

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**WATAUGA COUNTY**

**LOCATION: SR 1526A SAMPSON RD  
FROM END OF PAVEMENT 2.10 MILES TO POINT  
STA 00+00 TO E.O.P. 110+69**

**TYPE OF WORK: GRADING, DRAINAGE, BASE  
AND PAVING - 2.10 MILES**

**BEGAN SURVEY: 09/03/14**

**END SURVEY: 06/17/15**

**REVISED: 07/28/17**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	11C.095110	EC-1	21
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

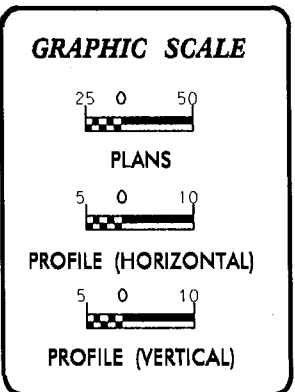
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	---TW---
1630.05	Temporary Diversion	---TD---
1605.01	Temporary Silt Fence	---III---III---III---
1606.01	Special Sediment Control Fence	---X---X---X---
1622.01	Temporary Berms and Slope Drains	---T---
1630.02	Silt Basin Type B	---S---
1633.01	Temporary Rock Silt Check Type-A	---R---
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	---R---M---
1633.02	Temporary Rock Silt Check Type-B	---R---C---
	Wattle / Coir Fiber Wattle	---W---
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	---W---M---
1634.01	Temporary Rock Sediment Dam Type-A	---D---
1634.02	Temporary Rock Sediment Dam Type-B	---D---C---
1635.01	Rock Pipe Inlet Sediment Trap Type-A	---P---
1635.02	Rock Pipe Inlet Sediment Trap Type-B	---P---C---
1630.04	Stilling Basin	---S---
1630.06	Special Stilling Basin	---S---C---
	Rock Inlet Sediment Trap:	
1632.01	Type A	---A---
1632.02	Type B	---B---
1632.03	Type C	---C---
	Skimmer Basin	---SK---
	Tiered Skimmer Basin	---SK---T---
	Infiltration Basin	---IB---

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

**ENVIRONMENTALLY  
SENSITIVE AREA(S) EXIST  
ON THIS PROJECT**

*Refer To E. C. Special Provisions  
for Special Considerations.*

**REVISION: 07/28/17**



ROADSIDE ENVIRONMENTAL UNIT  
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:  
**DIVISION OF HIGHWAYS**  
DIVISION 11, DISTRICT 2 BOONE  
P.O. BOX 1460, BOONE, N.C. 28607

**2012 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 2012 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	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1633.03 Temporary Rock Silt Check Type C
1630.02 Silt Basin Type 3	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	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.06 Special Stilling Basin	1640.01 Coir Fiber Wattle
1631.01 Matting Installation	1645.01 Temporary Stream Crossing

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# EROSION CONTROL & PIPE INSTALLATION SCHEDULE

## TROUT BUFFER ZONE SEQUENCE

### GENERAL E&SC NOTES

### GROUND STABILIZATION CHART

#### Erosion Control Schedule and Notes

1. Generally, the order of installation of the erosion control measures will be as follows:
  - A. Temporary silt basins shall be installed before clearing and grubbing begins.
  - B. Silt fences and temporary silt ditches shall be installed after clearing and before grading.
  - C. Temporary stone ditch checks with PAM or wattles with PAM shall be installed in all disturbed areas as soon as the disturbance begins.
  - D. Final stone ditch checks or wattles shall be installed as soon as ditch line is established.
  - E. Pipe outlet and inlet protection will be done as soon as the pipe is installed.
  - F. Other permanent erosion control measures are to be implemented as soon as practical.
2. Temporary rock silt checks, type B will be spaced by percent grade as shown in the erosion control plan.
3. No. 5 stone, or equivalent, will be used in conjunction with the temporary rock silt checks in locations where water is leaving the project or entering a pipe.
4. All devices are to be cleaned out when half full.
5. Establish permanent vegetation per ground stabilization chart.

**Notes:**

For silt basin size see the attached erosion control plans.

PAM is to be placed on all Type A checks and wattles in the erosion control chain except for the final device in HWQ and Trout projects.

#### Wet Pipe Installation Schedule and Notes

1. Prior to installing any E&SC measures identify permit conditions and impact area limits.
2. Install erosion control devices.
3. Manage the water course. The pipe must be placed in the dry. Install dewatering measures.
4. Remove material and existing pipe while limiting, material and sediment from entering stream and escaping the project.
5. Excavation of stream channel shall not exceed 10' on either side of new pipe or culvert unless indicated on permit.
6. Per permit conditions for Corps of Engineers and the Wildlife Resources Commission, all pipes in streams 48" or greater must be buried 12" below streambed elevation. Pipes less than 48" must be buried with 20% of the diameter below streambed elevation.
7. Place the new pipe and compact backfill.
8. Install slope protection on the outlet and inlet ends of the pipe. Also complete installation of erosion control measures and perform maintenance as needed on existing measures.
9. Establish permanent vegetation per ground stabilization chart.
10. More information on wet pipe installation can be found in the BMP manual section 4.2 "Pipe & Culvert installation"

#### General Erosion Control Sequence & Notes for NC DOT Projects in Trout Buffer Zones

1. Prior to installing any E&SC measures identify permit conditions and impact area limits. Review trout buffer variance approval conditions for any special provisions.
2. All materials should be on the hand before work is commenced.
3. Install EC devices
4. Work within the buffer zone should be sequenced to minimize the length of time that disturbed areas are exposed. Stream bank stabilization, which includes the area from the edge of water to the top of bank, should be phased so that each day's work is a completed work, including provision of adequate ground cover.
5. Graded slopes and fills within the trout buffer zone will within 7 calendar days of completion of any phase of grading be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion.
6. Graded slopes and fills within the trout buffer zone (excluding road shoulders) shall be protected with rolled erosion control product, bonded fiber matrix, or flexible growth medium after seeding.

**Notes:**

Silt fence backed by woven wire, with a post spacing of 6 feet, shall be used instead of standard silt fence in trout buffer zone. Special sediment control fence shall be used in areas where bedrock is encountered which prohibits the proper anchoring of fabric, and in low points of the silt fence in 3-foot sections to allow for concentrated flows.

The disturbed areas within the stream buffer shall be restored to native vegetation characteristic of an undisturbed buffer to the extent practical upon completion of construction.

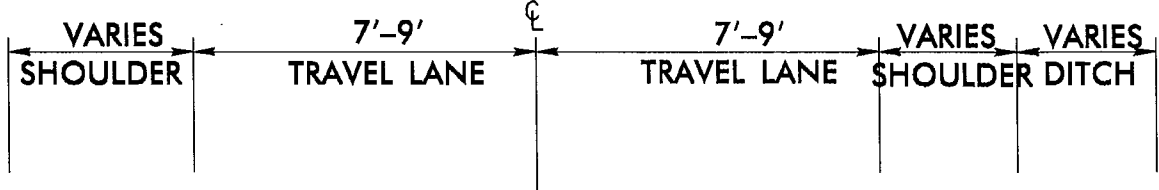
Flyrock protection such as blast mats should be provided for blasting in close proximity to streams.

PAM is to be placed on all Type A checks and wattles in the erosion control chain except for the final device in HWQ and Trout projects.

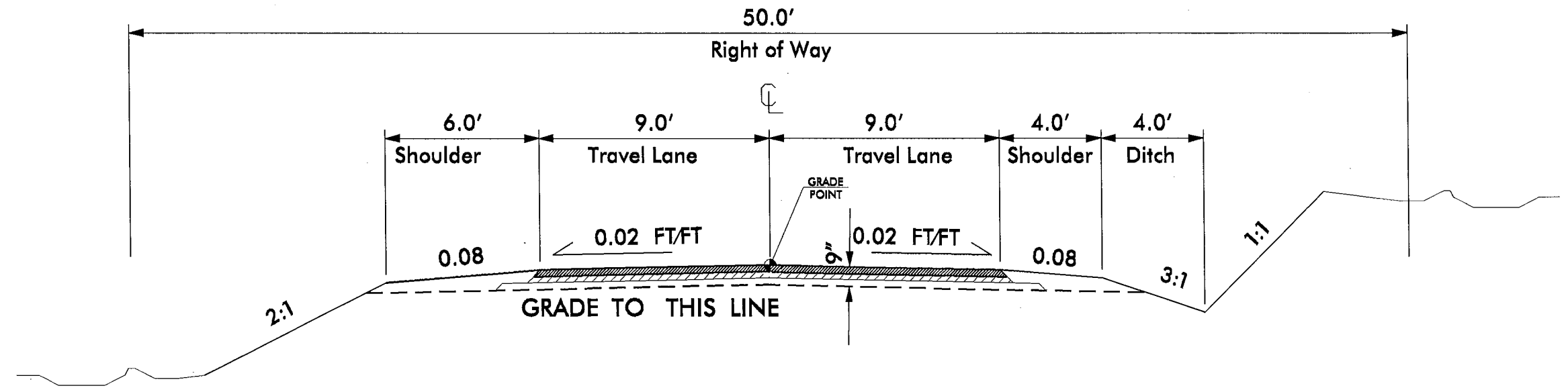
#### GROUND STABILIZATION CHART

Site Area Description	Stabilization Time Frame	Stabilization Time Frame Exceptions
Perimeter dikes, swales, ditches and slopes	7 days	None
High Quality Water Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10 ft. or less in length and are not steeper than 2:1, 14 days are allowed
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length
All other areas flatter than 4:1	14 days	None (except for perimeters and HQW zones)

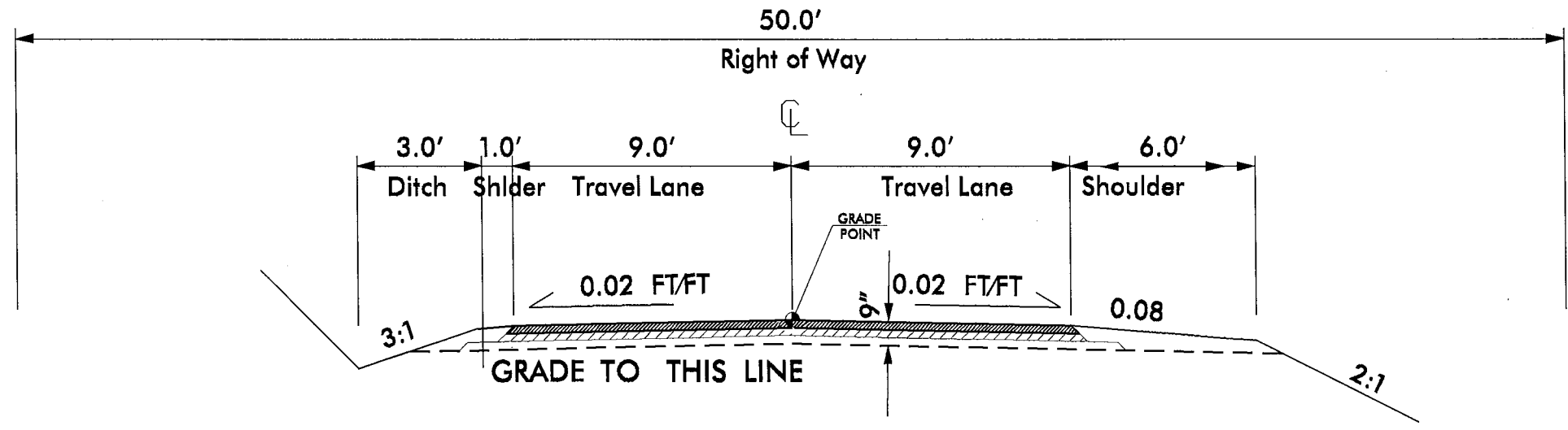
PROJECT REFERENCE NO.	SHEET NO.
11C.095110	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER



**14'-18' EXISTING TYPICAL SECTION  
SR 1526A**

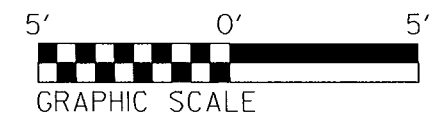


**TYPICAL SECTION NO. 1**



**TYPICAL SECTION NO. 2**

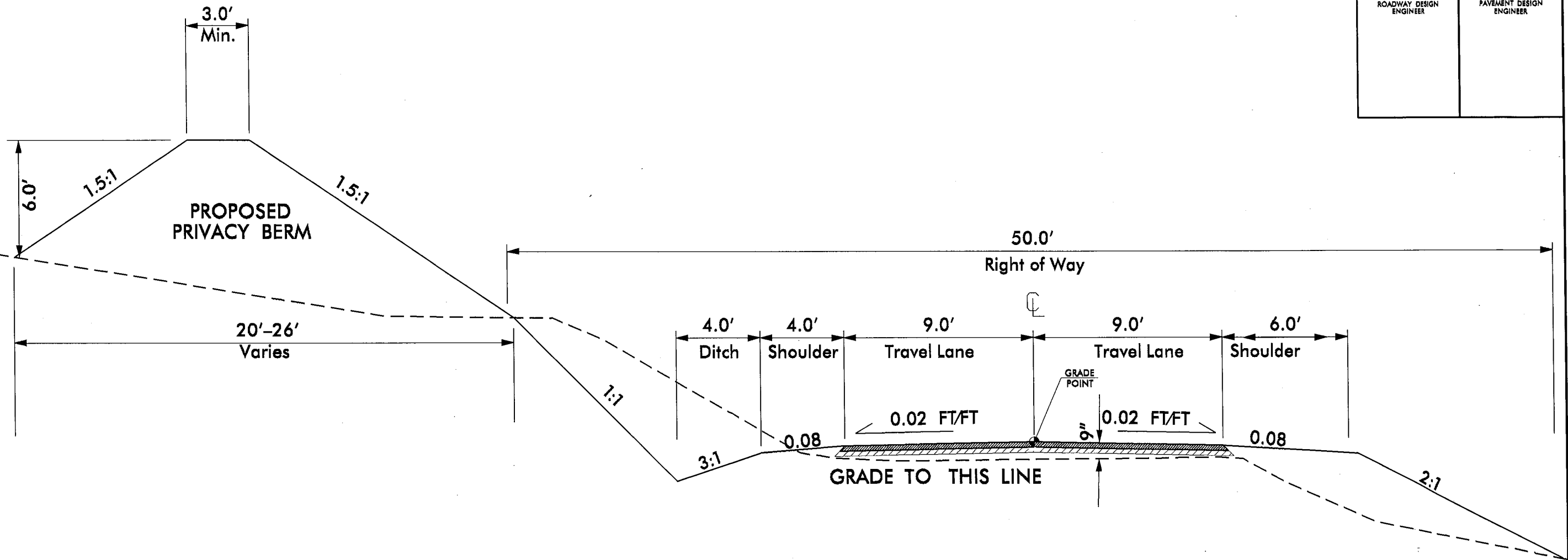
STATIONS 35+30 to 38+00



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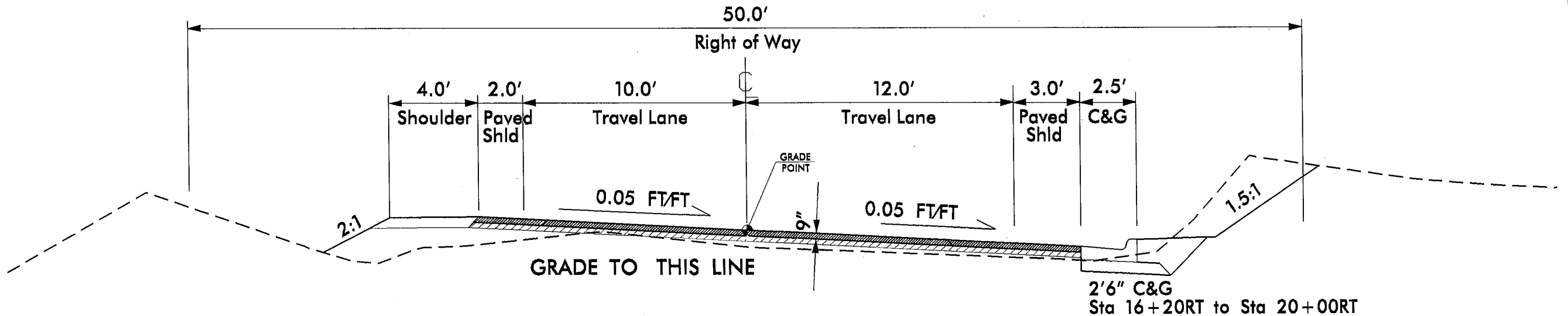
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ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

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### TYPICAL SECTION NO. 3

STATIONS 43+00 to 47+50+/-



### TYPICAL SECTION NO. 4

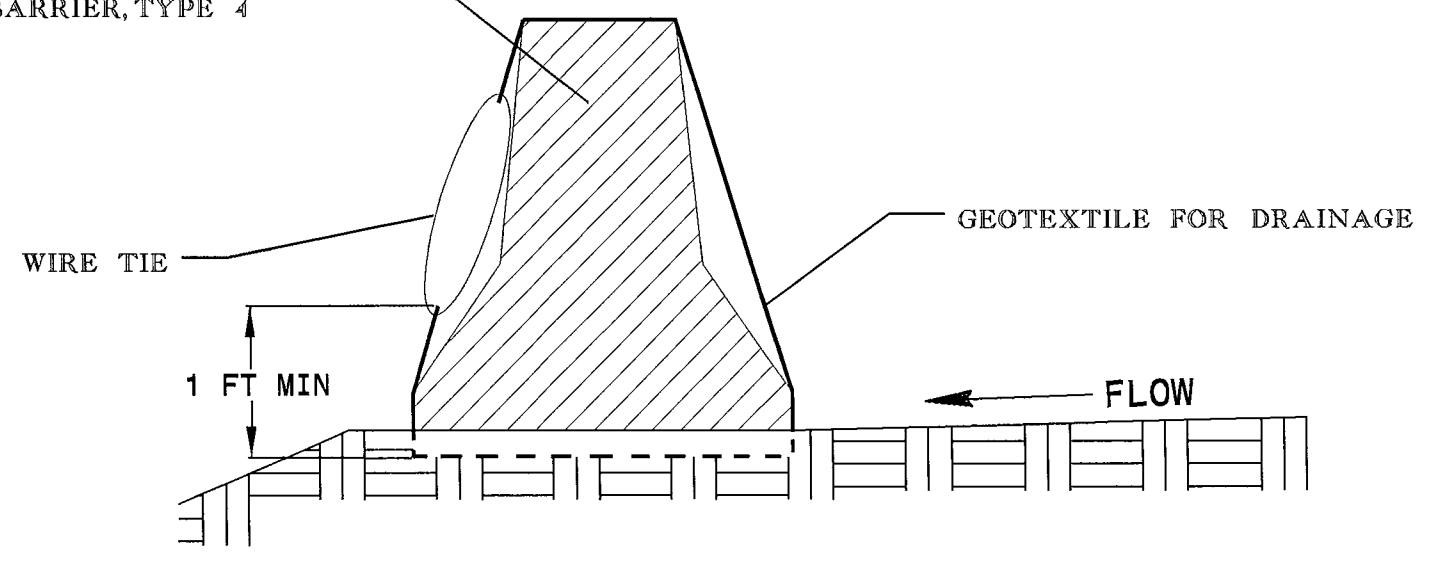
STATIONS 16+20 to 18+20+/-



PROJECT REFERENCE NO. 11c.095110	SHEET NO. EC-2D/Const 2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TEMPORARY CONCRETE BARRIER REINFORCED SILT FENCE

DOUBLE FACED CONCRETE  
BARRIER, TYPE 4



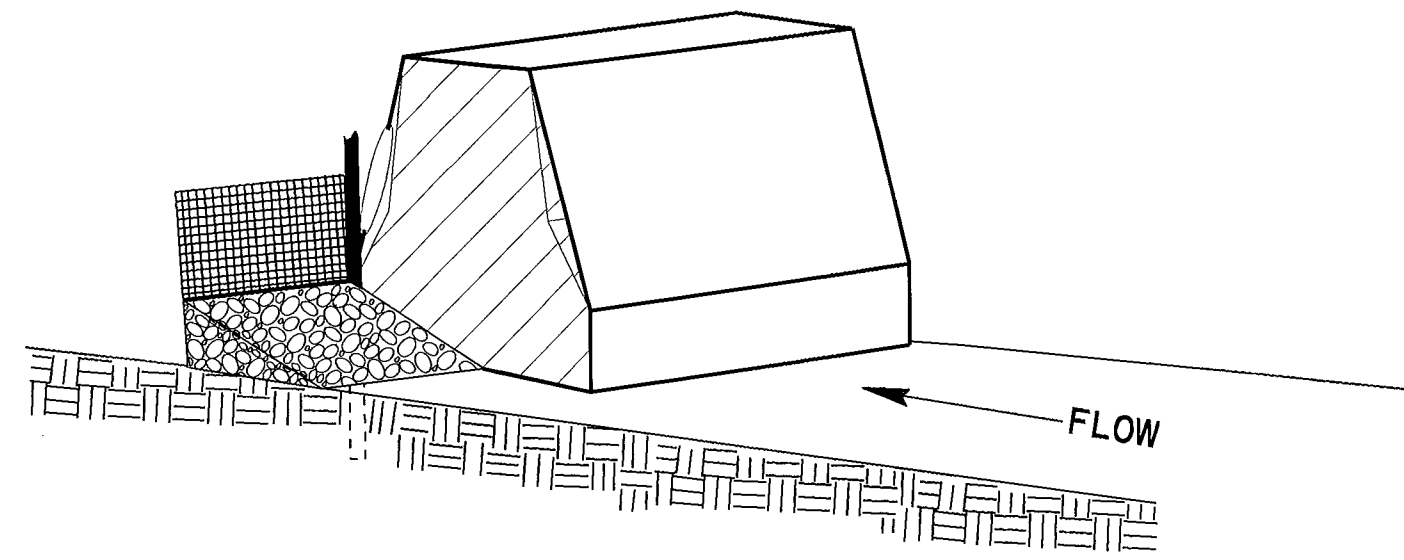
**GENERAL NOTES:**

CLEAR STONE OR OTHER OBSTRUCTION TO CREATE A SEAL BETWEEN GEOTEXTILE AND THE GROUND.

PLACE GEOTEXTILE IN LOCATIONS SHOWN OR AS DIRECTED. PLACE DOUBLE FACED CONCRETE BARRIER ON TOP OF GEOTEXTILE WITH A MINIMUM 1 FOOT FROM THE BACK EDGE.

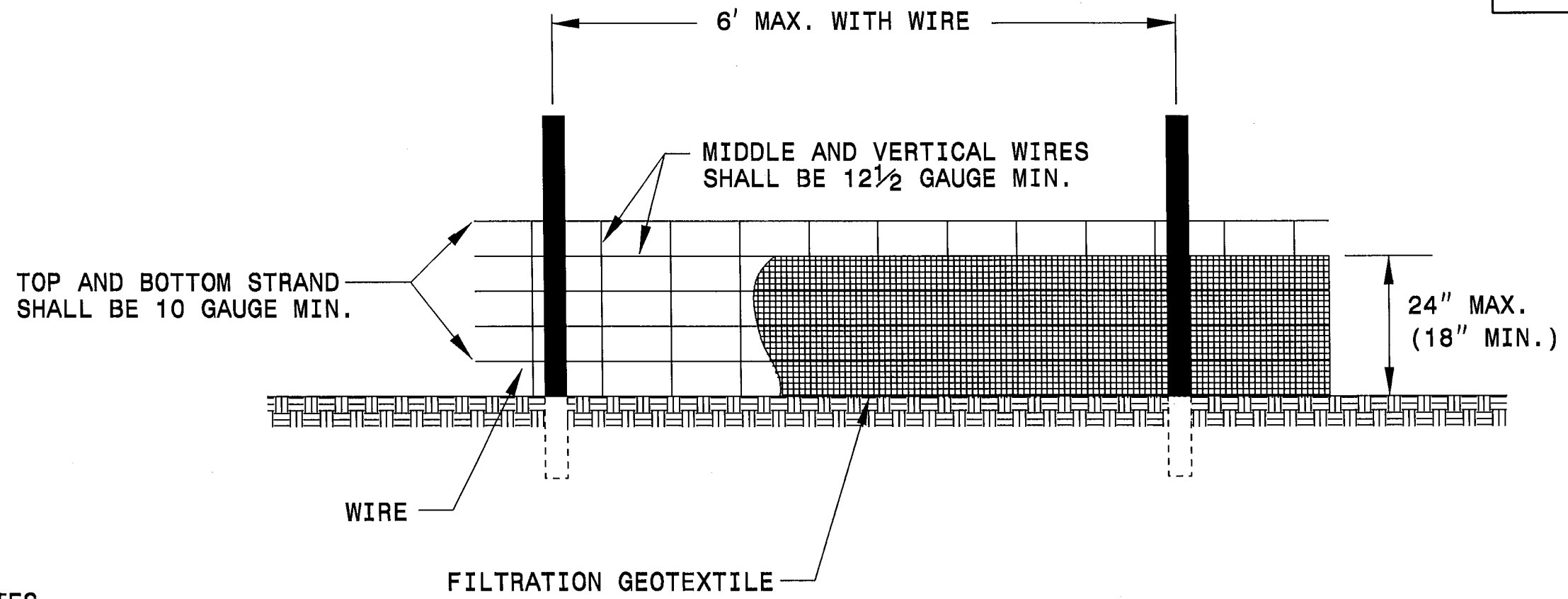
WRAP GEOTEXTILE AROUND CONCRETE BARRIER AND SECURE THE ENDS WITH A WIRE TIE OR OTHER APPROVED FASTENER.

ADD STONE FOR EROSION CONTROL AT JUNCTION OF TEMPORARY CONCRETE BARRIER REINFORCED SILT FENCE AND SPECIAL SEDIMENT CONTROL FENCE TO KEEP RUNOFF FROM PASSING DIRECTLY THROUGH ANY GAPS.



# REINFORCED TEMPORARY SILT FENCE DETAIL

PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-26
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



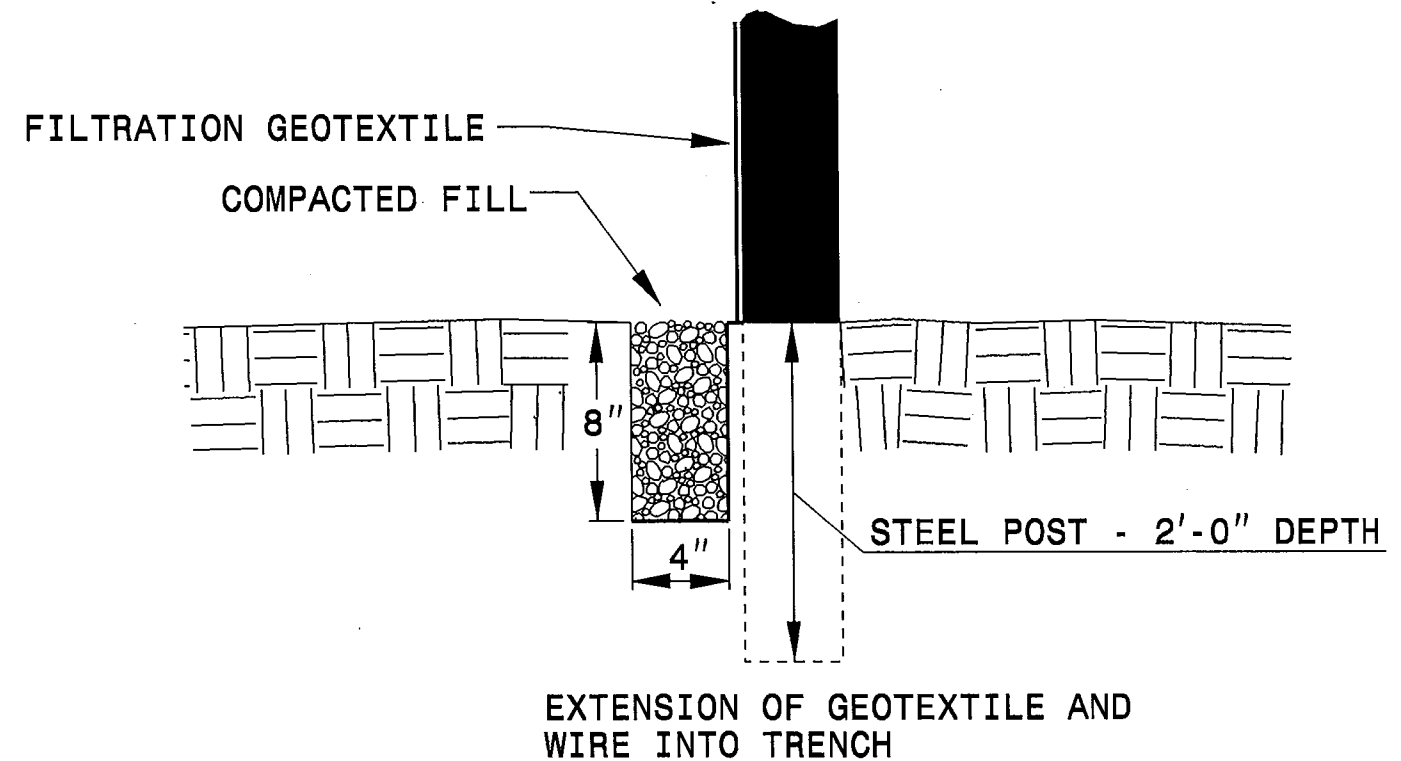
## NOTES

USE FILTRATION GEOTEXTILE A MINIMUM OF 36" IN WIDTH AND FASTEN ADEQUATELY TO THE POSTS AND WIRE AS DIRECTED.

USE WIRE A MINIMUM OF 32" IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.

PROVIDE 5'-0" STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.

FOR MECHANICAL SLICING METHOD INSTALLATION, GEOTEXTILE SHALL BE A MAXIMUM OF 18" ABOVE GROUND SURFACE.





DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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PROJECT REFERENCE NO. <i>11C.095110</i>	SHEET NO. <i>EC-3B</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SOIL STABILIZATION TIMEFRAMES

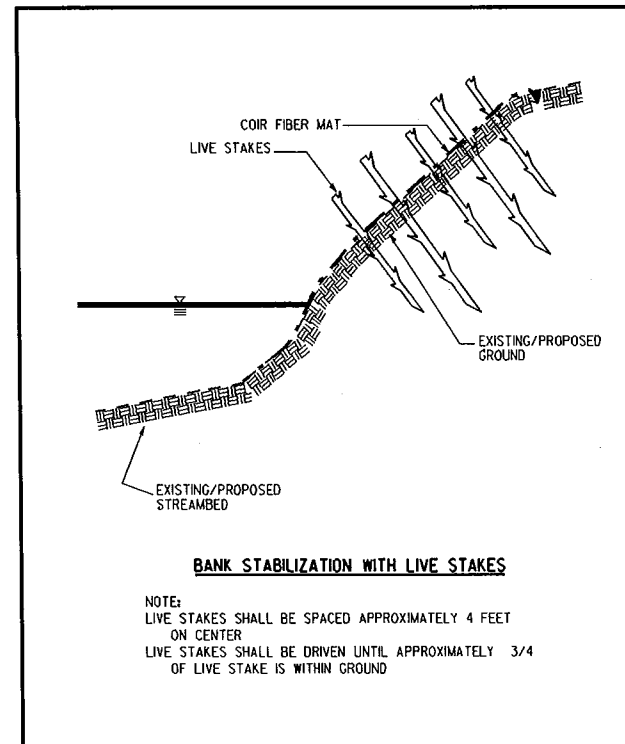
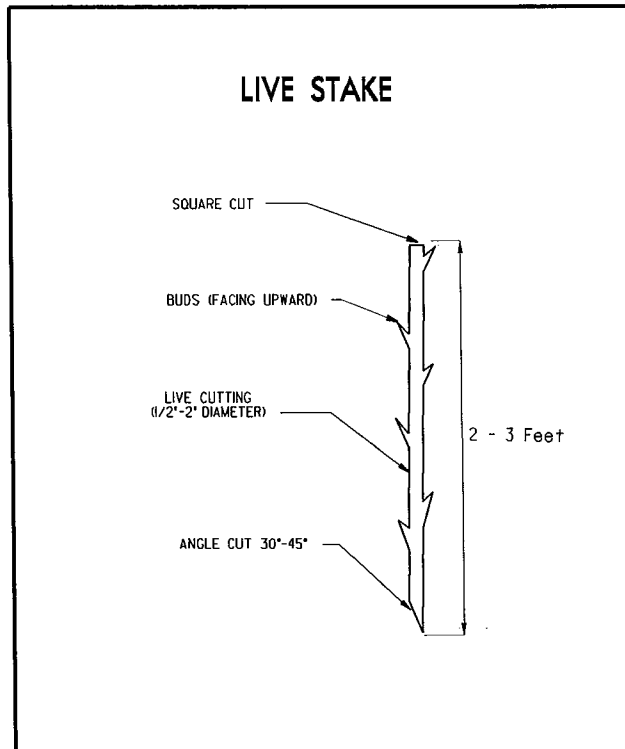
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES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



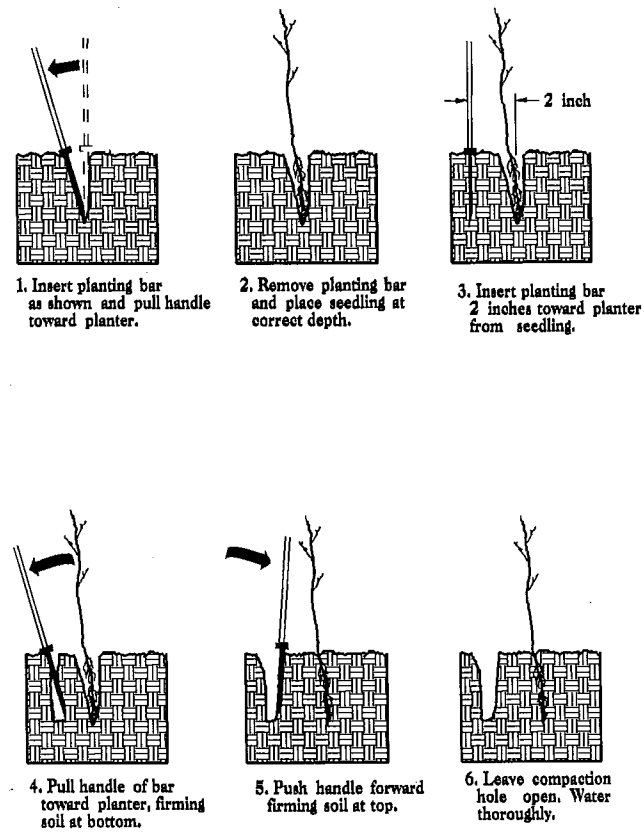


# PLANTING DETAILS

## LIVE STAKES PLANTING DETAIL



## BAREROOT PLANTING DETAIL DOUBLE PLANTING METHOD USING THE KJC PLANTING BAR



### PLANTING NOTES:

**PLANTING BAG**  
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

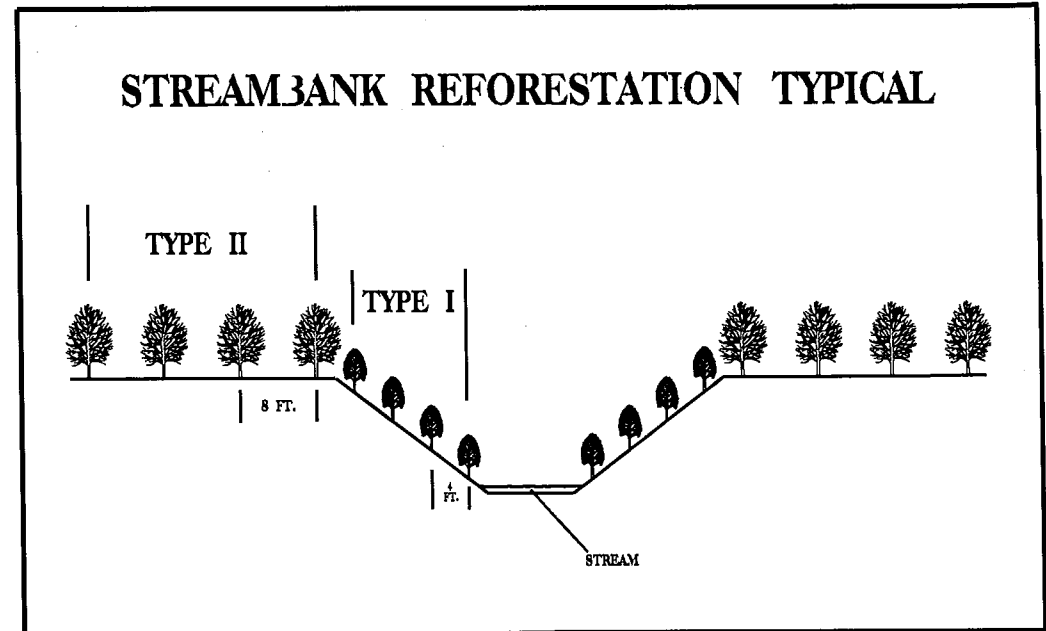


**KJC PLANTING BAR**  
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



**ROOT PRUNING**  
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

- TYPE 1 STREAMBANK REFORESTATION SHALL BE PLANTED 3 FT. TO 5 FT. ON CENTER, RANDOM SPACING, AVERAGING 4 FT. ON CENTER, APPROXIMATELY 2724 PLANTS PER ACRE.
- TYPE 2 STREAMBANK REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.
- NOTE: TYPE 1 AND TYPE 2 STREAMBANK REFORESTATION SHALL BE PAID FOR AS "STREAMBANK REFORESTATION"



### STREAMBANK REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

#### TYPE 1

50% SALIX NIGRA	BLACK WILLOW	2 ft - 3 ft LIVE STAKES
50% CORNUS AMOMUM	SILKY DOGWOOD	2 ft - 3 ft LIVE STAKES

#### TYPE 2

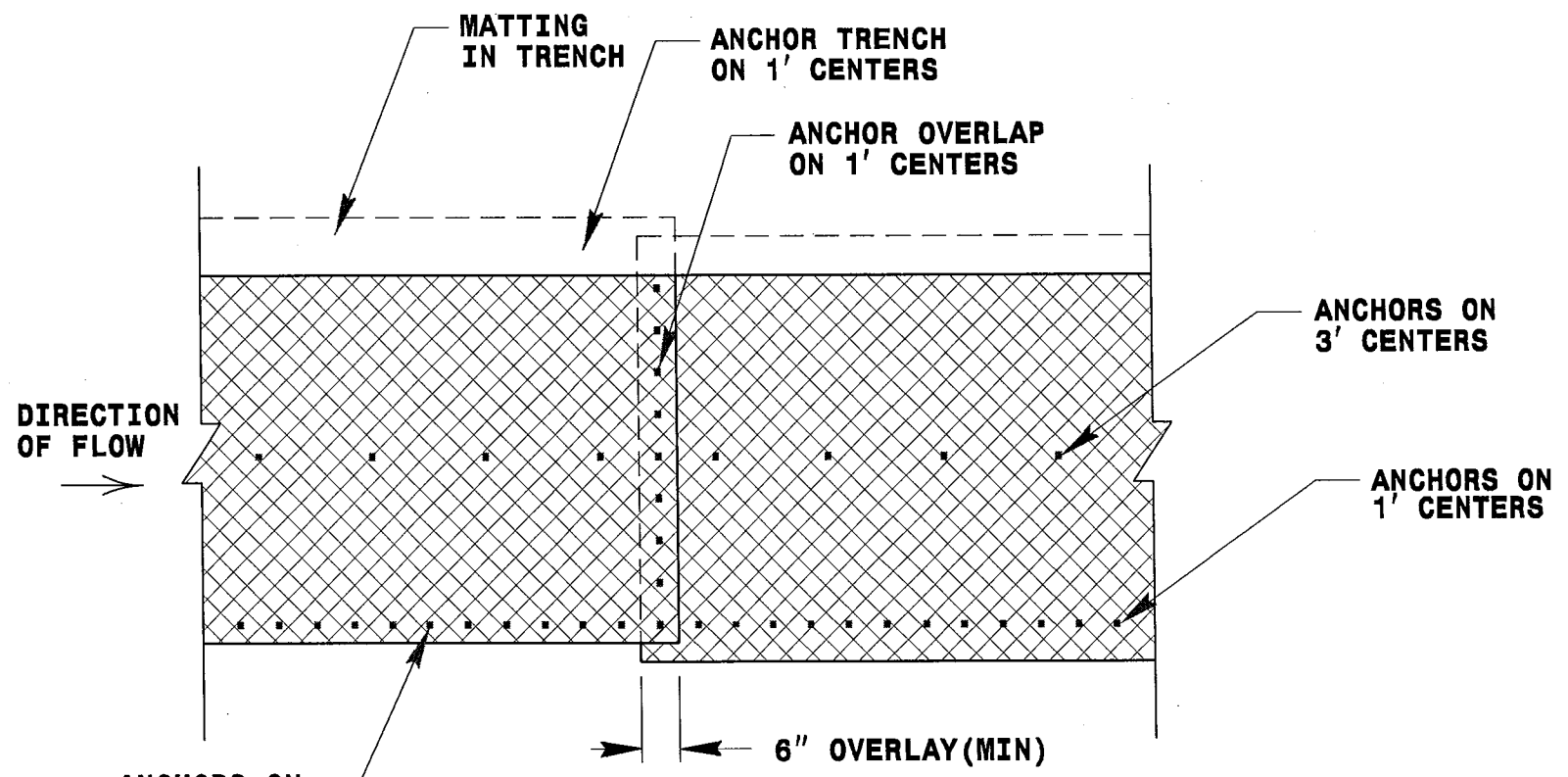
25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in 3R
25% PLATANUS OCCIDENTALIS	SYCAMORE	12 in - 18 in 3R
25% PRUNUS SEROTINA	BLACK CHERRY	12 in - 18 in 3R
25% JETULA NIGRA	RIVER BIRCH	12 in - 18 in 3R

- SEE PLAN SHEETS FOR AREAS TO BE PLANTED

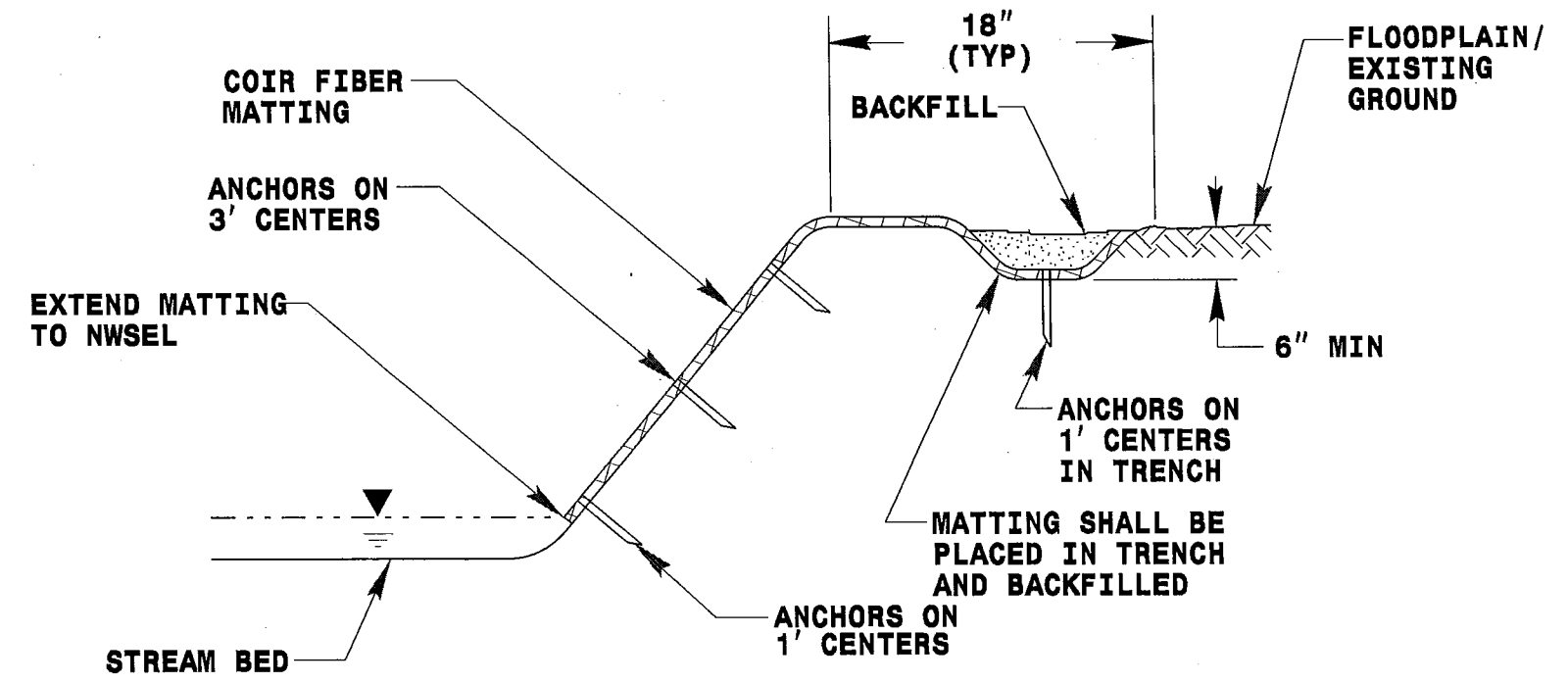
## STREAMBANK REFORESTATION

### DETAIL SHEET 1 OF 2

PROJECT REFERENCE NO. 11C.095110	SHEET NO. RF-3
BY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



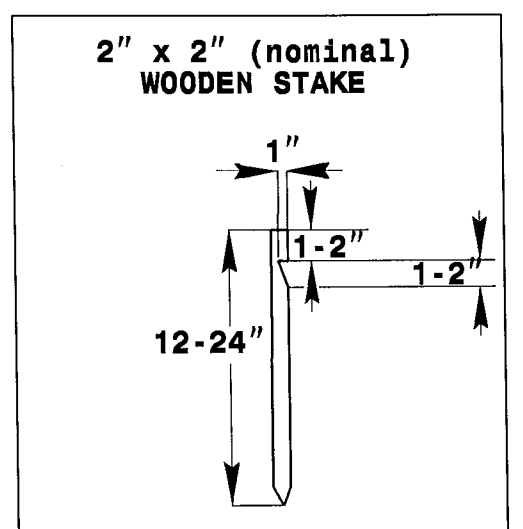
**PLAN VIEW**



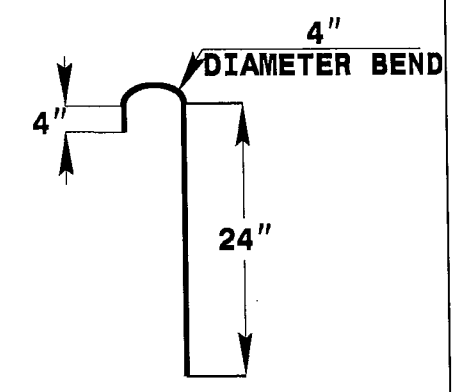
**TYPICAL CROSS SECTION**

**COIR FIBER MATTING DETAIL**

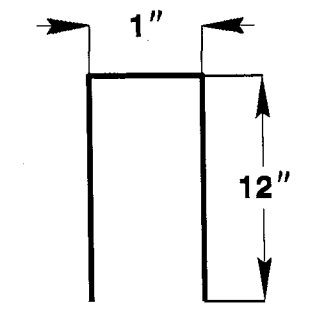
NOT TO SCALE



**#10 STEEL REINFORCEMENT BAR**



**1\"/>**



**ANCHOR OPTIONS**

PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-4
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

NOTE:  
Existing R/W Project# 5.7551  
Recorded 9-01-95 50ft  
JAMES ROBERT TODD  
DB 190 PG 844

DAVID G HAMILTON  
DB 894 PG 866

HOWARD & BRENDA COFFEY  
DB 156 PG 203

JACK COFFEY  
DB 79 PG 557

9 x 3 x 3  
2ft. weir  
ID 4.1

INSTALL RIPRAP IN THE  
PROPOSED DITCH LINE.

9 x 3 x 3  
2ft. weir  
ID 4.4

INSTALL RIPRAP IN THE  
PROPOSED DITCH LINE.

9 x 3 x 3  
2ft. weir  
ID 4.2

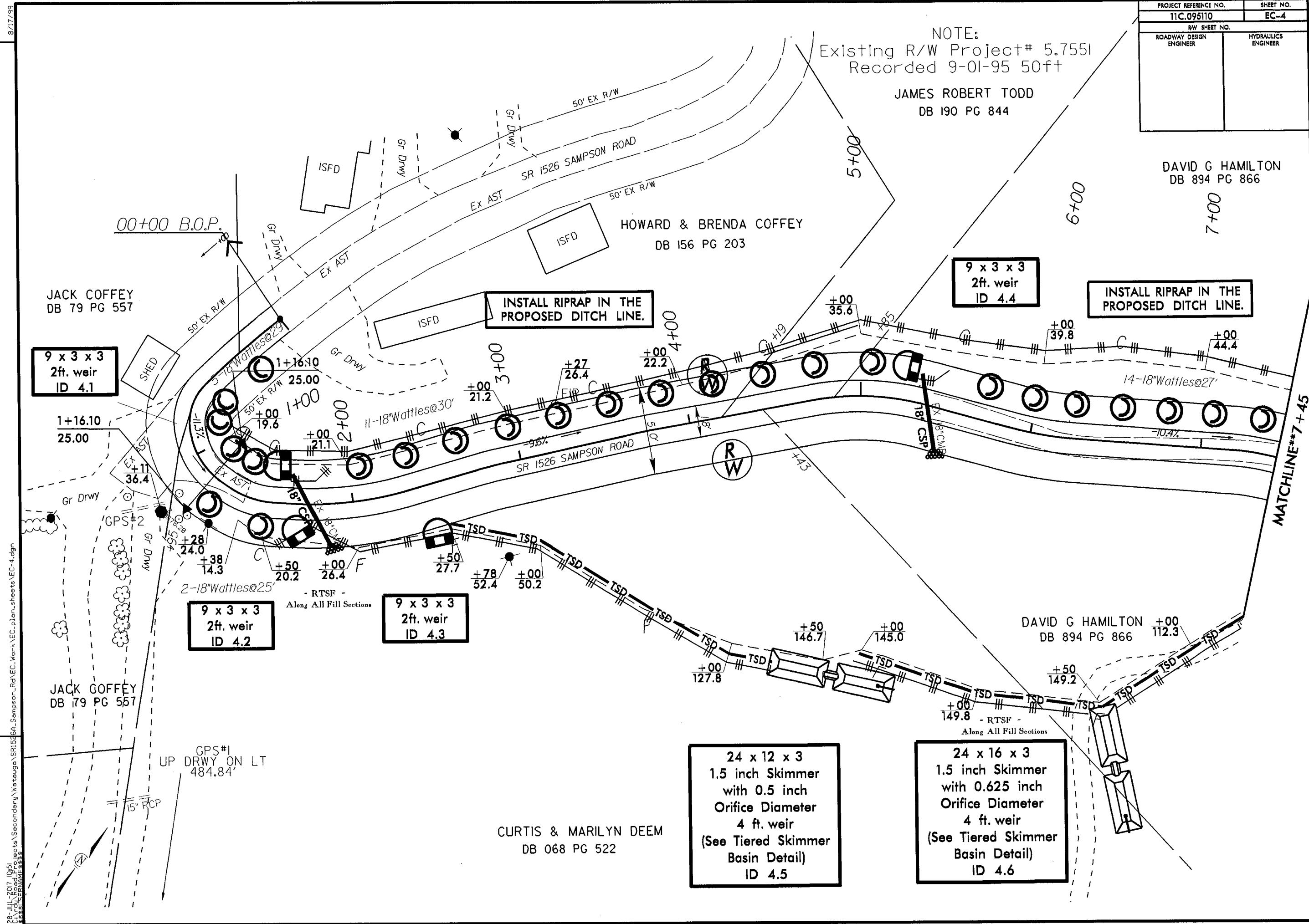
9 x 3 x 3  
2ft. weir  
ID 4.3

24 x 12 x 3  
1.5 inch Skimmer  
with 0.5 inch  
Orifice Diameter  
4 ft. weir  
(See Tiered Skimmer  
Basin Detail)  
ID 4.5

24 x 16 x 3  
1.5 inch Skimmer  
with 0.625 inch  
Orifice Diameter  
4 ft. weir  
(See Tiered Skimmer  
Basin Detail)  
ID 4.6

CURTIS & MARILYN DEEM  
DB 068 PG 522

8/17/99  
 REVISIONS  
 REVISED: 2/22/16 Changed property lines  
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PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DAVID G HAMILTON  
DB 894 PG 866

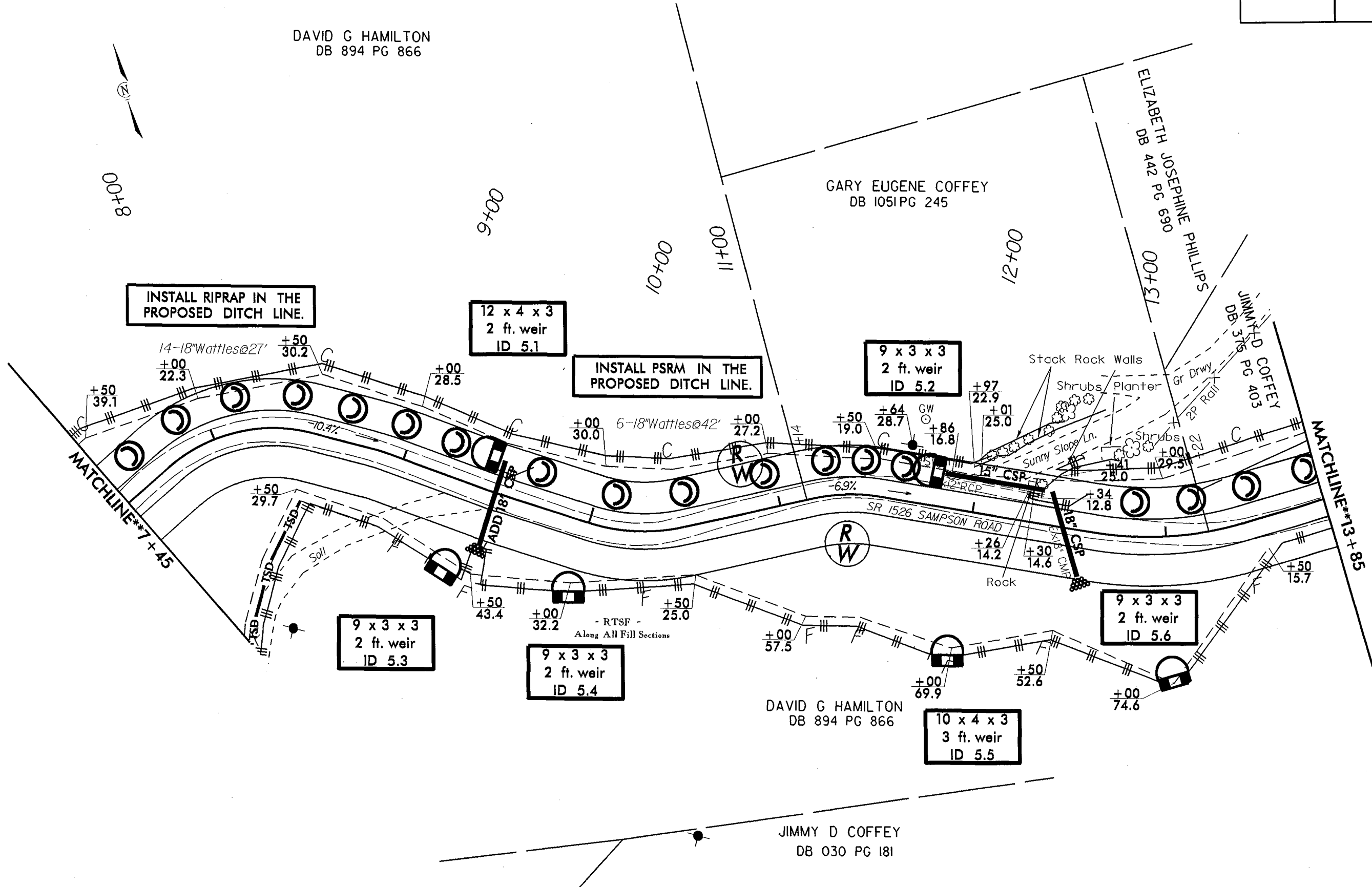
GARY EUGENE COFFEY  
DB 1051 PG 245

ELIZABETH JOSEPHINE PHILLIPS  
DB 442 PG 690

JIMMY D COFFEY  
DB 375 PG 403

DAVID G HAMILTON  
DB 894 PG 866

JIMMY D COFFEY  
DB 030 PG 181



INSTALL RIPRAP IN THE  
PROPOSED DITCH LINE.

12 x 4 x 3  
2 ft. weir  
ID 5.1

INSTALL PSRM IN THE  
PROPOSED DITCH LINE.

9 x 3 x 3  
2 ft. weir  
ID 5.2

9 x 3 x 3  
2 ft. weir  
ID 5.3

9 x 3 x 3  
2 ft. weir  
ID 5.4

10 x 4 x 3  
3 ft. weir  
ID 5.5

9 x 3 x 3  
2 ft. weir  
ID 5.6

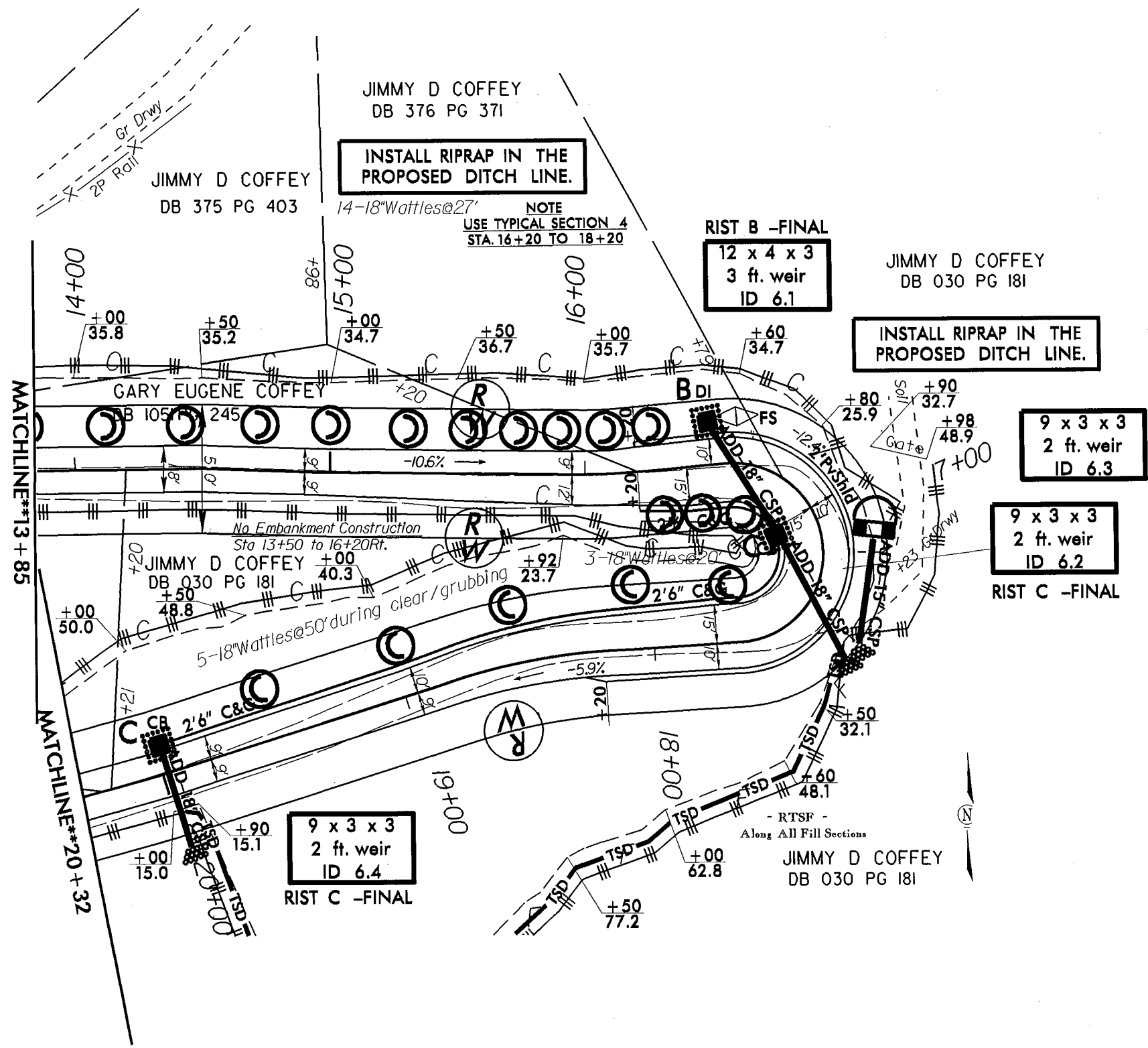
REVISIONS

REVISED: 12/22/16 Changed property lines

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PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99  
 REVISIONS  
 REVISED: 01/31/17 - L- Realigned Sta 4+00 to Sta 20+00B.  
 REVISED: 12/22/16 Changed property lines  
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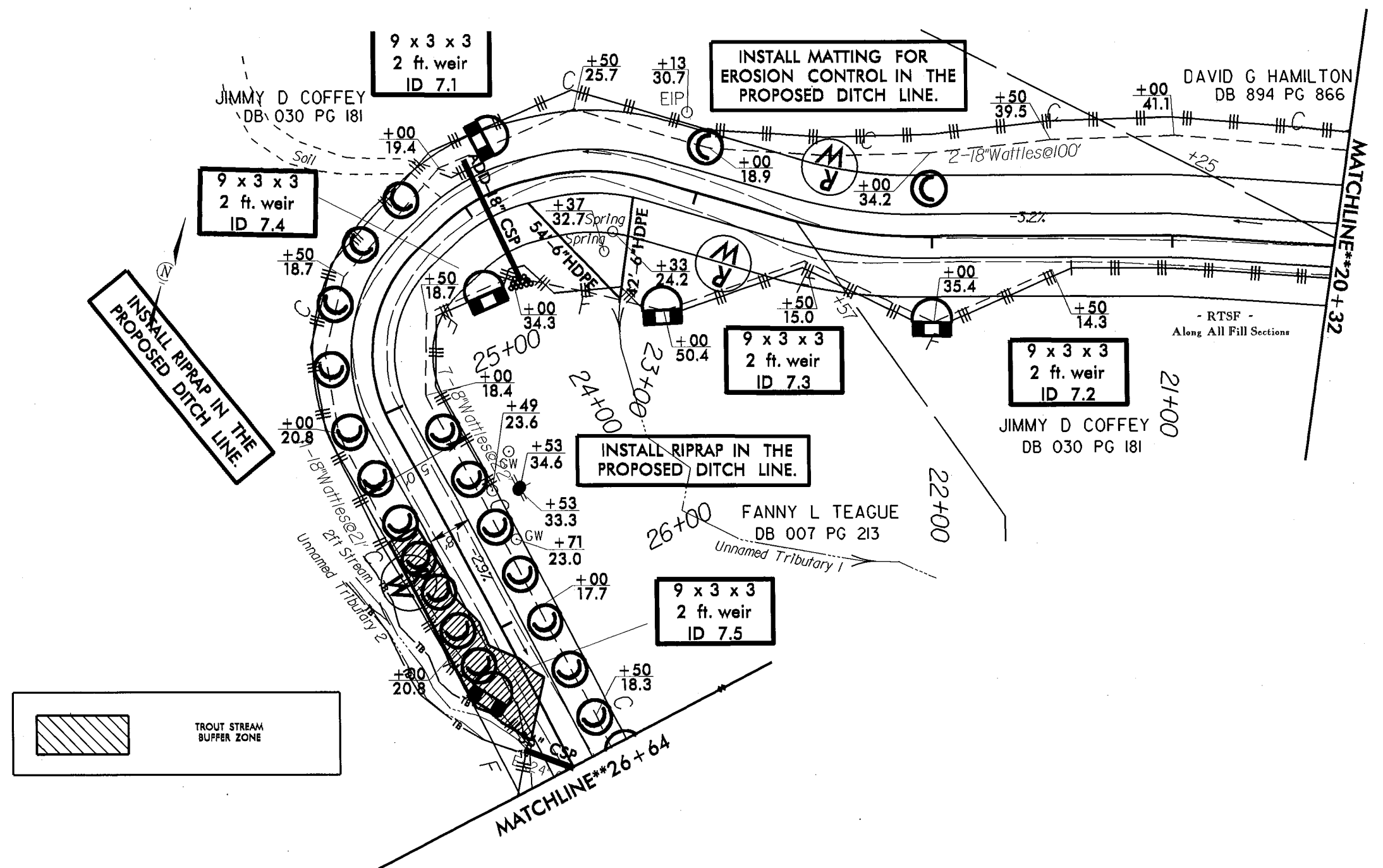
REVISIONS

REVISED: 01/31/17 - L- Realigned Sta 4+00 to Sta 20+00B.  
 REVISED: 12/22/16 Changed property lines

28-JUL-2017 10:51  
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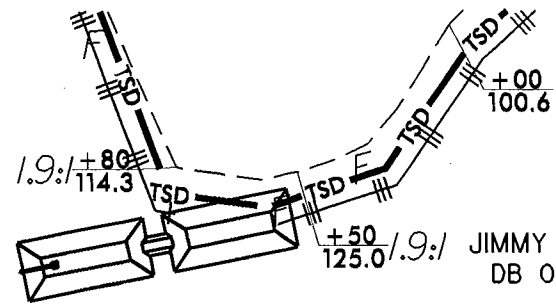
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99  
 REVISIONS  
 REVISED: 12/22/16 Changed property lines  
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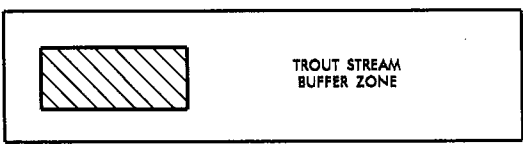
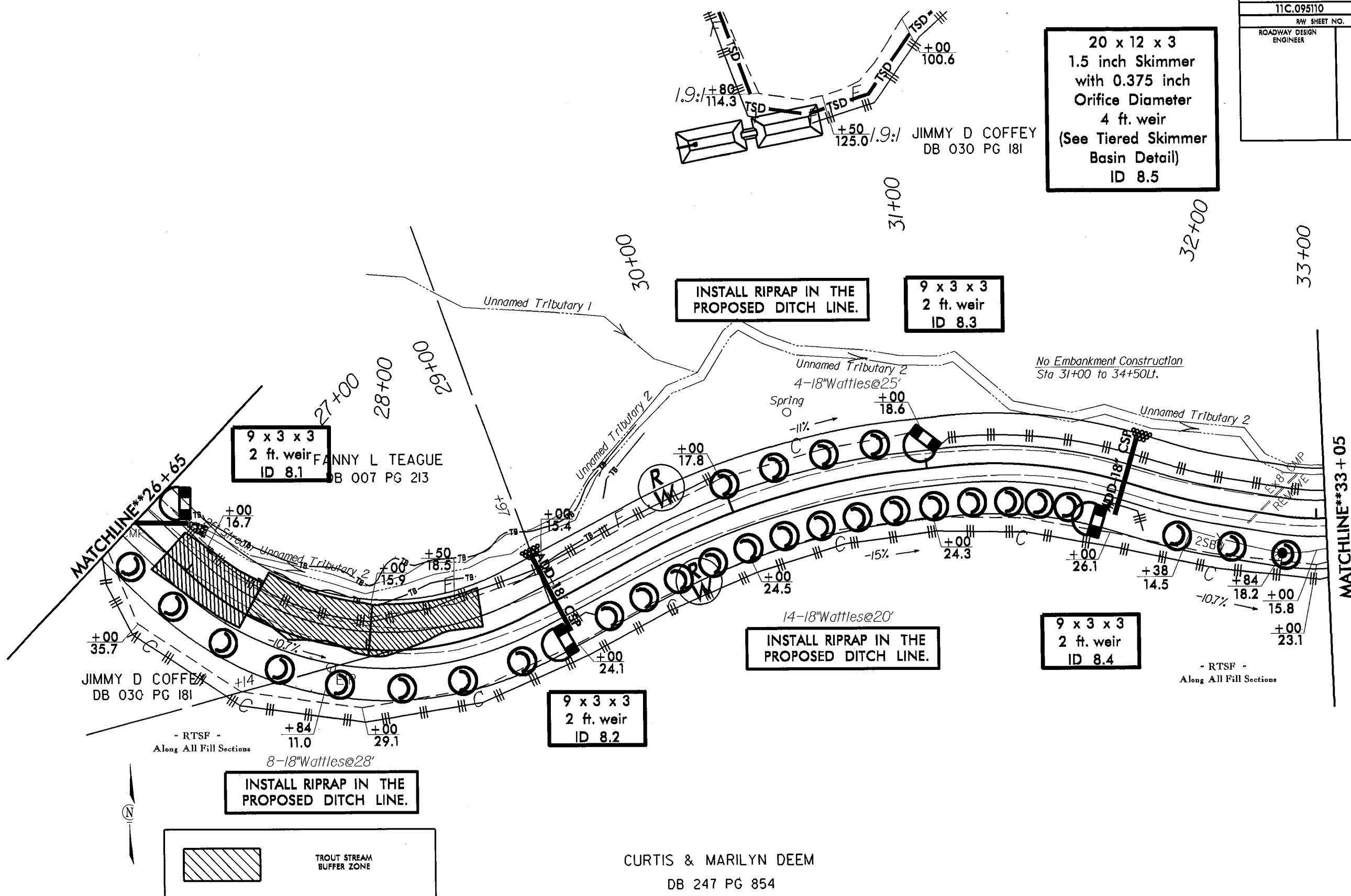


PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

20 x 12 x 3  
1.5 inch Skimmer  
with 0.375 inch  
Orifice Diameter  
4 ft. weir  
(See Tiered Skimmer  
Basin Detail)  
ID 8.5



JIMMY D COFFEY  
DB 030 PG 181



CURTIS & MARILYN DEEM  
DB 247 PG 854

REVISIONS

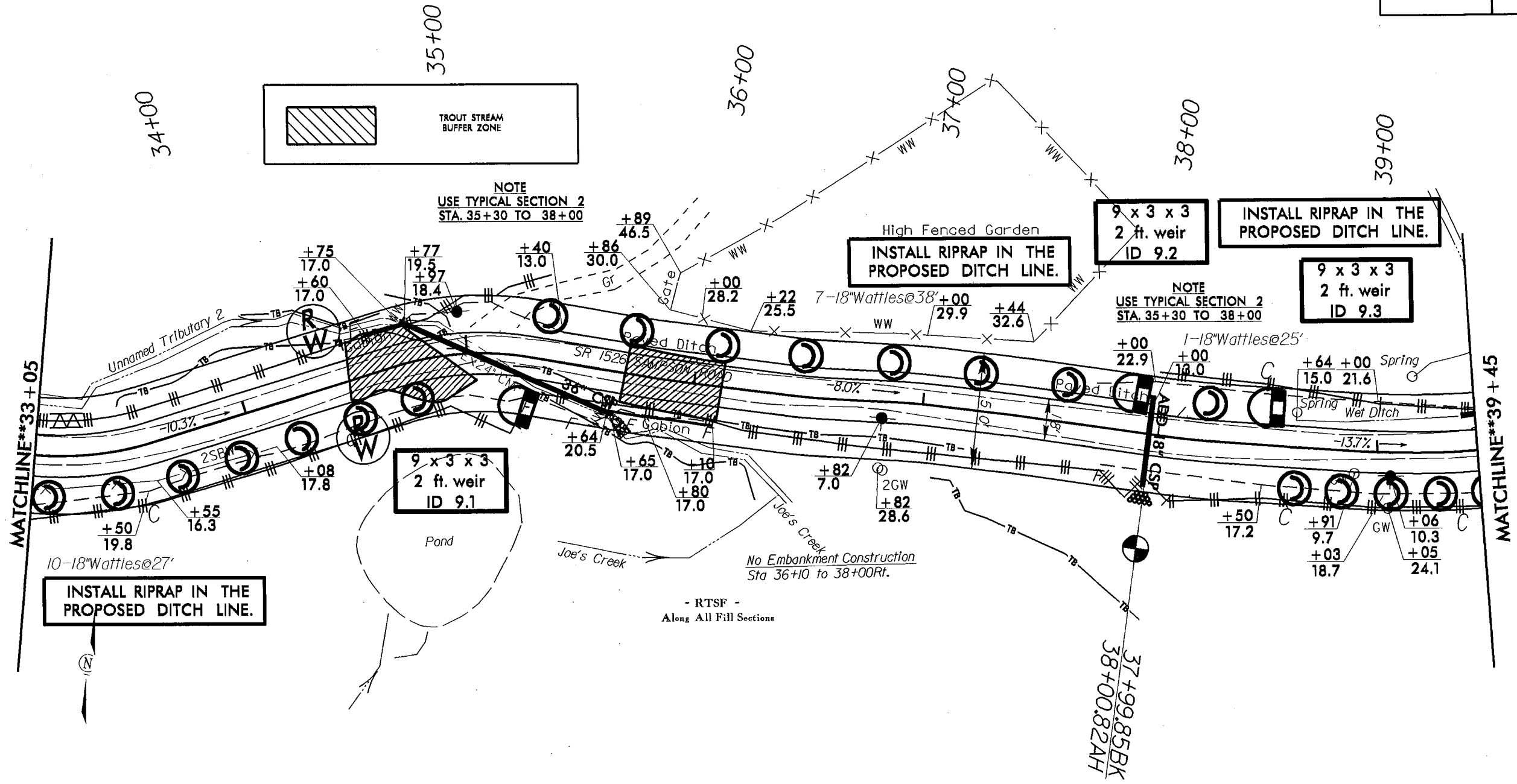
REVISED 12/22/16 Changed property lines

8/17/99  
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PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

JIMMY D COFFEY  
DB 030 PG 181



NOTE  
USE TYPICAL SECTION 2  
STA. 35+30 TO 38+00

9 x 3 x 3  
2 ft. weir  
ID 9.2

INSTALL RIPRAP IN THE  
PROPOSED DITCH LINE.

9 x 3 x 3  
2 ft. weir  
ID 9.3

NOTE  
USE TYPICAL SECTION 2  
STA. 35+30 TO 38+00

9 x 3 x 3  
2 ft. weir  
ID 9.1

INSTALL RIPRAP IN THE  
PROPOSED DITCH LINE.

- RTSF -  
Along All Fill Sections

CURTIS & MARILYN DEEM  
DB 247 PG 854

REVISIONS

REVISED 12/22/16 - Revised alignment 33+50 to 38+00. Added Equation at Sta 38+00

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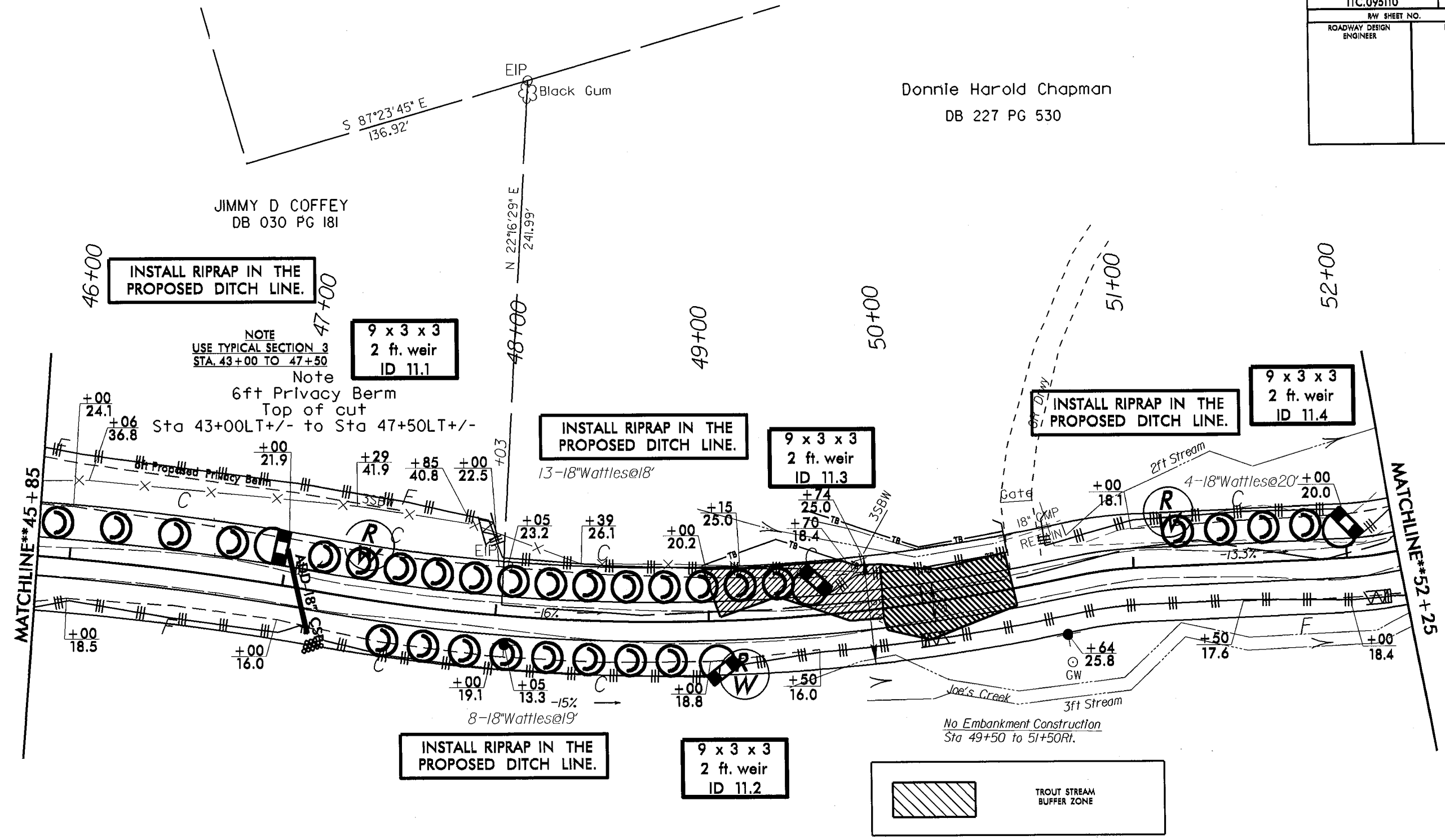


PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-11
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Donnie Harold Chapman  
DB 227 PG 530

JIMMY D COFFEY  
DB 030 PG 181

8/17/99  
 REVISIONS  
 REVISED 12/22/16 Added Berm, changed property lines  
 28 JUL 2017 10:51  
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CURTIS & MARILYN DEEM  
DB 247 PG 854



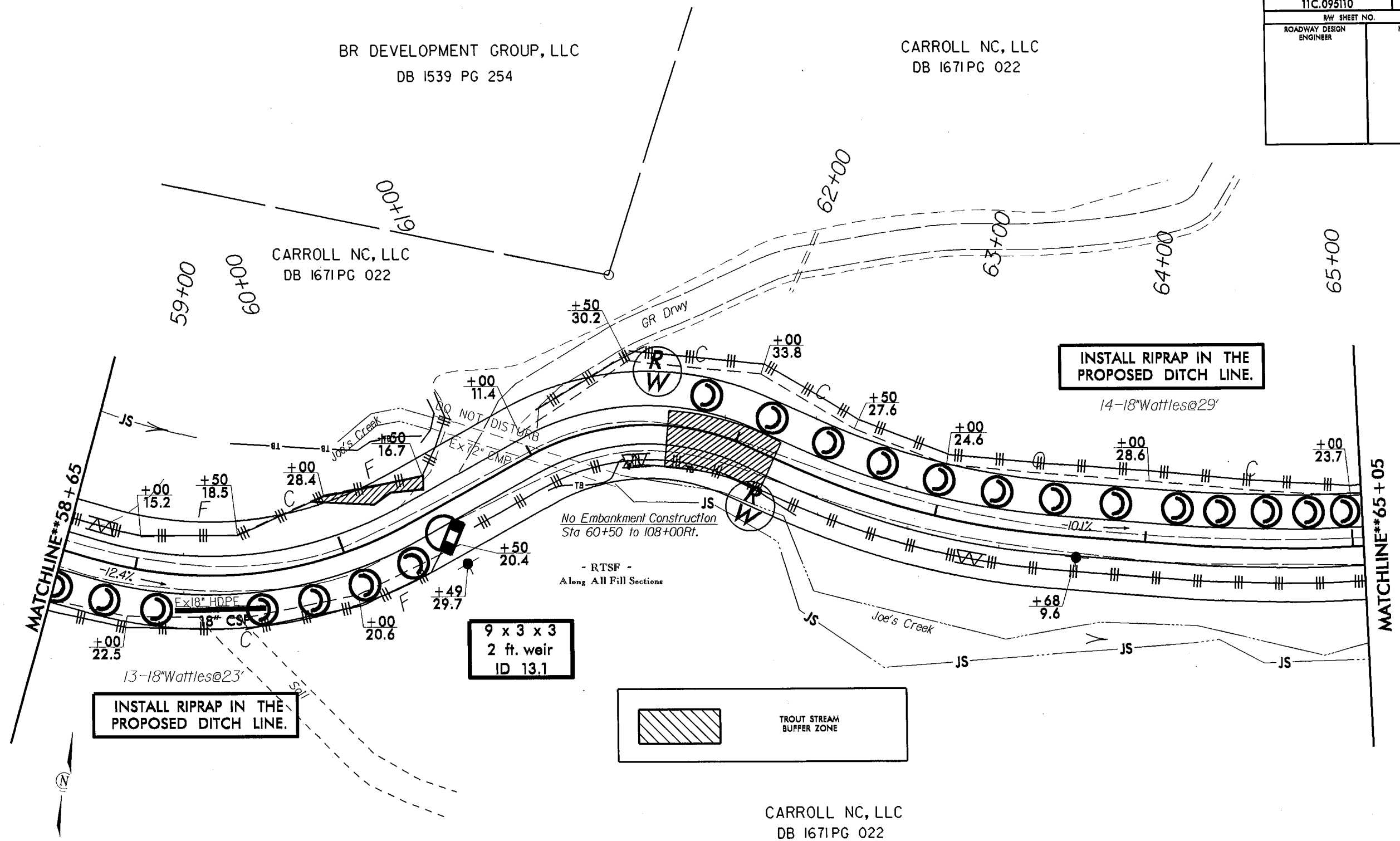
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BR DEVELOPMENT GROUP, LLC  
DB 1539 PG 254

CARROLL NC, LLC  
DB 1671PG 022

CARROLL NC, LLC  
DB 1671PG 022

CARROLL NC, LLC  
DB 1671PG 022

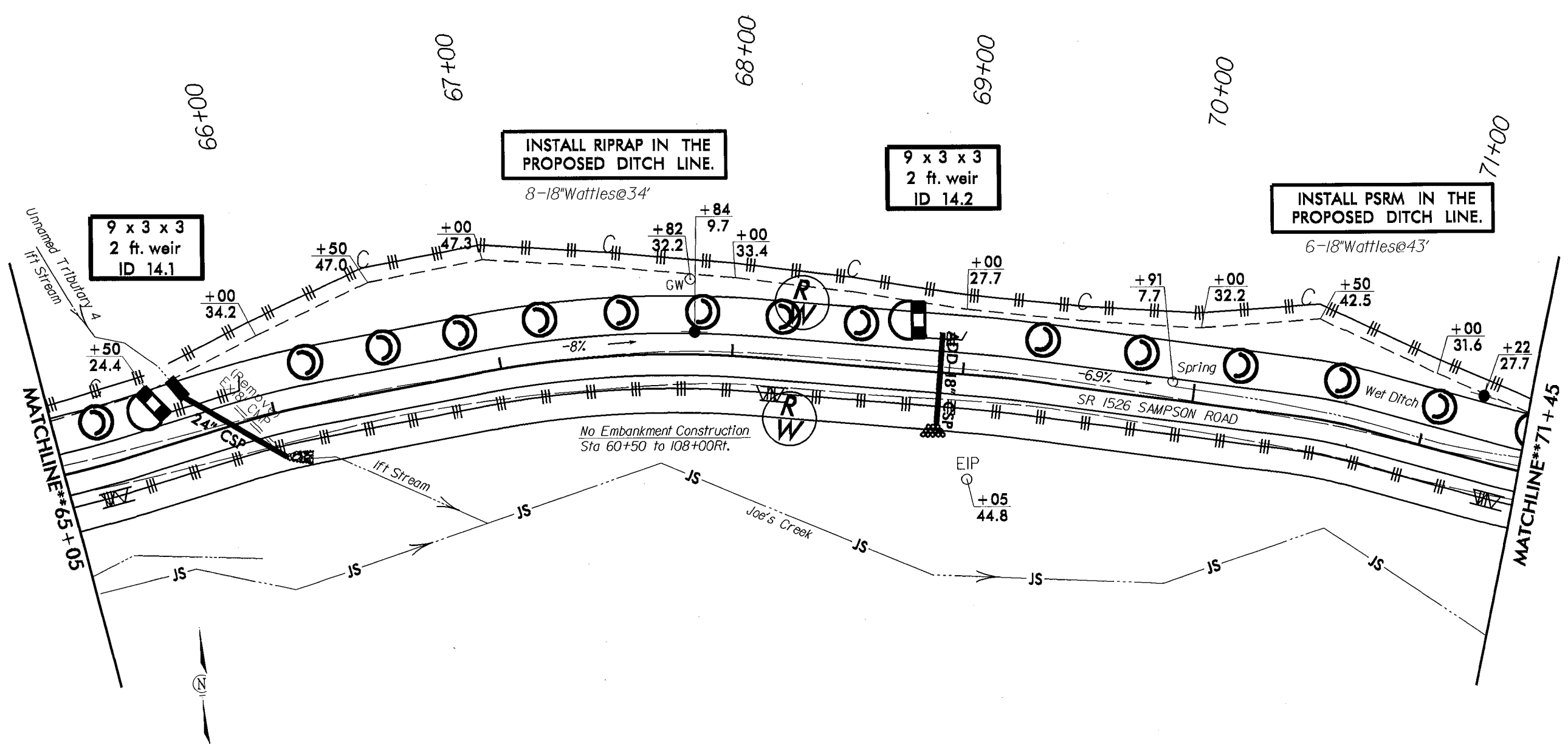


REVISIONS

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 J. CAMPSON  
 PROJECT ENGINEER

PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CARROLL NC, LLC  
DB 1671PG 022



INSTALL RIPRAP IN THE  
PROPOSED DITCH LINE.  
8-18"Wattles@34'

9 x 3 x 3  
2 ft. weir  
ID 14.2

INSTALL PSRM IN THE  
PROPOSED DITCH LINE.  
6-18"Wattles@43'

9 x 3 x 3  
2 ft. weir  
ID 14.1

No Embankment Construction  
Sta 60+50 to 108+00Rt.

CARROLL NC, LLC  
DB 1671PG 022

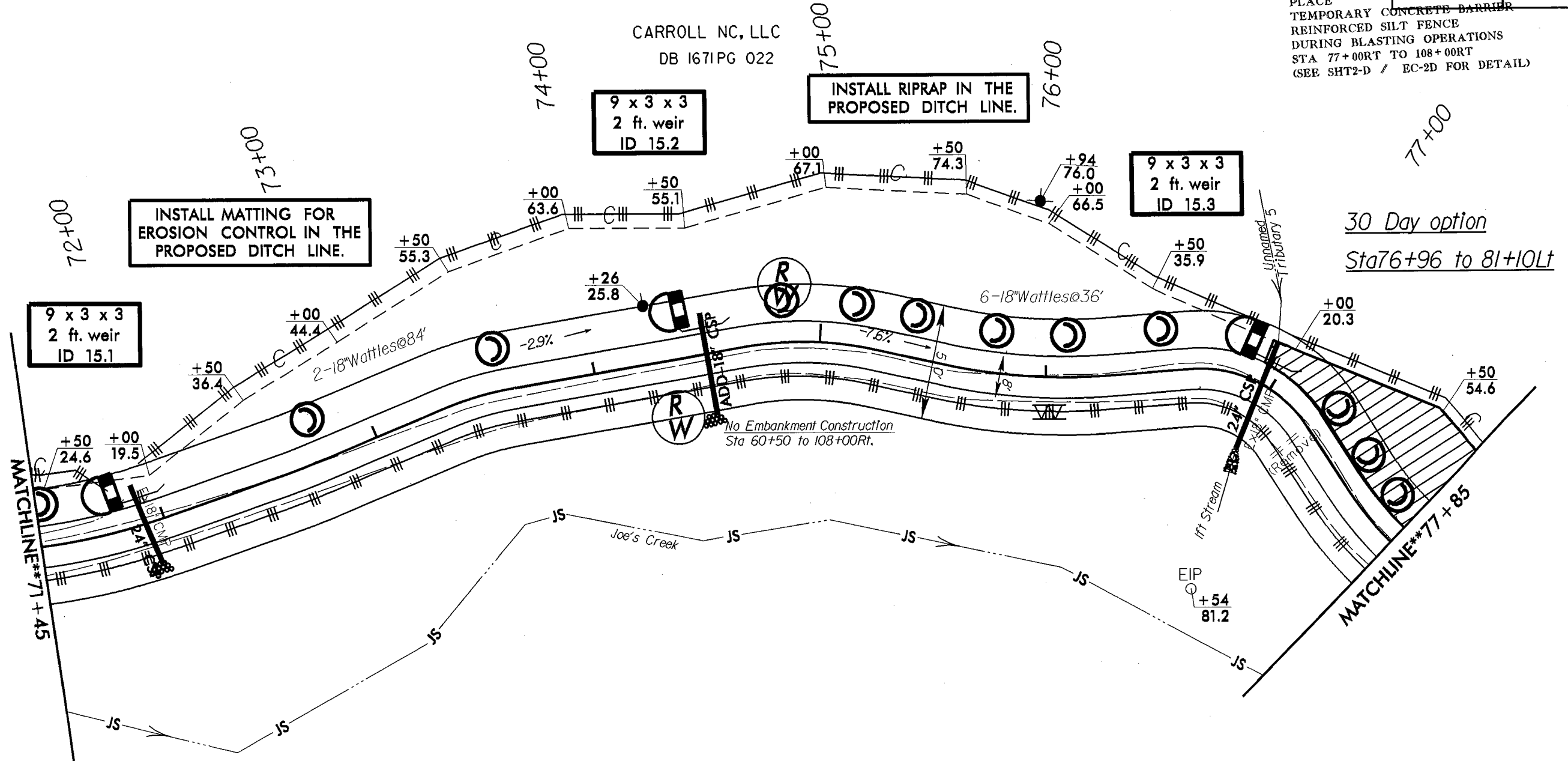
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PROJECT REFERENCE NO.	SHEET NO.
11C.095110	EC-15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLACE  
TEMPORARY CONCRETE BARRIER  
REINFORCED SILT FENCE  
DURING BLASTING OPERATIONS  
STA 77+00RT TO 108+00RT  
(SEE SHT2-D / EC-2D FOR DETAIL)

CARROLL NC, LLC  
DB 1671PG 022

8/17/99  
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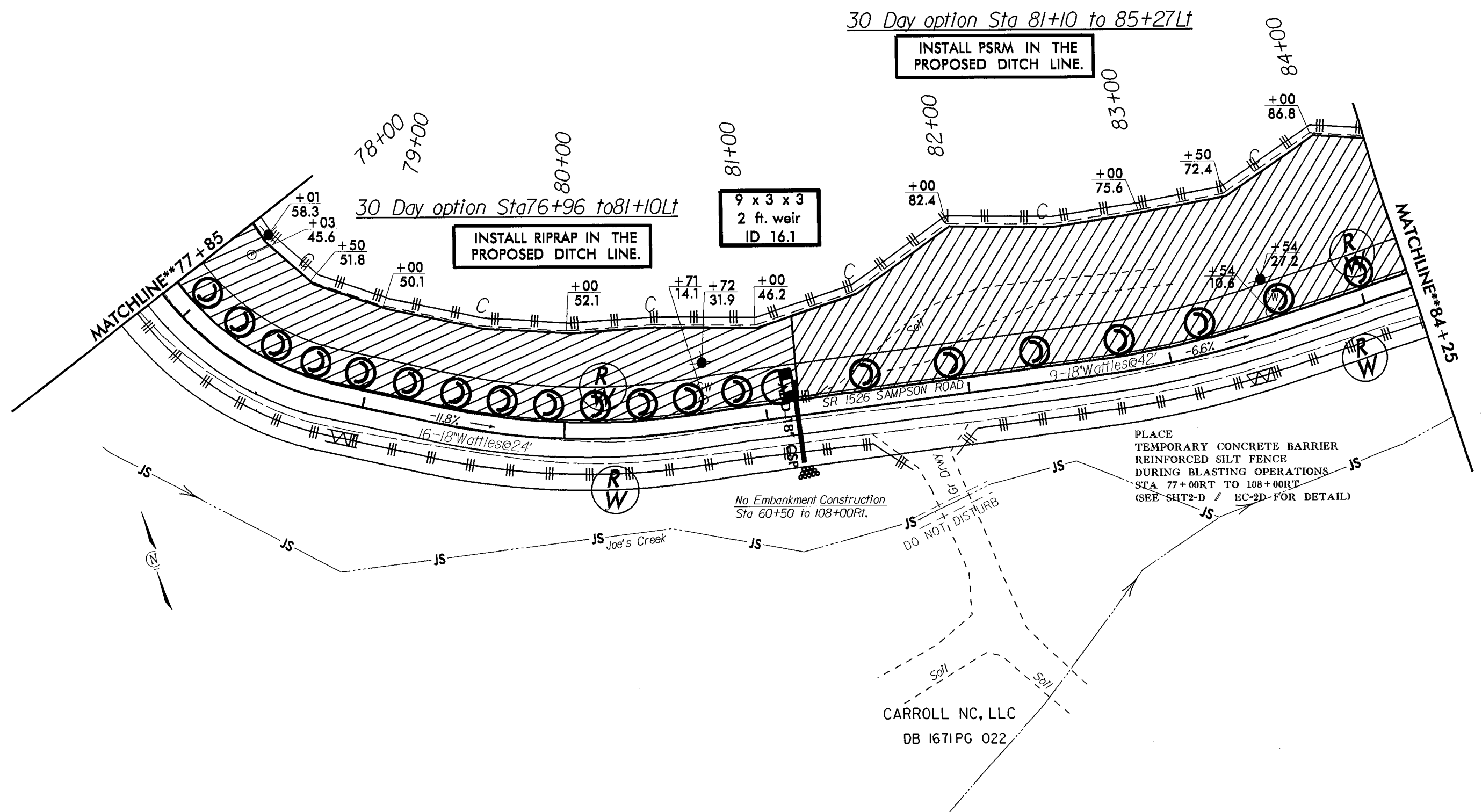
CARROLL NC, LLC  
DB 1671PG 022

PROJECT REFERENCE NO.	SHEET NO.
11C.095110	EC-16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CARROLL NC, LLC  
DB 1671PG 022

8/17/99  
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REVISIONS

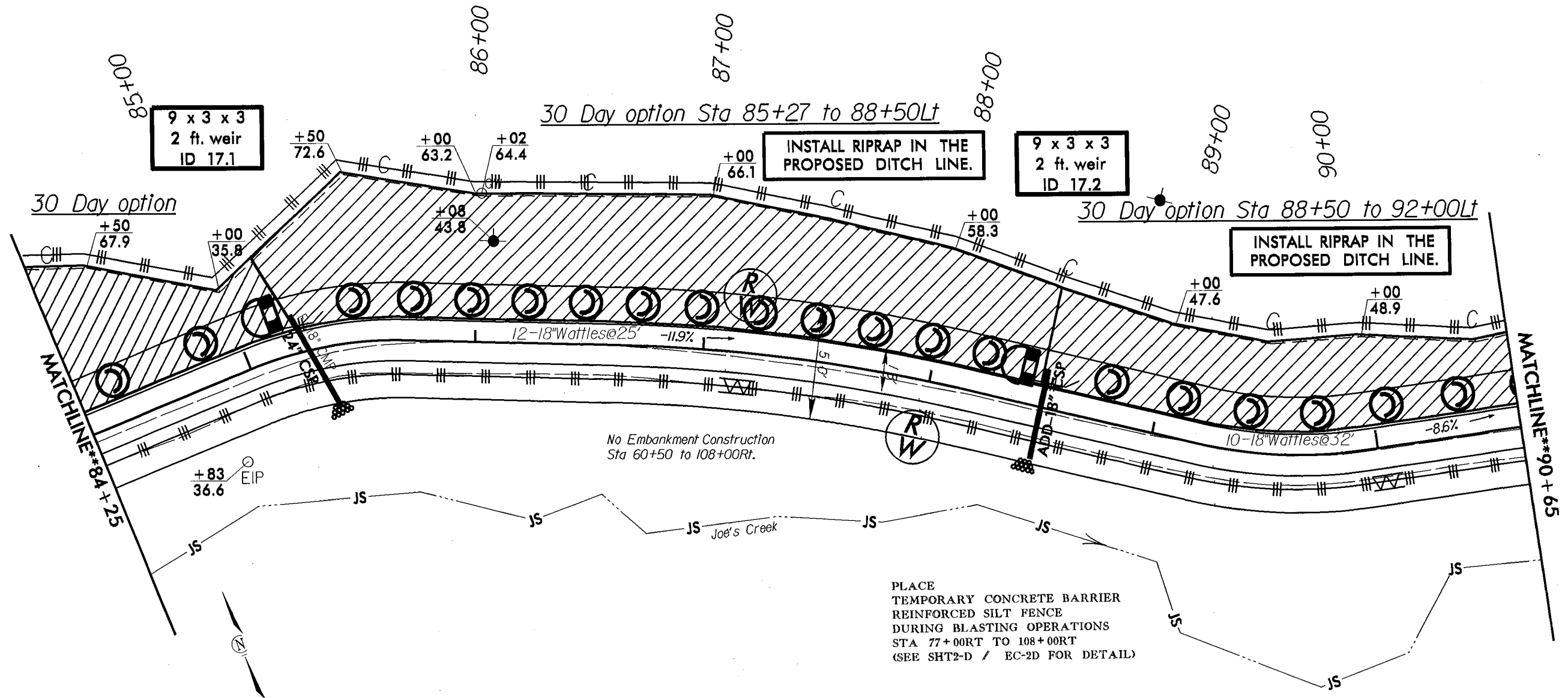


CARROLL NC, LLC  
DB 1671PG 022



PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CARROLL NC, LLC  
DB 1671PG 022



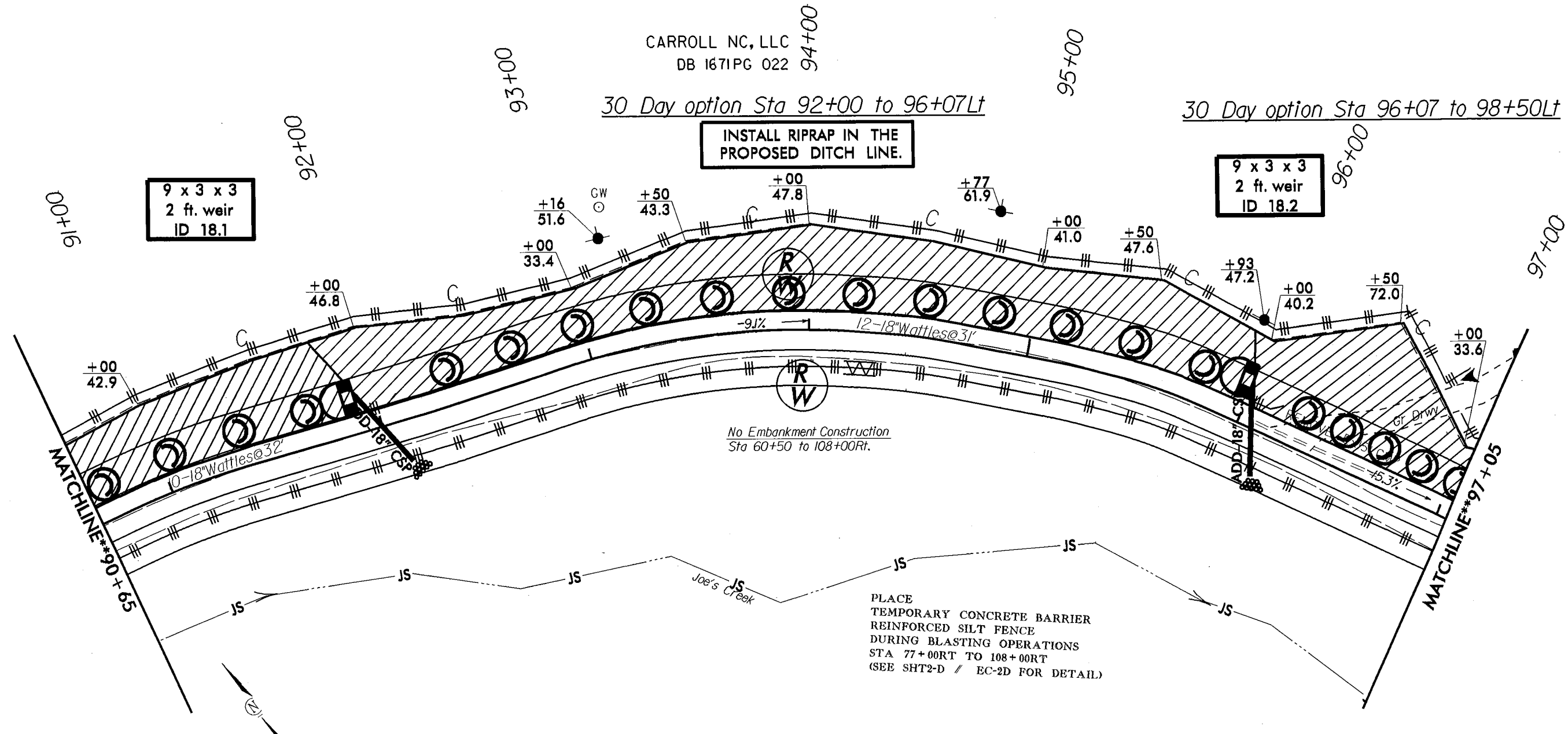
PLACE  
TEMPORARY CONCRETE BARRIER  
REINFORCED SILT FENCE  
DURING BLASTING OPERATIONS  
STA 77+00RT TO 108+00RT  
(SEE SHT2-D / EC-2D FOR DETAIL)

CARROLL NC, LLC  
DB 1671PG 022

8/17/99  
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PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99  
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 REVISIONS



CARROLL NC, LLC  
DB 1671PG 022

30 Day option Sta 92+00 to 96+07Lt

30 Day option Sta 96+07 to 98+50Lt

INSTALL RIPRAP IN THE PROPOSED DITCH LINE.

9 x 3 x 3  
2 ft. weir  
ID 18.2

PLACE  
TEMPORARY CONCRETE BARRIER  
REINFORCED SILT FENCE  
DURING BLASTING OPERATIONS  
STA 77+00RT TO 108+00RT  
(SEE SHT2-D // EC-2D FOR DETAIL)

CARROLL NC, LLC  
DB 1671PG 022

PROJECT REFERENCE NO. 11C.095110	SHEET NO. EC-19
RWY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CHRISTOPHER SCOTT HEDRICK  
DB 773 PG 671

*30 Day option*  
*Sta 96+07 to 98+50Lt*

CARROLL NC, LLC  
DB 1671 PG 022

**INSTALL RIPRAP IN THE PROPOSED DITCH LINE.**

**9 x 3 x 3  
2 ft. weir  
ID 19.1**

**INSTALL RIPRAP IN THE PROPOSED DITCH LINE.**

**12 x 4 x 3  
3 ft. weir  
ID 19.2**

**INSTALL RIPRAP IN THE PROPOSED DITCH LINE.**

*Remove 2-12" Pipes  
Add 1-15" crossline  
and 6" underdrain pipes*

**9 x 3 x 3  
2 ft. weir  
ID 20.1**

No Embankment Construction  
Sta 60+50 to 108+00Rt.

PLACE  
TEMPORARY CONCRETE BARRIER  
REINFORCED SILT FENCE  
DURING BLASTING OPERATIONS  
STA 77+00RT TO 108+00RT  
(SEE SHT2-D / EC-2D FOR DETAIL)

MATCHLINE\*\*97+05

MATCHLINE\*\*103+45

JS → Joe's Creek ← JS

CARROLL NC, LLC  
DB 1671 PG 022

CHRISTOPHER SCOTT HEDRICK  
DB 773 PG 671

100+00

101+00

98+00

99+00

102+00

103+00

+50  
36.7

+00  
42.2

+31  
37.1

+32  
15.3

+00  
33.6

+00  
41.8

+50  
17.9

+00  
19.8

+50  
17.3

+00  
31.5

+50  
19.0

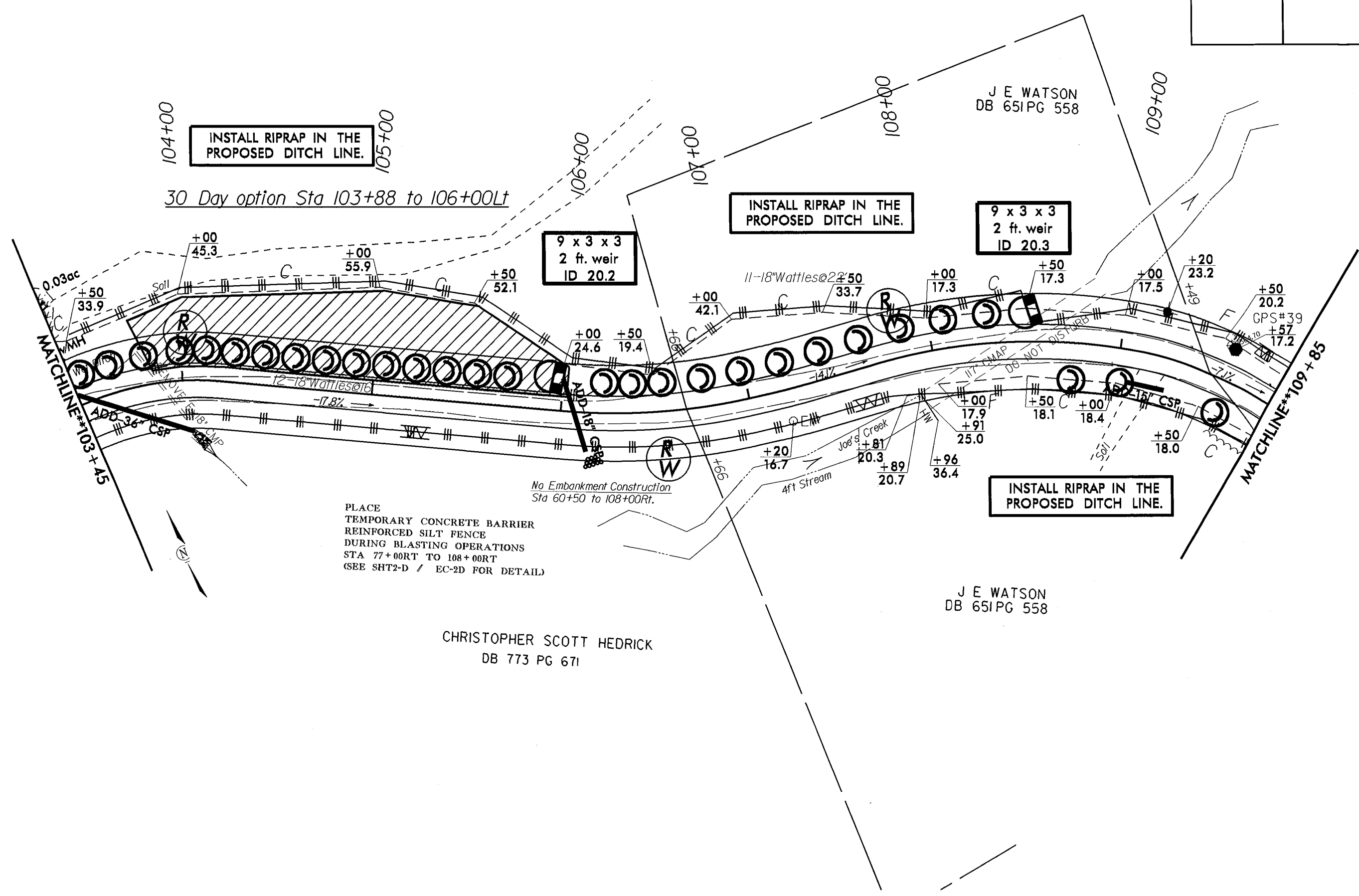
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 REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
11C.095110	EC-20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CHRISTOPHER SCOTT HEDRICK  
DB 773 PG 671

8/17/99  
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INSTALL RIPRAP IN THE PROPOSED DITCH LINE.

30 Day option Sta 103+88 to 106+00Lt

INSTALL RIPRAP IN THE PROPOSED DITCH LINE.

9 x 3 x 3  
2 ft. weir  
ID 20.3

9 x 3 x 3  
2 ft. weir  
ID 20.2

INSTALL RIPRAP IN THE PROPOSED DITCH LINE.

PLACE  
TEMPORARY CONCRETE BARRIER  
REINFORCED SILT FENCE  
DURING BLASTING OPERATIONS  
STA 77+00RT TO 108+00RT  
(SEE SHT2-D / EC-2D FOR DETAIL)

No Embankment Construction  
Sta 60+50 to 108+00Rt.

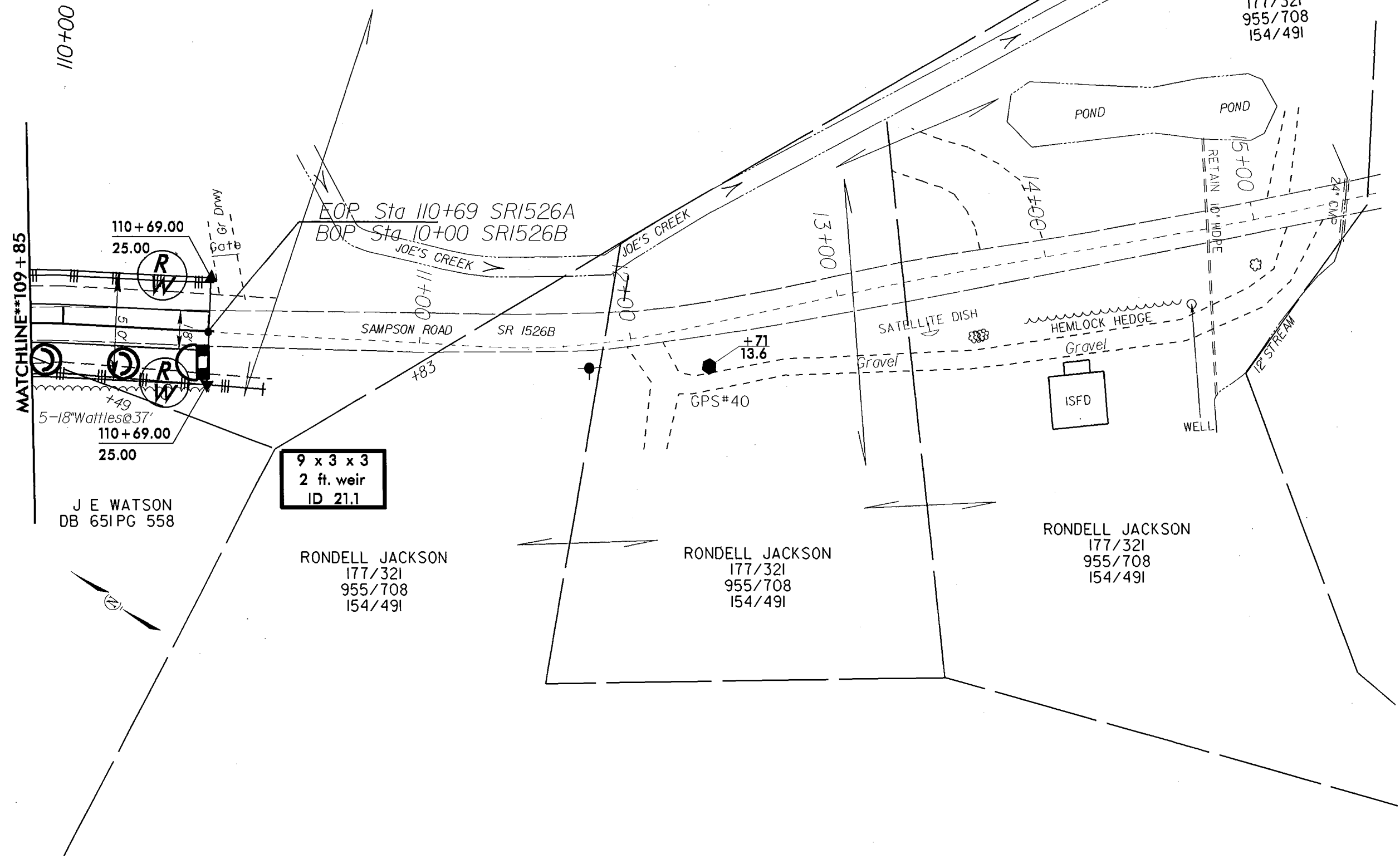
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DB 773 PG 671

J E WATSON  
DB 651PG 558

PROJECT REFERENCE NO.	SHEET NO.
11C.095110	EC-21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CHRISTOPHER SCOTT HEDRICK  
773/671

RONDELL JACKSON  
177/321  
955/708  
154/491



8/17/99  
 REVISIONS  
 28-JUL-2017 10:52  
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MATCHLINE\*\*109 + 85

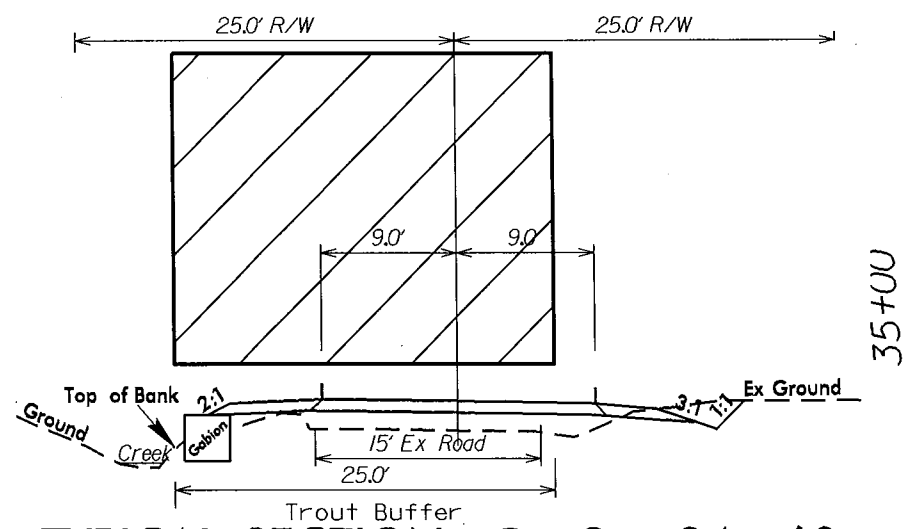




PROJECT REFERENCE NO. 11C.095110	SHEET NO. TroutBuffer9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# Trout Buffer Limits

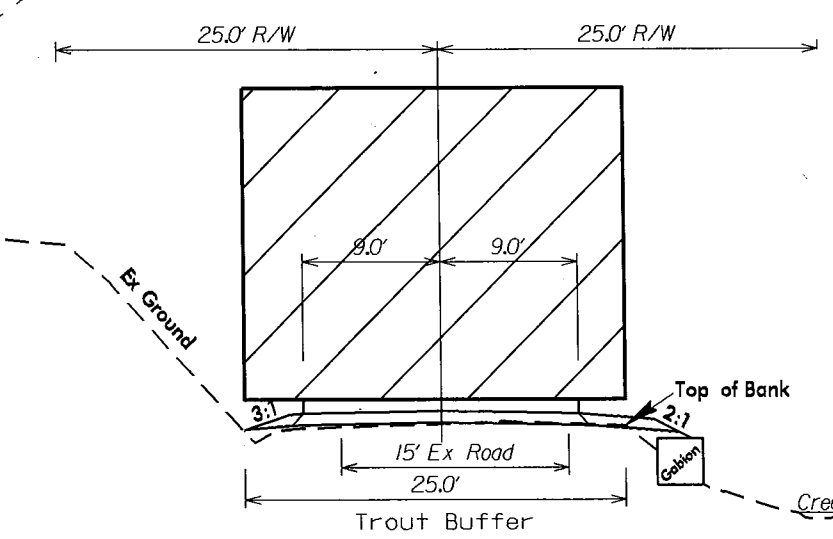
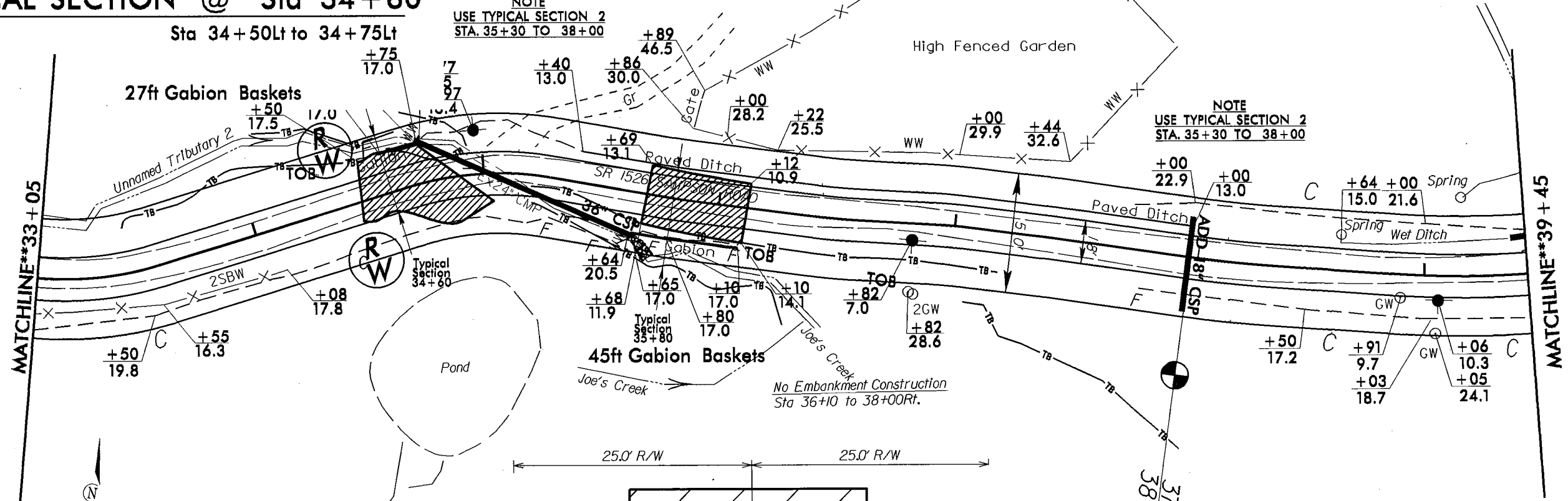
JIMMY D COFFEY  
DB 030 PG 181



**TYPICAL SECTION @ Sta 34+60**  
Sta 34+50Lt to 34+75Lt

NOTE  
USE TYPICAL SECTION 2  
STA. 35+30 TO 38+00

NOTE  
USE TYPICAL SECTION 2  
STA. 35+30 TO 38+00



**TYPICAL SECTION @ Sta 35+80**  
Sta 35+68Rt to 36+10Rt

No Embankment Construction  
Sta 36+10 to 38+00Rt.

REVISIONS

REVISED 2/22/16 - Revised alignment 33+50 to 38+00. Added Equation of Sta 38+00

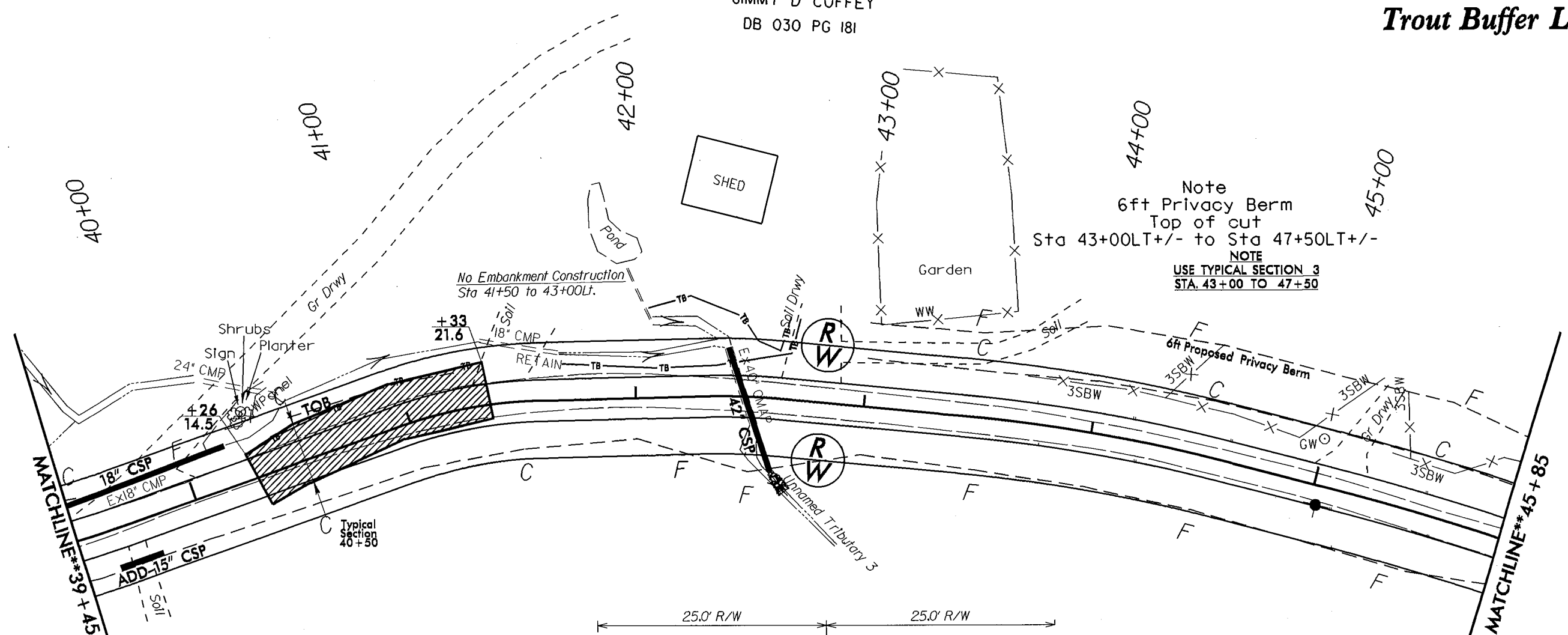
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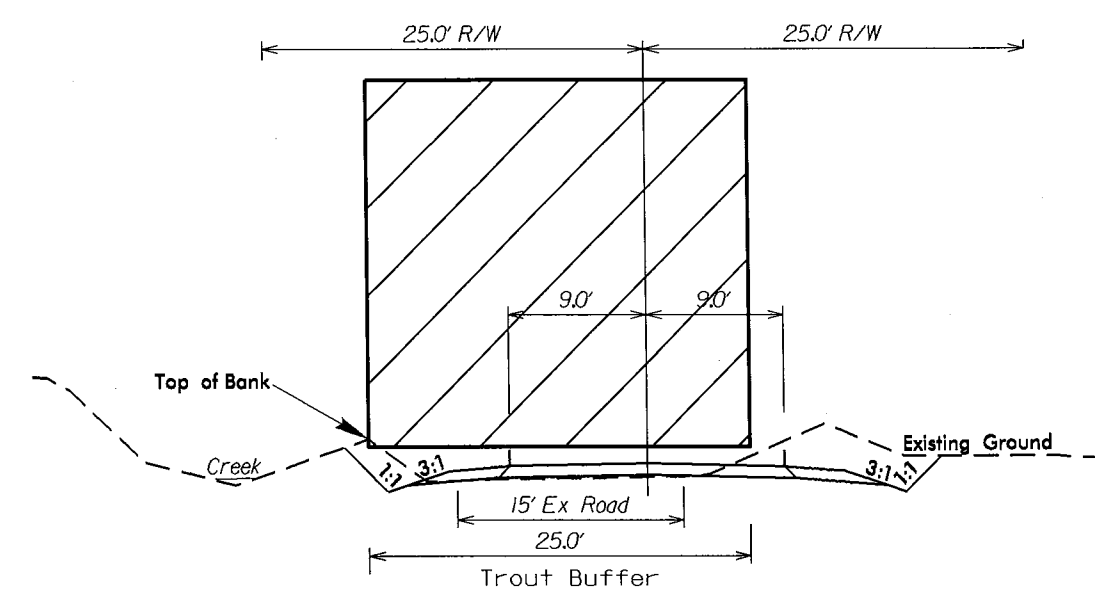
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

### Trout Buffer Limits

JIMMY D COFFEY  
DB 030 PG 181



Note  
6ft Privacy Berm  
Top of cut  
Sta 43+00LT+/- to Sta 47+50LT+/-  
NOTE  
USE TYPICAL SECTION 3  
STA. 43+00 TO 47+50



**TYPICAL SECTION @ Sta 40+50**  
Sta 40+26Lt to 41+33Lt

REVISIONS

REVISED 2/22/16 Added Berm

8/17/99  
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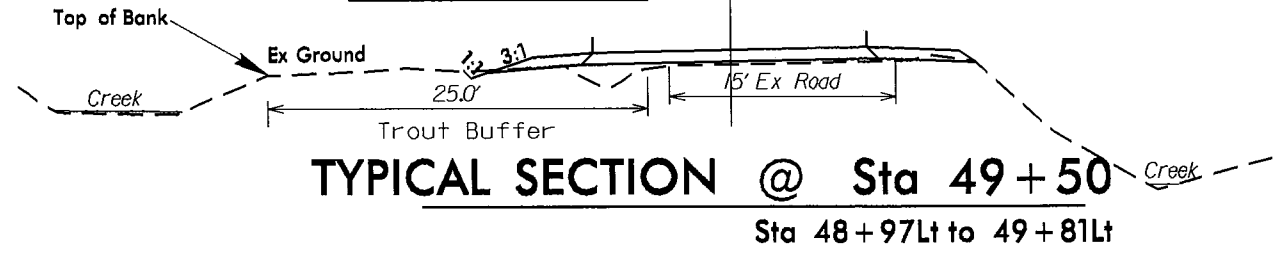
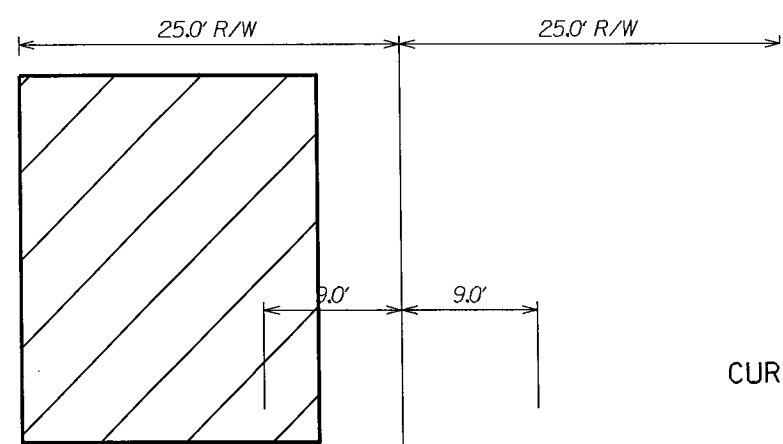
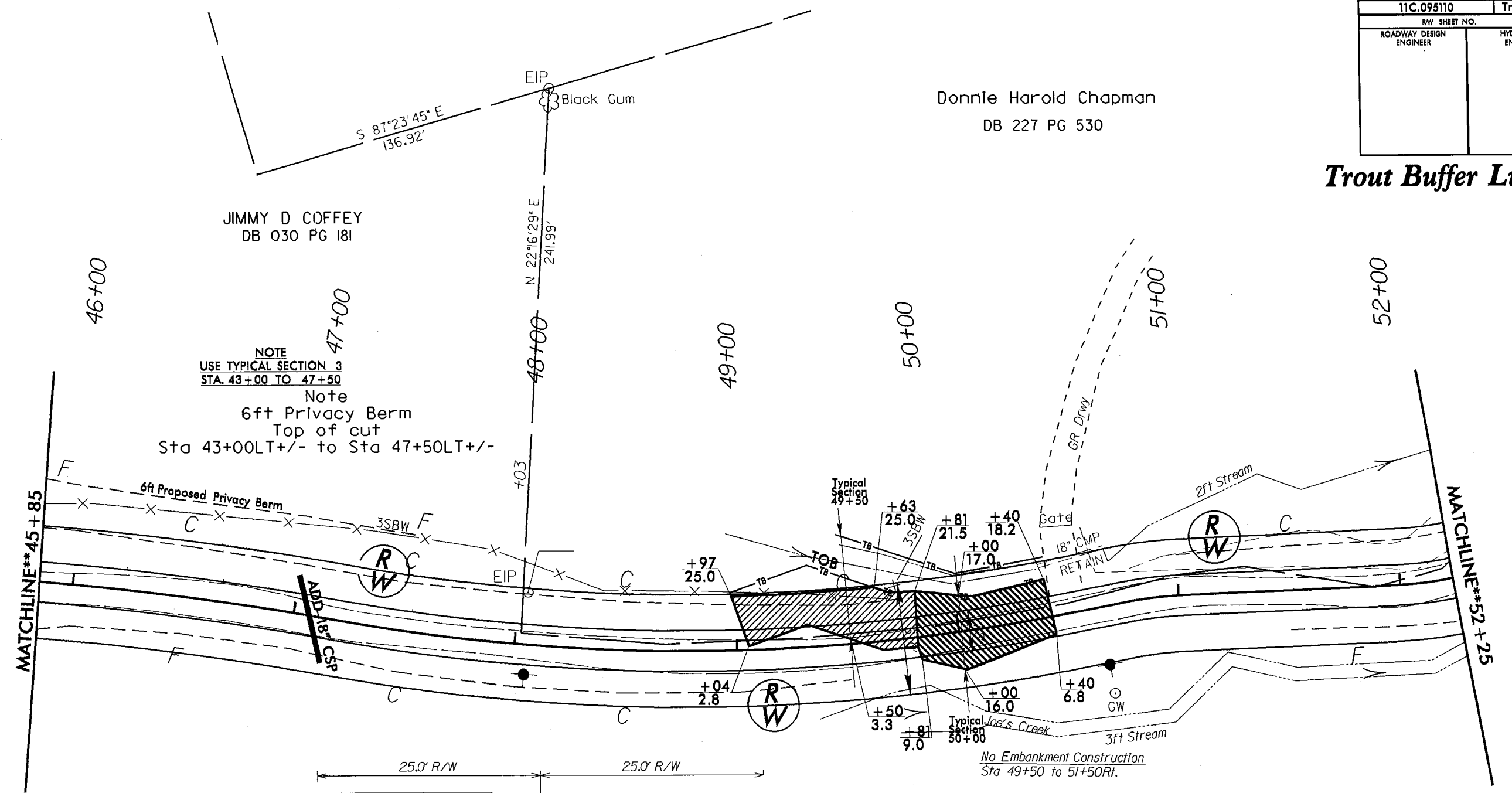
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11C.095110	TroutBuffer11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# Trout Buffer Limits

Donnie Harold Chapman  
DB 227 PG 530

JIMMY D COFFEY  
DB 030 PG 181

**NOTE**  
USE TYPICAL SECTION 3  
STA. 43+00 TO 47+50  
Note  
6ft Privacy Berm  
Top of cut  
Sta 43+00LT+/- to Sta 47+50LT+/-



CURTIS & MARILYN DEEM  
DB 247 PG. 854

REVISIONS

REVISED 12/22/16 Added Berm, changed property lines

8/17/99  
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8/17/99

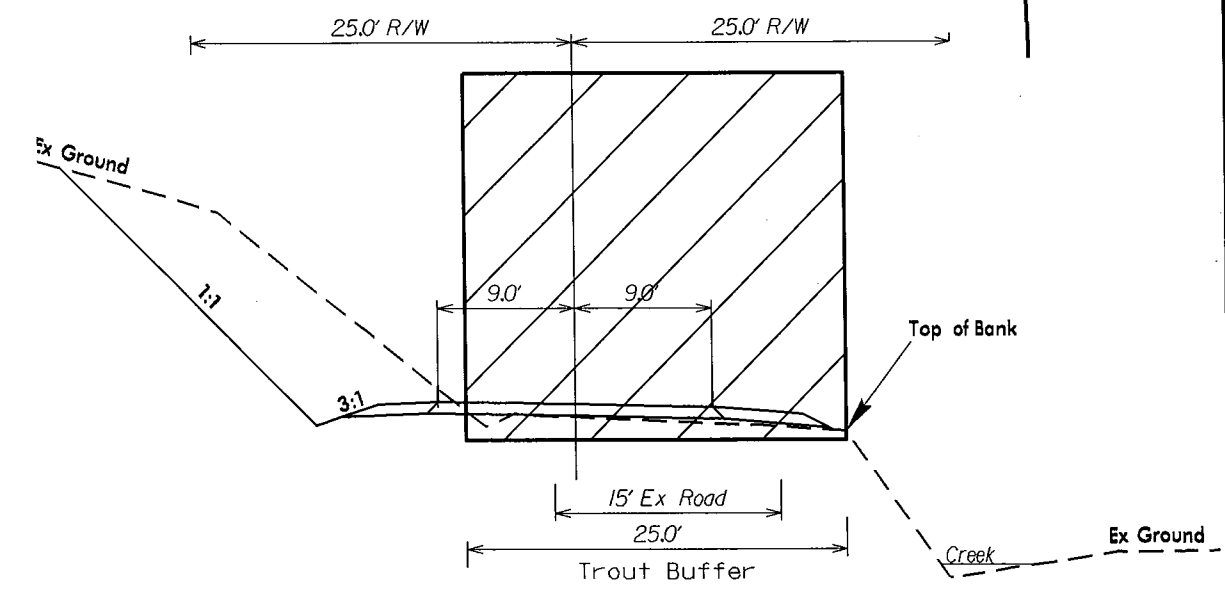
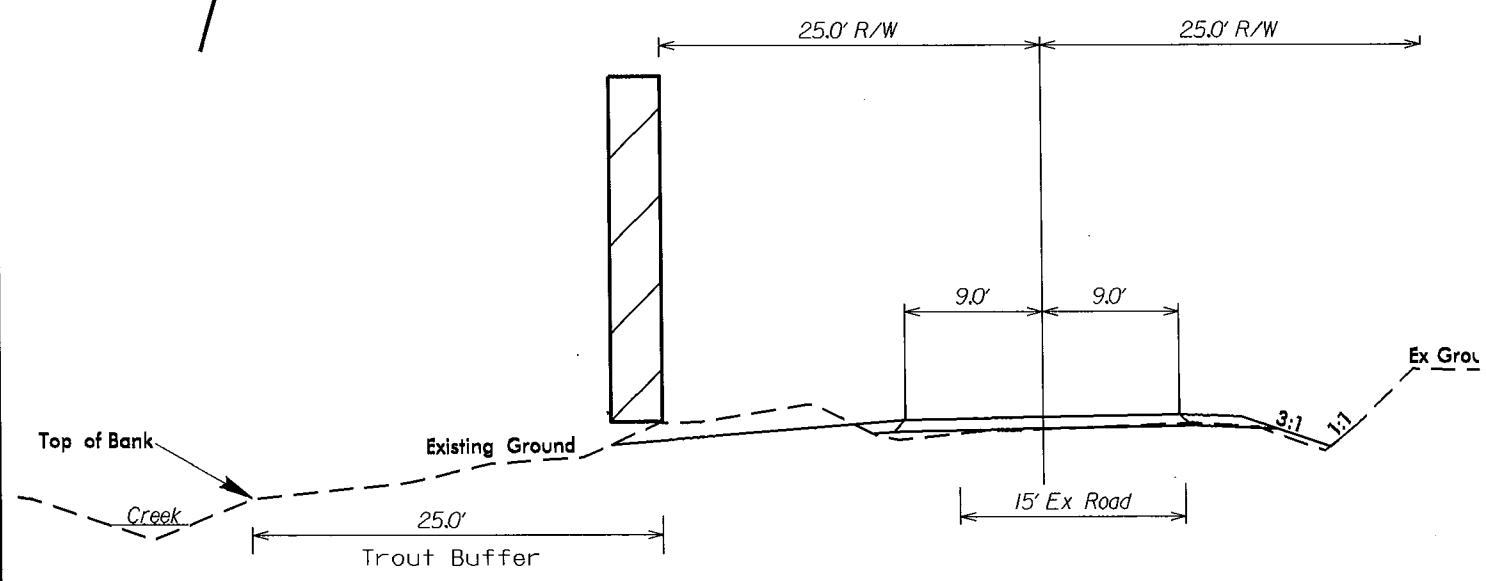
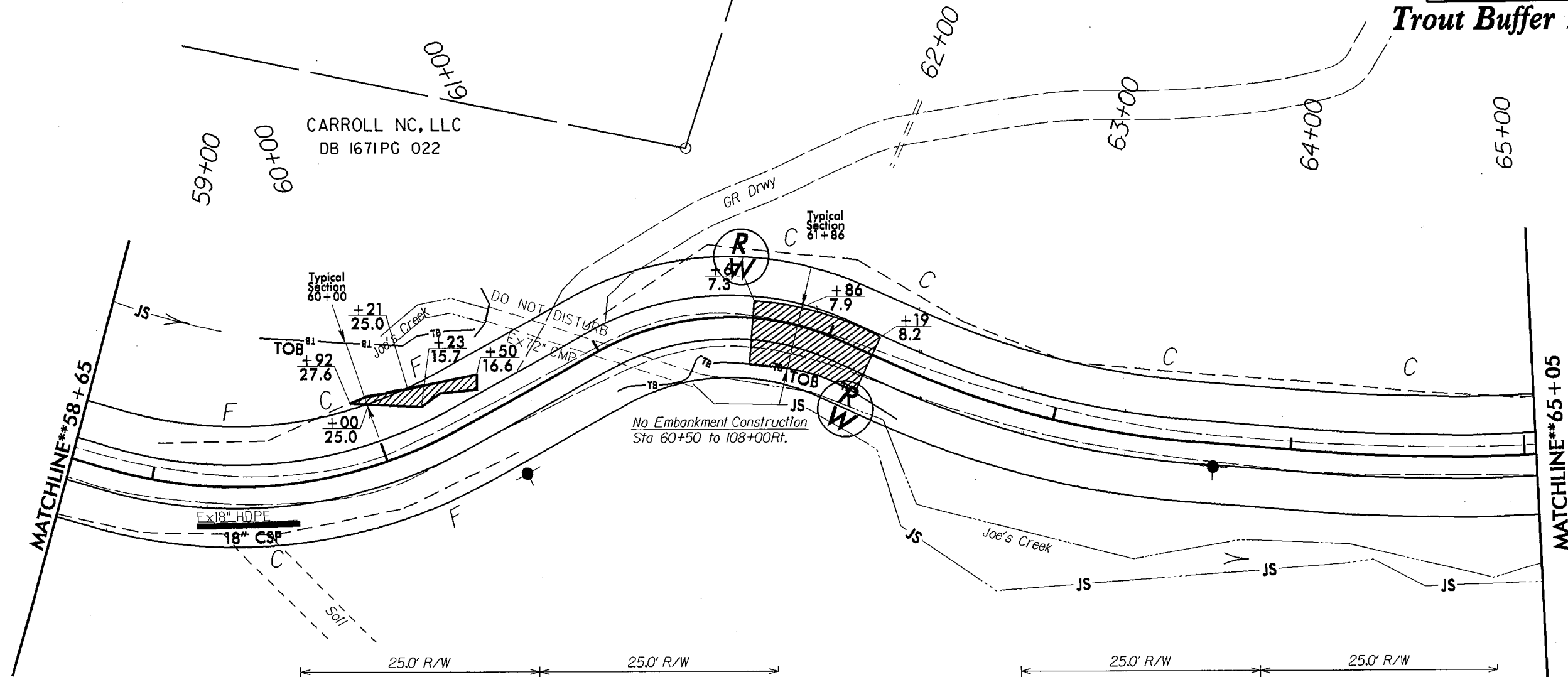
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BR DEVELOPMENT GROUP, LLC  
DB 1539 PG 254

CARROLL NC, LLC  
DB 1671PG 022

CARROLL NC, LLC  
DB 1671PG 022

**Trout Buffer Limits**



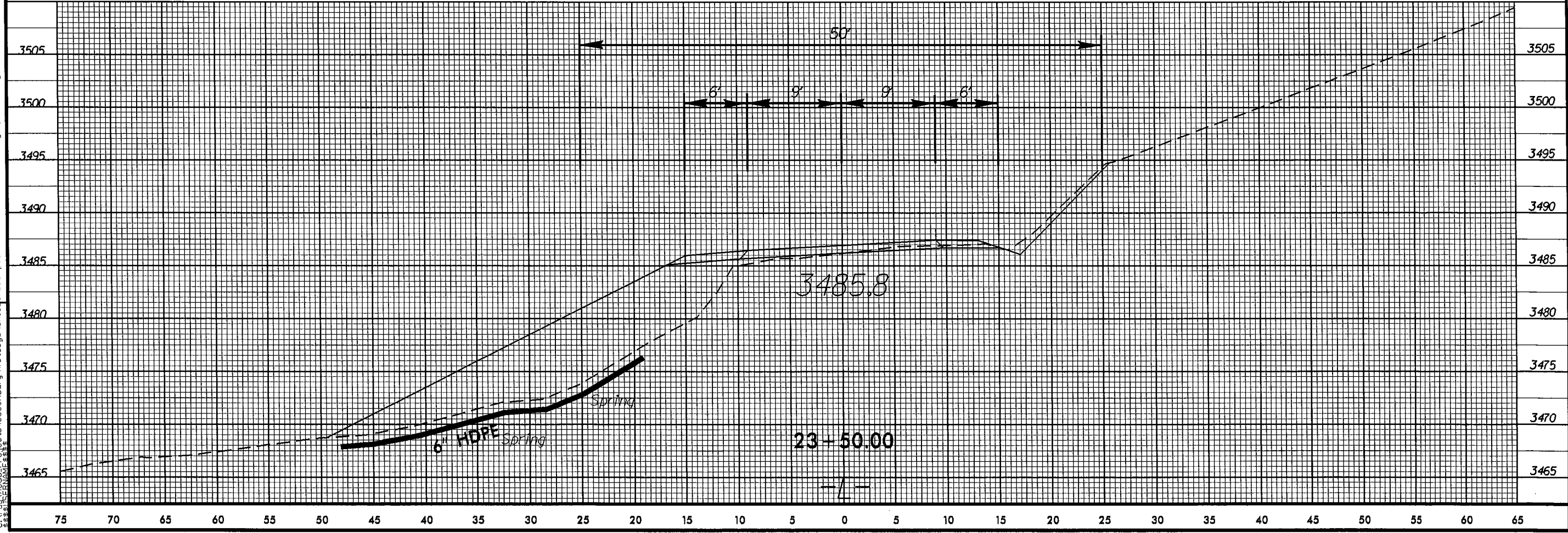
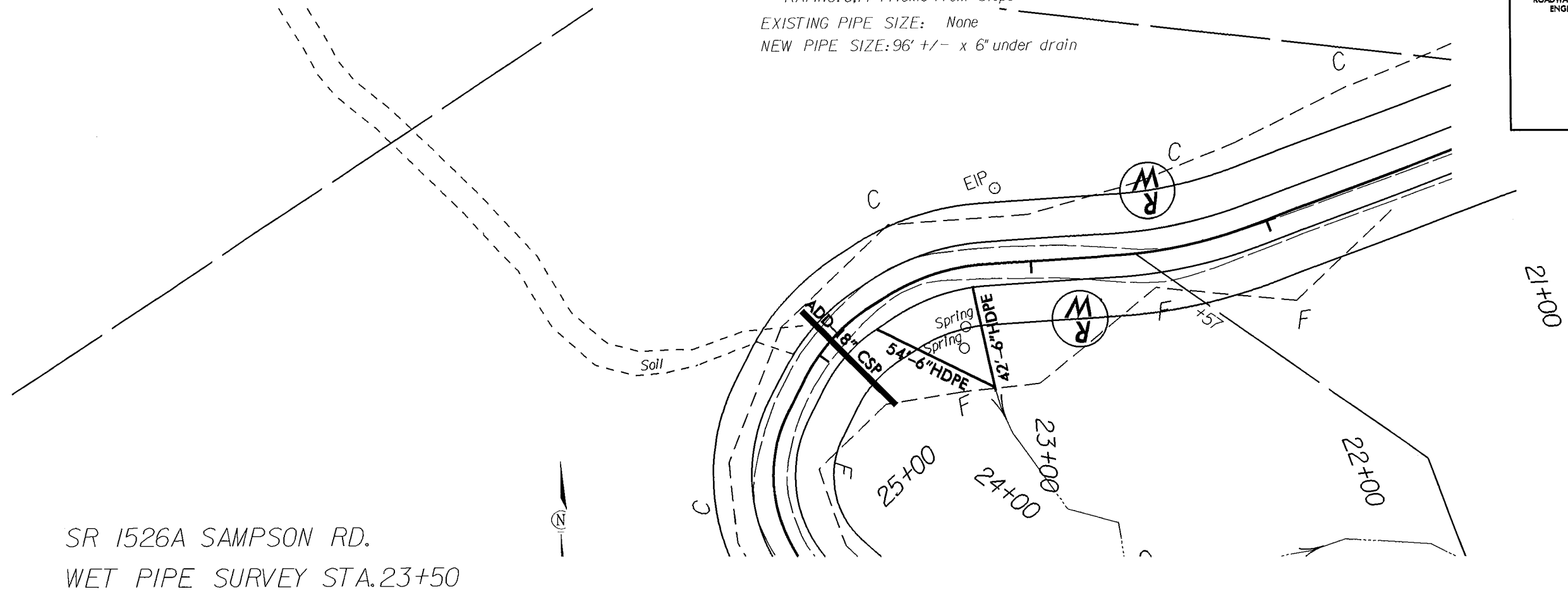
REVISIONS

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8/17/99

STREAM NAME: Joe's Creek (INDEX 12-19-II)  
RATING: C:Tr Trickle from Slope  
EXISTING PIPE SIZE: None  
NEW PIPE SIZE: 96' +/- x 6" under drain

PROJECT REFERENCE NO. IIC.095110 (CONST)	SHEET NO. SHEET 1 OF 7
RW SHEET NO. 7	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



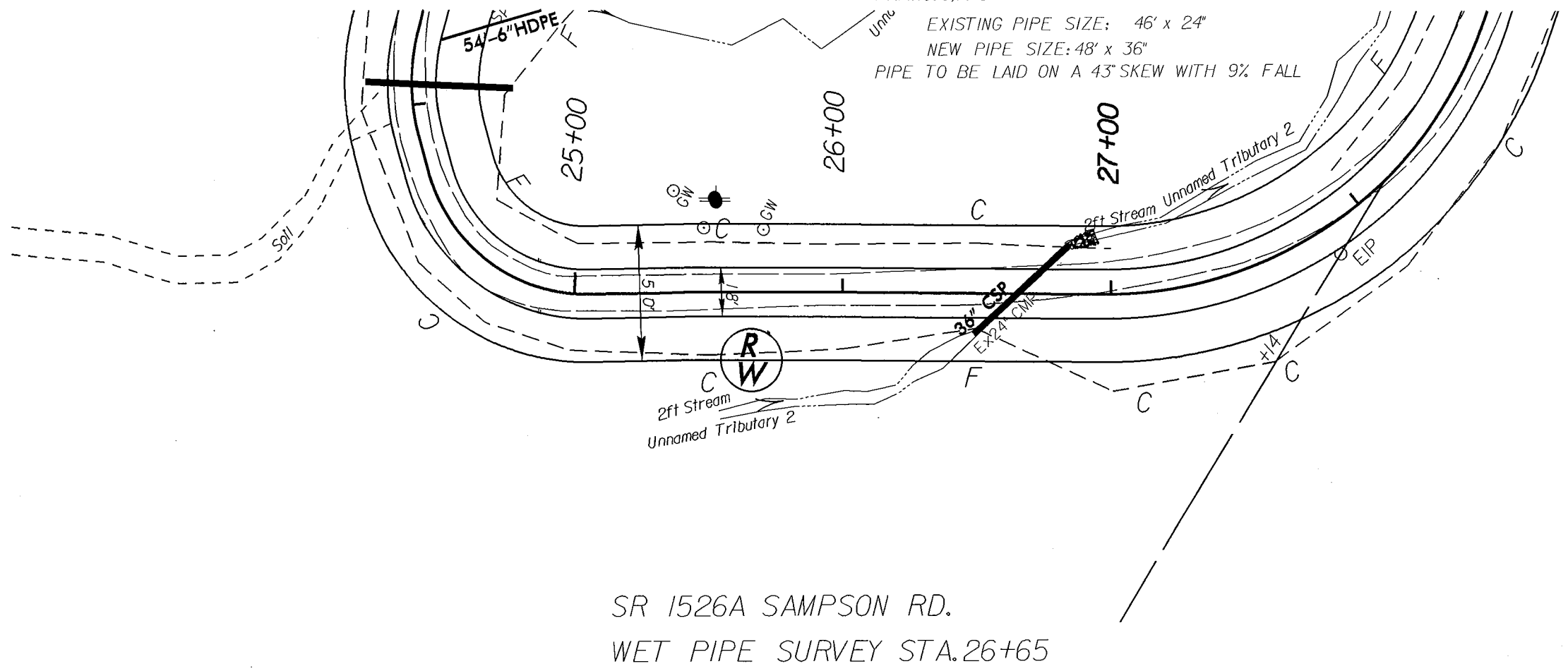
REVISIONS

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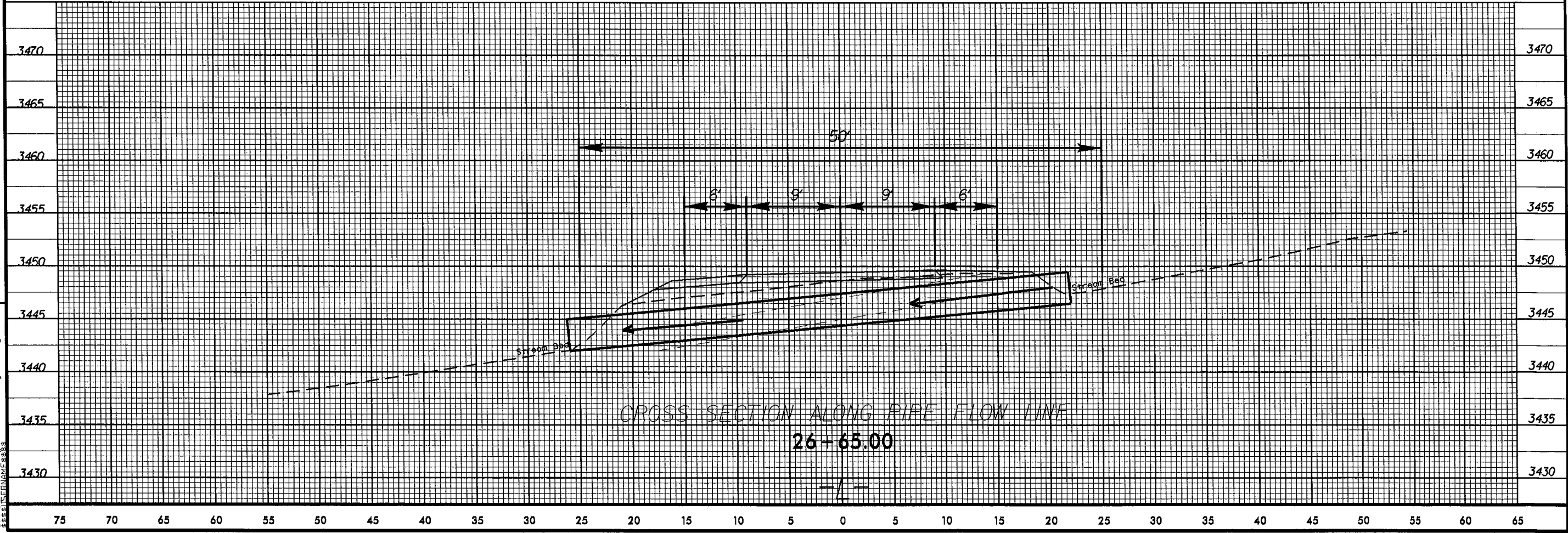
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PROJECT REFERENCE NO.	SHEET NO.
11C.095110 (CONST)	SHEET 2 OF 7
R/W SHEET NO.	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STREAM NAME: Joe's Creek (INDEX 12-19-II)  
 RATING: C; Tr 2ft Stream  
 EXISTING PIPE SIZE: 46" x 24"  
 NEW PIPE SIZE: 48" x 36"  
 PIPE TO BE LAID ON A 43° SKEW WITH 9% FALL



SR 1526A SAMPSON RD.  
 WET PIPE SURVEY STA. 26+65

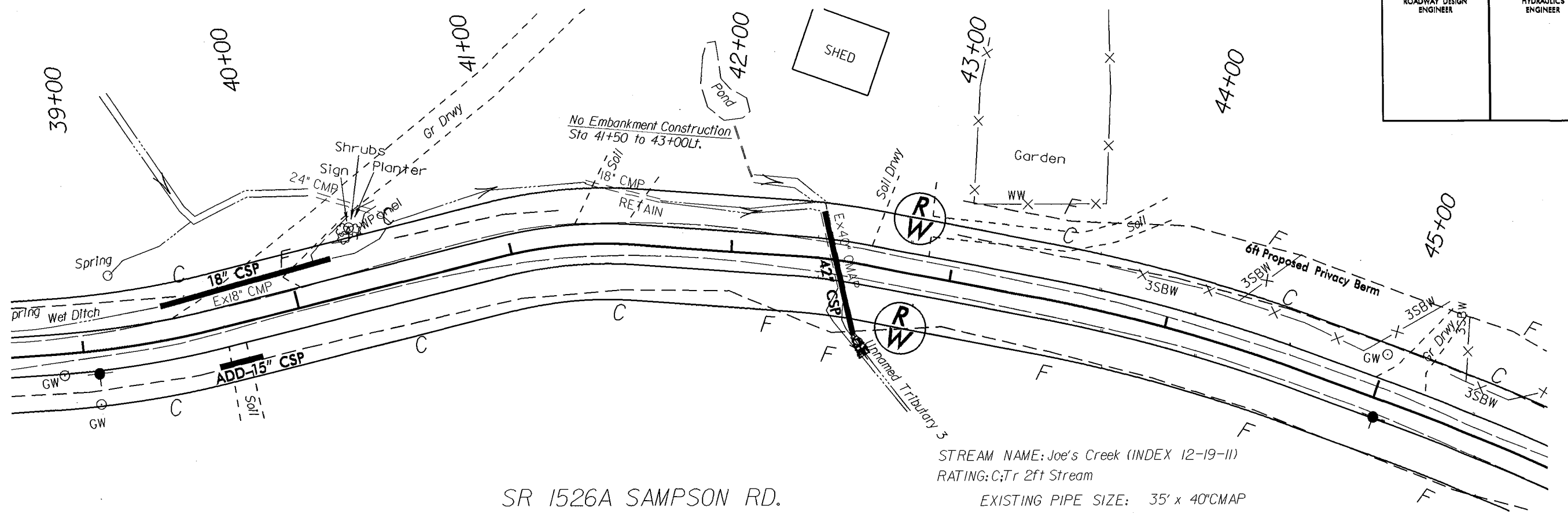


REVISIONS

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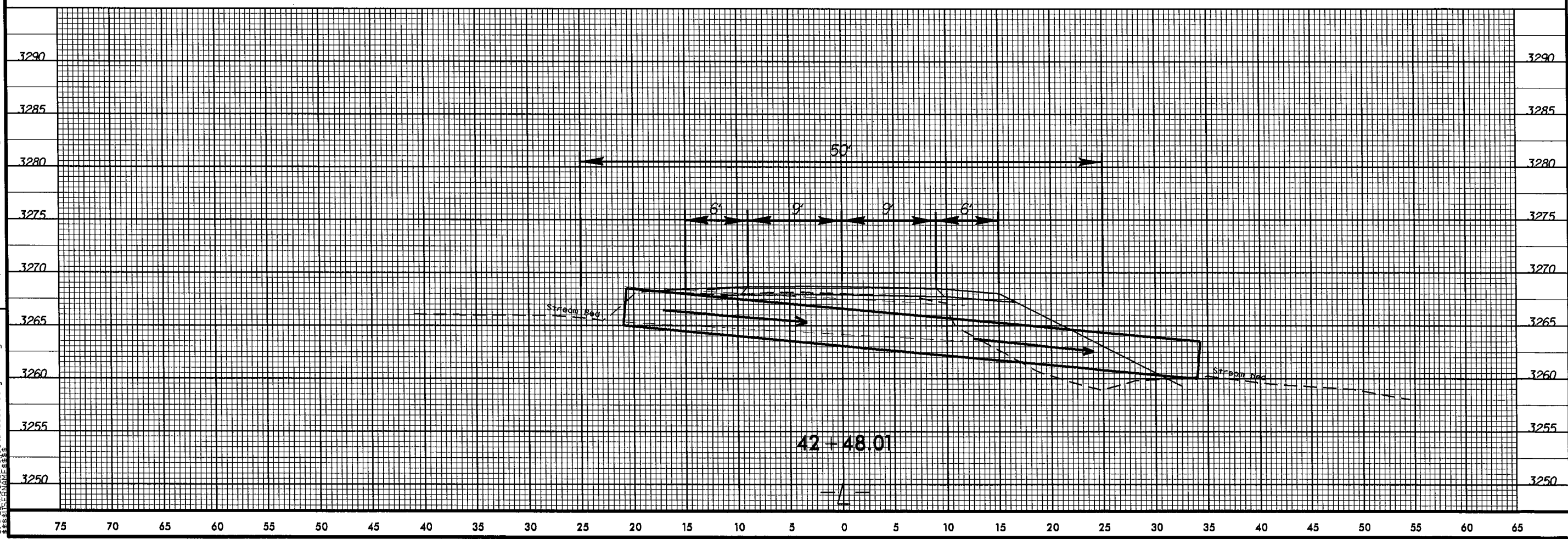


PROJECT REFERENCE NO.	SHEET NO.
IIC.09510 (CONST)	SHEET 4 OF 7
RW SHEET NO.	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



SR 1526A SAMPSON RD.  
WET PIPE SURVEY STA. 42+48

STREAM NAME: Joe's Creek (INDEX 12-19-II)  
RATING: C; Tr 2ft Stream  
EXISTING PIPE SIZE: 35' x 40" CMAP  
NEW PIPE SIZE: 55' x 42"  
PIPE TO BE LAID ON A 76° SKEW WITH 9% FALL



REVISIONS

28-Jul-2017 10:54  
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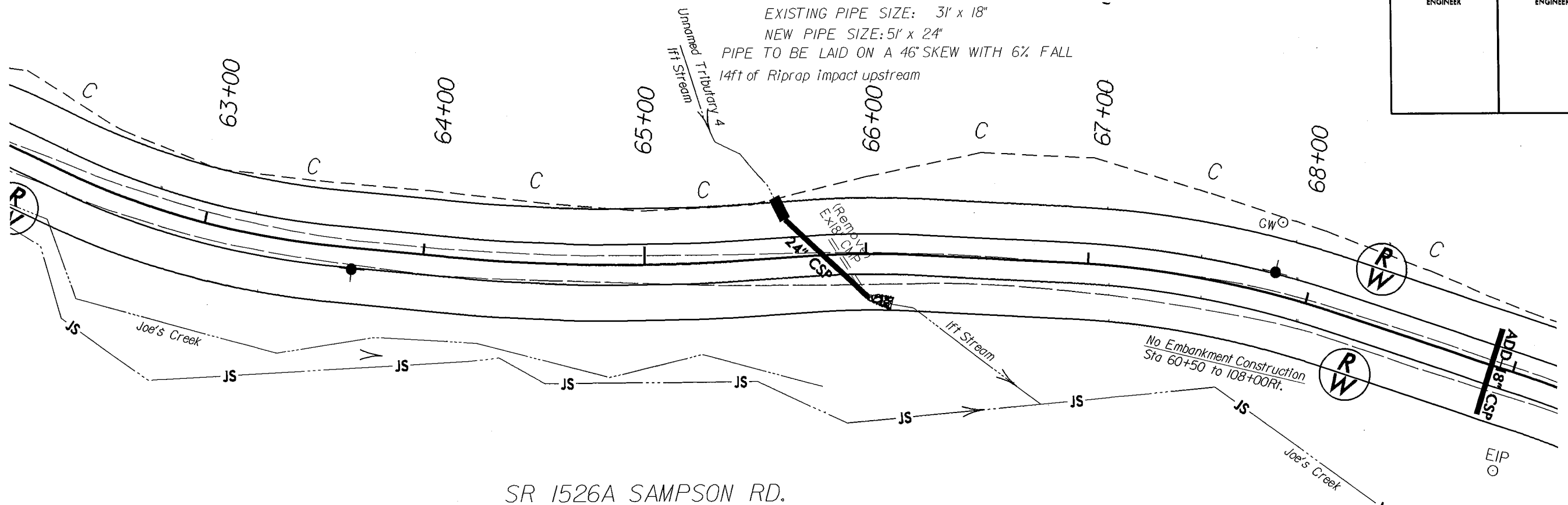
8/17/99

8/17/99

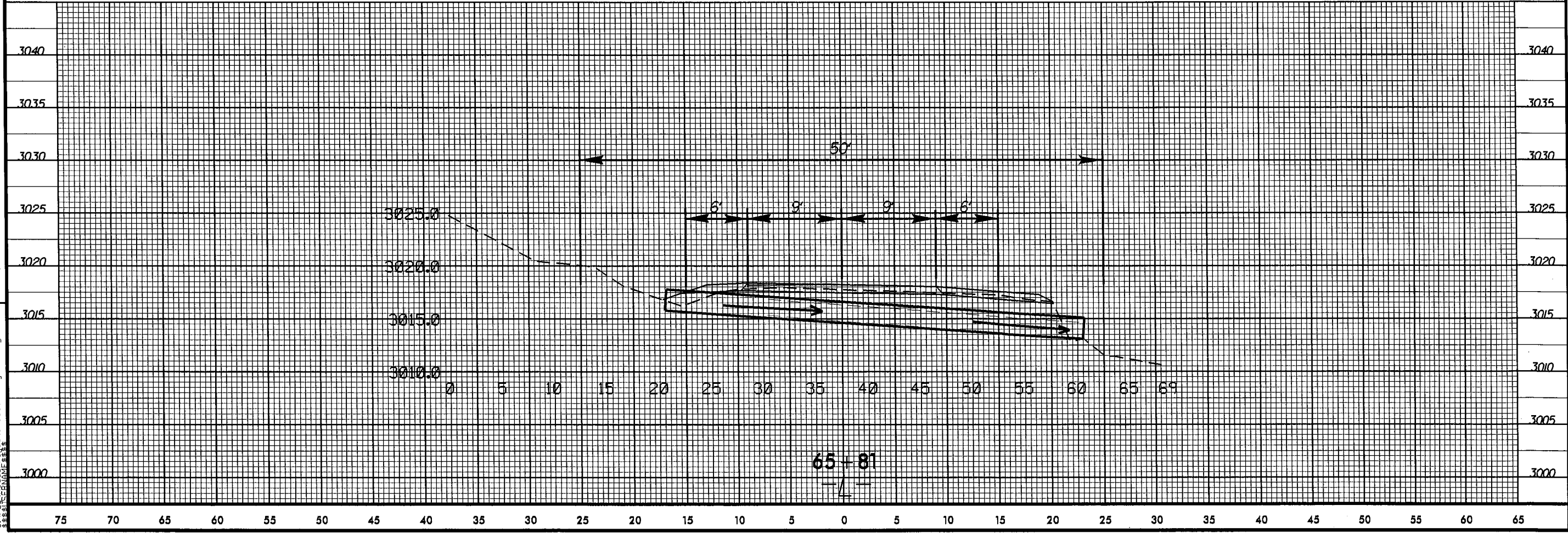
STREAM NAME: Un-named Joe's Creek (INDEX 12-19-11)  
RATING: C; Tr 1ft Stream

EXISTING PIPE SIZE: 3' x 18"  
NEW PIPE SIZE: 5' x 24"  
PIPE TO BE LAID ON A 46° SKEW WITH 6% FALL  
14ft of Riprap impact upstream

PROJECT REFERENCE NO. IIC.095110 (CONST)	SHEET NO. SHEET 5 OF 7
RW SHEET NO. 11	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



SR 1526A SAMPSON RD.  
WET PIPE SURVEY STA. 65+81



REVISIONS

28-JUL-2017 10:54  
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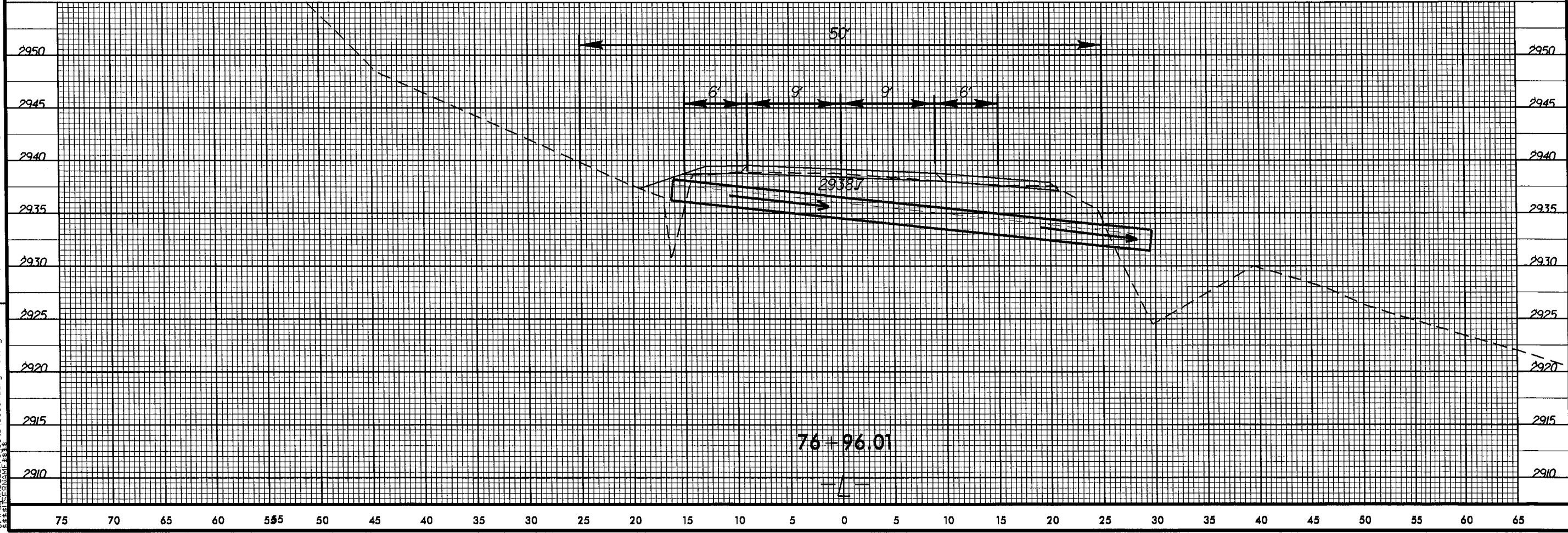
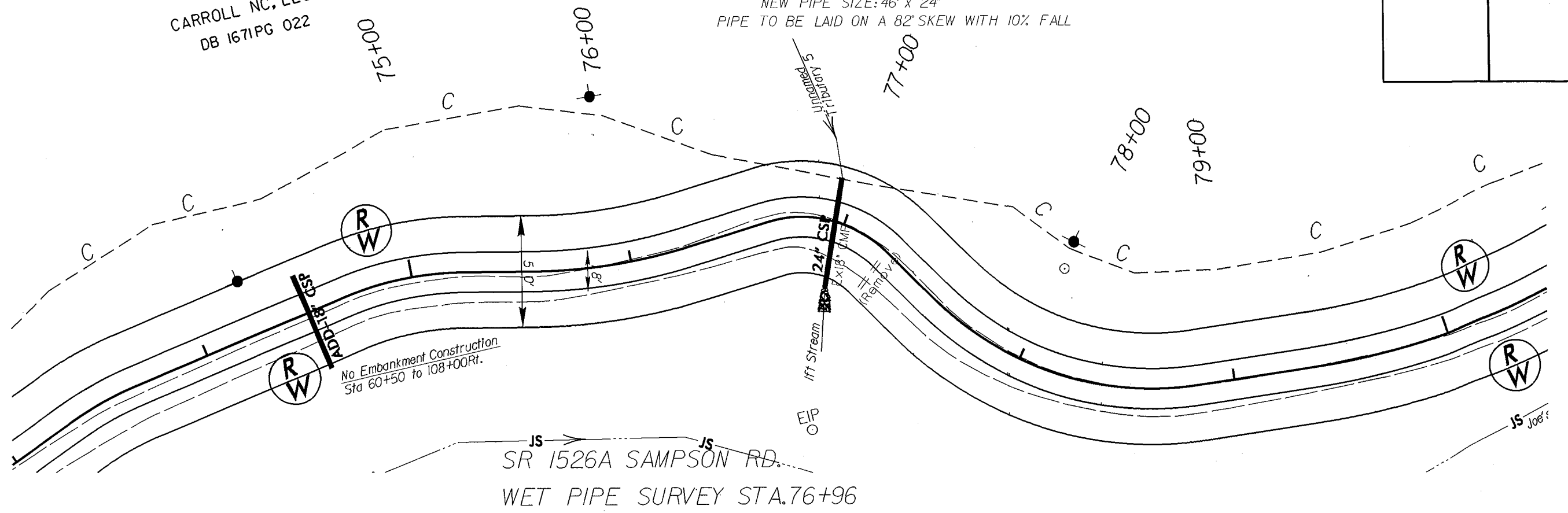
8/17/99

CARROLL NC, LLC  
DB 1671PG 022

STREAM NAME: Un-named Tributary Joe's Creek (INDEX 12-19-II)  
RATING: C; Tr lft Stream

EXISTING PIPE SIZE: 46' x 18"  
NEW PIPE SIZE: 46' x 24"  
PIPE TO BE LAID ON A 82° SKEW WITH 10% FALL

PROJECT REFERENCE NO. HC.09510 (CONST)	SHEET NO. SHEET 6 OF 7
R/W SHEET NO. 12	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



REVISIONS

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8/17/99

STREAM NAME: Un-named Tributary Joe's Creek (INDEX 12-19-11)

RATING: C; Tr Ift Stream

EXISTING PIPE SIZE: 46" x 18"

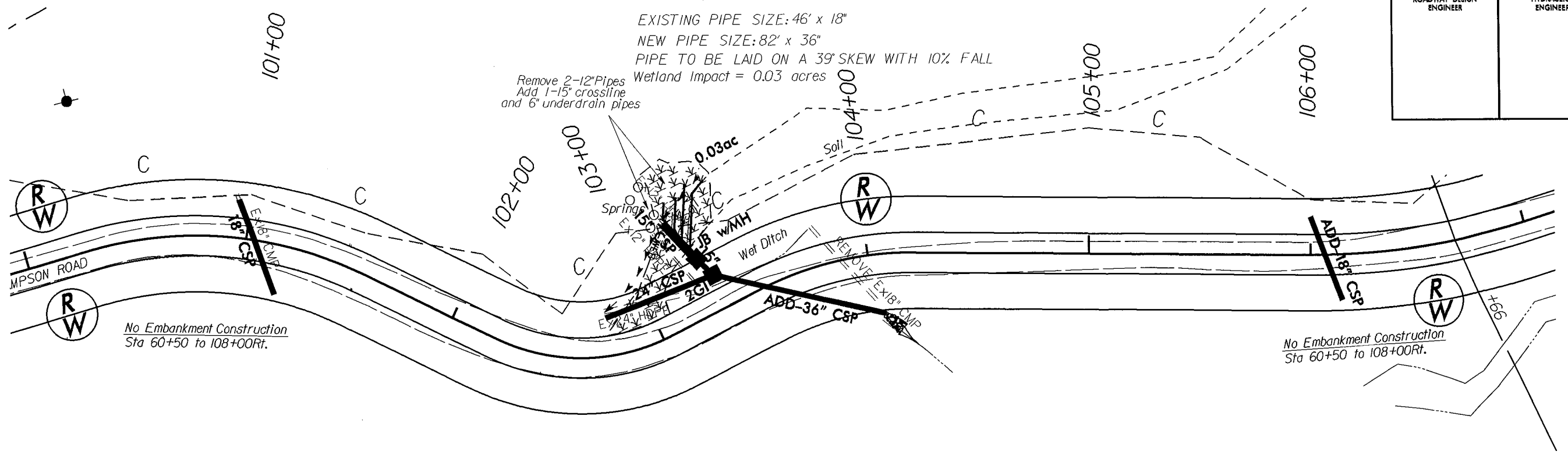
NEW PIPE SIZE: 82" x 36"

PIPE TO BE LAID ON A 39° SKEW WITH 10% FALL

Wetland Impact = 0.03 acres

Remove 2-12" Pipes  
Add 1-15" crossline  
and 6" underdrain pipes

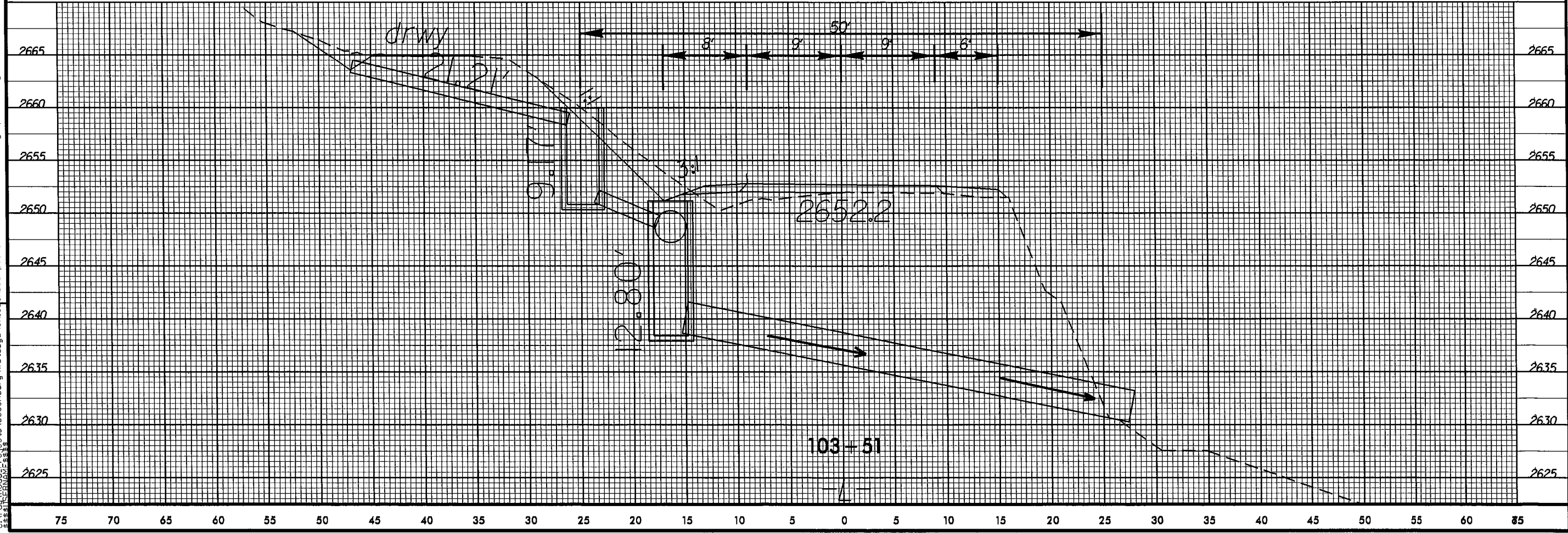
PROJECT REFERENCE NO. HC.095110 (CONST)	SHEET NO. SHEET 7 OF 7
RW SHEET NO. 13	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



No Embankment Construction  
Sta 60+50 to 108+00Rt.

No Embankment Construction  
Sta 60+50 to 108+00Rt.

SR 1526A SAMPSON RD.  
WET PIPE SURVEY STA. 103+51



REVISIONS

28-JUL-2017 10:54  
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