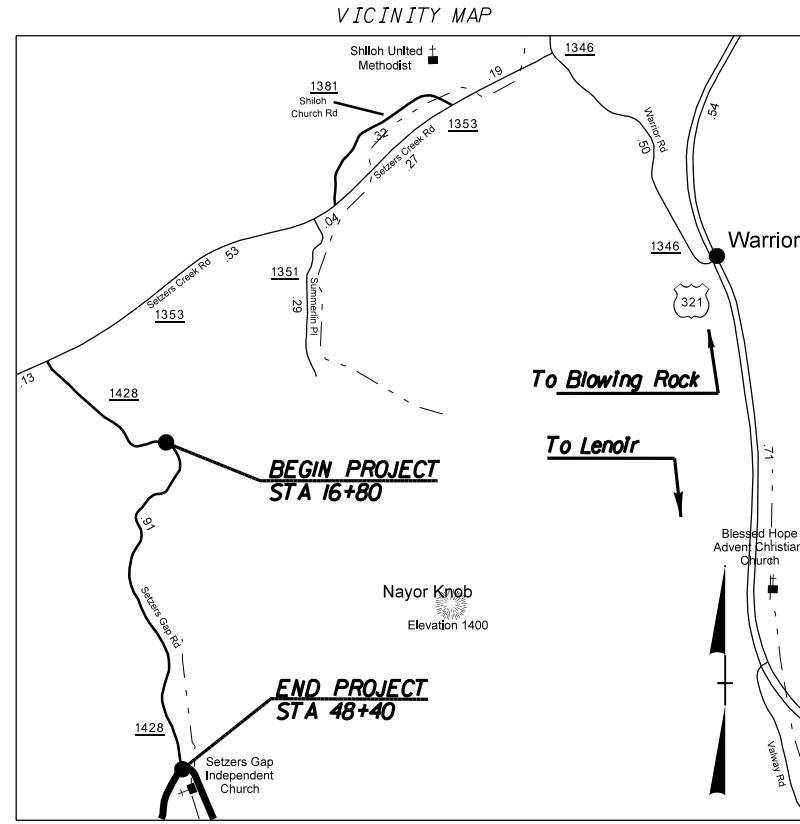


PROJECT: IIC.014091



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

**LOCATION: SR 1428B SETZER'S GAP ROAD FROM
SR 1353 TO NC 90
STA 16+80 TO E.O.P. STA 48+40**
**TYPE OF WORK: GRADING, DRAINAGE, BASE
AND PAVING - 0.60 MILES**
BEGAN SURVEY: 03/12/13
END SURVEY: 03/20/13

Porous Baffle Spacing
*Baffles in Silt Basins at drainage turnouts and all other temporary rock sediment dams-Type B:
-If basin length=10' or less;1 baffle
-If basin length=11' to 20';2 baffles
-If basin length=20' or more;3 baffles
equally spaced in basin

NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

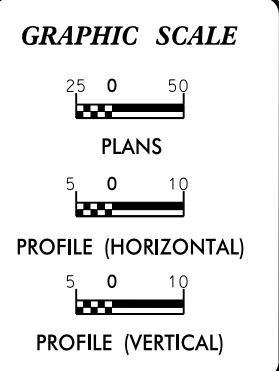
Level III Cert # 3474

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	IIC.014091	EC-1	15
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	---
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III III III III
1622.01	Temporary Berms and Slope Drains	T
1630.02	Silt Basin Type B	▧
1633.01	Temporary Rock Silt Check Type-A	▩
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▩
1633.02	Temporary Rock Silt Check Type-B	▩
	Wattle/Coir Fiber Wattle	⌣
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	⌣
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.



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 J
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 J
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type J	1634.02 Temporary Rock Sediment Dam Type J
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 J
1630.05 Temporary Diversion	1640.01 Coir Fiber Jaffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

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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.

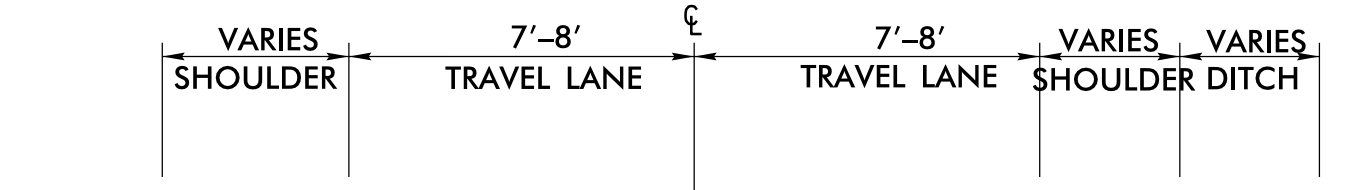
PAM is to be placed on all Type A checks and wattles in the erosion control chain except for the final device in HWQ and Trout projects.

GROUND STABILIZATION CHART

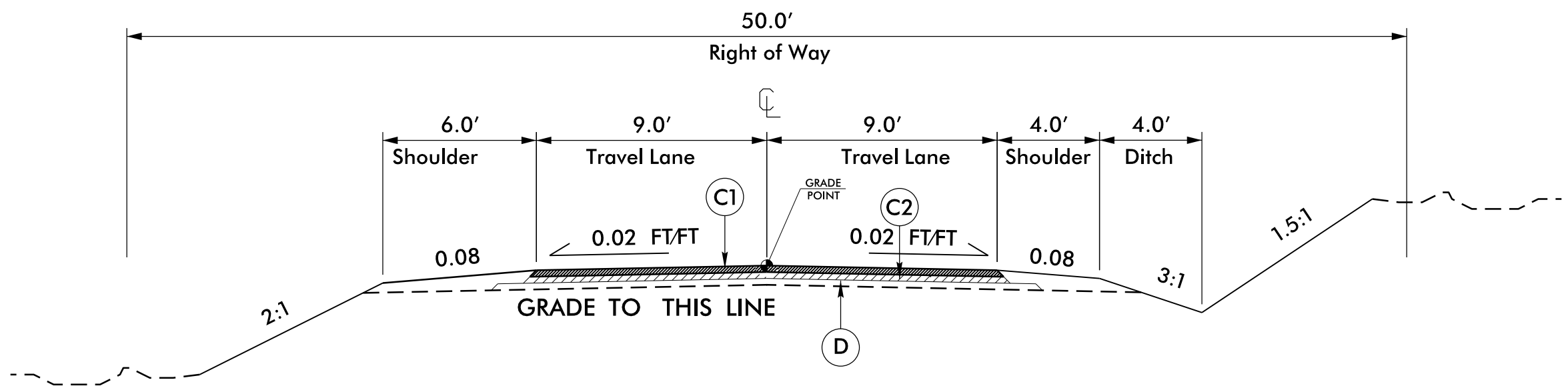
Site Area Description	Stabilization Time Frame	Stabilization Time Frame Exceptions
Perimeter dikes, swales, ditches and slopes	7 days	None
High Quality Water Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10 ft. or less in length and are not steeper than 2:1, 14 days are allowed
Slopes 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)

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11C.014091	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

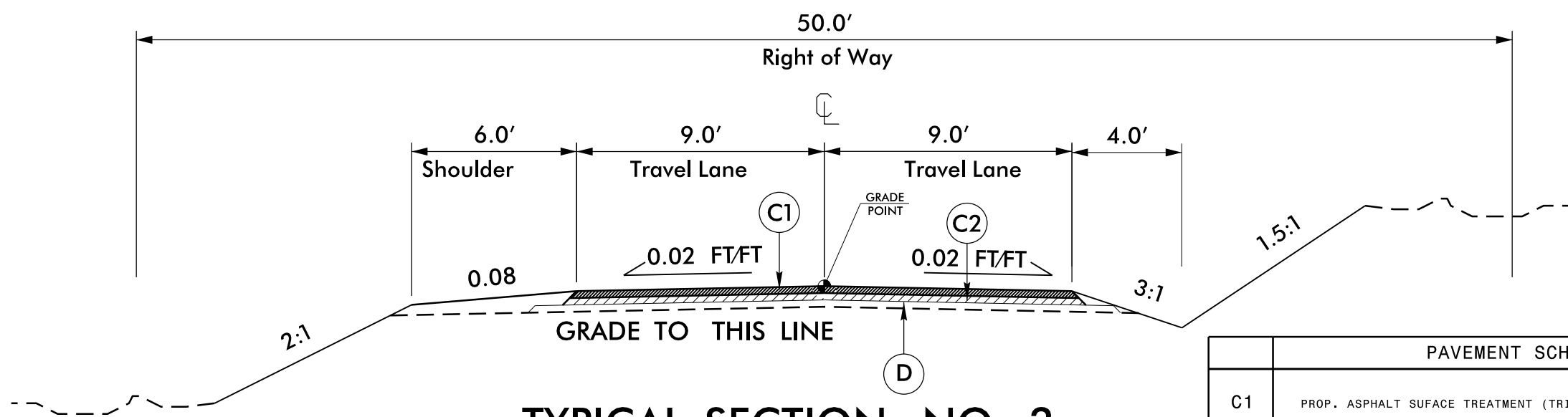


14'-16' EXISTING TYPICAL SECTION



TYPICAL SECTION NO. 1

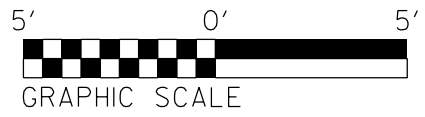
Sta. 16+80 to Sta. 28+60
 Sta. 36+45 to Sta. 48+40(E.O.P.)



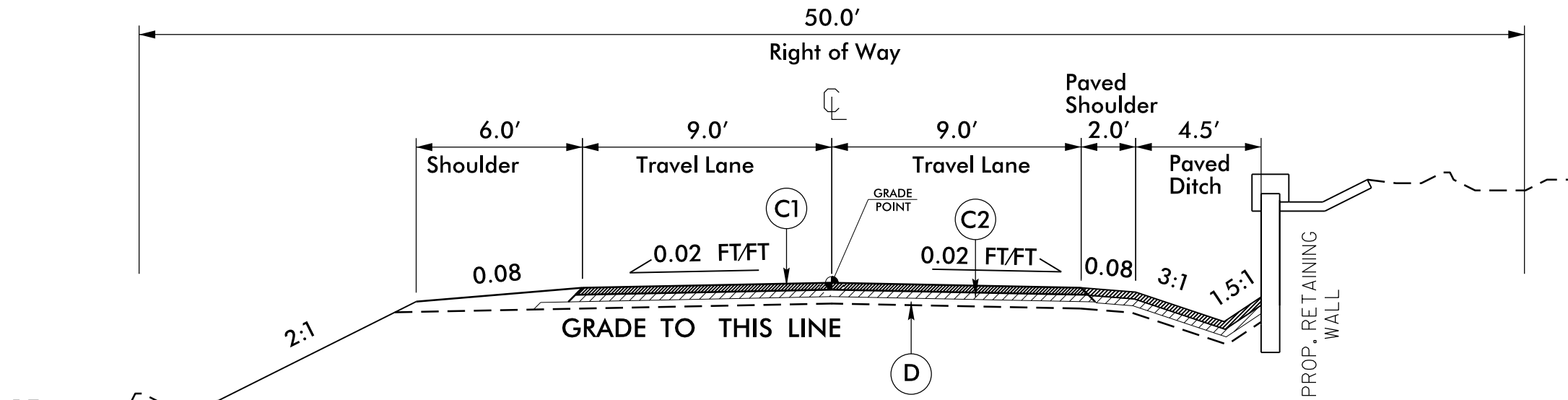
TYPICAL SECTION NO. 2

Sta. 28+60 to Sta. 29+75
 Sta. 34+32 to Sta. 36+45

PAVEMENT SCHEDULE	
C1	PROP. ASPHALT SUFACE TREATMENT (TRIPLE SEAL).
C2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D	PROP. APPROX. 6" AGGREGATE BASE COURSE.

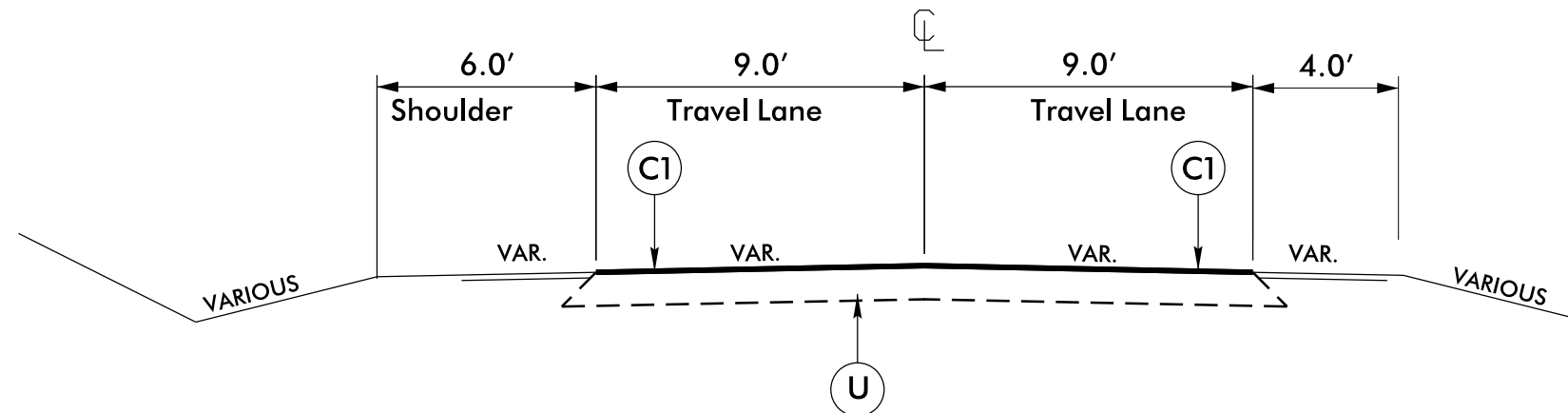


PROJECT REFERENCE NO.	SHEET NO.
11C.014091	2A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER



TYPICAL SECTION NO. 3

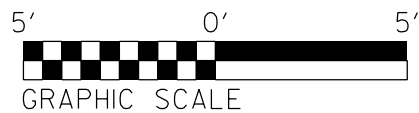
Sta. 29+75 to Sta. 34+32



TYPICAL SECTION NO. 4

STA 0+00 B.O.P. TO 16+80

PAVEMENT SCHEDULE	
C1	PROP. ASPHALT SUFACE TREATMENT (TRIPLE SEAL).
C2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D	PROP. APPROX. 6" AGGREGATE BASE COURSE.
U	EXISTING PAVEMENT



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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

PROJECT REFERENCE NO. <i>11C.014091</i>	SHEET NO. <i>EC-3B</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

<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.

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

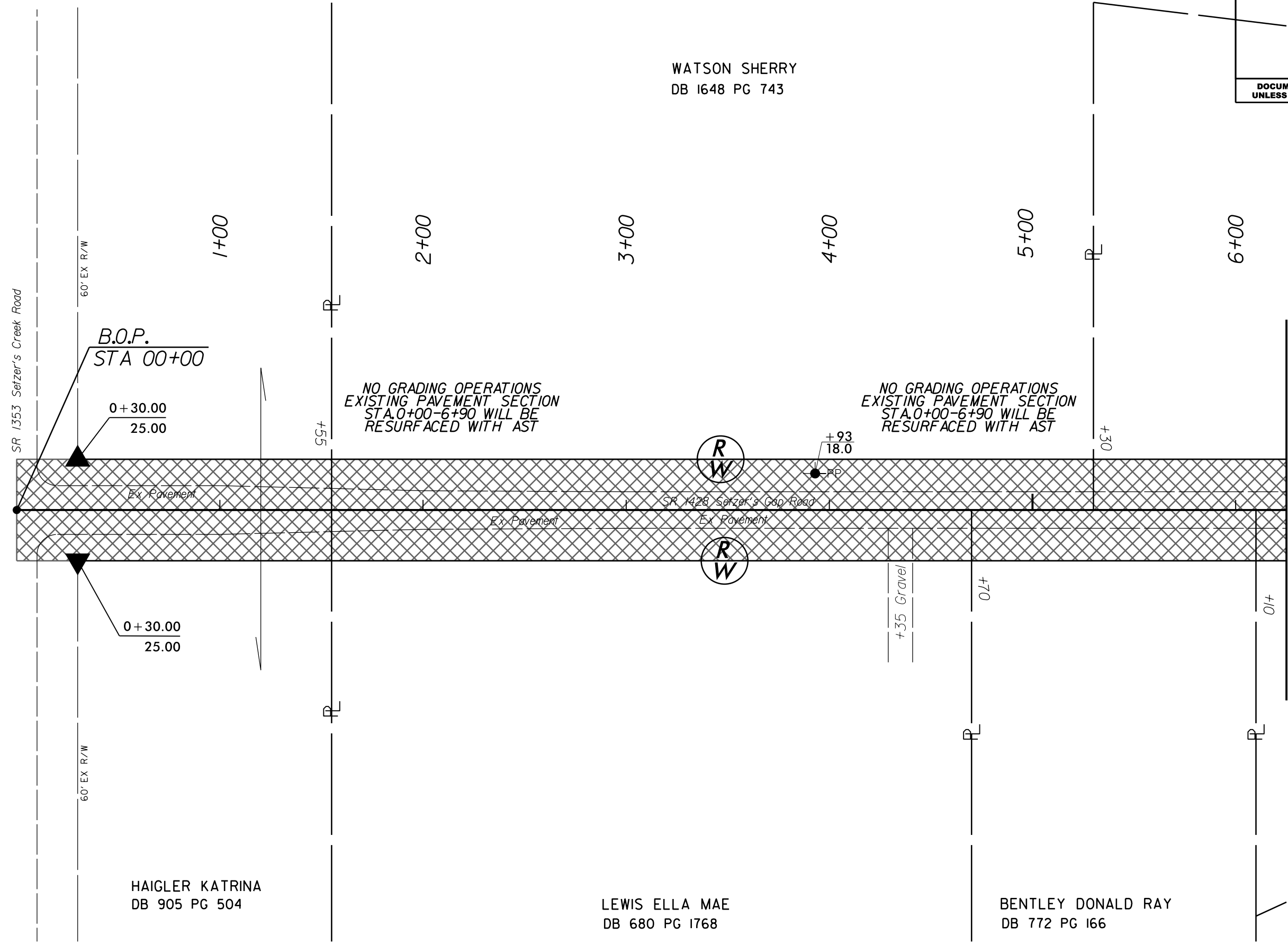
PROJECT NO.	SHEET NO.
11C 014091	3-C

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (L, RT, OR CL)	NEW PIPES								EXISTING PIPES								PIPE REMOVAL D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	U.B. STD. 840.31 OR 840.32	REMARKS
		C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE)																			
		12"	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	24"	30"	36"	42"	48"				
08+12	CL											40						0'			
12+15	CL											30						0'			
17+17	CL			40								30						30			REPLACE
19+85	CL			50								40						40			REPLACE
22+40	CL			50								35						35			REPLACE
25+60	CL			50								30						30			REPLACE
28+33	RT		60																		ADD DRIVE PIPE
29+20	CL			40																	ADD PIPE
30+55	CL											30						30			REMOVE PIPE
32+25	LT											20									DO NOT DISTURB
33+80	CL			40								40						40			REPLACE
34+25	RT																		1	2	TOP OF WALL
35+30	CL			40								30						30			REPLACE
36+40	RT		35									30						30			REPLACE DRIVE PIPE
38+60	CL			40																	ADD PIPE
39+55	CL											25						25			REMOVE PIPE
43+05	CL			40								30						30			REPLACE
44+22	RT		35									35						35			REPLACE DRIVE PIPE
46+60	RT		40									40						40			REPLACE DRIVE PIPE
48+05	CL											35						0'			DO NOT DISTURB
SHEET TOTALS		0	170	390	0	0	0	0	0	560	0	105	310	0	0	0	0	395	1	2	

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R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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WATSON SHERRY
 DB 1648 PG 743

HAIGLER KATRINA
 DB 905 PG 504

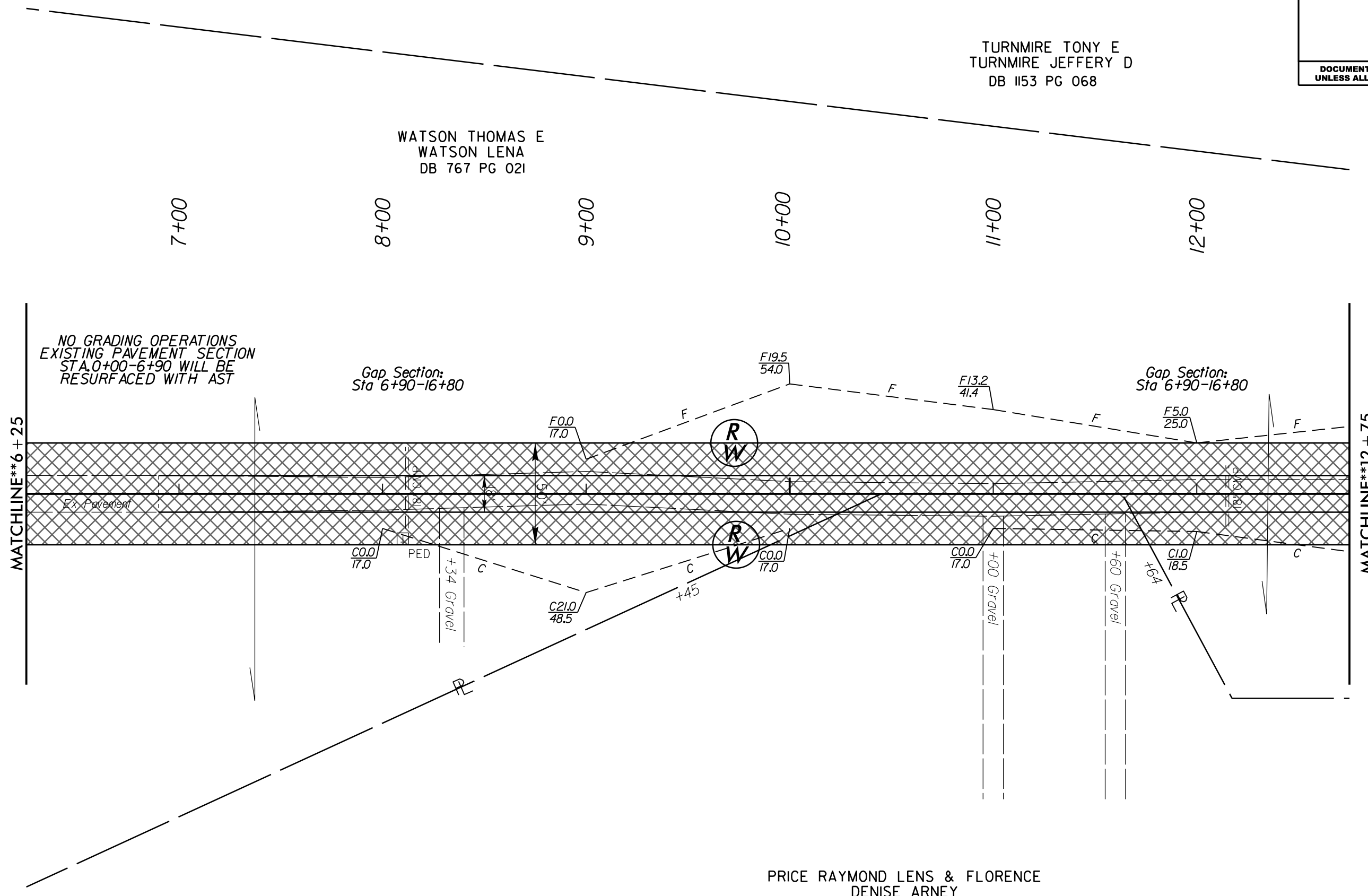
LEWIS ELLA MAE
 DB 680 PG 1768

BENTLEY DONALD RAY
 DB 772 PG 166

MATCHLINE**6+25

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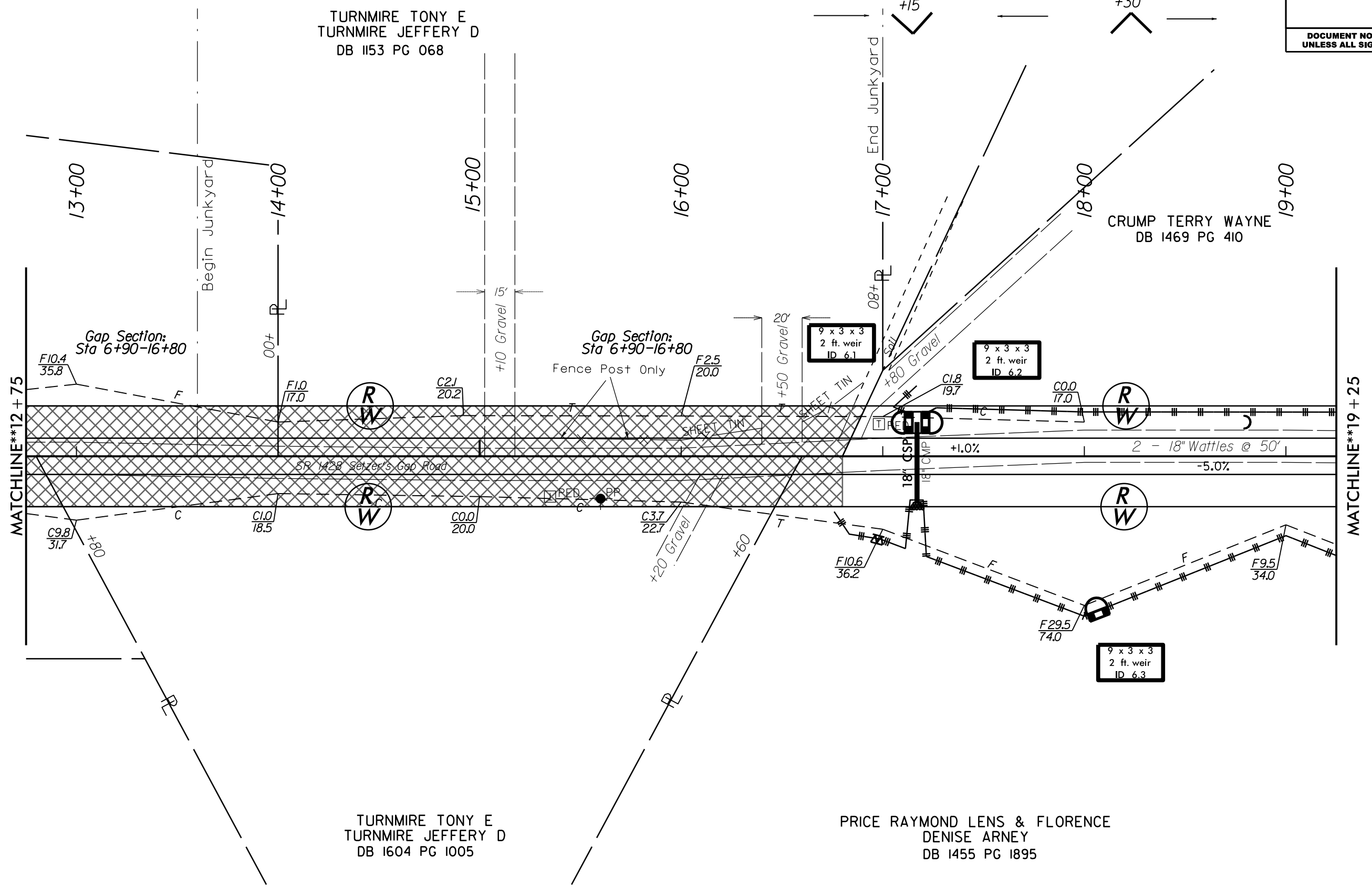
MATCHLINE**6 + 25

MATCHLINE**12 + 75

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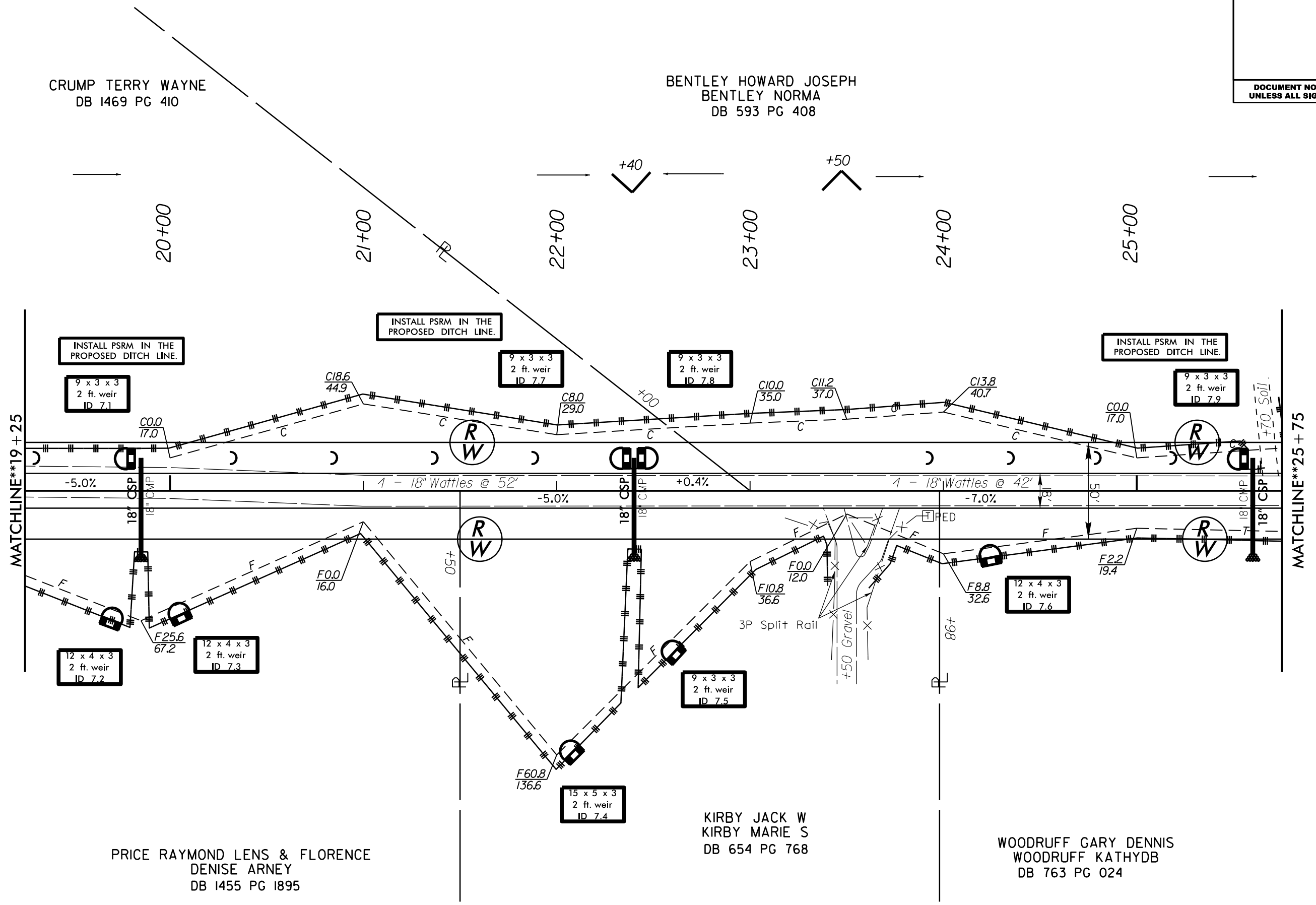
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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CRUMP TERRY WAYNE
DB 1469 PG 410

BENTLEY HOWARD JOSEPH
BENTLEY NORMA
DB 593 PG 408

PRICE RAYMOND LENS & FLORENCE
DENISE ARNEY
DB 1455 PG 1895

KIRBY JACK W
KIRBY MARIE S
DB 654 PG 768

WOODRUFF GARY DENNIS
WOODRUFF KATHYDB
DB 763 PG 024

MATCHLINE**19+25

MATCHLINE**25+75

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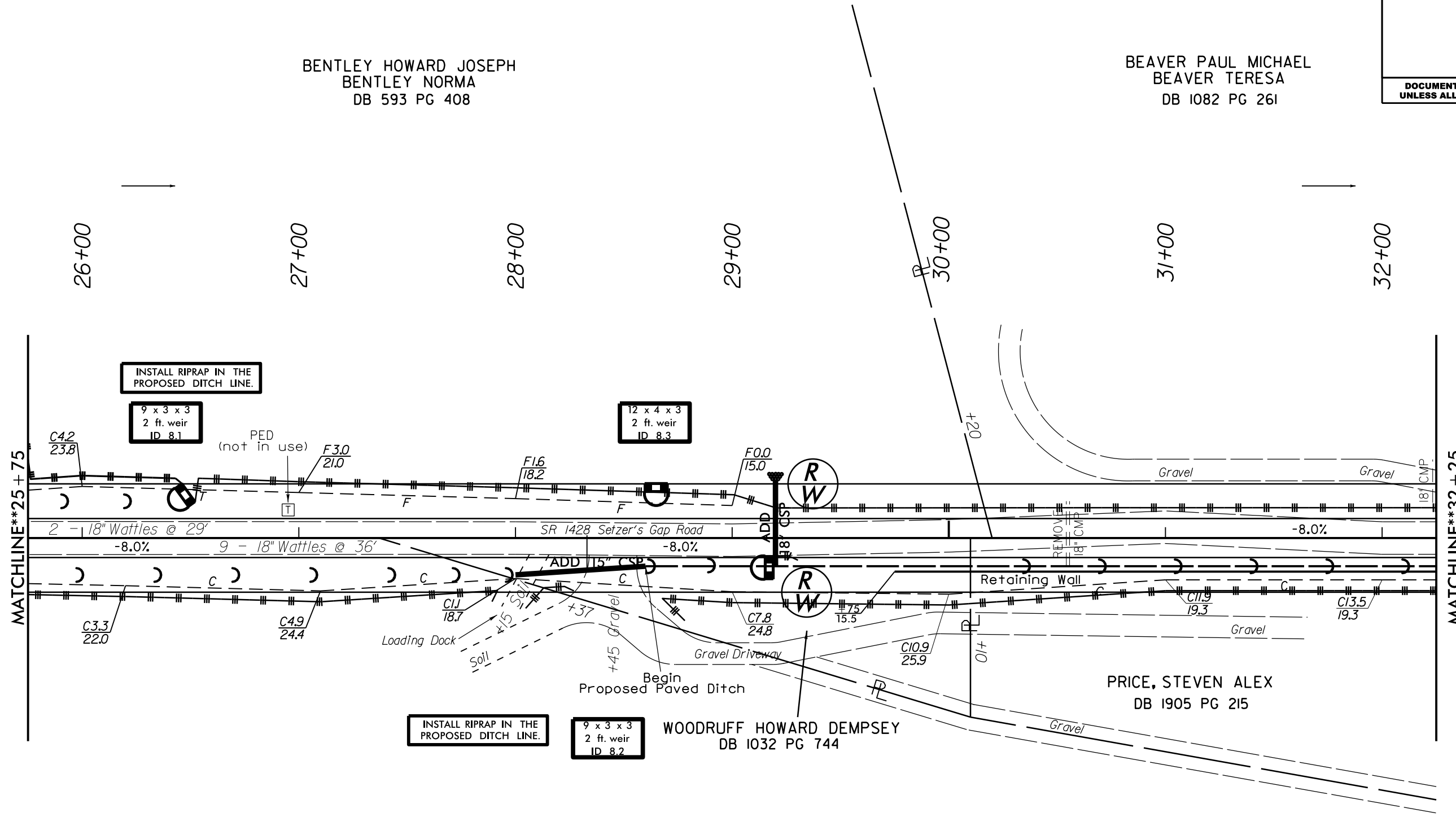
BENTLEY HOWARD JOSEPH
BENTLEY NORMA
DB 593 PG 408

BEAVER PAUL MICHAEL
BEAVER TERESA
DB 1082 PG 261

PRICE, STEVEN ALEX
DB 1905 PG 215

WOODRUFF HOWARD DEMPSEY
DB 1032 PG 744

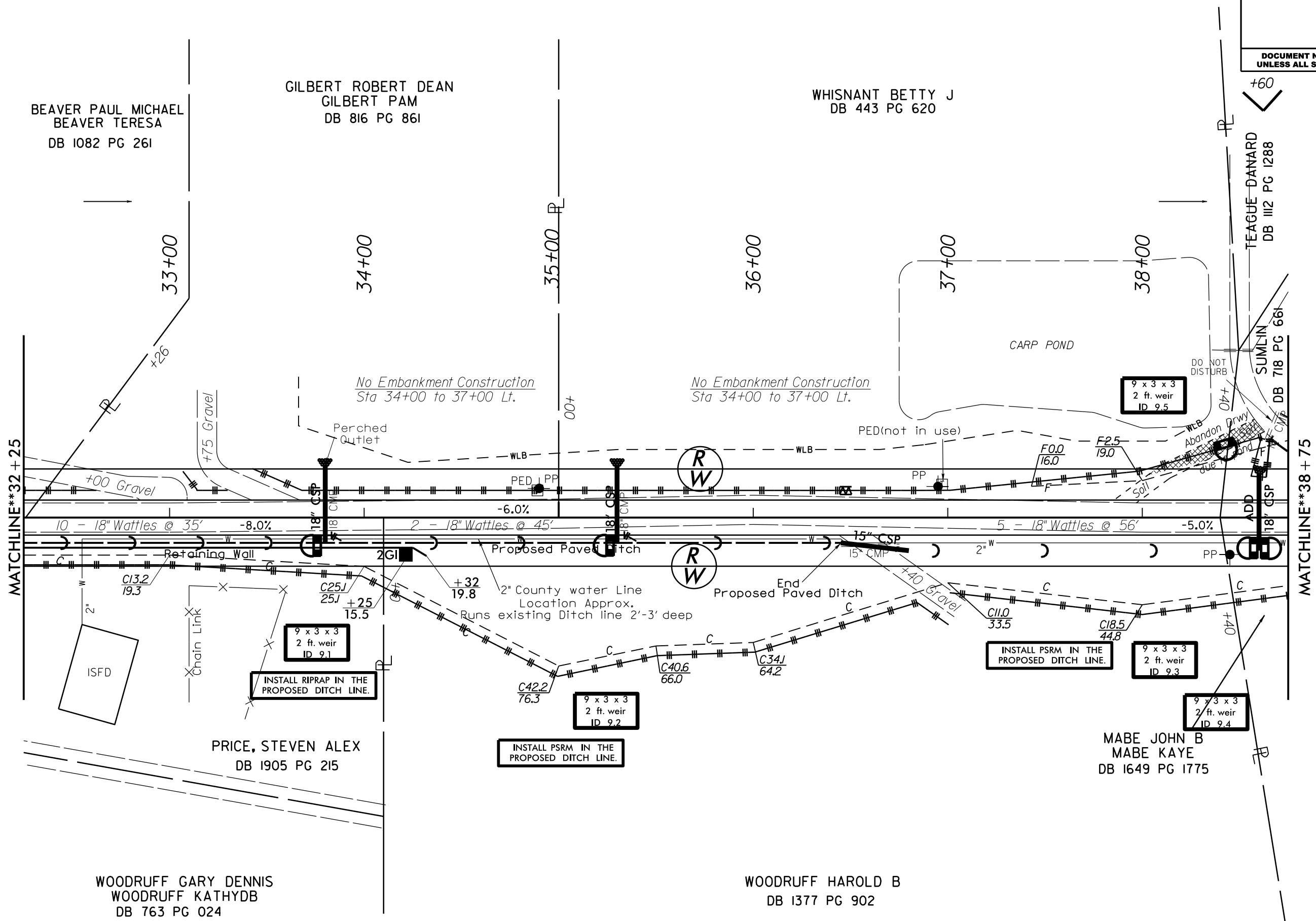
WOODRUFF GARY DENNIS
WOODRUFF KATHYDB
DB 763 PG 024



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PROJECT REFERENCE NO.	SHEET NO.
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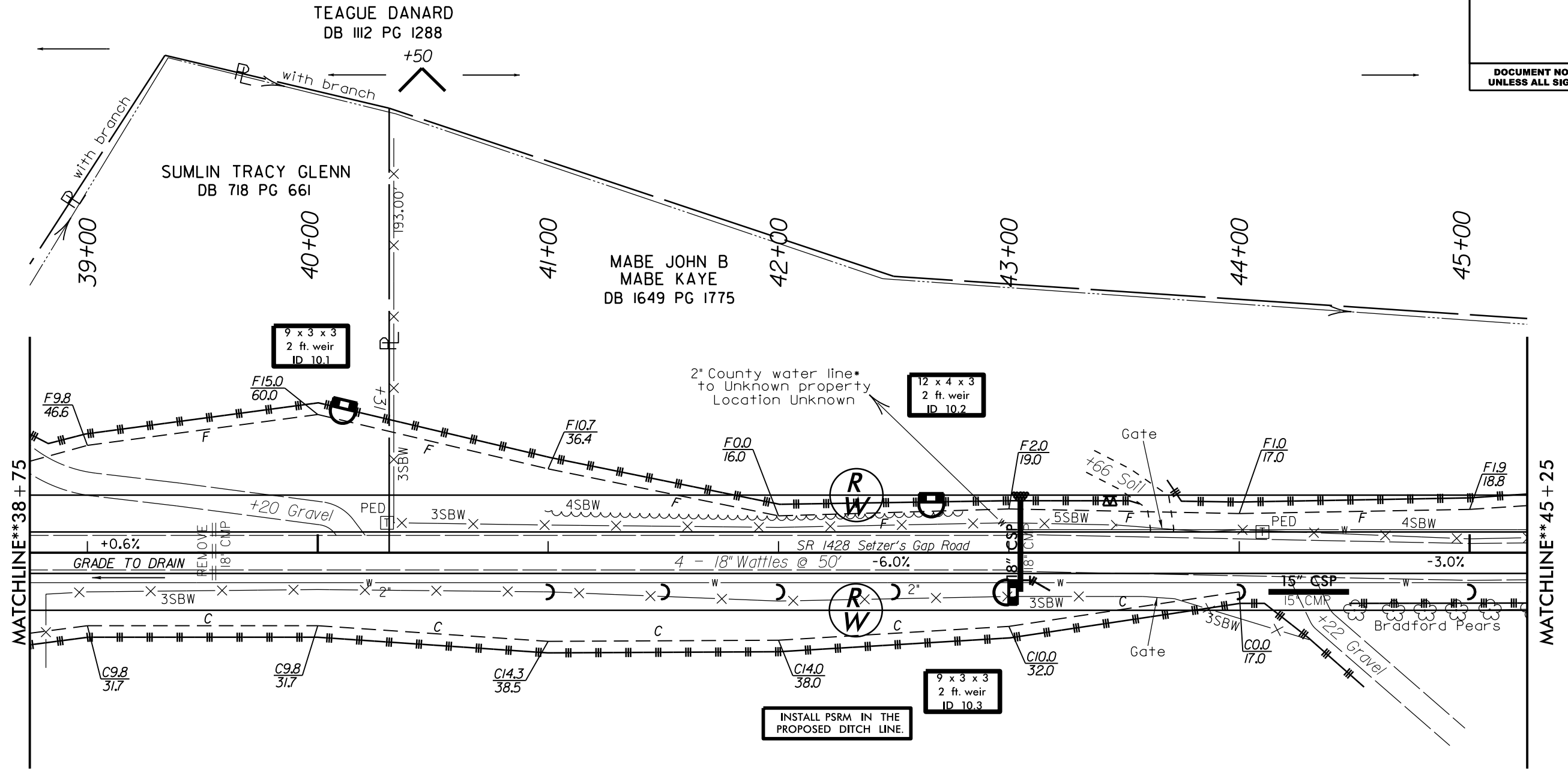


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11C.014091	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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INSTALL PSRM IN THE PROPOSED DITCH LINE.

No Embankment Construction
Sta 44+00 to 48+40 Lt.

MABE JOHN B
MABE KAYE
DB 1649 PG 1775

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

