

PROJECT: 9.8092305



ALL DIMENSIONS IN THESE
PLANS ARE IN METERS AND
OR MILLIMETERS UNLESS
OTHERWISE NOTED

GRAPHIC SCALES

ADT 1997	= 15,900
ADT 2017	= 28,800
DHV	= 10%
D	= 55%
T(TST & DUAL)	= 4%
	+
V	= 70 Km/h

LENGTH OF ROADWAY PROJECT 9.8092305	= 1.113 km
TOTAL LENGTH OF STATE PROJECT 9.8092305	= 1.113 km

RIGHT OF WAY DATE: 8-29-95 MICHAEL D. CAULFIELD, P.E.
PROJECT ENGINEER

LETTING DATE: 8-19-97 JAMES L. EASON, P.E.
PROJECT DESIGN ENGINEER

ROKORUAT DESIGN ENGINEER

NORTH CAROLINA
REGISTERED
SEA
1824
ENGINEER
JAMES L. CANN

James L. Cann P.E. 9-25-96

SIGNATURE

HYDRAULICS ENGINEER

AL
3344

Robert L. Cann P.E. 9-25-96

SIGNATURE

DR Morton P.E.
STATE HIGHWAY ENGINEER - DESIGN
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED FOR
DIVISION ADMINISTRATOR

"STATE OF NORTH CAROLINA - COUNTY OF WAKE"
I, Daisy Gode, do hereby certify that this is a true
of Plan Sheet 1 of the final plans for Project 9.2092303
Addendum 10 to the minutes on file in my office of the 5 day of
1997, Board of Transportation meeting IN TESTIMONY WHEREOF, I have
my hand this 15 day of September, 1997.

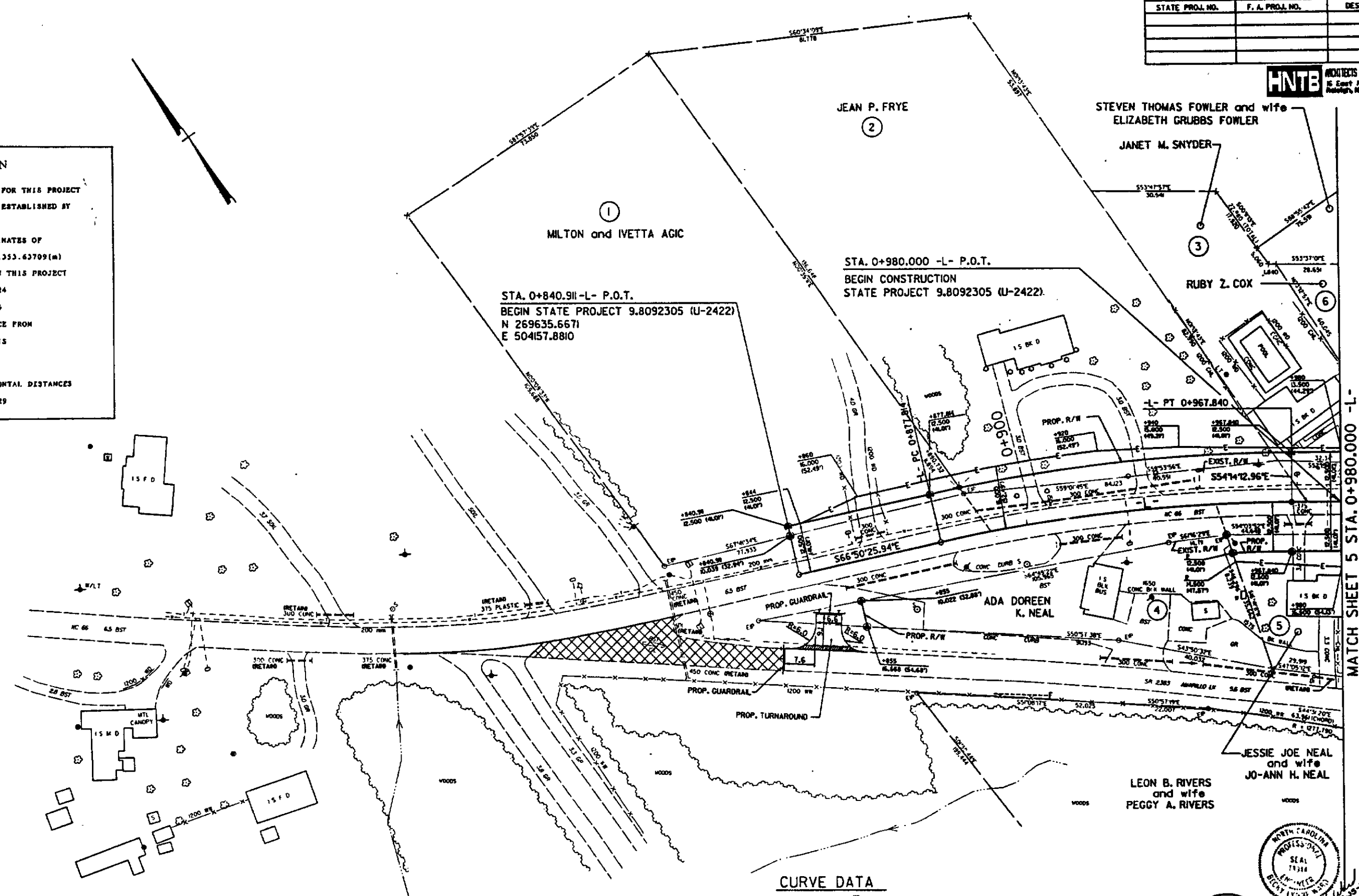
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCOS MONUMENT "NEAL" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTING: 268,393.9870(m) EASTING: 507,353.63709(m) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99995224 THE N.C. LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "HIGHWAY TO -L- STATION 8+40.911 IS N 72-29-45.0 W 3205.9360

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS MOVD 29

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2422	4	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

HNTB ARCHITECTS ENGINEERS PLANNERS
10000 N. East Avenue, Suite 200
Charlotte, NC 28210



CURVE DATA
-L- LINE

PI = 0+923.009
Δ = 12°36'12.98" RT.
T = 45.195
L = 90.026
R = 409.256
Super = 0.046%
Runoff = 41.0 m

REMOVE EXIST. PAV'T. & OBLITERATE EXIST. ROADWAY
TEMPORARY CONST. EASEMENT

SEAL
NORTH CAROLINA
JAMES L. EASON
7/25/76

SEAL
NORTH CAROLINA
JAMES L. EASON
7/25/76

SEAL
NORTH CAROLINA
JAMES L. EASON
7/25/76

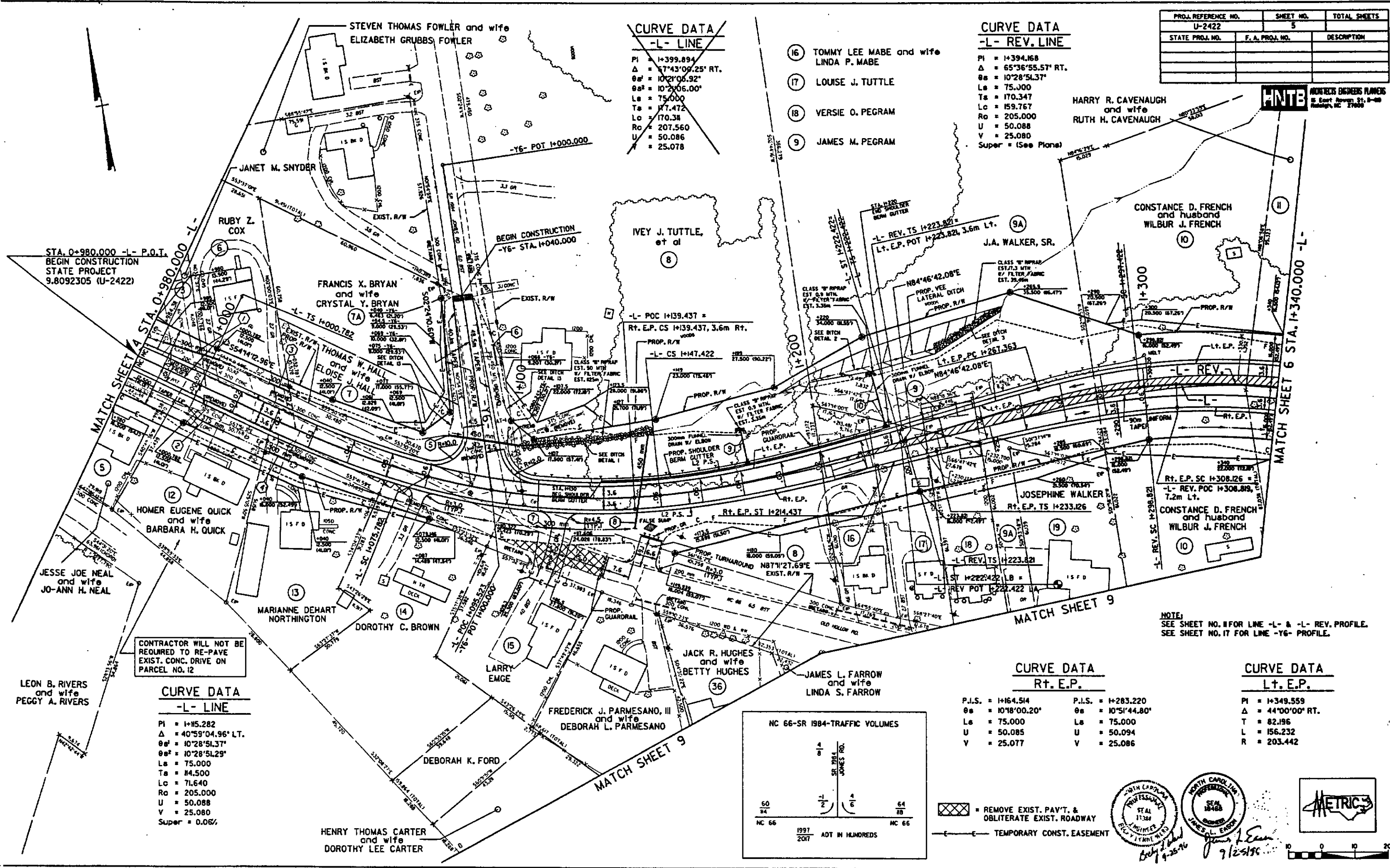
SEAL
NORTH CAROLINA
JAMES L. EASON
7/25/76

NOTE:
SEE SHEET NO. 11 FOR LINE -L- PROFILE.

DEPARTMENT OF TRANSPORTATION
Custodian of Minutes of Board of Transportation

"STATE OF NORTH CAROLINA - COUNTY OF WAKE"
I, Ross J. Eason, do hereby certify that this is a true and correct copy of the final plans for Project 9.8092305 identified as State Addendum 10 to the minutes on file in my office of the 5 day of September 1977. Board of Transportation meeting. IN TESTIMONY WHEREOF, I have hereunto set my hand this the 15 day of September 1977.

591



CURVE DATA
-L- LINE

PI	= 14399.894
Δ	= 57°43'09.25" RT.
θa	= 10°21'06.92"
θb	= 10°21'06.00"
Ls	= 75.000
Ts	= 17.472
Lc	= 170.38
Rc	= 207.560
U	= 50.086
V	= 25.078

CURVE DATA
-L- REV. LINE

PI	= 14394.168
Δ	= 65°36'55.57" RT.
θa	= 10°28'51.37"
Ls	= 75.000
Ts	= 170.347
Lc	= 159.767
Rc	= 205.000
U	= 50.088
V	= 25.080
Super	= (See Plans)

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2422	5	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

CURVE DATA
-L- LINE

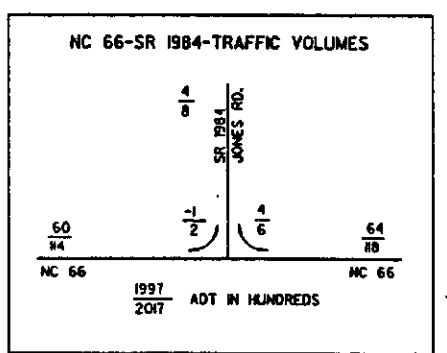
PI	= 1415.282
Δ	= 40°59'04.96" LT.
θa	= 10°28'51.37"
θb	= 10°28'51.29"
Ls	= 75.000
Ts	= 14.500
Lc	= 71.640
Rc	= 205.000
U	= 50.088
V	= 25.080
Super	= 0.05%

CURVE DATA
Rt. E.P.

P.I.S.	= 1464.514
θa	= 10°18'00.20"
Ls	= 75.000
U	= 50.085
V	= 25.077

CURVE DATA
Lt. E.P.

PI	= 14349.559
Δ	= 44°00'00" RT.
T	= 82.196
L	= 156.232
R	= 203.442



REMOVE EXIST. PAV'T. & OBLITERATE EXIST. ROADWAY
TEMPORARY CONST. EASEMENT



"STATE OF NORTH CAROLINA - COUNTY OF WAKE"
I, James L. Farrow, do hereby certify that this is a true and correct copy of Plan Sheet 15 of the final plans for Project 9.8092305 identified as U-2422 to the minutes on file in my office of the 15 day of September 19 97, Board of Transportation meeting. IN TESTIMONY WHEREOF, I have hereunto set my hand this the 15 day of September, 19 97.

DEPARTMENT OF TRANSPORTATION
Custodian of Minutes of Board of Transportation

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DEPARTMENT OF TRANSPORTATION
Custodian of Minutes of Board of Transportation

CURVE DATA
-L- LINE

PI = 1+399.894
Δ = 87°43'00.25" RT.
Ts = 107'08.32'
Ls = 107'06.00'
Tc = 17.472
Lc = 170.38
Rc = 207.560
U = 50.066
V = 25.078

CURVE DATA
-L- REV. LINE

PI = 1+394.168
Δ = 65°36'55.57" RT.
Ts = 107'08.32'
Ls = 170.347
Lc = 159.767
Rc = 205.000
U = 50.088
V = 25.080
Super = (See Plans)

CURVE DATA
Lt. E.P.

PI = 1+349.559
Δ = 44°00'00" RT.
T = 82.196
L = 156.232
R = 203.442

CURVE DATA
-Y3- REV. LINE

PI = 1+183.774
Δ = 84°16'17.86" RT.
T = 85.947
L = 139.728
R = 95.000

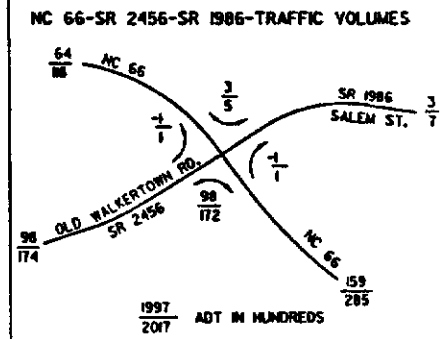
CURVE DATA
-Y3- REV. 'A' LINE

PI = 1+122.110
Δ = 69°57'00.88"
T = 66.458
L = 15.982
R = 95.000
Super = 0.08%
Runoff = 43.0 m
Pav't Widening = 0.8m

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2422	6	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

HNTB ARCHITECTS ENGINEERS PLANNERS
15 East Newton St., 9-40
Raleigh, NC 27601

NOTE:
SEE SHEET NO. 11 FOR LINE -L- REV. PROFILE
SEE SHEETS NO. 13, 14, 18 & 19 FOR LINE -Y2- & -Y2- REV. PROF.
SEE SHEET NO. 15 FOR LINE -Y3- REV. 'A' & -Y3- REV. PROFILE.
SEE SHEET NO. 16 FOR LINE -Y4- REV. PROFILE.
SEE SHEETS NO. 2-1 THRU 2-34 FOR RAILROAD STRUCTURE PLANS.



CURVE DATA
-Y2- REV. LINE

-METRIC-
PI = 1+094.842
Δ = 13°00'00.39" LT.
Ts = 128'35.56'
Ls = 30.000
Tc = 96.577
Lc = 132.066
Rc = 582.126
U = 20.001
V = 10.001
DESIGN SPEED = 60 KPH
S.E. = 38mm

-ENGLISH-
PI = 35+92.00
Δ = 13°00'00.39" LT.
Ts = 128'35.56'
Ls = 98.43'
Tc = 316.85'
Lc = 433.29'
Rc = 1909.86
U = 65.62
V = 32.81
DESIGN SPEED = 35 MPH
S.E. = 1.5"

CURVE DATA
-Y2- LINE

-METRIC-
PI = 0+986.852
Δ = 21°41'35.71" LT.
Ts = 104.024
Ls = 285.558
Tc = 542.96

-ENGLISH-
PI = 32+37.70
Δ = 21°41'35.71" LT.
Ts = 341.29
Lc = 674.40
Rc = 1781.22

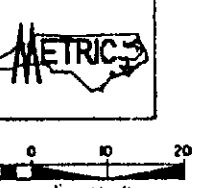
CURVE DATA
Rt. E.P.

PI = 1+652.964
Δ = 23°52'46.01" LT.
T = 86.138
L = 169.775
R = 407.353

CURVE DATA
Lt. E.P.

PI = 1+682.891
Δ = 29°18'48.61" LT.
T = 84.611
L = 165.515
R = 323.513

- PDE = PERMANENT DRAINAGE EASEMENT
- TDE = TEMPORARY DRAINAGE EASEMENT
- TC = TEMPORARY CONST. EASEMENT
- 75mm CONCRETE COVERED ISLAND - WITH 450mm CURB & GUTTER
- REMOVE EXIST. PAV'T. & OBLITERATE EXIST. ROADWAY



Professional Engineer Seal for James L. Enos, State of North Carolina, No. 18486, dated 9/26/96.

"STATE OF NORTH CAROLINA - COUNTY OF WAKE"
I, James L. Enos, do hereby certify that this is a true and correct copy of the final plans for Project 9-209216-S, identified as State to the minutes on file in my office of the 5 day of September, 19 97, Board of Transportation meeting. IN TESTIMONY WHEREOF, I have hereunto set my hand this the 15 day of September, 19 97.

NOTE:
GRADE N.W. QUADRANT OF -L-REV. & -Y4-REV. INTERSECTION IN ACCORDANCE WITH STD. 225.01M FOR SIGHT DISTANCE.

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PROJ. REFERENCE NO.		SHEET NO.	TOTAL SHEETS
U-2422		7	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	

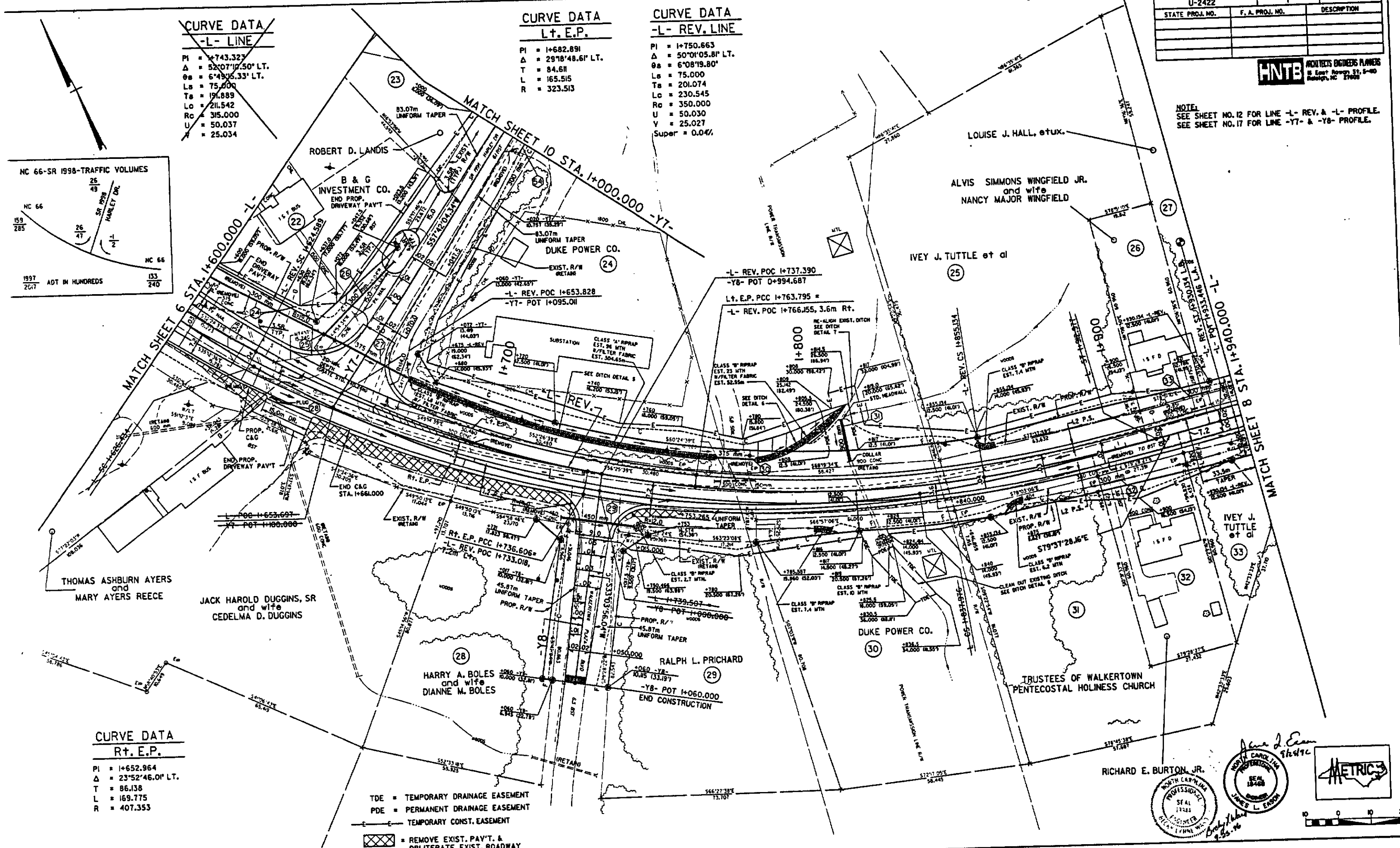
HNTB ARCHITECTS ENGINEERS PLANNERS
16 East Fourth St., 6-40
Raleigh, NC 27601

NOTE:
SEE SHEET NO.12 FOR LINE -L- REV. & -L- PROFILE
SEE SHEET NO.17 FOR LINE -YT- & -YB- PROFILE.

DEPARTMENT OF TRANSPORTATION

Day Jode
Custodian of Minutes of Board of Transportation

"STATE OF NORTH CAROLINA - COUNTY OF WAKE"
 I, Bory G. Gade, do hereby certify that this is a true and correct copy
 of the final plans for Project 9.809.2305, identified as
 Addendum 10 to the minutes on file in my office of the 5 day of September
1997, Board of Transportation meeting. IN TESTIMONY WHEREOF, I have hereunto set
 my hand this the 15 day of September, 1997.

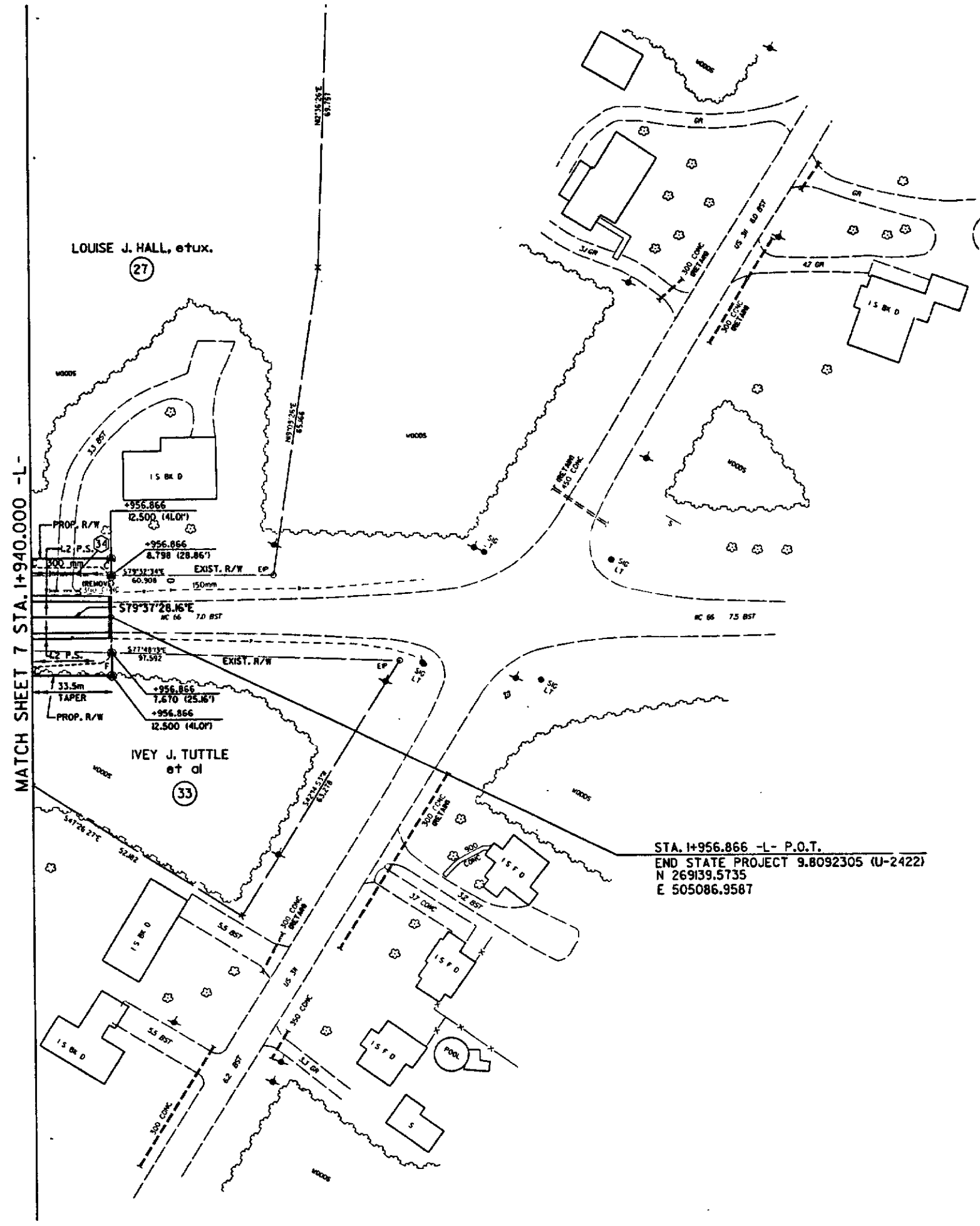


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PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2422	8	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

HNTB ARCHITECTS ENGINEERS PLANNERS
18 East Fourth St., 9th Fl.
Raleigh, NC 27601

DEPARTMENT OF TRANSPORTATION
Boyd Smith
Custodian of Minutes of Board of Transportation



NOTE:
SEE SHEET NO. 12 FOR LINE -L- PROFILE.

Professional Engineer Seal for James L. Eason, State of North Carolina, License No. 19344, dated 1994.

North Carolina Professional Engineer Seal for James L. Eason, License No. 19344, dated 1994.

Scale bar: 0 to 20 feet.

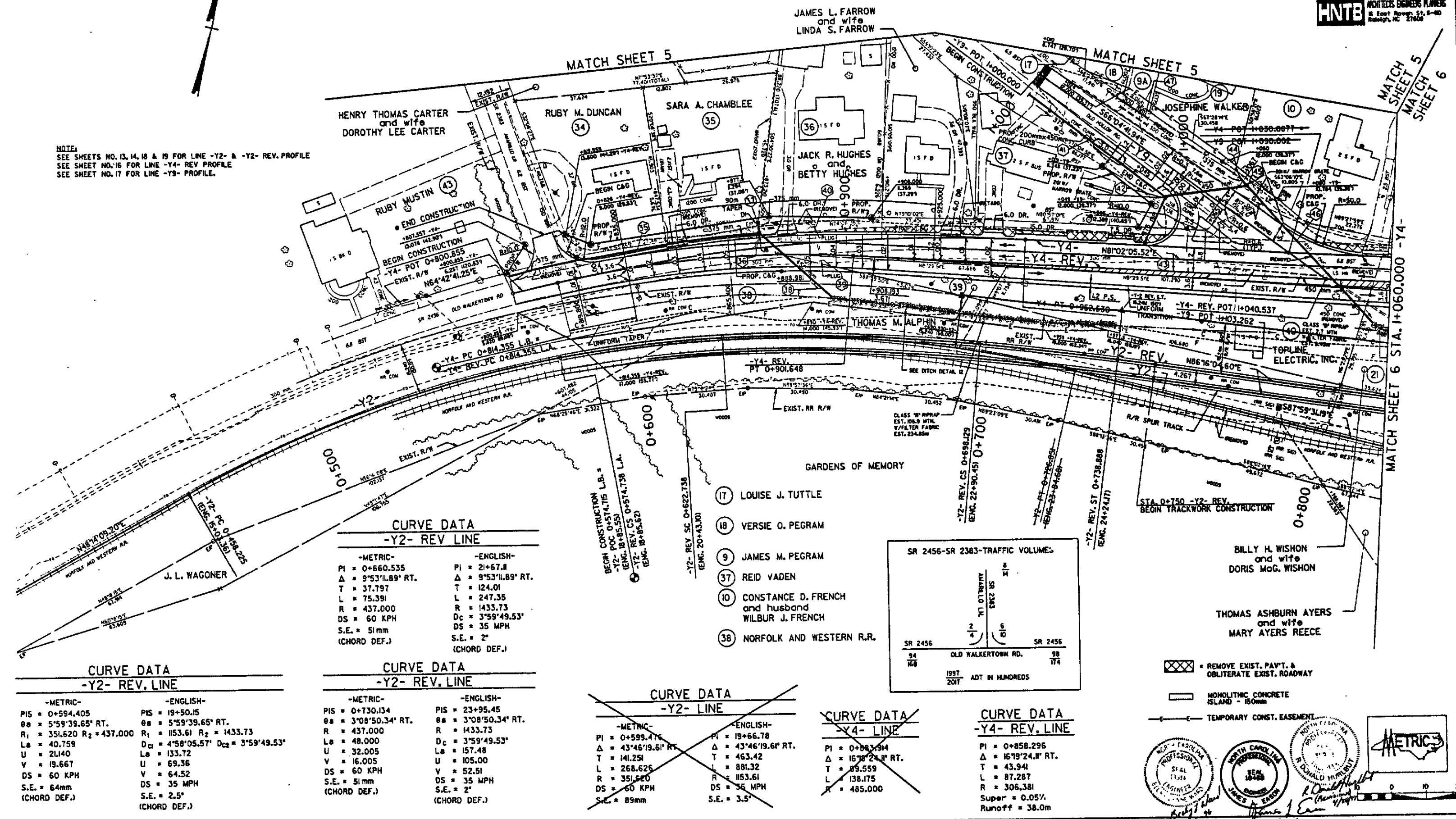
"STATE OF NORTH CAROLINA - COUNTY OF WAKE"
I, *Boyd Smith*, do hereby certify that this is a true and correct copy of the final plans for Project 9.8092305, identified as Grade 8, to the minutes on file in my office of the 5 day of September, 1997. Board of Transportation meeting, IN TESTIMONY WHEREOF, I have hereunto set my hand this 15 day of September, 1997.

[illegible]

HNTB ARCHITECTS ENGINEERS PLANNERS
16 East Raven St., S-400
Raleigh, NC 27608

NOTE: THE CONTRACTOR SHALL TIE EXISTING DRAINS ON PARCEL NO. 35 INTO PROPOSED ROADWAY DRAINAGE.

NOTE:
SEE SHEETS NO. 13, 14, 18 & 19 FOR LINE -Y2- & -Y2- REV. PROFILE
SEE SHEET NO. 16 FOR LINE -Y4- REV PROFILE
SEE SHEET NO. 17 FOR LINE -Y9- PROFILE.

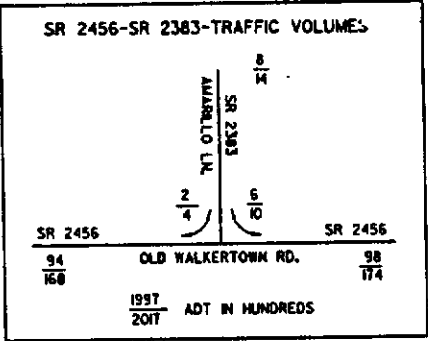


CURVE DATA	
-Y2- REV LINE	
-METRIC-	-ENGLISH-
PI = 0+660.535	PI = 21+67.11
Δ = 9°53'11.89" RT.	Δ = 9°53'11.89" RT.
T = 37.797	T = 124.01
L = 75.391	L = 247.35
R = 437.000	R = 1433.73
DS = 60 KPH	Dc = 3°59'49.53'
S.E. = 51mm	DS = 35 MPH
(CHORD DEF.)	S.E. = 2'
	(CHORD DEF.)

CURVE DATA	
-Y2- REV. LINE	
-METRIC-	-ENGLISH-
IS = 0+730.134	PIS = 23+95.45
■ = 3'08"50.34" RT.	08 = 3'08"50.34" RT.
■ = 437.000	R = 1433.73
■ = 48.000	D _C = 3'59"49.53"
■ = 32.005	L ₀ = 157.48
■ = 16.005	U = 105.00
S = 60 KPH	V = 52.51
E.E. = 51mm	DS = 35 MPH
CHORD DEF.)	S.E. = 2"
	(CHORD DEF.)

CURVE DATA	
-Y2- LINE	
-METRIC-	-ENGLISH-
PI = 0+593.476	PI = 19+66.78
Δ = 43°46'19.61" RT	Δ = 43°46'19.61" RT.
T = 141.251	T = 463.42
L = 268.625	L = 861.32
R = 351.520	R = 1153.61
DS = 60 KPH	DS = 36 MPH
S.C. = 89mm	S.E. = 3.5'

CURVE DATA	CURVE DATA
-Y4- LINE	-Y4- REV. LINE
PI = 0+263.514	PI = 0+252.296
Δ = 16°16'24.11" RT.	Δ = 16°17'24.11" RT.
T = 89.559	T = 43.941
L = 138.175	L = 87.287
R = 485.000	R = 306.381
	Super = 0.05%
	Runoff = 38.0m



 • REMOVE EXIST. PAV'T. & OBLITERATE EXIST. ROADWAY
 MONOLITHIC CONCRETE ISLAND - 150mm
 TEMPORARY CONST. EASEMENT..

"STATE OF NORTH CAROLINA - COUNTY OF WAKE"
I, Boyd Crade, do hereby certify that this is a true and correct copy
of Plan Sheet 779 of the final plans for Project 9-8092305 identified as
Addendum 10 to the minutes on file in my office of the 5 day of September
1997, Board of Transportation meeting. IN TESTIMONY WHEREOF, I have hereunto set
my hand this the 15 day of September, 1997.

DEPARTMENT OF TRANSPORTATION
Ray J. Jorde
Custodian of Minutes of Board

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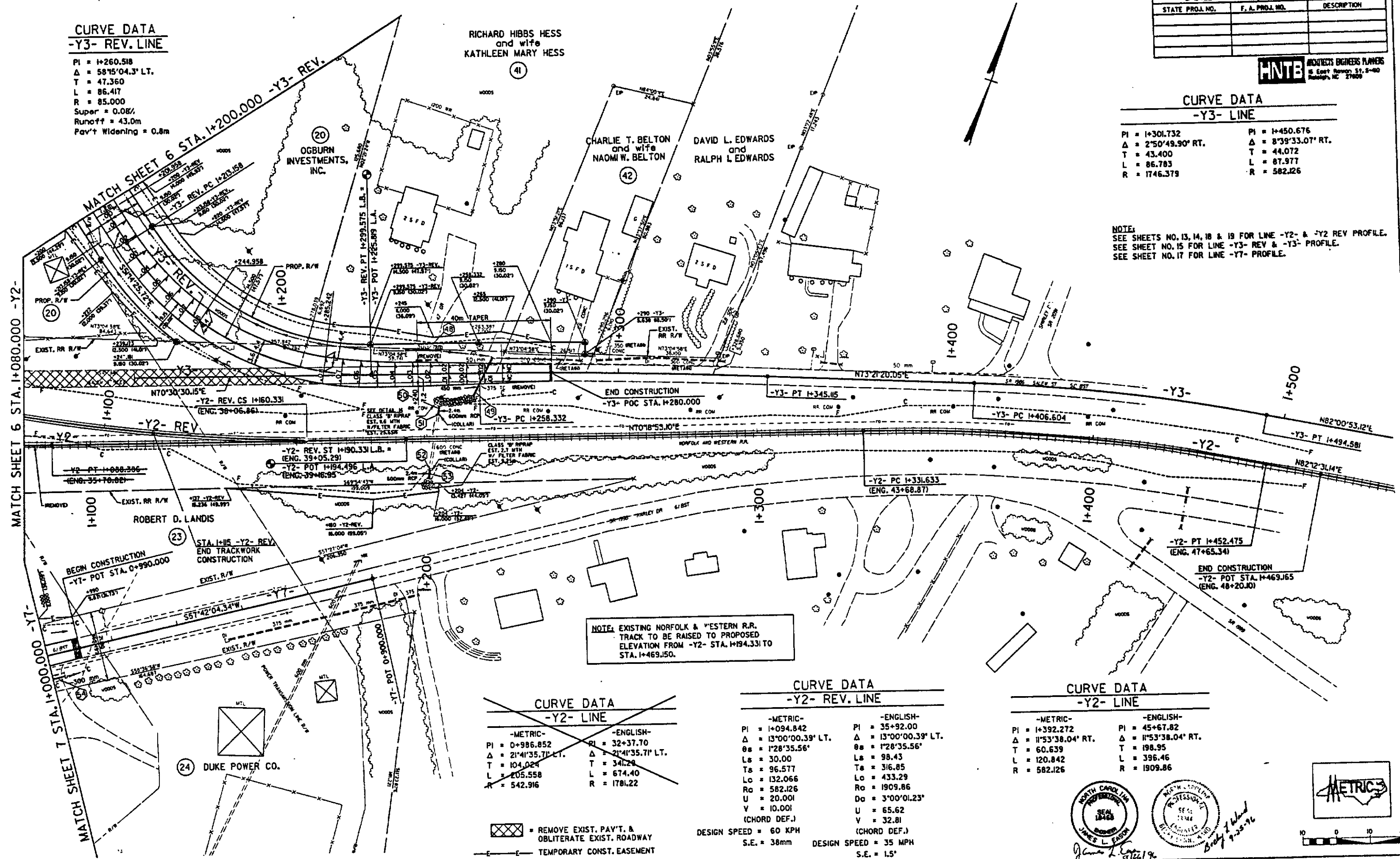
DEPARTMENT OF TRANSPORTATION
Custodian of Minutes of Board of Transportation

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2422	10	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

HNTB
ARCHITECTS ENGINEERS PLANNERS
1100 East 10th Street, Suite 200
Raleigh, NC 27601

CURVE DATA -Y3- LINE	
PI = 1+301.732	PI = 1+450.676
Δ = 2°50'49.90" RT.	Δ = 8°39'33.07" RT.
T = 43.400	T = 44.072
L = 86.783	L = 87.977
R = 1746.379	R = 582.126

NOTE:
SEE SHEETS NO. 13, 14, 18 & 19 FOR LINE -Y2- & -Y2 REV PROFILE.
SEE SHEET NO. 15 FOR LINE -Y3- REV & -Y3- PROFILE.
SEE SHEET NO. 17 FOR LINE -Y7- PROFILE.



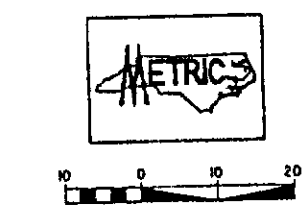
CURVE DATA -Y2- LINE	
-METRIC- PI = 0+986.852 Δ = 21°41'35.71" LT. T = 104.024 L = 205.558 R = 542.916	-ENGLISH- PI = 32+37.70 Δ = 21°41'35.71" LT. T = 341.29 L = 674.40 R = 1781.22

CURVE DATA -Y2- REV. LINE	
-METRIC- PI = 1+094.842 Δ = 13°00'00.39" LT. T = 128°35.56' L = 30.00 T = 96.577 L = 132.066 R = 582.126 U = 20.001 V = 10.001 (CHORD DEF.) DESIGN SPEED = 60 KPH S.E. = 38mm	-ENGLISH- PI = 35+92.00 Δ = 13°00'00.39" LT. T = 128°35.56' L = 98.43 T = 316.85 L = 433.29 R = 1909.86 U = 65.62 V = 32.81 (CHORD DEF.) DESIGN SPEED = 35 MPH S.E. = 1.5"

CURVE DATA -Y2- LINE	
-METRIC- PI = 1+392.272 Δ = 11°53'38.04" RT. T = 60.639 L = 120.842 R = 582.126	-ENGLISH- PI = 45+67.82 Δ = 11°53'38.04" RT. T = 198.95 L = 396.46 R = 1909.86

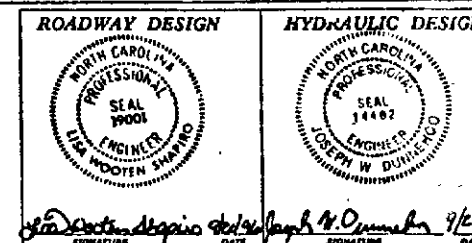
REMOVE EXIST. PAY'T. & OBLITERATE EXIST. ROADWAY
TEMPORARY CONST. EASEMENT

NORTH CAROLINA PROFESSIONAL SEAL
JAMES L. CASON
Professional Engineer
No. 12345
Exp. 12/31/2010
Bridget L. Wilson
9/25/10



"STATE OF NORTH CAROLINA - COUNTY OF WAKE"
I, James L. Cason, do hereby certify that this is a true and correct copy of the final plans for Project 9-2092305 identified as State Road 10 to the minutes on file in my office of the 5 day of September 19 97. Board of Transportation meeting IN TESTIMONY WHEREOF, I have hereunto set my hand this the 15 day of September 1997.

FORSYTH CO. NC FEE: \$ 5.00
PRESENTED & RECORDED: 12/22/1997 3:38PM
DICKIE C. WOOD REGISTER OF DEEDS BY NELSON



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
1-09118	7	7
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

THIS IS A TRUE COPY OF THE
REVISED PLANS SUBMITTED TO
THE CONTRACTOR ON THIS PROJECT.

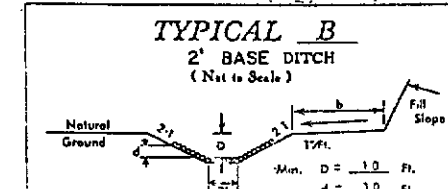
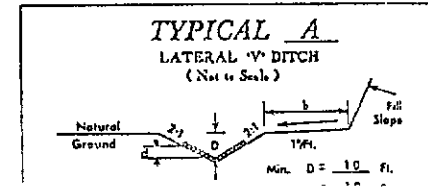
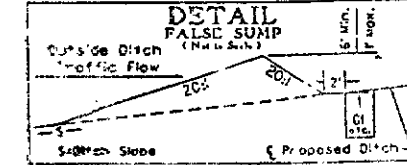
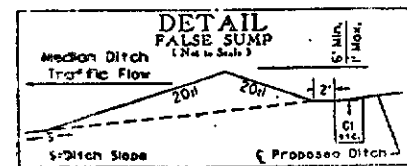
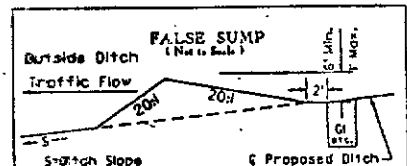
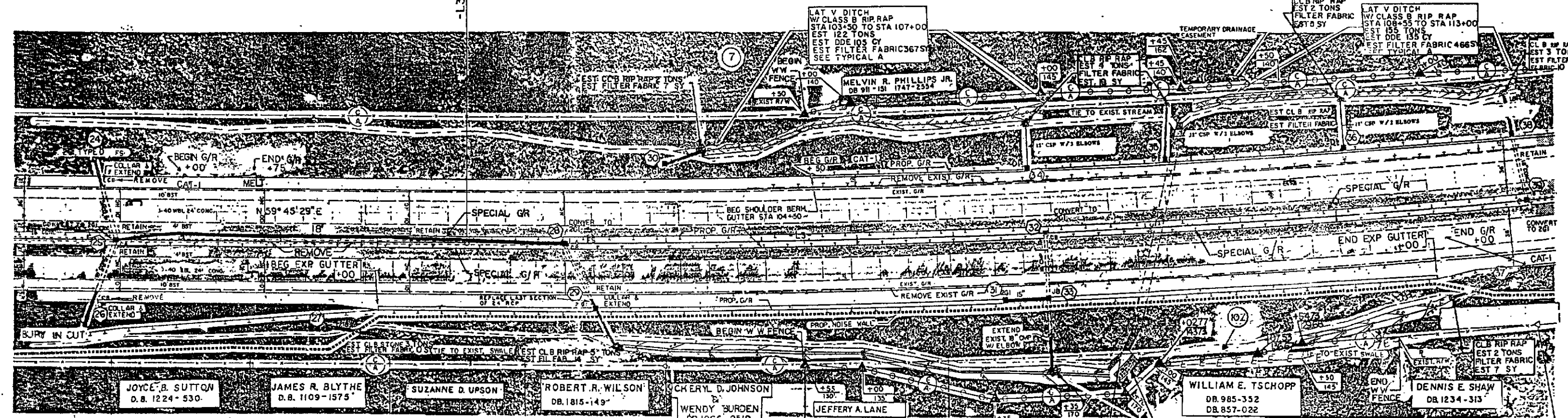
OCT 10 1997

G. T. Shearin
State Roadway Design Engineer

By: *G.T. Shearin*

DEPARTMENT OF TRANSPORTATION
Custodian of Minutes of Board of Transportation

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NOTE: FOR CULVERT EXTENSION PLANS SEE SHEETS C4 THRU C-5.

NOTE: SEE SHEET 2-E FOR SPECIAL G/R. DETAIL.

NOTE: SEE PLAN SHEET 14 FOR EBL AND WBL PROFILE.

PAVED SHOULDER

"STATE OF NORTH CAROLINA - COUNTY OF WAKE"
I, *Robert Shearin*, do hereby certify that this is a true and correct copy of revised Plan Sheet 7 of the final plans for Project 8-1610-03, said revised plan sheet having been approved and adopted by the Board of Transportation and identified as Addendum B to the minutes on file in my office of the State Board of Transportation meeting on the 19th day of December, 1997. WHEREOF, I have hereunto set my hand this 19th day of December, 1997.