

# INDEX OF SHEETS

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## LIST OF STANDARDS

|           |           |
|-----------|-----------|
| A-21      | 6-17-82   |
| E-3       | 12-15-78R |
| E-6       | 4-1-80R   |
| E-7       | 2-1-83R   |
| E-7A      | 1-3-85R   |
| G-14      | 12-21-84R |
| SB-R6-82  | 12-13-84R |
| SCB-DI-75 | 9-14-81R  |
| D-6       | 4-4-73R   |
| D-11      | 3-24-81R  |

## GENERAL NOTES

1. PAYMENT FOR SEEDING, MULCHING AND FERTILIZING SHALL BE SUBSIDIARY TO ALL OTHER ITEMS. SEE SHEET 4 FOR SEEDING MIX AND APPLICATION RATES.
2. CONSTRUCTION IN THE STREAM IS LIMITED TO JUNE 1ST TO OCTOBER 1ST.
3. GENERAL NOTES 4, 6, 7, 13, 14, 15 AND 16 FROM STANDARD SCB-DI-76 APPLY TO THIS PROJECT.
4. ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDER SIDE OF SLAB BETWEEN DRIP BEADS, SHALL HAVE WATER REPELLENT APPLIED TO THEM.
5. A FINISHING MACHINE, IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 501.14 (b) SHALL BE USED TO PLACE THIS CONCRETE SLAB.

# STATE OF VERMONT AGENCY OF TRANSPORTATION

Date AUG 1 1985

Winterset The  
Contractor

Gerald Bailey  
Signature

president  
Title

Juan C. Camp  
Transportation Secretary's Signature



## PROPOSED IMPROVEMENT BRIDGE PROJECT

TOWN OF CONCORD  
COUNTY OF ESSEX

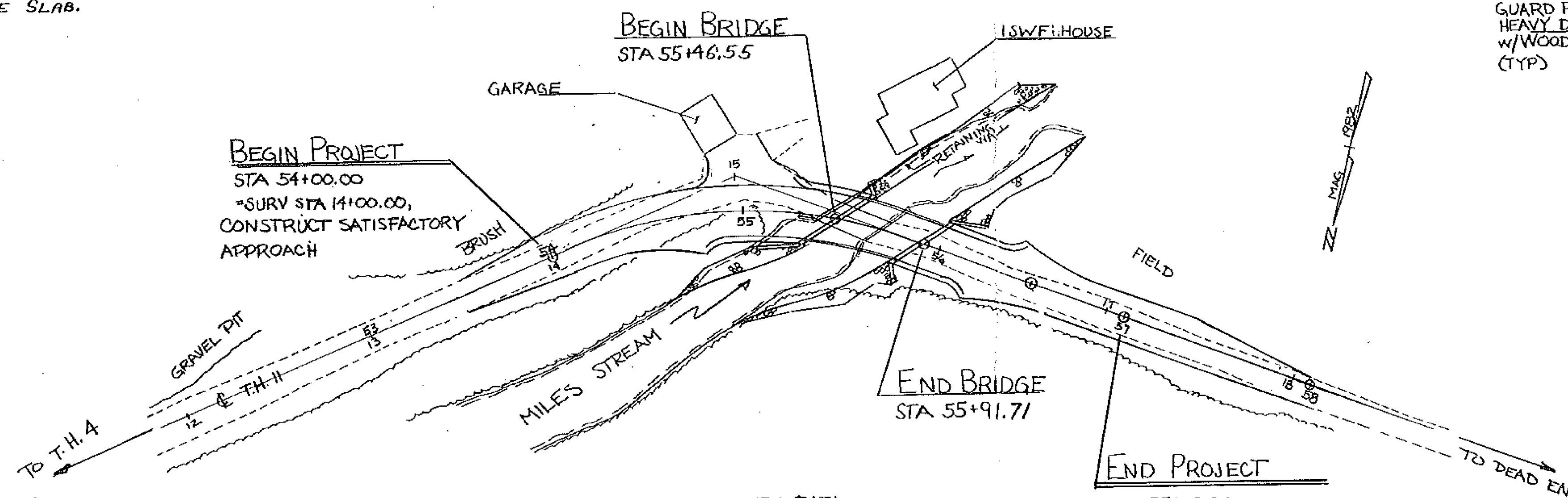
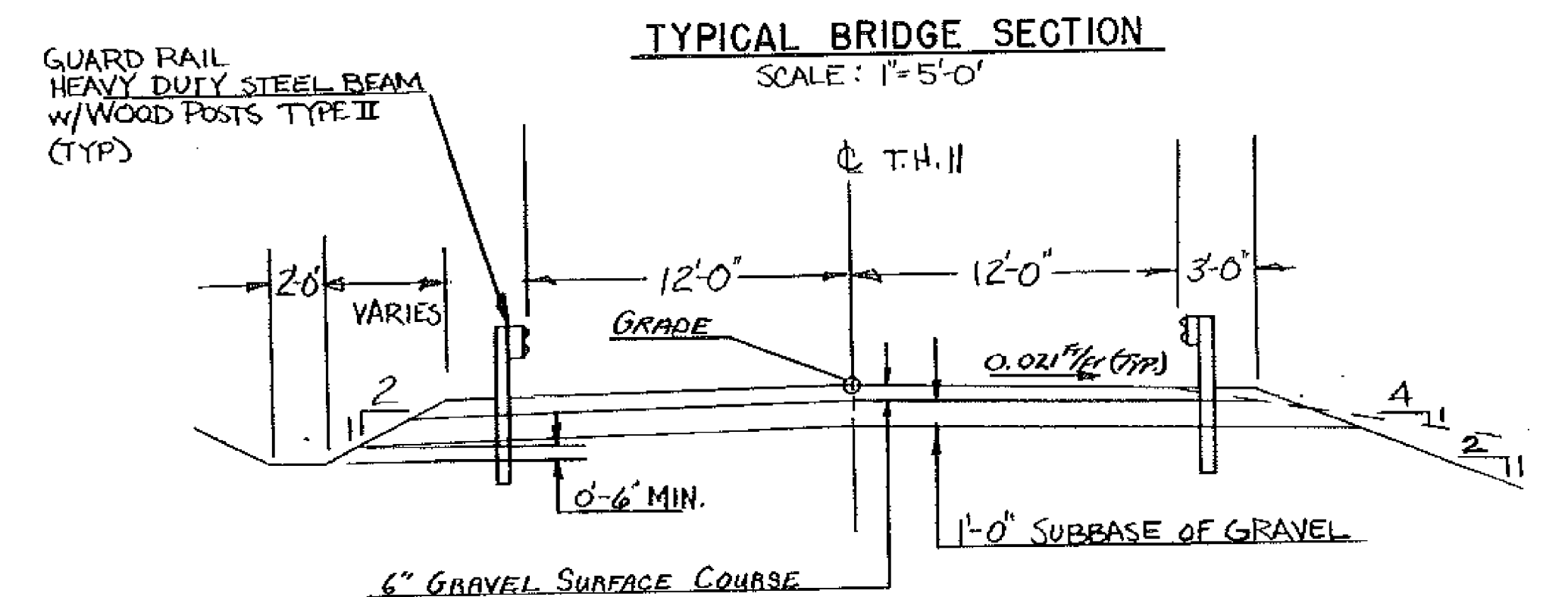
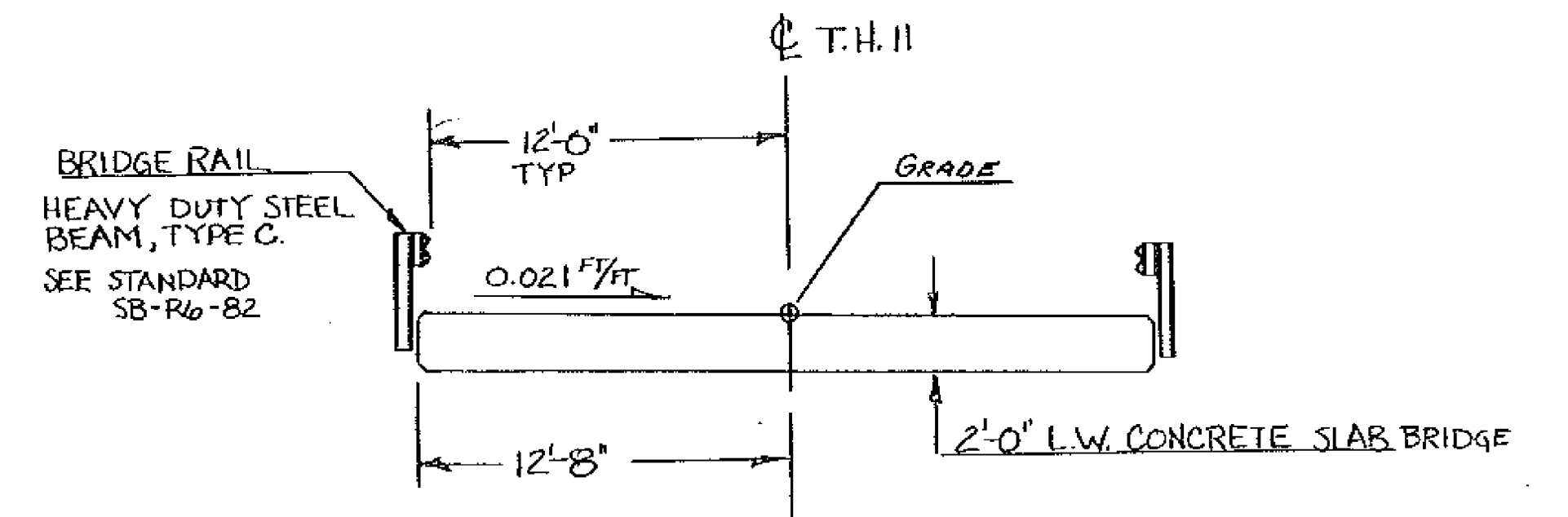
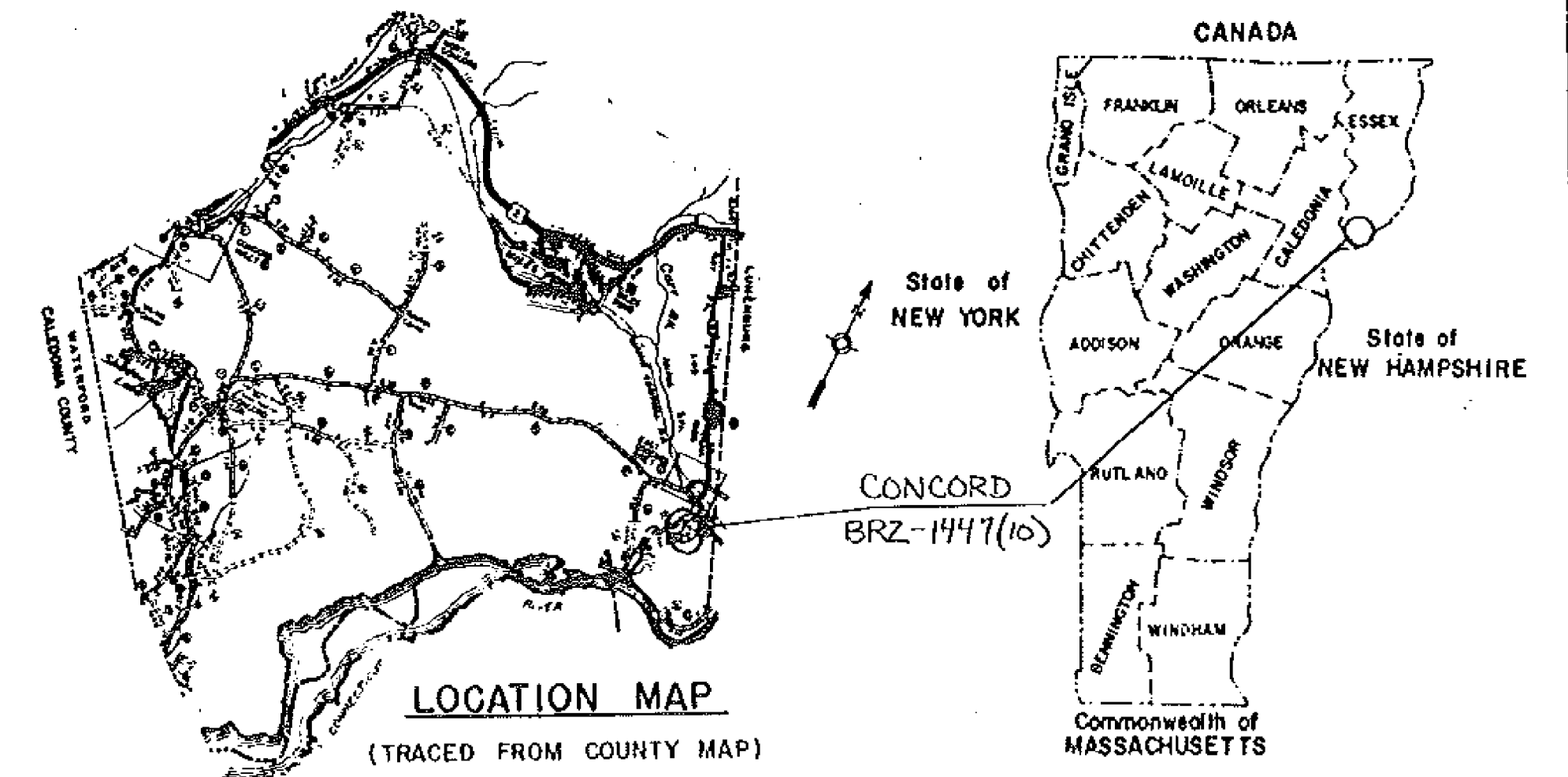
ROUTE NO: TH.11 CL3 BRIDGE NO: 20

PROJECT LOCATION: BEGINNING AT A POINT APPROXIMATELY 0.20 MILES SOUTH OF THE INTERSECTION OF TOWN HIGHWAYS 4 AND 11, AND CONTINUING APPROXIMATELY 300 FT. SOUTHERLY ON TH.11

PROJECT DESCRIPTION: THE PROJECT SHALL CONSIST OF REMOVAL OF THE EXISTING STRUCTURE, CONSTRUCTION OF A NEW CONCRETE SLAB BRIDGE, AND ALL NECESSARY ROAD AND CHANNEL WORK.

**CONTRACT PLANS**  
THESE PLANS DO NOT REFLECT  
CHANGES MADE ON THE PROJECT.

LENGTH OF STRUCTURE: 45.16 FEET  
LENGTH OF PARTICIPATION ROADWAY: 254.84 FEET  
LENGTH OF NON-PARTICIPATION ROADWAY: FEET  
LENGTH OF PROJECT: 300.00 FEET



TRAFFIC DATA  
1982 AADT 60  
1992 AADT 70  
DESIGN SPEED 25 MPH

SCALE  
1"=40'

## CONVENTIONAL SIGNS

|                    |         |
|--------------------|---------|
| COUNTY LINE        | ---     |
| TOWN LINE          | ---     |
| LIMITS OF ACCESS   | ---X--- |
| POINT OF ACCESS    | X       |
| FENCE LINE         | ---     |
| STONE WALL         | ---X--- |
| TRAVELED WAY       | ---     |
| GUARD RAIL         | ---     |
| RAILROAD           | ---     |
| SURVEY LINE        | ---     |
| CULVERT            | ---     |
| POWER POLE         | ---     |
| TELEPHONE POLE     | ---     |
| TREES              | ---     |
| CONTROL OF ACCESS  | ---     |
| PROPERTY LINE      | ---     |
| R.O.W. TAKING LINE | ---     |
| SLOPE RIGHTS       | ---     |
| TOP OF CUT         | ---     |
| TOE OF SLOPE       | ---     |

|            |       |
|------------|-------|
| DATUM      | LOCAL |
| VERTICAL   | LOCAL |
| HORIZONTAL | LOCAL |

These plans are subject to such engineering changes as may be required by the Federal Highway Administration or the Chief Engineer.

Construction is to be carried on in accordance with these plans and the Standard Specifications for Highway and Bridge Construction dated March, 1976, as approved by the Federal Highway Administration on October 27, 1976 for use on this project, including all subsequent revisions and such revised specifications and special provisions as are incorporated in these plans.

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD  
APPROVED James M. White DATE 5-22-85  
Chief Engineer

PROJECT CONCORD PROJECT NO. BRZ-1447(10)  
SHEET 1 OF 29 SHEETS  
D-10

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS  
BRIDGE DIVISION

| QUANTITY BREAKDOWN |                                                             |      |                    |    |               |  |               |  |         |  |         |  |  | TOTAL  | FINAL |
|--------------------|-------------------------------------------------------------|------|--------------------|----|---------------|--|---------------|--|---------|--|---------|--|--|--------|-------|
| NO.                | ITEM                                                        | UNIT | SUPER<br>STRUCTURE |    | ABUT<br>No. 1 |  | ABUT<br>No. 2 |  | CHANNEL |  | ROADWAY |  |  |        |       |
| 202.25             | REMOVAL OF STRUCTURE                                        | EA   |                    |    |               |  |               |  | 1       |  |         |  |  | 1      |       |
| 203.15             | COMMON EXCAVATION                                           | CY   |                    |    |               |  |               |  |         |  | 90      |  |  | 90     |       |
| 203.27             | UNCLASSIFIED CHANNEL<br>EXCAVATION                          | CY   |                    |    |               |  |               |  | 800     |  |         |  |  | 800    |       |
| 204.25             | STRUCTURE EXCAVATION                                        | CY   |                    |    | 160           |  | 175           |  |         |  |         |  |  | 335    |       |
| 204.30             | GRANULAR BACKFILL FOR<br>STRUCTURE                          | CY   |                    |    | 180           |  | 125           |  |         |  |         |  |  | 305    |       |
| 301.26             | SURFACE OF CRUSHED GRAVEL (FINE GRADED)                     | CY   |                    |    |               |  |               |  |         |  | 240     |  |  | 240    |       |
| 401.10             | GRAVEL SURFACE COURSE                                       | CY   |                    |    |               |  |               |  |         |  | 160     |  |  | 160    |       |
| 501.25             | CONCRETE, CLASS B                                           | CY   |                    |    | 128           |  | 104           |  |         |  | 1       |  |  | 233    |       |
| 501.40             | CONCRETE, L.W.                                              | CY   | 85                 |    |               |  |               |  |         |  |         |  |  | 85     |       |
| 509.15             | REINFORCING STEEL                                           | LB   | 18,290             |    | 12,130        |  | 10,260        |  |         |  | 120     |  |  | 40,800 |       |
| 514.10             | WATER REPELLENT                                             | GAL  | 11                 |    | 6             |  | 5             |  |         |  |         |  |  | 22     |       |
| 601.1552           | 18" ACCGMP (0.064)                                          | LF   |                    |    |               |  |               |  |         |  | 120     |  |  | 120    |       |
| 604.25             | CAST IRON GRATE WITH<br>FRAME TYPE A                        | EA   |                    |    |               |  |               |  |         |  | 1       |  |  | 1      |       |
| 608.25             | ALL PURPOSE EXCAVATOR<br>RENTAL, TYPE I                     | HR   |                    |    |               |  |               |  |         |  | 5 (EST) |  |  | 5      |       |
| 611.25             | TREATED LUMBER & TIMBER                                     | MBF  |                    |    |               |  |               |  |         |  | 0.35    |  |  | 0.35   |       |
| 613.11             | STONE FILL, TYPE II                                         | CY   |                    |    |               |  |               |  | 500     |  |         |  |  | 500    |       |
| 617.35             | BRIDGE RAILING - HEAVY<br>DUTY STEEL BEAM                   | LF   |                    | 96 |               |  |               |  |         |  |         |  |  | 96     |       |
| 621.38             | GUARD RAIL, HEAVY DUTY STEEL<br>BEAM w/ WOOD POSTS TYPE II  | LF   |                    |    |               |  |               |  |         |  | 201     |  |  | 201    |       |
| 621.70             | ANCHORS FOR STEEL BEAM<br>G.R. w/ WOOD POSTS AT<br>OPENINGS | EA   |                    |    |               |  |               |  |         |  | 4       |  |  | 4      |       |
| 635.10             | MOBILIZATION                                                | LS   |                    |    |               |  |               |  |         |  | 1       |  |  | 1      |       |
| 638.10             | ONE WAY TEMPORARY<br>BRIDGE                                 | LS   |                    |    |               |  |               |  |         |  | 1       |  |  | 1      |       |
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|                    |                                                             |      |                    |    |               |  |               |  |         |  |         |  |  |        |       |
|                    |                                                             |      |                    |    |               |  |               |  |         |  |         |  |  |        |       |

# EXISTING BRIDGE DATA

CLEAR SPAN 19.5'  
 CLEAR HEIGHT 8.4'  
 BEAMS 7  
 BEAM SIZE 75lb RR RAIL  
 SPACING VARIES  
 DECK 3" WOOD  
 WIDTH 17'

## HORIZ. CURVE DATA

$\Delta = 43^\circ - 51' - 15''$  RT.  
 $D = 25^\circ$   
 $R = 229.18'$   
 $T = 92.26'$   
 $L = 175.42'$   
 $E = 17.81'$   
 $PC = 54+07.74$   
 $PI = 55+00$   
 $PT = 55+83.16$

LIMITS OF GUARD RAIL ~ HEAVY DUTY STEEL  
 BEAM W/ WOOD POSTS, TYPE II

LT STA 55+23 ~ 55+58  
 STA 56+03 ~ 56+42  
 RT STA 54+78 ~ 55+30  
 STA 55+83 ~ 56+20

CONSTRUCT DRIVE  
 STA 55+00 LT

## BEGIN PROJECT

STA 54+00  
 = SURV. STA 14+00

CONSTRUCT SATISFACTORY  
 APPROACH

BRUSH STA 54+00  
 NEW 18" ACCGMP  
 50' LONG  
 ASKEW 90°  
 (0.064)

MILES STREAM

PI 15+00  
 $\Delta 43^\circ - 51' - 15''$  RT

BM 1  
 SIR 10' M.  
 ELEV 500.00

CHAN POT 29+25

SCALE 20 FEET

## CULVERTS

No. 1 STA 54+00  
 18" ACCGMP (0.064")  
 50'-0" LONG  
 No. 2 STA 55+03  
 18" ACCGMP (0.064")  
 70'-0" LONG  
 TO BE CONSTRUCTED  
 AS DIRECTED BY  
 THE ENGINEER

## END PROJECT

CONSTRUCT  
 APPROACH

SATISFACTORY

## VERTICAL CURVE DATA

CURVE #1  
 $PVC = 54+36$  ON TAN 501.65 ON VC 501.65  
 $PVE = 54+06$  501.92 502.06  
 $PVT = 54+36$  502.15 502.15  
 $G_1 = +0.54\%$   
 $G_2 = +1.67\%$   
 $K = 80$   $L = 100$   $E = 0.14$

CURVE #2  
 $PVC = 55+36$  502.75 502.75  
 $PVE = 55+06$  503.59 502.84  
 $PVT = 55+36$  501.49 501.49  
 $G_1 = +1.67\%$   
 $G_2 = -4.2\%$   
 $K = 17$   $L = 100$   $E = 0.73$

CURVE #3  
 $PVC = 56+36$  501.49 501.49  
 $PVE = 56+06$  499.40 499.78  
 $PVT = 57+36$  498.00 498.00  
 $G_1 = -4.2\%$   
 $G_2 = -1.2\%$   
 $K = 33$   $L = 100$   $E = 0.75$

BEGIN PROJECT  
 CONSTRUCT SATISFACTORY  
 APPROACH

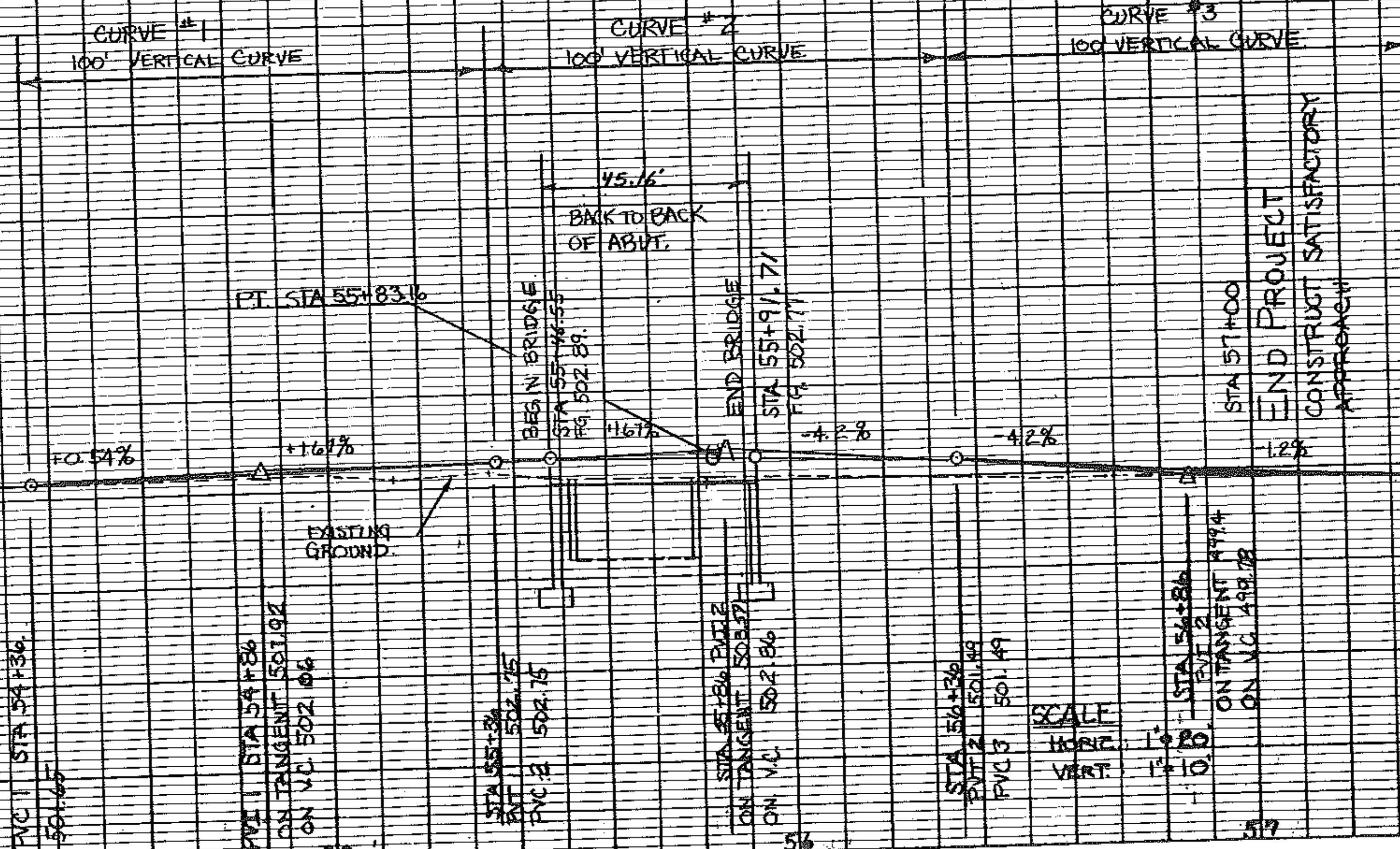
PC = STA 54+07.74

PT STA 55+83.16

BEGIN BRIDGE  
 STA 55+46.55

END BRIDGE  
 STA 55+91.71

END PROJECT  
 CONSTRUCT SATISFACTORY  
 APPROACH



SURVEYED BY SARGENT DATE JAN 92  
 DRAWN BY HOSKING DATE FEB 92  
 TRACED BY HOSKING DATE FEB 92  
 CONCORD  
 PROJ BRZ NO. 1447(10)  
 SHEET 3 OF 29

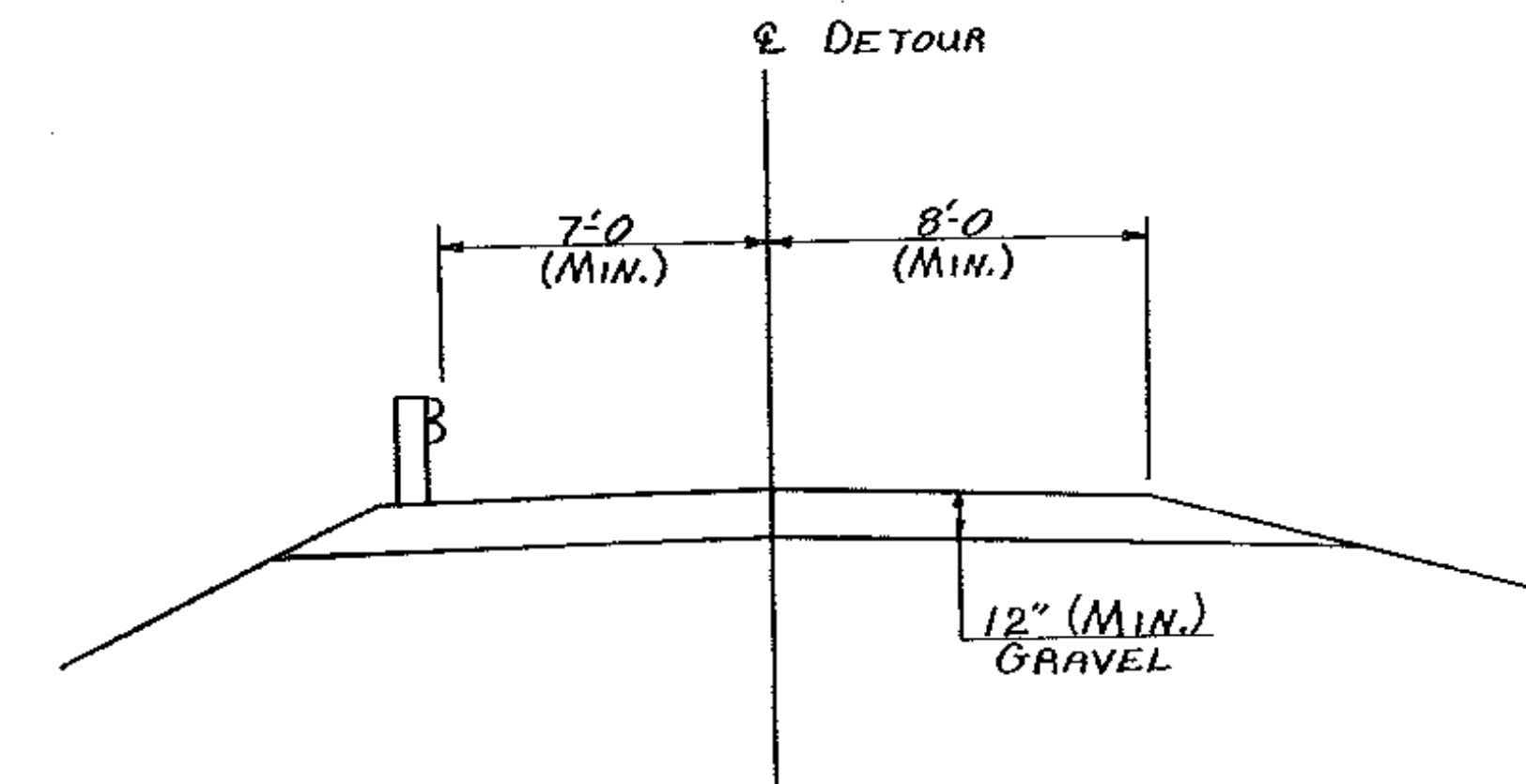
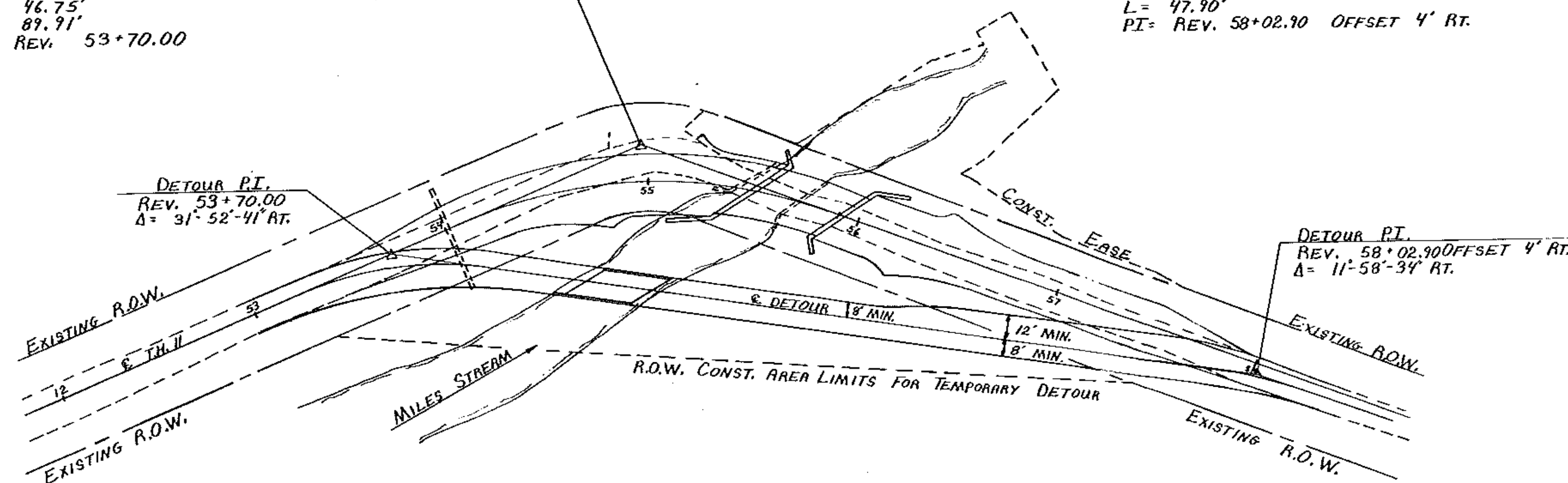
# DETOUR CURVE #1

$\Delta = 31^\circ 52' 41''$  RT.  
 $D = 35^\circ$   
 $R = 163.70'$   
 $T = 46.75'$   
 $L = 89.91'$   
 $PI = REV. 53+70.00$

PI REV. 54+00.00 =  
 $53+70.90$   
 $\Delta = 43^\circ 51' 15''$  RT.

# DETOUR CURVE #2

$\Delta = 11^\circ 58' 34''$  RT.  
 $D = 25^\circ$   
 $R = 229.18'$   
 $T = 24.04'$   
 $L = 47.90'$   
 $PI = REV. 58+02.90$  OFFSET 4' RT.



THE TEMPORARY BRIDGE SHALL NOT BE LEFT IN PLACE OVER THE WINTER OR DURING SPRING RUNOFF. SIZE IS PREDICATED ON A Q2.33 FLOW.

20' x 6' BRIDGE; HEADWATER = 6.5'

# SEEDING FORMULA RURAL AREAS

| % OF WT. | LBS./ACRE | NAME                                | PURITY % | GERM. % |
|----------|-----------|-------------------------------------|----------|---------|
| 3.33     | 2         | CROWN VETCH                         | 97       | 75      |
| 50.00    | 30        | CREEPING RED FESCUE                 | 98       | 85      |
| 8.33     | 5         | TIMOTHY                             | 99       | 85      |
| 16.67    | 10        | PERENNIAL RYE GRASS (VAR. PENNFIRE) | 95       | 85      |
| 8.34     | 5         | ALFALFA (VAR. SARAHAC)              | 99       | 85      |
| 8.33     | 5         | BIRDFOOT TREFOIL (VAR. EMPIRE)      | 98       | 85      |
| 5.00     | 3         | HIGHLAND BENT GRASS                 | 92       | 85      |
| 100.00   | 60        |                                     |          |         |

THE SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE FROM ALL NOXIOUS WEED SEED.

HAY, MULCH, TO BE PLACED ON ALL EARTH SLOPES AT THE RATE OF TWO TONS PER ACRE.

FERTILIZER, SHALL BE MIXED AS FOLLOWS:

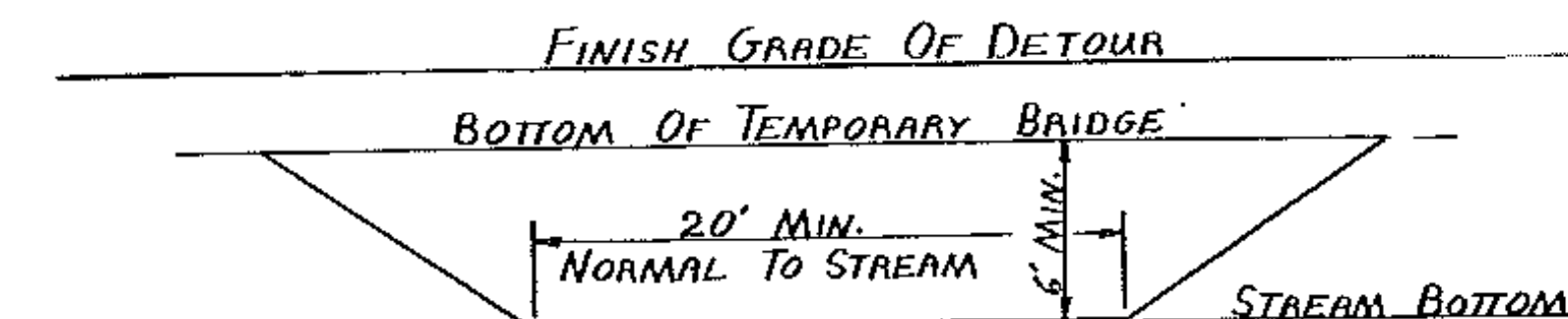
NITROGEN 10%  
 PHOSPHORUS 20%  
 POTASH 10%

FOR SANDY SOILS, THE FERTILIZER MIX SHOULD BE CHANGED TO:

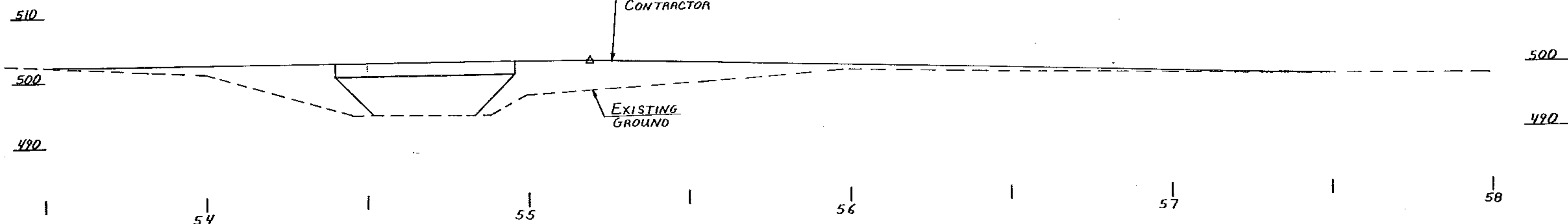
NITROGEN 10%  
 PHOSPHORUS 20%  
 POTASH 20%

FERTILIZER SHALL BE DELIVERED IN BAGS OF NOT TO EXCEED 100 LBS. EACH, AND IS TO BE APPLIED AT THE RATE OF 500 LBS. PER ACRE.

AGRICULTURAL LIMESTONE, TO BE APPLIED TO ALL EARTH SLOPES AT THE RATE OF TWO TONS PER ACRE OR AS DIRECTED BY THE ENGINEER.



# TEMPORARY BRIDGE MINIMUM WATERWAY REQUIREMENTS



# STATE OF VERMONT AGENCY OF TRANSPORTATION

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| Town Of <b>CONCORD</b>            | Bridge No. <b>20</b>                        |
| Highway No. <b>T.H. #11</b>       | Log Sta. <b>15+0</b>                        |
| <b>T.H. #11 OVER MILES STREAM</b> |                                             |
| <b>TEMPORARY DETOUR DETAILS</b>   |                                             |
| Designed By <b>G. V. SPILAK</b>   | Drawn By <b>D. C. WILLEY</b>                |
| Checked By <b>G. V. SPILAK</b>    | Bridge Design Supervisor <b>R. S. HAUPT</b> |
| Date <b>4-85</b>                  | Date <b>4-85</b>                            |
| PROJECT <b>CONCORD</b>            | PROJECT NO. <b>BRZ 1447(10)</b>             |
| L.C.C. Info.                      |                                             |
| Bridge Sheet No.                  | Sheet <b>4</b> of <b>29</b>                 |

# STATE OF VERMONT AGENCY OF TRANSPORTATION RIGHT-OF-WAY PLANS DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISITION

| PARCEL NO. | GRANTOR                      | SHEET NO. | BEGINNING STATION                                | ENDING STATION                                            | TAKING                     | REM. | RIGHTS                                                                          | TITLE TAKEN | DATE    | TOWN OR CITY RECORDED | BK. | PG.   | REMARKS                                                                             |
|------------|------------------------------|-----------|--------------------------------------------------|-----------------------------------------------------------|----------------------------|------|---------------------------------------------------------------------------------|-------------|---------|-----------------------|-----|-------|-------------------------------------------------------------------------------------|
| 1A         | MITCHELL, JUNE B.            | 3         | 54+16 RT.<br>53+32 RT.<br>54+00 RT.              | 55+30 RT.<br>54+49 RT.                                    | 0.06 A±                    |      | CONST. EASE. (T) (0.05 A±)<br>CULVERT & DRAINAGE (P)                            | WDOE        | 4-10-84 | CONCORD               | 47  | 21-22 | 2400 S.F.±<br>2200 S.F.± FOR TEMP. BRIDGE                                           |
| 1B         |                              | 3         | 55+19 LT.<br>56+30 LT.<br>56+32 LT.<br>56+22 LT. | 56+64 LT.<br>56+60 LT.<br>57+55 LT.<br>56+68 LT.<br>TOTAL | 0.07 A±<br><br><br>0.13 A± |      | SLOPE (T) (60 S.F.±)<br>CONST. EASE. (T) (0.02 A±)<br>CHANNEL RT. (P) (0.02 A±) |             |         |                       |     |       | 2800 S.F.±<br>740 S.F.±<br>762 S.F.±                                                |
| 2          | HOWLAND, KERMIT & LUCILLE M. | 3         | 55+07 LT.<br><br>55+64 LT.                       | <br><br>56+35 LT.                                         |                            |      | CULVERT (P)<br><br>CHANNEL (P) (0.03 A±)                                        | WDOE        | 4-21-84 | CONCORD               | 47  | 35-36 | TO REMOVE EXISTING CULVERT &<br>REPLACE & MAINTAIN NEW 18"<br>CULVERT<br>1440 S.F.± |
| 3          | SPRIGGS, MARION              | 3         | 54+49 RT.<br>54+03 RT.                           | 55+85 RT.<br>57+47 RT.                                    | 0.07 A±                    |      | CONST. EASE. (T) (0.14 A±)                                                      | WDOE        | 5-7-84  | CONCORD               | 47  | 57-58 | 2998 S.F.±<br>FOR TEMP. BRIDGE                                                      |

TABLE OF REVISIONS

| REVISION NO. | SHEET NO. | DESCRIPTION OF REVISION       | DATE | MADE BY | APPROVED BY |
|--------------|-----------|-------------------------------|------|---------|-------------|
|              |           | Mylar's to Structures 4-17-85 |      |         |             |

MADE BY: J.D. PATERSON DATE 12/12/83  
CHECKED BY: L.W. BLISS DATE 12/13/83

DR. RT. - DRAINAGE RIGHT  
DIT. RT. - DITCHING RIGHT  
CH. RT. - CHANNEL RIGHT  
DRIVE RT. - DRIVE RIGHT  
CUL. RT. - CULVERT RIGHT  
D - DEMOLITION OR  
REMOVAL  
W - WATER SOURCES

PRESENT R.O.W.  
- - - - - TAKING WITHOUT ACCESS  
- - - - - TAKING WITHOUT ACCESS ALONG PROPERTY LINES  
- - - - - TAKING WITH ACCESS  
(P) PERMANENT EASEMENT  
(T) TEMPORARY EASEMENT

## LEGEND

--- CONST. EASE. --- CONST. EASEMENT  
--- SR --- SR --- SLOPE RIGHTS  
--- P --- P --- PROPERTY LINE  
--- Δ --- Δ --- TOP OF CUT  
--- O --- O --- TOE OF SLOPE

APPROVED: Lawrence B. Blinn DATE 12/16/83  
CHIEF OF PLANS & TITLES

PROJECT CONCORD  
NO. BRZ 1447 (10)  
SHEET 5 OF 29

# EXISTING BRIDGE DATA

CLEAR SPAN 19.5'  
 CLEAR HEIGHT 8.4'  
 BEAMS 7  
 BEAM SIZE 75lb RR RAIL  
 SPACING VARIES  
 DECK 3" WOOD  
 WIDTH 17'

## HORIZ CURVE DATA

$\Delta = 43^\circ 51' 15''$  RT  
 $D = 25^\circ$   
 $R = 229.18'$   
 $T = 92.26'$   
 $L = 115.42'$   
 $E = 17.81'$   
 $PC = 54+01.74$   
 $PI = 55+00$   
 $PT = 55+83.16$

LIMITS OF GUARD RAIL ~ HEAVY DUTY STEEL  
 BEAM W/ VIB POSTS, TYPE II

LT STA 55+23 ~ 55+59  
 RT STA 54+79 ~ 55+33  
 STA 56+02 ~ 56+42  
 STA 55+33 ~ 55+20

CONSTRUCT DRIVE  
 STA 55+00 LT

MITCHELL, JUNE B.  
 BEGIN PROJECT  
 STA 54+00

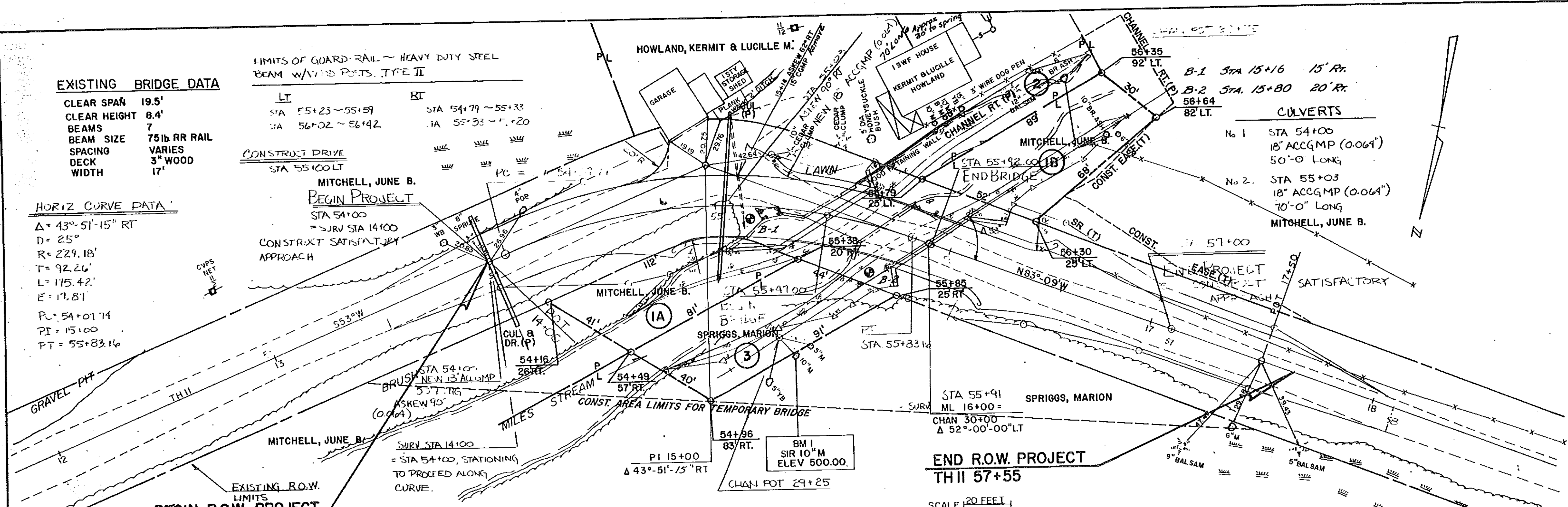
CONSTRUCT SATISFACTORY  
 APPROACH

BEGIN R.O.W. PROJECT  
 TH II 54+00 Q

END R.O.W. PROJECT  
 TH II 57+55

## CULVERTS

No 1 STA 54+00  
 18" ACCGMP (0.064")  
 50'-0" LONG  
 No 2 STA 55+03  
 18" ACCGMP (0.064")  
 70'-0" LONG  
 MITCHELL, JUNE B.



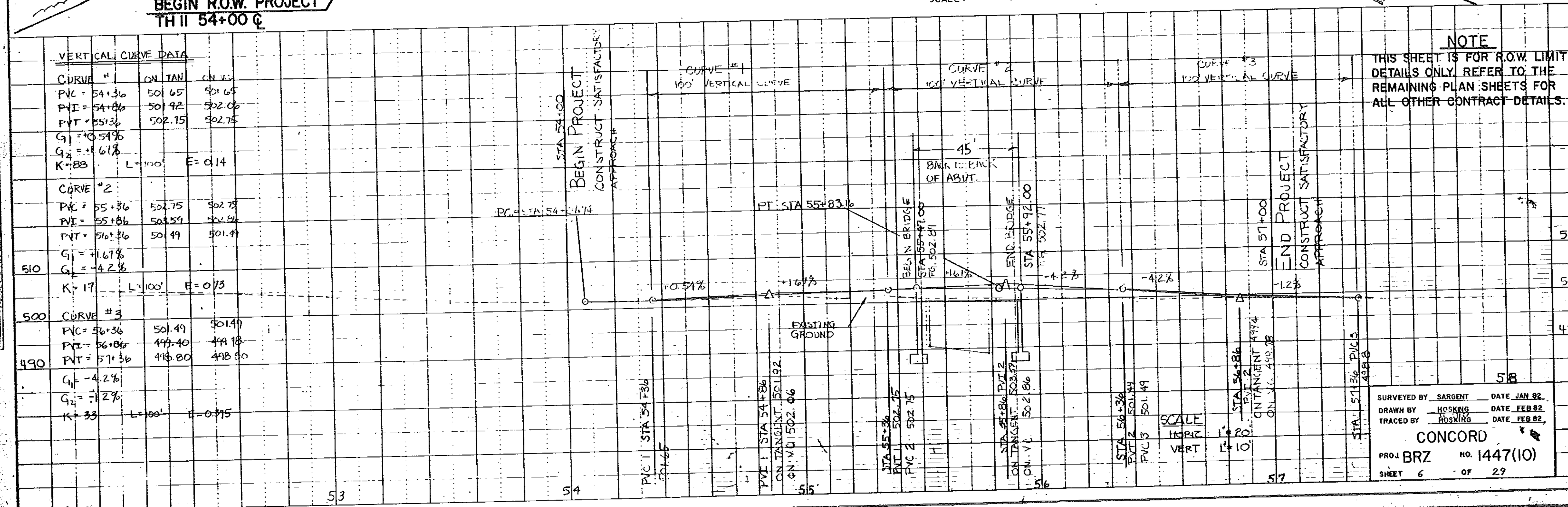
## VERTICAL CURVE DATA

CURVE #1  
 PVC = 54+36  
 PVI = 54+86  
 PVT = 55+36  
 $G_1 = +0.54\%$   
 $G_2 = +1.67\%$   
 $K = 88$   
 $L = 100'$   
 $E = 0.14$

CURVE #2  
 PVC = 55+36  
 PVI = 55+86  
 PVT = 56+36  
 $G_1 = +1.67\%$   
 $G_2 = -4.2\%$   
 $K = 17$   
 $L = 100'$   
 $E = 0.13$

CURVE #3  
 PVC = 56+36  
 PVI = 56+86  
 PVT = 57+36  
 $G_1 = -4.2\%$   
 $G_2 = -1.2\%$   
 $K = 33$   
 $L = 100'$   
 $E = 0.15$

NOTE  
 THIS SHEET IS FOR R.O.W. LIMIT  
 DETAILS ONLY. REFER TO THE  
 REMAINING PLAN SHEETS FOR  
 ALL OTHER CONTRACT DETAILS.



SURVEYED BY SARGENT DATE JAN 82  
 DRAWN BY HOSKING DATE FEB 82  
 TRACED BY HOSKING DATE FEB 82  
 CONCORD  
 PROJ BRZ NO. 1447(10)  
 SHEET 6 OF 29

BORING NO. B-1

| DEPTH       | BLOWS ON CASING | STANDARD PENETRATION SAMPLE NUMBER | MOISTURE | COLOR | LABORATORY CLASSIFICATION OF SOIL       |
|-------------|-----------------|------------------------------------|----------|-------|-----------------------------------------|
| ELEV. 499.7 |                 |                                    |          |       |                                         |
|             | 58              |                                    |          | Br    | A-1-a Sandy Gravel                      |
|             | 59              |                                    |          |       | A-1-a Gravel                            |
|             | 44              |                                    |          | M     | A-1-a Sandy Gravel                      |
|             | 33              | 100 for                            | 0.3      |       | A-1-b Sandy Gravel                      |
| 20          | 50              |                                    |          | Gr    | A-4 Silt                                |
|             | 101             |                                    |          |       | A-4 Silt                                |
| 30          |                 |                                    |          |       | Hole stopped at 25.3' in silt & hardpan |
| 40          |                 |                                    |          |       |                                         |

BORING NO. B-2

| DEPTH       | BLOWS ON CASING | STANDARD PENETRATION SAMPLE NUMBER | MOISTURE | COLOR | LABORATORY CLASSIFICATION OF SOIL               |
|-------------|-----------------|------------------------------------|----------|-------|-------------------------------------------------|
| ELEV. 496.8 |                 |                                    |          |       |                                                 |
|             | 41              |                                    |          |       | No Sample                                       |
|             | 15              |                                    |          |       | A-1-a Sandy Gravel                              |
| 10          |                 |                                    |          |       | No Sample                                       |
|             | R               |                                    |          |       | A-1-b Sandy Gravel                              |
| 20          | R               |                                    |          | M Gr  | No Sample                                       |
|             | R               |                                    |          |       | A-1-b Sandy Gravel                              |
| 30          |                 |                                    |          |       | Hole stopped at 25' in hard packed sandy gravel |
| 40          |                 |                                    |          |       |                                                 |

| BORING No. | STATION | OFFSET  | GROUND ELEV. |
|------------|---------|---------|--------------|
| B-1        | 15+16   | 15' RT. | 499.7        |
| B-2        | 15+80   | 20' RT. | 496.8        |

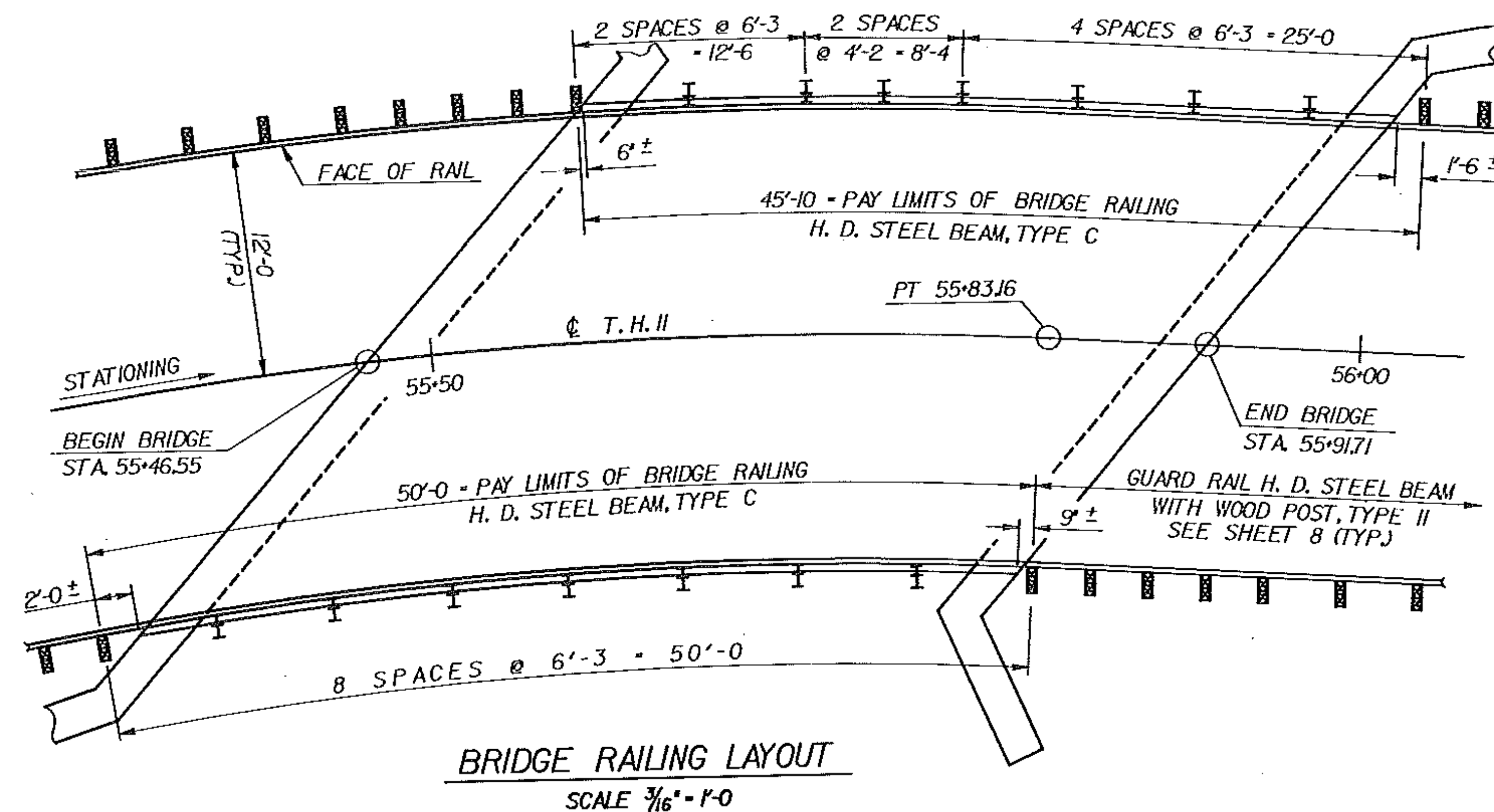
## BORING NOMENCLATURE

- STANDARD PENETRATION BORINGS  
 SAMPLER OUTSIDE DIAMETER 2"  
 SAMPLER INSIDE DIAMETER 1 3/8"  
 WEIGHT OF HAMMER 140 LBS  
 HAMMER FALL 30"

## GENERAL NOTES

THE SUBSURFACE EXPLORATIONS SHOWN HEREON WERE MADE BETWEEN MAY 1982 AND MAY 1983 BY THE VERMONT AGENCY OF TRANSPORTATION.

- SOIL AND ROCK (WHERE ENCOUNTERED) CLASSIFICATION, PROPERTIES AND DESCRIPTIONS ARE BASED ON ENGINEERING INTERPRETATION OF AVAILABLE SUBSURFACE INFORMATION BY THE VERMONT AGENCY OF TRANSPORTATION AND MAY NOT NECESSARILY REFLECT ACTUAL VARIATIONS IN SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED BETWEEN INDIVIDUAL BORING OR SAMPLE LOCATIONS.
- OBSERVED WATER LEVELS AND/OR WATER CONDITIONS INDICATED ARE AS RECORDED AT THE TIME OF EXPLORATION AND MAY VARY ACCORDING TO THE PREVAILING RAINFALL, METHODS OF EXPLORATION AND OTHER FACTORS.
- SOUND ENGINEERING JUDGEMENT WAS EXERCISED IN PREPARING THE SUBSURFACE INFORMATION PRESENTED HEREON. ANALYSIS AND INTERPRETATION OF SUBSURFACE DATA WAS PERFORMED AND INTENDED FOR AGENCY DESIGN AND ESTIMATE PURPOSES ONLY. PRESENTATION OF THE INFORMATION ON THE PLANS OR ELSEWHERE IS FOR THE PURPOSE OF PROVIDING INTENDED USERS WITH ACCESS TO THE SAME DATA AVAILABLE TO THE AGENCY. THE SUBSURFACE INFORMATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION, INDEPENDENT INTERPRETATIONS, INDEPENDENT ANALYSIS OR JUDGEMENT OF THE CONTRACTOR.
- PICTORIAL STRUCTURE DETAILS SHOWN HEREON ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY NOT BE INDICATIVE OF THE FINAL DESIGN CONDITIONS SHOWN IN THE CONTRACT PLANS.

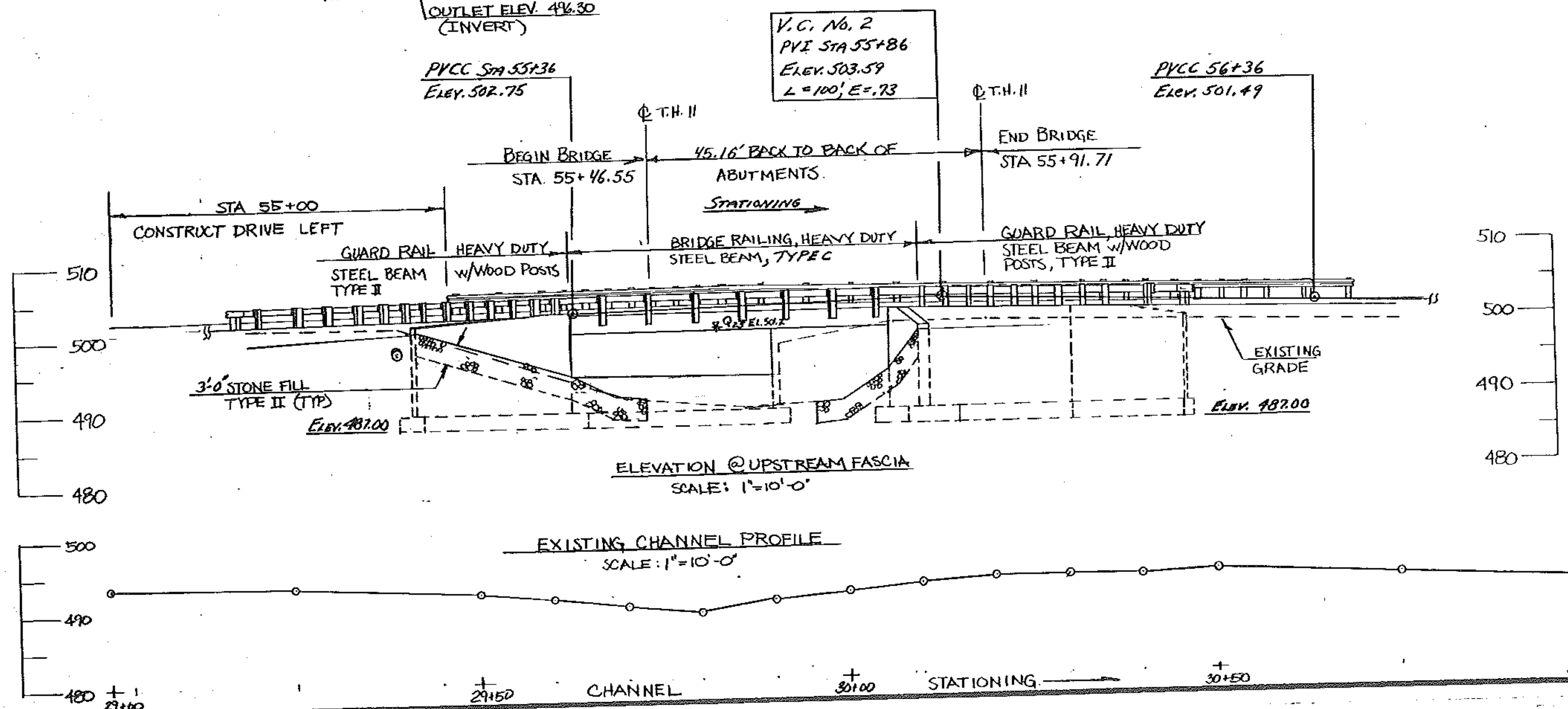
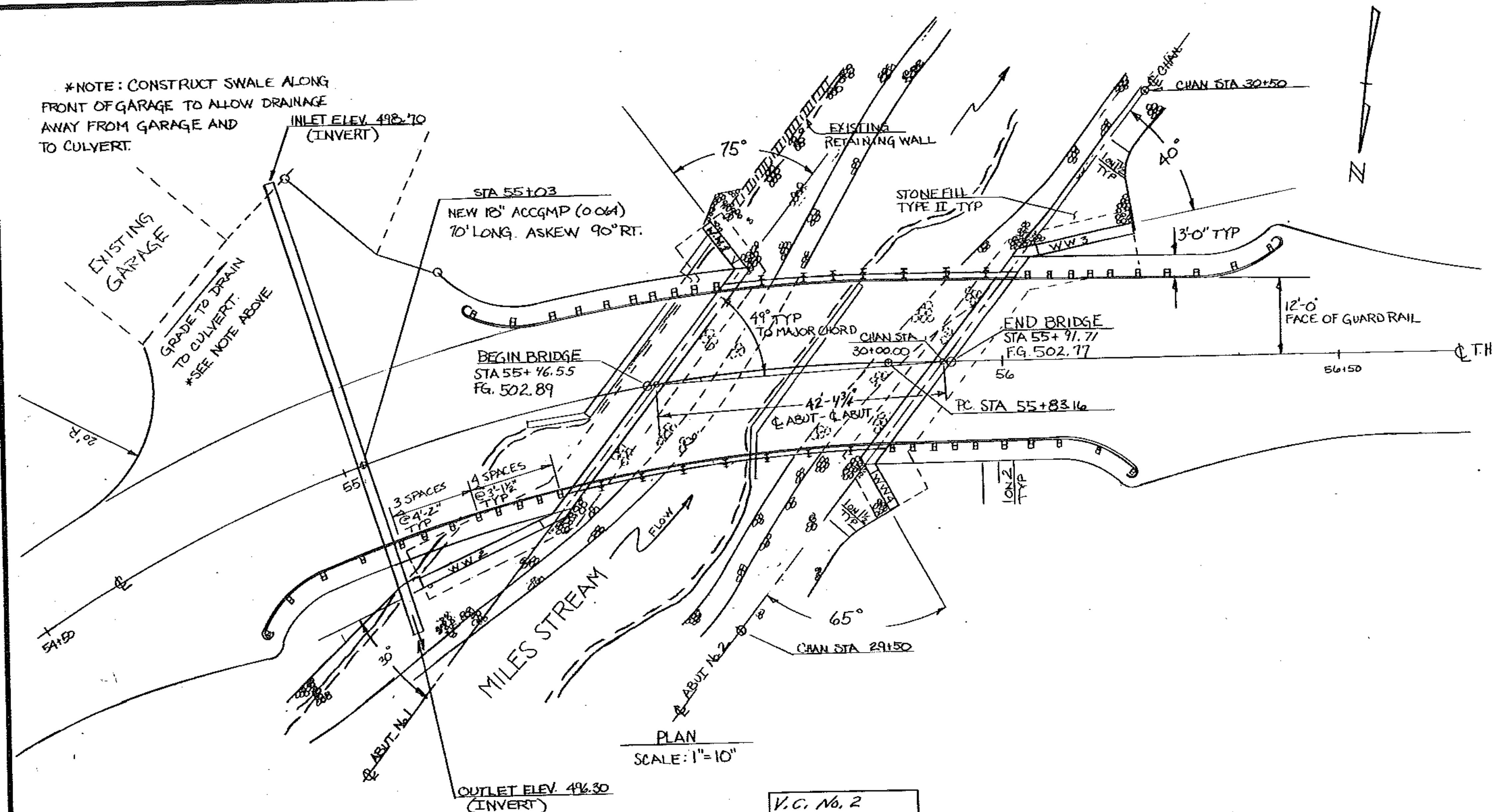


PLAN  
SCALE: 1" = 40'

STATE OF VERMONT  
AGENCY OF TRANSPORTATION

|                                    |                      |                          |                       |
|------------------------------------|----------------------|--------------------------|-----------------------|
| TOWN OF                            | CONCORD              | Bridge No.               | 20                    |
| HIGHWAY NO.                        | TH #11               | Log Sta.                 |                       |
|                                    |                      | Surr. Sta.               | 15+00                 |
| BORING LOGS ~                      |                      |                          |                       |
| TOWN HIGHWAY #11 OVER MILES STREAM |                      |                          |                       |
| Designed by                        | J. POTTER            | Drawn by                 | M. GARCIA             |
| Checked by                         | R. RANALDO date 7/83 | Bridge Design Supervisor | R. S. HAUPT date 7/83 |
| PROJECT                            | CONCORD              | PROJECT NO.              | BRZ 1447(6)           |
| Bridge Sheet No.                   |                      | Sheet                    | 7 of 29               |

\*NOTE: CONSTRUCT SWALE ALONG FRONT OF GARAGE TO ALLOW DRAINAGE AWAY FROM GARAGE AND TO CULVERT. INLET (IN



### EXISTING STRUCTURE

1. STRUCTURE TYPE. WOOD DECK - CONCRETE ABUT. OVERALL LENGTH 28'-10" INVENTORY RATING \_\_\_\_\_  
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 21'-10"  
3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM 19'-6"  
4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) 169 SQ. FT. VERTICAL CLEARANCE ABOVE STREAMBED 8'-5"  
5. WATER SURFACE ELEVATION @ Q 233 502.63 WATER SURFACE ELEVATION @ Q 25 502.63  
6. YEAR OF RECORD UNKNOWN YEAR ESTIMATED DISCHARGE \_\_\_\_\_  
7. WATER SURFACE ELEVATION AT FLOOD OF RECORD UNKNOWN NO. IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR? 10.5, 500.  
8. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? NO IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR? 10.5, 500.  
9. ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF UNLIMITED  
10. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL SANDY GRAVEL  
11. DISPOSITION OF STRUCTURE BECOMES THE PROPERTY OF THE CONTRACTOR

## NEW STRUCTURE

- STRUCTURE GEOMETRY: CONCRETE SLAB BRIDGE OVERALL LENGTH 45.2 ALONG CENTERLINE
1. STRUCTURE TYPE CONCRETE SLAB BRIDGE
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 42'-4 3/4"
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER 7'-0"
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM 30'-0"
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) 210 SQ. FT.
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? NO

## HYDRAULIC DATA:

- HYDRAULIC DATA:
- |     |                                                                |                              |                                                         |                |                               |                   |
|-----|----------------------------------------------------------------|------------------------------|---------------------------------------------------------|----------------|-------------------------------|-------------------|
| 1.  | Q 233                                                          | 250 CFS                      | WATER ELEVATION                                         | 497.0          | VELOCITY                      | 8.2 FPS           |
| 2.  | Q 10                                                           | 1750 CFS                     | WATER ELEVATION                                         | 499.3          | VELOCITY                      | 9.8 FPS           |
| 3.  | Q 25                                                           | 2725 CFS                     | WATER ELEVATION                                         | 501.6          | VELOCITY                      | 11.0 FPS          |
| 4.  | Q 50                                                           | 2650 CFS                     | WATER ELEVATION                                         | 501.9          | VELOCITY                      | 12.3 FPS          |
| 5.  | Q 100                                                          | 2750 CFS                     | WATER ELEVATION                                         | 503.4          | VELOCITY                      | 14.8 FPS          |
| 6.  | DRAINAGE AREA                                                  | 23.8 SQ. MI.                 | CHARACTER OF TERRAIN                                    | HILLY          |                               |                   |
| 7.  | ARE THERE OBJECTIONS TO A PIER IN THE STREAM?                  | YES                          |                                                         |                |                               |                   |
| 8.  | DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY?    | YES                          |                                                         |                | IS ORDINARY RISE RAPID?       | YES               |
| 9.  | NATURE OF NATURAL STREAMBED                                    | SAND, GRAVEL, SMALL Boulders |                                                         |                |                               |                   |
| 10. | ESTIMATED SCOUR DEPTH                                          | 2'-2'                        | COMMENT ON: DRIFT                                       | SLIGHT         | ICE                           | MODERATE          |
| 11. | WILL ALL WATER PASS THROUGH NEW STRUCTURE?                     | NO                           | IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? | 1775 CFS @ 10' |                               |                   |
| 12. | ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF                    | UNLIMITED                    |                                                         |                |                               |                   |
| 13. | VERTICAL CLEARANCE ABOVE Q 25                                  | 40' 6"                       |                                                         |                |                               |                   |
| 14. | ALLOWABLE WATER SURFACE ELEVATION                              | ± 500.5                      | LIMITED BY                                              | BOTTOM OF SLAB |                               |                   |
| 15. | IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? | NO                           | IF YES, DESCRIBE                                        |                |                               |                   |
| 16. | AVERAGE DAILY LOW FLOW                                         | 25 CFS                       | DEPTH                                                   | 1.5'           | AVERAGE DAILY HIGH FLOW       | 25 CFS DEPTH 2.5' |
| 17. | STREAMBANK OR CHANNEL PROTECTION REQUIRED                      | STONE FILL TYPE              |                                                         |                |                               |                   |
| 18. | DISTANCE TO EXISTING UPSTREAM STRUCTURE                        | ± 2000'                      | SPAN                                                    | 24'            | WATERWAY AREA OF FULL OPENING | 0                 |
| 19. | DISTANCE TO EXISTING DOWNSTREAM STRUCTURE                      | ± 2000'                      | SPAN                                                    | 24'            | WATERWAY AREA OF FULL OPENING | 0                 |

**ALLOWABLE STRESSES:**

- ALLOWABLE STRESSES:
- |                                                 |               |                |                  |            |
|-------------------------------------------------|---------------|----------------|------------------|------------|
| 1. DESIGN LIVE LOAD ASHTO                       | 420           | 4 KSF          | ON LEDGE         | N/A        |
| 2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL   |               |                | ESTIMATED LENGTH | N/A        |
| 3. ALLOWABLE LOAD FOR PILING                    | N/A           | TYPE N/A       | TENSION          |            |
| 4. ALLOWABLE STRESS FOR STRUCTURAL STEEL ASTM A | 60            | TENSION 24 KSI | COMPRESSION      | 20 KSI     |
| 5. ALLOWABLE STRESS FOR REINFORCING STEEL       | GRADE A       | fc 3.5 KSI     |                  | fc 1.4 KSI |
| 6. ALLOWABLE STRESS FOR CONCRETE CLASS A        | 1             | fc 3.5 KSI     |                  | fc 1.4 KSI |
|                                                 | CLASS B       | fc 3.5 KSI     |                  | fc 1.6 KSI |
|                                                 | 1.W. CONCRETE | 4.0 KSI        |                  |            |

**TRAFFIC MAINTENANCE:**

- TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF SO, ON EXISTING STRUCTURE NO OR ON TEMPORARY BRIDGE YES
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY ONE WAY TRAFFIC CONTROL SIGNALS REQUIRED NO
- MINIMUM CLEAR SPAN AS SHOWN \* MINIMUM CLEAR HEIGHT AS SHOWN \* MINIMUM WATERWAY AREA AS SHOWN \*
- ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE? \_\_\_\_\_

\* SEE SHEET 4

### ADDITIONAL DESIGN CONSIDERATIONS

|               |  | LOAD RATING (TONS) |    |     |        |          |          |       |
|---------------|--|--------------------|----|-----|--------|----------|----------|-------|
| STRESS LEVELS |  | TRUCK              |    |     |        |          |          |       |
|               |  | H                  | H5 | 3S2 | 6 AXLE | 3A. STR. | 4A. STR. | 5A. S |
| INVENTORY     |  |                    |    |     |        |          |          |       |
| 0.55 Fy =     |  |                    |    |     |        |          |          |       |
| POSTED        |  |                    |    |     |        |          |          |       |
| 0.67 Fy =     |  |                    |    |     |        |          |          |       |
| OPERATING     |  |                    |    |     |        |          |          |       |

|                                     |                                                   |             |
|-------------------------------------|---------------------------------------------------|-------------|
| <b>RECOMMENDED<br/>FOR APPROVAL</b> | <b>STRUCTURES ENGINEER</b>                        | <b>DATE</b> |
| <b>RECOMMENDED<br/>FOR APPROVAL</b> | <b>CHIEF OF DESIGN</b>                            | <b>DATE</b> |
| <b>APPROVED BY</b>                  | <b>DIRECTOR OF ENGINEERING &amp; CONSTRUCTION</b> | <b>DATE</b> |

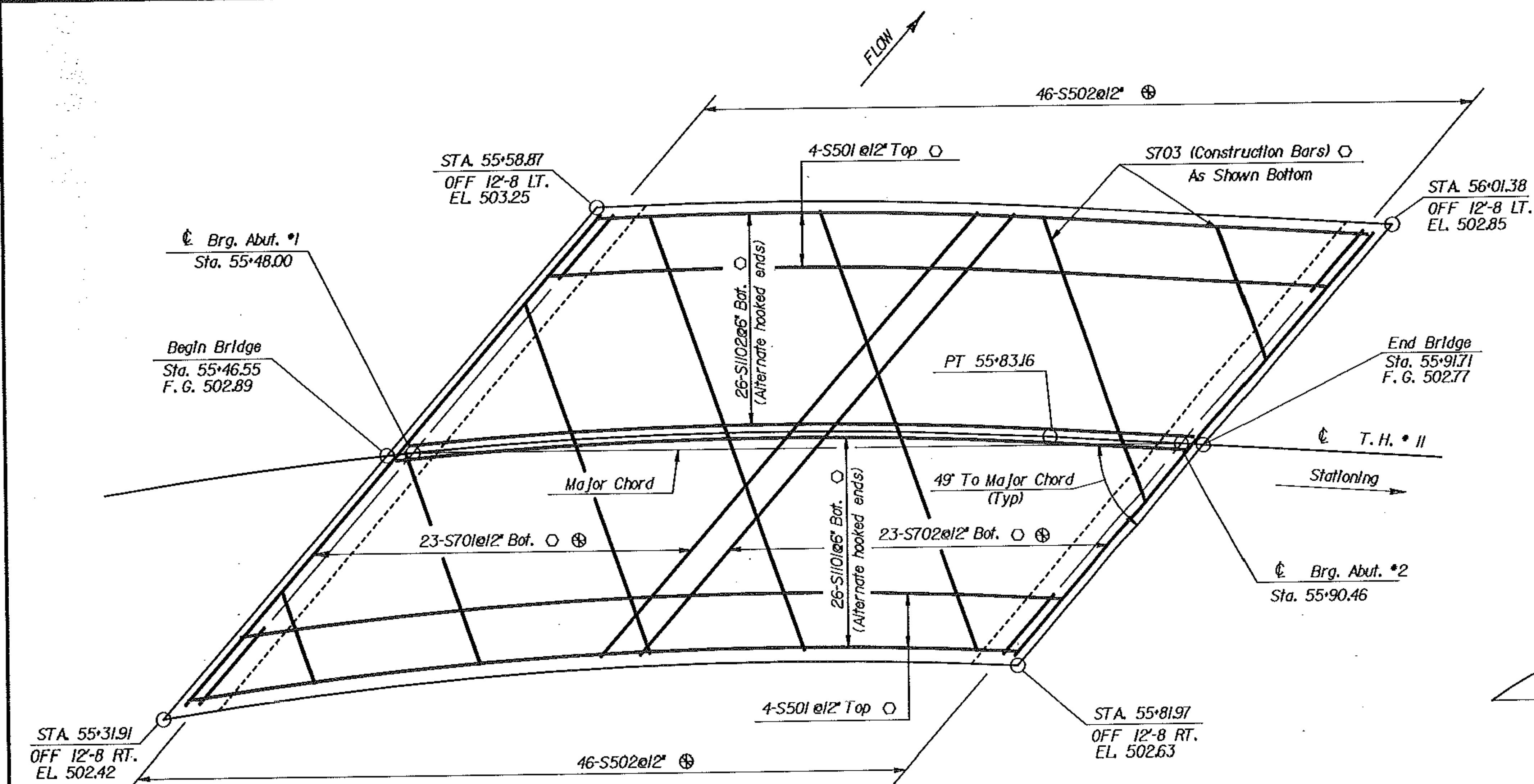
| REVISIONS |             |           |
|-----------|-------------|-----------|
| NO.       | DESCRIPTION | BY & DATE |
|           |             |           |

**STATE OF VERMONT**  
**AGENCY OF TRANSPORTATION**

|                  |                  |
|------------------|------------------|
| TOWN OF          | BRIDGE NO.       |
| CONCORD          | 20               |
| HIGHWAY NO. 1411 | LOG STA.         |
|                  | SURV. STA. 15+00 |

|   |                          |  |
|---|--------------------------|--|
| E | PRELIMINARY INFORMATION. |  |
|---|--------------------------|--|

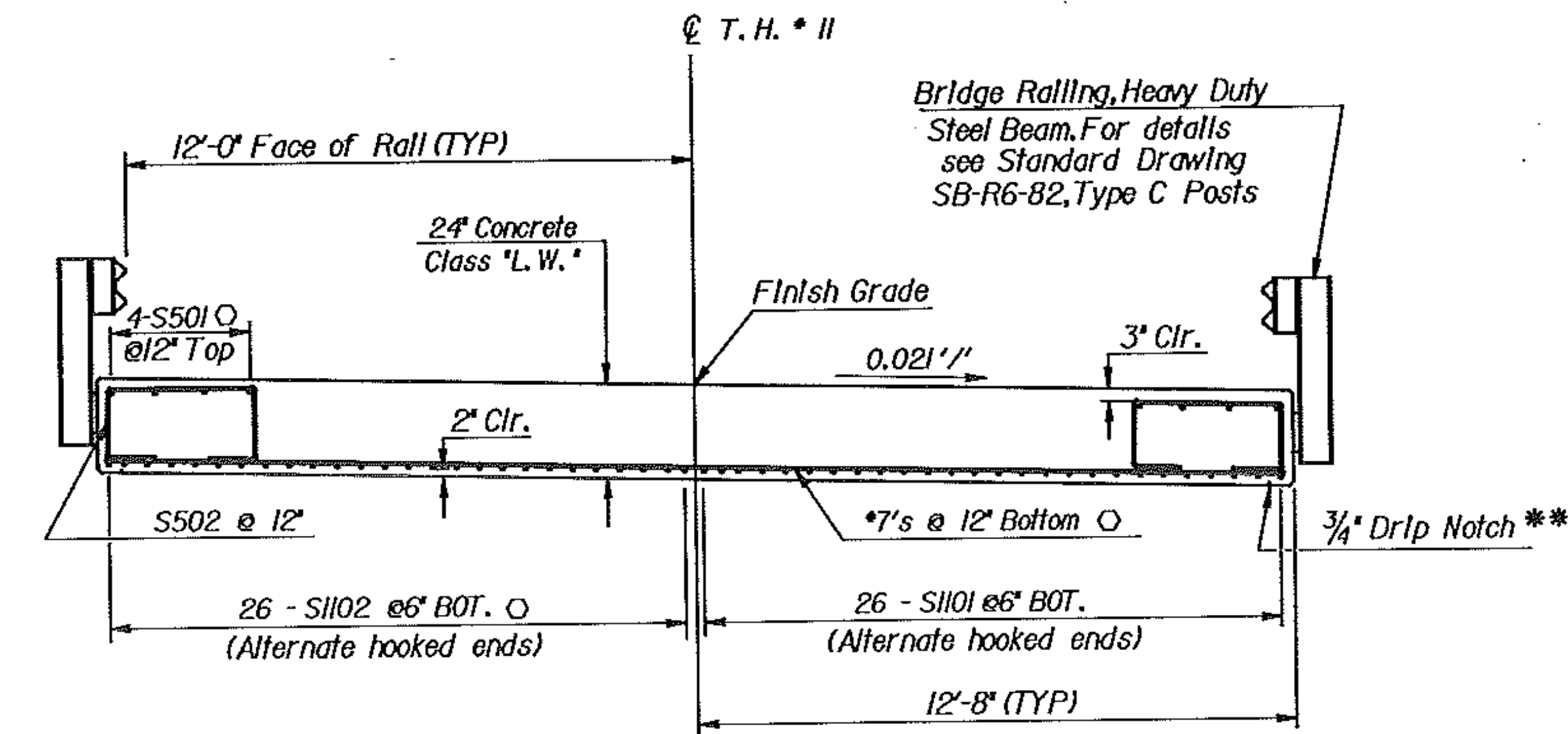
|                                              |                                               |       |
|----------------------------------------------|-----------------------------------------------|-------|
| TOWN HINNA <sup>2</sup> IL OVER MILLS STREAM |                                               |       |
| Designed by J. POTTER                        | Drawn by J. POTTER                            |       |
| Checked by R. FANALDO date 7/83              | Bridge Design Supervisor R.S. HAUPT date 7/83 |       |
| PROJECT CONCORD                              | PROJECT NO. BRZ - 1447(10)                    |       |
| Bridge Sheet No.                             | Sheet 8                                       | of 29 |



PLAN

Scale  $\frac{1}{4}" = 1'-0"$

○ - Indicates Cut To Fit In Field.  
⊕ - Spacing Measured Along Major Chord.



TYPICAL SECTION

Scale  $\frac{3}{8}" = 1'-0"$

\*\*Outlet Drip Notches  
3' from Face of  
Abutments

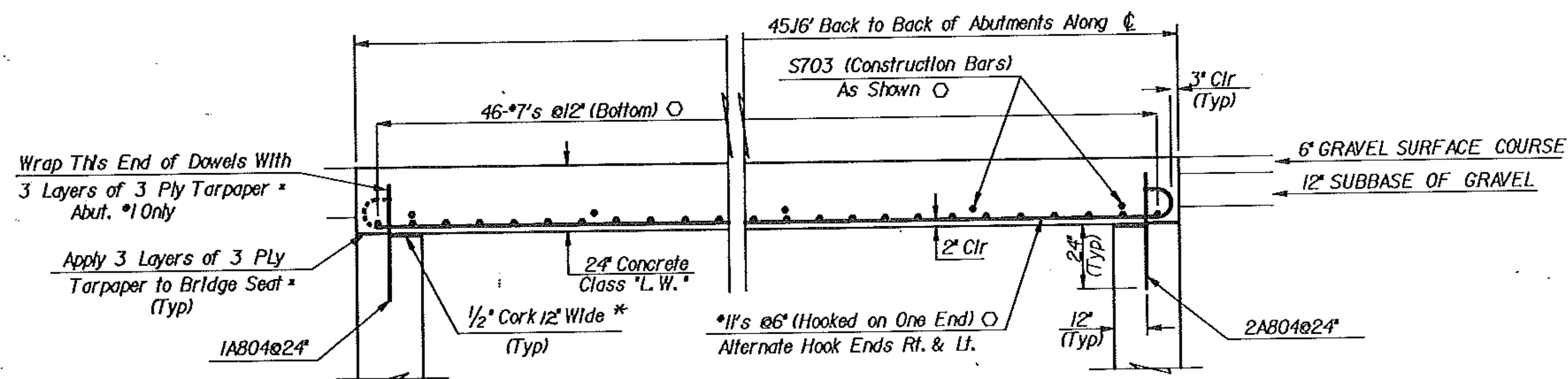


CAMBER DIAGRAM

N.T.S.

# NOTES

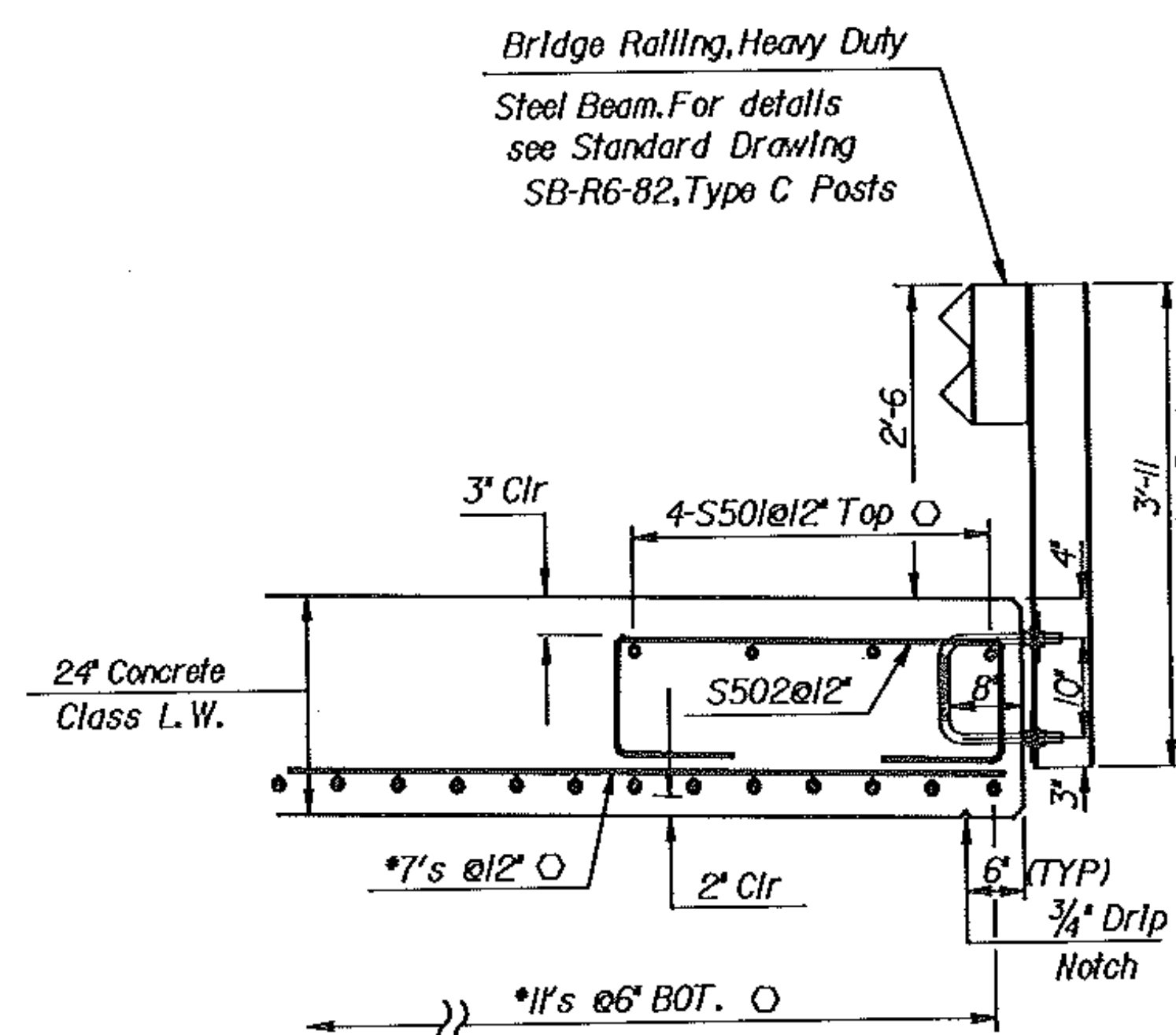
1. THE CONCRETE DECK SHALL BE BROOM FINISHED.
2. ALL LONGITUDINAL REINFORCING STEEL SHALL BE PLACED AS NEAR AS PRACTICAL TO MATCH THE CURVE.
3. THE DECK SHALL BE FORMED TO MEET THE VERTICAL CURVE PLUS THE CAMBER.



ELEVATION @ C/L

Scale  $\frac{3}{8}" = 1'-0"$

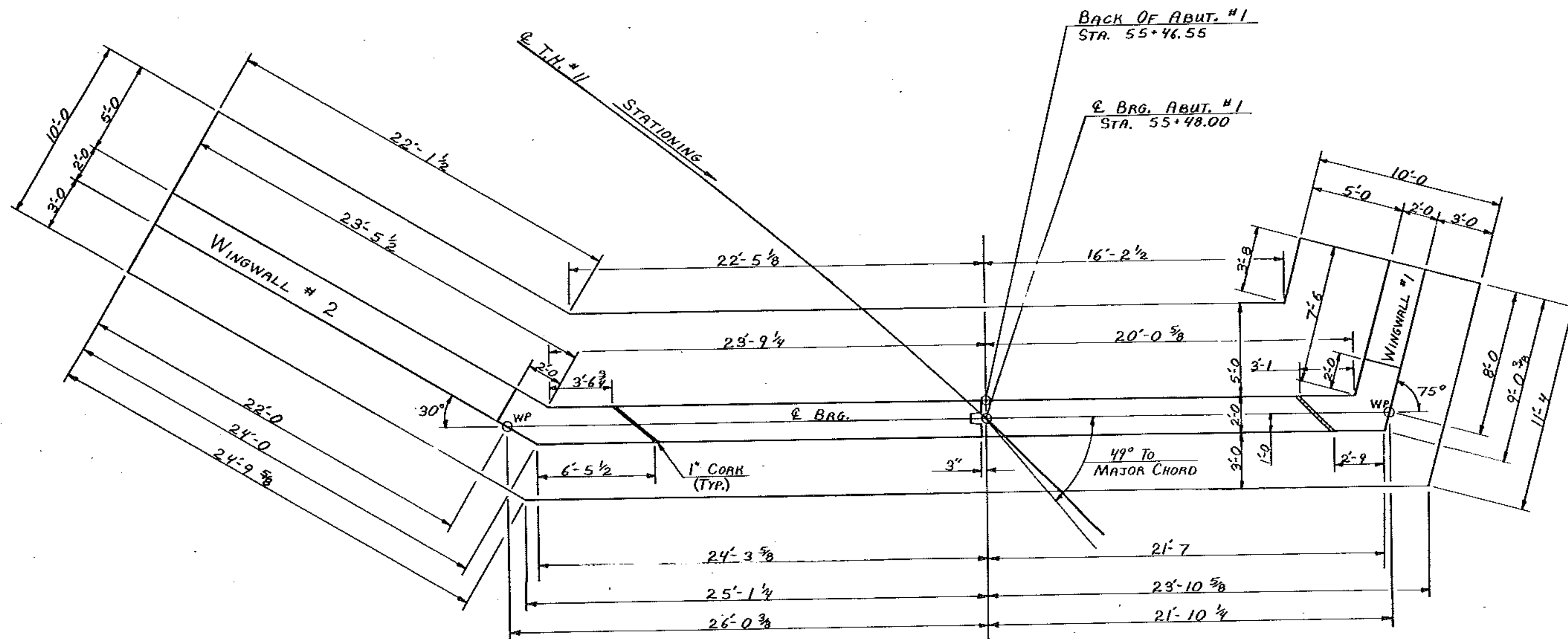
\* Payment Shall Be Included In The  
Unit Price For Concrete, Class B.



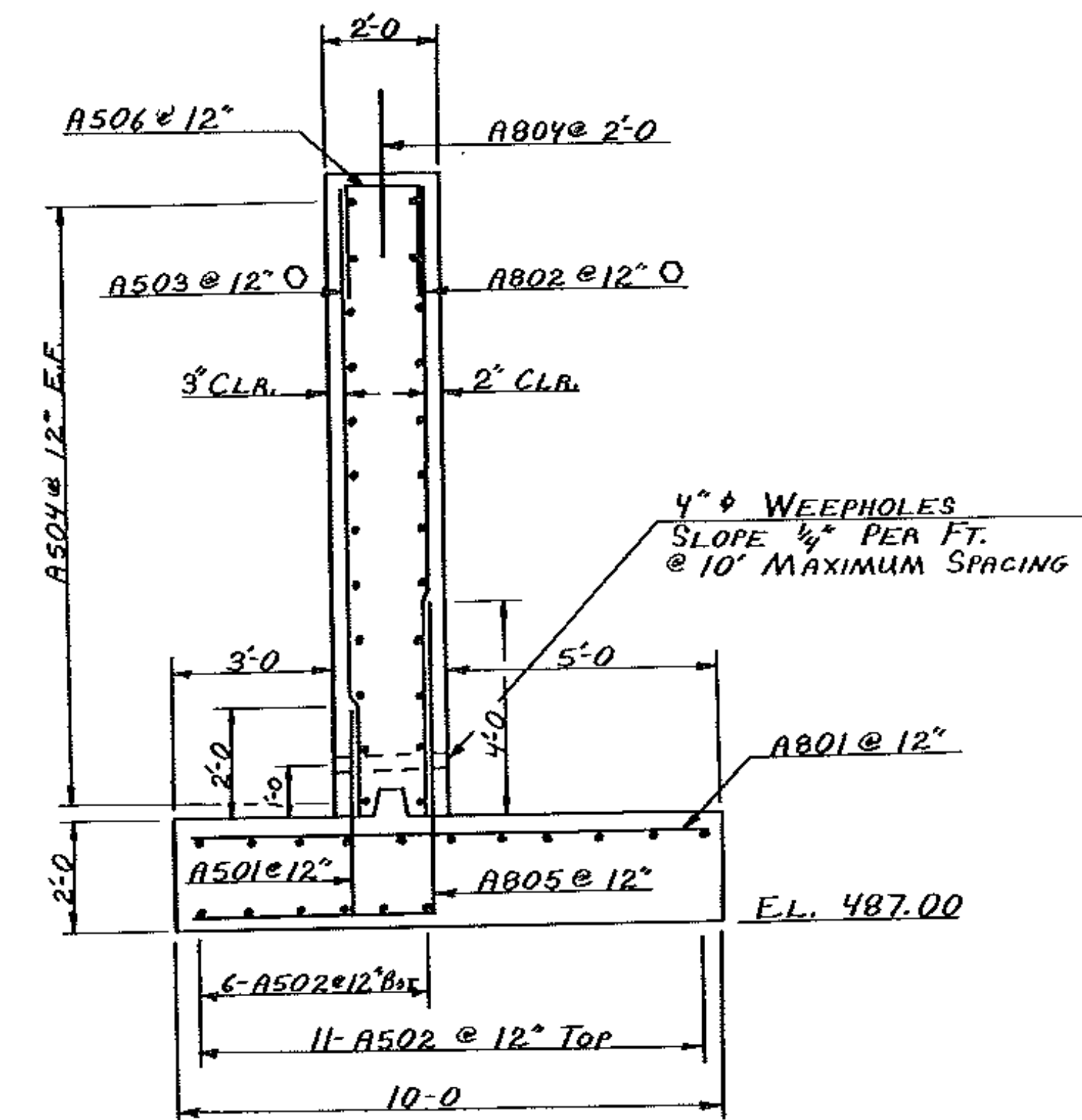
FASCIA & RAILING DETAIL

Scale  $\frac{3}{4}" = 1'-0"$

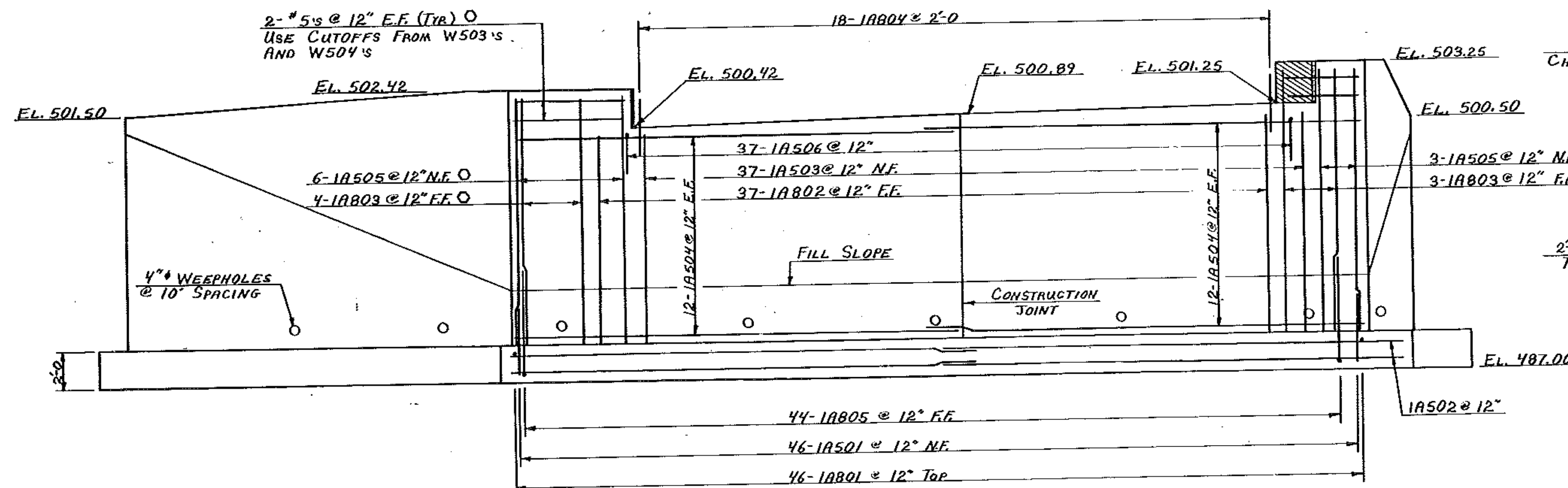
| STATE OF VERMONT<br>AGENCY OF TRANSPORTATION |                             |                          |               |
|----------------------------------------------|-----------------------------|--------------------------|---------------|
| Town Of                                      | CONCORD                     | Bridge No.               | 20            |
| Highway No.                                  | T. H. II                    | Leg Sta.                 |               |
|                                              |                             | Surv. Sta.               |               |
| SLAB DETAILS                                 |                             |                          |               |
| T. H. II OVER MILES STREAM                   |                             |                          |               |
| Designed By                                  | M. J. POLOGRUTO             | Drawn By                 | D. C. WILLEY  |
| Checked By                                   | G. V. SPILAK                | Bridge Design Supervisor | R. S. HAUPT   |
| Date                                         | 4-85                        | Date                     | 3-85          |
| PROJECT                                      | CONCORD                     | PROJECT NO.              | BRZ 1447 (10) |
| LG.C. Info.                                  | OSN 130,253,630,428,518,608 |                          |               |
| Bridge Sheet No.                             |                             | Sheet                    | 9 of 29       |



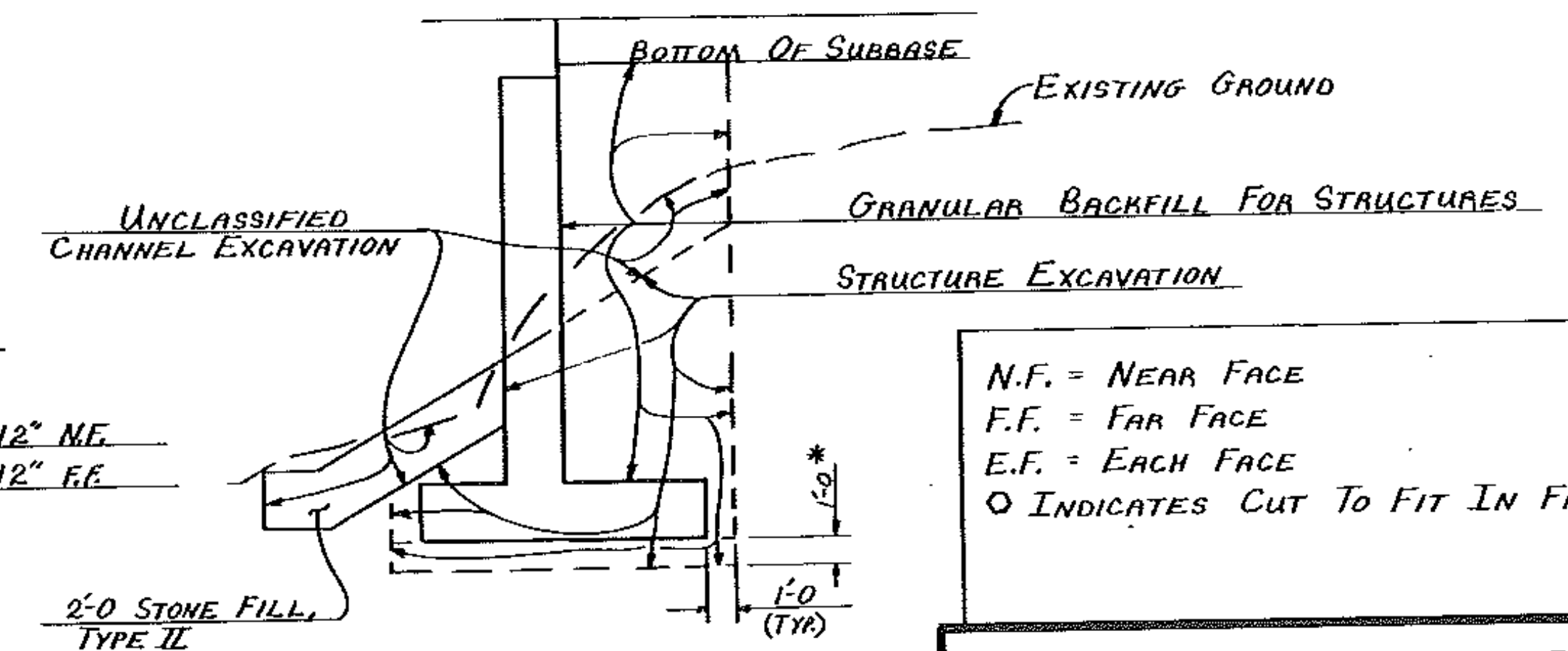
ABUTMENT NO. 1 PLAN  
SCALE 1/4" = 1'-0"



ABUTMENT TYPICAL SECTION  
SCALE 3/8" = 1'-0"



ABUTMENT NO. 1 ELEVATION  
SCALE 1/4" = 1'-0"



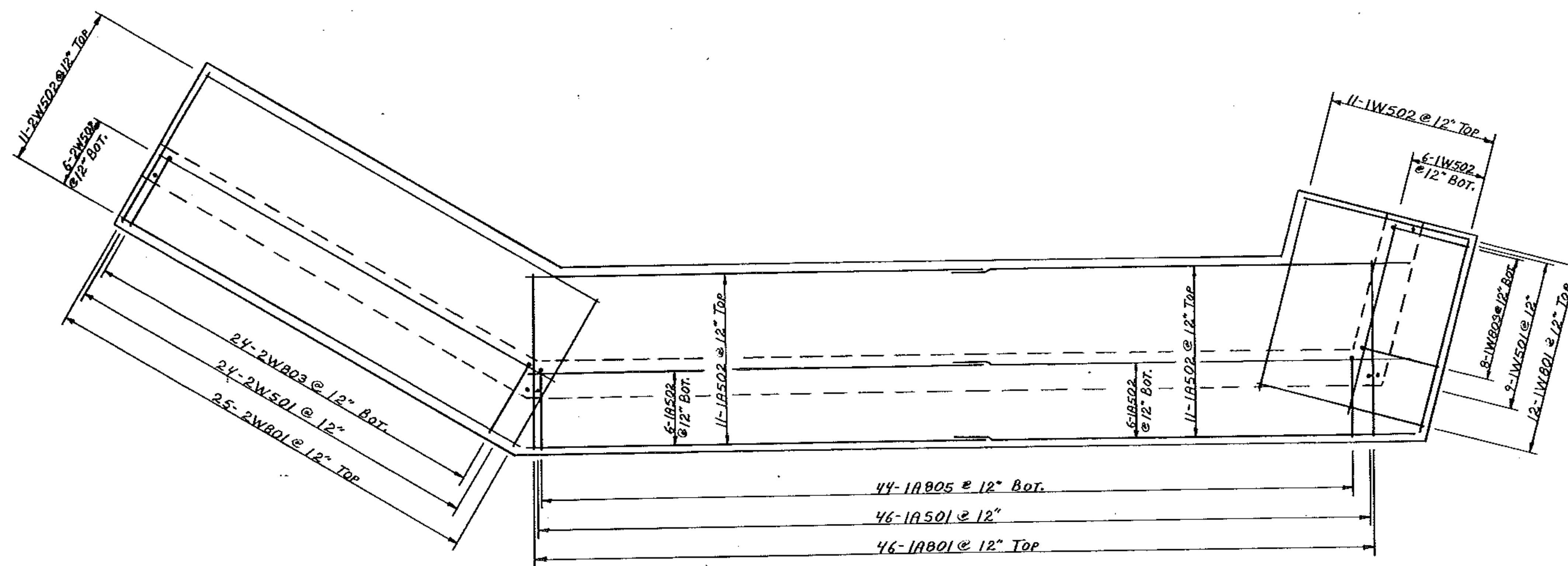
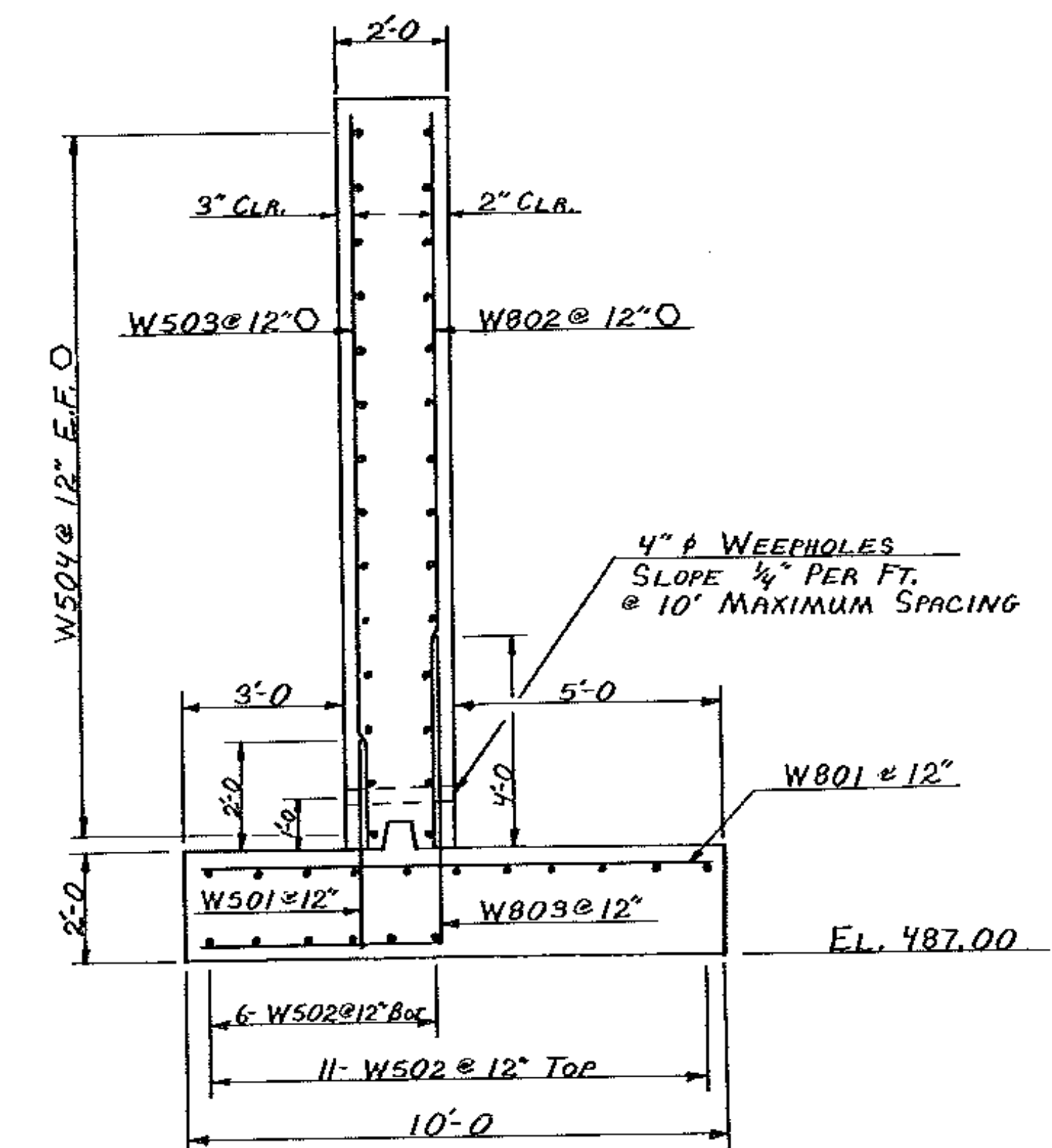
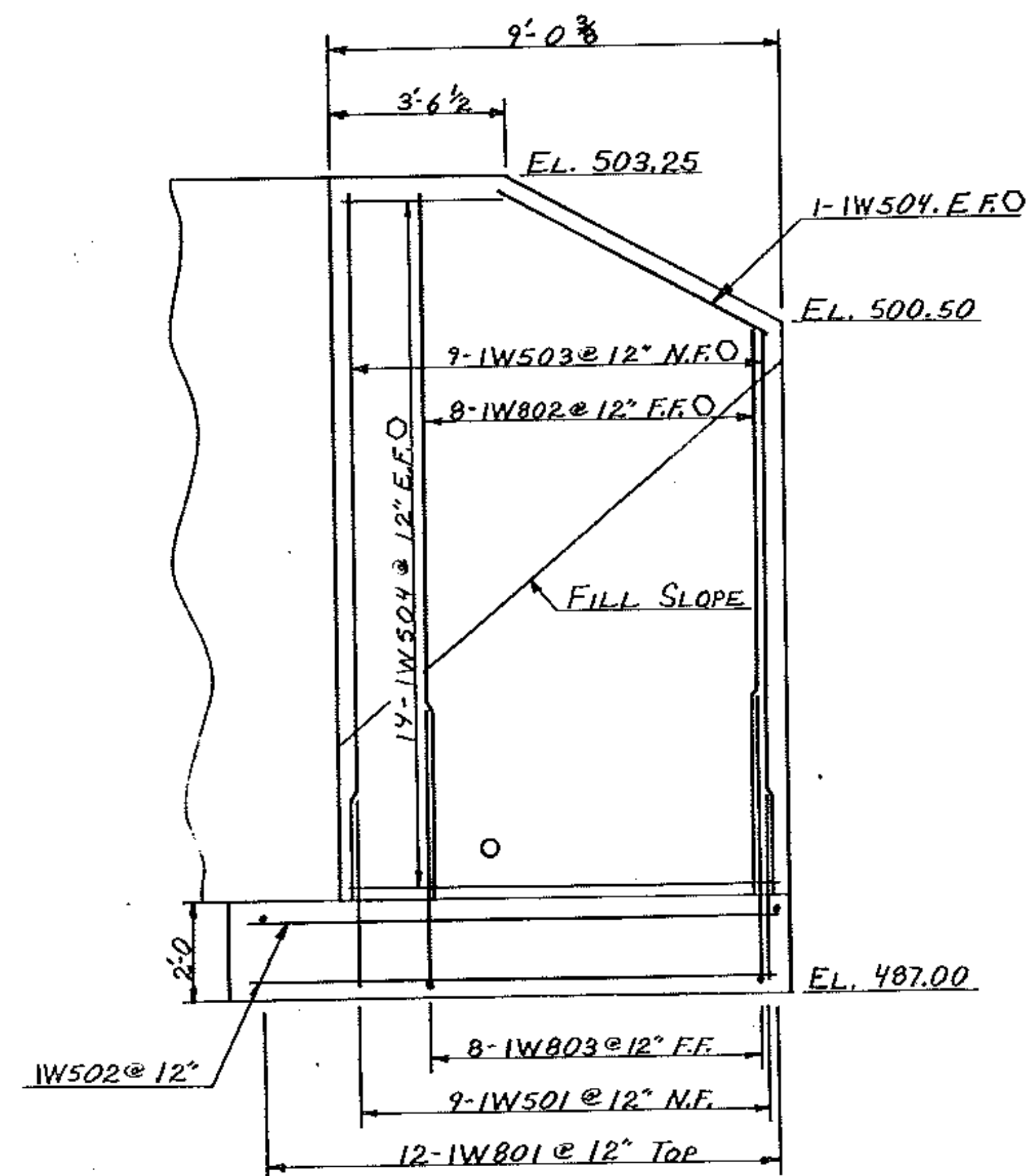
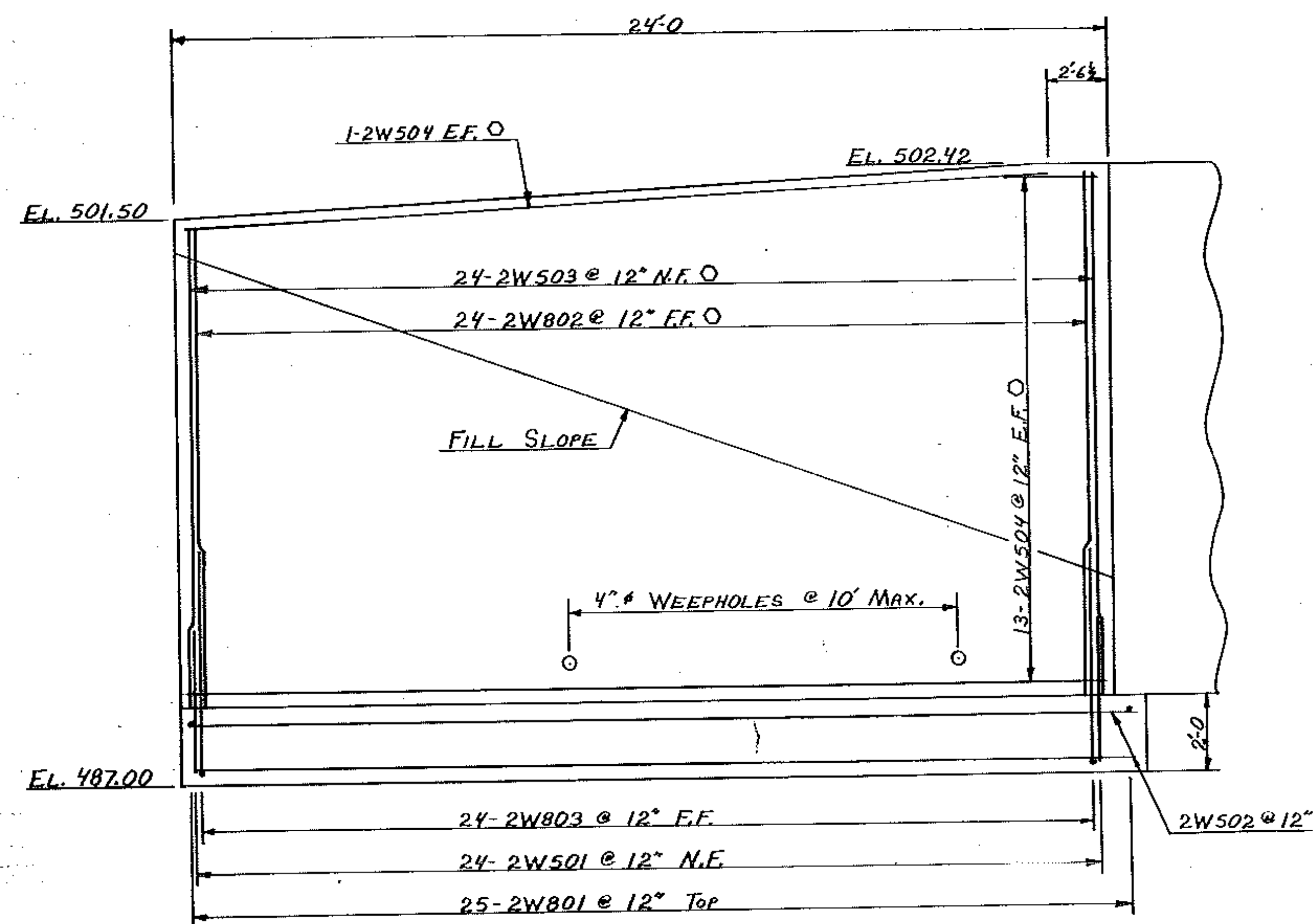
EARTHWORKS LIMITS  
NTS

\* UNDERCUT THE ABUTMENT FOUNDATION AS REQUIRED PER THE ENGINEERS ORDER. AN ESTIMATED ONE FOOT (1') UNDERCUT WAS USED IN CALCULATING THE QUANTITIES.

N.F. = NEAR FACE  
E.F. = FAR FACE  
E.F. = EACH FACE  
O INDICATES CUT TO FIT IN FIELD.

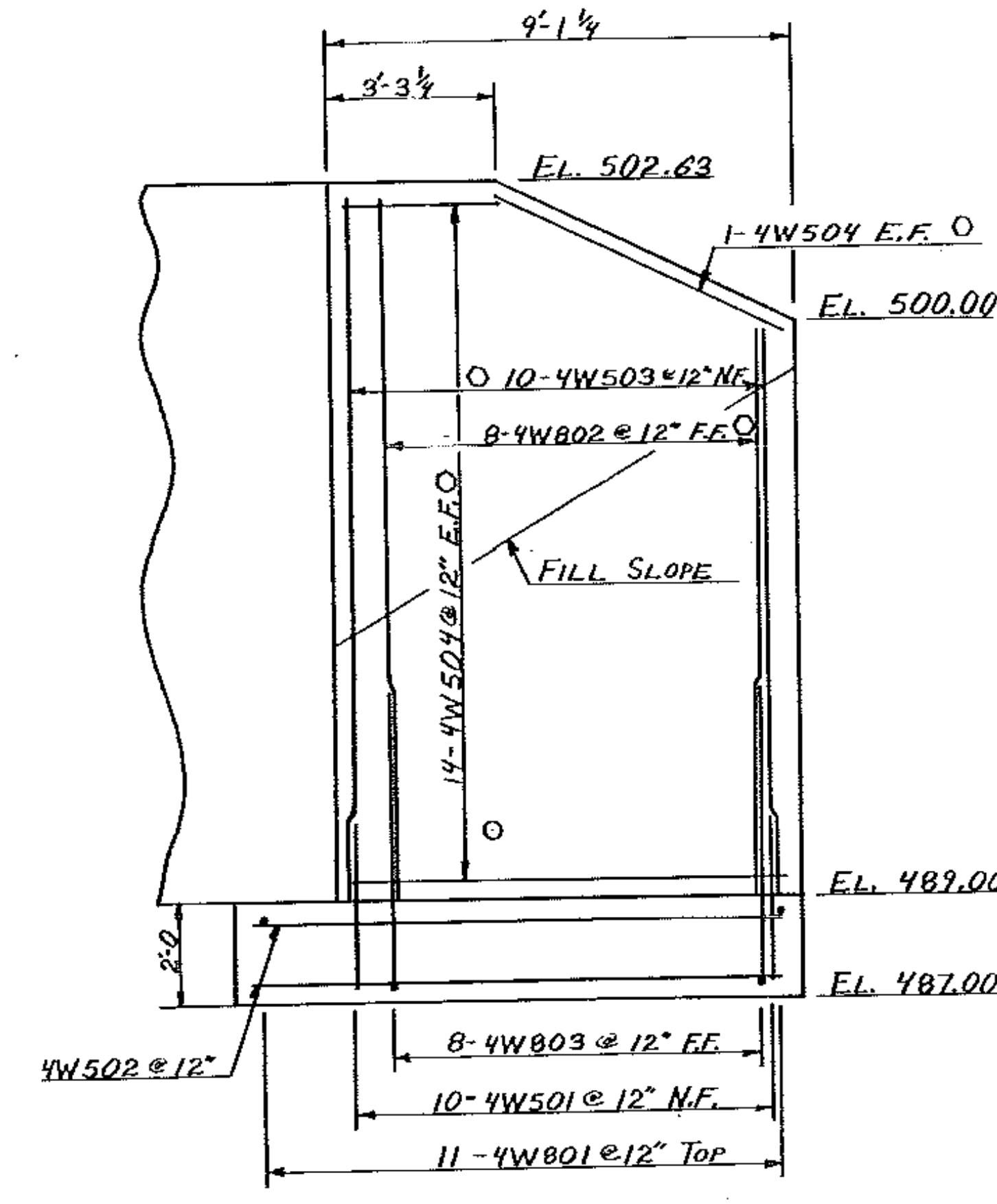
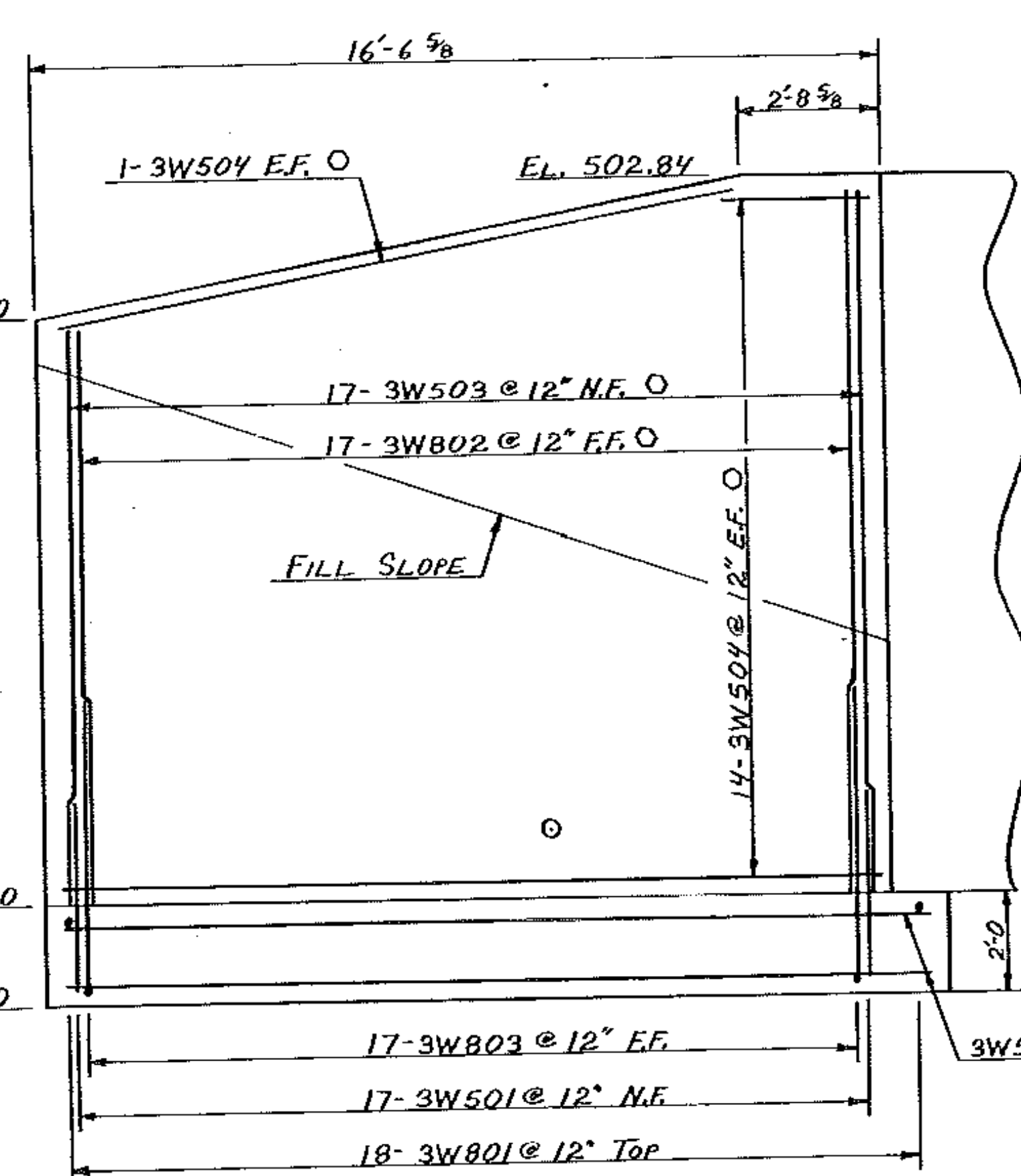
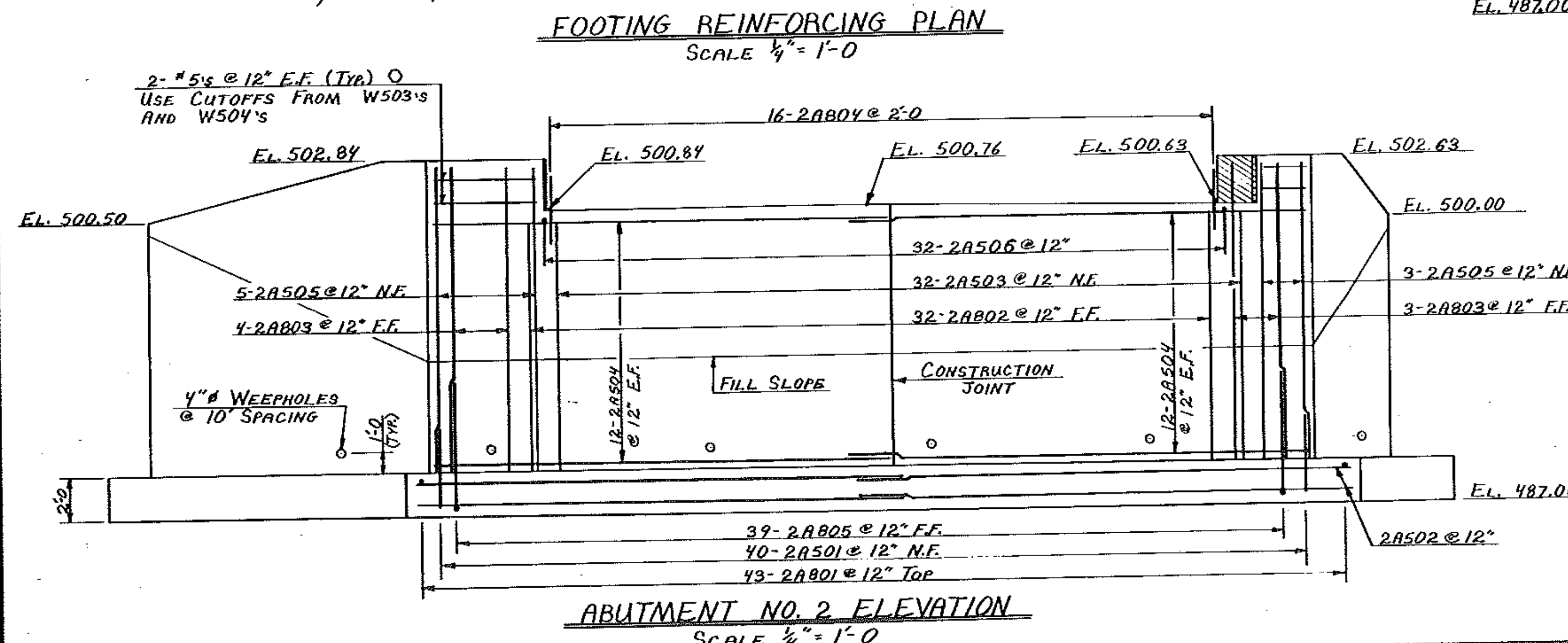
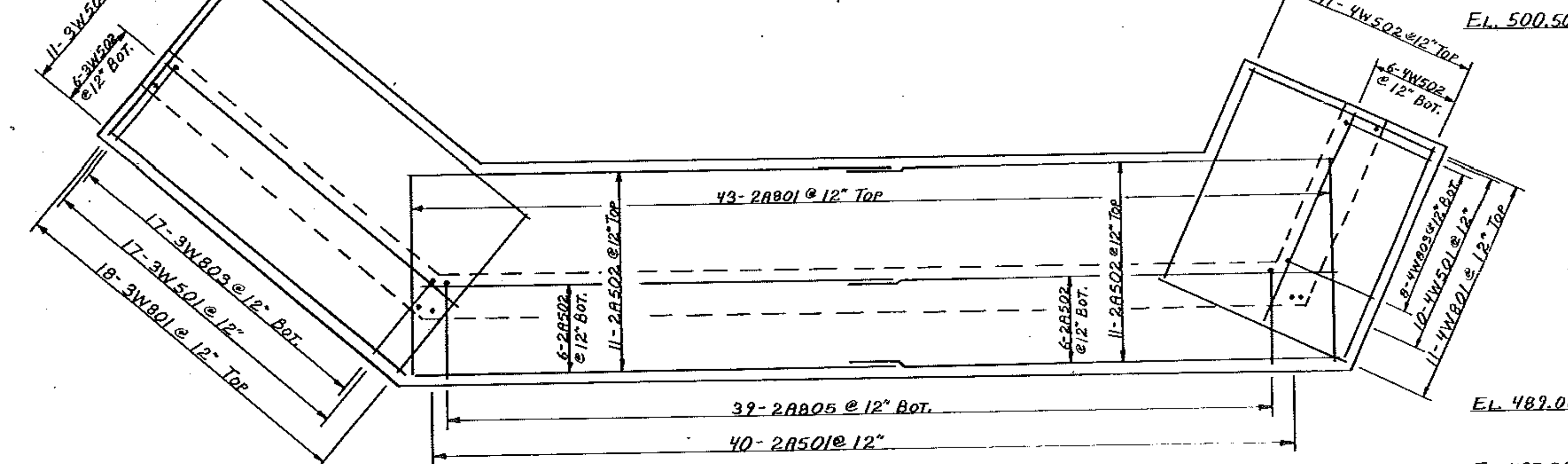
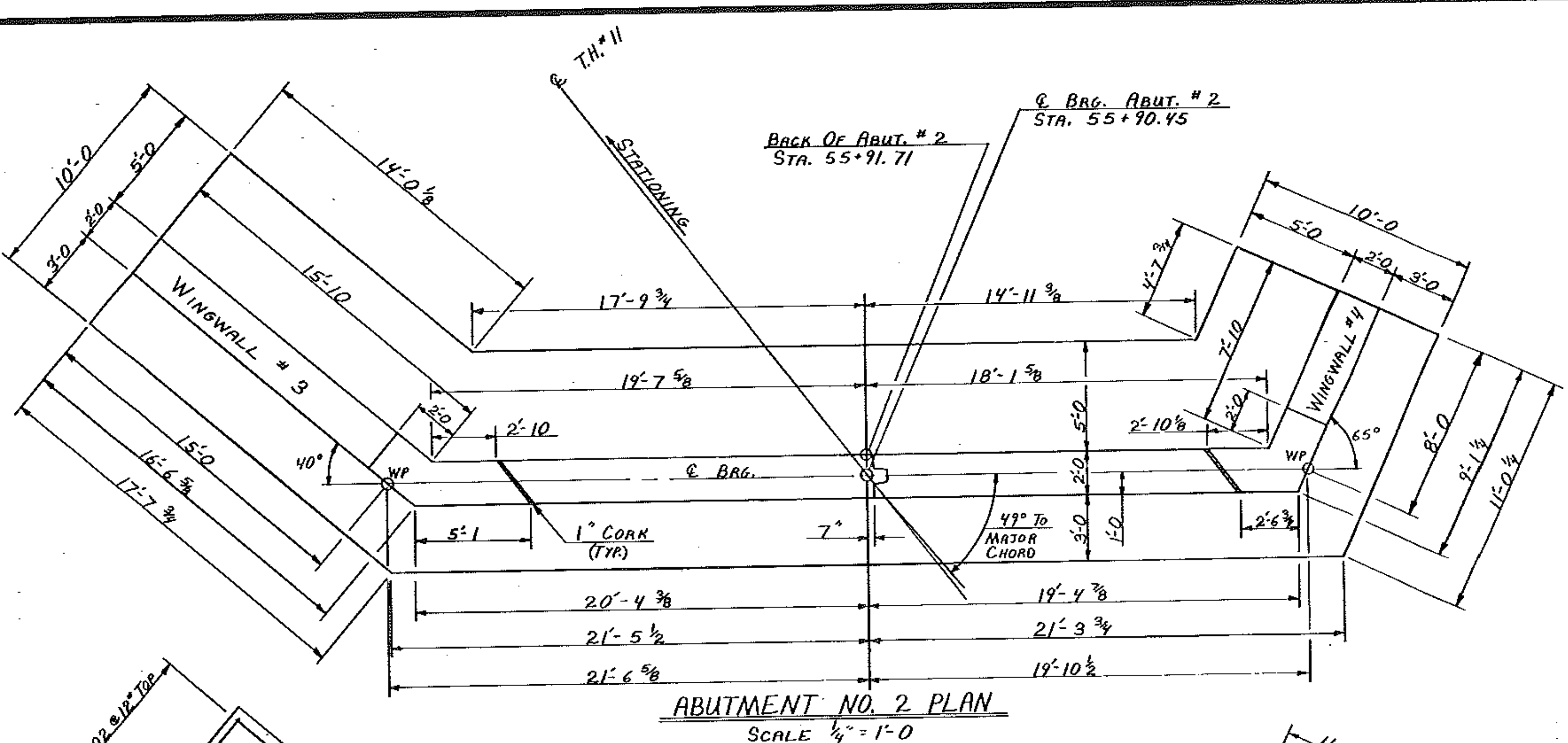
STATE OF VERMONT  
AGENCY OF TRANSPORTATION

|                            |                |                          |              |
|----------------------------|----------------|--------------------------|--------------|
| Town of                    | CONCORD        | Bridge No.               | 20           |
| Highway No.                | T.H. # 11      | Log Sta.                 |              |
|                            |                | Surv. Sta.               |              |
| ABUTMENT NO. 1 DETAILS     |                |                          |              |
| T.H. # 11 OVER MILES BROOK |                |                          |              |
| Designed By                | M.J. POLDGRUTO | Drawn By                 | D.C. WILLEY  |
| Checked By                 | Date           | Bridge Design Supervisor |              |
| G.V. SPILAK                | 4-85           | R.S. HAUPT               | Date 3-85    |
| PROJECT                    | CONCORD        | PROJECT NO.              | BRZ 1447(10) |
| LOG. Info.                 |                |                          |              |
| Bridge Sheet No.           |                | Sheet                    | 10 of 29     |



N.F. = NEAR FACE  
F.F. = FAR FACE  
E.F. = EACH FACE  
O INDICATES CUT TO FIT IN FIELD.

|                                                                                                                     |                                                              |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| <h1 style="text-align: center;">STATE OF VERMONT</h1> <h2 style="text-align: center;">AGENCY OF TRANSPORTATION</h2> |                                                              |
| Town Of <u>CONCORD</u>                                                                                              | Bridge No. <u>20</u>                                         |
| Highway No. <u>T.H.#11</u>                                                                                          | Log Sta.<br>Surv. Sta.                                       |
| <u>WINGWALL NO. 1 &amp; NO. 2 DETAILS</u><br><u>T.H.#11 OVER MILES STREAM</u>                                       |                                                              |
| Designed By <u>M.J. POLOGRUTO</u>                                                                                   | Drawn By <u>D.C. WILLEY</u>                                  |
| Checked By <u>G.V. SPILAK</u> Date <u>4-85</u>                                                                      | Bridge Design Supervisor <u>R.S. HAUPST</u> Date <u>3-85</u> |
| PROJECT <u>CONCORD</u>                                                                                              | PROJECT NO. <u>BRZ 1447(10)</u>                              |
| L.S.C. Info. _____<br>Bridge Sheet No. _____ Sheet <u>11</u> of <u>29</u>                                           |                                                              |



WINGWALL NO. 3 ELEVATION  
SCALE 3/8" = 1'-0"

WINGWALL NO. 4 ELEVATION  
SCALE 3/8" = 1'-0"

**NOTES**

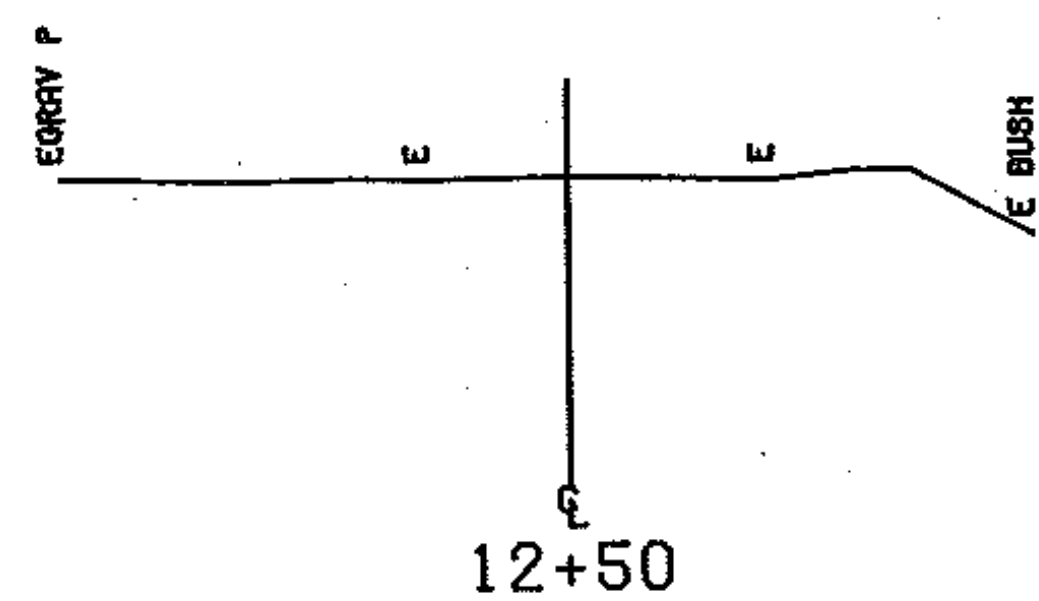
1. FOR ABUTMENT TYPICAL SECTION, SEE SHEET 10.
2. FOR WINGWALL TYPICAL SECTION, SEE SHEET 11.

N.F. = NEAR FACE  
F.F. = FAR FACE  
E.F. = EACH FACE  
O INDICATES CUT TO FIT IN FIELD.

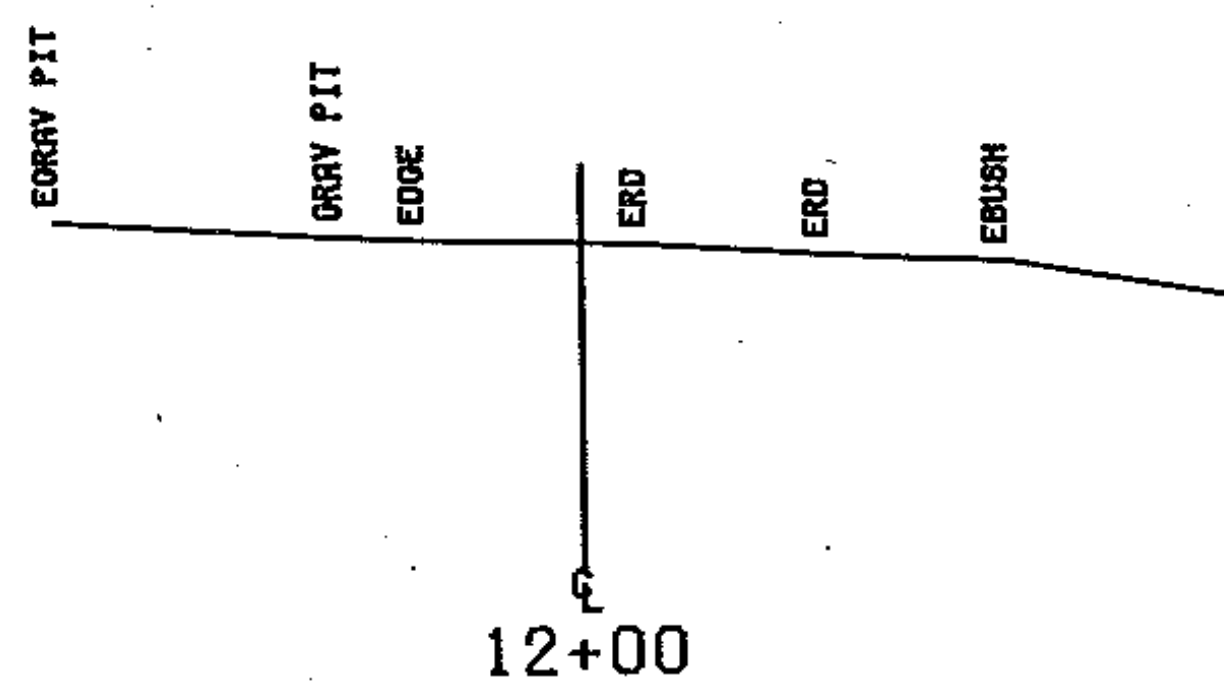
**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

|                                   |                |                          |               |
|-----------------------------------|----------------|--------------------------|---------------|
| Town of                           | CONCORD        | Bridge No.               | 20            |
| Highway No.                       | T.H. #11       | Log Sta.                 |               |
|                                   |                | Surv. Sta.               |               |
| <b>ABUTMENT NO. 2 DETAILS</b>     |                |                          |               |
| <b>T.H. #11 OVER MILES STREAM</b> |                |                          |               |
| Designed By                       | M.J. POLOGRUTO | Drawn By                 | D.C. WILLEY   |
| Checked By                        | G.V. SPILAK    | Bridge Design Supervisor | R.S. HAUPT    |
| Date                              | 4-85           | Date                     | 3-85          |
| PROJECT                           | CONCORD        | PROJECT NO.              | BRZ 1447 (10) |
| L.C.C. Info.                      |                | Sheet                    | 12 of 29      |
| Bridge Sheet No.                  |                |                          |               |

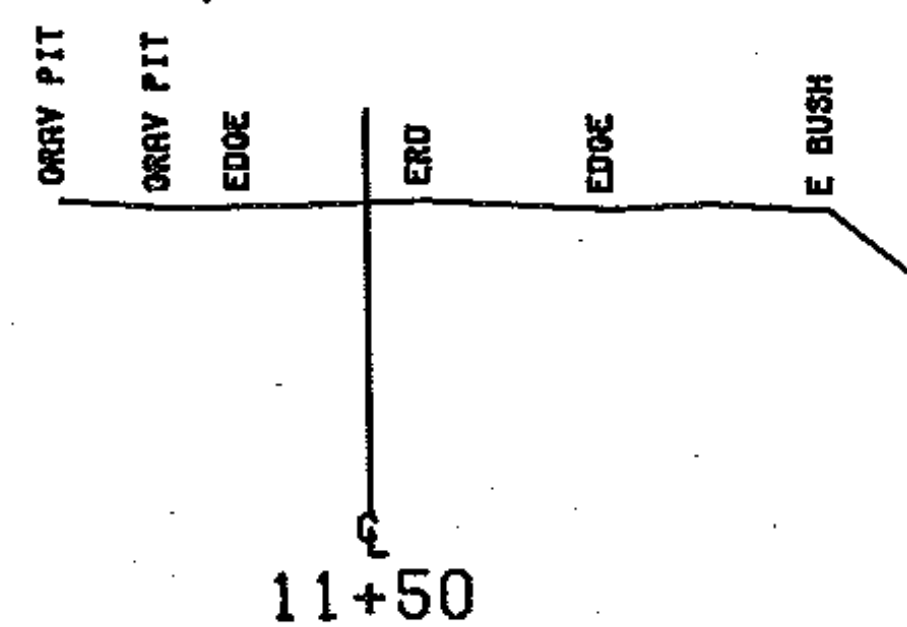




500



500



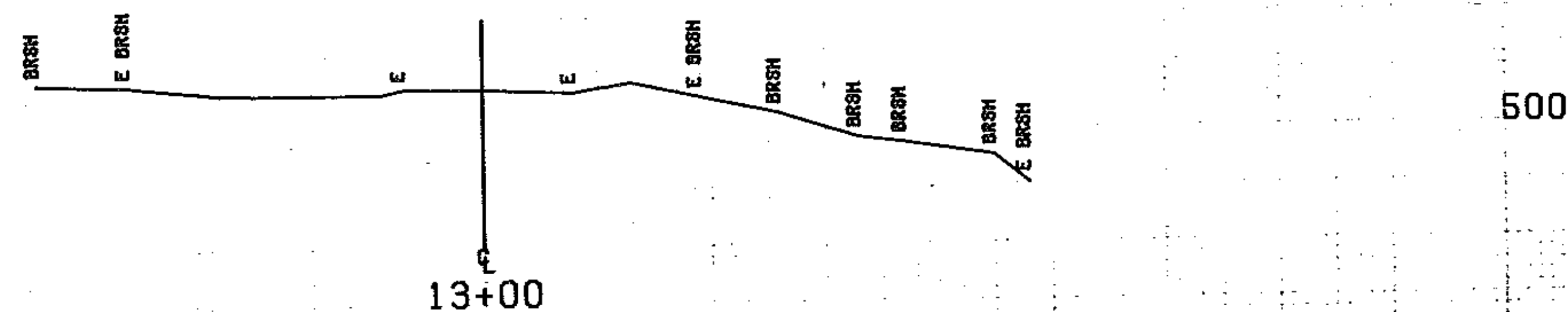
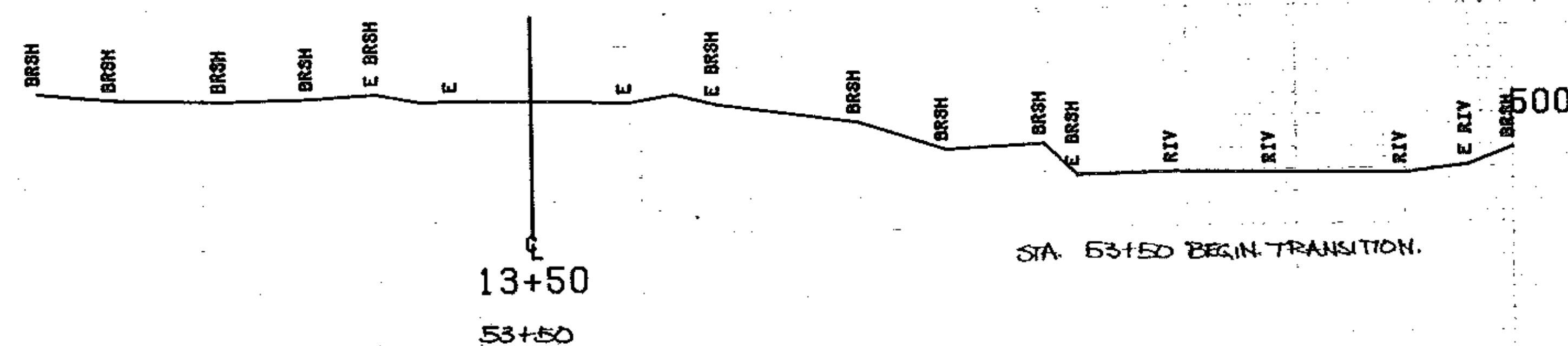
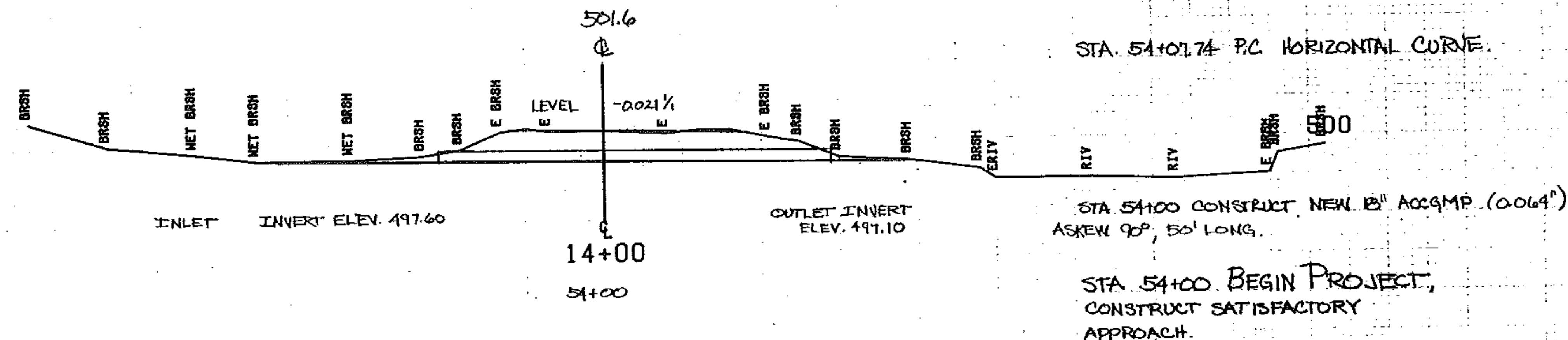
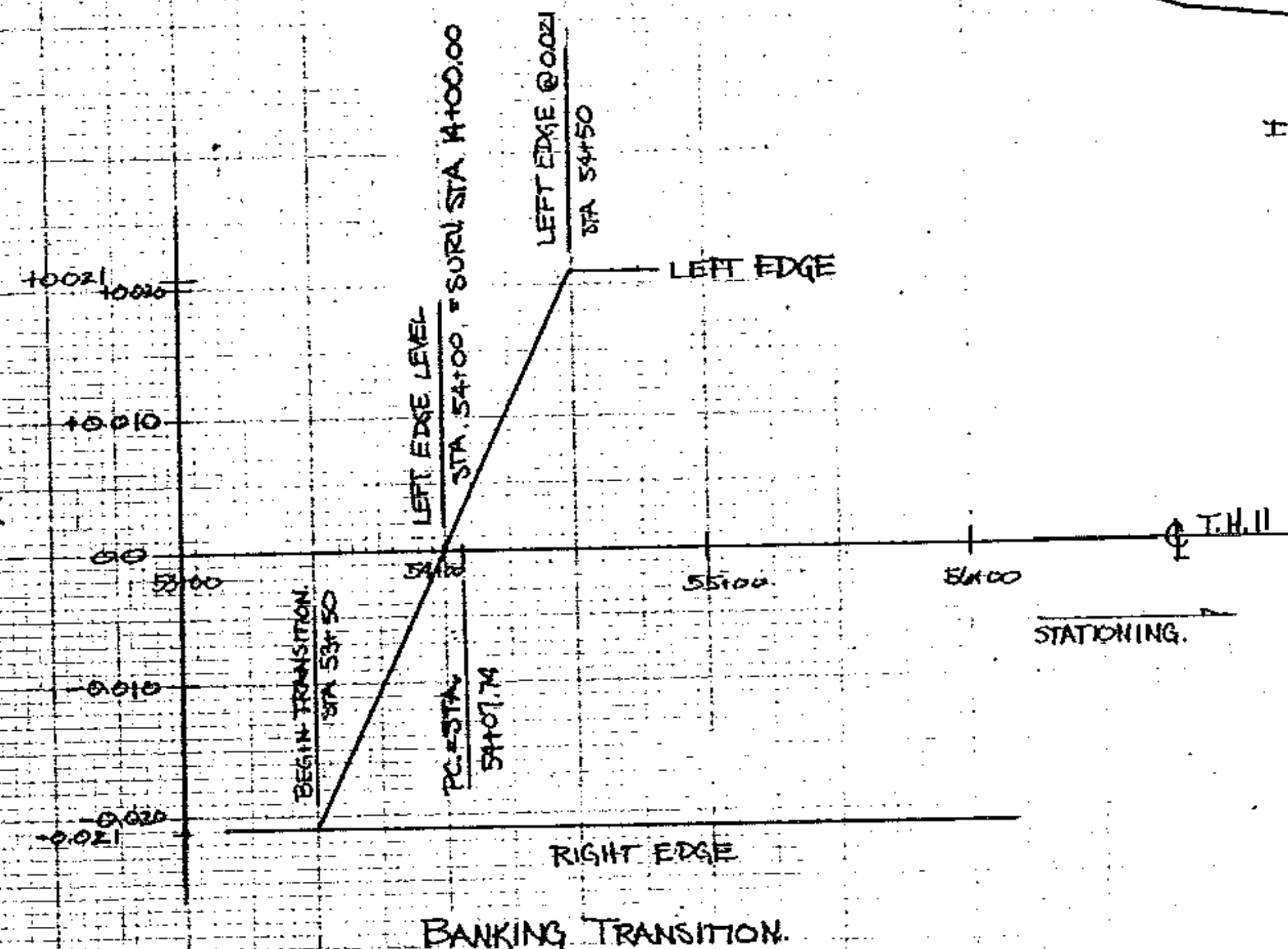
500

|                           |                 |
|---------------------------|-----------------|
| FROM STA. 11+50           | TO STA. 12+50   |
| PROJECT NAME CONCORD MAIN |                 |
| NO. BR21447(101)          | PLOTTED 11/16/8 |
| SURVEYED BY SARGENT       | JANUARY 1982    |
| SHEET 14 OF 22            | SHEETS          |

SCALE 1" = 10 FEET

STATIONING

FEET/FEET



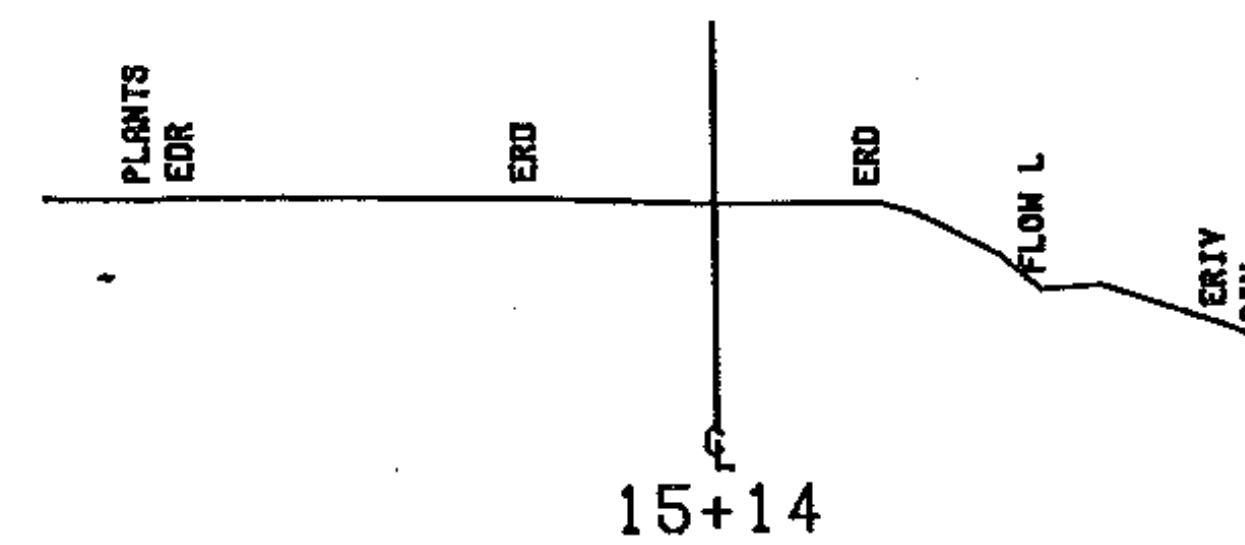
FROM STA. 13+00 TO STA. 14+00  
PROJECT NAME CONCORD MAIN  
NO. BR21447(10) PLOTTED 11/16/1962  
SURVEYED BY SARGENT  
SHEET 15 OF 27 SHEETS

SCALE 1" = 40 FEET

INLET INVERT  
ELEV. 498.70 ±

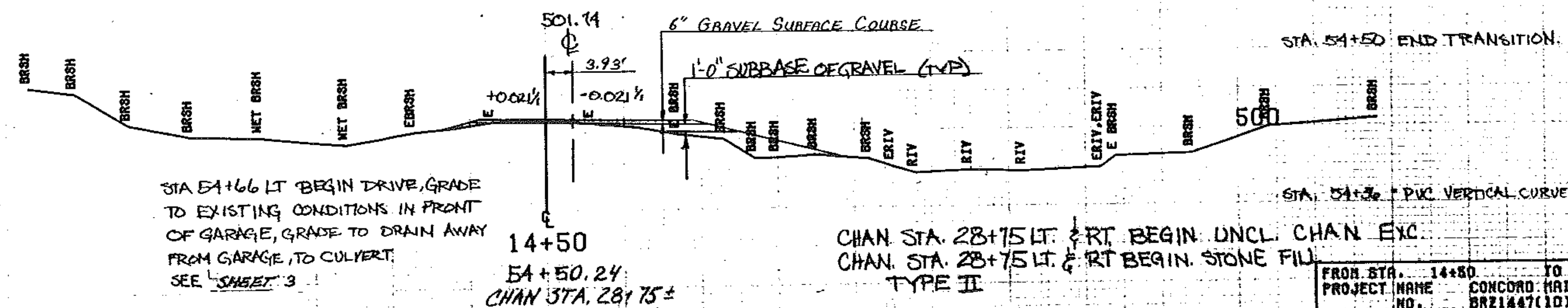
OUTLET INVERT  
ELEV. 496.30 ±

55+03



STA 54+86 = PVI VERTICAL CURVE No 1

STA. 54+78 RT. BEGIN HEAVY DUTY GUARD  
RAIL W/ WOOD POSTS, TYPE II.



STA. 54+30 = PVI VERTICAL CURVE No. 1

CHAN. STA. 28+75 LT. & RT. BEGIN. UNCL. CHAN. EXC.  
CHAN. STA. 28+75 LT. & RT. BEGIN. STONE FIL.  
TYPE II

FROM STA. 14+80 TO STA. 15+14  
PROJECT NAME CONCORD MAIN  
NO. BR21447(1D) PLOTTED 11/18/  
SURVEYED BY BARGENT JANUARY 1982  
SHEET 14 OF 23 SHEETS

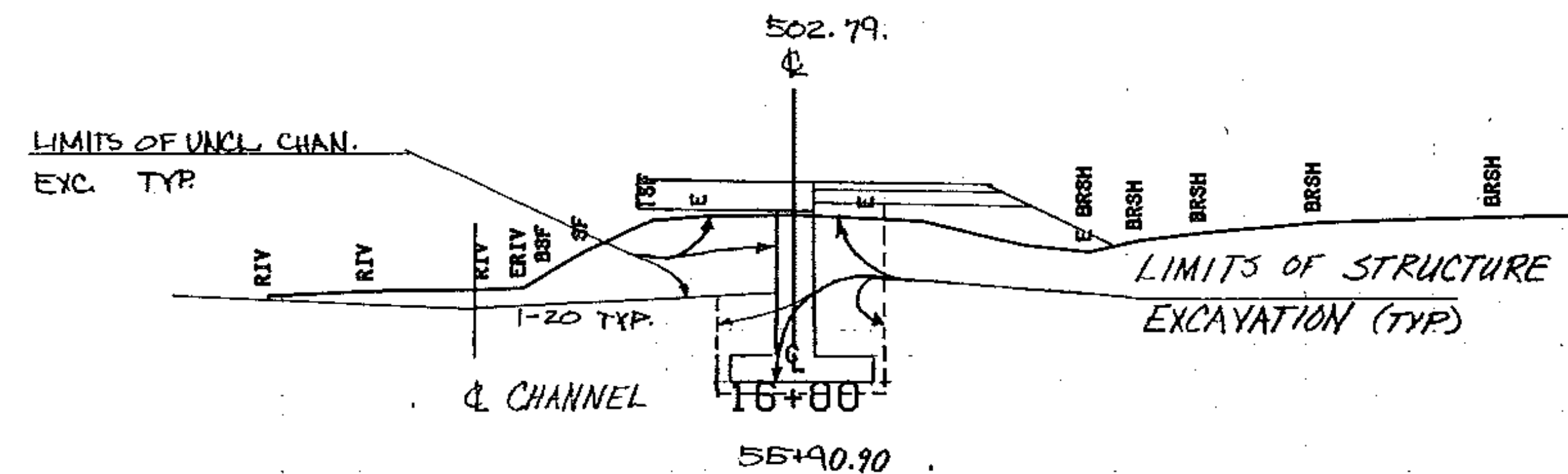
SCALE 1-10

STA. 56+03 LT. END BRIDGE RAIL,  
BEGIN. GUARD RAIL, HEAVY DUTY STEEL  
BEAM. W/ WOOD POSTS, TYPE II.

STA. 56+20 RT. END GUARD RAIL.

STA 56+00 BEGIN TRANSITION

STA. 55+91.71 END BRIDGE.  
FG. 502.77 500



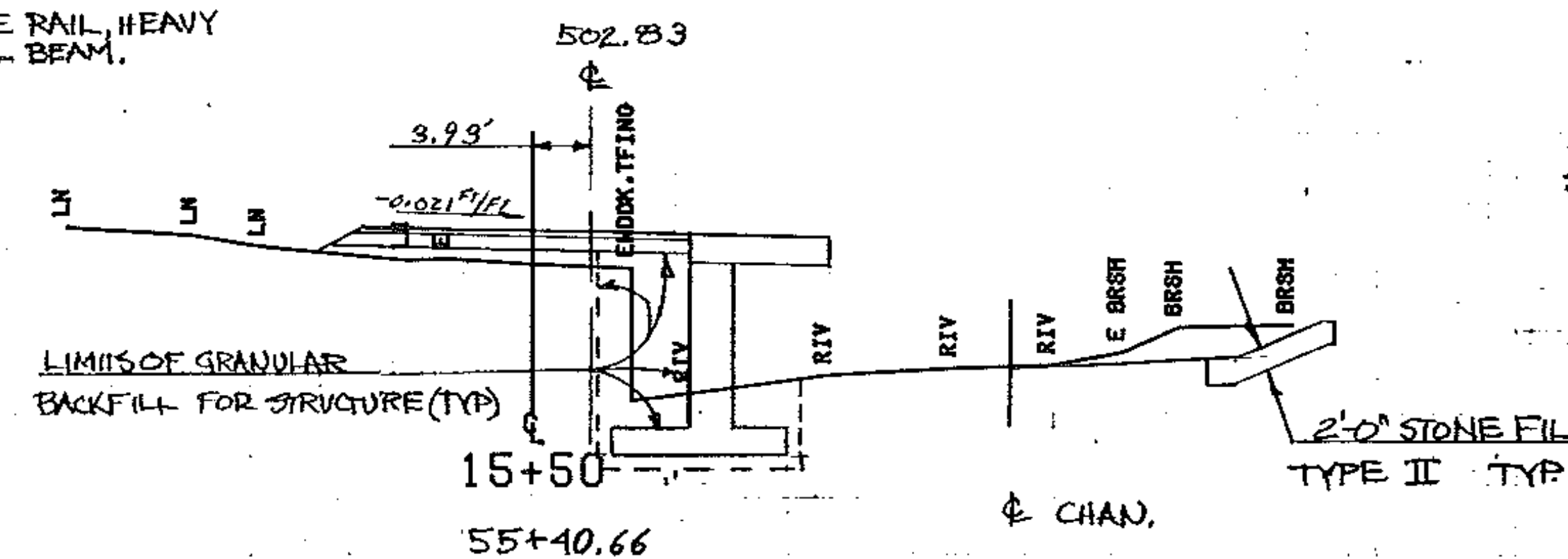
STA 55+86 = PVI VERTICAL CURVE No.2

STA. 55+83.16 = PT. HORIZONTAL CURVE.  
FG. 502.89.

STA. 55+58 LT. END GUARD RAIL,  
BEGIN BRIDGE RAIL, HEAVY  
DUTY STEEL BEAM.

STA. 55+83 END BRIDGE RAIL,  
BEGIN GUARD RAIL, HEAVY DUTY STEEL  
BEAM. W/ WOOD POSTS, TYPE II.

STA. 55+46.55 BEGIN BRIDGE.  
FG. 502.89. 500



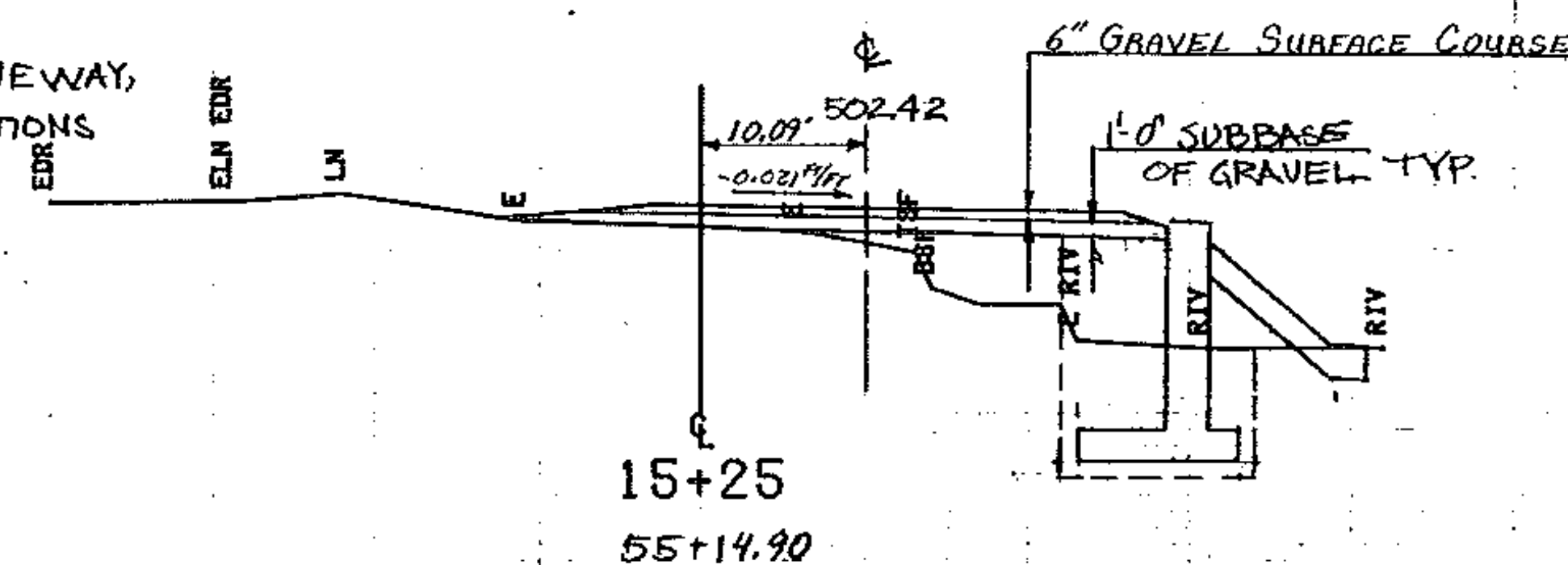
STA 55+36 = PVI VERTICAL CURVE No.1  
= PVI VERTICAL CURVE No.2

STA. 55+23 LT. BEGIN GUARD RAIL, HEAVY DUTY  
STEEL BEAM, W/ WOOD POSTS, TYPE II.

STA 55+30 RT. END GUARD RAIL,  
BEGIN. BRIDGE RAIL, HEAVY DUTY STEEL BEAM.

STA. 55+23 LT. END DRIVEWAY,  
GRADE TO EXISTING CONDITIONS  
AT EDGE OF WALKWAY.  
SEE SHEET 3,

500

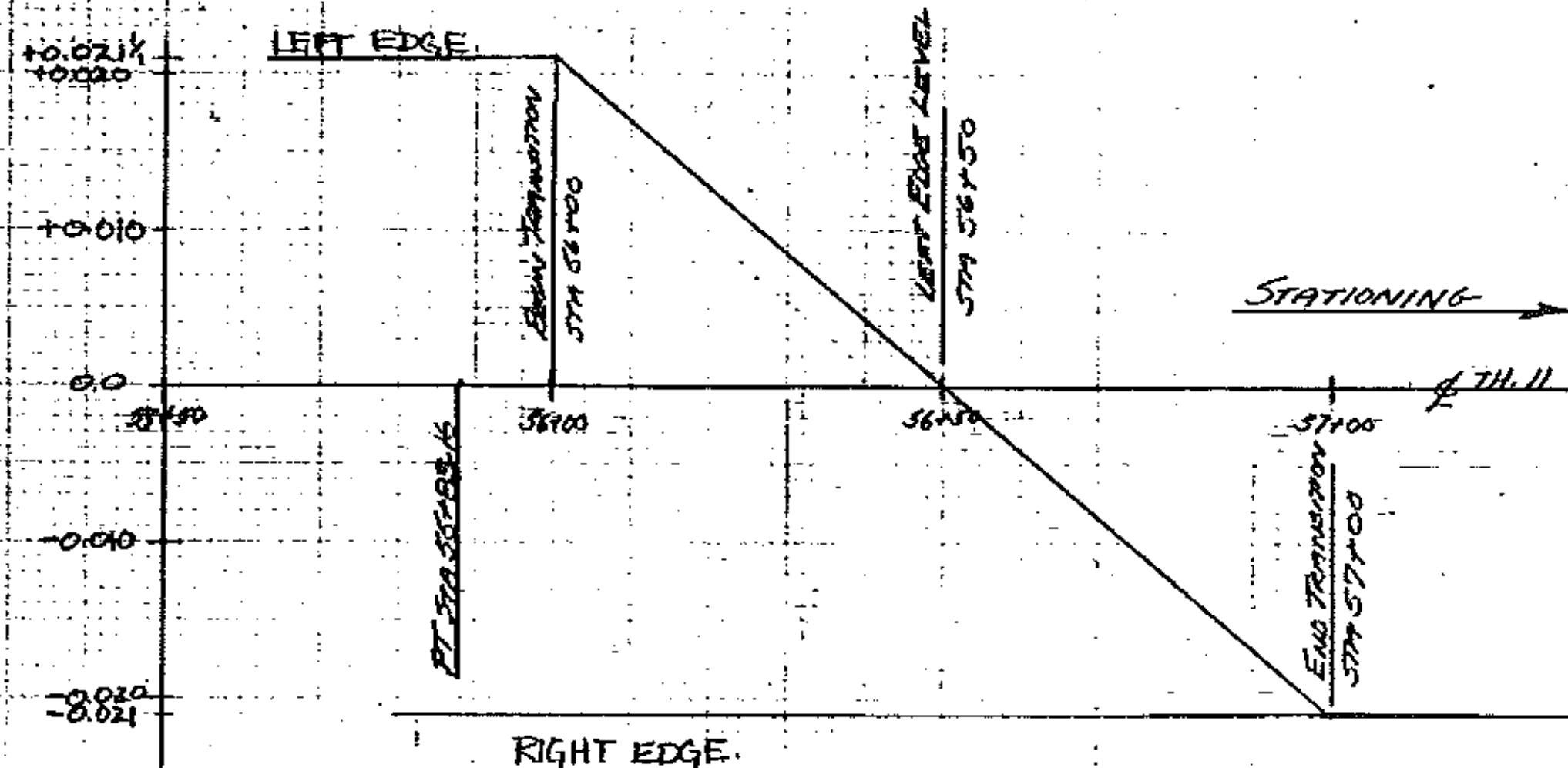


FROM STA. 16+25 TO STA. 18+00  
PROJECT NAME CONCORD MAIN  
NO. BR21447(10) PLOTTED 11/15/02  
SURVEYED BY. BARRENT JANUARY 1982  
SHEET 17 OF 27 SHEETS

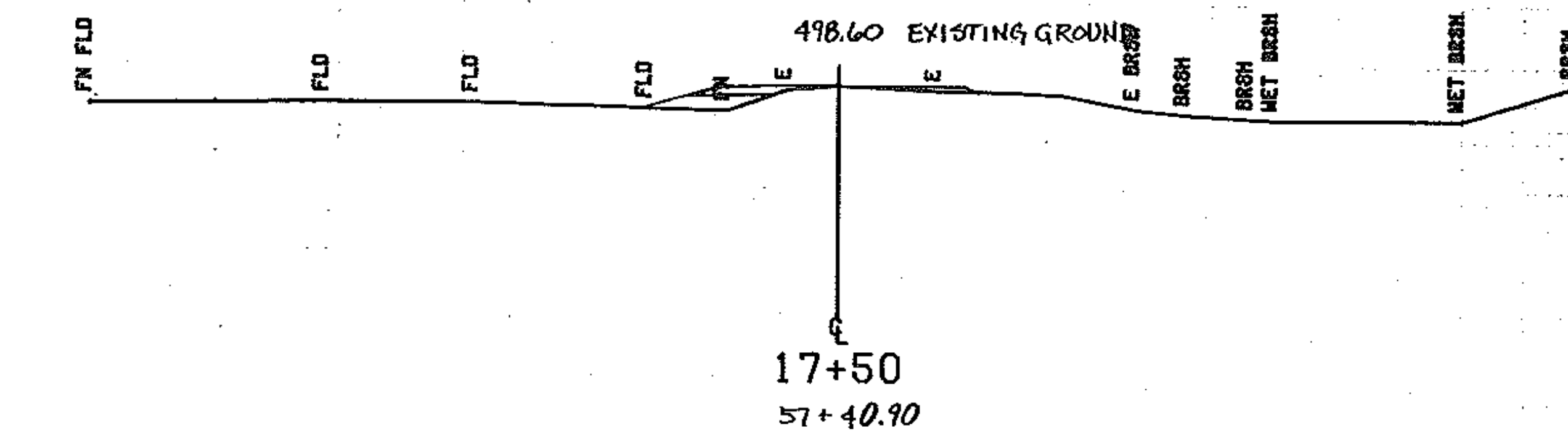
SCALE 1" = 10 FEET

SUPERELEVATION PER FT OF ROADWAY

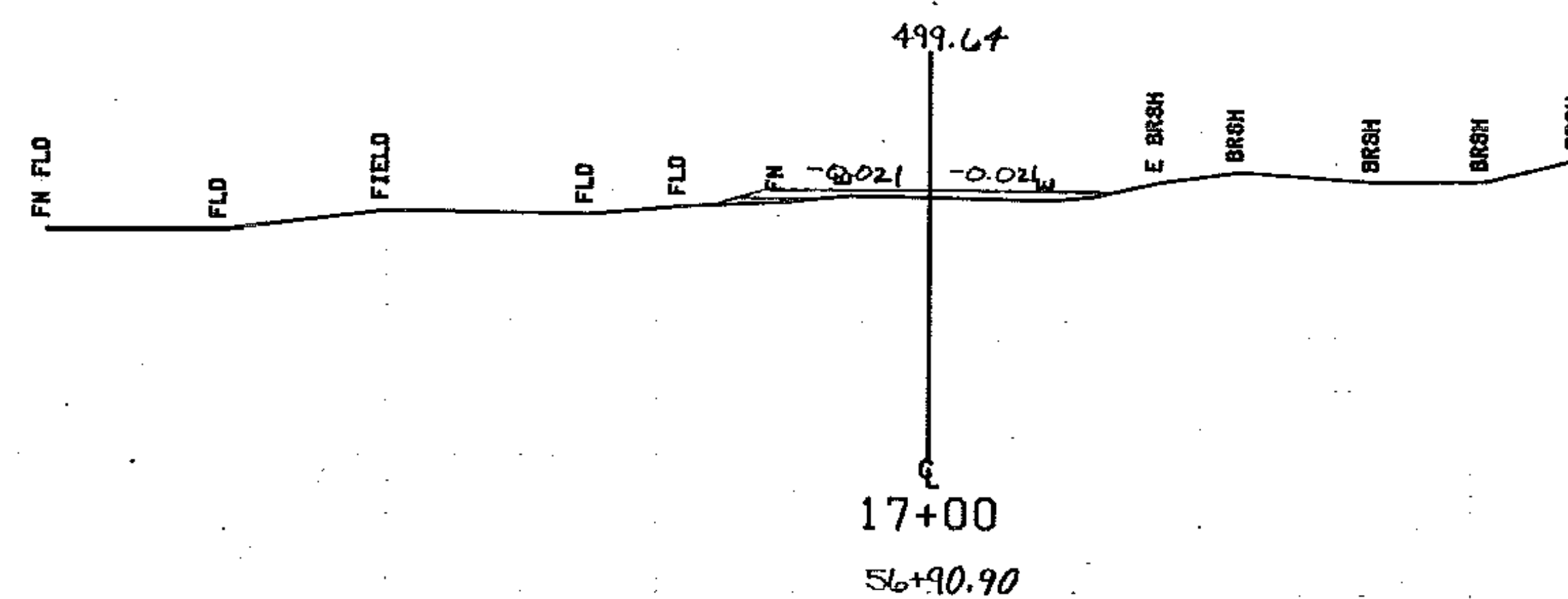
FEET/FEET



BANKING TRANSITION.



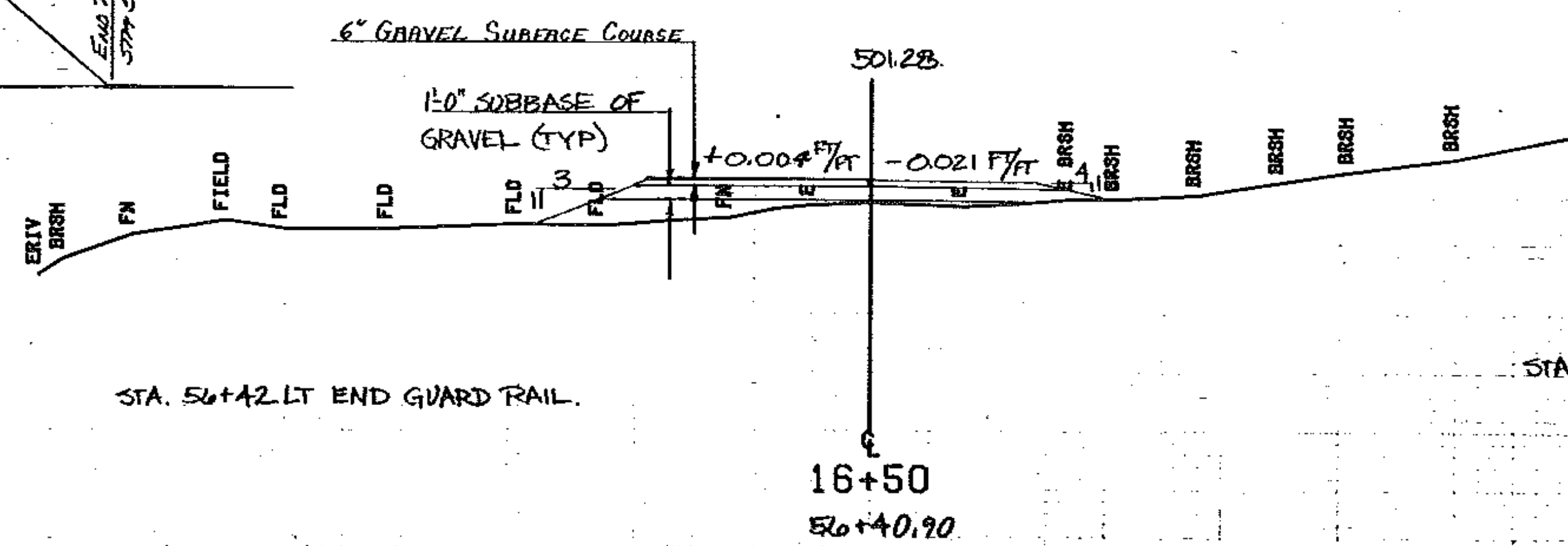
STA. 57+36 PVI CURVE No. 3



STA 57+00 END PROJECT  
CONSTRUCT SATISFACTORY APPROACH.

STA 57+00 END TRANSITION

STA. 56+86 PVI CURVE No. 3

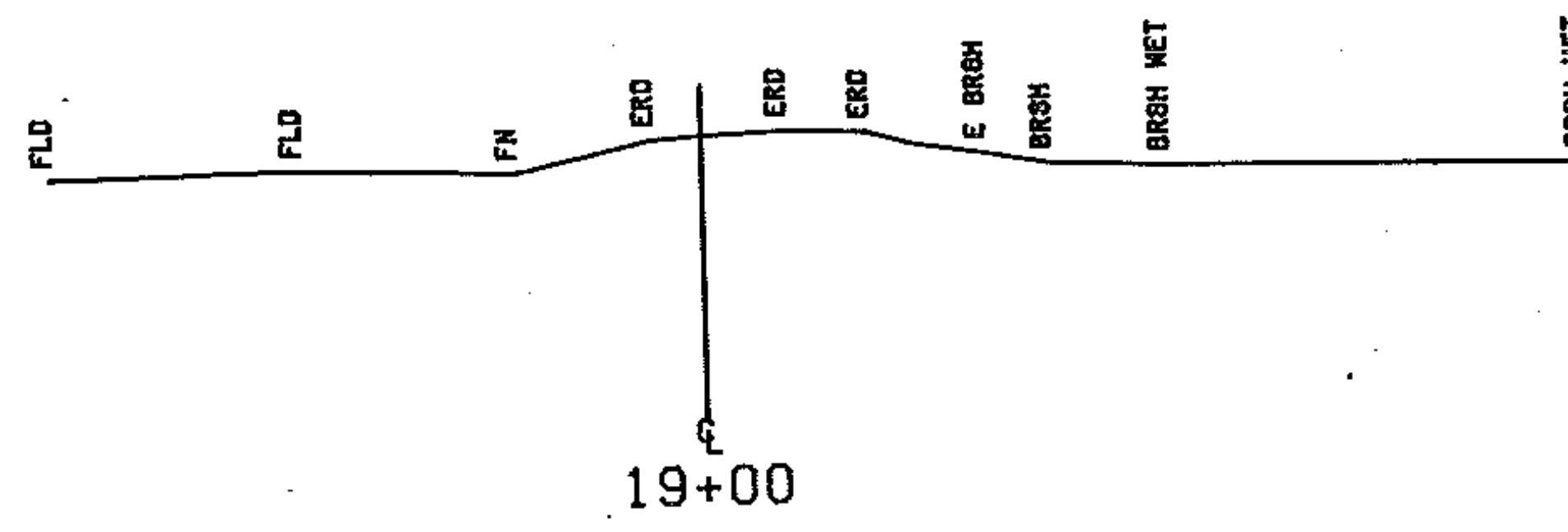


STA. 56+42 LT END GUARD RAIL.

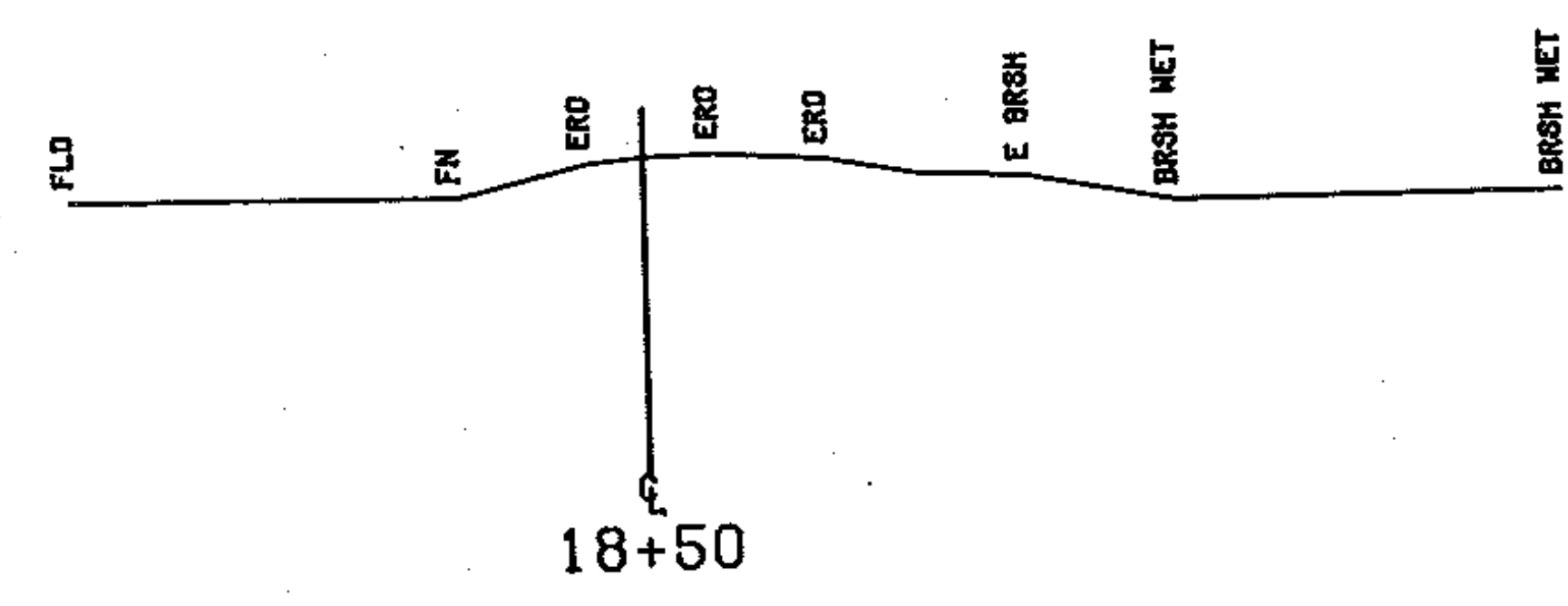
STA. 56+34  
+ PVI VERTICAL CURVE No. 2  
+ PVC VERTICAL CURVE No. 3

FROM STA. 18+50 TO STA. 17+50  
PROJECT NAME CONCORD MAIN  
NO. BR21447(10) PLOTTED 11/15/82  
SURVEYED BY BRACENT  
SHEET 18 OF 29 SHEETS

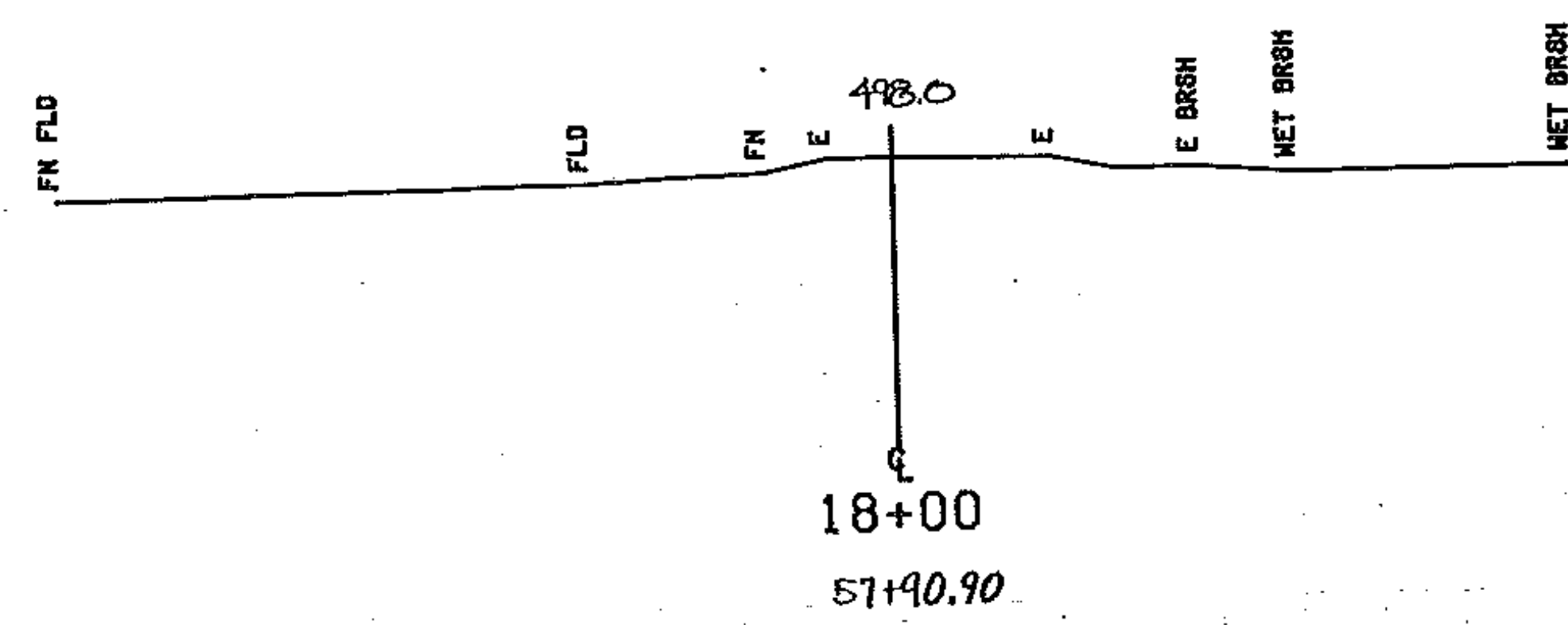
SCALE 1" = 10 FEET



490



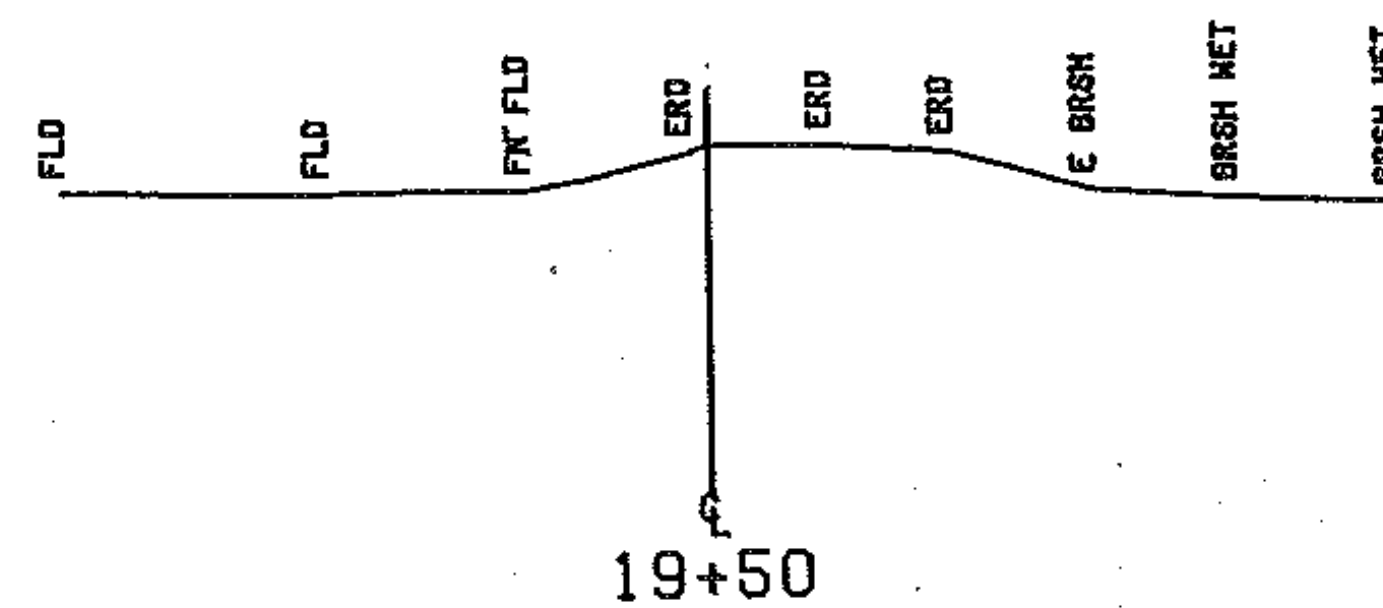
490



490

SCALE 1" = 10 FEET

|                           |                  |
|---------------------------|------------------|
| FROM STA. 18+00           | TO STA. 19+00    |
| PROJECT NAME CONCORD MAIN |                  |
| NO. BRZ1447(101)          | PLOTTED 11/15/82 |
| SURVEYED BY SARGENT       | JANUARY 1982     |
| SHEET 19                  | OF 22 SHEETS     |



490

|                           |                  |
|---------------------------|------------------|
| FROM STA. 19+50           | TO STA. 19+50    |
| PROJECT NAME CONCORD MAIN | NO. BR21447(10)  |
| SURVEYED BY SARGENT       | PLOTTED 11/15/82 |
| SHEET 20 OF 22 SHEETS     | JANUARY 1982     |

SCALE 1" = 10 FEET

490

29+45

490

29+25

490

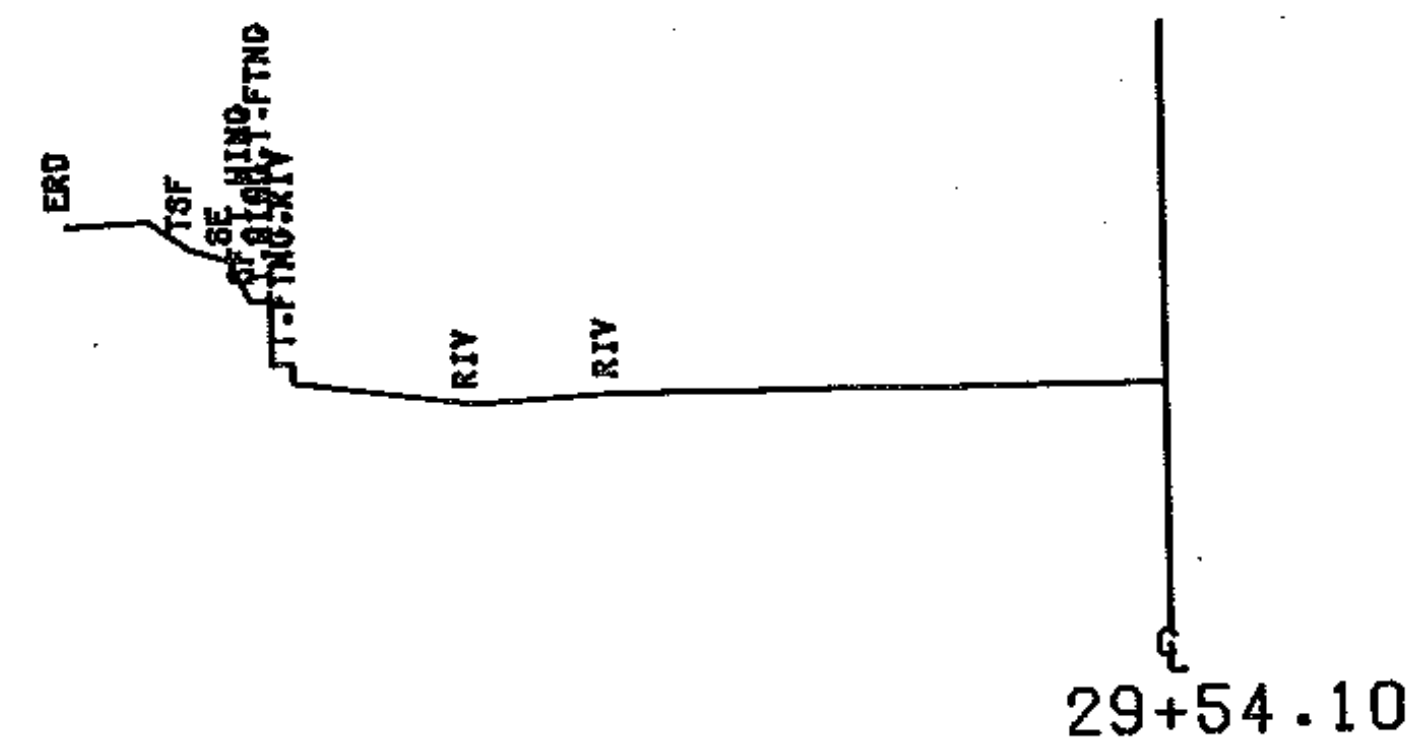
29+00

CHAN. STA. 29+28 LT. BEGIN GRANULAR BACKFILL  
FOR STRUCTURE.  
CHAN. STA. 29+25 LT. BEGIN STRUCTURE ETC.

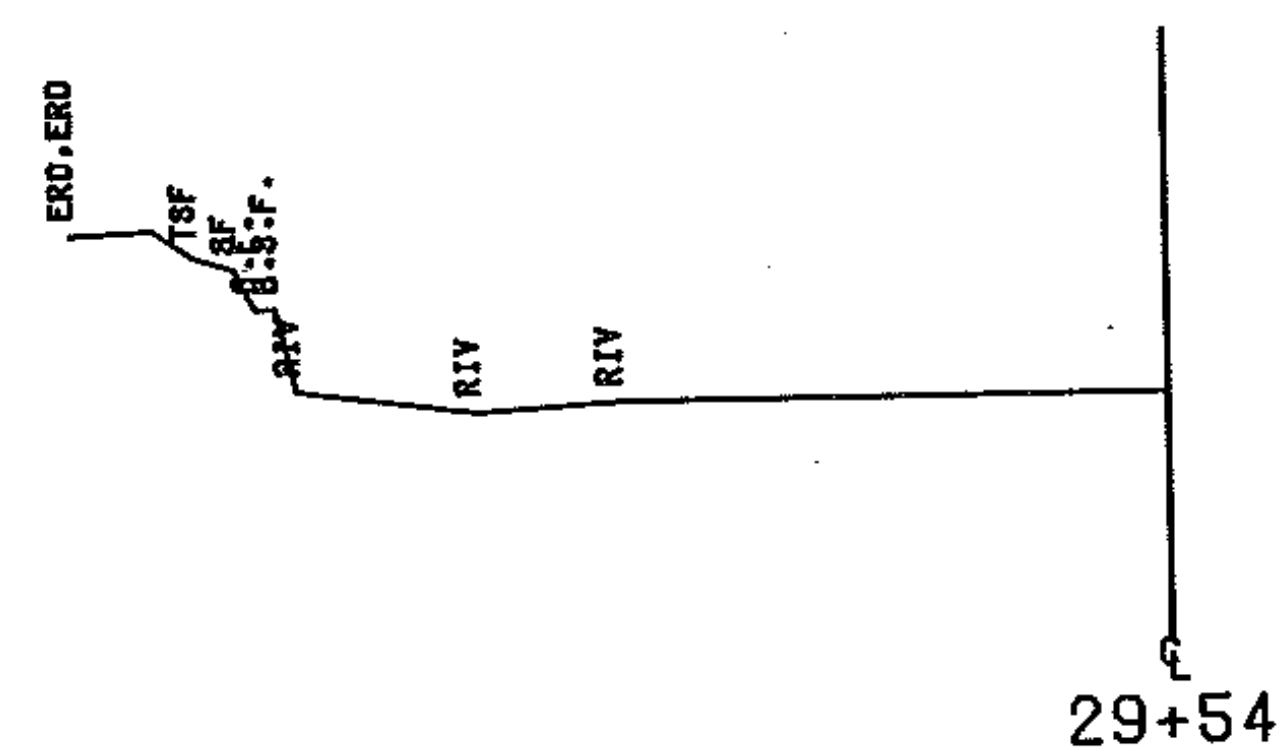
CHAN. STA. 28+75 LT. BEGIN STONE FILL TYPE II  
CHAN. STA. 28+75 LT. BEGIN UNCL. CHAN. ETC.

CHAN. STA. 28+75 RT. BEGIN STONE FILL TYPE II  
CHAN. STA. 28+75 RT. BEGIN UNCL. CHAN. ETC.

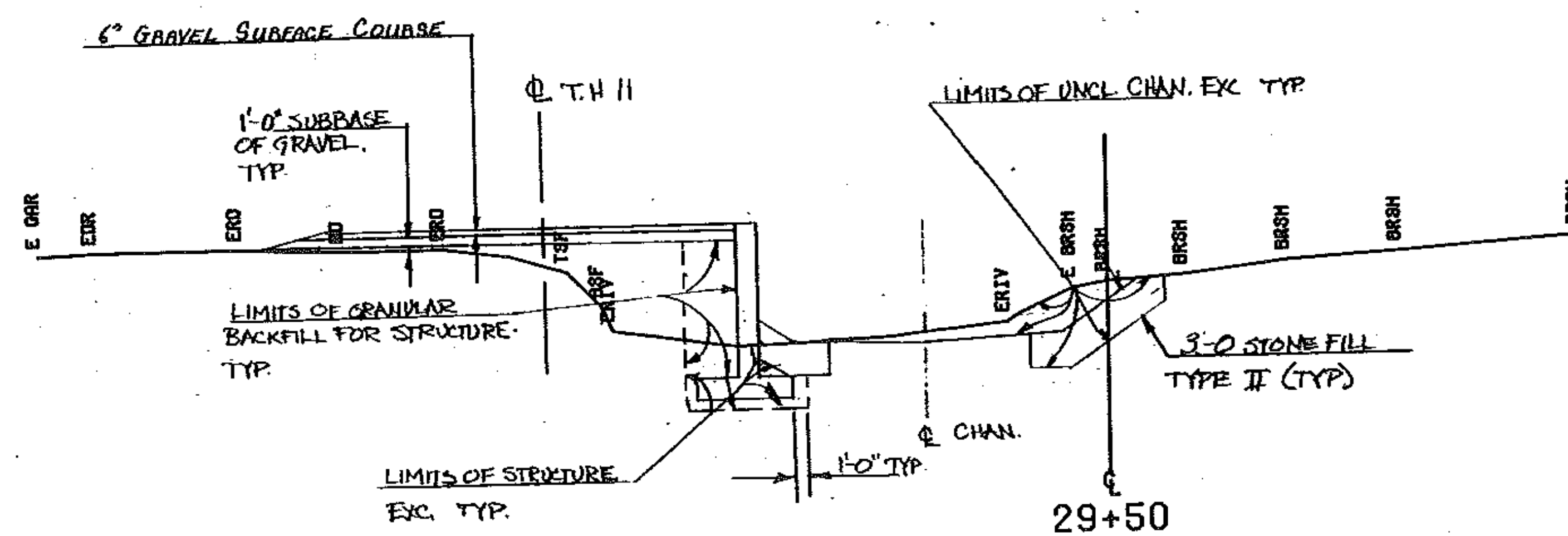
|              |               |         |          |
|--------------|---------------|---------|----------|
| FROM STA.    | 29+00         | TO STA. | 29+45    |
| PROJECT NAME | CONCORD CHAN. |         |          |
| NO.          | BR21447(10)   | PLOTTED | 11/15/02 |
| SURVEYED BY  | SARGENT       | JANUARY | 1982     |
| SHEET        | 01 OF 29      | SHEETS  |          |



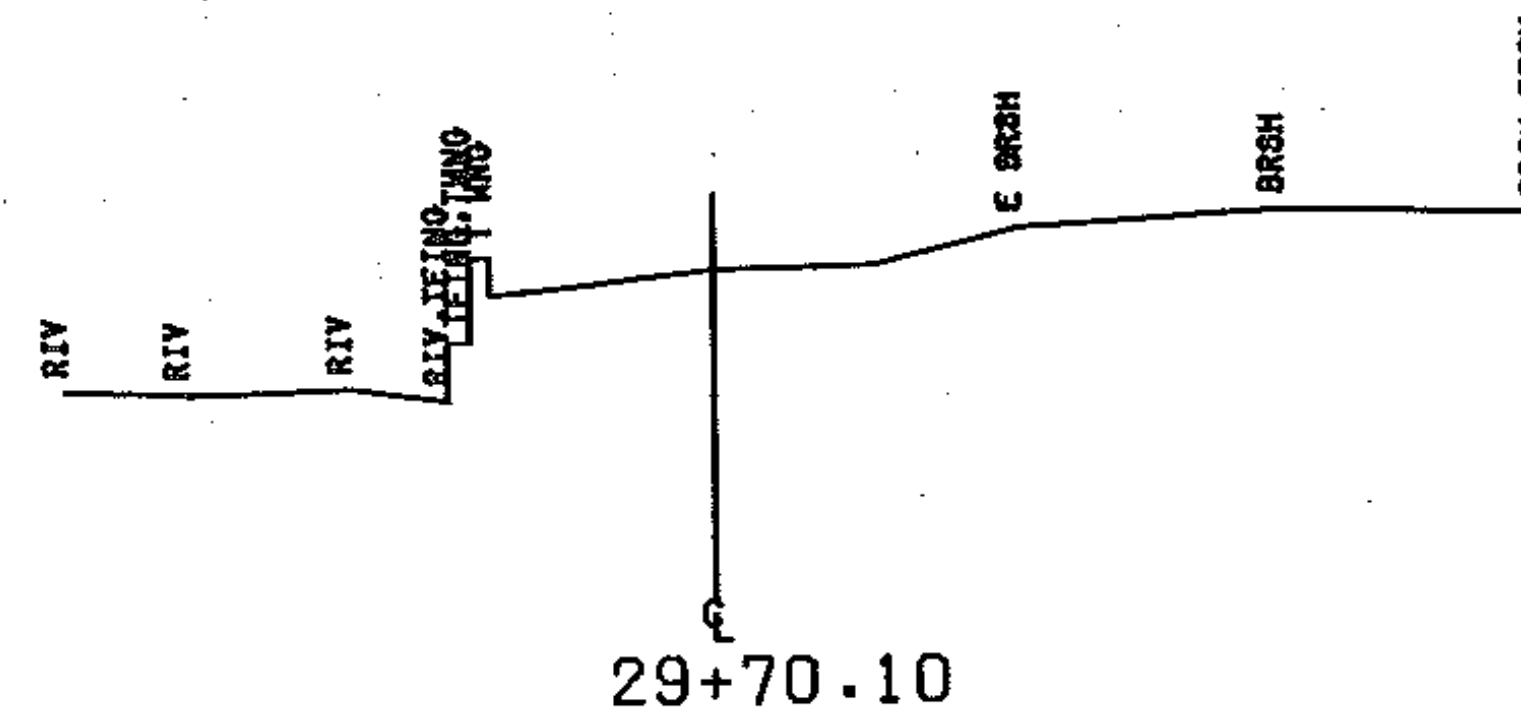
490



490

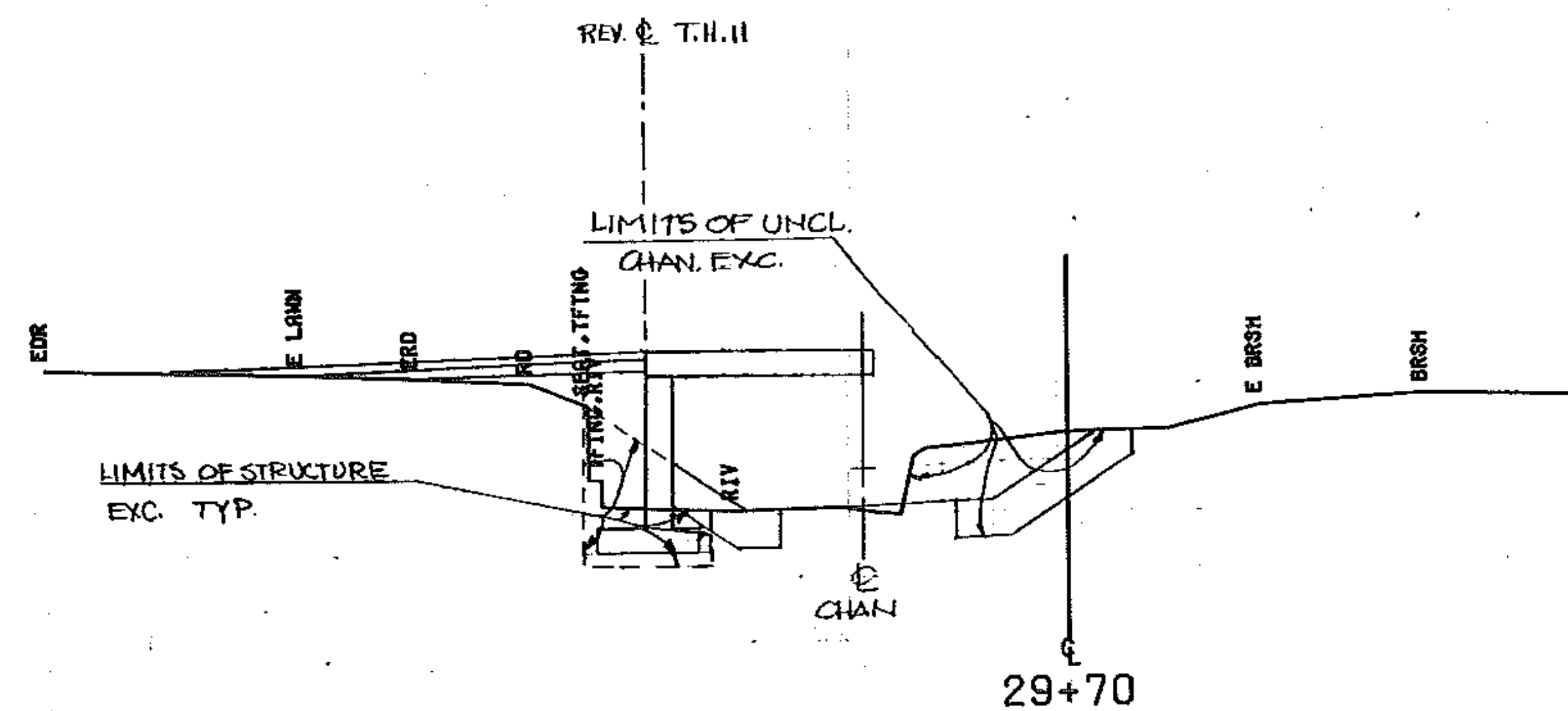


490

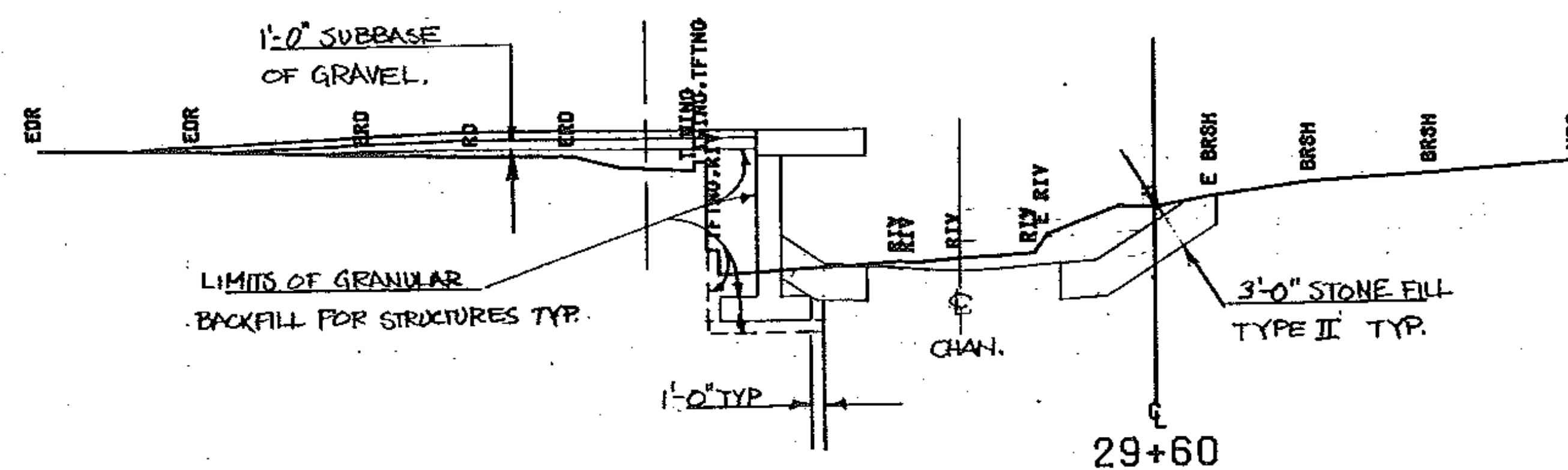


490

CHAN STA. 29179 RT. BEGIN GRANULAR BACKFILL FOR STRUCTURE.  
CHAN STA. 29174 RT. BEGIN STRUCTURE EXC.

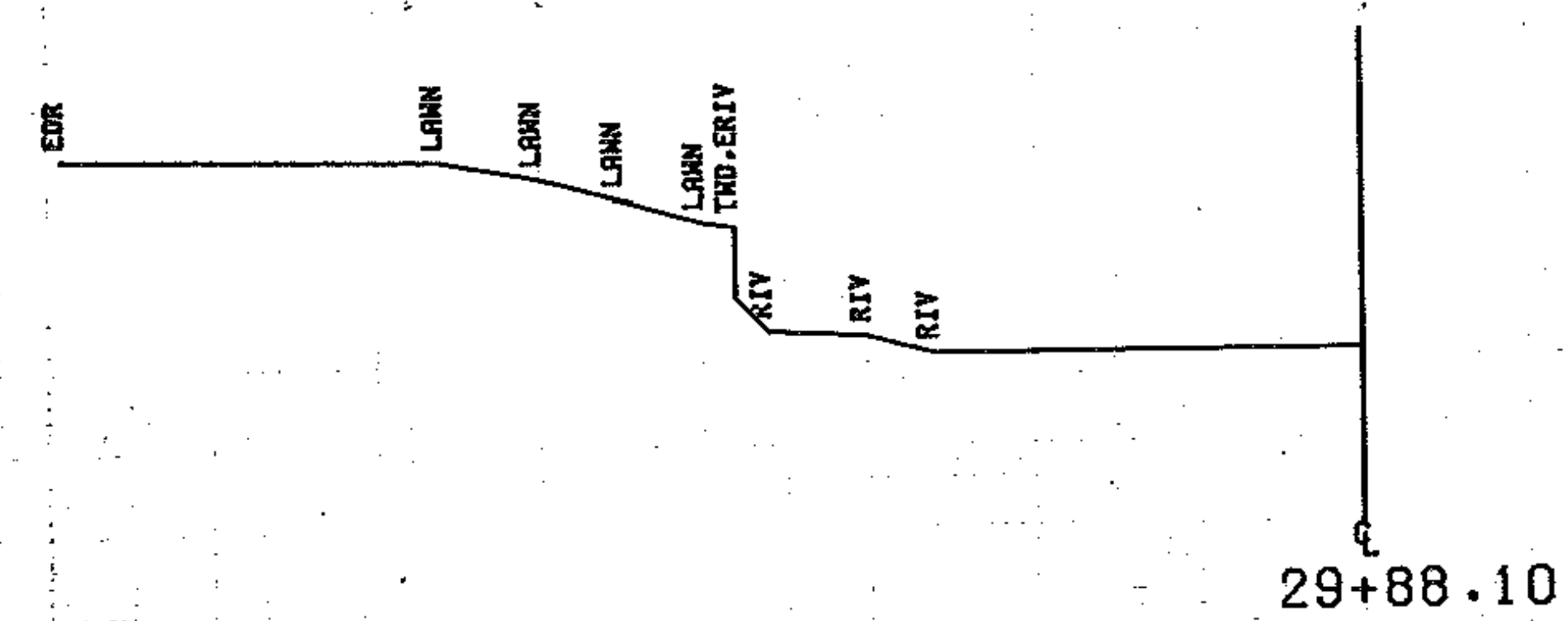
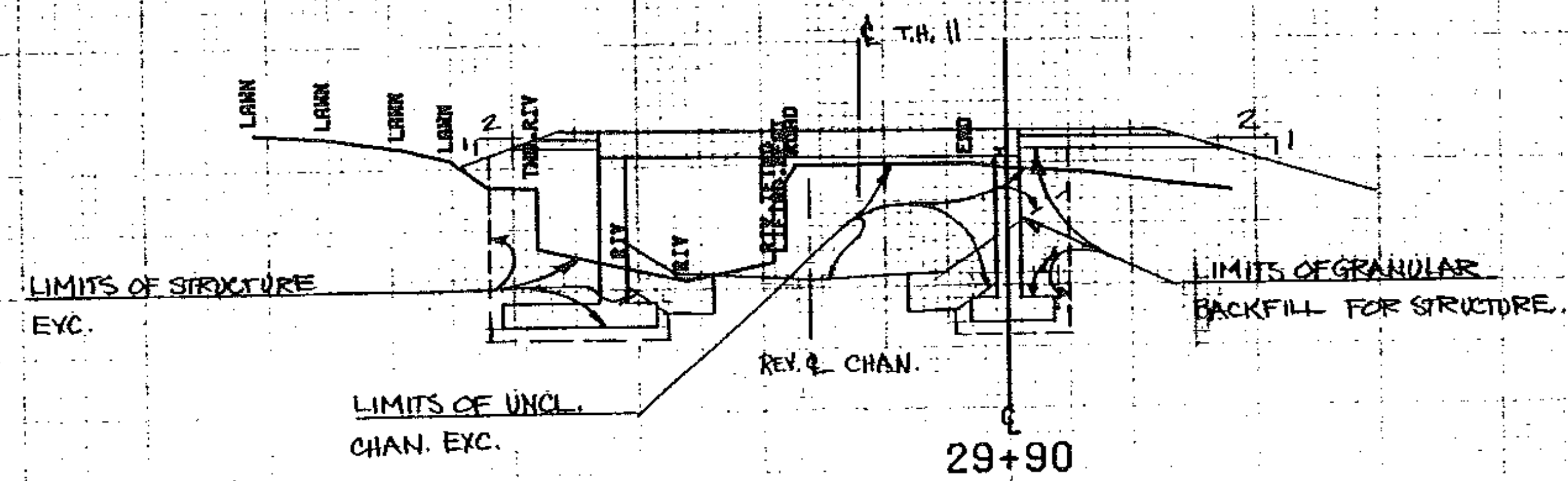


490



490

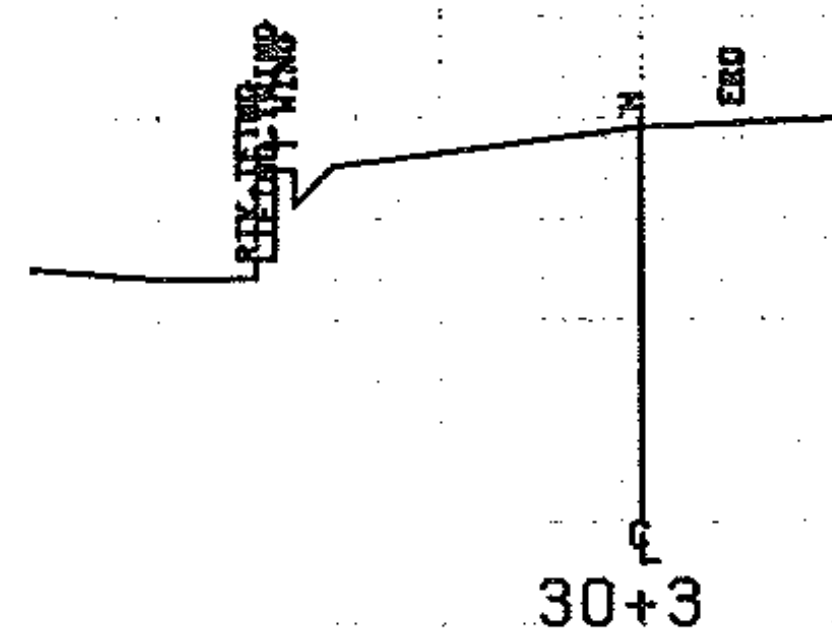




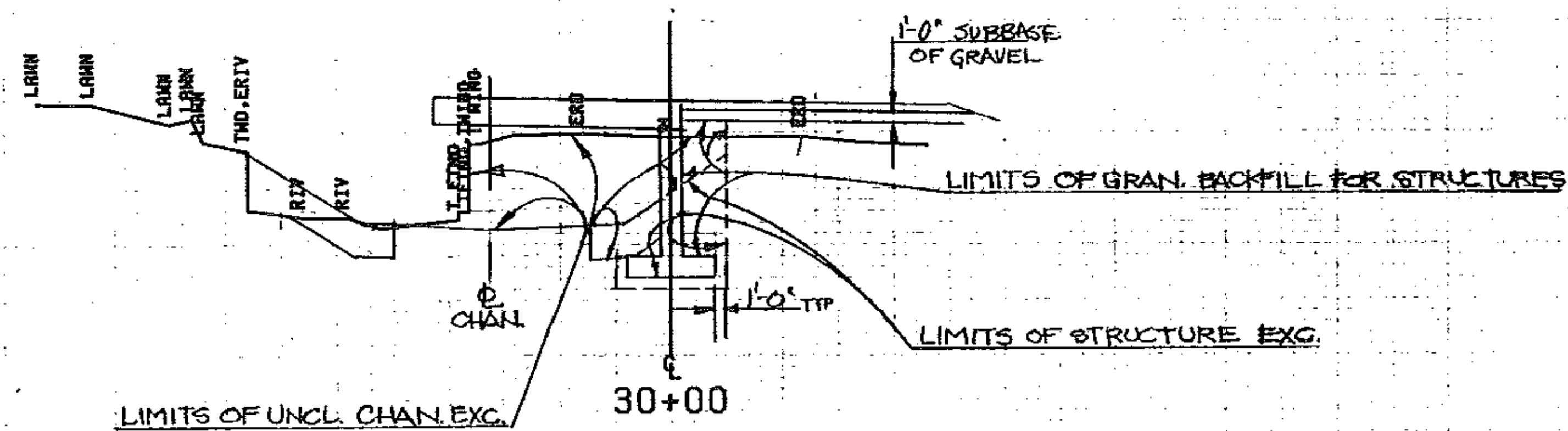
|              |              |         |       |
|--------------|--------------|---------|-------|
| FROM STA.    | 29+88        | TO STA. | 29+90 |
| PROJECT NAME | CONCORD CHAN |         |       |
| NO.          | BRZ1A47(10)  |         |       |
| SURVEYED BY  | BARGENT      |         |       |
| DATE         | JANUARY 1982 |         |       |

SCALE 1" = 10 FEET

SHEET 25 OF 22 SHEETS

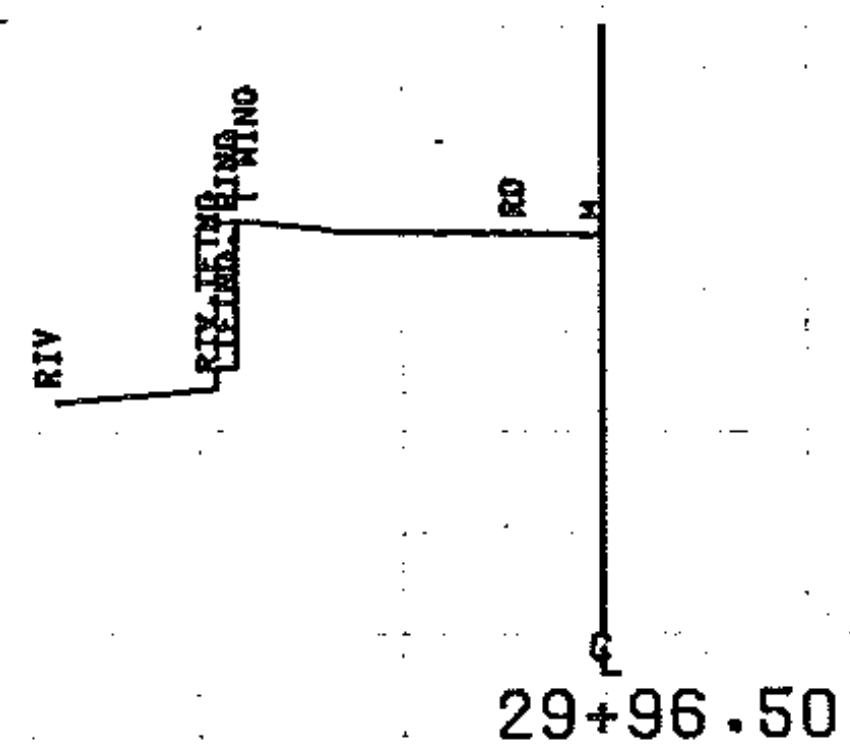


490



490

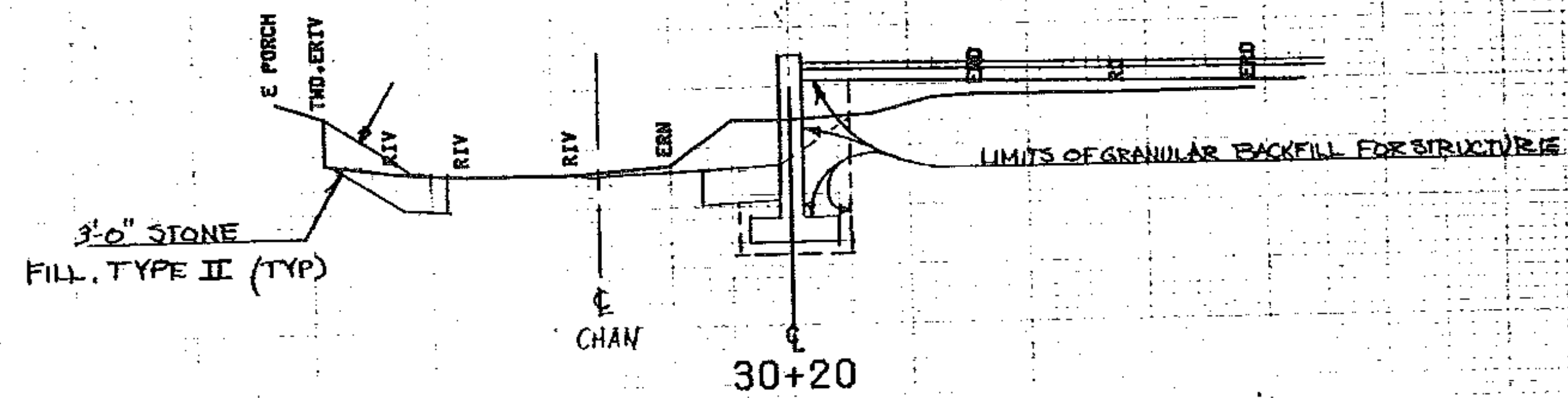
CHAN. STA. 30+00 LT. END STRUCTURE EXC.  
 CHAN. STA. 29+95 LT. END GRANULAR BACKFILL  
 FOR STRUCTURE.



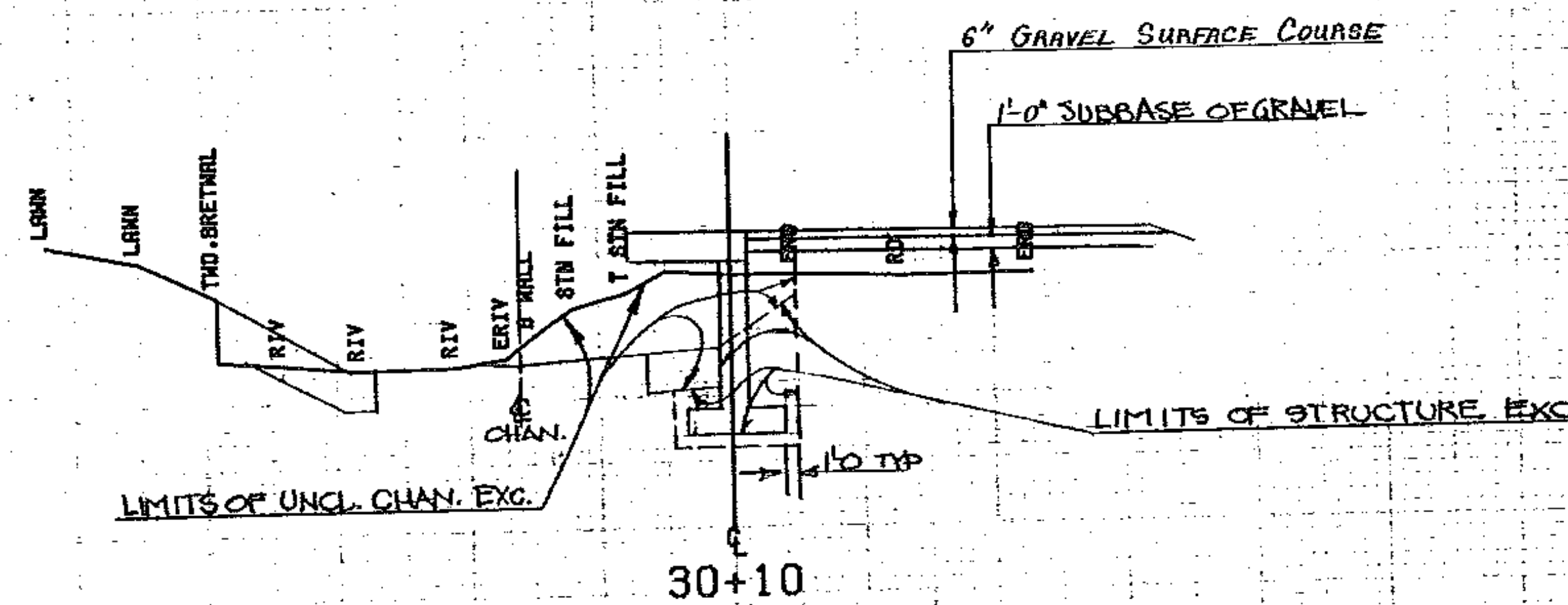
490

|                            |                  |
|----------------------------|------------------|
| FROM STA. 29+96.50         | TO STA. 30+3     |
| PROJECT NAME CONCORD CHAN. |                  |
| NO. BR21447(10)            | PLOTTED 11/18/82 |
| SURVEYED BY BAROENT        | JANUARY 1982     |
| SHEET 26 OF 22 SHEETS      |                  |

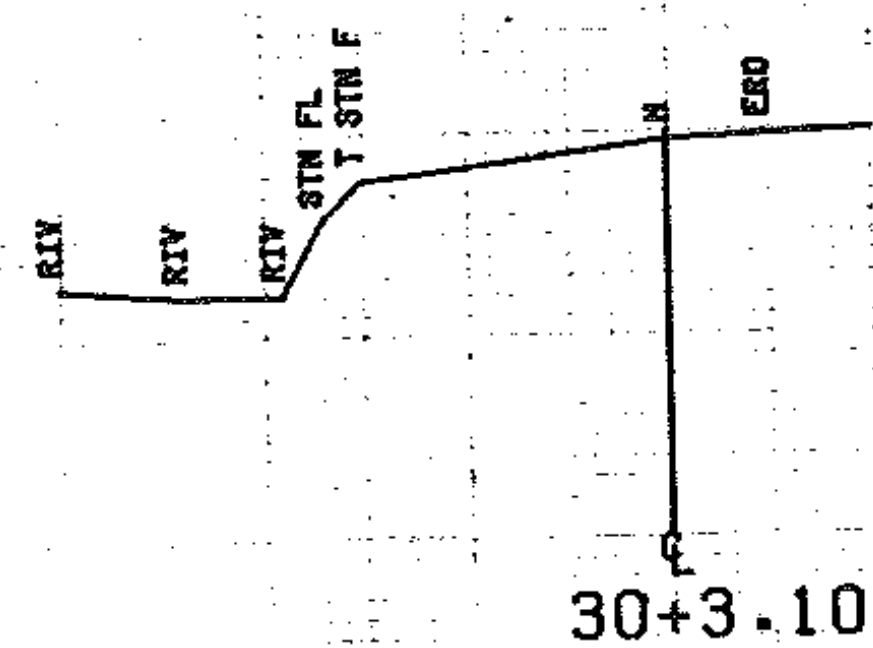
SCALE 1" = 10 FEET



490



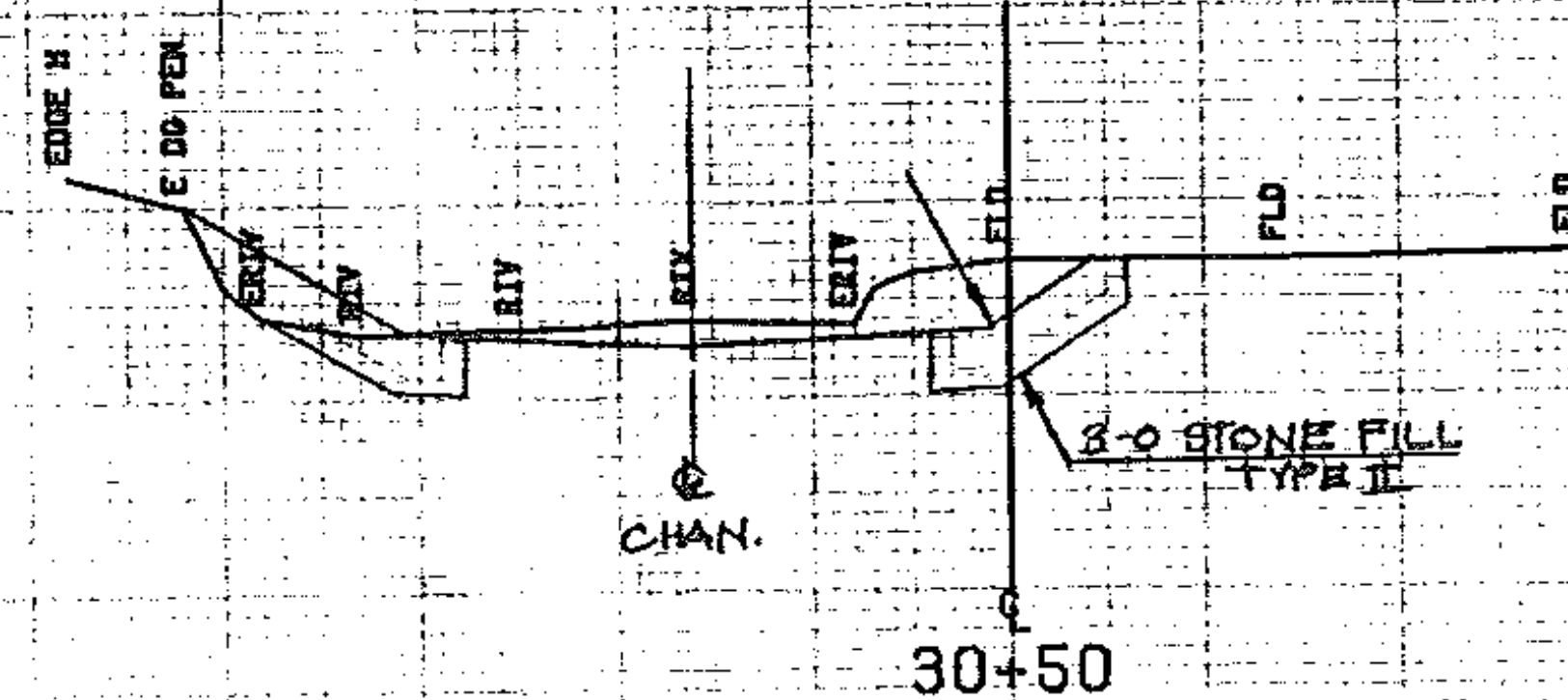
490



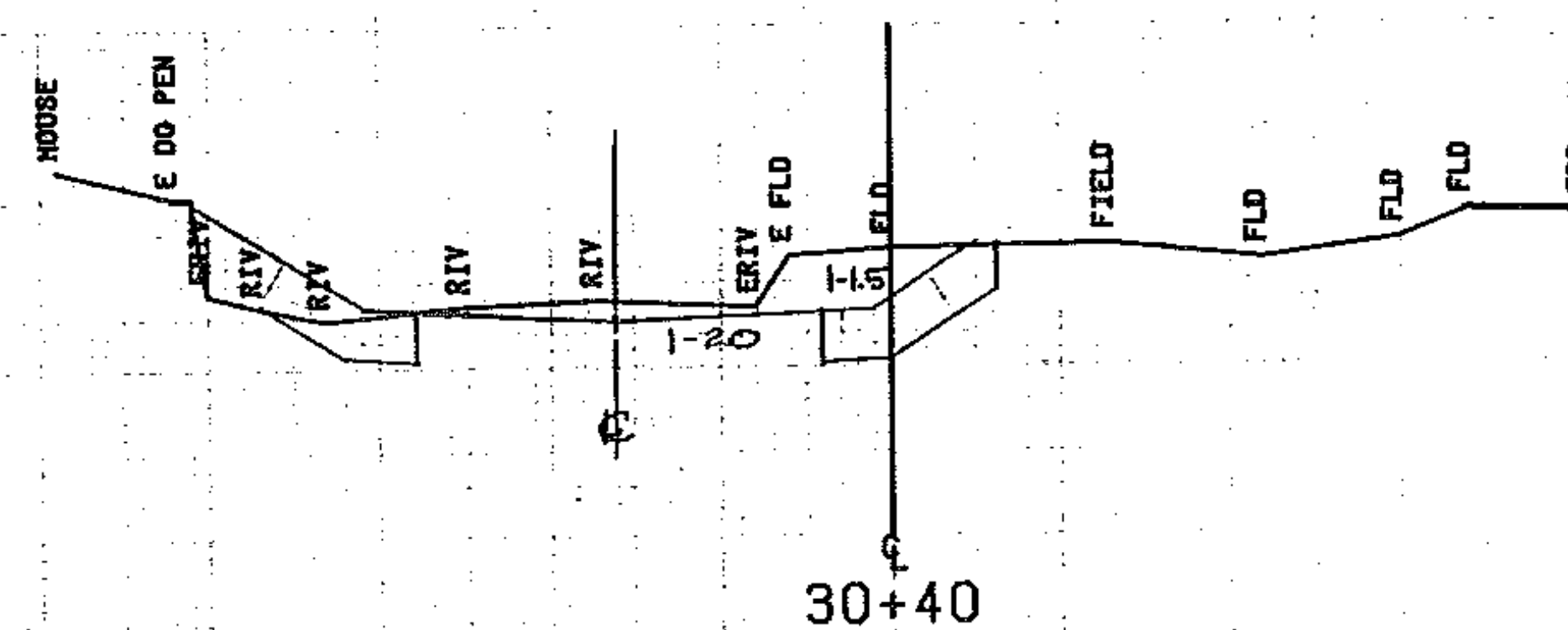
490

FROM STA. 30+3.10 TO STA. 30+20  
PROJECT NAME CONCORD CHAN  
NO. BR21447(10)  
SURVEYED BY BAROENT  
SHEET 27 OF 28 SHEETS  
PLOTTED 11/18/82  
JANUARY 1982

SCALE 1" = 10'



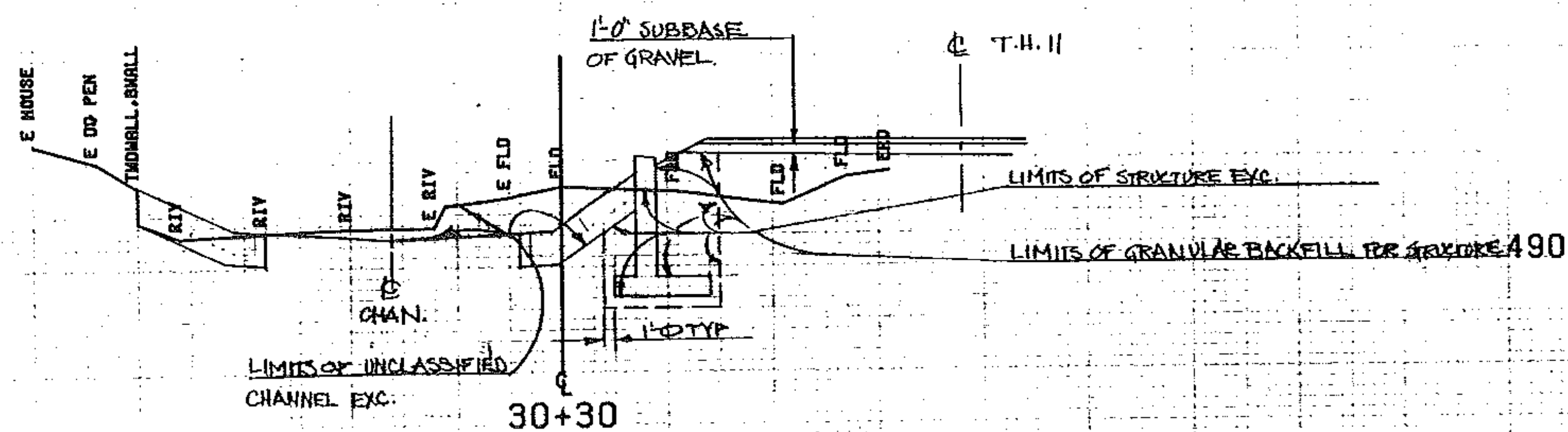
490



490

CHAN STA. 30+36 RT END STRUCTURE EXC.

CHAN STA. 30+32 RT END GRANULAR BACKFILL FOR STRUCTURE



|                  |              |         |       |
|------------------|--------------|---------|-------|
| FROM STA.        | 30+30        | TO STA. | 30+50 |
| PROJECT NAME     | CONCORD CHAN |         |       |
| NO.              | BRZ1447(10)  |         |       |
| SURVEYED BY      | BRDENT       |         |       |
| SHEET 22         | OF 22 SHEETS |         |       |
| PLOTTED 11/16/82 |              |         |       |

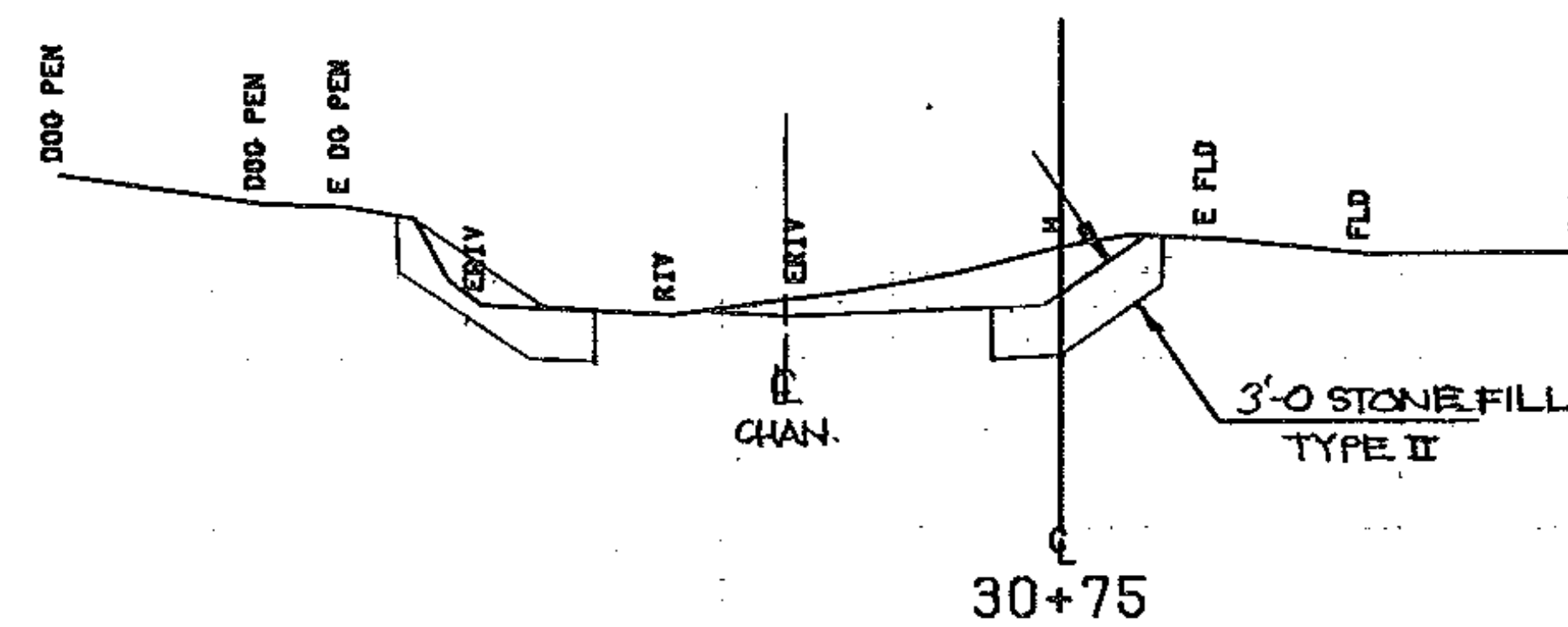
SCALE 1" = 10 FEET

STA 31+00 LT. END UNCLASSIFIED CHANNEL EXCAVATION.  
 STA 31+00 LT. END STONE FILL, TYPE II.

31+00

STA 31+00 RT. END UNCLASSIFIED CHANNEL EXCAVATION  
 STA 31+00 RT. END STONE FILL, TYPE II.

490



30+75

490

SCALE 1" = 10 FEET

|                            |                  |
|----------------------------|------------------|
| FROM STA. 30+75            | TO STA. 31+00    |
| PROJECT NAME CONCORD CHAN. |                  |
| NO. BR21447(10)            | PLOTTED 11/15/82 |
| SURVEYED BY SARGENT        | JANUARY 1982     |
| SHEET 28 OF 29             | SHEETS           |