PT Sta.13+36.08

-Y5-POT Sta.13+87.44

-Y5

PI Sta 11+33.59  
Δ = 2° 55' 07.0" (RT)  
D = 15° 00' 00.0"  
L = 146.12'  
T = 73.97'  
R = 381.97'

BM # 2 -L- STA. 30+15.91, 81.88' RIGHT  
CHISELED SQUARE ON SE CORNER  
OF CONE SIGN BASE

8/17/99

REVISIONS

09-MAR-2010 16:35  
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