

09/08/99

TIP PROJECT: R-4429A

CONTRACT: C201079

EROSION AND SEDIMENT CONTROL MEASURES

| Std. # | Description | Symbol |
|---------|--------------------------------------|--------|
| 1630.03 | Reforestation | |
| 1630.05 | Temporary Silt Ditch | |
| 1605.01 | Temporary Diversion | |
| 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 | |
| 1633.01 | 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 | |
| 1650.04 | Stilling Basin | |
| 1632.01 | Rock Inlet Sediment Trap Type A | |
| 1632.02 | Rock Inlet Sediment Trap Type B | |
| 1632.03 | Rock Inlet Sediment Trap Type C | |

STATE OF NORTH CAROLINA

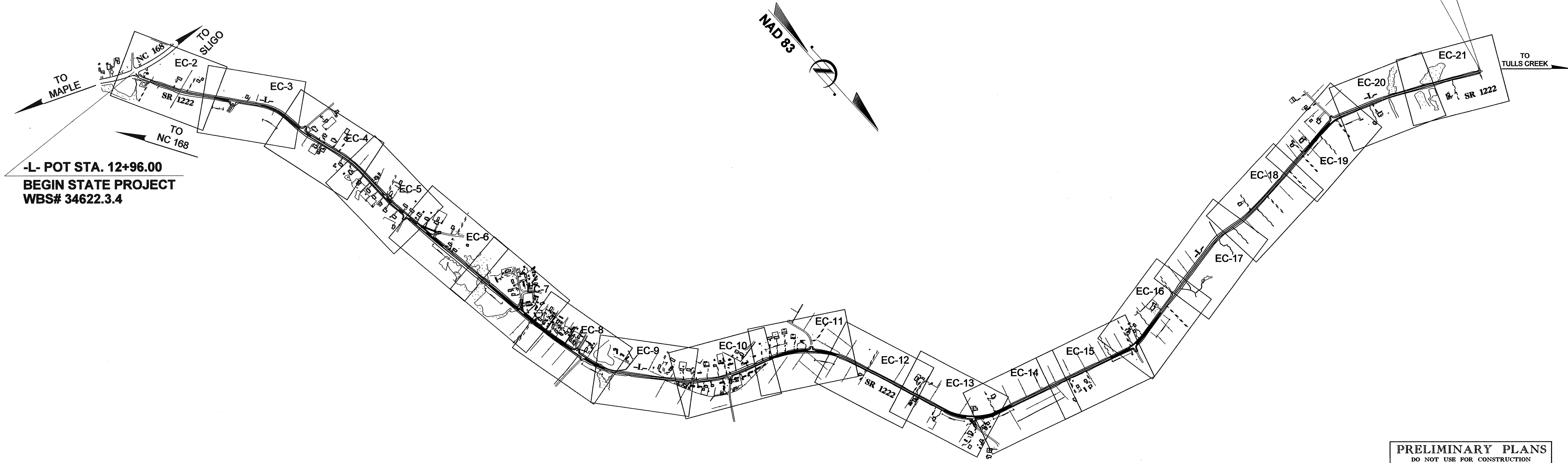
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

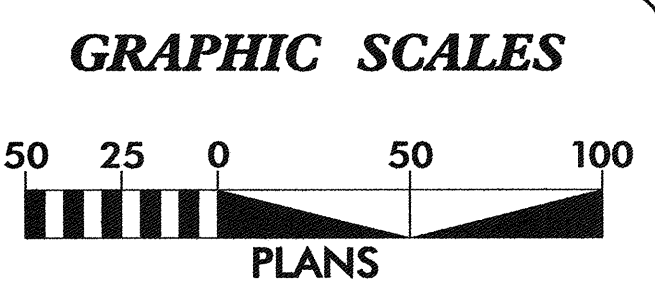
**LOCATION: SR 1222 FROM NC 168/SR 1222
NORTH 4.7 MILES TO JUST SOUTH OF
BRIDGE #4 OVER TULLS CREEK**

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

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | R-4429A | EC-1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 34622.2.2 | | RW, UTILITY | |
| 34622.3.4 | | CONSTR. | |



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



Prepared in the Office of:



2006 STANDARD SPECIFICATIONS

Roadway Standard Drawings

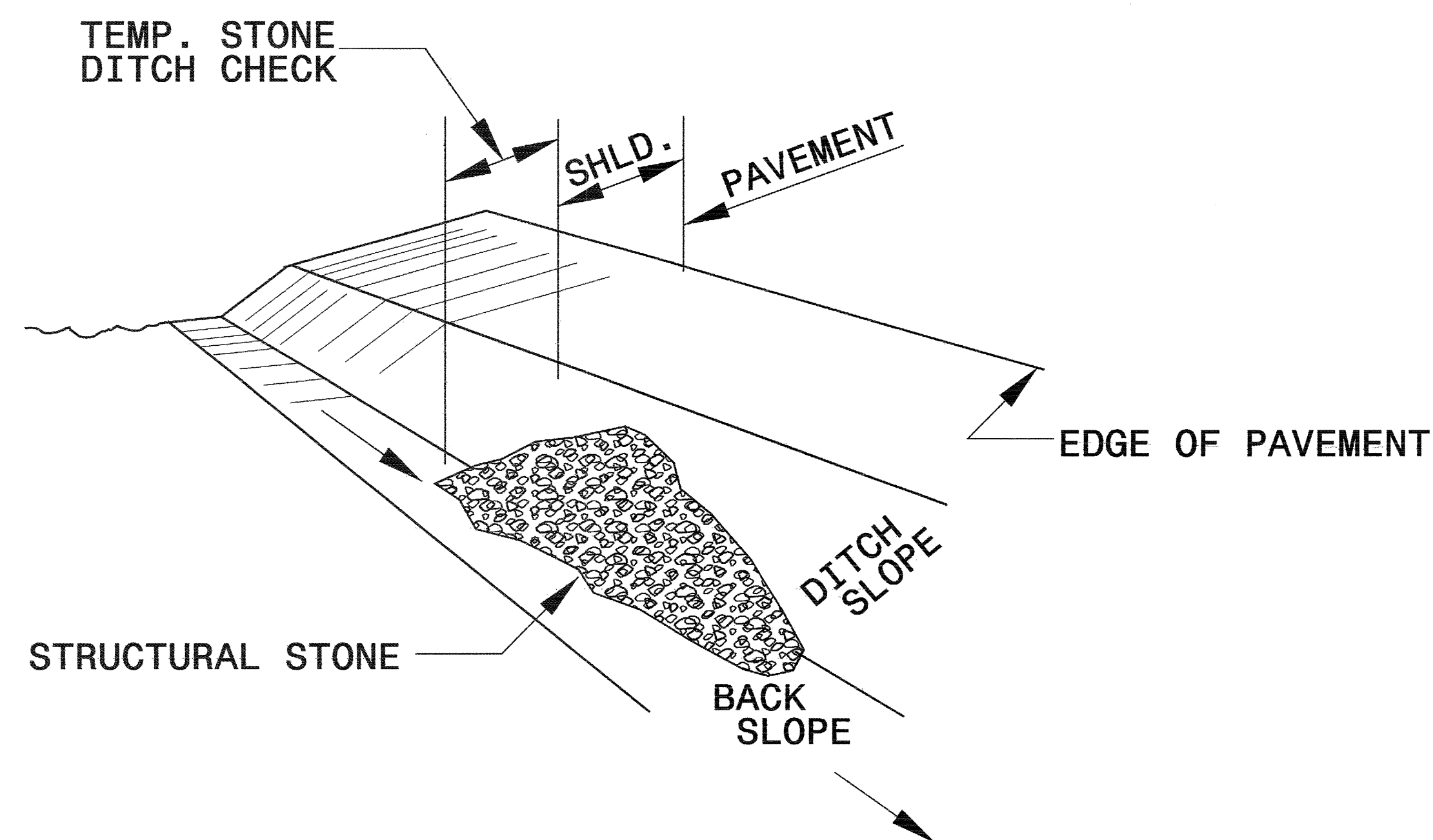
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

| | |
|--|--|
| 1604.01 Railroad Erosion Control Detail | 1630.06 Special Stilling Basin |
| 1605.01 Temporary Silt Fence | 1632.01 Rock Inlet Sediment Trap Type A |
| 1606.01 Special Sediment Control Fence | 1632.02 Rock Inlet Sediment Trap Type B |
| 1607.01 Gravel Construction Entrance | 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 | 1634.01 Temporary Rock Sediment Dam Type A |
| 1630.02 Silt Basin Type B | 1634.02 Temporary Rock Sediment Dam Type B |
| 1630.03 Temporary Silt Ditch | 1635.01 Rock Pipe Inlet Sediment Trap Type A |
| 1630.04 Stilling Basin | 1635.02 Rock Pipe Inlet Sediment Trap Type B |
| 1630.05 Temporary Diversion | |

gdn
pfc
DATE

| | |
|----------------------------------|---------------------|
| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-1A |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

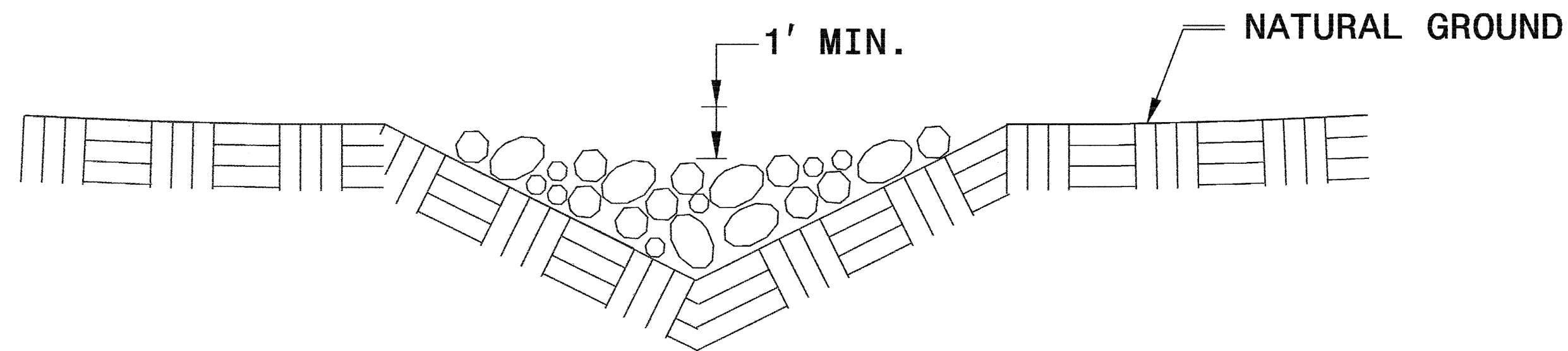


ISOMETRIC VIEW

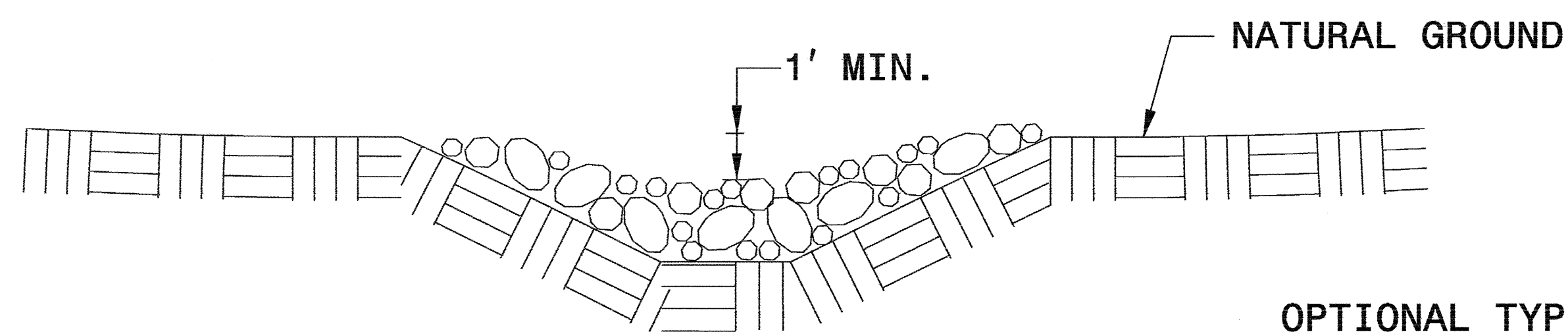
NOTES:

USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.

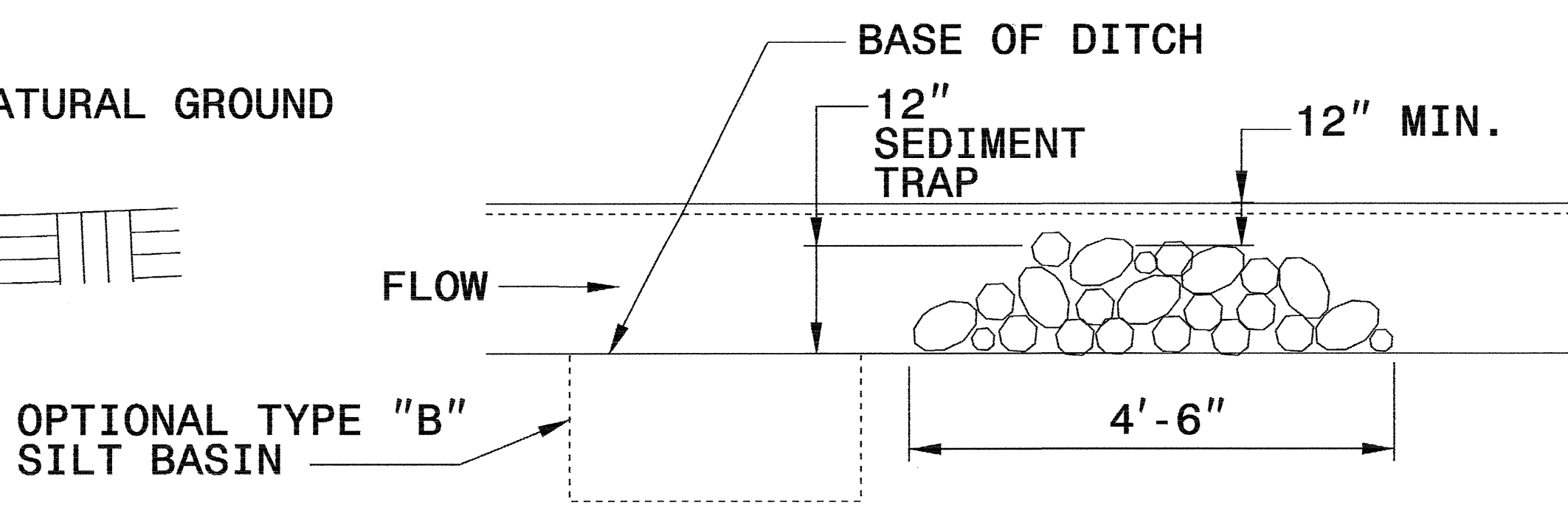
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



CROSS SECTION VEE DITCH



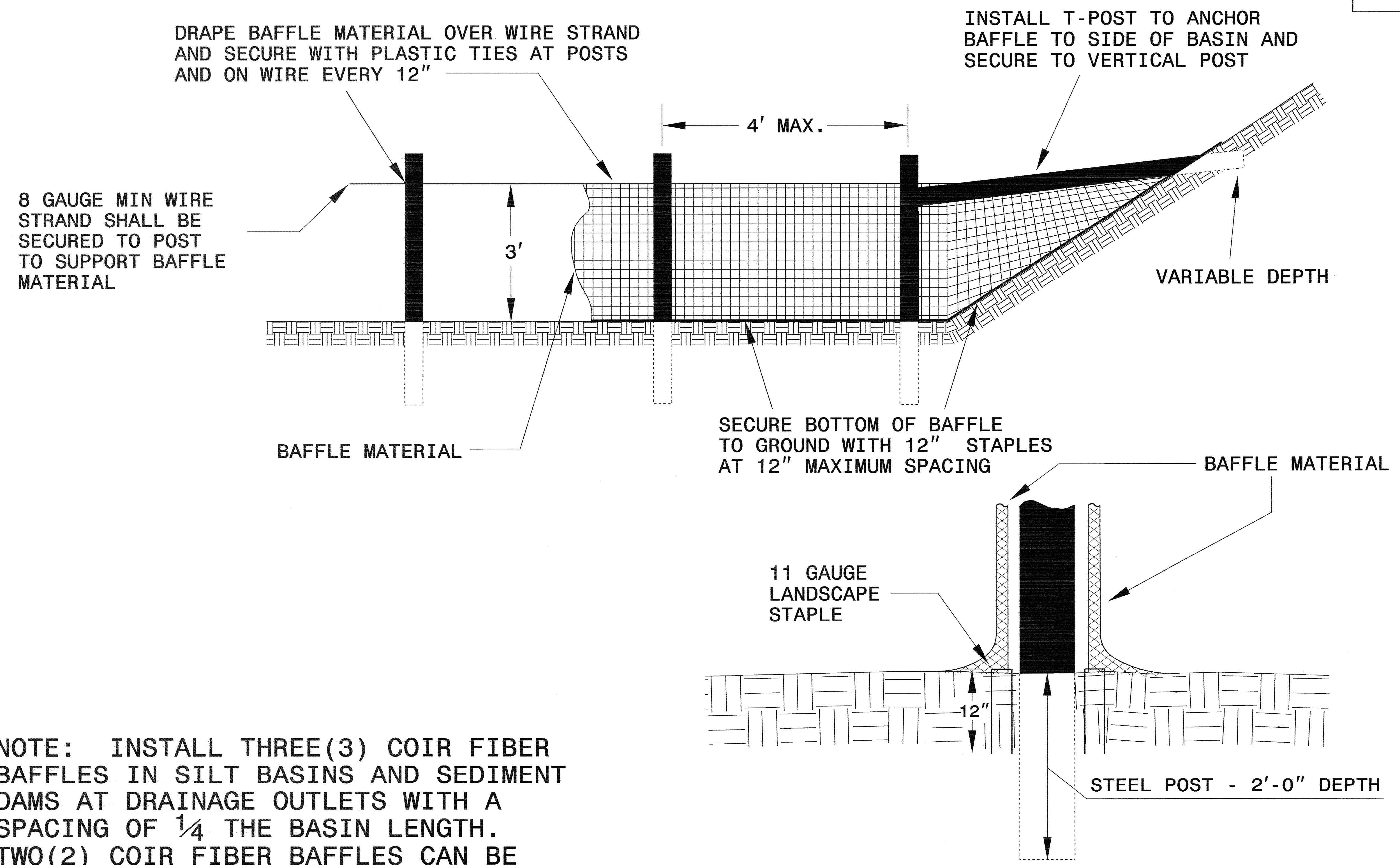
CROSS SECTION TRAPEZOIDAL DITCH



ELEVATION VIEW

| | |
|----------------------------------|------------------------|
| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-1B |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

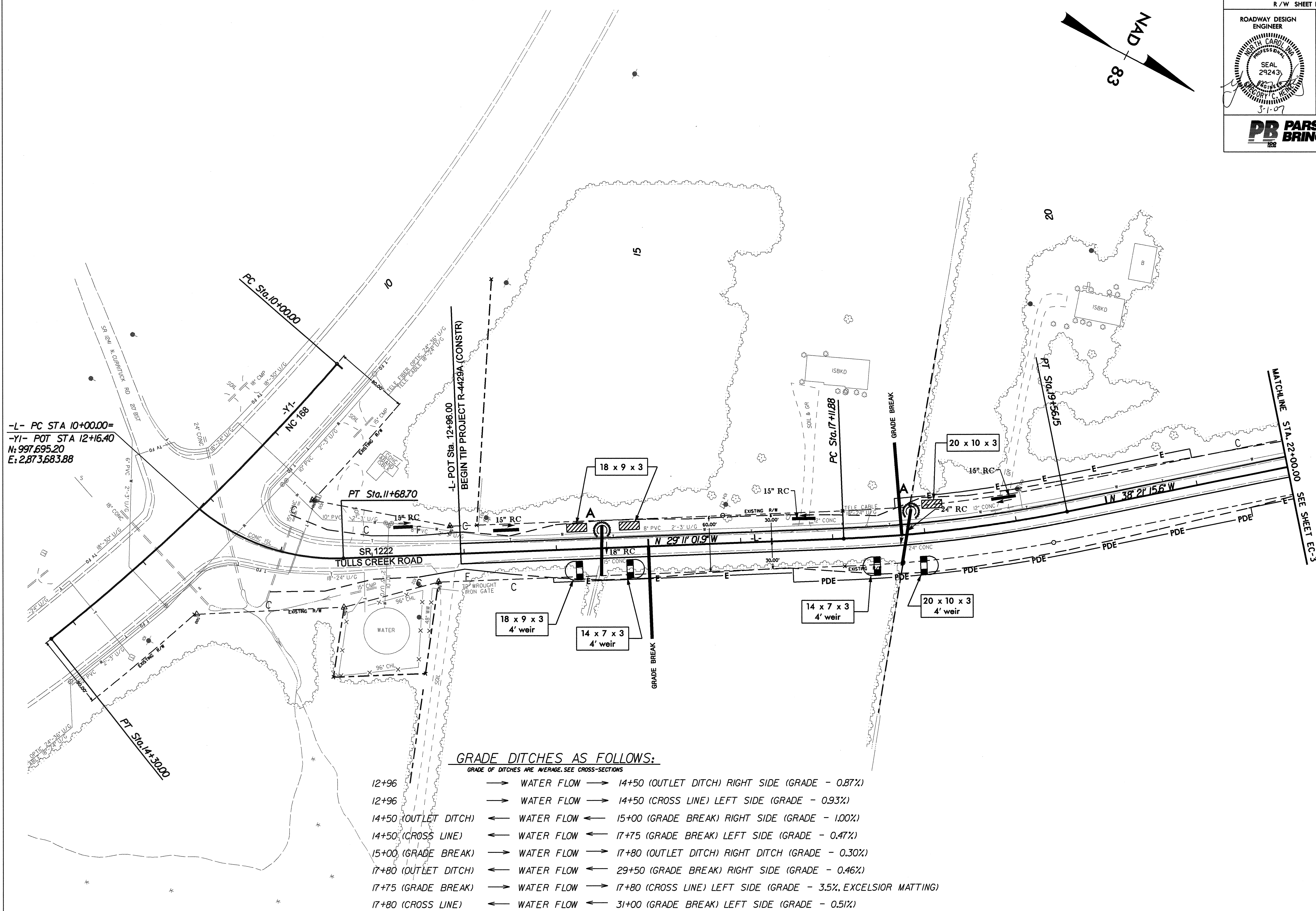
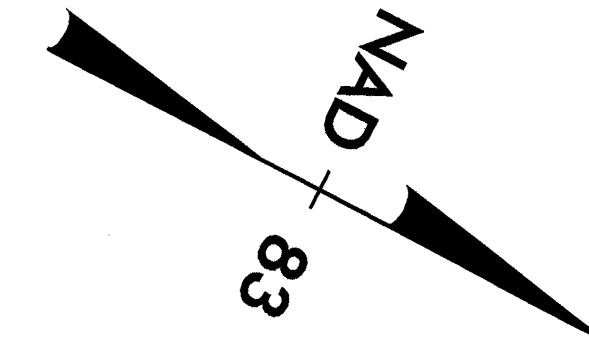
COIR FIBER BAFFLE DETAIL



NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF $\frac{1}{4}$ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF $\frac{1}{3}$ THE BASIN LENGTH.

BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES

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|--|---|
| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-2/CONST-4 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER SEAL 29243 GREGORY C. HARRIS 3-1-07 | HYDRAULICS ENGINEER SEAL 23924 MICHAEL H. BRIDGES 3-1-07 |
| PD PARSONS BRINCKERHOFF | |

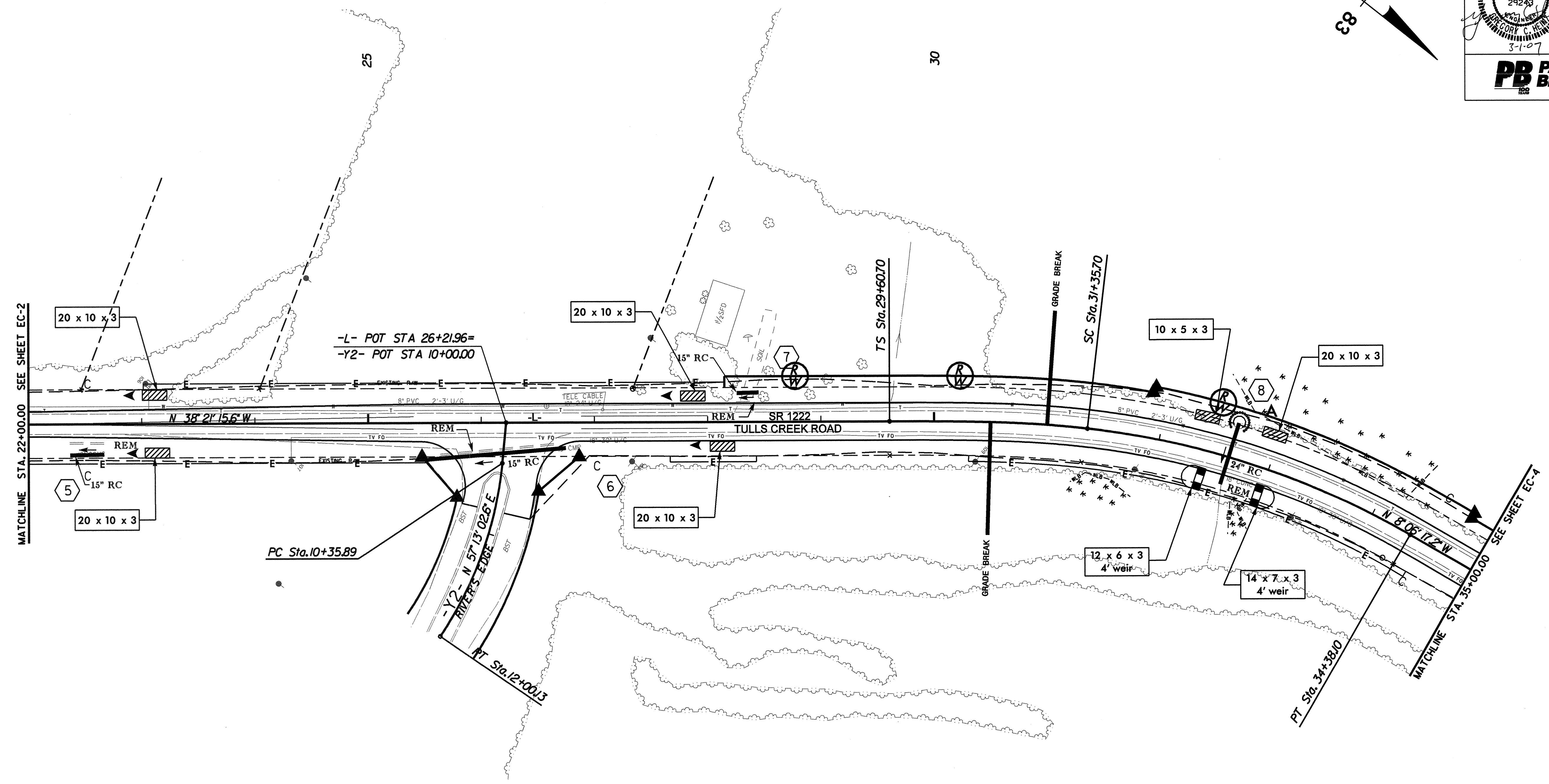
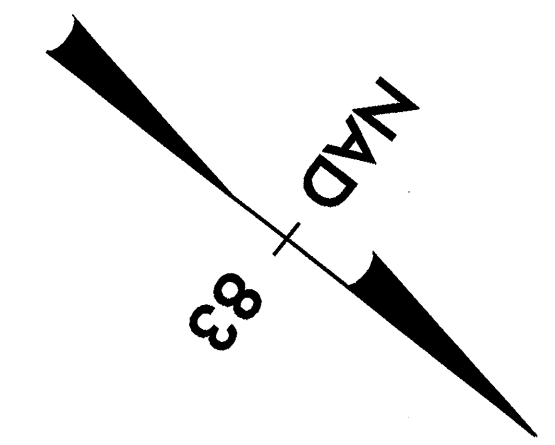


-L- PC STA 10+00.00=
-Y1- POT STA 12+16.40
N: 997.695.20
E: 2,873,683.88

GRADE DITCHES AS FOLLOWS:
GRADE OF DITCHES ARE AVERAGE, SEE CROSS-SECTIONS

| | | |
|----------------------|----------------|--|
| 12+96 | → WATER FLOW → | 14+50 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.87%) |
| 12+96 | → WATER FLOW → | 14+50 (CROSS LINE) LEFT SIDE (GRADE - 0.93%) |
| 14+50 (OUTLET DITCH) | ← WATER FLOW ← | 15+00 (GRADE BREAK) RIGHT SIDE (GRADE - 1.00%) |
| 14+50 (CROSS LINE) | ← WATER FLOW ← | 17+75 (GRADE BREAK) LEFT SIDE (GRADE - 0.47%) |
| 15+00 (GRADE BREAK) | → WATER FLOW → | 17+80 (OUTLET DITCH) RIGHT DITCH (GRADE - 0.30%) |
| 17+80 (OUTLET DITCH) | ← WATER FLOW ← | 29+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.46%) |
| 17+75 (GRADE BREAK) | → WATER FLOW → | 17+80 (CROSS LINE) LEFT SIDE (GRADE - 3.5%, EXCELSIOR MATTING) |
| 17+80 (CROSS LINE) | ← WATER FLOW ← | 31+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.51%) |

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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-3/CONST-5 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| PB PARSONS BRINCKERHOFF | |

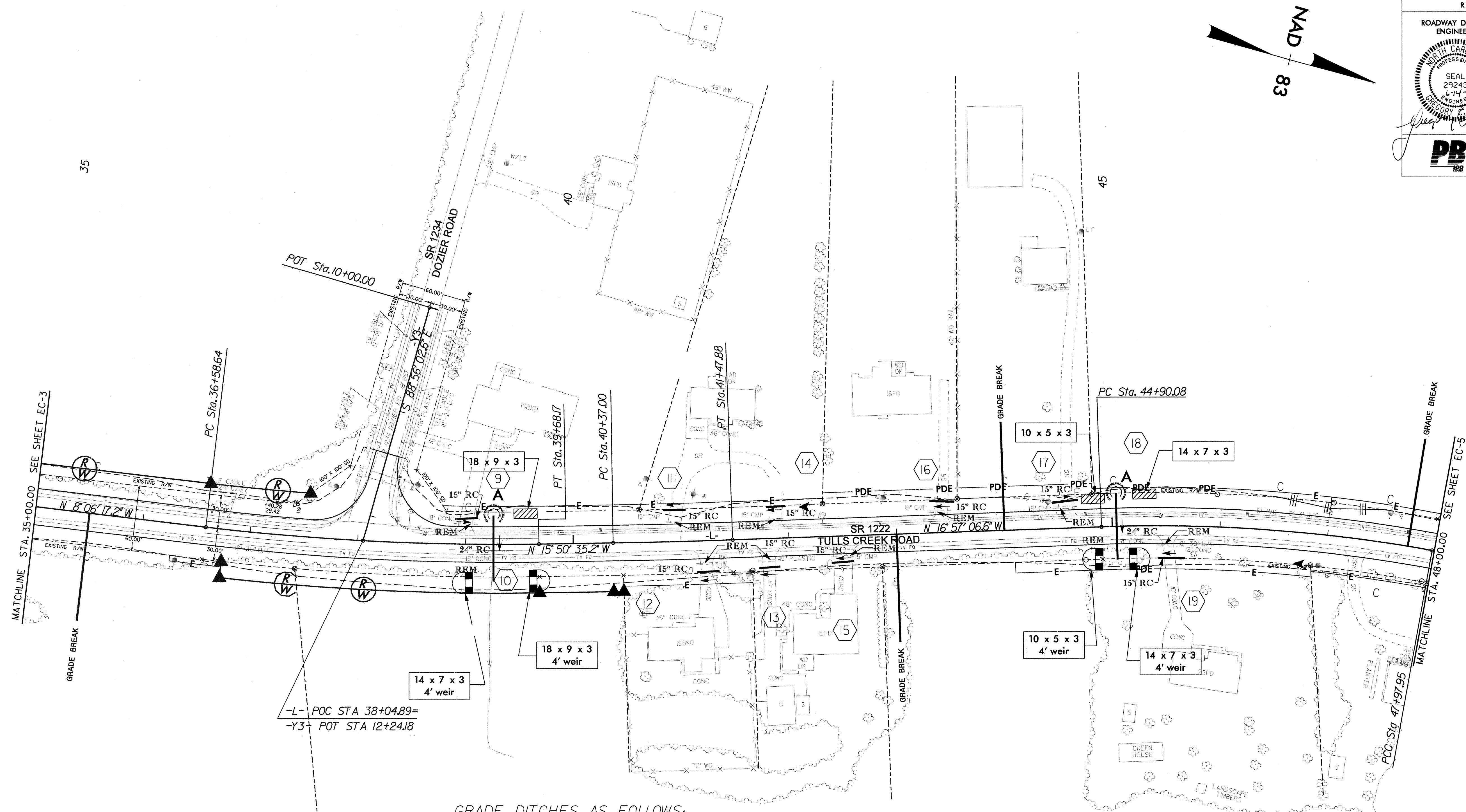
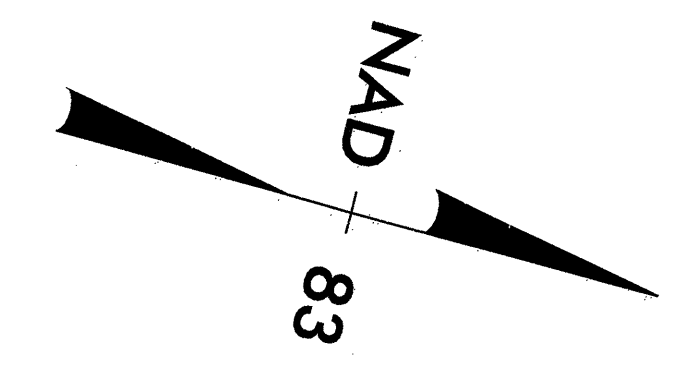


GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

- 17+80 (OUTLET DITCH) ← WATER FLOW ← 29+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.46%)
- 17+80 (CROSS LINE) ← WATER FLOW ← 31+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.51%)
- 29+50 (GRADE BREAK) → WATER FLOW → 32+65 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.59%)
- 31+00 (GRADE BREAK) → WATER FLOW → 32+65 (CROSS LINE) LEFT SIDE (GRADE - 1.26%)
- 32+65 (OUTLET DITCH) ← WATER FLOW ← 35+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.72%)
- 32+65 (CROSS LINE) ← WATER FLOW ← 38+05 (GRADE BREAK) LEFT SIDE (GRADE - 0.53%)

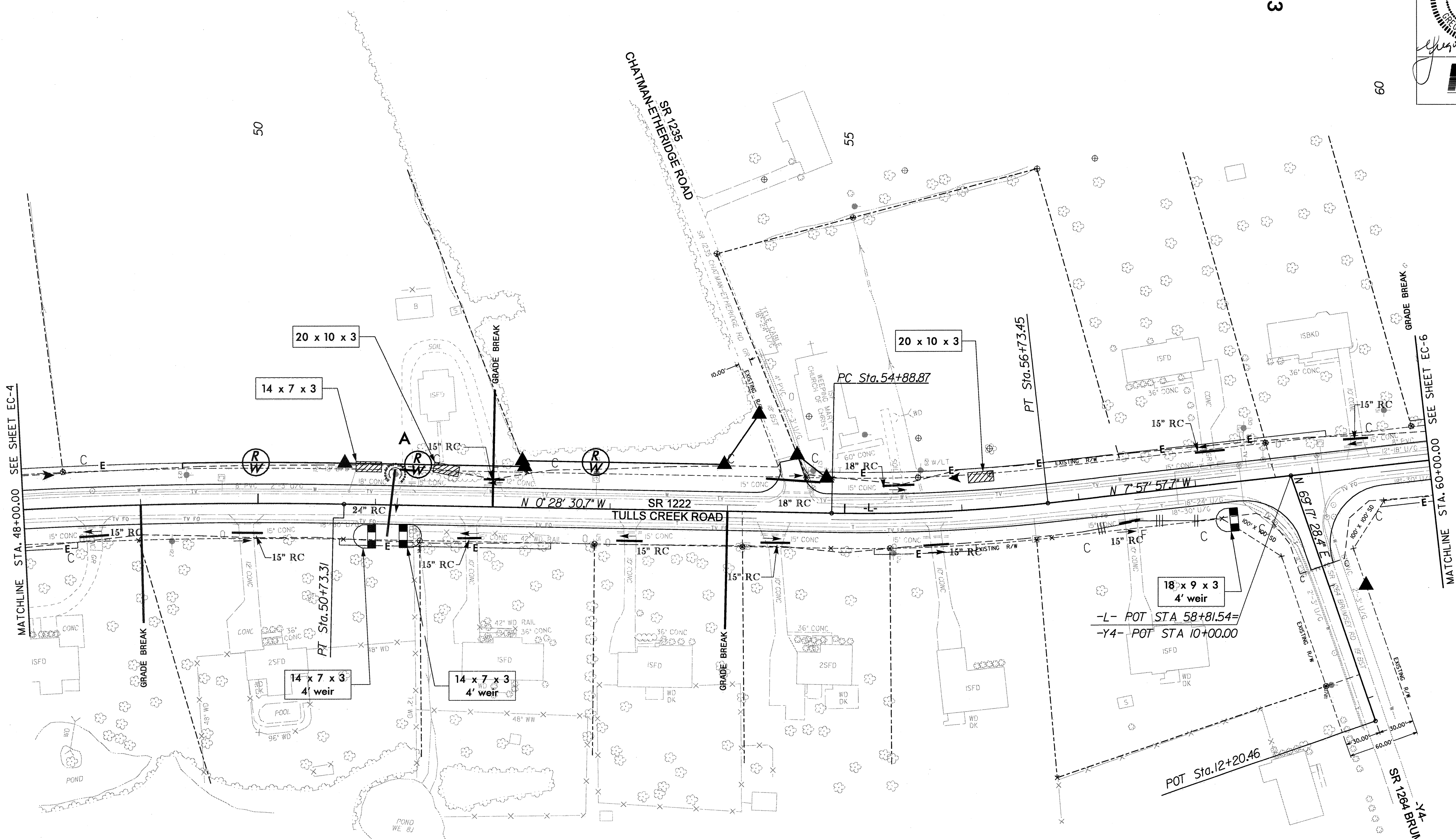
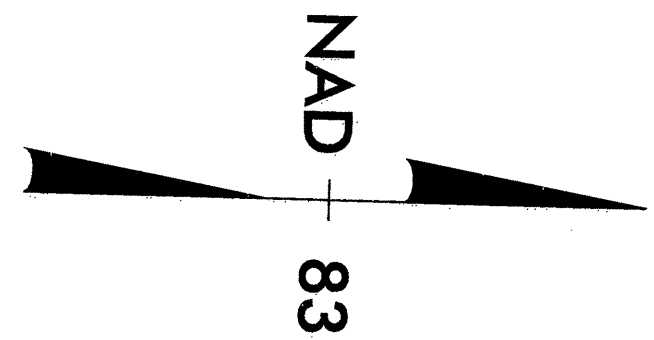
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|----------------------------------|---------------------------|
| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-4/CONST-6 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| PD PARSONS BRINCKERHOFF | |



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

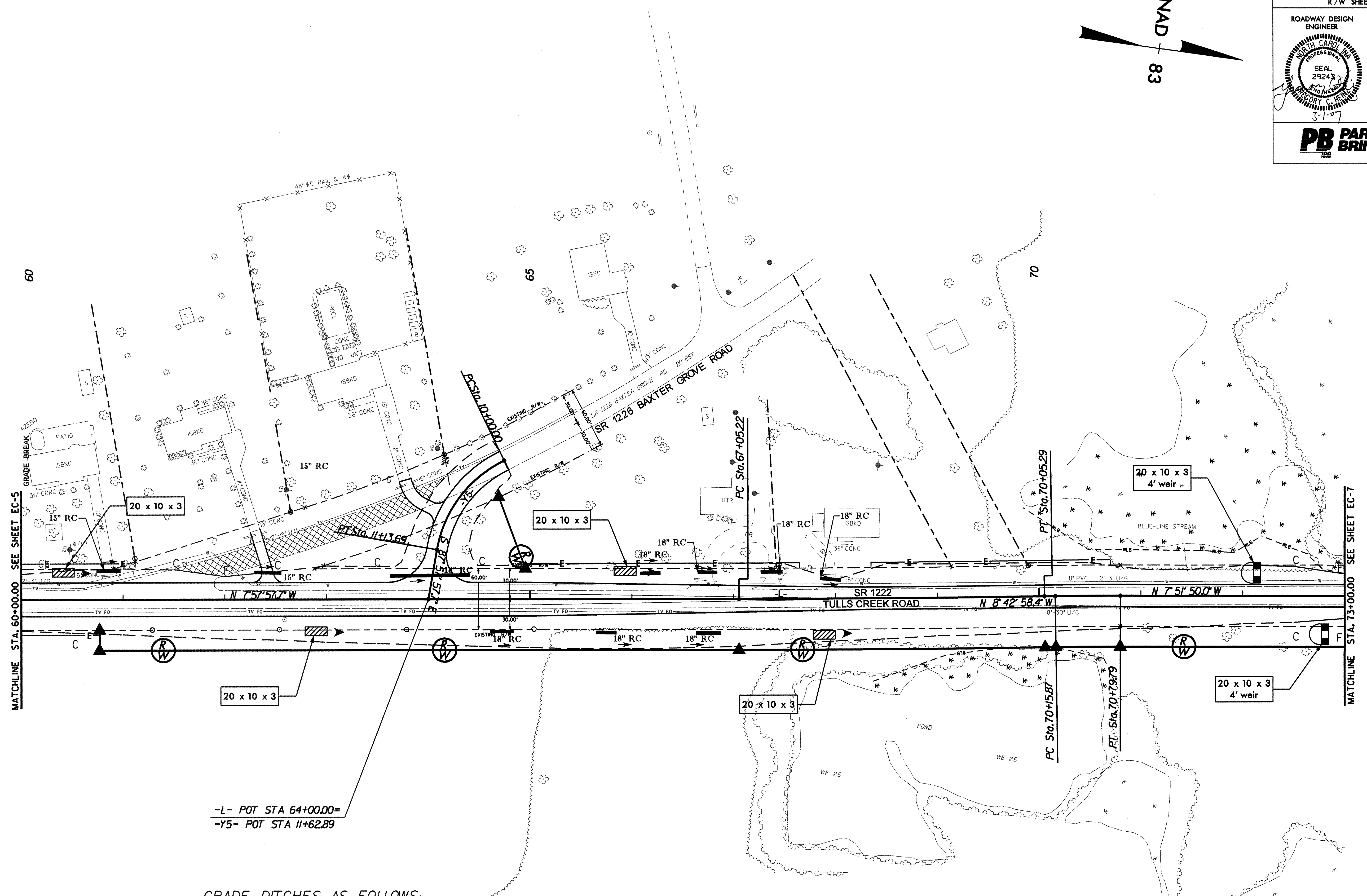
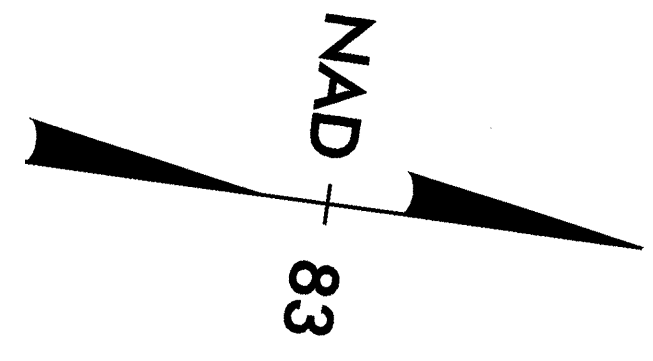
| | | |
|----------------------|----------------|--|
| 32+65 (OUTLET DITCH) | ← WATER FLOW ← | 35+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.72%) |
| 32+65 (CROSS LINE) | ← WATER FLOW ← | 38+05 (GRADE BREAK) LEFT SIDE (GRADE - 0.53%) |
| 35+50 (GRADE BREAK) | → WATER FLOW → | 39+25 (OUTLET DITCH) RIGHT DITCH (GRADE - 0.98%) |
| 38+05 (GRADE BREAK) | → WATER FLOW → | 39+25 (CROSS LINE) LEFT SIDE (GRADE - 3.13%, EXCELSIOR MATTING) |
| 39+25 (OUTLET DITCH) | ← WATER FLOW ← | 43+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.53%) |
| 39+25 (CROSS LINE) | ← WATER FLOW ← | 44+00 (GRADE BREAK) LEFT SIDE (GRADE - 1.05%) |
| 43+00 (GRADE BREAK) | → WATER FLOW → | 45+05 (OUTLET DITCH) RIGHT SIDE (GRADE - 3.01%, EXCELSIOR MATTING) |
| 44+00 (GRADE BREAK) | → WATER FLOW → | 45+05 (CROSS LINE) LEFT SIDE (GRADE - 2.56%, EXCELSIOR MATTING) |
| 45+05 (OUTLET DITCH) | ← WATER FLOW ← | 49+00 (GRADE BREAK) RIGHT SIDE (GRADE - 1.73%, EXCELSIOR MATTING) |
| 45+05 (CROSS LINE) | ← WATER FLOW ← | 47+75 (GRADE BREAK) LEFT SIDE (GRADE - 1.53%, EXCELSIOR MATTING) |
| 47+75 (GRADE BREAK) | → WATER FLOW → | 51+15 (CROSS LINE) LEFT SIDE (GRADE - 0.99%) |



GRADE DITCHES AS FOLLOWS:

- | | | |
|----------------------------------|--------------|---|
| 45+05 (OUTLET DITCH) ← | WATER FLOW ← | 49+00 (GRADE BREAK) RIGHT SIDE (GRADE - 1.73%, EXCELSIOR MATTING) |
| 49+00 (GRADE BREAK) → | WATER FLOW → | 51+40 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.46%) |
| 47+75 (GRADE BREAK) → | WATER FLOW → | 51+15 (CROSS LINE) LEFT SIDE (GRADE - 0.99%) |
| 51+15 (CROSS LINE) ← | WATER FLOW ← | 52+00 (GRADE BREAK) LEFT SIDE (GRADE - 2.5%, EXCELSIOR MATTING) |
| 52+00 (GRADE BREAK) → | WATER FLOW → | 55+50 (OUTLET DITCH) LEFT SIDE (GRADE - 0.4%) |
| 55+50 (OUTLET DITCH) ← | WATER FLOW ← | 60+00 (GRADE BREAK) LEFT SIDE |
| 51+40 (OUTLET DITCH) ← | WATER FLOW ← | 54+00 (GRADE BREAK) RIGHT SIDE (GRADE - 1.06%) |
| 54+00 (GRADE BREAK) → | WATER FLOW → | 58+80 SR 1264 (ROADSIDE DITCH) RIGHT SIDE (GRADE - 0.3%) |
| 58+80 SR 1264 (ROADSIDE DITCH) → | WATER FLOW → | 74+30 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.69%) |

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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-6/CONST-8 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER SEAL 29243 GREGORY C. HILL 3-1-07 | HYDRAULICS ENGINEER SEAL 23924 DANIEL H. BRINCKERHOFF 3-1-07 |
| PARSONS BRINCKERHOFF | |



MATCHLINE STA. 60+00.00 SEE SHEET EC-5

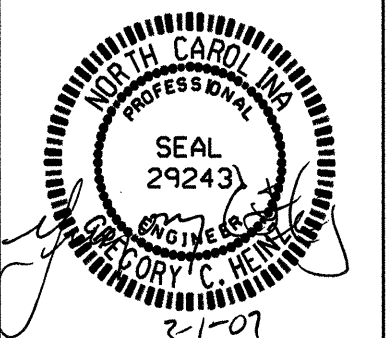
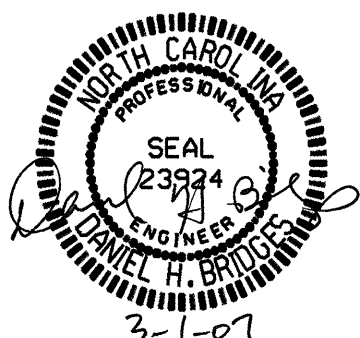
MATCHLINE STA. 73+00.00 SEE SHEET EC-7

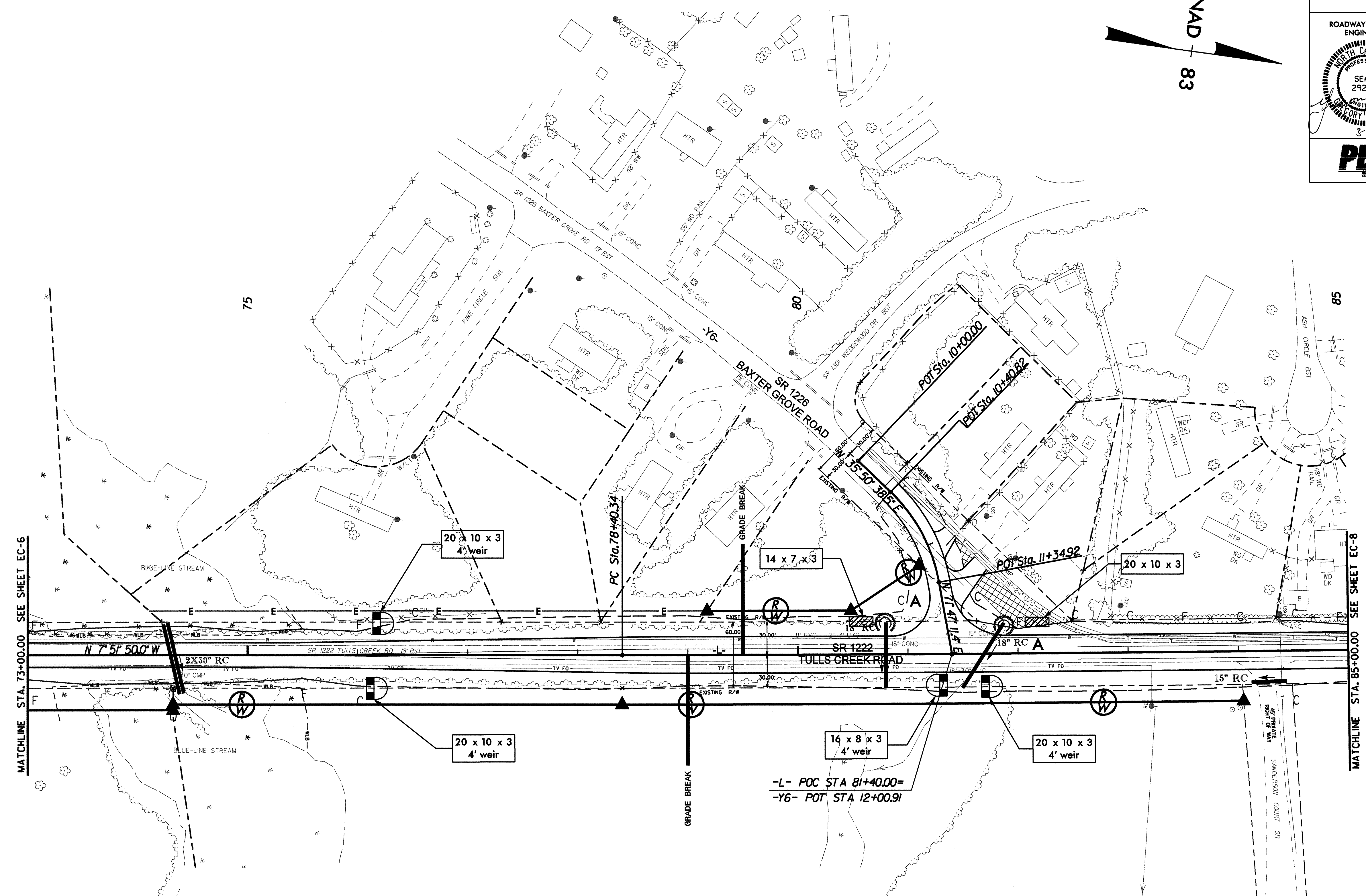
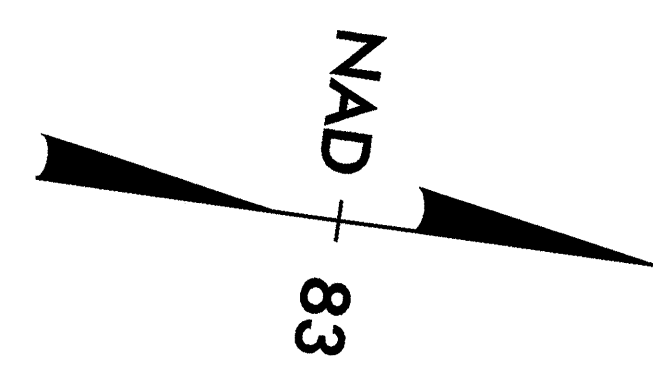
-L- POT STA 64+00.00=
-Y5- POT STA 11+62.89

GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

- 58+80 SR 1264 (ROADSIDE DITCH) → WATER FLOW → 74+30 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.69%)
- 60+00 (GRADE BREAK) → WATER FLOW → 74+30 (CROSS LINE) LEFT SIDE (GRADE - 0.70%)

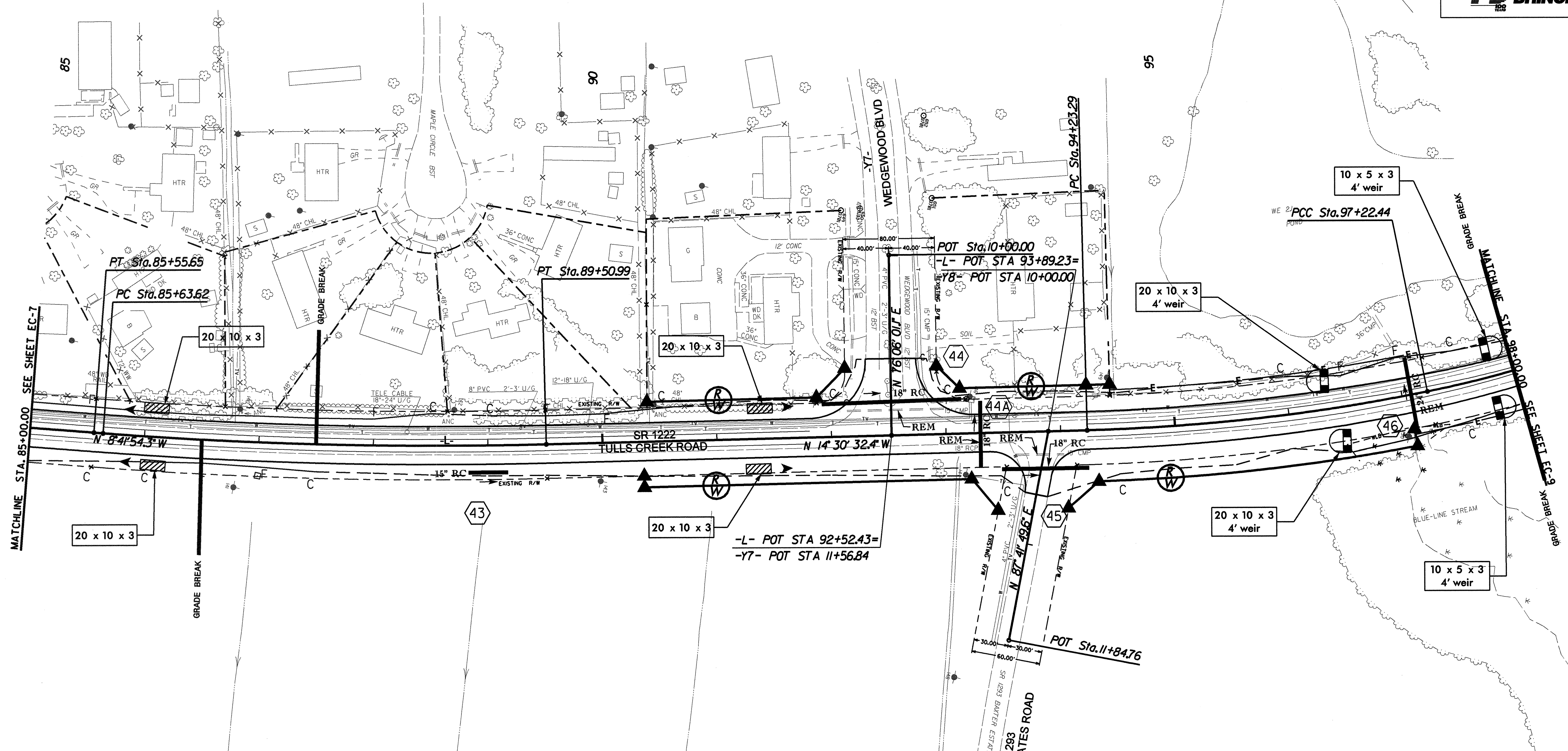
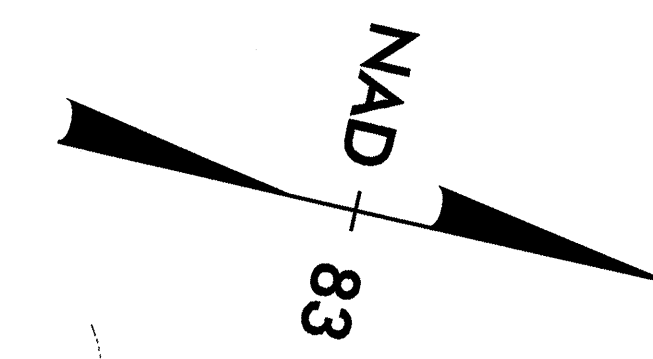
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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-7/CONST-9 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER  | HYDRAULICS ENGINEER  |
| PB PARSONS BRINCKERHOFF | |



- GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS
- 58+80 SR 1264 (ROADSIDE DITCH) → WATER FLOW → 74+30 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.69%)
 - 60+00 (GRADE BREAK) → WATER FLOW → 74+30 (CROSS LINE) LEFT SIDE (GRADE - 0.70%)
 - 74+30 (OUTLET DITCH) ← WATER FLOW ← 79+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.42%)
 - 74+30 (CROSS LINE) ← WATER FLOW ← 79+50 (GRADE BREAK) LEFT SIDE (GRADE - 0.34%)
 - 79+00 (GRADE BREAK) → WATER FLOW → 81+45 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.7%)
 - 79+50 (GRADE BREAK) → WATER FLOW → 80+80 (CROSS LINE) LEFT SIDE (GRADE - 1.12%)
 - 81+45 (OUTLET DITCH) ← WATER FLOW ← 86+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.70%)
 - 81+45 (CROSS LINE) ← WATER FLOW ← 87+50 (GRADE BREAK) LEFT SIDE (GRADE - 0.44%)

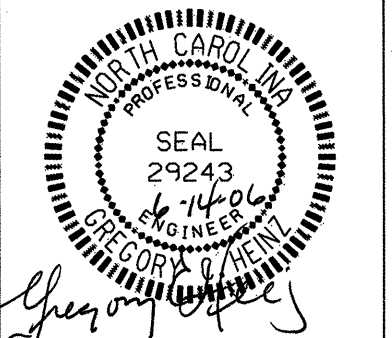
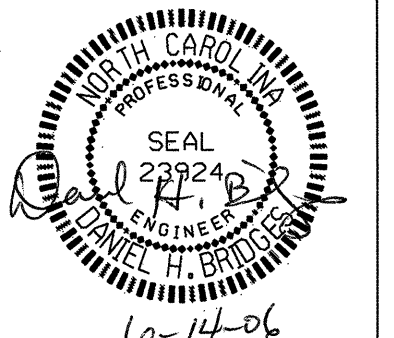
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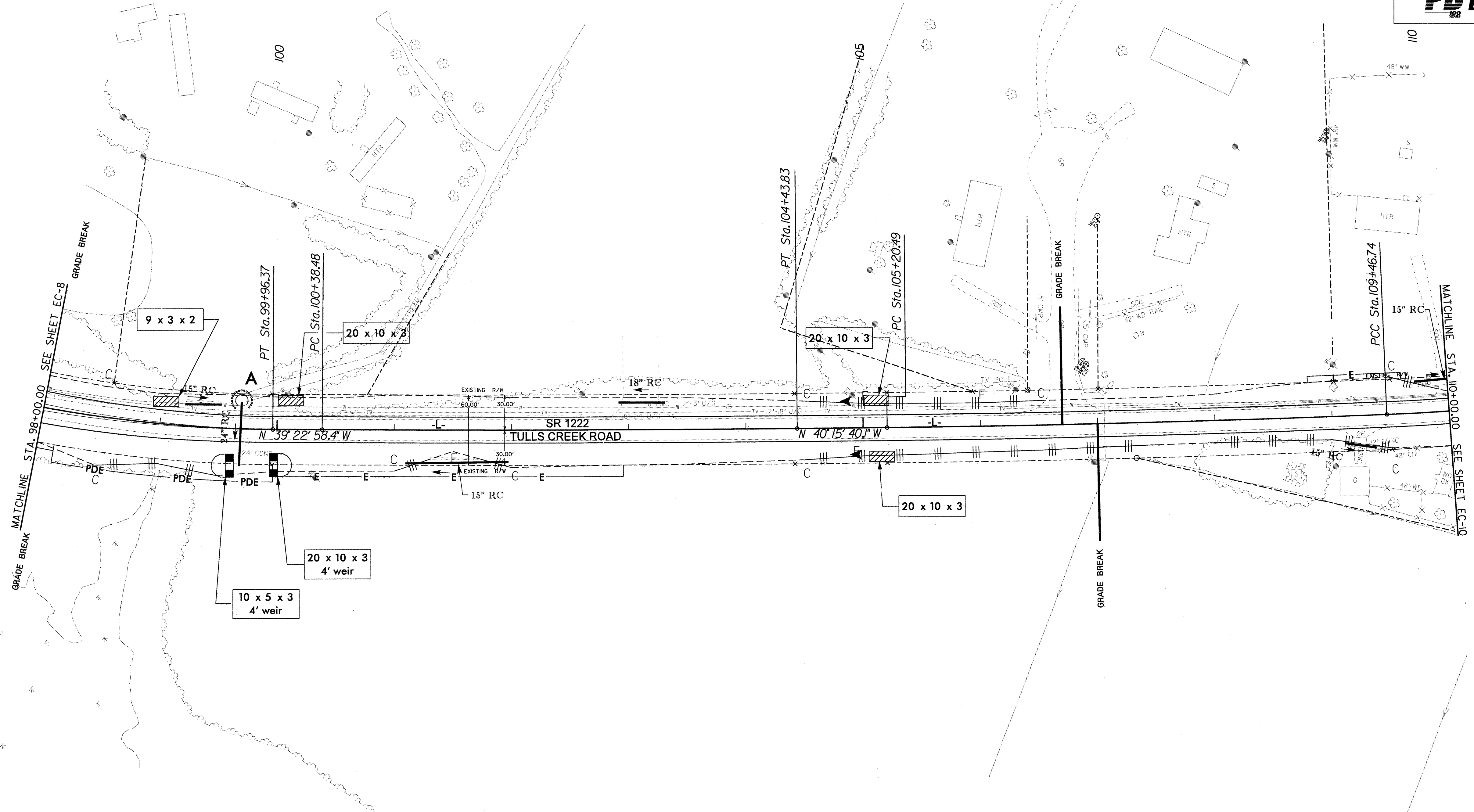
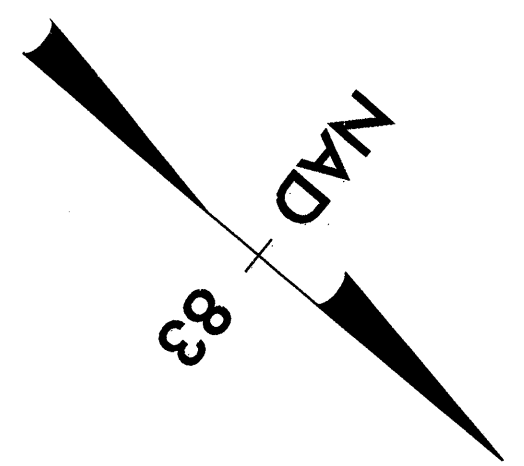
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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-8/CONST-10 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| PD PARSONS BRINCKERHOFF | |



GRADE DITCHES AS FOLLOWS:

- GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS
- 81+45 (OUTLET DITCH) ← WATER FLOW ← 86+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.70%)
 - 81+45 (CROSS LINE) ← WATER FLOW ← 87+50 (GRADE BREAK) LEFT SIDE (GRADE - 0.44%)
 - 87+50 (GRADE BREAK) → WATER FLOW → 97+10 (OUTLET DITCH) LEFT SIDE (GRADE - 0.70%)
 - 86+50 (GRADE BREAK) → WATER FLOW → 93+30 (CROSS LINE) RIGHT SIDE (GRADE - 0.36%)
 - 93+40 (GRADE BREAK) → WATER FLOW → 97+10 (CROSS LINE) RIGHT SIDE (GRADE - 0.11%)
 - 97+10 (CROSS LINE) ← WATER FLOW ← 98+00 (GRADE BREAK) RIGHT SIDE (GRADE - 1.32%)
 - 97+10 (OUTLET DITCH) ← WATER FLOW ← 98+00 (GRADE BREAK) LEFT SIDE (GRADE - 1.3%)

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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-9/CONST-II |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER  | HYDRAULICS ENGINEER  |
| DD PARSONS BRINCKERHOFF | |

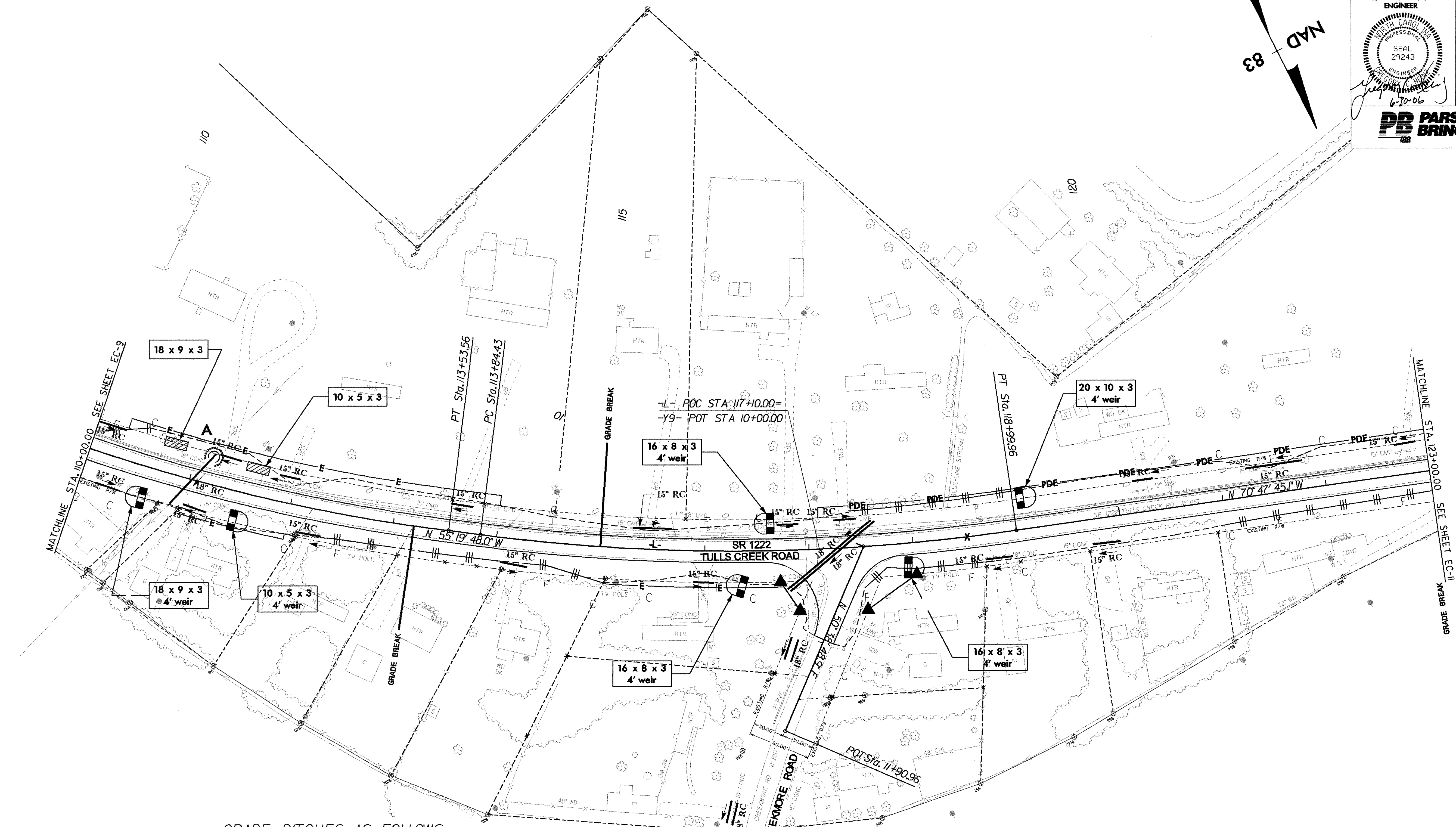
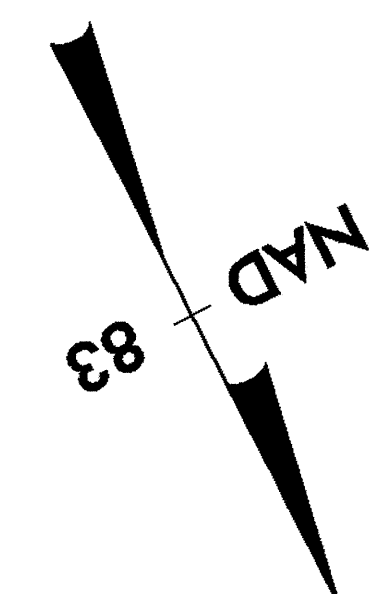


GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

- 97+10 (OUTLET DITCH) ← WATER FLOW ← 98+00 (GRADE BREAK) RIGHT SIDE (GRADE - 3.33%, EXCELSIOR MATTING)
- 97+10 (CROSS LINE) ← WATER FLOW ← 98+00 (GRADE BREAK) LEFT SIDE (GRADE - 1.3%)
- 98+00 (GRADE BREAK) → WATER FLOW → 99+70 (OUTLET DITCH) RIGHT SIDE (GRADE - 1.32%)
- 98+00 (GRADE BREAK) → WATER FLOW → 99+70 (CROSS LINE) LEFT SIDE (GRADE - 1.75%, EXCELSIOR MATTING)
- 99+70 (OUTLET DITCH) ← WATER FLOW ← 107+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.54%)
- 99+70 (CROSS LINE) ← WATER FLOW ← 106+70 (GRADE BREAK) LEFT SIDE (GRADE - 0.41%)
- 107+00 (GRADE BREAK) → WATER FLOW → 111+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.53%)
- 106+70 (GRADE BREAK) → WATER FLOW → 111+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.78%)

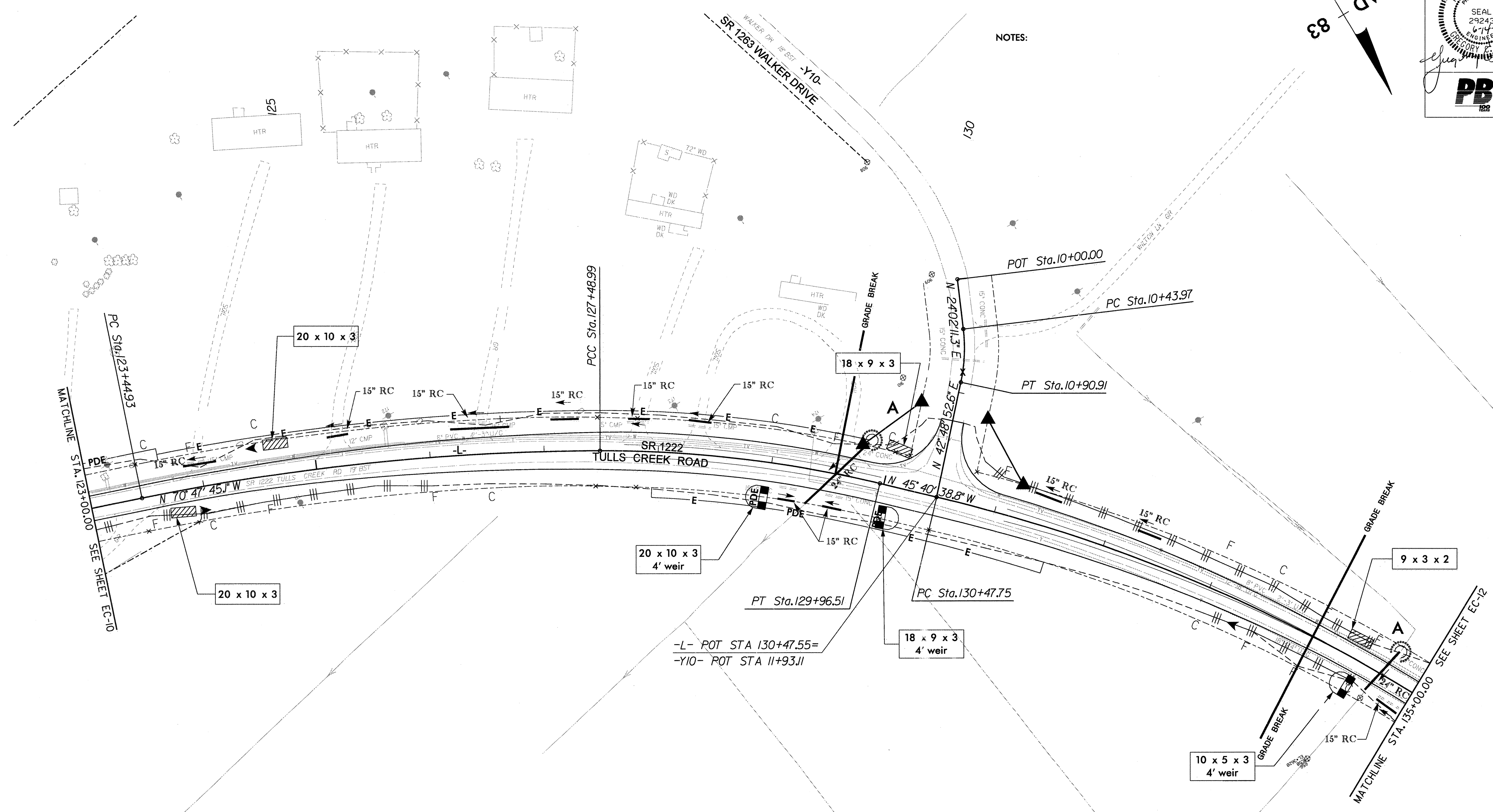
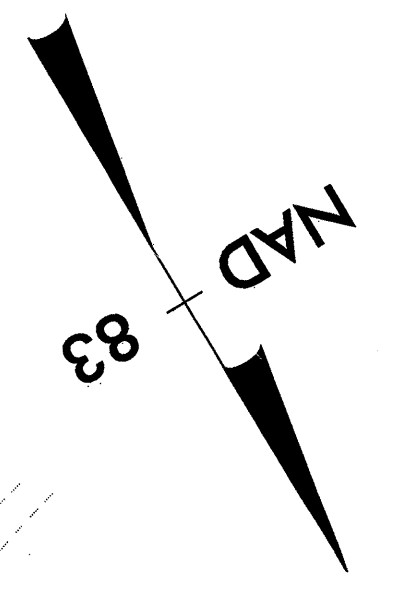
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|----------------------------------|--|-----------------------------|--|
| PROJECT REFERENCE NO. R-4429A | | SHEET NO. EC-10/CONST-12 | |
| R/W SHEET NO. | | | |
| ROADWAY DESIGN ENGINEER | | HYDRAULICS ENGINEER | |
| | | | |
| PARSONS BRINCKERHOFF | | | |



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE, SEE CROSS-SECTIONS

- 107+00 (GRADE BREAK) → WATER FLOW → 111+00 (OUTLET DITCH) RIGHT DITCH (GRADE - 0.53%)
- 106+70 (GRADE BREAK) → WATER FLOW → 111+00 (OUTLET DITCH) LEFT DITCH (GRADE - 0.78%)
- 111+00 (OUTLET DITCH) ← WATER FLOW ← 113+20 (GRADE BREAK) RIGHT DITCH (GRADE - 2.40%, EXCELSIOR MATTING)
- 111+00 (OUTLET DITCH) ← WATER FLOW ← 115+00 (GRADE BREAK) LEFT DITCH (GRADE - 1.12%)
- 113+20 (GRADE BREAK) → WATER FLOW → 117+50 SR 1238 (ROADSIDE DITCH) RIGHT SIDE (GRADE - 1.27%)
- 115+00 (GRADE BREAK) → WATER FLOW → 117+60 (CROSS LINE) LEFT SIDE (GRADE - 0.3%)
- 117+50 SR 1238 (ROADSIDE DITCH) ← WATER FLOW ← 123+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.73%)
- 117+60 (CROSS LINE) ← WATER FLOW ← 129+60 (GRADE BREAK) LEFT SIDE (GRADE - 0.55%)
- 123+00 (GRADE BREAK) → WATER FLOW → 129+60 (OUTLET DITCH) RIGHT DITCH (GRADE - 0.51%)

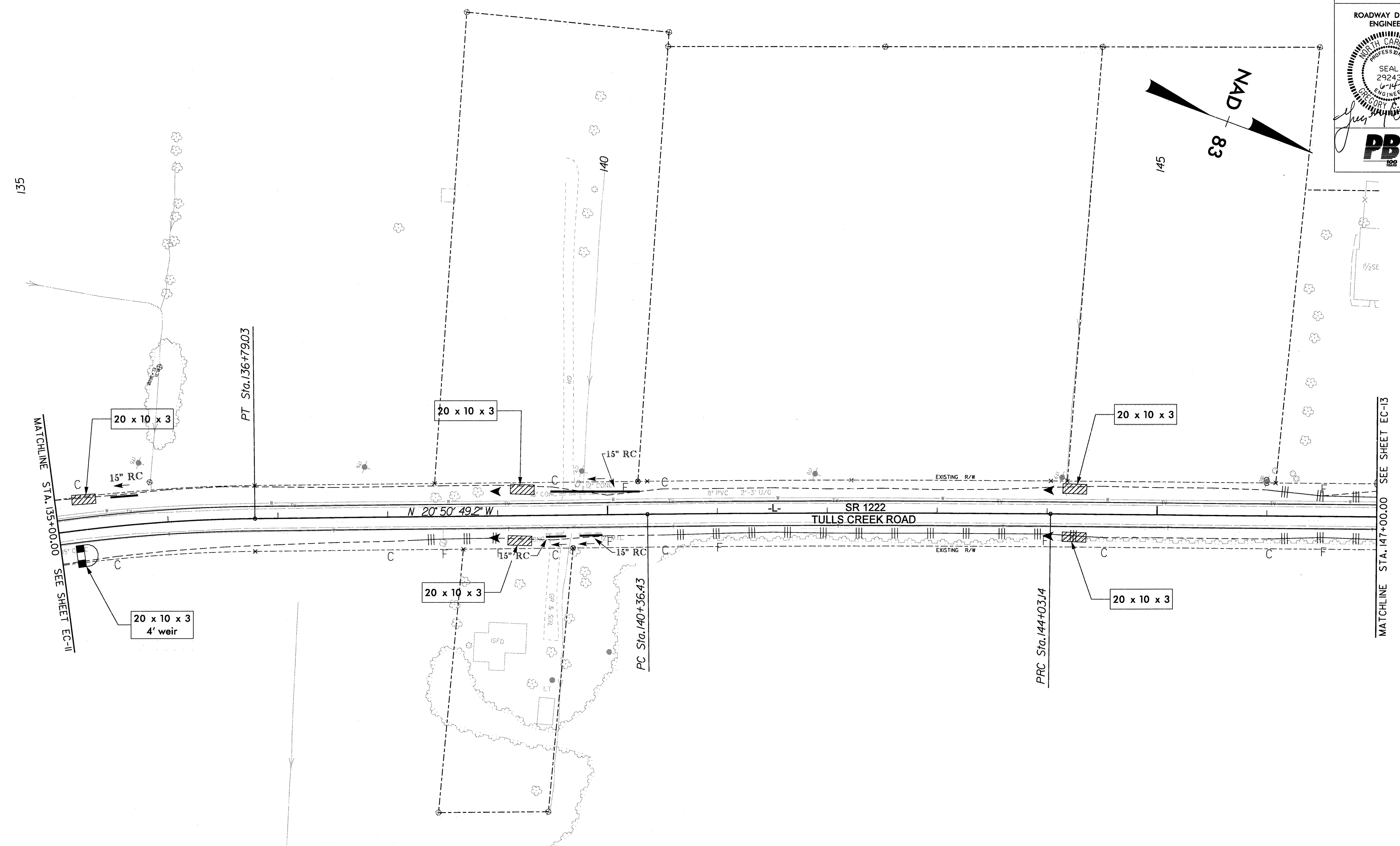


NOTES:

GRADE DITCHES AS FOLLOWS:
GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

| | | |
|-----------------------|----------------|--|
| 123+00 (GRADE BREAK) | → WATER FLOW → | 129+60 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.51%) |
| 117+60 (CROSS LINE) | ← WATER FLOW ← | 129+60 (GRADE BREAK) LEFT SIDE (GRADE - 0.55%) |
| 129+60 (OUTLET DITCH) | ← WATER FLOW ← | 134+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.73%) |
| 129+60 (CROSS LINE) | ← WATER FLOW ← | 134+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.80%) |
| 134+00 (GRADE BREAK) | → WATER FLOW → | 134+65 (OUTLET DITCH) RIGHT SIDE (GRADE - 3.6%, EXCELSIOR MATTING) |
| 134+00 (GRADE BREAK) | → WATER FLOW → | 134+65 (CROSS LINE) LEFT SIDE (GRADE - 5.6%, EXCELSIOR MATTING) |
| 134+65 (OUTLET DITCH) | ← WATER FLOW ← | 147+60 (GRADE BREAK) RIGHT SIDE (GRADE - 0.68%) |
| 134+65 (CROSS LINE) | ← WATER FLOW ← | 147+60 (GRADE BREAK) LEFT SIDE (GRADE - 0.64%) |

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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-12/CONST-14 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER GREGORY A. BAKER SEAL 29243 6-14-06 | HYDRAULICS ENGINEER DANIEL H. BRIDGES SEAL 23924 6-14-06 |
| PD PARSONS BRINCKERHOFF | |



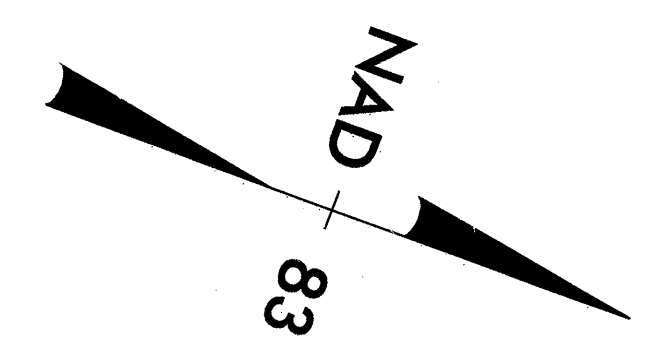
GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

134+65 (OUTLET DITCH) ← WATER FLOW ← 147+60 (GRADE BREAK) RIGHT SIDE (GRADE - 0.68%)

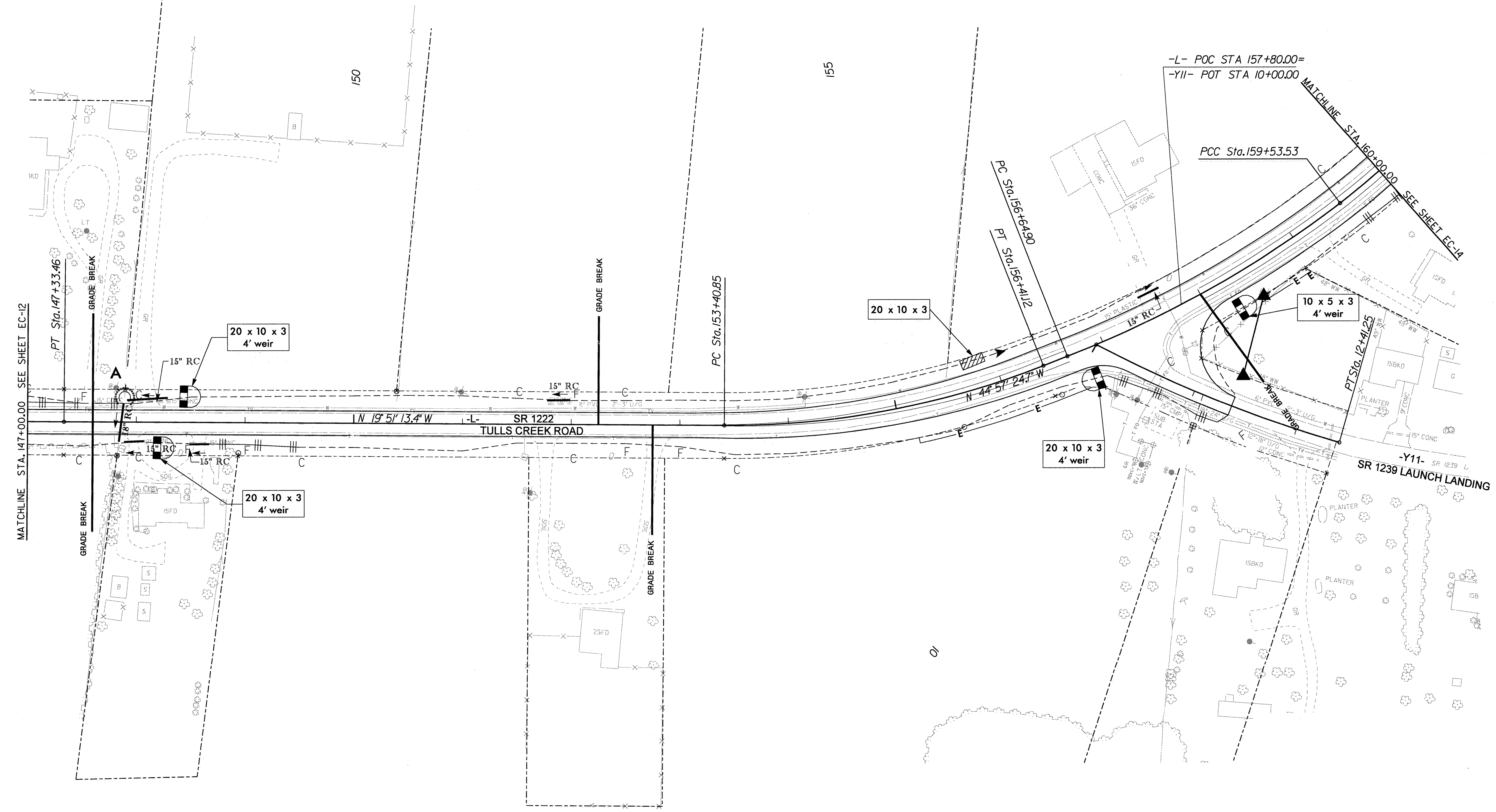
134+65 (CROSS LINE) ← WATER FLOW ← 147+60 (GRADE BREAK) LEFT SIDE (GRADE - 0.64%)

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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-13/CONST-15 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| PD PARSONS BRINCKERHOFF | |

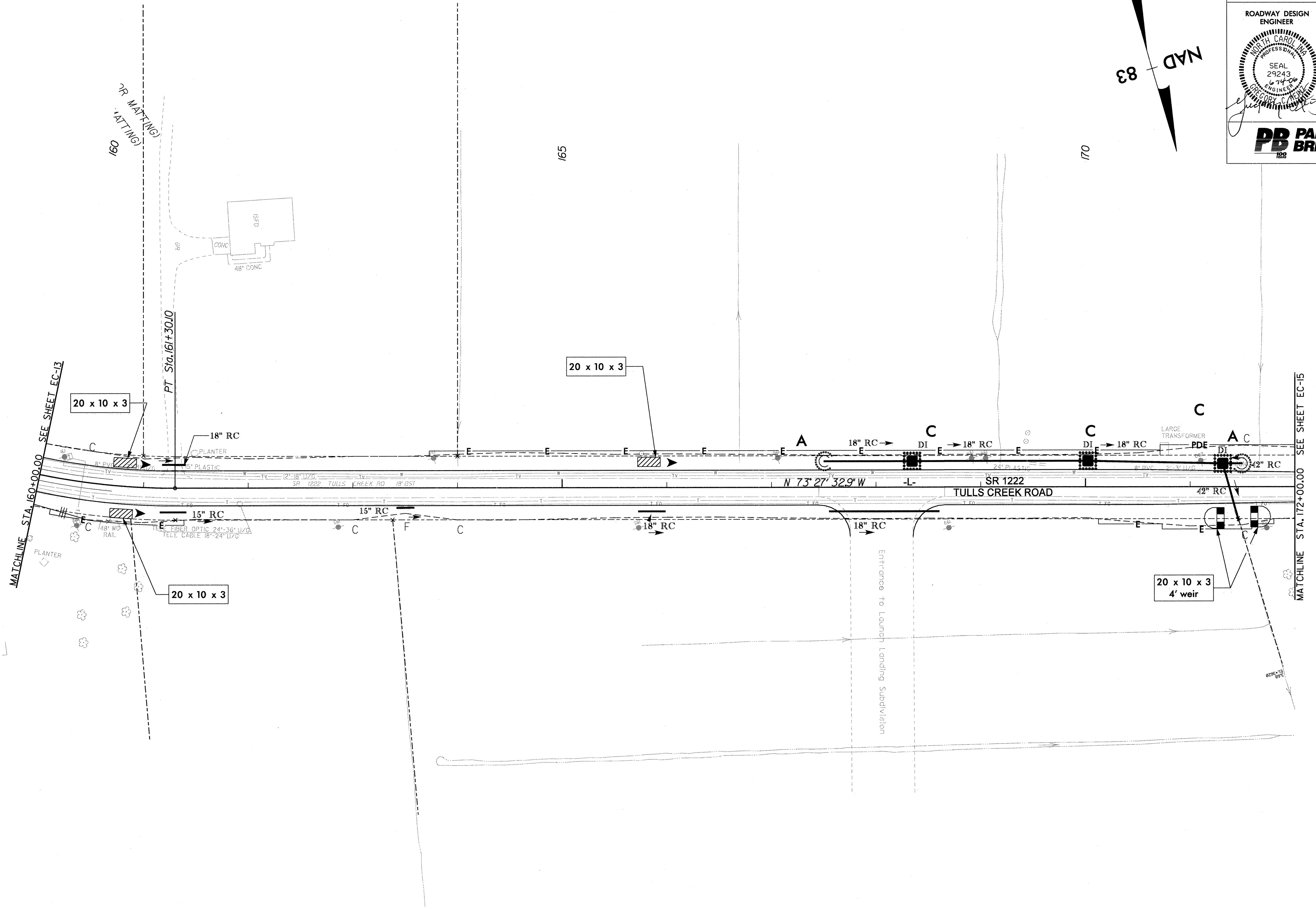
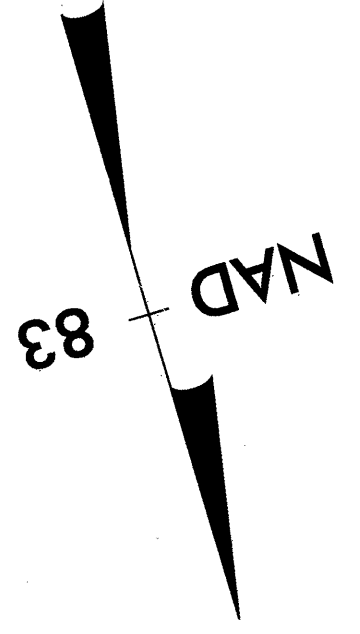


GRADE DITCHES AS FOLLOWS:

- GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS
- 134+65 (OUTLET DITCH) ← WATER FLOW ← 147+60 (GRADE BREAK) RIGHT SIDE (GRADE - 0.68%)
 - 134+65 (CROSS LINE) ← WATER FLOW ← 147+60 (GRADE BREAK) LEFT SIDE (GRADE - 0.64%)
 - 147+60 (GRADE BREAK) → WATER FLOW → 147+85 (OUTLET DITCH) LEFT SIDE (GRADE - 5.2%, EXCELSIOR MATTING)
 - 147+60 (GRADE BREAK) → WATER FLOW → 147+85 (CROSS LINE) RIGHT SIDE (GRADE - 5.04%, EXCELSIOR MATTING)
 - 147+85 (OUTLET DITCH) ← WATER FLOW ← 152+25 (GRADE BREAK) LEFT SIDE (GRADE - 0.50%)
 - 147+85 (CROSS LINE) ← WATER FLOW ← 152+75 (GRADE BREAK) RIGHT SIDE (GRADE - 0.52%)
 - 152+75 (GRADE BREAK) → WATER FLOW → 157+00 SR 1239 (ROADSIDE DITCH) RIGHT SIDE (GRADE - 0.63%)
 - 152+25 (GRADE BREAK) → WATER FLOW → 171+35 (CROSS LINE) LEFT SIDE (GRADE - 0.58%)
 - 158+00 (GRADE BREAK) → WATER FLOW → 171+35 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.88%)



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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-14/CONST-16 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| PARSONS BRINCKERHOFF | |

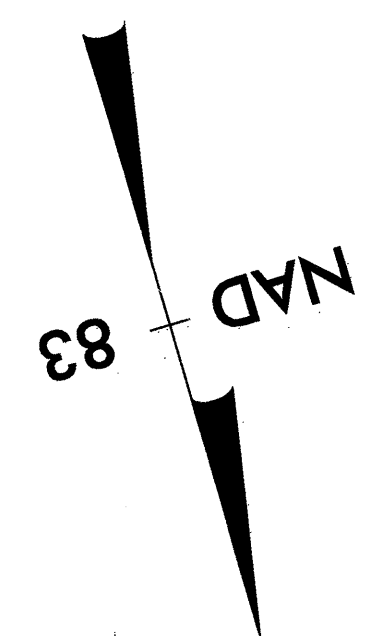


GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

- 152+75 (GRADE BREAK) → WATER FLOW → 171+35 (CROSS LINE) LEFT SIDE (GRADE - 0.58%)
- 158+00 (GRADE BREAK) → WATER FLOW → 171+35 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.88%)
- 171+35 (OUTLET DITCH) ← WATER FLOW ← 174+50 (GRADE BREAK) RIGHT SIDE (GRADE - 1.00%)
- 171+35 (CROSS LINE) ← WATER FLOW ← 175+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.41%)

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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-15/CONST-17 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER SEAL 29243 6-14-06 GREGORY C. WEAVER | HYDRAULICS ENGINEER SEAL 23924 6-14-06 DANIEL H. BRINCK |
| PD PARSONS BRINCKERHOFF | |

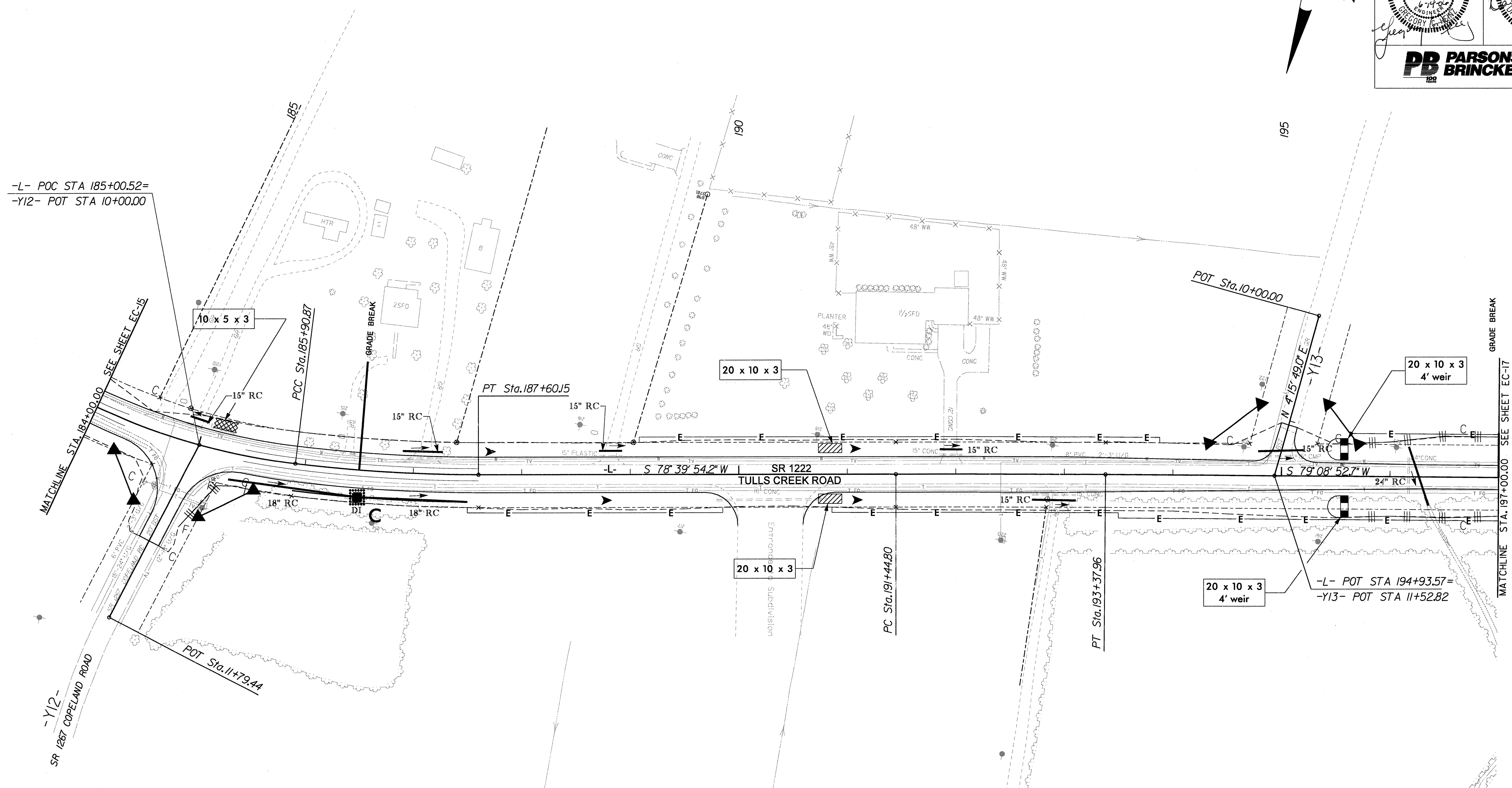
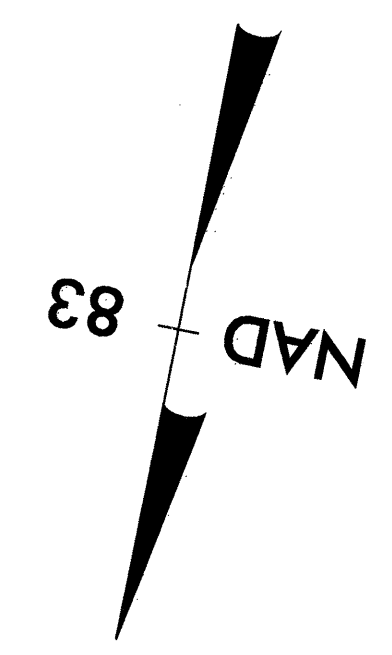


GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

- 171+35 (OUTLET DITCH) ← WATER FLOW ← 174+50 (GRADE BREAK) RIGHT SIDE (GRADE - 1.00%)
- 171+35 (CROSS LINE) ← WATER FLOW ← 175+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.41%)
- 174+50 (GRADE BREAK) → WATER FLOW → 176+80 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.50%)
- 175+00 (GRADE BREAK) → WATER FLOW → 176+80 (CROSS LINE) LEFT SIDE (GRADE - 4.00%, EXCELSIOR MATTING)
- 176+80 (OUTLET DITCH) ← WATER FLOW ← 185+00 (SR 1267) RIGHT SIDE (GRADE - 0.79%)
- 176+80 (CROSS LINE) ← WATER FLOW ← 186+50 (GRADE BREAK) LEFT SIDE (GRADE - 0.43%)

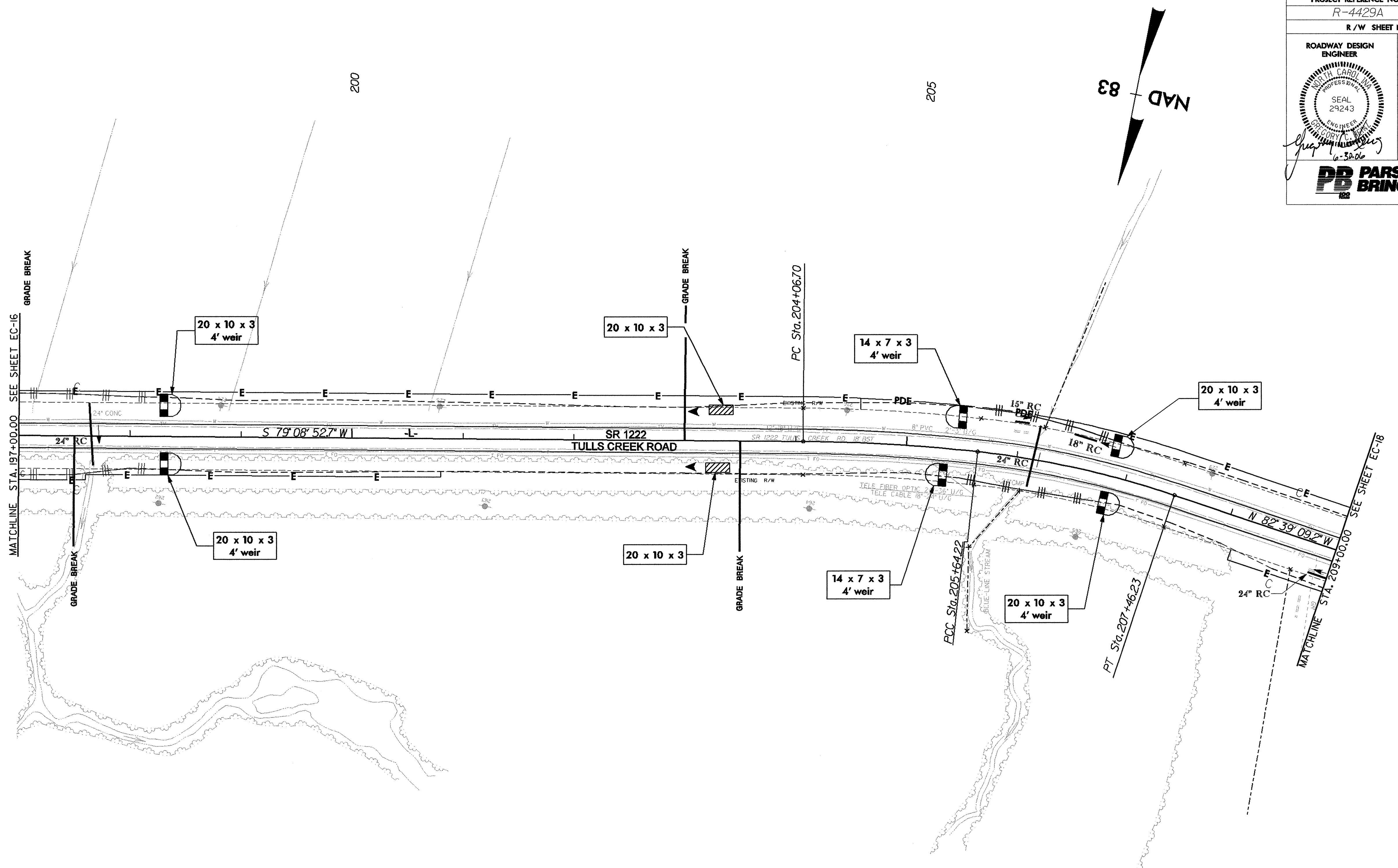
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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-16/CONST-18 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER SEAL 29243 6-14-06 GREGORY E. HARRIS | HYDRAULICS ENGINEER SEAL 23824 6-14-06 DANIEL H. BRINCKERHOFF |
| PARSONS BRINCKERHOFF | |



GRADE DITCHES AS FOLLOWS:

- GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS
- 176+80 (OUTLET DITCH) ← WATER FLOW ← 185+00 (SR 1267) RIGHT SIDE (GRADE - 0.79%)
 - 176+80 (CROSS LINE) ← WATER FLOW ← 186+50 (GRADE BREAK) LEFT SIDE (GRADE - 0.43%)
 - 185+00 (SR 1267) → WATER FLOW → 196+15 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.81%)
 - 186+50 (GRADE BREAK) → WATER FLOW → 196+15 (CROSS LINE) LEFT SIDE (GRADE - 0.76%)
 - 196+15 (OUTLET DITCH) ← WATER FLOW ← 197+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.35%)
 - 196+15 (CROSS LINE) ← WATER FLOW ← 197+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.37%)

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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-17/CONST-19 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| PARSONS BRINCKERHOFF | |

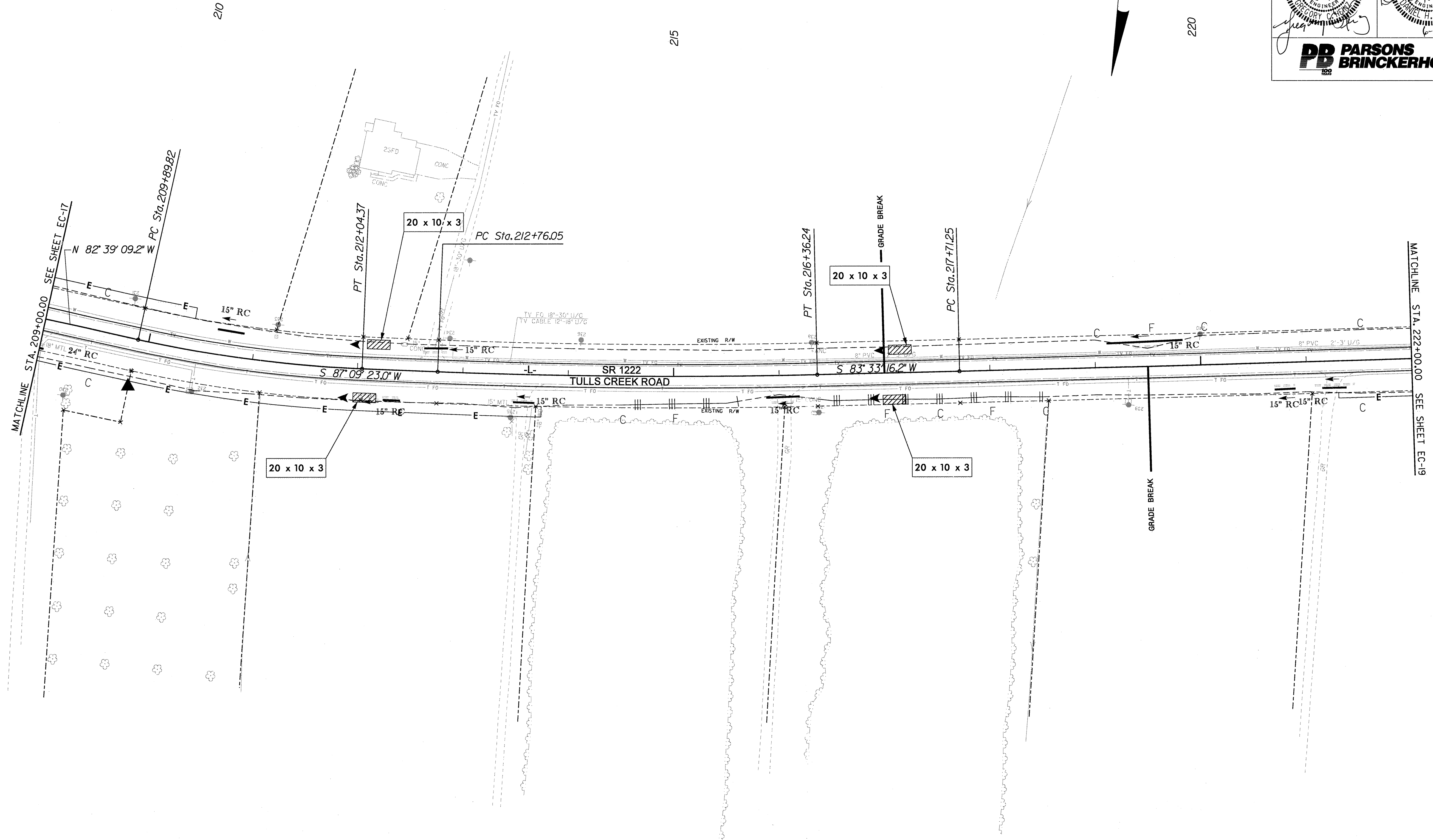
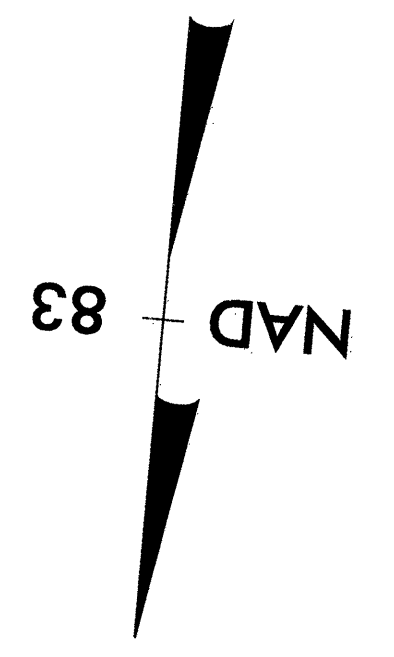


GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE, SEE CROSS-SECTIONS

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| 196+15 (OUTLET DITCH) ← WATER FLOW ← | 197+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.35%) |
| 196+15 (CROSS LINE) ← WATER FLOW ← | 197+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.37%) |
| 197+50 (GRADE BREAK) → WATER FLOW → | 197+65 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.42%) |
| 197+00 (GRADE BREAK) → WATER FLOW → | 197+65 (CROSS LINE) LEFT SIDE (GRADE - 0.42%) |
| 197+65 (OUTLET DITCH) ← WATER FLOW ← | 203+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.61%) |
| 197+65 (CROSS LINE) ← WATER FLOW ← | 203+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.53%) |
| 203+50 (GRADE BREAK) → WATER FLOW → | 206+15 (OUTLET PIPE) RIGHT SIDE (GRADE - 1.07%) |
| 203+00 (GRADE BREAK) → WATER FLOW → | 206+15 (CROSS PIPE) RIGHT SIDE (GRADE - 0.88%) |
| 206+15 (OUTLET DITCH) ← WATER FLOW ← | 219+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.33%) |
| 206+15 (CROSS LINE) ← WATER FLOW ← | 217+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.34%) |

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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-18/CONST-20 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| PD PARSONS BRINCKERHOFF | |

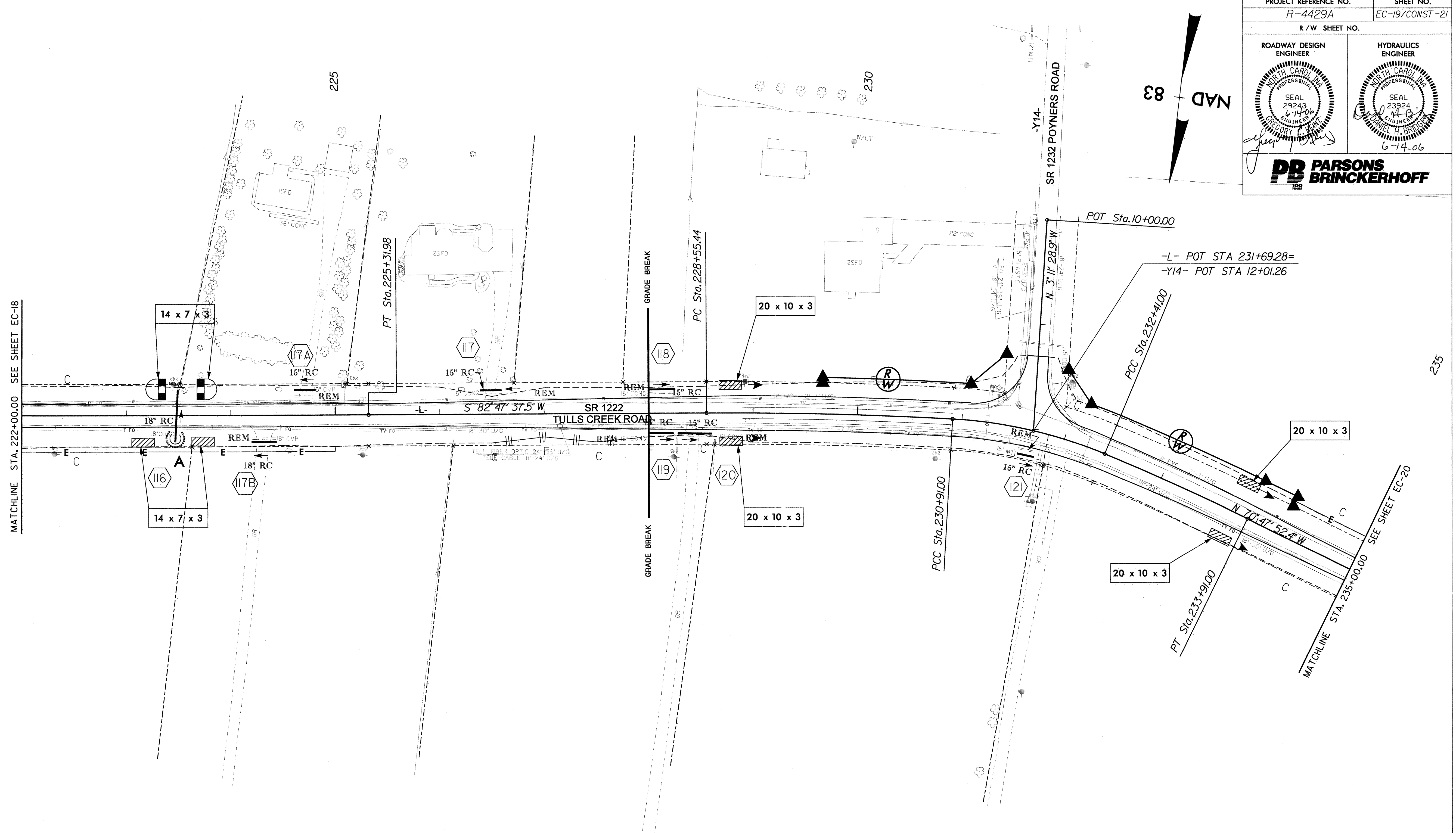
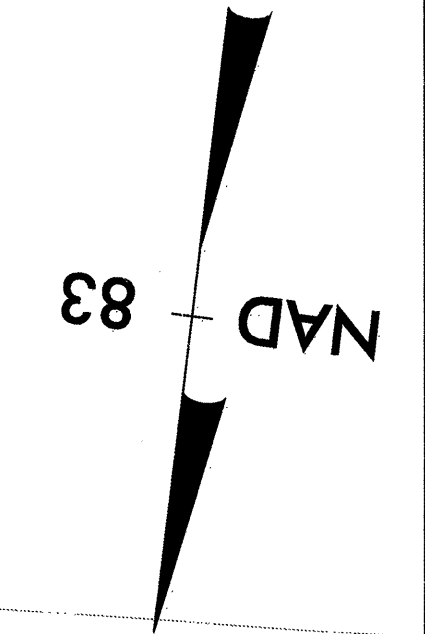


GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

- 206+15 (OUTLET DITCH) ← WATER FLOW ← 219+50 (GRADE BREAK) RIGHT SIDE (GRADE - 0.33%)
- 206+15 (CROSS LINE) ← WATER FLOW ← 217+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.34%)
- 219+50 (GRADE BREAK) → WATER FLOW → 223+50 (CROSS LINE) RIGHT SIDE (GRADE - 0.30%)
- 217+00 (GRADE BREAK) → WATER FLOW → 223+50 (OUTLET DITCH) LEFT SIDE (GRADE - 0.37%)

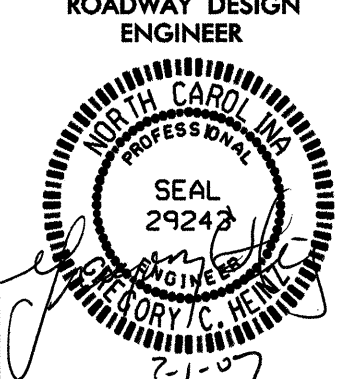
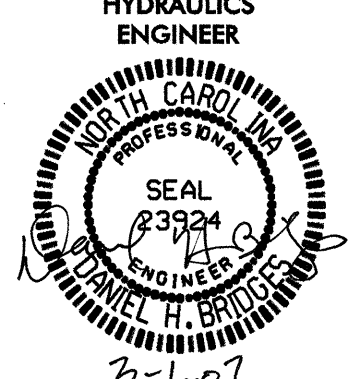
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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-19/CONST-21 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER SEAL 29243 6-14-06 GREGORY C. NEW | HYDRAULICS ENGINEER SEAL 23924 6-14-06 MICHAEL H. BRIDGES |
| PD PARSONS BRINCKERHOFF | |

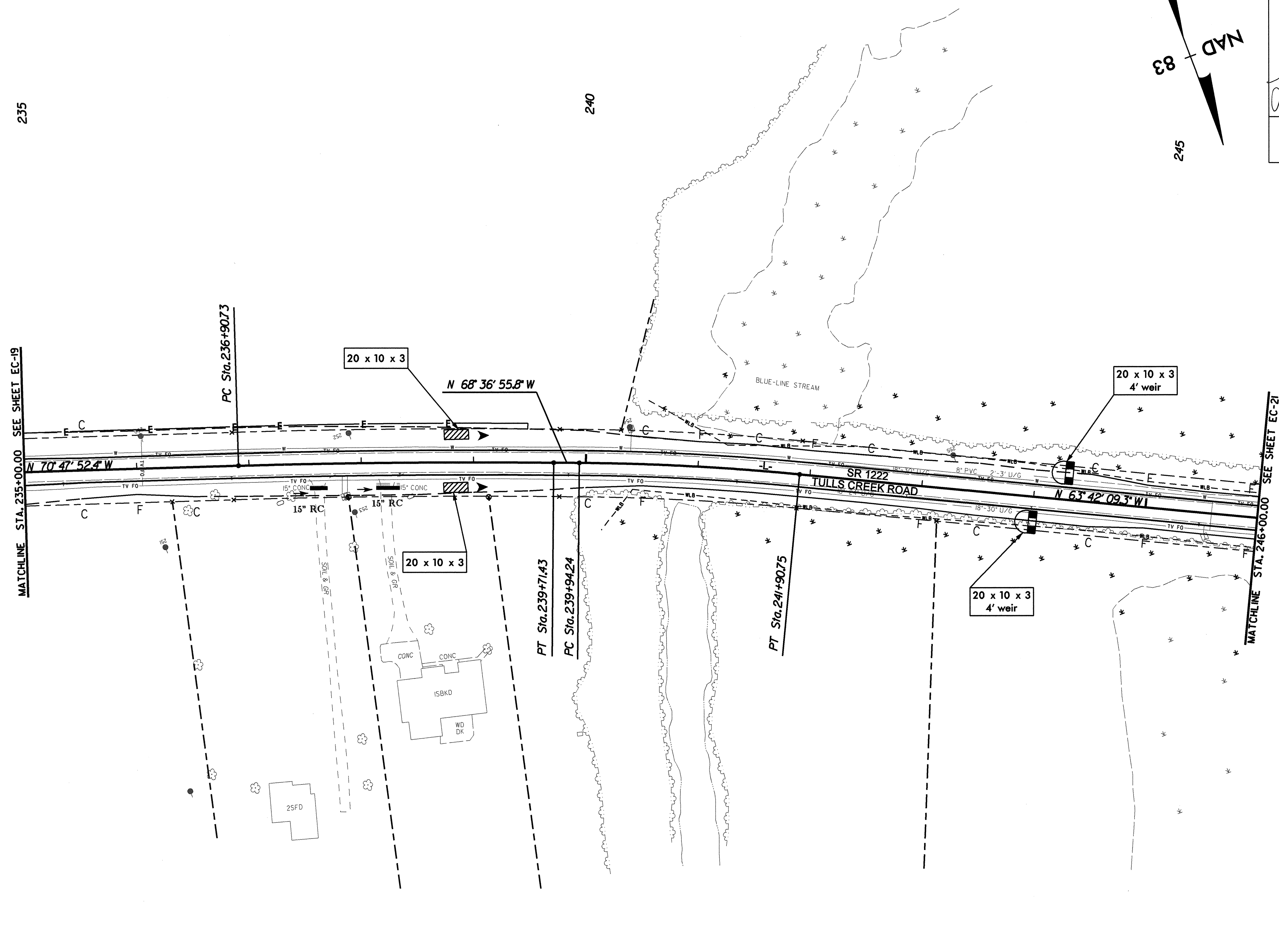
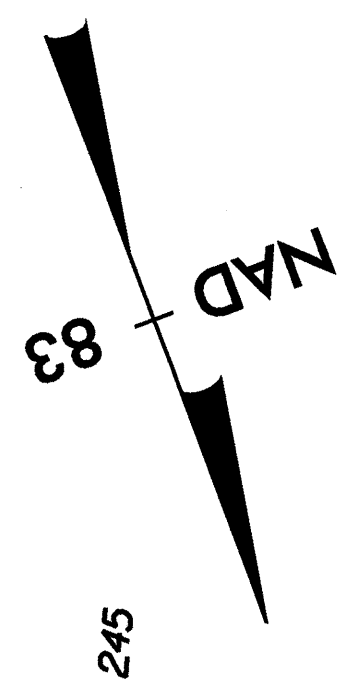


GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

- 219+50 (GRADE BREAK) → WATER FLOW → 223+50 (CROSS LINE) RIGHT SIDE (GRADE - 0.30%)
- 217+00 (GRADE BREAK) → WATER FLOW → 223+50 (OUTLET DITCH) LEFT SIDE (GRADE - 0.37%)
- 223+50 (CROSS LINE) ← WATER FLOW ← 228+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.33%)
- 223+50 (OUTLET DITCH) ← WATER FLOW ← 228+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.34%)
- 228+00 (GRADE BREAK) → WATER FLOW → 247+00 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.35%)
- 228+00 (GRADE BREAK) → WATER FLOW → 247+00 (CROSS LINE) LEFT SIDE (GRADE - 0.30%)


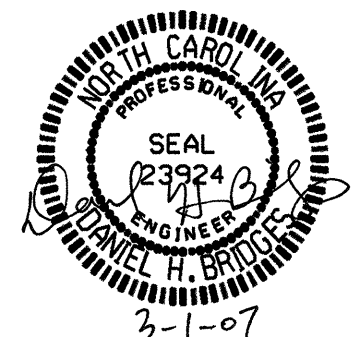
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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-20/CONST-22 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER  | HYDRAULICS ENGINEER  |
| PB PARSONS BRINCKERHOFF | |

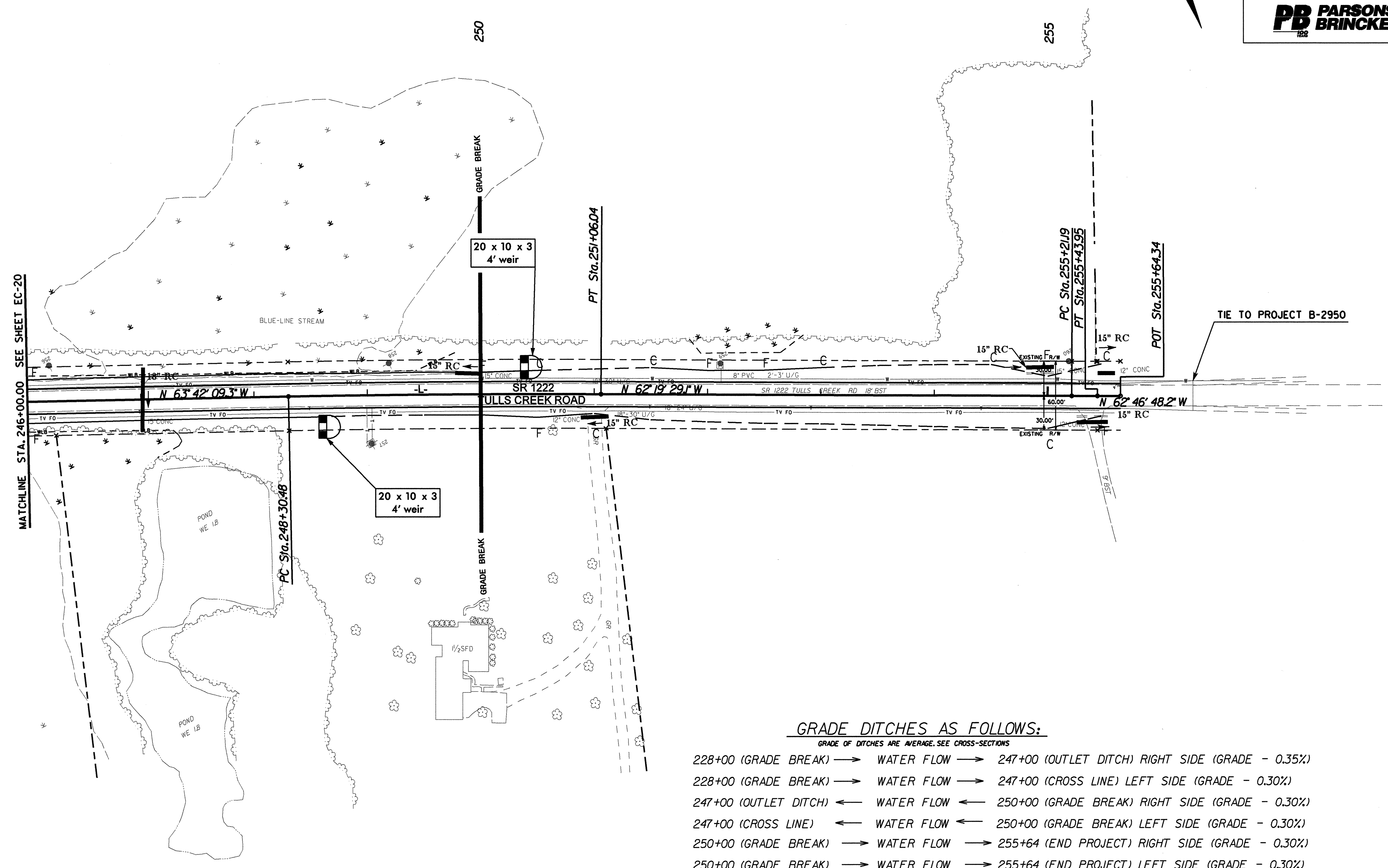
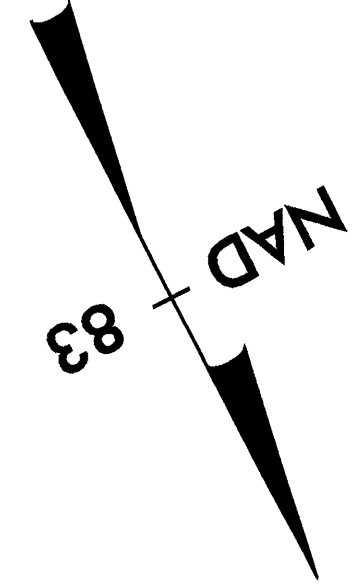


GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

- 228+00 (GRADE BREAK) → WATER FLOW → 247+00 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.35%)
- 228+00 (GRADE BREAK) → WATER FLOW → 247+00 (CROSS LINE) LEFT SIDE (GRADE - 0.30%)

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| PROJECT REFERENCE NO. R-4429A | SHEET NO. EC-21/CONST-23 |
| R/W SHEET NO. ----- | |
| ROADWAY DESIGN ENGINEER  | HYDRAULICS ENGINEER  |
| PD PARSONS BRINCKERHOFF | |



GRADE DITCHES AS FOLLOWS:

GRADE OF DITCHES ARE AVERAGE. SEE CROSS-SECTIONS

- 228+00 (GRADE BREAK) → WATER FLOW → 247+00 (OUTLET DITCH) RIGHT SIDE (GRADE - 0.35%)
- 228+00 (GRADE BREAK) → WATER FLOW → 247+00 (CROSS LINE) LEFT SIDE (GRADE - 0.30%)
- 247+00 (OUTLET DITCH) ← WATER FLOW ← 250+00 (GRADE BREAK) RIGHT SIDE (GRADE - 0.30%)
- 247+00 (CROSS LINE) ← WATER FLOW ← 250+00 (GRADE BREAK) LEFT SIDE (GRADE - 0.30%)
- 250+00 (GRADE BREAK) → WATER FLOW → 255+64 (END PROJECT) RIGHT SIDE (GRADE - 0.30%)
- 250+00 (GRADE BREAK) → WATER FLOW → 255+64 (END PROJECT) LEFT SIDE (GRADE - 0.30%)