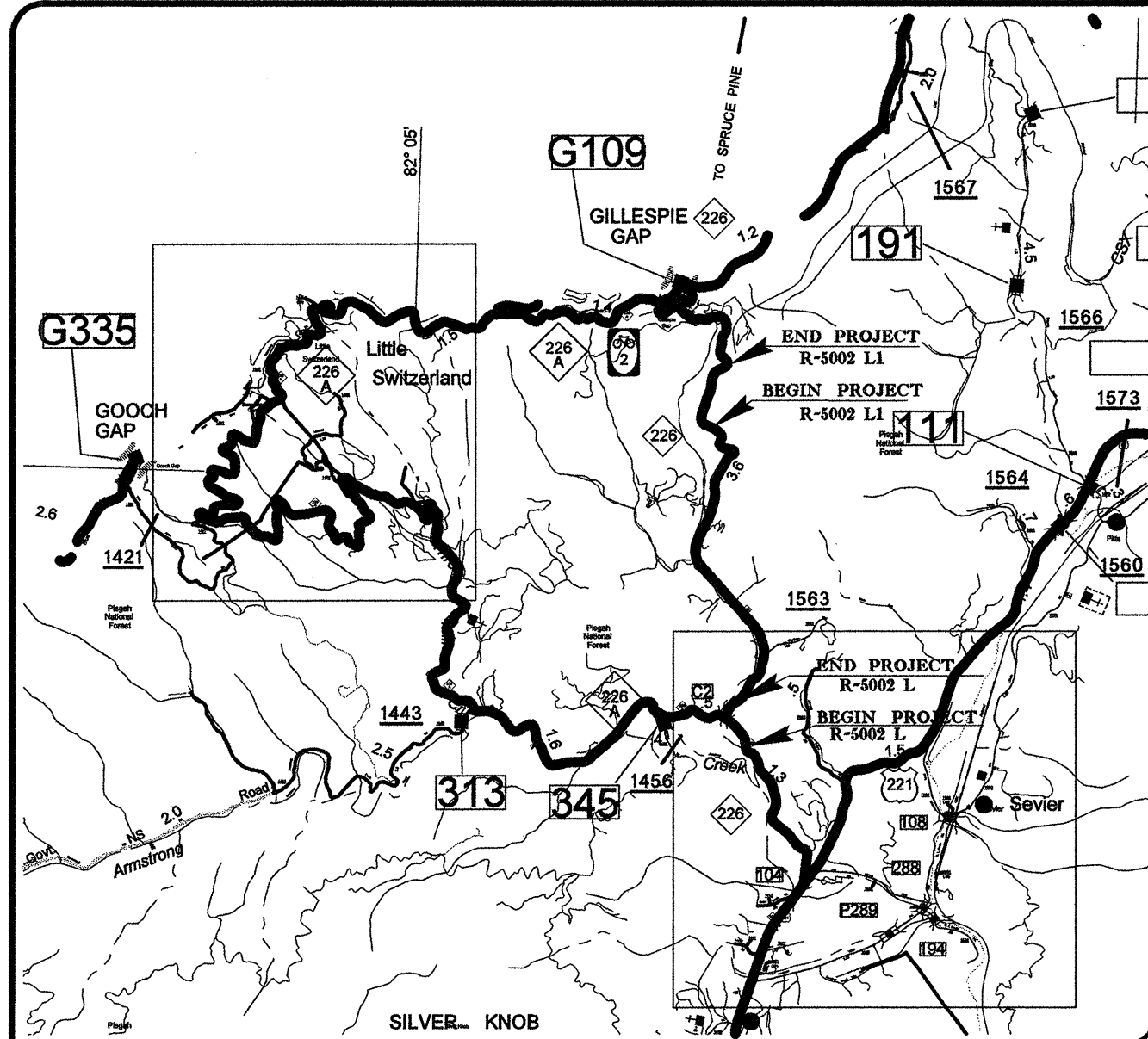


TIP PROJECT: R-5002B



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
MCDOWELL COUNTY

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

**LOCATION: NC 226 FROM A POINT 2.33 MILES NORTH OF INTERSECTION
NC 226 AND NC 226A TO A POINT 2.82 MILES NORTH
OF INTERSECTION NC 226 AND NC 226A.**

**TYPE OF WORK: GRADING, DRAINAGE, WIDENING, PAVING AND
GUARDRAIL**

BEGIN CONSTRUCTION
-LI- STA. 32+85.72

END CONSTRUCTION
-DRIVE- STA. 14+36.00

END CONSTRUCTION
-LI- STA. 58+75.09



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5002B	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41158.1.1		PE	
41158.2.2		RW & UTL	
41158.3.2		CONSTRUCTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	▲▲▲▲▲▲▲▲
1622.01	Temporary Berms and Slope Drains	▲▲▲▲▲▲▲▲
1630.01	Riser Basin	⊙
	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-B	▶
	Wattle	⌒
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	⊓
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

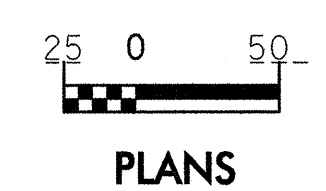
**THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.**

EROSION CONTROL SCHEDULE

Install erosion control measures according to plans in all outlets and at other discharge points after clearing but before grubbing. Clear and clean outfall ditches leaving sideslopes at an angle that can be retained by vegetation. These areas will require stage seeding and mulching. Begin grading of roadway ditches. Place erosion control measures along roadway ditches as grading progresses and conditions allow. Seed and mulch all disturbed areas as soon as any phase of grading is completed. (Note there are 15 working days or 30 calendar days (whichever is less) to complete seeding and mulching). Clean out and/or rework all temporary erosion control measures after any significant rainfall event (or as otherwise needed). These measures should be maintained until a permanent vegetative cover is established.

<p>HIGH QUALITY WATER(S) EXIST ON THIS PROJECT</p> <p><i>High Quality Water Zone(s) Exist From -LI- Sta. 32+85.72 to -LI- Sta. 58+75.09 Refer To E. C. Special Provisions for Special Considerations.</i></p>	<p>THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.</p>	<p>ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT</p> <p><i>Refer To E. C. Special Provisions for Special Considerations.</i></p>
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GRAPHIC SCALE



Plans Prepared By:

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 17, 2008

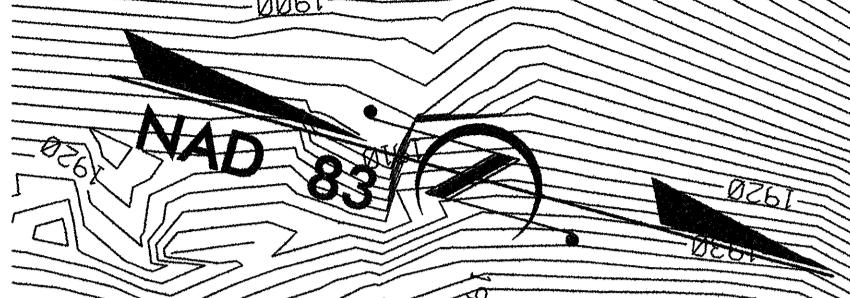
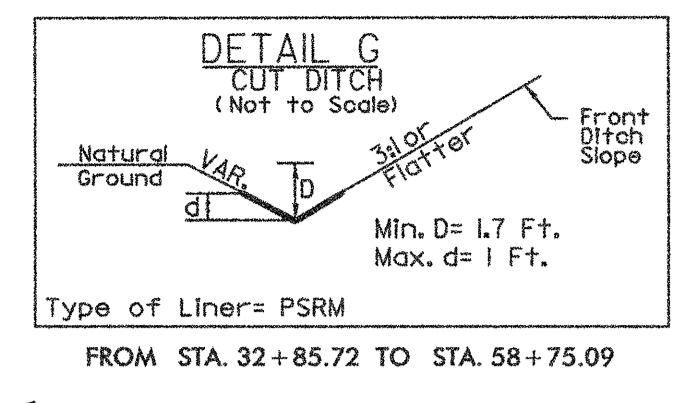
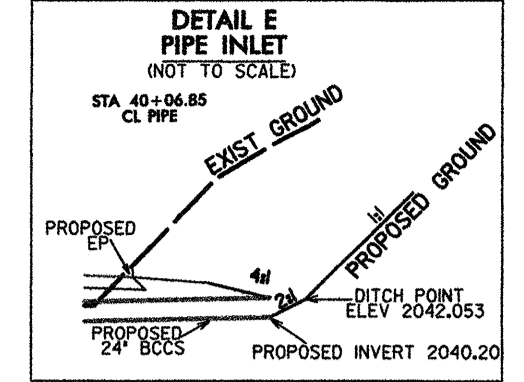
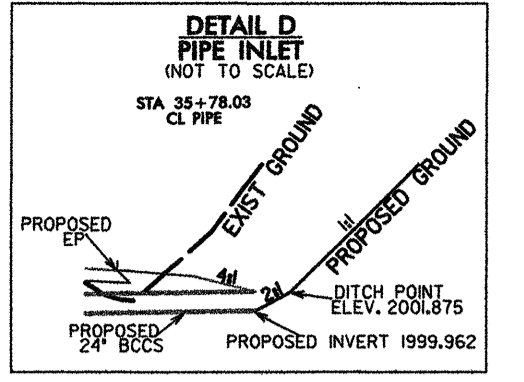
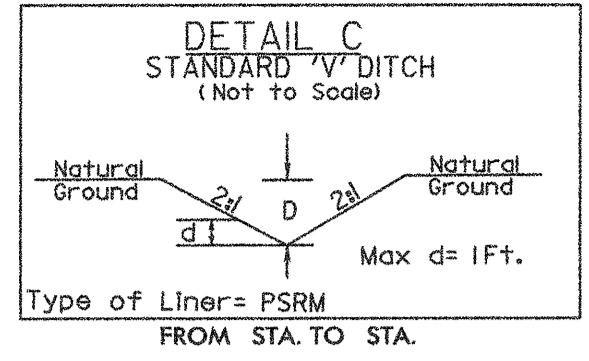
LETTING DATE:
SEPTEMBER 15, 2009

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.

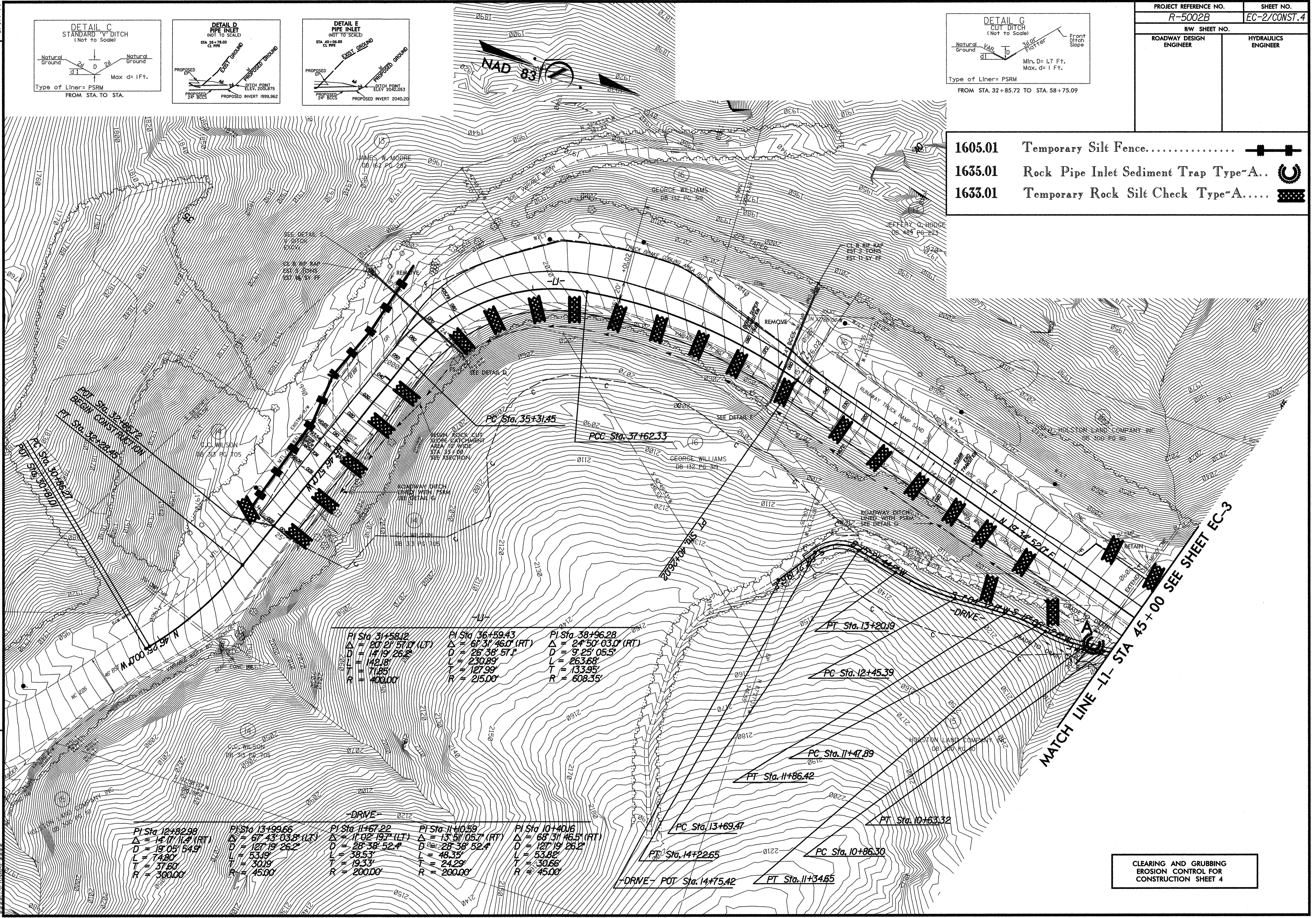
1605.01	Temporary Silt Fence
1607.01	Gravel Construction Entrance
1633.01	Temporary Rock Silt Check Type A
1635.01	Rock Pipe Inlet Sediment Trap Type A

DATE PLOTTED: 10/22/2008 3:00:08 PM



- 1605.01 Temporary Silt Fence.....
- 1635.01 Rock Pipe Inlet Sediment Trap Type-A..
- 1633.01 Temporary Rock Silt Check Type-A....

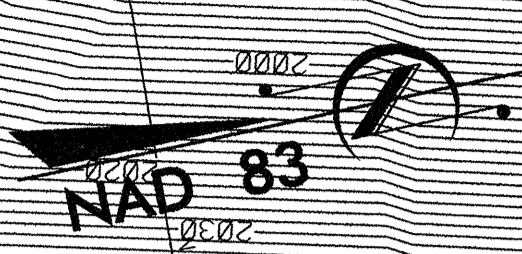
REVISIONS



PI Sta. 12+82.98 $\Delta = 14^{\circ} 11' 11.4''$ (RT) $D = 19^{\circ} 05' 54.9''$ $L = 74.80'$ $T = 37.60'$ $R = 300.00'$	PI Sta. 13+99.66 $\Delta = 67^{\circ} 43' 03.8''$ (LT) $D = 127^{\circ} 19' 26.2''$ $L = 53.19'$ $T = 30.19'$ $R = 4500'$	PI Sta. 11+67.22 $\Delta = 11^{\circ} 02' 19.7''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 38.53'$ $T = 19.33'$ $R = 200.00'$	PI Sta. 11+0.59 $\Delta = 13^{\circ} 51' 05.7''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 48.35'$ $T = 24.29'$ $R = 200.00'$	PI Sta. 10+40.16 $\Delta = 68^{\circ} 31' 46.5''$ (RT) $D = 127^{\circ} 19' 26.2''$ $L = 53.82'$ $T = 30.66'$ $R = 4500'$
PI Sta. 31+58.12 $\Delta = 20^{\circ} 21' 57.0''$ (LT) $D = 14^{\circ} 19' 26.2''$ $L = 142.18'$ $T = 71.85'$ $R = 409.00'$	PI Sta. 36+59.43 $\Delta = 67^{\circ} 31' 46.0''$ (RT) $D = 26^{\circ} 38' 57.1''$ $L = 230.89'$ $T = 127.99'$ $R = 215.00'$	PI Sta. 38+96.28 $\Delta = 24^{\circ} 50' 03.0''$ (RT) $D = 9^{\circ} 25' 05.3''$ $L = 263.68'$ $T = 133.95'$ $R = 608.35'$		

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

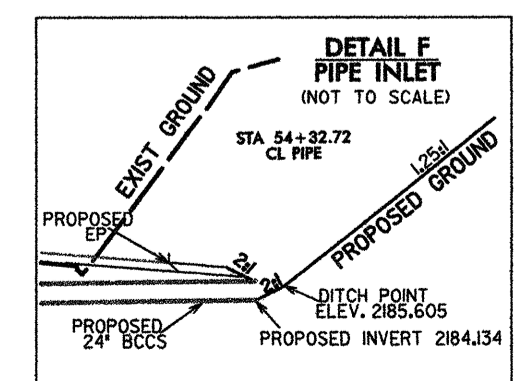
PROJECT REFERENCE NO. R-5002B	SHEET NO. EC-3/CONST. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCH LINE -L1- STA 45+00 SEE SHEET EC-2

PI Sta 49+10.77 $\Delta = 12^{\circ} 09' 47.0''$ (LT) $D = 2' 30.146''$ $L = 484.01'$ $T = 242.92'$ $R = 2280.00'$	PI Sta 52+74.68 $\Delta = 20^{\circ} 45' 34.0''$ (RT) $D = 10' 52.046''$ $L = 191.02'$ $T = 96.57'$ $R = 527.20'$	PI Sta 54+75.33 $\Delta = 35^{\circ} 28' 48.0''$ (RT) $D = 17' 14.337''$ $L = 205.57'$ $T = 106.20'$ $R = 332.29'$
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PI Sta 58+06.95 $\Delta = 12^{\circ} 29' 00.0''$ (LT) $D = 9' 07.242''$ $L = 136.83'$ $T = 68.69'$ $R = 628.01'$	PI Sta 60+45.71 $\Delta = 99^{\circ} 21' 42.0''$ (LT) $D = 39' 34.196''$ $L = 251.09'$ $T = 170.61'$ $R = 144.79'$
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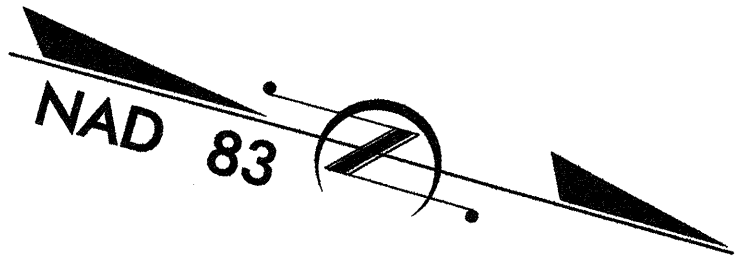
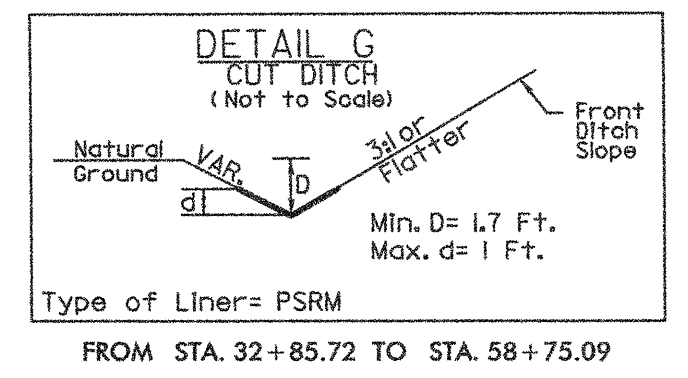
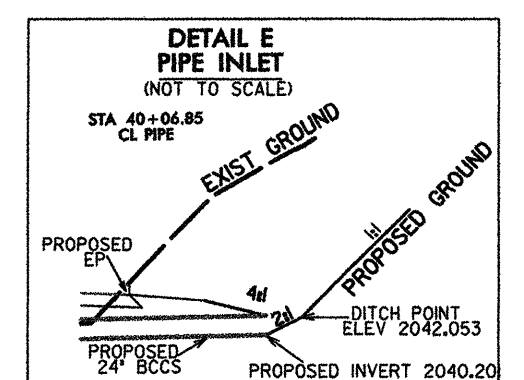
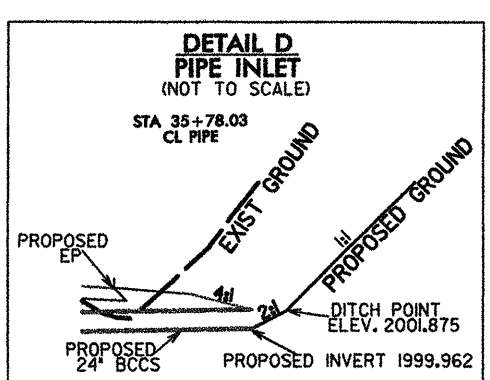
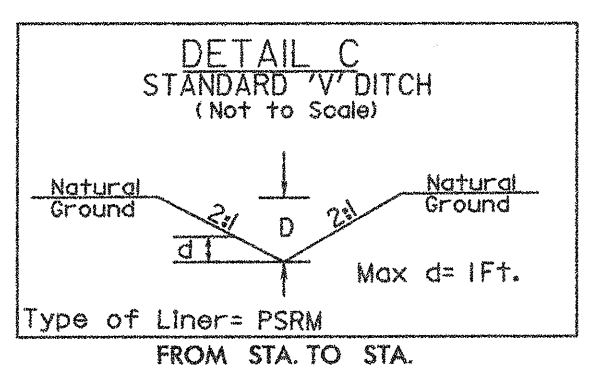


1605.01	Temporary Silt Fence.....	
1633.01	Temporary Rock Silt Check Type-A.....	

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

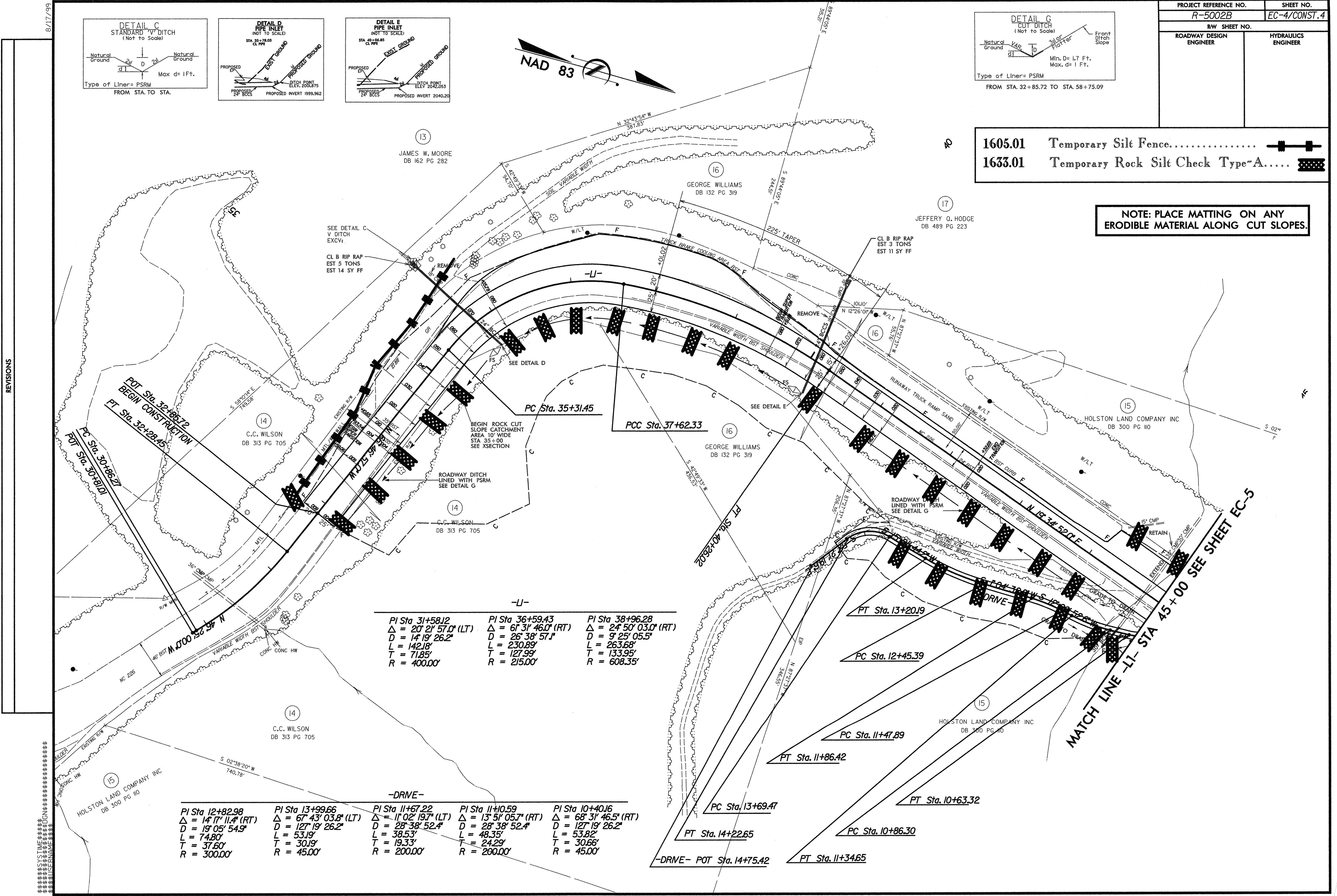
REVISIONS

8/17/99



- 1605.01 Temporary Silt Fence.....
- 1633.01 Temporary Rock Silt Check Type-A.....

NOTE: PLACE MATTING ON ANY ERODIBLE MATERIAL ALONG CUT SLOPES.



-LI-

PI Sta 31+58.12 Δ = 20° 21' 57.0" (LT) D = 14' 19' 26.2" L = 142.18' T = 71.85' R = 400.00'	PI Sta 36+59.43 Δ = 6° 31' 46.0" (RT) D = 26' 38' 57.1" L = 230.89' T = 127.99' R = 215.00'	PI Sta 38+96.28 Δ = 24° 50' 03.0" (RT) D = 9' 25' 05.5" L = 263.68' T = 133.95' R = 608.35'
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-DRIVE-

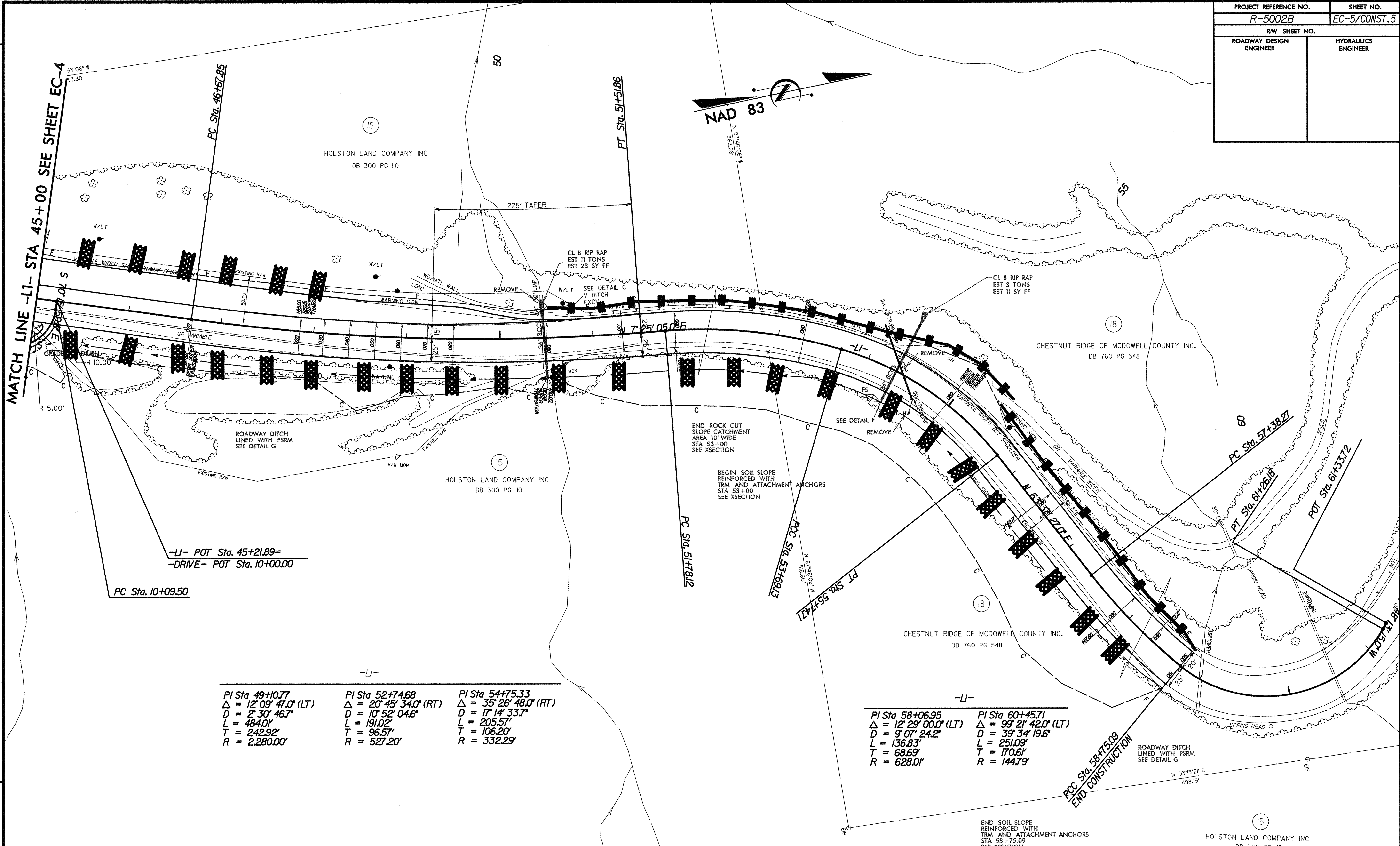
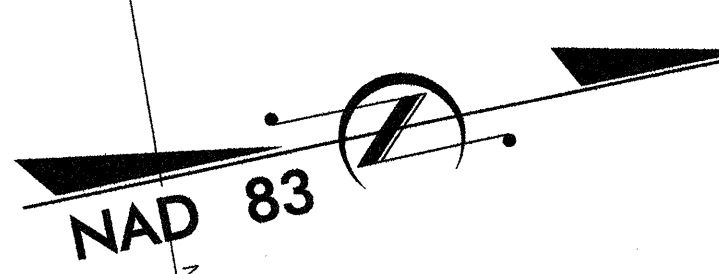
PI Sta 12+82.98 Δ = 14° 17' 11.4" (RT) D = 19' 05' 54.9" L = 74.80' T = 37.60' R = 300.00'	PI Sta 13+99.66 Δ = 67° 43' 03.8" (LT) D = 127' 19' 26.2" L = 53.19' T = 30.19' R = 45.00'	PI Sta 11+67.22 Δ = 11° 02' 19.7" (LT) D = 28' 38' 52.4" L = 38.53' T = 19.33' R = 200.00'	PI Sta 11+10.59 Δ = 13° 51' 05.7" (RT) D = 28' 38' 52.4" L = 48.35' T = 24.29' R = 200.00'	PI Sta 10+40.16 Δ = 68° 31' 46.5" (RT) D = 127' 19' 26.2" L = 53.82' T = 30.66' R = 45.00'
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REVISIONS

8/17/99

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PROJECT REFERENCE NO. <i>R-5002B</i>		SHEET NO. <i>EC-5/CONST.5</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

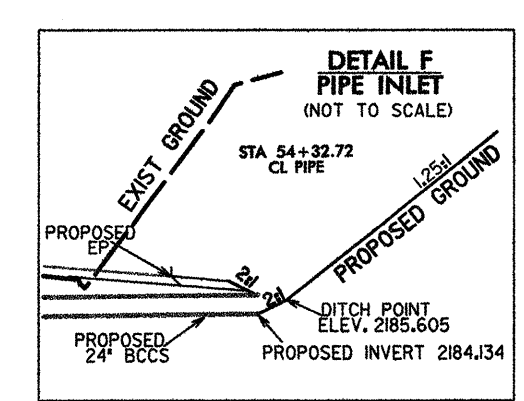


MATCH LINE -LI- STA 45+00 SEE SHEET EC-4

REVISIONS

PI Sta 49+10.77	PI Sta 52+74.68	PI Sta 54+75.33
$\Delta = 12^{\circ} 09' 47.0" (LT)$	$\Delta = 20^{\circ} 45' 34.0" (RT)$	$\Delta = 35^{\circ} 26' 48.0" (RT)$
$D = 2^{\circ} 30' 46.7"$	$D = 10^{\circ} 52' 04.6"$	$D = 17^{\circ} 14' 33.7"$
$L = 484.0'$	$L = 191.0'$	$L = 205.5'$
$T = 242.92'$	$T = 96.57'$	$T = 106.20'$
$R = 2,280.0'$	$R = 527.20'$	$R = 332.29'$

PI Sta 58+06.95	PI Sta 60+45.71
$\Delta = 12^{\circ} 29' 00.0" (LT)$	$\Delta = 99^{\circ} 21' 42.0" (LT)$
$D = 9^{\circ} 07' 24.2"$	$D = 39^{\circ} 34' 19.6"$
$L = 136.83'$	$L = 251.09'$
$T = 68.69'$	$T = 170.61'$
$R = 628.0'$	$R = 144.79'$



- 1605.01 Temporary Silt Fence.....
- 1633.01 Temporary Rock Silt Check Type-A.....

NOTE: PLACE MATTING ON ANY ERODIBLE MATERIAL ALONG CUT SLOPES.

8/17/99