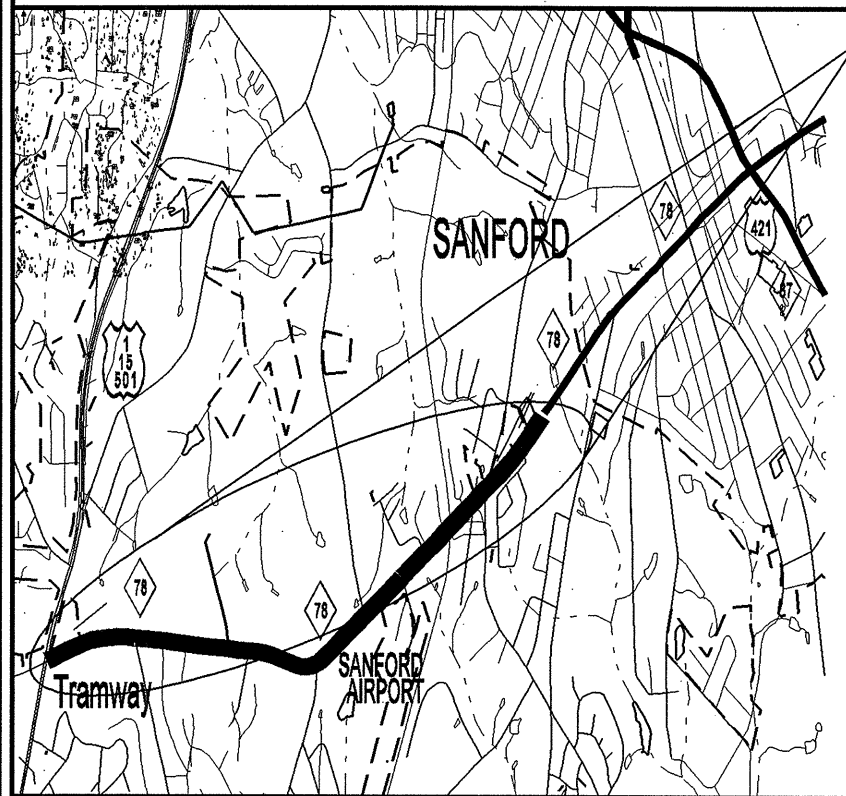


**TIP PROJECT: R-5141**



VICINITY MAP

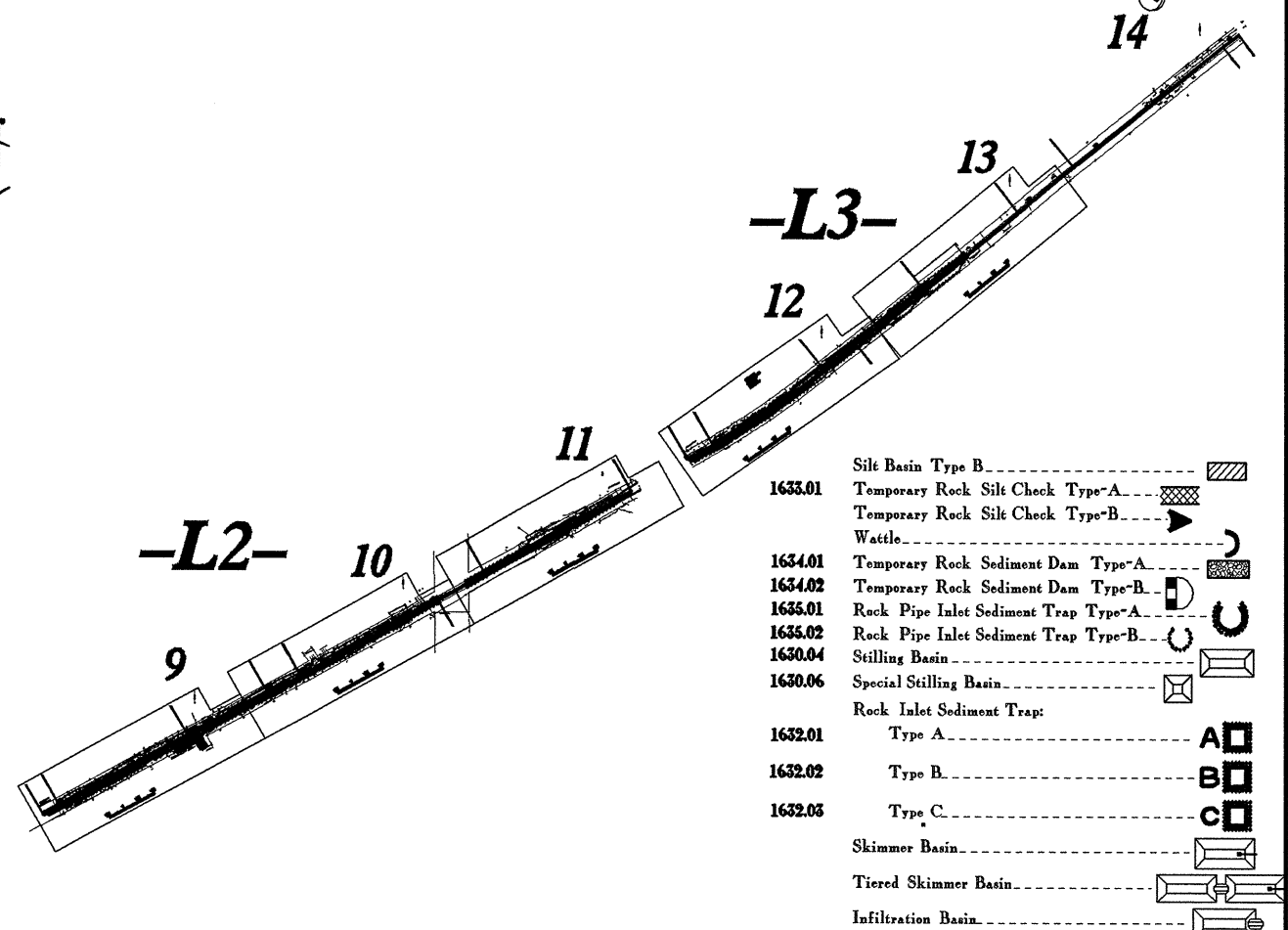
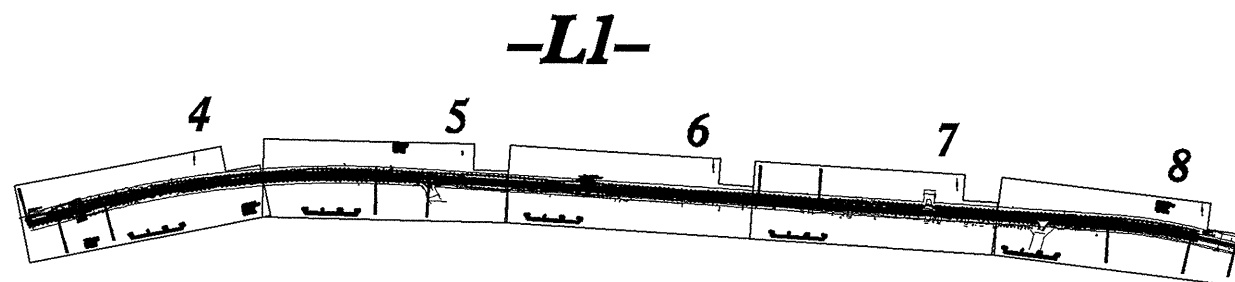
**PROJECT LOCATION**

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

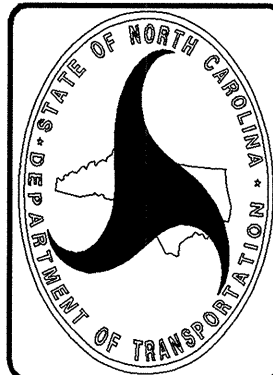
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|-----------------|-----------------------------|-------------|--------------|
| N.C.            | R-5141                      | EC-1        |              |
| STATE PROJ. NO. | F.A. PROJ. NO.              | DESCRIPTION |              |
| 0041071         | F.A. 0718-0000              | PL. R/W     |              |
| 0041071         |                             | COST        |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |

**EROSION AND SEDIMENT CONTROL MEASURES**

| Std. #  | Description                      | Symbol      |
|---------|----------------------------------|-------------|
| 1630.03 | Temporary Silt Ditch             | ---         |
| 1630.05 | Temporary Diversion              | →           |
| 1605.01 | Temporary Silt Fence             | --- --- --- |
| 1606.01 | Special Sediment Control Fence   | --- --- --- |
| 1622.01 | Temporary Berms and Slope Drains | --- --- --- |
| 1630.01 | Riser Basin                      | ⊕           |



|         |                                      |     |
|---------|--------------------------------------|-----|
|         | Silt Basin Type B                    | ⊕   |
| 1633.01 | Temporary Rock Silt Check Type-A     | ⊕   |
|         | Temporary Rock Silt Check Type-B     | ▶   |
|         | Wattle                               | ⌋   |
| 1634.01 | Temporary Rock Sediment Dam Type-A   | ⌋   |
| 1634.02 | Temporary Rock Sediment Dam Type-B   | ⌋   |
| 1635.01 | Rock Pipe Inlet Sediment Trap Type-A | ⊕   |
| 1635.02 | Rock Pipe Inlet Sediment Trap Type-B | ⊕   |
| 1630.04 | Stilling Basin                       | ⊕   |
| 1630.06 | Special Stilling Basin               | ⊕   |
|         | Rock Inlet Sediment Trap:            |     |
| 1632.01 | Type A                               | A ⊕ |
| 1632.02 | Type B                               | B ⊕ |
| 1632.03 | Type C                               | C ⊕ |
|         | Skimmer Basin                        | ⊕   |
|         | Tiered Skimmer Basin                 | ⊕   |
|         | Infiltration Basin                   | ⊕   |



**NOTE:**  
 The erosion control measures have been designed to provide a minimum of 43% of the storage calculated using the RUSLE2 analysis. These sections of disturbed area must then be permanently stabilized within 60 days from the time clearing, grubbing or grading begins.

**PROJECT CONTACTS:**  
 District Engineer Chuck Dumas, Jr., PE  
 Resident Engineer Marty C. Tillman  
 Division Design/Construct Engineer Gregory S. Davis, PE  
 Prepared By:  
 Michael Trotter  
 Level III A #: 420  
 MARCH 10 2009

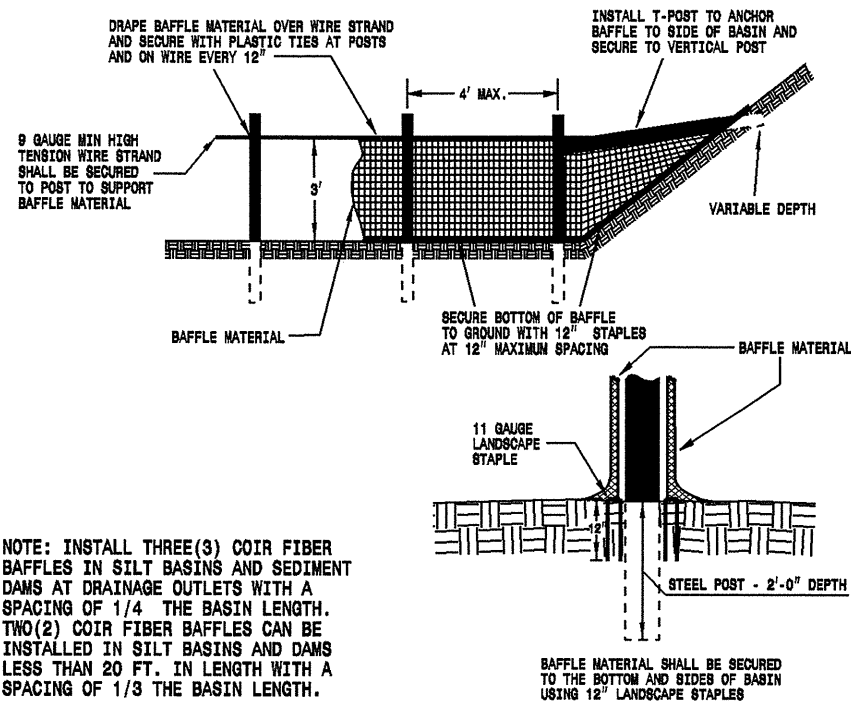
**DIVISION DESIGN & CONSTRUCT UNIT**  
 DIVISION EIGHT  
 902 N Sandhills Blvd.  
 Aberdeen, 28315  
 2006 STANDARD SPECIFICATIONS

**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 July 18, 2006 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  | 1630.06 | Special Stilling Basin               |
| 1605.01 | Temporary Silt Fence             | 1632.01 | Rock Inlet Sediment Trap Type A      |
| 1606.01 | Special Sediment Control Fence   | 1632.02 | Rock Inlet Sediment Trap Type B      |
| 1607.01 | Gravel Construction Entrance     | 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                      | 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 |

## 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.

BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12\"/>

## 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 | -----           |
| 1630.01 | Riser Basin                              |                 |
| 1630.02 | SILT BASIN TYPE-B                        |                 |
| 1633.01 | TEMPORARY ROCK SILT CHECK TYPE-A         |                 |
|         | Wattle                                   |                 |
| 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     |                 |
| 1636.01 | ROCK SILT SCREEN                         |                 |
| 1630.04 | STILLING BASIN FOR PUMPED EFFLUENT       |                 |
|         | ROCK INLET SEDIMENT PROTECTION           |                 |
| 1632.01 | TRAP TYPE-A                              | A  OR A)        |
| 1632.02 | TRAP TYPE-B                              | B  OR B)        |
| 1632.03 | TRAP TYPE-C                              | C  OR C)        |

### NARRATIVE

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

### SITE DESCRIPTION

This project is located on NC 78 between US 1 at Tramway to approximately 0.25 miles north of SR 1146 (St. Andrews Rd.). The area surrounding this project primarily consists of wooded and grassy areas and single family dwellings. The drainage consists of roadway ditches that lead to existing ditches and drainage structures.

### 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 1.5 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 WA'S 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: The erosion control measures have been designed to provide a minimum of 43% 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.

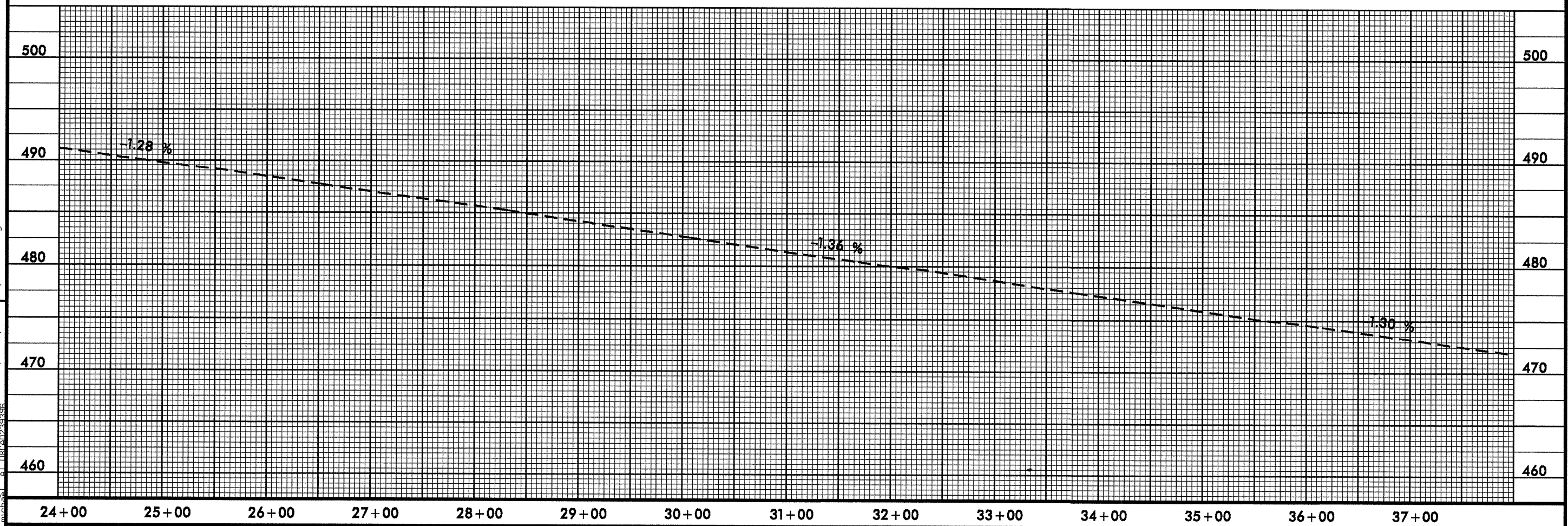
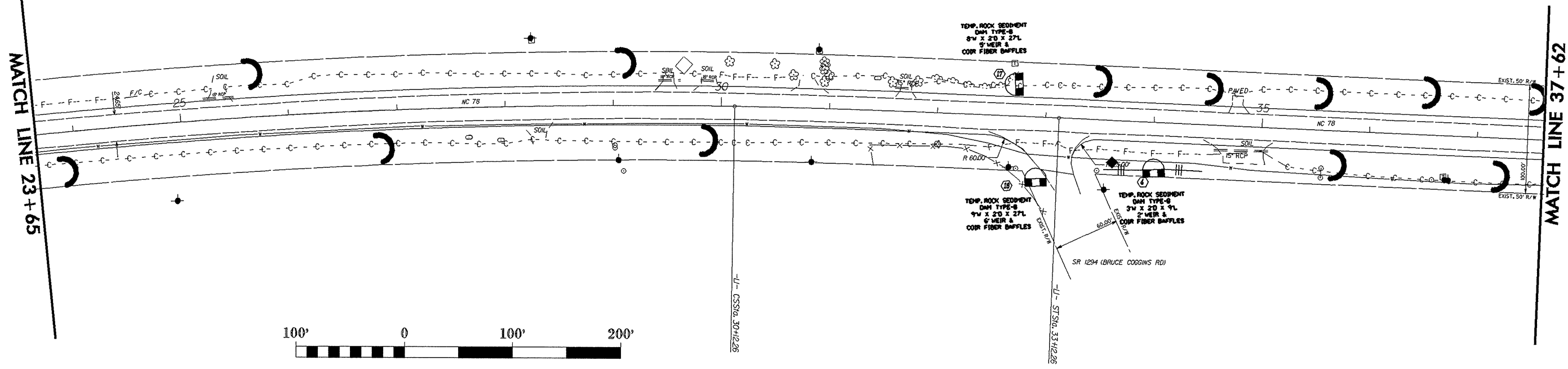
### GENERAL CONSIDERATIONS

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 ERODIVE AND STABLE WITHIN 21 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.



|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
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| RW SHEET NO.            |                     |
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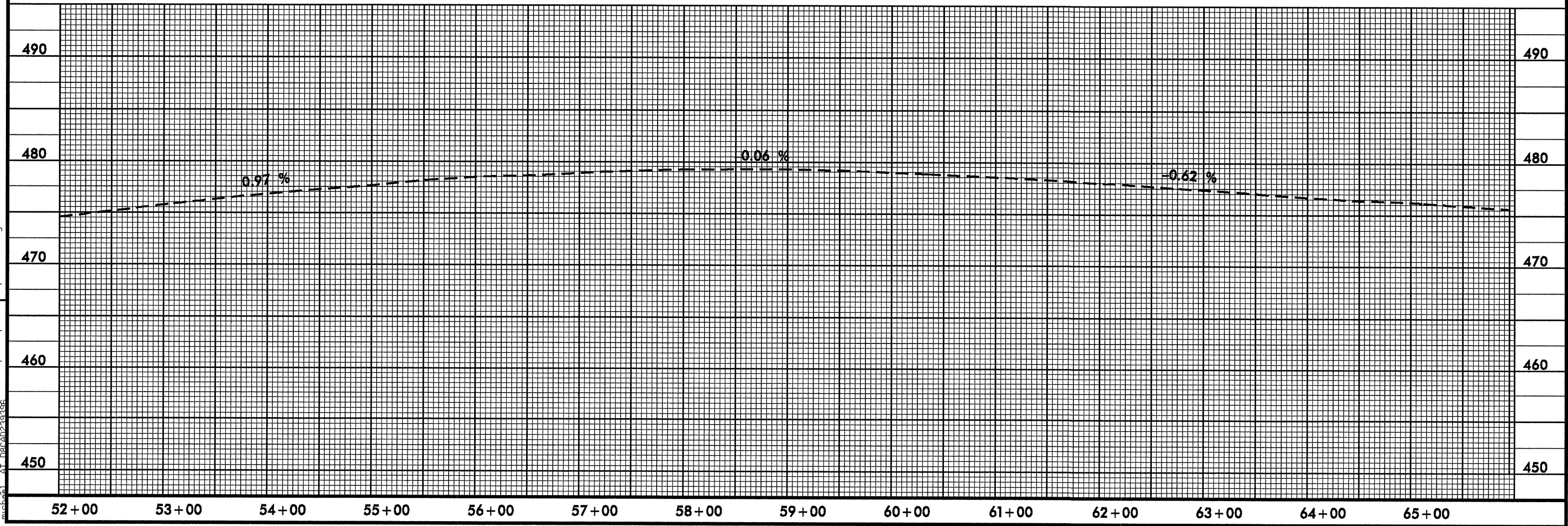
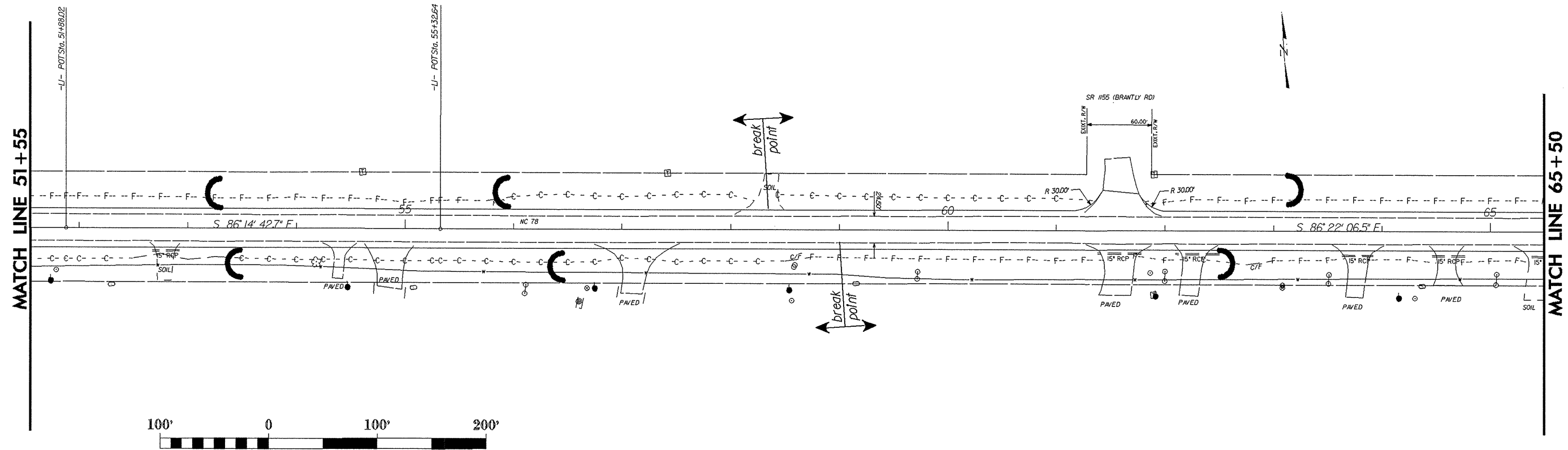


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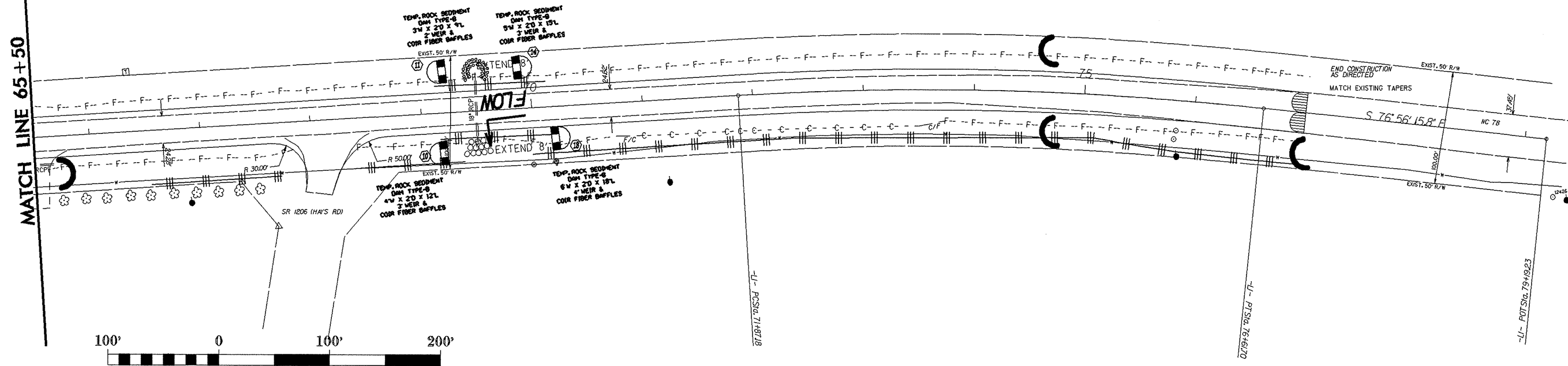


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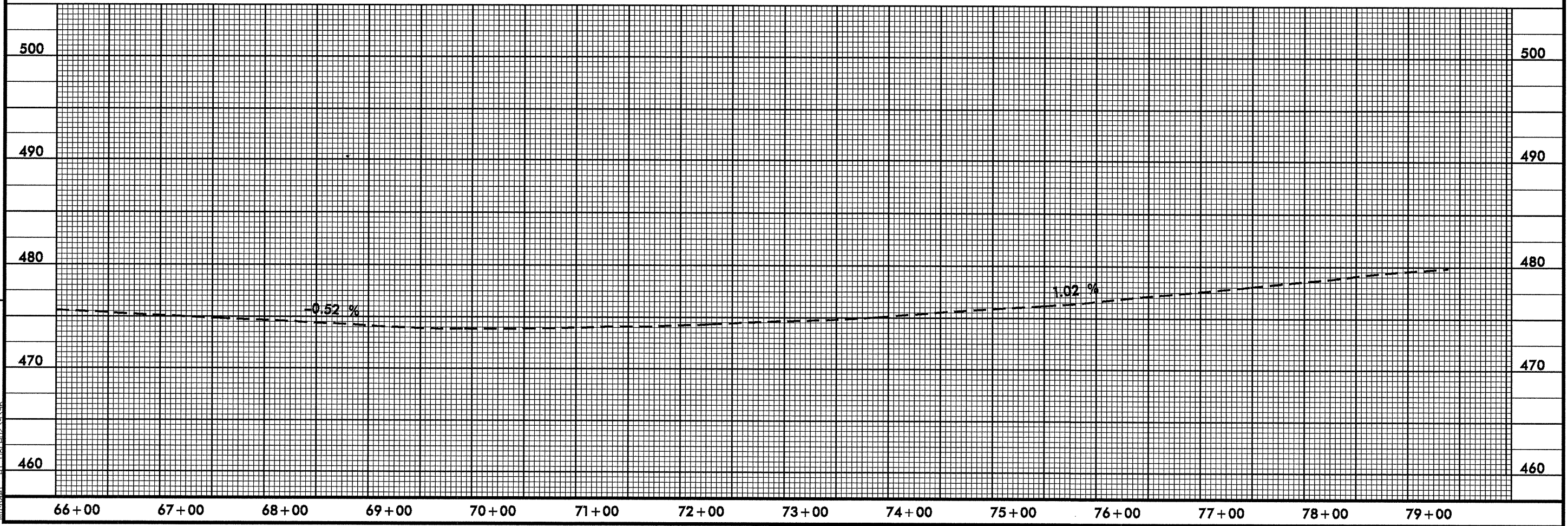
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MATCH LINE 65+50



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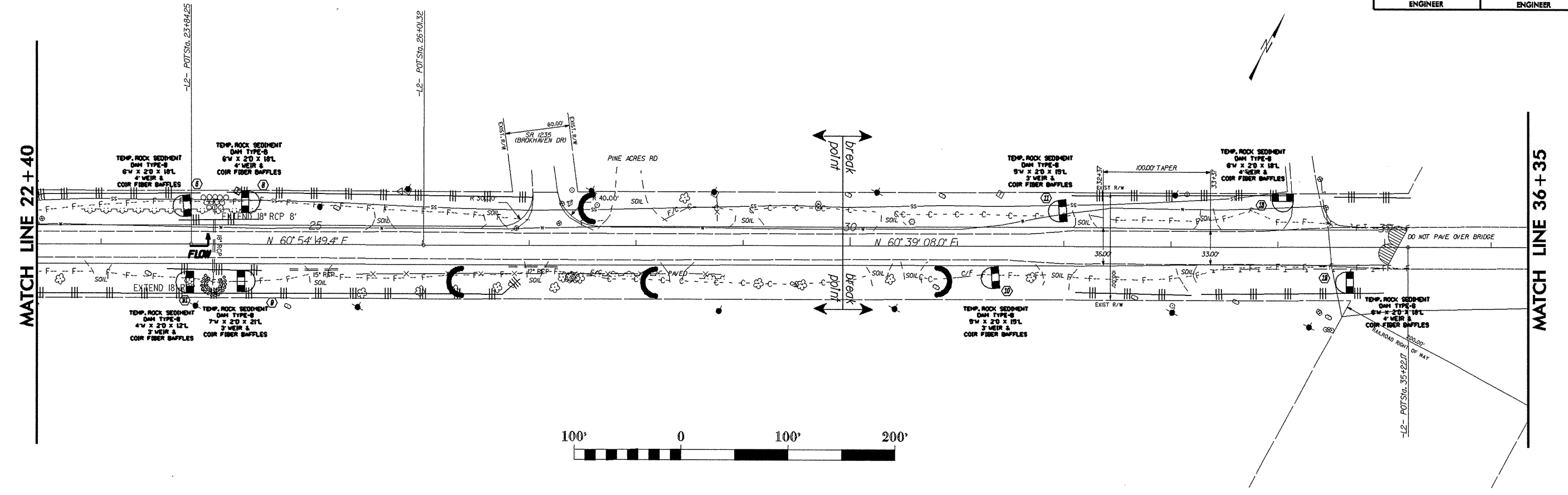
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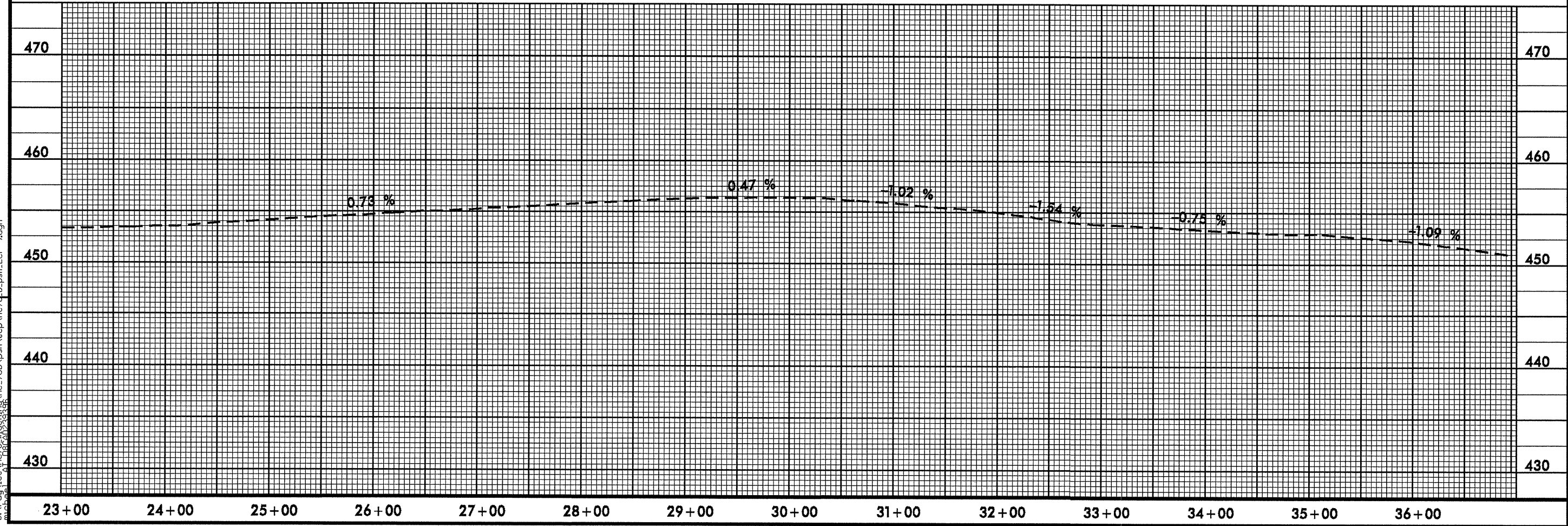




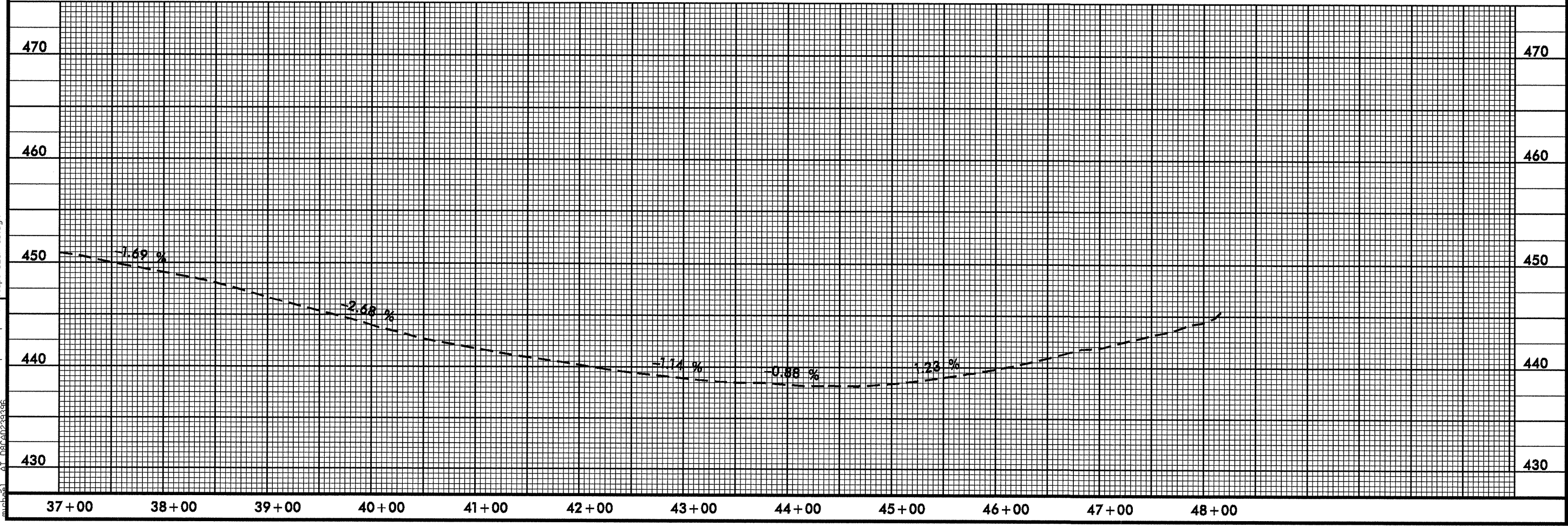
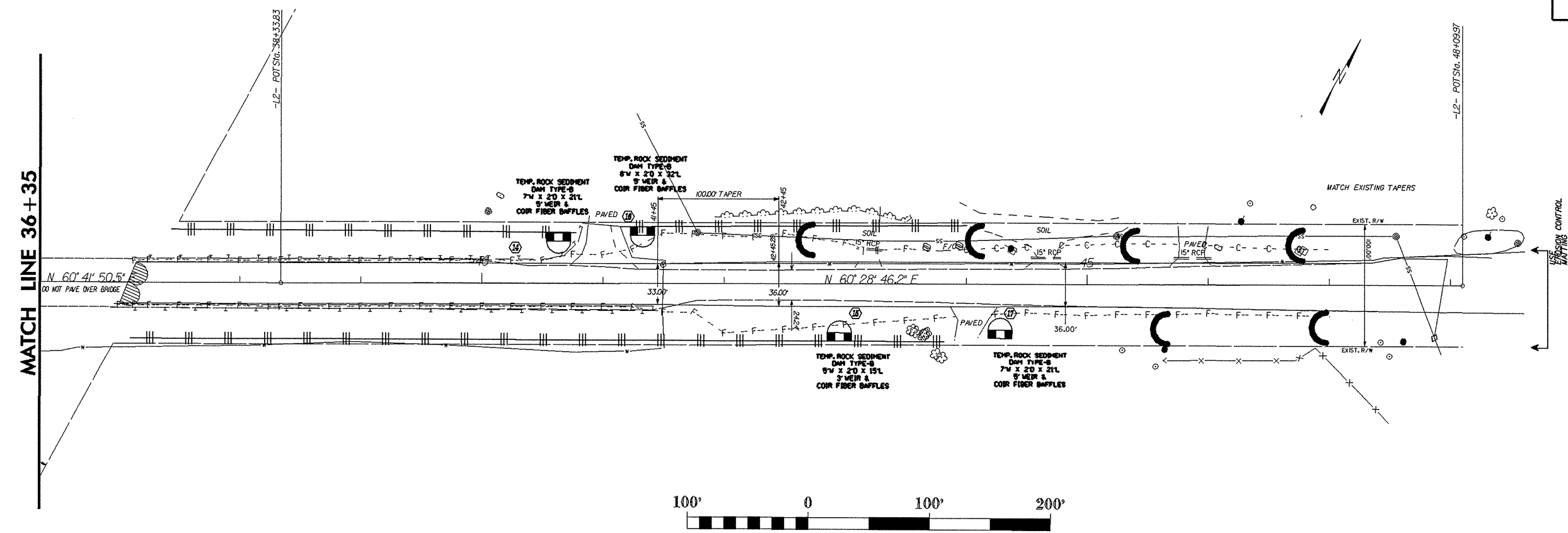
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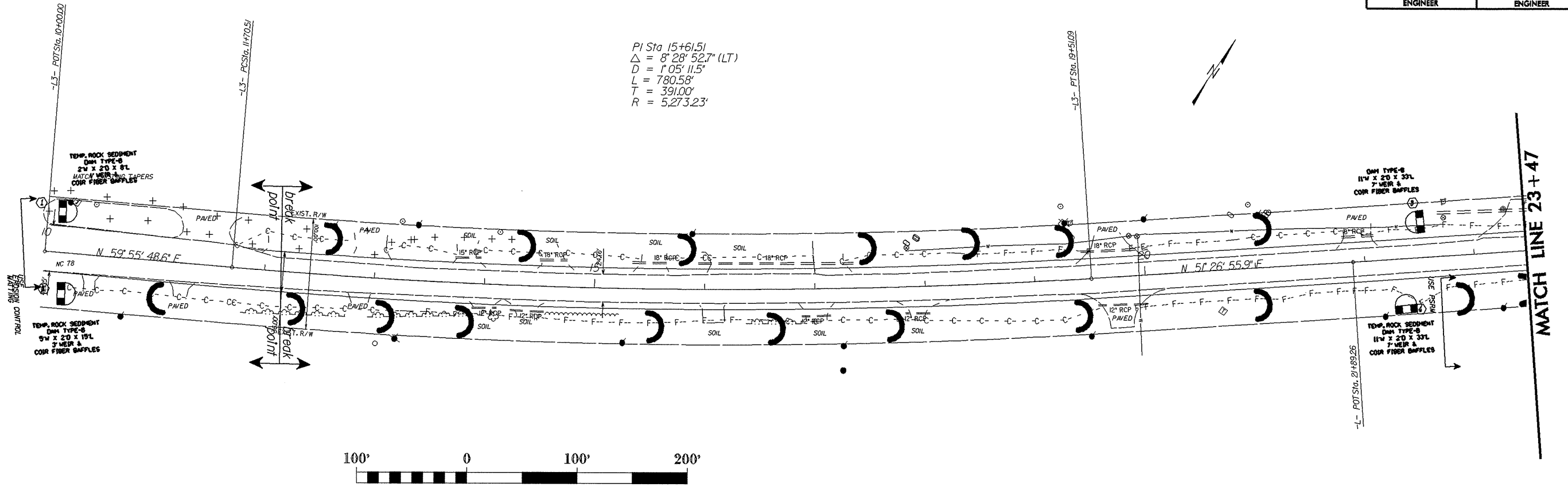
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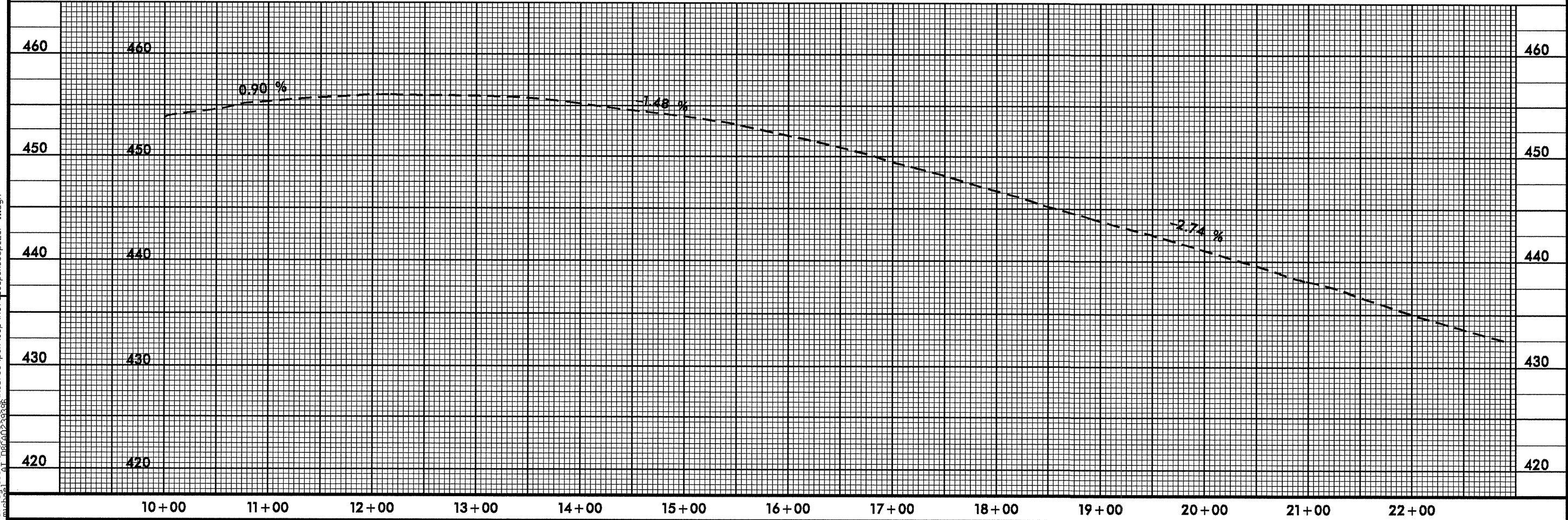
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8/17/99

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