

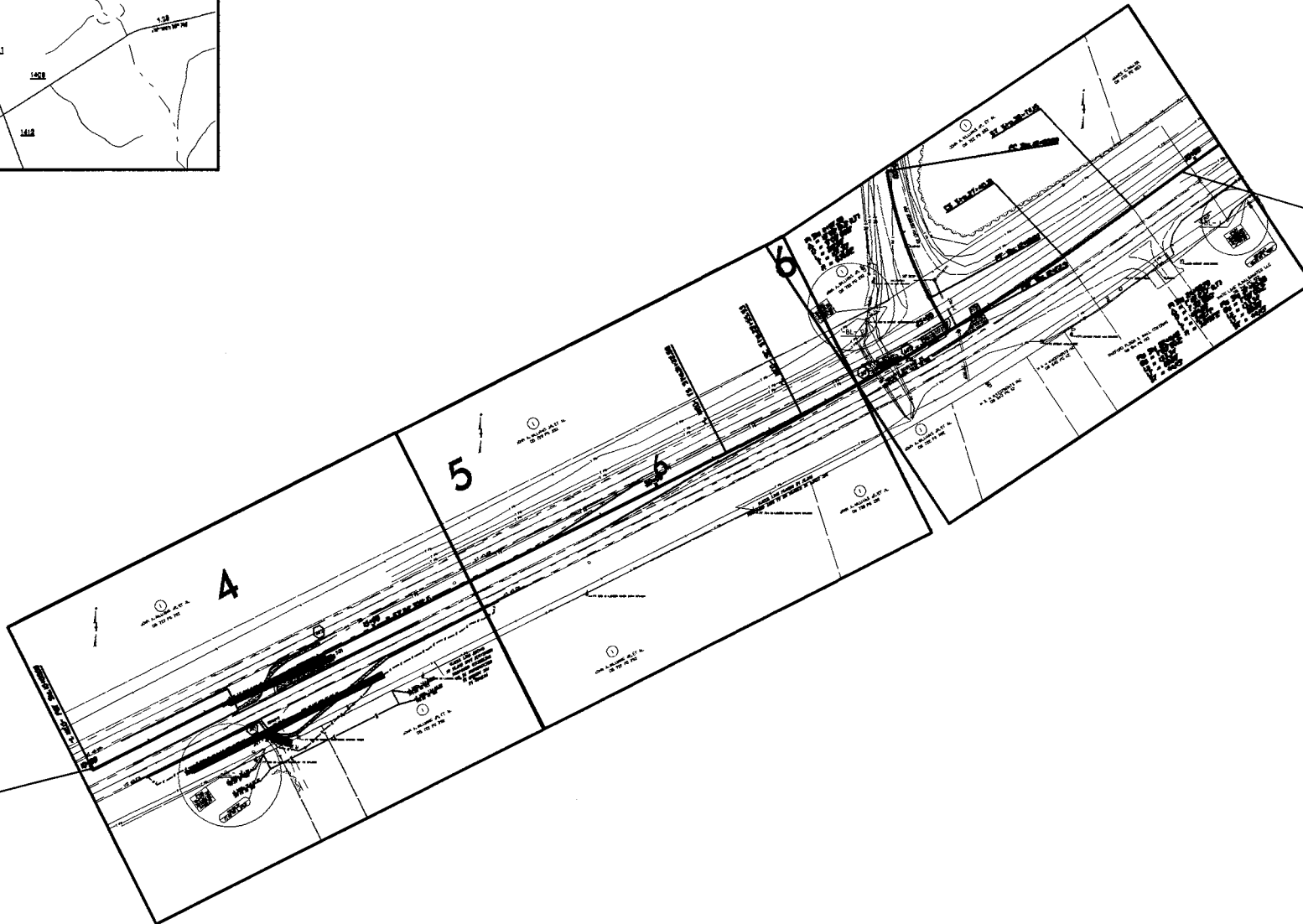
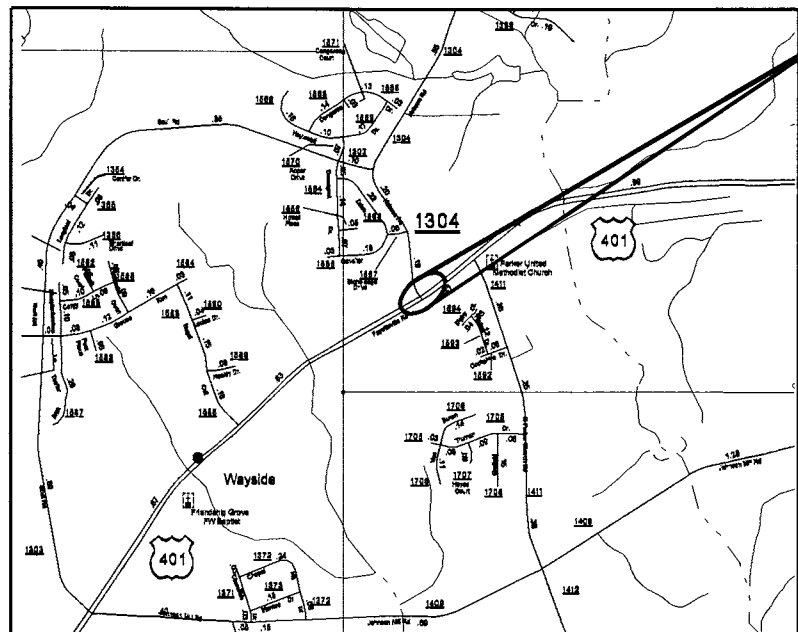
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HOKE COUNTY

LOCATION: US 401 AT SR 1304 (HOBSON RD.)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, CONCRETE ISLANDS, AND
THERMOPLASTIC MARKINGS & MARKERS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	SS-4908AI	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
43574.1.1		PE	
43574.2.1		RW	
43574.3.1		CONST.	



-L MED- STA. 10+00
BEGIN PROJECT SS-4908AI

-L MED- STA 29+66
END PROJECT SS-4908AI

CONTRACT: TIP PROJECT: SS-4908AI

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2012 = 22,000

D = 50 %
T = 6 % *
V = 45 MPH
* TTST = 3 DUAL 3

Prepared in the Office of:
DIVISION OF HIGHWAYS
DIVISION 8 DESIGN & CONSTRUCT UNIT
902 N. SANDHILLS BLVD.
ABERDEEN NC 28315
PLANS PREPARED BY: MRT

PROJECT LENGTH

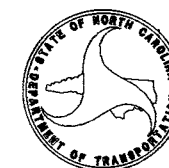
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STRUCTURE: _____ MILES
TOTAL: 0.37 MILES

DIVISION OF HIGHWAYS

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

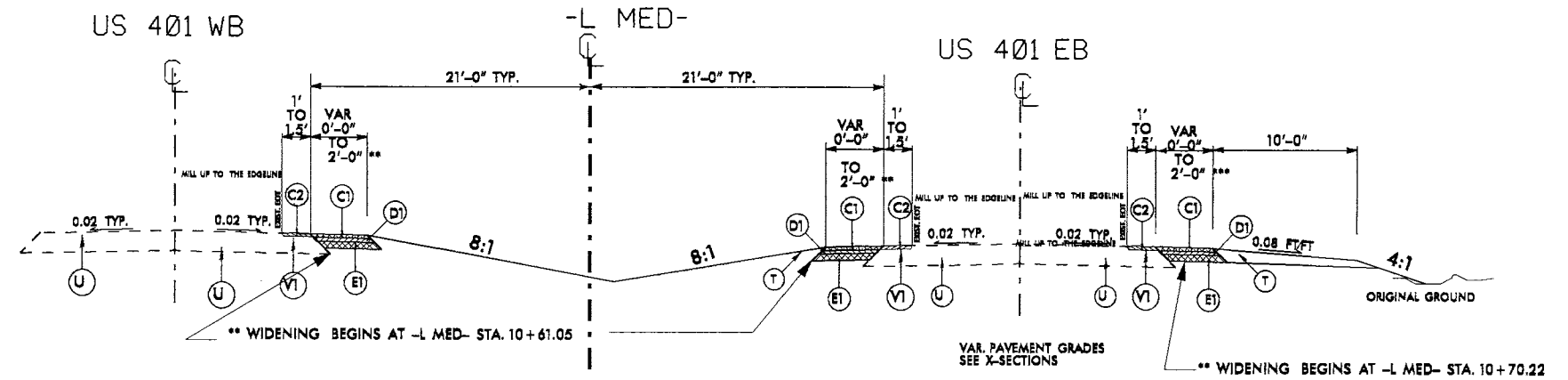


DIVISION DESIGN & CONSTRUCT ENGINEER

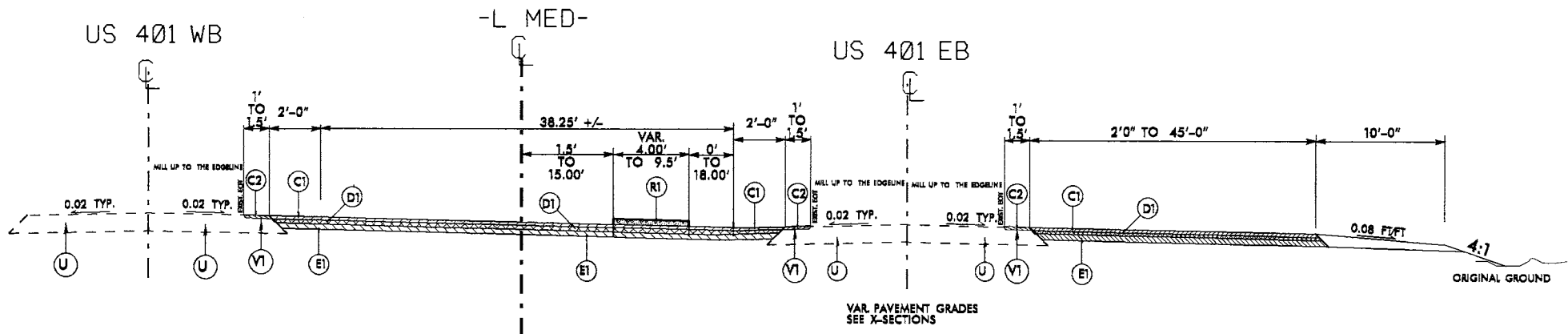


5-30-14
G.S. Davis

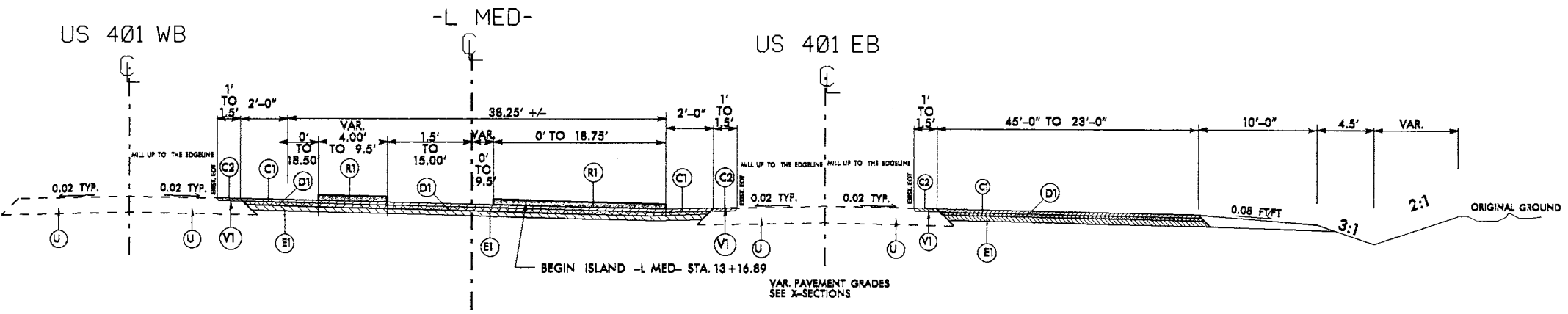
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 -L MED - STA. 10+00 TO 12+49.18



TYPICAL SECTION NO. 2
 -L MED- STA. 12+49.18 TO 13+06.07



TYPICAL SECTION NO. 3
 -L MED- STA. 13+06.07 TO 14+10.93

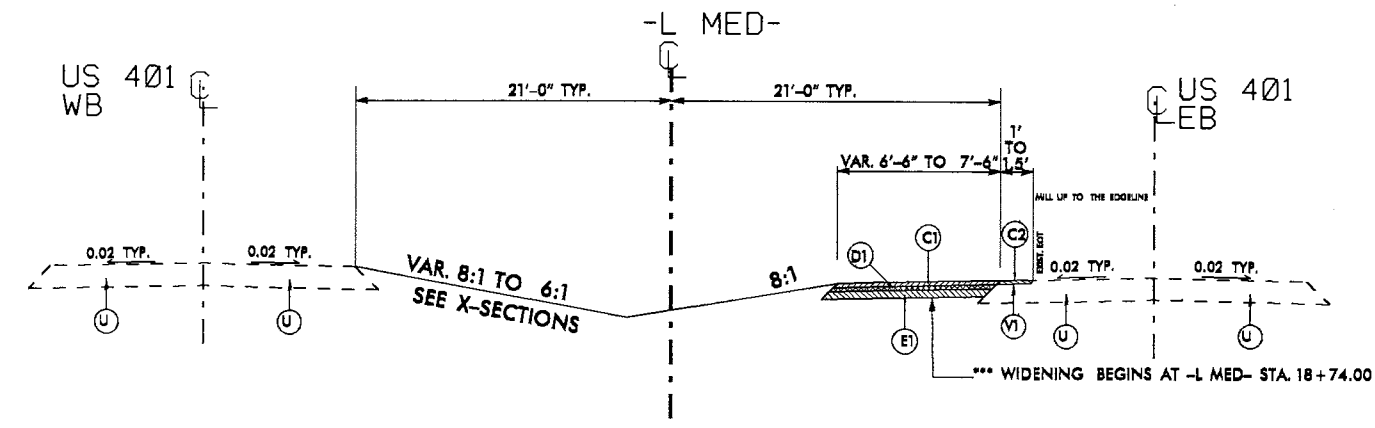


PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE 90.5B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD. PER 1 1/2" DEPTH, TO BE PLACED IN TWO LAYERS.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 90.5B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 110.8, AT AN AVERAGE RATE OF 488 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.8, AT AN AVERAGE RATE OF 827 LBS. PER SQ. YD.
R1	8" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED).
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	0" TO 1.5" MILLING

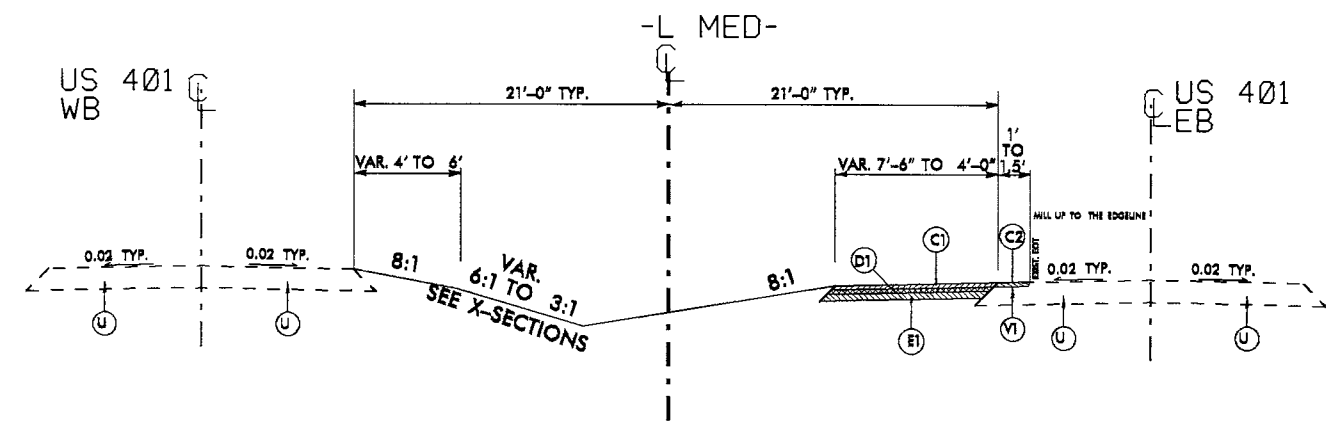
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

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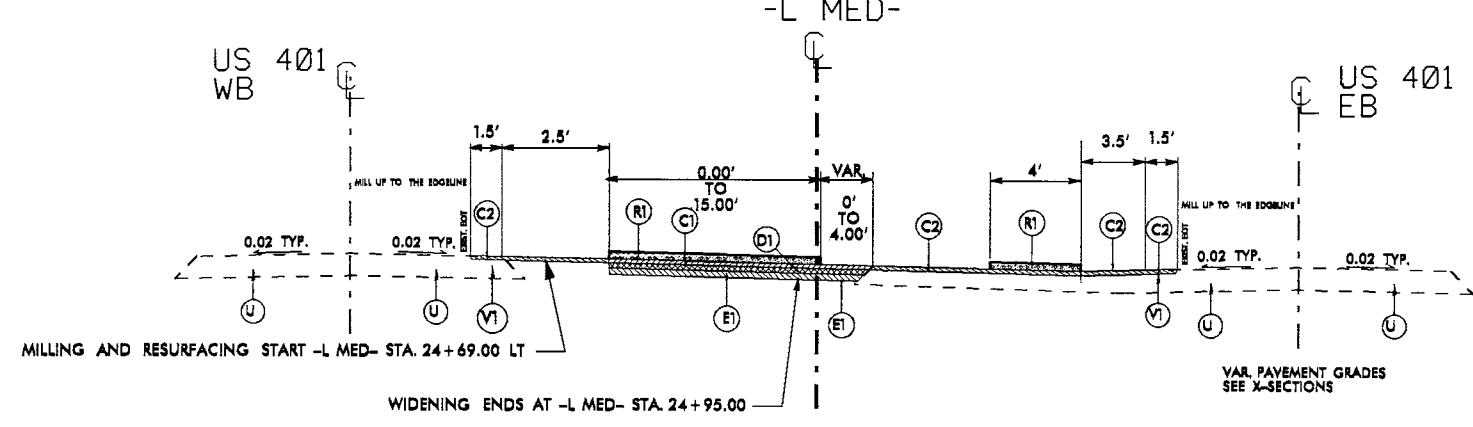
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-L MED- STA. 19+86.00 TO 20+60.00



TYPICAL SECTION NO. 8
-L MED- STA. 20+60.00 TO 24+80.00



TYPICAL SECTION NO. 9
-L MED- STA. 24+69.00 TO 24+80 LT
-L MED- STA. 24+80.00 TO 25+30.00



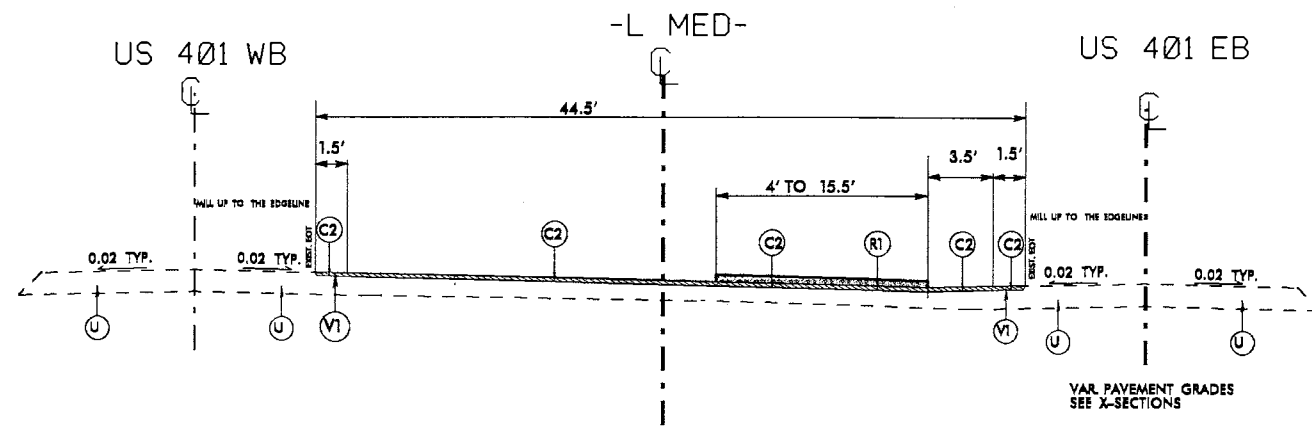
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. PER 1 1/2" DEPTH. TO BE PLACED IN TWO LAYERS.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
R1	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED).
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	0" TO 1.5" MILLING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

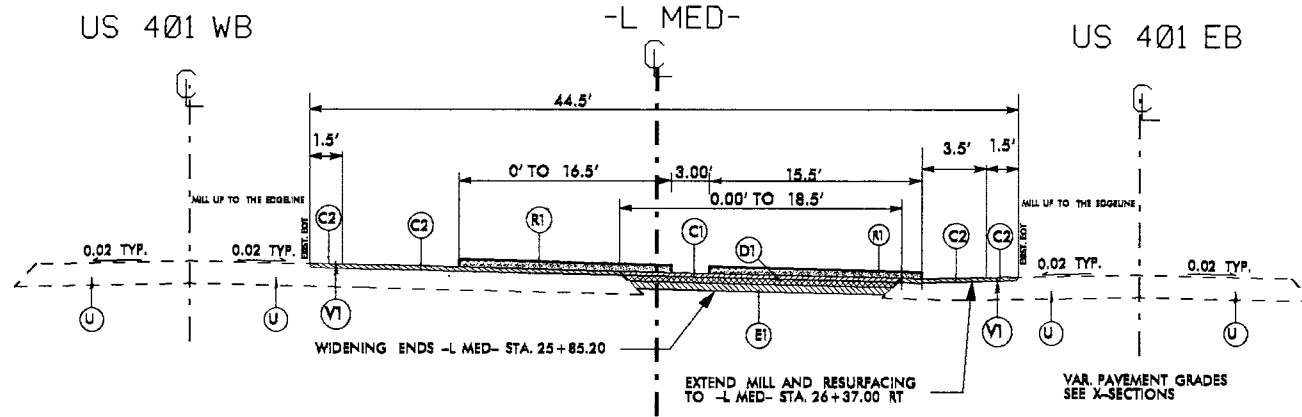
REVISIONS

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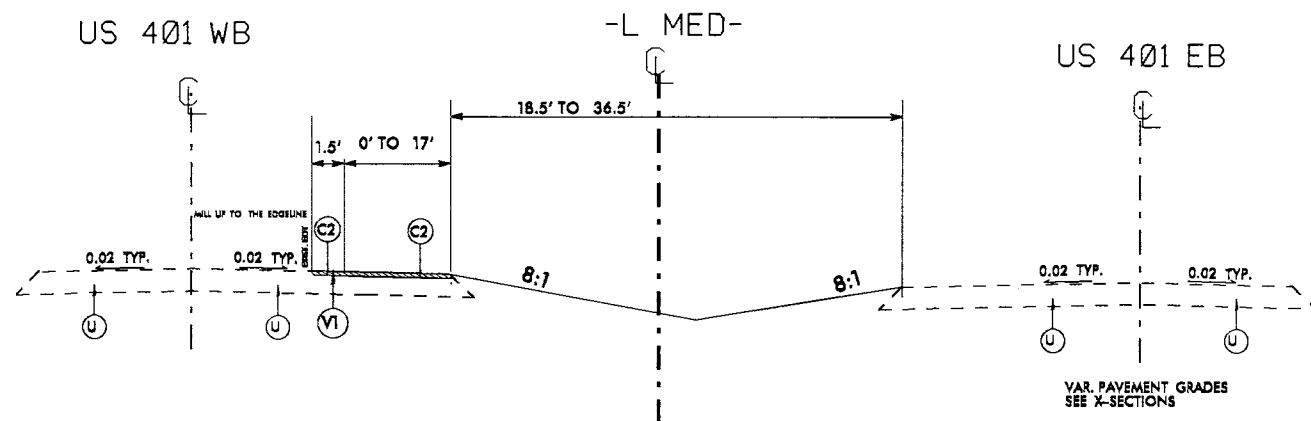
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TYPICAL SECTION NO. 11
-L MED- STA. 25+60.00 TO 25+85.20
-L MED- STA. 25+85.20 TO 26+37.00 RT



TYPICAL SECTION NO. 12
-L MED- STA. 25+85.20 TO 29+66.00



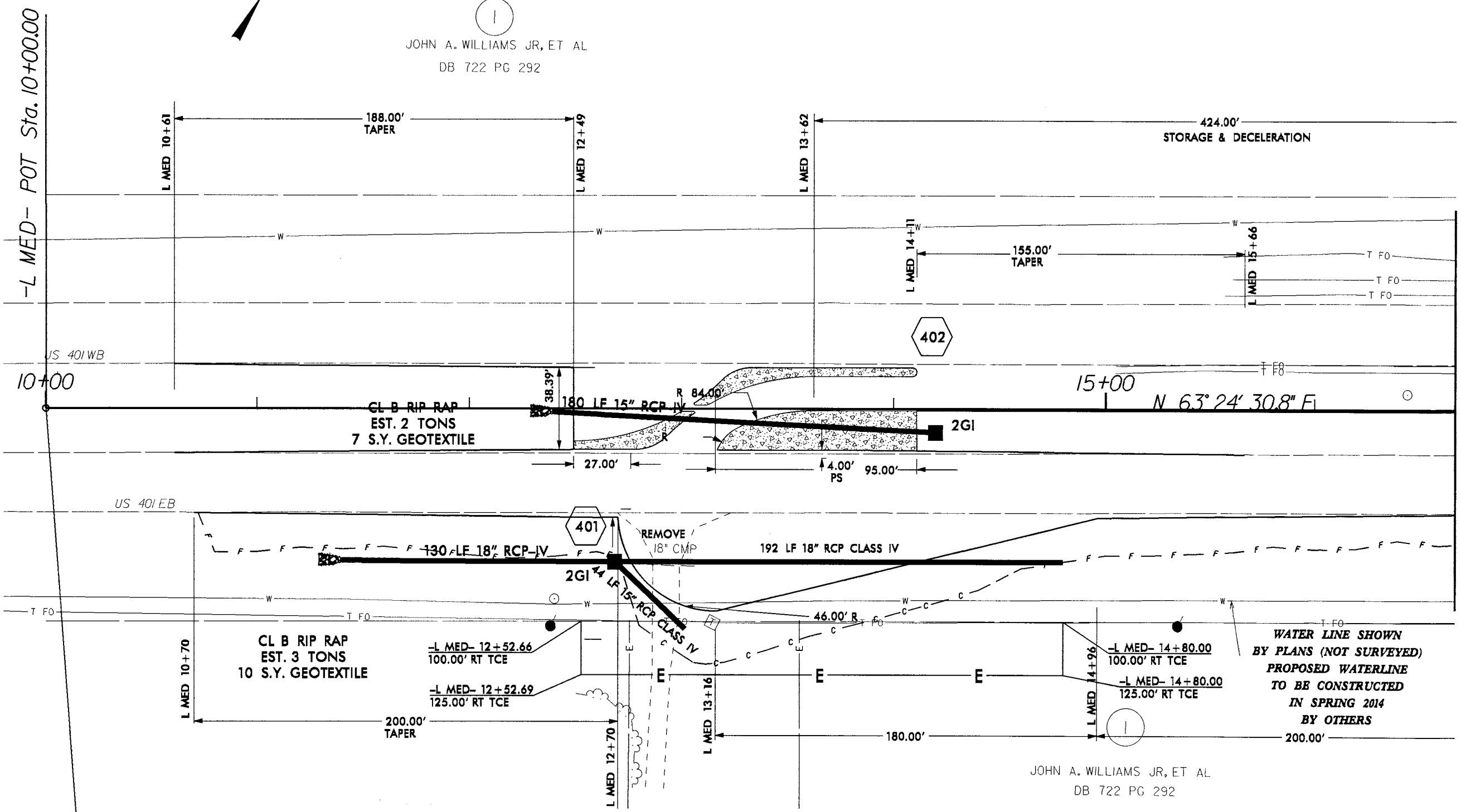
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. PER 1 1/2" DEPTH. TO BE PLACED IN TWO LAYERS.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
R1	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED).
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	0" TO 1.5" MILLING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

REVISIONS

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JOHN A. WILLIAMS JR, ET AL
 DB 722 PG 292



-L MED- POT Sta. 10+00.00

MATCH LINE 16+68 -L MED-

CL B RIP RAP EST. 2 TONS 7 S.Y. GEOTEXTILE
 CL B RIP RAP EST. 3 TONS 10 S.Y. GEOTEXTILE
 188.00' TAPER
 155.00' TAPER
 424.00' STORAGE & DECELERATION
 200.00' TAPER
 100.00' RT TCE
 125.00' RT TCE
 100.00' RT TCE
 125.00' RT TCE
 180.00'

WATER LINE SHOWN BY PLANS (NOT SURVEYED) PROPOSED WATERLINE TO BE CONSTRUCTED IN SPRING 2014 BY OTHERS

JOHN A. WILLIAMS JR, ET AL
 DB 722 PG 292

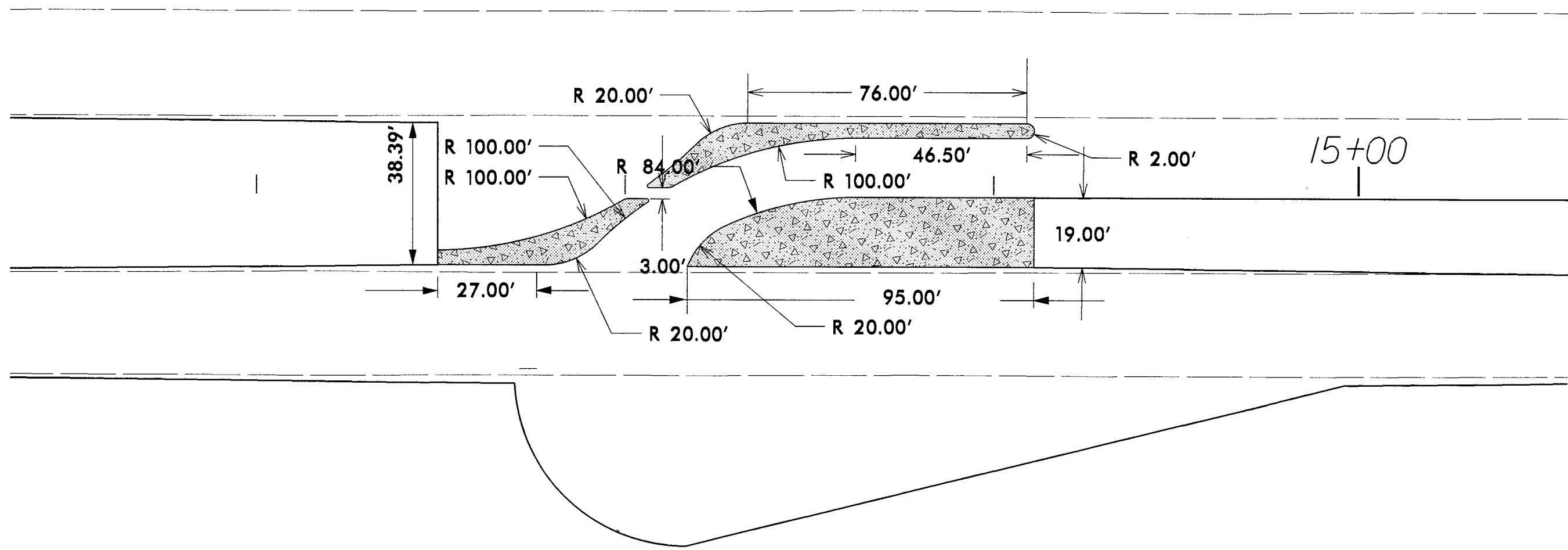
-L MED- STA. 10+00
 BEGIN PROJECT SS-4908A1



REVISIONS

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NOTE: CONTRACTOR SHALL COORDINATE THE INSTALLATION OF SIGN POST HOLES IN CONCRETE ISLANDS WITH DIVISION 8 TRAFFIC SERVICES UNIT. REFER TO ROADWAY STANDARDS NOS. 901 THRU 904. SIGN HOLES SHALL EXTEND THROUGH PAVEMENT TO NATURAL GROUND.




REVISIONS

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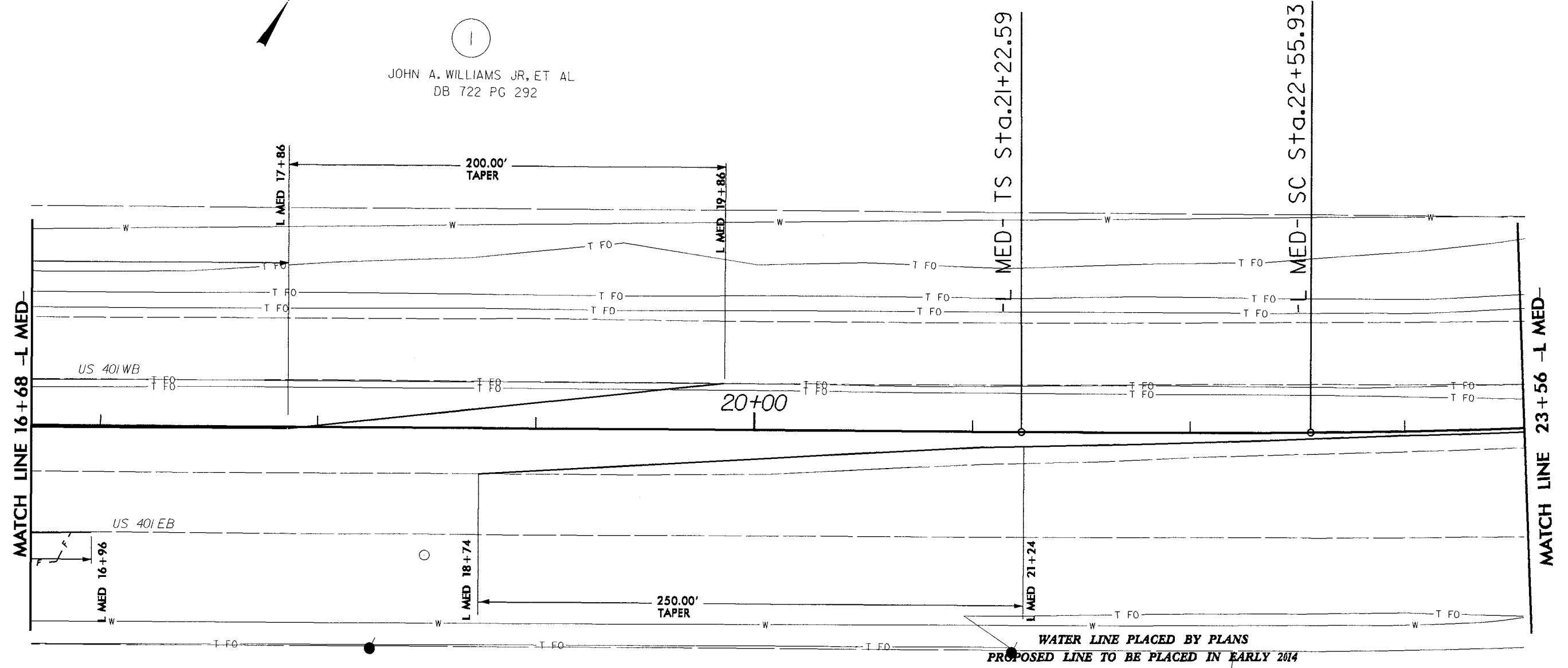
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PROJECT REFERENCE NO. SS-4908A1	SHEET NO. 5
RAW SHEET NO.	
	
DIVISION DESIGN / CONSTRUCT ENGINEER	



JOHN A. WILLIAMS JR, ET AL
DB 722 PG 292



REVISIONS

JOHN A. WILLIAMS JR, ET AL
DB 722 PG 292



JOHN A. WILLIAMS JR, ET AL
DB 722 PG 292

PI Sta 11+07.30
 $\Delta = 19^\circ 08' 01.8''$ (LT)
 $D = 9^\circ 00' 00.0''$
 $L = 212.60'$
 $T = 107.30'$
 $R = 636.62'$

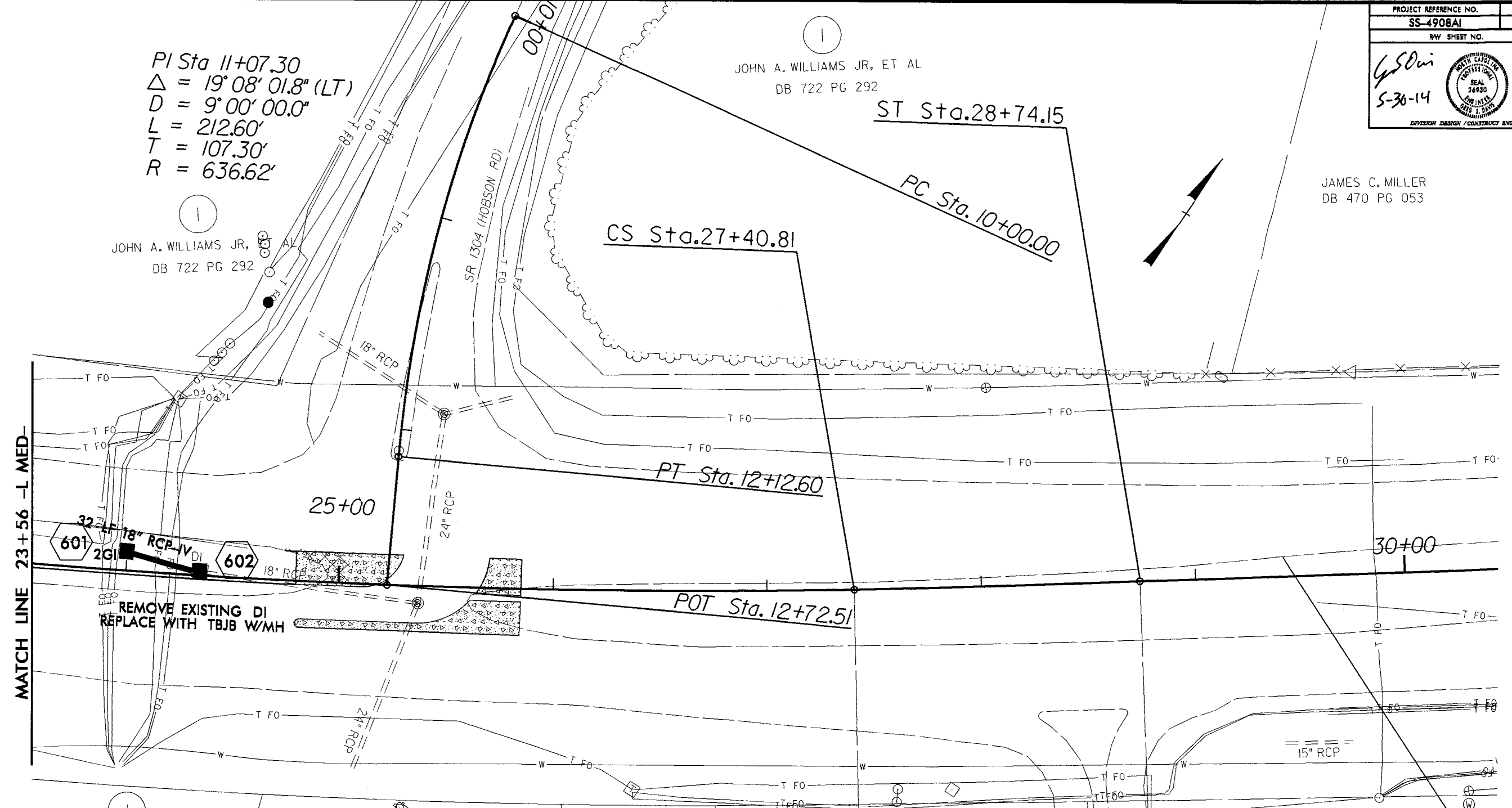
JOHN A. WILLIAMS JR, ET AL
 DB 722 PG 292

ST Sta.28+74.15

CS Sta.27+40.81

PC Sta.10+00.00

MATCH LINE 23+56 -L MED-



REMOVE EXISTING DI
REPLACE WITH TBJB W/MH

-L MED- STA 29+66
END PROJECT SS-4908AI

PI Sta 24+98.70
 $\Delta = 7^\circ 16' 23.7''$ (LT)
 $D = 1^\circ 30' 00.0''$
 $L = 484.88'$
 $T = 242.77'$
 $R = 3,819.72'$

WHITE LAKE ALMAGAMATED LLC
DB 744 PG 422

PIs Sta 22+11.48
 $\theta_s = 1^\circ 00' 00.2''$
 $L_s = 133.34'$
 $LT = 88.89'$
 $ST = 44.45'$

PIs Sta 27+85.26
 $\theta_s = 1^\circ 00' 00.2''$
 $L_s = 133.34'$
 $LT = 88.89'$
 $ST = 44.45'$

RAEFORD FLOOR & WALL COVERING
DB 614 PG 190

JOHN A. WILLIAMS JR, ET AL
DB 722 PG 292

H & H INVESTMENTS INC
DB 540 PG 112

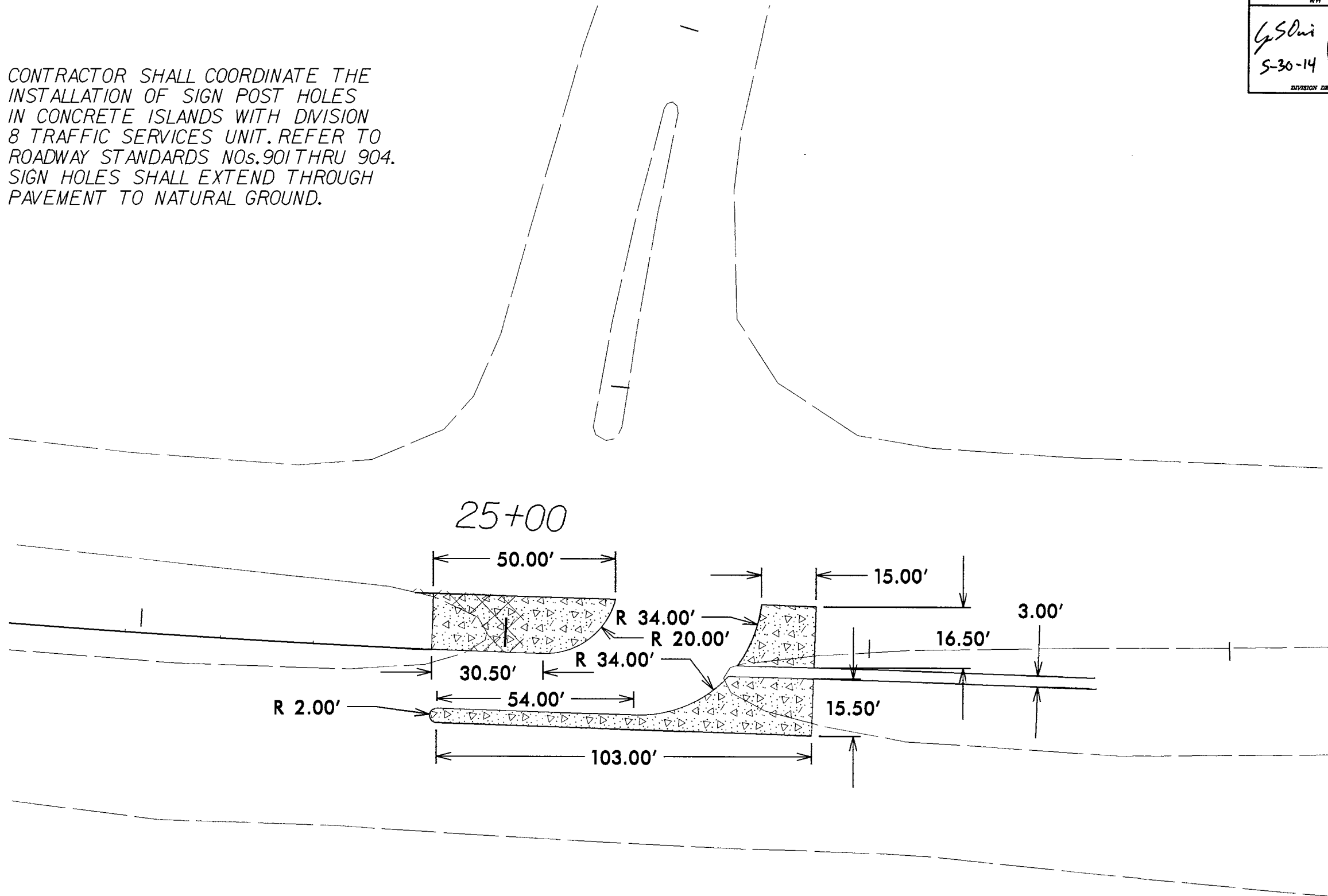
H & H INVESTMENTS INC
DB 540 PG 112



REVISIONS

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NOTE: CONTRACTOR SHALL COORDINATE THE INSTALLATION OF SIGN POST HOLES IN CONCRETE ISLANDS WITH DIVISION 8 TRAFFIC SERVICES UNIT. REFER TO ROADWAY STANDARDS NOS. 901 THRU 904. SIGN HOLES SHALL EXTEND THROUGH PAVEMENT TO NATURAL GROUND.



REVISIONS

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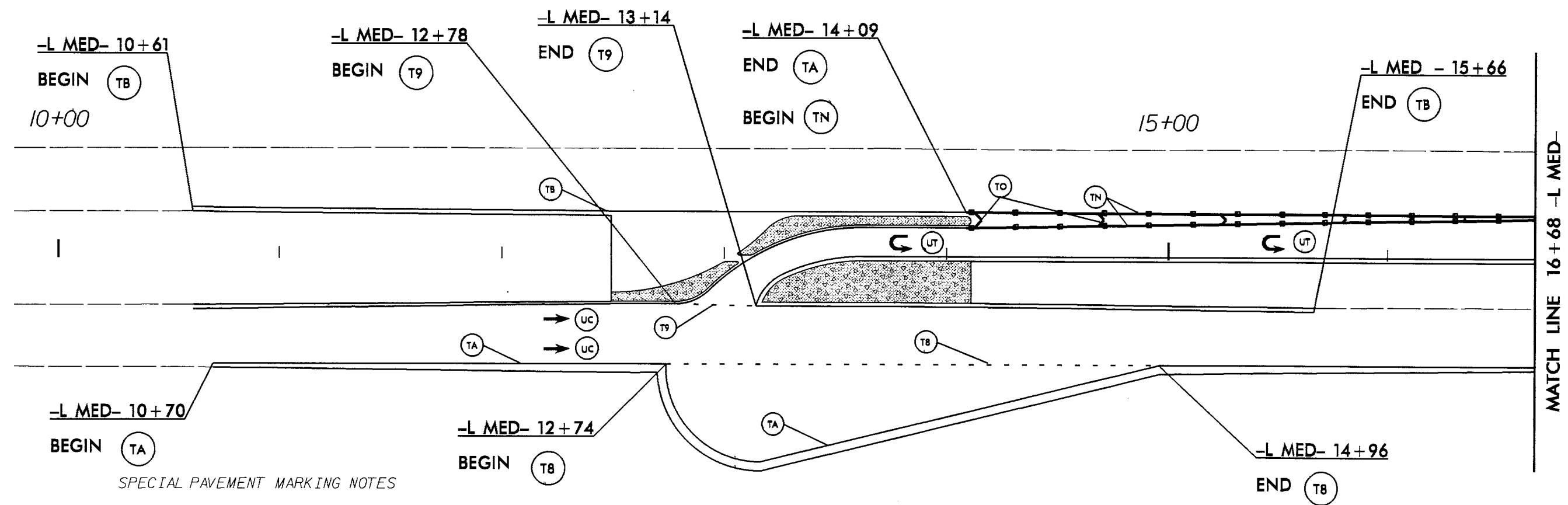
PAVEMENT MARKING LINES

T8 - THERMOPLASTIC (4" WHITE, 120 MILS)	2' X 6' SP	MINISKIP
T9 - THERMOPLASTIC (4" YELLOW, 120 MILS)	2' X 6' SP	MINISKIP
TA - THERMOPLASTIC (4" WHITE, 90 MILS)	EDGE LINE	
TB - THERMOPLASTIC (4" YELLOW, 90 MILS)	EDGE LINE	
TD - THERMOPLASTIC (4" WHITE, 120 MILS)	3' X 9' SP	MINISKIP
TN - THERMOPLASTIC (8" WHITE, 90 MILS)	GORELINE	
TO - THERMOPLASTIC (8" WHITE, 90 MILS)	DIAGONAL	
TP - THERMOPLASTIC (8" YELLOW, 90 MILS)	DIAGONAL	



PAVEMENT MARKING SYMBOLS

UA - THERMOPLASTIC (LEFT TURN ARROW, 90 MILS)	
UC - THERMOPLASTIC (STRAIGHT ARROW, 90 MILS)	
UT - THERMOPLASTIC (U TURN ARROW, 90 MILS)	



SPECIAL PAVEMENT MARKING NOTES

- THE CONTRACTOR SHALL BE REQUIRED TO REMOVE ALL CONFLICTING PAVEMENT MARKINGS BY THE END OF THE WORKDAY.
- THE CONTRACTOR SHALL INSTALL ALL PAVEMENT LINES AND SYMBOLS AS REQUIRED (SEE ROADWAY STANDARD DRAWINGS 1205.01 THRU 1205.13).
- THE CONTRACTOR SHALL BE REQUIRED TO REPLACE ANY PAVEMENT MARKINGS, WHICH HAVE BEEN OBLITERATED BY CONSTRUCTION PROCEDURES, BY THE END OF THE WORKDAY.
- THE CONTRACTOR SHALL BE REQUIRED TO COVER ALL CONFLICTING STATIONARY CONSTRUCTION SIGNING WHEN A LANE CLOSURE UTILIZING PORTABLE CONSTRUCTION SIGNING IS IN EFFECT. THE CONTRACTOR SHALL NOT HAVE AN OVERLAP IN THE SEQUENCE OF CONSTRUCTION SIGNING.
- THE CONTRACTOR SHALL PLACE ALL FINAL PAVEMENT MARKING LINES AND SYMBOLS (THERMOPLASTIC ALKYD-MALEIC) USING THE EXTRUSION METHOD.
- CHANGES TO PAVEMENT MARKINGS MAY AND SHALL BE MADE AT THE DIRECTION OF THE ENGINEER.


SPECIAL PAVEMENT MARKER NOTES

- PAVEMENT MARKERS SHOULD NOT BE PLACED CLOSER THAN 2 INCHES TO A PAVEMENT CONSTRUCTION JOINT (AS FEASIBLE), EXCEPT WHEN PLACED BETWEEN DOUBLE YELLOW CENTER LINES, AND ALONG YELLOW SKIP LINES AND TWO-LANE, TWO-WAY ROADWAYS WHERE PASSING IS ALLOWED IN BOTH DIRECTIONS.
- PAVEMENT MARKERS SHALL NOT BE PLACED DIRECTLY ON PAVEMENT MARKING LINES.
- PAVEMENT MARKERS USED IN CONJUNCTION WITH DOUBLE YELLOW CENTER LINES SHALL BE PLACED MID-WAY BETWEEN THE LINES, PROVIDED WITH A GAP BETWEEN THE LINES AND THE MARKER TO REDUCE OVERSPRAYING THE MARKER DURING THE REPAINTING OPERATIONS.
- MARKERS ARE NOT REQUIRED ALONG MINI-SKIP LINES IN TAPERS.
- CHANGES TO PAVEMENT MARKERS MAY AND SHALL BE MADE AT THE DIRECTION OF THE ENGINEER.



8/17/99
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 US4010sr...
 27/0110

G.S. Davis
S-30-14



DIVISION DESIGN / CONSTRUCTION ENGINEER

PAVEMENT MARKING LEGEND

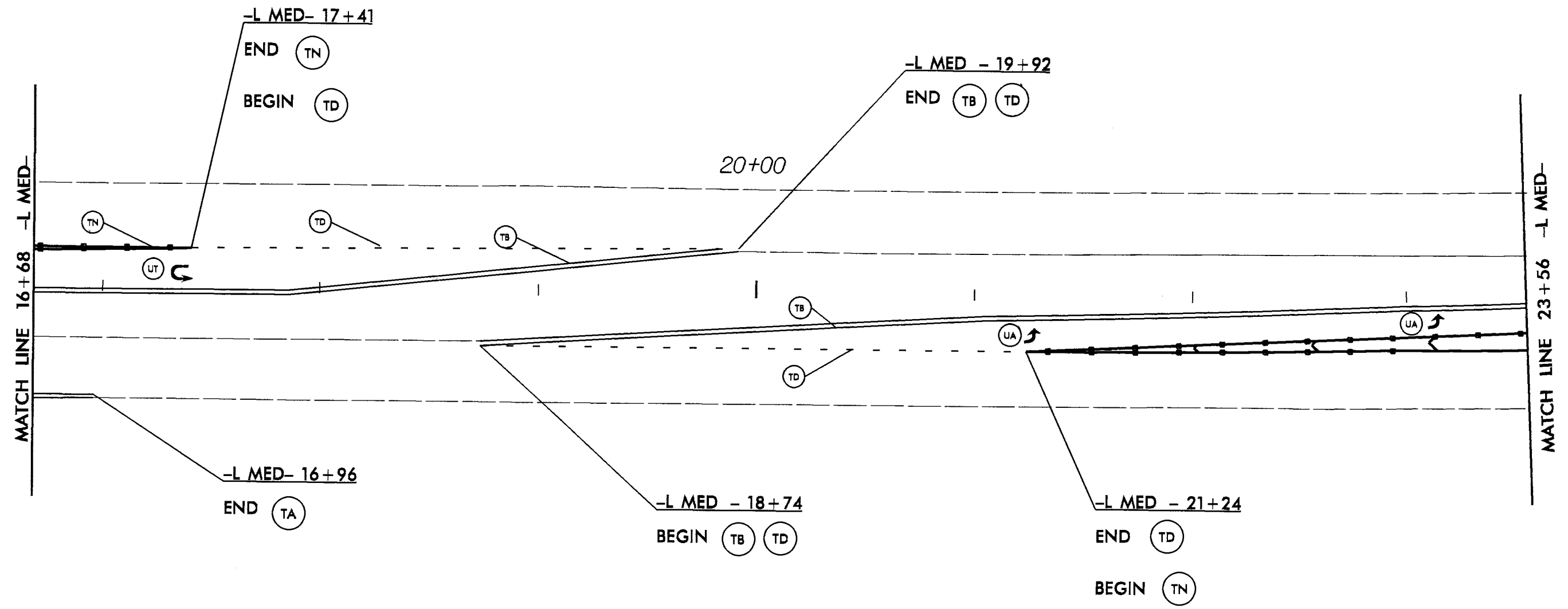
- --CRYSTAL / RED PAVEMENT MARKER
- ◆ --YELLOW / YELLOW PAVEMENT MARKER
- --CRYSTAL / CRYSTAL PAVEMENT MARKER

PAVEMENT MARKING LINES

T8 - THERMOPLASTIC (4" WHITE, 120 MILS)	2' X 6' SP	MINISKIP
T9 - THERMOPLASTIC (4" YELLOW, 120 MILS)	2' X 6' SP	MINISKIP
TA - THERMOPLASTIC (4" WHITE, 90 MILS)	EDGE LINE	
TB - THERMOPLASTIC (4" YELLOW, 90 MILS)	EDGE LINE	
TD - THERMOPLASTIC (4" WHITE, 120 MILS)	3' X 9' SP	MINISKIP
TN - THERMOPLASTIC (8" WHITE, 90 MILS)	GORELINE	
TO - THERMOPLASTIC (8" WHITE, 90 MILS)	DIAGONAL	
TP - THERMOPLASTIC (8" YELLOW, 90 MILS)	DIAGONAL	

PAVEMENT MARKING SYMBOLS

UA - THERMOPLASTIC	(LEFT TURN ARROW, 90 MILS)
UC - THERMOPLASTIC	(STRAIGHT ARROW, 90 MILS)
UT - THERMOPLASTIC	(U TURN ARROW, 90 MILS)



REVISIONS

29-MAY-2014 13:37
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 8/17/99

6/5/04
5-30-14

DIVISION DESIGN / CONSTRUCTION ENGINEER

PAVEMENT MARKING LEGEND

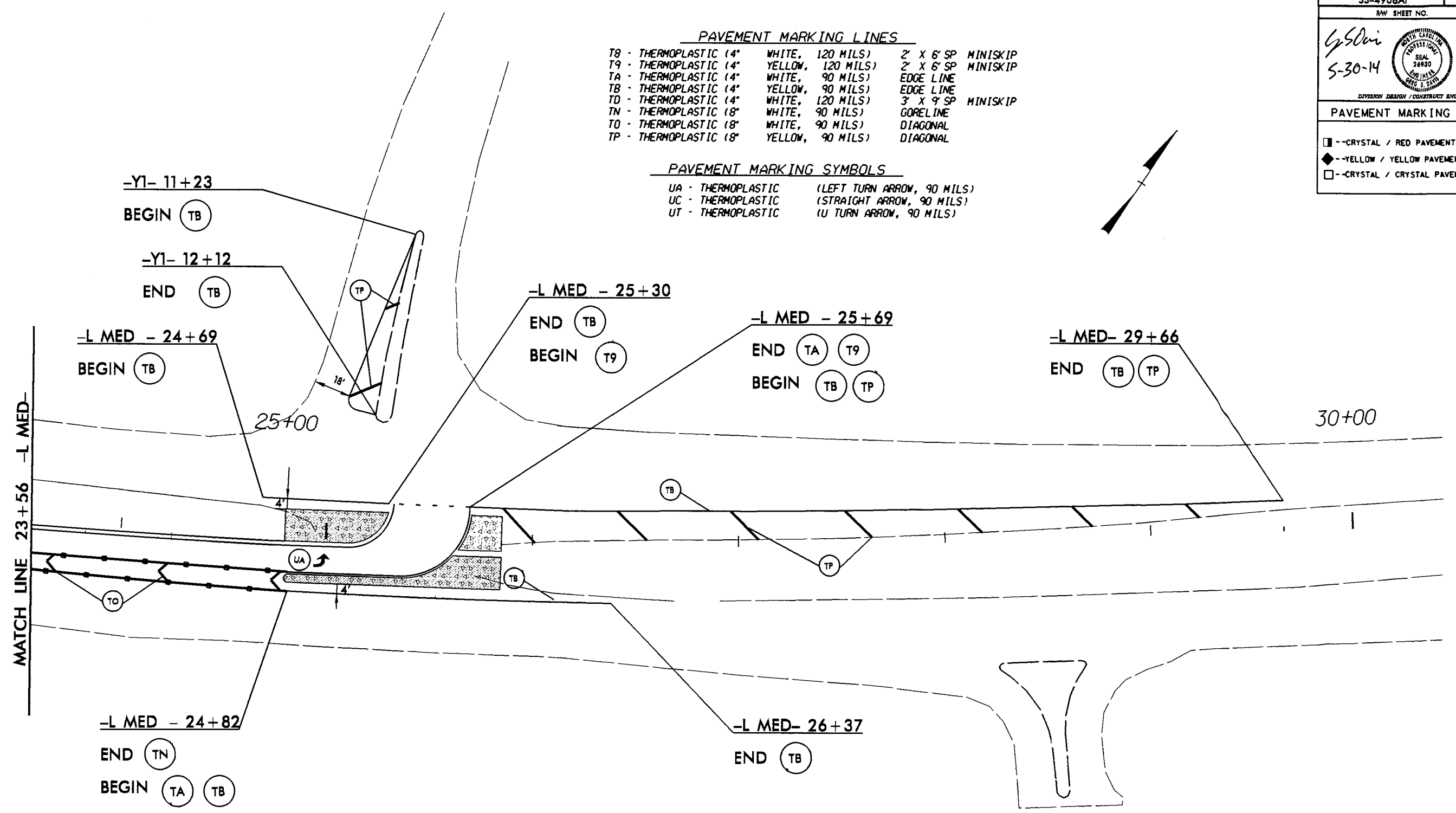
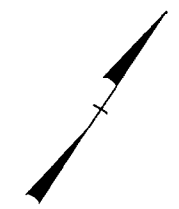
- --CRYSTAL / RED PAVEMENT MARKER
- ◆ --YELLOW / YELLOW PAVEMENT MARKER
- --CRYSTAL / CRYSTAL PAVEMENT MARKER

PAVEMENT MARKING LINES

- T8 - THERMOPLASTIC (4" WHITE, 120 MILS) 2' X 6' SP MINISKIP
- T9 - THERMOPLASTIC (4" YELLOW, 120 MILS) 2' X 6' SP MINISKIP
- TA - THERMOPLASTIC (4" WHITE, 90 MILS) EDGE LINE
- TB - THERMOPLASTIC (4" YELLOW, 90 MILS) EDGE LINE
- TD - THERMOPLASTIC (4" WHITE, 120 MILS) 3' X 9' SP MINISKIP
- TN - THERMOPLASTIC (8" WHITE, 90 MILS) GORELINE
- TO - THERMOPLASTIC (8" WHITE, 90 MILS) DIAGONAL
- TP - THERMOPLASTIC (8" YELLOW, 90 MILS) DIAGONAL

PAVEMENT MARKING SYMBOLS

- UA - THERMOPLASTIC (LEFT TURN ARROW, 90 MILS)
- UC - THERMOPLASTIC (STRAIGHT ARROW, 90 MILS)
- UT - THERMOPLASTIC (U TURN ARROW, 90 MILS)



REVISIONS

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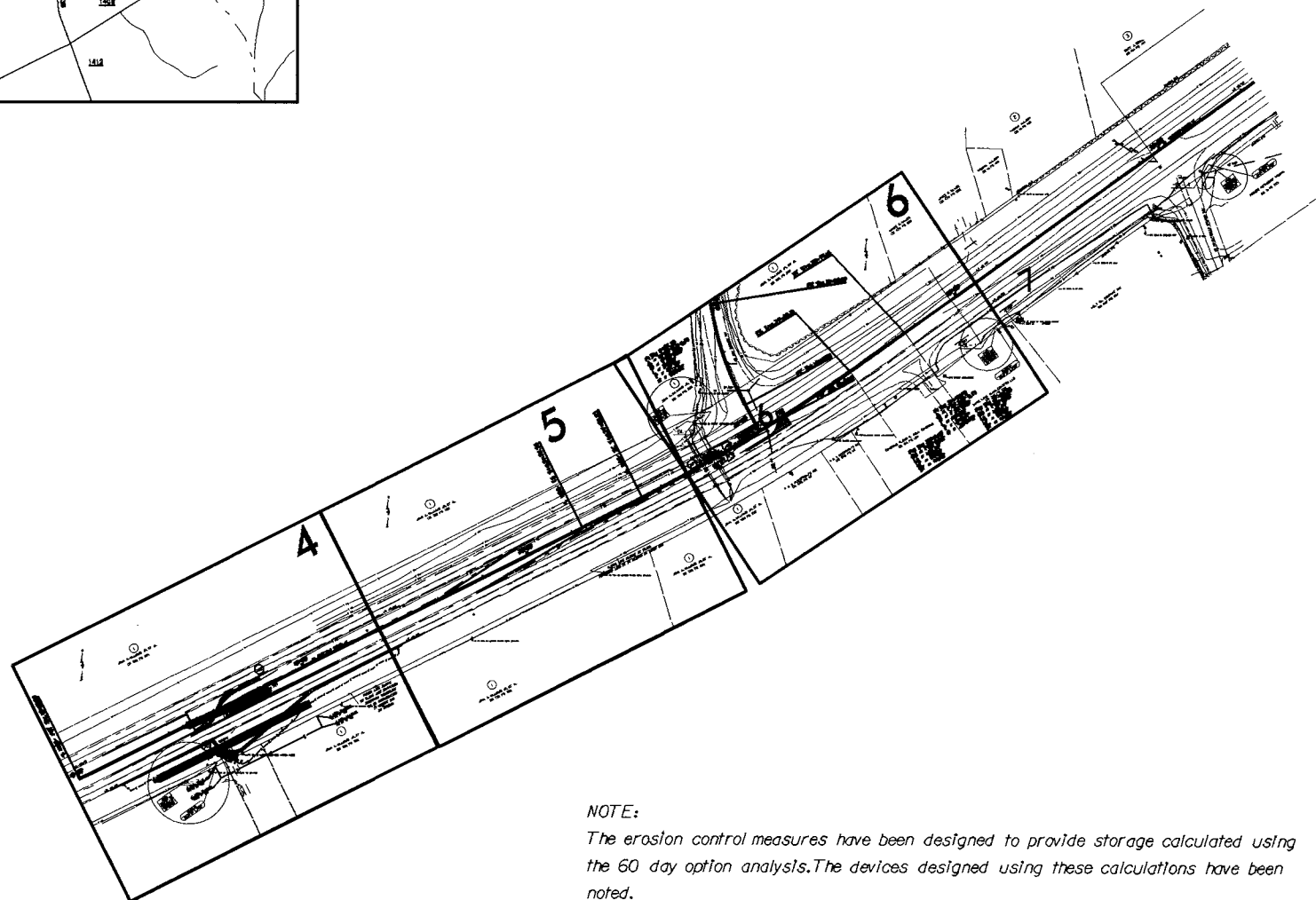
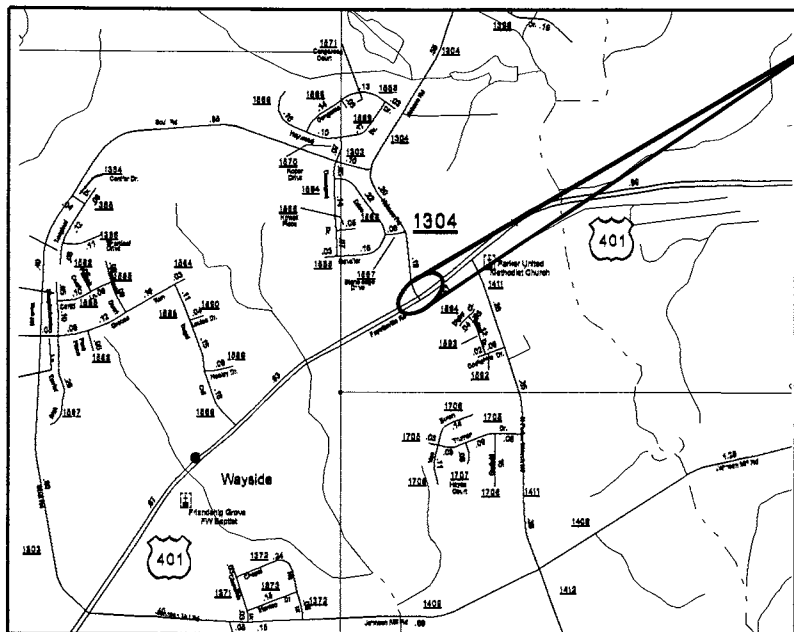
8/17/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
HOKE COUNTY

LOCATION: US 401 AT SR 1304 (HOBSON RD.)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, CONCRETE ISLANDS,
THERMOPLASTIC MARKINGS & MARKERS



NOTE:

The erosion control measures have been designed to provide storage calculated using the 60 day option analysis. The devices designed using these calculations have been noted.

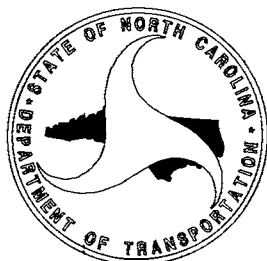
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	SS-4908AI	ECP-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
43574.1.1		PE
43574.2.1		RW
43574.3.1		CONST.

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Streambank 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	
1633.02	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	
1630.04	Stilling Basin	
Rock Inlet Sediment Trap:		
1632.01	Type A	OR-A)
1632.02	Type B	OR-B)
1632.03	Type C	OR-C)
	Wattle	

TIP PROJECT: SS-4908AI

CONTRACT:



Prepared By:
Greg S. Davis, PE
Level III A #3088
December 31, 2014

PROJECT CONTACTS:
District Engineer Marty Tillman, PE
Design & Construct Engineer Greg S. Davis, PE
Resident Engineer Charles E. Dumas Jr, PE

PROJECT LENGTH
0.37 mi.

Prepared in the Office of:
DIVISION EIGHT
DIVISION DESIGN & CONSTRUCT UNIT
902 N Sandhills Blvd.
PO Box 1067
Aberdeen, 28315

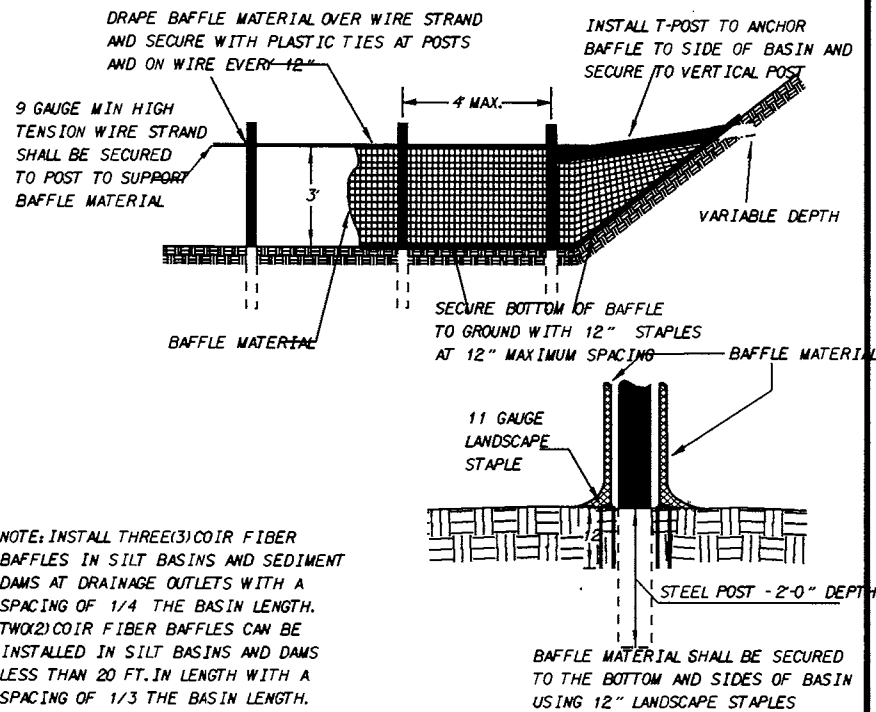
2012 STANDARD SPECIFICATIONS

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 17, 2012 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	1632.01 Rock Inlet Sediment Trap Type A
1606.01 Special Sediment Control Fence	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	1633.02 Temporary Rock Silt Check Type B
1630.02 Silt Basin Type B	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	1636.01 Rock Silt Screen

COIR FIBER BAFFLE DETAIL



NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF 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 1/3 THE BASIN LENGTH.

EROSION CONTROL DETAILS AND SPECIFICATIONS

STD. #	DESCRIPTION	SYMBOL
1630.03	TEMPORARY SILT DITCH	----- TSD -----
1630.05	TEMPORARY DIVERSION	----- TD -----
1605.01	TEMPORARY SILT FENCE	----- // // -----
1622.01	GUIDE FOR TEMPORARY BERMS & SLOPE DRAINS	----- g -----
1630.01	Riser Basin	----- [Symbol] -----
1630.02	SILT BASIN TYPE-B	----- [Symbol] -----
1633.01	TEMPORARY ROCK SILT CHECK TYPE-A	----- [Symbol] -----
	Wattle	----- [Symbol] -----
1633.02	TEMPORARY ROCK SILT CHECK TYPE-B	----- [Symbol] -----
1634.01	TEMPORARY ROCK SEDIMENT DAM TYPE-A	----- [Symbol] -----
1634.02	TEMPORARY ROCK SEDIMENT DAM TYPE-B	----- [Symbol] -----
1635.01	ROCK PIPE INLET SEDIMENT TRAP TYPE A	----- [Symbol] -----
1636.01	ROCK SILT SCREEN	----- [Symbol] -----
1630.04	STILLING BASIN FOR PUMPED EFFLUENT	----- [Symbol] -----
	ROCK INLET SEDIMENT PROTECTION	
1632.01	TRAP TYPE-A	----- A [Symbol] OR A -----
1632.02	TRAP TYPE-B	----- B [Symbol] OR B -----
1632.03	TRAP TYPE-C	----- C [Symbol] OR C -----

NARRATIVE

1. SOIL TYPE: CLAY SAND X
2. IS THE PROJECT LOCATED IN A HIGH QUALITY WATER ZONE?
YES X NO
3. ARE THERE ANY WETLANDS ADJOINING THIS PROJECT?
YES X NO

SITE DESCRIPTION

This project is located on US 401 on the Eastern side of Raeford. The area surrounding this project primarily consists of wooded areas, commercial development, and agricultural fields. The drainage consists of roadway ditches that lead to existing ditches.

PROJECT DESCRIPTION

The project will consist of clearing, grubbing, draining, setting up the base and paving. The major land disturbing activities will consist of clearing and grading within the right of way. Temporary and permanent erosion control measures will be installed.

MAINTENANCE SCHEDULE

1. INSPECT WEEKLY AND AFTER EACH RAINFALL USE THE DEPARTMENT OF TRANSPORTATION'S EROSION CONTROL INSPECTION REPORT.
2. MAINTAIN EROSION CONTROL DEVICES AS FOLLOWS:
 - A. SILT DITCH - REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE - CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED.
 - B. SILT FENCE - REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE - AVOID UNDERMINING THE FENCE.
 - C. SLOPE DRAINS - INSPECT THE SLOPE DRAINS AND SUPPORTING DIVERSIONS.
 - D. SEDIMENT BASIN - REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH - CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT - REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.
 - E. CHECK DAM - REMOVE SETTLEMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION - ADD STONE TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.
 - F. ROCK DAM - REMOVE SEDIMENT AND RESTORE ORIGINAL VOLUME WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE DESIGN VOLUME - CHECK THE STRUCTURE FOR EROSION, PIPING, AND ROCK DISPLACEMENT AFTER EACH SIGNIFICANT RAINSTORM AND REPAIR IMMEDIATELY.
 - G. DROP INLET PROTECTION (TYPE C) - REMOVE SEDIMENT FROM THE POOL AREAS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN.
 - H. SEDIMENT TRAP - REMOVE SEDIMENT AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS WHEN SETTLEMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP - CHECK THE STRUCTURE FOR DAMAGE FROM EROSION OR PIPING TO ENSURE IT IS A MINIMUM OF 15 FT. BELOW THE LOW POINT OF THE EMBANKMENT.

NOTE: SEDIMENT SHOULD BE PLACED IN DESIGNATED DISPOSAL AREAS AND NOT ALLOWED TO FLOW INTO STREAMS OR DRAINAGE WAYS DURING STRUCTURE REMOVAL.

NOTE: ALL SEDIMENT TRAPS/BASINS SHALL HAVE COIR FIBER BAFFLES. BASINS/TRAPS OVER 10 FT IN LENGTH SHALL HAVE TWO ROWS.

NOTE: NO PAM TO BE USED WITH THE LAST BMT (WATTLE) AT OUTLET OF THE PROJECT

NOTE: The erosion control measures have been designed to provide a minimum of 21% of the storage calculated using the RUSLE2 analysis. These sections of disturbed area must then be permanently stabilized within 60 days from the time grading begins.

GENERAL CONSIDERATIONS

1. THE LAW REQUIRES INSTALLATION AND MAINTENANCE OF SUFFICIENT EROSION CONTROL PRACTICES TO RETAIN SEDIMENT WITHIN THE BOUNDARIES OF THE SITE. IT ALSO REQUIRES THAT SURFACES BE NON EROSION AND STABLE WITHIN 14 DAYS CALENDAR DAYS AFTER THE COMPLETION OF ANY PHASE OF GRADING.
2. FIT THE DEVELOPMENT TO THE SITE - FOLLOW THE NATURAL CONTOURS AS MUCH AS POSSIBLE. PRESERVE AND USE NATURAL DRAINAGE SYSTEMS.
3. LIMIT CLEARING AND GRUBBING - CLEARLY DEFINE WORK LIMIT LINES, GRADE TO MINIMIZE CUT-AND-FILL SLOPES, PRESERVE NATURAL BUFFER AREAS, AND LIMIT THE TIME THAT BARE SOIL IS EXPOSED.
4. PROTECT THE SOIL SURFACE - LIMIT THE EXTENT OF DISTURBANCE AND STABILIZE THE SOIL SURFACE IMMEDIATELY. ONCE THE SURFACE HAS BEEN DISTURBED, IT IS SUBJECT TO ACCELERATED EROSION AND SHOULD BE PROTECTED WITH APPROPRIATE COVER, SUCH AS MULCH OR VEGETATION IN AN EXPEDIENT MANNER.
5. SEDIMENT BASINS AND TRAPS - SELECT SITES AND INSTALL SEDIMENT BASINS AND TRAPS BEFORE OTHER CONSTRUCTION ACTIVITIES ARE STARTED. ALSO CONSIDER LOCATIONS FOR DIVERSIONS, OPEN CHANNELS, AND STORM DRAINS AT THIS TIME SO THAT ALL SEDIMENT-LADEN TO RUN OFF CAN BE DIRECTED TO AN IMPOUNDMENT STRUCTURE BEFORE LEAVING THE CONSTRUCTION SITE. INSTALL ALL MEASURES AND RELEASE POINTS PRIOR TO CLEARING AND GRUBBING.
6. ONCE AN AREA IS DISTURBED, IT IS SUBJECT TO ACCELERATED EROSION. EROSION CONTROL CAN BE ACHIEVED BY:
 - * LIMITING THE SIZE OF THE CLEARING AND TIME OF EXPOSURE BY PROPER SCHEDULING.
 - * REDUCING THE AMOUNT OF RUNOFF OVER THE DISTURBED SURFACE.
 - * LIMITING GRADES AND LENGTHS OF SLOPES, AND
 - * RE-ESTABLISHING PROTECTIVE COVER IMMEDIATELY AFTER LAND DISTURBING ACTIVITIES ARE COMPLETED OR WHEN CONSTRUCTION ACTIVITIES ARE DELAYED FOR THIRTY (30) OR MORE WORKING DAYS

7. STABILIZE CONSTRUCTION ACCESS AREAS, CONSTRUCTION ROADS, AND PARKING AREA DURING INITIAL ACTIVITIES. TRY TO KEEP ROAD GRADES TO A MINIMUM GENERALLY NEVER EXCEEDING 12%.
8. CLEAR BORROW AND WASTE DISPOSAL AREAS AS NEEDED AND PROTECT THEM FROM SURFACE RUNOFF. SLOPE ALL AREAS TO PROVIDE POSITIVE DRAINAGE, AND STABILIZE BARE SOIL SURFACES WITH PERMANENT VEGETATION OR MULCH AS SOON AS FINAL GRADES ARE PREPARED. DIRECT ALL RUNOFF THAT CONTAINS SEDIMENT TO A SEDIMENT-TRAPPING DEVICE. IN LARGE BORROW AND DISPOSAL SITES, SHAPE AND DEEPEN THE LOWER END TO FORM AN IN-PLACE SEDIMENT TRAP.
9. ONLY SEDIMENT-FREE RUNOFF MAY BE DISCHARGED FROM CONSTRUCTION SITES DIRECTLY INTO STREAMS. ENSURE THAT ALL OTHER FLOWS ENTER FROM DESILTING POOLS FORMED BY SEDIMENT TRAPS OR BARRIERS.
10. AREAS ADJOINING STREAMS SHOULD BE LEFT UNDISTURBED AS BUFFERS. WHERE NATURAL BUFFERS ARE NOT AVAILABLE, PROVIDE ARTIFICIAL BUFFERS. WHERE WORK IS REQUIRED ALONG A STREAM, PROVIDE MECHANICAL OR ARTIFICIAL BUFFER (25 FEET MINIMUM REQUIRED).
11. BEFORE MOVING TO NEXT JOB SITE, REVIEW ALL MEASURES FOR EFFECTIVENESS; MAKE ANY ADJUSTMENTS, CLEAR-OUTS, OR REPAIR; CALL ROADSIDE ENVIRONMENTAL DEPARTMENT FOR INSTALLATION OF A DITCH LINER AND SEEDING AND MULCHING OF ALL DISTURBED AREAS.
12. CONTINUE TO CHECK AND MAINTAIN ALL MEASURES AFTER EACH SIGNIFICANT RAINFALL UNTIL ALL DISTURBED AREAS BECOME STABILIZED.
13. FILL IN ALL SILT BASINS AND SILT DITCHES, REMOVE ALL SILT FENCES AND SLOPE DRAINS, REDISTRIBUTE ALL STONE FROM SILT CHECKS, SEDIMENT DAMS, AND SILT SCREENS. SEED AND MULCH DISTURBED AREAS.

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

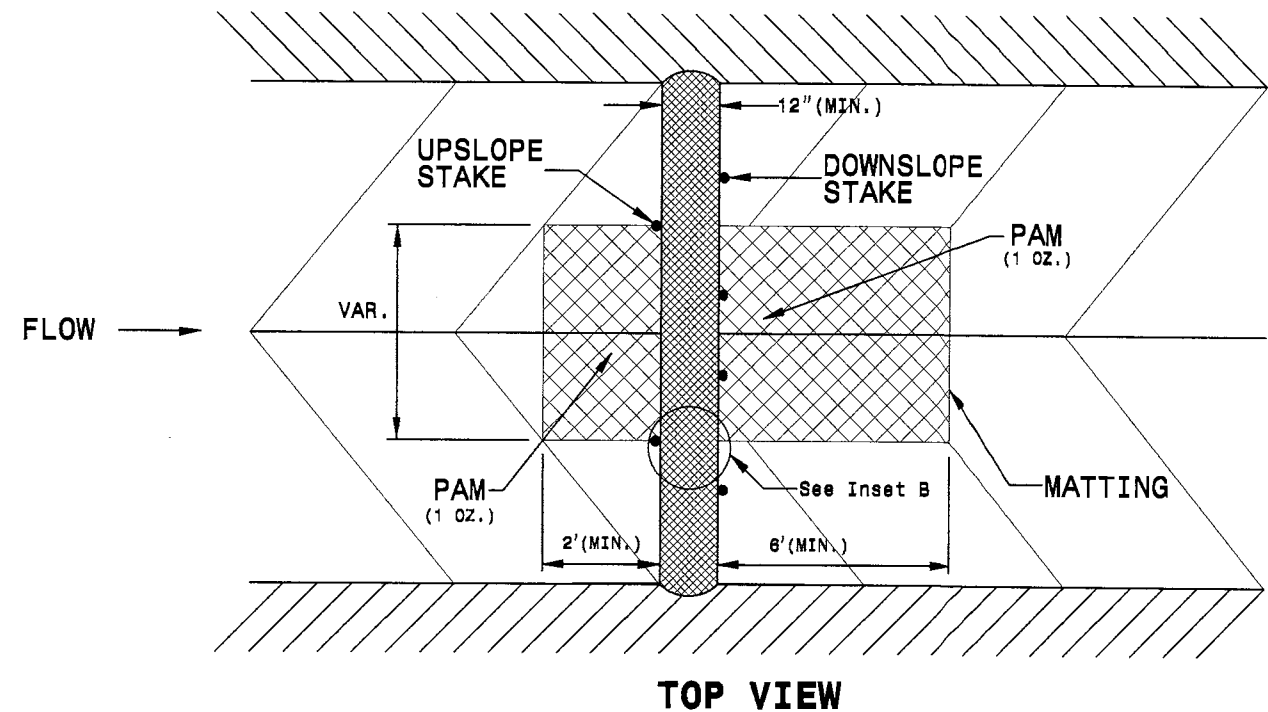
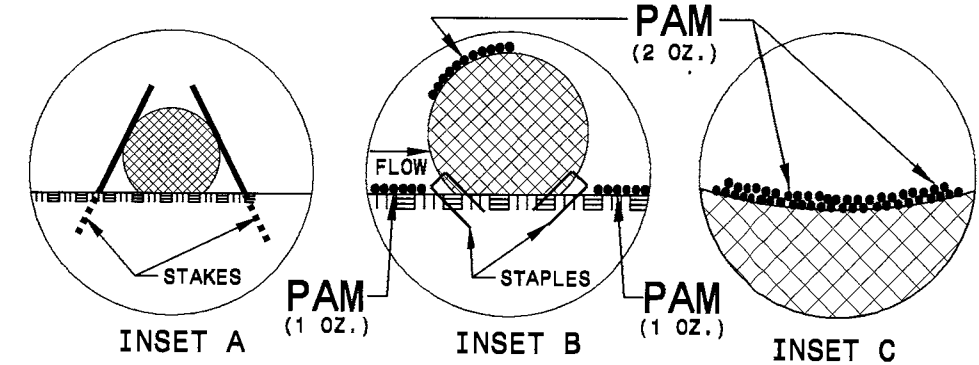
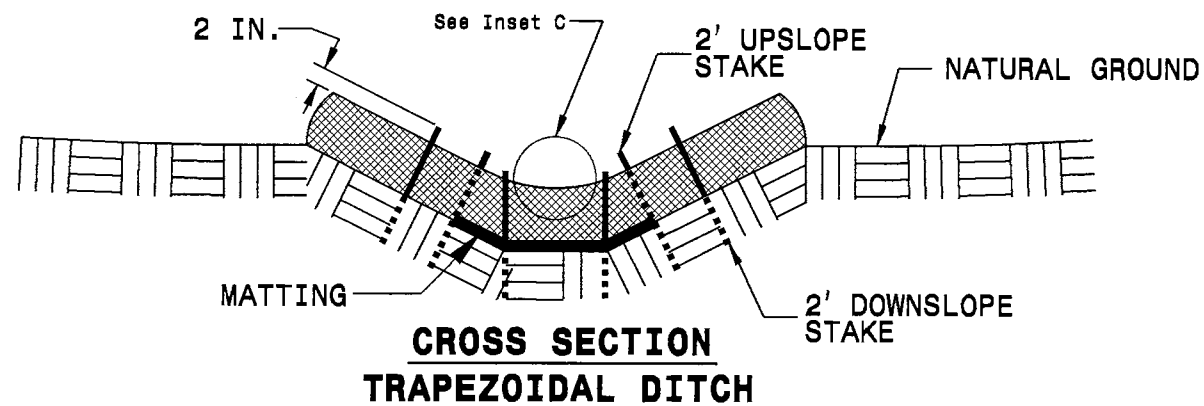
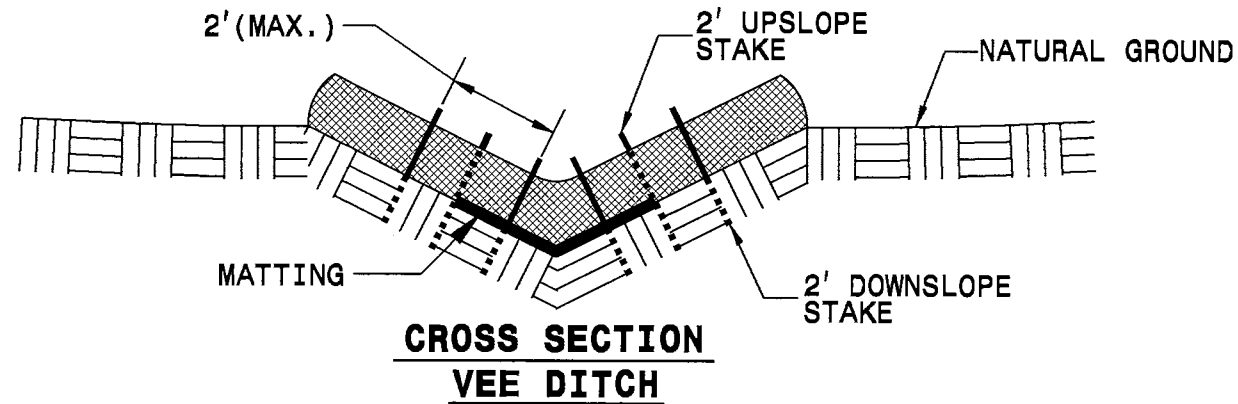
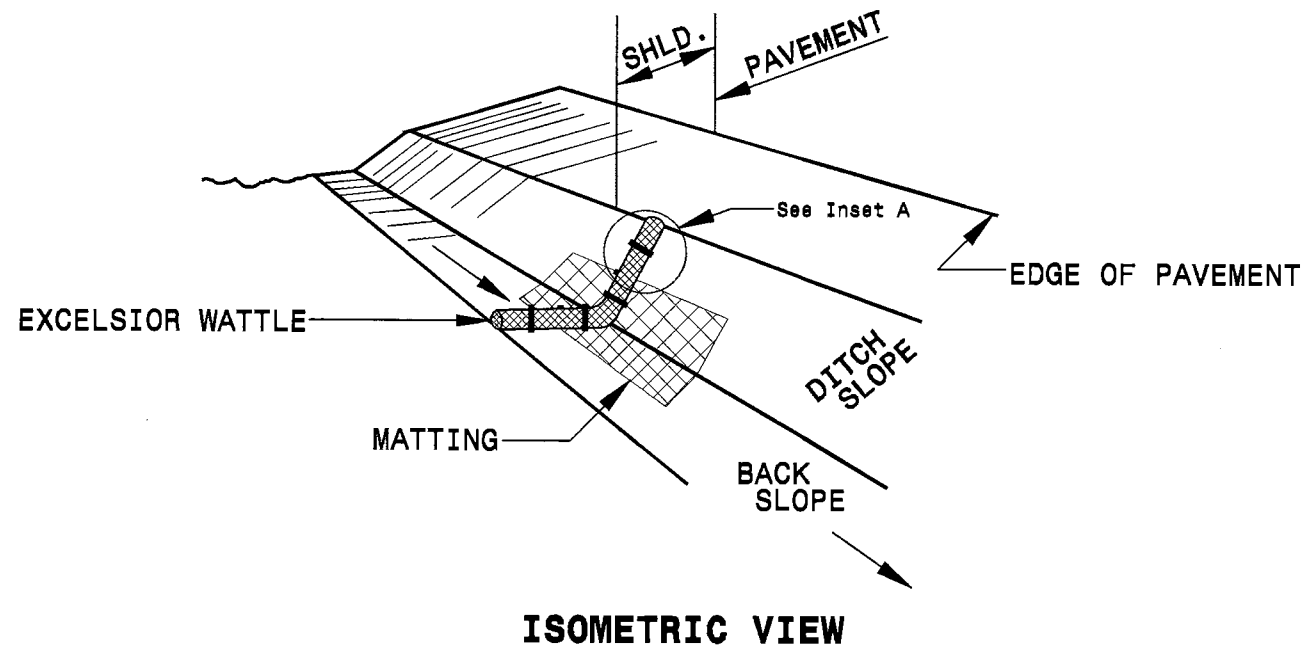
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

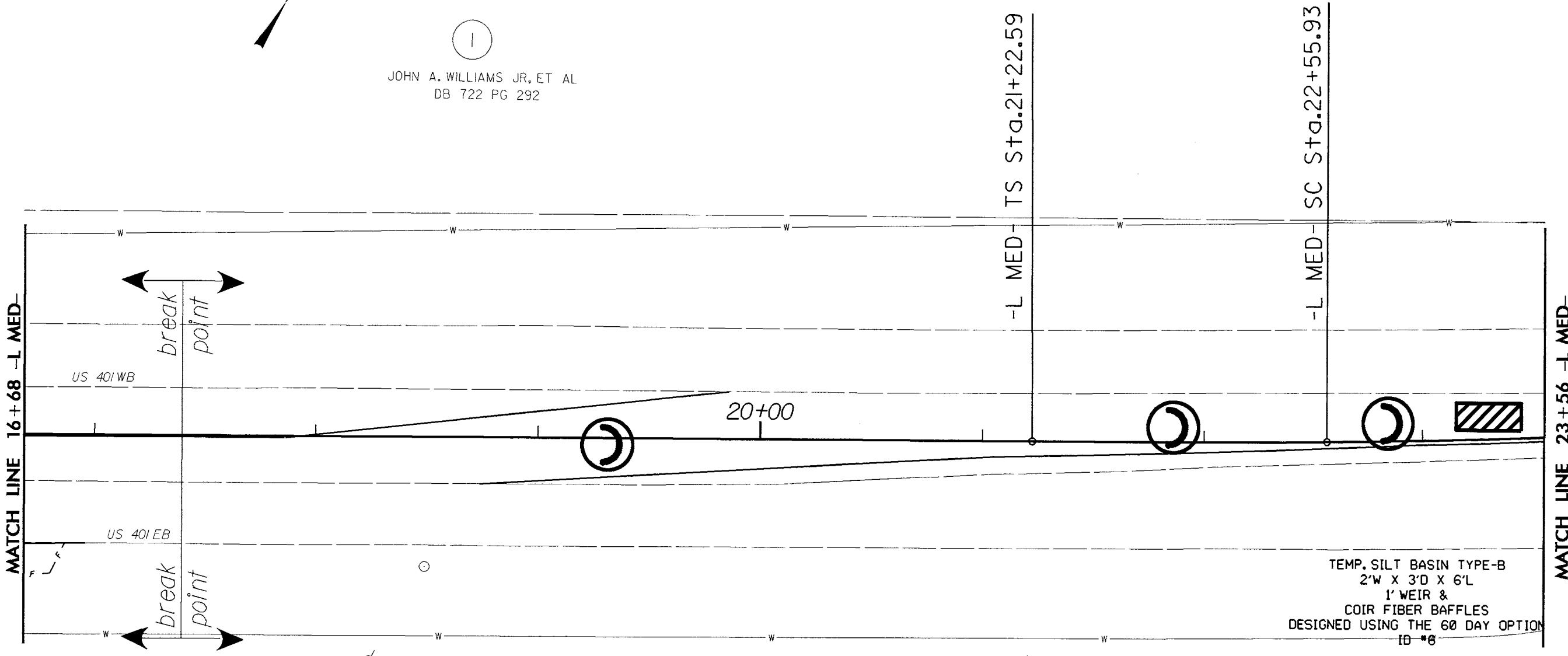
SOIL STABILIZATION TIMEFRAMES

<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.

8/17/99

REVISIONS

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JOHN A. WILLIAMS JR, ET AL
 DB 722 PG 292

TEMP. SILT BASIN TYPE-B
 2'W X 3'D X 6'L
 1' WEIR &
 COIR FIBER BAFFLES
 DESIGNED USING THE 60 DAY OPTION
 ID #6

JOHN A. WILLIAMS JR, ET AL
 DB 722 PG 292

JOHN A. WILLIAMS JR, ET AL
 DB 722 PG 292



JOHN A. WILLIAMS JR, ET AL
DB 722 PG 292

JAMES C. MILLER
DB 470 PG 053

PI Sta 11+07.30
 $\Delta = 19^{\circ} 08' 01.8''$ (LT)
 $D = 9^{\circ} 00' 00.0''$
 $L = 212.60'$
 $T = 107.30'$
 $R = 636.62'$

JOHN A. WILLIAMS JR, ET AL
DB 722 PG 292

ST Sta. 28+74.15

PC Sta. 10+00.00

CS Sta. 27+40.81

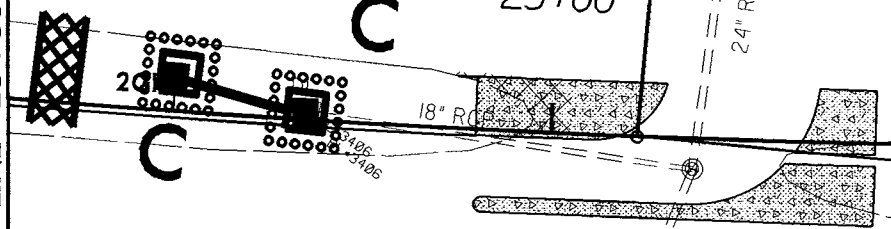
PT Sta. 12+12.60

POT Sta. 12+72.51

MATCH LINE 23+56 -L MED-

25+00

30+00



JOHN A. WILLIAMS JR, ET AL
DB 722 PG 292

H & H INVESTMENTS INC
DB 540 PG 112

H & H INVESTMENTS INC
DB 540 PG 112

RAEFORD FLOOR & WALL COVERING
DB 614 PG 190

PI Sta 24+98.70
 $\Delta = 7^{\circ} 16' 23.7''$ (LT)
 $D = 1^{\circ} 30' 00.0''$
 $L = 484.88'$
 $T = 242.77'$
 $R = 3,819.72'$

WHITE LAKE ALMAGATED LLC
DB 744 PG 422

PIs Sta 22+11.48
 $\theta_s = 1^{\circ} 00' 00.2''$
 $L_s = 133.34'$
 $LT = 88.89'$
 $ST = 44.45'$

PIs Sta 27+85.26
 $\theta_s = 1^{\circ} 00' 00.2''$
 $L_s = 133.34'$
 $LT = 88.89'$
 $ST = 44.45'$



REVISIONS

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**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

PROJ. REFERENCE NO.	SHEET NO.
SS-4908AI	X-A

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDES BACKFILL FOR UNDERCUT

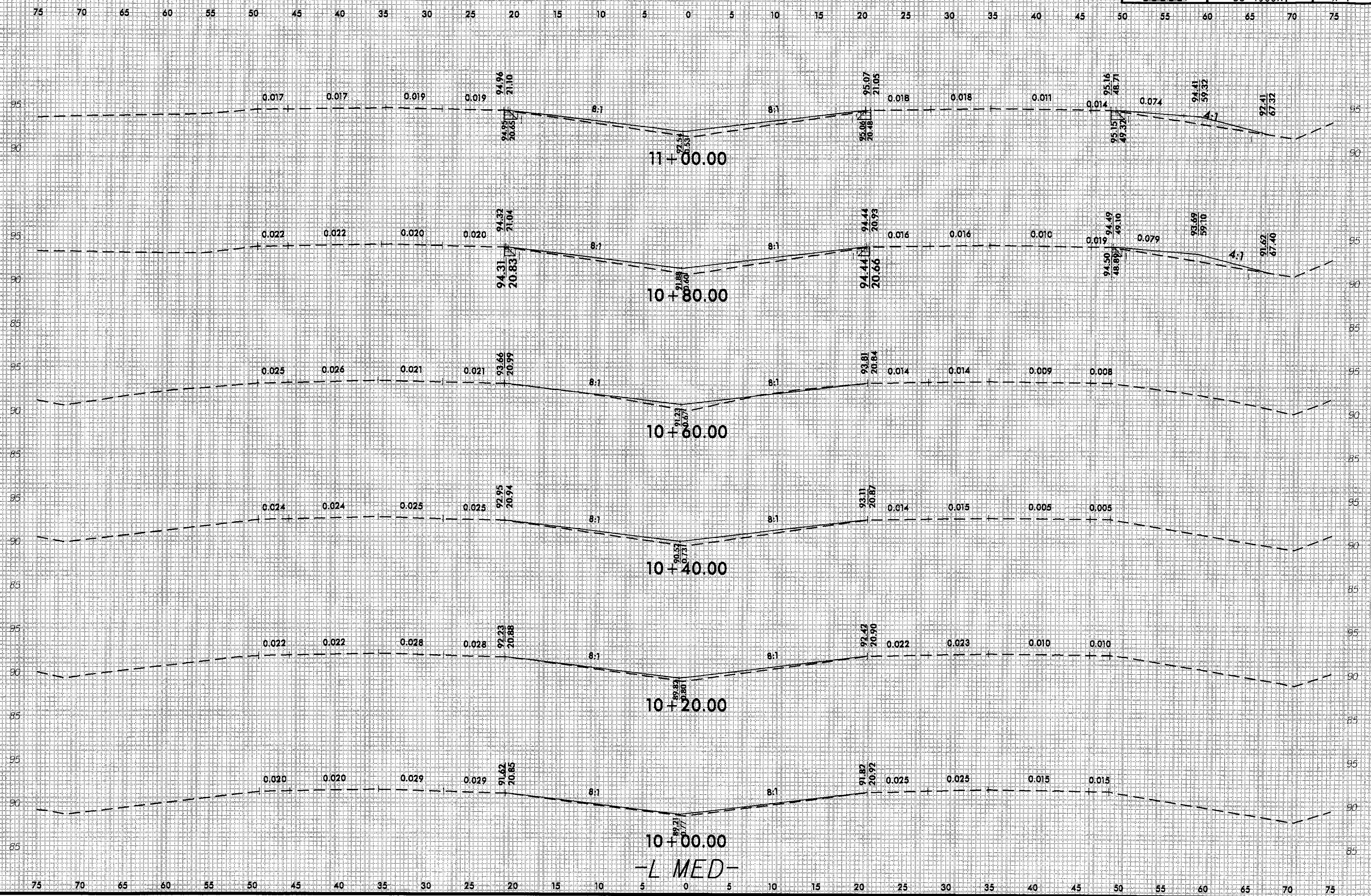
CROSS-SECTION SUMMARY

Station	Uncl. Exc.	Embt	Station	Uncl. Exc.	Embt															
L_Med	(cu. yd.)	(cu. yd.)	L_Med	(cu. yd.)	(cu. yd.)															
10+00.00	0	0	19+80.00	5	11															
10+20.00	0	4	20+00.00	6	9															
10+40.00	0	6	20+20.00	6	6															
10+60.00	0	6	20+40.00	7	5															
10+80.00	1	10	20+60.00	8	4															
11+00.00	2	16	20+80.00	8	4															
11+20.00	3	13	21+00.00	9	4															
11+40.00	3	11	21+20.00	10	3															
11+60.00	4	10	21+40.00	10	3															
11+80.00	4	10	21+60.00	10	2															
12+00.00	4	14	21+80.00	10	3															
12+20.00	4	15	22+00.00	10	3															
12+40.00	4	16	22+20.00	10	3															
12+60.00	6	21	22+40.00	10	3															
12+70.00	5	11	22+60.00	11	2															
12+80.00	11	11	22+80.00	11	2															
13+00.00	50	21	23+00.00	11	2															
13+05.79	26	5	23+20.00	11	1															
13+11.49	34	6	23+40.00	12	1															
13+20.00	50	9	23+60.00	11	1															
13+40.00	101	24	23+80.00	10	2															
13+60.00	74	27	24+00.00	10	2															
13+80.00	53	27	24+20.00	10	3															
14+00.00	39	29	24+34.97	6	2															
14+09.00	14	14	24+40.00	2	1															
14+20.00	15	18	24+60.00	6	2															
14+40.00	19	35	24+80.00	3	1															
14+60.00	11	36	24+84.82	1	0															
14+80.00	8	30																		
15+00.00	7	23	Station	Uncl. Exc.	Embt															
15+20.00	7	20																		
15+40.00	7	18	L_Med	(cu. yd.)	(cu. yd.)															
15+60.00	7	17	25+65.47	0	0															
15+80.00	7	15	25+80.00	4	0															
16+00.00	6	14	26+00.00	3	2															
16+20.00	6	14	26+20.00	0	6															
16+40.00	6	13	26+40.00	0	6															
16+60.00	6	13	26+60.00	1	4															
16+80.00	6	15	26+80.00	1	4															
17+00.00	5	16	27+00.00	1	4															
17+20.00	4	17																		
17+40.00	4	17																		
17+60.00	4	16																		
17+80.00	4	17																		
18+00.00	4	19																		
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18+60.00	4	16																		
18+80.00	4	16																		
19+00.00	5	16																		
19+20.00	6	15																		
19+40.00	6	13																		
19+60.00	6	12																		

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, silt excavation, and removal of existing pavement will be paid for at the lump sum price for "Grading".

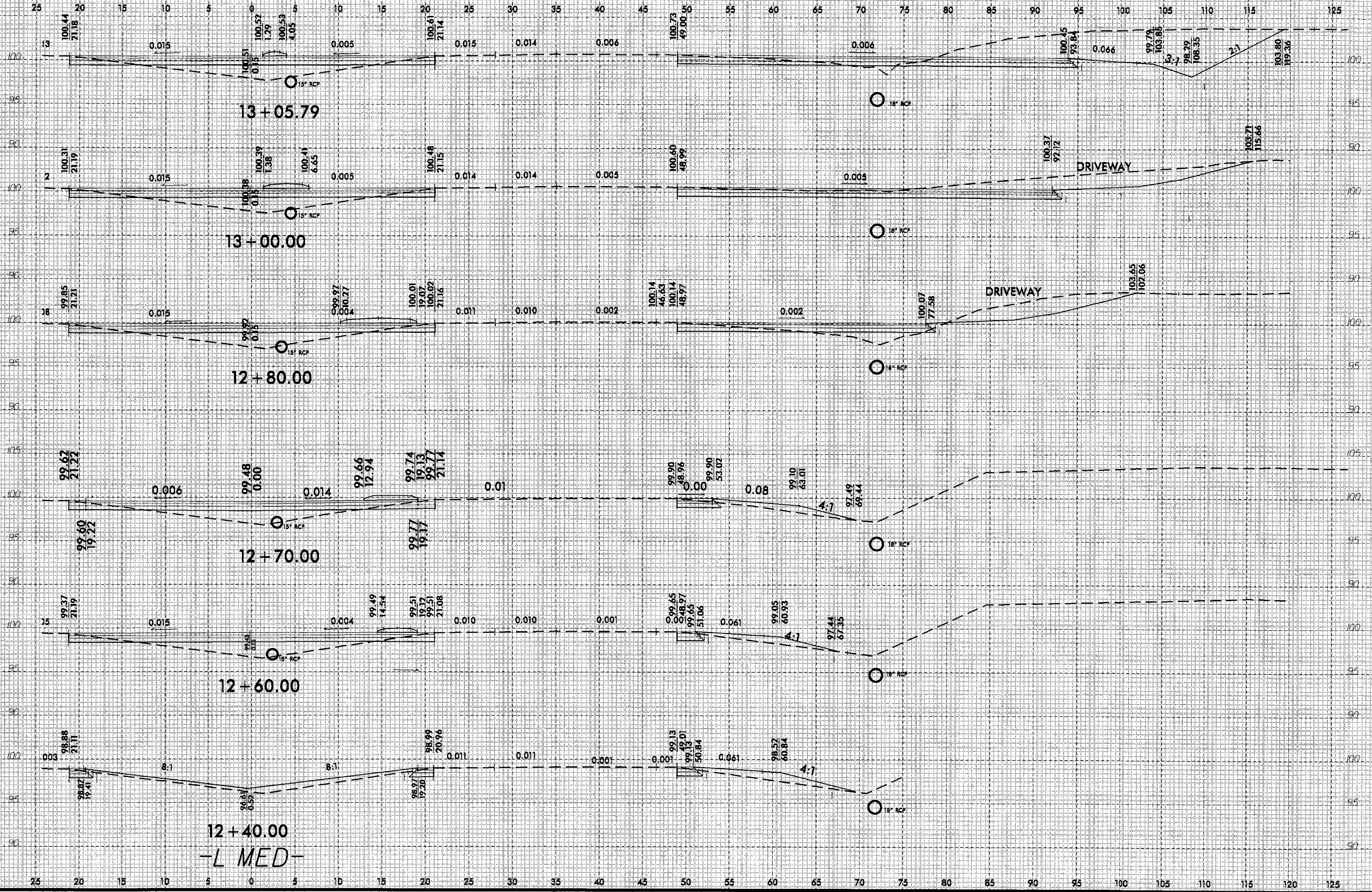
NOTE:
Shoulder Material included in Embankment quantities listed

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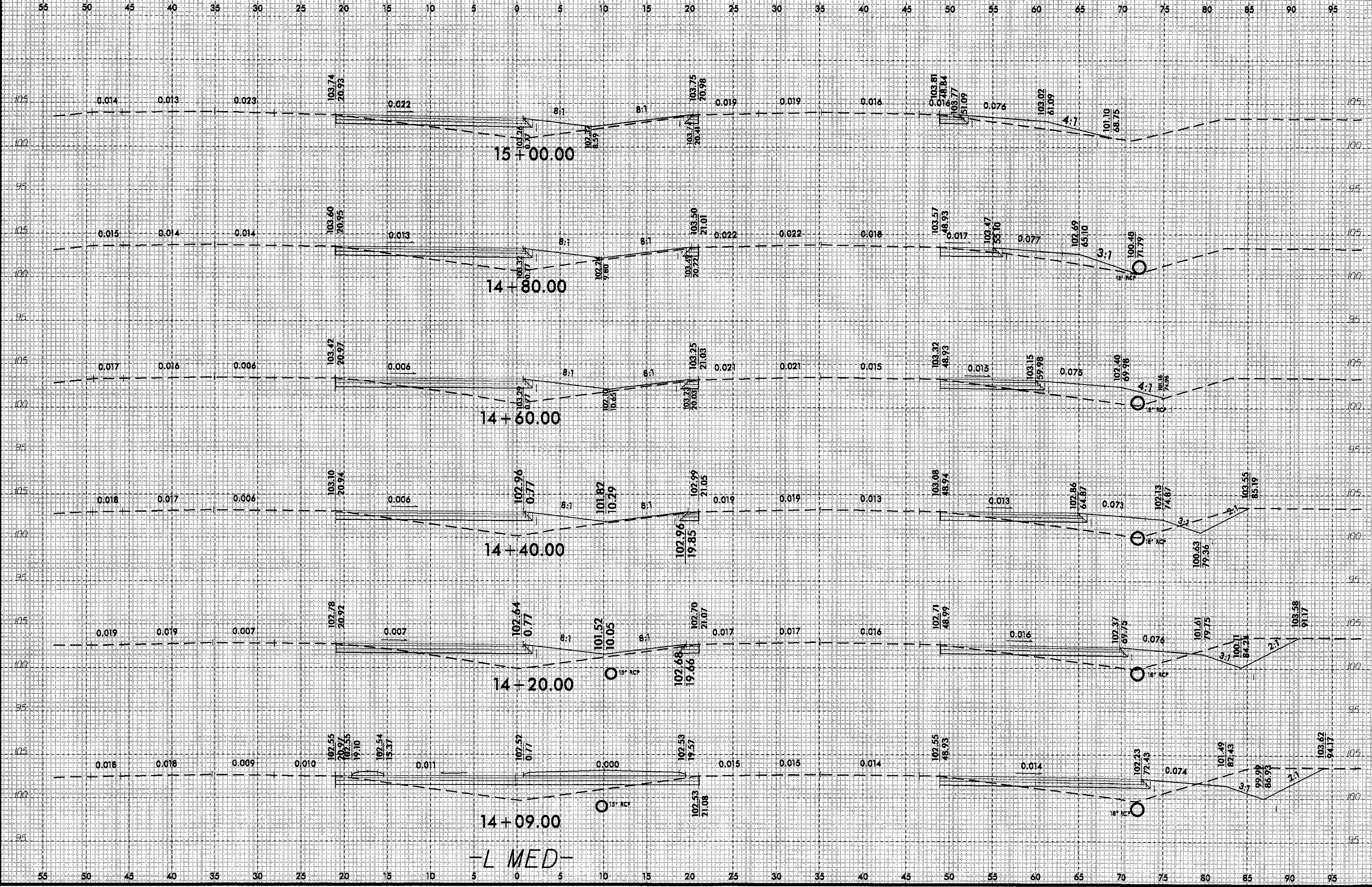
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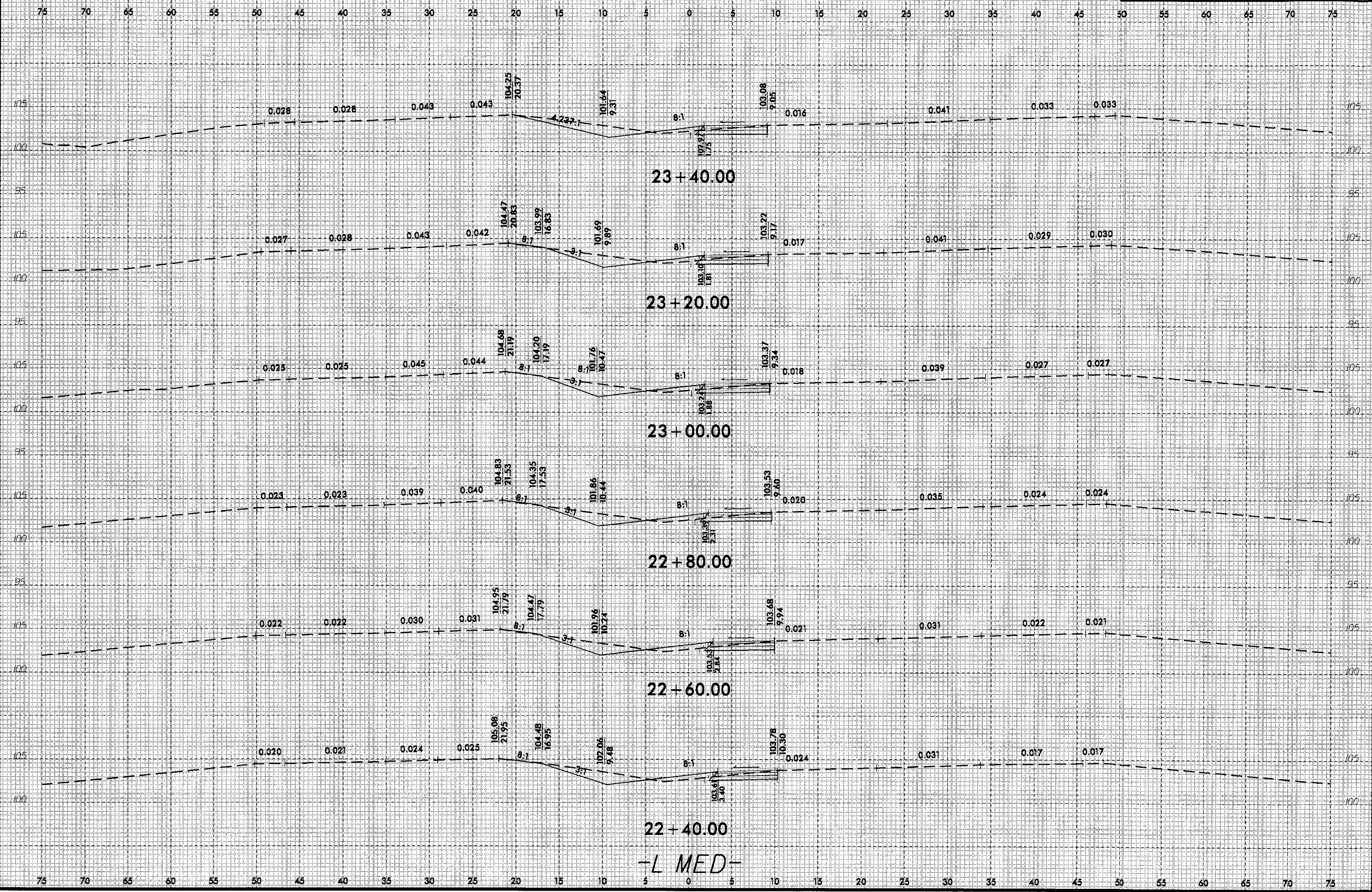
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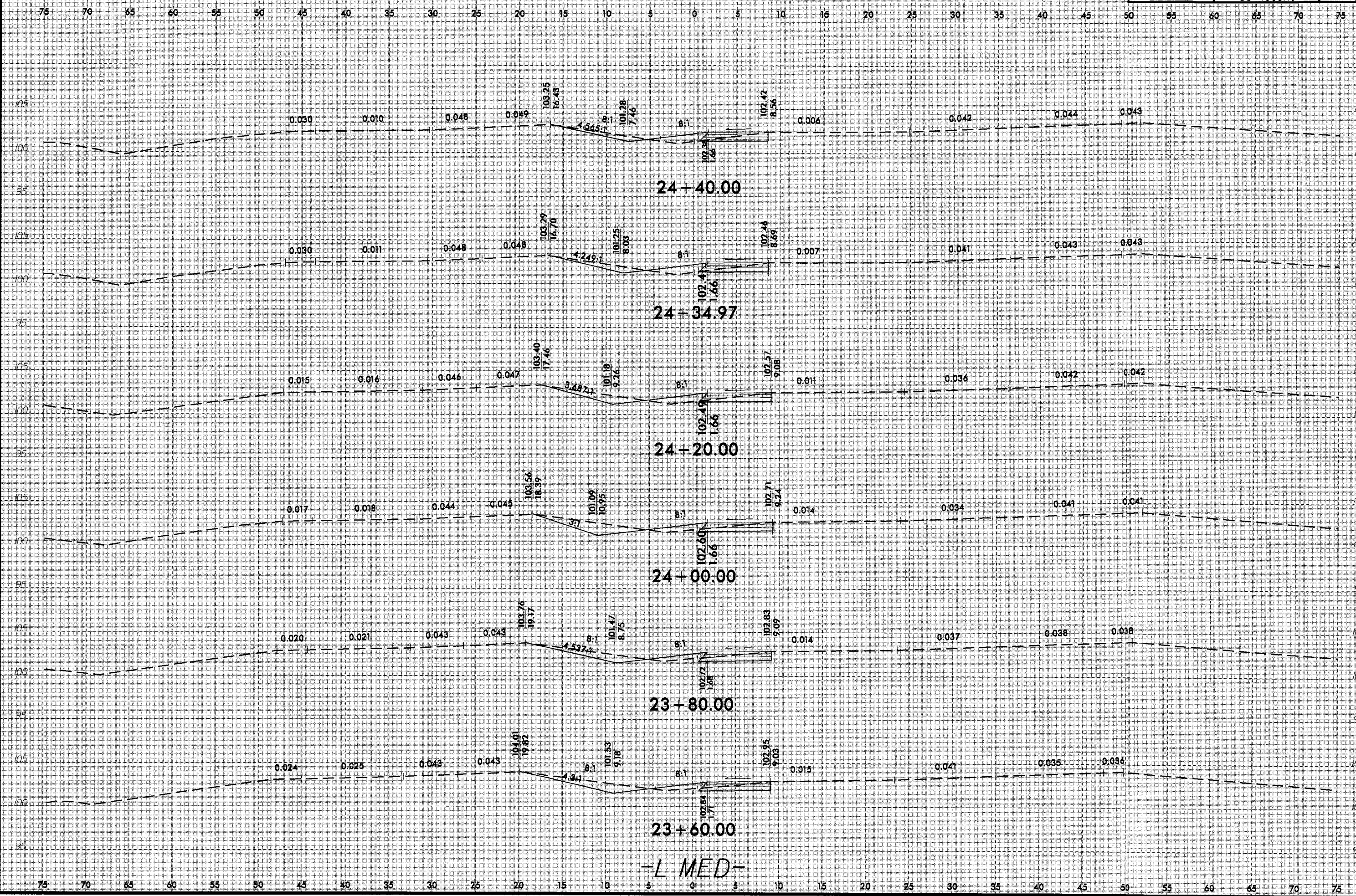


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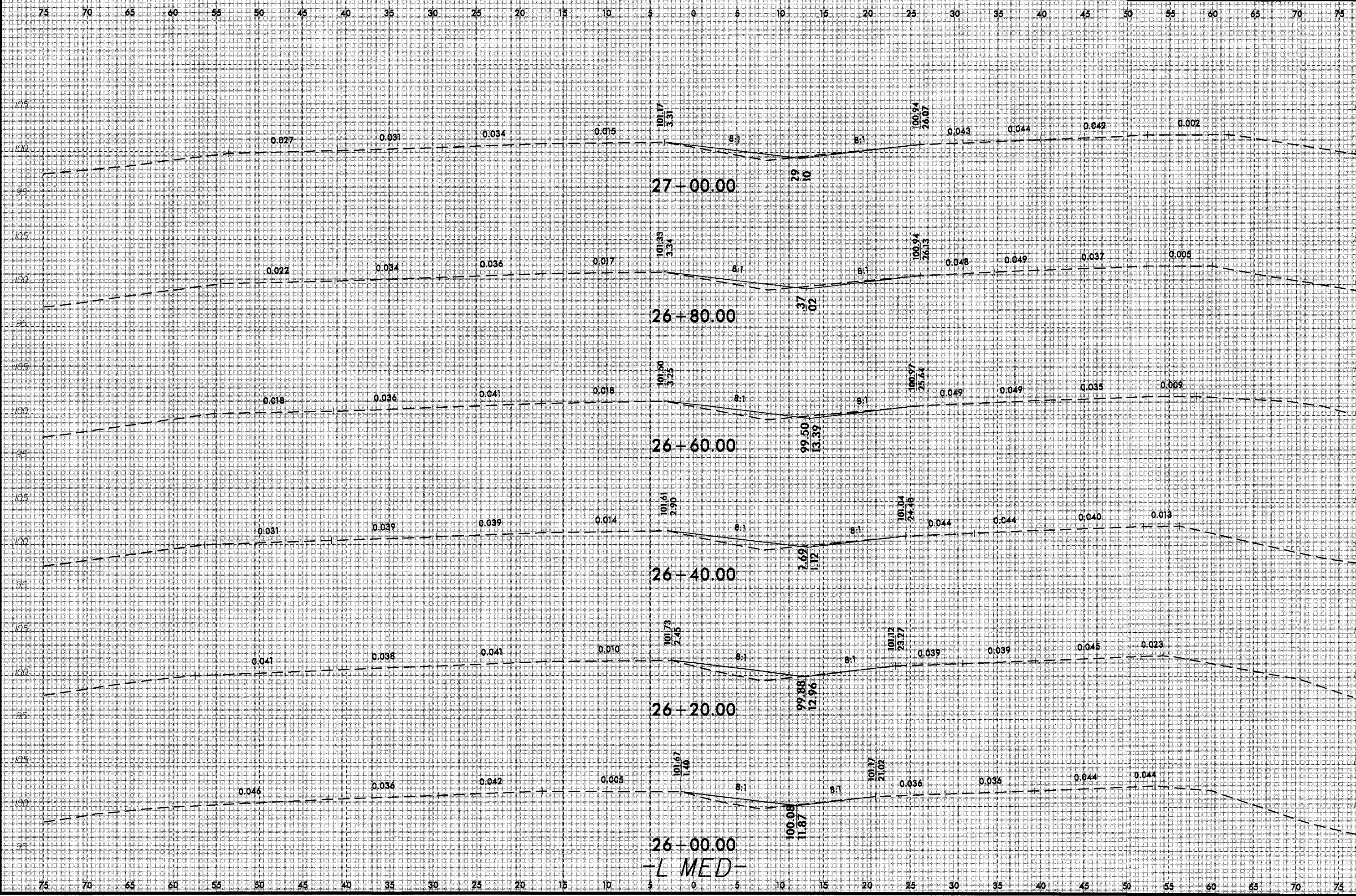


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