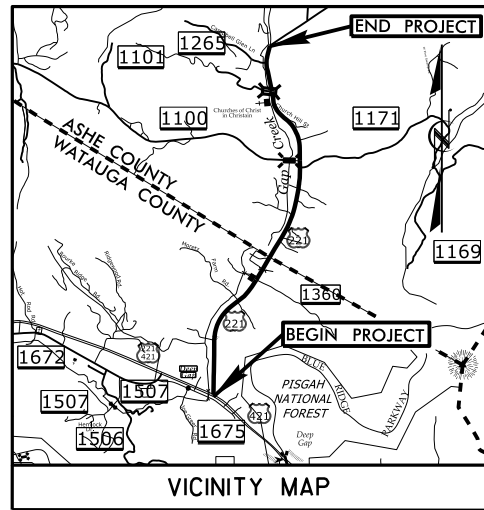


09/08/99

TIP PROJECT: R-2915A

CONTRACT:



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

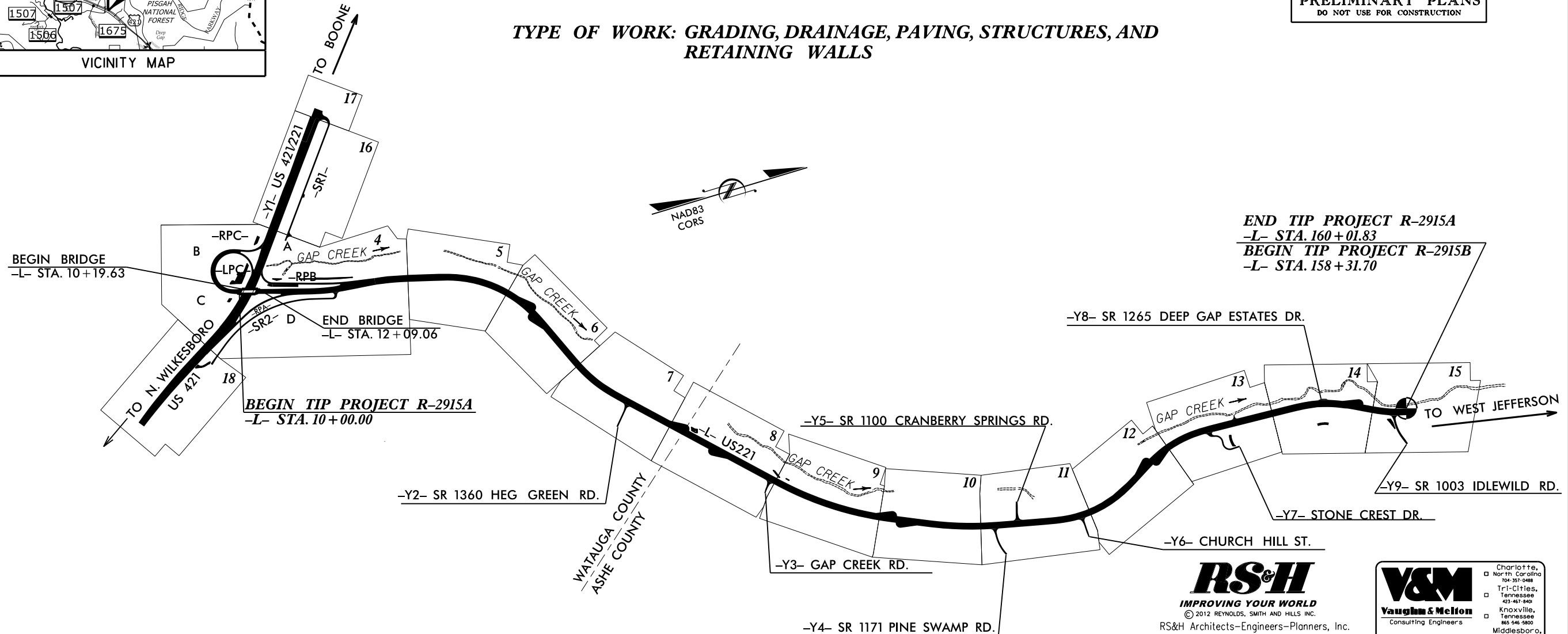
WATAUGA & ASHE COUNTIES

LOCATION: US 221 FROM US 421 IN WATAUGA COUNTY TO SR 1003
(IDLEWILD RD) IN ASHE COUNTY

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, AND
RETAINING WALLS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2915A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34518.1.2	STP-0221 (39)	P.E.	
34518.2.FR1	STP-0221 (39)	RW	
34518.2.UFR1	STP-0221 (39)	UTILITIES	

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

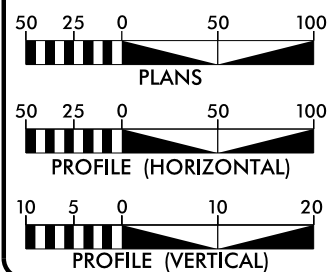


THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

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IMPROVING YOUR WORLD
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RS&H Architects-Engineers-Planners, Inc.
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Phone: 704-752-0610
NC License No. F-0493 www.rsandh.com

V&M
Vaughn & Melton
Consulting Engineers
Asheville, North Carolina
828-253-2796
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GRAPHIC SCALES



DESIGN DATA

ADT 2015 = 11970
ADT 2035 = 20400
K = 10 %
D = 65 %
T = 9 %
V = 60 MPH
*(TTST 2%+DUALS 7%)
FUNC CLASS =
RURAL ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2915A = 2.805 MI.
LENGTH STRUCTURES TIP PROJECT R-2915A = 0.036 MI.
TOTAL LENGTH OF TIP PROJECT R-2915A = 2.841 MI.

Prepared In the Office of:
VAUGHN & MELTON
1318-F PATTON AVE.
ASHEVILLE NC, 28806
FOR NCDOT DIVISION OF HIGHWAYS

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 30, 2013

LETTING DATE:
JUNE 16, 2015

REECE SCHULER, PE
PROJECT ENGINEER

AARON CARVER, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT:
BRENDA MOORE, PE

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN
ENGINEER

SIGNATURE: P.E.



08-JUL-2014 10:25
R:\Roadway\Proj\R-2915A_rdy.tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

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	
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	
Known Soil Contamination: Area or Site	
Potential Soil Contamination: Area or Site	

BUILDINGS AND OTHER CULTURE:

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

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:

Standard Gauge	
RR Signal Milepost	
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	
Proposed Right of Way Line with Iron Pin and Cap Marker	
Proposed Right of Way Line with Concrete or Granite R/W Marker	
Proposed Control of Access Line with Concrete C/A 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 Drainage / Utility Easement	
Proposed Permanent Utility Easement	
Proposed Temporary Utility Easement	
Proposed Aerial Utility Easement	

Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
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	

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:

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:

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:

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:

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:

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

SANITARY SEWER:

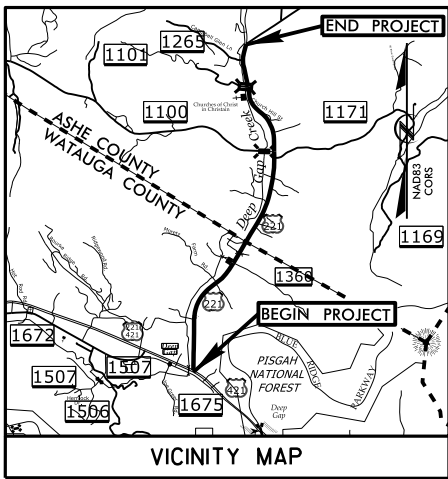
Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
Recorded SS Forced Main Line	
Designated SS Forced Main Line (S.U.E.*)	

MISCELLANEOUS:

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

SURVEY CONTROL SHEET R-2915A

PROJECT REFERENCE NO.	SHEET NO.
34518.1.1	1-C
Location and Surveys	



NC DOT STATION R2915-1
LOCALIZED PROJECT COORDINATES
N= 916355.6590
E= 1255522.7760

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET	BY1	POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
BL 31	BL 31	914231.3163	1260881.4743	2996.36	18+88.74	112.22 LT	BY166	BY1 66	918669.8285	1261677.3259	2985.67	OUTSIDE PROJECT LIMITS		
BL 32	BL 32	915956.9898	1260189.7839	2992.35	19+28.12	116.45 LT	BY167	BY1 67	918487.4172	1262218.1671	2985.37	15+58.06	7.62 LT	
BL 33	BL 33	916426.7594	1260896.2899	2984.52	32+94.88	48.21 LT	BY2							
BL 34	BL 34	917885.4249	1260255.2487	2976.26	39+78.38	8.26 RT		POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
BL 35	BL 35	917885.8857	1261827.9466	2972.55	51+12.98	1.78 RT		BY268	BY2 68	922865.1325	1263389.3999	2948.63	18+89.31	21.49 RT
BL 36	NCOS MON GAP	918669.8285	1261677.3259	2985.67	61+33.88	42.82 LT	BY269	BY2 69	922916.5088	1263629.3149	2948.73	12+47.91	28.69 RT	
R29153	GPS R2915-3	919149.7848	1261969.9688	2977.41	66+95.74	48.18 LT	BY270	BY2 70	923132.2288	1263891.8377	2968.15	15+82.72	11.27 LT	
R29154	GPS R2915-4	920506.4888	1262032.8578	2957.81	83+82.98	6.86 LT	BY271	BY2 71	923286.9352	1264241.1875	2979.74	19+62.86	12.73 LT	
BL 37	BL 37	921144.8567	1263188.9761	2945.15	89+56.48	9.35 RT	BY272	BY2 72	923319.6897	1264699.2989	2987.14	OUTSIDE PROJECT LIMITS		
BL 38	BL 38	922126.6192	1263321.6829	2943.48	100+85.24	1.19 LT	BY3							
BL 39	BL 39	922865.1325	1263389.3999	2948.63	107+47.13	33.61 LT	BY373	BY3 73	923173.7894	1262319.8864	2965.48	OUTSIDE PROJECT LIMITS		
BL 40	BL 40	923788.4131	1263314.5624	2943.82	115+95.28	57.84 RT	BY374	BY3 74	923173.4784	1262965.9563	2938.95	16+12.43	13.83 LT	
BL 41	BL 41	924139.8336	1263288.2637	2944.24	128+15.19	69.59 RT	BY375	BY3 75	922865.1325	1263389.3999	2948.63	OUTSIDE PROJECT LIMITS		
BL 42	BL 42	924588.7753	1262992.2353	2929.67	125+28.47	69.59 RT	BY4							
BL 43	BL 43	925844.2824	1262485.3746	2919.16	132+18.91	29.98 LT	BY476	BY4 76	926958.2639	1261951.4117	2912.85	OUTSIDE PROJECT LIMITS		
BL 44	BL 44	925745.5328	1262284.3667	2913.17	139+38.81	91.23 LT	BY477	BY4 77	926798.8827	1262869.3736	2989.83	14+82.89	27.96 RT	
BL 45	BL 45	926798.8827	1262869.3736	2909.83	149+97.33	68.46 LT	BY5							
R29155	GPS R2915-5	927532.5788	1262287.7918	2982.28	157+48.32	18.37 RT	BY578	BY5 78	927532.5788	1262287.7918	2982.28	18+89.69	106.83 RT	
BL 46	BL 46	928482.8888	1262144.5944	2985.48	OUTSIDE PROJECT LIMITS		BY579	BY5 79	928848.8446	1263848.8471	2928.92	OUTSIDE PROJECT LIMITS		
BL 47	BL 47	929326.9848	1262283.2698	2918.77	OUTSIDE PROJECT LIMITS									
BL 48	BL 48	929833.8683	1262134.8936	2912.87	OUTSIDE PROJECT LIMITS									
BL 49	BL 49	930252.5771	1261888.4631	2904.69	OUTSIDE PROJECT LIMITS									
BL 50	BL 50	930785.8836	1261535.5732	2897.84	OUTSIDE PROJECT LIMITS									
BL 51	BL 51	931116.8346	1261433.8556	2898.72	OUTSIDE PROJECT LIMITS									
BL 52	BL 52	931641.1471	1261537.6793	2881.92	OUTSIDE PROJECT LIMITS									
BL 53	BL 53	932216.8529	1261999.6996	2876.74	OUTSIDE PROJECT LIMITS									
BL 54	BL 54	932765.6858	1262461.6863	2874.49	OUTSIDE PROJECT LIMITS									
BL 55	BL 55	933354.5662	1263268.6938	2871.17	OUTSIDE PROJECT LIMITS									
BL 56	BL 56	933897.1988	1263685.8128	2878.83	OUTSIDE PROJECT LIMITS									
BL 57	BL 57	934899.1246	1263792.9538	2878.93	OUTSIDE PROJECT LIMITS									
BL 58	BL 58	935748.1689	1263888.7456	2884.86	OUTSIDE PROJECT LIMITS									
BL 59	BL 59	936429.4463	1263916.1781	2937.49	OUTSIDE PROJECT LIMITS									
BL 60	BL 60	937238.1186	1264883.2714	3084.18	OUTSIDE PROJECT LIMITS									

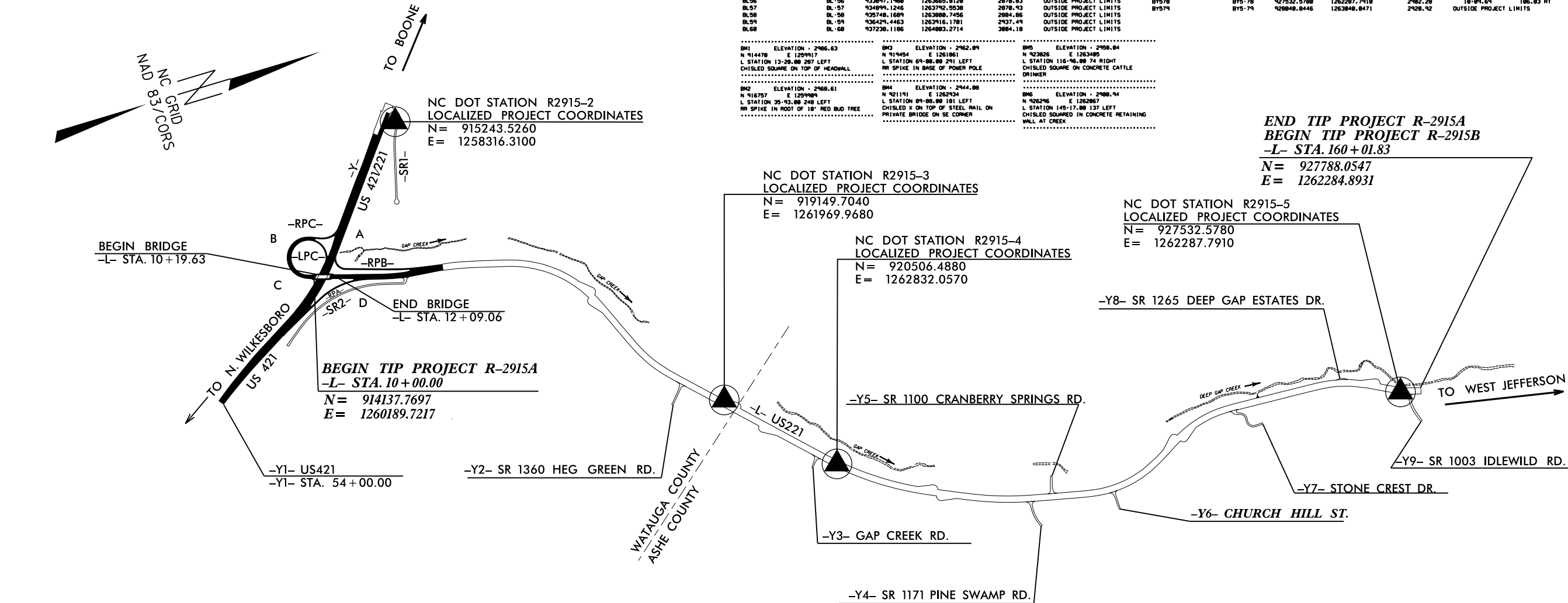
BM1 ELEVATION = 2986.63 N 914478 E 1259917 L STATION 13+28.88 287 LEFT CHISELED SQUARE ON TOP OF HEADWALL	BM3 ELEVATION = 2982.89 N 919454 E 1261861 L STATION 69+88.88 291 LEFT RR SPIKE IN BASE OF POWER POLE	BM5 ELEVATION = 2988.84 N 923826 E 1263485 L STATION 116+96.88 74 RIGHT CHISELED SQUARE ON CONCRETE CATTLE DRINKER
BM2 ELEVATION = 2988.61 N 916787 E 1259988 L STATION 35+93.88 248 LEFT RR SPIKE IN ROOT OF 18" RED BUD TREE	BM4 ELEVATION = 2944.88 N 921191 E 1262934 L STATION 89+88.88 181 LEFT CHISELED X ON TOP OF STEEL RAIL ON PRIVATE BRIDGE ON SE CORNER	BM6 ELEVATION = 2988.94 N 926296 E 1262887 L STATION 145+17.88 137 LEFT CHISELED SQUARE IN CONCRETE RETAINING WALL AT CREEK

END TIP PROJECT R-2915A
BEGIN TIP PROJECT R-2915B
-L- STA. 160+01.83
N= 927788.0547
E= 1262284.8931

NC DOT STATION R2915-5
LOCALIZED PROJECT COORDINATES
N= 927532.5788
E= 1262287.7910

NC DOT STATION R2915-3
LOCALIZED PROJECT COORDINATES
N= 919149.7040
E= 1261969.9680

NC DOT STATION R2915-4
LOCALIZED PROJECT COORDINATES
N= 920506.4880
E= 1262832.0570



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2915-15" WITH NAD 83/CORS STATE PLANE GRID COORDINATES OF NORTHING: 954880.7810(±ft) EASTING: 1254012.2870(±ft) ELEVATION: 3097.5210(±ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99991292 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R2915-15" TO -L- STATION 10+00.00 IS S 08°37'17" E 41208.6602 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

- NOTES:
- THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS OR BIASES.
 - THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: [HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/) THE FILES TO BE FOUND ARE AS FOLLOWS:
R2915A_LS_GPSCALIB.HTML
R2915A_LS_WGS84.TXT
R2915A_LS_LOCAL.TXT
R2915A_LS_CONTROL.TXT
THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT. PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM. SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary			
	Minimum error	Root Mean Square error	Final
Horizontal	0.00141	0.006	17.97543 0.00141
Vertical	0.00141	0.006	17.97543 0.00141
Three-dimensional	0.00830	0.011	0.00100 0.00830

Point Coordinates					
WGS84 Coordinates		Calculated point FORUMSLEY UTM		Local Coordinates	
Point	899 111 WGS84	Northing	684314679m	Point	899111 Local
Latitude	16°51'30.164273"	Easting	1123512.7006m	Northing	684314679m
Longitude	80°11'18.880796"	Elevation	9127.778m	Easting	1123512.7006m
Height	912.828m	Horizontal	1123.51m	Elevation	9127.78m
		Vertical	1.73m	Utilized	Forum View
		SS error	1.73m	Quality	Survey grade

PLA	82803.2 (40.00%)	North	88303.5 (40.00%)	PLA	82803.2 (40.00%)
Latitude	20.7118.6 (24.00%)	Area	111.693 (24.00%)	Longitude	90.7118.6 (24.00%)
Longitude	82.5934.3 (24.00%)	Elevation	393.6 (24.00%)	Flow	47.6 (24.00%)
Height	393.6 (24.00%)	Water	1.0 (24.00%)	Flow	47.6 (24.00%)
		Water	1.0 (24.00%)	Flow	47.6 (24.00%)
		Water	1.0 (24.00%)	Flow	47.6 (24.00%)
		Water	1.0 (24.00%)	Flow	47.6 (24.00%)

Model	PRO C3 800000	Serialing	001124773000	Plate: PRO C3 Travel	
Latitude	37°12'59" 999.97N	Timing	177°36'59.993000E	Location	001124773000
Longitude	82°10'11" 999.97W	Elevation	99.71000000	Timing	177°36'59.993000E
Height	104.11000000	Horizontal	1.110000	Elevation	99.71000000
		Vertical error	1.100000	Timing	177°36'59.993000E
		SD error	1.100000	Quality	Survey Grade

Notes:	10/20/17 - 10/21/17	Northings:	943.000 (1997)	Factor: 1.000000000	
Latitude:	24°52'13.000"N	Eastings:	125502.204830	Perim:	16.600000000
Longitude:	82°30'18.000"W	Elevations:	200.000 (1988)	Perim:	16.600000000
Height:	120.000 (1988)	Area:	1.00000	Elevations:	120.000 (1988)
		Volume:	1.00000	Adjusted:	120.000 (1988)
		3D Area:	1.00000	Quality:	Excellent

Price	\$99.50 (MSRP)	Shipping	\$27.00 (USPS)	Price (MSRP + taxes)	
Estimate	\$126.50 (USPS)	Routing	\$25.00 (USPS)	Routing	\$25.00 (USPS)
Expenditure	\$126.50 (USPS)	Expenditure	\$25.00 (USPS)	Expenditure	\$25.00 (USPS)
Weight	200.00 (USPS)	Mass error	1.00 (USPS)	Weight	200.00 (USPS)
		Volume error	1.00 (USPS)	Volume	200.00 (USPS)
		SD error	1.00 (USPS)	Quality	200.00 (USPS)

Point	92513-6 W1284	Northing	92500.4491m	Point 12513-6 Local	
Easting	761611.017317m	Easting	1241670.05196m	Northing	924951.4192m

Longitude	12.2511664779	Month	20161226	Latting	230.1249136
Height	70.128879	Humidity	71.8%	Elevation	107.278879
		Windmax	1.1161	Pressure	1013.0561
		SD error	1.1784	Quality	Strong quality

Notes	K2000-7 005884	Location	54-080.1480m	Notes	K2000-7 Local
Latitude	26°17'29.88957N	Easting	1263389.7338m	Location	54-021.5750m
Longitude	101°28'56.01874E	Elevation	1670.4116m	Easting	1260148.7610m
Height	1767.4982m	Horizontal	3.514m	Elevation	1880.4176m
		Vertical	1.707m	Location	54-021.5750m
		Vertical	1.715m	Quality	Source quality

Index	R2004-8 WGS84	Heading	99.98714165	Index	R2004-8 Local
Latitude	50.71759 40.80079	Altitude	17.9271 49.974	Heading	99.98714165
Longitude	8.15461 15.61296	Elevation	5875.10783	Altitude	17.9271 49.974
RollAngle	7.98 928.98	True course	1.0186	Elevation	5875.10783
		Course over	1.0186	RollAngle	7.98 928.98
		SD course	1.0186	Quality	Course quality

Index	184101-184103	Necking	99301-199303	Index 184101-184103	
Latitude	184101-184103	Radius	199301-199303	Necking	99301-199303
Longitude	184101-184103	Elevation	209301-209303	Latitude	184101-184103
Height	184101-184103	Area	219301-219303	Longitude	184101-184103
		Volume	229301-229303	Height	184101-184103
		Mass	239301-239303	Volume	229301-229303
		Quality	249301-249303	Mass	239301-239303

Brand	SHIMANO 105 11-12-13-14	Condition	NEW (100% ORIGINAL)	Brand	SHIMANO 105 11-12-13-14
Location	10000000000000000000	Condition	NEW (100% ORIGINAL)	Location	10000000000000000000
Weight	28000000000000000000	Condition	NEW (100% ORIGINAL)	Weight	28000000000000000000

Index	115715-11 Level	Neotoma	94546-0272nd	Index	115715-11 Level
Latitude	36.91266412371	Longitude	122.83744212nd	Neotoma	94546-02110th
Longitude	81.2701244879	Elevation	290.0002nd	Latitude	122.83744212nd
Height	262.17012nd	Mass curve	1.0112nd	Elevation	1481.0002nd
		Neotoma	1.022nd	Latitude	Mass and Curve
		3D curve	1.022nd	Quality	Curve quality

Index	R2016.10.015534	Modeling	0430X015534	Index	R2016.10.015534
Latitude	36°12'26.12444"N	Targeting	11.8129148104	Modeling	0430X015534
Longitude	87°17'00.45213"W	Description	2064349104	Targeting	11.8129148104
Height	387.679963	Measurements	Y1183	Elevation	1183.679963
		Uncertainty	1.1582	Roll	0.0000000000
		SD error	1.1582	Quality	Survey quality

Forest	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	2019-2020	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	2031-2032	2033-2034	2035-2036	2037-2038	2039-2040	2041-2042	2043-2044	2045-2046	2047-2048	2049-2050	2051-2052	2053-2054	2055-2056	2057-2058	2059-2060	2061-2062	2063-2064	2065-2066	2067-2068	2069-2070	2071-2072	2073-2074	2075-2076	2077-2078	2079-2080	2081-2082	2083-2084	2085-2086	2087-2088	2089-2090	2091-2092	2093-2094	2095-2096	2097-2098	2099-2100	2101-2102	2103-2104	2105-2106	2107-2108	2109-2110	2111-2112	2113-2114	2115-2116	2117-2118	2119-2120	2121-2122	2123-2124	2125-2126	2127-2128	2129-2130	2131-2132	2133-2134	2135-2136	2137-2138	2139-2140	2141-2142	2143-2144	2145-2146	2147-2148	2149-2150	2151-2152	2153-2154	2155-2156	2157-2158	2159-2160	2161-2162	2163-2164	2165-2166	2167-2168	2169-2170	2171-2172	2173-2174	2175-2176	2177-2178	2179-2180	2181-2182	2183-2184	2185-2186	2187-2188	2189-2190	2191-2192	2193-2194	2195-2196	2197-2198	2199-2200	2201-2202	2203-2204	2205-2206	2207-2208	2209-2210	2211-2212	2213-2214	2215-2216	2217-2218	2219-2220	2221-2222	2223-2224	2225-2226	2227-2228	2229-2230	2231-2232	2233-2234	2235-2236	2237-2238	2239-2240	2241-2242	2243-2244	2245-2246	2247-2248	2249-2250	2251-2252	2253-2254	2255-2256	2257-2258	2259-2260	2261-2262	2263-2264	2265-2266	2267-2268	2269-2270	2271-2272	2273-2274	2275-2276	2277-2278	2279-2280	2281-2282	2283-2284	2285-2286	2287-2288	2289-2290	2291-2292	2293-2294	2295-2296	2297-2298	2299-2300	2301-2302	2303-2304	2305-2306	2307-2308	2309-2310	2311-2312	2313-2314	2315-2316	2317-2318	2319-2320	2321-2322	2323-2324	2325-2326	2327-2328	2329-2330	2331-2332	2333-2334	2335-2336	2337-2338	2339-2340	2341-2342	2343-2344	2345-2346	2347-2348	2349-2350	2351-2352	2353-2354	2355-2356	2357-2358	2359-2360	2361-2362	2363-2364	2365-2366	2367-2368	2369-2370	2371-2372	2373-2374	2375-2376	2377-2378	2379-2380	2381-2382	2383-2384	2385-2386	2387-2388	2389-2390	2391-2392	2393-2394	2395-2396	2397-2398	2399-2400	2401-2402	2403-2404	2405-2406	2407-2408	2409-2410	2411-2412	2413-2414	2415-2416	2417-2418	2419-2420	2421-2422	2423-2424	2425-2426	2427-2428	2429-2430	2431-2432	2433-2434	2435-2436	2437-2438	2439-2440	2441-2442	2443-2444	2445-2446	2447-2448	2449-2450	2451-2452	2453-2454	2455-2456	2457-2458	2459-2460	2461-2462	2463-2464	2465-2466	2467-2468	2469-2470	2471-2472	2473-2474	2475-2476	2477-2478	2479-2480	2481-2482	2483-2484	2485-2486	2487-2488	2489-2490	2491-2492	2493-2494	2495-2496	2497-2498	2499-2500	2501-2502	2503-2504	2505-2506	2507-2508	2509-2510	2511-2512	2513-2514	2515-2516	2517-2518	2519-2520	2521-2522	2523-2524	2525-2526	2527-2528	2529-2530	2531-2532	2533-2534	2535-2536	2537-2538	2539-2540	2541-2542	2543-2544
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Value	B2013-14: 406584	Yearling	522808.750000	Value B2013-14: Local	
Factor A	500000.750000	Feeding	1745825.000000	Marketing	407190.750000

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.
 2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
R2915A_LS_GPSCALIB.HTML
R2915A_LS_WGS84.TXT
R2915A_LS_LOCAL.TXT
R2915A_LS_CONTROL.TXT

THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

SURVEY CONTROL SHEET R-2915A

PROJECT REFERENCE NO.	SHEET NO.
34518.1.1	1-E
Location and Surveys	

Longitude	82°01'02.880177W
Height	987.08250

Altitude	3097.51000
Horizontal	0.00000
SD error	0.00000

Northing	1254012.28700
Easting	954880.78100
Quality	Survey quality

Longitude	82°01'02.880177W
Height	987.08250

Altitude	3097.51000
Horizontal	0.00000
SD error	0.00000

Northing	1254012.28700
Easting	954880.78100
Quality	Survey quality

Point	R2915-12 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Northing	394850.88000
Easting	1254012.28700
Horizontal	0.00000
SD error	0.00000

Point	R2915-13 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-12 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-13 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-16 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Northing	394850.88000
Easting	1254012.28700
Horizontal	0.00000
SD error	0.00000

Point	R2915-16 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-16 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-16 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-17 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Northing	394850.88000
Easting	1254012.28700
Horizontal	0.00000
SD error	0.00000

Point	R2915-17 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-17 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-17 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-18 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Northing	394850.88000
Easting	1254012.28700
Horizontal	0.00000
SD error	0.00000

Point	R2915-18 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-18 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-18 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-19 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Northing	394850.88000
Easting	1254012.28700
Horizontal	0.00000
SD error	0.00000

Point	R2915-19 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-19 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-19 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-20 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Northing	394850.88000
Easting	1254012.28700
Horizontal	0.00000
SD error	0.00000

Point	R2915-20 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-20 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-20 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-21 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Northing	394850.88000
Easting	1254012.28700
Horizontal	0.00000
SD error	0.00000

Point	R2915-21 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-21 WGS84
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-21 Local
Latitude	36°29'59.572007N
Longitude	82°01'02.880177W
Height	987.08250

Point	R2915-22 WGS84
Latitude	36°29'59.572007N

Northing	394850.88000
Easting	1254012.28700

Point	R2915-22 Local
Latitude	36°29'59.572007N

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2915-15" WITH NAD 83/CORS STATE PLANE GRID COORDINATES OF NORTHING: 954880.7810(ft) EASTING: 1254012.2870(ft) ELEVATION: 3097.5210(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99991292 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R2915-15" TO -L- STATION 10+00.00 IS S 08°37'17" E 41208.6602 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

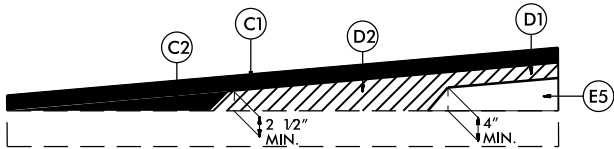
NOTES:

- THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.
- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: [HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION](https://connect.ncdot.gov/resources/location) THE FILES TO BE FOUND ARE AS FOLLOWS: R2915A_LS_GPSCALIB.HTML R2915A_LS_WGS84.TXT R2915A_LS_LOCAL.TXT R2915A_LS_CONTROL.TXT THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT. PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM. SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

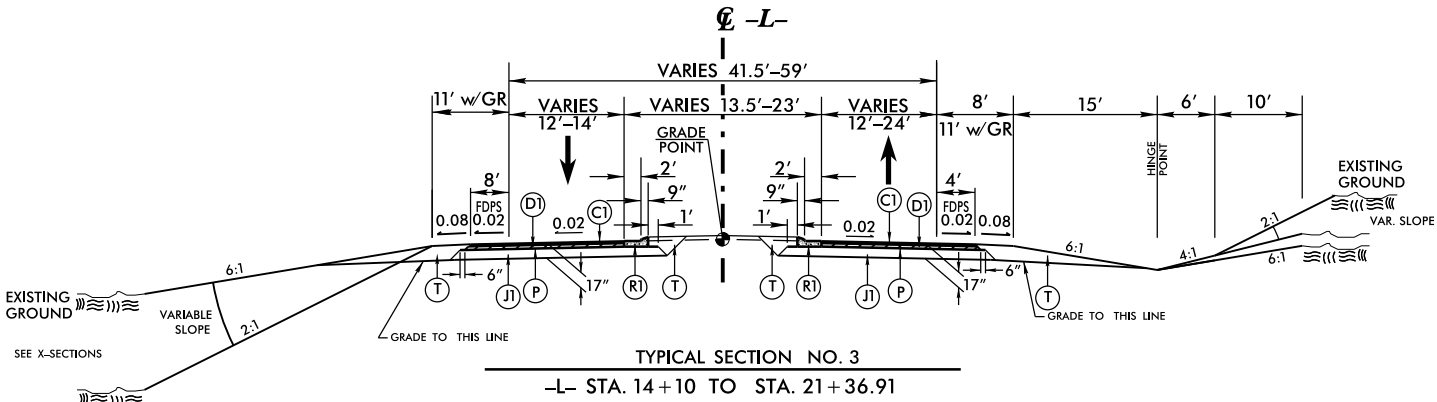
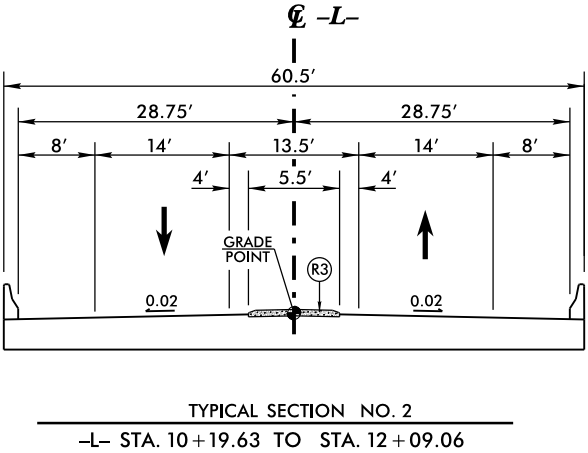
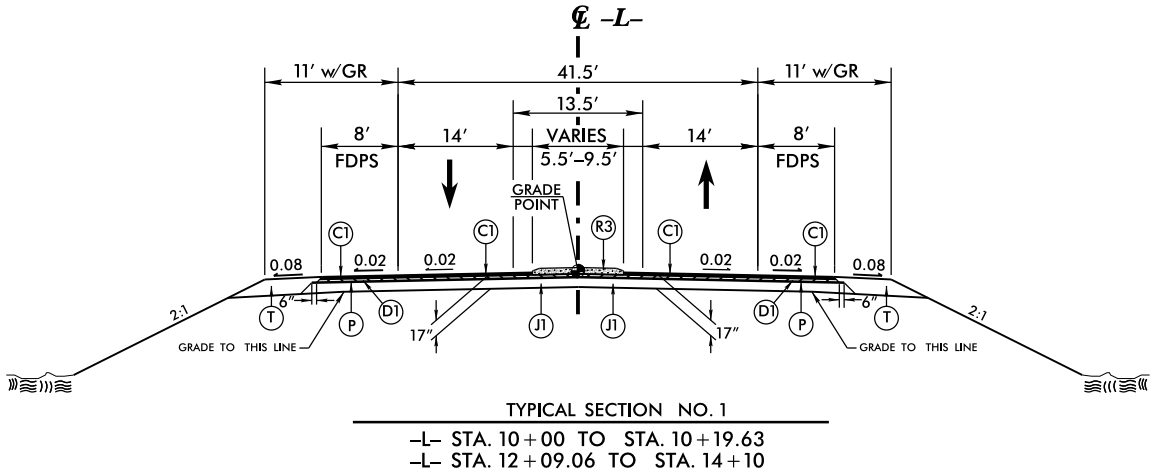
NOTE: DRAWING NOT TO SCALE

	PRELIMINARY PAVEMENT DESIGN
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 166 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0X, 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.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E3	PROP. APPROX. 4½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E4	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E5	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, 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.
J1	10" AGGREGATE BASE COURSE
P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
R1	2'-9" MOUNTABLE CURB & GUTTER
R2	2'-6" CURB & GUTTER
R3	5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
R4	CONCRETE EXPRESSWAY GUTTER
R5	DOUBLE FACED CONCRETE BARRIER, TYPE T
R6	DOUBLE FACED CONCRETE BARRIER, TYPE T1
R7	DOUBLE FACED CONCRETE BARRIER, TYPE T2
R8	SINGLE FACED CONCRETE BARRIER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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



Wedging Detail For -L-



PROJECT REFERENCE NO.	SHEET NO.
R-2915A	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

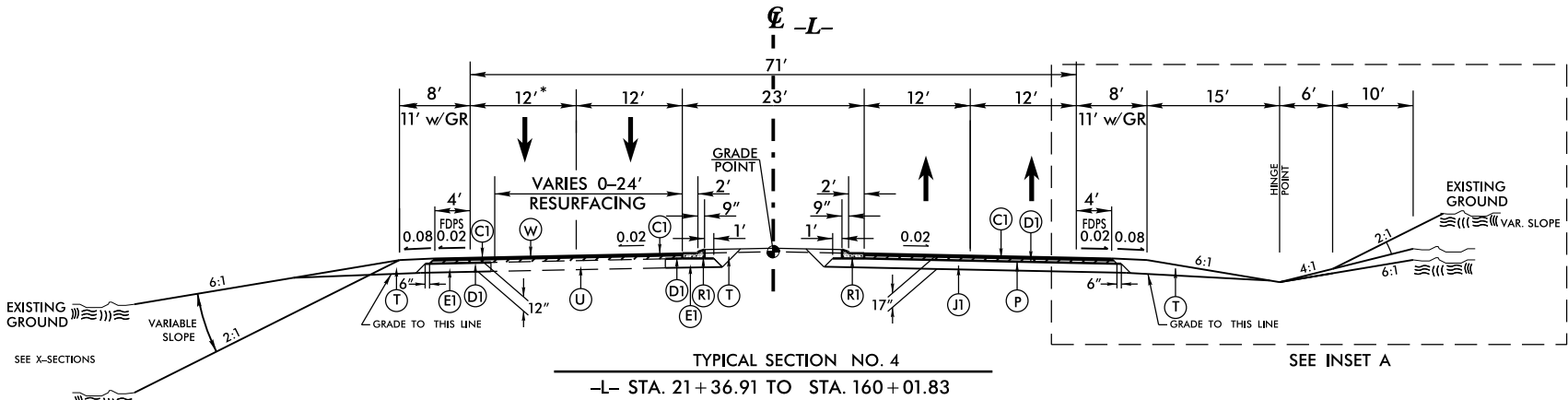
V&M
Vaughan & Melton
Consulting Engineers

Asheville, North Carolina
828-253-2796

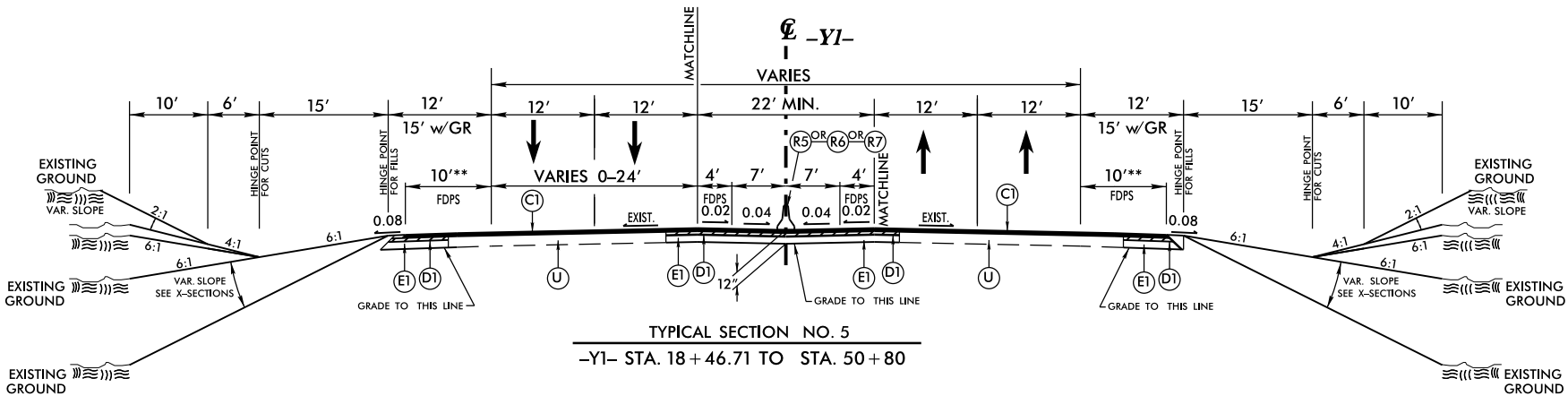
Charlottesville, North Carolina 704-571-0481
Tri-Cities, Tennessee 615-851-9800
Knoxville, Tennessee 865-544-5800
Middlesboro, Kentucky 606-444-4400
Spartanburg, South Carolina 803-534-4474

	PRELIMINARY PAVEMENT DESIGN
C1	3" S9.5B
C2	VAR. S9.5B
D1	4" I19.0B
D2	VAR. I19.0B
E1	5" B25.0B
E2	4" B25.0B
E3	4½" B25.0B
E4	5½" B25.0B
E5	VAR. B25.0B
J1	10" ABC
P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
R1	2'-9" MOUNTABLE CURB & GUTTER
R2	2'-6" CONCRETE CURB AND GUTTER.
R3	5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
R4	CONCRETE EXPRESSWAY GUTTER
R5	DOUBLE FACED CONCRETE BARRIER, TYPE T
R6	DOUBLE FACED CONCRETE BARRIER, TYPE T1
R7	DOUBLE FACED CONCRETE BARRIER, TYPE T2
R8	SINGLE FACED CONCRETE BARRIER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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



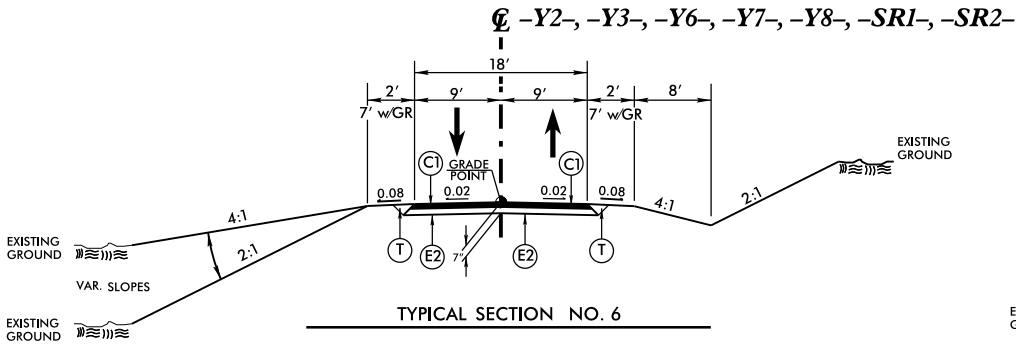
*NO OUTSIDE LANE -L- STA. 21+36.91 TO STA. 26+09.56
(SEE -RPB- ON TYPICAL SECTION NO. 10)



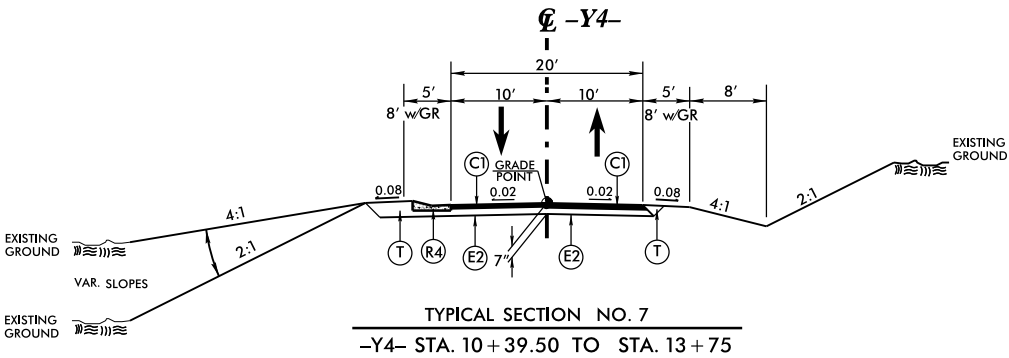
** EXISTING PAVED SHOULDER TO BE REMOVED

NOTE: RESURFACE AND WIDEN AS NEEDED
FROM -Y1- STA. 10+90 TO STA. 18+46.71
AND -Y1- STA. 50+80 TO STA. 54+00

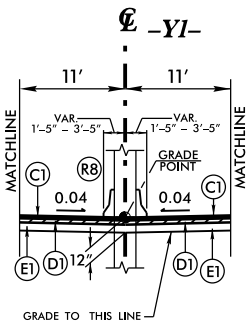
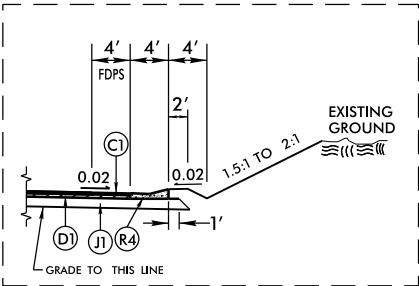
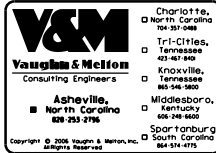
- (R6) USE DOUBLE FACED CONCRETE BARRIER TYPE T1 FOR:
-Y1- STA. 23+50 TO -Y1- STA. 33+00
-Y1- STA. 40+25 TO -Y1- STA. 48+50
- (R7) USE DOUBLE FACED CONCRETE BARRIER TYPE T2 FOR:
-Y1- STA. 33+00 TO -Y1- STA. 40+25



- SR1- STA. 10+52.00 TO STA. 22+80
-SR2- STA. 10+39.50 TO STA. 28+57.05
-Y2- STA. 10+39.50 TO STA. 13+20
-Y3- STA. 10+39.50 TO STA. 11+85
-Y6- STA. 10+39.50 TO STA. 12+70
-Y7- STA. 10+39.50 TO STA. 15+20
-Y8- STA. 14+96.57 TO STA. 15+14.50



PROJECT REFERENCE NO.	SHEET NO.
R-2915A	2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

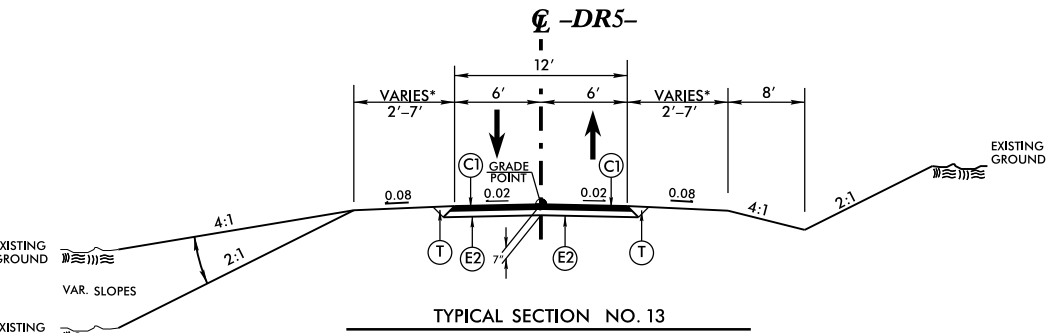
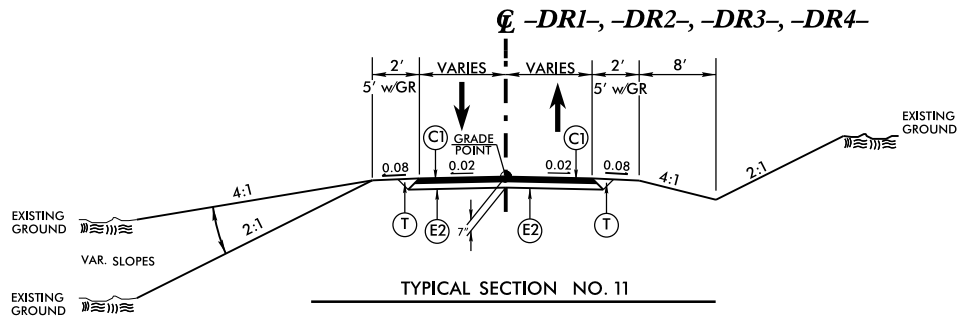
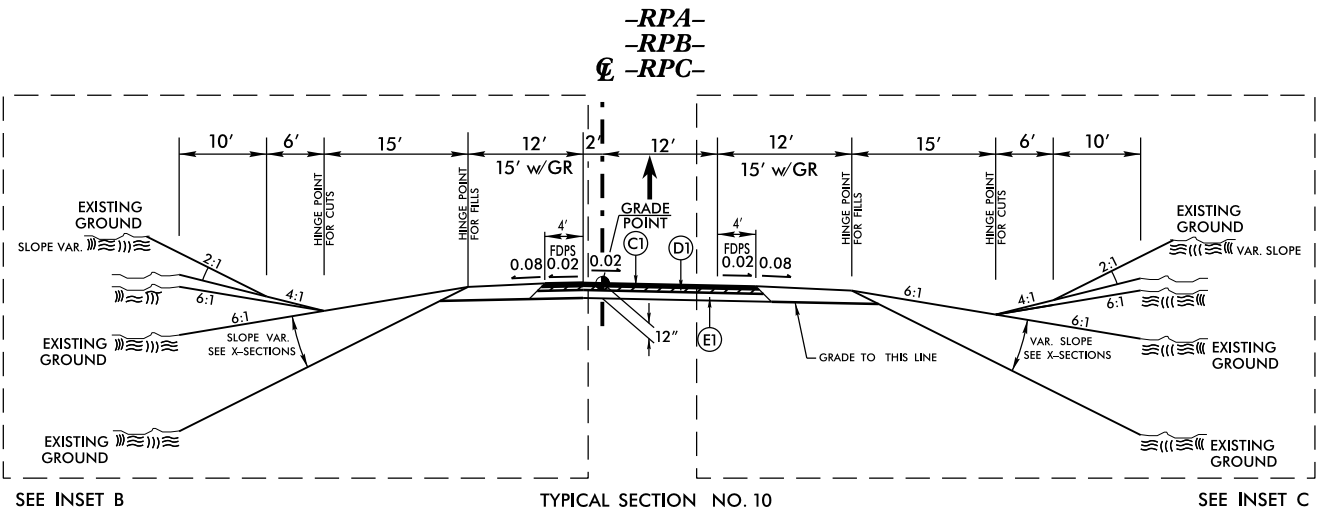
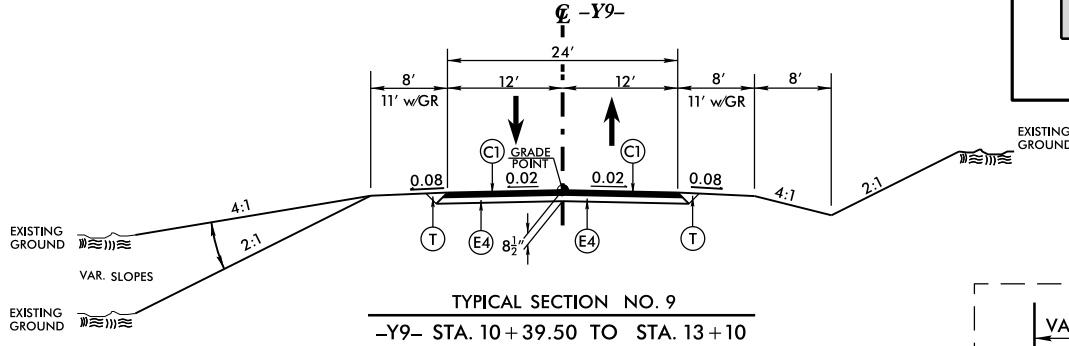
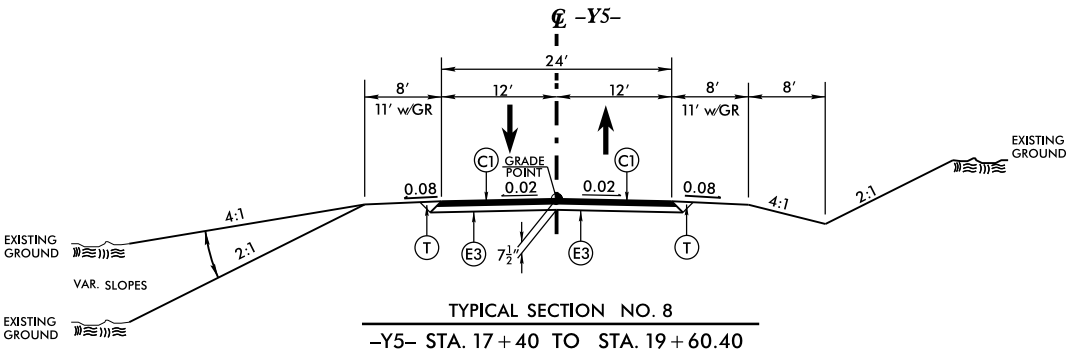


USE PARTIAL TYPICAL SECTION NO. 5A IN
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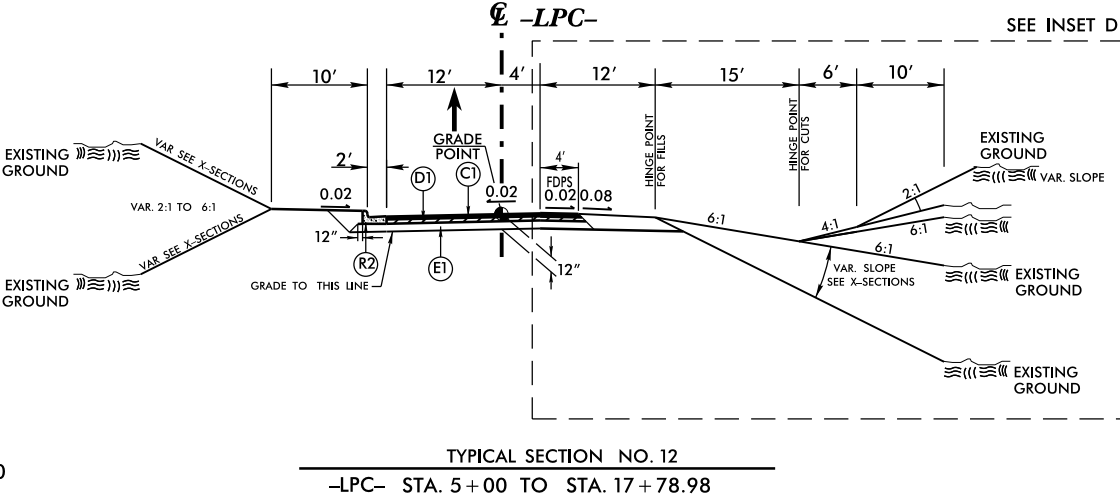
-Y1- STA. 33+00 TO STA. 34+70

	PRELIMINARY PAVEMENT DESIGN
C1	3" S9.5B
C2	VAR. S9.5B
D1	4" I19.0B
D2	VAR. I19.0B
E1	5" B25.0B,
E2	4" B25.0B,
E3	4½" B25.0B,
E4	5½" B25.0B,
E5	VAR. B25.0B,
J1	10" ABC
R1	2'-9" MOUNTABLE CURB & GUTTER
R2	2'-6" CONCRETE CURB AND GUTTER.
R3	5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
R4	CONCRETE EXPRESSWAY GUTTER
R5	DOUBLE FACED CONCRETE BARRIER, TYPE T
R6	DOUBLE FACED CONCRETE BARRIER, TYPE T1
R7	DOUBLE FACED CONCRETE BARRIER, TYPE T2
R8	SINGLE FACED CONCRETE BARRIER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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

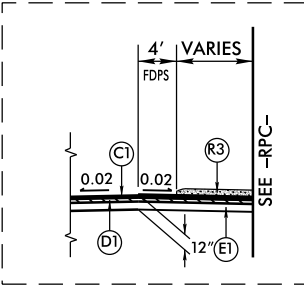
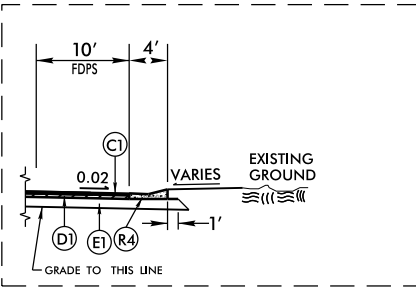
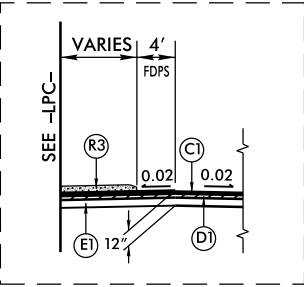


*NOTE: 2' SHOULDER WIDTH FROM -DR5- STA. 10+05 TO STA. 10+25
AND FROM -DR5- STA. 11+50 TO 11+79.20
7' SHOULDER WIDTH AT CREEK CROSSING FROM -DR5- STA. 10+75 TO STA. 11+00
TAPER SHOULDER WIDTH FROM -DR5- STA. 10+25 TO STA. 10+75
AND FROM -DR5- STA. 11+00 TO 11+50



PROJECT REFERENCE NO.	SHEET NO.
R-2915A	2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DRAINAGE DETAILS

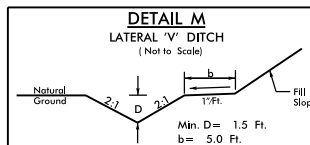
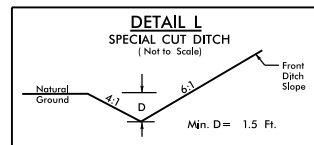
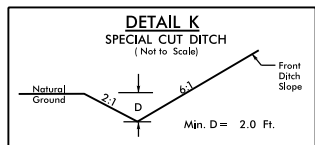
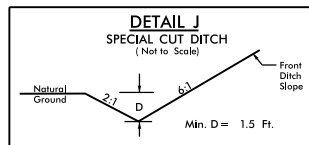
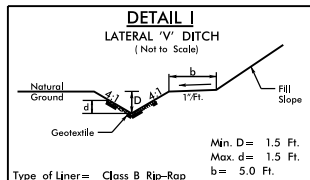
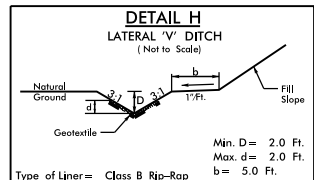
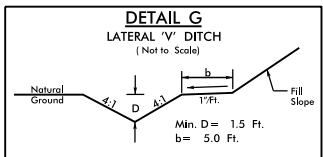
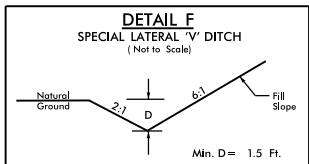
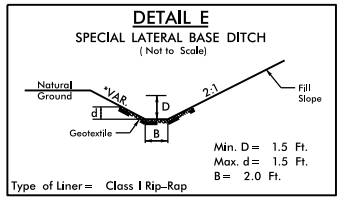
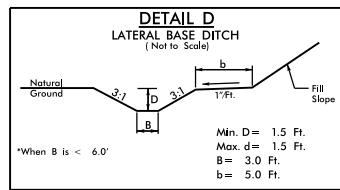
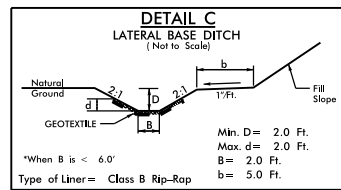
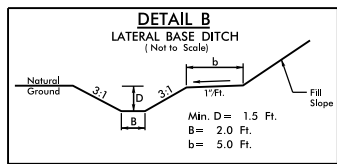
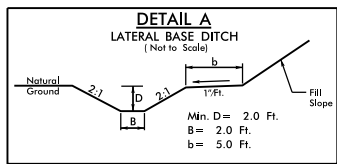
PROJECT REFERENCE NO.	SHEET NO.
R-2915A	2-C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

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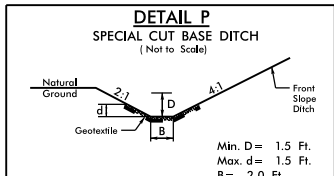
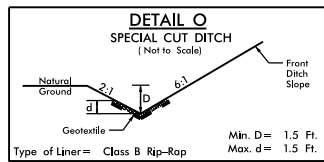
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854-574-4775

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NOTE:
DITCH DETAIL N
IS NOT BEING USED



DETAIL Q
RIP-RAPPED ENERGY DISSIPATOR BASIN

*NOTE A: IF EXIT VELOCITY OF BASIN IS SPECIFIED, EXTEND BASIN AS REQUIRED TO OBTAIN SUFFICIENT CROSS SECTIONAL AREA AT SECTION A-A SUCH THAT Q DES(CROSS SECTION AREA AT SEC. A-A) = SPECIFIED VELOCITY.

*NOTE B: WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL TOP OF RIP-RAP IN FLOOR OF BASIN SHOULD BE AT SAME ELEVATION OR LOWER THAN NATURAL CHANNEL BOTTOM AT SEC. A-A. PROVIDE SMOOTH TRANSITION FROM END OF APRON TO NATURAL CHANNEL WIDTH.

SECTION

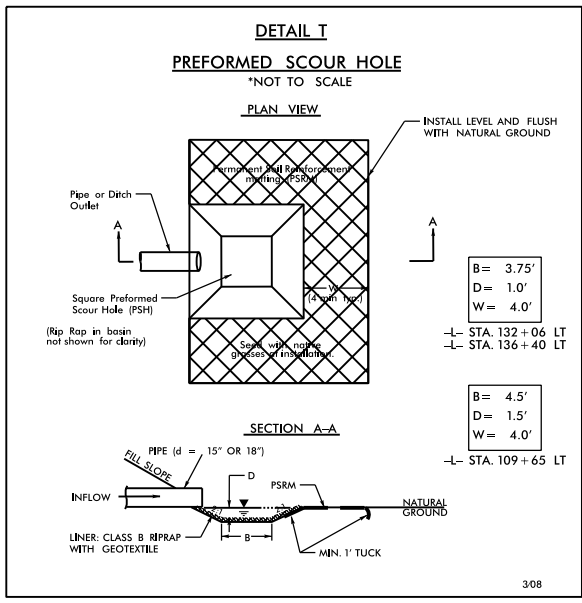
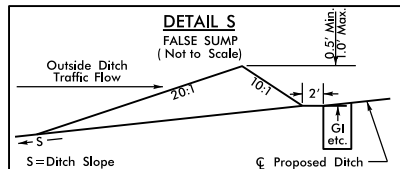
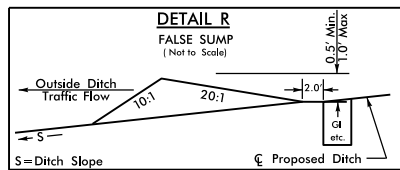
HALF PLAN

DEM	1	2	3	4	5	6	7	8
A	3.0'							
B	2.5'							
C	2.0'							
D	2.5'							
E	8.0'							
F	12.0'							
G	18.0'							
H	9.0'							

BASIN #	LOCATION (AT OUTLET)
1	449
2	
3	
4	
5	
6	
7	
8	

NOTE: W₀ = DIAMETER OF PIPE, WIDTH OF BOX OR SPAN OF PIPE-ARCH CULVERTS

-L- STA. 13+20 TO STA. 13+54 LT



DRAINAGE DETAILS

PROJECT REFERENCE NO.	SHEET NO.
R-2915A	2-D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

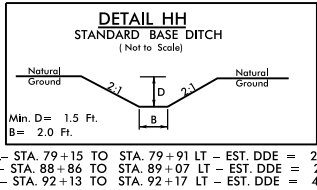
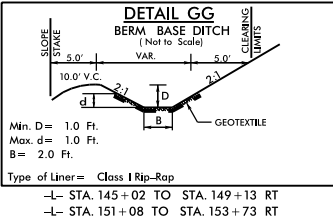
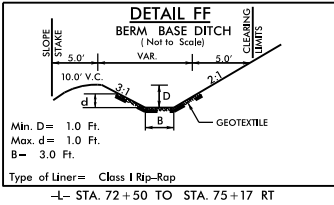
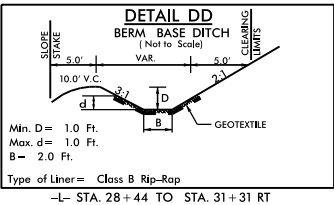
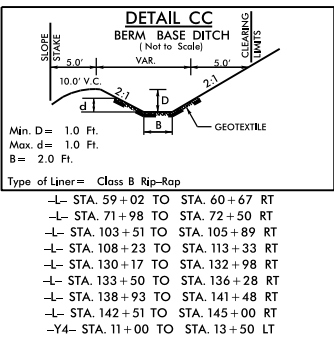
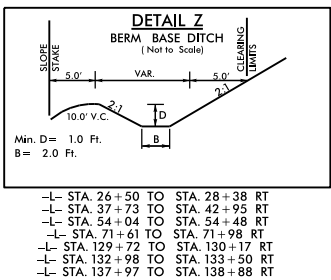
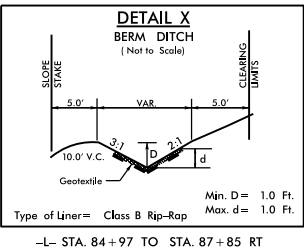
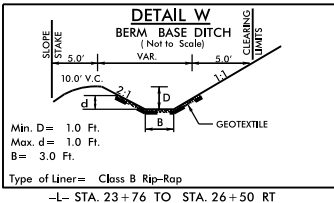
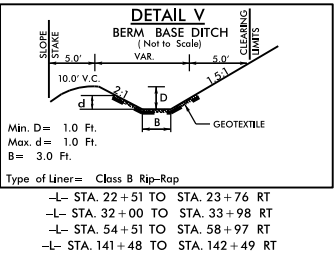
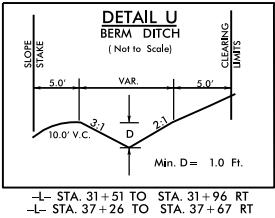


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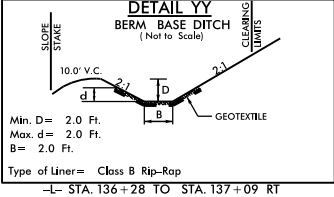
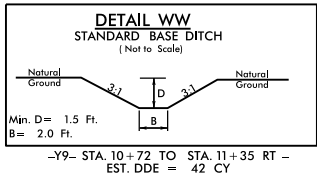
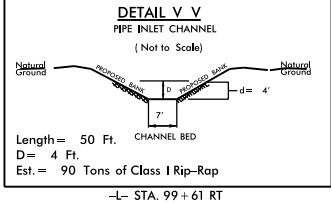
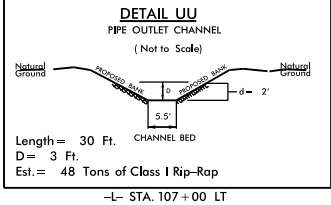
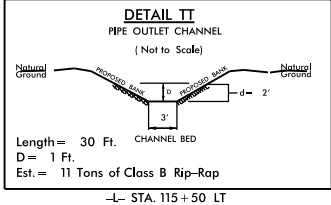
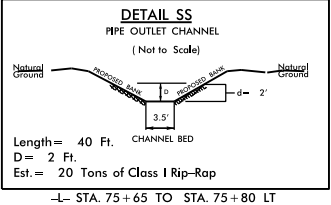
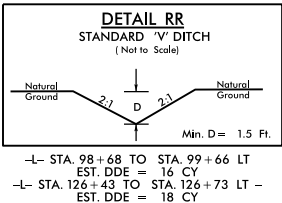
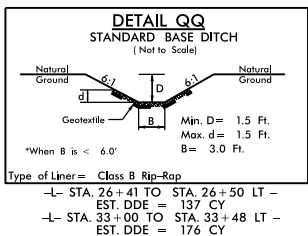
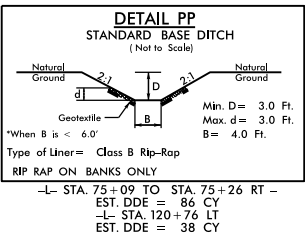
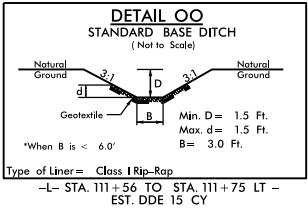
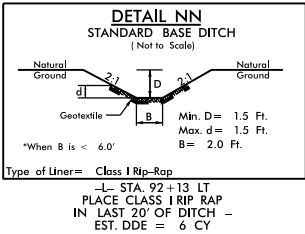
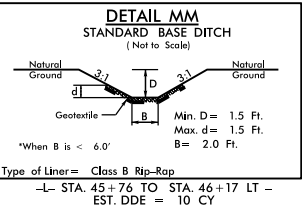
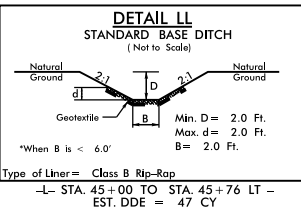
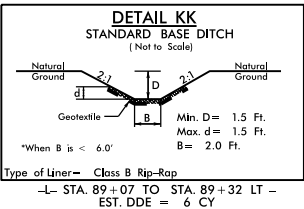
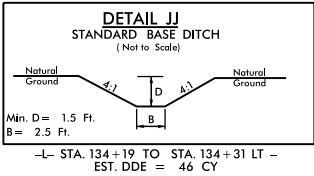
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NOTE:
DITCH DETAIL II
IS NOT BEING USED



\$FILE\$

\$DATE\$

PROJECT REFERENCE NO.	SHEET NO.
<i>R-2915A</i>	<i>4</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

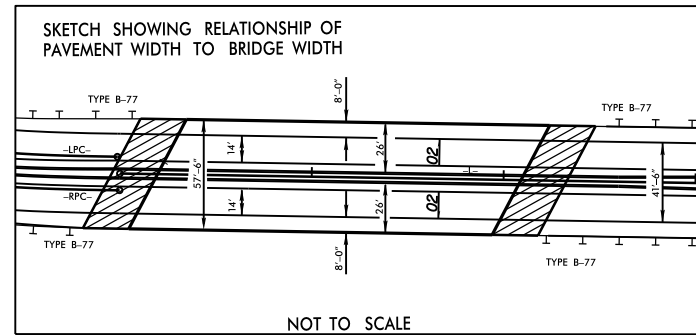
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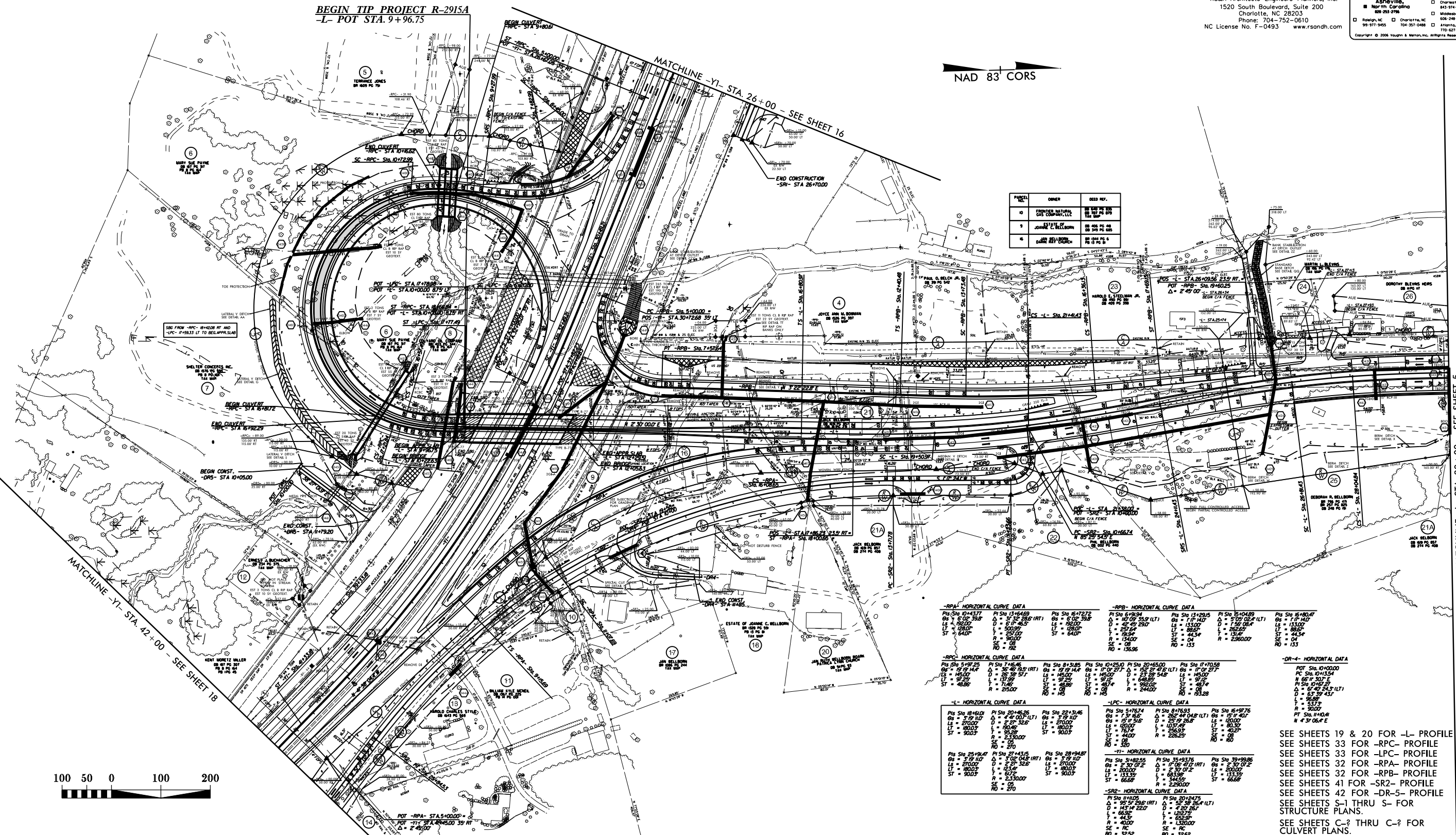
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MATCHLINE -L- STA. 30+00 - SEE SHEET 5

REVISIONS

12/21/23	- ROW	REV: REVISED ROW BETWEEN -SR2- 19+15.49 AND -RPA- 11+07.49 ON PARCELS 10, 18, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840,
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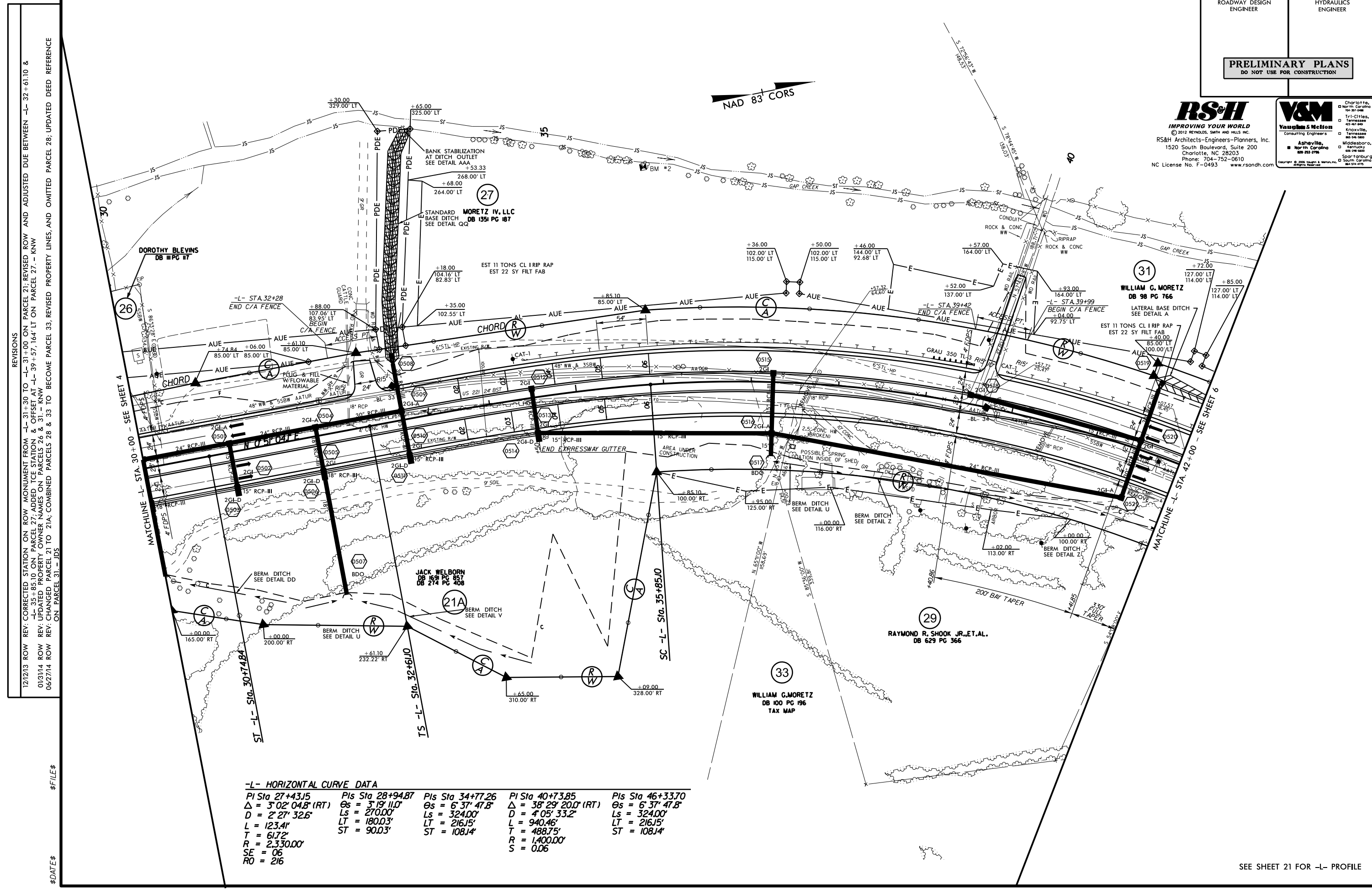
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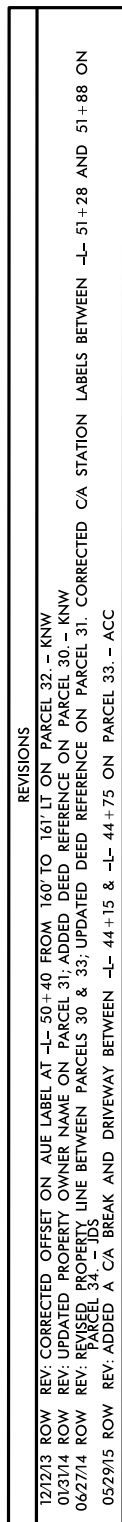
REVISIONS

12/2/13	ROW REV CORRECTED STATION ON ROW MONUMENT FROM -L- 31+30 TO -L- 31+00 ON PARCEL 21; REVISED ROW AND ADJUSTED DUE BETWEEN -L- 32+61.10 & -L- 35+85.10 ON PARCEL 27; ADDED TCE STATION & OFFSET AT -L- 39+57, 164' LT ON PARCEL 27. - KNW
01/31/14	ROW REV UPDATED PROPERTY OWNER NAMES ON PARCELS 26 & 31. KNW
06/27/14	ROW REV CHANGED PARCEL 21 TO 21A; COMBINED PARCELS 28 & 33 TO BECOME PARCEL 33; REVISED PROPERTY LINES, AND OMITTED PARCEL 28; UPDATED DEED REFERENCE ON PARCEL 31. - JDS

\$FILE\$

\$DATE\$

-L- HORIZONTAL CURVE DATA														
PI Sta 27+43.15	PIs Sta 28+94.87	PIs Sta 34+77.26	PI Sta 40+73.85	PIs Sta 46+33.70										
$\Delta = 3^{\circ} 02' 04.8''$ (RT)	$\Theta_s = 3^{\circ} 19' 11.0''$	$\Theta_s = 6^{\circ} 37' 47.8''$	$\Delta = 38^{\circ} 29' 20.0''$ (RT)	$\Theta_s = 6^{\circ} 37' 47.8''$										
$D = 2^{\circ} 27' 32.6''$	$L_s = 270.00'$	$L_s = 324.00'$	$D = 4^{\circ} 05' 33.2''$	$L_s = 324.00'$										
$L = 123.41'$	$LT = 180.03'$	$LT = 216.15'$	$L = 940.46'$	$LT = 216.15'$										
$T = 61.72'$	$ST = 90.03'$	$ST = 108.14'$	$T = 488.75'$	$ST = 108.14'$										
$R = 2,330.00'$														
$SE = 06$														
$RO = 216$														
			$S = 0.06$											



DATE\$

SEE SHEET 22 FOR -L- PROFILE
SEE SHEET 2B-1 FOR MEDIAN CROSSOVER DETAIL

REVISIONS

12/12/13	ROW REV. REMOVED ROW STATION & OFFSET NEAR -L- 55+04 RT ON PARCEL 34. ADDED ROW BETWEEN MONUMENTS AT -L- 61+10.26 LT ON PARCEL 36; CORRECTED TCE AT -L- 61+10.26, 80' LT ON PARCEL 36. - KNN
10/21/14	ROW REV. ADDED C/A BREAK FROM -L- 58+00 TO -L- 58+60 ON PARCEL 35. - ACC
01/05/15	ROW REV. REMOVED C/A BETWEEN -Y2- 11+01.81 AND -Y2- 13+20 ON PARCEL 38. - KNN

\$FILE\$
\$DATE\$

PROJECT REFERENCE NO.		SHEET NO.	
R-2915A		7	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

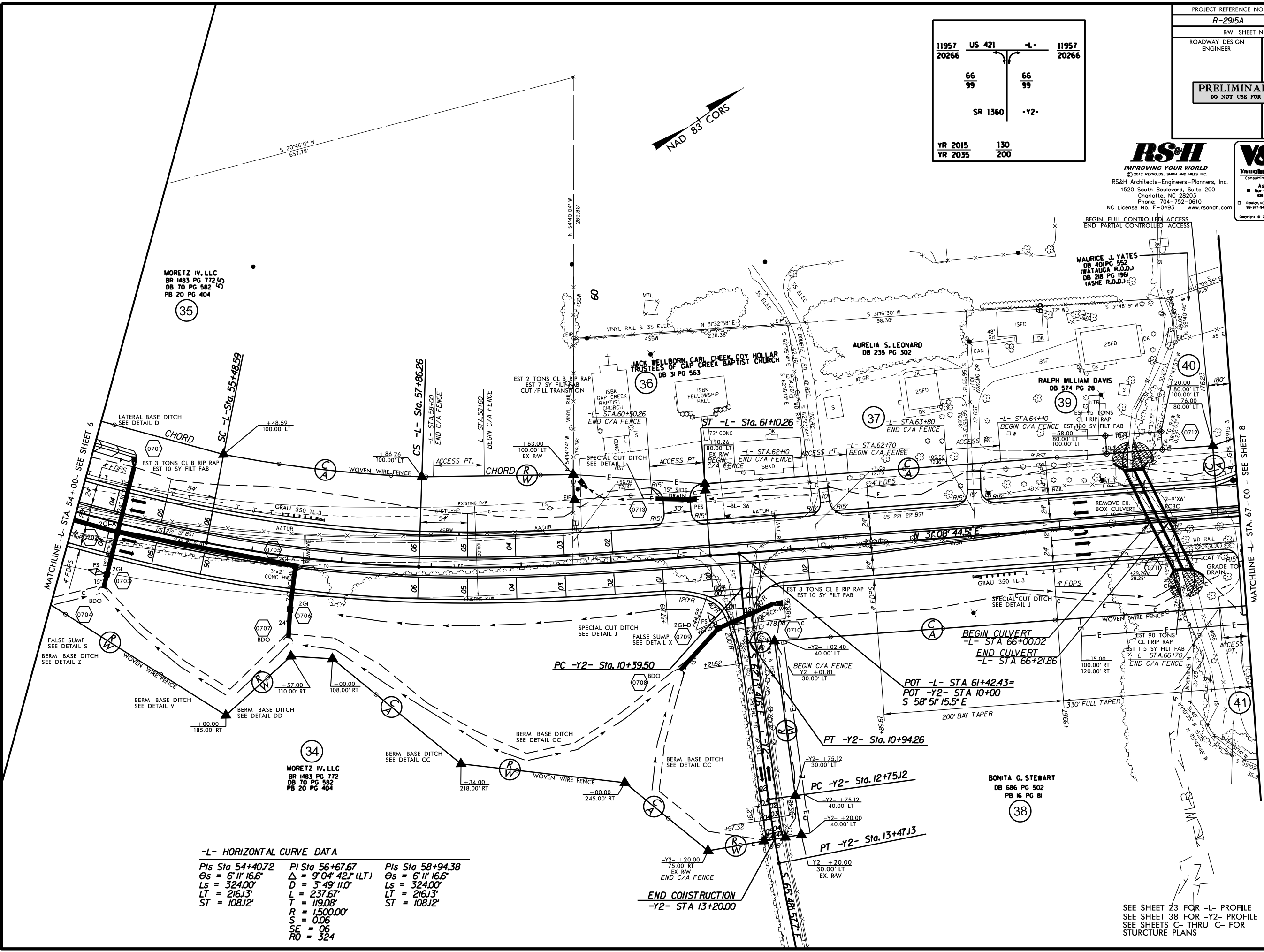
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11957 20266	US 421	-L-	11957 20266
66 99		66 99	
SR 1360		-Y2-	
YR 2015	130		
YR 2035	200		

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-L- HORIZONTAL CURVE DATA

Pls Sta 54+40.72	Pl Sta 56+67.67	Pls Sta 58+94.38
Os = 6' 11" 16.6"	Δ = 9' 04" 42.1" (LT)	Os = 6' 11" 16.6"
Ls = 324.00'	D = 3' 49' 11.0"	Ls = 324.00'
LT = 216.13'	L = 237.67'	LT = 216.13'
ST = 108.12'	T = 119.08'	ST = 108.12'
	R = 1500.00'	
	S = 0.06	
	SE = 06	
	RO = 324	

SEE SHEET 23 FOR -L- PROFILE
SEE SHEET 38 FOR -Y2- PROFILE
SEE SHEETS C- THRU C- FOR
STURCTURE PLANS

REVISIONS

12/21/13	ROW REV: REVISED ROW AT -L- 78+67.25 BETWEEN EX ROW & 85' LT ON PARCELS 52 & 54; CORRECTED STATION ON ROW LABEL FROM -L- 80+17 TO -L- 80+00 ON PARCEL 54; REMOVED ROW MONUMENT AT -L- 80+95.100 RT ON PARCEL 56; REVISED TCE OFFSET AT -L- 80+95 FROM 100' TO 99.70' RT ON PARCEL 56 - KNW
01/31/14	ROW REV: ADDED DEED REFERENCE ON PARCEL 40; UPDATED PROPERTY OWNER NAMES AND DEED REFERENCES ON PARCELS 42, 46, 50, & 57; CORRECTED PROPERTY OWNER NAME ON PARCEL 53 - KNW
06/27/14	ROW REV: COMBINED PARCELS 42 & 46 AND OMITTED PARCEL 46; ADDED "DO NOT DISTURB" NOTE TO WELL ON PARCEL 51; REVISED C/A BREAK LIMITS BETWEEN -L- 80+71.21 AND -L- 80+78.07 ON PARCELS 53 & 56 - JDS
10/21/14	ROW REV: ADDED "DO NOT DISTURB GRAVES" NOTE ON PARCEL 44; ADDED C/A BREAK FROM -L- 77+07 TO -L- 78+27 ON PARCELS 51 & 52 - ACC
01/05/15	ROW REV: INCREASED DRIVEWAY RADIUS AT -L- 75+70 ON PARCELS 48 & 50; REVISED PDE & TCE ON PARCEL 50 - KNW
04/22/15	ROW REV: ADDED C/A BREAK BETWEEN -L- 76+40 & -L- 77+00 AND 24' DRIVEWAY AT -L- 76+85 ON PARCEL 48; REVISED C/A BREAK BETWEEN -L- 75+35 & -L- 75+65 ON PARCEL 50; REVISED C/A BREAK BETWEEN -L- 77+67 & -L- 78+50 AND ADDED 12' DRIVEWAY AT -L- 78+38 ON PARCEL 52 - ACC

PROJECT REFERENCE NO.
R-2915A

SHEET NO.
8

RW SHEET NO.

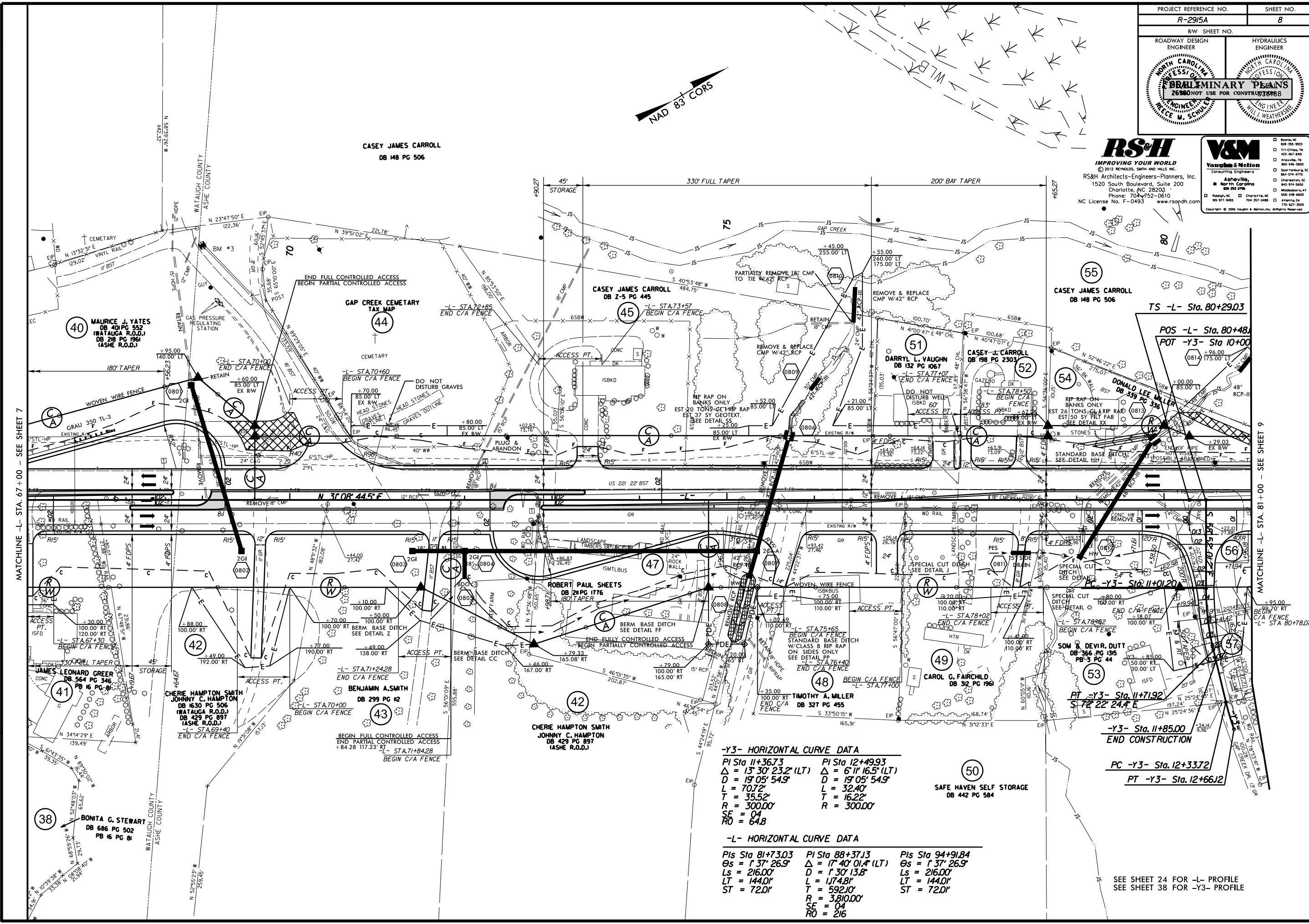
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SEE SHEET 24 FOR -L- PROFILE
SEE SHEET 38 FOR -Y3- PROFILE

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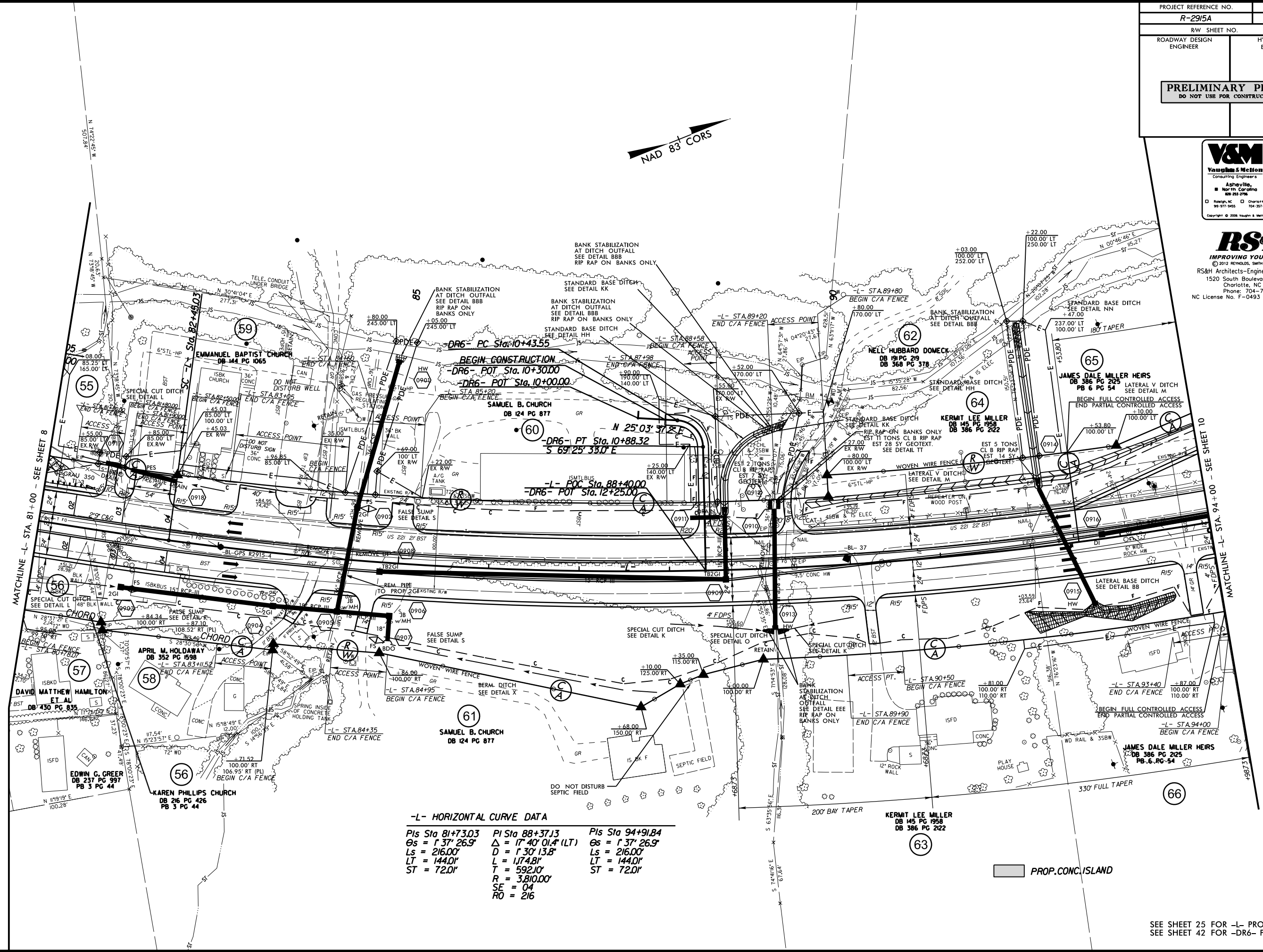
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REVISIONS

01/31/14 ROW REV: UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 57. - KNN
05/09/14 ROW REV: REVISED ROW & CA BETWEEN -L- 92+53.80 & -L- 96+35.83 ON PARCEL 65. - ACC
06/27/14 ROW REV: ADDED DRIVEWAY, PROPOSED PDE AND REVISED TCE ON PARCEL 55; CHANGED PROPERTY OWNER NAMES ON PARCELS 56, 65, AND 66; REVISED PDE AND ADDED
"DO NOT DISTURB" NOTE TO WELL ON PARCEL 60. - JDS
10/21/14 ROW REV: ADDED DRIVEWAY AND CA BREAK FROM -L- 84+60 TO -L- 85+20 ON PARCEL 60; ADDED "DO NOT DISTURB SEPTIC FIELD" NOTE, STEEPEN SLOPES AND REVISED ROW
ON PARCEL 61; CHANGED PROPERTY OWNER NAME ON PARCEL 65. - ACC
4/22/15 ROW REV: REVISED CA BREAK BETWEEN -L- 81+30 & -L- 81+80 ON PARCEL 55; ADDED CA BREAK AND DRIVEWAY BETWEEN -L- 81+90 & -L- 82+50 ON PARCEL 59; REVISED PDE, TCE,
AND CA BREAK BETWEEN -L- 88+18 & -L- 88+58 FOR -DR6- ON PARCEL 60. - ACC
05/29/15 ROW REV: ADDED A "DO NOT DISTURB SIGN" NOTE ON PARCEL 59. - ACC



-L- HORIZONTAL CURVE DATA

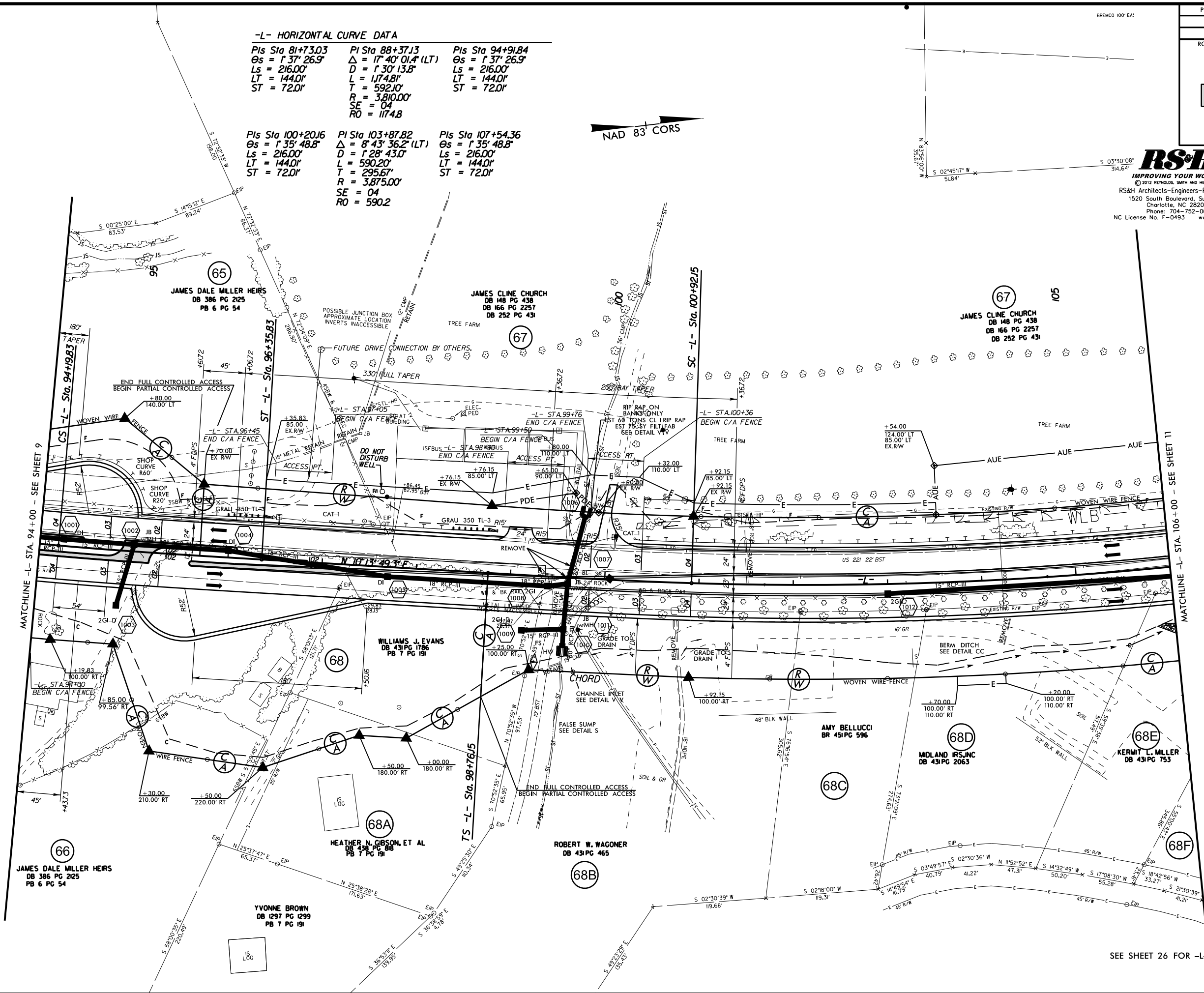
PIs Sta 81+73.03 Δs = 1° 37' 26.9" Ls = 216.00' LT = 144.01' ST = 72.01'	PI Sta 88+37.13 Δs = 17° 40' 01.4" (LT) D = 1° 30' 13.8" Ls = 1,174.81' T = 592.10' R = 3,810.00' SE = 04 RO = 216	PIs Sta 94+91.84 Δs = 1° 37' 26.9" Ls = 216.00' LT = 144.01' ST = 72.01'
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PROP. CONC. ISLAND

	REVISIONS
12/12/13	REV: REVISED ROW AT -L- 94+19.83, 100' RT ON PARCEL 66; CORRECTED ROW AT -L- 99+25, 100' RT ON PARCEL 69; REMOVED TCE OFFSETS OF 85.73' AT -L- 99+80 LT AND 85.68' AT -L- 100+32 LT ON PARCEL 67; REVISED ROW AT -L- 100+92.15, 100' RT ON PARCEL 69 - KNW
01/31/14	REV: SUBDIVIDED PARCEL 68 INTO PARCELS 68 & 68A WITH PROPERTY OWNERS AND DEED REFERENCES; SUBDIVIDED PARCEL 69 INTO PARCELS 68B, 68C, 68D, 68E, & 68F WITH PROPERTY OWNERS AND DEED REFERENCES; REMOVED PARCEL 69 - KNW
05/09/14	REV: REVISED ROW & CA BETWEEN -L- 92+53.80 & -L- 96+35.83 ON PARCEL 65 AND -L- 94+85 & -L- 99+25 ON PARCELS 66, 68, 68A, & 68B - ACC
06/27/14	REV: CHANGED PROPERTY OWNER NAMES ON PARCELS 65, 66, AND 68C - JDS
10/21/14	REV: CHANGED PROPERTY OWNER NAME, ADDED CA BREAK -L- 96+45 TO -L- 97+05 AND 'FUTURE DRIVE CONNECTION BY OTHERS' NOTE ON PARCEL 65; ADDED DRIVEWAY, 'DO NOT DISTURB WELL' NOTE, AND CA BREAK FROM -L- 98+90 TO -L- 99+50 ON PARCEL 67 - ACC
01/05/15	REV: INCREASED DRIVEWAY RADIUS AT -L- 100+00 ON PARCEL 67; DELETED ACCESS POINTS AND DRIVEWAYS AT -L- 99+45 & -L- 100+50 ON PARCEL 68B; CHANGED PROPERTY OWNER NAME ON PARCEL 68C - KNW

\$F11F\$

\$DATE\$



SEE SHEET 26 FOR -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-29/5A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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REVISIONS

12/12/13 ROW REV. REVISED ROW AT -L- 106+82.35, 100' RT ON PARCEL 69; REVISED ROW AND MONUMENT AT -L- 107+42.50, 100' RT ON PARCEL 69; ADDED ROW MONUMENT AT -Y4- 13+75, EX. ROW RT ON PARCEL 69; REVISED ROW AT -Y4- 13+75 BETWEEN EX. ROW & 50' LT ON PARCEL 70; REVISED AUE AT -L- 109+38.12, 123' LT ON PARCEL 67; REVISED TCE TO TIE TO AUE AT -L- 109+43.19, 141.14' LT ON PARCEL 67; CORRECTED ROW STATION & OFFSET LABEL FROM -L- 109+83.18, 182' RT TO -L- 109+95.19, 190' RT ON PARCEL 70; REMOVED TCE STATION & OFFSET LABEL NEAR -L- 114+11.23 LT ON PARCELS 72 & 73; REVISED ROW AND ADJUSTED PDE BETWEEN -L- 114+11.23 & 115+56.25 LT ON PARCEL 73; REVISED ROW AND ADJUSTED PDE BETWEEN -L- 115+52.80 & -L- 116+47.36 LT ON PARCEL 74; REVISED TCE AT -Y6- 12+70 TO TIE TO EXIST. EASEMENT LTRT ON PARCELS 70 & 75 - KNW

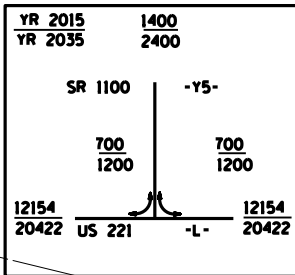
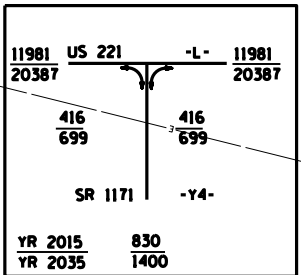
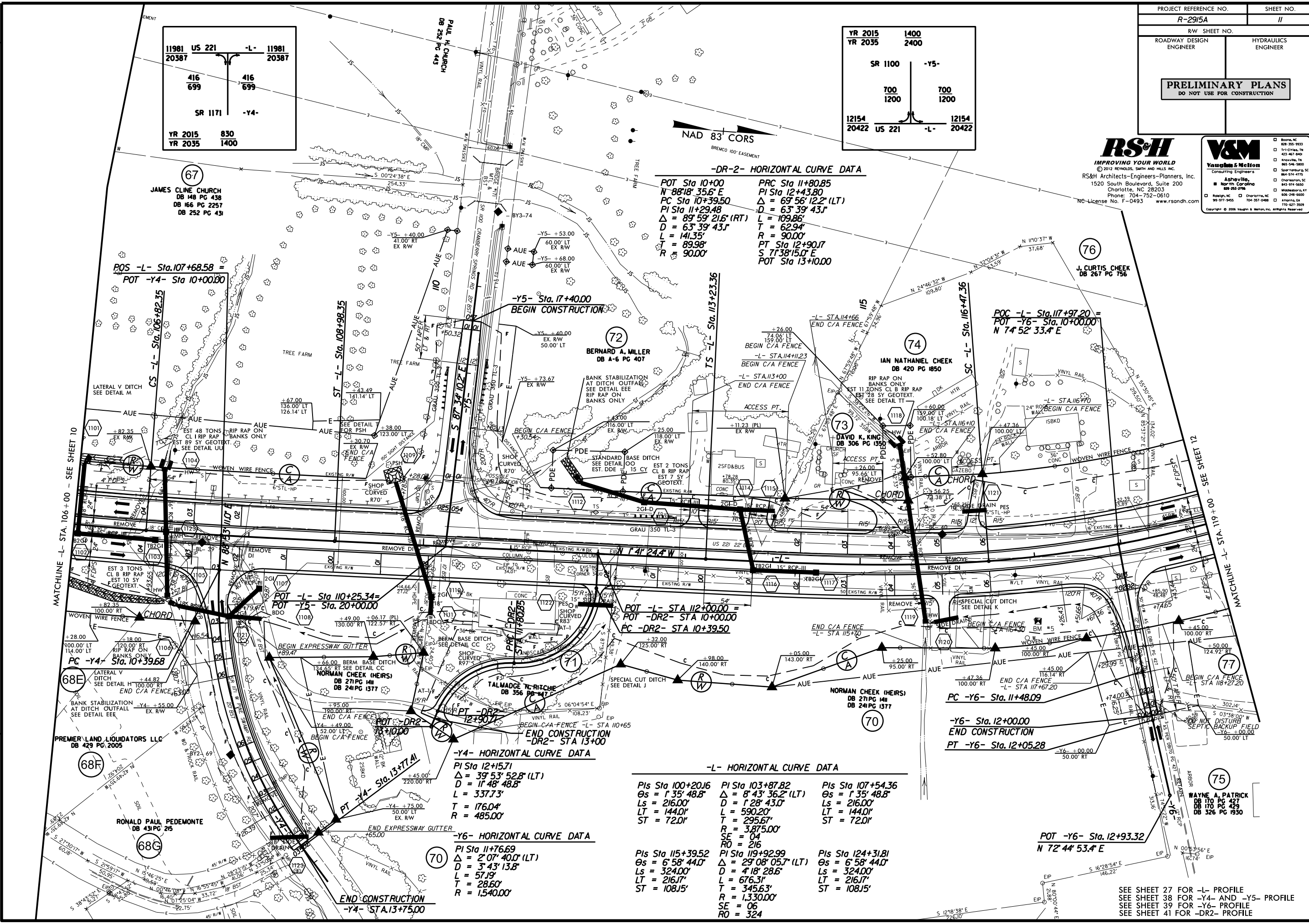
01/31/14 ROW REV. SUBDIVIDED PARCEL 69 INTO PARCELS 68E, 68F, & 68G WITH PROPERTY OWNERS AND DEED REFERENCES; REMOVED PARCEL 69; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 74 - KNW

06/27/14 ROW REV. DELETED PROPOSED ROW AND REVISED TCE ALONG -Y4- RT; REMOVED ACCESS POINT ON PARCEL 71; REVISED C/A LIMITS BETWEEN -L- 117+67.20 AND -L- 118+27.20 ON PARCELS 70 & 75 - ACC

10/21/14 ROW REV. ADDED C/A BREAK AND DRIVEWAY FROM -L- 113+00 TO -L- 144+11.23 AND REVISED GUARDRAIL ON PARCEL 72; REVISED TCE ALONG -Y6- ON PARCELS 70, 75, & 77; ADDED "DO NOT DISTURB SEPTIC BACKUP FIELD" NOTE ON PARCEL 75 - ACC

05/29/15 ROW REV. ADDED A C/A BREAK AND DRIVEWAY BETWEEN -L- 115+70 & -L- 116+30 ON PARCEL 70 - ACC

\$DATE\$ \$FILE\$



-DR-2- HORIZONTAL CURVE DATA

POT Sta 10+00	PRC Sta 11+80.85
N 88°18' 35.6" E	PI Sta 12+43.80
PC Sta 10+39.50	Δ = 69° 56' 12.2" (LT)
PI Sta 11+29.48	D = 63° 39' 43.1"
Δ = 89° 59' 21.6" (RT)	L = 109.86'
D = 63° 39' 43.1"	T = 62.94'
L = 141.35'	R = 90.00'
T = 89.98'	PT Sta 12+90.17
R = 90.00'	S 71°38'15.0" E
	POT Sta 13+10.00

-L- HORIZONTAL CURVE DATA

Pis Sta 100+20.16	PI Sta 103+87.82	Pis Sta 107+54.36
Δs = 1° 35' 48.8"	Δ = 8° 43' 36.2" (LT)	Δs = 1° 35' 48.8"
Ls = 216.00'	D = 1° 28' 43.0"	Ls = 216.00'
LT = 144.01'	L = 590.20'	LT = 144.01'
ST = 72.01'	T = 295.67'	ST = 72.01'
	R = 3875.00'	
	SE = 04	
	RO = 216	
Pis Sta 115+39.52	PI Sta 119+92.99	Pis Sta 124+31.81
Δs = 6° 58' 44.0"	Δ = 29° 08' 05.7" (LT)	Δs = 6° 58' 44.0"
Ls = 324.00'	D = 4° 18' 28.6"	Ls = 324.00'
LT = 216.17'	L = 676.31'	LT = 216.17'
ST = 108.15'	T = 345.63'	ST = 108.15'
	R = 1330.00'	
	SE = 06	
	RO = 324	

PROJECT REFERENCE NO.	SHEET NO.
R-2915A	11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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SEE SHEET 27 FOR -L- PROFILE
SEE SHEET 38 FOR -Y4- AND -Y5- PROFILE
SEE SHEET 39 FOR -Y6- PROFILE
SEE SHEET 41 FOR -DR2- PROFILE

REVISIONS
12/2/13 ROW REV. ADDED ROW MONUMENT AT -L- 126+47.66, 100' RT ON PARCEL 79; CORRECTED ROW AND ADJUSTED PDE BETWEEN -L- 123+23.66, 100' RT & -L- 126+47.66, 100' RT ON PARCELS 78 & 79; CORRECTED OFFSET ON TCE LABEL AT -L- 125+95 FROM 145.08' TO 145.21' LT ON PARCEL 80 - KNW
01/31/14 ROW REV. SUBDIVIDED PARCEL 78 INTO PARCELS 78 & 78A WITH PROPERTY OWNERS AND DEED REFERENCES. - KNW

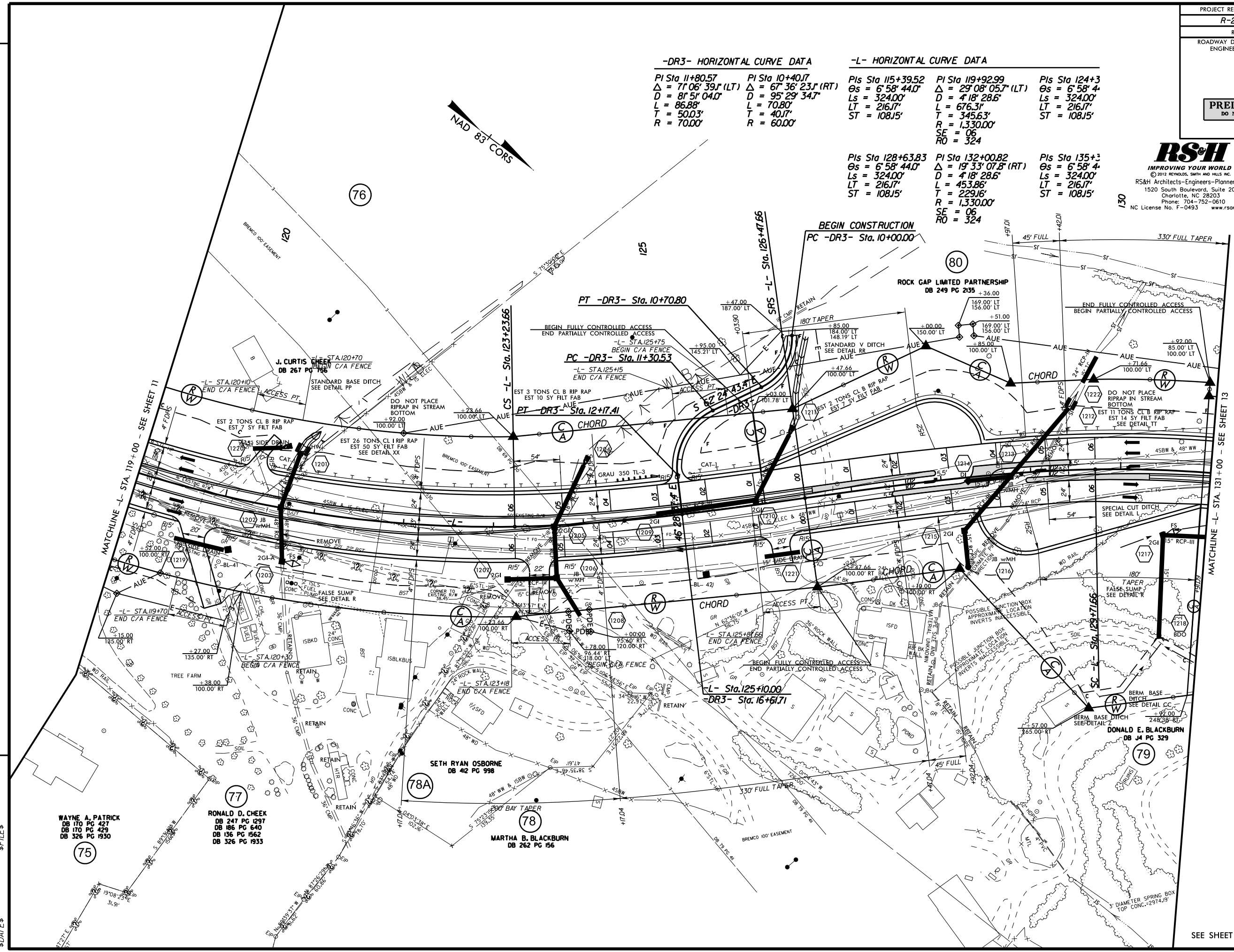
PROJECT REFERENCE NO.		SHEET NO.
R-2915A		12
R/W SHEET NO.		
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-DR3- HORIZONTAL CURVE DATA			-L- HORIZONTAL CURVE DATA		
PI Sta 11+80.57	PI Sta 10+40.17	PIs Sta 115+39.52	PI Sta 119+92.99	PIs Sta 124+3	
$\Delta = 71^{\circ}06'39.1"$ (LT)	$\Delta = 67^{\circ}36'23.1"$ (RT)	$\Delta = 6^{\circ}58'44.0"$	$\Delta = 29^{\circ}08'05.7"$ (LT)	$\Delta = 6^{\circ}58'4.0"$	
D = 81'51'04.0"	D = 95'29'34.7"	Ls = 324.00'	D = 4'18'28.6"	Ls = 324.00'	
L = 86.88'	L = 70.80'	LT = 216.17'	L = 676.31'	LT = 216.17'	
T = 50.03'	T = 40.17'	ST = 108.15'	T = 345.63'	ST = 108.15'	
R = 70.00'	R = 60.00'		R = 1,330.00'		
			SE = 06		
			RO = 324		
				PIs Sta 135+3	
				$\Delta = 6^{\circ}58'4.0"$	
				Ls = 324.00'	
				LT = 216.17'	
				ST = 108.15'	
				PIs Sta 128+63.83	
				$\Delta = 19^{\circ}33'07.8"$ (RT)	
				D = 4'18'28.6"	
				L = 453.86'	
				T = 229.16'	
				R = 1,330.00'	
				SE = 06	
				RO = 324	



SEE SHEET 28 FOR -L- PROFILE

12/12/13 ROW CORRECTED STATION ON TCE LABEL FROM -L- 143+96 TO -L- 143+06 ON PARCEL 88. - KNW
01/11/14 ROW REV. ADDED DEED BOOK REFERENCE ON PARCEL 88. - KNW
10/11/14 ROW REV. ADDED DRIVEWAY AT -Y7- 14+10 TO RT ON PARCEL 81; CHANGED PROPERTY OWNER NAME AND DEED BOOK REFERENCE ON PARCEL 83. - ACC
05/29/15 ROW REV. ADDED A "DO NOT CROSS BRIDGE WITH CONTRACTOR EQUIPMENT" ON PARCELS 82 & 83. - ACC

REVISIONS

\$FILE\$

\$DATE\$

-L- HORIZONTAL CURVE DATA

Pls Sta 128+63.83	Pls Sta 132+00.82	Pls Sta 135+33.68
Os = 6° 58' 44.0"	Δ = 19° 33' 07.8" (RT)	Os = 6° 58' 44.0"
Ls = 324.00'	D = 4° 18' 28.6"	Ls = 324.00'
LT = 216.17'	L = 453.86'	LT = 216.17'
ST = 108.15'	T = 229.16'	ST = 108.15'
	R = 1,330.00'	
	SE = 06	
	RO = 324	

-Y7- HORIZONTAL CURVE DATA

Pls Sta 10+79.52	Pls Sta 12+15.23	Pls Sta 13+78.99
Δ = 76° 24' 23.8" (LT)	Δ = 79° 45' 39.9" (RT)	Δ = 96° 16' 39.0" (LT)
D = 114° 35' 29.6"	D = 70° 44' 07.9"	D = 70° 44' 07.9"
L = 66.68'	L = 112.76'	L = 136.11'
T = 39.35'	T = 67.68'	T = 90.40'
R = 50.00'	R = 81.00'	R = 81.00'
SE = 06	SE = 06	SE = 06
RO = 64.2	RO = 64.2	RO = 64.2

-DRI- HORIZONTAL CURVE DATA

Pls Sta 10+80.99
Δ = 7° 21' 18.9" (LT)
D = 4° 32' 50.2"
L = 161.75'
T = 80.99'
R = 1,260.00'

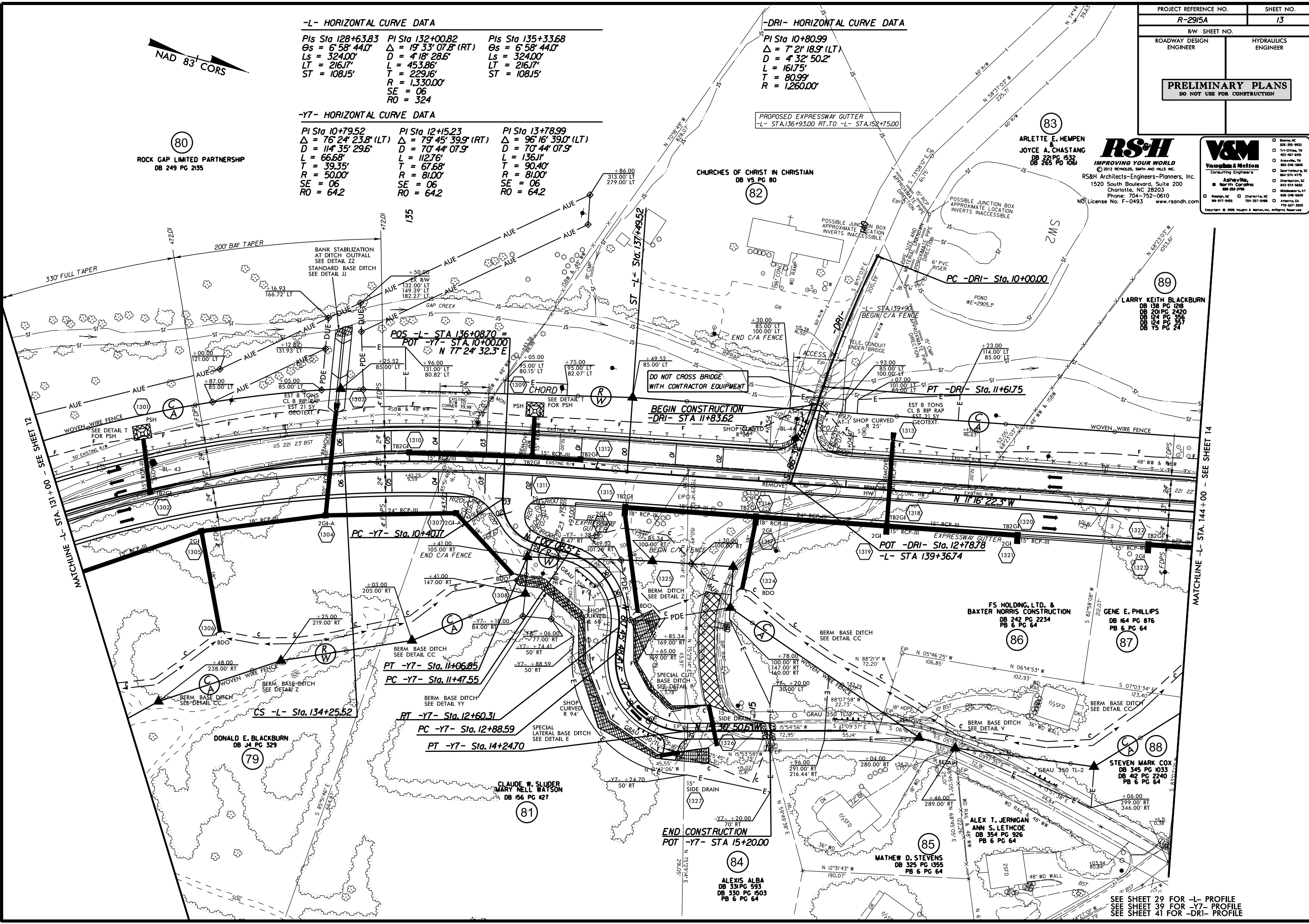
PROPOSED EXPRESSWAY GUTTER
-L- STA.136+93.00 RT. TO -L- STA.152+75.00

PROJECT REFERENCE NO.	SHEET NO.
R-2915A	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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SEE SHEET 29 FOR -L- PROFILE
SEE SHEET 39 FOR -Y7- PROFILE
SEE SHEET 41 FOR -DRI- PROFILE

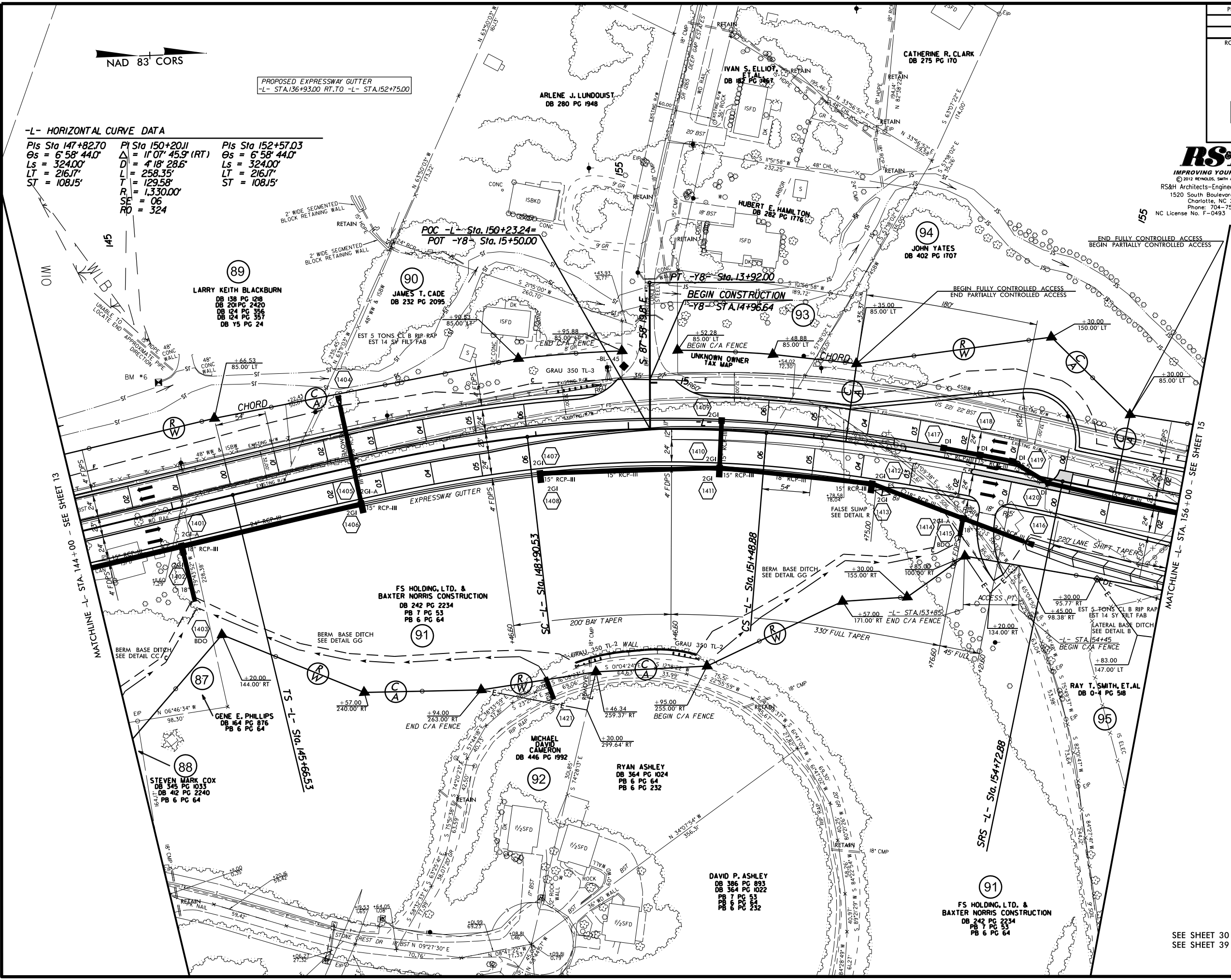
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Portland, Oregon
Raleigh, North Carolina
San Antonio, Texas
Seattle, Washington
Tampa, Florida
Washington, D.C.

-L- HORIZONTAL CURVE DATA

Pls Sta 147+82.70	Pls Sta 150+20.11	Pls Sta 152+57.03
Δs = 6°58'44.0"	Δs = 1°07'45.9" (RT)	Δs = 6°58'44.0"
Ls = 324.00'	Ls = 418'28.6'	Ls = 324.00'
LT = 216.17'	L = 258.35'	LT = 216.17'
ST = 108.15'	T = 129.58'	ST = 108.15'
	R = 1,330.00'	
	SE = 06	
	RD = 324	



SEE SHEET 30 FOR -L- PROFILE
SEE SHEET 39 FOR -Y8- PROFILE

REVISIONS

12/21/13	ROW REVISED ROW BETWEEN -L- 151+48.88 & -L- 152+35.17 ON PARCEL 93; REMOVED ROW MONUMENT AT -L- 155+30, 97.82 RT ON PARCEL 95; ADDED A PERMANENT EASEMENT MONUMENT AND ADJUSTED PDE & TCE AT -L- 153+30, 93.77 RT ON PARCEL 95. - KNW
01/31/14	ROW REV. ADDED DEED REFERENCE ON PARCEL 88; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 94. - KNW
06/27/14	ROW REV. CHANGED PROPERTY OWNER NAME ON PARCEL 92. - JDS

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\$DATE\$

10206 17376	US 221 -L-	12024 20188
175 395	1994 3206	
SR 1003 -Y9-		
YR 2015	130	
YR 2035	200	

NAD 83 CORS

-Y8- HORIZONTAL CURVE DATA

PI Sta 11+73.32
 $\Delta = 37^{\circ} 21' 26.0''$ (LT)
 $D = 28^{\circ} 38' 52.4''$
 $L = 130.40'$
 $T = 67.61'$
 $R = 200.00'$

-Y9- HORIZONTAL CURVE DATA

PI Sta 11+60.32
 $\Delta = 36^{\circ} 35' 02.5''$ (LT)
 $D = 17^{\circ} 48' 48.8''$
 $L = 309.68'$
 $T = 160.32'$
 $R = 485.00'$
 $SE = 06$
 $RO = 124.08$

-L- HORIZONTAL CURVE DATA

Pls Sta 156+89.04	PI Sta 158+99.56	Pls Sta 161+09.99
$\Theta_s = 6^{\circ} 58' 44.0''$	$\Delta = 8^{\circ} 49' 46.3''$ (LT)	$\Theta_s = 6^{\circ} 58' 44.0''$
$L_s = 324.00'$	$D = 4^{\circ} 18' 28.6''$	$L_s = 324.00'$
$LT = 216.17'$	$T = 102.68'$	$LT = 216.17'$
$ST = 108.15'$	$R = 1,330.00'$	$ST = 108.15'$
	$SE = 06$	
	$RO = 204.95$	

END PROJECT R-2915A -L- STA. 160+01.83
BEGIN PROJECT R-2915B -L- STA. 158+31.70

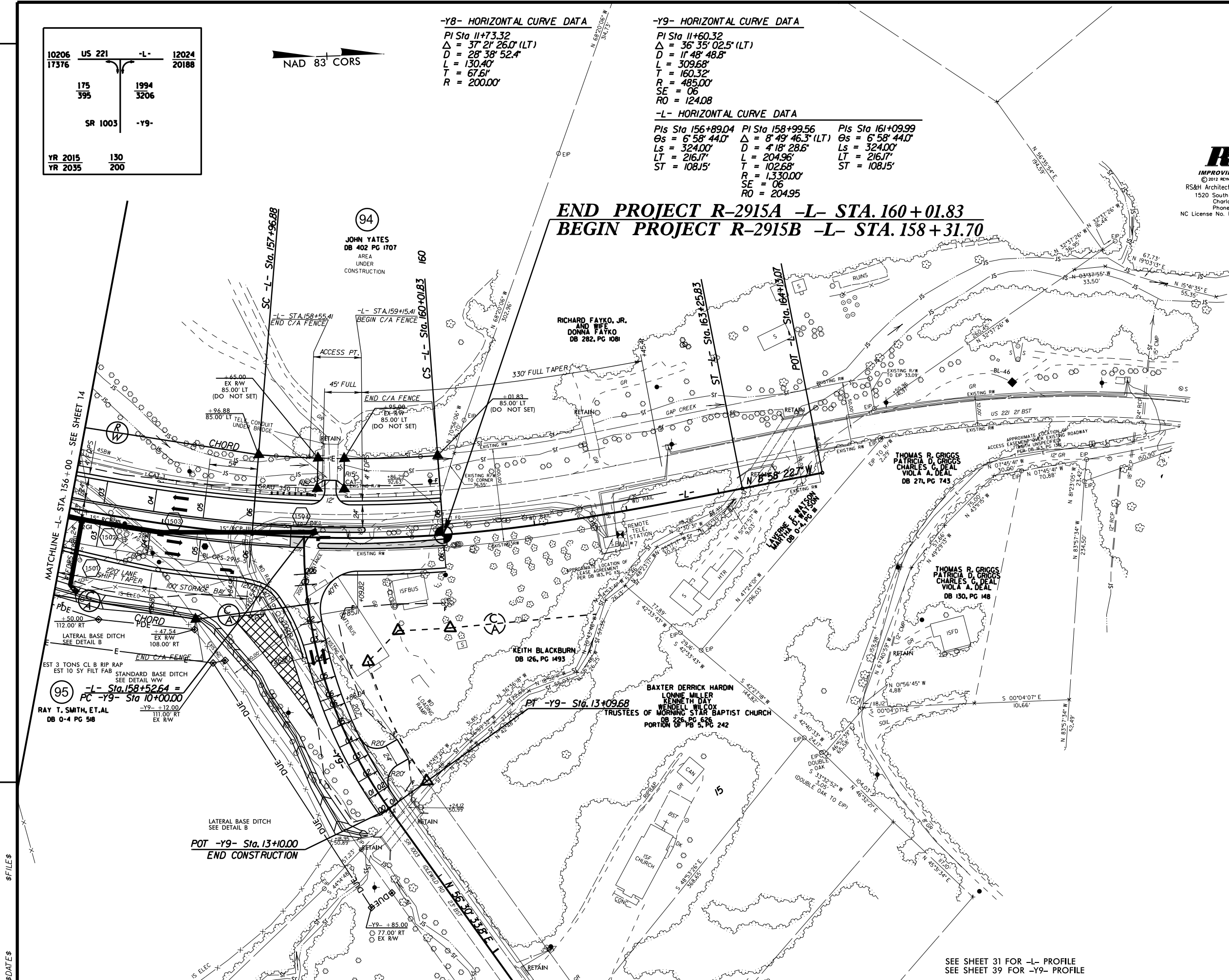
PROJECT REFERENCE NO.	SHEET NO.
R-2915A	15
R/W SHEET NO.	
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REVISIONS
 01/31/14 ROW REV: UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 94. - KNW
 06/27/14 ROW REV: OMITTED PARCEL 96 (TO BE COMBINED WITH R-2915B PARCEL 3); ADDED 2.4' DRIVE AT -Y9- STA. 12+62 LT. - JDS



SEE SHEET 31 FOR -L- PROFILE
 SEE SHEET 39 FOR -Y9- PROFILE

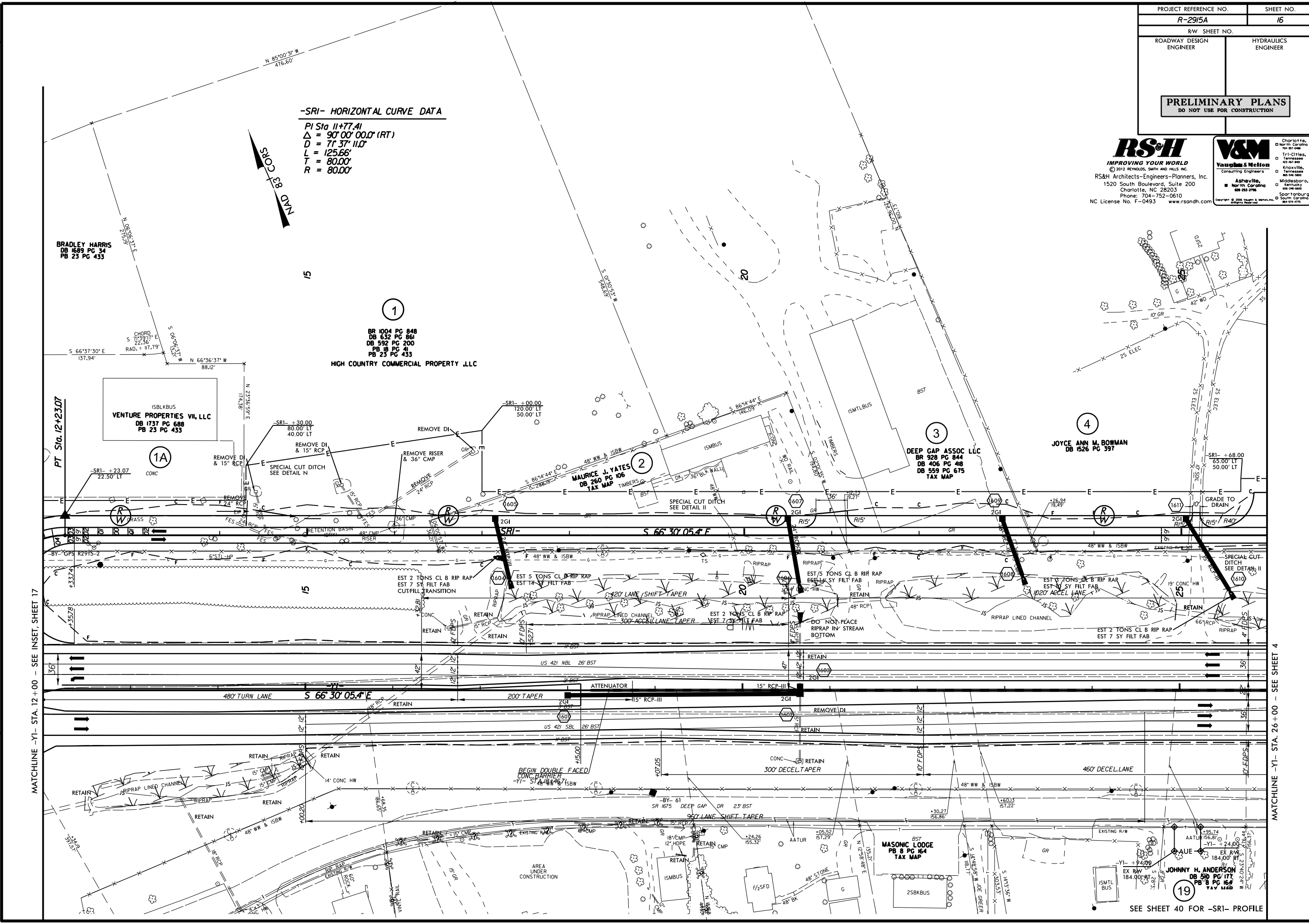
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01/31/14 ROW REV: UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 94. - KNW
06/27/14 ROW REV: REVISED PROPERTY LINES AND ADDED PARCEL 1A WITH PROPERTY OWNER AND DEED REFERENCE; ADDED PARCEL 19. - JDS
01/03/15 ROW REV: REVISED TCE ON PARCELS 1 AND 1A. - ACC

REVISIONS



\$DATE\$

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MATCHLINE -YI- STA. 26+00 - SEE SHEET 4

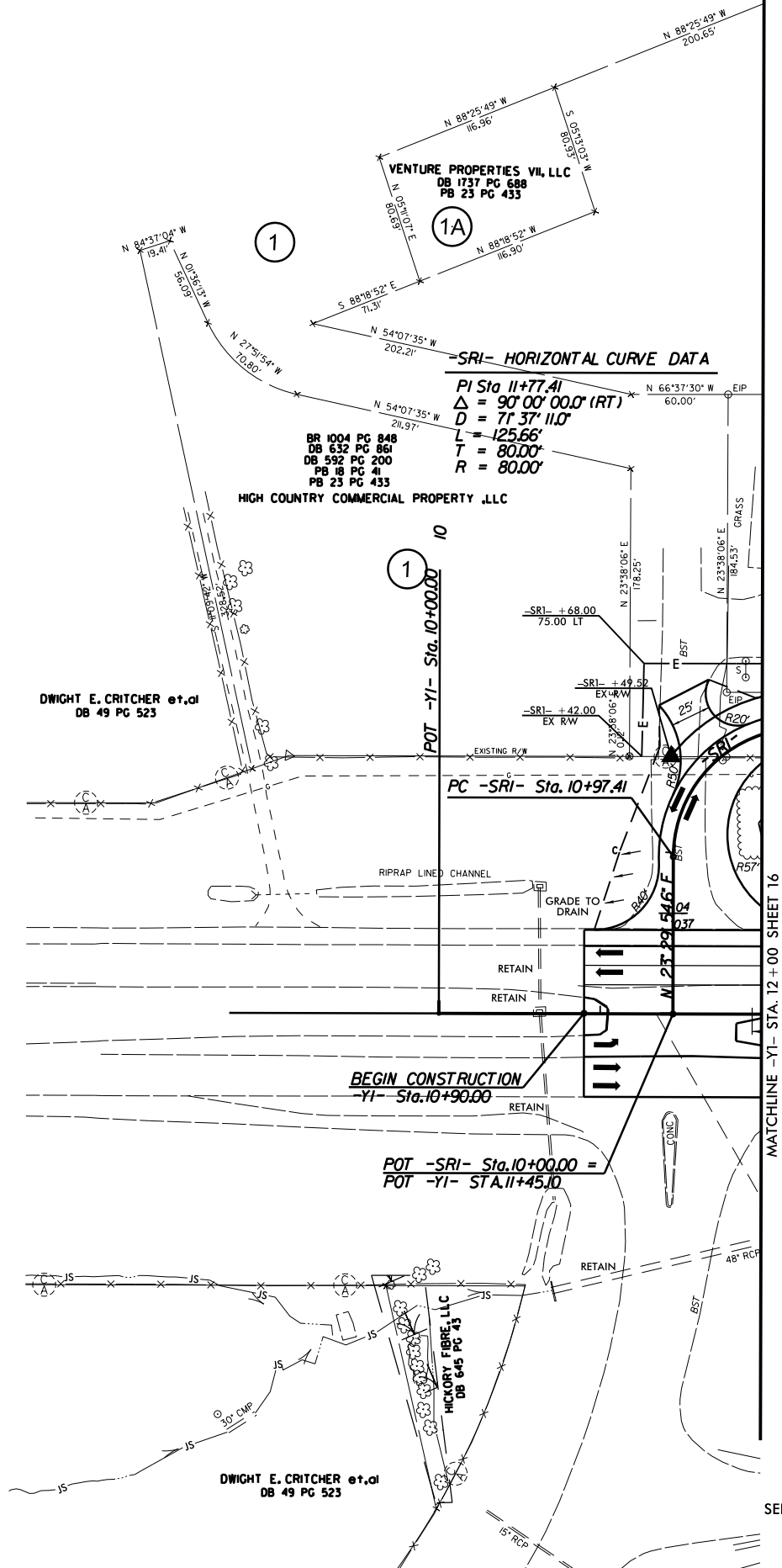
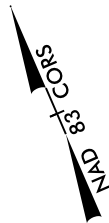
MATCHLINE -YI- STA. 12+00 - SEE INSET, SHEET 17

REVISIONS

0627/14 ROW REV: REVISED PROPERTY LINES AND ADDED PARCEL 1A WITH PROPERTY OWNER AND DEED REFERENCE. - KNW
0105/15 ROW REV: REVISED ROW AND TCE ON PARCELS 1 AND 1A. - KNW

\$FILE\$

\$DATE\$



MATCHLINE -YI- STA. 12 + 00 SHEET 16

SEE SHEET 41 FOR -YI- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2915A	17
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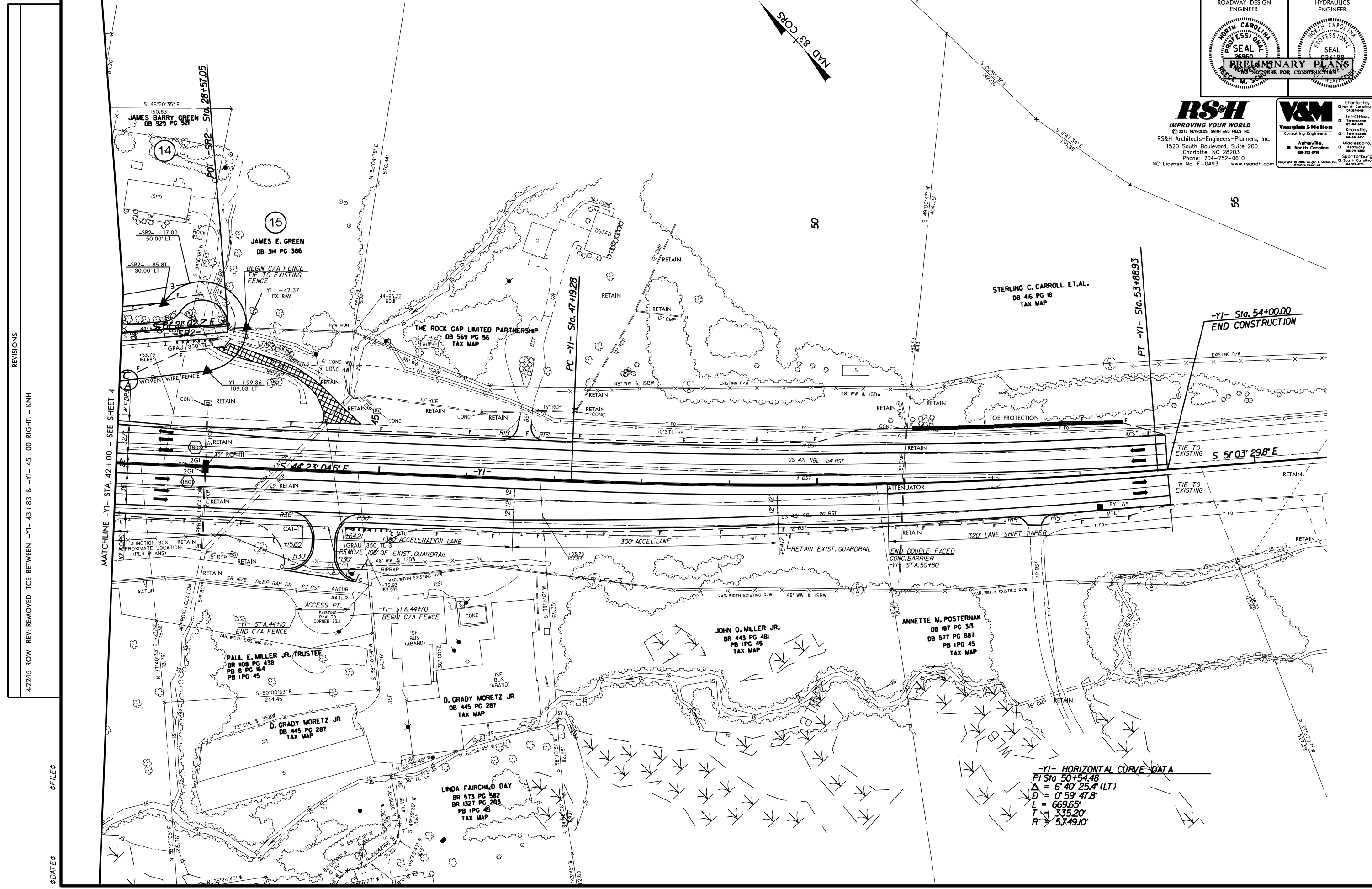
Charlotte, North Carolina 28203-0801
Tri-Cities, Tennessee 37604-0000
Knoxville, Tennessee 37916-0000
Middleboro, Massachusetts 01844-0000
Springburg, South Carolina 29583-0000

PROJECT REFERENCE NO.		SHEET NO.	
R-2915A		18	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		SEAL	
NORTH CAROLINA PROFESSIONAL SEAL 26960		NORTH CAROLINA PROFESSIONAL SEAL 034188	
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REVISIONS

4/22/15 ROW REV: REMOVED TCE BETWEEN -YI- 43+83 & -YI- 45+00 RIGHT. - KNH

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\$DATE\$