09/08/99

TIP PROJECT: R-4429C

CONTRACT: C201078

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
	Reforestation	
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.01	Riser Basin	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
1633.02	Temporary Rock Silt Check Type-B	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1636.01	Rock Silt Screen	
1630.04	Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A OR A
1632.02	Type B	B OR B
1632.03	Type C	C OR C

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-4429C	EC-1	

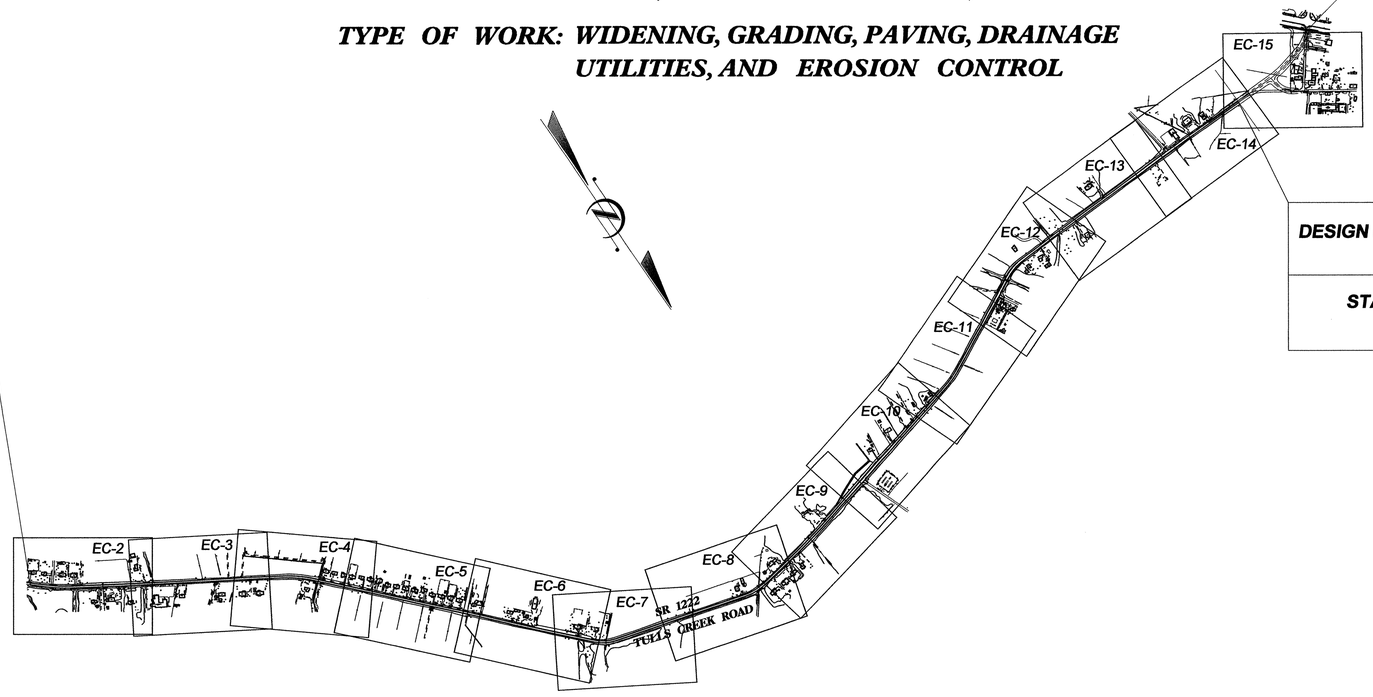
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34622.2.3		R/W, UTILITY
34622.3.5		CONSTR.

LOCATION: SR 1222 (TULLS CREEK ROAD)
FROM SR 1214 (GUINEA ROAD)
TO SR 1216 (PUDDIN RIDGE ROAD)

TYPE OF WORK: WIDENING, GRADING, PAVING, DRAINAGE UTILITIES, AND EROSION CONTROL

END STATE PROJECT 34622.3.5
-LREV- POT Sta. 610+08.84

BEGIN STATE PROJECT 34622.3.5
-L- POT Sta. 441+19.51



DESIGN BY PARSONS BRINCKERHOFF
ENDS STA. 599+00.00

STA 599+00.00 TO 610+08.84
DESIGN BY NCDOT

GRAPHIC SCALES

50 25 0 50 100
PLANS

Prepared In the Office of:

PB PARSONS BRINCKERHOFF
100 YEARS

2006 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 20, 2002 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01	Temporary Silt Fence	1632.01	Rock Inlet Sediment Trap Type A
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1622.01	Temporary Berms and Slope Drains	1633.01	Temporary Rock Silt Check Type A
1630.01	Riser Basin	1633.02	Temporary Rock Silt Check Type B
1630.02	Silt Basin Type B	1634.01	Temporary Rock Sediment Dam Type A
1630.03	Temporary Silt Ditch	1634.02	Temporary Rock Sediment Dam Type B
1630.04	Stilling Basin	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.05	Temporary Diversion	1636.01	Rock Silt Screen

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$$DATE$$

PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-2/CONST-4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

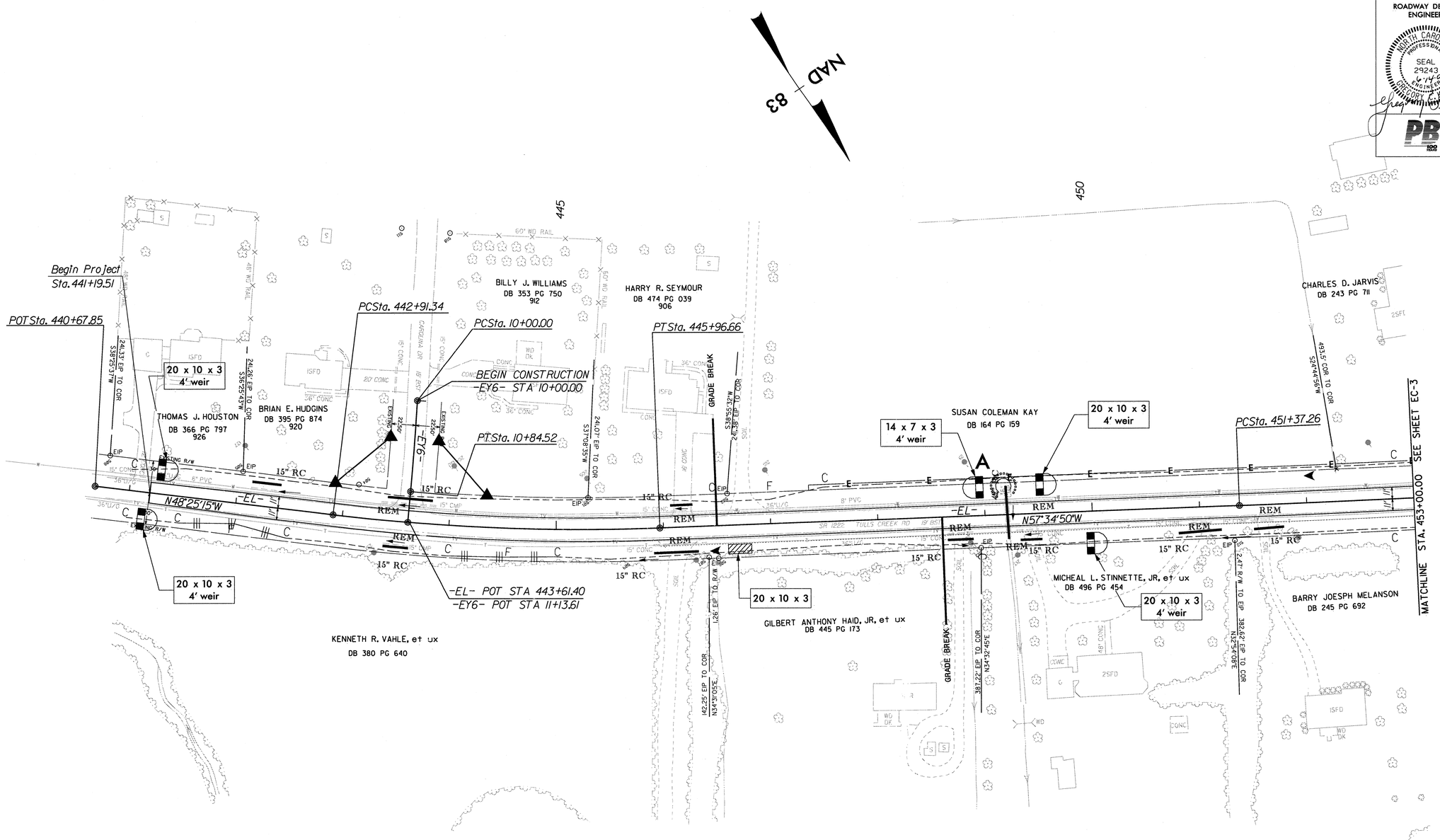
NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER CHRISTOPHER T. MORAN

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER DANIEL W. BRIDGES

6-14-06

PB PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

441+20 (TIE TO EXIST.) ← WATER FLOW ← 446+50 (GRADE BREAK) LEFT SIDE (GRADE- 0.21%)

441+20 (TIE TO EXIST.) ← WATER FLOW ← 448+60 (GRADE BREAK) RIGHT SIDE (GRADE- 0.41%)

446+50 (GRADE BREAK) → WATER FLOW → 449+20 (CROSS LINE) LEFT SIDE (GRADE- 0.44%)

448+60 (GRADE BREAK) → WATER FLOW → 449+20 (OUTLET DITCH) RIGHT SIDE (GRADE- 1.0%)

449+20 (CROSS LINE) ← WATER FLOW ← 464+50 (GRADE BREAK) LEFT SIDE (GRADE- 1.83%, EXCELSIOR MATTING)

449+20 (OUTLET DITCH) ← WATER FLOW ← 455+45 (GRADE BREAK) RIGHT SIDE (GRADE- 0.21%)

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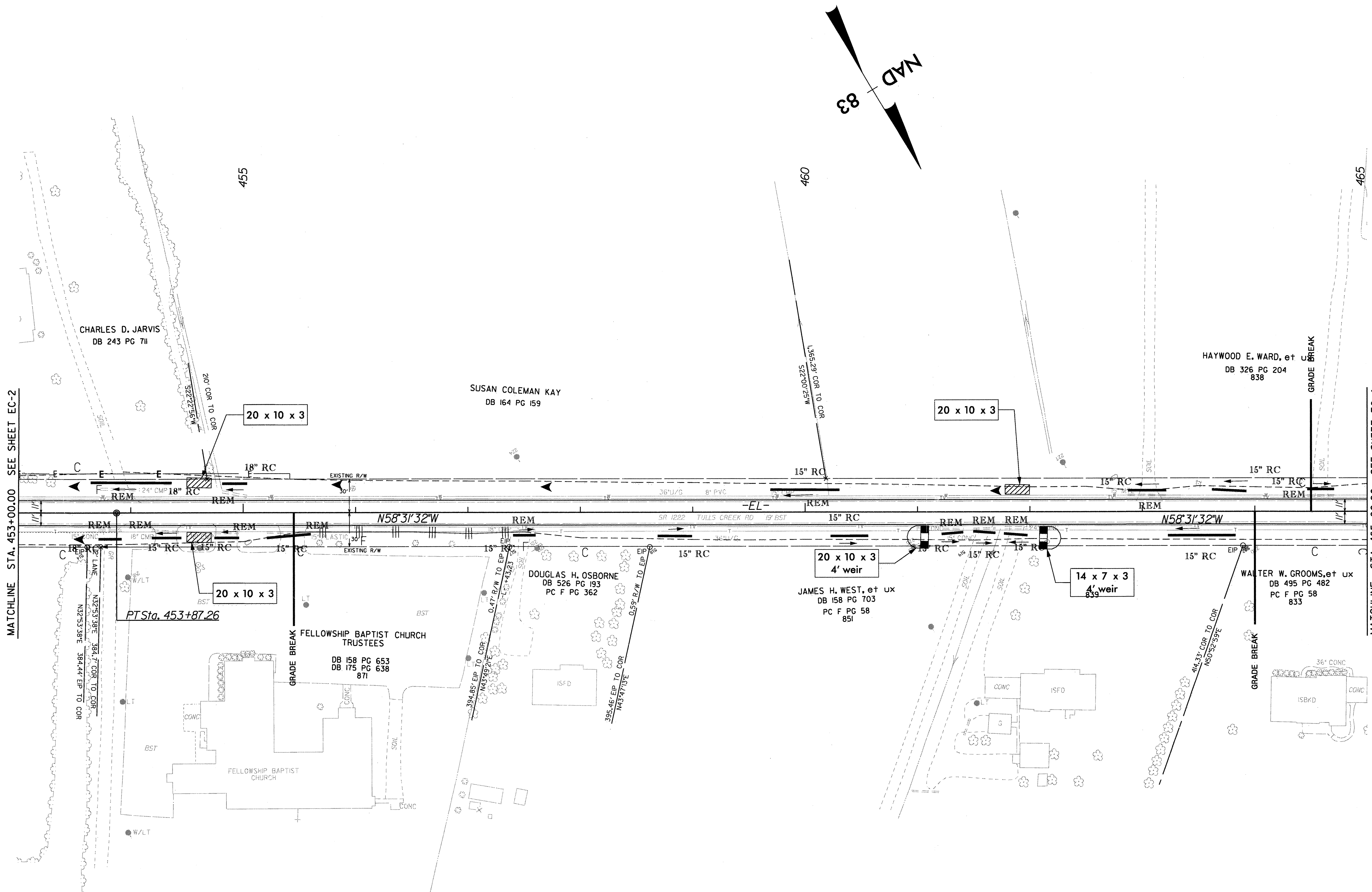
6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-3/CONST-5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — SEAL 29243

HYDRAULICS ENGINEER — SEAL 23924

PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

449+20 (CROSS LINE) ⟵ WATER FLOW ⟵ 464+50 (GRADE BREAK) LEFT SIDE (GRADE- 1.83%. EXCELS

449+20 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 455+45 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.21%)

455+45 (GRADE BREAK) ⟶ WATER FLOW ⟶ 461+75 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.1%)

464+50 (GRADE BREAK) ⟶ WATER FLOW ⟶ 472+95 (CROSS LINE) LEFT SIDE (GRADE- 0.22%)

461+75 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 464+00 (GRADE BREAK) RIGHT SIDE (GRADE- 0.18%)

464+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 472+95 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.36%)

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6/13/2006

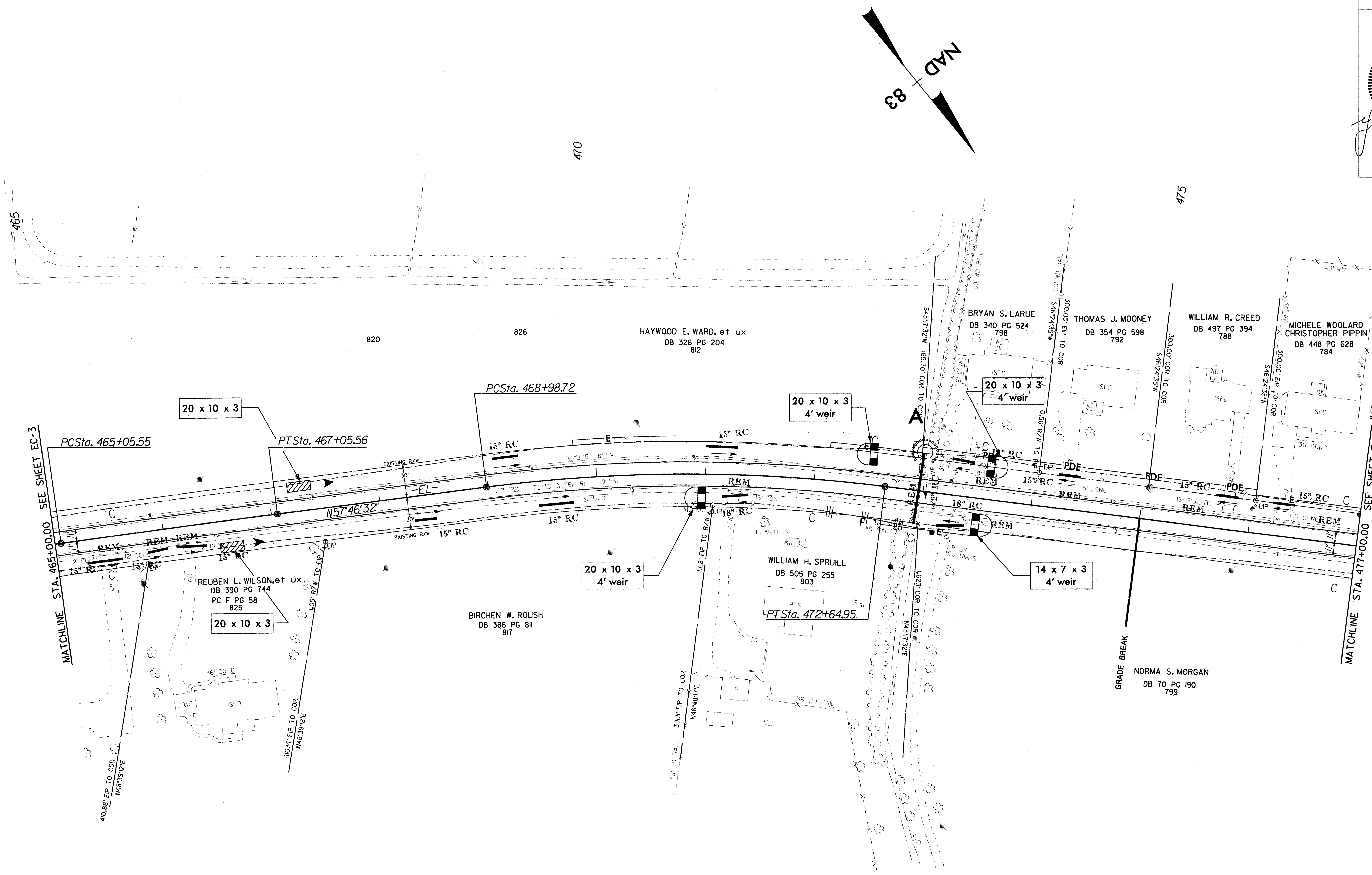
PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-4/CONST-6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29243 — GREGORY ... 6-14-06

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23924 — DANIEL H. BRIDGES 6-14-06

PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

464+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 472+95 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.36%)

464+50 (GRADE BREAK) ⟶ WATER FLOW ⟶ 472+95 (CROSS LINE) LEFT SIDE (GRADE- 0.22%)

472+95 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 478+00 (GRADE BREAK) RIGHT SIDE (GRADE- 1.11%)

472+95 (CROSS LINE) ⟵ WATER FLOW ⟵ 482+00 (GRADE BREAK) LEFT SIDE (GRADE- 0.22%)

478+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 489+70 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.27%)

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6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-5/CONST-7
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER JEFFREY T. FLEMING

6-14-06

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER MATTHEW W. BRIDGES

6-14-06

PB PARSONS BRINCKERHOFF

NAD 83

480 485 490

VINCENT C. NIXON DB 384 PG 205 780

ELVIN L. LINDSEY, et ux DB 429 PG 758 776

DIANA M. FASSEL DORIS SPICER DB 463 PG 828 772

JAMES E. YOUNG, et ux DB 403 PG 288 768

MARK GRAHAM, et ux DB 330 PG 466 764

RODNEY O. MIDGETTE, et ux DB 388 PG 111 760

DONALD M. LETNER DB 373 PG 274 756

CLARENCE O. WHITE, et ux DB 284 PG 849 752

MARGARET M. GARRETT MARK GARRETT TRUSTEE DB 360 PG 197 748

HOWARD F. DAVIS DB 400 PG 498 744

GORDEN E. BEACH DB 387 PG 459 740

WENDELL P. RAWSON, et ux DB 316 PG 801

HAYWOOD E. WARD DB 209 PG 494 PC D SL 26

GRADE BREAK

20 x 10 x 3

20 x 10 x 3

20 x 10 x 3

20 x 10 x 3 4' weir

20 x 10 x 3 4' weir

MATCHLINE STA. 477+00.00 SEE SHEET EC-4

MATCHLINE STA. 490+00.00 SEE SHEET EC-6

-EL-

N47°07'34"W

SR 1222 TULLS CREEK RD 19' BST

NORMA S. MORGAN DB 70 PG 190 749

NORMA S. MORGAN DB 70 PG 190 749

723' COR TO COR N47°23'59"E

PCSta. 488+92.61

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

472+95 (CROSS LINE) ← WATER FLOW ← 482+00 (GRADE BREAK) LEFT SIDE (GRADE- 0.22%)

482+00 (GRADE BREAK) → WATER FLOW → 489+70 (CROSS LINE) LEFT SIDE (GRADE- 0.29%)

478+00 (GRADE BREAK) → WATER FLOW → 489+70 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.27%)

489+70 (CROSS LINE) ← WATER FLOW ← 497+00 (GRADE BREAK) LEFT SIDE (GRADE- 0.44%)

489+70 (OUTLET DITCH) ← WATER FLOW ← 497+00 (GRADE BREAK) RIGHT SIDE (GRADE- 0.61%)

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PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-6/CONST-8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

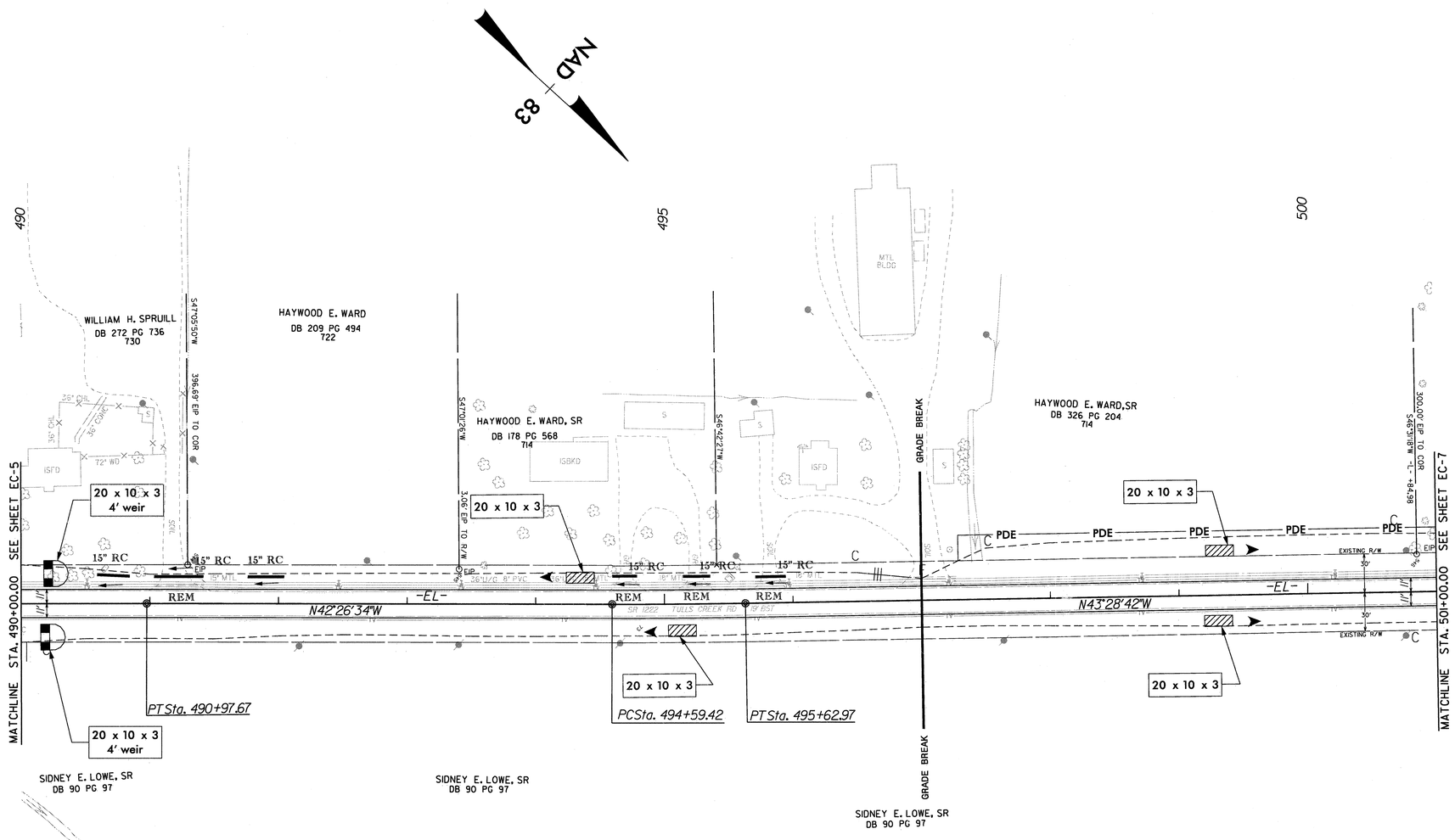
NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER CHRISTOPHER T. KNIGHT

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER MATTHEW H. BRINSON

6-14-06

PB PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

489+70 (CROSS LINE) ⟵ WATER FLOW ⟵ 497+00 (GRADE BREAK) LEFT SIDE (GRADE- 0.44%)

489+70 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 497+00 (GRADE BREAK) RIGHT SIDE (GRADE- 0.61%)

497+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 505+30 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.5%)

497+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 505+30 (CROSS LINE) LEFT SIDE (GRADE- 0.5%)

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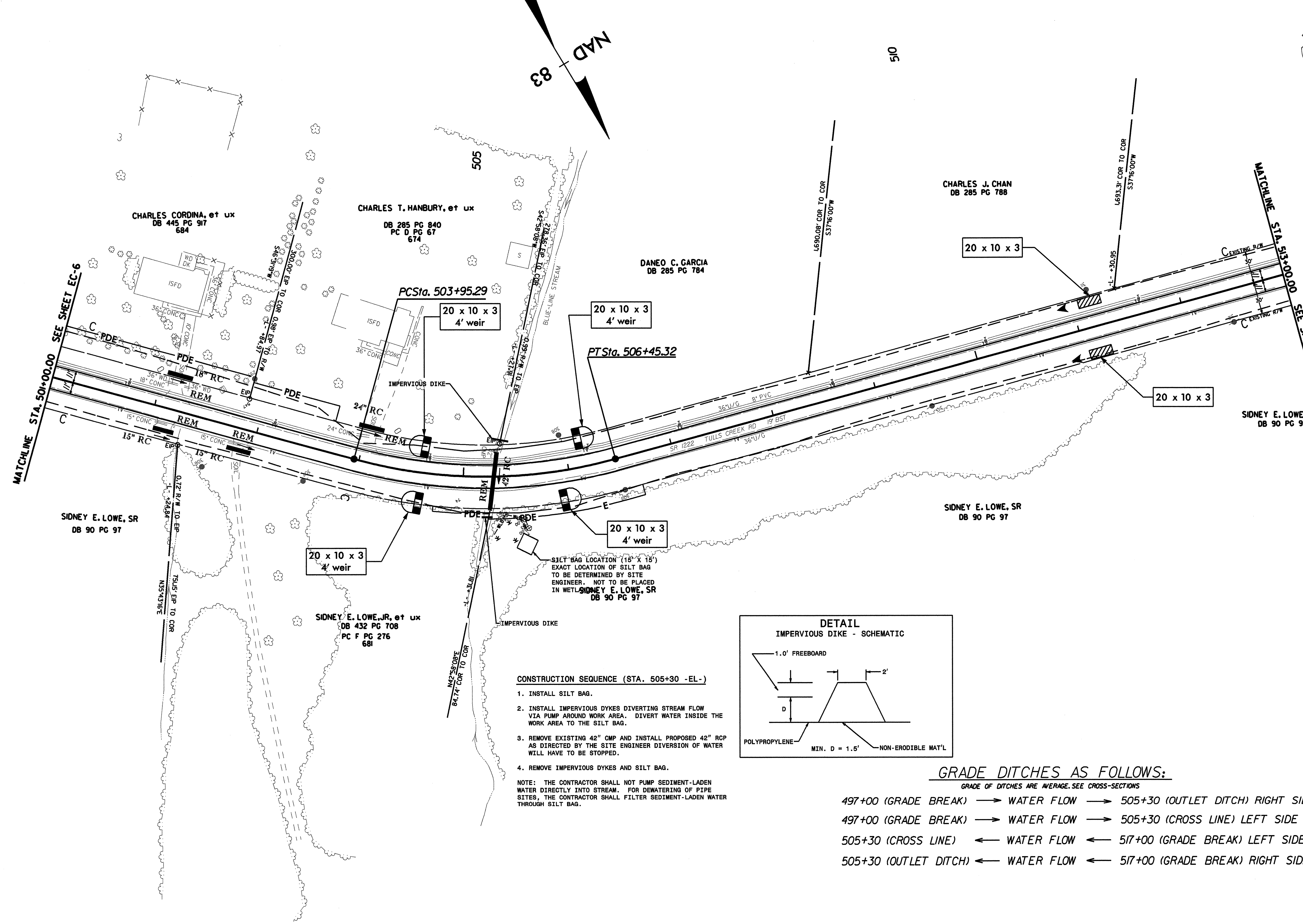
PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-7/CONST-9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29243 GREGORY C. HEINZ 3-1-07	NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23924 DANIEL H. BRIDGES 3-1-07

PARSONS BRINCKERHOFF



DETAIL

IMPERVIOUS DIKE - SCHEMATIC

1.0' FREEBOARD

2'

D

POLYPROPYLENE

MIN. D = 1.5'

NON-ERODIBLE MAT'L

CONSTRUCTION SEQUENCE (STA. 505+30 -EL-)

1. INSTALL SILT BAG.
2. INSTALL IMPERVIOUS DYKES DIVERTING STREAM FLOW VIA PUMP AROUND WORK AREA. DIVERT WATER INSIDE THE WORK AREA TO THE SILT BAG.
3. REMOVE EXISTING 42" CMP AND INSTALL PROPOSED 42" RCP AS DIRECTED BY THE SITE ENGINEER DIVERSION OF WATER WILL HAVE TO BE STOPPED.
4. REMOVE IMPERVIOUS DYKES AND SILT BAG.

NOTE: THE CONTRACTOR SHALL NOT PUMP SEDIMENT-LADEN WATER DIRECTLY INTO STREAM. FOR DEWATERING OF PIPE SITES, THE CONTRACTOR SHALL FILTER SEDIMENT-LADEN WATER THROUGH SILT BAG.

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

497+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 505+30 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.5%)

497+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 505+30 (CROSS LINE) LEFT SIDE (GRADE- 0.5%)

505+30 (CROSS LINE) ⟵ WATER FLOW ⟵ 517+00 (GRADE BREAK) LEFT SIDE (GRADE- 0.25%)

505+30 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 517+00 (GRADE BREAK) RIGHT SIDE (GRADE- 0.28%)

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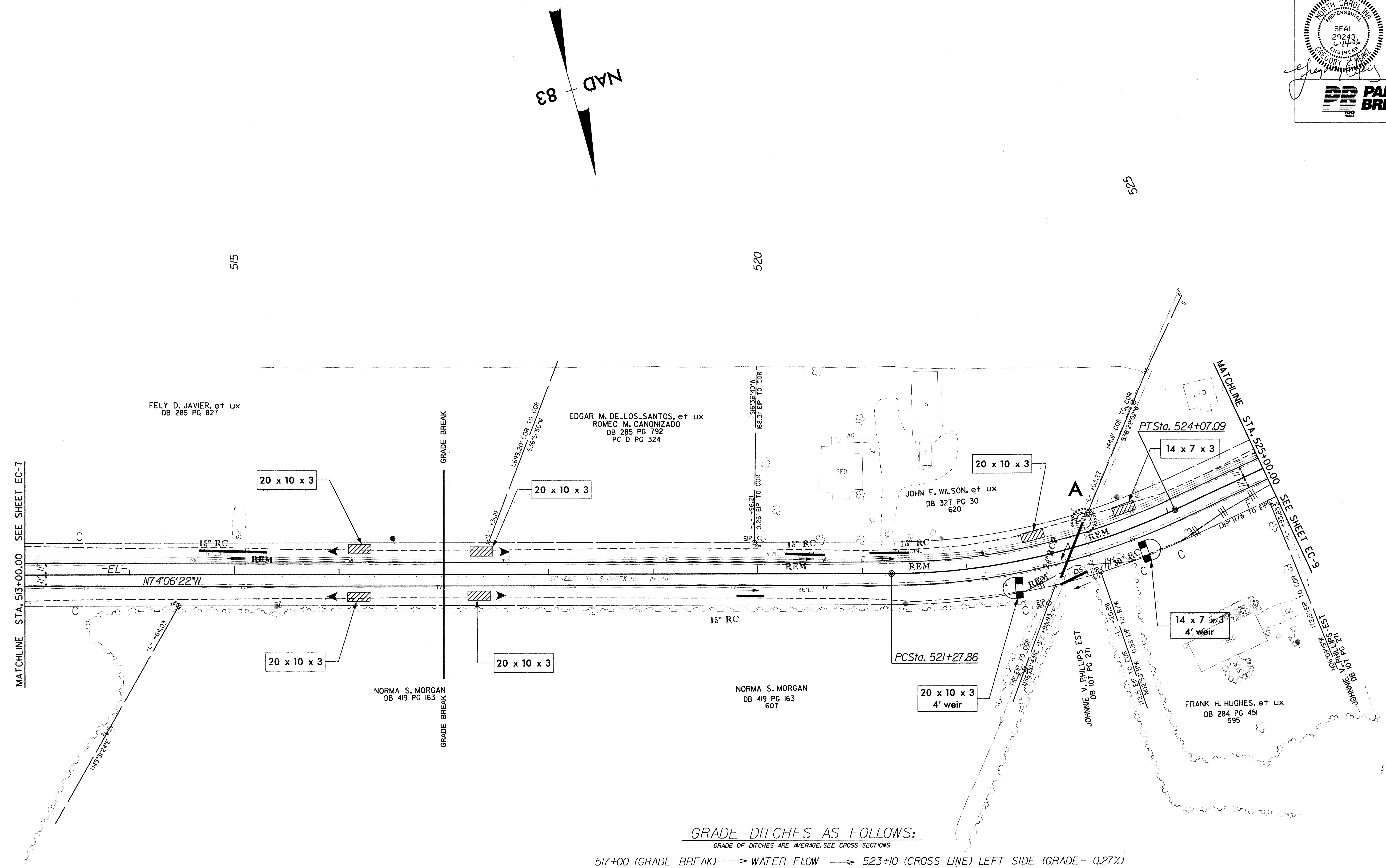
2/26/2007

PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-8/CONST-10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — SEAL 29243 — GREGORY E. ... — 6-14-06

HYDRAULICS ENGINEER — SEAL 23924 — DANIEL H. BRIDGES — 6-14-06

PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

517+00 (GRADE BREAK) → WATER FLOW → 523+10 (CROSS LINE) LEFT SIDE (GRADE- 0.27%)

517+00 (GRADE BREAK) → WATER FLOW → 522+80 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.37%)

523+10 (CROSS LINE) ← WATER FLOW ← 525+40 (GRADE BREAK) LEFT SIDE (GRADE- 0.83%)

522+80 (OUTLET DITCH) ← WATER FLOW ← 525+40 (GRADE BREAK) RIGHT SIDE (GRADE- 0.96%)

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6/3/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-9/CONST-11
R/W SHEET NO.	---

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. HEINEN

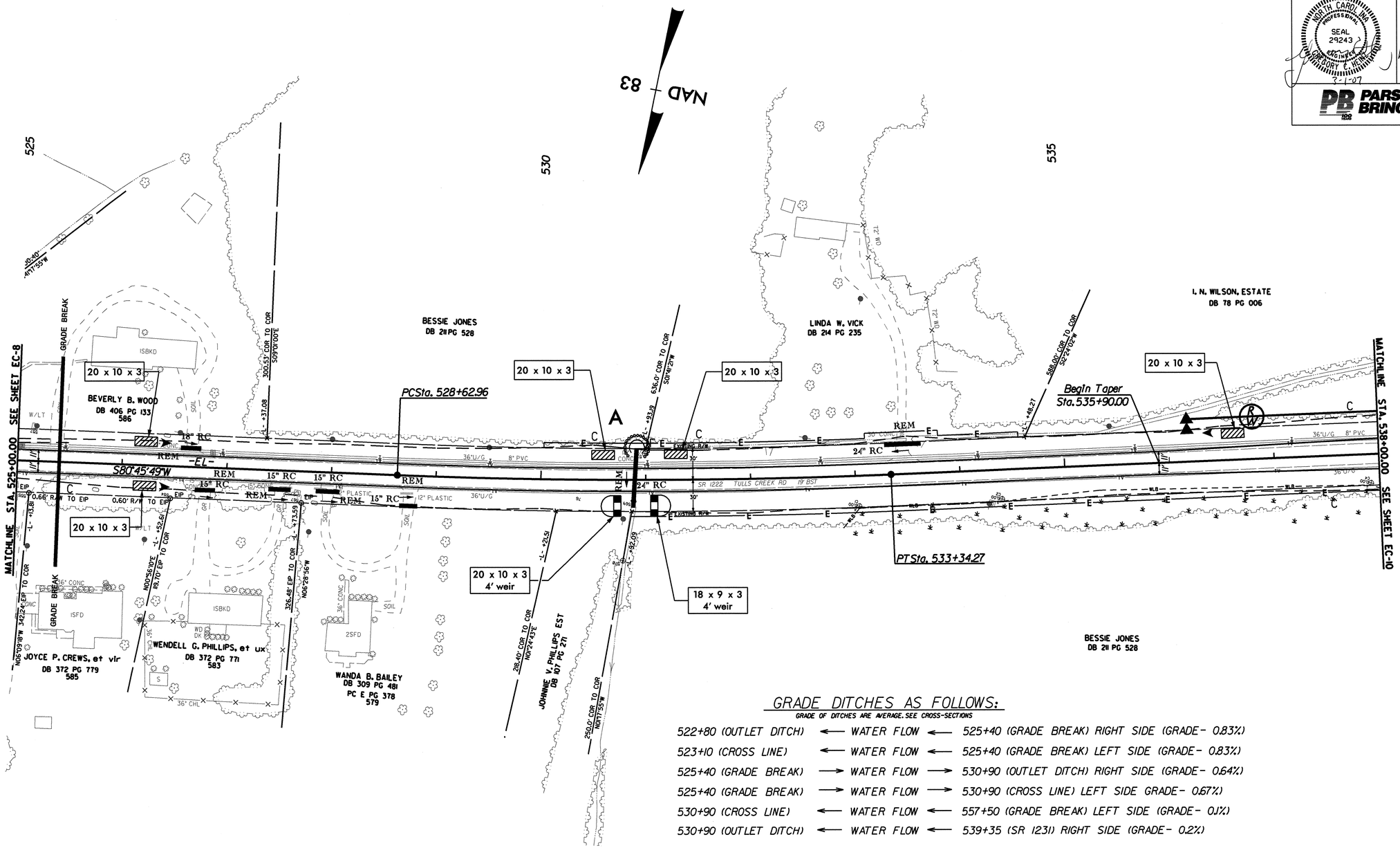
2-1-07

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23724 ENGINEER DANIEL H. BRINKLEY

2-1-07

PB PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

522+80 (OUTLET DITCH)	← WATER FLOW ←	525+40 (GRADE BREAK)	RIGHT SIDE (GRADE- 0.83%)
523+10 (CROSS LINE)	← WATER FLOW ←	525+40 (GRADE BREAK)	LEFT SIDE (GRADE- 0.83%)
525+40 (GRADE BREAK)	→ WATER FLOW →	530+90 (OUTLET DITCH)	RIGHT SIDE (GRADE- 0.64%)
525+40 (GRADE BREAK)	→ WATER FLOW →	530+90 (CROSS LINE)	LEFT SIDE GRADE- 0.67%)
530+90 (CROSS LINE)	← WATER FLOW ←	557+50 (GRADE BREAK)	LEFT SIDE (GRADE- 0.1%)
530+90 (OUTLET DITCH)	← WATER FLOW ←	539+35 (SR 1231)	RIGHT SIDE (GRADE- 0.2%)

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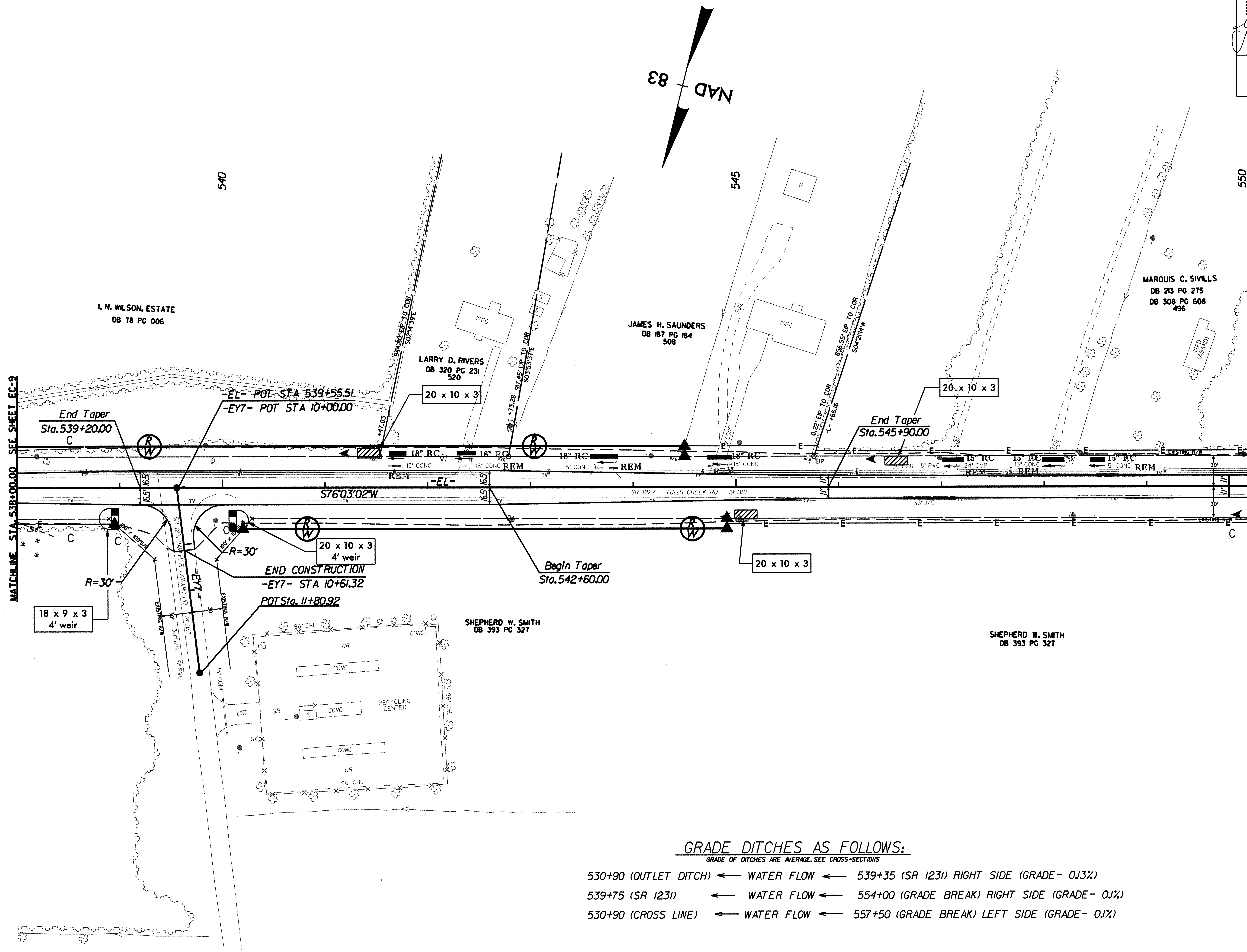
2/26/2007

PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-10/CONST-12
R/W SHEET NO.	___

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29243 GREGORY C. HEWITT 3-1-07

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23924 DANIEL H. BRIDGES 3-1-07

PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

530+90 (OUTLET DITCH) ← WATER FLOW ← 539+35 (SR 1231) RIGHT SIDE (GRADE- 0.13%)

539+75 (SR 1231) ← WATER FLOW ← 554+00 (GRADE BREAK) RIGHT SIDE (GRADE- 0.1%)

530+90 (CROSS LINE) ← WATER FLOW ← 557+50 (GRADE BREAK) LEFT SIDE (GRADE- 0.1%)

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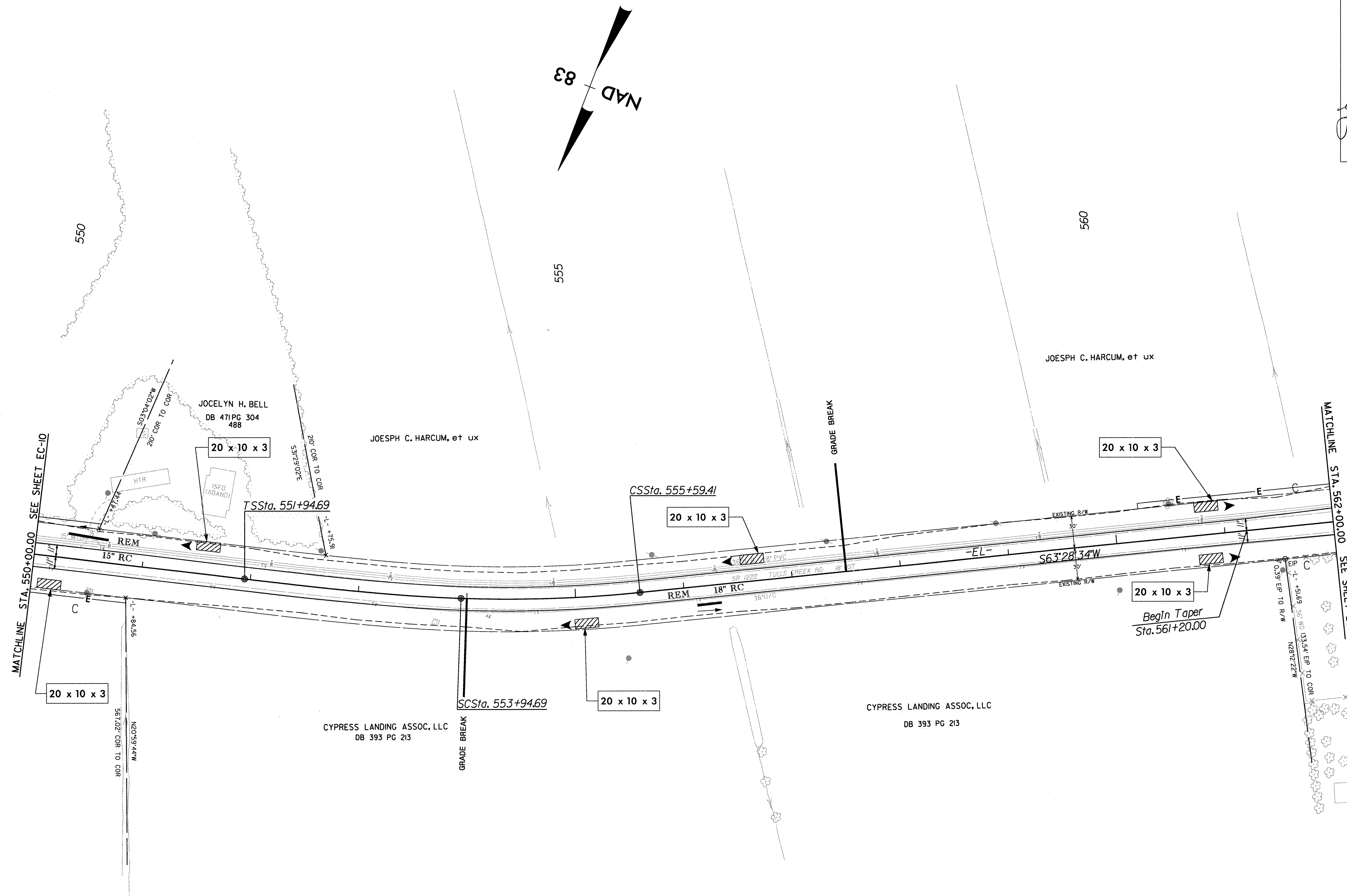
PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-11/CONST-13
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

530+90 (CROSS LINE) ←— WATER FLOW ←— 557+50 (GRADE BREAK) LEFT SIDE (GRADE- 0.55%)

539+75 (SR 1231) ←— WATER FLOW ←— 554+00 (GRADE BREAK) RIGHT SIDE (GRADE- 0.5%)

557+50 (GRADE BREAK) —→ WATER FLOW —→ 566+80 (CROSS LINE) LEFT SIDE (GRADE- 0.55%)

554+00 (GRADE BREAK) —→ WATER FLOW —→ 566+80 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.5%)

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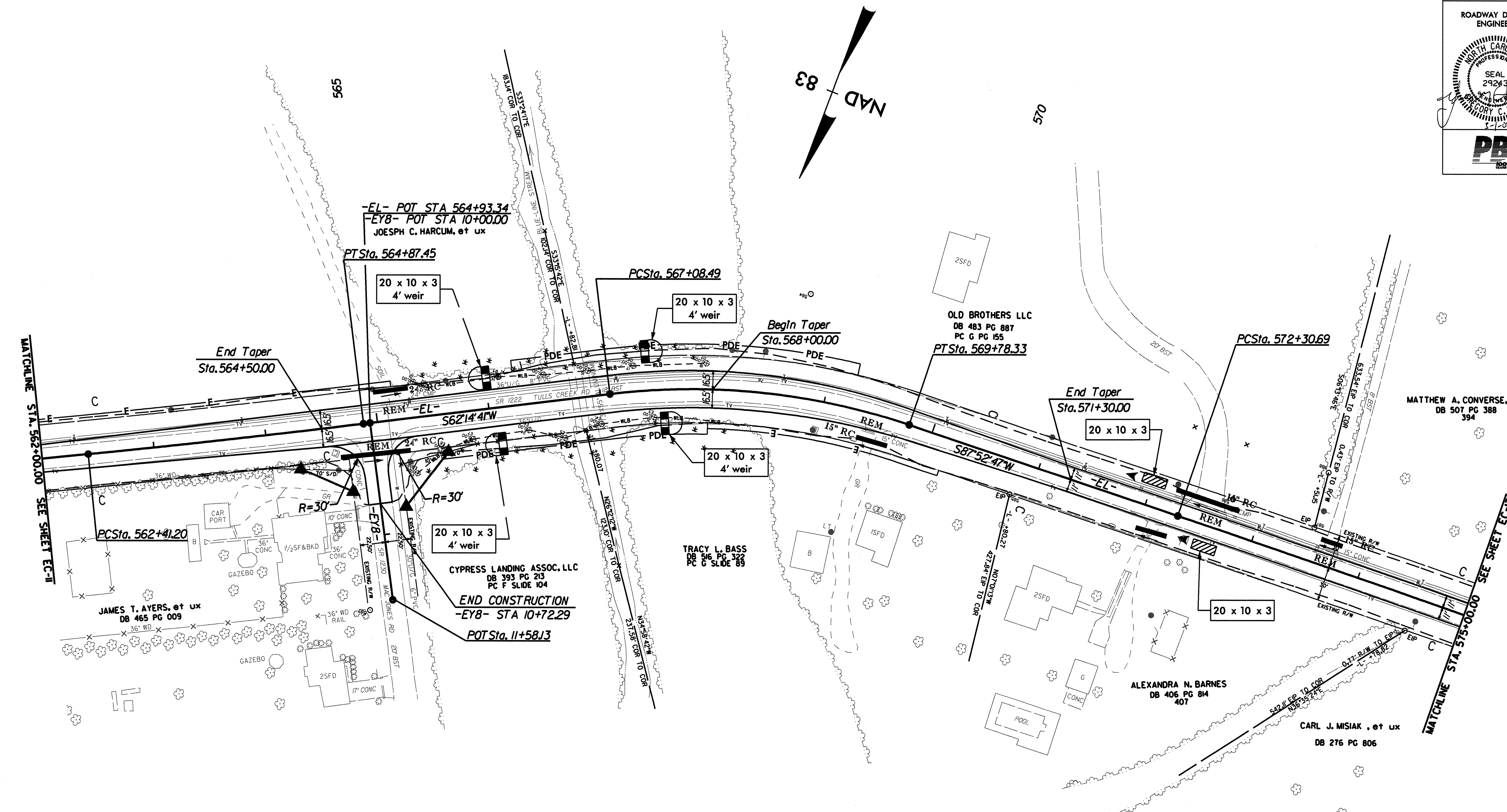
6/13/2006

PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-12/CONST-14
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29243 GREGORY C. HEIN 3-1-07

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23924 DANIEL H. BRUGGE 3-1-07

PB PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

557+50 (GRADE BREAK) ⟶ WATER FLOW ⟶ 566+80 (CROSS LINE) LEFT SIDE (GRADE- 0.55%)

554+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 566+80 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.5%)

566+80 (CROSS LINE) ⟵ WATER FLOW ⟵ 582+50 (GRADE BREAK) LEFT SIDE (GRADE- 0.27%)

566+80 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 584+00 (GRADE BREAK) RIGHT SIDE (GRADE- 0.29%)

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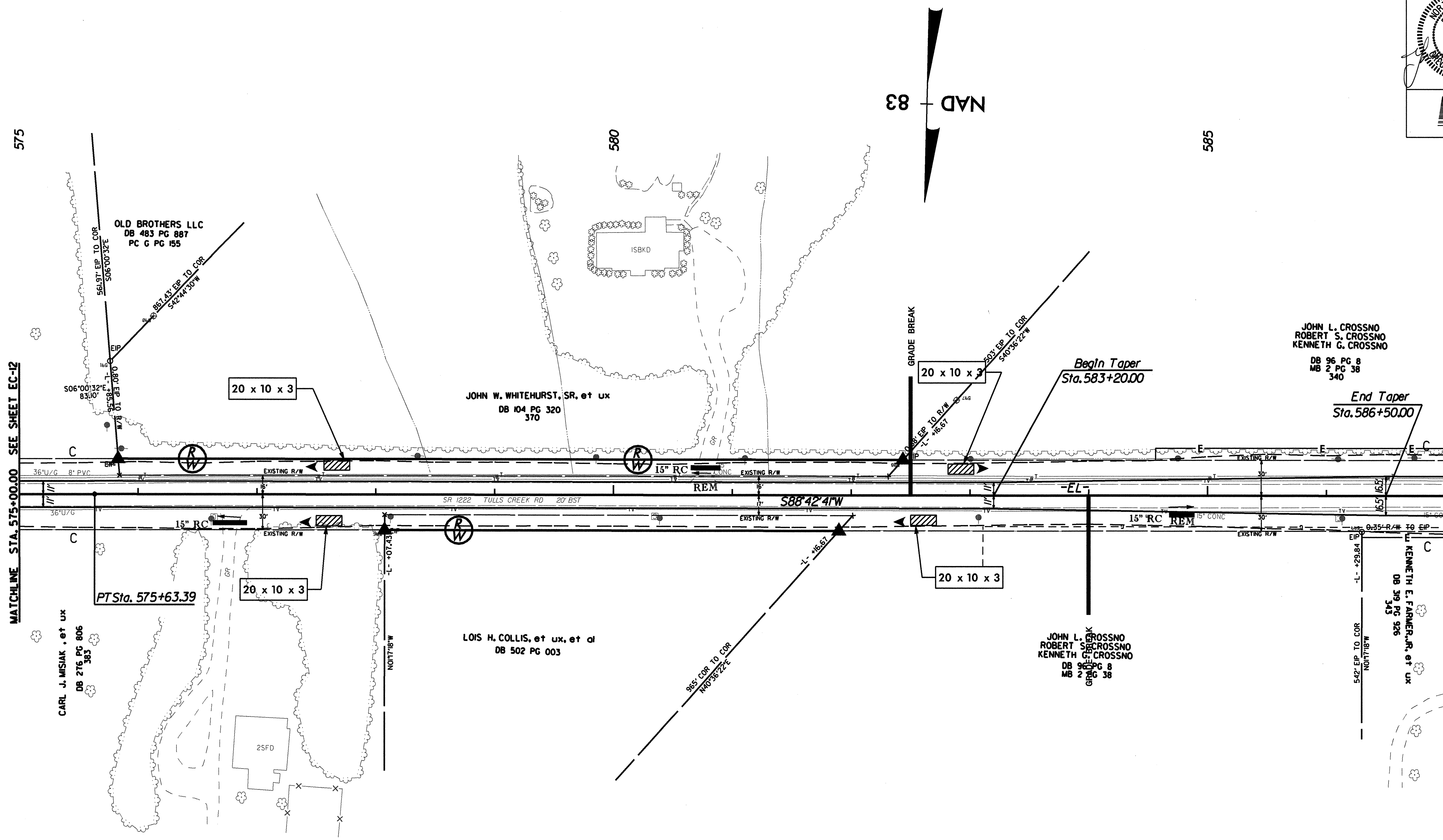
2/26/2007

PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-13/CONST-15
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29243 GREGORY C. WEINER 3-1-07

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23924 DANIEL H. BRIDGES 3-1-07

PB PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

566+80 (CROSS LINE) ⟵ WATER FLOW ⟵ 582+50 (GRADE BREAK) LEFT SIDE (GRADE- 0.27%)

566+80 (OUTLET DITCH) ⟵ WATER FLOW ⟵ 584+00 (GRADE BREAK) RIGHT SIDE (GRADE- 0.29%)

582+50 (GRADE BREAK) ⟶ WATER FLOW ⟶ 590+40 (CROSS LINE) LEFT SIDE (GRADE- 0.31%)

584+00 (GRADE BREAK) ⟶ WATER FLOW ⟶ 590+40 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.38%)

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2/28/2007

PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-14/CONST-16
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29243 ENGINEER GREGORY C. HEIN

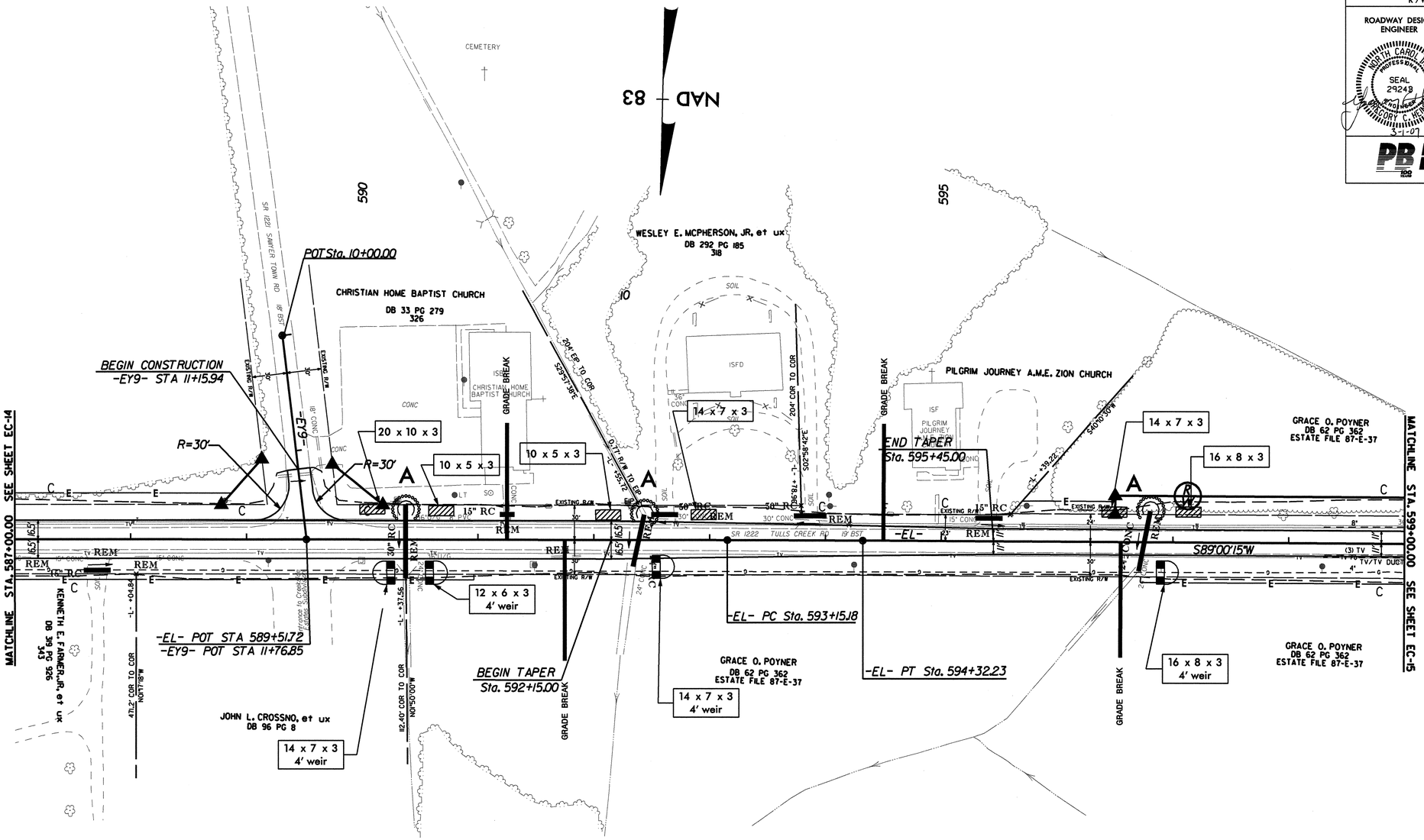
3-1-07

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 23924 ENGINEER DANIEL H. BROOKS

3-1-07

PB PARSONS BRINCKERHOFF



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

582+50 (GRADE BREAK)	WATER FLOW →	590+40 (CROSS LINE) LEFT SIDE (GRADE- 0.31%)
584+00 (GRADE BREAK)	WATER FLOW →	590+40 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.38%)
590+40 (CROSS LINE)	← WATER FLOW	591+25 (GRADE BREAK) LEFT SIDE (GRADE- 0.24%)
590+40 (OUTLET DITCH)	← WATER FLOW	591+75 GRADE BREAK) RIGHT SIDE (GRADE- 1.22%)
591+25 (GRADE BREAK)	WATER FLOW →	592+45 (CROSS LINE) LEFT SIDE (GRADE- 0.17%)
591+75 (GRADE BREAK)	WATER FLOW →	592+35 (OUTLET DITCH) RIGHT SIDE (GRADE- 0.58%)
592+35 (OUTLET DITCH)	← WATER FLOW	594+00 (GRADE BREAK) RIGHT SIDE (GRADE- 0.5%)
592+45 (CROSS LINE)	← WATER FLOW	594+00 (GRADE BREAK) LEFT SIDE (GRADE- 0.45%)
594+00 (GRADE BREAK)	WATER FLOW →	596+80 (OUTLET DITCH) RIGHT SIDE (GRADE- 1.24%)
594+00 (GRADE BREAK)	WATER FLOW →	596+80 (CROSS LINE) LEFT SIDE (GRADE- 1.19%)
596+80 (OUTLET DITCH)	← WATER FLOW	600+00 (GRADE BREAK) RIGHT SIDE (GRADE- 0.11%)
596+80 (CROSS LINE)	← WATER FLOW	600+00 (GRADE BREAK) LEFT SIDE (GRADE- 0.16%)

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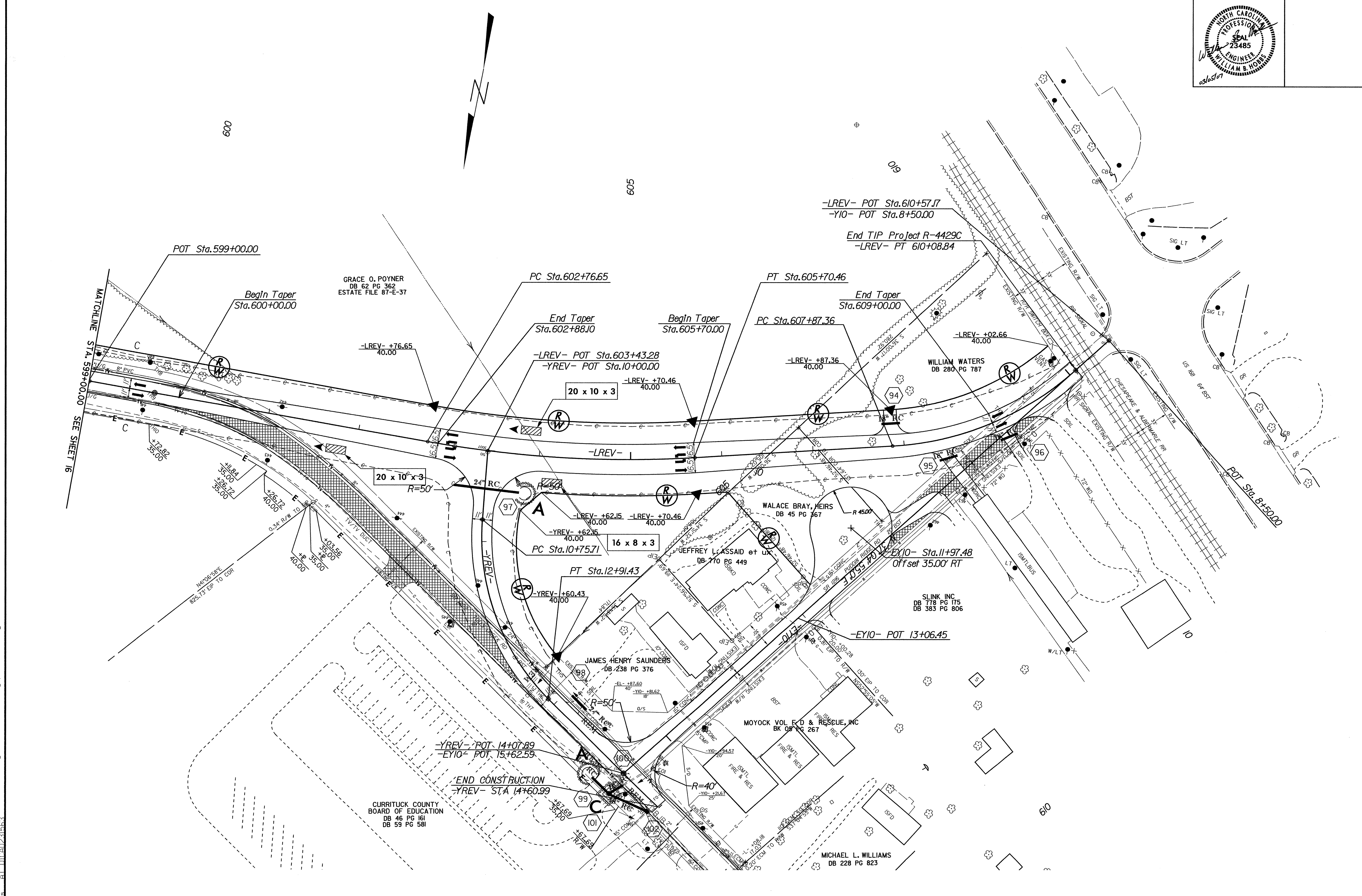
2/26/2007

PROJECT REFERENCE NO.	SHEET NO.
R-4429C	EC-15/CONST-17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23485 WILLIAM B. HOBBS



05-MAR-2007
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