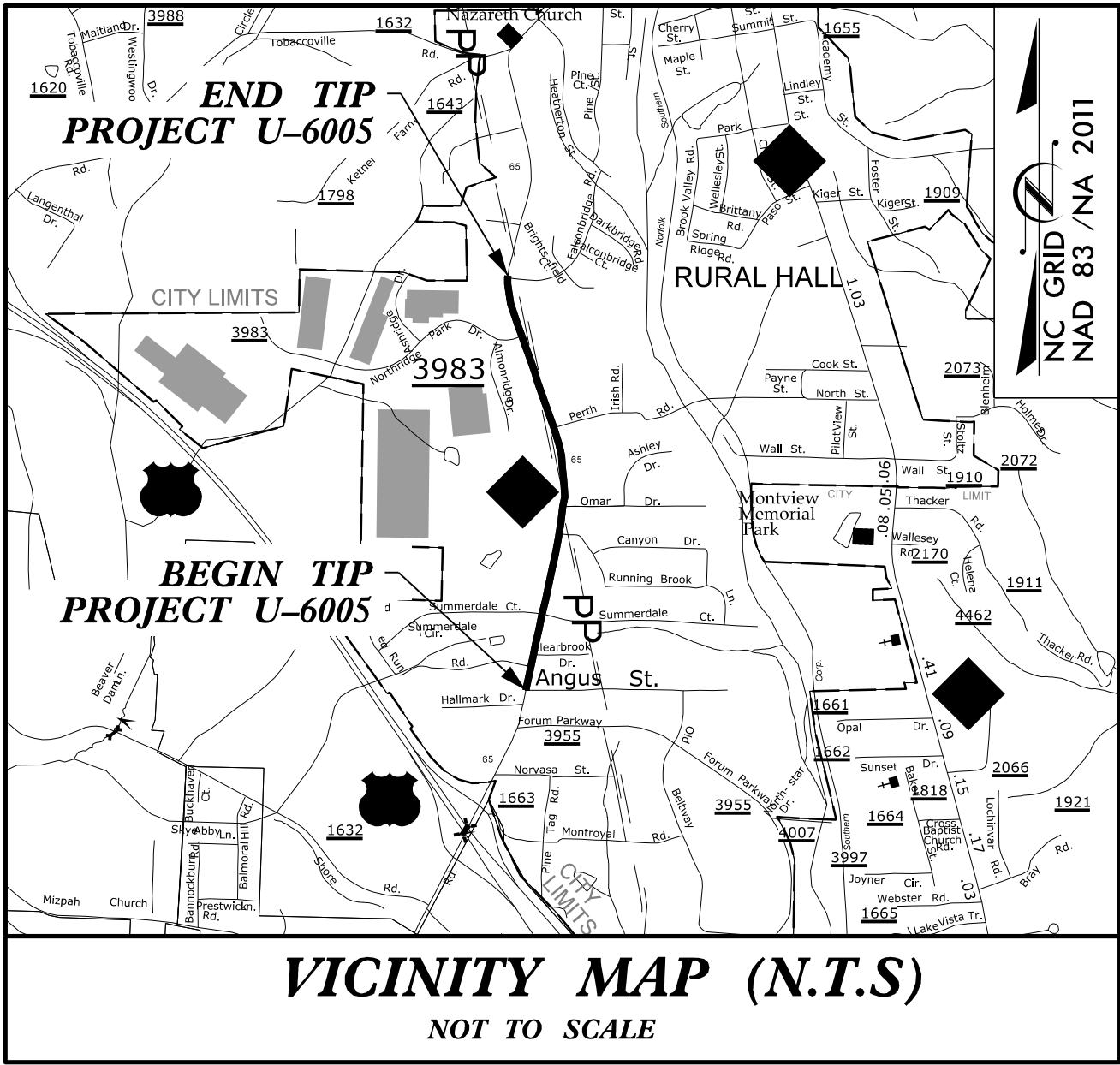


152.24 DW  
R:\Environmental\PSHV\U6005\rev.ec.tsh.dgn  
etberger

TIP PROJECT: U-6005

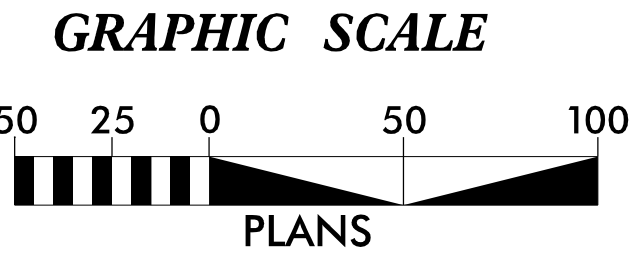
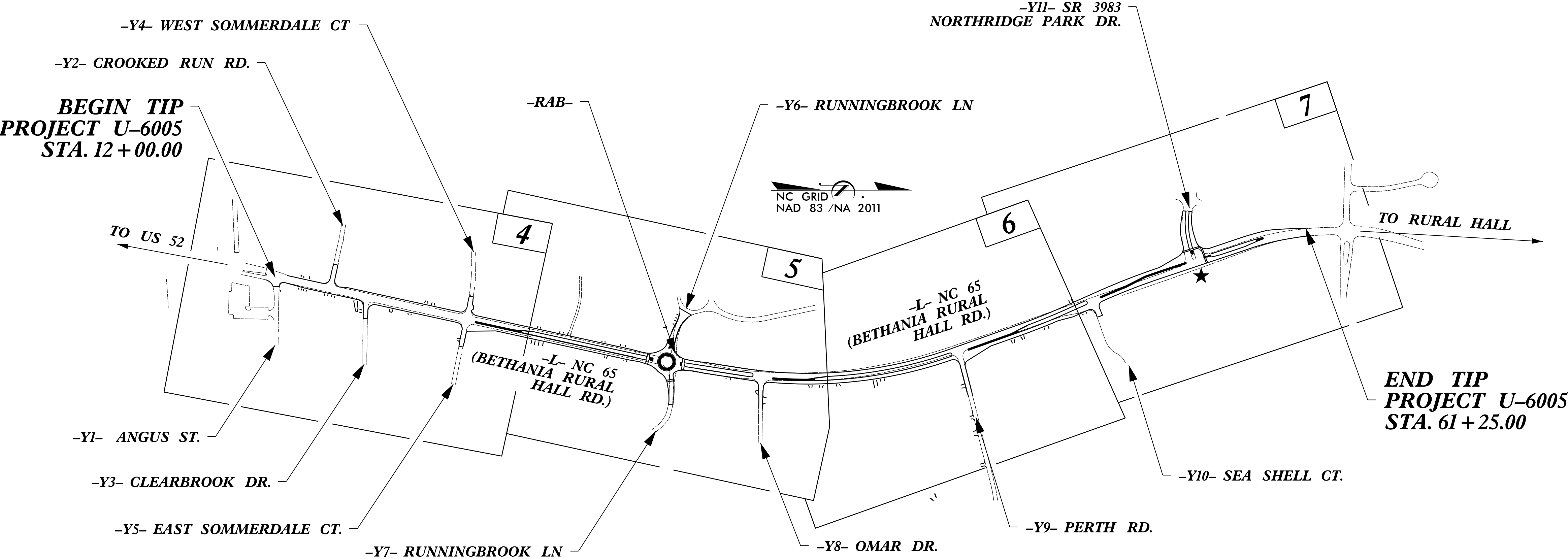
See Sheet 1A For Index of Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL  
**FORSYTH COUNTY**

LOCATION: NC 65 (BETHANIA RURAL HALL RD.) FROM  
ANGUS STREET TO SR 3983 (NORTHRIDGE PARK DRIVE)  
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND SIGNALS

|                |                             |             |              |
|----------------|-----------------------------|-------------|--------------|
| STATE          | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
| N.C.           | U-6005                      | EC-1        |              |
| STATE PROJ.NO. | F.A.PROJ.NO.                | DESCRIPTION |              |
| 47140.1.1      | N/A                         | P.E.        |              |
|                |                             |             |              |
|                |                             |             |              |
|                |                             |             |              |



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH  
THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000  
GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019  
AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.



VHB Engineering NC, P.C. (C-3705)  
940 Main Campus Drive, Suite 500  
Raleigh, NC 27606

Prepared In the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
1 South Wilmington St.  
Raleigh, NC 27611

Designed by:  
**BRANDON BARHAM, PE** 3368  
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The "Roadway Standard Drawings"- Roadway Design Unit - N. C.  
Department of Transportation - Raleigh, N. C., dated January 2024  
and the latest revision thereto are applicable to this project and by  
reference hereby are considered a part of these plans.



DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

|                            |                        |
|----------------------------|------------------------|
| PROJECT REFERENCE NO.      | SHEET NO.              |
| U-6005                     | EC-02                  |
| ROADWAY DESIGN<br>ENGINEER | HYDRAULICS<br>ENGINEER |

EROSION & SEDIMENT CONTROL LEGEND

| Std. #  | Description                      | Symbol |
|---------|----------------------------------|--------|
| 1605.01 | Temporary Silt Fence             |        |
| 1606.01 | Special Sediment Control Fence   |        |
| 1622.01 | Temporary Berms and Slope Drains |        |
| 1630.02 | Silt Basin Type B                |        |
| 1630.03 | Temporary Silt Ditch             |        |
| 1630.04 | Stilling Basin                   |        |
| 1630.05 | Temporary Diversion              |        |
| 1630.06 | Special Stilling Basin           |        |
| 1630.07 | Skimmer Basin                    |        |
| 1630.08 | Tiered Skimmer Basin             |        |
| 1630.09 | Earthen Dam with Skimmer         |        |
|         | Infiltration Basin               |        |
|         | Rock Inlet Sediment Trap:        |        |
| 1632.01 | Type A                           |        |
| 1632.02 | Type B                           |        |
| 1632.03 | Type C                           |        |

| Std. #  | Description                                                               | Symbol |
|---------|---------------------------------------------------------------------------|--------|
| 1633.01 | Temporary Rock Silt Check Type A                                          |        |
| 1633.02 | Temporary Rock Silt Check Type B                                          |        |
| 1633.03 | Temporary Rock Silt Check Type A with<br>Excelsior Matting and Flocculant |        |
| 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 | Excelsior Wattle Check                                                    |        |
| 1636.01 | Excelsior Wattle Check with Flocculant                                    |        |
| 1636.01 | Coir Fiber Wattle Check                                                   |        |
| 1636.01 | Coir Fiber Wattle Check with Flocculant                                   |        |
| 1636.02 | Silt Fence Excelsior Wattle Break                                         |        |
|         | Silt Fence Coir Fiber Wattle Break                                        |        |
| 1636.03 | Excelsior Wattle Barrier                                                  |        |
| 1636.03 | Coir Fiber Wattle Barrier                                                 |        |



# ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

| PROJECT REFERENCE NO.   | SHEET NO.           |
|-------------------------|---------------------|
| U-6005                  | EC-2A               |
| R/W SHEET NO.           |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |



- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
  2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
  3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE  
NOT TO SCALE



- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
  2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
  3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE  
NOT TO SCALE







DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
| U-6005                  | EC-3A               |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

SOIL STABILIZATION TIMEFRAMES

| SITE DESCRIPTION                             | STABILIZATION TIME | TIMEFRAME EXCEPTIONS                                                                                                                                      |
|----------------------------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| PERIMETER DIKES, SWALES, DITCHES AND SLOPES  | 7 DAYS             | NONE                                                                                                                                                      |
| HIGH QUALITY WATER (HQW) ZONES               | 7 DAYS             | NONE                                                                                                                                                      |
| SLOPES STEEPER THAN 3:1                      | 7 DAYS             | IF SLOPES ARE 10’ OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.                                                                    |
| SLOPES 3:1 TO 4:1                            | 14 DAYS            | 7 DAYS FOR SLOPES GREATER THAN 50’ IN LENGTH WITH SLOPES STEEPER THAN 4:1.<br>7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS            | 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES                                                                               |

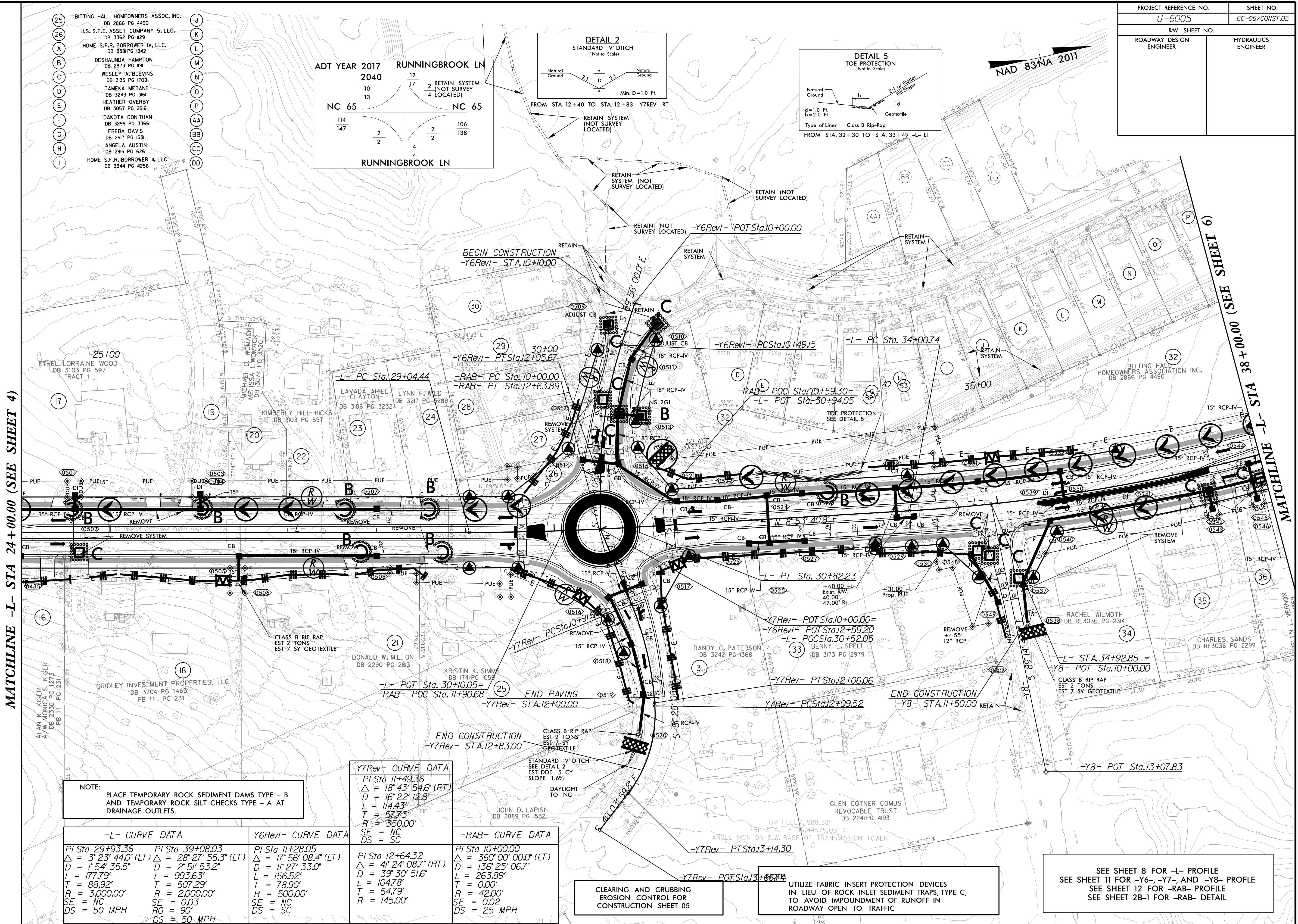


**MATCHLINE -L- STA. 24+00.00 (SEE SHEET 5)**





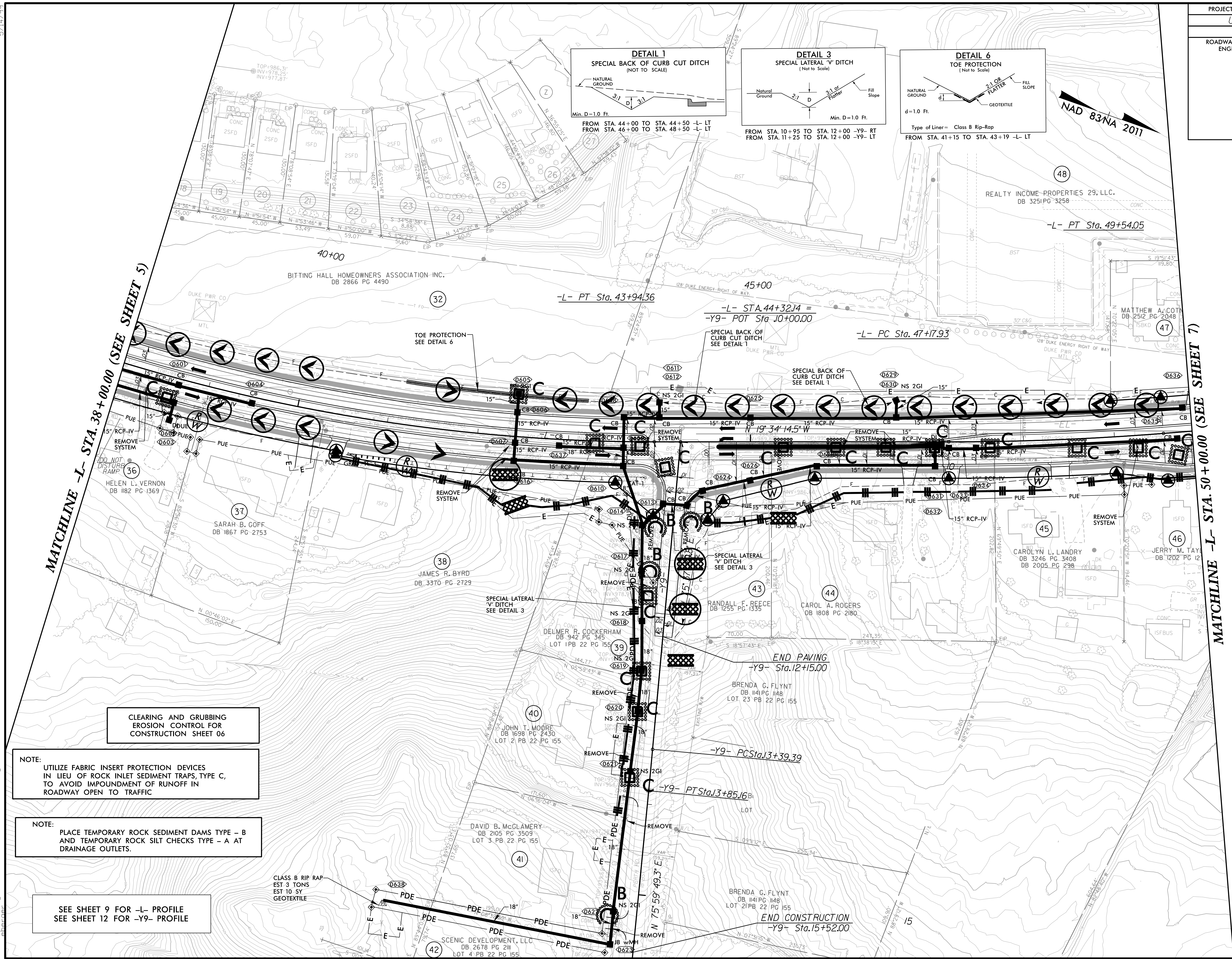
SEE SHEET 8 FOR -L- PROFILE  
SEE SHEET 11 FOR -Y6-, -Y7-, AND -Y8- PROFILE  
SEE SHEET 12 FOR -RAB- PROFILE  
SEE SHEET 2B-1 FOR -RAB- DETAIL





5/14/99

|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
| U-6005                  | EC-06/CONST.06      |
| RW SHEET NO.            |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |



152438 PM  
I:\Environment\PSH\U6005-reu.ec\_PSH6.CG.dgn  
06/06/99

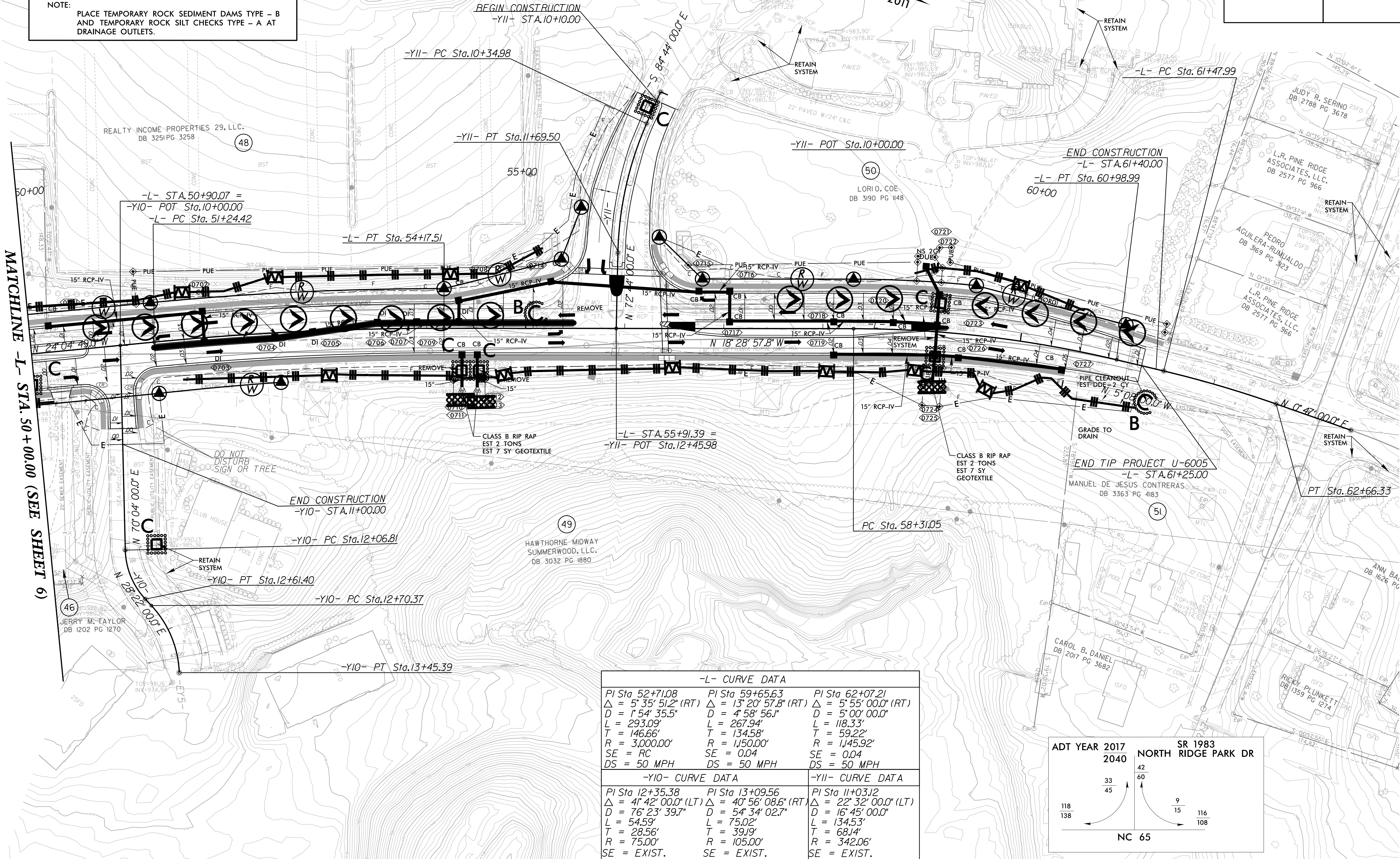


| PROJECT REFERENCE NO.   |  | SHEET NO.           |
|-------------------------|--|---------------------|
| U-6005                  |  | EC-07/CONST.07      |
| RW SHEET NO.            |  |                     |
| ROADWAY DESIGN ENGINEER |  | HYDRAULICS ENGINEER |

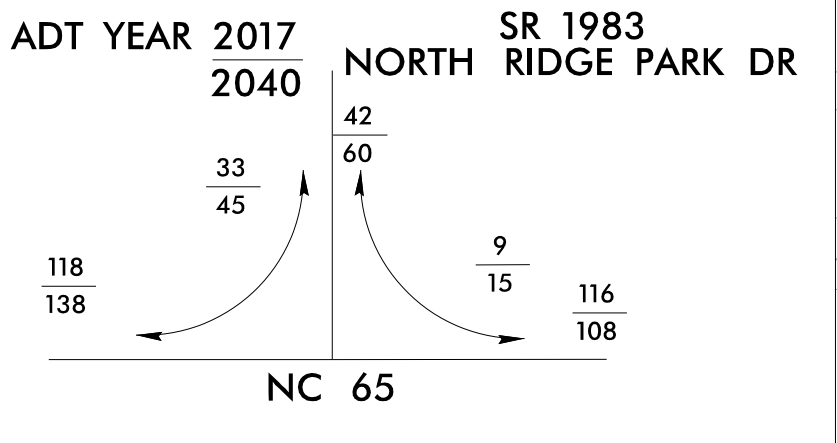
NOTE:  
UTILIZE FABRIC INSERT PROTECTION DEVICES  
IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C,  
TO AVOID IMPOUNDMENT OF RUNOFF IN  
ROADWAY OPEN TO TRAFFIC

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 07



| -L- CURVE DATA                                                                                                                        |                                                                                                                                          |                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| PI Sta 52+71.08<br>Δ = 5° 35' 51.2" (RT)<br>D = 1° 54' 35.5"<br>L = 293.09'<br>T = 146.66'<br>R = 3,000.00'<br>SE = RC<br>DS = 50 MPH | PI Sta 59+65.63<br>Δ = 13° 20' 57.8" (RT)<br>D = 4° 58' 56.1"<br>L = 267.94'<br>T = 134.58'<br>R = 1,150.00'<br>SE = 0.04<br>DS = 50 MPH | PI Sta 62+07.21<br>Δ = 5° 55' 00.0" (RT)<br>D = 5° 00' 00.0"<br>L = 118.33'<br>T = 59.22'<br>R = 1,145.92'<br>SE = 0.04<br>DS = 50 MPH |
| -Y10- CURVE DATA                                                                                                                      |                                                                                                                                          |                                                                                                                                        |
| PI Sta 12+35.38<br>Δ = 41° 42' 00.0" (LT)<br>D = 76° 23' 39.7"<br>L = 54.59'<br>T = 28.56'<br>R = 75.00'<br>SE = EXIST.               | PI Sta 13+09.56<br>Δ = 40° 56' 08.6" (RT)<br>D = 54° 34' 02.7"<br>L = 75.02'<br>T = 39.19'<br>R = 105.00'<br>SE = EXIST.                 | PI Sta 11+03.12<br>Δ = 22° 32' 00.0" (LT)<br>D = 16° 45' 00.0"<br>L = 134.53'<br>T = 68.14'<br>R = 342.06'<br>SE = EXIST.              |



SEE SHEET 9 FOR -L- PROFILE  
SEE SHEET 12 FOR -Y10- AND -Y11- PROFILE

REVISIONS



5/14/2019

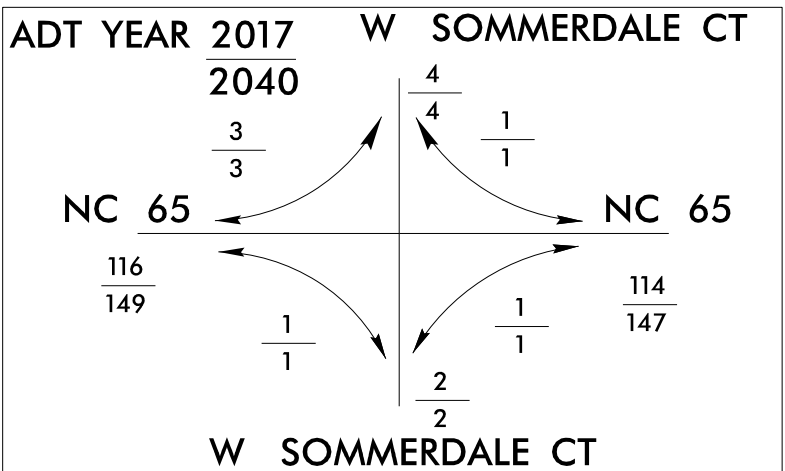
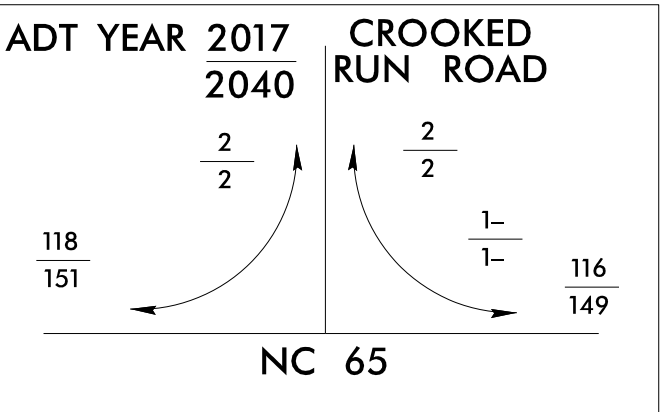
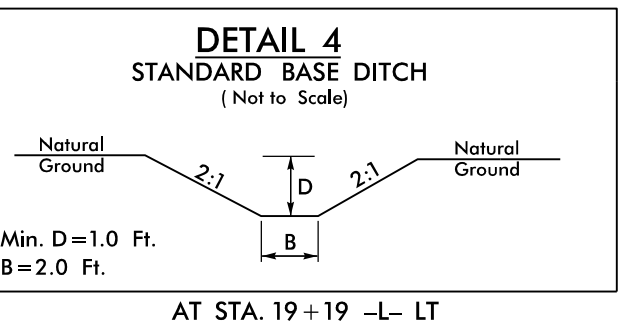
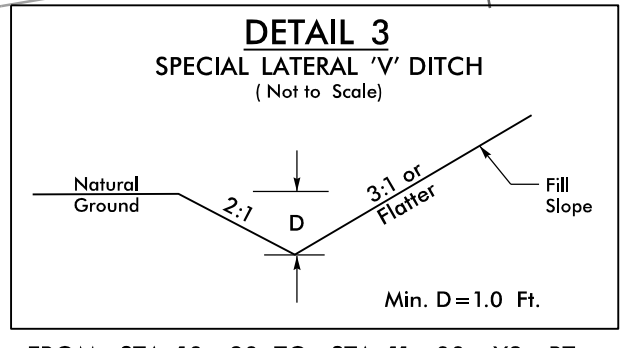
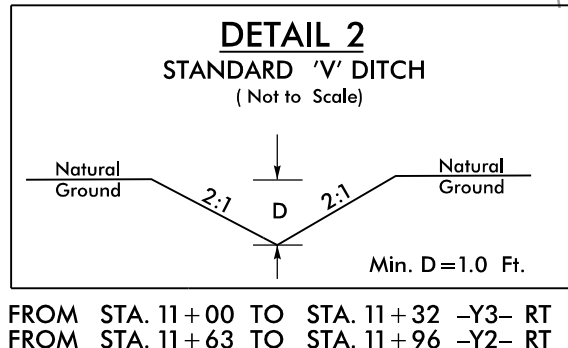
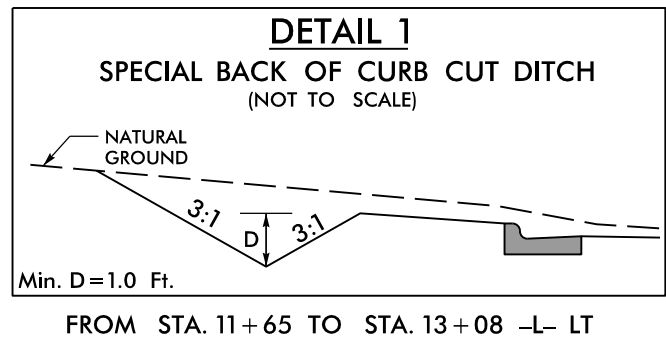
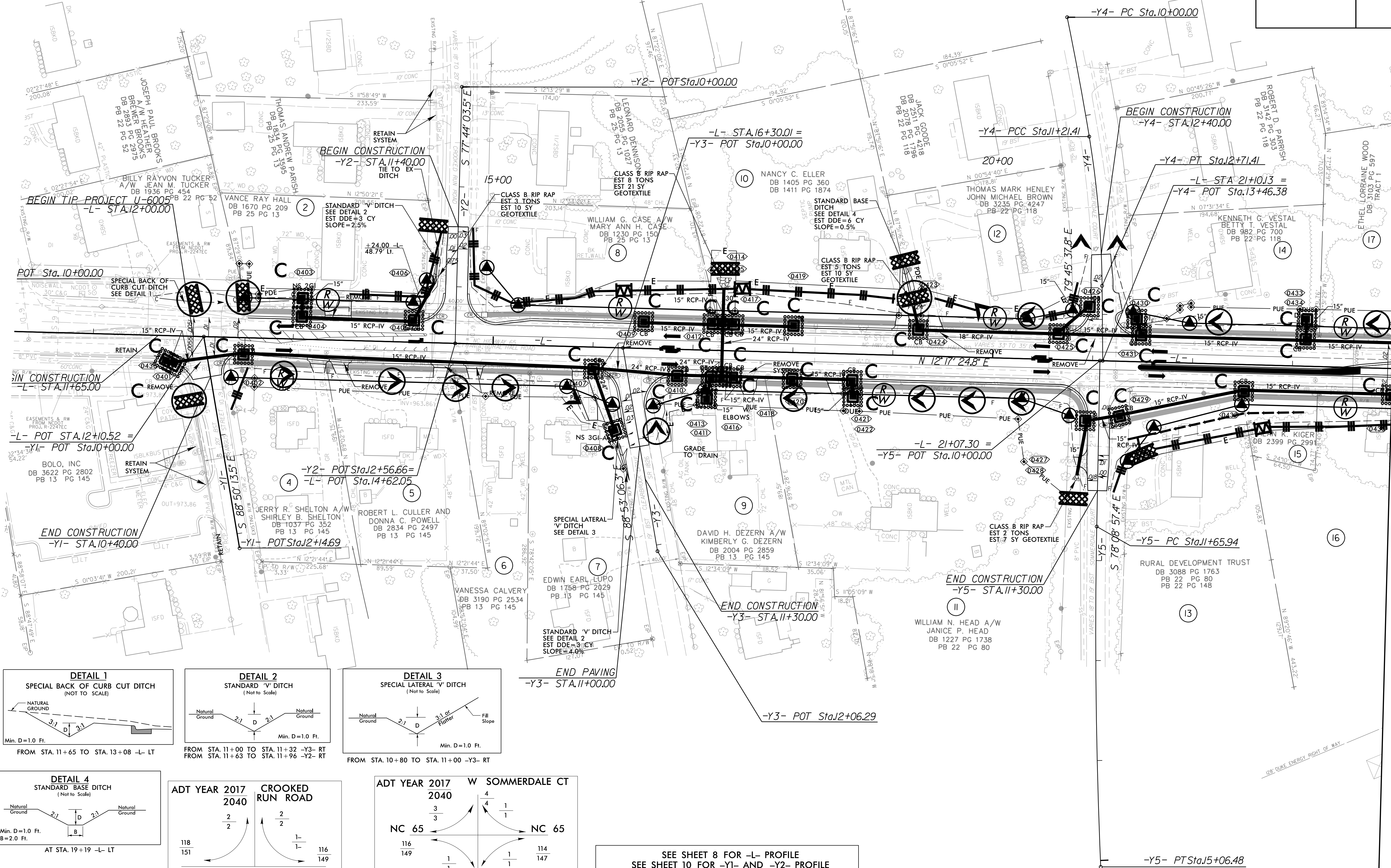
15:59 PM PSH\U6005-reu.ec-PSH4-Final.dgn

|                                                                                                                                                               |                                                                                                                                                                         |                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $PI\ Sta\ 10+60.71$<br>$\Delta = 2^{\circ}19'07.7''\ (RT)$<br>$D = 1^{\circ}54'35.5''$<br>$L = 121.41'$<br>$T = 60.71'$<br>$R = 3,000.00'$<br>$SE = EXISTING$ | $PI\ Sta\ 11+96.56$<br>$\Delta = 8^{\circ}48'53.0''\ (RT)$<br>$D = 5^{\circ}52'35.4''$<br>$L = 150.00'$<br>$T = 75.15'$<br>$R = 975.00'$<br>$SE = NC$<br>$DS = 15\ MPH$ | $PI\ Sta\ 13+36.26$<br>$\Delta = 3^{\circ}32'51.5''\ (LT)$<br>$D = 1^{\circ}02'30.3''$<br>$L = 340.55'$<br>$T = 170.33'$<br>$R = 5,500.00'$<br>$SE = EXISTING$ |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|

NOTE:  
UTILIZE FABRIC INSERT PROTECTION DEVICES  
IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C,  
TO AVOID IMPOUNDMENT OF RUNOFF IN  
ROADWAY OPEN TO TRAFFIC

NAD 83/NA 2011

|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
| U-6005                  | EC-08/CONST.04      |
| RW SHEET NO.            |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |



SEE SHEET 8 FOR -L- PROFILE  
SEE SHEET 10 FOR -Y1- AND -Y2- PROFILE  
SEE SHEET 10 FOR -Y3- AND -Y4- PROFILE  
SEE SHEET 11 FOR -Y5- PROFILE

MATCHLINE -L- STA. 24+00.00 (SEE SHEET 5)



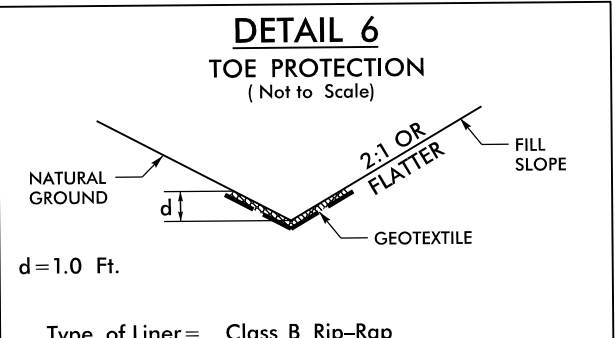
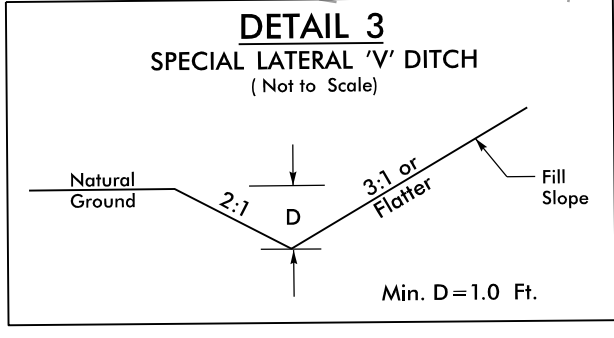
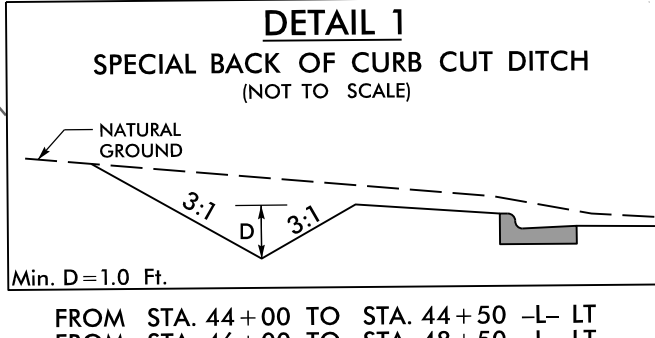
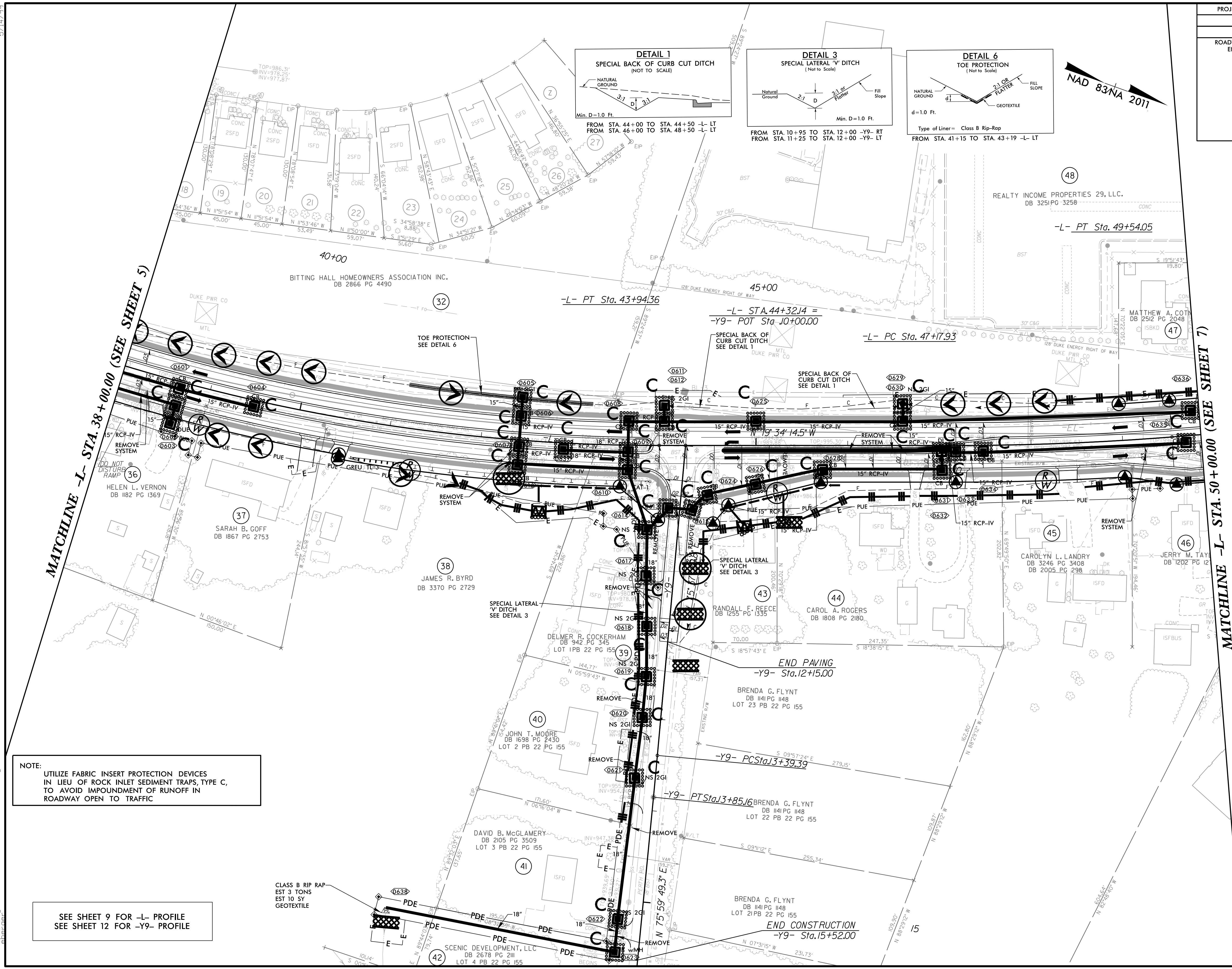
SEE SHEET 8 FOR -L- PROFILE  
SEE SHEET 11 FOR -Y6-, -Y7-, AND -Y8- PROFILE  
SEE SHEET 12 FOR -RAB- PROFILE  
SEE SHEET 2B-1 FOR -RAB- DETAIL





5/14/99

|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
| U-6005                  | EC-10/CONST.06      |
| RW SHEET NO.            |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |



NOTE:  
UTILIZE FABRIC INSERT PROTECTION DEVICES  
IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C,  
TO AVOID IMPOUNDMENT OF RUNOFF IN  
ROADWAY OPEN TO TRAFFIC

SEE SHEET 9 FOR -L- PROFILE  
SEE SHEET 12 FOR -Y9- PROFILE

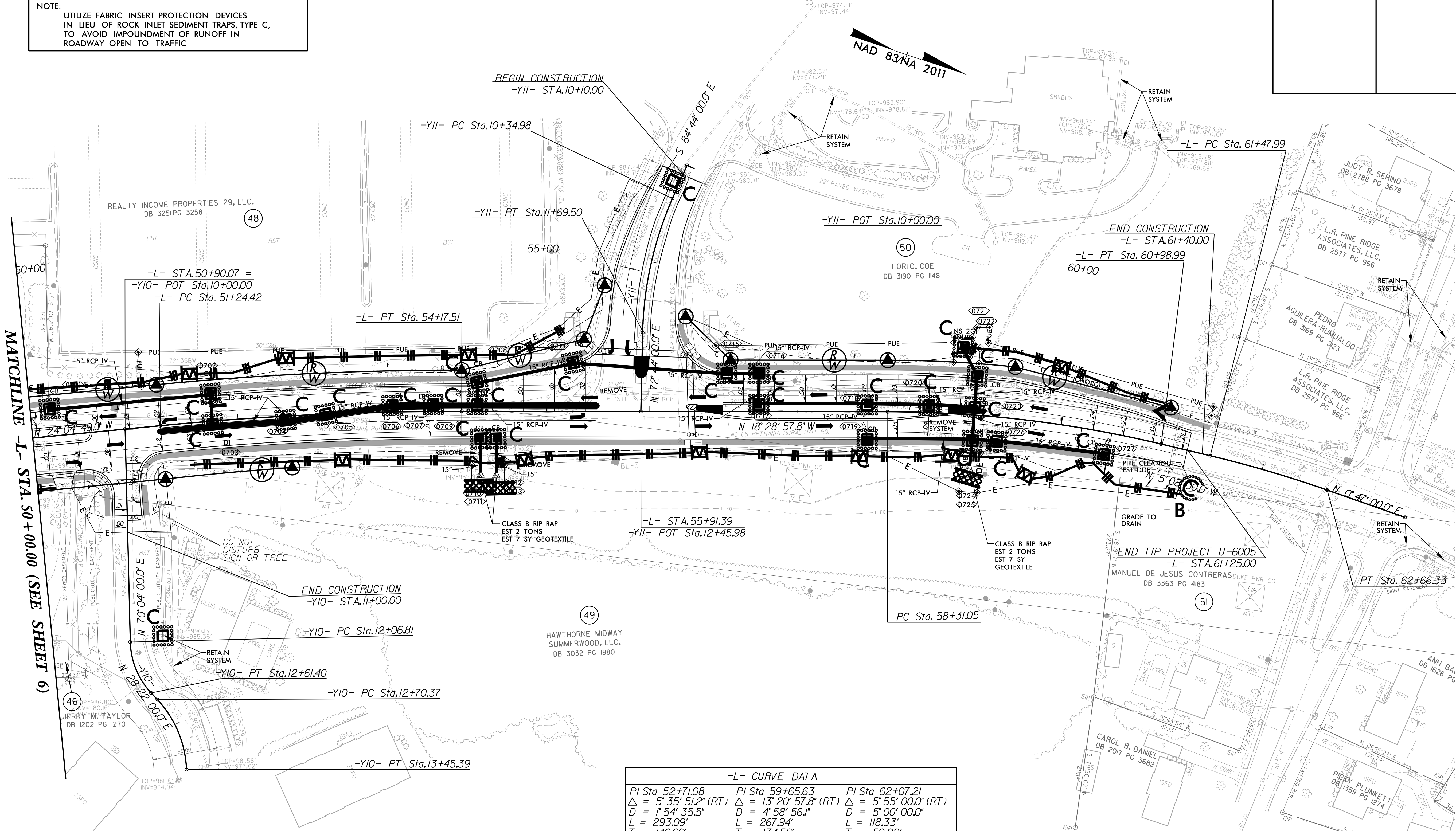
CLASS B RIP RAP  
EST 3 TONS  
EST TO SY  
GEOTEXTILE

15:09 PM  
C:\Users\j\Documents\PSH\U6005\rev.ec\_PSH6\_Final.dgn

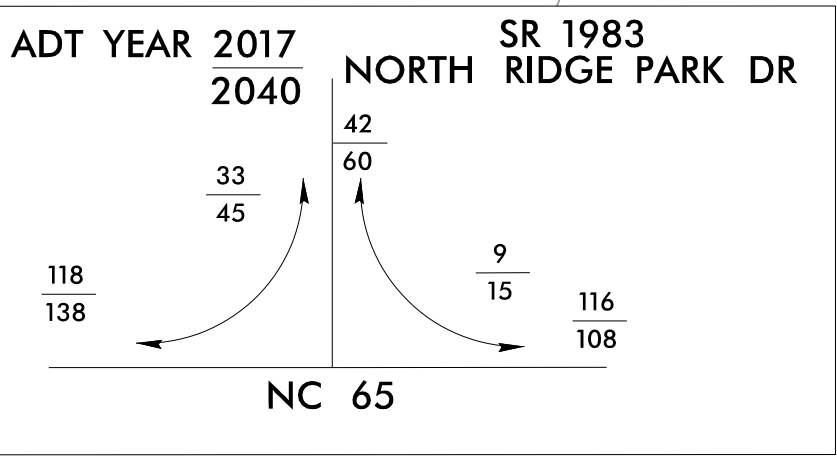


| PROJECT REFERENCE NO.   |  | SHEET NO.           |
|-------------------------|--|---------------------|
| U-6005                  |  | EC-11/CONST.07      |
| RW SHEET NO.            |  |                     |
| ROADWAY DESIGN ENGINEER |  | HYDRAULICS ENGINEER |

NOTE:  
UTILIZE FABRIC INSERT PROTECTION DEVICES  
IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C,  
TO AVOID IMPOUNDMENT OF RUNOFF IN  
ROADWAY OPEN TO TRAFFIC



| -L- CURVE DATA                                                                                                                        |                                                                                                                                          |                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| PI Sta 52+71.08<br>Δ = 5° 35' 51.2" (RT)<br>D = 1° 54' 35.5"<br>L = 293.09'<br>T = 146.66'<br>R = 3,000.00'<br>SE = RC<br>DS = 50 MPH | PI Sta 59+65.63<br>Δ = 13° 20' 57.8" (RT)<br>D = 4° 58' 56.1"<br>L = 267.94'<br>T = 134.58'<br>R = 1,150.00'<br>SE = 0.04<br>DS = 50 MPH | PI Sta 62+07.21<br>Δ = 5° 55' 00.0" (RT)<br>D = 5° 00' 00.0"<br>L = 118.33'<br>T = 59.22'<br>R = 1,145.92'<br>SE = 0.04<br>DS = 50 MPH |
| -Y10- CURVE DATA                                                                                                                      |                                                                                                                                          |                                                                                                                                        |
| PI Sta 12+35.38<br>Δ = 41° 42' 00.0" (LT)<br>D = 76° 23' 39.7"<br>L = 54.59'<br>T = 28.56'<br>R = 75.00'<br>SE = EXIST.               | PI Sta 13+09.56<br>Δ = 40° 56' 08.6" (RT)<br>D = 54° 34' 02.7"<br>L = 75.02'<br>T = 39.19'<br>R = 105.00'<br>SE = EXIST.                 | PI Sta 11+03.12<br>Δ = 22° 32' 00.0" (LT)<br>D = 16° 45' 00.0"<br>L = 134.53'<br>T = 68.14'<br>R = 342.06'<br>SE = EXIST.              |



SEE SHEET 9 FOR -L- PROFILE  
SEE SHEET 12 FOR -Y10- AND -Y11- PROFILE

REVISIONS